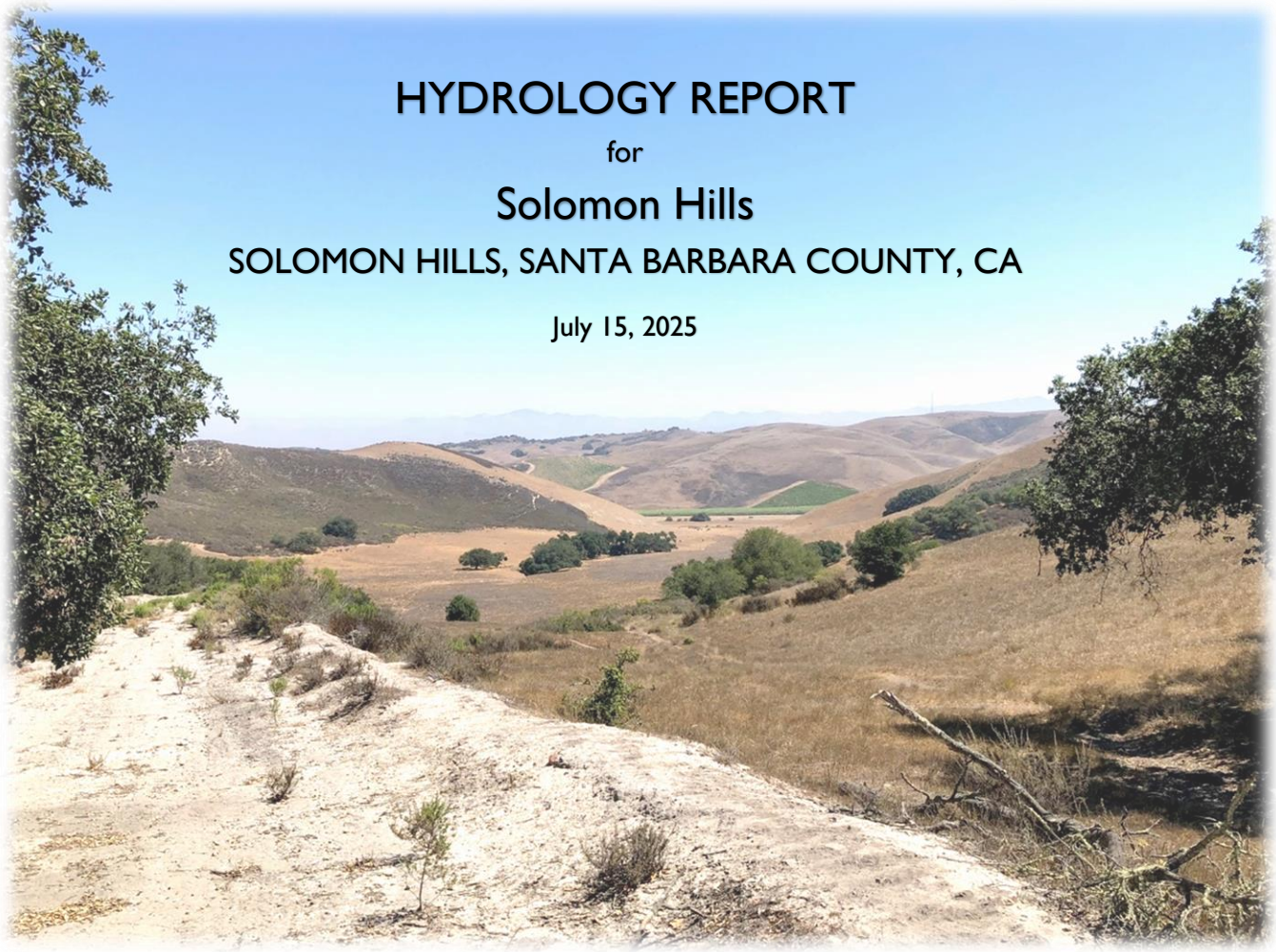
Attachment N

Water Resources/Flooding Report



HYDROLOGY REPORT

for

Solomon Hills

SOLOMON HILLS, SANTA BARBARA COUNTY, CA

July 15, 2025

PREPARED FOR:
Solstra Communities California
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Purpose of Report

The purpose of this report is to assess the project site, identify the pre-development and post-development drainage conditions, and provide hydraulic design information for the proposed improvements, to meet the requirements of the Santa Barbara County Flood Control District. The existing project site consists of some active and inactive oil wells. The proposed project includes 4,000 new homes within 468 acres as well as 125,000 square feet of supportive commercial use and 525,000 square feet of office space within 41 acres. The project also includes public/institutional uses, including a water reclamation facility, fire station/sheriff substation, and a school that are located on 25 acres.

Scope of Report

This report will evaluate the 1,616-acres specific plan and will include the New Love Park improvement area for reference. The project may be phased in the future, but this report will evaluate the overall flood control component required for the entire project. This report will not detail how each developed area will satisfy PCRS 1-3; however, this report does assume that the requirements for each area will be met prior to discharging to a flood control detention facility. The requirements are superseded by flood control standards and are clearly outlined within this report.

Location

The 1,900-acre project site is located south of the community of Orcutt within the County of Santa Barbara and west of US-101 (see Figure 1 below). The proposed specific plan area is bound to the North by the Orcutt Community Plan boundary. The project is bound to the West and South by the newly proposed project boundary line, which separates the proposed project from PCEC (Pacific Coast Energy Company). The FEMA flood map classifies the site as an area of minimal flood hazard. Due to the existing topography, the project site is naturally elevated above the surrounding areas and is unlikely to experience flooding. The flood map does not provide a base flood plain elevation.

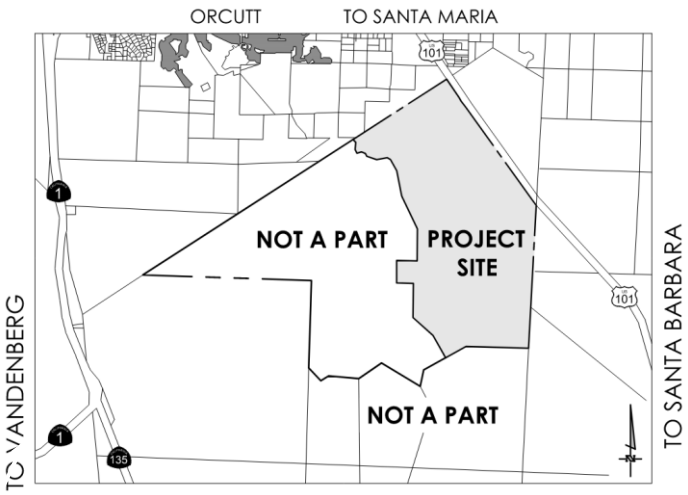


Figure 1. Project Vicinity Map

Pre-Development Conditions

The existing site is mostly undeveloped open space with oil wells, oak trees, and brush cover. The site has an average slope of 25 percent slopes and is bisected by a ridge running north to south. This ridgeline divides the watershed into an eastern and western portion. Site soils consist of hydrologic soils groups A, C and D. To determine the existing drainage patterns of the site, the project area was delineated into twenty-two (22) separate drainage areas (DAs) to the extents of where runoff leaves the property line. For analysis and reporting purposes, the point at which runoff leaves the site is denoted as a catchment point (CP). Please refer to Attachment 1– Pre-Development Hydrology Exhibit for more information.

Drainage areas along the eastern portion of the site generally start along the ridgeline and terminate just before reaching the US Hwy 101. Multiple existing culverts are positioned along the highway to pick up runoff flowing from each of the delineated drainage areas and carry the flow under Hwy 101 to Orcutt Creek. The drainage areas along the western portion of the site generally start at the ridgeline and terminate at the western property line. Runoff from these areas typically flows southwest across scattered brushland towards lower lying earthen channels. The runoff leaves the site and is conveyed west towards open space and farmland through upland gullies and earthen channels.

Post-Development Conditions

The post-development conditions maintain the overall drainage patterns of the site to mimic the pre-project conditions while reducing the impact of the project and improving the existing drainage conditions to the maximum extent possible. To accurately evaluate post-development onsite hydrology, the project drainage areas were divided into two different categories, diverted or developed. **Diverted** areas describe the existing areas, or graded slopes, within the limits of the project that contain negligible amounts of impervious area. Diverted areas that drain away from proposed lot areas will only be altered to provide safe conveyance through culverts to avoid street interference. The Diverted areas that drain towards future building locations will be captured and routed around the development to avoid merging run on with development runoff. The runoff generated by these areas will be captured near the lot lines via concrete swales, catch basins, or earthen swales. The runoff will be routed around the improvements and discharged to the historical drainage outlet to eliminate downstream hydromodification and other unwanted effects.

Developed areas describe proposed graded lot areas, detention basins, roads, and graded slopes not intended for the sole purpose of tying into existing slopes. These areas are all assigned a specific land use category to represent the future improvements, with each of these areas having a corresponding curve number (CN) based on the United States Department of Agriculture (USDA) TR-55 method guidance document. The runoff generated from each of the developed areas is collected and routed to a detention basin prior to being discharged to the corresponding collection point. Per the County of Santa Barbara Flood Control District guidance, the detention basins are designed to mitigate flow rates from the developed areas to 0.07 cfs per developed acre for the 2-25 year storm events. The basins also provide enough storage volume to detain large storm events such as the 50-100 year events to ensure that total runoff at the collection points is less than or equal to the pre-development condition. Please refer to Attachment 2 – Post-Development Hydrology Exhibit for more information.

The New Love Park development is upstream of Collection Point 20 and is split up into three separate developed sub-catchments, 20.2-20.4. The development consists of a new road, sidewalk, parking lot, concrete walkways, trail system, baseball field, soccer field, and a new restroom facility. Drainage throughout the new park is picked up by a series of catch basins and roadside swales that convey water to water quality treatment improvements before being routed to three separate detention facilities located onsite. The facilities will mitigate flows similarly to what was previously described for the other basins that are a part of the larger Solomon Hills development.

Methodology

The Santa Barbara Urban Hydrograph method and HydroCAD software were utilized to determine all the pre & post-development flow rates and are in accordance with the Santa Barbara County Flood Control District Standard Conditions of Project Plan Approval document. The software calculates the flow rates using the SBUH methodology with user defined parameters such as rainfall depth, curve number, and time of concentration. For detailed calculations and references for how these parameters were determined, see Attachment 3 & 4.

Rainfall depths were derived from NOAA Altas 14 Point Precipitation values for the 2-100 year storm events for the Solomon Hills specific region.

Curve number values rely on a number of factors such as type of soil coverage, quality of coverage, and underlying hydrologic soil group (HSG) for natural areas. USDA TR-55 method curve numbers were utilized for natural and developed areas based on the soil cover type and anticipated impervious ratio of the future improvements. Based on the National Land Cover Database and aerial imagery, majority of the site consisted of brushland with 50% or less coverage, therefore brush was used to model the natural landscape. For developed areas, values from Table 2-2a "Runoff curve numbers for urban areas" of the TR-55 manual for were selected based on anticipated land use and average impervious area. To determine the underlying HSG, the NRCS soil data survey tool was utilized. Curve numbers for each drainage area were composited and entered into the program.

HydroCAD was utilized to compute the time of concentration calculations using the Kerby + Kirpich methods for undeveloped areas, and the Lot time + Kerby+ Kirpich Methods for the developed areas. The Kerby and Kirpich methods calculate the travel time of the flow path taking into account the slope and generalized "retardance" coefficient. This is consistent with the design requirement # 8 which utilizes the nomograph for undeveloped regions and Lot Time + Travel Time for Developed regions.

Diverted Area Hydraulic Analysis

The existing offsite flows produced by the diverted areas that currently drain through the project site will be conveyed around the development upon completion. These offsite flows will be conveyed through the project site separately from the runoff produced and conveyed within the development areas and will maintain the historic drainage paths and collection points. Each diverted area was evaluated within HydroCAD and routed to the appropriate collection point for peak flow analysis. Channel and pipe sizing requirements will occur at a later phase, during construction documents. See Attachment 2 for the Post Development Hydrology Exhibit.

Developed Area Hydraulic Analysis

The proposed development site contains roadside swales, drainage inlets, hillside swales, culverts, and storm drains to convey water to onsite retention facilities within the developed areas to satisfy water quality requirements before being conveyed to detention basins that meter the flows to less than or equal to pre-development conditions. These retention facilities will be a part of the ultimate buildout of the site and be designed in detail during construction documents for individual developments on-site. The current analysis under the Project Storm Water Control Plan report documents the anticipated required area and volume to satisfy the Central Coast Post Construction Requirements (PCRs). The analysis conducted for this report takes a conservative approach and models the peak flows without accounting for the lag factor that multiple facilities and routing methods will add to the system. The additional lag will reduce the peak influx of stormwater entering the management facilities and will further decrease the size of the stormwater detention facilities. Please also note that the infiltration of stormwater within the basins was not considered, per County standards.

HydroCAD was used to model the detention facilities for the 2-100 year storm events. The design incorporates the Flood Control District condition that developed flows may not exceed 0.07 cfs/acre up to the 25-year storm event. This flow rate was used to govern the storage capacity needed to mitigate the developed flows, unless a lower detention basin release rate was needed to satisfy the pre versus post-development flow rate comparison at the collection point. The results generated by the HydroCAD program report clearly identify the evaluated flowrates, storage capacities, and metered orifices required to meet the outlined conditions. Storm drain conveyance systems will be modeled and appropriately sized in accordance with the County of Santa Barbara Flood Control District Standards during construction documents.

Results

The HydroCAD model developed for the Pre and Post-Development analysis yielded peak flow rates for the 25-year and 100-year events that are summarized below in Table 1. For a full list of results for all modeled storm events, see Attachments 5-7.

Table 1. Pre & Post-Development Peak Flow Rates

Collection Point	Pre-Development 25-Year Event (cfs)	Post-Development 25-Year Event (cfs)	Pre-Development 100-Year Event (cfs)	Post-Development 100-Year Event (cfs)
1	55.97	47.02	80.63	66.97
2	10.27	8.29	14.67	11.59
3	11.59	11.48	17.19	16.99
4	12.04	9.75	18.67	14.92
5	56.67	52.81	86.02	77.28
6	16.90	15.38	23.98	22.56
7	65.99	47.75	102.12	68.84
8	13.61	14.38	26.51	26.48
9	0.70	0.70	2.21	2.21
10	5.11	1.89	12.31	4.64
11	0.95	0.19	2.11	0.49
12	26.38	19.50	55.59	36.49
13	1.37	1.29	2.03	1.94

14	1.94	1.94	3.00	3.00
15	4.64	1.62	11.41	2.86
16	18.60	9.70	32.18	22.60
17	11.41	0.87	24.79	2.25
18	55.20	31.08	83.67	49.93
19	2.31	2.31	5.72	5.72
20	61.85	48.78	92.62	73.93
21	8.07	8.07	14.75	14.75
22	42.34	42.33	58.86	58.86

The resultant detention basin volumes and release rates associated with County of Santa Barabra Standards can be seen in Tables 2 & 3 respectively. Details for the modeling of the basins can be found in the HydroCAD report in Attachment 7.

Table 2. Detention Basin Sizing

Basin ID	Bottom Area (sf)	100-yr Max Storage Depth (ft)	Total Depth (ft)	Storage Volume (ac-ft)	Total Volume* (ac-ft)
1	19,200	4.83	6.00	2.873	3.808
3	6,075	3.96	5.00	0.841	1.172
5	30,000	4.00	5.00	3.337	4.423
7	39,675	7.14	8.50	8.839	11.095
12.1	129,600	9.41	10.50	35.720	40.918
12.2	129,600	9.41	10.50	35.720	40.918
15	19,200	3.08	4.50	1.648	2.623
16.2	750	2.23	3.25	0.481	0.770
16.3	76,800	5.42	6.50	11.357	14.078
18	43,200	5.26	6.50	6.512	8.443
20.2	3,414	4.16	5.25	0.503	0.709
20.3	4,265	2.67	3.67	0.405	0.460
20.4	3,495	5.05	6.25	0.852	1.209

* Total Volume = Storage Volume + 1' Freeboard

Table 3. Required 25-year Storage and Discharge Rate Values

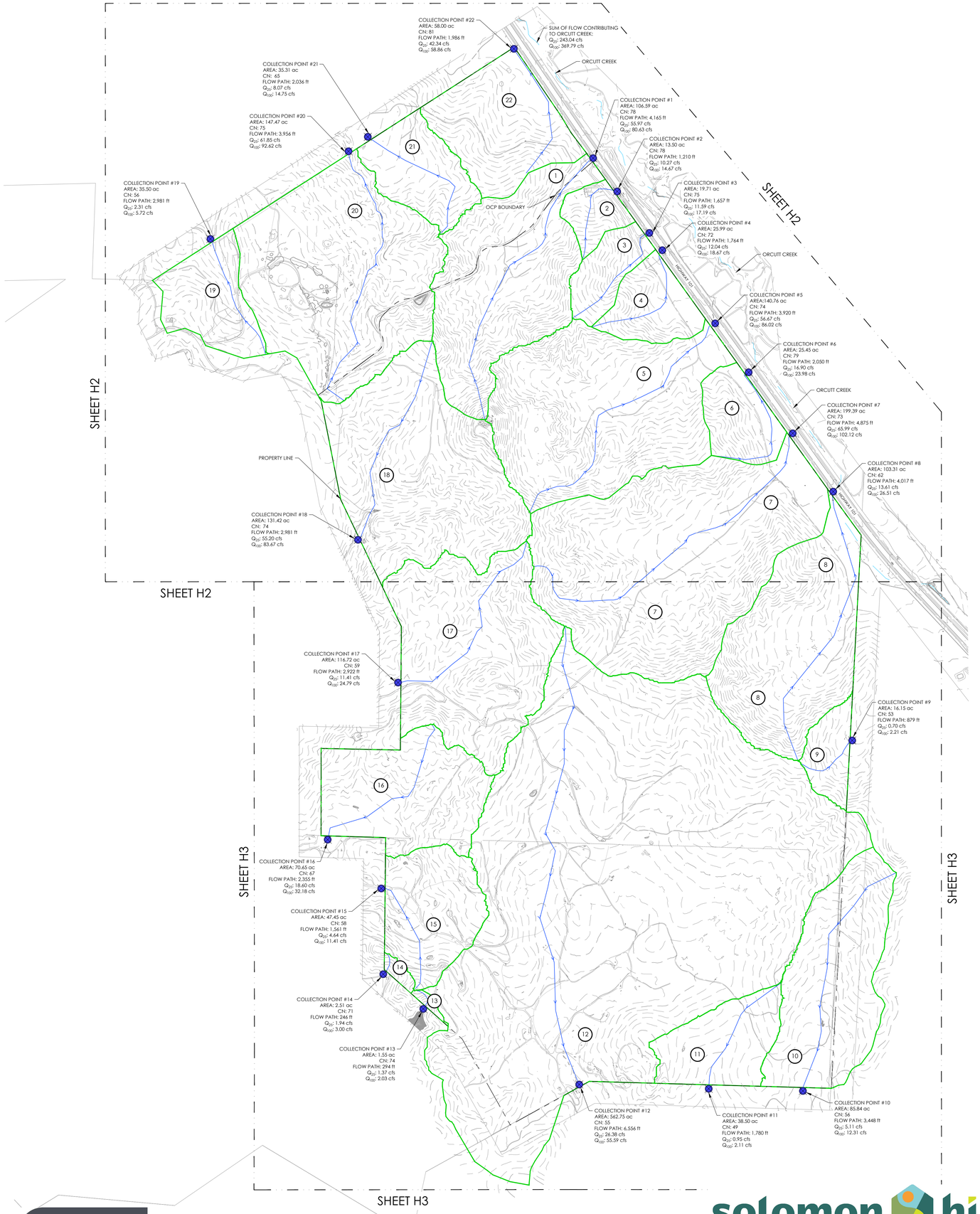
Basin ID	0.07 cfs/acre Required 25-yr Rate (cfs)	Basin 25-yr Discharge Rate (cfs)	0.07 ac-ft/acre Required 25-yr Volume (ac-ft)	Stage Storage Volume 25-yr (ac-ft)
1	1.59	1.51	1.59	2.72
3	0.33	0.28	0.33	0.66
5	1.57	1.38	1.57	3.010
7	5.61	5.15	5.61	7.655
12.1	14.95	9.02	14.95	27.70
12.2	14.95	9.02	14.95	27.70
15	2.21	1.37	2.21	1.23
16.2	0.86	0.81	0.86	0.40
16.3	7.71	7.48	7.71	10.49
18	2.99	2.83	2.99	6.13
20.2	0.28	0.28	0.28	0.48
20.3	0.24	0.24	0.24	0.39
20.4	0.54	0.53	0.54	0.67

Conclusions

Based on the findings of this report, the proposed drainage design for this project meets the applicable standards and requirements for the Santa Barbara County Flood Control District. In summary, the proposed design:

- Provides adequate detention storage for the future improvements proposed by the project
- Mitigates the peak flow rates from the developed areas to 0.07 cfs/acre for up to the 25-year storm event.
- Reduces peak flows at the collection points to less than or equal to the pre-development flow rates, to the maximum extent possible, for the 2-100-year storm events.
- Safely conveys offsite flows through the site to their historic drainage outlets.

Attachment 1 – Pre-Development Hydrology Exhibits



LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 — EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- (22) DRAINAGE AREA ID

Drainage Area ID	Area (ac)	CN	Flow Length (ft)	Slope (ft/ft)	TC (min)
1	106.59	78	4,165	15.6%	37.9
2	13.50	78	1,210	23.9%	20.8
3	19.71	75	1,657	22.5%	24.1
4	25.99	72	1,764	18.9%	25.8
5	140.76	74	3,920	13.0%	39.0
6	25.45	79	2,050	15.5%	28.7
7	199.39	73	4,875	9.9%	46.5
8	103.31	62	4,017	11.3%	41.1
9	16.15	53	879	24.1%	17.9
10	85.84	56	3,448	11.8%	37.9
11	38.50	49	1,780	9.9%	30.5
12	562.75	55	6,556	6.4%	61.6
13	1.55	74	294	40.8%	9.5
14	2.51	71	246	52.4%	8.2
15	47.45	58	1,561	18.8%	24.7
16	70.65	67	2,355	12.0%	32.4
17	116.72	59	2,922	12.8%	34.7
18	131.42	74	2,981	10.7%	36.7
19	35.50	56	1,740	9.9%	30.2
20	147.47	75	3,956	11.7%	40.4
21	35.31	65	2,036	13.5%	29.7
22	58.00	81	1,968	13.9%	29.1
Total	**1,984.52**				

0 300 600 900 feet

1"=300'

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solomon hills

July 14, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
PRE-DEVELOPMENT HYDROLOGY EXHIBIT

H1

LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 — EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID

Drainage Area ID	Area (ac)	CN	Flow Length (ft)	Slope (ft/ft)	TC (min)
1	106.59	78	4,165	15.6%	37.9
2	13.50	78	1,210	23.9%	20.8
3	19.71	75	1,657	22.5%	24.1
4	25.99	72	1,764	18.9%	25.8
5	140.76	74	3,920	13.0%	39.0
6	25.45	79	2,050	15.5%	28.7
7	199.39	73	4,875	9.9%	46.5
8	103.31	62	4,017	11.3%	41.1
9	16.15	53	879	24.1%	17.9
10	85.84	56	3,448	11.8%	37.9
11	38.50	49	1,780	9.9%	30.5
12	562.75	55	6,556	6.4%	61.6
13	1.55	74	294	40.8%	9.5
14	2.51	71	246	52.4%	8.2
15	47.45	58	1,561	18.8%	24.7
16	70.65	67	2,355	12.0%	32.4
17	116.72	59	2,922	12.8%	34.7
18	131.42	74	2,981	10.7%	36.7
19	35.50	56	1,740	9.9%	30.2
20	147.47	75	3,956	11.7%	40.4
21	35.31	65	2,036	13.5%	29.7
22	58.00	81	1,968	13.9%	29.1
Total	**1,984.52**				

COLLECTION POINT #22
AREA: 58.00 ac
CN: 81
FLOW PATH: 1,986 ft
Q_{25}: 42.34 cfs
Q_{100}: 58.86 cfs

SUM OF FLOW CONTRIBUTING TO ORCUTT CREEK:
Q_{25}: 243.04 cfs
Q_{100}: 369.79 cfs

ORCUTT CREEK

COLLECTION POINT #21
AREA: 35.31 ac
CN: 65
FLOW PATH: 2,036 ft
Q_{25}: 8.07 cfs
Q_{100}: 14.75 cfs

COLLECTION POINT #20
AREA: 147.47 ac
CN: 75
FLOW PATH: 3,956 ft
Q_{25}: 61.85 cfs
Q_{100}: 92.62 cfs

COLLECTION POINT #1
AREA: 106.59 ac
CN: 78
FLOW PATH: 4,165 ft
Q_{25}: 55.97 cfs
Q_{100}: 80.63 cfs

COLLECTION POINT #2
AREA: 13.50 ac
CN: 78
FLOW PATH: 1,210 ft
Q_{25}: 10.27 cfs
Q_{100}: 14.67 cfs

COLLECTION POINT #19
AREA: 35.50 ac
CN: 56
FLOW PATH: 2,981 ft
Q_{25}: 2.31 cfs
Q_{100}: 5.72 cfs

OCP BOUNDARY

COLLECTION POINT #3
AREA: 19.71 ac
CN: 75
FLOW PATH: 1,657 ft
Q_{25}: 11.59 cfs
Q_{100}: 17.19 cfs

COLLECTION POINT #4
AREA: 25.99 ac
CN: 72
FLOW PATH: 1,764 ft
Q_{25}: 12.04 cfs
Q_{100}: 18.67 cfs

ORCUTT CREEK

HIGHWAY 101

COLLECTION POINT #5
AREA:140.76 ac
CN: 74
FLOW PATH: 3,920 ft
Q_{25}: 56.67 cfs
Q_{100}: 86.02 cfs

COLLECTION POINT #6
AREA: 25.45 ac
CN: 79
FLOW PATH: 2,050 ft
Q_{25}: 16.90 cfs
Q_{100}: 23.98 cfs

ORCUTT CREEK

COLLECTION POINT #7
AREA: 199.39 ac
CN: 73
FLOW PATH: 4,875 ft
Q_{25}: 65.99 cfs
Q_{100}: 102.12 cfs

COLLECTION POINT #8
AREA: 103.31 ac
CN: 62
FLOW PATH: 4,017 ft
Q_{25}: 13.61 cfs
Q_{100}: 26.51 cfs

HIGHWAY 101

PROPERTY LINE

COLLECTION POINT #18
AREA: 131.42 ac
CN: 74
FLOW PATH: 2,981 ft
Q_{25}: 55.20 cfs
Q_{100}: 83.67 cfs

0 300 600 900 feet
1"=300'

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solomon hills

July 14, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
PRE-DEVELOPMENT HYDROLOGY EXHIBIT

H2

LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID

Drainage Area ID	Area (ac)	CN	Flow Length (ft)	Slope (ft/ft)	TC (min)
1	106.59	78	4,165	15.6%	37.9
2	13.50	78	1,210	23.9%	20.8
3	19.71	75	1,657	22.5%	24.1
4	25.99	72	1,764	18.9%	25.8
5	140.76	74	3,920	13.0%	39.0
6	25.45	79	2,050	15.5%	28.7
7	199.39	73	4,875	9.9%	46.5
8	103.31	62	4,017	11.3%	41.1
9	16.15	53	879	24.1%	17.9
10	85.84	56	3,448	11.8%	37.9
11	38.50	49	1,780	9.9%	30.5
12	562.75	55	6,556	6.4%	61.6
13	1.55	74	294	40.8%	9.5
14	2.51	71	246	52.4%	8.2
15	47.45	58	1,561	18.8%	24.7
16	70.65	67	2,355	12.0%	32.4
17	116.72	59	2,922	12.8%	34.7
18	131.42	74	2,981	10.7%	36.7
19	35.50	56	1,740	9.9%	30.2
20	147.47	75	3,956	11.7%	40.4
21	35.31	65	2,036	13.5%	29.7
22	58.00	81	1,968	13.9%	29.1
Total	**1,984.52**				

COLLECTION POINT #17
AREA: 116.72 ac
CN: 59
FLOW PATH: 2,922 ft
Q_{25}: 11.41 cfs
Q_{100}: 24.79 cfs

COLLECTION POINT #9
AREA: 16.15 ac
CN: 53
FLOW PATH: 879 ft
Q_{25}: 0.70 cfs
Q_{100}: 2.21 cfs

COLLECTION POINT #16
AREA: 70.65 ac
CN: 67
FLOW PATH: 2,355 ft
Q_{25}: 18.60 cfs
Q_{100}: 32.18 cfs

COLLECTION POINT #15
AREA: 47.45 ac
CN: 58
FLOW PATH: 1,561 ft
Q_{25}: 4.64 cfs
Q_{100}: 11.41 cfs

COLLECTION POINT #14
AREA: 2.51 ac
CN: 71
FLOW PATH: 246 ft
Q_{25}: 1.94 cfs
Q_{100}: 3.00 cfs

COLLECTION POINT #13
AREA: 1.55 ac
CN: 74
FLOW PATH: 294 ft
Q_{25}: 1.37 cfs
Q_{100}: 2.03 cfs

COLLECTION POINT #12
AREA: 562.75 ac
CN: 55
FLOW PATH: 6,556 ft
Q_{25}: 26.38 cfs
Q_{100}: 55.59 cfs

COLLECTION POINT #11
AREA: 38.50 ac
CN: 49
FLOW PATH: 1,780 ft
Q_{25}: 0.95 cfs
Q_{100}: 2.11 cfs

COLLECTION POINT #10
AREA: 85.84 ac
CN: 56
FLOW PATH: 3,448 ft
Q_{25}: 5.11 cfs
Q_{100}: 12.31 cfs

0 300 600 900 feet
1"=300'

rrm

solomon hills

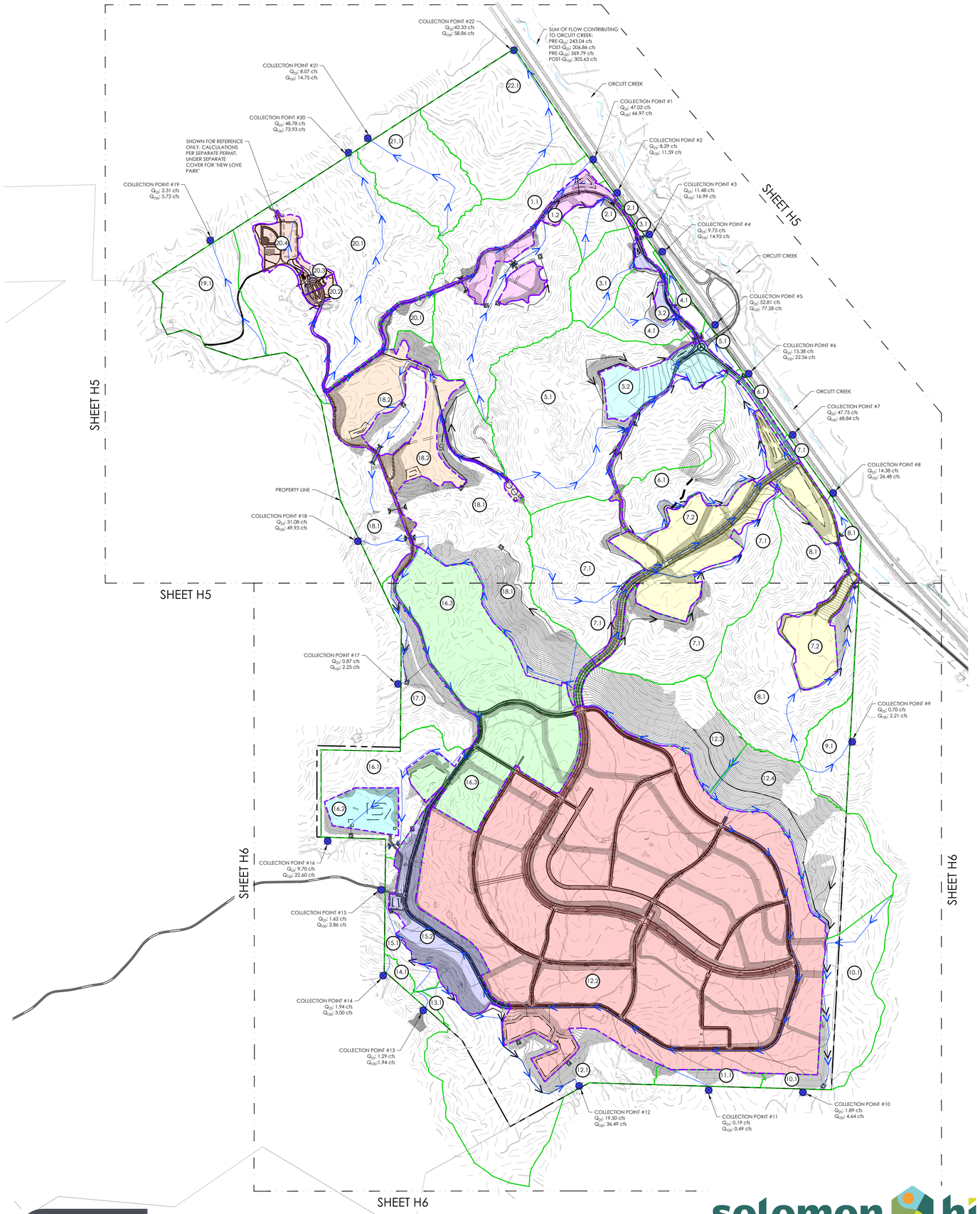
July 14, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
PRE-DEVELOPMENT HYDROLOGY EXHIBIT

H3

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Attachment 2 – Post-Development Hydrology Exhibits



LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 — PROPOSED MAJOR CONTOUR (5' INTERVALS)
- 500 — EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 — DRAINAGE AREA ID
- DIVERTER TERRACE
- ENERGY DISSIPATER
- STORM DRAIN CATCH BASIN

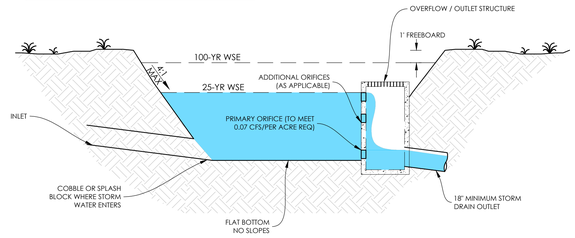
Table 2. Detention Basin Sizing

Basin ID	Bottom Area (sf)	100-yr Max Storage Depth (ft)	Total Depth (ft)	Storage Volume (ac-ft)	Total Volume* (ac-ft)
1	19,200	4.83	6.00	2.873	3.808
3	6,075	3.96	5.00	0.841	1.172
5	30,000	4.00	5.00	3.337	4.423
7	39,675	7.14	8.50	8.839	11.095
12.1	129,600	9.41	10.50	35.720	40.918
12.2	129,600	9.41	10.50	35.720	40.918
15	19,200	3.08	4.50	1.648	2.623
16.2	750	2.23	3.25	0.481	0.770
16.3	76,800	5.42	6.50	11.357	14.078
18	43,200	5.26	6.50	6.512	8.443
20.2	3,414	4.16	5.25	0.503	0.709
20.3	4,265	2.67	3.67	0.405	0.460
20.4	3,495	5.05	6.25	0.852	1.209

* Total Volume = Storage Volume + 1' Freeboard

Drainage Area ID	Area (ac)	CN	Flow Length (ft)	Slope (ft/ft)	TC (min)
1.1	84.92	79	4,203	0.154	38.2
1.2	22.73	80	4,976	0.077	21.5
2.1	6.79	80	1,201	0.241	20.7
3.1	19.34	75	1,628	0.219	24.1
3.2	4.71	87	1,531	0.029	19.5
4.1	21.42	73	1,976	0.131	29.5
5.1	126.41	77	4,927	0.087	48.7
5.2	22.44	82	2,416	0.102	18
6.1	40.36	77	4,184	0.045	55
7	168.05	78	5,491	0.088	51
7.2	80.10	77	4,041	0.080	20.4
8.1	89.77	64	4,270	0.105	43.1
9	16.15	53	879	0.241	17.9
10.1	42.34	54	3,248	0.100	38.8
11	7.58	49	560	0.125	16.9
12.1	90.76	49	3,100	0.072	41.8
12.2	427.27	74	7,353	0.018	31.4
12.3	42.31	69	3,115	0.072	48.2
12.4	62.78	65	3,621	0.064	56.2
13	1.55	73	294	0.408	9.5
14	2.51	71	246	0.524	8.2
15.1	0.53	52	1,585	0.165	25.7
15.2	31.50	58	2,036	0.010	24
16.1	30.26	66	2,287	0.072	36.8
16.2	12.27	67	808	0.068	15.7
16.3	110.20	77	3,863	0.008	64.7
17	24.47	52	1,613	0.094	29.7
18.1	133.41	69	4,653	0.053	55
18.2	42.66	67	3,224	0.034	22.1
19	35.50	56	1,740	0.099	30.2
20.1	123.03	74	3,956	0.117	40.4
20.2	3.95	82	1,642	0.058	18.1
20.3	3.42	81	545	0.016	28.2
20.4	7.71	77	845	0.028	17.2
21	35.30	65	2,036	0.135	29.7
22	58.00	81	1,968	0.139	29.1
Total	**1984.52**				

TYPICAL DETENTION BASIN



0 600 1200 1800 feet
1"=600'

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solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
POST-DEVELOPMENT HYDROLOGY EXHIBIT

H4

COLLECTION POINT #22
Q_{25}:42.33 cfs
Q_{100}: 58.86 cfs

SUM OF FLOW CONTRIBUTING TO ORCUTT CREEK:
PRE-Q_{25}: 243.04 cfs
POST-Q_{25}: 206.86 cfs
PRE-Q_{100}: 369.79 cfs
POST-Q_{100}: 305.63 cfs

COLLECTION POINT #21
Q_{25}: 8.07 cfs
Q_{100}: 14.75 cfs

COLLECTION POINT #20
Q_{25}: 48.78 cfs
Q_{100}: 73.93 cfs

SHOWN FOR REFERENCE ONLY. CALCULATIONS PER SEPARATE PERMIT. UNDER SEPARATE COVER FOR "NEW LOVE PARK"

COLLECTION POINT #19
Q_{25}: 2.31 cfs
Q_{100}: 5.72 cfs

ORCUTT CREEK

COLLECTION POINT #1
Q_{25}: 47.02 cfs
Q_{100}: 66.97 cfs

COLLECTION POINT #2
Q_{25}: 8.29 cfs
Q_{100}: 11.59 cfs

COLLECTION POINT #3
Q_{25}: 11.48 cfs
Q_{100}: 16.99 cfs

COLLECTION POINT #4
Q_{25}: 9.75 cfs
Q_{100}: 14.92 cfs

ORCUTT CREEK

COLLECTION POINT #5
Q_{25}: 52.81 cfs
Q_{100}: 77.28 cfs

COLLECTION POINT #6
Q_{25}: 15.38 cfs
Q_{100}: 22.56 cfs

ORCUTT CREEK

COLLECTION POINT #7
Q_{25}: 47.75 cfs
Q_{100}: 68.84 cfs

COLLECTION POINT #8
Q_{25}: 14.38 cfs
Q_{100}: 26.48 cfs

PROPERTY LINE

COLLECTION POINT #18
Q_{25}: 31.08 cfs
Q_{100}: 49.93 cfs

DETENTION BASIN D1
Q_{25} OUT: 1.51 cfs
Q_{100} OUT: 4.22 cfs

DETENTION BASIN D3
Q_{25} OUT: 0.28 cfs
Q_{100} OUT: 0.51 cfs

DETENTION BASIN D18
Q_{25} OUT: 2.83 cfs
Q_{100} OUT: 8.18 cfs

DETENTION BASIN D5
Q_{25} OUT: 1.38 cfs
Q_{100} OUT: 3.41 cfs

DETENTION BASIN D7
Q_{25} OUT: 5.15 cfs
Q_{100} OUT: 12.50 cfs

LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 PROPOSED MAJOR CONTOUR (5' INTERVALS)
- 500 EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID
- DIVERTER TERRACE
- ENERGY DISSIPATER
- STORM DRAIN CATCH BASIN

Table 2. Detention Basin Sizing

Basin ID	Bottom Area (sf)	100-yr Max Storage Depth (ft)	Total Depth (ft)	Storage Volume (ac-ft)	Total Volume* (ac-ft)
1	19,200	4.83	6.00	2.873	3.808
3	6,075	3.96	5.00	0.841	1.172
5	30,000	4.00	5.00	3.337	4.423
7	39,675	7.14	8.50	8.839	11.095
12.1	129,600	9.41	10.50	35.720	40.918
12.2	129,600	9.41	10.50	35.720	40.918
15	19,200	3.08	4.50	1.648	2.623
16.2	750	2.23	3.25	0.481	0.770
16.3	76,800	5.42	6.50	11.357	14.078
18	43,200	5.26	6.50	6.512	8.443
20.2	3,414	4.16	5.25	0.503	0.709
20.3	4,265	2.67	3.67	0.405	0.460
20.4	3,495	5.05	6.25	0.852	1.209

* Total Volume = Storage Volume + 1' Freeboard

Drainage Area ID	Area (ac)	CN	Flow Length (ft)	Slope (ft/ft)	TC (min)
1.1	84.92	79	4,203	0.154	38.2
1.2	22.73	80	4,976	0.077	21.5
2.1	5.79	80	1,201	0.241	20.7
3.1	19.34	75	1,628	0.219	24.1
3.2	4.71	87	1,531	0.029	19.5
4.1	21.42	73	1,976	0.131	29.5
5.1	126.41	77	4,927	0.087	48.7
5.2	22.44	82	2,416	0.102	18
6.1	40.36	77	4,184	0.045	55
7	108.05	78	5,491	0.088	51
7.2	80.10	77	4,041	0.080	20.4
8.1	89.77	64	4,270	0.105	43.1
9	16.15	53	879	0.241	17.9
10.1	42.34	54	3,248	0.100	38.8
11	7.58	49	560	0.125	16.9
12.1	90.76	49	3,100	0.072	41.8
12.2	427.27	74	7,353	0.018	31.4
12.3	42.31	69	3,115	0.072	48.2
12.4	62.78	65	3,621	0.064	56.2
13	1.55	73	294	0.408	9.5
14	2.51	71	246	0.524	8.2
15.1	9.53	52	1,585	0.165	25.7
15.2	31.50	58	2,036	0.010	24
16.1	30.26	66	2,287	0.072	36.8
16.2	12.27	67	808	0.068	15.7
16.3	110.20	77	3,863	0.008	64.7
17	24.47	52	1,613	0.094	29.7
18.1	133.41	69	4,653	0.053	55
18.2	42.66	87	3,224	0.034	22.1
19	35.50	56	1,740	0.099	30.2
20.1	123.03	74	3,956	0.117	40.4
20.2	3.95	82	1,642	0.058	18.1
20.3	3.42	81	545	0.016	28.2
20.4	7.71	77	845	0.028	17.2
21	35.30	65	2,036	0.135	29.7
22	58.00	81	1,968	0.139	29.1
Total	1984.52				

SEE SHEET H6

0 300 600 900 feet
1"=300'

solomon hills

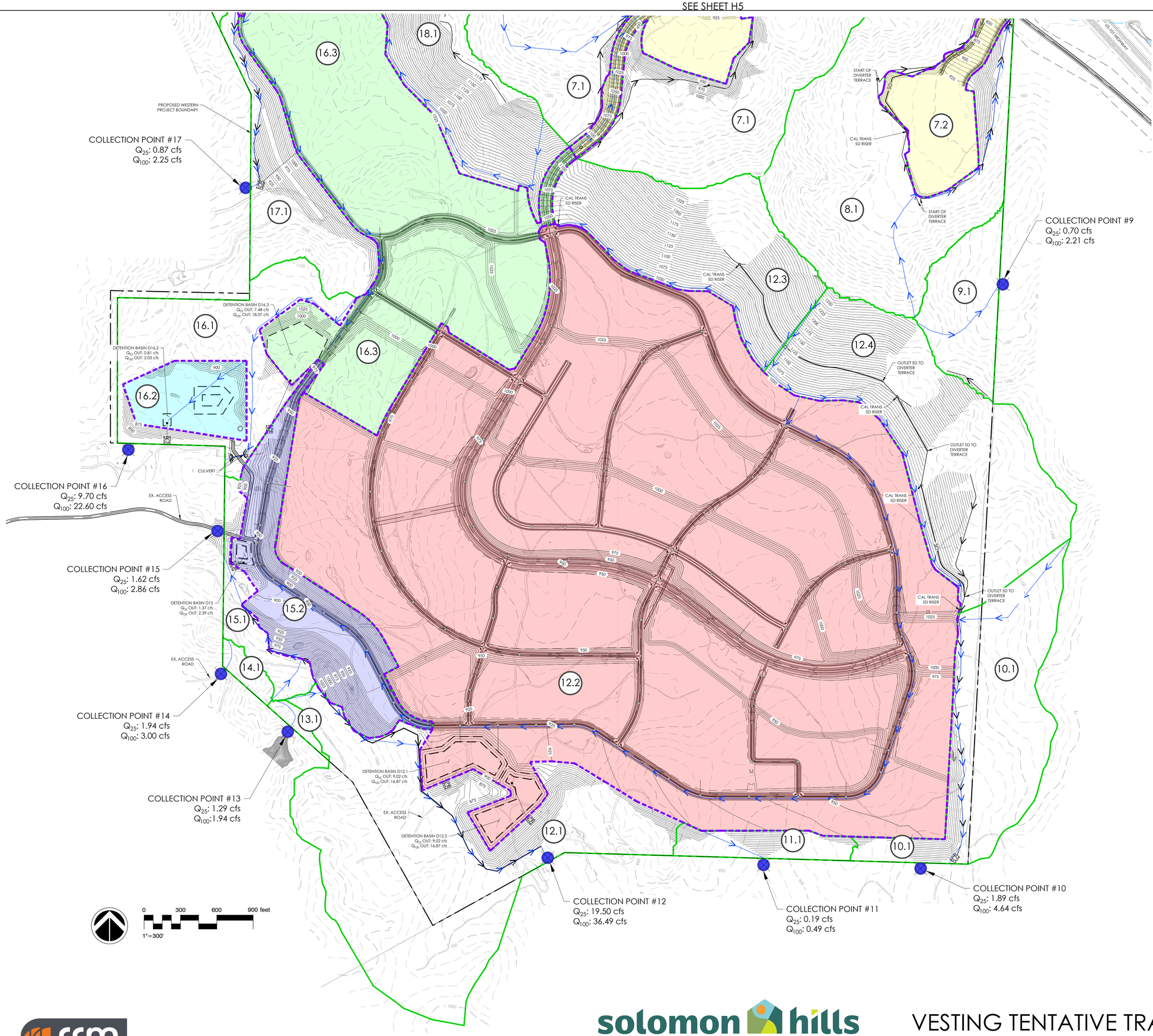
July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
POST-DEVELOPMENT HYDROLOGY EXHIBIT

H5

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SEE SHEET H5



LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 PROPOSED MAJOR CONTOUR (5' INTERVALS)
- 500 EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID
- DIVERTER TERRACE
- ENERGY DISSIPATER
- STORM DRAIN CATCH BASIN

Table 2. Detention Basin Sizing

Basin ID	Bottom Area (sf)	100-yr Max Storage Depth (ft)	Total Depth (ft)	Storage Volume (ac-ft)	Total Volume* (ac-ft)
1	19,200	4.83	6.00	2.873	3.808
3	6,075	3.96	5.00	0.841	1.172
5	30,000	4.00	5.00	3.337	4.423
7	39,675	7.14	8.50	8.839	11.095
12.1	129,600	9.41	10.50	35.720	40.918
12.2	129,600	9.41	10.50	35.720	40.918
15	19,200	3.08	4.50	1.648	2.623
16.2	750	2.23	3.25	0.481	0.770
16.3	76,800	5.42	6.50	11.357	14.078
18	43,200	5.26	6.50	6.512	8.443
20.2	3,414	4.16	5.25	0.503	0.709
20.3	4,265	2.67	3.67	0.405	0.460
20.4	3,495	5.05	6.25	0.852	1.209

* Total Volume = Storage Volume + 1' Freeboard

Drainage Area ID	Area (ac)	CN	Flow Length (ft)	Slope (ft/ft)	TC (min)
1.1	84.92	79	4,203	0.154	38.2
1.2	22.73	80	4,976	0.077	21.5
2.1	9.79	80	1,201	0.241	20.7
3.1	19.34	75	1,628	0.219	24.1
3.2	4.71	87	1,531	0.029	19.5
4.1	21.42	73	1,976	0.131	29.5
5.1	126.41	77	4,927	0.087	48.7
5.2	22.44	82	2,416	0.102	18
6.1	40.36	77	4,184	0.045	55
7	108.05	78	5,491	0.088	51
7.2	80.10	77	4,041	0.080	20.4
8.1	89.77	64	4,270	0.105	43.1
9	16.15	53	879	0.241	17.9
10.1	42.34	54	3,248	0.100	38.8
11	7.58	49	560	0.125	16.9
12.1	90.76	49	3,100	0.072	41.8
12.2	427.27	74	7,353	0.018	31.4
12.3	42.31	69	3,115	0.072	48.2
12.4	62.78	65	3,621	0.064	56.2
13	1.55	73	294	0.408	9.5
14	2.51	71	246	0.524	8.2
15.1	9.53	52	1,585	0.165	25.7
15.2	31.50	58	2,036	0.010	24
16.1	30.26	66	2,287	0.072	36.8
16.2	12.27	67	808	0.068	15.7
16.3	110.20	77	3,863	0.008	64.7
17	24.47	52	1,613	0.094	29.7
18.1	133.41	69	4,653	0.053	55
18.2	42.66	87	3,224	0.034	22.1
19	35.50	56	1,740	0.099	30.2
20.1	123.03	74	3,956	0.117	40.4
20.2	3.95	82	1,642	0.058	18.1
20.3	3.42	81	545	0.016	28.2
20.4	7.71	77	845	0.028	17.2
21	35.30	65	2,036	0.135	29.7
22	58.00	81	1,968	0.139	29.1
Total	**1984.52**				

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solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
POST-DEVELOPMENT HYDROLOGY EXHIBIT

H6

Attachment 3 –Curve Number & HydroCAD Input Data

Pre-Development Curve Number and HydroCAD Inputs

Pre-Development HSG Exhibit

Post-Development Curve Number and HydroCAD Inputs

Post-Development HSG Exhibit

Post-Development Land Use Exhibit

Pre-Development Curve Number and HydroCAD Inputs

Collection Point	Soil Type	Existing Pervious (sf)	Total Area (ac)	Flow Path Length (ft)	U/S Elev	D/S Elev	Slope (%)	Curve Number	Composite CN
1		**4642907**	106.59	4165	1345	697	15.6%	Brush	78
	A	603578						48	
	C	696436						77	
	D	3342893						83	
2		**587909**	13.50	1210	990	701	23.9%	Brush	78
	A	76428						48	
	D	511481						83	
3		**858493.86**	19.71	1657	1070	698	22.5%	Brush	75
	A	188869						48	
	D	669625						83	
4		**1131991.39**	25.99	1764	1050	717	18.9%	Brush	72
	A	362237						48	
	D	769754						83	
5		**6131450.24**	140.76	3920	1262	753	13.0%	Brush	74
	A	1103661						48	
	C	2391266						77	
	D	2636524						83	
6		**1108807.88**	25.45	2050	1071	754	15.5%	Brush	79
	A	88705						48	
	C	299378						77	
	D	720725						83	
7		**8685222.25**	199.39	4875	1262	777	9.9%	Brush	73
	A	1997601						48	
	C	2345010						77	
	D	4342611						83	
8		**4500348.49**	103.31	4017	1253	800	11.3%	Brush	62
	A	2565199						48	
	C	720056						77	
	D	1215094						83	

Collection Point	Soil Type	Existing Pervious (sf)	Total Area (ac)	Flow Path Length (ft)	U/S Elev	D/S Elev	Slope (%)	Curve Number	Composite CN
9		**703589**	16.15	879	1250	1038	24.1%	Brush	53
	A	605087						48	
	D	98502						83	
10		**3739141**	85.84	3448	1291	885	11.8%	Brush	56
	A	2713197						48	
	C	886722						77	
	D	139222						83	
11		**1677212**	38.50	1780	1041	864	9.9%	Brush	49
	A	1626896						48	
	D	50316						83	
12		**24513457**	562.75	6556	1238	817	6.4%	Brush	55
	A	19149065						48	
	C	1357896						77	
	D	4006496						83	
13		**67530**	1.55	294	1122	1002	40.8%	Brush	74
	A	18233						48	
	D	49297						83	
14		**109321**	2.51	246	1074	945	52.4%	Brush	71
	A	38262						48	
	D	71059						83	
15		**2067068**	47.45	1561	1125	831	18.8%	Brush	58
	A	1446948						48	
	D	620120						83	
16		**3077349**	70.65	2355	1107	825	12.0%	Brush	67
	A	1415581						48	
	D	1661768						83	
17		**5084187**	116.72	2922	1269	895	12.8%	Brush	59
	A	3355563						48	
	C	915154						77	
	D	813470						83	

Collection Point	Soil Type	Existing Pervious (sf)	Total Area (ac)	Flow Path Length (ft)	U/S Elev	D/S Elev	Slope (%)	Curve Number	Composite CN
18		**5724512**	131.42	2981	1184	866	10.7%	Brush	74
	A	1144902						48	
	C	1946334						77	
	D	2633276						83	
19		**1546511**	35.50	1740	1164	992	9.9%	Brush	56
	A	1135160						48	
	C	411351						77	
20		**6424000**	147.47	3956	1149	687	11.7%	Brush	75
	A	770880						48	
	C	4111360						77	
	D	1541760						83	
21		**1538031**	35.31	2036	1015	740	13.5%	Brush	65
	A	676734						48	
	C	784396						77	
	D	76902						83	
22		**2526439**	58.00	1968	905	631	13.9%	Brush	81
	A	0						48	
	C	783196						77	
	D	1743243						83	

LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 — EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 — DRAINAGE AREA ID
- HYDROLOGIC SOIL GROUP "A"
- HYDROLOGIC SOIL GROUP "C"
- HYDROLOGIC SOIL GROUP "D"

COLLECTION POINT #22
COLLECTION POINT #21
COLLECTION POINT #20
COLLECTION POINT #19
COLLECTION POINT #1
COLLECTION POINT #2
COLLECTION POINT #3
COLLECTION POINT #4
COLLECTION POINT #5
COLLECTION POINT #6
COLLECTION POINT #7
COLLECTION POINT #8
COLLECTION POINT #18
OCP BOUNDARY
PROPERTY LINE
HIGHWAY 101
HIGHWAY 101
1
2
3
4
5
6
7
8
18
19
20
21
22

0 300 600 900 feet
1"=300'

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solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
PRE-DEVELOPMENT HSG EXHIBIT

H7

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LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 — EXISTING MAJOR CONTOUR (20' INTERVALS)
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- HYDROLOGIC SOIL GROUP "D"

COLLECTION POINT #17
COLLECTION POINT #16
COLLECTION POINT #15
COLLECTION POINT #14
COLLECTION POINT #13
COLLECTION POINT #12
COLLECTION POINT #11
COLLECTION POINT #10
COLLECTION POINT #9

0 300 600 900 feet
1"=300'

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solomon hills

VESTING TENTATIVE TRACT MAP NO. 14,909
PRE-DEVELOPMENT HSG EXHIBIT

H8

July 15, 2025

Post-Development Curve Number and HydroCAD Inputs

Drainage Area	Condition	Soil Type	Existing Brushland	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road	Total Area (sf)	Total Area (ac)	Flow Path Length (ft)	U/S Elev	D/S Elev	Slope (%)	Composite CN w/o Road
1.1	Diverted		**Area (sf)**															
		A	331,850	6,570							24,523	**3,698,996**	**84.92**	4,203	1,345	697	15.4%	79
		C	307,512	109,639	192						3							
		D	2,861,950	56,756														
1.2	Developed		**Area (sf)**															
		A	4,553	62,188			111,671				109,177	**989,958**	**22.73**	4,976	1,098	715	7.7%	80
		C	3,521	74,503			183,986				77,573							
		D	15,159	135,803			126,029				85,795							
2.1	Diverted		**Area (sf)**															
		A	39,799								4,339	**426,454**	**9.79**	1,201	990	701	24.1%	80
		D	380,803								1,513							
3.1	Diverted		**Area (sf)**															
		A	154,810	26,227								**842,263**	**19.34**	1,628	1,055	698	21.9%	75
		D	661,226															
3.2	Developed		**Area (sf)**															
		A	5,125	4,939					85,188		78,995	**205,028**	**4.71**	1,531	765	721	2.9%	87
		D	146	0					30,429		206							
4.1	Diverted		**Area (sf)**															
		A	182,422	51,934							38,033	**933,066**	**21.42**	1,976	975	717	13.1%	73
		D	607,362	53,315														
5.1	Diverted		**Area (sf)**															
		A	472,902	51,808							22,270	**5,506,547**	**126.41**	4,927	1,180	753	8.7%	77
		C	2,179,993	149,505														
		D	2,412,197	217,872														
5.2	Developed		**Area (sf)**															
		A	24,808	18			383,945		92,166		77,623	**977,627**	**22.44**	2,416	1,011	765	10.2%	82
		C	22,161	12			48,115				102,033							
		D	565				89,155		90,911		46,115							
6.1	Diverted		**Area (sf)**															
		A	166,445	75,039								**1,758,127**	**40.36**	4,184	944	754	4.5%	77
		C	121,468	1,396														
		D	1,015,389	378,390														
7.2	Developed		**Area (sf)**															
		A	5,411	344,602		406,831	459,842		583,263		393,878	**3,489,199**	**80.10**	4,041	1,112	788	8.0%	77
		C	349,598	234,493		285,035					267,712							
		D	18,046	68		17,315	53,106				70,001							
7	Diverted		**Area (sf)**															
		A	257,343	97,658								**4,706,562**	**108.05**	5,491	1,260	777	8.8%	78
		C	999,491	145,625							2,762							
		D	3,004,781	198,902														

Drainage Area	Condition	Soil Type	Existing Brushland	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road		Total Area (ac)	Flow Path Length (ft)	U/S Elev	D/S Elev	Slope (%)	Composite CN w/o Road
8.1	Diverted		**Area (sf)**															
		A	1,506,204	318,734								**3,910,579**	**89.77**	4,270	1,250	801	10.5%	64
		C	878,516	3,977														
		D	1,099,781	103,367														
9	Diverted		**Area (sf)**															
		A	586,265	17,613								**703,591**	**16.15**	879	1,250	1,038	24.1%	53
		D	52,776	46,937														
10.1	Diverted		**Area (sf)**															
		A	1,398,683	33,786								**1,844,365**	**42.34**	3,248	1,220	896	10.0%	54
		C	206,986	204,839														
		D	71	0														
11	Diverted		**Area (sf)**															
		A	143,883	138,856								**330,401**	**7.58**	560	935	865	12.5%	49
		D	47,662															
12.1	Diverted		**Area (sf)**															
		A	3,280,966	442,855								**3,953,596**	**90.76**	3,100	1,041	817	7.2%	49
		D	229,775															
12.2	Developed		**Area (sf)**															
		A	16,994	2,211,288	199,027	1,494,517	7,324,421	1,050,782	235,101	682,689	1,897,057	**18,611,996**	**427.27**	7,353	1,050	917	1.8%	74
		C	11,451	192,628	35,583	318,749	560,576	234,114		19,302	146,424							
		D	1,919	224,139	80,001	244,683	381,989	532,498	254,332		261,733							
12.3	Developed		**Area (sf)**															
		A	0	524,388								**1,842,919**	**42.31**	3,115	1,265	1040	7.2%	69
		D	132,712	1,185,819														
12.4	Developed		**Area (sf)**															
		A	525,603	555,526								**2,734,787**	**62.78**	3,621	1,265	1,035	6.4%	65
		C	91,428	210,737														
		D	132,988	1,218,505														
13	Diverted		**Area (sf)**															
		A	18,395									**67,532**	**1.55**	294	1,122	1,002	40.8%	73
		D	49,137															
14	Diverted		**Area (sf)**															
		A	38,790									**109,322**	**2.51**	246	1,074	945	52.4%	71
		D	70,532															
15.1	Diverted		**Area (sf)**															
		A	365,355	1,615							4,198	**414,988**	**9.53**	1,585	1,127	866	16.5%	52
		D	43,820															
15.2	Developed		**Area (sf)**															
		A	441,518	274,710				3	154,319	97,375	224,863	**1,372,228**	**31.50**	2,036	915	895	1.0%	58
		D	83,654	50,843							44,944							
16.1	Diverted		**Area (sf)**															
		A	486,022	101,093							5,839	**1,317,955**	**30.26**	2,287	1,035	871	7.2%	66
		D	657,344	67,640							17							

Drainage Area	Condition	Soil Type	Existing Brushland	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road		Total Area (ac)	Flow Path Length (ft)	U/S Elev	D/S Elev	Slope (%)	Composite CN w/o Road
16.2	Developed		**Area (sf)**															
		A		71,978						438,516		**534,690**	**12.27**	808	935	880	6.8%	67
		D		21,152						3,043								
16.3	Developed		**Area (sf)**															
		A	9,863	251,654	304,061		2,369,230				333,557	**4,800,431**	**110.20**	3,863	1,015	986	0.8%	77
		C	7				797,175				27,011							
		D	6	273,175			425,443				9,248							
17	Diverted		**Area (sf)**															
		A	945,668									**1,066,067**	**24.47**	1,613	1,046	895	9.4%	52
		C	77,320															
		D	43,080															
18.1	Diverted		**Area (sf)**															
		A	1,062,920	693,366								**5,811,307**	**133.41**	4,653	1,115	867	5.3%	69
		C	467,747	477,662														
		D	1,653,280	1,456,332														
18.2	Developed		**Area (sf)**															
		A	39,329	311							40,054	**1,858,157**	**42.66**	3,224	1,177	1,066	3.4%	87
		C	4,345	280,553		987,297					50,899							
		D	8,130	14,670		333,039					99,531							
19	Diverted		**Area (sf)**															
		A	1,135,160									**1,546,511**	**35.50**	1,740	1,164	992	9.9%	56
		C	411,351															
20.1	Diverted		**Area (sf)**															
		A	808224	1333								**5,359,234**	**123.03**	**3956**	1149	687	11.7%	74
		C	2979788	68505						976								
		D	1500408															
20.2	Developed		**Area (sf)**															
		C		96917						10222	64854	**171,993**	**3.95**	1642	1100	1005	5.8%	82
20.3	Developed		**Area (sf)**															
		C		83828						20212	44976	**149,016**	**3.42**	545	1012	1004	1.6%	81
20.4	Developed		**Area (sf)**															
		C		264956						30205	40602	**335,763**	**7.71**	845	1010	986	2.8%	77
21	Diverted		**Area (sf)**															
		A	670,692									**1,537,885**	**35.30**	2,036	1,015	740	13.5%	65
		C	789,290															
		D	77,903															
22	Diverted		**Area (sf)**															
		A	7,823									**2,526,337**	**58.00**	1,968	905	631	13.9%	81
		C	770,954															
		D	1,747,560															

HSG	TR-55 Runoff Curve Number								
	Brush	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road
A	48	39	49	81	77	81	89	71	83
C	77	74	79	91	90	91	94	87	92
D	83	80	84	93	92	92	95	90	93

LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 — EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 — DRAINAGE AREA ID
- HYDROLOGIC SOIL GROUP "A"
- HYDROLOGIC SOIL GROUP "C"
- HYDROLOGIC SOIL GROUP "D"

COLLECTION POINT #22
COLLECTION POINT #21
COLLECTION POINT #20
COLLECTION POINT #19
COLLECTION POINT #1
COLLECTION POINT #2
COLLECTION POINT #3
COLLECTION POINT #4
COLLECTION POINT #5
COLLECTION POINT #6
COLLECTION POINT #7
COLLECTION POINT #8
COLLECTION POINT #18
PROPERTY LINE
CULVERT
CULVERT
US-101 HIGHWAY
US-101 HIGHWAY
COOK HILL ROAD
ORCUTT HILL ROAD
RIGHT-OF-WAY OF STATE HIGHWAY

SEE SHEET H8

0 300 600 900 feet
1"=300'

solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
POST-DEVELOPMENT HSG EXHIBIT

H9

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SEE SHEET H7

LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID
- HYDROLOGIC SOIL GROUP "A"
- HYDROLOGIC SOIL GROUP "C"
- HYDROLOGIC SOIL GROUP "D"

PROPOSED WESTERN PROJECT BOUNDARY

COLLECTION POINT #17

COLLECTION POINT #16

COLLECTION POINT #15

COLLECTION POINT #14

COLLECTION POINT #13

COLLECTION POINT #12

COLLECTION POINT #11

COLLECTION POINT #10

COLLECTION POINT #9

US 101 HIGHWAY

0 300 600 900 feet

1"=300'

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solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909

POST-DEVELOPMENT HSG EXHIBIT

H10

LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 — EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 — DRAINAGE AREA ID

LAND USE DESIGNATION:

- NATURAL
- COMMERCIAL
- OPEN SPACE
- PUBLIC/INSTITUTIONAL
- RECREATIONAL
- RESIDENTIAL - MULTI FAMILY
- RESIDENTIAL 1 (~70% IMPERVIOUS)
- RESIDENTIAL 2 (~65% IMPERVIOUS)
- ROAD

HSG	TR-55 Runoff Curve Number								
	Brush	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road
A	48	39	49	81	77	81	89	71	83
C	77	74	79	91	90	91	94	87	92
D	83	80	84	93	92	92	95	90	93

COLLECTION POINT #22
COLLECTION POINT #21
COLLECTION POINT #20
COLLECTION POINT #19
COLLECTION POINT #1
COLLECTION POINT #2
COLLECTION POINT #3
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COLLECTION POINT #5
COLLECTION POINT #6
COLLECTION POINT #7
COLLECTION POINT #8
COLLECTION POINT #18
PROPERTY LINE
CULVERT
ORCUTT HILL ROAD
US-101 HIGHWAY
RIGHT-OF-WAY OF STATE HIGHWAY

SEE SHEET H8

0 300 600 900 feet
1"=300'

solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
POST-DEVELOPMENT LAND USE EXHIBIT

H9

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SEE SHEET H9

LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID

LAND USE DESIGNATION:

- NATURAL
- COMMERCIAL
- OPEN SPACE
- PUBLIC/INSTITUTIONAL
- RECREATIONAL
- RESIDENTIAL - MULTI FAMILY
- RESIDENTIAL 1 (~70% IMPERVIOUS)
- RESIDENTIAL 2 (~65% IMPERVIOUS)
- ROAD

HSG	TR-55 Runoff Curve Number								
	Brush	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road
A	48	39	49	81	77	81	89	71	83
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D	83	80	84	93	92	92	95	90	93

PROPOSED WESTERN PROJECT BOUNDARY

COLLECTION POINT #17
COLLECTION POINT #16
COLLECTION POINT #15
COLLECTION POINT #14
COLLECTION POINT #13
COLLECTION POINT #12
COLLECTION POINT #11
COLLECTION POINT #10
COLLECTION POINT #9

US 101 HIGHWAY

0 300 600 900 feet
1"=300'

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July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
POST-DEVELOPMENT LAND USE EXHIBIT

H10

Attachment 4 – Hydrologic Support Data

NOAA Atlas 14 Point Precipitation Data

National Resource Conservation Service (NRCS) Soil Survey

NOAA Atlas 14, Volume 6, Version 2
Location name: Santa Maria, California, USA*
Latitude: 34.8272°, Longitude: -120.3884°
Elevation: 982 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	**0.131** (0.113-0.153)	**0.161** (0.139-0.189)	**0.199** (0.171-0.234)	**0.230** (0.195-0.273)	**0.269** (0.219-0.332)	**0.297** (0.237-0.378)	**0.326** (0.252-0.426)	**0.354** (0.264-0.480)	**0.391** (0.277-0.557)	**0.419** (0.285-0.622)
10-min	**0.187** (0.162-0.219)	**0.231** (0.199-0.271)	**0.286** (0.246-0.336)	**0.329** (0.280-0.391)	**0.385** (0.314-0.476)	**0.426** (0.339-0.542)	**0.467** (0.361-0.611)	**0.508** (0.379-0.687)	**0.561** (0.398-0.799)	**0.601** (0.409-0.892)
15-min	**0.226** (0.195-0.265)	**0.279** (0.241-0.327)	**0.346** (0.297-0.406)	**0.398** (0.339-0.472)	**0.466** (0.380-0.576)	**0.516** (0.410-0.655)	**0.565** (0.436-0.739)	**0.614** (0.458-0.831)	**0.678** (0.481-0.966)	**0.726** (0.494-1.08)
30-min	**0.323** (0.279-0.377)	**0.399** (0.344-0.467)	**0.493** (0.424-0.580)	**0.568** (0.483-0.674)	**0.664** (0.542-0.822)	**0.736** (0.585-0.934)	**0.806** (0.622-1.06)	**0.876** (0.653-1.19)	**0.968** (0.686-1.38)	**1.04** (0.705-1.54)
60-min	**0.470** (0.406-0.550)	**0.580** (0.500-0.680)	**0.718** (0.618-0.844)	**0.827** (0.703-0.981)	**0.967** (0.790-1.20)	**1.07** (0.852-1.36)	**1.17** (0.906-1.54)	**1.28** (0.951-1.73)	**1.41** (0.999-2.01)	**1.51** (1.03-2.24)
2-hr	**0.687** (0.593-0.803)	**0.848** (0.731-0.993)	**1.05** (0.902-1.23)	**1.21** (1.03-1.43)	**1.41** (1.15-1.74)	**1.56** (1.24-1.98)	**1.71** (1.32-2.24)	**1.85** (1.38-2.51)	**2.04** (1.45-2.91)	**2.19** (1.49-3.25)
3-hr	**0.855** (0.739-1.00)	**1.06** (0.911-1.24)	**1.31** (1.12-1.54)	**1.50** (1.28-1.78)	**1.76** (1.43-2.17)	**1.94** (1.54-2.47)	**2.13** (1.64-2.78)	**2.31** (1.72-3.12)	**2.54** (1.80-3.62)	**2.72** (1.85-4.04)
6-hr	**1.18** (1.02-1.38)	**1.46** (1.26-1.71)	**1.81** (1.56-2.13)	**2.08** (1.77-2.47)	**2.43** (1.99-3.01)	**2.69** (2.14-3.42)	**2.95** (2.28-3.86)	**3.20** (2.39-4.33)	**3.53** (2.50-5.03)	**3.78** (2.57-5.61)
12-hr	**1.51** (1.30-1.76)	**1.86** (1.61-2.18)	**2.31** (1.98-2.71)	**2.65** (2.26-3.15)	**3.10** (2.53-3.84)	**3.44** (2.73-4.36)	**3.76** (2.90-4.92)	**4.08** (3.05-5.53)	**4.51** (3.20-6.42)	**4.83** (3.29-7.17)
24-hr	**1.92** (1.68-2.24)	**2.38** (2.08-2.78)	**2.95** (2.57-3.46)	**3.40** (2.94-4.02)	**3.99** (3.34-4.85)	**4.42** (3.63-5.49)	**4.85** (3.89-6.16)	**5.27** (4.12-6.88)	**5.84** (4.39-7.92)	**6.26** (4.56-8.78)
2-day	**2.45** (2.14-2.86)	**3.06** (2.67-3.58)	**3.84** (3.35-4.50)	**4.47** (3.86-5.27)	**5.30** (4.44-6.46)	**5.94** (4.88-7.38)	**6.58** (5.28-8.36)	**7.22** (5.65-9.43)	**8.10** (6.09-11.0)	**8.78** (6.39-12.3)
3-day	**2.77** (2.42-3.23)	**3.49** (3.05-4.08)	**4.44** (3.86-5.20)	**5.22** (4.51-6.16)	**6.30** (5.28-7.67)	**7.14** (5.87-8.87)	**8.01** (6.43-10.2)	**8.91** (6.97-11.6)	**10.2** (7.64-13.8)	**11.1** (8.11-15.6)
4-day	**2.99** (2.62-3.49)	**3.79** (3.31-4.42)	**4.85** (4.22-5.68)	**5.74** (4.96-6.78)	**6.99** (5.86-8.52)	**7.98** (6.56-9.92)	**9.02** (7.24-11.5)	**10.1** (7.91-13.2)	**11.6** (8.75-15.8)	**12.9** (9.36-18.0)
7-day	**3.60** (3.15-4.20)	**4.56** (3.98-5.33)	**5.86** (5.10-6.87)	**6.95** (6.01-8.21)	**8.49** (7.11-10.3)	**9.72** (7.98-12.1)	**11.0** (8.84-14.0)	**12.4** (9.68-16.1)	**14.3** (10.8-19.4)	**15.9** (11.6-22.2)
10-day	**3.97** (3.47-4.63)	**5.04** (4.40-5.89)	**6.49** (5.65-7.60)	**7.71** (6.67-9.10)	**9.44** (7.90-11.5)	**10.8** (8.89-13.4)	**12.3** (9.85-15.6)	**13.8** (10.8-18.0)	**16.0** (12.0-21.7)	**17.8** (13.0-24.9)
20-day	**4.81** (4.20-5.61)	**6.15** (5.37-7.18)	**7.96** (6.94-9.33)	**9.51** (8.22-11.2)	**11.7** (9.80-14.2)	**13.5** (11.1-16.7)	**15.3** (12.3-19.5)	**17.3** (13.6-22.6)	**20.2** (15.2-27.4)	**22.6** (16.4-31.6)
30-day	**5.84** (5.11-6.82)	**7.50** (6.55-8.77)	**9.77** (8.51-11.4)	**11.7** (10.1-13.8)	**14.4** (12.1-17.6)	**16.7** (13.7-20.7)	**19.0** (15.3-24.2)	**21.6** (16.9-28.2)	**25.3** (19.0-34.3)	**28.3** (20.6-39.7)
45-day	**7.20** (6.30-8.41)	**9.27** (8.09-10.8)	**12.1** (10.5-14.2)	**14.5** (12.5-17.1)	**17.9** (15.0-21.9)	**20.7** (17.0-25.8)	**23.7** (19.0-30.1)	**27.0** (21.1-35.2)	**31.7** (23.8-42.9)	**35.5** (25.9-49.8)
60-day	**8.24** (7.20-9.61)	**10.6** (9.25-12.4)	**13.8** (12.0-16.2)	**16.6** (14.3-19.6)	**20.5** (17.2-25.0)	**23.7** (19.5-29.4)	**27.1** (21.8-34.5)	**30.8** (24.1-40.2)	**36.2** (27.2-49.1)	**40.7** (29.6-57.0)

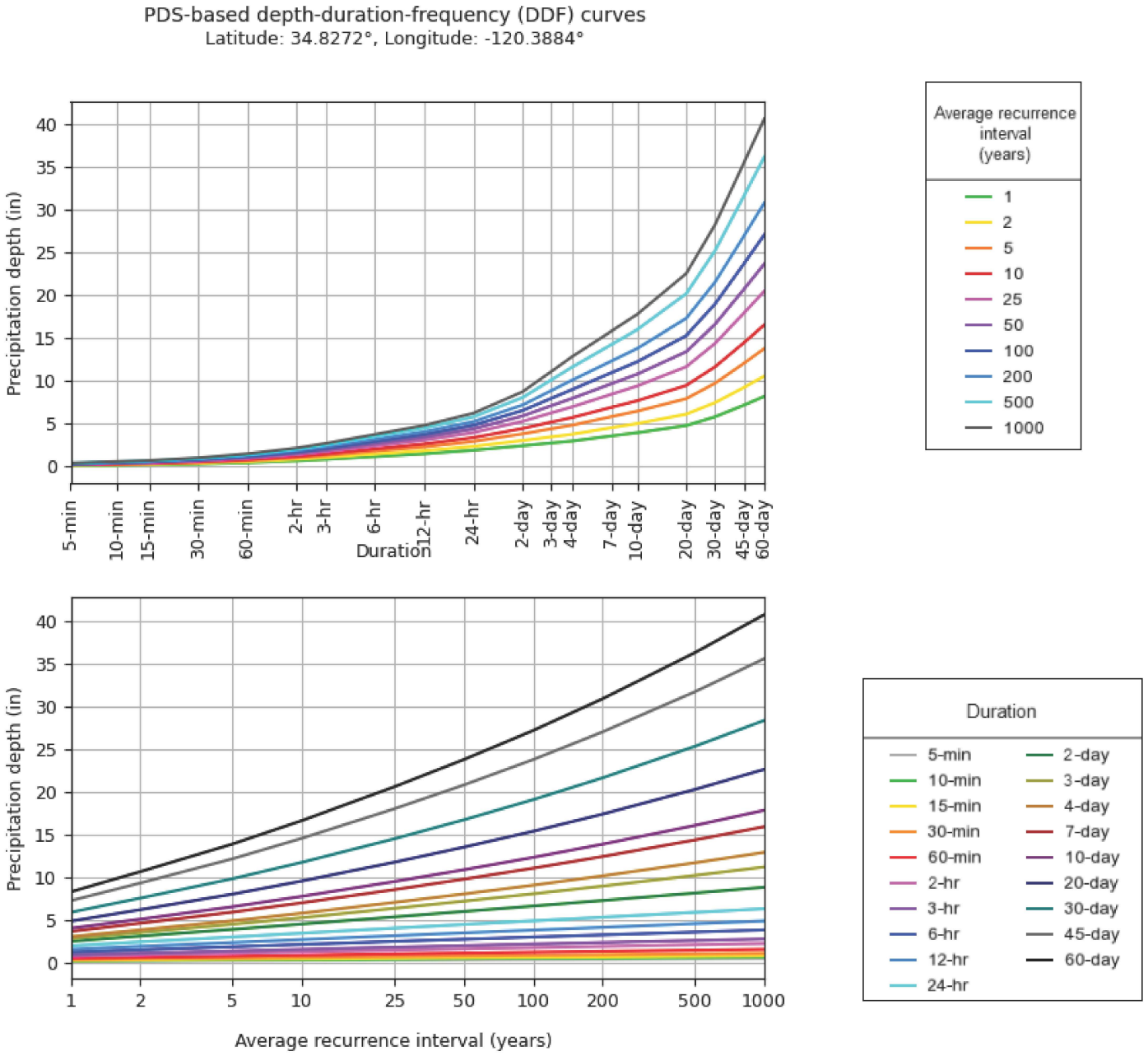
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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



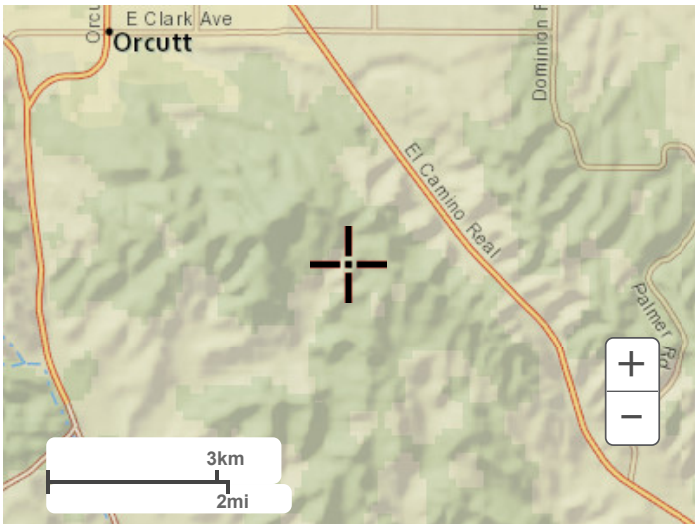
NOAA Atlas 14, Volume 6, Version 2

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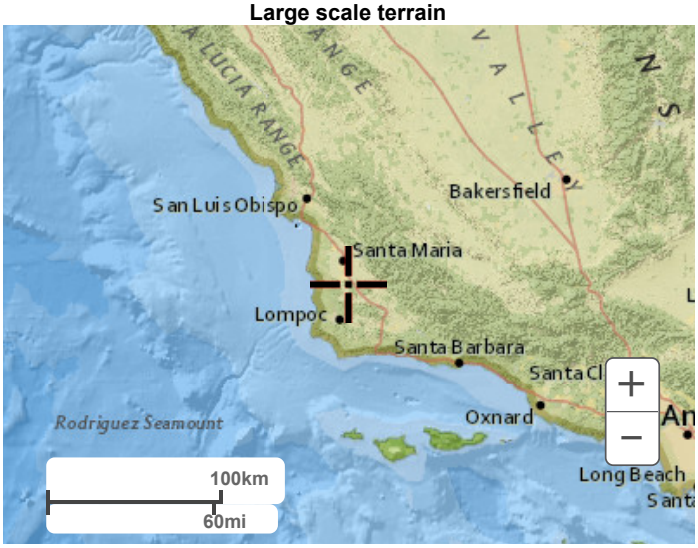
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Maps & aerials

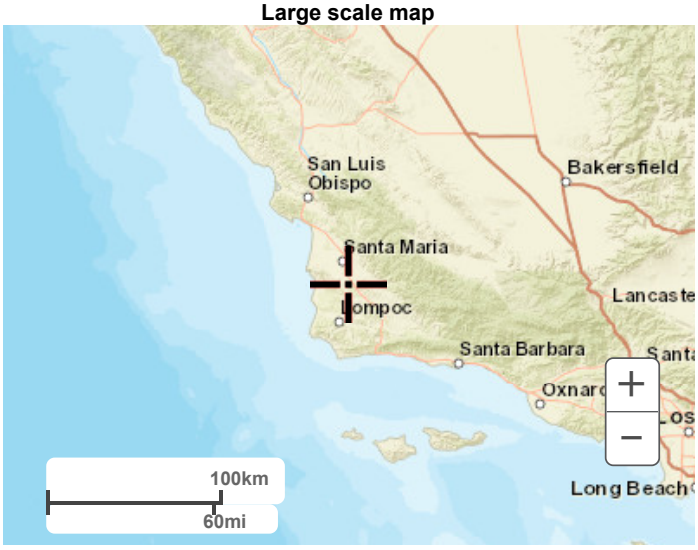
Small scale terrain



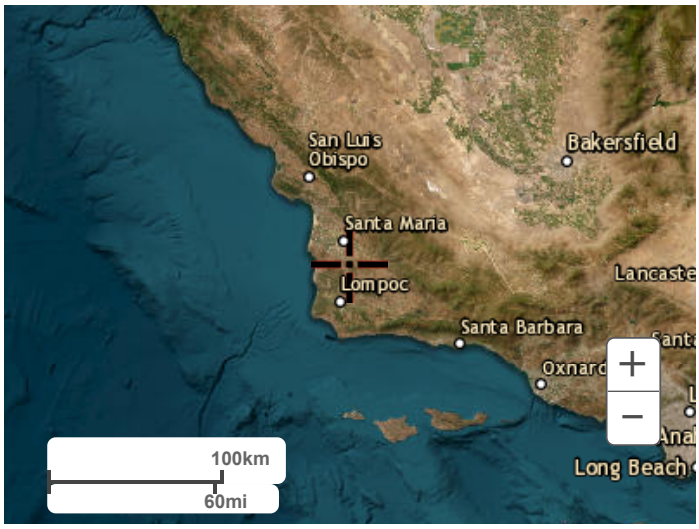
Large scale terrain



Large scale map



Large scale aerial



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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

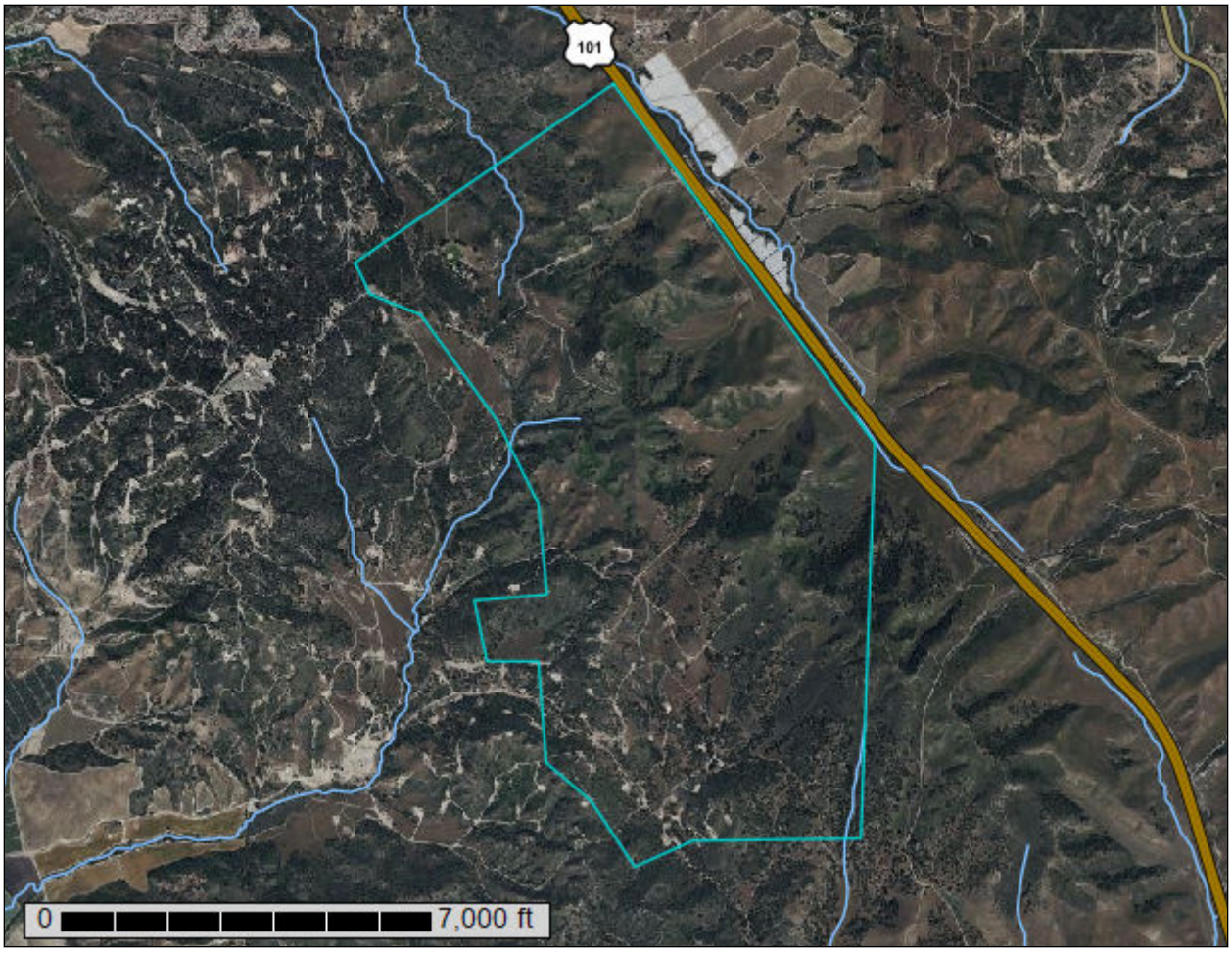
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

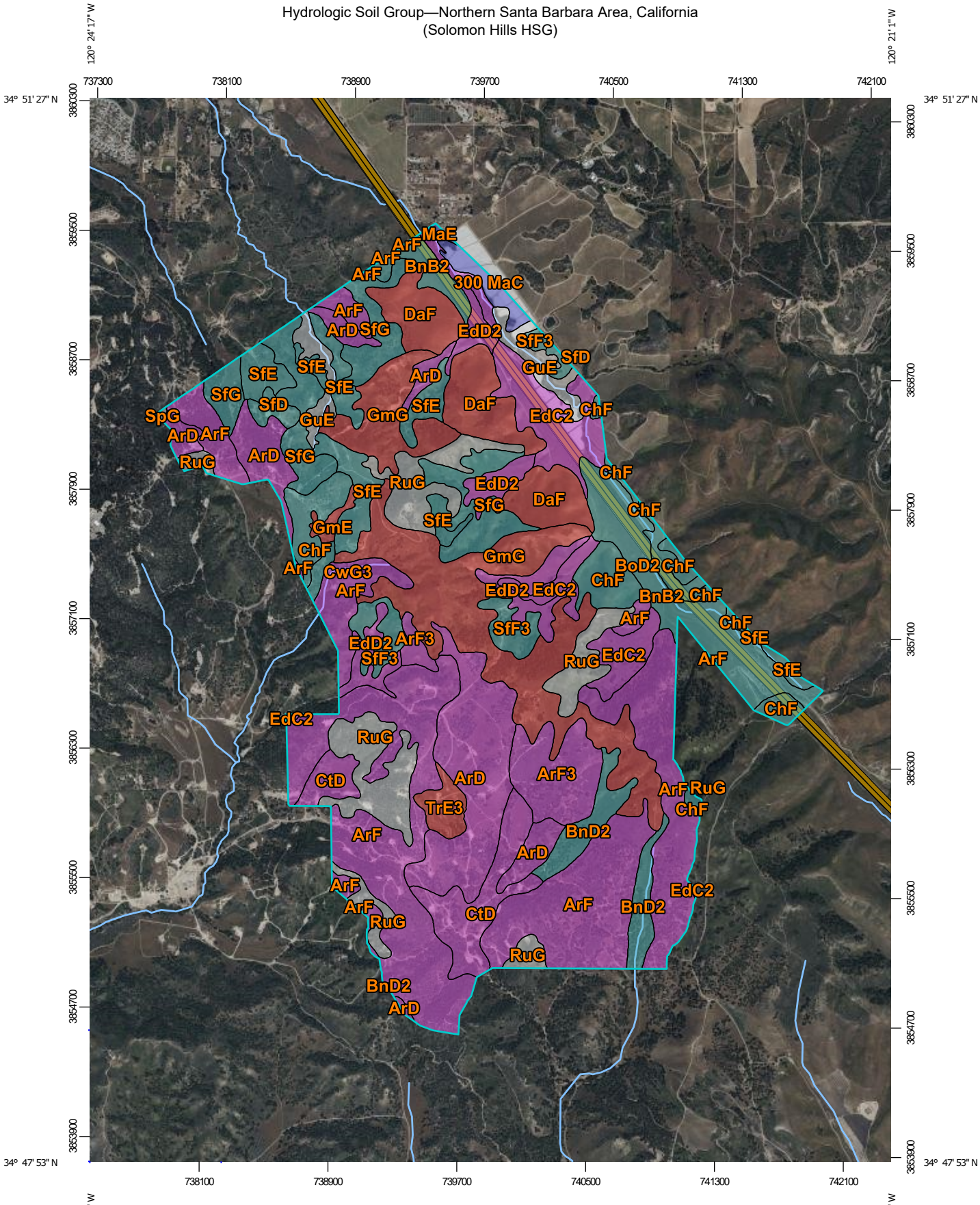
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Northern Santa Barbara Area, California



January 27, 2025

Hydrologic Soil Group—Northern Santa Barbara Area, California
(Solomon Hills HSG)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Northern Santa Barbara Area, California
Survey Area Data: Version 19, Sep 9, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 12, 2022—Apr 12, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
300	Corducci and Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	A	11.9	0.5%
ArD	Arnold sand, 5 to 15 percent slopes	A	223.8	9.0%
ArF	Arnold sand, 15 to 45 percent slopes	A	586.8	23.6%
ArF3	Arnold sand, 9 to 45 percent slopes, severely eroded	A	77.6	3.1%
BnB2	Betteravia loamy sand, dark variant, 0 to 5 percent slopes, eroded	C	131.5	5.3%
BnD2	Betteravia loamy sand, dark variant, 5 to 15 percent slopes, eroded	C	54.3	2.2%
BoD2	Botella loam, 2 to 15 percent slopes, eroded	C	17.0	0.7%
ChF	Chamise shaly loam, 15 to 45 percent slopes	C	85.9	3.5%
CtD	Corralitos sand, 2 to 15 percent slopes	A	87.7	3.5%
CwG3	Crow Hill loam, 15 to 75 percent slopes, severely eroded	C	6.7	0.3%
DaF	Diablo silty clay, 30 to 45 percent slopes	D	137.6	5.5%
EdC2	Elder sandy loam, 2 to 9 percent slopes, eroded	A	114.5	4.6%
EdD2	Elder sandy loam, 9 to 15 percent slopes, eroded	A	77.7	3.1%
GmE	Gaviota sandy loam, 15 to 30 percent slopes, MLRA 15	D	8.1	0.3%
GmG	Gaviota sandy loam, 30 to 75 percent slopes	D	308.6	12.4%
GuE	Gullied land		41.8	1.7%
MaC	Marina sand, 2 to 9 percent slopes	B	18.0	0.7%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MaE	Marina sand, 9 to 30 percent slopes	B	2.2	0.1%
RuG	Rough broken land		166.9	6.7%
SfD	San Andreas-Tierra complex, 5 to 15 percent slopes	C	15.1	0.6%
SfE	San Andreas-Tierra complex, 15 to 30 percent slopes	C	103.2	4.2%
SfF3	San Andreas-Tierra complex, 9 to 45 percent slopes, severely eroded	C	45.6	1.8%
SfG	San Andreas-Tierra complex, 30 to 75 percent slopes	C	141.4	5.7%
SpG	Sedimentary rock land		0.7	0.0%
TrE3	Tierra loam, 5 to 30 percent slopes, severely eroded	D	20.4	0.8%
Totals for Area of Interest			**2,485.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Attachment 5 – Flow Summary Table

Collection Point Flow Data Summary Tables

Flow Summary Pre-Development																						
	Collection Point																					
Storm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2	16.23	3.11	2.84	2.19	12.67	5.29	14.21	1.56	0.08	0.64	0.07	3.61	0.34	0.36	0.46	2.17	1.25	12.24	0.27	14.86	0.80	14.58
5	28.95	5.42	5.58	5.14	25.74	9.05	29.28	3.67	0.20	1.44	0.28	8.45	0.66	0.84	1.05	6.06	2.90	25.14	0.60	29.09	2.31	23.71
10	40.16	7.44	8.06	7.94	38.34	12.33	43.92	7.05	0.34	2.59	0.52	14.46	0.95	1.29	1.98	10.67	5.28	37.41	1.08	42.49	4.32	31.53
25	55.97	10.27	11.59	12.04	56.67	16.90	65.99	13.61	0.70	5.11	0.95	26.38	1.37	1.94	4.64	18.60	11.41	55.20	2.31	61.85	8.07	42.34
50	68.10	12.44	14.34	15.27	71.01	20.39	83.60	19.60	1.29	8.31	1.44	38.61	1.70	2.46	7.58	25.15	17.45	69.12	3.81	76.91	11.27	50.51
100	80.63	14.67	17.19	18.67	86.02	23.98	102.12	26.51	2.21	12.31	2.11	55.59	2.03	3.00	11.41	32.18	24.79	83.67	5.72	92.62	14.75	58.86

Flow Summary Post-Development																						
	Collection Point																					
Storm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2	14.45	2.78	2.84	1.96	14.69	4.31	14.42	1.76	0.08	0.23	0.01	3.05	0.29	0.36	0.33	1.88	0.09	6.28	0.27	11.31	0.80	14.58
5	24.97	4.58	5.55	4.32	26.90	7.75	24.95	4.25	0.20	0.58	0.06	6.68	0.60	0.84	0.54	4.80	0.27	12.86	0.60	22.30	2.31	23.71
10	34.15	6.13	7.99	6.53	37.27	10.88	34.34	7.93	0.34	1.00	0.10	10.66	0.88	1.29	0.87	6.84	0.45	20.00	1.08	33.06	4.32	31.53
25	47.02	8.29	11.48	9.75	52.81	15.38	47.75	14.38	0.70	1.89	0.19	19.50	1.29	1.94	1.62	9.70	0.87	31.08	2.31	48.78	8.07	42.33
50	56.85	9.92	14.18	12.28	64.82	18.89	58.13	20.07	1.29	3.00	0.29	25.39	1.61	2.46	2.06	15.28	1.38	40.16	3.81	61.07	11.27	50.51
100	66.97	11.59	16.99	14.92	77.28	22.56	68.84	26.48	2.21	4.64	0.49	36.49	1.94	3.00	2.86	22.60	2.25	49.93	5.72	73.93	14.75	58.86

Delta Flow Summary: Post-Pre																						
	Collection Point																					
Storm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2	-1.78	-0.33	0.00	-0.23	2.02	-0.98	0.21	0.20	0.00	-0.41	-0.06	-0.56	-0.05	0.00	-0.13	-0.29	-1.16	-5.96	0.00	-3.55	0.00	0.00
5	-3.98	-0.84	-0.03	-0.82	1.16	-1.30	-4.33	0.58	0.00	-0.86	-0.22	-1.77	-0.06	0.00	-0.51	-1.26	-2.63	-12.28	0.00	-6.79	0.00	0.00
10	-6.01	-1.31	-0.07	-1.41	-1.07	-1.45	-9.58	0.88	0.00	-1.59	-0.42	-3.80	-0.07	0.00	-1.11	-3.83	-4.83	-17.41	0.00	-9.43	0.00	0.00
25	-8.95	-1.98	-0.11	-2.29	-3.86	-1.52	-18.24	0.77	0.00	-3.22	-0.76	-6.88	-0.08	0.00	-3.02	-8.90	-10.54	-24.12	0.00	-13.07	0.00	-0.01
50	-11.25	-2.52	-0.16	-2.99	-6.19	-1.50	-25.47	0.47	0.00	-5.31	-1.15	-13.22	-0.09	0.00	-5.52	-9.87	-16.07	-28.96	0.00	-15.84	0.00	0.00
100	-13.66	-3.08	-0.20	-3.75	-8.74	-1.42	-33.28	-0.03	0.00	-7.67	-1.62	-19.10	-0.09	0.00	-8.55	-9.58	-22.54	-33.74	0.00	-18.69	0.00	0.00

Delta Flow Summary for Collection Points Flowing to **Orcutt Creek**: Post-Pre									
Storm Event	Collection Point								Total Flow (cfs)
	1	2	3	4	5	6	7	8	
2	-1.78	-0.33	0	-0.23	2.02	-0.98	0.21	0.2	**-0.89**
5	-3.98	-0.84	-0.03	-0.82	1.16	-1.3	-4.33	0.58	**-9.56**
10	-6.01	-1.31	-0.07	-1.41	-1.07	-1.45	-9.58	0.88	**-20.02**
25	-8.95	-1.98	-0.11	-2.29	-3.86	-1.52	-18.24	0.77	**-36.18**
50	-11.25	-2.52	-0.16	-2.99	-6.19	-1.5	-25.47	0.47	**-49.61**
100	-13.66	-3.08	-0.2	-3.75	-8.74	-1.42	-33.28	-0.03	**-64.16**

Attachment 6 – Pre-Development HydroCAD Report



Subcat Reach Pond Link

Routing Diagram for SolomonHills Pre Development DMAs
Prepared by RRM Design Group, Printed 7/14/2025
HydroCAD® 10.20-7a s/n 13395 © 2025 HydroCAD Software Solutions LLC

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73 Subcat 18 PRE: Collection Point 18
74 Subcat 19 PRE: Collection Point 19
75 Subcat 20 PRE: Collection Point 20
76 Subcat 21 PRE: Collection Point 21
77 Subcat 22 PRE: Collection Point 22

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 year	Type I 24-hr		Default	24.00	1	2.38	2
2	25 year	Type I 24-hr		Default	24.00	1	3.99	2
3	100 year	Type I 24-hr		Default	24.00	1	4.85	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
439.602	48	Brush, Fair, HSG A (12 PRE)
31.173	77	Brush, Fair, HSG C (12 PRE)
91.976	83	Brush, Fair, HSG D (12 PRE)
503.529	48	Brush, Poor, HSG A (1 PRE, 2 PRE, 3 PRE, 4 PRE, 5 PRE, 6 PRE, 7 PRE, 8 PRE, 9 PRE, 10 PRE, 11 PRE, 13 PRE, 14 PRE, 15 PRE, 16 PRE, 17 PRE, 18 PRE, 19 PRE, 20 PRE, 21 PRE)
319.086	77	Brush, Poor, HSG C (1 PRE, 6 PRE, 7 PRE, 8 PRE, 10 PRE, 17 PRE, 18 PRE, 19 PRE, 20 PRE, 21 PRE, 22 PRE)
508.859	83	Brush, Poor, HSG D (1 PRE, 2 PRE, 3 PRE, 4 PRE, 5 PRE, 6 PRE, 7 PRE, 8 PRE, 9 PRE, 10 PRE, 11 PRE, 13 PRE, 14 PRE, 15 PRE, 16 PRE, 17 PRE, 18 PRE, 21 PRE, 22 PRE)
54.896	77	Brush, Poor,, HSG C (5 PRE)
35.394	83	Brush, Poor,HSG D (20 PRE)
1,984.515	**65**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
943.131	HSG A	1 PRE, 2 PRE, 3 PRE, 4 PRE, 5 PRE, 6 PRE, 7 PRE, 8 PRE, 9 PRE, 10 PRE, 11 PRE, 12 PRE, 13 PRE, 14 PRE, 15 PRE, 16 PRE, 17 PRE, 18 PRE, 19 PRE, 20 PRE, 21 PRE
0.000	HSG B	
405.155	HSG C	1 PRE, 5 PRE, 6 PRE, 7 PRE, 8 PRE, 10 PRE, 12 PRE, 17 PRE, 18 PRE, 19 PRE, 20 PRE, 21 PRE, 22 PRE
636.229	HSG D	1 PRE, 2 PRE, 3 PRE, 4 PRE, 5 PRE, 6 PRE, 7 PRE, 8 PRE, 9 PRE, 10 PRE, 11 PRE, 12 PRE, 13 PRE, 14 PRE, 15 PRE, 16 PRE, 17 PRE, 18 PRE, 20 PRE, 21 PRE, 22 PRE
0.000	Other	
1,984.515		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
439.602	0.000	31.173	91.976	0.000	562.752	Brush, Fair	12 PRE
503.529	0.000	373.982	544.253	0.000	1,421.764	Brush, Poor	1 PRE, 2 PRE, 3 PRE, 4 PRE, 5 PRE, 6 PRE, 7 PRE, 8 PRE, 9 PRE, 10 PRE, 11 PRE, 13 PRE, 14 PRE, 15 PRE, 16 PRE, 17 PRE, 18 PRE, 19 PRE, 20 PRE, 21 PRE, 22 PRE
943.131	**0.000**	**405.155**	**636.229**	**0.000**	**1,984.515**	**TOTAL AREA**	

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1 PRE: Collection Point 1 Runoff Area=4,642,907 sf 0.00% Impervious Runoff Depth=0.71"
Flow Length=4,165' Slope=0.1560 '/' Tc=37.9 min CN=78/0 Runoff=16.23 cfs 6.317 af

Subcatchment 2 PRE: Colleciton Point 2 Runoff Area=587,909 sf 0.00% Impervious Runoff Depth=0.71"
Flow Length=1,210' Slope=0.2390 '/' Tc=20.8 min CN=78/0 Runoff=3.11 cfs 0.800 af

Subcatchment 3 PRE: Colleciton Point 3 Runoff Area=858,494 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=1,657' Slope=0.2250 '/' Tc=24.1 min CN=75/0 Runoff=2.84 cfs 0.955 af

Subcatchment 4 PRE: Collection Point 4 Runoff Area=1,131,991 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=1,764' Slope=0.1890 '/' Tc=25.8 min CN=72/0 Runoff=2.19 cfs 1.012 af

Subcatchment 5 PRE: Collection Point 5 Runoff Area=6,131,451 sf 0.00% Impervious Runoff Depth=0.54"
Flow Length=3,920' Slope=0.1300 '/' Tc=39.0 min CN=74/0 Runoff=12.67 cfs 6.357 af

Subcatchment 6 PRE: Collection Point 6 Runoff Area=1,108,808 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=2,050' Slope=0.1550 '/' Tc=28.7 min CN=79/0 Runoff=5.29 cfs 1.608 af

Subcatchment 7 PRE: Collection Point 7 Runoff Area=8,685,222 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=4,875' Slope=0.0990 '/' Tc=46.5 min CN=73/0 Runoff=14.21 cfs 8.373 af

Subcatchment 8 PRE: Collection Point 8 Runoff Area=4,500,349 sf 0.00% Impervious Runoff Depth=0.18"
Flow Length=4,017' Slope=0.1130 '/' Tc=41.1 min CN=62/0 Runoff=1.56 cfs 1.575 af

Subcatchment 9 PRE: Collection Point 9 Runoff Area=703,589 sf 0.00% Impervious Runoff Depth=0.04"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=0.08 cfs 0.052 af

Subcatchment 10 PRE: Collection Point Runoff Area=3,739,141 sf 0.00% Impervious Runoff Depth=0.08"
Flow Length=3,448' Slope=0.1180 '/' Tc=37.9 min CN=56/0 Runoff=0.64 cfs 0.540 af

Subcatchment 11 PRE: Collection Point Runoff Area=1,677,212 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=1,780' Slope=0.0990 '/' Tc=30.5 min CN=49/0 Runoff=0.07 cfs 0.027 af

Subcatchment 12 PRE: Collection Point Runoff Area=24,513,457 sf 0.00% Impervious Runoff Depth=0.06"
Flow Length=6,556' Slope=0.0640 '/' Tc=61.6 min CN=55/0 Runoff=3.61 cfs 2.906 af

Subcatchment 13 PRE: Collection Point 13 Runoff Area=67,530 sf 0.00% Impervious Runoff Depth=0.54"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=74/0 Runoff=0.34 cfs 0.070 af

Subcatchment 14 PRE: Collection Point 14 Runoff Area=109,321 sf 0.00% Impervious Runoff Depth=0.43"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=0.36 cfs 0.090 af

Subcatchment 15 PRE: Collection Point Runoff Area=2,067,068 sf 0.00% Impervious Runoff Depth=0.11"
Flow Length=1,561' Slope=0.1880 '/' Tc=24.7 min CN=58/0 Runoff=0.46 cfs 0.420 af

Subcatchment 16 PRE: Collection Point Runoff Area=3,077,349 sf 0.00% Impervious Runoff Depth=0.31"
Flow Length=2,355' Slope=0.1200 '/' Tc=32.4 min CN=67/0 Runoff=2.17 cfs 1.812 af

Subcatchment 17 PRE: Collection Point Runoff Area=5,084,187 sf 0.00% Impervious Runoff Depth=0.12"
Flow Length=2,922' Slope=0.1280 '/' Tc=34.7 min CN=59/0 Runoff=1.25 cfs 1.201 af

Subcatchment 18 PRE: Collection Point Runoff Area=5,724,512 sf 0.00% Impervious Runoff Depth=0.54"
Flow Length=2,981' Slope=0.1070 '/' Tc=36.7 min CN=74/0 Runoff=12.24 cfs 5.935 af

Subcatchment 19 PRE: Collection Point Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.08"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=0.27 cfs 0.223 af

Subcatchment 20 PRE: Collection Point Runoff Area=6,424,000 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=14.86 cfs 7.149 af

Subcatchment 21 PRE: Collection Point Runoff Area=1,538,032 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=0.80 cfs 0.747 af

Subcatchment 22 PRE: Collection Point Runoff Area=2,526,439 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=14.58 cfs 4.146 af

Total Runoff Area = 1,984.515 ac Runoff Volume = 52.317 af Average Runoff Depth = 0.32"
100.00% Pervious = 1,984.515 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1 PRE: Collection Point 1

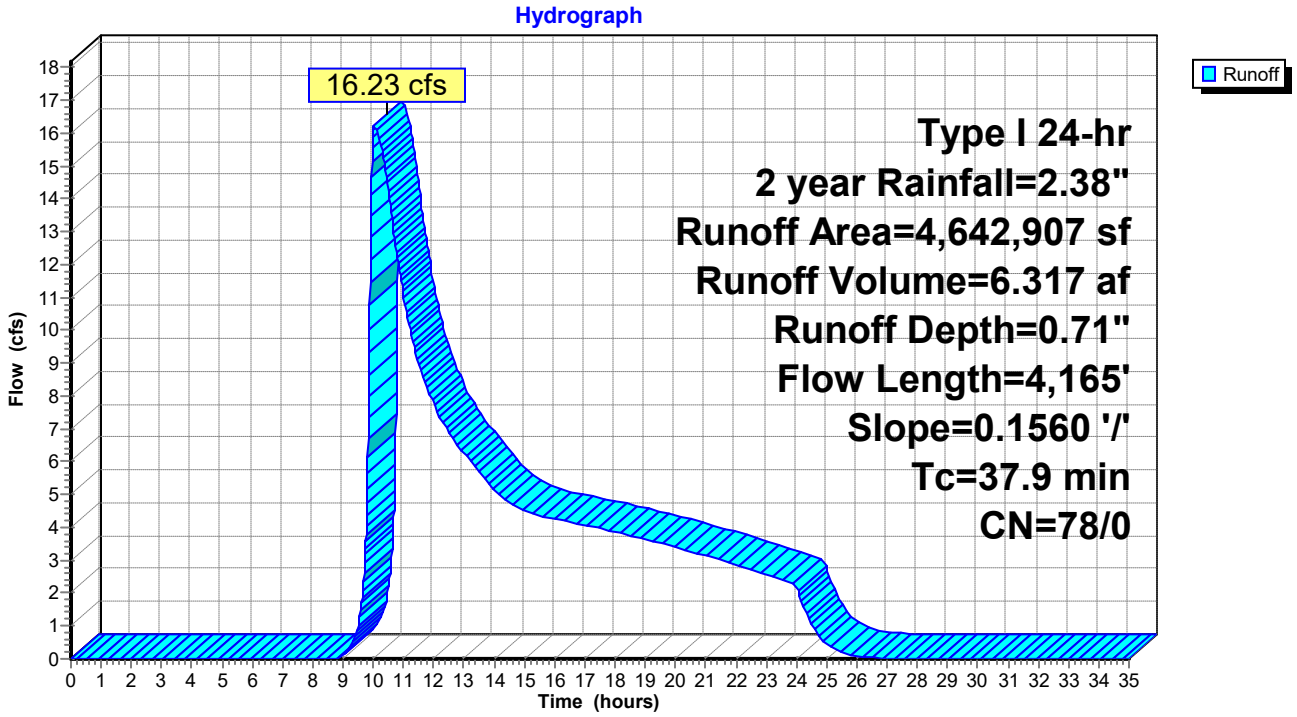
Runoff = 16.23 cfs @ 10.01 hrs, Volume= 6.317 af, Depth= 0.71"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	603,578	48	Brush, Poor, HSG A
*	696,436	77	Brush, Poor, HSG C
*	3,342,893	83	Brush, Poor, HSG D
	4,642,907	78	Weighted Average
	4,642,907	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1560	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.0	2,965	0.1560	3.29		**Kirpich Method,** General overland flow k= 2.00
37.9	4,165	Total			

Subcatchment 1 PRE: Collection Point 1



Summary for Subcatchment 2 PRE: Colleciton Point 2

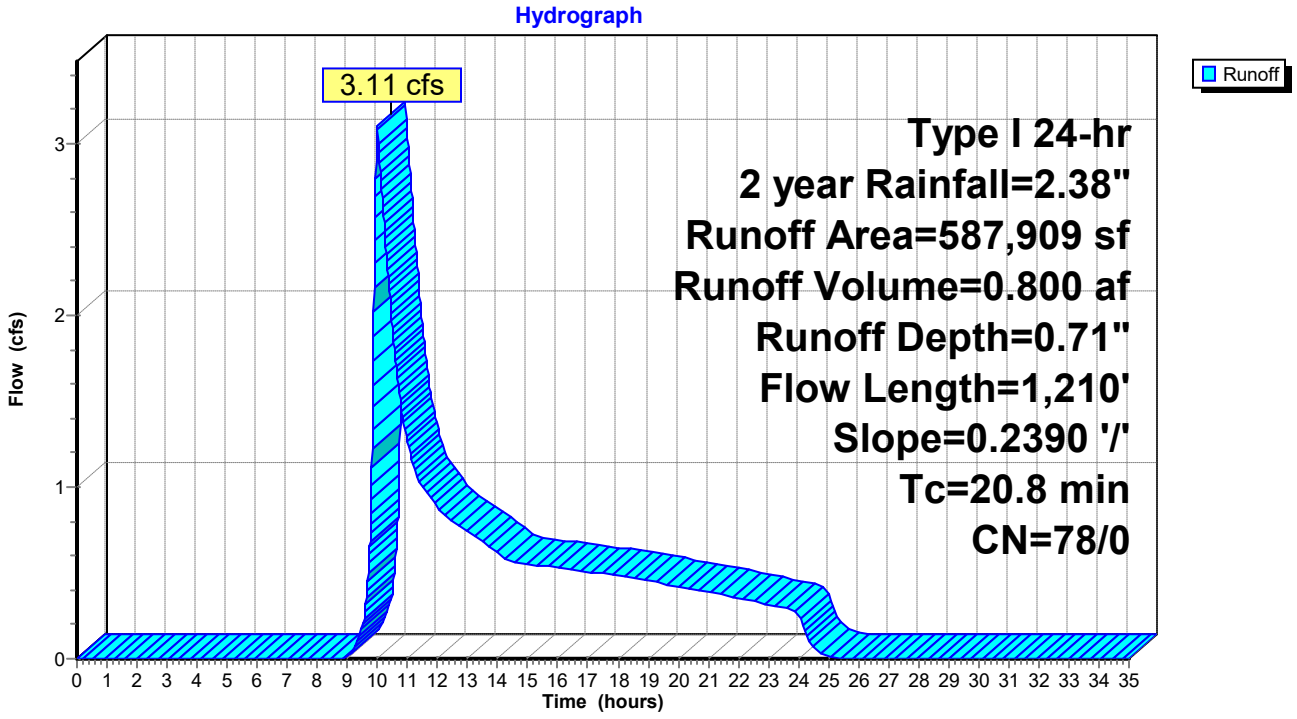
Runoff = 3.11 cfs @ 9.99 hrs, Volume= 0.800 af, Depth= 0.71"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	76,428	48	Brush, Poor, HSG A
*	511,481	83	Brush, Poor, HSG D
	587,909	78	Weighted Average
	587,909	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	1,210	0.2390	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2 PRE: Colleciton Point 2



Summary for Subcatchment 3 PRE: Colleciton Point 3

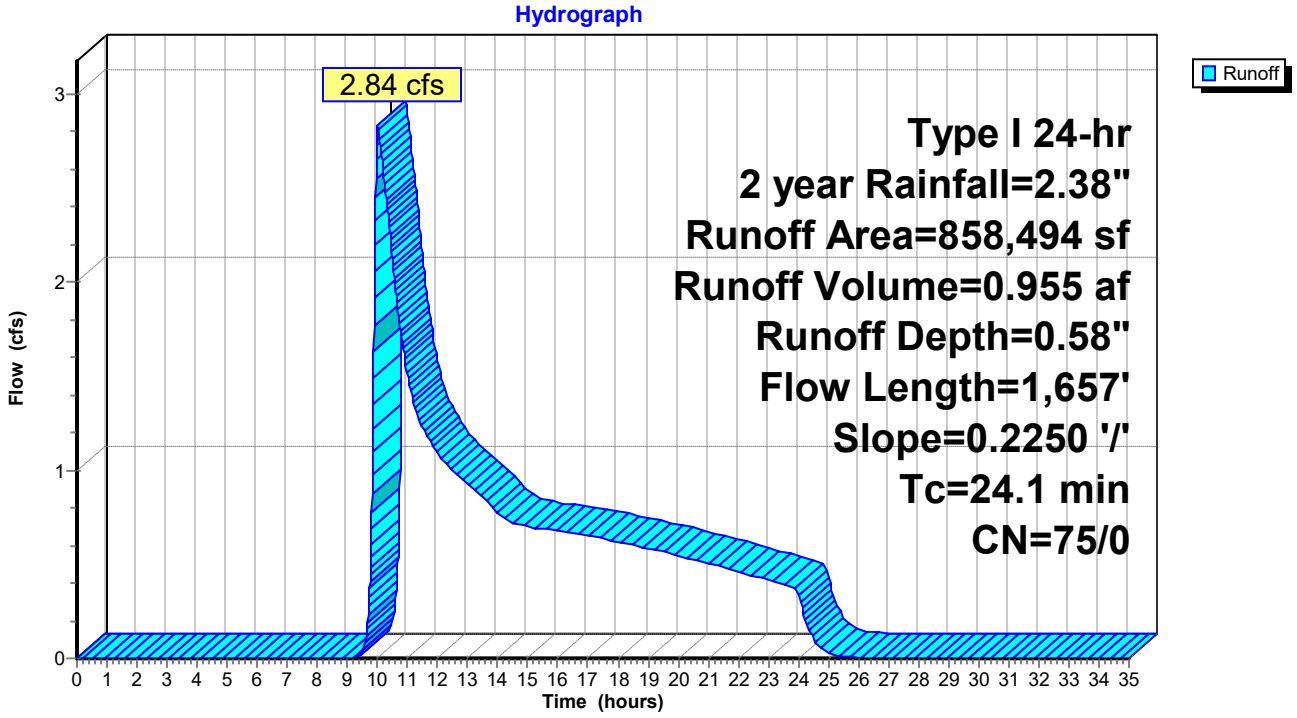
Runoff = 2.84 cfs @ 10.00 hrs, Volume= 0.955 af, Depth= 0.58"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	188,869	48	Brush, Poor, HSG A
*	669,625	83	Brush, Poor, HSG D
	858,494	75	Weighted Average
	858,494	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	1,200	0.2250	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.1	457	0.2250	2.46		**Kirpich Method,** General overland flow k= 2.00
24.1	1,657	Total			

Subcatchment 3 PRE: Colleciton Point 3



Summary for Subcatchment 4 PRE: Collection Point 4

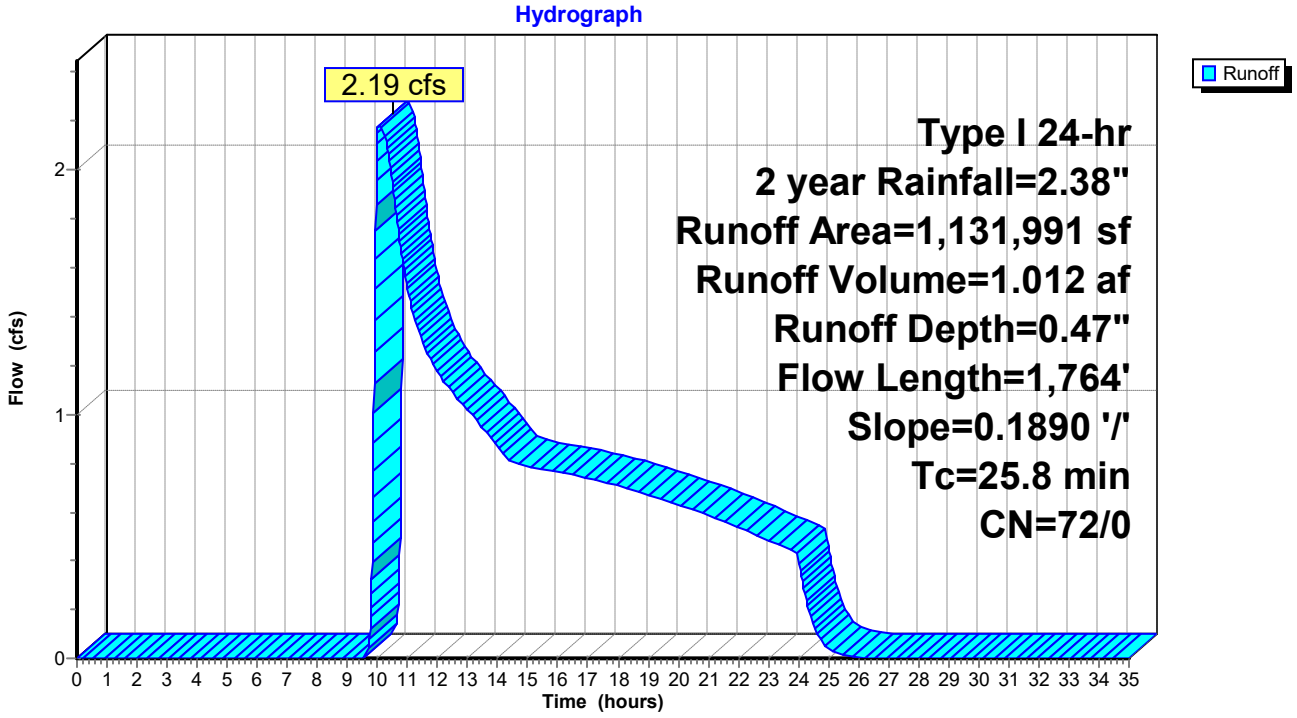
Runoff = 2.19 cfs @ 10.05 hrs, Volume= 1.012 af, Depth= 0.47"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	362,237	48	Brush, Poor, HSG A
*	769,754	83	Brush, Poor, HSG D
	1,131,991	72	Weighted Average
	1,131,991	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	1,200	0.1890	0.91		**Kerby Method,** Pasture, average grass N= 0.40
3.9	564	0.1890	2.42		**Kirpich Method,** General overland flow k= 2.00
25.8	1,764	Total			

Subcatchment 4 PRE: Collection Point 4



Summary for Subcatchment 5 PRE: Collection Point 5

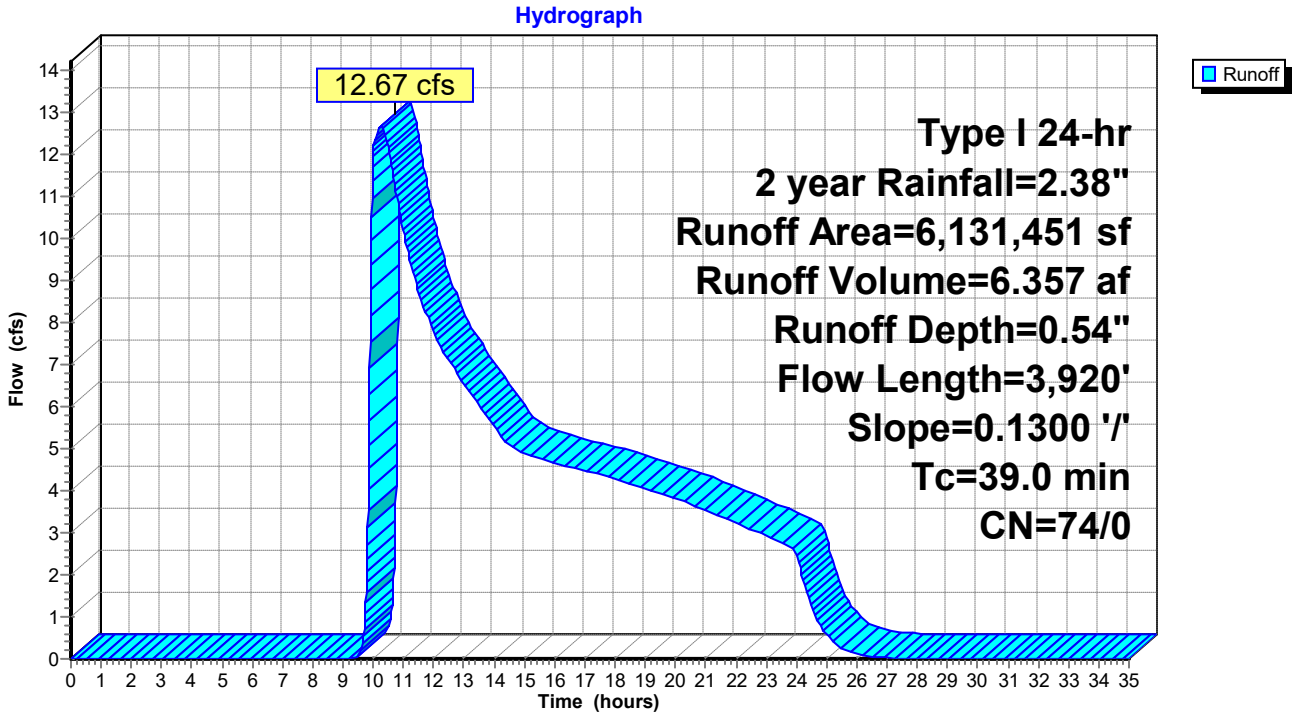
Runoff = 12.67 cfs @ 10.26 hrs, Volume= 6.357 af, Depth= 0.54"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,103,661	48	Brush, Poor, HSG A
*	2,391,266	77	Brush, Poor,, HSG C
*	2,636,524	83	Brush, Poor, HSG D
	6,131,451	74	Weighted Average
	6,131,451	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	1,200	0.1300	0.84		**Kerby Method,** Pasture, average grass N= 0.40
15.1	2,720	0.1300	3.00		**Kirpich Method,** General overland flow k= 2.00
39.0	3,920	Total			

Subcatchment 5 PRE: Collection Point 5



Summary for Subcatchment 6 PRE: Collection Point 6

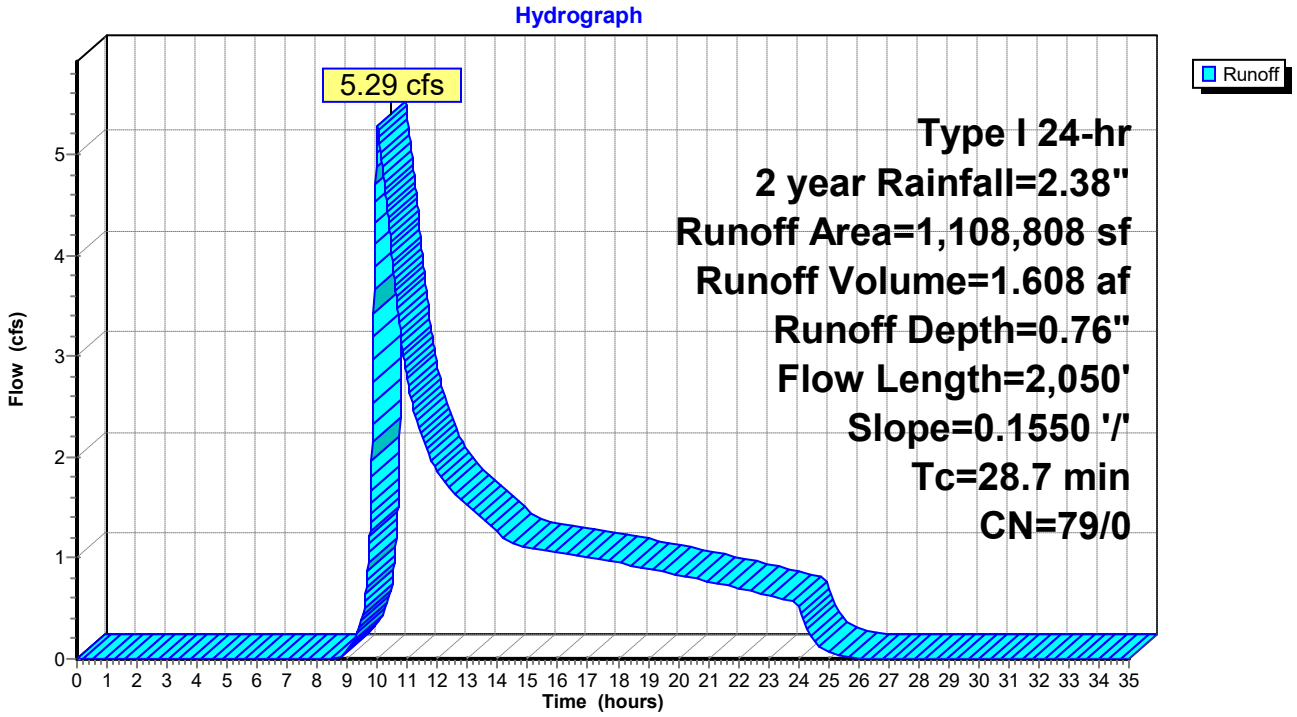
Runoff = 5.29 cfs @ 10.00 hrs, Volume= 1.608 af, Depth= 0.76"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	88,705	48	Brush, Poor, HSG A
*	299,378	77	Brush, Poor, HSG C
*	720,725	83	Brush, Poor, HSG D
	1,108,808	79	Weighted Average
	1,108,808	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1550	0.87		**Kerby Method,** Pasture, average grass N= 0.40
5.8	850	0.1550	2.46		**Kirpich Method,** General overland flow k= 2.00
28.7	2,050	Total			

Subcatchment 6 PRE: Collection Point 6



Summary for Subcatchment 7 PRE: Collection Point 7

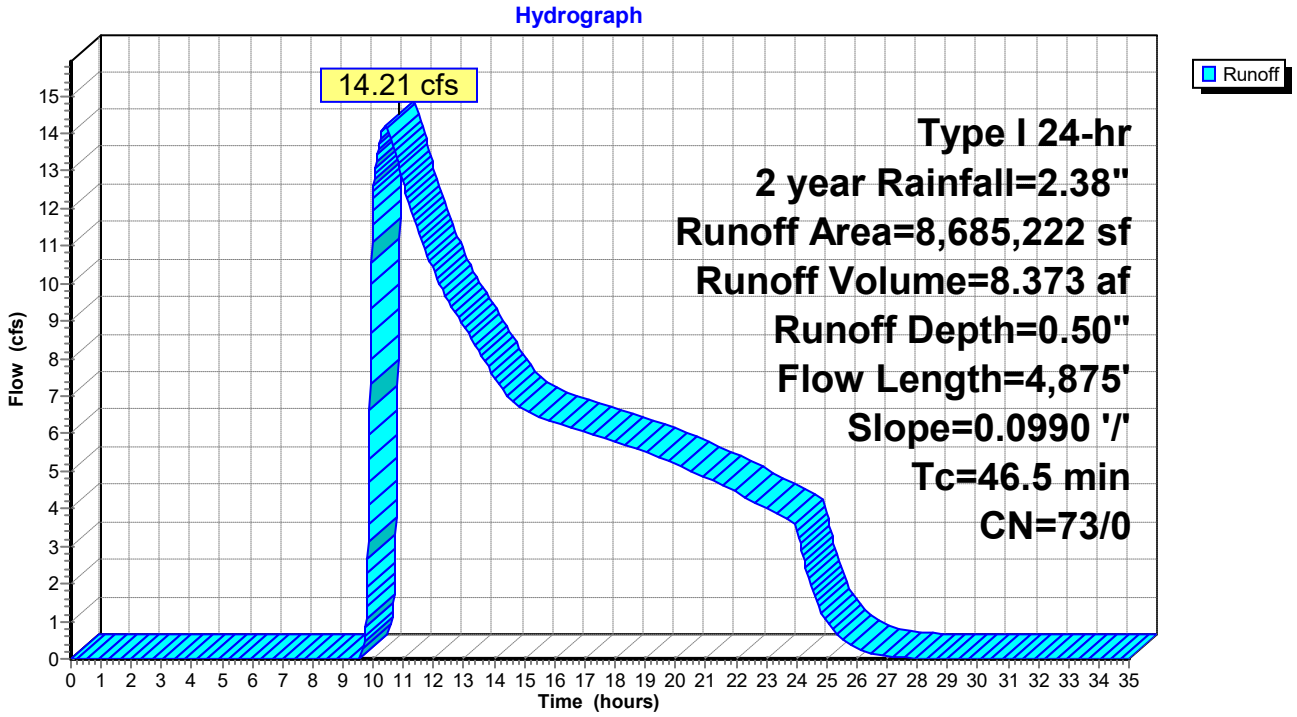
Runoff = 14.21 cfs @ 10.39 hrs, Volume= 8.373 af, Depth= 0.50"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,997,601	48	Brush, Poor, HSG A
*	2,345,010	77	Brush, Poor, HSG C
*	4,342,611	83	Brush, Poor, HSG D
	8,685,222	73	Weighted Average
	8,685,222	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
21.1	3,675	0.0990	2.90		**Kirpich Method,** General overland flow k= 2.00
46.5	4,875	Total			

Subcatchment 7 PRE: Collection Point 7



Summary for Subcatchment 8 PRE: Collection Point 8

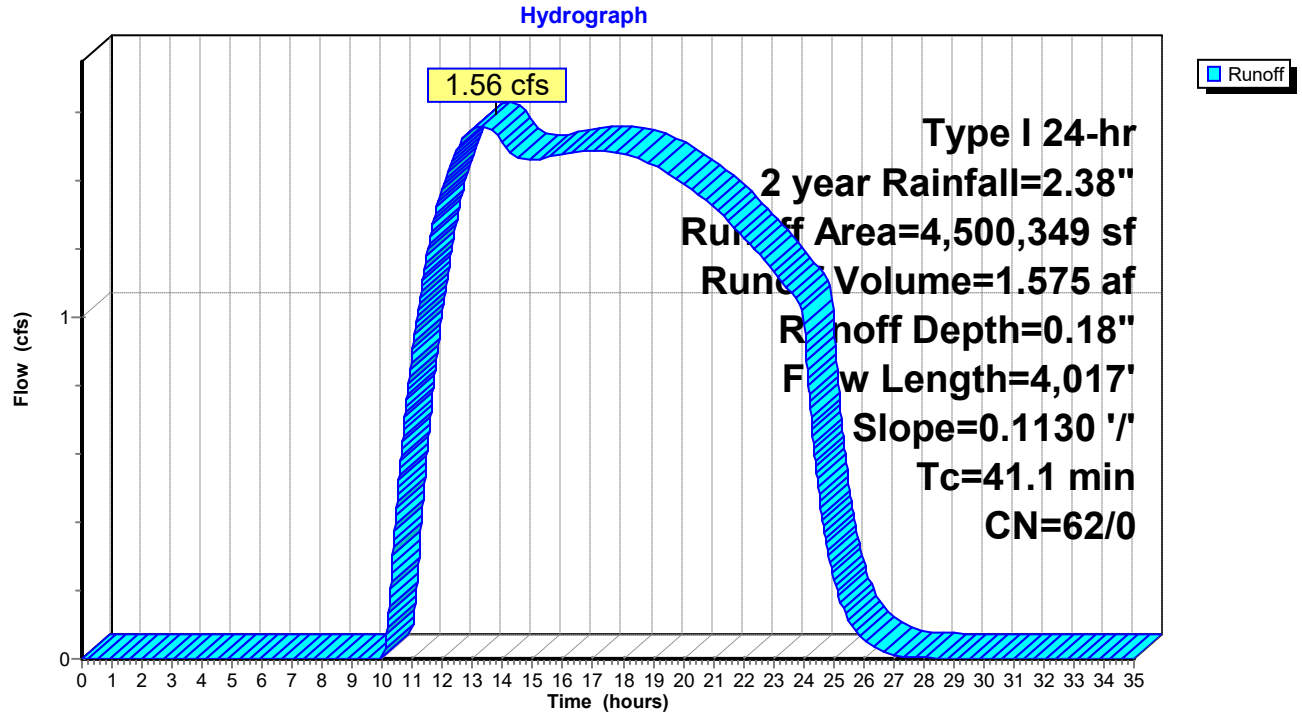
Runoff = 1.56 cfs @ 13.28 hrs, Volume= 1.575 af, Depth= 0.18"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	2,565,199	48	Brush, Poor, HSG A
*	720,056	77	Brush, Poor, HSG C
*	1,215,094	83	Brush, Poor, HSG D
	4,500,349	62	Weighted Average
	4,500,349	62	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.7	1,200	0.1130	0.81		**Kerby Method,** Pasture, average grass N= 0.40
16.4	2,817	0.1130	2.87		**Kirpich Method,** General overland flow k= 2.00
41.1	4,017	Total			

Subcatchment 8 PRE: Collection Point 8



Summary for Subcatchment 9 PRE: Collection Point 9

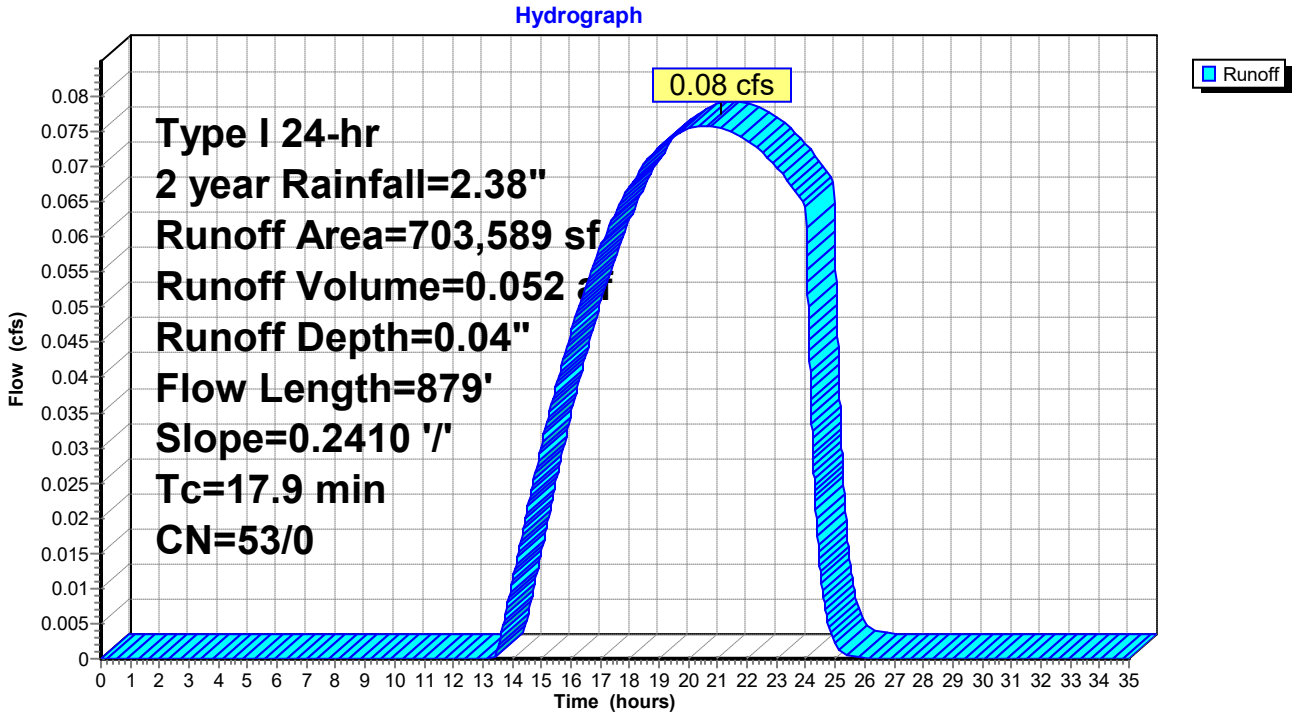
Runoff = 0.08 cfs @ 20.61 hrs, Volume= 0.052 af, Depth= 0.04"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	605,087	48	Brush, Poor, HSG A
*	98,502	83	Brush, Poor, HSG D
	703,589	53	Weighted Average
	703,589	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9 PRE: Collection Point 9



Summary for Subcatchment 10 PRE: Collection Point 10

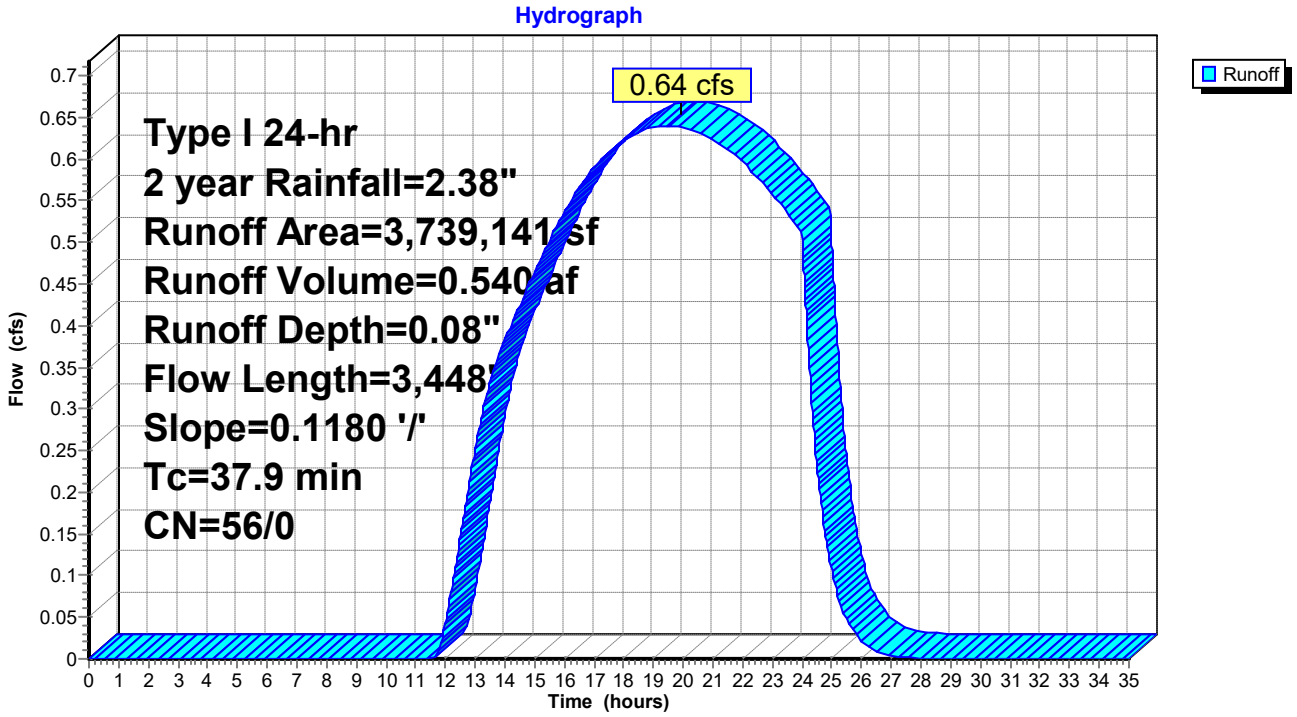
Runoff = 0.64 cfs @ 19.47 hrs, Volume= 0.540 af, Depth= 0.08"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	2,713,197	48	Brush, Poor, HSG A
*	886,722	77	Brush, Poor, HSG C
*	139,222	83	Brush, Poor, HSG D
	3,739,141	56	Weighted Average
	3,739,141	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.4	1,200	0.1180	0.82		**Kerby Method,** Pasture, average grass N= 0.40
13.5	2,248	0.1180	2.77		**Kirpich Method,** General overland flow k= 2.00
37.9	3,448	Total			

Subcatchment 10 PRE: Collection Point 10



Summary for Subcatchment 11 PRE: Collection Point 11

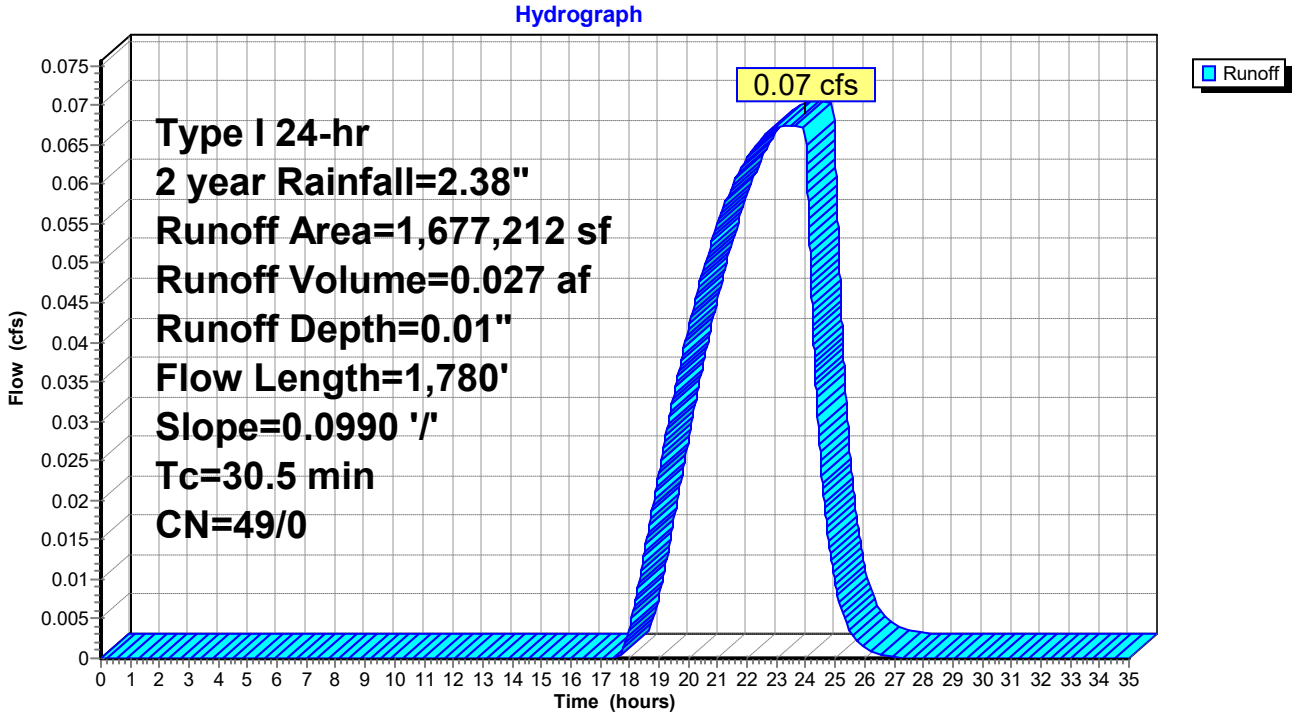
Runoff = 0.07 cfs @ 23.46 hrs, Volume= 0.027 af, Depth= 0.01"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,626,896	48	Brush, Poor, HSG A
*	50,316	83	Brush, Poor, HSG D
	1,677,212	49	Weighted Average
	1,677,212	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
5.1	580	0.0990	1.90		**Kirpich Method,** General overland flow k= 2.00
30.5	1,780	Total			

Subcatchment 11 PRE: Collection Point 11



Summary for Subcatchment 12 PRE: Collection Point 12

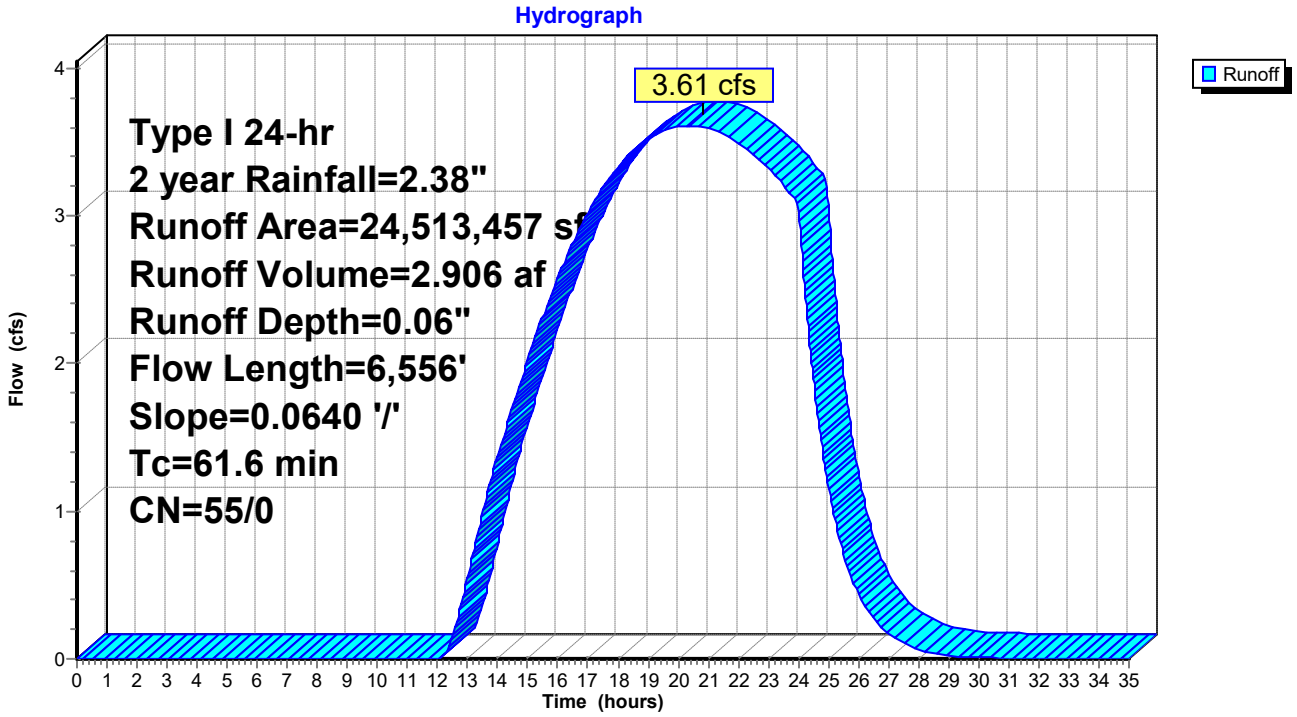
Runoff = 3.61 cfs @ 20.37 hrs, Volume= 2.906 af, Depth= 0.06"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	19,149,065	48	Brush, Fair, HSG A
*	1,357,896	77	Brush, Fair, HSG C
*	4,006,496	83	Brush, Fair, HSG D
	24,513,457	55	Weighted Average
	24,513,457	55	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
33.4	5,356	0.0640	2.67		**Kirpich Method,** General overland flow k= 2.00
61.6	6,556	Total			

Subcatchment 12 PRE: Collection Point 12



Summary for Subcatchment 13 PRE: Collection Point 13

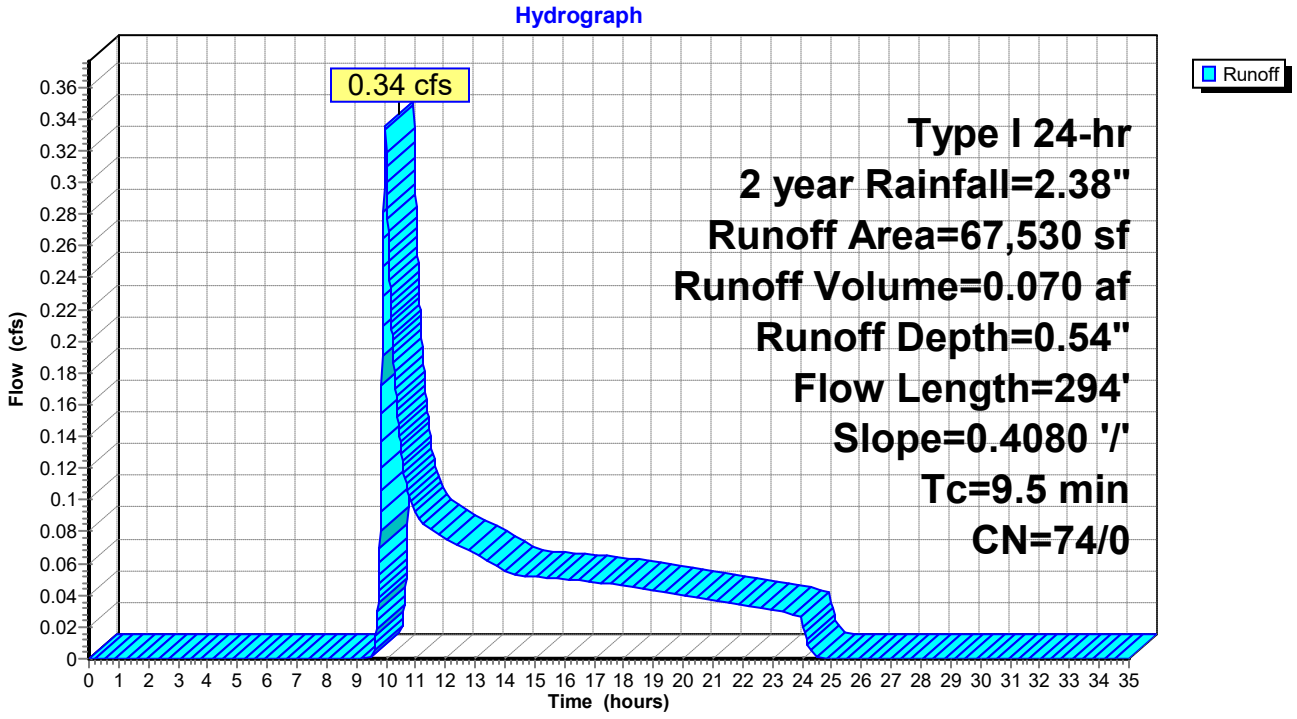
Runoff = 0.34 cfs @ 9.98 hrs, Volume= 0.070 af, Depth= 0.54"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	18,233	48	Brush, Poor, HSG A
*	49,297	83	Brush, Poor, HSG D
	67,530	74	Weighted Average
	67,530	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13 PRE: Collection Point 13



Summary for Subcatchment 14 PRE: Collection Point 14

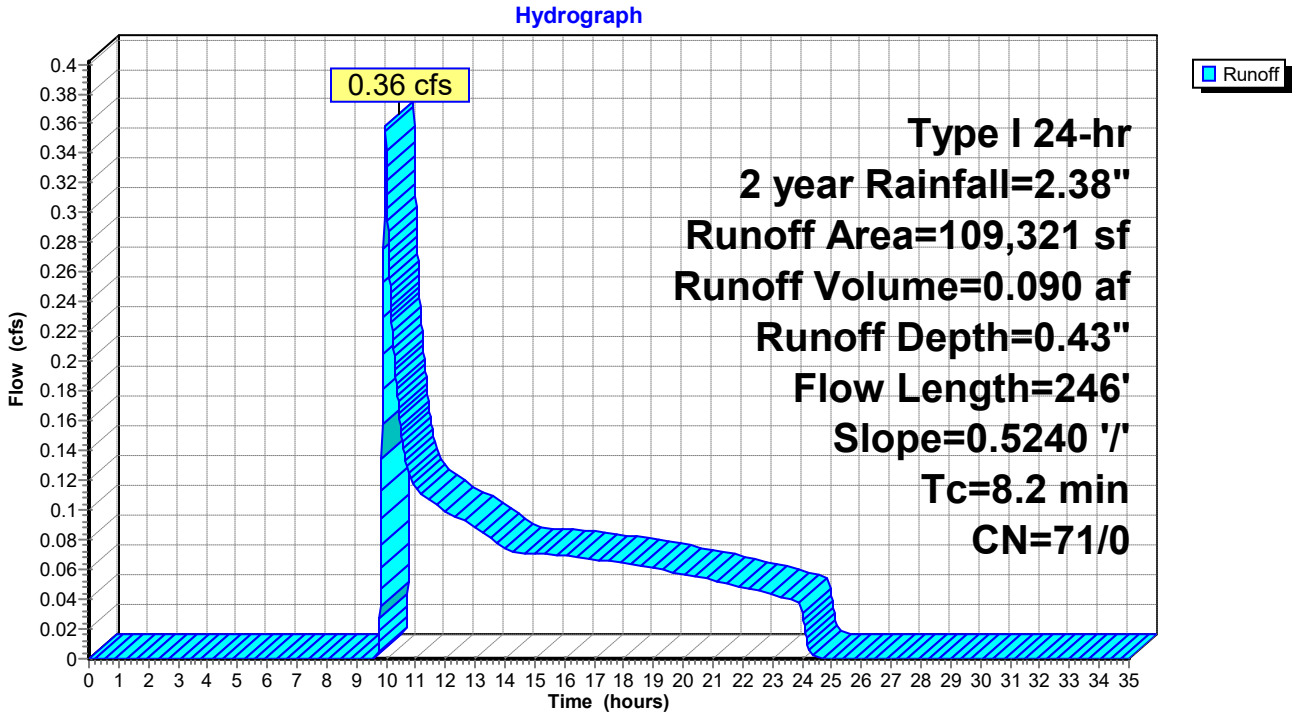
Runoff = 0.36 cfs @ 9.98 hrs, Volume= 0.090 af, Depth= 0.43"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	38,262	48	Brush, Poor, HSG A
*	71,059	83	Brush, Poor, HSG D
	109,321	71	Weighted Average
	109,321	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14 PRE: Collection Point 14



Summary for Subcatchment 15 PRE: Collection Point 15

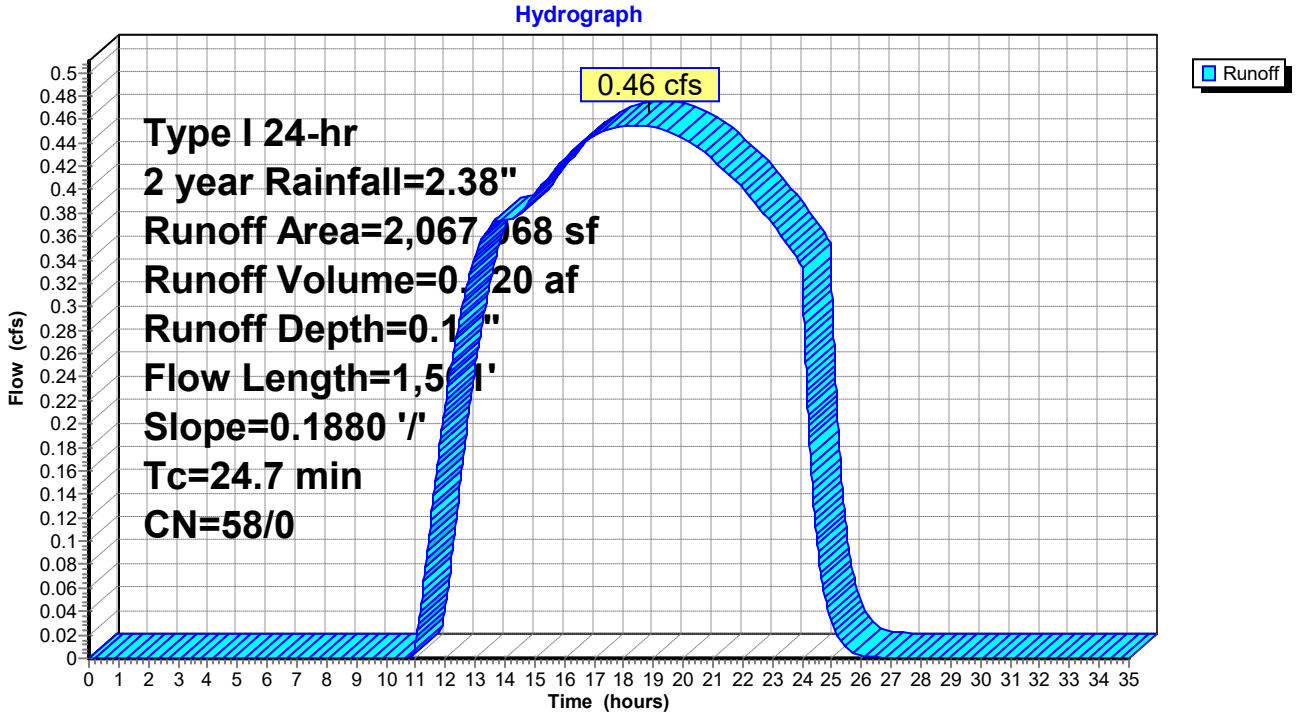
Runoff = 0.46 cfs @ 18.38 hrs, Volume= 0.420 af, Depth= 0.11"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,446,948	48	Brush, Poor, HSG A
*	620,120	83	Brush, Poor, HSG D
	2,067,068	58	Weighted Average
	2,067,068	58	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	1,200	0.1880	0.91		**Kerby Method,** Pasture, average grass N= 0.40
2.8	361	0.1880	2.18		**Kirpich Method,** General overland flow k= 2.00
24.7	1,561	Total			

Subcatchment 15 PRE: Collection Point 15



Summary for Subcatchment 16 PRE: Collection Point 16

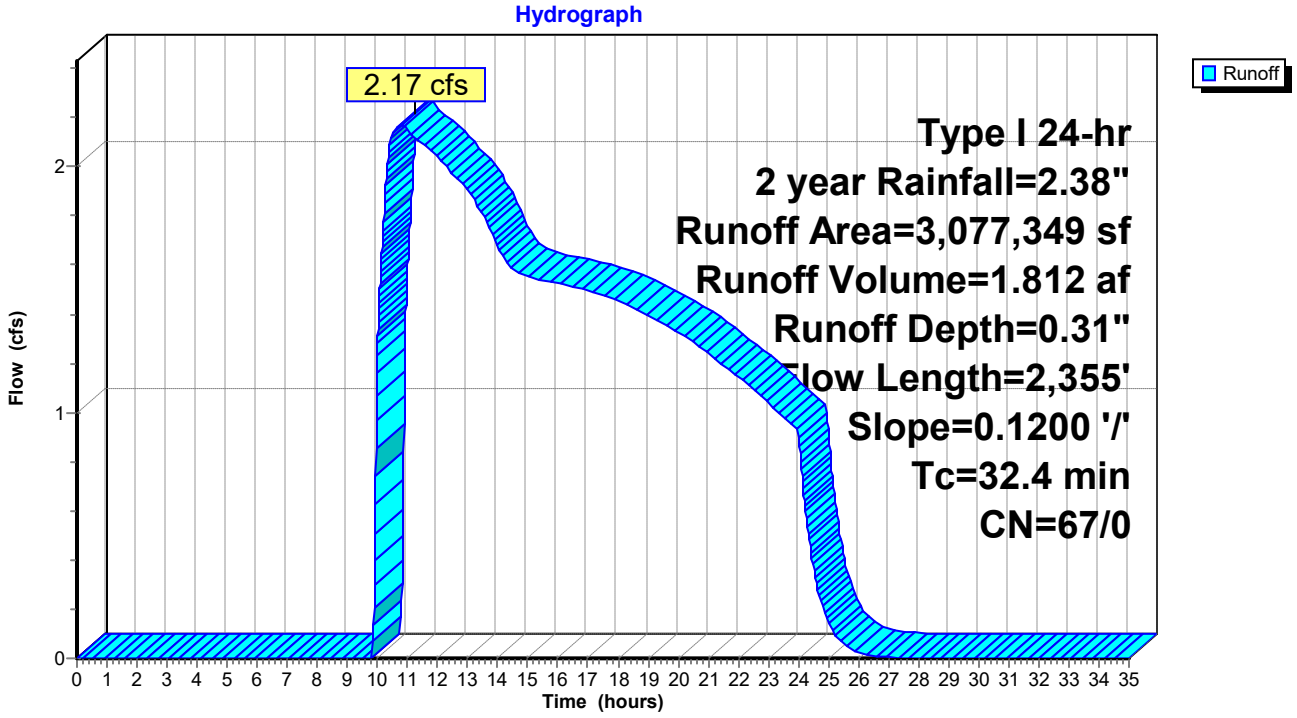
Runoff = 2.17 cfs @ 10.80 hrs, Volume= 1.812 af, Depth= 0.31"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,415,581	48	Brush, Poor, HSG A
*	1,661,768	83	Brush, Poor, HSG D
	3,077,349	67	Weighted Average
	3,077,349	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.3	1,200	0.1200	0.82		**Kerby Method,** Pasture, average grass N= 0.40
8.1	1,155	0.1200	2.39		**Kirpich Method,** General overland flow k= 2.00
32.4	2,355	Total			

Subcatchment 16 PRE: Collection Point 16



Summary for Subcatchment 17 PRE: Collection Point 17

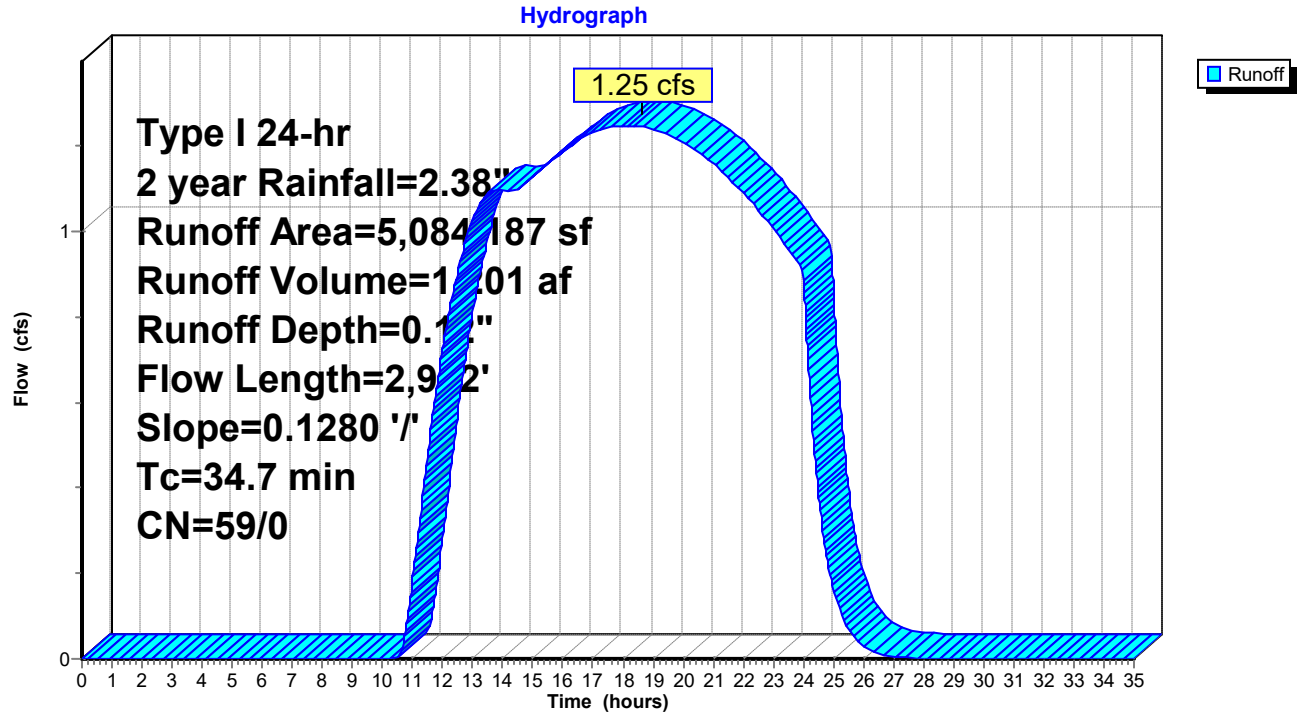
Runoff = 1.25 cfs @ 18.15 hrs, Volume= 1.201 af, Depth= 0.12"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	3,355,563	48	Brush, Poor, HSG A
*	915,154	77	Brush, Poor, HSG C
*	813,470	83	Brush, Poor, HSG D
	5,084,187	59	Weighted Average
	5,084,187	59	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.0	1,200	0.1280	0.83		**Kerby Method,** Pasture, average grass N= 0.40
10.7	1,722	0.1280	2.69		**Kirpich Method,** General overland flow k= 2.00
34.7	2,922	Total			

Subcatchment 17 PRE: Collection Point 17



Summary for Subcatchment 18 PRE: Collection Point 18

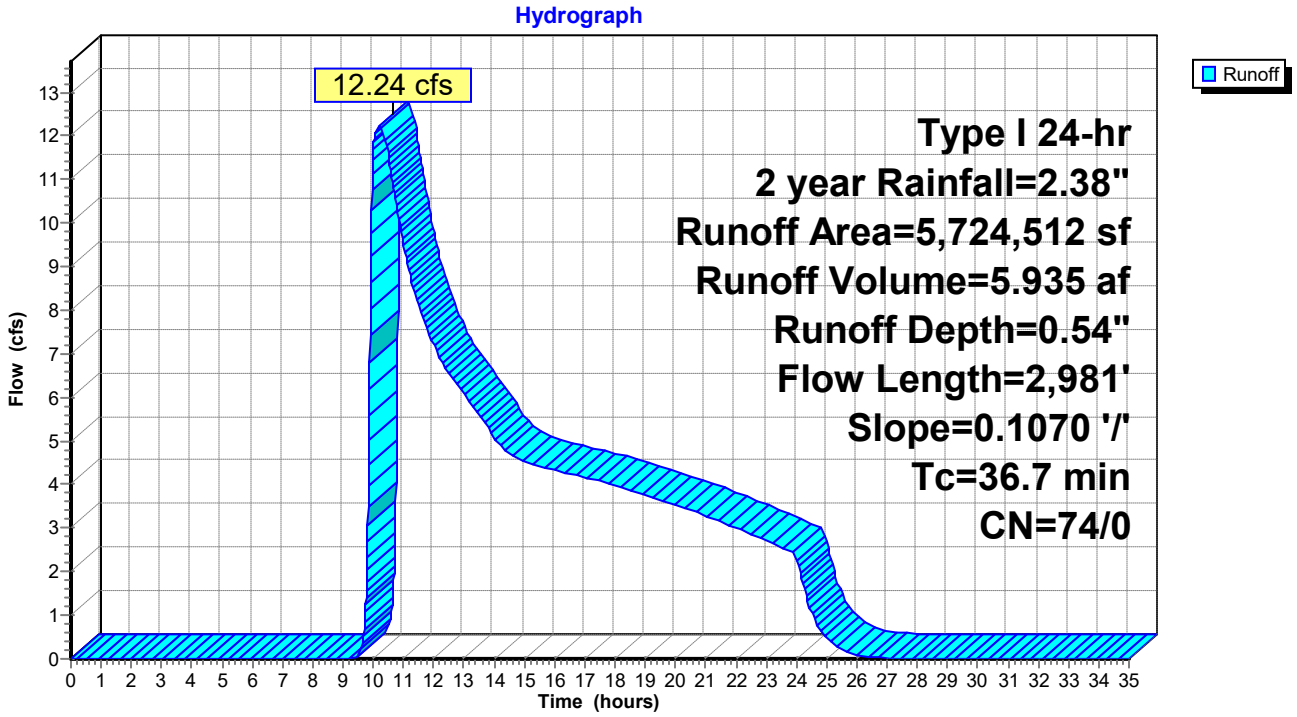
Runoff = 12.24 cfs @ 10.22 hrs, Volume= 5.935 af, Depth= 0.54"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,144,902	48	Brush, Poor, HSG A
*	1,946,334	77	Brush, Poor, HSG C
*	2,633,276	83	Brush, Poor, HSG D
	5,724,512	74	Weighted Average
	5,724,512	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.0	1,200	0.1070	0.80		**Kerby Method,** Pasture, average grass N= 0.40
11.7	1,781	0.1070	2.53		**Kirpich Method,** General overland flow k= 2.00
36.7	2,981	Total			

Subcatchment 18 PRE: Collection Point 18



Summary for Subcatchment 19 PRE: Collection Point 19

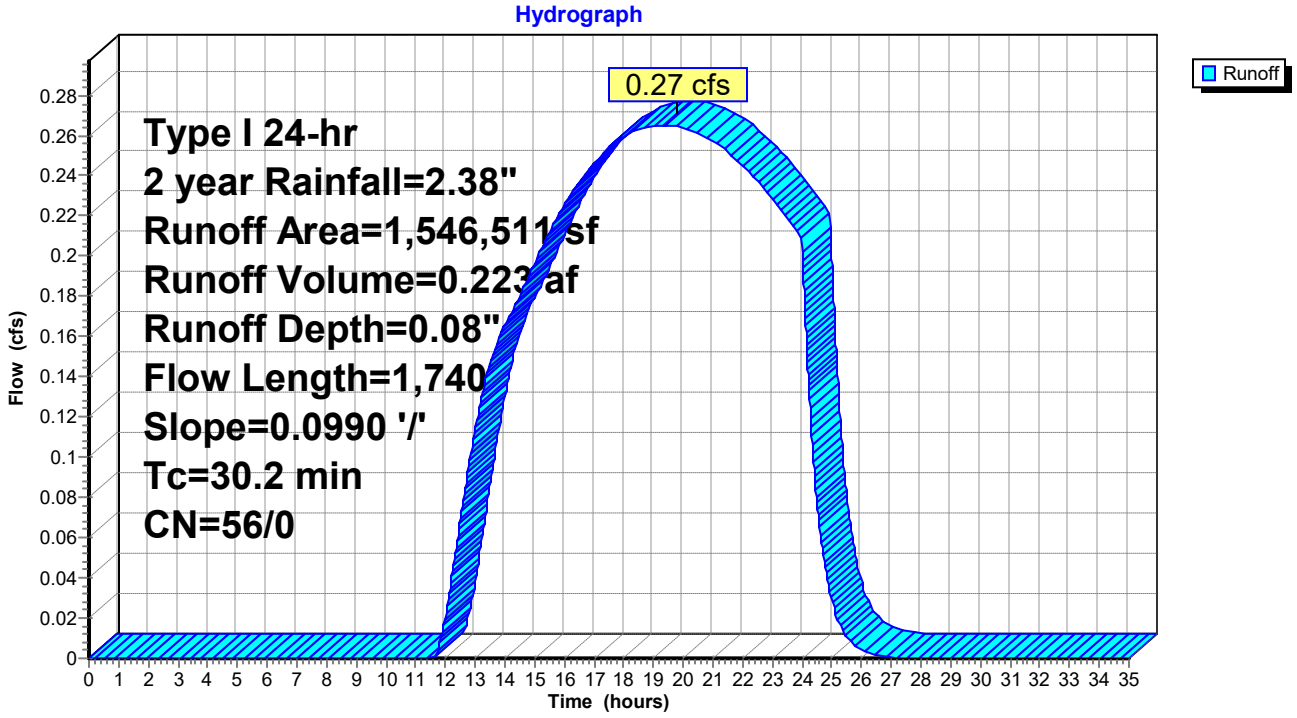
Runoff = 0.27 cfs @ 19.33 hrs, Volume= 0.223 af, Depth= 0.08"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,135,160	48	Brush, Poor, HSG A
*	411,351	77	Brush, Poor, HSG C
	1,546,511	56	Weighted Average
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19 PRE: Collection Point 19



Summary for Subcatchment 20 PRE: Collection Point 20

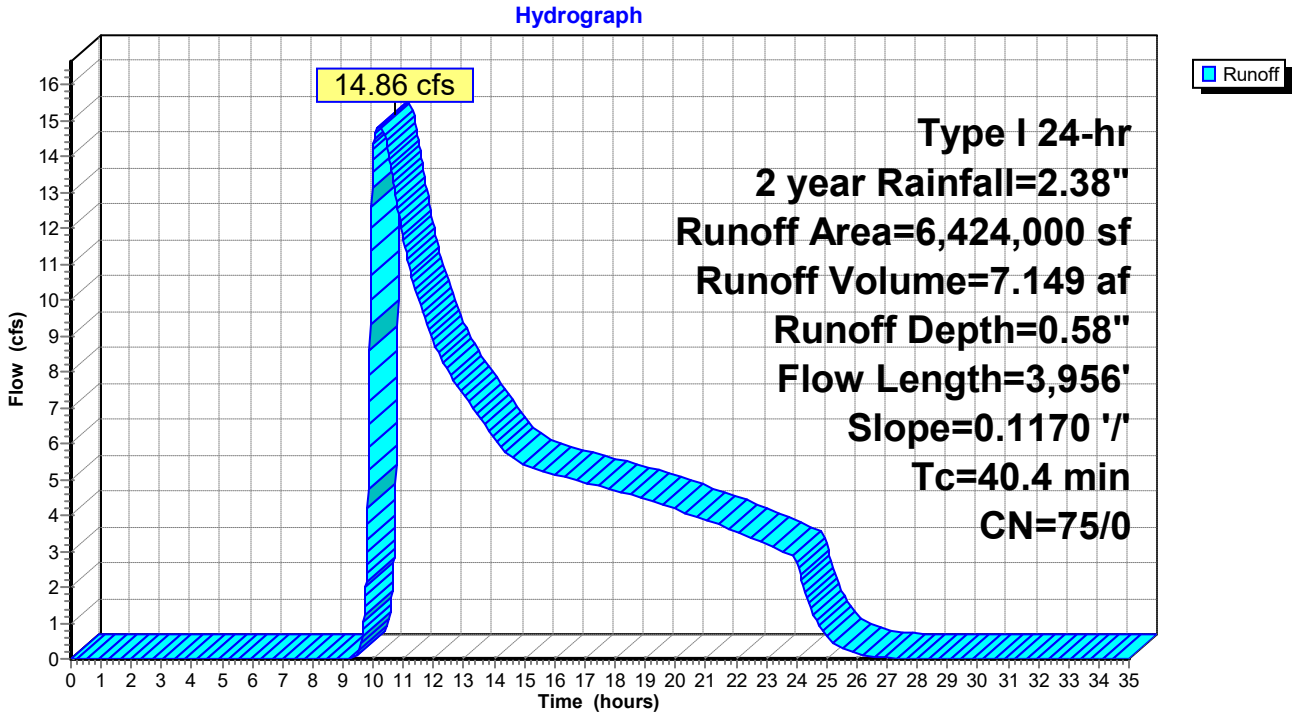
Runoff = 14.86 cfs @ 10.23 hrs, Volume= 7.149 af, Depth= 0.58"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	770,880	48	Brush, Poor, HSG A
*	4,111,360	77	Brush, Poor, HSG C
*	1,541,760	83	Brush, Poor,HSG D
	6,424,000	75	Weighted Average
	6,424,000	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20 PRE: Collection Point 20



Summary for Subcatchment 21 PRE: Collection Point 21

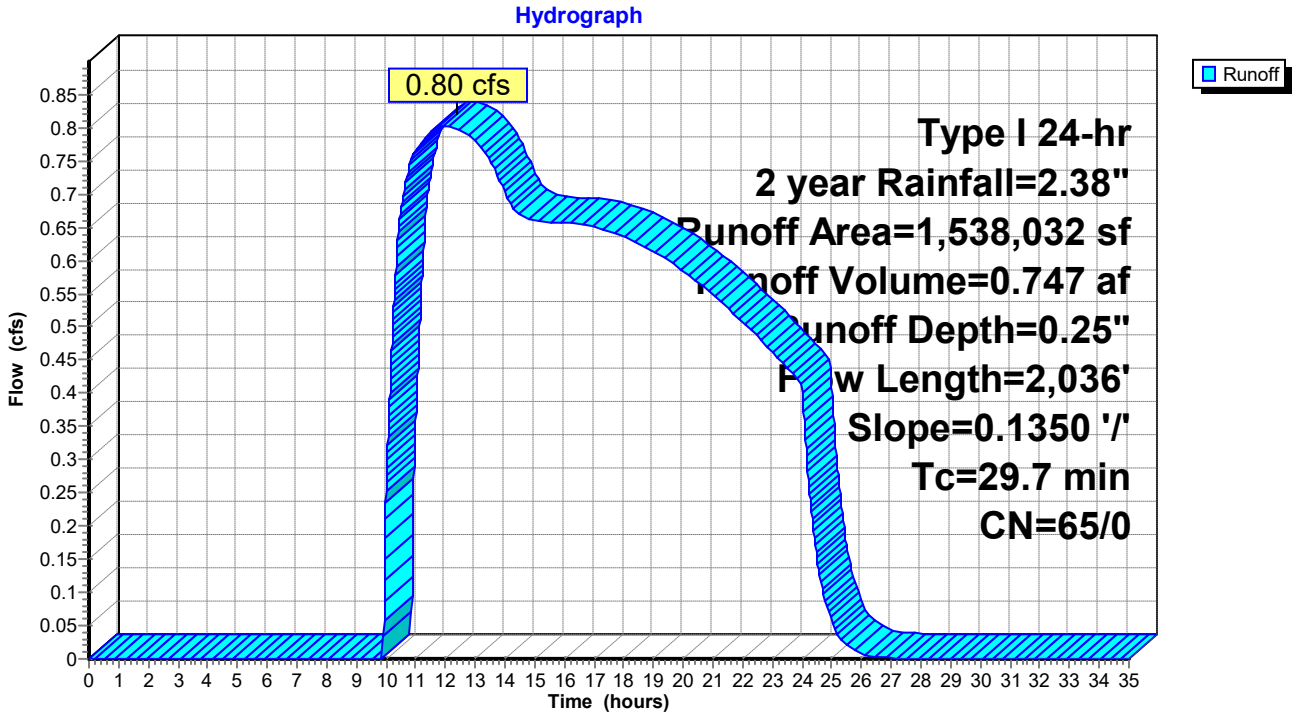
Runoff = 0.80 cfs @ 11.90 hrs, Volume= 0.747 af, Depth= 0.25"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	676,734	48	Brush, Poor, HSG A
*	784,396	77	Brush, Poor, HSG C
*	76,902	83	Brush, Poor, HSG D
	1,538,032	65	Weighted Average
	1,538,032	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21 PRE: Collection Point 21



Summary for Subcatchment 22 PRE: Collection Point 22

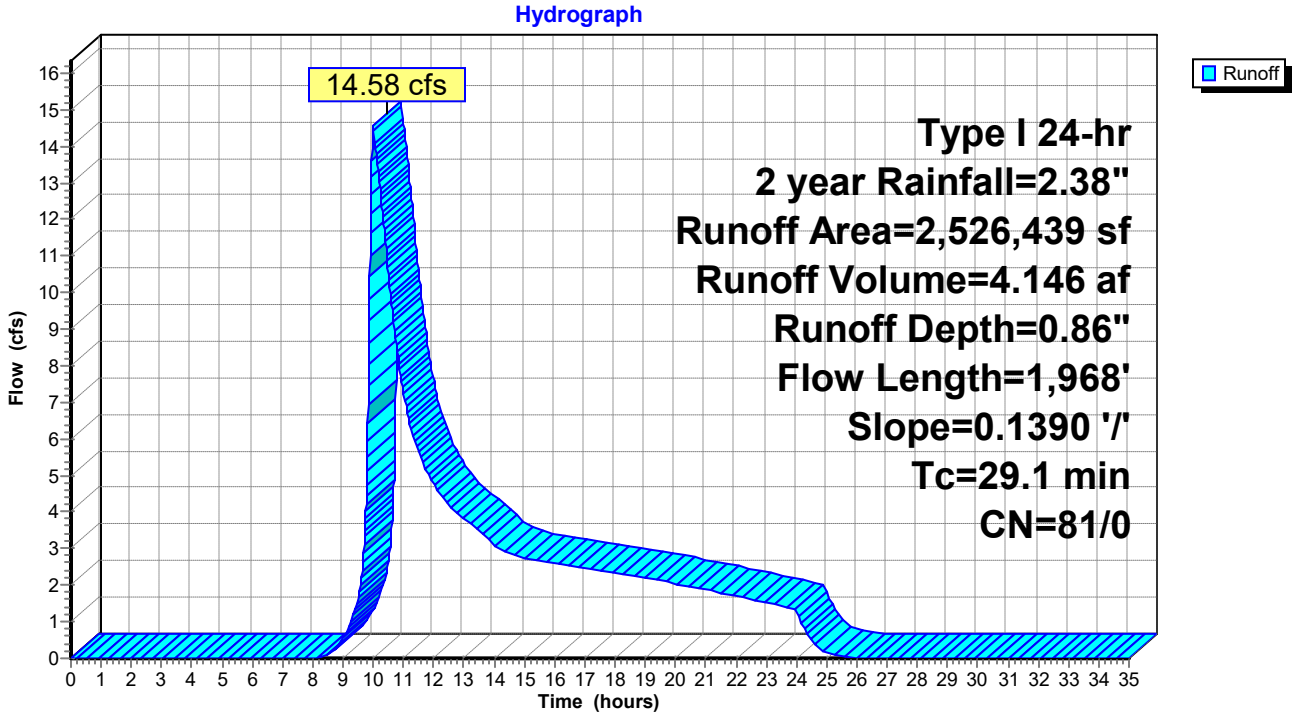
Runoff = 14.58 cfs @ 10.00 hrs, Volume= 4.146 af, Depth= 0.86"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	783,196	77	Brush, Poor, HSG C
*	1,743,243	83	Brush, Poor, HSG D
	2,526,439	81	Weighted Average
	2,526,439	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22 PRE: Collection Point 22



Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1 PRE: Collection Point 1 Runoff Area=4,642,907 sf 0.00% Impervious Runoff Depth=1.88"
Flow Length=4,165' Slope=0.1560 '/' Tc=37.9 min CN=78/0 Runoff=55.97 cfs 16.689 af

Subcatchment 2 PRE: Colleciton Point 2 Runoff Area=587,909 sf 0.00% Impervious Runoff Depth=1.88"
Flow Length=1,210' Slope=0.2390 '/' Tc=20.8 min CN=78/0 Runoff=10.27 cfs 2.113 af

Subcatchment 3 PRE: Colleciton Point 3 Runoff Area=858,494 sf 0.00% Impervious Runoff Depth=1.66"
Flow Length=1,657' Slope=0.2250 '/' Tc=24.1 min CN=75/0 Runoff=11.59 cfs 2.725 af

Subcatchment 4 PRE: Collection Point 4 Runoff Area=1,131,991 sf 0.00% Impervious Runoff Depth=1.45"
Flow Length=1,764' Slope=0.1890 '/' Tc=25.8 min CN=72/0 Runoff=12.04 cfs 3.147 af

Subcatchment 5 PRE: Collection Point 5 Runoff Area=6,131,451 sf 0.00% Impervious Runoff Depth=1.59"
Flow Length=3,920' Slope=0.1300 '/' Tc=39.0 min CN=74/0 Runoff=56.67 cfs 18.639 af

Subcatchment 6 PRE: Collection Point 6 Runoff Area=1,108,808 sf 0.00% Impervious Runoff Depth=1.96"
Flow Length=2,050' Slope=0.1550 '/' Tc=28.7 min CN=79/0 Runoff=16.90 cfs 4.148 af

Subcatchment 7 PRE: Collection Point 7 Runoff Area=8,685,222 sf 0.00% Impervious Runoff Depth=1.52"
Flow Length=4,875' Slope=0.0990 '/' Tc=46.5 min CN=73/0 Runoff=65.99 cfs 25.260 af

Subcatchment 8 PRE: Collection Point 8 Runoff Area=4,500,349 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=4,017' Slope=0.1130 '/' Tc=41.1 min CN=62/0 Runoff=13.61 cfs 7.397 af

Subcatchment 9 PRE: Collection Point 9 Runoff Area=703,589 sf 0.00% Impervious Runoff Depth=0.44"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=0.70 cfs 0.597 af

Subcatchment 10 PRE: Collection Point Runoff Area=3,739,141 sf 0.00% Impervious Runoff Depth=0.57"
Flow Length=3,448' Slope=0.1180 '/' Tc=37.9 min CN=56/0 Runoff=5.11 cfs 4.072 af

Subcatchment 11 PRE: Collection Point Runoff Area=1,677,212 sf 0.00% Impervious Runoff Depth=0.30"
Flow Length=1,780' Slope=0.0990 '/' Tc=30.5 min CN=49/0 Runoff=0.95 cfs 0.949 af

Subcatchment 12 PRE: Collection Point Runoff Area=24,513,457 sf 0.00% Impervious Runoff Depth=0.53"
Flow Length=6,556' Slope=0.0640 '/' Tc=61.6 min CN=55/0 Runoff=26.38 cfs 24.658 af

Subcatchment 13 PRE: Collection Point 13 Runoff Area=67,530 sf 0.00% Impervious Runoff Depth=1.59"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=74/0 Runoff=1.37 cfs 0.205 af

Subcatchment 14 PRE: Collection Point 14 Runoff Area=109,321 sf 0.00% Impervious Runoff Depth=1.39"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=1.94 cfs 0.290 af

Subcatchment 15 PRE: Collection Point Runoff Area=2,067,068 sf 0.00% Impervious Runoff Depth=0.66"
Flow Length=1,561' Slope=0.1880 '/' Tc=24.7 min CN=58/0 Runoff=4.64 cfs 2.611 af

Subcatchment 16 PRE: Collection Point Runoff Area=3,077,349 sf 0.00% Impervious Runoff Depth=1.14"
Flow Length=2,355' Slope=0.1200 '/' Tc=32.4 min CN=67/0 Runoff=18.60 cfs 6.703 af

Subcatchment 17 PRE: Collection Point Runoff Area=5,084,187 sf 0.00% Impervious Runoff Depth=0.71"
Flow Length=2,922' Slope=0.1280 '/' Tc=34.7 min CN=59/0 Runoff=11.41 cfs 6.886 af

Subcatchment 18 PRE: Collection Point Runoff Area=5,724,512 sf 0.00% Impervious Runoff Depth=1.59"
Flow Length=2,981' Slope=0.1070 '/' Tc=36.7 min CN=74/0 Runoff=55.20 cfs 17.401 af

Subcatchment 19 PRE: Collection Point Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.57"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=2.31 cfs 1.684 af

Subcatchment 20 PRE: Collection Point Runoff Area=6,424,000 sf 0.00% Impervious Runoff Depth=1.66"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=61.85 cfs 20.390 af

Subcatchment 21 PRE: Collection Point Runoff Area=1,538,032 sf 0.00% Impervious Runoff Depth=1.02"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=8.07 cfs 3.009 af

Subcatchment 22 PRE: Collection Point Runoff Area=2,526,439 sf 0.00% Impervious Runoff Depth=2.11"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=42.34 cfs 10.213 af

Total Runoff Area = 1,984.515 ac Runoff Volume = 179.788 af Average Runoff Depth = 1.09"
100.00% Pervious = 1,984.515 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1 PRE: Collection Point 1

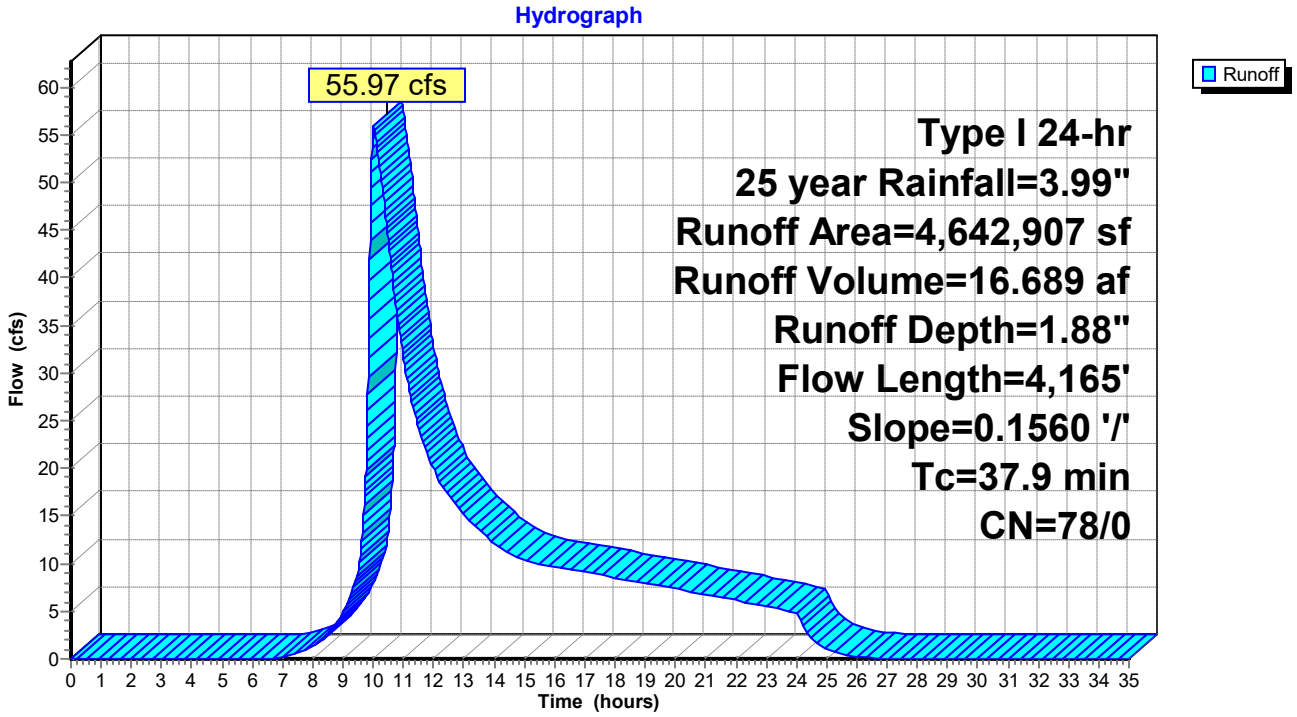
Runoff = 55.97 cfs @ 10.00 hrs, Volume= 16.689 af, Depth= 1.88"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	603,578	48	Brush, Poor, HSG A
*	696,436	77	Brush, Poor, HSG C
*	3,342,893	83	Brush, Poor, HSG D
	4,642,907	78	Weighted Average
	4,642,907	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1560	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.0	2,965	0.1560	3.29		**Kirpich Method,** General overland flow k= 2.00
37.9	4,165	Total			

Subcatchment 1 PRE: Collection Point 1



Summary for Subcatchment 2 PRE: Colleciton Point 2

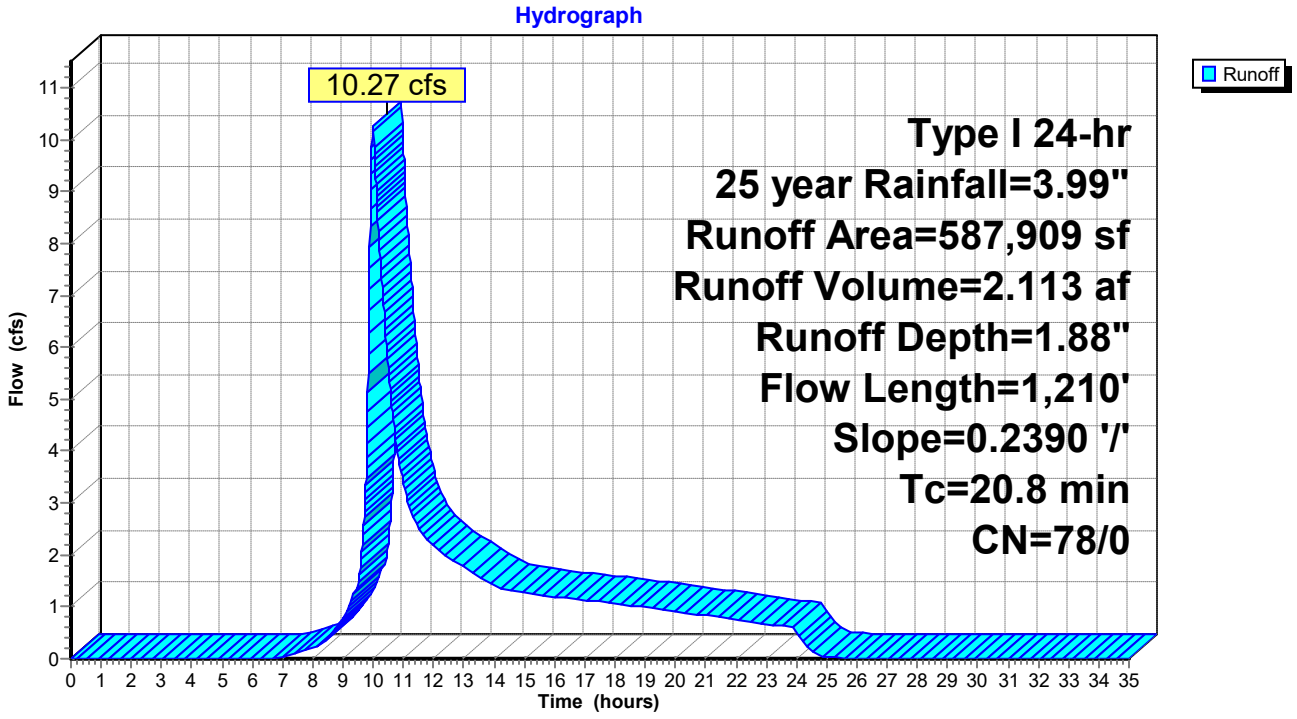
Runoff = 10.27 cfs @ 9.99 hrs, Volume= 2.113 af, Depth= 1.88"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	76,428	48	Brush, Poor, HSG A
*	511,481	83	Brush, Poor, HSG D
	587,909	78	Weighted Average
	587,909	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	1,210	0.2390	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2 PRE: Colleciton Point 2



Summary for Subcatchment 3 PRE: Colleciton Point 3

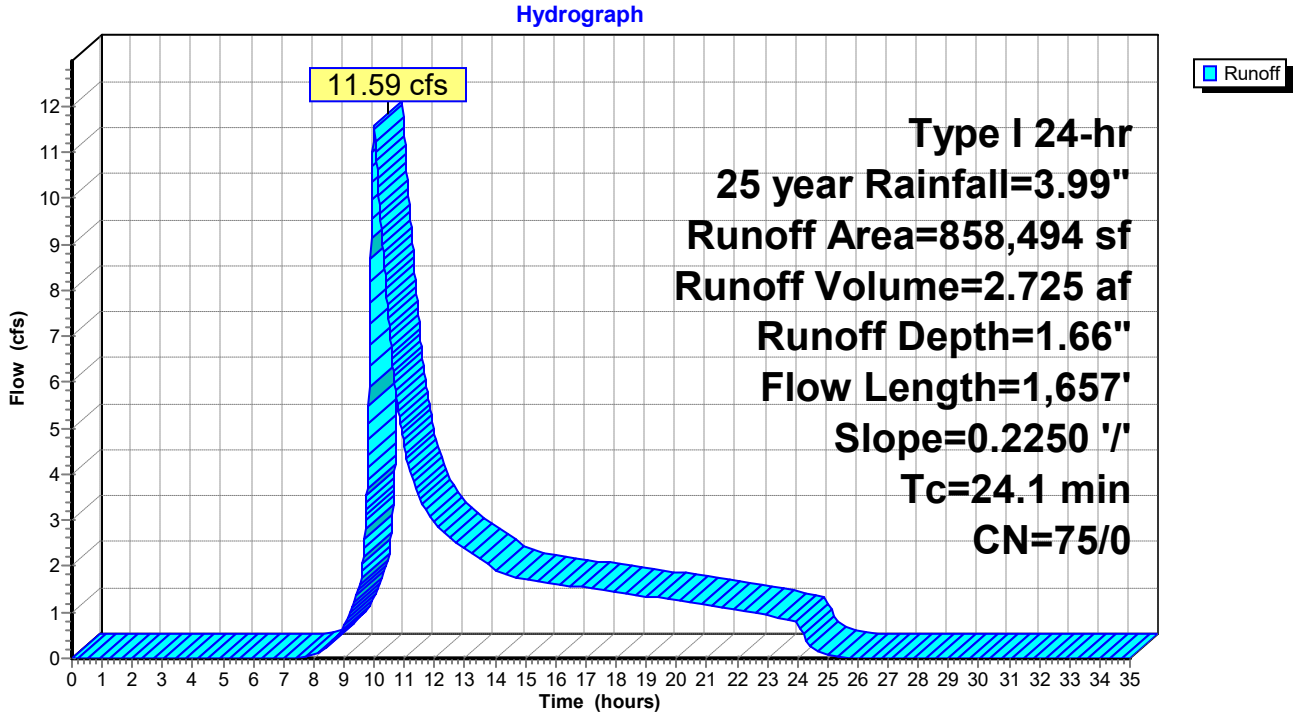
Runoff = 11.59 cfs @ 9.99 hrs, Volume= 2.725 af, Depth= 1.66"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	188,869	48	Brush, Poor, HSG A
*	669,625	83	Brush, Poor, HSG D
	858,494	75	Weighted Average
	858,494	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	1,200	0.2250	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.1	457	0.2250	2.46		**Kirpich Method,** General overland flow k= 2.00
24.1	1,657	Total			

Subcatchment 3 PRE: Colleciton Point 3



Summary for Subcatchment 4 PRE: Collection Point 4

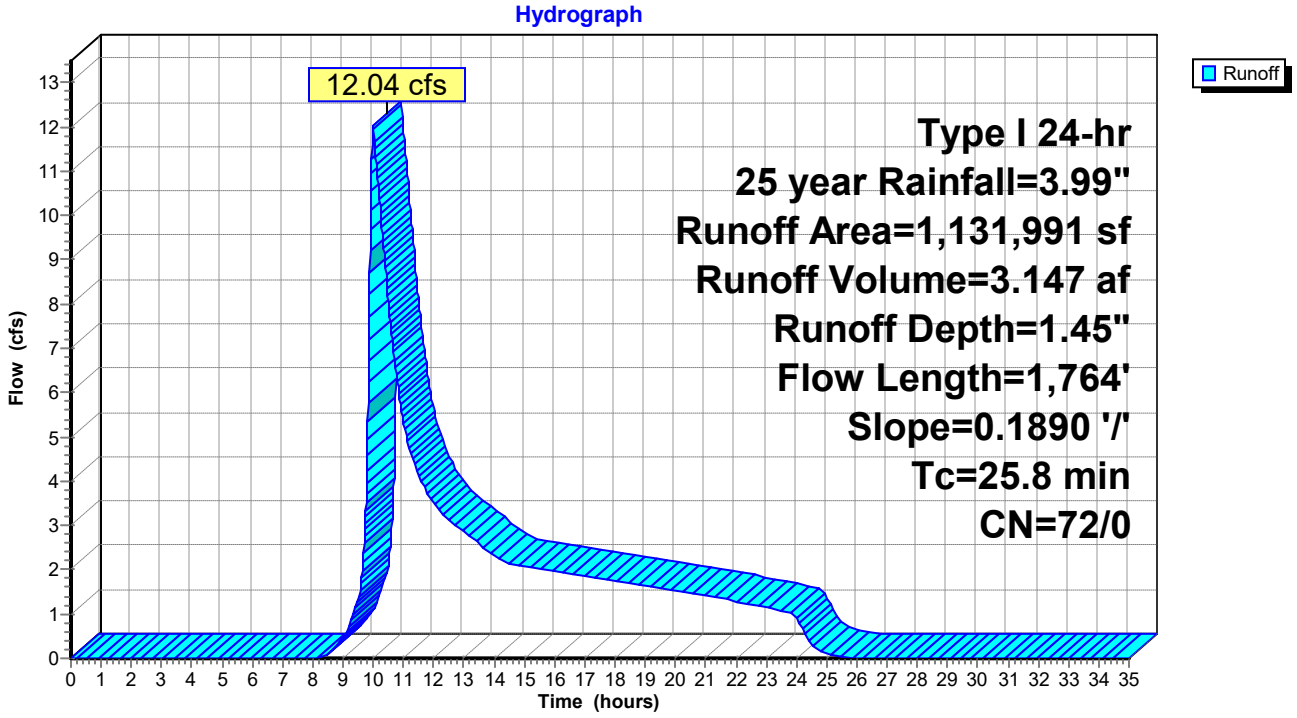
Runoff = 12.04 cfs @ 9.99 hrs, Volume= 3.147 af, Depth= 1.45"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	362,237	48	Brush, Poor, HSG A
*	769,754	83	Brush, Poor, HSG D
	1,131,991	72	Weighted Average
	1,131,991	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	1,200	0.1890	0.91		**Kerby Method,** Pasture, average grass N= 0.40
3.9	564	0.1890	2.42		**Kirpich Method,** General overland flow k= 2.00
25.8	1,764	Total			

