PRELIMINARY HYDROLOGY & HYDRAULICS STUDY

Desert Hot Springs Commercial Development

Desert Hot Springs, CA

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September, 2022

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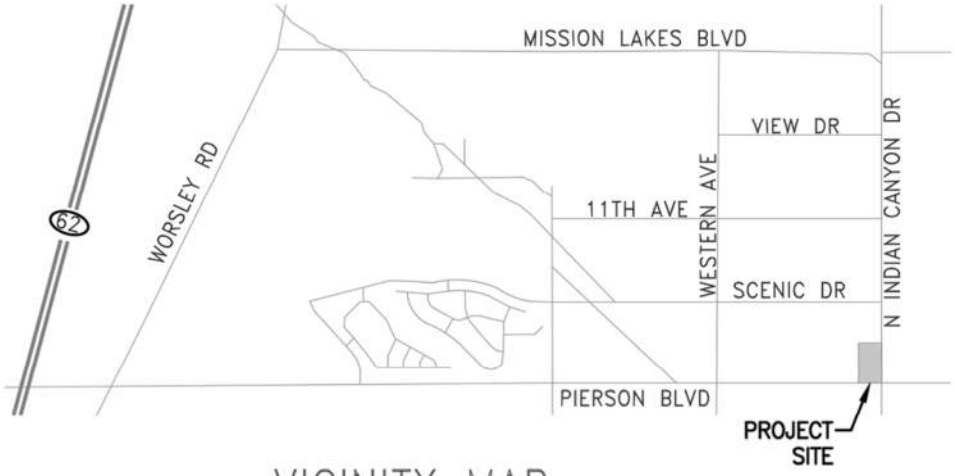
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Pre-Development Exhibit
Post Development Exhibit



VICINITY MAP

N.T.S.

I. INTRODUCTION

The proposed project High Desert Springs Commercial Development is an approximately 3.98 acres site located west of State Route 62 on the Northeast corner of Pierson Blvd and N Indian Canyon Dr in the City of Desert Hot Springs, County of Riverside, State of California (see attached vicinity map). The site is South of the Mission Creek Channel with an abandoned gas station across Pierson Blvd on the Southern border. The projects is surround by an undeveloped parcel to the west and North, Scenic Dr to the north, N Indian Canyon Dr to the east and Pierson Blvd to the south.

II. DESCRIPTION OF THE ONSITE CONDITIONS

The subject site consists of a rectangular shaped parcel, approximately 3.98 acres in size. The site is currently undeveloped. Ground surface cover consists of exposed soil.

The site topography varies throughout the property. The site drains northwest to southeast with a varying slope range of 1-4%. There is an estimate 20 feet of elevation differential across the site. Most of the site's existing flow drains into existing Mission Creek Channel.

The project site will be developed into a commercial development that consist of 2 drive thru, 1 carwash a fuel dispensing area and a convenience store. The buildings will be service by required parking stalls,

sidewalks and drive aisle as required by the local code. Phasing is not anticipated for this project. This hydrology report looks at the project at the ultimate condition.

III. OFFSITE HYDROLOGY

There is no offsite runoff.

IV. ONSITE HYDROLOGY

The project is proposing to retain flow within an underground detention basin that will be located along the mid half of the east border of the project. Outflow from the detention basins drains towards N. Indian Canyon Rd. and eventually towards the Mission Creek Channel.

Hydrologic calculations for the project were performed using CIVILCADD/CIVIL DESIGN Engineering Software, Version 7.1. Peak Flow and Time of Concentration values for each storm event were obtained for the pre-developed and post-developed condition using the "Riverside County Rational Hydrology Program option within the software, as preferred by the City of Desert Hot Springs.

The run-off index, time of concentration, previous fraction and other pertinent information obtained from the rational analysis was then used to generate a post-development Unit Hydrograph for each

respective drainage area, as applicable. This was done to compare the existing and proposed condition hydrology mitigation requirements for the rain events of 2-year, 10-year and 100-year design storms. The events were split up into 1 hr, 3 hr, 6 hr and 24 hr. The Unit Hydrograph Analysis was performed using the CIVILCADD/CIVILDESIGN Engineering Software previously mentioned.

As appropriate, the resulting Unit Hydrograph was then imported into the CIVILCADD/CIVIL DESIGN Routing Software to perform basin routing and outflow analysis of each detention basin. The design of the basin follows the conditions of approval requirement to retain all the 100 yr. 24 hr. storm event.

Design Parameters

- The drainage area is in Soil Group A according to the USDA NRCS Soil Survey.
- Antecedent Moisture Content (AMC) of I was used for 2-year and 5-year, II was used for 10-year and III was used for 100-year return frequency storm calculation.
- The onsite drainage area was analyzed for 10-year and 100-year storm event using Rational Method Analysis per Riverside County Hydrology Manual and CIVILCADD/CIVILDESIGN.
- The drainage area is located within a desert area.
- The rainfall depth of a 2-yr 1-hr storm event is 0.471 in. according to NOAA Atlas 14 Precipitation Frequency Estimates.
- The rainfall depth of a 2-yr 3-hr storm event is 0.760 in. according to NOAA Atlas 14 Precipitation Frequency Estimates.
- The rainfall depth of a 2-yr 6-hr storm event is 0.993 in. according to NOAA Atlas 14 Precipitation Frequency Estimates.
- The rainfall depth of a 2-yr 24-hr storm event is 1.51 in. according to NOAA Atlas 14 Precipitation Frequency Estimates.
- The rainfall depth of a 100-yr 1-hr storm event is 1.67 in. according to NOAA Atlas 14 Precipitation Frequency Estimates.
- The rainfall depth of a 100-yr 3-hr storm event is 2.50 in. according to NOAA Atlas 14 Precipitation Frequency Estimates.
- The rainfall depth of a 100-yr 6-hr storm event is 3.25 in. according to NOAA Atlas 14 Precipitation Frequency Estimates.
- The rainfall depth of a 100-yr 24-hr storm event is 5.39 in. according to NOAA Atlas 14 Precipitation Frequency Estimates.
- The impervious are assumed to be 90% of the total onsite area.
  *See attachment for NOAA Atlas 14 Precipitation Frequency Estimates values

Per the Desert Hot Springs CUP 25-17 conditions of approval, the site is designed to retain and infiltrate the post development 100-year 24-hour duration event. The following tables summarize all the RCFCWCD storm events typically analyzed. Although the 100 yr. 24 hr. event is the controlling design element.

V. HYDROLOGIC RESULTS

The results from this hydrology analysis demonstrates that the drainage design for the site meets the County of Riverside Flood Control standards. Below is a comparison of the pre- and post-developed flows generated onsite prior to any mitigation.

Table 1.1a Pre Development Riverside County Rational Hydrology

Pre Development	
	101 - 102
DMA	**A**
Ac.	3.98
T_C	15.168
Pre	
10	6.439
100	11.828

Table 1.1b Post Development Riverside County Rational Hydrology

Post Development				
	201 - 202	202 - 203	204 - 205	205 - 206
DMA	**A**	**Pipe Flow**	**B**	
Ac.	1.75		2.23	
T_C	6.36	1.05	6.39	0.23
Post				
10	5.762		7.235	
100	9.099		11.569	

Table 1.1c Summary Riverside County Rational Hydrology

	10 yr		100 yr	
Frequency	Q Peak	TC	Q Peak	TC
Pre	6.439	15.168	11.828	15.168
Post	13.027	6.620	20.668	6.620
Q Δ	6.588	-8.548	8.84	-8.548

Table 1.2a Pre Development Riverside County Unit Hydrograph Analysis

Desert Hot Springs Pre-Development Calculations								
Storm Duration								
	1 Hour		3 Hour		6 Hour		24 Hour	
Frequency	Q Peak	Volume	Q Peak	Vol. (cf)	Q Peak	Volume	Q Peak	Volume
2 year	2.684	2,156.8	0.404	1,191.0	0.241	1,438.3	0.082	2,181.5
5 year	5.113	4,373.1	1.798	3,130.2	1.227	2,961.5	0.132	3,494.5
10 year	7.941	8,256.2	3.694	7,348.6	2.994	7,071.6	0.334	4,762.6
100 year	15.661	21,128.2	8.106	27,178.3	6.908	29,330.2	2.225	34,184.3

Table 1.2b Post Development Riverside County Unit Hydrograph Analysis

Desert Hot Springs Post-Development Calculations								
Storm Duration								
	1 Hour		3 Hour		6 Hour		24 Hour	
Frequency	Q Peak	Volume	Q Peak	Vol. (cf)	Q Peak	Volume	Q Peak	Volume
2 year	5.219	5,803.1	2.346	9,003.5	2.046	11,763.8	0.676	17,888.6
5 year	8.636	9,439.0	3.732	13,911.3	3.180	18,049.0	1.083	28,654.9
10 year	11.355	12,310.8	4.991	17,909.4	4.263	23,014.7	1.390	36,799.2
100 year	20.255	22,612.1	8.991	31,992.3	7.746	40,603.0	2.581	64,617.6

Table 1.4 Basin Volumes

Underground Infiltration Basin

Basin Depth	Volume (ac.–ft)	Outfall (cfs)
0	0	0
1	0.0414	0.1023
1.33	0.0655	0.9743
1.67	0.0896	1.8333
2	0.1136	1.8333
3	0.1859	1.8333
4	0.2581	1.8333
5	0.3303	1.8333
6	0.4025	1.8333
7	0.4439	1.8333

Table 1.3 Riverside County Flood Hydrograph routing

Desert Hot Springs Post-Development Calculations				
Storm Duration				
	100 Year			
Storm Duration	Pre Q Peak (cfs)	Post Q Peak (cfs)	Decrease	Percent Change
1 hr	15.661	1.833	13.828	-88.30%
3 hr	8.106	1.833	6.273	-77.39%
6 hr	6.908	1.833	5.075	-73.47%
24 hr	2.225	1.833	0.392	-17.62%

To mitigate per the Conditions of Approval, a 19,340 cf underground basin will be proposed. The CivilD routing software was used to determine if the basin will be large enough to contain the 100-year 24 hour storm event as required by the Conditions of Approval.

V. CONCLUSION

The project will increase the post Q amount. To mitigate the increase of flow coming from the project, underground infiltration basins with the capacity to store up to a volume of 19,340 cf is being proposed. After the introduction of the underground basin into the calculations, Q decreased by 17.62% for the 100 year event.

APPENDIX

Soils Report
Soil Map
Rain Maps
NOAA Atlas 14 Precipitation Frequency Estimates

CIVILCADD/CIVILDESIGN Rational Method
- Pre – Development 10 yr., 100 yr.

- Post – Development 10 yr., 100 yr.

CIVILCADD/CIVILDESIGN Unit Hydrograph Analysis
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- Pre – Development 5 yr. 1 hr., 3 hr., 6 hr., 24 hr.
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CIVILCADD/CIVILDESIGN Flood Hydrograph Routing Program
- Post – Development 100 yr. 1 hr., 3 hr., 6 hr., 24 hr.

NTS GEOTECHNICAL

July 29, 2022

Project No. 22293

Mr. Amir Butt
1461 Tahoe Street
Beaumont, CA 92223

Subject: Preliminary Geotechnical Engineering Report
Proposed Gas Station and Carwash
APN 664-080-017
City of Desert Hot Springs, California

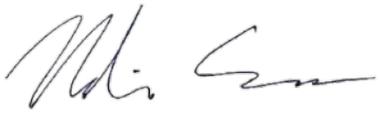
Dear Mr. Butt:

In accordance with your request and authorization, we are presenting the results of our geotechnical investigation for the proposed subject development located at APN 664-080-017 in the City of Desert Hot Springs, California. The purpose of this investigation has been to evaluate the subsurface conditions at the site and to provide geotechnical engineering recommendations for the proposed construction.

Based on our findings, the proposed project is geotechnically feasible, provided that the recommendations in this report are incorporated into the design and are implemented during construction of the project. This report was prepared in accordance with the requirements of the 2019 California Building Code and the City of Desert Hot Springs requirements.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding this report or if we can be of further service, please do not hesitate to contact the undersigned at (657) 888-4608 or info@ntsgeo.com.

Respectfully submitted,
NTS GEOTECHNICAL, INC.



Nadim Sunna, M.Sc., Q.S.P, P.E., G.E. 3172
Principal Geotechnical Engineer



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Plate 1 – Location Map
Plate 2 – Geotechnical Map

Appendix A – Field Exploration
Appendix B – Geotechnical Laboratory Test Result
Appendix C – Infiltration Test Result

INTRODUCTION

This report presents the results of our geotechnical engineering evaluation performed for the proposed project located at APN 664-080-017, in the City of Desert Hot Springs, California. See (Plate 1, Location Map). The purpose of this study has been to evaluate the subsurface conditions at the site and to provide geotechnical recommendations related to the design and construction of the proposed improvements.

SITE AND PROJECT DESCRIPTION

The subject site is located at APN 664-080-017, in the City of Desert Hot Springs, California. The site is located on the northwest corner of Pierson Boulevard and N Indian Canyon Road and is currently a vacant land with native trees and brushes.

The 3.99 acres site is planned to be developed with new service station with C-Story and drive through, carwash facility, trash enclosure, canopy with two future QSR, signage, fuel pump canopy, and underground storage tanks.

SCOPE OF WORK

As part of the preparation of this report, we have performed the following tasks:

Background Review

We reviewed readily available background data including in-house geologic maps, previous reports, and topographic maps relevant to the subject site in preparation of this report.

Field Exploration

The subsurface conditions were evaluated on July 1, 2022 by advancing five (5) hollow-stem-auger borings at various locations within the vicinity of the subject lots. The borings were advanced to a maximum depth of 31.5 feet below the existing grade. The approximate locations of the borings are shown on Plate 2, Geotechnical Map. Detailed exploration information of soils borings is presented in Appendix A, Field Exploration.

Geotechnical Laboratory Testing

Laboratory tests were performed on selected samples obtained from the boring in order to aid in the soil classification and to evaluate the engineering properties of the foundation soils. The following tests were performed in general accordance with ASTM standards:

- In-situ moisture and density;
- No. 200 sieve wash;
- Sieve Analysis;
- Collapse;
- Direct shear; and
- Corrosion.

A summary of the laboratory test results are presented in Appendix B of this report.

GEOLOGIC FINDINGS

Regional Geologic Setting

According to the Geologic Map of the Desert Hot Springs Quadrangle, the project site is underlain by alluvial sand and gravel of valley areas (Qa).

Subsurface Materials

Earth materials encountered during subsurface investigation consists of alluvium to the total depth of the exploration. In general, the alluvium consists of light gray to brown, dry, medium dense to very dense, silty sands and sands.

Groundwater

Groundwater was not observed during our exploration to a maximum depth of 31.5 feet below the existing grade. Groundwater is believed to be deeper than 100 feet below the existing grade.

Groundwater conditions may vary across the site due to stratigraphic and hydrologic conditions and may change over time as a consequence of seasonal and meteorological fluctuations, or activities by humans at this site and nearby sites. However, based on the above findings, groundwater is unlikely to impact the proposed development.

GEOLOGIC HAZARDS

Faulting and Seismicity

The site is not located within an Alquist-Priolo Earthquake Fault Zone, and no known active faults are shown on the reviewed geologic maps crossing the site, however, the site is located in the seismically active region of Southern

California. The nearest known active fault is the S. San Andreas fault system, which is located approximately 4.3 miles from the site.

Liquefaction and Seismic Settlement

Liquefaction occurs when the pore pressures generated within a soil mass approach the effective overburden pressure. Liquefaction of soils may be caused by cyclic loading such as that imposed by ground shaking during earthquakes. The increase in pore pressure results in a loss of strength, and the soil then can undergo both horizontal and vertical movements, depending on the site conditions. Other phenomena associated with soil liquefaction include sand boils, ground oscillation, and loss of foundation bearing capacity. Liquefaction is generally known to occur in loose, saturated, relatively clean, fine-grained cohesionless soils at depths shallower than approximately 50 feet. Factors to consider in the evaluation of soil liquefaction potential include groundwater conditions, soil type, grain size distribution, relative density, degree of saturation, and both the intensity and duration of ground motion.

Based on our review of the County of Riverside Map My County website, the site is generalized to be within a moderate liquefaction susceptibility zone. However, based on the lack of shallow groundwater, the dense nature of the subsurface soil, the relatively uniform soil stratum across the site, it is our professional opinion that the liquefaction potential at the site is very low.

Landslides

Based on our review of the referenced geologic maps, literature, topographic maps, and our subsurface evaluation, no landslides or related features underlie or are adjacent to the subject site. Due to the relatively level nature of the site and surrounding areas, the potential for landslides at the project site is considered negligible.

Flooding

The Federal Emergency Management Agency (FEMA) has prepared flood insurance rate maps (FIRMs) for use in administering the National Flood Insurance Program. Based on our review of the FEMA flood map, the site is located within a Special Flood Hazard Areas (Zone AO) with a flood depth of 2 feet. The potential for flooding to impact the proposed development should be evaluated by the project designer and considered by the project civil engineer.

Tsunami and Seiches

Tsunamis are waves generated by massive landslides near or under sea water. The site is not located on any State of California – County of Riverside Tsunami Inundation Map for Emergency Planning. The potential for the site to be

adversely impacted by earthquake-induced tsunamis is considered to be negligible because the site is located several miles inland from the Pacific Ocean shore, at an elevation exceeding the maximum height of potential tsunami inundation.

Seiches are standing wave oscillations of an enclosed water body after the original driving force has dissipated. The potential for the site to be adversely impacted by earthquake-induced seiches is considered to be negligible due to the lack of any significant enclosed bodies of water located in the vicinity of the site.

GEOTECHNICAL ENGINEERING FINDINGS

Expansive Soil

Based on our evaluation and experience with similar material types, and laboratory testing, the soils encountered near the ground surface at the site exhibit a very low expansion potential.

Soil Corrosion

The potential for the on-site materials to corrode buried steel and concrete improvements was evaluated. Laboratory testing was performed on representative soil samples to evaluate pH, minimum resistivity, and soluble chloride and sulfate contents. The results of our corrosivity testing is presented within Appendix B of this report. General recommendations to address the corrosion potential of the on-site soils are provided below. Imported fill materials, if used, should be tested to evaluate whether their corrosion potential is more severe than those assumed.

Structural Concrete

Laboratory tests indicate that the potential of sulfate attack on concrete in contact with the on-site soils is “negligible” or “S0” exposure in accordance with ACI 318, Table 19.3.1.1. Therefore, restriction on the type of cement, water to cement ratio, and compressive strength is not required.

Ferrous Metal

The results of the laboratory chemical tests performed on a sample of soil collected within the site indicate that the on-site soils are mildly corrosive to ferrous metals. Consequently, metal structures which will be in direct contact with the soil (i.e., underground metal conduits, pipelines, metal sign posts, etc.) and/or in close proximity to the soil (wrought iron fencing, etc.) may be subject to corrosion. The use of special coatings or cathodic protection around buried metal

structures has been shown to be beneficial in reducing corrosion potential. Additional provisions will be required to address high chloride contents of the soil per the 2019 CBC to protect the concrete reinforcement. The laboratory testing program performed for this project does not address the potential for corrosion to copper piping. In this regard, a corrosion engineer should be consulted to perform more detailed testing and develop appropriate mitigation measures (if necessary).

The above discussion is provided for general guidance in regards to the corrosiveness of the on-site soils to typical metal structures used for construction. Detailed corrosion testing and recommendations for protecting buried ferrous metal and/or copper elements are beyond our purview. If detailed testing is required, a corrosion engineer should be consulted to perform the testing and develop appropriate mitigation measures.

Preliminary Infiltration Testing

Three (3) infiltration tests were performed in general conformance with the County of Riverside manual. The borings were excavated to a depth of 5 and 10 feet below the existing grade using a hollow-stem-auger drill rig. Following the drilling, the borings were set up and testing was performed in general accordance with the manual. The result of our infiltration testing is summarized in the table below, which includes a minimum factor of safety of 2. Our infiltration testing calculations are presented in Appendix C of this report.

Preliminary Infiltration Rates Summary

Boring No.	Depth Below Existing Grade (feet)	Design Infiltration Rate (inches/hour)*
P-1	5	1.11
P-2	10	0.94
P-3	5	0.90

*Incorporates a factor of safety of 2.

The infiltration test locations are shown on the attached Plate 2 –Geotechnical Map. Based on our infiltration testing, the design rates only within the upper 10 feet of the site soils have achieved the minimum requirement of 0.3 inches per hour per the County Riverside manual. Therefore, infiltration of stormwater into the site soils is deemed feasible within the upper 10 feet of the site soils.

Hydroconsolidation

Based on our laboratory test results, the potential for hydrocollapse settlement to affect the proposed structures should be considered low.

Excavation Characteristics

The majority of the soil materials underlying the site can be excavated with excavators and other conventional grading equipment.

GEOTECHNICAL ENGINEERING CONLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results of our field exploration and engineering analyses, it is our opinion that the proposed development is feasible from a geotechnical standpoint, provided that the recommendations in this report are incorporated into the design plans and are implemented during construction.

Based on the geotechnical findings, the following is a summary of our conclusions:

- The proposed structure may be supported on a shallow spread/continuous footing foundation system underlain by engineered fill.
- Groundwater is not anticipated to directly impact the planned precise grading or during the installation of shallow underground utilities.
- The site is not located within a fault zone, however, the site will experience strong ground shaking due to it's proximity to the San Andreas fault.
- Based on the lack of shallow groundwater and relatively dense nature of the subsurface soil, the liquefaction potential is considered low.
- The magnitude of total static settlements beneath the structure is expected to be less than 1.0 inch, with differential settlement on the order of ½ -inch over a span of 30 feet.
- The on-site soils has a negligible sulfate exposure to concrete (i.e., as defined by the CBC) and mildly corrosive reinforcement.

Our geotechnical engineering analyses performed for this report were based on the earth materials encountered during the subsurface exploration for the site. If the design substantially changes, then our geotechnical engineering recommendations would be subject to revision based on our evaluation of the changes. The following sections present our conclusions and recommendations pertaining to the engineering design for this project.

Site Preparation

Site preparation should begin with the removal of utility lines, asphalt, concrete, vegetation, and other deleterious debris from areas to be graded. Tree stumps and roots should be removed to such a depth that organic material is generally not present. Clearing and grubbing should extend to the outside edges of the proposed excavation and fill areas. We recommend that unsuitable materials such as organic matter or oversized material be selectively removed and disposed offsite. The debris and unsuitable material generated during clearing and grubbing should be removed from areas to be graded and disposed at a legal dump site away from the project area.

Remedial Grading

Due to the dry / loose nature of the near surface soils, we recommend that the upper 5 feet of the site be removed and recompacted to achieve a uniform blanket of properly moisture conditioned and compacted fill material.

It should be noted that the recommendations provided herein are based on our subsurface exploration and knowledge of the on-site geology. Actual removals may vary in configuration and volume based on observations of geologic materials and conditions encountered during grading. The bottom of all corrective grading removals should be observed by a representative of NTS to verify the suitability of in-place soil prior to performing scarification and recompaction. Corrective grading recommendations are outlined below.

Building Pads

In order to create a firm and stable platform on which to construct the new building pads, we recommend the following:

- The proposed building pads should be excavated to a depth of at least 5 feet from existing grade or 3 feet from bottom of footing, whichever is deeper. The excavation should extend laterally at least 3 feet from the edge of the footings.
- The bottom of the over excavation should then be scarified to a depth of at least 8 inches, thoroughly flooded to raise the moisture content of the underlying soils to at least 2 percent above optimum moisture content, and should be recompacted using heavy vibratory compaction equipment prior to placement of any fill.
- Following the approval of the over-excavation bottom by a representative of NTS, the onsite material may be used as fill material to achieve the planned pad grade.
- The fill material should then be placed in 6- to- 8-inch-thick lifts, moisture conditioned to near optimum moisture content and compacted to achieve 90 percent relative compaction.

Pavement

In order to create a firm and stable platform on which to construct the new vehicular pavement, we recommend the following:

- The proposed pavement should be excavated to the planned subgrade (i.e., bottom of aggregate base for pavement).
- The bottom of the excavation should then be excavated to a depth of 12 inches below the planned subgrade.
- The bottom of the over excavation should then be scarified to a depth of at least 6 inches, moisture conditioned to 2 percent above optimum moisture content and recompacted to at least 90 percent relative compaction as determined in accordance with ASTM D1557.
- Following the approval of the over-excavation bottom by a representative of NTS, the onsite material may be used as fill material to achieve the planned pad grade.
- The fill material should then be placed in 6- to- 8-inch-thick lifts, moisture conditioned to near optimum moisture content and compacted to achieve 90 percent relative compaction.

If the existing loose fill materials are found to be disturbed to depths greater than the proposed remedial grading, then the depth of over-excavation and re-compaction should be increased accordingly in local areas as recommended by a representative of NTS.

Materials for Fill

On-site soils with an organic content of less than 3 percent by volume (or 1 percent by weight) are suitable for use as fill. Soil material to be used as fill should not contain contaminated materials, rocks, or lumps over 6 inches in largest dimension, and not more than 40 percent larger than ¾ inch. Utility trench backfill material should not contain rocks or lumps over 3 inches in largest dimension. Larger chunks, if generated during excavation, may be broken into acceptably sized pieces or may be disposed offsite.

Any imported fill material should consist of granular soil having a “very low” expansion potential (that is, expansion index of 20 or less). Import material should also have low corrosion potential (that is, chloride content less than 500 parts per million [ppm], soluble sulfate content of less than 0.1 percent, and pH of 5.5 or higher). Materials to be used as fill should be evaluated by a representative of NTS prior to importing or filling.

Compacted Fill

Prior to placement of compacted fill, the contractor should request an evaluation of the exposed excavation bottom by NTS. Unless otherwise recommended, the exposed ground surface should then be scarified to a depth of at least 8 inches and watered or dried, as needed, to achieve generally consistent moisture contents 2 percent above optimum moisture content. The scarified materials should then be compacted to 90 percent relative compaction in accordance with the latest version of ASTM Test Method D1557.

Compacted fill should be placed in horizontal lifts of approximately 6 to 8 inches in loose thickness. Prior to compaction, each lift should be watered or dried as needed to achieve near optimum moisture condition, mixed, and then compacted by mechanical methods, using sheepsfoot rollers, multiple-wheel pneumatic-tired rollers, or other appropriate compacting rollers, to a relative compaction of 90 percent as evaluated by ASTM D1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved. Within pavement areas, the upper 12 inches of subgrade soil should be compacted to 95 percent relative compaction evaluated by ASTM D1557.

Personnel from NTS should observe the excavations so that any necessary modifications based on variations in the encountered soil conditions can be made. All applicable safety requirements and regulations, including CalOSHA requirements, should be met.

Temporary Excavations

Temporary excavations for the demolishing, earthwork, footing and utility trench are expected. We anticipate that unsurcharged excavations with vertical side slopes less than 3 feet high will generally be stable; however, sloughing of cohesionless sandy materials encountered at the site should be expected.

Where the space is available, temporary, unsurcharged excavation sides over 3 feet in height should be sloped no steeper than an inclination of 1.5H:1V (horizontal:vertical). Where sloped excavations are created, the tops of the slopes should be barricaded so that vehicles and storage loads do not encroach within 10 feet of the top of the excavated slopes. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes. NTS should be advised of such heavy vehicle loadings so that specific setback requirements can be established. If the temporary construction slopes are to be maintained during the rainy season, berms are recommended to be graded along the tops of the slopes in order to prevent runoff water from entering the excavation and eroding the slope faces.

Where space for sloped excavations is not available, temporary shoring may be utilized. Geotechnical recommendations for the design and construction of

temporary shoring are presented in the "Temporary Shoring" section of this report. Personnel from NTS should observe the excavation so that any necessary modifications based on variations in the encountered soil conditions can be made. All applicable safety requirements and regulations, including CalOSHA requirements, should be met.

Excavations shall not undermine the existing adjacent building / wall footings. Where space for sloped excavations is not available, temporary shoring may be utilized.

Seismic Design

Based on subsurface investigation, the site is designated as Site Class D ("stiff" soil profile). The seismic design parameters based on ASCE 7-16 and 2019 CBC are listed in the following table.

2019 CBC and ASCE 7-16 Seismic Design Parameters

Seismic Item	Design Value	2016 ASCE 7-16 or 2019 CBC Reference
Site Class based on soil profile (ASCE 7-16 Table 20.3-1)	D[(a)]	ASCE 7-16 Table 20.3-1
Short Period Spectral Acceleration S_s	2.350 [(a)]	CBC Figures 1613.2.1 (1-8)
1-sec. Period Spectral Acceleration S_1	0.882[(a)]	CBC Figures 1613.2.1 (1-8)
Site Coefficient F_a (2019 CBC Table 1613.2.3(1))	1.000[(a)]	CBC Table 1613.2.3 (1)
Site Coefficient F_v (2019 CBC Table 1613.2.3(2))	1.700[(b)]	CBC Table 1613.2.3 (2)
Short Period MCE* Spectral Acceleration S_{MS} $S_{MS} = F_a S_s$	2.350[(a)]	CBC Equation 16-36
1-sec. Period MCE Spectral Acceleration S_{M1} $S_{M1} = F_v S_1$	1.499[(b)]	CBC Equation 16-37
Short Period Design Spectral Acceleration S_{DS} $S_{DS} = 2/3S_{Ms}$	1.567[(a)]	CBC Equation 16-38
1-sec. Period Design Spectral Acceleration S_{D1} $S_{D1} = 2/3S_{M1}$	1.000 [(b)]	CBC Equation 16-39
Short Period Transition Period T_S (sec) $T_S = S_{D1}/S_{DS}$	0.638[(b)]	ASCE 7-16 Section 11.4.6
Long Period Transition Period Tl (sec)	8[(b)]	ASCE 7-16 Figures 22-14 to 22-17
MCE[(c)] Peak Ground Acceleration (PGA)	0.994[(a)]	ASCE 7-16 Figures 22-9 to 22-13
Site Coefficient F_{PGA} (ASCE 7-16 Table 11.8-1)	1.100[(a)]	ASCE 7-16 Table 11.8-1
Modified MCE[(c)] Peak Ground Acceleration (PGA_M)	1.093[(a)]	ASCE 7-16 Equation 11.8-1

[(a)] Design Values Obtained from USGS Earthquake Hazards Program website that are based on the ASCE-7-16 and 2019 CBC and site coordinates of N33.961805° and W116.545464 °.
[(b)] Design Values Determined per ASCE Table 11.4-2 and CBC Equations 16-36 through 16-39.
[(c)] MCE: Maximum Considered Earthquake.

Since the Site Class is designated as D and the S1 value is greater than or equal to 0.2, the 2019 CBC requires either a site-specific seismic hazard analysis per Section 21.2 of ASCE 7-16 or the application of Exception 2 of Section 11.4.8 of

ASCE 7-16. The project structural engineer should apply all requirements of Section 11.4.8 of ASCE 7-16 to determine if increases to the seismic response coefficient (i.e. increases to the loading of the structure) are required.

It should be recognized that much of southern California is subject to some level of damaging ground shaking as a result of movement along the major active (and potentially active) fault zones that characterize this region. Design utilizing the 2019 CBC is not meant to completely protect against damage or loss of function. Therefore, the preceding parameters should be considered as minimum design criteria.

Foundation Design and Construction

A shallow foundation system may be used for support of the proposed buildings, provided that all the footings are placed on engineered fill prepared as described in the "**Corrective Grading**" section of this report. Our geotechnical foundation design parameters are presented in the table below:

Foundation Design Parameters

Bearing Material	▪ Engineered Fill
Minimum Footing Size	▪ Width: 12 inches ▪ Depth: 18 inches below the lowest adjacent soil grade
Minimum Footing Reinforcement	▪ Footings reinforcement should consist of at least four No. 4 bars (two on top and two on bottom). ▪ Final reinforcement should be determined by the project structural engineer.
Allowable Bearing Capacity	▪ 2,500 psf for the minimum footing size given above. ▪ The above value may be increased by 1/3 for temporary loads such as wind or earthquake.
Static Settlement	▪ Total static settlement of 1 inch with differential settlement estimated to be approximately ½ inch over a span of 40 feet
Allowable Lateral Passive Resistance	• 300 pcf (equivalent fluid pressure)
Allowable Coefficient of Friction	• 0.35

Slab-On-Grade Design and Construction

The slab-on-grade should be designed and constructed with the minimum recommendations presented below, however, final design of the slab should be determined by the project structural engineer.

Minimum Thickness: The minimum slab thickness should be 5 inches.

Minimum Slab Reinforcement: Minimum slab reinforcement shall not be less than No. 4 bars placed at 18 inches on center. Welded wire mesh is not recommended. Care should be taken to position the reinforcement bars in the center of the slab.

Slab Subgrade:

- The upper 24 inches of the slab subgrade should be moisture conditioned to near optimum moisture content and compacted to a minimum relative compaction of compacted to 90 percent relative compaction in accordance with the latest version of ASTM D1557 prior to placement of Moisture Vapor Retarder.

- A moisture vapor retarder should be placed in accordance with the "Moisture Vapor Retarder" section below.

Pole Foundations

It is expected that the canopy structures and light poles will be supported on pole foundations. As a minimum, the pole foundations should be at least 18 inches in diameter and at least 4 feet deep; however, the actual dimensions should be determined by the project structural engineer based on the following design parameters.

Bearing Materials: The pole foundations may bear into competent native soils approved by a representative from NTS.

Bearing Values: End-bearing capacity may be combined to determine the allowable bearing capacities of the pole foundations. An allowable bearing pressure of 3,000 pounds per square foot (psf) may be used for pole foundations at least 18 inches in diameter and embedded a minimum of 4 feet below the lowest adjacent grade.

Lateral Load Design: Lateral loads may be resisted by passive resistance within the adjacent earth materials. For passive resistance, an allowable passive earth pressure of 300 pounds per foot of pile diameter per foot of depth into competent bearing material may be used; however, passive resistance should be disregarded within the upper foot due to possible disturbance during drilling. The

passive resistance value may be applied over an area equivalent to two pile diameters.

Moisture Vapor Retarder

A vapor retarder, such as a 15-mil-thick moisture vapor retarder that meets the requirements of ASTM E1745 Class C (Stego Wrap or equivalent) should be placed directly over the prepared soil subgrade to provide protection against vapor transmission through concrete floor slabs thatare anticipated to receive carpet, tile or other moisture sensitive coverings. The use of moisture vapor retarder should be determined by the project architect. At minimum, the vapor retarder should be installed as follows:

- Per the manufacture's specifications as well as with the applicable recognized installation procedures such as ASTM E1643;
- Joints between the sheets and the openings for utility piping should be lapped and taped. If the barrier is not continuously placed across footings/ribs, the barrier should at minimum be lapped into the side of the footing/rib trenches down to the bottom of the trench; and,
- Punctures in the vapor retarder should be repaired prior to concrete placement.

It should be noted that the moisture retarder is intended only to reduce moisture vapor transmissions from the soil beneath the concrete and is consistent with the current standard of the industry in the building construction in Southern California. It is not intended to provide a "waterproof" or "vapor proof" barrier or reduce vapor transmission from sources above the retarder (i.e., concrete). The evaluation of water vapor from any source and its effect on any aspect of the proposed building space above the slab (i.e., floor covering applicability, mold growth, etc.) is beyond our purview and the scope of this report.

Structural Concrete

Based on laboratory test results for the site vicinity, the potential of sulfate attack on concrete in contact with the on-site soils is "negligible" based on ACI 318, Table 19.3.1.1.

The aforementioned recommendations in regards to concrete are made from a soils perspective only. Final concrete mix design is beyond our purview. All applicable codes, ordinances, regulations, and guidelines should be followed in regard to the designing a durable concrete with respect to the potential for sulfate exposure from the on-site soils and/or changes in the environment.

Drainage Control

The control of surface water is essential to the satisfactory performance of the building and site improvements. Surface water should be controlled so that conditions of uniform moisture are maintained beneath the improvements, even during periods of heavy rainfall. The following recommendations are considered minimal:

- Ponding and areas of low flow gradients should be avoided.
- If bare soil within 5 feet of the structure is not avoidable, then a gradient of 5 percent or more should be provided sloping away from the improvement. Corresponding paved surfaces should be provided with a gradient of at least 2 percent.
- The remainder of the unpaved areas should be provided with a drainage gradient of at least 2 percent.
- Positive drainage devices, such as graded swales, paved ditches, and/or catch basins should be employed to accumulate and to convey water to appropriate discharge points.
- Concrete walks and flatwork should not obstruct the free flow of surface water.
- Brick flatwork should be sealed by mortar or be placed over an impermeable membrane.
- Area drains should be recessed below grade to allow free flow of water into the basin.
- Enclosed raised planters should be sealed at the bottom and provided with an ample flow gradient to a drainage device. Recessed planters and landscaped areas should be provided with area inlet and subsurface drain pipes.
- Planters should not be located adjacent to the structures wherever possible. If planters are to be located adjacent to the structures, the planters should be positively sealed, should incorporate a subdrain, and should be provided with free discharge capacity to a drainage device.
- Planting areas at grade should be provided with positive drainage. Wherever possible, the grade of exposed soil areas should be established above adjacent paved grades. Drainage devices and curbing should be provided to prevent runoff from adjacent pavement or walks into planted areas.
- Gutter and downspout systems should be provided to capture discharge from roof areas. The accumulated roof water should be conveyed to off-site disposal areas by a pipe or concrete swale system.
- Landscape watering should be performed judiciously to preclude either soaking or desiccation of soils. The watering should be such that it just sustains plant growth without excessive watering. Sprinkler systems should be checked.

Utility Trench Backfill Considerations

New utility line pipeline trenches should be backfilled with select bedding materials beneath and around the pipes (pipe zone) and compacted soil above the pipe bedding. Recommendations for the types of the materials to be used and the proper placement of these materials are provided in the following sections.

Pipe Zone (Bedding and Shading)

The pipe bedding and shading materials should extend from at least 6 inches below the pipes to at least 12 inches above the crown of the pipes. Pipe bedding and shading should consist of either clean sand with a sand equivalent (SE) of at least 30, or crushed rock. If crushed rock is used, it should consist of ¾-inch crushed rock that conforms to Table 200-1.2.1 (A) of the 2018 "Greenbook." Pipe bedding and shading should also meet the minimum requirements of the City of Los Angeles. If the requirements of the City are more stringent, they should take precedence over the geotechnical recommendations. Sufficient laboratory testing should be performed to verify the bedding and shading meets the minimum requirements of the Greenbook and City of Desert Hot Springs grading codes.

Granular pipe bedding and shading material should be properly placed in thicknesses not exceeding 3 feet, and then sufficiently flooded or jetted in place. Crushed rock, if used, should be capped with filter fabric (Mirafi 160N, or equivalent; Mirafi 140N filter fabric is suitable if available) to prevent the migration of fines into the rock.

Trench Backfill

All existing soil material within the limits of the site are considered suitable for use as trench backfill above the pipe bedding and shading zone if care is taken to remove all significant organic and other decomposable debris, moisture condition the soil materials as necessary, and separate and selectively place and/or stockpile any inert materials larger than 6 inches in maximum diameter.

Imported soils are not anticipated for backfill since the on-site soils are suitable. However, if imported soils are used, the soils should consist of clean, granular materials with physical and chemical characteristics similar to or better than those described herein for on-site soils. Any imported soils to be used as backfill should be evaluated and approved by NTS prior to placement.

Soils to be used as trench backfill should be moistened, dried, or blended as necessary to achieve near optimum moisture content, placed in lifts which, prior to compaction shall not exceed the thickness specified in Section 306-12.3 of the 2018 "Greenbook" for various types of equipment, and mechanically

compacted/densified to at least 90 percent relative compaction as determined by ASTM Test Method D 1557. Jetting is not permitted in this trench zone.

No rock or broken concrete greater than 6 inches in maximum diameter should be utilized in the trench backfills.

Asphalt Concrete Pavement Design

In accordance with Chapter 600 of the Caltrans Highway Design Manual, we have performed pavement structural design utilizing assumed traffic indices (TI) of 4, 5.5, and 6.0 and assumed R-value of 20. Based on our analysis, we have developed the pavement structural sections presented in the following table. The subgrade R-value should be confirmed at the completion of rough grading. We note that the assumed TI's should be reviewed by a traffic engineer to confirm their applicability to the project.

Asphalt Concrete Pavement Structural Sections

Location	Traffic Index	Asphalt Concrete (in.)	Aggregate Base (in.)*
Parking Stalls	4.5	3.0	4.0
Driveways	5.5	4.0	6.0
Fire Lane	7.0	4.0	8.0

The planned pavement structural sections should consist of the following:

- Aggregate Base materials (AB) consisted of either Crushed Aggregate Base (CAB) or Crushed Miscellaneous Base (CMB).
- Asphalt Concrete (AC) material of a type meeting the minimum City of Desert Hot Springs standards.
- The subgrade soils should be moisture conditioned to near optimum moisture content to a depth of at least 18 inches and compacted to 90 percent relative compaction.
- The AB and AC should be compacted to at least 95 percent relative compaction.

Exterior Flatwork/Hardscape Design Considerations

For exterior flatwork and hardscape planned as part of the proposed development, the following design may be considered by the project civil engineer. These recommendations may be considered as minimal design based on the soils conditions encountered during our investigation. Final design of the

proposed flatwork and hardscape area should be provided by the project civil engineer. Based on the conditions encountered, we recommend that the subgrade for the subject concrete flatwork and hardscape be moisture conditioned to near optimum to a depth of 18 inches below finish subgrade elevation and compacted to 90 percent relative compaction. A Type II/V cement may be used from a geotechnical perspective. Our flatwork and hardscape design considerations are presented in the table below.

Concrete Flatwork Table

Description	Subgrade Preparation (1)	Minimum Concrete Thickness	Cut-Off Barrier Or Edge Thickness	Joint Spacing (Maximum)	Concrete(3)
Concrete Sidewalks and Walkways (4)	1) 2 percent above optimum to 12"(1), 2) 2" of sand or well graded rock (i.e., Class II base or equiv.) above moisture conditioned subgrade.	4 inches	Not Required	5 feet	Type II/V

(1) The moisture content of the subgrade must be verified by the geotechnical consultant prior to sand/rock placement.
(2) Reinforcement to be placed at or above the mid-point of the slab (i.e., a minimum of 2.0 to 2.5 inches above the prepared subgrade).
(3) The site has negligible levels of sulfates as defined by the CBC. Concrete mix design is outside the geotechnical engineer's purview.
(4) Where flatwork is adjacent a stucco surface, a ¼" to ½" foam separation/expansion joint should be used.
(5) If dowels are placed in cored holes, the core holes shall be placed at alternating in-plane angles (i.e., not cored straight into slab).

Planters and Trees

Where new trees or large shrubs are to be located in close proximity to new concrete flatwork, rigid moisture/root barriers should be placed around the perimeter of the flatwork to at least 12 inches in depth in order to offer protection to the adjacent flatwork against potential root and moisture damage. Existing mature trees near flatwork areas should also incorporate a rigid moisture/root barrier placed at least 2 feet in depth below the top of the flatwork.

Plans and Specifications Review

The recommendations presented in this report are contingent upon review of final plans and specifications for the project by NTS. NTS Geotechnical, Inc. should review and verify in writing the compliance of the final grading plan and the final foundation plans with the recommendations presented in this report.

Construction Observation and Testing

It is recommended that NTS be retained to provide Geotechnical Consulting services during the earthwork operations and foundation installation process. This is to observe compliance with the design concepts, specifications and recommendations and to allow for design changes in the event that subsurface conditions differ from those anticipated during our subsurface investigation.

It is the responsibility of the owner and their representative to bring any deviations or unexpected conditions observed during construction to the attention of NTS Geotechnical, in order for supplemental recommendations can be made with a minimum delay to the project. Construction should be observed and/or testing at the following stages by NTS Geotechnical, Inc.:

- During all phases of precise grading, including over-excavation, temporary excavations, removals, scarification, ground preparation, moisture condition, proof-rolling, and placement and compaction of all fill material.
- All foundation excavation prior to placement of steel
- During backfill of underground utilities
- During placement of pavement structural section, including verifying the subgrade prior to placement of aggregate base, testing of aggregate base, and testing of asphalt concrete pavement.
- When unusual conditions are encountered.

If any of these inspections to verify site geotechnical conditions are not performed by NTS Geotechnical, liability for the safety and stability of the project is limited only to the actual portions of the project that is observed and approved by NTS Geotechnical.

LIMITATIONS

All parties reviewing or utilizing this report should recognize that the findings, conclusions, and recommendations presented represent the results of our professional geological and geotechnical engineering efforts and judgments. Due to the inexact nature of the state of the art of these professions and the possible occurrence of undetected variables in subsurface conditions, we cannot guarantee that the conditions actually encountered during grading and site construction will be identical to those observed, sampled, and interpreted during our study, or that there are no unknown subsurface conditions which could have an adverse effect on the use of the property. We have exercised a degree of care comparable to the standard of practice presently maintained by other professionals in the fields of geotechnical engineering and engineering geology, and believe that our findings present a reasonably representative description of

geotechnical conditions and their probable influence on the grading and use of the property.

Our conclusions and recommendations are based on the assumption that our firm will act as the geotechnical engineer of record during construction and grading of the project to observe the actual conditions exposed, to verify our design concepts and the grading contractor's general compliance with the project geotechnical specifications, and to provide our revised conclusions and recommendations should subsurface conditions differ significantly from those used as the basis for our conclusions and recommendations presented in this report. Since our conclusions and recommendations are based on a limited amount of current and previous geotechnical exploration and analysis, all parties should recognize the need for possible revisions to our conclusions and recommendations during grading of the project.

It should be further noted that the recommendations presented herein are intended solely to minimize the effects of post-construction soil movements. Consequently, minor cracking and/or distortion of all on-site improvements should be anticipated.

This report has not been prepared for the use by other parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

REFERENCES

American Concrete Institute, 2014, Building Code Requirements for Structural Concrete (ACI 318-14).

American Society of Civil Engineers (ASCE), 2017, Minimum Design Loads for Buildings and Other Structures, ASCE 7-16.

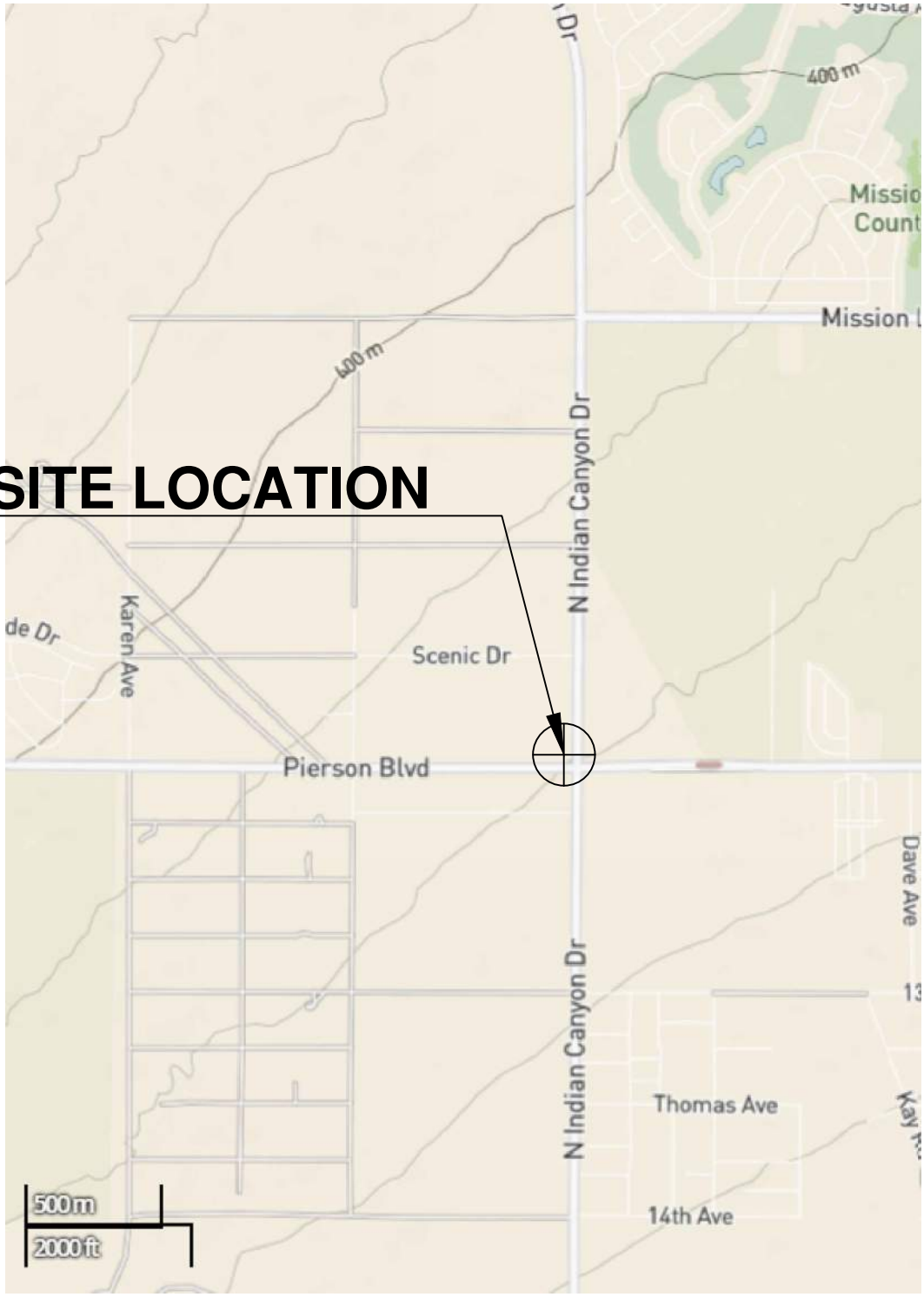
California Building Standards Commission, 2019, California Building Code, California Code of Regulations Title 24, Volume 2, dated July.

Coduto, Donald P., 1994, Foundation Design: Principles and Practices: Prentice-Hall, Inc, Englewood Cliffs, New Jersey.

Dibblee, T. W. and Minch, J.A., Geologic Map of the Desert Hot Springs Quadrangle, Riverside County, California, Dibblee Foundation Map DF-121, dated 2004.

Naval Facilities Engineering Command, 1986, NAVFAC Design Manual.

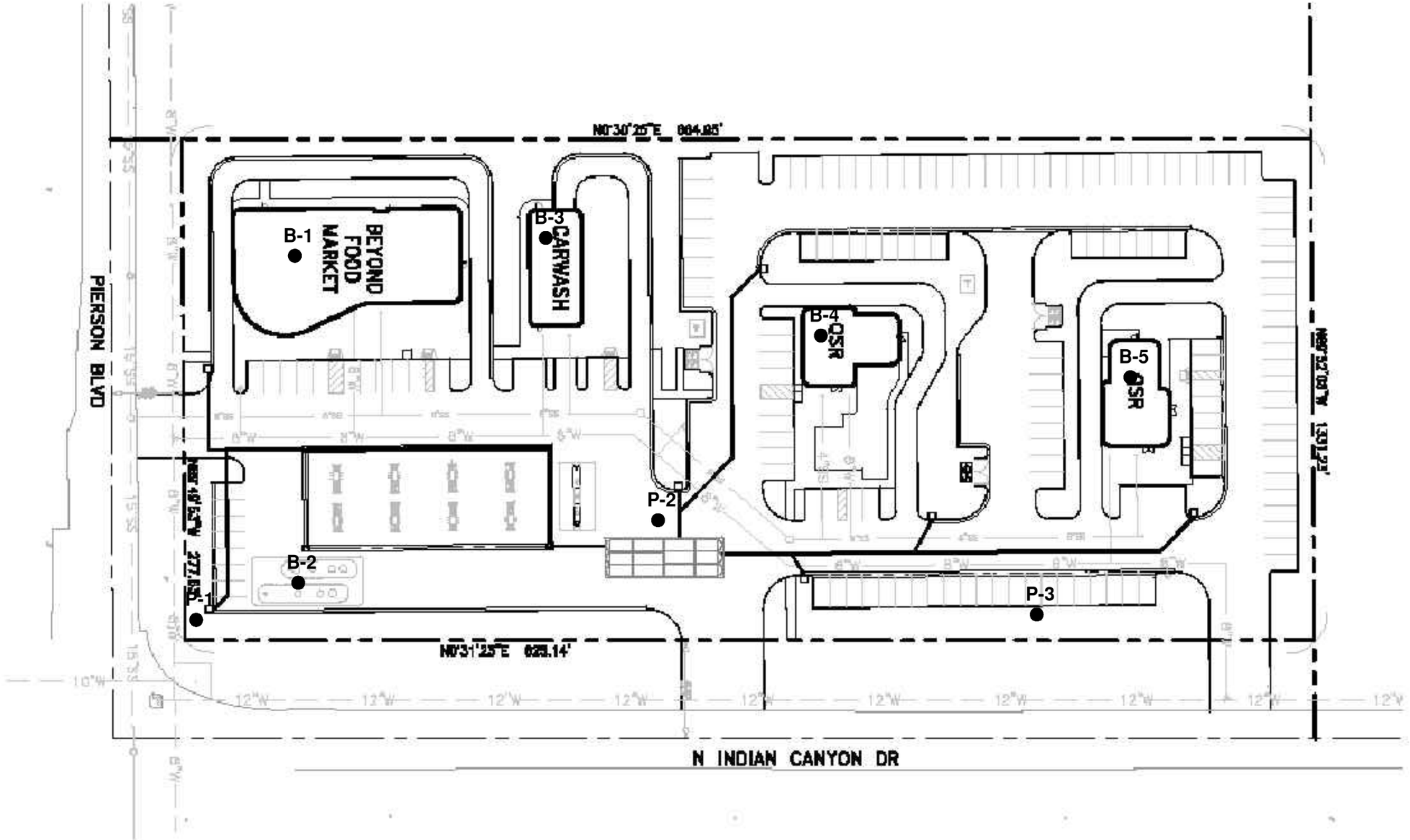
United States Geological Survey (USGS), 2008, Unified Hazard Tool, Dynamic: Conterminous U.S. 2014 (update) (v4.2.0), Retrieved May 14, 2020, from: https://earthquake.usgs.gov/hazards/interactive/



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LOCATION MAP

NTS GEOTECHNICAL	Date: July 29, 2022	Plate 1
	Project No.: 22293	



NTS GEOTECHNICAL

0 60'

GEOTECHNICAL LEGEND

B-1 ● APPROXIMATE LOCATION OF BORING

GEOTECHNICAL MAP

Date: 7/29/2022	Project No.: 22293	Plate: 2

NTS GEOTECHNICAL

APPENDIX A

Field Investigation

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Appendix A
Field Exploration

The subsurface exploration program for the proposed project consisted of advancing eight (8) 8-inch-diameter hollow-stem-auger drill rig borings. The borings were advanced to depths ranging from 8 to 30 feet below the existing grade.

The Boring Logs for five (5) of the borings are presented as Figures A-1 to A-6. The Boring Logs describe the earth materials encountered, samples obtained, and show the field and laboratory tests performed. The log also shows the boring number, drilling date, and the name of the logger and drilling subcontractor. The borings were logged by an engineer using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate because the transition between different soil layers may be gradual. Drive samples of representative earth materials were obtained from the borings.

Disturbed samples were obtained using a Standard Penetration Sampler (SPT). This sampler consists of a 2-inch O.D., 1.4-inch I.D. split barrel shaft that is advanced into the soil at the bottom of the drilled hole a total of 12 inches. The number of blows required to drive the sampler 12 inches is presented on the boring logs. Soil samples obtained by the SPT were retained in plastic bags. A California modified sampler was used to obtain drive samples of the soil encountered. This sampler consists of a 3-inch outside diameter (O.D.), 2.4-inch inside diameter (I.D.) split barrel shaft that was driven a total of 12-inches into the soil at the bottom of the boring. The soil was retained in brass rings for laboratory testing. Additional soil from each drive remaining in the cutting shoe was usually discarded after visually classifying the soil. The number of blows required to drive the sampler 12 inches is presented on the boring logs.

Upon completion of the borings, the boreholes were backfilled with soil from the cuttings.

Project: Pierson Blvd & N Indian Canyon Dr Project Location: APN 664-080-017, Desert Hot Springs Project Number: 22293	NTS GEOTECHNICAL	Key to Log of Boring **Sheet 1 of 1**

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7	8	9

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 Water Content, %: Water content of the soil sample, expressed as percentage of dry weight of sample.
8 Dry Unit Weight, pcf: Dry weight per unit volume of soil sample measured in laboratory, in pounds per cubic foot.
9 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Poorly graded SAND (SP)
Poorly graded SAND with Silt (SP-SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
CME Sampler
Pitcher Sample
Bulk Sample
Grab Sample
2-inch-OD unlined split spoon (SPT)
3-inch-OD California w/ brass rings
2.5-inch-OD Modified California w/ brass liners
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting, AW)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure A-1

Project: Pierson Blvd & N Indian Canyon Dr Project Location: APN 664-080-017, Desert Hot Springs Project Number: 22293	NTS GEOTECHNICAL	Log of Boring B-1 **Sheet 1 of 1**

Date(s) Drilled **7/1/2022**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **21 feet**
Drill Rig Type **CME 75**	Drilling Contractor **One Way Drilling**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140-lb autohammer**
Borehole Backfill **Backfilled with native**	Location **APN 664-080-017, Desert Hot Springs**	

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
0			SP-SM		ALLUVIUM (Qal): SAND TO SILTY SAND			
		31			fine to coarse grained sand, some silt, dry medium dense, light grey to brown			
5		16	SP-SM		fine-grained sand, some silt, dry, medium dense, light grey			
10		50/3"	SP		SAND, fine to coarse grained sand, some gravel, trace of silt, dry, dense, light grey	1	112	
15			SP		dry, very dense			
20		54	SP		fine to coarse sand, numerous gravel, dry, very dense, light grey	1	130	
					Total Depth =21 feet Refusal at 21 feet Groundwater not encountered Backfilled with native			
25								
30								

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Figure A-2

Project: Pierson Blvd & N Indian Canyon Dr Project Location: APN 664-080-017, Desert Hot Springs Project Number: 22293	NTS GEOTECHNICAL	Log of Boring B-2 **Sheet 1 of 2**

Date(s) Drilled **7/1/2022**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **30 feet**
Drill Rig Type **CME 75**	Drilling Contractor **One Way Drilling**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140-lb autohammer**
Borehole Backfill **Backfilled with native**	Location **APN 664-080-017, Desert Hot Springs**	

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
0			SP		ALLUVIUM (Qal): SAND			
		31			fine-grained sand, few silt, some gravel, dry,, dense, light brown			
5		30	SP		dry, medium dense	1	126	
10		17	SP		fine to coarse grained sand, numerous gravel, trace of silt, dry, medium dense, light brown to grey			
15			SP		No Recovery at 15 feet			
20			SP		No Recovery 20 feet			
25		69/11"	SP		fine to coarse grained sand, some gravel, dry, very dense, light grey	3	125	
30								

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Figure A-3

Project: **Pierson Blvd & N Indian Canyon Dr**

Project Location: **APN 664-080-017, Desert Hot Springs**

Project Number: **22293**

NTS GEOTECHNICAL

Log of Boring B-2

Sheet 2 of 2

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
30		50/6"	SP		dry, very dense Total Depth= 30 feet Groundwater not encountered Backfilled with native			
35								
40								
45								
50								
55								
60								
65								

C:\Users\Eduardo R Lemus\AppData\Local\Temp\borings_temp\tmpfile.bgs[NTSGEO.tpl]

Figure A-3

Project: **Pierson Blvd & N Indian Canyon Dr** Project Location: **APN 664-080-017, Desert Hot Springs** Project Number: **22293**	NTS GEOTECHNICAL	Log of Boring B-3 **Sheet 1 of 1**

Date(s) Drilled **7/1/2022**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **20 feet**
Drill Rig Type **CME 75**	Drilling Contractor **One Way Drilling**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140-lb autohammer**
Borehole Backfill **Backfilled with native**	Location **APN 664-080-017, Desert Hot Springs**	

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
0			SP-SM		ALLUVIUM (Qal): SAND TO SILTY SAND			
		37			fine to coarse grained sand, some silt, few gravel, dry to damp, dense, light grey	4	123	
5		57	SP-SM		dry, very dense			
10		50/3"	SP		SAND, fine to coarse grained, few silt, some gravel, dry, dense, light grey	2	126	
15		24	SP		dry, medium dense			
20		50	SP		fine to coarse grained, numerous gravel, trace of silt, dry, dense, light grey Total Depth = 20 feet Groundwater not encountered Backfilled with native			
25								
30								

C:\Users\Eduardo R Lemus\AppData\Local\Temp\borings_temp\tmpfile.bgs[NTSGEO.tpl]

Figure A-4

Project: Pierson Blvd & N Indian Canyon Dr Project Location: APN 664-080-017, Desert Hot Springs Project Number: 22293	NTS GEOTECHNICAL	Log of Boring B-4 **Sheet 1 of 1**

Date(s) Drilled **7/1/2022**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **11 feet**
Drill Rig Type **CME 75**	Drilling Contractor **One Way Drilling**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140-lb autohammer**
Borehole Backfill **Backfilled with native**	Location **APN 664-080-017, Desert Hot Springs**	

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
0			SP-SM		ALLUVIUM (Qal): SAND TO SILTY SAND			
		11			fine to coarse grained sand, some silt, few gravel, dry, medium dense, light grey to brown			
5		32	SP-SM		dry, medium dense, light grey	2	123	
10		66/9"	SP		SAND, fine to coarse grained, some gravel, trace of silt, dry, very dense, light grey			
					Total Depth = 11 feet Refusal at 11 feet Groundwater not encountered Backfilled with native			
15								
20								
25								
30								

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Figure A-5

Project: **Pierson Blvd & N Indian Canyon Dr** Project Location: **APN 664-080-017, Desert Hot Springs** Project Number: **22293**	NTS GEOTECHNICAL	Log of Boring B-5 **Sheet 1 of 1**

Date(s) Drilled **7/1/2022**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **8 feet**
Drill Rig Type **CME 75**	Drilling Contractor **One Way Drilling**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140-lb autohammer**
Borehole Backfill **Backfilled with native**	Location **APN 664-080-017, Desert Hot Springs**	

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
0			SP		ALLUVIUM (Qal): SAND			
		23			fine to coarse grained sand, some gravel, dry, medium dense, light grey to brown	1	115	
5		19	SP		dry, medium dense			
					Total Depth = 8 feet Refusal at 8 feet Groundwater not encountered Backfilled with native			
10								
15								
20								
25								
30								

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Figure A-6

NTS GEOTECHNICAL

APPENDIX B

Geotechnical Laboratory Testing

NTS GEOTECHNICAL

Appendix B
Geotechnical Laboratory Testing

Laboratory Moisture Content and Density Tests

The moisture content and dry densities of selected driven samples obtained from the exploratory boring was evaluated in general accordance with the latest version of ASTM D 2937. The test results are presented on the log of the exploratory boring in Appendix A.

Wash Sieve

The amount of fines passing the No. 200 sieve was evaluated by the wash sieve. The test procedure was in general accordance with ASTM D 1140. The results are attached to his Appendix B.

Corrosion Suite

The corrosion potential of typical on-site materials under long-term contact with both metal and concrete was determined by chemical and electrical resistance tests. The soluble sulfate test for potential concrete corrosion was performed in general accordance with California Test Method 417, the minimum resistivity test for potential metal corrosion was performed in general accordance with California Test Method 643, and the concentration of soluble chlorides was determined in general accordance with California Test Method 422. The test results are attached to this Appendix B.

Direct Shear Tests

Direct shear tests were performed on selected remolded and relatively undisturbed soil samples in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of the materials. The samples were inundated during shearing to represent adverse field conditions. Direct shear test results are attached to this Appendix B.

One Dimensional Swell/Collapse of Soil

One Dimensional Swell/Collapse of Soil test was performed to measure magnitude of one-dimensional wetting-induced swell or collapse of unsaturated soils. Vertical pressure of 800 and 1600 psf is applied to the sample then the sample is soaked in distilled water. Deformation was recorded after 24 hours. The results are attached to this Appendix B.

PROJECT
ADDRESS: Pierson Blvd & N Indian Canyon Dr

LABORATORY RECAPITULATION 1

Explorations	Depth (ft)	Material	Dry Density (p.c.f.)	Moisture Content (%)
B-1	10.0	Qal	112	1
	20.0	Qal	130	1
B-2	5.0	Qal	126	1
	25.0	Qal	125	3
B-3	2.5	Qal	123	4
	10.0	Qal	126	2
B-4	5.0	Qal	123	2
B-5	2.5	Qal	115	1

LABORATORY RECAPITULATION 2

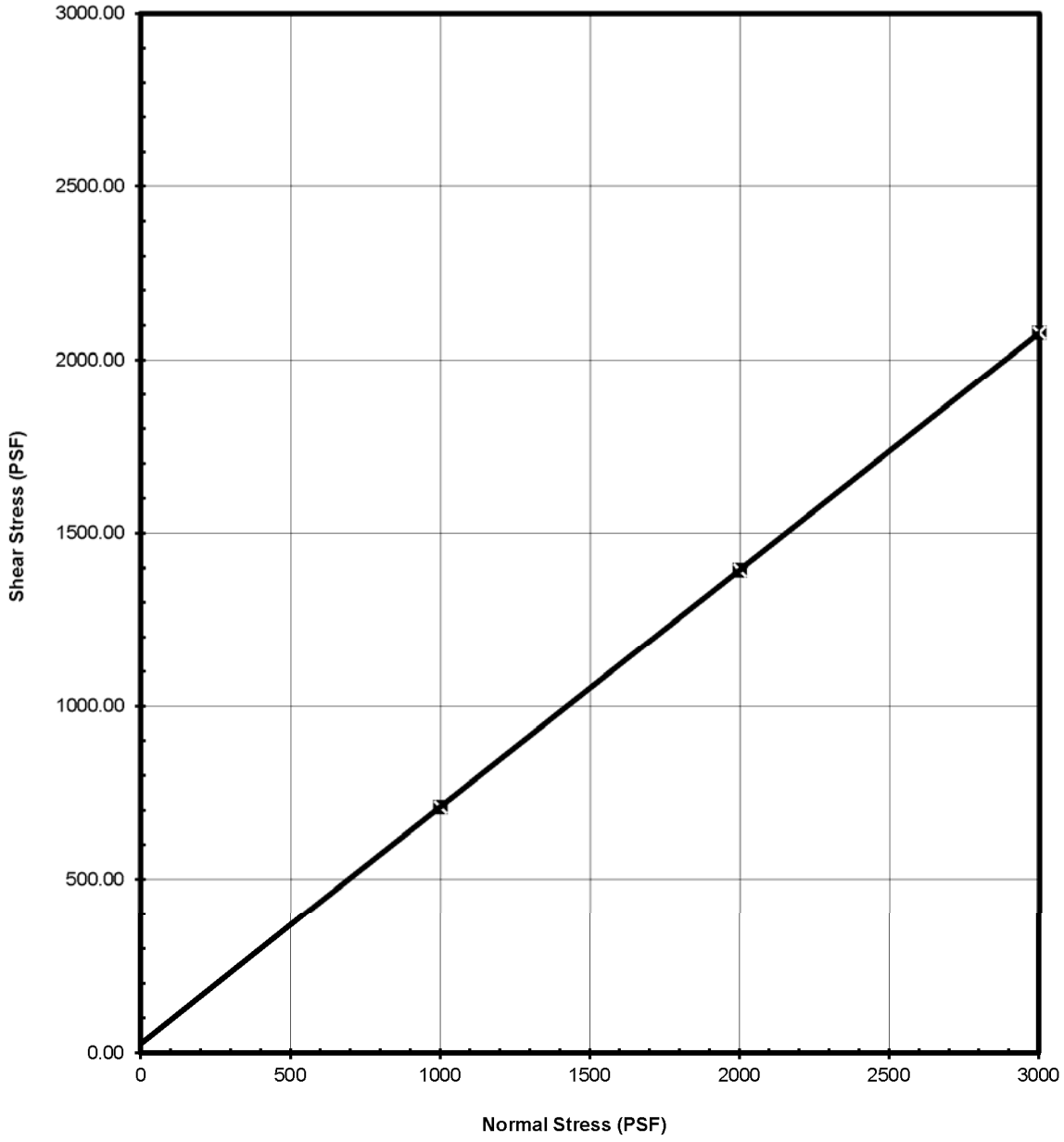
Explorations	Depth (ft)	pH	As-Is Soil Resistivity (ohm-cm)	Minimum Soil Resistivity (ohm-cm)	Chloride (ppm)	Sulfate (ppm)
B-1	5.0	9.00	140,000	6,700	30	30

Direct Shear Test Diagram (D-3080)

PLATE: S-1
P.N. 22293

Sample Description	Sample Identification	Test Type	Sample Test State	Number of Passes
Qa	B-2 @ 5.0'	Ultimate	Saturated	1

Soil Dry Density (PCF)	127	Shear Strength Values:	
Soil Moisture Content (%)	11	Phi (Degrees)	34.4
Soil Saturation (%)	96.5	Cohesion (PSF)	25.3



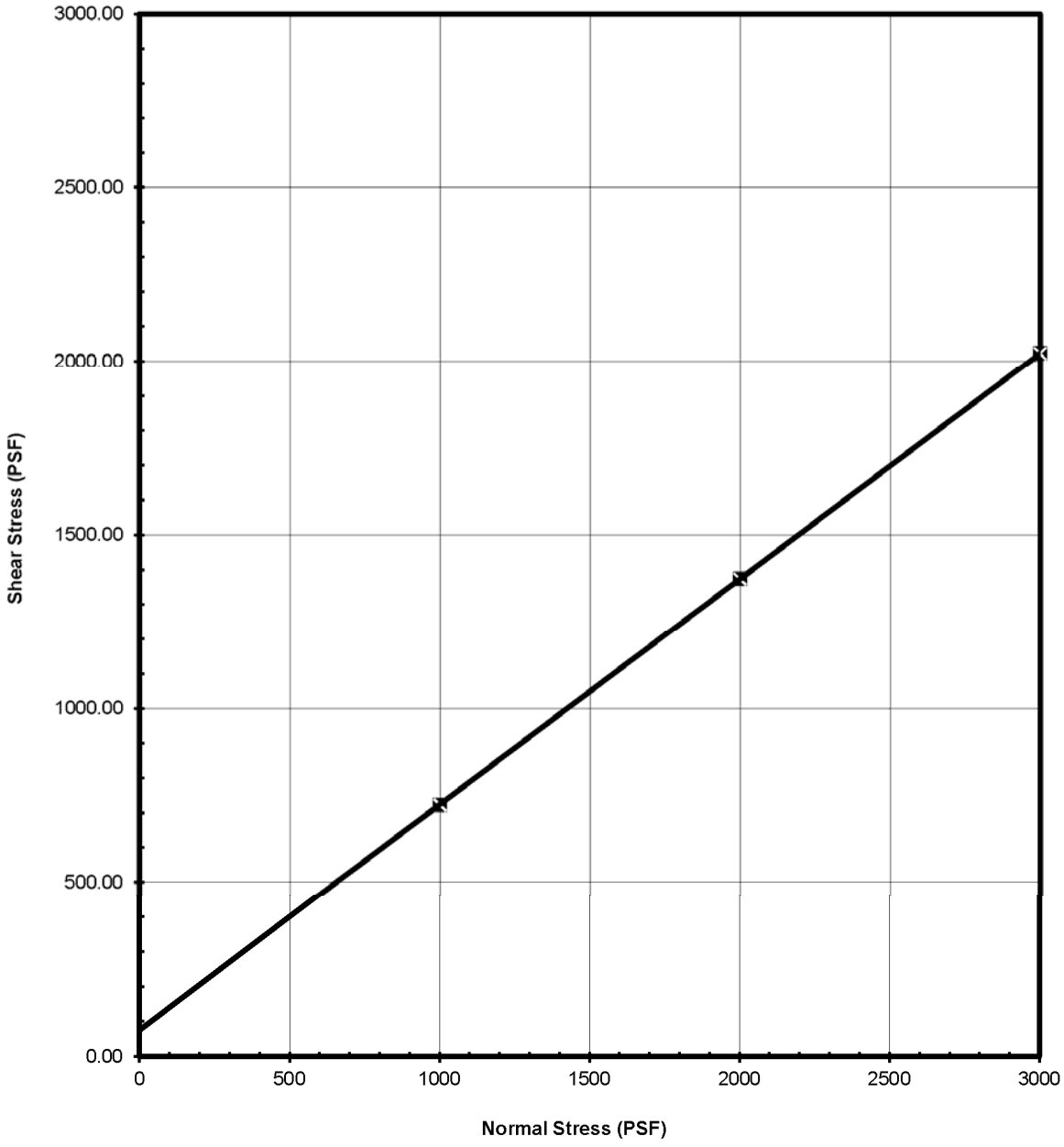
Direct Shear Test Diagram (D-3080)

PLATE: S-2

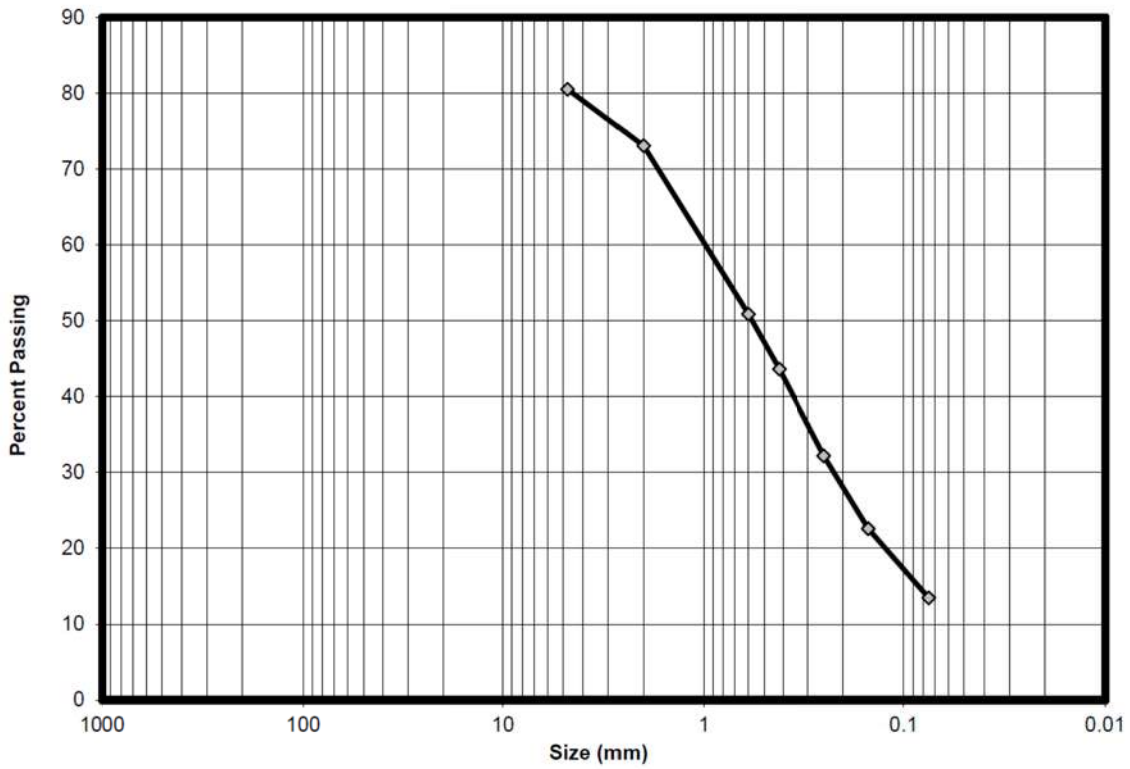
P.N. 22293

Sample Description	Sample Identification	Test Type	Sample Test State	Number of Passes
Qa	B-3 @ 10.0'	Ultimate	Saturated	1

Soil Dry Density (PCF)	128	Shear Strength Values:	
Soil Moisture Content (%)	11	Phi (Degrees)	33.0
Soil Saturation (%)	99.9	Cohesion (PSF)	74.7



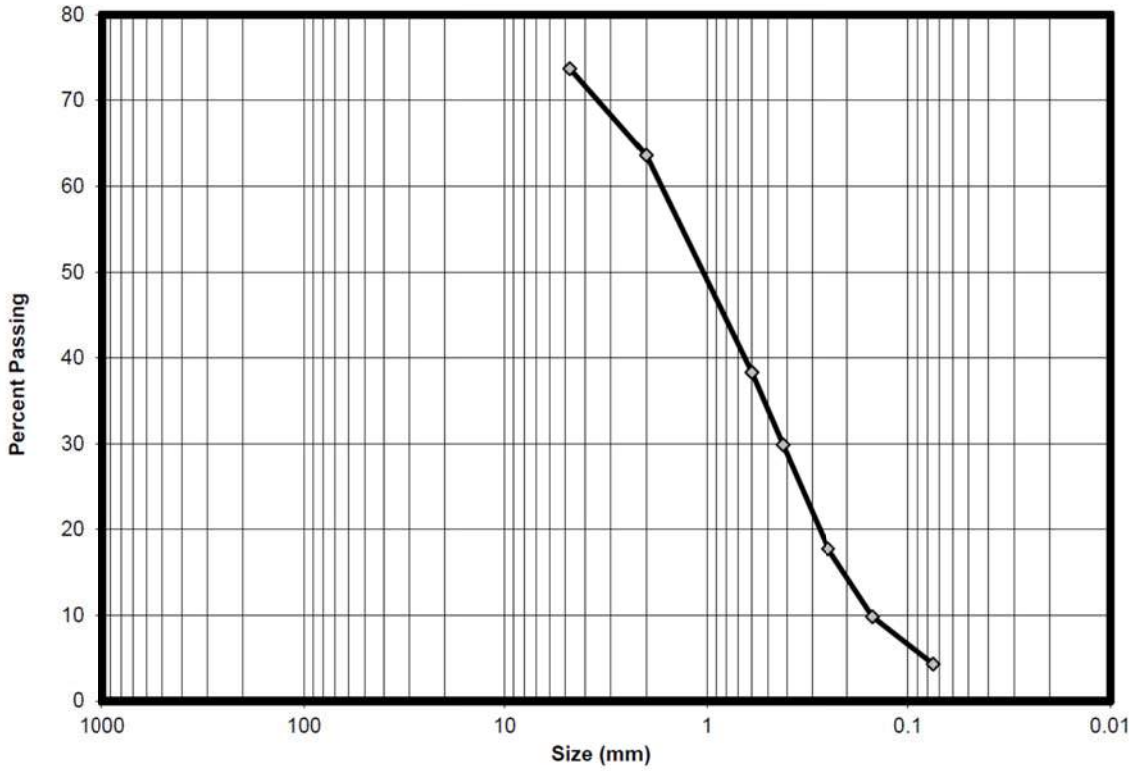
Sieve Size	Percent Passing
No. 4	80.52
No. 10	73.08
No. 30	50.88
No. 40	43.64
No. 60	32.2
No. 100	22.6
No. 200	13.48



Grain Size Analysis (ASTM D422)

Sample Identification	Sample Description	PLATE: G-1 P.N. 22293
P-1 @ 5.0'	Qa	

Sieve Size	Percent Passing
No. 4	73.72
No. 10	63.64
No. 30	38.32
No. 40	29.88
No. 60	17.76
No. 100	9.84
No. 200	4.32



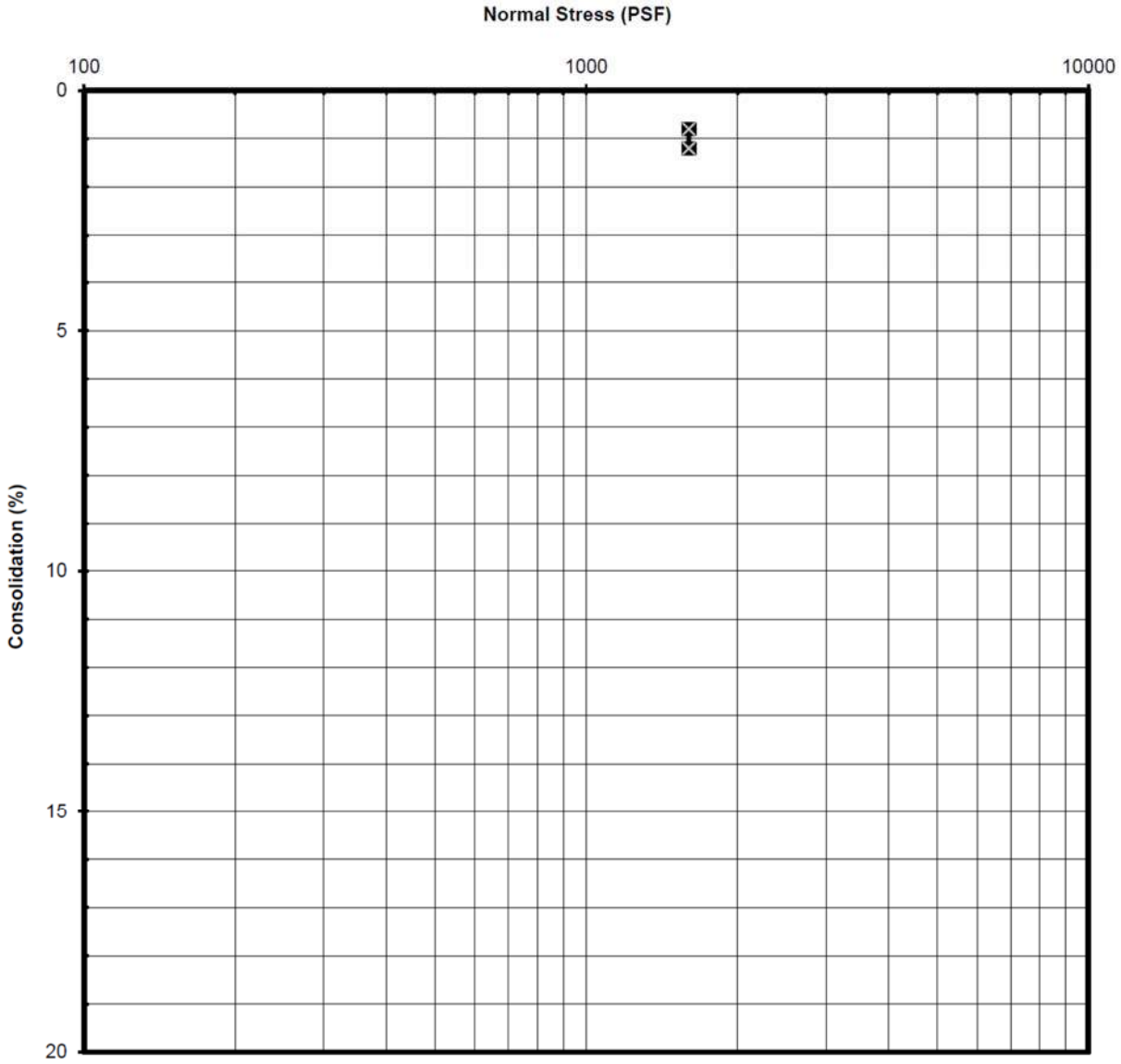
Grain Size Analysis (ASTM D422)

Sample Identification	Sample Description	PLATE: G-1 P.N. 22293
P-2 @ 10.0'	Qa	

One-Dimention Swell/Collapse of Soils (ASTM D4546)

Sample Identification	Sample Description
B-1 @ 10.0'	Qa

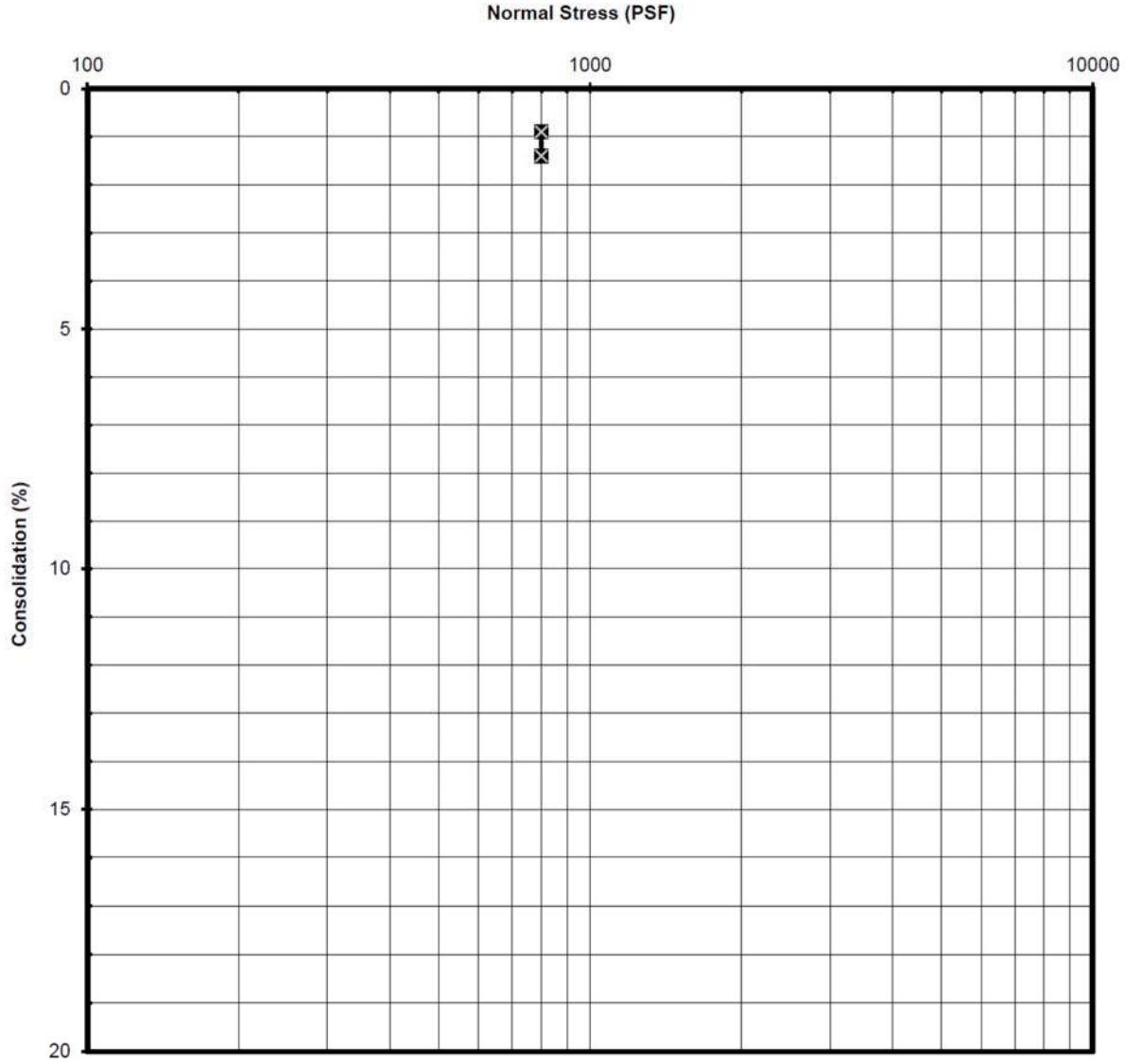
PLATE: HC-1
P.N. 22293



One-Dimention Swell/Collapse of Soils (ASTM D4546)

Sample Identification	Sample Description
B-2 @ 5.0'	Qa

PLATE: HC-2
P.N. 22293



NTS GEOTECHNICAL

APPENDIX C

Infiltration Testing Results

NTS GEOTECHNICAL

Falling Head Borehole Infiltration Test

Project Name:	Pierson Blvd & N Indian Canyon Dr, Desert Ho				**Date:**	7/1/2022	
Project Number:	22293				**Tested By:**	ERL	
Test Hole Number:	P-1				**USCS Soil Classification:**	SM	
Total Depth :	5.00	feet			**Water Temperature:**	N/A	°F
Test Hole Diameter:	8.00	inches	radius=	4 inches			

Trial	Start Time	End Time	ΔT	Total Time	Initial Depth of Water	Final Depth of Water	H_0	H_f	ΔH	H_{avg}	Unfactored Percolati
			(min)	*(min)*	*(ft)*	*(ft)*	*(in)*	*(in)*	*(in)*	*(in)*	*(in/hour)*
1	10:25	10:35	10.0	60.0	3.75	4.17	15.00	9.96	5.04	12.48	4.18
2	10:35	10:45	10.0	70.0	4.17	4.42	9.96	6.96	3.00	8.46	3.44
3	10:45	10:55	10.0	80.0	4.42	4.58	6.96	5.04	1.92	6.00	2.88
4	10:55	11:05	10.0	90.0	4.58	4.71	5.04	3.48	1.56	4.26	2.99
5	11:05	11:15	10.0	100.0	4.71	4.79	3.48	2.52	0.96	3.00	2.30
6	11:15	11:25	10.0	110.0	4.79	4.83	2.52	2.04	0.48	2.28	1.35

SAFETY FACTOR*:	2
UNFACTORED INFILTRATION RATE (IN/HR):	2.21
FACTORED INFILTRATION RATE (IN/HR):	1.11

Factor Category	Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) = w x v
Suitability Assessment	Soil assessment methods	0.25	3	0.75
	Predominant soil texture	0.25	1	0.25
	Site soil variablity	0.25	1	0.25
	Depth to groundwater	0.25	1	0.25
	Geotechnical Factor of Safety (S_A):			1.5

Concern Level	Factor Value (v)
Low	1
Medium	2
High	3

***Factor of safety should not be less than 2. Additional factor of safety in accordance with Table D-7 of the South Orange County Technical Guidance Document should be applied by the project civil engineer.**

NTS GEOTECHNICAL

Falling Head Borehole Infiltration Test

Project Name:	Pierson Blvd & N Indian Canyon Dr, Desert Ho				**Date:**	7/1/2022	
Project Number:	22293				**Tested By:**	ERL	
Test Hole Number:	P-2				**USCS Soil Classification:**	SP	
Total Depth :	10.00	feet			**Water Temperature:**	N/A	°F
Test Hole Diameter:	8.00	inches	radius=	4 inches			

Trial	Start Time	End Time	ΔT	Total Time	Initial Depth of Water	Final Depth of Water	H_0	H_f	ΔH	H_{avg}	Unfactored Percolation Rate
			(min)	*(min)*	*(ft)*	*(ft)*	*(in)*	*(in)*	*(in)*	*(in)*	*(in/hour)*
1	12:00	12:10	10.0	60.0	4.50	5.33	66.00	56.04	9.96	61.02	1.90
2	12:10	12:20	10.0	70.0	5.33	6.16	56.04	46.08	9.96	51.06	2.25
3	12:20	12:30	10.0	80.0	6.16	6.83	46.08	38.04	8.04	42.06	2.19
4	12:30	12:40	10.0	90.0	6.83	7.38	38.04	31.44	6.60	34.74	2.16
5	12:40	12:50	10.0	100.0	7.38	7.79	31.44	26.52	4.92	28.98	1.91
6	12:50	1:00	10.0	110.0	7.79	8.08	26.52	23.04	3.48	24.78	1.56

SAFETY FACTOR*:	2
UNFACTORED INFILTRATION RATE (IN/HR):	1.87
FACTORED INFILTRATION RATE (IN/HR):	0.94

Factor Category	Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) = w x v
Suitability Assessment	Soil assessment methods	0.25	3	0.75
	Predominant soil texture	0.25	1	0.25
	Site soil variablity	0.25	1	0.25
	Depth to groundwater	0.25	1	0.25
	Geotechnical Factor of Safety (S_A):			1.5

Concern Level	Factor Value (v)
Low	1
Medium	2
High	3

***Factor of safety should not be less than 2. Additional factor of safety in accordance with Table D-7 of the South Orange County Technical Guidance Document should be applied by the project civil engineer.**

NTS GEOTECHNICAL

Falling Head Borehole Infiltration Test

Project Name:	Pierson Blvd & N Indian Canyon Dr, Desert H				**Date:**	7/1/2022	
Project Number:	22293				**Tested By:**	ERL	
Test Hole Number:	P-3				**USCS Soil Classification:**	SM	
Total Depth :	5.00	feet			**Water Temperature:**	N/A	°F
Test Hole Diameter:	8.00	inches	radius=	4	inches		

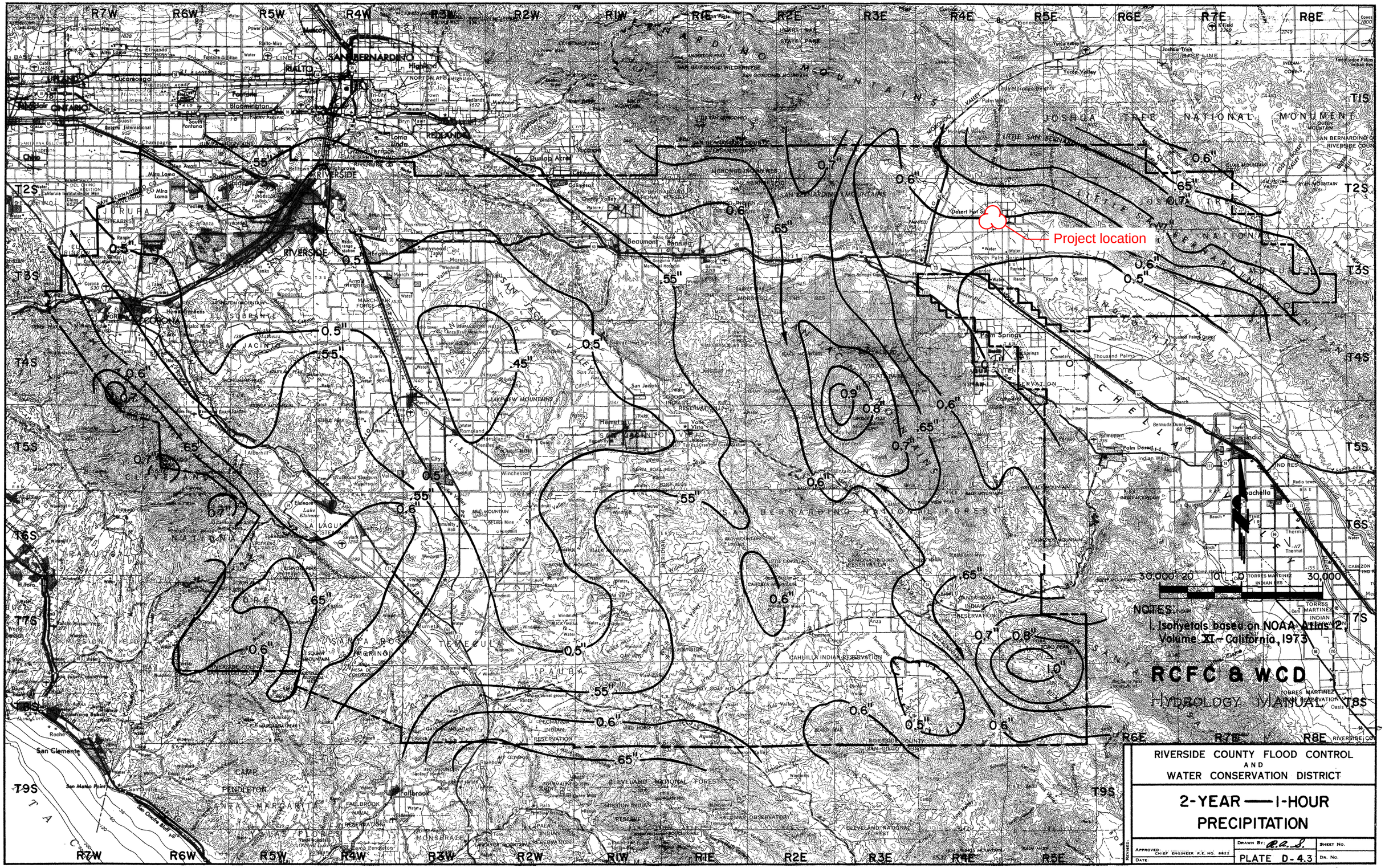
Trial	Start Time	End Time	ΔT	Total Time	Initial Depth of Water	Final Depth of Water	H_0	H_f	ΔH	H_{avg}	Unfactored Percolati
			(min)	*(min)*	*(ft)*	*(ft)*	*(in)*	*(in)*	*(in)*	*(in)*	*(in/hour)*
1	1:45	1:55	10.0	60.0	3.83	4.25	14.04	9.00	5.04	11.52	4.47
2	1:55	2:05	10.0	70.0	4.25	4.46	9.00	6.48	2.52	7.74	3.10
3	2:05	2:15	10.0	80.0	4.46	4.58	6.48	5.04	1.44	5.76	2.23
4	2:15	2:25	10.0	90.0	4.58	4.67	5.10	3.96	1.14	4.53	2.09
5	2:25	2:35	10.0	100.0	4.67	4.75	3.96	3.00	0.96	3.48	2.10
6	2:35	2:45	10.0	110.0	4.75	4.79	3.00	2.52	0.48	2.76	1.21

SAFETY FACTOR*:	2
UNFACTORED INFILTRATION RATE (IN/HR):	1.80
FACTORED INFILTRATION RATE (IN/HR):	0.90

Factor Category	Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) = w x v
Suitability Assessment	Soil assessment methods	0.25	3	0.75
	Predominant soil texture	0.25	1	0.25
	Site soil variablity	0.25	1	0.25
	Depth to groundwater	0.25	1	0.25
	Geotechnical Factor of Safety (SA):			1.5

Concern Level	Factor Value (v)
Low	1
Medium	2
High	3

***Factor of safety should not be less than 2. Additional factor of safety in accordance with Table D-7 of the South Orange**


Project location
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 1-HOUR PRECIPITATION
PLATE D-4.3
DRAWN BY: R.A.S.
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
SHEET No.
DR. No.
REVISED:

Project location

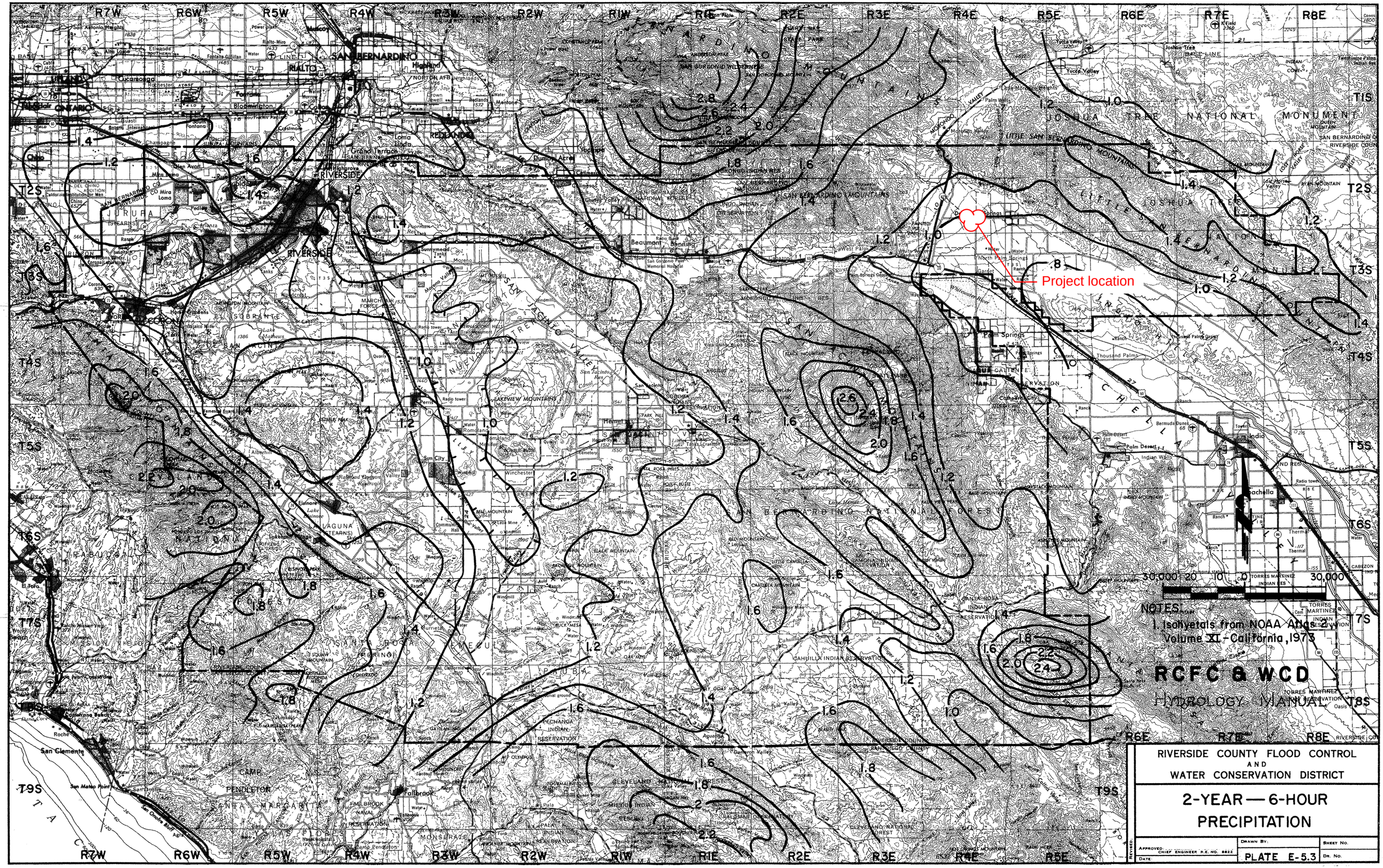
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

2-YEAR — 3-HOUR PRECIPITATION

APPROVED: CHIEF ENGINEER R.E. NO. 6822	DRAWN BY: R.A.S.	SHEET NO.
DATE:	PLATE E-5.1	DR. NO.
REVISED		


Project location
NOTES
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 6-HOUR PRECIPITATION
DRAWN BY:
SHEET NO.
PLATE E-5.3
APPROVED CHIEF ENGINEER R.E. NO. 6822
DATE
DR. NO.
REVISED

Project location

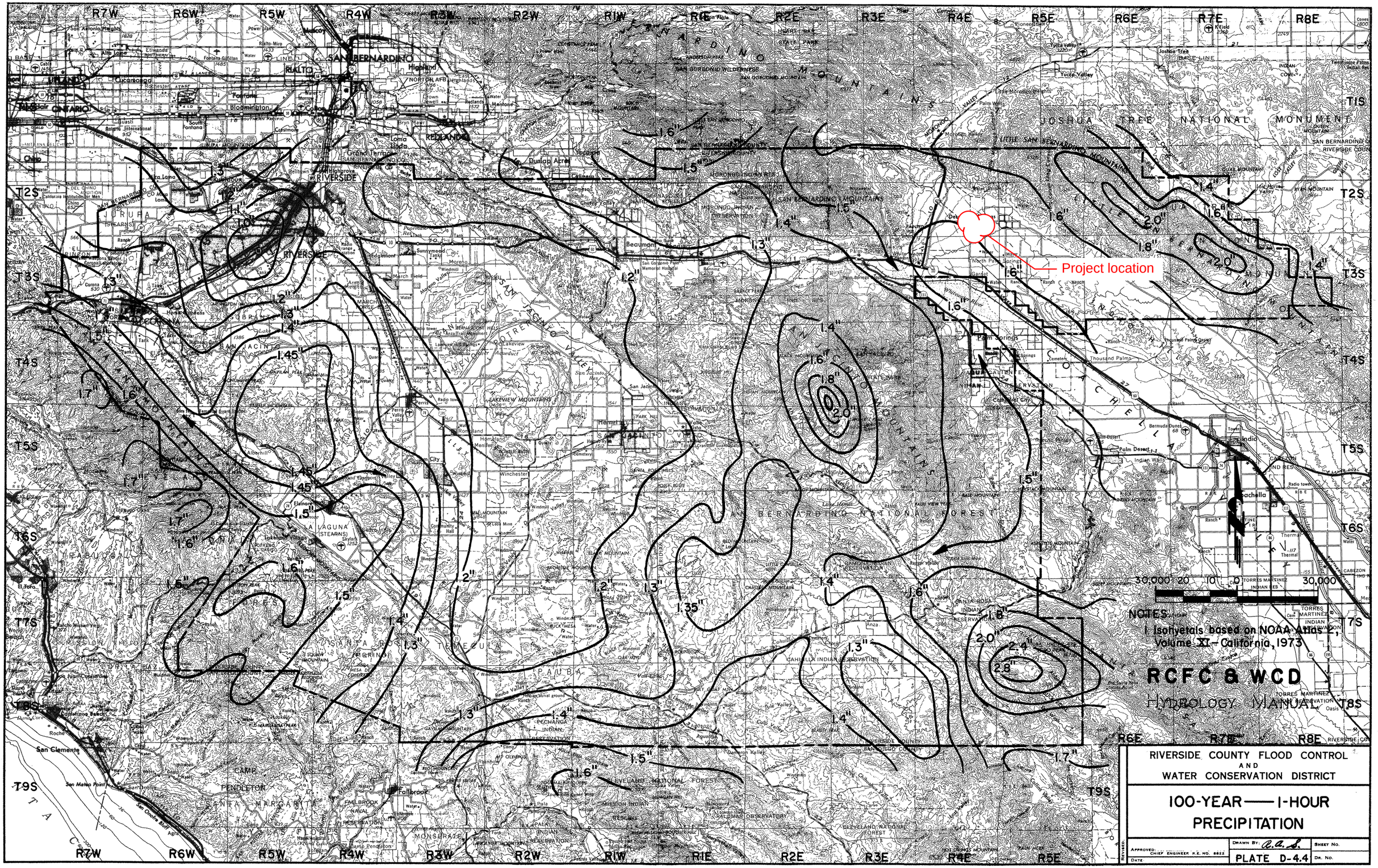
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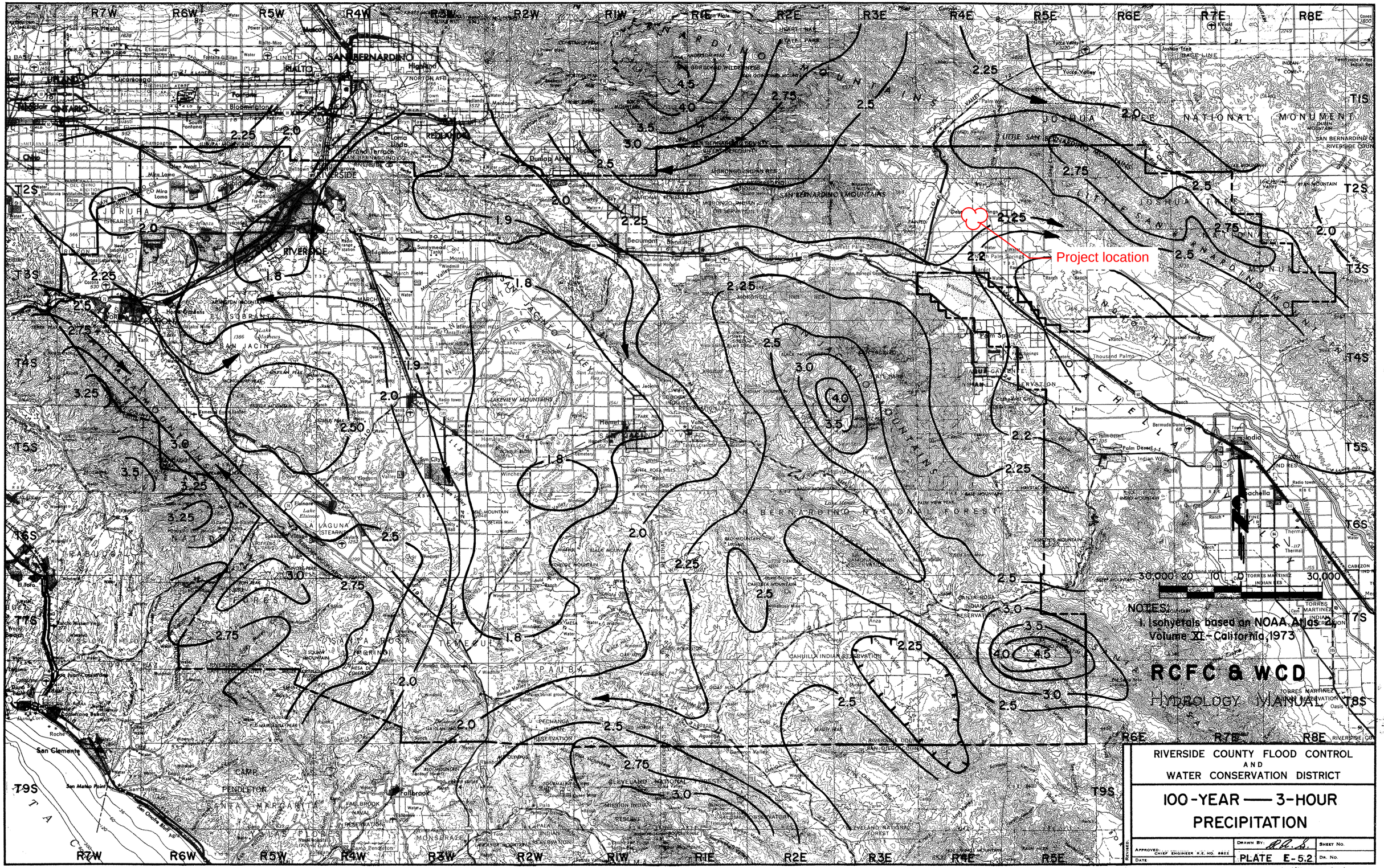
RCFC & WCD
HYDROLOGY MANUAL

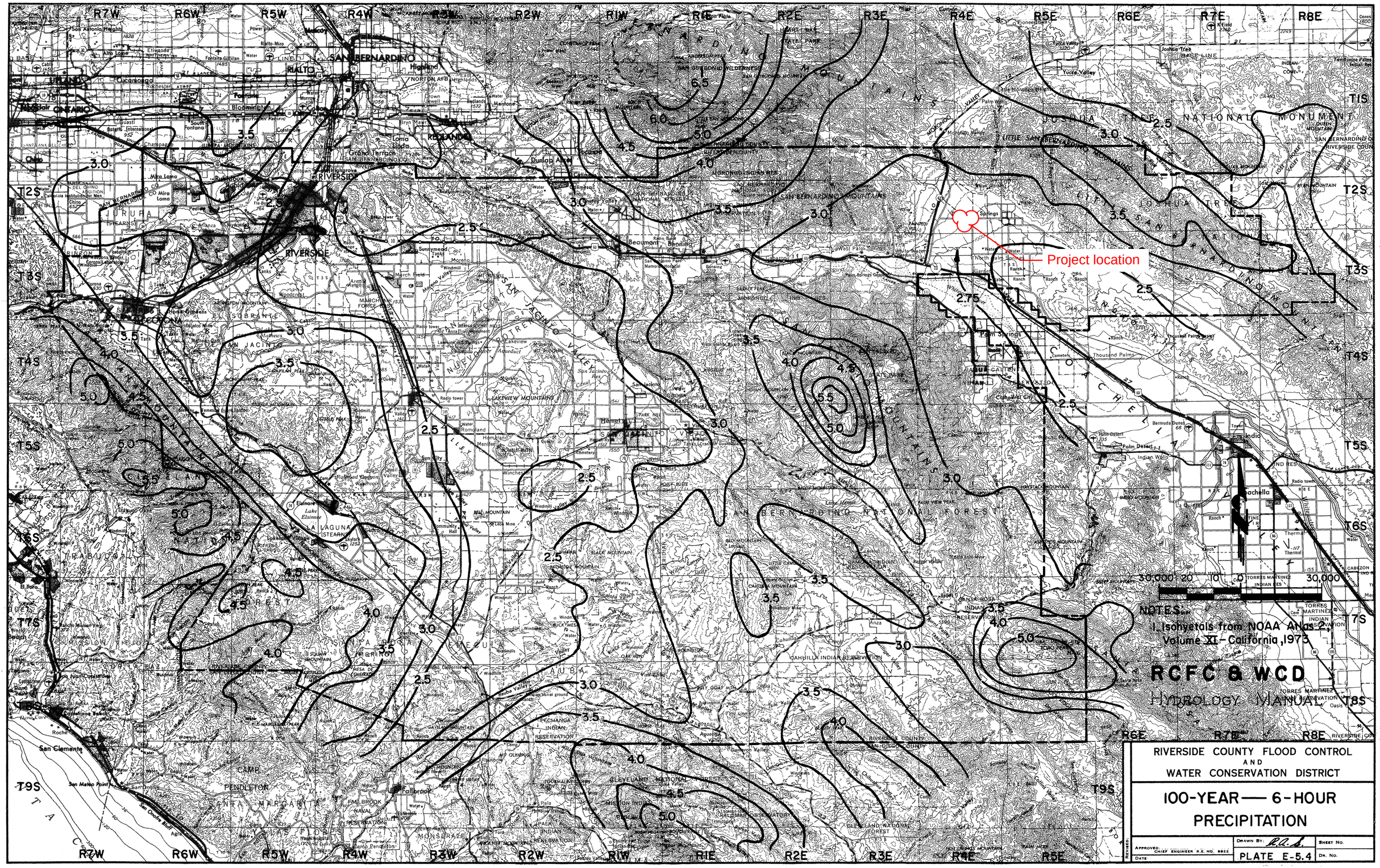
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

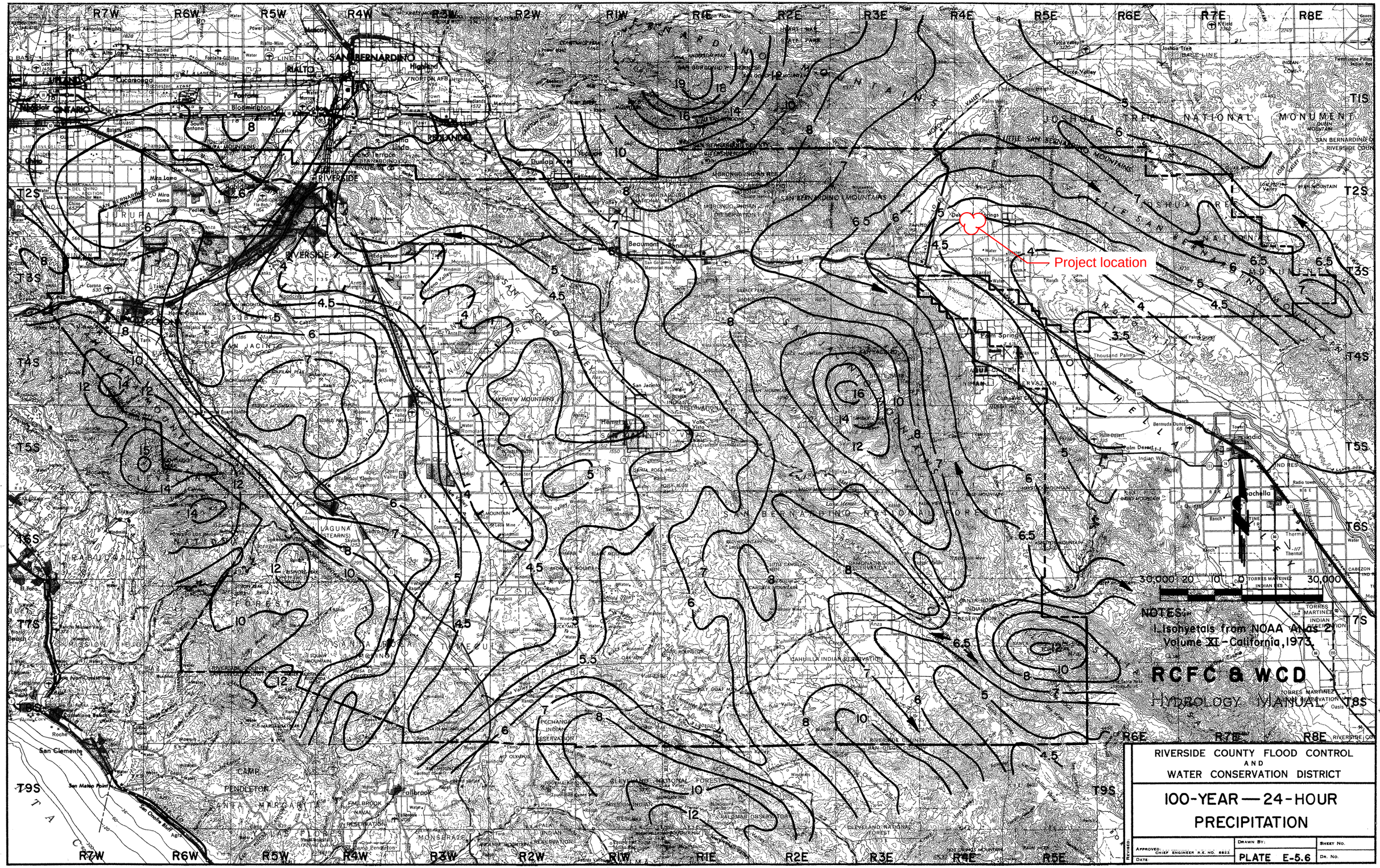
2-YEAR — 24-HOUR PRECIPITATION

APPROVED CHIEF ENGINEER R.E. NO. 8822	DRAWN BY: R.A.S.	SHEET NO.
DATE	PLATE E-5.5	DR. NO.
REVISED		


Project location
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR PRECIPITATION
DRAWN BY: A.A.S.
SHEET NO.
PLATE D-4.4
APPROVED: CHIEF ENGINEER R.E. NO. 6822
DATE
REVISED
DR. NO.


Project location
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 3-HOUR PRECIPITATION
DRAWN BY: R.A.S.
PLATE E-5.2
SHEET No.
DR. No.
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED


Project location
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
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HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR PRECIPITATION
DRAWN BY: R.A.S.
SHEET No.
PLATE E-5.4
DR. No.
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED:


Project location
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 24-HOUR PRECIPITATION
DRAWN BY:
SHEET No.
PLATE E-5.6
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED
DR. No.

NOAA Atlas 14, Volume 6, Version 2
Location name: Desert Hot Springs, California, USA*
Latitude: 33.962°, Longitude: -116.5458°
Elevation: 1187.68 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.084 (0.070-0.102)	0.119 (0.099-0.145)	0.171 (0.141-0.208)	0.218 (0.179-0.268)	0.290 (0.230-0.369)	0.352 (0.273-0.457)	0.422 (0.320-0.562)	0.502 (0.370-0.688)	0.625 (0.441-0.893)	0.733 (0.500-1.09)
10-min	0.120 (0.100-0.146)	0.171 (0.142-0.208)	0.245 (0.203-0.299)	0.312 (0.256-0.384)	0.415 (0.330-0.528)	0.504 (0.392-0.656)	0.605 (0.459-0.806)	0.719 (0.530-0.986)	0.895 (0.633-1.28)	1.05 (0.717-1.56)
15-min	0.145 (0.121-0.177)	0.206 (0.171-0.251)	0.296 (0.245-0.361)	0.377 (0.310-0.464)	0.502 (0.399-0.639)	0.610 (0.474-0.793)	0.731 (0.555-0.974)	0.870 (0.641-1.19)	1.08 (0.765-1.55)	1.27 (0.867-1.88)
30-min	0.229 (0.190-0.278)	0.325 (0.270-0.395)	0.466 (0.386-0.569)	0.594 (0.488-0.731)	0.790 (0.627-1.00)	0.960 (0.746-1.25)	1.15 (0.873-1.53)	1.37 (1.01-1.88)	1.70 (1.20-2.44)	2.00 (1.36-2.96)
60-min	0.332 (0.276-0.403)	0.471 (0.391-0.573)	0.677 (0.560-0.825)	0.862 (0.708-1.06)	1.15 (0.910-1.46)	1.39 (1.08-1.81)	1.67 (1.27-2.23)	1.99 (1.47-2.72)	2.47 (1.75-3.53)	2.90 (1.98-4.29)
2-hr	0.456 (0.379-0.554)	0.630 (0.523-0.767)	0.887 (0.734-1.08)	1.12 (0.918-1.38)	1.47 (1.17-1.87)	1.77 (1.38-2.30)	2.11 (1.60-2.81)	2.49 (1.84-3.42)	3.08 (2.17-4.40)	3.58 (2.45-5.30)
3-hr	0.554 (0.460-0.673)	0.760 (0.631-0.925)	1.06 (0.880-1.30)	1.34 (1.10-1.64)	1.75 (1.39-2.23)	2.11 (1.64-2.74)	2.50 (1.90-3.33)	2.95 (2.17-4.04)	3.63 (2.57-5.19)	4.22 (2.88-6.25)
6-hr	0.723 (0.601-0.879)	0.993 (0.824-1.21)	1.39 (1.15-1.69)	1.74 (1.43-2.14)	2.28 (1.81-2.90)	2.74 (2.13-3.56)	3.25 (2.46-4.33)	3.83 (2.82-5.25)	4.71 (3.33-6.73)	5.47 (3.74-8.10)
12-hr	0.887 (0.737-1.08)	1.24 (1.03-1.51)	1.76 (1.46-2.15)	2.22 (1.83-2.74)	2.93 (2.33-3.73)	3.54 (2.75-4.60)	4.22 (3.20-5.62)	4.99 (3.68-6.84)	6.16 (4.35-8.81)	7.18 (4.90-10.6)
24-hr	1.05 (0.933-1.21)	1.51 (1.34-1.75)	2.19 (1.93-2.53)	2.79 (2.44-3.26)	3.71 (3.14-4.47)	4.50 (3.74-5.53)	5.39 (4.37-6.78)	6.40 (5.05-8.27)	7.93 (6.01-10.7)	9.28 (6.80-12.9)
2-day	1.14 (1.01-1.32)	1.68 (1.49-1.94)	2.47 (2.18-2.85)	3.17 (2.78-3.70)	4.24 (3.59-5.11)	5.16 (4.28-6.34)	6.18 (5.01-7.78)	7.34 (5.79-9.49)	9.10 (6.90-12.3)	10.6 (7.79-14.8)
3-day	1.18 (1.05-1.36)	1.76 (1.55-2.03)	2.60 (2.30-3.01)	3.36 (2.94-3.92)	4.50 (3.82-5.42)	5.48 (4.55-6.74)	6.58 (5.33-8.28)	7.81 (6.16-10.1)	9.68 (7.34-13.0)	11.3 (8.28-15.7)
4-day	1.22 (1.08-1.41)	1.83 (1.62-2.12)	2.73 (2.41-3.16)	3.54 (3.10-4.12)	4.75 (4.02-5.72)	5.78 (4.80-7.11)	6.94 (5.62-8.73)	8.24 (6.50-10.7)	10.2 (7.73-13.7)	11.9 (8.72-16.6)
7-day	1.35 (1.19-1.55)	2.07 (1.83-2.38)	3.12 (2.75-3.61)	4.05 (3.55-4.73)	5.46 (4.62-6.57)	6.64 (5.52-8.16)	7.95 (6.45-10.0)	9.41 (7.43-12.2)	11.6 (8.79-15.6)	13.5 (9.87-18.8)
10-day	1.42 (1.26-1.64)	2.21 (1.95-2.55)	3.35 (2.95-3.87)	4.36 (3.82-5.09)	5.88 (4.98-7.08)	7.16 (5.94-8.80)	8.56 (6.94-10.8)	10.1 (7.99-13.1)	12.5 (9.44-16.8)	14.4 (10.6-20.1)
20-day	1.58 (1.40-1.82)	2.47 (2.19-2.85)	3.78 (3.33-4.37)	4.94 (4.32-5.76)	6.68 (5.66-8.04)	8.14 (6.75-10.00)	9.73 (7.89-12.2)	11.5 (9.07-14.9)	14.1 (10.7-19.0)	16.3 (11.9-22.7)
30-day	1.80 (1.59-2.07)	2.81 (2.48-3.24)	4.29 (3.79-4.96)	5.61 (4.91-6.54)	7.59 (6.43-9.14)	9.25 (7.68-11.4)	11.1 (8.97-13.9)	13.1 (10.3-16.9)	16.0 (12.1-21.6)	18.5 (13.5-25.7)
45-day	2.01 (1.78-2.32)	3.13 (2.77-3.61)	4.77 (4.20-5.51)	6.23 (5.45-7.27)	8.43 (7.15-10.2)	10.3 (8.54-12.6)	12.3 (9.98-15.5)	14.5 (11.5-18.8)	17.8 (13.5-24.0)	20.5 (15.1-28.6)
60-day	2.24 (1.99-2.58)	3.45 (3.05-3.98)	5.23 (4.62-6.05)	6.83 (5.98-7.97)	9.24 (7.83-11.1)	11.3 (9.36-13.9)	13.5 (10.9-17.0)	15.9 (12.6-20.6)	19.5 (14.8-26.3)	22.5 (16.5-31.4)

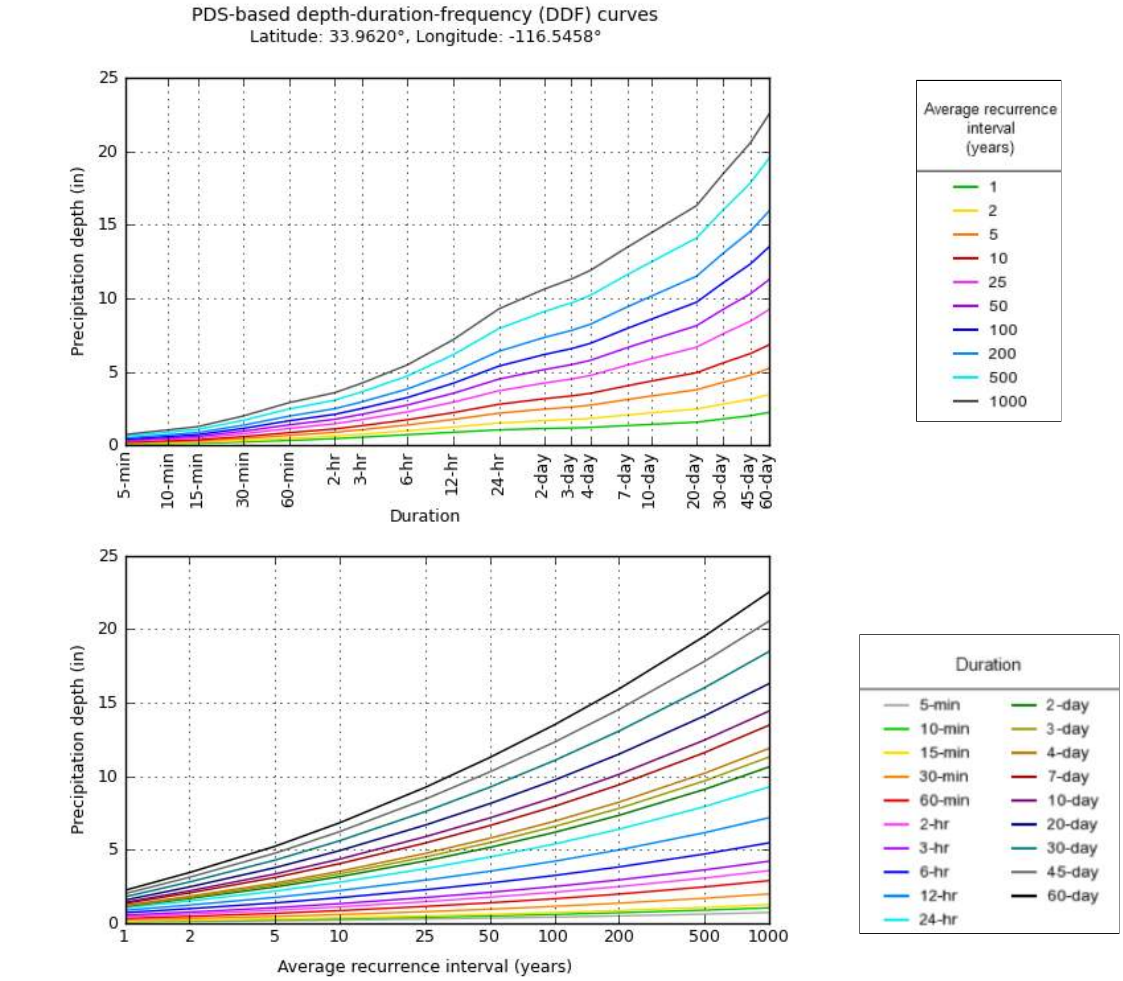
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



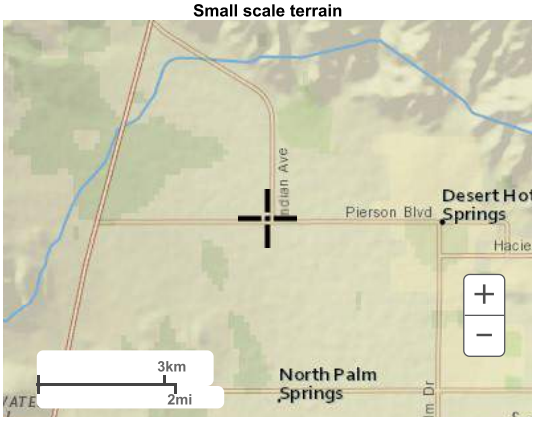
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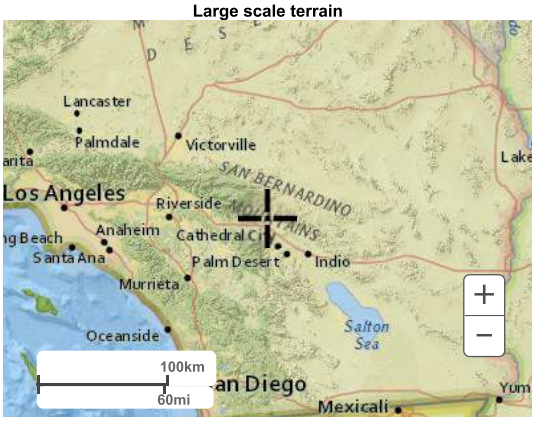
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Maps & aerials

Small scale terrain



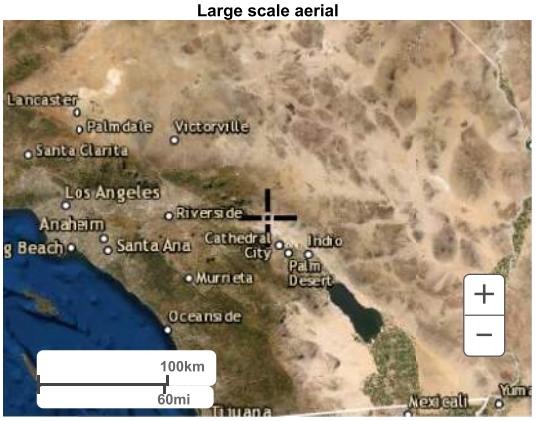
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
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National Water Center
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Disclaimer

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 09/21/22 File:138prerat.out

Desert Hot Springs
Rational Method
Pre Development
10 yr

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6481

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Desert Hot Springs] area used.
10 year storm 10 minute intensity = 2.940(In/Hr)
10 year storm 60 minute intensity = 1.040(In/Hr)
100 year storm 10 minute intensity = 4.520(In/Hr)
100 year storm 60 minute intensity = 1.600(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 1.040(In/Hr)
Slope of intensity duration curve = 0.5800

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Process from Point/Station 101.000 to Point/Station 102.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 693.440(Ft.)
Top (of initial area) elevation = 1193.000(Ft.)
Bottom (of initial area) elevation = 1175.630(Ft.)

```
Difference in elevation =    17.370(Ft.)
Slope =    0.02505  s(percent)=       2.50
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   15.168 min.
Rainfall intensity =      2.309(In/Hr) for a    10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.701
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      6.439(CFS)
Total initial stream area =        3.980(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            3.98 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  67.0
```

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Desert Hot Springs
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English (in-lb) Units used in input data file

Program License Serial Number 6481

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Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Desert Hot Springs] area used.
10 year storm 10 minute intensity = 2.940(In/Hr)
10 year storm 60 minute intensity = 1.040(In/Hr)
100 year storm 10 minute intensity = 4.520(In/Hr)
100 year storm 60 minute intensity = 1.600(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.600(In/Hr)
Slope of intensity duration curve = 0.5800

++
Process from Point/Station 101.000 to Point/Station 102.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 693.440(Ft.)
Top (of initial area) elevation = 1193.000(Ft.)
Bottom (of initial area) elevation = 1175.630(Ft.)

```
Difference in elevation =    17.370(Ft.)
Slope =    0.02505  s(percent)=       2.50
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   15.168 min.
Rainfall intensity =      3.552(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.837
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  83.20
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     11.828(CFS)
Total initial stream area =        3.980(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            3.98 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  67.0
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Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 09/22/22
File:183postsplit.out

Desert Hot Springs
Post Development
Rational Method
10 yr

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6481

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Desert Hot Springs] area used.
10 year storm 10 minute intensity = 2.940(In/Hr)
10 year storm 60 minute intensity = 1.040(In/Hr)
100 year storm 10 minute intensity = 4.520(In/Hr)
100 year storm 60 minute intensity = 1.600(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 1.040(In/Hr)
Slope of intensity duration curve = 0.5800

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Process from Point/Station 201.000 to Point/Station 202.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 328.280(Ft.)
Top (of initial area) elevation = 1185.550(Ft.)

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Bottom (of initial area) elevation =  1177.310(Ft.)
Difference in elevation =     8.240(Ft.)
Slope =    0.02510  s(percent)=       2.51
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.363 min.
Rainfall intensity =      3.821(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.862
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      5.762(CFS)
Total initial stream area =        1.750(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station      202.000 to Point/Station      203.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  1176.310(Ft.)
Downstream point/station elevation =  1174.880(Ft.)
Pipe length  =   290.78(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     5.762(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     5.762(CFS)
Normal flow depth in pipe =   11.98(In.)
Flow top width inside pipe =   16.99(In.)
Critical Depth =   11.12(In.)
Pipe flow velocity =      4.61(Ft/s)
Travel time through pipe =    1.05 min.
Time of concentration (TC) =     7.41 min.


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Process from Point/Station      203.000 to Point/Station      206.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      1.750(Ac.)
Runoff from this stream =      5.762(CFS)
Time of concentration =    7.41 min.
Rainfall intensity =     3.497(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
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 No.       (CFS)       (min)                 (In/Hr)


1        5.762      7.41                  3.497
Largest stream flow has longer time of concentration
Qp =      5.762 + sum of
Qp =      5.762

Total of 1 main streams to confluence:
Flow rates before confluence point:
       5.762
Area of streams before confluence:
        1.750


Results of confluence:
Total flow rate =      5.762(CFS)
Time of concentration =     7.414 min.
Effective stream area after confluence  =      1.750(Ac.)


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Process from Point/Station      204.000 to Point/Station      205.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   322.340(Ft.)
Top (of initial area) elevation =  1193.000(Ft.)
Bottom (of initial area) elevation =  1185.360(Ft.)
Difference in elevation =     7.640(Ft.)
Slope =    0.02370  s(percent)=       2.37
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.390 min.
Rainfall intensity =      3.812(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.862
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      7.325(CFS)
Total initial stream area =        2.230(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station      205.000 to Point/Station      206.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
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Upstream point/station elevation =  1184.360(Ft.)
Downstream point/station elevation =  1174.880(Ft.)
Pipe length  =   167.66(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.325(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     7.325(CFS)
Normal flow depth in pipe =    8.61(In.)
Flow top width inside pipe =   10.80(In.)
Critical depth could not be calculated.
Pipe flow velocity =     12.14(Ft/s)
Travel time through pipe =    0.23 min.
Time of concentration (TC) =     6.62 min.


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Process from Point/Station      206.000 to Point/Station      203.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      2.230(Ac.)
Runoff from this stream =      7.325(CFS)
Time of concentration =    6.62 min.
Rainfall intensity =     3.735(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        5.762      7.41                3.497
2        7.325      6.62                3.735
Largest stream flow has longer or shorter time of concentration
Qp =      7.325 + sum of
          Qa          Tb/Ta
           5.762 *    0.893 =      5.145
Qp =     12.470

Total of 2 main streams to confluence:
Flow rates before confluence point:
       5.762       7.325
Area of streams before confluence:
        1.750        2.230


Results of confluence:
Total flow rate =     12.470(CFS)
Time of concentration =     6.620 min.
Effective stream area after confluence  =      3.980(Ac.)
End of computations, total study area =           3.98 (Ac.)
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The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 32.0

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 09/22/22
File:183postsplit.out

Desert Hot Springs
Post Development
Rational Method
100 yr

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6481

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Desert Hot Springs] area used.
10 year storm 10 minute intensity = 2.940(In/Hr)
10 year storm 60 minute intensity = 1.040(In/Hr)
100 year storm 10 minute intensity = 4.520(In/Hr)
100 year storm 60 minute intensity = 1.600(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.600(In/Hr)
Slope of intensity duration curve = 0.5800

++

Process from Point/Station 201.000 to Point/Station 202.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 328.280(Ft.)
Top (of initial area) elevation = 1185.550(Ft.)

```
Bottom (of initial area) elevation =  1177.310(Ft.)
Difference in elevation =     8.240(Ft.)
Slope =    0.02510  s(percent)=       2.51
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.363 min.
Rainfall intensity =      5.879(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.884
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  52.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      9.099(CFS)
Total initial stream area =        1.750(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station      202.000 to Point/Station      203.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  1176.310(Ft.)
Downstream point/station elevation =  1174.880(Ft.)
Pipe length  =   290.78(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     9.099(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =     9.099(CFS)
Normal flow depth in pipe =   14.46(In.)
Flow top width inside pipe =   19.45(In.)
Critical Depth =   13.47(In.)
Pipe flow velocity =      5.15(Ft/s)
Travel time through pipe =    0.94 min.
Time of concentration (TC) =     7.30 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      206.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      1.750(Ac.)
Runoff from this stream =      9.099(CFS)
Time of concentration =    7.30 min.
Rainfall intensity =     5.427(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
```

```
 No.       (CFS)       (min)                 (In/Hr)


1        9.099      7.30                  5.427
Largest stream flow has longer time of concentration
Qp =      9.099 + sum of
Qp =      9.099

Total of 1 main streams to confluence:
Flow rates before confluence point:
       9.099
Area of streams before confluence:
        1.750


Results of confluence:
Total flow rate =      9.099(CFS)
Time of concentration =     7.304 min.
Effective stream area after confluence  =      1.750(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      204.000 to Point/Station      205.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   322.340(Ft.)
Top (of initial area) elevation =  1193.000(Ft.)
Bottom (of initial area) elevation =  1185.360(Ft.)
Difference in elevation =     7.640(Ft.)
Slope =    0.02370  s(percent)=       2.37
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.390 min.
Rainfall intensity =      5.865(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.884
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  52.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     11.567(CFS)
Total initial stream area =        2.230(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      206.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
```

```
Upstream point/station elevation =  1184.360(Ft.)
Downstream point/station elevation =  1174.880(Ft.)
Pipe length  =   167.66(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    11.567(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =    11.567(CFS)
Normal flow depth in pipe =    9.71(In.)
Flow top width inside pipe =   14.33(In.)
Critical depth could not be calculated.
Pipe flow velocity =     13.75(Ft/s)
Travel time through pipe =    0.20 min.
Time of concentration (TC) =     6.59 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      206.000 to Point/Station      203.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      2.230(Ac.)
Runoff from this stream =     11.567(CFS)
Time of concentration =    6.59 min.
Rainfall intensity =     5.759(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        9.099      7.30                5.427
2       11.567      6.59                5.759
Largest stream flow has longer or shorter time of concentration
Qp =     11.567 + sum of
          Qa          Tb/Ta
           9.099 *    0.903 =      8.214
Qp =     19.781

Total of 2 main streams to confluence:
Flow rates before confluence point:
       9.099      11.567
Area of streams before confluence:
        1.750        2.230


Results of confluence:
Total flow rate =     19.781(CFS)
Time of concentration =     6.593 min.
Effective stream area after confluence  =      3.980(Ac.)
End of computations, total study area =            3.98 (Ac.)
```

The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 32.0

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

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Study date 09/21/22 File: 183preuh12.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
2 yr
1 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.47                    1.87

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.67                    6.65

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.471(In)
Area Averaged 100-Year Rainfall =    1.670(In)

Point rain (area averaged) =    0.471(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.471(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                 Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5800
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
-----------------------------------------------------------------
               Unit Hydrograph Data
-----------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                             Sum = 100.000   Sum=       4.011
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.203	(0.597)	0.183	0.020
2	0.17	4.20	0.237	(0.597)	0.214	0.024
3	0.25	4.40	0.249	(0.597)	0.224	0.025
4	0.33	4.60	0.260	(0.597)	0.234	0.026
5	0.42	5.00	0.283	(0.597)	0.254	0.028
6	0.50	5.60	0.317	(0.597)	0.285	0.032
7	0.58	6.40	0.362	(0.597)	0.326	0.036
8	0.67	8.10	0.458	(0.597)	0.412	0.046
9	0.75	13.10	0.740	0.597	(0.666)	0.143
10	0.83	34.50	1.950	0.597	(1.755)	1.352
11	0.92	6.70	0.379	(0.597)	0.341	0.038
12	1.00	3.80	0.215	(0.597)	0.193	0.021
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	1.8

Flood volume = Effective rainfall 0.15(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.32(In)
Total soil loss = 0.107(Ac.Ft)
Total rainfall = 0.47(In)
Flood volume = 2156.8 Cubic Feet
Total soil loss = 4647.7 Cubic Feet

Peak flow rate of this hydrograph = 2.684(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0007	0.07	Q				
0+15	0.0014	0.09	QV				
0+20	0.0020	0.10	QV				
0+25	0.0028	0.11	Q V				
0+30	0.0036	0.12	Q V				
0+35	0.0045	0.13	Q V				
0+40	0.0056	0.16	Q V				
0+45	0.0078	0.32	Q V				

```
    0+50       0.0239      2.35  |        Q|        V|         |          |
    0+55       0.0424      2.68  |         Q         |         |   V      |
    1+ 0       0.0471      0.68  | Q       |         |         |       V  |
    1+ 5       0.0488      0.25  |Q        |         |         |        V |
    1+10       0.0495      0.09  Q         |         |         |        V |
    1+15       0.0495      0.01  Q         |         |         |        V |
    1+20       0.0495      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh32.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
2 yr
3 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.76                    3.02

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            2.50                    9.95

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.760(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    0.760(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.760(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                 Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                           Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763             1.515
    2   0.167        353.974         47.173             1.892
    3   0.250        530.961         10.173             0.408
    4   0.333        707.948          3.442             0.138
    5   0.417        884.935          1.449             0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.119	(0.597)	0.107	0.012
2	0.17	1.30	0.119	(0.597)	0.107	0.012
3	0.25	1.10	0.100	(0.597)	0.090	0.010
4	0.33	1.50	0.137	(0.597)	0.123	0.014
5	0.42	1.50	0.137	(0.597)	0.123	0.014
6	0.50	1.80	0.164	(0.597)	0.148	0.016
7	0.58	1.50	0.137	(0.597)	0.123	0.014
8	0.67	1.80	0.164	(0.597)	0.148	0.016
9	0.75	1.80	0.164	(0.597)	0.148	0.016
10	0.83	1.50	0.137	(0.597)	0.123	0.014
11	0.92	1.60	0.146	(0.597)	0.131	0.015
12	1.00	1.80	0.164	(0.597)	0.148	0.016
13	1.08	2.20	0.201	(0.597)	0.181	0.020
14	1.17	2.20	0.201	(0.597)	0.181	0.020
15	1.25	2.20	0.201	(0.597)	0.181	0.020
16	1.33	2.00	0.182	(0.597)	0.164	0.018
17	1.42	2.60	0.237	(0.597)	0.213	0.024
18	1.50	2.70	0.246	(0.597)	0.222	0.025
19	1.58	2.40	0.219	(0.597)	0.197	0.022
20	1.67	2.70	0.246	(0.597)	0.222	0.025
21	1.75	3.30	0.301	(0.597)	0.271	0.030
22	1.83	3.10	0.283	(0.597)	0.254	0.028
23	1.92	2.90	0.264	(0.597)	0.238	0.026
24	2.00	3.00	0.274	(0.597)	0.246	0.027
25	2.08	3.10	0.283	(0.597)	0.254	0.028
26	2.17	4.20	0.383	(0.597)	0.345	0.038
27	2.25	5.00	0.456	(0.597)	0.410	0.046
28	2.33	3.50	0.319	(0.597)	0.287	0.032
29	2.42	6.80	0.620	(0.597)	0.558	0.062
30	2.50	7.30	0.666	0.597	(0.599)	0.068
31	2.58	8.20	0.748	0.597	(0.673)	0.150
32	2.67	5.90	0.538	(0.597)	0.484	0.054
33	2.75	2.00	0.182	(0.597)	0.164	0.018
34	2.83	1.80	0.164	(0.597)	0.148	0.016
35	2.92	1.80	0.164	(0.597)	0.148	0.016
36	3.00	0.60	0.055	(0.597)	0.049	0.005
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	1.0

Flood volume = Effective rainfall 0.08(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.68(In)
Total soil loss = 0.225(Ac.Ft)
Total rainfall = 0.76(In)
Flood volume = 1191.0 Cubic Feet

Total soil loss = 9788.8 Cubic Feet

Peak flow rate of this hydrograph = 0.404(CFS)

++

3 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0004	0.04	Q				
0+15	0.0007	0.04	QV				
0+20	0.0010	0.05	QV				
0+25	0.0014	0.05	Q V				
0+30	0.0018	0.06	Q V				
0+35	0.0022	0.06	Q V				
0+40	0.0026	0.06	Q V				
0+45	0.0031	0.06	Q V				
0+50	0.0035	0.06	Q V				
0+55	0.0039	0.06	Q V				
1+ 0	0.0043	0.06	Q V				
1+ 5	0.0048	0.07	Q V				
1+10	0.0053	0.08	Q V				
1+15	0.0059	0.08	Q V				
1+20	0.0064	0.08	Q V				
1+25	0.0070	0.08	Q V				
1+30	0.0076	0.09	Q V				
1+35	0.0083	0.09	Q V				
1+40	0.0089	0.09	Q V				
1+45	0.0096	0.11	Q V				
1+50	0.0104	0.11	Q V				
1+55	0.0112	0.11	Q V				
2+ 0	0.0119	0.11	Q V				
2+ 5	0.0127	0.11	Q V				
2+10	0.0136	0.13	Q V				
2+15	0.0147	0.16	Q V				
2+20	0.0157	0.16	Q V				
2+25	0.0170	0.18	Q V				
2+30	0.0186	0.24	Q V				
2+35	0.0213	0.39	Q V				
2+40	0.0241	0.40	Q V				
2+45	0.0255	0.20	Q V				
2+50	0.0262	0.11	Q V				
2+55	0.0268	0.08	Q V				
3+ 0	0.0271	0.05	Q V				
3+ 5	0.0273	0.02	Q V				

```
    3+10       0.0273      0.01  Q         |         |         |        V|
    3+15       0.0273      0.00  Q         |         |         |        V|
    3+20       0.0273      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh62.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
2 yr
6 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.99                  3.95

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            3.25                 12.94

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.993(In)
Area Averaged 100-Year Rainfall =    3.250(In)

Point rain (area averaged) =    0.993(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.993(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                 Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                           Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.060	(0.597)	0.054	0.006
2	0.17	0.60	0.071	(0.597)	0.064	0.007
3	0.25	0.60	0.071	(0.597)	0.064	0.007
4	0.33	0.60	0.071	(0.597)	0.064	0.007
5	0.42	0.60	0.071	(0.597)	0.064	0.007
6	0.50	0.70	0.083	(0.597)	0.075	0.008
7	0.58	0.70	0.083	(0.597)	0.075	0.008
8	0.67	0.70	0.083	(0.597)	0.075	0.008
9	0.75	0.70	0.083	(0.597)	0.075	0.008
10	0.83	0.70	0.083	(0.597)	0.075	0.008
11	0.92	0.70	0.083	(0.597)	0.075	0.008
12	1.00	0.80	0.095	(0.597)	0.086	0.010
13	1.08	0.80	0.095	(0.597)	0.086	0.010
14	1.17	0.80	0.095	(0.597)	0.086	0.010
15	1.25	0.80	0.095	(0.597)	0.086	0.010
16	1.33	0.80	0.095	(0.597)	0.086	0.010
17	1.42	0.80	0.095	(0.597)	0.086	0.010
18	1.50	0.80	0.095	(0.597)	0.086	0.010
19	1.58	0.80	0.095	(0.597)	0.086	0.010
20	1.67	0.80	0.095	(0.597)	0.086	0.010
21	1.75	0.80	0.095	(0.597)	0.086	0.010
22	1.83	0.80	0.095	(0.597)	0.086	0.010
23	1.92	0.80	0.095	(0.597)	0.086	0.010
24	2.00	0.90	0.107	(0.597)	0.097	0.011
25	2.08	0.80	0.095	(0.597)	0.086	0.010
26	2.17	0.90	0.107	(0.597)	0.097	0.011
27	2.25	0.90	0.107	(0.597)	0.097	0.011
28	2.33	0.90	0.107	(0.597)	0.097	0.011
29	2.42	0.90	0.107	(0.597)	0.097	0.011
30	2.50	0.90	0.107	(0.597)	0.097	0.011
31	2.58	0.90	0.107	(0.597)	0.097	0.011
32	2.67	0.90	0.107	(0.597)	0.097	0.011
33	2.75	1.00	0.119	(0.597)	0.107	0.012
34	2.83	1.00	0.119	(0.597)	0.107	0.012
35	2.92	1.00	0.119	(0.597)	0.107	0.012
36	3.00	1.00	0.119	(0.597)	0.107	0.012
37	3.08	1.00	0.119	(0.597)	0.107	0.012
38	3.17	1.10	0.131	(0.597)	0.118	0.013
39	3.25	1.10	0.131	(0.597)	0.118	0.013
40	3.33	1.10	0.131	(0.597)	0.118	0.013
41	3.42	1.20	0.143	(0.597)	0.129	0.014
42	3.50	1.30	0.155	(0.597)	0.139	0.015
43	3.58	1.40	0.167	(0.597)	0.150	0.017
44	3.67	1.40	0.167	(0.597)	0.150	0.017

```
45   3.75     1.50      0.179       (  0.597)       0.161        0.018
46   3.83     1.50      0.179       (  0.597)       0.161        0.018
47   3.92     1.60      0.191       (  0.597)       0.172        0.019
48   4.00     1.60      0.191       (  0.597)       0.172        0.019
49   4.08     1.70      0.203       (  0.597)       0.182        0.020
50   4.17     1.80      0.214       (  0.597)       0.193        0.021
51   4.25     1.90      0.226       (  0.597)       0.204        0.023
52   4.33     2.00      0.238       (  0.597)       0.214        0.024
53   4.42     2.10      0.250       (  0.597)       0.225        0.025
54   4.50     2.10      0.250       (  0.597)       0.225        0.025
55   4.58     2.20      0.262       (  0.597)       0.236        0.026
56   4.67     2.30      0.274       (  0.597)       0.247        0.027
57   4.75     2.40      0.286       (  0.597)       0.257        0.029
58   4.83     2.40      0.286       (  0.597)       0.257        0.029
59   4.92     2.50      0.298       (  0.597)       0.268        0.030
60   5.00     2.60      0.310       (  0.597)       0.279        0.031
61   5.08     3.10      0.369       (  0.597)       0.332        0.037
62   5.17     3.60      0.429       (  0.597)       0.386        0.043
63   5.25     3.90      0.465       (  0.597)       0.418        0.046
64   5.33     4.20      0.500       (  0.597)       0.450        0.050
65   5.42     4.70      0.560       (  0.597)       0.504        0.056
66   5.50     5.60      0.667          0.597    (  0.601)        0.070
67   5.58     1.90      0.226       (  0.597)       0.204        0.023
68   5.67     0.90      0.107       (  0.597)       0.097        0.011
69   5.75     0.60      0.071       (  0.597)       0.064        0.007
70   5.83     0.50      0.060       (  0.597)       0.054        0.006
71   5.92     0.30      0.036       (  0.597)       0.032        0.004
72   6.00     0.20      0.024       (  0.597)       0.021        0.002
               (Loss Rate Not Used)
   Sum =     100.0                                   Sum =     1.2
      Flood volume = Effective rainfall      0.10(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
      Total soil loss =      0.89(In)
      Total soil loss =     0.296(Ac.Ft)
      Total rainfall =      0.99(In)
      Flood volume =        1438.3 Cubic Feet
      Total soil loss =       12907.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      0.241(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.01  Q         |         |         |         |
```

```
0+10       0.0002      0.02  Q          |          |          |          |
0+15       0.0004      0.03  Q          |          |          |          |
0+20       0.0006      0.03  Q          |          |          |          |
0+25       0.0008      0.03  Q          |          |          |          |
0+30       0.0010      0.03  QV         |          |          |          |
0+35       0.0012      0.03  QV         |          |          |          |
0+40       0.0015      0.03  QV         |          |          |          |
0+45       0.0017      0.03  Q V        |          |          |          |
0+50       0.0019      0.03  Q V        |          |          |          |
0+55       0.0021      0.03  Q V        |          |          |          |
1+ 0       0.0024      0.04  Q V        |          |          |          |
1+ 5       0.0026      0.04  Q  V       |          |          |          |
1+10       0.0029      0.04  Q  V       |          |          |          |
1+15       0.0032      0.04  Q  V       |          |          |          |
1+20       0.0034      0.04  Q   V      |          |          |          |
1+25       0.0037      0.04  Q   V      |          |          |          |
1+30       0.0040      0.04  Q   V      |          |          |          |
1+35       0.0042      0.04  Q    V     |          |          |          |
1+40       0.0045      0.04  Q    V     |          |          |          |
1+45       0.0048      0.04  Q    V     |          |          |          |
1+50       0.0050      0.04  Q     V    |          |          |          |
1+55       0.0053      0.04  Q     V    |          |          |          |
2+ 0       0.0056      0.04  Q     V    |          |          |          |
2+ 5       0.0058      0.04  Q      V   |          |          |          |
2+10       0.0061      0.04  Q      V   |          |          |          |
2+15       0.0064      0.04  Q      V   |          |          |          |
2+20       0.0067      0.04  Q       V  |          |          |          |
2+25       0.0070      0.04  Q       V  |          |          |          |
2+30       0.0073      0.04  Q       V  |          |          |          |
2+35       0.0076      0.04  Q        V |          |          |          |
2+40       0.0079      0.04  Q        V |          |          |          |
2+45       0.0082      0.04  Q        V |          |          |          |
2+50       0.0085      0.05  Q         V          |          |          |
2+55       0.0088      0.05  Q         V          |          |          |
3+ 0       0.0092      0.05  Q         |V         |          |          |
3+ 5       0.0095      0.05  Q         |V         |          |          |
3+10       0.0098      0.05  Q         |V         |          |          |
3+15       0.0102      0.05  Q         | V        |          |          |
3+20       0.0106      0.05  Q         | V        |          |          |
3+25       0.0109      0.05  Q         |  V       |          |          |
3+30       0.0113      0.06  Q         |  V       |          |          |
3+35       0.0118      0.06  Q         |   V      |          |          |
3+40       0.0122      0.07  Q         |   V      |          |          |
3+45       0.0127      0.07  Q         |    V     |          |          |
3+50       0.0132      0.07  Q         |    V     |          |          |
3+55       0.0137      0.07  Q         |     V    |          |          |
4+ 0       0.0142      0.08  Q         |      V   |          |          |
4+ 5       0.0148      0.08  Q         |      V   |          |          |
4+10       0.0153      0.08  Q         |       V  |          |          |
4+15       0.0159      0.09  Q         |        V |          |          |
```

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   4+20       0.0166      0.09  Q         |          V         |          |
   4+25       0.0172      0.10  Q         |          V         |          |
   4+30       0.0179      0.10  Q         |          |V        |          |
   4+35       0.0186      0.10  Q         |          | V       |          |
   4+40       0.0193      0.11  Q         |          |  V      |          |
   4+45       0.0201      0.11  Q         |          |   V     |          |
   4+50       0.0209      0.11  Q         |          |    V    |          |
   4+55       0.0217      0.12  Q         |          |     V   |          |
   5+ 0       0.0225      0.12  Q         |          |      V  |          |
   5+ 5       0.0234      0.13  Q         |          |       V |          |
   5+10       0.0245      0.15  Q         |          |        V|          |
   5+15       0.0257      0.17  Q         |          |         |V         |
   5+20       0.0270      0.19  Q         |          |         | V        |
   5+25       0.0284      0.21  Q         |          |         |   V      |
   5+30       0.0300      0.24  Q         |          |         |     V    |
   5+35       0.0314      0.20  Q         |          |         |       V  |
   5+40       0.0321      0.10  Q         |          |         |       V  |
   5+45       0.0325      0.05  Q         |          |         |        V |
   5+50       0.0327      0.03  Q         |          |         |        V |
   5+55       0.0329      0.02  Q         |          |         |        V |
   6+ 0       0.0330      0.01  Q         |          |         |        V |
   6+ 5       0.0330      0.01  Q         |          |         |        V |
   6+10       0.0330      0.00  Q         |          |         |        V |
   6+15       0.0330      0.00  Q         |          |         |        V |
   6+20       0.0330      0.00  Q         |          |         |        V |
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh242.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
2 yr
24 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.51                   6.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            5.39                  21.45

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.510(In)
Area Averaged 100-Year Rainfall =    5.390(In)

Point rain (area averaged) =    1.510(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.510(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                 Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.012	(1.059)	0.011	0.001
2	0.17	0.07	0.012	(1.055)	0.011	0.001
3	0.25	0.07	0.012	(1.051)	0.011	0.001
4	0.33	0.10	0.018	(1.047)	0.016	0.002
5	0.42	0.10	0.018	(1.043)	0.016	0.002
6	0.50	0.10	0.018	(1.039)	0.016	0.002
7	0.58	0.10	0.018	(1.035)	0.016	0.002
8	0.67	0.10	0.018	(1.031)	0.016	0.002
9	0.75	0.10	0.018	(1.027)	0.016	0.002
10	0.83	0.13	0.024	(1.023)	0.022	0.002
11	0.92	0.13	0.024	(1.019)	0.022	0.002
12	1.00	0.13	0.024	(1.015)	0.022	0.002
13	1.08	0.10	0.018	(1.011)	0.016	0.002
14	1.17	0.10	0.018	(1.007)	0.016	0.002
15	1.25	0.10	0.018	(1.003)	0.016	0.002
16	1.33	0.10	0.018	(0.999)	0.016	0.002
17	1.42	0.10	0.018	(0.995)	0.016	0.002
18	1.50	0.10	0.018	(0.991)	0.016	0.002
19	1.58	0.10	0.018	(0.987)	0.016	0.002
20	1.67	0.10	0.018	(0.983)	0.016	0.002
21	1.75	0.10	0.018	(0.979)	0.016	0.002
22	1.83	0.13	0.024	(0.975)	0.022	0.002
23	1.92	0.13	0.024	(0.971)	0.022	0.002
24	2.00	0.13	0.024	(0.967)	0.022	0.002
25	2.08	0.13	0.024	(0.963)	0.022	0.002
26	2.17	0.13	0.024	(0.959)	0.022	0.002
27	2.25	0.13	0.024	(0.955)	0.022	0.002
28	2.33	0.13	0.024	(0.951)	0.022	0.002
29	2.42	0.13	0.024	(0.947)	0.022	0.002
30	2.50	0.13	0.024	(0.944)	0.022	0.002
31	2.58	0.17	0.030	(0.940)	0.027	0.003
32	2.67	0.17	0.030	(0.936)	0.027	0.003
33	2.75	0.17	0.030	(0.932)	0.027	0.003
34	2.83	0.17	0.030	(0.928)	0.027	0.003
35	2.92	0.17	0.030	(0.924)	0.027	0.003
36	3.00	0.17	0.030	(0.921)	0.027	0.003
37	3.08	0.17	0.030	(0.917)	0.027	0.003
38	3.17	0.17	0.030	(0.913)	0.027	0.003
39	3.25	0.17	0.030	(0.909)	0.027	0.003
40	3.33	0.17	0.030	(0.905)	0.027	0.003
41	3.42	0.17	0.030	(0.902)	0.027	0.003
42	3.50	0.17	0.030	(0.898)	0.027	0.003
43	3.58	0.17	0.030	(0.894)	0.027	0.003
44	3.67	0.17	0.030	(0.890)	0.027	0.003

45	3.75	0.17	0.030	(0.887)	0.027	0.003
46	3.83	0.20	0.036	(0.883)	0.033	0.004
47	3.92	0.20	0.036	(0.879)	0.033	0.004
48	4.00	0.20	0.036	(0.875)	0.033	0.004
49	4.08	0.20	0.036	(0.872)	0.033	0.004
50	4.17	0.20	0.036	(0.868)	0.033	0.004
51	4.25	0.20	0.036	(0.864)	0.033	0.004
52	4.33	0.23	0.042	(0.861)	0.038	0.004
53	4.42	0.23	0.042	(0.857)	0.038	0.004
54	4.50	0.23	0.042	(0.853)	0.038	0.004
55	4.58	0.23	0.042	(0.850)	0.038	0.004
56	4.67	0.23	0.042	(0.846)	0.038	0.004
57	4.75	0.23	0.042	(0.842)	0.038	0.004
58	4.83	0.27	0.048	(0.839)	0.043	0.005
59	4.92	0.27	0.048	(0.835)	0.043	0.005
60	5.00	0.27	0.048	(0.831)	0.043	0.005
61	5.08	0.20	0.036	(0.828)	0.033	0.004
62	5.17	0.20	0.036	(0.824)	0.033	0.004
63	5.25	0.20	0.036	(0.821)	0.033	0.004
64	5.33	0.23	0.042	(0.817)	0.038	0.004
65	5.42	0.23	0.042	(0.813)	0.038	0.004
66	5.50	0.23	0.042	(0.810)	0.038	0.004
67	5.58	0.27	0.048	(0.806)	0.043	0.005
68	5.67	0.27	0.048	(0.803)	0.043	0.005
69	5.75	0.27	0.048	(0.799)	0.043	0.005
70	5.83	0.27	0.048	(0.796)	0.043	0.005
71	5.92	0.27	0.048	(0.792)	0.043	0.005
72	6.00	0.27	0.048	(0.789)	0.043	0.005
73	6.08	0.30	0.054	(0.785)	0.049	0.005
74	6.17	0.30	0.054	(0.782)	0.049	0.005
75	6.25	0.30	0.054	(0.778)	0.049	0.005
76	6.33	0.30	0.054	(0.775)	0.049	0.005
77	6.42	0.30	0.054	(0.771)	0.049	0.005
78	6.50	0.30	0.054	(0.768)	0.049	0.005
79	6.58	0.33	0.060	(0.764)	0.054	0.006
80	6.67	0.33	0.060	(0.761)	0.054	0.006
81	6.75	0.33	0.060	(0.757)	0.054	0.006
82	6.83	0.33	0.060	(0.754)	0.054	0.006
83	6.92	0.33	0.060	(0.751)	0.054	0.006
84	7.00	0.33	0.060	(0.747)	0.054	0.006
85	7.08	0.33	0.060	(0.744)	0.054	0.006
86	7.17	0.33	0.060	(0.740)	0.054	0.006
87	7.25	0.33	0.060	(0.737)	0.054	0.006
88	7.33	0.37	0.066	(0.734)	0.060	0.007
89	7.42	0.37	0.066	(0.730)	0.060	0.007
90	7.50	0.37	0.066	(0.727)	0.060	0.007
91	7.58	0.40	0.072	(0.724)	0.065	0.007
92	7.67	0.40	0.072	(0.720)	0.065	0.007
93	7.75	0.40	0.072	(0.717)	0.065	0.007
94	7.83	0.43	0.079	(0.714)	0.071	0.008

95	7.92	0.43	0.079	(0.710)	0.071	0.008
96	8.00	0.43	0.079	(0.707)	0.071	0.008
97	8.08	0.50	0.091	(0.704)	0.082	0.009
98	8.17	0.50	0.091	(0.701)	0.082	0.009
99	8.25	0.50	0.091	(0.697)	0.082	0.009
100	8.33	0.50	0.091	(0.694)	0.082	0.009
101	8.42	0.50	0.091	(0.691)	0.082	0.009
102	8.50	0.50	0.091	(0.688)	0.082	0.009
103	8.58	0.53	0.097	(0.684)	0.087	0.010
104	8.67	0.53	0.097	(0.681)	0.087	0.010
105	8.75	0.53	0.097	(0.678)	0.087	0.010
106	8.83	0.57	0.103	(0.675)	0.092	0.010
107	8.92	0.57	0.103	(0.671)	0.092	0.010
108	9.00	0.57	0.103	(0.668)	0.092	0.010
109	9.08	0.63	0.115	(0.665)	0.103	0.011
110	9.17	0.63	0.115	(0.662)	0.103	0.011
111	9.25	0.63	0.115	(0.659)	0.103	0.011
112	9.33	0.67	0.121	(0.656)	0.109	0.012
113	9.42	0.67	0.121	(0.653)	0.109	0.012
114	9.50	0.67	0.121	(0.649)	0.109	0.012
115	9.58	0.70	0.127	(0.646)	0.114	0.013
116	9.67	0.70	0.127	(0.643)	0.114	0.013
117	9.75	0.70	0.127	(0.640)	0.114	0.013
118	9.83	0.73	0.133	(0.637)	0.120	0.013
119	9.92	0.73	0.133	(0.634)	0.120	0.013
120	10.00	0.73	0.133	(0.631)	0.120	0.013
121	10.08	0.50	0.091	(0.628)	0.082	0.009
122	10.17	0.50	0.091	(0.625)	0.082	0.009
123	10.25	0.50	0.091	(0.622)	0.082	0.009
124	10.33	0.50	0.091	(0.619)	0.082	0.009
125	10.42	0.50	0.091	(0.616)	0.082	0.009
126	10.50	0.50	0.091	(0.613)	0.082	0.009
127	10.58	0.67	0.121	(0.610)	0.109	0.012
128	10.67	0.67	0.121	(0.607)	0.109	0.012
129	10.75	0.67	0.121	(0.604)	0.109	0.012
130	10.83	0.67	0.121	(0.601)	0.109	0.012
131	10.92	0.67	0.121	(0.598)	0.109	0.012
132	11.00	0.67	0.121	(0.595)	0.109	0.012
133	11.08	0.63	0.115	(0.592)	0.103	0.011
134	11.17	0.63	0.115	(0.589)	0.103	0.011
135	11.25	0.63	0.115	(0.586)	0.103	0.011
136	11.33	0.63	0.115	(0.583)	0.103	0.011
137	11.42	0.63	0.115	(0.580)	0.103	0.011
138	11.50	0.63	0.115	(0.578)	0.103	0.011
139	11.58	0.57	0.103	(0.575)	0.092	0.010
140	11.67	0.57	0.103	(0.572)	0.092	0.010
141	11.75	0.57	0.103	(0.569)	0.092	0.010
142	11.83	0.60	0.109	(0.566)	0.098	0.011
143	11.92	0.60	0.109	(0.563)	0.098	0.011
144	12.00	0.60	0.109	(0.561)	0.098	0.011

145	12.08	0.83	0.151	(0.558)	0.136	0.015
146	12.17	0.83	0.151	(0.555)	0.136	0.015
147	12.25	0.83	0.151	(0.552)	0.136	0.015
148	12.33	0.87	0.157	(0.549)	0.141	0.016
149	12.42	0.87	0.157	(0.547)	0.141	0.016
150	12.50	0.87	0.157	(0.544)	0.141	0.016
151	12.58	0.93	0.169	(0.541)	0.152	0.017
152	12.67	0.93	0.169	(0.538)	0.152	0.017
153	12.75	0.93	0.169	(0.536)	0.152	0.017
154	12.83	0.97	0.175	(0.533)	0.158	0.018
155	12.92	0.97	0.175	(0.530)	0.158	0.018
156	13.00	0.97	0.175	(0.528)	0.158	0.018
157	13.08	1.13	0.205	(0.525)	0.185	0.021
158	13.17	1.13	0.205	(0.522)	0.185	0.021
159	13.25	1.13	0.205	(0.520)	0.185	0.021
160	13.33	1.13	0.205	(0.517)	0.185	0.021
161	13.42	1.13	0.205	(0.514)	0.185	0.021
162	13.50	1.13	0.205	(0.512)	0.185	0.021
163	13.58	0.77	0.139	(0.509)	0.125	0.014
164	13.67	0.77	0.139	(0.507)	0.125	0.014
165	13.75	0.77	0.139	(0.504)	0.125	0.014
166	13.83	0.77	0.139	(0.501)	0.125	0.014
167	13.92	0.77	0.139	(0.499)	0.125	0.014
168	14.00	0.77	0.139	(0.496)	0.125	0.014
169	14.08	0.90	0.163	(0.494)	0.147	0.016
170	14.17	0.90	0.163	(0.491)	0.147	0.016
171	14.25	0.90	0.163	(0.489)	0.147	0.016
172	14.33	0.87	0.157	(0.486)	0.141	0.016
173	14.42	0.87	0.157	(0.484)	0.141	0.016
174	14.50	0.87	0.157	(0.481)	0.141	0.016
175	14.58	0.87	0.157	(0.479)	0.141	0.016
176	14.67	0.87	0.157	(0.476)	0.141	0.016
177	14.75	0.87	0.157	(0.474)	0.141	0.016
178	14.83	0.83	0.151	(0.471)	0.136	0.015
179	14.92	0.83	0.151	(0.469)	0.136	0.015
180	15.00	0.83	0.151	(0.467)	0.136	0.015
181	15.08	0.80	0.145	(0.464)	0.130	0.014
182	15.17	0.80	0.145	(0.462)	0.130	0.014
183	15.25	0.80	0.145	(0.460)	0.130	0.014
184	15.33	0.77	0.139	(0.457)	0.125	0.014
185	15.42	0.77	0.139	(0.455)	0.125	0.014
186	15.50	0.77	0.139	(0.452)	0.125	0.014
187	15.58	0.63	0.115	(0.450)	0.103	0.011
188	15.67	0.63	0.115	(0.448)	0.103	0.011
189	15.75	0.63	0.115	(0.446)	0.103	0.011
190	15.83	0.63	0.115	(0.443)	0.103	0.011
191	15.92	0.63	0.115	(0.441)	0.103	0.011
192	16.00	0.63	0.115	(0.439)	0.103	0.011
193	16.08	0.13	0.024	(0.437)	0.022	0.002
194	16.17	0.13	0.024	(0.434)	0.022	0.002

195	16.25	0.13	0.024	(0.432)	0.022	0.002
196	16.33	0.13	0.024	(0.430)	0.022	0.002
197	16.42	0.13	0.024	(0.428)	0.022	0.002
198	16.50	0.13	0.024	(0.425)	0.022	0.002
199	16.58	0.10	0.018	(0.423)	0.016	0.002
200	16.67	0.10	0.018	(0.421)	0.016	0.002
201	16.75	0.10	0.018	(0.419)	0.016	0.002
202	16.83	0.10	0.018	(0.417)	0.016	0.002
203	16.92	0.10	0.018	(0.415)	0.016	0.002
204	17.00	0.10	0.018	(0.413)	0.016	0.002
205	17.08	0.17	0.030	(0.411)	0.027	0.003
206	17.17	0.17	0.030	(0.409)	0.027	0.003
207	17.25	0.17	0.030	(0.407)	0.027	0.003
208	17.33	0.17	0.030	(0.404)	0.027	0.003
209	17.42	0.17	0.030	(0.402)	0.027	0.003
210	17.50	0.17	0.030	(0.400)	0.027	0.003
211	17.58	0.17	0.030	(0.398)	0.027	0.003
212	17.67	0.17	0.030	(0.396)	0.027	0.003
213	17.75	0.17	0.030	(0.394)	0.027	0.003
214	17.83	0.13	0.024	(0.392)	0.022	0.002
215	17.92	0.13	0.024	(0.391)	0.022	0.002
216	18.00	0.13	0.024	(0.389)	0.022	0.002
217	18.08	0.13	0.024	(0.387)	0.022	0.002
218	18.17	0.13	0.024	(0.385)	0.022	0.002
219	18.25	0.13	0.024	(0.383)	0.022	0.002
220	18.33	0.13	0.024	(0.381)	0.022	0.002
221	18.42	0.13	0.024	(0.379)	0.022	0.002
222	18.50	0.13	0.024	(0.377)	0.022	0.002
223	18.58	0.10	0.018	(0.376)	0.016	0.002
224	18.67	0.10	0.018	(0.374)	0.016	0.002
225	18.75	0.10	0.018	(0.372)	0.016	0.002
226	18.83	0.07	0.012	(0.370)	0.011	0.001
227	18.92	0.07	0.012	(0.368)	0.011	0.001
228	19.00	0.07	0.012	(0.367)	0.011	0.001
229	19.08	0.10	0.018	(0.365)	0.016	0.002
230	19.17	0.10	0.018	(0.363)	0.016	0.002
231	19.25	0.10	0.018	(0.361)	0.016	0.002
232	19.33	0.13	0.024	(0.360)	0.022	0.002
233	19.42	0.13	0.024	(0.358)	0.022	0.002
234	19.50	0.13	0.024	(0.356)	0.022	0.002
235	19.58	0.10	0.018	(0.355)	0.016	0.002
236	19.67	0.10	0.018	(0.353)	0.016	0.002
237	19.75	0.10	0.018	(0.352)	0.016	0.002
238	19.83	0.07	0.012	(0.350)	0.011	0.001
239	19.92	0.07	0.012	(0.348)	0.011	0.001
240	20.00	0.07	0.012	(0.347)	0.011	0.001
241	20.08	0.10	0.018	(0.345)	0.016	0.002
242	20.17	0.10	0.018	(0.344)	0.016	0.002
243	20.25	0.10	0.018	(0.342)	0.016	0.002
244	20.33	0.10	0.018	(0.341)	0.016	0.002

245	20.42	0.10	0.018	(0.339)	0.016	0.002
246	20.50	0.10	0.018	(0.338)	0.016	0.002
247	20.58	0.10	0.018	(0.337)	0.016	0.002
248	20.67	0.10	0.018	(0.335)	0.016	0.002
249	20.75	0.10	0.018	(0.334)	0.016	0.002
250	20.83	0.07	0.012	(0.332)	0.011	0.001
251	20.92	0.07	0.012	(0.331)	0.011	0.001
252	21.00	0.07	0.012	(0.330)	0.011	0.001
253	21.08	0.10	0.018	(0.328)	0.016	0.002
254	21.17	0.10	0.018	(0.327)	0.016	0.002
255	21.25	0.10	0.018	(0.326)	0.016	0.002
256	21.33	0.07	0.012	(0.325)	0.011	0.001
257	21.42	0.07	0.012	(0.323)	0.011	0.001
258	21.50	0.07	0.012	(0.322)	0.011	0.001
259	21.58	0.10	0.018	(0.321)	0.016	0.002
260	21.67	0.10	0.018	(0.320)	0.016	0.002
261	21.75	0.10	0.018	(0.319)	0.016	0.002
262	21.83	0.07	0.012	(0.318)	0.011	0.001
263	21.92	0.07	0.012	(0.317)	0.011	0.001
264	22.00	0.07	0.012	(0.315)	0.011	0.001
265	22.08	0.10	0.018	(0.314)	0.016	0.002
266	22.17	0.10	0.018	(0.313)	0.016	0.002
267	22.25	0.10	0.018	(0.312)	0.016	0.002
268	22.33	0.07	0.012	(0.311)	0.011	0.001
269	22.42	0.07	0.012	(0.310)	0.011	0.001
270	22.50	0.07	0.012	(0.310)	0.011	0.001
271	22.58	0.07	0.012	(0.309)	0.011	0.001
272	22.67	0.07	0.012	(0.308)	0.011	0.001
273	22.75	0.07	0.012	(0.307)	0.011	0.001
274	22.83	0.07	0.012	(0.306)	0.011	0.001
275	22.92	0.07	0.012	(0.305)	0.011	0.001
276	23.00	0.07	0.012	(0.305)	0.011	0.001
277	23.08	0.07	0.012	(0.304)	0.011	0.001
278	23.17	0.07	0.012	(0.303)	0.011	0.001
279	23.25	0.07	0.012	(0.303)	0.011	0.001
280	23.33	0.07	0.012	(0.302)	0.011	0.001
281	23.42	0.07	0.012	(0.301)	0.011	0.001
282	23.50	0.07	0.012	(0.301)	0.011	0.001
283	23.58	0.07	0.012	(0.300)	0.011	0.001
284	23.67	0.07	0.012	(0.300)	0.011	0.001
285	23.75	0.07	0.012	(0.300)	0.011	0.001
286	23.83	0.07	0.012	(0.299)	0.011	0.001
287	23.92	0.07	0.012	(0.299)	0.011	0.001
288	24.00	0.07	0.012	(0.299)	0.011	0.001

(Loss Rate Not Used)

Sum = 100.0 Sum = 1.8

Flood volume = Effective rainfall 0.15(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.36(In)
Total soil loss = 0.451(Ac.Ft)

Total rainfall = 1.51(In)
Flood volume = 2181.5 Cubic Feet
Total soil loss = 19633.9 Cubic Feet

Peak flow rate of this hydrograph = 0.082(CFS)

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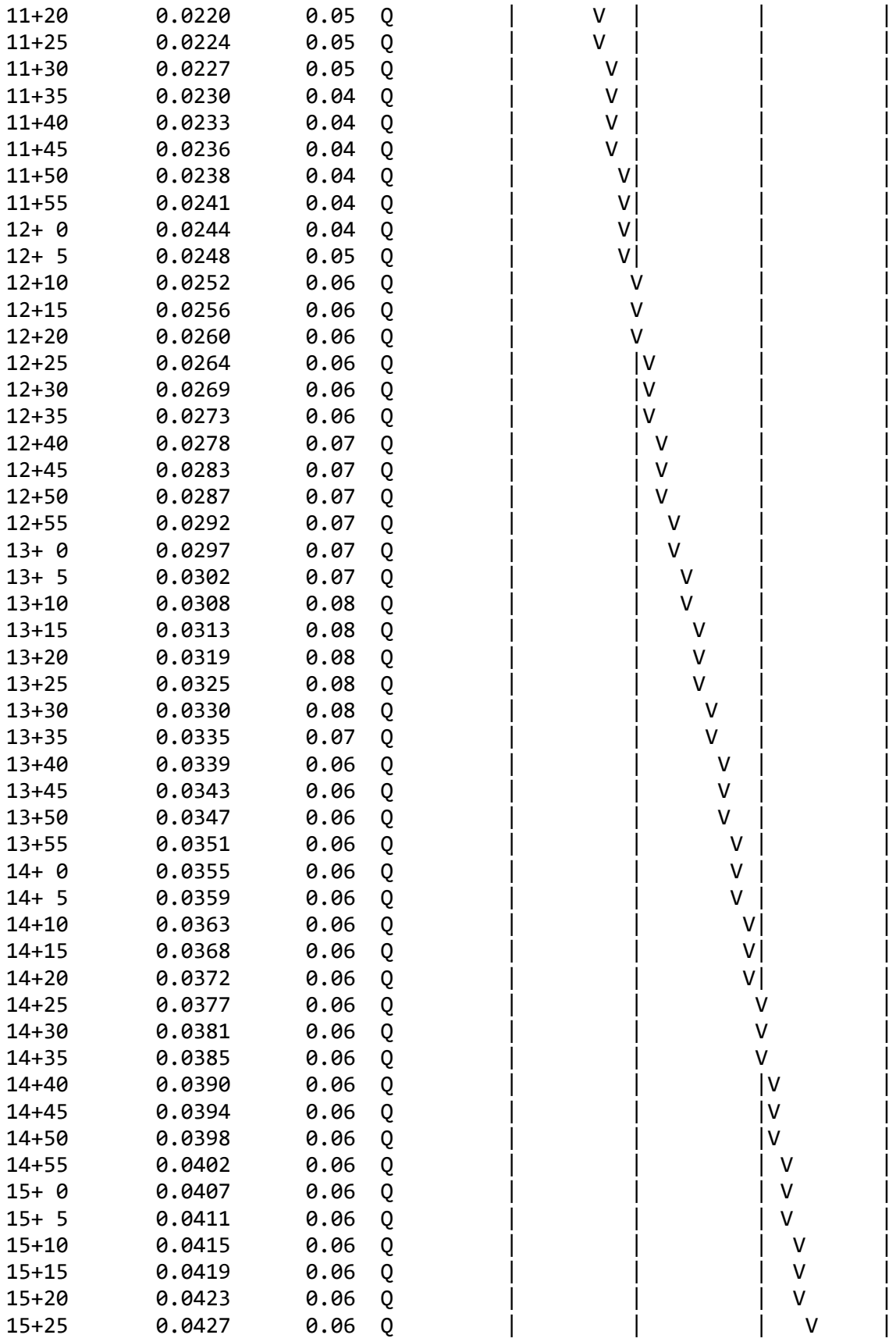
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0004	0.01	Q				
0+50	0.0004	0.01	Q				
0+55	0.0005	0.01	Q				
1+ 0	0.0005	0.01	Q				
1+ 5	0.0006	0.01	Q				
1+10	0.0007	0.01	Q				
1+15	0.0007	0.01	Q				
1+20	0.0008	0.01	Q				
1+25	0.0008	0.01	Q				
1+30	0.0009	0.01	Q				
1+35	0.0009	0.01	Q				
1+40	0.0010	0.01	Q				
1+45	0.0010	0.01	Q				
1+50	0.0011	0.01	Q				
1+55	0.0011	0.01	Q				
2+ 0	0.0012	0.01	Q				
2+ 5	0.0013	0.01	QV				
2+10	0.0013	0.01	QV				
2+15	0.0014	0.01	QV				
2+20	0.0015	0.01	QV				
2+25	0.0015	0.01	QV				
2+30	0.0016	0.01	QV				
2+35	0.0017	0.01	QV				
2+40	0.0018	0.01	QV				
2+45	0.0018	0.01	QV				
2+50	0.0019	0.01	QV				
2+55	0.0020	0.01	QV				

3+ 0	0.0021	0.01	QV	|	|	|	|
3+ 5	0.0022	0.01	QV	|	|	|	|
3+10	0.0023	0.01	QV	|	|	|	|
3+15	0.0023	0.01	QV	|	|	|	|
3+20	0.0024	0.01	QV	|	|	|	|
3+25	0.0025	0.01	QV	|	|	|	|
3+30	0.0026	0.01	Q V	|	|	|	|
3+35	0.0027	0.01	Q V	|	|	|	|
3+40	0.0028	0.01	Q V	|	|	|	|
3+45	0.0028	0.01	Q V	|	|	|	|
3+50	0.0029	0.01	Q V	|	|	|	|
3+55	0.0030	0.01	Q V	|	|	|	|
4+ 0	0.0031	0.01	Q V	|	|	|	|
4+ 5	0.0032	0.01	Q V	|	|	|	|
4+10	0.0033	0.01	Q V	|	|	|	|
4+15	0.0034	0.01	Q V	|	|	|	|
4+20	0.0035	0.02	Q V	|	|	|	|
4+25	0.0036	0.02	Q V	|	|	|	|
4+30	0.0038	0.02	Q V	|	|	|	|
4+35	0.0039	0.02	Q V	|	|	|	|
4+40	0.0040	0.02	Q V	|	|	|	|
4+45	0.0041	0.02	Q V	|	|	|	|
4+50	0.0042	0.02	Q V	|	|	|	|
4+55	0.0044	0.02	Q V	|	|	|	|
5+ 0	0.0045	0.02	Q V	|	|	|	|
5+ 5	0.0046	0.02	Q V	|	|	|	|
5+10	0.0047	0.02	Q V	|	|	|	|
5+15	0.0048	0.01	Q V	|	|	|	|
5+20	0.0049	0.02	Q V	|	|	|	|
5+25	0.0050	0.02	Q V	|	|	|	|
5+30	0.0052	0.02	Q V	|	|	|	|
5+35	0.0053	0.02	Q V	|	|	|	|
5+40	0.0054	0.02	Q V	|	|	|	|
5+45	0.0055	0.02	Q V	|	|	|	|
5+50	0.0057	0.02	Q V	|	|	|	|
5+55	0.0058	0.02	Q V	|	|	|	|
6+ 0	0.0059	0.02	Q V	|	|	|	|
6+ 5	0.0061	0.02	Q V	|	|	|	|
6+10	0.0062	0.02	Q V	|	|	|	|
6+15	0.0064	0.02	Q V	|	|	|	|
6+20	0.0065	0.02	Q V	|	|	|	|
6+25	0.0067	0.02	Q V	|	|	|	|
6+30	0.0068	0.02	Q V	|	|	|	|
6+35	0.0070	0.02	Q V	|	|	|	|
6+40	0.0072	0.02	Q V	|	|	|	|
6+45	0.0073	0.02	Q V	|	|	|	|
6+50	0.0075	0.02	Q V	|	|	|	|
6+55	0.0077	0.02	Q V	|	|	|	|
7+ 0	0.0078	0.02	Q V	|	|	|	|
7+ 5	0.0080	0.02	Q V	|	|	|	|

7+10	0.0082	0.02	Q	V	|	|	|	|
7+15	0.0083	0.02	Q	V	|	|	|	|
7+20	0.0085	0.03	Q	V	|	|	|	|
7+25	0.0087	0.03	Q	V	|	|	|	|
7+30	0.0089	0.03	Q	V	|	|	|	|
7+35	0.0091	0.03	Q	V	|	|	|	|
7+40	0.0092	0.03	Q	V	|	|	|	|
7+45	0.0094	0.03	Q	V	|	|	|	|
7+50	0.0097	0.03	Q	V	|	|	|	|
7+55	0.0099	0.03	Q	V	|	|	|	|
8+ 0	0.0101	0.03	Q	V	|	|	|	|
8+ 5	0.0103	0.03	Q	V	|	|	|	|
8+10	0.0106	0.04	Q	V	|	|	|	|
8+15	0.0108	0.04	Q	V	|	|	|	|
8+20	0.0111	0.04	Q	V	|	|	|	|
8+25	0.0113	0.04	Q	V	|	|	|	|
8+30	0.0116	0.04	Q	V	|	|	|	|
8+35	0.0118	0.04	Q	V	|	|	|	|
8+40	0.0121	0.04	Q	V	|	|	|	|
8+45	0.0123	0.04	Q	V	|	|	|	|
8+50	0.0126	0.04	Q	V	|	|	|	|
8+55	0.0129	0.04	Q	V	|	|	|	|
9+ 0	0.0132	0.04	Q	V	|	|	|	|
9+ 5	0.0135	0.04	Q	V	|	|	|	|
9+10	0.0138	0.05	Q	|	V	|	|	|
9+15	0.0141	0.05	Q	|	V	|	|	|
9+20	0.0144	0.05	Q	|	V	|	|	|
9+25	0.0148	0.05	Q	|	V	|	|	|
9+30	0.0151	0.05	Q	|	V	|	|	|
9+35	0.0154	0.05	Q	|	V	|	|	|
9+40	0.0158	0.05	Q	|	V	|	|	|
9+45	0.0161	0.05	Q	|	V	|	|	|
9+50	0.0165	0.05	Q	|	V	|	|	|
9+55	0.0169	0.05	Q	|	V	|	|	|
10+ 0	0.0172	0.05	Q	|	V	|	|	|
10+ 5	0.0175	0.05	Q	|	V	|	|	|
10+10	0.0178	0.04	Q	|	V	|	|	|
10+15	0.0181	0.04	Q	|	V	|	|	|
10+20	0.0183	0.04	Q	|	V	|	|	|
10+25	0.0186	0.04	Q	|	V	|	|	|
10+30	0.0188	0.04	Q	|	V	|	|	|
10+35	0.0191	0.04	Q	|	V	|	|	|
10+40	0.0194	0.05	Q	|	V	|	|	|
10+45	0.0198	0.05	Q	|	V	|	|	|
10+50	0.0201	0.05	Q	|	V	|	|	|
10+55	0.0204	0.05	Q	|	V	|	|	|
11+ 0	0.0208	0.05	Q	|	V	|	|	|
11+ 5	0.0211	0.05	Q	|	V	|	|	|
11+10	0.0214	0.05	Q	|	V	|	|	|
11+15	0.0217	0.05	Q	|	V	|	|	|



15+30	0.0430	0.06	Q	|	|	| V	|
15+35	0.0434	0.05	Q	|	|	| V	|
15+40	0.0437	0.05	Q	|	|	| V	|
15+45	0.0441	0.05	Q	|	|	| V	|
15+50	0.0444	0.05	Q	|	|	| V	|
15+55	0.0447	0.05	Q	|	|	| V	|
16+ 0	0.0450	0.05	Q	|	|	| V	|
16+ 5	0.0452	0.03	Q	|	|	| V	|
16+10	0.0453	0.02	Q	|	|	| V	|
16+15	0.0454	0.01	Q	|	|	| V	|
16+20	0.0455	0.01	Q	|	|	| V	|
16+25	0.0456	0.01	Q	|	|	| V	|
16+30	0.0456	0.01	Q	|	|	| V	|
16+35	0.0457	0.01	Q	|	|	| V	|
16+40	0.0457	0.01	Q	|	|	| V	|
16+45	0.0458	0.01	Q	|	|	| V	|
16+50	0.0458	0.01	Q	|	|	| V	|
16+55	0.0459	0.01	Q	|	|	| V	|
17+ 0	0.0459	0.01	Q	|	|	| V	|
17+ 5	0.0460	0.01	Q	|	|	| V	|
17+10	0.0461	0.01	Q	|	|	| V	|
17+15	0.0462	0.01	Q	|	|	| V	|
17+20	0.0462	0.01	Q	|	|	| V	|
17+25	0.0463	0.01	Q	|	|	| V	|
17+30	0.0464	0.01	Q	|	|	| V	|
17+35	0.0465	0.01	Q	|	|	| V	|
17+40	0.0466	0.01	Q	|	|	| V	|
17+45	0.0467	0.01	Q	|	|	| V	|
17+50	0.0467	0.01	Q	|	|	| V	|
17+55	0.0468	0.01	Q	|	|	| V	|
18+ 0	0.0469	0.01	Q	|	|	| V	|
18+ 5	0.0469	0.01	Q	|	|	| V	|
18+10	0.0470	0.01	Q	|	|	| V	|
18+15	0.0471	0.01	Q	|	|	| V	|
18+20	0.0471	0.01	Q	|	|	| V	|
18+25	0.0472	0.01	Q	|	|	| V	|
18+30	0.0473	0.01	Q	|	|	| V	|
18+35	0.0473	0.01	Q	|	|	| V	|
18+40	0.0474	0.01	Q	|	|	| V	|
18+45	0.0474	0.01	Q	|	|	| V	|
18+50	0.0475	0.01	Q	|	|	| V	|
18+55	0.0475	0.01	Q	|	|	| V	|
19+ 0	0.0475	0.00	Q	|	|	| V	|
19+ 5	0.0476	0.01	Q	|	|	| V	|
19+10	0.0476	0.01	Q	|	|	| V	|
19+15	0.0477	0.01	Q	|	|	| V	|
19+20	0.0477	0.01	Q	|	|	| V	|
19+25	0.0478	0.01	Q	|	|	| V	|
19+30	0.0479	0.01	Q	|	|	| V	|
19+35	0.0479	0.01	Q	|	|	| V	|

19+40	0.0480	0.01	Q	|	|	|	V |
19+45	0.0480	0.01	Q	|	|	|	V |
19+50	0.0481	0.01	Q	|	|	|	V |
19+55	0.0481	0.01	Q	|	|	|	V |
20+ 0	0.0482	0.00	Q	|	|	|	V |
20+ 5	0.0482	0.01	Q	|	|	|	V |
20+10	0.0482	0.01	Q	|	|	|	V |
20+15	0.0483	0.01	Q	|	|	|	V |
20+20	0.0483	0.01	Q	|	|	|	V |
20+25	0.0484	0.01	Q	|	|	|	V |
20+30	0.0484	0.01	Q	|	|	|	V |
20+35	0.0485	0.01	Q	|	|	|	V |
20+40	0.0485	0.01	Q	|	|	|	V |
20+45	0.0486	0.01	Q	|	|	|	V |
20+50	0.0486	0.01	Q	|	|	|	V |
20+55	0.0487	0.01	Q	|	|	|	V |
21+ 0	0.0487	0.00	Q	|	|	|	V |
21+ 5	0.0487	0.01	Q	|	|	|	V |
21+10	0.0488	0.01	Q	|	|	|	V |
21+15	0.0488	0.01	Q	|	|	|	V|
21+20	0.0489	0.01	Q	|	|	|	V|
21+25	0.0489	0.01	Q	|	|	|	V|
21+30	0.0490	0.00	Q	|	|	|	V|
21+35	0.0490	0.01	Q	|	|	|	V|
21+40	0.0490	0.01	Q	|	|	|	V|
21+45	0.0491	0.01	Q	|	|	|	V|
21+50	0.0491	0.01	Q	|	|	|	V|
21+55	0.0492	0.01	Q	|	|	|	V|
22+ 0	0.0492	0.00	Q	|	|	|	V|
22+ 5	0.0492	0.01	Q	|	|	|	V|
22+10	0.0493	0.01	Q	|	|	|	V|
22+15	0.0493	0.01	Q	|	|	|	V|
22+20	0.0494	0.01	Q	|	|	|	V|
22+25	0.0494	0.01	Q	|	|	|	V|
22+30	0.0495	0.00	Q	|	|	|	V|
22+35	0.0495	0.00	Q	|	|	|	V|
22+40	0.0495	0.00	Q	|	|	|	V|
22+45	0.0496	0.00	Q	|	|	|	V|
22+50	0.0496	0.00	Q	|	|	|	V|
22+55	0.0496	0.00	Q	|	|	|	V|
23+ 0	0.0497	0.00	Q	|	|	|	V|
23+ 5	0.0497	0.00	Q	|	|	|	V|
23+10	0.0497	0.00	Q	|	|	|	V|
23+15	0.0498	0.00	Q	|	|	|	V|
23+20	0.0498	0.00	Q	|	|	|	V|
23+25	0.0498	0.00	Q	|	|	|	V|
23+30	0.0499	0.00	Q	|	|	|	V|
23+35	0.0499	0.00	Q	|	|	|	V|
23+40	0.0499	0.00	Q	|	|	|	V|
23+45	0.0500	0.00	Q	|	|	|	V|