Subcatchment 4 PRE: Collection Point 4



Summary for Subcatchment 5 PRE: Collection Point 5

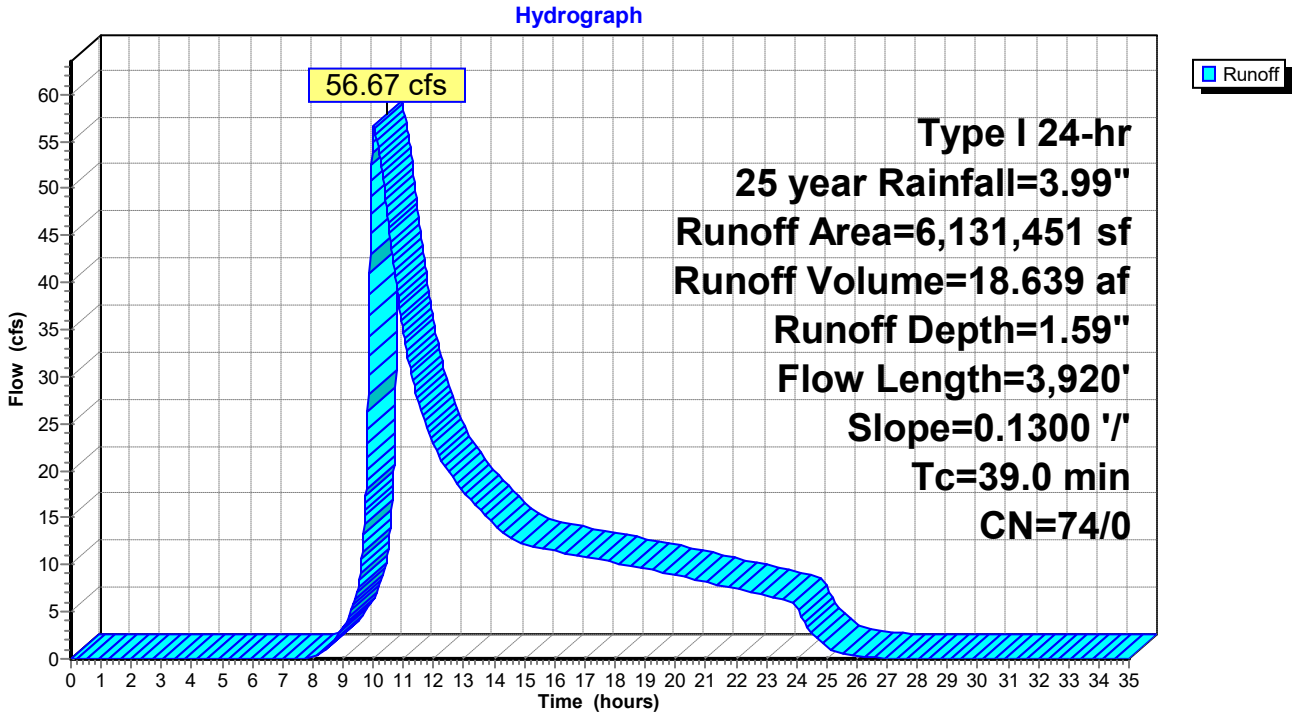
Runoff = 56.67 cfs @ 10.00 hrs, Volume= 18.639 af, Depth= 1.59"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,103,661	48	Brush, Poor, HSG A
*	2,391,266	77	Brush, Poor,, HSG C
*	2,636,524	83	Brush, Poor, HSG D
	6,131,451	74	Weighted Average
	6,131,451	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	1,200	0.1300	0.84		**Kerby Method,** Pasture, average grass N= 0.40
15.1	2,720	0.1300	3.00		**Kirpich Method,** General overland flow k= 2.00
39.0	3,920	Total			

Subcatchment 5 PRE: Collection Point 5



Summary for Subcatchment 6 PRE: Collection Point 6

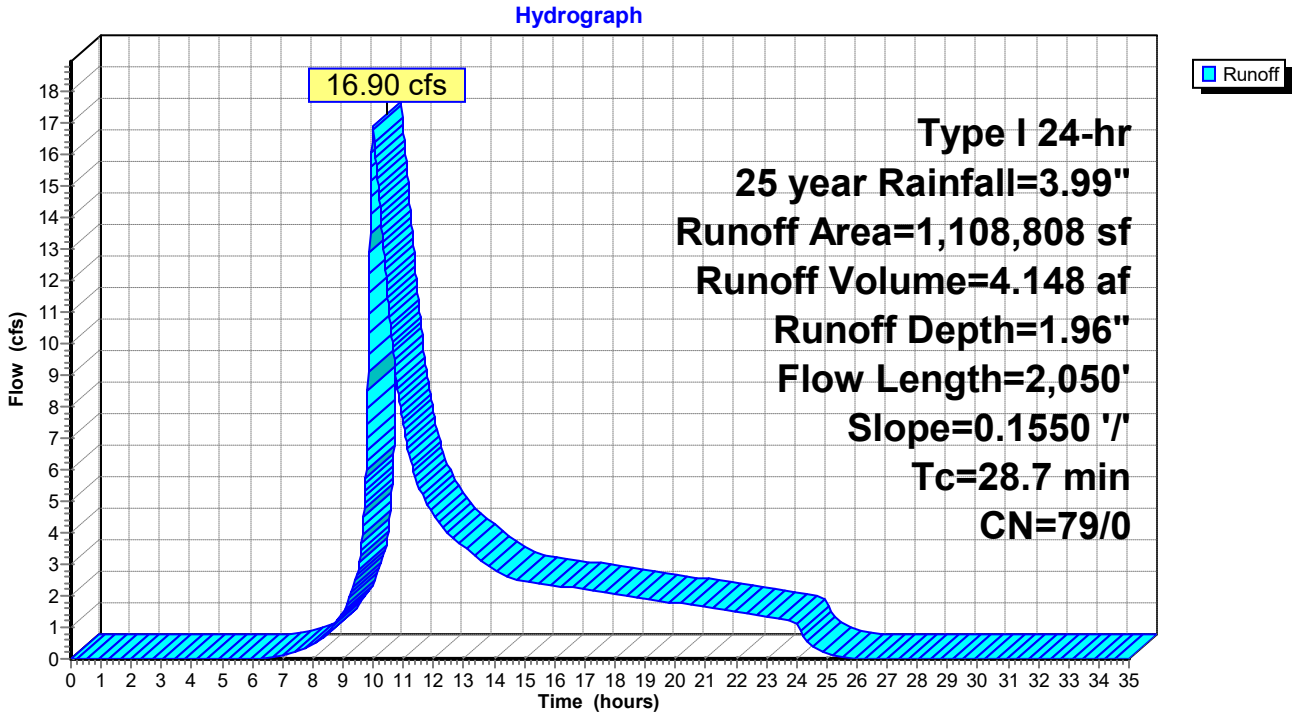
Runoff = 16.90 cfs @ 9.99 hrs, Volume= 4.148 af, Depth= 1.96"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	88,705	48	Brush, Poor, HSG A
*	299,378	77	Brush, Poor, HSG C
*	720,725	83	Brush, Poor, HSG D
	1,108,808	79	Weighted Average
	1,108,808	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1550	0.87		**Kerby Method,** Pasture, average grass N= 0.40
5.8	850	0.1550	2.46		**Kirpich Method,** General overland flow k= 2.00
28.7	2,050	Total			

Subcatchment 6 PRE: Collection Point 6



Summary for Subcatchment 7 PRE: Collection Point 7

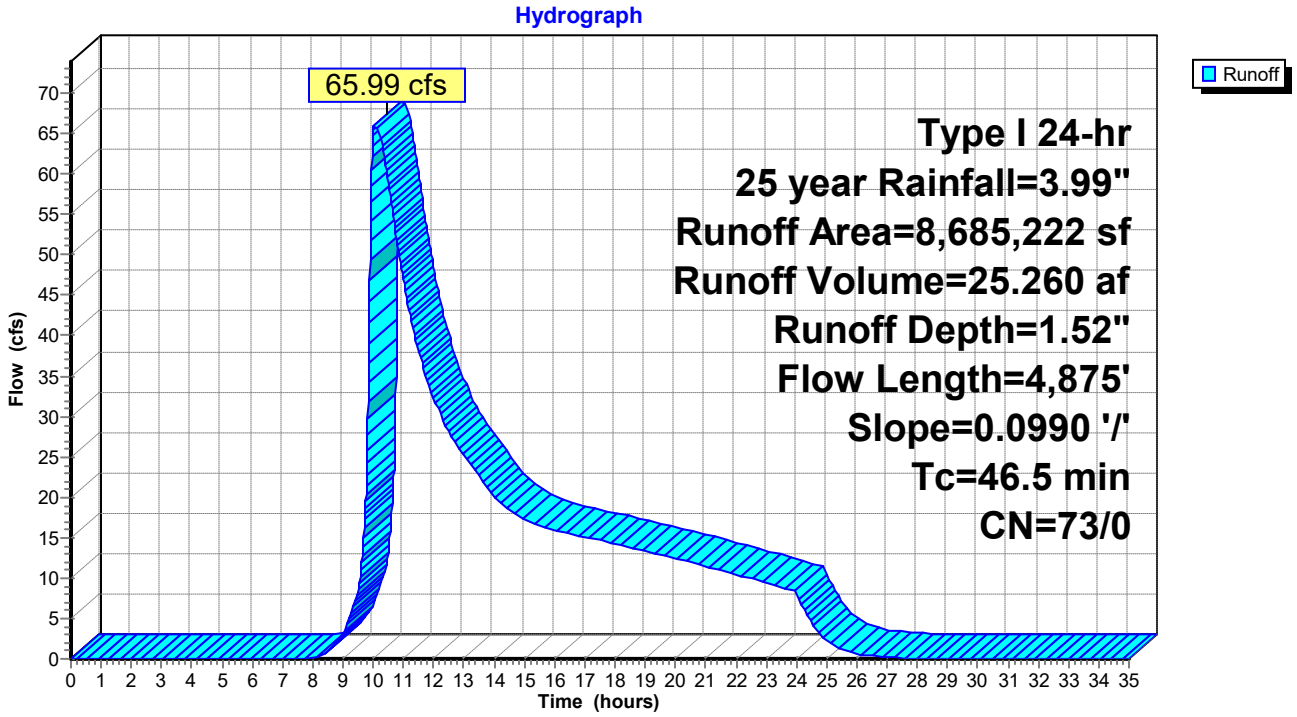
Runoff = 65.99 cfs @ 10.01 hrs, Volume= 25.260 af, Depth= 1.52"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,997,601	48	Brush, Poor, HSG A
*	2,345,010	77	Brush, Poor, HSG C
*	4,342,611	83	Brush, Poor, HSG D
	8,685,222	73	Weighted Average
	8,685,222	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
21.1	3,675	0.0990	2.90		**Kirpich Method,** General overland flow k= 2.00
46.5	4,875	Total			

Subcatchment 7 PRE: Collection Point 7



Summary for Subcatchment 8 PRE: Collection Point 8

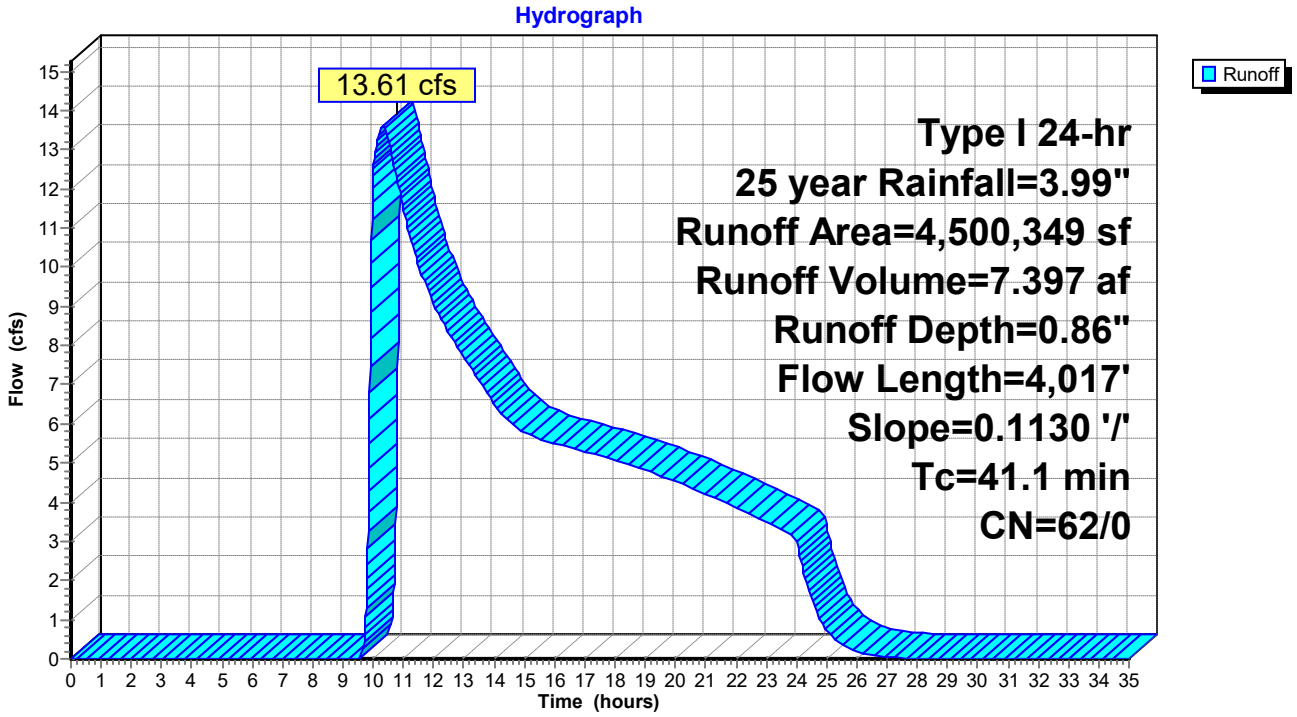
Runoff = 13.61 cfs @ 10.33 hrs, Volume= 7.397 af, Depth= 0.86"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	2,565,199	48	Brush, Poor, HSG A
*	720,056	77	Brush, Poor, HSG C
*	1,215,094	83	Brush, Poor, HSG D
	4,500,349	62	Weighted Average
	4,500,349	62	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.7	1,200	0.1130	0.81		**Kerby Method,** Pasture, average grass N= 0.40
16.4	2,817	0.1130	2.87		**Kirpich Method,** General overland flow k= 2.00
41.1	4,017	Total			

Subcatchment 8 PRE: Collection Point 8



Summary for Subcatchment 9 PRE: Collection Point 9

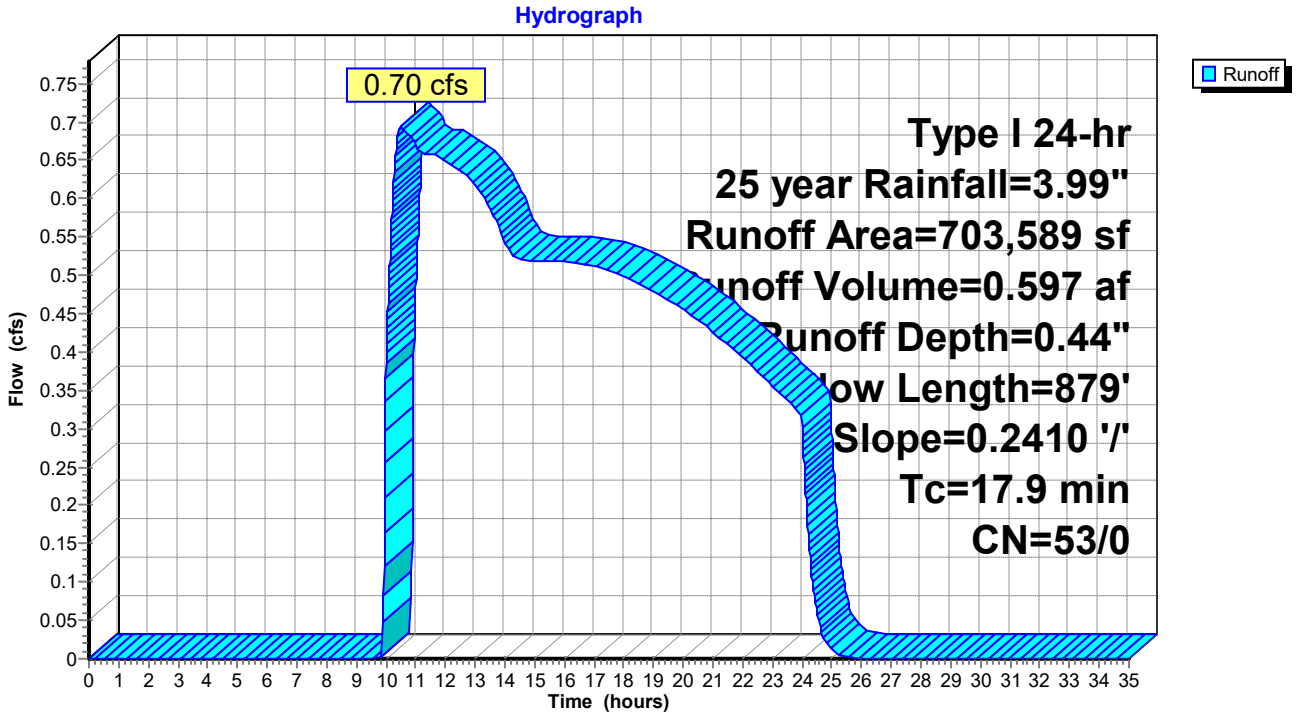
Runoff = 0.70 cfs @ 10.48 hrs, Volume= 0.597 af, Depth= 0.44"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	605,087	48	Brush, Poor, HSG A
*	98,502	83	Brush, Poor, HSG D
	703,589	53	Weighted Average
	703,589	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9 PRE: Collection Point 9



Summary for Subcatchment 10 PRE: Collection Point 10

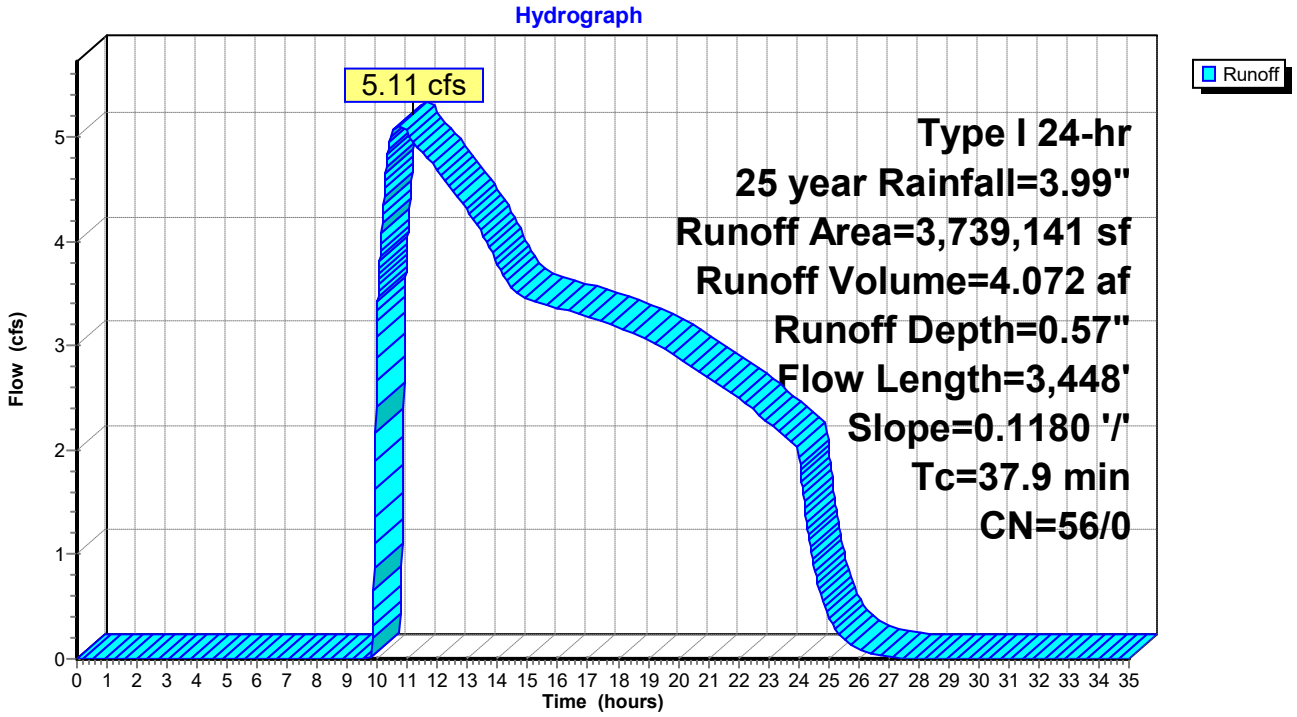
Runoff = 5.11 cfs @ 10.72 hrs, Volume= 4.072 af, Depth= 0.57"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	2,713,197	48	Brush, Poor, HSG A
*	886,722	77	Brush, Poor, HSG C
*	139,222	83	Brush, Poor, HSG D
	3,739,141	56	Weighted Average
	3,739,141	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.4	1,200	0.1180	0.82		**Kerby Method,** Pasture, average grass N= 0.40
13.5	2,248	0.1180	2.77		**Kirpich Method,** General overland flow k= 2.00
37.9	3,448	Total			

Subcatchment 10 PRE: Collection Point 10



Summary for Subcatchment 11 PRE: Collection Point 11

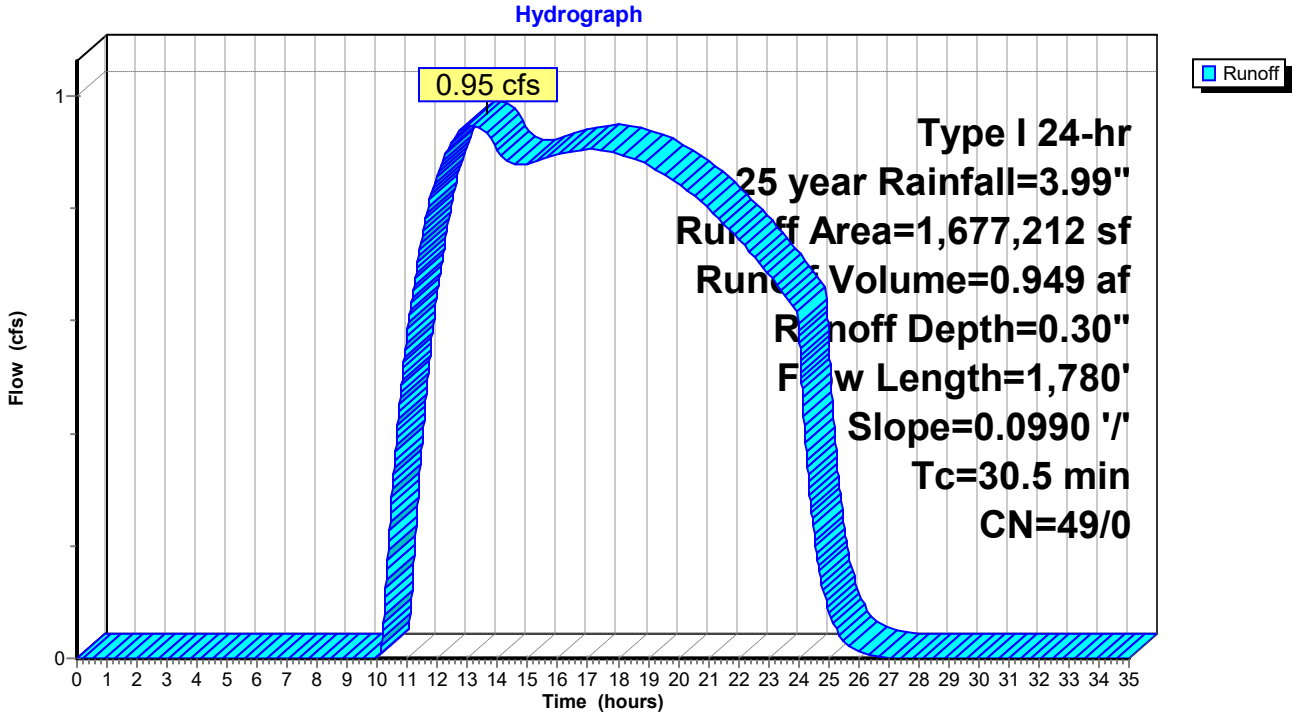
Runoff = 0.95 cfs @ 13.15 hrs, Volume= 0.949 af, Depth= 0.30"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,626,896	48	Brush, Poor, HSG A
*	50,316	83	Brush, Poor, HSG D
	1,677,212	49	Weighted Average
	1,677,212	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
5.1	580	0.0990	1.90		**Kirpich Method,** General overland flow k= 2.00
30.5	1,780	Total			

Subcatchment 11 PRE: Collection Point 11



Summary for Subcatchment 12 PRE: Collection Point 12

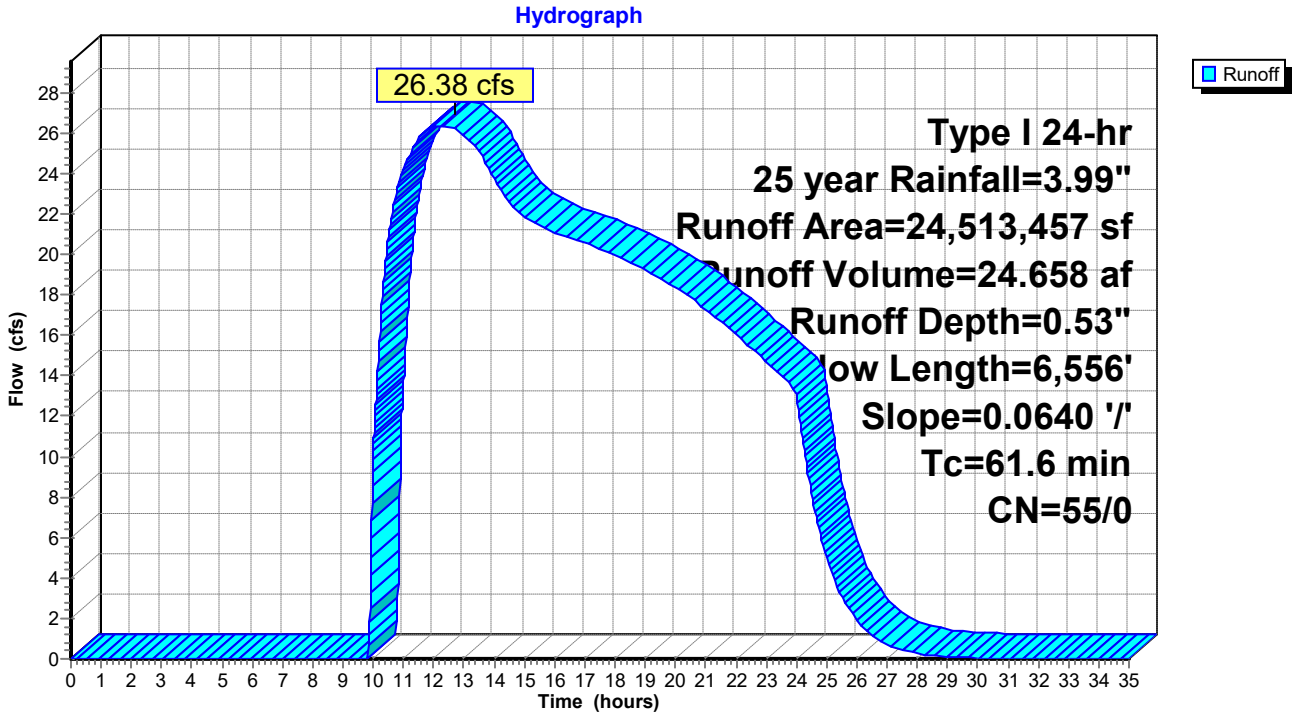
Runoff = 26.38 cfs @ 12.23 hrs, Volume= 24.658 af, Depth= 0.53"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	19,149,065	48	Brush, Fair, HSG A
*	1,357,896	77	Brush, Fair, HSG C
*	4,006,496	83	Brush, Fair, HSG D
	24,513,457	55	Weighted Average
	24,513,457	55	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
33.4	5,356	0.0640	2.67		**Kirpich Method,** General overland flow k= 2.00
61.6	6,556	Total			

Subcatchment 12 PRE: Collection Point 12



Summary for Subcatchment 13 PRE: Collection Point 13

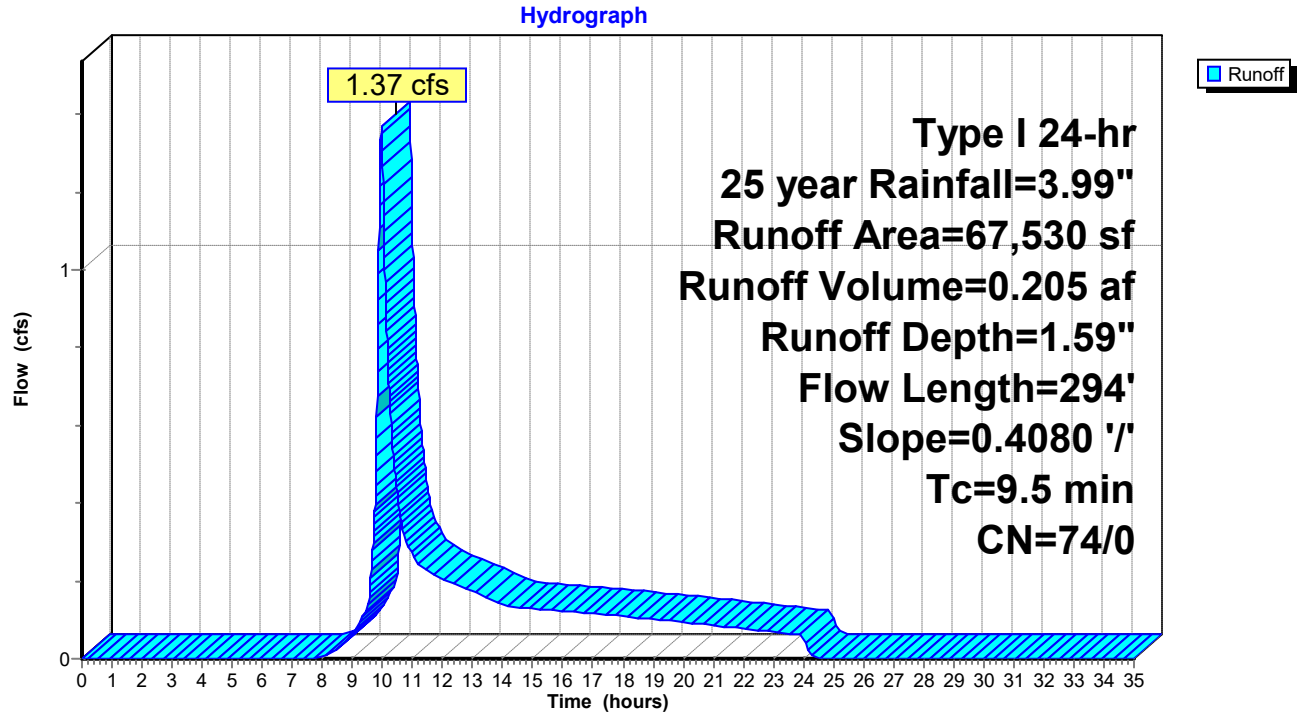
Runoff = 1.37 cfs @ 9.97 hrs, Volume= 0.205 af, Depth= 1.59"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	18,233	48	Brush, Poor, HSG A
*	49,297	83	Brush, Poor, HSG D
	67,530	74	Weighted Average
	67,530	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13 PRE: Collection Point 13



Summary for Subcatchment 14 PRE: Collection Point 14

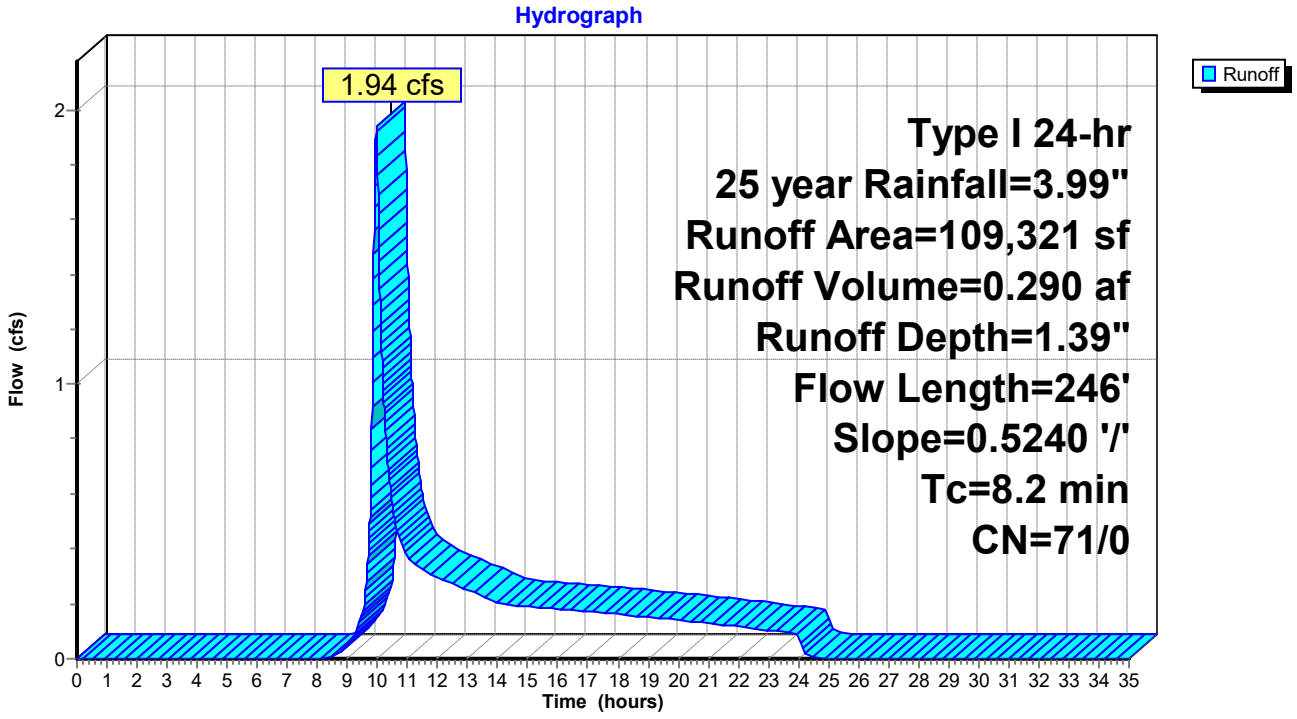
Runoff = 1.94 cfs @ 9.97 hrs, Volume= 0.290 af, Depth= 1.39"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	38,262	48	Brush, Poor, HSG A
*	71,059	83	Brush, Poor, HSG D
	109,321	71	Weighted Average
	109,321	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14 PRE: Collection Point 14



Summary for Subcatchment 15 PRE: Collection Point 15

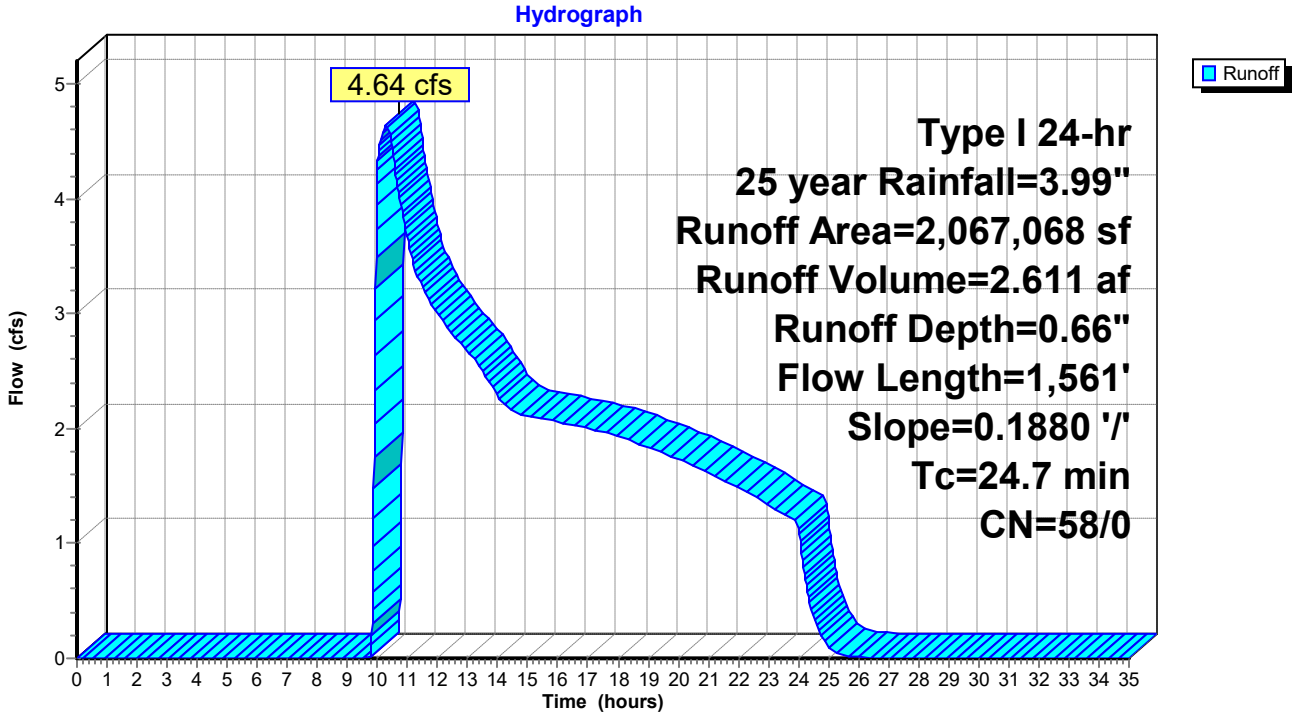
Runoff = 4.64 cfs @ 10.28 hrs, Volume= 2.611 af, Depth= 0.66"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,446,948	48	Brush, Poor, HSG A
*	620,120	83	Brush, Poor, HSG D
	2,067,068	58	Weighted Average
	2,067,068	58	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	1,200	0.1880	0.91		**Kerby Method,** Pasture, average grass N= 0.40
2.8	361	0.1880	2.18		**Kirpich Method,** General overland flow k= 2.00
24.7	1,561	Total			

Subcatchment 15 PRE: Collection Point 15



Summary for Subcatchment 16 PRE: Collection Point 16

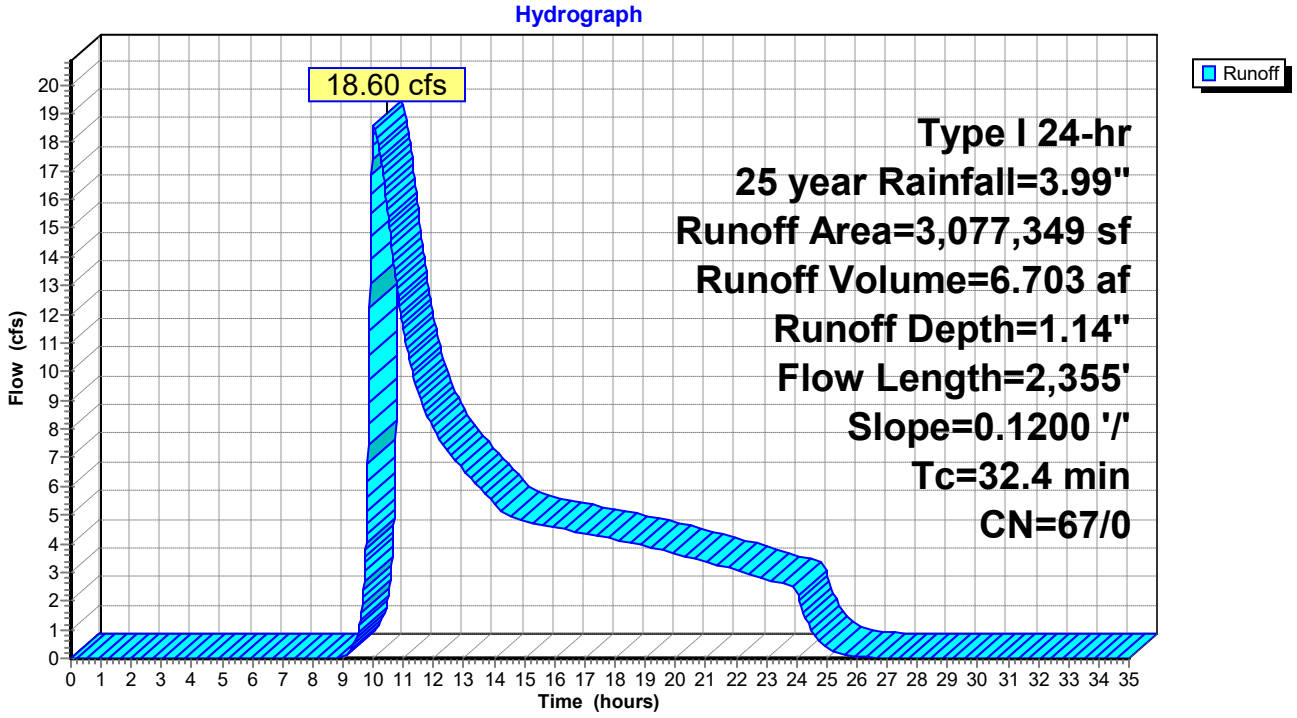
Runoff = 18.60 cfs @ 10.01 hrs, Volume= 6.703 af, Depth= 1.14"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,415,581	48	Brush, Poor, HSG A
*	1,661,768	83	Brush, Poor, HSG D
	3,077,349	67	Weighted Average
	3,077,349	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.3	1,200	0.1200	0.82		**Kerby Method,** Pasture, average grass N= 0.40
8.1	1,155	0.1200	2.39		**Kirpich Method,** General overland flow k= 2.00
32.4	2,355	Total			

Subcatchment 16 PRE: Collection Point 16



Summary for Subcatchment 17 PRE: Collection Point 17

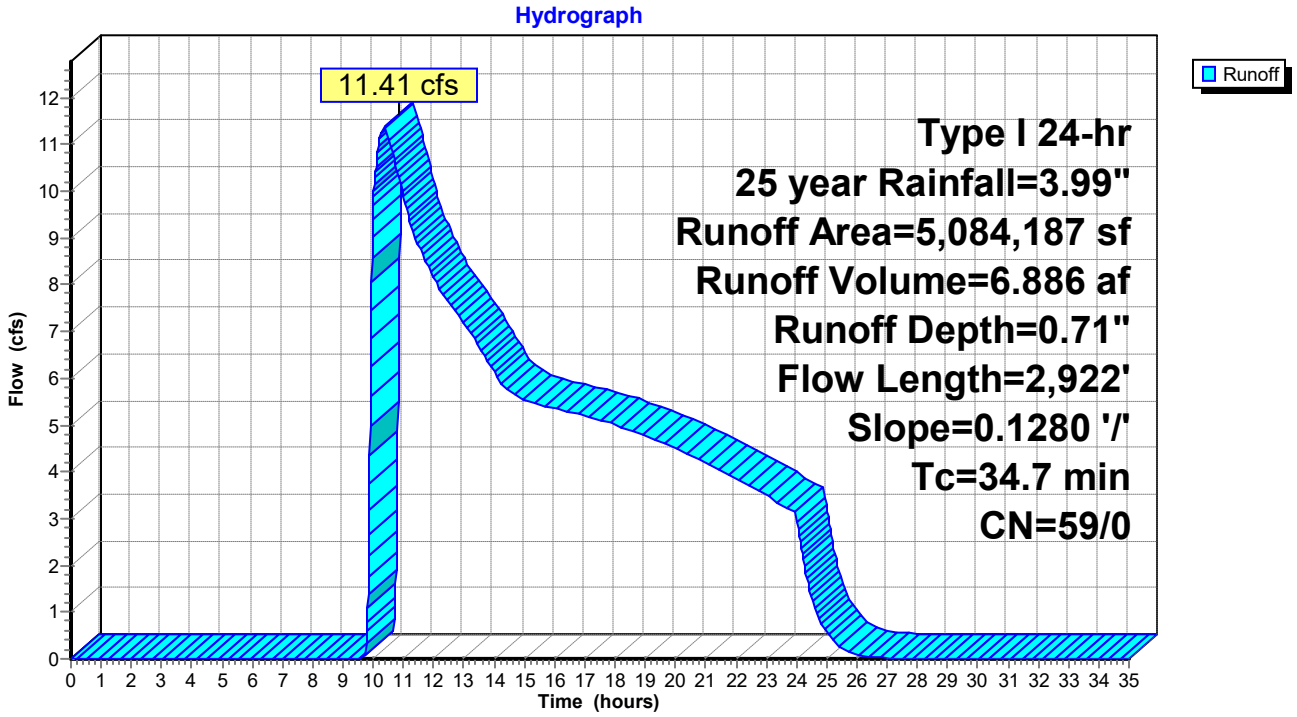
Runoff = 11.41 cfs @ 10.38 hrs, Volume= 6.886 af, Depth= 0.71"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	3,355,563	48	Brush, Poor, HSG A
*	915,154	77	Brush, Poor, HSG C
*	813,470	83	Brush, Poor, HSG D
	5,084,187	59	Weighted Average
	5,084,187	59	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.0	1,200	0.1280	0.83		**Kerby Method,** Pasture, average grass N= 0.40
10.7	1,722	0.1280	2.69		**Kirpich Method,** General overland flow k= 2.00
34.7	2,922	Total			

Subcatchment 17 PRE: Collection Point 17



Summary for Subcatchment 18 PRE: Collection Point 18

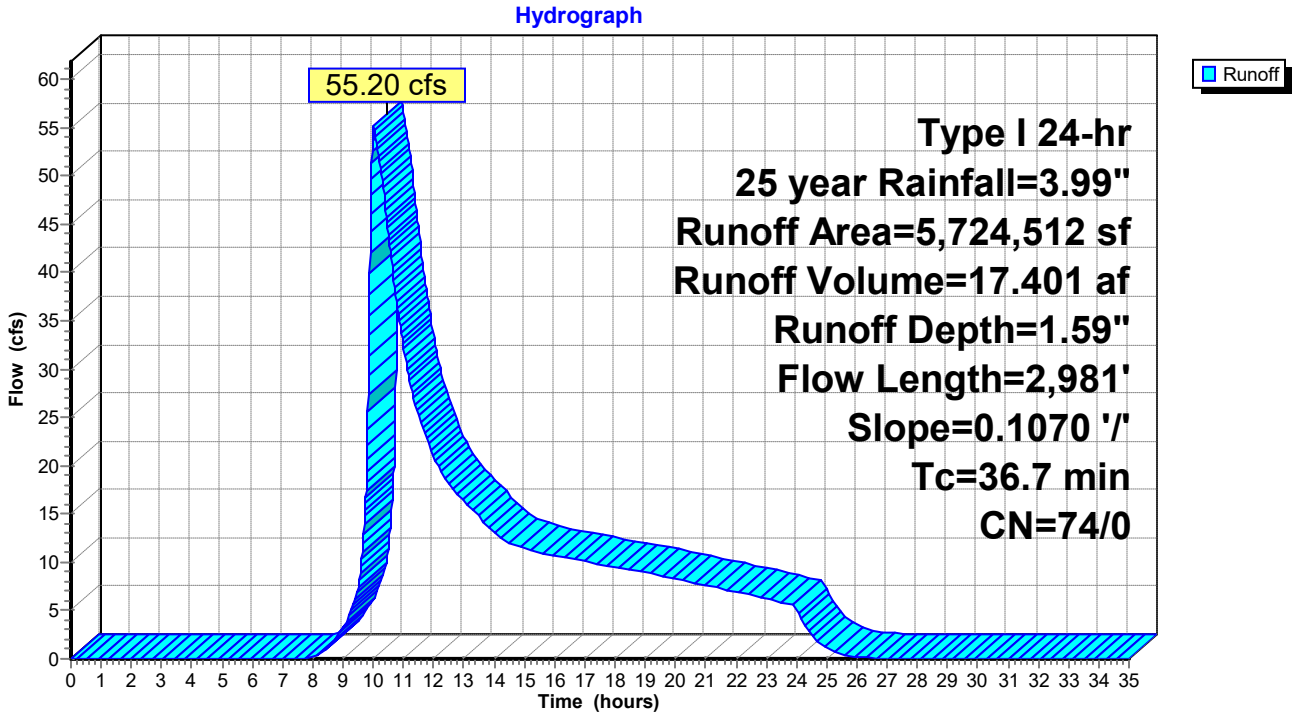
Runoff = 55.20 cfs @ 10.00 hrs, Volume= 17.401 af, Depth= 1.59"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,144,902	48	Brush, Poor, HSG A
*	1,946,334	77	Brush, Poor, HSG C
*	2,633,276	83	Brush, Poor, HSG D
	5,724,512	74	Weighted Average
	5,724,512	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.0	1,200	0.1070	0.80		**Kerby Method,** Pasture, average grass N= 0.40
11.7	1,781	0.1070	2.53		**Kirpich Method,** General overland flow k= 2.00
36.7	2,981	Total			

Subcatchment 18 PRE: Collection Point 18



Summary for Subcatchment 19 PRE: Collection Point 19

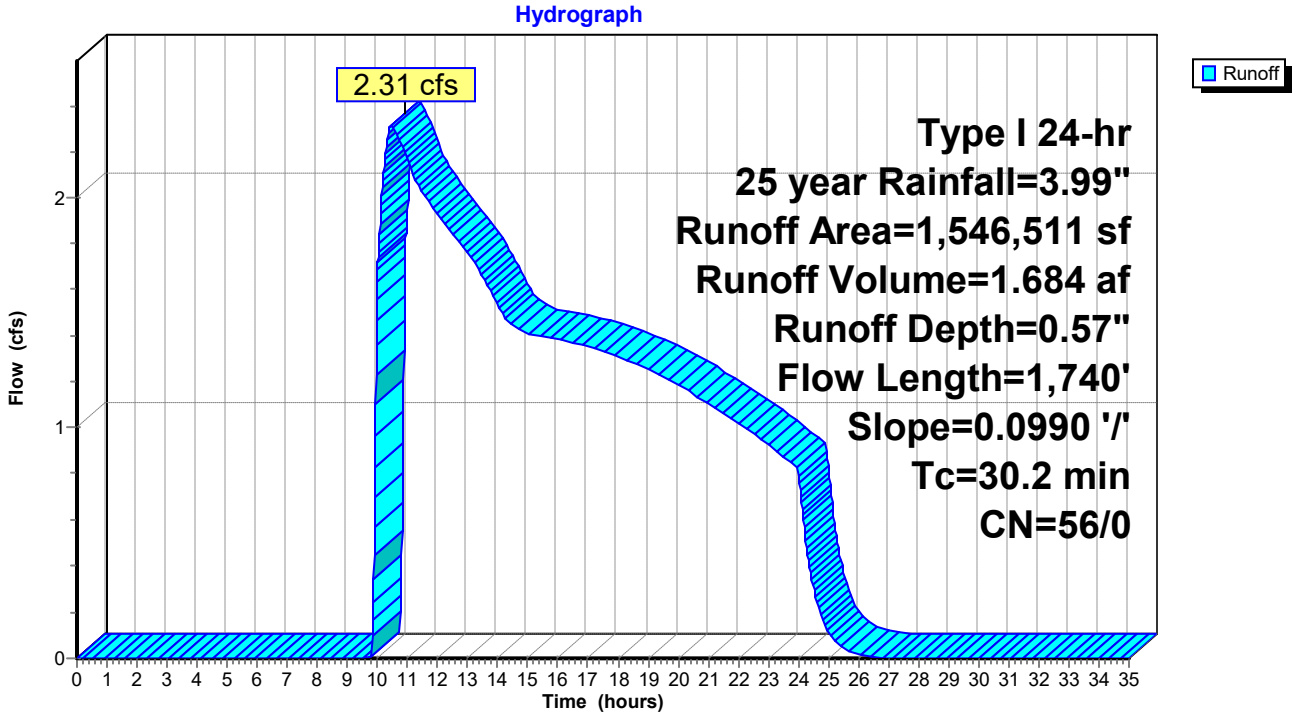
Runoff = 2.31 cfs @ 10.46 hrs, Volume= 1.684 af, Depth= 0.57"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,135,160	48	Brush, Poor, HSG A
*	411,351	77	Brush, Poor, HSG C
	1,546,511	56	Weighted Average
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19 PRE: Collection Point 19



Summary for Subcatchment 20 PRE: Collection Point 20

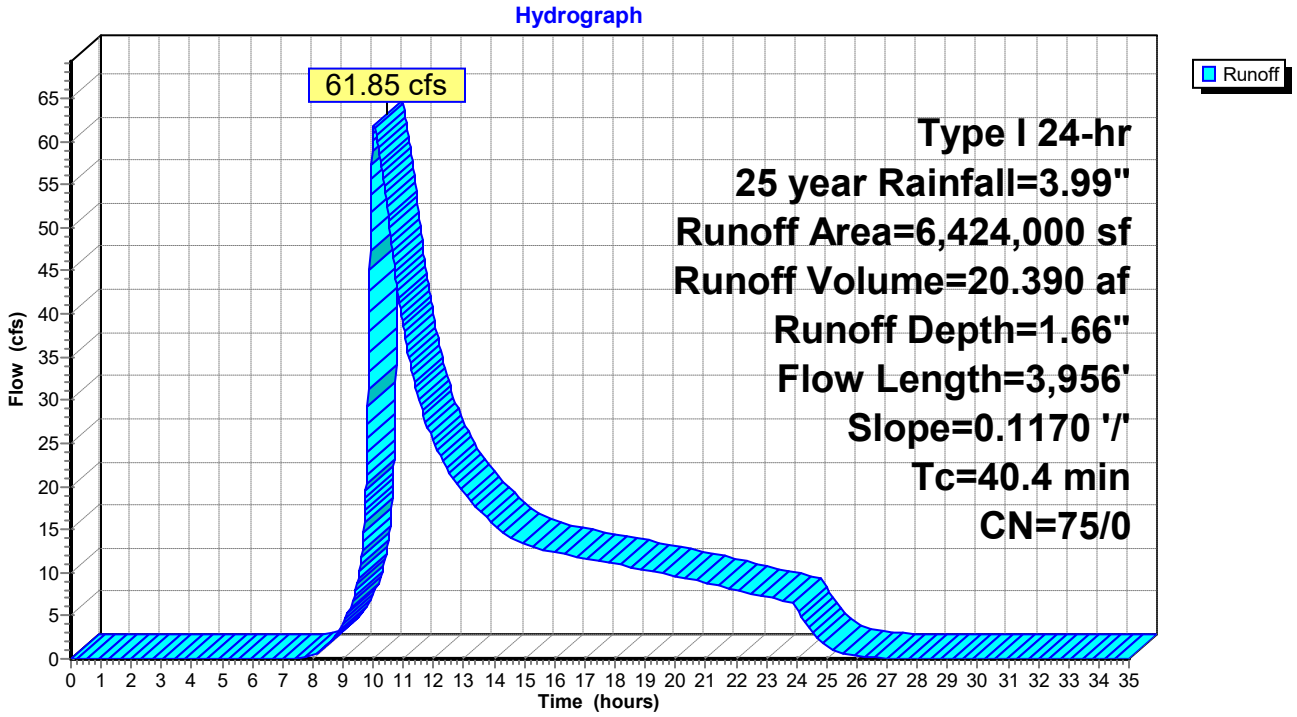
Runoff = 61.85 cfs @ 10.00 hrs, Volume= 20.390 af, Depth= 1.66"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	770,880	48	Brush, Poor, HSG A
*	4,111,360	77	Brush, Poor, HSG C
*	1,541,760	83	Brush, Poor,HSG D
	6,424,000	75	Weighted Average
	6,424,000	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20 PRE: Collection Point 20



Summary for Subcatchment 21 PRE: Collection Point 21

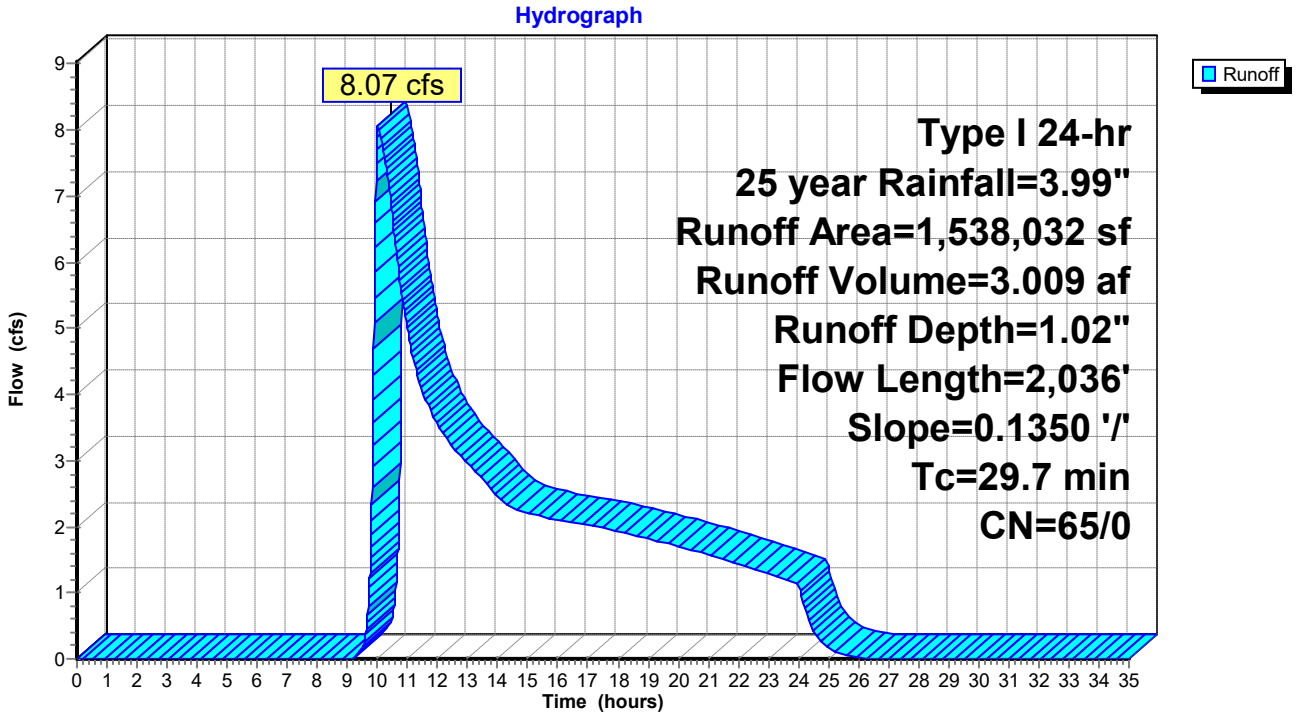
Runoff = 8.07 cfs @ 10.01 hrs, Volume= 3.009 af, Depth= 1.02"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	676,734	48	Brush, Poor, HSG A
*	784,396	77	Brush, Poor, HSG C
*	76,902	83	Brush, Poor, HSG D
	1,538,032	65	Weighted Average
	1,538,032	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21 PRE: Collection Point 21



Summary for Subcatchment 22 PRE: Collection Point 22

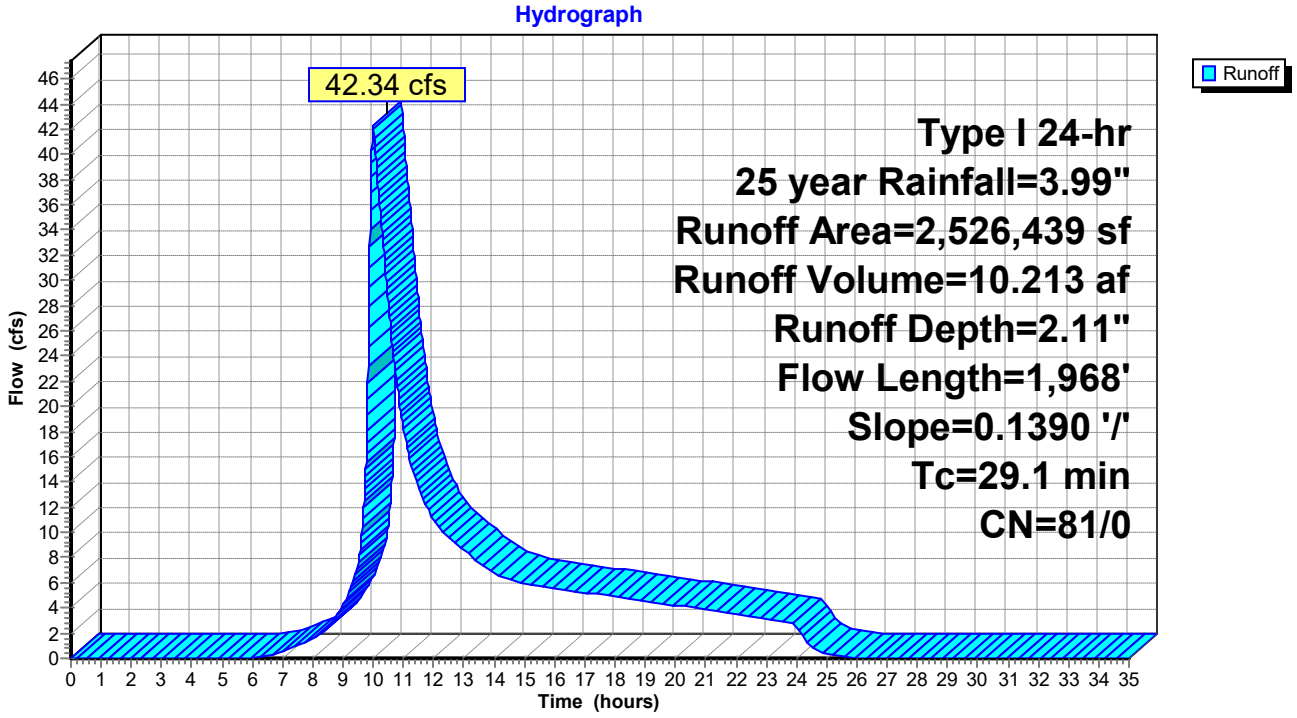
Runoff = 42.34 cfs @ 9.99 hrs, Volume= 10.213 af, Depth= 2.11"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	783,196	77	Brush, Poor, HSG C
*	1,743,243	83	Brush, Poor, HSG D
	2,526,439	81	Weighted Average
	2,526,439	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22 PRE: Collection Point 22



Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1 PRE: Collection Point 1 Runoff Area=4,642,907 sf 0.00% Impervious Runoff Depth=2.58"
Flow Length=4,165' Slope=0.1560 '/' Tc=37.9 min CN=78/0 Runoff=80.63 cfs 22.959 af

Subcatchment 2 PRE: Colleciton Point 2 Runoff Area=587,909 sf 0.00% Impervious Runoff Depth=2.58"
Flow Length=1,210' Slope=0.2390 '/' Tc=20.8 min CN=78/0 Runoff=14.67 cfs 2.907 af

Subcatchment 3 PRE: Colleciton Point 3 Runoff Area=858,494 sf 0.00% Impervious Runoff Depth=2.33"
Flow Length=1,657' Slope=0.2250 '/' Tc=24.1 min CN=75/0 Runoff=17.19 cfs 3.824 af

Subcatchment 4 PRE: Collection Point 4 Runoff Area=1,131,991 sf 0.00% Impervious Runoff Depth=2.08"
Flow Length=1,764' Slope=0.1890 '/' Tc=25.8 min CN=72/0 Runoff=18.67 cfs 4.511 af

Subcatchment 5 PRE: Collection Point 5 Runoff Area=6,131,451 sf 0.00% Impervious Runoff Depth=2.25"
Flow Length=3,920' Slope=0.1300 '/' Tc=39.0 min CN=74/0 Runoff=86.02 cfs 26.336 af

Subcatchment 6 PRE: Collection Point 6 Runoff Area=1,108,808 sf 0.00% Impervious Runoff Depth=2.67"
Flow Length=2,050' Slope=0.1550 '/' Tc=28.7 min CN=79/0 Runoff=23.98 cfs 5.670 af

Subcatchment 7 PRE: Collection Point 7 Runoff Area=8,685,222 sf 0.00% Impervious Runoff Depth=2.16"
Flow Length=4,875' Slope=0.0990 '/' Tc=46.5 min CN=73/0 Runoff=102.12 cfs 35.947 af

Subcatchment 8 PRE: Collection Point 8 Runoff Area=4,500,349 sf 0.00% Impervious Runoff Depth=1.35"
Flow Length=4,017' Slope=0.1130 '/' Tc=41.1 min CN=62/0 Runoff=26.51 cfs 11.594 af

Subcatchment 9 PRE: Collection Point 9 Runoff Area=703,589 sf 0.00% Impervious Runoff Depth=0.79"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=2.21 cfs 1.067 af

Subcatchment 10 PRE: Collection Point Runoff Area=3,739,141 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=3,448' Slope=0.1180 '/' Tc=37.9 min CN=56/0 Runoff=12.31 cfs 6.905 af

Subcatchment 11 PRE: Collection Point Runoff Area=1,677,212 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=1,780' Slope=0.0990 '/' Tc=30.5 min CN=49/0 Runoff=2.11 cfs 1.866 af

Subcatchment 12 PRE: Collection Point Runoff Area=24,513,457 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=6,556' Slope=0.0640 '/' Tc=61.6 min CN=55/0 Runoff=55.59 cfs 42.501 af

Subcatchment 13 PRE: Collection Point 13 Runoff Area=67,530 sf 0.00% Impervious Runoff Depth=2.25"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=74/0 Runoff=2.03 cfs 0.290 af

Subcatchment 14 PRE: Collection Point 14 Runoff Area=109,321 sf 0.00% Impervious Runoff Depth=2.00"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=3.00 cfs 0.419 af

Subcatchment 15 PRE: Collection Point Runoff Area=2,067,068 sf 0.00% Impervious Runoff Depth=1.09"
Flow Length=1,561' Slope=0.1880 '/' Tc=24.7 min CN=58/0 Runoff=11.41 cfs 4.299 af

Subcatchment 16 PRE: Collection Point Runoff Area=3,077,349 sf 0.00% Impervious Runoff Depth=1.70"
Flow Length=2,355' Slope=0.1200 '/' Tc=32.4 min CN=67/0 Runoff=32.18 cfs 10.004 af

Subcatchment 17 PRE: Collection Point Runoff Area=5,084,187 sf 0.00% Impervious Runoff Depth=1.15"
Flow Length=2,922' Slope=0.1280 '/' Tc=34.7 min CN=59/0 Runoff=24.79 cfs 11.187 af

Subcatchment 18 PRE: Collection Point Runoff Area=5,724,512 sf 0.00% Impervious Runoff Depth=2.25"
Flow Length=2,981' Slope=0.1070 '/' Tc=36.7 min CN=74/0 Runoff=83.67 cfs 24.588 af

Subcatchment 19 PRE: Collection Point Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=5.72 cfs 2.856 af

Subcatchment 20 PRE: Collection Point Runoff Area=6,424,000 sf 0.00% Impervious Runoff Depth=2.33"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=92.62 cfs 28.613 af

Subcatchment 21 PRE: Collection Point Runoff Area=1,538,032 sf 0.00% Impervious Runoff Depth=1.55"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=14.75 cfs 4.574 af

Subcatchment 22 PRE: Collection Point Runoff Area=2,526,439 sf 0.00% Impervious Runoff Depth=2.85"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=58.86 cfs 13.790 af

Total Runoff Area = 1,984.515 ac Runoff Volume = 266.708 af Average Runoff Depth = 1.61"
100.00% Pervious = 1,984.515 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1 PRE: Collection Point 1

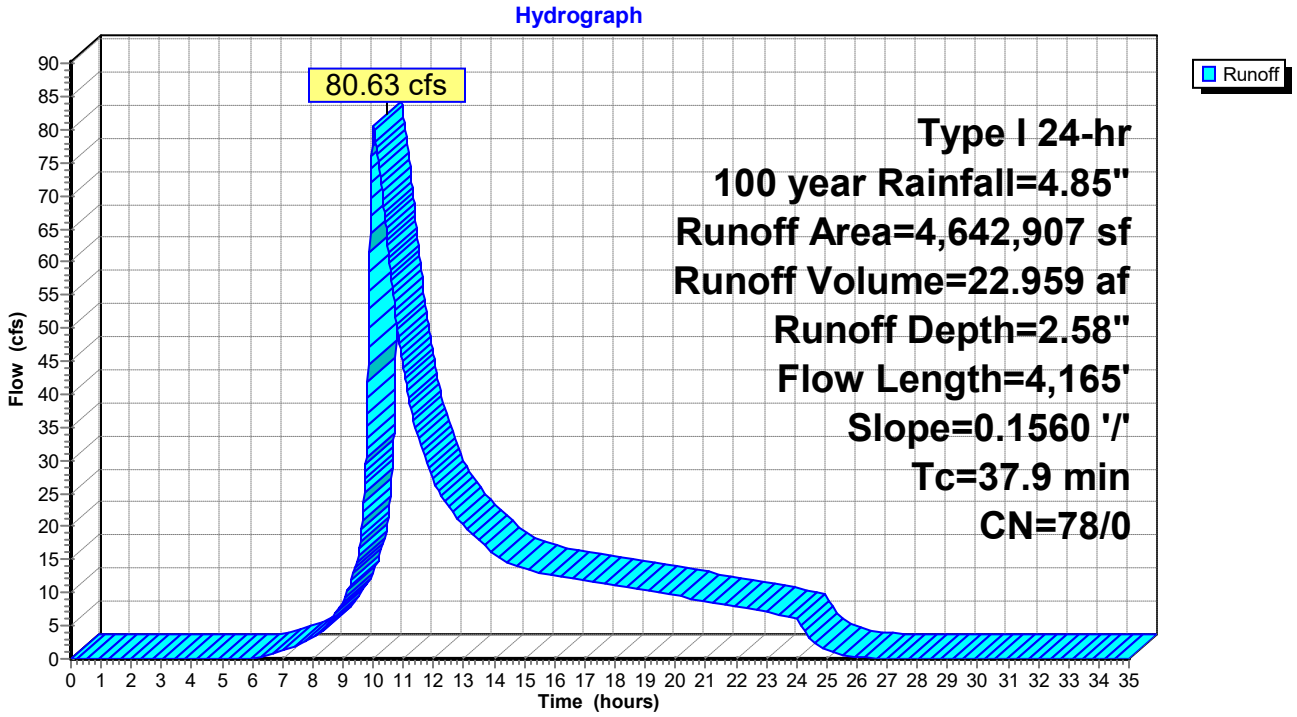
Runoff = 80.63 cfs @ 10.00 hrs, Volume= 22.959 af, Depth= 2.58"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	603,578	48	Brush, Poor, HSG A
*	696,436	77	Brush, Poor, HSG C
*	3,342,893	83	Brush, Poor, HSG D
	4,642,907	78	Weighted Average
	4,642,907	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1560	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.0	2,965	0.1560	3.29		**Kirpich Method,** General overland flow k= 2.00
37.9	4,165	Total			

Subcatchment 1 PRE: Collection Point 1



Summary for Subcatchment 2 PRE: Colleciton Point 2

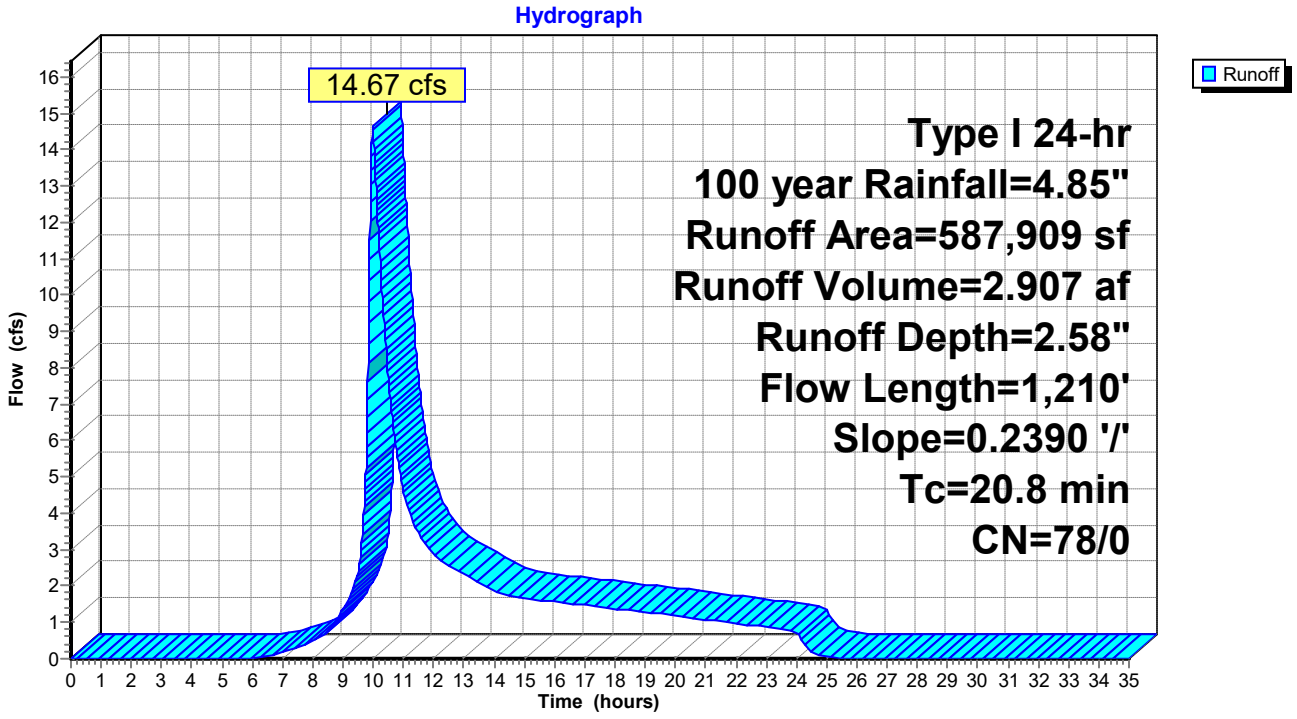
Runoff = 14.67 cfs @ 9.99 hrs, Volume= 2.907 af, Depth= 2.58"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	76,428	48	Brush, Poor, HSG A
*	511,481	83	Brush, Poor, HSG D
	587,909	78	Weighted Average
	587,909	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	1,210	0.2390	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2 PRE: Colleciton Point 2



Summary for Subcatchment 3 PRE: Colleciton Point 3

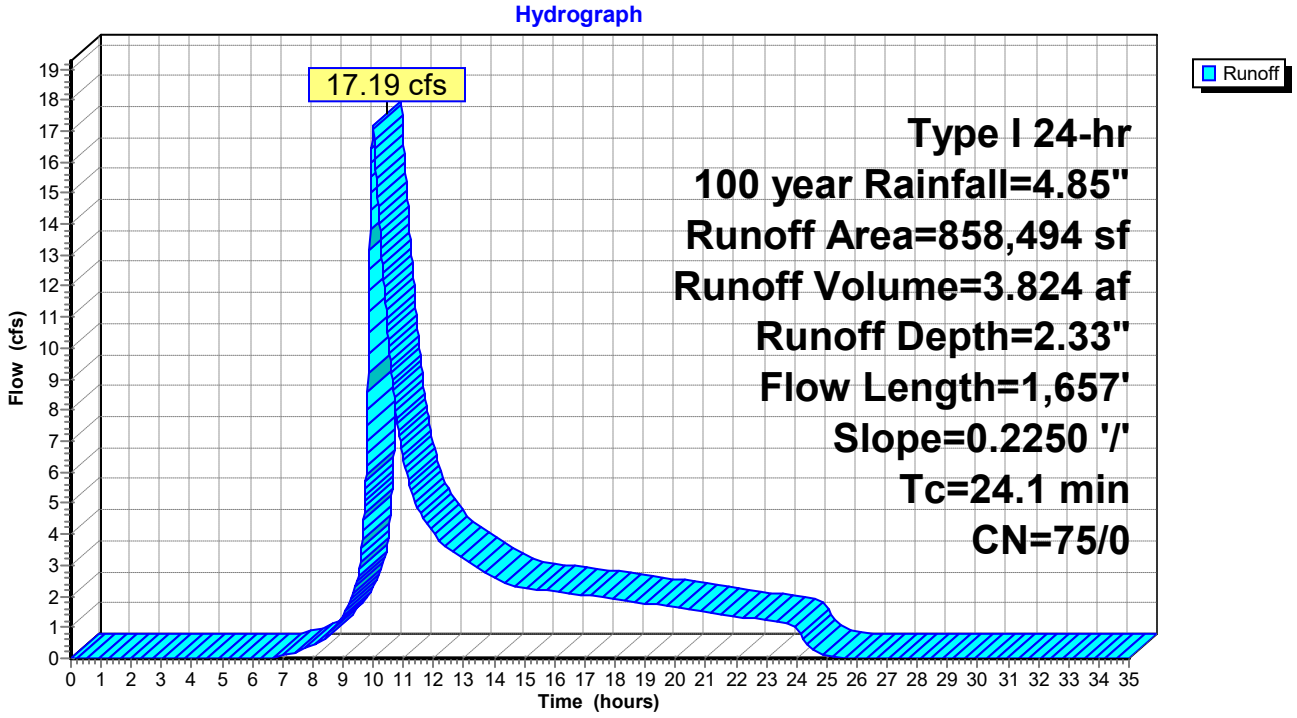
Runoff = 17.19 cfs @ 9.99 hrs, Volume= 3.824 af, Depth= 2.33"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	188,869	48	Brush, Poor, HSG A
*	669,625	83	Brush, Poor, HSG D
	858,494	75	Weighted Average
	858,494	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	1,200	0.2250	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.1	457	0.2250	2.46		**Kirpich Method,** General overland flow k= 2.00
24.1	1,657	Total			

Subcatchment 3 PRE: Colleciton Point 3



Summary for Subcatchment 4 PRE: Collection Point 4

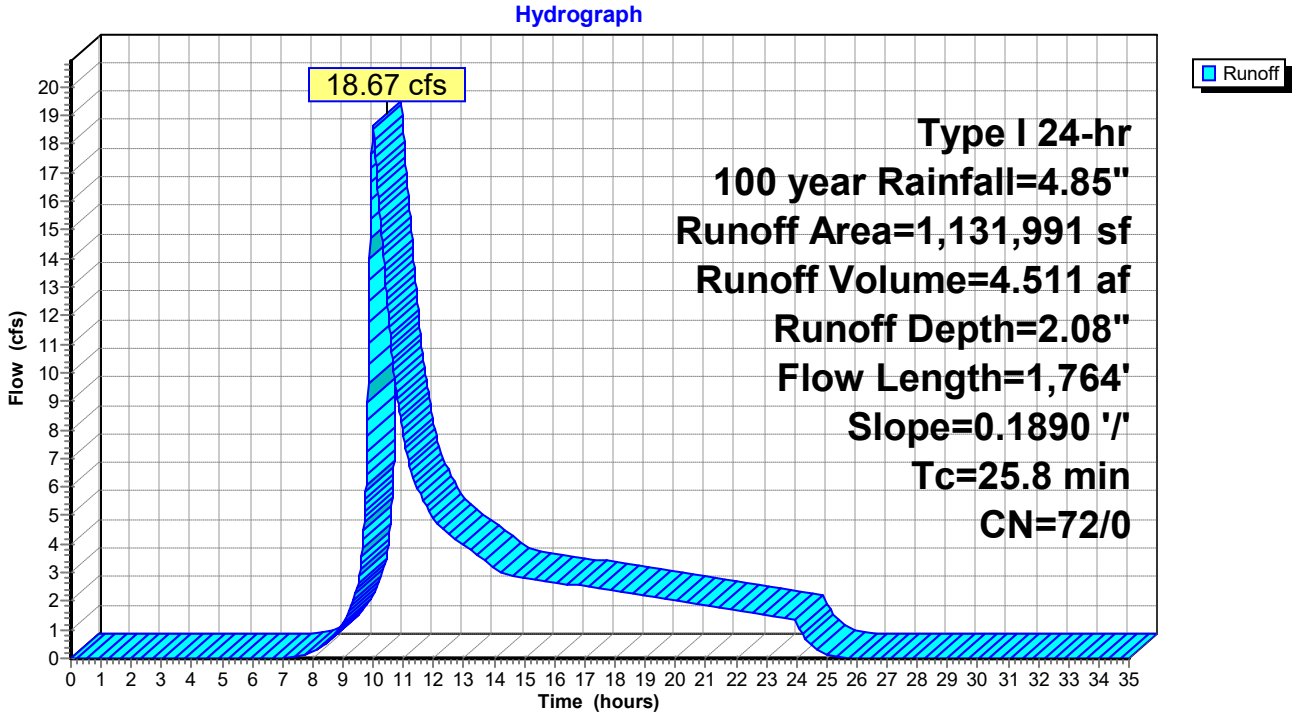
Runoff = 18.67 cfs @ 9.99 hrs, Volume= 4.511 af, Depth= 2.08"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	362,237	48	Brush, Poor, HSG A
*	769,754	83	Brush, Poor, HSG D
	1,131,991	72	Weighted Average
	1,131,991	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	1,200	0.1890	0.91		**Kerby Method,** Pasture, average grass N= 0.40
3.9	564	0.1890	2.42		**Kirpich Method,** General overland flow k= 2.00
25.8	1,764	Total			

Subcatchment 4 PRE: Collection Point 4



Summary for Subcatchment 5 PRE: Collection Point 5

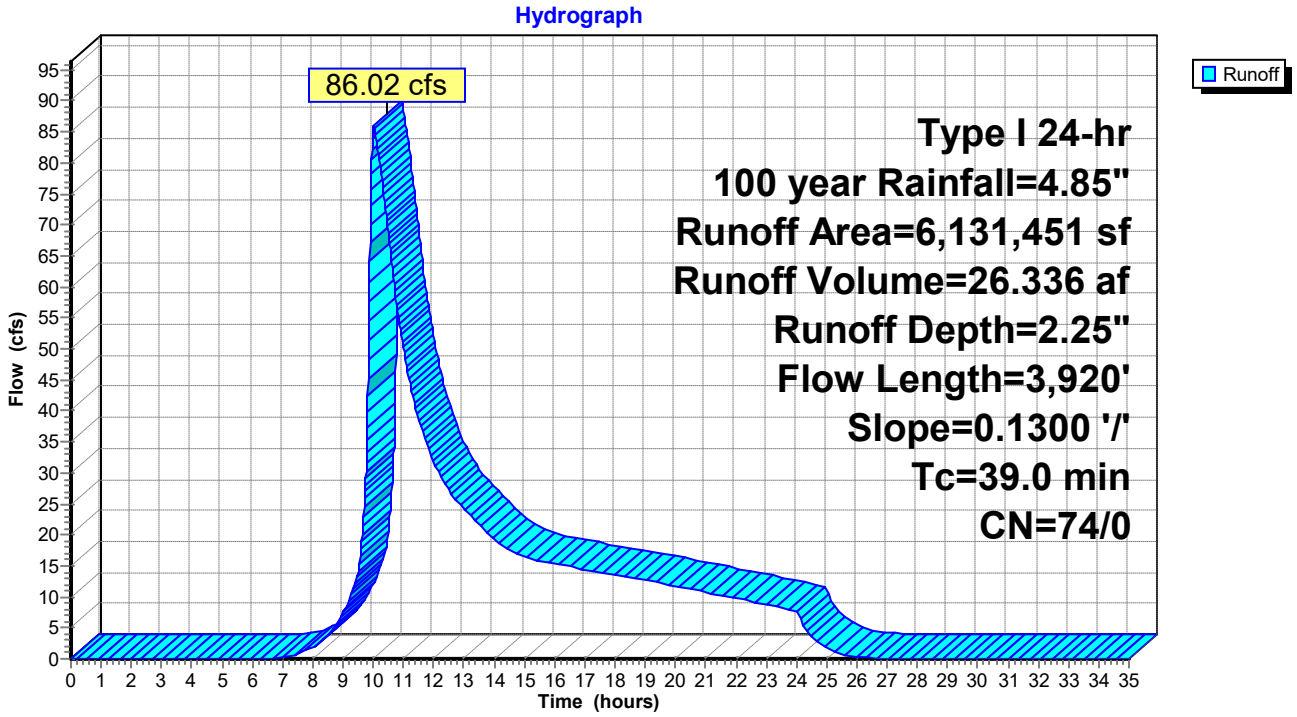
Runoff = 86.02 cfs @ 10.00 hrs, Volume= 26.336 af, Depth= 2.25"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,103,661	48	Brush, Poor, HSG A
*	2,391,266	77	Brush, Poor,, HSG C
*	2,636,524	83	Brush, Poor, HSG D
	6,131,451	74	Weighted Average
	6,131,451	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	1,200	0.1300	0.84		**Kerby Method,** Pasture, average grass N= 0.40
15.1	2,720	0.1300	3.00		**Kirpich Method,** General overland flow k= 2.00
39.0	3,920	Total			

Subcatchment 5 PRE: Collection Point 5



Summary for Subcatchment 6 PRE: Collection Point 6

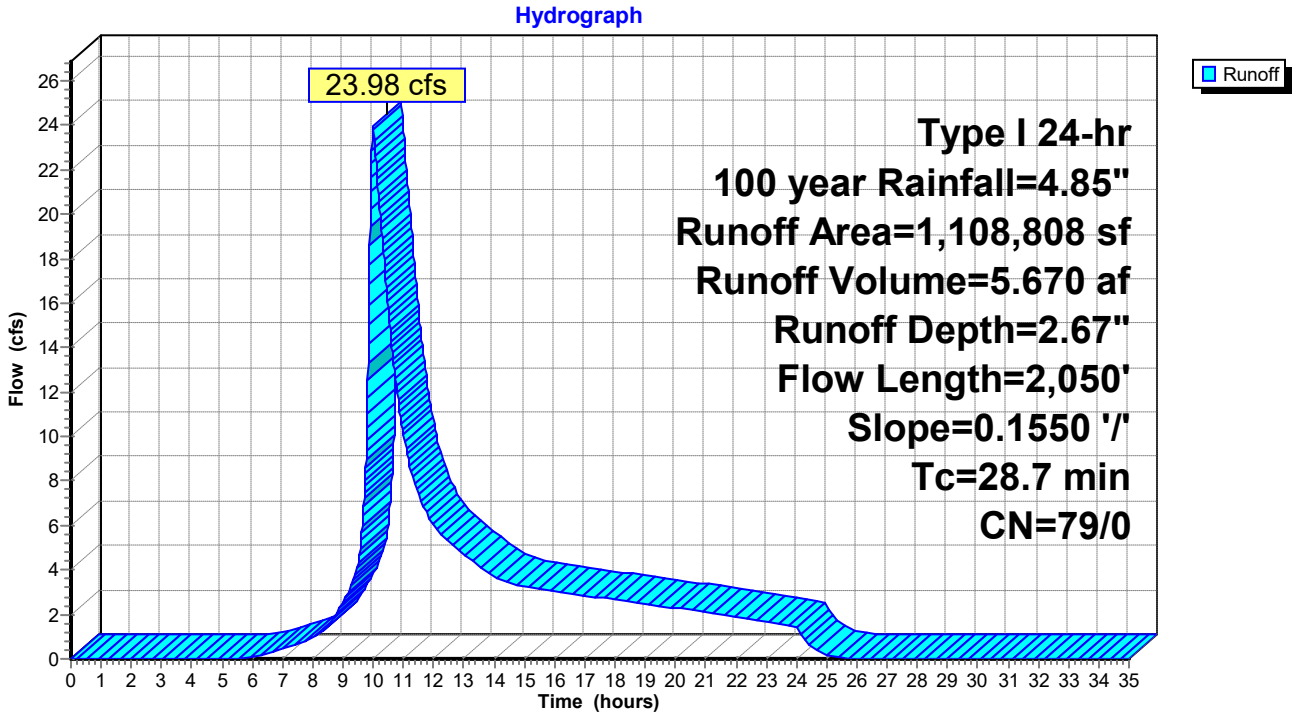
Runoff = 23.98 cfs @ 9.99 hrs, Volume= 5.670 af, Depth= 2.67"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	88,705	48	Brush, Poor, HSG A
*	299,378	77	Brush, Poor, HSG C
*	720,725	83	Brush, Poor, HSG D
	1,108,808	79	Weighted Average
	1,108,808	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1550	0.87		**Kerby Method,** Pasture, average grass N= 0.40
5.8	850	0.1550	2.46		**Kirpich Method,** General overland flow k= 2.00
28.7	2,050	Total			

Subcatchment 6 PRE: Collection Point 6



Summary for Subcatchment 7 PRE: Collection Point 7

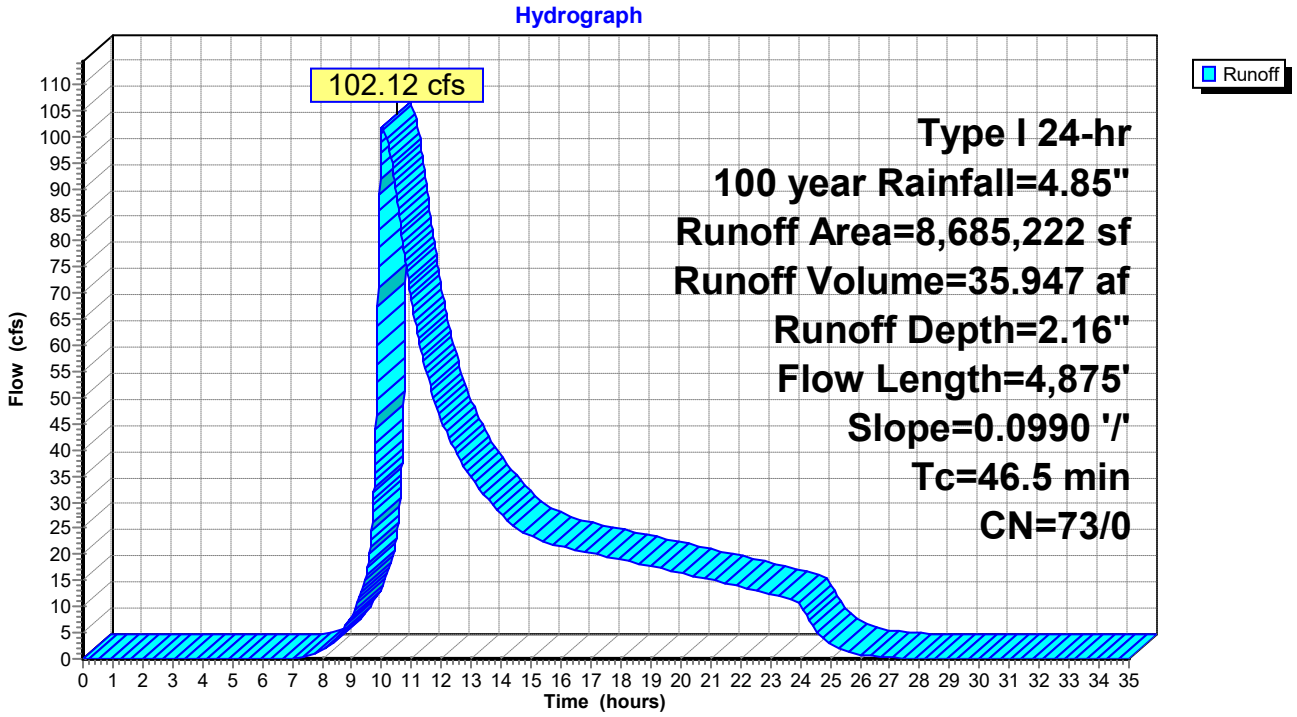
Runoff = 102.12 cfs @ 10.01 hrs, Volume= 35.947 af, Depth= 2.16"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,997,601	48	Brush, Poor, HSG A
*	2,345,010	77	Brush, Poor, HSG C
*	4,342,611	83	Brush, Poor, HSG D
	8,685,222	73	Weighted Average
	8,685,222	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
21.1	3,675	0.0990	2.90		**Kirpich Method,** General overland flow k= 2.00
46.5	4,875	Total			

Subcatchment 7 PRE: Collection Point 7



Summary for Subcatchment 8 PRE: Collection Point 8

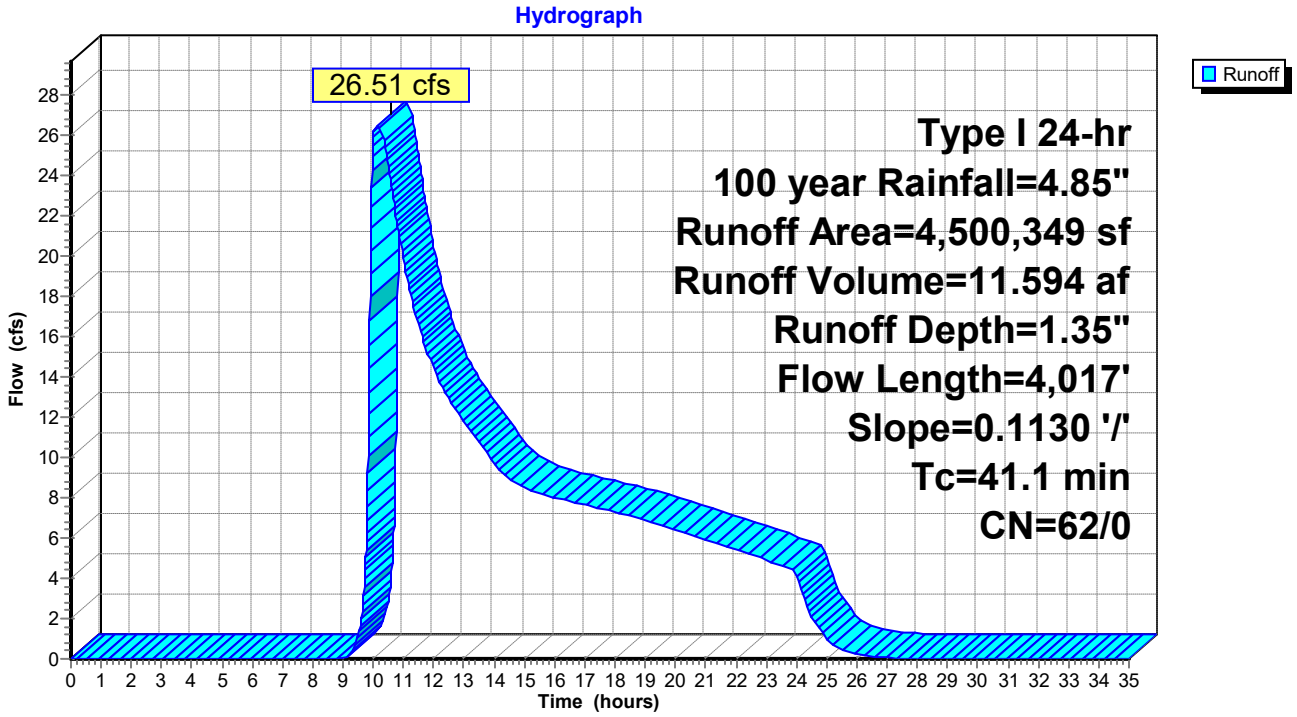
Runoff = 26.51 cfs @ 10.14 hrs, Volume= 11.594 af, Depth= 1.35"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	2,565,199	48	Brush, Poor, HSG A
*	720,056	77	Brush, Poor, HSG C
*	1,215,094	83	Brush, Poor, HSG D
	4,500,349	62	Weighted Average
	4,500,349	62	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.7	1,200	0.1130	0.81		**Kerby Method,** Pasture, average grass N= 0.40
16.4	2,817	0.1130	2.87		**Kirpich Method,** General overland flow k= 2.00
41.1	4,017	Total			

Subcatchment 8 PRE: Collection Point 8



Summary for Subcatchment 9 PRE: Collection Point 9

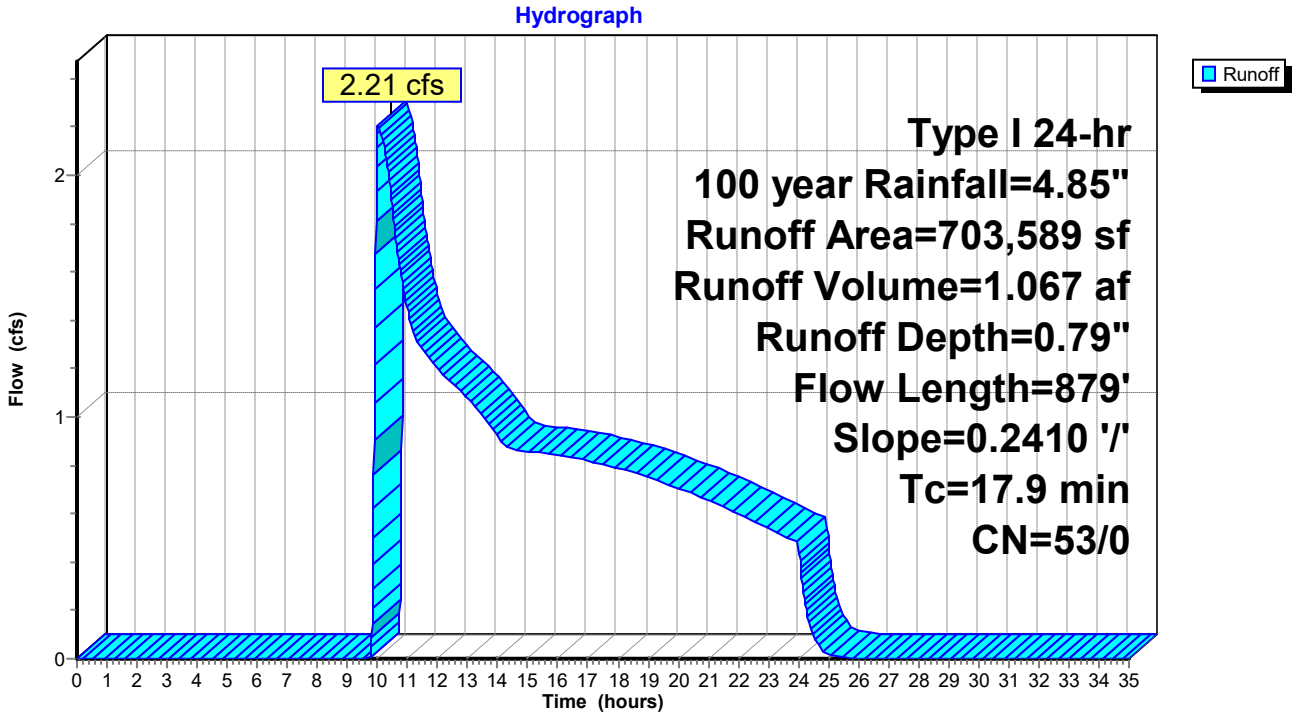
Runoff = 2.21 cfs @ 10.01 hrs, Volume= 1.067 af, Depth= 0.79"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	605,087	48	Brush, Poor, HSG A
*	98,502	83	Brush, Poor, HSG D
	703,589	53	Weighted Average
	703,589	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9 PRE: Collection Point 9



Summary for Subcatchment 10 PRE: Collection Point 10

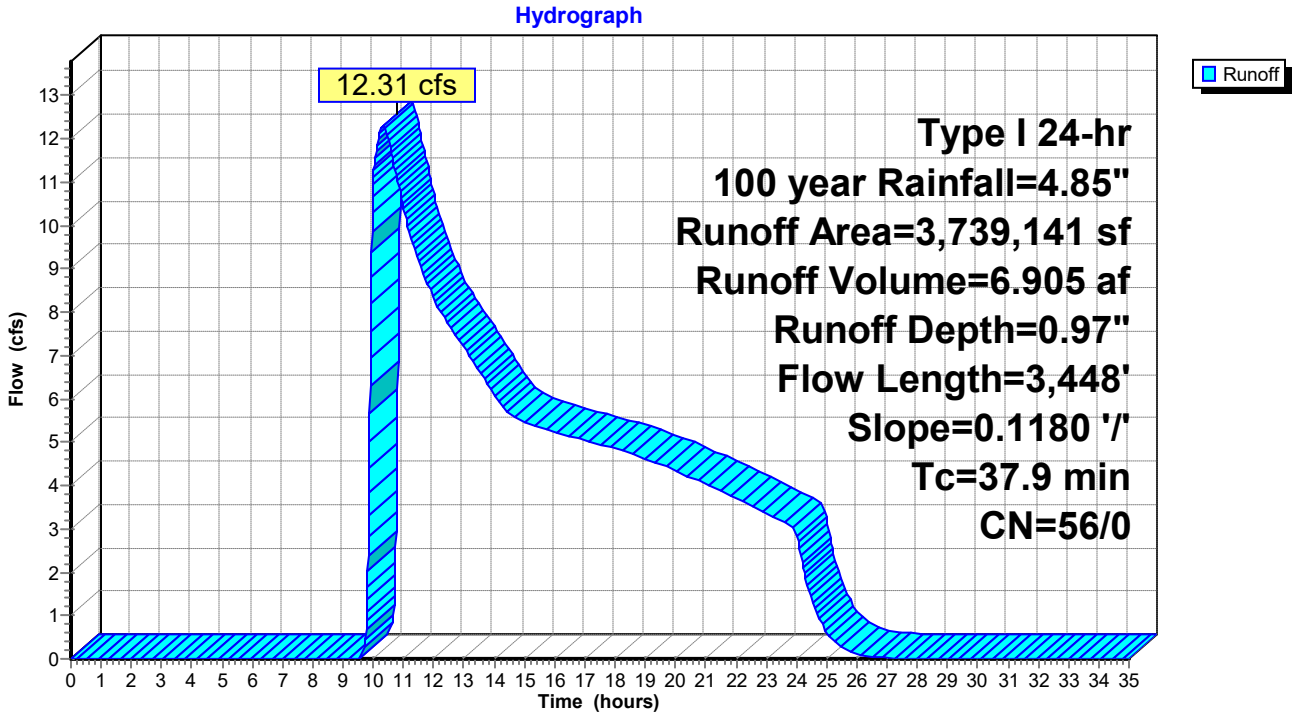
Runoff = 12.31 cfs @ 10.34 hrs, Volume= 6.905 af, Depth= 0.97"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	2,713,197	48	Brush, Poor, HSG A
*	886,722	77	Brush, Poor, HSG C
*	139,222	83	Brush, Poor, HSG D
	3,739,141	56	Weighted Average
	3,739,141	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.4	1,200	0.1180	0.82		**Kerby Method,** Pasture, average grass N= 0.40
13.5	2,248	0.1180	2.77		**Kirpich Method,** General overland flow k= 2.00
37.9	3,448	Total			

Subcatchment 10 PRE: Collection Point 10



Summary for Subcatchment 11 PRE: Collection Point 11

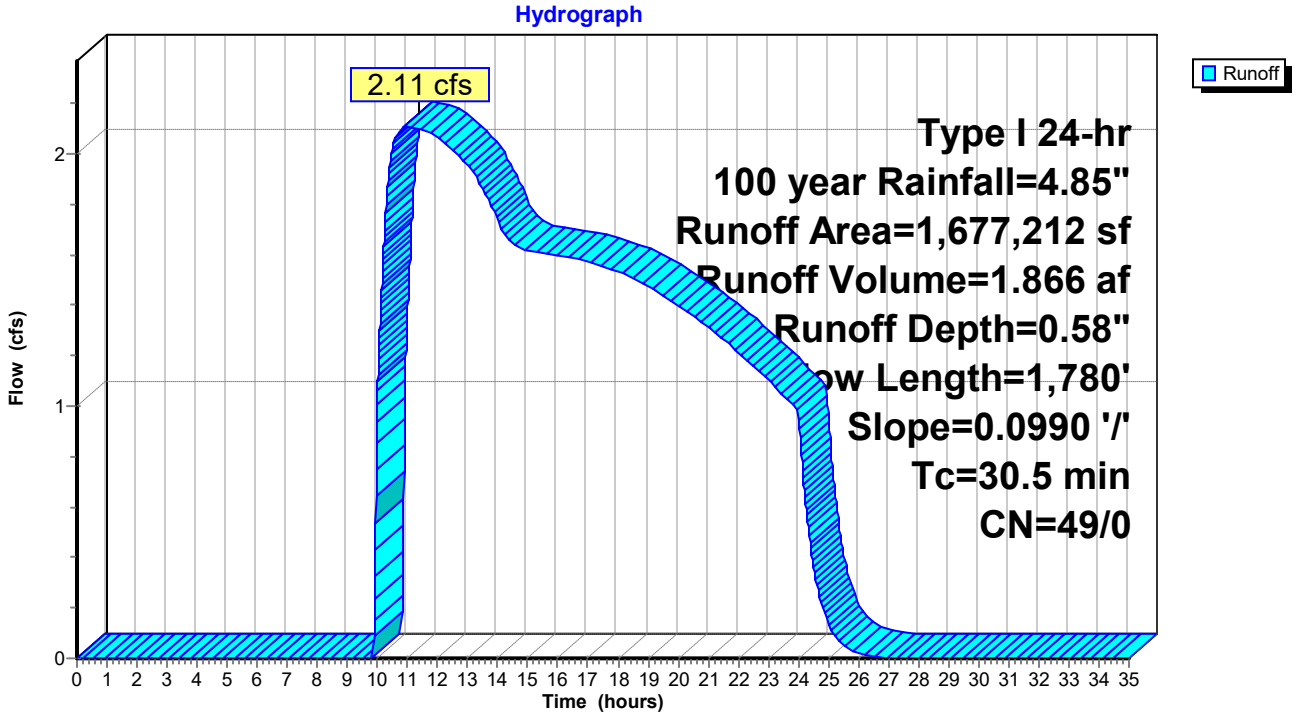
Runoff = 2.11 cfs @ 10.92 hrs, Volume= 1.866 af, Depth= 0.58"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,626,896	48	Brush, Poor, HSG A
*	50,316	83	Brush, Poor, HSG D
	1,677,212	49	Weighted Average
	1,677,212	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
5.1	580	0.0990	1.90		**Kirpich Method,** General overland flow k= 2.00
30.5	1,780	Total			

Subcatchment 11 PRE: Collection Point 11



Summary for Subcatchment 12 PRE: Collection Point 12

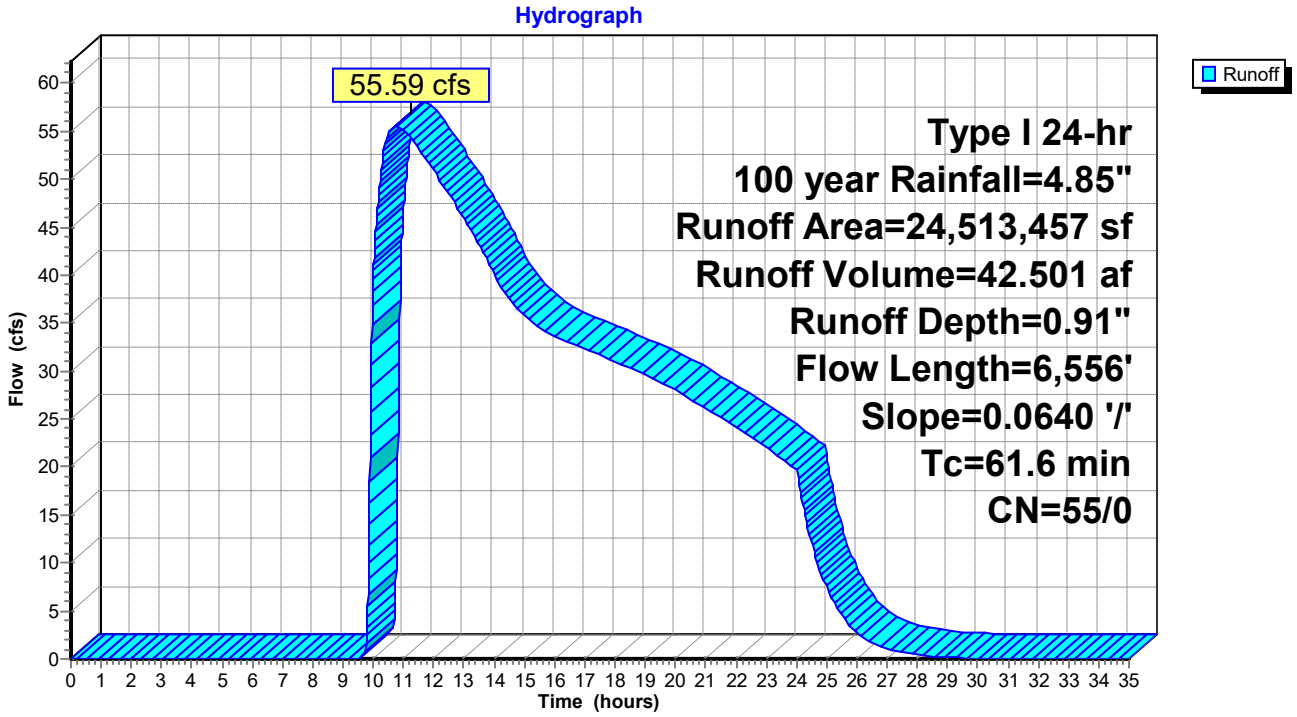
Runoff = 55.59 cfs @ 10.78 hrs, Volume= 42.501 af, Depth= 0.91"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	19,149,065	48	Brush, Fair, HSG A
*	1,357,896	77	Brush, Fair, HSG C
*	4,006,496	83	Brush, Fair, HSG D
	24,513,457	55	Weighted Average
	24,513,457	55	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
33.4	5,356	0.0640	2.67		**Kirpich Method,** General overland flow k= 2.00
61.6	6,556	Total			

Subcatchment 12 PRE: Collection Point 12



Summary for Subcatchment 13 PRE: Collection Point 13

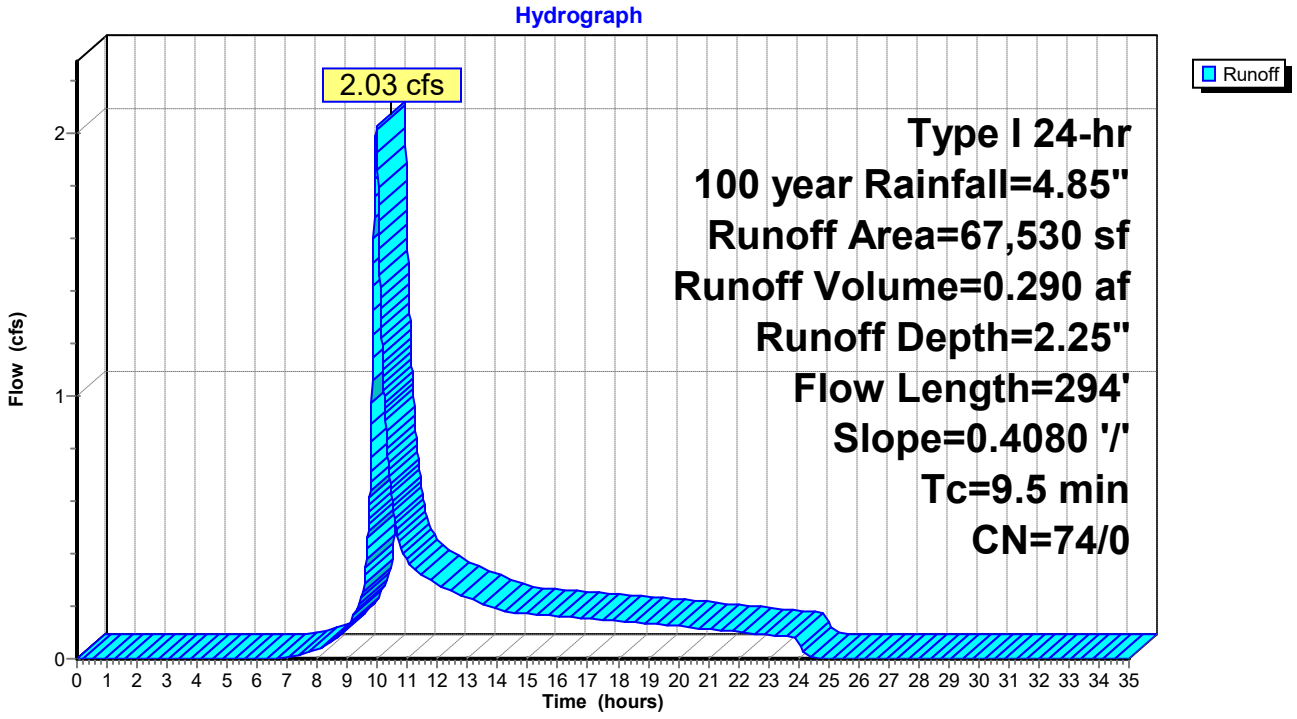
Runoff = 2.03 cfs @ 9.96 hrs, Volume= 0.290 af, Depth= 2.25"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	18,233	48	Brush, Poor, HSG A
*	49,297	83	Brush, Poor, HSG D
	67,530	74	Weighted Average
	67,530	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13 PRE: Collection Point 13



Summary for Subcatchment 14 PRE: Collection Point 14

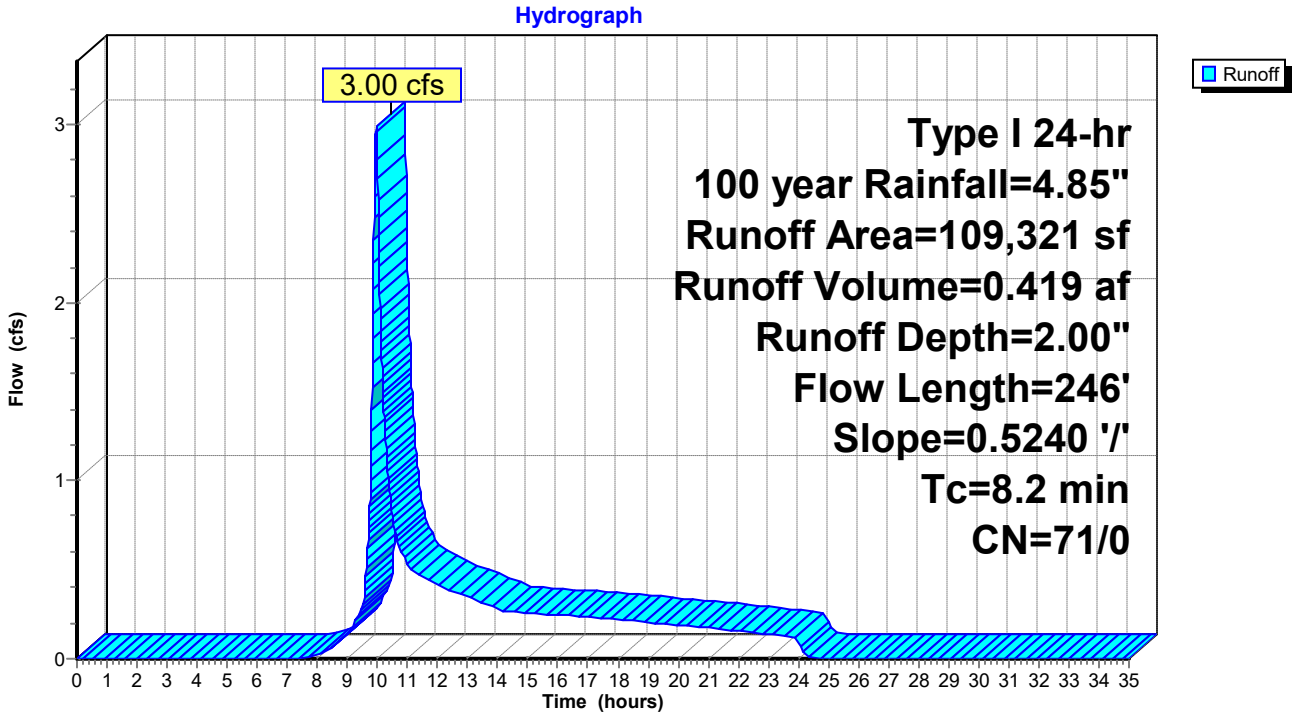
Runoff = 3.00 cfs @ 9.96 hrs, Volume= 0.419 af, Depth= 2.00"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	38,262	48	Brush, Poor, HSG A
*	71,059	83	Brush, Poor, HSG D
	109,321	71	Weighted Average
	109,321	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14 PRE: Collection Point 14



Summary for Subcatchment 15 PRE: Collection Point 15

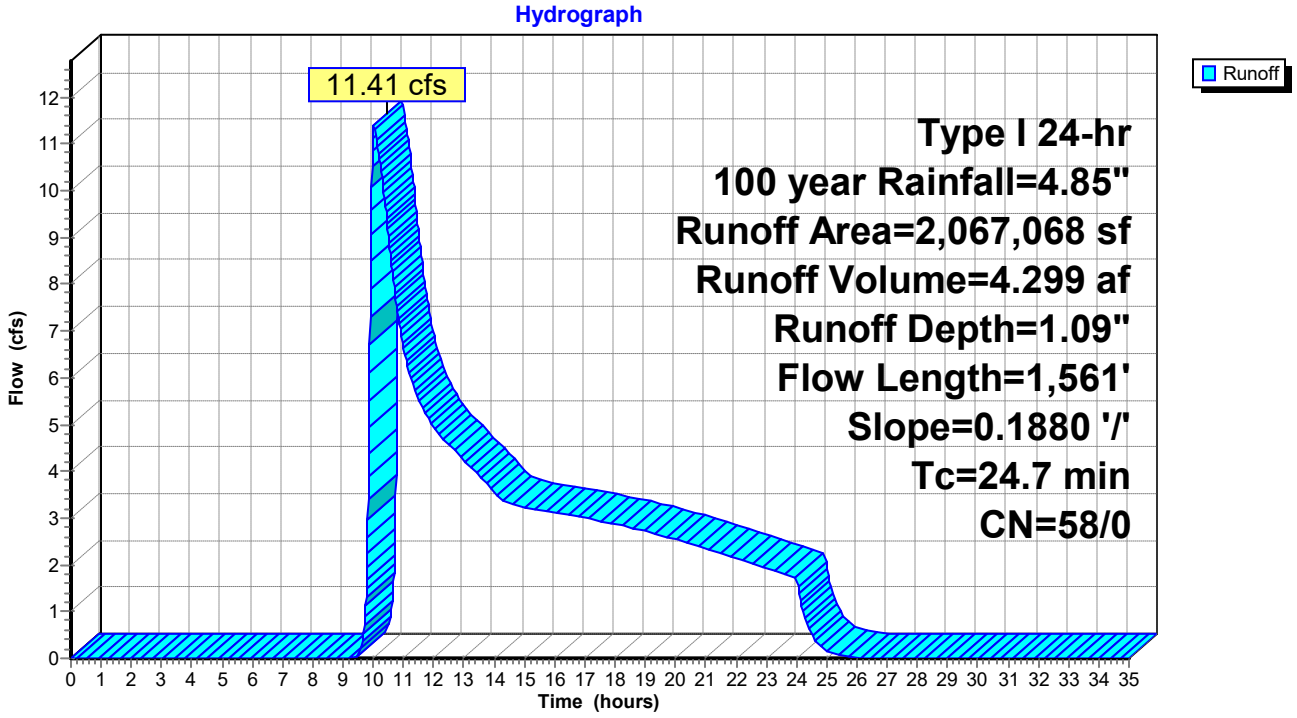
Runoff = 11.41 cfs @ 10.00 hrs, Volume= 4.299 af, Depth= 1.09"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,446,948	48	Brush, Poor, HSG A
*	620,120	83	Brush, Poor, HSG D
	2,067,068	58	Weighted Average
	2,067,068	58	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	1,200	0.1880	0.91		**Kerby Method,** Pasture, average grass N= 0.40
2.8	361	0.1880	2.18		**Kirpich Method,** General overland flow k= 2.00
24.7	1,561	Total			

Subcatchment 15 PRE: Collection Point 15



Summary for Subcatchment 16 PRE: Collection Point 16

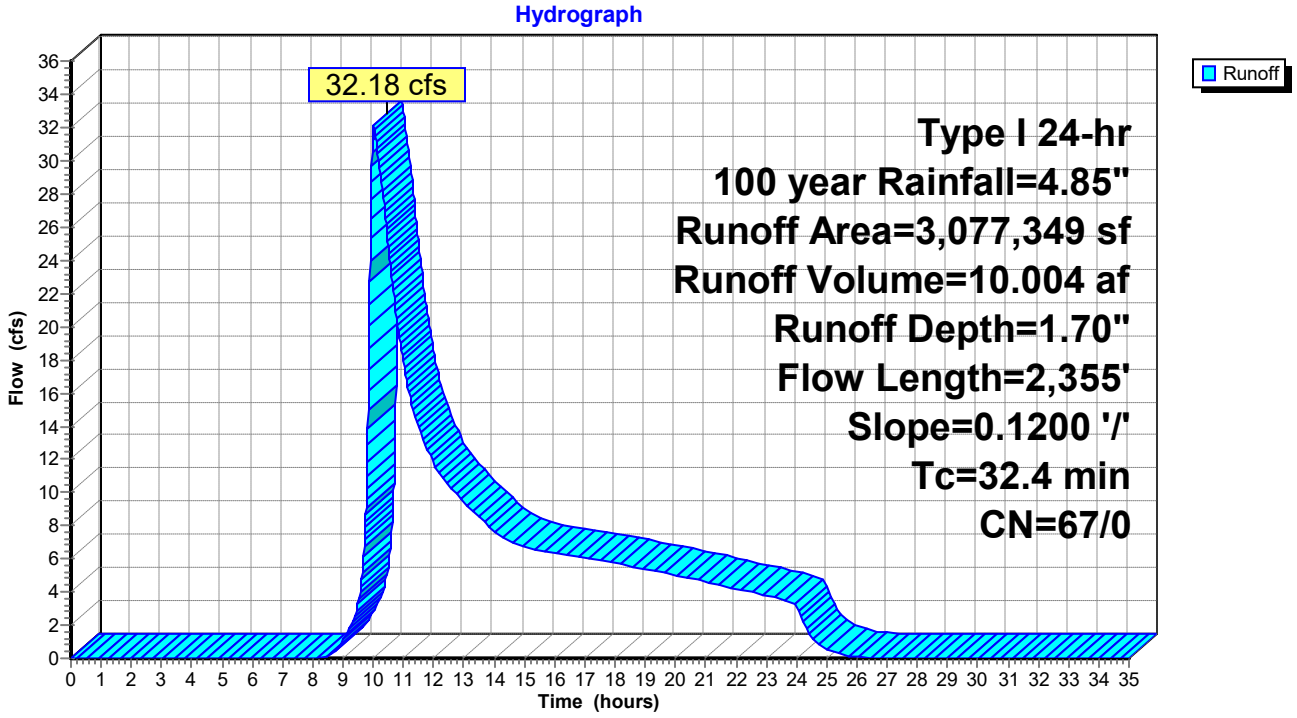
Runoff = 32.18 cfs @ 10.00 hrs, Volume= 10.004 af, Depth= 1.70"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,415,581	48	Brush, Poor, HSG A
*	1,661,768	83	Brush, Poor, HSG D
	3,077,349	67	Weighted Average
	3,077,349	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.3	1,200	0.1200	0.82		**Kerby Method,** Pasture, average grass N= 0.40
8.1	1,155	0.1200	2.39		**Kirpich Method,** General overland flow k= 2.00
32.4	2,355	Total			

Subcatchment 16 PRE: Collection Point 16



Summary for Subcatchment 17 PRE: Collection Point 17

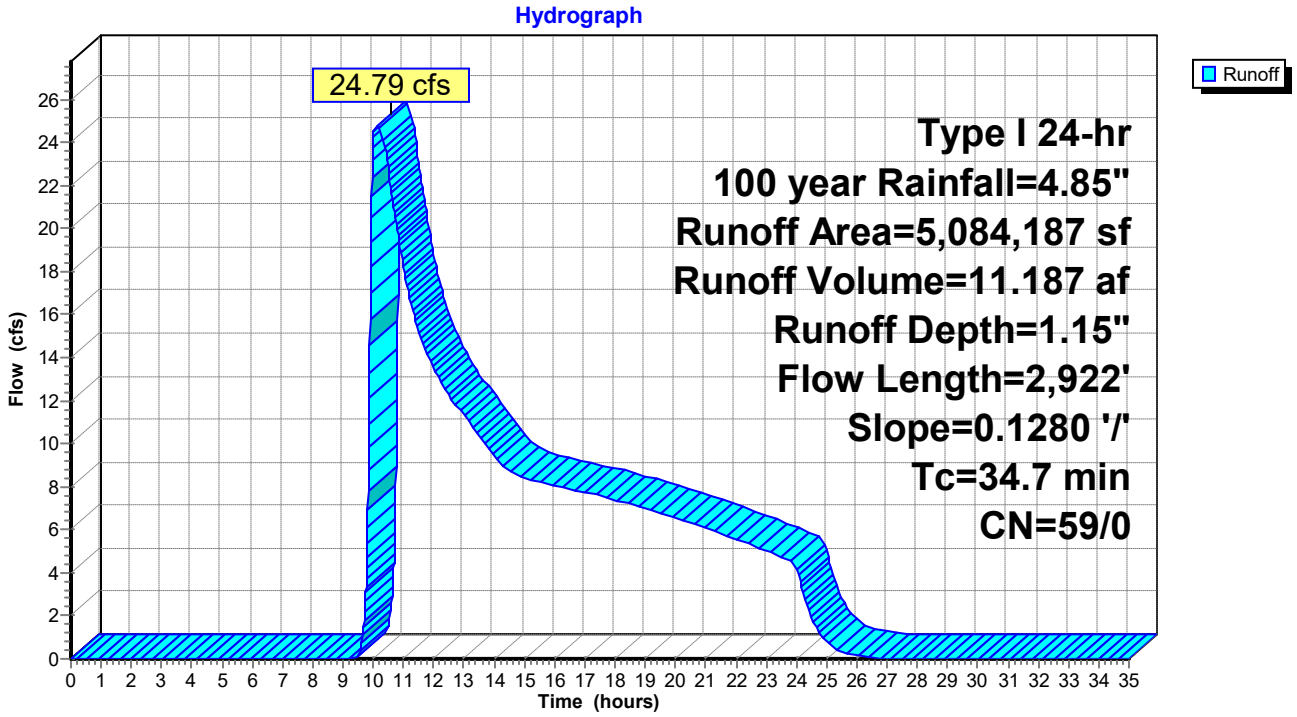
Runoff = 24.79 cfs @ 10.13 hrs, Volume= 11.187 af, Depth= 1.15"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	3,355,563	48	Brush, Poor, HSG A
*	915,154	77	Brush, Poor, HSG C
*	813,470	83	Brush, Poor, HSG D
	5,084,187	59	Weighted Average
	5,084,187	59	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.0	1,200	0.1280	0.83		**Kerby Method,** Pasture, average grass N= 0.40
10.7	1,722	0.1280	2.69		**Kirpich Method,** General overland flow k= 2.00
34.7	2,922	Total			

Subcatchment 17 PRE: Collection Point 17



Summary for Subcatchment 18 PRE: Collection Point 18

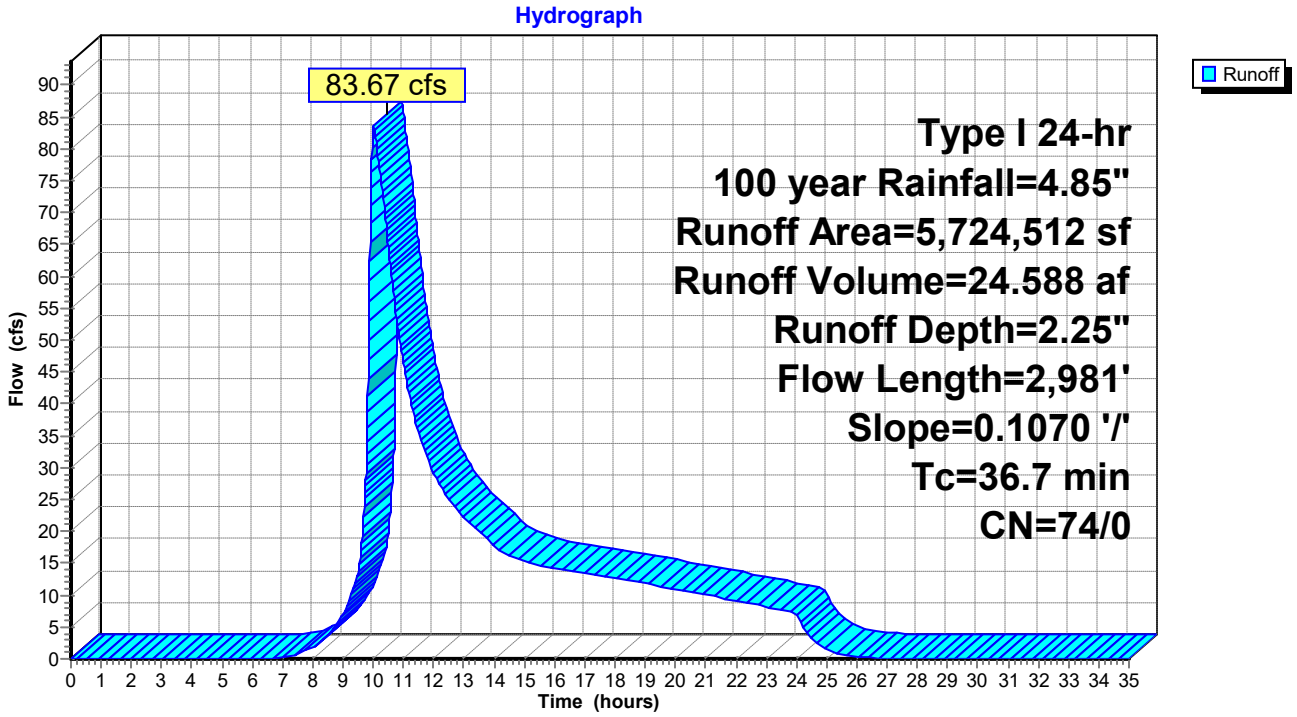
Runoff = 83.67 cfs @ 10.00 hrs, Volume= 24.588 af, Depth= 2.25"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,144,902	48	Brush, Poor, HSG A
*	1,946,334	77	Brush, Poor, HSG C
*	2,633,276	83	Brush, Poor, HSG D
	5,724,512	74	Weighted Average
	5,724,512	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.0	1,200	0.1070	0.80		**Kerby Method,** Pasture, average grass N= 0.40
11.7	1,781	0.1070	2.53		**Kirpich Method,** General overland flow k= 2.00
36.7	2,981	Total			

Subcatchment 18 PRE: Collection Point 18



Summary for Subcatchment 19 PRE: Collection Point 19

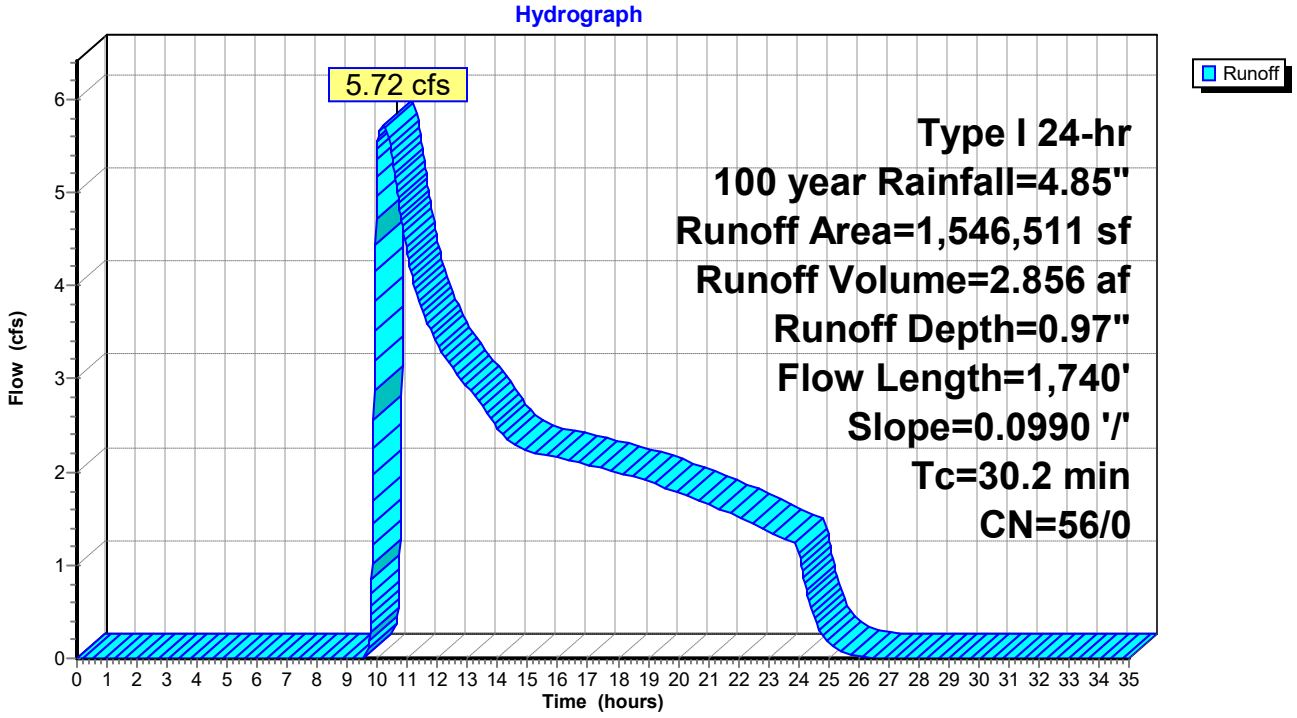
Runoff = 5.72 cfs @ 10.21 hrs, Volume= 2.856 af, Depth= 0.97"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,135,160	48	Brush, Poor, HSG A
*	411,351	77	Brush, Poor, HSG C
	1,546,511	56	Weighted Average
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19 PRE: Collection Point 19



Summary for Subcatchment 20 PRE: Collection Point 20

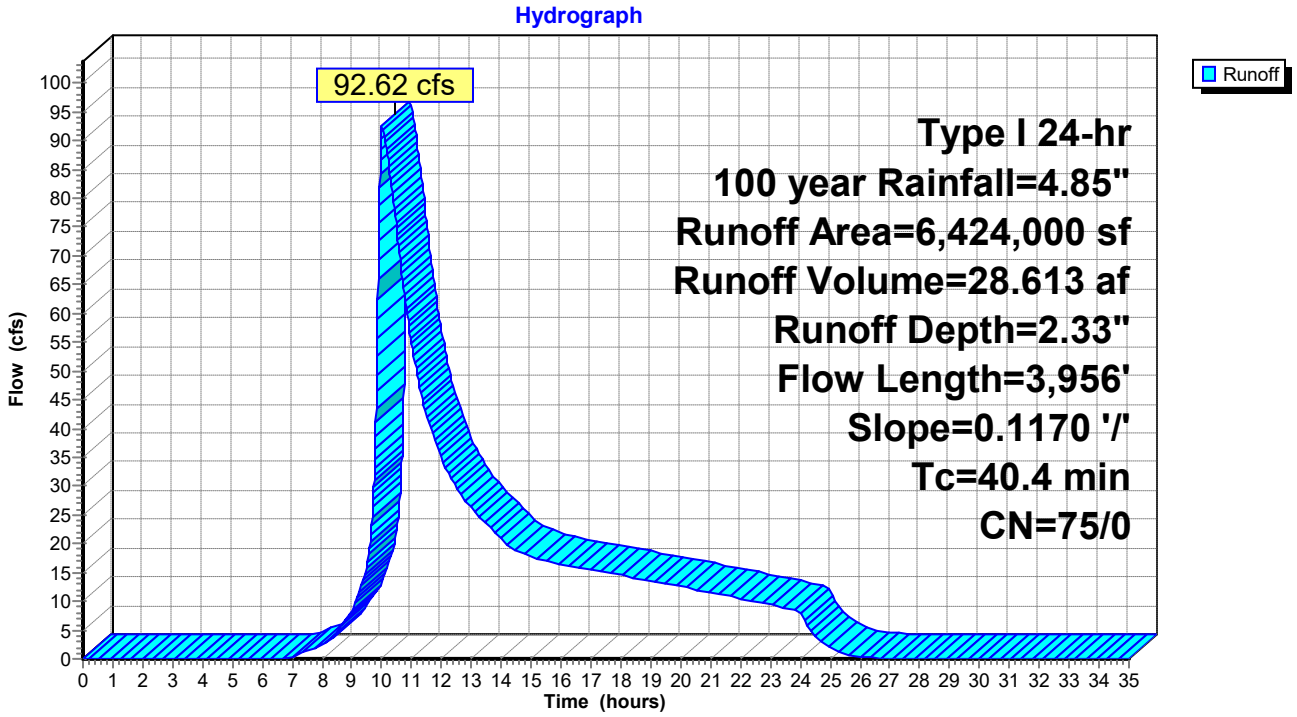
Runoff = 92.62 cfs @ 10.00 hrs, Volume= 28.613 af, Depth= 2.33"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	770,880	48	Brush, Poor, HSG A
*	4,111,360	77	Brush, Poor, HSG C
*	1,541,760	83	Brush, Poor,HSG D
	6,424,000	75	Weighted Average
	6,424,000	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20 PRE: Collection Point 20



Summary for Subcatchment 21 PRE: Collection Point 21

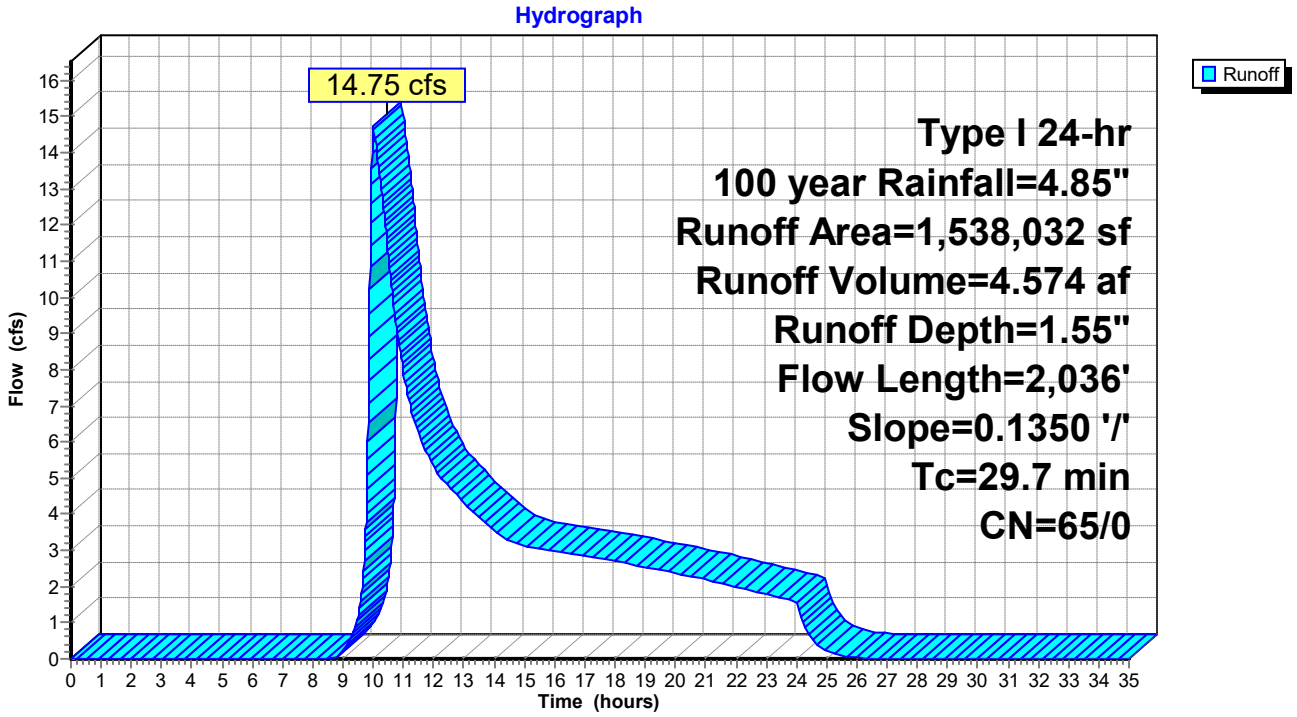
Runoff = 14.75 cfs @ 10.00 hrs, Volume= 4.574 af, Depth= 1.55"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	676,734	48	Brush, Poor, HSG A
*	784,396	77	Brush, Poor, HSG C
*	76,902	83	Brush, Poor, HSG D
	1,538,032	65	Weighted Average
	1,538,032	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21 PRE: Collection Point 21



Summary for Subcatchment 22 PRE: Collection Point 22

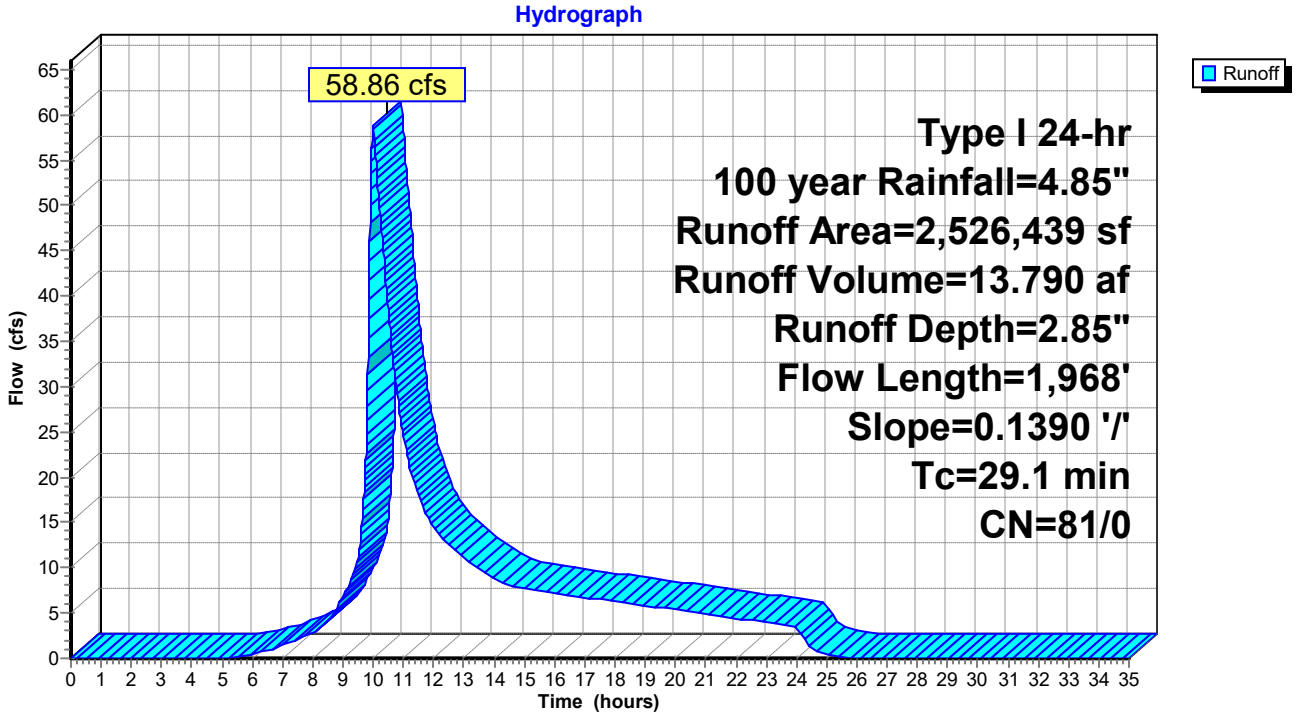
Runoff = 58.86 cfs @ 9.99 hrs, Volume= 13.790 af, Depth= 2.85"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

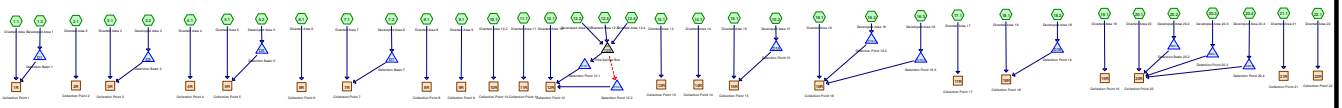
	Area (sf)	CN	Description
*	783,196	77	Brush, Poor, HSG C
*	1,743,243	83	Brush, Poor, HSG D
	2,526,439	81	Weighted Average
	2,526,439	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22 PRE: Collection Point 22



Attachment 7 – Post-Development HydroCAD Report



Subcat Reach Pond Link

Routing Diagram for SolomonHills Post Development DMAs
Prepared by RRM Design Group, Printed 7/14/2025
HydroCAD® 10.20-7a s/n 13395 © 2025 HydroCAD Software Solutions LLC

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 year	Type I 24-hr		Default	24.00	1	2.38	2
2	25 year	Type I 24-hr		Default	24.00	1	3.99	2
3	100 year	Type I 24-hr		Default	24.00	1	4.85	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
19.336	75	Brush and open space, See Attachment 3 (3.1)
62.782	65	Brush and open space, See Attachment 3 (12.4)
22.097	73	Brush and open space, see Attachment 3. (4.1, 13.1)
40.361	77	Brush and open space, see Attachment 3. (6.1)
107.984	78	Brush and open space, see Attachment 3. (7.1)
89.775	64	Brush and open space, see Attachment 3. (8.1)
16.152	53	Brush and open space, see Attachment 3. (9.1)
42.341	54	Brush and open space, see Attachment 3. (10.1)
98.347	49	Brush and open space, see Attachment 3. (11.1, 12.1)
175.717	69	Brush and open space, see Attachment 3. (12.3, 18.1)
2.510	71	Brush and open space, see Attachment 3. (14.1)
30.122	66	Brush and open space, see Attachment 3. (16.1)
24.474	52	Brush and open space, see Attachment 3. (17.1)
84.354	79	Brush and open space, see attachment 3. (1.1)
125.902	77	Brush and opne space, see Attachment 3 (5.1)
18.554	48	Brush, Poor, HSG A (20.1)
68.407	77	Brush, Poor, HSG C (20.1)
34.445	83	Brush, Poor, HSG D (20.1)
9.656	80	Brush, see Attachment 3. (2.1)
2.889	87	Composite CN, see Attachment 3 (3.2)
374.352	74	Composite CN, see Attachment 3 (12.2)
17.260	82	Composite CN, see Attachment 3. (5.2)
9.430	52	Composite CN, see Attachment 3. (15.1)
25.308	58	Composite CN, see Attachment 3. (15.2)
12.275	67	Composite CN, see Attachment 3. (16.2)
101.713	77	Composite CN, see Attachment 3. (16.3)
38.285	87	Composite CN, see Attachment 3. (18.2)
63.306	77	Composite CN, see Attchment 3. (7.2)
16.470	80	Composite CN, see attachment 3. (1.2)
35.503	56	Existing brush, see Attachment 3. (19.1)
35.305	65	Existing brush, see Attachment 3. (21.1)
57.997	81	Existing brush, see Attachment 3. (22.1)
3.454	98	Hardscape (20.2, 20.3, 20.4)
0.031	39	Open Space, Good, HSG A (20.1)
11.805	74	Open Space, Good, HSG C (20.1, 20.2, 20.3, 20.4)
74.711	83	Paved; Open ditches (including right-of-way), HSG A (1.1, 1.2, 2.1, 3.2, 4.1, 5.1, 5.2, 7.2, 12.2, 15.1, 15.2, 16.1, 16.3, 18.2)
15.482	92	Paved; Open ditches (including right-of-way), HSG C (1.1, 1.2, 5.2, 7.1, 7.2, 12.2, 16.3, 18.2)
14.214	93	Paved; Open ditches (including right-of-way), HSG D (1.2, 2.1, 3.2, 5.2, 7.2, 12.2, 15.2, 16.1, 16.3, 18.2)

Area Listing (all nodes) (continued)

Area (acres)	CN	Description (subcatchment-numbers)
1.415	87	Pavers/DG, Good, HSG C (20.1, 20.2, 20.3, 20.4)
1,984.517	**72**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
93.296	HSG A	1.1, 1.2, 2.1, 3.2, 4.1, 5.1, 5.2, 7.2, 12.2, 15.1, 15.2, 16.1, 16.3, 18.2, 20.1
0.000	HSG B	
97.108	HSG C	1.1, 1.2, 5.2, 7.1, 7.2, 12.2, 16.3, 18.2, 20.1, 20.2, 20.3, 20.4
48.658	HSG D	1.2, 2.1, 3.2, 5.2, 7.2, 12.2, 15.2, 16.1, 16.3, 18.2, 20.1
1,745.455	Other	1.1, 1.2, 2.1, 3.1, 3.2, 4.1, 5.1, 5.2, 6.1, 7.1, 7.2, 8.1, 9.1, 10.1, 11.1, 12.1, 12.2, 12.3, 12.4, 13.1, 14.1, 15.1, 15.2, 16.1, 16.2, 16.3, 17.1, 18.1, 18.2, 19.1, 20.2, 20.3, 20.4, 21.1, 22.1
1,984.517		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Su Nu
0.000	0.000	0.000	0.000	82.118	82.118	Brush and open space, See Attachment 3	
0.000	0.000	0.000	0.000	649.880	649.880	Brush and open space, see Attachment 3.	
0.000	0.000	0.000	0.000	84.354	84.354	Brush and open space, see attachment 3.	
0.000	0.000	0.000	0.000	125.902	125.902	Brush and opne space, see Attachment 3	
18.554	0.000	68.407	34.445	0.000	121.405	Brush, Poor	
0.000	0.000	0.000	0.000	9.656	9.656	Brush, see Attachment 3.	
0.000	0.000	0.000	0.000	377.241	377.241	Composite CN, see Attachment 3	
0.000	0.000	0.000	0.000	204.271	204.271	Composite CN, see Attachment 3.	
0.000	0.000	0.000	0.000	63.306	63.306	Composite CN, see Attchment 3.	
0.000	0.000	0.000	0.000	16.470	16.470	Composite CN, see attachment 3.	
0.000	0.000	0.000	0.000	128.805	128.805	Existing brush, see Attachment 3.	
0.000	0.000	0.000	0.000	3.454	3.454	Hardscape	
0.031	0.000	11.805	0.000	0.000	11.835	Open Space, Good	
74.711	0.000	15.482	14.214	0.000	104.407	Paved; Open ditches (including right-of-way)	
0.000	0.000	1.415	0.000	0.000	1.415	Pavers/DG, Good	
93.296	**0.000**	**97.108**	**48.658**	**1,745.455**	**1,984.517**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	12.3	0.00	0.00	4,477.0	0.0270	0.013	0.0	24.0	0.0	
2	12.4	0.00	0.00	5,550.0	0.0200	0.013	0.0	21.0	0.0	
3	12S	110.00	100.00	80.0	0.1250	0.013	0.0	48.0	0.0	
4	12S	110.00	100.00	80.0	0.1250	0.013	0.0	48.0	0.0	
5	D1	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
6	D12.1	100.00	99.90	10.0	0.0100	0.013	0.0	30.0	0.0	
7	D12.2	100.00	99.90	10.0	0.0100	0.013	0.0	30.0	0.0	
8	D15	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
9	D16.2	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
10	D16.3	100.00	99.90	10.0	0.0100	0.013	0.0	24.0	0.0	
11	D18	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
12	D20.2	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
13	D20.3	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
14	D20.4	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
15	D3	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
16	D5	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
17	D7	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: Diverted Area 1 Runoff Area=3,698,995 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=4,203' Slope=0.1540 '/' Tc=38.2 min CN=79/0 Runoff=14.39 cfs 5.365 af

Subcatchment 1.2: Developed Area 1 Runoff Area=989,958 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=4,976' Slope=0.0770 '/' Tc=21.5 min CN=82/0 Runoff=7.57 cfs 1.725 af

Subcatchment 2.1: Diverted Area 2 Runoff Area=426,454 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,202' Slope=0.2410 '/' Tc=20.7 min CN=80/0 Runoff=2.78 cfs 0.658 af

Subcatchment 3.1: Diverted Area 3 Runoff Area=842,263 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=1,628' Slope=0.2190 '/' Tc=24.1 min CN=75/0 Runoff=2.78 cfs 0.937 af

Subcatchment 3.2: Developed Area 3 Runoff Area=205,028 sf 0.00% Impervious Runoff Depth=1.08"
Flow Length=1,531' Slope=0.0290 '/' Tc=19.5 min CN=85/0 Runoff=2.12 cfs 0.425 af

Subcatchment 4.1: Diverted Area 4 Runoff Area=933,066 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=1,976' Slope=0.1310 '/' Tc=29.5 min CN=73/0 Runoff=1.96 cfs 0.900 af

Subcatchment 5.1: Diverted Area 5 Runoff Area=5,506,547 sf 0.00% Impervious Runoff Depth=0.67"
Flow Length=4,927' Slope=0.0870 '/' Tc=48.7 min CN=77/0 Runoff=14.53 cfs 7.018 af

Subcatchment 5.2: Developed Area 5 Runoff Area=977,666 sf 0.00% Impervious Runoff Depth=1.02"
Flow Length=2,416' Slope=0.1020 '/' Tc=18.0 min CN=84/0 Runoff=9.76 cfs 1.915 af

Subcatchment 6.1: Diverted Area 6 Runoff Area=1,758,127 sf 0.00% Impervious Runoff Depth=0.67"
Flow Length=4,184' Slope=0.0450 '/' Tc=55.0 min CN=77/0 Runoff=4.31 cfs 2.241 af

Subcatchment 7.1: Diverted Area 7 Runoff Area=4,706,562 sf 0.00% Impervious Runoff Depth=0.71"
Flow Length=5,491' Slope=0.0880 '/' Tc=51.0 min CN=78/0 Runoff=13.49 cfs 6.404 af

Subcatchment 7.2: Developed Area 6 Runoff Area=3,489,199 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=4,041' Slope=0.0800 '/' Tc=20.4 min CN=79/0 Runoff=20.74 cfs 5.060 af

Subcatchment 8.1: Diverted Area 8 Runoff Area=3,910,579 sf 0.00% Impervious Runoff Depth=0.23"
Flow Length=4,273' Slope=0.1050 '/' Tc=43.1 min CN=64/0 Runoff=1.76 cfs 1.713 af

Subcatchment 9.1: Diverted Area 9 Runoff Area=703,591 sf 0.00% Impervious Runoff Depth=0.04"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=0.08 cfs 0.052 af

Subcatchment 10.1: Diverted Area 10.2 Runoff Area=1,844,365 sf 0.00% Impervious Runoff Depth=0.05"
Flow Length=3,248' Slope=0.1000 '/' Tc=38.8 min CN=54/0 Runoff=0.23 cfs 0.176 af

Subcatchment 11.1: Diverted Area 11 Runoff Area=330,401 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=560' Slope=0.1250 '/' Tc=16.9 min CN=49/0 Runoff=0.01 cfs 0.005 af

Subcatchment 12.1: Diverted Area 12 Runoff Area=3,953,596 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=3,100' Slope=0.0720 '/' Tc=41.8 min CN=49/0 Runoff=0.16 cfs 0.063 af

Subcatchment 12.2: Developed Area Runoff Area=18,611,996 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=7,353' Slope=0.0180 '/' Tc=31.4 min CN=75/0 Runoff=50.77 cfs 20.711 af

Subcatchment 12.3: Diverted Area 12.3 Runoff Area=1,842,936 sf 0.00% Impervious Runoff Depth=0.37"
Flow Length=7,592' Tc=48.2 min CN=69/0 Runoff=1.61 cfs 1.295 af

Subcatchment 12.4: Diverted Area 12.4 Runoff Area=2,734,787 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=9,171' Tc=56.2 min CN=65/0 Runoff=1.36 cfs 1.328 af

Subcatchment 13.1: Diverted Area 13 Runoff Area=67,532 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=73/0 Runoff=0.29 cfs 0.065 af

Subcatchment 14.1: Diverted Area 14 Runoff Area=109,322 sf 0.00% Impervious Runoff Depth=0.43"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=0.36 cfs 0.090 af

Subcatchment 15.1: Diverted Area 15 Runoff Area=414,988 sf 0.00% Impervious Runoff Depth=0.03"
Flow Length=1,585' Slope=0.1650 '/' Tc=25.7 min CN=52/0 Runoff=0.04 cfs 0.023 af

Subcatchment 15.2: Developed Area 15 Runoff Area=1,372,228 sf 0.00% Impervious Runoff Depth=0.21"
Flow Length=2,036' Slope=0.0100 '/' Tc=24.0 min CN=63/0 Runoff=0.56 cfs 0.539 af

Subcatchment 16.1: Diverted Area 16 Runoff Area=1,317,955 sf 0.00% Impervious Runoff Depth=0.28"
Flow Length=2,287' Slope=0.0720 '/' Tc=36.8 min CN=66/0 Runoff=0.78 cfs 0.706 af

Subcatchment 16.2: Developed Area 16 Runoff Area=534,690 sf 0.00% Impervious Runoff Depth=0.31"
Flow Length=808' Slope=0.0680 '/' Tc=15.7 min CN=67/0 Runoff=0.47 cfs 0.315 af

Subcatchment 16.3: Developed Area 16 Runoff Area=4,800,431 sf 0.00% Impervious Runoff Depth=0.71"
Flow Length=3,863' Slope=0.0080 '/' Tc=64.7 min CN=78/0 Runoff=11.90 cfs 6.531 af

Subcatchment 17.1: Diverted Area 17 Runoff Area=1,066,067 sf 0.00% Impervious Runoff Depth=0.03"
Flow Length=1,613' Slope=0.0940 '/' Tc=29.7 min CN=52/0 Runoff=0.09 cfs 0.060 af

Subcatchment 18.1: Diverted Area 18 Runoff Area=5,811,307 sf 0.00% Impervious Runoff Depth=0.37"
Flow Length=4,653' Slope=0.0530 '/' Tc=55.0 min CN=69/0 Runoff=4.82 cfs 4.084 af

Subcatchment 18.2: Developed Area 18 Runoff Area=1,858,157 sf 0.00% Impervious Runoff Depth=1.21"
Flow Length=3,224' Slope=0.0340 '/' Tc=22.1 min CN=87/0 Runoff=20.74 cfs 4.306 af

Subcatchment 19.1: Diverted Area 19 Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.08"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=0.27 cfs 0.223 af

Subcatchment 20.1: Diverted Area 20 Runoff Area=5,359,234 sf 0.00% Impervious Runoff Depth=0.54"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=74/0 Runoff=10.86 cfs 5.557 af

Subcatchment 20.2: Developed Area 20.2 Runoff Area=3.949 ac 37.71% Impervious Runoff Depth=1.17"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=1.90 cfs 0.386 af

Subcatchment 20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=1.11"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=1.21 cfs 0.318 af

Subcatchment 20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=0.77"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=2.16 cfs 0.496 af

Subcatchment 21.1: Diverted Area 21 Runoff Area=1,537,885 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=0.80 cfs 0.747 af

Subcatchment 22.1: Diverted Area 22 Runoff Area=2,526,337 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=14.58 cfs 4.146 af

Reach 1R: Collection Point 1 Inflow=14.45 cfs 5.697 af
Outflow=14.45 cfs 5.697 af

Reach 2R: Collection Point 2 Inflow=2.78 cfs 0.658 af
Outflow=2.78 cfs 0.658 af

Reach 3R: Collection Point 3 Inflow=2.84 cfs 1.188 af
Outflow=2.84 cfs 1.188 af

Reach 4R: Collection Point 4 Inflow=1.96 cfs 0.900 af
Outflow=1.96 cfs 0.900 af

Reach 5R: Collection Point 5 Inflow=14.69 cfs 7.636 af
Outflow=14.69 cfs 7.636 af

Reach 6R: Collection Point 6 Inflow=4.31 cfs 2.241 af
Outflow=4.31 cfs 2.241 af

Reach 7R: Collection Point 7 Inflow=14.42 cfs 10.088 af
Outflow=14.42 cfs 10.088 af

Reach 8R: Collection Point 8 Inflow=1.76 cfs 1.713 af
Outflow=1.76 cfs 1.713 af

Reach 9R: Collection Point 9 Inflow=0.08 cfs 0.052 af
Outflow=0.08 cfs 0.052 af

Reach 10R: Collection Point 10 Inflow=0.23 cfs 0.176 af
Outflow=0.23 cfs 0.176 af

Reach 11R: Collection Point 11 Inflow=0.01 cfs 0.005 af
Outflow=0.01 cfs 0.005 af

Reach 12R: Collection Point 12 Inflow=3.05 cfs 5.250 af
Outflow=3.05 cfs 5.250 af

Reach 13R: Collection Point 13 Inflow=0.29 cfs 0.065 af
Outflow=0.29 cfs 0.065 af

Reach 14R: Collection Point 14 Inflow=0.36 cfs 0.090 af
Outflow=0.36 cfs 0.090 af

Reach 15R: Collection Point 15 Inflow=0.33 cfs 0.445 af
Outflow=0.33 cfs 0.445 af

Reach 16R: Collection Point 16 Inflow=1.88 cfs 3.214 af
Outflow=1.88 cfs 3.214 af

Reach 17R: Collection Point 17 Inflow=0.09 cfs 0.060 af
Outflow=0.09 cfs 0.060 af

Reach 18R: Collection Point 18 Inflow=6.28 cfs 7.342 af
Outflow=6.28 cfs 7.342 af

Reach 19R: Collection Point 19 Inflow=0.27 cfs 0.223 af
Outflow=0.27 cfs 0.223 af

Reach 20R: Collection Point 20 Inflow=11.21 cfs 6.527 af
Outflow=11.21 cfs 6.527 af

Reach 21R: Collection Point 21 Inflow=0.80 cfs 0.747 af
Outflow=0.80 cfs 0.747 af

Reach 22R: Collection Point 22 Inflow=14.58 cfs 4.146 af
Outflow=14.58 cfs 4.146 af

Pond 12S: Flow Splitter Box Peak Elev=111.84' Inflow=52.10 cfs 23.335 af
Primary=26.05 cfs 11.667 af Secondary=26.05 cfs 11.667 af Outflow=52.10 cfs 23.335 af

Pond D1: Detention Basin 1 Peak Elev=102.90' Storage=1.539 af Inflow=7.57 cfs 1.725 af
Outflow=0.18 cfs 0.332 af

Pond D12.1: Detention Pond 12.1 Peak Elev=103.15' Storage=10.208 af Inflow=26.05 cfs 11.667 af
Outflow=1.45 cfs 2.594 af

Pond D12.2: Detention Pond 12.2 Peak Elev=103.15' Storage=10.208 af Inflow=26.05 cfs 11.667 af
Outflow=1.45 cfs 2.594 af

Pond D15: Detention Pond 15 Peak Elev=100.66' Storage=0.303 af Inflow=0.56 cfs 0.539 af
Outflow=0.29 cfs 0.422 af

Pond D16.2: Detention Pond 16.2 Peak Elev=100.78' Storage=0.146 af Inflow=0.47 cfs 0.315 af
Outflow=0.18 cfs 0.280 af

Pond D16.3: Detention Pond 16.3 Peak Elev=102.70' Storage=5.208 af Inflow=11.90 cfs 6.531 af
Outflow=1.25 cfs 2.227 af

Pond D18: Detention Pond 18 Peak Elev=102.21' Storage=2.408 af Inflow=20.74 cfs 4.306 af
Outflow=1.78 cfs 3.257 af

Pond D20.2: Detention Basin 20.2 Peak Elev=102.12' Storage=0.209 af Inflow=1.90 cfs 0.386 af
Outflow=0.15 cfs 0.297 af

Pond D20.3: Detention Pond 20.3 Peak Elev=101.16' Storage=6,284 cf Inflow=1.21 cfs 0.318 af
Outflow=0.16 cfs 0.288 af

Pond D20.4: Detention Pond 20.4 Peak Elev=102.20' Storage=11,554 cf Inflow=2.16 cfs 0.496 af
Outflow=0.20 cfs 0.385 af

Pond D3: Detention Basin 3 Peak Elev=101.66' Storage=0.280 af Inflow=2.12 cfs 0.425 af
Outflow=0.13 cfs 0.251 af

Pond D5: Detention Basin 5 Peak Elev=102.05' Storage=1.571 af Inflow=9.76 cfs 1.915 af
Outflow=0.34 cfs 0.617 af

Pond D7: Detention Basin 7 Peak Elev=102.81' Storage=2.907 af Inflow=20.74 cfs 5.060 af
Outflow=2.04 cfs 3.684 af

Total Runoff Area = 1,984.517 ac Runoff Volume = 86.584 af Average Runoff Depth = 0.52"
99.83% Pervious = 1,981.063 ac 0.17% Impervious = 3.454 ac

Summary for Subcatchment 1.1: Diverted Area 1

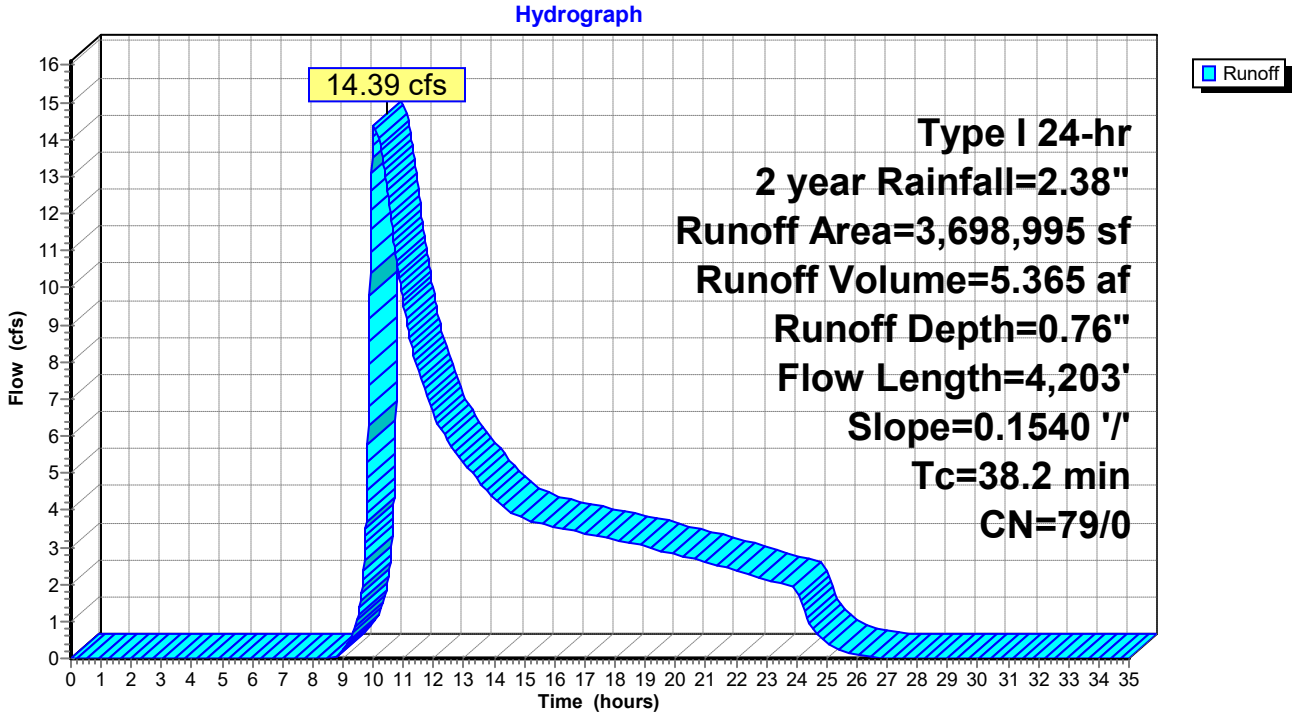
Runoff = 14.39 cfs @ 10.01 hrs, Volume= 5.365 af, Depth= 0.76"
Routed to Reach 1R : Collection Point 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	3,674,469	79	Brush and open space, see attachment 3.
*	24,523	83	Paved; Open ditches (including right-of-way), HSG A
*	3	92	Paved; Open ditches (including right-of-way), HSG C
	3,698,995	79	Weighted Average
	3,698,995	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1540	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.3	3,003	0.1540	3.28		**Kirpich Method,** General overland flow k= 2.00
38.2	4,203	Total			

Subcatchment 1.1: Diverted Area 1



Summary for Subcatchment 1.2: Developed Area 1

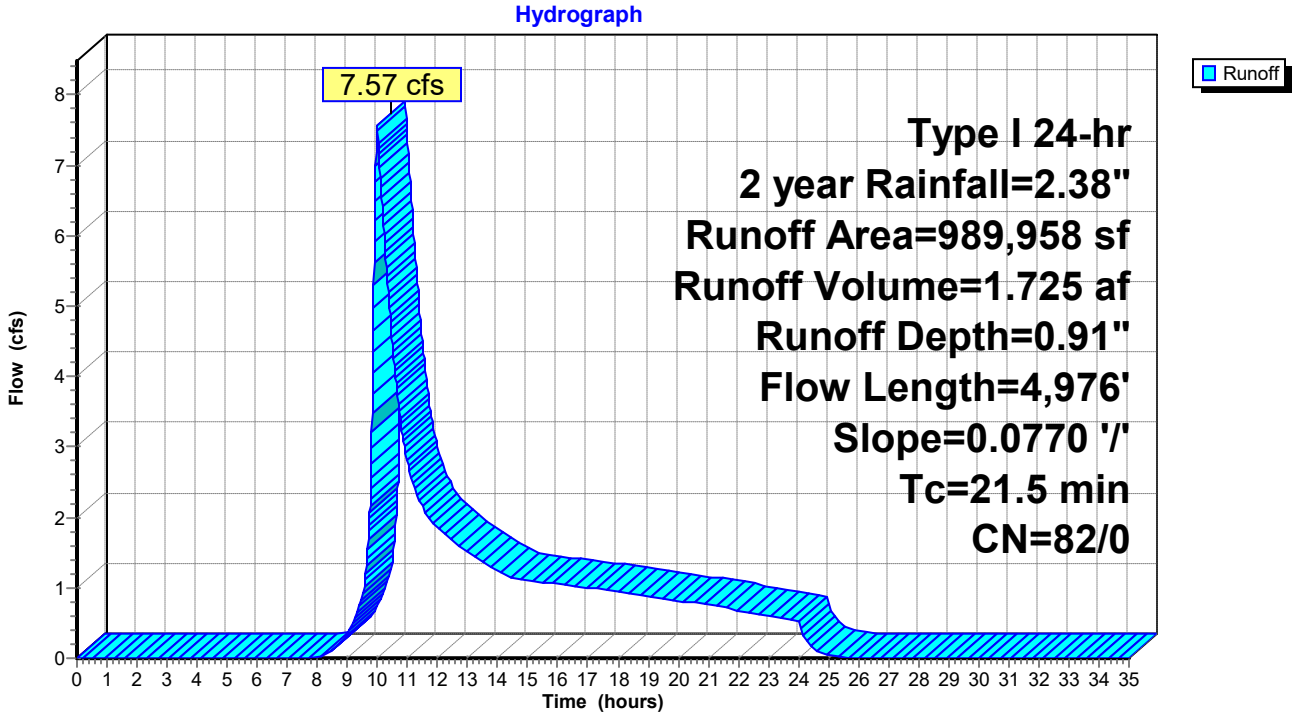
Runoff = 7.57 cfs @ 9.99 hrs, Volume= 1.725 af, Depth= 0.91"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	717,413	80	Composite CN, see attachment 3.
*	109,177	83	Paved; Open ditches (including right-of-way), HSG A
*	77,573	92	Paved; Open ditches (including right-of-way), HSG C
*	85,795	93	Paved; Open ditches (including right-of-way), HSG D
	989,958	82	Weighted Average
	989,958	82	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.7	1,200	0.0770	3.00		**Kerby Method,** Smooth impervious N= 0.02
4.8	3,776	0.0770	13.23		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
21.5	4,976	Total			

Subcatchment 1.2: Developed Area 1



Summary for Subcatchment 2.1: Diverted Area 2

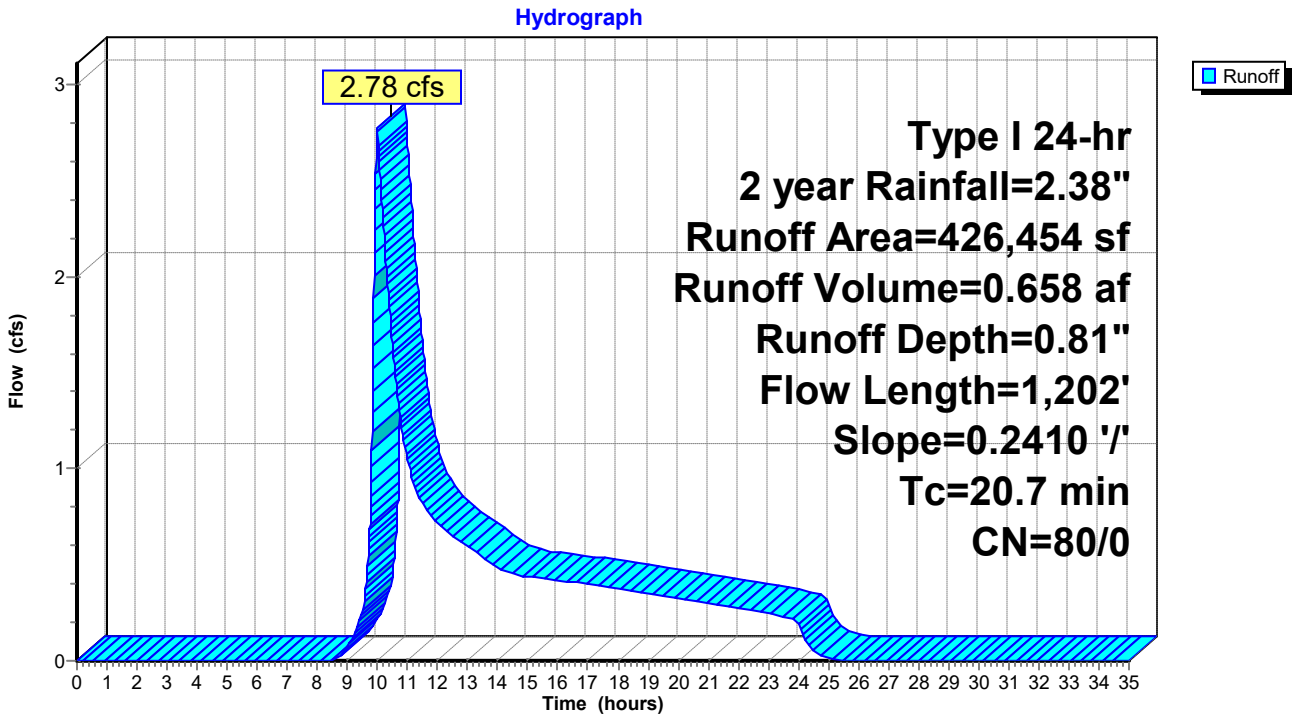
Runoff = 2.78 cfs @ 9.99 hrs, Volume= 0.658 af, Depth= 0.81"
Routed to Reach 2R : Collection Point 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	420,602	80	Brush, see Attachment 3.
*	4,339	83	Paved; Open ditches (including right-of-way), HSG A
*	1,513	93	Paved; Open ditches (including right-of-way), HSG D
	426,454	80	Weighted Average
	426,454	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	1,202	0.2410	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2.1: Diverted Area 2



Summary for Subcatchment 3.1: Diverted Area 3

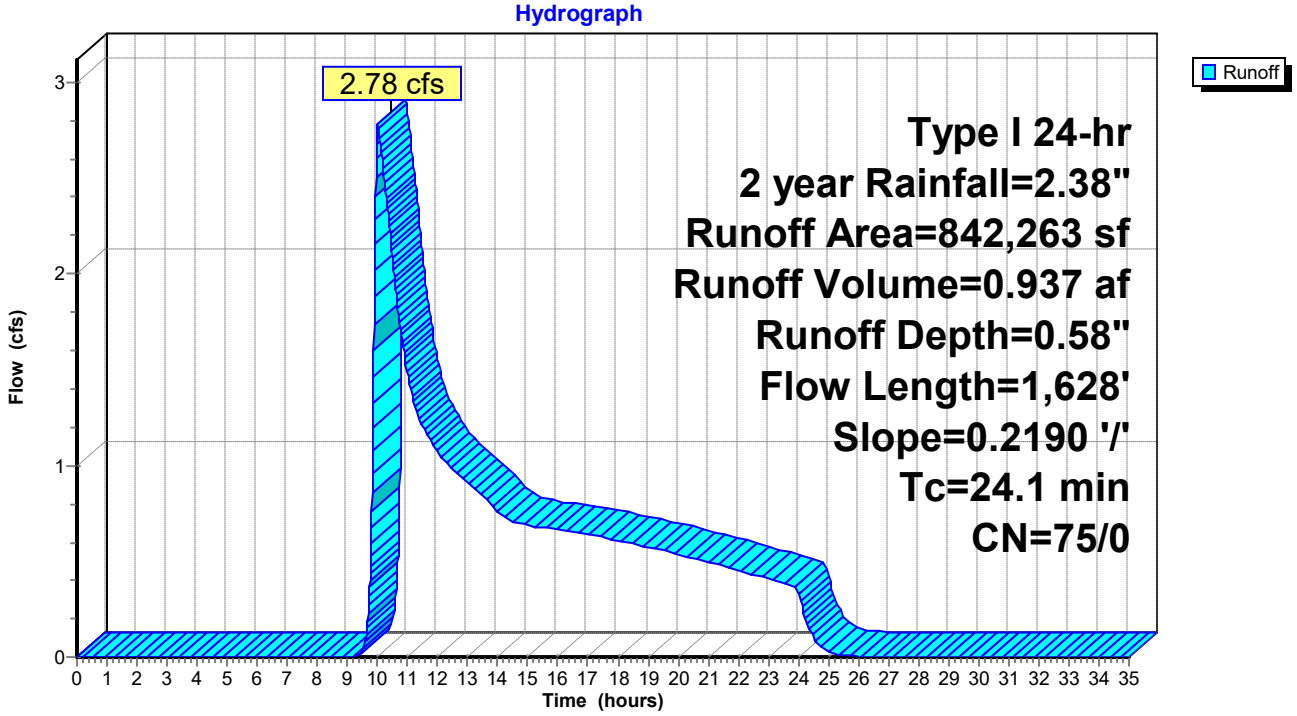
Runoff = 2.78 cfs @ 10.00 hrs, Volume= 0.937 af, Depth= 0.58"
Routed to Reach 3R : Collection Point 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	842,263	75	Brush and open space, See Attachment 3
	842,263	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	1,200	0.2190	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.0	428	0.2190	2.40		**Kirpich Method,** General overland flow k= 2.00
24.1	1,628	Total			

Subcatchment 3.1: Diverted Area 3



Summary for Subcatchment 3.2: Developed Area 3

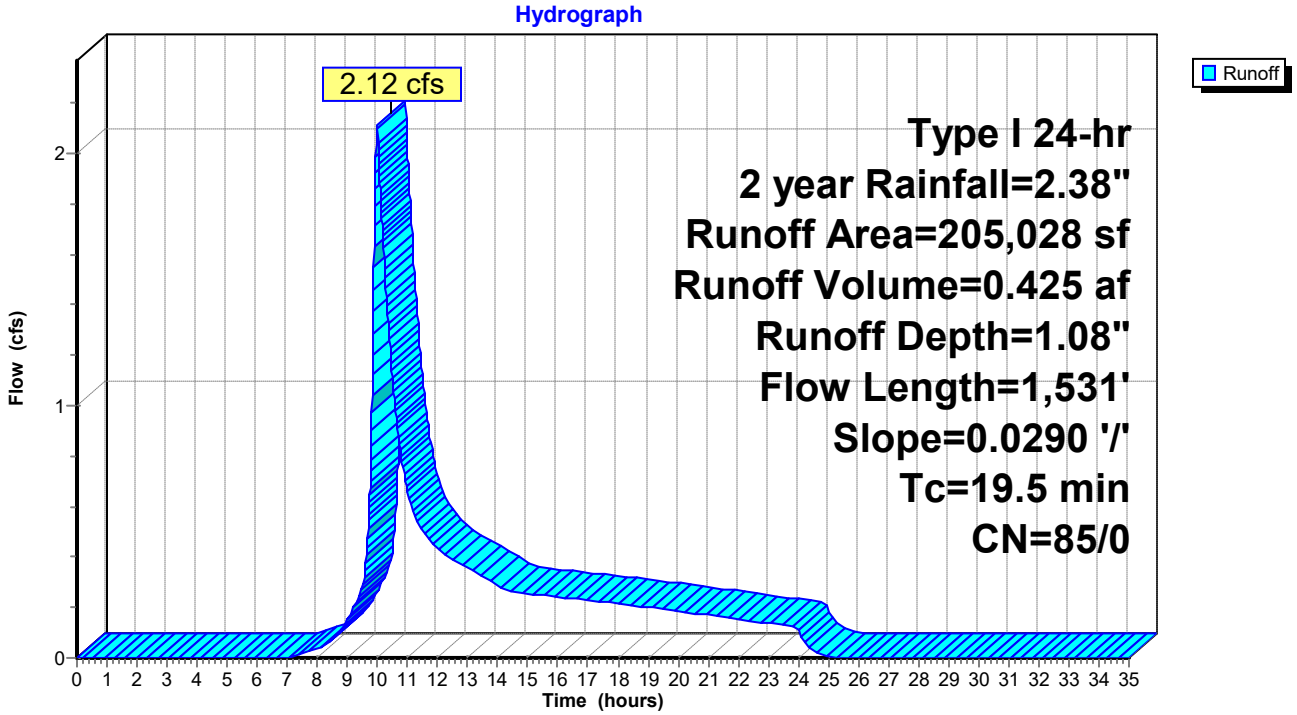
Runoff = 2.12 cfs @ 9.99 hrs, Volume= 0.425 af, Depth= 1.08"
Routed to Pond D3 : Detention Basin 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	125,827	87	Composite CN, see Attachment 3
*	78,995	83	Paved; Open ditches (including right-of-way), HSG A
*	206	93	Paved; Open ditches (including right-of-way), HSG D
	205,028	85	Weighted Average
	205,028	85	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.4	1,200	0.0290	2.39		**Kerby Method,** Smooth impervious N= 0.02
1.1	331	0.0290	5.19		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
19.5	1,531	Total			

Subcatchment 3.2: Developed Area 3



Summary for Subcatchment 4.1: Diverted Area 4

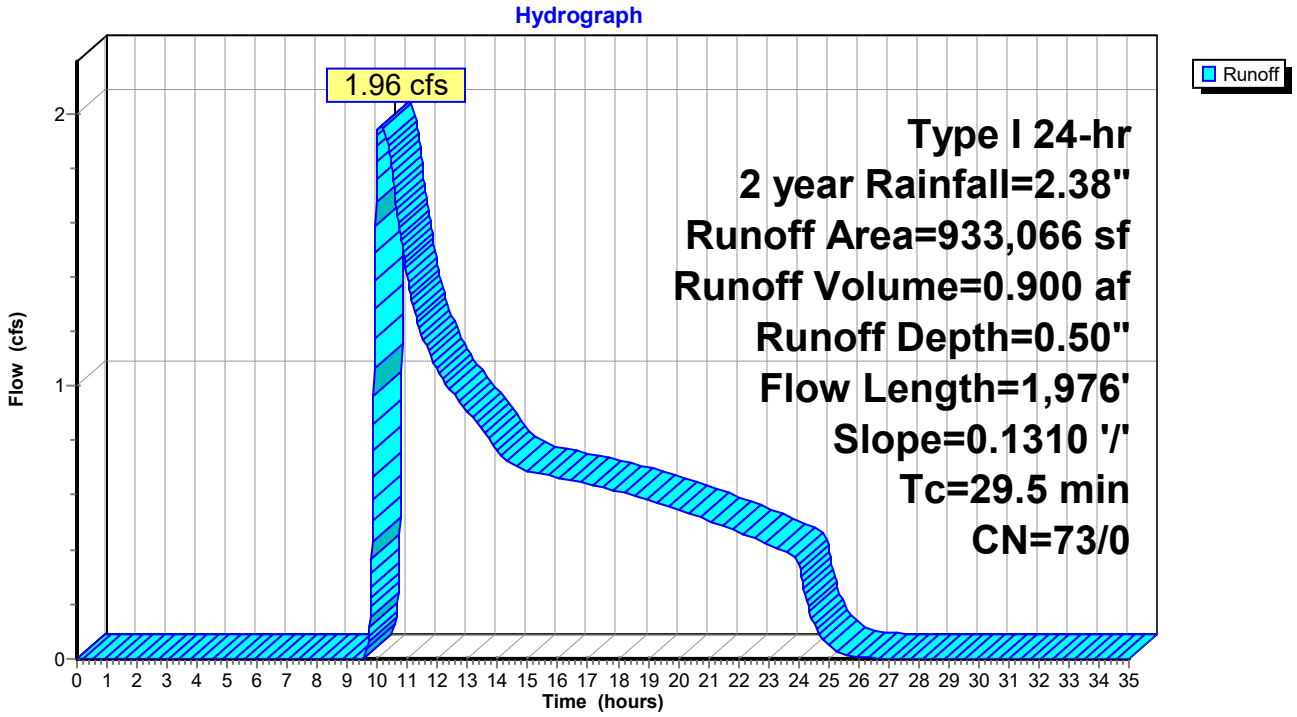
Runoff = 1.96 cfs @ 10.11 hrs, Volume= 0.900 af, Depth= 0.50"
Routed to Reach 4R : Collection Point 4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	38,033	83	Paved; Open ditches (including right-of-way), HSG A
*	895,033	73	Brush and open space, see Attachment 3.
	933,066	73	Weighted Average
	933,066	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.8	1,200	0.1310	0.84		**Kerby Method,** Pasture, average grass N= 0.40
5.7	776	0.1310	2.26		**Kirpich Method,** General overland flow k= 2.00
29.5	1,976	Total			

Subcatchment 4.1: Diverted Area 4



Summary for Subcatchment 5.1: Diverted Area 5

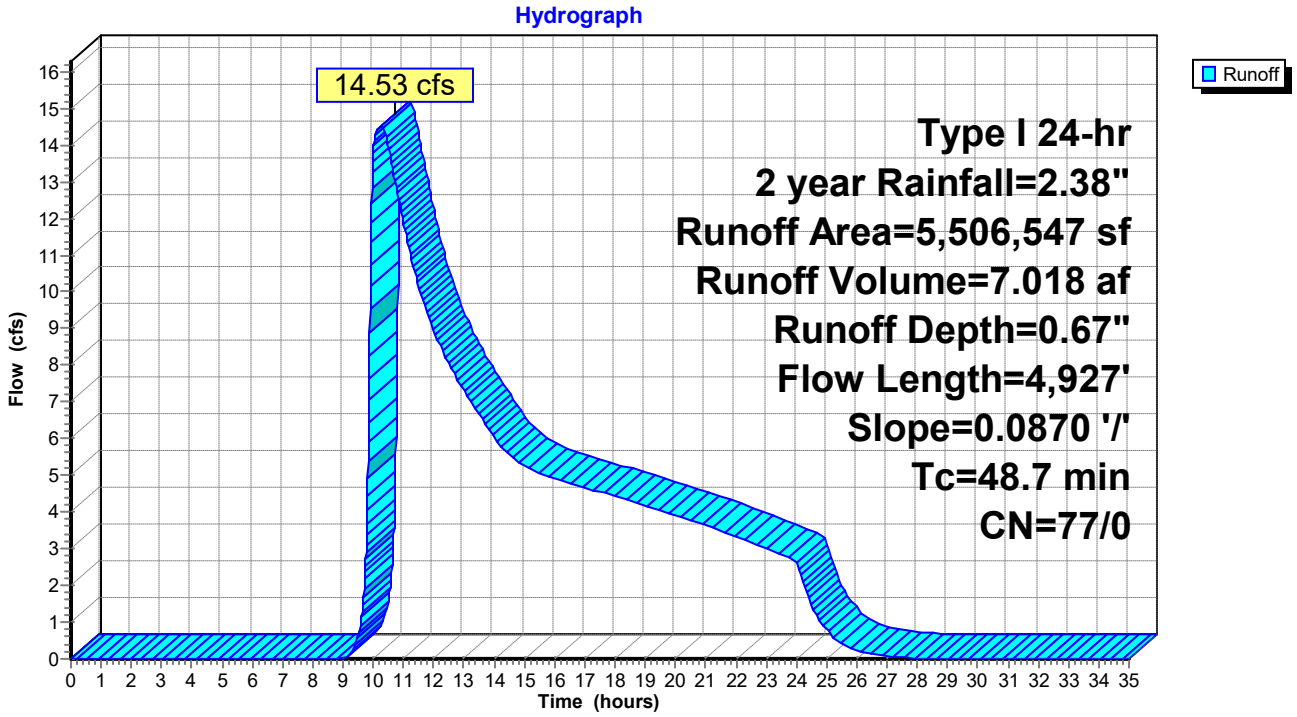
Runoff = 14.53 cfs @ 10.25 hrs, Volume= 7.018 af, Depth= 0.67"
Routed to Reach 5R : Collection Point 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	5,484,277	77	Brush and opne space, see Attachment 3
*	22,270	83	Paved; Open ditches (including right-of-way), HSG A
	5,506,547	77	Weighted Average
	5,506,547	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.2	1,200	0.0870	0.76		**Kerby Method,** Pasture, average grass N= 0.40
22.5	3,727	0.0870	2.77		**Kirpich Method,** General overland flow k= 2.00
48.7	4,927	Total			

Subcatchment 5.1: Diverted Area 5



Summary for Subcatchment 5.2: Developed Area 5

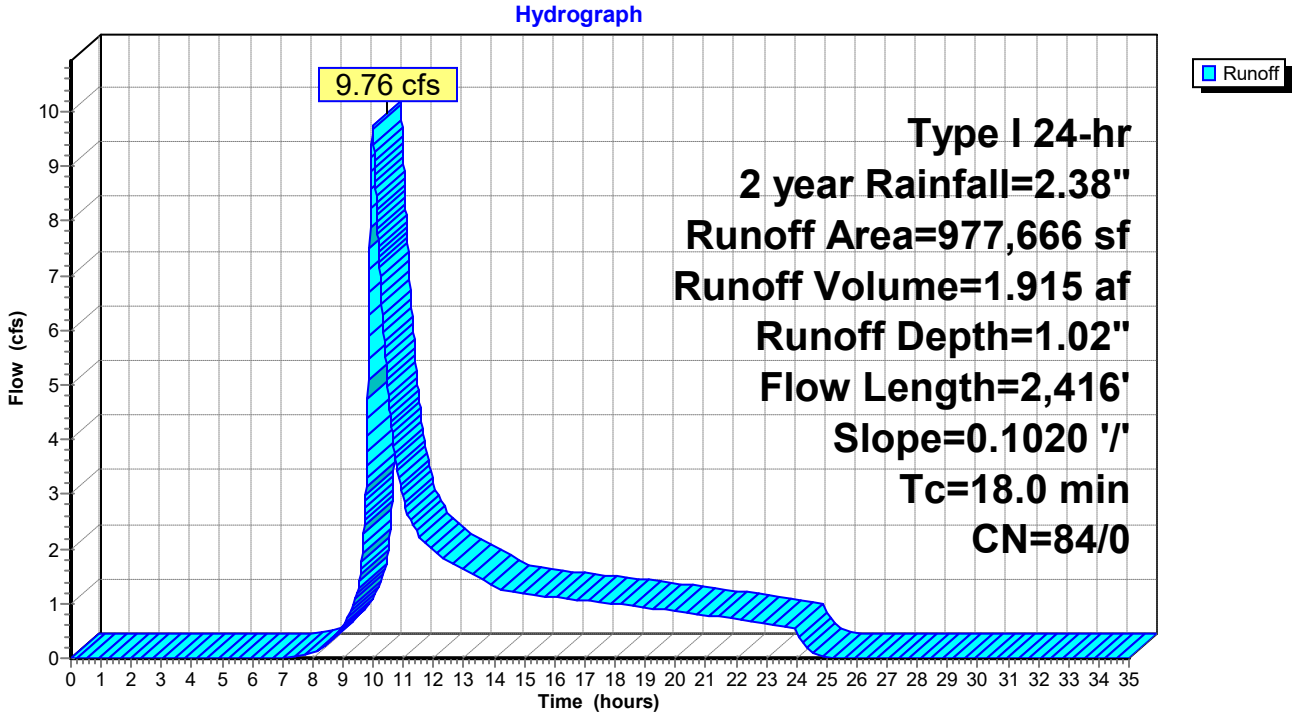
Runoff = 9.76 cfs @ 9.98 hrs, Volume= 1.915 af, Depth= 1.02"
Routed to Pond D5 : Detention Basin 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	751,855	82	Composite CN, see Attachment 3.
*	77,623	83	Paved; Open ditches (including right-of-way), HSG A
*	102,033	92	Paved; Open ditches (including right-of-way), HSG C
*	46,155	93	Paved; Open ditches (including right-of-way), HSG D
	977,666	84	Weighted Average
	977,666	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.2	1,200	0.1020	3.21		**Kerby Method,** Smooth impervious N= 0.02
1.8	1,216	0.1020	11.36		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.0	2,416	Total			

Subcatchment 5.2: Developed Area 5



Summary for Subcatchment 6.1: Diverted Area 6

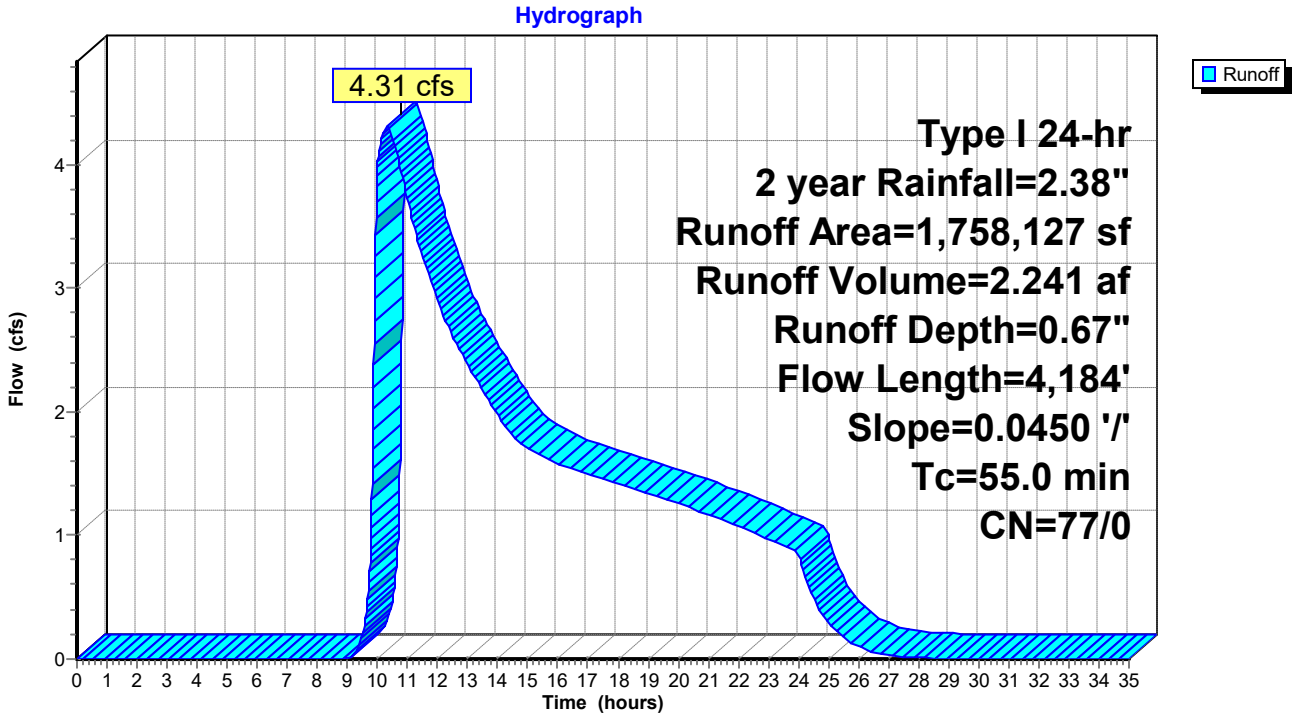
Runoff = 4.31 cfs @ 10.32 hrs, Volume= 2.241 af, Depth= 0.67"
Routed to Reach 6R : Collection Point 6

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,758,127	77	Brush and open space, see Attachment 3.
	1,758,127	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.6	1,200	0.0450	0.65		**Kerby Method,** Pasture, average grass N= 0.40
24.4	2,984	0.0450	2.04		**Kirpich Method,** General overland flow k= 2.00
55.0	4,184	Total			

Subcatchment 6.1: Diverted Area 6



Summary for Subcatchment 7.1: Diverted Area 7

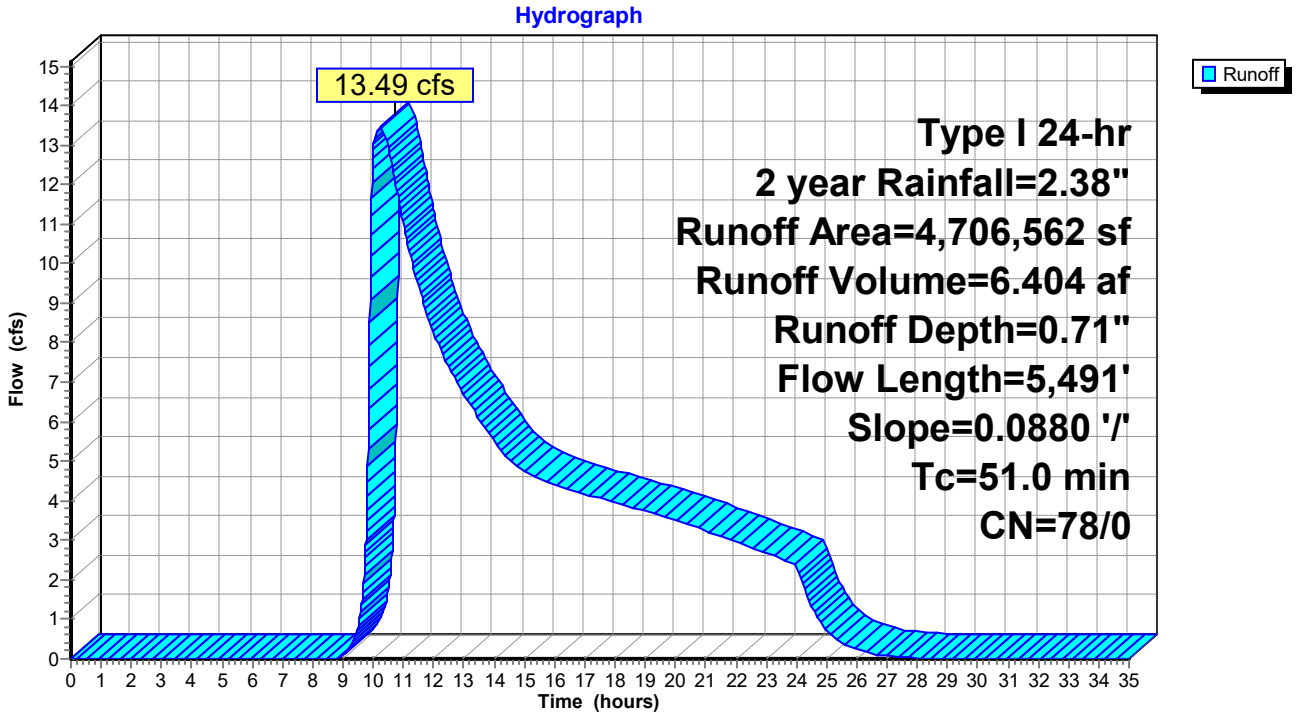
Runoff = 13.49 cfs @ 10.24 hrs, Volume= 6.404 af, Depth= 0.71"
Routed to Reach 7R : Collection Point 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	4,703,800	78	Brush and open space, see Attachment 3.
*	2,762	92	Paved; Open ditches (including right-of-way), HSG C
	4,706,562	78	Weighted Average
	4,706,562	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	1,200	0.0880	0.76		**Kerby Method,** Pasture, average grass N= 0.40
24.9	4,291	0.0880	2.87		**Kirpich Method,** General overland flow k= 2.00
51.0	5,491	Total			