```
   23+50       0.0500      0.00  Q         |         |         |         V|
   23+55       0.0500      0.00  Q         |         |         |         V|
   24+ 0       0.0501      0.00  Q         |         |         |         V|
   24+ 5       0.0501      0.00  Q         |         |         |         V|
   24+10       0.0501      0.00  Q         |         |         |         V|
   24+15       0.0501      0.00  Q         |         |         |         V|
   24+20       0.0501      0.00  Q         |         |         |          V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh15.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
5 yr
1 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.47                   1.87

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.67                   6.65

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.471(In)
Area Averaged 100-Year Rainfall =    1.670(In)

Point rain (area averaged) =    0.752(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.752(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                 Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5800
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
-----------------------------------------------------------------
               Unit Hydrograph Data
-----------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                             Sum = 100.000   Sum=       4.011
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.325	(0.597)	0.292	0.032
2	0.17	4.20	0.379	(0.597)	0.341	0.038
3	0.25	4.40	0.397	(0.597)	0.357	0.040
4	0.33	4.60	0.415	(0.597)	0.373	0.041
5	0.42	5.00	0.451	(0.597)	0.406	0.045
6	0.50	5.60	0.505	(0.597)	0.455	0.051
7	0.58	6.40	0.577	(0.597)	0.520	0.058
8	0.67	8.10	0.731	0.597	(0.658)	0.133
9	0.75	13.10	1.182	0.597	(1.064)	0.584
10	0.83	34.50	3.112	0.597	(2.801)	2.515
11	0.92	6.70	0.604	(0.597)	0.544	0.060
12	1.00	3.80	0.343	(0.597)	0.309	0.034
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	3.6

Flood volume = Effective rainfall 0.30(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.45(In)
Total soil loss = 0.149(Ac.Ft)
Total rainfall = 0.75(In)
Flood volume = 4373.1 Cubic Feet
Total soil loss = 6488.6 Cubic Feet

Peak flow rate of this hydrograph = 5.113(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q				
0+10	0.0012	0.12	Q				
0+15	0.0022	0.15	Q				
0+20	0.0032	0.16	QV				
0+25	0.0044	0.17	QV				
0+30	0.0057	0.19	Q V				
0+35	0.0071	0.21	Q V				
0+40	0.0095	0.34	Q V				
0+45	0.0176	1.17	Q V				

```
    0+50       0.0519      4.98  |         |        QV         |          |
    0+55       0.0871      5.11  |         |         Q         |   V      |
    1+ 0       0.0959      1.28  |    Q    |         |         |       V  |
    1+ 5       0.0992      0.47  |Q        |         |         |        V |
    1+10       0.1003      0.17  Q         |         |         |        V |
    1+15       0.1004      0.01  Q         |         |         |        V |
    1+20       0.1004      0.00  Q         |         |         |        V |
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh35.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
5 yr
3 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.76                    3.02

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            2.50                    9.95

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.760(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.168(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.168(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                 Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.182	(0.597)	0.164	0.018
2	0.17	1.30	0.182	(0.597)	0.164	0.018
3	0.25	1.10	0.154	(0.597)	0.139	0.015
4	0.33	1.50	0.210	(0.597)	0.189	0.021
5	0.42	1.50	0.210	(0.597)	0.189	0.021
6	0.50	1.80	0.252	(0.597)	0.227	0.025
7	0.58	1.50	0.210	(0.597)	0.189	0.021
8	0.67	1.80	0.252	(0.597)	0.227	0.025
9	0.75	1.80	0.252	(0.597)	0.227	0.025
10	0.83	1.50	0.210	(0.597)	0.189	0.021
11	0.92	1.60	0.224	(0.597)	0.202	0.022
12	1.00	1.80	0.252	(0.597)	0.227	0.025
13	1.08	2.20	0.308	(0.597)	0.277	0.031
14	1.17	2.20	0.308	(0.597)	0.277	0.031
15	1.25	2.20	0.308	(0.597)	0.277	0.031
16	1.33	2.00	0.280	(0.597)	0.252	0.028
17	1.42	2.60	0.364	(0.597)	0.328	0.036
18	1.50	2.70	0.378	(0.597)	0.340	0.038
19	1.58	2.40	0.336	(0.597)	0.303	0.034
20	1.67	2.70	0.378	(0.597)	0.340	0.038
21	1.75	3.30	0.462	(0.597)	0.416	0.046
22	1.83	3.10	0.434	(0.597)	0.391	0.043
23	1.92	2.90	0.406	(0.597)	0.366	0.041
24	2.00	3.00	0.420	(0.597)	0.378	0.042
25	2.08	3.10	0.434	(0.597)	0.391	0.043
26	2.17	4.20	0.588	(0.597)	0.530	0.059
27	2.25	5.00	0.701	0.597	(0.630)	0.103
28	2.33	3.50	0.490	(0.597)	0.441	0.049
29	2.42	6.80	0.953	0.597	(0.857)	0.355
30	2.50	7.30	1.023	0.597	(0.920)	0.425
31	2.58	8.20	1.149	0.597	(1.034)	0.551
32	2.67	5.90	0.827	0.597	(0.744)	0.229
33	2.75	2.00	0.280	(0.597)	0.252	0.028
34	2.83	1.80	0.252	(0.597)	0.227	0.025
35	2.92	1.80	0.252	(0.597)	0.227	0.025
36	3.00	0.60	0.084	(0.597)	0.076	0.008
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	2.6

Flood volume = Effective rainfall 0.22(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.95(In)
Total soil loss = 0.315(Ac.Ft)
Total rainfall = 1.17(In)
Flood volume = 3130.2 Cubic Feet

Total soil loss = 13737.6 Cubic Feet

Peak flow rate of this hydrograph = 1.798(CFS)

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3 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0006	0.06	Q				
0+15	0.0011	0.07	Q				
0+20	0.0016	0.07	Q				
0+25	0.0021	0.08	QV				
0+30	0.0027	0.09	QV				
0+35	0.0034	0.09	QV				
0+40	0.0040	0.09	Q V				
0+45	0.0047	0.10	Q V				
0+50	0.0053	0.09	Q V				
0+55	0.0059	0.09	Q V				
1+ 0	0.0066	0.09	Q V				
1+ 5	0.0073	0.11	Q V				
1+10	0.0082	0.12	Q V				
1+15	0.0090	0.12	Q V				
1+20	0.0098	0.12	Q V				
1+25	0.0107	0.13	Q V				
1+30	0.0117	0.14	Q V				
1+35	0.0127	0.14	Q V				
1+40	0.0137	0.14	Q V				
1+45	0.0148	0.16	Q V				
1+50	0.0160	0.18	Q V				
1+55	0.0172	0.17	Q V				
2+ 0	0.0183	0.17	Q V				
2+ 5	0.0195	0.17	Q V				
2+10	0.0208	0.20	Q V				
2+15	0.0229	0.29	Q V				
2+20	0.0249	0.30	Q V				
2+25	0.0297	0.68	Q V				
2+30	0.0390	1.35	Q V				
2+35	0.0514	1.80	Q V				
2+40	0.0625	1.62	Q V				
2+45	0.0679	0.78	Q V				
2+50	0.0698	0.29	Q V				
2+55	0.0710	0.16	Q V				
3+ 0	0.0716	0.09	Q V				
3+ 5	0.0718	0.03	Q V				

```
    3+10       0.0718      0.01  Q         |         |         |        V|
    3+15       0.0719      0.00  Q         |         |         |        V|
    3+20       0.0719      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh65.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
5 yr
6 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.99                  3.95

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            3.25                 12.94

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.993(In)
Area Averaged 100-Year Rainfall =    3.250(In)

Point rain (area averaged) =    1.522(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.522(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                 Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                           Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.091	(0.597)	0.082	0.009
2	0.17	0.60	0.110	(0.597)	0.099	0.011
3	0.25	0.60	0.110	(0.597)	0.099	0.011
4	0.33	0.60	0.110	(0.597)	0.099	0.011
5	0.42	0.60	0.110	(0.597)	0.099	0.011
6	0.50	0.70	0.128	(0.597)	0.115	0.013
7	0.58	0.70	0.128	(0.597)	0.115	0.013
8	0.67	0.70	0.128	(0.597)	0.115	0.013
9	0.75	0.70	0.128	(0.597)	0.115	0.013
10	0.83	0.70	0.128	(0.597)	0.115	0.013
11	0.92	0.70	0.128	(0.597)	0.115	0.013
12	1.00	0.80	0.146	(0.597)	0.131	0.015
13	1.08	0.80	0.146	(0.597)	0.131	0.015
14	1.17	0.80	0.146	(0.597)	0.131	0.015
15	1.25	0.80	0.146	(0.597)	0.131	0.015
16	1.33	0.80	0.146	(0.597)	0.131	0.015
17	1.42	0.80	0.146	(0.597)	0.131	0.015
18	1.50	0.80	0.146	(0.597)	0.131	0.015
19	1.58	0.80	0.146	(0.597)	0.131	0.015
20	1.67	0.80	0.146	(0.597)	0.131	0.015
21	1.75	0.80	0.146	(0.597)	0.131	0.015
22	1.83	0.80	0.146	(0.597)	0.131	0.015
23	1.92	0.80	0.146	(0.597)	0.131	0.015
24	2.00	0.90	0.164	(0.597)	0.148	0.016
25	2.08	0.80	0.146	(0.597)	0.131	0.015
26	2.17	0.90	0.164	(0.597)	0.148	0.016
27	2.25	0.90	0.164	(0.597)	0.148	0.016
28	2.33	0.90	0.164	(0.597)	0.148	0.016
29	2.42	0.90	0.164	(0.597)	0.148	0.016
30	2.50	0.90	0.164	(0.597)	0.148	0.016
31	2.58	0.90	0.164	(0.597)	0.148	0.016
32	2.67	0.90	0.164	(0.597)	0.148	0.016
33	2.75	1.00	0.183	(0.597)	0.164	0.018
34	2.83	1.00	0.183	(0.597)	0.164	0.018
35	2.92	1.00	0.183	(0.597)	0.164	0.018
36	3.00	1.00	0.183	(0.597)	0.164	0.018
37	3.08	1.00	0.183	(0.597)	0.164	0.018
38	3.17	1.10	0.201	(0.597)	0.181	0.020
39	3.25	1.10	0.201	(0.597)	0.181	0.020
40	3.33	1.10	0.201	(0.597)	0.181	0.020
41	3.42	1.20	0.219	(0.597)	0.197	0.022
42	3.50	1.30	0.237	(0.597)	0.214	0.024
43	3.58	1.40	0.256	(0.597)	0.230	0.026
44	3.67	1.40	0.256	(0.597)	0.230	0.026

```
45   3.75     1.50      0.274       (  0.597)       0.247        0.027
46   3.83     1.50      0.274       (  0.597)       0.247        0.027
47   3.92     1.60      0.292       (  0.597)       0.263        0.029
48   4.00     1.60      0.292       (  0.597)       0.263        0.029
49   4.08     1.70      0.310       (  0.597)       0.279        0.031
50   4.17     1.80      0.329       (  0.597)       0.296        0.033
51   4.25     1.90      0.347       (  0.597)       0.312        0.035
52   4.33     2.00      0.365       (  0.597)       0.329        0.037
53   4.42     2.10      0.383       (  0.597)       0.345        0.038
54   4.50     2.10      0.383       (  0.597)       0.345        0.038
55   4.58     2.20      0.402       (  0.597)       0.362        0.040
56   4.67     2.30      0.420       (  0.597)       0.378        0.042
57   4.75     2.40      0.438       (  0.597)       0.394        0.044
58   4.83     2.40      0.438       (  0.597)       0.394        0.044
59   4.92     2.50      0.456       (  0.597)       0.411        0.046
60   5.00     2.60      0.475       (  0.597)       0.427        0.047
61   5.08     3.10      0.566       (  0.597)       0.509        0.057
62   5.17     3.60      0.657       (  0.597)       0.592        0.066
63   5.25     3.90      0.712          0.597    (  0.641)        0.115
64   5.33     4.20      0.767          0.597    (  0.690)        0.169
65   5.42     4.70      0.858          0.597    (  0.772)        0.261
66   5.50     5.60      1.023          0.597    (  0.920)        0.425
67   5.58     1.90      0.347       (  0.597)       0.312        0.035
68   5.67     0.90      0.164       (  0.597)       0.148        0.016
69   5.75     0.60      0.110       (  0.597)       0.099        0.011
70   5.83     0.50      0.091       (  0.597)       0.082        0.009
71   5.92     0.30      0.055       (  0.597)       0.049        0.005
72   6.00     0.20      0.037       (  0.597)       0.033        0.004
               (Loss Rate Not Used)
   Sum =     100.0                                   Sum =     2.5
      Flood volume = Effective rainfall      0.20(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
      Total soil loss =      1.32(In)
      Total soil loss =     0.437(Ac.Ft)
      Total rainfall =      1.52(In)
      Flood volume =        2961.5 Cubic Feet
      Total soil loss =       19022.0 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.227(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.01  Q         |         |         |         |
```

```
0+10       0.0003      0.03  Q          |          |          |          |
0+15       0.0006      0.04  Q          |          |          |          |
0+20       0.0009      0.04  Q          |          |          |          |
0+25       0.0012      0.04  Q          |          |          |          |
0+30       0.0015      0.05  Q          |          |          |          |
0+35       0.0019      0.05  QV         |          |          |          |
0+40       0.0022      0.05  QV         |          |          |          |
0+45       0.0026      0.05  QV         |          |          |          |
0+50       0.0029      0.05  QV         |          |          |          |
0+55       0.0033      0.05  QV         |          |          |          |
1+ 0       0.0037      0.05  Q V        |          |          |          |
1+ 5       0.0041      0.06  Q V        |          |          |          |
1+10       0.0045      0.06  Q V        |          |          |          |
1+15       0.0049      0.06  Q V        |          |          |          |
1+20       0.0053      0.06  Q  V       |          |          |          |
1+25       0.0057      0.06  Q  V       |          |          |          |
1+30       0.0061      0.06  Q  V       |          |          |          |
1+35       0.0065      0.06  Q  V       |          |          |          |
1+40       0.0069      0.06  Q   V      |          |          |          |
1+45       0.0073      0.06  Q   V      |          |          |          |
1+50       0.0077      0.06  Q   V      |          |          |          |
1+55       0.0081      0.06  Q   V      |          |          |          |
2+ 0       0.0085      0.06  Q    V     |          |          |          |
2+ 5       0.0089      0.06  Q    V     |          |          |          |
2+10       0.0094      0.06  Q    V     |          |          |          |
2+15       0.0098      0.07  Q    V     |          |          |          |
2+20       0.0103      0.07  Q     V    |          |          |          |
2+25       0.0107      0.07  Q     V    |          |          |          |
2+30       0.0112      0.07  Q     V    |          |          |          |
2+35       0.0116      0.07  Q     V    |          |          |          |
2+40       0.0121      0.07  Q      V   |          |          |          |
2+45       0.0126      0.07  Q      V   |          |          |          |
2+50       0.0131      0.07  Q      V   |          |          |          |
2+55       0.0136      0.07  Q      V   |          |          |          |
3+ 0       0.0141      0.07  Q       V  |          |          |          |
3+ 5       0.0146      0.07  Q       V  |          |          |          |
3+10       0.0151      0.08  Q       V  |          |          |          |
3+15       0.0156      0.08  Q        V |          |          |          |
3+20       0.0162      0.08  Q        V |          |          |          |
3+25       0.0168      0.08  Q        V |          |          |          |
3+30       0.0174      0.09  Q         V          |          |          |
3+35       0.0180      0.10  Q         V          |          |          |
3+40       0.0187      0.10  Q         |V         |          |          |
3+45       0.0195      0.10  Q         |V         |          |          |
3+50       0.0202      0.11  Q         |V         |          |          |
3+55       0.0210      0.11  Q         | V        |          |          |
4+ 0       0.0218      0.12  Q         | V        |          |          |
4+ 5       0.0226      0.12  Q         |  V       |          |          |
4+10       0.0235      0.13  Q         |  V       |          |          |
4+15       0.0244      0.13  Q         |   V      |          |          |
```

```
   4+20       0.0254      0.14  Q         |   V     |         |          |
   4+25       0.0264      0.15  Q         |    V    |         |          |
   4+30       0.0274      0.15  Q         |     V   |         |          |
   4+35       0.0285      0.16  Q         |     V   |         |          |
   4+40       0.0296      0.16  Q         |      V  |         |          |
   4+45       0.0308      0.17  Q         |       V |         |          |
   4+50       0.0320      0.17  Q         |       V |         |          |
   4+55       0.0332      0.18  Q         |        V|         |          |
   5+ 0       0.0345      0.18  Q         |         V         |          |
   5+ 5       0.0359      0.20  Q         |         |V        |          |
   5+10       0.0375      0.24  Q         |         | V       |          |
   5+15       0.0398      0.33  |Q        |         |  V      |          |
   5+20       0.0433      0.51  | Q       |         |    V    |          |
   5+25       0.0486      0.78  |  Q      |         |       V |          |
   5+30       0.0571      1.23  |   Q     |         |         |  V       |
   5+35       0.0639      0.99  |  Q      |         |         |     V    |
   5+40       0.0661      0.31  |Q        |         |         |      V   |
   5+45       0.0670      0.14  Q         |         |         |       V  |
   5+50       0.0675      0.07  Q         |         |         |       V  |
   5+55       0.0677      0.03  Q         |         |         |       V  |
   6+ 0       0.0679      0.02  Q         |         |         |       V  |
   6+ 5       0.0680      0.01  Q         |         |         |       V  |
   6+10       0.0680      0.00  Q         |         |         |       V  |
   6+15       0.0680      0.00  Q         |         |         |       V  |
   6+20       0.0680      0.00  Q         |         |         |       V  |
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh245.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
5 yr
24 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.51                   6.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            5.39                  21.45

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.510(In)
Area Averaged 100-Year Rainfall =    5.390(In)

Point rain (area averaged) =    2.419(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.419(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  47.4      0.597     0.000        0.597       1.000      0.597
                                                 Sum (F) =   0.597
Area averaged mean soil loss (F) (In/Hr) =  0.597
Minimum soil loss rate ((In/Hr)) =  0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(1.059)	0.017	0.002
2	0.17	0.07	0.019	(1.055)	0.017	0.002
3	0.25	0.07	0.019	(1.051)	0.017	0.002
4	0.33	0.10	0.029	(1.047)	0.026	0.003
5	0.42	0.10	0.029	(1.043)	0.026	0.003
6	0.50	0.10	0.029	(1.039)	0.026	0.003
7	0.58	0.10	0.029	(1.035)	0.026	0.003
8	0.67	0.10	0.029	(1.031)	0.026	0.003
9	0.75	0.10	0.029	(1.027)	0.026	0.003
10	0.83	0.13	0.039	(1.023)	0.035	0.004
11	0.92	0.13	0.039	(1.019)	0.035	0.004
12	1.00	0.13	0.039	(1.015)	0.035	0.004
13	1.08	0.10	0.029	(1.011)	0.026	0.003
14	1.17	0.10	0.029	(1.007)	0.026	0.003
15	1.25	0.10	0.029	(1.003)	0.026	0.003
16	1.33	0.10	0.029	(0.999)	0.026	0.003
17	1.42	0.10	0.029	(0.995)	0.026	0.003
18	1.50	0.10	0.029	(0.991)	0.026	0.003
19	1.58	0.10	0.029	(0.987)	0.026	0.003
20	1.67	0.10	0.029	(0.983)	0.026	0.003
21	1.75	0.10	0.029	(0.979)	0.026	0.003
22	1.83	0.13	0.039	(0.975)	0.035	0.004
23	1.92	0.13	0.039	(0.971)	0.035	0.004
24	2.00	0.13	0.039	(0.967)	0.035	0.004
25	2.08	0.13	0.039	(0.963)	0.035	0.004
26	2.17	0.13	0.039	(0.959)	0.035	0.004
27	2.25	0.13	0.039	(0.955)	0.035	0.004
28	2.33	0.13	0.039	(0.951)	0.035	0.004
29	2.42	0.13	0.039	(0.947)	0.035	0.004
30	2.50	0.13	0.039	(0.944)	0.035	0.004
31	2.58	0.17	0.048	(0.940)	0.044	0.005
32	2.67	0.17	0.048	(0.936)	0.044	0.005
33	2.75	0.17	0.048	(0.932)	0.044	0.005
34	2.83	0.17	0.048	(0.928)	0.044	0.005
35	2.92	0.17	0.048	(0.924)	0.044	0.005
36	3.00	0.17	0.048	(0.921)	0.044	0.005
37	3.08	0.17	0.048	(0.917)	0.044	0.005
38	3.17	0.17	0.048	(0.913)	0.044	0.005
39	3.25	0.17	0.048	(0.909)	0.044	0.005
40	3.33	0.17	0.048	(0.905)	0.044	0.005
41	3.42	0.17	0.048	(0.902)	0.044	0.005
42	3.50	0.17	0.048	(0.898)	0.044	0.005
43	3.58	0.17	0.048	(0.894)	0.044	0.005
44	3.67	0.17	0.048	(0.890)	0.044	0.005

45	3.75	0.17	0.048	(0.887)	0.044	0.005
46	3.83	0.20	0.058	(0.883)	0.052	0.006
47	3.92	0.20	0.058	(0.879)	0.052	0.006
48	4.00	0.20	0.058	(0.875)	0.052	0.006
49	4.08	0.20	0.058	(0.872)	0.052	0.006
50	4.17	0.20	0.058	(0.868)	0.052	0.006
51	4.25	0.20	0.058	(0.864)	0.052	0.006
52	4.33	0.23	0.068	(0.861)	0.061	0.007
53	4.42	0.23	0.068	(0.857)	0.061	0.007
54	4.50	0.23	0.068	(0.853)	0.061	0.007
55	4.58	0.23	0.068	(0.850)	0.061	0.007
56	4.67	0.23	0.068	(0.846)	0.061	0.007
57	4.75	0.23	0.068	(0.842)	0.061	0.007
58	4.83	0.27	0.077	(0.839)	0.070	0.008
59	4.92	0.27	0.077	(0.835)	0.070	0.008
60	5.00	0.27	0.077	(0.831)	0.070	0.008
61	5.08	0.20	0.058	(0.828)	0.052	0.006
62	5.17	0.20	0.058	(0.824)	0.052	0.006
63	5.25	0.20	0.058	(0.821)	0.052	0.006
64	5.33	0.23	0.068	(0.817)	0.061	0.007
65	5.42	0.23	0.068	(0.813)	0.061	0.007
66	5.50	0.23	0.068	(0.810)	0.061	0.007
67	5.58	0.27	0.077	(0.806)	0.070	0.008
68	5.67	0.27	0.077	(0.803)	0.070	0.008
69	5.75	0.27	0.077	(0.799)	0.070	0.008
70	5.83	0.27	0.077	(0.796)	0.070	0.008
71	5.92	0.27	0.077	(0.792)	0.070	0.008
72	6.00	0.27	0.077	(0.789)	0.070	0.008
73	6.08	0.30	0.087	(0.785)	0.078	0.009
74	6.17	0.30	0.087	(0.782)	0.078	0.009
75	6.25	0.30	0.087	(0.778)	0.078	0.009
76	6.33	0.30	0.087	(0.775)	0.078	0.009
77	6.42	0.30	0.087	(0.771)	0.078	0.009
78	6.50	0.30	0.087	(0.768)	0.078	0.009
79	6.58	0.33	0.097	(0.764)	0.087	0.010
80	6.67	0.33	0.097	(0.761)	0.087	0.010
81	6.75	0.33	0.097	(0.757)	0.087	0.010
82	6.83	0.33	0.097	(0.754)	0.087	0.010
83	6.92	0.33	0.097	(0.751)	0.087	0.010
84	7.00	0.33	0.097	(0.747)	0.087	0.010
85	7.08	0.33	0.097	(0.744)	0.087	0.010
86	7.17	0.33	0.097	(0.740)	0.087	0.010
87	7.25	0.33	0.097	(0.737)	0.087	0.010
88	7.33	0.37	0.106	(0.734)	0.096	0.011
89	7.42	0.37	0.106	(0.730)	0.096	0.011
90	7.50	0.37	0.106	(0.727)	0.096	0.011
91	7.58	0.40	0.116	(0.724)	0.104	0.012
92	7.67	0.40	0.116	(0.720)	0.104	0.012
93	7.75	0.40	0.116	(0.717)	0.104	0.012
94	7.83	0.43	0.126	(0.714)	0.113	0.013

95	7.92	0.43	0.126	(0.710)	0.113	0.013
96	8.00	0.43	0.126	(0.707)	0.113	0.013
97	8.08	0.50	0.145	(0.704)	0.131	0.015
98	8.17	0.50	0.145	(0.701)	0.131	0.015
99	8.25	0.50	0.145	(0.697)	0.131	0.015
100	8.33	0.50	0.145	(0.694)	0.131	0.015
101	8.42	0.50	0.145	(0.691)	0.131	0.015
102	8.50	0.50	0.145	(0.688)	0.131	0.015
103	8.58	0.53	0.155	(0.684)	0.139	0.015
104	8.67	0.53	0.155	(0.681)	0.139	0.015
105	8.75	0.53	0.155	(0.678)	0.139	0.015
106	8.83	0.57	0.164	(0.675)	0.148	0.016
107	8.92	0.57	0.164	(0.671)	0.148	0.016
108	9.00	0.57	0.164	(0.668)	0.148	0.016
109	9.08	0.63	0.184	(0.665)	0.165	0.018
110	9.17	0.63	0.184	(0.662)	0.165	0.018
111	9.25	0.63	0.184	(0.659)	0.165	0.018
112	9.33	0.67	0.194	(0.656)	0.174	0.019
113	9.42	0.67	0.194	(0.653)	0.174	0.019
114	9.50	0.67	0.194	(0.649)	0.174	0.019
115	9.58	0.70	0.203	(0.646)	0.183	0.020
116	9.67	0.70	0.203	(0.643)	0.183	0.020
117	9.75	0.70	0.203	(0.640)	0.183	0.020
118	9.83	0.73	0.213	(0.637)	0.192	0.021
119	9.92	0.73	0.213	(0.634)	0.192	0.021
120	10.00	0.73	0.213	(0.631)	0.192	0.021
121	10.08	0.50	0.145	(0.628)	0.131	0.015
122	10.17	0.50	0.145	(0.625)	0.131	0.015
123	10.25	0.50	0.145	(0.622)	0.131	0.015
124	10.33	0.50	0.145	(0.619)	0.131	0.015
125	10.42	0.50	0.145	(0.616)	0.131	0.015
126	10.50	0.50	0.145	(0.613)	0.131	0.015
127	10.58	0.67	0.194	(0.610)	0.174	0.019
128	10.67	0.67	0.194	(0.607)	0.174	0.019
129	10.75	0.67	0.194	(0.604)	0.174	0.019
130	10.83	0.67	0.194	(0.601)	0.174	0.019
131	10.92	0.67	0.194	(0.598)	0.174	0.019
132	11.00	0.67	0.194	(0.595)	0.174	0.019
133	11.08	0.63	0.184	(0.592)	0.165	0.018
134	11.17	0.63	0.184	(0.589)	0.165	0.018
135	11.25	0.63	0.184	(0.586)	0.165	0.018
136	11.33	0.63	0.184	(0.583)	0.165	0.018
137	11.42	0.63	0.184	(0.580)	0.165	0.018
138	11.50	0.63	0.184	(0.578)	0.165	0.018
139	11.58	0.57	0.164	(0.575)	0.148	0.016
140	11.67	0.57	0.164	(0.572)	0.148	0.016
141	11.75	0.57	0.164	(0.569)	0.148	0.016
142	11.83	0.60	0.174	(0.566)	0.157	0.017
143	11.92	0.60	0.174	(0.563)	0.157	0.017
144	12.00	0.60	0.174	(0.561)	0.157	0.017

145	12.08	0.83	0.242	(0.558)	0.218	0.024
146	12.17	0.83	0.242	(0.555)	0.218	0.024
147	12.25	0.83	0.242	(0.552)	0.218	0.024
148	12.33	0.87	0.252	(0.549)	0.226	0.025
149	12.42	0.87	0.252	(0.547)	0.226	0.025
150	12.50	0.87	0.252	(0.544)	0.226	0.025
151	12.58	0.93	0.271	(0.541)	0.244	0.027
152	12.67	0.93	0.271	(0.538)	0.244	0.027
153	12.75	0.93	0.271	(0.536)	0.244	0.027
154	12.83	0.97	0.281	(0.533)	0.253	0.028
155	12.92	0.97	0.281	(0.530)	0.253	0.028
156	13.00	0.97	0.281	(0.528)	0.253	0.028
157	13.08	1.13	0.329	(0.525)	0.296	0.033
158	13.17	1.13	0.329	(0.522)	0.296	0.033
159	13.25	1.13	0.329	(0.520)	0.296	0.033
160	13.33	1.13	0.329	(0.517)	0.296	0.033
161	13.42	1.13	0.329	(0.514)	0.296	0.033
162	13.50	1.13	0.329	(0.512)	0.296	0.033
163	13.58	0.77	0.223	(0.509)	0.200	0.022
164	13.67	0.77	0.223	(0.507)	0.200	0.022
165	13.75	0.77	0.223	(0.504)	0.200	0.022
166	13.83	0.77	0.223	(0.501)	0.200	0.022
167	13.92	0.77	0.223	(0.499)	0.200	0.022
168	14.00	0.77	0.223	(0.496)	0.200	0.022
169	14.08	0.90	0.261	(0.494)	0.235	0.026
170	14.17	0.90	0.261	(0.491)	0.235	0.026
171	14.25	0.90	0.261	(0.489)	0.235	0.026
172	14.33	0.87	0.252	(0.486)	0.226	0.025
173	14.42	0.87	0.252	(0.484)	0.226	0.025
174	14.50	0.87	0.252	(0.481)	0.226	0.025
175	14.58	0.87	0.252	(0.479)	0.226	0.025
176	14.67	0.87	0.252	(0.476)	0.226	0.025
177	14.75	0.87	0.252	(0.474)	0.226	0.025
178	14.83	0.83	0.242	(0.471)	0.218	0.024
179	14.92	0.83	0.242	(0.469)	0.218	0.024
180	15.00	0.83	0.242	(0.467)	0.218	0.024
181	15.08	0.80	0.232	(0.464)	0.209	0.023
182	15.17	0.80	0.232	(0.462)	0.209	0.023
183	15.25	0.80	0.232	(0.460)	0.209	0.023
184	15.33	0.77	0.223	(0.457)	0.200	0.022
185	15.42	0.77	0.223	(0.455)	0.200	0.022
186	15.50	0.77	0.223	(0.452)	0.200	0.022
187	15.58	0.63	0.184	(0.450)	0.165	0.018
188	15.67	0.63	0.184	(0.448)	0.165	0.018
189	15.75	0.63	0.184	(0.446)	0.165	0.018
190	15.83	0.63	0.184	(0.443)	0.165	0.018
191	15.92	0.63	0.184	(0.441)	0.165	0.018
192	16.00	0.63	0.184	(0.439)	0.165	0.018
193	16.08	0.13	0.039	(0.437)	0.035	0.004
194	16.17	0.13	0.039	(0.434)	0.035	0.004

195	16.25	0.13	0.039	(0.432)	0.035	0.004
196	16.33	0.13	0.039	(0.430)	0.035	0.004
197	16.42	0.13	0.039	(0.428)	0.035	0.004
198	16.50	0.13	0.039	(0.425)	0.035	0.004
199	16.58	0.10	0.029	(0.423)	0.026	0.003
200	16.67	0.10	0.029	(0.421)	0.026	0.003
201	16.75	0.10	0.029	(0.419)	0.026	0.003
202	16.83	0.10	0.029	(0.417)	0.026	0.003
203	16.92	0.10	0.029	(0.415)	0.026	0.003
204	17.00	0.10	0.029	(0.413)	0.026	0.003
205	17.08	0.17	0.048	(0.411)	0.044	0.005
206	17.17	0.17	0.048	(0.409)	0.044	0.005
207	17.25	0.17	0.048	(0.407)	0.044	0.005
208	17.33	0.17	0.048	(0.404)	0.044	0.005
209	17.42	0.17	0.048	(0.402)	0.044	0.005
210	17.50	0.17	0.048	(0.400)	0.044	0.005
211	17.58	0.17	0.048	(0.398)	0.044	0.005
212	17.67	0.17	0.048	(0.396)	0.044	0.005
213	17.75	0.17	0.048	(0.394)	0.044	0.005
214	17.83	0.13	0.039	(0.392)	0.035	0.004
215	17.92	0.13	0.039	(0.391)	0.035	0.004
216	18.00	0.13	0.039	(0.389)	0.035	0.004
217	18.08	0.13	0.039	(0.387)	0.035	0.004
218	18.17	0.13	0.039	(0.385)	0.035	0.004
219	18.25	0.13	0.039	(0.383)	0.035	0.004
220	18.33	0.13	0.039	(0.381)	0.035	0.004
221	18.42	0.13	0.039	(0.379)	0.035	0.004
222	18.50	0.13	0.039	(0.377)	0.035	0.004
223	18.58	0.10	0.029	(0.376)	0.026	0.003
224	18.67	0.10	0.029	(0.374)	0.026	0.003
225	18.75	0.10	0.029	(0.372)	0.026	0.003
226	18.83	0.07	0.019	(0.370)	0.017	0.002
227	18.92	0.07	0.019	(0.368)	0.017	0.002
228	19.00	0.07	0.019	(0.367)	0.017	0.002
229	19.08	0.10	0.029	(0.365)	0.026	0.003
230	19.17	0.10	0.029	(0.363)	0.026	0.003
231	19.25	0.10	0.029	(0.361)	0.026	0.003
232	19.33	0.13	0.039	(0.360)	0.035	0.004
233	19.42	0.13	0.039	(0.358)	0.035	0.004
234	19.50	0.13	0.039	(0.356)	0.035	0.004
235	19.58	0.10	0.029	(0.355)	0.026	0.003
236	19.67	0.10	0.029	(0.353)	0.026	0.003
237	19.75	0.10	0.029	(0.352)	0.026	0.003
238	19.83	0.07	0.019	(0.350)	0.017	0.002
239	19.92	0.07	0.019	(0.348)	0.017	0.002
240	20.00	0.07	0.019	(0.347)	0.017	0.002
241	20.08	0.10	0.029	(0.345)	0.026	0.003
242	20.17	0.10	0.029	(0.344)	0.026	0.003
243	20.25	0.10	0.029	(0.342)	0.026	0.003
244	20.33	0.10	0.029	(0.341)	0.026	0.003

245	20.42	0.10	0.029	(0.339)	0.026	0.003
246	20.50	0.10	0.029	(0.338)	0.026	0.003
247	20.58	0.10	0.029	(0.337)	0.026	0.003
248	20.67	0.10	0.029	(0.335)	0.026	0.003
249	20.75	0.10	0.029	(0.334)	0.026	0.003
250	20.83	0.07	0.019	(0.332)	0.017	0.002
251	20.92	0.07	0.019	(0.331)	0.017	0.002
252	21.00	0.07	0.019	(0.330)	0.017	0.002
253	21.08	0.10	0.029	(0.328)	0.026	0.003
254	21.17	0.10	0.029	(0.327)	0.026	0.003
255	21.25	0.10	0.029	(0.326)	0.026	0.003
256	21.33	0.07	0.019	(0.325)	0.017	0.002
257	21.42	0.07	0.019	(0.323)	0.017	0.002
258	21.50	0.07	0.019	(0.322)	0.017	0.002
259	21.58	0.10	0.029	(0.321)	0.026	0.003
260	21.67	0.10	0.029	(0.320)	0.026	0.003
261	21.75	0.10	0.029	(0.319)	0.026	0.003
262	21.83	0.07	0.019	(0.318)	0.017	0.002
263	21.92	0.07	0.019	(0.317)	0.017	0.002
264	22.00	0.07	0.019	(0.315)	0.017	0.002
265	22.08	0.10	0.029	(0.314)	0.026	0.003
266	22.17	0.10	0.029	(0.313)	0.026	0.003
267	22.25	0.10	0.029	(0.312)	0.026	0.003
268	22.33	0.07	0.019	(0.311)	0.017	0.002
269	22.42	0.07	0.019	(0.310)	0.017	0.002
270	22.50	0.07	0.019	(0.310)	0.017	0.002
271	22.58	0.07	0.019	(0.309)	0.017	0.002
272	22.67	0.07	0.019	(0.308)	0.017	0.002
273	22.75	0.07	0.019	(0.307)	0.017	0.002
274	22.83	0.07	0.019	(0.306)	0.017	0.002
275	22.92	0.07	0.019	(0.305)	0.017	0.002
276	23.00	0.07	0.019	(0.305)	0.017	0.002
277	23.08	0.07	0.019	(0.304)	0.017	0.002
278	23.17	0.07	0.019	(0.303)	0.017	0.002
279	23.25	0.07	0.019	(0.303)	0.017	0.002
280	23.33	0.07	0.019	(0.302)	0.017	0.002
281	23.42	0.07	0.019	(0.301)	0.017	0.002
282	23.50	0.07	0.019	(0.301)	0.017	0.002
283	23.58	0.07	0.019	(0.300)	0.017	0.002
284	23.67	0.07	0.019	(0.300)	0.017	0.002
285	23.75	0.07	0.019	(0.300)	0.017	0.002
286	23.83	0.07	0.019	(0.299)	0.017	0.002
287	23.92	0.07	0.019	(0.299)	0.017	0.002
288	24.00	0.07	0.019	(0.299)	0.017	0.002
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	2.9

Flood volume = Effective rainfall 0.24(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 2.18(In)
Total soil loss = 0.722(Ac.Ft)

Total rainfall = 2.42(In)
Flood volume = 3494.5 Cubic Feet
Total soil loss = 31450.5 Cubic Feet

Peak flow rate of this hydrograph = 0.132(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0004	0.01	Q				
0+40	0.0005	0.01	Q				
0+45	0.0006	0.01	Q				
0+50	0.0007	0.01	Q				
0+55	0.0008	0.01	Q				
1+ 0	0.0009	0.02	Q				
1+ 5	0.0010	0.01	Q				
1+10	0.0011	0.01	Q				
1+15	0.0011	0.01	Q				
1+20	0.0012	0.01	Q				
1+25	0.0013	0.01	Q				
1+30	0.0014	0.01	Q				
1+35	0.0015	0.01	Q				
1+40	0.0015	0.01	Q				
1+45	0.0016	0.01	Q				
1+50	0.0017	0.01	Q				
1+55	0.0018	0.01	Q				
2+ 0	0.0019	0.02	Q				
2+ 5	0.0020	0.02	QV				
2+10	0.0021	0.02	QV				
2+15	0.0022	0.02	QV				
2+20	0.0023	0.02	QV				
2+25	0.0025	0.02	QV				
2+30	0.0026	0.02	QV				
2+35	0.0027	0.02	QV				
2+40	0.0028	0.02	QV				
2+45	0.0029	0.02	QV				
2+50	0.0031	0.02	QV				
2+55	0.0032	0.02	QV				

3+ 0	0.0033	0.02	QV	|	|	|	|
3+ 5	0.0035	0.02	QV	|	|	|	|
3+10	0.0036	0.02	QV	|	|	|	|
3+15	0.0037	0.02	QV	|	|	|	|
3+20	0.0039	0.02	QV	|	|	|	|
3+25	0.0040	0.02	QV	|	|	|	|
3+30	0.0041	0.02	Q V	|	|	|	|
3+35	0.0043	0.02	Q V	|	|	|	|
3+40	0.0044	0.02	Q V	|	|	|	|
3+45	0.0045	0.02	Q V	|	|	|	|
3+50	0.0047	0.02	Q V	|	|	|	|
3+55	0.0048	0.02	Q V	|	|	|	|
4+ 0	0.0050	0.02	Q V	|	|	|	|
4+ 5	0.0052	0.02	Q V	|	|	|	|
4+10	0.0053	0.02	Q V	|	|	|	|
4+15	0.0055	0.02	Q V	|	|	|	|
4+20	0.0057	0.02	Q V	|	|	|	|
4+25	0.0058	0.03	Q V	|	|	|	|
4+30	0.0060	0.03	Q V	|	|	|	|
4+35	0.0062	0.03	Q V	|	|	|	|
4+40	0.0064	0.03	Q V	|	|	|	|
4+45	0.0066	0.03	Q V	|	|	|	|
4+50	0.0068	0.03	Q V	|	|	|	|
4+55	0.0070	0.03	Q V	|	|	|	|
5+ 0	0.0072	0.03	Q V	|	|	|	|
5+ 5	0.0074	0.03	Q V	|	|	|	|
5+10	0.0076	0.02	Q V	|	|	|	|
5+15	0.0077	0.02	Q V	|	|	|	|
5+20	0.0079	0.02	Q V	|	|	|	|
5+25	0.0081	0.03	Q V	|	|	|	|
5+30	0.0083	0.03	Q V	|	|	|	|
5+35	0.0085	0.03	Q V	|	|	|	|
5+40	0.0087	0.03	Q V	|	|	|	|
5+45	0.0089	0.03	Q V	|	|	|	|
5+50	0.0091	0.03	Q V	|	|	|	|
5+55	0.0093	0.03	Q V	|	|	|	|
6+ 0	0.0095	0.03	Q V	|	|	|	|
6+ 5	0.0098	0.03	Q V	|	|	|	|
6+10	0.0100	0.03	Q V	|	|	|	|
6+15	0.0102	0.03	Q V	|	|	|	|
6+20	0.0105	0.03	Q V	|	|	|	|
6+25	0.0107	0.03	Q V	|	|	|	|
6+30	0.0109	0.03	Q V	|	|	|	|
6+35	0.0112	0.04	Q V	|	|	|	|
6+40	0.0115	0.04	Q V	|	|	|	|
6+45	0.0117	0.04	Q V	|	|	|	|
6+50	0.0120	0.04	Q V	|	|	|	|
6+55	0.0123	0.04	Q V	|	|	|	|
7+ 0	0.0125	0.04	Q V	|	|	|	|
7+ 5	0.0128	0.04	Q V	|	|	|	|

7+10	0.0131	0.04	Q	V	|	|	|	|
7+15	0.0133	0.04	Q	V	|	|	|	|
7+20	0.0136	0.04	Q	V	|	|	|	|
7+25	0.0139	0.04	Q	V	|	|	|	|
7+30	0.0142	0.04	Q	V	|	|	|	|
7+35	0.0145	0.04	Q	V	|	|	|	|
7+40	0.0148	0.05	Q	V	|	|	|	|
7+45	0.0151	0.05	Q	V	|	|	|	|
7+50	0.0155	0.05	Q	V	|	|	|	|
7+55	0.0158	0.05	Q	V	|	|	|	|
8+ 0	0.0162	0.05	Q	V	|	|	|	|
8+ 5	0.0165	0.05	Q	V	|	|	|	|
8+10	0.0169	0.06	Q	V	|	|	|	|
8+15	0.0173	0.06	Q	V	|	|	|	|
8+20	0.0177	0.06	Q	V	|	|	|	|
8+25	0.0181	0.06	Q	V	|	|	|	|
8+30	0.0185	0.06	Q	V	|	|	|	|
8+35	0.0189	0.06	Q	V	|	|	|	|
8+40	0.0194	0.06	Q	V	|	|	|	|
8+45	0.0198	0.06	Q	V	|	|	|	|
8+50	0.0202	0.06	Q	V	|	|	|	|
8+55	0.0207	0.07	Q	V	|	|	|	|
9+ 0	0.0211	0.07	Q	V	|	|	|	|
9+ 5	0.0216	0.07	Q	V	|	|	|	|
9+10	0.0221	0.07	Q	|	V	|	|	|
9+15	0.0226	0.07	Q	|	V	|	|	|
9+20	0.0231	0.08	Q	|	V	|	|	|
9+25	0.0236	0.08	Q	|	V	|	|	|
9+30	0.0242	0.08	Q	|	V	|	|	|
9+35	0.0247	0.08	Q	|	V	|	|	|
9+40	0.0253	0.08	Q	|	V	|	|	|
9+45	0.0258	0.08	Q	|	V	|	|	|
9+50	0.0264	0.08	Q	|	V	|	|	|
9+55	0.0270	0.08	Q	|	V	|	|	|
10+ 0	0.0276	0.09	Q	|	V	|	|	|
10+ 5	0.0281	0.08	Q	|	V	|	|	|
10+10	0.0285	0.06	Q	|	V	|	|	|
10+15	0.0289	0.06	Q	|	V	|	|	|
10+20	0.0293	0.06	Q	|	V	|	|	|
10+25	0.0297	0.06	Q	|	V	|	|	|
10+30	0.0301	0.06	Q	|	V	|	|	|
10+35	0.0306	0.07	Q	|	V	|	|	|
10+40	0.0311	0.07	Q	|	V	|	|	|
10+45	0.0316	0.08	Q	|	V	|	|	|
10+50	0.0322	0.08	Q	|	V	|	|	|
10+55	0.0327	0.08	Q	|	V	|	|	|
11+ 0	0.0332	0.08	Q	|	V	|	|	|
11+ 5	0.0338	0.08	Q	|	V	|	|	|
11+10	0.0343	0.07	Q	|	V	|	|	|
11+15	0.0348	0.07	Q	|	V	|	|	|

```
11+20       0.0353      0.07  Q         |      V  |         |         |
11+25       0.0358      0.07  Q         |      V  |         |         |
11+30       0.0363      0.07  Q         |       V |         |         |
11+35       0.0368      0.07  Q         |       V |         |         |
11+40       0.0373      0.07  Q         |       V |         |         |
11+45       0.0377      0.07  Q         |       V |         |         |
11+50       0.0382      0.07  Q         |        V|         |         |
11+55       0.0387      0.07  Q         |        V|         |         |
12+ 0       0.0391      0.07  Q         |        V|         |         |
12+ 5       0.0397      0.08  Q         |        V|         |         |
12+10       0.0403      0.09  Q         |         V         |         |
12+15       0.0410      0.10  Q         |         V         |         |
12+20       0.0417      0.10  Q         |         V         |         |
12+25       0.0424      0.10  Q         |         |V        |         |
12+30       0.0431      0.10  Q         |         |V        |         |
12+35       0.0438      0.10  Q         |         |V        |         |
12+40       0.0445      0.11  Q         |         | V       |         |
12+45       0.0453      0.11  Q         |         | V       |         |
12+50       0.0460      0.11  Q         |         | V       |         |
12+55       0.0468      0.11  Q         |         |  V      |         |
13+ 0       0.0476      0.11  Q         |         |  V      |         |
13+ 5       0.0484      0.12  Q         |         |   V     |         |
13+10       0.0493      0.13  Q         |         |   V     |         |
13+15       0.0502      0.13  Q         |         |    V    |         |
13+20       0.0511      0.13  Q         |         |    V    |         |
13+25       0.0520      0.13  Q         |         |    V    |         |
13+30       0.0529      0.13  Q         |         |     V   |         |
13+35       0.0537      0.12  Q         |         |     V   |         |
13+40       0.0544      0.10  Q         |         |      V  |         |
13+45       0.0550      0.09  Q         |         |      V  |         |
13+50       0.0556      0.09  Q         |         |      V  |         |
13+55       0.0562      0.09  Q         |         |       V |         |
14+ 0       0.0568      0.09  Q         |         |       V |         |
14+ 5       0.0575      0.10  Q         |         |       V |         |
14+10       0.0582      0.10  Q         |         |        V|         |
14+15       0.0589      0.10  Q         |         |        V|         |
14+20       0.0596      0.10  Q         |         |        V|         |
14+25       0.0603      0.10  Q         |         |         V         |
14+30       0.0610      0.10  Q         |         |         V         |
14+35       0.0617      0.10  Q         |         |         V         |
14+40       0.0624      0.10  Q         |         |         |V        |
14+45       0.0631      0.10  Q         |         |         |V        |
14+50       0.0638      0.10  Q         |         |         |V        |
14+55       0.0645      0.10  Q         |         |         | V       |
15+ 0       0.0651      0.10  Q         |         |         | V       |
15+ 5       0.0658      0.10  Q         |         |         | V       |
15+10       0.0664      0.09  Q         |         |         |  V      |
15+15       0.0671      0.09  Q         |         |         |  V      |
15+20       0.0677      0.09  Q         |         |         |  V      |
15+25       0.0683      0.09  Q         |         |         |   V     |
```

15+30	0.0690	0.09	Q	|	|	| V	|
15+35	0.0695	0.08	Q	|	|	| V	|
15+40	0.0701	0.08	Q	|	|	| V	|
15+45	0.0706	0.07	Q	|	|	| V	|
15+50	0.0711	0.07	Q	|	|	| V	|
15+55	0.0716	0.07	Q	|	|	| V	|
16+ 0	0.0721	0.07	Q	|	|	| V	|
16+ 5	0.0725	0.05	Q	|	|	| V	|
16+10	0.0726	0.02	Q	|	|	| V	|
16+15	0.0727	0.02	Q	|	|	| V	|
16+20	0.0729	0.02	Q	|	|	| V	|
16+25	0.0730	0.02	Q	|	|	| V	|
16+30	0.0731	0.02	Q	|	|	| V	|
16+35	0.0732	0.01	Q	|	|	| V	|
16+40	0.0733	0.01	Q	|	|	| V	|
16+45	0.0733	0.01	Q	|	|	| V	|
16+50	0.0734	0.01	Q	|	|	| V	|
16+55	0.0735	0.01	Q	|	|	| V	|
17+ 0	0.0736	0.01	Q	|	|	| V	|
17+ 5	0.0737	0.01	Q	|	|	| V	|
17+10	0.0738	0.02	Q	|	|	| V	|
17+15	0.0739	0.02	Q	|	|	| V	|
17+20	0.0741	0.02	Q	|	|	| V	|
17+25	0.0742	0.02	Q	|	|	| V	|
17+30	0.0743	0.02	Q	|	|	| V	|
17+35	0.0745	0.02	Q	|	|	| V	|
17+40	0.0746	0.02	Q	|	|	| V	|
17+45	0.0747	0.02	Q	|	|	| V	|
17+50	0.0749	0.02	Q	|	|	| V	|
17+55	0.0750	0.02	Q	|	|	| V	|
18+ 0	0.0751	0.02	Q	|	|	| V	|
18+ 5	0.0752	0.02	Q	|	|	| V	|
18+10	0.0753	0.02	Q	|	|	| V	|
18+15	0.0754	0.02	Q	|	|	| V	|
18+20	0.0755	0.02	Q	|	|	| V	|
18+25	0.0756	0.02	Q	|	|	| V	|
18+30	0.0757	0.02	Q	|	|	| V	|
18+35	0.0758	0.01	Q	|	|	| V	|
18+40	0.0759	0.01	Q	|	|	| V	|
18+45	0.0760	0.01	Q	|	|	| V	|
18+50	0.0761	0.01	Q	|	|	| V	|
18+55	0.0761	0.01	Q	|	|	| V	|
19+ 0	0.0762	0.01	Q	|	|	| V	|
19+ 5	0.0762	0.01	Q	|	|	| V	|
19+10	0.0763	0.01	Q	|	|	| V	|
19+15	0.0764	0.01	Q	|	|	| V	|
19+20	0.0765	0.01	Q	|	|	| V	|
19+25	0.0766	0.01	Q	|	|	| V	|
19+30	0.0767	0.02	Q	|	|	| V	|
19+35	0.0768	0.01	Q	|	|	| V	|

19+40	0.0769	0.01	Q	|	|	|	V |
19+45	0.0769	0.01	Q	|	|	|	V |
19+50	0.0770	0.01	Q	|	|	|	V |
19+55	0.0771	0.01	Q	|	|	|	V |
20+ 0	0.0771	0.01	Q	|	|	|	V |
20+ 5	0.0772	0.01	Q	|	|	|	V |
20+10	0.0773	0.01	Q	|	|	|	V |
20+15	0.0773	0.01	Q	|	|	|	V |
20+20	0.0774	0.01	Q	|	|	|	V |
20+25	0.0775	0.01	Q	|	|	|	V |
20+30	0.0776	0.01	Q	|	|	|	V |
20+35	0.0777	0.01	Q	|	|	|	V |
20+40	0.0777	0.01	Q	|	|	|	V |
20+45	0.0778	0.01	Q	|	|	|	V |
20+50	0.0779	0.01	Q	|	|	|	V |
20+55	0.0780	0.01	Q	|	|	|	V |
21+ 0	0.0780	0.01	Q	|	|	|	V |
21+ 5	0.0781	0.01	Q	|	|	|	V |
21+10	0.0782	0.01	Q	|	|	|	V |
21+15	0.0782	0.01	Q	|	|	|	V|
21+20	0.0783	0.01	Q	|	|	|	V|
21+25	0.0784	0.01	Q	|	|	|	V|
21+30	0.0784	0.01	Q	|	|	|	V|
21+35	0.0785	0.01	Q	|	|	|	V|
21+40	0.0786	0.01	Q	|	|	|	V|
21+45	0.0786	0.01	Q	|	|	|	V|
21+50	0.0787	0.01	Q	|	|	|	V|
21+55	0.0788	0.01	Q	|	|	|	V|
22+ 0	0.0788	0.01	Q	|	|	|	V|
22+ 5	0.0789	0.01	Q	|	|	|	V|
22+10	0.0790	0.01	Q	|	|	|	V|
22+15	0.0790	0.01	Q	|	|	|	V|
22+20	0.0791	0.01	Q	|	|	|	V|
22+25	0.0792	0.01	Q	|	|	|	V|
22+30	0.0792	0.01	Q	|	|	|	V|
22+35	0.0793	0.01	Q	|	|	|	V|
22+40	0.0793	0.01	Q	|	|	|	V|
22+45	0.0794	0.01	Q	|	|	|	V|
22+50	0.0794	0.01	Q	|	|	|	V|
22+55	0.0795	0.01	Q	|	|	|	V|
23+ 0	0.0795	0.01	Q	|	|	|	V|
23+ 5	0.0796	0.01	Q	|	|	|	V|
23+10	0.0796	0.01	Q	|	|	|	V|
23+15	0.0797	0.01	Q	|	|	|	V|
23+20	0.0797	0.01	Q	|	|	|	V|
23+25	0.0798	0.01	Q	|	|	|	V|
23+30	0.0799	0.01	Q	|	|	|	V|
23+35	0.0799	0.01	Q	|	|	|	V|
23+40	0.0800	0.01	Q	|	|	|	V|
23+45	0.0800	0.01	Q	|	|	|	V|

```
   23+50       0.0801      0.01  Q         |         |         |         V|
   23+55       0.0801      0.01  Q         |         |         |         V|
   24+ 0       0.0802      0.01  Q         |         |         |         V|
   24+ 5       0.0802      0.00  Q         |         |         |         V|
   24+10       0.0802      0.00  Q         |         |         |         V|
   24+15       0.0802      0.00  Q         |         |         |         V|
   24+20       0.0802      0.00  Q         |         |         |         V|
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh110.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
10 yr
1 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.47                    1.87

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.67                    6.65

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.471(In)
Area Averaged 100-Year Rainfall =    1.670(In)

Point rain (area averaged) =    0.964(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.964(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                 Sum (F) =   0.394
Area averaged mean soil loss (F) (In/Hr) =  0.394
Minimum soil loss rate ((In/Hr)) =  0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5800
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
-----------------------------------------------------------------
               Unit Hydrograph Data
-----------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                             Sum = 100.000   Sum=       4.011
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.417	(0.394)	0.375	0.042
2	0.17	4.20	0.486	0.394	(0.437)	0.092
3	0.25	4.40	0.509	0.394	(0.458)	0.115
4	0.33	4.60	0.532	0.394	(0.479)	0.138
5	0.42	5.00	0.579	0.394	(0.521)	0.184
6	0.50	5.60	0.648	0.394	(0.583)	0.254
7	0.58	6.40	0.741	0.394	(0.666)	0.346
8	0.67	8.10	0.937	0.394	(0.844)	0.543
9	0.75	13.10	1.516	0.394	(1.364)	1.121
10	0.83	34.50	3.992	0.394	(3.593)	3.598
11	0.92	6.70	0.775	0.394	(0.698)	0.381
12	1.00	3.80	0.440	0.394	(0.396)	0.045
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	6.9

Flood volume = Effective rainfall 0.57(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.39(In)
Total soil loss = 0.130(Ac.Ft)
Total rainfall = 0.96(In)
Flood volume = 8256.2 Cubic Feet
Total soil loss = 5674.6 Cubic Feet

Peak flow rate of this hydrograph = 7.941(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q				
0+10	0.0019	0.22	Q				
0+15	0.0044	0.36	VQ				
0+20	0.0077	0.47	|Q				
0+25	0.0118	0.60	| Q				
0+30	0.0174	0.81	| Q				
0+35	0.0250	1.11	| QV				
0+40	0.0361	1.61	| QV				
0+45	0.0562	2.91	| |Q				

```
    0+50       0.1103      7.86  |         |         |  V      |Q        |
    0+55       0.1650      7.94  |         |         |         |Q  V     |
    1+ 0       0.1819      2.44  |        Q|         |         |       V |
    1+ 5       0.1874      0.80  |  Q      |         |         |        V|
    1+10       0.1893      0.28  |Q        |         |         |        V|
    1+15       0.1895      0.03  Q         |         |         |        V|
    1+20       0.1895      0.00  Q         |         |         |         V
---------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh310.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
10 yr
3 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.76                    3.02

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            2.50                    9.95

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.760(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.476(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.476(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                 Sum (F) =   0.394
Area averaged mean soil loss (F) (In/Hr) =  0.394
Minimum soil loss rate ((In/Hr)) =  0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.230	(0.394)	0.207	0.023
2	0.17	1.30	0.230	(0.394)	0.207	0.023
3	0.25	1.10	0.195	(0.394)	0.175	0.019
4	0.33	1.50	0.266	(0.394)	0.239	0.027
5	0.42	1.50	0.266	(0.394)	0.239	0.027
6	0.50	1.80	0.319	(0.394)	0.287	0.032
7	0.58	1.50	0.266	(0.394)	0.239	0.027
8	0.67	1.80	0.319	(0.394)	0.287	0.032
9	0.75	1.80	0.319	(0.394)	0.287	0.032
10	0.83	1.50	0.266	(0.394)	0.239	0.027
11	0.92	1.60	0.283	(0.394)	0.255	0.028
12	1.00	1.80	0.319	(0.394)	0.287	0.032
13	1.08	2.20	0.390	(0.394)	0.351	0.039
14	1.17	2.20	0.390	(0.394)	0.351	0.039
15	1.25	2.20	0.390	(0.394)	0.351	0.039
16	1.33	2.00	0.354	(0.394)	0.319	0.035
17	1.42	2.60	0.460	0.394	(0.414)	0.066
18	1.50	2.70	0.478	0.394	(0.430)	0.084
19	1.58	2.40	0.425	(0.394)	0.383	0.043
20	1.67	2.70	0.478	0.394	(0.430)	0.084
21	1.75	3.30	0.584	0.394	(0.526)	0.190
22	1.83	3.10	0.549	0.394	(0.494)	0.155
23	1.92	2.90	0.514	0.394	(0.462)	0.119
24	2.00	3.00	0.531	0.394	(0.478)	0.137
25	2.08	3.10	0.549	0.394	(0.494)	0.155
26	2.17	4.20	0.744	0.394	(0.669)	0.349
27	2.25	5.00	0.885	0.394	(0.797)	0.491
28	2.33	3.50	0.620	0.394	(0.558)	0.225
29	2.42	6.80	1.204	0.394	(1.084)	0.810
30	2.50	7.30	1.293	0.394	(1.164)	0.898
31	2.58	8.20	1.452	0.394	(1.307)	1.058
32	2.67	5.90	1.045	0.394	(0.940)	0.650
33	2.75	2.00	0.354	(0.394)	0.319	0.035
34	2.83	1.80	0.319	(0.394)	0.287	0.032
35	2.92	1.80	0.319	(0.394)	0.287	0.032
36	3.00	0.60	0.106	(0.394)	0.096	0.011
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	6.1

Flood volume = Effective rainfall 0.51(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.97(In)
Total soil loss = 0.321(Ac.Ft)
Total rainfall = 1.48(In)
Flood volume = 7348.6 Cubic Feet

Total soil loss = 13973.3 Cubic Feet

Peak flow rate of this hydrograph = 3.694(CFS)

++

3 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 2.5 5.0 7.5 10.0
0+ 5	0.0002	0.03	Q
0+10	0.0008	0.08	Q
0+15	0.0013	0.08	Q
0+20	0.0020	0.09	Q
0+25	0.0027	0.10	Q
0+30	0.0035	0.11	Q
0+35	0.0043	0.12	QV
0+40	0.0051	0.12	QV
0+45	0.0059	0.13	QV
0+50	0.0067	0.12	QV
0+55	0.0075	0.11	QV
1+ 0	0.0083	0.12	QV
1+ 5	0.0093	0.14	Q V
1+10	0.0103	0.15	Q V
1+15	0.0114	0.15	Q V
1+20	0.0124	0.15	Q V
1+25	0.0137	0.19	Q V
1+30	0.0156	0.27	Q V
1+35	0.0174	0.26	Q V
1+40	0.0191	0.25	Q V
1+45	0.0224	0.48	Q V
1+50	0.0268	0.64	Q V
1+55	0.0307	0.56	Q V
2+ 0	0.0344	0.53	Q V
2+ 5	0.0383	0.57	Q V
2+10	0.0445	0.90	Q V
2+15	0.0548	1.49	Q V
2+20	0.0648	1.44	Q V
2+25	0.0779	1.91	Q V
2+30	0.0991	3.07	Q V
2+35	0.1246	3.69	Q V
2+40	0.1485	3.48	Q V
2+45	0.1615	1.89	Q V
2+50	0.1655	0.58	Q V
2+55	0.1674	0.27	Q V
3+ 0	0.1683	0.13	Q V
3+ 5	0.1686	0.04	Q V

```
    3+10       0.1687      0.01  Q         |         |         |        V|
    3+15       0.1687      0.00  Q         |         |         |        V|
    3+20       0.1687      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh610.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
10 yr
6 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.99                  3.95

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            3.25                 12.94

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.993(In)
Area Averaged 100-Year Rainfall =    3.250(In)

Point rain (area averaged) =    1.922(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.922(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                 Sum (F) =   0.394
Area averaged mean soil loss (F) (In/Hr) =  0.394
Minimum soil loss rate ((In/Hr)) =  0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

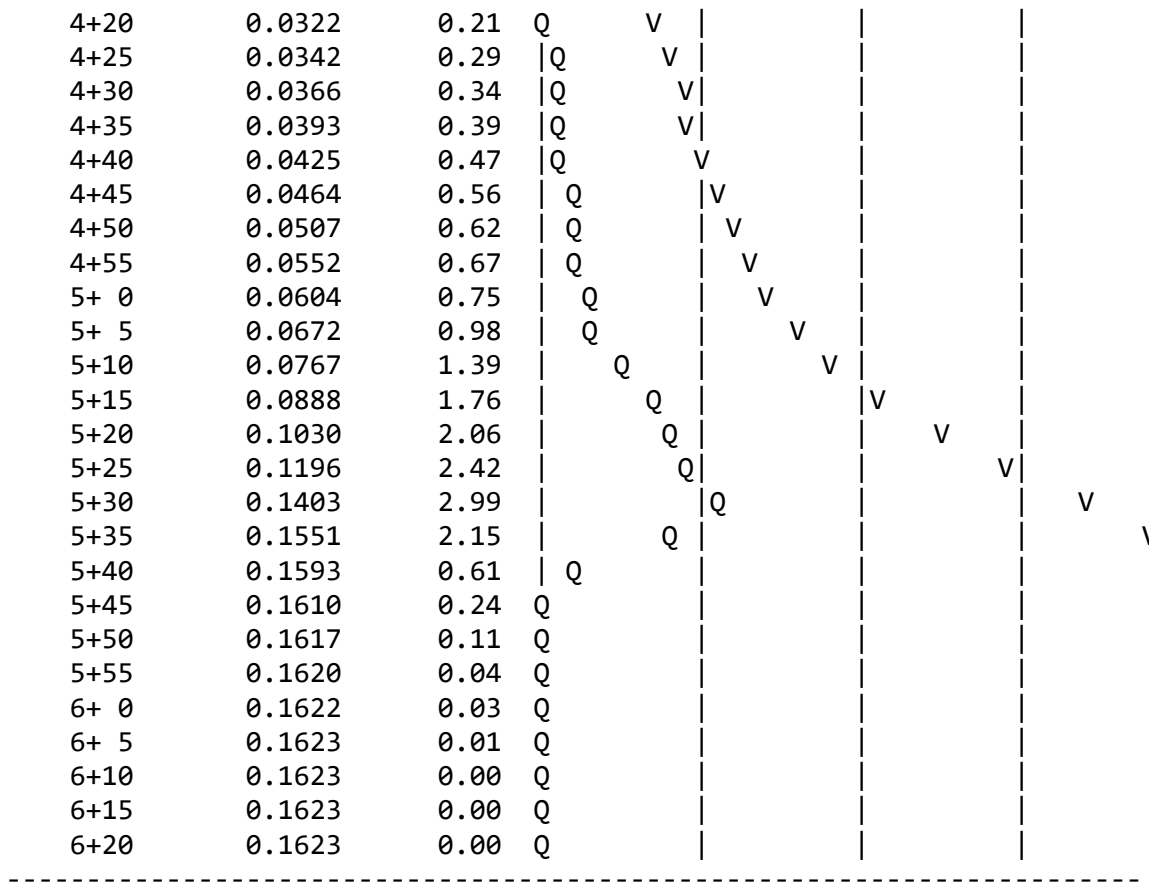
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.115	(0.394)		0.104	0.012
2	0.17	0.60	0.138	(0.394)		0.125	0.014
3	0.25	0.60	0.138	(0.394)		0.125	0.014
4	0.33	0.60	0.138	(0.394)		0.125	0.014
5	0.42	0.60	0.138	(0.394)		0.125	0.014
6	0.50	0.70	0.161	(0.394)		0.145	0.016
7	0.58	0.70	0.161	(0.394)		0.145	0.016
8	0.67	0.70	0.161	(0.394)		0.145	0.016
9	0.75	0.70	0.161	(0.394)		0.145	0.016
10	0.83	0.70	0.161	(0.394)		0.145	0.016
11	0.92	0.70	0.161	(0.394)		0.145	0.016
12	1.00	0.80	0.184	(0.394)		0.166	0.018
13	1.08	0.80	0.184	(0.394)		0.166	0.018
14	1.17	0.80	0.184	(0.394)		0.166	0.018
15	1.25	0.80	0.184	(0.394)		0.166	0.018
16	1.33	0.80	0.184	(0.394)		0.166	0.018
17	1.42	0.80	0.184	(0.394)		0.166	0.018
18	1.50	0.80	0.184	(0.394)		0.166	0.018
19	1.58	0.80	0.184	(0.394)		0.166	0.018
20	1.67	0.80	0.184	(0.394)		0.166	0.018
21	1.75	0.80	0.184	(0.394)		0.166	0.018
22	1.83	0.80	0.184	(0.394)		0.166	0.018
23	1.92	0.80	0.184	(0.394)		0.166	0.018
24	2.00	0.90	0.208	(0.394)		0.187	0.021
25	2.08	0.80	0.184	(0.394)		0.166	0.018
26	2.17	0.90	0.208	(0.394)		0.187	0.021
27	2.25	0.90	0.208	(0.394)		0.187	0.021
28	2.33	0.90	0.208	(0.394)		0.187	0.021
29	2.42	0.90	0.208	(0.394)		0.187	0.021
30	2.50	0.90	0.208	(0.394)		0.187	0.021
31	2.58	0.90	0.208	(0.394)		0.187	0.021
32	2.67	0.90	0.208	(0.394)		0.187	0.021
33	2.75	1.00	0.231	(0.394)		0.208	0.023
34	2.83	1.00	0.231	(0.394)		0.208	0.023
35	2.92	1.00	0.231	(0.394)		0.208	0.023
36	3.00	1.00	0.231	(0.394)		0.208	0.023
37	3.08	1.00	0.231	(0.394)		0.208	0.023
38	3.17	1.10	0.254	(0.394)		0.228	0.025
39	3.25	1.10	0.254	(0.394)		0.228	0.025
40	3.33	1.10	0.254	(0.394)		0.228	0.025
41	3.42	1.20	0.277	(0.394)		0.249	0.028
42	3.50	1.30	0.300	(0.394)		0.270	0.030
43	3.58	1.40	0.323	(0.394)		0.291	0.032
44	3.67	1.40	0.323	(0.394)		0.291	0.032

```
45   3.75     1.50      0.346       (  0.394)       0.311        0.035
46   3.83     1.50      0.346       (  0.394)       0.311        0.035
47   3.92     1.60      0.369       (  0.394)       0.332        0.037
48   4.00     1.60      0.369       (  0.394)       0.332        0.037
49   4.08     1.70      0.392       (  0.394)       0.353        0.039
50   4.17     1.80      0.415       (  0.394)       0.374        0.042
51   4.25     1.90      0.438       (  0.394)       0.394        0.044
52   4.33     2.00      0.461          0.394    (  0.415)       0.067
53   4.42     2.10      0.484          0.394    (  0.436)       0.090
54   4.50     2.10      0.484          0.394    (  0.436)       0.090
55   4.58     2.20      0.507          0.394    (  0.457)       0.113
56   4.67     2.30      0.530          0.394    (  0.477)       0.136
57   4.75     2.40      0.553          0.394    (  0.498)       0.159
58   4.83     2.40      0.553          0.394    (  0.498)       0.159
59   4.92     2.50      0.576          0.394    (  0.519)       0.182
60   5.00     2.60      0.600          0.394    (  0.540)       0.205
61   5.08     3.10      0.715          0.394    (  0.643)       0.320
62   5.17     3.60      0.830          0.394    (  0.747)       0.436
63   5.25     3.90      0.899          0.394    (  0.809)       0.505
64   5.33     4.20      0.968          0.394    (  0.872)       0.574
65   5.42     4.70      1.084          0.394    (  0.975)       0.689
66   5.50     5.60      1.291          0.394    (  1.162)       0.897
67   5.58     1.90      0.438       (  0.394)       0.394        0.044
68   5.67     0.90      0.208       (  0.394)       0.187        0.021
69   5.75     0.60      0.138       (  0.394)       0.125        0.014
70   5.83     0.50      0.115       (  0.394)       0.104        0.012
71   5.92     0.30      0.069       (  0.394)       0.062        0.007
72   6.00     0.20      0.046       (  0.394)       0.042        0.005
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     5.9
      Flood volume = Effective rainfall      0.49(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      1.43(In)
      Total soil loss =     0.475(Ac.Ft)
      Total rainfall =      1.92(In)
      Flood volume =        7071.6 Cubic Feet
      Total soil loss =       20689.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.994(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.02  Q         |         |         |         |
```

0+10	0.0004	0.04	Q	|	|	|	|
0+15	0.0008	0.05	Q	|	|	|	|
0+20	0.0011	0.05	Q	|	|	|	|
0+25	0.0015	0.06	Q	|	|	|	|
0+30	0.0019	0.06	Q	|	|	|	|
0+35	0.0024	0.06	Q	|	|	|	|
0+40	0.0028	0.06	Q	|	|	|	|
0+45	0.0033	0.06	Q	|	|	|	|
0+50	0.0037	0.06	Q	|	|	|	|
0+55	0.0042	0.06	QV	|	|	|	|
1+ 0	0.0046	0.07	QV	|	|	|	|
1+ 5	0.0051	0.07	QV	|	|	|	|
1+10	0.0056	0.07	QV	|	|	|	|
1+15	0.0061	0.07	QV	|	|	|	|
1+20	0.0066	0.07	QV	|	|	|	|
1+25	0.0072	0.07	QV	|	|	|	|
1+30	0.0077	0.07	QV	|	|	|	|
1+35	0.0082	0.07	Q V	|	|	|	|
1+40	0.0087	0.07	Q V	|	|	|	|
1+45	0.0092	0.07	Q V	|	|	|	|
1+50	0.0097	0.07	Q V	|	|	|	|
1+55	0.0102	0.07	Q V	|	|	|	|
2+ 0	0.0108	0.08	Q V	|	|	|	|
2+ 5	0.0113	0.08	Q V	|	|	|	|
2+10	0.0118	0.08	Q V	|	|	|	|
2+15	0.0124	0.08	Q V	|	|	|	|
2+20	0.0130	0.08	Q V	|	|	|	|
2+25	0.0135	0.08	Q V	|	|	|	|
2+30	0.0141	0.08	Q V	|	|	|	|
2+35	0.0147	0.08	Q V	|	|	|	|
2+40	0.0153	0.08	Q V	|	|	|	|
2+45	0.0159	0.09	Q V	|	|	|	|
2+50	0.0165	0.09	Q V	|	|	|	|
2+55	0.0171	0.09	Q V	|	|	|	|
3+ 0	0.0178	0.09	Q V	|	|	|	|
3+ 5	0.0184	0.09	Q V	|	|	|	|
3+10	0.0191	0.10	Q V	|	|	|	|
3+15	0.0197	0.10	Q V	|	|	|	|
3+20	0.0204	0.10	Q V	|	|	|	|
3+25	0.0212	0.11	Q V	|	|	|	|
3+30	0.0219	0.11	Q V	|	|	|	|
3+35	0.0228	0.12	Q V	|	|	|	|
3+40	0.0237	0.13	Q V	|	|	|	|
3+45	0.0246	0.13	Q V	|	|	|	|
3+50	0.0255	0.14	Q V	|	|	|	|
3+55	0.0265	0.14	Q V	|	|	|	|
4+ 0	0.0275	0.15	Q V	|	|	|	|
4+ 5	0.0286	0.15	Q V	|	|	|	|
4+10	0.0296	0.16	Q V	|	|	|	|
4+15	0.0308	0.17	Q V	|	|	|	|


4+20 0.0322 0.21
4+25 0.0342 0.29
4+30 0.0366 0.34
4+35 0.0393 0.39
4+40 0.0425 0.47
4+45 0.0464 0.56
4+50 0.0507 0.62
4+55 0.0552 0.67
5+ 0 0.0604 0.75
5+ 5 0.0672 0.98
5+10 0.0767 1.39
5+15 0.0888 1.76
5+20 0.1030 2.06
5+25 0.1196 2.42
5+30 0.1403 2.99
5+35 0.1551 2.15
5+40 0.1593 0.61
5+45 0.1610 0.24
5+50 0.1617 0.11
5+55 0.1620 0.04
6+ 0 0.1622 0.03
6+ 5 0.1623 0.01
6+10 0.1623 0.00
6+15 0.1623 0.00
6+20 0.1623 0.00

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

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Study date 09/21/22 File: 183preuh2410.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
10 yr
24 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.51                  6.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            5.39                 21.45

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.510(In)
Area Averaged 100-Year Rainfall =    5.390(In)

Point rain (area averaged) =    3.106(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.106(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  67.0      0.394     0.000        0.394       1.000      0.394
                                                 Sum (F) =   0.394
Area averaged mean soil loss (F) (In/Hr) =  0.394
Minimum soil loss rate ((In/Hr)) =  0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.025	(0.699)	0.022	0.002
2	0.17	0.07	0.025	(0.696)	0.022	0.002
3	0.25	0.07	0.025	(0.694)	0.022	0.002
4	0.33	0.10	0.037	(0.691)	0.034	0.004
5	0.42	0.10	0.037	(0.688)	0.034	0.004
6	0.50	0.10	0.037	(0.686)	0.034	0.004
7	0.58	0.10	0.037	(0.683)	0.034	0.004
8	0.67	0.10	0.037	(0.680)	0.034	0.004
9	0.75	0.10	0.037	(0.678)	0.034	0.004
10	0.83	0.13	0.050	(0.675)	0.045	0.005
11	0.92	0.13	0.050	(0.672)	0.045	0.005
12	1.00	0.13	0.050	(0.670)	0.045	0.005
13	1.08	0.10	0.037	(0.667)	0.034	0.004
14	1.17	0.10	0.037	(0.664)	0.034	0.004
15	1.25	0.10	0.037	(0.662)	0.034	0.004
16	1.33	0.10	0.037	(0.659)	0.034	0.004
17	1.42	0.10	0.037	(0.657)	0.034	0.004
18	1.50	0.10	0.037	(0.654)	0.034	0.004
19	1.58	0.10	0.037	(0.651)	0.034	0.004
20	1.67	0.10	0.037	(0.649)	0.034	0.004
21	1.75	0.10	0.037	(0.646)	0.034	0.004
22	1.83	0.13	0.050	(0.643)	0.045	0.005
23	1.92	0.13	0.050	(0.641)	0.045	0.005
24	2.00	0.13	0.050	(0.638)	0.045	0.005
25	2.08	0.13	0.050	(0.636)	0.045	0.005
26	2.17	0.13	0.050	(0.633)	0.045	0.005
27	2.25	0.13	0.050	(0.631)	0.045	0.005
28	2.33	0.13	0.050	(0.628)	0.045	0.005
29	2.42	0.13	0.050	(0.625)	0.045	0.005
30	2.50	0.13	0.050	(0.623)	0.045	0.005
31	2.58	0.17	0.062	(0.620)	0.056	0.006
32	2.67	0.17	0.062	(0.618)	0.056	0.006
33	2.75	0.17	0.062	(0.615)	0.056	0.006
34	2.83	0.17	0.062	(0.613)	0.056	0.006
35	2.92	0.17	0.062	(0.610)	0.056	0.006
36	3.00	0.17	0.062	(0.608)	0.056	0.006
37	3.08	0.17	0.062	(0.605)	0.056	0.006
38	3.17	0.17	0.062	(0.603)	0.056	0.006
39	3.25	0.17	0.062	(0.600)	0.056	0.006
40	3.33	0.17	0.062	(0.598)	0.056	0.006
41	3.42	0.17	0.062	(0.595)	0.056	0.006
42	3.50	0.17	0.062	(0.593)	0.056	0.006
43	3.58	0.17	0.062	(0.590)	0.056	0.006
44	3.67	0.17	0.062	(0.588)	0.056	0.006

45	3.75	0.17	0.062	(0.585)	0.056	0.006
46	3.83	0.20	0.075	(0.583)	0.067	0.007
47	3.92	0.20	0.075	(0.580)	0.067	0.007
48	4.00	0.20	0.075	(0.578)	0.067	0.007
49	4.08	0.20	0.075	(0.575)	0.067	0.007
50	4.17	0.20	0.075	(0.573)	0.067	0.007
51	4.25	0.20	0.075	(0.571)	0.067	0.007
52	4.33	0.23	0.087	(0.568)	0.078	0.009
53	4.42	0.23	0.087	(0.566)	0.078	0.009
54	4.50	0.23	0.087	(0.563)	0.078	0.009
55	4.58	0.23	0.087	(0.561)	0.078	0.009
56	4.67	0.23	0.087	(0.558)	0.078	0.009
57	4.75	0.23	0.087	(0.556)	0.078	0.009
58	4.83	0.27	0.099	(0.554)	0.089	0.010
59	4.92	0.27	0.099	(0.551)	0.089	0.010
60	5.00	0.27	0.099	(0.549)	0.089	0.010
61	5.08	0.20	0.075	(0.546)	0.067	0.007
62	5.17	0.20	0.075	(0.544)	0.067	0.007
63	5.25	0.20	0.075	(0.542)	0.067	0.007
64	5.33	0.23	0.087	(0.539)	0.078	0.009
65	5.42	0.23	0.087	(0.537)	0.078	0.009
66	5.50	0.23	0.087	(0.535)	0.078	0.009
67	5.58	0.27	0.099	(0.532)	0.089	0.010
68	5.67	0.27	0.099	(0.530)	0.089	0.010
69	5.75	0.27	0.099	(0.528)	0.089	0.010
70	5.83	0.27	0.099	(0.525)	0.089	0.010
71	5.92	0.27	0.099	(0.523)	0.089	0.010
72	6.00	0.27	0.099	(0.521)	0.089	0.010
73	6.08	0.30	0.112	(0.518)	0.101	0.011
74	6.17	0.30	0.112	(0.516)	0.101	0.011
75	6.25	0.30	0.112	(0.514)	0.101	0.011
76	6.33	0.30	0.112	(0.511)	0.101	0.011
77	6.42	0.30	0.112	(0.509)	0.101	0.011
78	6.50	0.30	0.112	(0.507)	0.101	0.011
79	6.58	0.33	0.124	(0.505)	0.112	0.012
80	6.67	0.33	0.124	(0.502)	0.112	0.012
81	6.75	0.33	0.124	(0.500)	0.112	0.012
82	6.83	0.33	0.124	(0.498)	0.112	0.012
83	6.92	0.33	0.124	(0.495)	0.112	0.012
84	7.00	0.33	0.124	(0.493)	0.112	0.012
85	7.08	0.33	0.124	(0.491)	0.112	0.012
86	7.17	0.33	0.124	(0.489)	0.112	0.012
87	7.25	0.33	0.124	(0.487)	0.112	0.012
88	7.33	0.37	0.137	(0.484)	0.123	0.014
89	7.42	0.37	0.137	(0.482)	0.123	0.014
90	7.50	0.37	0.137	(0.480)	0.123	0.014
91	7.58	0.40	0.149	(0.478)	0.134	0.015
92	7.67	0.40	0.149	(0.475)	0.134	0.015
93	7.75	0.40	0.149	(0.473)	0.134	0.015
94	7.83	0.43	0.162	(0.471)	0.145	0.016

95	7.92	0.43	0.162	(0.469)	0.145	0.016
96	8.00	0.43	0.162	(0.467)	0.145	0.016
97	8.08	0.50	0.186	(0.465)	0.168	0.019
98	8.17	0.50	0.186	(0.462)	0.168	0.019
99	8.25	0.50	0.186	(0.460)	0.168	0.019
100	8.33	0.50	0.186	(0.458)	0.168	0.019
101	8.42	0.50	0.186	(0.456)	0.168	0.019
102	8.50	0.50	0.186	(0.454)	0.168	0.019
103	8.58	0.53	0.199	(0.452)	0.179	0.020
104	8.67	0.53	0.199	(0.450)	0.179	0.020
105	8.75	0.53	0.199	(0.447)	0.179	0.020
106	8.83	0.57	0.211	(0.445)	0.190	0.021
107	8.92	0.57	0.211	(0.443)	0.190	0.021
108	9.00	0.57	0.211	(0.441)	0.190	0.021
109	9.08	0.63	0.236	(0.439)	0.212	0.024
110	9.17	0.63	0.236	(0.437)	0.212	0.024
111	9.25	0.63	0.236	(0.435)	0.212	0.024
112	9.33	0.67	0.248	(0.433)	0.224	0.025
113	9.42	0.67	0.248	(0.431)	0.224	0.025
114	9.50	0.67	0.248	(0.429)	0.224	0.025
115	9.58	0.70	0.261	(0.427)	0.235	0.026
116	9.67	0.70	0.261	(0.425)	0.235	0.026
117	9.75	0.70	0.261	(0.423)	0.235	0.026
118	9.83	0.73	0.273	(0.421)	0.246	0.027
119	9.92	0.73	0.273	(0.419)	0.246	0.027
120	10.00	0.73	0.273	(0.416)	0.246	0.027
121	10.08	0.50	0.186	(0.414)	0.168	0.019
122	10.17	0.50	0.186	(0.412)	0.168	0.019
123	10.25	0.50	0.186	(0.410)	0.168	0.019
124	10.33	0.50	0.186	(0.408)	0.168	0.019
125	10.42	0.50	0.186	(0.406)	0.168	0.019
126	10.50	0.50	0.186	(0.405)	0.168	0.019
127	10.58	0.67	0.248	(0.403)	0.224	0.025
128	10.67	0.67	0.248	(0.401)	0.224	0.025
129	10.75	0.67	0.248	(0.399)	0.224	0.025
130	10.83	0.67	0.248	(0.397)	0.224	0.025
131	10.92	0.67	0.248	(0.395)	0.224	0.025
132	11.00	0.67	0.248	(0.393)	0.224	0.025
133	11.08	0.63	0.236	(0.391)	0.212	0.024
134	11.17	0.63	0.236	(0.389)	0.212	0.024
135	11.25	0.63	0.236	(0.387)	0.212	0.024
136	11.33	0.63	0.236	(0.385)	0.212	0.024
137	11.42	0.63	0.236	(0.383)	0.212	0.024
138	11.50	0.63	0.236	(0.381)	0.212	0.024
139	11.58	0.57	0.211	(0.379)	0.190	0.021
140	11.67	0.57	0.211	(0.377)	0.190	0.021
141	11.75	0.57	0.211	(0.376)	0.190	0.021
142	11.83	0.60	0.224	(0.374)	0.201	0.022
143	11.92	0.60	0.224	(0.372)	0.201	0.022
144	12.00	0.60	0.224	(0.370)	0.201	0.022

145	12.08	0.83	0.311	(	0.368)	0.280		0.031
146	12.17	0.83	0.311	(	0.366)	0.280		0.031
147	12.25	0.83	0.311	(	0.364)	0.280		0.031
148	12.33	0.87	0.323	(	0.363)	0.291		0.032
149	12.42	0.87	0.323	(	0.361)	0.291		0.032
150	12.50	0.87	0.323	(	0.359)	0.291		0.032
151	12.58	0.93	0.348	(	0.357)	0.313		0.035
152	12.67	0.93	0.348	(	0.355)	0.313		0.035
153	12.75	0.93	0.348	(	0.354)	0.313		0.035
154	12.83	0.97	0.360	(	0.352)	0.324		0.036
155	12.92	0.97	0.360	(	0.350)	0.324		0.036
156	13.00	0.97	0.360	(	0.348)	0.324		0.036
157	13.08	1.13	0.422		0.347	(	0.380)	0.076
158	13.17	1.13	0.422		0.345	(	0.380)	0.078
159	13.25	1.13	0.422		0.343	(	0.380)	0.079
160	13.33	1.13	0.422		0.341	(	0.380)	0.081
161	13.42	1.13	0.422		0.340	(	0.380)	0.083
162	13.50	1.13	0.422		0.338	(	0.380)	0.085
163	13.58	0.77	0.286	(	0.336)	0.257		0.029
164	13.67	0.77	0.286	(	0.334)	0.257		0.029
165	13.75	0.77	0.286	(	0.333)	0.257		0.029
166	13.83	0.77	0.286	(	0.331)	0.257		0.029
167	13.92	0.77	0.286	(	0.329)	0.257		0.029
168	14.00	0.77	0.286	(	0.328)	0.257		0.029
169	14.08	0.90	0.335	(	0.326)	0.302		0.034
170	14.17	0.90	0.335	(	0.324)	0.302		0.034
171	14.25	0.90	0.335	(	0.323)	0.302		0.034
172	14.33	0.87	0.323	(	0.321)	0.291		0.032
173	14.42	0.87	0.323	(	0.319)	0.291		0.032
174	14.50	0.87	0.323	(	0.318)	0.291		0.032
175	14.58	0.87	0.323	(	0.316)	0.291		0.032
176	14.67	0.87	0.323	(	0.314)	0.291		0.032
177	14.75	0.87	0.323	(	0.313)	0.291		0.032
178	14.83	0.83	0.311	(	0.311)	0.280		0.031
179	14.92	0.83	0.311	(	0.310)	0.280		0.031
180	15.00	0.83	0.311	(	0.308)	0.280		0.031
181	15.08	0.80	0.298	(	0.306)	0.268		0.030
182	15.17	0.80	0.298	(	0.305)	0.268		0.030
183	15.25	0.80	0.298	(	0.303)	0.268		0.030
184	15.33	0.77	0.286	(	0.302)	0.257		0.029
185	15.42	0.77	0.286	(	0.300)	0.257		0.029
186	15.50	0.77	0.286	(	0.299)	0.257		0.029
187	15.58	0.63	0.236	(	0.297)	0.212		0.024
188	15.67	0.63	0.236	(	0.296)	0.212		0.024
189	15.75	0.63	0.236	(	0.294)	0.212		0.024
190	15.83	0.63	0.236	(	0.293)	0.212		0.024
191	15.92	0.63	0.236	(	0.291)	0.212		0.024
192	16.00	0.63	0.236	(	0.290)	0.212		0.024
193	16.08	0.13	0.050	(	0.288)	0.045		0.005
194	16.17	0.13	0.050	(	0.287)	0.045		0.005

195	16.25	0.13	0.050	(0.285)	0.045	0.005
196	16.33	0.13	0.050	(0.284)	0.045	0.005
197	16.42	0.13	0.050	(0.282)	0.045	0.005
198	16.50	0.13	0.050	(0.281)	0.045	0.005
199	16.58	0.10	0.037	(0.279)	0.034	0.004
200	16.67	0.10	0.037	(0.278)	0.034	0.004
201	16.75	0.10	0.037	(0.277)	0.034	0.004
202	16.83	0.10	0.037	(0.275)	0.034	0.004
203	16.92	0.10	0.037	(0.274)	0.034	0.004
204	17.00	0.10	0.037	(0.272)	0.034	0.004
205	17.08	0.17	0.062	(0.271)	0.056	0.006
206	17.17	0.17	0.062	(0.270)	0.056	0.006
207	17.25	0.17	0.062	(0.268)	0.056	0.006
208	17.33	0.17	0.062	(0.267)	0.056	0.006
209	17.42	0.17	0.062	(0.266)	0.056	0.006
210	17.50	0.17	0.062	(0.264)	0.056	0.006
211	17.58	0.17	0.062	(0.263)	0.056	0.006
212	17.67	0.17	0.062	(0.262)	0.056	0.006
213	17.75	0.17	0.062	(0.260)	0.056	0.006
214	17.83	0.13	0.050	(0.259)	0.045	0.005
215	17.92	0.13	0.050	(0.258)	0.045	0.005
216	18.00	0.13	0.050	(0.257)	0.045	0.005
217	18.08	0.13	0.050	(0.255)	0.045	0.005
218	18.17	0.13	0.050	(0.254)	0.045	0.005
219	18.25	0.13	0.050	(0.253)	0.045	0.005
220	18.33	0.13	0.050	(0.252)	0.045	0.005
221	18.42	0.13	0.050	(0.250)	0.045	0.005
222	18.50	0.13	0.050	(0.249)	0.045	0.005
223	18.58	0.10	0.037	(0.248)	0.034	0.004
224	18.67	0.10	0.037	(0.247)	0.034	0.004
225	18.75	0.10	0.037	(0.246)	0.034	0.004
226	18.83	0.07	0.025	(0.244)	0.022	0.002
227	18.92	0.07	0.025	(0.243)	0.022	0.002
228	19.00	0.07	0.025	(0.242)	0.022	0.002
229	19.08	0.10	0.037	(0.241)	0.034	0.004
230	19.17	0.10	0.037	(0.240)	0.034	0.004
231	19.25	0.10	0.037	(0.239)	0.034	0.004
232	19.33	0.13	0.050	(0.238)	0.045	0.005
233	19.42	0.13	0.050	(0.236)	0.045	0.005
234	19.50	0.13	0.050	(0.235)	0.045	0.005
235	19.58	0.10	0.037	(0.234)	0.034	0.004
236	19.67	0.10	0.037	(0.233)	0.034	0.004
237	19.75	0.10	0.037	(0.232)	0.034	0.004
238	19.83	0.07	0.025	(0.231)	0.022	0.002
239	19.92	0.07	0.025	(0.230)	0.022	0.002
240	20.00	0.07	0.025	(0.229)	0.022	0.002
241	20.08	0.10	0.037	(0.228)	0.034	0.004
242	20.17	0.10	0.037	(0.227)	0.034	0.004
243	20.25	0.10	0.037	(0.226)	0.034	0.004
244	20.33	0.10	0.037	(0.225)	0.034	0.004

245	20.42	0.10	0.037	(0.224)	0.034	0.004
246	20.50	0.10	0.037	(0.223)	0.034	0.004
247	20.58	0.10	0.037	(0.222)	0.034	0.004
248	20.67	0.10	0.037	(0.221)	0.034	0.004
249	20.75	0.10	0.037	(0.220)	0.034	0.004
250	20.83	0.07	0.025	(0.219)	0.022	0.002
251	20.92	0.07	0.025	(0.219)	0.022	0.002
252	21.00	0.07	0.025	(0.218)	0.022	0.002
253	21.08	0.10	0.037	(0.217)	0.034	0.004
254	21.17	0.10	0.037	(0.216)	0.034	0.004
255	21.25	0.10	0.037	(0.215)	0.034	0.004
256	21.33	0.07	0.025	(0.214)	0.022	0.002
257	21.42	0.07	0.025	(0.213)	0.022	0.002
258	21.50	0.07	0.025	(0.213)	0.022	0.002
259	21.58	0.10	0.037	(0.212)	0.034	0.004
260	21.67	0.10	0.037	(0.211)	0.034	0.004
261	21.75	0.10	0.037	(0.210)	0.034	0.004
262	21.83	0.07	0.025	(0.210)	0.022	0.002
263	21.92	0.07	0.025	(0.209)	0.022	0.002
264	22.00	0.07	0.025	(0.208)	0.022	0.002
265	22.08	0.10	0.037	(0.208)	0.034	0.004
266	22.17	0.10	0.037	(0.207)	0.034	0.004
267	22.25	0.10	0.037	(0.206)	0.034	0.004
268	22.33	0.07	0.025	(0.206)	0.022	0.002
269	22.42	0.07	0.025	(0.205)	0.022	0.002
270	22.50	0.07	0.025	(0.204)	0.022	0.002
271	22.58	0.07	0.025	(0.204)	0.022	0.002
272	22.67	0.07	0.025	(0.203)	0.022	0.002
273	22.75	0.07	0.025	(0.203)	0.022	0.002
274	22.83	0.07	0.025	(0.202)	0.022	0.002
275	22.92	0.07	0.025	(0.202)	0.022	0.002
276	23.00	0.07	0.025	(0.201)	0.022	0.002
277	23.08	0.07	0.025	(0.201)	0.022	0.002
278	23.17	0.07	0.025	(0.200)	0.022	0.002
279	23.25	0.07	0.025	(0.200)	0.022	0.002
280	23.33	0.07	0.025	(0.199)	0.022	0.002
281	23.42	0.07	0.025	(0.199)	0.022	0.002
282	23.50	0.07	0.025	(0.199)	0.022	0.002
283	23.58	0.07	0.025	(0.198)	0.022	0.002
284	23.67	0.07	0.025	(0.198)	0.022	0.002
285	23.75	0.07	0.025	(0.198)	0.022	0.002
286	23.83	0.07	0.025	(0.198)	0.022	0.002
287	23.92	0.07	0.025	(0.197)	0.022	0.002
288	24.00	0.07	0.025	(0.197)	0.022	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.0

Flood volume = Effective rainfall 0.33(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 2.78(In)
Total soil loss = 0.921(Ac.Ft)

Total rainfall = 3.11(In)
Flood volume = 4762.6 Cubic Feet
Total soil loss = 40114.5 Cubic Feet

Peak flow rate of this hydrograph = 0.334(CFS)

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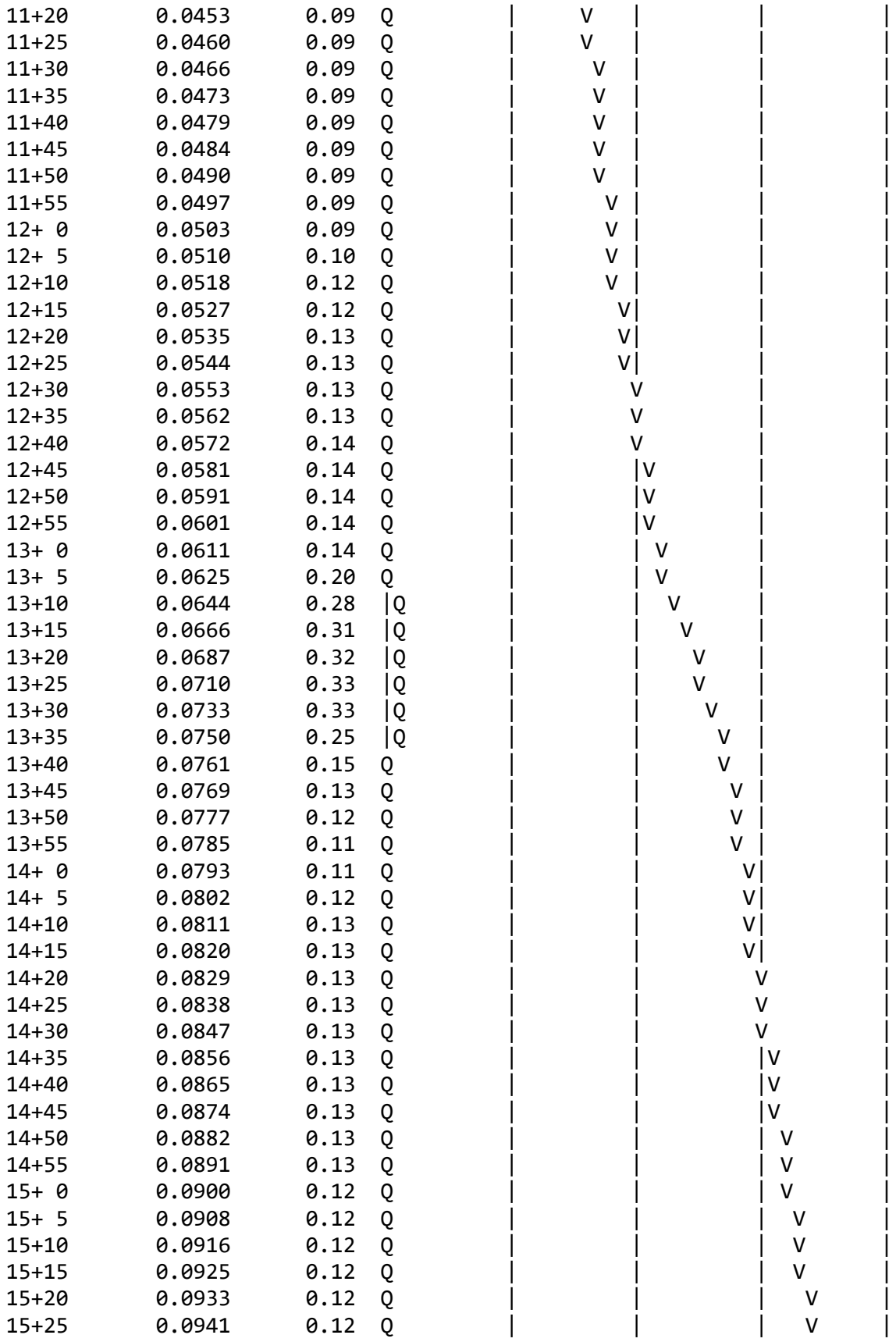
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	Q				
0+35	0.0005	0.01	Q				
0+40	0.0006	0.01	Q				
0+45	0.0007	0.01	Q				
0+50	0.0009	0.02	Q				
0+55	0.0010	0.02	Q				
1+ 0	0.0011	0.02	Q				
1+ 5	0.0012	0.02	Q				
1+10	0.0014	0.02	Q				
1+15	0.0015	0.02	Q				
1+20	0.0016	0.02	Q				
1+25	0.0017	0.01	Q				
1+30	0.0018	0.01	Q				
1+35	0.0019	0.01	Q				
1+40	0.0020	0.01	Q				
1+45	0.0021	0.01	Q				
1+50	0.0022	0.02	Q				
1+55	0.0023	0.02	Q				
2+ 0	0.0025	0.02	Q				
2+ 5	0.0026	0.02	Q				
2+10	0.0027	0.02	QV				
2+15	0.0029	0.02	QV				
2+20	0.0030	0.02	QV				
2+25	0.0031	0.02	QV				
2+30	0.0033	0.02	QV				
2+35	0.0034	0.02	QV				
2+40	0.0036	0.02	QV				
2+45	0.0038	0.02	QV				
2+50	0.0039	0.02	QV				
2+55	0.0041	0.02	QV				

3+ 0	0.0043	0.02	QV	|	|	|	|
3+ 5	0.0045	0.02	QV	|	|	|	|
3+10	0.0046	0.02	QV	|	|	|	|
3+15	0.0048	0.02	QV	|	|	|	|
3+20	0.0050	0.02	QV	|	|	|	|
3+25	0.0051	0.02	QV	|	|	|	|
3+30	0.0053	0.02	QV	|	|	|	|
3+35	0.0055	0.02	Q V	|	|	|	|
3+40	0.0057	0.02	Q V	|	|	|	|
3+45	0.0058	0.02	Q V	|	|	|	|
3+50	0.0060	0.03	Q V	|	|	|	|
3+55	0.0062	0.03	Q V	|	|	|	|
4+ 0	0.0064	0.03	Q V	|	|	|	|
4+ 5	0.0066	0.03	Q V	|	|	|	|
4+10	0.0068	0.03	Q V	|	|	|	|
4+15	0.0070	0.03	Q V	|	|	|	|
4+20	0.0073	0.03	Q V	|	|	|	|
4+25	0.0075	0.03	Q V	|	|	|	|
4+30	0.0077	0.03	Q V	|	|	|	|
4+35	0.0080	0.03	Q V	|	|	|	|
4+40	0.0082	0.03	Q V	|	|	|	|
4+45	0.0085	0.03	Q V	|	|	|	|
4+50	0.0087	0.04	Q V	|	|	|	|
4+55	0.0090	0.04	Q V	|	|	|	|
5+ 0	0.0092	0.04	Q V	|	|	|	|
5+ 5	0.0095	0.04	Q V	|	|	|	|
5+10	0.0097	0.03	Q V	|	|	|	|
5+15	0.0099	0.03	Q V	|	|	|	|
5+20	0.0101	0.03	Q V	|	|	|	|
5+25	0.0104	0.03	Q V	|	|	|	|
5+30	0.0106	0.03	Q V	|	|	|	|
5+35	0.0109	0.04	Q V	|	|	|	|
5+40	0.0111	0.04	Q V	|	|	|	|
5+45	0.0114	0.04	Q V	|	|	|	|
5+50	0.0117	0.04	Q V	|	|	|	|
5+55	0.0120	0.04	Q V	|	|	|	|
6+ 0	0.0122	0.04	Q V	|	|	|	|
6+ 5	0.0125	0.04	Q V	|	|	|	|
6+10	0.0128	0.04	Q V	|	|	|	|
6+15	0.0131	0.04	Q V	|	|	|	|
6+20	0.0134	0.04	Q V	|	|	|	|
6+25	0.0138	0.04	Q V	|	|	|	|
6+30	0.0141	0.04	Q V	|	|	|	|
6+35	0.0144	0.05	Q V	|	|	|	|
6+40	0.0147	0.05	Q V	|	|	|	|
6+45	0.0151	0.05	Q V	|	|	|	|
6+50	0.0154	0.05	Q V	|	|	|	|
6+55	0.0158	0.05	Q V	|	|	|	|
7+ 0	0.0161	0.05	Q V	|	|	|	|
7+ 5	0.0164	0.05	Q V	|	|	|	|

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 7+10       0.0168      0.05  Q     V   |          |          |          |
 7+15       0.0171      0.05  Q     V   |          |          |          |
 7+20       0.0175      0.05  Q     V   |          |          |          |
 7+25       0.0179      0.05  Q     V   |          |          |          |
 7+30       0.0182      0.05  Q     V   |          |          |          |
 7+35       0.0186      0.06  Q     V   |          |          |          |
 7+40       0.0190      0.06  Q     V   |          |          |          |
 7+45       0.0194      0.06  Q      V  |          |          |          |
 7+50       0.0199      0.06  Q      V  |          |          |          |
 7+55       0.0203      0.06  Q      V  |          |          |          |
 8+ 0       0.0207      0.06  Q      V  |          |          |          |
 8+ 5       0.0212      0.07  Q      V  |          |          |          |
 8+10       0.0217      0.07  Q      V  |          |          |          |
 8+15       0.0222      0.07  Q       V |          |          |          |
 8+20       0.0227      0.07  Q       V |          |          |          |
 8+25       0.0233      0.07  Q       V |          |          |          |
 8+30       0.0238      0.07  Q       V |          |          |          |
 8+35       0.0243      0.08  Q       V |          |          |          |
 8+40       0.0249      0.08  Q        V|          |          |          |
 8+45       0.0254      0.08  Q        V|          |          |          |
 8+50       0.0260      0.08  Q        V|          |          |          |
 8+55       0.0265      0.08  Q        V|          |          |          |
 9+ 0       0.0271      0.08  Q        V|          |          |          |
 9+ 5       0.0277      0.09  Q         V          |          |          |
 9+10       0.0284      0.09  Q         V          |          |          |
 9+15       0.0290      0.09  Q         V          |          |          |
 9+20       0.0297      0.10  Q         V          |          |          |
 9+25       0.0304      0.10  Q         |V         |          |          |
 9+30       0.0311      0.10  Q         |V         |          |          |
 9+35       0.0318      0.10  Q         |V         |          |          |
 9+40       0.0325      0.10  Q         |V         |          |          |
 9+45       0.0332      0.10  Q         | V        |          |          |
 9+50       0.0339      0.11  Q         | V        |          |          |
 9+55       0.0347      0.11  Q         | V        |          |          |
10+ 0       0.0354      0.11  Q         | V        |          |          |
10+ 5       0.0361      0.10  Q         |  V       |          |          |
10+10       0.0366      0.08  Q         |  V       |          |          |
10+15       0.0372      0.08  Q         |  V       |          |          |
10+20       0.0377      0.08  Q         |  V       |          |          |
10+25       0.0382      0.07  Q         |  V       |          |          |
10+30       0.0387      0.07  Q         |   V      |          |          |
10+35       0.0393      0.08  Q         |   V      |          |          |
10+40       0.0400      0.10  Q         |   V      |          |          |
10+45       0.0406      0.10  Q         |   V      |          |          |
10+50       0.0413      0.10  Q         |    V     |          |          |
10+55       0.0420      0.10  Q         |    V     |          |          |
11+ 0       0.0427      0.10  Q         |    V     |          |          |
11+ 5       0.0434      0.10  Q         |    V     |          |          |
11+10       0.0440      0.10  Q         |     V    |          |          |
11+15       0.0447      0.09  Q         |     V    |          |          |
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11+20 0.0453 0.09 Q
11+25 0.0460 0.09 Q
11+30 0.0466 0.09 Q
11+35 0.0473 0.09 Q
11+40 0.0479 0.09 Q
11+45 0.0484 0.09 Q
11+50 0.0490 0.09 Q
11+55 0.0497 0.09 Q
12+ 0 0.0503 0.09 Q
12+ 5 0.0510 0.10 Q
12+10 0.0518 0.12 Q
12+15 0.0527 0.12 Q
12+20 0.0535 0.13 Q
12+25 0.0544 0.13 Q
12+30 0.0553 0.13 Q
12+35 0.0562 0.13 Q
12+40 0.0572 0.14 Q
12+45 0.0581 0.14 Q
12+50 0.0591 0.14 Q
12+55 0.0601 0.14 Q
13+ 0 0.0611 0.14 Q
13+ 5 0.0625 0.20 Q
13+10 0.0644 0.28 |Q
13+15 0.0666 0.31 |Q
13+20 0.0687 0.32 |Q
13+25 0.0710 0.33 |Q
13+30 0.0733 0.33 |Q
13+35 0.0750 0.25 |Q
13+40 0.0761 0.15 Q
13+45 0.0769 0.13 Q
13+50 0.0777 0.12 Q
13+55 0.0785 0.11 Q
14+ 0 0.0793 0.11 Q
14+ 5 0.0802 0.12 Q
14+10 0.0811 0.13 Q
14+15 0.0820 0.13 Q
14+20 0.0829 0.13 Q
14+25 0.0838 0.13 Q
14+30 0.0847 0.13 Q
14+35 0.0856 0.13 Q
14+40 0.0865 0.13 Q
14+45 0.0874 0.13 Q
14+50 0.0882 0.13 Q
14+55 0.0891 0.13 Q
15+ 0 0.0900 0.12 Q
15+ 5 0.0908 0.12 Q
15+10 0.0916 0.12 Q
15+15 0.0925 0.12 Q
15+20 0.0933 0.12 Q
15+25 0.0941 0.12 Q

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15+30       0.0949      0.11  Q        |          |          |   V      |
15+35       0.0956      0.11  Q        |          |          |   V      |
15+40       0.0963      0.10  Q        |          |          |    V     |
15+45       0.0969      0.10  Q        |          |          |    V     |
15+50       0.0976      0.10  Q        |          |          |    V     |
15+55       0.0982      0.09  Q        |          |          |    V     |
16+ 0       0.0989      0.09  Q        |          |          |     V    |
16+ 5       0.0994      0.07  Q        |          |          |     V    |
16+10       0.0996      0.03  Q        |          |          |     V    |
16+15       0.0997      0.02  Q        |          |          |     V    |
16+20       0.0999      0.02  Q        |          |          |     V    |
16+25       0.1000      0.02  Q        |          |          |     V    |
16+30       0.1002      0.02  Q        |          |          |     V    |
16+35       0.1003      0.02  Q        |          |          |     V    |
16+40       0.1004      0.02  Q        |          |          |     V    |
16+45       0.1005      0.02  Q        |          |          |     V    |
16+50       0.1006      0.02  Q        |          |          |     V    |
16+55       0.1007      0.01  Q        |          |          |     V    |
17+ 0       0.1008      0.01  Q        |          |          |     V    |
17+ 5       0.1009      0.02  Q        |          |          |     V    |
17+10       0.1011      0.02  Q        |          |          |     V    |
17+15       0.1013      0.02  Q        |          |          |      V   |
17+20       0.1014      0.02  Q        |          |          |      V   |
17+25       0.1016      0.02  Q        |          |          |      V   |
17+30       0.1018      0.02  Q        |          |          |      V   |
17+35       0.1019      0.02  Q        |          |          |      V   |
17+40       0.1021      0.02  Q        |          |          |      V   |
17+45       0.1023      0.02  Q        |          |          |      V   |
17+50       0.1024      0.02  Q        |          |          |      V   |
17+55       0.1026      0.02  Q        |          |          |      V   |
18+ 0       0.1027      0.02  Q        |          |          |      V   |
18+ 5       0.1029      0.02  Q        |          |          |      V   |
18+10       0.1030      0.02  Q        |          |          |      V   |
18+15       0.1031      0.02  Q        |          |          |      V   |
18+20       0.1033      0.02  Q        |          |          |      V   |
18+25       0.1034      0.02  Q        |          |          |      V   |
18+30       0.1036      0.02  Q        |          |          |      V   |
18+35       0.1037      0.02  Q        |          |          |      V   |
18+40       0.1038      0.02  Q        |          |          |      V   |
18+45       0.1039      0.02  Q        |          |          |       V  |
18+50       0.1040      0.01  Q        |          |          |       V  |
18+55       0.1041      0.01  Q        |          |          |       V  |
19+ 0       0.1041      0.01  Q        |          |          |       V  |
19+ 5       0.1042      0.01  Q        |          |          |       V  |
19+10       0.1043      0.01  Q        |          |          |       V  |
19+15       0.1044      0.01  Q        |          |          |       V  |
19+20       0.1045      0.02  Q        |          |          |       V  |
19+25       0.1047      0.02  Q        |          |          |       V  |
19+30       0.1048      0.02  Q        |          |          |       V  |
19+35       0.1049      0.02  Q        |          |          |       V  |
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19+40	0.1050	0.02	Q	|	|	|	V |
19+45	0.1051	0.02	Q	|	|	|	V |
19+50	0.1052	0.01	Q	|	|	|	V |
19+55	0.1053	0.01	Q	|	|	|	V |
20+ 0	0.1054	0.01	Q	|	|	|	V |
20+ 5	0.1054	0.01	Q	|	|	|	V |
20+10	0.1055	0.01	Q	|	|	|	V |
20+15	0.1056	0.01	Q	|	|	|	V |
20+20	0.1057	0.01	Q	|	|	|	V |
20+25	0.1058	0.01	Q	|	|	|	V |
20+30	0.1060	0.01	Q	|	|	|	V |
20+35	0.1061	0.01	Q	|	|	|	V |
20+40	0.1062	0.01	Q	|	|	|	V |
20+45	0.1063	0.01	Q	|	|	|	V |
20+50	0.1063	0.01	Q	|	|	|	V |
20+55	0.1064	0.01	Q	|	|	|	V |
21+ 0	0.1065	0.01	Q	|	|	|	V |
21+ 5	0.1066	0.01	Q	|	|	|	V |
21+10	0.1067	0.01	Q	|	|	|	V|
21+15	0.1068	0.01	Q	|	|	|	V|
21+20	0.1069	0.01	Q	|	|	|	V|
21+25	0.1069	0.01	Q	|	|	|	V|
21+30	0.1070	0.01	Q	|	|	|	V|
21+35	0.1071	0.01	Q	|	|	|	V|
21+40	0.1072	0.01	Q	|	|	|	V|
21+45	0.1073	0.01	Q	|	|	|	V|
21+50	0.1074	0.01	Q	|	|	|	V|
21+55	0.1075	0.01	Q	|	|	|	V|
22+ 0	0.1075	0.01	Q	|	|	|	V|
22+ 5	0.1076	0.01	Q	|	|	|	V|
22+10	0.1077	0.01	Q	|	|	|	V|
22+15	0.1078	0.01	Q	|	|	|	V|
22+20	0.1079	0.01	Q	|	|	|	V|
22+25	0.1080	0.01	Q	|	|	|	V|
22+30	0.1080	0.01	Q	|	|	|	V|
22+35	0.1081	0.01	Q	|	|	|	V|
22+40	0.1082	0.01	Q	|	|	|	V|
22+45	0.1082	0.01	Q	|	|	|	V|
22+50	0.1083	0.01	Q	|	|	|	V|
22+55	0.1084	0.01	Q	|	|	|	V|
23+ 0	0.1085	0.01	Q	|	|	|	V|
23+ 5	0.1085	0.01	Q	|	|	|	V|
23+10	0.1086	0.01	Q	|	|	|	V|
23+15	0.1087	0.01	Q	|	|	|	V|
23+20	0.1087	0.01	Q	|	|	|	V|
23+25	0.1088	0.01	Q	|	|	|	V|
23+30	0.1089	0.01	Q	|	|	|	V|
23+35	0.1089	0.01	Q	|	|	|	V|
23+40	0.1090	0.01	Q	|	|	|	V|
23+45	0.1091	0.01	Q	|	|	|	V|

```
   23+50       0.1091      0.01  Q          |          |          |         V|
   23+55       0.1092      0.01  Q          |          |          |         V|
   24+ 0       0.1093      0.01  Q          |          |          |         V|
   24+ 5       0.1093      0.01  Q          |          |          |         V|
   24+10       0.1093      0.00  Q          |          |          |         V|
   24+15       0.1093      0.00  Q          |          |          |         V|
   24+20       0.1093      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh1100.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
100 yr
1 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.47                    1.87

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.67                    6.65

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.471(In)
Area Averaged 100-Year Rainfall =    1.670(In)

Point rain (area averaged) =    1.670(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.670(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00          0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  83.2      0.208     0.000        0.208       1.000      0.208
                                                 Sum (F) =   0.208
Area averaged mean soil loss (F) (In/Hr) =  0.208
Minimum soil loss rate ((In/Hr)) =  0.104
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5800
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
-----------------------------------------------------------------
               Unit Hydrograph Data
-----------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                             Sum = 100.000   Sum=       4.011
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.721	0.208	(0.649)	0.514
2	0.17	4.20	0.842	0.208	(0.757)	0.634
3	0.25	4.40	0.882	0.208	(0.794)	0.674
4	0.33	4.60	0.922	0.208	(0.830)	0.714
5	0.42	5.00	1.002	0.208	(0.902)	0.794
6	0.50	5.60	1.122	0.208	(1.010)	0.915
7	0.58	6.40	1.283	0.208	(1.154)	1.075
8	0.67	8.10	1.623	0.208	(1.461)	1.416
9	0.75	13.10	2.625	0.208	(2.363)	2.418
10	0.83	34.50	6.914	0.208	(6.222)	6.706
11	0.92	6.70	1.343	0.208	(1.208)	1.135
12	1.00	3.80	0.761	0.208	(0.685)	0.554
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	17.5

Flood volume = Effective rainfall 1.46(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.21(In)
Total soil loss = 0.069(Ac.Ft)
Total rainfall = 1.67(In)
Flood volume = 21128.2 Cubic Feet
Total soil loss = 2998.1 Cubic Feet

Peak flow rate of this hydrograph = 15.661(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0054	0.78	VQ
0+10	0.0187	1.93	|V Q
0+15	0.0354	2.43	| V Q
0+20	0.0539	2.69	| VQ
0+25	0.0743	2.95	| QV
0+30	0.0971	3.31	| Q V |
0+35	0.1234	3.82	| Q V
0+40	0.1558	4.71	| Q| V
0+45	0.2037	6.96	| | Q V |

```
    0+50       0.3106     15.52  |         |         |    V    |Q        |
    0+55       0.4184     15.66  |         |         |         |Q  V     |
    1+ 0       0.4607      6.14  |         | Q       |         |      V  |
    1+ 5       0.4785      2.58  |    Q    |         |         |        V|
    1+10       0.4838      0.77  |Q        |         |         |        V|
    1+15       0.4848      0.14  Q         |         |         |        V|
    1+20       0.4850      0.03  Q         |         |         |        V|
-------------------------------------------------------------------------
```

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

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
100 yr
3 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.76                    3.02

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            2.50                    9.95

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.760(In)
Area Averaged 100-Year Rainfall =    2.500(In)

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

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  83.2      0.208     0.000        0.208       1.000      0.208
                                                 Sum (F) =   0.208
Area averaged mean soil loss (F) (In/Hr) =  0.208
Minimum soil loss rate ((In/Hr)) =  0.104
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.390	0.208	(0.351)	0.182
2	0.17	1.30	0.390	0.208	(0.351)	0.182
3	0.25	1.10	0.330	0.208	(0.297)	0.122
4	0.33	1.50	0.450	0.208	(0.405)	0.242
5	0.42	1.50	0.450	0.208	(0.405)	0.242
6	0.50	1.80	0.540	0.208	(0.486)	0.332
7	0.58	1.50	0.450	0.208	(0.405)	0.242
8	0.67	1.80	0.540	0.208	(0.486)	0.332
9	0.75	1.80	0.540	0.208	(0.486)	0.332
10	0.83	1.50	0.450	0.208	(0.405)	0.242
11	0.92	1.60	0.480	0.208	(0.432)	0.272
12	1.00	1.80	0.540	0.208	(0.486)	0.332
13	1.08	2.20	0.660	0.208	(0.594)	0.452
14	1.17	2.20	0.660	0.208	(0.594)	0.452
15	1.25	2.20	0.660	0.208	(0.594)	0.452
16	1.33	2.00	0.600	0.208	(0.540)	0.392
17	1.42	2.60	0.780	0.208	(0.702)	0.572
18	1.50	2.70	0.810	0.208	(0.729)	0.602
19	1.58	2.40	0.720	0.208	(0.648)	0.512
20	1.67	2.70	0.810	0.208	(0.729)	0.602
21	1.75	3.30	0.990	0.208	(0.891)	0.782
22	1.83	3.10	0.930	0.208	(0.837)	0.722
23	1.92	2.90	0.870	0.208	(0.783)	0.662
24	2.00	3.00	0.900	0.208	(0.810)	0.692
25	2.08	3.10	0.930	0.208	(0.837)	0.722
26	2.17	4.20	1.260	0.208	(1.134)	1.052
27	2.25	5.00	1.500	0.208	(1.350)	1.292
28	2.33	3.50	1.050	0.208	(0.945)	0.842
29	2.42	6.80	2.040	0.208	(1.836)	1.832
30	2.50	7.30	2.190	0.208	(1.971)	1.982
31	2.58	8.20	2.460	0.208	(2.214)	2.252
32	2.67	5.90	1.770	0.208	(1.593)	1.562
33	2.75	2.00	0.600	0.208	(0.540)	0.392
34	2.83	1.80	0.540	0.208	(0.486)	0.332
35	2.92	1.80	0.540	0.208	(0.486)	0.332
36	3.00	0.60	0.180	(0.208)	0.162	0.018
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	22.6

Flood volume = Effective rainfall 1.88(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.62(In)
Total soil loss = 0.205(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 27178.3 Cubic Feet

Total soil loss = 8939.6 Cubic Feet

Peak flow rate of this hydrograph = 8.106(CFS)

++

3 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 2.5 5.0 7.5 10.0
0+ 5	0.0019	0.28	VQ | | | |
0+10	0.0062	0.62	V Q | | | |
0+15	0.0104	0.61	V Q | | | |
0+20	0.0152	0.70	V Q | | | |
0+25	0.0215	0.91	|V Q | | | |
0+30	0.0290	1.09	|V Q | | | |
0+35	0.0368	1.14	| V Q | | | |
0+40	0.0447	1.15	| V Q | | | |
0+45	0.0536	1.29	| V Q | | | |
0+50	0.0617	1.19	| VQ | | | |
0+55	0.0691	1.07	| Q | | | |
1+ 0	0.0773	1.18	| Q | | | |
1+ 5	0.0874	1.48	| Q | | | |
1+10	0.0994	1.73	| Q | | | |
1+15	0.1117	1.79	| Q | | | |
1+20	0.1235	1.72	| QV | | | |
1+25	0.1365	1.88	| QV | | | |
1+30	0.1519	2.25	| QV| | | |
1+35	0.1673	2.23	| Q V | | |
1+40	0.1827	2.23	| Q |V | | |
1+45	0.2009	2.65	| Q V | | |
1+50	0.2211	2.93	| |Q V | | |
1+55	0.2404	2.80	| |Q V | | |
2+ 0	0.2593	2.74	| Q V | | |
2+ 5	0.2787	2.82	| |Q V | | |
2+10	0.3020	3.38	| | Q V| | |
2+15	0.3322	4.38	| | Q |V | |
2+20	0.3617	4.29	| | Q | V | |
2+25	0.3968	5.09	| | Q V | |
2+30	0.4454	7.06	| | | Q | |
2+35	0.5012	8.11	| | | | Q |
2+40	0.5545	7.74	| | | Q V |
2+45	0.5880	4.85	| | Q| | V |
2+50	0.6039	2.31	| Q| | | V |
2+55	0.6152	1.64	| Q | | | V|
3+ 0	0.6216	0.94	| Q | | | V|
3+ 5	0.6233	0.24	Q | | | V|

```
    3+10       0.6238      0.07  Q         |         |         |        V|
    3+15       0.6239      0.02  Q         |         |         |        V|
    3+20       0.6239      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183preuh6100.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
100 yr
6 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.99                  3.95

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            3.25                 12.94

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.993(In)
Area Averaged 100-Year Rainfall =    3.250(In)

Point rain (area averaged) =    3.250(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.250(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  83.2      0.208     0.000        0.208       1.000      0.208
                                                 Sum (F) =   0.208
Area averaged mean soil loss (F) (In/Hr) =  0.208
Minimum soil loss rate ((In/Hr)) =  0.104
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

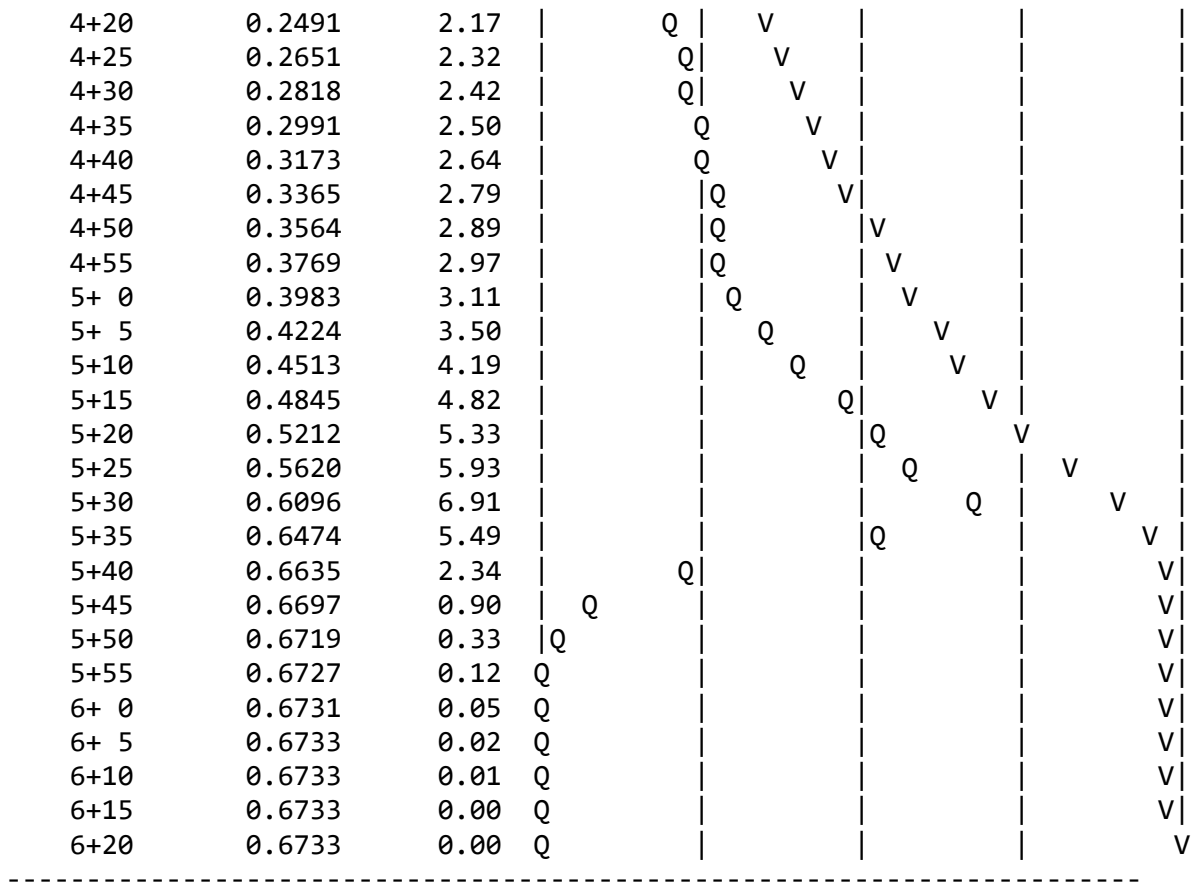
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.195	(0.208)	0.175	0.019
2	0.17	0.60	0.234	0.208	(0.211)	0.026
3	0.25	0.60	0.234	0.208	(0.211)	0.026
4	0.33	0.60	0.234	0.208	(0.211)	0.026
5	0.42	0.60	0.234	0.208	(0.211)	0.026
6	0.50	0.70	0.273	0.208	(0.246)	0.065
7	0.58	0.70	0.273	0.208	(0.246)	0.065
8	0.67	0.70	0.273	0.208	(0.246)	0.065
9	0.75	0.70	0.273	0.208	(0.246)	0.065
10	0.83	0.70	0.273	0.208	(0.246)	0.065
11	0.92	0.70	0.273	0.208	(0.246)	0.065
12	1.00	0.80	0.312	0.208	(0.281)	0.104
13	1.08	0.80	0.312	0.208	(0.281)	0.104
14	1.17	0.80	0.312	0.208	(0.281)	0.104
15	1.25	0.80	0.312	0.208	(0.281)	0.104
16	1.33	0.80	0.312	0.208	(0.281)	0.104
17	1.42	0.80	0.312	0.208	(0.281)	0.104
18	1.50	0.80	0.312	0.208	(0.281)	0.104
19	1.58	0.80	0.312	0.208	(0.281)	0.104
20	1.67	0.80	0.312	0.208	(0.281)	0.104
21	1.75	0.80	0.312	0.208	(0.281)	0.104
22	1.83	0.80	0.312	0.208	(0.281)	0.104
23	1.92	0.80	0.312	0.208	(0.281)	0.104
24	2.00	0.90	0.351	0.208	(0.316)	0.143
25	2.08	0.80	0.312	0.208	(0.281)	0.104
26	2.17	0.90	0.351	0.208	(0.316)	0.143
27	2.25	0.90	0.351	0.208	(0.316)	0.143
28	2.33	0.90	0.351	0.208	(0.316)	0.143
29	2.42	0.90	0.351	0.208	(0.316)	0.143
30	2.50	0.90	0.351	0.208	(0.316)	0.143
31	2.58	0.90	0.351	0.208	(0.316)	0.143
32	2.67	0.90	0.351	0.208	(0.316)	0.143
33	2.75	1.00	0.390	0.208	(0.351)	0.182
34	2.83	1.00	0.390	0.208	(0.351)	0.182
35	2.92	1.00	0.390	0.208	(0.351)	0.182
36	3.00	1.00	0.390	0.208	(0.351)	0.182
37	3.08	1.00	0.390	0.208	(0.351)	0.182
38	3.17	1.10	0.429	0.208	(0.386)	0.221
39	3.25	1.10	0.429	0.208	(0.386)	0.221
40	3.33	1.10	0.429	0.208	(0.386)	0.221
41	3.42	1.20	0.468	0.208	(0.421)	0.260
42	3.50	1.30	0.507	0.208	(0.456)	0.299
43	3.58	1.40	0.546	0.208	(0.491)	0.338
44	3.67	1.40	0.546	0.208	(0.491)	0.338

```
45   3.75     1.50      0.585          0.208    (  0.526)        0.377
46   3.83     1.50      0.585          0.208    (  0.526)        0.377
47   3.92     1.60      0.624          0.208    (  0.562)        0.416
48   4.00     1.60      0.624          0.208    (  0.562)        0.416
49   4.08     1.70      0.663          0.208    (  0.597)        0.455
50   4.17     1.80      0.702          0.208    (  0.632)        0.494
51   4.25     1.90      0.741          0.208    (  0.667)        0.533
52   4.33     2.00      0.780          0.208    (  0.702)        0.572
53   4.42     2.10      0.819          0.208    (  0.737)        0.611
54   4.50     2.10      0.819          0.208    (  0.737)        0.611
55   4.58     2.20      0.858          0.208    (  0.772)        0.650
56   4.67     2.30      0.897          0.208    (  0.807)        0.689
57   4.75     2.40      0.936          0.208    (  0.842)        0.728
58   4.83     2.40      0.936          0.208    (  0.842)        0.728
59   4.92     2.50      0.975          0.208    (  0.877)        0.767
60   5.00     2.60      1.014          0.208    (  0.913)        0.806
61   5.08     3.10      1.209          0.208    (  1.088)        1.001
62   5.17     3.60      1.404          0.208    (  1.264)        1.196
63   5.25     3.90      1.521          0.208    (  1.369)        1.313
64   5.33     4.20      1.638          0.208    (  1.474)        1.430
65   5.42     4.70      1.833          0.208    (  1.650)        1.625
66   5.50     5.60      2.184          0.208    (  1.966)        1.976
67   5.58     1.90      0.741          0.208    (  0.667)        0.533
68   5.67     0.90      0.351          0.208    (  0.316)        0.143
69   5.75     0.60      0.234          0.208    (  0.211)        0.026
70   5.83     0.50      0.195       (  0.208)       0.175        0.019
71   5.92     0.30      0.117       (  0.208)       0.105        0.012
72   6.00     0.20      0.078       (  0.208)       0.070        0.008
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    24.4
      Flood volume = Effective rainfall      2.03(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
      Total soil loss =      1.22(In)
      Total soil loss =     0.405(Ac.Ft)
      Total rainfall =      3.25(In)
      Flood volume =       29330.2 Cubic Feet
      Total soil loss =       17623.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      6.908(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q         |         |         |         |
```

```
0+10       0.0007      0.08  Q          |          |          |          |
0+15       0.0014      0.10  Q          |          |          |          |
0+20       0.0021      0.10  Q          |          |          |          |
0+25       0.0029      0.11  Q          |          |          |          |
0+30       0.0040      0.17  Q          |          |          |          |
0+35       0.0056      0.24  Q          |          |          |          |
0+40       0.0074      0.26  VQ         |          |          |          |
0+45       0.0092      0.26  VQ         |          |          |          |
0+50       0.0110      0.26  VQ         |          |          |          |
0+55       0.0128      0.26  VQ         |          |          |          |
1+ 0       0.0150      0.32  VQ         |          |          |          |
1+ 5       0.0178      0.40  |Q         |          |          |          |
1+10       0.0206      0.41  |Q         |          |          |          |
1+15       0.0235      0.42  |Q         |          |          |          |
1+20       0.0263      0.42  |Q         |          |          |          |
1+25       0.0292      0.42  |Q         |          |          |          |
1+30       0.0321      0.42  |Q         |          |          |          |
1+35       0.0350      0.42  |QV        |          |          |          |
1+40       0.0379      0.42  |QV        |          |          |          |
1+45       0.0408      0.42  |QV        |          |          |          |
1+50       0.0437      0.42  |QV        |          |          |          |
1+55       0.0466      0.42  |QV        |          |          |          |
2+ 0       0.0499      0.48  |QV        |          |          |          |
2+ 5       0.0533      0.49  |Q V       |          |          |          |
2+10       0.0567      0.49  |Q V       |          |          |          |
2+15       0.0605      0.56  | QV       |          |          |          |
2+20       0.0644      0.57  | QV       |          |          |          |
2+25       0.0684      0.57  | Q V      |          |          |          |
2+30       0.0723      0.58  | Q V      |          |          |          |
2+35       0.0763      0.58  | Q V      |          |          |          |
2+40       0.0803      0.58  | Q V      |          |          |          |
2+45       0.0846      0.63  | Q  V     |          |          |          |
2+50       0.0895      0.71  | Q  V     |          |          |          |
2+55       0.0945      0.72  | Q  V     |          |          |          |
3+ 0       0.0995      0.73  | Q  V     |          |          |          |
3+ 5       0.1046      0.73  | Q   V    |          |          |          |
3+10       0.1100      0.79  |  Q  V    |          |          |          |
3+15       0.1160      0.87  |  Q  V    |          |          |          |
3+20       0.1221      0.88  |  Q   V   |          |          |          |
3+25       0.1286      0.95  |  Q   V   |          |          |          |
3+30       0.1360      1.08  |   Q   V  |          |          |          |
3+35       0.1445      1.23  |   Q   V  |          |          |          |
3+40       0.1536      1.32  |    Q   V|          |          |          |
3+45       0.1633      1.41  |    Q   V|          |          |          |
3+50       0.1736      1.49  |    Q    V          |          |          |
3+55       0.1843      1.57  |     Q   V          |          |          |
4+ 0       0.1957      1.65  |     Q   |V         |          |          |
4+ 5       0.2075      1.72  |     Q   | V        |          |          |
4+10       0.2204      1.86  |      Q  |  V       |          |          |
4+15       0.2342      2.01  |       Q |  V       |          |          |
```


4+20 0.2491 2.17
4+25 0.2651 2.32
4+30 0.2818 2.42
4+35 0.2991 2.50
4+40 0.3173 2.64
4+45 0.3365 2.79
4+50 0.3564 2.89
4+55 0.3769 2.97
5+ 0 0.3983 3.11
5+ 5 0.4224 3.50
5+10 0.4513 4.19
5+15 0.4845 4.82
5+20 0.5212 5.33
5+25 0.5620 5.93
5+30 0.6096 6.91
5+35 0.6474 5.49
5+40 0.6635 2.34
5+45 0.6697 0.90
5+50 0.6719 0.33
5+55 0.6727 0.12
6+ 0 0.6731 0.05
6+ 5 0.6733 0.02
6+10 0.6733 0.01
6+15 0.6733 0.00
6+20 0.6733 0.00

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

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Study date 09/21/22 File: 183preuh24100.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Pre Development Unit Hydrograph
100 yr
24 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 693.44(Ft.)
Length along longest watercourse measured to centroid = 353.17(Ft.)
Length along longest watercourse = 0.131 Mi.
Length along longest watercourse measured to centroid = 0.067 Mi.
Difference in elevation = 17.37(Ft.)
Slope along watercourse = 132.2589 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.047 Hr.
Lag time = 2.83 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.51                   6.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            5.39                  21.45

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.510(In)
Area Averaged 100-Year Rainfall =    5.390(In)

Point rain (area averaged) =    5.390(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.390(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           67.00         0.000
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
67.0  83.2      0.208     0.000        0.208       1.000      0.208
                                                 Sum (F) =   0.208
Area averaged mean soil loss (F) (In/Hr) =  0.208
Minimum soil loss rate ((In/Hr)) =  0.104
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        176.987         37.763              1.515
    2   0.167        353.974         47.173              1.892
    3   0.250        530.961         10.173              0.408
    4   0.333        707.948          3.442              0.138
    5   0.417        884.935          1.449              0.058
                              Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.043	(0.368)	0.039	0.004
2	0.17	0.07	0.043	(0.366)	0.039	0.004
3	0.25	0.07	0.043	(0.365)	0.039	0.004
4	0.33	0.10	0.065	(0.364)	0.058	0.006
5	0.42	0.10	0.065	(0.362)	0.058	0.006
6	0.50	0.10	0.065	(0.361)	0.058	0.006
7	0.58	0.10	0.065	(0.359)	0.058	0.006
8	0.67	0.10	0.065	(0.358)	0.058	0.006
9	0.75	0.10	0.065	(0.357)	0.058	0.006
10	0.83	0.13	0.086	(0.355)	0.078	0.009
11	0.92	0.13	0.086	(0.354)	0.078	0.009
12	1.00	0.13	0.086	(0.352)	0.078	0.009
13	1.08	0.10	0.065	(0.351)	0.058	0.006
14	1.17	0.10	0.065	(0.350)	0.058	0.006
15	1.25	0.10	0.065	(0.348)	0.058	0.006
16	1.33	0.10	0.065	(0.347)	0.058	0.006
17	1.42	0.10	0.065	(0.345)	0.058	0.006
18	1.50	0.10	0.065	(0.344)	0.058	0.006
19	1.58	0.10	0.065	(0.343)	0.058	0.006
20	1.67	0.10	0.065	(0.341)	0.058	0.006
21	1.75	0.10	0.065	(0.340)	0.058	0.006
22	1.83	0.13	0.086	(0.339)	0.078	0.009
23	1.92	0.13	0.086	(0.337)	0.078	0.009
24	2.00	0.13	0.086	(0.336)	0.078	0.009
25	2.08	0.13	0.086	(0.334)	0.078	0.009
26	2.17	0.13	0.086	(0.333)	0.078	0.009
27	2.25	0.13	0.086	(0.332)	0.078	0.009
28	2.33	0.13	0.086	(0.330)	0.078	0.009
29	2.42	0.13	0.086	(0.329)	0.078	0.009
30	2.50	0.13	0.086	(0.328)	0.078	0.009
31	2.58	0.17	0.108	(0.326)	0.097	0.011
32	2.67	0.17	0.108	(0.325)	0.097	0.011
33	2.75	0.17	0.108	(0.324)	0.097	0.011
34	2.83	0.17	0.108	(0.322)	0.097	0.011
35	2.92	0.17	0.108	(0.321)	0.097	0.011
36	3.00	0.17	0.108	(0.320)	0.097	0.011
37	3.08	0.17	0.108	(0.318)	0.097	0.011
38	3.17	0.17	0.108	(0.317)	0.097	0.011
39	3.25	0.17	0.108	(0.316)	0.097	0.011
40	3.33	0.17	0.108	(0.314)	0.097	0.011
41	3.42	0.17	0.108	(0.313)	0.097	0.011
42	3.50	0.17	0.108	(0.312)	0.097	0.011
43	3.58	0.17	0.108	(0.311)	0.097	0.011
44	3.67	0.17	0.108	(0.309)	0.097	0.011

45	3.75	0.17	0.108	(0.308)	0.097	0.011
46	3.83	0.20	0.129	(0.307)	0.116	0.013
47	3.92	0.20	0.129	(0.305)	0.116	0.013
48	4.00	0.20	0.129	(0.304)	0.116	0.013
49	4.08	0.20	0.129	(0.303)	0.116	0.013
50	4.17	0.20	0.129	(0.301)	0.116	0.013
51	4.25	0.20	0.129	(0.300)	0.116	0.013
52	4.33	0.23	0.151	(0.299)	0.136	0.015
53	4.42	0.23	0.151	(0.298)	0.136	0.015
54	4.50	0.23	0.151	(0.296)	0.136	0.015
55	4.58	0.23	0.151	(0.295)	0.136	0.015
56	4.67	0.23	0.151	(0.294)	0.136	0.015
57	4.75	0.23	0.151	(0.293)	0.136	0.015
58	4.83	0.27	0.172	(0.291)	0.155	0.017
59	4.92	0.27	0.172	(0.290)	0.155	0.017
60	5.00	0.27	0.172	(0.289)	0.155	0.017
61	5.08	0.20	0.129	(0.288)	0.116	0.013
62	5.17	0.20	0.129	(0.286)	0.116	0.013
63	5.25	0.20	0.129	(0.285)	0.116	0.013
64	5.33	0.23	0.151	(0.284)	0.136	0.015
65	5.42	0.23	0.151	(0.283)	0.136	0.015
66	5.50	0.23	0.151	(0.281)	0.136	0.015
67	5.58	0.27	0.172	(0.280)	0.155	0.017
68	5.67	0.27	0.172	(0.279)	0.155	0.017
69	5.75	0.27	0.172	(0.278)	0.155	0.017
70	5.83	0.27	0.172	(0.276)	0.155	0.017
71	5.92	0.27	0.172	(0.275)	0.155	0.017
72	6.00	0.27	0.172	(0.274)	0.155	0.017
73	6.08	0.30	0.194	(0.273)	0.175	0.019
74	6.17	0.30	0.194	(0.271)	0.175	0.019
75	6.25	0.30	0.194	(0.270)	0.175	0.019
76	6.33	0.30	0.194	(0.269)	0.175	0.019
77	6.42	0.30	0.194	(0.268)	0.175	0.019
78	6.50	0.30	0.194	(0.267)	0.175	0.019
79	6.58	0.33	0.216	(0.265)	0.194	0.022
80	6.67	0.33	0.216	(0.264)	0.194	0.022
81	6.75	0.33	0.216	(0.263)	0.194	0.022
82	6.83	0.33	0.216	(0.262)	0.194	0.022
83	6.92	0.33	0.216	(0.261)	0.194	0.022
84	7.00	0.33	0.216	(0.260)	0.194	0.022
85	7.08	0.33	0.216	(0.258)	0.194	0.022
86	7.17	0.33	0.216	(0.257)	0.194	0.022
87	7.25	0.33	0.216	(0.256)	0.194	0.022
88	7.33	0.37	0.237	(0.255)	0.213	0.024
89	7.42	0.37	0.237	(0.254)	0.213	0.024
90	7.50	0.37	0.237	(0.253)	0.213	0.024
91	7.58	0.40	0.259	(0.251)	0.233	0.026
92	7.67	0.40	0.259	(0.250)	0.233	0.026
93	7.75	0.40	0.259	(0.249)	0.233	0.026
94	7.83	0.43	0.280	0.248	(0.252)	0.032

95	7.92	0.43	0.280	0.247	(	0.252)	0.034
96	8.00	0.43	0.280	0.246	(	0.252)	0.035
97	8.08	0.50	0.323	0.244	(	0.291)	0.079
98	8.17	0.50	0.323	0.243	(	0.291)	0.080
99	8.25	0.50	0.323	0.242	(	0.291)	0.081
100	8.33	0.50	0.323	0.241	(	0.291)	0.082
101	8.42	0.50	0.323	0.240	(	0.291)	0.083
102	8.50	0.50	0.323	0.239	(	0.291)	0.085
103	8.58	0.53	0.345	0.238	(	0.310)	0.107
104	8.67	0.53	0.345	0.237	(	0.310)	0.108
105	8.75	0.53	0.345	0.235	(	0.310)	0.110
106	8.83	0.57	0.367	0.234	(	0.330)	0.132
107	8.92	0.57	0.367	0.233	(	0.330)	0.133
108	9.00	0.57	0.367	0.232	(	0.330)	0.134
109	9.08	0.63	0.410	0.231	(	0.369)	0.179
110	9.17	0.63	0.410	0.230	(	0.369)	0.180
111	9.25	0.63	0.410	0.229	(	0.369)	0.181
112	9.33	0.67	0.431	0.228	(	0.388)	0.203
113	9.42	0.67	0.431	0.227	(	0.388)	0.205
114	9.50	0.67	0.431	0.226	(	0.388)	0.206
115	9.58	0.70	0.453	0.224	(	0.407)	0.228
116	9.67	0.70	0.453	0.223	(	0.407)	0.229
117	9.75	0.70	0.453	0.222	(	0.407)	0.230
118	9.83	0.73	0.474	0.221	(	0.427)	0.253
119	9.92	0.73	0.474	0.220	(	0.427)	0.254
120	10.00	0.73	0.474	0.219	(	0.427)	0.255
121	10.08	0.50	0.323	0.218	(	0.291)	0.105
122	10.17	0.50	0.323	0.217	(	0.291)	0.106
123	10.25	0.50	0.323	0.216	(	0.291)	0.107
124	10.33	0.50	0.323	0.215	(	0.291)	0.108
125	10.42	0.50	0.323	0.214	(	0.291)	0.110
126	10.50	0.50	0.323	0.213	(	0.291)	0.111
127	10.58	0.67	0.431	0.212	(	0.388)	0.219
128	10.67	0.67	0.431	0.211	(	0.388)	0.220
129	10.75	0.67	0.431	0.210	(	0.388)	0.221
130	10.83	0.67	0.431	0.209	(	0.388)	0.222
131	10.92	0.67	0.431	0.208	(	0.388)	0.224
132	11.00	0.67	0.431	0.207	(	0.388)	0.225
133	11.08	0.63	0.410	0.206	(	0.369)	0.204
134	11.17	0.63	0.410	0.205	(	0.369)	0.205
135	11.25	0.63	0.410	0.204	(	0.369)	0.206
136	11.33	0.63	0.410	0.203	(	0.369)	0.207
137	11.42	0.63	0.410	0.202	(	0.369)	0.208
138	11.50	0.63	0.410	0.201	(	0.369)	0.209
139	11.58	0.57	0.367	0.200	(	0.330)	0.167
140	11.67	0.57	0.367	0.199	(	0.330)	0.168
141	11.75	0.57	0.367	0.198	(	0.330)	0.169
142	11.83	0.60	0.388	0.197	(	0.349)	0.191
143	11.92	0.60	0.388	0.196	(	0.349)	0.192
144	12.00	0.60	0.388	0.195	(	0.349)	0.193

145	12.08	0.83	0.539		0.194	(0.485)	0.345
146	12.17	0.83	0.539		0.193	(0.485)	0.346
147	12.25	0.83	0.539		0.192	(0.485)	0.347
148	12.33	0.87	0.561		0.191	(0.505)	0.370
149	12.42	0.87	0.561		0.190	(0.505)	0.371
150	12.50	0.87	0.561		0.189	(0.505)	0.372
151	12.58	0.93	0.604		0.188	(0.543)	0.416
152	12.67	0.93	0.604		0.187	(0.543)	0.417
153	12.75	0.93	0.604		0.186	(0.543)	0.418
154	12.83	0.97	0.625		0.185	(0.563)	0.440
155	12.92	0.97	0.625		0.184	(0.563)	0.441
156	13.00	0.97	0.625		0.183	(0.563)	0.442
157	13.08	1.13	0.733		0.182	(0.660)	0.551
158	13.17	1.13	0.733		0.181	(0.660)	0.552
159	13.25	1.13	0.733		0.180	(0.660)	0.553
160	13.33	1.13	0.733		0.180	(0.660)	0.553
161	13.42	1.13	0.733		0.179	(0.660)	0.554
162	13.50	1.13	0.733		0.178	(0.660)	0.555
163	13.58	0.77	0.496		0.177	(0.446)	0.319
164	13.67	0.77	0.496		0.176	(0.446)	0.320
165	13.75	0.77	0.496		0.175	(0.446)	0.321
166	13.83	0.77	0.496		0.174	(0.446)	0.322
167	13.92	0.77	0.496		0.173	(0.446)	0.323
168	14.00	0.77	0.496		0.172	(0.446)	0.323
169	14.08	0.90	0.582		0.171	(0.524)	0.411
170	14.17	0.90	0.582		0.171	(0.524)	0.411
171	14.25	0.90	0.582		0.170	(0.524)	0.412
172	14.33	0.87	0.561		0.169	(0.505)	0.392
173	14.42	0.87	0.561		0.168	(0.505)	0.393
174	14.50	0.87	0.561		0.167	(0.505)	0.393
175	14.58	0.87	0.561		0.166	(0.505)	0.394
176	14.67	0.87	0.561		0.165	(0.505)	0.395
177	14.75	0.87	0.561		0.165	(0.505)	0.396
178	14.83	0.83	0.539		0.164	(0.485)	0.375
179	14.92	0.83	0.539		0.163	(0.485)	0.376
180	15.00	0.83	0.539		0.162	(0.485)	0.377
181	15.08	0.80	0.517		0.161	(0.466)	0.356
182	15.17	0.80	0.517		0.160	(0.466)	0.357
183	15.25	0.80	0.517		0.160	(0.466)	0.358
184	15.33	0.77	0.496		0.159	(0.446)	0.337
185	15.42	0.77	0.496		0.158	(0.446)	0.338
186	15.50	0.77	0.496		0.157	(0.446)	0.339
187	15.58	0.63	0.410		0.156	(0.369)	0.253
188	15.67	0.63	0.410		0.156	(0.369)	0.254
189	15.75	0.63	0.410		0.155	(0.369)	0.255
190	15.83	0.63	0.410		0.154	(0.369)	0.256
191	15.92	0.63	0.410		0.153	(0.369)	0.256
192	16.00	0.63	0.410		0.152	(0.369)	0.257
193	16.08	0.13	0.086	(	0.152)	0.078	0.009
194	16.17	0.13	0.086	(	0.151)	0.078	0.009

195	16.25	0.13	0.086	(0.150)	0.078	0.009
196	16.33	0.13	0.086	(0.149)	0.078	0.009
197	16.42	0.13	0.086	(0.149)	0.078	0.009
198	16.50	0.13	0.086	(0.148)	0.078	0.009
199	16.58	0.10	0.065	(0.147)	0.058	0.006
200	16.67	0.10	0.065	(0.146)	0.058	0.006
201	16.75	0.10	0.065	(0.146)	0.058	0.006
202	16.83	0.10	0.065	(0.145)	0.058	0.006
203	16.92	0.10	0.065	(0.144)	0.058	0.006
204	17.00	0.10	0.065	(0.143)	0.058	0.006
205	17.08	0.17	0.108	(0.143)	0.097	0.011
206	17.17	0.17	0.108	(0.142)	0.097	0.011
207	17.25	0.17	0.108	(0.141)	0.097	0.011
208	17.33	0.17	0.108	(0.140)	0.097	0.011
209	17.42	0.17	0.108	(0.140)	0.097	0.011
210	17.50	0.17	0.108	(0.139)	0.097	0.011
211	17.58	0.17	0.108	(0.138)	0.097	0.011
212	17.67	0.17	0.108	(0.138)	0.097	0.011
213	17.75	0.17	0.108	(0.137)	0.097	0.011
214	17.83	0.13	0.086	(0.136)	0.078	0.009
215	17.92	0.13	0.086	(0.136)	0.078	0.009
216	18.00	0.13	0.086	(0.135)	0.078	0.009
217	18.08	0.13	0.086	(0.134)	0.078	0.009
218	18.17	0.13	0.086	(0.134)	0.078	0.009
219	18.25	0.13	0.086	(0.133)	0.078	0.009
220	18.33	0.13	0.086	(0.132)	0.078	0.009
221	18.42	0.13	0.086	(0.132)	0.078	0.009
222	18.50	0.13	0.086	(0.131)	0.078	0.009
223	18.58	0.10	0.065	(0.130)	0.058	0.006
224	18.67	0.10	0.065	(0.130)	0.058	0.006
225	18.75	0.10	0.065	(0.129)	0.058	0.006
226	18.83	0.07	0.043	(0.129)	0.039	0.004
227	18.92	0.07	0.043	(0.128)	0.039	0.004
228	19.00	0.07	0.043	(0.127)	0.039	0.004
229	19.08	0.10	0.065	(0.127)	0.058	0.006
230	19.17	0.10	0.065	(0.126)	0.058	0.006
231	19.25	0.10	0.065	(0.126)	0.058	0.006
232	19.33	0.13	0.086	(0.125)	0.078	0.009
233	19.42	0.13	0.086	(0.124)	0.078	0.009
234	19.50	0.13	0.086	(0.124)	0.078	0.009
235	19.58	0.10	0.065	(0.123)	0.058	0.006
236	19.67	0.10	0.065	(0.123)	0.058	0.006
237	19.75	0.10	0.065	(0.122)	0.058	0.006
238	19.83	0.07	0.043	(0.122)	0.039	0.004
239	19.92	0.07	0.043	(0.121)	0.039	0.004
240	20.00	0.07	0.043	(0.121)	0.039	0.004
241	20.08	0.10	0.065	(0.120)	0.058	0.006
242	20.17	0.10	0.065	(0.119)	0.058	0.006
243	20.25	0.10	0.065	(0.119)	0.058	0.006
244	20.33	0.10	0.065	(0.118)	0.058	0.006

245	20.42	0.10	0.065	(0.118)	0.058	0.006
246	20.50	0.10	0.065	(0.117)	0.058	0.006
247	20.58	0.10	0.065	(0.117)	0.058	0.006
248	20.67	0.10	0.065	(0.116)	0.058	0.006
249	20.75	0.10	0.065	(0.116)	0.058	0.006
250	20.83	0.07	0.043	(0.115)	0.039	0.004
251	20.92	0.07	0.043	(0.115)	0.039	0.004
252	21.00	0.07	0.043	(0.115)	0.039	0.004
253	21.08	0.10	0.065	(0.114)	0.058	0.006
254	21.17	0.10	0.065	(0.114)	0.058	0.006
255	21.25	0.10	0.065	(0.113)	0.058	0.006
256	21.33	0.07	0.043	(0.113)	0.039	0.004
257	21.42	0.07	0.043	(0.112)	0.039	0.004
258	21.50	0.07	0.043	(0.112)	0.039	0.004
259	21.58	0.10	0.065	(0.112)	0.058	0.006
260	21.67	0.10	0.065	(0.111)	0.058	0.006
261	21.75	0.10	0.065	(0.111)	0.058	0.006
262	21.83	0.07	0.043	(0.110)	0.039	0.004
263	21.92	0.07	0.043	(0.110)	0.039	0.004
264	22.00	0.07	0.043	(0.110)	0.039	0.004
265	22.08	0.10	0.065	(0.109)	0.058	0.006
266	22.17	0.10	0.065	(0.109)	0.058	0.006
267	22.25	0.10	0.065	(0.109)	0.058	0.006
268	22.33	0.07	0.043	(0.108)	0.039	0.004
269	22.42	0.07	0.043	(0.108)	0.039	0.004
270	22.50	0.07	0.043	(0.108)	0.039	0.004
271	22.58	0.07	0.043	(0.107)	0.039	0.004
272	22.67	0.07	0.043	(0.107)	0.039	0.004
273	22.75	0.07	0.043	(0.107)	0.039	0.004
274	22.83	0.07	0.043	(0.106)	0.039	0.004
275	22.92	0.07	0.043	(0.106)	0.039	0.004
276	23.00	0.07	0.043	(0.106)	0.039	0.004
277	23.08	0.07	0.043	(0.106)	0.039	0.004
278	23.17	0.07	0.043	(0.105)	0.039	0.004
279	23.25	0.07	0.043	(0.105)	0.039	0.004
280	23.33	0.07	0.043	(0.105)	0.039	0.004
281	23.42	0.07	0.043	(0.105)	0.039	0.004
282	23.50	0.07	0.043	(0.105)	0.039	0.004
283	23.58	0.07	0.043	(0.104)	0.039	0.004
284	23.67	0.07	0.043	(0.104)	0.039	0.004
285	23.75	0.07	0.043	(0.104)	0.039	0.004
286	23.83	0.07	0.043	(0.104)	0.039	0.004
287	23.92	0.07	0.043	(0.104)	0.039	0.004
288	24.00	0.07	0.043	(0.104)	0.039	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.4

Flood volume = Effective rainfall 2.37(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 3.02(In)
Total soil loss = 1.003(Ac.Ft)

Total rainfall = 5.39(In)
Flood volume = 34184.3 Cubic Feet
Total soil loss = 43686.6 Cubic Feet

Peak flow rate of this hydrograph = 2.225(CFS)

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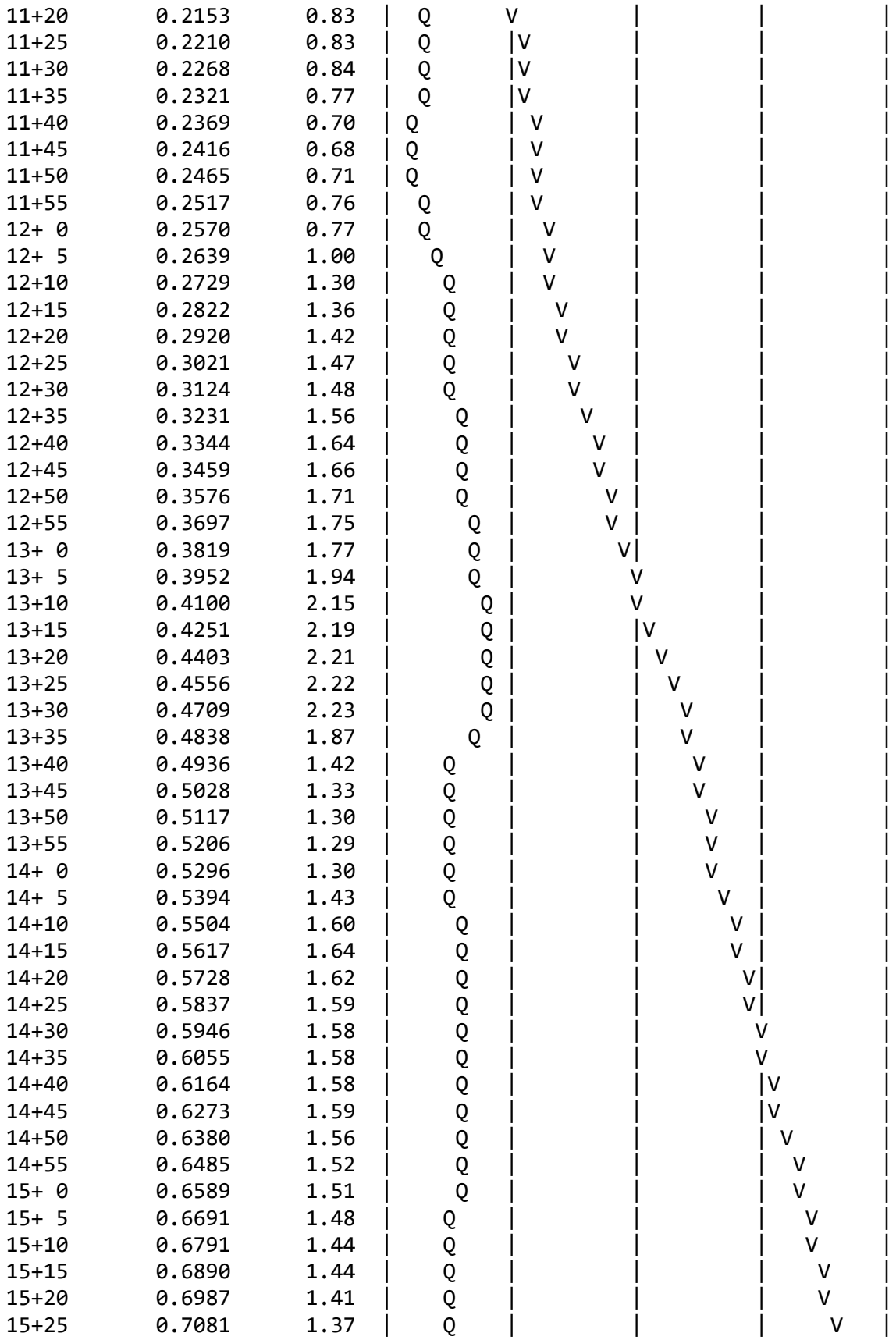
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.02	Q				
0+30	0.0007	0.03	Q				
0+35	0.0009	0.03	Q				
0+40	0.0011	0.03	Q				
0+45	0.0013	0.03	Q				
0+50	0.0015	0.03	Q				
0+55	0.0017	0.03	Q				
1+ 0	0.0019	0.03	Q				
1+ 5	0.0022	0.03	Q				
1+10	0.0023	0.03	Q				
1+15	0.0025	0.03	Q				
1+20	0.0027	0.03	Q				
1+25	0.0029	0.03	Q				
1+30	0.0031	0.03	Q				
1+35	0.0032	0.03	Q				
1+40	0.0034	0.03	Q				
1+45	0.0036	0.03	Q				
1+50	0.0038	0.03	Q				
1+55	0.0040	0.03	Q				
2+ 0	0.0043	0.03	Q				
2+ 5	0.0045	0.03	Q				
2+10	0.0047	0.03	Q				
2+15	0.0050	0.03	Q				
2+20	0.0052	0.03	Q				
2+25	0.0055	0.03	Q				
2+30	0.0057	0.03	Q				
2+35	0.0060	0.04	Q				
2+40	0.0062	0.04	Q				
2+45	0.0065	0.04	Q				
2+50	0.0068	0.04	Q				
2+55	0.0071	0.04	Q				