Subcatchment 7.1: Diverted Area 7



Summary for Subcatchment 7.2: Developed Area 6

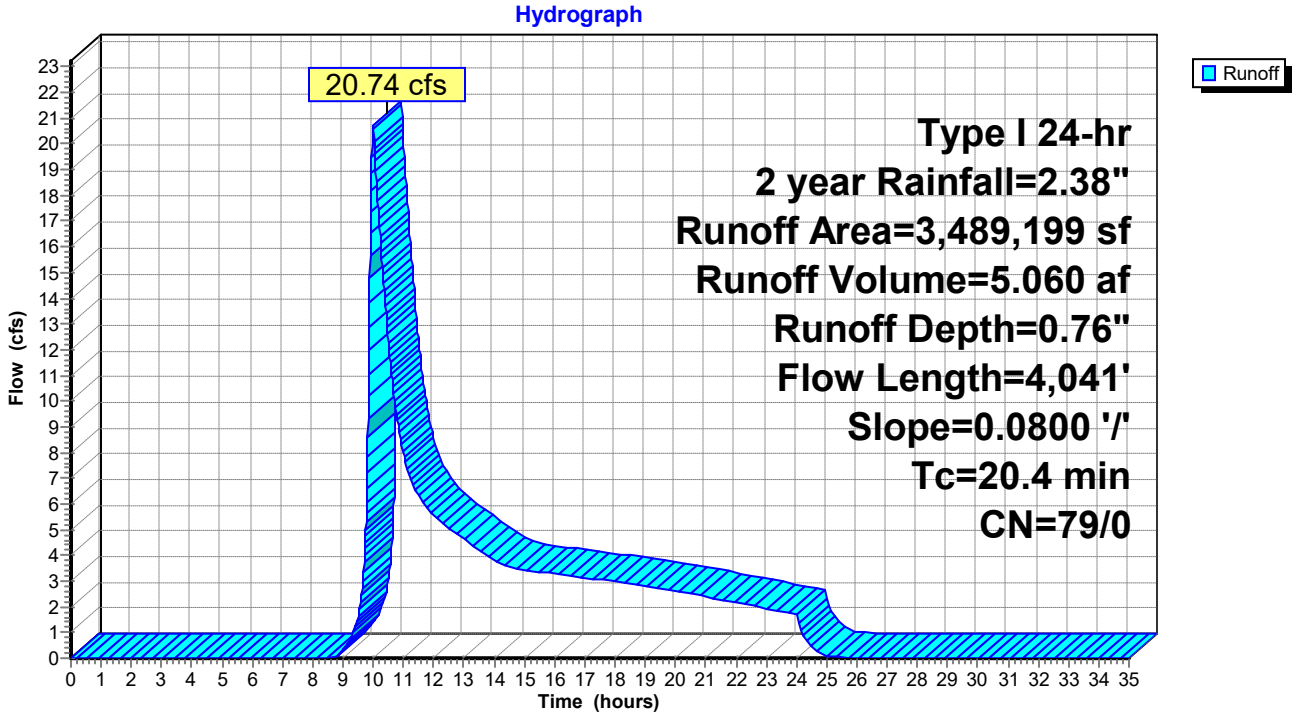
Runoff = 20.74 cfs @ 9.99 hrs, Volume= 5.060 af, Depth= 0.76"
Routed to Pond D7 : Detention Basin 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	2,757,608	77	Composite CN, see Attchment 3.
*	393,878	83	Paved; Open ditches (including right-of-way), HSG A
*	267,712	92	Paved; Open ditches (including right-of-way), HSG C
*	70,001	93	Paved; Open ditches (including right-of-way), HSG D
	3,489,199	79	Weighted Average
	3,489,199	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.6	1,200	0.0800	3.03		**Kerby Method,** Smooth impervious N= 0.02
3.8	2,841	0.0800	12.58		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
20.4	4,041	Total			

Subcatchment 7.2: Developed Area 6



Summary for Subcatchment 8.1: Diverted Area 8

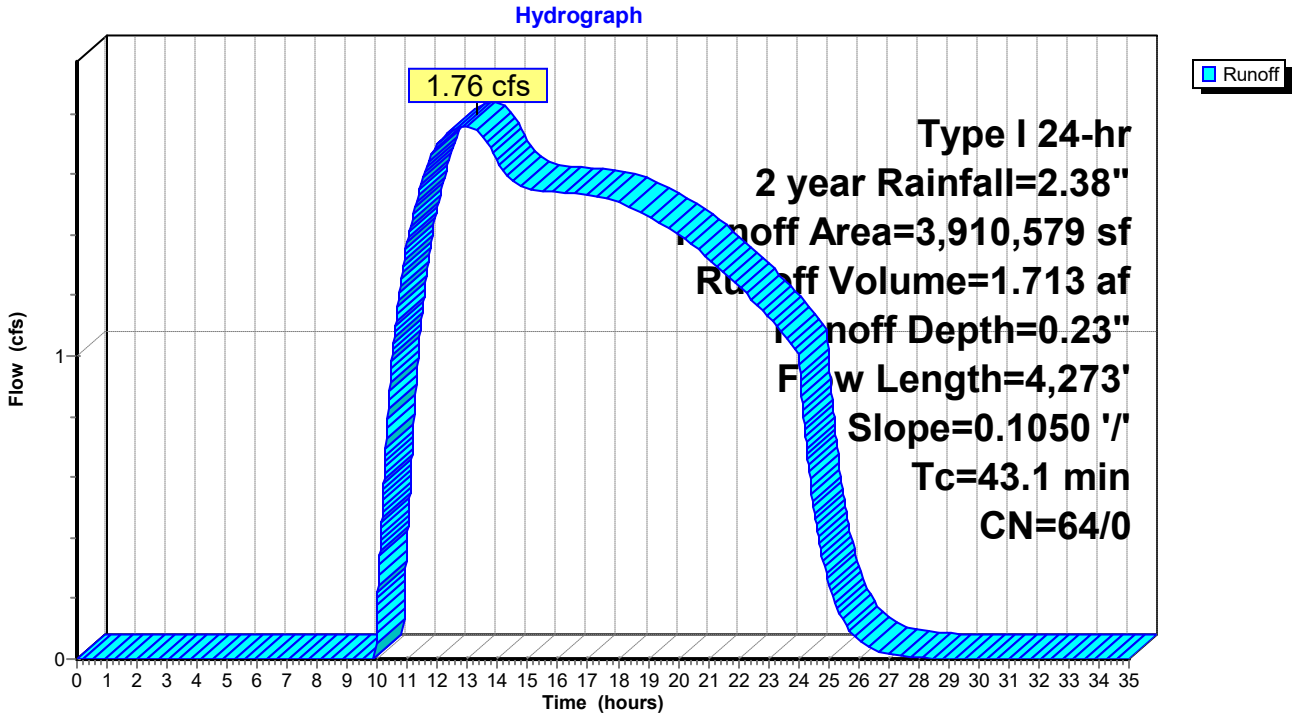
Runoff = 1.76 cfs @ 12.86 hrs, Volume= 1.713 af, Depth= 0.23"
Routed to Reach 8R : Collection Point 8

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	3,910,579	64	Brush and open space, see Attachment 3.
	3,910,579	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	1,200	0.1050	0.80		**Kerby Method,** Pasture, average grass N= 0.40
18.0	3,073	0.1050	2.84		**Kirpich Method,** General overland flow k= 2.00
43.1	4,273	Total			

Subcatchment 8.1: Diverted Area 8



Summary for Subcatchment 9.1: Diverted Area 9

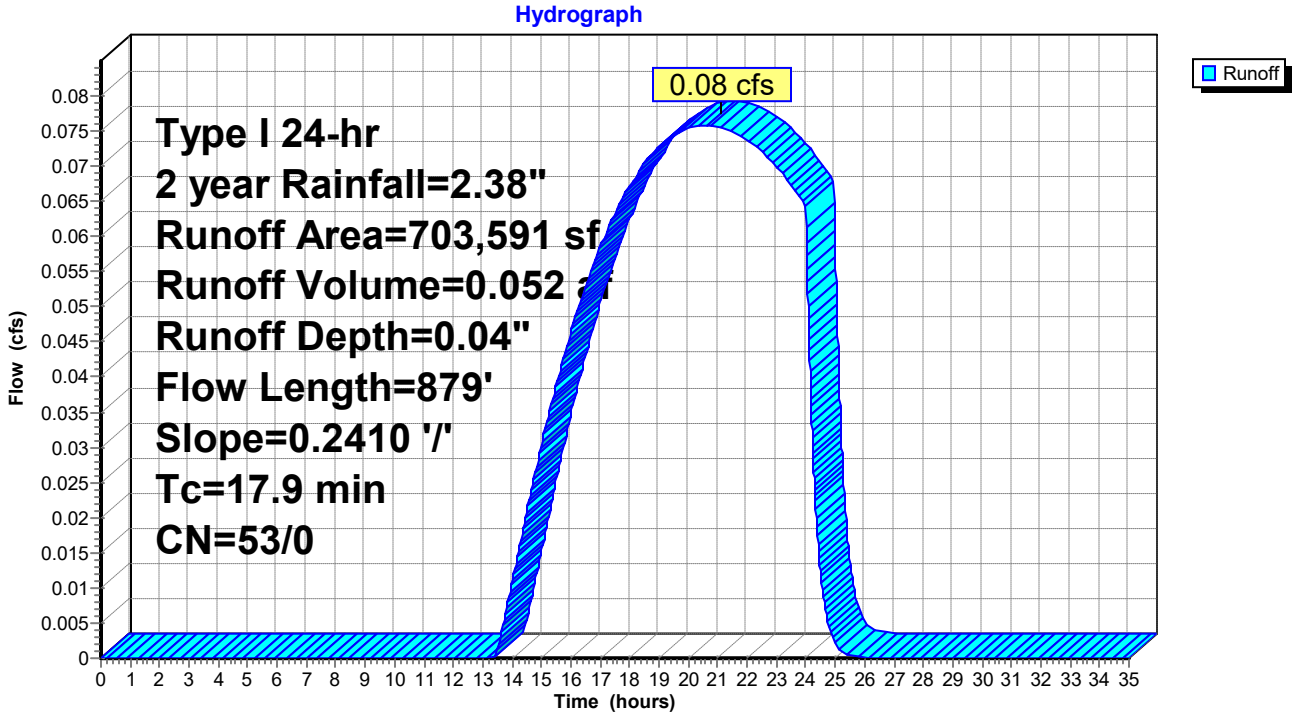
Runoff = 0.08 cfs @ 20.61 hrs, Volume= 0.052 af, Depth= 0.04"
Routed to Reach 9R : Collection Point 9

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	703,591	53	Brush and open space, see Attachment 3.
	703,591	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9.1: Diverted Area 9



Summary for Subcatchment 10.1: Diverted Area 10.2

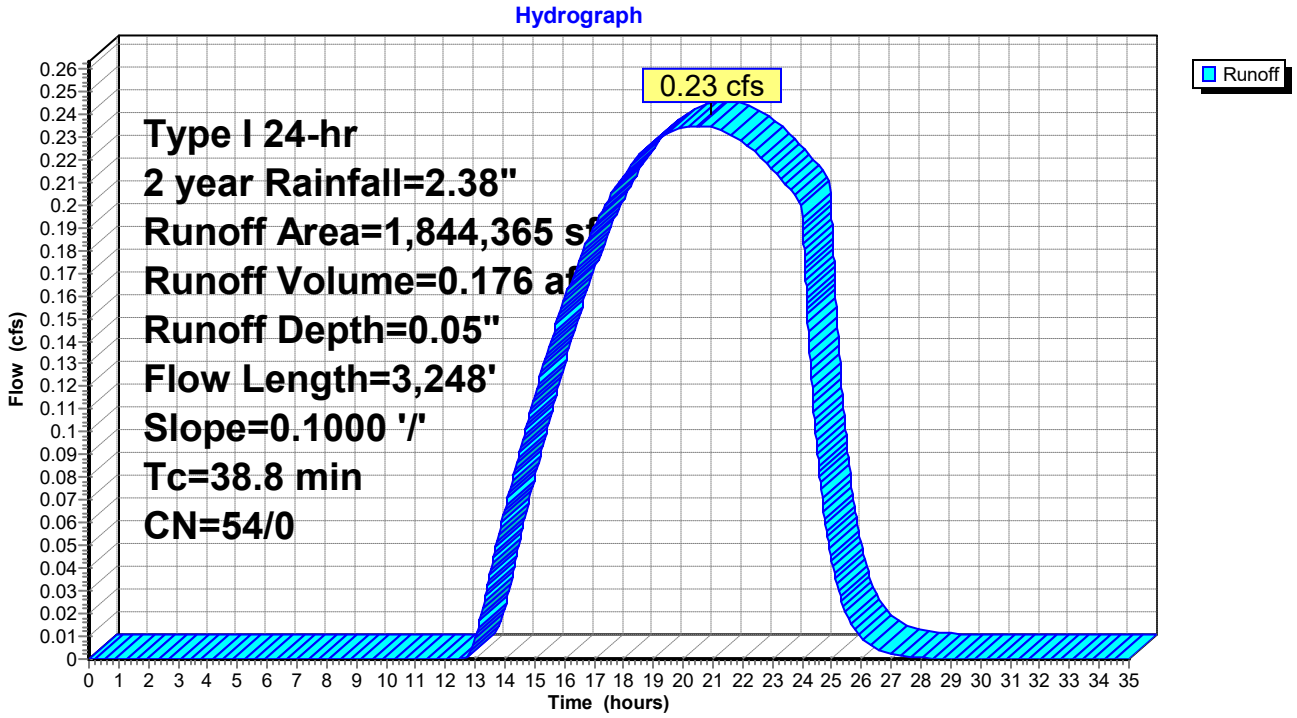
Runoff = 0.23 cfs @ 20.45 hrs, Volume= 0.176 af, Depth= 0.05"
Routed to Reach 10R : Collection Point 10

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,844,365	54	Brush and open space, see Attachment 3.
	1,844,365	54	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.1000	0.79		**Kerby Method,** Pasture, average grass N= 0.40
13.4	2,048	0.1000	2.54		**Kirpich Method,** General overland flow k= 2.00
38.8	3,248	Total			

Subcatchment 10.1: Diverted Area 10.2



Summary for Subcatchment 11.1: Diverted Area 11

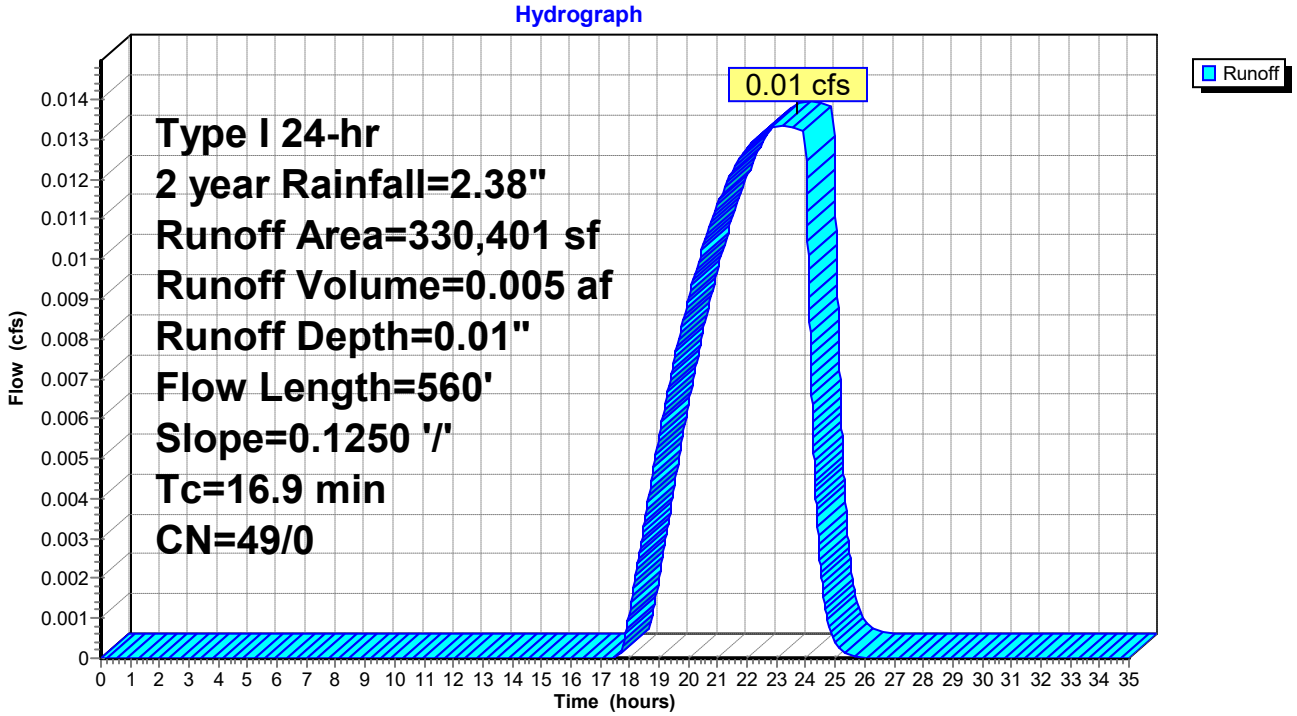
Runoff = 0.01 cfs @ 23.22 hrs, Volume= 0.005 af, Depth= 0.01"
Routed to Reach 11R : Collection Point 11

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	330,401	49	Brush and open space, see Attachment 3.
	330,401	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	560	0.1250	0.55		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 11.1: Diverted Area 11



Summary for Subcatchment 12.1: Diverted Area 12

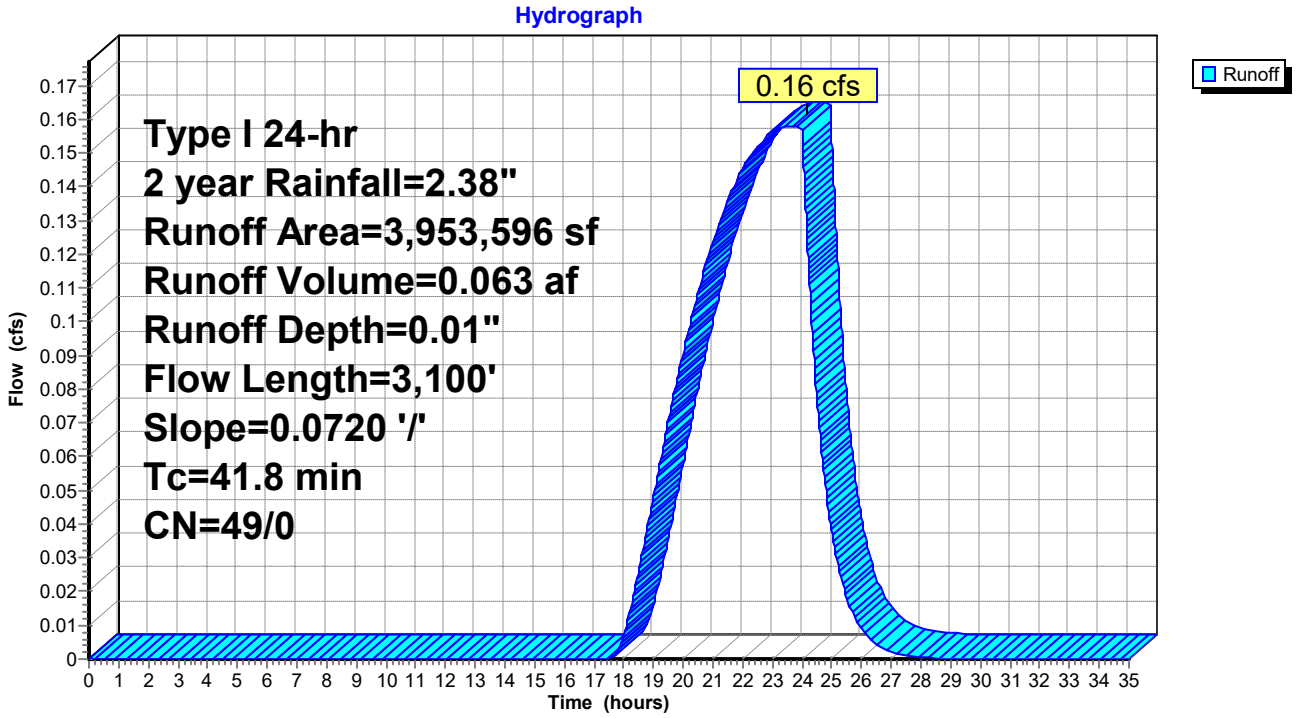
Runoff = 0.16 cfs @ 23.67 hrs, Volume= 0.063 af, Depth= 0.01"
Routed to Reach 12R : Collection Point 12

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	3,953,596	49	Brush and open space, see Attachment 3.
	3,953,596	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.4	1,900	0.0720	2.20		**Kirpich Method,** General overland flow k= 2.00
41.8	3,100	Total			

Subcatchment 12.1: Diverted Area 12



Summary for Subcatchment 12.2: Developed Area 12.1

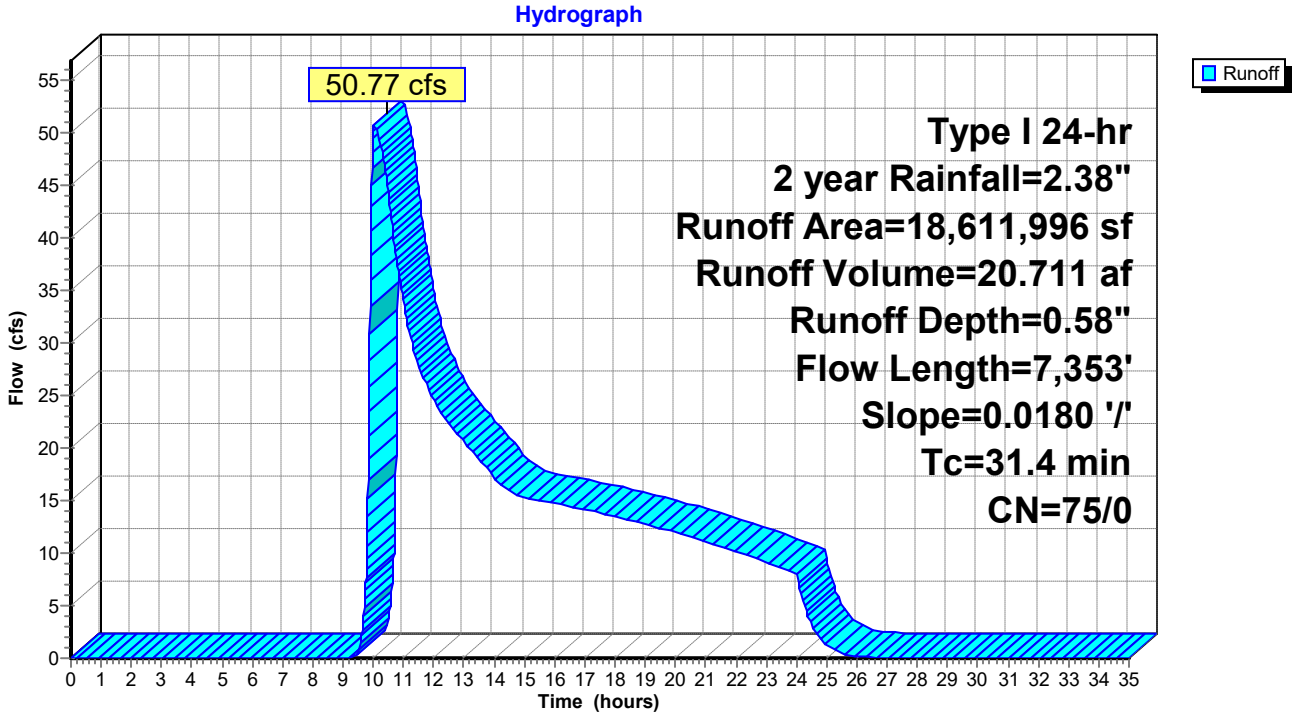
Runoff = 50.77 cfs @ 10.01 hrs, Volume= 20.711 af, Depth= 0.58"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	16,306,782	74	Composite CN, see Attachment 3
*	1,897,057	83	Paved; Open ditches (including right-of-way), HSG A
*	146,424	92	Paved; Open ditches (including right-of-way), HSG C
*	261,733	93	Paved; Open ditches (including right-of-way), HSG D
	18,611,996	75	Weighted Average
	18,611,996	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
9.3	1,200	0.0180	2.14		**Kerby Method,** Smooth impervious N= 0.02
12.1	6,153	0.0180	8.46		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
31.4	7,353	Total			

Subcatchment 12.2: Developed Area 12.1



Summary for Subcatchment 12.3: Diverted Area 12.3

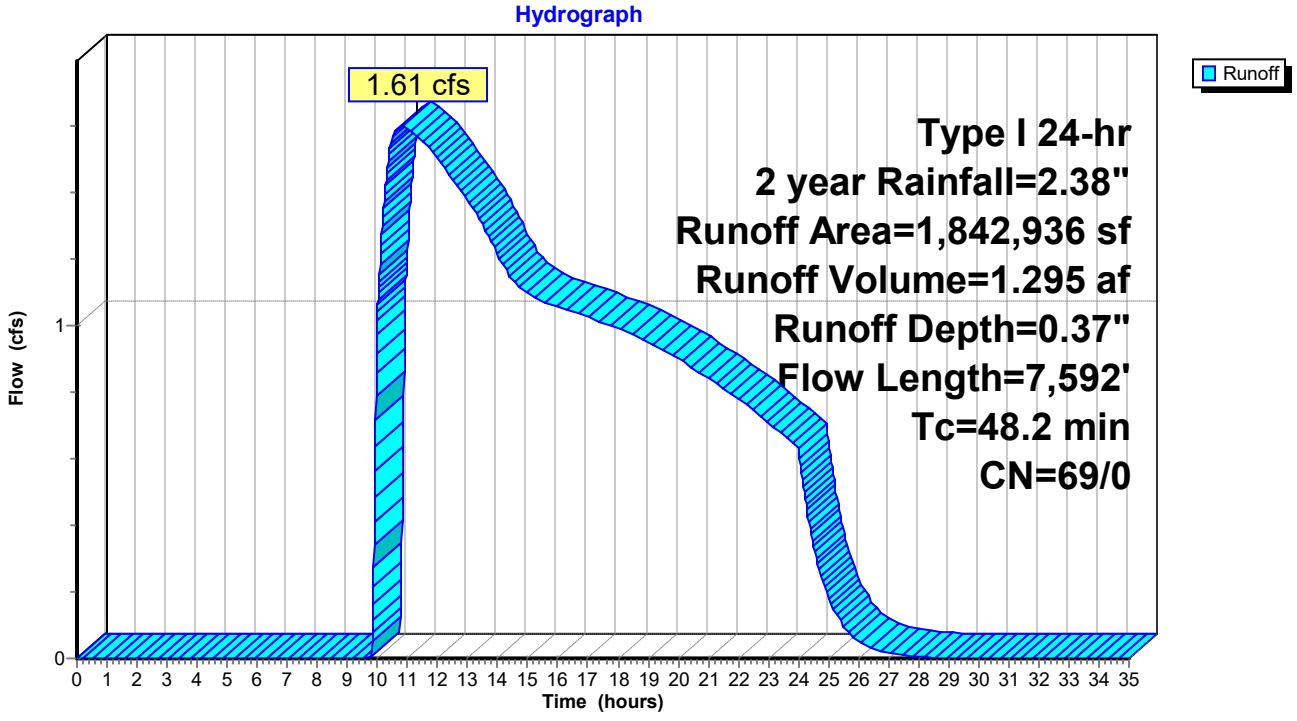
Runoff = 1.61 cfs @ 10.85 hrs, Volume= 1.295 af, Depth= 0.37"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,842,936	69	Brush and open space, see Attachment 3.
	1,842,936	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.5	1,915	0.0720	2.21		**Kirpich Method,** General overland flow k= 2.00
6.3	4,477	0.0270	11.83	37.17	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
48.2	7,592	Total			

Subcatchment 12.3: Diverted Area 12.3



Summary for Subcatchment 12.4: Diverted Area 12.4

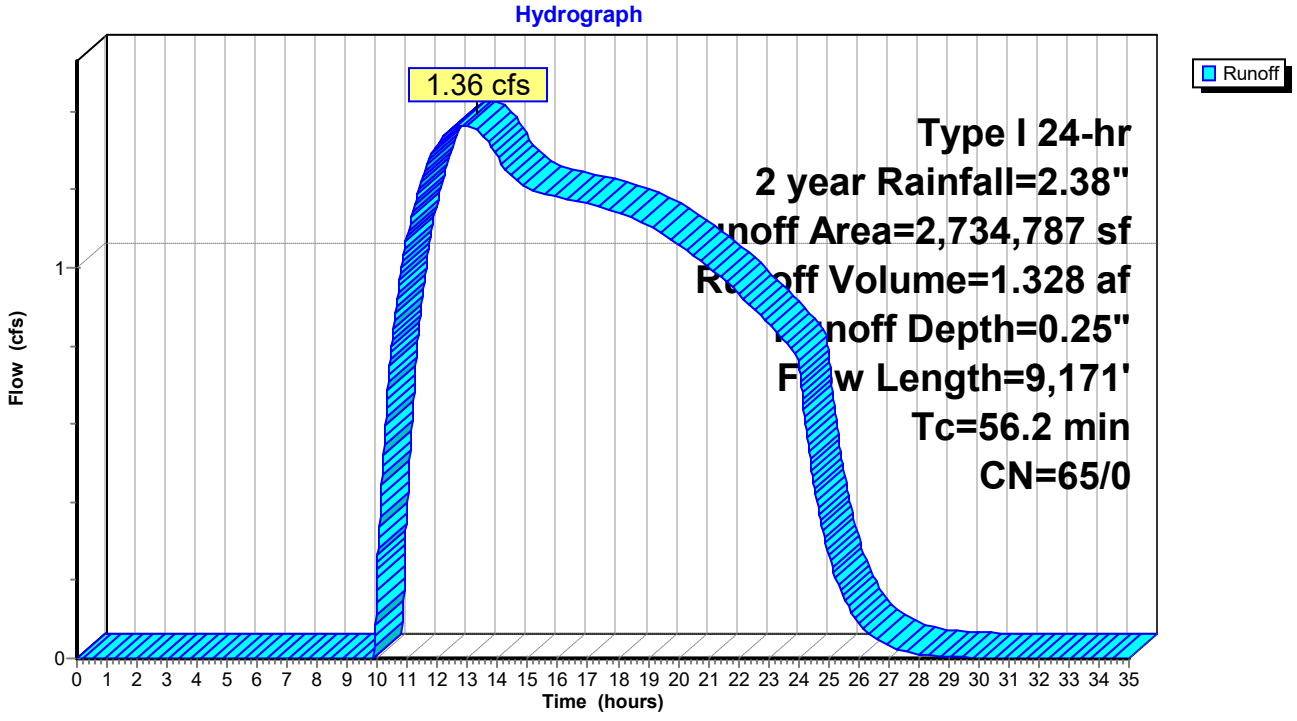
Runoff = 1.36 cfs @ 12.87 hrs, Volume= 1.328 af, Depth= 0.25"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	2,734,787	65	Brush and open space, See Attachment 3
	2,734,787	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
18.1	2,421	0.0640	2.23		**Kirpich Method,** General overland flow k= 2.00
9.9	5,550	0.0200	9.32	22.41	**Pipe Channel,** 21.0" Round Area= 2.4 sf Perim= 5.5' r= 0.44' n= 0.013
56.2	9,171	Total			

Subcatchment 12.4: Diverted Area 12.4



Summary for Subcatchment 13.1: Diverted Area 13

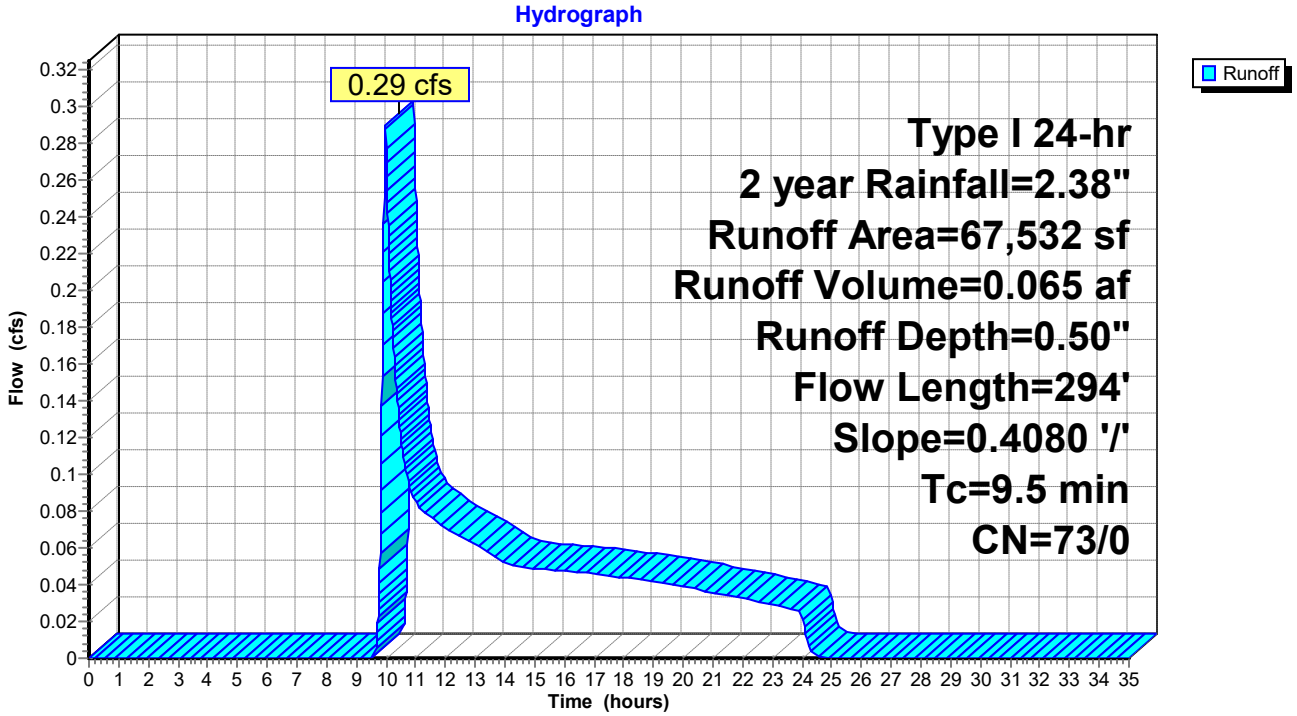
Runoff = 0.29 cfs @ 9.98 hrs, Volume= 0.065 af, Depth= 0.50"
Routed to Reach 13R : Collection Point 13

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	67,532	73	Brush and open space, see Attachment 3.
	67,532	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13.1: Diverted Area 13



Summary for Subcatchment 14.1: Diverted Area 14

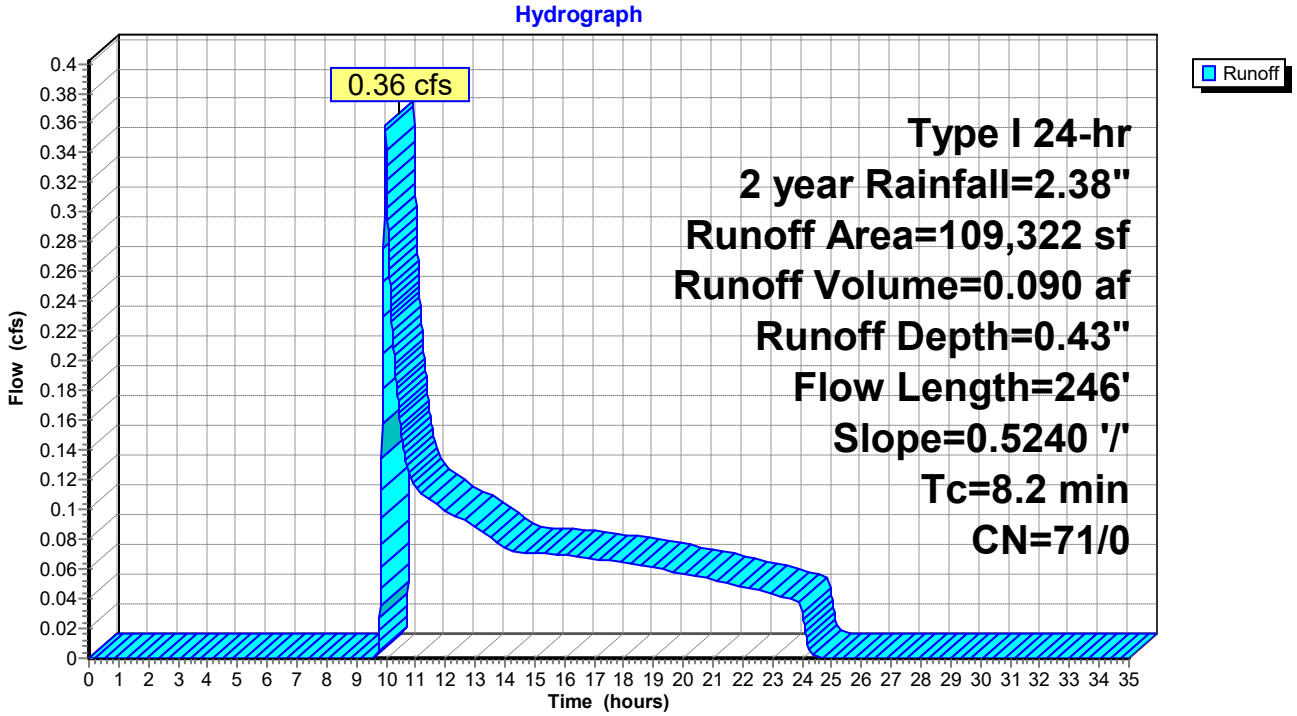
Runoff = 0.36 cfs @ 9.98 hrs, Volume= 0.090 af, Depth= 0.43"
Routed to Reach 14R : Collection Point 14

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	109,322	71	Brush and open space, see Attachment 3.
	109,322	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14.1: Diverted Area 14



Summary for Subcatchment 15.1: Diverted Area 15

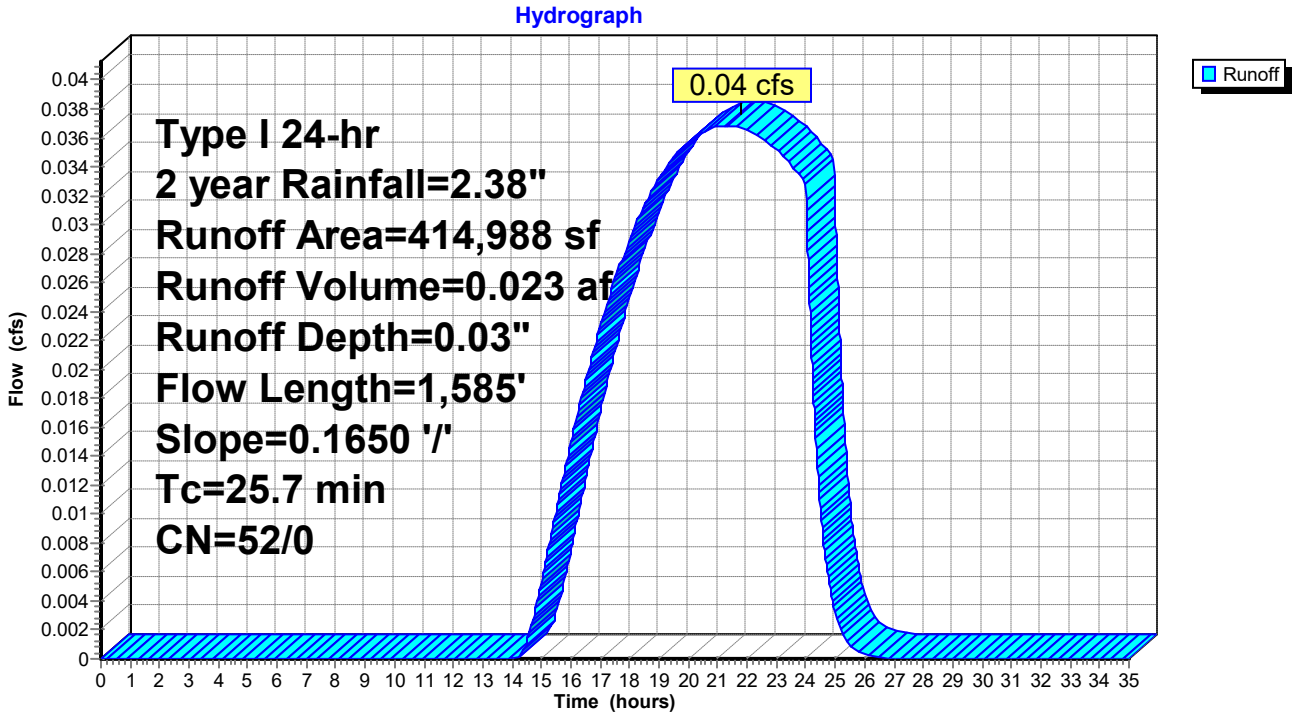
Runoff = 0.04 cfs @ 21.31 hrs, Volume= 0.023 af, Depth= 0.03"
Routed to Reach 15R : Collection Point 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	410,790	52	Composite CN, see Attachment 3.
*	4,198	83	Paved; Open ditches (including right-of-way), HSG A
	414,988	52	Weighted Average
	414,988	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	1,200	0.1650	0.89		**Kerby Method,** Pasture, average grass N= 0.40
3.1	385	0.1650	2.10		**Kirpich Method,** General overland flow k= 2.00
25.7	1,585	Total			

Subcatchment 15.1: Diverted Area 15



Summary for Subcatchment 15.2: Developed Area 15

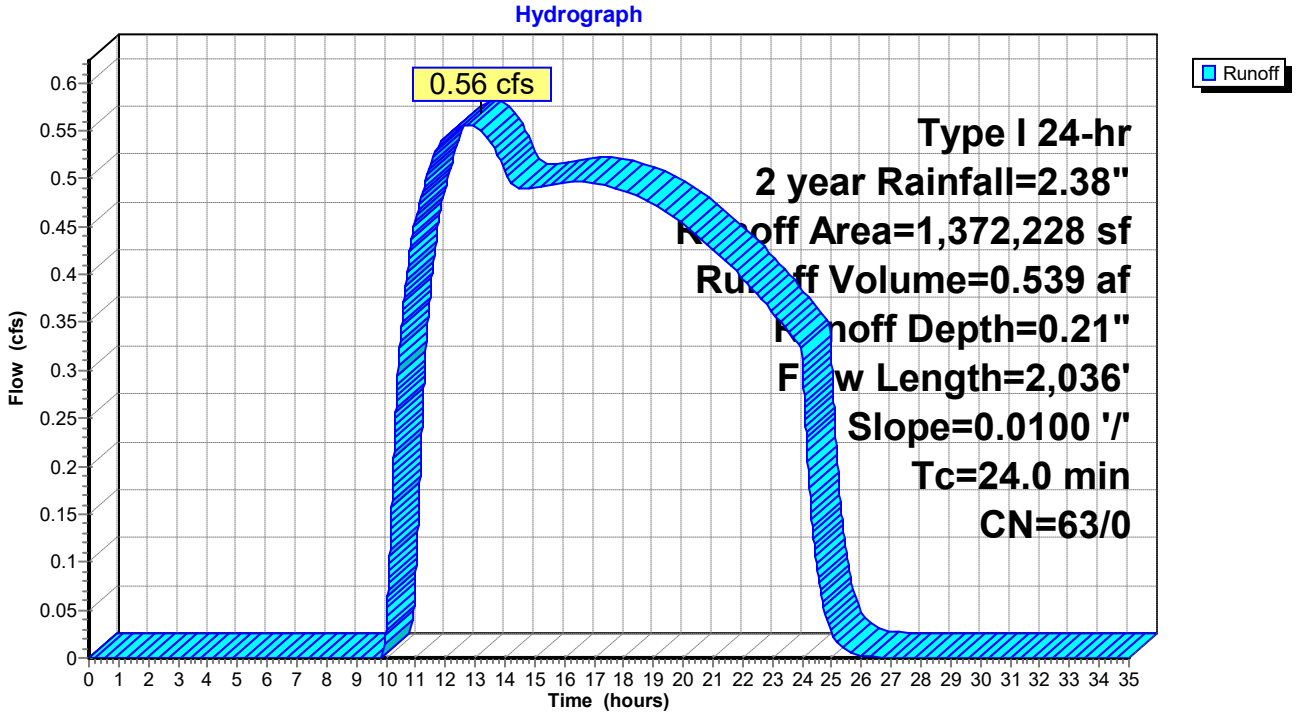
Runoff = 0.56 cfs @ 12.74 hrs, Volume= 0.539 af, Depth= 0.21"
Routed to Pond D15 : Detention Pond 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,102,421	58	Composite CN, see Attachment 3.
*	224,863	83	Paved; Open ditches (including right-of-way), HSG A
*	44,944	93	Paved; Open ditches (including right-of-way), HSG D
	1,372,228	63	Weighted Average
	1,372,228	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
10.7	1,200	0.0100	1.87		**Kerby Method,** Smooth impervious N= 0.02
3.3	836	0.0100	4.26		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
24.0	2,036	Total			

Subcatchment 15.2: Developed Area 15



Summary for Subcatchment 16.1: Diverted Area 16

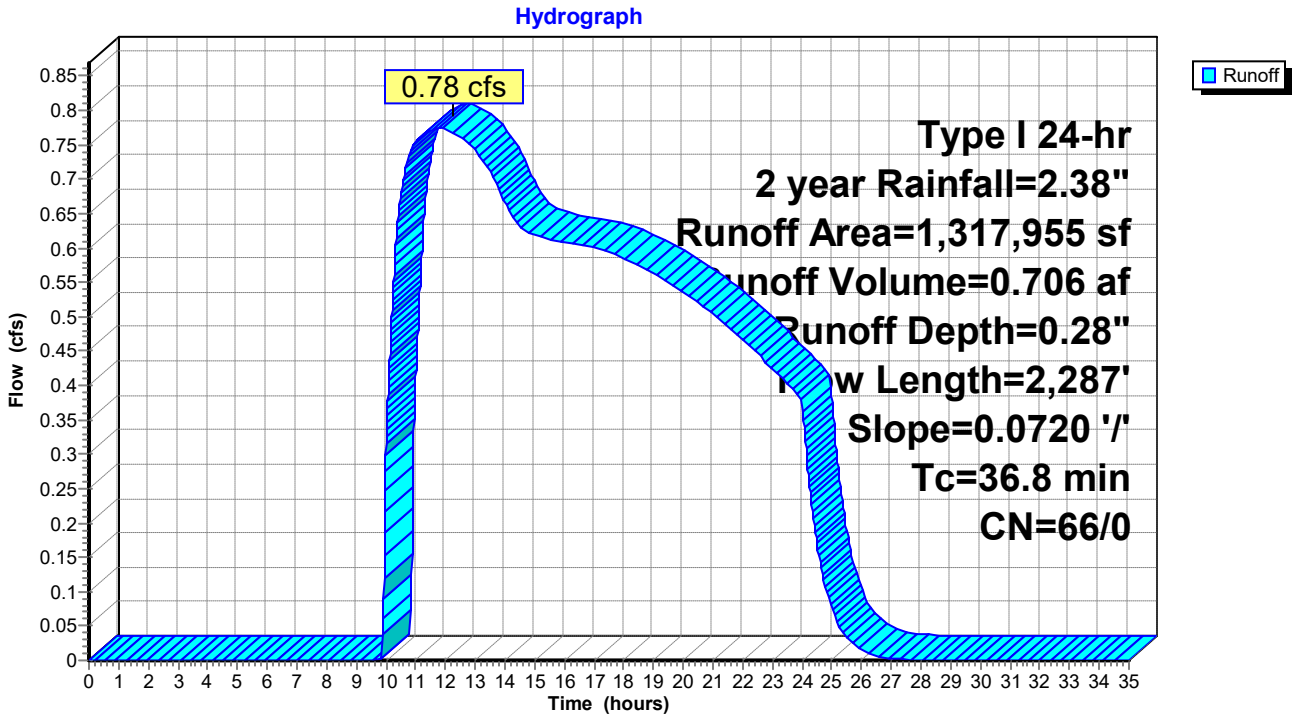
Runoff = 0.78 cfs @ 11.78 hrs, Volume= 0.706 af, Depth= 0.28"
Routed to Reach 16R : Collection Point 16

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,312,099	66	Brush and open space, see Attachment 3.
*	5,839	83	Paved; Open ditches (including right-of-way), HSG A
*	17	93	Paved; Open ditches (including right-of-way), HSG D
	1,317,955	66	Weighted Average
	1,317,955	66	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
9.4	1,087	0.0720	1.94		**Kirpich Method,** General overland flow k= 2.00
36.8	2,287	Total			

Subcatchment 16.1: Diverted Area 16



Summary for Subcatchment 16.2: Developed Area 16

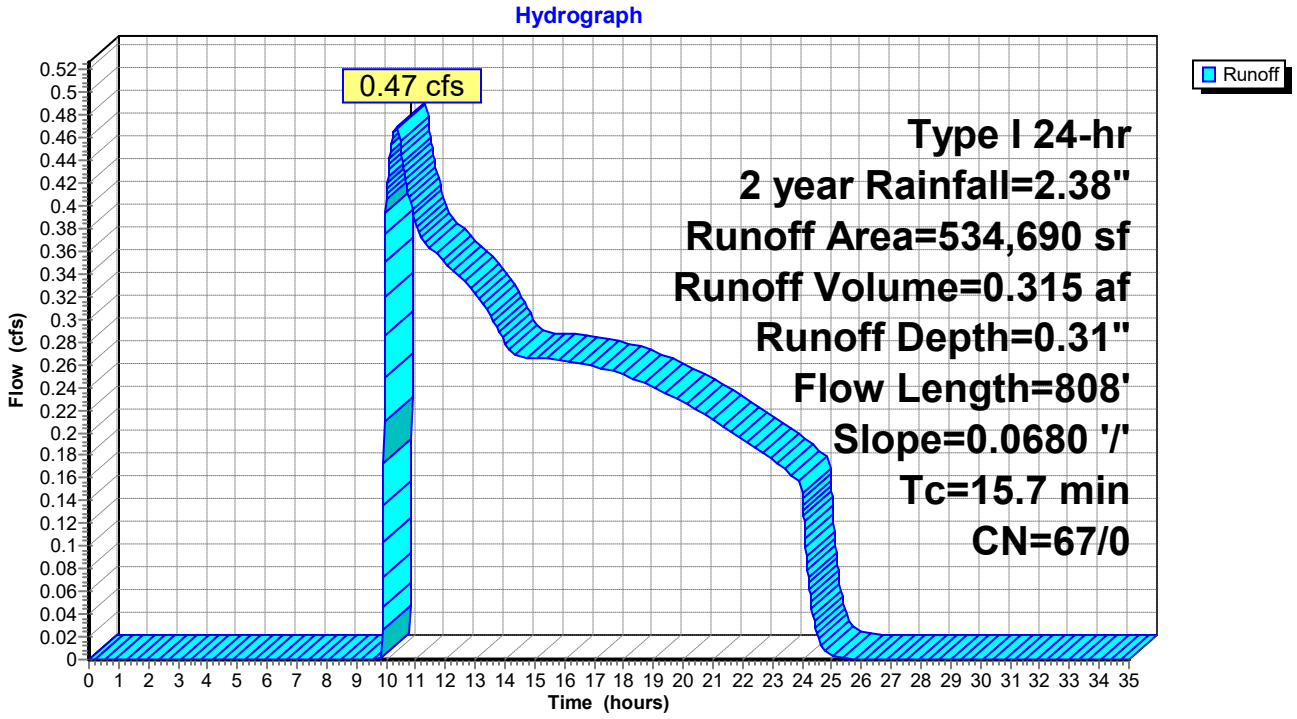
Runoff = 0.47 cfs @ 10.34 hrs, Volume= 0.315 af, Depth= 0.31"
Routed to Pond D16.2 : Detention Pond 16.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	534,690	67	Composite CN, see Attachment 3.
	534,690	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.7	808	0.0680	2.36		**Kerby Method,** Smooth impervious N= 0.02
15.7	808	Total			

Subcatchment 16.2: Developed Area 16



Summary for Subcatchment 16.3: Developed Area 16

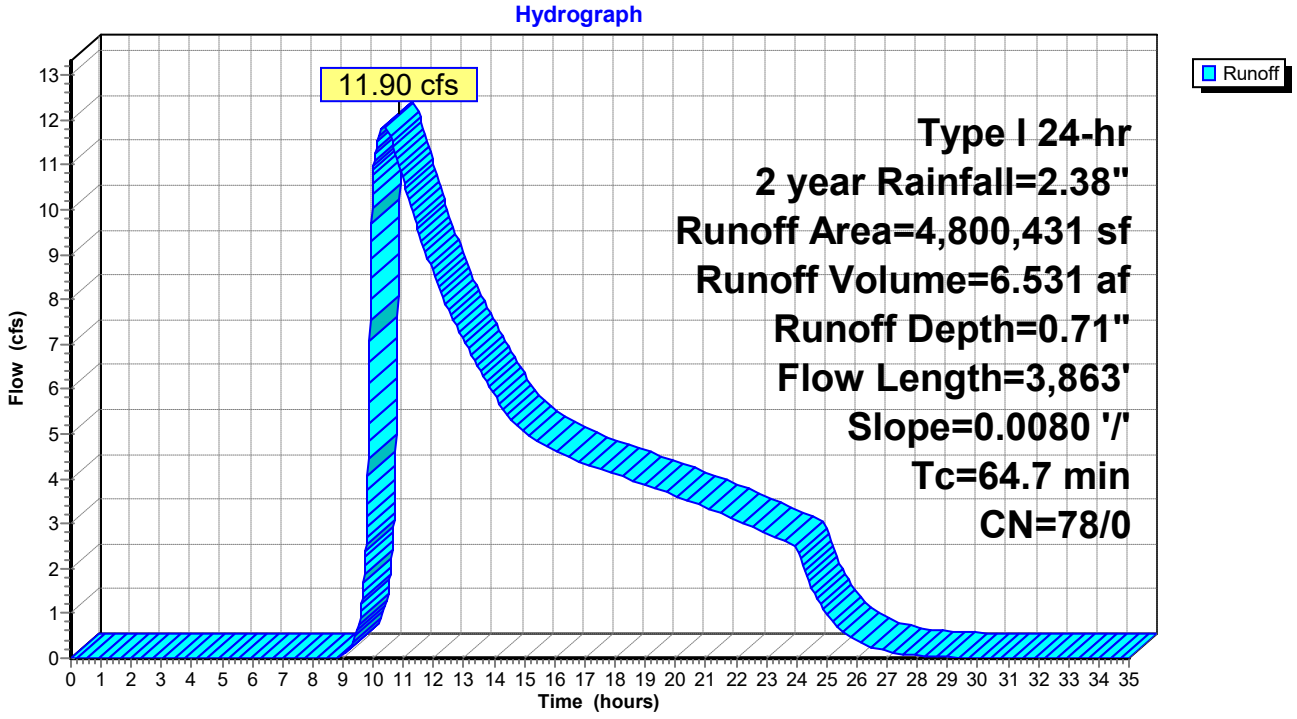
Runoff = 11.90 cfs @ 10.37 hrs, Volume= 6.531 af, Depth= 0.71"
Routed to Pond D16.3 : Detention Pond 16.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	4,430,615	77	Composite CN, see Attachment 3.
*	333,557	83	Paved; Open ditches (including right-of-way), HSG A
*	27,011	92	Paved; Open ditches (including right-of-way), HSG C
*	9,248	93	Paved; Open ditches (including right-of-way), HSG D
	4,800,431	78	Weighted Average
	4,800,431	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
11.3	1,200	0.0080	1.77		**Kerby Method,** Smooth impervious N= 0.02
43.4	2,663	0.0080	1.02		**Kirpich Method,** General overland flow k= 2.00
64.7	3,863	Total			

Subcatchment 16.3: Developed Area 16



Summary for Subcatchment 17.1: Diverted Area 17

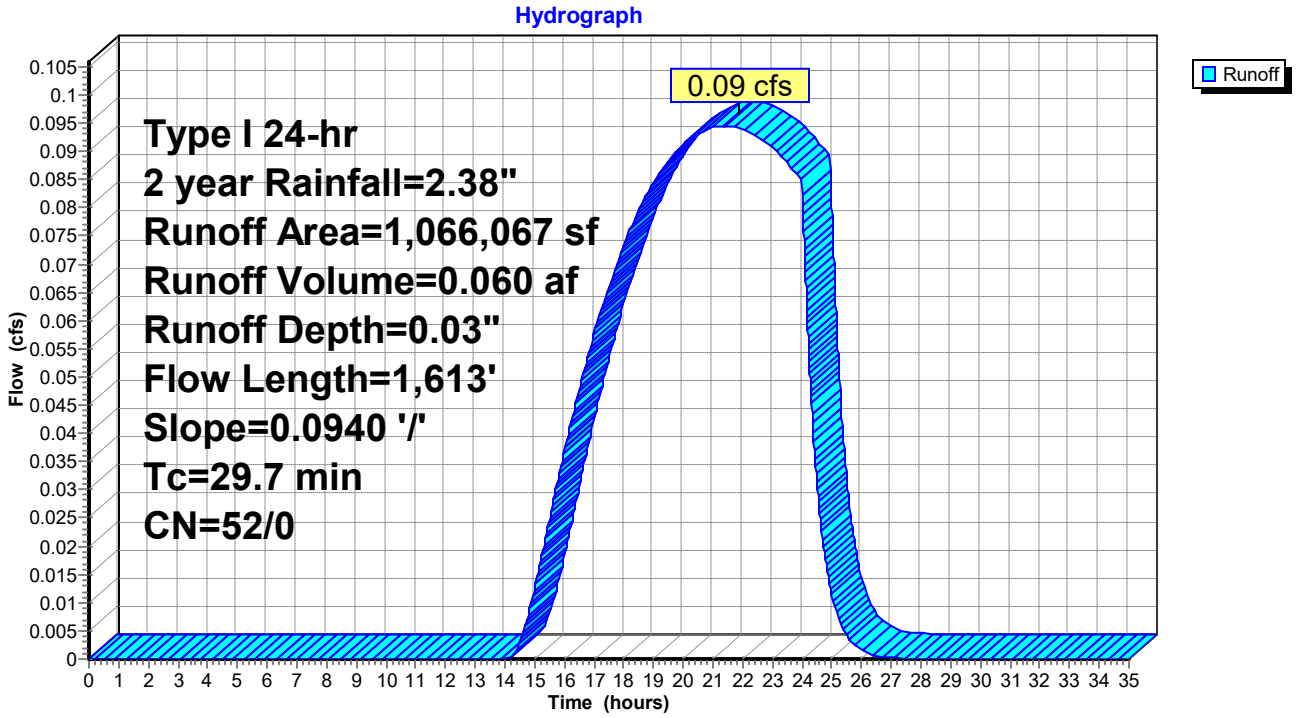
Runoff = 0.09 cfs @ 21.38 hrs, Volume= 0.060 af, Depth= 0.03"
Routed to Reach 17R : Collection Point 17

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,066,067	52	Brush and open space, see Attachment 3.
	1,066,067	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	1,200	0.0940	0.78		**Kerby Method,** Pasture, average grass N= 0.40
4.0	413	0.0940	1.72		**Kirpich Method,** General overland flow k= 2.00
29.7	1,613	Total			

Subcatchment 17.1: Diverted Area 17



Summary for Subcatchment 18.1: Diverted Area 18

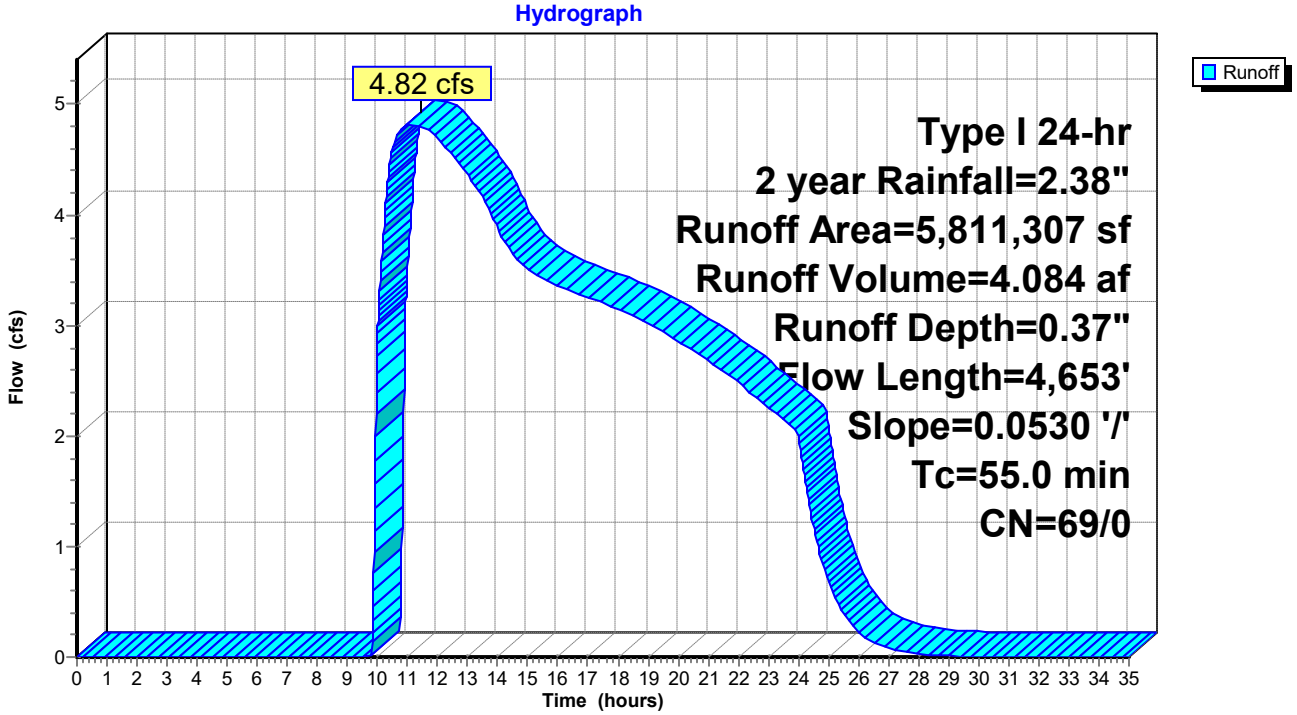
Runoff = 4.82 cfs @ 10.99 hrs, Volume= 4.084 af, Depth= 0.37"
Routed to Reach 18R : Collection Point 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	5,811,307	69	Brush and open space, see Attachment 3.
	5,811,307	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	1,200	0.0530	0.68		**Kerby Method,** Pasture, average grass N= 0.40
25.6	3,453	0.0530	2.25		**Kirpich Method,** General overland flow k= 2.00
55.0	4,653	Total			

Subcatchment 18.1: Diverted Area 18



Summary for Subcatchment 18.2: Developed Area 18

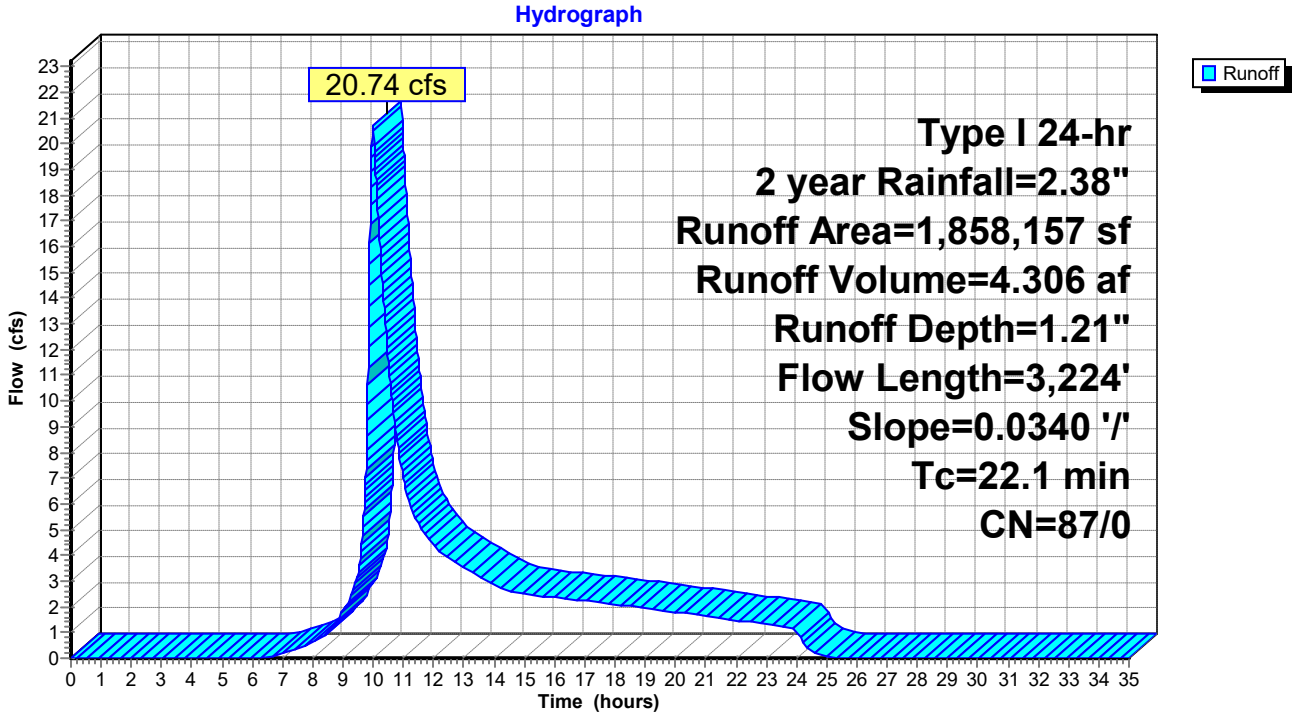
Runoff = 20.74 cfs @ 9.99 hrs, Volume= 4.306 af, Depth= 1.21"
Routed to Pond D18 : Detention Pond 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,667,674	87	Composite CN, see Attachment 3.
*	40,054	83	Paved; Open ditches (including right-of-way), HSG A
*	50,899	92	Paved; Open ditches (including right-of-way), HSG C
*	99,530	93	Paved; Open ditches (including right-of-way), HSG D
	1,858,157	87	Weighted Average
	1,858,157	87	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.1	1,200	0.0340	2.48		**Kerby Method,** Smooth impervious N= 0.02
4.0	2,024	0.0340	8.37		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
22.1	3,224	Total			

Subcatchment 18.2: Developed Area 18



Summary for Subcatchment 19.1: Diverted Area 19

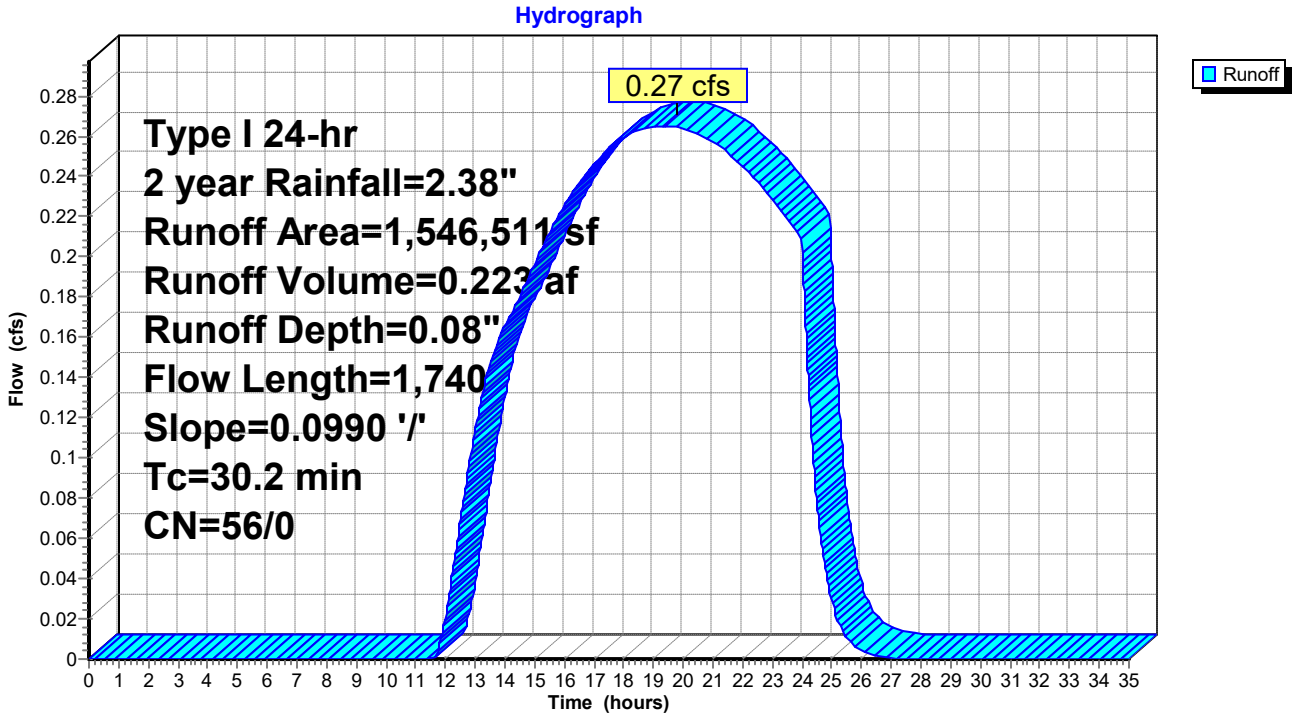
Runoff = 0.27 cfs @ 19.33 hrs, Volume= 0.223 af, Depth= 0.08"
Routed to Reach 19R : Collection Point 19

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,546,511	56	Existing brush, see Attachment 3.
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19.1: Diverted Area 19



Summary for Subcatchment 20.1: Diverted Area 20

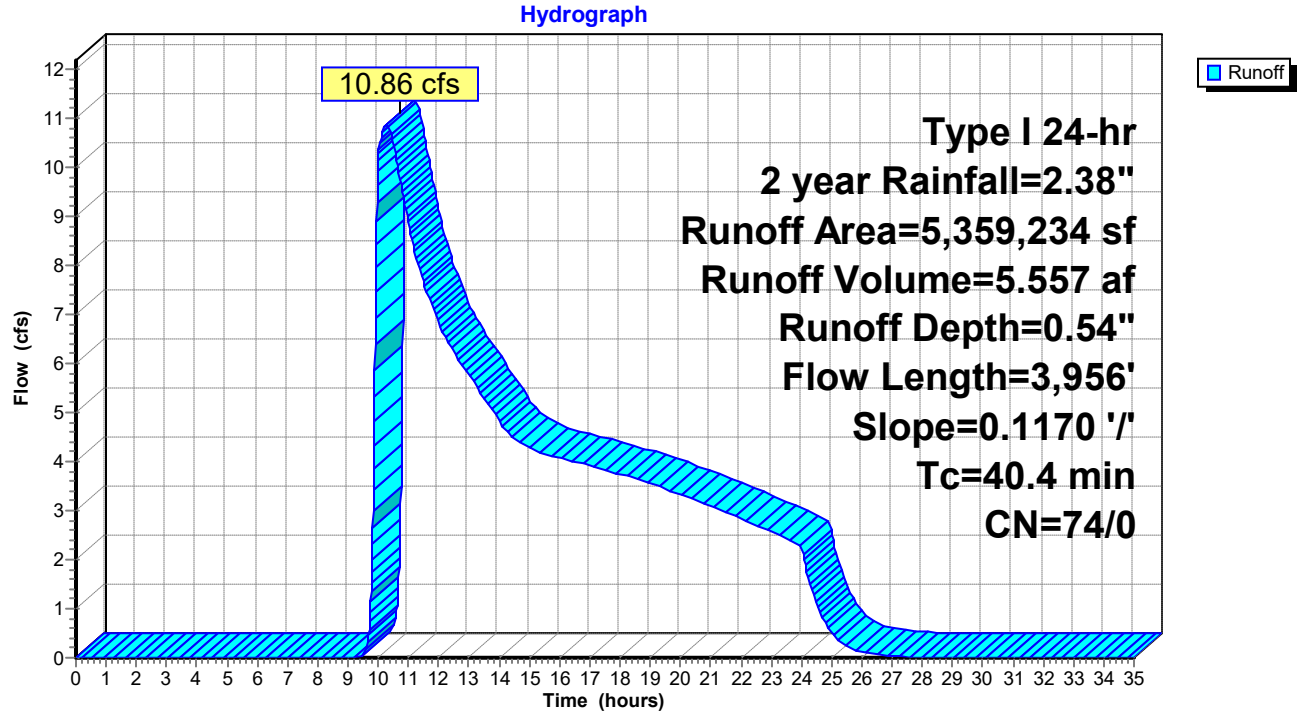
Runoff = 10.86 cfs @ 10.28 hrs, Volume= 5.557 af, Depth= 0.54"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	2,979,788	77	Brush, Poor, HSG C
*	1,500,408	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,359,234	74	Weighted Average
	5,359,234	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

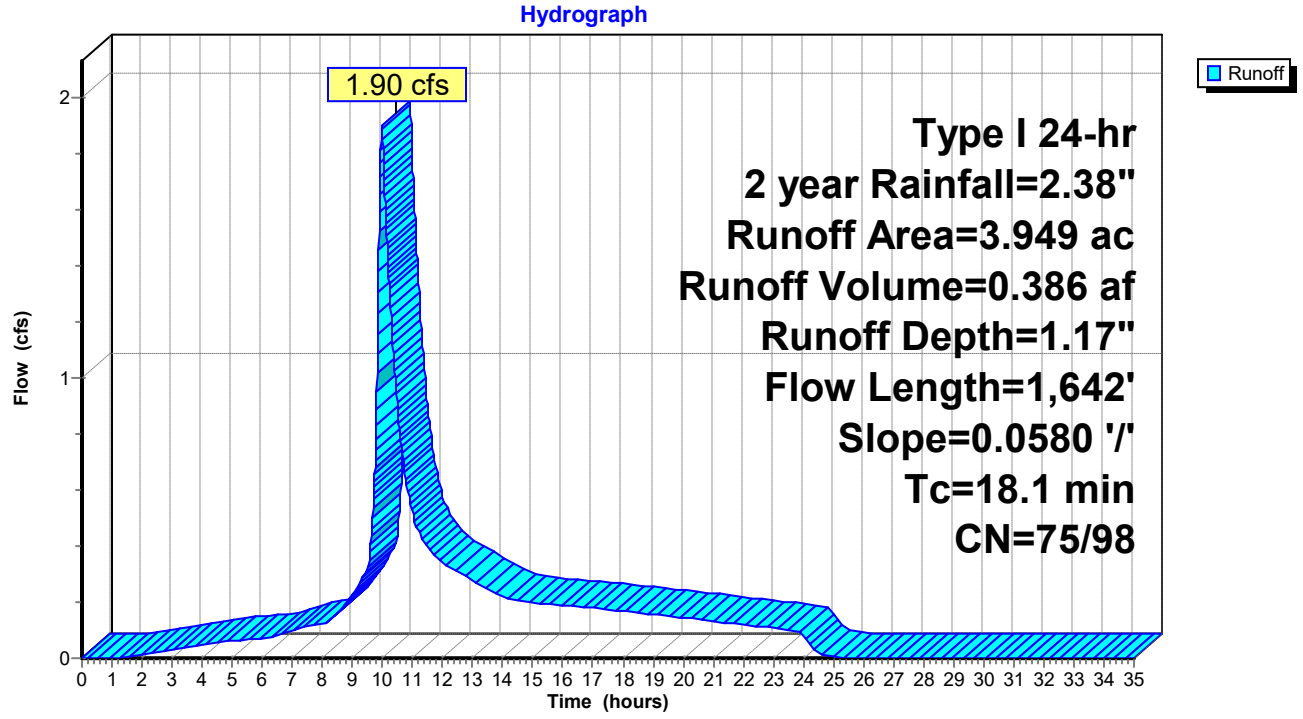
Runoff = 1.90 cfs @ 9.98 hrs, Volume= 0.386 af, Depth= 1.17"
Routed to Pond D20.2 : Detention Basin 20.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (ac)	CN	Description
*	2.225	74	Open Space, Good, HSG C
*	0.235	87	Pavers/DG, Good, HSG C
*	1.489	98	Hardscape
	3.949	84	Weighted Average
	2.460	75	62.29% Pervious Area
	1.489	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

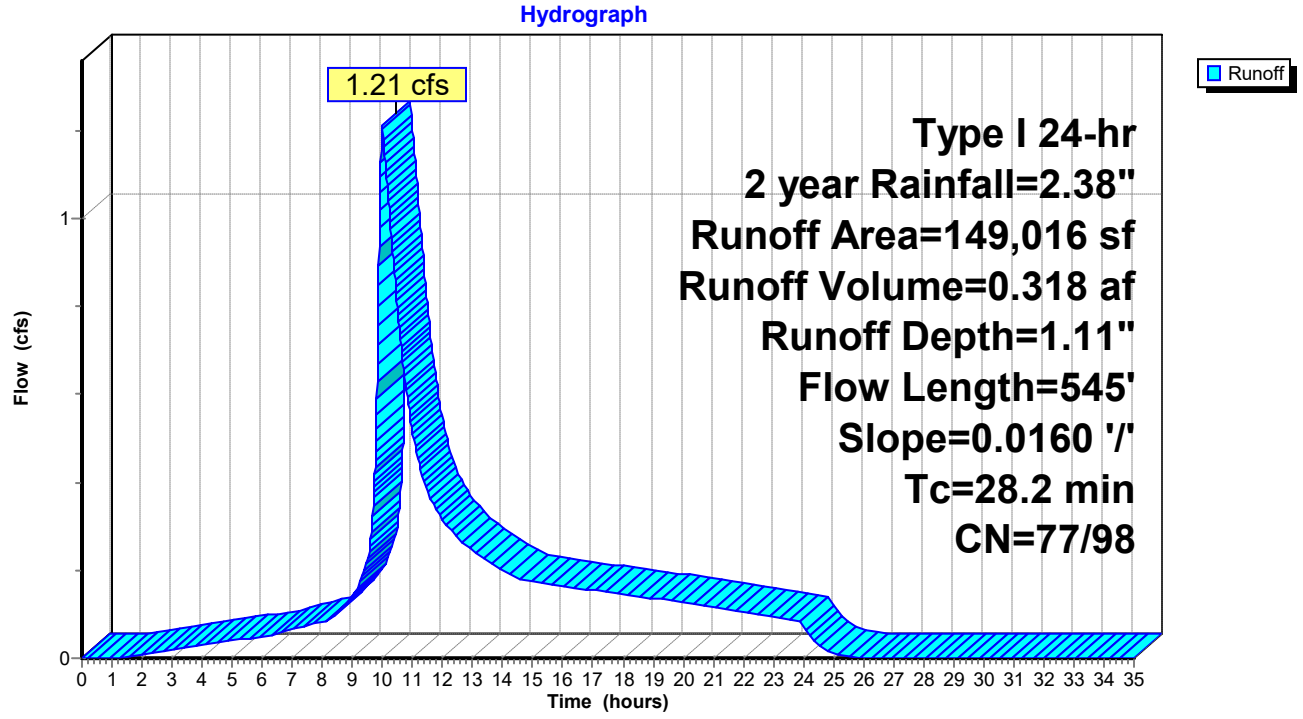
Runoff = 1.21 cfs @ 9.99 hrs, Volume= 0.318 af, Depth= 1.11"
Routed to Pond D20.3 : Detention Pond 20.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

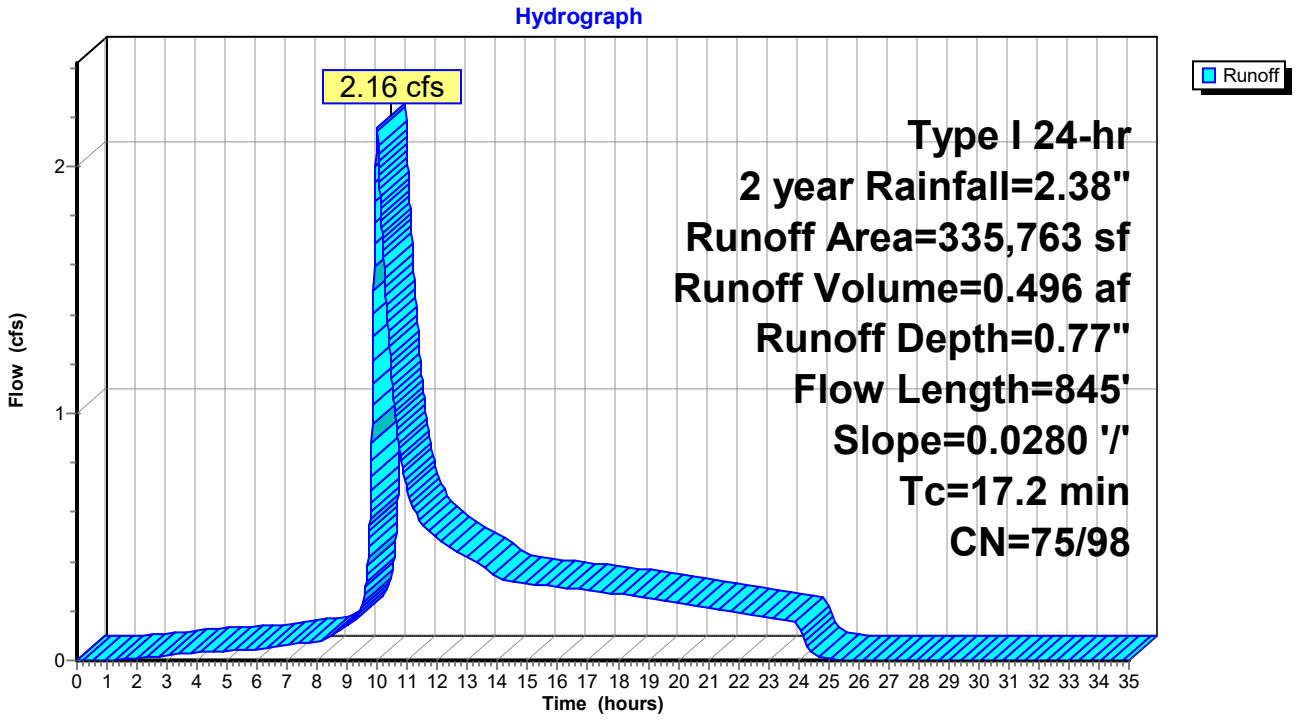
Runoff = 2.16 cfs @ 9.99 hrs, Volume= 0.496 af, Depth= 0.77"
Routed to Pond D20.4 : Detention Pond 20.4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



Summary for Subcatchment 21.1: Diverted Area 21

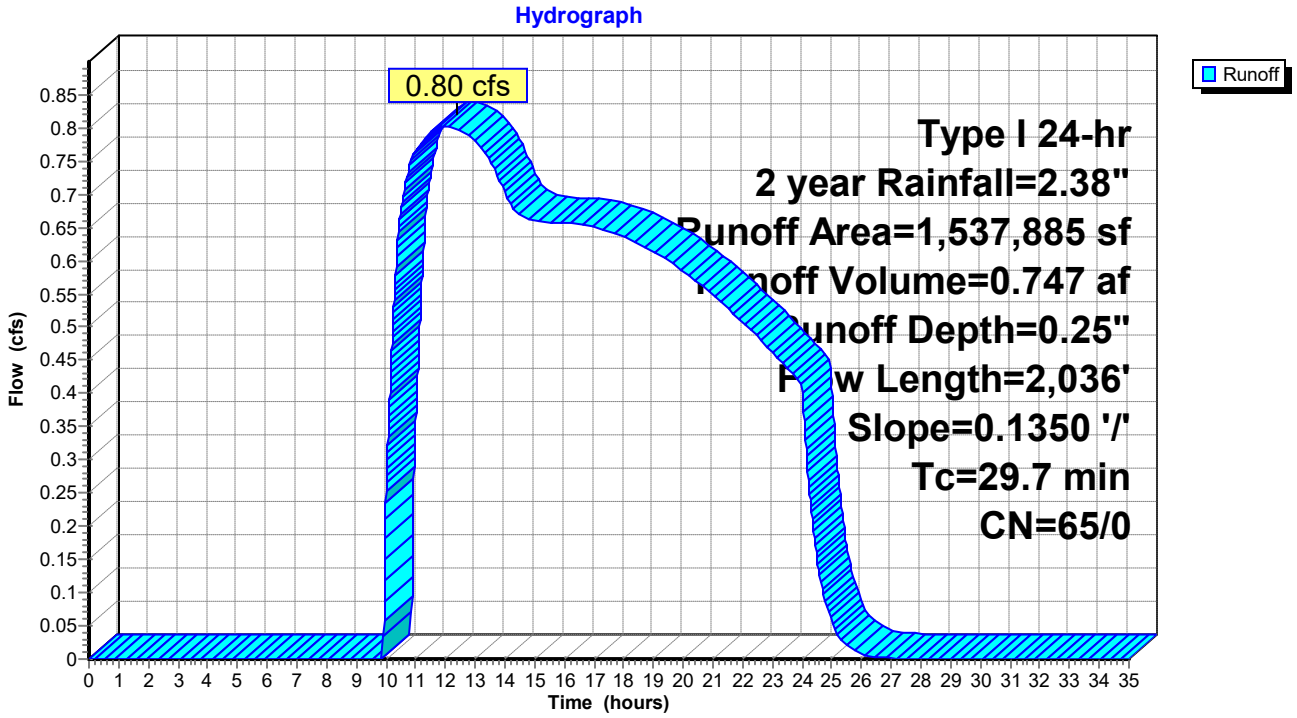
Runoff = 0.80 cfs @ 11.90 hrs, Volume= 0.747 af, Depth= 0.25"
Routed to Reach 21R : Collection Point 21

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,537,885	65	Existing brush, see Attachment 3.
	1,537,885	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21.1: Diverted Area 21



Summary for Subcatchment 22.1: Diverted Area 22

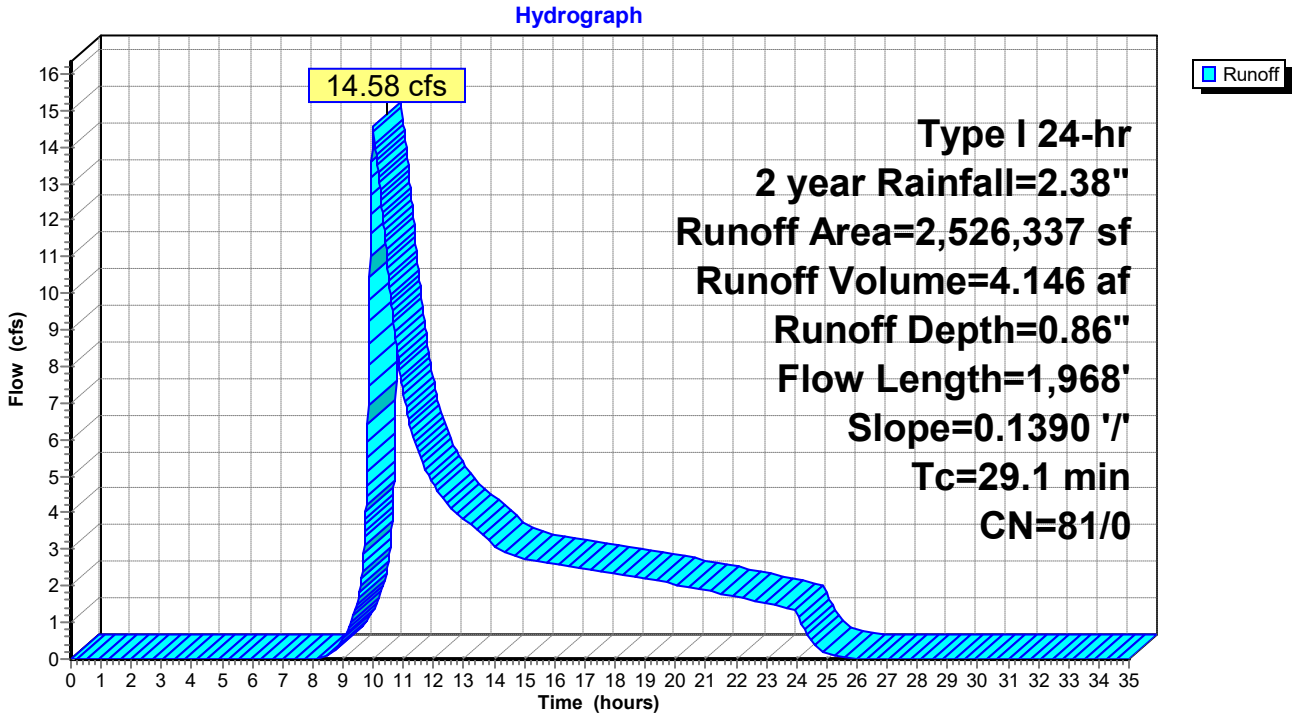
Runoff = 14.58 cfs @ 10.00 hrs, Volume= 4.146 af, Depth= 0.86"
Routed to Reach 22R : Collection Point 22

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	2,526,337	81	Existing brush, see Attachment 3.
	2,526,337	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22.1: Diverted Area 22



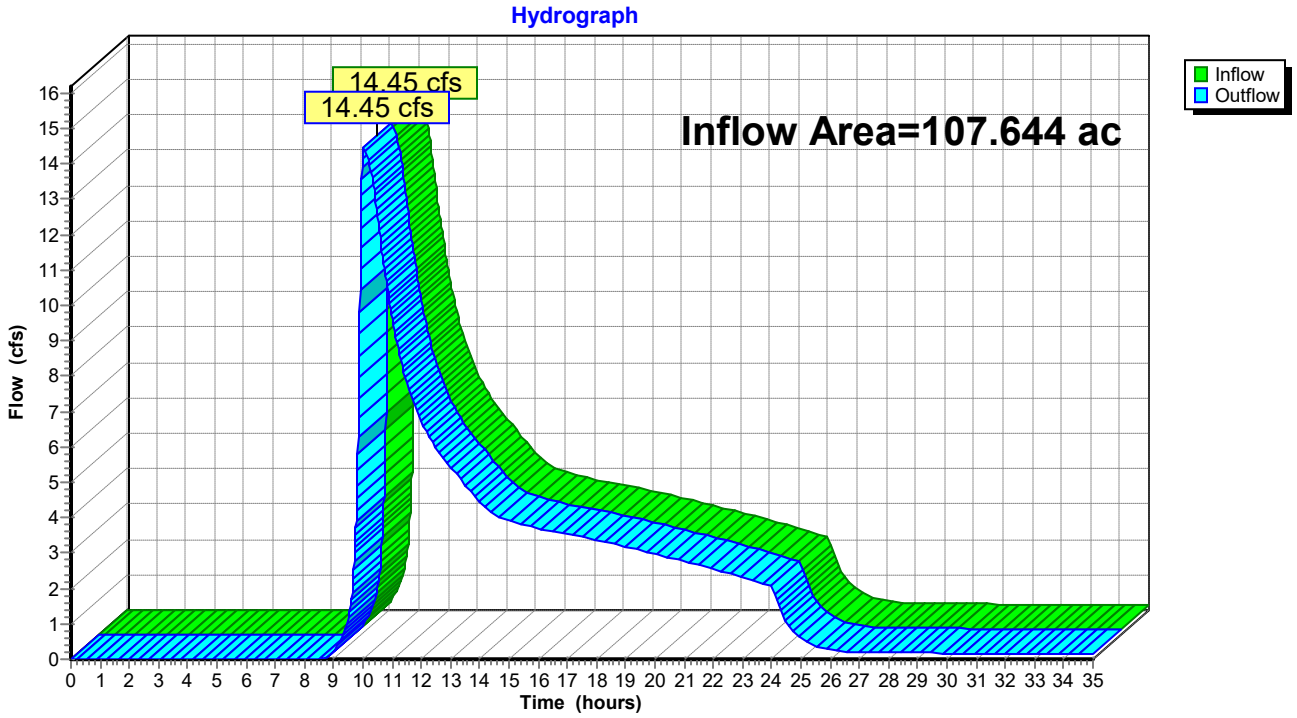
Summary for Reach 1R: Collection Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 107.644 ac, 0.00% Impervious, Inflow Depth > 0.64" for 2 year event
Inflow = 14.45 cfs @ 10.01 hrs, Volume= 5.697 af
Outflow = 14.45 cfs @ 10.01 hrs, Volume= 5.697 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 1R: Collection Point 1



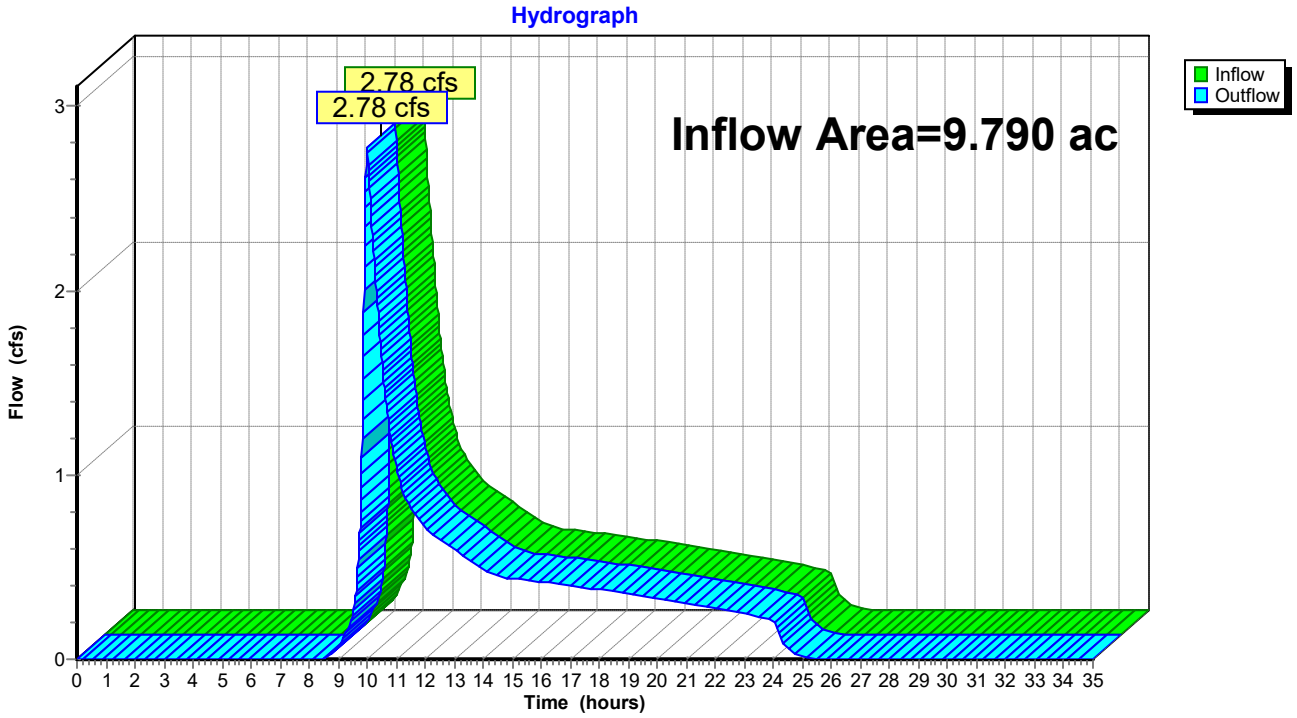
Summary for Reach 2R: Collection Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 9.790 ac, 0.00% Impervious, Inflow Depth = 0.81" for 2 year event
Inflow = 2.78 cfs @ 9.99 hrs, Volume= 0.658 af
Outflow = 2.78 cfs @ 9.99 hrs, Volume= 0.658 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 2R: Collection Point 2



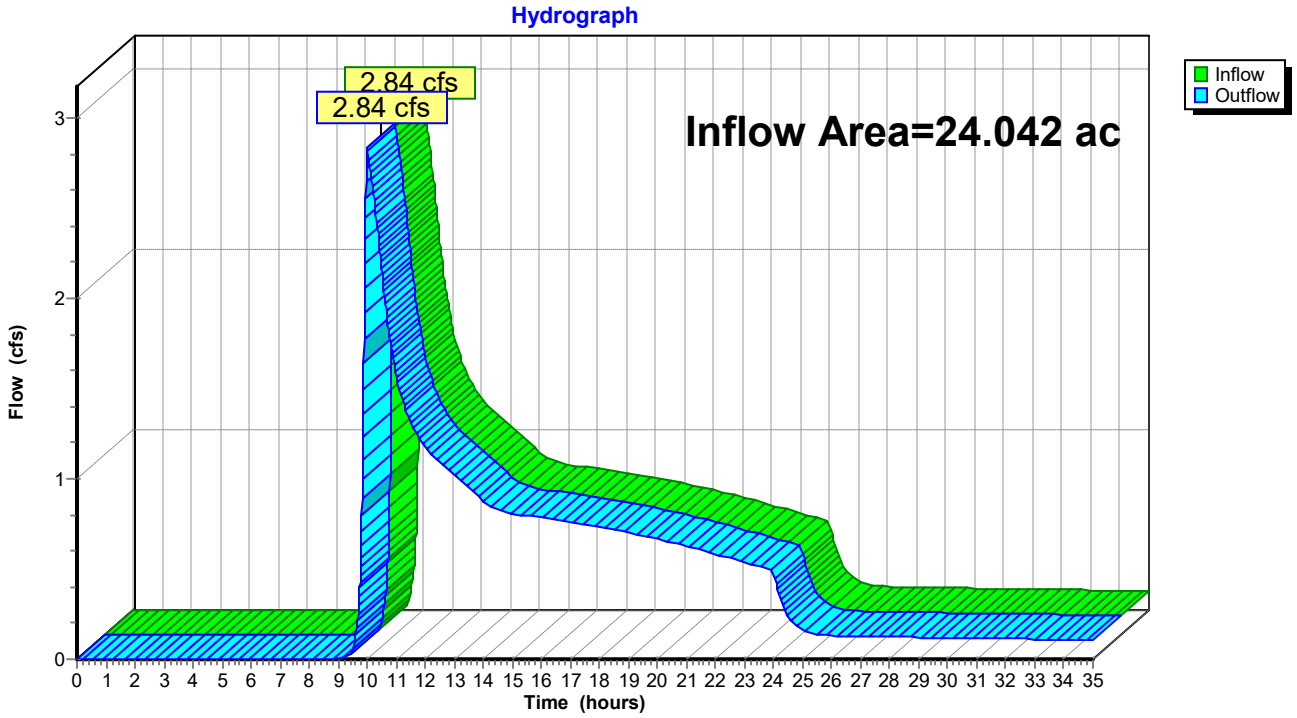
Summary for Reach 3R: Collection Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.042 ac, 0.00% Impervious, Inflow Depth > 0.59" for 2 year event
Inflow = 2.84 cfs @ 10.00 hrs, Volume= 1.188 af
Outflow = 2.84 cfs @ 10.00 hrs, Volume= 1.188 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 3R: Collection Point 3



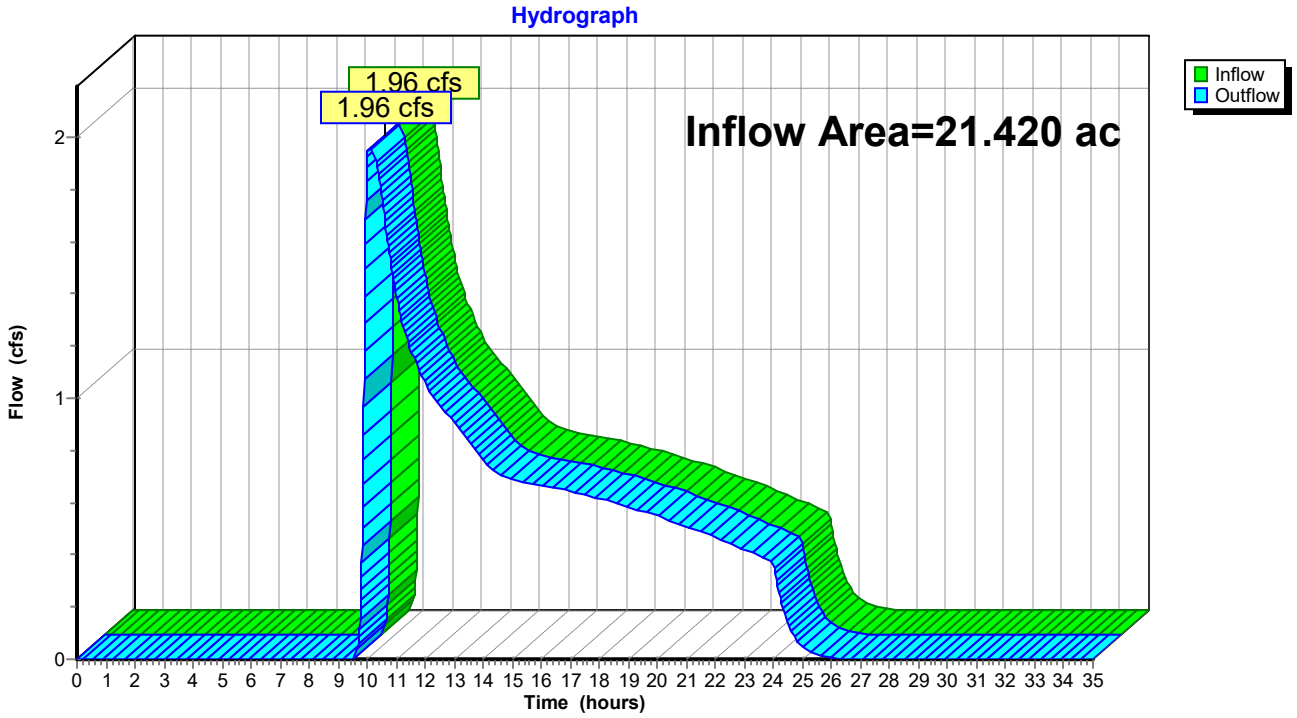
Summary for Reach 4R: Collection Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 21.420 ac, 0.00% Impervious, Inflow Depth = 0.50" for 2 year event
Inflow = 1.96 cfs @ 10.11 hrs, Volume= 0.900 af
Outflow = 1.96 cfs @ 10.11 hrs, Volume= 0.900 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 4R: Collection Point 4



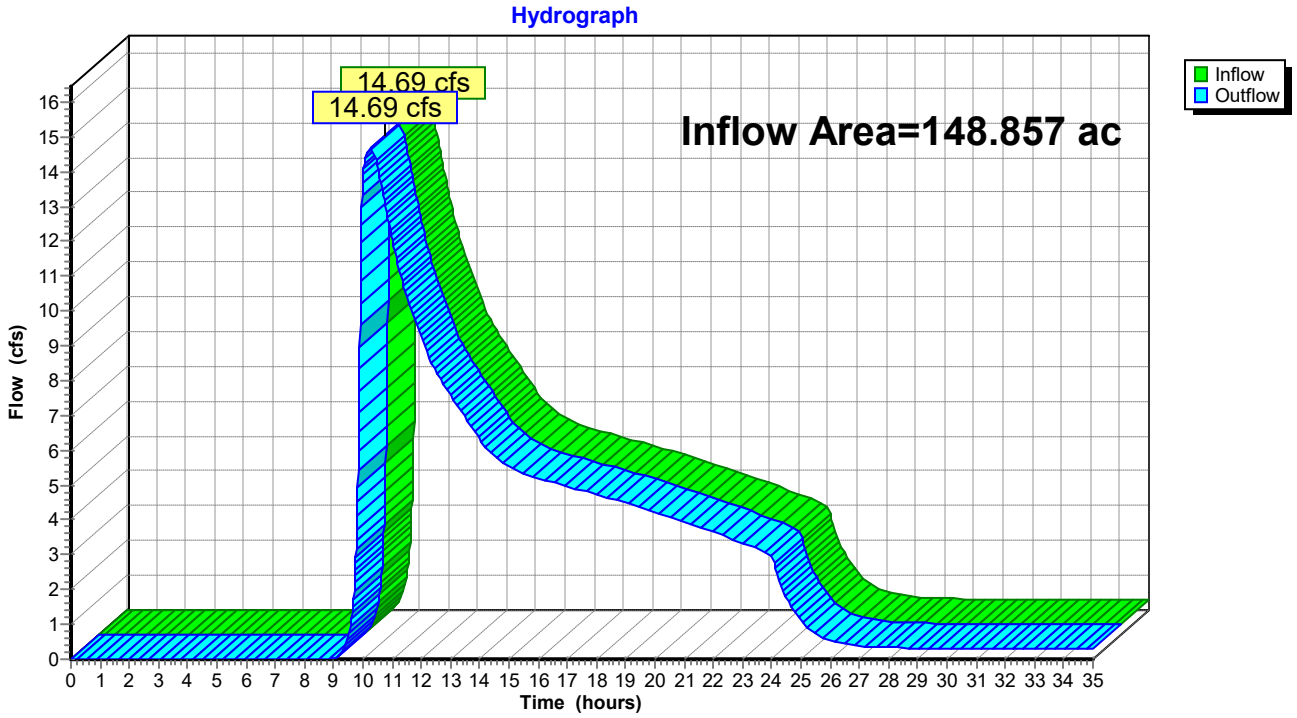
Summary for Reach 5R: Collection Point 5

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 148.857 ac, 0.00% Impervious, Inflow Depth > 0.62" for 2 year event
Inflow = 14.69 cfs @ 10.26 hrs, Volume= 7.636 af
Outflow = 14.69 cfs @ 10.26 hrs, Volume= 7.636 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 5R: Collection Point 5



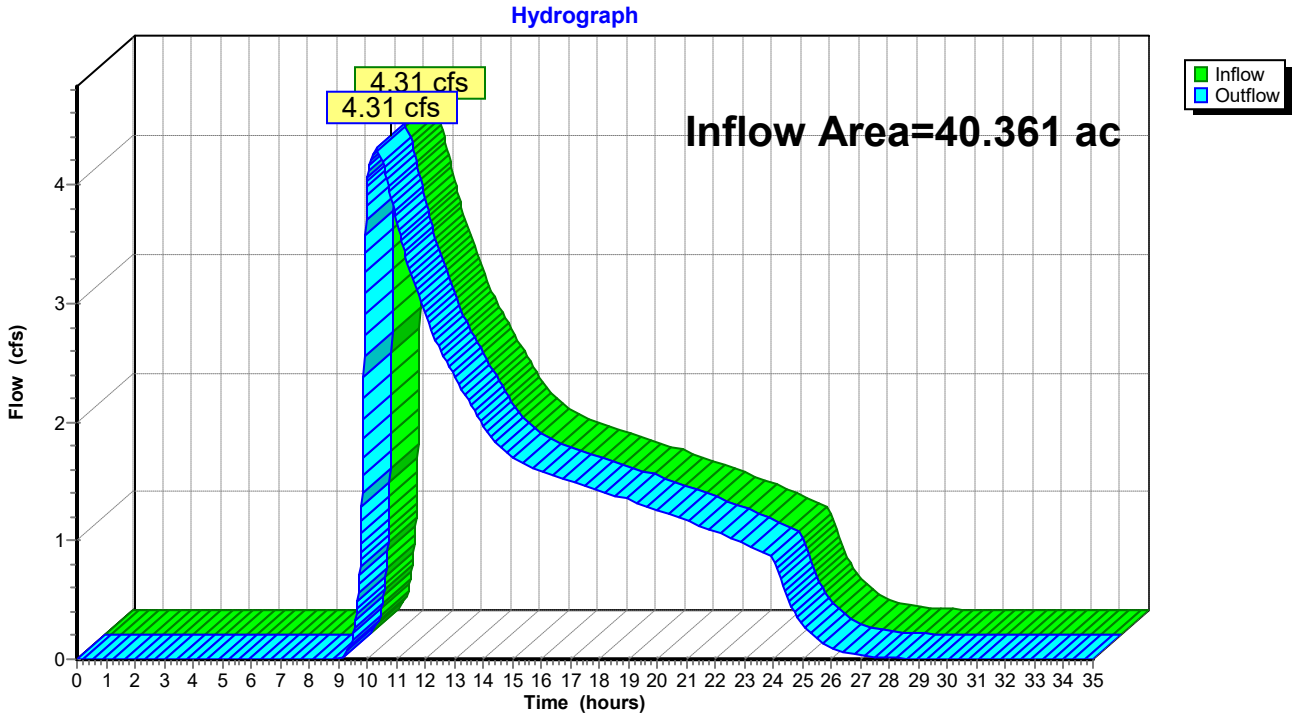
Summary for Reach 6R: Collection Point 6

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 40.361 ac, 0.00% Impervious, Inflow Depth = 0.67" for 2 year event
Inflow = 4.31 cfs @ 10.32 hrs, Volume= 2.241 af
Outflow = 4.31 cfs @ 10.32 hrs, Volume= 2.241 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 6R: Collection Point 6



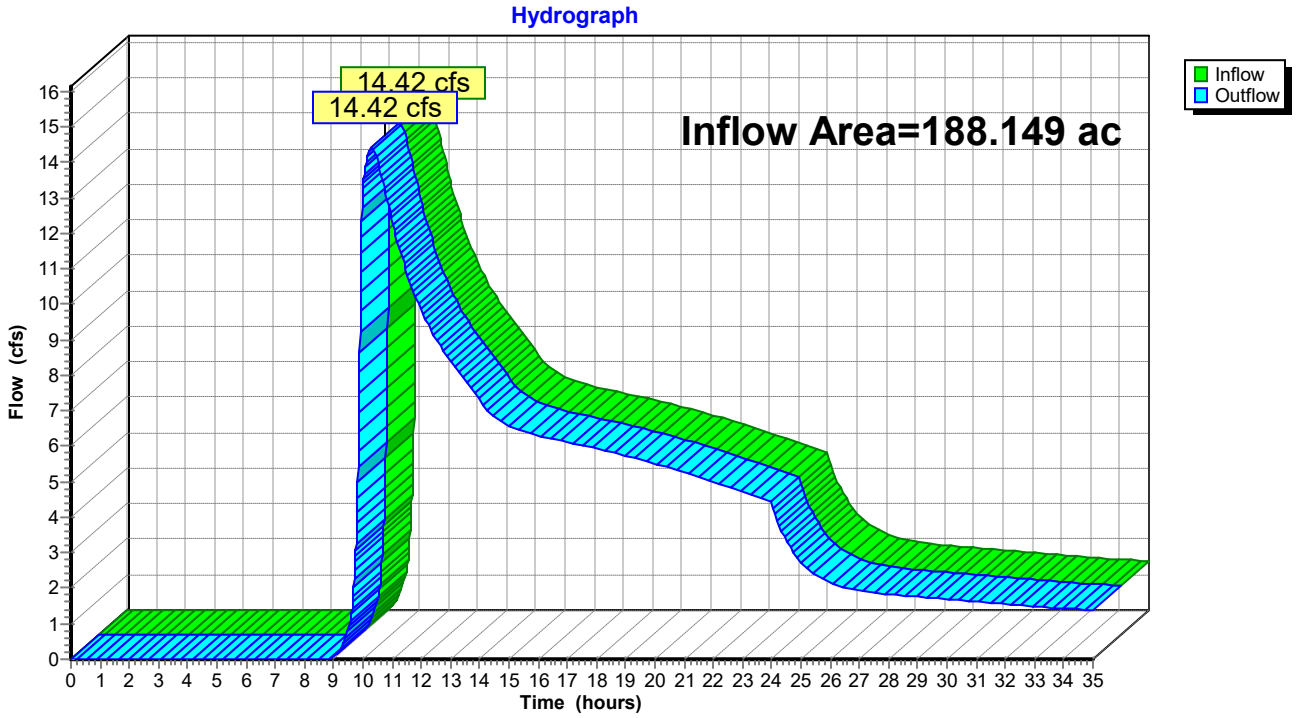
Summary for Reach 7R: Collection Point 7

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 188.149 ac, 0.00% Impervious, Inflow Depth > 0.64" for 2 year event
Inflow = 14.42 cfs @ 10.31 hrs, Volume= 10.088 af
Outflow = 14.42 cfs @ 10.31 hrs, Volume= 10.088 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 7R: Collection Point 7



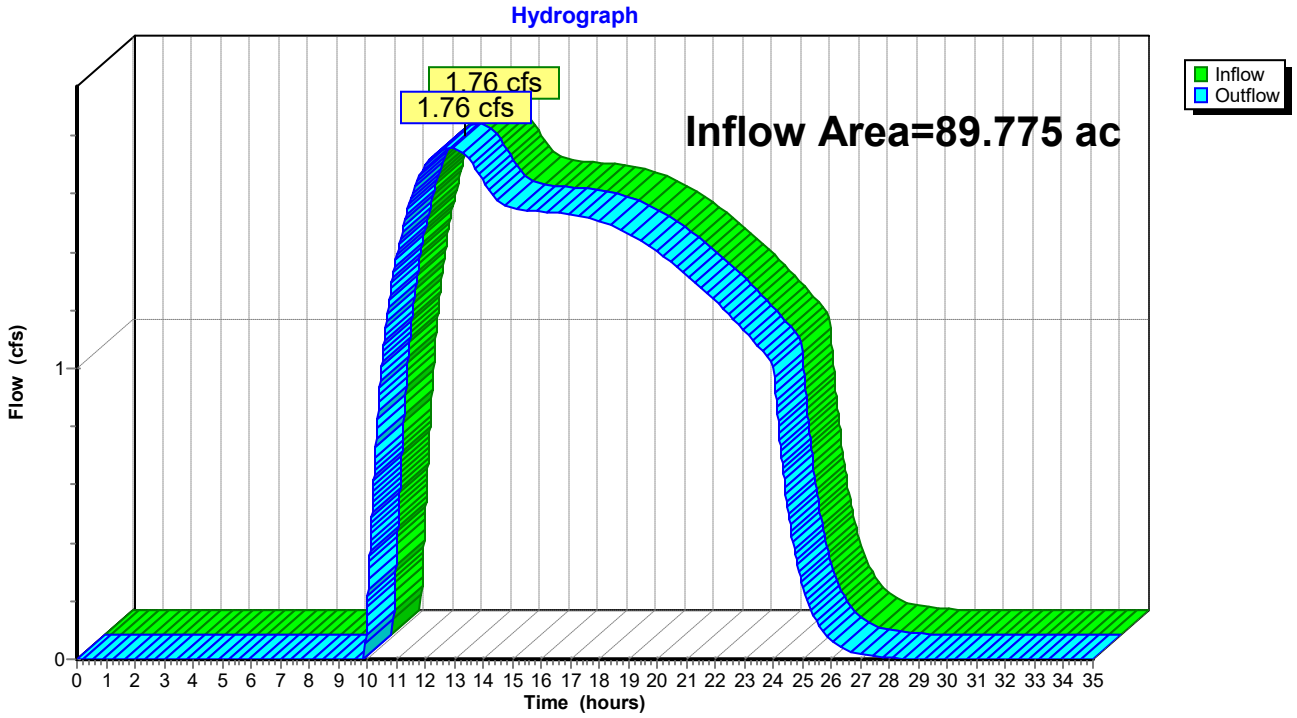
Summary for Reach 8R: Collection Point 8

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 89.775 ac, 0.00% Impervious, Inflow Depth = 0.23" for 2 year event
Inflow = 1.76 cfs @ 12.86 hrs, Volume= 1.713 af
Outflow = 1.76 cfs @ 12.86 hrs, Volume= 1.713 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 8R: Collection Point 8



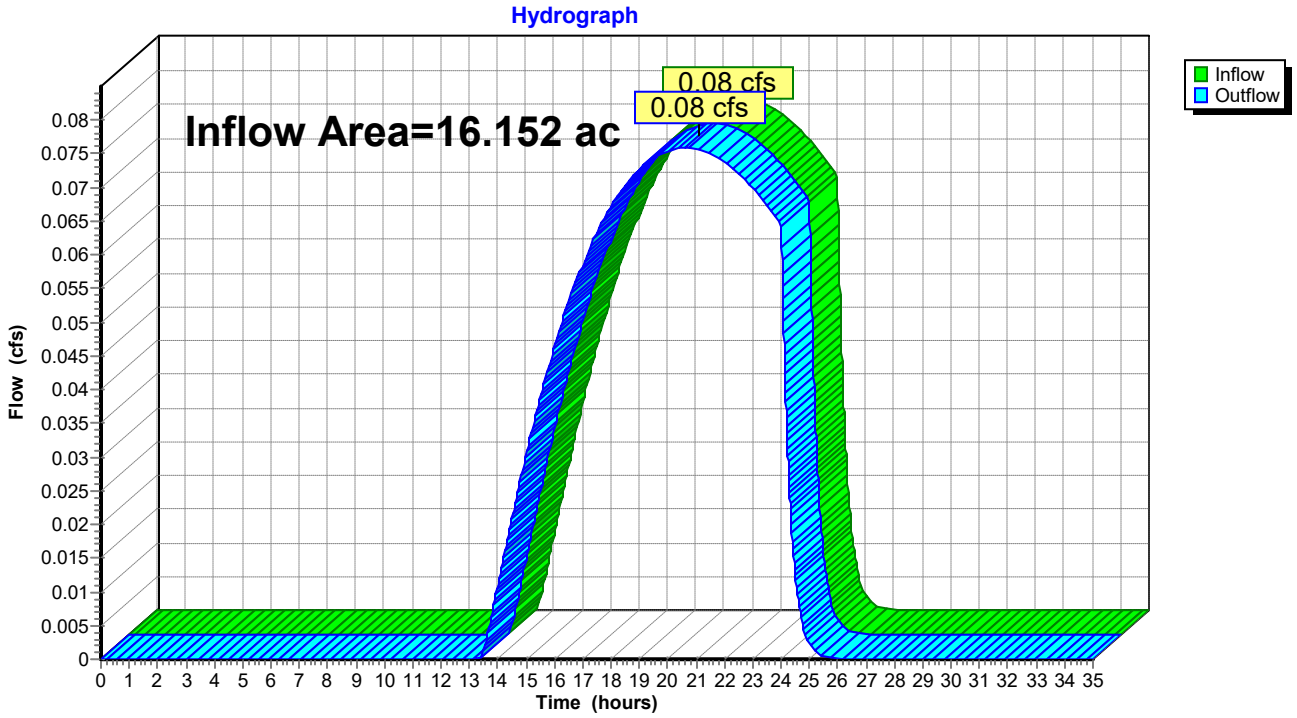
Summary for Reach 9R: Collection Point 9

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 16.152 ac, 0.00% Impervious, Inflow Depth = 0.04" for 2 year event
Inflow = 0.08 cfs @ 20.61 hrs, Volume= 0.052 af
Outflow = 0.08 cfs @ 20.61 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 9R: Collection Point 9



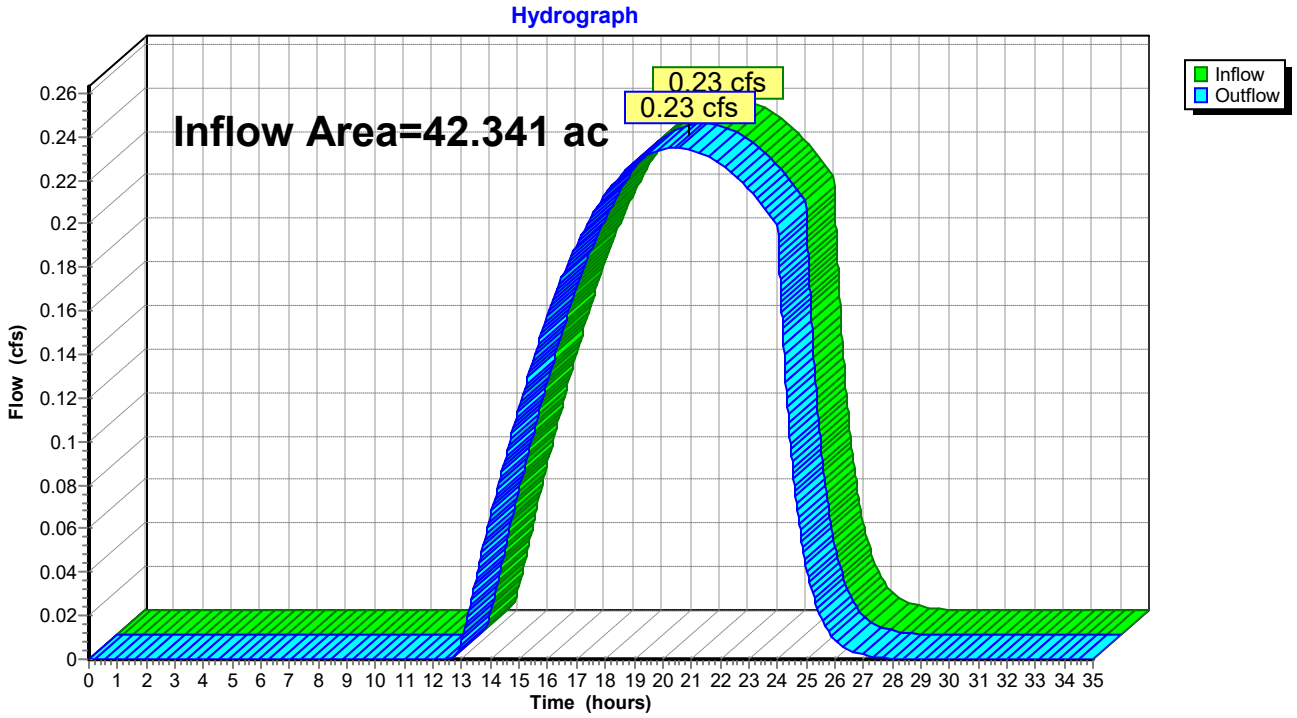
Summary for Reach 10R: Collection Point 10

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 42.341 ac, 0.00% Impervious, Inflow Depth = 0.05" for 2 year event
Inflow = 0.23 cfs @ 20.45 hrs, Volume= 0.176 af
Outflow = 0.23 cfs @ 20.45 hrs, Volume= 0.176 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 10R: Collection Point 10



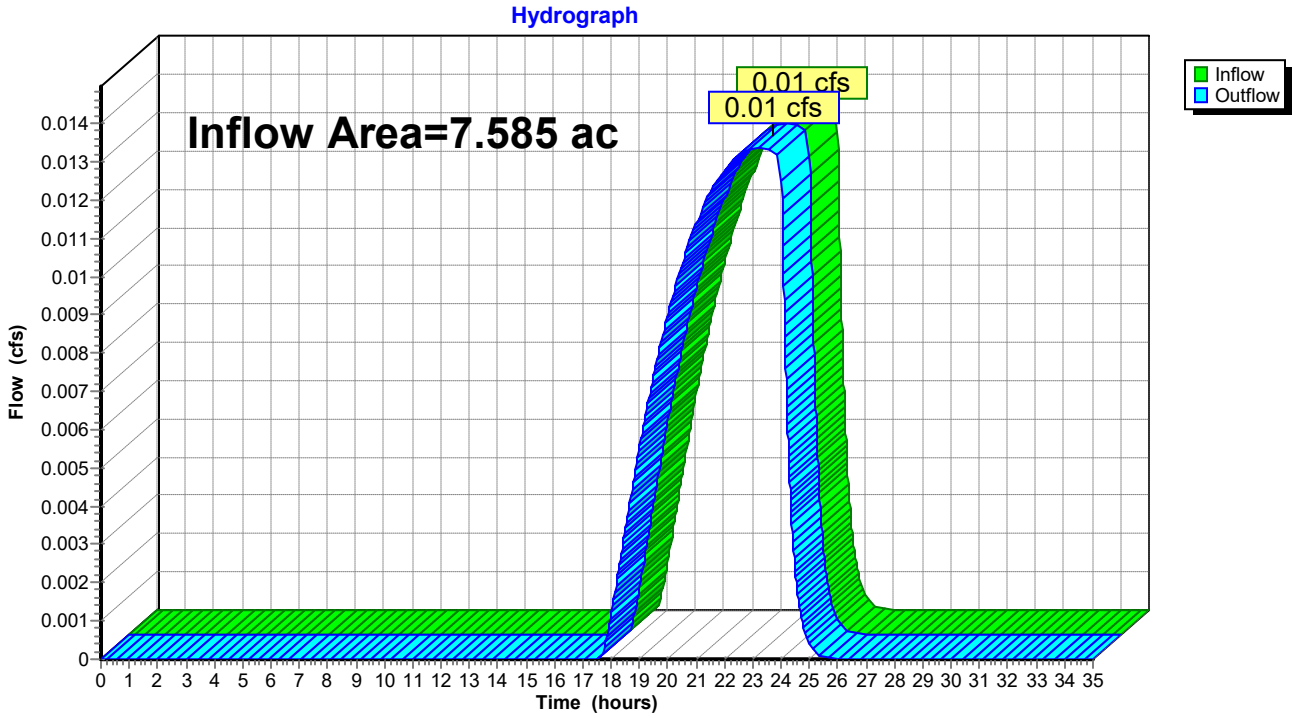
Summary for Reach 11R: Collection Point 11

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.585 ac, 0.00% Impervious, Inflow Depth = 0.01" for 2 year event
Inflow = 0.01 cfs @ 23.22 hrs, Volume= 0.005 af
Outflow = 0.01 cfs @ 23.22 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 11R: Collection Point 11



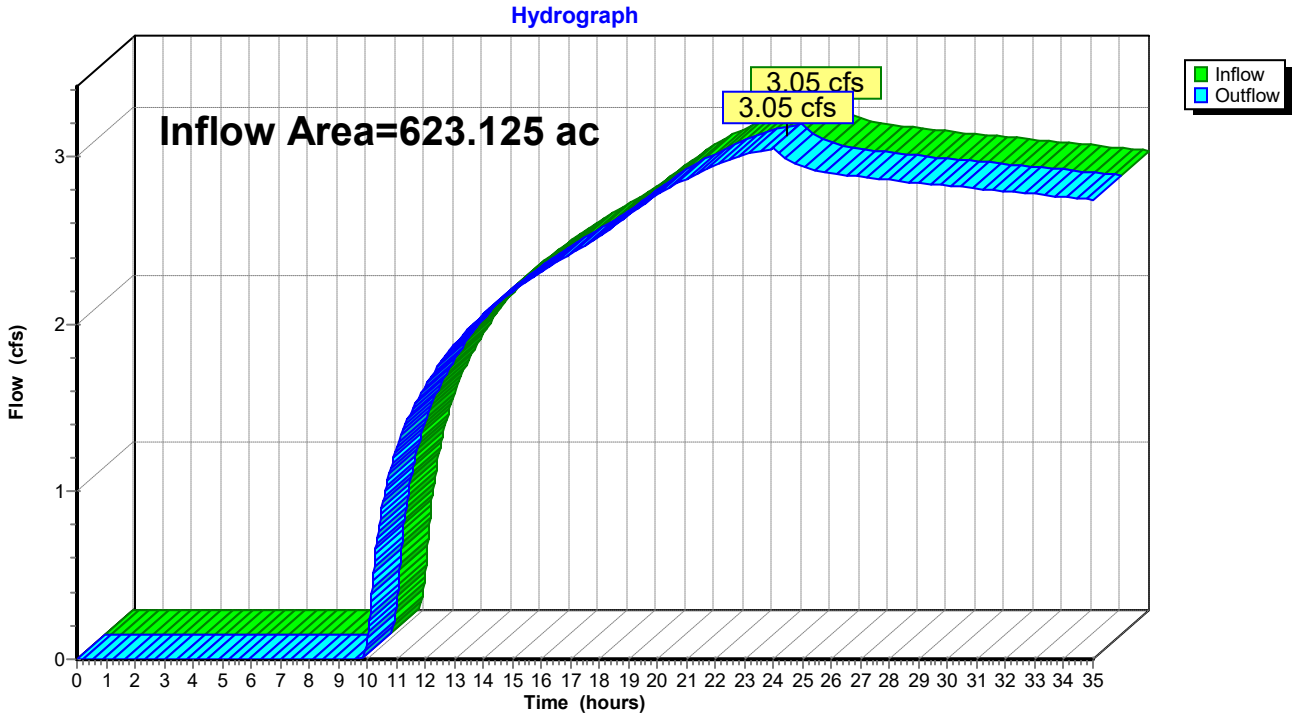
Summary for Reach 12R: Collection Point 12

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 623.125 ac, 0.00% Impervious, Inflow Depth > 0.10" for 2 year event
Inflow = 3.05 cfs @ 24.00 hrs, Volume= 5.250 af
Outflow = 3.05 cfs @ 24.00 hrs, Volume= 5.250 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 12R: Collection Point 12



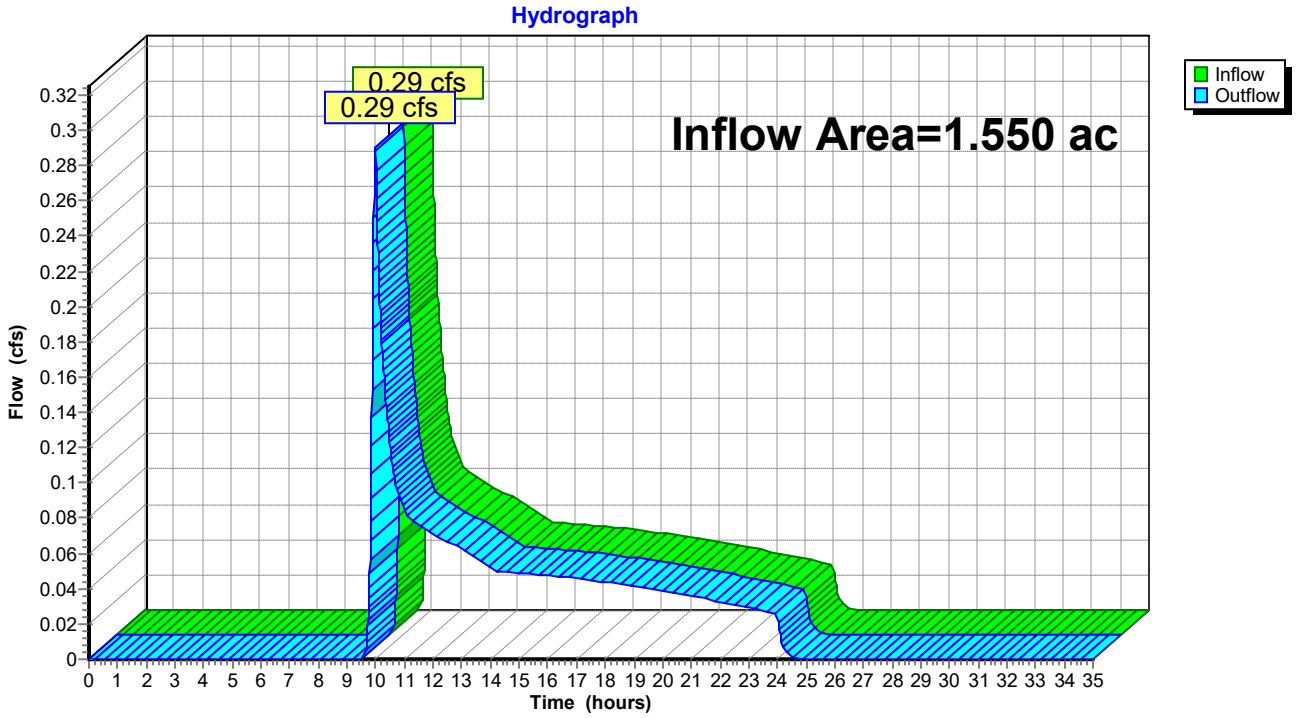
Summary for Reach 13R: Collection Point 13

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.550 ac, 0.00% Impervious, Inflow Depth = 0.50" for 2 year event
Inflow = 0.29 cfs @ 9.98 hrs, Volume= 0.065 af
Outflow = 0.29 cfs @ 9.98 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 13R: Collection Point 13



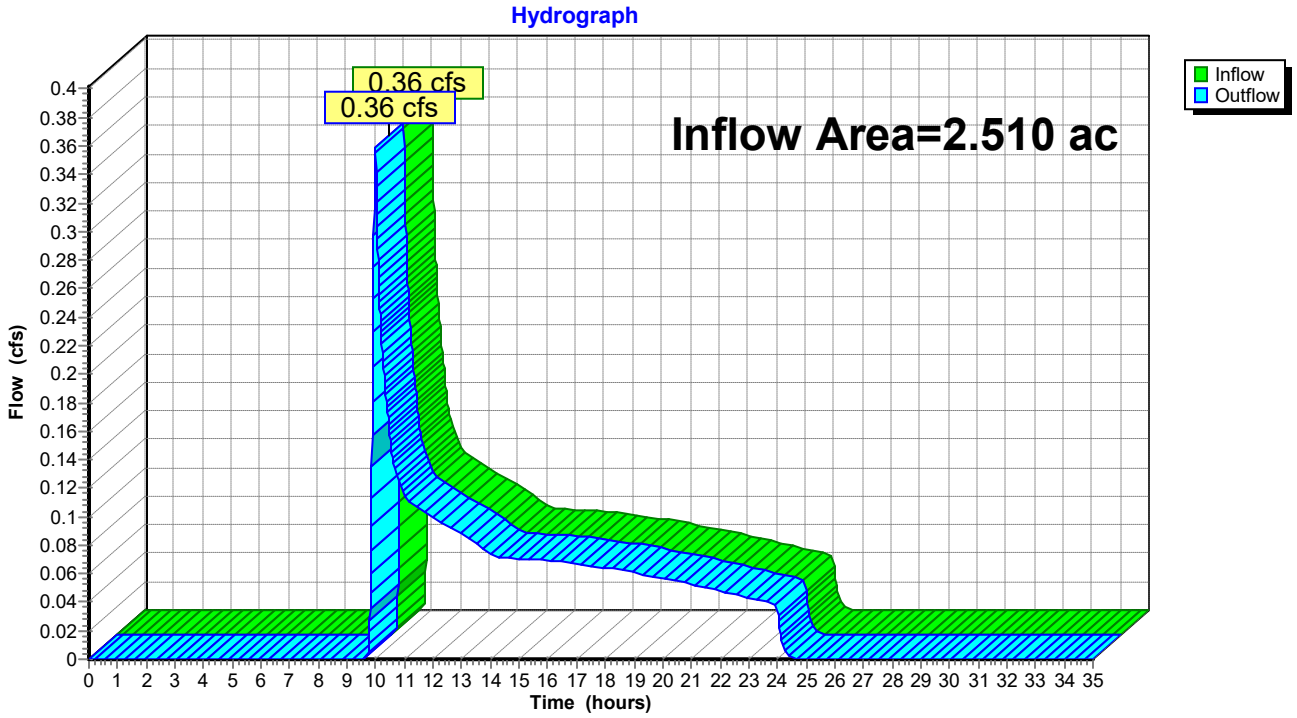
Summary for Reach 14R: Collection Point 14

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.510 ac, 0.00% Impervious, Inflow Depth = 0.43" for 2 year event
Inflow = 0.36 cfs @ 9.98 hrs, Volume= 0.090 af
Outflow = 0.36 cfs @ 9.98 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 14R: Collection Point 14



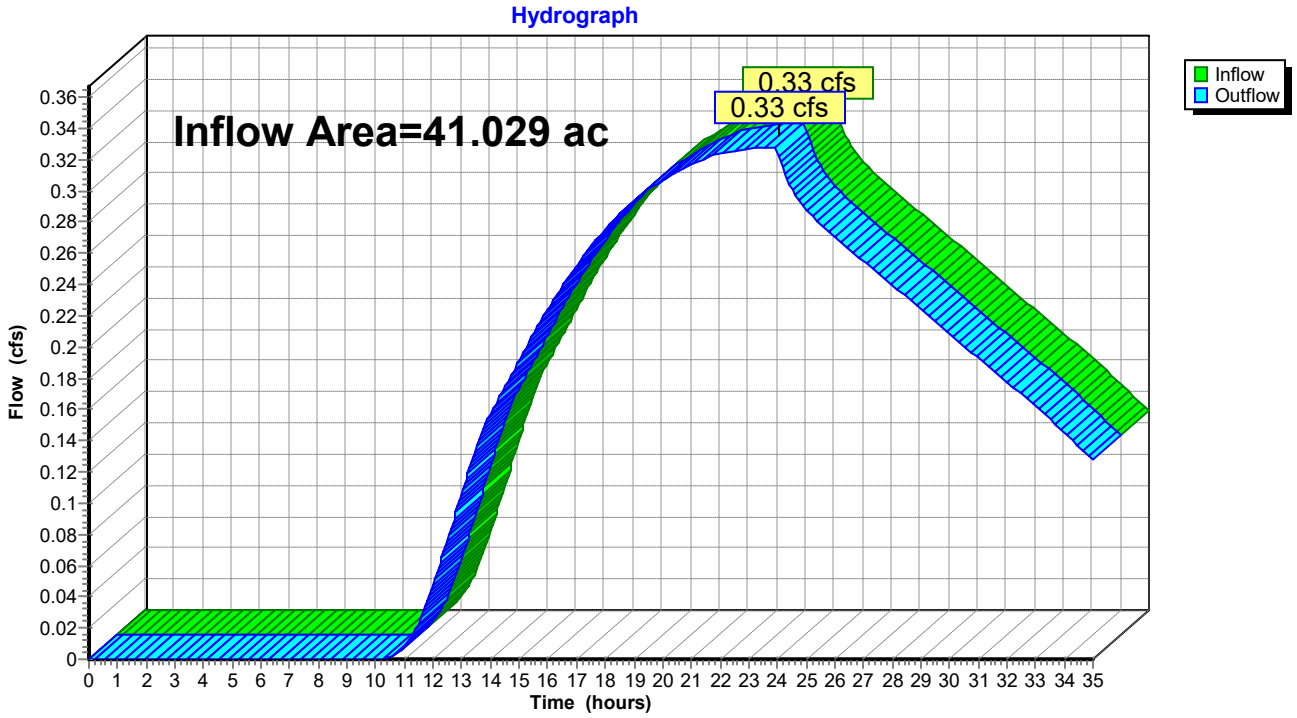
Summary for Reach 15R: Collection Point 15

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 41.029 ac, 0.00% Impervious, Inflow Depth > 0.13" for 2 year event
Inflow = 0.33 cfs @ 23.55 hrs, Volume= 0.445 af
Outflow = 0.33 cfs @ 23.55 hrs, Volume= 0.445 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 15R: Collection Point 15



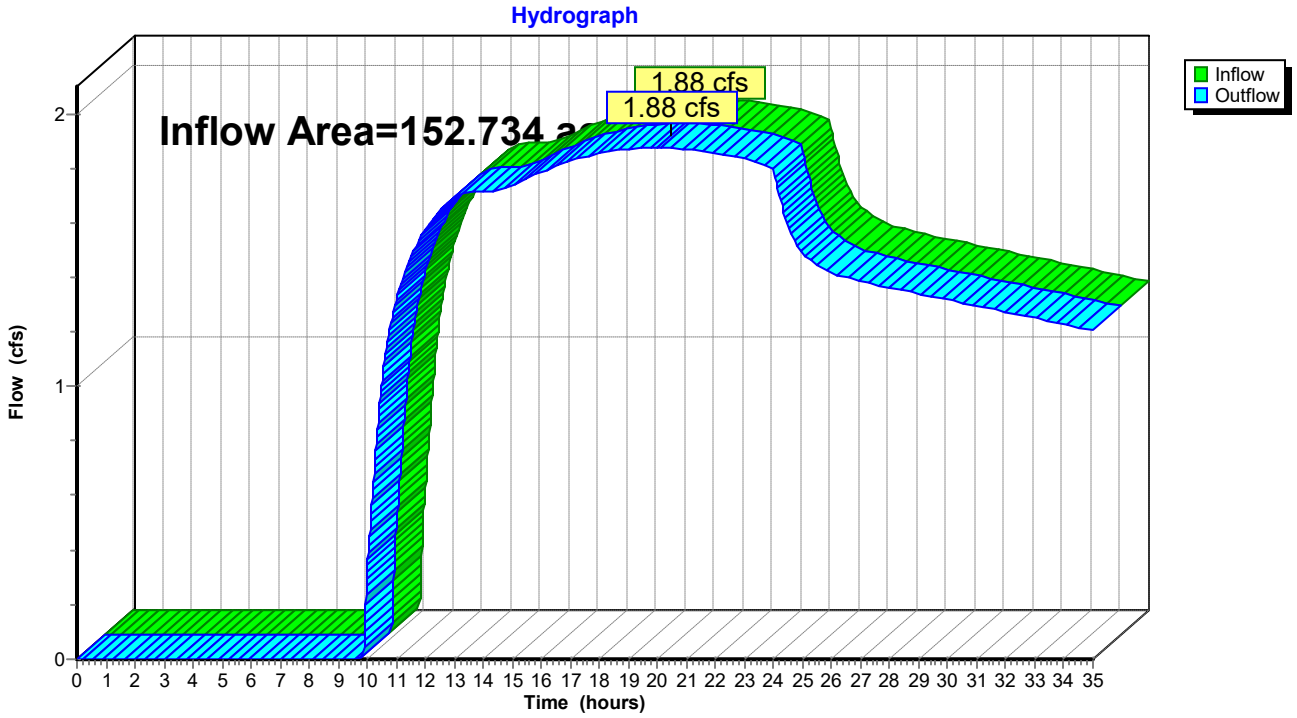
Summary for Reach 16R: Collection Point 16

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 152.734 ac, 0.00% Impervious, Inflow Depth > 0.25" for 2 year event
Inflow = 1.88 cfs @ 19.95 hrs, Volume= 3.214 af
Outflow = 1.88 cfs @ 19.95 hrs, Volume= 3.214 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 16R: Collection Point 16



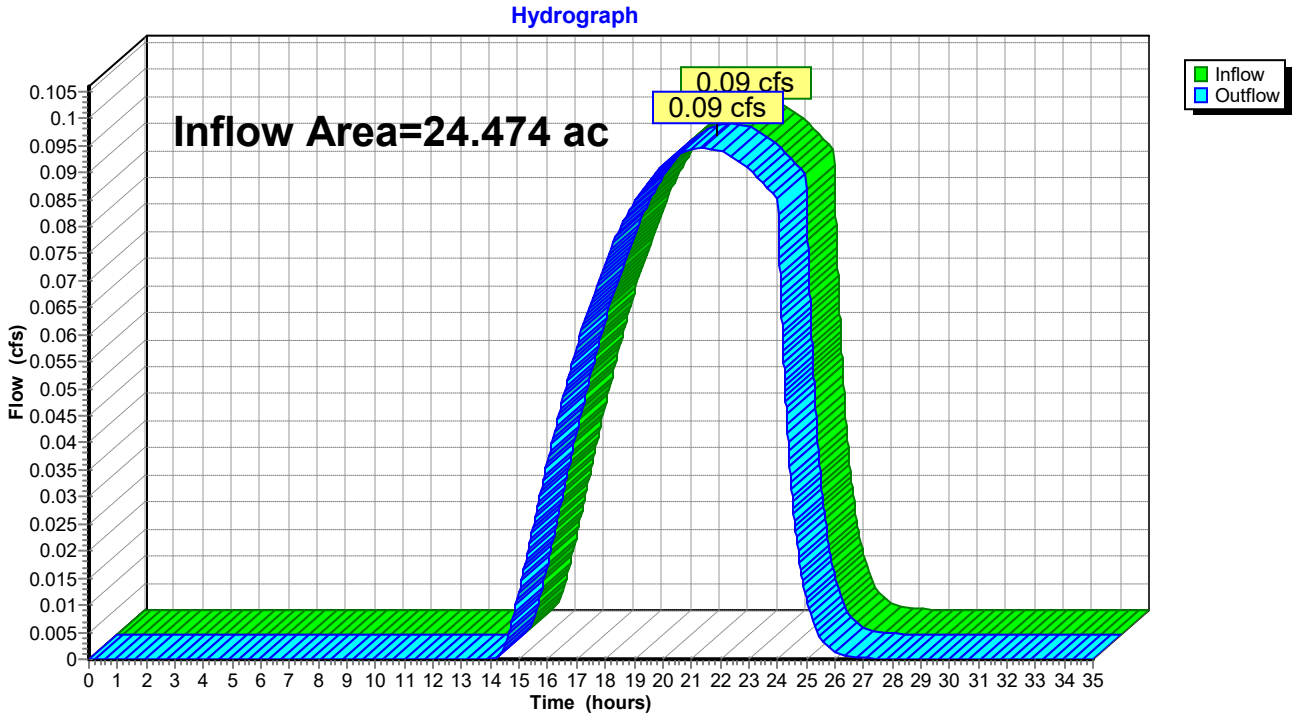
Summary for Reach 17R: Collection Point 17

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.474 ac, 0.00% Impervious, Inflow Depth = 0.03" for 2 year event
Inflow = 0.09 cfs @ 21.38 hrs, Volume= 0.060 af
Outflow = 0.09 cfs @ 21.38 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 17R: Collection Point 17



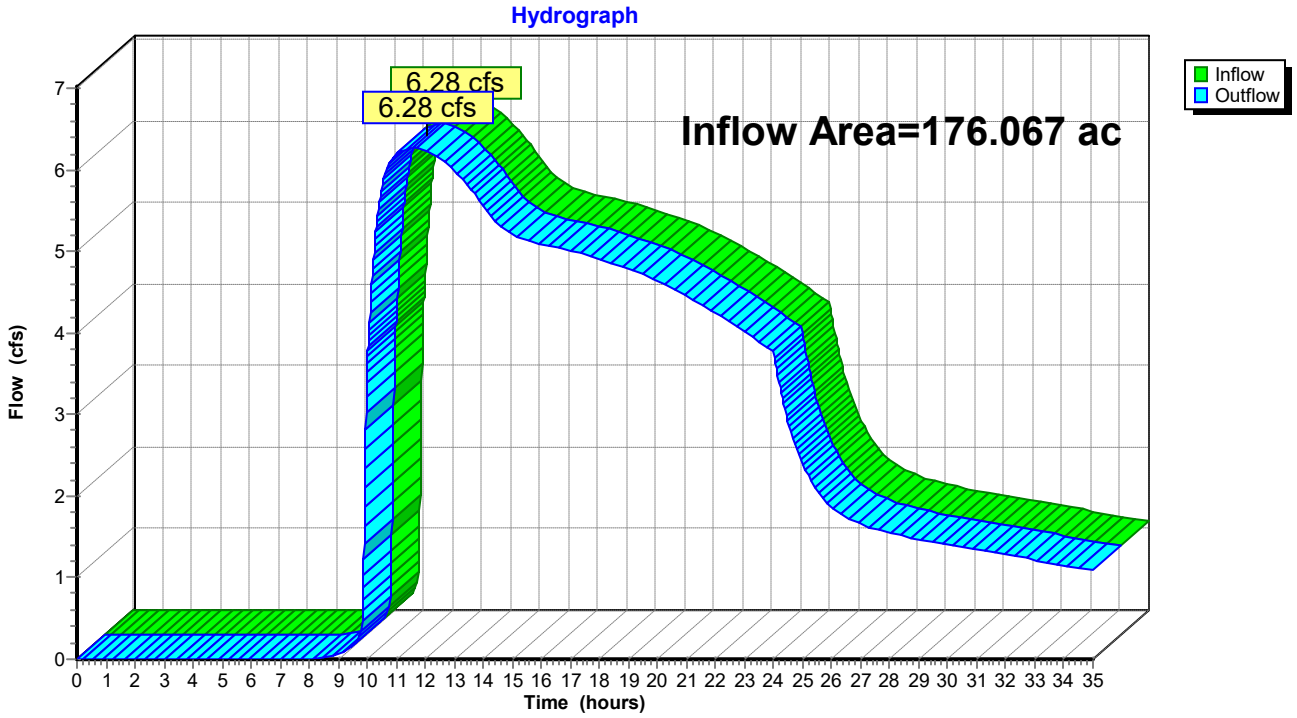
Summary for Reach 18R: Collection Point 18

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 176.067 ac, 0.00% Impervious, Inflow Depth > 0.50" for 2 year event
Inflow = 6.28 cfs @ 11.60 hrs, Volume= 7.342 af
Outflow = 6.28 cfs @ 11.60 hrs, Volume= 7.342 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 18R: Collection Point 18



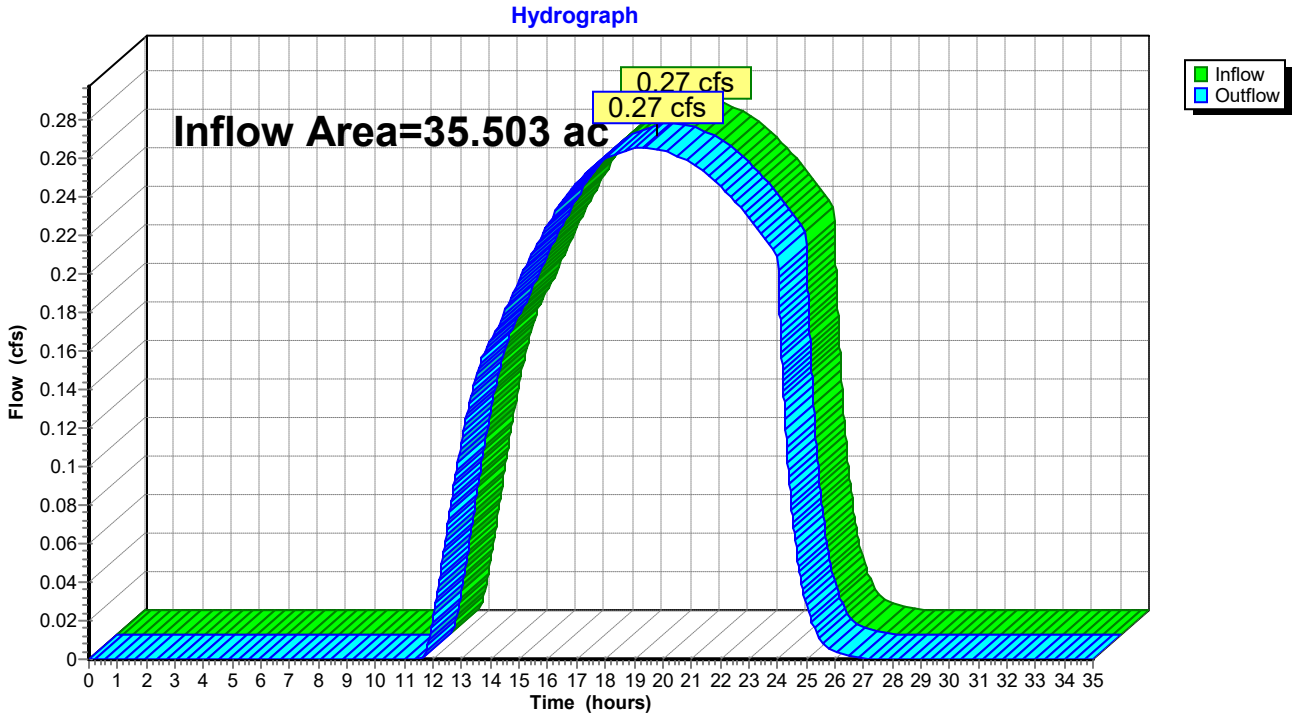
Summary for Reach 19R: Collection Point 19

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.503 ac, 0.00% Impervious, Inflow Depth = 0.08" for 2 year event
Inflow = 0.27 cfs @ 19.33 hrs, Volume= 0.223 af
Outflow = 0.27 cfs @ 19.33 hrs, Volume= 0.223 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 19R: Collection Point 19



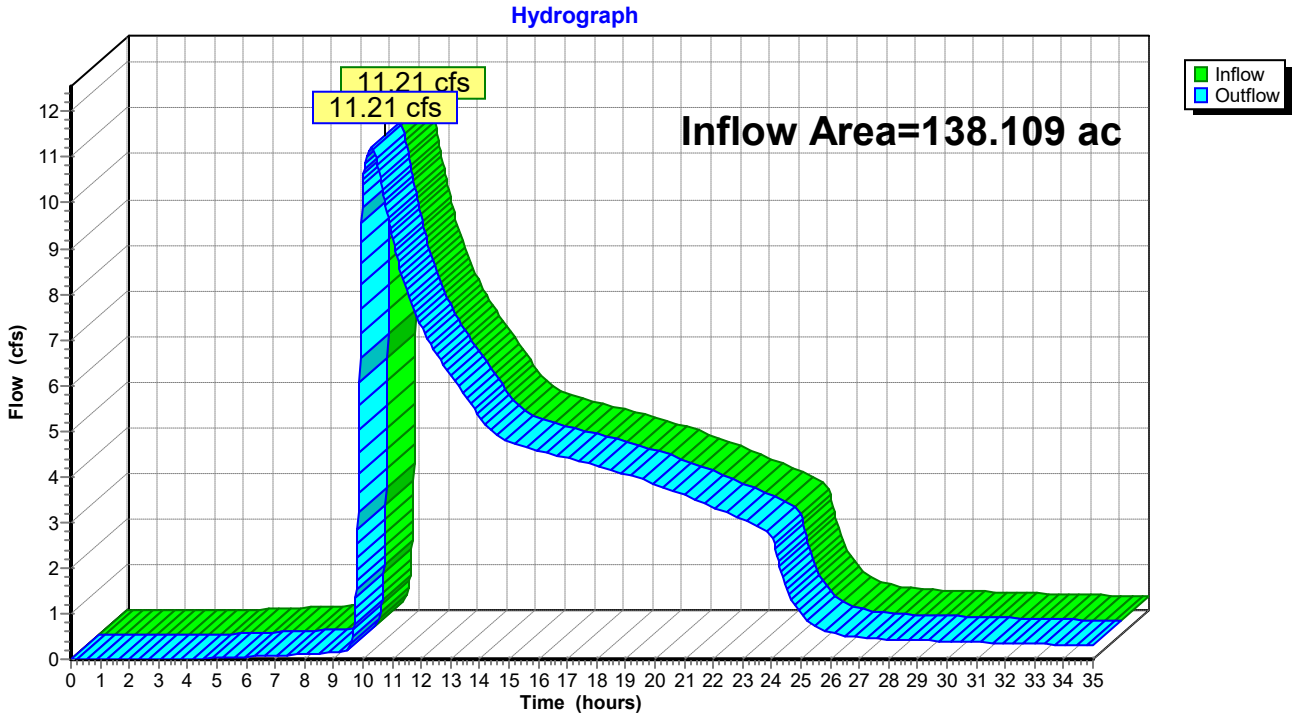
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 138.109 ac, 2.50% Impervious, Inflow Depth > 0.57" for 2 year event
Inflow = 11.21 cfs @ 10.29 hrs, Volume= 6.527 af
Outflow = 11.21 cfs @ 10.29 hrs, Volume= 6.527 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



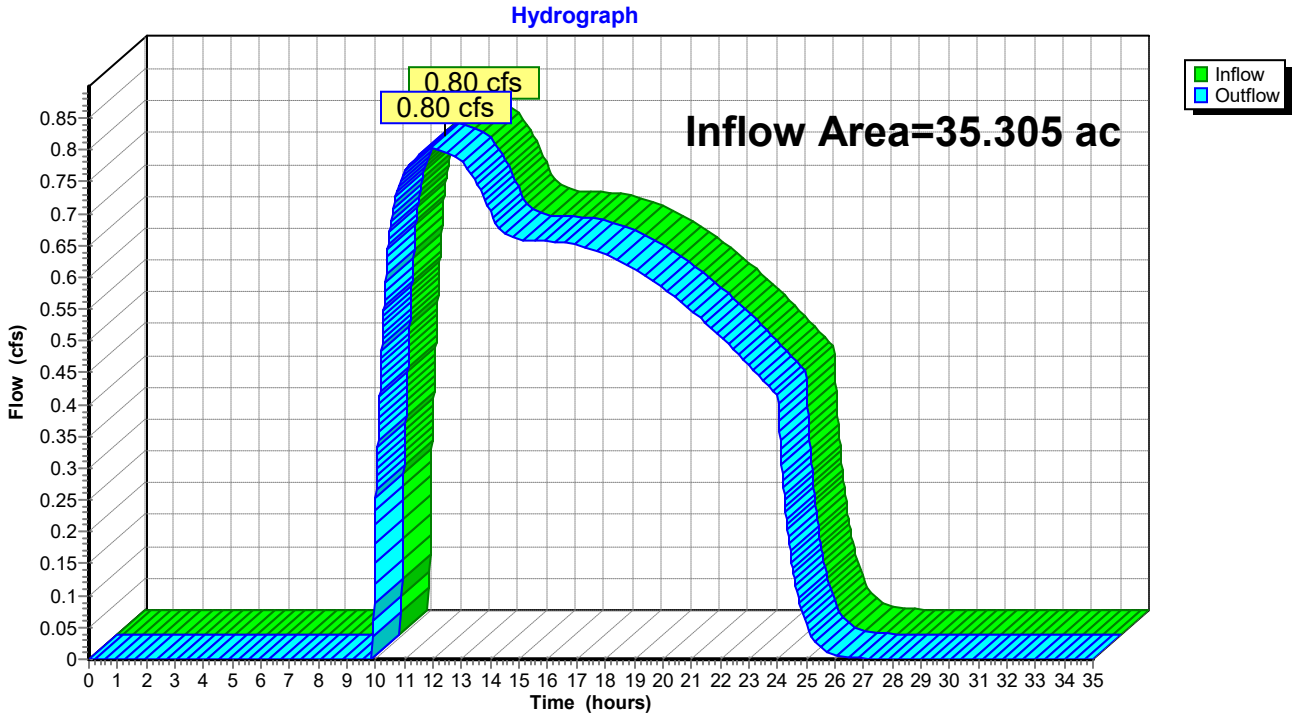
Summary for Reach 21R: Collection Point 21

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.305 ac, 0.00% Impervious, Inflow Depth = 0.25" for 2 year event
Inflow = 0.80 cfs @ 11.90 hrs, Volume= 0.747 af
Outflow = 0.80 cfs @ 11.90 hrs, Volume= 0.747 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 21R: Collection Point 21



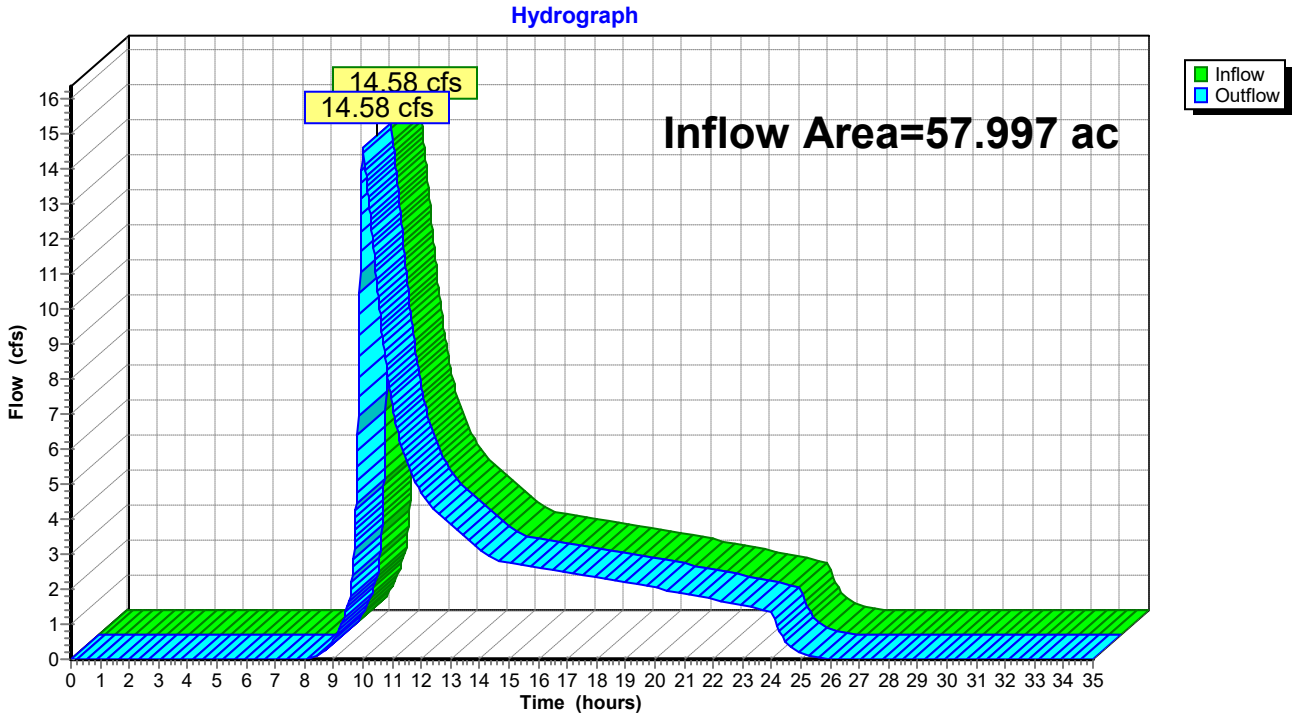
Summary for Reach 22R: Collection Point 22

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 57.997 ac, 0.00% Impervious, Inflow Depth = 0.86" for 2 year event
Inflow = 14.58 cfs @ 10.00 hrs, Volume= 4.146 af
Outflow = 14.58 cfs @ 10.00 hrs, Volume= 4.146 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 22R: Collection Point 22



Summary for Pond 12S: Flow Splitter Box

[57] Hint: Peaked at 111.84' (Flood elevation advised)

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 0.53" for 2 year event
Inflow = 52.10 cfs @ 10.02 hrs, Volume= 23.335 af
Outflow = 52.10 cfs @ 10.02 hrs, Volume= 23.335 af, Atten= 0%, Lag= 0.0 min
Primary = 26.05 cfs @ 10.02 hrs, Volume= 11.667 af
Routed to Pond D12.1 : Detention Pond 12.1
Secondary = 26.05 cfs @ 10.02 hrs, Volume= 11.667 af
Routed to Pond D12.2 : Detention Pond 12.2

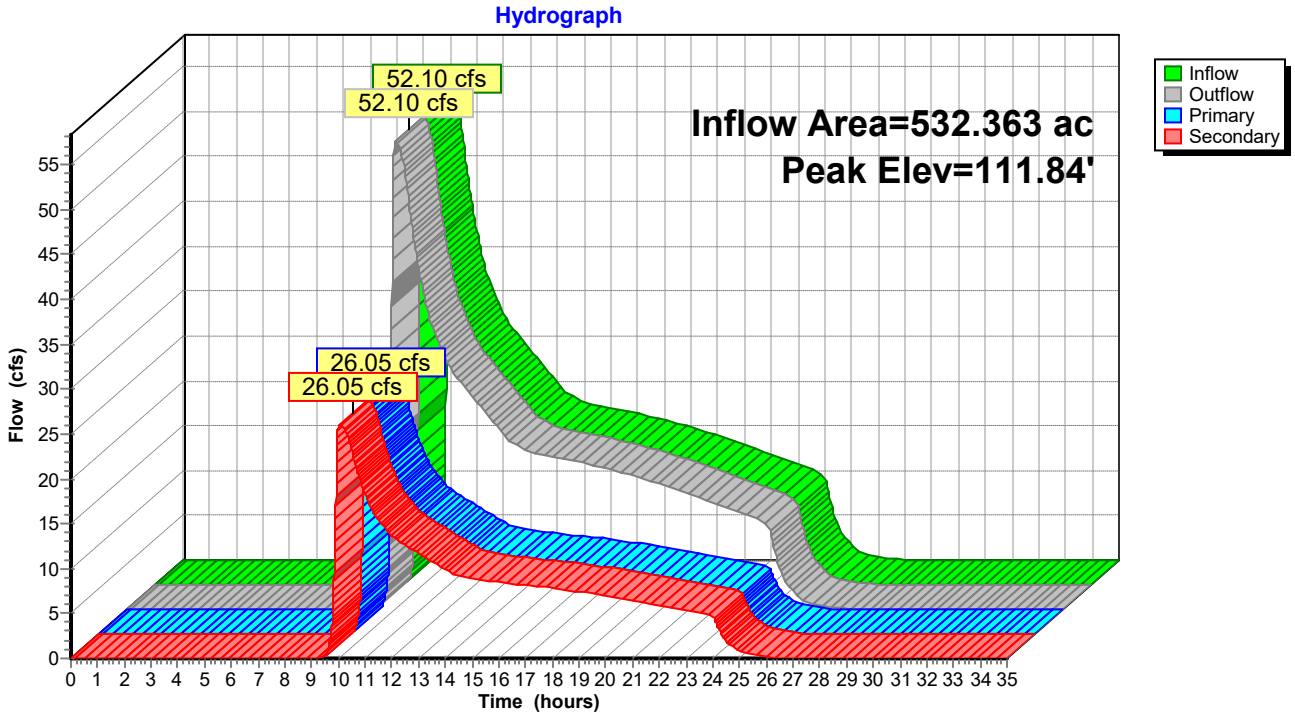
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 111.84' @ 10.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf
#2	Secondary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

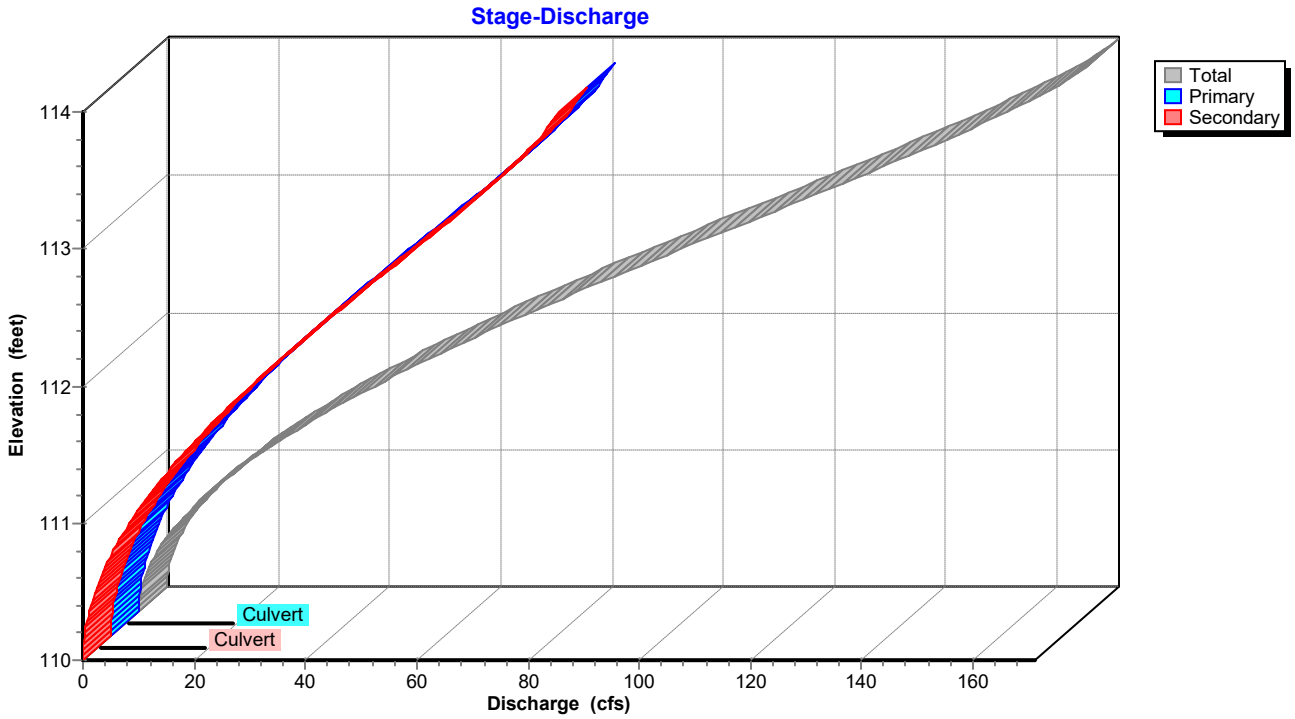
Primary OutFlow Max=26.05 cfs @ 10.02 hrs HW=111.84' TW=100.12' (Dynamic Tailwater)
1=Culvert (Inlet Controls 26.05 cfs @ 4.62 fps)

Secondary OutFlow Max=26.05 cfs @ 10.02 hrs HW=111.84' TW=100.12' (Dynamic Tailwater)
2=Culvert (Inlet Controls 26.05 cfs @ 4.62 fps)

Pond 12S: Flow Splitter Box



Pond 12S: Flow Splitter Box



Stage-Discharge for Pond 12S: Flow Splitter Box

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
110.00	0.00	0.00	0.00
110.05	0.05	0.02	0.02
110.10	0.18	0.09	0.09
110.15	0.40	0.20	0.20
110.20	0.72	0.36	0.36
110.25	1.11	0.56	0.56
110.30	1.60	0.80	0.80
110.35	2.17	1.08	1.08
110.40	2.82	1.41	1.41
110.45	3.55	1.78	1.78
110.50	4.37	2.18	2.18
110.55	5.26	2.63	2.63
110.60	6.23	3.12	3.12
110.65	7.29	3.64	3.64
110.70	8.41	4.21	4.21
110.75	9.62	4.81	4.81
110.80	10.90	5.45	5.45
110.85	12.25	6.12	6.12
110.90	13.67	6.84	6.84
110.95	15.17	7.58	7.58
111.00	16.73	8.36	8.36
111.05	18.36	9.18	9.18
111.10	20.06	10.03	10.03
111.15	21.82	10.91	10.91
111.20	23.65	11.83	11.83
111.25	25.54	12.77	12.77
111.30	27.50	13.75	13.75
111.35	29.51	14.75	14.75
111.40	31.58	15.79	15.79
111.45	33.71	16.86	16.86
111.50	35.90	17.95	17.95
111.55	38.14	19.07	19.07
111.60	40.43	20.22	20.22
111.65	42.78	21.39	21.39
111.70	45.17	22.59	22.59
111.75	47.61	23.81	23.81
111.80	50.11	25.05	25.05
111.85	52.64	26.32	26.32
111.90	55.22	27.61	27.61
111.95	57.84	28.92	28.92
112.00	60.51	30.25	30.25
112.05	63.21	31.60	31.60
112.10	65.95	32.97	32.97
112.15	68.72	34.36	34.36
112.20	71.53	35.76	35.76
112.25	74.36	37.18	37.18
112.30	77.23	38.62	38.62
112.35	80.13	40.06	40.06
112.40	83.05	41.52	41.52
112.45	85.99	43.00	43.00
112.50	88.96	44.48	44.48
112.55	91.94	45.97	45.97
112.60	94.94	47.47	47.47
112.65	97.95	48.98	48.98
112.70	100.98	50.49	50.49
112.75	104.02	52.01	52.01
112.80	107.06	53.53	53.53
112.85	110.10	55.05	55.05
112.90	113.15	56.58	56.58
112.95	116.20	58.10	58.10
113.00	119.24	59.62	59.62
113.05	122.27	61.13	61.13
113.10	125.29	62.64	62.64
113.15	128.29	64.15	64.15
113.20	131.28	65.64	65.64
113.25	134.24	67.12	67.12
113.30	137.17	68.59	68.59
113.35	140.08	70.04	70.04
113.40	142.94	71.47	71.47
113.45	145.76	72.88	72.88
113.50	148.54	74.27	74.27
113.55	151.25	75.63	75.63
113.60	153.91	76.95	76.95
113.65	156.49	78.24	78.24
113.70	158.99	79.49	79.49
113.75	161.39	80.70	80.70
113.80	163.69	81.84	81.84
113.85	165.85	82.93	82.93
113.90	167.86	83.93	83.93
113.95	169.66	84.83	84.83
114.00	**171.14**	**85.57**	**85.57**

Stage-Area-Storage for Pond 12S: Flow Splitter Box

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
110.00	**0.000**	112.60	0.000
110.05	0.000	112.65	0.000
110.10	0.000	112.70	0.000
110.15	0.000	112.75	0.000
110.20	0.000	112.80	0.000
110.25	0.000	112.85	0.000
110.30	0.000	112.90	0.000
110.35	0.000	112.95	0.000
110.40	0.000	113.00	0.000
110.45	0.000	113.05	0.000
110.50	0.000	113.10	0.000
110.55	0.000	113.15	0.000
110.60	0.000	113.20	0.000
110.65	0.000	113.25	0.000
110.70	0.000	113.30	0.000
110.75	0.000	113.35	0.000
110.80	0.000	113.40	0.000
110.85	0.000	113.45	0.000
110.90	0.000	113.50	0.000
110.95	0.000	113.55	0.000
111.00	0.000	113.60	0.000
111.05	0.000	113.65	0.000
111.10	0.000	113.70	0.000
111.15	0.000	113.75	0.000
111.20	0.000	113.80	0.000
111.25	0.000	113.85	0.000
111.30	0.000	113.90	0.000
111.35	0.000	113.95	0.000
111.40	0.000	114.00	0.000
111.45	0.000		
111.50	0.000		
111.55	0.000		
111.60	0.000		
111.65	0.000		
111.70	0.000		
111.75	0.000		
111.80	0.000		
111.85	0.000		
111.90	0.000		
111.95	0.000		
112.00	0.000		
112.05	0.000		
112.10	0.000		
112.15	0.000		
112.20	0.000		
112.25	0.000		
112.30	0.000		
112.35	0.000		
112.40	0.000		
112.45	0.000		
112.50	0.000		
112.55	0.000		

Summary for Pond D1: Detention Basin 1

Inflow Area = 22.726 ac, 0.00% Impervious, Inflow Depth = 0.91" for 2 year event
Inflow = 7.57 cfs @ 9.99 hrs, Volume= 1.725 af
Outflow = 0.18 cfs @ 24.40 hrs, Volume= 0.332 af, Atten= 98%, Lag= 864.8 min
Primary = 0.18 cfs @ 24.40 hrs, Volume= 0.332 af
Routed to Reach 1R : Collection Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.90' @ 24.40 hrs Surf.Area= 0.624 ac Storage= 1.539 af

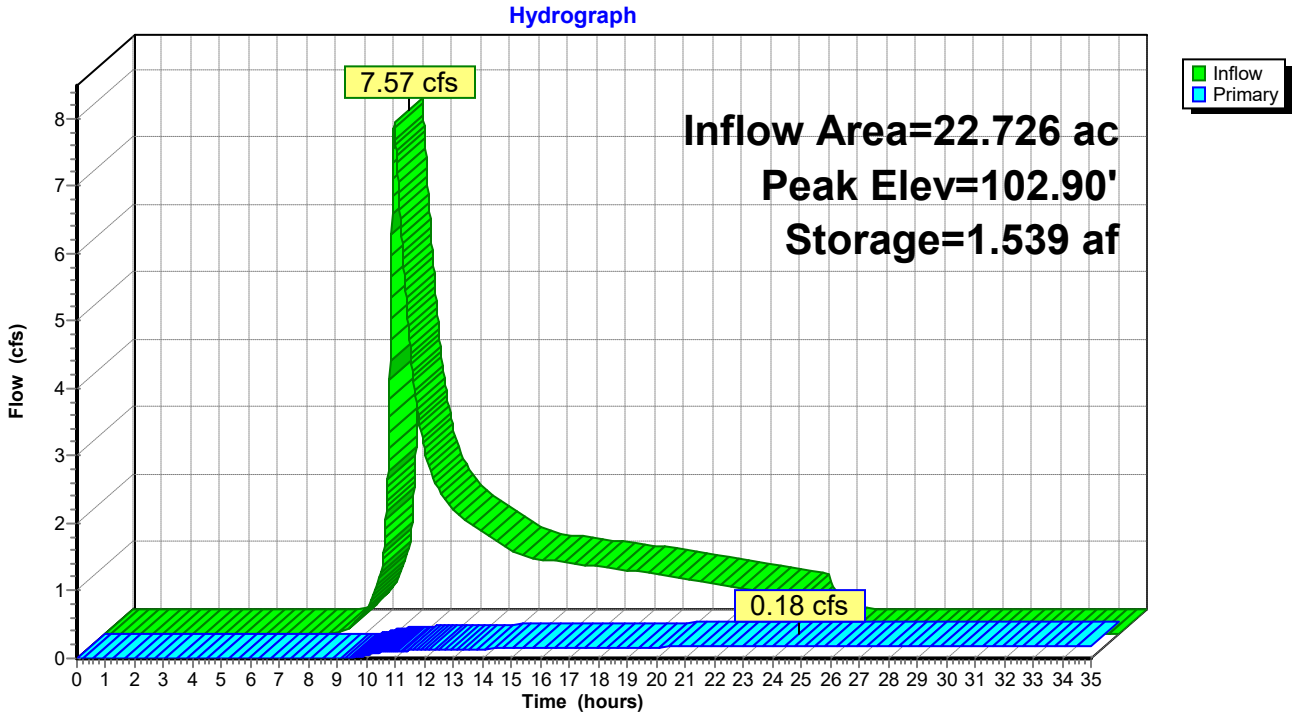
Plug-Flow detention time= 795.7 min calculated for 0.332 af (19% of inflow)
Center-of-Mass det. time= 533.5 min (1,390.9 - 857.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	3.808 af	**80.00'W x 240.00'L x 6.00'H Prismatoid Z=4.0**

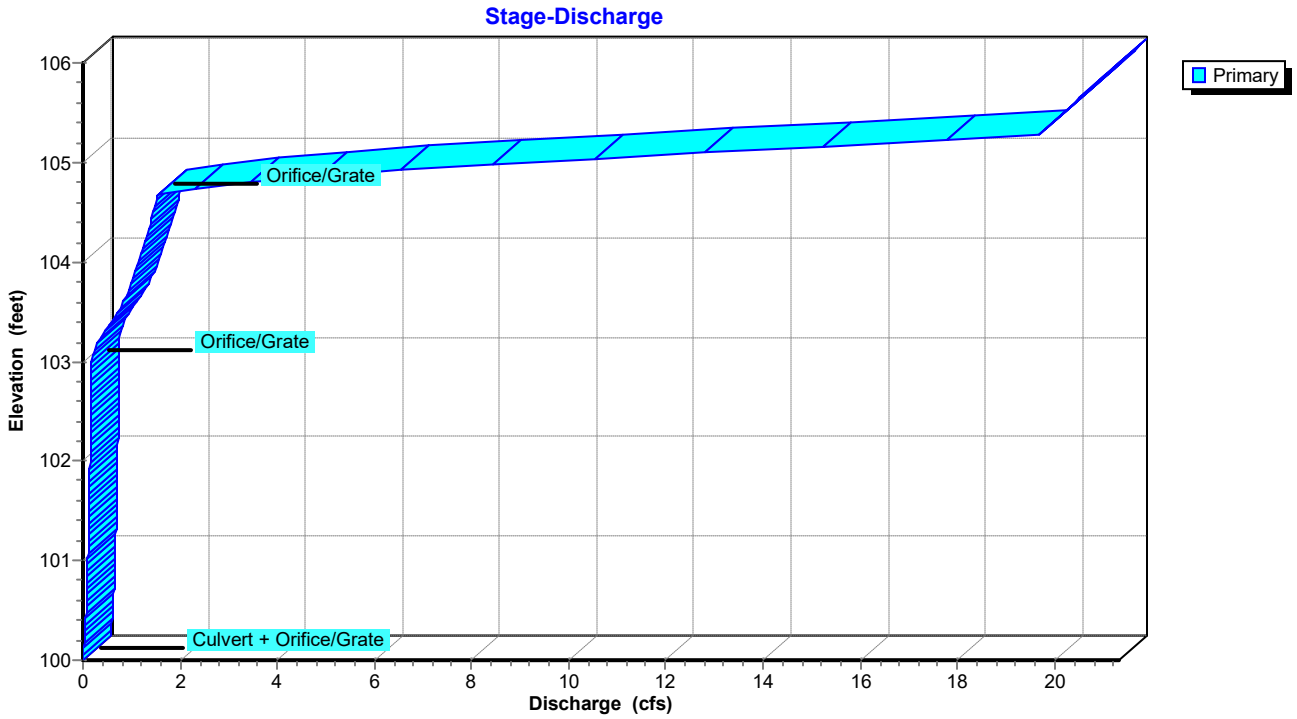
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.67'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	103.00'	**6.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 24.40 hrs HW=102.90' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.18 cfs of 12.48 cfs potential flow)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.18 cfs @ 8.09 fps)
- **4=Orifice/Grate** (Controls 0.00 cfs)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	16.92
100.05	0.00	102.65	0.17	105.25	19.13
100.10	0.01	102.70	0.17	105.30	19.73
100.15	0.03	102.75	0.17	105.35	19.85
100.20	0.04	102.80	0.17	105.40	19.97
100.25	0.04	102.85	0.17	105.45	20.08
100.30	0.05	102.90	0.18	105.50	20.20
100.35	0.05	102.95	0.18	105.55	20.32
100.40	0.06	103.00	0.18	105.60	20.43
100.45	0.06	103.05	0.19	105.65	20.55
100.50	0.07	103.10	0.21	105.70	20.66
100.55	0.07	103.15	0.25	105.75	20.77
100.60	0.08	103.20	0.30	105.80	20.89
100.65	0.08	103.25	0.36	105.85	21.00
100.70	0.08	103.30	0.43	105.90	21.11
100.75	0.09	103.35	0.51	105.95	21.22
100.80	0.09	103.40	0.58	106.00	**21.33**
100.85	0.09	103.45	0.66		
100.90	0.09	103.50	0.73		
100.95	0.10	103.55	0.78		
101.00	0.10	103.60	0.83		
101.05	0.10	103.65	0.88		
101.10	0.11	103.70	0.93		
101.15	0.11	103.75	0.97		
101.20	0.11	103.80	1.01		
101.25	0.11	103.85	1.05		
101.30	0.12	103.90	1.09		
101.35	0.12	103.95	1.12		
101.40	0.12	104.00	1.16		
101.45	0.12	104.05	1.19		
101.50	0.13	104.10	1.22		
101.55	0.13	104.15	1.25		
101.60	0.13	104.20	1.28		
101.65	0.13	104.25	1.31		
101.70	0.13	104.30	1.34		
101.75	0.14	104.35	1.37		
101.80	0.14	104.40	1.40		
101.85	0.14	104.45	1.42		
101.90	0.14	104.50	1.45		
101.95	0.14	104.55	1.48		
102.00	0.15	104.60	1.50		
102.05	0.15	104.65	1.53		
102.10	0.15	104.70	1.76		
102.15	0.15	104.75	2.46		
102.20	0.15	104.80	3.44		
102.25	0.15	104.85	4.62		
102.30	0.16	104.90	5.98		
102.35	0.16	104.95	7.48		
102.40	0.16	105.00	9.13		
102.45	0.16	105.05	10.91		
102.50	0.16	105.10	12.80		
102.55	0.16	105.15	14.81		

Stage-Area-Storage for Pond D1: Detention Basin 1

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	1.353	105.20	3.155
100.05	0.022	102.65	1.384	105.25	3.195
100.10	0.044	102.70	1.414	105.30	3.234
100.15	0.067	102.75	1.445	105.35	3.274
100.20	0.089	102.80	1.475	105.40	3.314
100.25	0.112	102.85	1.506	105.45	3.354
100.30	0.135	102.90	1.537	105.50	3.395
100.35	0.158	102.95	1.569	105.55	3.435
100.40	0.181	103.00	1.600	105.60	3.476
100.45	0.204	103.05	1.632	105.65	3.517
100.50	0.228	103.10	1.663	105.70	3.558
100.55	0.251	103.15	1.695	105.75	3.599
100.60	0.275	103.20	1.727	105.80	3.641
100.65	0.299	103.25	1.760	105.85	3.682
100.70	0.323	103.30	1.792	105.90	3.724
100.75	0.347	103.35	1.825	105.95	3.766
100.80	0.372	103.40	1.858	106.00	**3.808**
100.85	0.396	103.45	1.891		
100.90	0.421	103.50	1.924		
100.95	0.446	103.55	1.957		
101.00	0.471	103.60	1.990		
101.05	0.496	103.65	2.024		
101.10	0.521	103.70	2.058		
101.15	0.546	103.75	2.092		
101.20	0.572	103.80	2.126		
101.25	0.598	103.85	2.160		
101.30	0.624	103.90	2.195		
101.35	0.650	103.95	2.230		
101.40	0.676	104.00	2.265		
101.45	0.702	104.05	2.300		
101.50	0.729	104.10	2.335		
101.55	0.756	104.15	2.370		
101.60	0.782	104.20	2.406		
101.65	0.809	104.25	2.442		
101.70	0.837	104.30	2.478		
101.75	0.864	104.35	2.514		
101.80	0.891	104.40	2.550		
101.85	0.919	104.45	2.586		
101.90	0.947	104.50	2.623		
101.95	0.975	104.55	2.660		
102.00	1.003	104.60	2.697		
102.05	1.031	104.65	2.734		
102.10	1.060	104.70	2.772		
102.15	1.088	104.75	2.809		
102.20	1.117	104.80	2.847		
102.25	1.146	104.85	2.885		
102.30	1.175	104.90	2.923		
102.35	1.204	104.95	2.961		
102.40	1.234	105.00	3.000		
102.45	1.263	105.05	3.038		
102.50	1.293	105.10	3.077		
102.55	1.323	105.15	3.116		

Summary for Pond D12.1: Detention Pond 12.1

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 0.26" for 2 year event
Inflow = 26.05 cfs @ 10.02 hrs, Volume= 11.667 af
Outflow = 1.45 cfs @ 24.67 hrs, Volume= 2.594 af, Atten= 94%, Lag= 879.3 min
Primary = 1.45 cfs @ 24.67 hrs, Volume= 2.594 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.15' @ 24.67 hrs Surf.Area= 3.510 ac Storage= 10.208 af

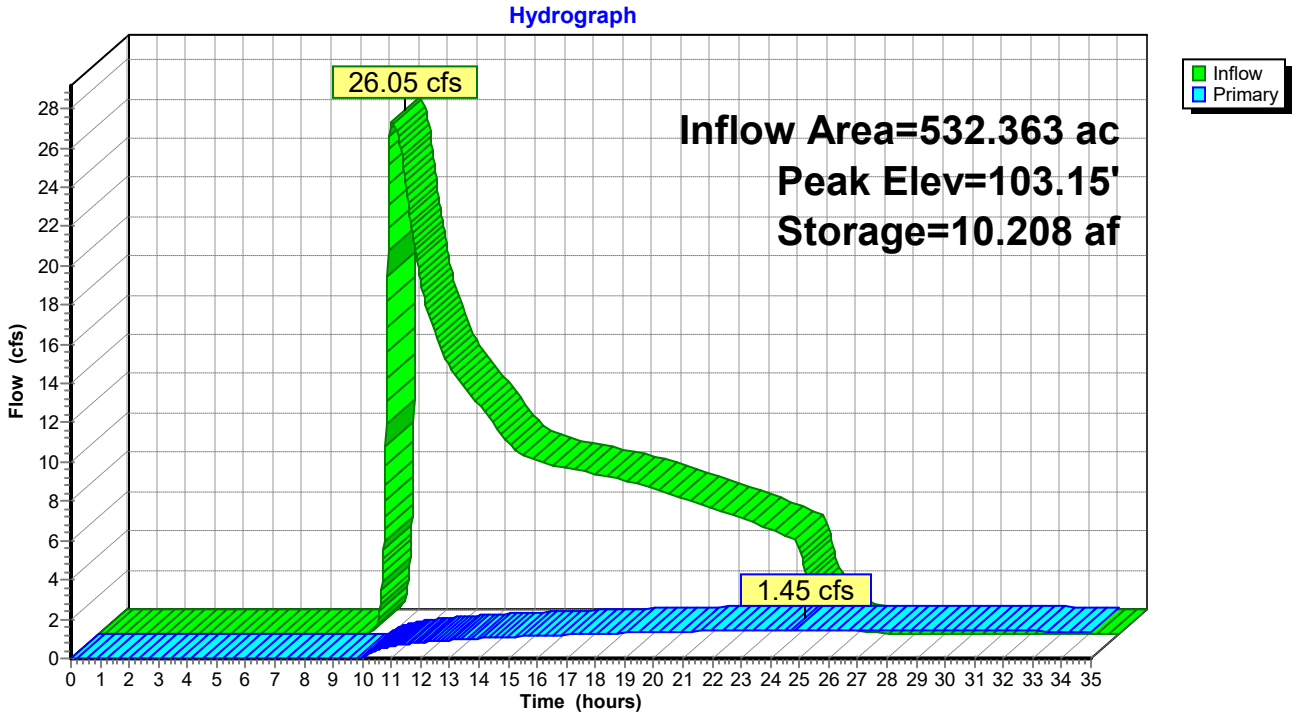
Plug-Flow detention time= 789.8 min calculated for 2.594 af (22% of inflow)
Center-of-Mass det. time= 496.8 min (1,419.2 - 922.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

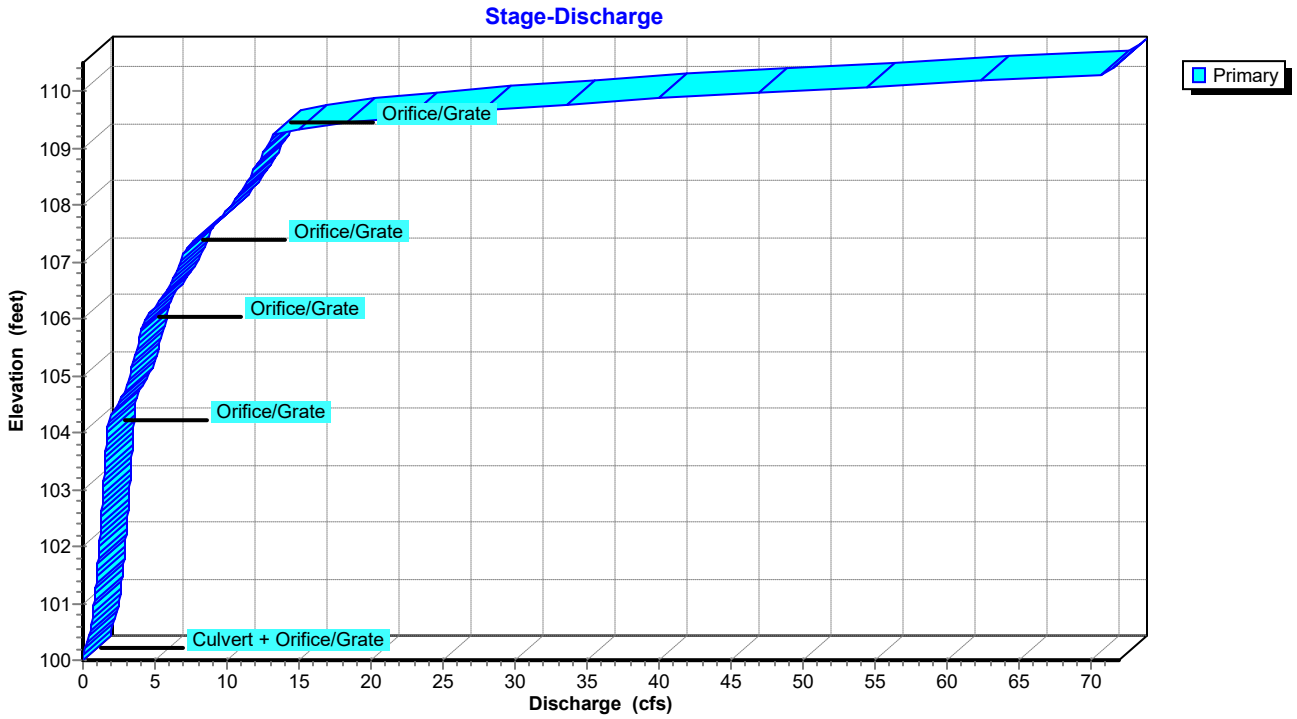
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.45 cfs @ 24.67 hrs HW=103.15' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.45 cfs of 28.92 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.45 cfs @ 8.32 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Controls 0.00 cfs)
  ├─**5=Orifice/Grate** (Controls 0.00 cfs)
  └─**6=Orifice/Grate** (Controls 0.00 cfs)

Pond D12.1: Detention Pond 12.1



Pond D12.1: Detention Pond 12.1



Stage-Discharge for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Stage-Area-Storage for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	105.20	17.775	110.40	40.432
100.10	0.298	105.30	18.163	110.50	**40.918**
100.20	0.598	105.40	18.553		
100.30	0.900	105.50	18.945		
100.40	1.203	105.60	19.339		
100.50	1.508	105.70	19.734		
100.60	1.815	105.80	20.132		
100.70	2.123	105.90	20.531		
100.80	2.433	106.00	20.932		
100.90	2.745	106.10	21.335		
101.00	3.058	106.20	21.740		
101.10	3.373	106.30	22.146		
101.20	3.690	106.40	22.555		
101.30	4.009	106.50	22.965		
101.40	4.329	106.60	23.377		
101.50	4.650	106.70	23.791		
101.60	4.974	106.80	24.207		
101.70	5.299	106.90	24.625		
101.80	5.626	107.00	25.044		
101.90	5.955	107.10	25.465		
102.00	6.285	107.20	25.889		
102.10	6.617	107.30	26.314		
102.20	6.951	107.40	26.741		
102.30	7.286	107.50	27.169		
102.40	7.623	107.60	27.600		
102.50	7.962	107.70	28.033		
102.60	8.303	107.80	28.467		
102.70	8.645	107.90	28.903		
102.80	8.989	108.00	29.342		
102.90	9.335	108.10	29.782		
103.00	9.683	108.20	30.224		
103.10	10.032	108.30	30.668		
103.20	10.383	108.40	31.113		
103.30	10.736	108.50	31.561		
103.40	11.090	108.60	32.011		
103.50	11.447	108.70	32.462		
103.60	11.805	108.80	32.916		
103.70	12.164	108.90	33.371		
103.80	12.526	109.00	33.828		
103.90	12.889	109.10	34.287		
104.00	13.254	109.20	34.748		
104.10	13.621	109.30	35.211		
104.20	13.990	109.40	35.676		
104.30	14.360	109.50	36.143		
104.40	14.733	109.60	36.612		
104.50	15.107	109.70	37.083		
104.60	15.482	109.80	37.555		
104.70	15.860	109.90	38.030		
104.80	16.239	110.00	38.506		
104.90	16.620	110.10	38.985		
105.00	17.003	110.20	39.465		
105.10	17.388	110.30	39.948		

Summary for Pond D12.2: Detention Pond 12.2

Inflow = 26.05 cfs @ 10.02 hrs, Volume= 11.667 af
Outflow = 1.45 cfs @ 24.67 hrs, Volume= 2.594 af, Atten= 94%, Lag= 879.3 min
Primary = 1.45 cfs @ 24.67 hrs, Volume= 2.594 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.15' @ 24.67 hrs Surf.Area= 3.510 ac Storage= 10.208 af

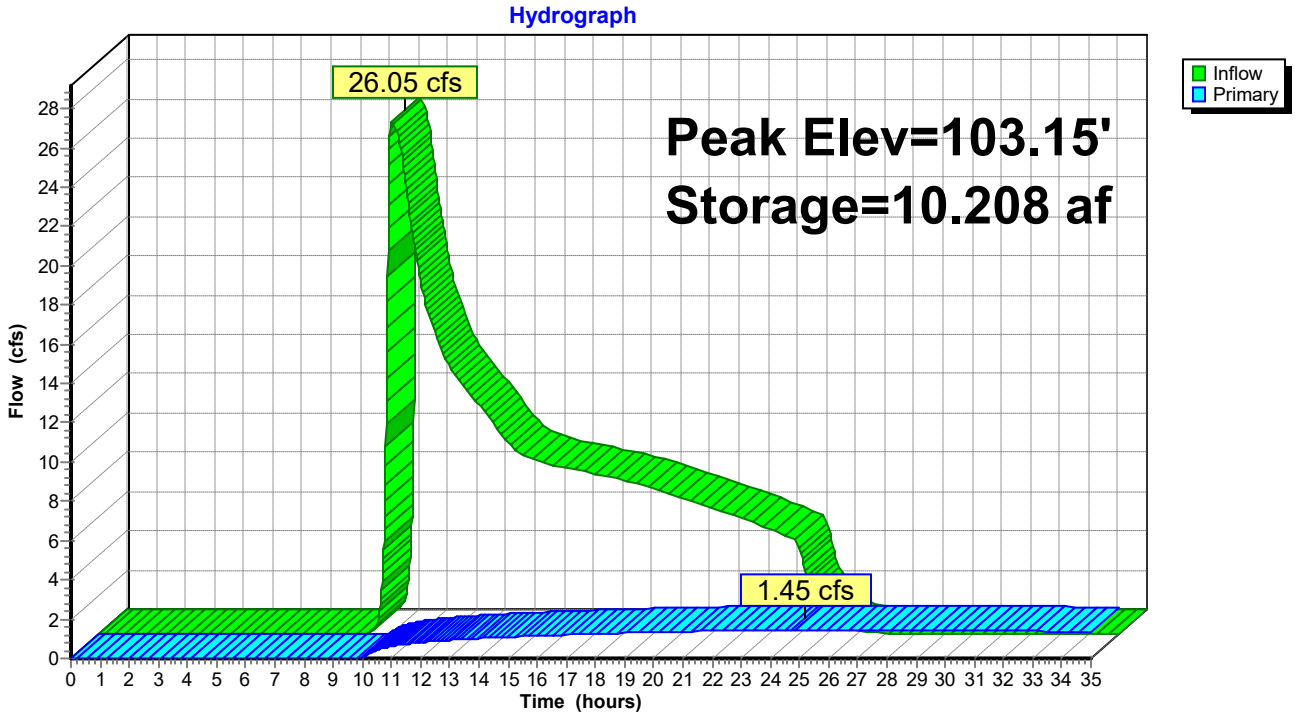
Plug-Flow detention time= 789.8 min calculated for 2.594 af (22% of inflow)
Center-of-Mass det. time= 496.8 min (1,419.2 - 922.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

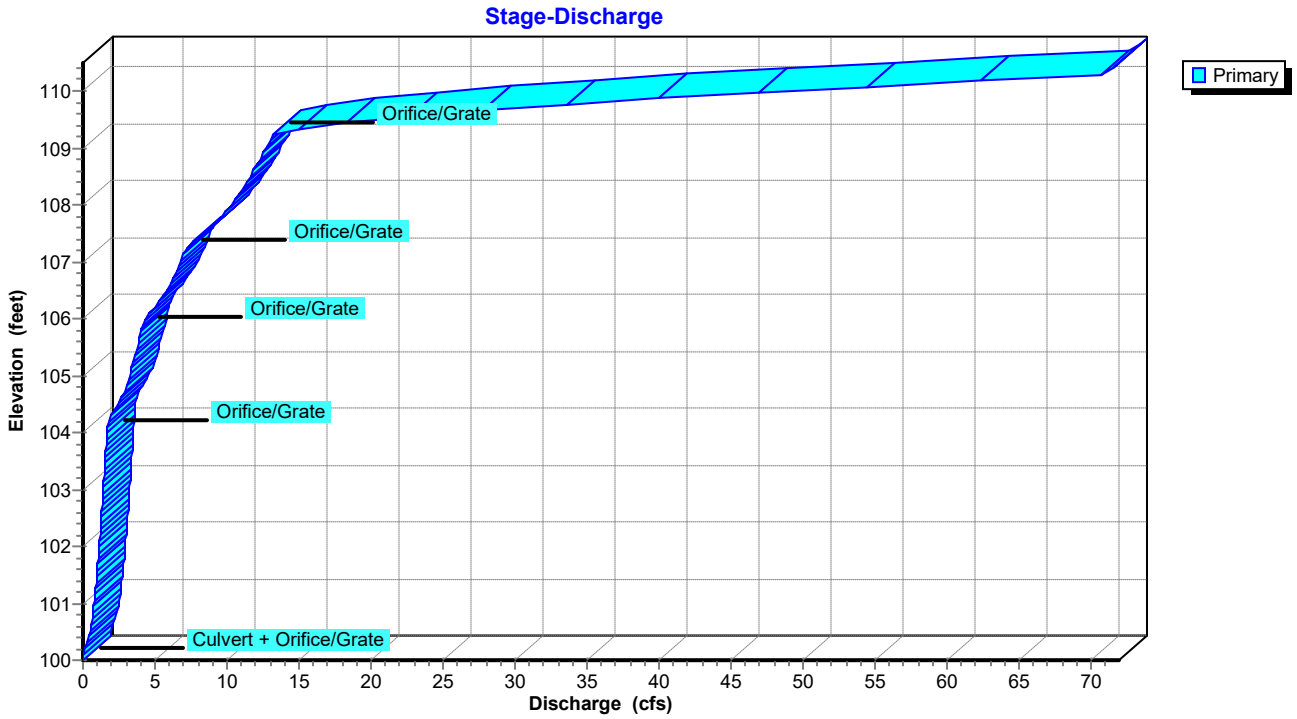
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.45 cfs @ 24.67 hrs HW=103.15' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.45 cfs of 28.92 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.45 cfs @ 8.32 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Controls 0.00 cfs)
  ├─**5=Orifice/Grate** (Controls 0.00 cfs)
  └─**6=Orifice/Grate** (Controls 0.00 cfs)

Pond D12.2: Detention Pond 12.2



Pond D12.2: Detention Pond 12.2



Stage-Discharge for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Stage-Area-Storage for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	105.20	17.775	110.40	40.432
100.10	0.298	105.30	18.163	110.50	**40.918**
100.20	0.598	105.40	18.553		
100.30	0.900	105.50	18.945		
100.40	1.203	105.60	19.339		
100.50	1.508	105.70	19.734		
100.60	1.815	105.80	20.132		
100.70	2.123	105.90	20.531		
100.80	2.433	106.00	20.932		
100.90	2.745	106.10	21.335		
101.00	3.058	106.20	21.740		
101.10	3.373	106.30	22.146		
101.20	3.690	106.40	22.555		
101.30	4.009	106.50	22.965		
101.40	4.329	106.60	23.377		
101.50	4.650	106.70	23.791		
101.60	4.974	106.80	24.207		
101.70	5.299	106.90	24.625		
101.80	5.626	107.00	25.044		
101.90	5.955	107.10	25.465		
102.00	6.285	107.20	25.889		
102.10	6.617	107.30	26.314		
102.20	6.951	107.40	26.741		
102.30	7.286	107.50	27.169		
102.40	7.623	107.60	27.600		
102.50	7.962	107.70	28.033		
102.60	8.303	107.80	28.467		
102.70	8.645	107.90	28.903		
102.80	8.989	108.00	29.342		
102.90	9.335	108.10	29.782		
103.00	9.683	108.20	30.224		
103.10	10.032	108.30	30.668		
103.20	10.383	108.40	31.113		
103.30	10.736	108.50	31.561		
103.40	11.090	108.60	32.011		
103.50	11.447	108.70	32.462		
103.60	11.805	108.80	32.916		
103.70	12.164	108.90	33.371		
103.80	12.526	109.00	33.828		
103.90	12.889	109.10	34.287		
104.00	13.254	109.20	34.748		
104.10	13.621	109.30	35.211		
104.20	13.990	109.40	35.676		
104.30	14.360	109.50	36.143		
104.40	14.733	109.60	36.612		
104.50	15.107	109.70	37.083		
104.60	15.482	109.80	37.555		
104.70	15.860	109.90	38.030		
104.80	16.239	110.00	38.506		
104.90	16.620	110.10	38.985		
105.00	17.003	110.20	39.465		
105.10	17.388	110.30	39.948		