3+ 0	0.0074	0.04	Q				
3+ 5	0.0077	0.04	Q				
3+10	0.0080	0.04	Q				
3+15	0.0083	0.04	Q				
3+20	0.0086	0.04	Q				
3+25	0.0089	0.04	Q				
3+30	0.0092	0.04	Q				
3+35	0.0095	0.04	Q				
3+40	0.0098	0.04	Q				
3+45	0.0101	0.04	Q				
3+50	0.0104	0.05	Q				
3+55	0.0108	0.05	Q				
4+ 0	0.0111	0.05	Q				
4+ 5	0.0115	0.05	Q				
4+10	0.0119	0.05	Q				
4+15	0.0122	0.05	Q				
4+20	0.0126	0.06	Q				
4+25	0.0130	0.06	Q				
4+30	0.0134	0.06	Q				
4+35	0.0138	0.06	Q				
4+40	0.0143	0.06	Q				
4+45	0.0147	0.06	Q				
4+50	0.0151	0.06	Q				
4+55	0.0156	0.07	Q				
5+ 0	0.0160	0.07	Q				
5+ 5	0.0165	0.06	Q				
5+10	0.0169	0.05	Q				
5+15	0.0172	0.05	Q				
5+20	0.0176	0.06	Q				
5+25	0.0180	0.06	Q				
5+30	0.0184	0.06	Q				
5+35	0.0189	0.06	Q				
5+40	0.0193	0.07	Q				
5+45	0.0198	0.07	QV				
5+50	0.0203	0.07	QV				
5+55	0.0208	0.07	QV				
6+ 0	0.0212	0.07	QV				
6+ 5	0.0217	0.07	QV				
6+10	0.0223	0.08	QV				
6+15	0.0228	0.08	QV				
6+20	0.0233	0.08	QV				
6+25	0.0239	0.08	QV				
6+30	0.0244	0.08	QV				
6+35	0.0250	0.08	QV				
6+40	0.0255	0.09	QV				
6+45	0.0261	0.09	QV				
6+50	0.0267	0.09	QV				
6+55	0.0273	0.09	QV				
7+ 0	0.0279	0.09	QV				
7+ 5	0.0285	0.09	QV				

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 7+10       0.0291      0.09  QV        |         |         |         |
 7+15       0.0297      0.09  QV        |         |         |         |
 7+20       0.0303      0.09  QV        |         |         |         |
 7+25       0.0310      0.09  QV        |         |         |         |
 7+30       0.0316      0.09  QV        |         |         |         |
 7+35       0.0323      0.10  QV        |         |         |         |
 7+40       0.0330      0.10  QV        |         |         |         |
 7+45       0.0337      0.10  QV        |         |         |         |
 7+50       0.0345      0.11  QV        |         |         |         |
 7+55       0.0354      0.13  QV        |         |         |         |
 8+ 0       0.0363      0.13  QV        |         |         |         |
 8+ 5       0.0377      0.20  QV        |         |         |         |
 8+10       0.0397      0.29  |QV        |         |         |         |
 8+15       0.0419      0.31  |QV        |         |         |         |
 8+20       0.0441      0.32  |QV        |         |         |         |
 8+25       0.0464      0.33  |QV        |         |         |         |
 8+30       0.0487      0.34  |QV        |         |         |         |
 8+35       0.0513      0.37  |QV        |         |         |         |
 8+40       0.0542      0.42  |QV        |         |         |         |
 8+45       0.0571      0.43  |QV        |         |         |         |
 8+50       0.0604      0.47  |Q V       |         |         |         |
 8+55       0.0640      0.52  | QV       |         |         |         |
 9+ 0       0.0676      0.53  | QV       |         |         |         |
 9+ 5       0.0718      0.60  | QV       |         |         |         |
 9+10       0.0765      0.69  | QV       |         |         |         |
 9+15       0.0815      0.71  | Q V      |         |         |         |
 9+20       0.0867      0.76  |  QV      |         |         |         |
 9+25       0.0922      0.80  |  QV      |         |         |         |
 9+30       0.0978      0.82  |  QV      |         |         |         |
 9+35       0.1037      0.86  |  Q V     |         |         |         |
 9+40       0.1100      0.90  |  Q V     |         |         |         |
 9+45       0.1163      0.92  |  Q V     |         |         |         |
 9+50       0.1229      0.96  |  Q  V    |         |         |         |
 9+55       0.1298      1.00  |   Q V    |         |         |         |
10+ 0       0.1368      1.02  |   Q V    |         |         |         |
10+ 5       0.1422      0.79  |  Q   V   |         |         |         |
10+10       0.1458      0.51  | Q    V   |         |         |         |
10+15       0.1489      0.46  |Q     V   |         |         |         |
10+20       0.1520      0.44  |Q     V   |         |         |         |
10+25       0.1550      0.44  |Q     V   |         |         |         |
10+30       0.1580      0.44  |Q      V  |         |         |         |
10+35       0.1622      0.61  | Q     V  |         |         |         |
10+40       0.1678      0.82  |  Q    V  |         |         |         |
10+45       0.1738      0.86  |  Q    V  |         |         |         |
10+50       0.1798      0.88  |  Q     V|         |         |         |
10+55       0.1860      0.89  |  Q     V|         |         |         |
11+ 0       0.1922      0.90  |  Q     V|         |         |         |
11+ 5       0.1982      0.87  |  Q      V         |         |         |
11+10       0.2039      0.83  |  Q      V         |         |         |
11+15       0.2096      0.83  |  Q      V         |         |         |
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15+30       0.7174      1.36  |    Q    |         |         |     V   |
15+35       0.7259      1.23  |   Q     |         |         |      V  |
15+40       0.7333      1.07  |   Q     |         |         |      V  |
15+45       0.7404      1.04  |   Q     |         |         |      V  |
15+50       0.7475      1.03  |   Q     |         |         |       V |
15+55       0.7546      1.03  |   Q     |         |         |       V |
16+ 0       0.7617      1.03  |   Q     |         |         |       V |
16+ 5       0.7662      0.65  | Q       |         |         |         V|
16+10       0.7674      0.18  Q         |         |         |         V|
16+15       0.7680      0.08  Q         |         |         |         V|
16+20       0.7684      0.05  Q         |         |         |         V|
16+25       0.7686      0.03  Q         |         |         |         V|
16+30       0.7688      0.03  Q         |         |         |         V|
16+35       0.7690      0.03  Q         |         |         |         V|
16+40       0.7692      0.03  Q         |         |         |         V|
16+45       0.7694      0.03  Q         |         |         |         V|
16+50       0.7696      0.03  Q         |         |         |         V|
16+55       0.7698      0.03  Q         |         |         |         V|
17+ 0       0.7700      0.03  Q         |         |         |         V|
17+ 5       0.7702      0.03  Q         |         |         |         V|
17+10       0.7705      0.04  Q         |         |         |         V|
17+15       0.7708      0.04  Q         |         |         |         V|
17+20       0.7710      0.04  Q         |         |         |         V|
17+25       0.7713      0.04  Q         |         |         |         V|
17+30       0.7716      0.04  Q         |         |         |         V|
17+35       0.7719      0.04  Q         |         |         |         V|
17+40       0.7722      0.04  Q         |         |         |         V|
17+45       0.7725      0.04  Q         |         |         |         V|
17+50       0.7728      0.04  Q         |         |         |         V|
17+55       0.7731      0.04  Q         |         |         |         V|
18+ 0       0.7733      0.04  Q         |         |         |         V|
18+ 5       0.7735      0.03  Q         |         |         |         V|
18+10       0.7738      0.03  Q         |         |         |         V|
18+15       0.7740      0.03  Q         |         |         |         V|
18+20       0.7743      0.03  Q         |         |         |         V|
18+25       0.7745      0.03  Q         |         |         |         V|
18+30       0.7747      0.03  Q         |         |         |         V|
18+35       0.7749      0.03  Q         |         |         |         V|
18+40       0.7751      0.03  Q         |         |         |         V|
18+45       0.7753      0.03  Q         |         |         |         V|
18+50       0.7755      0.02  Q         |         |         |         V|
18+55       0.7756      0.02  Q         |         |         |         V|
19+ 0       0.7757      0.02  Q         |         |         |         V|
19+ 5       0.7759      0.02  Q         |         |         |         V|
19+10       0.7760      0.02  Q         |         |         |         V|
19+15       0.7762      0.03  Q         |         |         |         V|
19+20       0.7764      0.03  Q         |         |         |         V|
19+25       0.7766      0.03  Q         |         |         |         V|
19+30       0.7769      0.03  Q         |         |         |         V|
19+35       0.7771      0.03  Q         |         |         |         V|
```

19+40	0.7773	0.03	Q	|	|	|	V|
19+45	0.7775	0.03	Q	|	|	|	V|
19+50	0.7776	0.02	Q	|	|	|	V|
19+55	0.7777	0.02	Q	|	|	|	V|
20+ 0	0.7779	0.02	Q	|	|	|	V|
20+ 5	0.7780	0.02	Q	|	|	|	V|
20+10	0.7782	0.02	Q	|	|	|	V|
20+15	0.7784	0.03	Q	|	|	|	V|
20+20	0.7785	0.03	Q	|	|	|	V|
20+25	0.7787	0.03	Q	|	|	|	V|
20+30	0.7789	0.03	Q	|	|	|	V|
20+35	0.7791	0.03	Q	|	|	|	V|
20+40	0.7793	0.03	Q	|	|	|	V|
20+45	0.7794	0.03	Q	|	|	|	V|
20+50	0.7796	0.02	Q	|	|	|	V|
20+55	0.7797	0.02	Q	|	|	|	V|
21+ 0	0.7798	0.02	Q	|	|	|	V|
21+ 5	0.7800	0.02	Q	|	|	|	V|
21+10	0.7801	0.02	Q	|	|	|	V|
21+15	0.7803	0.03	Q	|	|	|	V|
21+20	0.7805	0.02	Q	|	|	|	V|
21+25	0.7806	0.02	Q	|	|	|	V|
21+30	0.7807	0.02	Q	|	|	|	V|
21+35	0.7809	0.02	Q	|	|	|	V|
21+40	0.7810	0.02	Q	|	|	|	V|
21+45	0.7812	0.03	Q	|	|	|	V|
21+50	0.7814	0.02	Q	|	|	|	V|
21+55	0.7815	0.02	Q	|	|	|	V|
22+ 0	0.7816	0.02	Q	|	|	|	V|
22+ 5	0.7818	0.02	Q	|	|	|	V|
22+10	0.7819	0.02	Q	|	|	|	V|
22+15	0.7821	0.03	Q	|	|	|	V|
22+20	0.7823	0.02	Q	|	|	|	V|
22+25	0.7824	0.02	Q	|	|	|	V|
22+30	0.7825	0.02	Q	|	|	|	V|
22+35	0.7826	0.02	Q	|	|	|	V|
22+40	0.7828	0.02	Q	|	|	|	V|
22+45	0.7829	0.02	Q	|	|	|	V|
22+50	0.7830	0.02	Q	|	|	|	V|
22+55	0.7831	0.02	Q	|	|	|	V|
23+ 0	0.7832	0.02	Q	|	|	|	V|
23+ 5	0.7834	0.02	Q	|	|	|	V|
23+10	0.7835	0.02	Q	|	|	|	V|
23+15	0.7836	0.02	Q	|	|	|	V|
23+20	0.7837	0.02	Q	|	|	|	V|
23+25	0.7838	0.02	Q	|	|	|	V|
23+30	0.7839	0.02	Q	|	|	|	V|
23+35	0.7841	0.02	Q	|	|	|	V|
23+40	0.7842	0.02	Q	|	|	|	V|
23+45	0.7843	0.02	Q	|	|	|	V|

```
   23+50       0.7844      0.02  Q         |          |          |        V|
   23+55       0.7845      0.02  Q         |          |          |        V|
   24+ 0       0.7847      0.02  Q         |          |          |        V|
   24+ 5       0.7847      0.01  Q         |          |          |        V|
   24+10       0.7848      0.00  Q         |          |          |        V|
   24+15       0.7848      0.00  Q         |          |          |        V|
   24+20       0.7848      0.00  Q         |          |          |        V|
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh12.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
2 yr
1 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.47                  1.87

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.67                  6.65

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.471(In)
Area Averaged 100-Year Rainfall =    1.670(In)

Point rain (area averaged) =    0.471(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.471(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  16.2      0.870     0.900        0.165       1.000      0.165
                                                 Sum (F) =   0.165
Area averaged mean soil loss (F) (In/Hr) =  0.165
Minimum soil loss rate ((In/Hr)) =  0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5800
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        DESERT S-Curve
-----------------------------------------------------------------
                Unit Hydrograph Data
-----------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                              Sum = 100.000   Sum=       4.011
-----------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.203	(0.165)	0.037	0.167
2	0.17	4.20	0.237	(0.165)	0.043	0.195
3	0.25	4.40	0.249	(0.165)	0.045	0.204
4	0.33	4.60	0.260	(0.165)	0.047	0.213
5	0.42	5.00	0.283	(0.165)	0.051	0.232
6	0.50	5.60	0.317	(0.165)	0.057	0.260
7	0.58	6.40	0.362	(0.165)	0.065	0.297
8	0.67	8.10	0.458	(0.165)	0.082	0.375
9	0.75	13.10	0.740	(0.165)	0.133	0.607
10	0.83	34.50	1.950	0.165	(0.351)	1.784
11	0.92	6.70	0.379	(0.165)	0.068	0.311
12	1.00	3.80	0.215	(0.165)	0.039	0.176
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	4.8

Flood volume = Effective rainfall 0.40(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.023(Ac.Ft)
Total rainfall = 0.47(In)
Flood volume = 5803.1 Cubic Feet
Total soil loss = 1001.4 Cubic Feet

Peak flow rate of this hydrograph = 5.219(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0027	0.40	VQ				
0+10	0.0076	0.71	| Q				
0+15	0.0131	0.80	| Q				
0+20	0.0189	0.84	| Q V				
0+25	0.0251	0.90	| Q V				
0+30	0.0320	0.99	| Q V|				
0+35	0.0397	1.13	| Q |V				
0+40	0.0492	1.37	| Q | V				
0+45	0.0633	2.05	| Q | V|				
0+50	0.0992	5.22	| | Q V|				
0+55	0.1230	3.46	| | Q | | V |				

```
    1+ 0       0.1309      1.15  |   Q     |         |         |        V|
    1+ 5       0.1330      0.31  |Q        |         |         |        V|
    1+10       0.1332      0.03  Q         |         |         |        V|
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh32.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
2 yr
3 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.76                    3.02

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            2.50                    9.95

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.760(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    0.760(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.760(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  16.2      0.870     0.900        0.165       1.000      0.165
                                                 Sum (F) =   0.165
Area averaged mean soil loss (F) (In/Hr) =  0.165
Minimum soil loss rate ((In/Hr)) =  0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.119	(0.165)	0.021	0.097
2	0.17	1.30	0.119	(0.165)	0.021	0.097
3	0.25	1.10	0.100	(0.165)	0.018	0.082
4	0.33	1.50	0.137	(0.165)	0.025	0.112
5	0.42	1.50	0.137	(0.165)	0.025	0.112
6	0.50	1.80	0.164	(0.165)	0.030	0.135
7	0.58	1.50	0.137	(0.165)	0.025	0.112
8	0.67	1.80	0.164	(0.165)	0.030	0.135
9	0.75	1.80	0.164	(0.165)	0.030	0.135
10	0.83	1.50	0.137	(0.165)	0.025	0.112
11	0.92	1.60	0.146	(0.165)	0.026	0.120
12	1.00	1.80	0.164	(0.165)	0.030	0.135
13	1.08	2.20	0.201	(0.165)	0.036	0.165
14	1.17	2.20	0.201	(0.165)	0.036	0.165
15	1.25	2.20	0.201	(0.165)	0.036	0.165
16	1.33	2.00	0.182	(0.165)	0.033	0.150
17	1.42	2.60	0.237	(0.165)	0.043	0.194
18	1.50	2.70	0.246	(0.165)	0.044	0.202
19	1.58	2.40	0.219	(0.165)	0.039	0.179
20	1.67	2.70	0.246	(0.165)	0.044	0.202
21	1.75	3.30	0.301	(0.165)	0.054	0.247
22	1.83	3.10	0.283	(0.165)	0.051	0.232
23	1.92	2.90	0.264	(0.165)	0.048	0.217
24	2.00	3.00	0.274	(0.165)	0.049	0.224
25	2.08	3.10	0.283	(0.165)	0.051	0.232
26	2.17	4.20	0.383	(0.165)	0.069	0.314
27	2.25	5.00	0.456	(0.165)	0.082	0.374
28	2.33	3.50	0.319	(0.165)	0.057	0.262
29	2.42	6.80	0.620	(0.165)	0.112	0.509
30	2.50	7.30	0.666	(0.165)	0.120	0.546
31	2.58	8.20	0.748	(0.165)	0.135	0.613
32	2.67	5.90	0.538	(0.165)	0.097	0.441
33	2.75	2.00	0.182	(0.165)	0.033	0.150
34	2.83	1.80	0.164	(0.165)	0.030	0.135
35	2.92	1.80	0.164	(0.165)	0.030	0.135
36	3.00	0.60	0.055	(0.165)	0.010	0.045
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	7.5

Flood volume = Effective rainfall 0.62(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.045(Ac.Ft)
Total rainfall = 0.76(In)
Flood volume = 9003.5 Cubic Feet
Total soil loss = 1976.4 Cubic Feet

Peak flow rate of this hydrograph = 2.346(CFS)

++

3 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0016	0.23	Q				
0+10	0.0042	0.38	VQ				
0+15	0.0066	0.35	|Q				
0+20	0.0094	0.40	|Q				
0+25	0.0125	0.45	|QV				
0+30	0.0159	0.50	| QV				
0+35	0.0193	0.48	|Q V				
0+40	0.0228	0.51	| Q V				
0+45	0.0265	0.54	| Q V				
0+50	0.0298	0.49	|Q V				
0+55	0.0331	0.47	|Q V				
1+ 0	0.0366	0.51	| Q V				
1+ 5	0.0408	0.61	| Q V				
1+10	0.0453	0.66	| Q V				
1+15	0.0499	0.66	| Q V				
1+20	0.0542	0.62	| Q V				
1+25	0.0591	0.71	| Q V				
1+30	0.0645	0.79	| Q V				
1+35	0.0697	0.76	| Q V				
1+40	0.0751	0.78	| Q V				
1+45	0.0814	0.91	| Q V				
1+50	0.0879	0.95	| Q V				
1+55	0.0941	0.90	| Q V				
2+ 0	0.1002	0.89	| Q V				
2+ 5	0.1065	0.92	| Q V				
2+10	0.1143	1.13	| Q V				
2+15	0.1239	1.39	| Q V				
2+20	0.1323	1.22	| Q V				
2+25	0.1437	1.66	| Q V				
2+30	0.1581	2.09	| Q V				
2+35	0.1743	2.35	| Q V				
2+40	0.1883	2.04	| Q V				
2+45	0.1959	1.10	| Q V				
2+50	0.2001	0.61	| Q V				
2+55	0.2038	0.54	| Q V				
3+ 0	0.2060	0.33	|Q V				
3+ 5	0.2066	0.09	Q V				
3+10	0.2067	0.01	Q V				

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

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Study date 09/21/22 File: 183postuh62.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
2 yr
6 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.99                  3.95

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            3.25                 12.94

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.993(In)
Area Averaged 100-Year Rainfall =    3.250(In)

Point rain (area averaged) =    0.993(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.993(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  16.2      0.870     0.900        0.165       1.000      0.165
                                                 Sum (F) =   0.165
Area averaged mean soil loss (F) (In/Hr) =  0.165
Minimum soil loss rate ((In/Hr)) =  0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

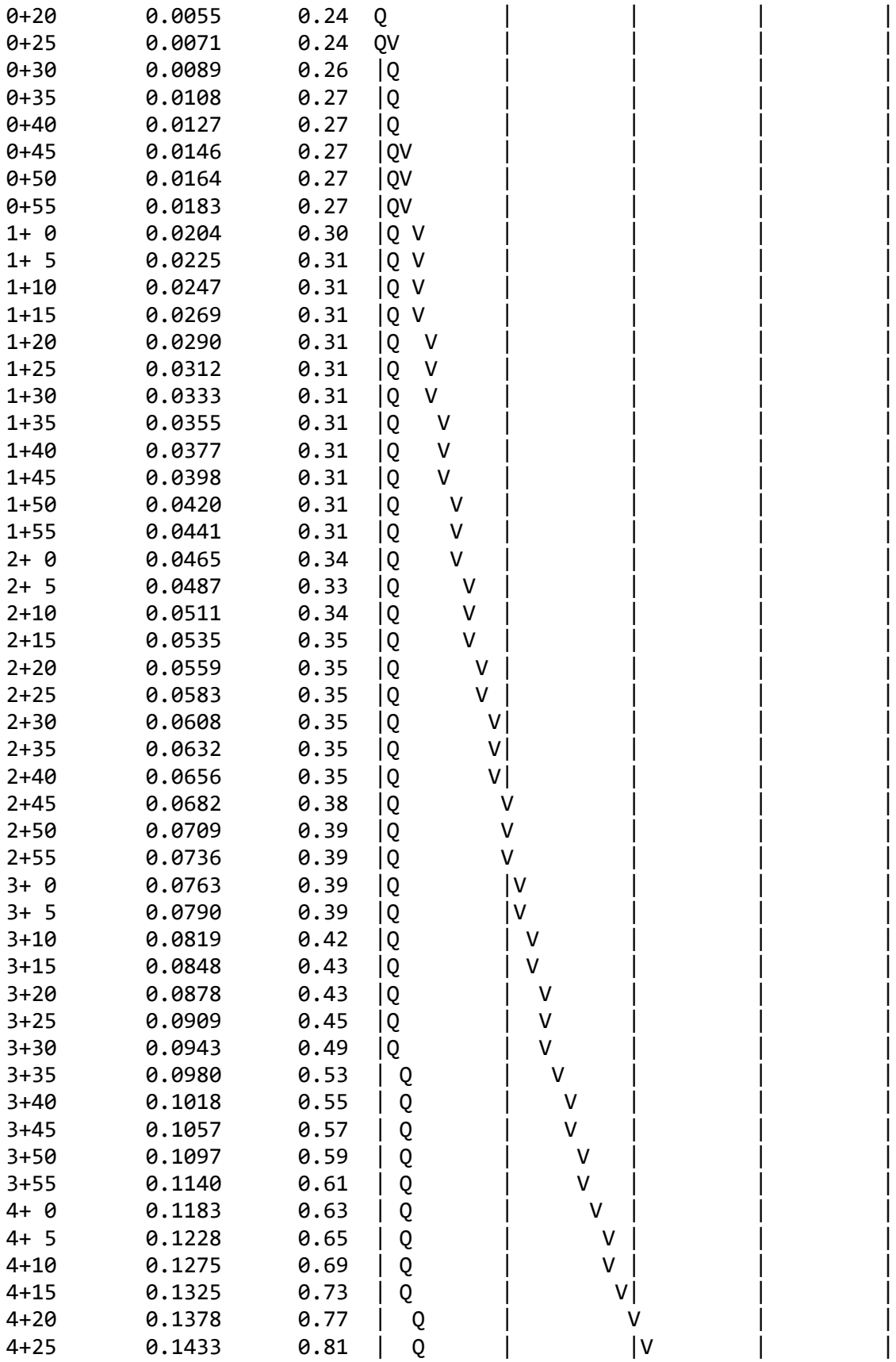
 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.060	(0.165)	0.011	0.049
2	0.17	0.60	0.071	(0.165)	0.013	0.059
3	0.25	0.60	0.071	(0.165)	0.013	0.059
4	0.33	0.60	0.071	(0.165)	0.013	0.059
5	0.42	0.60	0.071	(0.165)	0.013	0.059
6	0.50	0.70	0.083	(0.165)	0.015	0.068
7	0.58	0.70	0.083	(0.165)	0.015	0.068
8	0.67	0.70	0.083	(0.165)	0.015	0.068
9	0.75	0.70	0.083	(0.165)	0.015	0.068
10	0.83	0.70	0.083	(0.165)	0.015	0.068
11	0.92	0.70	0.083	(0.165)	0.015	0.068
12	1.00	0.80	0.095	(0.165)	0.017	0.078
13	1.08	0.80	0.095	(0.165)	0.017	0.078
14	1.17	0.80	0.095	(0.165)	0.017	0.078
15	1.25	0.80	0.095	(0.165)	0.017	0.078
16	1.33	0.80	0.095	(0.165)	0.017	0.078
17	1.42	0.80	0.095	(0.165)	0.017	0.078
18	1.50	0.80	0.095	(0.165)	0.017	0.078
19	1.58	0.80	0.095	(0.165)	0.017	0.078
20	1.67	0.80	0.095	(0.165)	0.017	0.078
21	1.75	0.80	0.095	(0.165)	0.017	0.078
22	1.83	0.80	0.095	(0.165)	0.017	0.078
23	1.92	0.80	0.095	(0.165)	0.017	0.078
24	2.00	0.90	0.107	(0.165)	0.019	0.088
25	2.08	0.80	0.095	(0.165)	0.017	0.078
26	2.17	0.90	0.107	(0.165)	0.019	0.088
27	2.25	0.90	0.107	(0.165)	0.019	0.088
28	2.33	0.90	0.107	(0.165)	0.019	0.088
29	2.42	0.90	0.107	(0.165)	0.019	0.088
30	2.50	0.90	0.107	(0.165)	0.019	0.088
31	2.58	0.90	0.107	(0.165)	0.019	0.088
32	2.67	0.90	0.107	(0.165)	0.019	0.088
33	2.75	1.00	0.119	(0.165)	0.021	0.098
34	2.83	1.00	0.119	(0.165)	0.021	0.098
35	2.92	1.00	0.119	(0.165)	0.021	0.098
36	3.00	1.00	0.119	(0.165)	0.021	0.098
37	3.08	1.00	0.119	(0.165)	0.021	0.098
38	3.17	1.10	0.131	(0.165)	0.024	0.107
39	3.25	1.10	0.131	(0.165)	0.024	0.107
40	3.33	1.10	0.131	(0.165)	0.024	0.107
41	3.42	1.20	0.143	(0.165)	0.026	0.117
42	3.50	1.30	0.155	(0.165)	0.028	0.127
43	3.58	1.40	0.167	(0.165)	0.030	0.137
44	3.67	1.40	0.167	(0.165)	0.030	0.137
45	3.75	1.50	0.179	(0.165)	0.032	0.147
46	3.83	1.50	0.179	(0.165)	0.032	0.147

```
47   3.92     1.60      0.191       (  0.165)       0.034        0.156
48   4.00     1.60      0.191       (  0.165)       0.034        0.156
49   4.08     1.70      0.203       (  0.165)       0.036        0.166
50   4.17     1.80      0.214       (  0.165)       0.039        0.176
51   4.25     1.90      0.226       (  0.165)       0.041        0.186
52   4.33     2.00      0.238       (  0.165)       0.043        0.195
53   4.42     2.10      0.250       (  0.165)       0.045        0.205
54   4.50     2.10      0.250       (  0.165)       0.045        0.205
55   4.58     2.20      0.262       (  0.165)       0.047        0.215
56   4.67     2.30      0.274       (  0.165)       0.049        0.225
57   4.75     2.40      0.286       (  0.165)       0.051        0.235
58   4.83     2.40      0.286       (  0.165)       0.051        0.235
59   4.92     2.50      0.298       (  0.165)       0.054        0.244
60   5.00     2.60      0.310       (  0.165)       0.056        0.254
61   5.08     3.10      0.369       (  0.165)       0.066        0.303
62   5.17     3.60      0.429       (  0.165)       0.077        0.352
63   5.25     3.90      0.465       (  0.165)       0.084        0.381
64   5.33     4.20      0.500       (  0.165)       0.090        0.410
65   5.42     4.70      0.560       (  0.165)       0.101        0.459
66   5.50     5.60      0.667       (  0.165)       0.120        0.547
67   5.58     1.90      0.226       (  0.165)       0.041        0.186
68   5.67     0.90      0.107       (  0.165)       0.019        0.088
69   5.75     0.60      0.071       (  0.165)       0.013        0.059
70   5.83     0.50      0.060       (  0.165)       0.011        0.049
71   5.92     0.30      0.036       (  0.165)       0.006        0.029
72   6.00     0.20      0.024       (  0.165)       0.004        0.020
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     9.8
      Flood volume = Effective rainfall      0.81(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      0.18(In)
      Total soil loss =     0.059(Ac.Ft)
      Total rainfall =      0.99(In)
      Flood volume =       11763.8 Cubic Feet
      Total soil loss =        2582.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.046(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0008      0.12  Q         |         |         |         |
  0+10       0.0023      0.21  Q         |         |         |         |
  0+15       0.0039      0.23  Q         |         |         |         |
```


0+20 0.0055 0.24
0+25 0.0071 0.24
0+30 0.0089 0.26
0+35 0.0108 0.27
0+40 0.0127 0.27
0+45 0.0146 0.27
0+50 0.0164 0.27
0+55 0.0183 0.27
1+ 0 0.0204 0.30
1+ 5 0.0225 0.31
1+10 0.0247 0.31
1+15 0.0269 0.31
1+20 0.0290 0.31
1+25 0.0312 0.31
1+30 0.0333 0.31
1+35 0.0355 0.31
1+40 0.0377 0.31
1+45 0.0398 0.31
1+50 0.0420 0.31
1+55 0.0441 0.31
2+ 0 0.0465 0.34
2+ 5 0.0487 0.33
2+10 0.0511 0.34
2+15 0.0535 0.35
2+20 0.0559 0.35
2+25 0.0583 0.35
2+30 0.0608 0.35
2+35 0.0632 0.35
2+40 0.0656 0.35
2+45 0.0682 0.38
2+50 0.0709 0.39
2+55 0.0736 0.39
3+ 0 0.0763 0.39
3+ 5 0.0790 0.39
3+10 0.0819 0.42
3+15 0.0848 0.43
3+20 0.0878 0.43
3+25 0.0909 0.45
3+30 0.0943 0.49
3+35 0.0980 0.53
3+40 0.1018 0.55
3+45 0.1057 0.57
3+50 0.1097 0.59
3+55 0.1140 0.61
4+ 0 0.1183 0.63
4+ 5 0.1228 0.65
4+10 0.1275 0.69
4+15 0.1325 0.73
4+20 0.1378 0.77
4+25 0.1433 0.81

```
    4+30       0.1490      0.82  |  Q      |         | V       |         |
    4+35       0.1548      0.85  |  Q      |         | V       |         |
    4+40       0.1609      0.88  |  Q      |         |  V      |         |
    4+45       0.1673      0.92  |  Q      |         |   V     |         |
    4+50       0.1738      0.94  |  Q      |         |    V    |         |
    4+55       0.1804      0.96  |  Q      |         |     V   |         |
    5+ 0       0.1873      1.00  |   Q     |         |      V  |         |
    5+ 5       0.1951      1.13  |   Q     |         |       V |         |
    5+10       0.2042      1.33  |    Q    |         |         V         |
    5+15       0.2144      1.47  |    Q    |         |         |V        |
    5+20       0.2254      1.59  |     Q   |         |         |  V      |
    5+25       0.2375      1.76  |      Q  |         |         |    V    |
    5+30       0.2516      2.05  |       Q |         |         |      V  |
    5+35       0.2607      1.32  |    Q    |         |         |       V |
    5+40       0.2646      0.57  | Q       |         |         |        V|
    5+45       0.2666      0.30  |Q        |         |         |        V|
    5+50       0.2681      0.22  Q         |         |         |        V|
    5+55       0.2691      0.15  Q         |         |         |        V|
    6+ 0       0.2698      0.10  Q         |         |         |        V|
    6+ 5       0.2700      0.03  Q         |         |         |        V|
    6+10       0.2701      0.00  Q         |         |         |         V
---------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh242.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
2 yr
24 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.51                   6.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            5.39                  21.45

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.510(In)
Area Averaged 100-Year Rainfall =    5.390(In)

Point rain (area averaged) =    1.510(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.510(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  16.2      0.870     0.900        0.165       1.000      0.165
                                                 Sum (F) =   0.165
Area averaged mean soil loss (F) (In/Hr) =  0.165
Minimum soil loss rate ((In/Hr)) =  0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.012	(0.293)	0.002	0.010
2	0.17	0.07	0.012	(0.292)	0.002	0.010
3	0.25	0.07	0.012	(0.291)	0.002	0.010
4	0.33	0.10	0.018	(0.290)	0.003	0.015
5	0.42	0.10	0.018	(0.289)	0.003	0.015
6	0.50	0.10	0.018	(0.288)	0.003	0.015
7	0.58	0.10	0.018	(0.286)	0.003	0.015
8	0.67	0.10	0.018	(0.285)	0.003	0.015
9	0.75	0.10	0.018	(0.284)	0.003	0.015
10	0.83	0.13	0.024	(0.283)	0.004	0.020
11	0.92	0.13	0.024	(0.282)	0.004	0.020
12	1.00	0.13	0.024	(0.281)	0.004	0.020
13	1.08	0.10	0.018	(0.280)	0.003	0.015
14	1.17	0.10	0.018	(0.279)	0.003	0.015
15	1.25	0.10	0.018	(0.277)	0.003	0.015
16	1.33	0.10	0.018	(0.276)	0.003	0.015
17	1.42	0.10	0.018	(0.275)	0.003	0.015
18	1.50	0.10	0.018	(0.274)	0.003	0.015
19	1.58	0.10	0.018	(0.273)	0.003	0.015
20	1.67	0.10	0.018	(0.272)	0.003	0.015
21	1.75	0.10	0.018	(0.271)	0.003	0.015
22	1.83	0.13	0.024	(0.270)	0.004	0.020
23	1.92	0.13	0.024	(0.269)	0.004	0.020
24	2.00	0.13	0.024	(0.268)	0.004	0.020
25	2.08	0.13	0.024	(0.267)	0.004	0.020
26	2.17	0.13	0.024	(0.265)	0.004	0.020
27	2.25	0.13	0.024	(0.264)	0.004	0.020
28	2.33	0.13	0.024	(0.263)	0.004	0.020
29	2.42	0.13	0.024	(0.262)	0.004	0.020
30	2.50	0.13	0.024	(0.261)	0.004	0.020
31	2.58	0.17	0.030	(0.260)	0.005	0.025
32	2.67	0.17	0.030	(0.259)	0.005	0.025
33	2.75	0.17	0.030	(0.258)	0.005	0.025
34	2.83	0.17	0.030	(0.257)	0.005	0.025
35	2.92	0.17	0.030	(0.256)	0.005	0.025
36	3.00	0.17	0.030	(0.255)	0.005	0.025
37	3.08	0.17	0.030	(0.254)	0.005	0.025
38	3.17	0.17	0.030	(0.253)	0.005	0.025
39	3.25	0.17	0.030	(0.252)	0.005	0.025
40	3.33	0.17	0.030	(0.251)	0.005	0.025
41	3.42	0.17	0.030	(0.250)	0.005	0.025
42	3.50	0.17	0.030	(0.249)	0.005	0.025
43	3.58	0.17	0.030	(0.247)	0.005	0.025
44	3.67	0.17	0.030	(0.246)	0.005	0.025
45	3.75	0.17	0.030	(0.245)	0.005	0.025
46	3.83	0.20	0.036	(0.244)	0.007	0.030

47	3.92	0.20	0.036	(0.243)	0.007	0.030
48	4.00	0.20	0.036	(0.242)	0.007	0.030
49	4.08	0.20	0.036	(0.241)	0.007	0.030
50	4.17	0.20	0.036	(0.240)	0.007	0.030
51	4.25	0.20	0.036	(0.239)	0.007	0.030
52	4.33	0.23	0.042	(0.238)	0.008	0.035
53	4.42	0.23	0.042	(0.237)	0.008	0.035
54	4.50	0.23	0.042	(0.236)	0.008	0.035
55	4.58	0.23	0.042	(0.235)	0.008	0.035
56	4.67	0.23	0.042	(0.234)	0.008	0.035
57	4.75	0.23	0.042	(0.233)	0.008	0.035
58	4.83	0.27	0.048	(0.232)	0.009	0.040
59	4.92	0.27	0.048	(0.231)	0.009	0.040
60	5.00	0.27	0.048	(0.230)	0.009	0.040
61	5.08	0.20	0.036	(0.229)	0.007	0.030
62	5.17	0.20	0.036	(0.228)	0.007	0.030
63	5.25	0.20	0.036	(0.227)	0.007	0.030
64	5.33	0.23	0.042	(0.226)	0.008	0.035
65	5.42	0.23	0.042	(0.225)	0.008	0.035
66	5.50	0.23	0.042	(0.224)	0.008	0.035
67	5.58	0.27	0.048	(0.223)	0.009	0.040
68	5.67	0.27	0.048	(0.222)	0.009	0.040
69	5.75	0.27	0.048	(0.221)	0.009	0.040
70	5.83	0.27	0.048	(0.220)	0.009	0.040
71	5.92	0.27	0.048	(0.219)	0.009	0.040
72	6.00	0.27	0.048	(0.218)	0.009	0.040
73	6.08	0.30	0.054	(0.217)	0.010	0.045
74	6.17	0.30	0.054	(0.216)	0.010	0.045
75	6.25	0.30	0.054	(0.215)	0.010	0.045
76	6.33	0.30	0.054	(0.214)	0.010	0.045
77	6.42	0.30	0.054	(0.213)	0.010	0.045
78	6.50	0.30	0.054	(0.213)	0.010	0.045
79	6.58	0.33	0.060	(0.212)	0.011	0.050
80	6.67	0.33	0.060	(0.211)	0.011	0.050
81	6.75	0.33	0.060	(0.210)	0.011	0.050
82	6.83	0.33	0.060	(0.209)	0.011	0.050
83	6.92	0.33	0.060	(0.208)	0.011	0.050
84	7.00	0.33	0.060	(0.207)	0.011	0.050
85	7.08	0.33	0.060	(0.206)	0.011	0.050
86	7.17	0.33	0.060	(0.205)	0.011	0.050
87	7.25	0.33	0.060	(0.204)	0.011	0.050
88	7.33	0.37	0.066	(0.203)	0.012	0.054
89	7.42	0.37	0.066	(0.202)	0.012	0.054
90	7.50	0.37	0.066	(0.201)	0.012	0.054
91	7.58	0.40	0.072	(0.200)	0.013	0.059
92	7.67	0.40	0.072	(0.199)	0.013	0.059
93	7.75	0.40	0.072	(0.198)	0.013	0.059
94	7.83	0.43	0.079	(0.198)	0.014	0.064
95	7.92	0.43	0.079	(0.197)	0.014	0.064
96	8.00	0.43	0.079	(0.196)	0.014	0.064

97	8.08	0.50	0.091	(0.195)	0.016	0.074
98	8.17	0.50	0.091	(0.194)	0.016	0.074
99	8.25	0.50	0.091	(0.193)	0.016	0.074
100	8.33	0.50	0.091	(0.192)	0.016	0.074
101	8.42	0.50	0.091	(0.191)	0.016	0.074
102	8.50	0.50	0.091	(0.190)	0.016	0.074
103	8.58	0.53	0.097	(0.189)	0.017	0.079
104	8.67	0.53	0.097	(0.189)	0.017	0.079
105	8.75	0.53	0.097	(0.188)	0.017	0.079
106	8.83	0.57	0.103	(0.187)	0.018	0.084
107	8.92	0.57	0.103	(0.186)	0.018	0.084
108	9.00	0.57	0.103	(0.185)	0.018	0.084
109	9.08	0.63	0.115	(0.184)	0.021	0.094
110	9.17	0.63	0.115	(0.183)	0.021	0.094
111	9.25	0.63	0.115	(0.182)	0.021	0.094
112	9.33	0.67	0.121	(0.181)	0.022	0.099
113	9.42	0.67	0.121	(0.181)	0.022	0.099
114	9.50	0.67	0.121	(0.180)	0.022	0.099
115	9.58	0.70	0.127	(0.179)	0.023	0.104
116	9.67	0.70	0.127	(0.178)	0.023	0.104
117	9.75	0.70	0.127	(0.177)	0.023	0.104
118	9.83	0.73	0.133	(0.176)	0.024	0.109
119	9.92	0.73	0.133	(0.175)	0.024	0.109
120	10.00	0.73	0.133	(0.175)	0.024	0.109
121	10.08	0.50	0.091	(0.174)	0.016	0.074
122	10.17	0.50	0.091	(0.173)	0.016	0.074
123	10.25	0.50	0.091	(0.172)	0.016	0.074
124	10.33	0.50	0.091	(0.171)	0.016	0.074
125	10.42	0.50	0.091	(0.170)	0.016	0.074
126	10.50	0.50	0.091	(0.170)	0.016	0.074
127	10.58	0.67	0.121	(0.169)	0.022	0.099
128	10.67	0.67	0.121	(0.168)	0.022	0.099
129	10.75	0.67	0.121	(0.167)	0.022	0.099
130	10.83	0.67	0.121	(0.166)	0.022	0.099
131	10.92	0.67	0.121	(0.166)	0.022	0.099
132	11.00	0.67	0.121	(0.165)	0.022	0.099
133	11.08	0.63	0.115	(0.164)	0.021	0.094
134	11.17	0.63	0.115	(0.163)	0.021	0.094
135	11.25	0.63	0.115	(0.162)	0.021	0.094
136	11.33	0.63	0.115	(0.161)	0.021	0.094
137	11.42	0.63	0.115	(0.161)	0.021	0.094
138	11.50	0.63	0.115	(0.160)	0.021	0.094
139	11.58	0.57	0.103	(0.159)	0.018	0.084
140	11.67	0.57	0.103	(0.158)	0.018	0.084
141	11.75	0.57	0.103	(0.157)	0.018	0.084
142	11.83	0.60	0.109	(0.157)	0.020	0.089
143	11.92	0.60	0.109	(0.156)	0.020	0.089
144	12.00	0.60	0.109	(0.155)	0.020	0.089
145	12.08	0.83	0.151	(0.154)	0.027	0.124
146	12.17	0.83	0.151	(0.154)	0.027	0.124

147	12.25	0.83	0.151	(0.153)	0.027	0.124
148	12.33	0.87	0.157	(0.152)	0.028	0.129
149	12.42	0.87	0.157	(0.151)	0.028	0.129
150	12.50	0.87	0.157	(0.151)	0.028	0.129
151	12.58	0.93	0.169	(0.150)	0.030	0.139
152	12.67	0.93	0.169	(0.149)	0.030	0.139
153	12.75	0.93	0.169	(0.148)	0.030	0.139
154	12.83	0.97	0.175	(0.148)	0.032	0.144
155	12.92	0.97	0.175	(0.147)	0.032	0.144
156	13.00	0.97	0.175	(0.146)	0.032	0.144
157	13.08	1.13	0.205	(0.145)	0.037	0.168
158	13.17	1.13	0.205	(0.145)	0.037	0.168
159	13.25	1.13	0.205	(0.144)	0.037	0.168
160	13.33	1.13	0.205	(0.143)	0.037	0.168
161	13.42	1.13	0.205	(0.142)	0.037	0.168
162	13.50	1.13	0.205	(0.142)	0.037	0.168
163	13.58	0.77	0.139	(0.141)	0.025	0.114
164	13.67	0.77	0.139	(0.140)	0.025	0.114
165	13.75	0.77	0.139	(0.139)	0.025	0.114
166	13.83	0.77	0.139	(0.139)	0.025	0.114
167	13.92	0.77	0.139	(0.138)	0.025	0.114
168	14.00	0.77	0.139	(0.137)	0.025	0.114
169	14.08	0.90	0.163	(0.137)	0.029	0.134
170	14.17	0.90	0.163	(0.136)	0.029	0.134
171	14.25	0.90	0.163	(0.135)	0.029	0.134
172	14.33	0.87	0.157	(0.135)	0.028	0.129
173	14.42	0.87	0.157	(0.134)	0.028	0.129
174	14.50	0.87	0.157	(0.133)	0.028	0.129
175	14.58	0.87	0.157	(0.133)	0.028	0.129
176	14.67	0.87	0.157	(0.132)	0.028	0.129
177	14.75	0.87	0.157	(0.131)	0.028	0.129
178	14.83	0.83	0.151	(0.130)	0.027	0.124
179	14.92	0.83	0.151	(0.130)	0.027	0.124
180	15.00	0.83	0.151	(0.129)	0.027	0.124
181	15.08	0.80	0.145	(0.129)	0.026	0.119
182	15.17	0.80	0.145	(0.128)	0.026	0.119
183	15.25	0.80	0.145	(0.127)	0.026	0.119
184	15.33	0.77	0.139	(0.127)	0.025	0.114
185	15.42	0.77	0.139	(0.126)	0.025	0.114
186	15.50	0.77	0.139	(0.125)	0.025	0.114
187	15.58	0.63	0.115	(0.125)	0.021	0.094
188	15.67	0.63	0.115	(0.124)	0.021	0.094
189	15.75	0.63	0.115	(0.123)	0.021	0.094
190	15.83	0.63	0.115	(0.123)	0.021	0.094
191	15.92	0.63	0.115	(0.122)	0.021	0.094
192	16.00	0.63	0.115	(0.121)	0.021	0.094
193	16.08	0.13	0.024	(0.121)	0.004	0.020
194	16.17	0.13	0.024	(0.120)	0.004	0.020
195	16.25	0.13	0.024	(0.120)	0.004	0.020
196	16.33	0.13	0.024	(0.119)	0.004	0.020

197	16.42	0.13	0.024	(0.118)	0.004	0.020
198	16.50	0.13	0.024	(0.118)	0.004	0.020
199	16.58	0.10	0.018	(0.117)	0.003	0.015
200	16.67	0.10	0.018	(0.117)	0.003	0.015
201	16.75	0.10	0.018	(0.116)	0.003	0.015
202	16.83	0.10	0.018	(0.115)	0.003	0.015
203	16.92	0.10	0.018	(0.115)	0.003	0.015
204	17.00	0.10	0.018	(0.114)	0.003	0.015
205	17.08	0.17	0.030	(0.114)	0.005	0.025
206	17.17	0.17	0.030	(0.113)	0.005	0.025
207	17.25	0.17	0.030	(0.113)	0.005	0.025
208	17.33	0.17	0.030	(0.112)	0.005	0.025
209	17.42	0.17	0.030	(0.111)	0.005	0.025
210	17.50	0.17	0.030	(0.111)	0.005	0.025
211	17.58	0.17	0.030	(0.110)	0.005	0.025
212	17.67	0.17	0.030	(0.110)	0.005	0.025
213	17.75	0.17	0.030	(0.109)	0.005	0.025
214	17.83	0.13	0.024	(0.109)	0.004	0.020
215	17.92	0.13	0.024	(0.108)	0.004	0.020
216	18.00	0.13	0.024	(0.108)	0.004	0.020
217	18.08	0.13	0.024	(0.107)	0.004	0.020
218	18.17	0.13	0.024	(0.107)	0.004	0.020
219	18.25	0.13	0.024	(0.106)	0.004	0.020
220	18.33	0.13	0.024	(0.105)	0.004	0.020
221	18.42	0.13	0.024	(0.105)	0.004	0.020
222	18.50	0.13	0.024	(0.104)	0.004	0.020
223	18.58	0.10	0.018	(0.104)	0.003	0.015
224	18.67	0.10	0.018	(0.103)	0.003	0.015
225	18.75	0.10	0.018	(0.103)	0.003	0.015
226	18.83	0.07	0.012	(0.102)	0.002	0.010
227	18.92	0.07	0.012	(0.102)	0.002	0.010
228	19.00	0.07	0.012	(0.101)	0.002	0.010
229	19.08	0.10	0.018	(0.101)	0.003	0.015
230	19.17	0.10	0.018	(0.101)	0.003	0.015
231	19.25	0.10	0.018	(0.100)	0.003	0.015
232	19.33	0.13	0.024	(0.100)	0.004	0.020
233	19.42	0.13	0.024	(0.099)	0.004	0.020
234	19.50	0.13	0.024	(0.099)	0.004	0.020
235	19.58	0.10	0.018	(0.098)	0.003	0.015
236	19.67	0.10	0.018	(0.098)	0.003	0.015
237	19.75	0.10	0.018	(0.097)	0.003	0.015
238	19.83	0.07	0.012	(0.097)	0.002	0.010
239	19.92	0.07	0.012	(0.096)	0.002	0.010
240	20.00	0.07	0.012	(0.096)	0.002	0.010
241	20.08	0.10	0.018	(0.096)	0.003	0.015
242	20.17	0.10	0.018	(0.095)	0.003	0.015
243	20.25	0.10	0.018	(0.095)	0.003	0.015
244	20.33	0.10	0.018	(0.094)	0.003	0.015
245	20.42	0.10	0.018	(0.094)	0.003	0.015
246	20.50	0.10	0.018	(0.094)	0.003	0.015

247	20.58	0.10	0.018	(0.093)	0.003	0.015
248	20.67	0.10	0.018	(0.093)	0.003	0.015
249	20.75	0.10	0.018	(0.092)	0.003	0.015
250	20.83	0.07	0.012	(0.092)	0.002	0.010
251	20.92	0.07	0.012	(0.092)	0.002	0.010
252	21.00	0.07	0.012	(0.091)	0.002	0.010
253	21.08	0.10	0.018	(0.091)	0.003	0.015
254	21.17	0.10	0.018	(0.091)	0.003	0.015
255	21.25	0.10	0.018	(0.090)	0.003	0.015
256	21.33	0.07	0.012	(0.090)	0.002	0.010
257	21.42	0.07	0.012	(0.090)	0.002	0.010
258	21.50	0.07	0.012	(0.089)	0.002	0.010
259	21.58	0.10	0.018	(0.089)	0.003	0.015
260	21.67	0.10	0.018	(0.089)	0.003	0.015
261	21.75	0.10	0.018	(0.088)	0.003	0.015
262	21.83	0.07	0.012	(0.088)	0.002	0.010
263	21.92	0.07	0.012	(0.088)	0.002	0.010
264	22.00	0.07	0.012	(0.087)	0.002	0.010
265	22.08	0.10	0.018	(0.087)	0.003	0.015
266	22.17	0.10	0.018	(0.087)	0.003	0.015
267	22.25	0.10	0.018	(0.086)	0.003	0.015
268	22.33	0.07	0.012	(0.086)	0.002	0.010
269	22.42	0.07	0.012	(0.086)	0.002	0.010
270	22.50	0.07	0.012	(0.086)	0.002	0.010
271	22.58	0.07	0.012	(0.085)	0.002	0.010
272	22.67	0.07	0.012	(0.085)	0.002	0.010
273	22.75	0.07	0.012	(0.085)	0.002	0.010
274	22.83	0.07	0.012	(0.085)	0.002	0.010
275	22.92	0.07	0.012	(0.085)	0.002	0.010
276	23.00	0.07	0.012	(0.084)	0.002	0.010
277	23.08	0.07	0.012	(0.084)	0.002	0.010
278	23.17	0.07	0.012	(0.084)	0.002	0.010
279	23.25	0.07	0.012	(0.084)	0.002	0.010
280	23.33	0.07	0.012	(0.084)	0.002	0.010
281	23.42	0.07	0.012	(0.083)	0.002	0.010
282	23.50	0.07	0.012	(0.083)	0.002	0.010
283	23.58	0.07	0.012	(0.083)	0.002	0.010
284	23.67	0.07	0.012	(0.083)	0.002	0.010
285	23.75	0.07	0.012	(0.083)	0.002	0.010
286	23.83	0.07	0.012	(0.083)	0.002	0.010
287	23.92	0.07	0.012	(0.083)	0.002	0.010
288	24.00	0.07	0.012	(0.083)	0.002	0.010

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.9

Flood volume = Effective rainfall 1.24(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.090(Ac.Ft)
Total rainfall = 1.51(In)
Flood volume = 17888.6 Cubic Feet

Total soil loss = 3926.8 Cubic Feet

Peak flow rate of this hydrograph = 0.676(CFS)

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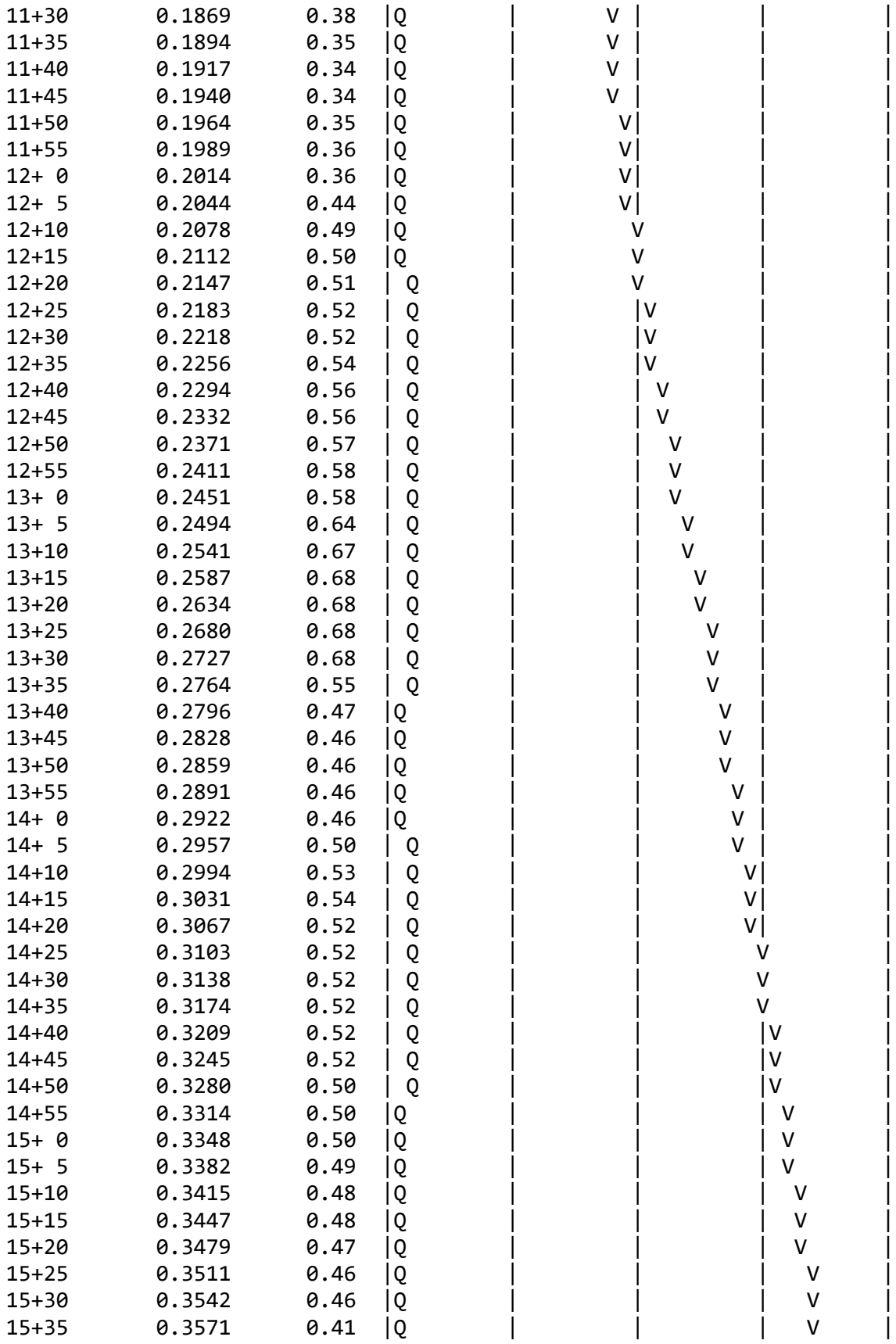
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.02	Q				
0+10	0.0004	0.04	Q				
0+15	0.0007	0.04	Q				
0+20	0.0011	0.05	Q				
0+25	0.0015	0.06	Q				
0+30	0.0019	0.06	Q				
0+35	0.0023	0.06	Q				
0+40	0.0027	0.06	Q				
0+45	0.0031	0.06	Q				
0+50	0.0036	0.07	Q				
0+55	0.0041	0.08	Q				
1+ 0	0.0047	0.08	Q				
1+ 5	0.0052	0.07	Q				
1+10	0.0056	0.06	Q				
1+15	0.0060	0.06	Q				
1+20	0.0064	0.06	Q				
1+25	0.0068	0.06	Q				
1+30	0.0072	0.06	Q				
1+35	0.0076	0.06	Q				
1+40	0.0080	0.06	Q				
1+45	0.0084	0.06	Q				
1+50	0.0089	0.07	Q				
1+55	0.0095	0.08	Q				
2+ 0	0.0100	0.08	Q				
2+ 5	0.0106	0.08	QV				
2+10	0.0111	0.08	QV				
2+15	0.0117	0.08	QV				
2+20	0.0122	0.08	QV				
2+25	0.0128	0.08	QV				
2+30	0.0133	0.08	QV				
2+35	0.0139	0.09	QV				
2+40	0.0146	0.10	QV				
2+45	0.0153	0.10	QV				
2+50	0.0160	0.10	QV				
2+55	0.0167	0.10	QV				
3+ 0	0.0174	0.10	QV				
3+ 5	0.0180	0.10	QV				

3+10	0.0187	0.10	QV	|	|	|	|
3+15	0.0194	0.10	QV	|	|	|	|
3+20	0.0201	0.10	QV	|	|	|	|
3+25	0.0208	0.10	Q V	|	|	|	|
3+30	0.0215	0.10	Q V	|	|	|	|
3+35	0.0221	0.10	Q V	|	|	|	|
3+40	0.0228	0.10	Q V	|	|	|	|
3+45	0.0235	0.10	Q V	|	|	|	|
3+50	0.0243	0.11	Q V	|	|	|	|
3+55	0.0251	0.12	Q V	|	|	|	|
4+ 0	0.0259	0.12	Q V	|	|	|	|
4+ 5	0.0267	0.12	Q V	|	|	|	|
4+10	0.0276	0.12	Q V	|	|	|	|
4+15	0.0284	0.12	Q V	|	|	|	|
4+20	0.0293	0.13	Q V	|	|	|	|
4+25	0.0302	0.14	Q V	|	|	|	|
4+30	0.0312	0.14	Q V	|	|	|	|
4+35	0.0322	0.14	Q V	|	|	|	|
4+40	0.0331	0.14	Q V	|	|	|	|
4+45	0.0341	0.14	Q V	|	|	|	|
4+50	0.0351	0.15	Q V	|	|	|	|
4+55	0.0362	0.16	Q V	|	|	|	|
5+ 0	0.0373	0.16	Q V	|	|	|	|
5+ 5	0.0382	0.14	Q V	|	|	|	|
5+10	0.0391	0.12	Q V	|	|	|	|
5+15	0.0399	0.12	Q V	|	|	|	|
5+20	0.0408	0.13	Q V	|	|	|	|
5+25	0.0417	0.14	Q V	|	|	|	|
5+30	0.0427	0.14	Q V	|	|	|	|
5+35	0.0437	0.15	Q V	|	|	|	|
5+40	0.0448	0.16	Q V	|	|	|	|
5+45	0.0459	0.16	Q V	|	|	|	|
5+50	0.0470	0.16	Q V	|	|	|	|
5+55	0.0481	0.16	Q V	|	|	|	|
6+ 0	0.0492	0.16	Q V	|	|	|	|
6+ 5	0.0504	0.17	Q V	|	|	|	|
6+10	0.0516	0.18	Q V	|	|	|	|
6+15	0.0528	0.18	Q V	|	|	|	|
6+20	0.0541	0.18	Q V	|	|	|	|
6+25	0.0553	0.18	Q V	|	|	|	|
6+30	0.0565	0.18	Q V	|	|	|	|
6+35	0.0579	0.19	Q V	|	|	|	|
6+40	0.0592	0.20	Q V	|	|	|	|
6+45	0.0606	0.20	Q V	|	|	|	|
6+50	0.0620	0.20	Q V	|	|	|	|
6+55	0.0633	0.20	Q V	|	|	|	|
7+ 0	0.0647	0.20	Q V	|	|	|	|
7+ 5	0.0661	0.20	Q V	|	|	|	|
7+10	0.0674	0.20	Q V	|	|	|	|
7+15	0.0688	0.20	Q V	|	|	|	|

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 7+20       0.0702      0.21  Q     V   |          |          |          |
 7+25       0.0717      0.22  Q     V   |          |          |          |
 7+30       0.0733      0.22  Q      V  |          |          |          |
 7+35       0.0748      0.23  Q      V  |          |          |          |
 7+40       0.0765      0.24  Q      V  |          |          |          |
 7+45       0.0781      0.24  Q      V  |          |          |          |
 7+50       0.0798      0.25  |Q     V  |          |          |          |
 7+55       0.0816      0.26  |Q     V  |          |          |          |
 8+ 0       0.0834      0.26  |Q      V |          |          |          |
 8+ 5       0.0853      0.28  |Q      V |          |          |          |
 8+10       0.0874      0.30  |Q      V |          |          |          |
 8+15       0.0894      0.30  |Q      V |          |          |          |
 8+20       0.0915      0.30  |Q      V |          |          |          |
 8+25       0.0935      0.30  |Q       V|          |          |          |
 8+30       0.0956      0.30  |Q       V|          |          |          |
 8+35       0.0977      0.31  |Q       V|          |          |          |
 8+40       0.0999      0.32  |Q       V|          |          |          |
 8+45       0.1021      0.32  |Q       V|          |          |          |
 8+50       0.1044      0.33  |Q        V          |          |          |
 8+55       0.1067      0.34  |Q        V          |          |          |
 9+ 0       0.1090      0.34  |Q        V          |          |          |
 9+ 5       0.1115      0.36  |Q        V          |          |          |
 9+10       0.1141      0.38  |Q        |V         |          |          |
 9+15       0.1167      0.38  |Q        |V         |          |          |
 9+20       0.1194      0.39  |Q        |V         |          |          |
 9+25       0.1221      0.40  |Q        |V         |          |          |
 9+30       0.1249      0.40  |Q        | V        |          |          |
 9+35       0.1277      0.41  |Q        | V        |          |          |
 9+40       0.1306      0.42  |Q        | V        |          |          |
 9+45       0.1334      0.42  |Q        | V        |          |          |
 9+50       0.1364      0.43  |Q        |  V       |          |          |
 9+55       0.1394      0.44  |Q        |  V       |          |          |
10+ 0       0.1424      0.44  |Q        |  V       |          |          |
10+ 5       0.1448      0.35  |Q        |   V      |          |          |
10+10       0.1469      0.30  |Q        |   V      |          |          |
10+15       0.1490      0.30  |Q        |   V      |          |          |
10+20       0.1510      0.30  |Q        |   V      |          |          |
10+25       0.1531      0.30  |Q        |   V      |          |          |
10+30       0.1551      0.30  |Q        |    V     |          |          |
10+35       0.1576      0.36  |Q        |    V     |          |          |
10+40       0.1603      0.39  |Q        |    V     |          |          |
10+45       0.1631      0.40  |Q        |    V     |          |          |
10+50       0.1658      0.40  |Q        |     V    |          |          |
10+55       0.1685      0.40  |Q        |     V    |          |          |
11+ 0       0.1713      0.40  |Q        |     V    |          |          |
11+ 5       0.1739      0.39  |Q        |     V    |          |          |
11+10       0.1765      0.38  |Q        |      V   |          |          |
11+15       0.1791      0.38  |Q        |      V   |          |          |
11+20       0.1817      0.38  |Q        |      V   |          |          |
11+25       0.1843      0.38  |Q        |      V   |          |          |
```



```
15+40       0.3597      0.38  |Q        |         |         |    V    |
15+45       0.3623      0.38  |Q        |         |         |    V    |
15+50       0.3649      0.38  |Q        |         |         |    V    |
15+55       0.3675      0.38  |Q        |         |         |    V    |
16+ 0       0.3701      0.38  |Q        |         |         |     V   |
16+ 5       0.3715      0.20  Q         |         |         |     V   |
16+10       0.3721      0.09  Q         |         |         |     V   |
16+15       0.3726      0.08  Q         |         |         |     V   |
16+20       0.3732      0.08  Q         |         |         |     V   |
16+25       0.3737      0.08  Q         |         |         |     V   |
16+30       0.3743      0.08  Q         |         |         |     V   |
16+35       0.3748      0.07  Q         |         |         |     V   |
16+40       0.3752      0.06  Q         |         |         |     V   |
16+45       0.3756      0.06  Q         |         |         |     V   |
16+50       0.3760      0.06  Q         |         |         |     V   |
16+55       0.3764      0.06  Q         |         |         |     V   |
17+ 0       0.3768      0.06  Q         |         |         |     V   |
17+ 5       0.3774      0.08  Q         |         |         |     V   |
17+10       0.3781      0.10  Q         |         |         |     V   |
17+15       0.3787      0.10  Q         |         |         |     V   |
17+20       0.3794      0.10  Q         |         |         |     V   |
17+25       0.3801      0.10  Q         |         |         |      V  |
17+30       0.3808      0.10  Q         |         |         |      V  |
17+35       0.3815      0.10  Q         |         |         |      V  |
17+40       0.3822      0.10  Q         |         |         |      V  |
17+45       0.3828      0.10  Q         |         |         |      V  |
17+50       0.3835      0.09  Q         |         |         |      V  |
17+55       0.3840      0.08  Q         |         |         |      V  |
18+ 0       0.3846      0.08  Q         |         |         |      V  |
18+ 5       0.3851      0.08  Q         |         |         |      V  |
18+10       0.3856      0.08  Q         |         |         |      V  |
18+15       0.3862      0.08  Q         |         |         |      V  |
18+20       0.3867      0.08  Q         |         |         |      V  |
18+25       0.3873      0.08  Q         |         |         |      V  |
18+30       0.3878      0.08  Q         |         |         |      V  |
18+35       0.3883      0.07  Q         |         |         |      V  |
18+40       0.3887      0.06  Q         |         |         |      V  |
18+45       0.3891      0.06  Q         |         |         |      V  |
18+50       0.3895      0.05  Q         |         |         |      V  |
18+55       0.3897      0.04  Q         |         |         |      V  |
19+ 0       0.3900      0.04  Q         |         |         |      V  |
19+ 5       0.3904      0.05  Q         |         |         |       V |
19+10       0.3908      0.06  Q         |         |         |       V |
19+15       0.3912      0.06  Q         |         |         |       V |
19+20       0.3917      0.07  Q         |         |         |       V |
19+25       0.3922      0.08  Q         |         |         |       V |
19+30       0.3928      0.08  Q         |         |         |       V |
19+35       0.3932      0.07  Q         |         |         |       V |
19+40       0.3936      0.06  Q         |         |         |       V |
19+45       0.3941      0.06  Q         |         |         |       V |
```

19+50	0.3944	0.05	Q	|	|	|	V |
19+55	0.3947	0.04	Q	|	|	|	V |
20+ 0	0.3949	0.04	Q	|	|	|	V |
20+ 5	0.3953	0.05	Q	|	|	|	V |
20+10	0.3957	0.06	Q	|	|	|	V |
20+15	0.3961	0.06	Q	|	|	|	V |
20+20	0.3965	0.06	Q	|	|	|	V |
20+25	0.3969	0.06	Q	|	|	|	V |
20+30	0.3973	0.06	Q	|	|	|	V |
20+35	0.3978	0.06	Q	|	|	|	V |
20+40	0.3982	0.06	Q	|	|	|	V |
20+45	0.3986	0.06	Q	|	|	|	V |
20+50	0.3989	0.05	Q	|	|	|	V |
20+55	0.3992	0.04	Q	|	|	|	V |
21+ 0	0.3995	0.04	Q	|	|	|	V |
21+ 5	0.3998	0.05	Q	|	|	|	V |
21+10	0.4002	0.06	Q	|	|	|	V |
21+15	0.4006	0.06	Q	|	|	|	V|
21+20	0.4010	0.05	Q	|	|	|	V|
21+25	0.4012	0.04	Q	|	|	|	V|
21+30	0.4015	0.04	Q	|	|	|	V|
21+35	0.4019	0.05	Q	|	|	|	V|
21+40	0.4023	0.06	Q	|	|	|	V|
21+45	0.4027	0.06	Q	|	|	|	V|
21+50	0.4030	0.05	Q	|	|	|	V|
21+55	0.4033	0.04	Q	|	|	|	V|
22+ 0	0.4036	0.04	Q	|	|	|	V|
22+ 5	0.4039	0.05	Q	|	|	|	V|
22+10	0.4043	0.06	Q	|	|	|	V|
22+15	0.4047	0.06	Q	|	|	|	V|
22+20	0.4051	0.05	Q	|	|	|	V|
22+25	0.4053	0.04	Q	|	|	|	V|
22+30	0.4056	0.04	Q	|	|	|	V|
22+35	0.4059	0.04	Q	|	|	|	V|
22+40	0.4062	0.04	Q	|	|	|	V|
22+45	0.4064	0.04	Q	|	|	|	V|
22+50	0.4067	0.04	Q	|	|	|	V|
22+55	0.4070	0.04	Q	|	|	|	V|
23+ 0	0.4073	0.04	Q	|	|	|	V|
23+ 5	0.4075	0.04	Q	|	|	|	V|
23+10	0.4078	0.04	Q	|	|	|	V|
23+15	0.4081	0.04	Q	|	|	|	V|
23+20	0.4084	0.04	Q	|	|	|	V|
23+25	0.4086	0.04	Q	|	|	|	V|
23+30	0.4089	0.04	Q	|	|	|	V|
23+35	0.4092	0.04	Q	|	|	|	V|
23+40	0.4095	0.04	Q	|	|	|	V|
23+45	0.4097	0.04	Q	|	|	|	V|
23+50	0.4100	0.04	Q	|	|	|	V|
23+55	0.4103	0.04	Q	|	|	|	V|

```
   24+ 0       0.4105      0.04  Q         |         |         |        V|
   24+ 5       0.4107      0.02  Q         |         |         |        V|
   24+10       0.4107      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh15.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
5 yr
1 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.47                  1.87

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.67                  6.65

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.471(In)
Area Averaged 100-Year Rainfall =    1.670(In)

Point rain (area averaged) =    0.752(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.752(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  16.2      0.870     0.900        0.165       1.000      0.165
                                                 Sum (F) =   0.165
Area averaged mean soil loss (F) (In/Hr) =  0.165
Minimum soil loss rate ((In/Hr)) =  0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5800
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        DESERT S-Curve
-----------------------------------------------------------------
                Unit Hydrograph Data
-----------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                              Sum = 100.000   Sum=       4.011
-----------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.325	(0.165)	0.058	0.266
2	0.17	4.20	0.379	(0.165)	0.068	0.311
3	0.25	4.40	0.397	(0.165)	0.071	0.326
4	0.33	4.60	0.415	(0.165)	0.075	0.340
5	0.42	5.00	0.451	(0.165)	0.081	0.370
6	0.50	5.60	0.505	(0.165)	0.091	0.414
7	0.58	6.40	0.577	(0.165)	0.104	0.473
8	0.67	8.10	0.731	(0.165)	0.132	0.599
9	0.75	13.10	1.182	0.165	(0.213)	1.016
10	0.83	34.50	3.112	0.165	(0.560)	2.947
11	0.92	6.70	0.604	(0.165)	0.109	0.496
12	1.00	3.80	0.343	(0.165)	0.062	0.281
		(Loss Rate Not Used)				
	Sum =	100.0			Sum =	7.8

Flood volume = Effective rainfall 0.65(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.033(Ac.Ft)
Total rainfall = 0.75(In)
Flood volume = 9439.0 Cubic Feet
Total soil loss = 1422.7 Cubic Feet

Peak flow rate of this hydrograph = 8.636(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 2.5 5.0 7.5 10.0
0+ 5	0.0044	0.64	V Q
0+10	0.0122	1.13	| V Q
0+15	0.0210	1.28	| V Q
0+20	0.0302	1.34	| Q
0+25	0.0401	1.43	| Q V
0+30	0.0510	1.59	| Q V|
0+35	0.0634	1.80	| Q |V
0+40	0.0785	2.19	| Q | V
0+45	0.1018	3.38	| | Q V |
0+50	0.1613	8.64	| | | V| Q |
0+55	0.2003	5.67	| | | Q | V |

```
    1+ 0       0.2130      1.85  |      Q  |         |         |        V|
    1+ 5       0.2164      0.49  |Q        |         |         |        V|
    1+10       0.2167      0.04  Q         |         |         |         V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh35.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
5 yr
3 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.76                  3.02

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            2.50                  9.95

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.760(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.168(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.168(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  16.2      0.870     0.900        0.165       1.000      0.165
                                                 Sum (F) =   0.165
Area averaged mean soil loss (F) (In/Hr) =  0.165
Minimum soil loss rate ((In/Hr)) =  0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.182	(0.165)	0.033	0.149
2	0.17	1.30	0.182	(0.165)	0.033	0.149
3	0.25	1.10	0.154	(0.165)	0.028	0.126
4	0.33	1.50	0.210	(0.165)	0.038	0.172
5	0.42	1.50	0.210	(0.165)	0.038	0.172
6	0.50	1.80	0.252	(0.165)	0.045	0.207
7	0.58	1.50	0.210	(0.165)	0.038	0.172
8	0.67	1.80	0.252	(0.165)	0.045	0.207
9	0.75	1.80	0.252	(0.165)	0.045	0.207
10	0.83	1.50	0.210	(0.165)	0.038	0.172
11	0.92	1.60	0.224	(0.165)	0.040	0.184
12	1.00	1.80	0.252	(0.165)	0.045	0.207
13	1.08	2.20	0.308	(0.165)	0.055	0.253
14	1.17	2.20	0.308	(0.165)	0.055	0.253
15	1.25	2.20	0.308	(0.165)	0.055	0.253
16	1.33	2.00	0.280	(0.165)	0.050	0.230
17	1.42	2.60	0.364	(0.165)	0.066	0.299
18	1.50	2.70	0.378	(0.165)	0.068	0.310
19	1.58	2.40	0.336	(0.165)	0.061	0.276
20	1.67	2.70	0.378	(0.165)	0.068	0.310
21	1.75	3.30	0.462	(0.165)	0.083	0.379
22	1.83	3.10	0.434	(0.165)	0.078	0.356
23	1.92	2.90	0.406	(0.165)	0.073	0.333
24	2.00	3.00	0.420	(0.165)	0.076	0.345
25	2.08	3.10	0.434	(0.165)	0.078	0.356
26	2.17	4.20	0.588	(0.165)	0.106	0.483
27	2.25	5.00	0.701	(0.165)	0.126	0.574
28	2.33	3.50	0.490	(0.165)	0.088	0.402
29	2.42	6.80	0.953	0.165	(0.171)	0.787
30	2.50	7.30	1.023	0.165	(0.184)	0.857
31	2.58	8.20	1.149	0.165	(0.207)	0.983
32	2.67	5.90	0.827	(0.165)	0.149	0.678
33	2.75	2.00	0.280	(0.165)	0.050	0.230
34	2.83	1.80	0.252	(0.165)	0.045	0.207
35	2.92	1.80	0.252	(0.165)	0.045	0.207
36	3.00	0.60	0.084	(0.165)	0.015	0.069
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	11.6

Flood volume = Effective rainfall 0.96(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.068(Ac.Ft)
Total rainfall = 1.17(In)
Flood volume = 13911.3 Cubic Feet
Total soil loss = 2956.4 Cubic Feet

Peak flow rate of this hydrograph = 3.732(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 2.5 5.0 7.5 10.0
0+ 5	0.0025	0.36	VQ
0+10	0.0064	0.58	V Q
0+15	0.0102	0.54	|VQ
0+20	0.0145	0.62	|VQ
0+25	0.0192	0.68	| Q
0+30	0.0245	0.77	| Q
0+35	0.0296	0.74	| QV
0+40	0.0350	0.78	| QV
0+45	0.0407	0.82	| Q V
0+50	0.0458	0.75	| Q V
0+55	0.0508	0.72	| Q V
1+ 0	0.0562	0.79	| Q V
1+ 5	0.0627	0.94	| Q V
1+10	0.0696	1.01	| Q V
1+15	0.0766	1.01	| Q V
1+20	0.0832	0.96	| Q V
1+25	0.0907	1.09	| Q |V
1+30	0.0991	1.22	| Q | V
1+35	0.1071	1.16	| Q | V
1+40	0.1153	1.19	| Q | V
1+45	0.1250	1.40	| Q | V
1+50	0.1350	1.46	| Q | V
1+55	0.1445	1.38	| Q | V
2+ 0	0.1539	1.37	| Q | V
2+ 5	0.1636	1.41	| Q | V
2+10	0.1756	1.73	| Q | V
2+15	0.1903	2.14	| Q | V
2+20	0.2032	1.88	| Q | V
2+25	0.2209	2.56	| Q | V
2+30	0.2434	3.27	| Q | V
2+35	0.2691	3.73	| Q | V
2+40	0.2911	3.20	| Q | V
2+45	0.3028	1.69	| Q | V
2+50	0.3092	0.94	| Q | V
2+55	0.3149	0.83	| Q | V
3+ 0	0.3184	0.50	|Q | V
3+ 5	0.3193	0.13	Q | V
3+10	0.3194	0.01	Q | V

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

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Study date 09/21/22 File: 183postuh65.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
5 yr
6 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.99                  3.95

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            3.25                 12.94

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.993(In)
Area Averaged 100-Year Rainfall =    3.250(In)

Point rain (area averaged) =    1.522(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.522(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  16.2      0.870     0.900        0.165       1.000      0.165
                                                 Sum (F) =   0.165
Area averaged mean soil loss (F) (In/Hr) =  0.165
Minimum soil loss rate ((In/Hr)) =  0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

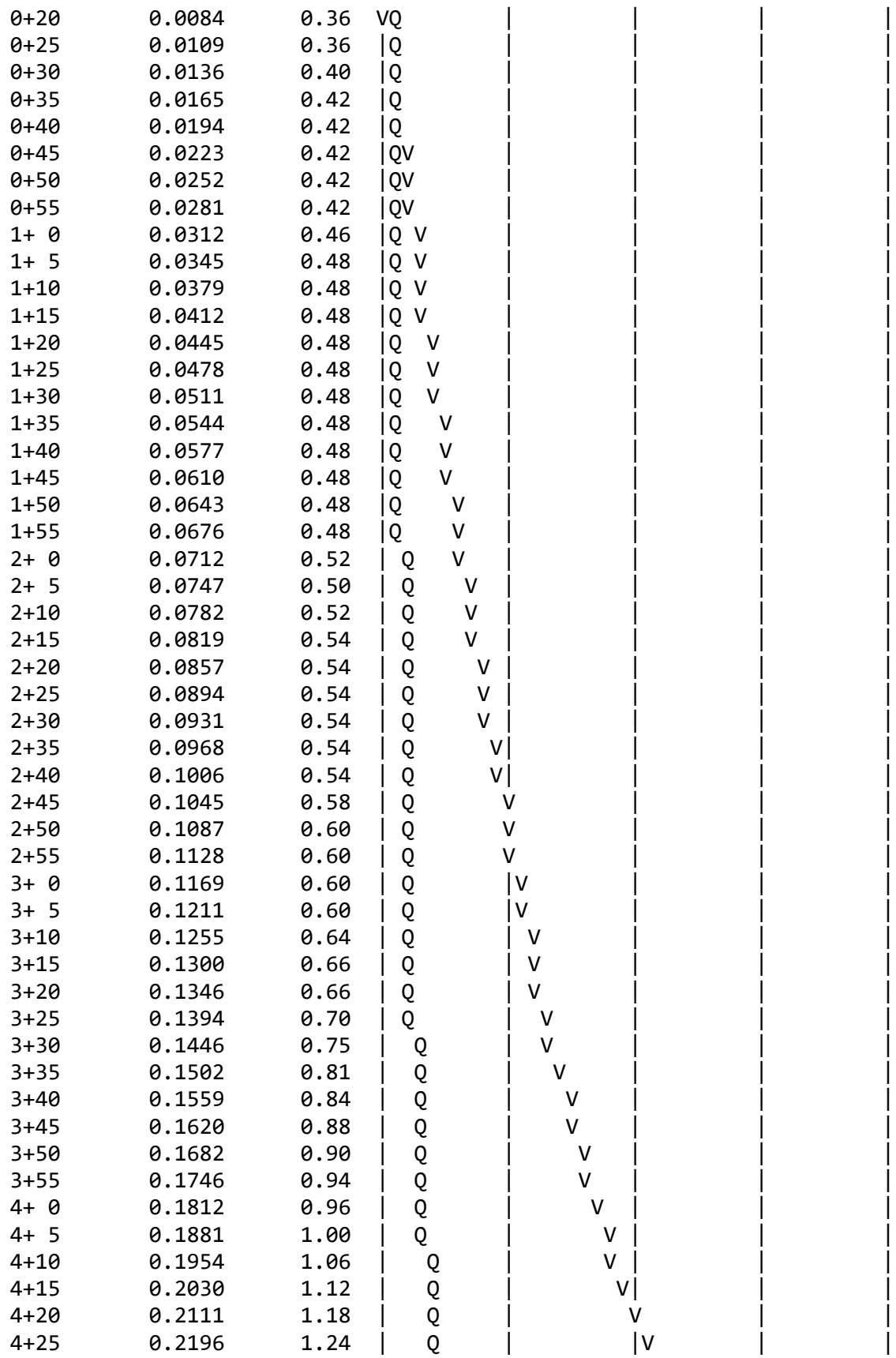
 The following loss rate calculations reflect use of the minimum calculated loss
```

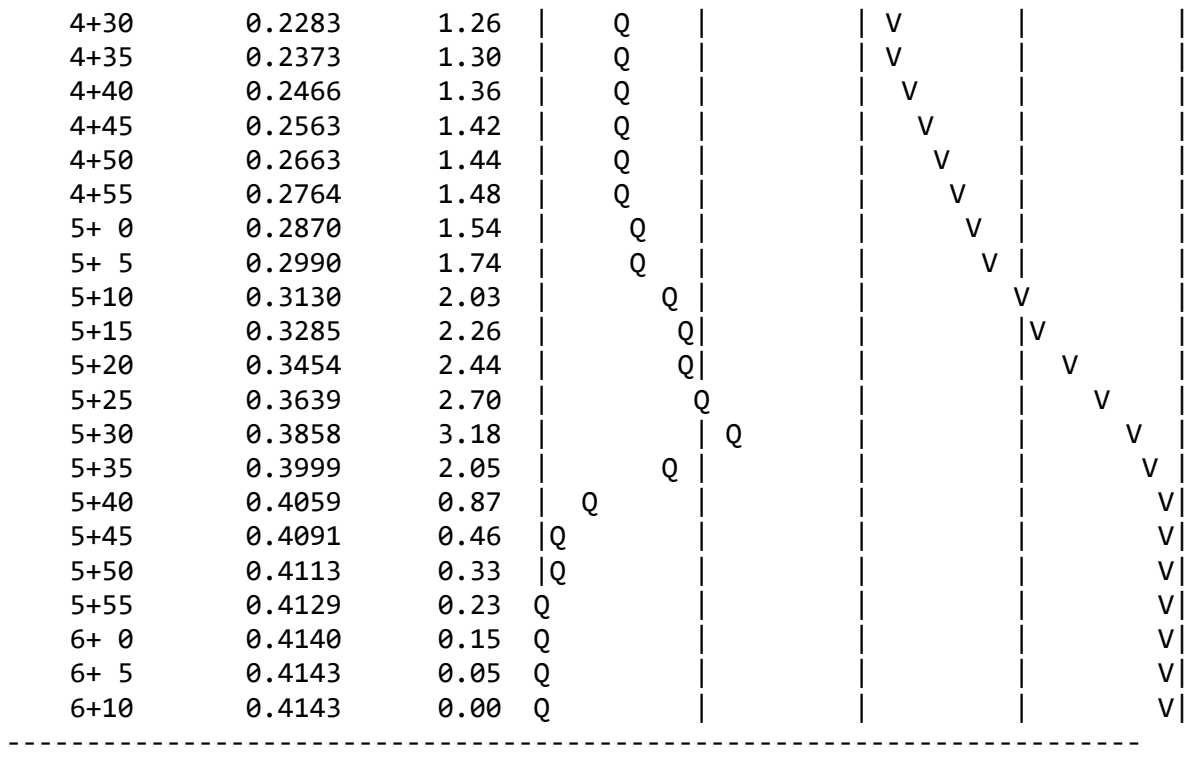
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.091	(0.165)	0.016	0.075
2	0.17	0.60	0.110	(0.165)	0.020	0.090
3	0.25	0.60	0.110	(0.165)	0.020	0.090
4	0.33	0.60	0.110	(0.165)	0.020	0.090
5	0.42	0.60	0.110	(0.165)	0.020	0.090
6	0.50	0.70	0.128	(0.165)	0.023	0.105
7	0.58	0.70	0.128	(0.165)	0.023	0.105
8	0.67	0.70	0.128	(0.165)	0.023	0.105
9	0.75	0.70	0.128	(0.165)	0.023	0.105
10	0.83	0.70	0.128	(0.165)	0.023	0.105
11	0.92	0.70	0.128	(0.165)	0.023	0.105
12	1.00	0.80	0.146	(0.165)	0.026	0.120
13	1.08	0.80	0.146	(0.165)	0.026	0.120
14	1.17	0.80	0.146	(0.165)	0.026	0.120
15	1.25	0.80	0.146	(0.165)	0.026	0.120
16	1.33	0.80	0.146	(0.165)	0.026	0.120
17	1.42	0.80	0.146	(0.165)	0.026	0.120
18	1.50	0.80	0.146	(0.165)	0.026	0.120
19	1.58	0.80	0.146	(0.165)	0.026	0.120
20	1.67	0.80	0.146	(0.165)	0.026	0.120
21	1.75	0.80	0.146	(0.165)	0.026	0.120
22	1.83	0.80	0.146	(0.165)	0.026	0.120
23	1.92	0.80	0.146	(0.165)	0.026	0.120
24	2.00	0.90	0.164	(0.165)	0.030	0.135
25	2.08	0.80	0.146	(0.165)	0.026	0.120
26	2.17	0.90	0.164	(0.165)	0.030	0.135
27	2.25	0.90	0.164	(0.165)	0.030	0.135
28	2.33	0.90	0.164	(0.165)	0.030	0.135
29	2.42	0.90	0.164	(0.165)	0.030	0.135
30	2.50	0.90	0.164	(0.165)	0.030	0.135
31	2.58	0.90	0.164	(0.165)	0.030	0.135
32	2.67	0.90	0.164	(0.165)	0.030	0.135
33	2.75	1.00	0.183	(0.165)	0.033	0.150
34	2.83	1.00	0.183	(0.165)	0.033	0.150
35	2.92	1.00	0.183	(0.165)	0.033	0.150
36	3.00	1.00	0.183	(0.165)	0.033	0.150
37	3.08	1.00	0.183	(0.165)	0.033	0.150
38	3.17	1.10	0.201	(0.165)	0.036	0.165
39	3.25	1.10	0.201	(0.165)	0.036	0.165
40	3.33	1.10	0.201	(0.165)	0.036	0.165
41	3.42	1.20	0.219	(0.165)	0.039	0.180
42	3.50	1.30	0.237	(0.165)	0.043	0.195
43	3.58	1.40	0.256	(0.165)	0.046	0.210
44	3.67	1.40	0.256	(0.165)	0.046	0.210
45	3.75	1.50	0.274	(0.165)	0.049	0.225
46	3.83	1.50	0.274	(0.165)	0.049	0.225

```
47   3.92     1.60      0.292       (  0.165)       0.053        0.240
48   4.00     1.60      0.292       (  0.165)       0.053        0.240
49   4.08     1.70      0.310       (  0.165)       0.056        0.255
50   4.17     1.80      0.329       (  0.165)       0.059        0.270
51   4.25     1.90      0.347       (  0.165)       0.062        0.284
52   4.33     2.00      0.365       (  0.165)       0.066        0.299
53   4.42     2.10      0.383       (  0.165)       0.069        0.314
54   4.50     2.10      0.383       (  0.165)       0.069        0.314
55   4.58     2.20      0.402       (  0.165)       0.072        0.329
56   4.67     2.30      0.420       (  0.165)       0.076        0.344
57   4.75     2.40      0.438       (  0.165)       0.079        0.359
58   4.83     2.40      0.438       (  0.165)       0.079        0.359
59   4.92     2.50      0.456       (  0.165)       0.082        0.374
60   5.00     2.60      0.475       (  0.165)       0.085        0.389
61   5.08     3.10      0.566       (  0.165)       0.102        0.464
62   5.17     3.60      0.657       (  0.165)       0.118        0.539
63   5.25     3.90      0.712       (  0.165)       0.128        0.584
64   5.33     4.20      0.767       (  0.165)       0.138        0.629
65   5.42     4.70      0.858       (  0.165)       0.154        0.704
66   5.50     5.60      1.023          0.165    (  0.184)       0.857
67   5.58     1.90      0.347       (  0.165)       0.062        0.284
68   5.67     0.90      0.164       (  0.165)       0.030        0.135
69   5.75     0.60      0.110       (  0.165)       0.020        0.090
70   5.83     0.50      0.091       (  0.165)       0.016        0.075
71   5.92     0.30      0.055       (  0.165)       0.010        0.045
72   6.00     0.20      0.037       (  0.165)       0.007        0.030
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    15.0
      Flood volume = Effective rainfall      1.25(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
      Total soil loss =      0.27(In)
      Total soil loss =     0.090(Ac.Ft)
      Total rainfall =      1.52(In)
      Flood volume =       18049.0 Cubic Feet
      Total soil loss =        3934.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      3.180(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0012      0.18  Q         |         |         |         |
  0+10       0.0035      0.32  VQ        |         |         |         |
  0+15       0.0059      0.36  VQ        |         |         |         |
```


0+20 0.0084 0.36
0+25 0.0109 0.36
0+30 0.0136 0.40
0+35 0.0165 0.42
0+40 0.0194 0.42
0+45 0.0223 0.42
0+50 0.0252 0.42
0+55 0.0281 0.42
1+ 0 0.0312 0.46
1+ 5 0.0345 0.48
1+10 0.0379 0.48
1+15 0.0412 0.48
1+20 0.0445 0.48
1+25 0.0478 0.48
1+30 0.0511 0.48
1+35 0.0544 0.48
1+40 0.0577 0.48
1+45 0.0610 0.48
1+50 0.0643 0.48
1+55 0.0676 0.48
2+ 0 0.0712 0.52
2+ 5 0.0747 0.50
2+10 0.0782 0.52
2+15 0.0819 0.54
2+20 0.0857 0.54
2+25 0.0894 0.54
2+30 0.0931 0.54
2+35 0.0968 0.54
2+40 0.1006 0.54
2+45 0.1045 0.58
2+50 0.1087 0.60
2+55 0.1128 0.60
3+ 0 0.1169 0.60
3+ 5 0.1211 0.60
3+10 0.1255 0.64
3+15 0.1300 0.66
3+20 0.1346 0.66
3+25 0.1394 0.70
3+30 0.1446 0.75
3+35 0.1502 0.81
3+40 0.1559 0.84
3+45 0.1620 0.88
3+50 0.1682 0.90
3+55 0.1746 0.94
4+ 0 0.1812 0.96
4+ 5 0.1881 1.00
4+10 0.1954 1.06
4+15 0.2030 1.12
4+20 0.2111 1.18
4+25 0.2196 1.24


4+30 0.2283 1.26
4+35 0.2373 1.30
4+40 0.2466 1.36
4+45 0.2563 1.42
4+50 0.2663 1.44
4+55 0.2764 1.48
5+ 0 0.2870 1.54
5+ 5 0.2990 1.74
5+10 0.3130 2.03
5+15 0.3285 2.26
5+20 0.3454 2.44
5+25 0.3639 2.70
5+30 0.3858 3.18
5+35 0.3999 2.05
5+40 0.4059 0.87
5+45 0.4091 0.46
5+50 0.4113 0.33
5+55 0.4129 0.23
6+ 0 0.4140 0.15
6+ 5 0.4143 0.05
6+10 0.4143 0.00

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

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Study date 09/21/22 File: 183postuh245.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
5 yr
24 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.51                  6.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            5.39                 21.45

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.510(In)
Area Averaged 100-Year Rainfall =    5.390(In)

Point rain (area averaged) =    2.419(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.419(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  16.2      0.870     0.900        0.165       1.000      0.165
                                                 Sum (F) =   0.165
Area averaged mean soil loss (F) (In/Hr) =  0.165
Minimum soil loss rate ((In/Hr)) =  0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.293)	0.003	0.016
2	0.17	0.07	0.019	(0.292)	0.003	0.016
3	0.25	0.07	0.019	(0.291)	0.003	0.016
4	0.33	0.10	0.029	(0.290)	0.005	0.024
5	0.42	0.10	0.029	(0.289)	0.005	0.024
6	0.50	0.10	0.029	(0.288)	0.005	0.024
7	0.58	0.10	0.029	(0.286)	0.005	0.024
8	0.67	0.10	0.029	(0.285)	0.005	0.024
9	0.75	0.10	0.029	(0.284)	0.005	0.024
10	0.83	0.13	0.039	(0.283)	0.007	0.032
11	0.92	0.13	0.039	(0.282)	0.007	0.032
12	1.00	0.13	0.039	(0.281)	0.007	0.032
13	1.08	0.10	0.029	(0.280)	0.005	0.024
14	1.17	0.10	0.029	(0.279)	0.005	0.024
15	1.25	0.10	0.029	(0.277)	0.005	0.024
16	1.33	0.10	0.029	(0.276)	0.005	0.024
17	1.42	0.10	0.029	(0.275)	0.005	0.024
18	1.50	0.10	0.029	(0.274)	0.005	0.024
19	1.58	0.10	0.029	(0.273)	0.005	0.024
20	1.67	0.10	0.029	(0.272)	0.005	0.024
21	1.75	0.10	0.029	(0.271)	0.005	0.024
22	1.83	0.13	0.039	(0.270)	0.007	0.032
23	1.92	0.13	0.039	(0.269)	0.007	0.032
24	2.00	0.13	0.039	(0.268)	0.007	0.032
25	2.08	0.13	0.039	(0.267)	0.007	0.032
26	2.17	0.13	0.039	(0.265)	0.007	0.032
27	2.25	0.13	0.039	(0.264)	0.007	0.032
28	2.33	0.13	0.039	(0.263)	0.007	0.032
29	2.42	0.13	0.039	(0.262)	0.007	0.032
30	2.50	0.13	0.039	(0.261)	0.007	0.032
31	2.58	0.17	0.048	(0.260)	0.009	0.040
32	2.67	0.17	0.048	(0.259)	0.009	0.040
33	2.75	0.17	0.048	(0.258)	0.009	0.040
34	2.83	0.17	0.048	(0.257)	0.009	0.040
35	2.92	0.17	0.048	(0.256)	0.009	0.040
36	3.00	0.17	0.048	(0.255)	0.009	0.040
37	3.08	0.17	0.048	(0.254)	0.009	0.040
38	3.17	0.17	0.048	(0.253)	0.009	0.040
39	3.25	0.17	0.048	(0.252)	0.009	0.040
40	3.33	0.17	0.048	(0.251)	0.009	0.040
41	3.42	0.17	0.048	(0.250)	0.009	0.040
42	3.50	0.17	0.048	(0.249)	0.009	0.040
43	3.58	0.17	0.048	(0.247)	0.009	0.040
44	3.67	0.17	0.048	(0.246)	0.009	0.040
45	3.75	0.17	0.048	(0.245)	0.009	0.040
46	3.83	0.20	0.058	(0.244)	0.010	0.048

47	3.92	0.20	0.058	(0.243)	0.010	0.048
48	4.00	0.20	0.058	(0.242)	0.010	0.048
49	4.08	0.20	0.058	(0.241)	0.010	0.048
50	4.17	0.20	0.058	(0.240)	0.010	0.048
51	4.25	0.20	0.058	(0.239)	0.010	0.048
52	4.33	0.23	0.068	(0.238)	0.012	0.056
53	4.42	0.23	0.068	(0.237)	0.012	0.056
54	4.50	0.23	0.068	(0.236)	0.012	0.056
55	4.58	0.23	0.068	(0.235)	0.012	0.056
56	4.67	0.23	0.068	(0.234)	0.012	0.056
57	4.75	0.23	0.068	(0.233)	0.012	0.056
58	4.83	0.27	0.077	(0.232)	0.014	0.063
59	4.92	0.27	0.077	(0.231)	0.014	0.063
60	5.00	0.27	0.077	(0.230)	0.014	0.063
61	5.08	0.20	0.058	(0.229)	0.010	0.048
62	5.17	0.20	0.058	(0.228)	0.010	0.048
63	5.25	0.20	0.058	(0.227)	0.010	0.048
64	5.33	0.23	0.068	(0.226)	0.012	0.056
65	5.42	0.23	0.068	(0.225)	0.012	0.056
66	5.50	0.23	0.068	(0.224)	0.012	0.056
67	5.58	0.27	0.077	(0.223)	0.014	0.063
68	5.67	0.27	0.077	(0.222)	0.014	0.063
69	5.75	0.27	0.077	(0.221)	0.014	0.063
70	5.83	0.27	0.077	(0.220)	0.014	0.063
71	5.92	0.27	0.077	(0.219)	0.014	0.063
72	6.00	0.27	0.077	(0.218)	0.014	0.063
73	6.08	0.30	0.087	(0.217)	0.016	0.071
74	6.17	0.30	0.087	(0.216)	0.016	0.071
75	6.25	0.30	0.087	(0.215)	0.016	0.071
76	6.33	0.30	0.087	(0.214)	0.016	0.071
77	6.42	0.30	0.087	(0.213)	0.016	0.071
78	6.50	0.30	0.087	(0.213)	0.016	0.071
79	6.58	0.33	0.097	(0.212)	0.017	0.079
80	6.67	0.33	0.097	(0.211)	0.017	0.079
81	6.75	0.33	0.097	(0.210)	0.017	0.079
82	6.83	0.33	0.097	(0.209)	0.017	0.079
83	6.92	0.33	0.097	(0.208)	0.017	0.079
84	7.00	0.33	0.097	(0.207)	0.017	0.079
85	7.08	0.33	0.097	(0.206)	0.017	0.079
86	7.17	0.33	0.097	(0.205)	0.017	0.079
87	7.25	0.33	0.097	(0.204)	0.017	0.079
88	7.33	0.37	0.106	(0.203)	0.019	0.087
89	7.42	0.37	0.106	(0.202)	0.019	0.087
90	7.50	0.37	0.106	(0.201)	0.019	0.087
91	7.58	0.40	0.116	(0.200)	0.021	0.095
92	7.67	0.40	0.116	(0.199)	0.021	0.095
93	7.75	0.40	0.116	(0.198)	0.021	0.095
94	7.83	0.43	0.126	(0.198)	0.023	0.103
95	7.92	0.43	0.126	(0.197)	0.023	0.103
96	8.00	0.43	0.126	(0.196)	0.023	0.103

97	8.08	0.50	0.145	(0.195)	0.026	0.119
98	8.17	0.50	0.145	(0.194)	0.026	0.119
99	8.25	0.50	0.145	(0.193)	0.026	0.119
100	8.33	0.50	0.145	(0.192)	0.026	0.119
101	8.42	0.50	0.145	(0.191)	0.026	0.119
102	8.50	0.50	0.145	(0.190)	0.026	0.119
103	8.58	0.53	0.155	(0.189)	0.028	0.127
104	8.67	0.53	0.155	(0.189)	0.028	0.127
105	8.75	0.53	0.155	(0.188)	0.028	0.127
106	8.83	0.57	0.164	(0.187)	0.030	0.135
107	8.92	0.57	0.164	(0.186)	0.030	0.135
108	9.00	0.57	0.164	(0.185)	0.030	0.135
109	9.08	0.63	0.184	(0.184)	0.033	0.151
110	9.17	0.63	0.184	(0.183)	0.033	0.151
111	9.25	0.63	0.184	(0.182)	0.033	0.151
112	9.33	0.67	0.194	(0.181)	0.035	0.159
113	9.42	0.67	0.194	(0.181)	0.035	0.159
114	9.50	0.67	0.194	(0.180)	0.035	0.159
115	9.58	0.70	0.203	(0.179)	0.037	0.167
116	9.67	0.70	0.203	(0.178)	0.037	0.167
117	9.75	0.70	0.203	(0.177)	0.037	0.167
118	9.83	0.73	0.213	(0.176)	0.038	0.175
119	9.92	0.73	0.213	(0.175)	0.038	0.175
120	10.00	0.73	0.213	(0.175)	0.038	0.175
121	10.08	0.50	0.145	(0.174)	0.026	0.119
122	10.17	0.50	0.145	(0.173)	0.026	0.119
123	10.25	0.50	0.145	(0.172)	0.026	0.119
124	10.33	0.50	0.145	(0.171)	0.026	0.119
125	10.42	0.50	0.145	(0.170)	0.026	0.119
126	10.50	0.50	0.145	(0.170)	0.026	0.119
127	10.58	0.67	0.194	(0.169)	0.035	0.159
128	10.67	0.67	0.194	(0.168)	0.035	0.159
129	10.75	0.67	0.194	(0.167)	0.035	0.159
130	10.83	0.67	0.194	(0.166)	0.035	0.159
131	10.92	0.67	0.194	(0.166)	0.035	0.159
132	11.00	0.67	0.194	(0.165)	0.035	0.159
133	11.08	0.63	0.184	(0.164)	0.033	0.151
134	11.17	0.63	0.184	(0.163)	0.033	0.151
135	11.25	0.63	0.184	(0.162)	0.033	0.151
136	11.33	0.63	0.184	(0.161)	0.033	0.151
137	11.42	0.63	0.184	(0.161)	0.033	0.151
138	11.50	0.63	0.184	(0.160)	0.033	0.151
139	11.58	0.57	0.164	(0.159)	0.030	0.135
140	11.67	0.57	0.164	(0.158)	0.030	0.135
141	11.75	0.57	0.164	(0.157)	0.030	0.135
142	11.83	0.60	0.174	(0.157)	0.031	0.143
143	11.92	0.60	0.174	(0.156)	0.031	0.143
144	12.00	0.60	0.174	(0.155)	0.031	0.143
145	12.08	0.83	0.242	(0.154)	0.044	0.198
146	12.17	0.83	0.242	(0.154)	0.044	0.198

147	12.25	0.83	0.242	(0.153)	0.044	0.198
148	12.33	0.87	0.252	(0.152)	0.045	0.206
149	12.42	0.87	0.252	(0.151)	0.045	0.206
150	12.50	0.87	0.252	(0.151)	0.045	0.206
151	12.58	0.93	0.271	(0.150)	0.049	0.222
152	12.67	0.93	0.271	(0.149)	0.049	0.222
153	12.75	0.93	0.271	(0.148)	0.049	0.222
154	12.83	0.97	0.281	(0.148)	0.051	0.230
155	12.92	0.97	0.281	(0.147)	0.051	0.230
156	13.00	0.97	0.281	(0.146)	0.051	0.230
157	13.08	1.13	0.329	(0.145)	0.059	0.270
158	13.17	1.13	0.329	(0.145)	0.059	0.270
159	13.25	1.13	0.329	(0.144)	0.059	0.270
160	13.33	1.13	0.329	(0.143)	0.059	0.270
161	13.42	1.13	0.329	(0.142)	0.059	0.270
162	13.50	1.13	0.329	(0.142)	0.059	0.270
163	13.58	0.77	0.223	(0.141)	0.040	0.182
164	13.67	0.77	0.223	(0.140)	0.040	0.182
165	13.75	0.77	0.223	(0.139)	0.040	0.182
166	13.83	0.77	0.223	(0.139)	0.040	0.182
167	13.92	0.77	0.223	(0.138)	0.040	0.182
168	14.00	0.77	0.223	(0.137)	0.040	0.182
169	14.08	0.90	0.261	(0.137)	0.047	0.214
170	14.17	0.90	0.261	(0.136)	0.047	0.214
171	14.25	0.90	0.261	(0.135)	0.047	0.214
172	14.33	0.87	0.252	(0.135)	0.045	0.206
173	14.42	0.87	0.252	(0.134)	0.045	0.206
174	14.50	0.87	0.252	(0.133)	0.045	0.206
175	14.58	0.87	0.252	(0.133)	0.045	0.206
176	14.67	0.87	0.252	(0.132)	0.045	0.206
177	14.75	0.87	0.252	(0.131)	0.045	0.206
178	14.83	0.83	0.242	(0.130)	0.044	0.198
179	14.92	0.83	0.242	(0.130)	0.044	0.198
180	15.00	0.83	0.242	(0.129)	0.044	0.198
181	15.08	0.80	0.232	(0.129)	0.042	0.190
182	15.17	0.80	0.232	(0.128)	0.042	0.190
183	15.25	0.80	0.232	(0.127)	0.042	0.190
184	15.33	0.77	0.223	(0.127)	0.040	0.182
185	15.42	0.77	0.223	(0.126)	0.040	0.182
186	15.50	0.77	0.223	(0.125)	0.040	0.182
187	15.58	0.63	0.184	(0.125)	0.033	0.151
188	15.67	0.63	0.184	(0.124)	0.033	0.151
189	15.75	0.63	0.184	(0.123)	0.033	0.151
190	15.83	0.63	0.184	(0.123)	0.033	0.151
191	15.92	0.63	0.184	(0.122)	0.033	0.151
192	16.00	0.63	0.184	(0.121)	0.033	0.151
193	16.08	0.13	0.039	(0.121)	0.007	0.032
194	16.17	0.13	0.039	(0.120)	0.007	0.032
195	16.25	0.13	0.039	(0.120)	0.007	0.032
196	16.33	0.13	0.039	(0.119)	0.007	0.032

197	16.42	0.13	0.039	(0.118)	0.007	0.032
198	16.50	0.13	0.039	(0.118)	0.007	0.032
199	16.58	0.10	0.029	(0.117)	0.005	0.024
200	16.67	0.10	0.029	(0.117)	0.005	0.024
201	16.75	0.10	0.029	(0.116)	0.005	0.024
202	16.83	0.10	0.029	(0.115)	0.005	0.024
203	16.92	0.10	0.029	(0.115)	0.005	0.024
204	17.00	0.10	0.029	(0.114)	0.005	0.024
205	17.08	0.17	0.048	(0.114)	0.009	0.040
206	17.17	0.17	0.048	(0.113)	0.009	0.040
207	17.25	0.17	0.048	(0.113)	0.009	0.040
208	17.33	0.17	0.048	(0.112)	0.009	0.040
209	17.42	0.17	0.048	(0.111)	0.009	0.040
210	17.50	0.17	0.048	(0.111)	0.009	0.040
211	17.58	0.17	0.048	(0.110)	0.009	0.040
212	17.67	0.17	0.048	(0.110)	0.009	0.040
213	17.75	0.17	0.048	(0.109)	0.009	0.040
214	17.83	0.13	0.039	(0.109)	0.007	0.032
215	17.92	0.13	0.039	(0.108)	0.007	0.032
216	18.00	0.13	0.039	(0.108)	0.007	0.032
217	18.08	0.13	0.039	(0.107)	0.007	0.032
218	18.17	0.13	0.039	(0.107)	0.007	0.032
219	18.25	0.13	0.039	(0.106)	0.007	0.032
220	18.33	0.13	0.039	(0.105)	0.007	0.032
221	18.42	0.13	0.039	(0.105)	0.007	0.032
222	18.50	0.13	0.039	(0.104)	0.007	0.032
223	18.58	0.10	0.029	(0.104)	0.005	0.024
224	18.67	0.10	0.029	(0.103)	0.005	0.024
225	18.75	0.10	0.029	(0.103)	0.005	0.024
226	18.83	0.07	0.019	(0.102)	0.003	0.016
227	18.92	0.07	0.019	(0.102)	0.003	0.016
228	19.00	0.07	0.019	(0.101)	0.003	0.016
229	19.08	0.10	0.029	(0.101)	0.005	0.024
230	19.17	0.10	0.029	(0.101)	0.005	0.024
231	19.25	0.10	0.029	(0.100)	0.005	0.024
232	19.33	0.13	0.039	(0.100)	0.007	0.032
233	19.42	0.13	0.039	(0.099)	0.007	0.032
234	19.50	0.13	0.039	(0.099)	0.007	0.032
235	19.58	0.10	0.029	(0.098)	0.005	0.024
236	19.67	0.10	0.029	(0.098)	0.005	0.024
237	19.75	0.10	0.029	(0.097)	0.005	0.024
238	19.83	0.07	0.019	(0.097)	0.003	0.016
239	19.92	0.07	0.019	(0.096)	0.003	0.016
240	20.00	0.07	0.019	(0.096)	0.003	0.016
241	20.08	0.10	0.029	(0.096)	0.005	0.024
242	20.17	0.10	0.029	(0.095)	0.005	0.024
243	20.25	0.10	0.029	(0.095)	0.005	0.024
244	20.33	0.10	0.029	(0.094)	0.005	0.024
245	20.42	0.10	0.029	(0.094)	0.005	0.024
246	20.50	0.10	0.029	(0.094)	0.005	0.024

247	20.58	0.10	0.029	(0.093)	0.005	0.024
248	20.67	0.10	0.029	(0.093)	0.005	0.024
249	20.75	0.10	0.029	(0.092)	0.005	0.024
250	20.83	0.07	0.019	(0.092)	0.003	0.016
251	20.92	0.07	0.019	(0.092)	0.003	0.016
252	21.00	0.07	0.019	(0.091)	0.003	0.016
253	21.08	0.10	0.029	(0.091)	0.005	0.024
254	21.17	0.10	0.029	(0.091)	0.005	0.024
255	21.25	0.10	0.029	(0.090)	0.005	0.024
256	21.33	0.07	0.019	(0.090)	0.003	0.016
257	21.42	0.07	0.019	(0.090)	0.003	0.016
258	21.50	0.07	0.019	(0.089)	0.003	0.016
259	21.58	0.10	0.029	(0.089)	0.005	0.024
260	21.67	0.10	0.029	(0.089)	0.005	0.024
261	21.75	0.10	0.029	(0.088)	0.005	0.024
262	21.83	0.07	0.019	(0.088)	0.003	0.016
263	21.92	0.07	0.019	(0.088)	0.003	0.016
264	22.00	0.07	0.019	(0.087)	0.003	0.016
265	22.08	0.10	0.029	(0.087)	0.005	0.024
266	22.17	0.10	0.029	(0.087)	0.005	0.024
267	22.25	0.10	0.029	(0.086)	0.005	0.024
268	22.33	0.07	0.019	(0.086)	0.003	0.016
269	22.42	0.07	0.019	(0.086)	0.003	0.016
270	22.50	0.07	0.019	(0.086)	0.003	0.016
271	22.58	0.07	0.019	(0.085)	0.003	0.016
272	22.67	0.07	0.019	(0.085)	0.003	0.016
273	22.75	0.07	0.019	(0.085)	0.003	0.016
274	22.83	0.07	0.019	(0.085)	0.003	0.016
275	22.92	0.07	0.019	(0.085)	0.003	0.016
276	23.00	0.07	0.019	(0.084)	0.003	0.016
277	23.08	0.07	0.019	(0.084)	0.003	0.016
278	23.17	0.07	0.019	(0.084)	0.003	0.016
279	23.25	0.07	0.019	(0.084)	0.003	0.016
280	23.33	0.07	0.019	(0.084)	0.003	0.016
281	23.42	0.07	0.019	(0.083)	0.003	0.016
282	23.50	0.07	0.019	(0.083)	0.003	0.016
283	23.58	0.07	0.019	(0.083)	0.003	0.016
284	23.67	0.07	0.019	(0.083)	0.003	0.016
285	23.75	0.07	0.019	(0.083)	0.003	0.016
286	23.83	0.07	0.019	(0.083)	0.003	0.016
287	23.92	0.07	0.019	(0.083)	0.003	0.016
288	24.00	0.07	0.019	(0.083)	0.003	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.44(In)
Total soil loss = 0.144(Ac.Ft)
Total rainfall = 2.42(In)
Flood volume = 28654.9 Cubic Feet

Total soil loss = 6290.1 Cubic Feet

Peak flow rate of this hydrograph = 1.083(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q				
0+10	0.0007	0.06	Q				
0+15	0.0011	0.06	Q				
0+20	0.0017	0.08	Q				
0+25	0.0023	0.09	Q				
0+30	0.0030	0.10	Q				
0+35	0.0037	0.10	Q				
0+40	0.0043	0.10	Q				
0+45	0.0050	0.10	Q				
0+50	0.0058	0.11	Q				
0+55	0.0066	0.13	Q				
1+ 0	0.0075	0.13	Q				
1+ 5	0.0083	0.11	Q				
1+10	0.0089	0.10	Q				
1+15	0.0096	0.10	Q				
1+20	0.0102	0.10	Q				
1+25	0.0109	0.10	Q				
1+30	0.0116	0.10	Q				
1+35	0.0122	0.10	Q				
1+40	0.0129	0.10	Q				
1+45	0.0135	0.10	Q				
1+50	0.0143	0.11	Q				
1+55	0.0152	0.13	Q				
2+ 0	0.0161	0.13	Q				
2+ 5	0.0169	0.13	QV				
2+10	0.0178	0.13	QV				
2+15	0.0187	0.13	QV				
2+20	0.0196	0.13	QV				
2+25	0.0204	0.13	QV				
2+30	0.0213	0.13	QV				
2+35	0.0223	0.15	QV				
2+40	0.0234	0.16	QV				
2+45	0.0245	0.16	QV				
2+50	0.0256	0.16	QV				
2+55	0.0267	0.16	QV				
3+ 0	0.0278	0.16	QV				
3+ 5	0.0289	0.16	QV				

3+10	0.0300	0.16	QV	|	|	|	|
3+15	0.0311	0.16	QV	|	|	|	|
3+20	0.0322	0.16	QV	|	|	|	|
3+25	0.0333	0.16	Q V	|	|	|	|
3+30	0.0344	0.16	Q V	|	|	|	|
3+35	0.0355	0.16	Q V	|	|	|	|
3+40	0.0366	0.16	Q V	|	|	|	|
3+45	0.0377	0.16	Q V	|	|	|	|
3+50	0.0389	0.18	Q V	|	|	|	|
3+55	0.0402	0.19	Q V	|	|	|	|
4+ 0	0.0415	0.19	Q V	|	|	|	|
4+ 5	0.0428	0.19	Q V	|	|	|	|
4+10	0.0442	0.19	Q V	|	|	|	|
4+15	0.0455	0.19	Q V	|	|	|	|
4+20	0.0469	0.21	Q V	|	|	|	|
4+25	0.0484	0.22	Q V	|	|	|	|
4+30	0.0500	0.22	Q V	|	|	|	|
4+35	0.0515	0.22	Q V	|	|	|	|
4+40	0.0530	0.22	Q V	|	|	|	|
4+45	0.0546	0.22	Q V	|	|	|	|
4+50	0.0562	0.24	Q V	|	|	|	|
4+55	0.0580	0.25	|Q V	|	|	|	|
5+ 0	0.0597	0.25	|Q V	|	|	|	|
5+ 5	0.0612	0.22	Q V	|	|	|	|
5+10	0.0626	0.19	Q V	|	|	|	|
5+15	0.0639	0.19	Q V	|	|	|	|
5+20	0.0653	0.21	Q V	|	|	|	|
5+25	0.0669	0.22	Q V	|	|	|	|
5+30	0.0684	0.22	Q V	|	|	|	|
5+35	0.0701	0.24	Q V	|	|	|	|
5+40	0.0718	0.25	|Q V	|	|	|	|
5+45	0.0736	0.25	|Q V	|	|	|	|
5+50	0.0753	0.25	|Q V	|	|	|	|
5+55	0.0771	0.25	|Q V	|	|	|	|
6+ 0	0.0788	0.25	|Q V	|	|	|	|
6+ 5	0.0807	0.27	|Q V	|	|	|	|
6+10	0.0827	0.29	|Q V	|	|	|	|
6+15	0.0846	0.29	|Q V	|	|	|	|
6+20	0.0866	0.29	|Q V	|	|	|	|
6+25	0.0886	0.29	|Q V	|	|	|	|
6+30	0.0906	0.29	|Q V	|	|	|	|
6+35	0.0927	0.31	|Q V	|	|	|	|
6+40	0.0949	0.32	|Q V	|	|	|	|
6+45	0.0970	0.32	|Q V	|	|	|	|
6+50	0.0992	0.32	|Q V	|	|	|	|
6+55	0.1014	0.32	|Q V	|	|	|	|
7+ 0	0.1036	0.32	|Q V	|	|	|	|
7+ 5	0.1058	0.32	|Q V	|	|	|	|
7+10	0.1080	0.32	|Q V	|	|	|	|
7+15	0.1102	0.32	|Q V	|	|	|	|

7+20	0.1125	0.34	Q V				
7+25	0.1149	0.35	Q V				
7+30	0.1173	0.35	Q V				
7+35	0.1199	0.37	Q V				
7+40	0.1225	0.38	Q V				
7+45	0.1251	0.38	Q V				
7+50	0.1279	0.40	Q V				
7+55	0.1307	0.41	Q V				
8+ 0	0.1336	0.41	Q V				
8+ 5	0.1367	0.45	Q V				
8+10	0.1400	0.48	Q V				
8+15	0.1433	0.48	Q V				
8+20	0.1466	0.48	Q V				
8+25	0.1498	0.48	Q V				
8+30	0.1531	0.48	Q V				
8+35	0.1566	0.50	Q V				
8+40	0.1601	0.51	Q V				
8+45	0.1636	0.51	Q V				
8+50	0.1672	0.53	Q V				
8+55	0.1709	0.54	Q V				
9+ 0	0.1747	0.54	Q V				
9+ 5	0.1786	0.58	Q V				
9+10	0.1828	0.60	Q V				
9+15	0.1870	0.60	Q V				
9+20	0.1913	0.62	Q V				
9+25	0.1956	0.64	Q V				
9+30	0.2000	0.64	Q V				
9+35	0.2045	0.66	Q V				
9+40	0.2091	0.67	Q V				
9+45	0.2137	0.67	Q V				
9+50	0.2185	0.69	Q V				
9+55	0.2233	0.70	Q V				
10+ 0	0.2281	0.70	Q V				
10+ 5	0.2320	0.57	Q V				
10+10	0.2354	0.49	Q V				
10+15	0.2387	0.48	Q V				
10+20	0.2419	0.48	Q V				
10+25	0.2452	0.48	Q V				
10+30	0.2485	0.48	Q V				
10+35	0.2525	0.57	Q V				
10+40	0.2568	0.63	Q V				
10+45	0.2612	0.64	Q V				
10+50	0.2656	0.64	Q V				
10+55	0.2700	0.64	Q V				
11+ 0	0.2744	0.64	Q V				
11+ 5	0.2786	0.62	Q V				
11+10	0.2828	0.61	Q V				
11+15	0.2869	0.60	Q V				
11+20	0.2911	0.60	Q V				
11+25	0.2953	0.60	Q V				

11+30	0.2994	0.60	Q	V			
11+35	0.3033	0.57	Q	V			
11+40	0.3071	0.54	Q	V			
11+45	0.3108	0.54	Q	V			
11+50	0.3147	0.56	Q	V			
11+55	0.3186	0.57	Q	V			
12+ 0	0.3226	0.57	Q	V			
12+ 5	0.3274	0.71	Q	V			
12+10	0.3329	0.79	Q	V			
12+15	0.3383	0.80	Q	V			
12+20	0.3439	0.81	Q	V			
12+25	0.3496	0.83	Q	V			
12+30	0.3553	0.83	Q	V			
12+35	0.3613	0.87	Q	V			
12+40	0.3674	0.89	Q	V			
12+45	0.3736	0.89	Q	V			
12+50	0.3798	0.91	Q	V			
12+55	0.3862	0.92	Q	V			
13+ 0	0.3925	0.92	Q	V			
13+ 5	0.3996	1.02	Q	V			
13+10	0.4070	1.08	Q	V			
13+15	0.4144	1.08	Q	V			
13+20	0.4219	1.08	Q	V			
13+25	0.4293	1.08	Q	V			
13+30	0.4368	1.08	Q	V			
13+35	0.4428	0.87	Q	V			
13+40	0.4479	0.75	Q	V			
13+45	0.4530	0.73	Q	V			
13+50	0.4580	0.73	Q	V			
13+55	0.4631	0.73	Q	V			
14+ 0	0.4681	0.73	Q	V			
14+ 5	0.4737	0.81	Q	V			
14+10	0.4796	0.85	Q	V			
14+15	0.4855	0.86	Q	V			
14+20	0.4913	0.84	Q	V			
14+25	0.4970	0.83	Q	V			
14+30	0.5027	0.83	Q	V			
14+35	0.5084	0.83	Q	V			
14+40	0.5141	0.83	Q	V			
14+45	0.5198	0.83	Q	V			
14+50	0.5254	0.81	Q	V			
14+55	0.5309	0.80	Q	V			
15+ 0	0.5363	0.80	Q	V			
15+ 5	0.5417	0.78	Q	V			
15+10	0.5470	0.77	Q	V			
15+15	0.5522	0.76	Q	V			
15+20	0.5574	0.75	Q	V			
15+25	0.5624	0.73	Q	V			
15+30	0.5675	0.73	Q	V			
15+35	0.5720	0.66	Q	V			

```
15+40       0.5762      0.61  | Q       |         |         |    V    |
15+45       0.5803      0.60  | Q       |         |         |    V    |
15+50       0.5845      0.60  | Q       |         |         |    V    |
15+55       0.5887      0.60  | Q       |         |         |    V    |
16+ 0       0.5928      0.60  | Q       |         |         |     V   |
16+ 5       0.5950      0.32  |Q        |         |         |     V   |
16+10       0.5960      0.15  Q         |         |         |     V   |
16+15       0.5969      0.13  Q         |         |         |     V   |
16+20       0.5978      0.13  Q         |         |         |     V   |
16+25       0.5987      0.13  Q         |         |         |     V   |
16+30       0.5995      0.13  Q         |         |         |     V   |
16+35       0.6003      0.11  Q         |         |         |     V   |
16+40       0.6010      0.10  Q         |         |         |     V   |
16+45       0.6016      0.10  Q         |         |         |     V   |
16+50       0.6023      0.10  Q         |         |         |     V   |
16+55       0.6029      0.10  Q         |         |         |     V   |
17+ 0       0.6036      0.10  Q         |         |         |     V   |
17+ 5       0.6045      0.13  Q         |         |         |     V   |
17+10       0.6056      0.16  Q         |         |         |     V   |
17+15       0.6067      0.16  Q         |         |         |     V   |
17+20       0.6078      0.16  Q         |         |         |     V   |
17+25       0.6089      0.16  Q         |         |         |      V  |
17+30       0.6100      0.16  Q         |         |         |      V  |
17+35       0.6111      0.16  Q         |         |         |      V  |
17+40       0.6122      0.16  Q         |         |         |      V  |
17+45       0.6133      0.16  Q         |         |         |      V  |
17+50       0.6142      0.14  Q         |         |         |      V  |
17+55       0.6151      0.13  Q         |         |         |      V  |
18+ 0       0.6160      0.13  Q         |         |         |      V  |
18+ 5       0.6169      0.13  Q         |         |         |      V  |
18+10       0.6177      0.13  Q         |         |         |      V  |
18+15       0.6186      0.13  Q         |         |         |      V  |
18+20       0.6195      0.13  Q         |         |         |      V  |
18+25       0.6204      0.13  Q         |         |         |      V  |
18+30       0.6213      0.13  Q         |         |         |      V  |
18+35       0.6220      0.11  Q         |         |         |      V  |
18+40       0.6227      0.10  Q         |         |         |      V  |
18+45       0.6233      0.10  Q         |         |         |      V  |
18+50       0.6239      0.08  Q         |         |         |      V  |
18+55       0.6243      0.06  Q         |         |         |      V  |
19+ 0       0.6247      0.06  Q         |         |         |      V  |
19+ 5       0.6253      0.08  Q         |         |         |       V |
19+10       0.6260      0.09  Q         |         |         |       V |
19+15       0.6266      0.10  Q         |         |         |       V |
19+20       0.6274      0.11  Q         |         |         |       V |
19+25       0.6283      0.13  Q         |         |         |       V |
19+30       0.6292      0.13  Q         |         |         |       V |
19+35       0.6299      0.11  Q         |         |         |       V |
19+40       0.6306      0.10  Q         |         |         |       V |
19+45       0.6312      0.10  Q         |         |         |       V |
```

19+50	0.6317	0.08	Q	|	|	|	V |
19+55	0.6322	0.06	Q	|	|	|	V |
20+ 0	0.6326	0.06	Q	|	|	|	V |
20+ 5	0.6332	0.08	Q	|	|	|	V |
20+10	0.6339	0.09	Q	|	|	|	V |
20+15	0.6345	0.10	Q	|	|	|	V |
20+20	0.6352	0.10	Q	|	|	|	V |
20+25	0.6358	0.10	Q	|	|	|	V |
20+30	0.6365	0.10	Q	|	|	|	V |
20+35	0.6371	0.10	Q	|	|	|	V |
20+40	0.6378	0.10	Q	|	|	|	V |
20+45	0.6385	0.10	Q	|	|	|	V |
20+50	0.6390	0.08	Q	|	|	|	V |
20+55	0.6394	0.06	Q	|	|	|	V |
21+ 0	0.6399	0.06	Q	|	|	|	V |
21+ 5	0.6404	0.08	Q	|	|	|	V |
21+10	0.6411	0.09	Q	|	|	|	V |
21+15	0.6417	0.10	Q	|	|	|	V|
21+20	0.6423	0.08	Q	|	|	|	V|
21+25	0.6427	0.06	Q	|	|	|	V|
21+30	0.6432	0.06	Q	|	|	|	V|
21+35	0.6437	0.08	Q	|	|	|	V|
21+40	0.6444	0.09	Q	|	|	|	V|
21+45	0.6450	0.10	Q	|	|	|	V|
21+50	0.6456	0.08	Q	|	|	|	V|
21+55	0.6460	0.06	Q	|	|	|	V|
22+ 0	0.6464	0.06	Q	|	|	|	V|
22+ 5	0.6470	0.08	Q	|	|	|	V|
22+10	0.6477	0.09	Q	|	|	|	V|
22+15	0.6483	0.10	Q	|	|	|	V|
22+20	0.6489	0.08	Q	|	|	|	V|
22+25	0.6493	0.06	Q	|	|	|	V|
22+30	0.6497	0.06	Q	|	|	|	V|
22+35	0.6502	0.06	Q	|	|	|	V|
22+40	0.6506	0.06	Q	|	|	|	V|
22+45	0.6511	0.06	Q	|	|	|	V|
22+50	0.6515	0.06	Q	|	|	|	V|
22+55	0.6519	0.06	Q	|	|	|	V|
23+ 0	0.6524	0.06	Q	|	|	|	V|
23+ 5	0.6528	0.06	Q	|	|	|	V|
23+10	0.6532	0.06	Q	|	|	|	V|
23+15	0.6537	0.06	Q	|	|	|	V|
23+20	0.6541	0.06	Q	|	|	|	V|
23+25	0.6546	0.06	Q	|	|	|	V|
23+30	0.6550	0.06	Q	|	|	|	V|
23+35	0.6554	0.06	Q	|	|	|	V|
23+40	0.6559	0.06	Q	|	|	|	V|
23+45	0.6563	0.06	Q	|	|	|	V|
23+50	0.6568	0.06	Q	|	|	|	V|
23+55	0.6572	0.06	Q	|	|	|	V|

```
   24+ 0       0.6576      0.06  Q         |         |         |        V|
   24+ 5       0.6578      0.03  Q         |         |         |        V|
   24+10       0.6578      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh110.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
10 yr
1 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.47                  1.87

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.67                  6.65

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.471(In)
Area Averaged 100-Year Rainfall =    1.670(In)

Point rain (area averaged) =    0.964(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.964(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  32.0      0.742     0.900        0.141       1.000      0.141
                                                 Sum (F) =   0.141
Area averaged mean soil loss (F) (In/Hr) =  0.141
Minimum soil loss rate ((In/Hr)) =  0.070
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5800
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        DESERT S-Curve
-----------------------------------------------------------------
                Unit Hydrograph Data
-----------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                              Sum = 100.000   Sum=       4.011
-----------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.417	(0.141)	0.075	0.342
2	0.17	4.20	0.486	(0.141)	0.087	0.399
3	0.25	4.40	0.509	(0.141)	0.092	0.417
4	0.33	4.60	0.532	(0.141)	0.096	0.436
5	0.42	5.00	0.579	(0.141)	0.104	0.474
6	0.50	5.60	0.648	(0.141)	0.117	0.531
7	0.58	6.40	0.741	(0.141)	0.133	0.607
8	0.67	8.10	0.937	0.141	(0.169)	0.796
9	0.75	13.10	1.516	0.141	(0.273)	1.375
10	0.83	34.50	3.992	0.141	(0.719)	3.851
11	0.92	6.70	0.775	(0.141)	0.140	0.636
12	1.00	3.80	0.440	(0.141)	0.079	0.361
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	10.2

Flood volume = Effective rainfall 0.85(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 0.037(Ac.Ft)
Total rainfall = 0.96(In)
Flood volume = 12310.8 Cubic Feet
Total soil loss = 1620.0 Cubic Feet

Peak flow rate of this hydrograph = 11.355(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0056	0.82	VQ				
0+10	0.0157	1.46	| Q				
0+15	0.0269	1.64	| Q				
0+20	0.0388	1.72	| Q V				
0+25	0.0514	1.84	| Q V				
0+30	0.0654	2.03	| Q V				
0+35	0.0813	2.31	| Q |V				
0+40	0.1011	2.88	| Q | V				
0+45	0.1325	4.55	| Q| V				
0+50	0.2107	11.36	| | | Q V|			
0+55	0.2615	7.38	| | Q | | V |			

```
    1+ 0       0.2779      2.38  |   Q     |         |         |        V|
    1+ 5       0.2822      0.63  |Q        |         |         |        V|
    1+10       0.2826      0.05  Q         |         |         |         V
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh310.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
10 yr
3 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.76                  3.02

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            2.50                  9.95

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.760(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.476(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.476(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  32.0      0.742     0.900        0.141       1.000      0.141
                                                 Sum (F) =   0.141
Area averaged mean soil loss (F) (In/Hr) =  0.141
Minimum soil loss rate ((In/Hr)) =  0.070
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.230	(0.141)	0.041	0.189
2	0.17	1.30	0.230	(0.141)	0.041	0.189
3	0.25	1.10	0.195	(0.141)	0.035	0.160
4	0.33	1.50	0.266	(0.141)	0.048	0.218
5	0.42	1.50	0.266	(0.141)	0.048	0.218
6	0.50	1.80	0.319	(0.141)	0.057	0.261
7	0.58	1.50	0.266	(0.141)	0.048	0.218
8	0.67	1.80	0.319	(0.141)	0.057	0.261
9	0.75	1.80	0.319	(0.141)	0.057	0.261
10	0.83	1.50	0.266	(0.141)	0.048	0.218
11	0.92	1.60	0.283	(0.141)	0.051	0.232
12	1.00	1.80	0.319	(0.141)	0.057	0.261
13	1.08	2.20	0.390	(0.141)	0.070	0.319
14	1.17	2.20	0.390	(0.141)	0.070	0.319
15	1.25	2.20	0.390	(0.141)	0.070	0.319
16	1.33	2.00	0.354	(0.141)	0.064	0.290
17	1.42	2.60	0.460	(0.141)	0.083	0.378
18	1.50	2.70	0.478	(0.141)	0.086	0.392
19	1.58	2.40	0.425	(0.141)	0.077	0.349
20	1.67	2.70	0.478	(0.141)	0.086	0.392
21	1.75	3.30	0.584	(0.141)	0.105	0.479
22	1.83	3.10	0.549	(0.141)	0.099	0.450
23	1.92	2.90	0.514	(0.141)	0.092	0.421
24	2.00	3.00	0.531	(0.141)	0.096	0.436
25	2.08	3.10	0.549	(0.141)	0.099	0.450
26	2.17	4.20	0.744	(0.141)	0.134	0.610
27	2.25	5.00	0.885	0.141	(0.159)	0.745
28	2.33	3.50	0.620	(0.141)	0.112	0.508
29	2.42	6.80	1.204	0.141	(0.217)	1.063
30	2.50	7.30	1.293	0.141	(0.233)	1.152
31	2.58	8.20	1.452	0.141	(0.261)	1.311
32	2.67	5.90	1.045	0.141	(0.188)	0.904
33	2.75	2.00	0.354	(0.141)	0.064	0.290
34	2.83	1.80	0.319	(0.141)	0.057	0.261
35	2.92	1.80	0.319	(0.141)	0.057	0.261
36	3.00	0.60	0.106	(0.141)	0.019	0.087
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	14.9

Flood volume = Effective rainfall 1.24(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.24(In)
Total soil loss = 0.078(Ac.Ft)
Total rainfall = 1.48(In)
Flood volume = 17909.4 Cubic Feet
Total soil loss = 3412.4 Cubic Feet

Peak flow rate of this hydrograph = 4.991(CFS)

++

3 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0031	0.45	VQ				
0+10	0.0081	0.73	V Q				
0+15	0.0129	0.69	|VQ				
0+20	0.0183	0.78	|V Q				
0+25	0.0242	0.87	| VQ				
0+30	0.0310	0.98	| Q				
0+35	0.0374	0.94	| Q				
0+40	0.0442	0.99	| QV				
0+45	0.0514	1.04	| QV				
0+50	0.0579	0.94	| Q V				
0+55	0.0642	0.92	| Q V				
1+ 0	0.0711	1.00	| Q V				
1+ 5	0.0792	1.18	| Q V				
1+10	0.0880	1.27	| Q V				
1+15	0.0968	1.28	| Q V				
1+20	0.1052	1.21	| Q V				
1+25	0.1147	1.38	| Q |V				
1+30	0.1253	1.54	| Q | V				
1+35	0.1354	1.47	| Q | V				
1+40	0.1458	1.51	| Q | V				
1+45	0.1580	1.78	| Q | V				
1+50	0.1707	1.84	| Q | V				
1+55	0.1827	1.74	| Q | V				
2+ 0	0.1946	1.73	| Q | V				
2+ 5	0.2068	1.78	| Q | V				
2+10	0.2219	2.19	| Q | V				
2+15	0.2408	2.75	| Q | V				
2+20	0.2574	2.40	| Q| V				
2+25	0.2808	3.40	| | Q | V				
2+30	0.3111	4.39	| | Q | V				
2+35	0.3454	4.99	| | Q| V				
2+40	0.3748	4.26	| | Q | V				
2+45	0.3901	2.22	| Q | V				
2+50	0.3983	1.19	| Q | V				
2+55	0.4055	1.05	| Q | V				
3+ 0	0.4099	0.63	| Q | V				
3+ 5	0.4111	0.17	Q | V				
3+10	0.4111	0.01	Q | V				

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

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Study date 09/21/22 File: 183postuh610.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
10 yr
6 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.99                  3.95

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            3.25                 12.94

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.993(In)
Area Averaged 100-Year Rainfall =    3.250(In)

Point rain (area averaged) =    1.922(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.922(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  32.0      0.742     0.900        0.141       1.000      0.141
                                                 Sum (F) =   0.141
Area averaged mean soil loss (F) (In/Hr) =  0.141
Minimum soil loss rate ((In/Hr)) =  0.070
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

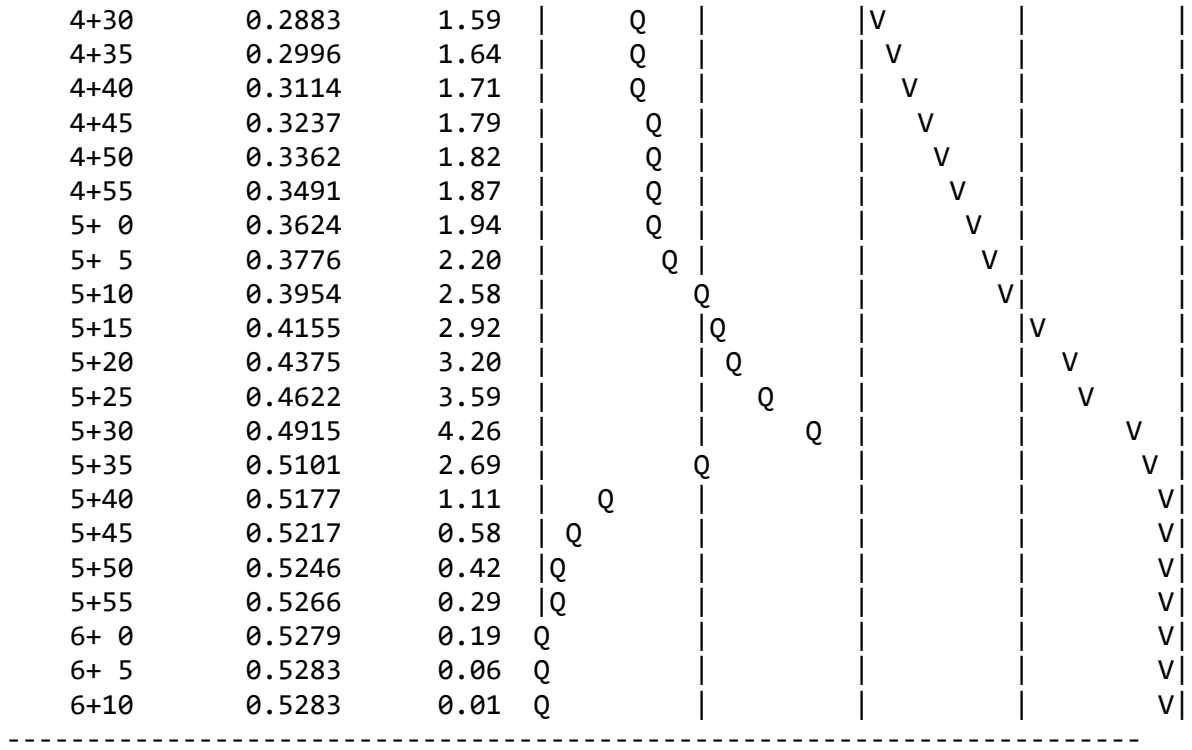
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.115	(0.141)	0.021	0.095
2	0.17	0.60	0.138	(0.141)	0.025	0.113
3	0.25	0.60	0.138	(0.141)	0.025	0.113
4	0.33	0.60	0.138	(0.141)	0.025	0.113
5	0.42	0.60	0.138	(0.141)	0.025	0.113
6	0.50	0.70	0.161	(0.141)	0.029	0.132
7	0.58	0.70	0.161	(0.141)	0.029	0.132
8	0.67	0.70	0.161	(0.141)	0.029	0.132
9	0.75	0.70	0.161	(0.141)	0.029	0.132
10	0.83	0.70	0.161	(0.141)	0.029	0.132
11	0.92	0.70	0.161	(0.141)	0.029	0.132
12	1.00	0.80	0.184	(0.141)	0.033	0.151
13	1.08	0.80	0.184	(0.141)	0.033	0.151
14	1.17	0.80	0.184	(0.141)	0.033	0.151
15	1.25	0.80	0.184	(0.141)	0.033	0.151
16	1.33	0.80	0.184	(0.141)	0.033	0.151
17	1.42	0.80	0.184	(0.141)	0.033	0.151
18	1.50	0.80	0.184	(0.141)	0.033	0.151
19	1.58	0.80	0.184	(0.141)	0.033	0.151
20	1.67	0.80	0.184	(0.141)	0.033	0.151
21	1.75	0.80	0.184	(0.141)	0.033	0.151
22	1.83	0.80	0.184	(0.141)	0.033	0.151
23	1.92	0.80	0.184	(0.141)	0.033	0.151
24	2.00	0.90	0.208	(0.141)	0.037	0.170
25	2.08	0.80	0.184	(0.141)	0.033	0.151
26	2.17	0.90	0.208	(0.141)	0.037	0.170
27	2.25	0.90	0.208	(0.141)	0.037	0.170
28	2.33	0.90	0.208	(0.141)	0.037	0.170
29	2.42	0.90	0.208	(0.141)	0.037	0.170
30	2.50	0.90	0.208	(0.141)	0.037	0.170
31	2.58	0.90	0.208	(0.141)	0.037	0.170
32	2.67	0.90	0.208	(0.141)	0.037	0.170
33	2.75	1.00	0.231	(0.141)	0.042	0.189
34	2.83	1.00	0.231	(0.141)	0.042	0.189
35	2.92	1.00	0.231	(0.141)	0.042	0.189
36	3.00	1.00	0.231	(0.141)	0.042	0.189
37	3.08	1.00	0.231	(0.141)	0.042	0.189
38	3.17	1.10	0.254	(0.141)	0.046	0.208
39	3.25	1.10	0.254	(0.141)	0.046	0.208
40	3.33	1.10	0.254	(0.141)	0.046	0.208
41	3.42	1.20	0.277	(0.141)	0.050	0.227
42	3.50	1.30	0.300	(0.141)	0.054	0.246
43	3.58	1.40	0.323	(0.141)	0.058	0.265
44	3.67	1.40	0.323	(0.141)	0.058	0.265
45	3.75	1.50	0.346	(0.141)	0.062	0.284
46	3.83	1.50	0.346	(0.141)	0.062	0.284

```
47   3.92     1.60      0.369       (  0.141)       0.066        0.303
48   4.00     1.60      0.369       (  0.141)       0.066        0.303
49   4.08     1.70      0.392       (  0.141)       0.071        0.321
50   4.17     1.80      0.415       (  0.141)       0.075        0.340
51   4.25     1.90      0.438       (  0.141)       0.079        0.359
52   4.33     2.00      0.461       (  0.141)       0.083        0.378
53   4.42     2.10      0.484       (  0.141)       0.087        0.397
54   4.50     2.10      0.484       (  0.141)       0.087        0.397
55   4.58     2.20      0.507       (  0.141)       0.091        0.416
56   4.67     2.30      0.530       (  0.141)       0.095        0.435
57   4.75     2.40      0.553       (  0.141)       0.100        0.454
58   4.83     2.40      0.553       (  0.141)       0.100        0.454
59   4.92     2.50      0.576       (  0.141)       0.104        0.473
60   5.00     2.60      0.600       (  0.141)       0.108        0.492
61   5.08     3.10      0.715       (  0.141)       0.129        0.586
62   5.17     3.60      0.830          0.141    (  0.149)       0.689
63   5.25     3.90      0.899          0.141    (  0.162)       0.758
64   5.33     4.20      0.968          0.141    (  0.174)       0.827
65   5.42     4.70      1.084          0.141    (  0.195)       0.943
66   5.50     5.60      1.291          0.141    (  0.232)       1.150
67   5.58     1.90      0.438       (  0.141)       0.079        0.359
68   5.67     0.90      0.208       (  0.141)       0.037        0.170
69   5.75     0.60      0.138       (  0.141)       0.025        0.113
70   5.83     0.50      0.115       (  0.141)       0.021        0.095
71   5.92     0.30      0.069       (  0.141)       0.012        0.057
72   6.00     0.20      0.046       (  0.141)       0.008        0.038
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    19.1
      Flood volume = Effective rainfall      1.59(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
      Total soil loss =      0.33(In)
      Total soil loss =     0.109(Ac.Ft)
      Total rainfall =      1.92(In)
      Flood volume =       23014.7 Cubic Feet
      Total soil loss =        4746.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      4.263(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0016      0.23  Q         |         |         |         |
  0+10       0.0044      0.41  VQ        |         |         |         |
  0+15       0.0075      0.45  VQ        |         |         |         |
```

```
0+20       0.0106      0.46  VQ        |         |         |         |
0+25       0.0138      0.46  |Q        |         |         |         |
0+30       0.0172      0.50  |VQ       |         |         |         |
0+35       0.0209      0.53  |VQ       |         |         |         |
0+40       0.0245      0.53  |VQ       |         |         |         |
0+45       0.0282      0.53  | Q       |         |         |         |
0+50       0.0318      0.53  | Q       |         |         |         |
0+55       0.0355      0.53  | Q       |         |         |         |
1+ 0       0.0395      0.58  | Q       |         |         |         |
1+ 5       0.0436      0.60  | QV      |         |         |         |
1+10       0.0478      0.61  | QV      |         |         |         |
1+15       0.0520      0.61  | QV      |         |         |         |
1+20       0.0562      0.61  | Q V     |         |         |         |
1+25       0.0603      0.61  | Q V     |         |         |         |
1+30       0.0645      0.61  | Q V     |         |         |         |
1+35       0.0687      0.61  | Q  V    |         |         |         |
1+40       0.0729      0.61  | Q  V    |         |         |         |
1+45       0.0771      0.61  | Q  V    |         |         |         |
1+50       0.0812      0.61  | Q   V   |         |         |         |
1+55       0.0854      0.61  | Q   V   |         |         |         |
2+ 0       0.0899      0.65  | Q   V   |         |         |         |
2+ 5       0.0943      0.63  | Q    V  |         |         |         |
2+10       0.0988      0.66  | Q    V  |         |         |         |
2+15       0.1035      0.68  | Q    V  |         |         |         |
2+20       0.1082      0.68  | Q     V |         |         |         |
2+25       0.1129      0.68  | Q     V |         |         |         |
2+30       0.1176      0.68  | Q     V |         |         |         |
2+35       0.1223      0.68  | Q      V|         |         |         |
2+40       0.1270      0.68  | Q      V|         |         |         |
2+45       0.1320      0.73  | Q      V|         |         |         |
2+50       0.1372      0.76  |  Q      V         |         |         |
2+55       0.1425      0.76  |  Q      V         |         |         |
3+ 0       0.1477      0.76  |  Q      |V        |         |         |
3+ 5       0.1529      0.76  |  Q      |V        |         |         |
3+10       0.1584      0.80  |  Q      |V        |         |         |
3+15       0.1642      0.83  |  Q      | V       |         |         |
3+20       0.1699      0.83  |  Q      | V       |         |         |
3+25       0.1760      0.88  |  Q      |  V      |         |         |
3+30       0.1825      0.95  |  Q      |  V      |         |         |
3+35       0.1896      1.03  |   Q     |   V     |         |         |
3+40       0.1969      1.06  |   Q     |   V     |         |         |
3+45       0.2045      1.11  |   Q     |    V    |         |         |
3+50       0.2124      1.14  |   Q     |     V   |         |         |
3+55       0.2205      1.18  |   Q     |     V   |         |         |
4+ 0       0.2289      1.21  |   Q     |      V  |         |         |
4+ 5       0.2375      1.26  |    Q    |      V  |         |         |
4+10       0.2467      1.33  |    Q    |       V |         |         |
4+15       0.2564      1.41  |    Q    |        V|         |         |
4+20       0.2666      1.48  |    Q    |         V         |         |
4+25       0.2774      1.56  |     Q   |         V         |         |
```


4+30 0.2883 1.59
4+35 0.2996 1.64
4+40 0.3114 1.71
4+45 0.3237 1.79
4+50 0.3362 1.82
4+55 0.3491 1.87
5+ 0 0.3624 1.94
5+ 5 0.3776 2.20
5+10 0.3954 2.58
5+15 0.4155 2.92
5+20 0.4375 3.20
5+25 0.4622 3.59
5+30 0.4915 4.26
5+35 0.5101 2.69
5+40 0.5177 1.11
5+45 0.5217 0.58
5+50 0.5246 0.42
5+55 0.5266 0.29
6+ 0 0.5279 0.19
6+ 5 0.5283 0.06
6+10 0.5283 0.01

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

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Study date 09/21/22 File: 183postuh2410.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
10 yr
24 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.51                  6.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            5.39                 21.45

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.510(In)
Area Averaged 100-Year Rainfall =    5.390(In)

Point rain (area averaged) =    3.106(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.106(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  32.0      0.742     0.900        0.141       1.000      0.141
                                                 Sum (F) =   0.141
Area averaged mean soil loss (F) (In/Hr) =  0.141
Minimum soil loss rate ((In/Hr)) =  0.070
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.025	(0.250)	0.004	0.020
2	0.17	0.07	0.025	(0.249)	0.004	0.020
3	0.25	0.07	0.025	(0.248)	0.004	0.020
4	0.33	0.10	0.037	(0.247)	0.007	0.031
5	0.42	0.10	0.037	(0.246)	0.007	0.031
6	0.50	0.10	0.037	(0.245)	0.007	0.031
7	0.58	0.10	0.037	(0.244)	0.007	0.031
8	0.67	0.10	0.037	(0.243)	0.007	0.031
9	0.75	0.10	0.037	(0.242)	0.007	0.031
10	0.83	0.13	0.050	(0.241)	0.009	0.041
11	0.92	0.13	0.050	(0.240)	0.009	0.041
12	1.00	0.13	0.050	(0.239)	0.009	0.041
13	1.08	0.10	0.037	(0.238)	0.007	0.031
14	1.17	0.10	0.037	(0.238)	0.007	0.031
15	1.25	0.10	0.037	(0.237)	0.007	0.031
16	1.33	0.10	0.037	(0.236)	0.007	0.031
17	1.42	0.10	0.037	(0.235)	0.007	0.031
18	1.50	0.10	0.037	(0.234)	0.007	0.031
19	1.58	0.10	0.037	(0.233)	0.007	0.031
20	1.67	0.10	0.037	(0.232)	0.007	0.031
21	1.75	0.10	0.037	(0.231)	0.007	0.031
22	1.83	0.13	0.050	(0.230)	0.009	0.041
23	1.92	0.13	0.050	(0.229)	0.009	0.041
24	2.00	0.13	0.050	(0.228)	0.009	0.041
25	2.08	0.13	0.050	(0.227)	0.009	0.041
26	2.17	0.13	0.050	(0.226)	0.009	0.041
27	2.25	0.13	0.050	(0.225)	0.009	0.041
28	2.33	0.13	0.050	(0.224)	0.009	0.041
29	2.42	0.13	0.050	(0.224)	0.009	0.041
30	2.50	0.13	0.050	(0.223)	0.009	0.041
31	2.58	0.17	0.062	(0.222)	0.011	0.051
32	2.67	0.17	0.062	(0.221)	0.011	0.051
33	2.75	0.17	0.062	(0.220)	0.011	0.051
34	2.83	0.17	0.062	(0.219)	0.011	0.051
35	2.92	0.17	0.062	(0.218)	0.011	0.051
36	3.00	0.17	0.062	(0.217)	0.011	0.051
37	3.08	0.17	0.062	(0.216)	0.011	0.051
38	3.17	0.17	0.062	(0.215)	0.011	0.051
39	3.25	0.17	0.062	(0.215)	0.011	0.051
40	3.33	0.17	0.062	(0.214)	0.011	0.051
41	3.42	0.17	0.062	(0.213)	0.011	0.051
42	3.50	0.17	0.062	(0.212)	0.011	0.051
43	3.58	0.17	0.062	(0.211)	0.011	0.051
44	3.67	0.17	0.062	(0.210)	0.011	0.051
45	3.75	0.17	0.062	(0.209)	0.011	0.051
46	3.83	0.20	0.075	(0.208)	0.013	0.061

47	3.92	0.20	0.075	(0.207)	0.013	0.061
48	4.00	0.20	0.075	(0.207)	0.013	0.061
49	4.08	0.20	0.075	(0.206)	0.013	0.061
50	4.17	0.20	0.075	(0.205)	0.013	0.061
51	4.25	0.20	0.075	(0.204)	0.013	0.061
52	4.33	0.23	0.087	(0.203)	0.016	0.071
53	4.42	0.23	0.087	(0.202)	0.016	0.071
54	4.50	0.23	0.087	(0.201)	0.016	0.071
55	4.58	0.23	0.087	(0.200)	0.016	0.071
56	4.67	0.23	0.087	(0.200)	0.016	0.071
57	4.75	0.23	0.087	(0.199)	0.016	0.071
58	4.83	0.27	0.099	(0.198)	0.018	0.082
59	4.92	0.27	0.099	(0.197)	0.018	0.082
60	5.00	0.27	0.099	(0.196)	0.018	0.082
61	5.08	0.20	0.075	(0.195)	0.013	0.061
62	5.17	0.20	0.075	(0.194)	0.013	0.061
63	5.25	0.20	0.075	(0.194)	0.013	0.061
64	5.33	0.23	0.087	(0.193)	0.016	0.071
65	5.42	0.23	0.087	(0.192)	0.016	0.071
66	5.50	0.23	0.087	(0.191)	0.016	0.071
67	5.58	0.27	0.099	(0.190)	0.018	0.082
68	5.67	0.27	0.099	(0.189)	0.018	0.082
69	5.75	0.27	0.099	(0.189)	0.018	0.082
70	5.83	0.27	0.099	(0.188)	0.018	0.082
71	5.92	0.27	0.099	(0.187)	0.018	0.082
72	6.00	0.27	0.099	(0.186)	0.018	0.082
73	6.08	0.30	0.112	(0.185)	0.020	0.092
74	6.17	0.30	0.112	(0.184)	0.020	0.092
75	6.25	0.30	0.112	(0.184)	0.020	0.092
76	6.33	0.30	0.112	(0.183)	0.020	0.092
77	6.42	0.30	0.112	(0.182)	0.020	0.092
78	6.50	0.30	0.112	(0.181)	0.020	0.092
79	6.58	0.33	0.124	(0.180)	0.022	0.102
80	6.67	0.33	0.124	(0.180)	0.022	0.102
81	6.75	0.33	0.124	(0.179)	0.022	0.102
82	6.83	0.33	0.124	(0.178)	0.022	0.102
83	6.92	0.33	0.124	(0.177)	0.022	0.102
84	7.00	0.33	0.124	(0.176)	0.022	0.102
85	7.08	0.33	0.124	(0.176)	0.022	0.102
86	7.17	0.33	0.124	(0.175)	0.022	0.102
87	7.25	0.33	0.124	(0.174)	0.022	0.102
88	7.33	0.37	0.137	(0.173)	0.025	0.112
89	7.42	0.37	0.137	(0.172)	0.025	0.112
90	7.50	0.37	0.137	(0.172)	0.025	0.112
91	7.58	0.40	0.149	(0.171)	0.027	0.122
92	7.67	0.40	0.149	(0.170)	0.027	0.122
93	7.75	0.40	0.149	(0.169)	0.027	0.122
94	7.83	0.43	0.162	(0.168)	0.029	0.132
95	7.92	0.43	0.162	(0.168)	0.029	0.132
96	8.00	0.43	0.162	(0.167)	0.029	0.132

97	8.08	0.50	0.186	(0.166)	0.034	0.153
98	8.17	0.50	0.186	(0.165)	0.034	0.153
99	8.25	0.50	0.186	(0.165)	0.034	0.153
100	8.33	0.50	0.186	(0.164)	0.034	0.153
101	8.42	0.50	0.186	(0.163)	0.034	0.153
102	8.50	0.50	0.186	(0.162)	0.034	0.153
103	8.58	0.53	0.199	(0.161)	0.036	0.163
104	8.67	0.53	0.199	(0.161)	0.036	0.163
105	8.75	0.53	0.199	(0.160)	0.036	0.163
106	8.83	0.57	0.211	(0.159)	0.038	0.173
107	8.92	0.57	0.211	(0.158)	0.038	0.173
108	9.00	0.57	0.211	(0.158)	0.038	0.173
109	9.08	0.63	0.236	(0.157)	0.042	0.194
110	9.17	0.63	0.236	(0.156)	0.042	0.194
111	9.25	0.63	0.236	(0.155)	0.042	0.194
112	9.33	0.67	0.248	(0.155)	0.045	0.204
113	9.42	0.67	0.248	(0.154)	0.045	0.204
114	9.50	0.67	0.248	(0.153)	0.045	0.204
115	9.58	0.70	0.261	(0.153)	0.047	0.214
116	9.67	0.70	0.261	(0.152)	0.047	0.214
117	9.75	0.70	0.261	(0.151)	0.047	0.214
118	9.83	0.73	0.273	(0.150)	0.049	0.224
119	9.92	0.73	0.273	(0.150)	0.049	0.224
120	10.00	0.73	0.273	(0.149)	0.049	0.224
121	10.08	0.50	0.186	(0.148)	0.034	0.153
122	10.17	0.50	0.186	(0.147)	0.034	0.153
123	10.25	0.50	0.186	(0.147)	0.034	0.153
124	10.33	0.50	0.186	(0.146)	0.034	0.153
125	10.42	0.50	0.186	(0.145)	0.034	0.153
126	10.50	0.50	0.186	(0.145)	0.034	0.153
127	10.58	0.67	0.248	(0.144)	0.045	0.204
128	10.67	0.67	0.248	(0.143)	0.045	0.204
129	10.75	0.67	0.248	(0.142)	0.045	0.204
130	10.83	0.67	0.248	(0.142)	0.045	0.204
131	10.92	0.67	0.248	(0.141)	0.045	0.204
132	11.00	0.67	0.248	(0.140)	0.045	0.204
133	11.08	0.63	0.236	(0.140)	0.042	0.194
134	11.17	0.63	0.236	(0.139)	0.042	0.194
135	11.25	0.63	0.236	(0.138)	0.042	0.194
136	11.33	0.63	0.236	(0.138)	0.042	0.194
137	11.42	0.63	0.236	(0.137)	0.042	0.194
138	11.50	0.63	0.236	(0.136)	0.042	0.194
139	11.58	0.57	0.211	(0.136)	0.038	0.173
140	11.67	0.57	0.211	(0.135)	0.038	0.173
141	11.75	0.57	0.211	(0.134)	0.038	0.173
142	11.83	0.60	0.224	(0.134)	0.040	0.183
143	11.92	0.60	0.224	(0.133)	0.040	0.183
144	12.00	0.60	0.224	(0.132)	0.040	0.183
145	12.08	0.83	0.311	(0.132)	0.056	0.255
146	12.17	0.83	0.311	(0.131)	0.056	0.255

147	12.25	0.83	0.311	(0.130)	0.056	0.255
148	12.33	0.87	0.323	(0.130)	0.058	0.265
149	12.42	0.87	0.323	(0.129)	0.058	0.265
150	12.50	0.87	0.323	(0.128)	0.058	0.265
151	12.58	0.93	0.348	(0.128)	0.063	0.285
152	12.67	0.93	0.348	(0.127)	0.063	0.285
153	12.75	0.93	0.348	(0.126)	0.063	0.285
154	12.83	0.97	0.360	(0.126)	0.065	0.295
155	12.92	0.97	0.360	(0.125)	0.065	0.295
156	13.00	0.97	0.360	(0.124)	0.065	0.295
157	13.08	1.13	0.422	(0.124)	0.076	0.346
158	13.17	1.13	0.422	(0.123)	0.076	0.346
159	13.25	1.13	0.422	(0.123)	0.076	0.346
160	13.33	1.13	0.422	(0.122)	0.076	0.346
161	13.42	1.13	0.422	(0.121)	0.076	0.346
162	13.50	1.13	0.422	(0.121)	0.076	0.346
163	13.58	0.77	0.286	(0.120)	0.051	0.234
164	13.67	0.77	0.286	(0.120)	0.051	0.234
165	13.75	0.77	0.286	(0.119)	0.051	0.234
166	13.83	0.77	0.286	(0.118)	0.051	0.234
167	13.92	0.77	0.286	(0.118)	0.051	0.234
168	14.00	0.77	0.286	(0.117)	0.051	0.234
169	14.08	0.90	0.335	(0.117)	0.060	0.275
170	14.17	0.90	0.335	(0.116)	0.060	0.275
171	14.25	0.90	0.335	(0.115)	0.060	0.275
172	14.33	0.87	0.323	(0.115)	0.058	0.265
173	14.42	0.87	0.323	(0.114)	0.058	0.265
174	14.50	0.87	0.323	(0.114)	0.058	0.265
175	14.58	0.87	0.323	(0.113)	0.058	0.265
176	14.67	0.87	0.323	(0.112)	0.058	0.265
177	14.75	0.87	0.323	(0.112)	0.058	0.265
178	14.83	0.83	0.311	(0.111)	0.056	0.255
179	14.92	0.83	0.311	(0.111)	0.056	0.255
180	15.00	0.83	0.311	(0.110)	0.056	0.255
181	15.08	0.80	0.298	(0.110)	0.054	0.245
182	15.17	0.80	0.298	(0.109)	0.054	0.245
183	15.25	0.80	0.298	(0.108)	0.054	0.245
184	15.33	0.77	0.286	(0.108)	0.051	0.234
185	15.42	0.77	0.286	(0.107)	0.051	0.234
186	15.50	0.77	0.286	(0.107)	0.051	0.234
187	15.58	0.63	0.236	(0.106)	0.042	0.194
188	15.67	0.63	0.236	(0.106)	0.042	0.194
189	15.75	0.63	0.236	(0.105)	0.042	0.194
190	15.83	0.63	0.236	(0.105)	0.042	0.194
191	15.92	0.63	0.236	(0.104)	0.042	0.194
192	16.00	0.63	0.236	(0.104)	0.042	0.194
193	16.08	0.13	0.050	(0.103)	0.009	0.041
194	16.17	0.13	0.050	(0.102)	0.009	0.041
195	16.25	0.13	0.050	(0.102)	0.009	0.041
196	16.33	0.13	0.050	(0.101)	0.009	0.041

197	16.42	0.13	0.050	(0.101)	0.009	0.041
198	16.50	0.13	0.050	(0.100)	0.009	0.041
199	16.58	0.10	0.037	(0.100)	0.007	0.031
200	16.67	0.10	0.037	(0.099)	0.007	0.031
201	16.75	0.10	0.037	(0.099)	0.007	0.031
202	16.83	0.10	0.037	(0.098)	0.007	0.031
203	16.92	0.10	0.037	(0.098)	0.007	0.031
204	17.00	0.10	0.037	(0.097)	0.007	0.031
205	17.08	0.17	0.062	(0.097)	0.011	0.051
206	17.17	0.17	0.062	(0.096)	0.011	0.051
207	17.25	0.17	0.062	(0.096)	0.011	0.051
208	17.33	0.17	0.062	(0.095)	0.011	0.051
209	17.42	0.17	0.062	(0.095)	0.011	0.051
210	17.50	0.17	0.062	(0.094)	0.011	0.051
211	17.58	0.17	0.062	(0.094)	0.011	0.051
212	17.67	0.17	0.062	(0.094)	0.011	0.051
213	17.75	0.17	0.062	(0.093)	0.011	0.051
214	17.83	0.13	0.050	(0.093)	0.009	0.041
215	17.92	0.13	0.050	(0.092)	0.009	0.041
216	18.00	0.13	0.050	(0.092)	0.009	0.041
217	18.08	0.13	0.050	(0.091)	0.009	0.041
218	18.17	0.13	0.050	(0.091)	0.009	0.041
219	18.25	0.13	0.050	(0.090)	0.009	0.041
220	18.33	0.13	0.050	(0.090)	0.009	0.041
221	18.42	0.13	0.050	(0.089)	0.009	0.041
222	18.50	0.13	0.050	(0.089)	0.009	0.041
223	18.58	0.10	0.037	(0.089)	0.007	0.031
224	18.67	0.10	0.037	(0.088)	0.007	0.031
225	18.75	0.10	0.037	(0.088)	0.007	0.031
226	18.83	0.07	0.025	(0.087)	0.004	0.020
227	18.92	0.07	0.025	(0.087)	0.004	0.020
228	19.00	0.07	0.025	(0.087)	0.004	0.020
229	19.08	0.10	0.037	(0.086)	0.007	0.031
230	19.17	0.10	0.037	(0.086)	0.007	0.031
231	19.25	0.10	0.037	(0.085)	0.007	0.031
232	19.33	0.13	0.050	(0.085)	0.009	0.041
233	19.42	0.13	0.050	(0.085)	0.009	0.041
234	19.50	0.13	0.050	(0.084)	0.009	0.041
235	19.58	0.10	0.037	(0.084)	0.007	0.031
236	19.67	0.10	0.037	(0.083)	0.007	0.031
237	19.75	0.10	0.037	(0.083)	0.007	0.031
238	19.83	0.07	0.025	(0.083)	0.004	0.020
239	19.92	0.07	0.025	(0.082)	0.004	0.020
240	20.00	0.07	0.025	(0.082)	0.004	0.020
241	20.08	0.10	0.037	(0.082)	0.007	0.031
242	20.17	0.10	0.037	(0.081)	0.007	0.031
243	20.25	0.10	0.037	(0.081)	0.007	0.031
244	20.33	0.10	0.037	(0.080)	0.007	0.031
245	20.42	0.10	0.037	(0.080)	0.007	0.031
246	20.50	0.10	0.037	(0.080)	0.007	0.031

247	20.58	0.10	0.037	(0.079)	0.007	0.031
248	20.67	0.10	0.037	(0.079)	0.007	0.031
249	20.75	0.10	0.037	(0.079)	0.007	0.031
250	20.83	0.07	0.025	(0.078)	0.004	0.020
251	20.92	0.07	0.025	(0.078)	0.004	0.020
252	21.00	0.07	0.025	(0.078)	0.004	0.020
253	21.08	0.10	0.037	(0.078)	0.007	0.031
254	21.17	0.10	0.037	(0.077)	0.007	0.031
255	21.25	0.10	0.037	(0.077)	0.007	0.031
256	21.33	0.07	0.025	(0.077)	0.004	0.020
257	21.42	0.07	0.025	(0.076)	0.004	0.020
258	21.50	0.07	0.025	(0.076)	0.004	0.020
259	21.58	0.10	0.037	(0.076)	0.007	0.031
260	21.67	0.10	0.037	(0.075)	0.007	0.031
261	21.75	0.10	0.037	(0.075)	0.007	0.031
262	21.83	0.07	0.025	(0.075)	0.004	0.020
263	21.92	0.07	0.025	(0.075)	0.004	0.020
264	22.00	0.07	0.025	(0.074)	0.004	0.020
265	22.08	0.10	0.037	(0.074)	0.007	0.031
266	22.17	0.10	0.037	(0.074)	0.007	0.031
267	22.25	0.10	0.037	(0.074)	0.007	0.031
268	22.33	0.07	0.025	(0.073)	0.004	0.020
269	22.42	0.07	0.025	(0.073)	0.004	0.020
270	22.50	0.07	0.025	(0.073)	0.004	0.020
271	22.58	0.07	0.025	(0.073)	0.004	0.020
272	22.67	0.07	0.025	(0.073)	0.004	0.020
273	22.75	0.07	0.025	(0.072)	0.004	0.020
274	22.83	0.07	0.025	(0.072)	0.004	0.020
275	22.92	0.07	0.025	(0.072)	0.004	0.020
276	23.00	0.07	0.025	(0.072)	0.004	0.020
277	23.08	0.07	0.025	(0.072)	0.004	0.020
278	23.17	0.07	0.025	(0.072)	0.004	0.020
279	23.25	0.07	0.025	(0.071)	0.004	0.020
280	23.33	0.07	0.025	(0.071)	0.004	0.020
281	23.42	0.07	0.025	(0.071)	0.004	0.020
282	23.50	0.07	0.025	(0.071)	0.004	0.020
283	23.58	0.07	0.025	(0.071)	0.004	0.020
284	23.67	0.07	0.025	(0.071)	0.004	0.020
285	23.75	0.07	0.025	(0.071)	0.004	0.020
286	23.83	0.07	0.025	(0.071)	0.004	0.020
287	23.92	0.07	0.025	(0.071)	0.004	0.020
288	24.00	0.07	0.025	(0.070)	0.004	0.020

(Loss Rate Not Used)

Sum = 100.0 Sum = 30.6

Flood volume = Effective rainfall 2.55(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.56(In)
Total soil loss = 0.185(Ac.Ft)
Total rainfall = 3.11(In)
Flood volume = 36799.2 Cubic Feet

Total soil loss = 8077.9 Cubic Feet

Peak flow rate of this hydrograph = 1.390(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q				
0+10	0.0009	0.08	Q				
0+15	0.0014	0.08	Q				
0+20	0.0022	0.11	Q				
0+25	0.0030	0.12	Q				
0+30	0.0039	0.12	Q				
0+35	0.0047	0.12	Q				
0+40	0.0055	0.12	Q				
0+45	0.0064	0.12	Q				
0+50	0.0074	0.15	Q				
0+55	0.0085	0.16	Q				
1+ 0	0.0096	0.16	Q				
1+ 5	0.0106	0.14	Q				
1+10	0.0115	0.12	Q				
1+15	0.0123	0.12	Q				
1+20	0.0131	0.12	Q				
1+25	0.0140	0.12	Q				
1+30	0.0148	0.12	Q				
1+35	0.0157	0.12	Q				
1+40	0.0165	0.12	Q				
1+45	0.0174	0.12	Q				
1+50	0.0184	0.15	Q				
1+55	0.0195	0.16	Q				
2+ 0	0.0206	0.16	Q				
2+ 5	0.0217	0.16	QV				
2+10	0.0229	0.16	QV				
2+15	0.0240	0.16	QV				
2+20	0.0251	0.16	QV				
2+25	0.0263	0.16	QV				
2+30	0.0274	0.16	QV				
2+35	0.0287	0.19	QV				
2+40	0.0301	0.20	QV				
2+45	0.0315	0.20	QV				
2+50	0.0329	0.20	QV				
2+55	0.0343	0.20	QV				
3+ 0	0.0357	0.20	QV				
3+ 5	0.0371	0.20	QV				

3+10	0.0385	0.20	QV	|	|	|	|
3+15	0.0399	0.20	QV	|	|	|	|
3+20	0.0413	0.20	QV	|	|	|	|
3+25	0.0427	0.20	Q V	|	|	|	|
3+30	0.0442	0.20	Q V	|	|	|	|
3+35	0.0456	0.20	Q V	|	|	|	|
3+40	0.0470	0.20	Q V	|	|	|	|
3+45	0.0484	0.20	Q V	|	|	|	|
3+50	0.0500	0.23	Q V	|	|	|	|
3+55	0.0516	0.24	Q V	|	|	|	|
4+ 0	0.0533	0.25	Q V	|	|	|	|
4+ 5	0.0550	0.25	Q V	|	|	|	|
4+10	0.0567	0.25	Q V	|	|	|	|
4+15	0.0584	0.25	Q V	|	|	|	|
4+20	0.0602	0.27	|QV	|	|	|	|
4+25	0.0622	0.28	|QV	|	|	|	|
4+30	0.0642	0.29	|Q V	|	|	|	|
4+35	0.0662	0.29	|Q V	|	|	|	|
4+40	0.0681	0.29	|Q V	|	|	|	|
4+45	0.0701	0.29	|Q V	|	|	|	|
4+50	0.0722	0.31	|Q V	|	|	|	|
4+55	0.0745	0.33	|Q V	|	|	|	|
5+ 0	0.0767	0.33	|Q V	|	|	|	|
5+ 5	0.0786	0.28	|Q V	|	|	|	|
5+10	0.0804	0.25	Q V	|	|	|	|
5+15	0.0820	0.25	Q V	|	|	|	|
5+20	0.0839	0.27	|Q V	|	|	|	|
5+25	0.0859	0.28	|Q V	|	|	|	|
5+30	0.0878	0.29	|Q V	|	|	|	|
5+35	0.0900	0.31	|Q V	|	|	|	|
5+40	0.0922	0.33	|Q V	|	|	|	|
5+45	0.0945	0.33	|Q V	|	|	|	|
5+50	0.0967	0.33	|Q V	|	|	|	|
5+55	0.0990	0.33	|Q V	|	|	|	|
6+ 0	0.1012	0.33	|Q V	|	|	|	|
6+ 5	0.1036	0.35	|Q V	|	|	|	|
6+10	0.1062	0.37	|Q V	|	|	|	|
6+15	0.1087	0.37	|Q V	|	|	|	|
6+20	0.1112	0.37	|Q V	|	|	|	|
6+25	0.1138	0.37	|Q V	|	|	|	|
6+30	0.1163	0.37	|Q V	|	|	|	|
6+35	0.1190	0.39	|Q V	|	|	|	|
6+40	0.1218	0.41	|Q V	|	|	|	|
6+45	0.1246	0.41	|Q V	|	|	|	|
6+50	0.1274	0.41	|Q V	|	|	|	|
6+55	0.1303	0.41	|Q V	|	|	|	|
7+ 0	0.1331	0.41	|Q V	|	|	|	|
7+ 5	0.1359	0.41	|Q V	|	|	|	|
7+10	0.1387	0.41	|Q V	|	|	|	|
7+15	0.1415	0.41	|Q V	|	|	|	|

7+20	0.1445	0.43	Q V				
7+25	0.1476	0.45	Q V				
7+30	0.1507	0.45	Q V				
7+35	0.1540	0.47	Q V				
7+40	0.1573	0.49	Q V				
7+45	0.1607	0.49	Q V				
7+50	0.1643	0.52	Q V				
7+55	0.1679	0.53	Q V				
8+ 0	0.1716	0.53	Q V				
8+ 5	0.1756	0.58	Q V				
8+10	0.1798	0.61	Q V				
8+15	0.1840	0.61	Q V				
8+20	0.1882	0.61	Q V				
8+25	0.1924	0.61	Q V				
8+30	0.1967	0.61	Q V				
8+35	0.2011	0.64	Q V				
8+40	0.2055	0.65	Q V				
8+45	0.2101	0.65	Q V				
8+50	0.2147	0.68	Q V				
8+55	0.2195	0.69	Q V				
9+ 0	0.2243	0.70	Q V				
9+ 5	0.2294	0.74	Q V				
9+10	0.2347	0.77	Q V				
9+15	0.2401	0.78	Q V				
9+20	0.2456	0.80	Q V				
9+25	0.2512	0.82	Q V				
9+30	0.2569	0.82	Q V				
9+35	0.2627	0.84	Q V				
9+40	0.2686	0.86	Q V				
9+45	0.2745	0.86	Q V				
9+50	0.2806	0.88	Q V				
9+55	0.2867	0.90	Q V				
10+ 0	0.2929	0.90	Q V				
10+ 5	0.2980	0.73	Q V				
10+10	0.3023	0.62	Q V				
10+15	0.3065	0.61	Q V				
10+20	0.3107	0.61	Q V				
10+25	0.3149	0.61	Q V				
10+30	0.3192	0.61	Q V				
10+35	0.3242	0.74	Q V				
10+40	0.3298	0.81	Q V				
10+45	0.3354	0.82	Q V				
10+50	0.3411	0.82	Q V				
10+55	0.3467	0.82	Q V				
11+ 0	0.3523	0.82	Q V				
11+ 5	0.3578	0.79	Q V				
11+10	0.3632	0.78	Q V				
11+15	0.3685	0.78	Q V				
11+20	0.3739	0.78	Q V				
11+25	0.3792	0.78	Q V				

11+30	0.3846	0.78	Q	V			
11+35	0.3896	0.73	Q	V			
11+40	0.3944	0.70	Q	V			
11+45	0.3992	0.70	Q	V			
11+50	0.4041	0.72	Q	V			
11+55	0.4092	0.73	Q	V			
12+ 0	0.4142	0.74	Q	V			
12+ 5	0.4205	0.91	Q	V			
12+10	0.4275	1.01	Q	V			
12+15	0.4345	1.02	Q	V			
12+20	0.4417	1.05	Q	V			
12+25	0.4490	1.06	Q	V			
12+30	0.4563	1.06	Q	V			
12+35	0.4640	1.11	Q	V			
12+40	0.4719	1.14	Q	V			
12+45	0.4797	1.14	Q	V			
12+50	0.4878	1.17	Q	V			
12+55	0.4959	1.18	Q	V			
13+ 0	0.5041	1.19	Q	V			
13+ 5	0.5131	1.31	Q	V			
13+10	0.5226	1.38	Q	V			
13+15	0.5322	1.39	Q	V			
13+20	0.5418	1.39	Q	V			
13+25	0.5514	1.39	Q	V			
13+30	0.5609	1.39	Q	V			
13+35	0.5687	1.12	Q	V			
13+40	0.5753	0.96	Q	V			
13+45	0.5817	0.94	Q	V			
13+50	0.5882	0.94	Q	V			
13+55	0.5947	0.94	Q	V			
14+ 0	0.6012	0.94	Q	V			
14+ 5	0.6083	1.04	Q	V			
14+10	0.6159	1.10	Q	V			
14+15	0.6235	1.10	Q	V			
14+20	0.6309	1.08	Q	V			
14+25	0.6382	1.06	Q	V			
14+30	0.6456	1.06	Q	V			
14+35	0.6529	1.06	Q	V			
14+40	0.6602	1.06	Q	V			
14+45	0.6675	1.06	Q	V			
14+50	0.6747	1.04	Q	V			
14+55	0.6817	1.02	Q	V			
15+ 0	0.6888	1.02	Q	V			
15+ 5	0.6956	1.00	Q	V			
15+10	0.7024	0.98	Q	V			
15+15	0.7092	0.98	Q	V			
15+20	0.7158	0.96	Q	V			
15+25	0.7223	0.94	Q	V			
15+30	0.7287	0.94	Q	V			
15+35	0.7345	0.84	Q	V			