Summary for Pond D15: Detention Pond 15

Inflow Area = 31.502 ac, 0.00% Impervious, Inflow Depth = 0.21" for 2 year event
Inflow = 0.56 cfs @ 12.74 hrs, Volume= 0.539 af
Outflow = 0.29 cfs @ 24.04 hrs, Volume= 0.422 af, Atten= 47%, Lag= 677.9 min
Primary = 0.29 cfs @ 24.04 hrs, Volume= 0.422 af
Routed to Reach 15R : Collection Point 15

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 100.66' @ 24.04 hrs Surf.Area= 0.480 ac Storage= 0.303 af

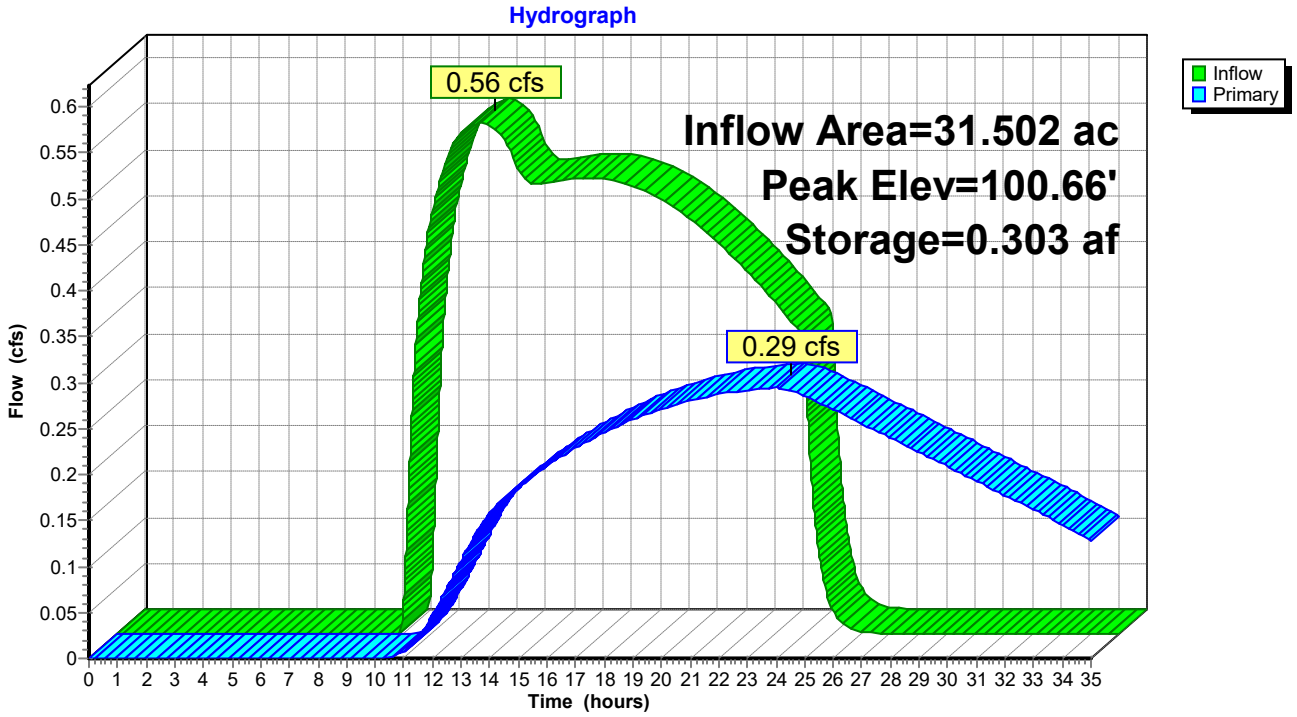
Plug-Flow detention time= 486.0 min calculated for 0.422 af (78% of inflow)
Center-of-Mass det. time= 394.1 min (1,409.2 - 1,015.1)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	2.623 af	**80.00'W x 240.00'L x 4.50'H Prismatoid Z=4.0**

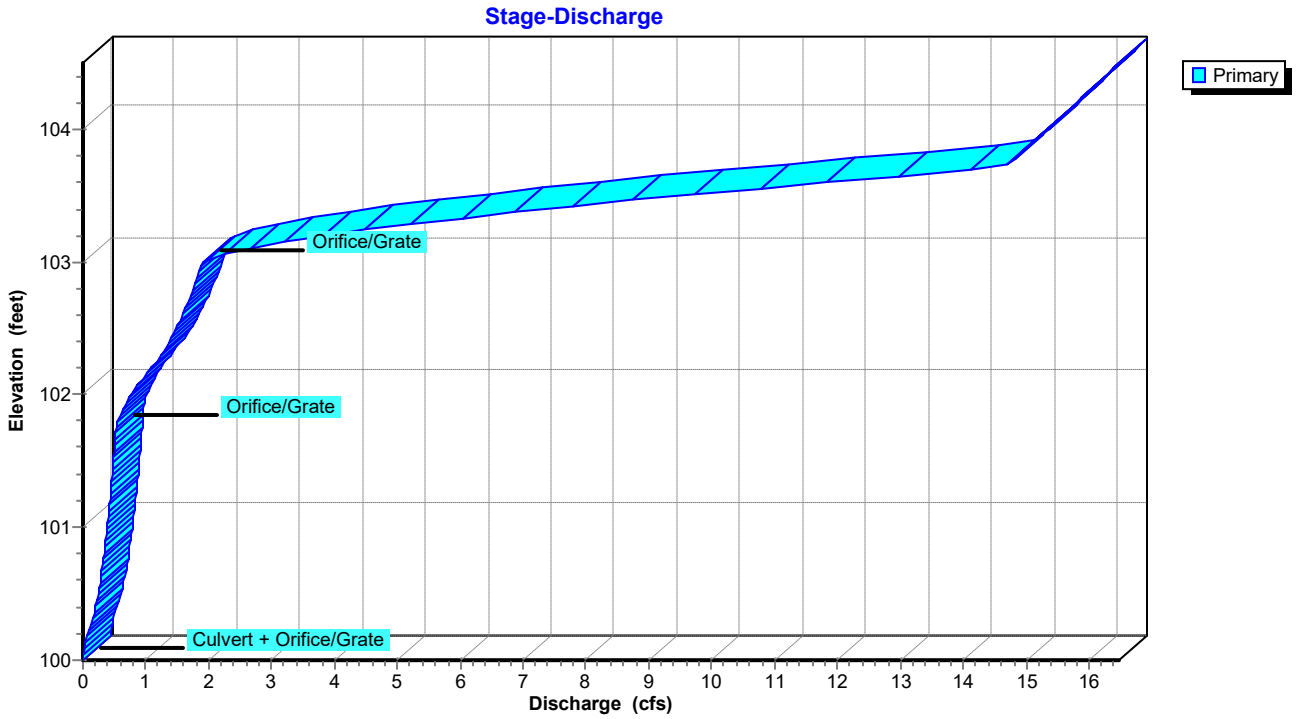
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	101.75'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 24.04 hrs HW=100.66' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.29 cfs of 1.57 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.29 cfs @ 3.37 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D15: Detention Pond 15



Pond D15: Detention Pond 15



Stage-Discharge for Pond D15: Detention Pond 15

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.58
100.05	0.01	102.65	1.63
100.10	0.02	102.70	1.67
100.15	0.05	102.75	1.71
100.20	0.08	102.80	1.75
100.25	0.12	102.85	1.79
100.30	0.15	102.90	1.83
100.35	0.18	102.95	1.87
100.40	0.20	103.00	1.91
100.45	0.22	103.05	2.17
100.50	0.24	103.10	2.63
100.55	0.26	103.15	3.21
100.60	0.28	103.20	3.89
100.65	0.29	103.25	4.65
100.70	0.31	103.30	5.49
100.75	0.32	103.35	6.40
100.80	0.33	103.40	7.38
100.85	0.35	103.45	8.41
100.90	0.36	103.50	9.50
100.95	0.37	103.55	10.65
101.00	0.38	103.60	11.85
101.05	0.39	103.65	13.10
101.10	0.41	103.70	14.39
101.15	0.42	103.75	14.74
101.20	0.43	103.80	14.86
101.25	0.44	103.85	14.98
101.30	0.45	103.90	15.10
101.35	0.46	103.95	15.22
101.40	0.47	104.00	15.34
101.45	0.48	104.05	15.46
101.50	0.49	104.10	15.57
101.55	0.49	104.15	15.69
101.60	0.50	104.20	15.80
101.65	0.51	104.25	15.92
101.70	0.52	104.30	16.03
101.75	0.53	104.35	16.14
101.80	0.55	104.40	16.26
101.85	0.60	104.45	16.37
101.90	0.65	104.50	**16.48**
101.95	0.70		
102.00	0.77		
102.05	0.84		
102.10	0.92		
102.15	1.00		
102.20	1.08		
102.25	1.17		
102.30	1.25		
102.35	1.32		
102.40	1.38		
102.45	1.43		
102.50	1.48		
102.55	1.53		

Stage-Area-Storage for Pond D15: Detention Pond 15

Elevation (feet)	Storage (acre-feet)
100.00	0.000
100.05	0.022
100.10	0.044
100.15	0.067
100.20	0.089
100.25	0.112
100.30	0.135
100.35	0.158
100.40	0.181
100.45	0.204
100.50	0.228
100.55	0.251
100.60	0.275
100.65	0.299
100.70	0.323
100.75	0.347
100.80	0.372
100.85	0.396
100.90	0.421
100.95	0.446
101.00	0.471
101.05	0.496
101.10	0.521
101.15	0.546
101.20	0.572
101.25	0.598
101.30	0.624
101.35	0.650
101.40	0.676
101.45	0.702
101.50	0.729
101.55	0.756
101.60	0.782
101.65	0.809
101.70	0.837
101.75	0.864
101.80	0.891
101.85	0.919
101.90	0.947
101.95	0.975
102.00	1.003
102.05	1.031
102.10	1.060
102.15	1.088
102.20	1.117
102.25	1.146
102.30	1.175
102.35	1.204
102.40	1.234
102.45	1.263
102.50	1.293
102.55	1.323
102.60	1.353
102.65	1.384
102.70	1.414
102.75	1.445
102.80	1.475
102.85	1.506
102.90	1.537
102.95	1.569
103.00	1.600
103.05	1.632
103.10	1.663
103.15	1.695
103.20	1.727
103.25	1.760
103.30	1.792
103.35	1.825
103.40	1.858
103.45	1.891
103.50	1.924
103.55	1.957
103.60	1.990
103.65	2.024
103.70	2.058
103.75	2.092
103.80	2.126
103.85	2.160
103.90	2.195
103.95	2.230
104.00	2.265
104.05	2.300
104.10	2.335
104.15	2.370
104.20	2.406
104.25	2.442
104.30	2.478
104.35	2.514
104.40	2.550
104.45	2.586
104.50	**2.623**

Summary for Pond D16.2: Detention Pond 16.2

Inflow Area = 12.275 ac, 0.00% Impervious, Inflow Depth = 0.31" for 2 year event
Inflow = 0.47 cfs @ 10.34 hrs, Volume= 0.315 af
Outflow = 0.18 cfs @ 22.87 hrs, Volume= 0.280 af, Atten= 62%, Lag= 752.0 min
Primary = 0.18 cfs @ 22.87 hrs, Volume= 0.280 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 100.78' @ 22.87 hrs Surf.Area= 0.202 ac Storage= 0.146 af

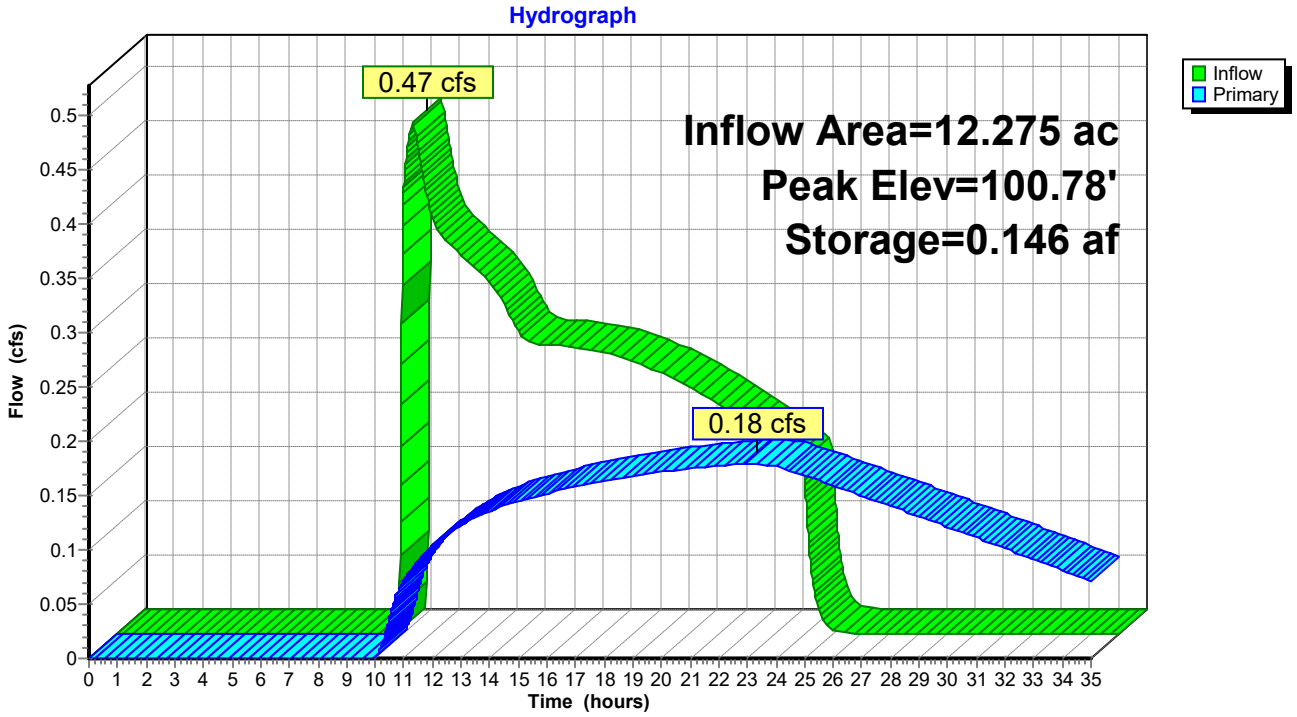
Plug-Flow detention time= 429.9 min calculated for 0.280 af (89% of inflow)
Center-of-Mass det. time= 378.0 min (1,340.3 - 962.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.770 af	**50.00'W x 150.00'L x 3.25'H Prismatoid Z=4.0**

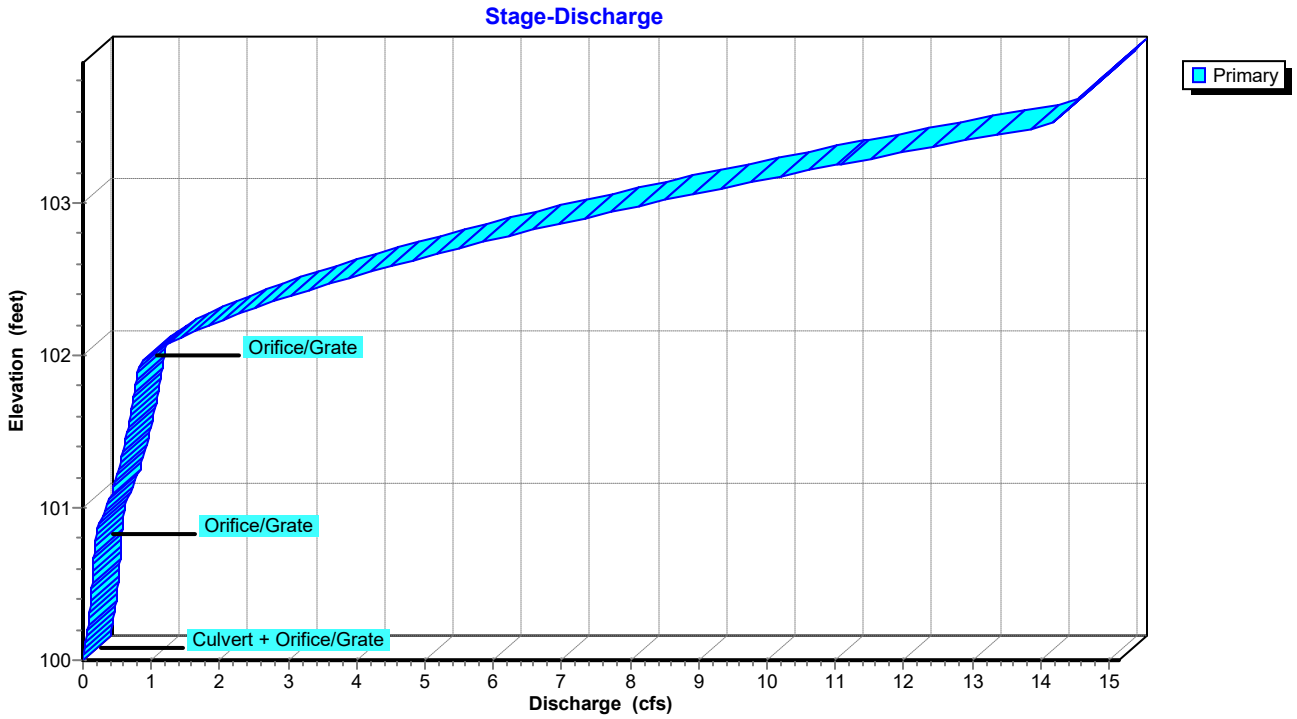
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	101.92'	**24.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.75'	**4.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 22.87 hrs HW=100.78' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.18 cfs of 2.12 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.18 cfs @ 4.02 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.61 fps)

Pond D16.2: Detention Pond 16.2



Pond D16.2: Detention Pond 16.2



Stage-Discharge for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.37	102.08	1.28	103.12	9.59
100.02	0.00	101.06	0.39	102.10	1.36	103.14	9.81
100.04	0.01	101.08	0.41	102.12	1.45	103.16	10.03
100.06	0.01	101.10	0.43	102.14	1.55	103.18	10.25
100.08	0.02	101.12	0.44	102.16	1.65	103.20	10.47
100.10	0.03	101.14	0.46	102.18	1.75	103.22	10.69
100.12	0.04	101.16	0.47	102.20	1.85	103.24	10.92
100.14	0.05	101.18	0.48	102.22	1.96	103.26	11.14
100.16	0.06	101.20	0.49	102.24	2.08	103.28	11.37
100.18	0.07	101.22	0.51	102.26	2.19	103.30	11.60
100.20	0.07	101.24	0.52	102.28	2.31	103.32	11.83
100.22	0.08	101.26	0.53	102.30	2.44	103.34	12.07
100.24	0.08	101.28	0.54	102.32	2.56	103.36	12.30
100.26	0.09	101.30	0.55	102.34	2.69	103.38	12.54
100.28	0.09	101.32	0.56	102.36	2.83	103.40	12.78
100.30	0.10	101.34	0.57	102.38	2.96	103.42	13.02
100.32	0.10	101.36	0.58	102.40	3.10	103.44	13.26
100.34	0.11	101.38	0.59	102.42	3.24	103.46	13.50
100.36	0.11	101.40	0.60	102.44	3.38	103.48	13.74
100.38	0.11	101.42	0.61	102.46	3.53	103.50	13.99
100.40	0.12	101.44	0.62	102.48	3.68	103.52	14.16
100.42	0.12	101.46	0.63	102.50	3.83	103.54	14.21
100.44	0.13	101.48	0.64	102.52	3.98	103.56	14.26
100.46	0.13	101.50	0.65	102.54	4.14	103.58	14.31
100.48	0.13	101.52	0.66	102.56	4.30	103.60	14.36
100.50	0.14	101.54	0.67	102.58	4.46	103.62	14.41
100.52	0.14	101.56	0.67	102.60	4.62	103.64	14.46
100.54	0.14	101.58	0.68	102.62	4.78	103.66	14.51
100.56	0.15	101.60	0.69	102.64	4.95	103.68	14.56
100.58	0.15	101.62	0.70	102.66	5.12	103.70	14.61
100.60	0.15	101.64	0.71	102.68	5.29	103.72	14.66
100.62	0.15	101.66	0.72	102.70	5.47	103.74	14.71
100.64	0.16	101.68	0.72	102.72	5.64	103.76	14.76
100.66	0.16	101.70	0.73	102.74	5.82	103.78	14.81
100.68	0.16	101.72	0.74	102.76	6.00	103.80	14.86
100.70	0.16	101.74	0.75	102.78	6.19	103.82	14.91
100.72	0.17	101.76	0.75	102.80	6.37	103.84	14.96
100.74	0.17	101.78	0.76	102.82	6.56	103.86	15.01
100.76	0.17	101.80	0.77	102.84	6.75	103.88	15.05
100.78	0.18	101.82	0.78	102.86	6.94	103.90	15.10
100.80	0.18	101.84	0.78	102.88	7.13	103.92	**15.15**
100.82	0.19	101.86	0.79	102.90	7.33		
100.84	0.20	101.88	0.80	102.92	7.52		
100.86	0.22	101.90	0.80	102.94	7.72		
100.88	0.23	101.92	0.81	102.96	7.92		
100.90	0.24	101.94	0.84	102.98	8.12		
100.92	0.26	101.96	0.88	103.00	8.33		
100.94	0.28	101.98	0.93	103.02	8.53		
100.96	0.30	102.00	0.98	103.04	8.74		
100.98	0.31	102.02	1.05	103.06	8.95		
101.00	0.33	102.04	1.12	103.08	9.16		
101.02	0.35	102.06	1.20	103.10	9.38		

Stage-Area-Storage for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Storage (acre-feet)
100.00	0.000
100.05	0.009
100.10	0.017
100.15	0.026
100.20	0.035
100.25	0.044
100.30	0.053
100.35	0.063
100.40	0.072
100.45	0.081
100.50	0.091
100.55	0.100
100.60	0.110
100.65	0.120
100.70	0.130
100.75	0.140
100.80	0.150
100.85	0.160
100.90	0.170
100.95	0.181
101.00	0.191
101.05	0.202
101.10	0.212
101.15	0.223
101.20	0.234
101.25	0.245
101.30	0.256
101.35	0.267
101.40	0.278
101.45	0.290
101.50	0.301
101.55	0.313
101.60	0.325
101.65	0.336
101.70	0.348
101.75	0.360
101.80	0.372
101.85	0.384
101.90	0.397
101.95	0.409
102.00	0.422
102.05	0.434
102.10	0.447
102.15	0.460
102.20	0.473
102.25	0.486
102.30	0.499
102.35	0.512
102.40	0.526
102.45	0.539
102.50	0.553
102.55	0.567
102.60	0.580
102.65	0.594
102.70	0.608
102.75	0.623
102.80	0.637
102.85	0.651
102.90	0.666
102.95	0.680
103.00	0.695
103.05	0.710
103.10	0.725
103.15	0.740
103.20	0.755
103.25	**0.770**
103.30	0.770
103.35	0.770
103.40	0.770
103.45	0.770
103.50	0.770
103.55	0.770
103.60	0.770
103.65	0.770
103.70	0.770
103.75	0.770
103.80	0.770
103.85	0.770
103.90	0.770

Summary for Pond D16.3: Detention Pond 16.3

Inflow Area = 110.203 ac, 0.00% Impervious, Inflow Depth = 0.71" for 2 year event
Inflow = 11.90 cfs @ 10.37 hrs, Volume= 6.531 af
Outflow = 1.25 cfs @ 24.75 hrs, Volume= 2.227 af, Atten= 89%, Lag= 862.9 min
Primary = 1.25 cfs @ 24.75 hrs, Volume= 2.227 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.70' @ 24.75 hrs Surf.Area= 2.092 ac Storage= 5.208 af

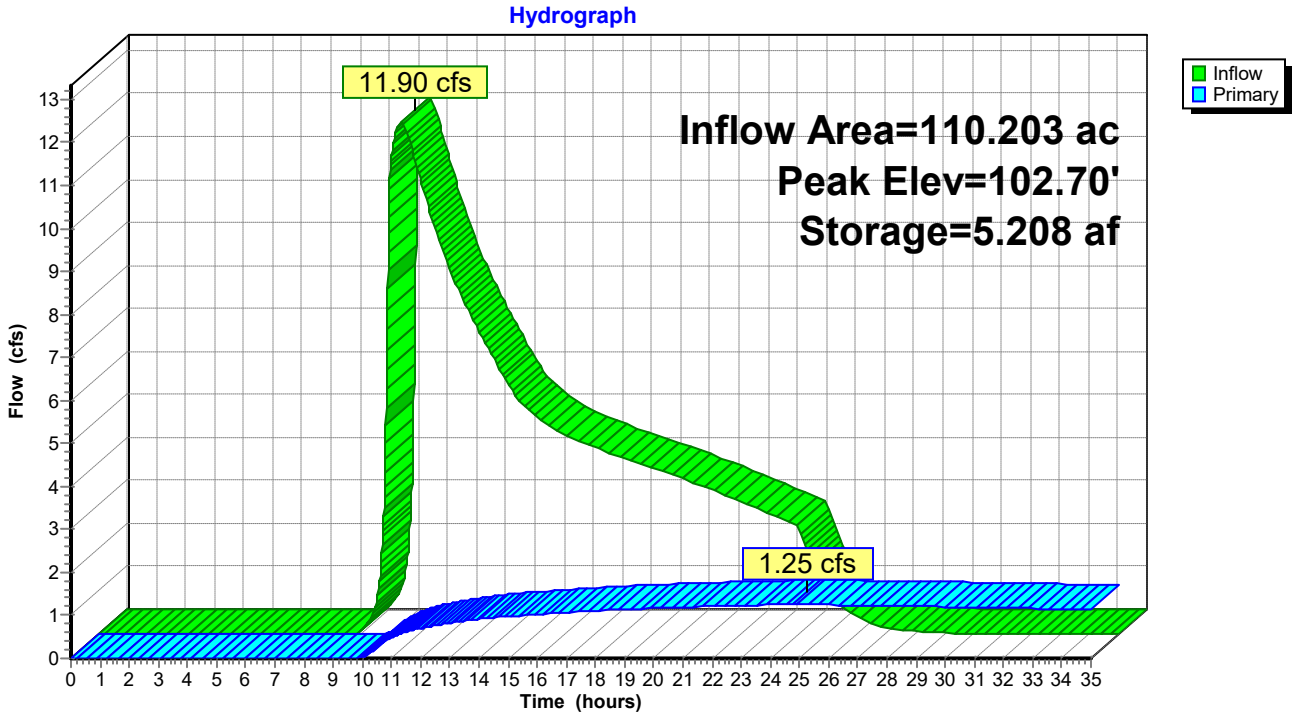
Plug-Flow detention time= 752.6 min calculated for 2.227 af (34% of inflow)
Center-of-Mass det. time= 489.4 min (1,415.2 - 925.8)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	14.078 af	**160.00'W x 480.00'L x 6.50'H Prismatoid Z=4.0**

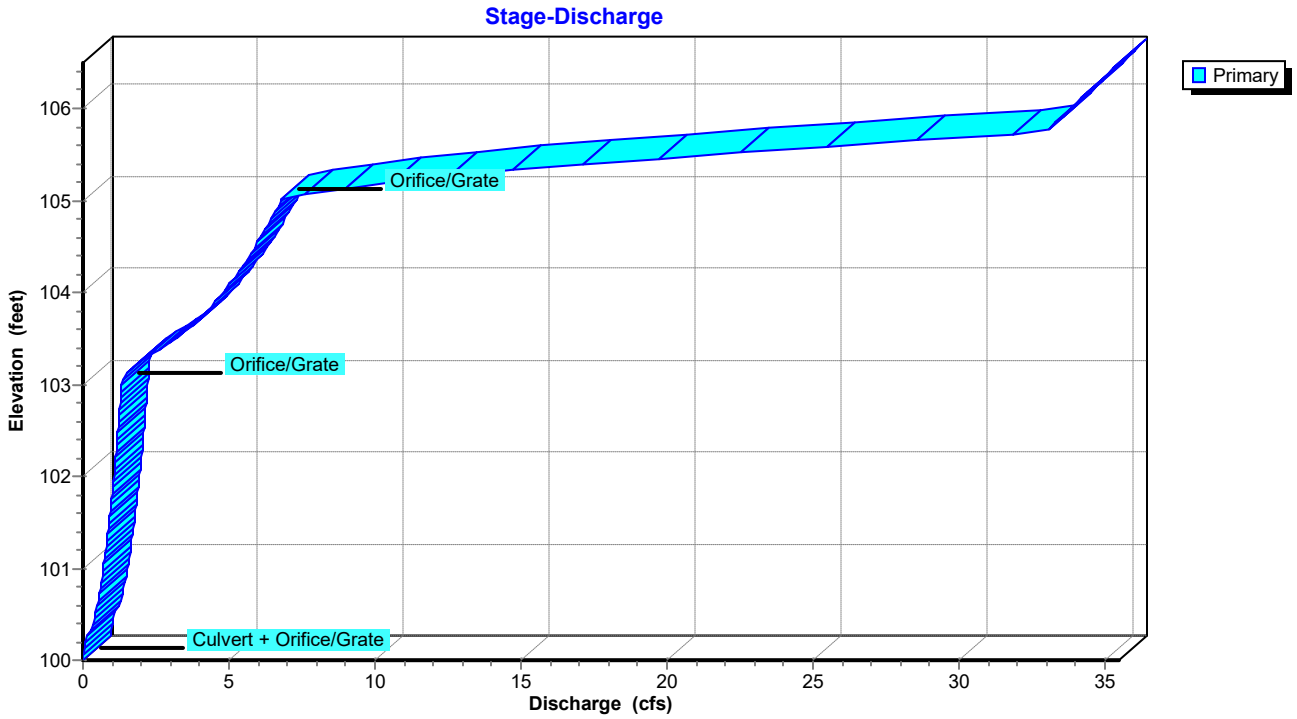
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**24.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.00'	**7.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.25 cfs @ 24.75 hrs HW=102.70' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.25 cfs of 17.74 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 1.25 cfs @ 7.58 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D16.3: Detention Pond 16.3



Pond D16.3: Detention Pond 16.3



Stage-Discharge for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.22	105.20	10.61
100.05	0.01	102.65	1.24	105.25	12.09
100.10	0.03	102.70	1.25	105.30	13.71
100.15	0.06	102.75	1.26	105.35	15.46
100.20	0.11	102.80	1.27	105.40	17.34
100.25	0.16	102.85	1.29	105.45	19.33
100.30	0.21	102.90	1.30	105.50	21.43
100.35	0.27	102.95	1.31	105.55	23.64
100.40	0.33	103.00	1.32	105.60	25.94
100.45	0.38	103.05	1.36	105.65	28.34
100.50	0.41	103.10	1.44	105.70	30.83
100.55	0.45	103.15	1.57	105.75	32.97
100.60	0.48	103.20	1.74	105.80	33.14
100.65	0.52	103.25	1.94	105.85	33.31
100.70	0.55	103.30	2.17	105.90	33.48
100.75	0.57	103.35	2.42	105.95	33.65
100.80	0.60	103.40	2.68	106.00	33.82
100.85	0.63	103.45	2.94	106.05	33.99
100.90	0.65	103.50	3.20	106.10	34.16
100.95	0.67	103.55	3.43	106.15	34.33
101.00	0.70	103.60	3.60	106.20	34.49
101.05	0.72	103.65	3.78	106.25	34.66
101.10	0.74	103.70	3.95	106.30	34.82
101.15	0.76	103.75	4.10	106.35	34.99
101.20	0.78	103.80	4.25	106.40	35.15
101.25	0.80	103.85	4.40	106.45	35.31
101.30	0.82	103.90	4.53	106.50	**35.48**
101.35	0.84	103.95	4.66		
101.40	0.86	104.00	4.79		
101.45	0.88	104.05	4.91		
101.50	0.90	104.10	5.03		
101.55	0.91	104.15	5.15		
101.60	0.93	104.20	5.26		
101.65	0.95	104.25	5.37		
101.70	0.96	104.30	5.48		
101.75	0.98	104.35	5.58		
101.80	1.00	104.40	5.69		
101.85	1.01	104.45	5.79		
101.90	1.03	104.50	5.89		
101.95	1.04	104.55	5.98		
102.00	1.06	104.60	6.08		
102.05	1.07	104.65	6.17		
102.10	1.09	104.70	6.26		
102.15	1.10	104.75	6.35		
102.20	1.12	104.80	6.44		
102.25	1.13	104.85	6.53		
102.30	1.14	104.90	6.61		
102.35	1.16	104.95	6.70		
102.40	1.17	105.00	6.78		
102.45	1.18	105.05	7.30		
102.50	1.20	105.10	8.19		
102.55	1.21	105.15	9.30		

Stage-Area-Storage for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	4.990	105.20	10.826
100.05	0.088	102.65	5.094	105.25	10.947
100.10	0.177	102.70	5.198	105.30	11.068
100.15	0.266	102.75	5.303	105.35	11.190
100.20	0.355	102.80	5.408	105.40	11.311
100.25	0.444	102.85	5.513	105.45	11.434
100.30	0.534	102.90	5.619	105.50	11.556
100.35	0.624	102.95	5.725	105.55	11.679
100.40	0.715	103.00	5.831	105.60	11.802
100.45	0.805	103.05	5.938	105.65	11.926
100.50	0.896	103.10	6.045	105.70	12.050
100.55	0.988	103.15	6.152	105.75	12.174
100.60	1.079	103.20	6.260	105.80	12.298
100.65	1.171	103.25	6.368	105.85	12.423
100.70	1.263	103.30	6.476	105.90	12.549
100.75	1.356	103.35	6.584	105.95	12.674
100.80	1.448	103.40	6.693	106.00	12.800
100.85	1.541	103.45	6.802	106.05	12.926
100.90	1.635	103.50	6.912	106.10	13.053
100.95	1.728	103.55	7.022	106.15	13.180
101.00	1.822	103.60	7.132	106.20	13.307
101.05	1.917	103.65	7.242	106.25	13.435
101.10	2.011	103.70	7.353	106.30	13.562
101.15	2.106	103.75	7.464	106.35	13.691
101.20	2.201	103.80	7.575	106.40	13.819
101.25	2.297	103.85	7.687	106.45	13.948
101.30	2.392	103.90	7.799	106.50	**14.078**
101.35	2.488	103.95	7.911		
101.40	2.585	104.00	8.024		
101.45	2.682	104.05	8.137		
101.50	2.779	104.10	8.250		
101.55	2.876	104.15	8.364		
101.60	2.973	104.20	8.478		
101.65	3.071	104.25	8.592		
101.70	3.169	104.30	8.707		
101.75	3.268	104.35	8.822		
101.80	3.367	104.40	8.937		
101.85	3.466	104.45	9.053		
101.90	3.565	104.50	9.169		
101.95	3.665	104.55	9.285		
102.00	3.765	104.60	9.401		
102.05	3.866	104.65	9.518		
102.10	3.966	104.70	9.636		
102.15	4.067	104.75	9.753		
102.20	4.168	104.80	9.871		
102.25	4.270	104.85	9.989		
102.30	4.372	104.90	10.108		
102.35	4.474	104.95	10.227		
102.40	4.577	105.00	10.346		
102.45	4.680	105.05	10.465		
102.50	4.783	105.10	10.585		
102.55	4.886	105.15	10.705		

Summary for Pond D18: Detention Pond 18

Inflow Area = 42.657 ac, 0.00% Impervious, Inflow Depth = 1.21" for 2 year event
Inflow = 20.74 cfs @ 9.99 hrs, Volume= 4.306 af
Outflow = 1.78 cfs @ 20.09 hrs, Volume= 3.257 af, Atten= 91%, Lag= 606.3 min
Primary = 1.78 cfs @ 20.09 hrs, Volume= 3.257 af
Routed to Reach 18R : Collection Point 18

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.21' @ 20.09 hrs Surf.Area= 1.193 ac Storage= 2.408 af

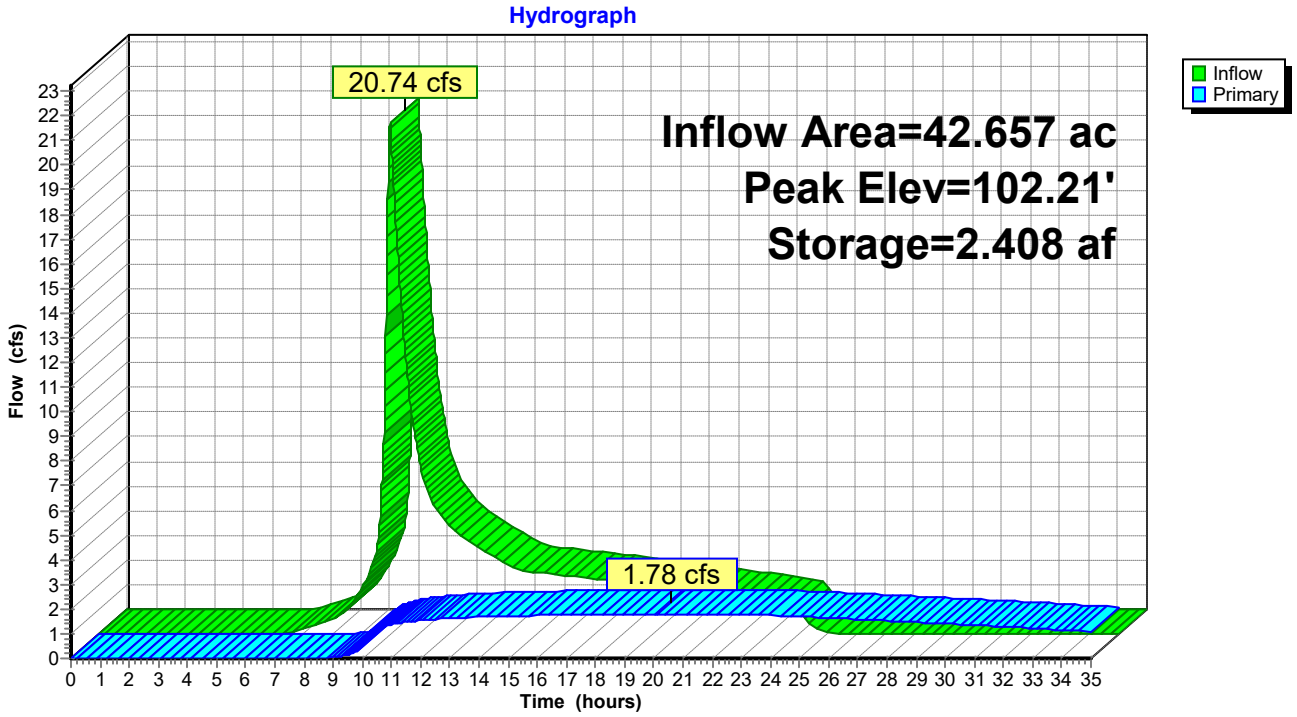
Plug-Flow detention time= 614.8 min calculated for 3.257 af (76% of inflow)
Center-of-Mass det. time= 490.7 min (1,317.3 - 826.6)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8.443 af	**120.00'W x 360.00'L x 6.50'H Prismatoid Z=4.0**

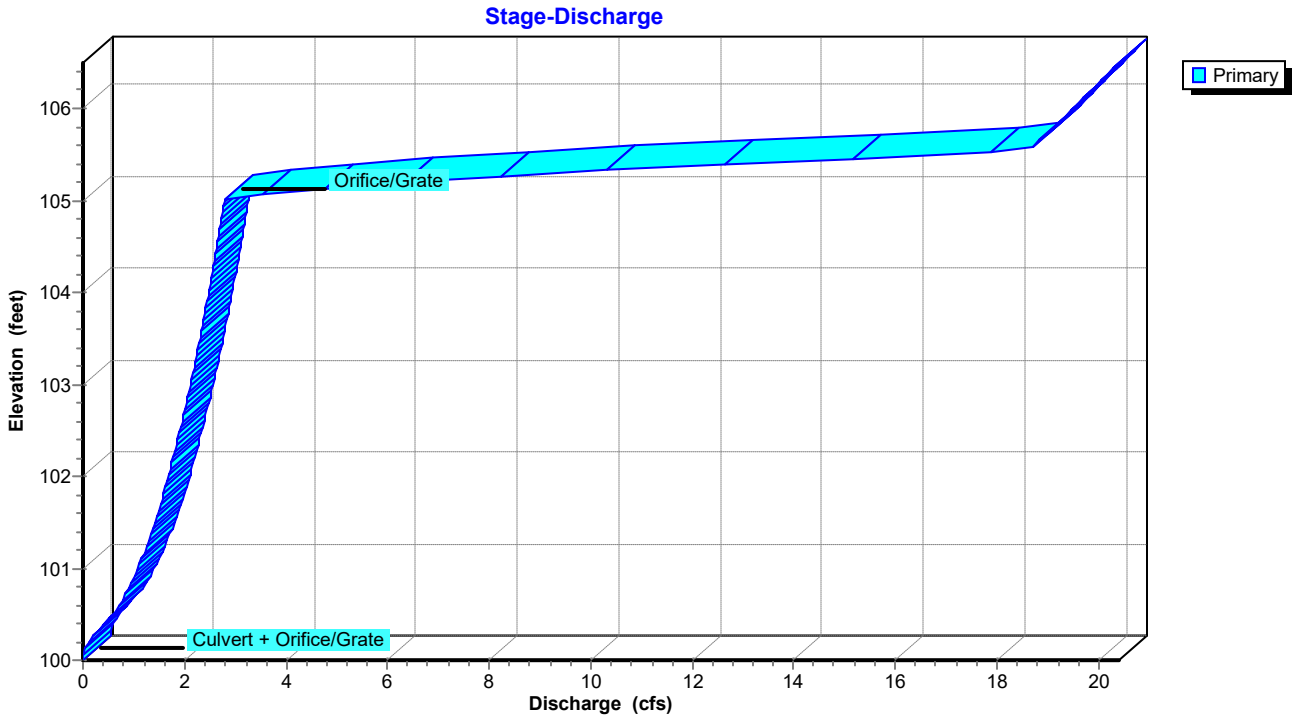
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.78 cfs @ 20.09 hrs HW=102.21' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.78 cfs of 9.82 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 1.78 cfs @ 6.66 fps)

Pond D18: Detention Pond 18



Pond D18: Detention Pond 18



Stage-Discharge for Pond D18: Detention Pond 18

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	6.36
100.05	0.01	102.65	1.98	105.25	7.77
100.10	0.03	102.70	2.00	105.30	9.33
100.15	0.07	102.75	2.02	105.35	11.02
100.20	0.12	102.80	2.04	105.40	12.84
100.25	0.19	102.85	2.06	105.45	14.77
100.30	0.26	102.90	2.08	105.50	16.81
100.35	0.34	102.95	2.10	105.55	18.64
100.40	0.42	103.00	2.12	105.60	18.74
100.45	0.51	103.05	2.14	105.65	18.83
100.50	0.59	103.10	2.16	105.70	18.93
100.55	0.66	103.15	2.18	105.75	19.03
100.60	0.71	103.20	2.19	105.80	19.12
100.65	0.77	103.25	2.21	105.85	19.22
100.70	0.82	103.30	2.23	105.90	19.31
100.75	0.87	103.35	2.25	105.95	19.40
100.80	0.92	103.40	2.27	106.00	19.50
100.85	0.96	103.45	2.29	106.05	19.59
100.90	1.00	103.50	2.30	106.10	19.68
100.95	1.04	103.55	2.32	106.15	19.77
101.00	1.08	103.60	2.34	106.20	19.86
101.05	1.12	103.65	2.36	106.25	19.95
101.10	1.16	103.70	2.38	106.30	20.05
101.15	1.19	103.75	2.39	106.35	20.14
101.20	1.23	103.80	2.41	106.40	20.23
101.25	1.26	103.85	2.43	106.45	20.31
101.30	1.29	103.90	2.44	106.50	**20.40**
101.35	1.32	103.95	2.46		
101.40	1.35	104.00	2.48		
101.45	1.38	104.05	2.49		
101.50	1.41	104.10	2.51		
101.55	1.44	104.15	2.53		
101.60	1.47	104.20	2.54		
101.65	1.50	104.25	2.56		
101.70	1.53	104.30	2.58		
101.75	1.55	104.35	2.59		
101.80	1.58	104.40	2.61		
101.85	1.61	104.45	2.62		
101.90	1.63	104.50	2.64		
101.95	1.66	104.55	2.66		
102.00	1.68	104.60	2.67		
102.05	1.71	104.65	2.69		
102.10	1.73	104.70	2.70		
102.15	1.75	104.75	2.72		
102.20	1.78	104.80	2.73		
102.25	1.80	104.85	2.75		
102.30	1.82	104.90	2.76		
102.35	1.85	104.95	2.78		
102.40	1.87	105.00	2.79		
102.45	1.89	105.05	3.25		
102.50	1.91	105.10	4.06		
102.55	1.93	105.15	5.12		

Stage-Area-Storage for Pond D18: Detention Pond 18

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	2.885	105.20	6.418
100.05	0.050	102.65	2.947	105.25	6.492
100.10	0.100	102.70	3.009	105.30	6.567
100.15	0.150	102.75	3.071	105.35	6.642
100.20	0.200	102.80	3.133	105.40	6.718
100.25	0.251	102.85	3.196	105.45	6.793
100.30	0.302	102.90	3.259	105.50	6.869
100.35	0.353	102.95	3.322	105.55	6.946
100.40	0.404	103.00	3.385	105.60	7.022
100.45	0.455	103.05	3.449	105.65	7.099
100.50	0.507	103.10	3.513	105.70	7.176
100.55	0.559	103.15	3.577	105.75	7.253
100.60	0.611	103.20	3.641	105.80	7.330
100.65	0.663	103.25	3.706	105.85	7.408
100.70	0.716	103.30	3.770	105.90	7.486
100.75	0.769	103.35	3.835	105.95	7.564
100.80	0.822	103.40	3.901	106.00	7.643
100.85	0.875	103.45	3.966	106.05	7.722
100.90	0.929	103.50	4.032	106.10	7.801
100.95	0.982	103.55	4.098	106.15	7.880
101.00	1.036	103.60	4.164	106.20	7.960
101.05	1.090	103.65	4.231	106.25	8.040
101.10	1.145	103.70	4.298	106.30	8.120
101.15	1.200	103.75	4.365	106.35	8.200
101.20	1.254	103.80	4.432	106.40	8.281
101.25	1.309	103.85	4.499	106.45	8.362
101.30	1.365	103.90	4.567	106.50	**8.443**
101.35	1.420	103.95	4.635		
101.40	1.476	104.00	4.704		
101.45	1.532	104.05	4.772		
101.50	1.588	104.10	4.841		
101.55	1.645	104.15	4.910		
101.60	1.702	104.20	4.979		
101.65	1.759	104.25	5.049		
101.70	1.816	104.30	5.118		
101.75	1.873	104.35	5.188		
101.80	1.931	104.40	5.259		
101.85	1.989	104.45	5.329		
101.90	2.047	104.50	5.400		
101.95	2.105	104.55	5.471		
102.00	2.164	104.60	5.542		
102.05	2.223	104.65	5.614		
102.10	2.282	104.70	5.686		
102.15	2.341	104.75	5.758		
102.20	2.400	104.80	5.830		
102.25	2.460	104.85	5.903		
102.30	2.520	104.90	5.975		
102.35	2.580	104.95	6.048		
102.40	2.641	105.00	6.122		
102.45	2.702	105.05	6.195		
102.50	2.762	105.10	6.269		
102.55	2.824	105.15	6.343		

Summary for Pond D20.2: Detention Basin 20.2

Inflow Area = 3.949 ac, 37.71% Impervious, Inflow Depth = 1.17" for 2 year event
Inflow = 1.90 cfs @ 9.98 hrs, Volume= 0.386 af
Outflow = 0.15 cfs @ 19.53 hrs, Volume= 0.297 af, Atten= 92%, Lag= 573.2 min
Primary = 0.15 cfs @ 19.53 hrs, Volume= 0.297 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.12' @ 19.53 hrs Storage= 0.209 af

Plug-Flow detention time= 616.3 min calculated for 0.297 af (77% of inflow)
Center-of-Mass det. time= 489.9 min (1,268.3 - 778.4)

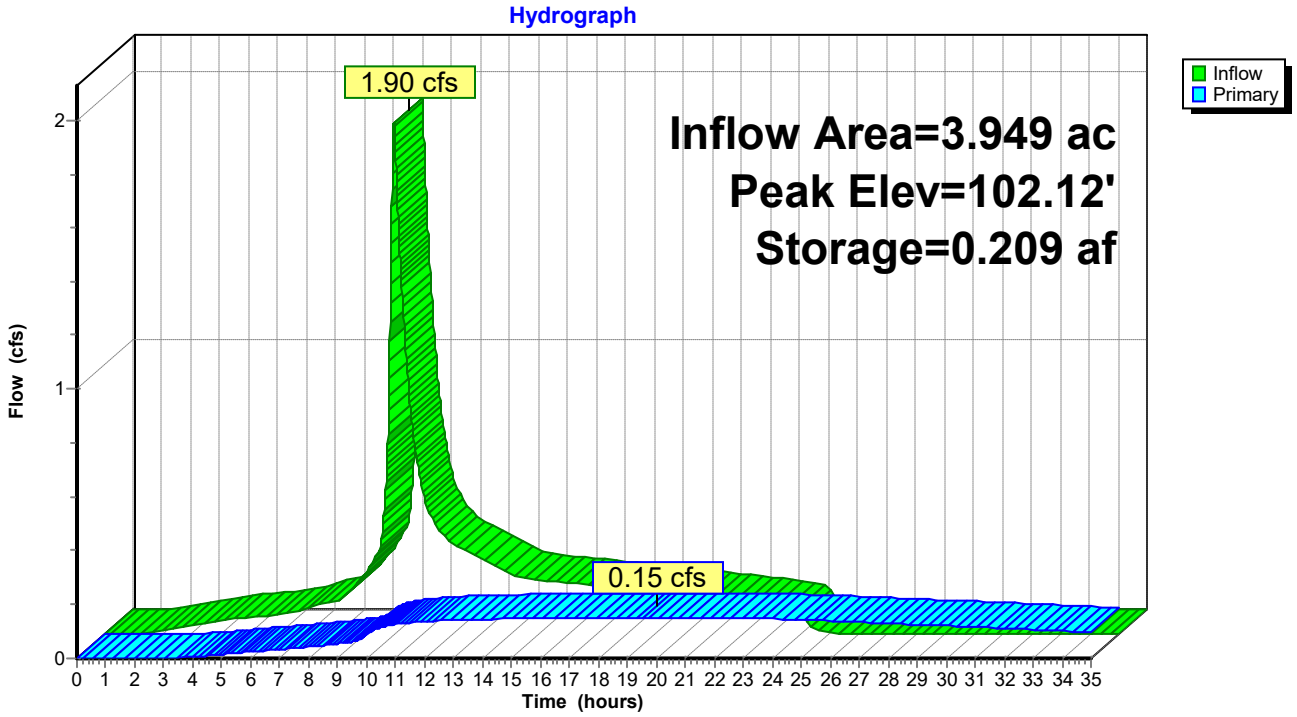
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

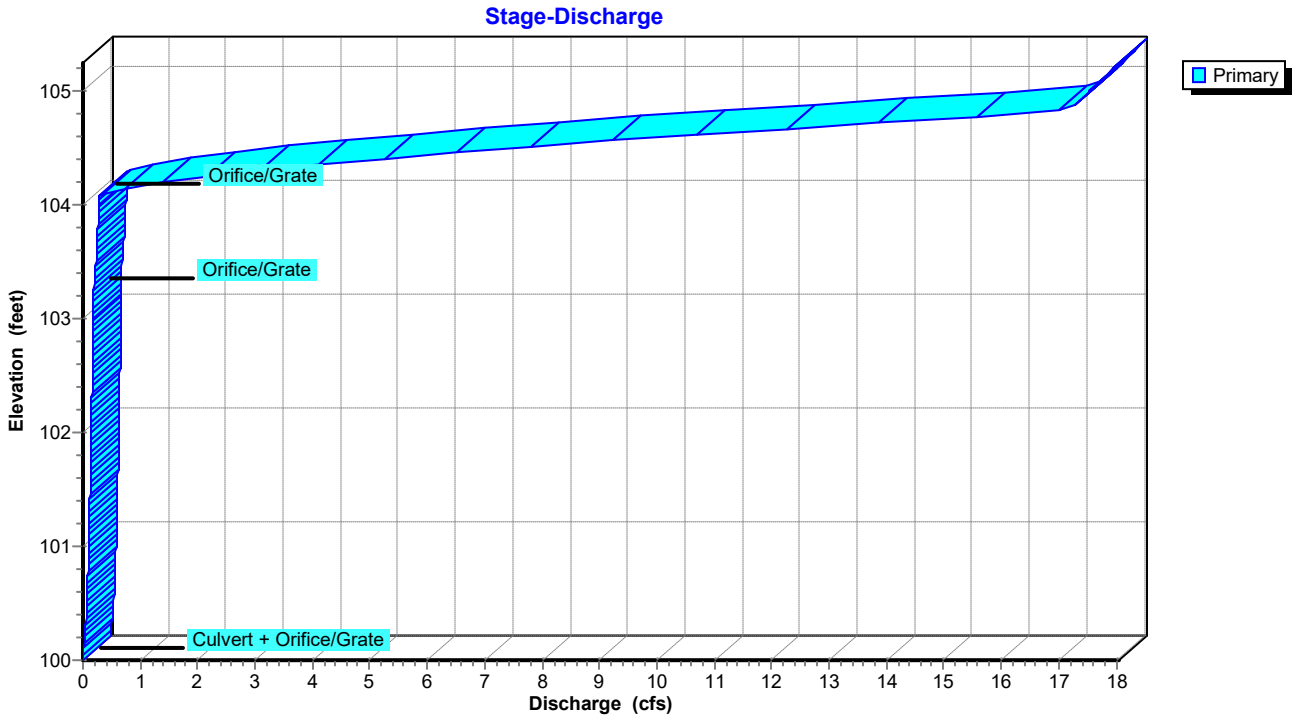
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 19.53 hrs HW=102.12' TW=0.00' (Dynamic Tailwater)
1=Culvert (Passes 0.15 cfs of 9.29 cfs potential flow)
2=Orifice/Grate (Controls 0.00 cfs)
3=Orifice/Grate (Orifice Controls 0.15 cfs @ 6.88 fps)
4=Orifice/Grate (Controls 0.00 cfs)

Pond D20.2: Detention Basin 20.2



Pond D20.2: Detention Basin 20.2



Stage-Discharge for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Stage-Area-Storage for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	0.268	105.20	0.699
100.05	0.005	102.65	0.274	105.25	**0.709**
100.10	0.009	102.70	0.280		
100.15	0.014	102.75	0.286		
100.20	0.019	102.80	0.292		
100.25	0.024	102.85	0.299		
100.30	0.028	102.90	0.305		
100.35	0.033	102.95	0.311		
100.40	0.038	103.00	0.317		
100.45	0.042	103.05	0.325		
100.50	0.047	103.10	0.333		
100.55	0.052	103.15	0.340		
100.60	0.056	103.20	0.348		
100.65	0.061	103.25	0.356		
100.70	0.066	103.30	0.364		
100.75	0.071	103.35	0.372		
100.80	0.075	103.40	0.379		
100.85	0.080	103.45	0.387		
100.90	0.085	103.50	0.395		
100.95	0.089	103.55	0.403		
101.00	0.094	103.60	0.411		
101.05	0.099	103.65	0.418		
101.10	0.104	103.70	0.426		
101.15	0.109	103.75	0.434		
101.20	0.114	103.80	0.442		
101.25	0.119	103.85	0.450		
101.30	0.124	103.90	0.457		
101.35	0.129	103.95	0.465		
101.40	0.134	104.00	0.473		
101.45	0.139	104.05	0.482		
101.50	0.144	104.10	0.492		
101.55	0.149	104.15	0.501		
101.60	0.154	104.20	0.510		
101.65	0.159	104.25	0.519		
101.70	0.164	104.30	0.528		
101.75	0.169	104.35	0.538		
101.80	0.174	104.40	0.547		
101.85	0.179	104.45	0.556		
101.90	0.184	104.50	0.565		
101.95	0.189	104.55	0.575		
102.00	0.194	104.60	0.584		
102.05	0.200	104.65	0.593		
102.10	0.206	104.70	0.602		
102.15	0.212	104.75	0.612		
102.20	0.219	104.80	0.621		
102.25	0.225	104.85	0.630		
102.30	0.231	104.90	0.639		
102.35	0.237	104.95	0.649		
102.40	0.243	105.00	0.658		
102.45	0.249	105.05	0.668		
102.50	0.256	105.10	0.678		
102.55	0.262	105.15	0.689		

Summary for Pond D20.3: Detention Pond 20.3

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 1.11" for 2 year event
Inflow = 1.21 cfs @ 9.99 hrs, Volume= 0.318 af
Outflow = 0.16 cfs @ 16.62 hrs, Volume= 0.288 af, Atten= 87%, Lag= 397.5 min
Primary = 0.16 cfs @ 16.62 hrs, Volume= 0.288 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.16' @ 16.62 hrs Storage= 6,284 cf

Plug-Flow detention time= 492.2 min calculated for 0.288 af (91% of inflow)
Center-of-Mass det. time= 435.9 min (1,237.7 - 801.9)

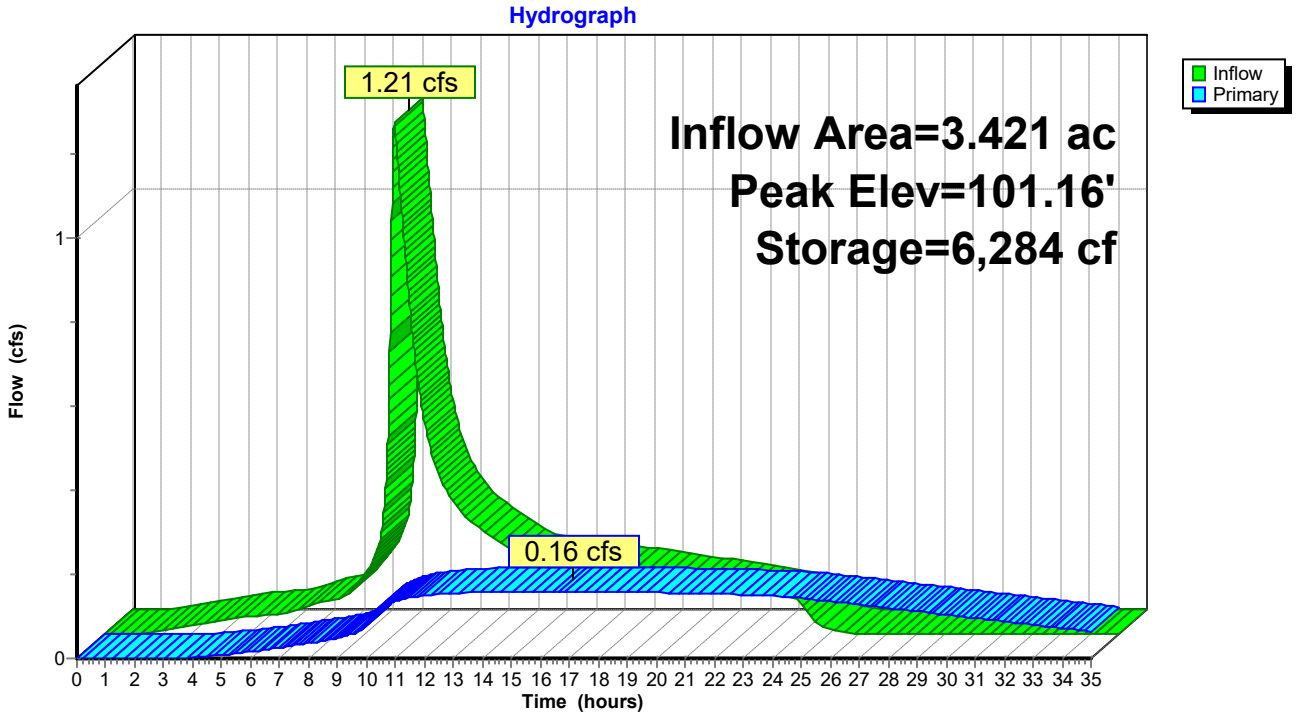
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	26,310 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	5,184
102.00	11,979
103.00	20,604
103.67	26,310

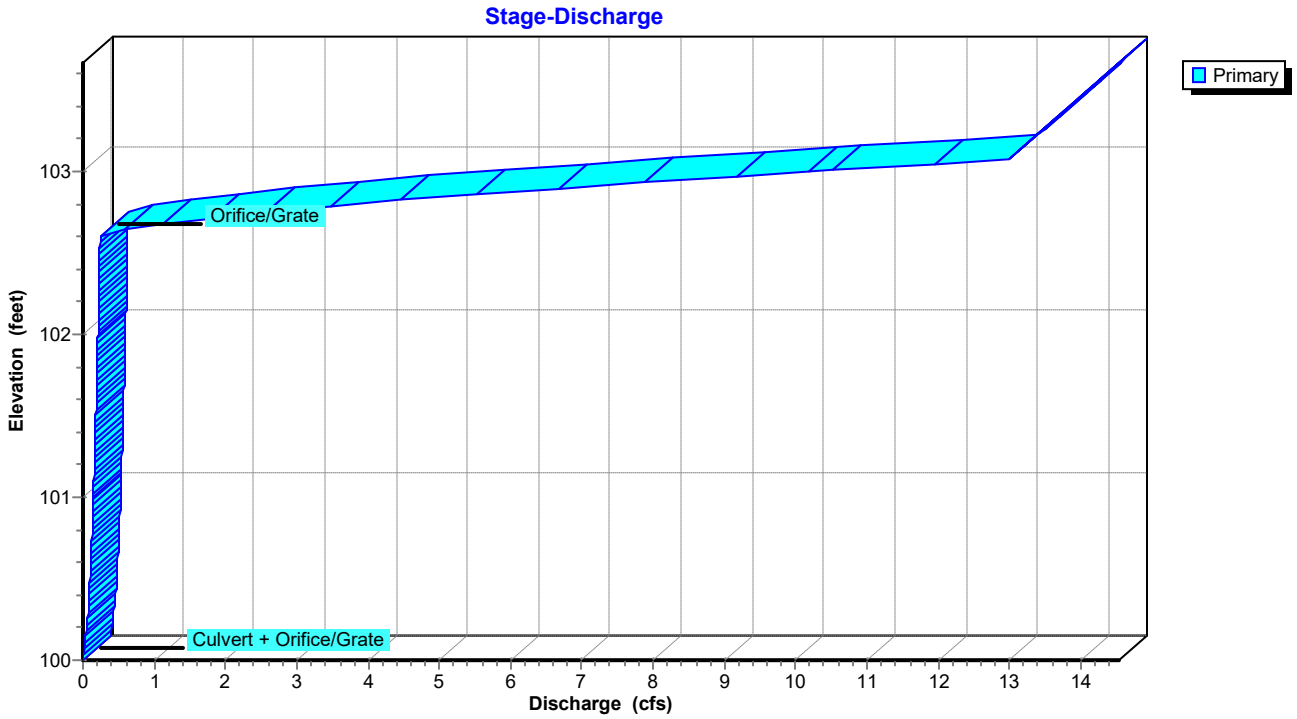
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 16.62 hrs HW=101.16' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.16 cfs of 4.14 cfs potential flow)
├**2=Orifice/Grate** (Controls 0.00 cfs)
└**3=Orifice/Grate** (Orifice Controls 0.16 cfs @ 5.03 fps)

Pond D20.3: Detention Pond 20.3



Pond D20.3: Detention Pond 20.3



Stage-Discharge for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Stage-Area-Storage for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Storage (cubic-feet)
100.00	0
100.05	259
100.10	518
100.15	778
100.20	1,037
100.25	1,296
100.30	1,555
100.35	1,814
100.40	2,074
100.45	2,333
100.50	2,592
100.55	2,851
100.60	3,110
100.65	3,370
100.70	3,629
100.75	3,888
100.80	4,147
100.85	4,406
100.90	4,666
100.95	4,925
101.00	5,184
101.05	5,524
101.10	5,863
101.15	6,203
101.20	6,543
101.25	6,883
101.30	7,222
101.35	7,562
101.40	7,902
101.45	8,242
101.50	8,582
101.55	8,921
101.60	9,261
101.65	9,601
101.70	9,941
101.75	10,280
101.80	10,620
101.85	10,960
101.90	11,300
101.95	11,639
102.00	11,979
102.05	12,410
102.10	12,841
102.15	13,273
102.20	13,704
102.25	14,135
102.30	14,566
102.35	14,998
102.40	15,429
102.45	15,860
102.50	16,292
102.55	16,723
102.60	17,154
102.65	17,585
102.70	18,017
102.75	18,448
102.80	18,879
102.85	19,310
102.90	19,742
102.95	20,173
103.00	20,604
103.05	21,030
103.10	21,456
103.15	21,881
103.20	22,307
103.25	22,733
103.30	23,159
103.35	23,585
103.40	24,011
103.45	24,436
103.50	24,862
103.55	25,288
103.60	25,714
103.65	**26,140**

Summary for Pond D20.4: Detention Pond 20.4

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 0.77" for 2 year event
Inflow = 2.16 cfs @ 9.99 hrs, Volume= 0.496 af
Outflow = 0.20 cfs @ 21.73 hrs, Volume= 0.385 af, Atten= 91%, Lag= 704.9 min
Primary = 0.20 cfs @ 21.73 hrs, Volume= 0.385 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.20' @ 21.73 hrs Storage= 11,554 cf

Plug-Flow detention time= 583.4 min calculated for 0.385 af (78% of inflow)
Center-of-Mass det. time= 466.0 min (1,305.4 - 839.4)

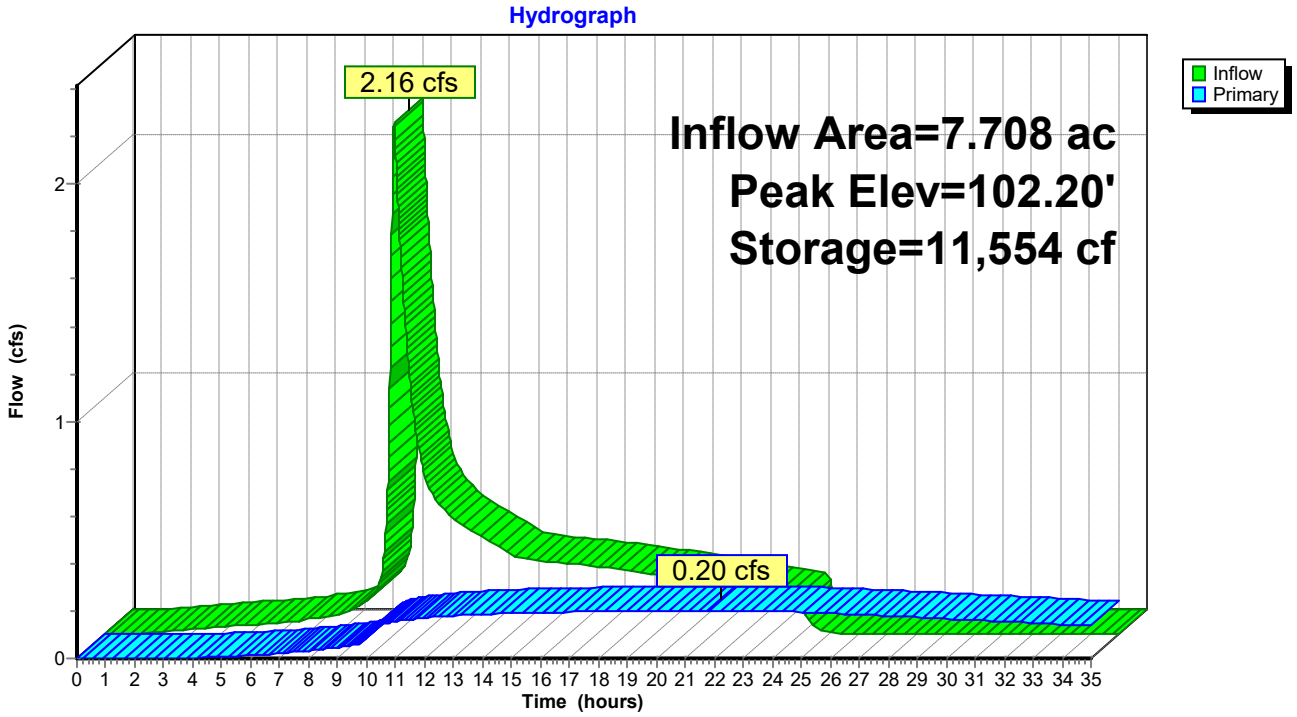
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

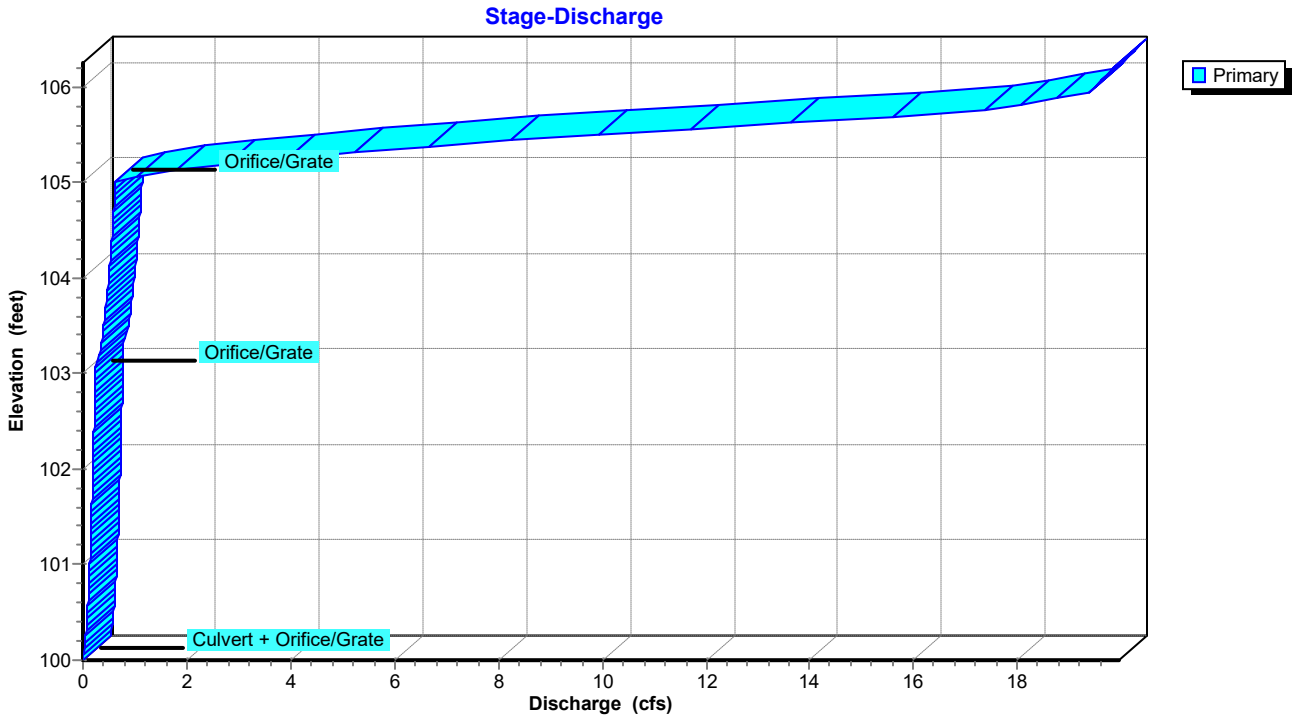
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 21.73 hrs HW=102.20' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.20 cfs of 9.75 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Orifice Controls 0.20 cfs @ 6.98 fps)

Pond D20.4: Detention Pond 20.4



Pond D20.4: Detention Pond 20.4



Stage-Discharge for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Stage-Area-Storage for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
100.00	0	102.60	14,375	105.20	38,881
100.05	218	102.65	14,724	105.25	39,476
100.10	436	102.70	15,072	105.30	40,071
100.15	653	102.75	15,421	105.35	40,665
100.20	871	102.80	15,769	105.40	41,260
100.25	1,089	102.85	16,117	105.45	41,854
100.30	1,307	102.90	16,466	105.50	42,449
100.35	1,525	102.95	16,815	105.55	43,044
100.40	1,742	103.00	17,163	105.60	43,638
100.45	1,960	103.05	17,644	105.65	44,233
100.50	2,178	103.10	18,126	105.70	44,827
100.55	2,396	103.15	18,607	105.75	45,422
100.60	2,614	103.20	19,088	105.80	46,017
100.65	2,831	103.25	19,570	105.85	46,611
100.70	3,049	103.30	20,051	105.90	47,206
100.75	3,267	103.35	20,532	105.95	47,800
100.80	3,485	103.40	21,013	106.00	48,395
100.85	3,703	103.45	21,495	106.05	49,249
100.90	3,920	103.50	21,976	106.10	50,103
100.95	4,138	103.55	22,457	106.15	50,956
101.00	4,356	103.60	22,939	106.20	51,810
101.05	4,648	103.65	23,420	106.25	**52,664**
101.10	4,940	103.70	23,901		
101.15	5,232	103.75	24,383		
101.20	5,523	103.80	24,864		
101.25	5,815	103.85	25,345		
101.30	6,107	103.90	25,826		
101.35	6,399	103.95	26,308		
101.40	6,691	104.00	26,789		
101.45	6,983	104.05	27,275		
101.50	7,275	104.10	27,760		
101.55	7,566	104.15	28,246		
101.60	7,858	104.20	28,732		
101.65	8,150	104.25	29,218		
101.70	8,442	104.30	29,703		
101.75	8,734	104.35	30,189		
101.80	9,026	104.40	30,675		
101.85	9,317	104.45	31,160		
101.90	9,609	104.50	31,646		
101.95	9,901	104.55	32,132		
102.00	10,193	104.60	32,617		
102.05	10,541	104.65	33,103		
102.10	10,890	104.70	33,589		
102.15	11,239	104.75	34,075		
102.20	11,587	104.80	34,560		
102.25	11,936	104.85	35,046		
102.30	12,284	104.90	35,532		
102.35	12,632	104.95	36,017		
102.40	12,981	105.00	36,503		
102.45	13,330	105.05	37,098		
102.50	13,678	105.10	37,692		
102.55	14,026	105.15	38,287		

Summary for Pond D3: Detention Basin 3

Inflow Area = 4.707 ac, 0.00% Impervious, Inflow Depth = 1.08" for 2 year event
Inflow = 2.12 cfs @ 9.99 hrs, Volume= 0.425 af
Outflow = 0.13 cfs @ 23.33 hrs, Volume= 0.251 af, Atten= 94%, Lag= 800.6 min
Primary = 0.13 cfs @ 23.33 hrs, Volume= 0.251 af
Routed to Reach 3R : Collection Point 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.66' @ 23.33 hrs Surf.Area= 0.199 ac Storage= 0.280 af

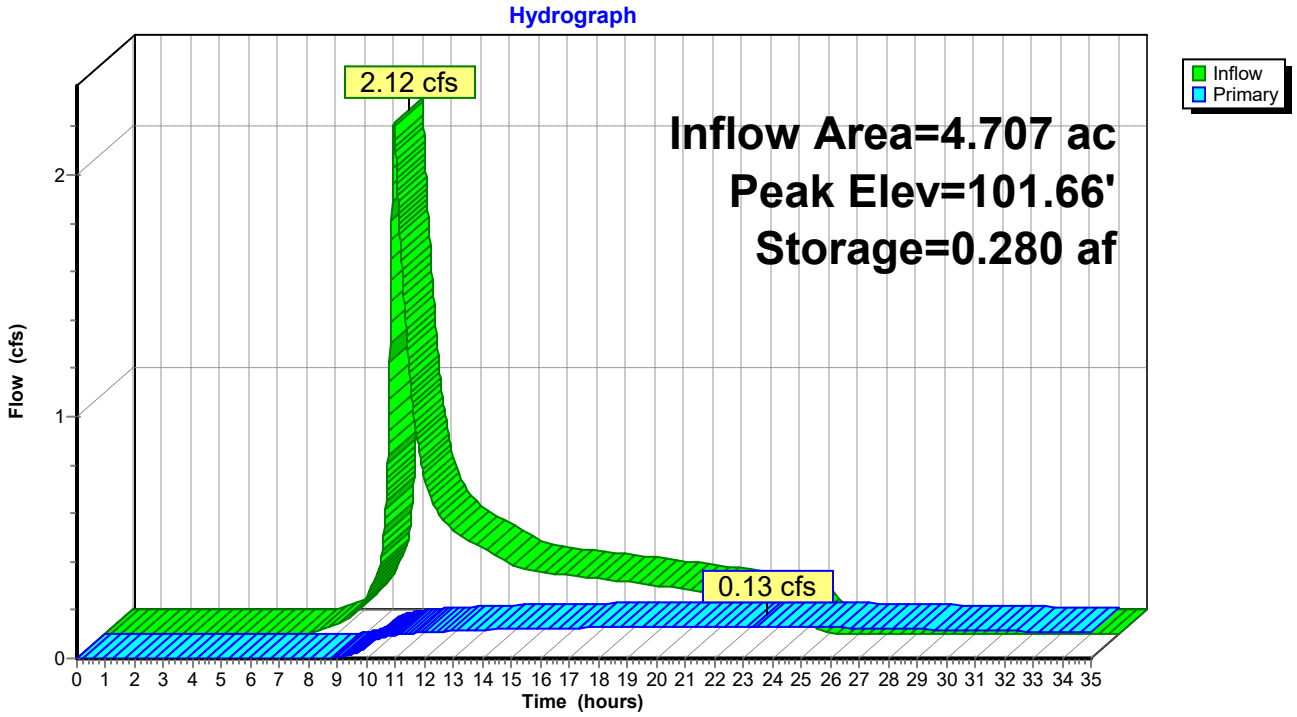
Plug-Flow detention time= 695.2 min calculated for 0.251 af (59% of inflow)
Center-of-Mass det. time= 512.8 min (1,349.6 - 836.8)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	1.172 af	**45.00'W x 135.00'L x 5.00'H Prismatoid Z=4.0**

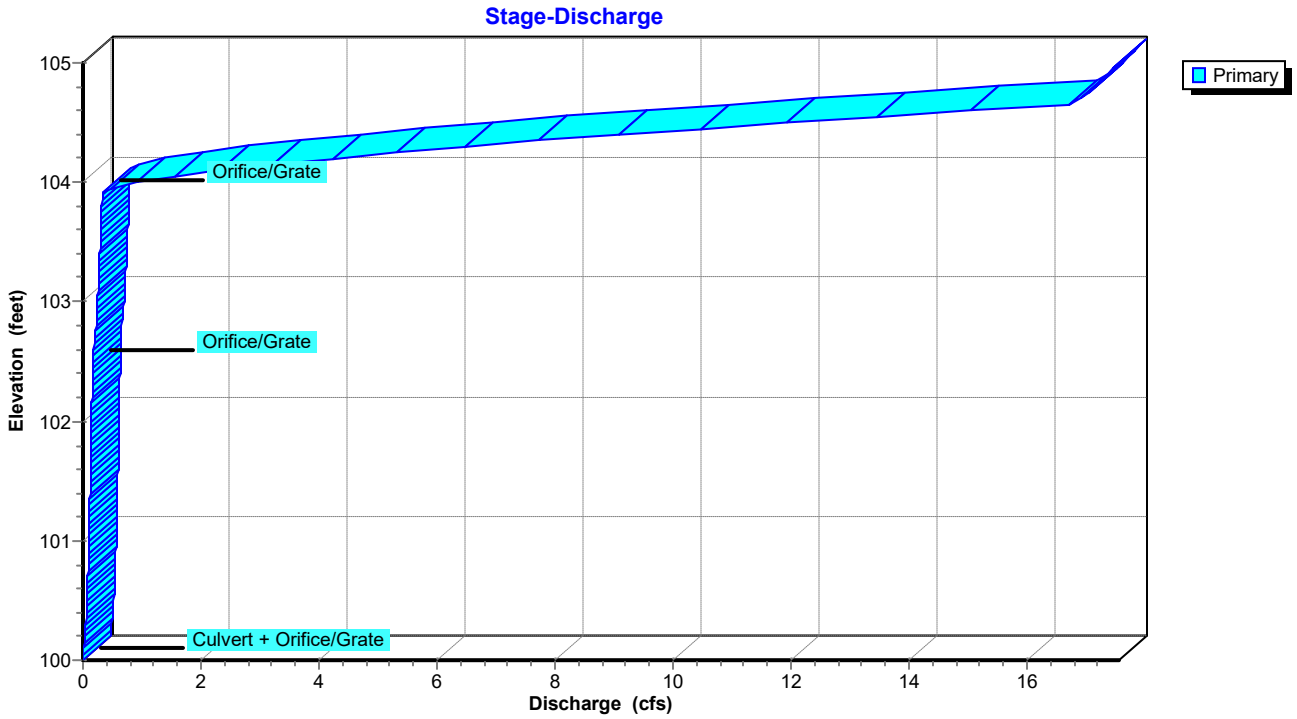
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.92'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.50'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 23.33 hrs HW=101.66' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.13 cfs of 7.07 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.13 cfs @ 6.05 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D3: Detention Basin 3



Pond D3: Detention Basin 3



Stage-Discharge for Pond D3: Detention Basin 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.18
100.05	0.00	102.65	0.20
100.10	0.01	102.70	0.21
100.15	0.03	102.75	0.21
100.20	0.04	102.80	0.22
100.25	0.04	102.85	0.23
100.30	0.05	102.90	0.24
100.35	0.05	102.95	0.24
100.40	0.06	103.00	0.25
100.45	0.06	103.05	0.25
100.50	0.07	103.10	0.26
100.55	0.07	103.15	0.26
100.60	0.08	103.20	0.27
100.65	0.08	103.25	0.27
100.70	0.08	103.30	0.28
100.75	0.09	103.35	0.28
100.80	0.09	103.40	0.29
100.85	0.09	103.45	0.29
100.90	0.09	103.50	0.29
100.95	0.10	103.55	0.30
101.00	0.10	103.60	0.30
101.05	0.10	103.65	0.31
101.10	0.11	103.70	0.31
101.15	0.11	103.75	0.31
101.20	0.11	103.80	0.32
101.25	0.11	103.85	0.32
101.30	0.12	103.90	0.33
101.35	0.12	103.95	0.47
101.40	0.12	104.00	0.92
101.45	0.12	104.05	1.56
101.50	0.13	104.10	2.34
101.55	0.13	104.15	3.23
101.60	0.13	104.20	4.22
101.65	0.13	104.25	5.31
101.70	0.13	104.30	6.48
101.75	0.14	104.35	7.73
101.80	0.14	104.40	9.06
101.85	0.14	104.45	10.46
101.90	0.14	104.50	11.92
101.95	0.14	104.55	13.45
102.00	0.15	104.60	15.04
102.05	0.15	104.65	16.69
102.10	0.15	104.70	16.91
102.15	0.15	104.75	17.02
102.20	0.15	104.80	17.12
102.25	0.15	104.85	17.23
102.30	0.16	104.90	17.33
102.35	0.16	104.95	17.44
102.40	0.16	105.00	**17.54**
102.45	0.16		
102.50	0.16		
102.55	0.17		

Stage-Area-Storage for Pond D3: Detention Basin 3

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	0.483
100.05	0.007	102.65	0.495
100.10	0.014	102.70	0.507
100.15	0.021	102.75	0.519
100.20	0.029	102.80	0.531
100.25	0.036	102.85	0.543
100.30	0.043	102.90	0.555
100.35	0.051	102.95	0.568
100.40	0.058	103.00	0.580
100.45	0.066	103.05	0.593
100.50	0.074	103.10	0.606
100.55	0.082	103.15	0.619
100.60	0.090	103.20	0.632
100.65	0.098	103.25	0.645
100.70	0.106	103.30	0.658
100.75	0.114	103.35	0.671
100.80	0.122	103.40	0.684
100.85	0.131	103.45	0.698
100.90	0.139	103.50	0.712
100.95	0.148	103.55	0.725
101.00	0.156	103.60	0.739
101.05	0.165	103.65	0.753
101.10	0.174	103.70	0.767
101.15	0.183	103.75	0.781
101.20	0.192	103.80	0.796
101.25	0.201	103.85	0.810
101.30	0.210	103.90	0.824
101.35	0.220	103.95	0.839
101.40	0.229	104.00	0.854
101.45	0.238	104.05	0.868
101.50	0.248	104.10	0.883
101.55	0.258	104.15	0.898
101.60	0.267	104.20	0.914
101.65	0.277	104.25	0.929
101.70	0.287	104.30	0.944
101.75	0.297	104.35	0.960
101.80	0.307	104.40	0.975
101.85	0.318	104.45	0.991
101.90	0.328	104.50	1.007
101.95	0.338	104.55	1.023
102.00	0.349	104.60	1.039
102.05	0.360	104.65	1.055
102.10	0.370	104.70	1.071
102.15	0.381	104.75	1.088
102.20	0.392	104.80	1.104
102.25	0.403	104.85	1.121
102.30	0.414	104.90	1.138
102.35	0.425	104.95	1.155
102.40	0.437	105.00	**1.172**
102.45	0.448		
102.50	0.460		
102.55	0.471		

Summary for Pond D5: Detention Basin 5

Inflow Area = 22.444 ac, 0.00% Impervious, Inflow Depth = 1.02" for 2 year event
Inflow = 9.76 cfs @ 9.98 hrs, Volume= 1.915 af
Outflow = 0.34 cfs @ 24.16 hrs, Volume= 0.617 af, Atten= 97%, Lag= 850.4 min
Primary = 0.34 cfs @ 24.16 hrs, Volume= 0.617 af
Routed to Reach 5R : Collection Point 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.05' @ 24.16 hrs Surf.Area= 0.845 ac Storage= 1.571 af

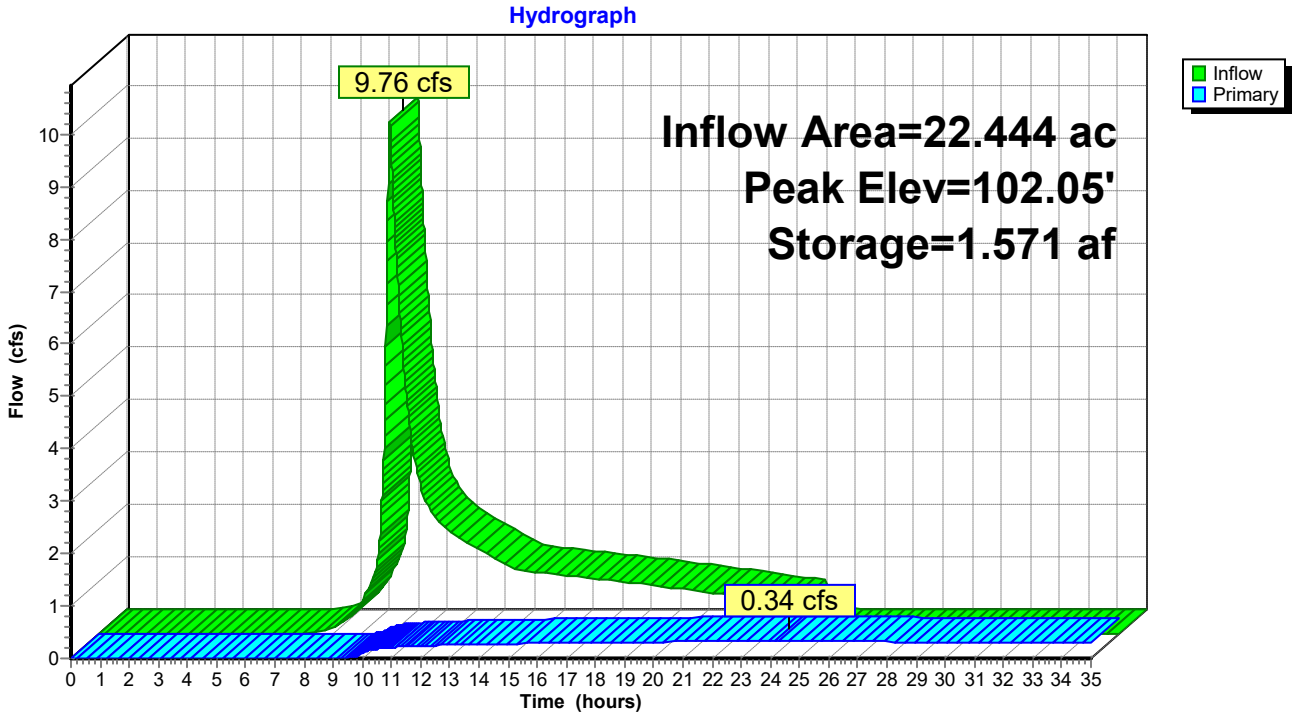
Plug-Flow detention time= 778.4 min calculated for 0.617 af (32% of inflow)
Center-of-Mass det. time= 539.2 min (1,380.8 - 841.6)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	4.423 af	**100.00'W x 300.00'L x 5.00'H Prismatoid Z=4.0**

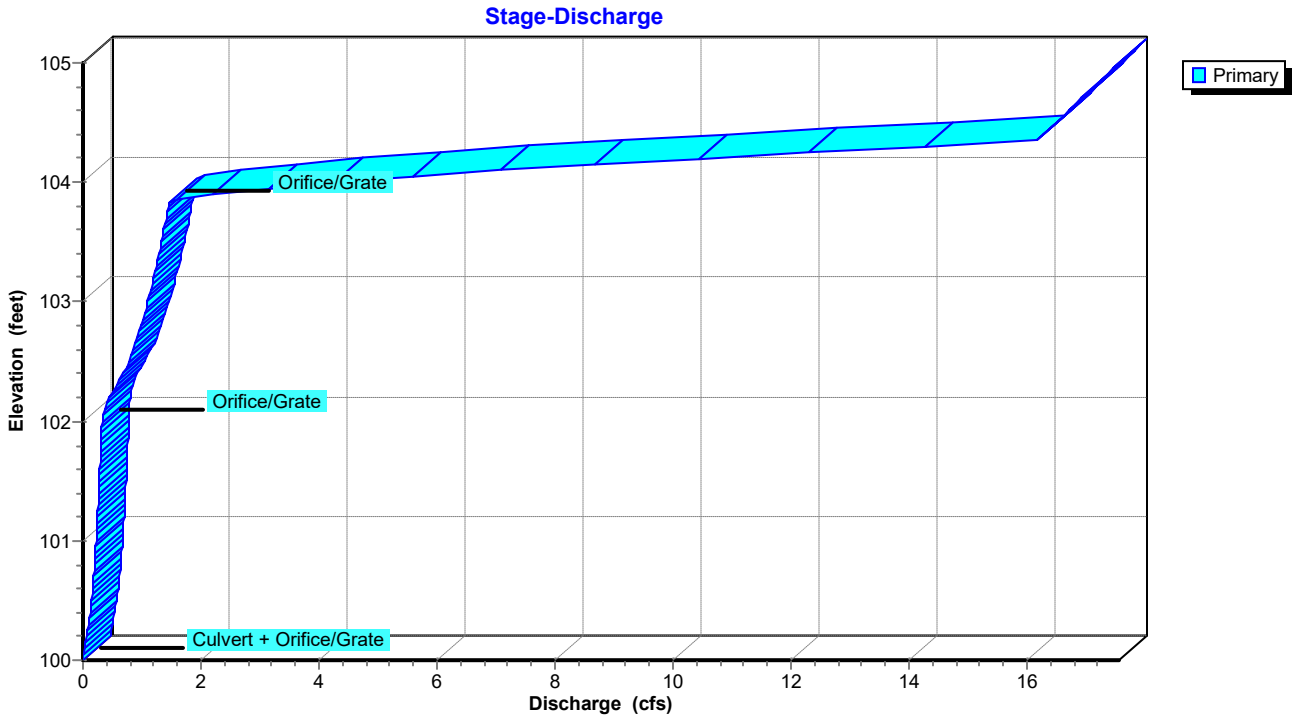
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.34 cfs @ 24.16 hrs HW=102.05' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.34 cfs of 8.81 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.33 cfs @ 6.68 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.76 fps)

Pond D5: Detention Basin 5



Pond D5: Detention Basin 5



Stage-Discharge for Pond D5: Detention Basin 5

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.86
100.05	0.01	102.65	0.89
100.10	0.02	102.70	0.92
100.15	0.04	102.75	0.96
100.20	0.06	102.80	0.99
100.25	0.08	102.85	1.02
100.30	0.10	102.90	1.04
100.35	0.11	102.95	1.07
100.40	0.12	103.00	1.10
100.45	0.13	103.05	1.12
100.50	0.14	103.10	1.15
100.55	0.15	103.15	1.17
100.60	0.16	103.20	1.20
100.65	0.17	103.25	1.22
100.70	0.18	103.30	1.24
100.75	0.19	103.35	1.27
100.80	0.19	103.40	1.29
100.85	0.20	103.45	1.31
100.90	0.21	103.50	1.33
100.95	0.21	103.55	1.35
101.00	0.22	103.60	1.37
101.05	0.23	103.65	1.39
101.10	0.23	103.70	1.41
101.15	0.24	103.75	1.43
101.20	0.25	103.80	1.45
101.25	0.25	103.85	1.58
101.30	0.26	103.90	2.21
101.35	0.26	103.95	3.14
101.40	0.27	104.00	4.27
101.45	0.27	104.05	5.59
101.50	0.28	104.10	7.06
101.55	0.28	104.15	8.68
101.60	0.29	104.20	10.42
101.65	0.29	104.25	12.29
101.70	0.30	104.30	14.27
101.75	0.30	104.35	16.14
101.80	0.31	104.40	16.26
101.85	0.31	104.45	16.37
101.90	0.31	104.50	16.48
101.95	0.32	104.55	16.59
102.00	0.32	104.60	16.70
102.05	0.34	104.65	16.80
102.10	0.36	104.70	16.91
102.15	0.40	104.75	17.02
102.20	0.45	104.80	17.12
102.25	0.50	104.85	17.23
102.30	0.56	104.90	17.33
102.35	0.62	104.95	17.44
102.40	0.69	105.00	**17.54**
102.45	0.74		
102.50	0.78		
102.55	0.82		

Stage-Area-Storage for Pond D5: Detention Basin 5

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	2.048
100.05	0.035	102.65	2.092
100.10	0.069	102.70	2.137
100.15	0.104	102.75	2.182
100.20	0.139	102.80	2.227
100.25	0.174	102.85	2.272
100.30	0.210	102.90	2.318
100.35	0.246	102.95	2.364
100.40	0.281	103.00	2.410
100.45	0.317	103.05	2.456
100.50	0.354	103.10	2.503
100.55	0.390	103.15	2.549
100.60	0.427	103.20	2.596
100.65	0.463	103.25	2.643
100.70	0.500	103.30	2.690
100.75	0.537	103.35	2.738
100.80	0.575	103.40	2.785
100.85	0.612	103.45	2.833
100.90	0.650	103.50	2.881
100.95	0.688	103.55	2.930
101.00	0.726	103.60	2.978
101.05	0.764	103.65	3.027
101.10	0.803	103.70	3.076
101.15	0.841	103.75	3.125
101.20	0.880	103.80	3.174
101.25	0.919	103.85	3.224
101.30	0.958	103.90	3.274
101.35	0.998	103.95	3.324
101.40	1.038	104.00	3.374
101.45	1.077	104.05	3.424
101.50	1.117	104.10	3.475
101.55	1.158	104.15	3.526
101.60	1.198	104.20	3.577
101.65	1.239	104.25	3.628
101.70	1.279	104.30	3.680
101.75	1.320	104.35	3.731
101.80	1.362	104.40	3.783
101.85	1.403	104.45	3.835
101.90	1.444	104.50	3.888
101.95	1.486	104.55	3.940
102.00	1.528	104.60	3.993
102.05	1.570	104.65	4.046
102.10	1.613	104.70	4.099
102.15	1.655	104.75	4.153
102.20	1.698	104.80	4.206
102.25	1.741	104.85	4.260
102.30	1.784	104.90	4.314
102.35	1.828	104.95	4.368
102.40	1.871	105.00	**4.423**
102.45	1.915		
102.50	1.959		
102.55	2.003		

Summary for Pond D7: Detention Basin 7

Inflow Area = 80.101 ac, 0.00% Impervious, Inflow Depth = 0.76" for 2 year event
Inflow = 20.74 cfs @ 9.99 hrs, Volume= 5.060 af
Outflow = 2.04 cfs @ 22.57 hrs, Volume= 3.684 af, Atten= 90%, Lag= 754.6 min
Primary = 2.04 cfs @ 22.57 hrs, Volume= 3.684 af
Routed to Reach 7R : Collection Point 7

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.81' @ 22.57 hrs Surf.Area= 1.160 ac Storage= 2.907 af

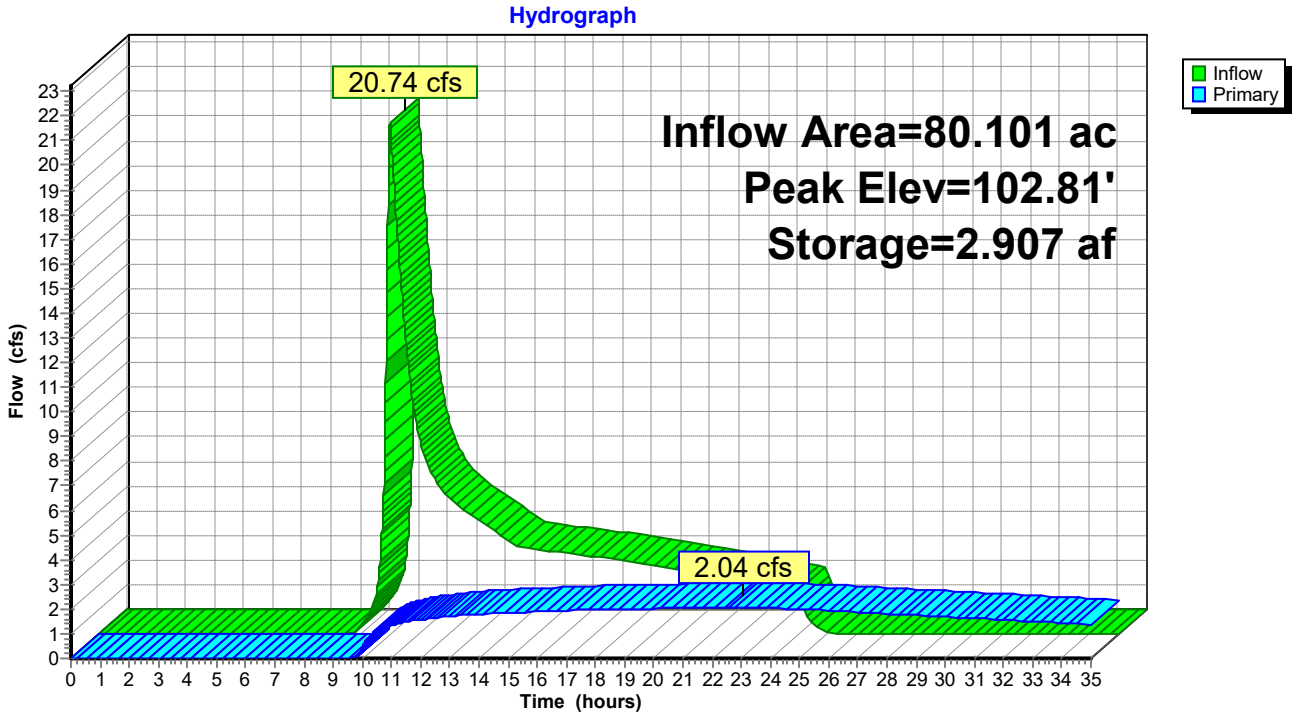
Plug-Flow detention time= 603.4 min calculated for 3.683 af (73% of inflow)
Center-of-Mass det. time= 470.3 min (1,345.5 - 875.1)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	11.095 af	**115.00'W x 345.00'L x 8.50'H Prismatoid Z=4.0**

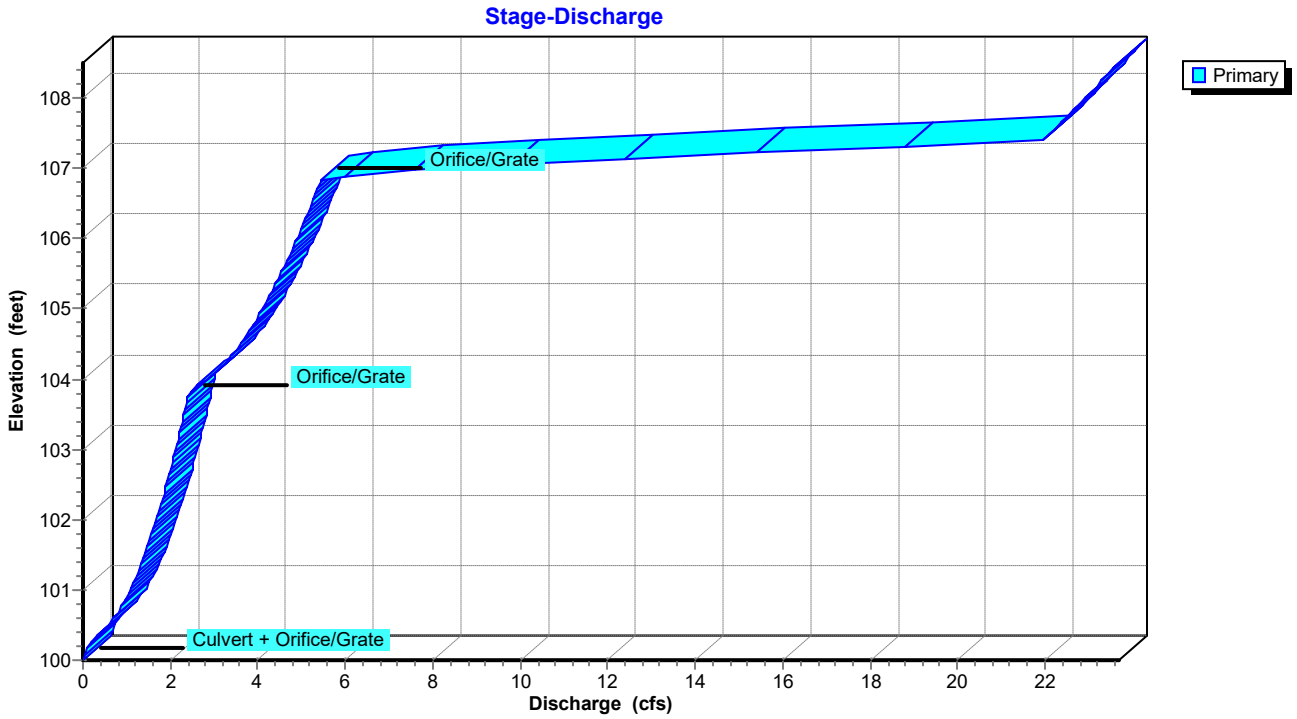
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	106.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.75'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.04 cfs @ 22.57 hrs HW=102.81' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.04 cfs of 12.22 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 2.04 cfs @ 7.64 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D7: Detention Basin 7



Pond D7: Detention Basin 7



Stage-Discharge for Pond D7: Detention Basin 7

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	4.28	107.80	22.59
100.05	0.01	102.65	1.98	105.25	4.32	107.85	22.67
100.10	0.03	102.70	2.00	105.30	4.36	107.90	22.75
100.15	0.07	102.75	2.02	105.35	4.40	107.95	22.83
100.20	0.12	102.80	2.04	105.40	4.44	108.00	22.91
100.25	0.19	102.85	2.06	105.45	4.48	108.05	22.99
100.30	0.26	102.90	2.08	105.50	4.52	108.10	23.07
100.35	0.34	102.95	2.10	105.55	4.56	108.15	23.15
100.40	0.42	103.00	2.12	105.60	4.60	108.20	23.22
100.45	0.51	103.05	2.14	105.65	4.64	108.25	23.30
100.50	0.59	103.10	2.16	105.70	4.68	108.30	23.38
100.55	0.66	103.15	2.18	105.75	4.71	108.35	23.46
100.60	0.71	103.20	2.19	105.80	4.75	108.40	23.53
100.65	0.77	103.25	2.21	105.85	4.79	108.45	23.61
100.70	0.82	103.30	2.23	105.90	4.82	108.50	**23.69**
100.75	0.87	103.35	2.25	105.95	4.86		
100.80	0.92	103.40	2.27	106.00	4.89		
100.85	0.96	103.45	2.29	106.05	4.93		
100.90	1.00	103.50	2.30	106.10	4.96		
100.95	1.04	103.55	2.32	106.15	5.00		
101.00	1.08	103.60	2.34	106.20	5.03		
101.05	1.12	103.65	2.36	106.25	5.07		
101.10	1.16	103.70	2.38	106.30	5.10		
101.15	1.19	103.75	2.39	106.35	5.13		
101.20	1.23	103.80	2.43	106.40	5.17		
101.25	1.26	103.85	2.50	106.45	5.20		
101.30	1.29	103.90	2.60	106.50	5.23		
101.35	1.32	103.95	2.71	106.55	5.26		
101.40	1.35	104.00	2.84	106.60	5.30		
101.45	1.38	104.05	2.96	106.65	5.33		
101.50	1.41	104.10	3.05	106.70	5.36		
101.55	1.44	104.15	3.14	106.75	5.39		
101.60	1.47	104.20	3.21	106.80	5.42		
101.65	1.50	104.25	3.29	106.85	5.57		
101.70	1.53	104.30	3.36	106.90	6.21		
101.75	1.55	104.35	3.42	106.95	7.15		
101.80	1.58	104.40	3.48	107.00	8.30		
101.85	1.61	104.45	3.54	107.05	9.63		
101.90	1.63	104.50	3.60	107.10	11.11		
101.95	1.66	104.55	3.66	107.15	12.74		
102.00	1.68	104.60	3.71	107.20	14.50		
102.05	1.71	104.65	3.77	107.25	16.38		
102.10	1.73	104.70	3.82	107.30	18.37		
102.15	1.75	104.75	3.87	107.35	20.47		
102.20	1.78	104.80	3.92	107.40	21.94		
102.25	1.80	104.85	3.97	107.45	22.02		
102.30	1.82	104.90	4.01	107.50	22.11		
102.35	1.85	104.95	4.06	107.55	22.19		
102.40	1.87	105.00	4.10	107.60	22.27		
102.45	1.89	105.05	4.15	107.65	22.35		
102.50	1.91	105.10	4.19	107.70	22.43		
102.55	1.93	105.15	4.24	107.75	22.51		

Stage-Area-Storage for Pond D7: Detention Basin 7

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	105.20	5.947
100.10	0.092	105.30	6.087
100.20	0.184	105.40	6.227
100.30	0.277	105.50	6.369
100.40	0.371	105.60	6.511
100.50	0.466	105.70	6.655
100.60	0.562	105.80	6.799
100.70	0.658	105.90	6.945
100.80	0.756	106.00	7.091
100.90	0.854	106.10	7.239
101.00	0.954	106.20	7.387
101.10	1.054	106.30	7.537
101.20	1.155	106.40	7.688
101.30	1.257	106.50	7.839
101.40	1.359	106.60	7.992
101.50	1.463	106.70	8.146
101.60	1.567	106.80	8.301
101.70	1.673	106.90	8.457
101.80	1.779	107.00	8.613
101.90	1.886	107.10	8.771
102.00	1.995	107.20	8.930
102.10	2.104	107.30	9.090
102.20	2.213	107.40	9.252
102.30	2.324	107.50	9.414
102.40	2.436	107.60	9.577
102.50	2.549	107.70	9.741
102.60	2.662	107.80	9.907
102.70	2.777	107.90	10.073
102.80	2.892	108.00	10.241
102.90	3.009	108.10	10.409
103.00	3.126	108.20	10.579
103.10	3.244	108.30	10.750
103.20	3.363	108.40	10.922
103.30	3.483	108.50	**11.095**
103.40	3.604		
103.50	3.726		
103.60	3.849		
103.70	3.973		
103.80	4.098		
103.90	4.224		
104.00	4.350		
104.10	4.478		
104.20	4.607		
104.30	4.736		
104.40	4.867		
104.50	4.999		
104.60	5.131		
104.70	5.265		
104.80	5.399		
104.90	5.535		
105.00	5.671		
105.10	5.809		

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: Diverted Area 1 Runoff Area=3,698,995 sf 0.00% Impervious Runoff Depth=1.96"
Flow Length=4,203' Slope=0.1540 '/' Tc=38.2 min CN=79/0 Runoff=46.90 cfs 13.837 af

Subcatchment 1.2: Developed Area 1 Runoff Area=989,958 sf 0.00% Impervious Runoff Depth=2.19"
Flow Length=4,976' Slope=0.0770 '/' Tc=21.5 min CN=82/0 Runoff=20.77 cfs 4.156 af

Subcatchment 2.1: Diverted Area 2 Runoff Area=426,454 sf 0.00% Impervious Runoff Depth=2.03"
Flow Length=1,202' Slope=0.2410 '/' Tc=20.7 min CN=80/0 Runoff=8.29 cfs 1.659 af

Subcatchment 3.1: Diverted Area 3 Runoff Area=842,263 sf 0.00% Impervious Runoff Depth=1.66"
Flow Length=1,628' Slope=0.2190 '/' Tc=24.1 min CN=75/0 Runoff=11.38 cfs 2.673 af

Subcatchment 3.2: Developed Area 3 Runoff Area=205,028 sf 0.00% Impervious Runoff Depth=2.45"
Flow Length=1,531' Slope=0.0290 '/' Tc=19.5 min CN=85/0 Runoff=5.18 cfs 0.961 af

Subcatchment 4.1: Diverted Area 4 Runoff Area=933,066 sf 0.00% Impervious Runoff Depth=1.52"
Flow Length=1,976' Slope=0.1310 '/' Tc=29.5 min CN=73/0 Runoff=9.75 cfs 2.714 af

Subcatchment 5.1: Diverted Area 5 Runoff Area=5,506,547 sf 0.00% Impervious Runoff Depth=1.80"
Flow Length=4,927' Slope=0.0870 '/' Tc=48.7 min CN=77/0 Runoff=52.57 cfs 19.006 af

Subcatchment 5.2: Developed Area 5 Runoff Area=977,666 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=2,416' Slope=0.1020 '/' Tc=18.0 min CN=84/0 Runoff=24.66 cfs 4.418 af

Subcatchment 6.1: Diverted Area 6 Runoff Area=1,758,127 sf 0.00% Impervious Runoff Depth=1.80"
Flow Length=4,184' Slope=0.0450 '/' Tc=55.0 min CN=77/0 Runoff=15.38 cfs 6.068 af

Subcatchment 7.1: Diverted Area 7 Runoff Area=4,706,562 sf 0.00% Impervious Runoff Depth=1.88"
Flow Length=5,491' Slope=0.0880 '/' Tc=51.0 min CN=78/0 Runoff=46.13 cfs 16.918 af

Subcatchment 7.2: Developed Area 6 Runoff Area=3,489,199 sf 0.00% Impervious Runoff Depth=1.96"
Flow Length=4,041' Slope=0.0800 '/' Tc=20.4 min CN=79/0 Runoff=64.97 cfs 13.052 af

Subcatchment 8.1: Diverted Area 8 Runoff Area=3,910,579 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=4,273' Slope=0.1050 '/' Tc=43.1 min CN=64/0 Runoff=14.38 cfs 7.233 af

Subcatchment 9.1: Diverted Area 9 Runoff Area=703,591 sf 0.00% Impervious Runoff Depth=0.44"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=0.70 cfs 0.597 af

Subcatchment 10.1: Diverted Area 10.2 Runoff Area=1,844,365 sf 0.00% Impervious Runoff Depth=0.48"
Flow Length=3,248' Slope=0.1000 '/' Tc=38.8 min CN=54/0 Runoff=1.89 cfs 1.707 af

Subcatchment 11.1: Diverted Area 11 Runoff Area=330,401 sf 0.00% Impervious Runoff Depth=0.30"
Flow Length=560' Slope=0.1250 '/' Tc=16.9 min CN=49/0 Runoff=0.19 cfs 0.187 af

Subcatchment 12.1: Diverted Area 12 Runoff Area=3,953,596 sf 0.00% Impervious Runoff Depth=0.30"
Flow Length=3,100' Slope=0.0720 '/' Tc=41.8 min CN=49/0 Runoff=2.20 cfs 2.236 af

Subcatchment 12.2: Developed Area Runoff Area=18,611,996 sf 0.00% Impervious Runoff Depth=1.66"
Flow Length=7,353' Slope=0.0180 '/' Tc=31.4 min CN=75/0 Runoff=212.66 cfs 59.077 af

Subcatchment 12.3: Diverted Area 12.3 Runoff Area=1,842,936 sf 0.00% Impervious Runoff Depth=1.26"
Flow Length=7,592' Tc=48.2 min CN=69/0 Runoff=10.07 cfs 4.443 af

Subcatchment 12.4: Diverted Area 12.4 Runoff Area=2,734,787 sf 0.00% Impervious Runoff Depth=1.02"
Flow Length=9,171' Tc=56.2 min CN=65/0 Runoff=9.54 cfs 5.351 af

Subcatchment 13.1: Diverted Area 13 Runoff Area=67,532 sf 0.00% Impervious Runoff Depth=1.52"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=73/0 Runoff=1.29 cfs 0.196 af

Subcatchment 14.1: Diverted Area 14 Runoff Area=109,322 sf 0.00% Impervious Runoff Depth=1.39"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=1.94 cfs 0.290 af

Subcatchment 15.1: Diverted Area 15 Runoff Area=414,988 sf 0.00% Impervious Runoff Depth=0.40"
Flow Length=1,585' Slope=0.1650 '/' Tc=25.7 min CN=52/0 Runoff=0.34 cfs 0.321 af

Subcatchment 15.2: Developed Area 15 Runoff Area=1,372,228 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=2,036' Slope=0.0100 '/' Tc=24.0 min CN=63/0 Runoff=6.64 cfs 2.395 af

Subcatchment 16.1: Diverted Area 16 Runoff Area=1,317,955 sf 0.00% Impervious Runoff Depth=1.08"
Flow Length=2,287' Slope=0.0720 '/' Tc=36.8 min CN=66/0 Runoff=6.56 cfs 2.723 af

Subcatchment 16.2: Developed Area 16 Runoff Area=534,690 sf 0.00% Impervious Runoff Depth=1.14"
Flow Length=808' Slope=0.0680 '/' Tc=15.7 min CN=67/0 Runoff=5.17 cfs 1.165 af

Subcatchment 16.3: Developed Area 16 Runoff Area=4,800,431 sf 0.00% Impervious Runoff Depth=1.88"
Flow Length=3,863' Slope=0.0080 '/' Tc=64.7 min CN=78/0 Runoff=39.92 cfs 17.256 af

Subcatchment 17.1: Diverted Area 17 Runoff Area=1,066,067 sf 0.00% Impervious Runoff Depth=0.40"
Flow Length=1,613' Slope=0.0940 '/' Tc=29.7 min CN=52/0 Runoff=0.87 cfs 0.824 af

Subcatchment 18.1: Diverted Area 18 Runoff Area=5,811,307 sf 0.00% Impervious Runoff Depth=1.26"
Flow Length=4,653' Slope=0.0530 '/' Tc=55.0 min CN=69/0 Runoff=29.21 cfs 14.009 af

Subcatchment 18.2: Developed Area 18 Runoff Area=1,858,157 sf 0.00% Impervious Runoff Depth=2.63"
Flow Length=3,224' Slope=0.0340 '/' Tc=22.1 min CN=87/0 Runoff=47.69 cfs 9.340 af

Subcatchment 19.1: Diverted Area 19 Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.57"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=2.31 cfs 1.684 af

Subcatchment 20.1: Diverted Area 20 Runoff Area=5,359,234 sf 0.00% Impervious Runoff Depth=1.59"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=74/0 Runoff=48.32 cfs 16.291 af

Subcatchment 20.2: Developed Area 20.2 Runoff Area=3.949 ac 37.71% Impervious Runoff Depth=2.45"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=4.23 cfs 0.806 af

Subcatchment 20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=2.39"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=2.83 cfs 0.682 af

Subcatchment 20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=1.91"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=6.45 cfs 1.229 af

Subcatchment 21.1: Diverted Area 21 Runoff Area=1,537,885 sf 0.00% Impervious Runoff Depth=1.02"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=8.07 cfs 3.009 af

Subcatchment 22.1: Diverted Area 22 Runoff Area=2,526,337 sf 0.00% Impervious Runoff Depth=2.11"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=42.33 cfs 10.213 af

Reach 1R: Collection Point 1 Inflow=47.02 cfs 16.198 af
Outflow=47.02 cfs 16.198 af

Reach 2R: Collection Point 2 Inflow=8.29 cfs 1.659 af
Outflow=8.29 cfs 1.659 af

Reach 3R: Collection Point 3 Inflow=11.48 cfs 3.174 af
Outflow=11.48 cfs 3.174 af

Reach 4R: Collection Point 4 Inflow=9.75 cfs 2.714 af
Outflow=9.75 cfs 2.714 af

Reach 5R: Collection Point 5 Inflow=52.81 cfs 21.422 af
Outflow=52.81 cfs 21.422 af

Reach 6R: Collection Point 6 Inflow=15.38 cfs 6.068 af
Outflow=15.38 cfs 6.068 af

Reach 7R: Collection Point 7 Inflow=47.75 cfs 25.946 af
Outflow=47.75 cfs 25.946 af

Reach 8R: Collection Point 8 Inflow=14.38 cfs 7.233 af
Outflow=14.38 cfs 7.233 af

Reach 9R: Collection Point 9 Inflow=0.70 cfs 0.597 af
Outflow=0.70 cfs 0.597 af

Reach 10R: Collection Point 10 Inflow=1.89 cfs 1.707 af
Outflow=1.89 cfs 1.707 af

Reach 11R: Collection Point 11 Inflow=0.19 cfs 0.187 af
Outflow=0.19 cfs 0.187 af

Reach 12R: Collection Point 12 Inflow=19.50 cfs 27.065 af
Outflow=19.50 cfs 27.065 af

Reach 13R: Collection Point 13 Inflow=1.29 cfs 0.196 af
Outflow=1.29 cfs 0.196 af

Reach 14R: Collection Point 14 Inflow=1.94 cfs 0.290 af
Outflow=1.94 cfs 0.290 af

Reach 15R: Collection Point 15 Inflow=1.62 cfs 2.087 af
Outflow=1.62 cfs 2.087 af

Reach 16R: Collection Point 16 Inflow=9.70 cfs 14.597 af
Outflow=9.70 cfs 14.597 af

Reach 17R: Collection Point 17 Inflow=0.87 cfs 0.824 af
Outflow=0.87 cfs 0.824 af

Reach 18R: Collection Point 18 Inflow=31.08 cfs 19.504 af
Outflow=31.08 cfs 19.504 af

Reach 19R: Collection Point 19 Inflow=2.31 cfs 1.684 af
Outflow=2.31 cfs 1.684 af

Reach 20R: Collection Point 20 Inflow=48.78 cfs 18.198 af
Outflow=48.78 cfs 18.198 af

Reach 21R: Collection Point 21 Inflow=8.07 cfs 3.009 af
Outflow=8.07 cfs 3.009 af

Reach 22R: Collection Point 22 Inflow=42.33 cfs 10.213 af
Outflow=42.33 cfs 10.213 af

Pond 12S: Flow Splitter Box Peak Elev=115.65' Inflow=231.15 cfs 68.870 af
Primary=115.58 cfs 34.435 af Secondary=115.58 cfs 34.435 af Outflow=231.15 cfs 68.870 af

Pond D1: Detention Basin 1 Peak Elev=104.62' Storage=2.715 af Inflow=20.77 cfs 4.156 af
Outflow=1.51 cfs 2.361 af

Pond D12.1: Detention Pond 12.1 Peak Elev=107.62' Storage=27.700 af Inflow=115.58 cfs 34.435 af
Outflow=9.02 cfs 12.414 af

Pond D12.2: Detention Pond 12.2 Peak Elev=107.62' Storage=27.700 af Inflow=115.58 cfs 34.435 af
Outflow=9.02 cfs 12.414 af

Pond D15: Detention Pond 15 Peak Elev=102.39' Storage=1.230 af Inflow=6.64 cfs 2.395 af
Outflow=1.37 cfs 1.766 af

Pond D16.2: Detention Pond 16.2 Peak Elev=101.91' Storage=0.398 af Inflow=5.17 cfs 1.165 af
Outflow=0.81 cfs 1.090 af

Pond D16.3: Detention Pond 16.3 Peak Elev=105.06' Storage=10.493 af Inflow=39.92 cfs 17.256 af
Outflow=7.48 cfs 10.784 af

Pond D18: Detention Pond 18 Peak Elev=105.01' Storage=6.134 af Inflow=47.69 cfs 9.340 af
Outflow=2.83 cfs 5.495 af

Pond D20.2: Detention Basin 20.2 Peak Elev=104.06' Storage=0.483 af Inflow=4.23 cfs 0.806 af
Outflow=0.28 cfs 0.525 af

Pond D20.3: Detention Pond 20.3 Peak Elev=102.59' Storage=17,031 cf Inflow=2.83 cfs 0.682 af
Outflow=0.24 cfs 0.488 af

Pond D20.4: Detention Pond 20.4 Peak Elev=104.23' Storage=29,050 cf Inflow=6.45 cfs 1.229 af
Outflow=0.53 cfs 0.894 af

Pond D3: Detention Basin 3 Peak Elev=103.32' Storage=0.664 af Inflow=5.18 cfs 0.961 af
Outflow=0.28 cfs 0.501 af

Pond D5: Detention Basin 5 Peak Elev=103.63' Storage=3.010 af Inflow=24.66 cfs 4.418 af
Outflow=1.38 cfs 2.416 af

Pond D7: Detention Basin 7 Peak Elev=106.38' Storage=7.655 af Inflow=64.97 cfs 13.052 af
Outflow=5.15 cfs 9.028 af

Total Runoff Area = 1,984.517 ac Runoff Volume = 248.724 af Average Runoff Depth = 1.50"
99.83% Pervious = 1,981.063 ac 0.17% Impervious = 3.454 ac

Summary for Subcatchment 1.1: Diverted Area 1

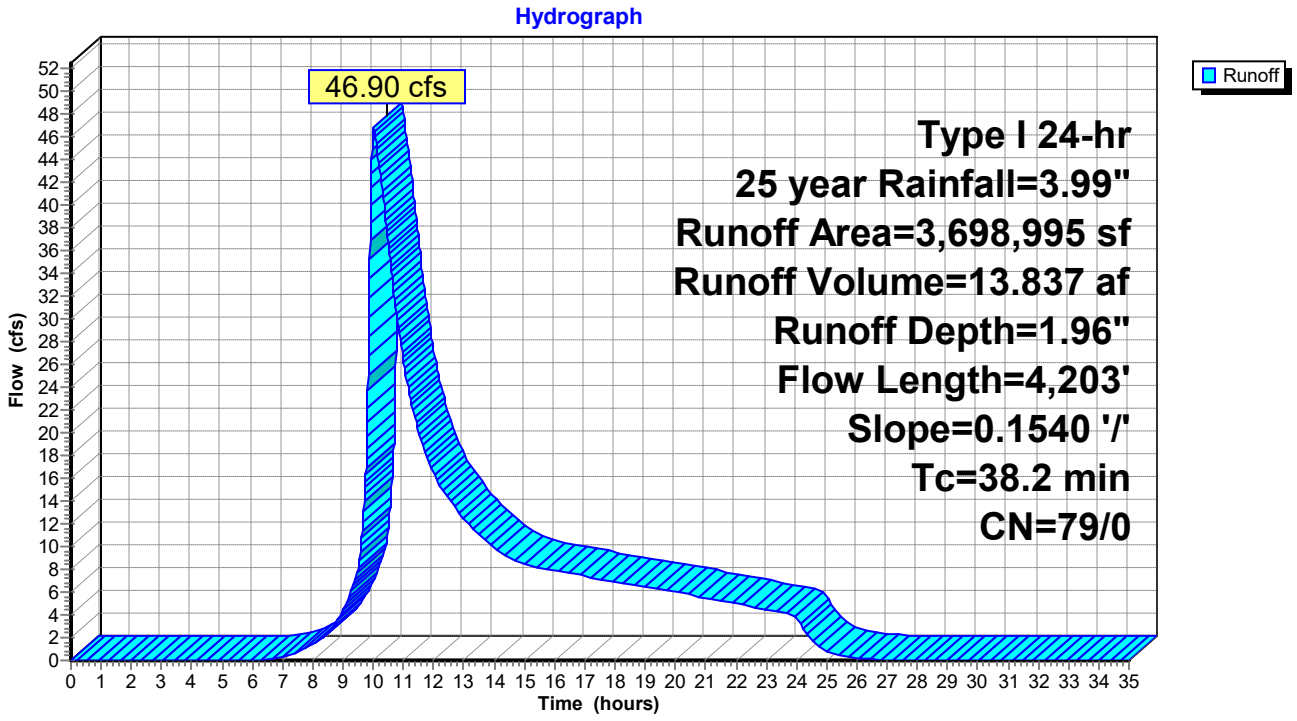
Runoff = 46.90 cfs @ 10.00 hrs, Volume= 13.837 af, Depth= 1.96"
Routed to Reach 1R : Collection Point 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	3,674,469	79	Brush and open space, see attachment 3.
*	24,523	83	Paved; Open ditches (including right-of-way), HSG A
*	3	92	Paved; Open ditches (including right-of-way), HSG C
	3,698,995	79	Weighted Average
	3,698,995	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1540	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.3	3,003	0.1540	3.28		**Kirpich Method,** General overland flow k= 2.00
38.2	4,203	Total			

Subcatchment 1.1: Diverted Area 1



Summary for Subcatchment 1.2: Developed Area 1

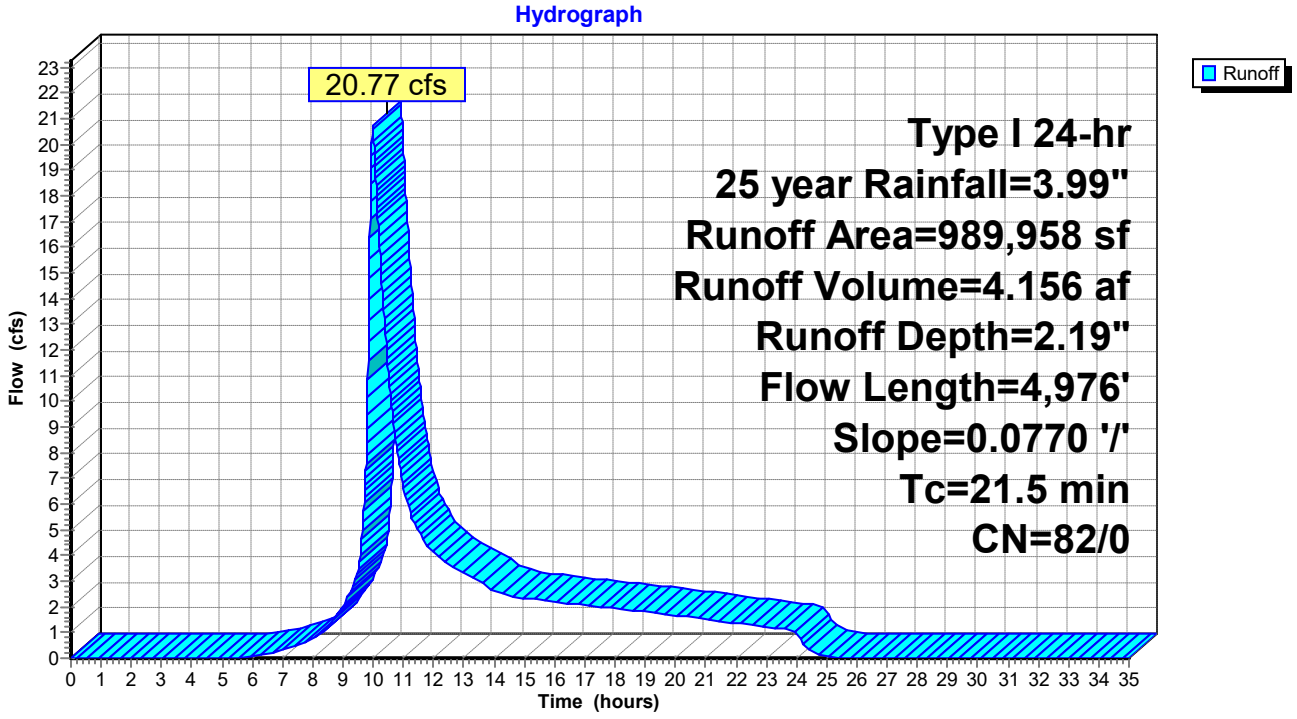
Runoff = 20.77 cfs @ 9.99 hrs, Volume= 4.156 af, Depth= 2.19"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	717,413	80	Composite CN, see attachment 3.
*	109,177	83	Paved; Open ditches (including right-of-way), HSG A
*	77,573	92	Paved; Open ditches (including right-of-way), HSG C
*	85,795	93	Paved; Open ditches (including right-of-way), HSG D
	989,958	82	Weighted Average
	989,958	82	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.7	1,200	0.0770	3.00		**Kerby Method,** Smooth impervious N= 0.02
4.8	3,776	0.0770	13.23		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
21.5	4,976	Total			

Subcatchment 1.2: Developed Area 1



Summary for Subcatchment 2.1: Diverted Area 2

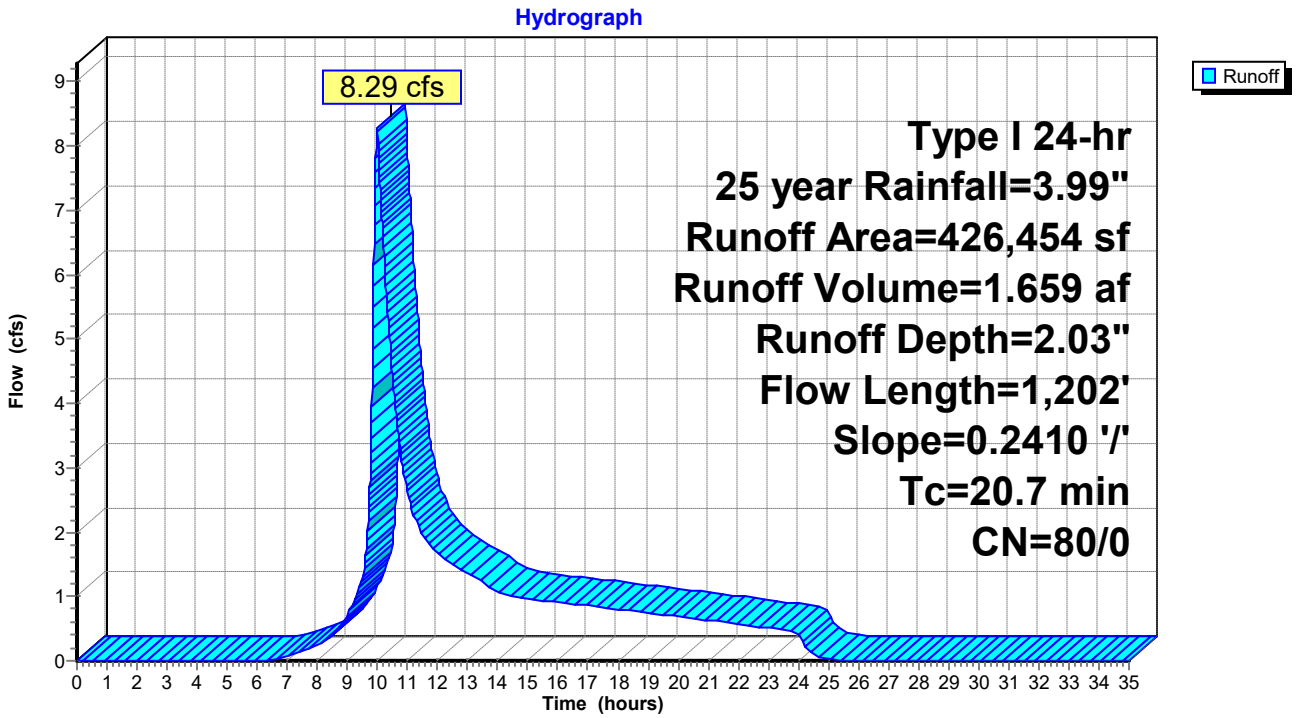
Runoff = 8.29 cfs @ 9.99 hrs, Volume= 1.659 af, Depth= 2.03"
Routed to Reach 2R : Collection Point 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	420,602	80	Brush, see Attachment 3.
*	4,339	83	Paved; Open ditches (including right-of-way), HSG A
*	1,513	93	Paved; Open ditches (including right-of-way), HSG D
	426,454	80	Weighted Average
	426,454	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	1,202	0.2410	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2.1: Diverted Area 2



Summary for Subcatchment 3.1: Diverted Area 3

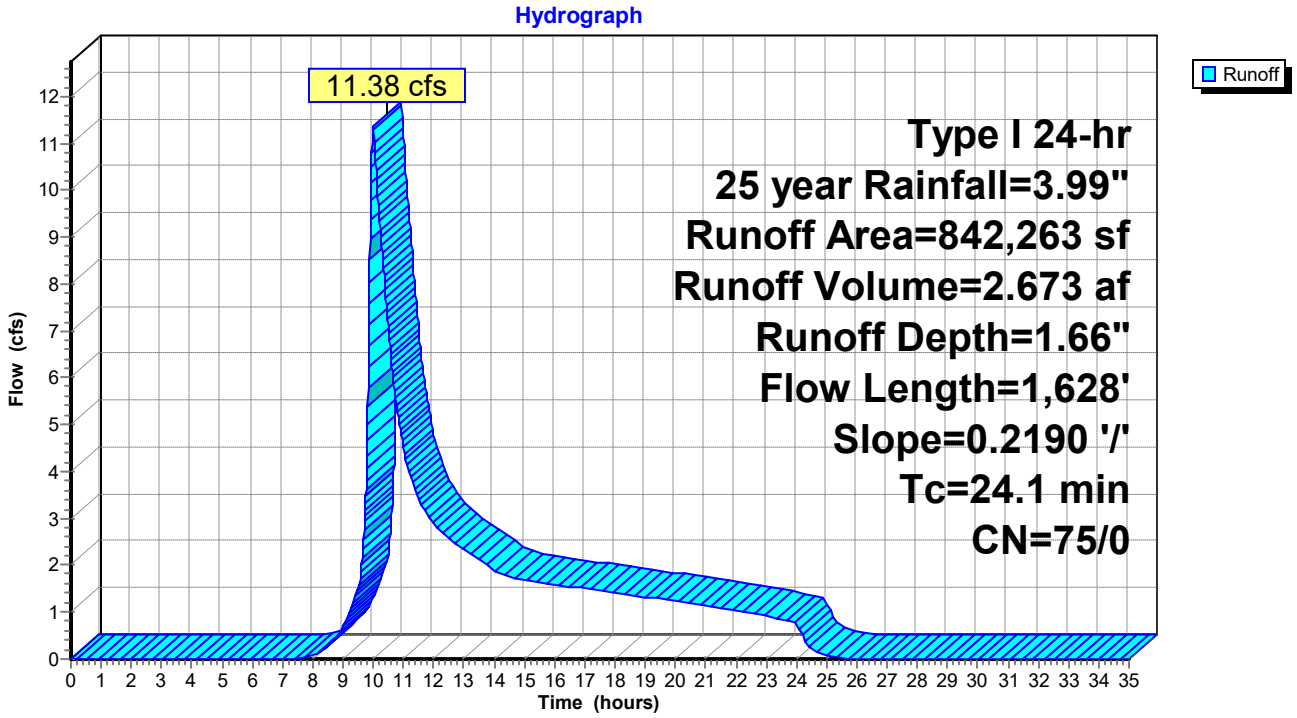
Runoff = 11.38 cfs @ 9.99 hrs, Volume= 2.673 af, Depth= 1.66"
Routed to Reach 3R : Collection Point 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	842,263	75	Brush and open space, See Attachment 3
	842,263	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	1,200	0.2190	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.0	428	0.2190	2.40		**Kirpich Method,** General overland flow k= 2.00
24.1	1,628	Total			

Subcatchment 3.1: Diverted Area 3



Summary for Subcatchment 3.2: Developed Area 3

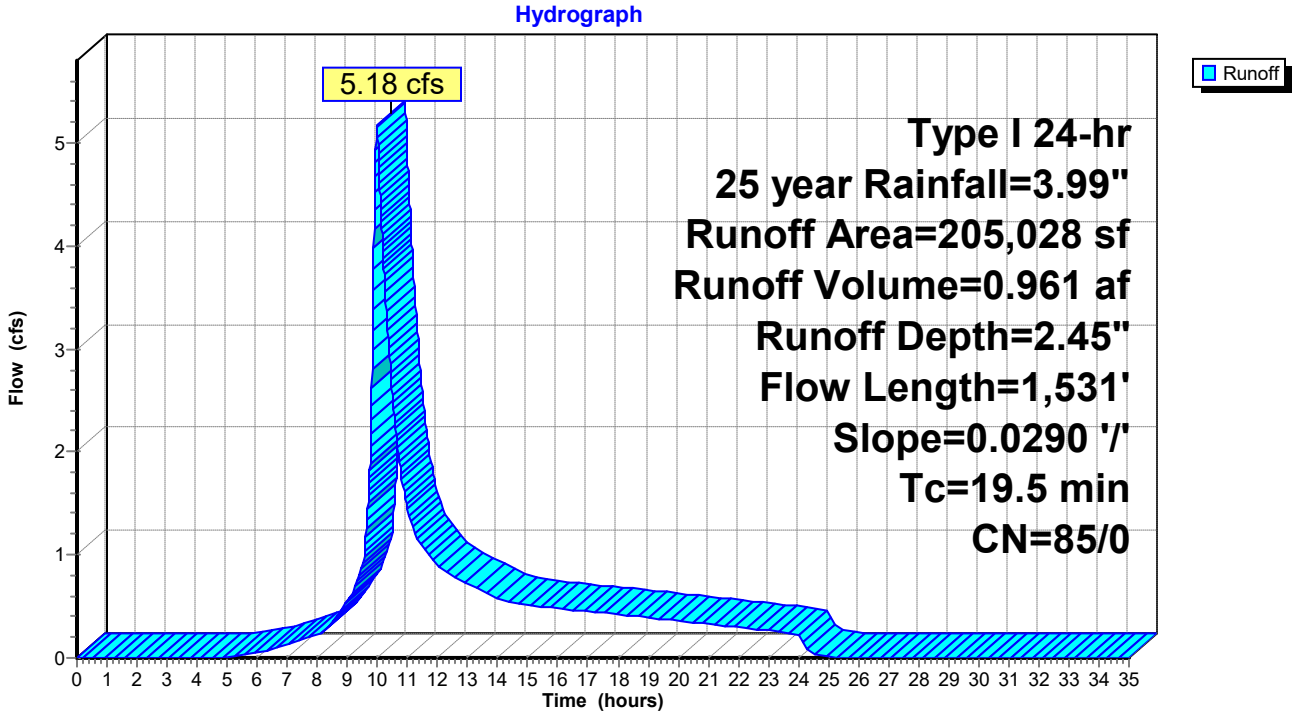
Runoff = 5.18 cfs @ 9.98 hrs, Volume= 0.961 af, Depth= 2.45"
Routed to Pond D3 : Detention Basin 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	125,827	87	Composite CN, see Attachment 3
*	78,995	83	Paved; Open ditches (including right-of-way), HSG A
*	206	93	Paved; Open ditches (including right-of-way), HSG D
	205,028	85	Weighted Average
	205,028	85	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.4	1,200	0.0290	2.39		**Kerby Method,** Smooth impervious N= 0.02
1.1	331	0.0290	5.19		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
19.5	1,531	Total			

Subcatchment 3.2: Developed Area 3



Summary for Subcatchment 4.1: Diverted Area 4

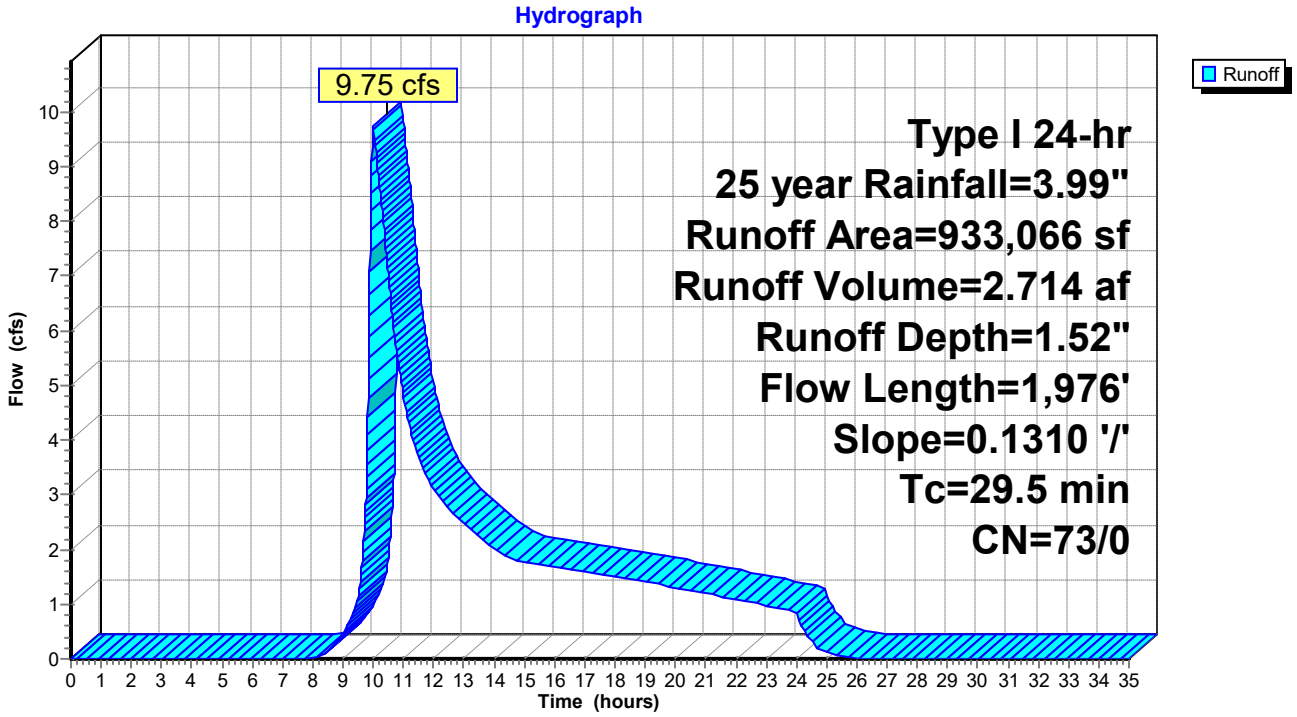
Runoff = 9.75 cfs @ 10.00 hrs, Volume= 2.714 af, Depth= 1.52"
Routed to Reach 4R : Collection Point 4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	38,033	83	Paved; Open ditches (including right-of-way), HSG A
*	895,033	73	Brush and open space, see Attachment 3.
	933,066	73	Weighted Average
	933,066	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.8	1,200	0.1310	0.84		**Kerby Method,** Pasture, average grass N= 0.40
5.7	776	0.1310	2.26		**Kirpich Method,** General overland flow k= 2.00
29.5	1,976	Total			

Subcatchment 4.1: Diverted Area 4



Summary for Subcatchment 5.1: Diverted Area 5

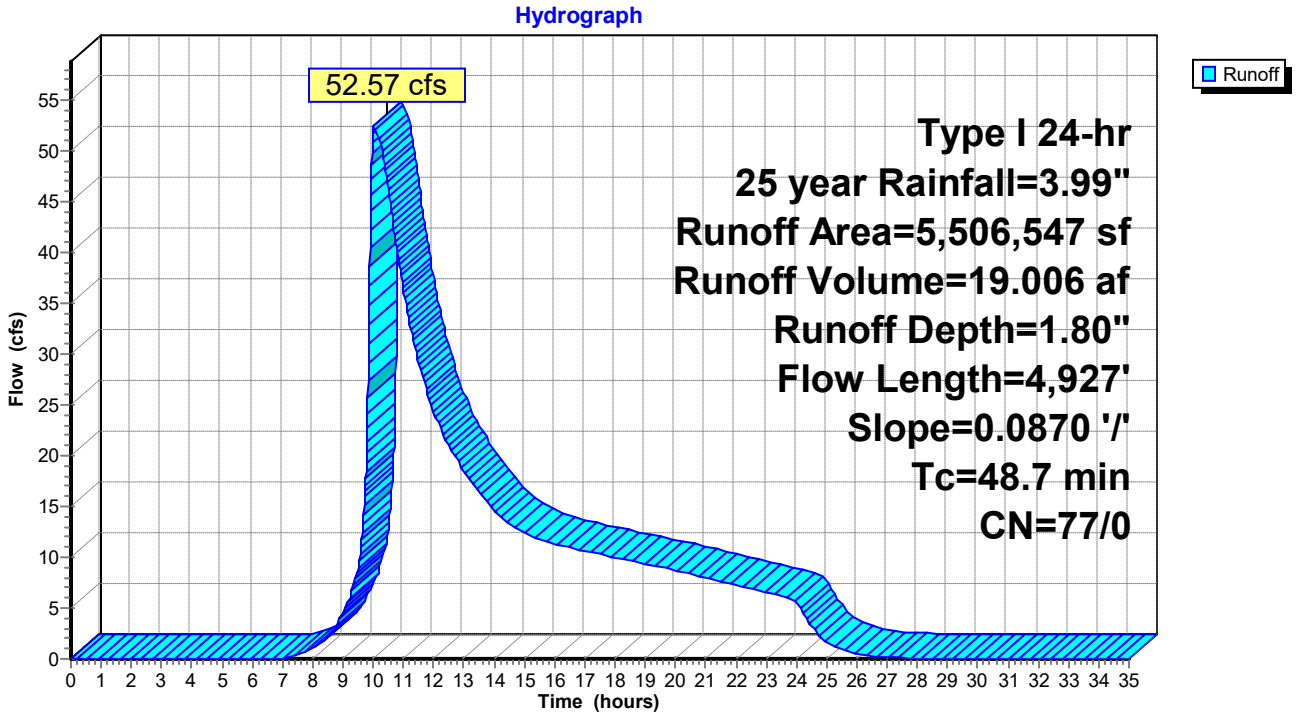
Runoff = 52.57 cfs @ 10.01 hrs, Volume= 19.006 af, Depth= 1.80"
Routed to Reach 5R : Collection Point 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	5,484,277	77	Brush and opne space, see Attachment 3
*	22,270	83	Paved; Open ditches (including right-of-way), HSG A
	5,506,547	77	Weighted Average
	5,506,547	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.2	1,200	0.0870	0.76		**Kerby Method,** Pasture, average grass N= 0.40
22.5	3,727	0.0870	2.77		**Kirpich Method,** General overland flow k= 2.00
48.7	4,927	Total			

Subcatchment 5.1: Diverted Area 5



Summary for Subcatchment 5.2: Developed Area 5

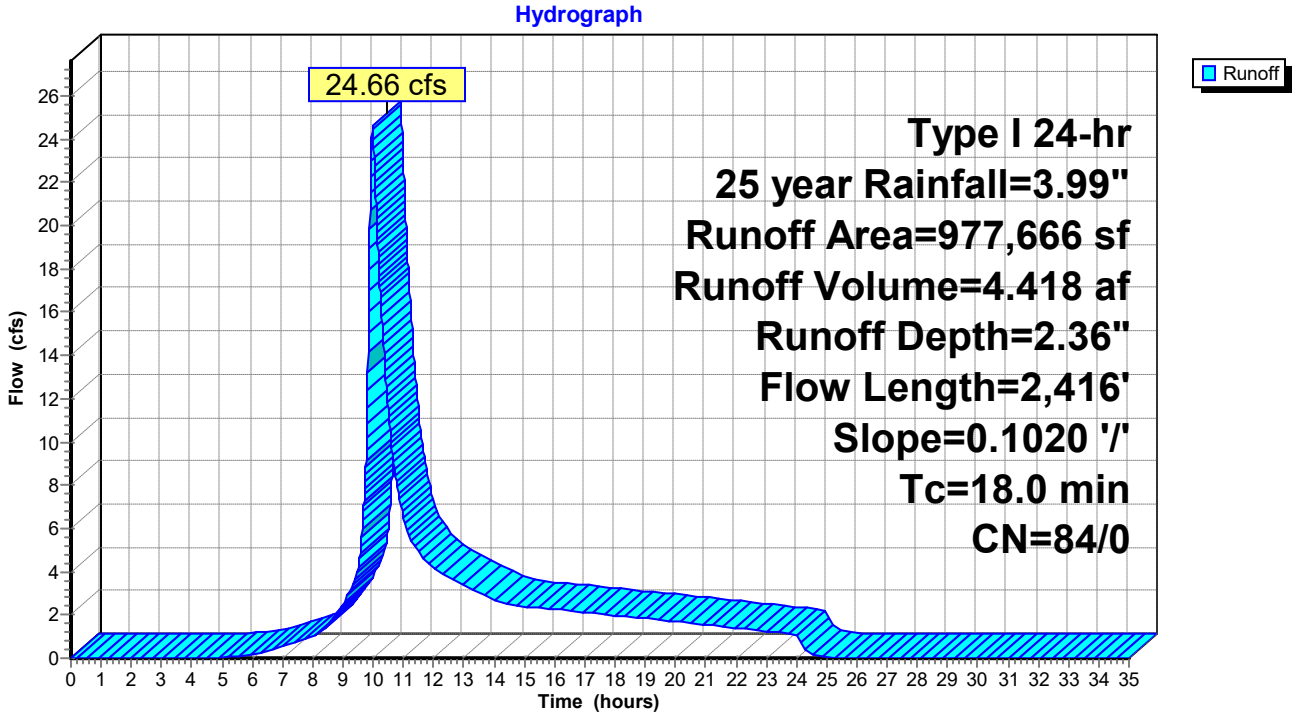
Runoff = 24.66 cfs @ 9.98 hrs, Volume= 4.418 af, Depth= 2.36"
Routed to Pond D5 : Detention Basin 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	751,855	82	Composite CN, see Attachment 3.
*	77,623	83	Paved; Open ditches (including right-of-way), HSG A
*	102,033	92	Paved; Open ditches (including right-of-way), HSG C
*	46,155	93	Paved; Open ditches (including right-of-way), HSG D
	977,666	84	Weighted Average
	977,666	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.2	1,200	0.1020	3.21		**Kerby Method,** Smooth impervious N= 0.02
1.8	1,216	0.1020	11.36		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.0	2,416	Total			

Subcatchment 5.2: Developed Area 5



Summary for Subcatchment 6.1: Diverted Area 6

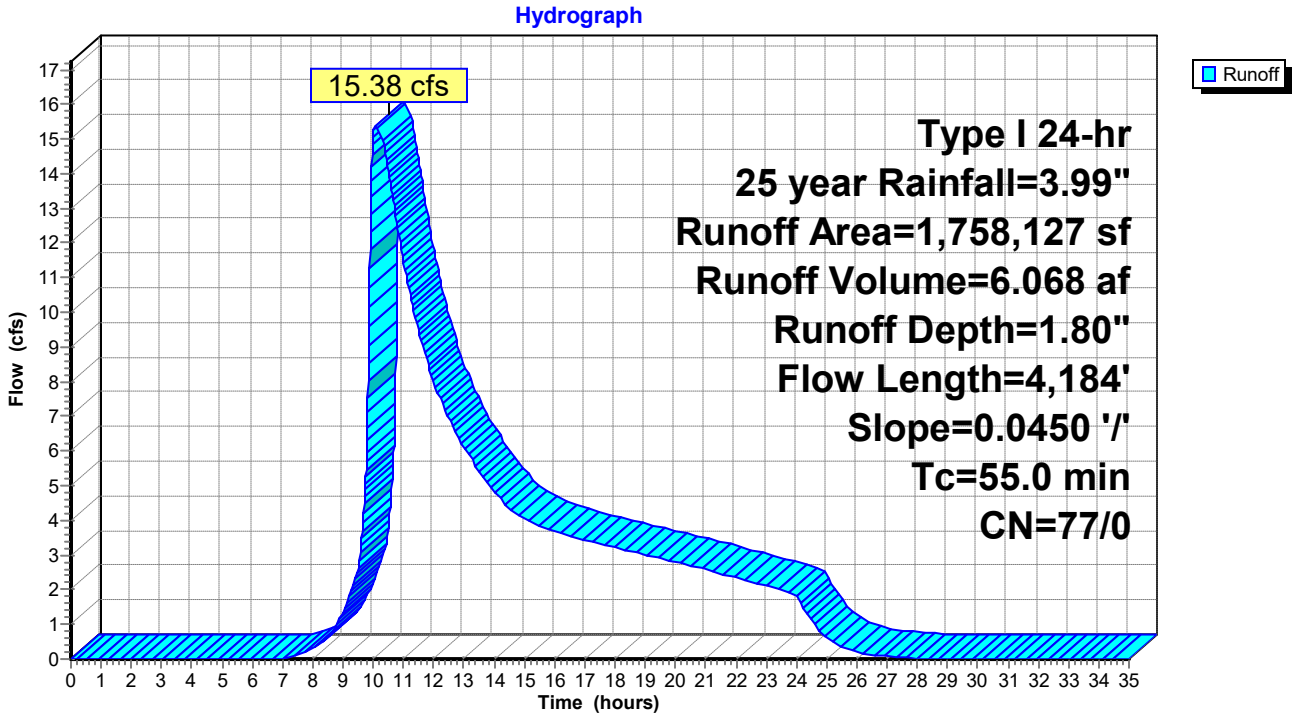
Runoff = 15.38 cfs @ 10.07 hrs, Volume= 6.068 af, Depth= 1.80"
Routed to Reach 6R : Collection Point 6

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,758,127	77	Brush and open space, see Attachment 3.
	1,758,127	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.6	1,200	0.0450	0.65		**Kerby Method,** Pasture, average grass N= 0.40
24.4	2,984	0.0450	2.04		**Kirpich Method,** General overland flow k= 2.00
55.0	4,184	Total			

Subcatchment 6.1: Diverted Area 6



Summary for Subcatchment 7.1: Diverted Area 7

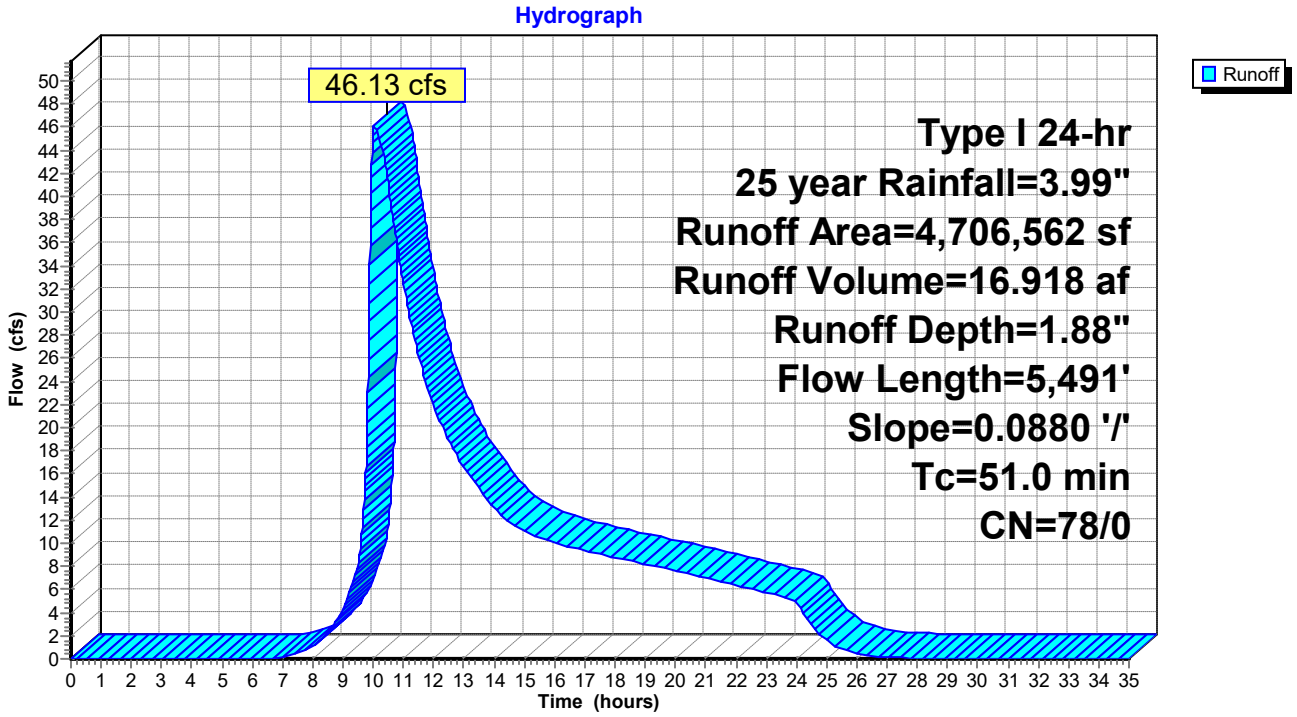
Runoff = 46.13 cfs @ 10.01 hrs, Volume= 16.918 af, Depth= 1.88"
Routed to Reach 7R : Collection Point 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	4,703,800	78	Brush and open space, see Attachment 3.
*	2,762	92	Paved; Open ditches (including right-of-way), HSG C
	4,706,562	78	Weighted Average
	4,706,562	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	1,200	0.0880	0.76		**Kerby Method,** Pasture, average grass N= 0.40
24.9	4,291	0.0880	2.87		**Kirpich Method,** General overland flow k= 2.00
51.0	5,491	Total			

Subcatchment 7.1: Diverted Area 7



Summary for Subcatchment 7.2: Developed Area 6

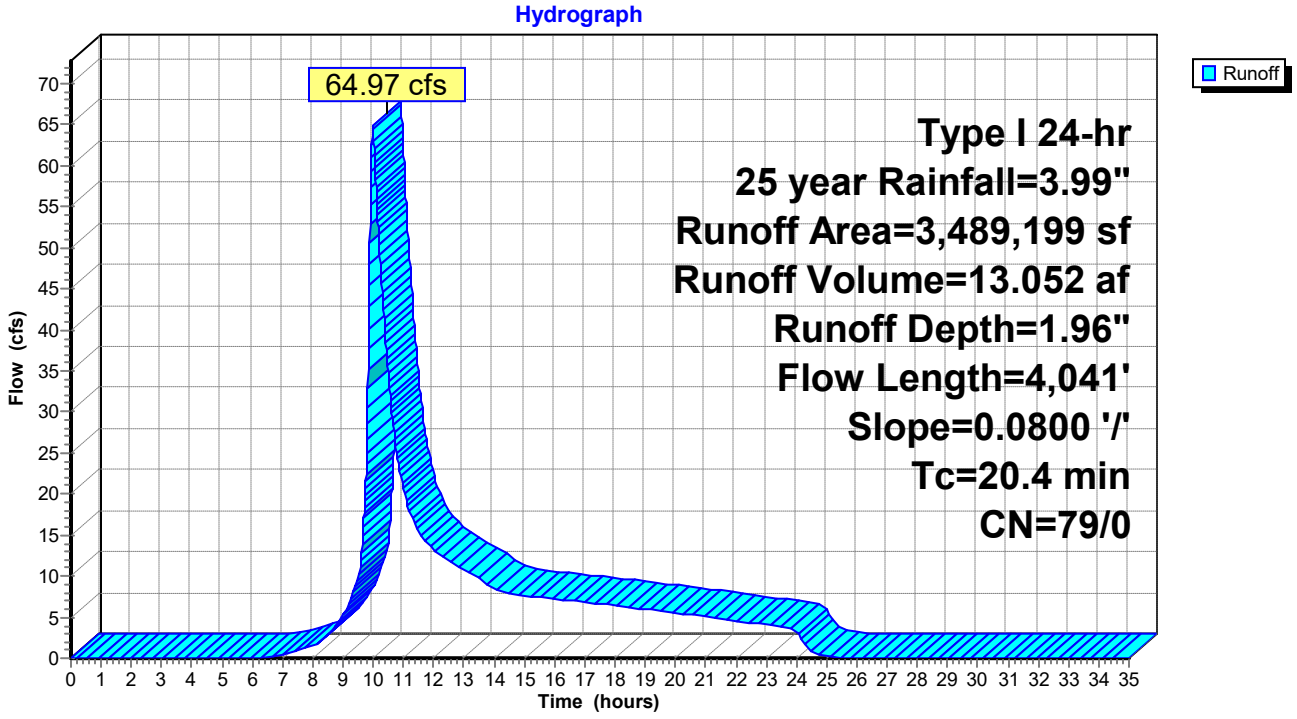
Runoff = 64.97 cfs @ 9.99 hrs, Volume= 13.052 af, Depth= 1.96"
Routed to Pond D7 : Detention Basin 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	2,757,608	77	Composite CN, see Attchment 3.
*	393,878	83	Paved; Open ditches (including right-of-way), HSG A
*	267,712	92	Paved; Open ditches (including right-of-way), HSG C
*	70,001	93	Paved; Open ditches (including right-of-way), HSG D
	3,489,199	79	Weighted Average
	3,489,199	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.6	1,200	0.0800	3.03		**Kerby Method,** Smooth impervious N= 0.02
3.8	2,841	0.0800	12.58		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
20.4	4,041	Total			

Subcatchment 7.2: Developed Area 6



Summary for Subcatchment 8.1: Diverted Area 8

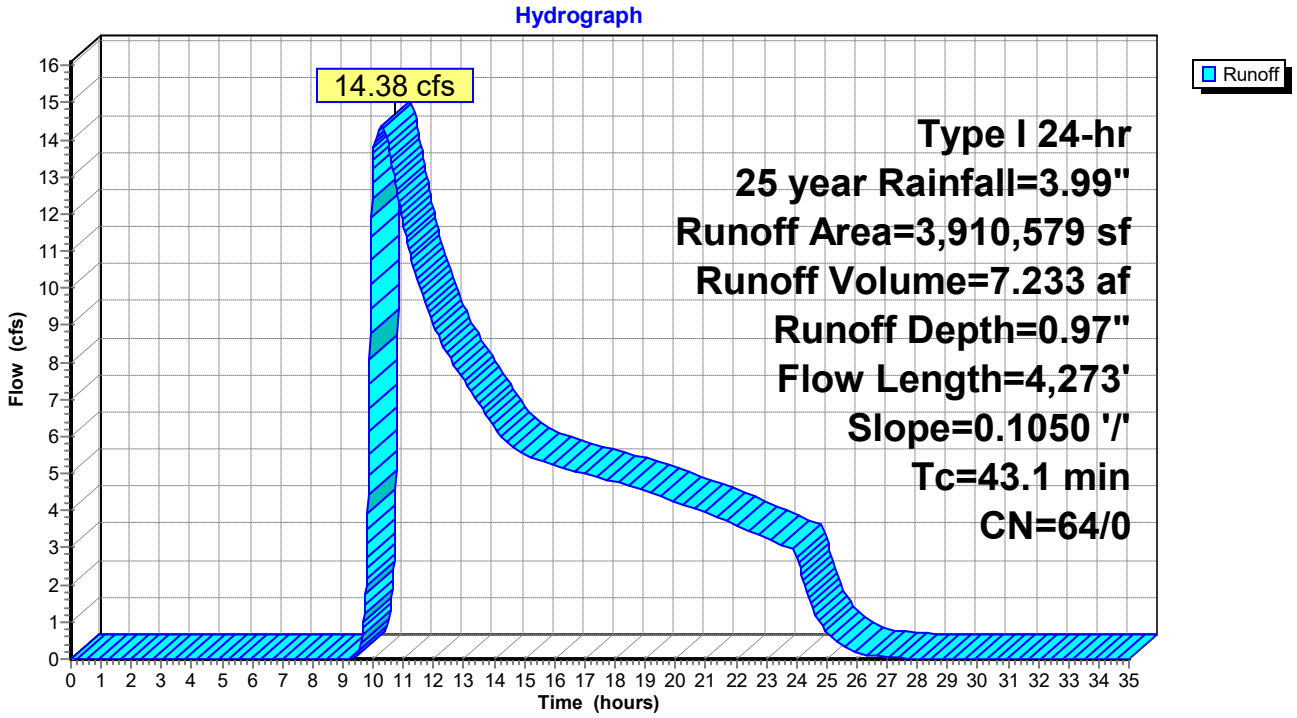
Runoff = 14.38 cfs @ 10.27 hrs, Volume= 7.233 af, Depth= 0.97"
Routed to Reach 8R : Collection Point 8

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	3,910,579	64	Brush and open space, see Attachment 3.
	3,910,579	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	1,200	0.1050	0.80		**Kerby Method,** Pasture, average grass N= 0.40
18.0	3,073	0.1050	2.84		**Kirpich Method,** General overland flow k= 2.00
43.1	4,273	Total			

Subcatchment 8.1: Diverted Area 8



Summary for Subcatchment 9.1: Diverted Area 9

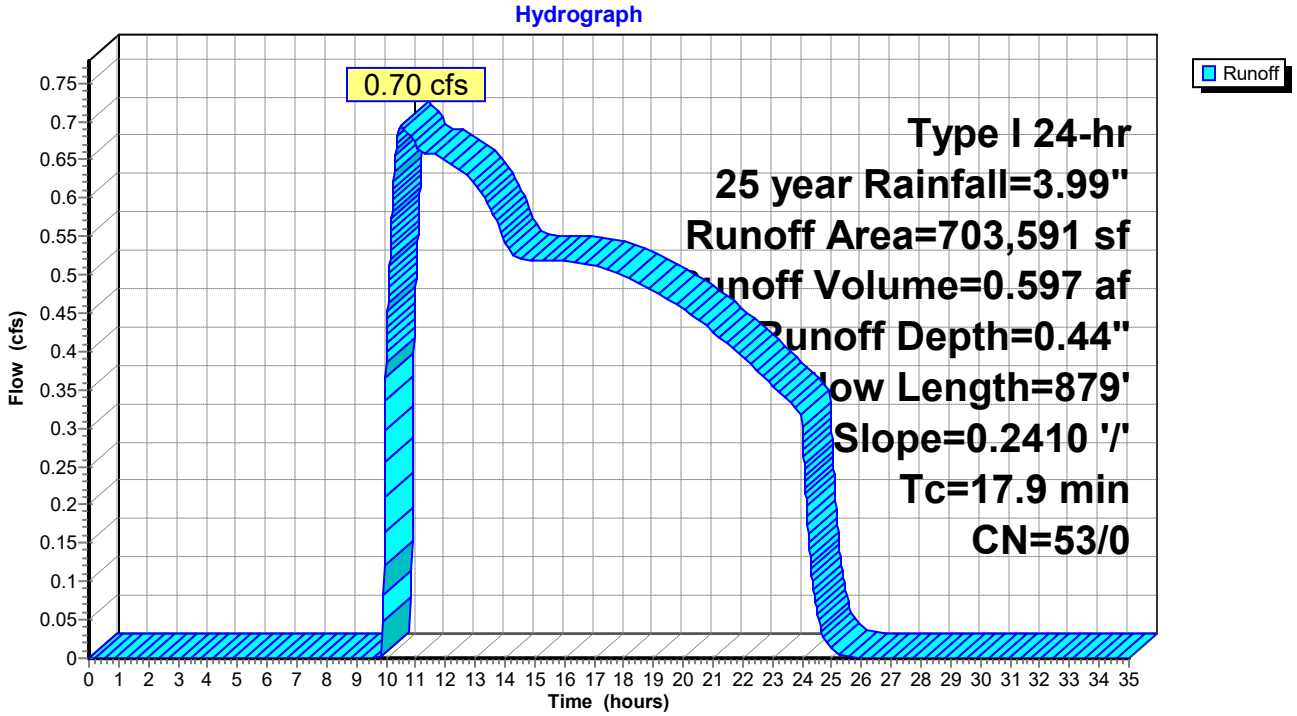
Runoff = 0.70 cfs @ 10.48 hrs, Volume= 0.597 af, Depth= 0.44"
Routed to Reach 9R : Collection Point 9

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	703,591	53	Brush and open space, see Attachment 3.
	703,591	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9.1: Diverted Area 9



Summary for Subcatchment 10.1: Diverted Area 10.2

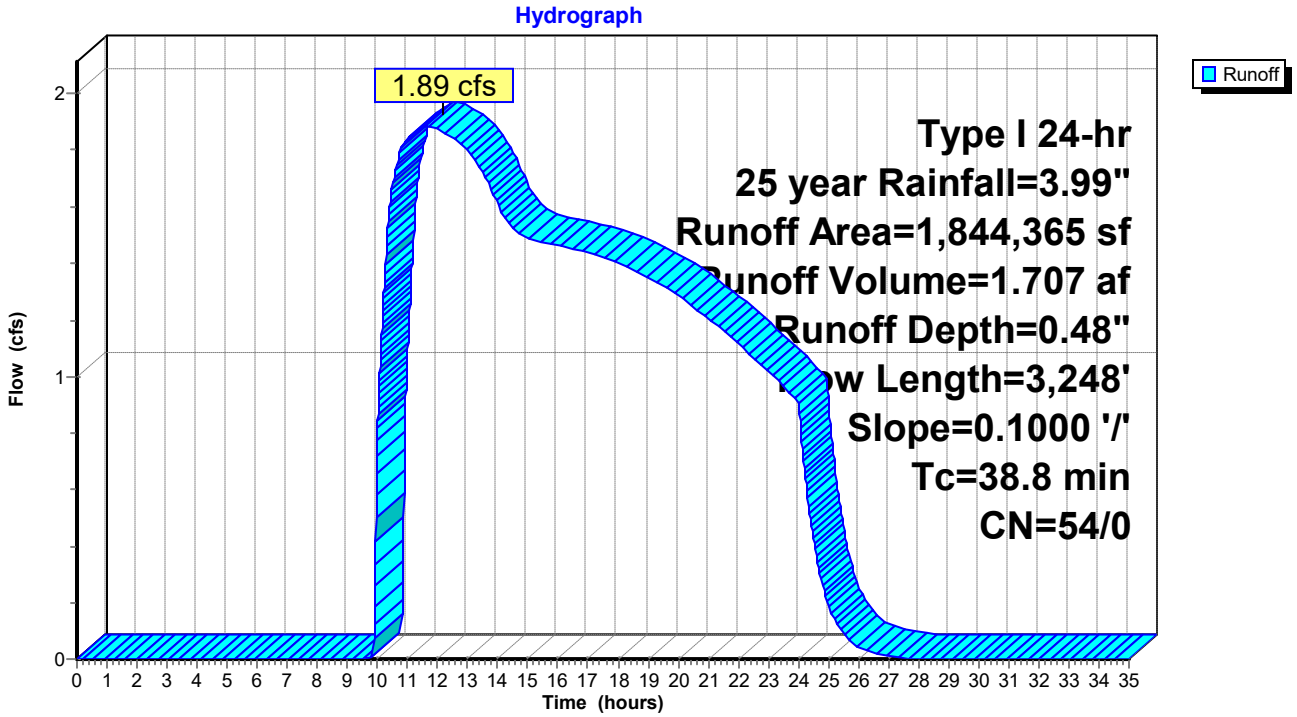
Runoff = 1.89 cfs @ 11.74 hrs, Volume= 1.707 af, Depth= 0.48"
Routed to Reach 10R : Collection Point 10

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,844,365	54	Brush and open space, see Attachment 3.
	1,844,365	54	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.1000	0.79		**Kerby Method,** Pasture, average grass N= 0.40
13.4	2,048	0.1000	2.54		**Kirpich Method,** General overland flow k= 2.00
38.8	3,248	Total			

Subcatchment 10.1: Diverted Area 10.2



Summary for Subcatchment 11.1: Diverted Area 11

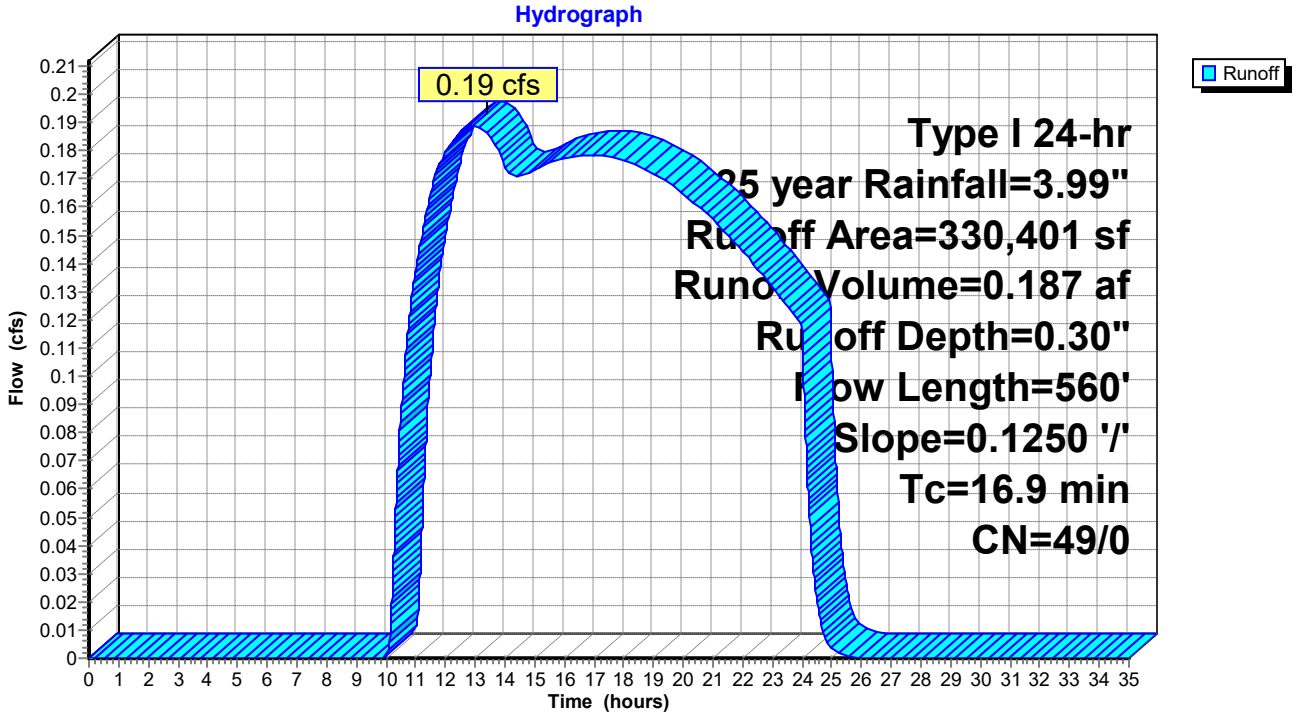
Runoff = 0.19 cfs @ 12.92 hrs, Volume= 0.187 af, Depth= 0.30"
Routed to Reach 11R : Collection Point 11

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	330,401	49	Brush and open space, see Attachment 3.
	330,401	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	560	0.1250	0.55		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 11.1: Diverted Area 11



Summary for Subcatchment 12.1: Diverted Area 12

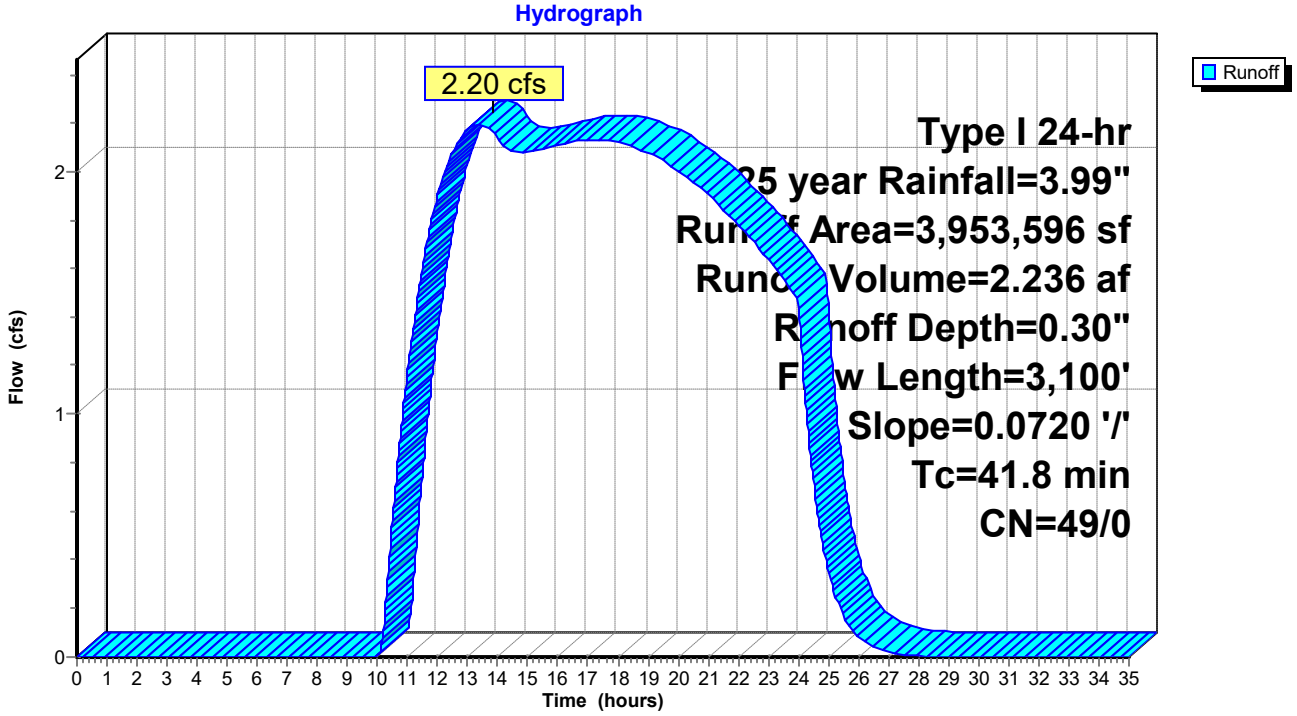
Runoff = 2.20 cfs @ 13.36 hrs, Volume= 2.236 af, Depth= 0.30"
Routed to Reach 12R : Collection Point 12

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	3,953,596	49	Brush and open space, see Attachment 3.
	3,953,596	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.4	1,900	0.0720	2.20		**Kirpich Method,** General overland flow k= 2.00
41.8	3,100	Total			

Subcatchment 12.1: Diverted Area 12



Summary for Subcatchment 12.2: Developed Area 12.1

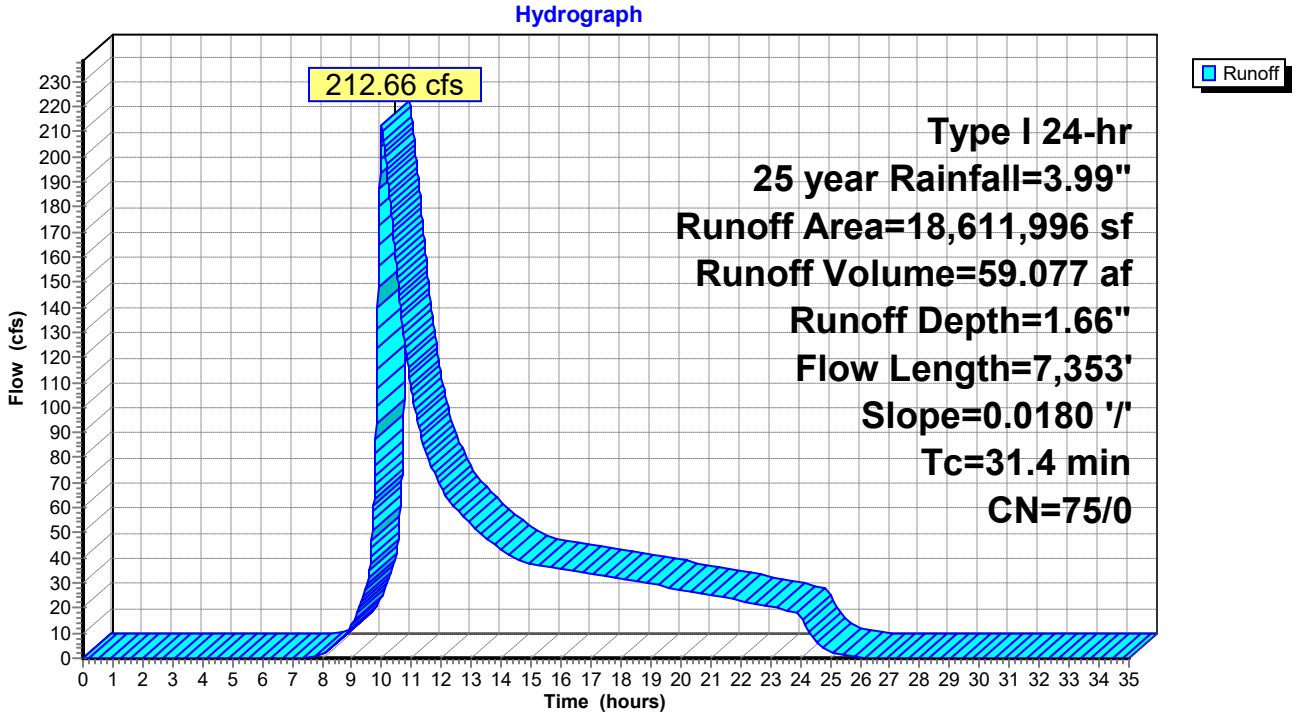
Runoff = 212.66 cfs @ 10.00 hrs, Volume= 59.077 af, Depth= 1.66"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	16,306,782	74	Composite CN, see Attachment 3
*	1,897,057	83	Paved; Open ditches (including right-of-way), HSG A
*	146,424	92	Paved; Open ditches (including right-of-way), HSG C
*	261,733	93	Paved; Open ditches (including right-of-way), HSG D
	18,611,996	75	Weighted Average
	18,611,996	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
9.3	1,200	0.0180	2.14		**Kerby Method,** Smooth impervious N= 0.02
12.1	6,153	0.0180	8.46		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
31.4	7,353	Total			

Subcatchment 12.2: Developed Area 12.1



Summary for Subcatchment 12.3: Diverted Area 12.3

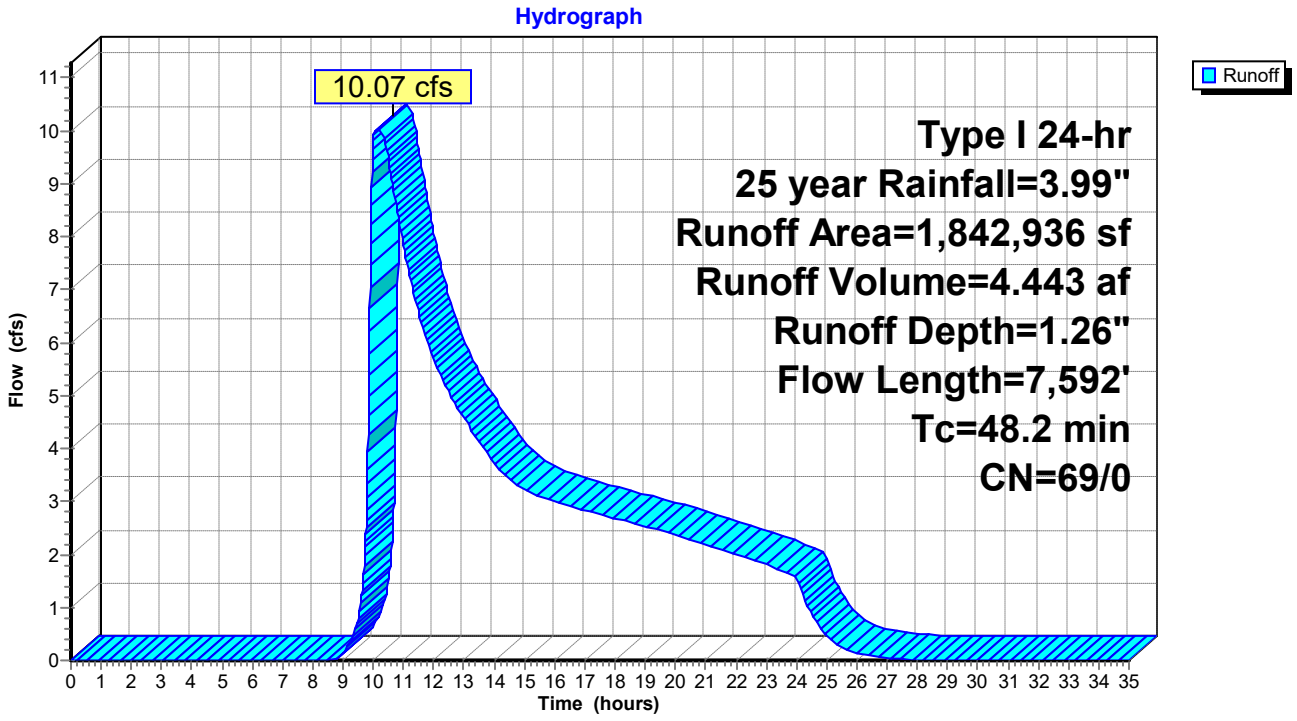
Runoff = 10.07 cfs @ 10.17 hrs, Volume= 4.443 af, Depth= 1.26"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,842,936	69	Brush and open space, see Attachment 3.
	1,842,936	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.5	1,915	0.0720	2.21		**Kirpich Method,** General overland flow k= 2.00
6.3	4,477	0.0270	11.83	37.17	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
48.2	7,592	Total			

Subcatchment 12.3: Diverted Area 12.3



Summary for Subcatchment 12.4: Diverted Area 12.4

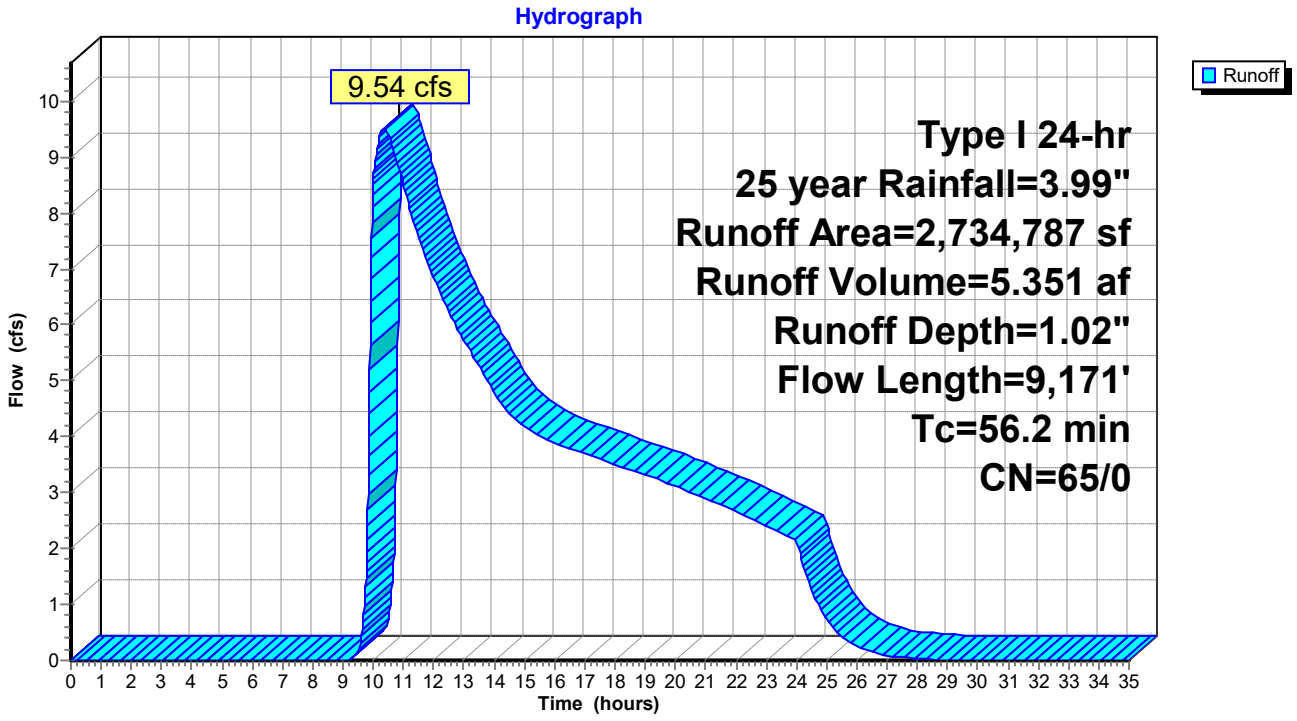
Runoff = 9.54 cfs @ 10.38 hrs, Volume= 5.351 af, Depth= 1.02"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	2,734,787	65	Brush and open space, See Attachment 3
	2,734,787	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
18.1	2,421	0.0640	2.23		**Kirpich Method,** General overland flow k= 2.00
9.9	5,550	0.0200	9.32	22.41	**Pipe Channel,** 21.0" Round Area= 2.4 sf Perim= 5.5' r= 0.44' n= 0.013
56.2	9,171	Total			

Subcatchment 12.4: Diverted Area 12.4



Summary for Subcatchment 13.1: Diverted Area 13

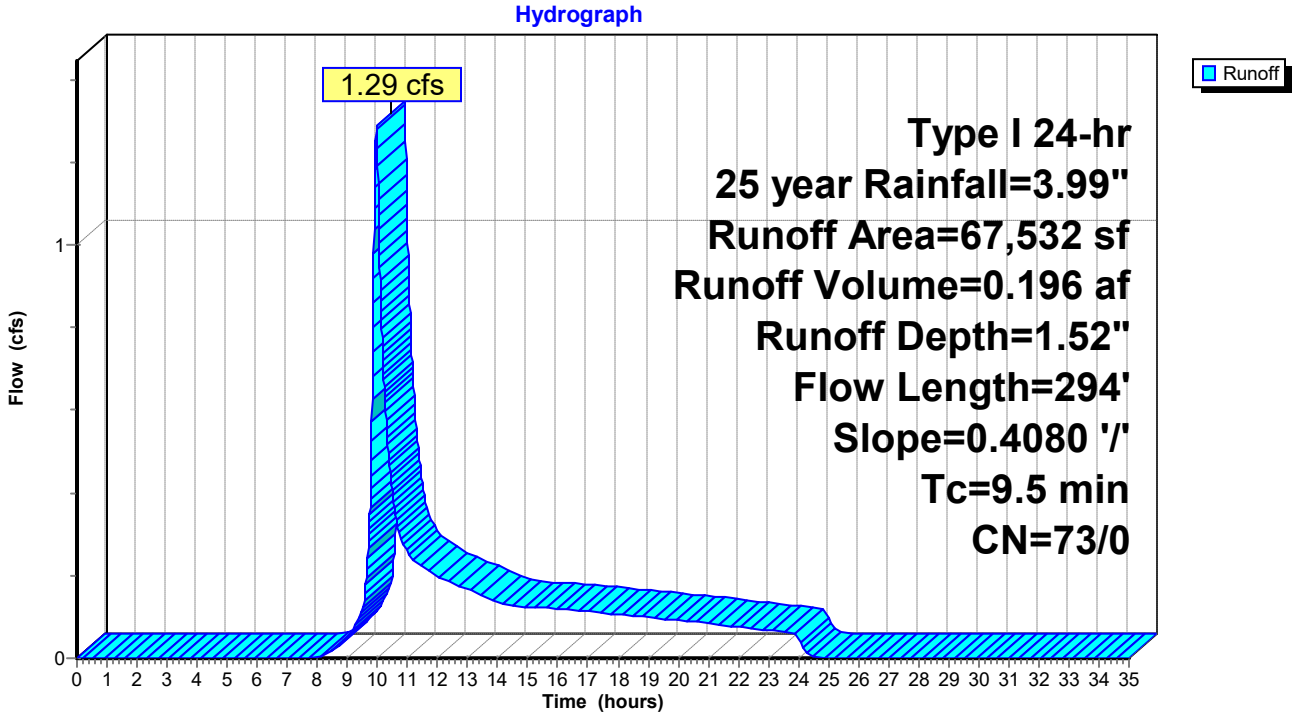
Runoff = 1.29 cfs @ 9.97 hrs, Volume= 0.196 af, Depth= 1.52"
Routed to Reach 13R : Collection Point 13

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	67,532	73	Brush and open space, see Attachment 3.
	67,532	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13.1: Diverted Area 13



Summary for Subcatchment 14.1: Diverted Area 14

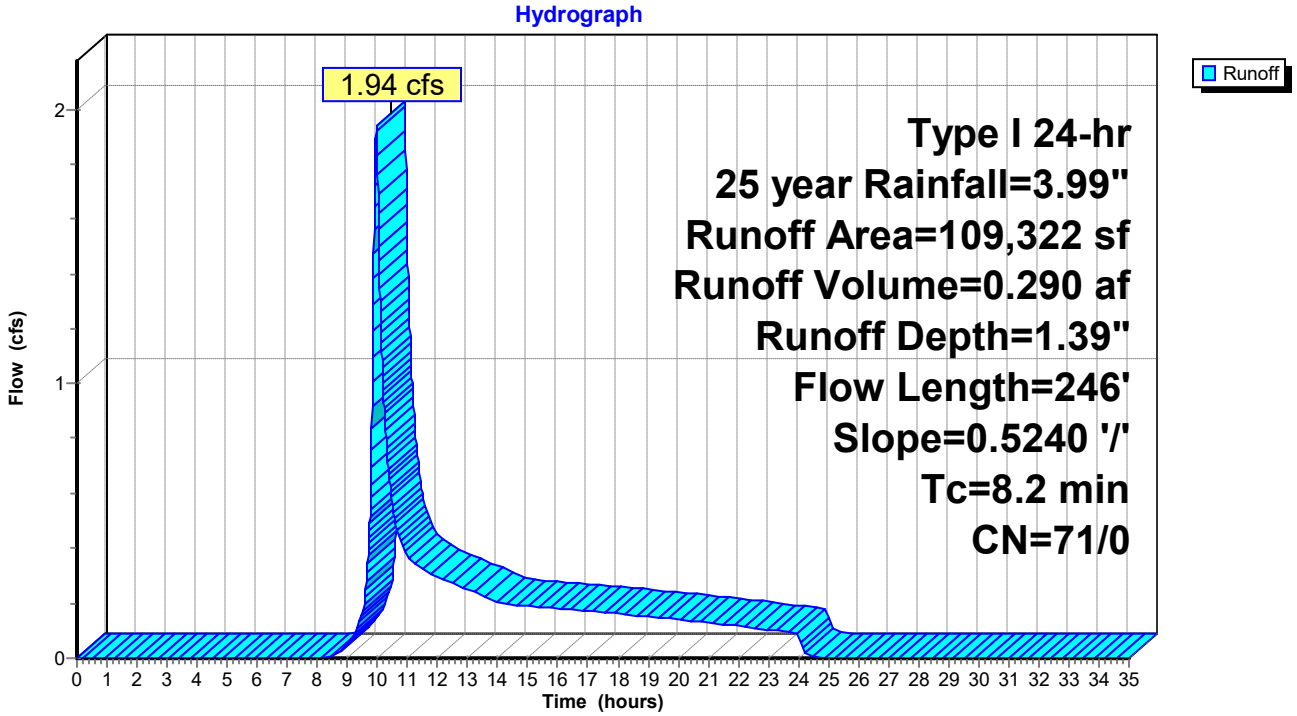
Runoff = 1.94 cfs @ 9.97 hrs, Volume= 0.290 af, Depth= 1.39"
Routed to Reach 14R : Collection Point 14

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	109,322	71	Brush and open space, see Attachment 3.
	109,322	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14.1: Diverted Area 14



Summary for Subcatchment 15.1: Diverted Area 15

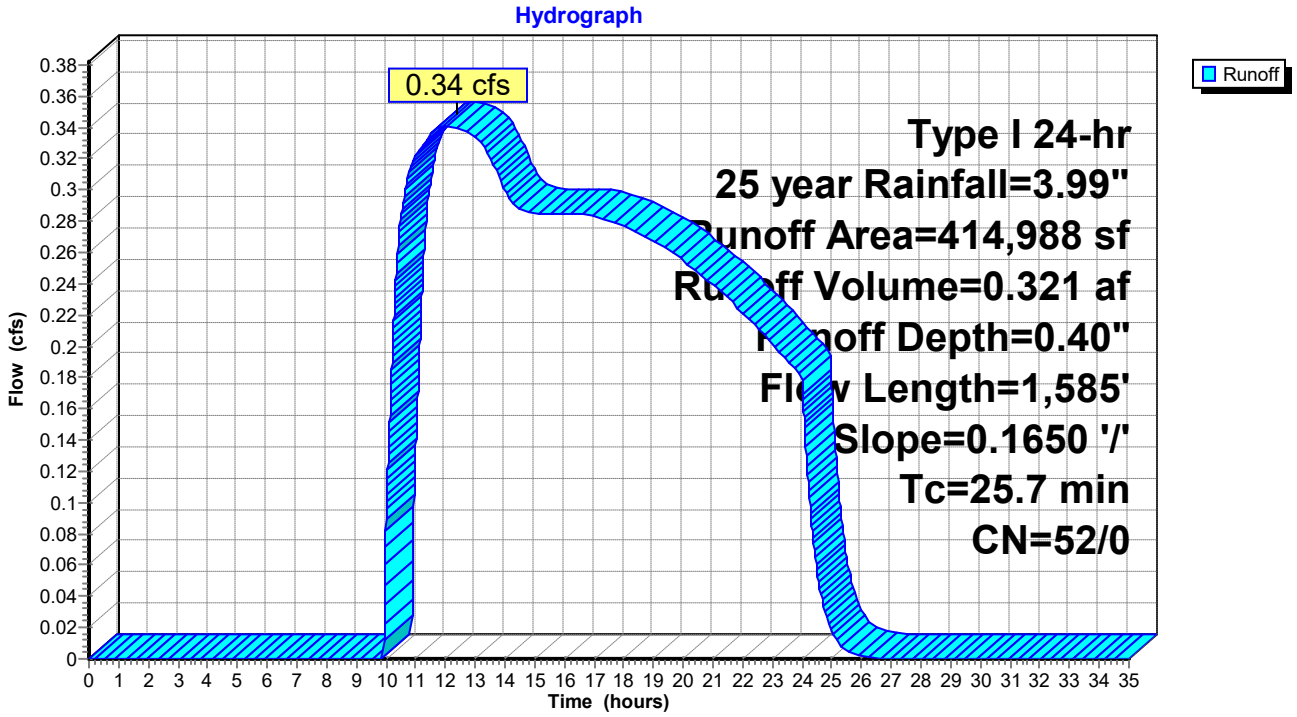
Runoff = 0.34 cfs @ 11.94 hrs, Volume= 0.321 af, Depth= 0.40"
Routed to Reach 15R : Collection Point 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	410,790	52	Composite CN, see Attachment 3.
*	4,198	83	Paved; Open ditches (including right-of-way), HSG A
	414,988	52	Weighted Average
	414,988	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	1,200	0.1650	0.89		**Kerby Method,** Pasture, average grass N= 0.40
3.1	385	0.1650	2.10		**Kirpich Method,** General overland flow k= 2.00
25.7	1,585	Total			