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15+40       0.7399      0.78  |  Q      |         |         |    V    |
15+45       0.7453      0.78  |  Q      |         |         |    V    |
15+50       0.7506      0.78  |  Q      |         |         |    V    |
15+55       0.7560      0.78  |  Q      |         |         |    V    |
16+ 0       0.7613      0.78  |  Q      |         |         |     V   |
16+ 5       0.7642      0.41  |Q        |         |         |     V   |
16+10       0.7654      0.19  Q         |         |         |     V   |
16+15       0.7666      0.16  Q         |         |         |     V   |
16+20       0.7677      0.16  Q         |         |         |     V   |
16+25       0.7688      0.16  Q         |         |         |     V   |
16+30       0.7700      0.16  Q         |         |         |     V   |
16+35       0.7709      0.14  Q         |         |         |     V   |
16+40       0.7718      0.12  Q         |         |         |     V   |
16+45       0.7726      0.12  Q         |         |         |     V   |
16+50       0.7735      0.12  Q         |         |         |     V   |
16+55       0.7743      0.12  Q         |         |         |     V   |
17+ 0       0.7751      0.12  Q         |         |         |     V   |
17+ 5       0.7763      0.17  Q         |         |         |     V   |
17+10       0.7777      0.20  Q         |         |         |     V   |
17+15       0.7791      0.20  Q         |         |         |     V   |
17+20       0.7805      0.20  Q         |         |         |     V   |
17+25       0.7819      0.20  Q         |         |         |      V  |
17+30       0.7833      0.20  Q         |         |         |      V  |
17+35       0.7848      0.20  Q         |         |         |      V  |
17+40       0.7862      0.20  Q         |         |         |      V  |
17+45       0.7876      0.20  Q         |         |         |      V  |
17+50       0.7888      0.18  Q         |         |         |      V  |
17+55       0.7899      0.17  Q         |         |         |      V  |
18+ 0       0.7911      0.16  Q         |         |         |      V  |
18+ 5       0.7922      0.16  Q         |         |         |      V  |
18+10       0.7933      0.16  Q         |         |         |      V  |
18+15       0.7945      0.16  Q         |         |         |      V  |
18+20       0.7956      0.16  Q         |         |         |      V  |
18+25       0.7967      0.16  Q         |         |         |      V  |
18+30       0.7978      0.16  Q         |         |         |      V  |
18+35       0.7988      0.14  Q         |         |         |      V  |
18+40       0.7996      0.12  Q         |         |         |      V  |
18+45       0.8005      0.12  Q         |         |         |      V  |
18+50       0.8012      0.10  Q         |         |         |      V  |
18+55       0.8017      0.08  Q         |         |         |      V  |
19+ 0       0.8023      0.08  Q         |         |         |      V  |
19+ 5       0.8030      0.11  Q         |         |         |       V |
19+10       0.8039      0.12  Q         |         |         |       V |
19+15       0.8047      0.12  Q         |         |         |       V |
19+20       0.8057      0.15  Q         |         |         |       V |
19+25       0.8068      0.16  Q         |         |         |       V |
19+30       0.8080      0.16  Q         |         |         |       V |
19+35       0.8089      0.14  Q         |         |         |       V |
19+40       0.8098      0.12  Q         |         |         |       V |
19+45       0.8106      0.12  Q         |         |         |       V |
```

19+50	0.8113	0.10	Q	|	|	|	V |
19+55	0.8119	0.08	Q	|	|	|	V |
20+ 0	0.8124	0.08	Q	|	|	|	V |
20+ 5	0.8132	0.11	Q	|	|	|	V |
20+10	0.8140	0.12	Q	|	|	|	V |
20+15	0.8149	0.12	Q	|	|	|	V |
20+20	0.8157	0.12	Q	|	|	|	V |
20+25	0.8165	0.12	Q	|	|	|	V |
20+30	0.8174	0.12	Q	|	|	|	V |
20+35	0.8182	0.12	Q	|	|	|	V |
20+40	0.8191	0.12	Q	|	|	|	V |
20+45	0.8199	0.12	Q	|	|	|	V |
20+50	0.8206	0.10	Q	|	|	|	V |
20+55	0.8212	0.08	Q	|	|	|	V |
21+ 0	0.8217	0.08	Q	|	|	|	V |
21+ 5	0.8225	0.11	Q	|	|	|	V |
21+10	0.8233	0.12	Q	|	|	|	V |
21+15	0.8241	0.12	Q	|	|	|	V|
21+20	0.8248	0.10	Q	|	|	|	V|
21+25	0.8254	0.08	Q	|	|	|	V|
21+30	0.8260	0.08	Q	|	|	|	V|
21+35	0.8267	0.11	Q	|	|	|	V|
21+40	0.8275	0.12	Q	|	|	|	V|
21+45	0.8284	0.12	Q	|	|	|	V|
21+50	0.8290	0.10	Q	|	|	|	V|
21+55	0.8296	0.08	Q	|	|	|	V|
22+ 0	0.8302	0.08	Q	|	|	|	V|
22+ 5	0.8309	0.11	Q	|	|	|	V|
22+10	0.8317	0.12	Q	|	|	|	V|
22+15	0.8326	0.12	Q	|	|	|	V|
22+20	0.8333	0.10	Q	|	|	|	V|
22+25	0.8338	0.08	Q	|	|	|	V|
22+30	0.8344	0.08	Q	|	|	|	V|
22+35	0.8350	0.08	Q	|	|	|	V|
22+40	0.8355	0.08	Q	|	|	|	V|
22+45	0.8361	0.08	Q	|	|	|	V|
22+50	0.8367	0.08	Q	|	|	|	V|
22+55	0.8372	0.08	Q	|	|	|	V|
23+ 0	0.8378	0.08	Q	|	|	|	V|
23+ 5	0.8383	0.08	Q	|	|	|	V|
23+10	0.8389	0.08	Q	|	|	|	V|
23+15	0.8395	0.08	Q	|	|	|	V|
23+20	0.8400	0.08	Q	|	|	|	V|
23+25	0.8406	0.08	Q	|	|	|	V|
23+30	0.8412	0.08	Q	|	|	|	V|
23+35	0.8417	0.08	Q	|	|	|	V|
23+40	0.8423	0.08	Q	|	|	|	V|
23+45	0.8429	0.08	Q	|	|	|	V|
23+50	0.8434	0.08	Q	|	|	|	V|
23+55	0.8440	0.08	Q	|	|	|	V|

```
   24+ 0       0.8445      0.08  Q         |         |         |        V|
   24+ 5       0.8448      0.03  Q         |         |         |        V|
   24+10       0.8448      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh1100.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
100 yr
1 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.47                   1.87

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.67                   6.65

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.471(In)
Area Averaged 100-Year Rainfall =    1.670(In)

Point rain (area averaged) =    1.670(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.670(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  52.0      0.552     0.900        0.105       1.000      0.105
                                                 Sum (F) =   0.105
Area averaged mean soil loss (F) (In/Hr) =  0.105
Minimum soil loss rate ((In/Hr)) =  0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5800
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        DESERT S-Curve
-----------------------------------------------------------------
                Unit Hydrograph Data
-----------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                              Sum = 100.000   Sum=       4.011
-----------------------------------------------------------------
```

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.721	0.105	(0.130)	0.617
2	0.17	4.20	0.842	0.105	(0.151)	0.737
3	0.25	4.40	0.882	0.105	(0.159)	0.777
4	0.33	4.60	0.922	0.105	(0.166)	0.817
5	0.42	5.00	1.002	0.105	(0.180)	0.897
6	0.50	5.60	1.122	0.105	(0.202)	1.017
7	0.58	6.40	1.283	0.105	(0.231)	1.178
8	0.67	8.10	1.623	0.105	(0.292)	1.518
9	0.75	13.10	2.625	0.105	(0.473)	2.520
10	0.83	34.50	6.914	0.105	(1.244)	6.809
11	0.92	6.70	1.343	0.105	(0.242)	1.238
12	1.00	3.80	0.761	0.105	(0.137)	0.657
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	18.8

Flood volume = Effective rainfall 1.57(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.035(Ac.Ft)
Total rainfall = 1.67(In)
Flood volume = 22612.1 Cubic Feet
Total soil loss = 1514.1 Cubic Feet

Peak flow rate of this hydrograph = 20.225(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0102	1.48	VQ				
0+10	0.0285	2.67	| VQ				
0+15	0.0494	3.03	| VQ				
0+20	0.0715	3.21	| QV				
0+25	0.0954	3.46	| Q V				
0+30	0.1221	3.88	| Q V|				
0+35	0.1527	4.45	| Q |V				
0+40	0.1907	5.52	| Q | V				
0+45	0.2488	8.44	| |Q V|				
0+50	0.3881	20.23	| | | Q V|			
0+55	0.4800	13.34	| | Q | | V |			

```
    1+ 0       0.5105      4.42  |    Q    |         |         |        V|
    1+ 5       0.5184      1.15  |Q        |         |         |        V|
    1+10       0.5191      0.10  Q         |         |         |        V|
-------------------------------------------------------------------------
```

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

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Study date 09/21/22 File: 183postuh3100.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
100 yr
3 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.76                  3.02

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            2.50                  9.95

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.760(In)
Area Averaged 100-Year Rainfall =    2.500(In)

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

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  52.0      0.552     0.900        0.105       1.000      0.105
                                                 Sum (F) =   0.105
Area averaged mean soil loss (F) (In/Hr) =  0.105
Minimum soil loss rate ((In/Hr)) =  0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.390	(0.105)	0.070	0.320
2	0.17	1.30	0.390	(0.105)	0.070	0.320
3	0.25	1.10	0.330	(0.105)	0.059	0.271
4	0.33	1.50	0.450	(0.105)	0.081	0.369
5	0.42	1.50	0.450	(0.105)	0.081	0.369
6	0.50	1.80	0.540	(0.105)	0.097	0.443
7	0.58	1.50	0.450	(0.105)	0.081	0.369
8	0.67	1.80	0.540	(0.105)	0.097	0.443
9	0.75	1.80	0.540	(0.105)	0.097	0.443
10	0.83	1.50	0.450	(0.105)	0.081	0.369
11	0.92	1.60	0.480	(0.105)	0.086	0.394
12	1.00	1.80	0.540	(0.105)	0.097	0.443
13	1.08	2.20	0.660	0.105	(0.119)	0.555
14	1.17	2.20	0.660	0.105	(0.119)	0.555
15	1.25	2.20	0.660	0.105	(0.119)	0.555
16	1.33	2.00	0.600	0.105	(0.108)	0.495
17	1.42	2.60	0.780	0.105	(0.140)	0.675
18	1.50	2.70	0.810	0.105	(0.146)	0.705
19	1.58	2.40	0.720	0.105	(0.130)	0.615
20	1.67	2.70	0.810	0.105	(0.146)	0.705
21	1.75	3.30	0.990	0.105	(0.178)	0.885
22	1.83	3.10	0.930	0.105	(0.167)	0.825
23	1.92	2.90	0.870	0.105	(0.157)	0.765
24	2.00	3.00	0.900	0.105	(0.162)	0.795
25	2.08	3.10	0.930	0.105	(0.167)	0.825
26	2.17	4.20	1.260	0.105	(0.227)	1.155
27	2.25	5.00	1.500	0.105	(0.270)	1.395
28	2.33	3.50	1.050	0.105	(0.189)	0.945
29	2.42	6.80	2.040	0.105	(0.367)	1.935
30	2.50	7.30	2.190	0.105	(0.394)	2.085
31	2.58	8.20	2.460	0.105	(0.443)	2.355
32	2.67	5.90	1.770	0.105	(0.319)	1.665
33	2.75	2.00	0.600	0.105	(0.108)	0.495
34	2.83	1.80	0.540	(0.105)	0.097	0.443
35	2.92	1.80	0.540	(0.105)	0.097	0.443
36	3.00	0.60	0.180	(0.105)	0.032	0.148
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	26.6

Flood volume = Effective rainfall 2.21(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.29(In)
Total soil loss = 0.095(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 31992.3 Cubic Feet
Total soil loss = 4125.5 Cubic Feet

Peak flow rate of this hydrograph = 8.991(CFS)

++

3 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0053	0.77	V Q				
0+10	0.0138	1.23	V Q				
0+15	0.0218	1.17	V Q				
0+20	0.0310	1.33	V Q				
0+25	0.0411	1.47	V Q				
0+30	0.0525	1.66	V Q				
0+35	0.0634	1.59	V Q				
0+40	0.0749	1.67	V Q				
0+45	0.0871	1.77	V Q				
0+50	0.0981	1.60	VQ				
0+55	0.1088	1.55	VQ				
1+ 0	0.1204	1.69	Q				
1+ 5	0.1345	2.04	VQ				
1+10	0.1497	2.21	Q				
1+15	0.1650	2.23	Q				
1+20	0.1794	2.08	QV				
1+25	0.1961	2.43	QV				
1+30	0.2151	2.75	Q				
1+35	0.2331	2.61	Q V				
1+40	0.2516	2.70	Q V				
1+45	0.2740	3.25	Q V				
1+50	0.2973	3.38	Q V				
1+55	0.3192	3.18	Q V				
2+ 0	0.3409	3.15	Q V				
2+ 5	0.3633	3.26	Q V				
2+10	0.3915	4.10	Q V				
2+15	0.4271	5.16	Q V				
2+20	0.4580	4.49	Q V				
2+25	0.5009	6.23	Q V				
2+30	0.5558	7.97	VQ				
2+35	0.6177	8.99	V Q				
2+40	0.6712	7.76	Q V				
2+45	0.6986	3.99	Q V				
2+50	0.7127	2.04	Q V				
2+55	0.7250	1.78	Q V				
3+ 0	0.7323	1.07	Q V				
3+ 5	0.7343	0.28	Q V				
3+10	0.7344	0.02	Q V				

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

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Study date 09/21/22 File: 183postuh6100.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
100 yr
6 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            0.99                  3.95

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            3.25                 12.94

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.993(In)
Area Averaged 100-Year Rainfall =    3.250(In)

Point rain (area averaged) =    3.250(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.250(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  52.0      0.552     0.900        0.105       1.000      0.105
                                                 Sum (F) =   0.105
Area averaged mean soil loss (F) (In/Hr) =  0.105
Minimum soil loss rate ((In/Hr)) =  0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

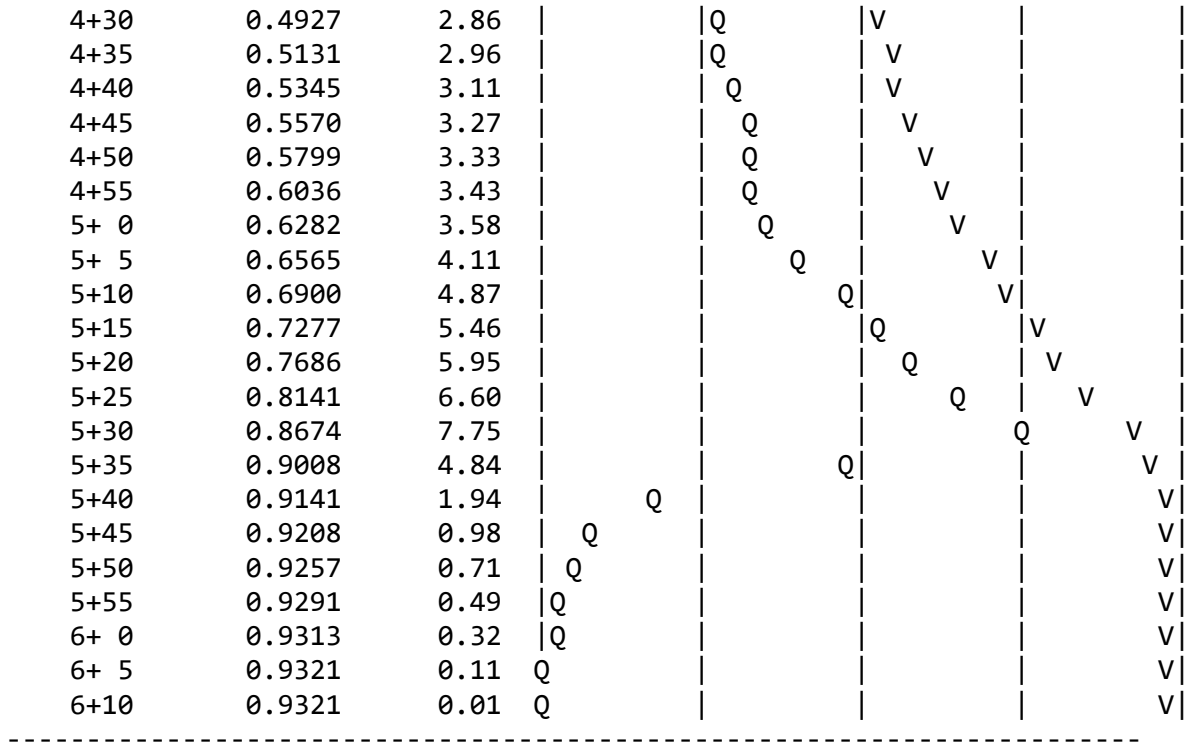
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.195	(0.105)	0.035	0.160
2	0.17	0.60	0.234	(0.105)	0.042	0.192
3	0.25	0.60	0.234	(0.105)	0.042	0.192
4	0.33	0.60	0.234	(0.105)	0.042	0.192
5	0.42	0.60	0.234	(0.105)	0.042	0.192
6	0.50	0.70	0.273	(0.105)	0.049	0.224
7	0.58	0.70	0.273	(0.105)	0.049	0.224
8	0.67	0.70	0.273	(0.105)	0.049	0.224
9	0.75	0.70	0.273	(0.105)	0.049	0.224
10	0.83	0.70	0.273	(0.105)	0.049	0.224
11	0.92	0.70	0.273	(0.105)	0.049	0.224
12	1.00	0.80	0.312	(0.105)	0.056	0.256
13	1.08	0.80	0.312	(0.105)	0.056	0.256
14	1.17	0.80	0.312	(0.105)	0.056	0.256
15	1.25	0.80	0.312	(0.105)	0.056	0.256
16	1.33	0.80	0.312	(0.105)	0.056	0.256
17	1.42	0.80	0.312	(0.105)	0.056	0.256
18	1.50	0.80	0.312	(0.105)	0.056	0.256
19	1.58	0.80	0.312	(0.105)	0.056	0.256
20	1.67	0.80	0.312	(0.105)	0.056	0.256
21	1.75	0.80	0.312	(0.105)	0.056	0.256
22	1.83	0.80	0.312	(0.105)	0.056	0.256
23	1.92	0.80	0.312	(0.105)	0.056	0.256
24	2.00	0.90	0.351	(0.105)	0.063	0.288
25	2.08	0.80	0.312	(0.105)	0.056	0.256
26	2.17	0.90	0.351	(0.105)	0.063	0.288
27	2.25	0.90	0.351	(0.105)	0.063	0.288
28	2.33	0.90	0.351	(0.105)	0.063	0.288
29	2.42	0.90	0.351	(0.105)	0.063	0.288
30	2.50	0.90	0.351	(0.105)	0.063	0.288
31	2.58	0.90	0.351	(0.105)	0.063	0.288
32	2.67	0.90	0.351	(0.105)	0.063	0.288
33	2.75	1.00	0.390	(0.105)	0.070	0.320
34	2.83	1.00	0.390	(0.105)	0.070	0.320
35	2.92	1.00	0.390	(0.105)	0.070	0.320
36	3.00	1.00	0.390	(0.105)	0.070	0.320
37	3.08	1.00	0.390	(0.105)	0.070	0.320
38	3.17	1.10	0.429	(0.105)	0.077	0.352
39	3.25	1.10	0.429	(0.105)	0.077	0.352
40	3.33	1.10	0.429	(0.105)	0.077	0.352
41	3.42	1.20	0.468	(0.105)	0.084	0.384
42	3.50	1.30	0.507	(0.105)	0.091	0.416
43	3.58	1.40	0.546	(0.105)	0.098	0.448
44	3.67	1.40	0.546	(0.105)	0.098	0.448
45	3.75	1.50	0.585	0.105	(0.105)	0.480
46	3.83	1.50	0.585	0.105	(0.105)	0.480

```
47   3.92     1.60      0.624          0.105    (  0.112)        0.519
48   4.00     1.60      0.624          0.105    (  0.112)        0.519
49   4.08     1.70      0.663          0.105    (  0.119)        0.558
50   4.17     1.80      0.702          0.105    (  0.126)        0.597
51   4.25     1.90      0.741          0.105    (  0.133)        0.636
52   4.33     2.00      0.780          0.105    (  0.140)        0.675
53   4.42     2.10      0.819          0.105    (  0.147)        0.714
54   4.50     2.10      0.819          0.105    (  0.147)        0.714
55   4.58     2.20      0.858          0.105    (  0.154)        0.753
56   4.67     2.30      0.897          0.105    (  0.161)        0.792
57   4.75     2.40      0.936          0.105    (  0.168)        0.831
58   4.83     2.40      0.936          0.105    (  0.168)        0.831
59   4.92     2.50      0.975          0.105    (  0.175)        0.870
60   5.00     2.60      1.014          0.105    (  0.183)        0.909
61   5.08     3.10      1.209          0.105    (  0.218)        1.104
62   5.17     3.60      1.404          0.105    (  0.253)        1.299
63   5.25     3.90      1.521          0.105    (  0.274)        1.416
64   5.33     4.20      1.638          0.105    (  0.295)        1.533
65   5.42     4.70      1.833          0.105    (  0.330)        1.728
66   5.50     5.60      2.184          0.105    (  0.393)        2.079
67   5.58     1.90      0.741          0.105    (  0.133)        0.636
68   5.67     0.90      0.351       (  0.105)       0.063        0.288
69   5.75     0.60      0.234       (  0.105)       0.042        0.192
70   5.83     0.50      0.195       (  0.105)       0.035        0.160
71   5.92     0.30      0.117       (  0.105)       0.021        0.096
72   6.00     0.20      0.078       (  0.105)       0.014        0.064
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    33.7
      Flood volume = Effective rainfall      2.81(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
      Total soil loss =      0.44(In)
      Total soil loss =     0.146(Ac.Ft)
      Total rainfall =      3.25(In)
      Flood volume =       40603.0 Cubic Feet
      Total soil loss =        6350.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.746(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0026      0.38  VQ        |         |         |         |
  0+10       0.0074      0.69  V Q       |         |         |         |
  0+15       0.0127      0.77  V  Q      |         |         |         |
```

```
0+20       0.0180      0.77  V  Q      |          |          |          |
0+25       0.0233      0.77  V  Q      |          |          |          |
0+30       0.0291      0.85  |V Q      |          |          |          |
0+35       0.0353      0.89  |V Q      |          |          |          |
0+40       0.0415      0.90  |V Q      |          |          |          |
0+45       0.0476      0.90  | VQ      |          |          |          |
0+50       0.0538      0.90  | VQ      |          |          |          |
0+55       0.0600      0.90  | VQ      |          |          |          |
1+ 0       0.0667      0.97  | VQ      |          |          |          |
1+ 5       0.0738      1.02  |  VQ     |          |          |          |
1+10       0.0808      1.03  |  VQ     |          |          |          |
1+15       0.0879      1.03  |  VQ     |          |          |          |
1+20       0.0950      1.03  |   Q     |          |          |          |
1+25       0.1021      1.03  |   Q     |          |          |          |
1+30       0.1091      1.03  |   Q     |          |          |          |
1+35       0.1162      1.03  |   Q     |          |          |          |
1+40       0.1233      1.03  |   QV    |          |          |          |
1+45       0.1303      1.03  |   QV    |          |          |          |
1+50       0.1374      1.03  |   QV    |          |          |          |
1+55       0.1445      1.03  |   Q V   |          |          |          |
2+ 0       0.1521      1.10  |   Q V   |          |          |          |
2+ 5       0.1595      1.07  |   Q V   |          |          |          |
2+10       0.1671      1.11  |   Q  V  |          |          |          |
2+15       0.1750      1.15  |   Q  V  |          |          |          |
2+20       0.1830      1.16  |   Q  V  |          |          |          |
2+25       0.1909      1.16  |   Q   V |          |          |          |
2+30       0.1989      1.16  |   Q   V |          |          |          |
2+35       0.2069      1.16  |   Q   V |          |          |          |
2+40       0.2148      1.16  |   Q    V|          |          |          |
2+45       0.2233      1.23  |   Q    V|          |          |          |
2+50       0.2321      1.28  |    Q   V|          |          |          |
2+55       0.2409      1.28  |    Q    V          |          |          |
3+ 0       0.2498      1.28  |    Q    V          |          |          |
3+ 5       0.2586      1.28  |    Q    |V         |          |          |
3+10       0.2680      1.36  |    Q    |V         |          |          |
3+15       0.2777      1.41  |    Q    |V         |          |          |
3+20       0.2874      1.41  |    Q    | V        |          |          |
3+25       0.2976      1.49  |    Q    | V        |          |          |
3+30       0.3087      1.61  |     Q   |  V       |          |          |
3+35       0.3207      1.74  |     Q   |  V       |          |          |
3+40       0.3331      1.79  |      Q  |   V      |          |          |
3+45       0.3460      1.87  |      Q  |   V      |          |          |
3+50       0.3592      1.92  |      Q  |    V     |          |          |
3+55       0.3731      2.02  |       Q |     V    |          |          |
4+ 0       0.3874      2.08  |       Q |     V    |          |          |
4+ 5       0.4024      2.18  |       Q |      V   |          |          |
4+10       0.4185      2.33  |        Q|      V   |          |          |
4+15       0.4356      2.48  |        Q|       V  |          |          |
4+20       0.4537      2.64  |         Q        V|          |          |
4+25       0.4730      2.80  |         |Q        V          |          |
```


4+30 0.4927 2.86
4+35 0.5131 2.96
4+40 0.5345 3.11
4+45 0.5570 3.27
4+50 0.5799 3.33
4+55 0.6036 3.43
5+ 0 0.6282 3.58
5+ 5 0.6565 4.11
5+10 0.6900 4.87
5+15 0.7277 5.46
5+20 0.7686 5.95
5+25 0.8141 6.60
5+30 0.8674 7.75
5+35 0.9008 4.84
5+40 0.9141 1.94
5+45 0.9208 0.98
5+50 0.9257 0.71
5+55 0.9291 0.49
6+ 0 0.9313 0.32
6+ 5 0.9321 0.11
6+10 0.9321 0.01

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

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Study date 09/21/22 File: 183postuh24100.out

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

Program License Serial Number 6481

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

English Units used in output format

Desert Hot Springs
Post Development Unit Hydrograph
100 yr
24 hr

Drainage Area = 3.98(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.98(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 649.03(Ft.)
Length along longest watercourse measured to centroid = 344.31(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.065 Mi.
Difference in elevation = 10.09(Ft.)
Slope along watercourse = 82.0843 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.025 Hr.
Lag time = 1.49 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            1.51                  6.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.98            5.39                 21.45

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.510(In)
Area Averaged 100-Year Rainfall =    5.390(In)

Point rain (area averaged) =    5.390(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.390(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.980           32.00         0.900
 Total Area Entered =      3.98(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
32.0  52.0      0.552     0.900        0.105       1.000      0.105
                                                 Sum (F) =   0.105
Area averaged mean soil loss (F) (In/Hr) =  0.105
Minimum soil loss rate ((In/Hr)) =  0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       DESERT S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        334.754         59.631              2.392
    2   0.167        669.508         36.590              1.468
    3   0.250       1004.263          3.779              0.152
                               Sum = 100.000   Sum=       4.011
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
```

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.043	(0.186)	0.008	0.035
2	0.17	0.07	0.043	(0.185)	0.008	0.035
3	0.25	0.07	0.043	(0.184)	0.008	0.035
4	0.33	0.10	0.065	(0.184)	0.012	0.053
5	0.42	0.10	0.065	(0.183)	0.012	0.053
6	0.50	0.10	0.065	(0.182)	0.012	0.053
7	0.58	0.10	0.065	(0.181)	0.012	0.053
8	0.67	0.10	0.065	(0.181)	0.012	0.053
9	0.75	0.10	0.065	(0.180)	0.012	0.053
10	0.83	0.13	0.086	(0.179)	0.016	0.071
11	0.92	0.13	0.086	(0.179)	0.016	0.071
12	1.00	0.13	0.086	(0.178)	0.016	0.071
13	1.08	0.10	0.065	(0.177)	0.012	0.053
14	1.17	0.10	0.065	(0.177)	0.012	0.053
15	1.25	0.10	0.065	(0.176)	0.012	0.053
16	1.33	0.10	0.065	(0.175)	0.012	0.053
17	1.42	0.10	0.065	(0.174)	0.012	0.053
18	1.50	0.10	0.065	(0.174)	0.012	0.053
19	1.58	0.10	0.065	(0.173)	0.012	0.053
20	1.67	0.10	0.065	(0.172)	0.012	0.053
21	1.75	0.10	0.065	(0.172)	0.012	0.053
22	1.83	0.13	0.086	(0.171)	0.016	0.071
23	1.92	0.13	0.086	(0.170)	0.016	0.071
24	2.00	0.13	0.086	(0.170)	0.016	0.071
25	2.08	0.13	0.086	(0.169)	0.016	0.071
26	2.17	0.13	0.086	(0.168)	0.016	0.071
27	2.25	0.13	0.086	(0.168)	0.016	0.071
28	2.33	0.13	0.086	(0.167)	0.016	0.071
29	2.42	0.13	0.086	(0.166)	0.016	0.071
30	2.50	0.13	0.086	(0.166)	0.016	0.071
31	2.58	0.17	0.108	(0.165)	0.019	0.088
32	2.67	0.17	0.108	(0.164)	0.019	0.088
33	2.75	0.17	0.108	(0.163)	0.019	0.088
34	2.83	0.17	0.108	(0.163)	0.019	0.088
35	2.92	0.17	0.108	(0.162)	0.019	0.088
36	3.00	0.17	0.108	(0.161)	0.019	0.088
37	3.08	0.17	0.108	(0.161)	0.019	0.088
38	3.17	0.17	0.108	(0.160)	0.019	0.088
39	3.25	0.17	0.108	(0.159)	0.019	0.088
40	3.33	0.17	0.108	(0.159)	0.019	0.088
41	3.42	0.17	0.108	(0.158)	0.019	0.088
42	3.50	0.17	0.108	(0.157)	0.019	0.088
43	3.58	0.17	0.108	(0.157)	0.019	0.088
44	3.67	0.17	0.108	(0.156)	0.019	0.088
45	3.75	0.17	0.108	(0.156)	0.019	0.088
46	3.83	0.20	0.129	(0.155)	0.023	0.106

47	3.92	0.20	0.129	(0.154)	0.023	0.106
48	4.00	0.20	0.129	(0.154)	0.023	0.106
49	4.08	0.20	0.129	(0.153)	0.023	0.106
50	4.17	0.20	0.129	(0.152)	0.023	0.106
51	4.25	0.20	0.129	(0.152)	0.023	0.106
52	4.33	0.23	0.151	(0.151)	0.027	0.124
53	4.42	0.23	0.151	(0.150)	0.027	0.124
54	4.50	0.23	0.151	(0.150)	0.027	0.124
55	4.58	0.23	0.151	(0.149)	0.027	0.124
56	4.67	0.23	0.151	(0.148)	0.027	0.124
57	4.75	0.23	0.151	(0.148)	0.027	0.124
58	4.83	0.27	0.172	(0.147)	0.031	0.141
59	4.92	0.27	0.172	(0.146)	0.031	0.141
60	5.00	0.27	0.172	(0.146)	0.031	0.141
61	5.08	0.20	0.129	(0.145)	0.023	0.106
62	5.17	0.20	0.129	(0.145)	0.023	0.106
63	5.25	0.20	0.129	(0.144)	0.023	0.106
64	5.33	0.23	0.151	(0.143)	0.027	0.124
65	5.42	0.23	0.151	(0.143)	0.027	0.124
66	5.50	0.23	0.151	(0.142)	0.027	0.124
67	5.58	0.27	0.172	(0.141)	0.031	0.141
68	5.67	0.27	0.172	(0.141)	0.031	0.141
69	5.75	0.27	0.172	(0.140)	0.031	0.141
70	5.83	0.27	0.172	(0.140)	0.031	0.141
71	5.92	0.27	0.172	(0.139)	0.031	0.141
72	6.00	0.27	0.172	(0.138)	0.031	0.141
73	6.08	0.30	0.194	(0.138)	0.035	0.159
74	6.17	0.30	0.194	(0.137)	0.035	0.159
75	6.25	0.30	0.194	(0.137)	0.035	0.159
76	6.33	0.30	0.194	(0.136)	0.035	0.159
77	6.42	0.30	0.194	(0.135)	0.035	0.159
78	6.50	0.30	0.194	(0.135)	0.035	0.159
79	6.58	0.33	0.216	(0.134)	0.039	0.177
80	6.67	0.33	0.216	(0.133)	0.039	0.177
81	6.75	0.33	0.216	(0.133)	0.039	0.177
82	6.83	0.33	0.216	(0.132)	0.039	0.177
83	6.92	0.33	0.216	(0.132)	0.039	0.177
84	7.00	0.33	0.216	(0.131)	0.039	0.177
85	7.08	0.33	0.216	(0.130)	0.039	0.177
86	7.17	0.33	0.216	(0.130)	0.039	0.177
87	7.25	0.33	0.216	(0.129)	0.039	0.177
88	7.33	0.37	0.237	(0.129)	0.043	0.194
89	7.42	0.37	0.237	(0.128)	0.043	0.194
90	7.50	0.37	0.237	(0.128)	0.043	0.194
91	7.58	0.40	0.259	(0.127)	0.047	0.212
92	7.67	0.40	0.259	(0.126)	0.047	0.212
93	7.75	0.40	0.259	(0.126)	0.047	0.212
94	7.83	0.43	0.280	(0.125)	0.050	0.230
95	7.92	0.43	0.280	(0.125)	0.050	0.230
96	8.00	0.43	0.280	(0.124)	0.050	0.230

97	8.08	0.50	0.323	(0.123)	0.058	0.265
98	8.17	0.50	0.323	(0.123)	0.058	0.265
99	8.25	0.50	0.323	(0.122)	0.058	0.265
100	8.33	0.50	0.323	(0.122)	0.058	0.265
101	8.42	0.50	0.323	(0.121)	0.058	0.265
102	8.50	0.50	0.323	(0.121)	0.058	0.265
103	8.58	0.53	0.345	(0.120)	0.062	0.283
104	8.67	0.53	0.345	(0.119)	0.062	0.283
105	8.75	0.53	0.345	(0.119)	0.062	0.283
106	8.83	0.57	0.367	(0.118)	0.066	0.301
107	8.92	0.57	0.367	(0.118)	0.066	0.301
108	9.00	0.57	0.367	(0.117)	0.066	0.301
109	9.08	0.63	0.410	(0.117)	0.074	0.336
110	9.17	0.63	0.410	(0.116)	0.074	0.336
111	9.25	0.63	0.410	(0.116)	0.074	0.336
112	9.33	0.67	0.431	(0.115)	0.078	0.354
113	9.42	0.67	0.431	(0.114)	0.078	0.354
114	9.50	0.67	0.431	(0.114)	0.078	0.354
115	9.58	0.70	0.453	(0.113)	0.081	0.371
116	9.67	0.70	0.453	(0.113)	0.081	0.371
117	9.75	0.70	0.453	(0.112)	0.081	0.371
118	9.83	0.73	0.474	(0.112)	0.085	0.389
119	9.92	0.73	0.474	(0.111)	0.085	0.389
120	10.00	0.73	0.474	(0.111)	0.085	0.389
121	10.08	0.50	0.323	(0.110)	0.058	0.265
122	10.17	0.50	0.323	(0.110)	0.058	0.265
123	10.25	0.50	0.323	(0.109)	0.058	0.265
124	10.33	0.50	0.323	(0.109)	0.058	0.265
125	10.42	0.50	0.323	(0.108)	0.058	0.265
126	10.50	0.50	0.323	(0.107)	0.058	0.265
127	10.58	0.67	0.431	(0.107)	0.078	0.354
128	10.67	0.67	0.431	(0.106)	0.078	0.354
129	10.75	0.67	0.431	(0.106)	0.078	0.354
130	10.83	0.67	0.431	(0.105)	0.078	0.354
131	10.92	0.67	0.431	(0.105)	0.078	0.354
132	11.00	0.67	0.431	(0.104)	0.078	0.354
133	11.08	0.63	0.410	(0.104)	0.074	0.336
134	11.17	0.63	0.410	(0.103)	0.074	0.336
135	11.25	0.63	0.410	(0.103)	0.074	0.336
136	11.33	0.63	0.410	(0.102)	0.074	0.336
137	11.42	0.63	0.410	(0.102)	0.074	0.336
138	11.50	0.63	0.410	(0.101)	0.074	0.336
139	11.58	0.57	0.367	(0.101)	0.066	0.301
140	11.67	0.57	0.367	(0.100)	0.066	0.301
141	11.75	0.57	0.367	(0.100)	0.066	0.301
142	11.83	0.60	0.388	(0.099)	0.070	0.318
143	11.92	0.60	0.388	(0.099)	0.070	0.318
144	12.00	0.60	0.388	(0.098)	0.070	0.318
145	12.08	0.83	0.539	(0.098)	0.097	0.442
146	12.17	0.83	0.539	(0.097)	0.097	0.442

147	12.25	0.83	0.539		0.097	(0.097)	0.442
148	12.33	0.87	0.561		0.096	(0.101)	0.464
149	12.42	0.87	0.561		0.096	(0.101)	0.465
150	12.50	0.87	0.561		0.095	(0.101)	0.465
151	12.58	0.93	0.604		0.095	(0.109)	0.509
152	12.67	0.93	0.604		0.094	(0.109)	0.509
153	12.75	0.93	0.604		0.094	(0.109)	0.510
154	12.83	0.97	0.625		0.093	(0.113)	0.532
155	12.92	0.97	0.625		0.093	(0.113)	0.532
156	13.00	0.97	0.625		0.093	(0.113)	0.533
157	13.08	1.13	0.733		0.092	(0.132)	0.641
158	13.17	1.13	0.733		0.092	(0.132)	0.641
159	13.25	1.13	0.733		0.091	(0.132)	0.642
160	13.33	1.13	0.733		0.091	(0.132)	0.642
161	13.42	1.13	0.733		0.090	(0.132)	0.643
162	13.50	1.13	0.733		0.090	(0.132)	0.643
163	13.58	0.77	0.496	(0.089)		0.089	0.407
164	13.67	0.77	0.496		0.089	(0.089)	0.407
165	13.75	0.77	0.496		0.088	(0.089)	0.407
166	13.83	0.77	0.496		0.088	(0.089)	0.408
167	13.92	0.77	0.496		0.088	(0.089)	0.408
168	14.00	0.77	0.496		0.087	(0.089)	0.409
169	14.08	0.90	0.582		0.087	(0.105)	0.496
170	14.17	0.90	0.582		0.086	(0.105)	0.496
171	14.25	0.90	0.582		0.086	(0.105)	0.496
172	14.33	0.87	0.561		0.085	(0.101)	0.475
173	14.42	0.87	0.561		0.085	(0.101)	0.476
174	14.50	0.87	0.561		0.084	(0.101)	0.476
175	14.58	0.87	0.561		0.084	(0.101)	0.477
176	14.67	0.87	0.561		0.084	(0.101)	0.477
177	14.75	0.87	0.561		0.083	(0.101)	0.477
178	14.83	0.83	0.539		0.083	(0.097)	0.456
179	14.92	0.83	0.539		0.082	(0.097)	0.457
180	15.00	0.83	0.539		0.082	(0.097)	0.457
181	15.08	0.80	0.517		0.081	(0.093)	0.436
182	15.17	0.80	0.517		0.081	(0.093)	0.436
183	15.25	0.80	0.517		0.081	(0.093)	0.437
184	15.33	0.77	0.496		0.080	(0.089)	0.416
185	15.42	0.77	0.496		0.080	(0.089)	0.416
186	15.50	0.77	0.496		0.079	(0.089)	0.417
187	15.58	0.63	0.410	(0.079)		0.074	0.336
188	15.67	0.63	0.410	(0.079)		0.074	0.336
189	15.75	0.63	0.410	(0.078)		0.074	0.336
190	15.83	0.63	0.410	(0.078)		0.074	0.336
191	15.92	0.63	0.410	(0.077)		0.074	0.336
192	16.00	0.63	0.410	(0.077)		0.074	0.336
193	16.08	0.13	0.086	(0.077)		0.016	0.071
194	16.17	0.13	0.086	(0.076)		0.016	0.071
195	16.25	0.13	0.086	(0.076)		0.016	0.071
196	16.33	0.13	0.086	(0.075)		0.016	0.071

197	16.42	0.13	0.086	(0.075)	0.016	0.071
198	16.50	0.13	0.086	(0.075)	0.016	0.071
199	16.58	0.10	0.065	(0.074)	0.012	0.053
200	16.67	0.10	0.065	(0.074)	0.012	0.053
201	16.75	0.10	0.065	(0.074)	0.012	0.053
202	16.83	0.10	0.065	(0.073)	0.012	0.053
203	16.92	0.10	0.065	(0.073)	0.012	0.053
204	17.00	0.10	0.065	(0.072)	0.012	0.053
205	17.08	0.17	0.108	(0.072)	0.019	0.088
206	17.17	0.17	0.108	(0.072)	0.019	0.088
207	17.25	0.17	0.108	(0.071)	0.019	0.088
208	17.33	0.17	0.108	(0.071)	0.019	0.088
209	17.42	0.17	0.108	(0.071)	0.019	0.088
210	17.50	0.17	0.108	(0.070)	0.019	0.088
211	17.58	0.17	0.108	(0.070)	0.019	0.088
212	17.67	0.17	0.108	(0.070)	0.019	0.088
213	17.75	0.17	0.108	(0.069)	0.019	0.088
214	17.83	0.13	0.086	(0.069)	0.016	0.071
215	17.92	0.13	0.086	(0.069)	0.016	0.071
216	18.00	0.13	0.086	(0.068)	0.016	0.071
217	18.08	0.13	0.086	(0.068)	0.016	0.071
218	18.17	0.13	0.086	(0.067)	0.016	0.071
219	18.25	0.13	0.086	(0.067)	0.016	0.071
220	18.33	0.13	0.086	(0.067)	0.016	0.071
221	18.42	0.13	0.086	(0.067)	0.016	0.071
222	18.50	0.13	0.086	(0.066)	0.016	0.071
223	18.58	0.10	0.065	(0.066)	0.012	0.053
224	18.67	0.10	0.065	(0.066)	0.012	0.053
225	18.75	0.10	0.065	(0.065)	0.012	0.053
226	18.83	0.07	0.043	(0.065)	0.008	0.035
227	18.92	0.07	0.043	(0.065)	0.008	0.035
228	19.00	0.07	0.043	(0.064)	0.008	0.035
229	19.08	0.10	0.065	(0.064)	0.012	0.053
230	19.17	0.10	0.065	(0.064)	0.012	0.053
231	19.25	0.10	0.065	(0.063)	0.012	0.053
232	19.33	0.13	0.086	(0.063)	0.016	0.071
233	19.42	0.13	0.086	(0.063)	0.016	0.071
234	19.50	0.13	0.086	(0.063)	0.016	0.071
235	19.58	0.10	0.065	(0.062)	0.012	0.053
236	19.67	0.10	0.065	(0.062)	0.012	0.053
237	19.75	0.10	0.065	(0.062)	0.012	0.053
238	19.83	0.07	0.043	(0.061)	0.008	0.035
239	19.92	0.07	0.043	(0.061)	0.008	0.035
240	20.00	0.07	0.043	(0.061)	0.008	0.035
241	20.08	0.10	0.065	(0.061)	0.012	0.053
242	20.17	0.10	0.065	(0.060)	0.012	0.053
243	20.25	0.10	0.065	(0.060)	0.012	0.053
244	20.33	0.10	0.065	(0.060)	0.012	0.053
245	20.42	0.10	0.065	(0.060)	0.012	0.053
246	20.50	0.10	0.065	(0.059)	0.012	0.053

247	20.58	0.10	0.065	(0.059)	0.012	0.053
248	20.67	0.10	0.065	(0.059)	0.012	0.053
249	20.75	0.10	0.065	(0.059)	0.012	0.053
250	20.83	0.07	0.043	(0.058)	0.008	0.035
251	20.92	0.07	0.043	(0.058)	0.008	0.035
252	21.00	0.07	0.043	(0.058)	0.008	0.035
253	21.08	0.10	0.065	(0.058)	0.012	0.053
254	21.17	0.10	0.065	(0.057)	0.012	0.053
255	21.25	0.10	0.065	(0.057)	0.012	0.053
256	21.33	0.07	0.043	(0.057)	0.008	0.035
257	21.42	0.07	0.043	(0.057)	0.008	0.035
258	21.50	0.07	0.043	(0.057)	0.008	0.035
259	21.58	0.10	0.065	(0.056)	0.012	0.053
260	21.67	0.10	0.065	(0.056)	0.012	0.053
261	21.75	0.10	0.065	(0.056)	0.012	0.053
262	21.83	0.07	0.043	(0.056)	0.008	0.035
263	21.92	0.07	0.043	(0.056)	0.008	0.035
264	22.00	0.07	0.043	(0.055)	0.008	0.035
265	22.08	0.10	0.065	(0.055)	0.012	0.053
266	22.17	0.10	0.065	(0.055)	0.012	0.053
267	22.25	0.10	0.065	(0.055)	0.012	0.053
268	22.33	0.07	0.043	(0.055)	0.008	0.035
269	22.42	0.07	0.043	(0.054)	0.008	0.035
270	22.50	0.07	0.043	(0.054)	0.008	0.035
271	22.58	0.07	0.043	(0.054)	0.008	0.035
272	22.67	0.07	0.043	(0.054)	0.008	0.035
273	22.75	0.07	0.043	(0.054)	0.008	0.035
274	22.83	0.07	0.043	(0.054)	0.008	0.035
275	22.92	0.07	0.043	(0.054)	0.008	0.035
276	23.00	0.07	0.043	(0.053)	0.008	0.035
277	23.08	0.07	0.043	(0.053)	0.008	0.035
278	23.17	0.07	0.043	(0.053)	0.008	0.035
279	23.25	0.07	0.043	(0.053)	0.008	0.035
280	23.33	0.07	0.043	(0.053)	0.008	0.035
281	23.42	0.07	0.043	(0.053)	0.008	0.035
282	23.50	0.07	0.043	(0.053)	0.008	0.035
283	23.58	0.07	0.043	(0.053)	0.008	0.035
284	23.67	0.07	0.043	(0.053)	0.008	0.035
285	23.75	0.07	0.043	(0.053)	0.008	0.035
286	23.83	0.07	0.043	(0.052)	0.008	0.035
287	23.92	0.07	0.043	(0.052)	0.008	0.035
288	24.00	0.07	0.043	(0.052)	0.008	0.035

(Loss Rate Not Used)

Sum = 100.0 Sum = 53.7

Flood volume = Effective rainfall 4.47(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 1.5(Ac.Ft)
Total soil loss = 0.92(In)
Total soil loss = 0.304(Ac.Ft)
Total rainfall = 5.39(In)
Flood volume = 64617.6 Cubic Feet

Total soil loss = 13253.3 Cubic Feet

Peak flow rate of this hydrograph = 2.581(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0006	0.08	Q				
0+10	0.0015	0.14	Q				
0+15	0.0025	0.14	Q				
0+20	0.0038	0.18	Q				
0+25	0.0052	0.21	Q				
0+30	0.0067	0.21	Q				
0+35	0.0081	0.21	Q				
0+40	0.0096	0.21	Q				
0+45	0.0111	0.21	Q				
0+50	0.0128	0.26	VQ				
0+55	0.0148	0.28	VQ				
1+ 0	0.0167	0.28	VQ				
1+ 5	0.0184	0.24	Q				
1+10	0.0199	0.22	Q				
1+15	0.0213	0.21	Q				
1+20	0.0228	0.21	Q				
1+25	0.0243	0.21	Q				
1+30	0.0257	0.21	Q				
1+35	0.0272	0.21	Q				
1+40	0.0287	0.21	Q				
1+45	0.0301	0.21	Q				
1+50	0.0319	0.26	VQ				
1+55	0.0338	0.28	VQ				
2+ 0	0.0358	0.28	VQ				
2+ 5	0.0377	0.28	|Q				
2+10	0.0397	0.28	|Q				
2+15	0.0416	0.28	|Q				
2+20	0.0436	0.28	|Q				
2+25	0.0456	0.28	|Q				
2+30	0.0475	0.28	|Q				
2+35	0.0498	0.33	|Q				
2+40	0.0522	0.35	|Q				
2+45	0.0546	0.35	|Q				
2+50	0.0571	0.35	|Q				
2+55	0.0595	0.35	|Q				
3+ 0	0.0620	0.35	|Q				
3+ 5	0.0644	0.35	|Q				

3+10	0.0668	0.35	Q				
3+15	0.0693	0.35	Q				
3+20	0.0717	0.35	Q				
3+25	0.0742	0.35	Q				
3+30	0.0766	0.35	QV				
3+35	0.0791	0.35	QV				
3+40	0.0815	0.35	QV				
3+45	0.0839	0.35	QV				
3+50	0.0867	0.40	QV				
3+55	0.0896	0.42	QV				
4+ 0	0.0925	0.43	QV				
4+ 5	0.0955	0.43	QV				
4+10	0.0984	0.43	QV				
4+15	0.1013	0.43	QV				
4+20	0.1045	0.47	QV				
4+25	0.1079	0.49	QV				
4+30	0.1114	0.50	Q V				
4+35	0.1148	0.50	Q V				
4+40	0.1182	0.50	Q V				
4+45	0.1216	0.50	Q V				
4+50	0.1253	0.54	QV				
4+55	0.1292	0.56	QV				
5+ 0	0.1331	0.57	QV				
5+ 5	0.1365	0.48	Q V				
5+10	0.1394	0.43	Q V				
5+15	0.1424	0.43	Q V				
5+20	0.1456	0.47	Q V				
5+25	0.1490	0.49	Q V				
5+30	0.1524	0.50	Q V				
5+35	0.1561	0.54	Q V				
5+40	0.1600	0.56	Q V				
5+45	0.1639	0.57	Q V				
5+50	0.1678	0.57	Q V				
5+55	0.1717	0.57	Q V				
6+ 0	0.1756	0.57	Q V				
6+ 5	0.1798	0.61	Q V				
6+10	0.1842	0.64	Q V				
6+15	0.1886	0.64	Q V				
6+20	0.1930	0.64	Q V				
6+25	0.1974	0.64	Q V				
6+30	0.2018	0.64	Q V				
6+35	0.2065	0.68	Q V				
6+40	0.2114	0.71	Q V				
6+45	0.2163	0.71	Q V				
6+50	0.2211	0.71	Q V				
6+55	0.2260	0.71	Q V				
7+ 0	0.2309	0.71	Q V				
7+ 5	0.2358	0.71	Q V				
7+10	0.2407	0.71	Q V				
7+15	0.2456	0.71	Q V				

7+20	0.2508	0.75	Q V				
7+25	0.2561	0.78	Q V				
7+30	0.2615	0.78	Q V				
7+35	0.2672	0.82	Q V				
7+40	0.2730	0.85	Q V				
7+45	0.2789	0.85	Q V				
7+50	0.2850	0.89	Q V				
7+55	0.2914	0.92	Q V				
8+ 0	0.2977	0.92	Q V				
8+ 5	0.3046	1.01	Q V				
8+10	0.3119	1.06	Q V				
8+15	0.3193	1.06	Q V				
8+20	0.3266	1.06	Q V				
8+25	0.3339	1.06	Q V				
8+30	0.3412	1.06	Q V				
8+35	0.3489	1.11	Q V				
8+40	0.3567	1.13	Q V				
8+45	0.3645	1.14	Q V				
8+50	0.3726	1.18	Q V				
8+55	0.3809	1.20	Q V				
9+ 0	0.3892	1.21	Q V				
9+ 5	0.3981	1.29	Q V				
9+10	0.4073	1.34	Q V				
9+15	0.4166	1.35	Q V				
9+20	0.4262	1.39	Q V				
9+25	0.4359	1.42	Q V				
9+30	0.4457	1.42	Q V				
9+35	0.4558	1.46	Q V				
9+40	0.4660	1.49	Q V				
9+45	0.4763	1.49	Q V				
9+50	0.4868	1.53	Q V				
9+55	0.4976	1.56	Q V				
10+ 0	0.5083	1.56	Q V				
10+ 5	0.5170	1.26	Q V				
10+10	0.5245	1.08	Q V				
10+15	0.5318	1.06	Q V				
10+20	0.5391	1.06	Q V				
10+25	0.5465	1.06	Q V				
10+30	0.5538	1.06	Q V				
10+35	0.5626	1.28	Q V				
10+40	0.5723	1.41	Q V				
10+45	0.5820	1.42	Q V				
10+50	0.5918	1.42	Q V				
10+55	0.6016	1.42	Q V				
11+ 0	0.6114	1.42	Q V				
11+ 5	0.6208	1.38	Q V				
11+10	0.6301	1.35	Q V				
11+15	0.6394	1.35	Q V				
11+20	0.6487	1.35	Q V				
11+25	0.6580	1.35	Q V				

11+30	0.6673	1.35	Q	V			
11+35	0.6760	1.26	Q	V			
11+40	0.6843	1.21	Q	V			
11+45	0.6926	1.21	Q	V			
11+50	0.7012	1.25	Q	V			
11+55	0.7100	1.27	Q	V			
12+ 0	0.7188	1.28	Q	V			
12+ 5	0.7296	1.57	Q	V			
12+10	0.7417	1.75	Q	V			
12+15	0.7539	1.77	Q	V			
12+20	0.7665	1.83	Q	V			
12+25	0.7793	1.86	Q	V			
12+30	0.7922	1.87	Q	V			
12+35	0.8058	1.97	Q	V			
12+40	0.8198	2.04	Q	V			
12+45	0.8339	2.04	Q	V			
12+50	0.8483	2.10	Q	V			
12+55	0.8630	2.13	Q	V			
13+ 0	0.8777	2.14	Q	V			
13+ 5	0.8942	2.40	Q	V			
13+10	0.9118	2.56	Q	V			
13+15	0.9296	2.58	Q	V			
13+20	0.9473	2.58	Q	V			
13+25	0.9651	2.58	Q	V			
13+30	0.9829	2.58	Q	V			
13+35	0.9967	2.02	Q	V			
13+40	1.0082	1.67	Q	V			
13+45	1.0195	1.63	Q	V			
13+50	1.0307	1.64	Q	V			
13+55	1.0420	1.64	Q	V			
14+ 0	1.0533	1.64	Q	V			
14+ 5	1.0661	1.85	Q	V			
14+10	1.0797	1.98	Q	V			
14+15	1.0934	1.99	Q	V			
14+20	1.1067	1.94	Q	V			
14+25	1.1199	1.91	Q	V			
14+30	1.1331	1.91	Q	V			
14+35	1.1462	1.91	Q	V			
14+40	1.1594	1.91	Q	V			
14+45	1.1726	1.92	Q	V			
14+50	1.1855	1.87	Q	V			
14+55	1.1981	1.84	Q	V			
15+ 0	1.2107	1.83	Q	V			
15+ 5	1.2230	1.78	Q	V			
15+10	1.2351	1.75	Q	V			
15+15	1.2472	1.75	Q	V			
15+20	1.2589	1.70	Q	V			
15+25	1.2704	1.67	Q	V			
15+30	1.2819	1.67	Q	V			
15+35	1.2921	1.48	Q	V			

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15+40       1.3015      1.36  |    Q    |         |         |    V    |
15+45       1.3107      1.35  |    Q    |         |         |    V    |
15+50       1.3200      1.35  |    Q    |         |         |    V    |
15+55       1.3293      1.35  |    Q    |         |         |    V    |
16+ 0       1.3386      1.35  |    Q    |         |         |     V   |
16+ 5       1.3435      0.71  | Q       |         |         |     V   |
16+10       1.3457      0.32  |Q        |         |         |     V   |
16+15       1.3477      0.28  |Q        |         |         |     V   |
16+20       1.3496      0.28  |Q        |         |         |     V   |
16+25       1.3516      0.28  |Q        |         |         |     V   |
16+30       1.3536      0.28  |Q        |         |         |     V   |
16+35       1.3552      0.24  Q         |         |         |     V   |
16+40       1.3567      0.22  Q         |         |         |     V   |
16+45       1.3582      0.21  Q         |         |         |     V   |
16+50       1.3596      0.21  Q         |         |         |     V   |
16+55       1.3611      0.21  Q         |         |         |     V   |
17+ 0       1.3626      0.21  Q         |         |         |     V   |
17+ 5       1.3646      0.30  |Q        |         |         |     V   |
17+10       1.3670      0.35  |Q        |         |         |     V   |
17+15       1.3695      0.35  |Q        |         |         |     V   |
17+20       1.3719      0.35  |Q        |         |         |     V   |
17+25       1.3743      0.35  |Q        |         |         |      V  |
17+30       1.3768      0.35  |Q        |         |         |      V  |
17+35       1.3792      0.35  |Q        |         |         |      V  |
17+40       1.3817      0.35  |Q        |         |         |      V  |
17+45       1.3841      0.35  |Q        |         |         |      V  |
17+50       1.3863      0.31  |Q        |         |         |      V  |
17+55       1.3882      0.29  |Q        |         |         |      V  |
18+ 0       1.3902      0.28  |Q        |         |         |      V  |
18+ 5       1.3922      0.28  |Q        |         |         |      V  |
18+10       1.3941      0.28  |Q        |         |         |      V  |
18+15       1.3961      0.28  |Q        |         |         |      V  |
18+20       1.3980      0.28  |Q        |         |         |      V  |
18+25       1.4000      0.28  |Q        |         |         |      V  |
18+30       1.4019      0.28  |Q        |         |         |      V  |
18+35       1.4036      0.24  Q         |         |         |      V  |
18+40       1.4051      0.22  Q         |         |         |      V  |
18+45       1.4065      0.21  Q         |         |         |      V  |
18+50       1.4077      0.17  Q         |         |         |      V  |
18+55       1.4087      0.14  Q         |         |         |      V  |
19+ 0       1.4097      0.14  Q         |         |         |       V |
19+ 5       1.4110      0.18  Q         |         |         |       V |
19+10       1.4124      0.21  Q         |         |         |       V |
19+15       1.4139      0.21  Q         |         |         |       V |
19+20       1.4156      0.26  |Q        |         |         |       V |
19+25       1.4176      0.28  |Q        |         |         |       V |
19+30       1.4195      0.28  |Q        |         |         |       V |
19+35       1.4212      0.24  Q         |         |         |       V |
19+40       1.4227      0.22  Q         |         |         |       V |
19+45       1.4241      0.21  Q         |         |         |       V |
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19+50       1.4253      0.17  Q         |         |         |        V |
19+55       1.4263      0.14  Q         |         |         |        V |
20+ 0       1.4273      0.14  Q         |         |         |        V |
20+ 5       1.4285      0.18  Q         |         |         |        V |
20+10       1.4300      0.21  Q         |         |         |        V |
20+15       1.4315      0.21  Q         |         |         |        V |
20+20       1.4329      0.21  Q         |         |         |        V |
20+25       1.4344      0.21  Q         |         |         |        V |
20+30       1.4359      0.21  Q         |         |         |        V |
20+35       1.4373      0.21  Q         |         |         |        V |
20+40       1.4388      0.21  Q         |         |         |        V |
20+45       1.4403      0.21  Q         |         |         |        V |
20+50       1.4414      0.17  Q         |         |         |        V |
20+55       1.4424      0.14  Q         |         |         |        V |
21+ 0       1.4434      0.14  Q         |         |         |        V |
21+ 5       1.4447      0.18  Q         |         |         |        V |
21+10       1.4461      0.21  Q         |         |         |        V |
21+15       1.4476      0.21  Q         |         |         |         V|
21+20       1.4488      0.17  Q         |         |         |         V|
21+25       1.4498      0.14  Q         |         |         |         V|
21+30       1.4507      0.14  Q         |         |         |         V|
21+35       1.4520      0.18  Q         |         |         |         V|
21+40       1.4535      0.21  Q         |         |         |         V|
21+45       1.4549      0.21  Q         |         |         |         V|
21+50       1.4561      0.17  Q         |         |         |         V|
21+55       1.4571      0.14  Q         |         |         |         V|
22+ 0       1.4581      0.14  Q         |         |         |         V|
22+ 5       1.4593      0.18  Q         |         |         |         V|
22+10       1.4608      0.21  Q         |         |         |         V|
22+15       1.4622      0.21  Q         |         |         |         V|
22+20       1.4634      0.17  Q         |         |         |         V|
22+25       1.4644      0.14  Q         |         |         |         V|
22+30       1.4654      0.14  Q         |         |         |         V|
22+35       1.4664      0.14  Q         |         |         |         V|
22+40       1.4673      0.14  Q         |         |         |         V|
22+45       1.4683      0.14  Q         |         |         |         V|
22+50       1.4693      0.14  Q         |         |         |         V|
22+55       1.4703      0.14  Q         |         |         |         V|
23+ 0       1.4713      0.14  Q         |         |         |         V|
23+ 5       1.4722      0.14  Q         |         |         |         V|
23+10       1.4732      0.14  Q         |         |         |         V|
23+15       1.4742      0.14  Q         |         |         |         V|
23+20       1.4752      0.14  Q         |         |         |         V|
23+25       1.4761      0.14  Q         |         |         |         V|
23+30       1.4771      0.14  Q         |         |         |         V|
23+35       1.4781      0.14  Q         |         |         |         V|
23+40       1.4791      0.14  Q         |         |         |         V|
23+45       1.4801      0.14  Q         |         |         |         V|
23+50       1.4810      0.14  Q         |         |         |         V|
23+55       1.4820      0.14  Q         |         |         |         V|
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   24+ 0       1.4830      0.14  Q         |         |         |        V|
   24+ 5       1.4834      0.06  Q         |         |         |        V|
   24+10       1.4834      0.01  Q         |         |         |        V|
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FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 09/22/22

Desert Hot Springs
Basin Routing
100 yr
1 hr

Program License Serial Number 6481

********** HYDROGRAPH INFORMATION **********

From study/file name: 183postuh1100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 14
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 20.225 (CFS)
Total volume = 0.519 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 201.000 to Point/Station 202.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 14
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.041	0.102	0.041	0.041
1.330	0.066	0.974	0.063	0.069
1.670	0.090	1.833	0.084	0.096
2.000	0.114	1.833	0.108	0.120
3.000	0.186	1.833	0.180	0.192
4.000	0.258	1.833	0.252	0.264
5.000	0.330	1.833	0.324	0.336
6.000	0.403	1.833	0.397	0.409
7.000	0.444	1.833	0.438	0.450

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 5.1 10.11 15.17 20.23	Depth (Ft.)
0.083	1.48	0.01	0.005	O I	0.12
0.167	2.67	0.05	0.019	O I	0.47
0.250	3.03	0.10	0.038	O I	0.93
0.333	3.21	0.66	0.057	O I	1.21
0.417	3.46	1.24	0.074	O I	1.44
0.500	3.88	1.78	0.088	O I	1.65
0.583	4.45	1.83	0.105	O I	1.87
0.667	5.52	1.83	0.126	O I	2.17
0.750	8.44	1.83	0.162	O I	2.66
0.833	20.23	1.83	0.248	O I	3.86
0.917	13.34	1.83	0.351	O I	5.29
1.000	4.42	1.83	0.399	O I	5.95
1.083	1.15	1.83	0.406	IO	6.07
1.167	0.10	1.83	0.398	I O	5.93
1.250	0.00	1.83	0.385	I O	5.76
1.333	0.00	1.83	0.373	I O	5.59
1.417	0.00	1.83	0.360	I O	5.41
1.500	0.00	1.83	0.347	I O	5.24
1.583	0.00	1.83	0.335	I O	5.07
1.667	0.00	1.83	0.322	I O	4.89
1.750	0.00	1.83	0.310	I O	4.72
1.833	0.00	1.83	0.297	I O	4.54
1.917	0.00	1.83	0.284	I O	4.37
2.000	0.00	1.83	0.272	I O	4.19
2.083	0.00	1.83	0.259	I O	4.02
2.167	0.00	1.83	0.246	I O	3.84

2.250	0.00	1.83	0.234	I O				3.66
2.333	0.00	1.83	0.221	I O				3.49
2.417	0.00	1.83	0.209	I O				3.31
2.500	0.00	1.83	0.196	I O				3.14
2.583	0.00	1.83	0.183	I O				2.96
2.667	0.00	1.83	0.171	I O				2.79
2.750	0.00	1.83	0.158	I O				2.61
2.833	0.00	1.83	0.145	I O				2.44
2.917	0.00	1.83	0.133	I O				2.26
3.000	0.00	1.83	0.120	I O				2.09
3.083	0.00	1.83	0.108	I O				1.91
3.167	0.00	1.83	0.095	I O				1.74
3.250	0.00	1.59	0.083	I O				1.57
3.333	0.00	1.24	0.073	IO				1.44
3.417	0.00	0.97	0.066	IO				1.33
3.500	0.00	0.76	0.060	IO				1.25
3.583	0.00	0.60	0.055	O				1.19
3.667	0.00	0.47	0.052	O				1.14
3.750	0.00	0.37	0.049	O				1.10
3.833	0.00	0.29	0.046	O				1.07
3.917	0.00	0.23	0.045	O				1.05
4.000	0.00	0.18	0.043	O				1.03
4.083	0.00	0.14	0.042	O				1.01
4.167	0.00	0.11	0.041	O				1.00
4.250	0.00	0.10	0.041	O				0.99
4.333	0.00	0.10	0.040	O				0.97
4.417	0.00	0.10	0.039	O				0.95
4.500	0.00	0.10	0.038	O				0.94
4.583	0.00	0.09	0.038	O				0.92
4.667	0.00	0.09	0.037	O				0.91
4.750	0.00	0.09	0.037	O				0.89
4.833	0.00	0.09	0.036	O				0.88
4.917	0.00	0.09	0.035	O				0.86
5.000	0.00	0.09	0.035	O				0.85
5.083	0.00	0.08	0.034	O				0.83
5.167	0.00	0.08	0.034	O				0.82
5.250	0.00	0.08	0.033	O				0.80
5.333	0.00	0.08	0.032	O				0.79
5.417	0.00	0.08	0.032	O				0.78
5.500	0.00	0.08	0.031	O				0.76
5.583	0.00	0.08	0.031	O				0.75
5.667	0.00	0.08	0.030	O				0.74
5.750	0.00	0.07	0.030	O				0.73
5.833	0.00	0.07	0.029	O				0.71
5.917	0.00	0.07	0.029	O				0.70
6.000	0.00	0.07	0.028	O				0.69
6.083	0.00	0.07	0.028	O				0.68
6.167	0.00	0.07	0.027	O				0.67
6.250	0.00	0.07	0.027	O				0.65
6.333	0.00	0.07	0.026	O				0.64

6.417	0.00	0.06	0.026	O				0.63
6.500	0.00	0.06	0.026	O				0.62
6.583	0.00	0.06	0.025	O				0.61
6.667	0.00	0.06	0.025	O				0.60
6.750	0.00	0.06	0.024	O				0.59
6.833	0.00	0.06	0.024	O				0.58
6.917	0.00	0.06	0.023	O				0.57
7.000	0.00	0.06	0.023	O				0.56
7.083	0.00	0.06	0.023	O				0.55
7.167	0.00	0.06	0.022	O				0.54
7.250	0.00	0.05	0.022	O				0.53
7.333	0.00	0.05	0.021	O				0.52
7.417	0.00	0.05	0.021	O				0.52
7.500	0.00	0.05	0.021	O				0.51
7.583	0.00	0.05	0.020	O				0.50
7.667	0.00	0.05	0.020	O				0.49
7.750	0.00	0.05	0.020	O				0.48
7.833	0.00	0.05	0.019	O				0.47
7.917	0.00	0.05	0.019	O				0.46
8.000	0.00	0.05	0.019	O				0.46
8.083	0.00	0.05	0.018	O				0.45
8.167	0.00	0.05	0.018	O				0.44
8.250	0.00	0.04	0.018	O				0.43
8.333	0.00	0.04	0.017	O				0.43
8.417	0.00	0.04	0.017	O				0.42
8.500	0.00	0.04	0.017	O				0.41
8.583	0.00	0.04	0.017	O				0.41
8.667	0.00	0.04	0.016	O				0.40
8.750	0.00	0.04	0.016	O				0.39
8.833	0.00	0.04	0.016	O				0.39
8.917	0.00	0.04	0.016	O				0.38
9.000	0.00	0.04	0.015	O				0.37
9.083	0.00	0.04	0.015	O				0.37
9.167	0.00	0.04	0.015	O				0.36
9.250	0.00	0.04	0.014	O				0.35
9.333	0.00	0.04	0.014	O				0.35
9.417	0.00	0.03	0.014	O				0.34
9.500	0.00	0.03	0.014	O				0.34
9.583	0.00	0.03	0.014	O				0.33
9.667	0.00	0.03	0.013	O				0.32
9.750	0.00	0.03	0.013	O				0.32
9.833	0.00	0.03	0.013	O				0.31
9.917	0.00	0.03	0.013	O				0.31
10.000	0.00	0.03	0.012	O				0.30
10.083	0.00	0.03	0.012	O				0.30
10.167	0.00	0.03	0.012	O				0.29
10.250	0.00	0.03	0.012	O				0.29
10.333	0.00	0.03	0.012	O				0.28
10.417	0.00	0.03	0.011	O				0.28
10.500	0.00	0.03	0.011	O				0.27

10.583	0.00	0.03	0.011	O	|	|	|	0.27
10.667	0.00	0.03	0.011	O	|	|	|	0.26
10.750	0.00	0.03	0.011	O	|	|	|	0.26
10.833	0.00	0.03	0.010	O	|	|	|	0.26
10.917	0.00	0.03	0.010	O	|	|	|	0.25
11.000	0.00	0.03	0.010	O	|	|	|	0.25
11.083	0.00	0.02	0.010	O	|	|	|	0.24
11.167	0.00	0.02	0.010	O	|	|	|	0.24
11.250	0.00	0.02	0.010	O	|	|	|	0.23
11.333	0.00	0.02	0.009	O	|	|	|	0.23
11.417	0.00	0.02	0.009	O	|	|	|	0.23
11.500	0.00	0.02	0.009	O	|	|	|	0.22
11.583	0.00	0.02	0.009	O	|	|	|	0.22
11.667	0.00	0.02	0.009	O	|	|	|	0.22
11.750	0.00	0.02	0.009	O	|	|	|	0.21
11.833	0.00	0.02	0.009	O	|	|	|	0.21
11.917	0.00	0.02	0.008	O	|	|	|	0.20
12.000	0.00	0.02	0.008	O	|	|	|	0.20
12.083	0.00	0.02	0.008	O	|	|	|	0.20
12.167	0.00	0.02	0.008	O	|	|	|	0.19
12.250	0.00	0.02	0.008	O	|	|	|	0.19
12.333	0.00	0.02	0.008	O	|	|	|	0.19
12.417	0.00	0.02	0.008	O	|	|	|	0.18
12.500	0.00	0.02	0.007	O	|	|	|	0.18
12.583	0.00	0.02	0.007	O	|	|	|	0.18
12.667	0.00	0.02	0.007	O	|	|	|	0.18
12.750	0.00	0.02	0.007	O	|	|	|	0.17
12.833	0.00	0.02	0.007	O	|	|	|	0.17
12.917	0.00	0.02	0.007	O	|	|	|	0.17
13.000	0.00	0.02	0.007	O	|	|	|	0.16
13.083	0.00	0.02	0.007	O	|	|	|	0.16
13.167	0.00	0.02	0.006	O	|	|	|	0.16
13.250	0.00	0.02	0.006	O	|	|	|	0.16
13.333	0.00	0.02	0.006	O	|	|	|	0.15
13.417	0.00	0.02	0.006	O	|	|	|	0.15
13.500	0.00	0.02	0.006	O	|	|	|	0.15
13.583	0.00	0.01	0.006	O	|	|	|	0.15
13.667	0.00	0.01	0.006	O	|	|	|	0.14
13.750	0.00	0.01	0.006	O	|	|	|	0.14
13.833	0.00	0.01	0.006	O	|	|	|	0.14
13.917	0.00	0.01	0.006	O	|	|	|	0.14
14.000	0.00	0.01	0.005	O	|	|	|	0.13
14.083	0.00	0.01	0.005	O	|	|	|	0.13
14.167	0.00	0.01	0.005	O	|	|	|	0.13
14.250	0.00	0.01	0.005	O	|	|	|	0.13
14.333	0.00	0.01	0.005	O	|	|	|	0.12
14.417	0.00	0.01	0.005	O	|	|	|	0.12
14.500	0.00	0.01	0.005	O	|	|	|	0.12
14.583	0.00	0.01	0.005	O	|	|	|	0.12
14.667	0.00	0.01	0.005	O	|	|	|	0.12

14.750	0.00	0.01	0.005	O				0.11
14.833	0.00	0.01	0.005	O				0.11
14.917	0.00	0.01	0.005	O				0.11
15.000	0.00	0.01	0.004	O				0.11
15.083	0.00	0.01	0.004	O				0.11
15.167	0.00	0.01	0.004	O				0.10
15.250	0.00	0.01	0.004	O				0.10
15.333	0.00	0.01	0.004	O				0.10
15.417	0.00	0.01	0.004	O				0.10
15.500	0.00	0.01	0.004	O				0.10
15.583	0.00	0.01	0.004	O				0.10
15.667	0.00	0.01	0.004	O				0.09
15.750	0.00	0.01	0.004	O				0.09
15.833	0.00	0.01	0.004	O				0.09
15.917	0.00	0.01	0.004	O				0.09
16.000	0.00	0.01	0.004	O				0.09
16.083	0.00	0.01	0.004	O				0.09
16.167	0.00	0.01	0.003	O				0.09
16.250	0.00	0.01	0.003	O				0.08
16.333	0.00	0.01	0.003	O				0.08
16.417	0.00	0.01	0.003	O				0.08
16.500	0.00	0.01	0.003	O				0.08
16.583	0.00	0.01	0.003	O				0.08
16.667	0.00	0.01	0.003	O				0.08
16.750	0.00	0.01	0.003	O				0.08
16.833	0.00	0.01	0.003	O				0.07
16.917	0.00	0.01	0.003	O				0.07
17.000	0.00	0.01	0.003	O				0.07
17.083	0.00	0.01	0.003	O				0.07
17.167	0.00	0.01	0.003	O				0.07
17.250	0.00	0.01	0.003	O				0.07
17.333	0.00	0.01	0.003	O				0.07
17.417	0.00	0.01	0.003	O				0.07
17.500	0.00	0.01	0.003	O				0.06
17.583	0.00	0.01	0.003	O				0.06
17.667	0.00	0.01	0.003	O				0.06
17.750	0.00	0.01	0.003	O				0.06
17.833	0.00	0.01	0.002	O				0.06
17.917	0.00	0.01	0.002	O				0.06
18.000	0.00	0.01	0.002	O				0.06
18.083	0.00	0.01	0.002	O				0.06
18.167	0.00	0.01	0.002	O				0.06
18.250	0.00	0.01	0.002	O				0.06
18.333	0.00	0.01	0.002	O				0.05
18.417	0.00	0.01	0.002	O				0.05
18.500	0.00	0.01	0.002	O				0.05
18.583	0.00	0.01	0.002	O				0.05
18.667	0.00	0.01	0.002	O				0.05
18.750	0.00	0.01	0.002	O				0.05
18.833	0.00	0.01	0.002	O				0.05

18.917	0.00	0.00	0.002	O	|	|	|	0.05
19.000	0.00	0.00	0.002	O	|	|	|	0.05
19.083	0.00	0.00	0.002	O	|	|	|	0.05
19.167	0.00	0.00	0.002	O	|	|	|	0.05
19.250	0.00	0.00	0.002	O	|	|	|	0.05
19.333	0.00	0.00	0.002	O	|	|	|	0.04
19.417	0.00	0.00	0.002	O	|	|	|	0.04
19.500	0.00	0.00	0.002	O	|	|	|	0.04
19.583	0.00	0.00	0.002	O	|	|	|	0.04
19.667	0.00	0.00	0.002	O	|	|	|	0.04
19.750	0.00	0.00	0.002	O	|	|	|	0.04
19.833	0.00	0.00	0.002	O	|	|	|	0.04
19.917	0.00	0.00	0.002	O	|	|	|	0.04
20.000	0.00	0.00	0.002	O	|	|	|	0.04
20.083	0.00	0.00	0.002	O	|	|	|	0.04
20.167	0.00	0.00	0.002	O	|	|	|	0.04
20.250	0.00	0.00	0.002	O	|	|	|	0.04
20.333	0.00	0.00	0.001	O	|	|	|	0.04
20.417	0.00	0.00	0.001	O	|	|	|	0.04
20.500	0.00	0.00	0.001	O	|	|	|	0.03
20.583	0.00	0.00	0.001	O	|	|	|	0.03
20.667	0.00	0.00	0.001	O	|	|	|	0.03
20.750	0.00	0.00	0.001	O	|	|	|	0.03
20.833	0.00	0.00	0.001	O	|	|	|	0.03
20.917	0.00	0.00	0.001	O	|	|	|	0.03
21.000	0.00	0.00	0.001	O	|	|	|	0.03
21.083	0.00	0.00	0.001	O	|	|	|	0.03
21.167	0.00	0.00	0.001	O	|	|	|	0.03
21.250	0.00	0.00	0.001	O	|	|	|	0.03
21.333	0.00	0.00	0.001	O	|	|	|	0.03
21.417	0.00	0.00	0.001	O	|	|	|	0.03
21.500	0.00	0.00	0.001	O	|	|	|	0.03
21.583	0.00	0.00	0.001	O	|	|	|	0.03
21.667	0.00	0.00	0.001	O	|	|	|	0.03
21.750	0.00	0.00	0.001	O	|	|	|	0.03
21.833	0.00	0.00	0.001	O	|	|	|	0.03
21.917	0.00	0.00	0.001	O	|	|	|	0.03
22.000	0.00	0.00	0.001	O	|	|	|	0.03
22.083	0.00	0.00	0.001	O	|	|	|	0.03
22.167	0.00	0.00	0.001	O	|	|	|	0.02
22.250	0.00	0.00	0.001	O	|	|	|	0.02
22.333	0.00	0.00	0.001	O	|	|	|	0.02
22.417	0.00	0.00	0.001	O	|	|	|	0.02
22.500	0.00	0.00	0.001	O	|	|	|	0.02
22.583	0.00	0.00	0.001	O	|	|	|	0.02
22.667	0.00	0.00	0.001	O	|	|	|	0.02
22.750	0.00	0.00	0.001	O	|	|	|	0.02
22.833	0.00	0.00	0.001	O	|	|	|	0.02
22.917	0.00	0.00	0.001	O	|	|	|	0.02
23.000	0.00	0.00	0.001	O	|	|	|	0.02

23.083	0.00	0.00	0.001	O	|	|	|	|	0.02
23.167	0.00	0.00	0.001	O	|	|	|	|	0.02
23.250	0.00	0.00	0.001	O	|	|	|	|	0.02
23.333	0.00	0.00	0.001	O	|	|	|	|	0.02
23.417	0.00	0.00	0.001	O	|	|	|	|	0.02
23.500	0.00	0.00	0.001	O	|	|	|	|	0.02
23.583	0.00	0.00	0.001	O	|	|	|	|	0.02
23.667	0.00	0.00	0.001	O	|	|	|	|	0.02
23.750	0.00	0.00	0.001	O	|	|	|	|	0.02
23.833	0.00	0.00	0.001	O	|	|	|	|	0.02
23.917	0.00	0.00	0.001	O	|	|	|	|	0.02
24.000	0.00	0.00	0.001	O	|	|	|	|	0.02
24.083	0.00	0.00	0.001	O	|	|	|	|	0.02
24.167	0.00	0.00	0.001	O	|	|	|	|	0.02
24.250	0.00	0.00	0.001	O	|	|	|	|	0.02
24.333	0.00	0.00	0.001	O	|	|	|	|	0.02
24.417	0.00	0.00	0.001	O	|	|	|	|	0.02
24.500	0.00	0.00	0.001	O	|	|	|	|	0.02
24.583	0.00	0.00	0.001	O	|	|	|	|	0.02
24.667	0.00	0.00	0.001	O	|	|	|	|	0.01
24.750	0.00	0.00	0.001	O	|	|	|	|	0.01
24.833	0.00	0.00	0.001	O	|	|	|	|	0.01
24.917	0.00	0.00	0.001	O	|	|	|	|	0.01
25.000	0.00	0.00	0.001	O	|	|	|	|	0.01
25.083	0.00	0.00	0.001	O	|	|	|	|	0.01
25.167	0.00	0.00	0.001	O	|	|	|	|	0.01
25.250	0.00	0.00	0.001	O	|	|	|	|	0.01
25.333	0.00	0.00	0.001	O	|	|	|	|	0.01
25.417	0.00	0.00	0.001	O	|	|	|	|	0.01
25.500	0.00	0.00	0.001	O	|	|	|	|	0.01
25.583	0.00	0.00	0.001	O	|	|	|	|	0.01
25.667	0.00	0.00	0.000	O	|	|	|	|	0.01
25.750	0.00	0.00	0.000	O	|	|	|	|	0.01
25.833	0.00	0.00	0.000	O	|	|	|	|	0.01
25.917	0.00	0.00	0.000	O	|	|	|	|	0.01
26.000	0.00	0.00	0.000	O	|	|	|	|	0.01
26.083	0.00	0.00	0.000	O	|	|	|	|	0.01
26.167	0.00	0.00	0.000	O	|	|	|	|	0.01
26.250	0.00	0.00	0.000	O	|	|	|	|	0.01
26.333	0.00	0.00	0.000	O	|	|	|	|	0.01
26.417	0.00	0.00	0.000	O	|	|	|	|	0.01
26.500	0.00	0.00	0.000	O	|	|	|	|	0.01
26.583	0.00	0.00	0.000	O	|	|	|	|	0.01
26.667	0.00	0.00	0.000	O	|	|	|	|	0.01
26.750	0.00	0.00	0.000	O	|	|	|	|	0.01

**********HYDROGRAPH DATA**********

Number of intervals = 321

Time interval = 5.0 (Min.)

Maximum/Peak flow rate = 1.833 (CFS)

```
                Total volume =       0.519 (Ac.Ft)
        Status of hydrographs being held in storage
                    Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
****************************************************************************

----------------------------------------------------------------------
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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 09/22/22

Desert Hot Springs
Basin Routing
100 yr
3 hr

Program License Serial Number 6481

********** HYDROGRAPH INFORMATION **********

From study/file name: 183postuh3100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 38
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 8.991 (CFS)
Total volume = 0.734 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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Process from Point/Station 201.000 to Point/Station 202.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 38
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.041	0.102	0.041	0.041
1.330	0.066	0.974	0.063	0.069
1.670	0.090	1.833	0.084	0.096
2.000	0.114	1.833	0.108	0.120
3.000	0.186	1.833	0.180	0.192
4.000	0.258	1.833	0.252	0.264
5.000	0.330	1.833	0.324	0.336
6.000	0.403	1.833	0.397	0.409
7.000	0.444	1.833	0.438	0.450

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 2.2 4.50 6.74 8.99	Depth (Ft.)
0.083	0.77	0.01	0.003	O I | | | |	0.06
0.167	1.23	0.02	0.009	O I | | | |	0.23
0.250	1.17	0.04	0.017	O I | | | |	0.43
0.333	1.33	0.06	0.026	O I | | | |	0.63
0.417	1.47	0.09	0.035	O I | | | |	0.85
0.500	1.66	0.22	0.044	O I | | | |	1.05
0.583	1.59	0.52	0.053	|O I | | | |	1.16
0.667	1.67	0.76	0.060	| O I | | | |	1.25
0.750	1.77	0.97	0.066	| O I | | | |	1.33
0.833	1.60	1.12	0.070	| O I | | | |	1.39
0.917	1.55	1.22	0.073	| OI | | | |	1.43
1.000	1.69	1.31	0.075	| O I | | | |	1.46
1.083	2.04	1.43	0.079	| O I| | | |	1.51
1.167	2.21	1.58	0.083	| O I| | | |	1.57
1.250	2.23	1.72	0.087	| OI| | | |	1.63
1.333	2.08	1.82	0.090	| OI| | | |	1.66
1.417	2.43	1.83	0.093	| O I | | |	1.71
1.500	2.75	1.83	0.098	| O |I | | |	1.78
1.583	2.61	1.83	0.104	| O |I | | |	1.86
1.667	2.70	1.83	0.109	| O |I | | |	1.94
1.750	3.25	1.83	0.117	| O | I | | |	2.04
1.833	3.38	1.83	0.127	| O | I | | |	2.19
1.917	3.18	1.83	0.137	| O | I | | |	2.32
2.000	3.15	1.83	0.146	| O | I | | |	2.45
2.083	3.26	1.83	0.156	| O | I | | |	2.58
2.167	4.10	1.83	0.169	| O | I | | |	2.76

2.250	5.16	1.83	0.188	| O |	| I |	| |	| |	3.03
2.333	4.49	1.83	0.208	| O |	I |	| |	| |	3.31
2.417	6.23	1.83	0.233	| O |	| I |	| |	| |	3.65
2.500	7.97	1.83	0.269	| O |	| |	| I |	| |	4.15
2.583	8.99	1.83	0.315	| O |	| |	| |	| I |	4.79
2.667	7.76	1.83	0.360	| O |	| |	| I |	| |	5.41
2.750	3.99	1.83	0.388	| O |	I |	| |	| |	5.79
2.833	2.04	1.83	0.396	| OI |	| |	| |	| |	5.90
2.917	1.78	1.83	0.396	| O |	| |	| |	| |	5.91
3.000	1.07	1.83	0.394	| I O |	| |	| |	| |	5.87
3.083	0.28	1.83	0.386	|I O |	| |	| |	| |	5.76
3.167	0.02	1.83	0.374	I O |	| |	| |	| |	5.60
3.250	0.00	1.83	0.362	I O |	| |	| |	| |	5.43
3.333	0.00	1.83	0.349	I O |	| |	| |	| |	5.26
3.417	0.00	1.83	0.336	I O |	| |	| |	| |	5.09
3.500	0.00	1.83	0.324	I O |	| |	| |	| |	4.91
3.583	0.00	1.83	0.311	I O |	| |	| |	| |	4.74
3.667	0.00	1.83	0.298	I O |	| |	| |	| |	4.56
3.750	0.00	1.83	0.286	I O |	| |	| |	| |	4.39
3.833	0.00	1.83	0.273	I O |	| |	| |	| |	4.21
3.917	0.00	1.83	0.261	I O |	| |	| |	| |	4.04
4.000	0.00	1.83	0.248	I O |	| |	| |	| |	3.86
4.083	0.00	1.83	0.235	I O |	| |	| |	| |	3.68
4.167	0.00	1.83	0.223	I O |	| |	| |	| |	3.51
4.250	0.00	1.83	0.210	I O |	| |	| |	| |	3.33
4.333	0.00	1.83	0.197	I O |	| |	| |	| |	3.16
4.417	0.00	1.83	0.185	I O |	| |	| |	| |	2.98
4.500	0.00	1.83	0.172	I O |	| |	| |	| |	2.81
4.583	0.00	1.83	0.160	I O |	| |	| |	| |	2.63
4.667	0.00	1.83	0.147	I O |	| |	| |	| |	2.46
4.750	0.00	1.83	0.134	I O |	| |	| |	| |	2.28
4.833	0.00	1.83	0.122	I O |	| |	| |	| |	2.11
4.917	0.00	1.83	0.109	I O |	| |	| |	| |	1.93
5.000	0.00	1.83	0.096	I O |	| |	| |	| |	1.76
5.083	0.00	1.64	0.084	I O |	| |	| |	| |	1.59
5.167	0.00	1.28	0.074	I O |	| |	| |	| |	1.45
5.250	0.00	1.00	0.067	I O |	| |	| |	| |	1.34
5.333	0.00	0.78	0.060	I O |	| |	| |	| |	1.26
5.417	0.00	0.61	0.056	I O |	| |	| |	| |	1.19
5.500	0.00	0.48	0.052	IO |	| |	| |	| |	1.14
5.583	0.00	0.38	0.049	IO |	| |	| |	| |	1.10
5.667	0.00	0.30	0.047	IO |	| |	| |	| |	1.07
5.750	0.00	0.23	0.045	O |	| |	| |	| |	1.05
5.833	0.00	0.18	0.043	O |	| |	| |	| |	1.03
5.917	0.00	0.14	0.042	O |	| |	| |	| |	1.02
6.000	0.00	0.11	0.041	O |	| |	| |	| |	1.00
6.083	0.00	0.10	0.041	O |	| |	| |	| |	0.99
6.167	0.00	0.10	0.040	O |	| |	| |	| |	0.97
6.250	0.00	0.10	0.039	O |	| |	| |	| |	0.96
6.333	0.00	0.10	0.039	O |	| |	| |	| |	0.94

6.417	0.00	0.09	0.038	O				0.92
6.500	0.00	0.09	0.037	O				0.91
6.583	0.00	0.09	0.037	O				0.89
6.667	0.00	0.09	0.036	O				0.88
6.750	0.00	0.09	0.035	O				0.86
6.833	0.00	0.09	0.035	O				0.85
6.917	0.00	0.09	0.034	O				0.83
7.000	0.00	0.08	0.034	O				0.82
7.083	0.00	0.08	0.033	O				0.81
7.167	0.00	0.08	0.032	O				0.79
7.250	0.00	0.08	0.032	O				0.78
7.333	0.00	0.08	0.031	O				0.77
7.417	0.00	0.08	0.031	O				0.75
7.500	0.00	0.08	0.030	O				0.74
7.583	0.00	0.07	0.030	O				0.73
7.667	0.00	0.07	0.029	O				0.71
7.750	0.00	0.07	0.029	O				0.70
7.833	0.00	0.07	0.028	O				0.69
7.917	0.00	0.07	0.028	O				0.68
8.000	0.00	0.07	0.027	O				0.67
8.083	0.00	0.07	0.027	O				0.66
8.167	0.00	0.07	0.026	O				0.65
8.250	0.00	0.06	0.026	O				0.63
8.333	0.00	0.06	0.026	O				0.62
8.417	0.00	0.06	0.025	O				0.61
8.500	0.00	0.06	0.025	O				0.60
8.583	0.00	0.06	0.024	O				0.59
8.667	0.00	0.06	0.024	O				0.58
8.750	0.00	0.06	0.023	O				0.57
8.833	0.00	0.06	0.023	O				0.56
8.917	0.00	0.06	0.023	O				0.55
9.000	0.00	0.06	0.022	O				0.54
9.083	0.00	0.05	0.022	O				0.53
9.167	0.00	0.05	0.022	O				0.53
9.250	0.00	0.05	0.021	O				0.52
9.333	0.00	0.05	0.021	O				0.51
9.417	0.00	0.05	0.020	O				0.50
9.500	0.00	0.05	0.020	O				0.49
9.583	0.00	0.05	0.020	O				0.48
9.667	0.00	0.05	0.019	O				0.47
9.750	0.00	0.05	0.019	O				0.47
9.833	0.00	0.05	0.019	O				0.46
9.917	0.00	0.05	0.018	O				0.45
10.000	0.00	0.05	0.018	O				0.44
10.083	0.00	0.04	0.018	O				0.43
10.167	0.00	0.04	0.018	O				0.43
10.250	0.00	0.04	0.017	O				0.42
10.333	0.00	0.04	0.017	O				0.41
10.417	0.00	0.04	0.017	O				0.41
10.500	0.00	0.04	0.016	O				0.40

10.583	0.00	0.04	0.016	O	|	|	|	0.39
10.667	0.00	0.04	0.016	O	|	|	|	0.39
10.750	0.00	0.04	0.016	O	|	|	|	0.38
10.833	0.00	0.04	0.015	O	|	|	|	0.37
10.917	0.00	0.04	0.015	O	|	|	|	0.37
11.000	0.00	0.04	0.015	O	|	|	|	0.36
11.083	0.00	0.04	0.015	O	|	|	|	0.35
11.167	0.00	0.04	0.014	O	|	|	|	0.35
11.250	0.00	0.03	0.014	O	|	|	|	0.34
11.333	0.00	0.03	0.014	O	|	|	|	0.34
11.417	0.00	0.03	0.014	O	|	|	|	0.33
11.500	0.00	0.03	0.013	O	|	|	|	0.33
11.583	0.00	0.03	0.013	O	|	|	|	0.32
11.667	0.00	0.03	0.013	O	|	|	|	0.31
11.750	0.00	0.03	0.013	O	|	|	|	0.31
11.833	0.00	0.03	0.012	O	|	|	|	0.30
11.917	0.00	0.03	0.012	O	|	|	|	0.30
12.000	0.00	0.03	0.012	O	|	|	|	0.29
12.083	0.00	0.03	0.012	O	|	|	|	0.29
12.167	0.00	0.03	0.012	O	|	|	|	0.28
12.250	0.00	0.03	0.011	O	|	|	|	0.28
12.333	0.00	0.03	0.011	O	|	|	|	0.27
12.417	0.00	0.03	0.011	O	|	|	|	0.27
12.500	0.00	0.03	0.011	O	|	|	|	0.26
12.583	0.00	0.03	0.011	O	|	|	|	0.26
12.667	0.00	0.03	0.010	O	|	|	|	0.26
12.750	0.00	0.03	0.010	O	|	|	|	0.25
12.833	0.00	0.03	0.010	O	|	|	|	0.25
12.917	0.00	0.02	0.010	O	|	|	|	0.24
13.000	0.00	0.02	0.010	O	|	|	|	0.24
13.083	0.00	0.02	0.010	O	|	|	|	0.23
13.167	0.00	0.02	0.009	O	|	|	|	0.23
13.250	0.00	0.02	0.009	O	|	|	|	0.23
13.333	0.00	0.02	0.009	O	|	|	|	0.22
13.417	0.00	0.02	0.009	O	|	|	|	0.22
13.500	0.00	0.02	0.009	O	|	|	|	0.22
13.583	0.00	0.02	0.009	O	|	|	|	0.21
13.667	0.00	0.02	0.009	O	|	|	|	0.21
13.750	0.00	0.02	0.008	O	|	|	|	0.20
13.833	0.00	0.02	0.008	O	|	|	|	0.20
13.917	0.00	0.02	0.008	O	|	|	|	0.20
14.000	0.00	0.02	0.008	O	|	|	|	0.19
14.083	0.00	0.02	0.008	O	|	|	|	0.19
14.167	0.00	0.02	0.008	O	|	|	|	0.19
14.250	0.00	0.02	0.008	O	|	|	|	0.18
14.333	0.00	0.02	0.007	O	|	|	|	0.18
14.417	0.00	0.02	0.007	O	|	|	|	0.18
14.500	0.00	0.02	0.007	O	|	|	|	0.18
14.583	0.00	0.02	0.007	O	|	|	|	0.17
14.667	0.00	0.02	0.007	O	|	|	|	0.17

14.750	0.00	0.02	0.007	O	|	|	|	0.17
14.833	0.00	0.02	0.007	O	|	|	|	0.16
14.917	0.00	0.02	0.007	O	|	|	|	0.16
15.000	0.00	0.02	0.006	O	|	|	|	0.16
15.083	0.00	0.02	0.006	O	|	|	|	0.16
15.167	0.00	0.02	0.006	O	|	|	|	0.15
15.250	0.00	0.02	0.006	O	|	|	|	0.15
15.333	0.00	0.02	0.006	O	|	|	|	0.15
15.417	0.00	0.01	0.006	O	|	|	|	0.15
15.500	0.00	0.01	0.006	O	|	|	|	0.14
15.583	0.00	0.01	0.006	O	|	|	|	0.14
15.667	0.00	0.01	0.006	O	|	|	|	0.14
15.750	0.00	0.01	0.006	O	|	|	|	0.14
15.833	0.00	0.01	0.005	O	|	|	|	0.13
15.917	0.00	0.01	0.005	O	|	|	|	0.13
16.000	0.00	0.01	0.005	O	|	|	|	0.13
16.083	0.00	0.01	0.005	O	|	|	|	0.13
16.167	0.00	0.01	0.005	O	|	|	|	0.12
16.250	0.00	0.01	0.005	O	|	|	|	0.12
16.333	0.00	0.01	0.005	O	|	|	|	0.12
16.417	0.00	0.01	0.005	O	|	|	|	0.12
16.500	0.00	0.01	0.005	O	|	|	|	0.12
16.583	0.00	0.01	0.005	O	|	|	|	0.11
16.667	0.00	0.01	0.005	O	|	|	|	0.11
16.750	0.00	0.01	0.005	O	|	|	|	0.11
16.833	0.00	0.01	0.004	O	|	|	|	0.11
16.917	0.00	0.01	0.004	O	|	|	|	0.11
17.000	0.00	0.01	0.004	O	|	|	|	0.10
17.083	0.00	0.01	0.004	O	|	|	|	0.10
17.167	0.00	0.01	0.004	O	|	|	|	0.10
17.250	0.00	0.01	0.004	O	|	|	|	0.10
17.333	0.00	0.01	0.004	O	|	|	|	0.10
17.417	0.00	0.01	0.004	O	|	|	|	0.10
17.500	0.00	0.01	0.004	O	|	|	|	0.09
17.583	0.00	0.01	0.004	O	|	|	|	0.09
17.667	0.00	0.01	0.004	O	|	|	|	0.09
17.750	0.00	0.01	0.004	O	|	|	|	0.09
17.833	0.00	0.01	0.004	O	|	|	|	0.09
17.917	0.00	0.01	0.004	O	|	|	|	0.09
18.000	0.00	0.01	0.004	O	|	|	|	0.09
18.083	0.00	0.01	0.003	O	|	|	|	0.08
18.167	0.00	0.01	0.003	O	|	|	|	0.08
18.250	0.00	0.01	0.003	O	|	|	|	0.08
18.333	0.00	0.01	0.003	O	|	|	|	0.08
18.417	0.00	0.01	0.003	O	|	|	|	0.08
18.500	0.00	0.01	0.003	O	|	|	|	0.08
18.583	0.00	0.01	0.003	O	|	|	|	0.08
18.667	0.00	0.01	0.003	O	|	|	|	0.07
18.750	0.00	0.01	0.003	O	|	|	|	0.07
18.833	0.00	0.01	0.003	O	|	|	|	0.07

18.917	0.00	0.01	0.003	O	|	|	|	0.07
19.000	0.00	0.01	0.003	O	|	|	|	0.07
19.083	0.00	0.01	0.003	O	|	|	|	0.07
19.167	0.00	0.01	0.003	O	|	|	|	0.07
19.250	0.00	0.01	0.003	O	|	|	|	0.07
19.333	0.00	0.01	0.003	O	|	|	|	0.06
19.417	0.00	0.01	0.003	O	|	|	|	0.06
19.500	0.00	0.01	0.003	O	|	|	|	0.06
19.583	0.00	0.01	0.003	O	|	|	|	0.06
19.667	0.00	0.01	0.002	O	|	|	|	0.06
19.750	0.00	0.01	0.002	O	|	|	|	0.06
19.833	0.00	0.01	0.002	O	|	|	|	0.06
19.917	0.00	0.01	0.002	O	|	|	|	0.06
20.000	0.00	0.01	0.002	O	|	|	|	0.06
20.083	0.00	0.01	0.002	O	|	|	|	0.06
20.167	0.00	0.01	0.002	O	|	|	|	0.05
20.250	0.00	0.01	0.002	O	|	|	|	0.05
20.333	0.00	0.01	0.002	O	|	|	|	0.05
20.417	0.00	0.01	0.002	O	|	|	|	0.05
20.500	0.00	0.01	0.002	O	|	|	|	0.05
20.583	0.00	0.01	0.002	O	|	|	|	0.05
20.667	0.00	0.01	0.002	O	|	|	|	0.05
20.750	0.00	0.00	0.002	O	|	|	|	0.05
20.833	0.00	0.00	0.002	O	|	|	|	0.05
20.917	0.00	0.00	0.002	O	|	|	|	0.05
21.000	0.00	0.00	0.002	O	|	|	|	0.05
21.083	0.00	0.00	0.002	O	|	|	|	0.05
21.167	0.00	0.00	0.002	O	|	|	|	0.04
21.250	0.00	0.00	0.002	O	|	|	|	0.04
21.333	0.00	0.00	0.002	O	|	|	|	0.04
21.417	0.00	0.00	0.002	O	|	|	|	0.04
21.500	0.00	0.00	0.002	O	|	|	|	0.04
21.583	0.00	0.00	0.002	O	|	|	|	0.04
21.667	0.00	0.00	0.002	O	|	|	|	0.04
21.750	0.00	0.00	0.002	O	|	|	|	0.04
21.833	0.00	0.00	0.002	O	|	|	|	0.04
21.917	0.00	0.00	0.002	O	|	|	|	0.04
22.000	0.00	0.00	0.002	O	|	|	|	0.04
22.083	0.00	0.00	0.002	O	|	|	|	0.04
22.167	0.00	0.00	0.001	O	|	|	|	0.04
22.250	0.00	0.00	0.001	O	|	|	|	0.04
22.333	0.00	0.00	0.001	O	|	|	|	0.04
22.417	0.00	0.00	0.001	O	|	|	|	0.03
22.500	0.00	0.00	0.001	O	|	|	|	0.03
22.583	0.00	0.00	0.001	O	|	|	|	0.03
22.667	0.00	0.00	0.001	O	|	|	|	0.03
22.750	0.00	0.00	0.001	O	|	|	|	0.03
22.833	0.00	0.00	0.001	O	|	|	|	0.03
22.917	0.00	0.00	0.001	O	|	|	|	0.03
23.000	0.00	0.00	0.001	O	|	|	|	0.03

23.083	0.00	0.00	0.001	O	|	|	|	0.03
23.167	0.00	0.00	0.001	O	|	|	|	0.03
23.250	0.00	0.00	0.001	O	|	|	|	0.03
23.333	0.00	0.00	0.001	O	|	|	|	0.03
23.417	0.00	0.00	0.001	O	|	|	|	0.03
23.500	0.00	0.00	0.001	O	|	|	|	0.03
23.583	0.00	0.00	0.001	O	|	|	|	0.03
23.667	0.00	0.00	0.001	O	|	|	|	0.03
23.750	0.00	0.00	0.001	O	|	|	|	0.03
23.833	0.00	0.00	0.001	O	|	|	|	0.03
23.917	0.00	0.00	0.001	O	|	|	|	0.03
24.000	0.00	0.00	0.001	O	|	|	|	0.02
24.083	0.00	0.00	0.001	O	|	|	|	0.02
24.167	0.00	0.00	0.001	O	|	|	|	0.02
24.250	0.00	0.00	0.001	O	|	|	|	0.02
24.333	0.00	0.00	0.001	O	|	|	|	0.02
24.417	0.00	0.00	0.001	O	|	|	|	0.02
24.500	0.00	0.00	0.001	O	|	|	|	0.02
24.583	0.00	0.00	0.001	O	|	|	|	0.02
24.667	0.00	0.00	0.001	O	|	|	|	0.02
24.750	0.00	0.00	0.001	O	|	|	|	0.02
24.833	0.00	0.00	0.001	O	|	|	|	0.02
24.917	0.00	0.00	0.001	O	|	|	|	0.02
25.000	0.00	0.00	0.001	O	|	|	|	0.02
25.083	0.00	0.00	0.001	O	|	|	|	0.02
25.167	0.00	0.00	0.001	O	|	|	|	0.02
25.250	0.00	0.00	0.001	O	|	|	|	0.02
25.333	0.00	0.00	0.001	O	|	|	|	0.02
25.417	0.00	0.00	0.001	O	|	|	|	0.02
25.500	0.00	0.00	0.001	O	|	|	|	0.02
25.583	0.00	0.00	0.001	O	|	|	|	0.02
25.667	0.00	0.00	0.001	O	|	|	|	0.02
25.750	0.00	0.00	0.001	O	|	|	|	0.02
25.833	0.00	0.00	0.001	O	|	|	|	0.02
25.917	0.00	0.00	0.001	O	|	|	|	0.02
26.000	0.00	0.00	0.001	O	|	|	|	0.02
26.083	0.00	0.00	0.001	O	|	|	|	0.02
26.167	0.00	0.00	0.001	O	|	|	|	0.02
26.250	0.00	0.00	0.001	O	|	|	|	0.02
26.333	0.00	0.00	0.001	O	|	|	|	0.02
26.417	0.00	0.00	0.001	O	|	|	|	0.02
26.500	0.00	0.00	0.001	O	|	|	|	0.01
26.583	0.00	0.00	0.001	O	|	|	|	0.01
26.667	0.00	0.00	0.001	O	|	|	|	0.01
26.750	0.00	0.00	0.001	O	|	|	|	0.01
26.833	0.00	0.00	0.001	O	|	|	|	0.01
26.917	0.00	0.00	0.001	O	|	|	|	0.01
27.000	0.00	0.00	0.001	O	|	|	|	0.01
27.083	0.00	0.00	0.001	O	|	|	|	0.01
27.167	0.00	0.00	0.001	O	|	|	|	0.01

27.250	0.00	0.00	0.001	O	|	|	|	|	0.01
27.333	0.00	0.00	0.001	O	|	|	|	|	0.01
27.417	0.00	0.00	0.001	O	|	|	|	|	0.01
27.500	0.00	0.00	0.000	O	|	|	|	|	0.01
27.583	0.00	0.00	0.000	O	|	|	|	|	0.01
27.667	0.00	0.00	0.000	O	|	|	|	|	0.01
27.750	0.00	0.00	0.000	O	|	|	|	|	0.01
27.833	0.00	0.00	0.000	O	|	|	|	|	0.01
27.917	0.00	0.00	0.000	O	|	|	|	|	0.01
28.000	0.00	0.00	0.000	O	|	|	|	|	0.01
28.083	0.00	0.00	0.000	O	|	|	|	|	0.01
28.167	0.00	0.00	0.000	O	|	|	|	|	0.01
28.250	0.00	0.00	0.000	O	|	|	|	|	0.01
28.333	0.00	0.00	0.000	O	|	|	|	|	0.01
28.417	0.00	0.00	0.000	O	|	|	|	|	0.01
28.500	0.00	0.00	0.000	O	|	|	|	|	0.01
28.583	0.00	0.00	0.000	O	|	|	|	|	0.01

**********HYDROGRAPH DATA**********

Number of intervals = 343
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.833 (CFS)
Total volume = 0.734 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 09/22/22

Desert Hot Springs
Basin Routing
100 yr
6 hr

Program License Serial Number 6481

********** HYDROGRAPH INFORMATION **********

From study/file name: 183postuh6100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 74
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 7.746 (CFS)
Total volume = 0.932 (Ac.Ft)
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 201.000 to Point/Station 202.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 74
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.041	0.102	0.041	0.041
1.330	0.066	0.974	0.063	0.069
1.670	0.090	1.833	0.084	0.096
2.000	0.114	1.833	0.108	0.120
3.000	0.186	1.833	0.180	0.192
4.000	0.258	1.833	0.252	0.264
5.000	0.330	1.833	0.324	0.336
6.000	0.403	1.833	0.397	0.409
7.000	0.444	1.833	0.438	0.450

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 1.9 3.87 5.81 7.75	Depth (Ft.)
0.083	0.38	0.00	0.001	OI | | | |	0.03
0.167	0.69	0.01	0.005	O I | | | |	0.12
0.250	0.77	0.02	0.010	O I | | | |	0.24
0.333	0.77	0.04	0.015	O I | | | |	0.36
0.417	0.77	0.05	0.020	O I | | | |	0.49
0.500	0.85	0.06	0.025	O I | | | |	0.61
0.583	0.89	0.08	0.031	O I | | | |	0.75
0.667	0.90	0.09	0.036	O I | | | |	0.88
0.750	0.90	0.13	0.042	O I | | | |	1.01
0.833	0.90	0.29	0.046	|O I | | |	1.07
0.917	0.90	0.42	0.050	|O I | | |	1.12
1.000	0.97	0.53	0.053	| O I | | |	1.16
1.083	1.02	0.63	0.056	| O I | | |	1.20
1.167	1.03	0.72	0.059	| O I | | |	1.23
1.250	1.03	0.78	0.061	| OI | | |	1.26
1.333	1.03	0.84	0.062	| OI | | |	1.28
1.417	1.03	0.88	0.063	| OI | | |	1.29
1.500	1.03	0.91	0.064	| OI | | |	1.31
1.583	1.03	0.93	0.065	| OI | | |	1.31
1.667	1.03	0.95	0.065	| OI | | |	1.32
1.750	1.03	0.97	0.066	| O | | |	1.33
1.833	1.03	0.98	0.066	| O | | |	1.33
1.917	1.03	0.99	0.066	| O | | |	1.34
2.000	1.10	1.01	0.067	| O | | |	1.34
2.083	1.07	1.03	0.067	| O | | |	1.35
2.167	1.11	1.04	0.068	| O | | |	1.36

2.250	1.15	1.06	0.068	| O |	|	|	|	1.36
2.333	1.16	1.08	0.069	| O |	|	|	|	1.37
2.417	1.16	1.10	0.069	| O |	|	|	|	1.38
2.500	1.16	1.11	0.070	| O |	|	|	|	1.38
2.583	1.16	1.12	0.070	| O |	|	|	|	1.39
2.667	1.16	1.13	0.070	| O |	|	|	|	1.39
2.750	1.23	1.14	0.071	| OI |	|	|	|	1.40
2.833	1.28	1.17	0.071	| OI |	|	|	|	1.41
2.917	1.28	1.19	0.072	| OI |	|	|	|	1.42
3.000	1.28	1.21	0.073	| O |	|	|	|	1.42
3.083	1.28	1.23	0.073	| O |	|	|	|	1.43
3.167	1.36	1.25	0.074	| O |	|	|	|	1.44
3.250	1.41	1.28	0.074	| O |	|	|	|	1.45
3.333	1.41	1.31	0.075	| O |	|	|	|	1.46
3.417	1.49	1.34	0.076	| OI |	|	|	|	1.47
3.500	1.61	1.38	0.077	| OI |	|	|	|	1.49
3.583	1.74	1.45	0.079	| O I|	|	|	|	1.52
3.667	1.79	1.52	0.081	| OI|	|	|	|	1.55
3.750	1.87	1.59	0.083	| OI|	|	|	|	1.57
3.833	1.92	1.66	0.085	| OI|	|	|	|	1.60
3.917	2.02	1.72	0.087	| OI	|	|	|	1.63
4.000	2.08	1.80	0.089	| OI	|	|	|	1.66
4.083	2.18	1.83	0.091	| OI	|	|	|	1.69
4.167	2.33	1.83	0.094	| O|I	|	|	|	1.73
4.250	2.48	1.83	0.098	| O| I	|	|	|	1.78
4.333	2.64	1.83	0.103	| O| I	|	|	|	1.85
4.417	2.80	1.83	0.109	| O| I	|	|	|	1.93
4.500	2.86	1.83	0.116	| O| I	|	|	|	2.03
4.583	2.96	1.83	0.123	| O| I	|	|	|	2.13
4.667	3.11	1.83	0.132	| O| I	|	|	|	2.24
4.750	3.27	1.83	0.141	| O| I	|	|	|	2.37
4.833	3.33	1.83	0.151	| O| I	|	|	|	2.51
4.917	3.43	1.83	0.162	| O| I	|	|	|	2.66
5.000	3.58	1.83	0.173	| O| I	|	|	|	2.82
5.083	4.11	1.83	0.187	| O| I	|	|	|	3.01
5.167	4.87	1.83	0.205	| O| I	|	|	|	3.27
5.250	5.46	1.83	0.228	| O| I	|	|	|	3.59
5.333	5.95	1.83	0.255	| O| I	|	|	|	3.96
5.417	6.60	1.83	0.286	| O| I	|	|	|	4.38
5.500	7.75	1.83	0.322	| O| I	|	|	|	4.89
5.583	4.84	1.83	0.353	| O| I	|	|	|	5.32
5.667	1.94	1.83	0.364	| OI	|	|	|	5.46
5.750	0.98	1.83	0.361	| I O|	|	|	|	5.43
5.833	0.71	1.83	0.354	| I O|	|	|	|	5.33
5.917	0.49	1.83	0.346	| I O|	|	|	|	5.22
6.000	0.32	1.83	0.336	|I O|	|	|	|	5.08
6.083	0.11	1.83	0.325	I O|	|	|	|	4.93
6.167	0.01	1.83	0.313	I O|	|	|	|	4.76
6.250	0.00	1.83	0.300	I O|	|	|	|	4.58
6.333	0.00	1.83	0.287	I O|	|	|	|	4.41

6.417	0.00	1.83	0.275	I O				4.23
6.500	0.00	1.83	0.262	I O				4.06
6.583	0.00	1.83	0.250	I O				3.88
6.667	0.00	1.83	0.237	I O				3.71
6.750	0.00	1.83	0.224	I O				3.53
6.833	0.00	1.83	0.212	I O				3.36
6.917	0.00	1.83	0.199	I O				3.18
7.000	0.00	1.83	0.186	I O				3.01
7.083	0.00	1.83	0.174	I O				2.83
7.167	0.00	1.83	0.161	I O				2.66
7.250	0.00	1.83	0.149	I O				2.48
7.333	0.00	1.83	0.136	I O				2.31
7.417	0.00	1.83	0.123	I O				2.13
7.500	0.00	1.83	0.111	I O				1.95
7.583	0.00	1.83	0.098	I O				1.78
7.667	0.00	1.69	0.086	I O				1.61
7.750	0.00	1.32	0.076	I O				1.47
7.833	0.00	1.03	0.068	I O				1.35
7.917	0.00	0.81	0.061	I O				1.27
8.000	0.00	0.63	0.056	I O				1.20
8.083	0.00	0.50	0.052	I O				1.15
8.167	0.00	0.39	0.049	IO				1.11
8.250	0.00	0.31	0.047	IO				1.08
8.333	0.00	0.24	0.045	O				1.05
8.417	0.00	0.19	0.044	O				1.03
8.500	0.00	0.15	0.042	O				1.02
8.583	0.00	0.12	0.041	O				1.01
8.667	0.00	0.10	0.041	O				0.99
8.750	0.00	0.10	0.040	O				0.98
8.833	0.00	0.10	0.039	O				0.96
8.917	0.00	0.10	0.039	O				0.94
9.000	0.00	0.09	0.038	O				0.93
9.083	0.00	0.09	0.037	O				0.91
9.167	0.00	0.09	0.037	O				0.90
9.250	0.00	0.09	0.036	O				0.88
9.333	0.00	0.09	0.035	O				0.87
9.417	0.00	0.09	0.035	O				0.85
9.500	0.00	0.09	0.034	O				0.84
9.583	0.00	0.08	0.034	O				0.82
9.667	0.00	0.08	0.033	O				0.81
9.750	0.00	0.08	0.033	O				0.79
9.833	0.00	0.08	0.032	O				0.78
9.917	0.00	0.08	0.031	O				0.77
10.000	0.00	0.08	0.031	O				0.75
10.083	0.00	0.08	0.030	O				0.74
10.167	0.00	0.07	0.030	O				0.73
10.250	0.00	0.07	0.029	O				0.72
10.333	0.00	0.07	0.029	O				0.70
10.417	0.00	0.07	0.028	O				0.69
10.500	0.00	0.07	0.028	O				0.68

10.583	0.00	0.07	0.027	O	|	|	|	0.67
10.667	0.00	0.07	0.027	O	|	|	|	0.66
10.750	0.00	0.07	0.027	O	|	|	|	0.65
10.833	0.00	0.06	0.026	O	|	|	|	0.64
10.917	0.00	0.06	0.026	O	|	|	|	0.62
11.000	0.00	0.06	0.025	O	|	|	|	0.61
11.083	0.00	0.06	0.025	O	|	|	|	0.60
11.167	0.00	0.06	0.024	O	|	|	|	0.59
11.250	0.00	0.06	0.024	O	|	|	|	0.58
11.333	0.00	0.06	0.024	O	|	|	|	0.57
11.417	0.00	0.06	0.023	O	|	|	|	0.56
11.500	0.00	0.06	0.023	O	|	|	|	0.55
11.583	0.00	0.06	0.022	O	|	|	|	0.54
11.667	0.00	0.05	0.022	O	|	|	|	0.54
11.750	0.00	0.05	0.022	O	|	|	|	0.53
11.833	0.00	0.05	0.021	O	|	|	|	0.52
11.917	0.00	0.05	0.021	O	|	|	|	0.51
12.000	0.00	0.05	0.020	O	|	|	|	0.50
12.083	0.00	0.05	0.020	O	|	|	|	0.49
12.167	0.00	0.05	0.020	O	|	|	|	0.48
12.250	0.00	0.05	0.019	O	|	|	|	0.47
12.333	0.00	0.05	0.019	O	|	|	|	0.47
12.417	0.00	0.05	0.019	O	|	|	|	0.46
12.500	0.00	0.05	0.018	O	|	|	|	0.45
12.583	0.00	0.05	0.018	O	|	|	|	0.44
12.667	0.00	0.04	0.018	O	|	|	|	0.44
12.750	0.00	0.04	0.018	O	|	|	|	0.43
12.833	0.00	0.04	0.017	O	|	|	|	0.42
12.917	0.00	0.04	0.017	O	|	|	|	0.41
13.000	0.00	0.04	0.017	O	|	|	|	0.41
13.083	0.00	0.04	0.016	O	|	|	|	0.40
13.167	0.00	0.04	0.016	O	|	|	|	0.39
13.250	0.00	0.04	0.016	O	|	|	|	0.39
13.333	0.00	0.04	0.016	O	|	|	|	0.38
13.417	0.00	0.04	0.015	O	|	|	|	0.37
13.500	0.00	0.04	0.015	O	|	|	|	0.37
13.583	0.00	0.04	0.015	O	|	|	|	0.36
13.667	0.00	0.04	0.015	O	|	|	|	0.35
13.750	0.00	0.04	0.014	O	|	|	|	0.35
13.833	0.00	0.03	0.014	O	|	|	|	0.34
13.917	0.00	0.03	0.014	O	|	|	|	0.34
14.000	0.00	0.03	0.014	O	|	|	|	0.33
14.083	0.00	0.03	0.013	O	|	|	|	0.33
14.167	0.00	0.03	0.013	O	|	|	|	0.32
14.250	0.00	0.03	0.013	O	|	|	|	0.31
14.333	0.00	0.03	0.013	O	|	|	|	0.31
14.417	0.00	0.03	0.012	O	|	|	|	0.30
14.500	0.00	0.03	0.012	O	|	|	|	0.30
14.583	0.00	0.03	0.012	O	|	|	|	0.29
14.667	0.00	0.03	0.012	O	|	|	|	0.29

14.750	0.00	0.03	0.012	O	|	|	|	0.28
14.833	0.00	0.03	0.011	O	|	|	|	0.28
14.917	0.00	0.03	0.011	O	|	|	|	0.27
15.000	0.00	0.03	0.011	O	|	|	|	0.27
15.083	0.00	0.03	0.011	O	|	|	|	0.27
15.167	0.00	0.03	0.011	O	|	|	|	0.26
15.250	0.00	0.03	0.011	O	|	|	|	0.26
15.333	0.00	0.03	0.010	O	|	|	|	0.25
15.417	0.00	0.03	0.010	O	|	|	|	0.25
15.500	0.00	0.02	0.010	O	|	|	|	0.24
15.583	0.00	0.02	0.010	O	|	|	|	0.24
15.667	0.00	0.02	0.010	O	|	|	|	0.24
15.750	0.00	0.02	0.009	O	|	|	|	0.23
15.833	0.00	0.02	0.009	O	|	|	|	0.23
15.917	0.00	0.02	0.009	O	|	|	|	0.22
16.000	0.00	0.02	0.009	O	|	|	|	0.22
16.083	0.00	0.02	0.009	O	|	|	|	0.22
16.167	0.00	0.02	0.009	O	|	|	|	0.21
16.250	0.00	0.02	0.009	O	|	|	|	0.21
16.333	0.00	0.02	0.008	O	|	|	|	0.21
16.417	0.00	0.02	0.008	O	|	|	|	0.20
16.500	0.00	0.02	0.008	O	|	|	|	0.20
16.583	0.00	0.02	0.008	O	|	|	|	0.19
16.667	0.00	0.02	0.008	O	|	|	|	0.19
16.750	0.00	0.02	0.008	O	|	|	|	0.19
16.833	0.00	0.02	0.008	O	|	|	|	0.19
16.917	0.00	0.02	0.007	O	|	|	|	0.18
17.000	0.00	0.02	0.007	O	|	|	|	0.18
17.083	0.00	0.02	0.007	O	|	|	|	0.18
17.167	0.00	0.02	0.007	O	|	|	|	0.17
17.250	0.00	0.02	0.007	O	|	|	|	0.17
17.333	0.00	0.02	0.007	O	|	|	|	0.17
17.417	0.00	0.02	0.007	O	|	|	|	0.16
17.500	0.00	0.02	0.007	O	|	|	|	0.16
17.583	0.00	0.02	0.007	O	|	|	|	0.16
17.667	0.00	0.02	0.006	O	|	|	|	0.16
17.750	0.00	0.02	0.006	O	|	|	|	0.15
17.833	0.00	0.02	0.006	O	|	|	|	0.15
17.917	0.00	0.02	0.006	O	|	|	|	0.15
18.000	0.00	0.01	0.006	O	|	|	|	0.15
18.083	0.00	0.01	0.006	O	|	|	|	0.14
18.167	0.00	0.01	0.006	O	|	|	|	0.14
18.250	0.00	0.01	0.006	O	|	|	|	0.14
18.333	0.00	0.01	0.006	O	|	|	|	0.14
18.417	0.00	0.01	0.005	O	|	|	|	0.13
18.500	0.00	0.01	0.005	O	|	|	|	0.13
18.583	0.00	0.01	0.005	O	|	|	|	0.13
18.667	0.00	0.01	0.005	O	|	|	|	0.13
18.750	0.00	0.01	0.005	O	|	|	|	0.12
18.833	0.00	0.01	0.005	O	|	|	|	0.12

18.917	0.00	0.01	0.005	O	|	|	|	0.12
19.000	0.00	0.01	0.005	O	|	|	|	0.12
19.083	0.00	0.01	0.005	O	|	|	|	0.12
19.167	0.00	0.01	0.005	O	|	|	|	0.11
19.250	0.00	0.01	0.005	O	|	|	|	0.11
19.333	0.00	0.01	0.005	O	|	|	|	0.11
19.417	0.00	0.01	0.004	O	|	|	|	0.11
19.500	0.00	0.01	0.004	O	|	|	|	0.11
19.583	0.00	0.01	0.004	O	|	|	|	0.11
19.667	0.00	0.01	0.004	O	|	|	|	0.10
19.750	0.00	0.01	0.004	O	|	|	|	0.10
19.833	0.00	0.01	0.004	O	|	|	|	0.10
19.917	0.00	0.01	0.004	O	|	|	|	0.10
20.000	0.00	0.01	0.004	O	|	|	|	0.10
20.083	0.00	0.01	0.004	O	|	|	|	0.09
20.167	0.00	0.01	0.004	O	|	|	|	0.09
20.250	0.00	0.01	0.004	O	|	|	|	0.09
20.333	0.00	0.01	0.004	O	|	|	|	0.09
20.417	0.00	0.01	0.004	O	|	|	|	0.09
20.500	0.00	0.01	0.004	O	|	|	|	0.09
20.583	0.00	0.01	0.004	O	|	|	|	0.09
20.667	0.00	0.01	0.003	O	|	|	|	0.08
20.750	0.00	0.01	0.003	O	|	|	|	0.08
20.833	0.00	0.01	0.003	O	|	|	|	0.08
20.917	0.00	0.01	0.003	O	|	|	|	0.08
21.000	0.00	0.01	0.003	O	|	|	|	0.08
21.083	0.00	0.01	0.003	O	|	|	|	0.08
21.167	0.00	0.01	0.003	O	|	|	|	0.08
21.250	0.00	0.01	0.003	O	|	|	|	0.07
21.333	0.00	0.01	0.003	O	|	|	|	0.07
21.417	0.00	0.01	0.003	O	|	|	|	0.07
21.500	0.00	0.01	0.003	O	|	|	|	0.07
21.583	0.00	0.01	0.003	O	|	|	|	0.07
21.667	0.00	0.01	0.003	O	|	|	|	0.07
21.750	0.00	0.01	0.003	O	|	|	|	0.07
21.833	0.00	0.01	0.003	O	|	|	|	0.07
21.917	0.00	0.01	0.003	O	|	|	|	0.07
22.000	0.00	0.01	0.003	O	|	|	|	0.06
22.083	0.00	0.01	0.003	O	|	|	|	0.06
22.167	0.00	0.01	0.003	O	|	|	|	0.06
22.250	0.00	0.01	0.002	O	|	|	|	0.06
22.333	0.00	0.01	0.002	O	|	|	|	0.06
22.417	0.00	0.01	0.002	O	|	|	|	0.06
22.500	0.00	0.01	0.002	O	|	|	|	0.06
22.583	0.00	0.01	0.002	O	|	|	|	0.06
22.667	0.00	0.01	0.002	O	|	|	|	0.06
22.750	0.00	0.01	0.002	O	|	|	|	0.05
22.833	0.00	0.01	0.002	O	|	|	|	0.05
22.917	0.00	0.01	0.002	O	|	|	|	0.05
23.000	0.00	0.01	0.002	O	|	|	|	0.05

23.083	0.00	0.01	0.002	O	|	|	|	0.05
23.167	0.00	0.01	0.002	O	|	|	|	0.05
23.250	0.00	0.01	0.002	O	|	|	|	0.05
23.333	0.00	0.00	0.002	O	|	|	|	0.05
23.417	0.00	0.00	0.002	O	|	|	|	0.05
23.500	0.00	0.00	0.002	O	|	|	|	0.05
23.583	0.00	0.00	0.002	O	|	|	|	0.05
23.667	0.00	0.00	0.002	O	|	|	|	0.05
23.750	0.00	0.00	0.002	O	|	|	|	0.04
23.833	0.00	0.00	0.002	O	|	|	|	0.04
23.917	0.00	0.00	0.002	O	|	|	|	0.04
24.000	0.00	0.00	0.002	O	|	|	|	0.04
24.083	0.00	0.00	0.002	O	|	|	|	0.04
24.167	0.00	0.00	0.002	O	|	|	|	0.04
24.250	0.00	0.00	0.002	O	|	|	|	0.04
24.333	0.00	0.00	0.002	O	|	|	|	0.04
24.417	0.00	0.00	0.002	O	|	|	|	0.04
24.500	0.00	0.00	0.002	O	|	|	|	0.04
24.583	0.00	0.00	0.002	O	|	|	|	0.04
24.667	0.00	0.00	0.002	O	|	|	|	0.04
24.750	0.00	0.00	0.001	O	|	|	|	0.04
24.833	0.00	0.00	0.001	O	|	|	|	0.04
24.917	0.00	0.00	0.001	O	|	|	|	0.04
25.000	0.00	0.00	0.001	O	|	|	|	0.03
25.083	0.00	0.00	0.001	O	|	|	|	0.03
25.167	0.00	0.00	0.001	O	|	|	|	0.03
25.250	0.00	0.00	0.001	O	|	|	|	0.03
25.333	0.00	0.00	0.001	O	|	|	|	0.03
25.417	0.00	0.00	0.001	O	|	|	|	0.03
25.500	0.00	0.00	0.001	O	|	|	|	0.03
25.583	0.00	0.00	0.001	O	|	|	|	0.03
25.667	0.00	0.00	0.001	O	|	|	|	0.03
25.750	0.00	0.00	0.001	O	|	|	|	0.03
25.833	0.00	0.00	0.001	O	|	|	|	0.03
25.917	0.00	0.00	0.001	O	|	|	|	0.03
26.000	0.00	0.00	0.001	O	|	|	|	0.03
26.083	0.00	0.00	0.001	O	|	|	|	0.03
26.167	0.00	0.00	0.001	O	|	|	|	0.03
26.250	0.00	0.00	0.001	O	|	|	|	0.03
26.333	0.00	0.00	0.001	O	|	|	|	0.03
26.417	0.00	0.00	0.001	O	|	|	|	0.03
26.500	0.00	0.00	0.001	O	|	|	|	0.03
26.583	0.00	0.00	0.001	O	|	|	|	0.02
26.667	0.00	0.00	0.001	O	|	|	|	0.02
26.750	0.00	0.00	0.001	O	|	|	|	0.02
26.833	0.00	0.00	0.001	O	|	|	|	0.02
26.917	0.00	0.00	0.001	O	|	|	|	0.02
27.000	0.00	0.00	0.001	O	|	|	|	0.02
27.083	0.00	0.00	0.001	O	|	|	|	0.02
27.167	0.00	0.00	0.001	O	|	|	|	0.02

27.250	0.00	0.00	0.001	O	|	|	|	0.02
27.333	0.00	0.00	0.001	O	|	|	|	0.02
27.417	0.00	0.00	0.001	O	|	|	|	0.02
27.500	0.00	0.00	0.001	O	|	|	|	0.02
27.583	0.00	0.00	0.001	O	|	|	|	0.02
27.667	0.00	0.00	0.001	O	|	|	|	0.02
27.750	0.00	0.00	0.001	O	|	|	|	0.02
27.833	0.00	0.00	0.001	O	|	|	|	0.02
27.917	0.00	0.00	0.001	O	|	|	|	0.02
28.000	0.00	0.00	0.001	O	|	|	|	0.02
28.083	0.00	0.00	0.001	O	|	|	|	0.02
28.167	0.00	0.00	0.001	O	|	|	|	0.02
28.250	0.00	0.00	0.001	O	|	|	|	0.02
28.333	0.00	0.00	0.001	O	|	|	|	0.02
28.417	0.00	0.00	0.001	O	|	|	|	0.02
28.500	0.00	0.00	0.001	O	|	|	|	0.02
28.583	0.00	0.00	0.001	O	|	|	|	0.02
28.667	0.00	0.00	0.001	O	|	|	|	0.02
28.750	0.00	0.00	0.001	O	|	|	|	0.02
28.833	0.00	0.00	0.001	O	|	|	|	0.02
28.917	0.00	0.00	0.001	O	|	|	|	0.02
29.000	0.00	0.00	0.001	O	|	|	|	0.02
29.083	0.00	0.00	0.001	O	|	|	|	0.01
29.167	0.00	0.00	0.001	O	|	|	|	0.01
29.250	0.00	0.00	0.001	O	|	|	|	0.01
29.333	0.00	0.00	0.001	O	|	|	|	0.01
29.417	0.00	0.00	0.001	O	|	|	|	0.01
29.500	0.00	0.00	0.001	O	|	|	|	0.01
29.583	0.00	0.00	0.001	O	|	|	|	0.01
29.667	0.00	0.00	0.001	O	|	|	|	0.01
29.750	0.00	0.00	0.001	O	|	|	|	0.01
29.833	0.00	0.00	0.001	O	|	|	|	0.01
29.917	0.00	0.00	0.001	O	|	|	|	0.01
30.000	0.00	0.00	0.001	O	|	|	|	0.01
30.083	0.00	0.00	0.000	O	|	|	|	0.01
30.167	0.00	0.00	0.000	O	|	|	|	0.01
30.250	0.00	0.00	0.000	O	|	|	|	0.01
30.333	0.00	0.00	0.000	O	|	|	|	0.01
30.417	0.00	0.00	0.000	O	|	|	|	0.01
30.500	0.00	0.00	0.000	O	|	|	|	0.01
30.583	0.00	0.00	0.000	O	|	|	|	0.01
30.667	0.00	0.00	0.000	O	|	|	|	0.01
30.750	0.00	0.00	0.000	O	|	|	|	0.01
30.833	0.00	0.00	0.000	O	|	|	|	0.01
30.917	0.00	0.00	0.000	O	|	|	|	0.01
31.000	0.00	0.00	0.000	O	|	|	|	0.01
31.083	0.00	0.00	0.000	O	|	|	|	0.01
31.167	0.00	0.00	0.000	O	|	|	|	0.01

**********HYDROGRAPH DATA**********

```
                Number of intervals =   374
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        1.833 (CFS)
                Total volume =       0.932 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
****************************************************************************

----------------------------------------------------------------------
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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 09/22/22

Desert Hot Springs
Basin Routing
100 yr
24 hr

Program License Serial Number 6481

********** HYDROGRAPH INFORMATION **********

From study/file name: 183postuh24100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 290
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.581 (CFS)
Total volume = 1.483 (Ac.Ft)
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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Process from Point/Station 201.000 to Point/Station 202.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 290
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.041	0.102	0.041	0.041
1.330	0.066	0.974	0.063	0.069
1.670	0.090	1.833	0.084	0.096
2.000	0.114	1.833	0.108	0.120
3.000	0.186	1.833	0.180	0.192
4.000	0.258	1.833	0.252	0.264
5.000	0.330	1.833	0.324	0.336
6.000	0.403	1.833	0.397	0.409
7.000	0.444	1.833	0.438	0.450

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 0.6 1.29 1.94 2.58	Depth (Ft.)
0.083	0.08	0.00	0.000	OI	0.01
0.167	0.14	0.00	0.001	OI	0.03
0.250	0.14	0.00	0.002	OI	0.05
0.333	0.18	0.01	0.003	O I	0.07
0.417	0.21	0.01	0.004	O I	0.11
0.500	0.21	0.01	0.006	O I	0.14
0.583	0.21	0.02	0.007	O I	0.17
0.667	0.21	0.02	0.008	O I	0.21
0.750	0.21	0.02	0.010	O I	0.24
0.833	0.26	0.03	0.011	O I	0.27
0.917	0.28	0.03	0.013	O I	0.31
1.000	0.28	0.04	0.015	O I	0.35
1.083	0.24	0.04	0.016	O I	0.39
1.167	0.22	0.04	0.017	O I	0.42
1.250	0.21	0.05	0.019	O I	0.45
1.333	0.21	0.05	0.020	O I	0.48
1.417	0.21	0.05	0.021	O I	0.51
1.500	0.21	0.05	0.022	O I	0.53
1.583	0.21	0.06	0.023	O I	0.56
1.667	0.21	0.06	0.024	O I	0.59
1.750	0.21	0.06	0.025	O I	0.61
1.833	0.26	0.07	0.026	O I	0.64
1.917	0.28	0.07	0.028	O I	0.67
2.000	0.28	0.07	0.029	O I	0.71
2.083	0.28	0.08	0.031	O I	0.74
2.167	0.28	0.08	0.032	O I	0.78

2.250	0.28	0.08	0.033	O I				0.81
2.333	0.28	0.09	0.035	O I				0.85
2.417	0.28	0.09	0.036	O I				0.88
2.500	0.28	0.09	0.037	O I				0.91
2.583	0.33	0.10	0.039	O I				0.95
2.667	0.35	0.10	0.040	O I				0.99
2.750	0.35	0.14	0.042	O I				1.01
2.833	0.35	0.19	0.043	O I				1.03
2.917	0.35	0.22	0.044	O I				1.05
3.000	0.35	0.25	0.045	OI				1.06
3.083	0.35	0.27	0.046	OI				1.06
3.167	0.35	0.29	0.046	OI				1.07
3.250	0.35	0.30	0.047	OI				1.08
3.333	0.35	0.32	0.047	OI				1.08
3.417	0.35	0.32	0.047	O				1.08
3.500	0.35	0.33	0.048	O				1.09
3.583	0.35	0.34	0.048	O				1.09
3.667	0.35	0.34	0.048	O				1.09
3.750	0.35	0.34	0.048	O				1.09
3.833	0.40	0.35	0.048	O				1.09
3.917	0.42	0.36	0.048	OI				1.10
4.000	0.43	0.38	0.049	OI				1.10
4.083	0.43	0.39	0.049	OI				1.11
4.167	0.43	0.40	0.049	OI				1.11
4.250	0.43	0.40	0.050	OI				1.11
4.333	0.47	0.41	0.050	O				1.12
4.417	0.49	0.43	0.050	OI				1.12
4.500	0.50	0.44	0.051	OI				1.13
4.583	0.50	0.45	0.051	OI				1.13
4.667	0.50	0.46	0.051	OI				1.14
4.750	0.50	0.47	0.052	OI				1.14
4.833	0.54	0.48	0.052	OI				1.14
4.917	0.56	0.50	0.052	OI				1.15
5.000	0.57	0.51	0.053	OI				1.15
5.083	0.48	0.51	0.053	IO				1.16
5.167	0.43	0.50	0.052	IO				1.15
5.250	0.43	0.49	0.052	IO				1.15
5.333	0.47	0.48	0.052	O				1.14
5.417	0.49	0.48	0.052	OI				1.14
5.500	0.50	0.48	0.052	OI				1.14
5.583	0.54	0.49	0.052	O				1.15
5.667	0.56	0.50	0.052	OI				1.15
5.750	0.57	0.52	0.053	OI				1.16
5.833	0.57	0.53	0.053	OI				1.16
5.917	0.57	0.54	0.053	OI				1.16
6.000	0.57	0.54	0.054	OI				1.17
6.083	0.61	0.55	0.054	OI				1.17
6.167	0.64	0.57	0.054	O				1.18
6.250	0.64	0.58	0.055	O				1.18
6.333	0.64	0.59	0.055	O				1.19

6.417	0.64	0.60	0.055	|	O|	|	|	1.19
6.500	0.64	0.61	0.056	|	O|	|	|	1.19
6.583	0.68	0.62	0.056	|	OI	|	|	1.20
6.667	0.71	0.64	0.056	|	OI	|	|	1.20
6.750	0.71	0.65	0.057	|	O	|	|	1.21
6.833	0.71	0.66	0.057	|	O	|	|	1.21
6.917	0.71	0.67	0.057	|	O	|	|	1.22
7.000	0.71	0.68	0.058	|	O	|	|	1.22
7.083	0.71	0.69	0.058	|	O	|	|	1.22
7.167	0.71	0.69	0.058	|	O	|	|	1.22
7.250	0.71	0.70	0.058	|	O	|	|	1.22
7.333	0.75	0.70	0.058	|	OI	|	|	1.23
7.417	0.78	0.72	0.059	|	OI	|	|	1.23
7.500	0.78	0.73	0.059	|	|O	|	|	1.24
7.583	0.82	0.75	0.059	|	|OI	|	|	1.24
7.667	0.85	0.76	0.060	|	|OI	|	|	1.25
7.750	0.85	0.78	0.061	|	|OI	|	|	1.26
7.833	0.89	0.80	0.061	|	|O I	|	|	1.26
7.917	0.92	0.82	0.062	|	| OI	|	|	1.27
8.000	0.92	0.85	0.062	|	| OI	|	|	1.28
8.083	1.01	0.87	0.063	|	| O I	|	|	1.29
8.167	1.06	0.91	0.064	|	| O I	|	|	1.30
8.250	1.06	0.94	0.065	|	| O I	|	|	1.32
8.333	1.06	0.97	0.066	|	| O I	|	|	1.33
8.417	1.06	0.99	0.066	|	| OI	|	|	1.34
8.500	1.06	1.00	0.067	|	| OI	|	|	1.34
8.583	1.11	1.02	0.067	|	| OI	|	|	1.35
8.667	1.13	1.04	0.068	|	| O I	|	|	1.36
8.750	1.14	1.06	0.068	|	| OI	|	|	1.37
8.833	1.18	1.08	0.069	|	| OI	|	|	1.37
8.917	1.20	1.11	0.070	|	| OI	|	|	1.38
9.000	1.21	1.13	0.070	|	| OI	|	|	1.39
9.083	1.29	1.15	0.071	|	| O I	|	|	1.40
9.167	1.34	1.19	0.072	|	| O I	|	|	1.42
9.250	1.35	1.22	0.073	|	| OI	|	|	1.43
9.333	1.39	1.26	0.074	|	| O|I	|	|	1.44
9.417	1.42	1.29	0.075	|	| O|I	|	|	1.45
9.500	1.42	1.32	0.076	|	| OI	|	|	1.47
9.583	1.46	1.34	0.076	|	| O I	|	|	1.48
9.667	1.49	1.37	0.077	|	| |OI	|	|	1.49
9.750	1.49	1.40	0.078	|	| |OI	|	|	1.50
9.833	1.53	1.42	0.079	|	| |OI	|	|	1.51
9.917	1.56	1.45	0.079	|	| |O I	|	|	1.52
10.000	1.56	1.47	0.080	|	| | OI	|	|	1.53
10.083	1.26	1.46	0.080	|	| I| O	|	|	1.52
10.167	1.08	1.40	0.078	|	| I |O	|	|	1.50
10.250	1.06	1.33	0.076	|	| I O	|	|	1.47
10.333	1.06	1.27	0.074	|	| I O|	|	|	1.45
10.417	1.06	1.22	0.073	|	| I O|	|	|	1.43
10.500	1.06	1.19	0.072	|	| IO |	|	|	1.42

10.583	1.28	1.18	0.072	|	|	OI|	|	1.41
10.667	1.41	1.22	0.073	|	|	O|I	|	1.43
10.750	1.42	1.26	0.074	|	|	O|I	|	1.44
10.833	1.42	1.30	0.075	|	|	OI	|	1.46
10.917	1.42	1.32	0.076	|	|	OI	|	1.47
11.000	1.42	1.34	0.076	|	|	OI	|	1.48
11.083	1.38	1.36	0.077	|	|	OI	|	1.48
11.167	1.35	1.36	0.077	|	|	O	|	1.48
11.250	1.35	1.36	0.077	|	|	O	|	1.48
11.333	1.35	1.35	0.077	|	|	O	|	1.48
11.417	1.35	1.35	0.077	|	|	O	|	1.48
11.500	1.35	1.35	0.077	|	|	O	|	1.48
11.583	1.26	1.34	0.076	|	|	IO	|	1.48
11.667	1.21	1.32	0.076	|	|	IO	|	1.47
11.750	1.21	1.29	0.075	|	|	I O	|	1.46
11.833	1.25	1.28	0.075	|	|	O|	|	1.45
11.917	1.27	1.28	0.074	|	|	O|	|	1.45
12.000	1.28	1.28	0.074	|	|	O|	|	1.45
12.083	1.57	1.31	0.075	|	|	O I	|	1.46
12.167	1.75	1.39	0.078	|	|	|O I	|	1.49
12.250	1.77	1.47	0.080	|	|	| O I	|	1.53
12.333	1.83	1.54	0.082	|	|	| O I	|	1.55
12.417	1.86	1.61	0.084	|	|	| O I|	|	1.58
12.500	1.87	1.66	0.085	|	|	| O I|	|	1.60
12.583	1.97	1.72	0.087	|	|	| O I	|	1.63
12.667	2.04	1.78	0.089	|	|	| O |I	|	1.65
12.750	2.04	1.83	0.090	|	|	| O |I	|	1.67
12.833	2.10	1.83	0.092	|	|	| O | I	|	1.70
12.917	2.13	1.83	0.094	|	|	| O | I	|	1.72
13.000	2.14	1.83	0.096	|	|	| O | I	|	1.75
13.083	2.40	1.83	0.099	|	|	| O | I	|	1.79
13.167	2.56	1.83	0.103	|	|	| O | I|	|	1.85
13.250	2.58	1.83	0.108	|	|	| O | I|	|	1.92
13.333	2.58	1.83	0.113	|	|	| O | I|	|	1.99
13.417	2.58	1.83	0.119	|	|	| O | I|	|	2.06
13.500	2.58	1.83	0.124	|	|	| O | I	|	2.13
13.583	2.02	1.83	0.127	|	|	| O I	|	2.18
13.667	1.67	1.83	0.127	|	|	| I O |	|	2.18
13.750	1.63	1.83	0.126	|	|	| I O |	|	2.16
13.833	1.64	1.83	0.124	|	|	| I O |	|	2.14
13.917	1.64	1.83	0.123	|	|	| I O |	|	2.13
14.000	1.64	1.83	0.122	|	|	| I O |	|	2.11
14.083	1.85	1.83	0.121	|	|	| O |	|	2.10
14.167	1.98	1.83	0.122	|	|	| O I	|	2.11
14.250	1.99	1.83	0.123	|	|	| O I	|	2.12
14.333	1.94	1.83	0.124	|	|	| O I	|	2.13
14.417	1.91	1.83	0.124	|	|	| OI|	|	2.14
14.500	1.91	1.83	0.125	|	|	| OI|	|	2.15
14.583	1.91	1.83	0.125	|	|	| OI|	|	2.16
14.667	1.91	1.83	0.126	|	|	| OI|	|	2.16

14.750	1.92	1.83	0.126	|	|	|	OI|	|	2.17
14.833	1.87	1.83	0.127	|	|	|	OI|	|	2.18
14.917	1.84	1.83	0.127	|	|	|	O |	|	2.18
15.000	1.83	1.83	0.127	|	|	|	O |	|	2.18
15.083	1.78	1.83	0.127	|	|	|	O |	|	2.18
15.167	1.75	1.83	0.126	|	|	|	IO |	|	2.17
15.250	1.75	1.83	0.126	|	|	|	IO |	|	2.16
15.333	1.70	1.83	0.125	|	|	|	IO |	|	2.15
15.417	1.67	1.83	0.124	|	|	|	I O |	|	2.14
15.500	1.67	1.83	0.123	|	|	|	I O |	|	2.12
15.583	1.48	1.83	0.121	|	|	| I	O |	|	2.10
15.667	1.36	1.83	0.118	|	|	I	O |	|	2.06
15.750	1.35	1.83	0.115	|	|	I	O |	|	2.01
15.833	1.35	1.83	0.112	|	|	I	O |	|	1.97
15.917	1.35	1.83	0.108	|	|	I	O |	|	1.92
16.000	1.35	1.83	0.105	|	|	I	O |	|	1.88
16.083	0.71	1.83	0.099	|	I	|	O |	|	1.80
16.167	0.32	1.83	0.090	|	I |	|	O |	|	1.68
16.250	0.28	1.51	0.081	|	I |	|	O |	|	1.54
16.333	0.28	1.24	0.073	|	I |	|	O|	|	1.44
16.417	0.28	1.03	0.068	|	I |	| O	|	|	1.35
16.500	0.28	0.87	0.063	|	I |	O |	|	|	1.29
16.583	0.24	0.74	0.059	| I	|	O |	|	|	1.24
16.667	0.22	0.63	0.056	| I	| O|	|	|	|	1.20
16.750	0.21	0.54	0.054	| I	| O |	|	|	|	1.17
16.833	0.21	0.47	0.052	| I	| O |	|	|	|	1.14
16.917	0.21	0.42	0.050	| I	| O |	|	|	|	1.12
17.000	0.21	0.37	0.049	| I	| O |	|	|	|	1.10
17.083	0.30	0.35	0.048	|	| IO |	|	|	|	1.09
17.167	0.35	0.34	0.048	|	| O |	|	|	|	1.09
17.250	0.35	0.34	0.048	|	| O |	|	|	|	1.09
17.333	0.35	0.35	0.048	|	| O |	|	|	|	1.09
17.417	0.35	0.35	0.048	|	| O |	|	|	|	1.09
17.500	0.35	0.35	0.048	|	| O |	|	|	|	1.09
17.583	0.35	0.35	0.048	|	| O |	|	|	|	1.09
17.667	0.35	0.35	0.048	|	| O |	|	|	|	1.09
17.750	0.35	0.35	0.048	|	| O |	|	|	|	1.09
17.833	0.31	0.35	0.048	|	| IO |	|	|	|	1.09
17.917	0.29	0.34	0.048	|	| IO |	|	|	|	1.09
18.000	0.28	0.33	0.047	|	| IO |	|	|	|	1.08
18.083	0.28	0.32	0.047	|	| O |	|	|	|	1.08
18.167	0.28	0.31	0.047	|	| O |	|	|	|	1.08
18.250	0.28	0.30	0.047	|	| O |	|	|	|	1.08
18.333	0.28	0.30	0.047	|	| O |	|	|	|	1.07
18.417	0.28	0.30	0.047	|	| O |	|	|	|	1.07
18.500	0.28	0.29	0.046	|	| O |	|	|	|	1.07
18.583	0.24	0.29	0.046	| IO	|	|	|	|	1.07
18.667	0.22	0.27	0.046	| IO	|	|	|	|	1.07
18.750	0.21	0.26	0.046	| IO	|	|	|	|	1.06
18.833	0.17	0.25	0.045	| IO	|	|	|	|	1.05

18.917	0.14	0.23	0.045	IO				1.05
19.000	0.14	0.21	0.044	IO				1.04
19.083	0.18	0.20	0.044	O				1.04
19.167	0.21	0.20	0.044	O				1.04
19.250	0.21	0.20	0.044	O				1.04
19.333	0.26	0.21	0.044	OI				1.04
19.417	0.28	0.22	0.044	OI				1.05
19.500	0.28	0.23	0.045	OI				1.05
19.583	0.24	0.24	0.045	O				1.05
19.667	0.22	0.24	0.045	O				1.05
19.750	0.21	0.23	0.045	O				1.05
19.833	0.17	0.22	0.044	O				1.05
19.917	0.14	0.21	0.044	IO				1.04
20.000	0.14	0.20	0.044	IO				1.04
20.083	0.18	0.19	0.043	O				1.03
20.167	0.21	0.19	0.044	O				1.03
20.250	0.21	0.19	0.044	O				1.04
20.333	0.21	0.20	0.044	O				1.04
20.417	0.21	0.20	0.044	O				1.04
20.500	0.21	0.20	0.044	O				1.04
20.583	0.21	0.21	0.044	O				1.04
20.667	0.21	0.21	0.044	O				1.04
20.750	0.21	0.21	0.044	O				1.04
20.833	0.17	0.21	0.044	O				1.04
20.917	0.14	0.19	0.044	IO				1.04
21.000	0.14	0.18	0.043	IO				1.03
21.083	0.18	0.18	0.043	O				1.03
21.167	0.21	0.18	0.043	O				1.03
21.250	0.21	0.19	0.044	O				1.03
21.333	0.17	0.19	0.044	O				1.03
21.417	0.14	0.18	0.043	IO				1.03
21.500	0.14	0.17	0.043	IO				1.03
21.583	0.18	0.17	0.043	O				1.03
21.667	0.21	0.18	0.043	O				1.03
21.750	0.21	0.18	0.043	O				1.03
21.833	0.17	0.19	0.043	O				1.03
21.917	0.14	0.18	0.043	IO				1.03
22.000	0.14	0.17	0.043	IO				1.03
22.083	0.18	0.17	0.043	O				1.03
22.167	0.21	0.18	0.043	O				1.03
22.250	0.21	0.18	0.043	O				1.03
22.333	0.17	0.19	0.043	O				1.03
22.417	0.14	0.18	0.043	IO				1.03
22.500	0.14	0.17	0.043	IO				1.03
22.583	0.14	0.17	0.043	IO				1.02
22.667	0.14	0.16	0.043	O				1.02
22.750	0.14	0.16	0.043	O				1.02
22.833	0.14	0.15	0.042	O				1.02
22.917	0.14	0.15	0.042	O				1.02
23.000	0.14	0.15	0.042	O				1.02

23.083	0.14	0.15	0.042	|O	|	|	|	1.02
23.167	0.14	0.15	0.042	|O	|	|	|	1.02
23.250	0.14	0.15	0.042	|O	|	|	|	1.02
23.333	0.14	0.14	0.042	|O	|	|	|	1.02
23.417	0.14	0.14	0.042	|O	|	|	|	1.02
23.500	0.14	0.14	0.042	|O	|	|	|	1.02
23.583	0.14	0.14	0.042	|O	|	|	|	1.02
23.667	0.14	0.14	0.042	|O	|	|	|	1.02
23.750	0.14	0.14	0.042	|O	|	|	|	1.02
23.833	0.14	0.14	0.042	|O	|	|	|	1.02
23.917	0.14	0.14	0.042	|O	|	|	|	1.02
24.000	0.14	0.14	0.042	|O	|	|	|	1.02
24.083	0.06	0.13	0.042	IO	|	|	|	1.01
24.167	0.01	0.11	0.041	IO	|	|	|	1.00
24.250	0.00	0.10	0.041	IO	|	|	|	0.99
24.333	0.00	0.10	0.040	IO	|	|	|	0.97
24.417	0.00	0.10	0.039	IO	|	|	|	0.96
24.500	0.00	0.10	0.039	IO	|	|	|	0.94
24.583	0.00	0.09	0.038	IO	|	|	|	0.92
24.667	0.00	0.09	0.037	IO	|	|	|	0.91
24.750	0.00	0.09	0.037	IO	|	|	|	0.89
24.833	0.00	0.09	0.036	IO	|	|	|	0.88
24.917	0.00	0.09	0.035	IO	|	|	|	0.86
25.000	0.00	0.09	0.035	IO	|	|	|	0.85
25.083	0.00	0.09	0.034	IO	|	|	|	0.83
25.167	0.00	0.08	0.034	IO	|	|	|	0.82
25.250	0.00	0.08	0.033	IO	|	|	|	0.81
25.333	0.00	0.08	0.032	IO	|	|	|	0.79
25.417	0.00	0.08	0.032	O	|	|	|	0.78
25.500	0.00	0.08	0.031	O	|	|	|	0.76
25.583	0.00	0.08	0.031	O	|	|	|	0.75
25.667	0.00	0.08	0.030	O	|	|	|	0.74
25.750	0.00	0.07	0.030	O	|	|	|	0.73
25.833	0.00	0.07	0.029	O	|	|	|	0.71
25.917	0.00	0.07	0.029	O	|	|	|	0.70
26.000	0.00	0.07	0.028	O	|	|	|	0.69
26.083	0.00	0.07	0.028	O	|	|	|	0.68
26.167	0.00	0.07	0.027	O	|	|	|	0.67
26.250	0.00	0.07	0.027	O	|	|	|	0.66
26.333	0.00	0.07	0.026	O	|	|	|	0.64
26.417	0.00	0.06	0.026	O	|	|	|	0.63
26.500	0.00	0.06	0.026	O	|	|	|	0.62
26.583	0.00	0.06	0.025	O	|	|	|	0.61
26.667	0.00	0.06	0.025	O	|	|	|	0.60
26.750	0.00	0.06	0.024	O	|	|	|	0.59
26.833	0.00	0.06	0.024	O	|	|	|	0.58
26.917	0.00	0.06	0.023	O	|	|	|	0.57
27.000	0.00	0.06	0.023	O	|	|	|	0.56
27.083	0.00	0.06	0.023	O	|	|	|	0.55
27.167	0.00	0.06	0.022	O	|	|	|	0.54

27.250	0.00	0.05	0.022	O				0.53
27.333	0.00	0.05	0.022	O				0.52
27.417	0.00	0.05	0.021	O				0.52
27.500	0.00	0.05	0.021	O				0.51
27.583	0.00	0.05	0.020	O				0.50
27.667	0.00	0.05	0.020	O				0.49
27.750	0.00	0.05	0.020	O				0.48
27.833	0.00	0.05	0.019	O				0.47
27.917	0.00	0.05	0.019	O				0.47
28.000	0.00	0.05	0.019	O				0.46
28.083	0.00	0.05	0.018	O				0.45
28.167	0.00	0.05	0.018	O				0.44
28.250	0.00	0.04	0.018	O				0.43
28.333	0.00	0.04	0.018	O				0.43
28.417	0.00	0.04	0.017	O				0.42
28.500	0.00	0.04	0.017	O				0.41
28.583	0.00	0.04	0.017	O				0.41
28.667	0.00	0.04	0.016	O				0.40
28.750	0.00	0.04	0.016	O				0.39
28.833	0.00	0.04	0.016	O				0.39
28.917	0.00	0.04	0.016	O				0.38
29.000	0.00	0.04	0.015	O				0.37
29.083	0.00	0.04	0.015	O				0.37
29.167	0.00	0.04	0.015	O				0.36
29.250	0.00	0.04	0.015	O				0.35
29.333	0.00	0.04	0.014	O				0.35
29.417	0.00	0.03	0.014	O				0.34
29.500	0.00	0.03	0.014	O				0.34
29.583	0.00	0.03	0.014	O				0.33
29.667	0.00	0.03	0.013	O				0.32
29.750	0.00	0.03	0.013	O				0.32
29.833	0.00	0.03	0.013	O				0.31
29.917	0.00	0.03	0.013	O				0.31
30.000	0.00	0.03	0.012	O				0.30
30.083	0.00	0.03	0.012	O				0.30
30.167	0.00	0.03	0.012	O				0.29
30.250	0.00	0.03	0.012	O				0.29
30.333	0.00	0.03	0.012	O				0.28
30.417	0.00	0.03	0.011	O				0.28
30.500	0.00	0.03	0.011	O				0.27
30.583	0.00	0.03	0.011	O				0.27
30.667	0.00	0.03	0.011	O				0.26
30.750	0.00	0.03	0.011	O				0.26
30.833	0.00	0.03	0.010	O				0.26
30.917	0.00	0.03	0.010	O				0.25
31.000	0.00	0.03	0.010	O				0.25
31.083	0.00	0.02	0.010	O				0.24
31.167	0.00	0.02	0.010	O				0.24
31.250	0.00	0.02	0.010	O				0.23
31.333	0.00	0.02	0.009	O				0.23

31.417	0.00	0.02	0.009	O	|	|	|	0.23
31.500	0.00	0.02	0.009	O	|	|	|	0.22
31.583	0.00	0.02	0.009	O	|	|	|	0.22
31.667	0.00	0.02	0.009	O	|	|	|	0.22
31.750	0.00	0.02	0.009	O	|	|	|	0.21
31.833	0.00	0.02	0.009	O	|	|	|	0.21
31.917	0.00	0.02	0.008	O	|	|	|	0.20
32.000	0.00	0.02	0.008	O	|	|	|	0.20
32.083	0.00	0.02	0.008	O	|	|	|	0.20
32.167	0.00	0.02	0.008	O	|	|	|	0.19
32.250	0.00	0.02	0.008	O	|	|	|	0.19
32.333	0.00	0.02	0.008	O	|	|	|	0.19
32.417	0.00	0.02	0.008	O	|	|	|	0.18
32.500	0.00	0.02	0.007	O	|	|	|	0.18
32.583	0.00	0.02	0.007	O	|	|	|	0.18
32.667	0.00	0.02	0.007	O	|	|	|	0.18
32.750	0.00	0.02	0.007	O	|	|	|	0.17
32.833	0.00	0.02	0.007	O	|	|	|	0.17
32.917	0.00	0.02	0.007	O	|	|	|	0.17
33.000	0.00	0.02	0.007	O	|	|	|	0.16
33.083	0.00	0.02	0.007	O	|	|	|	0.16
33.167	0.00	0.02	0.006	O	|	|	|	0.16
33.250	0.00	0.02	0.006	O	|	|	|	0.16
33.333	0.00	0.02	0.006	O	|	|	|	0.15
33.417	0.00	0.02	0.006	O	|	|	|	0.15
33.500	0.00	0.02	0.006	O	|	|	|	0.15
33.583	0.00	0.01	0.006	O	|	|	|	0.15
33.667	0.00	0.01	0.006	O	|	|	|	0.14
33.750	0.00	0.01	0.006	O	|	|	|	0.14
33.833	0.00	0.01	0.006	O	|	|	|	0.14
33.917	0.00	0.01	0.006	O	|	|	|	0.14
34.000	0.00	0.01	0.005	O	|	|	|	0.13
34.083	0.00	0.01	0.005	O	|	|	|	0.13
34.167	0.00	0.01	0.005	O	|	|	|	0.13
34.250	0.00	0.01	0.005	O	|	|	|	0.13
34.333	0.00	0.01	0.005	O	|	|	|	0.12
34.417	0.00	0.01	0.005	O	|	|	|	0.12
34.500	0.00	0.01	0.005	O	|	|	|	0.12
34.583	0.00	0.01	0.005	O	|	|	|	0.12
34.667	0.00	0.01	0.005	O	|	|	|	0.12
34.750	0.00	0.01	0.005	O	|	|	|	0.11
34.833	0.00	0.01	0.005	O	|	|	|	0.11
34.917	0.00	0.01	0.005	O	|	|	|	0.11
35.000	0.00	0.01	0.004	O	|	|	|	0.11
35.083	0.00	0.01	0.004	O	|	|	|	0.11
35.167	0.00	0.01	0.004	O	|	|	|	0.10
35.250	0.00	0.01	0.004	O	|	|	|	0.10
35.333	0.00	0.01	0.004	O	|	|	|	0.10
35.417	0.00	0.01	0.004	O	|	|	|	0.10
35.500	0.00	0.01	0.004	O	|	|	|	0.10

35.583	0.00	0.01	0.004	O	|	|	|	0.10
35.667	0.00	0.01	0.004	O	|	|	|	0.09
35.750	0.00	0.01	0.004	O	|	|	|	0.09
35.833	0.00	0.01	0.004	O	|	|	|	0.09
35.917	0.00	0.01	0.004	O	|	|	|	0.09
36.000	0.00	0.01	0.004	O	|	|	|	0.09
36.083	0.00	0.01	0.004	O	|	|	|	0.09
36.167	0.00	0.01	0.003	O	|	|	|	0.09
36.250	0.00	0.01	0.003	O	|	|	|	0.08
36.333	0.00	0.01	0.003	O	|	|	|	0.08
36.417	0.00	0.01	0.003	O	|	|	|	0.08
36.500	0.00	0.01	0.003	O	|	|	|	0.08
36.583	0.00	0.01	0.003	O	|	|	|	0.08
36.667	0.00	0.01	0.003	O	|	|	|	0.08
36.750	0.00	0.01	0.003	O	|	|	|	0.08
36.833	0.00	0.01	0.003	O	|	|	|	0.07
36.917	0.00	0.01	0.003	O	|	|	|	0.07
37.000	0.00	0.01	0.003	O	|	|	|	0.07
37.083	0.00	0.01	0.003	O	|	|	|	0.07
37.167	0.00	0.01	0.003	O	|	|	|	0.07
37.250	0.00	0.01	0.003	O	|	|	|	0.07
37.333	0.00	0.01	0.003	O	|	|	|	0.07
37.417	0.00	0.01	0.003	O	|	|	|	0.07
37.500	0.00	0.01	0.003	O	|	|	|	0.06
37.583	0.00	0.01	0.003	O	|	|	|	0.06
37.667	0.00	0.01	0.003	O	|	|	|	0.06
37.750	0.00	0.01	0.003	O	|	|	|	0.06
37.833	0.00	0.01	0.002	O	|	|	|	0.06
37.917	0.00	0.01	0.002	O	|	|	|	0.06
38.000	0.00	0.01	0.002	O	|	|	|	0.06
38.083	0.00	0.01	0.002	O	|	|	|	0.06
38.167	0.00	0.01	0.002	O	|	|	|	0.06
38.250	0.00	0.01	0.002	O	|	|	|	0.06
38.333	0.00	0.01	0.002	O	|	|	|	0.05
38.417	0.00	0.01	0.002	O	|	|	|	0.05
38.500	0.00	0.01	0.002	O	|	|	|	0.05
38.583	0.00	0.01	0.002	O	|	|	|	0.05
38.667	0.00	0.01	0.002	O	|	|	|	0.05
38.750	0.00	0.01	0.002	O	|	|	|	0.05
38.833	0.00	0.01	0.002	O	|	|	|	0.05
38.917	0.00	0.00	0.002	O	|	|	|	0.05
39.000	0.00	0.00	0.002	O	|	|	|	0.05
39.083	0.00	0.00	0.002	O	|	|	|	0.05
39.167	0.00	0.00	0.002	O	|	|	|	0.05
39.250	0.00	0.00	0.002	O	|	|	|	0.05
39.333	0.00	0.00	0.002	O	|	|	|	0.04
39.417	0.00	0.00	0.002	O	|	|	|	0.04
39.500	0.00	0.00	0.002	O	|	|	|	0.04
39.583	0.00	0.00	0.002	O	|	|	|	0.04
39.667	0.00	0.00	0.002	O	|	|	|	0.04

39.750	0.00	0.00	0.002	O	|	|	|	0.04
39.833	0.00	0.00	0.002	O	|	|	|	0.04
39.917	0.00	0.00	0.002	O	|	|	|	0.04
40.000	0.00	0.00	0.002	O	|	|	|	0.04
40.083	0.00	0.00	0.002	O	|	|	|	0.04
40.167	0.00	0.00	0.002	O	|	|	|	0.04
40.250	0.00	0.00	0.002	O	|	|	|	0.04
40.333	0.00	0.00	0.001	O	|	|	|	0.04
40.417	0.00	0.00	0.001	O	|	|	|	0.04
40.500	0.00	0.00	0.001	O	|	|	|	0.04
40.583	0.00	0.00	0.001	O	|	|	|	0.03
40.667	0.00	0.00	0.001	O	|	|	|	0.03
40.750	0.00	0.00	0.001	O	|	|	|	0.03
40.833	0.00	0.00	0.001	O	|	|	|	0.03
40.917	0.00	0.00	0.001	O	|	|	|	0.03
41.000	0.00	0.00	0.001	O	|	|	|	0.03
41.083	0.00	0.00	0.001	O	|	|	|	0.03
41.167	0.00	0.00	0.001	O	|	|	|	0.03
41.250	0.00	0.00	0.001	O	|	|	|	0.03
41.333	0.00	0.00	0.001	O	|	|	|	0.03
41.417	0.00	0.00	0.001	O	|	|	|	0.03
41.500	0.00	0.00	0.001	O	|	|	|	0.03
41.583	0.00	0.00	0.001	O	|	|	|	0.03
41.667	0.00	0.00	0.001	O	|	|	|	0.03
41.750	0.00	0.00	0.001	O	|	|	|	0.03
41.833	0.00	0.00	0.001	O	|	|	|	0.03
41.917	0.00	0.00	0.001	O	|	|	|	0.03
42.000	0.00	0.00	0.001	O	|	|	|	0.03
42.083	0.00	0.00	0.001	O	|	|	|	0.03
42.167	0.00	0.00	0.001	O	|	|	|	0.02
42.250	0.00	0.00	0.001	O	|	|	|	0.02
42.333	0.00	0.00	0.001	O	|	|	|	0.02
42.417	0.00	0.00	0.001	O	|	|	|	0.02
42.500	0.00	0.00	0.001	O	|	|	|	0.02
42.583	0.00	0.00	0.001	O	|	|	|	0.02
42.667	0.00	0.00	0.001	O	|	|	|	0.02
42.750	0.00	0.00	0.001	O	|	|	|	0.02
42.833	0.00	0.00	0.001	O	|	|	|	0.02
42.917	0.00	0.00	0.001	O	|	|	|	0.02
43.000	0.00	0.00	0.001	O	|	|	|	0.02
43.083	0.00	0.00	0.001	O	|	|	|	0.02
43.167	0.00	0.00	0.001	O	|	|	|	0.02
43.250	0.00	0.00	0.001	O	|	|	|	0.02
43.333	0.00	0.00	0.001	O	|	|	|	0.02
43.417	0.00	0.00	0.001	O	|	|	|	0.02
43.500	0.00	0.00	0.001	O	|	|	|	0.02
43.583	0.00	0.00	0.001	O	|	|	|	0.02
43.667	0.00	0.00	0.001	O	|	|	|	0.02
43.750	0.00	0.00	0.001	O	|	|	|	0.02
43.833	0.00	0.00	0.001	O	|	|	|	0.02

43.917	0.00	0.00	0.001	O	|	|	|	|	0.02
44.000	0.00	0.00	0.001	O	|	|	|	|	0.02
44.083	0.00	0.00	0.001	O	|	|	|	|	0.02
44.167	0.00	0.00	0.001	O	|	|	|	|	0.02
44.250	0.00	0.00	0.001	O	|	|	|	|	0.02
44.333	0.00	0.00	0.001	O	|	|	|	|	0.02
44.417	0.00	0.00	0.001	O	|	|	|	|	0.02
44.500	0.00	0.00	0.001	O	|	|	|	|	0.02
44.583	0.00	0.00	0.001	O	|	|	|	|	0.02
44.667	0.00	0.00	0.001	O	|	|	|	|	0.01
44.750	0.00	0.00	0.001	O	|	|	|	|	0.01
44.833	0.00	0.00	0.001	O	|	|	|	|	0.01
44.917	0.00	0.00	0.001	O	|	|	|	|	0.01
45.000	0.00	0.00	0.001	O	|	|	|	|	0.01
45.083	0.00	0.00	0.001	O	|	|	|	|	0.01
45.167	0.00	0.00	0.001	O	|	|	|	|	0.01
45.250	0.00	0.00	0.001	O	|	|	|	|	0.01
45.333	0.00	0.00	0.001	O	|	|	|	|	0.01
45.417	0.00	0.00	0.001	O	|	|	|	|	0.01
45.500	0.00	0.00	0.001	O	|	|	|	|	0.01
45.583	0.00	0.00	0.001	O	|	|	|	|	0.01
45.667	0.00	0.00	0.000	O	|	|	|	|	0.01
45.750	0.00	0.00	0.000	O	|	|	|	|	0.01
45.833	0.00	0.00	0.000	O	|	|	|	|	0.01
45.917	0.00	0.00	0.000	O	|	|	|	|	0.01
46.000	0.00	0.00	0.000	O	|	|	|	|	0.01
46.083	0.00	0.00	0.000	O	|	|	|	|	0.01
46.167	0.00	0.00	0.000	O	|	|	|	|	0.01
46.250	0.00	0.00	0.000	O	|	|	|	|	0.01
46.333	0.00	0.00	0.000	O	|	|	|	|	0.01
46.417	0.00	0.00	0.000	O	|	|	|	|	0.01
46.500	0.00	0.00	0.000	O	|	|	|	|	0.01
46.583	0.00	0.00	0.000	O	|	|	|	|	0.01
46.667	0.00	0.00	0.000	O	|	|	|	|	0.01
46.750	0.00	0.00	0.000	O	|	|	|	|	0.01

**********HYDROGRAPH DATA**********

Number of intervals = 561
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.833 (CFS)
Total volume = 1.483 (Ac.Ft)

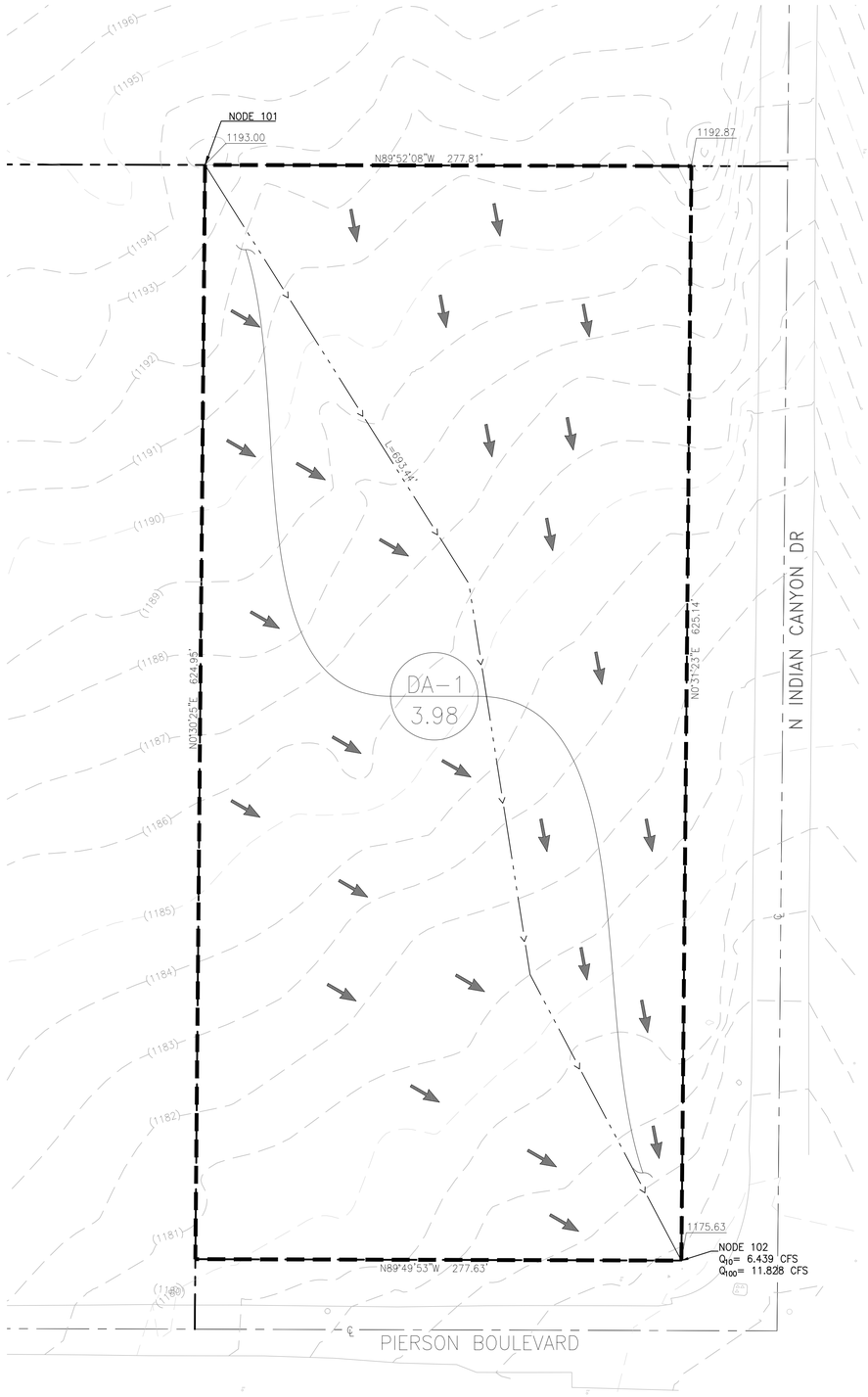
Status of hydrographs being held in storage

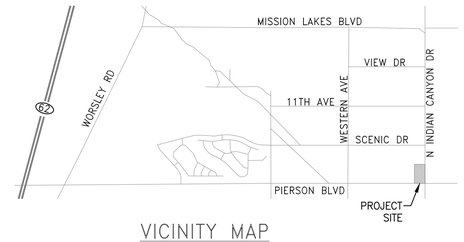
	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

HYDROLOGY MAP

Pre-Development Exhibit
Post Development Exhibit





VICINITY MAP
N.T.S.

LEGEND

- FLOW LINE
- FLOW DIRECTION
- DRAINAGE AREA BOUNDARY
- # / X.XX — DRAINAGE AREA DESIGNATION / DRAINAGE AREA

DESIGNED BY: MG
DRAWN BY: CG
CHECKED BY: AC

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
9320 BASELINE RD. STE. D - RANCHO CUCAMONGA, CA 91701
PHONE: 909-248-6557 - INFO@BLUECIVILENG.COM
WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF DESERT HOT SPRINGS
DESERT HOT SPRINGS, CA 92240

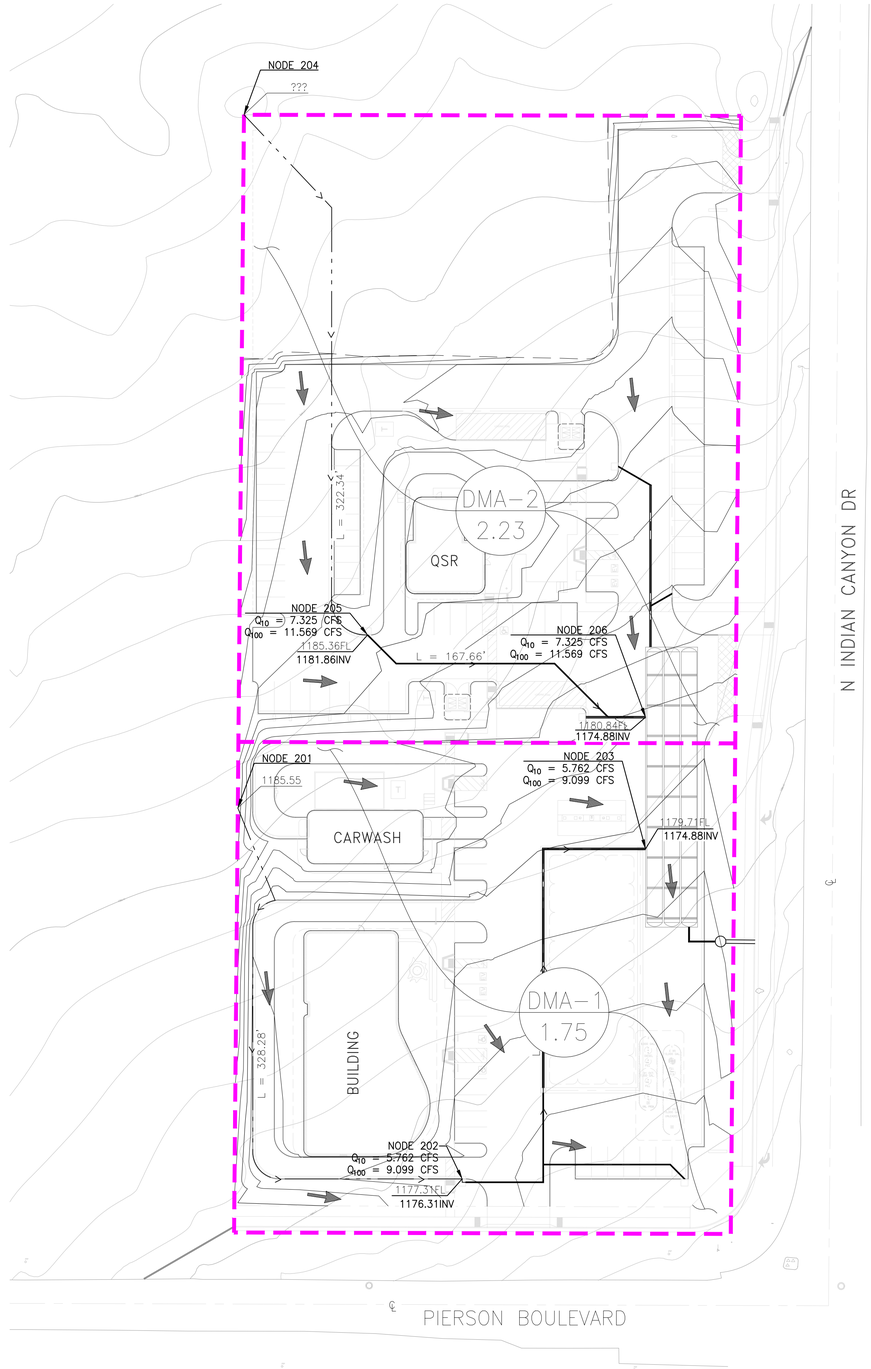
REVIEWED BY: _____ DATE
XXXXXXXXXX
P.E. NO. C-XXXXX
EXP. DATE X-XX-XXXX

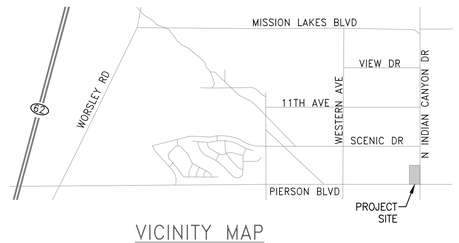
PRE-DEVELOPMENT HYDROLOGY

DESERT HOT SPRINGS COMMERCIAL DEVELOPMENT
BEYOND FOODS MARKET
CONDITIONAL USE PERMIT

CUP:
LDP:
DATE: September 22, 2022
SHEET 4 OF 5 SHEETS
PROJECT NUMBER:

Z:\Shared\Blue\2021138 - Desert Hot Springs - Beyond_Entitlement Package\2021138-PRE.dwg Sep 22, 2022 - 3:46pm





VICINITY MAP

N.T.S.

LEGEND

FLOW LINE

FLOW DIRECTION

DRAINAGE AREA BOUNDARY

/ X.XX

DRAINAGE AREA DESIGNATION

DRAINAGE AREA

DESIGNED BY: MG

DRAWN BY: CG

CHECKED BY: AC

SEAL-DESIGN ENGINEER

REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
9320 BASELINE RD. STE. D - RANCHO CUCAMONGA, CA 91701
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WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF DESERT HOT SPRINGS
DESERT HOT SPRINGS, CA 92240

REVIEWED BY: _____ DATE

XXXXXXXXXX
P.E. NO. C-XXXXX
EXP. DATE X-XX-XXXX

POST-DEVELOPMENT HYDROLOGY

DESERT HOT SPRINGS COMMERCIAL DEVELOPMENT
BEYOND FOODS MARKET
CONDITIONAL USE PERMIT

CUP:

LDP:

DATE: February 16, 2023

SHEET 1

OF 2 SHEETS

PROJECT NUMBER:

Z:\Shared\Blue\2021138 - Desert Hot Springs - Beyond_Entitlement Package\2021138-POST.dwg Feb 16, 2023 - 4:50pm