Subcatchment 15.1: Diverted Area 15



Summary for Subcatchment 15.2: Developed Area 15

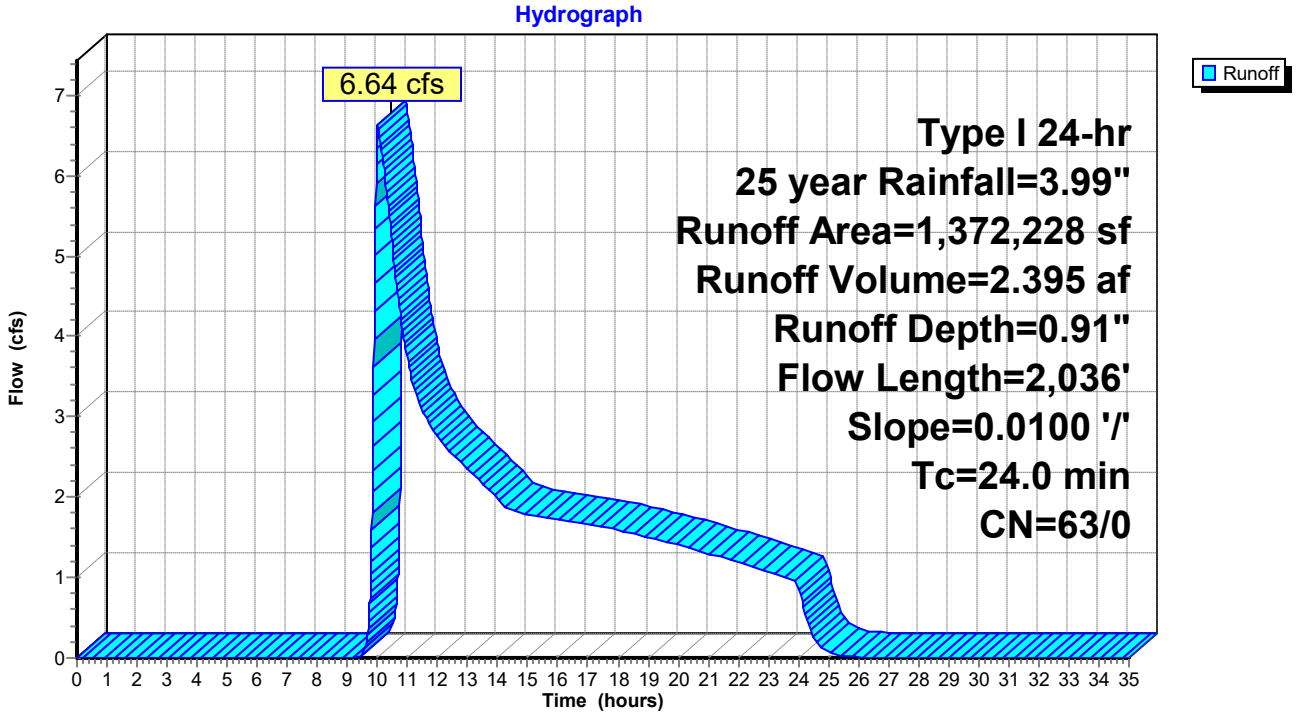
Runoff = 6.64 cfs @ 10.00 hrs, Volume= 2.395 af, Depth= 0.91"
Routed to Pond D15 : Detention Pond 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,102,421	58	Composite CN, see Attachment 3.
*	224,863	83	Paved; Open ditches (including right-of-way), HSG A
*	44,944	93	Paved; Open ditches (including right-of-way), HSG D
	1,372,228	63	Weighted Average
	1,372,228	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
10.7	1,200	0.0100	1.87		**Kerby Method,** Smooth impervious N= 0.02
3.3	836	0.0100	4.26		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
24.0	2,036	Total			

Subcatchment 15.2: Developed Area 15



Summary for Subcatchment 16.1: Diverted Area 16

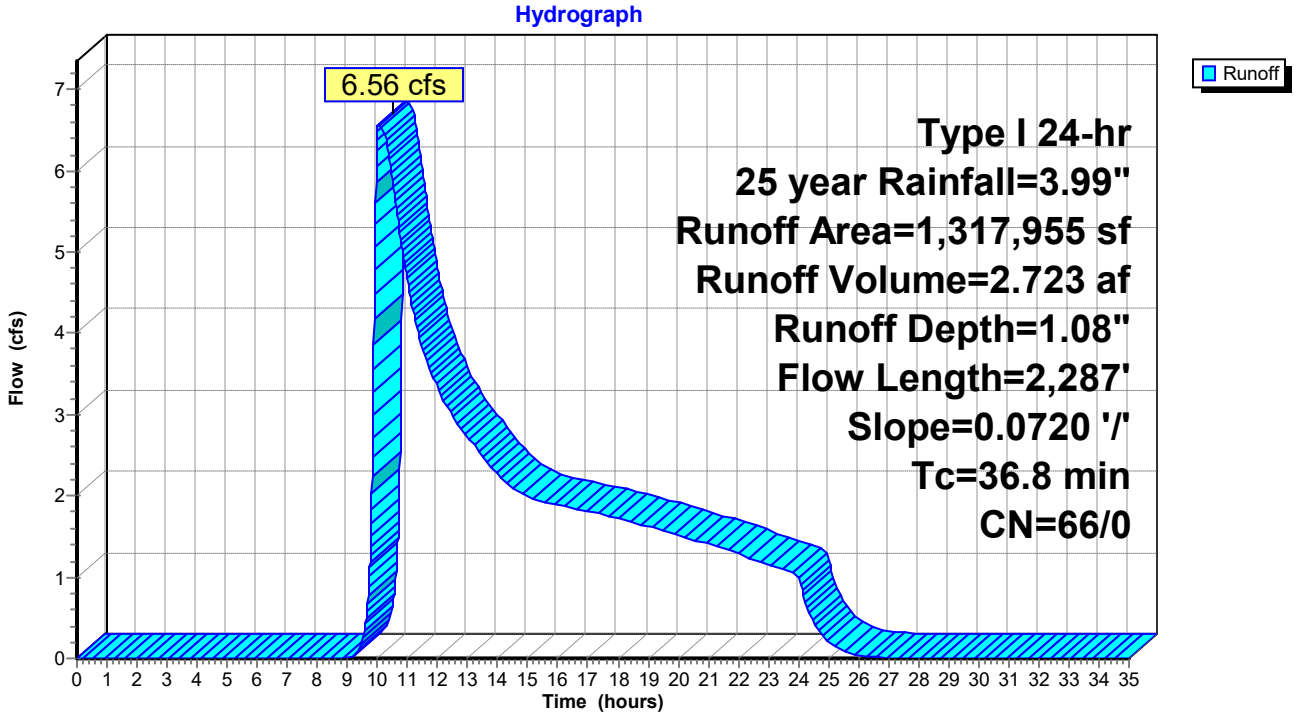
Runoff = 6.56 cfs @ 10.05 hrs, Volume= 2.723 af, Depth= 1.08"
Routed to Reach 16R : Collection Point 16

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,312,099	66	Brush and open space, see Attachment 3.
*	5,839	83	Paved; Open ditches (including right-of-way), HSG A
*	17	93	Paved; Open ditches (including right-of-way), HSG D
	1,317,955	66	Weighted Average
	1,317,955	66	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
9.4	1,087	0.0720	1.94		**Kirpich Method,** General overland flow k= 2.00
36.8	2,287	Total			

Subcatchment 16.1: Diverted Area 16



Summary for Subcatchment 16.2: Developed Area 16

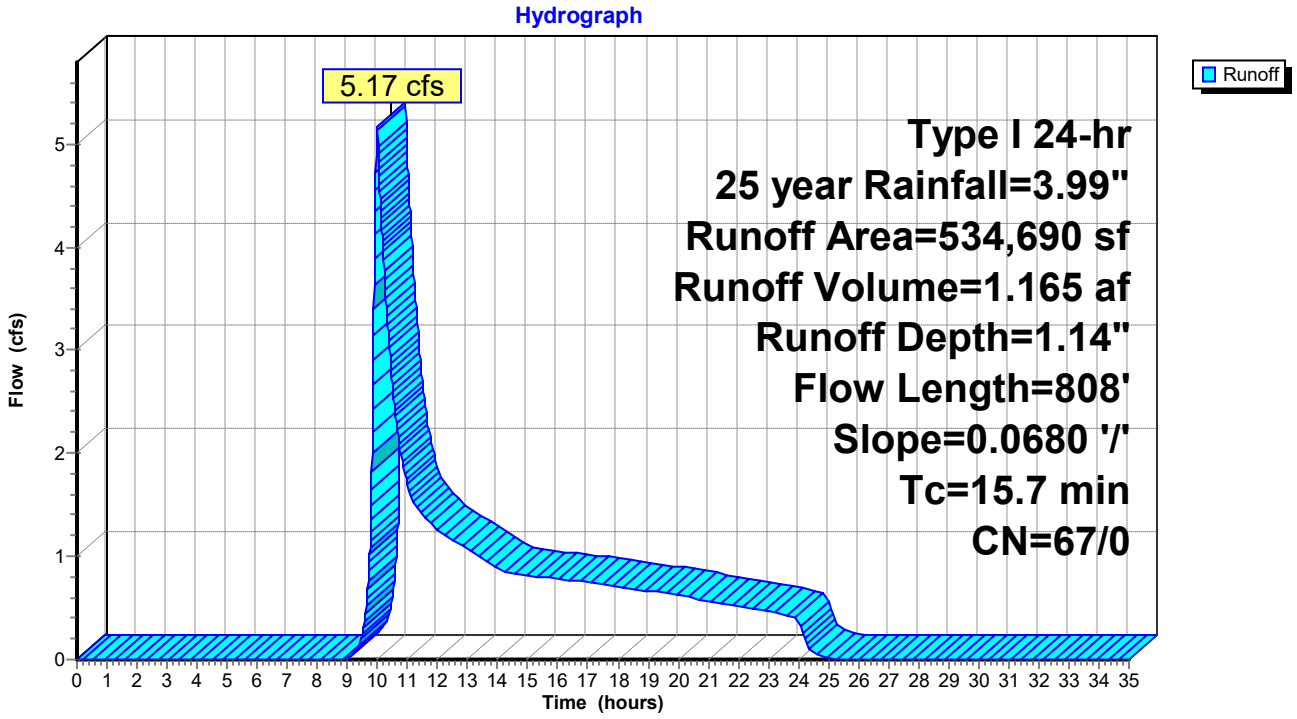
Runoff = 5.17 cfs @ 9.99 hrs, Volume= 1.165 af, Depth= 1.14"
Routed to Pond D16.2 : Detention Pond 16.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	534,690	67	Composite CN, see Attachment 3.
	534,690	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.7	808	0.0680	2.36		**Kerby Method,** Smooth impervious N= 0.02
15.7	808	Total			

Subcatchment 16.2: Developed Area 16



Summary for Subcatchment 16.3: Developed Area 16

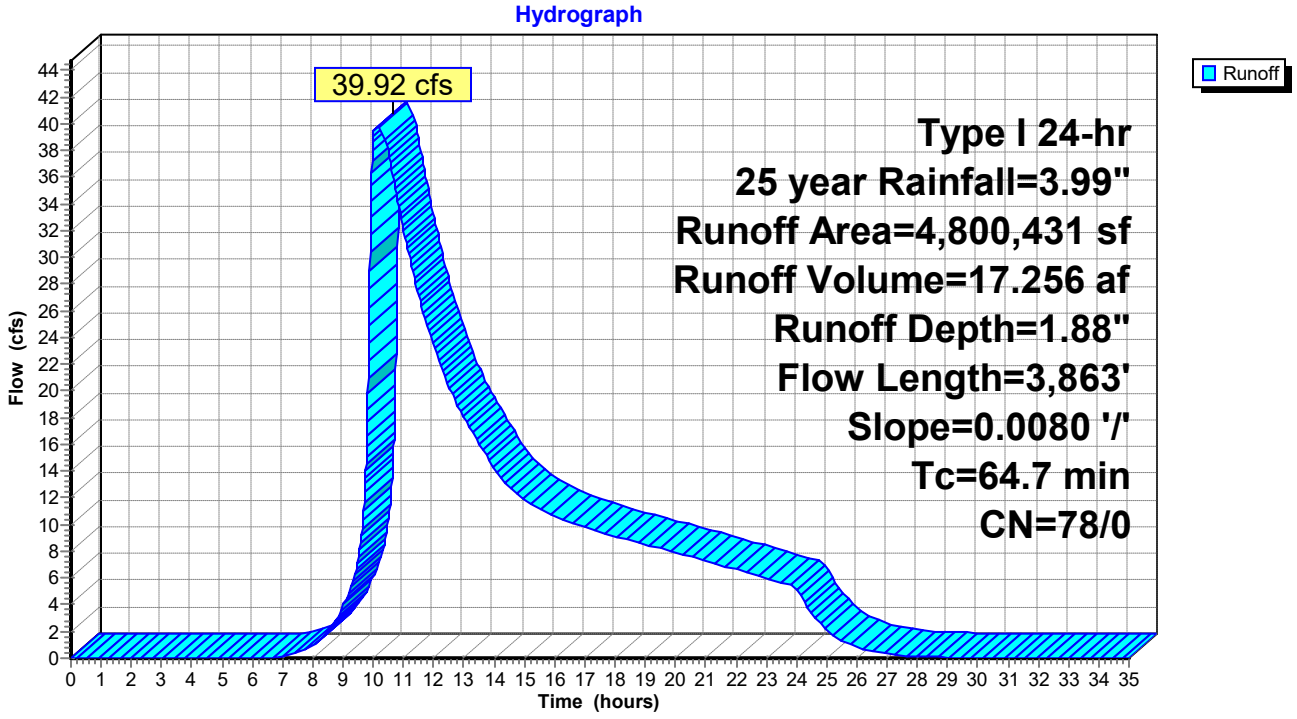
Runoff = 39.92 cfs @ 10.17 hrs, Volume= 17.256 af, Depth= 1.88"
Routed to Pond D16.3 : Detention Pond 16.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	4,430,615	77	Composite CN, see Attachment 3.
*	333,557	83	Paved; Open ditches (including right-of-way), HSG A
*	27,011	92	Paved; Open ditches (including right-of-way), HSG C
*	9,248	93	Paved; Open ditches (including right-of-way), HSG D
	4,800,431	78	Weighted Average
	4,800,431	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
11.3	1,200	0.0080	1.77		**Kerby Method,** Smooth impervious N= 0.02
43.4	2,663	0.0080	1.02		**Kirpich Method,** General overland flow k= 2.00
64.7	3,863	Total			

Subcatchment 16.3: Developed Area 16



Summary for Subcatchment 17.1: Diverted Area 17

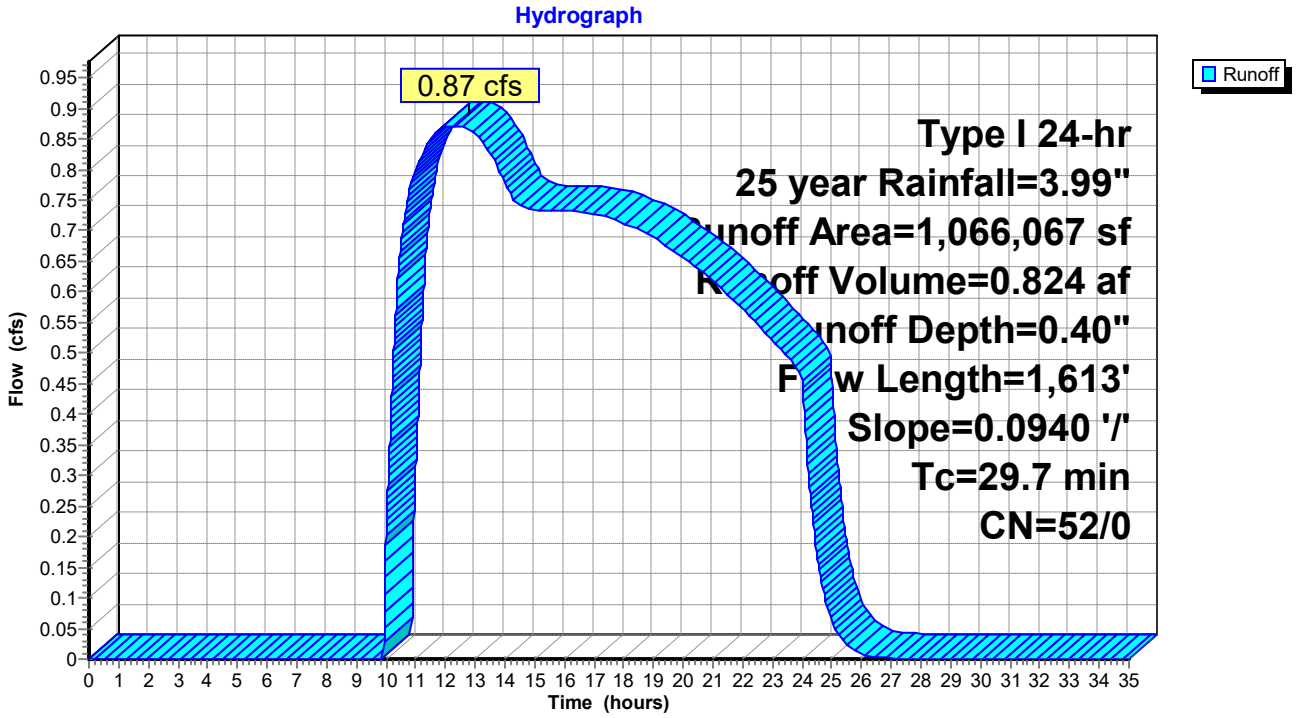
Runoff = 0.87 cfs @ 12.31 hrs, Volume= 0.824 af, Depth= 0.40"
Routed to Reach 17R : Collection Point 17

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,066,067	52	Brush and open space, see Attachment 3.
	1,066,067	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	1,200	0.0940	0.78		**Kerby Method,** Pasture, average grass N= 0.40
4.0	413	0.0940	1.72		**Kirpich Method,** General overland flow k= 2.00
29.7	1,613	Total			

Subcatchment 17.1: Diverted Area 17



Summary for Subcatchment 18.1: Diverted Area 18

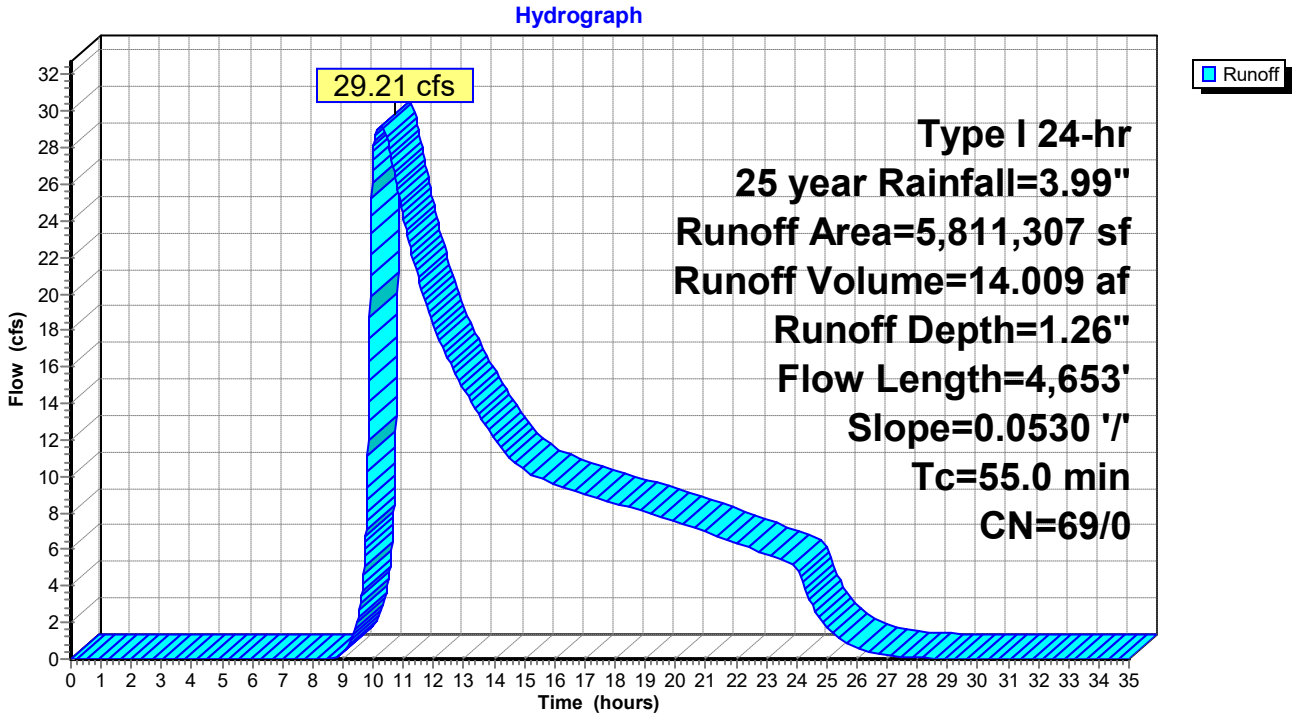
Runoff = 29.21 cfs @ 10.26 hrs, Volume= 14.009 af, Depth= 1.26"
Routed to Reach 18R : Collection Point 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	5,811,307	69	Brush and open space, see Attachment 3.
	5,811,307	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	1,200	0.0530	0.68		**Kerby Method,** Pasture, average grass N= 0.40
25.6	3,453	0.0530	2.25		**Kirpich Method,** General overland flow k= 2.00
55.0	4,653	Total			

Subcatchment 18.1: Diverted Area 18



Summary for Subcatchment 18.2: Developed Area 18

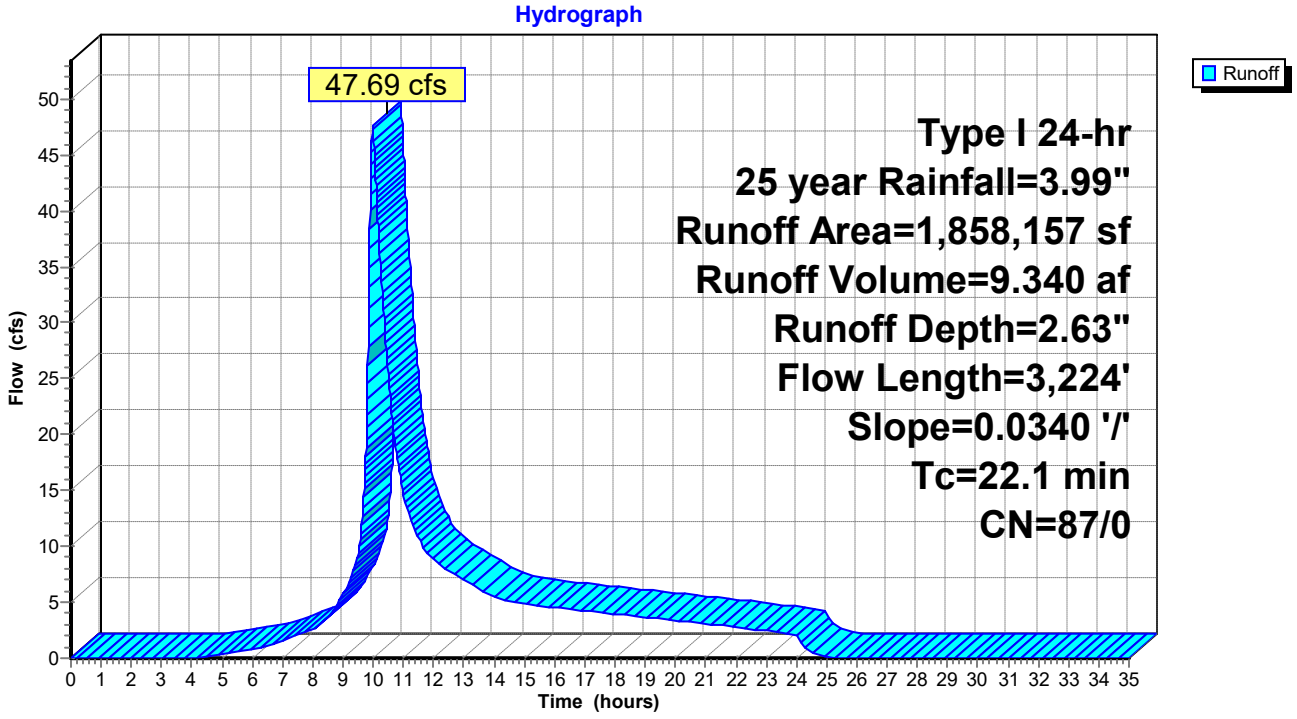
Runoff = 47.69 cfs @ 9.98 hrs, Volume= 9.340 af, Depth= 2.63"
Routed to Pond D18 : Detention Pond 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,667,674	87	Composite CN, see Attachment 3.
*	40,054	83	Paved; Open ditches (including right-of-way), HSG A
*	50,899	92	Paved; Open ditches (including right-of-way), HSG C
*	99,530	93	Paved; Open ditches (including right-of-way), HSG D
	1,858,157	87	Weighted Average
	1,858,157	87	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.1	1,200	0.0340	2.48		**Kerby Method,** Smooth impervious N= 0.02
4.0	2,024	0.0340	8.37		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
22.1	3,224	Total			

Subcatchment 18.2: Developed Area 18



Summary for Subcatchment 19.1: Diverted Area 19

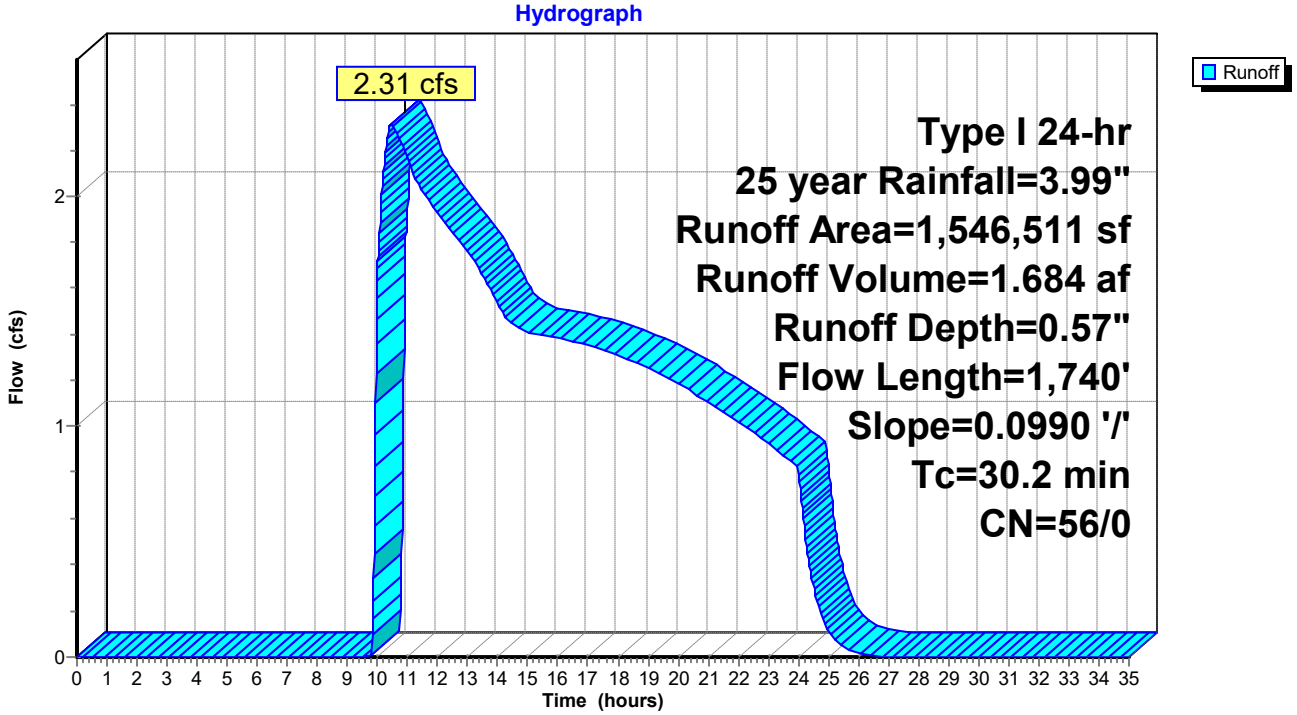
Runoff = 2.31 cfs @ 10.46 hrs, Volume= 1.684 af, Depth= 0.57"
Routed to Reach 19R : Collection Point 19

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,546,511	56	Existing brush, see Attachment 3.
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19.1: Diverted Area 19



Summary for Subcatchment 20.1: Diverted Area 20

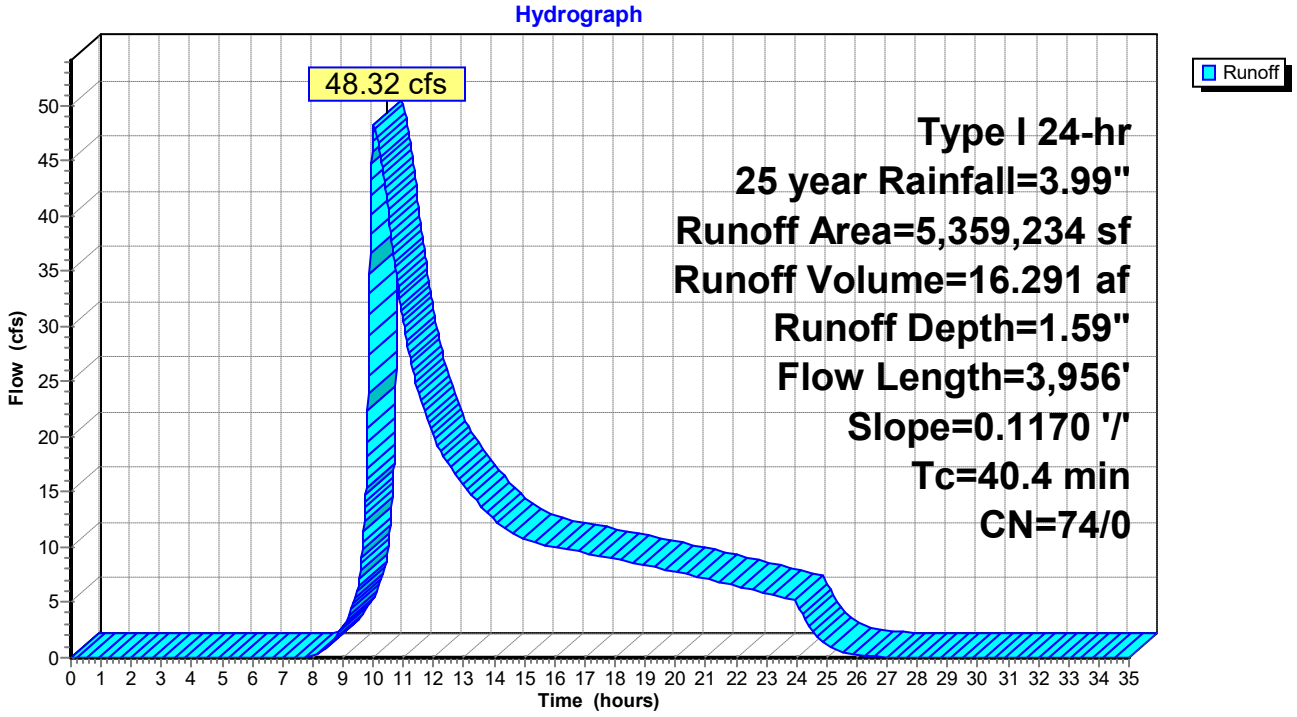
Runoff = 48.32 cfs @ 10.00 hrs, Volume= 16.291 af, Depth= 1.59"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	2,979,788	77	Brush, Poor, HSG C
*	1,500,408	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,359,234	74	Weighted Average
	5,359,234	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

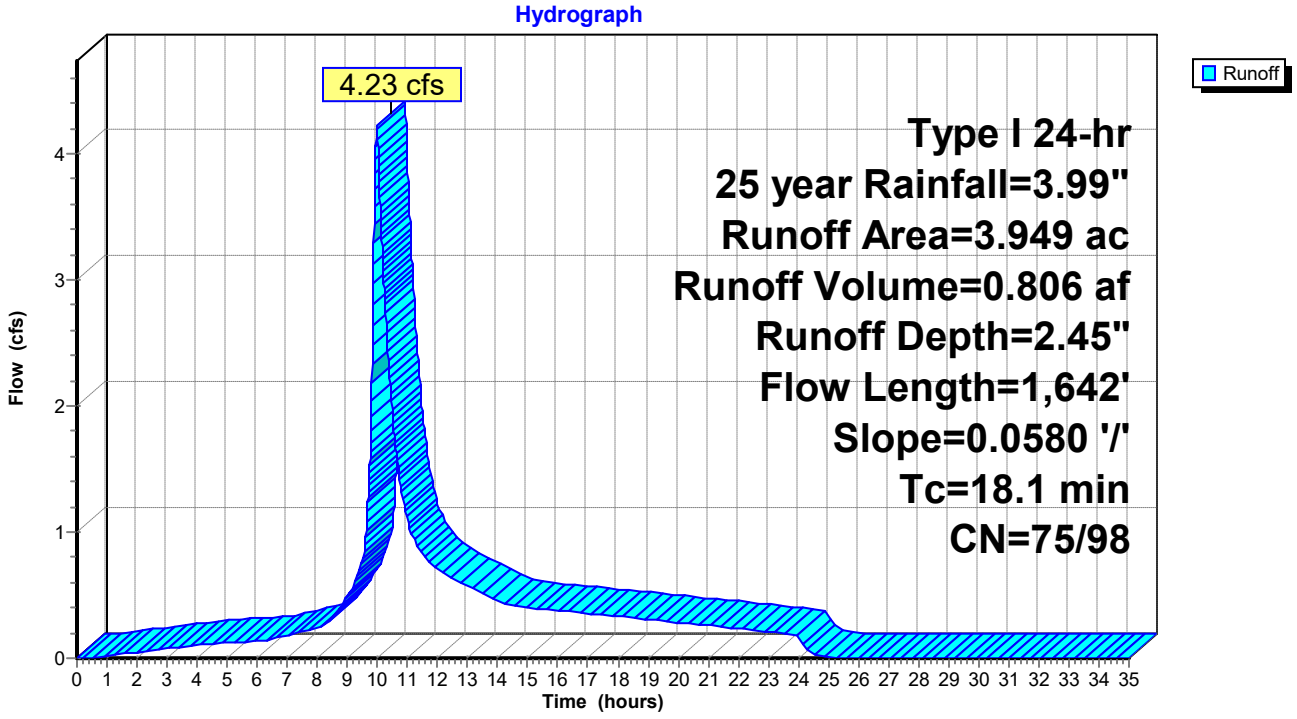
Runoff = 4.23 cfs @ 9.98 hrs, Volume= 0.806 af, Depth= 2.45"
Routed to Pond D20.2 : Detention Basin 20.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (ac)	CN	Description
*	2.225	74	Open Space, Good, HSG C
*	0.235	87	Pavers/DG, Good, HSG C
*	1.489	98	Hardscape
	3.949	84	Weighted Average
	2.460	75	62.29% Pervious Area
	1.489	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

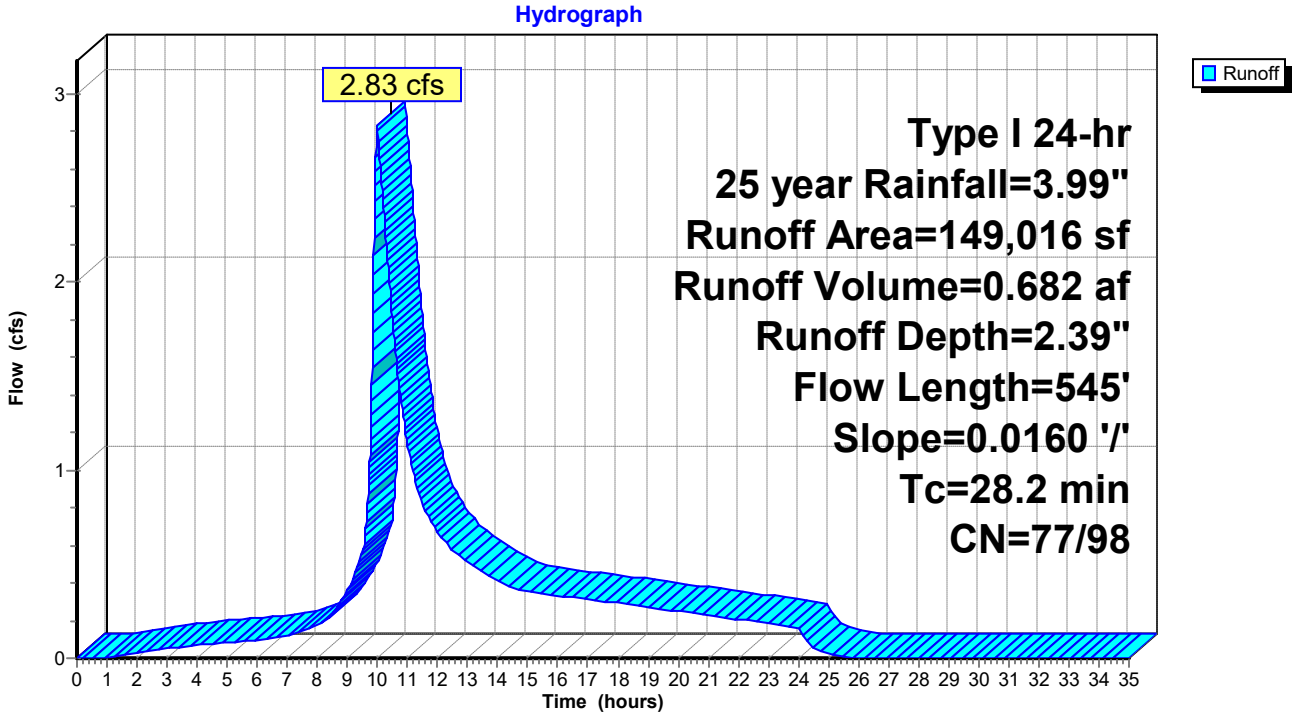
Runoff = 2.83 cfs @ 9.99 hrs, Volume= 0.682 af, Depth= 2.39"
Routed to Pond D20.3 : Detention Pond 20.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

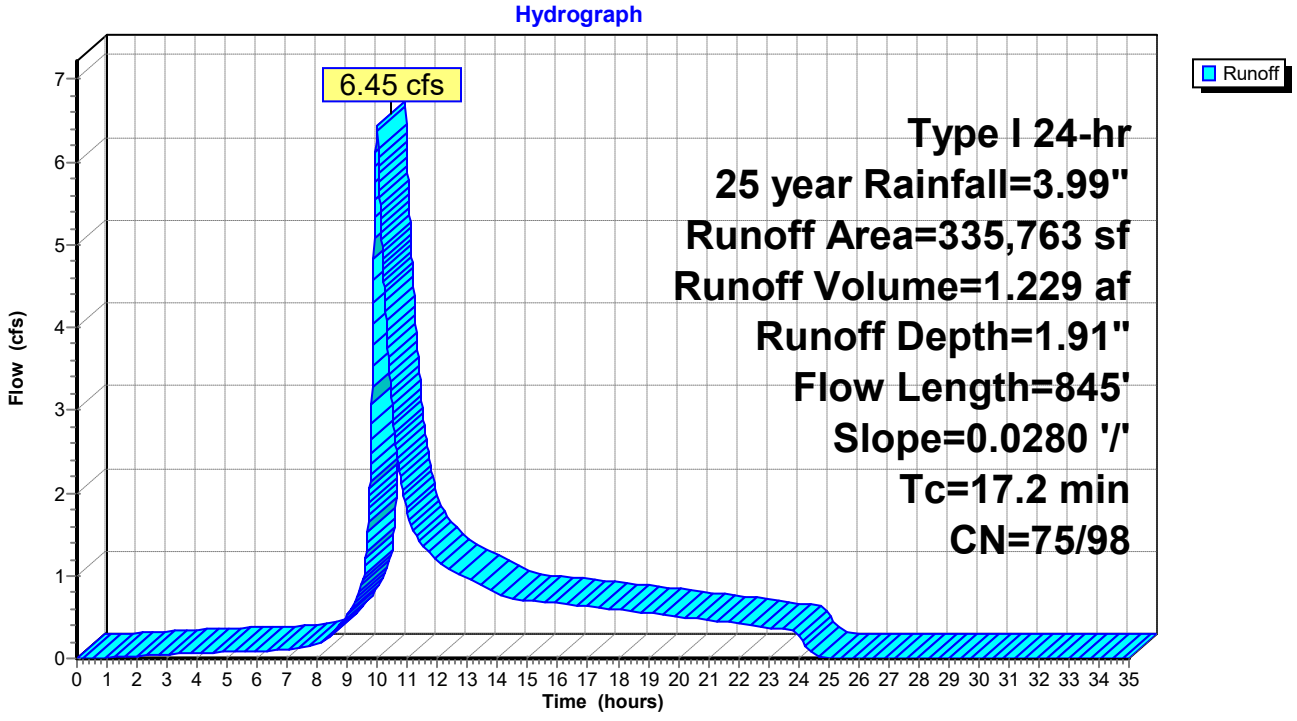
Runoff = 6.45 cfs @ 9.98 hrs, Volume= 1.229 af, Depth= 1.91"
Routed to Pond D20.4 : Detention Pond 20.4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



Summary for Subcatchment 21.1: Diverted Area 21

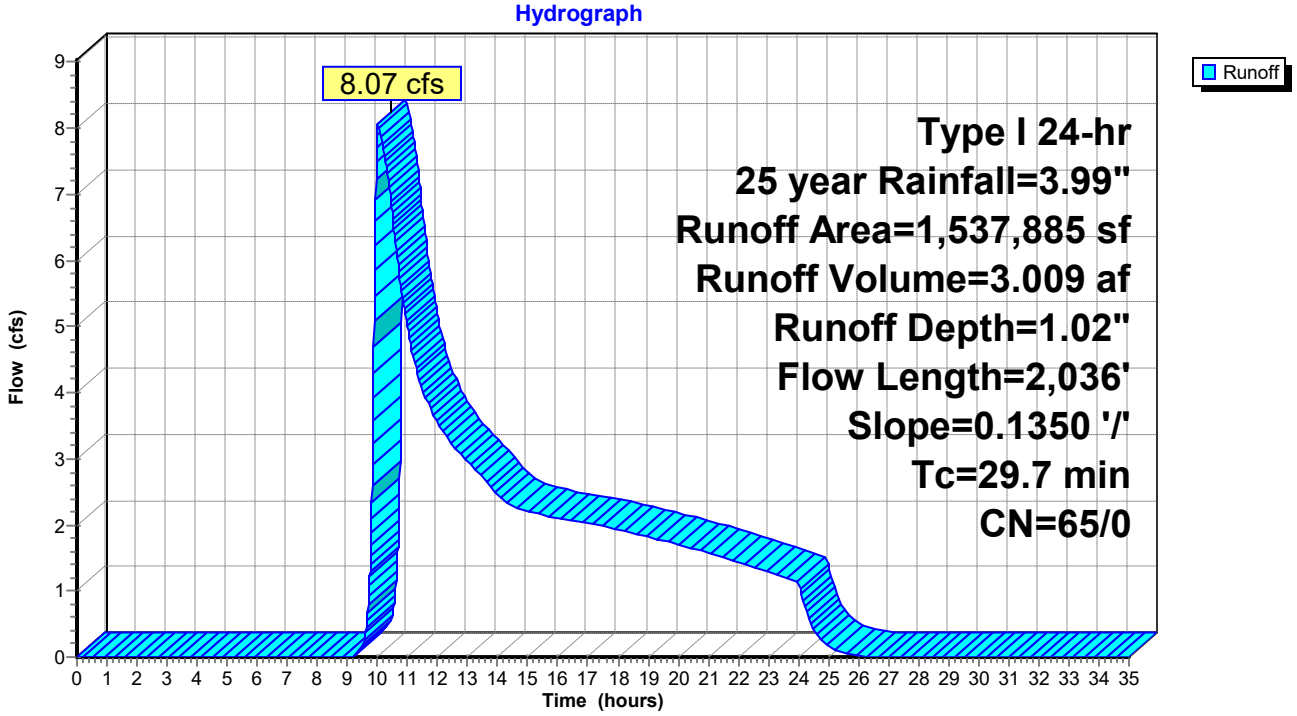
Runoff = 8.07 cfs @ 10.01 hrs, Volume= 3.009 af, Depth= 1.02"
Routed to Reach 21R : Collection Point 21

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	1,537,885	65	Existing brush, see Attachment 3.
	1,537,885	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21.1: Diverted Area 21



Summary for Subcatchment 22.1: Diverted Area 22

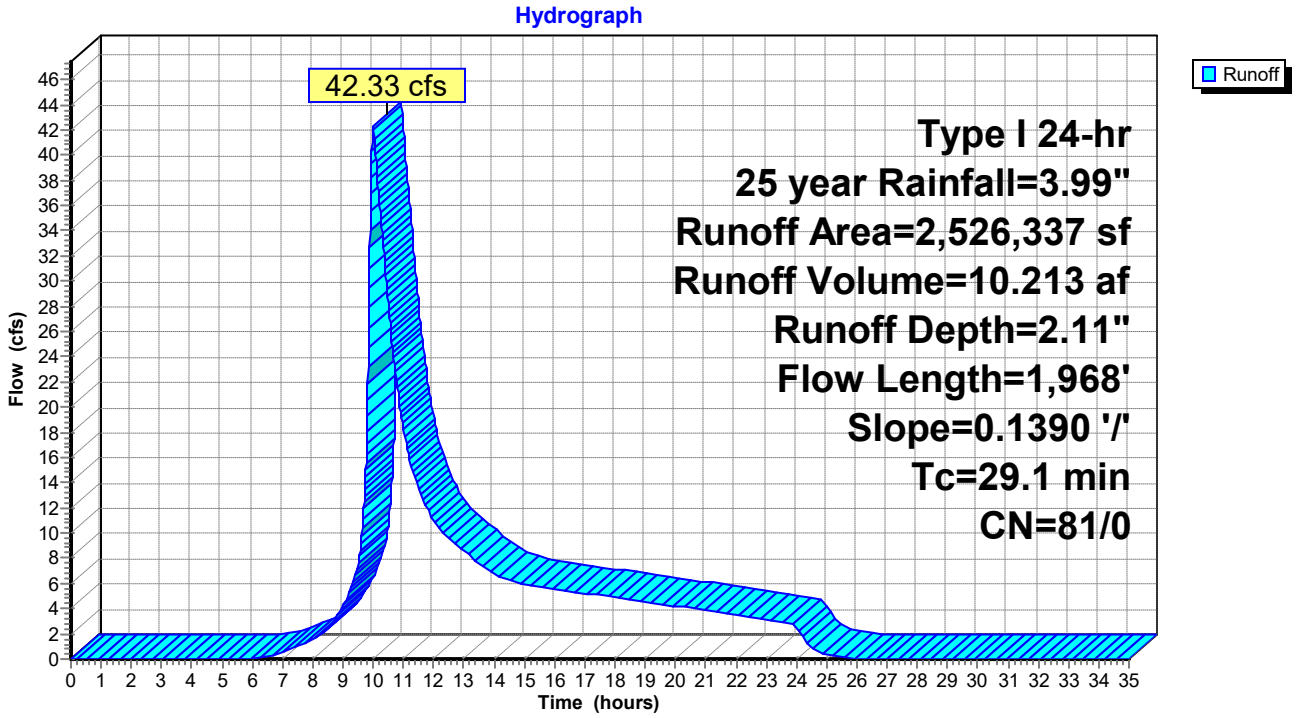
Runoff = 42.33 cfs @ 9.99 hrs, Volume= 10.213 af, Depth= 2.11"
Routed to Reach 22R : Collection Point 22

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	2,526,337	81	Existing brush, see Attachment 3.
	2,526,337	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22.1: Diverted Area 22



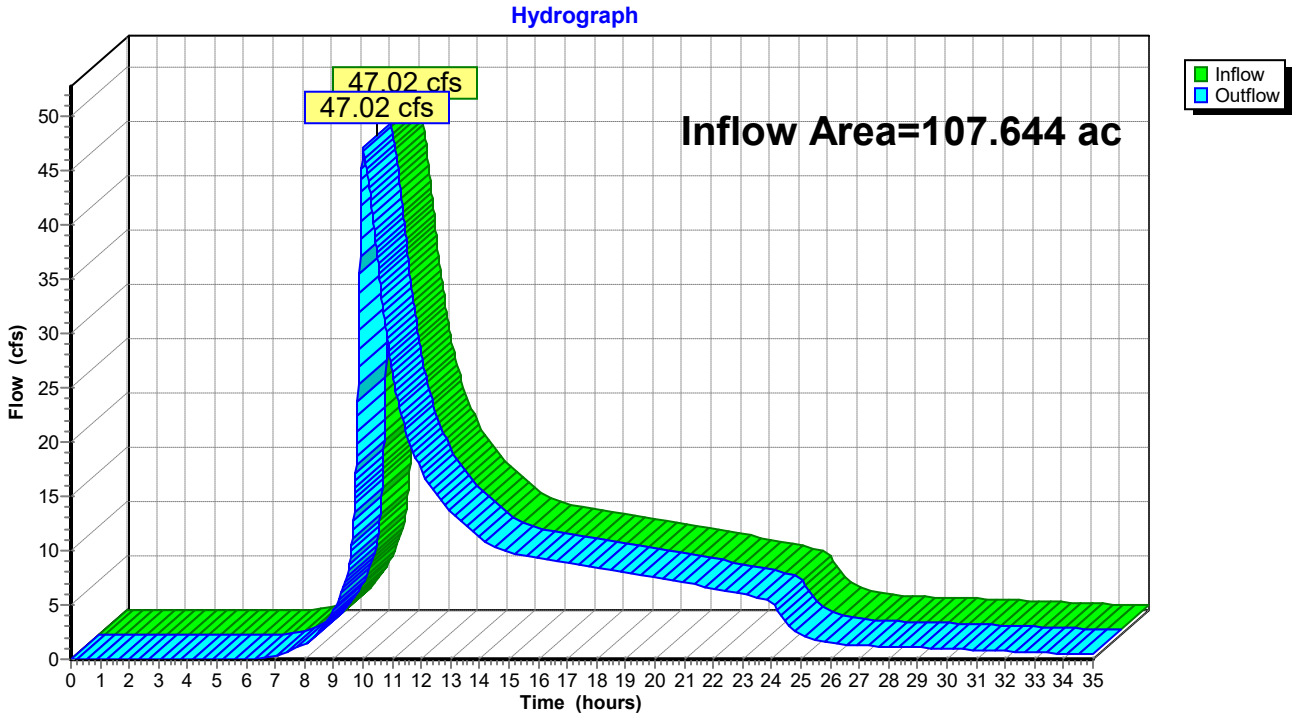
Summary for Reach 1R: Collection Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 107.644 ac, 0.00% Impervious, Inflow Depth > 1.81" for 25 year event
Inflow = 47.02 cfs @ 10.00 hrs, Volume= 16.198 af
Outflow = 47.02 cfs @ 10.00 hrs, Volume= 16.198 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 1R: Collection Point 1



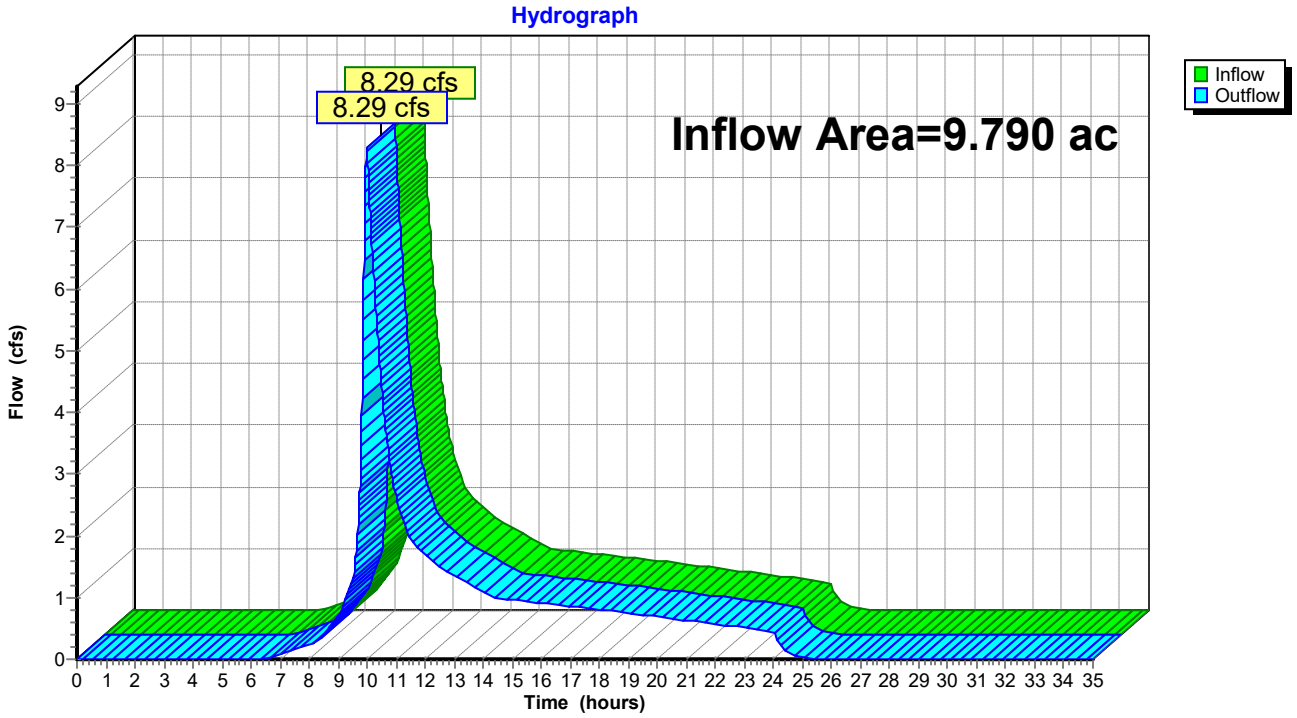
Summary for Reach 2R: Collection Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 9.790 ac, 0.00% Impervious, Inflow Depth = 2.03" for 25 year event
Inflow = 8.29 cfs @ 9.99 hrs, Volume= 1.659 af
Outflow = 8.29 cfs @ 9.99 hrs, Volume= 1.659 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 2R: Collection Point 2



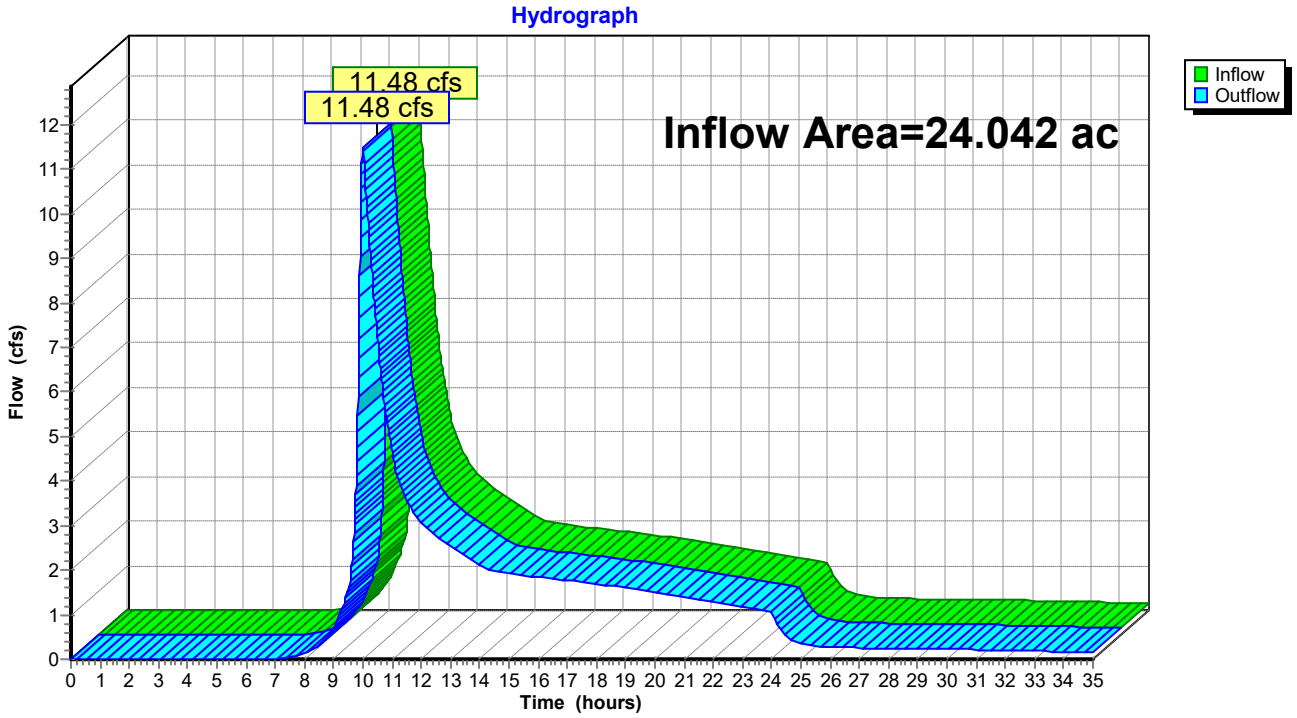
Summary for Reach 3R: Collection Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.042 ac, 0.00% Impervious, Inflow Depth > 1.58" for 25 year event
Inflow = 11.48 cfs @ 9.99 hrs, Volume= 3.174 af
Outflow = 11.48 cfs @ 9.99 hrs, Volume= 3.174 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 3R: Collection Point 3



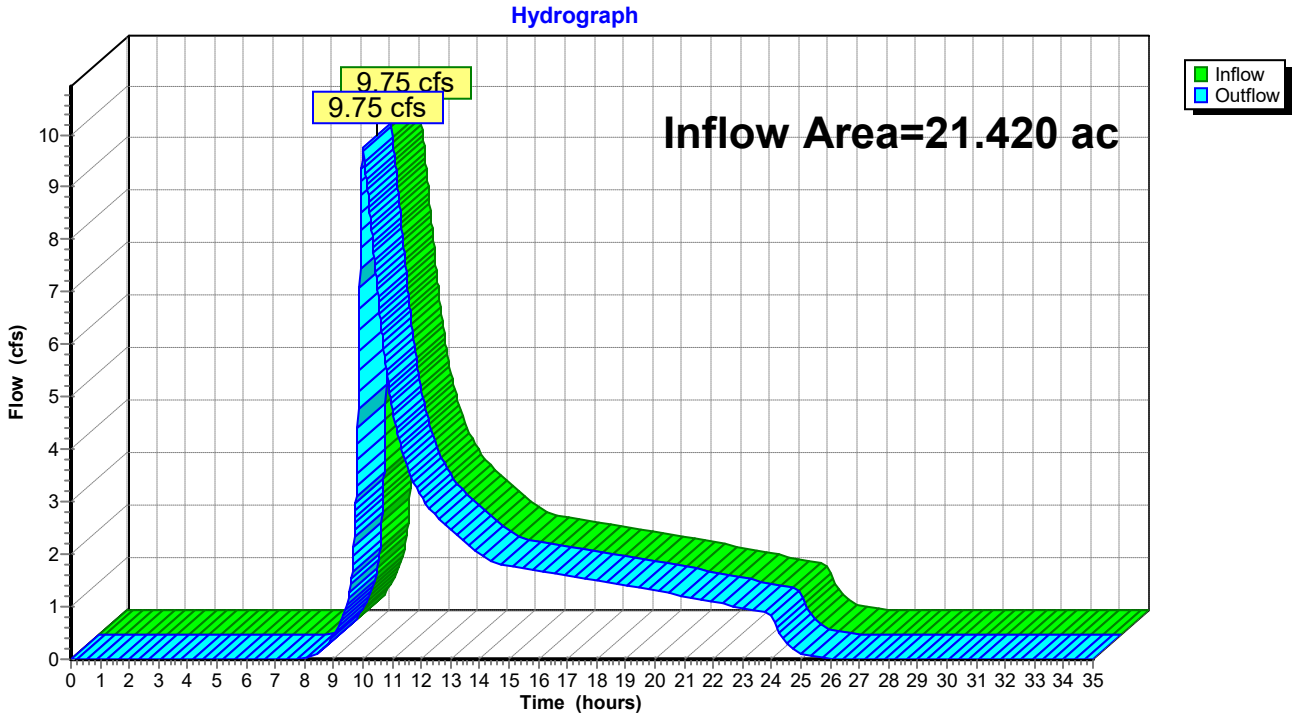
Summary for Reach 4R: Collection Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 21.420 ac, 0.00% Impervious, Inflow Depth = 1.52" for 25 year event
Inflow = 9.75 cfs @ 10.00 hrs, Volume= 2.714 af
Outflow = 9.75 cfs @ 10.00 hrs, Volume= 2.714 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 4R: Collection Point 4



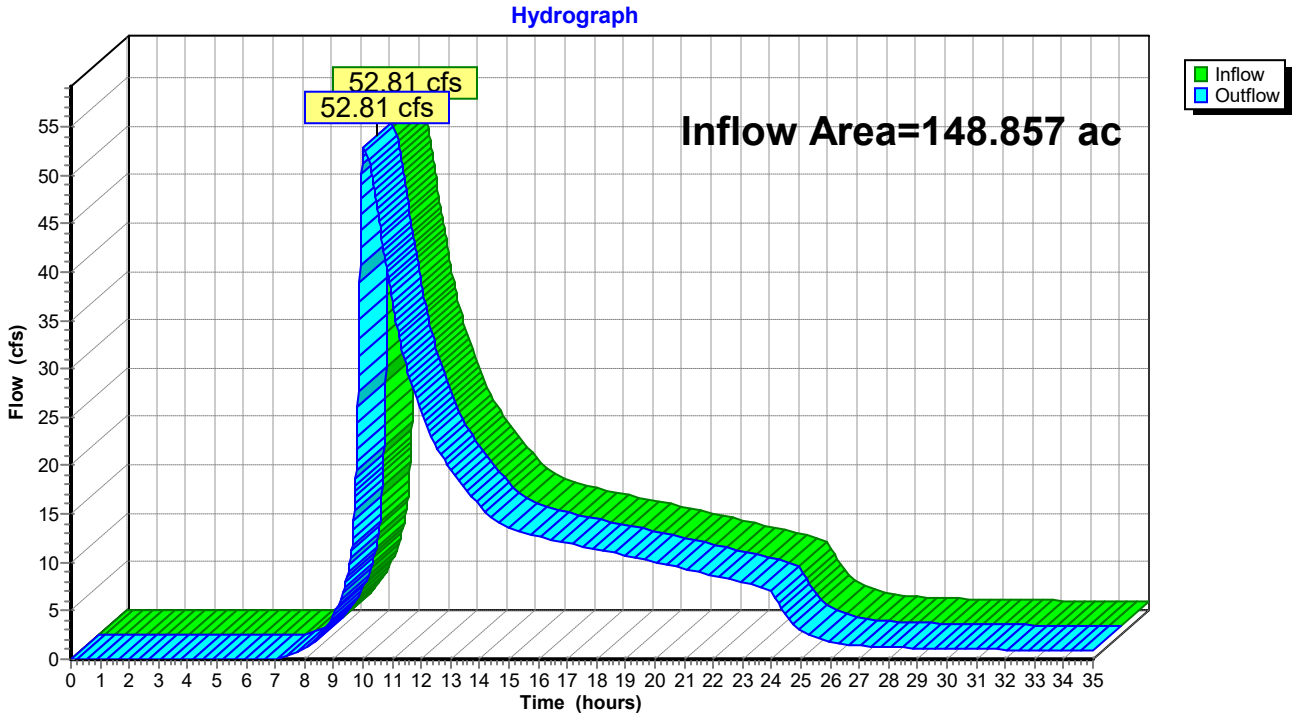
Summary for Reach 5R: Collection Point 5

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 148.857 ac, 0.00% Impervious, Inflow Depth > 1.73" for 25 year event
Inflow = 52.81 cfs @ 10.01 hrs, Volume= 21.422 af
Outflow = 52.81 cfs @ 10.01 hrs, Volume= 21.422 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 5R: Collection Point 5



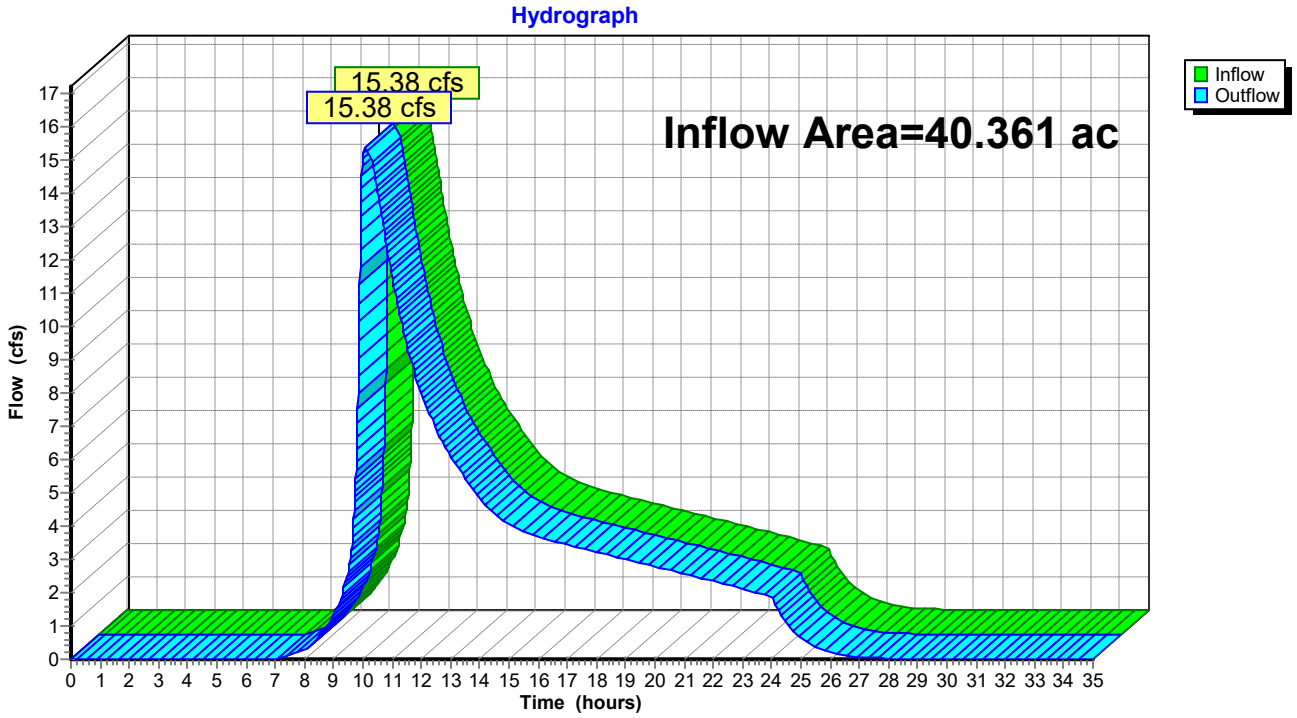
Summary for Reach 6R: Collection Point 6

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 40.361 ac, 0.00% Impervious, Inflow Depth = 1.80" for 25 year event
Inflow = 15.38 cfs @ 10.07 hrs, Volume= 6.068 af
Outflow = 15.38 cfs @ 10.07 hrs, Volume= 6.068 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 6R: Collection Point 6



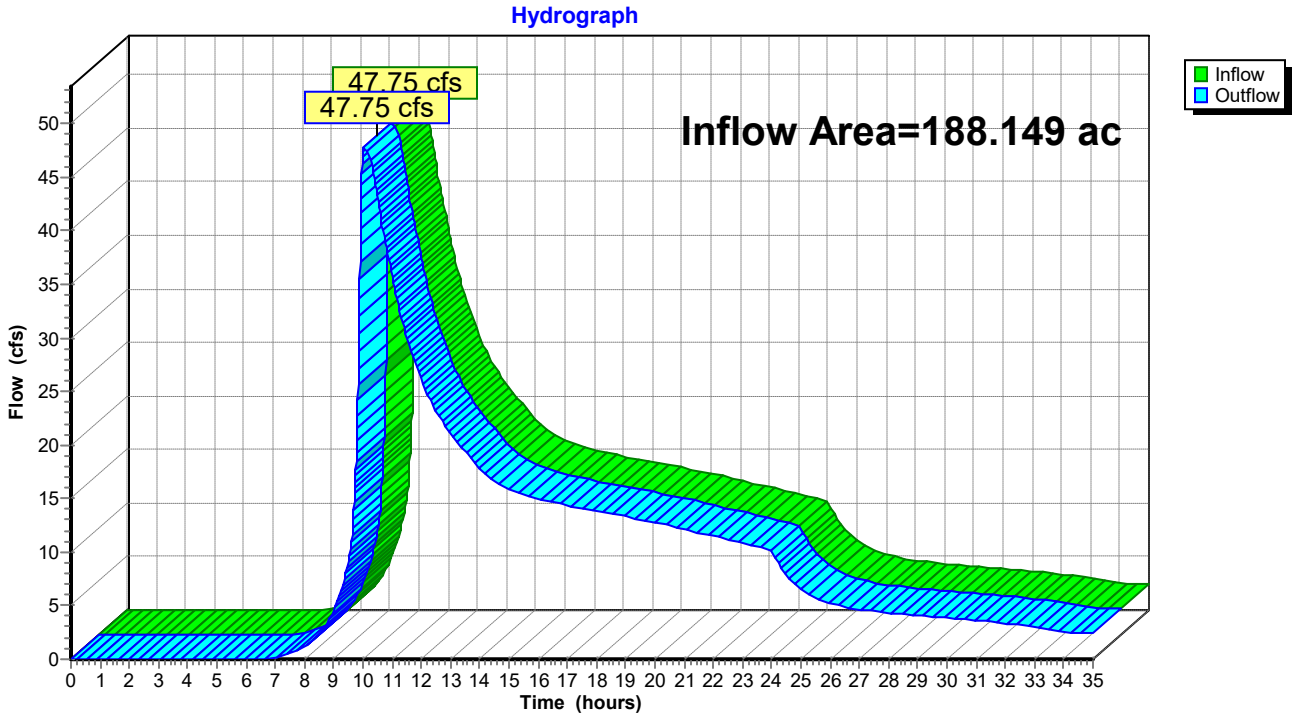
Summary for Reach 7R: Collection Point 7

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 188.149 ac, 0.00% Impervious, Inflow Depth > 1.65" for 25 year event
Inflow = 47.75 cfs @ 10.03 hrs, Volume= 25.946 af
Outflow = 47.75 cfs @ 10.03 hrs, Volume= 25.946 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 7R: Collection Point 7



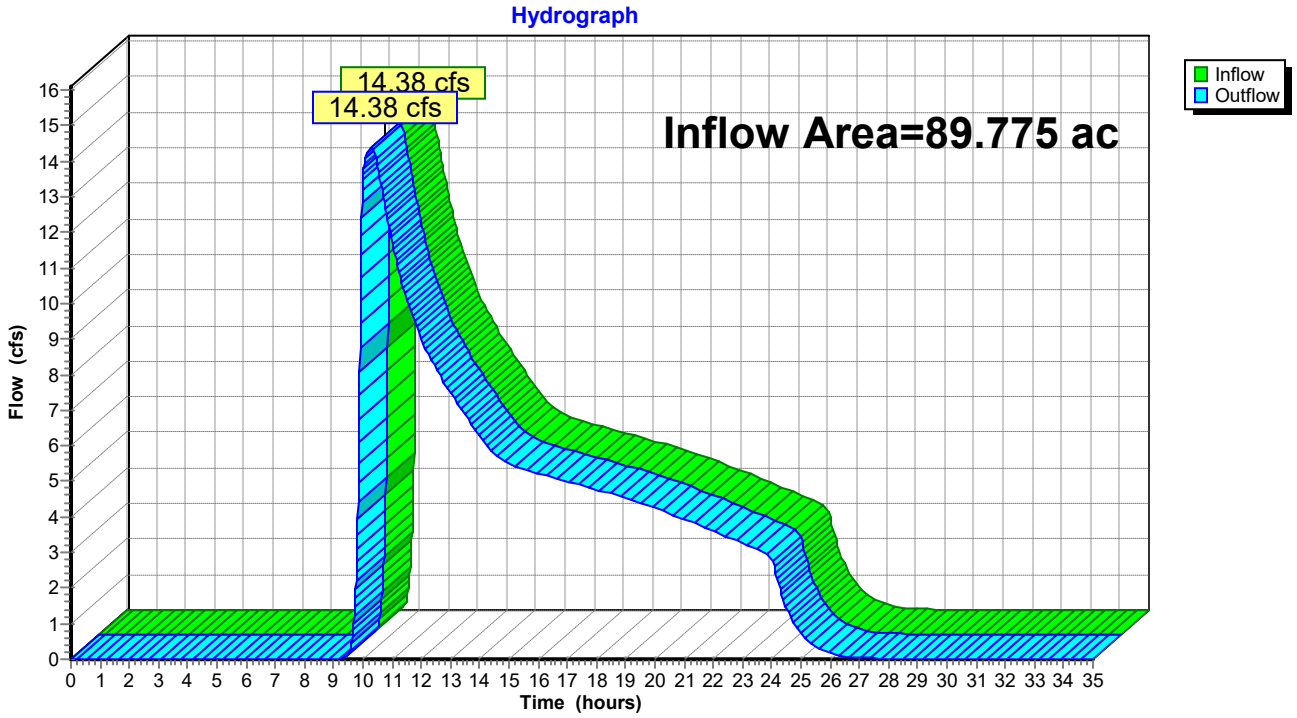
Summary for Reach 8R: Collection Point 8

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 89.775 ac, 0.00% Impervious, Inflow Depth = 0.97" for 25 year event
Inflow = 14.38 cfs @ 10.27 hrs, Volume= 7.233 af
Outflow = 14.38 cfs @ 10.27 hrs, Volume= 7.233 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 8R: Collection Point 8



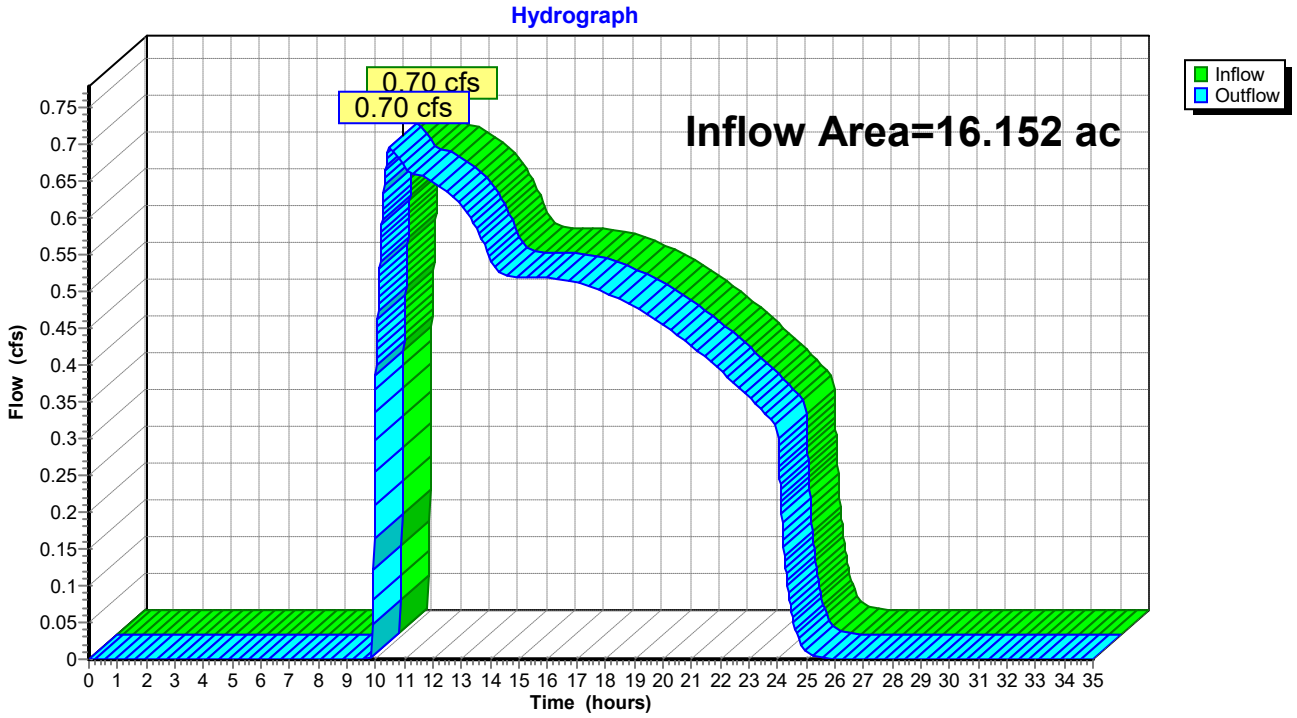
Summary for Reach 9R: Collection Point 9

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 16.152 ac, 0.00% Impervious, Inflow Depth = 0.44" for 25 year event
Inflow = 0.70 cfs @ 10.48 hrs, Volume= 0.597 af
Outflow = 0.70 cfs @ 10.48 hrs, Volume= 0.597 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 9R: Collection Point 9



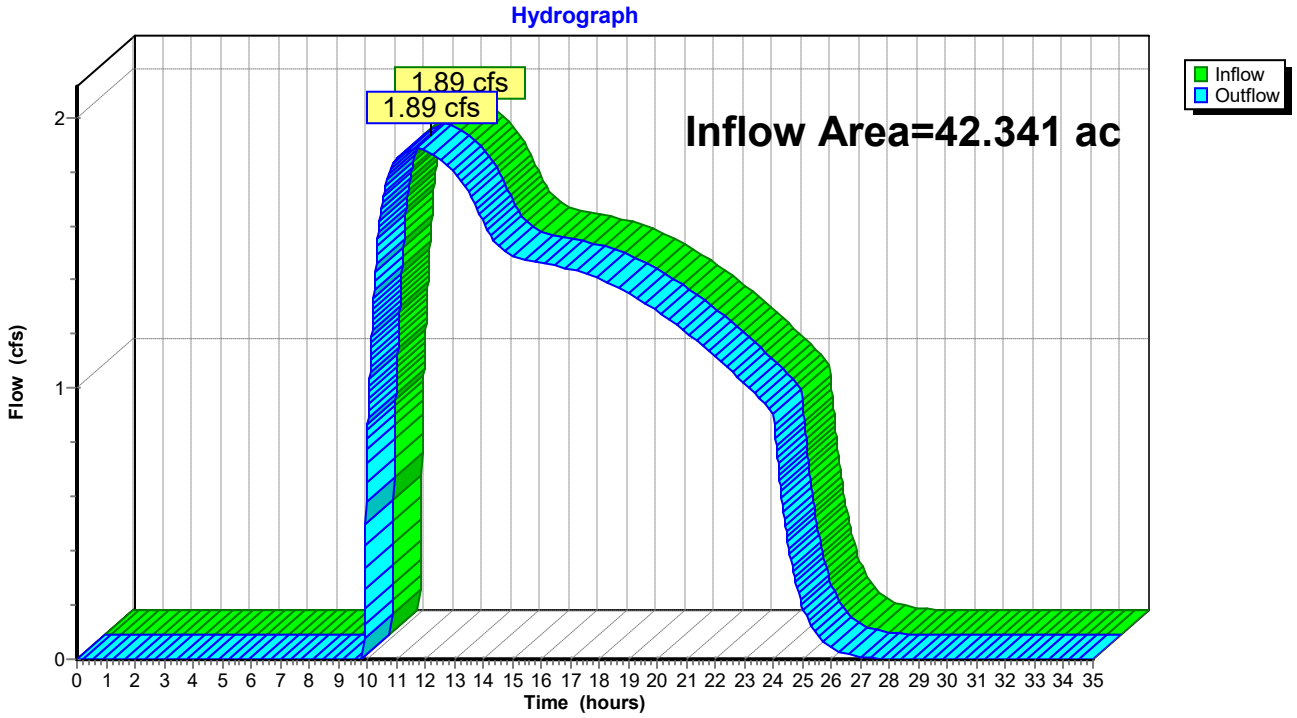
Summary for Reach 10R: Collection Point 10

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 42.341 ac, 0.00% Impervious, Inflow Depth = 0.48" for 25 year event
Inflow = 1.89 cfs @ 11.74 hrs, Volume= 1.707 af
Outflow = 1.89 cfs @ 11.74 hrs, Volume= 1.707 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 10R: Collection Point 10



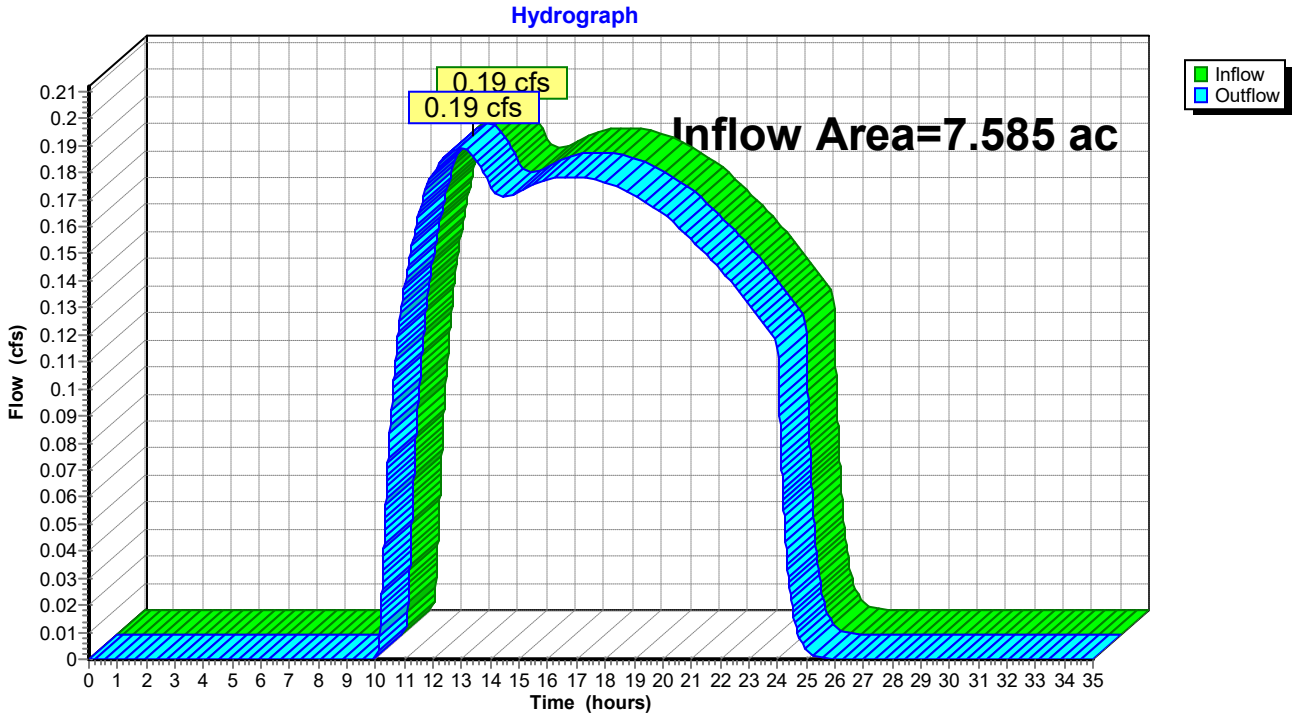
Summary for Reach 11R: Collection Point 11

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.585 ac, 0.00% Impervious, Inflow Depth = 0.30" for 25 year event
Inflow = 0.19 cfs @ 12.92 hrs, Volume= 0.187 af
Outflow = 0.19 cfs @ 12.92 hrs, Volume= 0.187 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 11R: Collection Point 11



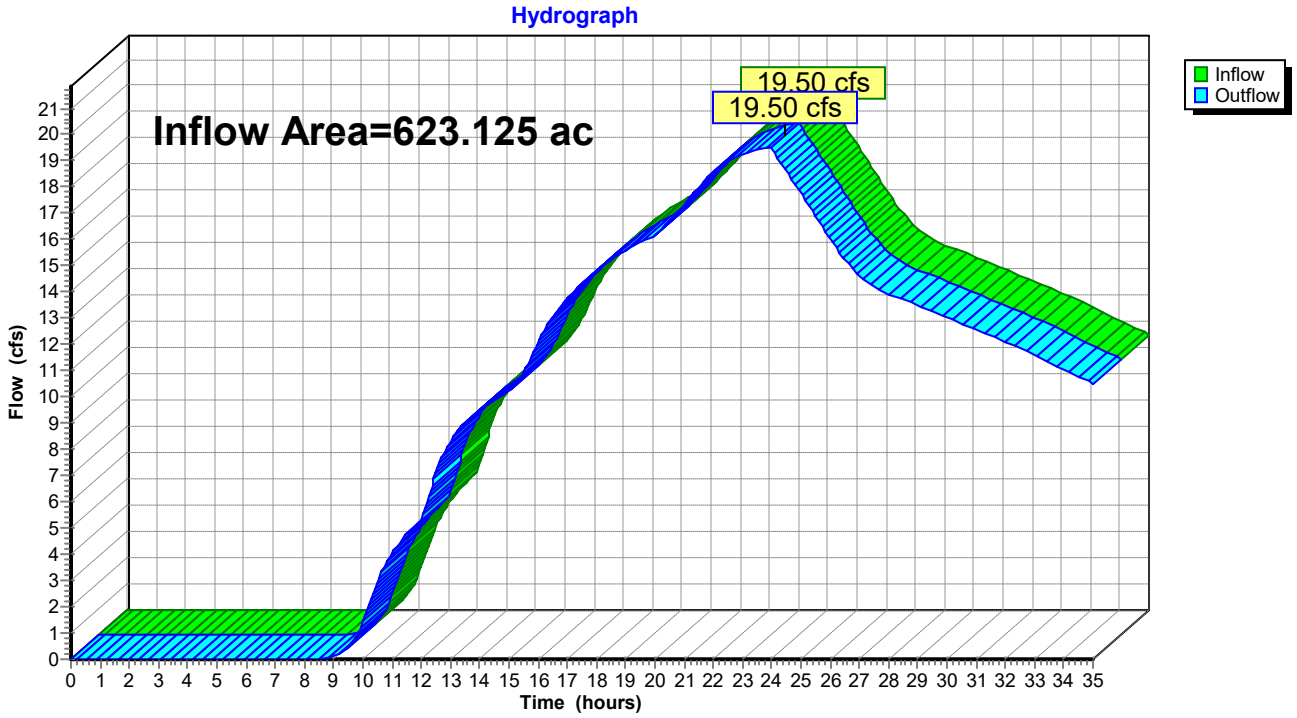
Summary for Reach 12R: Collection Point 12

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 623.125 ac, 0.00% Impervious, Inflow Depth > 0.52" for 25 year event
Inflow = 19.50 cfs @ 24.00 hrs, Volume= 27.065 af
Outflow = 19.50 cfs @ 24.00 hrs, Volume= 27.065 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 12R: Collection Point 12



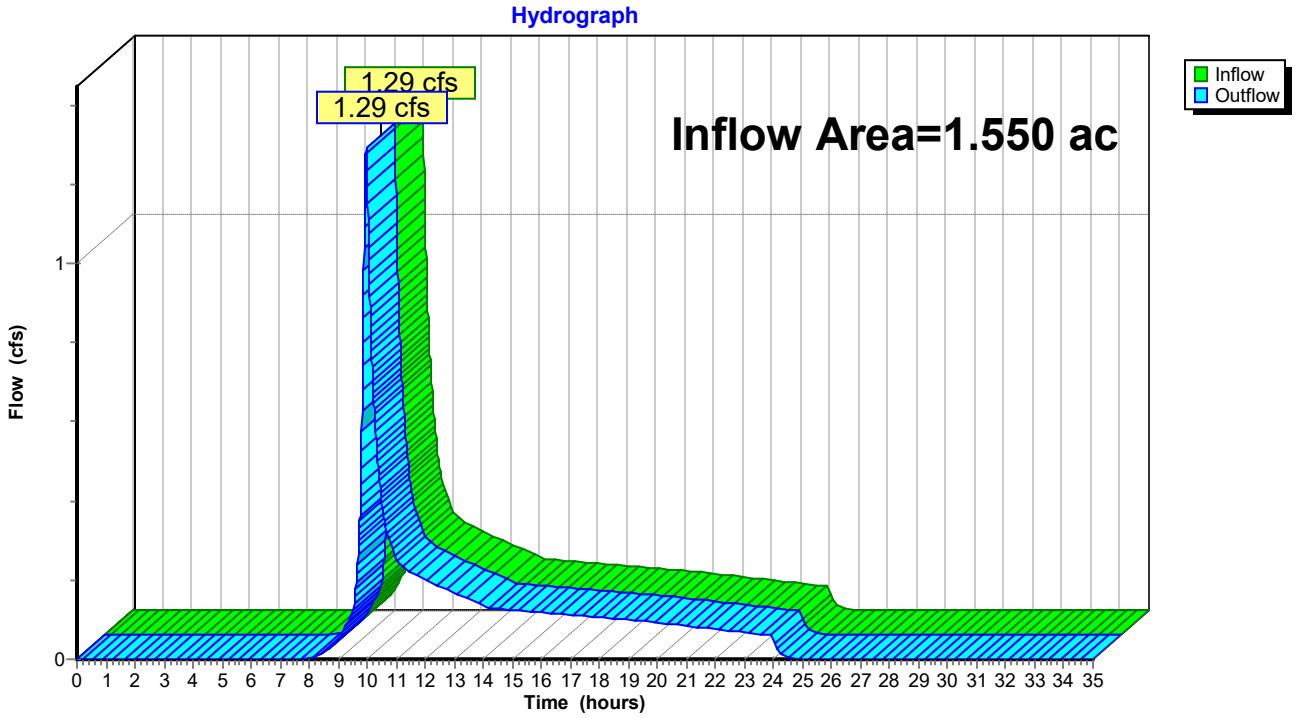
Summary for Reach 13R: Collection Point 13

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.550 ac, 0.00% Impervious, Inflow Depth = 1.52" for 25 year event
Inflow = 1.29 cfs @ 9.97 hrs, Volume= 0.196 af
Outflow = 1.29 cfs @ 9.97 hrs, Volume= 0.196 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 13R: Collection Point 13



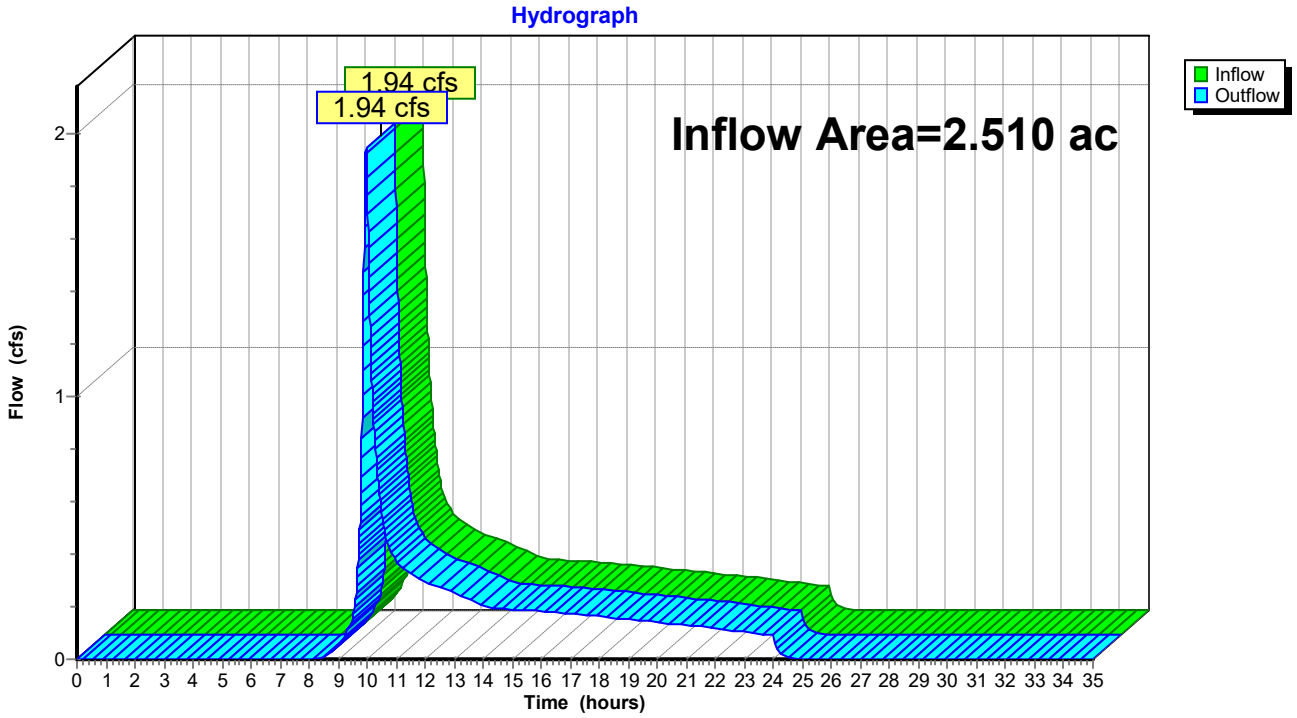
Summary for Reach 14R: Collection Point 14

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.510 ac, 0.00% Impervious, Inflow Depth = 1.39" for 25 year event
Inflow = 1.94 cfs @ 9.97 hrs, Volume= 0.290 af
Outflow = 1.94 cfs @ 9.97 hrs, Volume= 0.290 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 14R: Collection Point 14



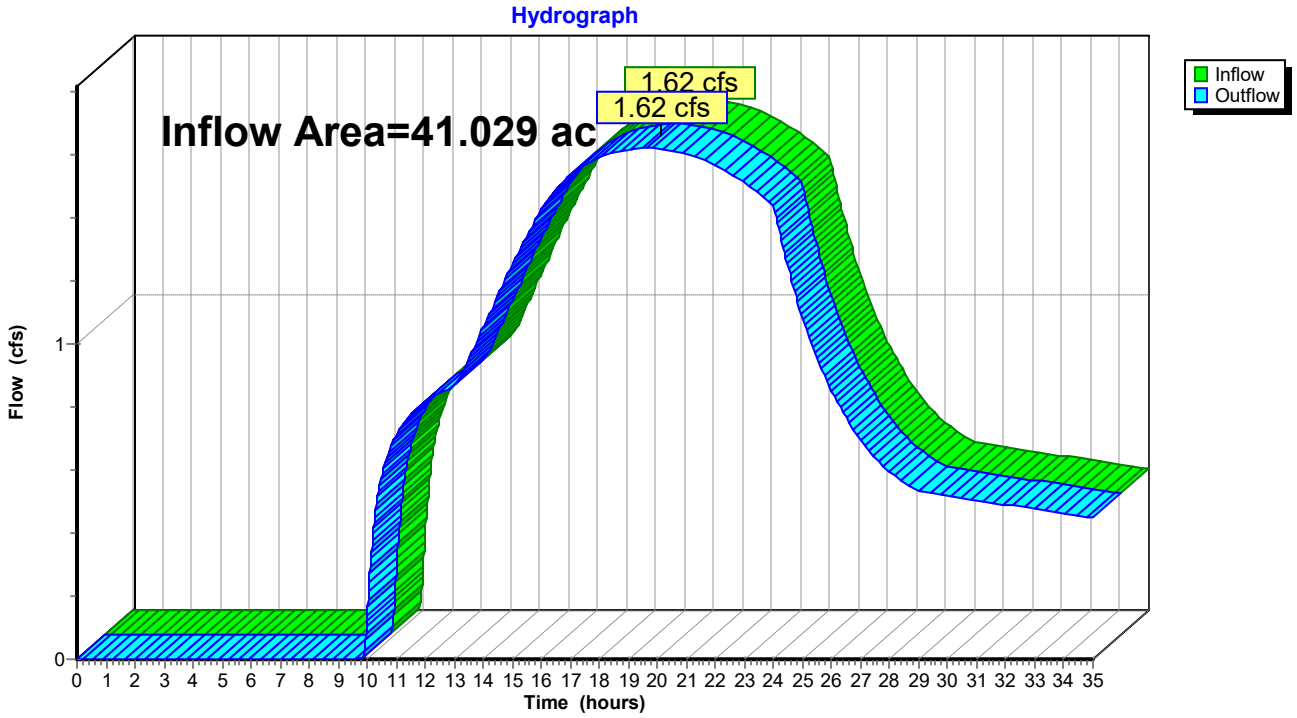
Summary for Reach 15R: Collection Point 15

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 41.029 ac, 0.00% Impervious, Inflow Depth > 0.61" for 25 year event
Inflow = 1.62 cfs @ 19.62 hrs, Volume= 2.087 af
Outflow = 1.62 cfs @ 19.62 hrs, Volume= 2.087 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 15R: Collection Point 15



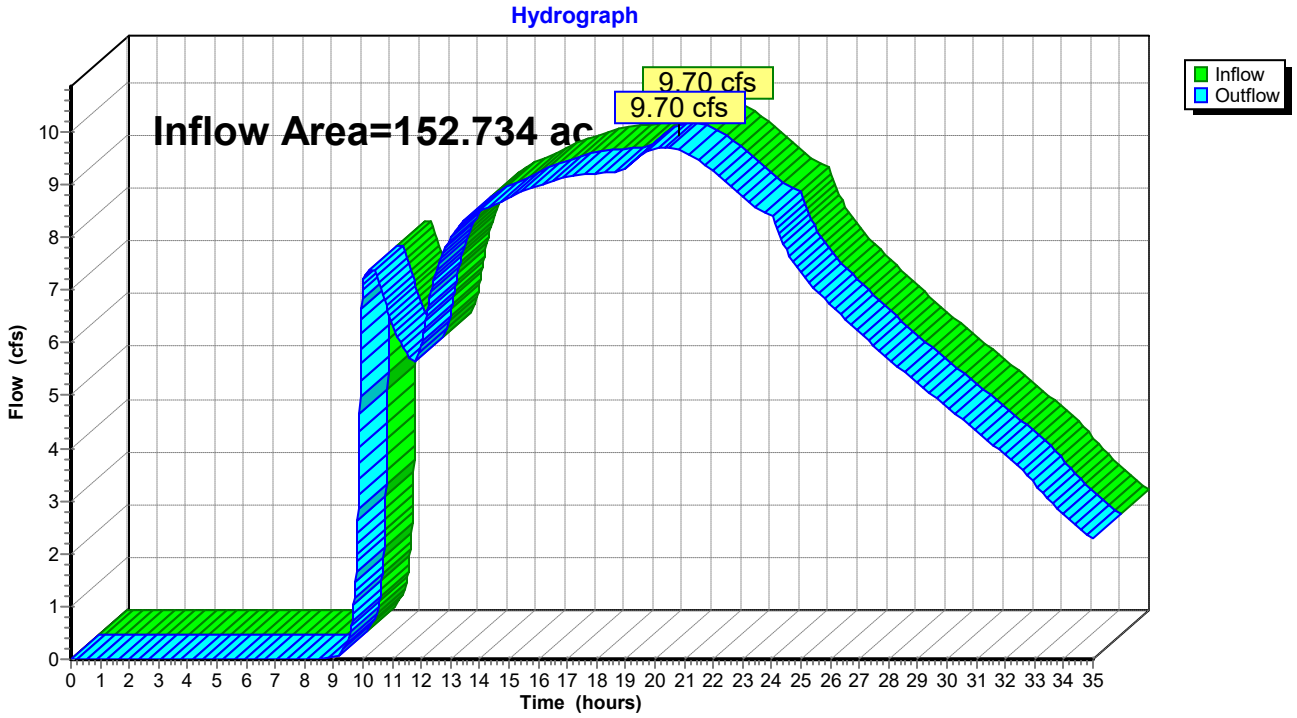
Summary for Reach 16R: Collection Point 16

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 152.734 ac, 0.00% Impervious, Inflow Depth > 1.15" for 25 year event
Inflow = 9.70 cfs @ 20.34 hrs, Volume= 14.597 af
Outflow = 9.70 cfs @ 20.34 hrs, Volume= 14.597 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 16R: Collection Point 16



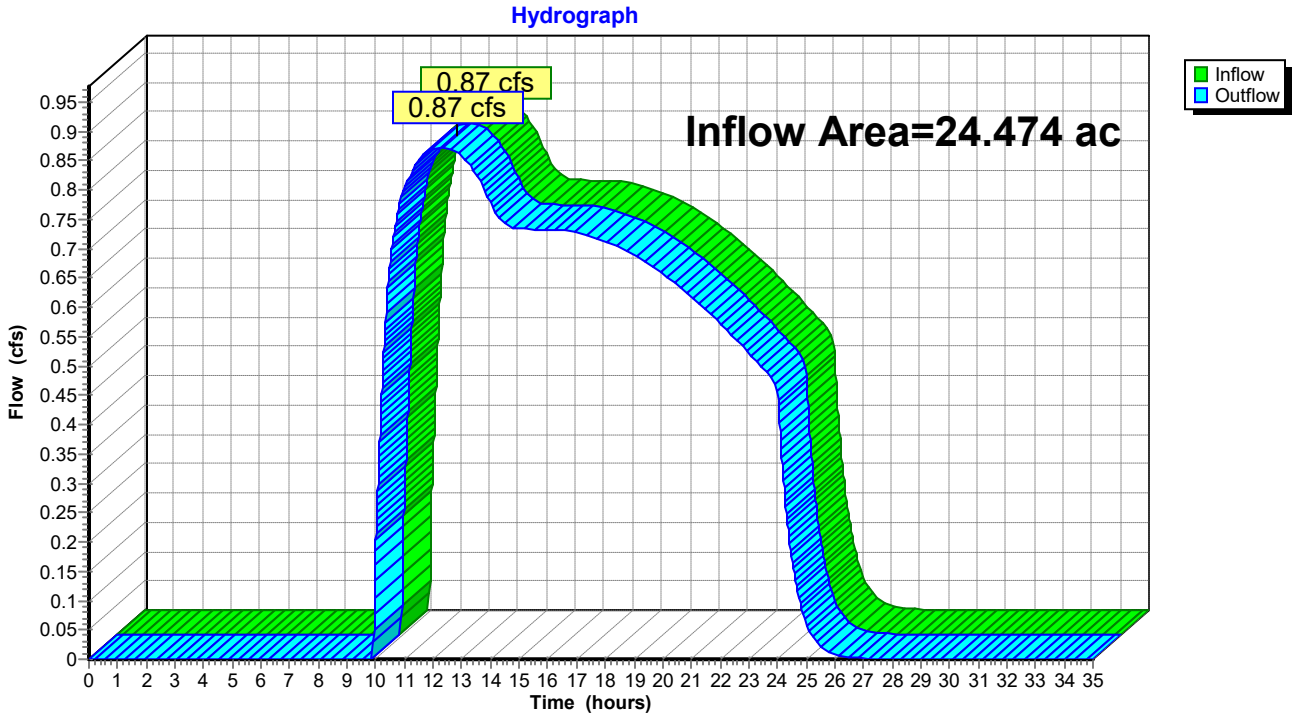
Summary for Reach 17R: Collection Point 17

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.474 ac, 0.00% Impervious, Inflow Depth = 0.40" for 25 year event
Inflow = 0.87 cfs @ 12.31 hrs, Volume= 0.824 af
Outflow = 0.87 cfs @ 12.31 hrs, Volume= 0.824 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 17R: Collection Point 17



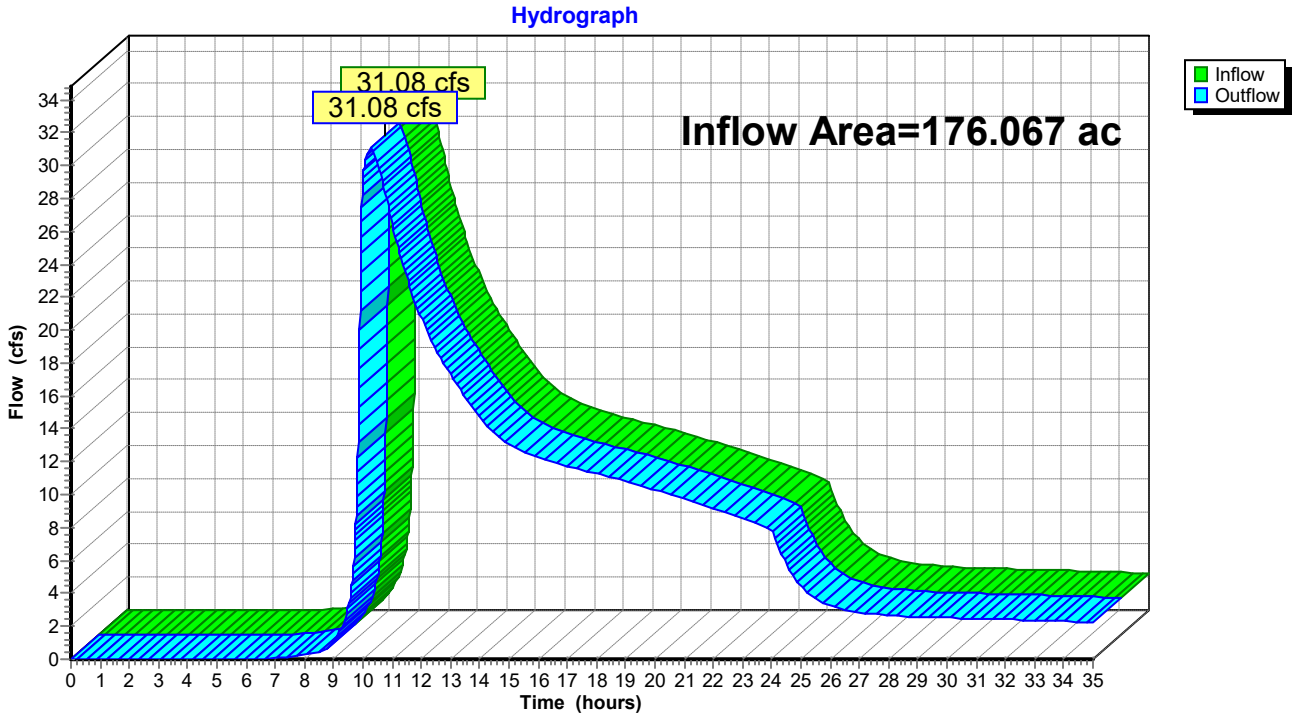
Summary for Reach 18R: Collection Point 18

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 176.067 ac, 0.00% Impervious, Inflow Depth > 1.33" for 25 year event
Inflow = 31.08 cfs @ 10.29 hrs, Volume= 19.504 af
Outflow = 31.08 cfs @ 10.29 hrs, Volume= 19.504 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 18R: Collection Point 18



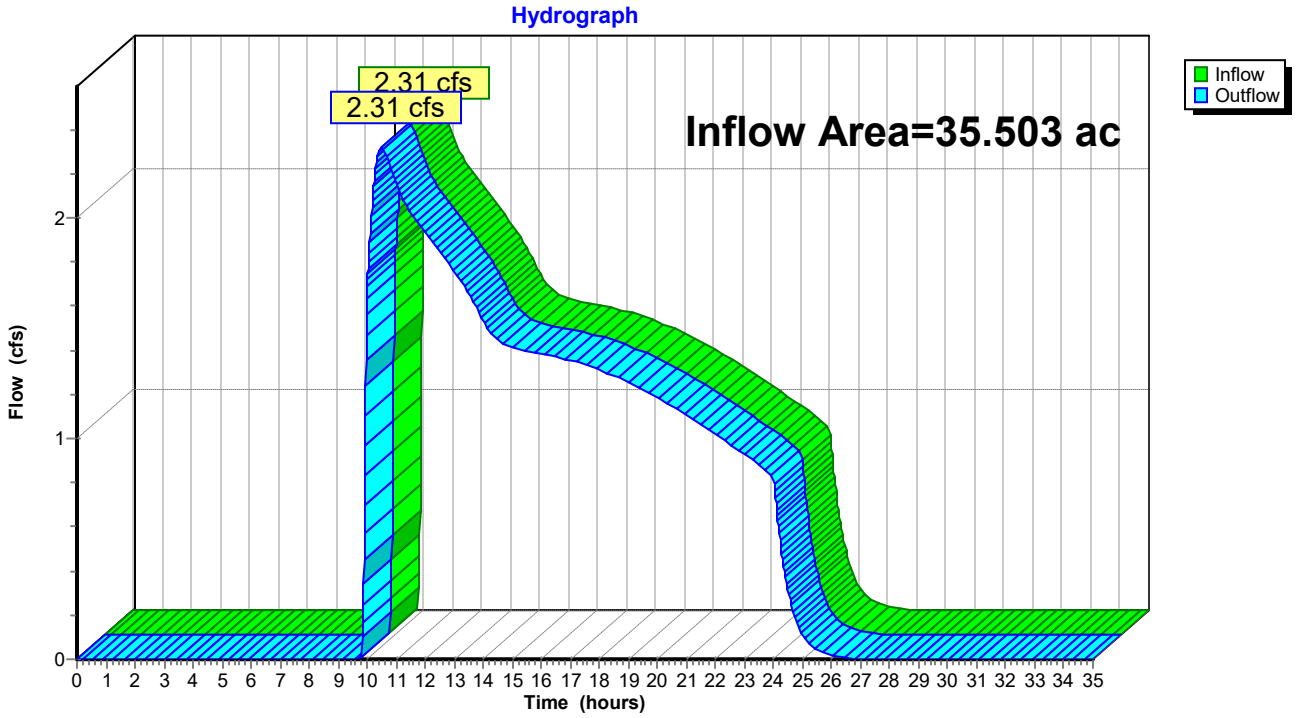
Summary for Reach 19R: Collection Point 19

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.503 ac, 0.00% Impervious, Inflow Depth = 0.57" for 25 year event
Inflow = 2.31 cfs @ 10.46 hrs, Volume= 1.684 af
Outflow = 2.31 cfs @ 10.46 hrs, Volume= 1.684 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 19R: Collection Point 19



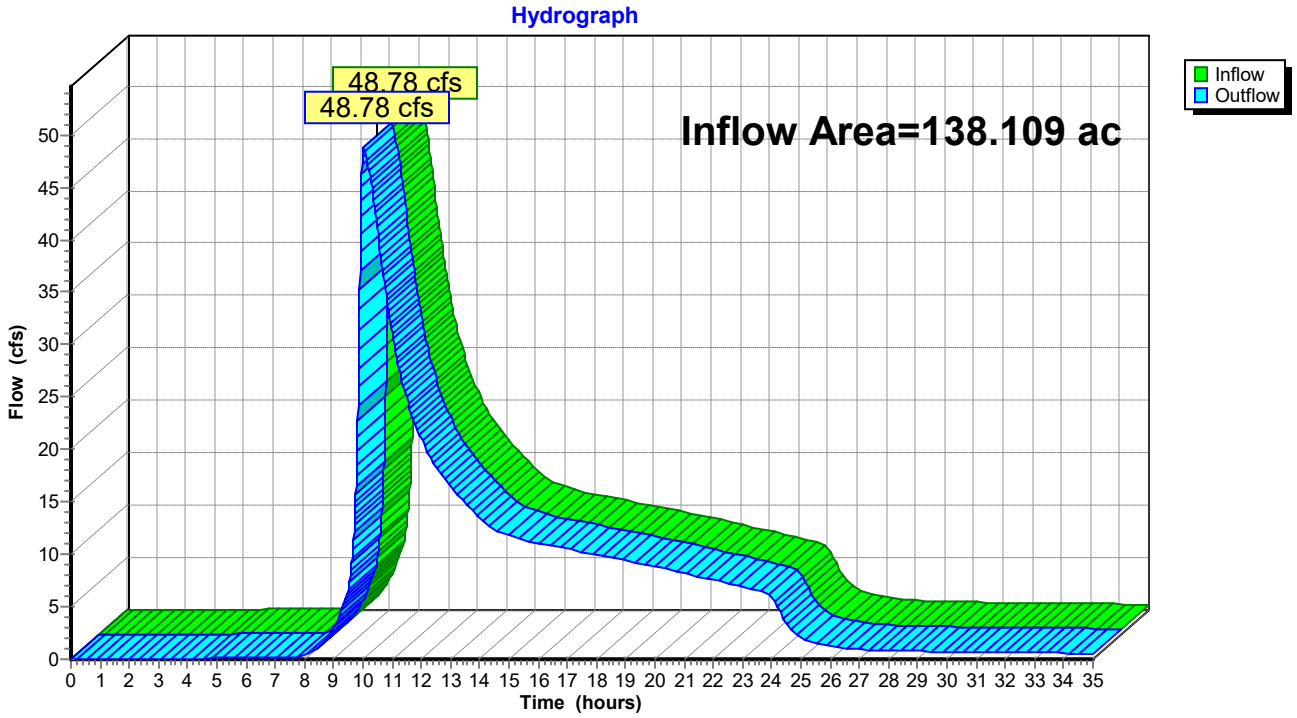
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 138.109 ac, 2.50% Impervious, Inflow Depth > 1.58" for 25 year event
Inflow = 48.78 cfs @ 10.00 hrs, Volume= 18.198 af
Outflow = 48.78 cfs @ 10.00 hrs, Volume= 18.198 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



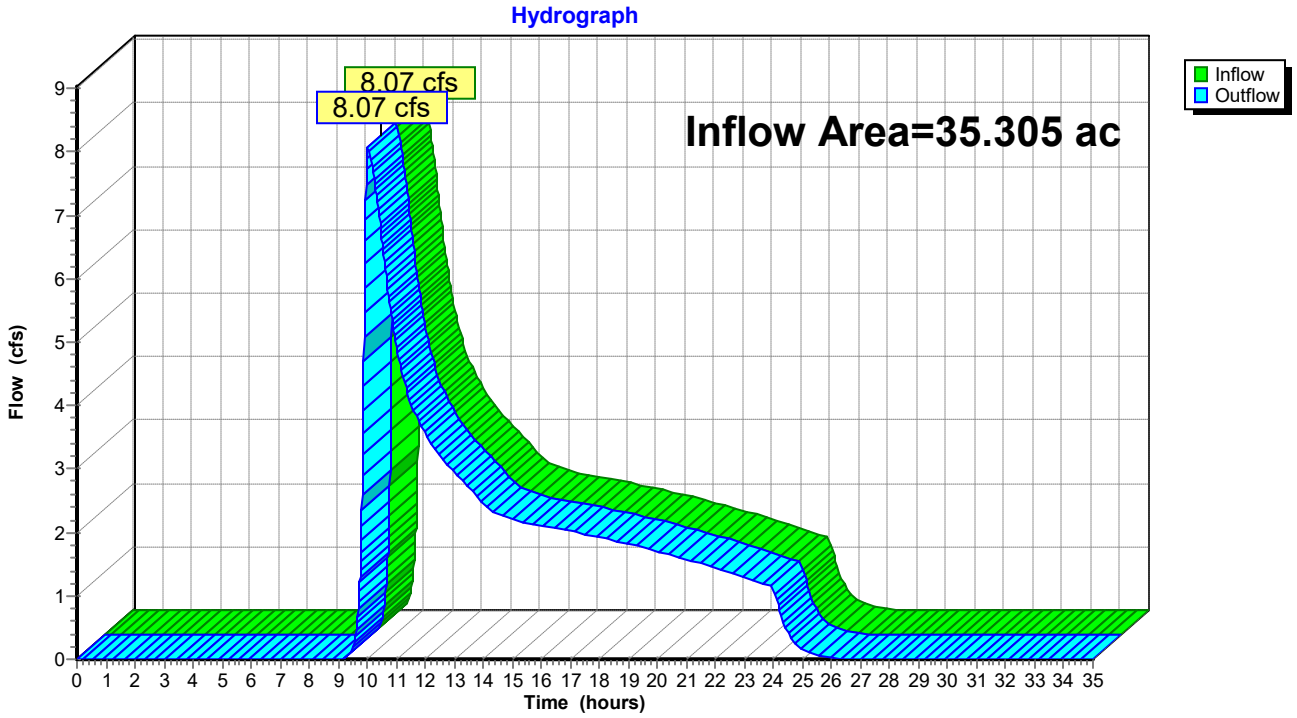
Summary for Reach 21R: Collection Point 21

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.305 ac, 0.00% Impervious, Inflow Depth = 1.02" for 25 year event
Inflow = 8.07 cfs @ 10.01 hrs, Volume= 3.009 af
Outflow = 8.07 cfs @ 10.01 hrs, Volume= 3.009 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 21R: Collection Point 21



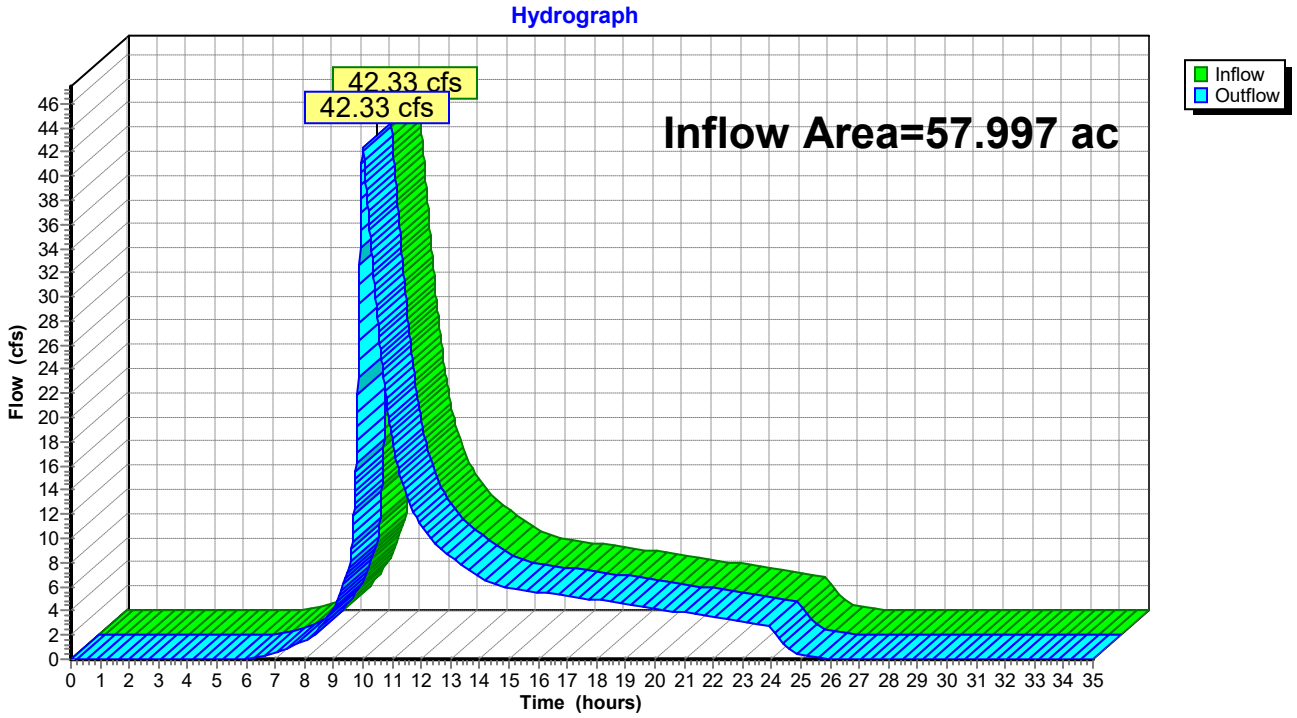
Summary for Reach 22R: Collection Point 22

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 57.997 ac, 0.00% Impervious, Inflow Depth = 2.11" for 25 year event
Inflow = 42.33 cfs @ 9.99 hrs, Volume= 10.213 af
Outflow = 42.33 cfs @ 9.99 hrs, Volume= 10.213 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 22R: Collection Point 22



Summary for Pond 12S: Flow Splitter Box

[57] Hint: Peaked at 115.65' (Flood elevation advised)

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 1.55" for 25 year event
Inflow = 231.15 cfs @ 10.00 hrs, Volume= 68.870 af
Outflow = 231.15 cfs @ 10.00 hrs, Volume= 68.870 af, Atten= 0%, Lag= 0.0 min
Primary = 115.58 cfs @ 10.00 hrs, Volume= 34.435 af
Routed to Pond D12.1 : Detention Pond 12.1
Secondary = 115.58 cfs @ 10.00 hrs, Volume= 34.435 af
Routed to Pond D12.2 : Detention Pond 12.2

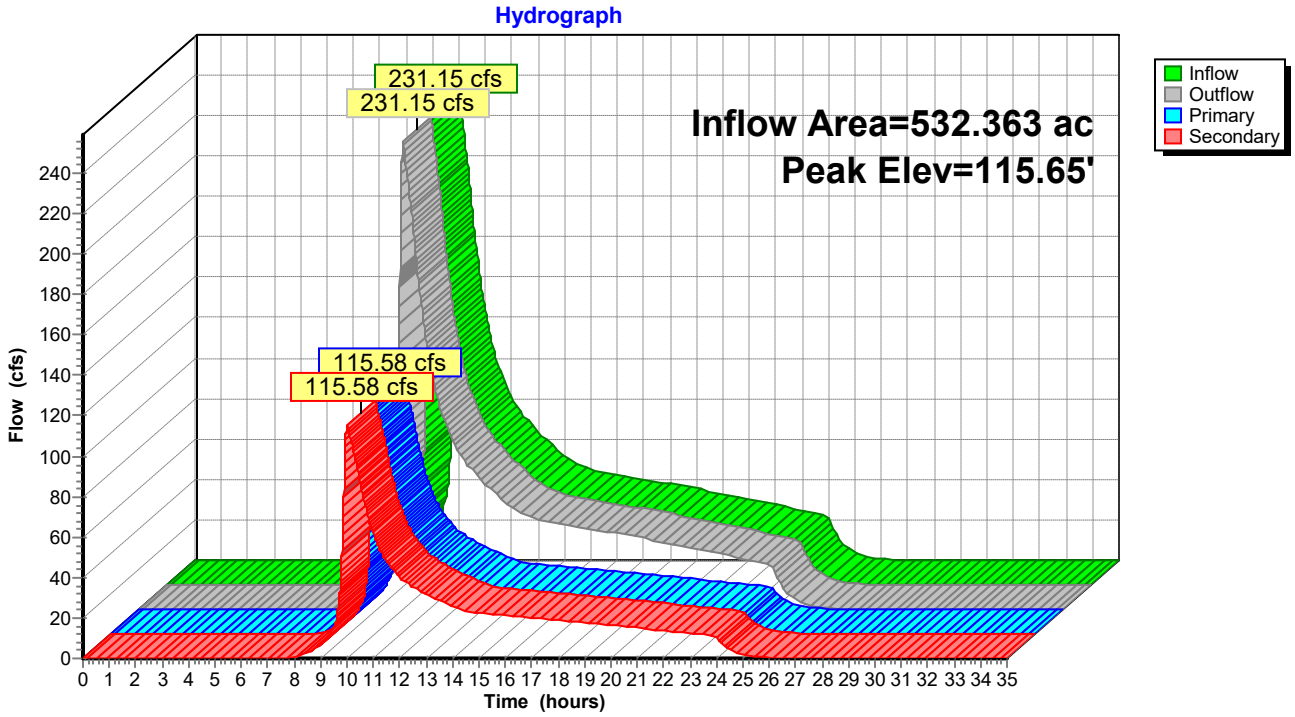
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 115.65' @ 10.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf
#2	Secondary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

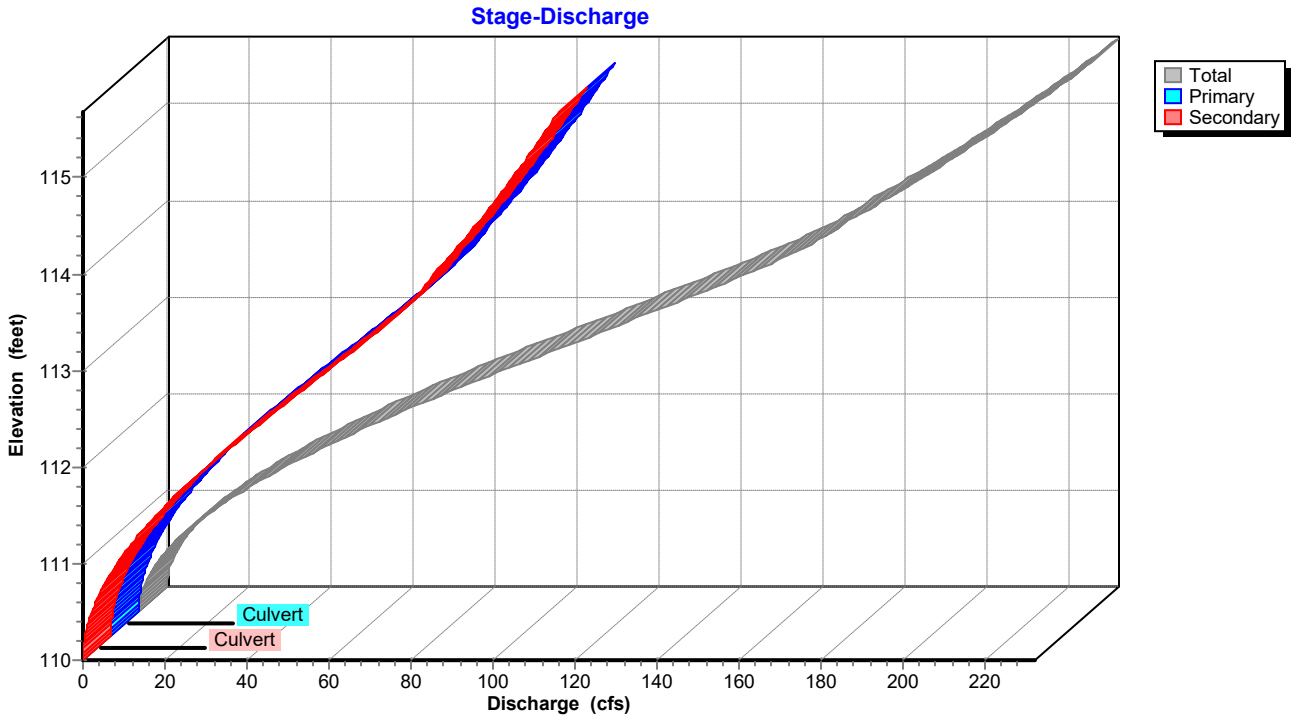
Primary OutFlow Max=115.56 cfs @ 10.00 hrs HW=115.65' TW=100.90' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 115.56 cfs @ 9.20 fps)

Secondary OutFlow Max=115.56 cfs @ 10.00 hrs HW=115.65' TW=100.90' (Dynamic Tailwater)
↑—**2=Culvert** (Inlet Controls 115.56 cfs @ 9.20 fps)

Pond 12S: Flow Splitter Box



Pond 12S: Flow Splitter Box



Stage-Discharge for Pond 12S: Flow Splitter Box

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
110.00	0.00	0.00	0.00
110.10	0.18	0.09	0.09
110.20	0.72	0.36	0.36
110.30	1.60	0.80	0.80
110.40	2.82	1.41	1.41
110.50	4.37	2.18	2.18
110.60	6.23	3.12	3.12
110.70	8.41	4.21	4.21
110.80	10.90	5.45	5.45
110.90	13.67	6.84	6.84
111.00	16.73	8.36	8.36
111.10	20.06	10.03	10.03
111.20	23.65	11.83	11.83
111.30	27.50	13.75	13.75
111.40	31.58	15.79	15.79
111.50	35.90	17.95	17.95
111.60	40.43	20.22	20.22
111.70	45.17	22.59	22.59
111.80	50.11	25.05	25.05
111.90	55.22	27.61	27.61
112.00	60.51	30.25	30.25
112.10	65.95	32.97	32.97
112.20	71.53	35.76	35.76
112.30	77.23	38.62	38.62
112.40	83.05	41.52	41.52
112.50	88.96	44.48	44.48
112.60	94.94	47.47	47.47
112.70	100.98	50.49	50.49
112.80	107.06	53.53	53.53
112.90	113.15	56.58	56.58
113.00	119.24	59.62	59.62
113.10	125.29	62.64	62.64
113.20	131.28	65.64	65.64
113.30	137.17	68.59	68.59
113.40	142.94	71.47	71.47
113.50	148.54	74.27	74.27
113.60	153.91	76.95	76.95
113.70	158.99	79.49	79.49
113.80	163.69	81.84	81.84
113.90	167.86	83.93	83.93
114.00	171.14	85.57	85.57
114.10	175.37	87.68	87.68
114.20	179.49	89.75	89.75
114.30	183.53	91.76	91.76
114.40	187.47	93.74	93.74
114.50	191.34	95.67	95.67
114.60	195.13	97.56	97.56
114.70	198.85	99.42	99.42
114.80	202.49	101.25	101.25
114.90	206.08	103.04	103.04
115.00	209.60	104.80	104.80
115.10	213.07	106.53	106.53
115.20	216.48	108.24	108.24
115.30	219.83	109.92	109.92
115.40	223.14	111.57	111.57
115.50	226.40	113.20	113.20
115.60	**229.61**	**114.80**	**114.80**

Stage-Area-Storage for Pond 12S: Flow Splitter Box

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
110.00	**0.000**	112.60	0.000	115.20	0.000
110.05	0.000	112.65	0.000	115.25	0.000
110.10	0.000	112.70	0.000	115.30	0.000
110.15	0.000	112.75	0.000	115.35	0.000
110.20	0.000	112.80	0.000	115.40	0.000
110.25	0.000	112.85	0.000	115.45	0.000
110.30	0.000	112.90	0.000	115.50	0.000
110.35	0.000	112.95	0.000	115.55	0.000
110.40	0.000	113.00	0.000	115.60	0.000
110.45	0.000	113.05	0.000	115.65	0.000
110.50	0.000	113.10	0.000		
110.55	0.000	113.15	0.000		
110.60	0.000	113.20	0.000		
110.65	0.000	113.25	0.000		
110.70	0.000	113.30	0.000		
110.75	0.000	113.35	0.000		
110.80	0.000	113.40	0.000		
110.85	0.000	113.45	0.000		
110.90	0.000	113.50	0.000		
110.95	0.000	113.55	0.000		
111.00	0.000	113.60	0.000		
111.05	0.000	113.65	0.000		
111.10	0.000	113.70	0.000		
111.15	0.000	113.75	0.000		
111.20	0.000	113.80	0.000		
111.25	0.000	113.85	0.000		
111.30	0.000	113.90	0.000		
111.35	0.000	113.95	0.000		
111.40	0.000	114.00	0.000		
111.45	0.000	114.05	0.000		
111.50	0.000	114.10	0.000		
111.55	0.000	114.15	0.000		
111.60	0.000	114.20	0.000		
111.65	0.000	114.25	0.000		
111.70	0.000	114.30	0.000		
111.75	0.000	114.35	0.000		
111.80	0.000	114.40	0.000		
111.85	0.000	114.45	0.000		
111.90	0.000	114.50	0.000		
111.95	0.000	114.55	0.000		
112.00	0.000	114.60	0.000		
112.05	0.000	114.65	0.000		
112.10	0.000	114.70	0.000		
112.15	0.000	114.75	0.000		
112.20	0.000	114.80	0.000		
112.25	0.000	114.85	0.000		
112.30	0.000	114.90	0.000		
112.35	0.000	114.95	0.000		
112.40	0.000	115.00	0.000		
112.45	0.000	115.05	0.000		
112.50	0.000	115.10	0.000		
112.55	0.000	115.15	0.000		

Summary for Pond D1: Detention Basin 1

Inflow Area = 22.726 ac, 0.00% Impervious, Inflow Depth = 2.19" for 25 year event
Inflow = 20.77 cfs @ 9.99 hrs, Volume= 4.156 af
Outflow = 1.51 cfs @ 21.03 hrs, Volume= 2.361 af, Atten= 93%, Lag= 662.5 min
Primary = 1.51 cfs @ 21.03 hrs, Volume= 2.361 af
Routed to Reach 1R : Collection Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.62' @ 21.03 hrs Surf.Area= 0.744 ac Storage= 2.715 af

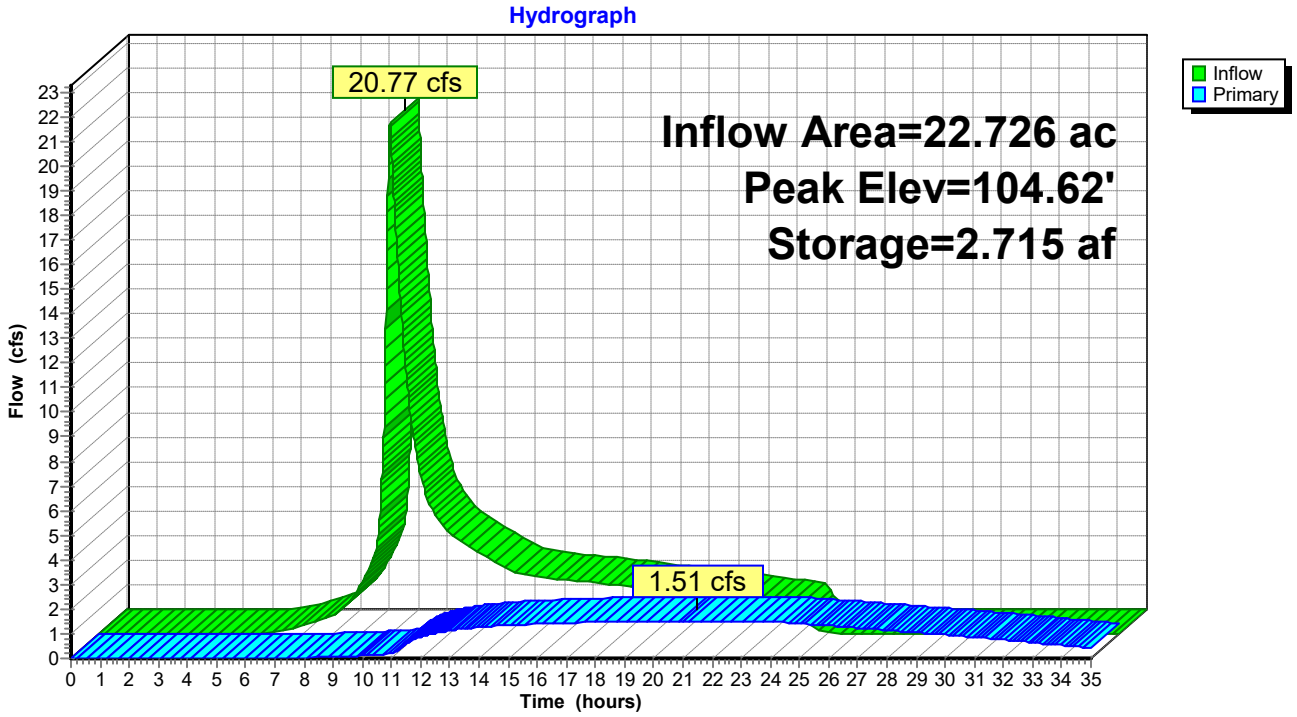
Plug-Flow detention time= 688.4 min calculated for 2.361 af (57% of inflow)
Center-of-Mass det. time= 502.6 min (1,319.1 - 816.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	3.808 af	**80.00'W x 240.00'L x 6.00'H Prismatoid Z=4.0**

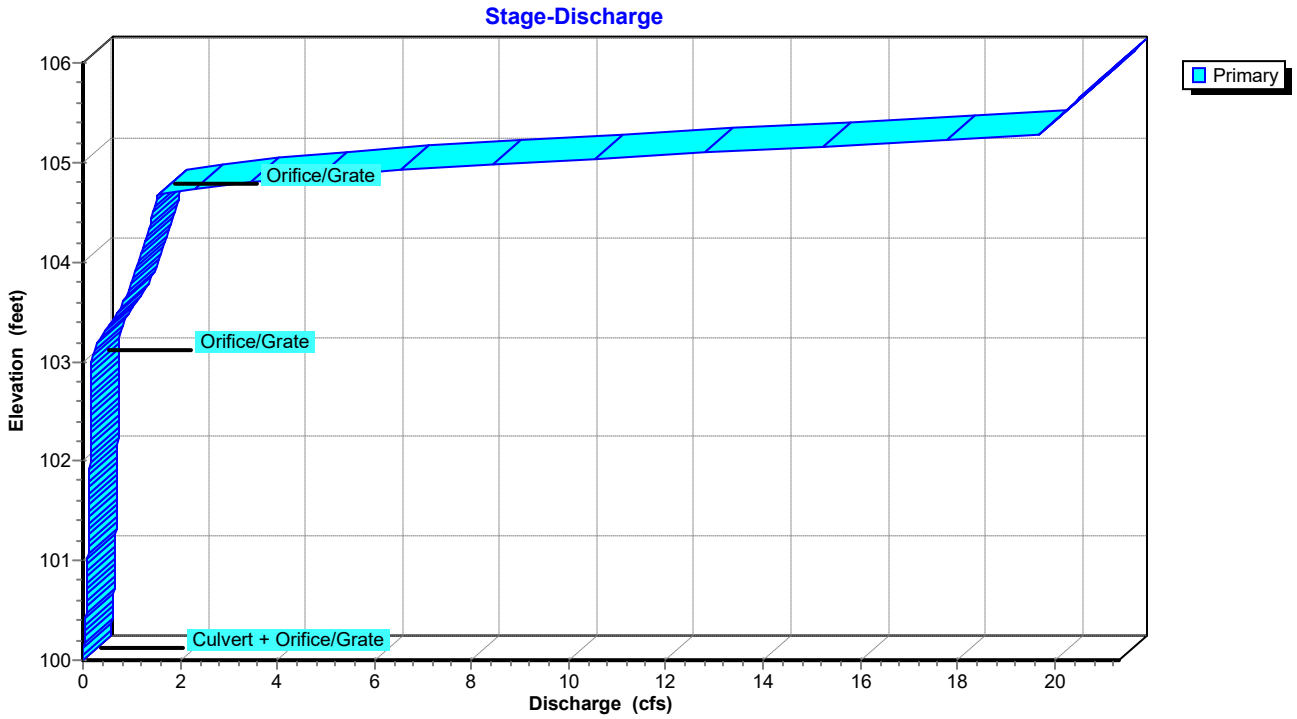
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.67'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	103.00'	**6.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.51 cfs @ 21.03 hrs HW=104.62' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.22 cfs of 16.75 cfs potential flow)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.22 cfs @ 10.26 fps)
- **4=Orifice/Grate** (Orifice Controls 1.29 cfs @ 5.60 fps)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	16.92
100.05	0.00	102.65	0.17	105.25	19.13
100.10	0.01	102.70	0.17	105.30	19.73
100.15	0.03	102.75	0.17	105.35	19.85
100.20	0.04	102.80	0.17	105.40	19.97
100.25	0.04	102.85	0.17	105.45	20.08
100.30	0.05	102.90	0.18	105.50	20.20
100.35	0.05	102.95	0.18	105.55	20.32
100.40	0.06	103.00	0.18	105.60	20.43
100.45	0.06	103.05	0.19	105.65	20.55
100.50	0.07	103.10	0.21	105.70	20.66
100.55	0.07	103.15	0.25	105.75	20.77
100.60	0.08	103.20	0.30	105.80	20.89
100.65	0.08	103.25	0.36	105.85	21.00
100.70	0.08	103.30	0.43	105.90	21.11
100.75	0.09	103.35	0.51	105.95	21.22
100.80	0.09	103.40	0.58	106.00	**21.33**
100.85	0.09	103.45	0.66		
100.90	0.09	103.50	0.73		
100.95	0.10	103.55	0.78		
101.00	0.10	103.60	0.83		
101.05	0.10	103.65	0.88		
101.10	0.11	103.70	0.93		
101.15	0.11	103.75	0.97		
101.20	0.11	103.80	1.01		
101.25	0.11	103.85	1.05		
101.30	0.12	103.90	1.09		
101.35	0.12	103.95	1.12		
101.40	0.12	104.00	1.16		
101.45	0.12	104.05	1.19		
101.50	0.13	104.10	1.22		
101.55	0.13	104.15	1.25		
101.60	0.13	104.20	1.28		
101.65	0.13	104.25	1.31		
101.70	0.13	104.30	1.34		
101.75	0.14	104.35	1.37		
101.80	0.14	104.40	1.40		
101.85	0.14	104.45	1.42		
101.90	0.14	104.50	1.45		
101.95	0.14	104.55	1.48		
102.00	0.15	104.60	1.50		
102.05	0.15	104.65	1.53		
102.10	0.15	104.70	1.76		
102.15	0.15	104.75	2.46		
102.20	0.15	104.80	3.44		
102.25	0.15	104.85	4.62		
102.30	0.16	104.90	5.98		
102.35	0.16	104.95	7.48		
102.40	0.16	105.00	9.13		
102.45	0.16	105.05	10.91		
102.50	0.16	105.10	12.80		
102.55	0.16	105.15	14.81		

Stage-Area-Storage for Pond D1: Detention Basin 1

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	1.353	105.20	3.155
100.05	0.022	102.65	1.384	105.25	3.195
100.10	0.044	102.70	1.414	105.30	3.234
100.15	0.067	102.75	1.445	105.35	3.274
100.20	0.089	102.80	1.475	105.40	3.314
100.25	0.112	102.85	1.506	105.45	3.354
100.30	0.135	102.90	1.537	105.50	3.395
100.35	0.158	102.95	1.569	105.55	3.435
100.40	0.181	103.00	1.600	105.60	3.476
100.45	0.204	103.05	1.632	105.65	3.517
100.50	0.228	103.10	1.663	105.70	3.558
100.55	0.251	103.15	1.695	105.75	3.599
100.60	0.275	103.20	1.727	105.80	3.641
100.65	0.299	103.25	1.760	105.85	3.682
100.70	0.323	103.30	1.792	105.90	3.724
100.75	0.347	103.35	1.825	105.95	3.766
100.80	0.372	103.40	1.858	106.00	**3.808**
100.85	0.396	103.45	1.891		
100.90	0.421	103.50	1.924		
100.95	0.446	103.55	1.957		
101.00	0.471	103.60	1.990		
101.05	0.496	103.65	2.024		
101.10	0.521	103.70	2.058		
101.15	0.546	103.75	2.092		
101.20	0.572	103.80	2.126		
101.25	0.598	103.85	2.160		
101.30	0.624	103.90	2.195		
101.35	0.650	103.95	2.230		
101.40	0.676	104.00	2.265		
101.45	0.702	104.05	2.300		
101.50	0.729	104.10	2.335		
101.55	0.756	104.15	2.370		
101.60	0.782	104.20	2.406		
101.65	0.809	104.25	2.442		
101.70	0.837	104.30	2.478		
101.75	0.864	104.35	2.514		
101.80	0.891	104.40	2.550		
101.85	0.919	104.45	2.586		
101.90	0.947	104.50	2.623		
101.95	0.975	104.55	2.660		
102.00	1.003	104.60	2.697		
102.05	1.031	104.65	2.734		
102.10	1.060	104.70	2.772		
102.15	1.088	104.75	2.809		
102.20	1.117	104.80	2.847		
102.25	1.146	104.85	2.885		
102.30	1.175	104.90	2.923		
102.35	1.204	104.95	2.961		
102.40	1.234	105.00	3.000		
102.45	1.263	105.05	3.038		
102.50	1.293	105.10	3.077		
102.55	1.323	105.15	3.116		

Summary for Pond D12.1: Detention Pond 12.1

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 0.78" for 25 year event
Inflow = 115.58 cfs @ 10.00 hrs, Volume= 34.435 af
Outflow = 9.02 cfs @ 24.11 hrs, Volume= 12.414 af, Atten= 92%, Lag= 846.7 min
Primary = 9.02 cfs @ 24.11 hrs, Volume= 12.414 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 107.62' @ 24.11 hrs Surf.Area= 4.321 ac Storage= 27.700 af

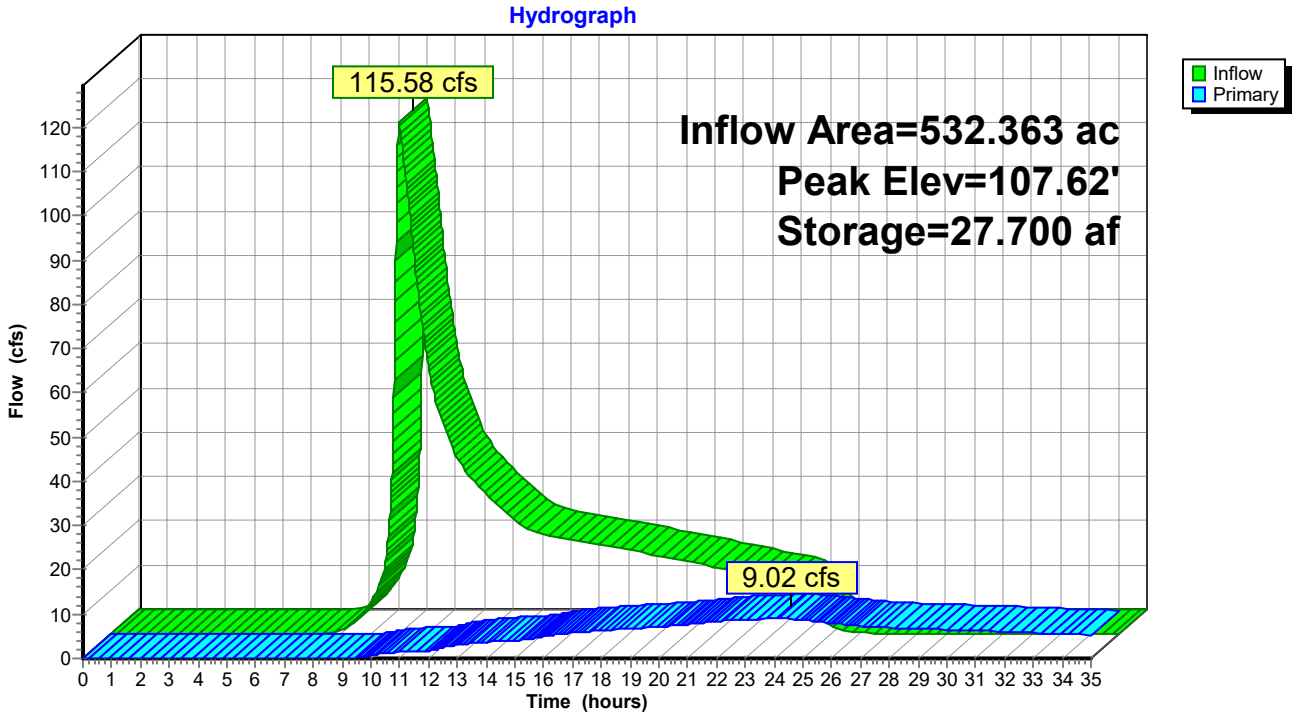
Plug-Flow detention time= 810.0 min calculated for 12.411 af (36% of inflow)
Center-of-Mass det. time= 568.2 min (1,435.4 - 867.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

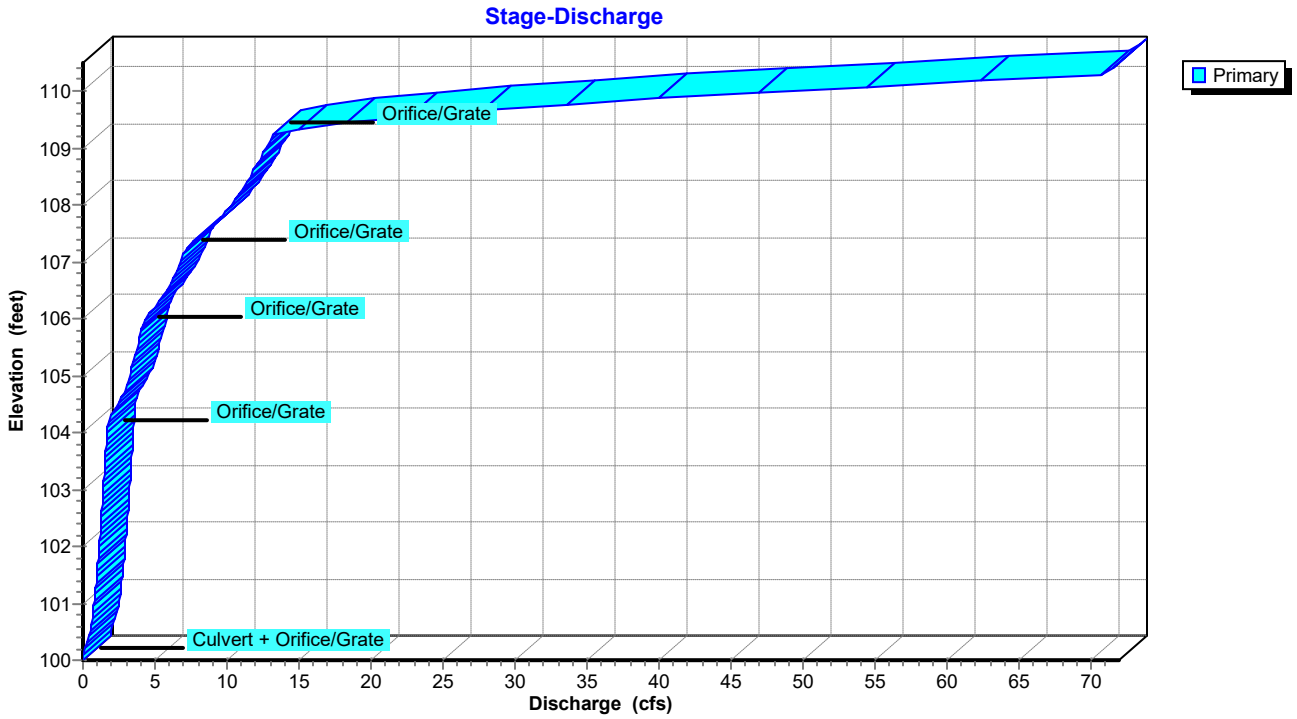
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.02 cfs @ 24.11 hrs HW=107.62' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 9.02 cfs of 59.67 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 2.29 cfs @ 13.15 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 3.05 cfs @ 8.73 fps)
  ├─**5=Orifice/Grate** (Orifice Controls 2.35 cfs @ 5.98 fps)
  └─**6=Orifice/Grate** (Orifice Controls 1.33 cfs @ 2.43 fps)

Pond D12.1: Detention Pond 12.1



Pond D12.1: Detention Pond 12.1



Stage-Discharge for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Stage-Area-Storage for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	105.20	17.775	110.40	40.432
100.10	0.298	105.30	18.163	110.50	**40.918**
100.20	0.598	105.40	18.553		
100.30	0.900	105.50	18.945		
100.40	1.203	105.60	19.339		
100.50	1.508	105.70	19.734		
100.60	1.815	105.80	20.132		
100.70	2.123	105.90	20.531		
100.80	2.433	106.00	20.932		
100.90	2.745	106.10	21.335		
101.00	3.058	106.20	21.740		
101.10	3.373	106.30	22.146		
101.20	3.690	106.40	22.555		
101.30	4.009	106.50	22.965		
101.40	4.329	106.60	23.377		
101.50	4.650	106.70	23.791		
101.60	4.974	106.80	24.207		
101.70	5.299	106.90	24.625		
101.80	5.626	107.00	25.044		
101.90	5.955	107.10	25.465		
102.00	6.285	107.20	25.889		
102.10	6.617	107.30	26.314		
102.20	6.951	107.40	26.741		
102.30	7.286	107.50	27.169		
102.40	7.623	107.60	27.600		
102.50	7.962	107.70	28.033		
102.60	8.303	107.80	28.467		
102.70	8.645	107.90	28.903		
102.80	8.989	108.00	29.342		
102.90	9.335	108.10	29.782		
103.00	9.683	108.20	30.224		
103.10	10.032	108.30	30.668		
103.20	10.383	108.40	31.113		
103.30	10.736	108.50	31.561		
103.40	11.090	108.60	32.011		
103.50	11.447	108.70	32.462		
103.60	11.805	108.80	32.916		
103.70	12.164	108.90	33.371		
103.80	12.526	109.00	33.828		
103.90	12.889	109.10	34.287		
104.00	13.254	109.20	34.748		
104.10	13.621	109.30	35.211		
104.20	13.990	109.40	35.676		
104.30	14.360	109.50	36.143		
104.40	14.733	109.60	36.612		
104.50	15.107	109.70	37.083		
104.60	15.482	109.80	37.555		
104.70	15.860	109.90	38.030		
104.80	16.239	110.00	38.506		
104.90	16.620	110.10	38.985		
105.00	17.003	110.20	39.465		
105.10	17.388	110.30	39.948		

Summary for Pond D12.2: Detention Pond 12.2

Inflow = 115.58 cfs @ 10.00 hrs, Volume= 34.435 af
Outflow = 9.02 cfs @ 24.11 hrs, Volume= 12.414 af, Atten= 92%, Lag= 846.7 min
Primary = 9.02 cfs @ 24.11 hrs, Volume= 12.414 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 107.62' @ 24.11 hrs Surf.Area= 4.321 ac Storage= 27.700 af

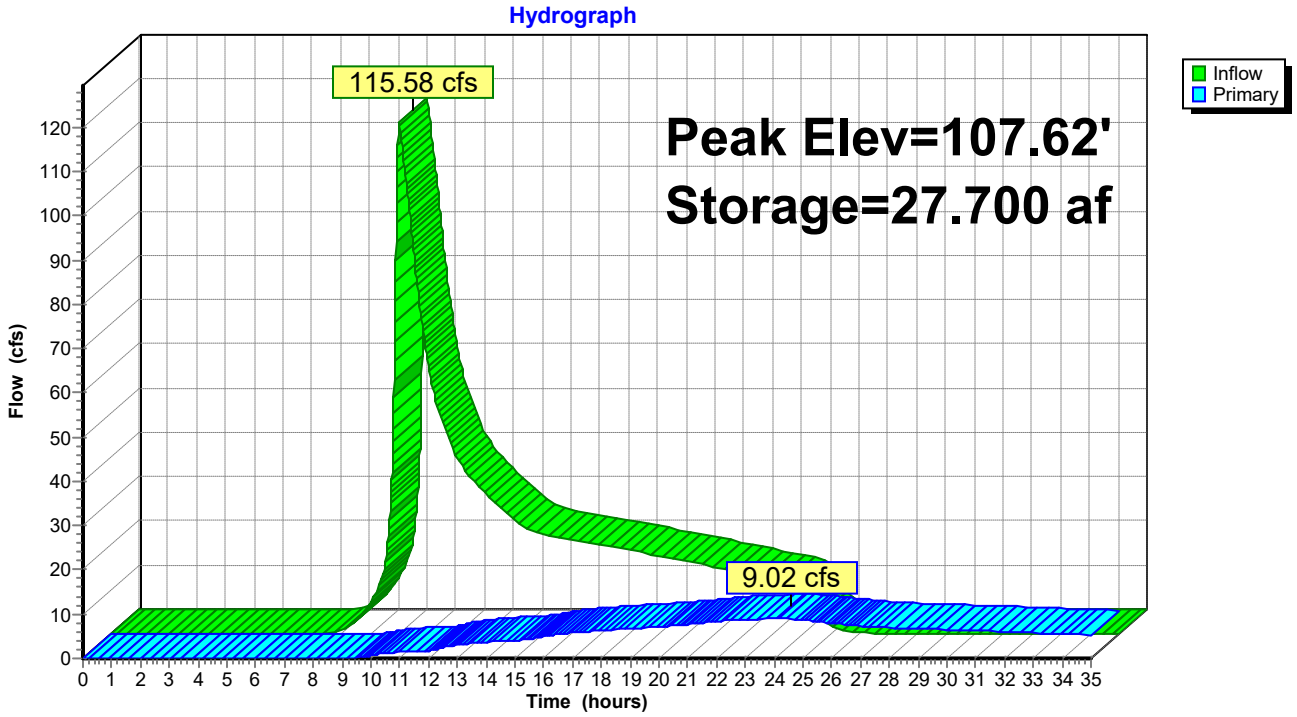
Plug-Flow detention time= 810.0 min calculated for 12.411 af (36% of inflow)
Center-of-Mass det. time= 568.2 min (1,435.4 - 867.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

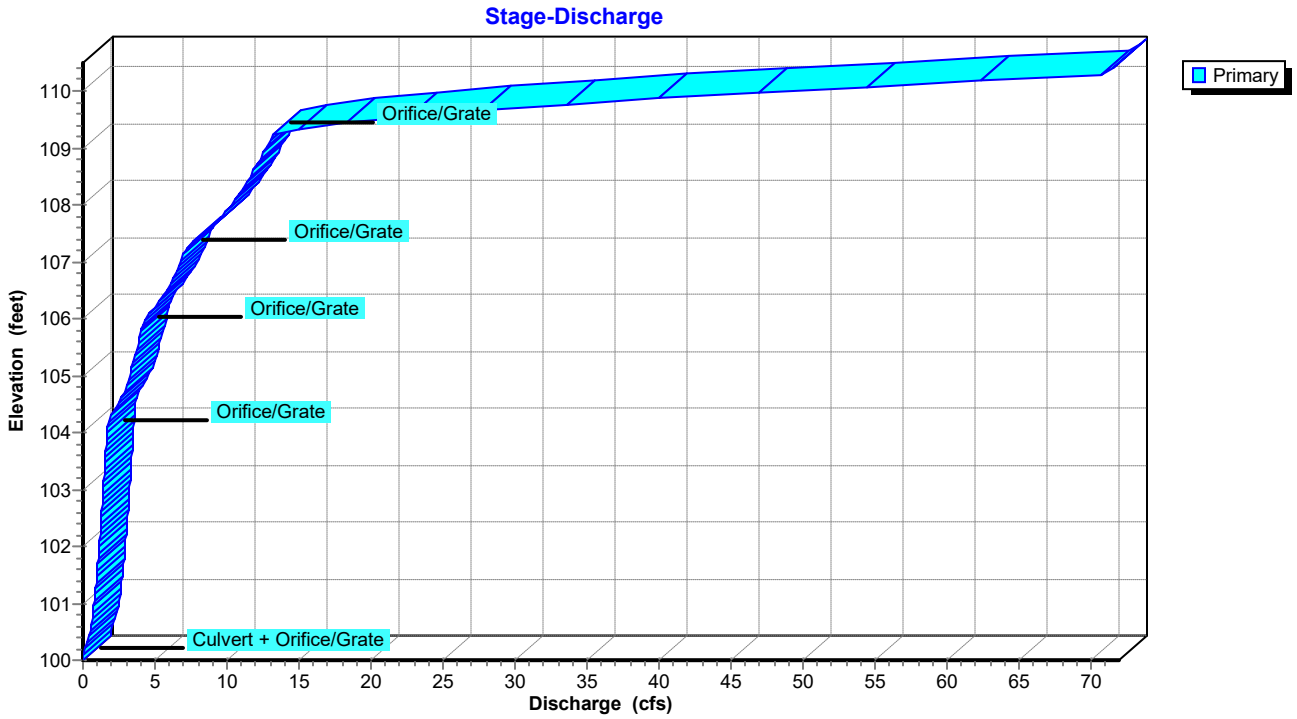
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.02 cfs @ 24.11 hrs HW=107.62' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 9.02 cfs of 59.67 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 2.29 cfs @ 13.15 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 3.05 cfs @ 8.73 fps)
  ├─**5=Orifice/Grate** (Orifice Controls 2.35 cfs @ 5.98 fps)
  └─**6=Orifice/Grate** (Orifice Controls 1.33 cfs @ 2.43 fps)

Pond D12.2: Detention Pond 12.2



Pond D12.2: Detention Pond 12.2



Stage-Discharge for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Stage-Area-Storage for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	105.20	17.775	110.40	40.432
100.10	0.298	105.30	18.163	110.50	**40.918**
100.20	0.598	105.40	18.553		
100.30	0.900	105.50	18.945		
100.40	1.203	105.60	19.339		
100.50	1.508	105.70	19.734		
100.60	1.815	105.80	20.132		
100.70	2.123	105.90	20.531		
100.80	2.433	106.00	20.932		
100.90	2.745	106.10	21.335		
101.00	3.058	106.20	21.740		
101.10	3.373	106.30	22.146		
101.20	3.690	106.40	22.555		
101.30	4.009	106.50	22.965		
101.40	4.329	106.60	23.377		
101.50	4.650	106.70	23.791		
101.60	4.974	106.80	24.207		
101.70	5.299	106.90	24.625		
101.80	5.626	107.00	25.044		
101.90	5.955	107.10	25.465		
102.00	6.285	107.20	25.889		
102.10	6.617	107.30	26.314		
102.20	6.951	107.40	26.741		
102.30	7.286	107.50	27.169		
102.40	7.623	107.60	27.600		
102.50	7.962	107.70	28.033		
102.60	8.303	107.80	28.467		
102.70	8.645	107.90	28.903		
102.80	8.989	108.00	29.342		
102.90	9.335	108.10	29.782		
103.00	9.683	108.20	30.224		
103.10	10.032	108.30	30.668		
103.20	10.383	108.40	31.113		
103.30	10.736	108.50	31.561		
103.40	11.090	108.60	32.011		
103.50	11.447	108.70	32.462		
103.60	11.805	108.80	32.916		
103.70	12.164	108.90	33.371		
103.80	12.526	109.00	33.828		
103.90	12.889	109.10	34.287		
104.00	13.254	109.20	34.748		
104.10	13.621	109.30	35.211		
104.20	13.990	109.40	35.676		
104.30	14.360	109.50	36.143		
104.40	14.733	109.60	36.612		
104.50	15.107	109.70	37.083		
104.60	15.482	109.80	37.555		
104.70	15.860	109.90	38.030		
104.80	16.239	110.00	38.506		
104.90	16.620	110.10	38.985		
105.00	17.003	110.20	39.465		
105.10	17.388	110.30	39.948		

Summary for Pond D15: Detention Pond 15

Inflow Area = 31.502 ac, 0.00% Impervious, Inflow Depth = 0.91" for 25 year event
Inflow = 6.64 cfs @ 10.00 hrs, Volume= 2.395 af
Outflow = 1.37 cfs @ 20.37 hrs, Volume= 1.766 af, Atten= 79%, Lag= 621.9 min
Primary = 1.37 cfs @ 20.37 hrs, Volume= 1.766 af
Routed to Reach 15R : Collection Point 15

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.39' @ 20.37 hrs Surf.Area= 0.590 ac Storage= 1.230 af

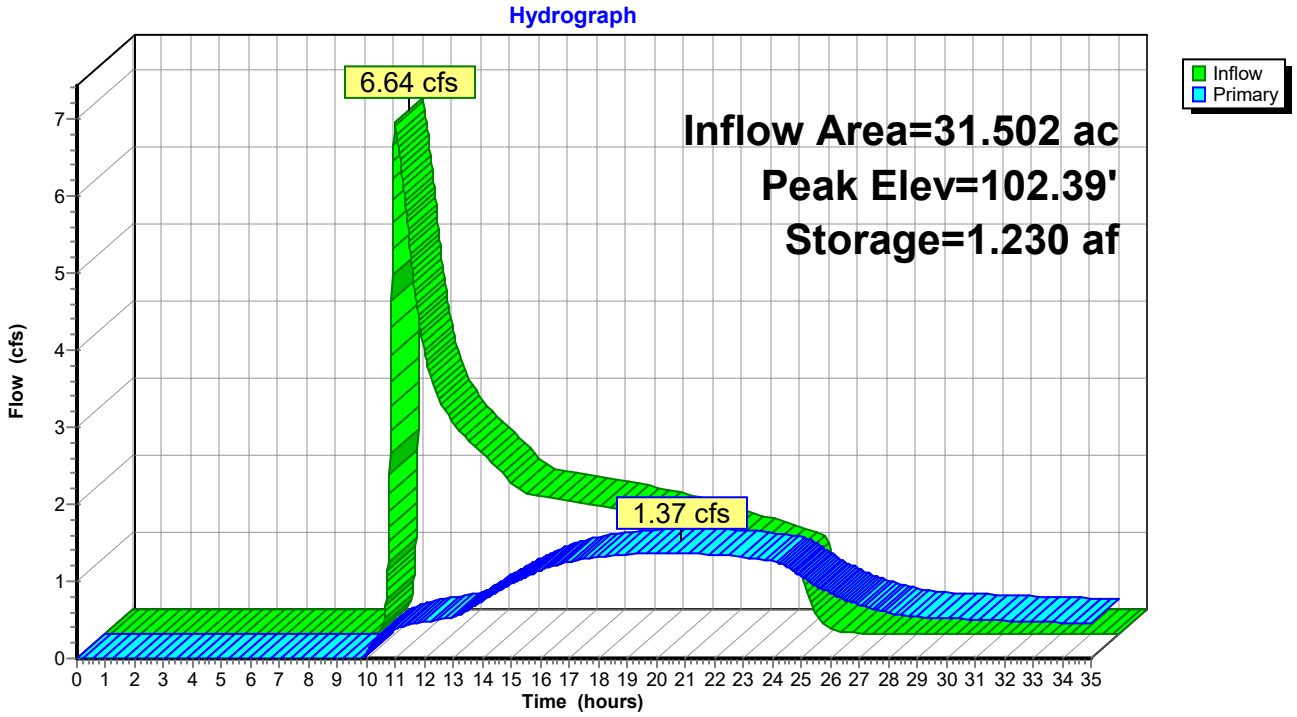
Plug-Flow detention time= 517.8 min calculated for 1.766 af (74% of inflow)
Center-of-Mass det. time= 391.6 min (1,303.5 - 911.8)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	2.623 af	**80.00'W x 240.00'L x 4.50'H Prismatoid Z=4.0**

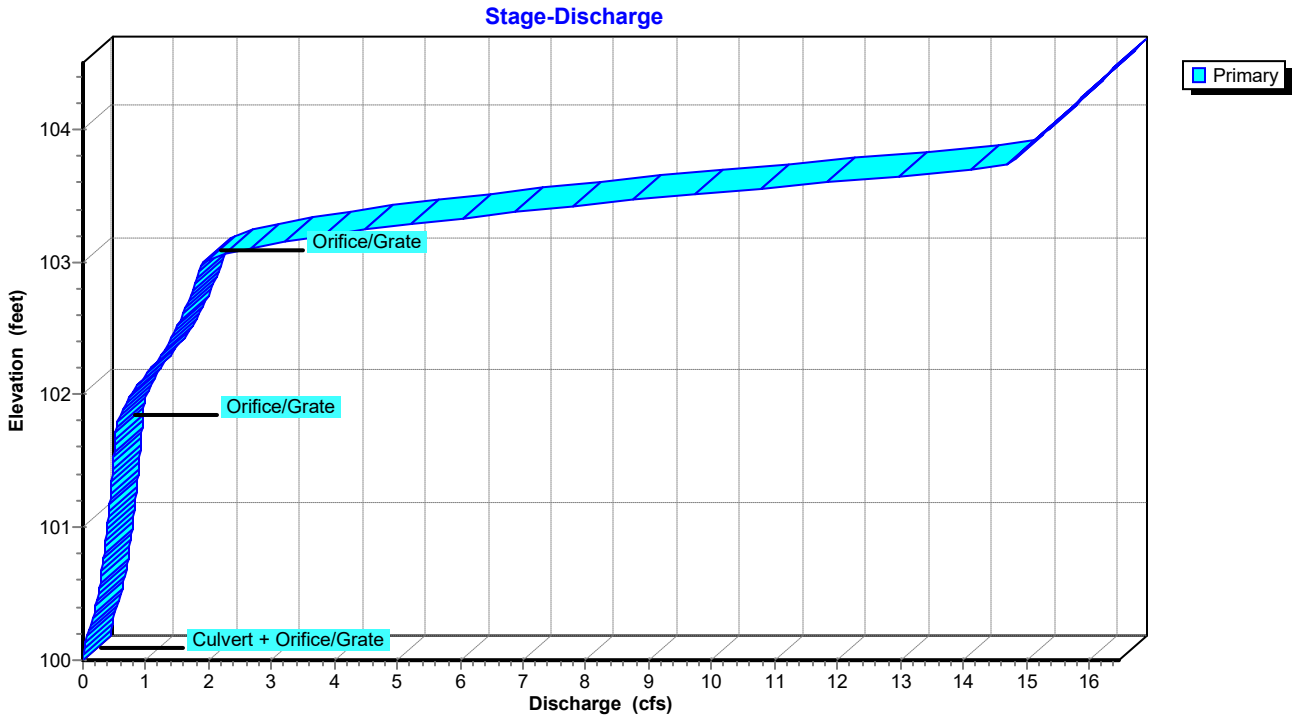
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	101.75'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.37 cfs @ 20.37 hrs HW=102.39' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.37 cfs of 10.90 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.63 cfs @ 7.19 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.74 cfs @ 2.97 fps)

Pond D15: Detention Pond 15



Pond D15: Detention Pond 15



Stage-Discharge for Pond D15: Detention Pond 15

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.58
100.05	0.01	102.65	1.63
100.10	0.02	102.70	1.67
100.15	0.05	102.75	1.71
100.20	0.08	102.80	1.75
100.25	0.12	102.85	1.79
100.30	0.15	102.90	1.83
100.35	0.18	102.95	1.87
100.40	0.20	103.00	1.91
100.45	0.22	103.05	2.17
100.50	0.24	103.10	2.63
100.55	0.26	103.15	3.21
100.60	0.28	103.20	3.89
100.65	0.29	103.25	4.65
100.70	0.31	103.30	5.49
100.75	0.32	103.35	6.40
100.80	0.33	103.40	7.38
100.85	0.35	103.45	8.41
100.90	0.36	103.50	9.50
100.95	0.37	103.55	10.65
101.00	0.38	103.60	11.85
101.05	0.39	103.65	13.10
101.10	0.41	103.70	14.39
101.15	0.42	103.75	14.74
101.20	0.43	103.80	14.86
101.25	0.44	103.85	14.98
101.30	0.45	103.90	15.10
101.35	0.46	103.95	15.22
101.40	0.47	104.00	15.34
101.45	0.48	104.05	15.46
101.50	0.49	104.10	15.57
101.55	0.49	104.15	15.69
101.60	0.50	104.20	15.80
101.65	0.51	104.25	15.92
101.70	0.52	104.30	16.03
101.75	0.53	104.35	16.14
101.80	0.55	104.40	16.26
101.85	0.60	104.45	16.37
101.90	0.65	104.50	**16.48**
101.95	0.70		
102.00	0.77		
102.05	0.84		
102.10	0.92		
102.15	1.00		
102.20	1.08		
102.25	1.17		
102.30	1.25		
102.35	1.32		
102.40	1.38		
102.45	1.43		
102.50	1.48		
102.55	1.53		

Stage-Area-Storage for Pond D15: Detention Pond 15

Elevation (feet)	Storage (acre-feet)
100.00	0.000
100.05	0.022
100.10	0.044
100.15	0.067
100.20	0.089
100.25	0.112
100.30	0.135
100.35	0.158
100.40	0.181
100.45	0.204
100.50	0.228
100.55	0.251
100.60	0.275
100.65	0.299
100.70	0.323
100.75	0.347
100.80	0.372
100.85	0.396
100.90	0.421
100.95	0.446
101.00	0.471
101.05	0.496
101.10	0.521
101.15	0.546
101.20	0.572
101.25	0.598
101.30	0.624
101.35	0.650
101.40	0.676
101.45	0.702
101.50	0.729
101.55	0.756
101.60	0.782
101.65	0.809
101.70	0.837
101.75	0.864
101.80	0.891
101.85	0.919
101.90	0.947
101.95	0.975
102.00	1.003
102.05	1.031
102.10	1.060
102.15	1.088
102.20	1.117
102.25	1.146
102.30	1.175
102.35	1.204
102.40	1.234
102.45	1.263
102.50	1.293
102.55	1.323
102.60	1.353
102.65	1.384
102.70	1.414
102.75	1.445
102.80	1.475
102.85	1.506
102.90	1.537
102.95	1.569
103.00	1.600
103.05	1.632
103.10	1.663
103.15	1.695
103.20	1.727
103.25	1.760
103.30	1.792
103.35	1.825
103.40	1.858
103.45	1.891
103.50	1.924
103.55	1.957
103.60	1.990
103.65	2.024
103.70	2.058
103.75	2.092
103.80	2.126
103.85	2.160
103.90	2.195
103.95	2.230
104.00	2.265
104.05	2.300
104.10	2.335
104.15	2.370
104.20	2.406
104.25	2.442
104.30	2.478
104.35	2.514
104.40	2.550
104.45	2.586
104.50	**2.623**

Summary for Pond D16.2: Detention Pond 16.2

Inflow Area = 12.275 ac, 0.00% Impervious, Inflow Depth = 1.14" for 25 year event
Inflow = 5.17 cfs @ 9.99 hrs, Volume= 1.165 af
Outflow = 0.81 cfs @ 15.12 hrs, Volume= 1.090 af, Atten= 84%, Lag= 307.9 min
Primary = 0.81 cfs @ 15.12 hrs, Volume= 1.090 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.91' @ 15.12 hrs Surf.Area= 0.248 ac Storage= 0.398 af

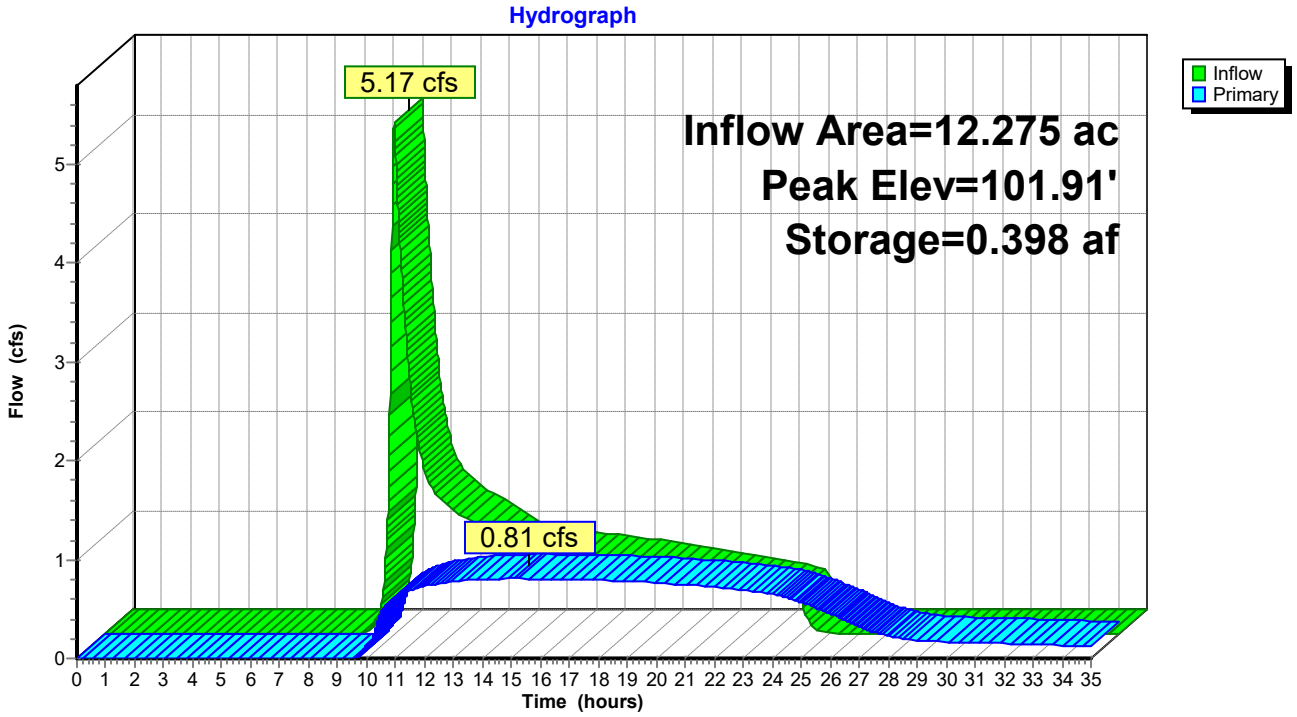
Plug-Flow detention time= 321.4 min calculated for 1.090 af (94% of inflow)
Center-of-Mass det. time= 286.2 min (1,167.6 - 881.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.770 af	**50.00'W x 150.00'L x 3.25'H Prismatoid Z=4.0**

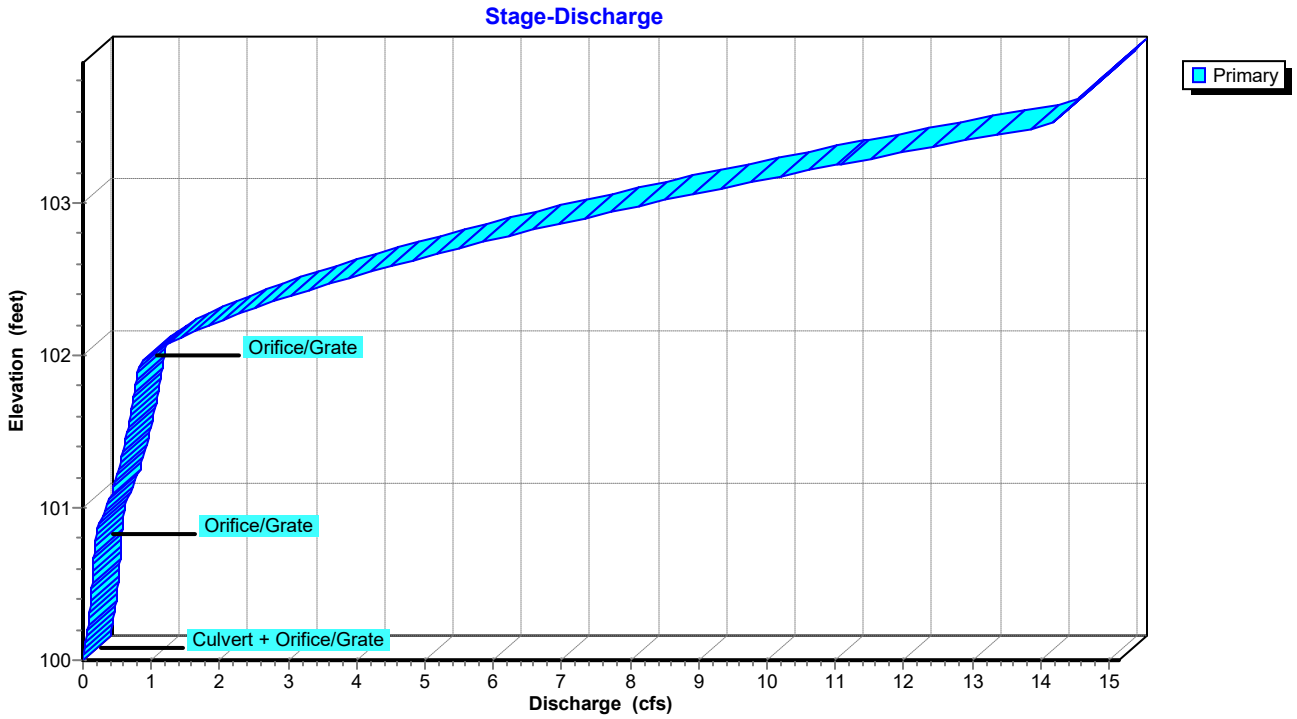
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	101.92'	**24.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.75'	**4.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.81 cfs @ 15.12 hrs HW=101.91' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.81 cfs of 8.23 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.28 cfs @ 6.50 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.52 cfs @ 4.74 fps)

Pond D16.2: Detention Pond 16.2



Pond D16.2: Detention Pond 16.2



Stage-Discharge for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.37	102.08	1.28	103.12	9.59
100.02	0.00	101.06	0.39	102.10	1.36	103.14	9.81
100.04	0.01	101.08	0.41	102.12	1.45	103.16	10.03
100.06	0.01	101.10	0.43	102.14	1.55	103.18	10.25
100.08	0.02	101.12	0.44	102.16	1.65	103.20	10.47
100.10	0.03	101.14	0.46	102.18	1.75	103.22	10.69
100.12	0.04	101.16	0.47	102.20	1.85	103.24	10.92
100.14	0.05	101.18	0.48	102.22	1.96	103.26	11.14
100.16	0.06	101.20	0.49	102.24	2.08	103.28	11.37
100.18	0.07	101.22	0.51	102.26	2.19	103.30	11.60
100.20	0.07	101.24	0.52	102.28	2.31	103.32	11.83
100.22	0.08	101.26	0.53	102.30	2.44	103.34	12.07
100.24	0.08	101.28	0.54	102.32	2.56	103.36	12.30
100.26	0.09	101.30	0.55	102.34	2.69	103.38	12.54
100.28	0.09	101.32	0.56	102.36	2.83	103.40	12.78
100.30	0.10	101.34	0.57	102.38	2.96	103.42	13.02
100.32	0.10	101.36	0.58	102.40	3.10	103.44	13.26
100.34	0.11	101.38	0.59	102.42	3.24	103.46	13.50
100.36	0.11	101.40	0.60	102.44	3.38	103.48	13.74
100.38	0.11	101.42	0.61	102.46	3.53	103.50	13.99
100.40	0.12	101.44	0.62	102.48	3.68	103.52	14.16
100.42	0.12	101.46	0.63	102.50	3.83	103.54	14.21
100.44	0.13	101.48	0.64	102.52	3.98	103.56	14.26
100.46	0.13	101.50	0.65	102.54	4.14	103.58	14.31
100.48	0.13	101.52	0.66	102.56	4.30	103.60	14.36
100.50	0.14	101.54	0.67	102.58	4.46	103.62	14.41
100.52	0.14	101.56	0.67	102.60	4.62	103.64	14.46
100.54	0.14	101.58	0.68	102.62	4.78	103.66	14.51
100.56	0.15	101.60	0.69	102.64	4.95	103.68	14.56
100.58	0.15	101.62	0.70	102.66	5.12	103.70	14.61
100.60	0.15	101.64	0.71	102.68	5.29	103.72	14.66
100.62	0.15	101.66	0.72	102.70	5.47	103.74	14.71
100.64	0.16	101.68	0.72	102.72	5.64	103.76	14.76
100.66	0.16	101.70	0.73	102.74	5.82	103.78	14.81
100.68	0.16	101.72	0.74	102.76	6.00	103.80	14.86
100.70	0.16	101.74	0.75	102.78	6.19	103.82	14.91
100.72	0.17	101.76	0.75	102.80	6.37	103.84	14.96
100.74	0.17	101.78	0.76	102.82	6.56	103.86	15.01
100.76	0.17	101.80	0.77	102.84	6.75	103.88	15.05
100.78	0.18	101.82	0.78	102.86	6.94	103.90	15.10
100.80	0.18	101.84	0.78	102.88	7.13	103.92	**15.15**
100.82	0.19	101.86	0.79	102.90	7.33		
100.84	0.20	101.88	0.80	102.92	7.52		
100.86	0.22	101.90	0.80	102.94	7.72		
100.88	0.23	101.92	0.81	102.96	7.92		
100.90	0.24	101.94	0.84	102.98	8.12		
100.92	0.26	101.96	0.88	103.00	8.33		
100.94	0.28	101.98	0.93	103.02	8.53		
100.96	0.30	102.00	0.98	103.04	8.74		
100.98	0.31	102.02	1.05	103.06	8.95		
101.00	0.33	102.04	1.12	103.08	9.16		
101.02	0.35	102.06	1.20	103.10	9.38		

Stage-Area-Storage for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Storage (acre-feet)
100.00	0.000
100.05	0.009
100.10	0.017
100.15	0.026
100.20	0.035
100.25	0.044
100.30	0.053
100.35	0.063
100.40	0.072
100.45	0.081
100.50	0.091
100.55	0.100
100.60	0.110
100.65	0.120
100.70	0.130
100.75	0.140
100.80	0.150
100.85	0.160
100.90	0.170
100.95	0.181
101.00	0.191
101.05	0.202
101.10	0.212
101.15	0.223
101.20	0.234
101.25	0.245
101.30	0.256
101.35	0.267
101.40	0.278
101.45	0.290
101.50	0.301
101.55	0.313
101.60	0.325
101.65	0.336
101.70	0.348
101.75	0.360
101.80	0.372
101.85	0.384
101.90	0.397
101.95	0.409
102.00	0.422
102.05	0.434
102.10	0.447
102.15	0.460
102.20	0.473
102.25	0.486
102.30	0.499
102.35	0.512
102.40	0.526
102.45	0.539
102.50	0.553
102.55	0.567
102.60	0.580
102.65	0.594
102.70	0.608
102.75	0.623
102.80	0.637
102.85	0.651
102.90	0.666
102.95	0.680
103.00	0.695
103.05	0.710
103.10	0.725
103.15	0.740
103.20	0.755
103.25	**0.770**
103.30	0.770
103.35	0.770
103.40	0.770
103.45	0.770
103.50	0.770
103.55	0.770
103.60	0.770
103.65	0.770
103.70	0.770
103.75	0.770
103.80	0.770
103.85	0.770
103.90	0.770

Summary for Pond D16.3: Detention Pond 16.3

Inflow Area = 110.203 ac, 0.00% Impervious, Inflow Depth = 1.88" for 25 year event
Inflow = 39.92 cfs @ 10.17 hrs, Volume= 17.256 af
Outflow = 7.48 cfs @ 20.68 hrs, Volume= 10.784 af, Atten= 81%, Lag= 631.1 min
Primary = 7.48 cfs @ 20.68 hrs, Volume= 10.784 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 105.06' @ 20.68 hrs Surf.Area= 2.396 ac Storage= 10.493 af

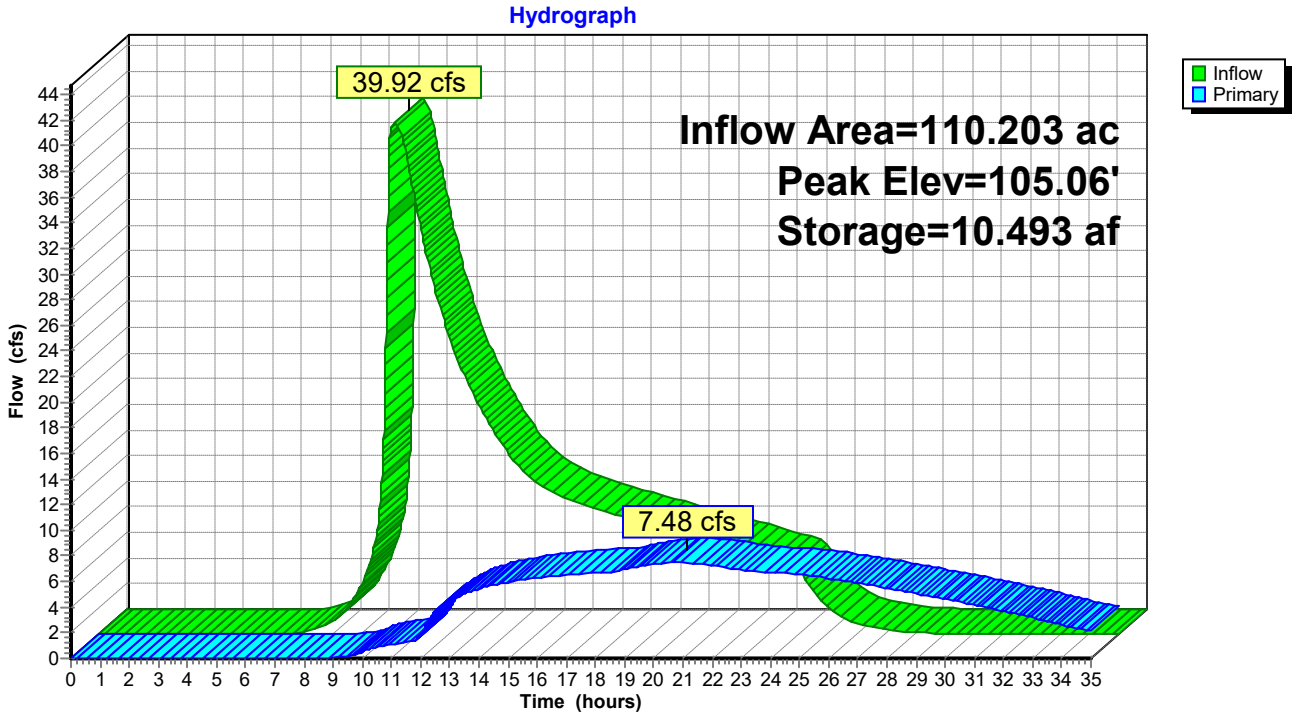
Plug-Flow detention time= 639.8 min calculated for 10.781 af (62% of inflow)
Center-of-Mass det. time= 465.0 min (1,343.2 - 878.2)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	14.078 af	**160.00'W x 480.00'L x 6.50'H Prismatoid Z=4.0**

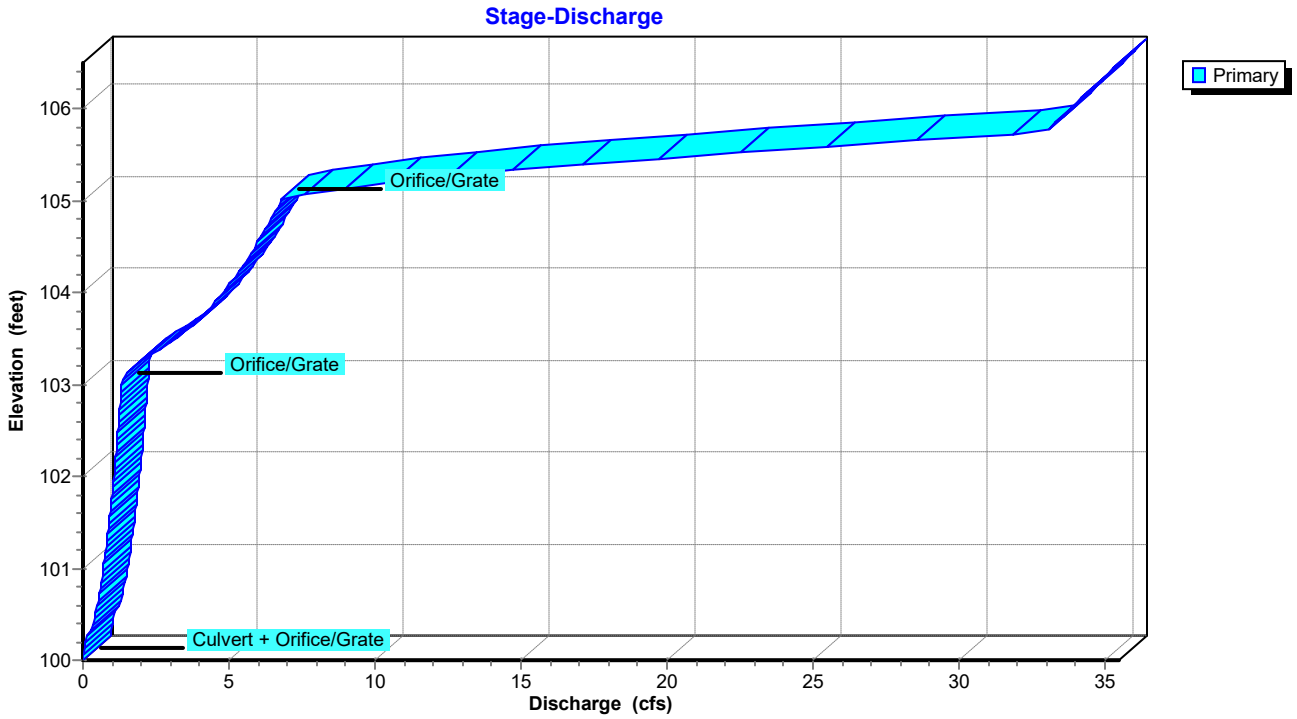
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**24.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.00'	**7.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.48 cfs @ 20.68 hrs HW=105.06' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 7.48 cfs of 30.48 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 0.60 cfs @ 0.81 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 1.75 cfs @ 10.58 fps)
  └─**4=Orifice/Grate** (Orifice Controls 5.14 cfs @ 6.41 fps)

Pond D16.3: Detention Pond 16.3



Pond D16.3: Detention Pond 16.3



Stage-Discharge for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.22	105.20	10.61
100.05	0.01	102.65	1.24	105.25	12.09
100.10	0.03	102.70	1.25	105.30	13.71
100.15	0.06	102.75	1.26	105.35	15.46
100.20	0.11	102.80	1.27	105.40	17.34
100.25	0.16	102.85	1.29	105.45	19.33
100.30	0.21	102.90	1.30	105.50	21.43
100.35	0.27	102.95	1.31	105.55	23.64
100.40	0.33	103.00	1.32	105.60	25.94
100.45	0.38	103.05	1.36	105.65	28.34
100.50	0.41	103.10	1.44	105.70	30.83
100.55	0.45	103.15	1.57	105.75	32.97
100.60	0.48	103.20	1.74	105.80	33.14
100.65	0.52	103.25	1.94	105.85	33.31
100.70	0.55	103.30	2.17	105.90	33.48
100.75	0.57	103.35	2.42	105.95	33.65
100.80	0.60	103.40	2.68	106.00	33.82
100.85	0.63	103.45	2.94	106.05	33.99
100.90	0.65	103.50	3.20	106.10	34.16
100.95	0.67	103.55	3.43	106.15	34.33
101.00	0.70	103.60	3.60	106.20	34.49
101.05	0.72	103.65	3.78	106.25	34.66
101.10	0.74	103.70	3.95	106.30	34.82
101.15	0.76	103.75	4.10	106.35	34.99
101.20	0.78	103.80	4.25	106.40	35.15
101.25	0.80	103.85	4.40	106.45	35.31
101.30	0.82	103.90	4.53	106.50	**35.48**
101.35	0.84	103.95	4.66		
101.40	0.86	104.00	4.79		
101.45	0.88	104.05	4.91		
101.50	0.90	104.10	5.03		
101.55	0.91	104.15	5.15		
101.60	0.93	104.20	5.26		
101.65	0.95	104.25	5.37		
101.70	0.96	104.30	5.48		
101.75	0.98	104.35	5.58		
101.80	1.00	104.40	5.69		
101.85	1.01	104.45	5.79		
101.90	1.03	104.50	5.89		
101.95	1.04	104.55	5.98		
102.00	1.06	104.60	6.08		
102.05	1.07	104.65	6.17		
102.10	1.09	104.70	6.26		
102.15	1.10	104.75	6.35		
102.20	1.12	104.80	6.44		
102.25	1.13	104.85	6.53		
102.30	1.14	104.90	6.61		
102.35	1.16	104.95	6.70		
102.40	1.17	105.00	6.78		
102.45	1.18	105.05	7.30		
102.50	1.20	105.10	8.19		
102.55	1.21	105.15	9.30		

Stage-Area-Storage for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	4.990	105.20	10.826
100.05	0.088	102.65	5.094	105.25	10.947
100.10	0.177	102.70	5.198	105.30	11.068
100.15	0.266	102.75	5.303	105.35	11.190
100.20	0.355	102.80	5.408	105.40	11.311
100.25	0.444	102.85	5.513	105.45	11.434
100.30	0.534	102.90	5.619	105.50	11.556
100.35	0.624	102.95	5.725	105.55	11.679
100.40	0.715	103.00	5.831	105.60	11.802
100.45	0.805	103.05	5.938	105.65	11.926
100.50	0.896	103.10	6.045	105.70	12.050
100.55	0.988	103.15	6.152	105.75	12.174
100.60	1.079	103.20	6.260	105.80	12.298
100.65	1.171	103.25	6.368	105.85	12.423
100.70	1.263	103.30	6.476	105.90	12.549
100.75	1.356	103.35	6.584	105.95	12.674
100.80	1.448	103.40	6.693	106.00	12.800
100.85	1.541	103.45	6.802	106.05	12.926
100.90	1.635	103.50	6.912	106.10	13.053
100.95	1.728	103.55	7.022	106.15	13.180
101.00	1.822	103.60	7.132	106.20	13.307
101.05	1.917	103.65	7.242	106.25	13.435
101.10	2.011	103.70	7.353	106.30	13.562
101.15	2.106	103.75	7.464	106.35	13.691
101.20	2.201	103.80	7.575	106.40	13.819
101.25	2.297	103.85	7.687	106.45	13.948
101.30	2.392	103.90	7.799	106.50	**14.078**
101.35	2.488	103.95	7.911		
101.40	2.585	104.00	8.024		
101.45	2.682	104.05	8.137		
101.50	2.779	104.10	8.250		
101.55	2.876	104.15	8.364		
101.60	2.973	104.20	8.478		
101.65	3.071	104.25	8.592		
101.70	3.169	104.30	8.707		
101.75	3.268	104.35	8.822		
101.80	3.367	104.40	8.937		
101.85	3.466	104.45	9.053		
101.90	3.565	104.50	9.169		
101.95	3.665	104.55	9.285		
102.00	3.765	104.60	9.401		
102.05	3.866	104.65	9.518		
102.10	3.966	104.70	9.636		
102.15	4.067	104.75	9.753		
102.20	4.168	104.80	9.871		
102.25	4.270	104.85	9.989		
102.30	4.372	104.90	10.108		
102.35	4.474	104.95	10.227		
102.40	4.577	105.00	10.346		
102.45	4.680	105.05	10.465		
102.50	4.783	105.10	10.585		
102.55	4.886	105.15	10.705		

Summary for Pond D18: Detention Pond 18

Inflow Area = 42.657 ac, 0.00% Impervious, Inflow Depth = 2.63" for 25 year event
Inflow = 47.69 cfs @ 9.98 hrs, Volume= 9.340 af
Outflow = 2.83 cfs @ 21.84 hrs, Volume= 5.495 af, Atten= 94%, Lag= 711.6 min
Primary = 2.83 cfs @ 21.84 hrs, Volume= 5.495 af
Routed to Reach 18R : Collection Point 18

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 105.01' @ 21.84 hrs Surf.Area= 1.470 ac Storage= 6.134 af

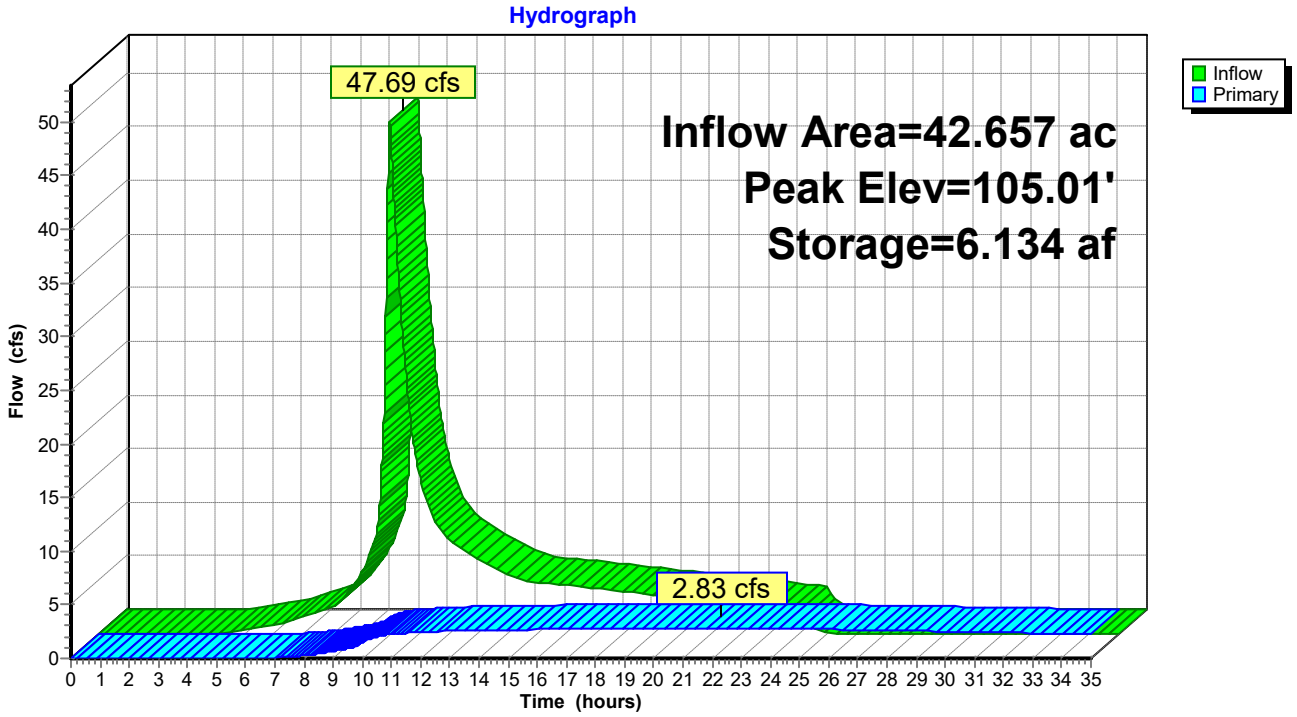
Plug-Flow detention time= 712.1 min calculated for 5.495 af (59% of inflow)
Center-of-Mass det. time= 534.1 min (1,326.6 - 792.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8.443 af	**120.00'W x 360.00'L x 6.50'H Prismatoid Z=4.0**

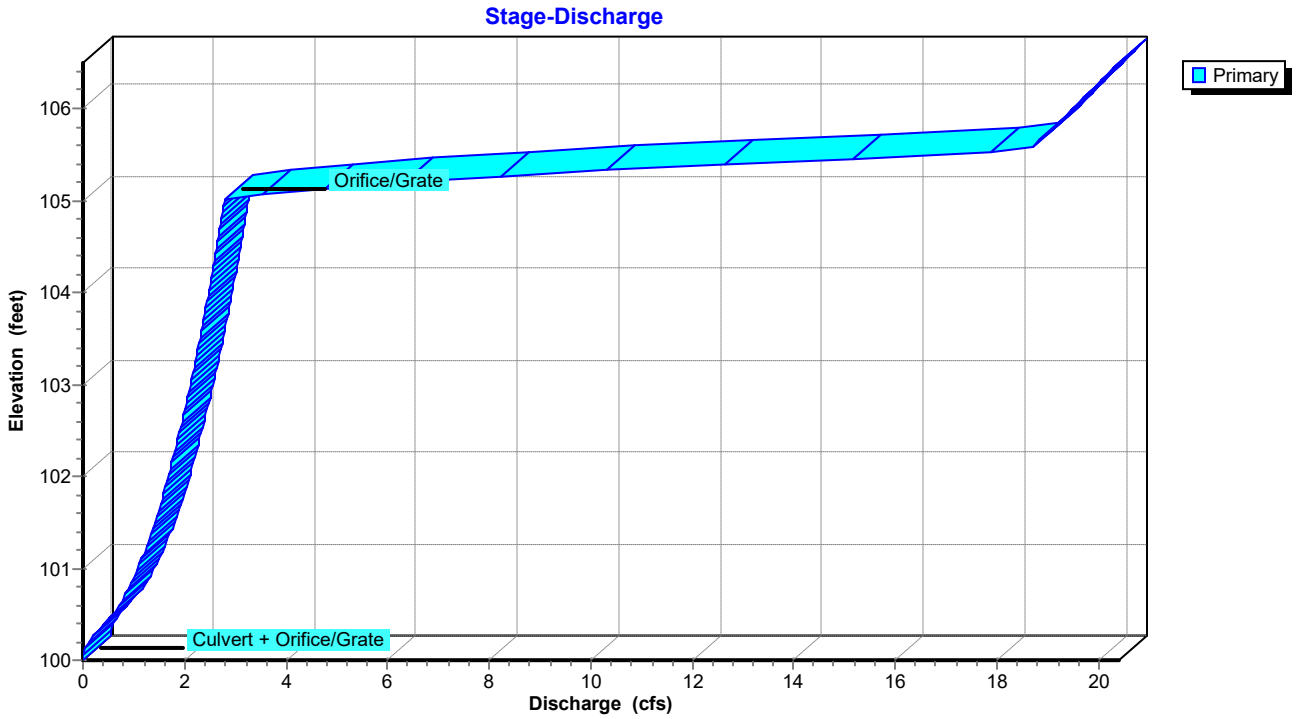
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.83 cfs @ 21.84 hrs HW=105.01' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.83 cfs of 17.56 cfs potential flow)
↑**2=Orifice/Grate** (Weir Controls 0.03 cfs @ 0.30 fps)
3=Orifice/Grate (Orifice Controls 2.79 cfs @ 10.46 fps)

Pond D18: Detention Pond 18



Pond D18: Detention Pond 18



Stage-Discharge for Pond D18: Detention Pond 18

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	6.36
100.05	0.01	102.65	1.98	105.25	7.77
100.10	0.03	102.70	2.00	105.30	9.33
100.15	0.07	102.75	2.02	105.35	11.02
100.20	0.12	102.80	2.04	105.40	12.84
100.25	0.19	102.85	2.06	105.45	14.77
100.30	0.26	102.90	2.08	105.50	16.81
100.35	0.34	102.95	2.10	105.55	18.64
100.40	0.42	103.00	2.12	105.60	18.74
100.45	0.51	103.05	2.14	105.65	18.83
100.50	0.59	103.10	2.16	105.70	18.93
100.55	0.66	103.15	2.18	105.75	19.03
100.60	0.71	103.20	2.19	105.80	19.12
100.65	0.77	103.25	2.21	105.85	19.22
100.70	0.82	103.30	2.23	105.90	19.31
100.75	0.87	103.35	2.25	105.95	19.40
100.80	0.92	103.40	2.27	106.00	19.50
100.85	0.96	103.45	2.29	106.05	19.59
100.90	1.00	103.50	2.30	106.10	19.68
100.95	1.04	103.55	2.32	106.15	19.77
101.00	1.08	103.60	2.34	106.20	19.86
101.05	1.12	103.65	2.36	106.25	19.95
101.10	1.16	103.70	2.38	106.30	20.05
101.15	1.19	103.75	2.39	106.35	20.14
101.20	1.23	103.80	2.41	106.40	20.23
101.25	1.26	103.85	2.43	106.45	20.31
101.30	1.29	103.90	2.44	106.50	**20.40**
101.35	1.32	103.95	2.46		
101.40	1.35	104.00	2.48		
101.45	1.38	104.05	2.49		
101.50	1.41	104.10	2.51		
101.55	1.44	104.15	2.53		
101.60	1.47	104.20	2.54		
101.65	1.50	104.25	2.56		
101.70	1.53	104.30	2.58		
101.75	1.55	104.35	2.59		
101.80	1.58	104.40	2.61		
101.85	1.61	104.45	2.62		
101.90	1.63	104.50	2.64		
101.95	1.66	104.55	2.66		
102.00	1.68	104.60	2.67		
102.05	1.71	104.65	2.69		
102.10	1.73	104.70	2.70		
102.15	1.75	104.75	2.72		
102.20	1.78	104.80	2.73		
102.25	1.80	104.85	2.75		
102.30	1.82	104.90	2.76		
102.35	1.85	104.95	2.78		
102.40	1.87	105.00	2.79		
102.45	1.89	105.05	3.25		
102.50	1.91	105.10	4.06		
102.55	1.93	105.15	5.12		

Stage-Area-Storage for Pond D18: Detention Pond 18

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	2.885	105.20	6.418
100.05	0.050	102.65	2.947	105.25	6.492
100.10	0.100	102.70	3.009	105.30	6.567
100.15	0.150	102.75	3.071	105.35	6.642
100.20	0.200	102.80	3.133	105.40	6.718
100.25	0.251	102.85	3.196	105.45	6.793
100.30	0.302	102.90	3.259	105.50	6.869
100.35	0.353	102.95	3.322	105.55	6.946
100.40	0.404	103.00	3.385	105.60	7.022
100.45	0.455	103.05	3.449	105.65	7.099
100.50	0.507	103.10	3.513	105.70	7.176
100.55	0.559	103.15	3.577	105.75	7.253
100.60	0.611	103.20	3.641	105.80	7.330
100.65	0.663	103.25	3.706	105.85	7.408
100.70	0.716	103.30	3.770	105.90	7.486
100.75	0.769	103.35	3.835	105.95	7.564
100.80	0.822	103.40	3.901	106.00	7.643
100.85	0.875	103.45	3.966	106.05	7.722
100.90	0.929	103.50	4.032	106.10	7.801
100.95	0.982	103.55	4.098	106.15	7.880
101.00	1.036	103.60	4.164	106.20	7.960
101.05	1.090	103.65	4.231	106.25	8.040
101.10	1.145	103.70	4.298	106.30	8.120
101.15	1.200	103.75	4.365	106.35	8.200
101.20	1.254	103.80	4.432	106.40	8.281
101.25	1.309	103.85	4.499	106.45	8.362
101.30	1.365	103.90	4.567	106.50	**8.443**
101.35	1.420	103.95	4.635		
101.40	1.476	104.00	4.704		
101.45	1.532	104.05	4.772		
101.50	1.588	104.10	4.841		
101.55	1.645	104.15	4.910		
101.60	1.702	104.20	4.979		
101.65	1.759	104.25	5.049		
101.70	1.816	104.30	5.118		
101.75	1.873	104.35	5.188		
101.80	1.931	104.40	5.259		
101.85	1.989	104.45	5.329		
101.90	2.047	104.50	5.400		
101.95	2.105	104.55	5.471		
102.00	2.164	104.60	5.542		
102.05	2.223	104.65	5.614		
102.10	2.282	104.70	5.686		
102.15	2.341	104.75	5.758		
102.20	2.400	104.80	5.830		
102.25	2.460	104.85	5.903		
102.30	2.520	104.90	5.975		
102.35	2.580	104.95	6.048		
102.40	2.641	105.00	6.122		
102.45	2.702	105.05	6.195		
102.50	2.762	105.10	6.269		
102.55	2.824	105.15	6.343		

Summary for Pond D20.2: Detention Basin 20.2

Inflow Area = 3.949 ac, 37.71% Impervious, Inflow Depth = 2.45" for 25 year event
Inflow = 4.23 cfs @ 9.98 hrs, Volume= 0.806 af
Outflow = 0.28 cfs @ 20.09 hrs, Volume= 0.525 af, Atten= 93%, Lag= 606.5 min
Primary = 0.28 cfs @ 20.09 hrs, Volume= 0.525 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.06' @ 20.09 hrs Storage= 0.483 af

Plug-Flow detention time= 661.7 min calculated for 0.525 af (65% of inflow)
Center-of-Mass det. time= 492.7 min (1,260.5 - 767.8)

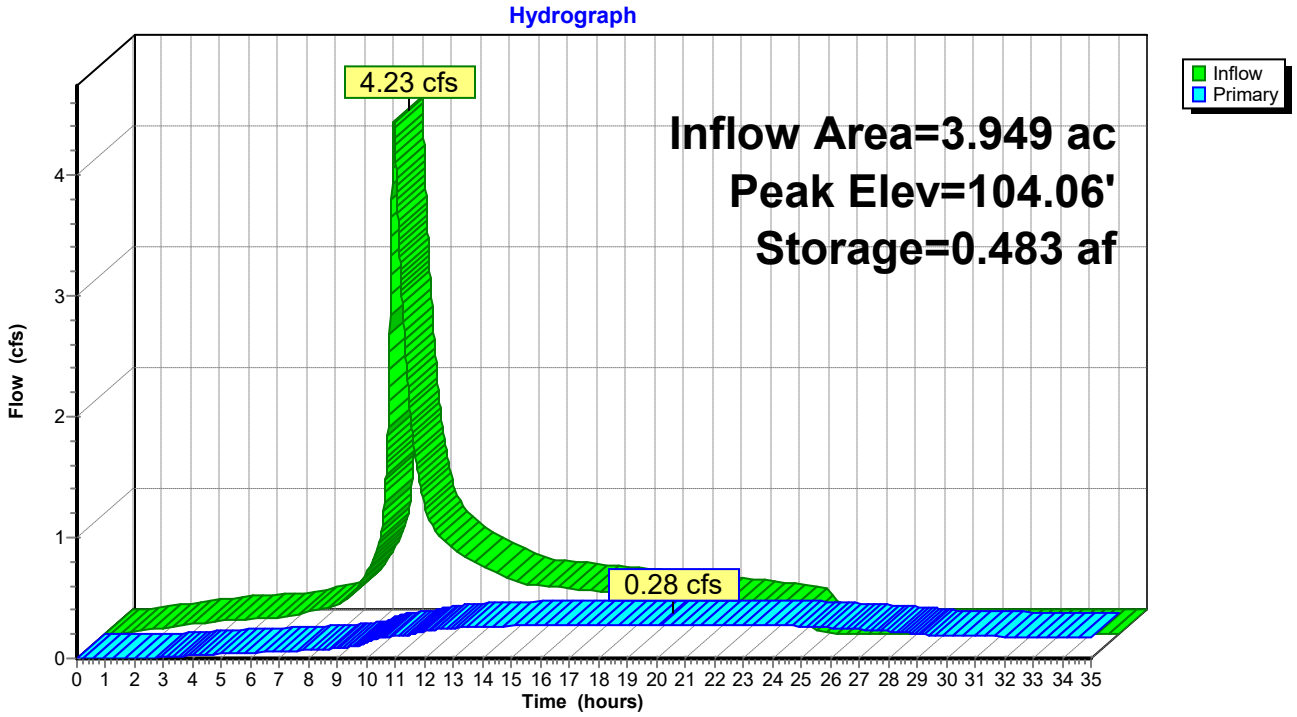
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

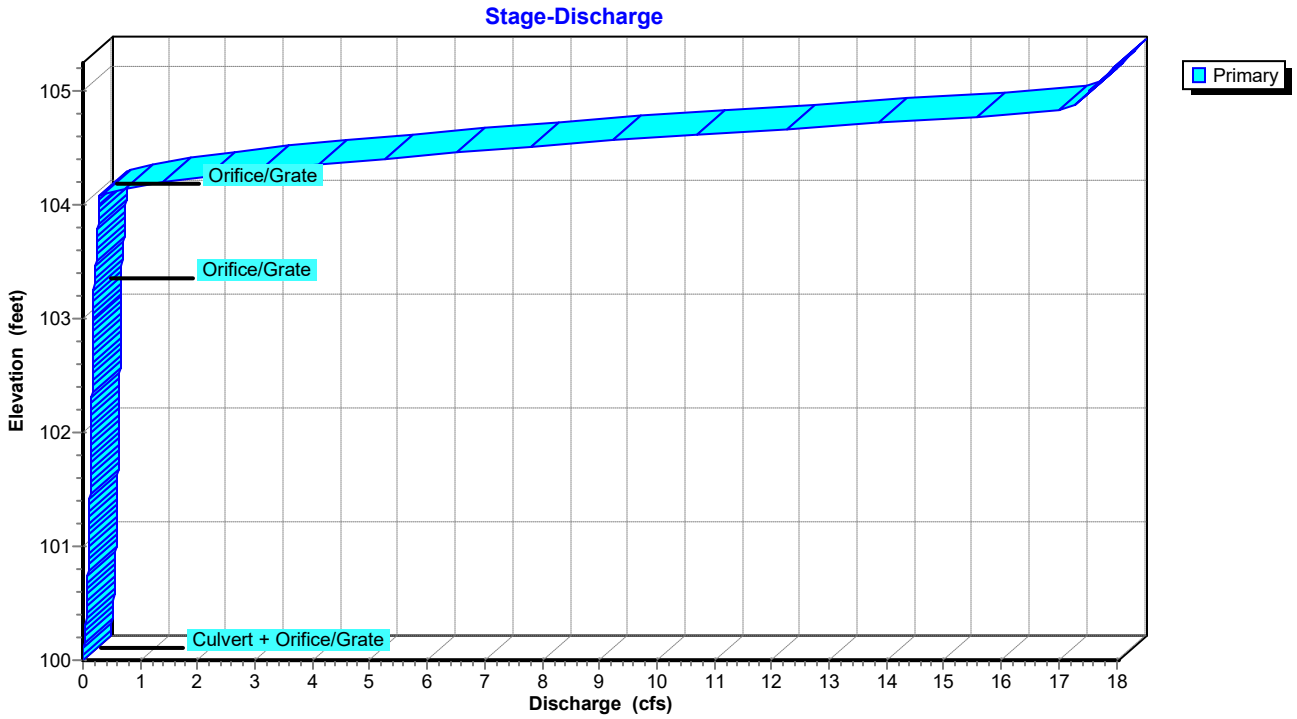
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.28 cfs @ 20.09 hrs HW=104.06' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.28 cfs of 15.47 cfs potential flow)
↑**2=Orifice/Grate** (Controls 0.00 cfs)
3=Orifice/Grate (Orifice Controls 0.21 cfs @ 9.60 fps)
4=Orifice/Grate (Orifice Controls 0.07 cfs @ 4.12 fps)

Pond D20.2: Detention Basin 20.2



Pond D20.2: Detention Basin 20.2



Stage-Discharge for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Stage-Area-Storage for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	0.268	105.20	0.699
100.05	0.005	102.65	0.274	105.25	**0.709**
100.10	0.009	102.70	0.280		
100.15	0.014	102.75	0.286		
100.20	0.019	102.80	0.292		
100.25	0.024	102.85	0.299		
100.30	0.028	102.90	0.305		
100.35	0.033	102.95	0.311		
100.40	0.038	103.00	0.317		
100.45	0.042	103.05	0.325		
100.50	0.047	103.10	0.333		
100.55	0.052	103.15	0.340		
100.60	0.056	103.20	0.348		
100.65	0.061	103.25	0.356		
100.70	0.066	103.30	0.364		
100.75	0.071	103.35	0.372		
100.80	0.075	103.40	0.379		
100.85	0.080	103.45	0.387		
100.90	0.085	103.50	0.395		
100.95	0.089	103.55	0.403		
101.00	0.094	103.60	0.411		
101.05	0.099	103.65	0.418		
101.10	0.104	103.70	0.426		
101.15	0.109	103.75	0.434		
101.20	0.114	103.80	0.442		
101.25	0.119	103.85	0.450		
101.30	0.124	103.90	0.457		
101.35	0.129	103.95	0.465		
101.40	0.134	104.00	0.473		
101.45	0.139	104.05	0.482		
101.50	0.144	104.10	0.492		
101.55	0.149	104.15	0.501		
101.60	0.154	104.20	0.510		
101.65	0.159	104.25	0.519		
101.70	0.164	104.30	0.528		
101.75	0.169	104.35	0.538		
101.80	0.174	104.40	0.547		
101.85	0.179	104.45	0.556		
101.90	0.184	104.50	0.565		
101.95	0.189	104.55	0.575		
102.00	0.194	104.60	0.584		
102.05	0.200	104.65	0.593		
102.10	0.206	104.70	0.602		
102.15	0.212	104.75	0.612		
102.20	0.219	104.80	0.621		
102.25	0.225	104.85	0.630		
102.30	0.231	104.90	0.639		
102.35	0.237	104.95	0.649		
102.40	0.243	105.00	0.658		
102.45	0.249	105.05	0.668		
102.50	0.256	105.10	0.678		
102.55	0.262	105.15	0.689		

Summary for Pond D20.3: Detention Pond 20.3

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 2.39" for 25 year event
Inflow = 2.83 cfs @ 9.99 hrs, Volume= 0.682 af
Outflow = 0.24 cfs @ 20.46 hrs, Volume= 0.488 af, Atten= 92%, Lag= 628.4 min
Primary = 0.24 cfs @ 20.46 hrs, Volume= 0.488 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.59' @ 20.46 hrs Storage= 17,031 cf

Plug-Flow detention time= 641.8 min calculated for 0.488 af (72% of inflow)
Center-of-Mass det. time= 495.9 min (1,283.0 - 787.1)

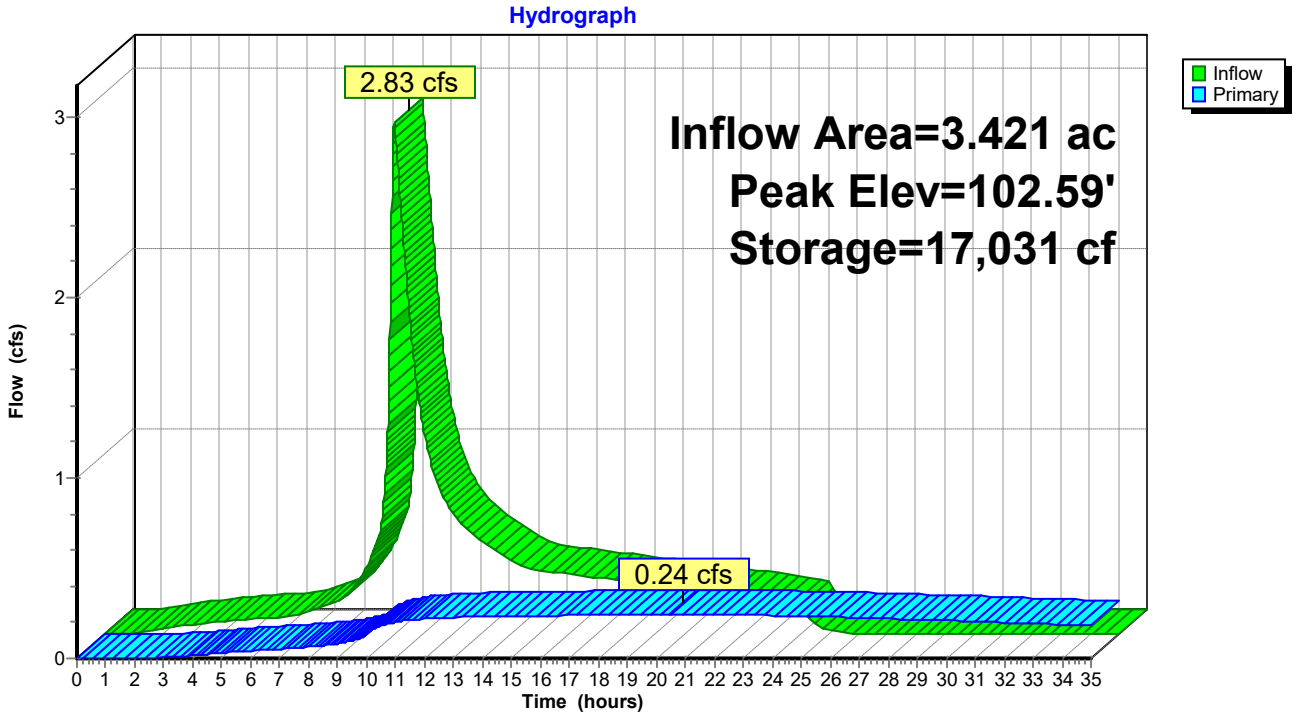
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	26,310 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	5,184
102.00	11,979
103.00	20,604
103.67	26,310

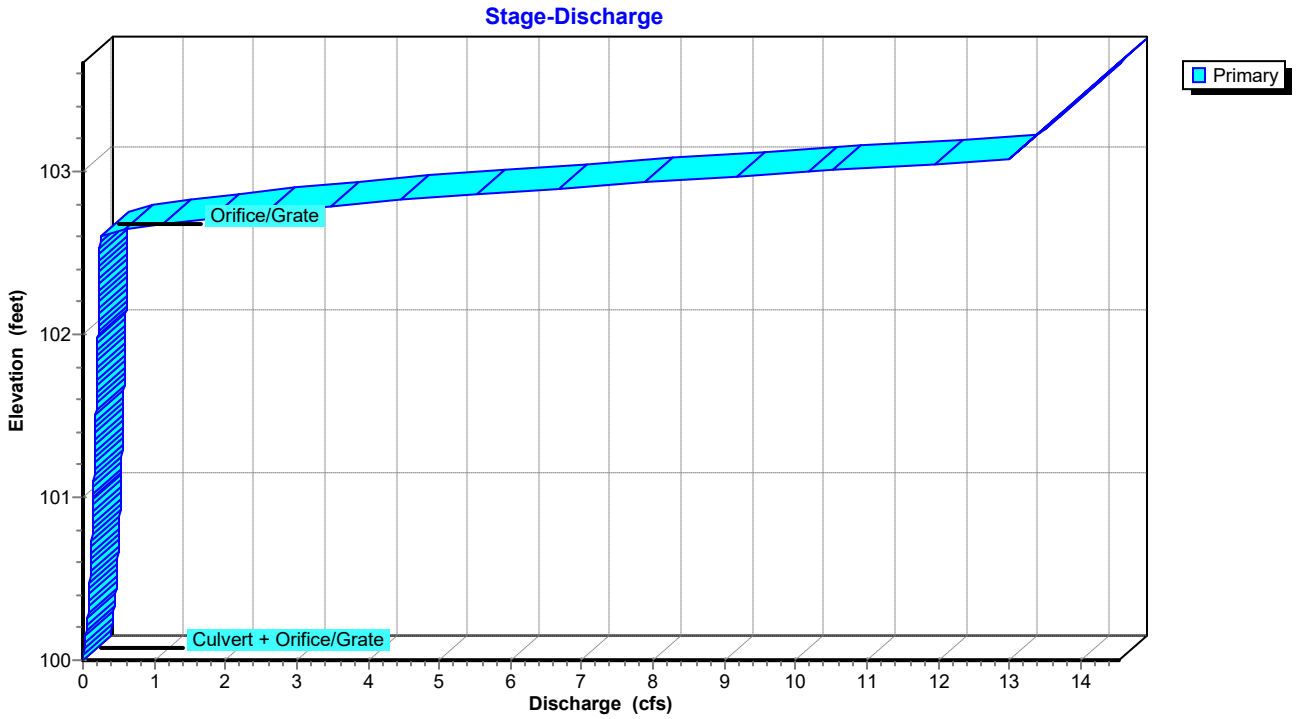
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 20.46 hrs HW=102.59' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.24 cfs of 11.53 cfs potential flow)
↑**2=Orifice/Grate** (Controls 0.00 cfs)
3=Orifice/Grate (Orifice Controls 0.24 cfs @ 7.64 fps)

Pond D20.3: Detention Pond 20.3



Pond D20.3: Detention Pond 20.3



Stage-Discharge for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Stage-Area-Storage for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Storage (cubic-feet)
100.00	0
100.05	259
100.10	518
100.15	778
100.20	1,037
100.25	1,296
100.30	1,555
100.35	1,814
100.40	2,074
100.45	2,333
100.50	2,592
100.55	2,851
100.60	3,110
100.65	3,370
100.70	3,629
100.75	3,888
100.80	4,147
100.85	4,406
100.90	4,666
100.95	4,925
101.00	5,184
101.05	5,524
101.10	5,863
101.15	6,203
101.20	6,543
101.25	6,883
101.30	7,222
101.35	7,562
101.40	7,902
101.45	8,242
101.50	8,582
101.55	8,921
101.60	9,261
101.65	9,601
101.70	9,941
101.75	10,280
101.80	10,620
101.85	10,960
101.90	11,300
101.95	11,639
102.00	11,979
102.05	12,410
102.10	12,841
102.15	13,273
102.20	13,704
102.25	14,135
102.30	14,566
102.35	14,998
102.40	15,429
102.45	15,860
102.50	16,292
102.55	16,723
102.60	17,154
102.65	17,585
102.70	18,017
102.75	18,448
102.80	18,879
102.85	19,310
102.90	19,742
102.95	20,173
103.00	20,604
103.05	21,030
103.10	21,456
103.15	21,881
103.20	22,307
103.25	22,733
103.30	23,159
103.35	23,585
103.40	24,011
103.45	24,436
103.50	24,862
103.55	25,288
103.60	25,714
103.65	**26,140**

Summary for Pond D20.4: Detention Pond 20.4

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 1.91" for 25 year event
Inflow = 6.45 cfs @ 9.98 hrs, Volume= 1.229 af
Outflow = 0.53 cfs @ 19.44 hrs, Volume= 0.894 af, Atten= 92%, Lag= 567.2 min
Primary = 0.53 cfs @ 19.44 hrs, Volume= 0.894 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.23' @ 19.44 hrs Storage= 29,050 cf

Plug-Flow detention time= 583.6 min calculated for 0.894 af (73% of inflow)
Center-of-Mass det. time= 444.8 min (1,257.4 - 812.6)

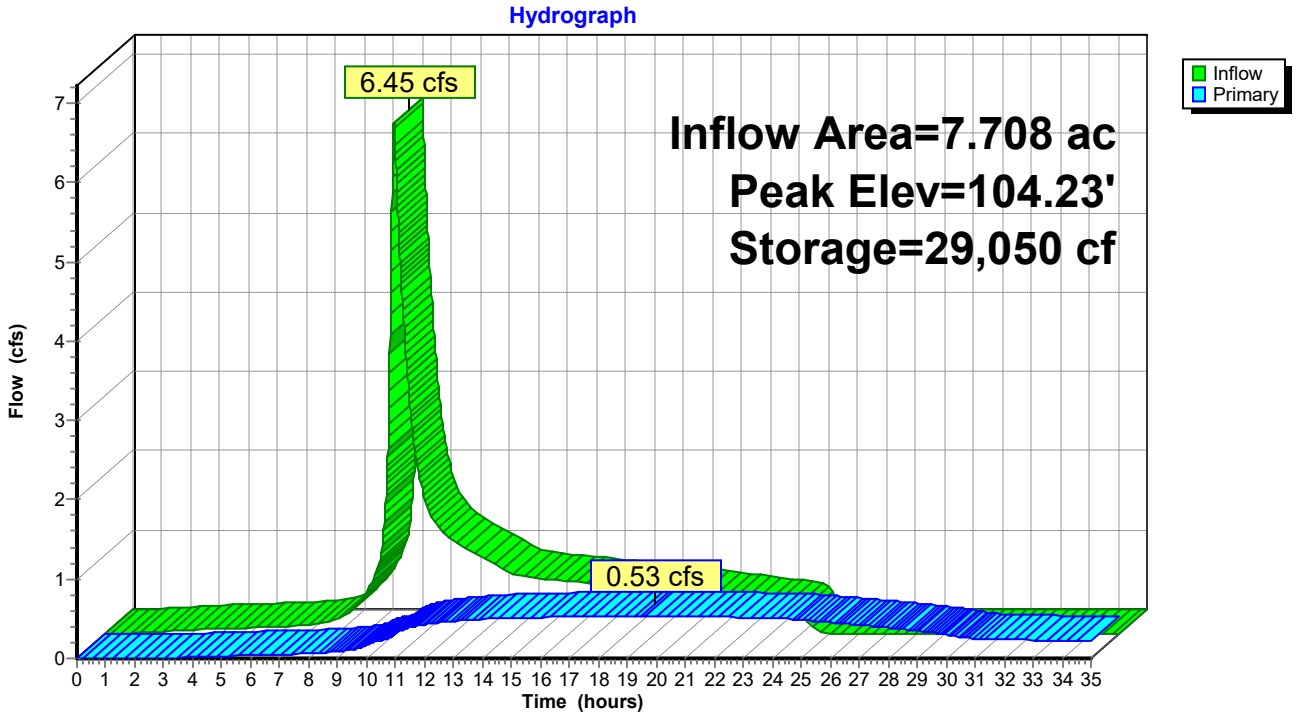
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

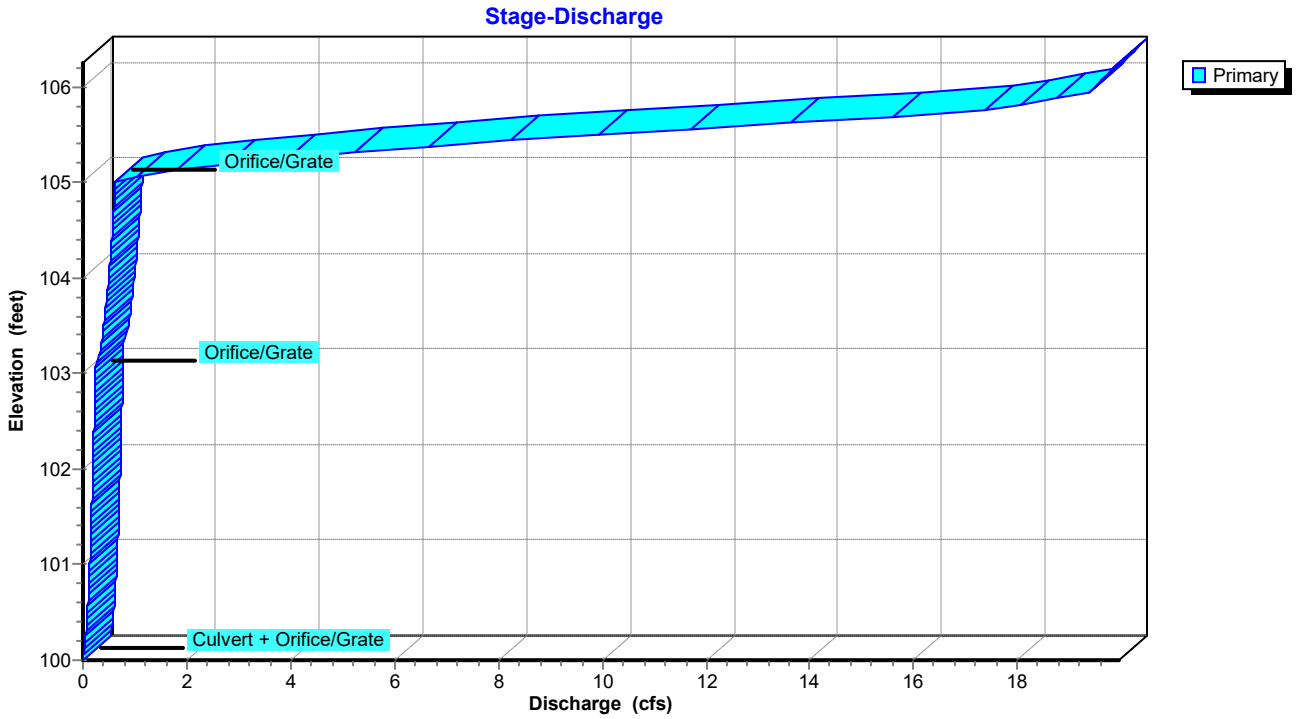
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.53 cfs @ 19.44 hrs HW=104.23' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.53 cfs of 15.88 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.25 cfs @ 5.07 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.28 cfs @ 9.79 fps)

Pond D20.4: Detention Pond 20.4



Pond D20.4: Detention Pond 20.4



Stage-Discharge for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Stage-Area-Storage for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
100.00	0	102.60	14,375	105.20	38,881
100.05	218	102.65	14,724	105.25	39,476
100.10	436	102.70	15,072	105.30	40,071
100.15	653	102.75	15,421	105.35	40,665
100.20	871	102.80	15,769	105.40	41,260
100.25	1,089	102.85	16,117	105.45	41,854
100.30	1,307	102.90	16,466	105.50	42,449
100.35	1,525	102.95	16,815	105.55	43,044
100.40	1,742	103.00	17,163	105.60	43,638
100.45	1,960	103.05	17,644	105.65	44,233
100.50	2,178	103.10	18,126	105.70	44,827
100.55	2,396	103.15	18,607	105.75	45,422
100.60	2,614	103.20	19,088	105.80	46,017
100.65	2,831	103.25	19,570	105.85	46,611
100.70	3,049	103.30	20,051	105.90	47,206
100.75	3,267	103.35	20,532	105.95	47,800
100.80	3,485	103.40	21,013	106.00	48,395
100.85	3,703	103.45	21,495	106.05	49,249
100.90	3,920	103.50	21,976	106.10	50,103
100.95	4,138	103.55	22,457	106.15	50,956
101.00	4,356	103.60	22,939	106.20	51,810
101.05	4,648	103.65	23,420	106.25	**52,664**
101.10	4,940	103.70	23,901		
101.15	5,232	103.75	24,383		
101.20	5,523	103.80	24,864		
101.25	5,815	103.85	25,345		
101.30	6,107	103.90	25,826		
101.35	6,399	103.95	26,308		
101.40	6,691	104.00	26,789		
101.45	6,983	104.05	27,275		
101.50	7,275	104.10	27,760		
101.55	7,566	104.15	28,246		
101.60	7,858	104.20	28,732		
101.65	8,150	104.25	29,218		
101.70	8,442	104.30	29,703		
101.75	8,734	104.35	30,189		
101.80	9,026	104.40	30,675		
101.85	9,317	104.45	31,160		
101.90	9,609	104.50	31,646		
101.95	9,901	104.55	32,132		
102.00	10,193	104.60	32,617		
102.05	10,541	104.65	33,103		
102.10	10,890	104.70	33,589		
102.15	11,239	104.75	34,075		
102.20	11,587	104.80	34,560		
102.25	11,936	104.85	35,046		
102.30	12,284	104.90	35,532		
102.35	12,632	104.95	36,017		
102.40	12,981	105.00	36,503		
102.45	13,330	105.05	37,098		
102.50	13,678	105.10	37,692		
102.55	14,026	105.15	38,287		

Summary for Pond D3: Detention Basin 3

Inflow Area = 4.707 ac, 0.00% Impervious, Inflow Depth = 2.45" for 25 year event
Inflow = 5.18 cfs @ 9.98 hrs, Volume= 0.961 af
Outflow = 0.28 cfs @ 22.53 hrs, Volume= 0.501 af, Atten= 95%, Lag= 752.9 min
Primary = 0.28 cfs @ 22.53 hrs, Volume= 0.501 af
Routed to Reach 3R : Collection Point 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.32' @ 22.53 hrs Surf.Area= 0.266 ac Storage= 0.664 af

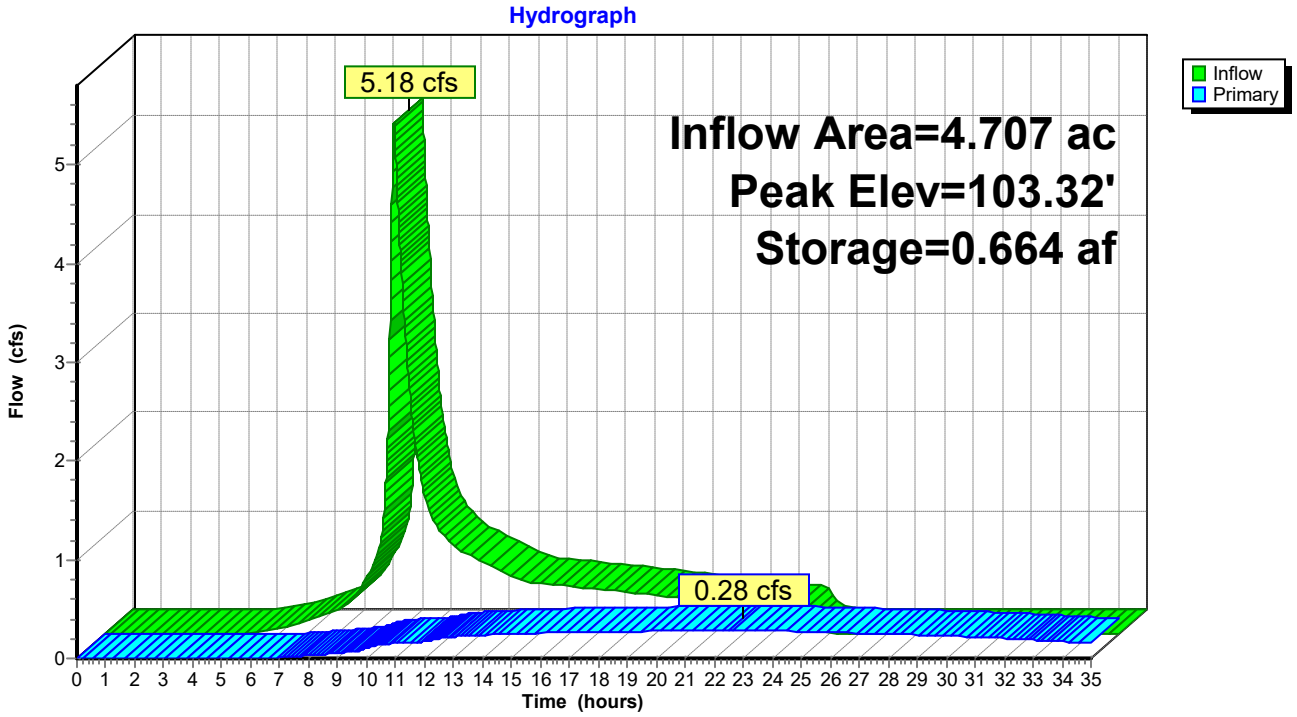
Plug-Flow detention time= 724.0 min calculated for 0.501 af (52% of inflow)
Center-of-Mass det. time= 529.8 min (1,329.9 - 800.1)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	1.172 af	**45.00'W x 135.00'L x 5.00'H Prismatoid Z=4.0**

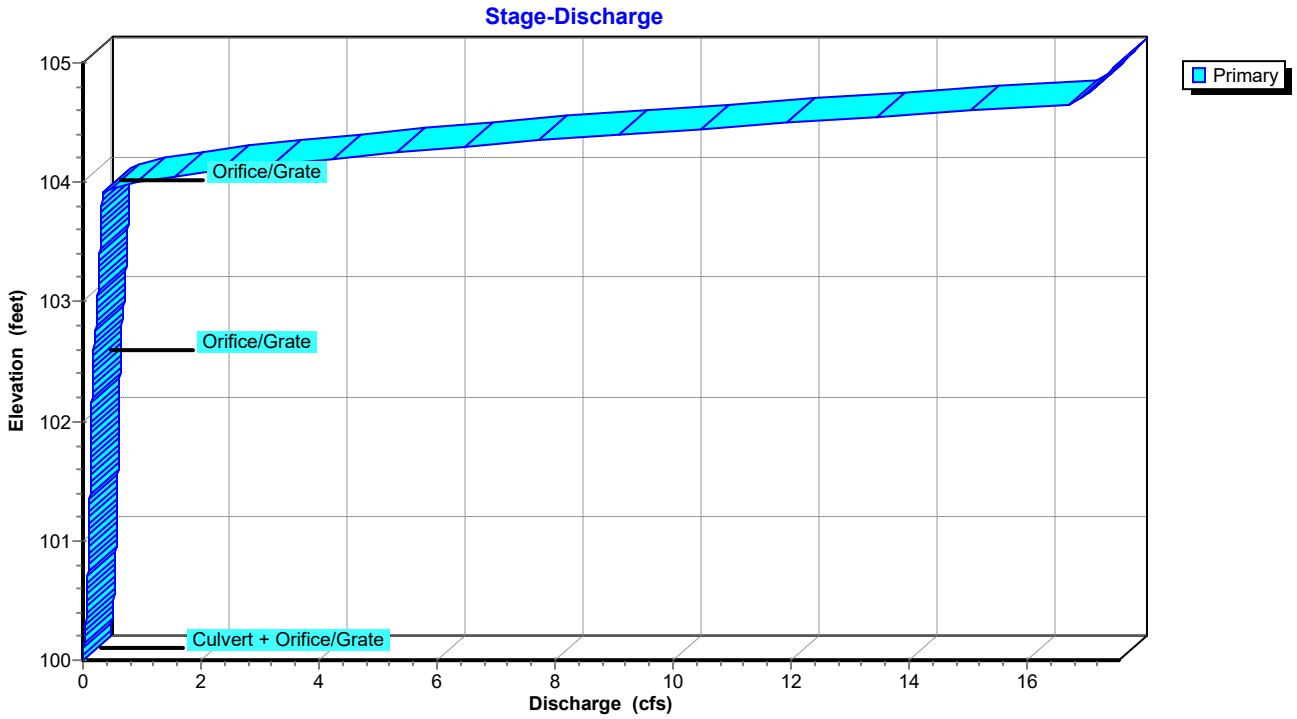
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.92'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.50'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.28 cfs @ 22.53 hrs HW=103.32' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.28 cfs of 13.65 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.19 cfs @ 8.67 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.09 cfs @ 4.14 fps)

Pond D3: Detention Basin 3



Pond D3: Detention Basin 3



Stage-Discharge for Pond D3: Detention Basin 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.18
100.05	0.00	102.65	0.20
100.10	0.01	102.70	0.21
100.15	0.03	102.75	0.21
100.20	0.04	102.80	0.22
100.25	0.04	102.85	0.23
100.30	0.05	102.90	0.24
100.35	0.05	102.95	0.24
100.40	0.06	103.00	0.25
100.45	0.06	103.05	0.25
100.50	0.07	103.10	0.26
100.55	0.07	103.15	0.26
100.60	0.08	103.20	0.27
100.65	0.08	103.25	0.27
100.70	0.08	103.30	0.28
100.75	0.09	103.35	0.28
100.80	0.09	103.40	0.29
100.85	0.09	103.45	0.29
100.90	0.09	103.50	0.29
100.95	0.10	103.55	0.30
101.00	0.10	103.60	0.30
101.05	0.10	103.65	0.31
101.10	0.11	103.70	0.31
101.15	0.11	103.75	0.31
101.20	0.11	103.80	0.32
101.25	0.11	103.85	0.32
101.30	0.12	103.90	0.33
101.35	0.12	103.95	0.47
101.40	0.12	104.00	0.92
101.45	0.12	104.05	1.56
101.50	0.13	104.10	2.34
101.55	0.13	104.15	3.23
101.60	0.13	104.20	4.22
101.65	0.13	104.25	5.31
101.70	0.13	104.30	6.48
101.75	0.14	104.35	7.73
101.80	0.14	104.40	9.06
101.85	0.14	104.45	10.46
101.90	0.14	104.50	11.92
101.95	0.14	104.55	13.45
102.00	0.15	104.60	15.04
102.05	0.15	104.65	16.69
102.10	0.15	104.70	16.91
102.15	0.15	104.75	17.02
102.20	0.15	104.80	17.12
102.25	0.15	104.85	17.23
102.30	0.16	104.90	17.33
102.35	0.16	104.95	17.44
102.40	0.16	105.00	**17.54**
102.45	0.16		
102.50	0.16		
102.55	0.17		

Stage-Area-Storage for Pond D3: Detention Basin 3

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	0.483
100.05	0.007	102.65	0.495
100.10	0.014	102.70	0.507
100.15	0.021	102.75	0.519
100.20	0.029	102.80	0.531
100.25	0.036	102.85	0.543
100.30	0.043	102.90	0.555
100.35	0.051	102.95	0.568
100.40	0.058	103.00	0.580
100.45	0.066	103.05	0.593
100.50	0.074	103.10	0.606
100.55	0.082	103.15	0.619
100.60	0.090	103.20	0.632
100.65	0.098	103.25	0.645
100.70	0.106	103.30	0.658
100.75	0.114	103.35	0.671
100.80	0.122	103.40	0.684
100.85	0.131	103.45	0.698
100.90	0.139	103.50	0.712
100.95	0.148	103.55	0.725
101.00	0.156	103.60	0.739
101.05	0.165	103.65	0.753
101.10	0.174	103.70	0.767
101.15	0.183	103.75	0.781
101.20	0.192	103.80	0.796
101.25	0.201	103.85	0.810
101.30	0.210	103.90	0.824
101.35	0.220	103.95	0.839
101.40	0.229	104.00	0.854
101.45	0.238	104.05	0.868
101.50	0.248	104.10	0.883
101.55	0.258	104.15	0.898
101.60	0.267	104.20	0.914
101.65	0.277	104.25	0.929
101.70	0.287	104.30	0.944
101.75	0.297	104.35	0.960
101.80	0.307	104.40	0.975
101.85	0.318	104.45	0.991
101.90	0.328	104.50	1.007
101.95	0.338	104.55	1.023
102.00	0.349	104.60	1.039
102.05	0.360	104.65	1.055
102.10	0.370	104.70	1.071
102.15	0.381	104.75	1.088
102.20	0.392	104.80	1.104
102.25	0.403	104.85	1.121
102.30	0.414	104.90	1.138
102.35	0.425	104.95	1.155
102.40	0.437	105.00	**1.172**
102.45	0.448		
102.50	0.460		
102.55	0.471		

Summary for Pond D5: Detention Basin 5

Inflow Area = 22.444 ac, 0.00% Impervious, Inflow Depth = 2.36" for 25 year event
Inflow = 24.66 cfs @ 9.98 hrs, Volume= 4.418 af
Outflow = 1.38 cfs @ 22.04 hrs, Volume= 2.416 af, Atten= 94%, Lag= 723.7 min
Primary = 1.38 cfs @ 22.04 hrs, Volume= 2.416 af
Routed to Reach 5R : Collection Point 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.63' @ 22.04 hrs Surf.Area= 0.975 ac Storage= 3.010 af

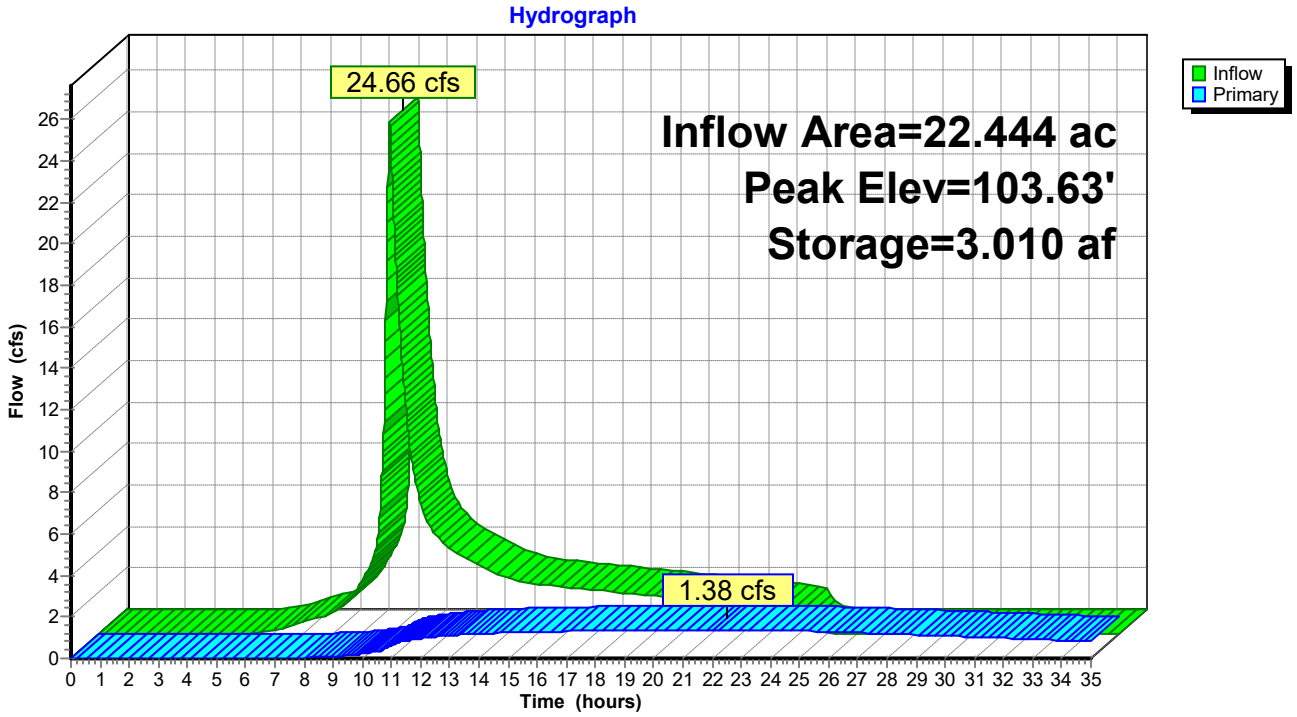
Plug-Flow detention time= 729.5 min calculated for 2.415 af (55% of inflow)
Center-of-Mass det. time= 540.3 min (1,343.8 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	4.423 af	**100.00'W x 300.00'L x 5.00'H Prismatoid Z=4.0**

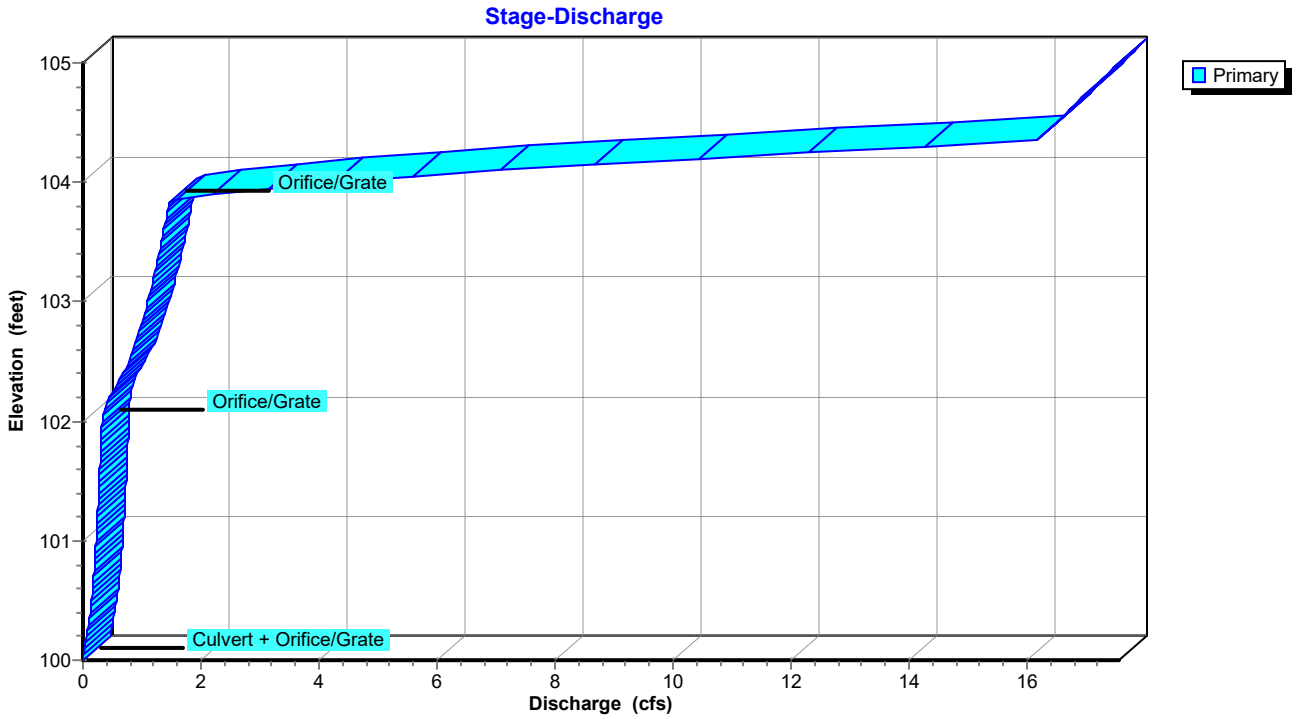
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.38 cfs @ 22.04 hrs HW=103.63' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.38 cfs of 14.45 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.44 cfs @ 9.02 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.94 cfs @ 5.70 fps)

Pond D5: Detention Basin 5



Pond D5: Detention Basin 5



Stage-Discharge for Pond D5: Detention Basin 5

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.86
100.05	0.01	102.65	0.89
100.10	0.02	102.70	0.92
100.15	0.04	102.75	0.96
100.20	0.06	102.80	0.99
100.25	0.08	102.85	1.02
100.30	0.10	102.90	1.04
100.35	0.11	102.95	1.07
100.40	0.12	103.00	1.10
100.45	0.13	103.05	1.12
100.50	0.14	103.10	1.15
100.55	0.15	103.15	1.17
100.60	0.16	103.20	1.20
100.65	0.17	103.25	1.22
100.70	0.18	103.30	1.24
100.75	0.19	103.35	1.27
100.80	0.19	103.40	1.29
100.85	0.20	103.45	1.31
100.90	0.21	103.50	1.33
100.95	0.21	103.55	1.35
101.00	0.22	103.60	1.37
101.05	0.23	103.65	1.39
101.10	0.23	103.70	1.41
101.15	0.24	103.75	1.43
101.20	0.25	103.80	1.45
101.25	0.25	103.85	1.58
101.30	0.26	103.90	2.21
101.35	0.26	103.95	3.14
101.40	0.27	104.00	4.27
101.45	0.27	104.05	5.59
101.50	0.28	104.10	7.06
101.55	0.28	104.15	8.68
101.60	0.29	104.20	10.42
101.65	0.29	104.25	12.29
101.70	0.30	104.30	14.27
101.75	0.30	104.35	16.14
101.80	0.31	104.40	16.26
101.85	0.31	104.45	16.37
101.90	0.31	104.50	16.48
101.95	0.32	104.55	16.59
102.00	0.32	104.60	16.70
102.05	0.34	104.65	16.80
102.10	0.36	104.70	16.91
102.15	0.40	104.75	17.02
102.20	0.45	104.80	17.12
102.25	0.50	104.85	17.23
102.30	0.56	104.90	17.33
102.35	0.62	104.95	17.44
102.40	0.69	105.00	**17.54**
102.45	0.74		
102.50	0.78		
102.55	0.82		

Stage-Area-Storage for Pond D5: Detention Basin 5

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	2.048
100.05	0.035	102.65	2.092
100.10	0.069	102.70	2.137
100.15	0.104	102.75	2.182
100.20	0.139	102.80	2.227
100.25	0.174	102.85	2.272
100.30	0.210	102.90	2.318
100.35	0.246	102.95	2.364
100.40	0.281	103.00	2.410
100.45	0.317	103.05	2.456
100.50	0.354	103.10	2.503
100.55	0.390	103.15	2.549
100.60	0.427	103.20	2.596
100.65	0.463	103.25	2.643
100.70	0.500	103.30	2.690
100.75	0.537	103.35	2.738
100.80	0.575	103.40	2.785
100.85	0.612	103.45	2.833
100.90	0.650	103.50	2.881
100.95	0.688	103.55	2.930
101.00	0.726	103.60	2.978
101.05	0.764	103.65	3.027
101.10	0.803	103.70	3.076
101.15	0.841	103.75	3.125
101.20	0.880	103.80	3.174
101.25	0.919	103.85	3.224
101.30	0.958	103.90	3.274
101.35	0.998	103.95	3.324
101.40	1.038	104.00	3.374
101.45	1.077	104.05	3.424
101.50	1.117	104.10	3.475
101.55	1.158	104.15	3.526
101.60	1.198	104.20	3.577
101.65	1.239	104.25	3.628
101.70	1.279	104.30	3.680
101.75	1.320	104.35	3.731
101.80	1.362	104.40	3.783
101.85	1.403	104.45	3.835
101.90	1.444	104.50	3.888
101.95	1.486	104.55	3.940
102.00	1.528	104.60	3.993
102.05	1.570	104.65	4.046
102.10	1.613	104.70	4.099
102.15	1.655	104.75	4.153
102.20	1.698	104.80	4.206
102.25	1.741	104.85	4.260
102.30	1.784	104.90	4.314
102.35	1.828	104.95	4.368
102.40	1.871	105.00	**4.423**
102.45	1.915		
102.50	1.959		
102.55	2.003		

Summary for Pond D7: Detention Basin 7

Inflow Area = 80.101 ac, 0.00% Impervious, Inflow Depth = 1.96" for 25 year event
Inflow = 64.97 cfs @ 9.99 hrs, Volume= 13.052 af
Outflow = 5.15 cfs @ 20.80 hrs, Volume= 9.028 af, Atten= 92%, Lag= 648.8 min
Primary = 5.15 cfs @ 20.80 hrs, Volume= 9.028 af
Routed to Reach 7R : Collection Point 7

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 106.38' @ 20.80 hrs Surf.Area= 1.509 ac Storage= 7.655 af

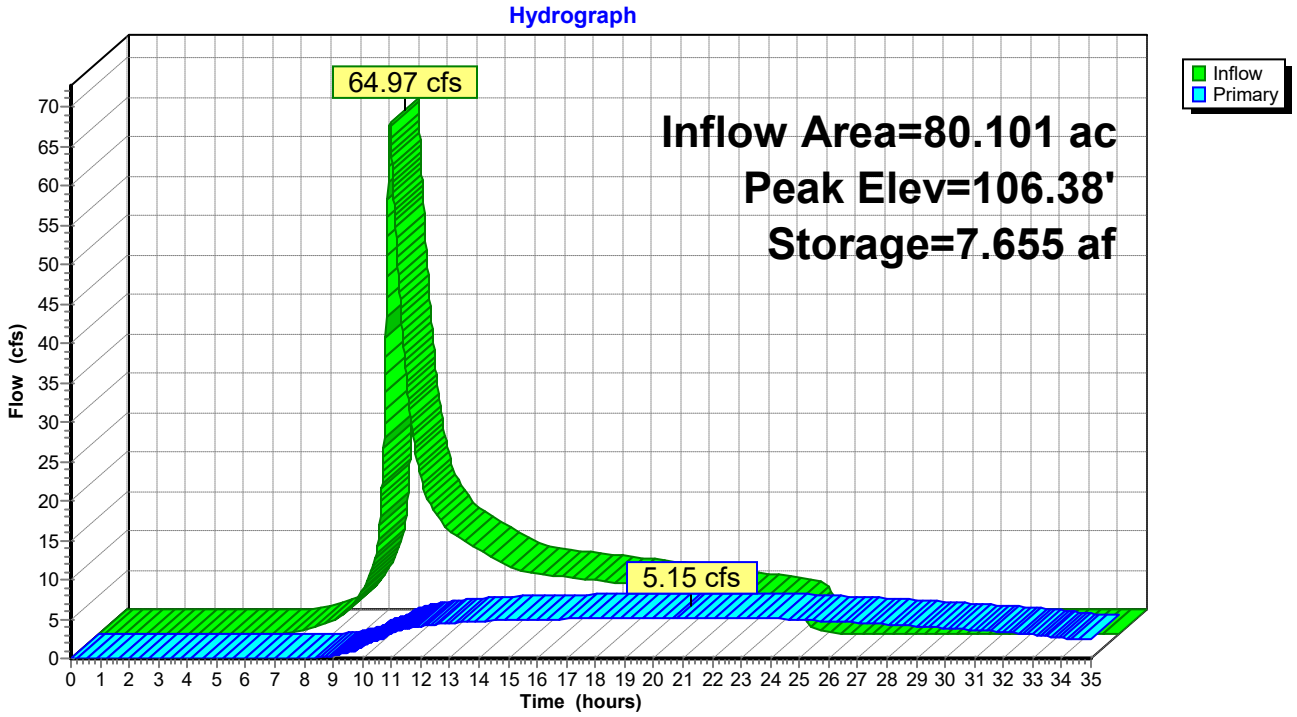
Plug-Flow detention time= 631.8 min calculated for 9.026 af (69% of inflow)
Center-of-Mass det. time= 482.9 min (1,312.2 - 829.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	11.095 af	**115.00'W x 345.00'L x 8.50'H Prismatoid Z=4.0**

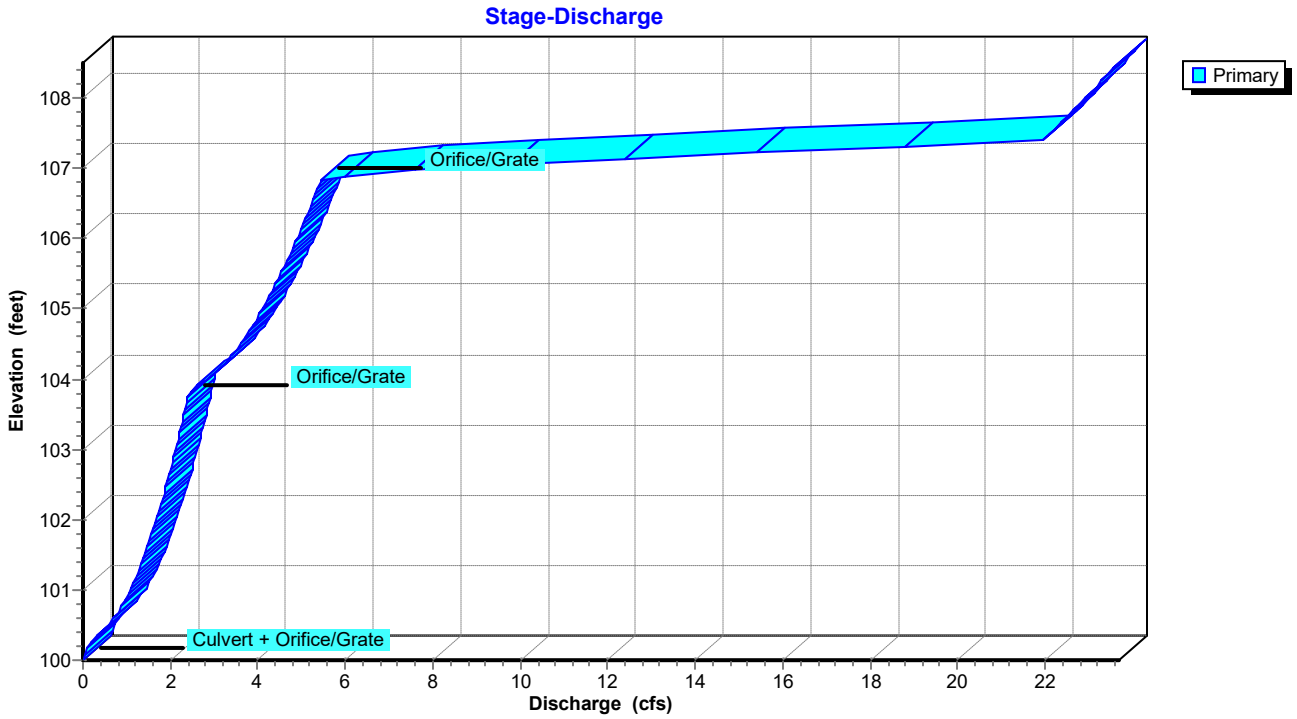
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	106.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.75'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.15 cfs @ 20.80 hrs HW=106.38' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 5.15 cfs of 20.19 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 3.17 cfs @ 11.88 fps)
  └─**4=Orifice/Grate** (Orifice Controls 1.98 cfs @ 7.55 fps)

Pond D7: Detention Basin 7



Pond D7: Detention Basin 7



Stage-Discharge for Pond D7: Detention Basin 7

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	4.28	107.80	22.59
100.05	0.01	102.65	1.98	105.25	4.32	107.85	22.67
100.10	0.03	102.70	2.00	105.30	4.36	107.90	22.75
100.15	0.07	102.75	2.02	105.35	4.40	107.95	22.83
100.20	0.12	102.80	2.04	105.40	4.44	108.00	22.91
100.25	0.19	102.85	2.06	105.45	4.48	108.05	22.99
100.30	0.26	102.90	2.08	105.50	4.52	108.10	23.07
100.35	0.34	102.95	2.10	105.55	4.56	108.15	23.15
100.40	0.42	103.00	2.12	105.60	4.60	108.20	23.22
100.45	0.51	103.05	2.14	105.65	4.64	108.25	23.30
100.50	0.59	103.10	2.16	105.70	4.68	108.30	23.38
100.55	0.66	103.15	2.18	105.75	4.71	108.35	23.46
100.60	0.71	103.20	2.19	105.80	4.75	108.40	23.53
100.65	0.77	103.25	2.21	105.85	4.79	108.45	23.61
100.70	0.82	103.30	2.23	105.90	4.82	108.50	**23.69**
100.75	0.87	103.35	2.25	105.95	4.86		
100.80	0.92	103.40	2.27	106.00	4.89		
100.85	0.96	103.45	2.29	106.05	4.93		
100.90	1.00	103.50	2.30	106.10	4.96		
100.95	1.04	103.55	2.32	106.15	5.00		
101.00	1.08	103.60	2.34	106.20	5.03		
101.05	1.12	103.65	2.36	106.25	5.07		
101.10	1.16	103.70	2.38	106.30	5.10		
101.15	1.19	103.75	2.39	106.35	5.13		
101.20	1.23	103.80	2.43	106.40	5.17		
101.25	1.26	103.85	2.50	106.45	5.20		
101.30	1.29	103.90	2.60	106.50	5.23		
101.35	1.32	103.95	2.71	106.55	5.26		
101.40	1.35	104.00	2.84	106.60	5.30		
101.45	1.38	104.05	2.96	106.65	5.33		
101.50	1.41	104.10	3.05	106.70	5.36		
101.55	1.44	104.15	3.14	106.75	5.39		
101.60	1.47	104.20	3.21	106.80	5.42		
101.65	1.50	104.25	3.29	106.85	5.57		
101.70	1.53	104.30	3.36	106.90	6.21		
101.75	1.55	104.35	3.42	106.95	7.15		
101.80	1.58	104.40	3.48	107.00	8.30		
101.85	1.61	104.45	3.54	107.05	9.63		
101.90	1.63	104.50	3.60	107.10	11.11		
101.95	1.66	104.55	3.66	107.15	12.74		
102.00	1.68	104.60	3.71	107.20	14.50		
102.05	1.71	104.65	3.77	107.25	16.38		
102.10	1.73	104.70	3.82	107.30	18.37		
102.15	1.75	104.75	3.87	107.35	20.47		
102.20	1.78	104.80	3.92	107.40	21.94		
102.25	1.80	104.85	3.97	107.45	22.02		
102.30	1.82	104.90	4.01	107.50	22.11		
102.35	1.85	104.95	4.06	107.55	22.19		
102.40	1.87	105.00	4.10	107.60	22.27		
102.45	1.89	105.05	4.15	107.65	22.35		
102.50	1.91	105.10	4.19	107.70	22.43		
102.55	1.93	105.15	4.24	107.75	22.51		

Stage-Area-Storage for Pond D7: Detention Basin 7

Elevation (feet)	Storage (acre-feet)
100.00	0.000
100.10	0.092
100.20	0.184
100.30	0.277
100.40	0.371
100.50	0.466
100.60	0.562
100.70	0.658
100.80	0.756
100.90	0.854
101.00	0.954
101.10	1.054
101.20	1.155
101.30	1.257
101.40	1.359
101.50	1.463
101.60	1.567
101.70	1.673
101.80	1.779
101.90	1.886
102.00	1.995
102.10	2.104
102.20	2.213
102.30	2.324
102.40	2.436
102.50	2.549
102.60	2.662
102.70	2.777
102.80	2.892
102.90	3.009
103.00	3.126
103.10	3.244
103.20	3.363
103.30	3.483
103.40	3.604
103.50	3.726
103.60	3.849
103.70	3.973
103.80	4.098
103.90	4.224
104.00	4.350
104.10	4.478
104.20	4.607
104.30	4.736
104.40	4.867
104.50	4.999
104.60	5.131
104.70	5.265
104.80	5.399
104.90	5.535
105.00	5.671
105.10	5.809
105.20	5.947
105.30	6.087
105.40	6.227
105.50	6.369
105.60	6.511
105.70	6.655
105.80	6.799
105.90	6.945
106.00	7.091
106.10	7.239
106.20	7.387
106.30	7.537
106.40	7.688
106.50	7.839
106.60	7.992
106.70	8.146
106.80	8.301
106.90	8.457
107.00	8.613
107.10	8.771
107.20	8.930
107.30	9.090
107.40	9.252
107.50	9.414
107.60	9.577
107.70	9.741
107.80	9.907
107.90	10.073
108.00	10.241
108.10	10.409
108.20	10.579
108.30	10.750
108.40	10.922
108.50	**11.095**

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: Diverted Area 1 Runoff Area=3,698,995 sf 0.00% Impervious Runoff Depth=2.67"
Flow Length=4,203' Slope=0.1540 '/' Tc=38.2 min CN=79/0 Runoff=66.82 cfs 18.915 af

Subcatchment 1.2: Developed Area 1 Runoff Area=989,958 sf 0.00% Impervious Runoff Depth=2.95"
Flow Length=4,976' Slope=0.0770 '/' Tc=21.5 min CN=82/0 Runoff=28.50 cfs 5.578 af

Subcatchment 2.1: Diverted Area 2 Runoff Area=426,454 sf 0.00% Impervious Runoff Depth=2.76"
Flow Length=1,202' Slope=0.2410 '/' Tc=20.7 min CN=80/0 Runoff=11.59 cfs 2.254 af

Subcatchment 3.1: Diverted Area 3 Runoff Area=842,263 sf 0.00% Impervious Runoff Depth=2.33"
Flow Length=1,628' Slope=0.2190 '/' Tc=24.1 min CN=75/0 Runoff=16.87 cfs 3.751 af

Subcatchment 3.2: Developed Area 3 Runoff Area=205,028 sf 0.00% Impervious Runoff Depth=3.23"
Flow Length=1,531' Slope=0.0290 '/' Tc=19.5 min CN=85/0 Runoff=6.92 cfs 1.267 af

Subcatchment 4.1: Diverted Area 4 Runoff Area=933,066 sf 0.00% Impervious Runoff Depth=2.16"
Flow Length=1,976' Slope=0.1310 '/' Tc=29.5 min CN=73/0 Runoff=14.92 cfs 3.862 af

Subcatchment 5.1: Diverted Area 5 Runoff Area=5,506,547 sf 0.00% Impervious Runoff Depth=2.50"
Flow Length=4,927' Slope=0.0870 '/' Tc=48.7 min CN=77/0 Runoff=76.99 cfs 26.315 af

Subcatchment 5.2: Developed Area 5 Runoff Area=977,666 sf 0.00% Impervious Runoff Depth=3.13"
Flow Length=2,416' Slope=0.1020 '/' Tc=18.0 min CN=84/0 Runoff=33.21 cfs 5.861 af

Subcatchment 6.1: Diverted Area 6 Runoff Area=1,758,127 sf 0.00% Impervious Runoff Depth=2.50"
Flow Length=4,184' Slope=0.0450 '/' Tc=55.0 min CN=77/0 Runoff=22.56 cfs 8.402 af

Subcatchment 7.1: Diverted Area 7 Runoff Area=4,706,562 sf 0.00% Impervious Runoff Depth=2.58"
Flow Length=5,491' Slope=0.0880 '/' Tc=51.0 min CN=78/0 Runoff=66.80 cfs 23.274 af

Subcatchment 7.2: Developed Area 6 Runoff Area=3,489,199 sf 0.00% Impervious Runoff Depth=2.67"
Flow Length=4,041' Slope=0.0800 '/' Tc=20.4 min CN=79/0 Runoff=91.78 cfs 17.842 af

Subcatchment 8.1: Diverted Area 8 Runoff Area=3,910,579 sf 0.00% Impervious Runoff Depth=1.48"
Flow Length=4,273' Slope=0.1050 '/' Tc=43.1 min CN=64/0 Runoff=26.48 cfs 11.102 af

Subcatchment 9.1: Diverted Area 9 Runoff Area=703,591 sf 0.00% Impervious Runoff Depth=0.79"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=2.21 cfs 1.067 af

Subcatchment 10.1: Diverted Area 10.2 Runoff Area=1,844,365 sf 0.00% Impervious Runoff Depth=0.85"
Flow Length=3,248' Slope=0.1000 '/' Tc=38.8 min CN=54/0 Runoff=4.64 cfs 2.994 af

Subcatchment 11.1: Diverted Area 11 Runoff Area=330,401 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=560' Slope=0.1250 '/' Tc=16.9 min CN=49/0 Runoff=0.49 cfs 0.368 af

Subcatchment 12.1: Diverted Area 12 Runoff Area=3,953,596 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=3,100' Slope=0.0720 '/' Tc=41.8 min CN=49/0 Runoff=4.81 cfs 4.399 af

Subcatchment 12.2: Developed Area Runoff Area=18,611,996 sf 0.00% Impervious Runoff Depth=2.33"
Flow Length=7,353' Slope=0.0180 '/' Tc=31.4 min CN=75/0 Runoff=316.85 cfs 82.898 af

Subcatchment 12.3: Diverted Area 12.3 Runoff Area=1,842,936 sf 0.00% Impervious Runoff Depth=1.85"
Flow Length=7,592' Tc=48.2 min CN=69/0 Runoff=16.60 cfs 6.519 af

Subcatchment 12.4: Diverted Area 12.4 Runoff Area=2,734,787 sf 0.00% Impervious Runoff Depth=1.55"
Flow Length=9,171' Tc=56.2 min CN=65/0 Runoff=16.89 cfs 8.133 af

Subcatchment 13.1: Diverted Area 13 Runoff Area=67,532 sf 0.00% Impervious Runoff Depth=2.16"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=73/0 Runoff=1.94 cfs 0.280 af

Subcatchment 14.1: Diverted Area 14 Runoff Area=109,322 sf 0.00% Impervious Runoff Depth=2.00"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=3.00 cfs 0.419 af

Subcatchment 15.1: Diverted Area 15 Runoff Area=414,988 sf 0.00% Impervious Runoff Depth=0.74"
Flow Length=1,585' Slope=0.1650 '/' Tc=25.7 min CN=52/0 Runoff=0.93 cfs 0.586 af

Subcatchment 15.2: Developed Area 15 Runoff Area=1,372,228 sf 0.00% Impervious Runoff Depth=1.41"
Flow Length=2,036' Slope=0.0100 '/' Tc=24.0 min CN=63/0 Runoff=12.92 cfs 3.714 af

Subcatchment 16.1: Diverted Area 16 Runoff Area=1,317,955 sf 0.00% Impervious Runoff Depth=1.63"
Flow Length=2,287' Slope=0.0720 '/' Tc=36.8 min CN=66/0 Runoff=11.72 cfs 4.101 af

Subcatchment 16.2: Developed Area 16 Runoff Area=534,690 sf 0.00% Impervious Runoff Depth=1.70"
Flow Length=808' Slope=0.0680 '/' Tc=15.7 min CN=67/0 Runoff=8.72 cfs 1.738 af

Subcatchment 16.3: Developed Area 16 Runoff Area=4,800,431 sf 0.00% Impervious Runoff Depth=2.58"
Flow Length=3,863' Slope=0.0080 '/' Tc=64.7 min CN=78/0 Runoff=57.68 cfs 23.738 af

Subcatchment 17.1: Diverted Area 17 Runoff Area=1,066,067 sf 0.00% Impervious Runoff Depth=0.74"
Flow Length=1,613' Slope=0.0940 '/' Tc=29.7 min CN=52/0 Runoff=2.25 cfs 1.504 af

Subcatchment 18.1: Diverted Area 18 Runoff Area=5,811,307 sf 0.00% Impervious Runoff Depth=1.85"
Flow Length=4,653' Slope=0.0530 '/' Tc=55.0 min CN=69/0 Runoff=47.85 cfs 20.557 af

Subcatchment 18.2: Developed Area 18 Runoff Area=1,858,157 sf 0.00% Impervious Runoff Depth=3.43"
Flow Length=3,224' Slope=0.0340 '/' Tc=22.1 min CN=87/0 Runoff=62.70 cfs 12.180 af

Subcatchment 19.1: Diverted Area 19 Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=5.72 cfs 2.856 af

Subcatchment 20.1: Diverted Area 20 Runoff Area=5,359,234 sf 0.00% Impervious Runoff Depth=2.25"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=74/0 Runoff=73.39 cfs 23.019 af

Subcatchment 20.2: Developed Area 20.2 Runoff Area=3.949 ac 37.71% Impervious Runoff Depth=3.19"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=5.60 cfs 1.050 af

Subcatchment 20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=3.14"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=3.79 cfs 0.894 af

Subcatchment 20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=2.60"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=9.10 cfs 1.673 af

Subcatchment 21.1: Diverted Area 21 Runoff Area=1,537,885 sf 0.00% Impervious Runoff Depth=1.55"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=14.75 cfs 4.574 af

Subcatchment 22.1: Diverted Area 22 Runoff Area=2,526,337 sf 0.00% Impervious Runoff Depth=2.85"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=58.86 cfs 13.790 af

Reach 1R: Collection Point 1 Inflow=66.97 cfs 22.668 af
Outflow=66.97 cfs 22.668 af

Reach 2R: Collection Point 2 Inflow=11.59 cfs 2.254 af
Outflow=11.59 cfs 2.254 af

Reach 3R: Collection Point 3 Inflow=16.99 cfs 4.443 af
Outflow=16.99 cfs 4.443 af

Reach 4R: Collection Point 4 Inflow=14.92 cfs 3.862 af
Outflow=14.92 cfs 3.862 af

Reach 5R: Collection Point 5 Inflow=77.28 cfs 30.025 af
Outflow=77.28 cfs 30.025 af

Reach 6R: Collection Point 6 Inflow=22.56 cfs 8.402 af
Outflow=22.56 cfs 8.402 af

Reach 7R: Collection Point 7 Inflow=68.84 cfs 36.622 af
Outflow=68.84 cfs 36.622 af

Reach 8R: Collection Point 8 Inflow=26.48 cfs 11.102 af
Outflow=26.48 cfs 11.102 af

Reach 9R: Collection Point 9 Inflow=2.21 cfs 1.067 af
Outflow=2.21 cfs 1.067 af

Reach 10R: Collection Point 10 Inflow=4.64 cfs 2.994 af
Outflow=4.64 cfs 2.994 af

Reach 11R: Collection Point 11 Inflow=0.49 cfs 0.368 af
Outflow=0.49 cfs 0.368 af

Reach 12R: Collection Point 12 Inflow=36.49 cfs 49.338 af
Outflow=36.49 cfs 49.338 af

Reach 13R: Collection Point 13 Inflow=1.94 cfs 0.280 af
Outflow=1.94 cfs 0.280 af

Reach 14R: Collection Point 14 Inflow=3.00 cfs 0.419 af
Outflow=3.00 cfs 0.419 af

Reach 15R: Collection Point 15 Inflow=2.86 cfs 3.565 af
Outflow=2.86 cfs 3.565 af

Reach 16R: Collection Point 16 Inflow=22.60 cfs 22.901 af
Outflow=22.60 cfs 22.901 af

Reach 17R: Collection Point 17 Inflow=2.25 cfs 1.504 af
Outflow=2.25 cfs 1.504 af

Reach 18R: Collection Point 18 Inflow=49.93 cfs 28.800 af
Outflow=49.93 cfs 28.800 af

Reach 19R: Collection Point 19 Inflow=5.72 cfs 2.856 af
Outflow=5.72 cfs 2.856 af

Reach 20R: Collection Point 20 Inflow=73.93 cfs 25.731 af
Outflow=73.93 cfs 25.731 af

Reach 21R: Collection Point 21 Inflow=14.75 cfs 4.574 af
Outflow=14.75 cfs 4.574 af

Reach 22R: Collection Point 22 Inflow=58.86 cfs 13.790 af
Outflow=58.86 cfs 13.790 af

Pond 12S: Flow Splitter Box Peak Elev=120.34' Inflow=349.54 cfs 97.550 af
Primary=174.77 cfs 48.775 af Secondary=174.77 cfs 48.775 af Outflow=349.54 cfs 97.550 af

Pond D1: Detention Basin 1 Peak Elev=104.83' Storage=2.873 af Inflow=28.50 cfs 5.578 af
Outflow=4.22 cfs 3.753 af

Pond D12.1: Detention Pond 12.1 Peak Elev=109.41' Storage=35.720 af Inflow=174.77 cfs 48.775 af
Outflow=16.87 cfs 22.469 af

Pond D12.2: Detention Pond 12.2 Peak Elev=109.41' Storage=35.720 af Inflow=174.77 cfs 48.775 af
Outflow=16.87 cfs 22.469 af

Pond D15: Detention Pond 15 Peak Elev=103.08' Storage=1.648 af Inflow=12.92 cfs 3.714 af
Outflow=2.39 cfs 2.979 af

Pond D16.2: Detention Pond 16.2 Peak Elev=102.23' Storage=0.481 af Inflow=8.72 cfs 1.738 af
Outflow=2.03 cfs 1.651 af

Pond D16.3: Detention Pond 16.3 Peak Elev=105.42' Storage=11.357 af Inflow=57.68 cfs 23.738 af
Outflow=18.07 cfs 17.150 af

Pond D18: Detention Pond 18 Peak Elev=105.26' Storage=6.512 af Inflow=62.70 cfs 12.180 af
Outflow=8.18 cfs 8.243 af

Pond D20.2: Detention Basin 20.2 Peak Elev=104.16' Storage=0.503 af Inflow=5.60 cfs 1.050 af
Outflow=0.88 cfs 0.757 af

Pond D20.3: Detention Pond 20.3 Peak Elev=102.66' Storage=17,673 cf Inflow=3.79 cfs 0.894 af
Outflow=0.82 cfs 0.689 af

Pond D20.4: Detention Pond 20.4 Peak Elev=105.05' Storage=37,146 cf Inflow=9.10 cfs 1.673 af
Outflow=0.97 cfs 1.265 af

Pond D3: Detention Basin 3 Peak Elev=103.96' Storage=0.841 af Inflow=6.92 cfs 1.267 af
Outflow=0.51 cfs 0.691 af

Pond D5: Detention Basin 5 Peak Elev=103.96' Storage=3.337 af Inflow=33.21 cfs 5.861 af
Outflow=3.41 cfs 3.710 af

Pond D7: Detention Basin 7 Peak Elev=107.14' Storage=8.839 af Inflow=91.78 cfs 17.842 af
Outflow=12.50 cfs 13.348 af

Total Runoff Area = 1,984.517 ac Runoff Volume = 351.471 af Average Runoff Depth = 2.13"
99.83% Pervious = 1,981.063 ac 0.17% Impervious = 3.454 ac

Summary for Subcatchment 1.1: Diverted Area 1

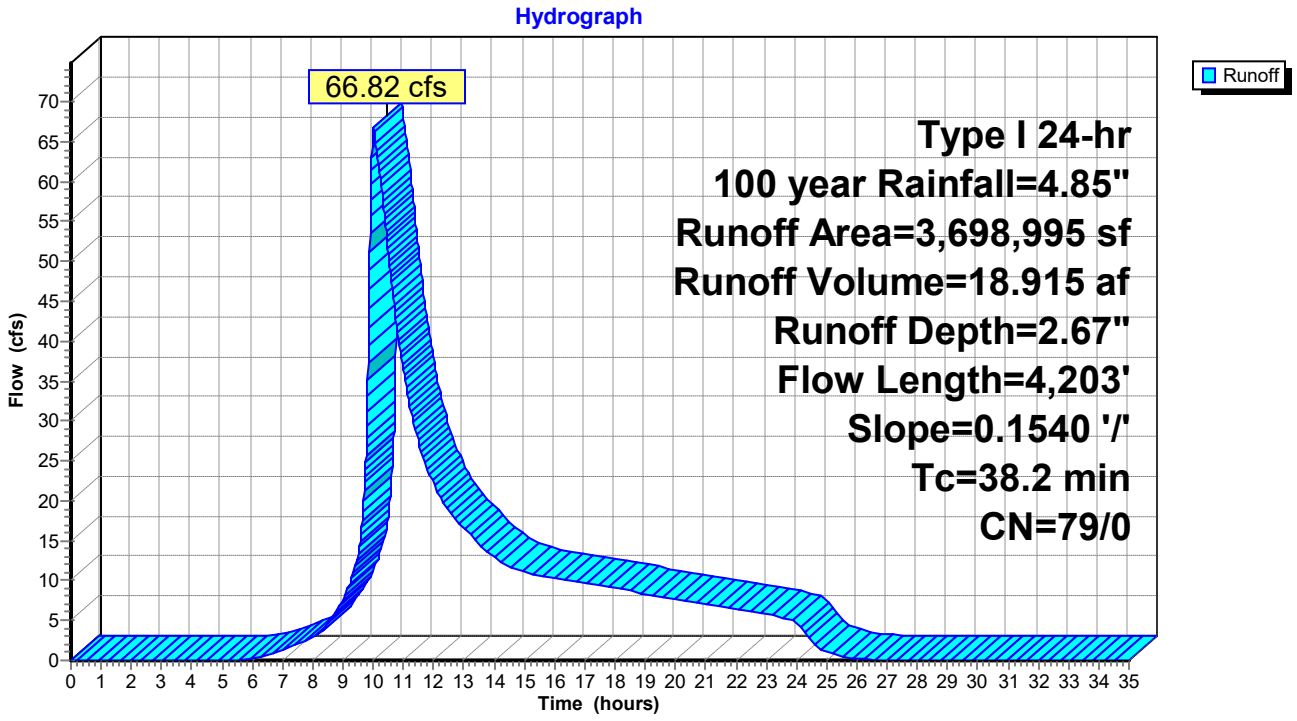
Runoff = 66.82 cfs @ 10.00 hrs, Volume= 18.915 af, Depth= 2.67"
Routed to Reach 1R : Collection Point 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	3,674,469	79	Brush and open space, see attachment 3.
*	24,523	83	Paved; Open ditches (including right-of-way), HSG A
*	3	92	Paved; Open ditches (including right-of-way), HSG C
	3,698,995	79	Weighted Average
	3,698,995	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1540	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.3	3,003	0.1540	3.28		**Kirpich Method,** General overland flow k= 2.00
38.2	4,203	Total			

Subcatchment 1.1: Diverted Area 1



Summary for Subcatchment 1.2: Developed Area 1

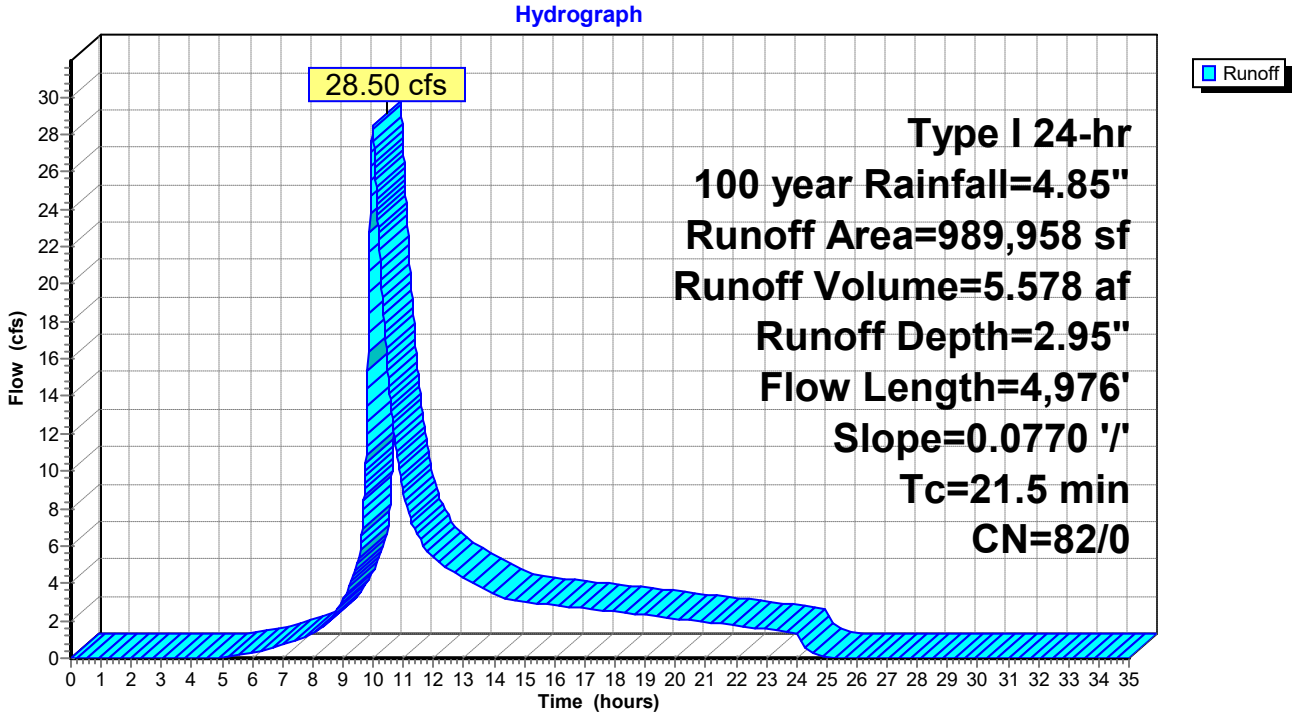
Runoff = 28.50 cfs @ 9.98 hrs, Volume= 5.578 af, Depth= 2.95"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	717,413	80	Composite CN, see attachment 3.
*	109,177	83	Paved; Open ditches (including right-of-way), HSG A
*	77,573	92	Paved; Open ditches (including right-of-way), HSG C
*	85,795	93	Paved; Open ditches (including right-of-way), HSG D
	989,958	82	Weighted Average
	989,958	82	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.7	1,200	0.0770	3.00		**Kerby Method,** Smooth impervious N= 0.02
4.8	3,776	0.0770	13.23		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
21.5	4,976	Total			

Subcatchment 1.2: Developed Area 1



Summary for Subcatchment 2.1: Diverted Area 2

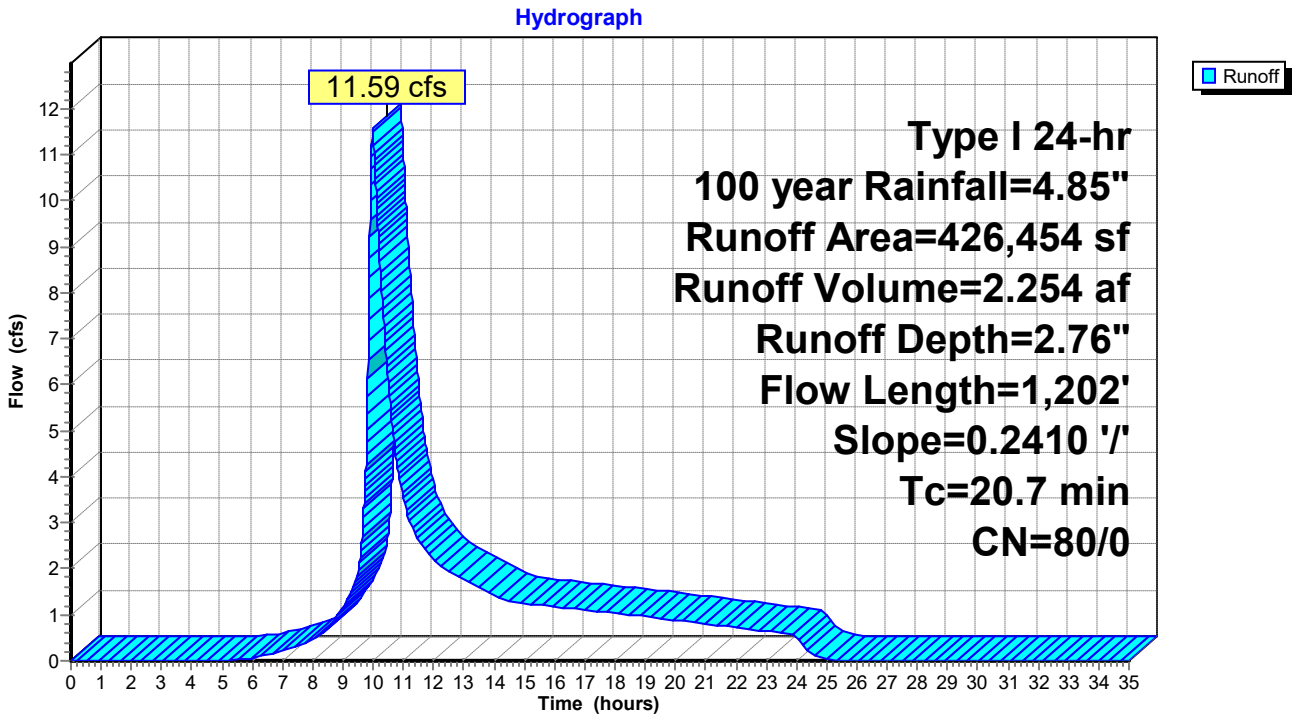
Runoff = 11.59 cfs @ 9.98 hrs, Volume= 2.254 af, Depth= 2.76"
Routed to Reach 2R : Collection Point 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	420,602	80	Brush, see Attachment 3.
*	4,339	83	Paved; Open ditches (including right-of-way), HSG A
*	1,513	93	Paved; Open ditches (including right-of-way), HSG D
	426,454	80	Weighted Average
	426,454	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	1,202	0.2410	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2.1: Diverted Area 2



Summary for Subcatchment 3.1: Diverted Area 3

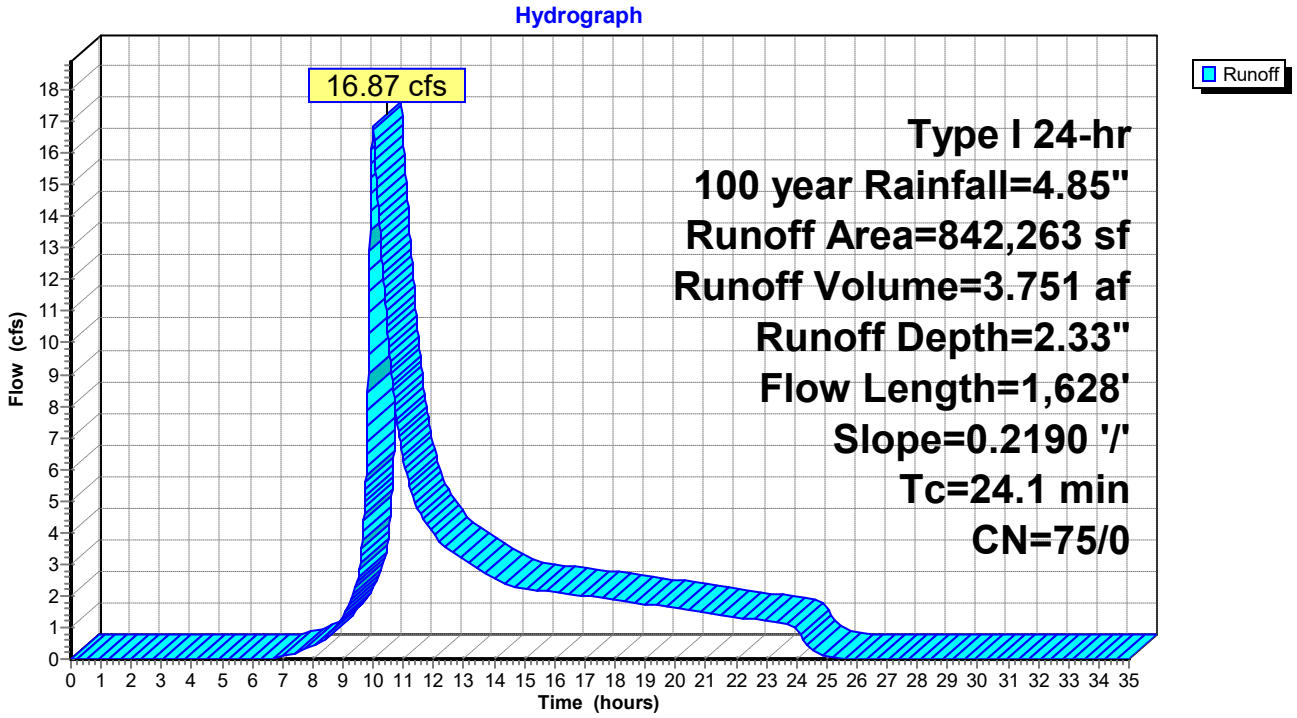
Runoff = 16.87 cfs @ 9.99 hrs, Volume= 3.751 af, Depth= 2.33"
Routed to Reach 3R : Collection Point 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	842,263	75	Brush and open space, See Attachment 3
	842,263	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	1,200	0.2190	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.0	428	0.2190	2.40		**Kirpich Method,** General overland flow k= 2.00
24.1	1,628	Total			

Subcatchment 3.1: Diverted Area 3



Summary for Subcatchment 3.2: Developed Area 3

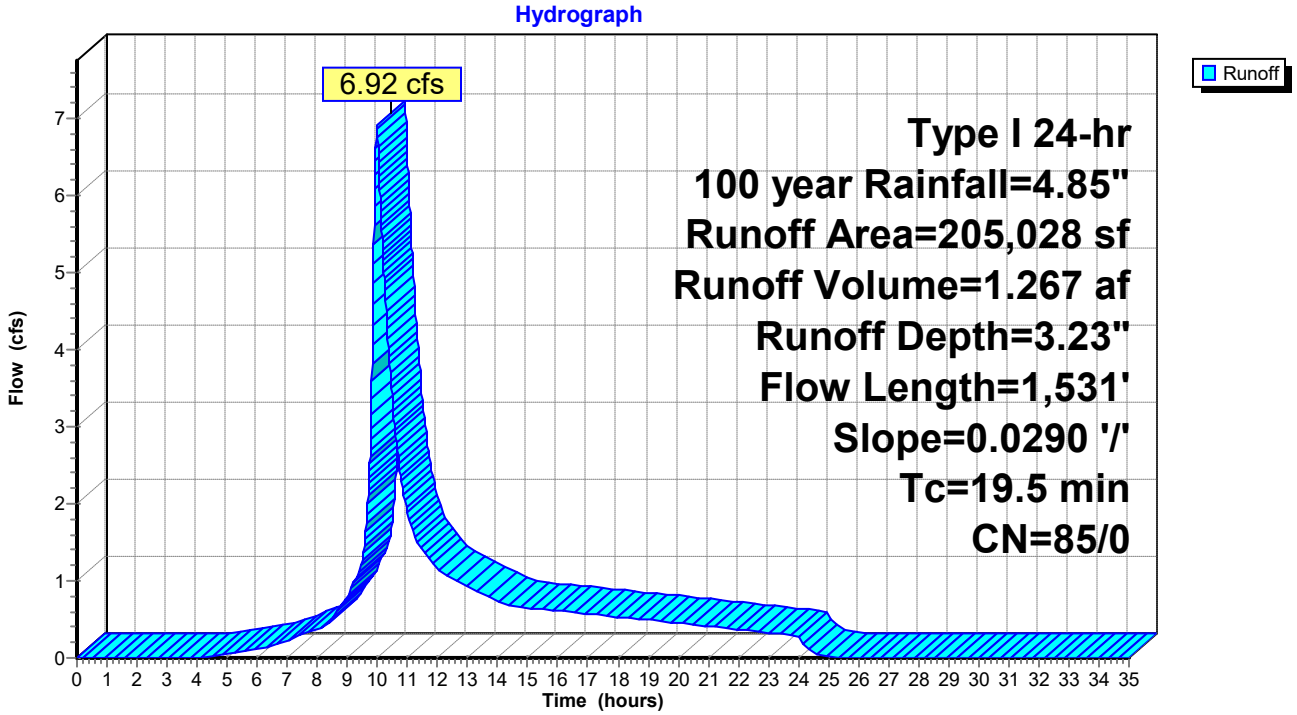
Runoff = 6.92 cfs @ 9.98 hrs, Volume= 1.267 af, Depth= 3.23"
Routed to Pond D3 : Detention Basin 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	125,827	87	Composite CN, see Attachment 3
*	78,995	83	Paved; Open ditches (including right-of-way), HSG A
*	206	93	Paved; Open ditches (including right-of-way), HSG D
	205,028	85	Weighted Average
	205,028	85	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.4	1,200	0.0290	2.39		**Kerby Method,** Smooth impervious N= 0.02
1.1	331	0.0290	5.19		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
19.5	1,531	Total			

Subcatchment 3.2: Developed Area 3



Summary for Subcatchment 4.1: Diverted Area 4

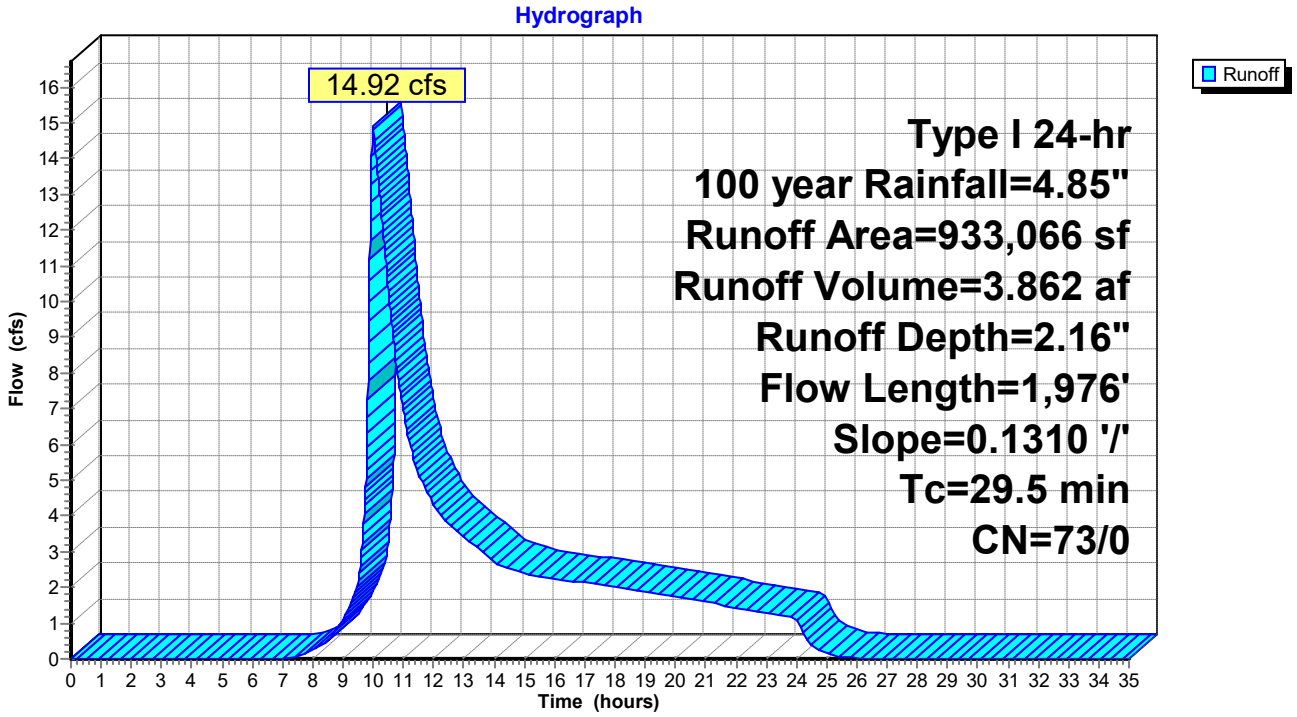
Runoff = 14.92 cfs @ 10.00 hrs, Volume= 3.862 af, Depth= 2.16"
Routed to Reach 4R : Collection Point 4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	38,033	83	Paved; Open ditches (including right-of-way), HSG A
*	895,033	73	Brush and open space, see Attachment 3.
	933,066	73	Weighted Average
	933,066	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.8	1,200	0.1310	0.84		**Kerby Method,** Pasture, average grass N= 0.40
5.7	776	0.1310	2.26		**Kirpich Method,** General overland flow k= 2.00
29.5	1,976	Total			

Subcatchment 4.1: Diverted Area 4



Summary for Subcatchment 5.1: Diverted Area 5

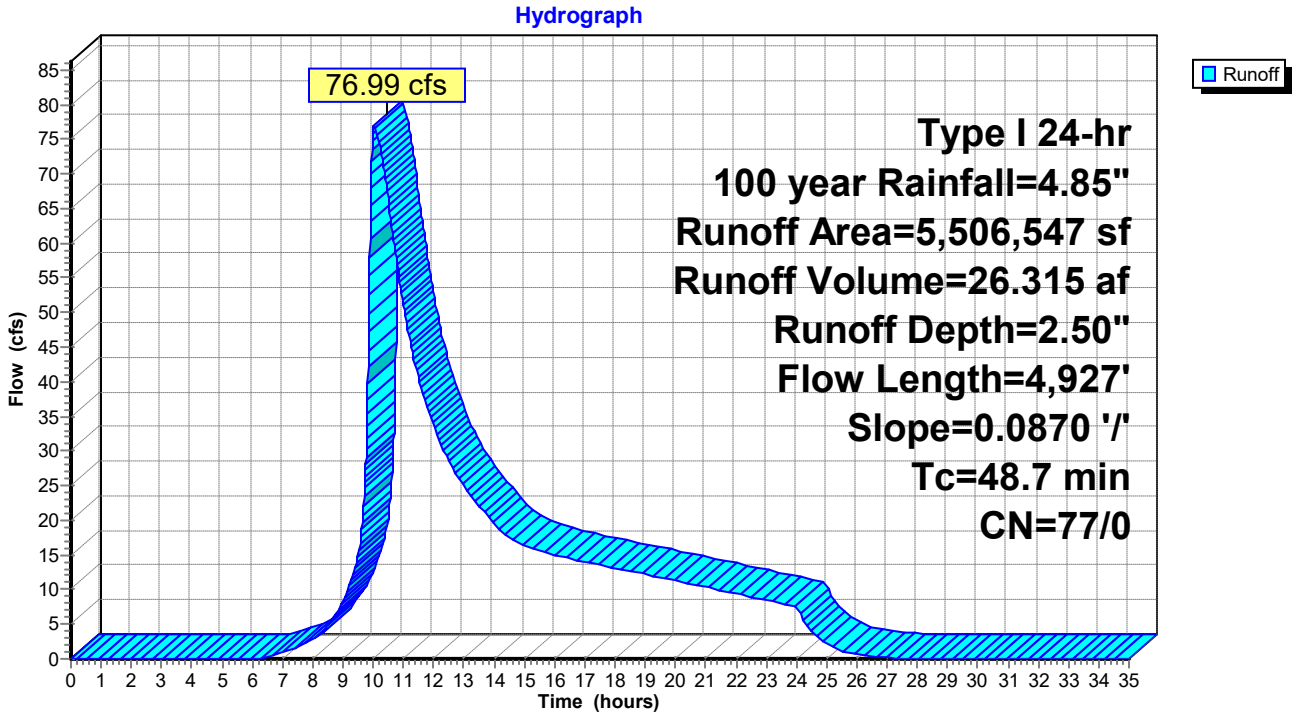
Runoff = 76.99 cfs @ 10.01 hrs, Volume= 26.315 af, Depth= 2.50"
Routed to Reach 5R : Collection Point 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	5,484,277	77	Brush and opne space, see Attachment 3
*	22,270	83	Paved; Open ditches (including right-of-way), HSG A
	5,506,547	77	Weighted Average
	5,506,547	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.2	1,200	0.0870	0.76		**Kerby Method,** Pasture, average grass N= 0.40
22.5	3,727	0.0870	2.77		**Kirpich Method,** General overland flow k= 2.00
48.7	4,927	Total			

Subcatchment 5.1: Diverted Area 5



Summary for Subcatchment 5.2: Developed Area 5

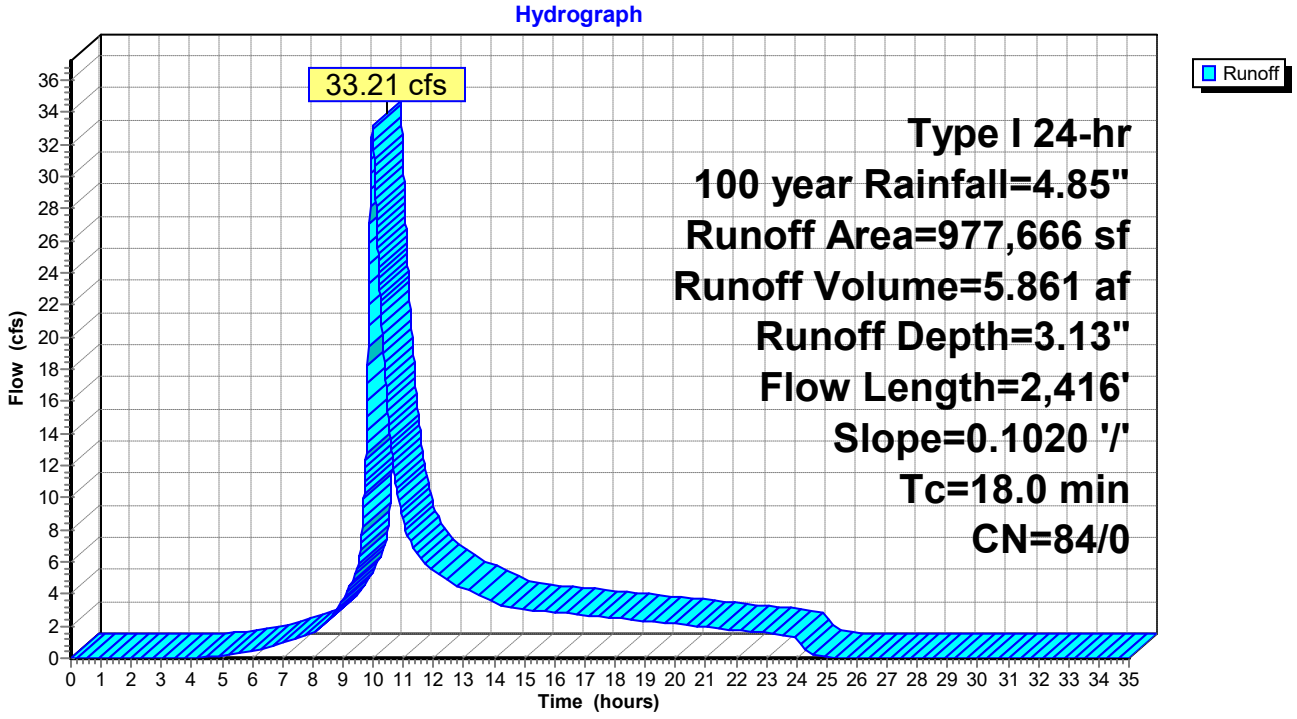
Runoff = 33.21 cfs @ 9.98 hrs, Volume= 5.861 af, Depth= 3.13"
Routed to Pond D5 : Detention Basin 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	751,855	82	Composite CN, see Attachment 3.
*	77,623	83	Paved; Open ditches (including right-of-way), HSG A
*	102,033	92	Paved; Open ditches (including right-of-way), HSG C
*	46,155	93	Paved; Open ditches (including right-of-way), HSG D
	977,666	84	Weighted Average
	977,666	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.2	1,200	0.1020	3.21		**Kerby Method,** Smooth impervious N= 0.02
1.8	1,216	0.1020	11.36		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.0	2,416	Total			

Subcatchment 5.2: Developed Area 5



Summary for Subcatchment 6.1: Diverted Area 6

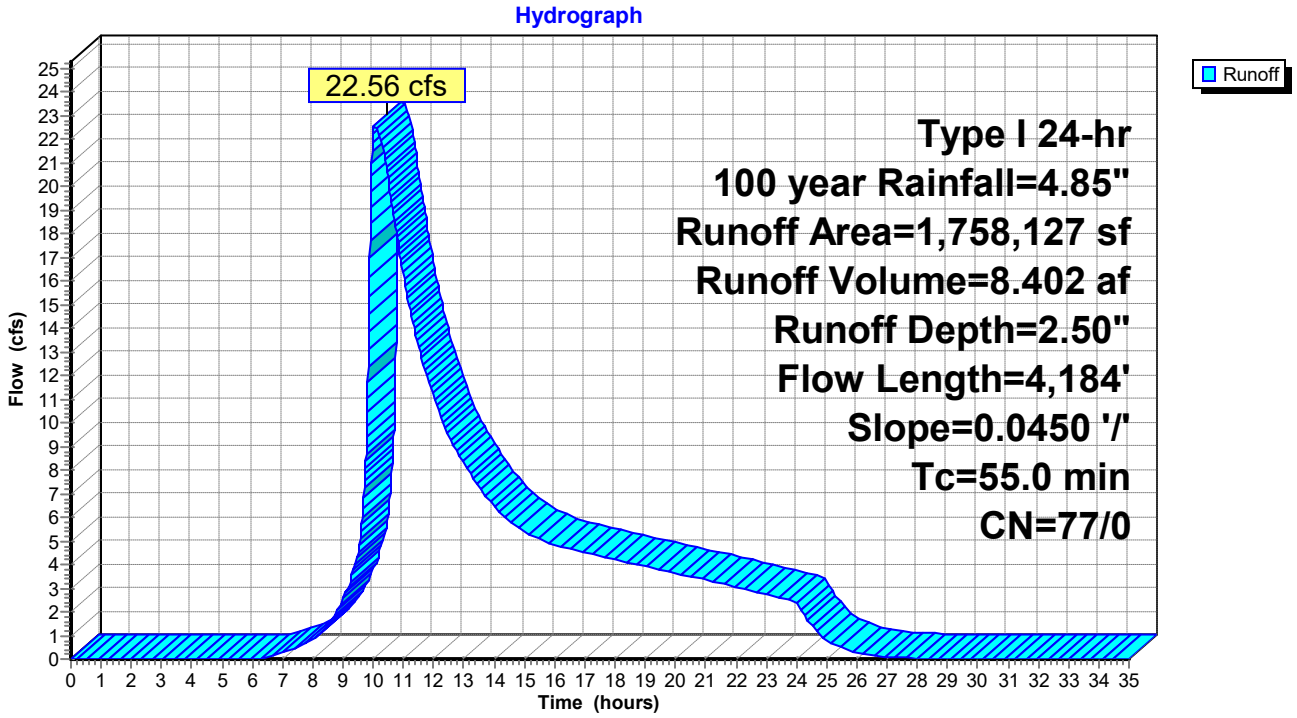
Runoff = 22.56 cfs @ 10.01 hrs, Volume= 8.402 af, Depth= 2.50"
Routed to Reach 6R : Collection Point 6

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,758,127	77	Brush and open space, see Attachment 3.
	1,758,127	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.6	1,200	0.0450	0.65		**Kerby Method,** Pasture, average grass N= 0.40
24.4	2,984	0.0450	2.04		**Kirpich Method,** General overland flow k= 2.00
55.0	4,184	Total			

Subcatchment 6.1: Diverted Area 6



Summary for Subcatchment 7.1: Diverted Area 7

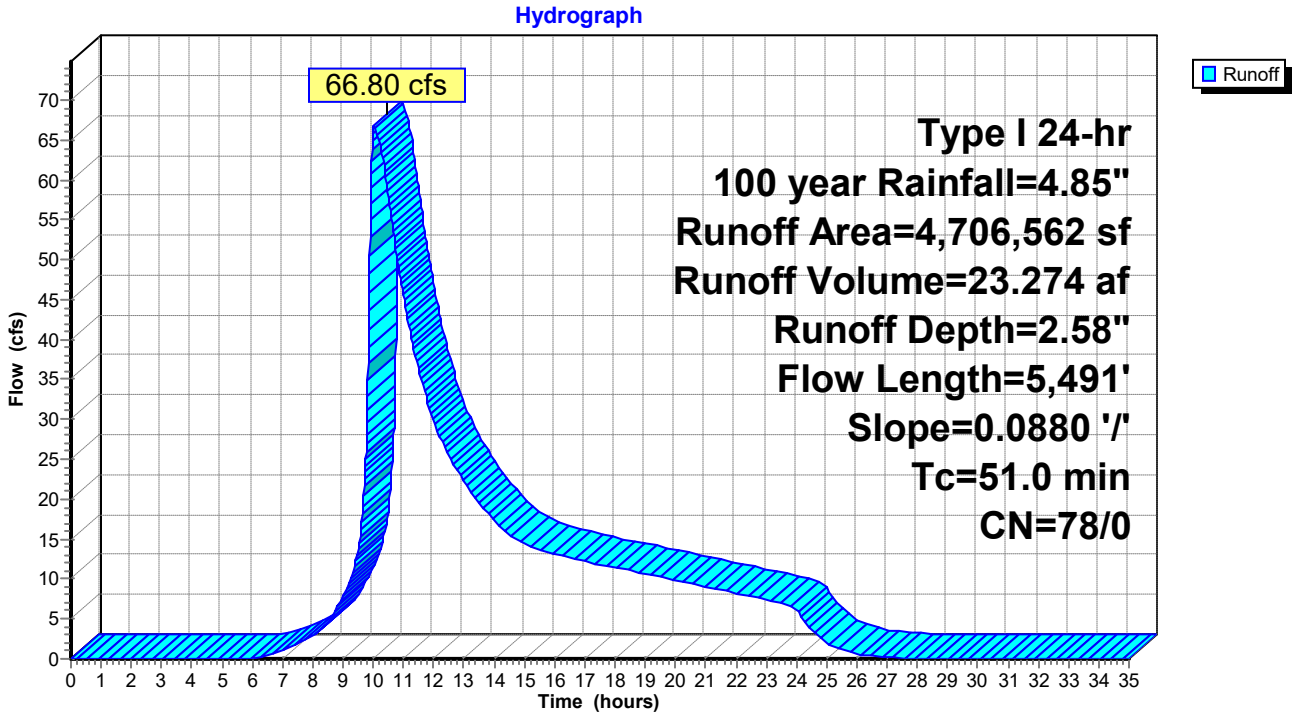
Runoff = 66.80 cfs @ 10.01 hrs, Volume= 23.274 af, Depth= 2.58"
Routed to Reach 7R : Collection Point 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	4,703,800	78	Brush and open space, see Attachment 3.
*	2,762	92	Paved; Open ditches (including right-of-way), HSG C
	4,706,562	78	Weighted Average
	4,706,562	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	1,200	0.0880	0.76		**Kerby Method,** Pasture, average grass N= 0.40
24.9	4,291	0.0880	2.87		**Kirpich Method,** General overland flow k= 2.00
51.0	5,491	Total			

Subcatchment 7.1: Diverted Area 7



Summary for Subcatchment 7.2: Developed Area 6

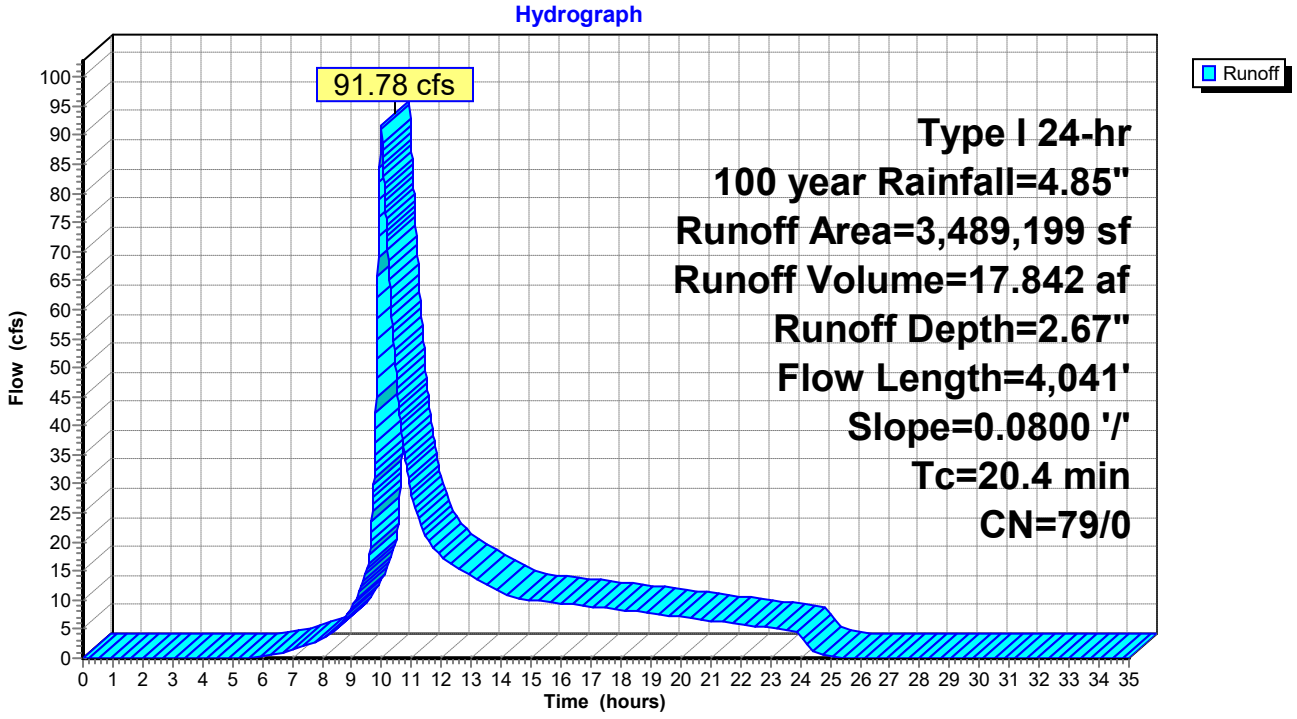
Runoff = 91.78 cfs @ 9.98 hrs, Volume= 17.842 af, Depth= 2.67"
Routed to Pond D7 : Detention Basin 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	2,757,608	77	Composite CN, see Attchment 3.
*	393,878	83	Paved; Open ditches (including right-of-way), HSG A
*	267,712	92	Paved; Open ditches (including right-of-way), HSG C
*	70,001	93	Paved; Open ditches (including right-of-way), HSG D
	3,489,199	79	Weighted Average
	3,489,199	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.6	1,200	0.0800	3.03		**Kerby Method,** Smooth impervious N= 0.02
3.8	2,841	0.0800	12.58		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
20.4	4,041	Total			

Subcatchment 7.2: Developed Area 6



Summary for Subcatchment 8.1: Diverted Area 8

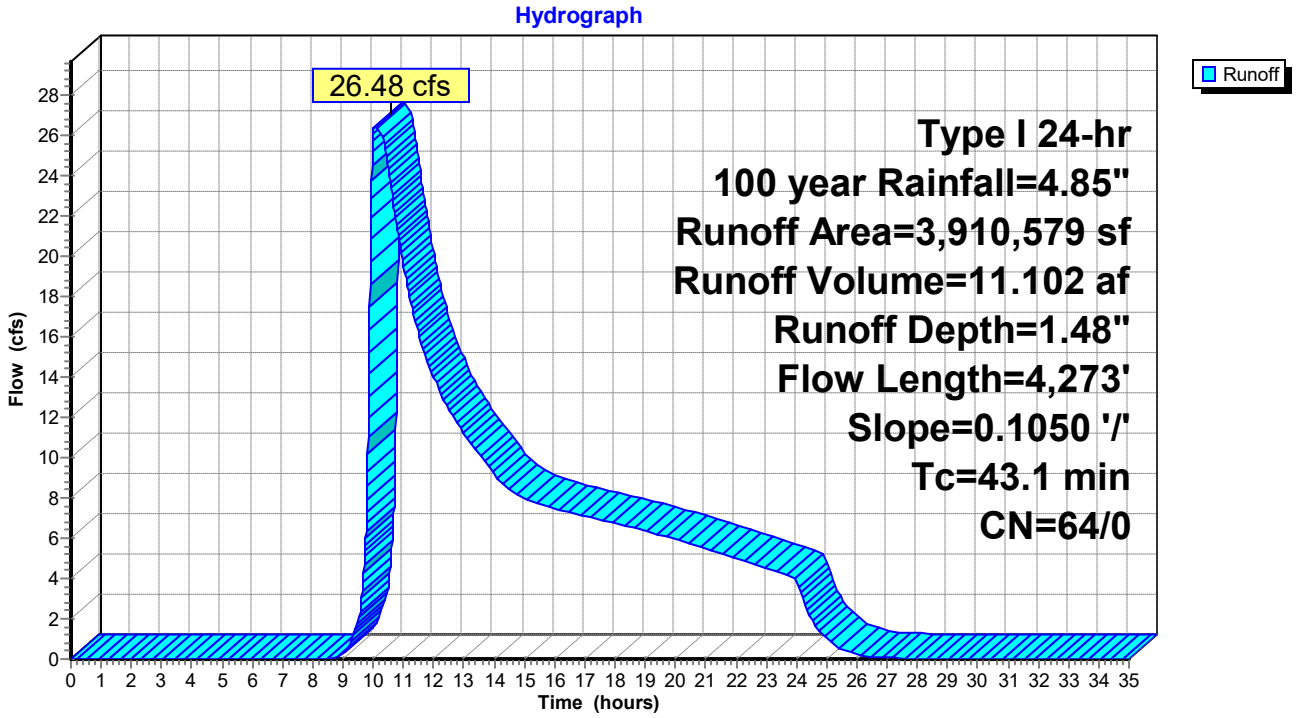
Runoff = 26.48 cfs @ 10.10 hrs, Volume= 11.102 af, Depth= 1.48"
Routed to Reach 8R : Collection Point 8

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	3,910,579	64	Brush and open space, see Attachment 3.
	3,910,579	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	1,200	0.1050	0.80		**Kerby Method,** Pasture, average grass N= 0.40
18.0	3,073	0.1050	2.84		**Kirpich Method,** General overland flow k= 2.00
43.1	4,273	Total			

Subcatchment 8.1: Diverted Area 8



Summary for Subcatchment 9.1: Diverted Area 9

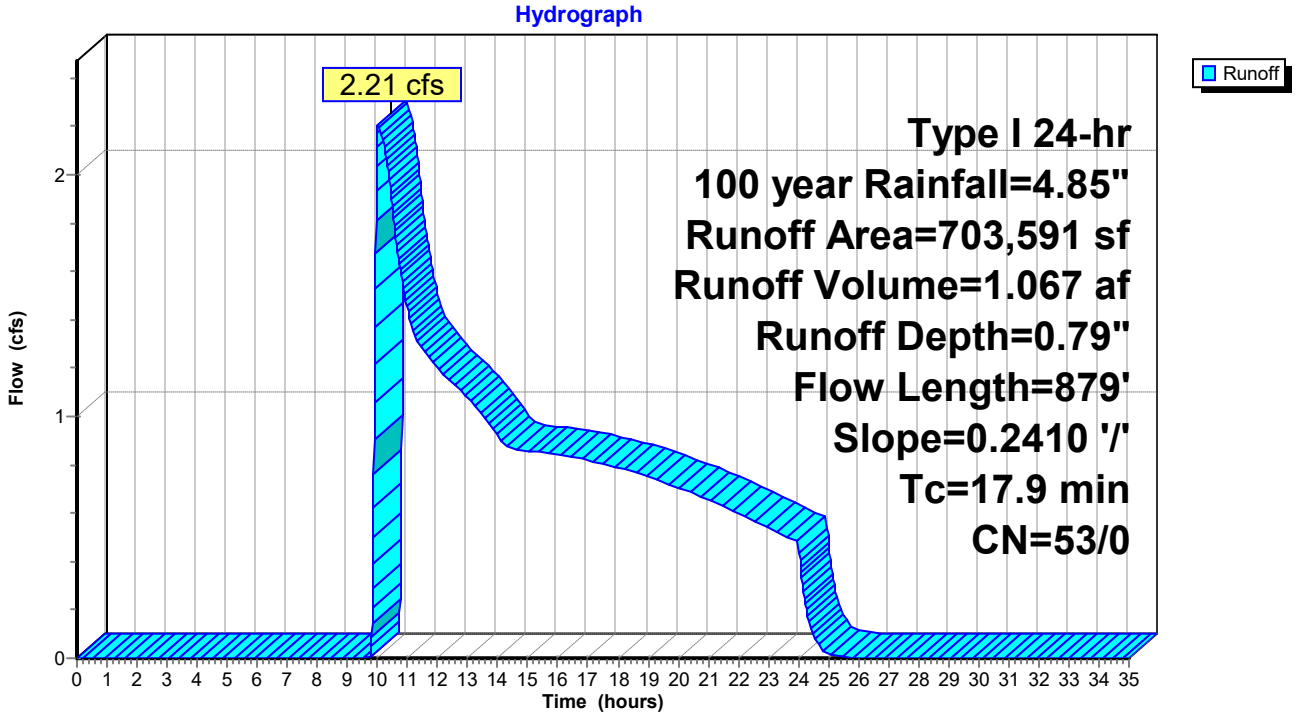
Runoff = 2.21 cfs @ 10.01 hrs, Volume= 1.067 af, Depth= 0.79"
Routed to Reach 9R : Collection Point 9

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	703,591	53	Brush and open space, see Attachment 3.
	703,591	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9.1: Diverted Area 9



Summary for Subcatchment 10.1: Diverted Area 10.2

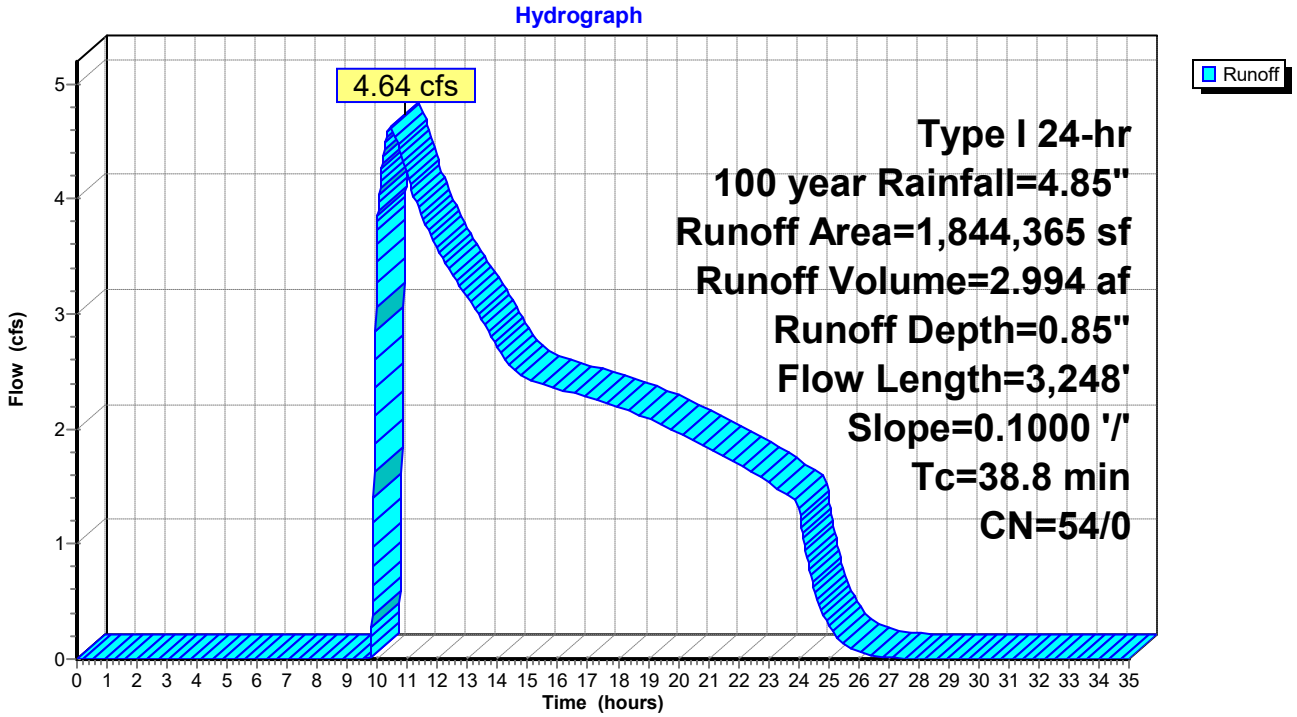
Runoff = 4.64 cfs @ 10.43 hrs, Volume= 2.994 af, Depth= 0.85"
Routed to Reach 10R : Collection Point 10

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,844,365	54	Brush and open space, see Attachment 3.
	1,844,365	54	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.1000	0.79		**Kerby Method,** Pasture, average grass N= 0.40
13.4	2,048	0.1000	2.54		**Kirpich Method,** General overland flow k= 2.00
38.8	3,248	Total			

Subcatchment 10.1: Diverted Area 10.2



Summary for Subcatchment 11.1: Diverted Area 11

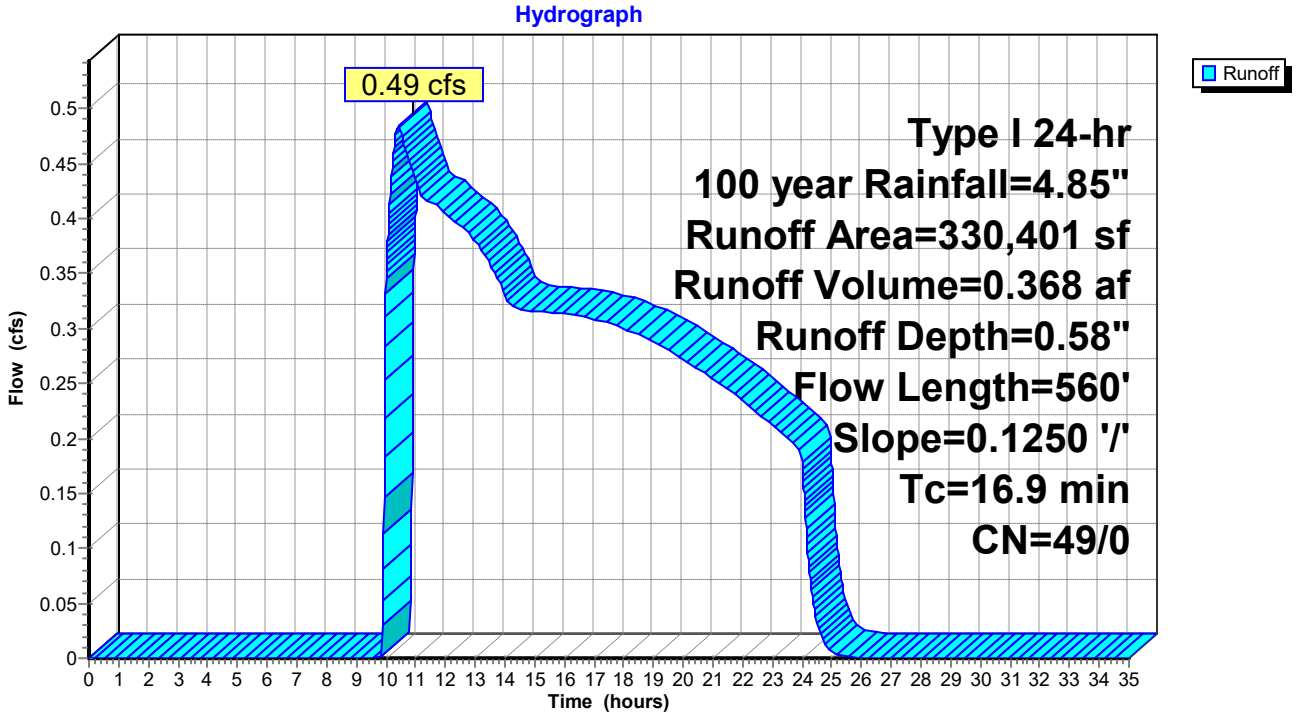
Runoff = 0.49 cfs @ 10.42 hrs, Volume= 0.368 af, Depth= 0.58"
Routed to Reach 11R : Collection Point 11

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	330,401	49	Brush and open space, see Attachment 3.
	330,401	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	560	0.1250	0.55		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 11.1: Diverted Area 11



Summary for Subcatchment 12.1: Diverted Area 12

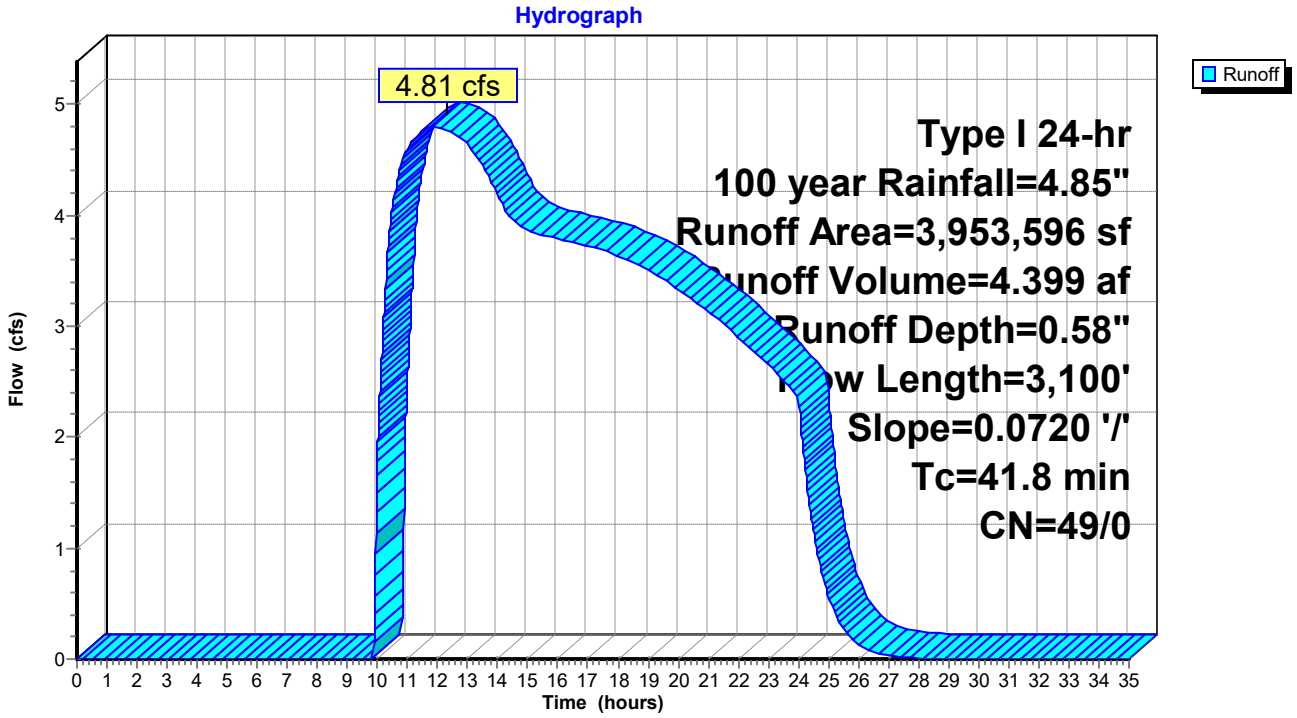
Runoff = 4.81 cfs @ 11.86 hrs, Volume= 4.399 af, Depth= 0.58"
Routed to Reach 12R : Collection Point 12

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	3,953,596	49	Brush and open space, see Attachment 3.
	3,953,596	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.4	1,900	0.0720	2.20		**Kirpich Method,** General overland flow k= 2.00
41.8	3,100	Total			

Subcatchment 12.1: Diverted Area 12



Summary for Subcatchment 12.2: Developed Area 12.1

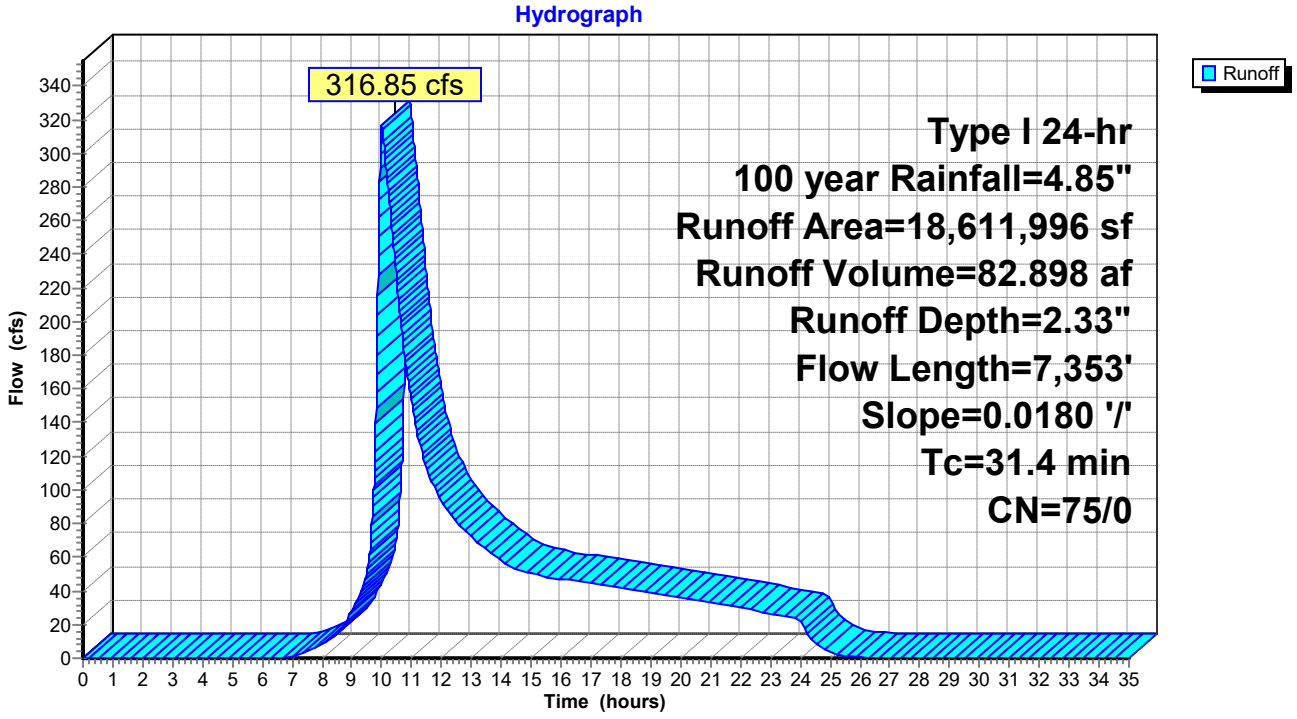
Runoff = 316.85 cfs @ 10.00 hrs, Volume= 82.898 af, Depth= 2.33"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	16,306,782	74	Composite CN, see Attachment 3
*	1,897,057	83	Paved; Open ditches (including right-of-way), HSG A
*	146,424	92	Paved; Open ditches (including right-of-way), HSG C
*	261,733	93	Paved; Open ditches (including right-of-way), HSG D
	18,611,996	75	Weighted Average
	18,611,996	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
9.3	1,200	0.0180	2.14		**Kerby Method,** Smooth impervious N= 0.02
12.1	6,153	0.0180	8.46		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
31.4	7,353	Total			

Subcatchment 12.2: Developed Area 12.1



Summary for Subcatchment 12.3: Diverted Area 12.3

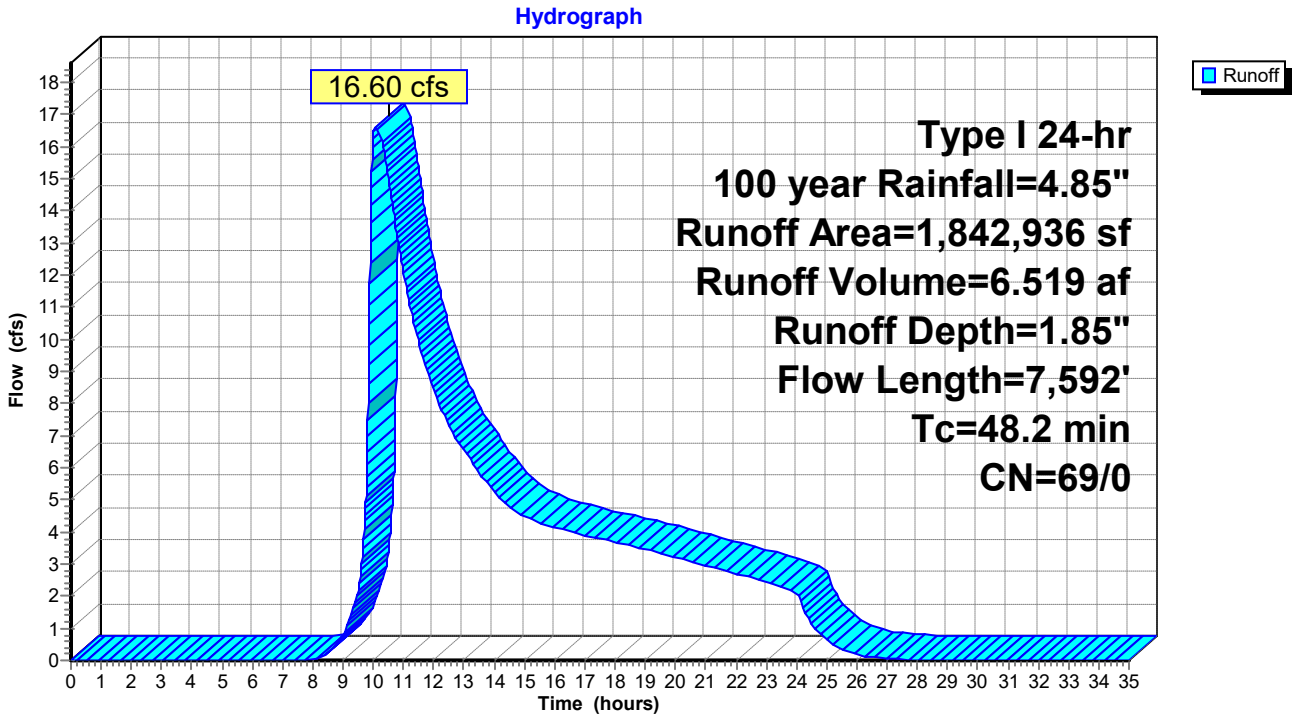
Runoff = 16.60 cfs @ 10.05 hrs, Volume= 6.519 af, Depth= 1.85"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,842,936	69	Brush and open space, see Attachment 3.
	1,842,936	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.5	1,915	0.0720	2.21		**Kirpich Method,** General overland flow k= 2.00
6.3	4,477	0.0270	11.83	37.17	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
48.2	7,592	Total			

Subcatchment 12.3: Diverted Area 12.3



Summary for Subcatchment 12.4: Diverted Area 12.4

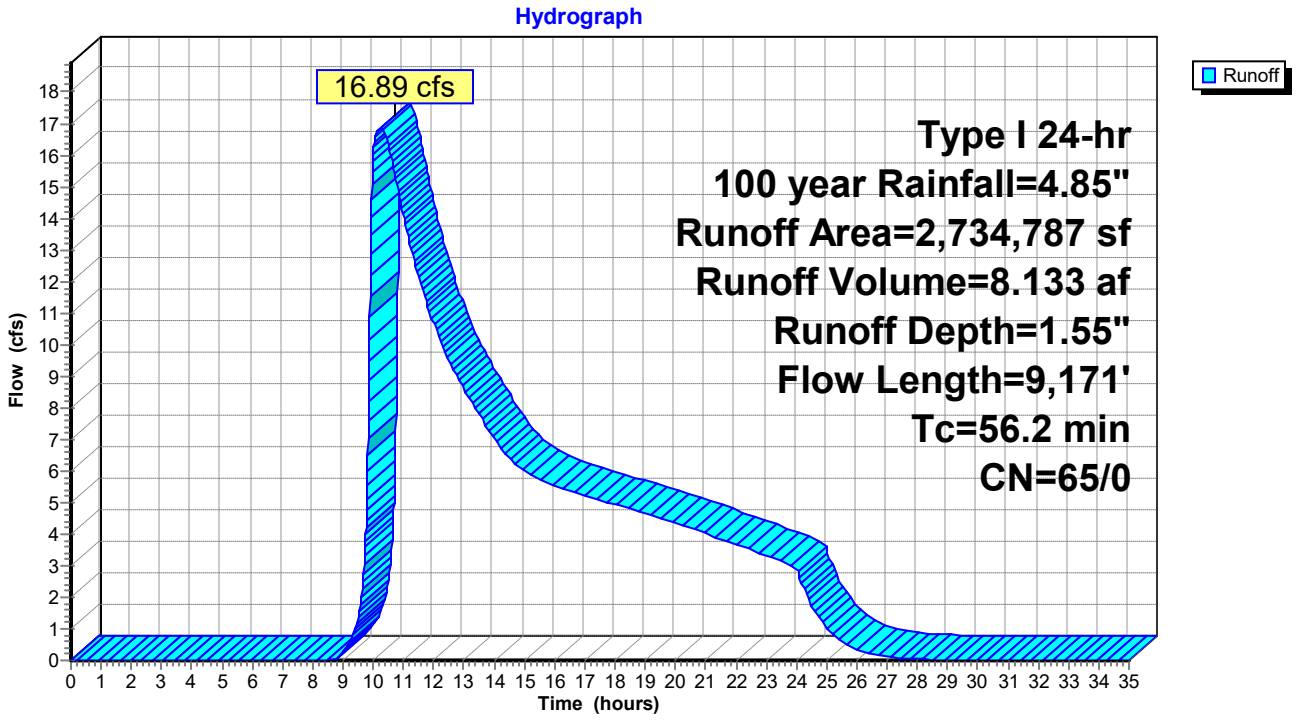
Runoff = 16.89 cfs @ 10.26 hrs, Volume= 8.133 af, Depth= 1.55"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	2,734,787	65	Brush and open space, See Attachment 3
	2,734,787	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
18.1	2,421	0.0640	2.23		**Kirpich Method,** General overland flow k= 2.00
9.9	5,550	0.0200	9.32	22.41	**Pipe Channel,** 21.0" Round Area= 2.4 sf Perim= 5.5' r= 0.44' n= 0.013
56.2	9,171	Total			

Subcatchment 12.4: Diverted Area 12.4



Summary for Subcatchment 13.1: Diverted Area 13

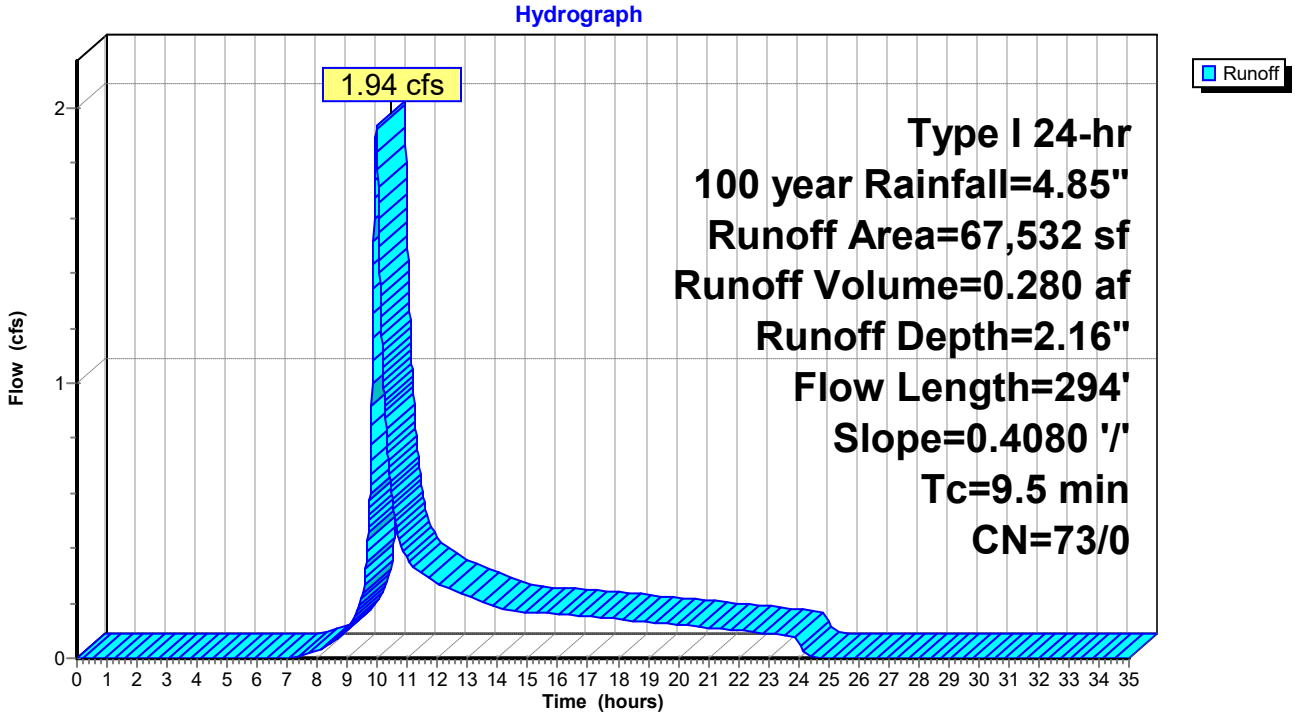
Runoff = 1.94 cfs @ 9.97 hrs, Volume= 0.280 af, Depth= 2.16"
Routed to Reach 13R : Collection Point 13

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	67,532	73	Brush and open space, see Attachment 3.
	67,532	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13.1: Diverted Area 13



Summary for Subcatchment 14.1: Diverted Area 14

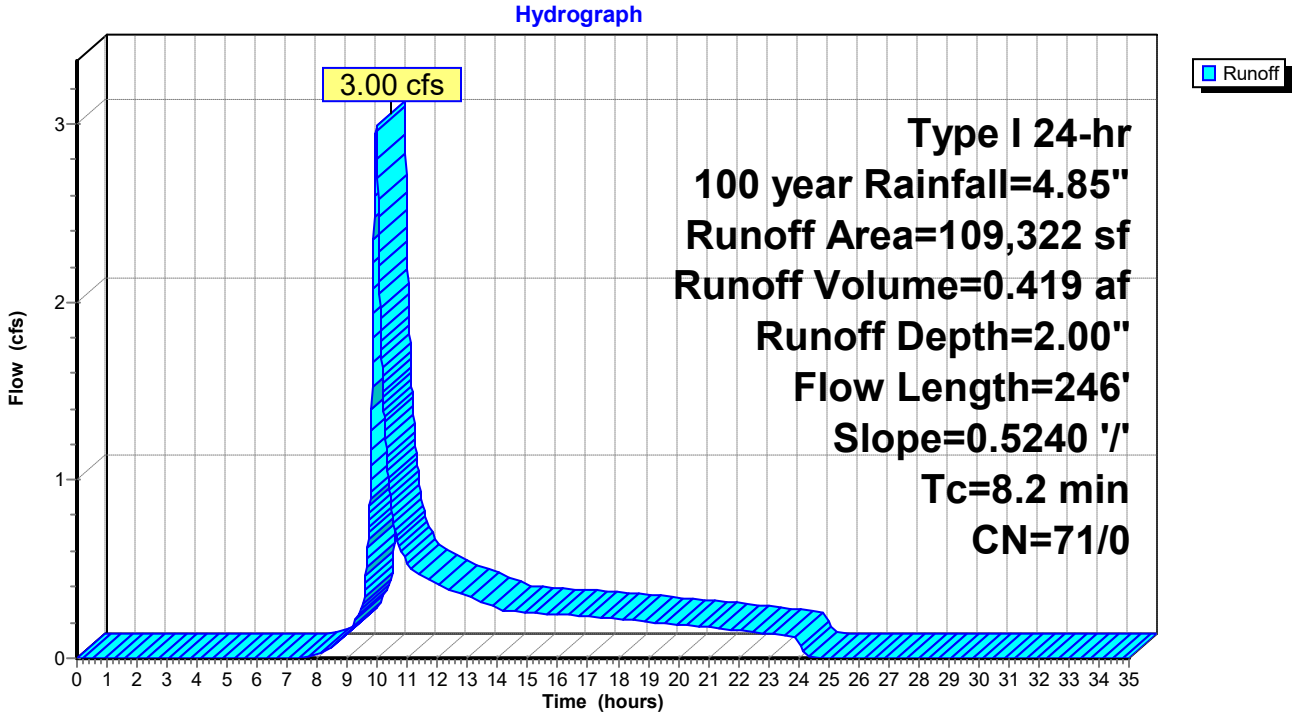
Runoff = 3.00 cfs @ 9.96 hrs, Volume= 0.419 af, Depth= 2.00"
Routed to Reach 14R : Collection Point 14

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	109,322	71	Brush and open space, see Attachment 3.
	109,322	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14.1: Diverted Area 14



Summary for Subcatchment 15.1: Diverted Area 15

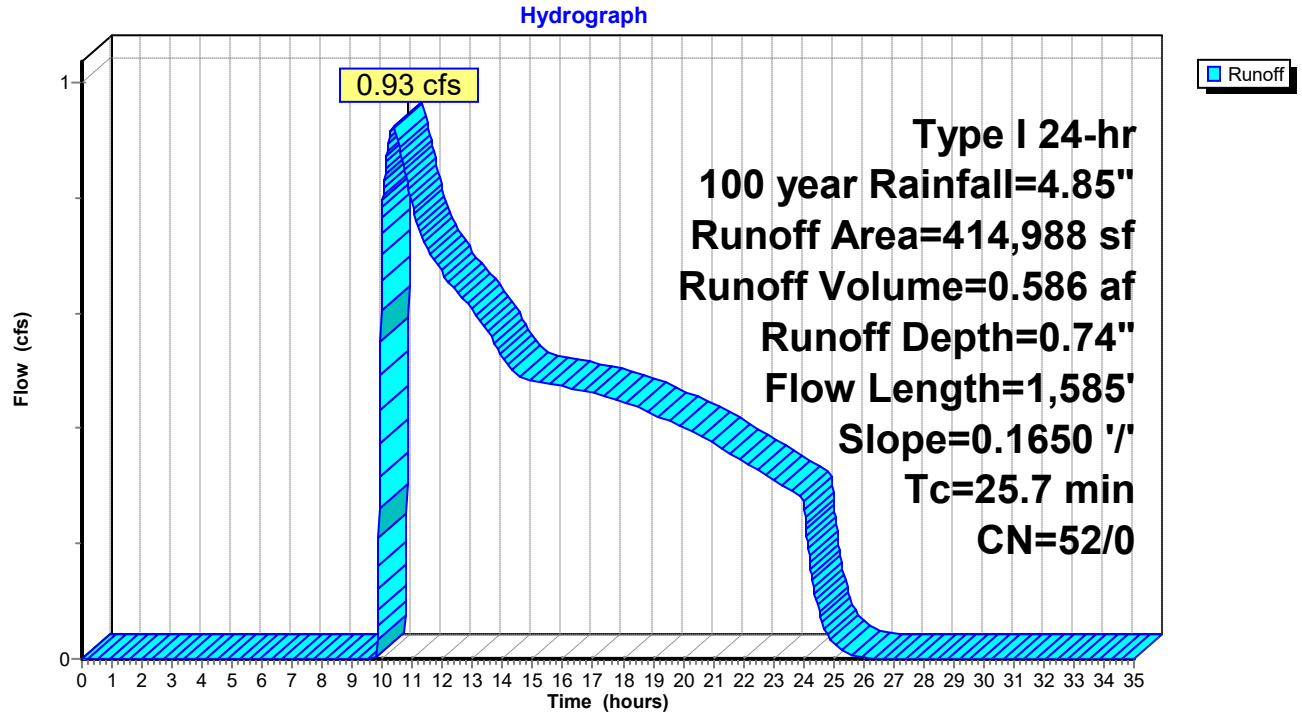
Runoff = 0.93 cfs @ 10.37 hrs, Volume= 0.586 af, Depth= 0.74"
Routed to Reach 15R : Collection Point 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	410,790	52	Composite CN, see Attachment 3.
*	4,198	83	Paved; Open ditches (including right-of-way), HSG A
	414,988	52	Weighted Average
	414,988	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	1,200	0.1650	0.89		**Kerby Method,** Pasture, average grass N= 0.40
3.1	385	0.1650	2.10		**Kirpich Method,** General overland flow k= 2.00
25.7	1,585	Total			

Subcatchment 15.1: Diverted Area 15



Summary for Subcatchment 15.2: Developed Area 15

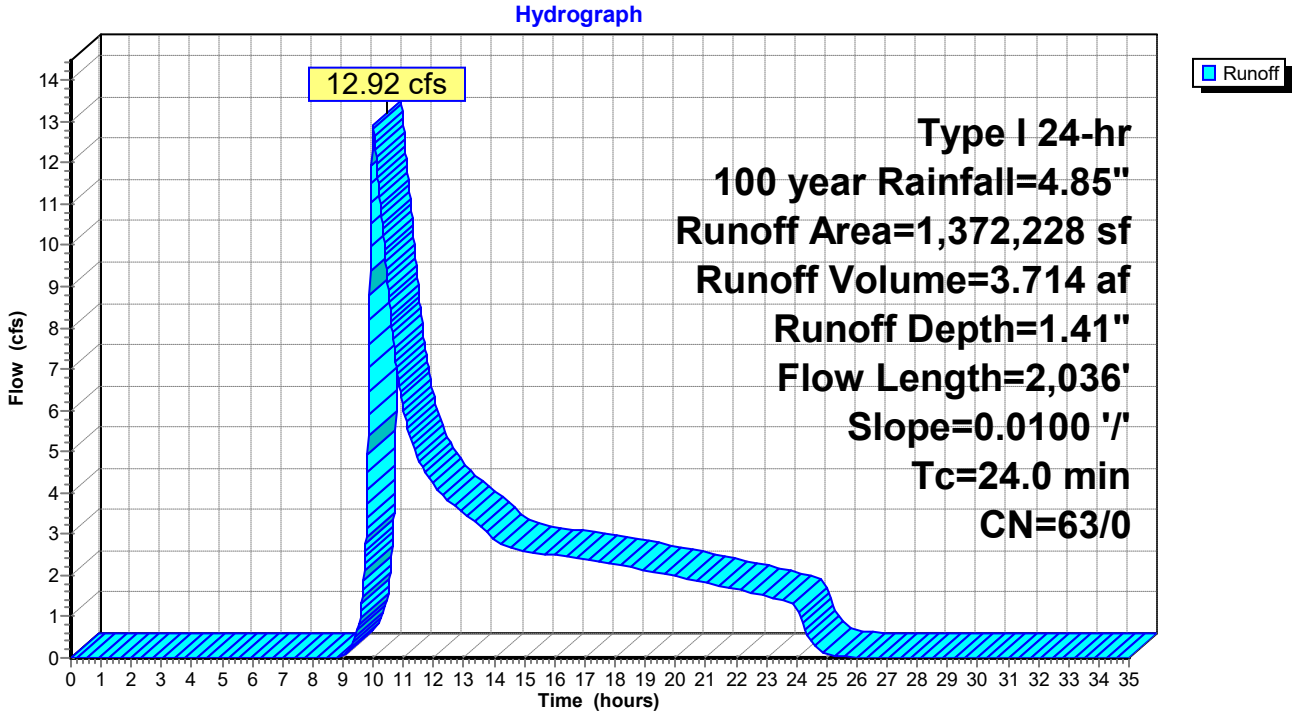
Runoff = 12.92 cfs @ 10.00 hrs, Volume= 3.714 af, Depth= 1.41"
Routed to Pond D15 : Detention Pond 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,102,421	58	Composite CN, see Attachment 3.
*	224,863	83	Paved; Open ditches (including right-of-way), HSG A
*	44,944	93	Paved; Open ditches (including right-of-way), HSG D
	1,372,228	63	Weighted Average
	1,372,228	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
10.7	1,200	0.0100	1.87		**Kerby Method,** Smooth impervious N= 0.02
3.3	836	0.0100	4.26		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
24.0	2,036	Total			

Subcatchment 15.2: Developed Area 15



Summary for Subcatchment 16.1: Diverted Area 16

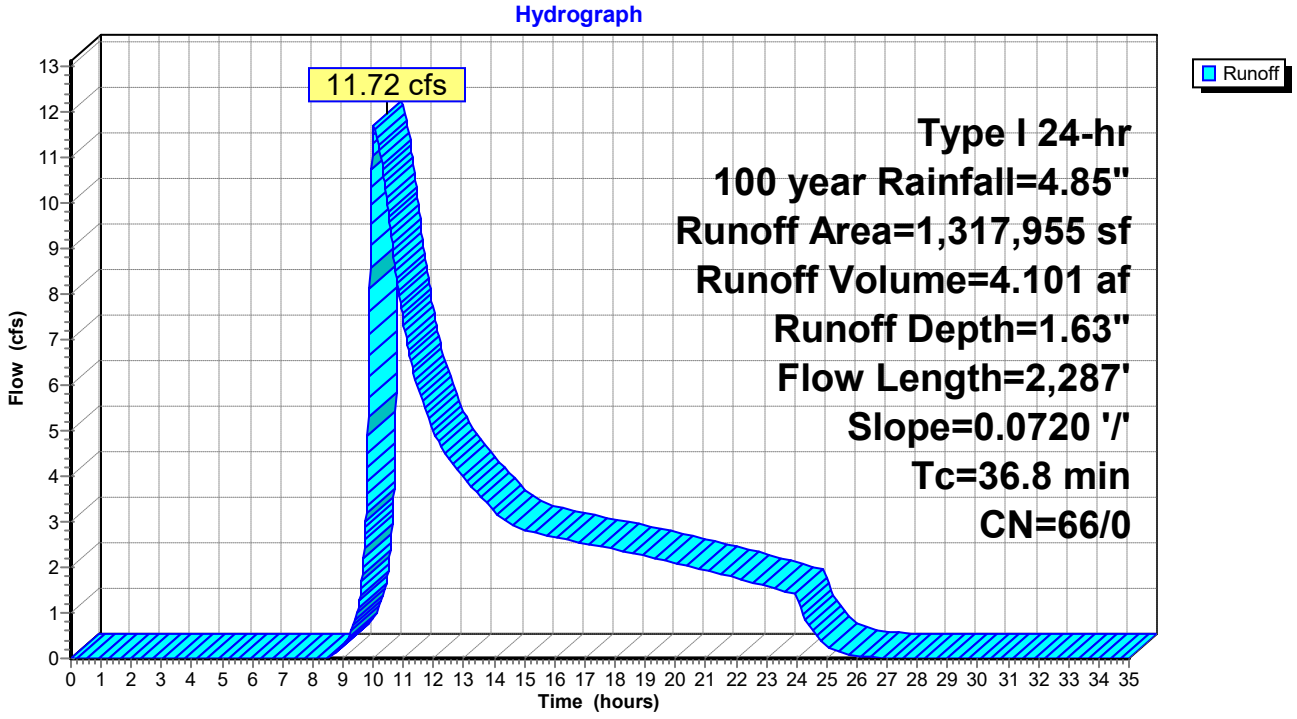
Runoff = 11.72 cfs @ 10.01 hrs, Volume= 4.101 af, Depth= 1.63"
Routed to Reach 16R : Collection Point 16

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,312,099	66	Brush and open space, see Attachment 3.
*	5,839	83	Paved; Open ditches (including right-of-way), HSG A
*	17	93	Paved; Open ditches (including right-of-way), HSG D
	1,317,955	66	Weighted Average
	1,317,955	66	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
9.4	1,087	0.0720	1.94		**Kirpich Method,** General overland flow k= 2.00
36.8	2,287	Total			

Subcatchment 16.1: Diverted Area 16



Summary for Subcatchment 16.2: Developed Area 16

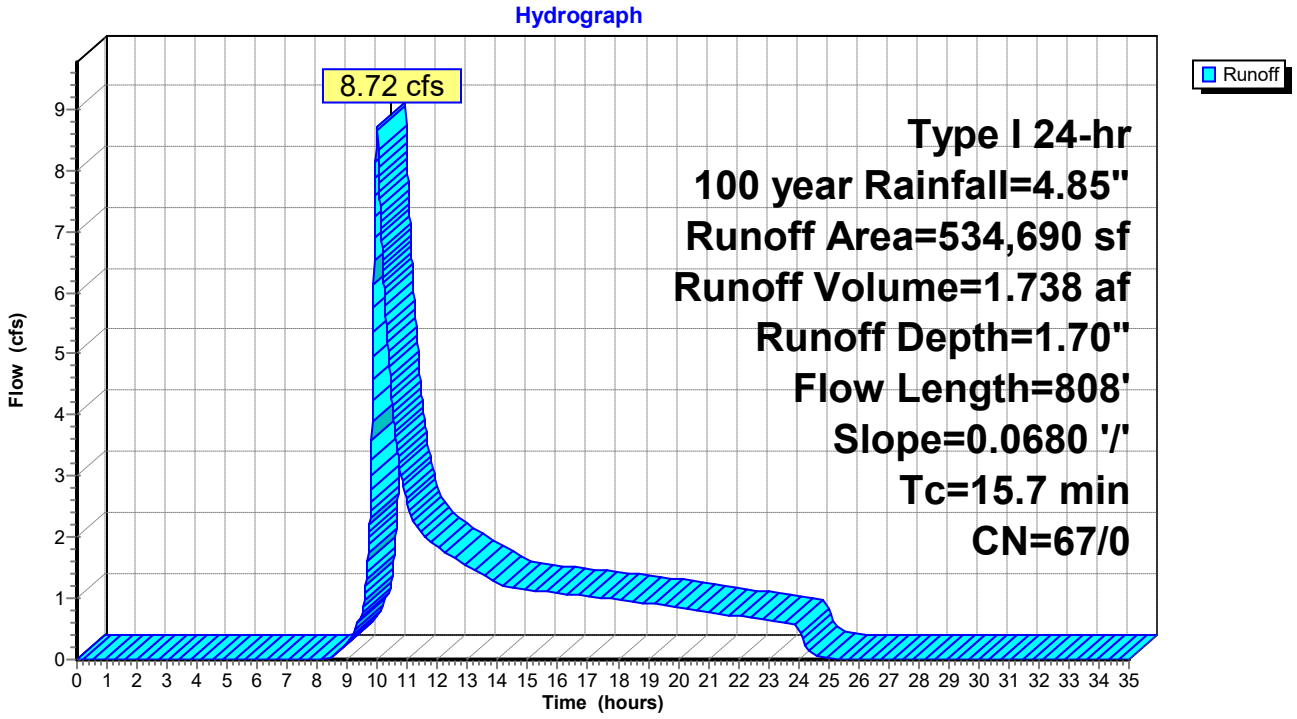
Runoff = 8.72 cfs @ 9.98 hrs, Volume= 1.738 af, Depth= 1.70"
Routed to Pond D16.2 : Detention Pond 16.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	534,690	67	Composite CN, see Attachment 3.
	534,690	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.7	808	0.0680	2.36		**Kerby Method,** Smooth impervious N= 0.02
15.7	808	Total			

Subcatchment 16.2: Developed Area 16



Summary for Subcatchment 16.3: Developed Area 16

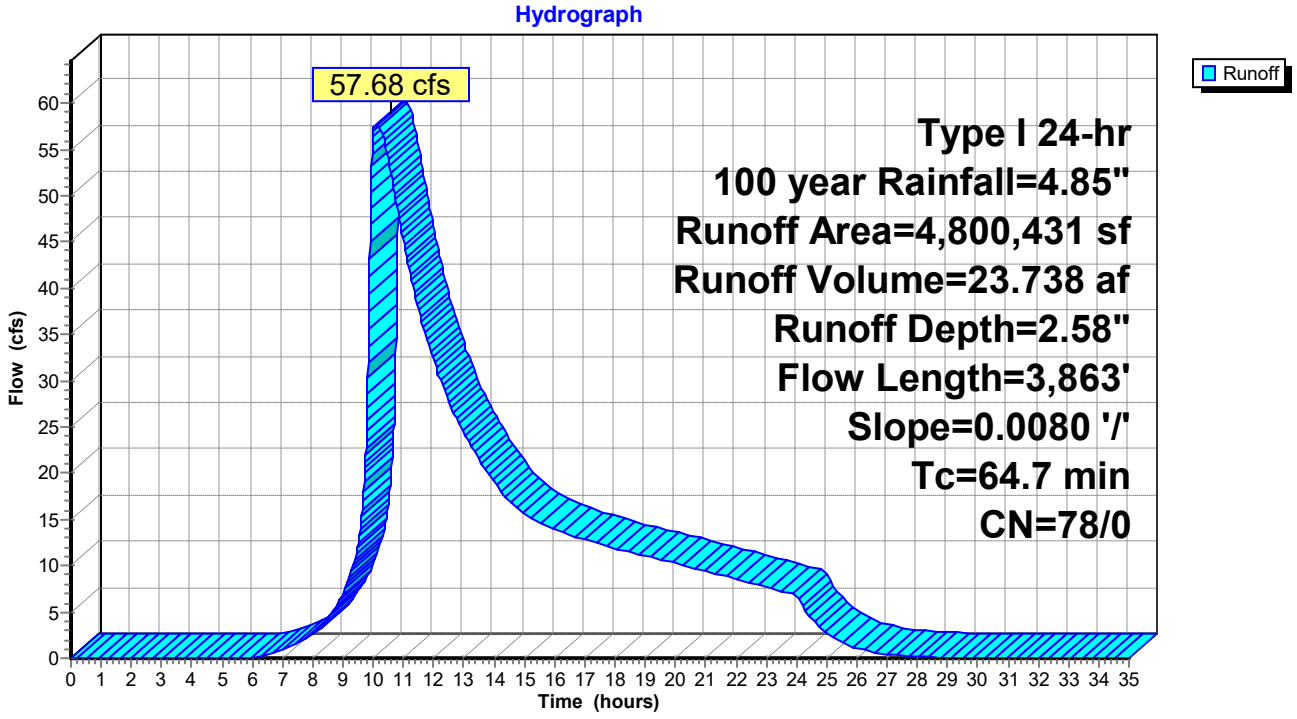
Runoff = 57.68 cfs @ 10.11 hrs, Volume= 23.738 af, Depth= 2.58"
Routed to Pond D16.3 : Detention Pond 16.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	4,430,615	77	Composite CN, see Attachment 3.
*	333,557	83	Paved; Open ditches (including right-of-way), HSG A
*	27,011	92	Paved; Open ditches (including right-of-way), HSG C
*	9,248	93	Paved; Open ditches (including right-of-way), HSG D
	4,800,431	78	Weighted Average
	4,800,431	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
11.3	1,200	0.0080	1.77		**Kerby Method,** Smooth impervious N= 0.02
43.4	2,663	0.0080	1.02		**Kirpich Method,** General overland flow k= 2.00
64.7	3,863	Total			

Subcatchment 16.3: Developed Area 16



Summary for Subcatchment 17.1: Diverted Area 17

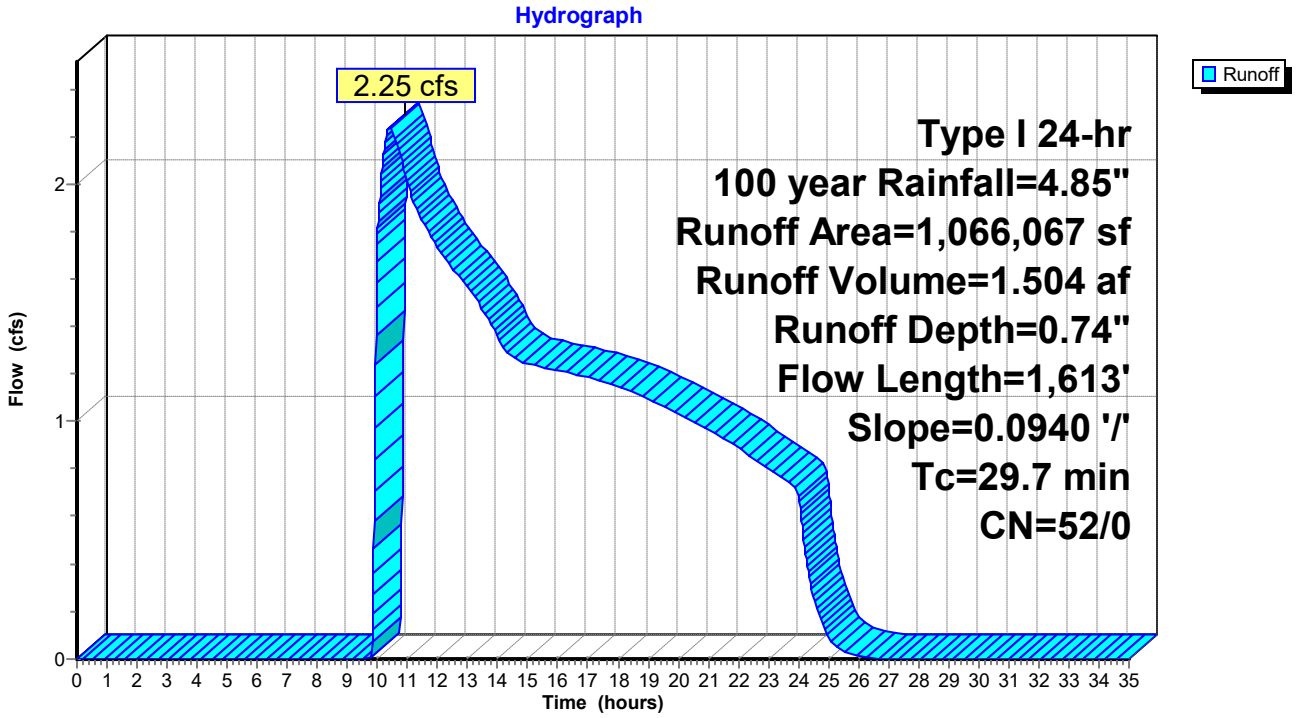
Runoff = 2.25 cfs @ 10.42 hrs, Volume= 1.504 af, Depth= 0.74"
Routed to Reach 17R : Collection Point 17

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,066,067	52	Brush and open space, see Attachment 3.
	1,066,067	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	1,200	0.0940	0.78		**Kerby Method,** Pasture, average grass N= 0.40
4.0	413	0.0940	1.72		**Kirpich Method,** General overland flow k= 2.00
29.7	1,613	Total			

Subcatchment 17.1: Diverted Area 17



Summary for Subcatchment 18.1: Diverted Area 18

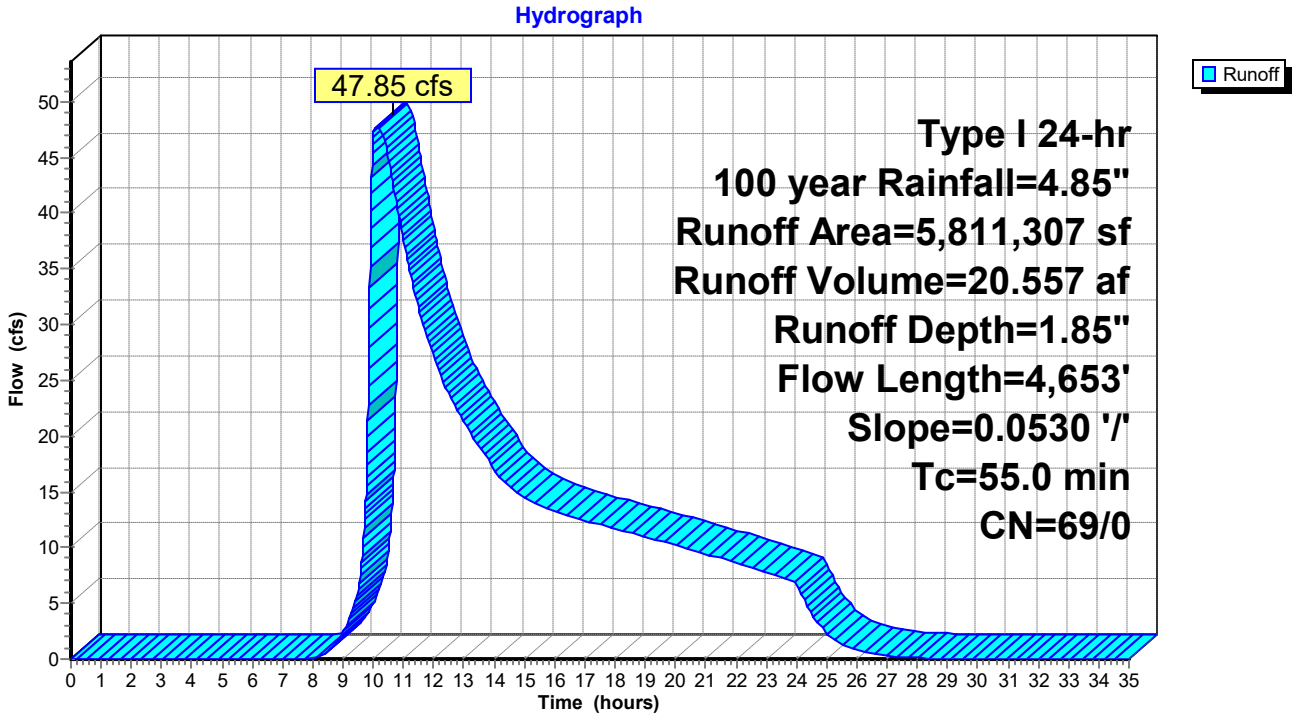
Runoff = 47.85 cfs @ 10.16 hrs, Volume= 20.557 af, Depth= 1.85"
Routed to Reach 18R : Collection Point 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	5,811,307	69	Brush and open space, see Attachment 3.
	5,811,307	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	1,200	0.0530	0.68		**Kerby Method,** Pasture, average grass N= 0.40
25.6	3,453	0.0530	2.25		**Kirpich Method,** General overland flow k= 2.00
55.0	4,653	Total			

Subcatchment 18.1: Diverted Area 18



Summary for Subcatchment 18.2: Developed Area 18

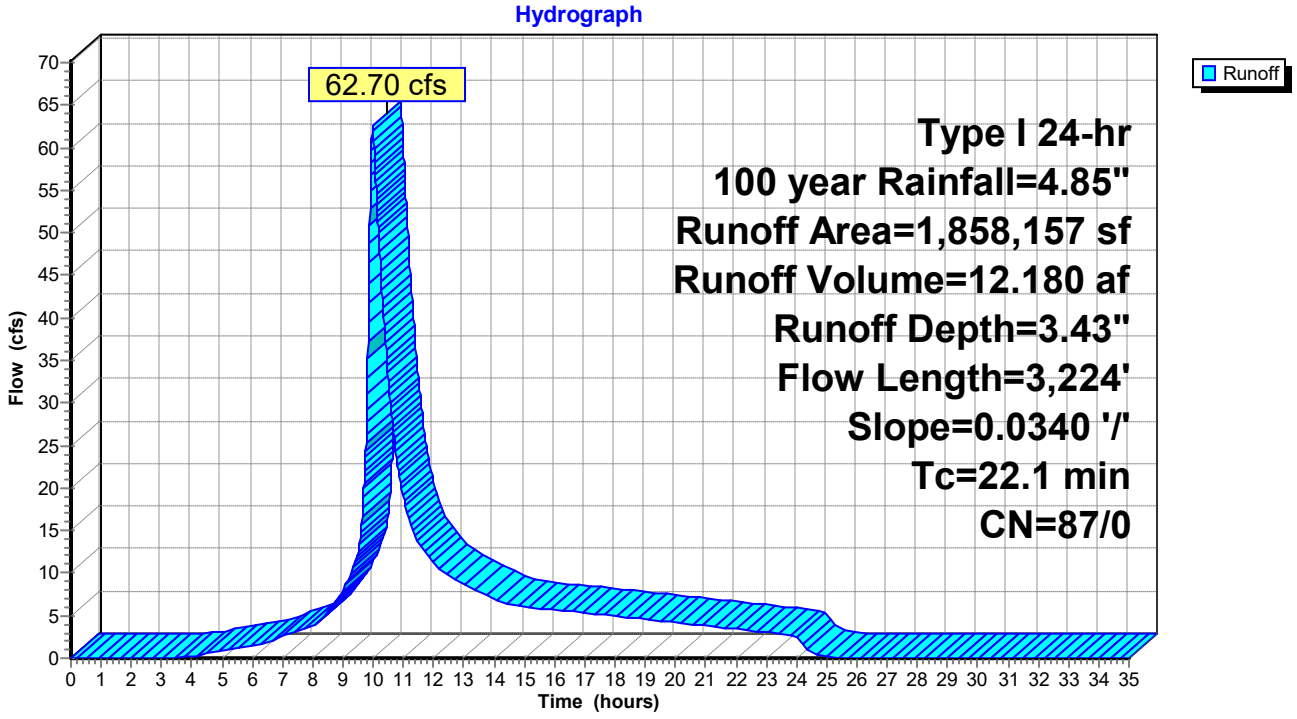
Runoff = 62.70 cfs @ 9.98 hrs, Volume= 12.180 af, Depth= 3.43"
Routed to Pond D18 : Detention Pond 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,667,674	87	Composite CN, see Attachment 3.
*	40,054	83	Paved; Open ditches (including right-of-way), HSG A
*	50,899	92	Paved; Open ditches (including right-of-way), HSG C
*	99,530	93	Paved; Open ditches (including right-of-way), HSG D
	1,858,157	87	Weighted Average
	1,858,157	87	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.1	1,200	0.0340	2.48		**Kerby Method,** Smooth impervious N= 0.02
4.0	2,024	0.0340	8.37		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
22.1	3,224	Total			

Subcatchment 18.2: Developed Area 18



Summary for Subcatchment 19.1: Diverted Area 19

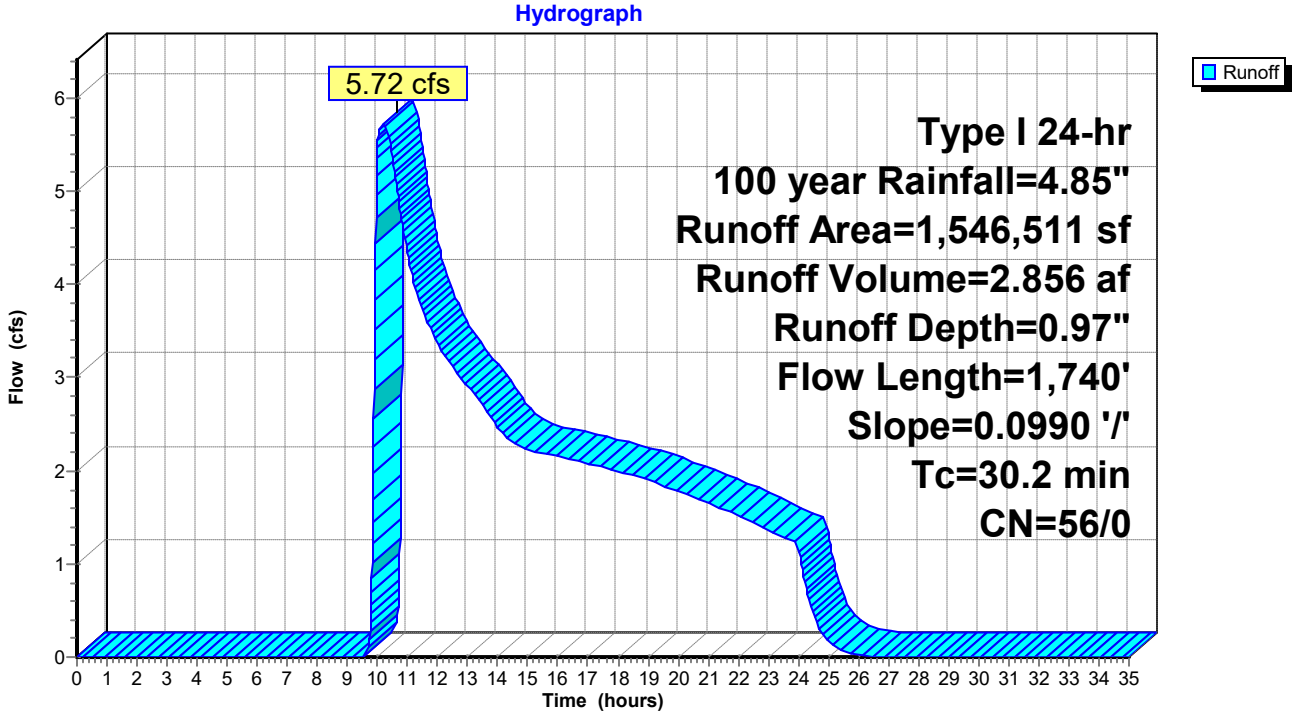
Runoff = 5.72 cfs @ 10.21 hrs, Volume= 2.856 af, Depth= 0.97"
Routed to Reach 19R : Collection Point 19

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,546,511	56	Existing brush, see Attachment 3.
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19.1: Diverted Area 19



Summary for Subcatchment 20.1: Diverted Area 20

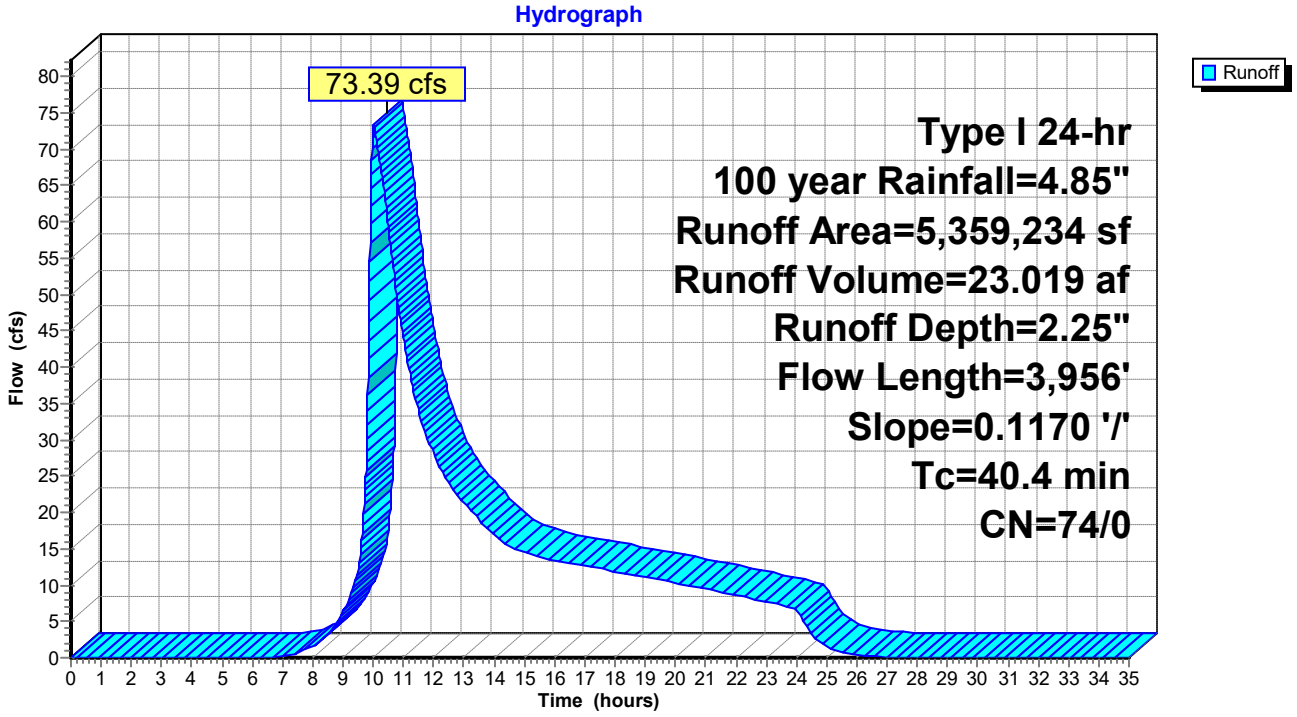
Runoff = 73.39 cfs @ 10.00 hrs, Volume= 23.019 af, Depth= 2.25"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	2,979,788	77	Brush, Poor, HSG C
*	1,500,408	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,359,234	74	Weighted Average
	5,359,234	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

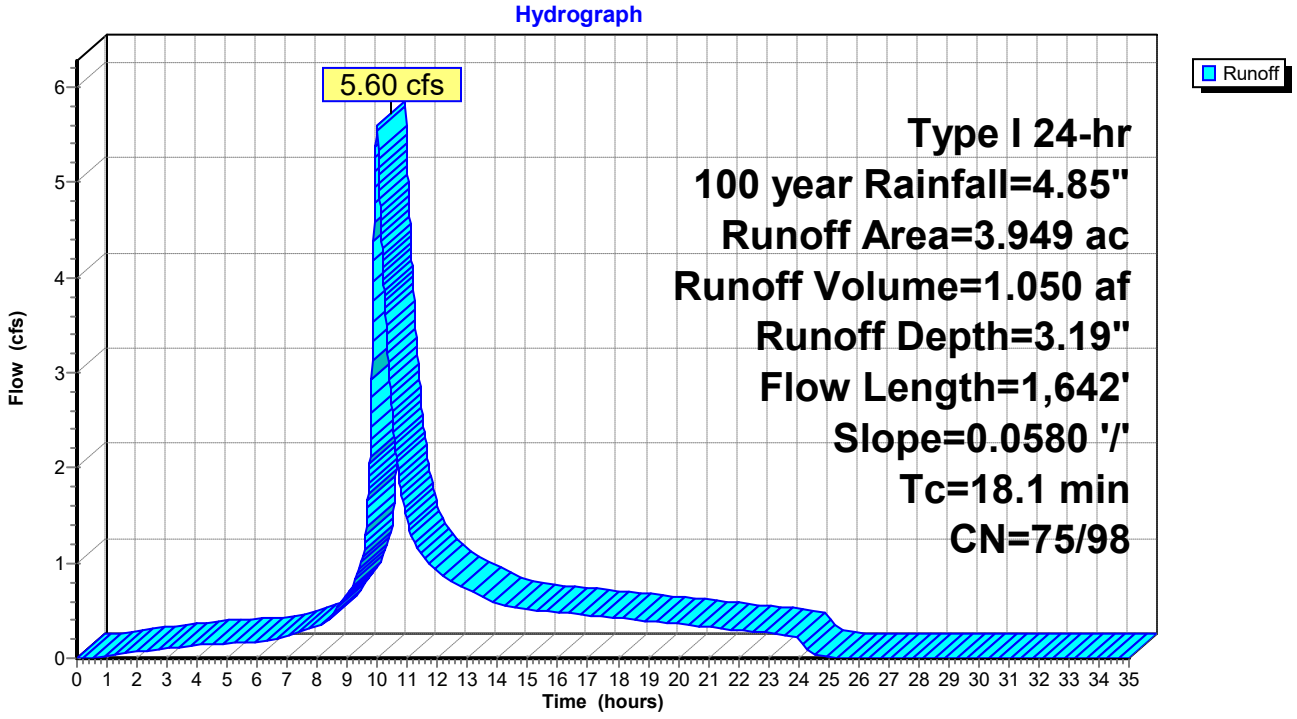
Runoff = 5.60 cfs @ 9.98 hrs, Volume= 1.050 af, Depth= 3.19"
Routed to Pond D20.2 : Detention Basin 20.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (ac)	CN	Description
*	2.225	74	Open Space, Good, HSG C
*	0.235	87	Pavers/DG, Good, HSG C
*	1.489	98	Hardscape
	3.949	84	Weighted Average
	2.460	75	62.29% Pervious Area
	1.489	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

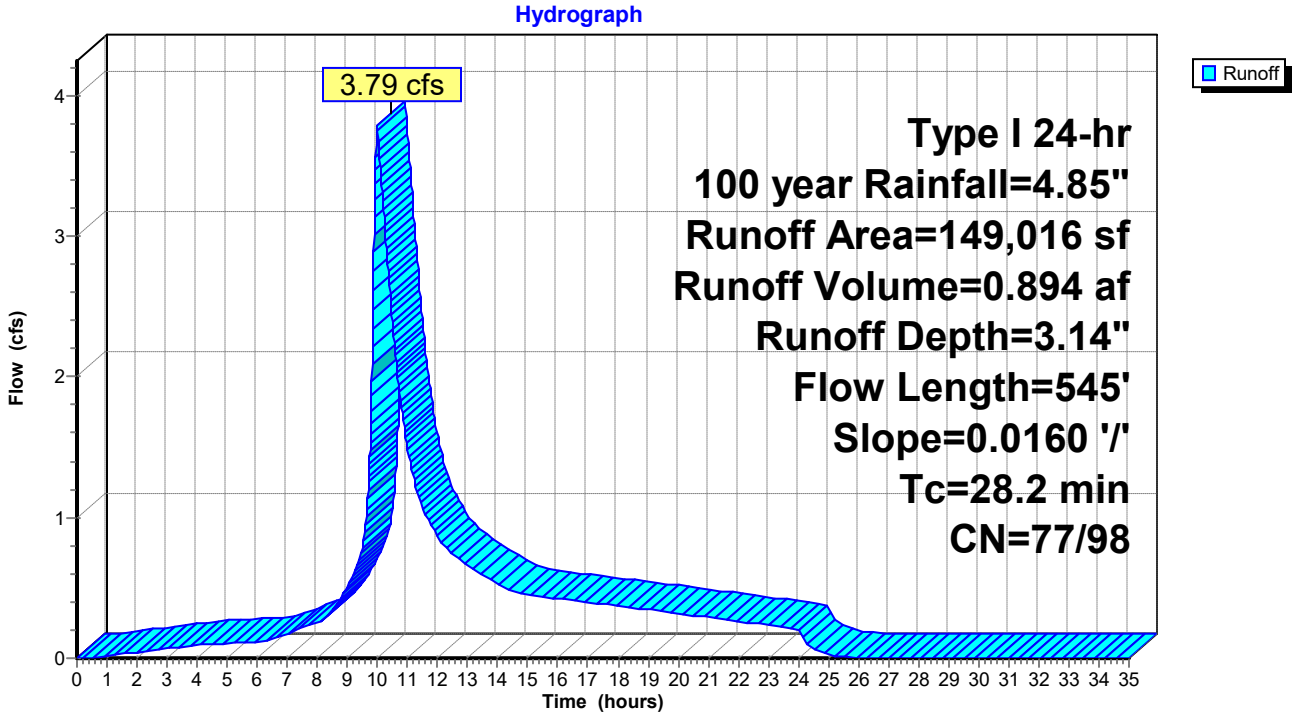
Runoff = 3.79 cfs @ 9.99 hrs, Volume= 0.894 af, Depth= 3.14"
Routed to Pond D20.3 : Detention Pond 20.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

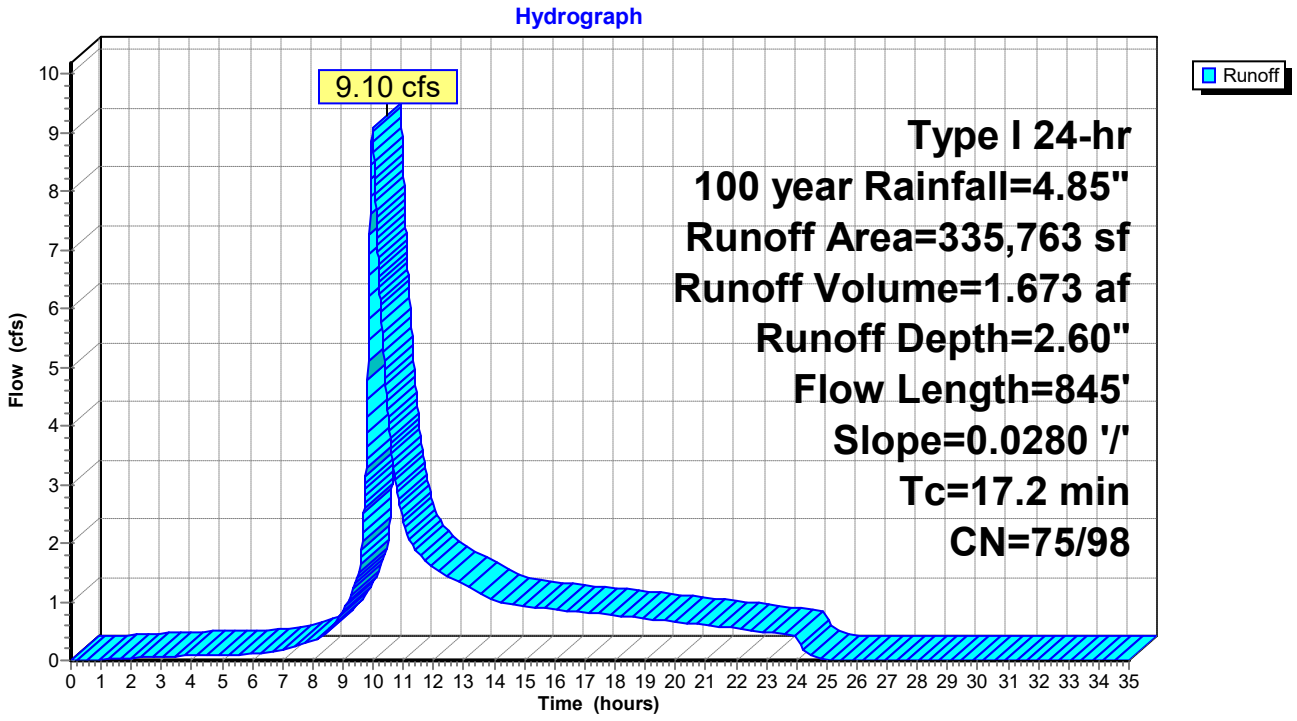
Runoff = 9.10 cfs @ 9.98 hrs, Volume= 1.673 af, Depth= 2.60"
Routed to Pond D20.4 : Detention Pond 20.4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



Summary for Subcatchment 21.1: Diverted Area 21

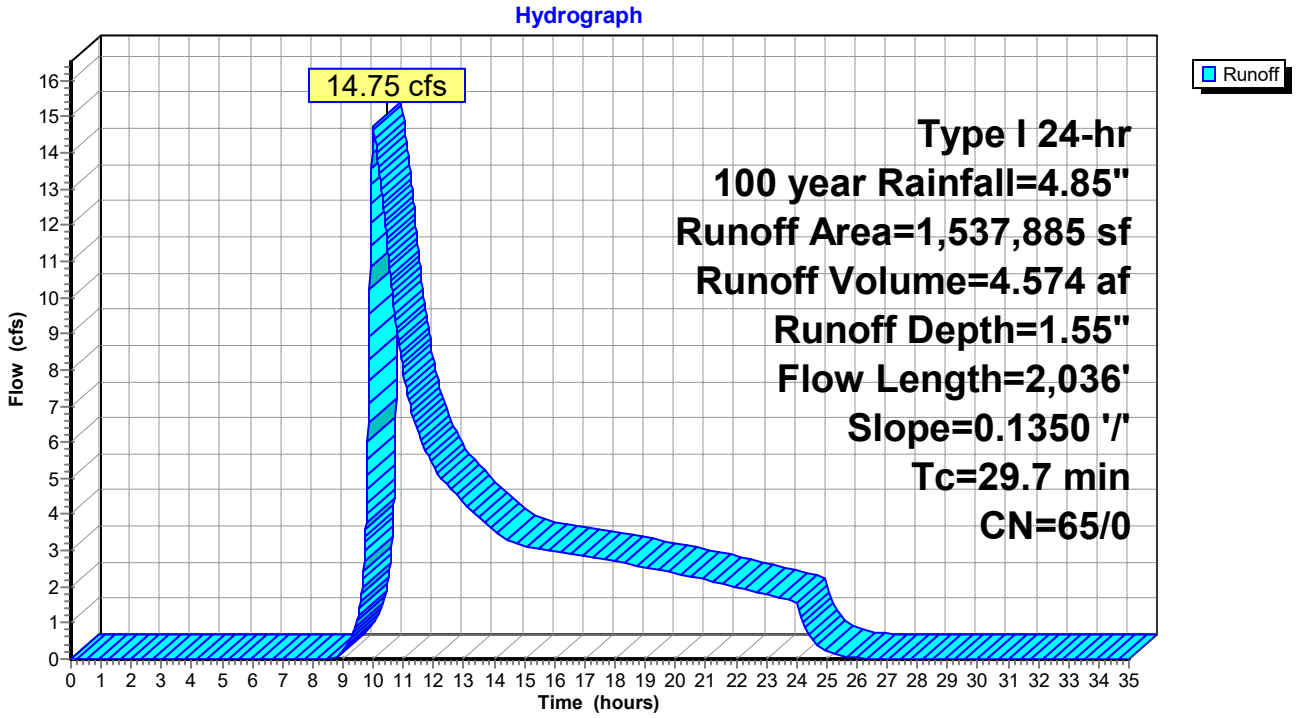
Runoff = 14.75 cfs @ 10.00 hrs, Volume= 4.574 af, Depth= 1.55"
Routed to Reach 21R : Collection Point 21

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	1,537,885	65	Existing brush, see Attachment 3.
	1,537,885	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21.1: Diverted Area 21



Summary for Subcatchment 22.1: Diverted Area 22

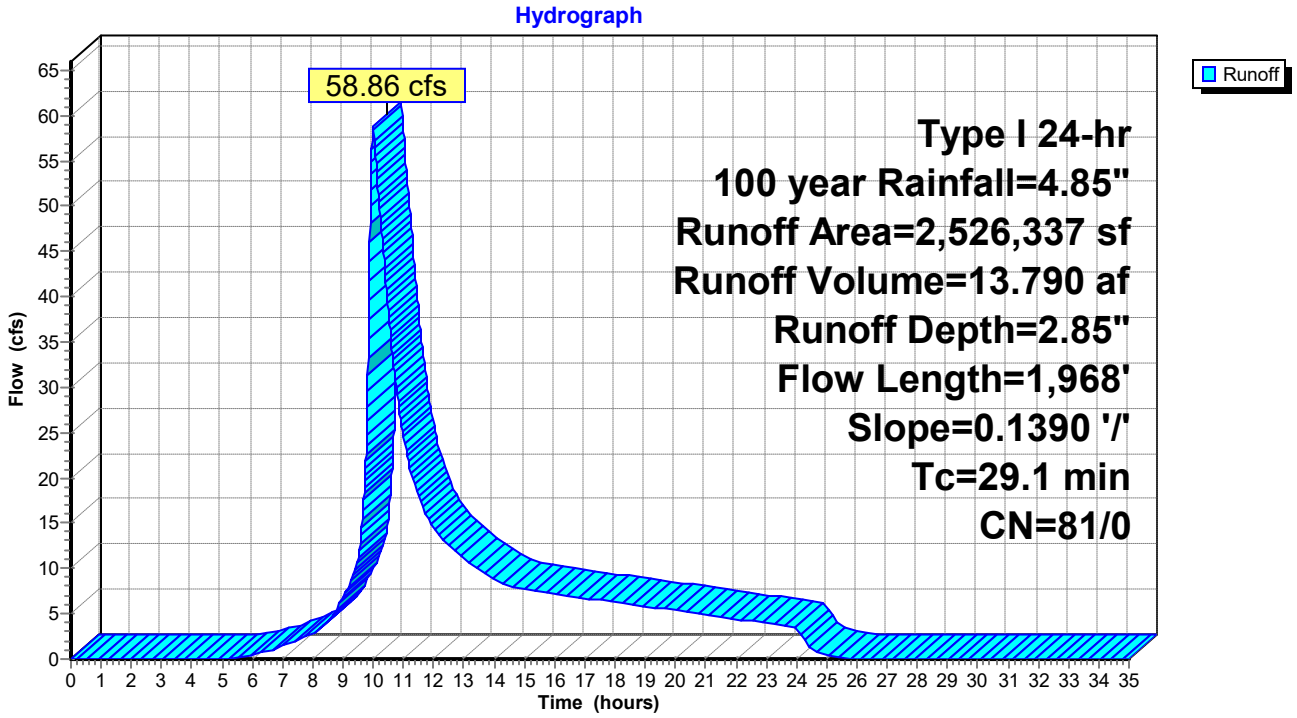
Runoff = 58.86 cfs @ 9.99 hrs, Volume= 13.790 af, Depth= 2.85"
Routed to Reach 22R : Collection Point 22

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	2,526,337	81	Existing brush, see Attachment 3.
	2,526,337	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22.1: Diverted Area 22



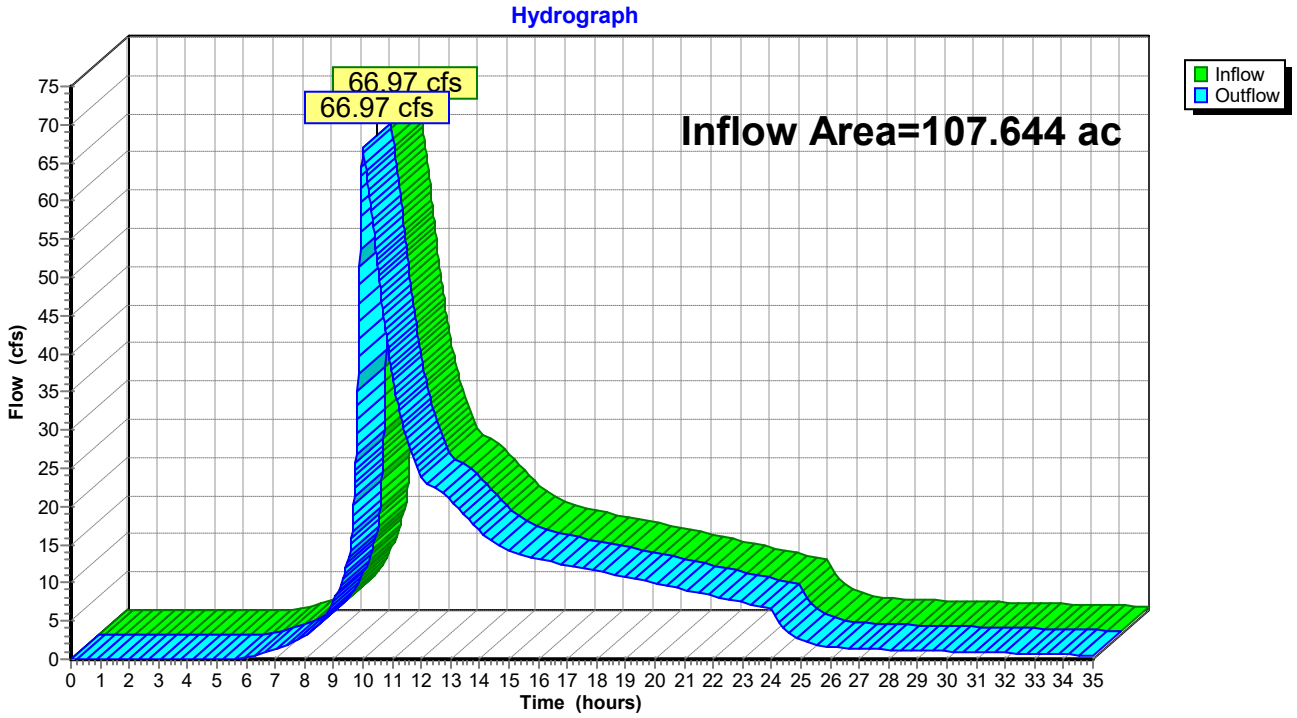
Summary for Reach 1R: Collection Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 107.644 ac, 0.00% Impervious, Inflow Depth > 2.53" for 100 year event
Inflow = 66.97 cfs @ 10.00 hrs, Volume= 22.668 af
Outflow = 66.97 cfs @ 10.00 hrs, Volume= 22.668 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 1R: Collection Point 1



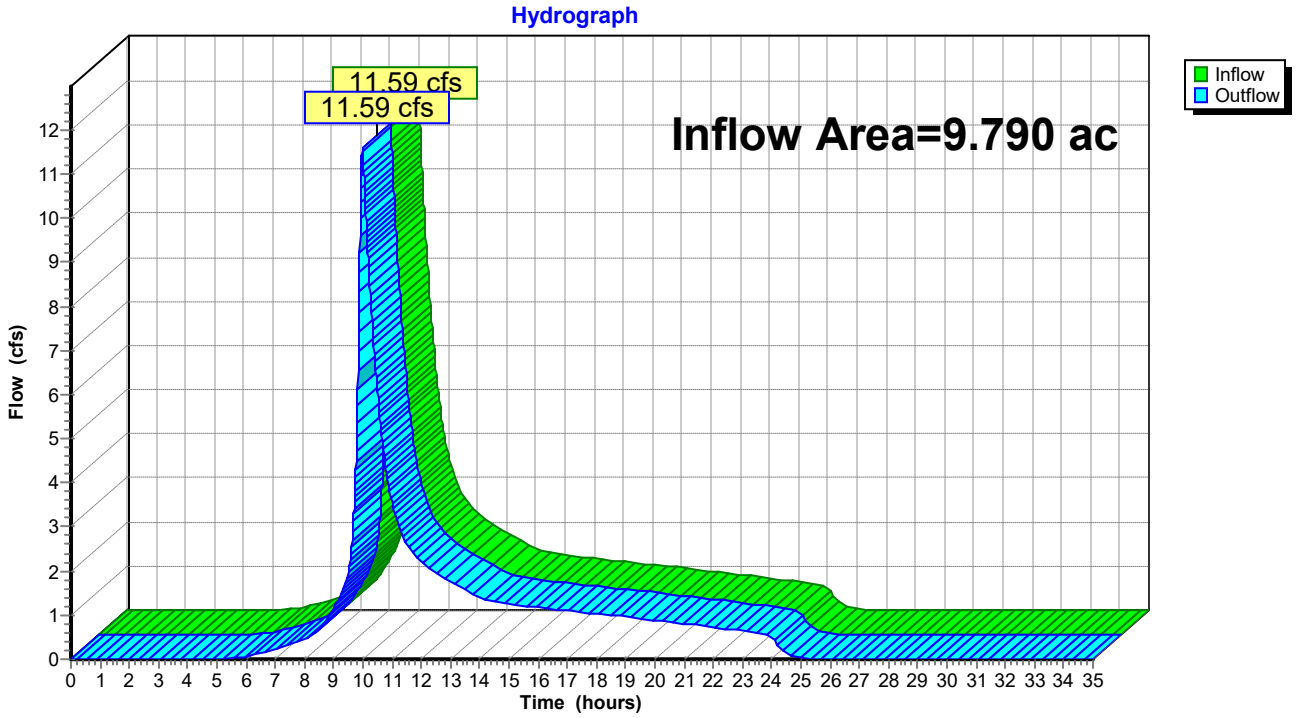
Summary for Reach 2R: Collection Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 9.790 ac, 0.00% Impervious, Inflow Depth = 2.76" for 100 year event
Inflow = 11.59 cfs @ 9.98 hrs, Volume= 2.254 af
Outflow = 11.59 cfs @ 9.98 hrs, Volume= 2.254 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 2R: Collection Point 2



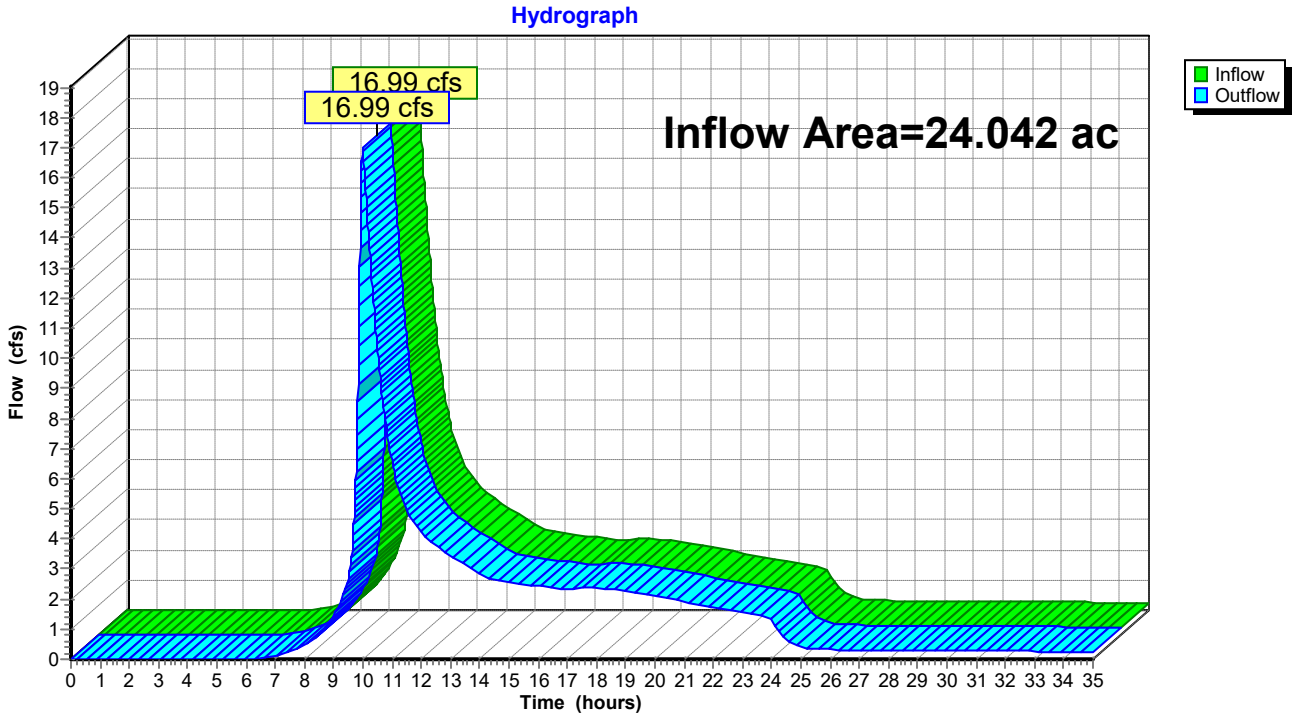
Summary for Reach 3R: Collection Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.042 ac, 0.00% Impervious, Inflow Depth > 2.22" for 100 year event
Inflow = 16.99 cfs @ 9.99 hrs, Volume= 4.443 af
Outflow = 16.99 cfs @ 9.99 hrs, Volume= 4.443 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 3R: Collection Point 3



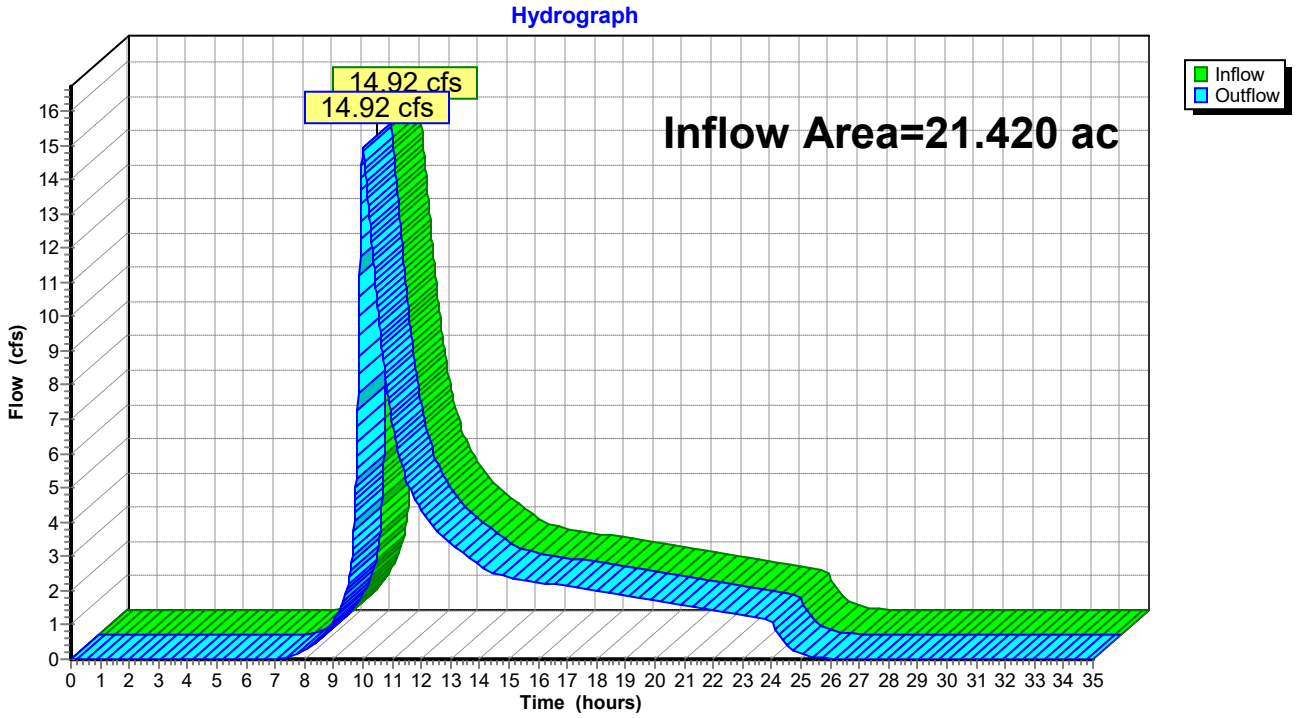
Summary for Reach 4R: Collection Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 21.420 ac, 0.00% Impervious, Inflow Depth = 2.16" for 100 year event
Inflow = 14.92 cfs @ 10.00 hrs, Volume= 3.862 af
Outflow = 14.92 cfs @ 10.00 hrs, Volume= 3.862 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 4R: Collection Point 4



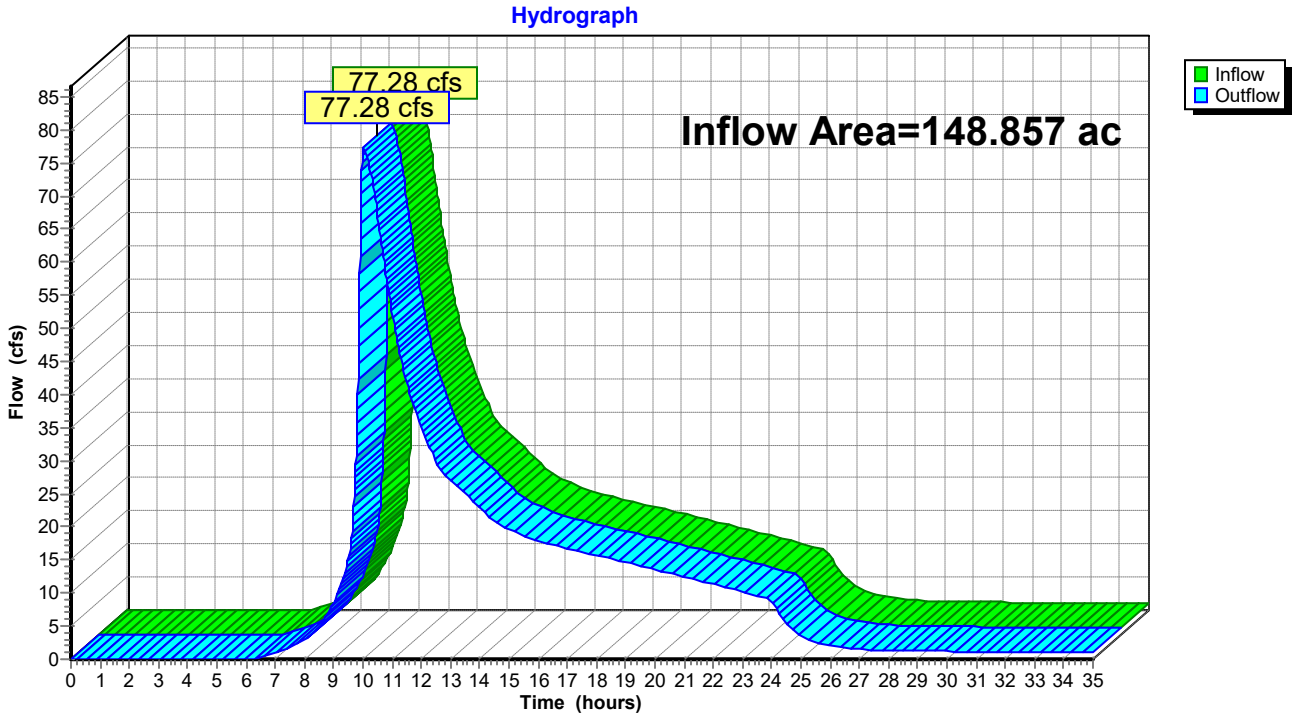
Summary for Reach 5R: Collection Point 5

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 148.857 ac, 0.00% Impervious, Inflow Depth > 2.42" for 100 year event
Inflow = 77.28 cfs @ 10.01 hrs, Volume= 30.025 af
Outflow = 77.28 cfs @ 10.01 hrs, Volume= 30.025 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 5R: Collection Point 5



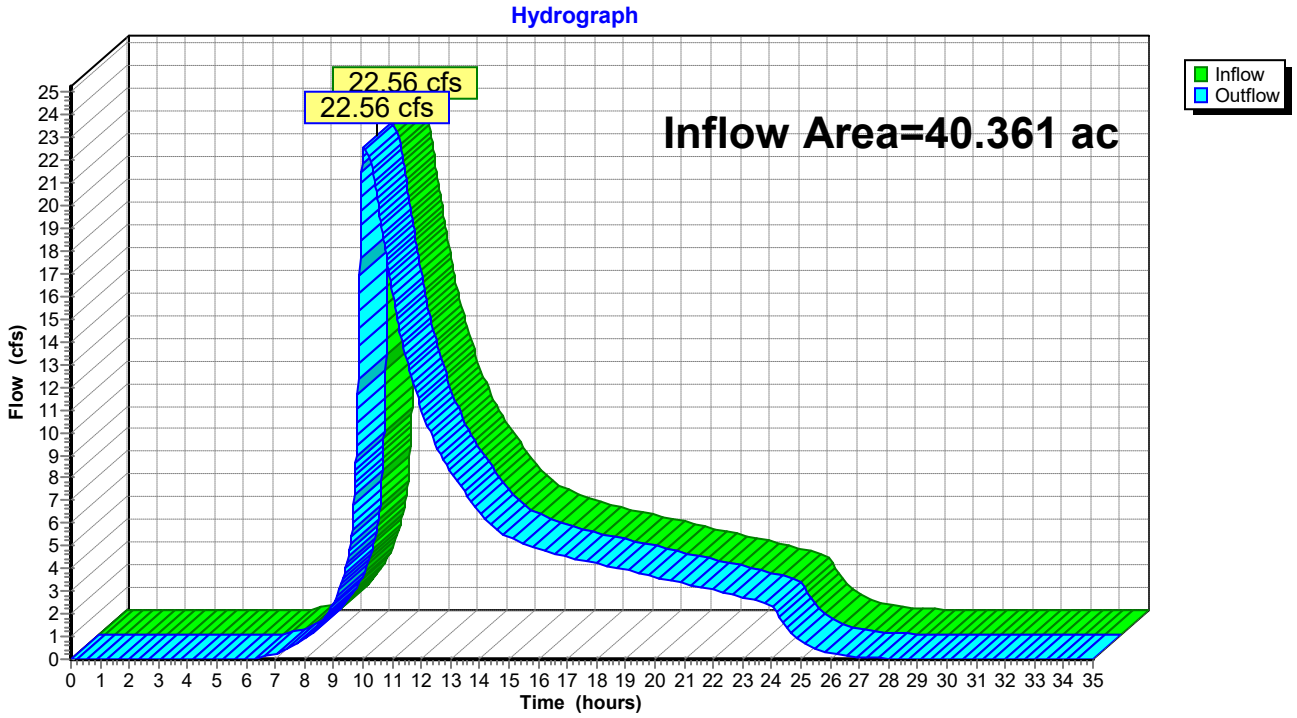
Summary for Reach 6R: Collection Point 6

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 40.361 ac, 0.00% Impervious, Inflow Depth = 2.50" for 100 year event
Inflow = 22.56 cfs @ 10.01 hrs, Volume= 8.402 af
Outflow = 22.56 cfs @ 10.01 hrs, Volume= 8.402 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 6R: Collection Point 6



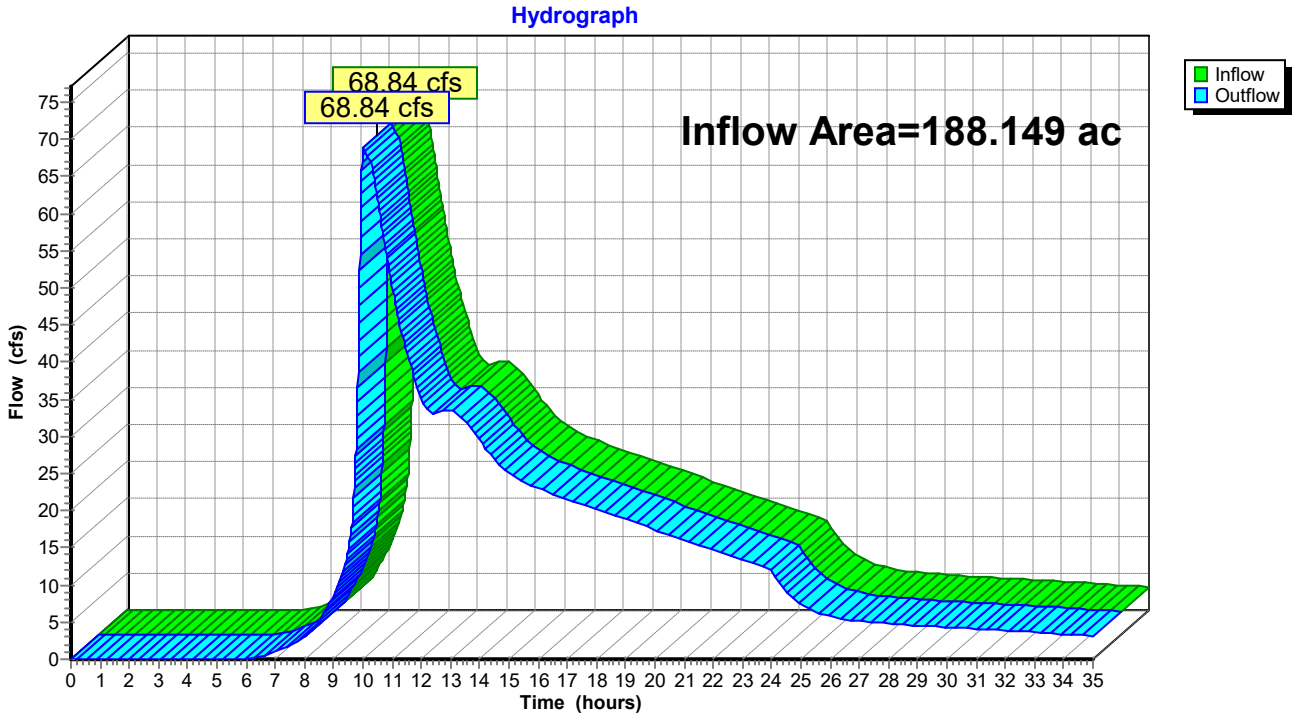
Summary for Reach 7R: Collection Point 7

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 188.149 ac, 0.00% Impervious, Inflow Depth > 2.34" for 100 year event
Inflow = 68.84 cfs @ 10.01 hrs, Volume= 36.622 af
Outflow = 68.84 cfs @ 10.01 hrs, Volume= 36.622 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 7R: Collection Point 7



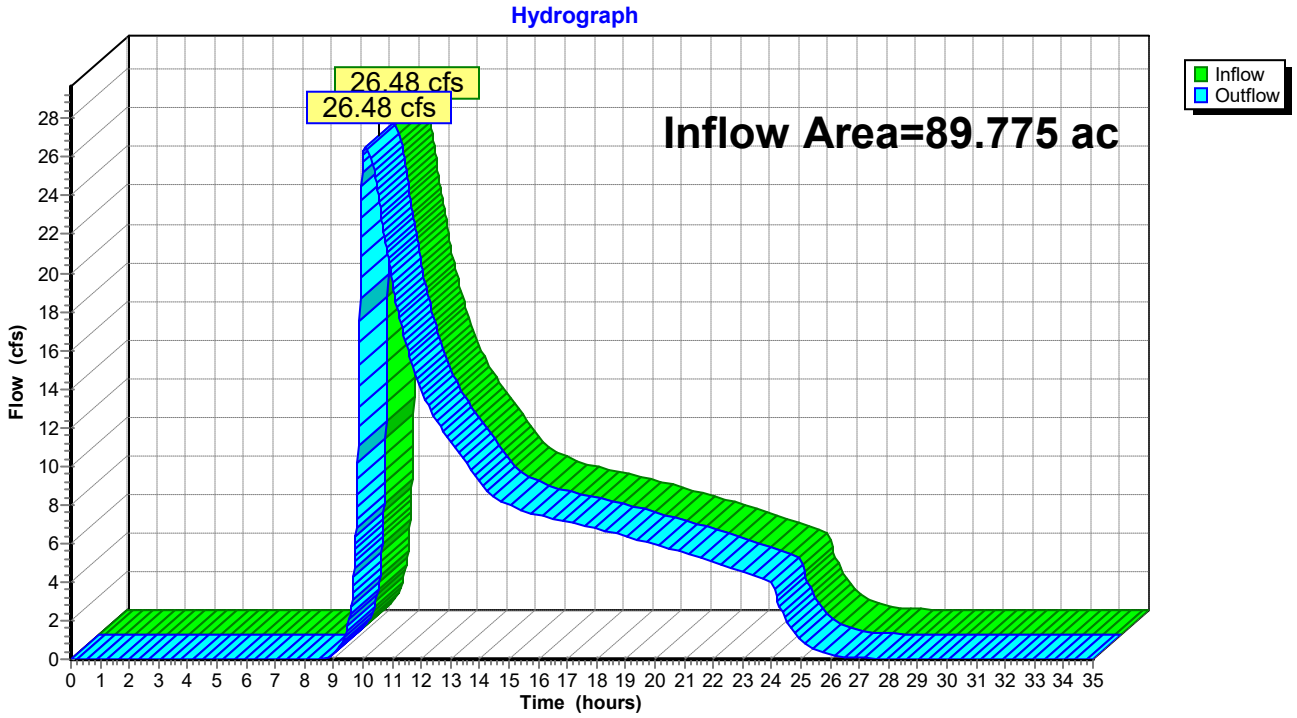
Summary for Reach 8R: Collection Point 8

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 89.775 ac, 0.00% Impervious, Inflow Depth = 1.48" for 100 year event
Inflow = 26.48 cfs @ 10.10 hrs, Volume= 11.102 af
Outflow = 26.48 cfs @ 10.10 hrs, Volume= 11.102 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 8R: Collection Point 8



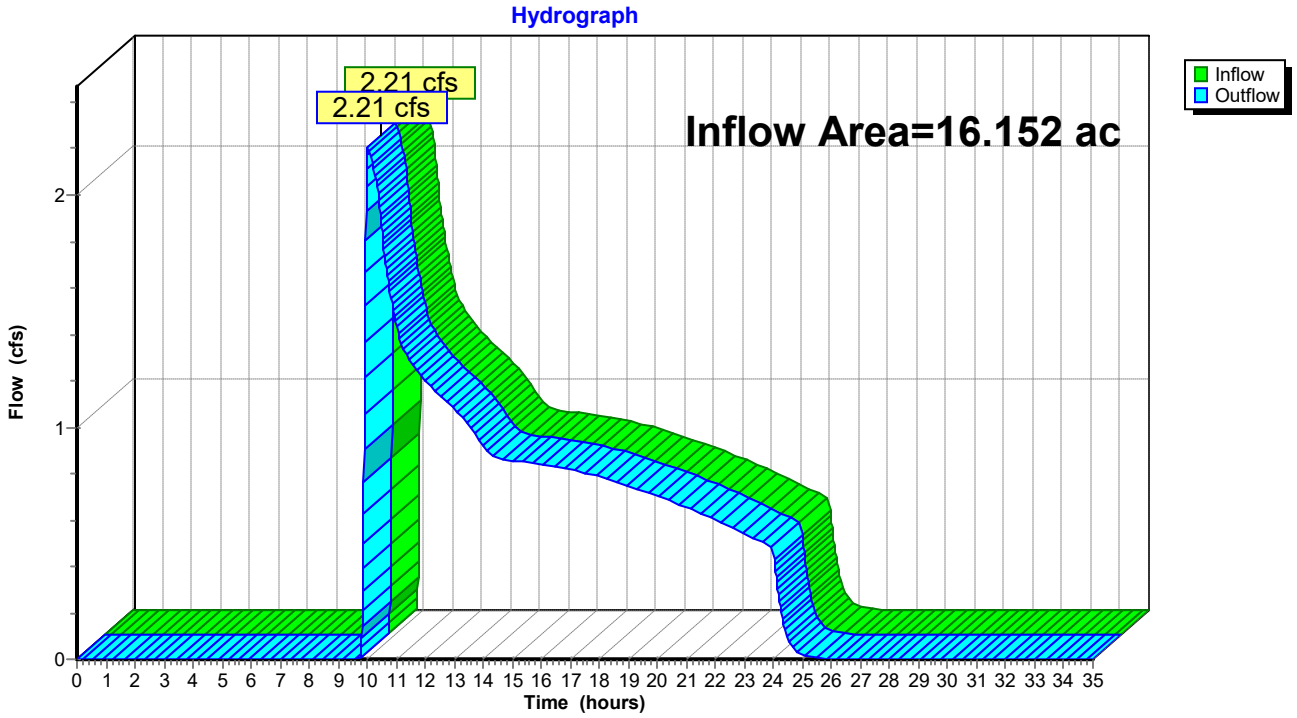
Summary for Reach 9R: Collection Point 9

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 16.152 ac, 0.00% Impervious, Inflow Depth = 0.79" for 100 year event
Inflow = 2.21 cfs @ 10.01 hrs, Volume= 1.067 af
Outflow = 2.21 cfs @ 10.01 hrs, Volume= 1.067 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 9R: Collection Point 9



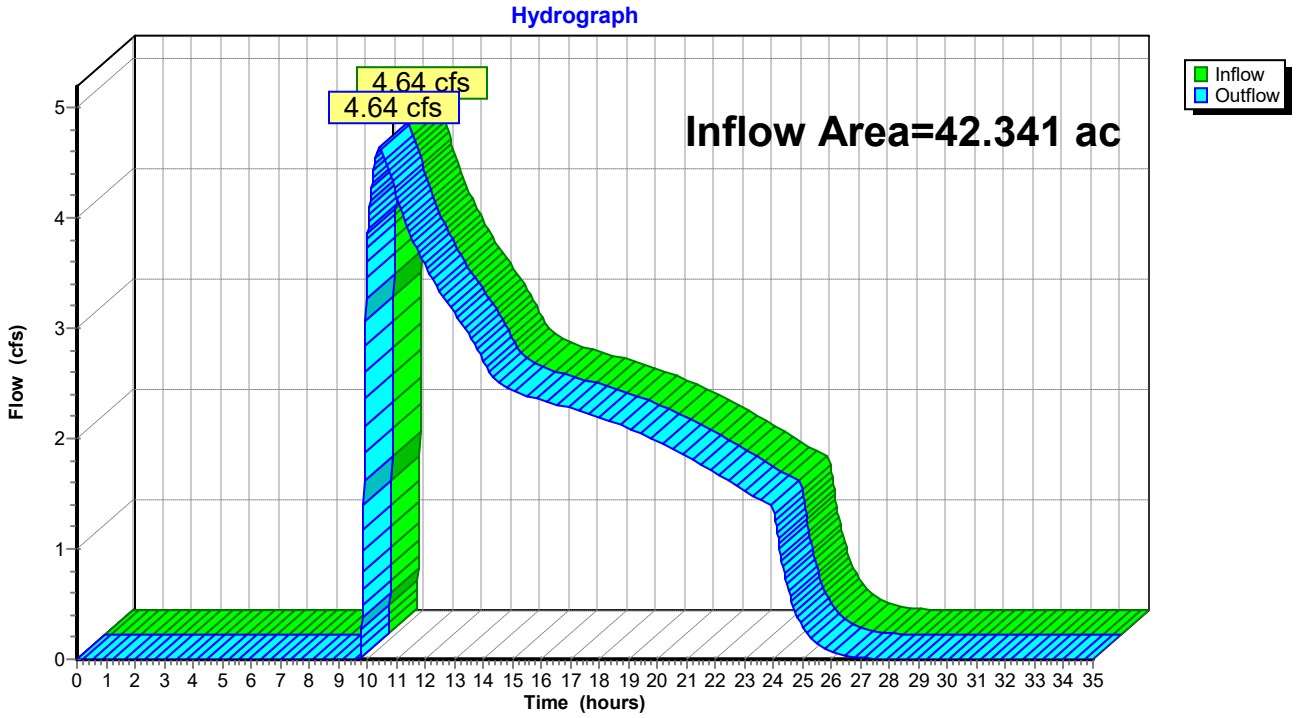
Summary for Reach 10R: Collection Point 10

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 42.341 ac, 0.00% Impervious, Inflow Depth = 0.85" for 100 year event
Inflow = 4.64 cfs @ 10.43 hrs, Volume= 2.994 af
Outflow = 4.64 cfs @ 10.43 hrs, Volume= 2.994 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 10R: Collection Point 10



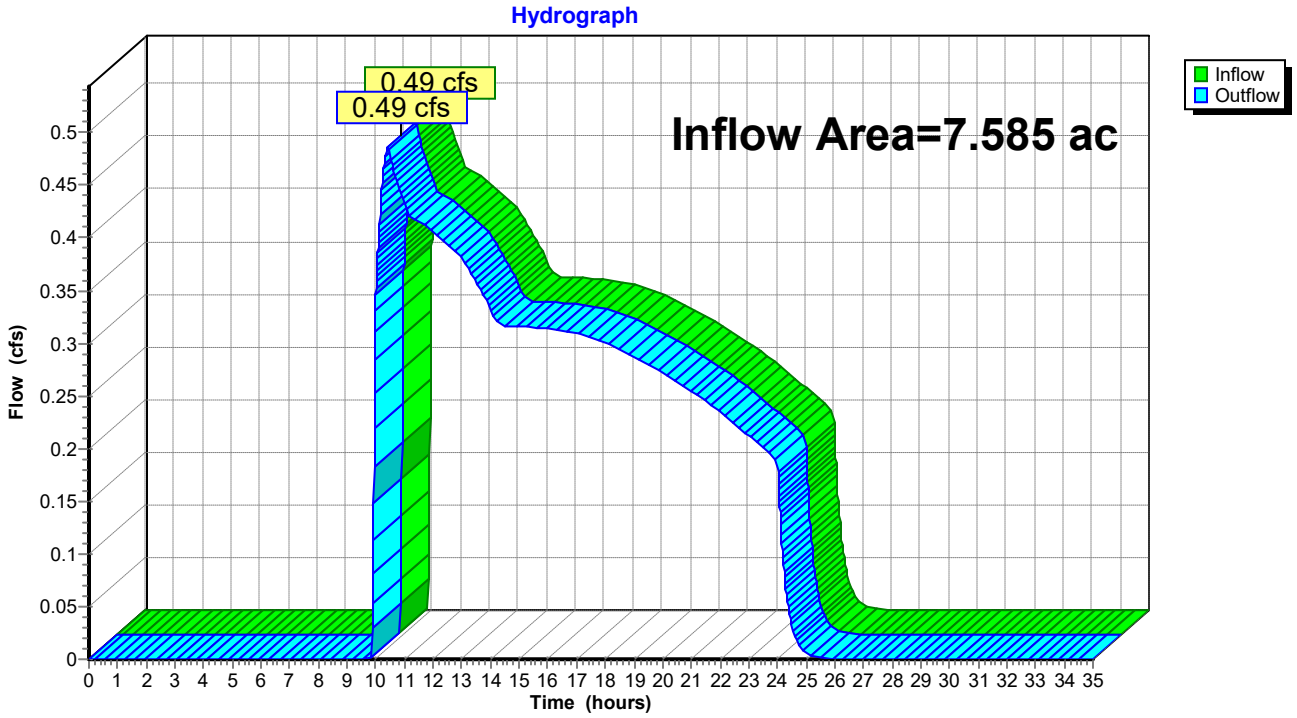
Summary for Reach 11R: Collection Point 11

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.585 ac, 0.00% Impervious, Inflow Depth = 0.58" for 100 year event
Inflow = 0.49 cfs @ 10.42 hrs, Volume= 0.368 af
Outflow = 0.49 cfs @ 10.42 hrs, Volume= 0.368 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 11R: Collection Point 11



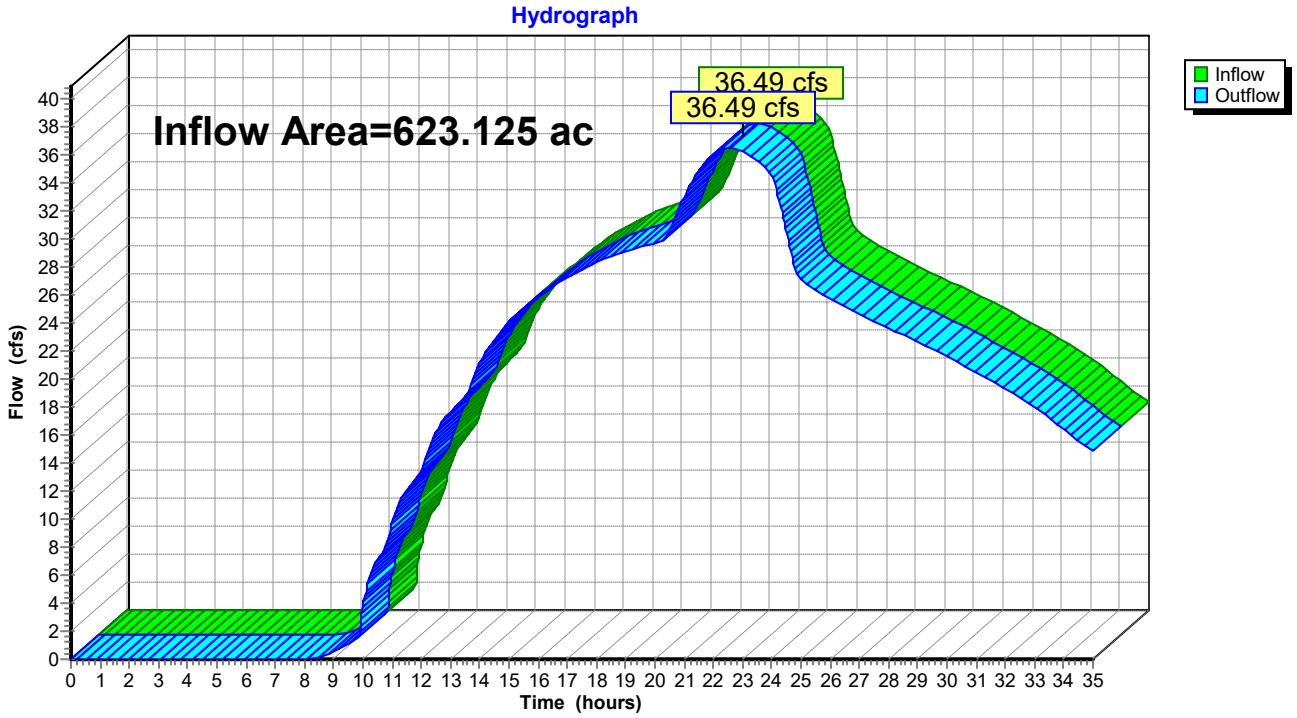
Summary for Reach 12R: Collection Point 12

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 623.125 ac, 0.00% Impervious, Inflow Depth > 0.95" for 100 year event
Inflow = 36.49 cfs @ 22.57 hrs, Volume= 49.338 af
Outflow = 36.49 cfs @ 22.57 hrs, Volume= 49.338 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 12R: Collection Point 12



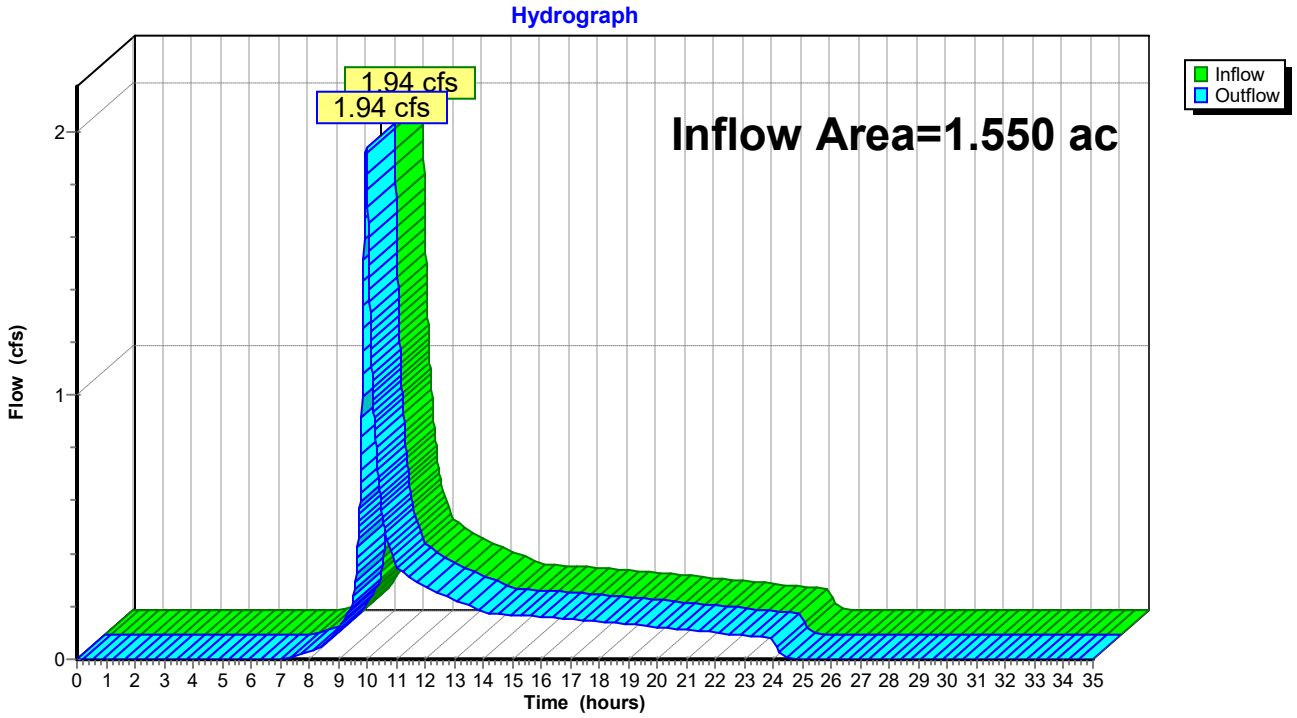
Summary for Reach 13R: Collection Point 13

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.550 ac, 0.00% Impervious, Inflow Depth = 2.16" for 100 year event
Inflow = 1.94 cfs @ 9.97 hrs, Volume= 0.280 af
Outflow = 1.94 cfs @ 9.97 hrs, Volume= 0.280 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 13R: Collection Point 13



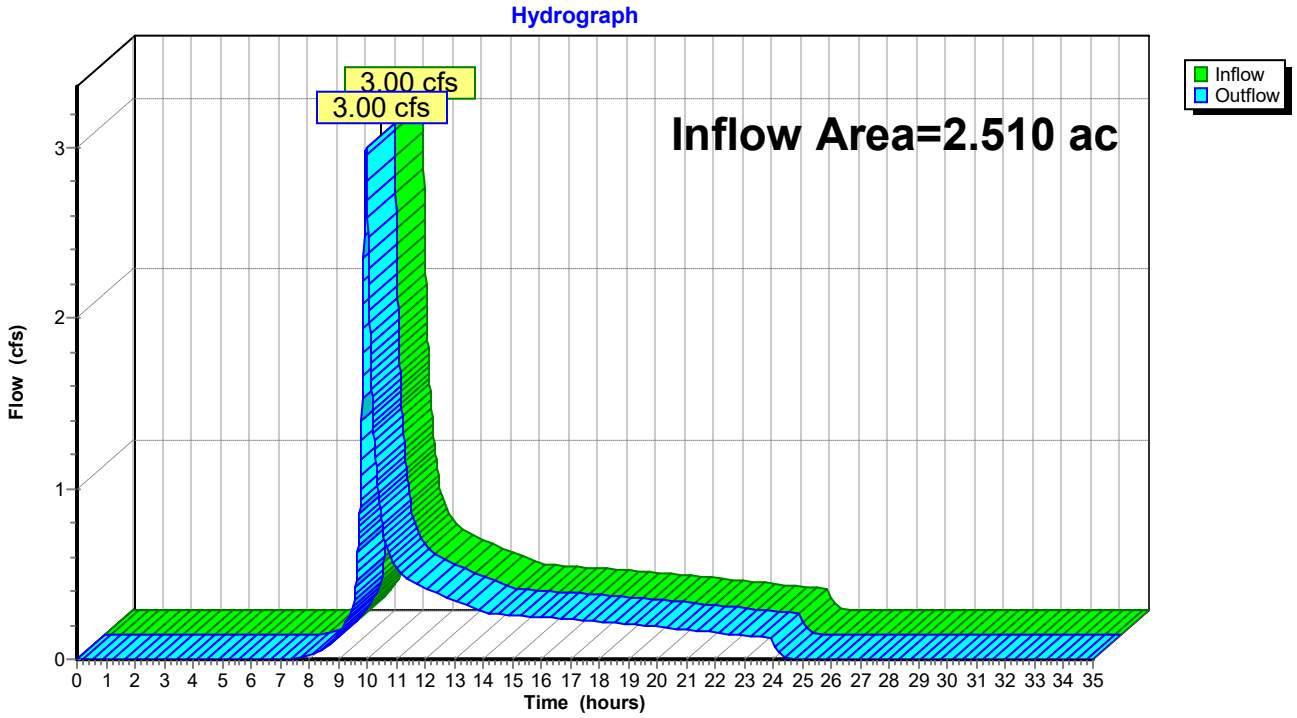
Summary for Reach 14R: Collection Point 14

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.510 ac, 0.00% Impervious, Inflow Depth = 2.00" for 100 year event
Inflow = 3.00 cfs @ 9.96 hrs, Volume= 0.419 af
Outflow = 3.00 cfs @ 9.96 hrs, Volume= 0.419 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 14R: Collection Point 14



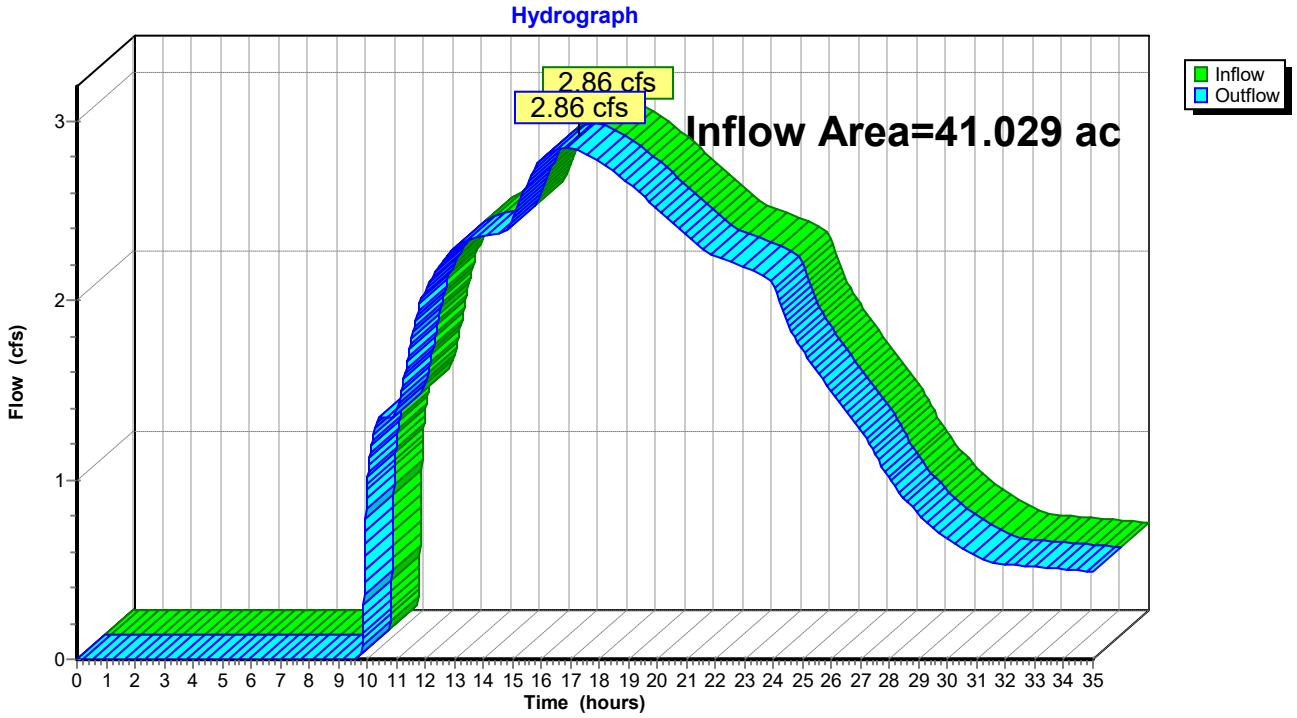
Summary for Reach 15R: Collection Point 15

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 41.029 ac, 0.00% Impervious, Inflow Depth > 1.04" for 100 year event
Inflow = 2.86 cfs @ 16.82 hrs, Volume= 3.565 af
Outflow = 2.86 cfs @ 16.82 hrs, Volume= 3.565 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 15R: Collection Point 15



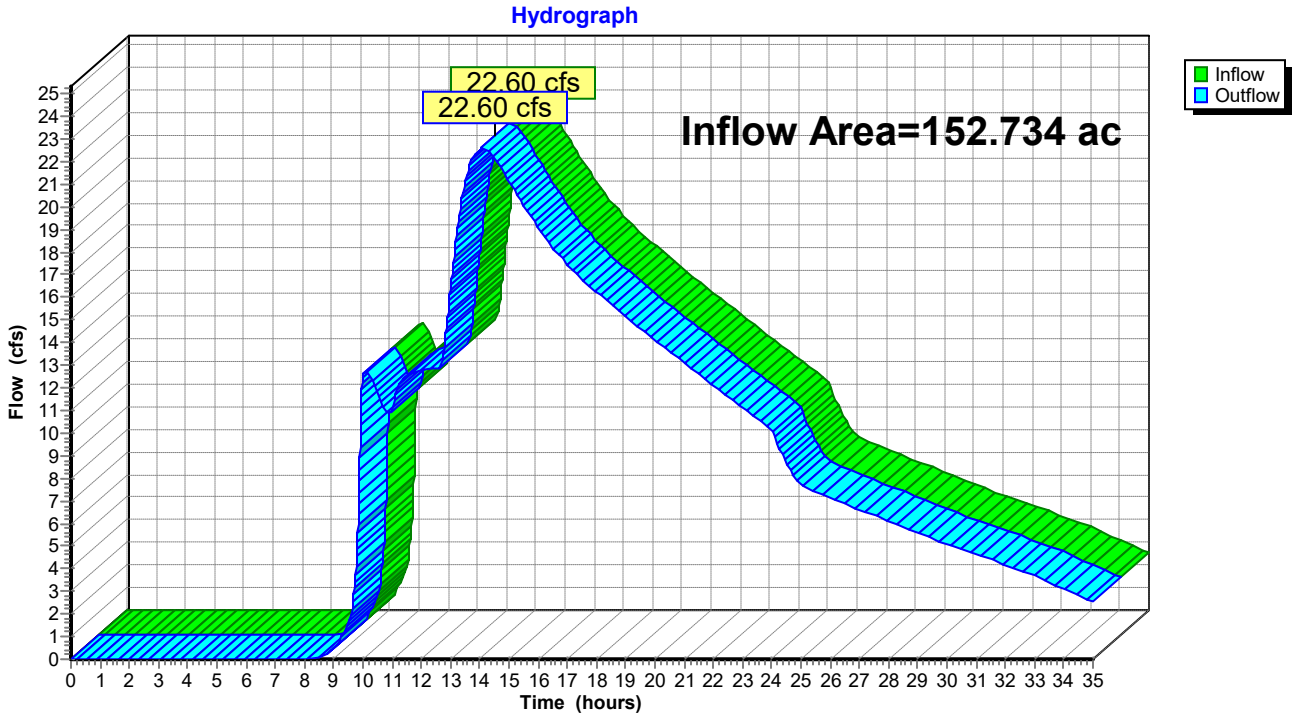
Summary for Reach 16R: Collection Point 16

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 152.734 ac, 0.00% Impervious, Inflow Depth > 1.80" for 100 year event
Inflow = 22.60 cfs @ 14.07 hrs, Volume= 22.901 af
Outflow = 22.60 cfs @ 14.07 hrs, Volume= 22.901 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 16R: Collection Point 16



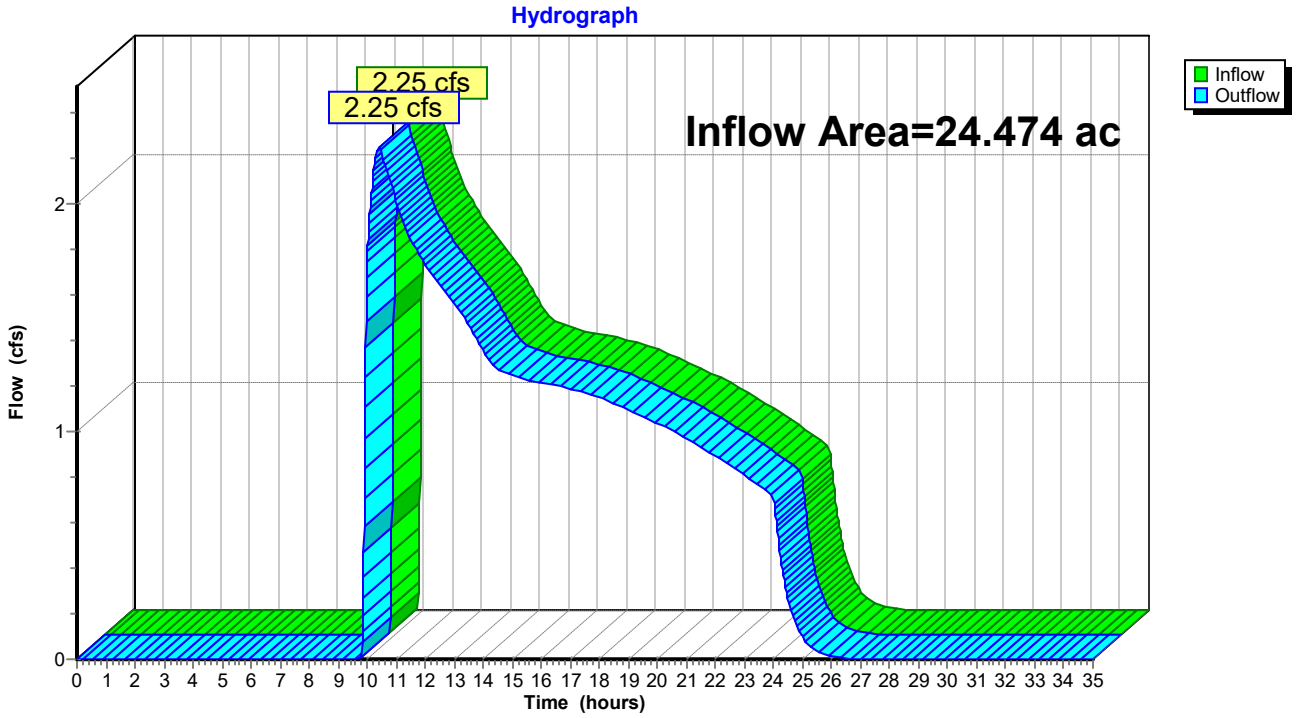
Summary for Reach 17R: Collection Point 17

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.474 ac, 0.00% Impervious, Inflow Depth = 0.74" for 100 year event
Inflow = 2.25 cfs @ 10.42 hrs, Volume= 1.504 af
Outflow = 2.25 cfs @ 10.42 hrs, Volume= 1.504 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 17R: Collection Point 17



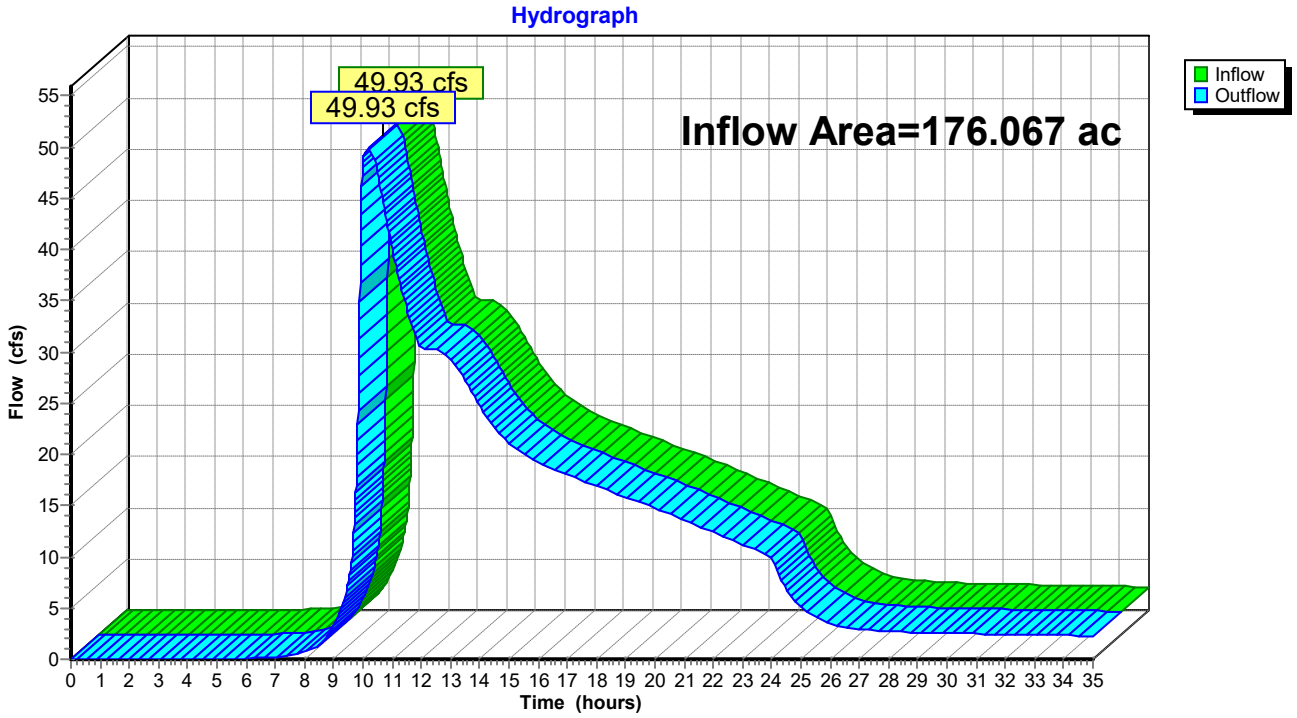
Summary for Reach 18R: Collection Point 18

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 176.067 ac, 0.00% Impervious, Inflow Depth > 1.96" for 100 year event
Inflow = 49.93 cfs @ 10.18 hrs, Volume= 28.800 af
Outflow = 49.93 cfs @ 10.18 hrs, Volume= 28.800 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 18R: Collection Point 18



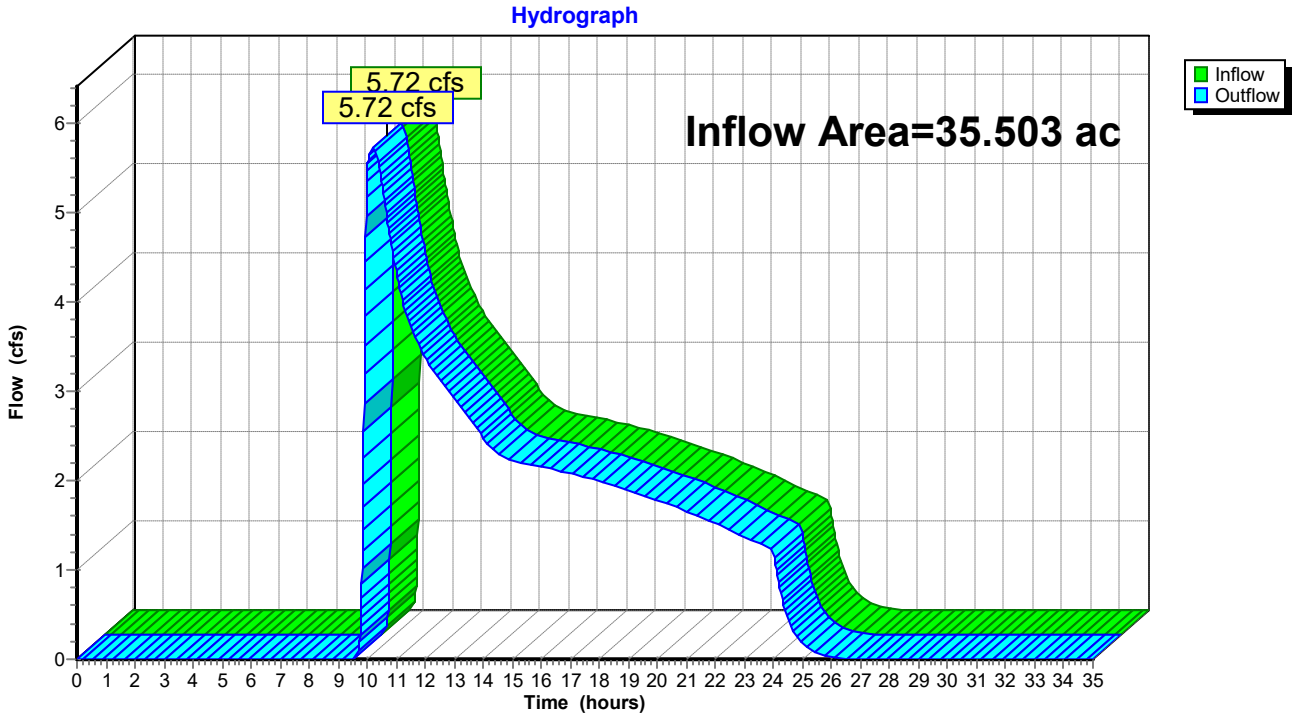
Summary for Reach 19R: Collection Point 19

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.503 ac, 0.00% Impervious, Inflow Depth = 0.97" for 100 year event
Inflow = 5.72 cfs @ 10.21 hrs, Volume= 2.856 af
Outflow = 5.72 cfs @ 10.21 hrs, Volume= 2.856 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 19R: Collection Point 19



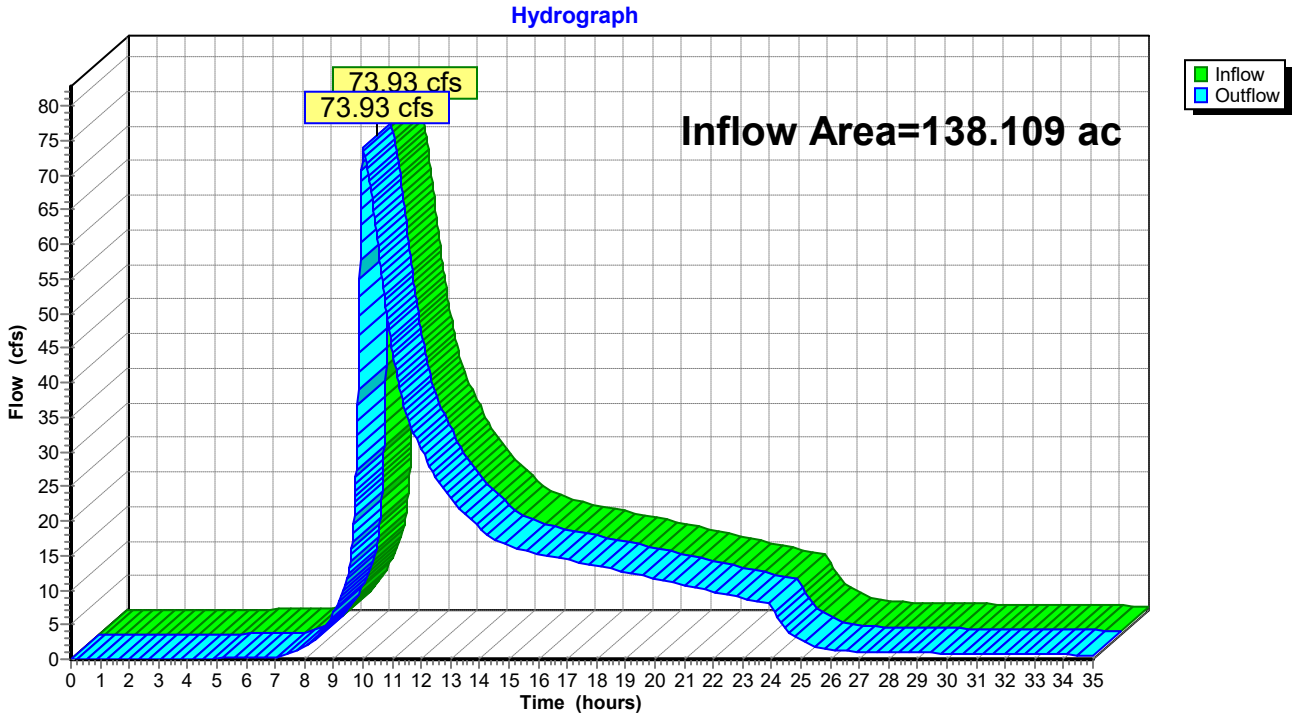
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 138.109 ac, 2.50% Impervious, Inflow Depth > 2.24" for 100 year event
Inflow = 73.93 cfs @ 10.00 hrs, Volume= 25.731 af
Outflow = 73.93 cfs @ 10.00 hrs, Volume= 25.731 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



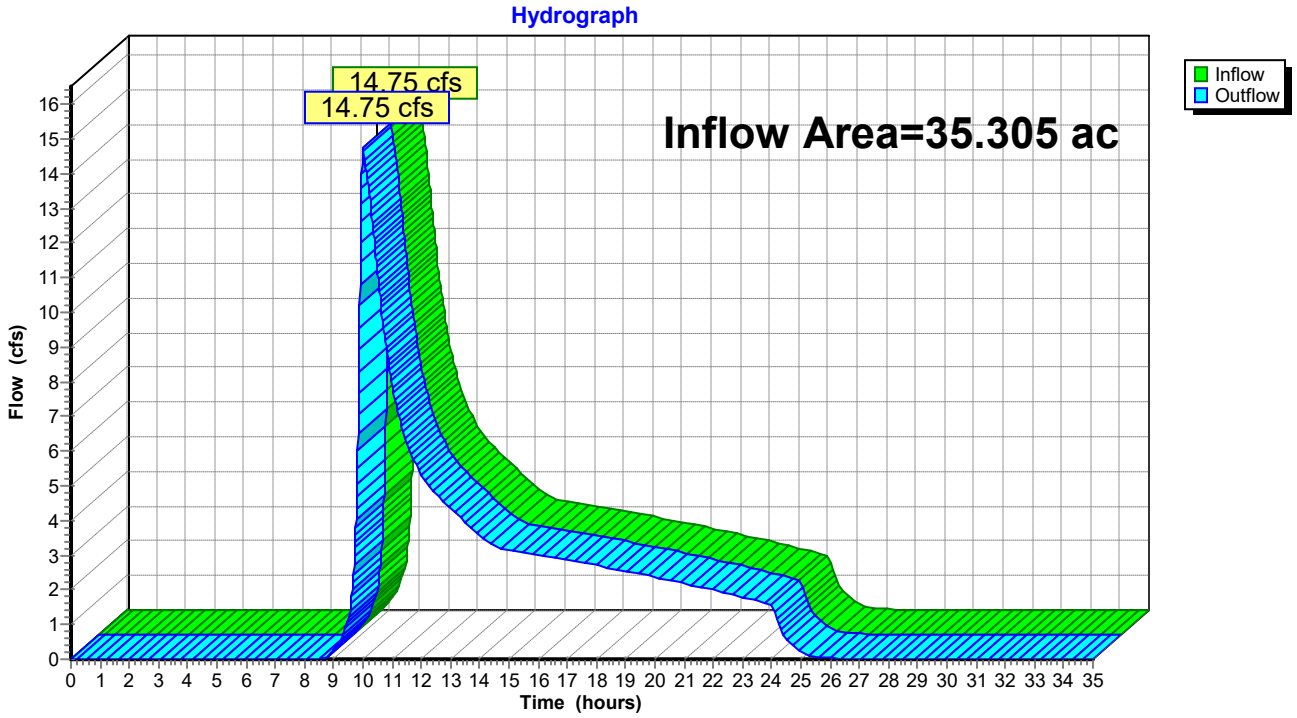
Summary for Reach 21R: Collection Point 21

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.305 ac, 0.00% Impervious, Inflow Depth = 1.55" for 100 year event
Inflow = 14.75 cfs @ 10.00 hrs, Volume= 4.574 af
Outflow = 14.75 cfs @ 10.00 hrs, Volume= 4.574 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 21R: Collection Point 21



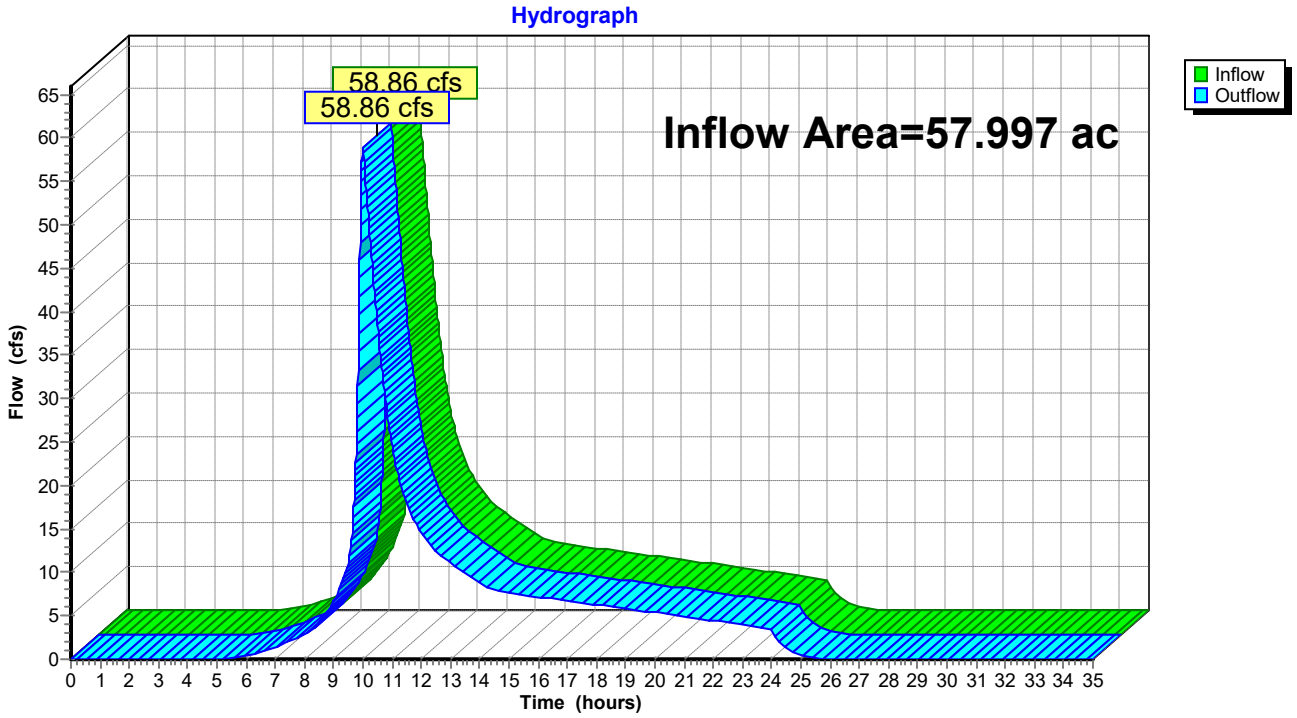
Summary for Reach 22R: Collection Point 22

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 57.997 ac, 0.00% Impervious, Inflow Depth = 2.85" for 100 year event
Inflow = 58.86 cfs @ 9.99 hrs, Volume= 13.790 af
Outflow = 58.86 cfs @ 9.99 hrs, Volume= 13.790 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 22R: Collection Point 22



Summary for Pond 12S: Flow Splitter Box

[57] Hint: Peaked at 120.34' (Flood elevation advised)

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 2.20" for 100 year event
Inflow = 349.54 cfs @ 10.00 hrs, Volume= 97.550 af
Outflow = 349.54 cfs @ 10.00 hrs, Volume= 97.550 af, Atten= 0%, Lag= 0.0 min
Primary = 174.77 cfs @ 10.00 hrs, Volume= 48.775 af
Routed to Pond D12.1 : Detention Pond 12.1
Secondary = 174.77 cfs @ 10.00 hrs, Volume= 48.775 af
Routed to Pond D12.2 : Detention Pond 12.2

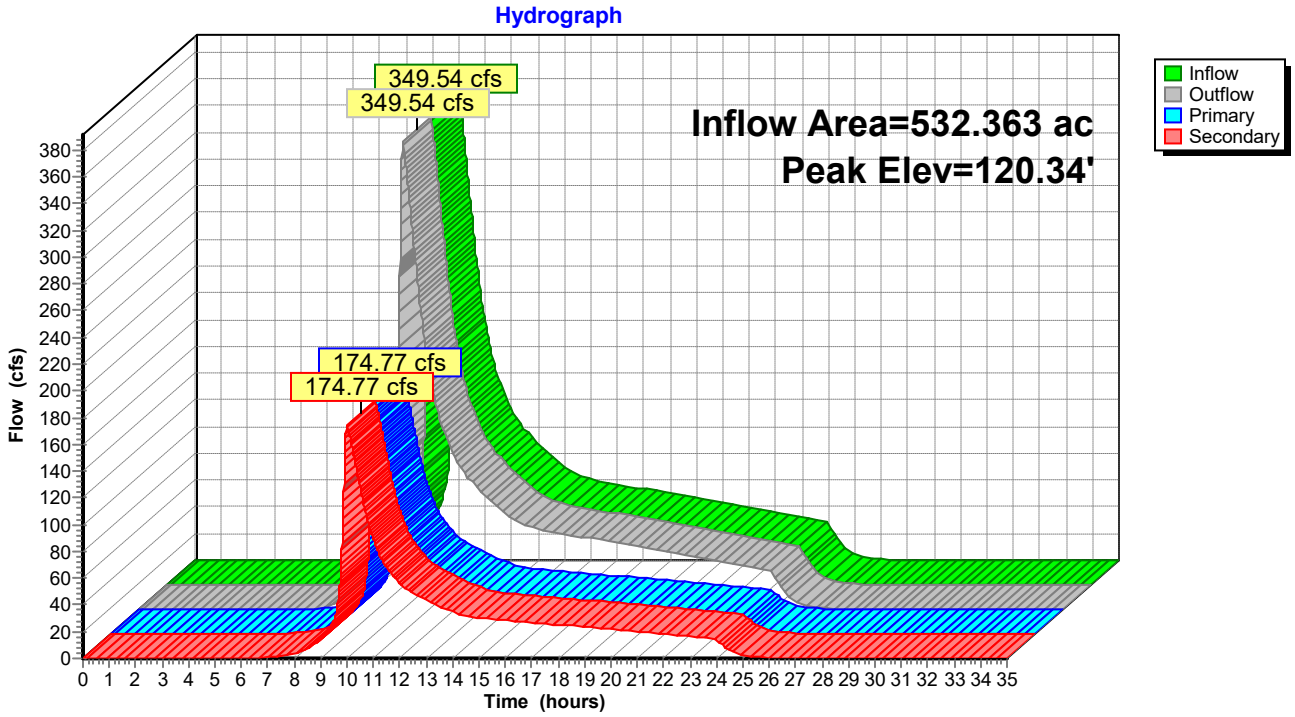
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 120.34' @ 10.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf
#2	Secondary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

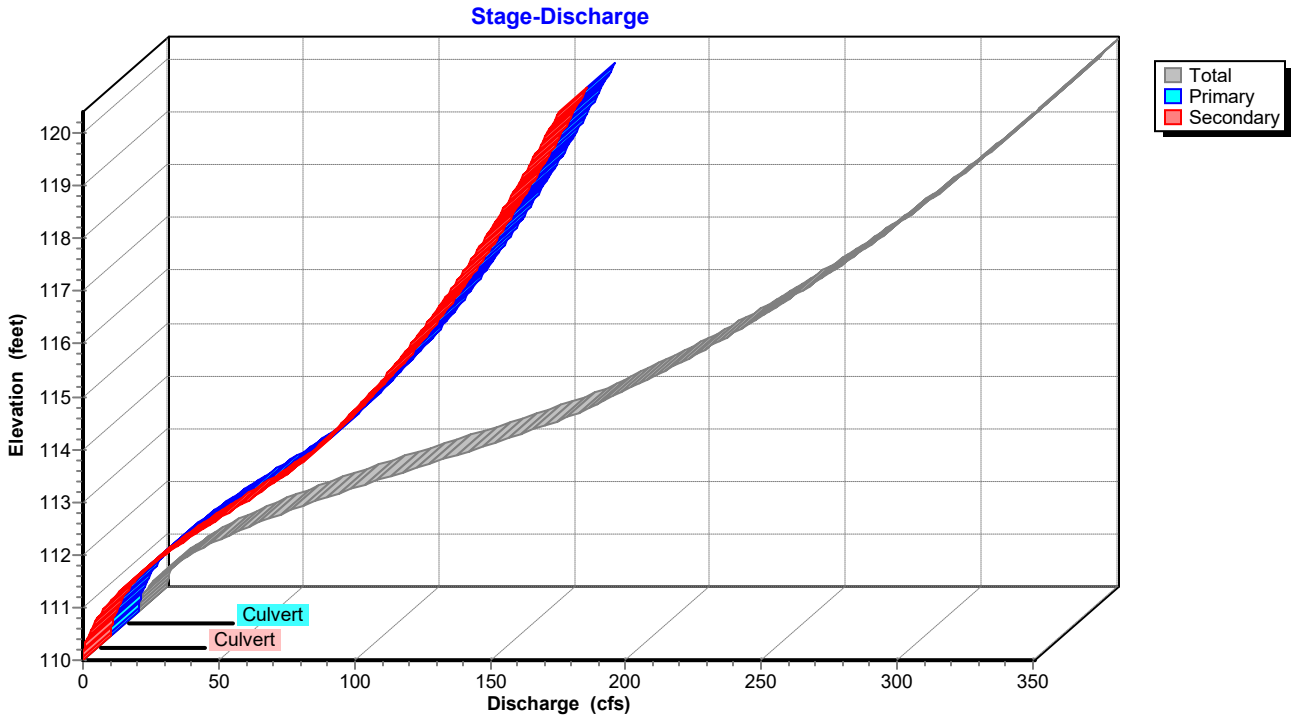
Primary OutFlow Max=174.69 cfs @ 10.00 hrs HW=120.34' TW=101.57' (Dynamic Tailwater)
1=Culvert (Inlet Controls 174.69 cfs @ 13.90 fps)

Secondary OutFlow Max=174.69 cfs @ 10.00 hrs HW=120.34' TW=101.57' (Dynamic Tailwater)
2=Culvert (Inlet Controls 174.69 cfs @ 13.90 fps)

Pond 12S: Flow Splitter Box



Pond 12S: Flow Splitter Box



Stage-Discharge for Pond 12S: Flow Splitter Box

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
110.00	0.00	0.00	0.00
110.20	0.72	0.36	0.36
110.40	2.82	1.41	1.41
110.60	6.23	3.12	3.12
110.80	10.90	5.45	5.45
111.00	16.73	8.36	8.36
111.20	23.65	11.83	11.83
111.40	31.58	15.79	15.79
111.60	40.43	20.22	20.22
111.80	50.11	25.05	25.05
112.00	60.51	30.25	30.25
112.20	71.53	35.76	35.76
112.40	83.05	41.52	41.52
112.60	94.94	47.47	47.47
112.80	107.06	53.53	53.53
113.00	119.24	59.62	59.62
113.20	131.28	65.64	65.64
113.40	142.94	71.47	71.47
113.60	153.91	76.95	76.95
113.80	163.69	81.84	81.84
114.00	171.14	85.57	85.57
114.20	179.49	89.75	89.75
114.40	187.47	93.74	93.74
114.60	195.13	97.56	97.56
114.80	202.49	101.25	101.25
115.00	209.60	104.80	104.80
115.20	216.48	108.24	108.24
115.40	223.14	111.57	111.57
115.60	229.61	114.80	114.80
115.80	235.90	117.95	117.95
116.00	242.03	121.01	121.01
116.20	248.00	124.00	124.00
116.40	253.84	126.92	126.92
116.60	259.55	129.77	129.77
116.80	265.13	132.56	132.56
117.00	270.59	135.30	135.30
117.20	275.95	137.98	137.98
117.40	281.21	140.61	140.61
117.60	286.37	143.19	143.19
117.80	291.44	145.72	145.72
118.00	296.42	148.21	148.21
118.20	301.32	150.66	150.66
118.40	306.14	153.07	153.07
118.60	310.89	155.44	155.44
118.80	315.56	157.78	157.78
119.00	320.17	160.09	160.09
119.20	324.71	162.36	162.36
119.40	329.19	164.60	164.60
119.60	333.61	166.81	166.81
119.80	337.97	168.99	168.99
120.00	342.28	171.14	171.14
120.20	346.53	173.27	173.27
120.40	**350.73**	**175.37**	**175.37**

Stage-Area-Storage for Pond 12S: Flow Splitter Box

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
110.00	**0.000**	115.20	0.000	120.40	0.000
110.10	0.000	115.30	0.000		
110.20	0.000	115.40	0.000		
110.30	0.000	115.50	0.000		
110.40	0.000	115.60	0.000		
110.50	0.000	115.70	0.000		
110.60	0.000	115.80	0.000		
110.70	0.000	115.90	0.000		
110.80	0.000	116.00	0.000		
110.90	0.000	116.10	0.000		
111.00	0.000	116.20	0.000		
111.10	0.000	116.30	0.000		
111.20	0.000	116.40	0.000		
111.30	0.000	116.50	0.000		
111.40	0.000	116.60	0.000		
111.50	0.000	116.70	0.000		
111.60	0.000	116.80	0.000		
111.70	0.000	116.90	0.000		
111.80	0.000	117.00	0.000		
111.90	0.000	117.10	0.000		
112.00	0.000	117.20	0.000		
112.10	0.000	117.30	0.000		
112.20	0.000	117.40	0.000		
112.30	0.000	117.50	0.000		
112.40	0.000	117.60	0.000		
112.50	0.000	117.70	0.000		
112.60	0.000	117.80	0.000		
112.70	0.000	117.90	0.000		
112.80	0.000	118.00	0.000		
112.90	0.000	118.10	0.000		
113.00	0.000	118.20	0.000		
113.10	0.000	118.30	0.000		
113.20	0.000	118.40	0.000		
113.30	0.000	118.50	0.000		
113.40	0.000	118.60	0.000		
113.50	0.000	118.70	0.000		
113.60	0.000	118.80	0.000		
113.70	0.000	118.90	0.000		
113.80	0.000	119.00	0.000		
113.90	0.000	119.10	0.000		
114.00	0.000	119.20	0.000		
114.10	0.000	119.30	0.000		
114.20	0.000	119.40	0.000		
114.30	0.000	119.50	0.000		
114.40	0.000	119.60	0.000		
114.50	0.000	119.70	0.000		
114.60	0.000	119.80	0.000		
114.70	0.000	119.90	0.000		
114.80	0.000	120.00	0.000		
114.90	0.000	120.10	0.000		
115.00	0.000	120.20	0.000		
115.10	0.000	120.30	0.000		

Summary for Pond D1: Detention Basin 1

Inflow Area = 22.726 ac, 0.00% Impervious, Inflow Depth = 2.95" for 100 year event
Inflow = 28.50 cfs @ 9.98 hrs, Volume= 5.578 af
Outflow = 4.22 cfs @ 13.08 hrs, Volume= 3.753 af, Atten= 85%, Lag= 185.5 min
Primary = 4.22 cfs @ 13.08 hrs, Volume= 3.753 af
Routed to Reach 1R : Collection Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.83' @ 13.08 hrs Surf.Area= 0.759 ac Storage= 2.873 af

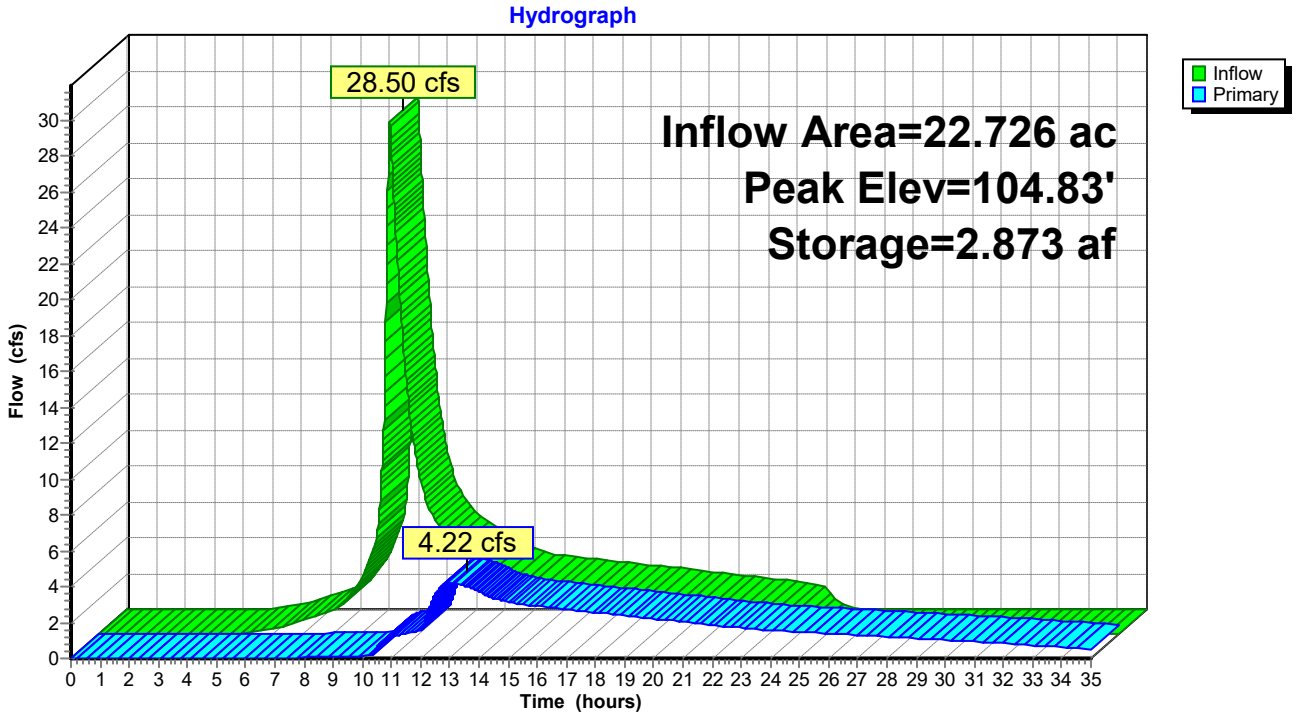
Plug-Flow detention time= 539.1 min calculated for 3.752 af (67% of inflow)
Center-of-Mass det. time= 384.2 min (1,187.7 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	3.808 af	**80.00'W x 240.00'L x 6.00'H Prismatoid Z=4.0**

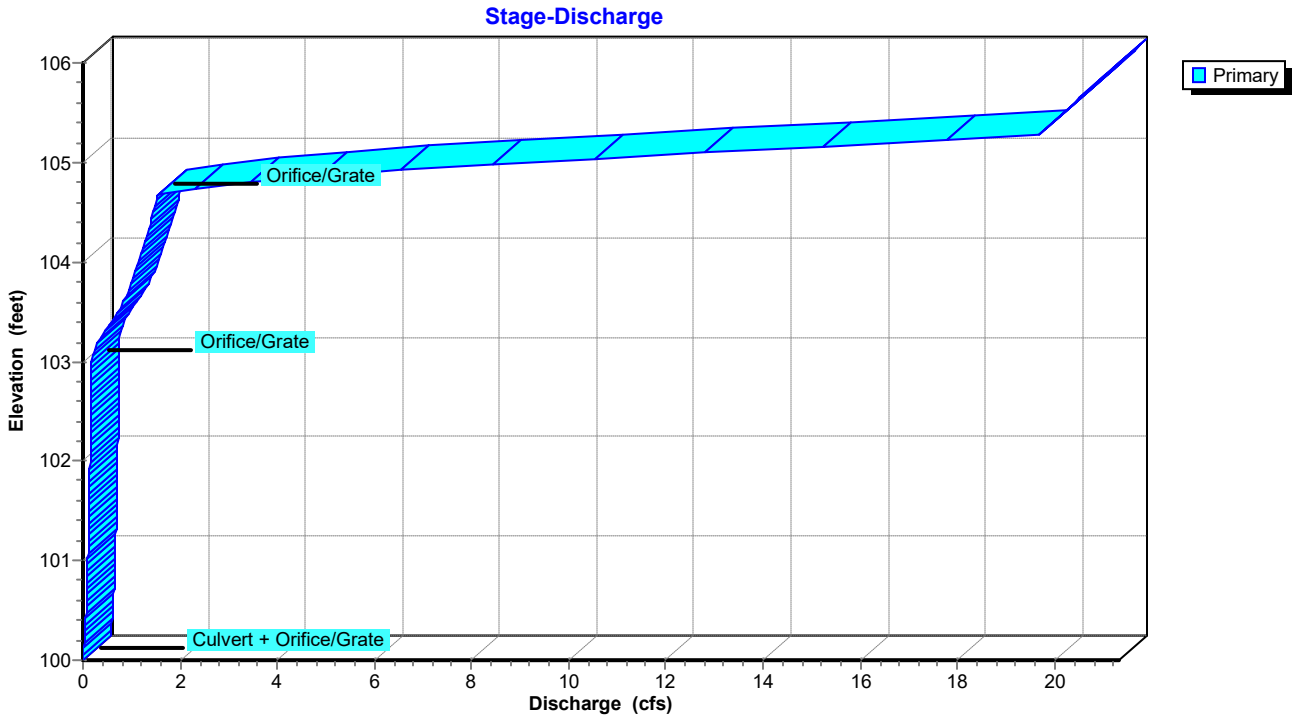
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.67'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	103.00'	**6.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.22 cfs @ 13.08 hrs HW=104.83' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 2.83 cfs of 17.19 cfs potential flow)
  - **2=Orifice/Grate** (Weir Controls 2.60 cfs @ 1.32 fps)
  - **3=Orifice/Grate** (Orifice Controls 0.23 cfs @ 10.49 fps)
- **4=Orifice/Grate** (Orifice Controls 1.39 cfs @ 6.02 fps)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	16.92
100.05	0.00	102.65	0.17	105.25	19.13
100.10	0.01	102.70	0.17	105.30	19.73
100.15	0.03	102.75	0.17	105.35	19.85
100.20	0.04	102.80	0.17	105.40	19.97
100.25	0.04	102.85	0.17	105.45	20.08
100.30	0.05	102.90	0.18	105.50	20.20
100.35	0.05	102.95	0.18	105.55	20.32
100.40	0.06	103.00	0.18	105.60	20.43
100.45	0.06	103.05	0.19	105.65	20.55
100.50	0.07	103.10	0.21	105.70	20.66
100.55	0.07	103.15	0.25	105.75	20.77
100.60	0.08	103.20	0.30	105.80	20.89
100.65	0.08	103.25	0.36	105.85	21.00
100.70	0.08	103.30	0.43	105.90	21.11
100.75	0.09	103.35	0.51	105.95	21.22
100.80	0.09	103.40	0.58	106.00	**21.33**
100.85	0.09	103.45	0.66		
100.90	0.09	103.50	0.73		
100.95	0.10	103.55	0.78		
101.00	0.10	103.60	0.83		
101.05	0.10	103.65	0.88		
101.10	0.11	103.70	0.93		
101.15	0.11	103.75	0.97		
101.20	0.11	103.80	1.01		
101.25	0.11	103.85	1.05		
101.30	0.12	103.90	1.09		
101.35	0.12	103.95	1.12		
101.40	0.12	104.00	1.16		
101.45	0.12	104.05	1.19		
101.50	0.13	104.10	1.22		
101.55	0.13	104.15	1.25		
101.60	0.13	104.20	1.28		
101.65	0.13	104.25	1.31		
101.70	0.13	104.30	1.34		
101.75	0.14	104.35	1.37		
101.80	0.14	104.40	1.40		
101.85	0.14	104.45	1.42		
101.90	0.14	104.50	1.45		
101.95	0.14	104.55	1.48		
102.00	0.15	104.60	1.50		
102.05	0.15	104.65	1.53		
102.10	0.15	104.70	1.76		
102.15	0.15	104.75	2.46		
102.20	0.15	104.80	3.44		
102.25	0.15	104.85	4.62		
102.30	0.16	104.90	5.98		
102.35	0.16	104.95	7.48		
102.40	0.16	105.00	9.13		
102.45	0.16	105.05	10.91		
102.50	0.16	105.10	12.80		
102.55	0.16	105.15	14.81		

Stage-Area-Storage for Pond D1: Detention Basin 1

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	1.353	105.20	3.155
100.05	0.022	102.65	1.384	105.25	3.195
100.10	0.044	102.70	1.414	105.30	3.234
100.15	0.067	102.75	1.445	105.35	3.274
100.20	0.089	102.80	1.475	105.40	3.314
100.25	0.112	102.85	1.506	105.45	3.354
100.30	0.135	102.90	1.537	105.50	3.395
100.35	0.158	102.95	1.569	105.55	3.435
100.40	0.181	103.00	1.600	105.60	3.476
100.45	0.204	103.05	1.632	105.65	3.517
100.50	0.228	103.10	1.663	105.70	3.558
100.55	0.251	103.15	1.695	105.75	3.599
100.60	0.275	103.20	1.727	105.80	3.641
100.65	0.299	103.25	1.760	105.85	3.682
100.70	0.323	103.30	1.792	105.90	3.724
100.75	0.347	103.35	1.825	105.95	3.766
100.80	0.372	103.40	1.858	106.00	**3.808**
100.85	0.396	103.45	1.891		
100.90	0.421	103.50	1.924		
100.95	0.446	103.55	1.957		
101.00	0.471	103.60	1.990		
101.05	0.496	103.65	2.024		
101.10	0.521	103.70	2.058		
101.15	0.546	103.75	2.092		
101.20	0.572	103.80	2.126		
101.25	0.598	103.85	2.160		
101.30	0.624	103.90	2.195		
101.35	0.650	103.95	2.230		
101.40	0.676	104.00	2.265		
101.45	0.702	104.05	2.300		
101.50	0.729	104.10	2.335		
101.55	0.756	104.15	2.370		
101.60	0.782	104.20	2.406		
101.65	0.809	104.25	2.442		
101.70	0.837	104.30	2.478		
101.75	0.864	104.35	2.514		
101.80	0.891	104.40	2.550		
101.85	0.919	104.45	2.586		
101.90	0.947	104.50	2.623		
101.95	0.975	104.55	2.660		
102.00	1.003	104.60	2.697		
102.05	1.031	104.65	2.734		
102.10	1.060	104.70	2.772		
102.15	1.088	104.75	2.809		
102.20	1.117	104.80	2.847		
102.25	1.146	104.85	2.885		
102.30	1.175	104.90	2.923		
102.35	1.204	104.95	2.961		
102.40	1.234	105.00	3.000		
102.45	1.263	105.05	3.038		
102.50	1.293	105.10	3.077		
102.55	1.323	105.15	3.116		

Summary for Pond D12.1: Detention Pond 12.1

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 1.10" for 100 year event
Inflow = 174.77 cfs @ 10.00 hrs, Volume= 48.775 af
Outflow = 16.87 cfs @ 22.68 hrs, Volume= 22.469 af, Atten= 90%, Lag= 760.8 min
Primary = 16.87 cfs @ 22.68 hrs, Volume= 22.469 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 109.41' @ 22.68 hrs Surf.Area= 4.661 ac Storage= 35.720 af

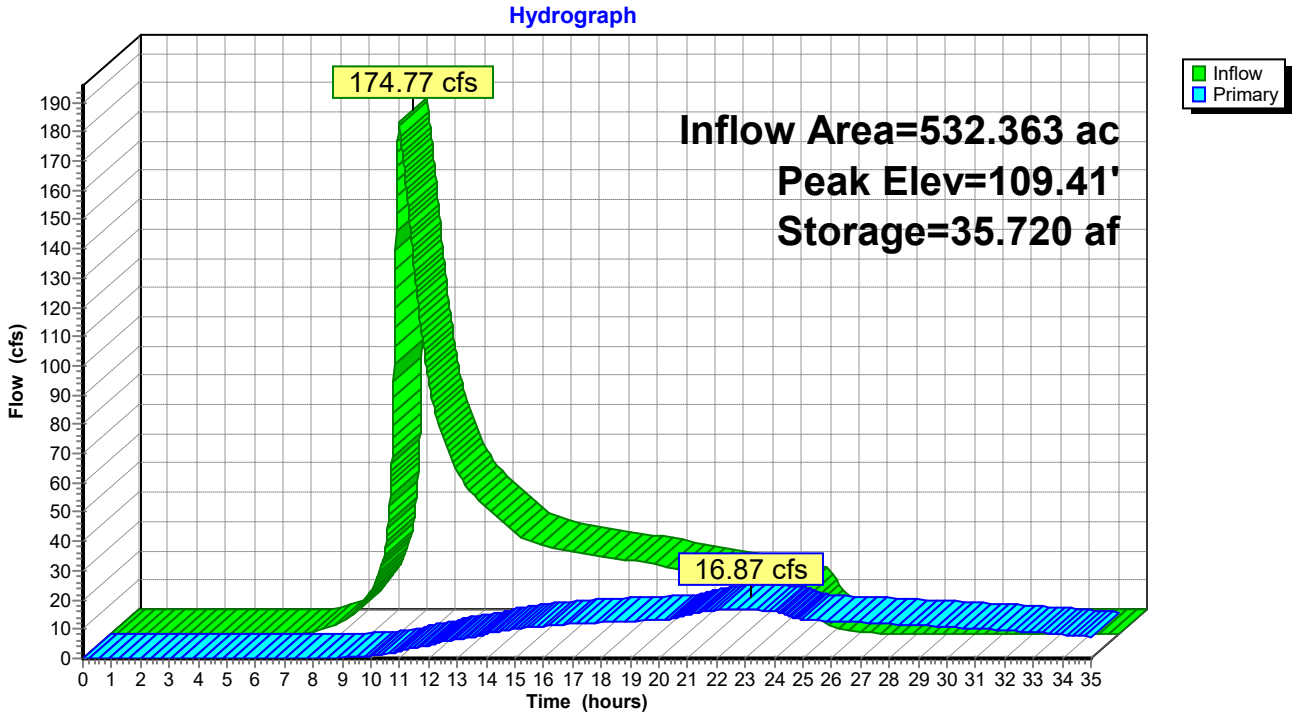
Plug-Flow detention time= 759.3 min calculated for 22.469 af (46% of inflow)
Center-of-Mass det. time= 542.5 min (1,393.6 - 851.2)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

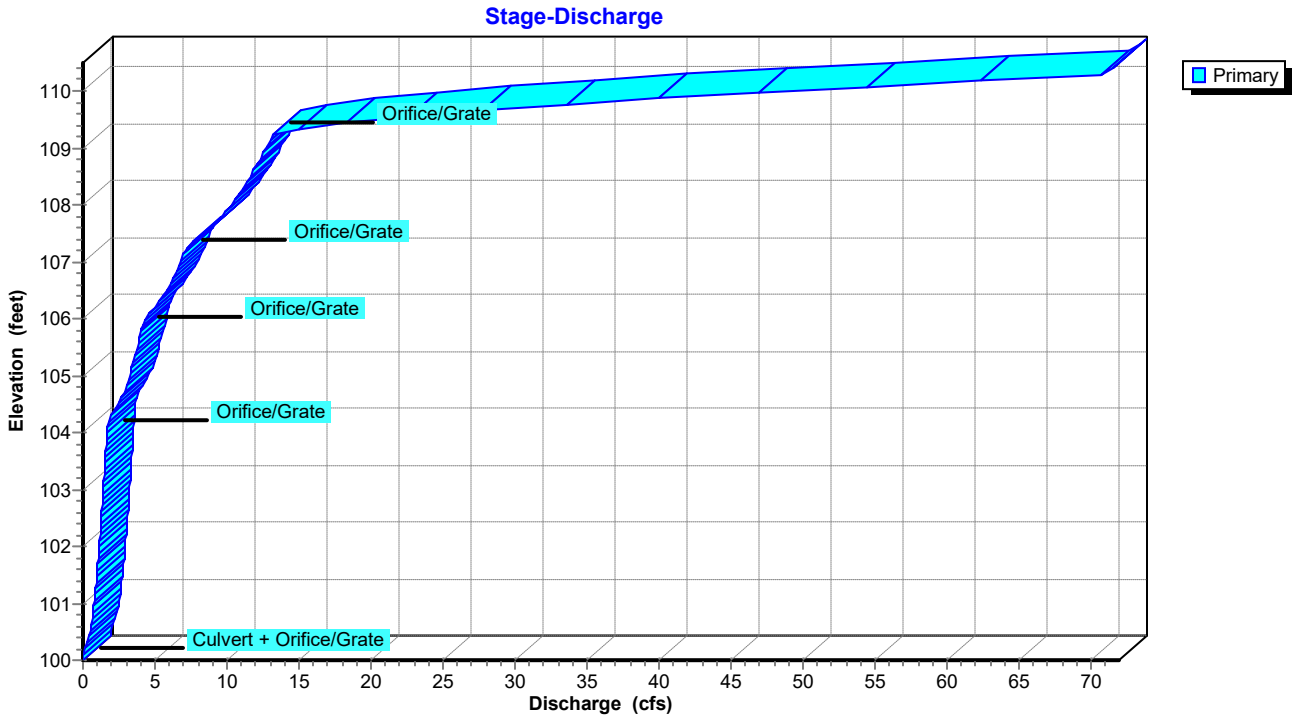
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=16.87 cfs @ 22.68 hrs HW=109.41' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 16.87 cfs of 67.51 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 2.55 cfs @ 14.64 fps)
  ├─**3=Orifice/Grate** (Weir Controls 3.33 cfs @ 1.31 fps)
  ├─**4=Orifice/Grate** (Orifice Controls 3.79 cfs @ 10.85 fps)
  ├─**5=Orifice/Grate** (Orifice Controls 3.45 cfs @ 8.79 fps)
  └─**6=Orifice/Grate** (Orifice Controls 3.75 cfs @ 6.88 fps)

Pond D12.1: Detention Pond 12.1



Pond D12.1: Detention Pond 12.1



Stage-Discharge for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Stage-Area-Storage for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	105.20	17.775	110.40	40.432
100.10	0.298	105.30	18.163	110.50	**40.918**
100.20	0.598	105.40	18.553		
100.30	0.900	105.50	18.945		
100.40	1.203	105.60	19.339		
100.50	1.508	105.70	19.734		
100.60	1.815	105.80	20.132		
100.70	2.123	105.90	20.531		
100.80	2.433	106.00	20.932		
100.90	2.745	106.10	21.335		
101.00	3.058	106.20	21.740		
101.10	3.373	106.30	22.146		
101.20	3.690	106.40	22.555		
101.30	4.009	106.50	22.965		
101.40	4.329	106.60	23.377		
101.50	4.650	106.70	23.791		
101.60	4.974	106.80	24.207		
101.70	5.299	106.90	24.625		
101.80	5.626	107.00	25.044		
101.90	5.955	107.10	25.465		
102.00	6.285	107.20	25.889		
102.10	6.617	107.30	26.314		
102.20	6.951	107.40	26.741		
102.30	7.286	107.50	27.169		
102.40	7.623	107.60	27.600		
102.50	7.962	107.70	28.033		
102.60	8.303	107.80	28.467		
102.70	8.645	107.90	28.903		
102.80	8.989	108.00	29.342		
102.90	9.335	108.10	29.782		
103.00	9.683	108.20	30.224		
103.10	10.032	108.30	30.668		
103.20	10.383	108.40	31.113		
103.30	10.736	108.50	31.561		
103.40	11.090	108.60	32.011		
103.50	11.447	108.70	32.462		
103.60	11.805	108.80	32.916		
103.70	12.164	108.90	33.371		
103.80	12.526	109.00	33.828		
103.90	12.889	109.10	34.287		
104.00	13.254	109.20	34.748		
104.10	13.621	109.30	35.211		
104.20	13.990	109.40	35.676		
104.30	14.360	109.50	36.143		
104.40	14.733	109.60	36.612		
104.50	15.107	109.70	37.083		
104.60	15.482	109.80	37.555		
104.70	15.860	109.90	38.030		
104.80	16.239	110.00	38.506		
104.90	16.620	110.10	38.985		
105.00	17.003	110.20	39.465		
105.10	17.388	110.30	39.948		

Summary for Pond D12.2: Detention Pond 12.2

Inflow = 174.77 cfs @ 10.00 hrs, Volume= 48.775 af
Outflow = 16.87 cfs @ 22.68 hrs, Volume= 22.469 af, Atten= 90%, Lag= 760.8 min
Primary = 16.87 cfs @ 22.68 hrs, Volume= 22.469 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 109.41' @ 22.68 hrs Surf.Area= 4.661 ac Storage= 35.720 af

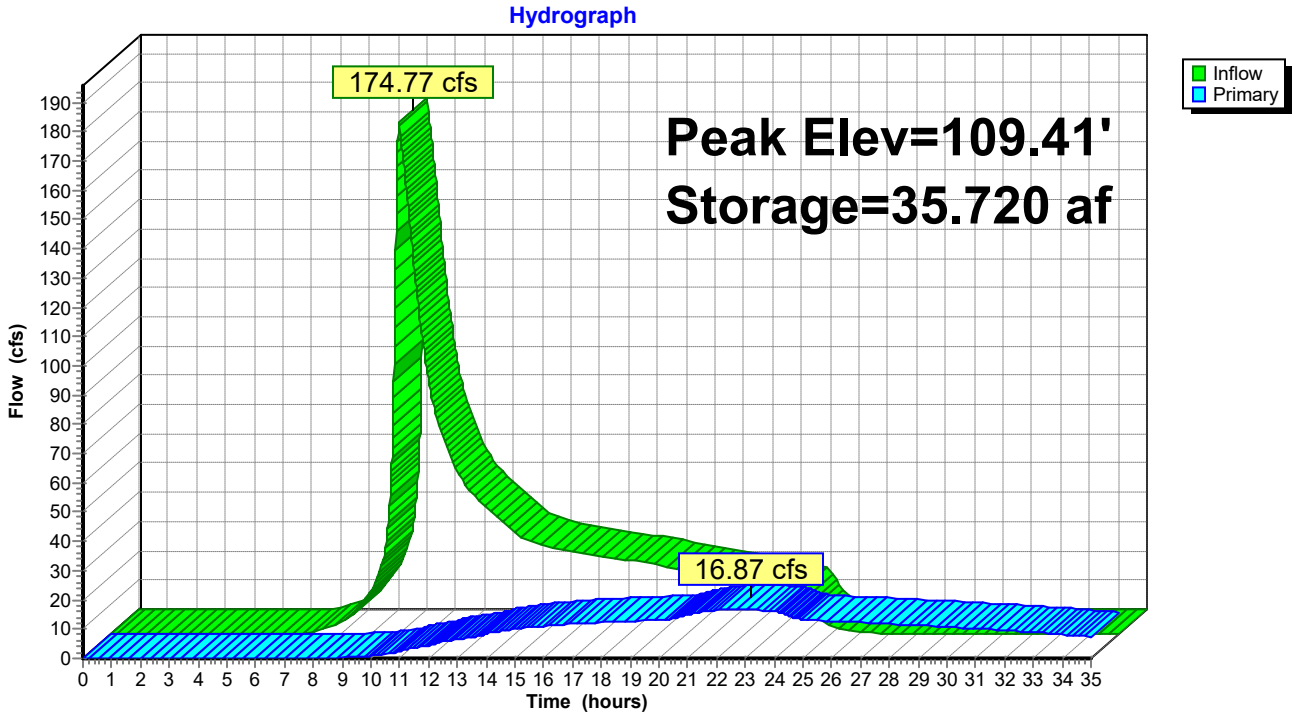
Plug-Flow detention time= 759.3 min calculated for 22.469 af (46% of inflow)
Center-of-Mass det. time= 542.5 min (1,393.6 - 851.2)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

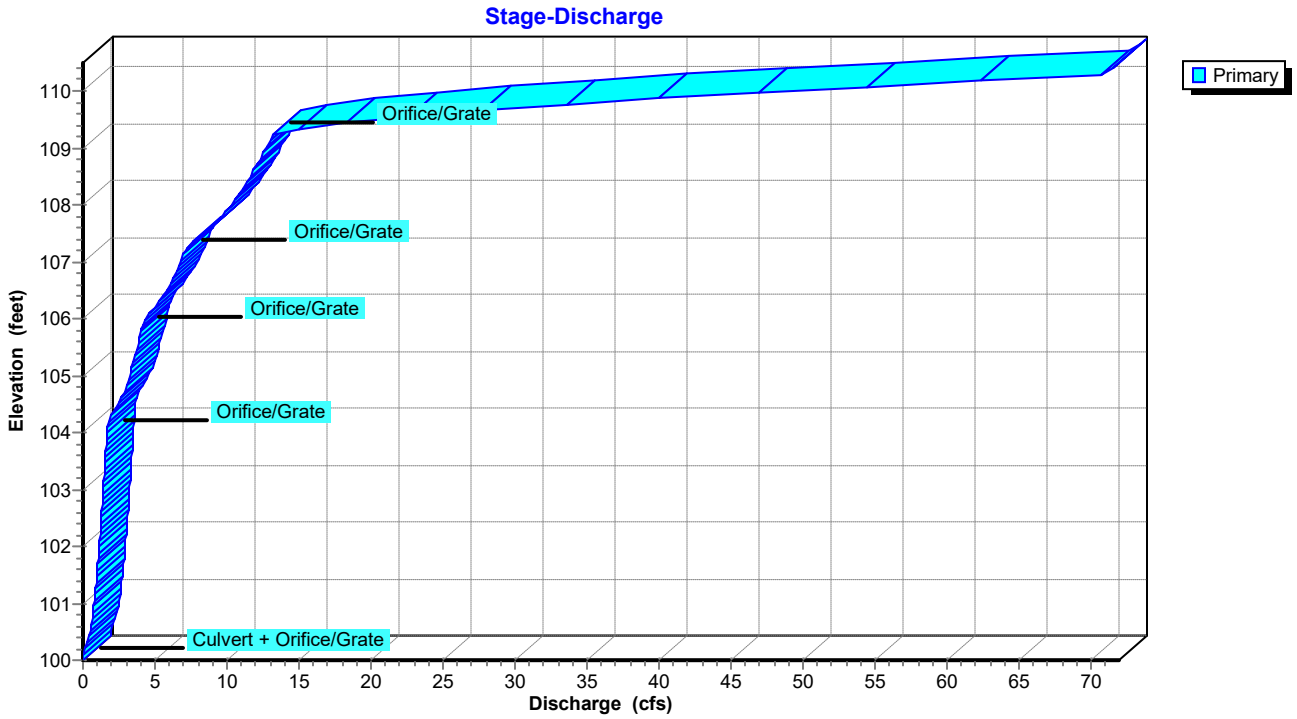
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=16.87 cfs @ 22.68 hrs HW=109.41' TW=0.00' (Dynamic Tailwater)
1=Culvert (Passes 16.87 cfs of 67.51 cfs potential flow)
- **2=Orifice/Grate** (Orifice Controls 2.55 cfs @ 14.64 fps)
- **3=Orifice/Grate** (Weir Controls 3.33 cfs @ 1.31 fps)
- **4=Orifice/Grate** (Orifice Controls 3.79 cfs @ 10.85 fps)
- **5=Orifice/Grate** (Orifice Controls 3.45 cfs @ 8.79 fps)
- **6=Orifice/Grate** (Orifice Controls 3.75 cfs @ 6.88 fps)

Pond D12.2: Detention Pond 12.2



Pond D12.2: Detention Pond 12.2



Stage-Discharge for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Stage-Area-Storage for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	105.20	17.775	110.40	40.432
100.10	0.298	105.30	18.163	110.50	**40.918**
100.20	0.598	105.40	18.553		
100.30	0.900	105.50	18.945		
100.40	1.203	105.60	19.339		
100.50	1.508	105.70	19.734		
100.60	1.815	105.80	20.132		
100.70	2.123	105.90	20.531		
100.80	2.433	106.00	20.932		
100.90	2.745	106.10	21.335		
101.00	3.058	106.20	21.740		
101.10	3.373	106.30	22.146		
101.20	3.690	106.40	22.555		
101.30	4.009	106.50	22.965		
101.40	4.329	106.60	23.377		
101.50	4.650	106.70	23.791		
101.60	4.974	106.80	24.207		
101.70	5.299	106.90	24.625		
101.80	5.626	107.00	25.044		
101.90	5.955	107.10	25.465		
102.00	6.285	107.20	25.889		
102.10	6.617	107.30	26.314		
102.20	6.951	107.40	26.741		
102.30	7.286	107.50	27.169		
102.40	7.623	107.60	27.600		
102.50	7.962	107.70	28.033		
102.60	8.303	107.80	28.467		
102.70	8.645	107.90	28.903		
102.80	8.989	108.00	29.342		
102.90	9.335	108.10	29.782		
103.00	9.683	108.20	30.224		
103.10	10.032	108.30	30.668		
103.20	10.383	108.40	31.113		
103.30	10.736	108.50	31.561		
103.40	11.090	108.60	32.011		
103.50	11.447	108.70	32.462		
103.60	11.805	108.80	32.916		
103.70	12.164	108.90	33.371		
103.80	12.526	109.00	33.828		
103.90	12.889	109.10	34.287		
104.00	13.254	109.20	34.748		
104.10	13.621	109.30	35.211		
104.20	13.990	109.40	35.676		
104.30	14.360	109.50	36.143		
104.40	14.733	109.60	36.612		
104.50	15.107	109.70	37.083		
104.60	15.482	109.80	37.555		
104.70	15.860	109.90	38.030		
104.80	16.239	110.00	38.506		
104.90	16.620	110.10	38.985		
105.00	17.003	110.20	39.465		
105.10	17.388	110.30	39.948		

Summary for Pond D15: Detention Pond 15

Inflow Area = 31.502 ac, 0.00% Impervious, Inflow Depth = 1.41" for 100 year event
Inflow = 12.92 cfs @ 10.00 hrs, Volume= 3.714 af
Outflow = 2.39 cfs @ 16.91 hrs, Volume= 2.979 af, Atten= 81%, Lag= 414.6 min
Primary = 2.39 cfs @ 16.91 hrs, Volume= 2.979 af
Routed to Reach 15R : Collection Point 15

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.08' @ 16.91 hrs Surf.Area= 0.635 ac Storage= 1.648 af

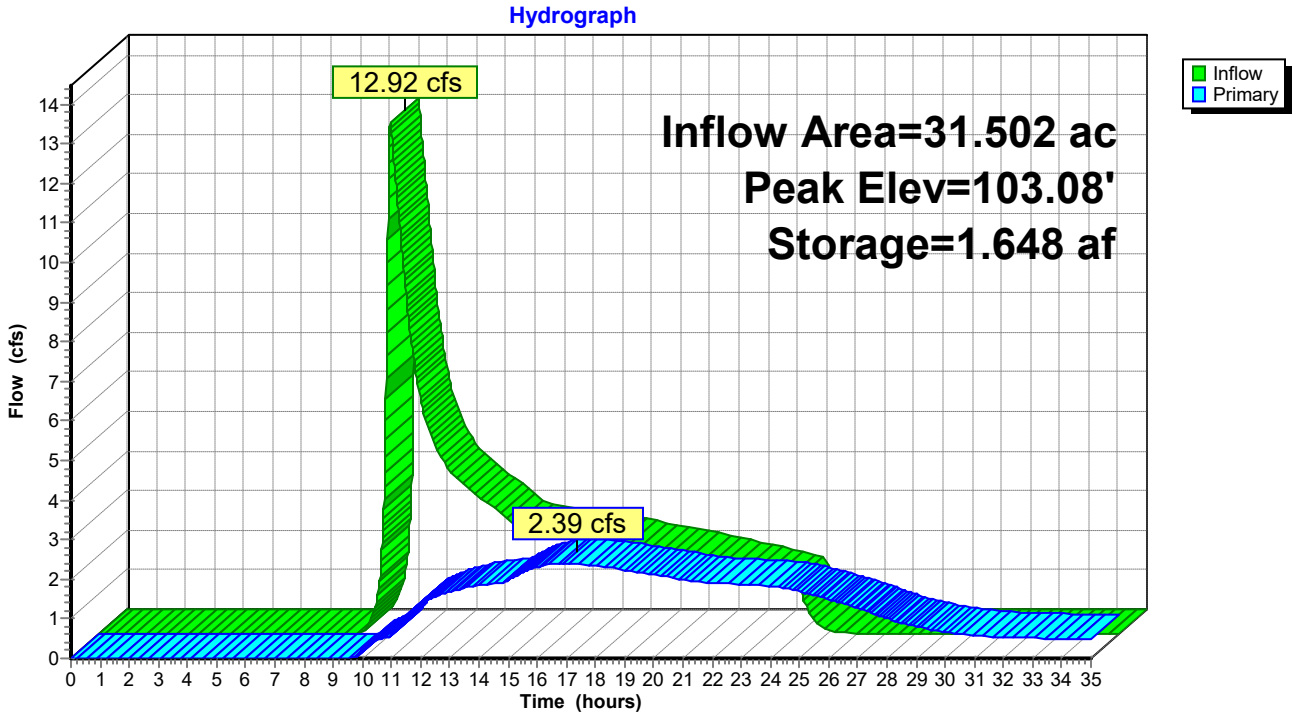
Plug-Flow detention time= 449.7 min calculated for 2.978 af (80% of inflow)
Center-of-Mass det. time= 349.4 min (1,237.0 - 887.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	2.623 af	**80.00'W x 240.00'L x 4.50'H Prismatoid Z=4.0**

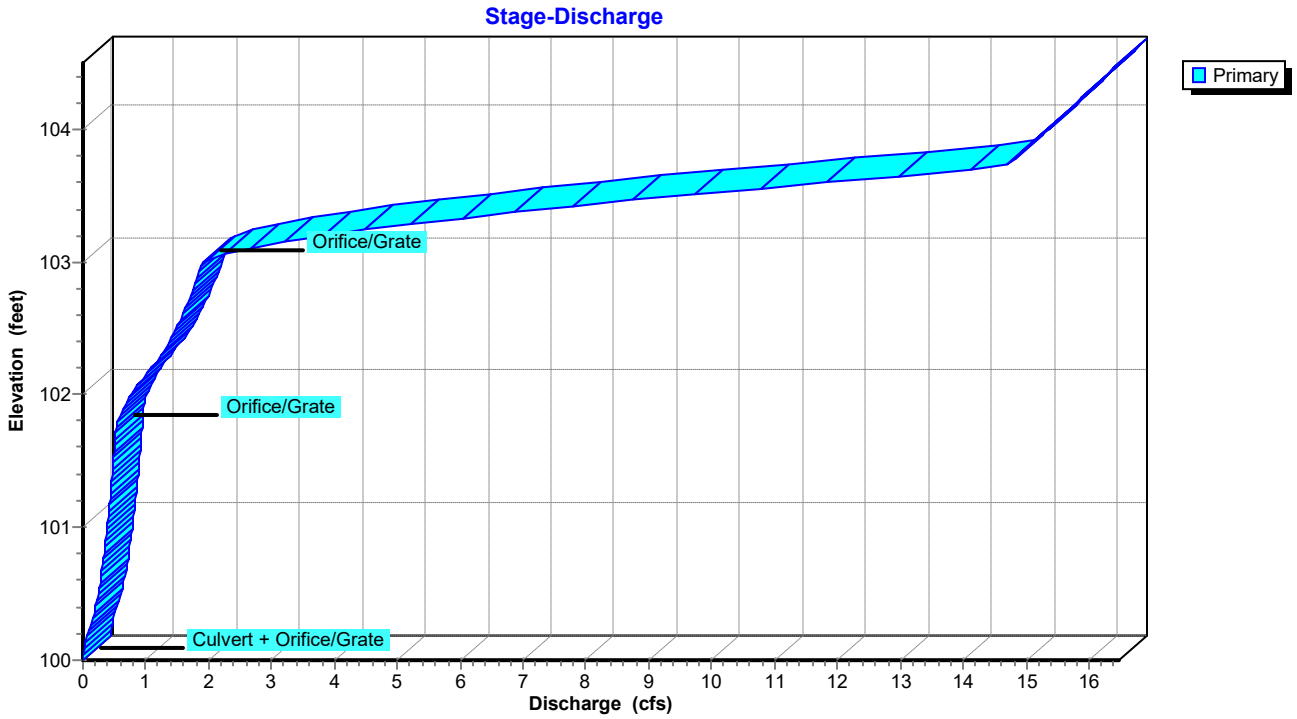
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	101.75'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.39 cfs @ 16.91 hrs HW=103.08' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.39 cfs of 12.98 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 0.43 cfs @ 0.90 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.72 cfs @ 8.21 fps)
  └─**4=Orifice/Grate** (Orifice Controls 1.25 cfs @ 4.98 fps)

Pond D15: Detention Pond 15



Pond D15: Detention Pond 15



Stage-Discharge for Pond D15: Detention Pond 15

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.58
100.05	0.01	102.65	1.63
100.10	0.02	102.70	1.67
100.15	0.05	102.75	1.71
100.20	0.08	102.80	1.75
100.25	0.12	102.85	1.79
100.30	0.15	102.90	1.83
100.35	0.18	102.95	1.87
100.40	0.20	103.00	1.91
100.45	0.22	103.05	2.17
100.50	0.24	103.10	2.63
100.55	0.26	103.15	3.21
100.60	0.28	103.20	3.89
100.65	0.29	103.25	4.65
100.70	0.31	103.30	5.49
100.75	0.32	103.35	6.40
100.80	0.33	103.40	7.38
100.85	0.35	103.45	8.41
100.90	0.36	103.50	9.50
100.95	0.37	103.55	10.65
101.00	0.38	103.60	11.85
101.05	0.39	103.65	13.10
101.10	0.41	103.70	14.39
101.15	0.42	103.75	14.74
101.20	0.43	103.80	14.86
101.25	0.44	103.85	14.98
101.30	0.45	103.90	15.10
101.35	0.46	103.95	15.22
101.40	0.47	104.00	15.34
101.45	0.48	104.05	15.46
101.50	0.49	104.10	15.57
101.55	0.49	104.15	15.69
101.60	0.50	104.20	15.80
101.65	0.51	104.25	15.92
101.70	0.52	104.30	16.03
101.75	0.53	104.35	16.14
101.80	0.55	104.40	16.26
101.85	0.60	104.45	16.37
101.90	0.65	104.50	**16.48**
101.95	0.70		
102.00	0.77		
102.05	0.84		
102.10	0.92		
102.15	1.00		
102.20	1.08		
102.25	1.17		
102.30	1.25		
102.35	1.32		
102.40	1.38		
102.45	1.43		
102.50	1.48		
102.55	1.53		

Stage-Area-Storage for Pond D15: Detention Pond 15

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	1.353
100.05	0.022	102.65	1.384
100.10	0.044	102.70	1.414
100.15	0.067	102.75	1.445
100.20	0.089	102.80	1.475
100.25	0.112	102.85	1.506
100.30	0.135	102.90	1.537
100.35	0.158	102.95	1.569
100.40	0.181	103.00	1.600
100.45	0.204	103.05	1.632
100.50	0.228	103.10	1.663
100.55	0.251	103.15	1.695
100.60	0.275	103.20	1.727
100.65	0.299	103.25	1.760
100.70	0.323	103.30	1.792
100.75	0.347	103.35	1.825
100.80	0.372	103.40	1.858
100.85	0.396	103.45	1.891
100.90	0.421	103.50	1.924
100.95	0.446	103.55	1.957
101.00	0.471	103.60	1.990
101.05	0.496	103.65	2.024
101.10	0.521	103.70	2.058
101.15	0.546	103.75	2.092
101.20	0.572	103.80	2.126
101.25	0.598	103.85	2.160
101.30	0.624	103.90	2.195
101.35	0.650	103.95	2.230
101.40	0.676	104.00	2.265
101.45	0.702	104.05	2.300
101.50	0.729	104.10	2.335
101.55	0.756	104.15	2.370
101.60	0.782	104.20	2.406
101.65	0.809	104.25	2.442
101.70	0.837	104.30	2.478
101.75	0.864	104.35	2.514
101.80	0.891	104.40	2.550
101.85	0.919	104.45	2.586
101.90	0.947	104.50	**2.623**
101.95	0.975		
102.00	1.003		
102.05	1.031		
102.10	1.060		
102.15	1.088		
102.20	1.117		
102.25	1.146		
102.30	1.175		
102.35	1.204		
102.40	1.234		
102.45	1.263		
102.50	1.293		
102.55	1.323		

Summary for Pond D16.2: Detention Pond 16.2

Inflow Area = 12.275 ac, 0.00% Impervious, Inflow Depth = 1.70" for 100 year event
Inflow = 8.72 cfs @ 9.98 hrs, Volume= 1.738 af
Outflow = 2.03 cfs @ 11.54 hrs, Volume= 1.651 af, Atten= 77%, Lag= 93.1 min
Primary = 2.03 cfs @ 11.54 hrs, Volume= 1.651 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.23' @ 11.54 hrs Surf.Area= 0.261 ac Storage= 0.481 af

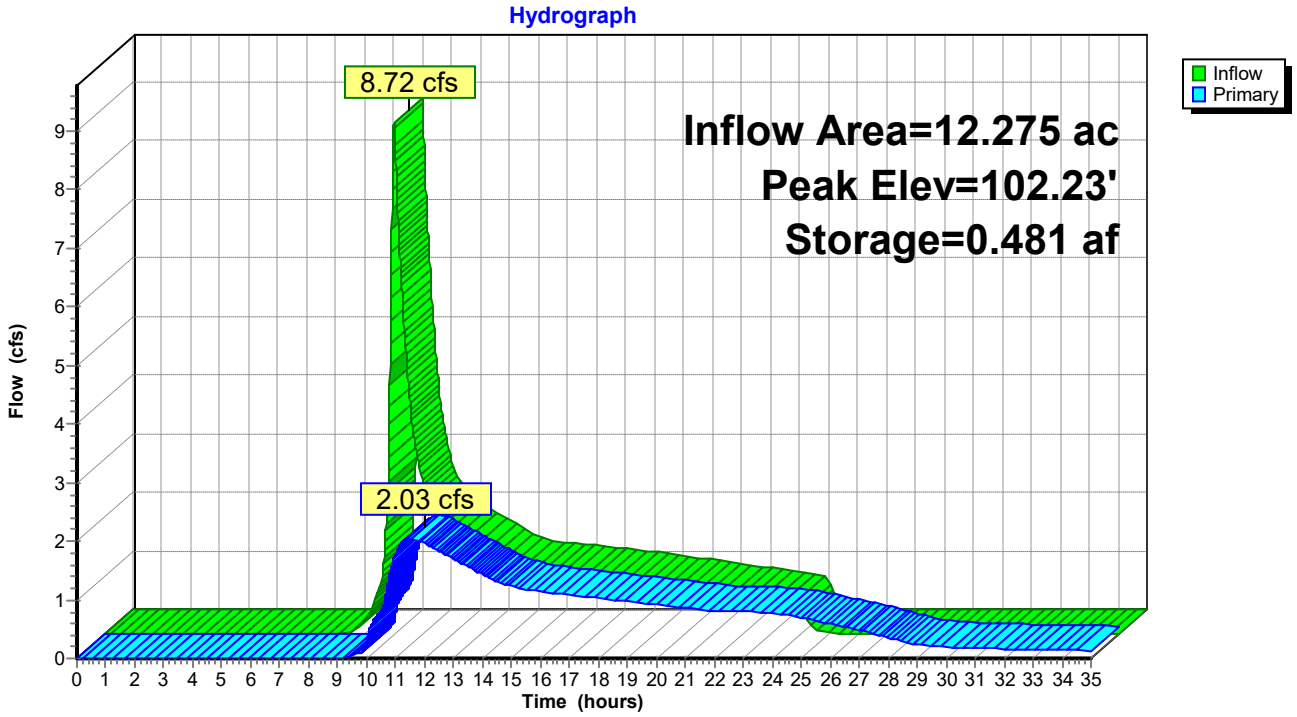
Plug-Flow detention time= 255.5 min calculated for 1.650 af (95% of inflow)
Center-of-Mass det. time= 226.8 min (1,087.6 - 860.8)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.770 af	**50.00'W x 150.00'L x 3.25'H Prismatoid Z=4.0**

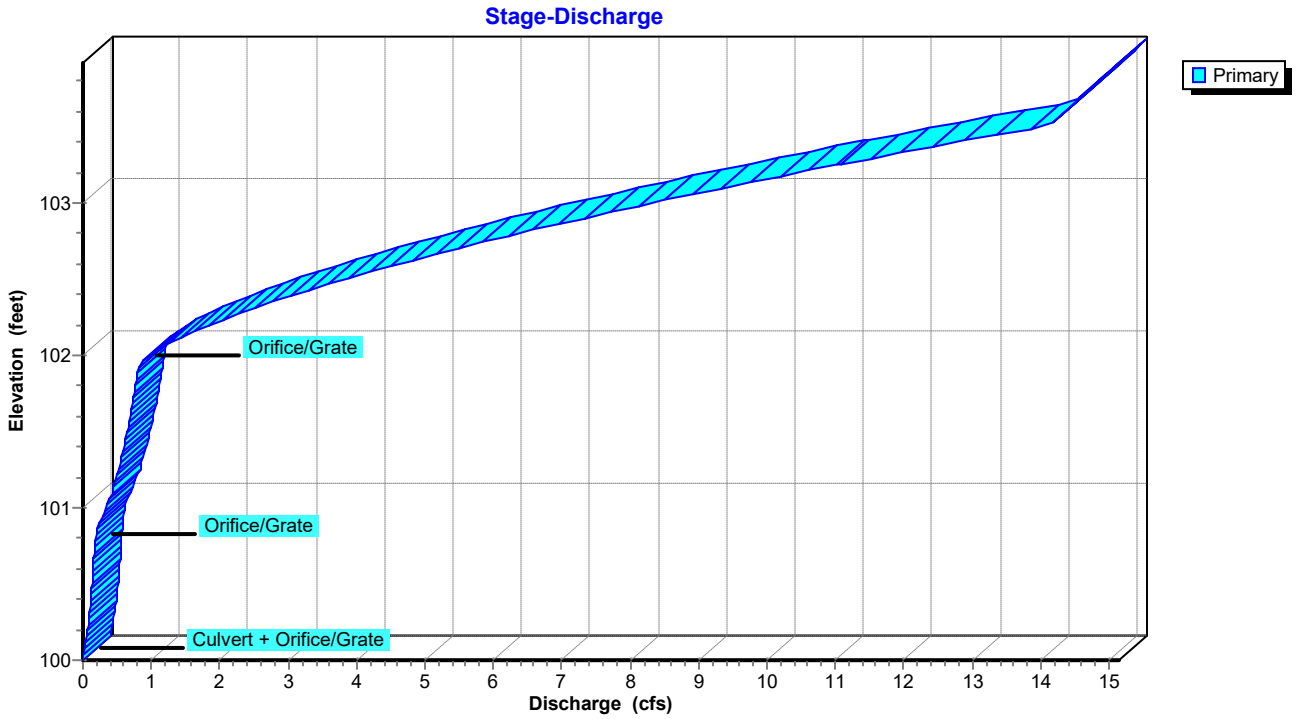
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	101.92'	**24.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.75'	**4.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.03 cfs @ 11.54 hrs HW=102.23' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.03 cfs of 9.97 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.12 cfs @ 1.79 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.31 cfs @ 7.06 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.61 cfs @ 5.48 fps)

Pond D16.2: Detention Pond 16.2



Pond D16.2: Detention Pond 16.2



Stage-Discharge for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.37	102.08	1.28	103.12	9.59
100.02	0.00	101.06	0.39	102.10	1.36	103.14	9.81
100.04	0.01	101.08	0.41	102.12	1.45	103.16	10.03
100.06	0.01	101.10	0.43	102.14	1.55	103.18	10.25
100.08	0.02	101.12	0.44	102.16	1.65	103.20	10.47
100.10	0.03	101.14	0.46	102.18	1.75	103.22	10.69
100.12	0.04	101.16	0.47	102.20	1.85	103.24	10.92
100.14	0.05	101.18	0.48	102.22	1.96	103.26	11.14
100.16	0.06	101.20	0.49	102.24	2.08	103.28	11.37
100.18	0.07	101.22	0.51	102.26	2.19	103.30	11.60
100.20	0.07	101.24	0.52	102.28	2.31	103.32	11.83
100.22	0.08	101.26	0.53	102.30	2.44	103.34	12.07
100.24	0.08	101.28	0.54	102.32	2.56	103.36	12.30
100.26	0.09	101.30	0.55	102.34	2.69	103.38	12.54
100.28	0.09	101.32	0.56	102.36	2.83	103.40	12.78
100.30	0.10	101.34	0.57	102.38	2.96	103.42	13.02
100.32	0.10	101.36	0.58	102.40	3.10	103.44	13.26
100.34	0.11	101.38	0.59	102.42	3.24	103.46	13.50
100.36	0.11	101.40	0.60	102.44	3.38	103.48	13.74
100.38	0.11	101.42	0.61	102.46	3.53	103.50	13.99
100.40	0.12	101.44	0.62	102.48	3.68	103.52	14.16
100.42	0.12	101.46	0.63	102.50	3.83	103.54	14.21
100.44	0.13	101.48	0.64	102.52	3.98	103.56	14.26
100.46	0.13	101.50	0.65	102.54	4.14	103.58	14.31
100.48	0.13	101.52	0.66	102.56	4.30	103.60	14.36
100.50	0.14	101.54	0.67	102.58	4.46	103.62	14.41
100.52	0.14	101.56	0.67	102.60	4.62	103.64	14.46
100.54	0.14	101.58	0.68	102.62	4.78	103.66	14.51
100.56	0.15	101.60	0.69	102.64	4.95	103.68	14.56
100.58	0.15	101.62	0.70	102.66	5.12	103.70	14.61
100.60	0.15	101.64	0.71	102.68	5.29	103.72	14.66
100.62	0.15	101.66	0.72	102.70	5.47	103.74	14.71
100.64	0.16	101.68	0.72	102.72	5.64	103.76	14.76
100.66	0.16	101.70	0.73	102.74	5.82	103.78	14.81
100.68	0.16	101.72	0.74	102.76	6.00	103.80	14.86
100.70	0.16	101.74	0.75	102.78	6.19	103.82	14.91
100.72	0.17	101.76	0.75	102.80	6.37	103.84	14.96
100.74	0.17	101.78	0.76	102.82	6.56	103.86	15.01
100.76	0.17	101.80	0.77	102.84	6.75	103.88	15.05
100.78	0.18	101.82	0.78	102.86	6.94	103.90	15.10
100.80	0.18	101.84	0.78	102.88	7.13	103.92	**15.15**
100.82	0.19	101.86	0.79	102.90	7.33		
100.84	0.20	101.88	0.80	102.92	7.52		
100.86	0.22	101.90	0.80	102.94	7.72		
100.88	0.23	101.92	0.81	102.96	7.92		
100.90	0.24	101.94	0.84	102.98	8.12		
100.92	0.26	101.96	0.88	103.00	8.33		
100.94	0.28	101.98	0.93	103.02	8.53		
100.96	0.30	102.00	0.98	103.04	8.74		
100.98	0.31	102.02	1.05	103.06	8.95		
101.00	0.33	102.04	1.12	103.08	9.16		
101.02	0.35	102.06	1.20	103.10	9.38		

Stage-Area-Storage for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Storage (acre-feet)
100.00	0.000
100.05	0.009
100.10	0.017
100.15	0.026
100.20	0.035
100.25	0.044
100.30	0.053
100.35	0.063
100.40	0.072
100.45	0.081
100.50	0.091
100.55	0.100
100.60	0.110
100.65	0.120
100.70	0.130
100.75	0.140
100.80	0.150
100.85	0.160
100.90	0.170
100.95	0.181
101.00	0.191
101.05	0.202
101.10	0.212
101.15	0.223
101.20	0.234
101.25	0.245
101.30	0.256
101.35	0.267
101.40	0.278
101.45	0.290
101.50	0.301
101.55	0.313
101.60	0.325
101.65	0.336
101.70	0.348
101.75	0.360
101.80	0.372
101.85	0.384
101.90	0.397
101.95	0.409
102.00	0.422
102.05	0.434
102.10	0.447
102.15	0.460
102.20	0.473
102.25	0.486
102.30	0.499
102.35	0.512
102.40	0.526
102.45	0.539
102.50	0.553
102.55	0.567
102.60	0.580
102.65	0.594
102.70	0.608
102.75	0.623
102.80	0.637
102.85	0.651
102.90	0.666
102.95	0.680
103.00	0.695
103.05	0.710
103.10	0.725
103.15	0.740
103.20	0.755
103.25	**0.770**
103.30	0.770
103.35	0.770
103.40	0.770
103.45	0.770
103.50	0.770
103.55	0.770
103.60	0.770
103.65	0.770
103.70	0.770
103.75	0.770
103.80	0.770
103.85	0.770
103.90	0.770

Summary for Pond D16.3: Detention Pond 16.3

Inflow Area = 110.203 ac, 0.00% Impervious, Inflow Depth = 2.58" for 100 year event
Inflow = 57.68 cfs @ 10.11 hrs, Volume= 23.738 af
Outflow = 18.07 cfs @ 14.22 hrs, Volume= 17.150 af, Atten= 69%, Lag= 246.3 min
Primary = 18.07 cfs @ 14.22 hrs, Volume= 17.150 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 105.42' @ 14.22 hrs Surf.Area= 2.443 ac Storage= 11.357 af

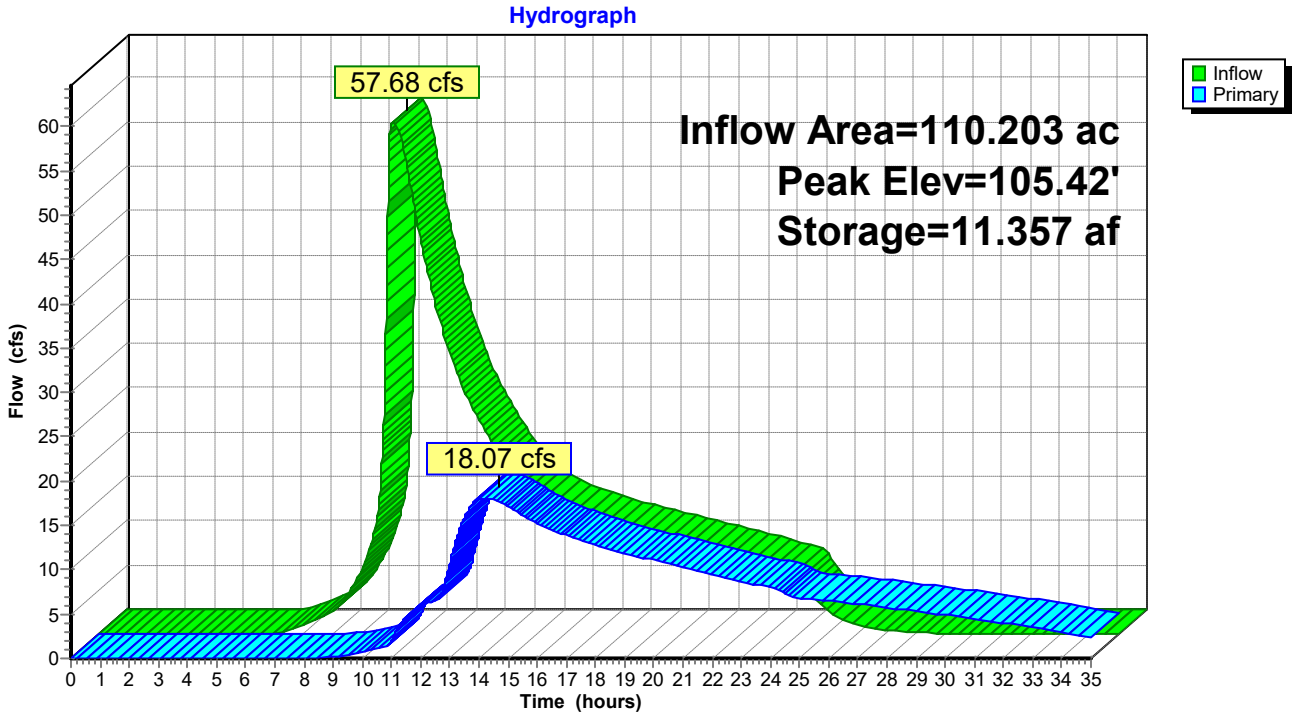
Plug-Flow detention time= 494.7 min calculated for 17.145 af (72% of inflow)
Center-of-Mass det. time= 355.0 min (1,218.7 - 863.6)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	14.078 af	**160.00'W x 480.00'L x 6.50'H Prismatoid Z=4.0**

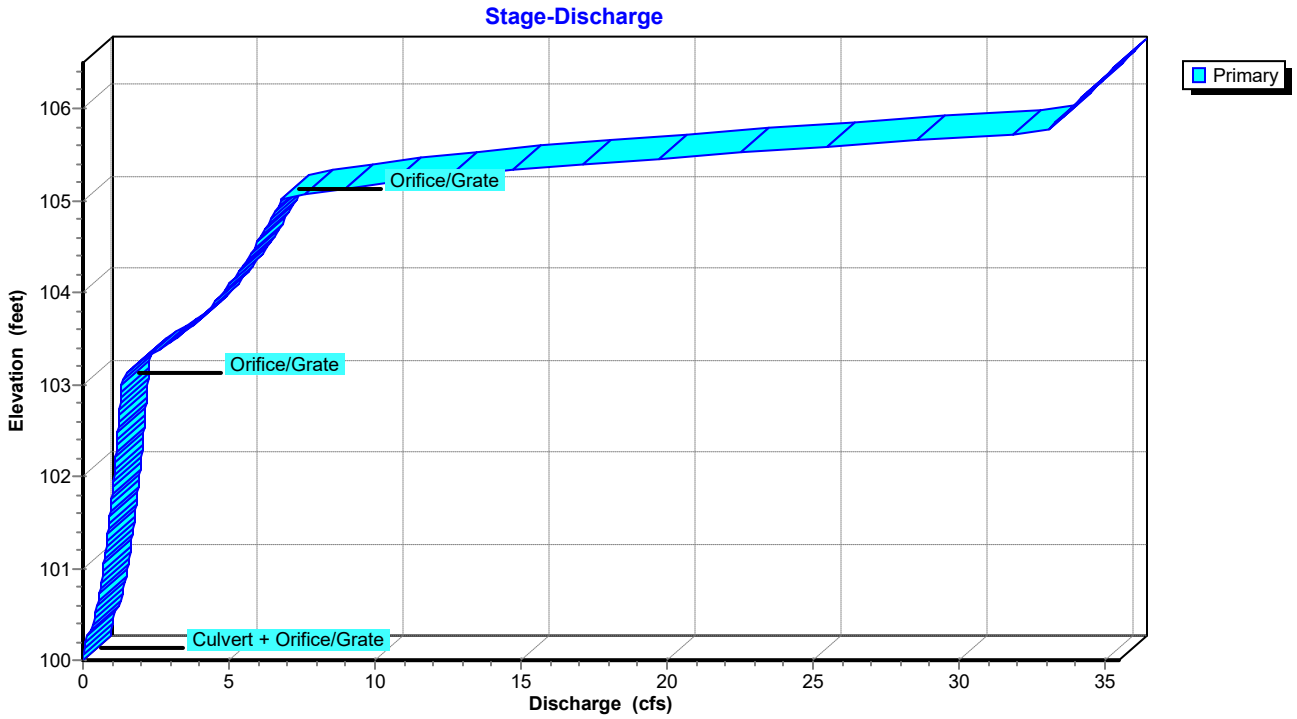
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**24.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.00'	**7.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=18.07 cfs @ 14.22 hrs HW=105.42' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 18.07 cfs of 31.80 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 10.63 cfs @ 2.12 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 1.81 cfs @ 10.97 fps)
  └─**4=Orifice/Grate** (Orifice Controls 5.63 cfs @ 7.02 fps)

Pond D16.3: Detention Pond 16.3



Pond D16.3: Detention Pond 16.3



Stage-Discharge for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.22	105.20	10.61
100.05	0.01	102.65	1.24	105.25	12.09
100.10	0.03	102.70	1.25	105.30	13.71
100.15	0.06	102.75	1.26	105.35	15.46
100.20	0.11	102.80	1.27	105.40	17.34
100.25	0.16	102.85	1.29	105.45	19.33
100.30	0.21	102.90	1.30	105.50	21.43
100.35	0.27	102.95	1.31	105.55	23.64
100.40	0.33	103.00	1.32	105.60	25.94
100.45	0.38	103.05	1.36	105.65	28.34
100.50	0.41	103.10	1.44	105.70	30.83
100.55	0.45	103.15	1.57	105.75	32.97
100.60	0.48	103.20	1.74	105.80	33.14
100.65	0.52	103.25	1.94	105.85	33.31
100.70	0.55	103.30	2.17	105.90	33.48
100.75	0.57	103.35	2.42	105.95	33.65
100.80	0.60	103.40	2.68	106.00	33.82
100.85	0.63	103.45	2.94	106.05	33.99
100.90	0.65	103.50	3.20	106.10	34.16
100.95	0.67	103.55	3.43	106.15	34.33
101.00	0.70	103.60	3.60	106.20	34.49
101.05	0.72	103.65	3.78	106.25	34.66
101.10	0.74	103.70	3.95	106.30	34.82
101.15	0.76	103.75	4.10	106.35	34.99
101.20	0.78	103.80	4.25	106.40	35.15
101.25	0.80	103.85	4.40	106.45	35.31
101.30	0.82	103.90	4.53	106.50	**35.48**
101.35	0.84	103.95	4.66		
101.40	0.86	104.00	4.79		
101.45	0.88	104.05	4.91		
101.50	0.90	104.10	5.03		
101.55	0.91	104.15	5.15		
101.60	0.93	104.20	5.26		
101.65	0.95	104.25	5.37		
101.70	0.96	104.30	5.48		
101.75	0.98	104.35	5.58		
101.80	1.00	104.40	5.69		
101.85	1.01	104.45	5.79		
101.90	1.03	104.50	5.89		
101.95	1.04	104.55	5.98		
102.00	1.06	104.60	6.08		
102.05	1.07	104.65	6.17		
102.10	1.09	104.70	6.26		
102.15	1.10	104.75	6.35		
102.20	1.12	104.80	6.44		
102.25	1.13	104.85	6.53		
102.30	1.14	104.90	6.61		
102.35	1.16	104.95	6.70		
102.40	1.17	105.00	6.78		
102.45	1.18	105.05	7.30		
102.50	1.20	105.10	8.19		
102.55	1.21	105.15	9.30		

Stage-Area-Storage for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	4.990	105.20	10.826
100.05	0.088	102.65	5.094	105.25	10.947
100.10	0.177	102.70	5.198	105.30	11.068
100.15	0.266	102.75	5.303	105.35	11.190
100.20	0.355	102.80	5.408	105.40	11.311
100.25	0.444	102.85	5.513	105.45	11.434
100.30	0.534	102.90	5.619	105.50	11.556
100.35	0.624	102.95	5.725	105.55	11.679
100.40	0.715	103.00	5.831	105.60	11.802
100.45	0.805	103.05	5.938	105.65	11.926
100.50	0.896	103.10	6.045	105.70	12.050
100.55	0.988	103.15	6.152	105.75	12.174
100.60	1.079	103.20	6.260	105.80	12.298
100.65	1.171	103.25	6.368	105.85	12.423
100.70	1.263	103.30	6.476	105.90	12.549
100.75	1.356	103.35	6.584	105.95	12.674
100.80	1.448	103.40	6.693	106.00	12.800
100.85	1.541	103.45	6.802	106.05	12.926
100.90	1.635	103.50	6.912	106.10	13.053
100.95	1.728	103.55	7.022	106.15	13.180
101.00	1.822	103.60	7.132	106.20	13.307
101.05	1.917	103.65	7.242	106.25	13.435
101.10	2.011	103.70	7.353	106.30	13.562
101.15	2.106	103.75	7.464	106.35	13.691
101.20	2.201	103.80	7.575	106.40	13.819
101.25	2.297	103.85	7.687	106.45	13.948
101.30	2.392	103.90	7.799	106.50	**14.078**
101.35	2.488	103.95	7.911		
101.40	2.585	104.00	8.024		
101.45	2.682	104.05	8.137		
101.50	2.779	104.10	8.250		
101.55	2.876	104.15	8.364		
101.60	2.973	104.20	8.478		
101.65	3.071	104.25	8.592		
101.70	3.169	104.30	8.707		
101.75	3.268	104.35	8.822		
101.80	3.367	104.40	8.937		
101.85	3.466	104.45	9.053		
101.90	3.565	104.50	9.169		
101.95	3.665	104.55	9.285		
102.00	3.765	104.60	9.401		
102.05	3.866	104.65	9.518		
102.10	3.966	104.70	9.636		
102.15	4.067	104.75	9.753		
102.20	4.168	104.80	9.871		
102.25	4.270	104.85	9.989		
102.30	4.372	104.90	10.108		
102.35	4.474	104.95	10.227		
102.40	4.577	105.00	10.346		
102.45	4.680	105.05	10.465		
102.50	4.783	105.10	10.585		
102.55	4.886	105.15	10.705		

Summary for Pond D18: Detention Pond 18

Inflow Area = 42.657 ac, 0.00% Impervious, Inflow Depth = 3.43" for 100 year event
Inflow = 62.70 cfs @ 9.98 hrs, Volume= 12.180 af
Outflow = 8.18 cfs @ 13.33 hrs, Volume= 8.243 af, Atten= 87%, Lag= 200.8 min
Primary = 8.18 cfs @ 13.33 hrs, Volume= 8.243 af
Routed to Reach 18R : Collection Point 18

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 105.26' @ 13.33 hrs Surf.Area= 1.496 ac Storage= 6.512 af

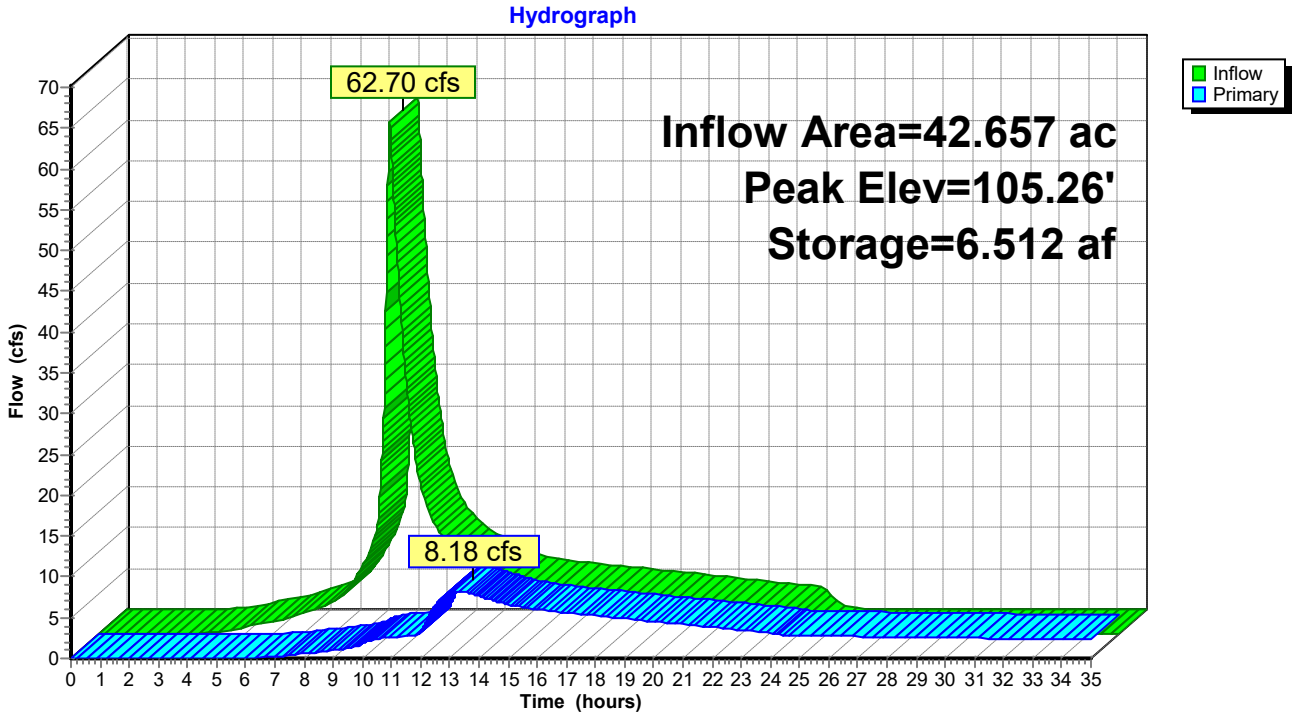
Plug-Flow detention time= 575.7 min calculated for 8.243 af (68% of inflow)
Center-of-Mass det. time= 422.4 min (1,203.8 - 781.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8.443 af	**120.00'W x 360.00'L x 6.50'H Prismatoid Z=4.0**

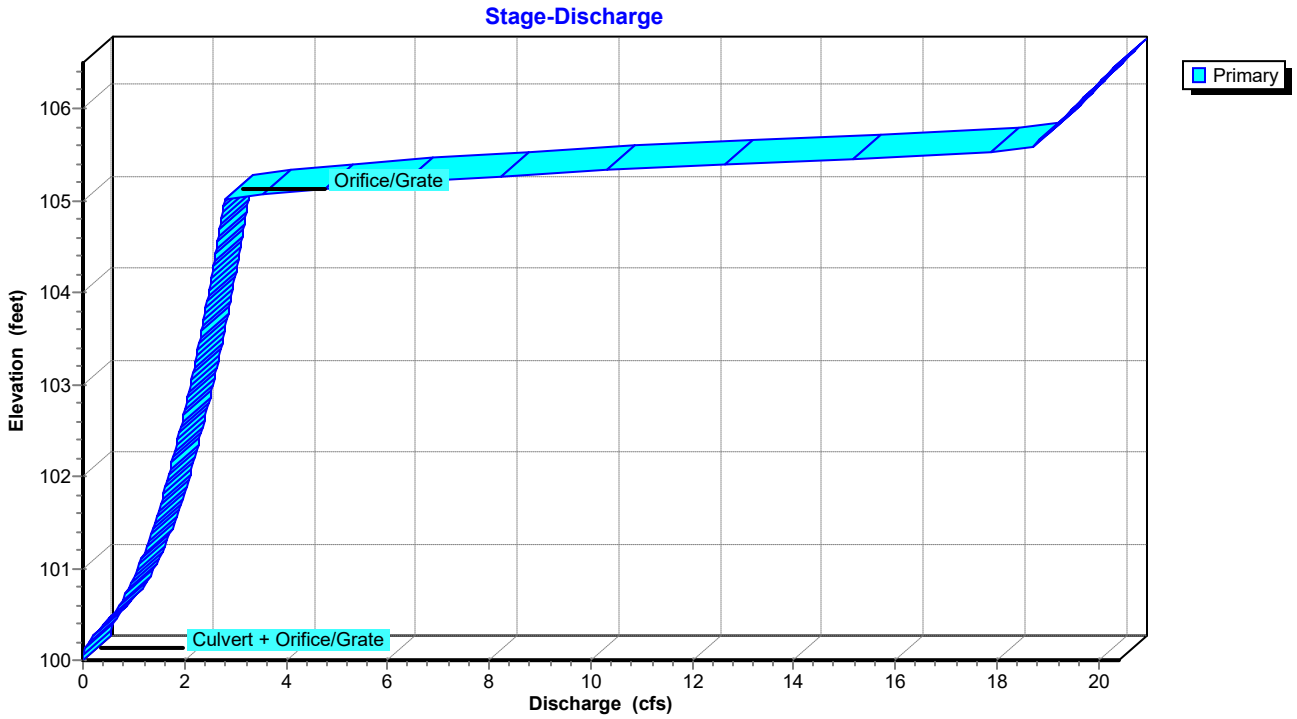
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.18 cfs @ 13.33 hrs HW=105.26' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 8.18 cfs of 18.08 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 5.31 cfs @ 1.68 fps)
  └─**3=Orifice/Grate** (Orifice Controls 2.87 cfs @ 10.74 fps)

Pond D18: Detention Pond 18



Pond D18: Detention Pond 18



Stage-Discharge for Pond D18: Detention Pond 18

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	6.36
100.05	0.01	102.65	1.98	105.25	7.77
100.10	0.03	102.70	2.00	105.30	9.33
100.15	0.07	102.75	2.02	105.35	11.02
100.20	0.12	102.80	2.04	105.40	12.84
100.25	0.19	102.85	2.06	105.45	14.77
100.30	0.26	102.90	2.08	105.50	16.81
100.35	0.34	102.95	2.10	105.55	18.64
100.40	0.42	103.00	2.12	105.60	18.74
100.45	0.51	103.05	2.14	105.65	18.83
100.50	0.59	103.10	2.16	105.70	18.93
100.55	0.66	103.15	2.18	105.75	19.03
100.60	0.71	103.20	2.19	105.80	19.12
100.65	0.77	103.25	2.21	105.85	19.22
100.70	0.82	103.30	2.23	105.90	19.31
100.75	0.87	103.35	2.25	105.95	19.40
100.80	0.92	103.40	2.27	106.00	19.50
100.85	0.96	103.45	2.29	106.05	19.59
100.90	1.00	103.50	2.30	106.10	19.68
100.95	1.04	103.55	2.32	106.15	19.77
101.00	1.08	103.60	2.34	106.20	19.86
101.05	1.12	103.65	2.36	106.25	19.95
101.10	1.16	103.70	2.38	106.30	20.05
101.15	1.19	103.75	2.39	106.35	20.14
101.20	1.23	103.80	2.41	106.40	20.23
101.25	1.26	103.85	2.43	106.45	20.31
101.30	1.29	103.90	2.44	106.50	**20.40**
101.35	1.32	103.95	2.46		
101.40	1.35	104.00	2.48		
101.45	1.38	104.05	2.49		
101.50	1.41	104.10	2.51		
101.55	1.44	104.15	2.53		
101.60	1.47	104.20	2.54		
101.65	1.50	104.25	2.56		
101.70	1.53	104.30	2.58		
101.75	1.55	104.35	2.59		
101.80	1.58	104.40	2.61		
101.85	1.61	104.45	2.62		
101.90	1.63	104.50	2.64		
101.95	1.66	104.55	2.66		
102.00	1.68	104.60	2.67		
102.05	1.71	104.65	2.69		
102.10	1.73	104.70	2.70		
102.15	1.75	104.75	2.72		
102.20	1.78	104.80	2.73		
102.25	1.80	104.85	2.75		
102.30	1.82	104.90	2.76		
102.35	1.85	104.95	2.78		
102.40	1.87	105.00	2.79		
102.45	1.89	105.05	3.25		
102.50	1.91	105.10	4.06		
102.55	1.93	105.15	5.12		

Stage-Area-Storage for Pond D18: Detention Pond 18

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	2.885	105.20	6.418
100.05	0.050	102.65	2.947	105.25	6.492
100.10	0.100	102.70	3.009	105.30	6.567
100.15	0.150	102.75	3.071	105.35	6.642
100.20	0.200	102.80	3.133	105.40	6.718
100.25	0.251	102.85	3.196	105.45	6.793
100.30	0.302	102.90	3.259	105.50	6.869
100.35	0.353	102.95	3.322	105.55	6.946
100.40	0.404	103.00	3.385	105.60	7.022
100.45	0.455	103.05	3.449	105.65	7.099
100.50	0.507	103.10	3.513	105.70	7.176
100.55	0.559	103.15	3.577	105.75	7.253
100.60	0.611	103.20	3.641	105.80	7.330
100.65	0.663	103.25	3.706	105.85	7.408
100.70	0.716	103.30	3.770	105.90	7.486
100.75	0.769	103.35	3.835	105.95	7.564
100.80	0.822	103.40	3.901	106.00	7.643
100.85	0.875	103.45	3.966	106.05	7.722
100.90	0.929	103.50	4.032	106.10	7.801
100.95	0.982	103.55	4.098	106.15	7.880
101.00	1.036	103.60	4.164	106.20	7.960
101.05	1.090	103.65	4.231	106.25	8.040
101.10	1.145	103.70	4.298	106.30	8.120
101.15	1.200	103.75	4.365	106.35	8.200
101.20	1.254	103.80	4.432	106.40	8.281
101.25	1.309	103.85	4.499	106.45	8.362
101.30	1.365	103.90	4.567	106.50	**8.443**
101.35	1.420	103.95	4.635		
101.40	1.476	104.00	4.704		
101.45	1.532	104.05	4.772		
101.50	1.588	104.10	4.841		
101.55	1.645	104.15	4.910		
101.60	1.702	104.20	4.979		
101.65	1.759	104.25	5.049		
101.70	1.816	104.30	5.118		
101.75	1.873	104.35	5.188		
101.80	1.931	104.40	5.259		
101.85	1.989	104.45	5.329		
101.90	2.047	104.50	5.400		
101.95	2.105	104.55	5.471		
102.00	2.164	104.60	5.542		
102.05	2.223	104.65	5.614		
102.10	2.282	104.70	5.686		
102.15	2.341	104.75	5.758		
102.20	2.400	104.80	5.830		
102.25	2.460	104.85	5.903		
102.30	2.520	104.90	5.975		
102.35	2.580	104.95	6.048		
102.40	2.641	105.00	6.122		
102.45	2.702	105.05	6.195		
102.50	2.762	105.10	6.269		
102.55	2.824	105.15	6.343		

Summary for Pond D20.2: Detention Basin 20.2

Inflow Area = 3.949 ac, 37.71% Impervious, Inflow Depth = 3.19" for 100 year event
Inflow = 5.60 cfs @ 9.98 hrs, Volume= 1.050 af
Outflow = 0.88 cfs @ 12.09 hrs, Volume= 0.757 af, Atten= 84%, Lag= 126.6 min
Primary = 0.88 cfs @ 12.09 hrs, Volume= 0.757 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.16' @ 12.09 hrs Storage= 0.503 af

Plug-Flow detention time= 528.6 min calculated for 0.757 af (72% of inflow)
Center-of-Mass det. time= 384.7 min (1,147.5 - 762.8)

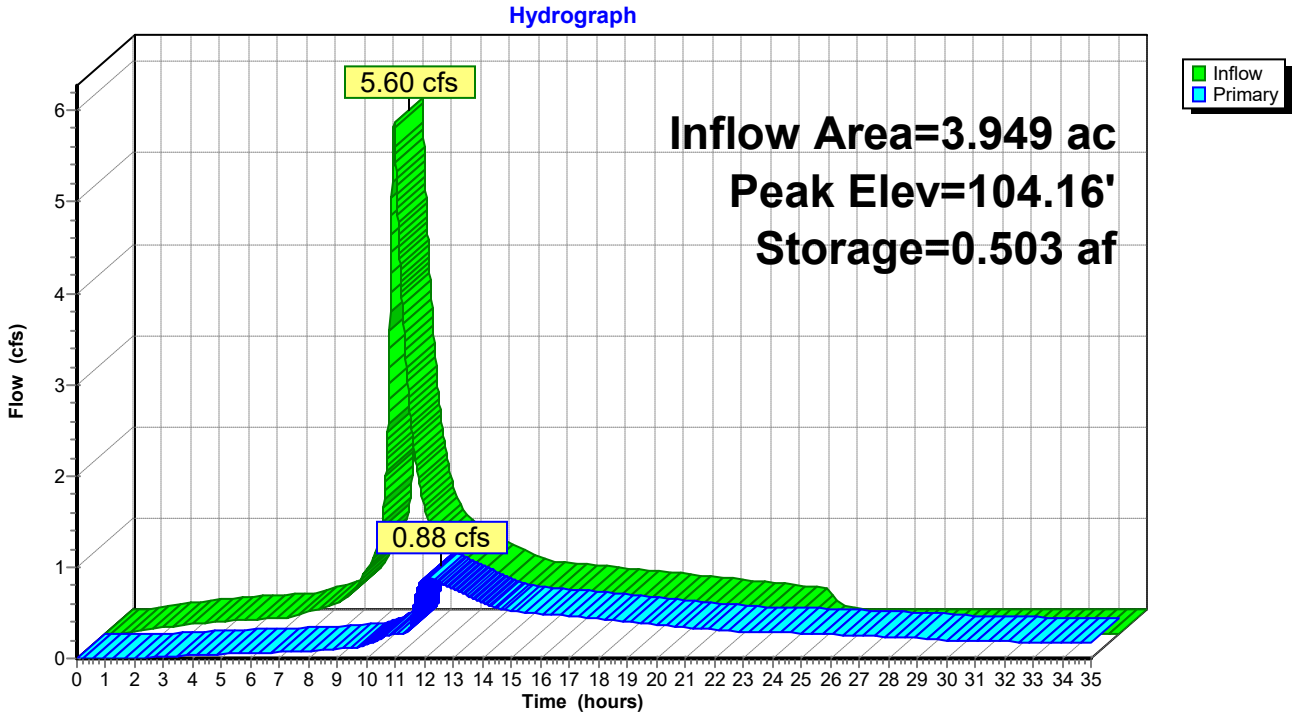
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

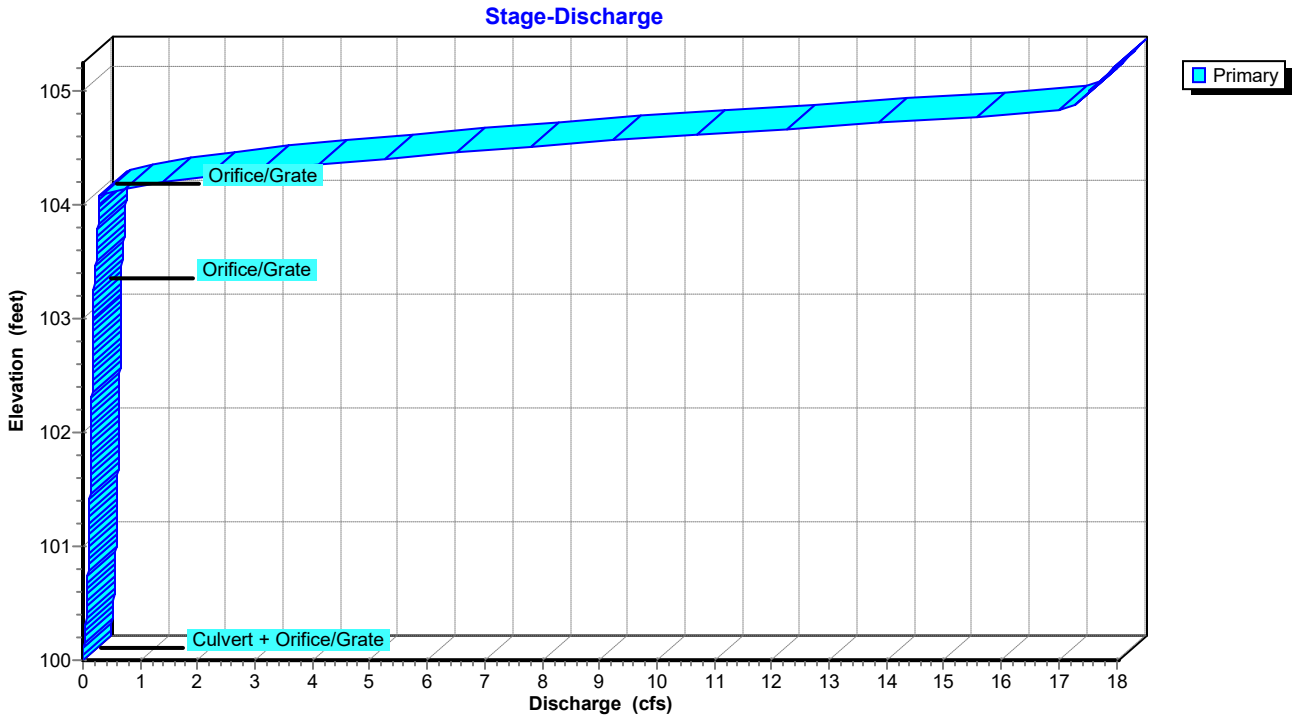
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.88 cfs @ 12.09 hrs HW=104.16' TW=0.00' (Dynamic Tailwater)
↑└─**1=Culvert** (Passes 0.88 cfs of 15.71 cfs potential flow)
↑ ├─**2=Orifice/Grate** (Weir Controls 0.59 cfs @ 0.93 fps)
 ├─**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 9.72 fps)
 └─**4=Orifice/Grate** (Orifice Controls 0.08 cfs @ 4.40 fps)

Pond D20.2: Detention Basin 20.2



Pond D20.2: Detention Basin 20.2



Stage-Discharge for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Stage-Area-Storage for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	0.268	105.20	0.699
100.05	0.005	102.65	0.274	105.25	**0.709**
100.10	0.009	102.70	0.280		
100.15	0.014	102.75	0.286		
100.20	0.019	102.80	0.292		
100.25	0.024	102.85	0.299		
100.30	0.028	102.90	0.305		
100.35	0.033	102.95	0.311		
100.40	0.038	103.00	0.317		
100.45	0.042	103.05	0.325		
100.50	0.047	103.10	0.333		
100.55	0.052	103.15	0.340		
100.60	0.056	103.20	0.348		
100.65	0.061	103.25	0.356		
100.70	0.066	103.30	0.364		
100.75	0.071	103.35	0.372		
100.80	0.075	103.40	0.379		
100.85	0.080	103.45	0.387		
100.90	0.085	103.50	0.395		
100.95	0.089	103.55	0.403		
101.00	0.094	103.60	0.411		
101.05	0.099	103.65	0.418		
101.10	0.104	103.70	0.426		
101.15	0.109	103.75	0.434		
101.20	0.114	103.80	0.442		
101.25	0.119	103.85	0.450		
101.30	0.124	103.90	0.457		
101.35	0.129	103.95	0.465		
101.40	0.134	104.00	0.473		
101.45	0.139	104.05	0.482		
101.50	0.144	104.10	0.492		
101.55	0.149	104.15	0.501		
101.60	0.154	104.20	0.510		
101.65	0.159	104.25	0.519		
101.70	0.164	104.30	0.528		
101.75	0.169	104.35	0.538		
101.80	0.174	104.40	0.547		
101.85	0.179	104.45	0.556		
101.90	0.184	104.50	0.565		
101.95	0.189	104.55	0.575		
102.00	0.194	104.60	0.584		
102.05	0.200	104.65	0.593		
102.10	0.206	104.70	0.602		
102.15	0.212	104.75	0.612		
102.20	0.219	104.80	0.621		
102.25	0.225	104.85	0.630		
102.30	0.231	104.90	0.639		
102.35	0.237	104.95	0.649		
102.40	0.243	105.00	0.658		
102.45	0.249	105.05	0.668		
102.50	0.256	105.10	0.678		
102.55	0.262	105.15	0.689		

Summary for Pond D20.3: Detention Pond 20.3

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 3.14" for 100 year event
Inflow = 3.79 cfs @ 9.99 hrs, Volume= 0.894 af
Outflow = 0.82 cfs @ 12.15 hrs, Volume= 0.689 af, Atten= 78%, Lag= 129.6 min
Primary = 0.82 cfs @ 12.15 hrs, Volume= 0.689 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.66' @ 12.15 hrs Storage= 17,673 cf

Plug-Flow detention time= 511.8 min calculated for 0.689 af (77% of inflow)
Center-of-Mass det. time= 388.3 min (1,169.0 - 780.7)

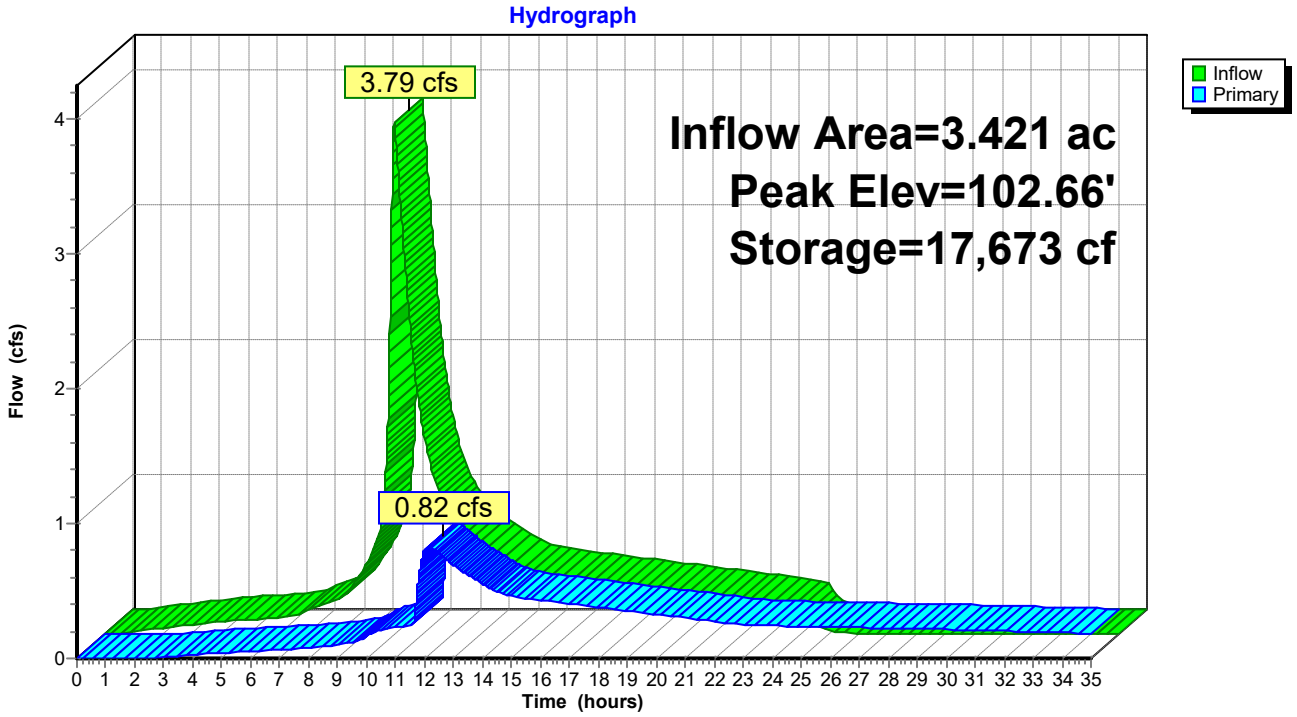
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	26,310 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	5,184
102.00	11,979
103.00	20,604
103.67	26,310

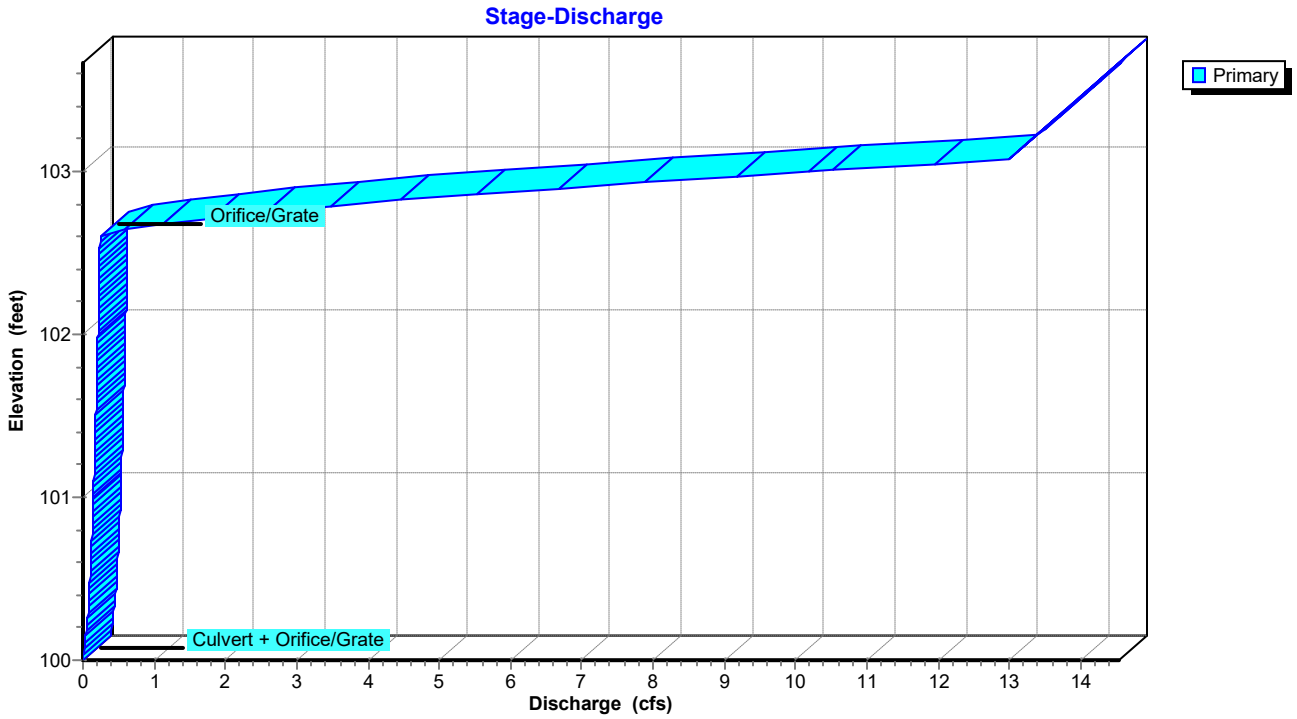
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.82 cfs @ 12.15 hrs HW=102.66' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.82 cfs of 11.76 cfs potential flow)
↑**2=Orifice/Grate** (Weir Controls 0.58 cfs @ 0.80 fps)
3=Orifice/Grate (Orifice Controls 0.24 cfs @ 7.75 fps)

Pond D20.3: Detention Pond 20.3



Pond D20.3: Detention Pond 20.3



Stage-Discharge for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Stage-Area-Storage for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Storage (cubic-feet)
100.00	0
100.05	259
100.10	518
100.15	778
100.20	1,037
100.25	1,296
100.30	1,555
100.35	1,814
100.40	2,074
100.45	2,333
100.50	2,592
100.55	2,851
100.60	3,110
100.65	3,370
100.70	3,629
100.75	3,888
100.80	4,147
100.85	4,406
100.90	4,666
100.95	4,925
101.00	5,184
101.05	5,524
101.10	5,863
101.15	6,203
101.20	6,543
101.25	6,883
101.30	7,222
101.35	7,562
101.40	7,902
101.45	8,242
101.50	8,582
101.55	8,921
101.60	9,261
101.65	9,601
101.70	9,941
101.75	10,280
101.80	10,620
101.85	10,960
101.90	11,300
101.95	11,639
102.00	11,979
102.05	12,410
102.10	12,841
102.15	13,273
102.20	13,704
102.25	14,135
102.30	14,566
102.35	14,998
102.40	15,429
102.45	15,860
102.50	16,292
102.55	16,723
102.60	17,154
102.65	17,585
102.70	18,017
102.75	18,448
102.80	18,879
102.85	19,310
102.90	19,742
102.95	20,173
103.00	20,604
103.05	21,030
103.10	21,456
103.15	21,881
103.20	22,307
103.25	22,733
103.30	23,159
103.35	23,585
103.40	24,011
103.45	24,436
103.50	24,862
103.55	25,288
103.60	25,714
103.65	**26,140**

Summary for Pond D20.4: Detention Pond 20.4

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 2.60" for 100 year event
Inflow = 9.10 cfs @ 9.98 hrs, Volume= 1.673 af
Outflow = 0.97 cfs @ 14.33 hrs, Volume= 1.265 af, Atten= 89%, Lag= 260.8 min
Primary = 0.97 cfs @ 14.33 hrs, Volume= 1.265 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 105.05' @ 14.33 hrs Storage= 37,146 cf

Plug-Flow detention time= 562.7 min calculated for 1.265 af (76% of inflow)
Center-of-Mass det. time= 435.6 min (1,238.0 - 802.4)

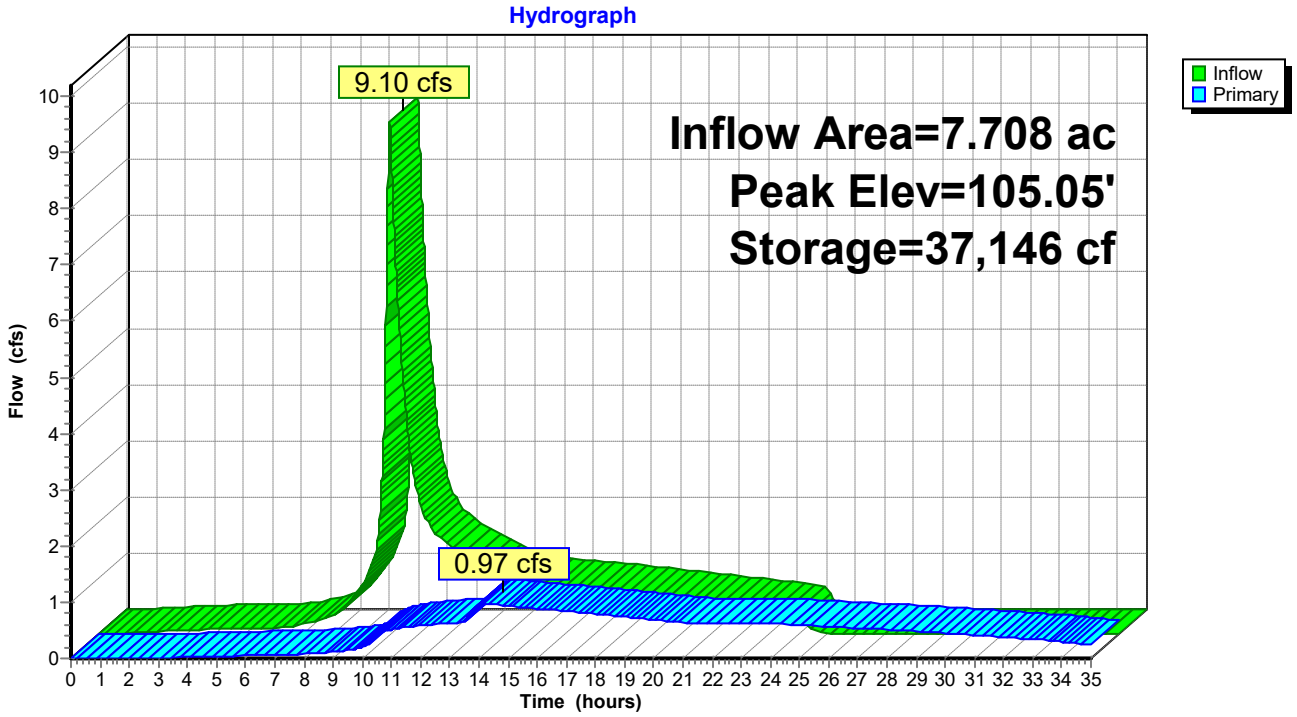
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

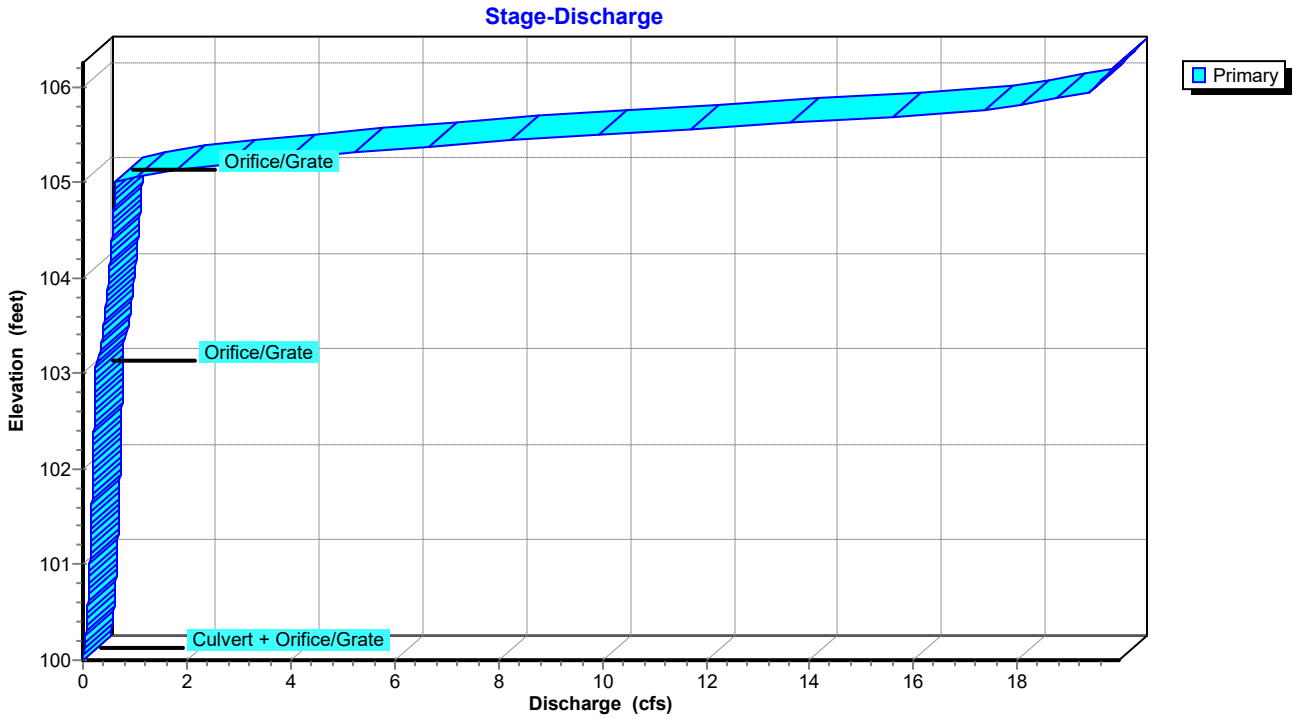
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.97 cfs @ 14.33 hrs HW=105.05' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.97 cfs of 17.65 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 0.33 cfs @ 0.76 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.33 cfs @ 6.69 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.31 cfs @ 10.72 fps)

Pond D20.4: Detention Pond 20.4



Pond D20.4: Detention Pond 20.4



Stage-Discharge for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Stage-Area-Storage for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
100.00	0	102.60	14,375	105.20	38,881
100.05	218	102.65	14,724	105.25	39,476
100.10	436	102.70	15,072	105.30	40,071
100.15	653	102.75	15,421	105.35	40,665
100.20	871	102.80	15,769	105.40	41,260
100.25	1,089	102.85	16,117	105.45	41,854
100.30	1,307	102.90	16,466	105.50	42,449
100.35	1,525	102.95	16,815	105.55	43,044
100.40	1,742	103.00	17,163	105.60	43,638
100.45	1,960	103.05	17,644	105.65	44,233
100.50	2,178	103.10	18,126	105.70	44,827
100.55	2,396	103.15	18,607	105.75	45,422
100.60	2,614	103.20	19,088	105.80	46,017
100.65	2,831	103.25	19,570	105.85	46,611
100.70	3,049	103.30	20,051	105.90	47,206
100.75	3,267	103.35	20,532	105.95	47,800
100.80	3,485	103.40	21,013	106.00	48,395
100.85	3,703	103.45	21,495	106.05	49,249
100.90	3,920	103.50	21,976	106.10	50,103
100.95	4,138	103.55	22,457	106.15	50,956
101.00	4,356	103.60	22,939	106.20	51,810
101.05	4,648	103.65	23,420	106.25	**52,664**
101.10	4,940	103.70	23,901		
101.15	5,232	103.75	24,383		
101.20	5,523	103.80	24,864		
101.25	5,815	103.85	25,345		
101.30	6,107	103.90	25,826		
101.35	6,399	103.95	26,308		
101.40	6,691	104.00	26,789		
101.45	6,983	104.05	27,275		
101.50	7,275	104.10	27,760		
101.55	7,566	104.15	28,246		
101.60	7,858	104.20	28,732		
101.65	8,150	104.25	29,218		
101.70	8,442	104.30	29,703		
101.75	8,734	104.35	30,189		
101.80	9,026	104.40	30,675		
101.85	9,317	104.45	31,160		
101.90	9,609	104.50	31,646		
101.95	9,901	104.55	32,132		
102.00	10,193	104.60	32,617		
102.05	10,541	104.65	33,103		
102.10	10,890	104.70	33,589		
102.15	11,239	104.75	34,075		
102.20	11,587	104.80	34,560		
102.25	11,936	104.85	35,046		
102.30	12,284	104.90	35,532		
102.35	12,632	104.95	36,017		
102.40	12,981	105.00	36,503		
102.45	13,330	105.05	37,098		
102.50	13,678	105.10	37,692		
102.55	14,026	105.15	38,287		

Summary for Pond D3: Detention Basin 3

Inflow Area = 4.707 ac, 0.00% Impervious, Inflow Depth = 3.23" for 100 year event
Inflow = 6.92 cfs @ 9.98 hrs, Volume= 1.267 af
Outflow = 0.51 cfs @ 18.52 hrs, Volume= 0.691 af, Atten= 93%, Lag= 512.5 min
Primary = 0.51 cfs @ 18.52 hrs, Volume= 0.691 af
Routed to Reach 3R : Collection Point 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.96' @ 18.52 hrs Surf.Area= 0.293 ac Storage= 0.841 af

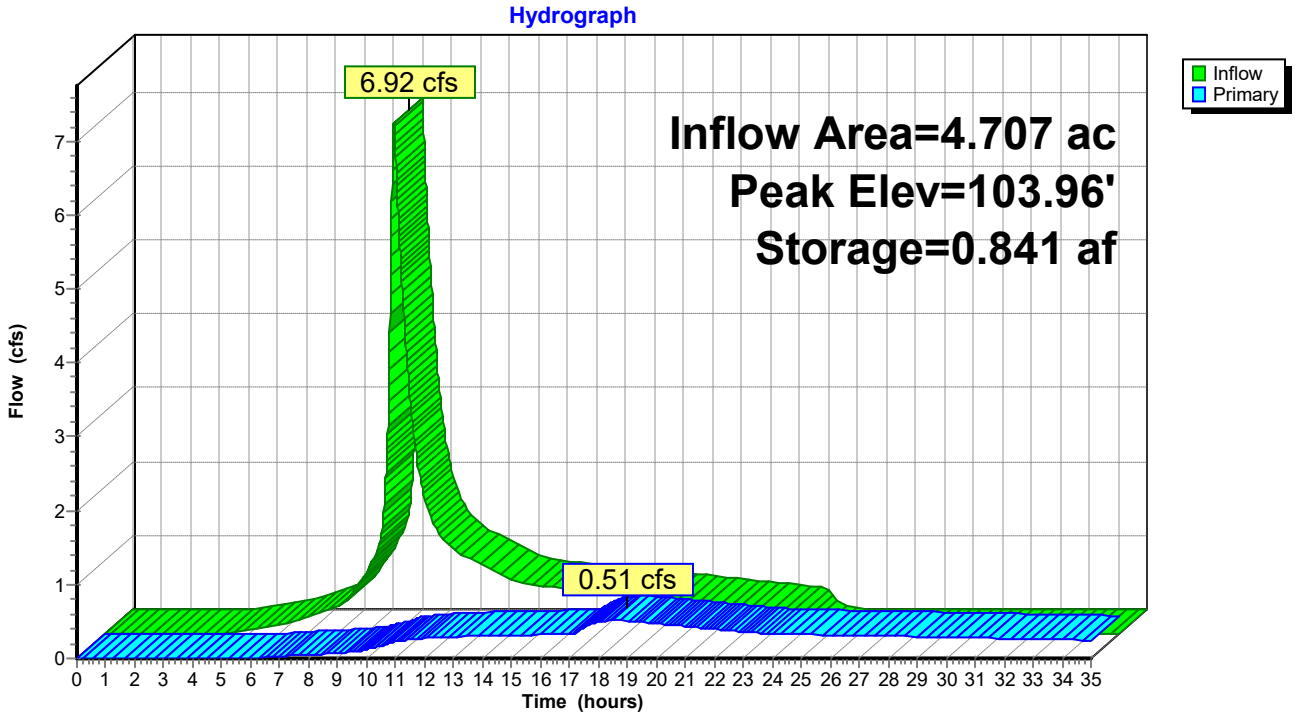
Plug-Flow detention time= 712.5 min calculated for 0.691 af (55% of inflow)
Center-of-Mass det. time= 525.3 min (1,313.5 - 788.2)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	1.172 af	**45.00'W x 135.00'L x 5.00'H Prismatoid Z=4.0**

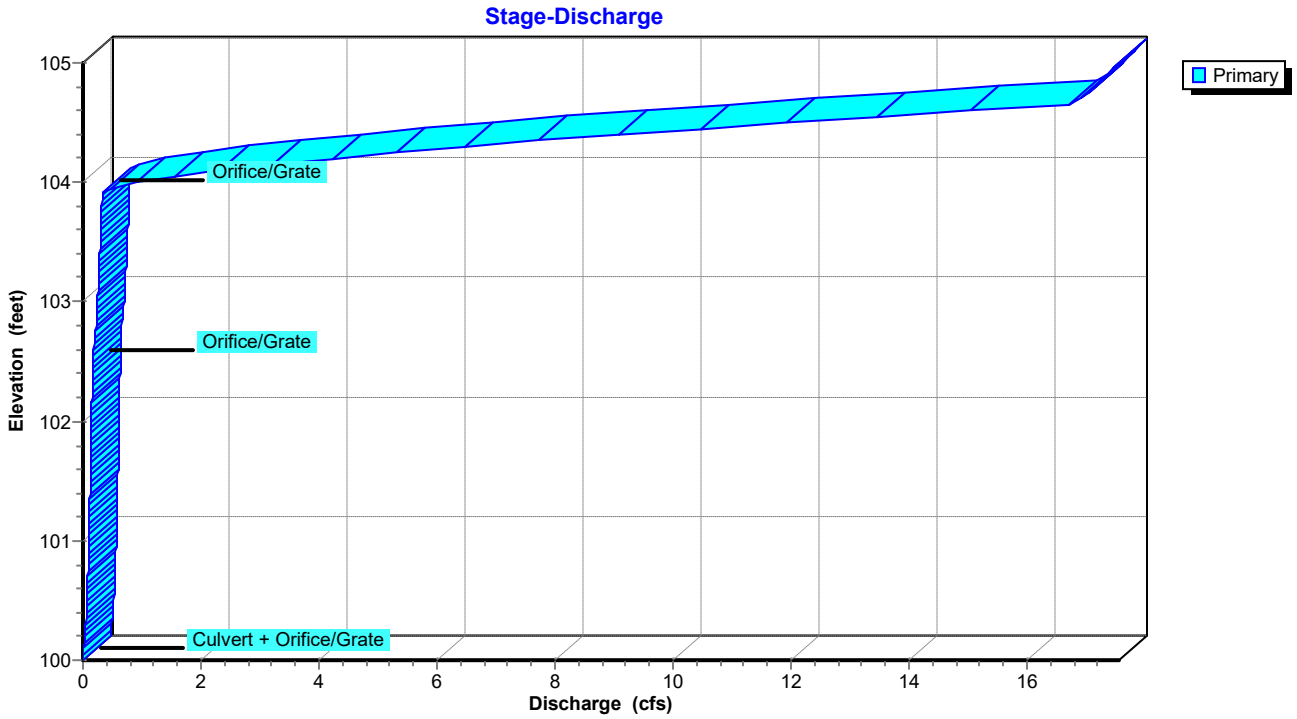
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.92'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.50'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.51 cfs @ 18.52 hrs HW=103.96' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.51 cfs of 15.24 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 0.18 cfs @ 0.63 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 9.48 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.12 cfs @ 5.64 fps)

Pond D3: Detention Basin 3



Pond D3: Detention Basin 3



Stage-Discharge for Pond D3: Detention Basin 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.18
100.05	0.00	102.65	0.20
100.10	0.01	102.70	0.21
100.15	0.03	102.75	0.21
100.20	0.04	102.80	0.22
100.25	0.04	102.85	0.23
100.30	0.05	102.90	0.24
100.35	0.05	102.95	0.24
100.40	0.06	103.00	0.25
100.45	0.06	103.05	0.25
100.50	0.07	103.10	0.26
100.55	0.07	103.15	0.26
100.60	0.08	103.20	0.27
100.65	0.08	103.25	0.27
100.70	0.08	103.30	0.28
100.75	0.09	103.35	0.28
100.80	0.09	103.40	0.29
100.85	0.09	103.45	0.29
100.90	0.09	103.50	0.29
100.95	0.10	103.55	0.30
101.00	0.10	103.60	0.30
101.05	0.10	103.65	0.31
101.10	0.11	103.70	0.31
101.15	0.11	103.75	0.31
101.20	0.11	103.80	0.32
101.25	0.11	103.85	0.32
101.30	0.12	103.90	0.33
101.35	0.12	103.95	0.47
101.40	0.12	104.00	0.92
101.45	0.12	104.05	1.56
101.50	0.13	104.10	2.34
101.55	0.13	104.15	3.23
101.60	0.13	104.20	4.22
101.65	0.13	104.25	5.31
101.70	0.13	104.30	6.48
101.75	0.14	104.35	7.73
101.80	0.14	104.40	9.06
101.85	0.14	104.45	10.46
101.90	0.14	104.50	11.92
101.95	0.14	104.55	13.45
102.00	0.15	104.60	15.04
102.05	0.15	104.65	16.69
102.10	0.15	104.70	16.91
102.15	0.15	104.75	17.02
102.20	0.15	104.80	17.12
102.25	0.15	104.85	17.23
102.30	0.16	104.90	17.33
102.35	0.16	104.95	17.44
102.40	0.16	105.00	**17.54**
102.45	0.16		
102.50	0.16		
102.55	0.17		

Stage-Area-Storage for Pond D3: Detention Basin 3

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	0.483
100.05	0.007	102.65	0.495
100.10	0.014	102.70	0.507
100.15	0.021	102.75	0.519
100.20	0.029	102.80	0.531
100.25	0.036	102.85	0.543
100.30	0.043	102.90	0.555
100.35	0.051	102.95	0.568
100.40	0.058	103.00	0.580
100.45	0.066	103.05	0.593
100.50	0.074	103.10	0.606
100.55	0.082	103.15	0.619
100.60	0.090	103.20	0.632
100.65	0.098	103.25	0.645
100.70	0.106	103.30	0.658
100.75	0.114	103.35	0.671
100.80	0.122	103.40	0.684
100.85	0.131	103.45	0.698
100.90	0.139	103.50	0.712
100.95	0.148	103.55	0.725
101.00	0.156	103.60	0.739
101.05	0.165	103.65	0.753
101.10	0.174	103.70	0.767
101.15	0.183	103.75	0.781
101.20	0.192	103.80	0.796
101.25	0.201	103.85	0.810
101.30	0.210	103.90	0.824
101.35	0.220	103.95	0.839
101.40	0.229	104.00	0.854
101.45	0.238	104.05	0.868
101.50	0.248	104.10	0.883
101.55	0.258	104.15	0.898
101.60	0.267	104.20	0.914
101.65	0.277	104.25	0.929
101.70	0.287	104.30	0.944
101.75	0.297	104.35	0.960
101.80	0.307	104.40	0.975
101.85	0.318	104.45	0.991
101.90	0.328	104.50	1.007
101.95	0.338	104.55	1.023
102.00	0.349	104.60	1.039
102.05	0.360	104.65	1.055
102.10	0.370	104.70	1.071
102.15	0.381	104.75	1.088
102.20	0.392	104.80	1.104
102.25	0.403	104.85	1.121
102.30	0.414	104.90	1.138
102.35	0.425	104.95	1.155
102.40	0.437	105.00	**1.172**
102.45	0.448		
102.50	0.460		
102.55	0.471		

Summary for Pond D5: Detention Basin 5

Inflow Area = 22.444 ac, 0.00% Impervious, Inflow Depth = 3.13" for 100 year event
Inflow = 33.21 cfs @ 9.98 hrs, Volume= 5.861 af
Outflow = 3.41 cfs @ 14.02 hrs, Volume= 3.710 af, Atten= 90%, Lag= 242.2 min
Primary = 3.41 cfs @ 14.02 hrs, Volume= 3.710 af
Routed to Reach 5R : Collection Point 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.96' @ 14.02 hrs Surf.Area= 1.003 ac Storage= 3.337 af

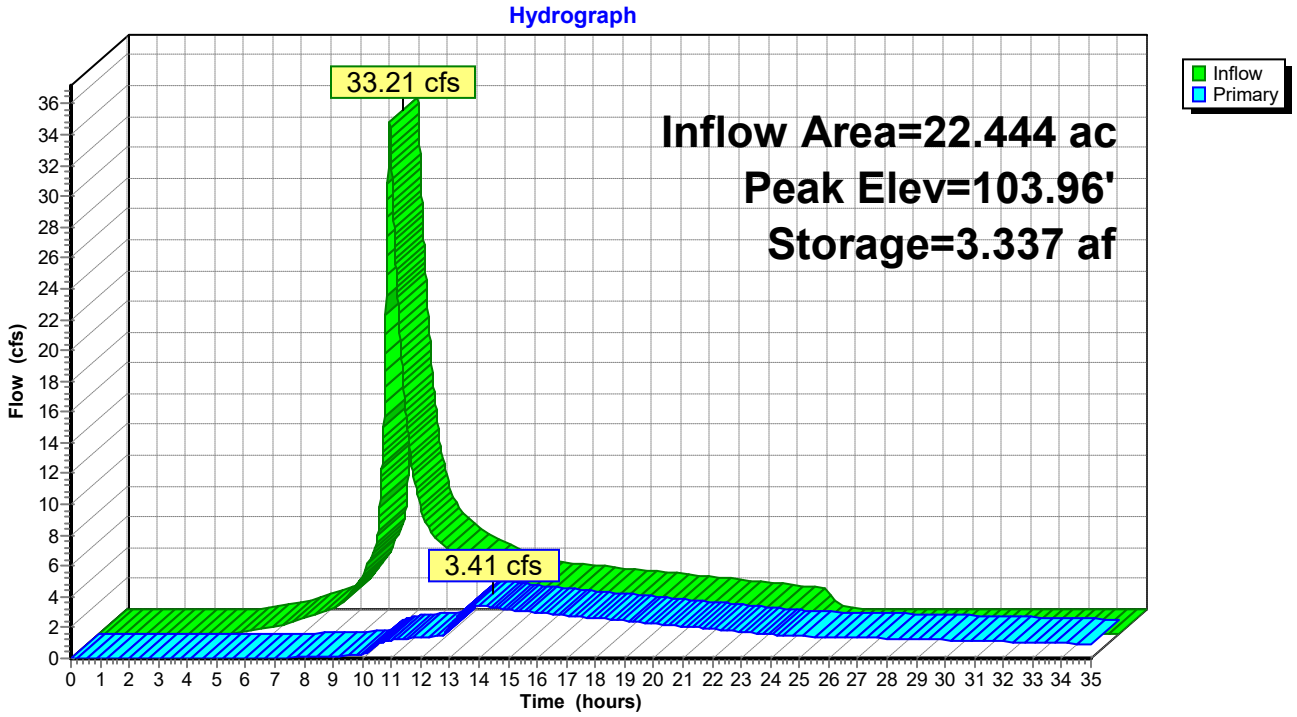
Plug-Flow detention time= 613.3 min calculated for 3.710 af (63% of inflow)
Center-of-Mass det. time= 446.9 min (1,238.1 - 791.2)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	4.423 af	**100.00'W x 300.00'L x 5.00'H Prismatoid Z=4.0**

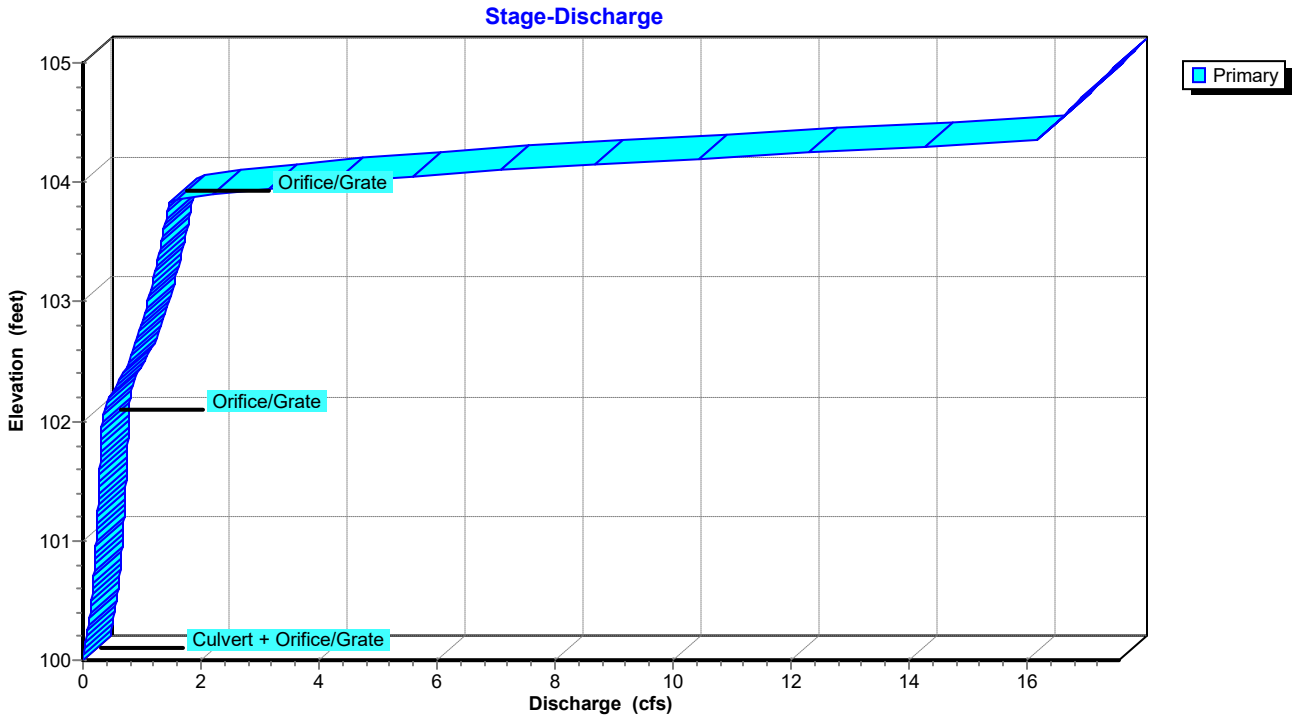
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.41 cfs @ 14.02 hrs HW=103.96' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.41 cfs of 15.25 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 1.90 cfs @ 1.19 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.46 cfs @ 9.43 fps)
  └─**4=Orifice/Grate** (Orifice Controls 1.05 cfs @ 6.34 fps)

Pond D5: Detention Basin 5



Pond D5: Detention Basin 5



Stage-Discharge for Pond D5: Detention Basin 5

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.86
100.05	0.01	102.65	0.89
100.10	0.02	102.70	0.92
100.15	0.04	102.75	0.96
100.20	0.06	102.80	0.99
100.25	0.08	102.85	1.02
100.30	0.10	102.90	1.04
100.35	0.11	102.95	1.07
100.40	0.12	103.00	1.10
100.45	0.13	103.05	1.12
100.50	0.14	103.10	1.15
100.55	0.15	103.15	1.17
100.60	0.16	103.20	1.20
100.65	0.17	103.25	1.22
100.70	0.18	103.30	1.24
100.75	0.19	103.35	1.27
100.80	0.19	103.40	1.29
100.85	0.20	103.45	1.31
100.90	0.21	103.50	1.33
100.95	0.21	103.55	1.35
101.00	0.22	103.60	1.37
101.05	0.23	103.65	1.39
101.10	0.23	103.70	1.41
101.15	0.24	103.75	1.43
101.20	0.25	103.80	1.45
101.25	0.25	103.85	1.58
101.30	0.26	103.90	2.21
101.35	0.26	103.95	3.14
101.40	0.27	104.00	4.27
101.45	0.27	104.05	5.59
101.50	0.28	104.10	7.06
101.55	0.28	104.15	8.68
101.60	0.29	104.20	10.42
101.65	0.29	104.25	12.29
101.70	0.30	104.30	14.27
101.75	0.30	104.35	16.14
101.80	0.31	104.40	16.26
101.85	0.31	104.45	16.37
101.90	0.31	104.50	16.48
101.95	0.32	104.55	16.59
102.00	0.32	104.60	16.70
102.05	0.34	104.65	16.80
102.10	0.36	104.70	16.91
102.15	0.40	104.75	17.02
102.20	0.45	104.80	17.12
102.25	0.50	104.85	17.23
102.30	0.56	104.90	17.33
102.35	0.62	104.95	17.44
102.40	0.69	105.00	**17.54**
102.45	0.74		
102.50	0.78		
102.55	0.82		

Stage-Area-Storage for Pond D5: Detention Basin 5

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	102.60	2.048
100.05	0.035	102.65	2.092
100.10	0.069	102.70	2.137
100.15	0.104	102.75	2.182
100.20	0.139	102.80	2.227
100.25	0.174	102.85	2.272
100.30	0.210	102.90	2.318
100.35	0.246	102.95	2.364
100.40	0.281	103.00	2.410
100.45	0.317	103.05	2.456
100.50	0.354	103.10	2.503
100.55	0.390	103.15	2.549
100.60	0.427	103.20	2.596
100.65	0.463	103.25	2.643
100.70	0.500	103.30	2.690
100.75	0.537	103.35	2.738
100.80	0.575	103.40	2.785
100.85	0.612	103.45	2.833
100.90	0.650	103.50	2.881
100.95	0.688	103.55	2.930
101.00	0.726	103.60	2.978
101.05	0.764	103.65	3.027
101.10	0.803	103.70	3.076
101.15	0.841	103.75	3.125
101.20	0.880	103.80	3.174
101.25	0.919	103.85	3.224
101.30	0.958	103.90	3.274
101.35	0.998	103.95	3.324
101.40	1.038	104.00	3.374
101.45	1.077	104.05	3.424
101.50	1.117	104.10	3.475
101.55	1.158	104.15	3.526
101.60	1.198	104.20	3.577
101.65	1.239	104.25	3.628
101.70	1.279	104.30	3.680
101.75	1.320	104.35	3.731
101.80	1.362	104.40	3.783
101.85	1.403	104.45	3.835
101.90	1.444	104.50	3.888
101.95	1.486	104.55	3.940
102.00	1.528	104.60	3.993
102.05	1.570	104.65	4.046
102.10	1.613	104.70	4.099
102.15	1.655	104.75	4.153
102.20	1.698	104.80	4.206
102.25	1.741	104.85	4.260
102.30	1.784	104.90	4.314
102.35	1.828	104.95	4.368
102.40	1.871	105.00	**4.423**
102.45	1.915		
102.50	1.959		
102.55	2.003		

Summary for Pond D7: Detention Basin 7

Inflow Area = 80.101 ac, 0.00% Impervious, Inflow Depth = 2.67" for 100 year event
Inflow = 91.78 cfs @ 9.98 hrs, Volume= 17.842 af
Outflow = 12.50 cfs @ 13.58 hrs, Volume= 13.348 af, Atten= 86%, Lag= 215.6 min
Primary = 12.50 cfs @ 13.58 hrs, Volume= 13.348 af
Routed to Reach 7R : Collection Point 7

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 107.14' @ 13.58 hrs Surf.Area= 1.589 ac Storage= 8.839 af

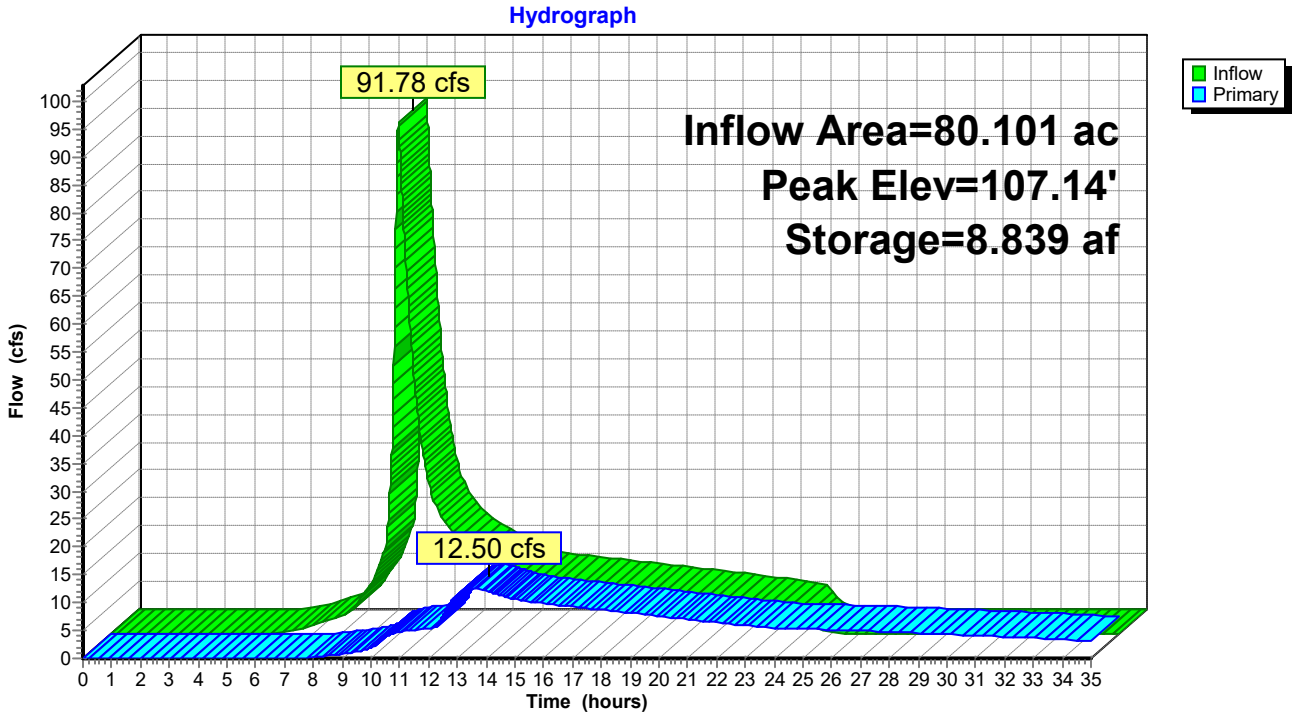
Plug-Flow detention time= 537.7 min calculated for 13.344 af (75% of inflow)
Center-of-Mass det. time= 409.9 min (1,225.1 - 815.2)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	11.095 af	**115.00'W x 345.00'L x 8.50'H Prismatoid Z=4.0**

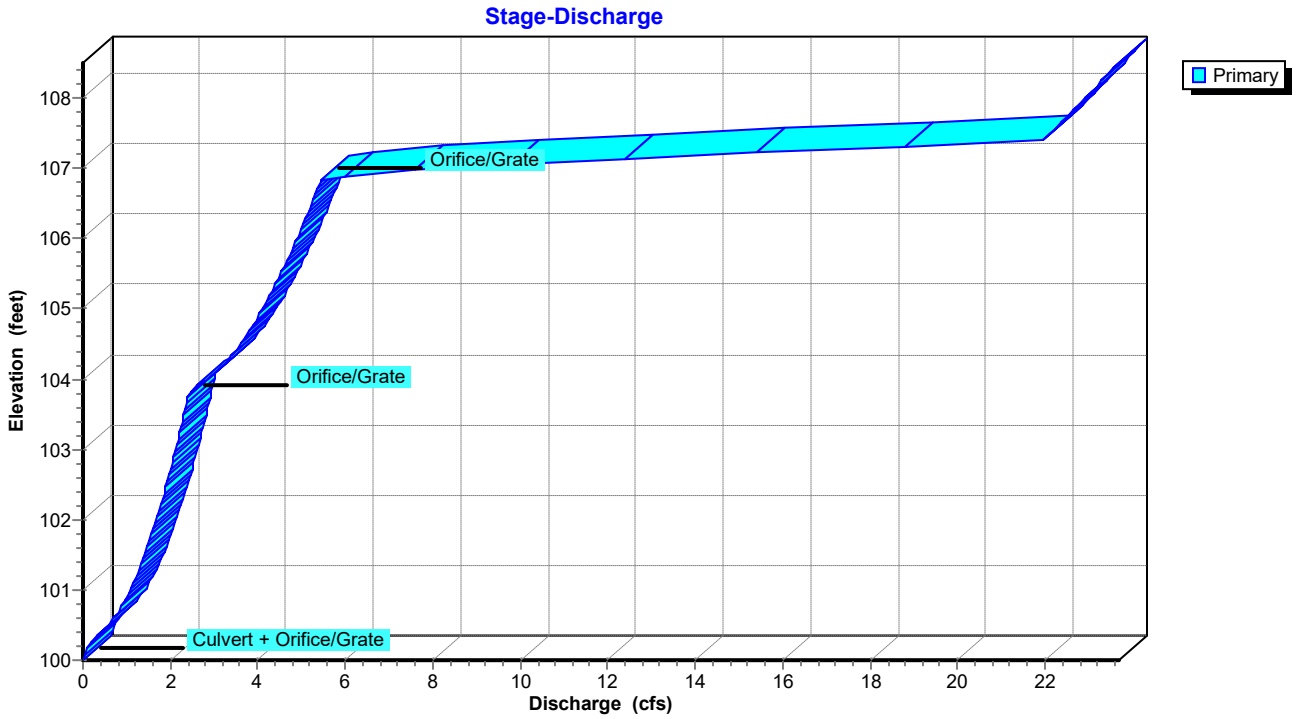
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	106.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.75'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.50 cfs @ 13.58 hrs HW=107.14' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 12.50 cfs of 21.51 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 6.86 cfs @ 1.83 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 3.37 cfs @ 12.60 fps)
  └─**4=Orifice/Grate** (Orifice Controls 2.26 cfs @ 8.65 fps)

Pond D7: Detention Basin 7



Pond D7: Detention Basin 7

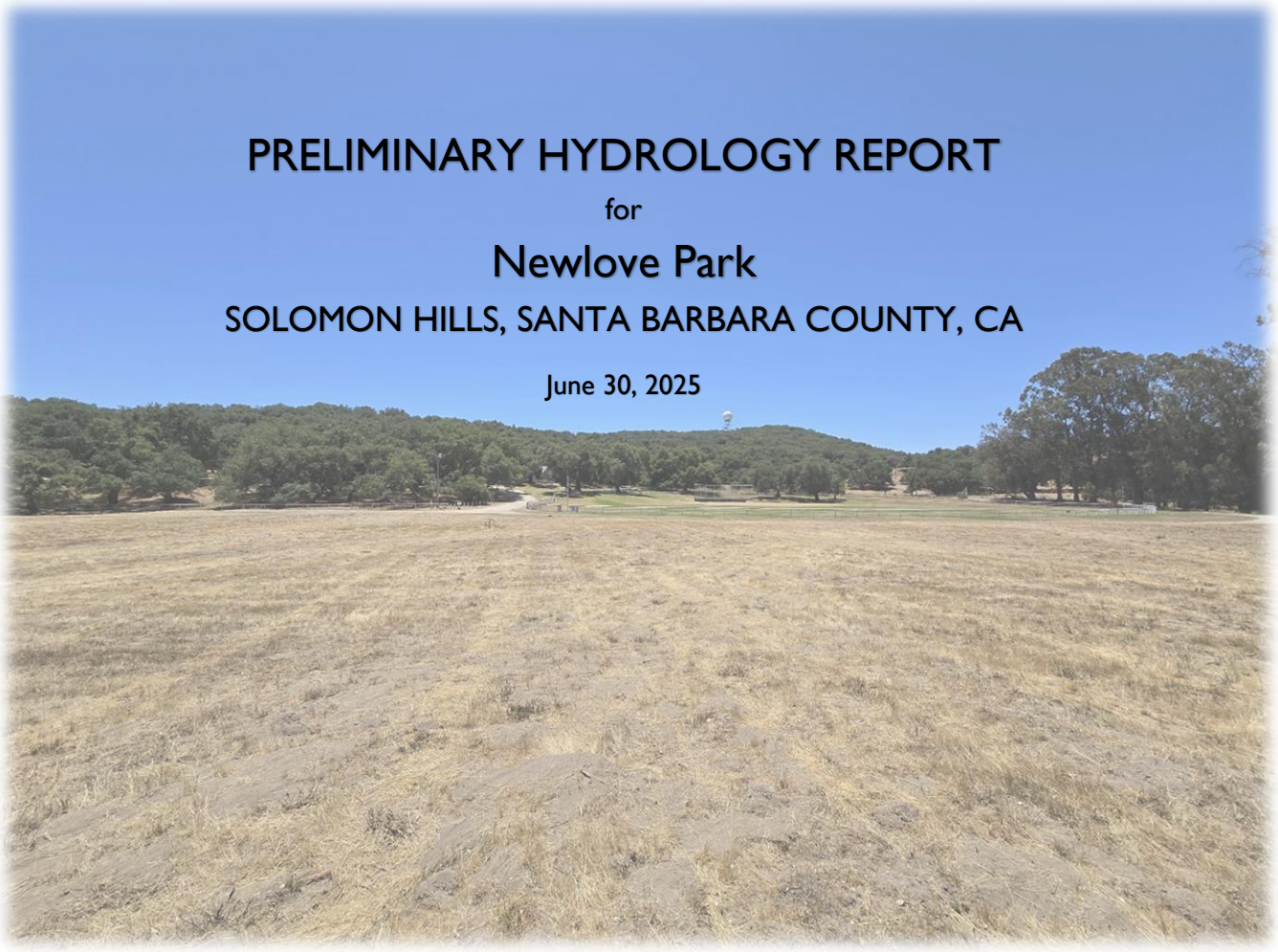


Stage-Discharge for Pond D7: Detention Basin 7

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	4.28	107.80	22.59
100.05	0.01	102.65	1.98	105.25	4.32	107.85	22.67
100.10	0.03	102.70	2.00	105.30	4.36	107.90	22.75
100.15	0.07	102.75	2.02	105.35	4.40	107.95	22.83
100.20	0.12	102.80	2.04	105.40	4.44	108.00	22.91
100.25	0.19	102.85	2.06	105.45	4.48	108.05	22.99
100.30	0.26	102.90	2.08	105.50	4.52	108.10	23.07
100.35	0.34	102.95	2.10	105.55	4.56	108.15	23.15
100.40	0.42	103.00	2.12	105.60	4.60	108.20	23.22
100.45	0.51	103.05	2.14	105.65	4.64	108.25	23.30
100.50	0.59	103.10	2.16	105.70	4.68	108.30	23.38
100.55	0.66	103.15	2.18	105.75	4.71	108.35	23.46
100.60	0.71	103.20	2.19	105.80	4.75	108.40	23.53
100.65	0.77	103.25	2.21	105.85	4.79	108.45	23.61
100.70	0.82	103.30	2.23	105.90	4.82	108.50	**23.69**
100.75	0.87	103.35	2.25	105.95	4.86		
100.80	0.92	103.40	2.27	106.00	4.89		
100.85	0.96	103.45	2.29	106.05	4.93		
100.90	1.00	103.50	2.30	106.10	4.96		
100.95	1.04	103.55	2.32	106.15	5.00		
101.00	1.08	103.60	2.34	106.20	5.03		
101.05	1.12	103.65	2.36	106.25	5.07		
101.10	1.16	103.70	2.38	106.30	5.10		
101.15	1.19	103.75	2.39	106.35	5.13		
101.20	1.23	103.80	2.43	106.40	5.17		
101.25	1.26	103.85	2.50	106.45	5.20		
101.30	1.29	103.90	2.60	106.50	5.23		
101.35	1.32	103.95	2.71	106.55	5.26		
101.40	1.35	104.00	2.84	106.60	5.30		
101.45	1.38	104.05	2.96	106.65	5.33		
101.50	1.41	104.10	3.05	106.70	5.36		
101.55	1.44	104.15	3.14	106.75	5.39		
101.60	1.47	104.20	3.21	106.80	5.42		
101.65	1.50	104.25	3.29	106.85	5.57		
101.70	1.53	104.30	3.36	106.90	6.21		
101.75	1.55	104.35	3.42	106.95	7.15		
101.80	1.58	104.40	3.48	107.00	8.30		
101.85	1.61	104.45	3.54	107.05	9.63		
101.90	1.63	104.50	3.60	107.10	11.11		
101.95	1.66	104.55	3.66	107.15	12.74		
102.00	1.68	104.60	3.71	107.20	14.50		
102.05	1.71	104.65	3.77	107.25	16.38		
102.10	1.73	104.70	3.82	107.30	18.37		
102.15	1.75	104.75	3.87	107.35	20.47		
102.20	1.78	104.80	3.92	107.40	21.94		
102.25	1.80	104.85	3.97	107.45	22.02		
102.30	1.82	104.90	4.01	107.50	22.11		
102.35	1.85	104.95	4.06	107.55	22.19		
102.40	1.87	105.00	4.10	107.60	22.27		
102.45	1.89	105.05	4.15	107.65	22.35		
102.50	1.91	105.10	4.19	107.70	22.43		
102.55	1.93	105.15	4.24	107.75	22.51		

Stage-Area-Storage for Pond D7: Detention Basin 7

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
100.00	0.000	105.20	5.947
100.10	0.092	105.30	6.087
100.20	0.184	105.40	6.227
100.30	0.277	105.50	6.369
100.40	0.371	105.60	6.511
100.50	0.466	105.70	6.655
100.60	0.562	105.80	6.799
100.70	0.658	105.90	6.945
100.80	0.756	106.00	7.091
100.90	0.854	106.10	7.239
101.00	0.954	106.20	7.387
101.10	1.054	106.30	7.537
101.20	1.155	106.40	7.688
101.30	1.257	106.50	7.839
101.40	1.359	106.60	7.992
101.50	1.463	106.70	8.146
101.60	1.567	106.80	8.301
101.70	1.673	106.90	8.457
101.80	1.779	107.00	8.613
101.90	1.886	107.10	8.771
102.00	1.995	107.20	8.930
102.10	2.104	107.30	9.090
102.20	2.213	107.40	9.252
102.30	2.324	107.50	9.414
102.40	2.436	107.60	9.577
102.50	2.549	107.70	9.741
102.60	2.662	107.80	9.907
102.70	2.777	107.90	10.073
102.80	2.892	108.00	10.241
102.90	3.009	108.10	10.409
103.00	3.126	108.20	10.579
103.10	3.244	108.30	10.750
103.20	3.363	108.40	10.922
103.30	3.483	108.50	**11.095**
103.40	3.604		
103.50	3.726		
103.60	3.849		
103.70	3.973		
103.80	4.098		
103.90	4.224		
104.00	4.350		
104.10	4.478		
104.20	4.607		
104.30	4.736		
104.40	4.867		
104.50	4.999		
104.60	5.131		
104.70	5.265		
104.80	5.399		
104.90	5.535		
105.00	5.671		
105.10	5.809		



PRELIMINARY HYDROLOGY REPORT

for

Newlove Park

SOLOMON HILLS, SANTA BARBARA COUNTY, CA

June 30, 2025

PREPARED FOR:
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Purpose of Report

The purpose of this report is to assess the project site, identify the pre-development and post-development drainage conditions, and provide hydraulic design information for the proposed improvements to meet the requirements of the Santa Barbara County Flood Control District.

Scope of Report

This report will evaluate the 18- acre Newlove Park improvement project. This report will not detail how each developed area will satisfy PCRS 1-4; as this is covered in the project Stormwater Control Plan. The requirements are superseded by flood control standards and are clearly outlined within this report.

The Newlove Park project and flood control analysis is also included as a part of the larger Solomon Hills project Hydrology report, under a separate cover. The Newlove analysis is included in the Solomon Hills report for reference, but this report will expand upon the analysis and provide more detailed information on the Newlove Site only. The pre-development hydrology analysis for the overall Solomon Hills project will be referenced in this report and "Drainage Area IDs" and "Collection Point" nodes will be kept the same for consistency.

Location

This project is located in the County of Santa Barbara between Orcutt and Los Alamos on the west side of highway 101, specifically within the remainder of parcel 3 (portion of APN 101-020-087) of proposed Tract Map No. 14,909. Newlove Park is outside of the Solomon hills specific plan boundary, but within the overall Solomon Hills project area. The FEMA flood map classifies the site as an area of minimal flood hazard. Due to the existing topography, the project site is naturally elevated above the surrounding areas and is unlikely to experience flooding. The flood map does not provide a base flood plain elevation.

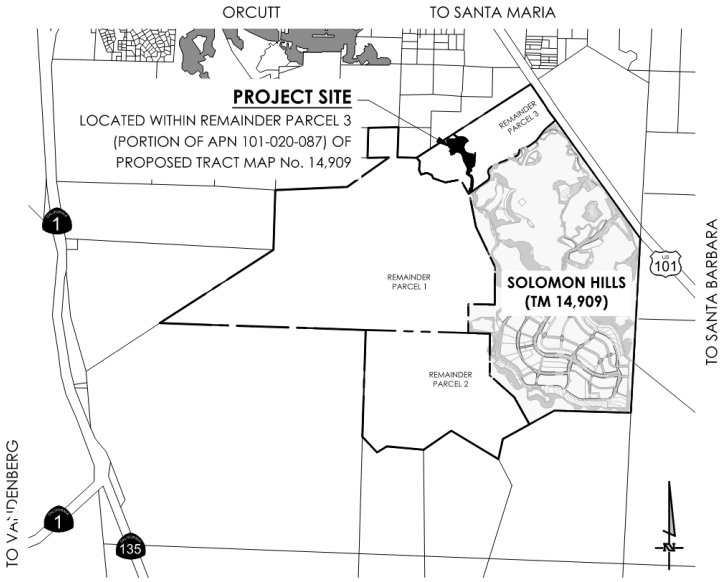


Figure 1. Project Vicinity Map

Pre-Development Conditions

The existing site is adjacent to the current park area and is comprised of mostly undeveloped open space with existing abandoned oil wells, oak trees, and brush cover. Within the site area the terrain consists of moderate to steep slopes and generally drains northeast to a common collection point (CP) where flow leaves the property line. According to the NRCS Soil Survey, only Hydrologic Soil Group (HSG) type C soils are present onsite. See Attachment 4 for the NRCS Soil Survey Map. To determine the existing drainage patterns of the site, the watershed that drains to the collection point was delineated. Please refer to Attachment 1– Pre-Development Hydrology Exhibit for more information.

Post-Development Conditions

The post-development conditions maintain the overall drainage patterns of the site to mimic the pre-project conditions while reducing the impact of the project and improving the existing drainage conditions to the maximum extent possible. To accurately evaluate post-development onsite hydrology, the project drainage areas were divided into two different categories, diverted or developed. **Diverted** areas describe the existing areas, or graded slopes, within the limits of the project that contain negligible amounts of impervious area. The Diverted areas that drain towards future building locations will be captured and routed around the development to avoid merging run on with development runoff. The runoff generated by these areas will be captured at the perimeter of the site via concrete swales, catch basins, or earthen swales. The runoff will be routed around or through the improvements and discharged to the historical drainage outlet to eliminate downstream hydromodification and other unwanted effects.

Developed areas describe proposed hardscape and landscape improvements within the project site. The surface types within these areas are summed up and assigned a curve number (CN) based on the United States Department of Agriculture (USDA) TR-55 method guidance document. The runoff generated from each of the developed areas is collected and routed to a detention basin prior to being discharged to the corresponding collection point. Per the County of Santa Barbara Flood Control District guidance, the detention basins are designed to mitigate flow rates from the developed areas to 0.07 cfs per developed acre for the 2-25 year storm events. The basins also provide enough storage volume to detain large storm events such as the 50-100 year events to ensure that total runoff at the collection points is less than or equal to the pre-development condition. Please refer to Attachment 2 – Post-Development Hydrology Exhibit for more information.

The Newlove Park development is upstream of Collection Point 20 and is split up into three separate developed sub-catchments, 20.2-20.4. The development consists of a new road, sidewalk, parking lot, concrete walkways, trail system, baseball field, soccer field, and a new restroom facility. Drainage throughout the new park is picked up by a series of catch basins and roadside swales that convey water to water quality treatment improvements before being routed to three separate detention facilities located onsite.

Methodology

The Santa Barbara Urban Hydrograph method and HydroCAD software were utilized to determine the pre & post-development flow rates and are in accordance with the Santa Barbara County Flood Control District Standard Conditions of Project Plan Approval document. The software calculates the flow rates

using the SBUH methodology with user defined parameters such as rainfall depth, curve number, and time of concentration. For detailed calculations and references for how these parameters were determined, see Attachment 3 & 4.

Rainfall depths were derived from NOAA Altas 14 Point Precipitation values for the 2-100 year storm events for the Solomon Hills specific region.

Curve number values rely on a number of factors such as type of soil coverage, quality of coverage, and underlying hydrologic soil group (HSG) for natural areas. USDA TR-55 method curve numbers were utilized for natural and developed areas based on the soil cover type and impervious area of the proposed development. Based on the National Land Cover Database and aerial imagery, majority of the site consisted of brushland with 50% or less coverage, therefore brush was used to model the natural landscape. For developed areas, values from Table 2-2a "Runoff curve numbers for urban areas" of the TR-55 manual for were selected based on proposed surface type. To determine the underlying HSG, the NRCS soil data survey tool was utilized. Curve numbers for each drainage area were entered into the program were they are composited.

HydroCAD was utilized to compute the time of concentration calculations using the Kerby + Kirpich methods for undeveloped areas, and the Lot time + Kerby+ Kirpich Methods for the developed areas. The Kerby and Kirpich methods calculate the travel time of the flow path taking into account the slope and generalized "retardance" coefficient. This is consistent with the design requirement # 8 which utilizes the nomograph for undeveloped regions and Lot Time + Travel Time for Developed regions.

Diverted Area Hydraulic Analysis

The existing offsite flows produced by the diverted areas that currently drain through the project site will be conveyed around the development upon completion. These offsite flows will be conveyed through the project site separately from the runoff produced and conveyed within the development areas and will maintain the historic drainage paths and collection points. Each diverted area was evaluated within HydroCAD and routed to the appropriate collection point for peak flow analysis. Channel and pipe sizing requirements will occur at a later phase, during construction documents. See Attachment 2 for the Post Development Hydrology Exhibit.

Developed Area Hydraulic Analysis

The proposed development site contains roadside swales, drainage inlets, hillside swales, culverts, and storm drains to convey water to onsite retention facilities within the developed areas to satisfy water quality requirements before being conveyed to detention basins that meter the flows to less than or equal to pre-development conditions. The current analysis under the Project Storm Water Control Plan report documents the anticipated required area and volume to satisfy the Central Coast Post Construction Requirements (PCRs). As a part of these PCRs, many of these retention facilities will be required to retain the 95th percentile rainfall event. The analysis conducted for this report takes a conservative approach and models the peak flows without accounting for the lag factor that multiple facilities and routing methods will add to the system. The additional lag will reduce the peak influx of stormwater entering the management facilities and will further decrease the size of the stormwater detention facilities. Please also note that the infiltration of stormwater within the basins was not considered, per County standards.

HydroCAD was used to model the detention facilities for the post-development site conditions for the 2-100 year storm events. The design incorporates the Flood Control District condition that developed flows may not exceed 0.07 cfs/acre up to the 25-year storm event. This flow rate was used to govern the storage capacity needed to mitigate the developed flows, unless a lower detention basin release rate was needed to satisfy the pre versus post-development flow rate comparison at the collection point. The results generated by the HydroCAD program report clearly identify the evaluated flowrates, storage capacities, and metered orifices required to meet the outlined conditions. Storm drain conveyance systems will be modeled and appropriately sized in accordance with the County of Santa Barbara Flood Control District Standards during construction documents.

Results

The HydroCAD model developed for the Pre and Post-Development analysis yielded peak flow rates for the 25-year and 100-year events that are summarized below in Table 1. For a full list of results for all modeled storm events, see Attachments 5-6.

Table 1. Pre & Post-Development Peak Flow Rates at Collection Point 20

Storm Event	Pre-Development (cfs)	Post-Development (cfs)
2	14.86	13.71
5	29.09	26.54
10	42.49	38.65
25	61.85	56.13
50	76.91	69.73
100	92.62	83.91

The resultant detention basin volumes and release rates associated with County of Santa Barabra Standards can be seen in Tables 2 & 3 respectively. Details for the modeling of the basins can be found in the HydroCAD report in Attachment 6.

Table 2. Detention Basin Sizing

Basin ID	Bottom Area (sf)	100-yr Max Storage Depth (ft)	Total Depth (ft)	Storage Volume (ac-ft)	Total Volume* (ac-ft)
D1	3,414	4.16	5.25	0.502	0.709
D2	4,265	2.67	3.67	0.405	0.460
D3	3,495	5.05	6.25	0.852	1.209

* Total Volume = Storage Volume + 1' Freeboard

Table 3. Required 25-year Storage and Discharge Rate Values

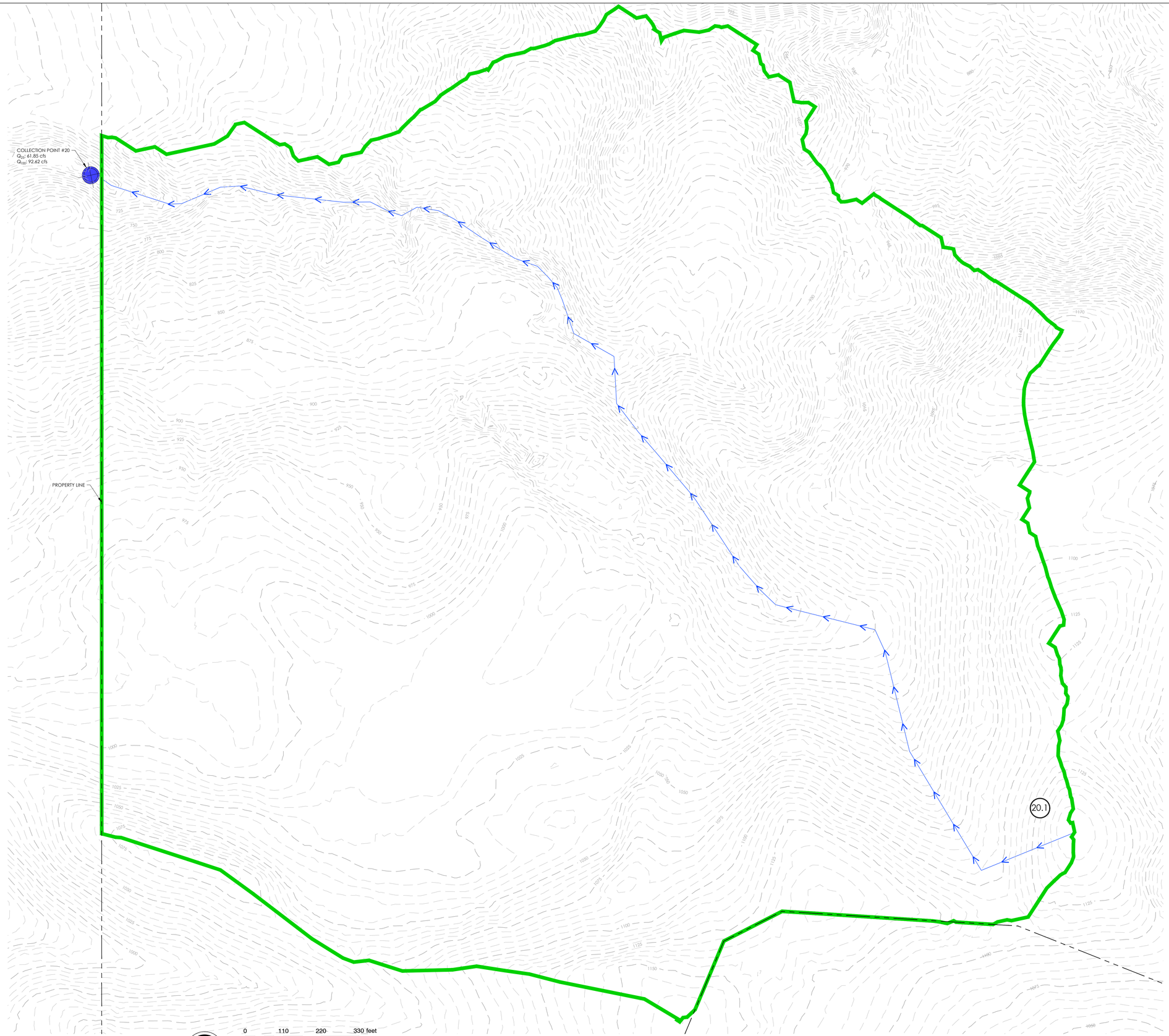
Basin ID	0.07 cfs/acre Required 25-yr Rate (cfs)	Basin 25-yr Discharge Rate (cfs)	0.07 ac-ft/acre Required 25-yr Volume (ac-ft)	Stage Storage Volume 25-yr (ac-ft)
20.2	0.28	0.28	0.28	0.48
20.3	0.24	0.24	0.24	0.39
20.4	0.54	0.53	0.54	0.67

Conclusions

Based on the findings of this report, the proposed drainage design for this project meets the applicable standards and requirements for the Santa Barbara County Flood Control District. In summary, the proposed design:

- Provides adequate detention storage for the future improvements proposed by the project
- Mitigates the peak flow rates from the developed areas to 0.07 cfs/acre for up to the 25-year storm event.
- Reduces peak flows at the collection points to less than or equal to the pre-development flow rates, to the maximum extent possible, for the 2-100-year storm events.
- Safely conveys offsite flows through the site to their historic drainage outlets.

Attachment 1 – Pre-Development Hydrology Exhibits



LEGEND

- TRACT BOUNDARY
- WATERSHED BOUNDARY
- DMA BOUNDARY
- 500 EXISTING MAJOR CONTOUR (5' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID

0 110 220 330 feet

1"=110'

rrm

May 14, 2025

NEW LOVE PARK
PRE-DEVELOPMENT HYDROLOGY EXHIBIT

H1

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COLLECTION POINT #20

PROPERTY LINE

20.1

LEGEND

- TRACT BOUNDARY
- WATERSHED BOUNDARY
- DMA BOUNDARY
- 500 EXISTING MAJOR CONTOUR (5' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID
- HYDROLOGIC SOIL GROUP "A"
- HYDROLOGIC SOIL GROUP "C"
- HYDROLOGIC SOIL GROUP "D"

0 110 220 330 feet

1"=110'

rrm

solomon hills

May 14, 2025

NEW LOVE PARK

PRE-DEVELOPMENT HSG EXHIBIT

H2

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Attachment 2 – Post-Development Hydrology Exhibits

COLLECTION POINT #20
Q_{25}: 56.13 cfs
Q_{100}: 83.91 cfs

PROPERTY LINE

DETENTION BASIN 3
Q_{25}: 0.53 cfs
Q_{100}: 0.96 cfs

DETENTION BASIN 3
BOTTOM AREA: 3,495 sf
TOTAL DEPTH: 6.25'
100-YR VOLUME: 37,095 cf
TOTAL VOLUME: 52,664 cf
0.07xACRES: 0.54 cfs
25-YR WSE: 4.23'
100-YR WSE: 5.05'

DETENTION BASIN 2
BOTTOM AREA: 4,265 sf
TOTAL DEPTH: 3.67'
100-YR VOLUME: 17,662 cf
TOTAL VOLUME: 26,310 cf
0.07xACRES: 0.24 cfs
25-YR WSE: 2.59'
100-YR WSE: 2.66'

DETENTION BASIN 2
Q_{25}: 0.24 cfs
Q_{100}: 0.82 cfs

DETENTION BASIN 1
Q_{25}: 0.28 cfs
Q_{100}: 0.88 cfs

DETENTION BASIN 1
BOTTOM AREA: 3,414 sf
TOTAL DEPTH: 5.25'
100-YR VOLUME: 21,884 cf
TOTAL VOLUME: 30,884 cf
0.07xACRES: 0.28 cfs
25-YR WSE: 4.06'
100-YR WSE: 4.16'

20.1
20.2
20.3
20.4

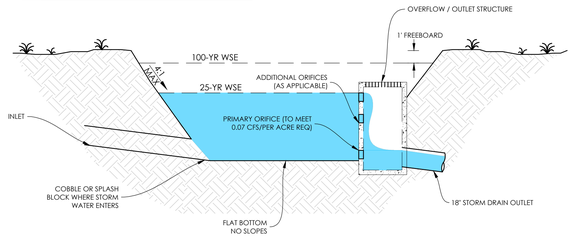
DIVERSION SWALE
CALTRANS SD RISER
DIVERSION SWALE
CALTRANS SD RISER
DIVERSION SWALE

0 110 220 330 feet
1"=110'

LEGEND

- TRACT BOUNDARY
- WATERSHED BOUNDARY
- DMA SUB BOUNDARY
- DMA BOUNDARY
- 500 PROPOSED MAJOR CONTOUR
- 500 EXISTING MAJOR CONTOUR (5' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID
- PROPOSED AC PAVEMENT AREA
- PROPOSED DG AREA
- PROPOSED PERMEABLE PAVERS
- PROPOSED CONCRETE AREA

TYPICAL DETENTION BASIN



H:\2000\229843-01\23\Solomon Hills Specific Plan\Engineering\TM\Hydro\CUP_New Love Park\Post Development Exhibit.dwg, H3, Jun 24, 2025 3:38pm, cmack

May 14, 2025

NEW LOVE PARK
POST-DEVELOPMENT HYDROLOGY EXHIBIT

H3

COLLECTION POINT #20

PROPERTY LINE

20.1

20.2

20.3

20.4

0 110 220 330 feet

1"=110'

LEGEND

- TRACT BOUNDARY
- WATERSHED BOUNDARY
- DMA SUB BOUNDARY
- DMA BOUNDARY
- 500 PROPOSED MAJOR CONTOUR
- 500 EXISTING MAJOR CONTOUR (5' INTERVALS)
- COLLECTION POINT
- 22 DRAINAGE AREA ID
- HYDROLOGIC SOIL GROUP "A"
- HYDROLOGIC SOIL GROUP "C"
- HYDROLOGIC SOIL GROUP "D"

rrm

May 14, 2025

NEW LOVE PARK
POST-DEVELOPMENT HSG EXHIBIT

H4

K:\2020\2298.03-CU23-Solomon Hills Specific Plan\Engineering\TM\Hydro\CUP_New Love Park\Post Development Exhibit_H5\Dwg\Dwg H3, Jun 24, 2023 - 3:56pm, cmack

Attachment 3 –Curve Number & HydroCAD Input Data

Pre & Post-Development Curve Number and HydroCAD Inputs

Pre-& Post-Development Curve Number and HydroCAD Inputs

Drainage Area	Condition	Soil Type	Existing Brush Landscape	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Pavers/DG	Road	Total Area (sf)	Flow Path Length (ft)	U/S Elev	D/S Elev	Slope (%)
Pre-Development																
20.1																
		A	770,880										3956	1149	687	11.7%
		C	4,111,360									**6424000**				
		D	1,541,760													
Post- Development																
20.1	Diverted		**Area (sf)**													
		A	808224	1333									3956	1149	687	11.7%
		C	3342223	68505						976		**5782549**				
		D	1561288													
20.2	Developed		**Area (sf)**													
		A											1642	1100	1005	5.8%
		C		96917						10222	64854	**171993**				
		D														
20.3	Developed		**Area (sf)**													
		A											545	1012	1004	1.6%
		C		83828						20212	44976	**149016**				
		D														
20.4	Developed		**Area (sf)**													
		A											845	1010	986	2.8%
		C		264956						30205	40602	**335763**				
		D														

Attachment 4 – Hydrologic Support Data

NOAA Atlas 14 Point Precipitation Data

National Resource Conservation Service (NRCS) Soil Survey

NOAA Atlas 14, Volume 6, Version 2
Location name: Santa Maria, California, USA*
Latitude: 34.8272°, Longitude: -120.3884°
Elevation: 982 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	**0.131** (0.113-0.153)	**0.161** (0.139-0.189)	**0.199** (0.171-0.234)	**0.230** (0.195-0.273)	**0.269** (0.219-0.332)	**0.297** (0.237-0.378)	**0.326** (0.252-0.426)	**0.354** (0.264-0.480)	**0.391** (0.277-0.557)	**0.419** (0.285-0.622)
10-min	**0.187** (0.162-0.219)	**0.231** (0.199-0.271)	**0.286** (0.246-0.336)	**0.329** (0.280-0.391)	**0.385** (0.314-0.476)	**0.426** (0.339-0.542)	**0.467** (0.361-0.611)	**0.508** (0.379-0.687)	**0.561** (0.398-0.799)	**0.601** (0.409-0.892)
15-min	**0.226** (0.195-0.265)	**0.279** (0.241-0.327)	**0.346** (0.297-0.406)	**0.398** (0.339-0.472)	**0.466** (0.380-0.576)	**0.516** (0.410-0.655)	**0.565** (0.436-0.739)	**0.614** (0.458-0.831)	**0.678** (0.481-0.966)	**0.726** (0.494-1.08)
30-min	**0.323** (0.279-0.377)	**0.399** (0.344-0.467)	**0.493** (0.424-0.580)	**0.568** (0.483-0.674)	**0.664** (0.542-0.822)	**0.736** (0.585-0.934)	**0.806** (0.622-1.06)	**0.876** (0.653-1.19)	**0.968** (0.686-1.38)	**1.04** (0.705-1.54)
60-min	**0.470** (0.406-0.550)	**0.580** (0.500-0.680)	**0.718** (0.618-0.844)	**0.827** (0.703-0.981)	**0.967** (0.790-1.20)	**1.07** (0.852-1.36)	**1.17** (0.906-1.54)	**1.28** (0.951-1.73)	**1.41** (0.999-2.01)	**1.51** (1.03-2.24)
2-hr	**0.687** (0.593-0.803)	**0.848** (0.731-0.993)	**1.05** (0.902-1.23)	**1.21** (1.03-1.43)	**1.41** (1.15-1.74)	**1.56** (1.24-1.98)	**1.71** (1.32-2.24)	**1.85** (1.38-2.51)	**2.04** (1.45-2.91)	**2.19** (1.49-3.25)
3-hr	**0.855** (0.739-1.00)	**1.06** (0.911-1.24)	**1.31** (1.12-1.54)	**1.50** (1.28-1.78)	**1.76** (1.43-2.17)	**1.94** (1.54-2.47)	**2.13** (1.64-2.78)	**2.31** (1.72-3.12)	**2.54** (1.80-3.62)	**2.72** (1.85-4.04)
6-hr	**1.18** (1.02-1.38)	**1.46** (1.26-1.71)	**1.81** (1.56-2.13)	**2.08** (1.77-2.47)	**2.43** (1.99-3.01)	**2.69** (2.14-3.42)	**2.95** (2.28-3.86)	**3.20** (2.39-4.33)	**3.53** (2.50-5.03)	**3.78** (2.57-5.61)
12-hr	**1.51** (1.30-1.76)	**1.86** (1.61-2.18)	**2.31** (1.98-2.71)	**2.65** (2.26-3.15)	**3.10** (2.53-3.84)	**3.44** (2.73-4.36)	**3.76** (2.90-4.92)	**4.08** (3.05-5.53)	**4.51** (3.20-6.42)	**4.83** (3.29-7.17)
24-hr	**1.92** (1.68-2.24)	**2.38** (2.08-2.78)	**2.95** (2.57-3.46)	**3.40** (2.94-4.02)	**3.99** (3.34-4.85)	**4.42** (3.63-5.49)	**4.85** (3.89-6.16)	**5.27** (4.12-6.88)	**5.84** (4.39-7.92)	**6.26** (4.56-8.78)
2-day	**2.45** (2.14-2.86)	**3.06** (2.67-3.58)	**3.84** (3.35-4.50)	**4.47** (3.86-5.27)	**5.30** (4.44-6.46)	**5.94** (4.88-7.38)	**6.58** (5.28-8.36)	**7.22** (5.65-9.43)	**8.10** (6.09-11.0)	**8.78** (6.39-12.3)
3-day	**2.77** (2.42-3.23)	**3.49** (3.05-4.08)	**4.44** (3.86-5.20)	**5.22** (4.51-6.16)	**6.30** (5.28-7.67)	**7.14** (5.87-8.87)	**8.01** (6.43-10.2)	**8.91** (6.97-11.6)	**10.2** (7.64-13.8)	**11.1** (8.11-15.6)
4-day	**2.99** (2.62-3.49)	**3.79** (3.31-4.42)	**4.85** (4.22-5.68)	**5.74** (4.96-6.78)	**6.99** (5.86-8.52)	**7.98** (6.56-9.92)	**9.02** (7.24-11.5)	**10.1** (7.91-13.2)	**11.6** (8.75-15.8)	**12.9** (9.36-18.0)
7-day	**3.60** (3.15-4.20)	**4.56** (3.98-5.33)	**5.86** (5.10-6.87)	**6.95** (6.01-8.21)	**8.49** (7.11-10.3)	**9.72** (7.98-12.1)	**11.0** (8.84-14.0)	**12.4** (9.68-16.1)	**14.3** (10.8-19.4)	**15.9** (11.6-22.2)
10-day	**3.97** (3.47-4.63)	**5.04** (4.40-5.89)	**6.49** (5.65-7.60)	**7.71** (6.67-9.10)	**9.44** (7.90-11.5)	**10.8** (8.89-13.4)	**12.3** (9.85-15.6)	**13.8** (10.8-18.0)	**16.0** (12.0-21.7)	**17.8** (13.0-24.9)
20-day	**4.81** (4.20-5.61)	**6.15** (5.37-7.18)	**7.96** (6.94-9.33)	**9.51** (8.22-11.2)	**11.7** (9.80-14.2)	**13.5** (11.1-16.7)	**15.3** (12.3-19.5)	**17.3** (13.6-22.6)	**20.2** (15.2-27.4)	**22.6** (16.4-31.6)
30-day	**5.84** (5.11-6.82)	**7.50** (6.55-8.77)	**9.77** (8.51-11.4)	**11.7** (10.1-13.8)	**14.4** (12.1-17.6)	**16.7** (13.7-20.7)	**19.0** (15.3-24.2)	**21.6** (16.9-28.2)	**25.3** (19.0-34.3)	**28.3** (20.6-39.7)
45-day	**7.20** (6.30-8.41)	**9.27** (8.09-10.8)	**12.1** (10.5-14.2)	**14.5** (12.5-17.1)	**17.9** (15.0-21.9)	**20.7** (17.0-25.8)	**23.7** (19.0-30.1)	**27.0** (21.1-35.2)	**31.7** (23.8-42.9)	**35.5** (25.9-49.8)
60-day	**8.24** (7.20-9.61)	**10.6** (9.25-12.4)	**13.8** (12.0-16.2)	**16.6** (14.3-19.6)	**20.5** (17.2-25.0)	**23.7** (19.5-29.4)	**27.1** (21.8-34.5)	**30.8** (24.1-40.2)	**36.2** (27.2-49.1)	**40.7** (29.6-57.0)

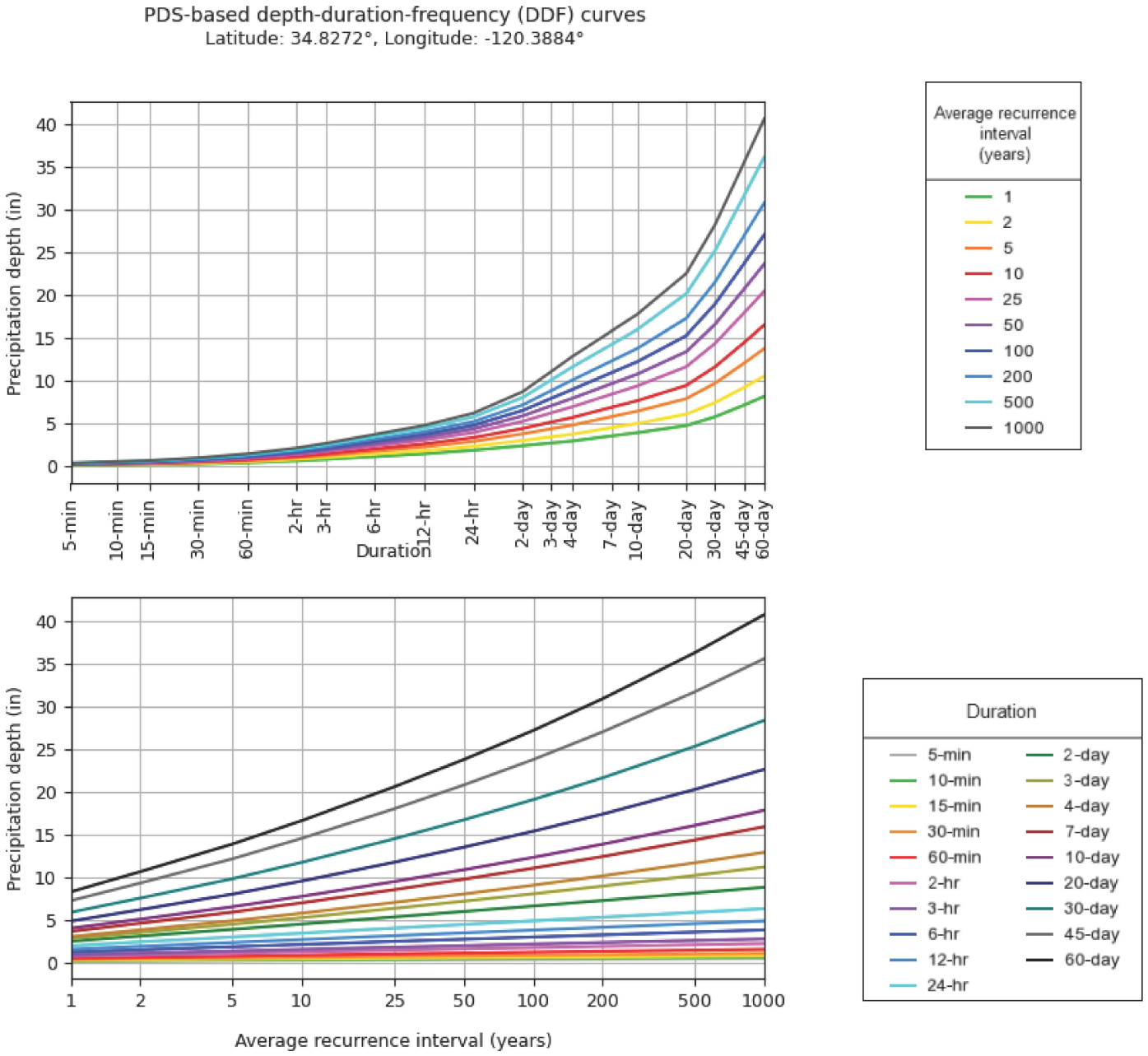
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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



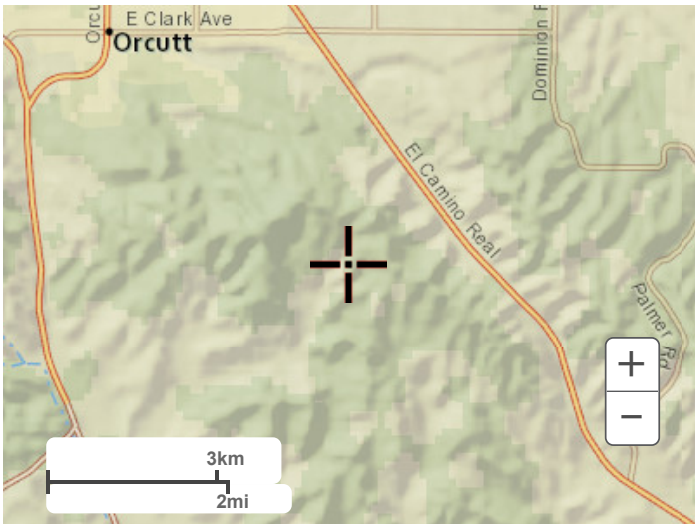
NOAA Atlas 14, Volume 6, Version 2

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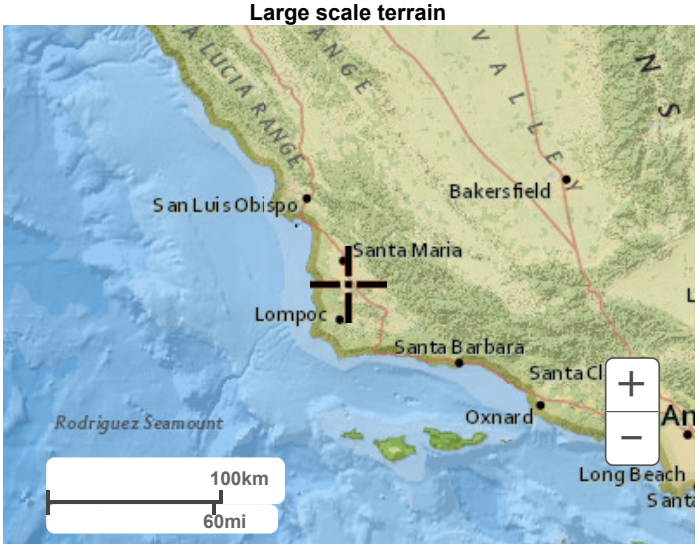
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Maps & aerials

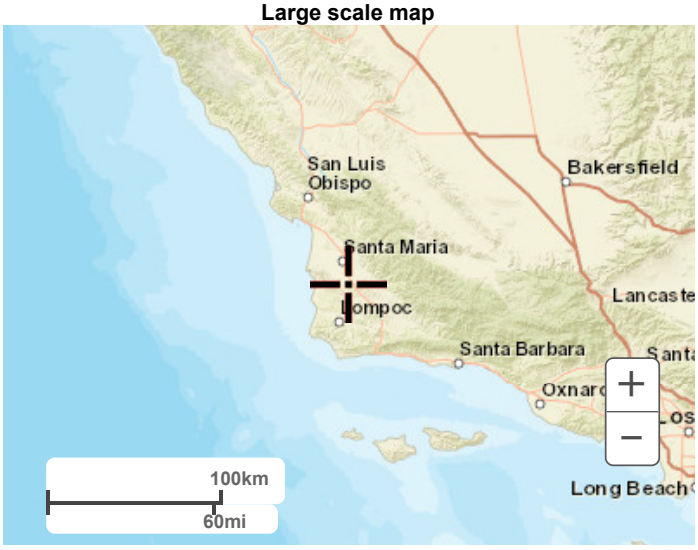
Small scale terrain



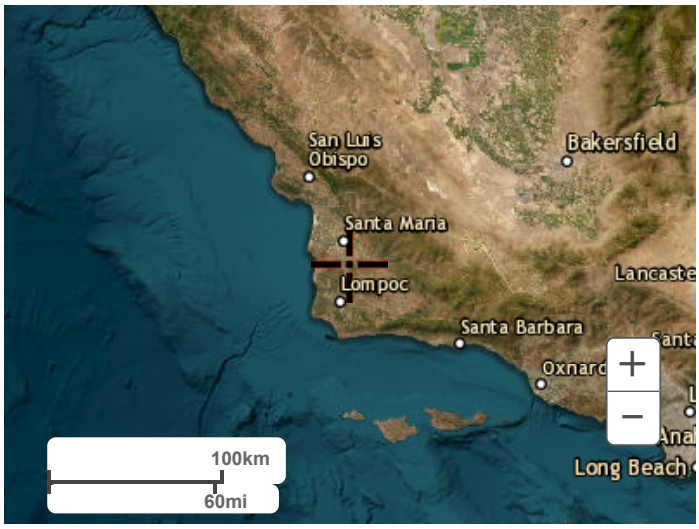
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

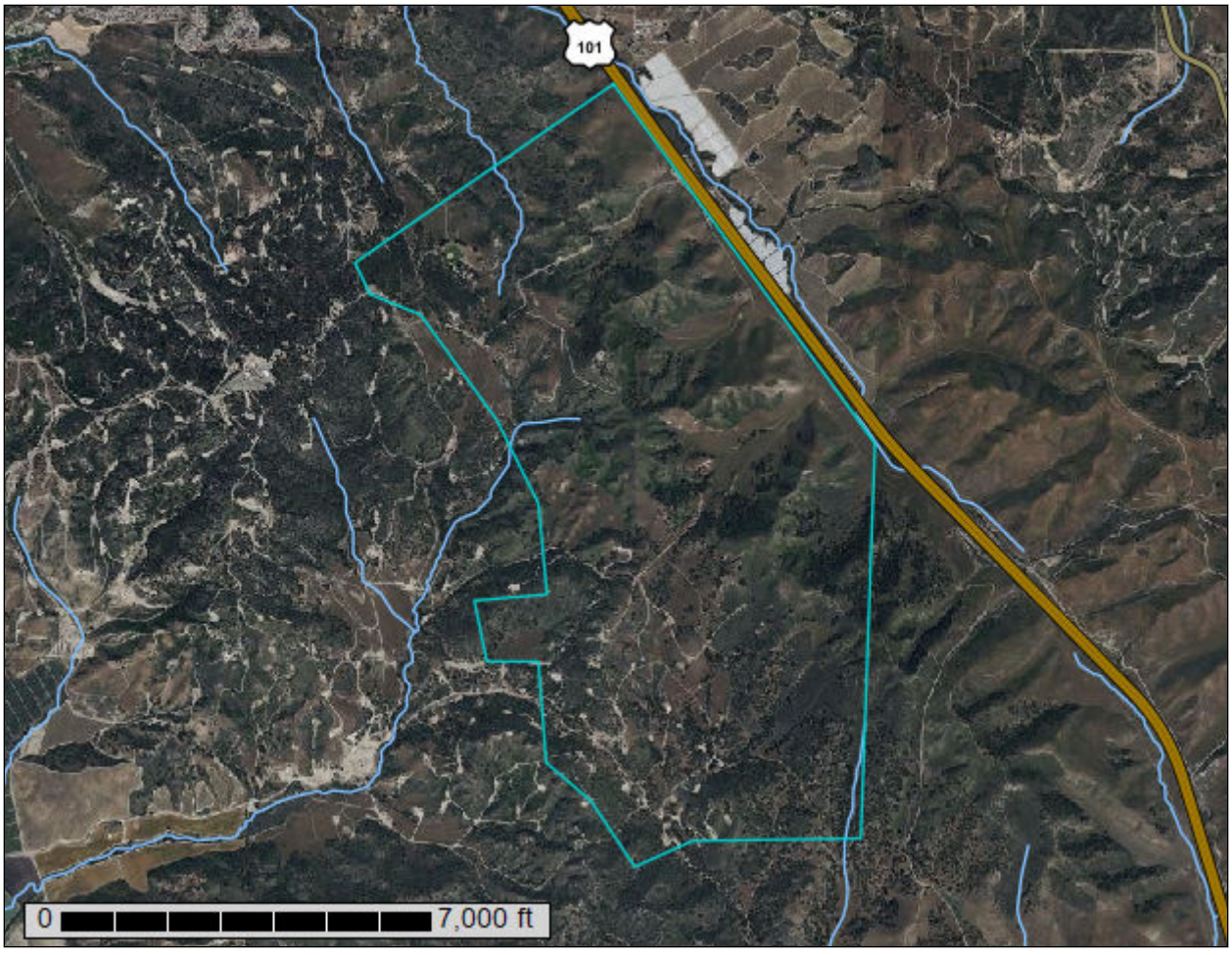
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

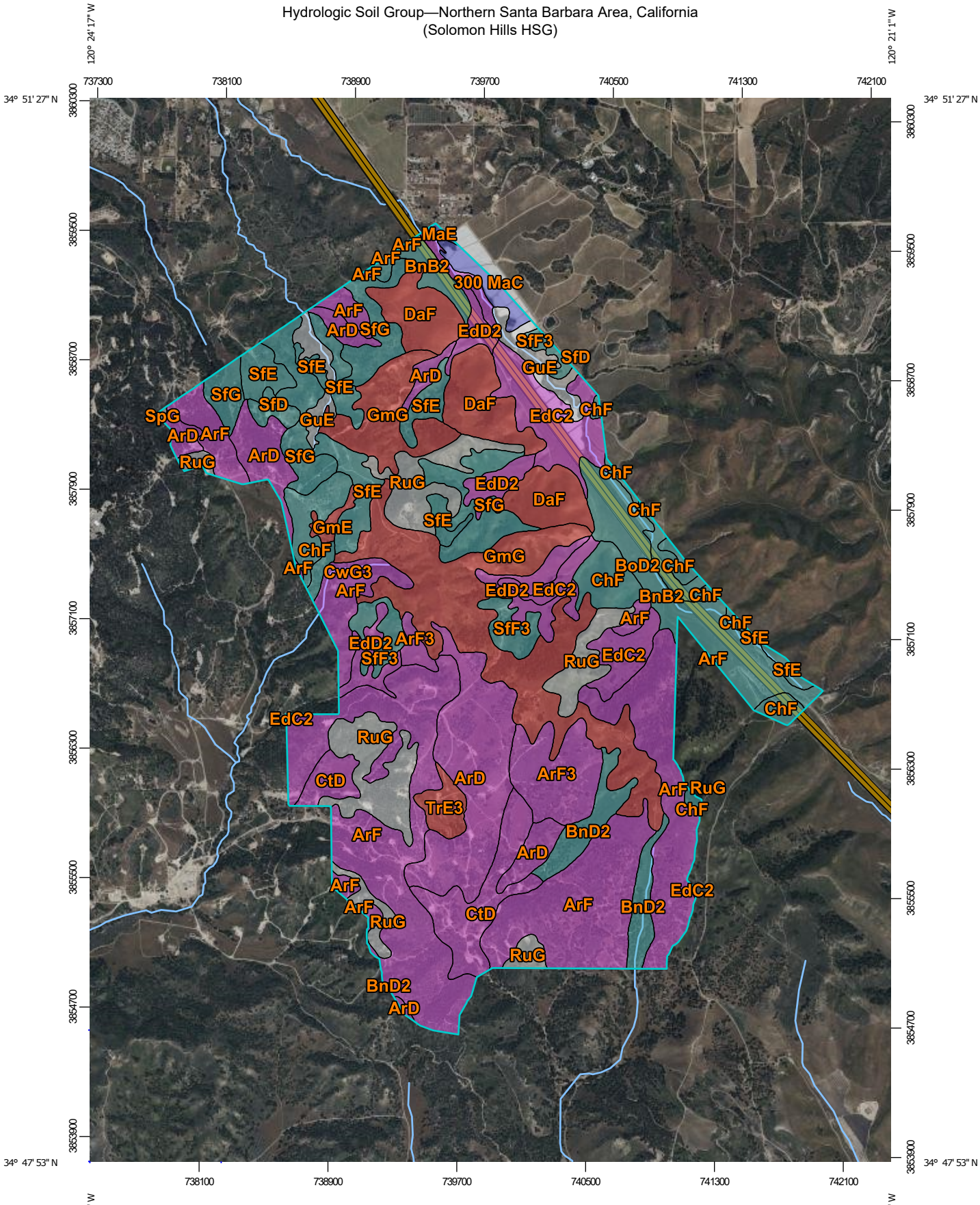
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Northern Santa Barbara Area, California



January 27, 2025

Hydrologic Soil Group—Northern Santa Barbara Area, California
(Solomon Hills HSG)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Northern Santa Barbara Area, California
Survey Area Data: Version 19, Sep 9, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 12, 2022—Apr 12, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
300	Corducci and Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	A	11.9	0.5%
ArD	Arnold sand, 5 to 15 percent slopes	A	223.8	9.0%
ArF	Arnold sand, 15 to 45 percent slopes	A	586.8	23.6%
ArF3	Arnold sand, 9 to 45 percent slopes, severely eroded	A	77.6	3.1%
BnB2	Betteravia loamy sand, dark variant, 0 to 5 percent slopes, eroded	C	131.5	5.3%
BnD2	Betteravia loamy sand, dark variant, 5 to 15 percent slopes, eroded	C	54.3	2.2%
BoD2	Botella loam, 2 to 15 percent slopes, eroded	C	17.0	0.7%
ChF	Chamise shaly loam, 15 to 45 percent slopes	C	85.9	3.5%
CtD	Corralitos sand, 2 to 15 percent slopes	A	87.7	3.5%
CwG3	Crow Hill loam, 15 to 75 percent slopes, severely eroded	C	6.7	0.3%
DaF	Diablo silty clay, 30 to 45 percent slopes	D	137.6	5.5%
EdC2	Elder sandy loam, 2 to 9 percent slopes, eroded	A	114.5	4.6%
EdD2	Elder sandy loam, 9 to 15 percent slopes, eroded	A	77.7	3.1%
GmE	Gaviota sandy loam, 15 to 30 percent slopes, MLRA 15	D	8.1	0.3%
GmG	Gaviota sandy loam, 30 to 75 percent slopes	D	308.6	12.4%
GuE	Gullied land		41.8	1.7%
MaC	Marina sand, 2 to 9 percent slopes	B	18.0	0.7%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MaE	Marina sand, 9 to 30 percent slopes	B	2.2	0.1%
RuG	Rough broken land		166.9	6.7%
SfD	San Andreas-Tierra complex, 5 to 15 percent slopes	C	15.1	0.6%
SfE	San Andreas-Tierra complex, 15 to 30 percent slopes	C	103.2	4.2%
SfF3	San Andreas-Tierra complex, 9 to 45 percent slopes, severely eroded	C	45.6	1.8%
SfG	San Andreas-Tierra complex, 30 to 75 percent slopes	C	141.4	5.7%
SpG	Sedimentary rock land		0.7	0.0%
TrE3	Tierra loam, 5 to 30 percent slopes, severely eroded	D	20.4	0.8%
Totals for Area of Interest			**2,485.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Attachment 5 – Pre-Development HydroCAD Report



Collection Point 20

Subcat Reach Pond Link

Routing Diagram for NewLove Pre Development DMAs
Prepared by RRM Design Group, Printed 6/24/2025
HydroCAD® 10.20-7a s/n 13395 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 year	Type I 24-hr		Default	24.00	1	2.38	2
2	25 year	Type I 24-hr		Default	24.00	1	3.99	2
3	100 year	Type I 24-hr		Default	24.00	1	4.85	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
17.697	48	Brush, Poor, HSG A (20 PRE)
94.384	77	Brush, Poor, HSG C (20 PRE)
35.394	83	Brush, Poor,HSG D (20 PRE)
147.475	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.697	HSG A	20 PRE
0.000	HSG B	
94.384	HSG C	20 PRE
35.394	HSG D	20 PRE
0.000	Other	
147.475		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
17.697	0.000	94.384	35.394	0.000	147.475	Brush, Poor	20 PRE
17.697	**0.000**	**94.384**	**35.394**	**0.000**	**147.475**	**TOTAL AREA**	

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20 PRE: Collection Point Runoff Area=6,424,000 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=14.86 cfs 7.149 af

Total Runoff Area = 147.475 ac Runoff Volume = 7.149 af Average Runoff Depth = 0.58"
100.00% Pervious = 147.475 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 20 PRE: Collection Point 20

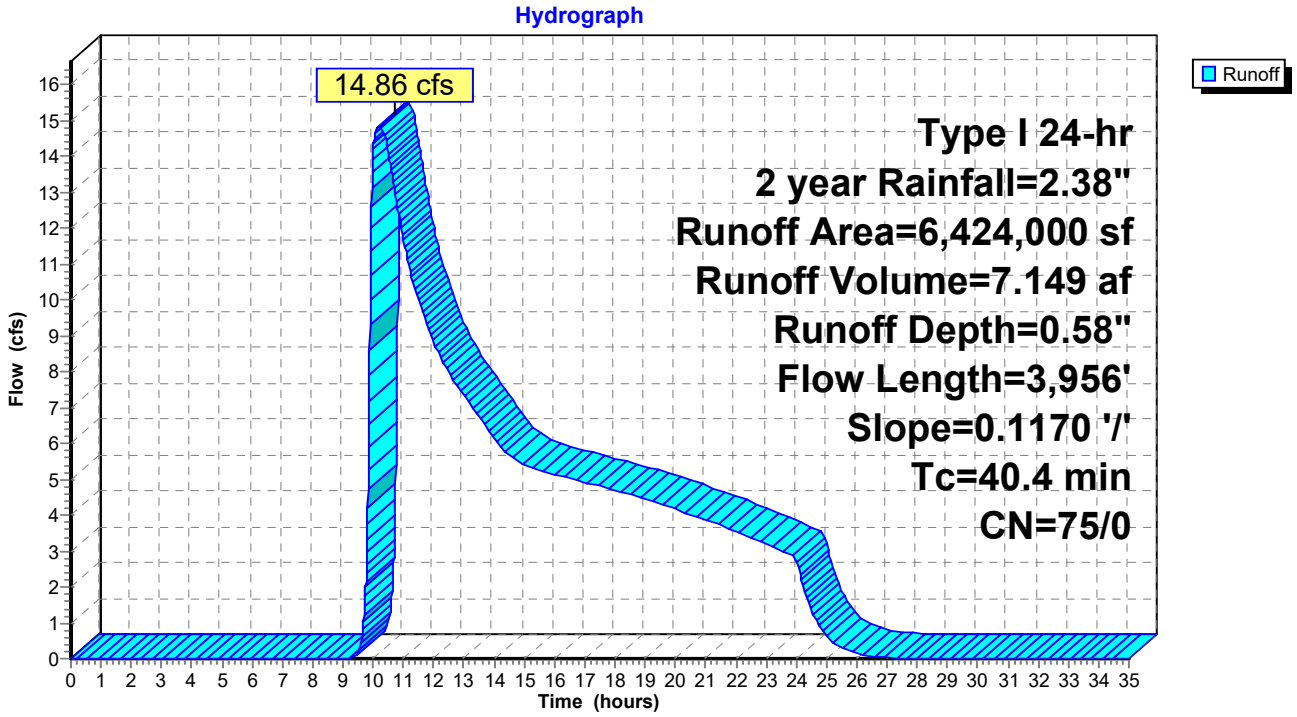
Runoff = 14.86 cfs @ 10.23 hrs, Volume= 7.149 af, Depth= 0.58"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	770,880	48	Brush, Poor, HSG A
*	4,111,360	77	Brush, Poor, HSG C
*	1,541,760	83	Brush, Poor,HSG D
	6,424,000	75	Weighted Average
	6,424,000	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20 PRE: Collection Point 20



Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20 PRE: Collection Point Runoff Area=6,424,000 sf 0.00% Impervious Runoff Depth=1.66"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=61.85 cfs 20.390 af

Total Runoff Area = 147.475 ac Runoff Volume = 20.390 af Average Runoff Depth = 1.66"
100.00% Pervious = 147.475 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 20 PRE: Collection Point 20

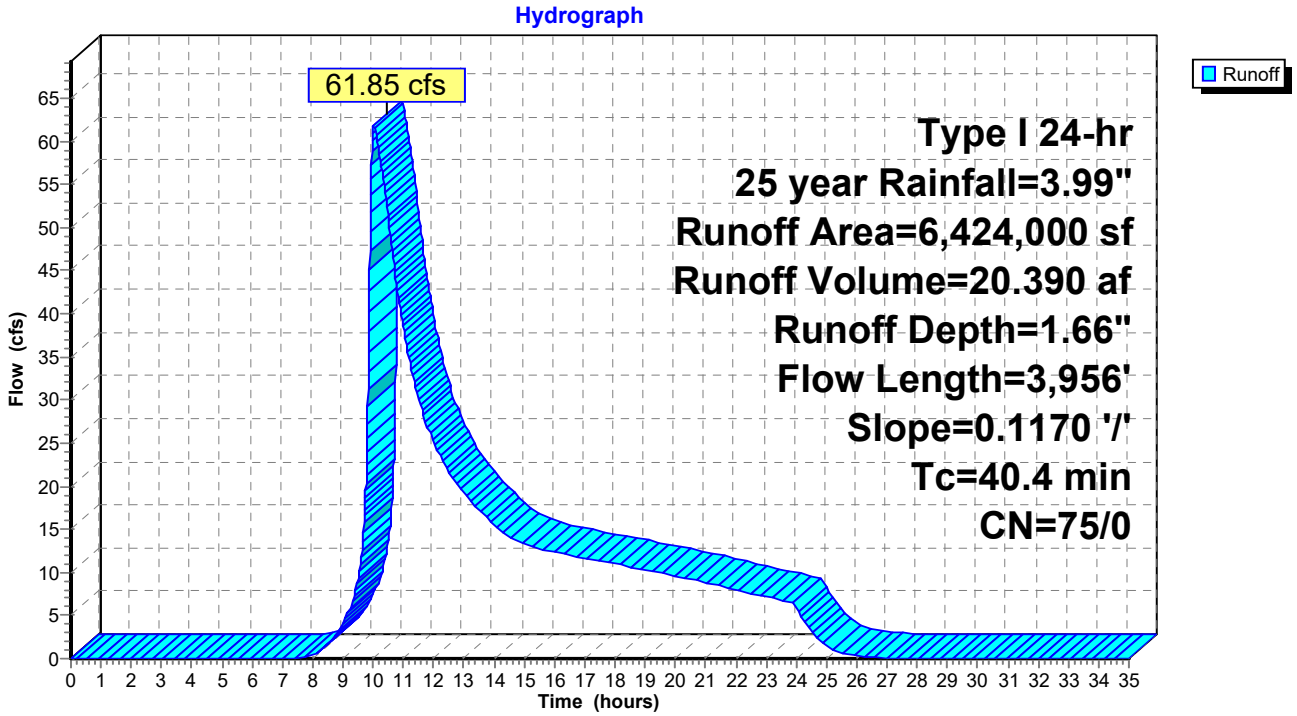
Runoff = 61.85 cfs @ 10.00 hrs, Volume= 20.390 af, Depth= 1.66"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	770,880	48	Brush, Poor, HSG A
*	4,111,360	77	Brush, Poor, HSG C
*	1,541,760	83	Brush, Poor,HSG D
	6,424,000	75	Weighted Average
	6,424,000	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20 PRE: Collection Point 20



Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20 PRE: Collection Point Runoff Area=6,424,000 sf 0.00% Impervious Runoff Depth=2.33"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=92.62 cfs 28.613 af

Total Runoff Area = 147.475 ac Runoff Volume = 28.613 af Average Runoff Depth = 2.33"
100.00% Pervious = 147.475 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 20 PRE: Collection Point 20

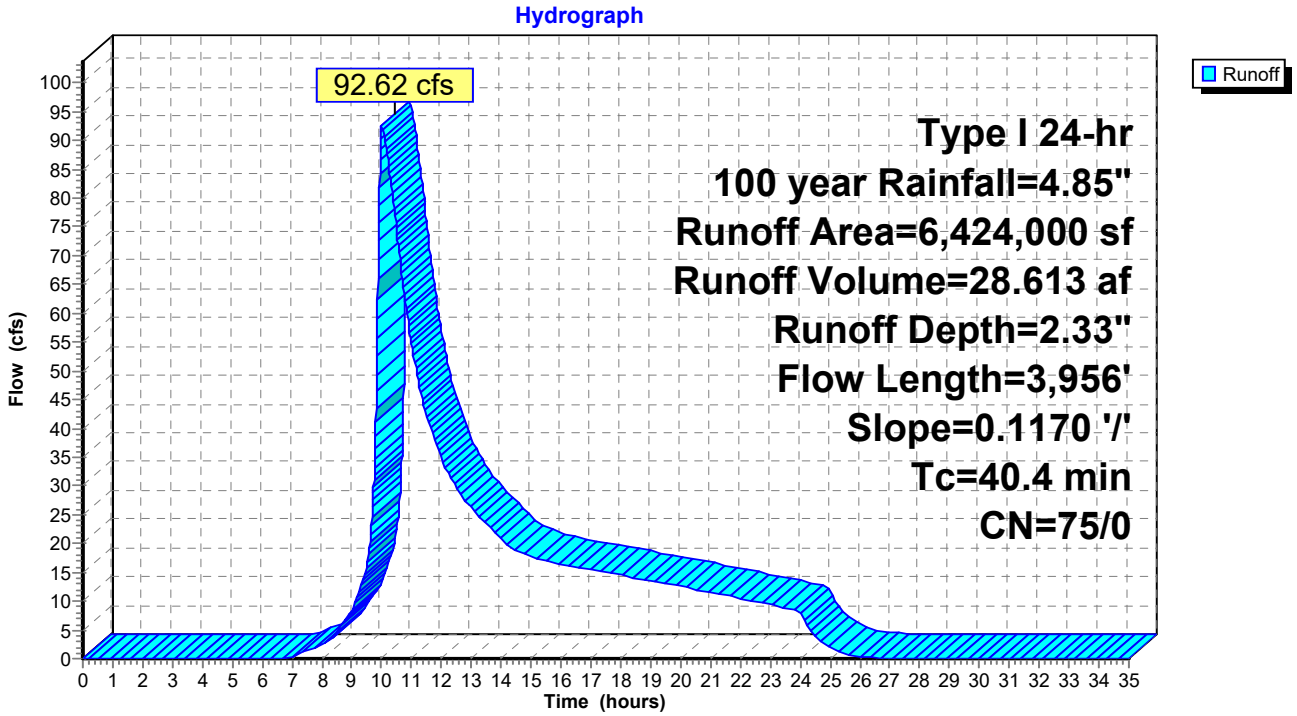
Runoff = 92.62 cfs @ 10.00 hrs, Volume= 28.613 af, Depth= 2.33"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

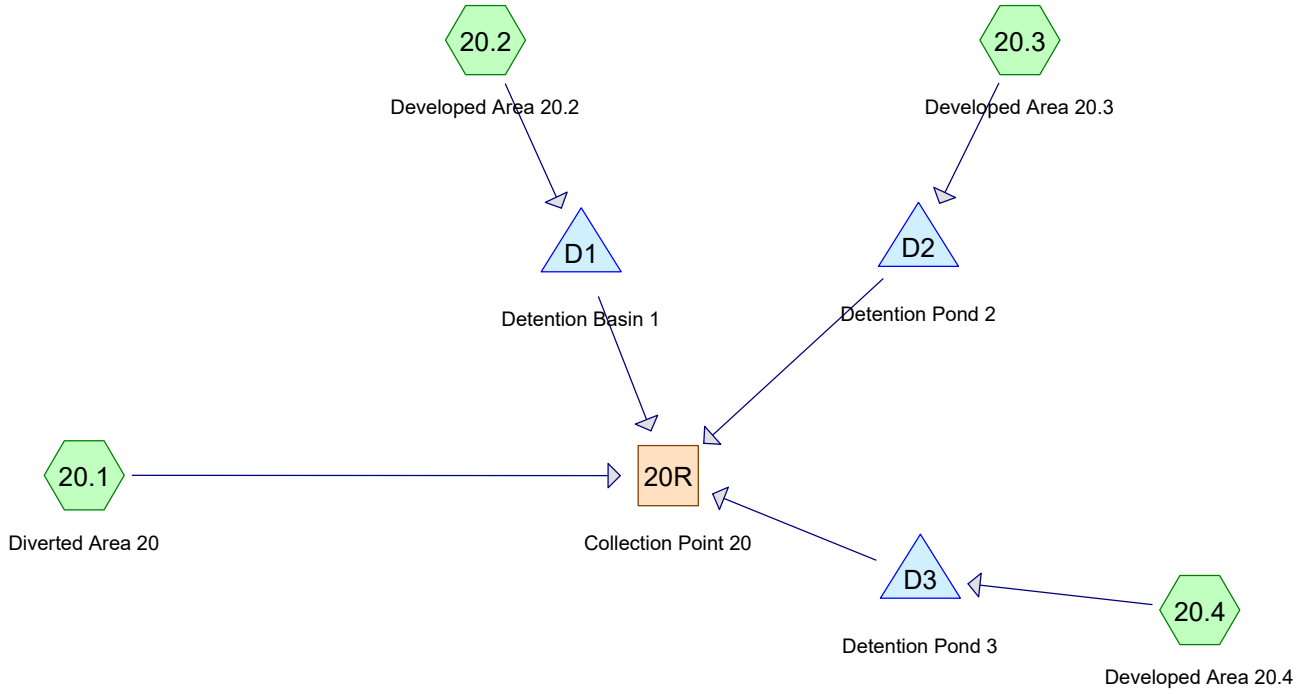
	Area (sf)	CN	Description
*	770,880	48	Brush, Poor, HSG A
*	4,111,360	77	Brush, Poor, HSG C
*	1,541,760	83	Brush, Poor,HSG D
	6,424,000	75	Weighted Average
	6,424,000	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20 PRE: Collection Point 20



Attachment 6 – Post-Development HydroCAD Report



Subcat Reach Pond Link

Routing Diagram for NewLove Post Development DMAs
Prepared by RRM Design Group, Printed 6/24/2025
HydroCAD® 10.20-7a s/n 13395 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 year	Type I 24-hr		Default	24.00	1	2.38	2
2	25 year	Type I 24-hr		Default	24.00	1	3.99	2
3	100 year	Type I 24-hr		Default	24.00	1	4.85	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
18.554	48	Brush, Poor, HSG A (20.1)
76.727	77	Brush, Poor, HSG C (20.1)
35.842	83	Brush, Poor, HSG D (20.1)
3.453	98	Hardscape (20.2, 20.3, 20.4)
0.031	39	Open Space, Good, HSG A (20.1)
11.805	74	Open Space, Good, HSG C (20.1, 20.2, 20.3, 20.4)
1.414	87	Pavers/DG, Good, HSG C (20.1, 20.2, 20.3, 20.4)
147.826	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
18.585	HSG A	20.1
0.000	HSG B	
89.946	HSG C	20.1, 20.2, 20.3, 20.4
35.842	HSG D	20.1
3.453	Other	20.2, 20.3, 20.4
147.826		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
18.554	0.000	76.727	35.842	0.000	131.123	Brush, Poor	20.1
0.000	0.000	0.000	0.000	3.453	3.453	Hardscape	20.2, 20.3, 20.4
0.031	0.000	11.805	0.000	0.000	11.835	Open Space, Good	20.1, 20.2, 20.3, 20.4
0.000	0.000	1.414	0.000	0.000	1.414	Pavers/DG, Good	20.1, 20.2, 20.3, 20.4
18.585	**0.000**	**89.946**	**35.842**	**3.453**	**147.826**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	D1	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
2	D2	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
3	D3	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20.1: Diverted Area 20 Runoff Area=5,782,549 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=13.38 cfs 6.435 af

Subcatchment20.2: Developed Area 20.2 Runoff Area=171,993 sf 37.71% Impervious Runoff Depth=1.17"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=1.90 cfs 0.386 af

Subcatchment20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=1.11"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=1.21 cfs 0.318 af

Subcatchment20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=0.77"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=2.16 cfs 0.496 af

Reach 20R: Collection Point 20 Inflow=13.71 cfs 7.405 af
Outflow=13.71 cfs 7.405 af

Pond D1: Detention Basin 1 Peak Elev=102.12' Storage=0.209 af Inflow=1.90 cfs 0.386 af
Outflow=0.15 cfs 0.297 af

Pond D2: Detention Pond 2 Peak Elev=101.16' Storage=0.144 af Inflow=1.21 cfs 0.318 af
Outflow=0.16 cfs 0.288 af

Pond D3: Detention Pond 3 Peak Elev=102.19' Storage=11,552 cf Inflow=2.16 cfs 0.496 af
Outflow=0.20 cfs 0.386 af

Total Runoff Area = 147.826 ac Runoff Volume = 7.634 af Average Runoff Depth = 0.62"
97.66% Pervious = 144.373 ac 2.34% Impervious = 3.453 ac

Summary for Subcatchment 20.1: Diverted Area 20

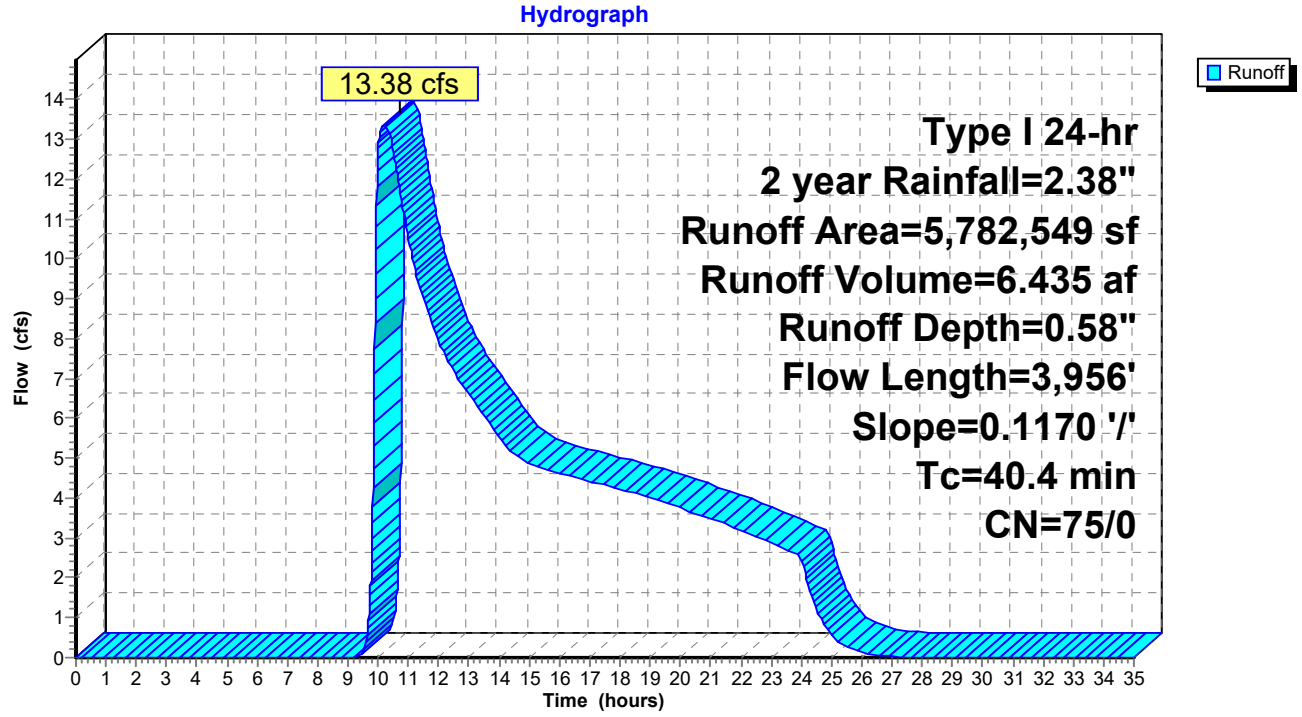
Runoff = 13.38 cfs @ 10.23 hrs, Volume= 6.435 af, Depth= 0.58"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	3,342,223	77	Brush, Poor, HSG C
*	1,561,288	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,782,549	75	Weighted Average
	5,782,549	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

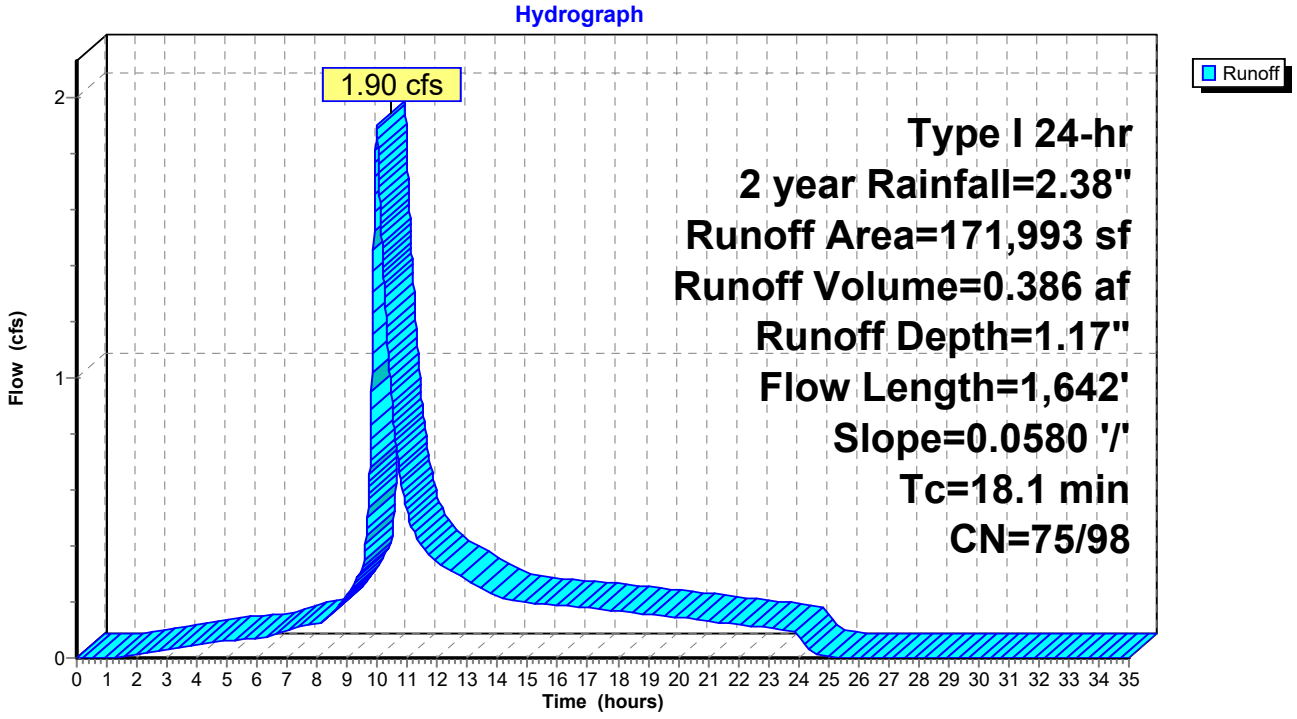
Runoff = 1.90 cfs @ 9.98 hrs, Volume= 0.386 af, Depth= 1.17"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	96,917	74	Open Space, Good, HSG C
*	10,222	87	Pavers/DG, Good, HSG C
*	64,854	98	Hardscape
	171,993	84	Weighted Average
	107,139	75	62.29% Pervious Area
	64,854	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

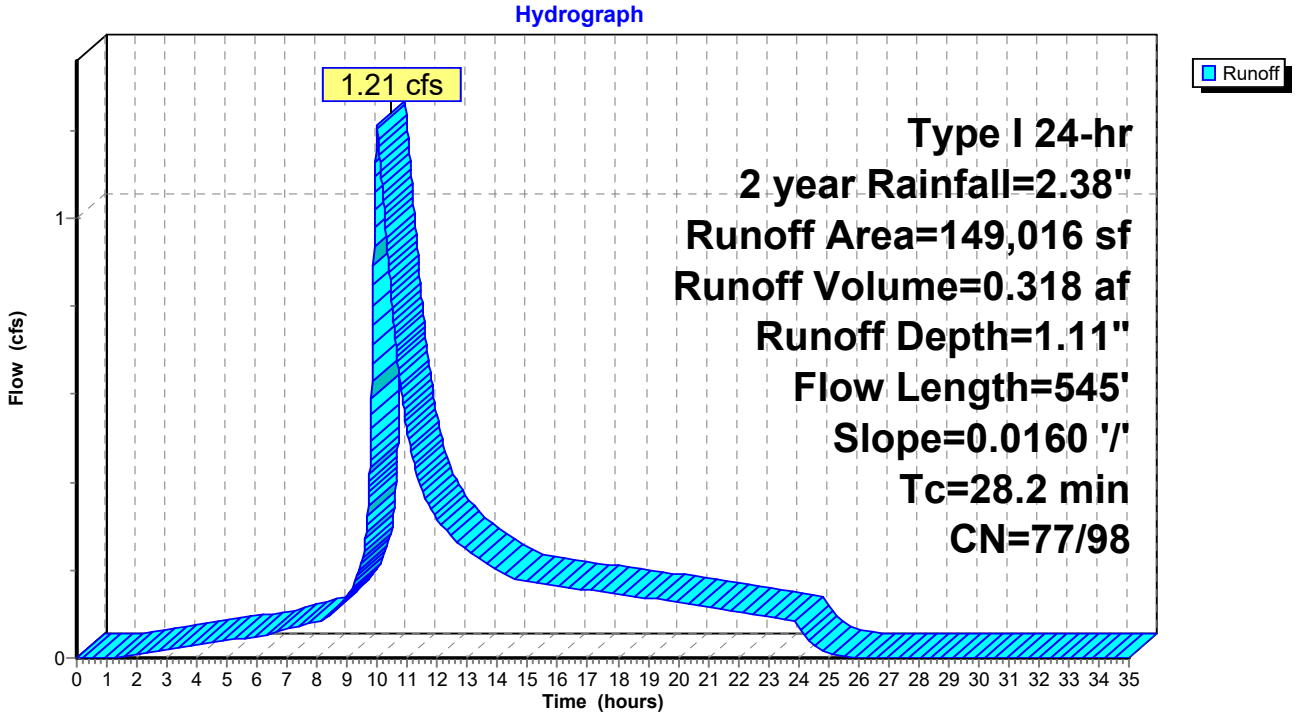
Runoff = 1.21 cfs @ 9.99 hrs, Volume= 0.318 af, Depth= 1.11"
Routed to Pond D2 : Detention Pond 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

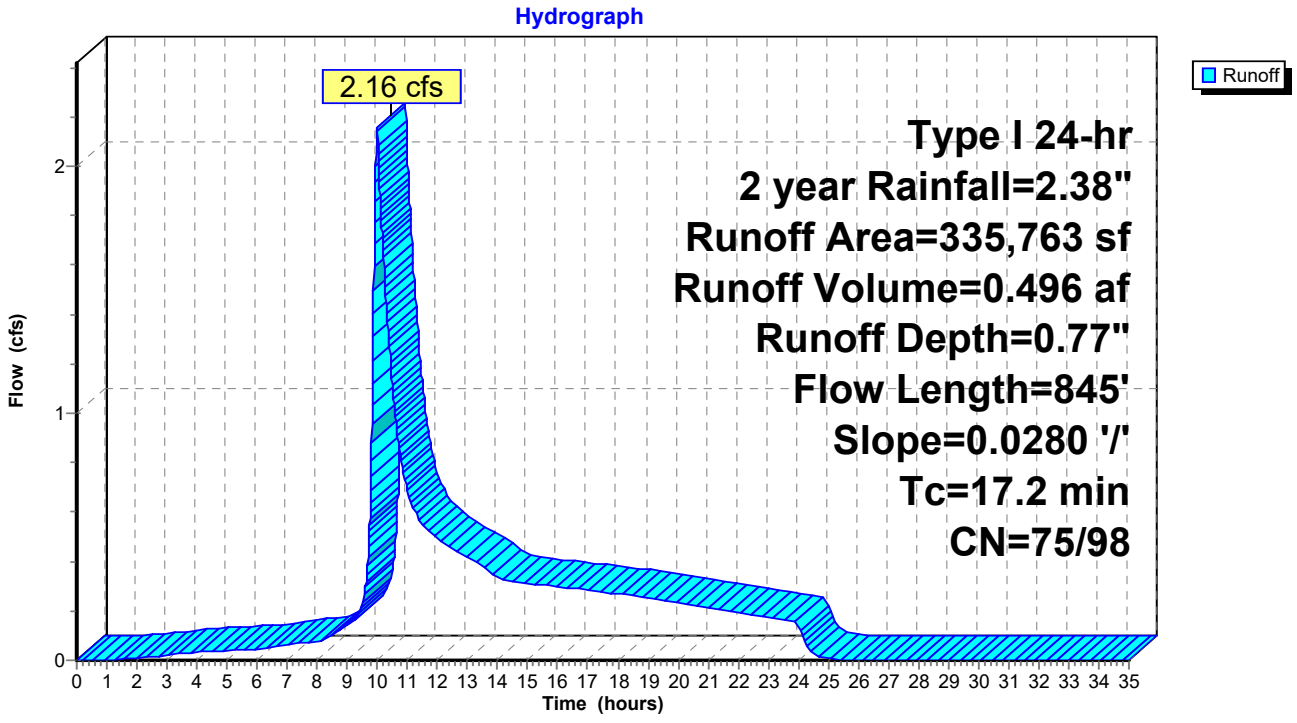
Runoff = 2.16 cfs @ 9.99 hrs, Volume= 0.496 af, Depth= 0.77"
Routed to Pond D3 : Detention Pond 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



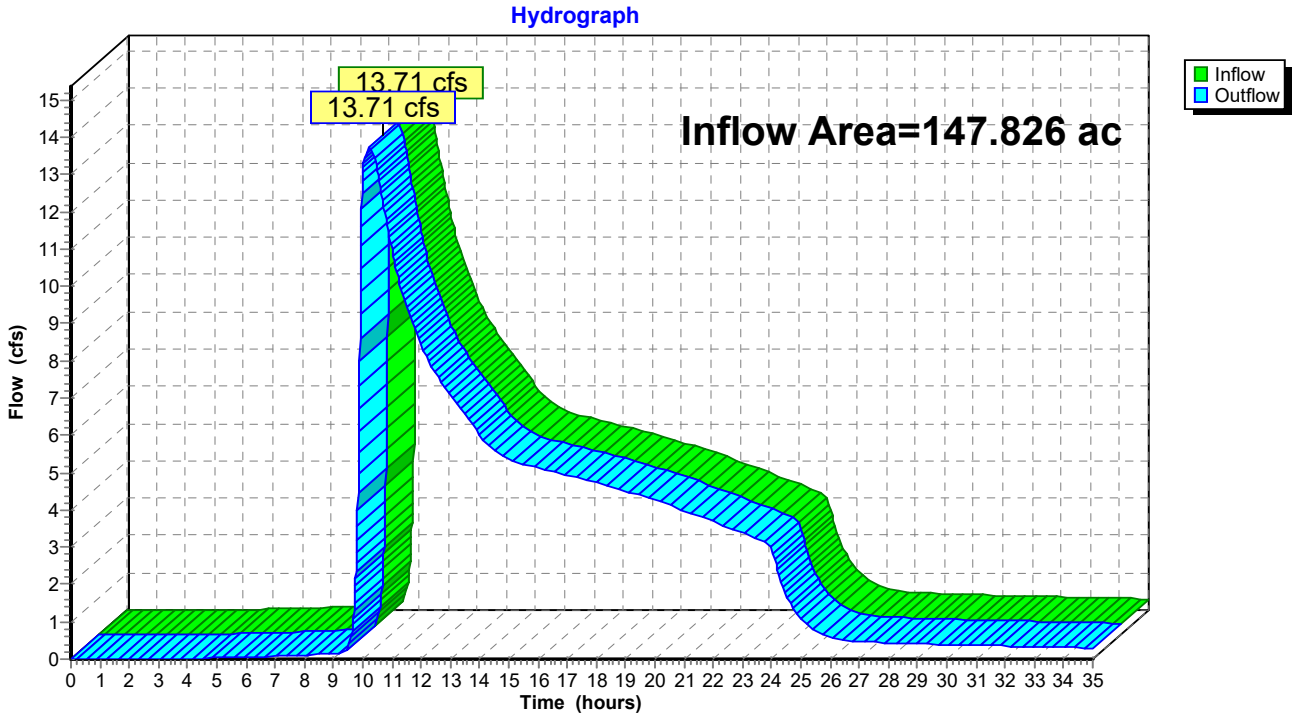
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 147.826 ac, 2.34% Impervious, Inflow Depth > 0.60" for 2 year event
Inflow = 13.71 cfs @ 10.24 hrs, Volume= 7.405 af
Outflow = 13.71 cfs @ 10.24 hrs, Volume= 7.405 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



Summary for Pond D1: Detention Basin 1

Inflow Area = 3.948 ac, 37.71% Impervious, Inflow Depth = 1.17" for 2 year event
Inflow = 1.90 cfs @ 9.98 hrs, Volume= 0.386 af
Outflow = 0.15 cfs @ 19.53 hrs, Volume= 0.297 af, Atten= 92%, Lag= 572.9 min
Primary = 0.15 cfs @ 19.53 hrs, Volume= 0.297 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.12' @ 19.53 hrs Storage= 0.209 af

Plug-Flow detention time= 616.1 min calculated for 0.297 af (77% of inflow)
Center-of-Mass det. time= 489.6 min (1,268.1 - 778.4)

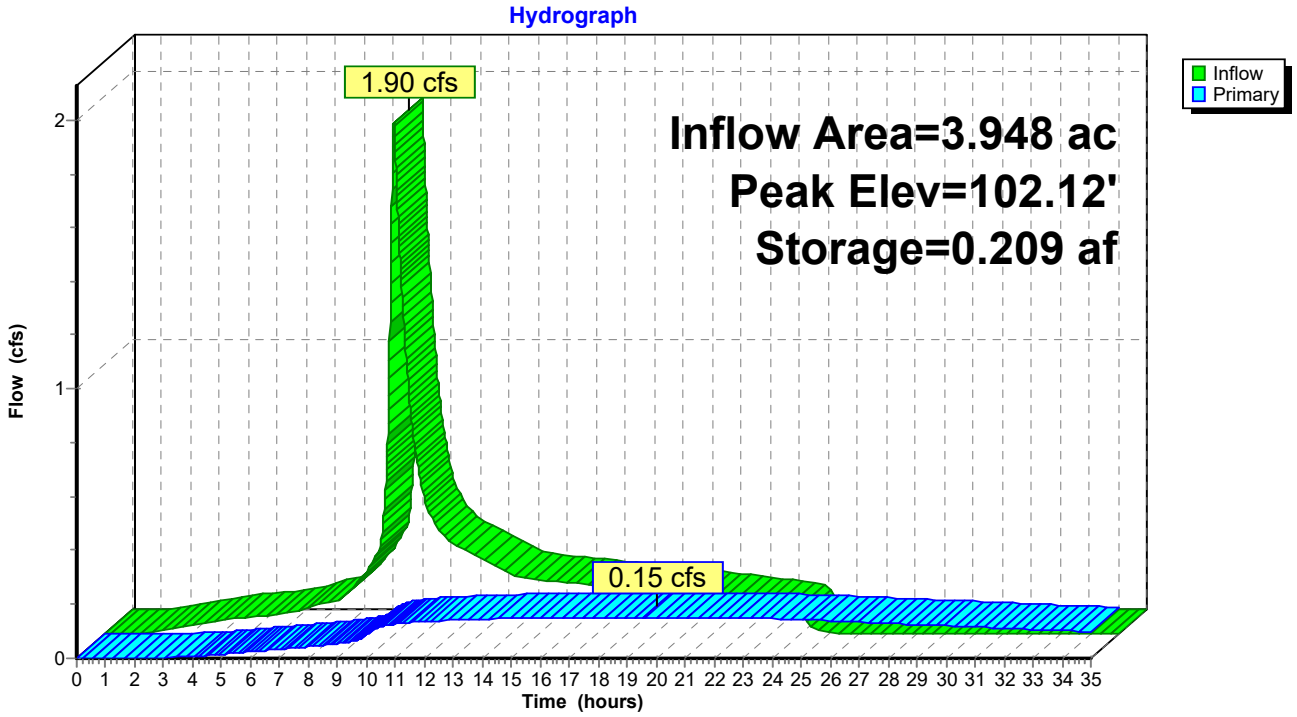
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

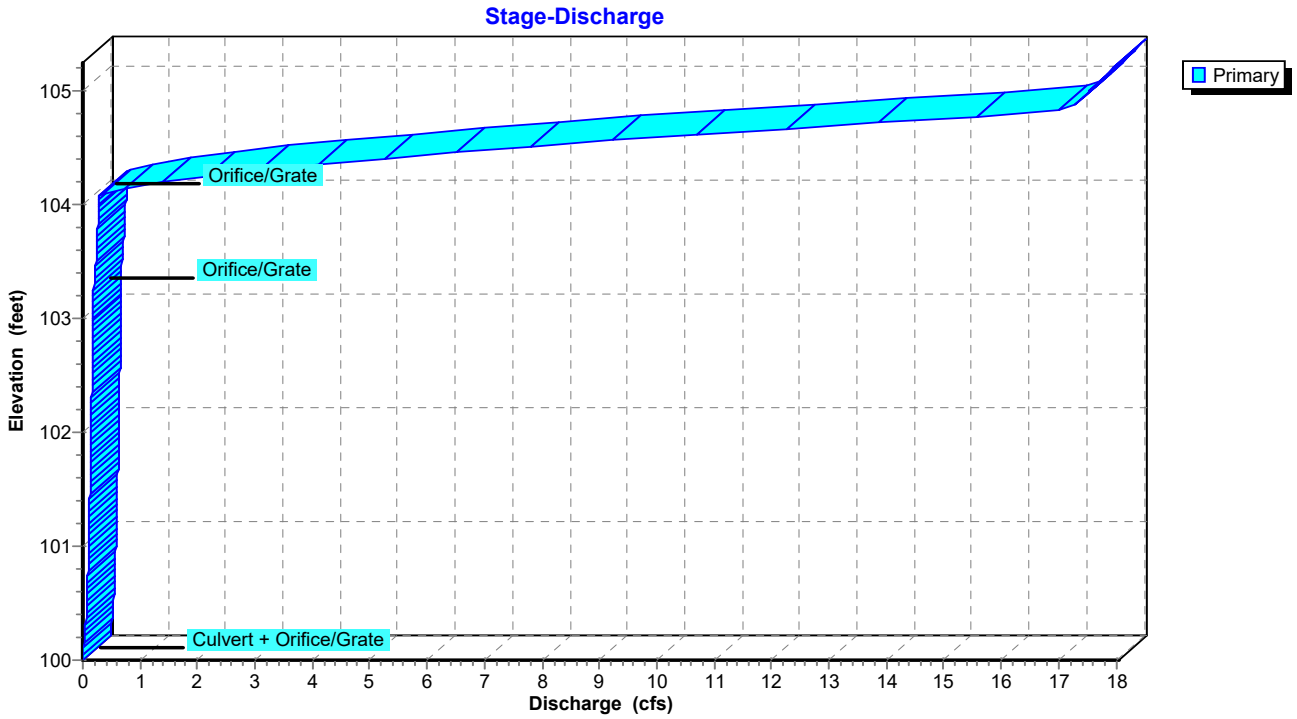
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 19.53 hrs HW=102.12' (Free Discharge)
└**1=Culvert** (Passes 0.15 cfs of 9.30 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 0.15 cfs @ 6.88 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Summary for Pond D2: Detention Pond 2

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 1.11" for 2 year event
Inflow = 1.21 cfs @ 9.99 hrs, Volume= 0.318 af
Outflow = 0.16 cfs @ 16.62 hrs, Volume= 0.288 af, Atten= 87%, Lag= 397.5 min
Primary = 0.16 cfs @ 16.62 hrs, Volume= 0.288 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.16' @ 16.62 hrs Storage= 0.144 af

Plug-Flow detention time= 492.0 min calculated for 0.288 af (91% of inflow)
Center-of-Mass det. time= 435.6 min (1,237.5 - 801.9)

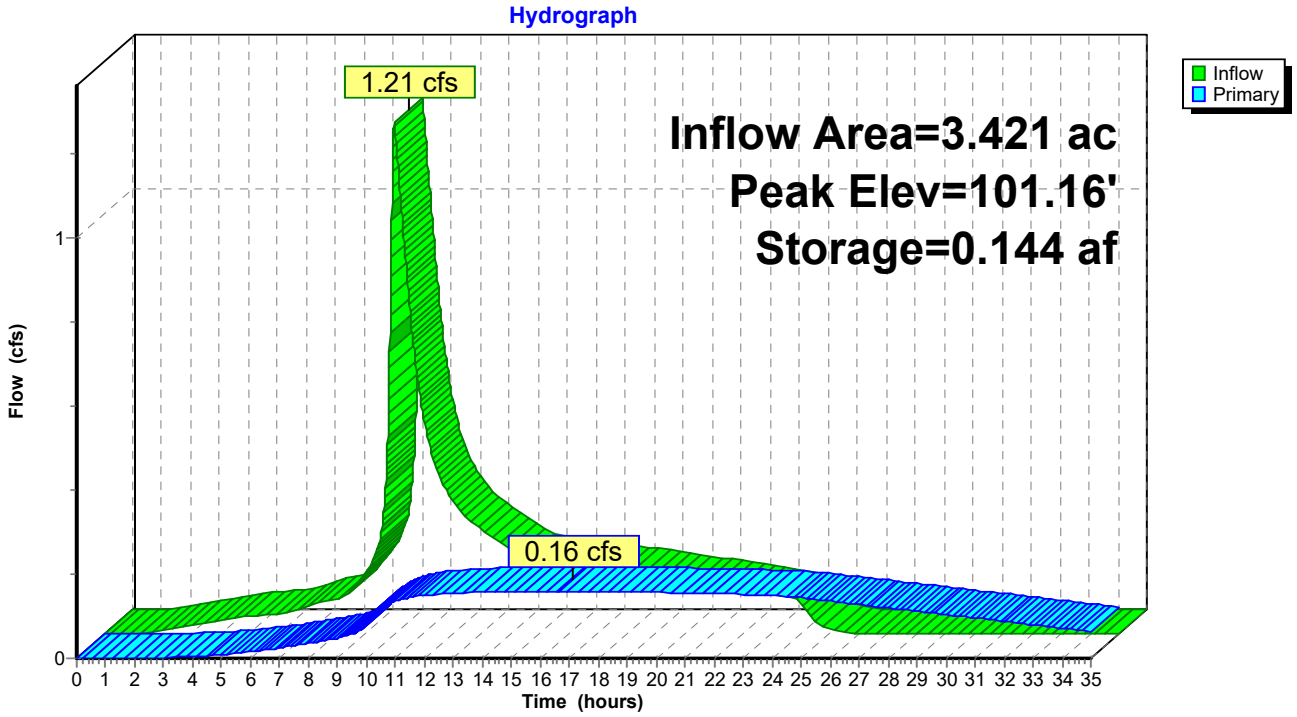
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.604 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.119
102.00	0.275
103.00	0.473
103.67	0.604

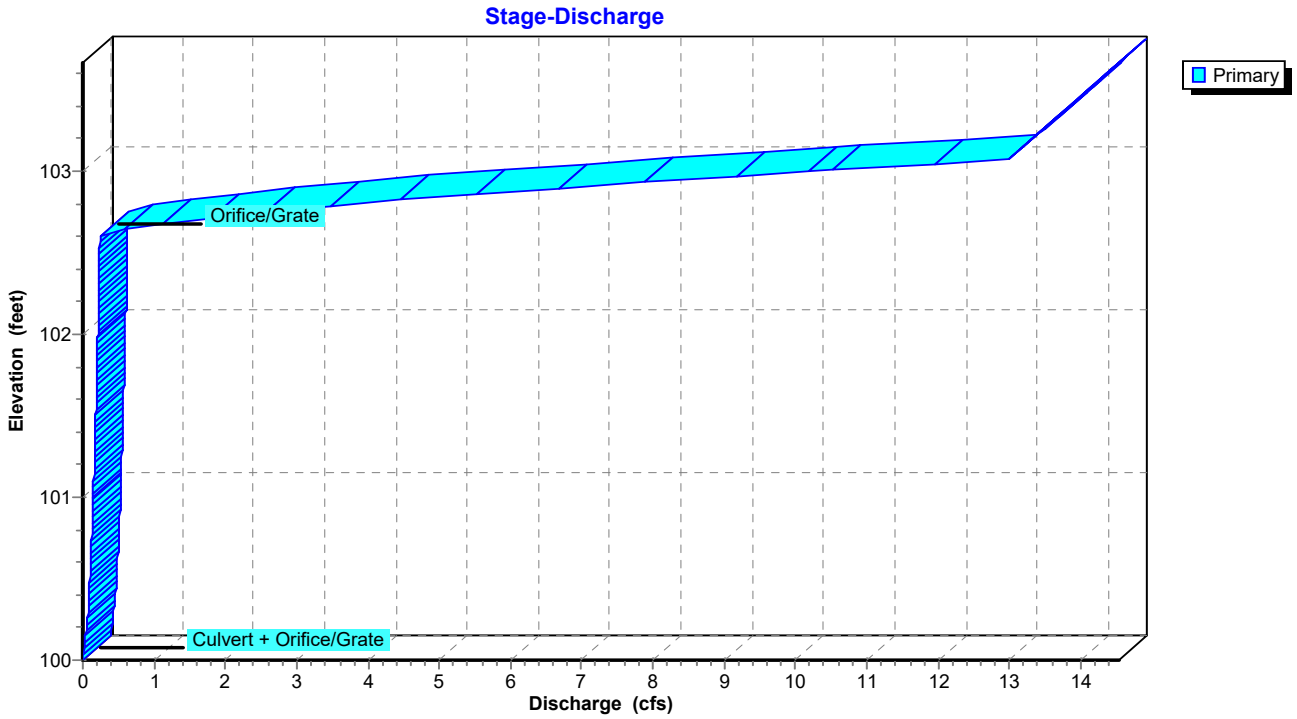
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 16.62 hrs HW=101.16' (Free Discharge)
└**1=Culvert** (Passes 0.16 cfs of 4.14 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Orifice Controls 0.16 cfs @ 5.03 fps)

Pond D2: Detention Pond 2



Pond D2: Detention Pond 2



Stage-Discharge for Pond D2: Detention Pond 2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Summary for Pond D3: Detention Pond 3

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 0.77" for 2 year event
Inflow = 2.16 cfs @ 9.99 hrs, Volume= 0.496 af
Outflow = 0.20 cfs @ 21.74 hrs, Volume= 0.386 af, Atten= 91%, Lag= 704.9 min
Primary = 0.20 cfs @ 21.74 hrs, Volume= 0.386 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.19' @ 21.74 hrs Storage= 11,552 cf

Plug-Flow detention time= 583.1 min calculated for 0.386 af (78% of inflow)
Center-of-Mass det. time= 465.7 min (1,305.1 - 839.4)

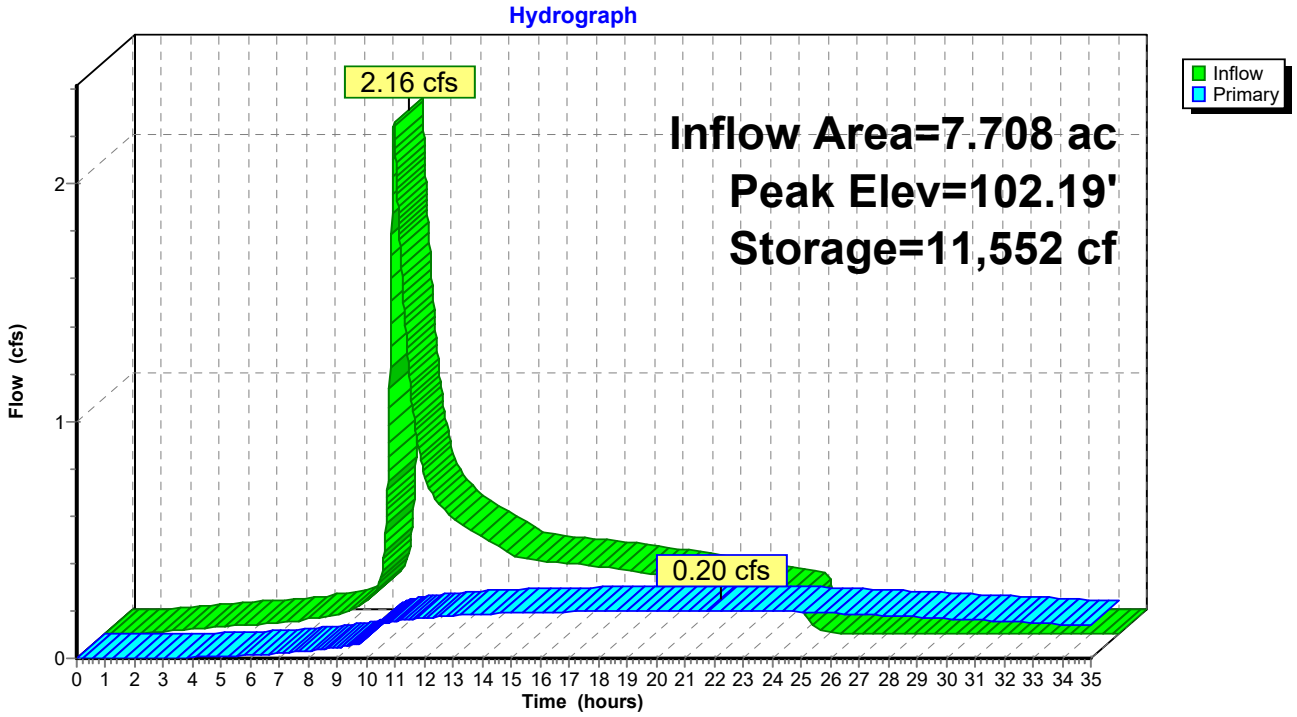
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

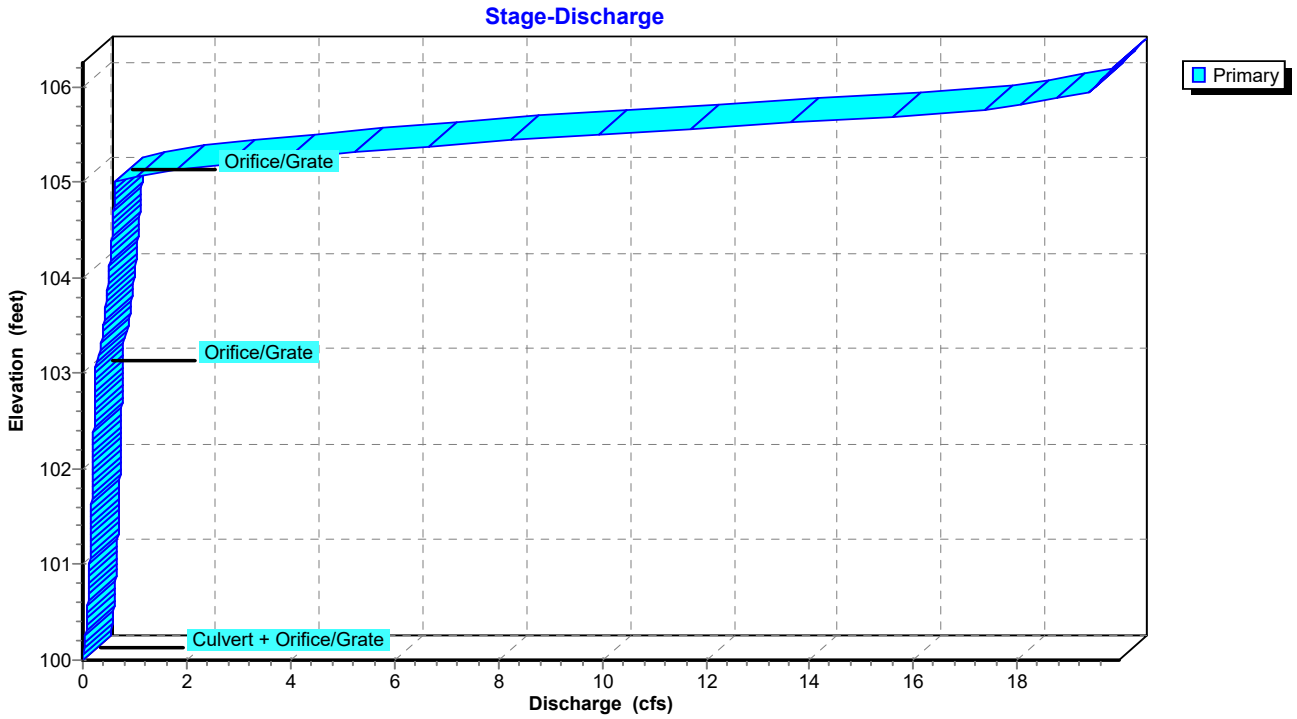
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 21.74 hrs HW=102.19' (Free Discharge)
└**1=Culvert** (Passes 0.20 cfs of 9.75 cfs potential flow)
├**2=Orifice/Grate** (Controls 0.00 cfs)
├**3=Orifice/Grate** (Controls 0.00 cfs)
└**4=Orifice/Grate** (Orifice Controls 0.20 cfs @ 6.98 fps)

Pond D3: Detention Pond 3



Pond D3: Detention Pond 3



Stage-Discharge for Pond D3: Detention Pond 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20.1: Diverted Area 20 Runoff Area=5,782,549 sf 0.00% Impervious Runoff Depth=1.66"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=55.67 cfs 18.354 af

Subcatchment20.2: Developed Area 20.2 Runoff Area=171,993 sf 37.71% Impervious Runoff Depth=2.45"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=4.23 cfs 0.806 af

Subcatchment20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=2.39"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=2.83 cfs 0.682 af

Subcatchment20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=1.91"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=6.45 cfs 1.229 af

Reach 20R: Collection Point 20 Inflow=56.13 cfs 20.262 af
Outflow=56.13 cfs 20.262 af

Pond D1: Detention Basin 1 Peak Elev=104.06' Storage=0.483 af Inflow=4.23 cfs 0.806 af
Outflow=0.28 cfs 0.525 af

Pond D2: Detention Pond 2 Peak Elev=102.59' Storage=0.391 af Inflow=2.83 cfs 0.682 af
Outflow=0.24 cfs 0.488 af

Pond D3: Detention Pond 3 Peak Elev=104.23' Storage=29,049 cf Inflow=6.45 cfs 1.229 af
Outflow=0.53 cfs 0.894 af

Total Runoff Area = 147.826 ac Runoff Volume = 21.071 af Average Runoff Depth = 1.71"
97.66% Pervious = 144.373 ac 2.34% Impervious = 3.453 ac

Summary for Subcatchment 20.1: Diverted Area 20

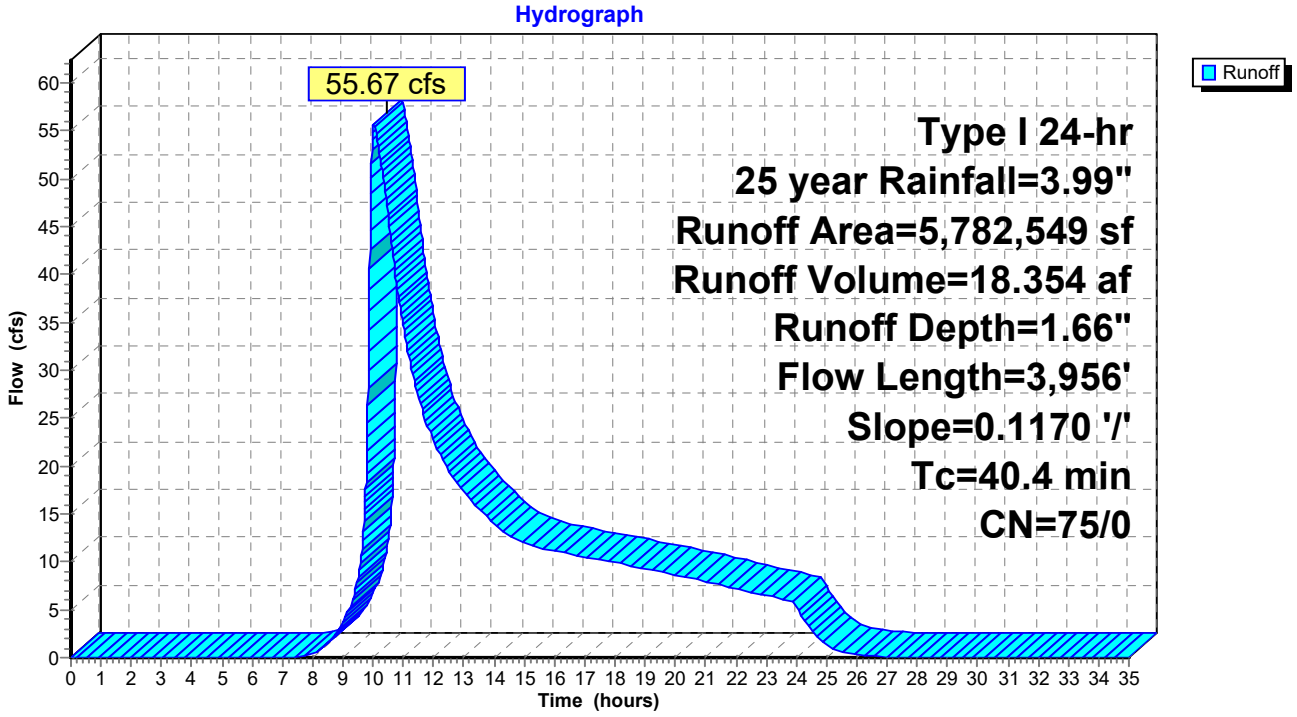
Runoff = 55.67 cfs @ 10.00 hrs, Volume= 18.354 af, Depth= 1.66"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	3,342,223	77	Brush, Poor, HSG C
*	1,561,288	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,782,549	75	Weighted Average
	5,782,549	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

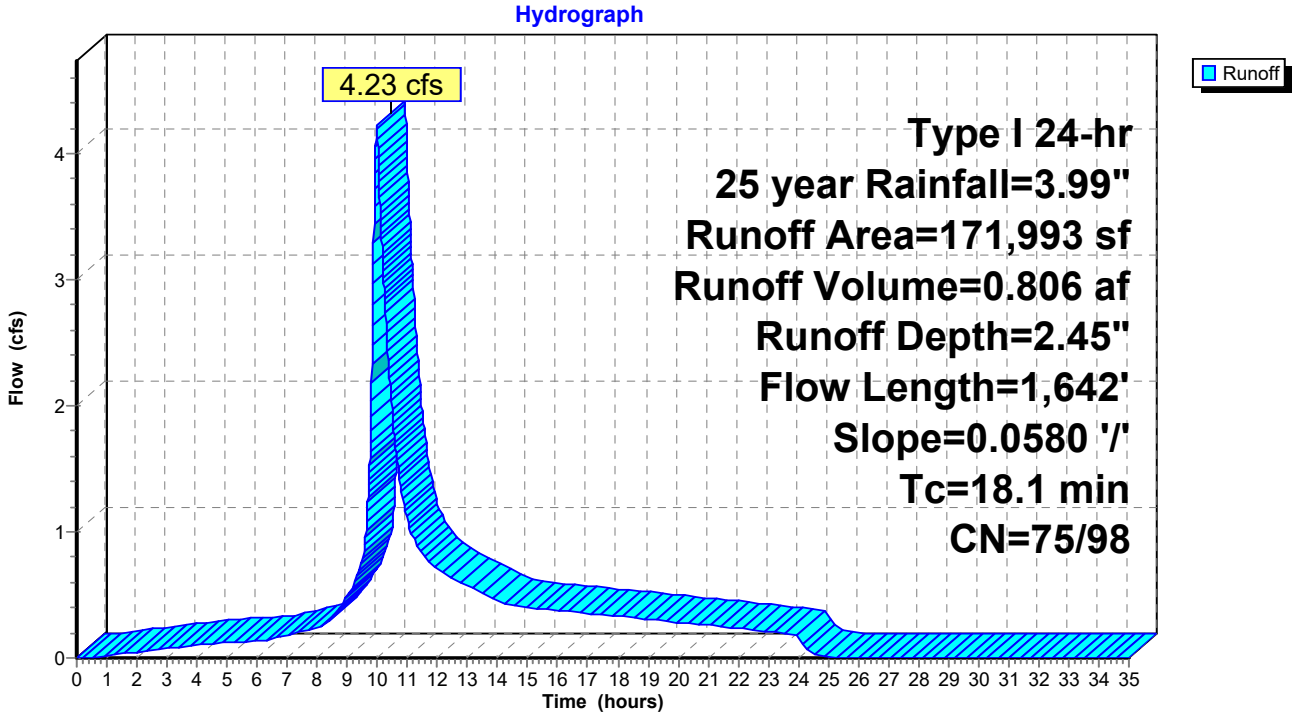
Runoff = 4.23 cfs @ 9.98 hrs, Volume= 0.806 af, Depth= 2.45"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	96,917	74	Open Space, Good, HSG C
*	10,222	87	Pavers/DG, Good, HSG C
*	64,854	98	Hardscape
	171,993	84	Weighted Average
	107,139	75	62.29% Pervious Area
	64,854	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

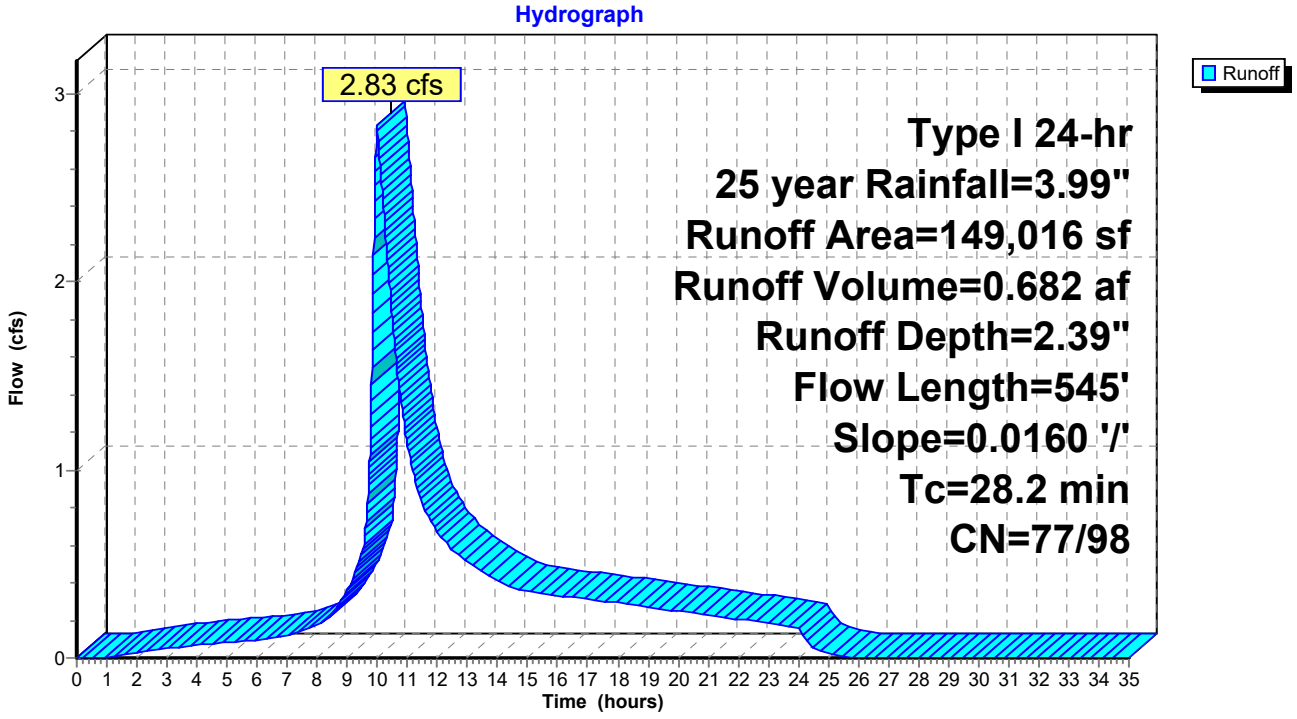
Runoff = 2.83 cfs @ 9.99 hrs, Volume= 0.682 af, Depth= 2.39"
Routed to Pond D2 : Detention Pond 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

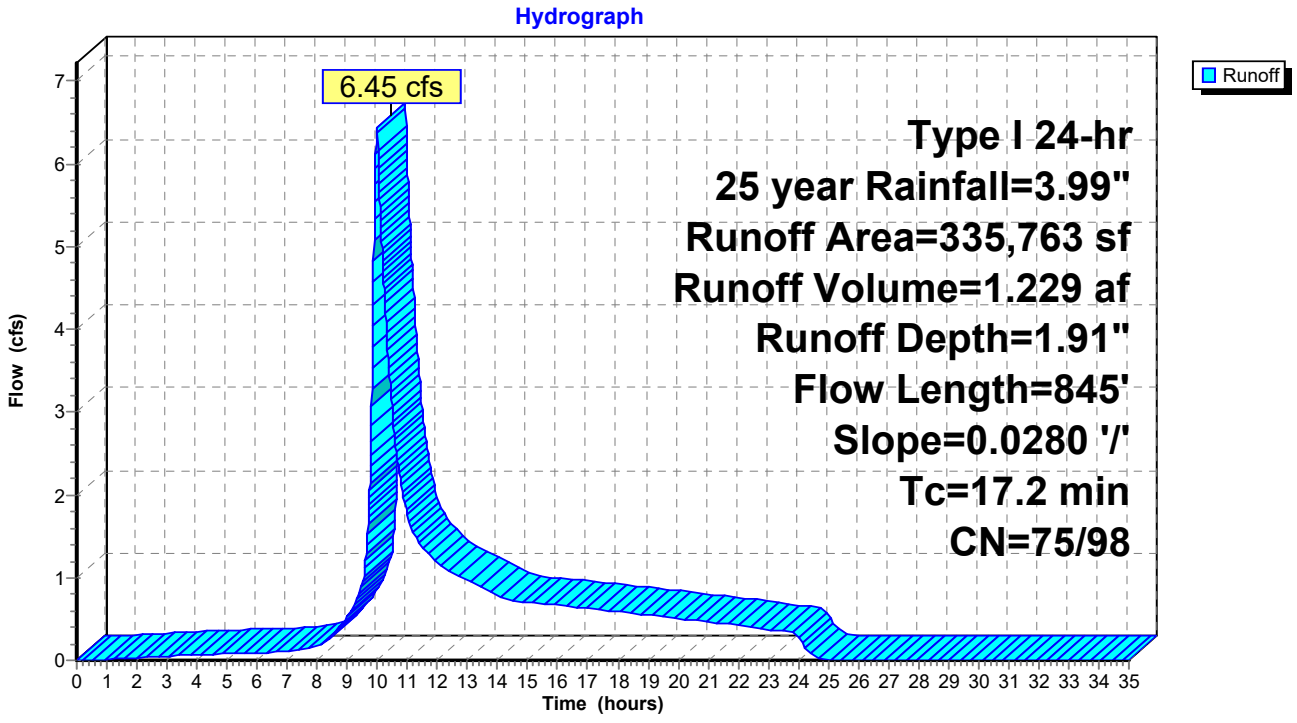
Runoff = 6.45 cfs @ 9.98 hrs, Volume= 1.229 af, Depth= 1.91"
Routed to Pond D3 : Detention Pond 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 25 year Rainfall=3.99"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



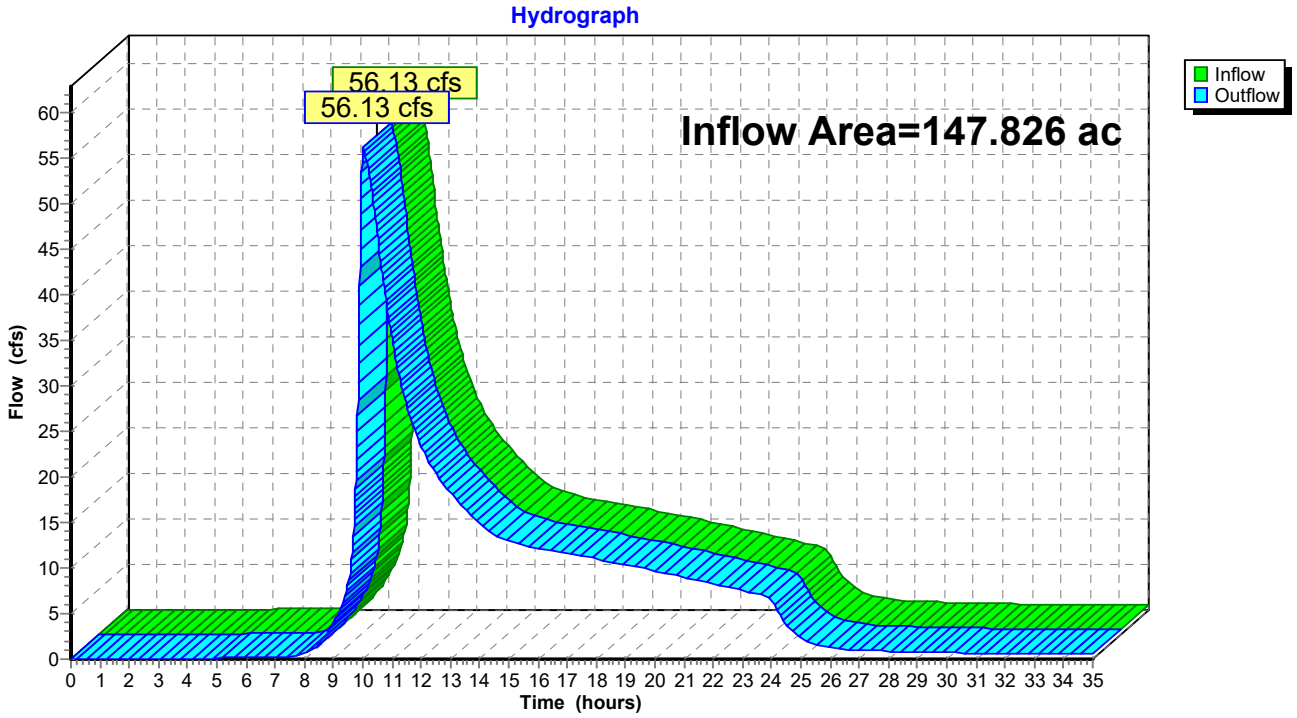
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 147.826 ac, 2.34% Impervious, Inflow Depth > 1.64" for 25 year event
Inflow = 56.13 cfs @ 10.00 hrs, Volume= 20.262 af
Outflow = 56.13 cfs @ 10.00 hrs, Volume= 20.262 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



Summary for Pond D1: Detention Basin 1

Inflow Area = 3.948 ac, 37.71% Impervious, Inflow Depth = 2.45" for 25 year event
Inflow = 4.23 cfs @ 9.98 hrs, Volume= 0.806 af
Outflow = 0.28 cfs @ 20.09 hrs, Volume= 0.525 af, Atten= 93%, Lag= 606.4 min
Primary = 0.28 cfs @ 20.09 hrs, Volume= 0.525 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.06' @ 20.09 hrs Storage= 0.483 af

Plug-Flow detention time= 661.7 min calculated for 0.524 af (65% of inflow)
Center-of-Mass det. time= 492.7 min (1,260.5 - 767.8)

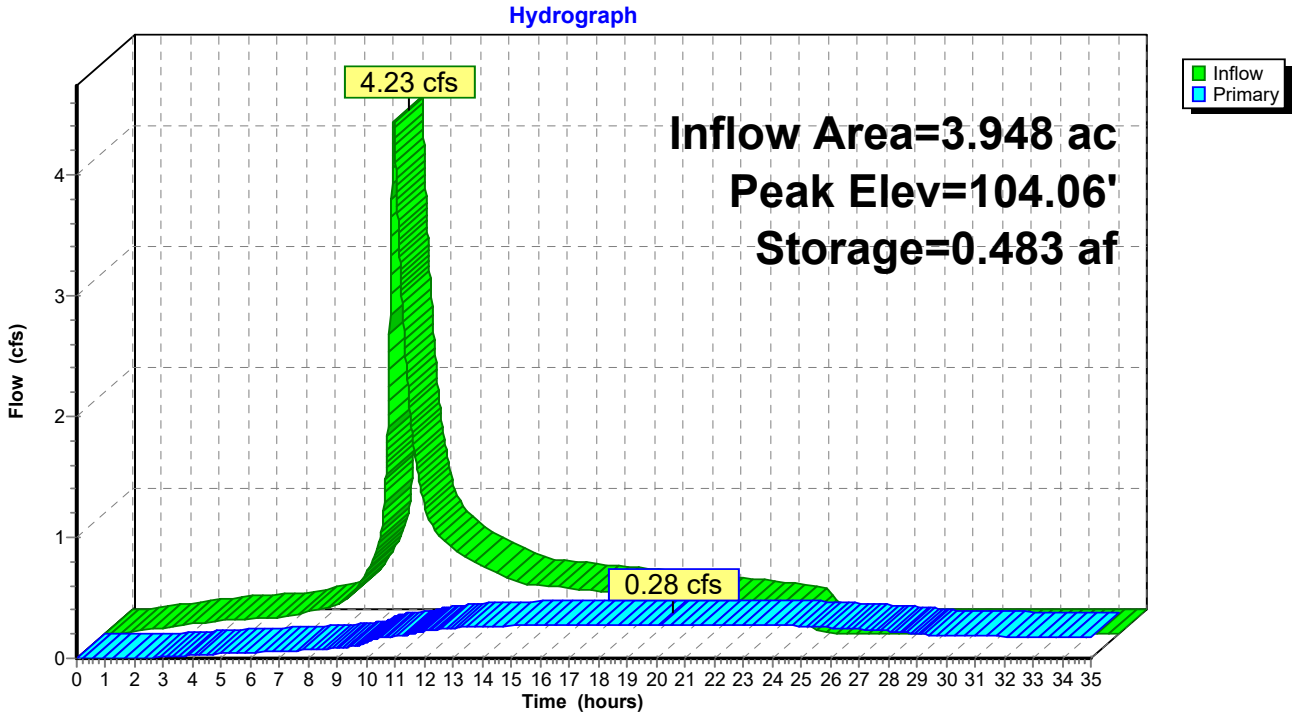
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

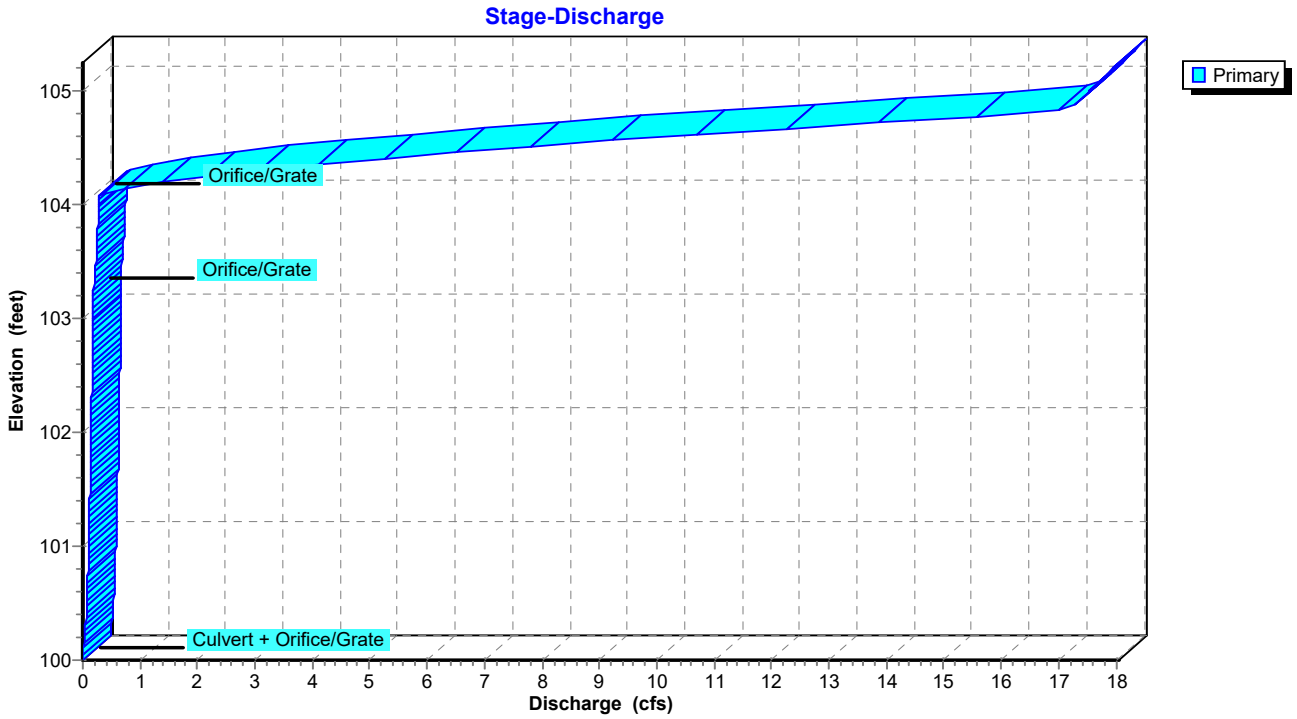
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.28 cfs @ 20.09 hrs HW=104.06' (Free Discharge)
└**1=Culvert** (Passes 0.28 cfs of 15.47 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 9.60 fps)
  └**4=Orifice/Grate** (Orifice Controls 0.07 cfs @ 4.11 fps)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Summary for Pond D2: Detention Pond 2

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 2.39" for 25 year event
Inflow = 2.83 cfs @ 9.99 hrs, Volume= 0.682 af
Outflow = 0.24 cfs @ 20.46 hrs, Volume= 0.488 af, Atten= 92%, Lag= 628.4 min
Primary = 0.24 cfs @ 20.46 hrs, Volume= 0.488 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.59' @ 20.46 hrs Storage= 0.391 af

Plug-Flow detention time= 641.6 min calculated for 0.488 af (72% of inflow)
Center-of-Mass det. time= 495.8 min (1,282.9 - 787.1)

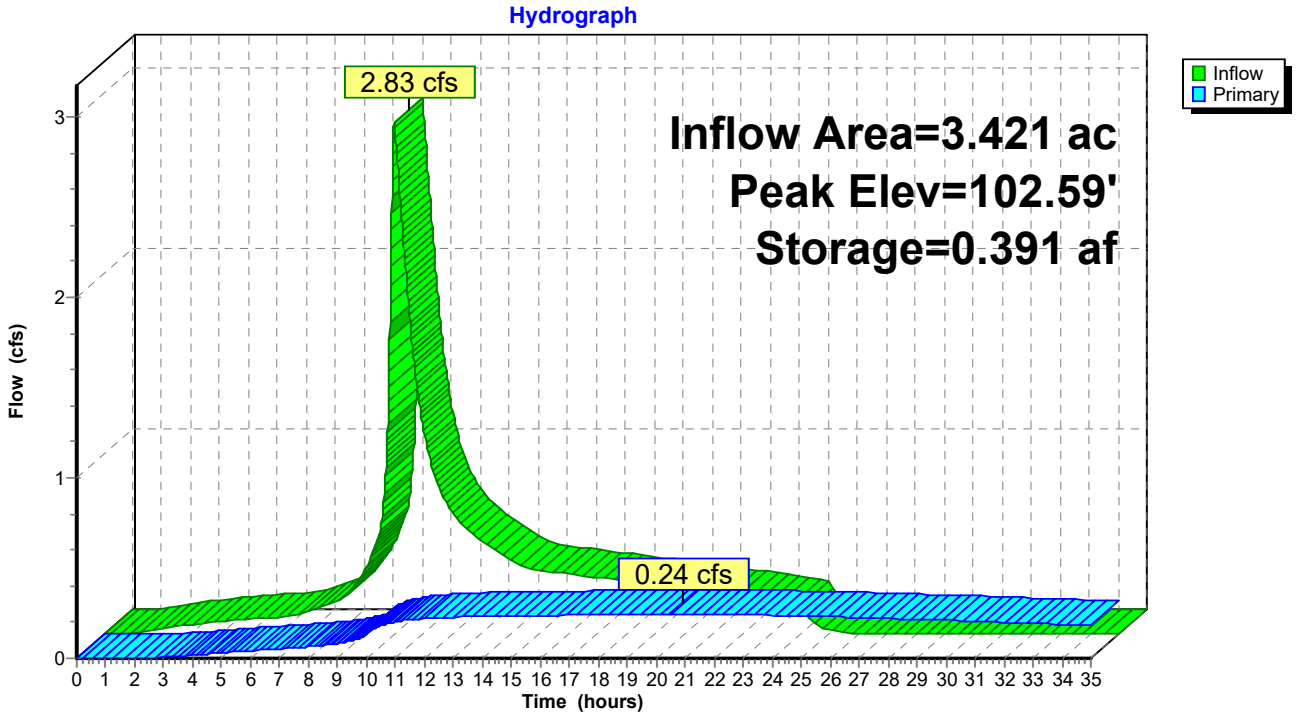
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.604 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.119
102.00	0.275
103.00	0.473
103.67	0.604

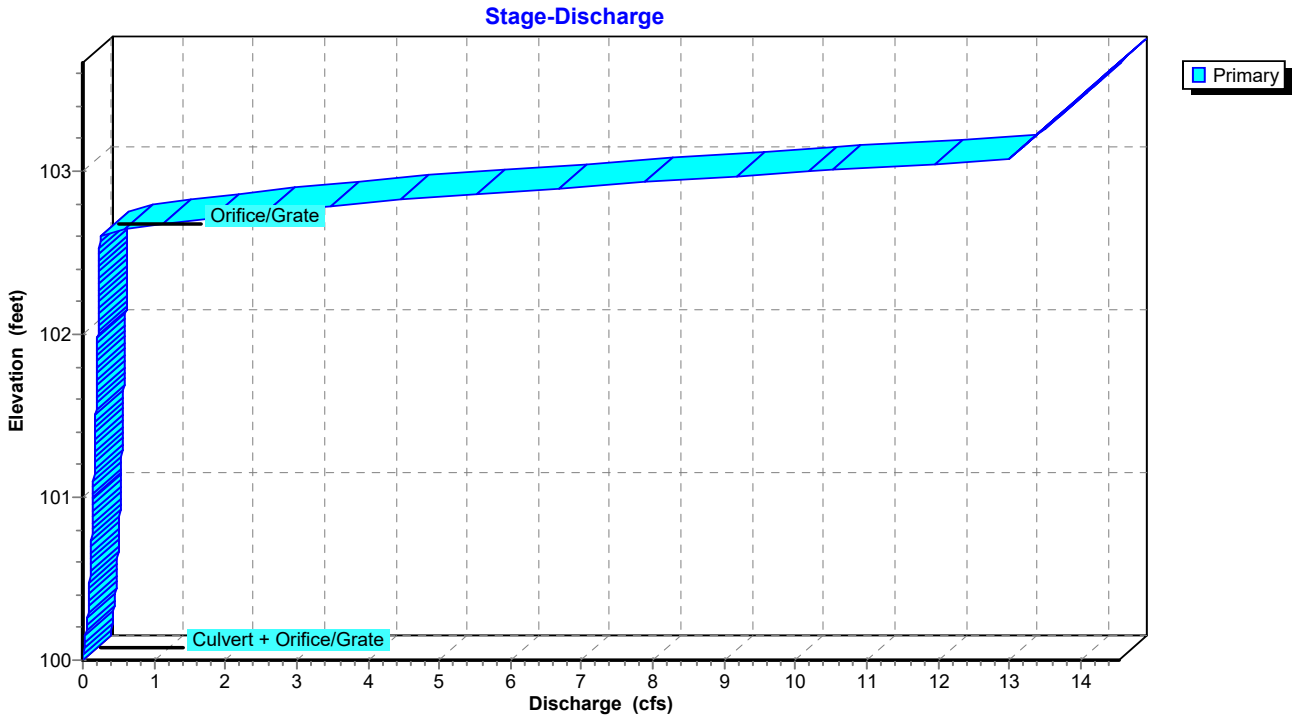
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 20.46 hrs HW=102.59' (Free Discharge)
└**1=Culvert** (Passes 0.24 cfs of 11.53 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Orifice Controls 0.24 cfs @ 7.64 fps)

Pond D2: Detention Pond 2



Pond D2: Detention Pond 2



Stage-Discharge for Pond D2: Detention Pond 2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Summary for Pond D3: Detention Pond 3

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 1.91" for 25 year event
Inflow = 6.45 cfs @ 9.98 hrs, Volume= 1.229 af
Outflow = 0.53 cfs @ 19.44 hrs, Volume= 0.894 af, Atten= 92%, Lag= 567.3 min
Primary = 0.53 cfs @ 19.44 hrs, Volume= 0.894 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.23' @ 19.44 hrs Storage= 29,049 cf

Plug-Flow detention time= 583.5 min calculated for 0.894 af (73% of inflow)
Center-of-Mass det. time= 444.8 min (1,257.4 - 812.6)

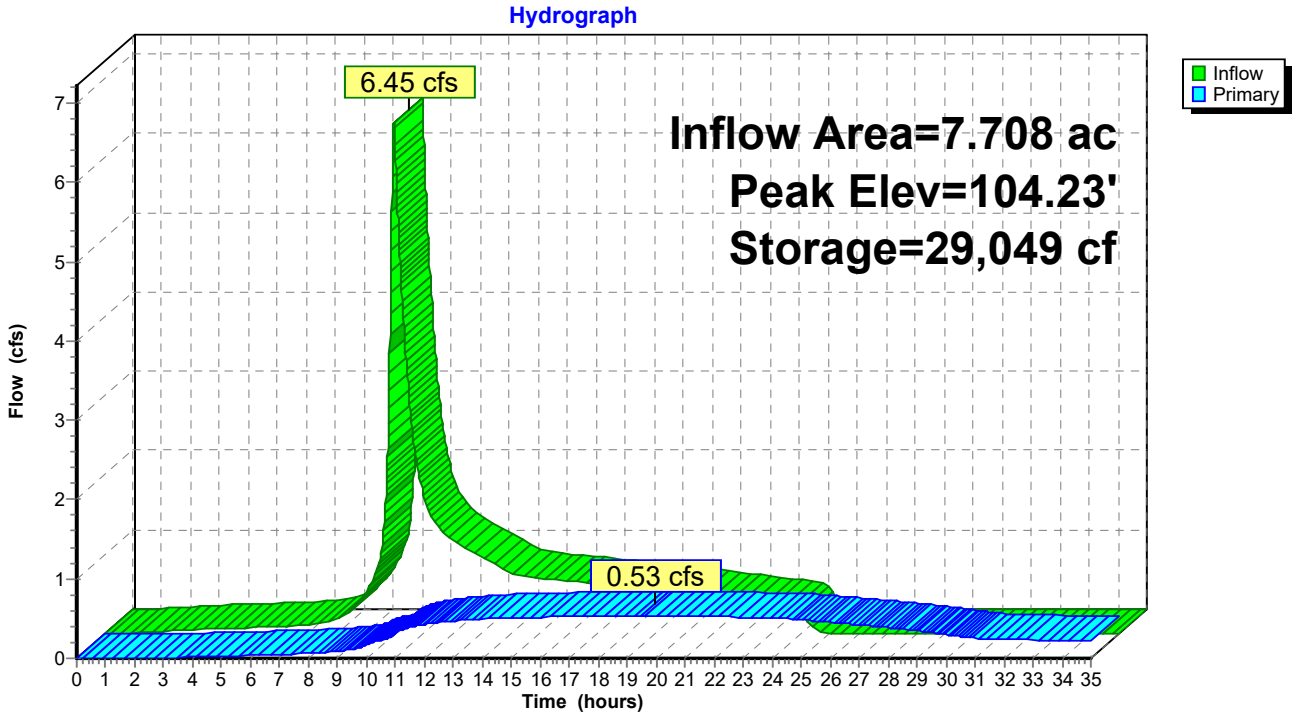
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

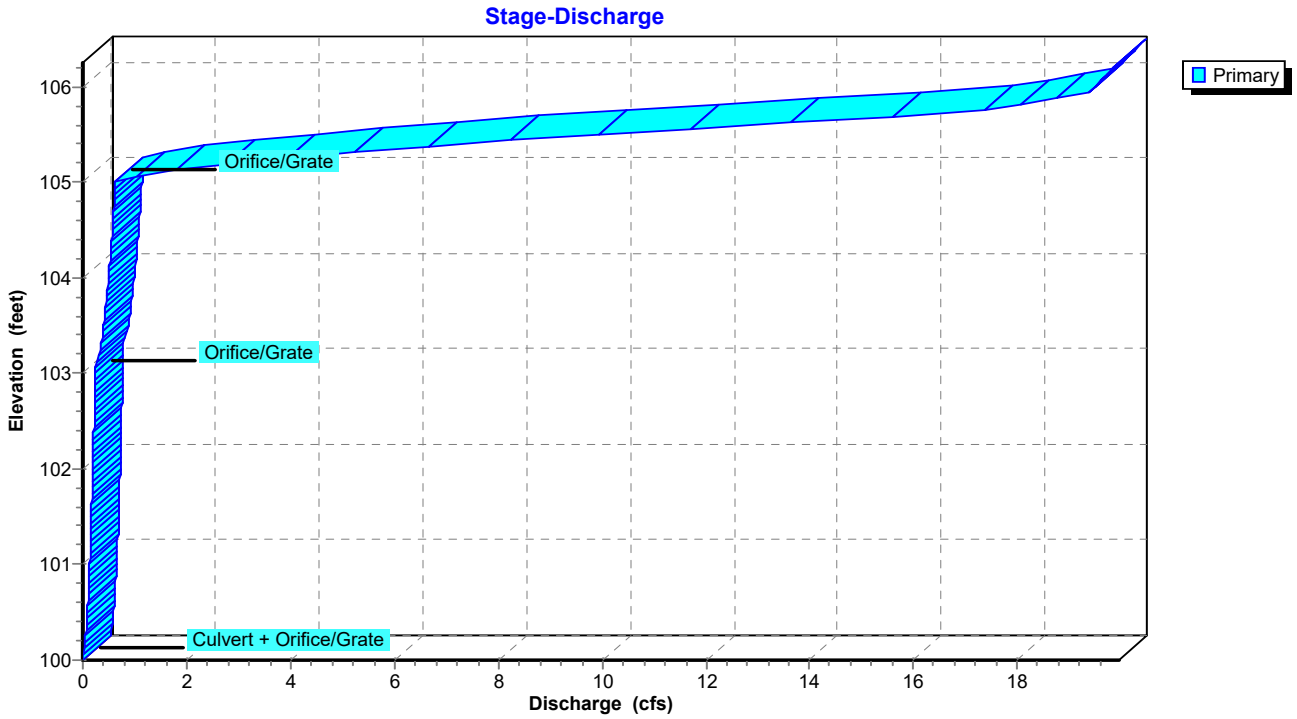
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.53 cfs @ 19.44 hrs HW=104.23' (Free Discharge)
└**1=Culvert** (Passes 0.53 cfs of 15.88 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 0.25 cfs @ 5.07 fps)
  └**4=Orifice/Grate** (Orifice Controls 0.28 cfs @ 9.79 fps)

Pond D3: Detention Pond 3



Pond D3: Detention Pond 3



Stage-Discharge for Pond D3: Detention Pond 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20.1: Diverted Area 20 Runoff Area=5,782,549 sf 0.00% Impervious Runoff Depth=2.33"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=83.37 cfs 25.755 af

Subcatchment20.2: Developed Area 20.2 Runoff Area=171,993 sf 37.71% Impervious Runoff Depth=3.19"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=5.60 cfs 1.050 af

Subcatchment20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=3.14"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=3.79 cfs 0.894 af

Subcatchment20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=2.60"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=9.10 cfs 1.673 af

Reach 20R: Collection Point 20 Inflow=83.91 cfs 28.468 af
Outflow=83.91 cfs 28.468 af

Pond D1: Detention Basin 1 Peak Elev=104.16' Storage=0.502 af Inflow=5.60 cfs 1.050 af
Outflow=0.88 cfs 0.757 af

Pond D2: Detention Pond 2 Peak Elev=102.66' Storage=0.405 af Inflow=3.79 cfs 0.894 af
Outflow=0.82 cfs 0.690 af

Pond D3: Detention Pond 3 Peak Elev=105.05' Storage=37,095 cf Inflow=9.10 cfs 1.673 af
Outflow=0.96 cfs 1.265 af

Total Runoff Area = 147.826 ac Runoff Volume = 29.372 af Average Runoff Depth = 2.38"
97.66% Pervious = 144.373 ac 2.34% Impervious = 3.453 ac

Summary for Subcatchment 20.1: Diverted Area 20

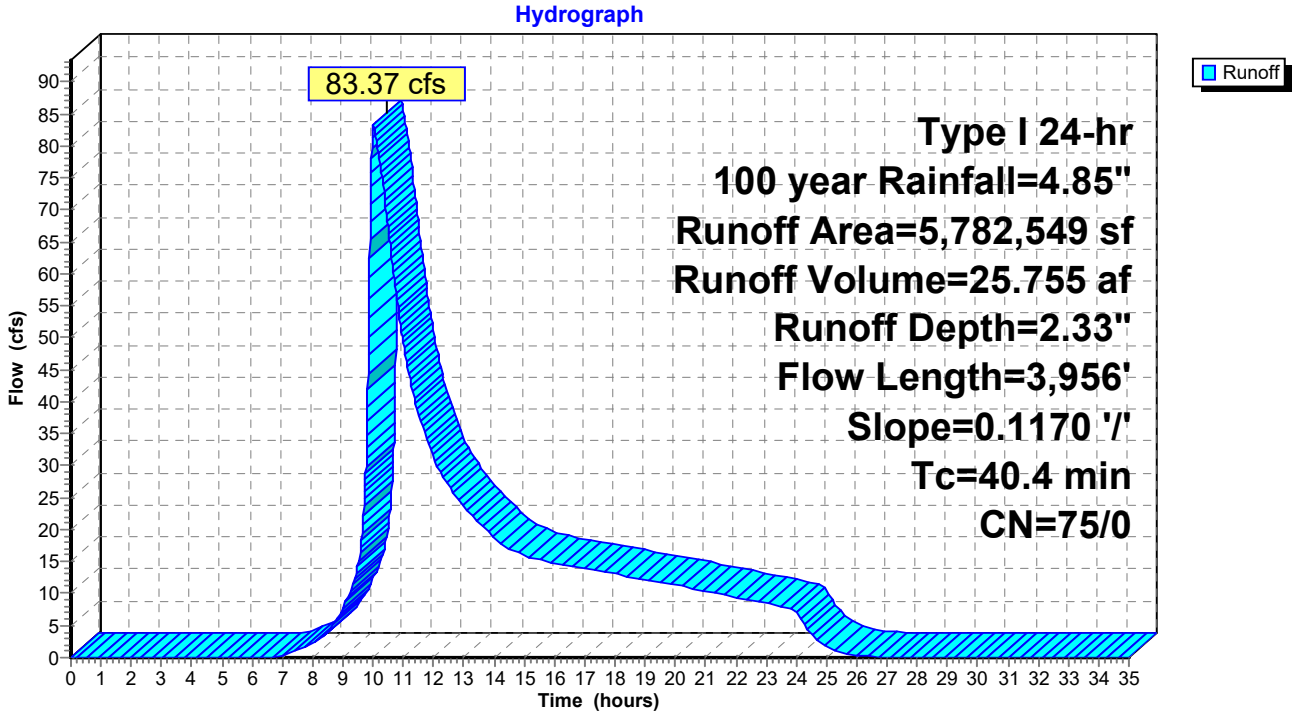
Runoff = 83.37 cfs @ 10.00 hrs, Volume= 25.755 af, Depth= 2.33"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	3,342,223	77	Brush, Poor, HSG C
*	1,561,288	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,782,549	75	Weighted Average
	5,782,549	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

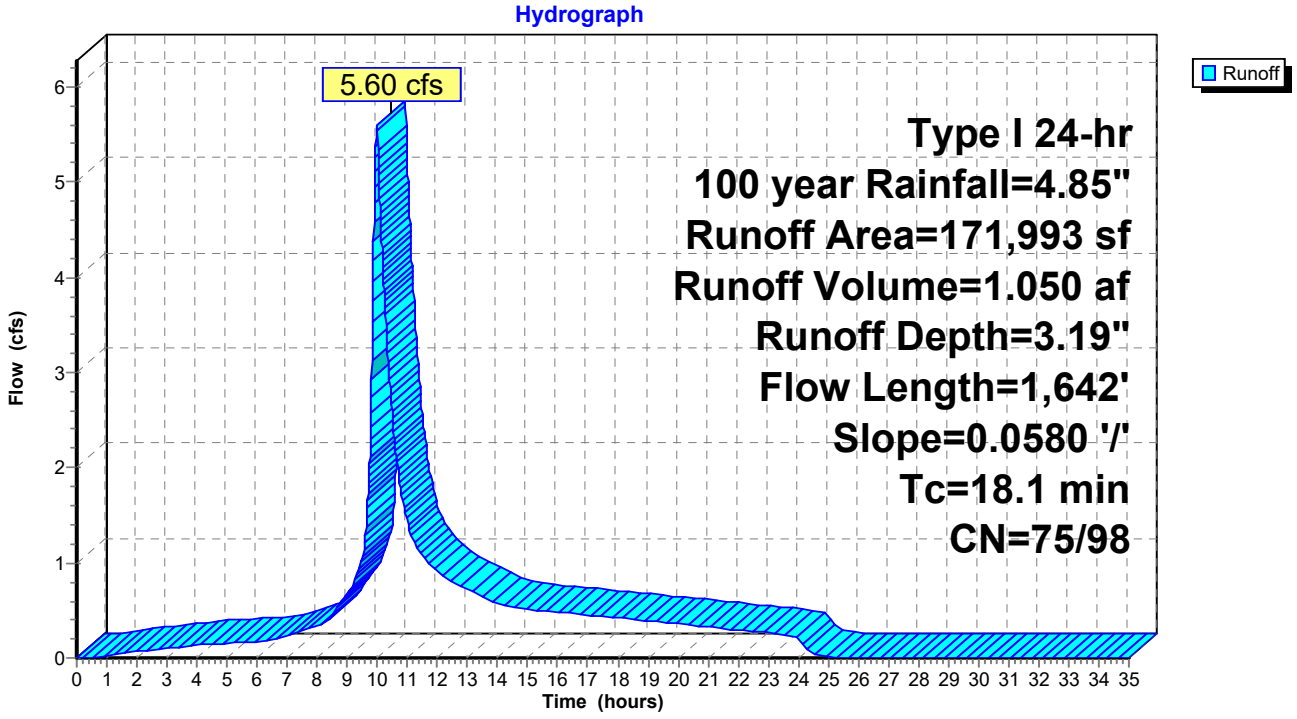
Runoff = 5.60 cfs @ 9.98 hrs, Volume= 1.050 af, Depth= 3.19"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	96,917	74	Open Space, Good, HSG C
*	10,222	87	Pavers/DG, Good, HSG C
*	64,854	98	Hardscape
	171,993	84	Weighted Average
	107,139	75	62.29% Pervious Area
	64,854	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

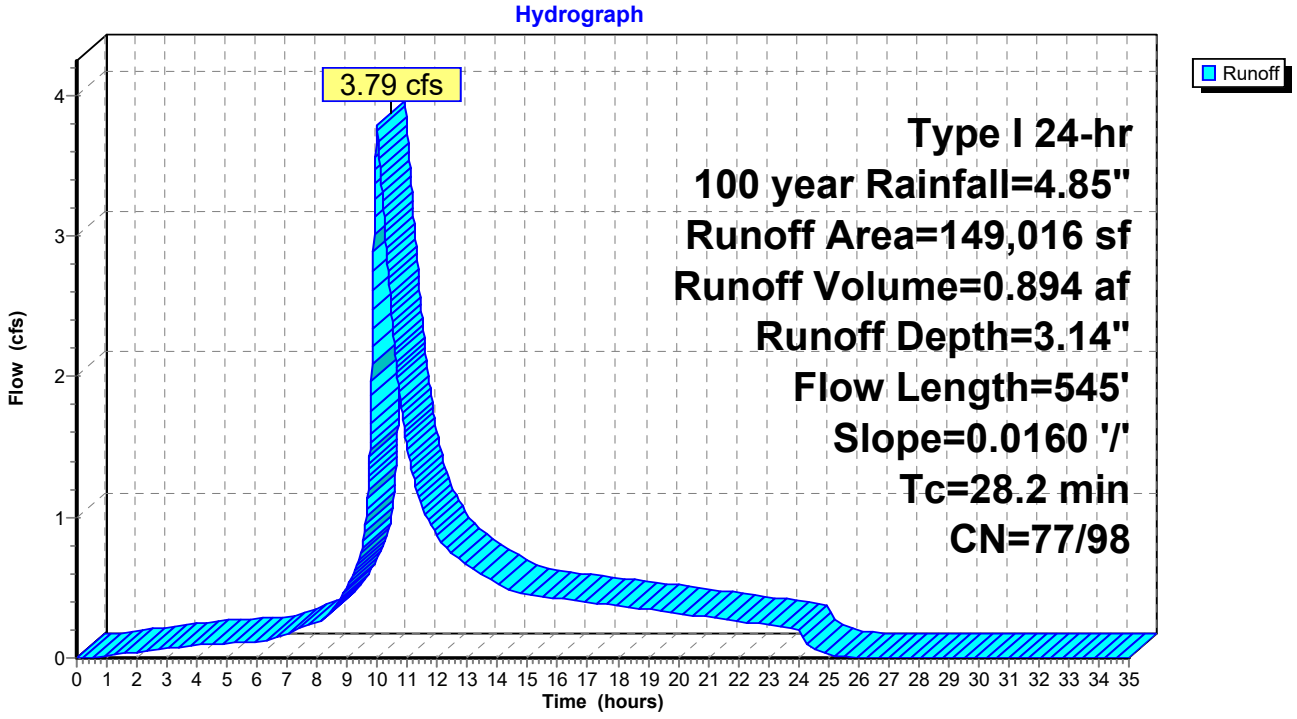
Runoff = 3.79 cfs @ 9.99 hrs, Volume= 0.894 af, Depth= 3.14"
Routed to Pond D2 : Detention Pond 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

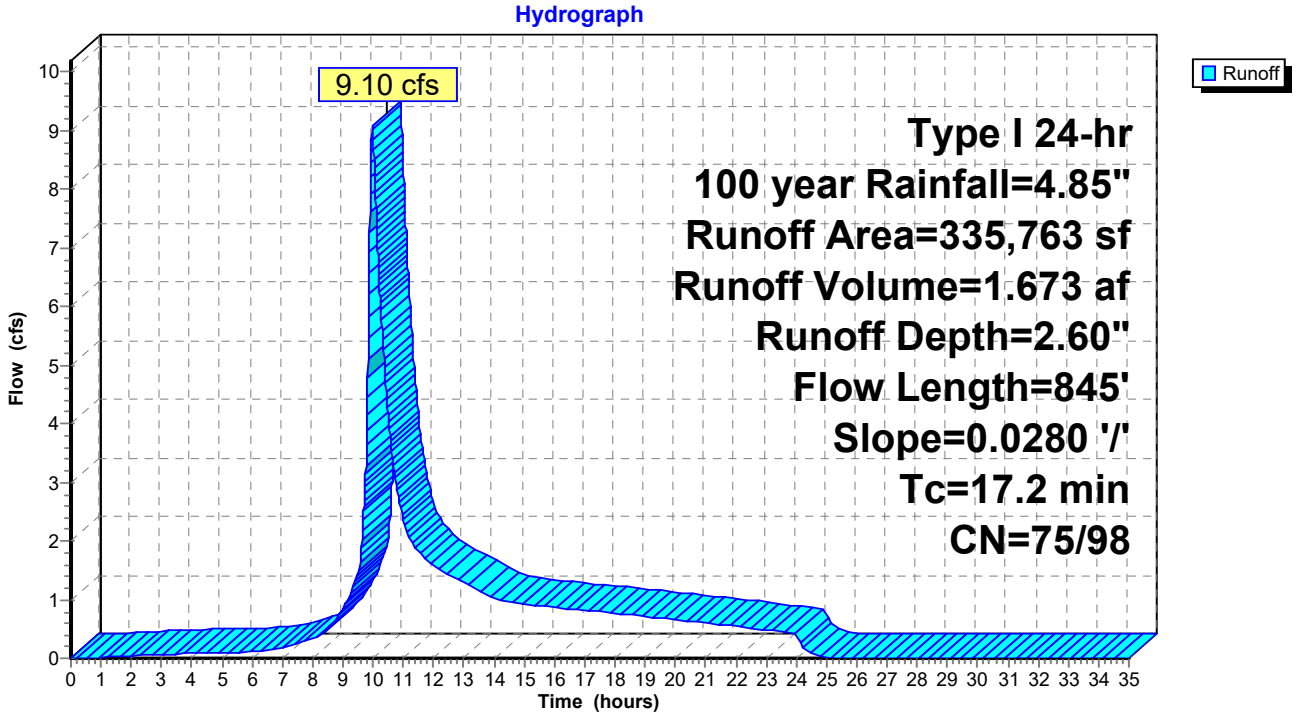
Runoff = 9.10 cfs @ 9.98 hrs, Volume= 1.673 af, Depth= 2.60"
Routed to Pond D3 : Detention Pond 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 100 year Rainfall=4.85"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



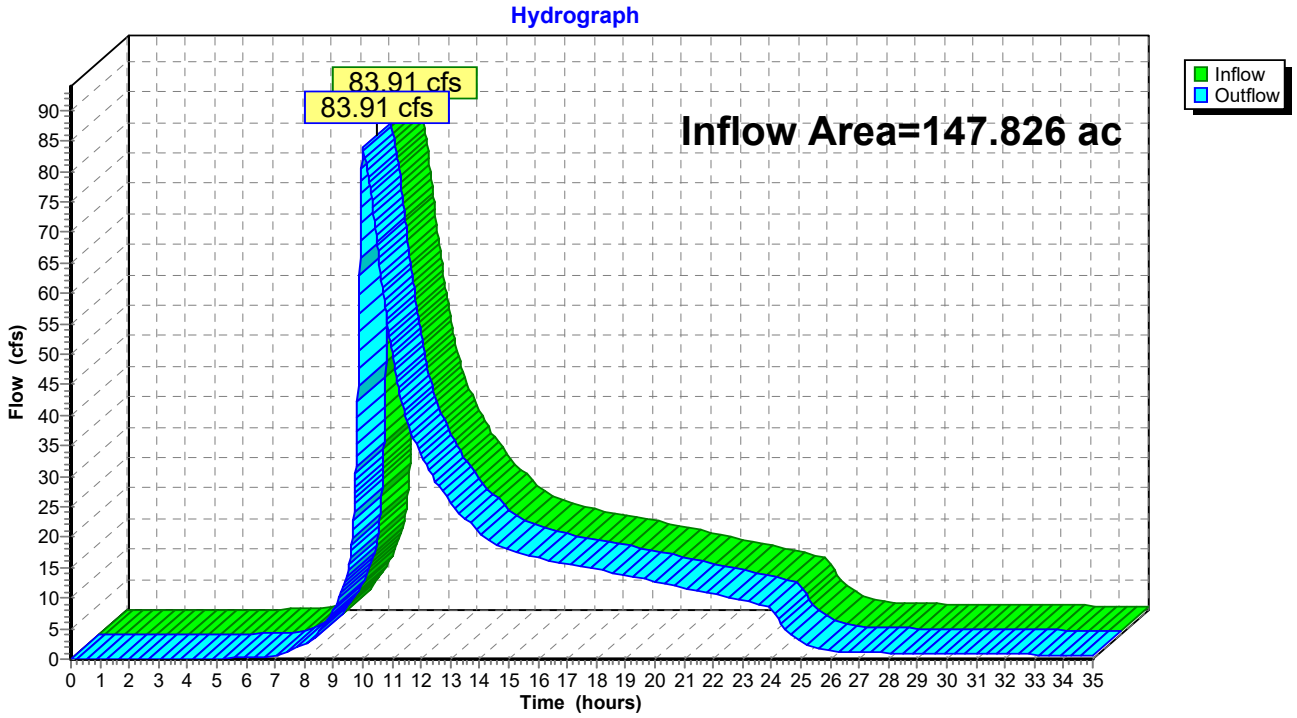
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 147.826 ac, 2.34% Impervious, Inflow Depth > 2.31" for 100 year event
Inflow = 83.91 cfs @ 10.00 hrs, Volume= 28.468 af
Outflow = 83.91 cfs @ 10.00 hrs, Volume= 28.468 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



Summary for Pond D1: Detention Basin 1

Inflow Area = 3.948 ac, 37.71% Impervious, Inflow Depth = 3.19" for 100 year event
Inflow = 5.60 cfs @ 9.98 hrs, Volume= 1.050 af
Outflow = 0.88 cfs @ 12.08 hrs, Volume= 0.757 af, Atten= 84%, Lag= 126.3 min
Primary = 0.88 cfs @ 12.08 hrs, Volume= 0.757 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.16' @ 12.08 hrs Storage= 0.502 af

Plug-Flow detention time= 528.2 min calculated for 0.757 af (72% of inflow)
Center-of-Mass det. time= 384.3 min (1,147.1 - 762.8)

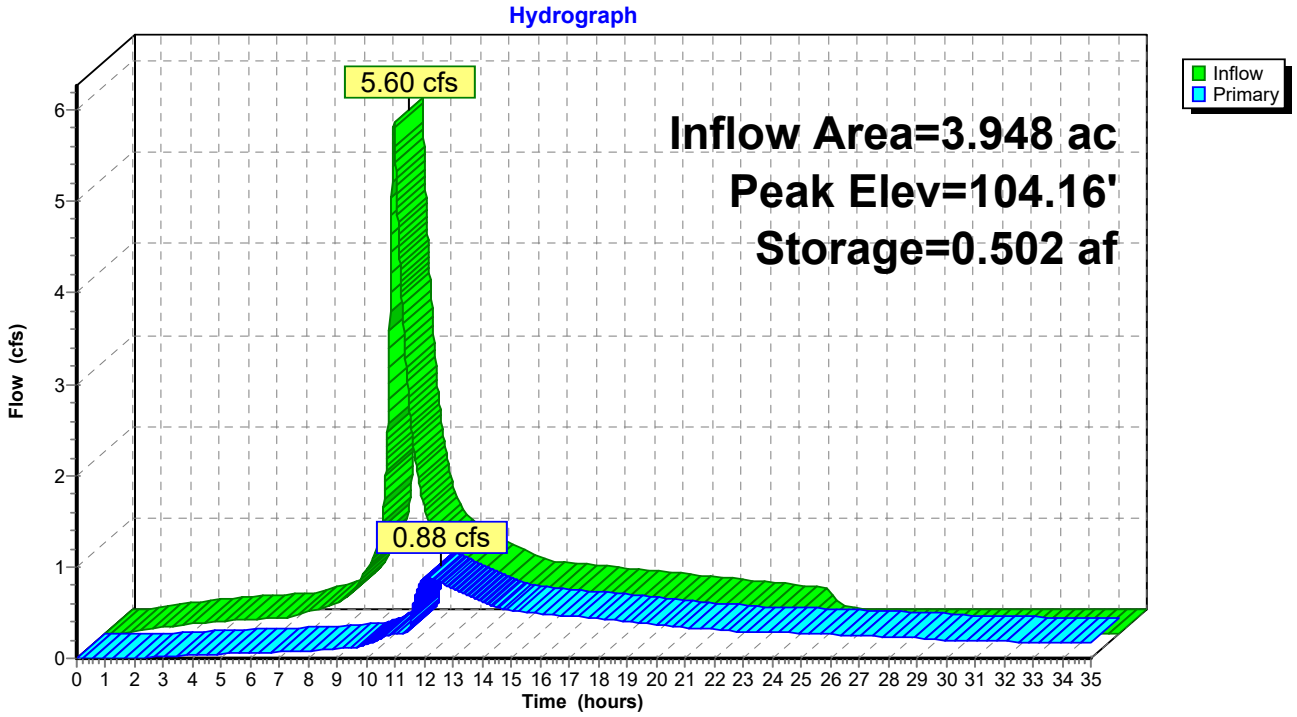
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

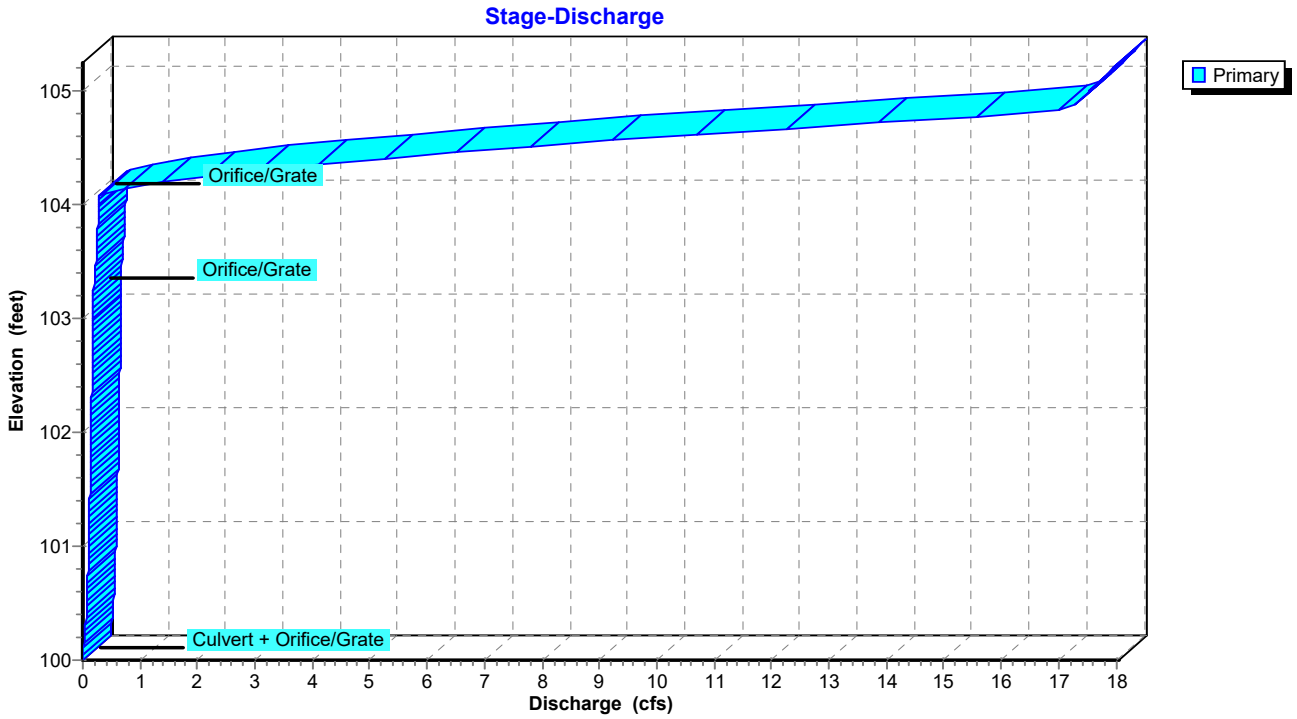
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.87 cfs @ 12.08 hrs HW=104.16' (Free Discharge)
└**1=Culvert** (Passes 0.87 cfs of 15.71 cfs potential flow)
  ├**2=Orifice/Grate** (Weir Controls 0.58 cfs @ 0.92 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 9.72 fps)
  └**4=Orifice/Grate** (Orifice Controls 0.08 cfs @ 4.40 fps)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Summary for Pond D2: Detention Pond 2

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 3.14" for 100 year event
Inflow = 3.79 cfs @ 9.99 hrs, Volume= 0.894 af
Outflow = 0.82 cfs @ 12.14 hrs, Volume= 0.690 af, Atten= 78%, Lag= 129.2 min
Primary = 0.82 cfs @ 12.14 hrs, Volume= 0.690 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.66' @ 12.14 hrs Storage= 0.405 af

Plug-Flow detention time= 511.2 min calculated for 0.690 af (77% of inflow)
Center-of-Mass det. time= 387.8 min (1,168.5 - 780.7)

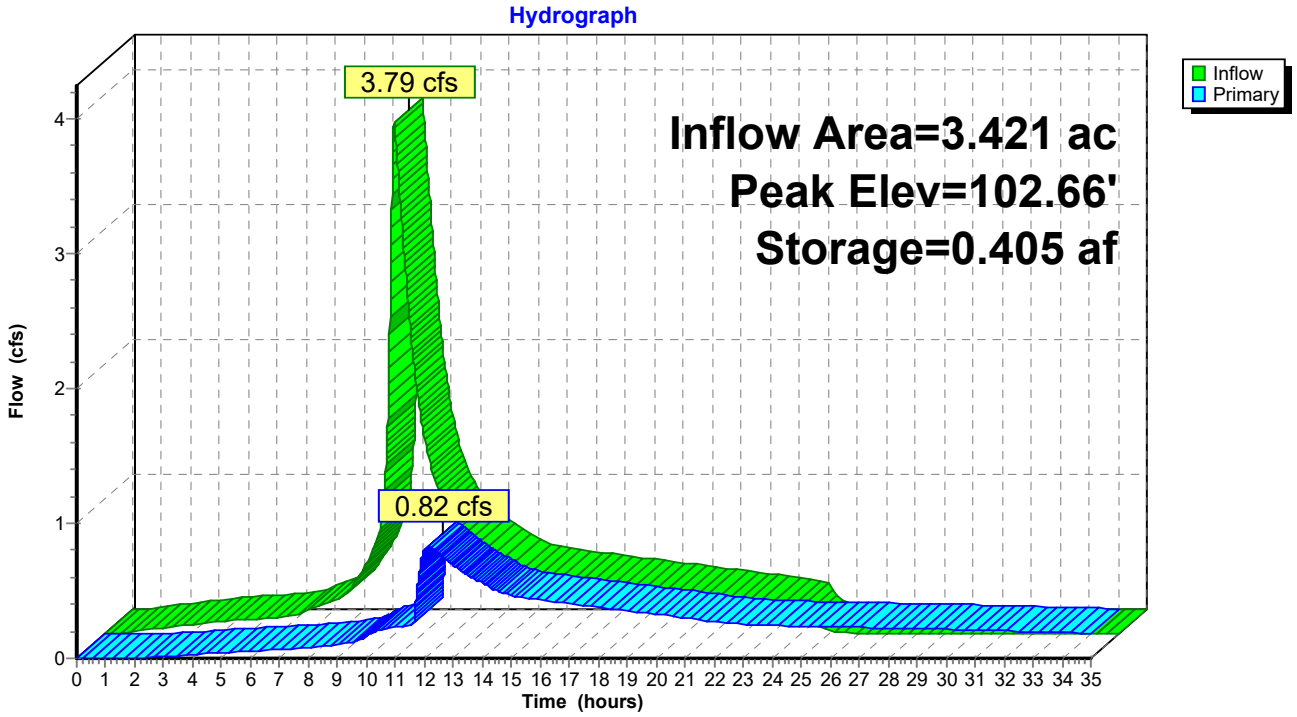
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.604 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.119
102.00	0.275
103.00	0.473
103.67	0.604

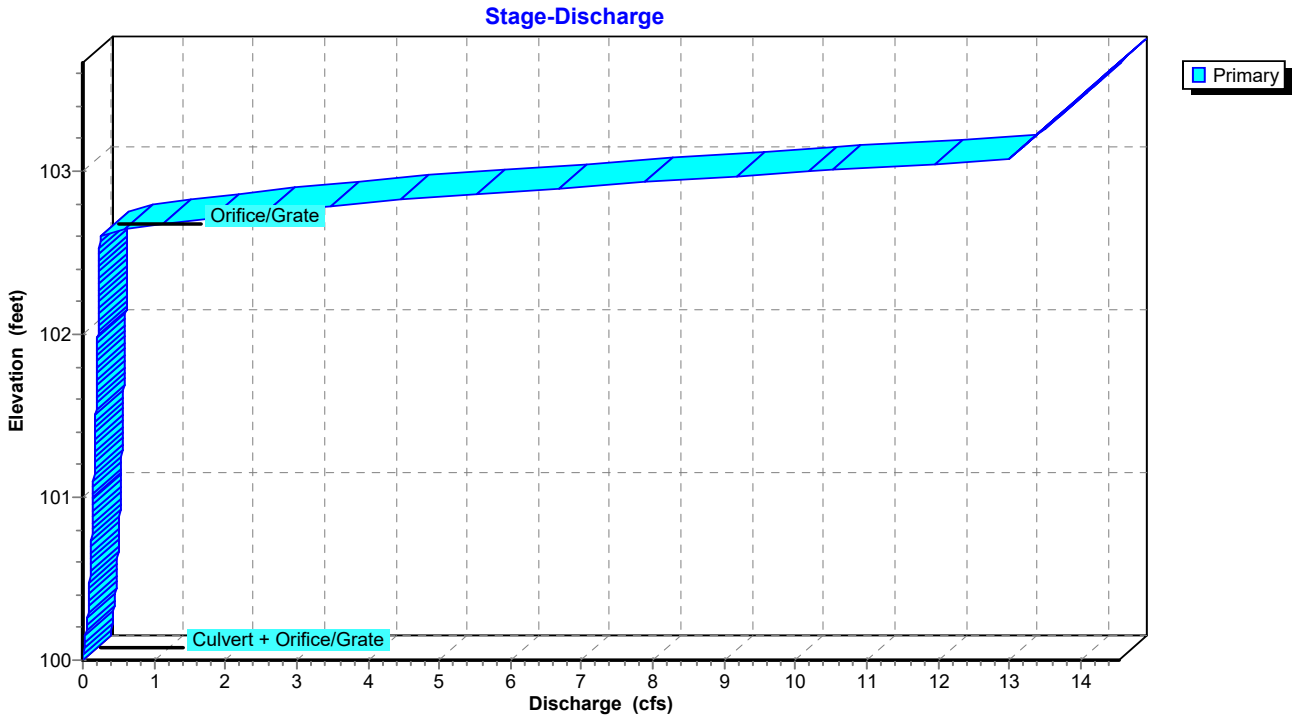
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.80 cfs @ 12.14 hrs HW=102.66' (Free Discharge)
└**1=Culvert** (Passes 0.80 cfs of 11.76 cfs potential flow)
  ├**2=Orifice/Grate** (Weir Controls 0.56 cfs @ 0.79 fps)
  └**3=Orifice/Grate** (Orifice Controls 0.24 cfs @ 7.75 fps)

Pond D2: Detention Pond 2



Pond D2: Detention Pond 2



Stage-Discharge for Pond D2: Detention Pond 2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Summary for Pond D3: Detention Pond 3

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 2.60" for 100 year event
Inflow = 9.10 cfs @ 9.98 hrs, Volume= 1.673 af
Outflow = 0.96 cfs @ 14.36 hrs, Volume= 1.265 af, Atten= 89%, Lag= 263.0 min
Primary = 0.96 cfs @ 14.36 hrs, Volume= 1.265 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 105.05' @ 14.36 hrs Storage= 37,095 cf

Plug-Flow detention time= 561.4 min calculated for 1.265 af (76% of inflow)
Center-of-Mass det. time= 434.6 min (1,236.9 - 802.4)

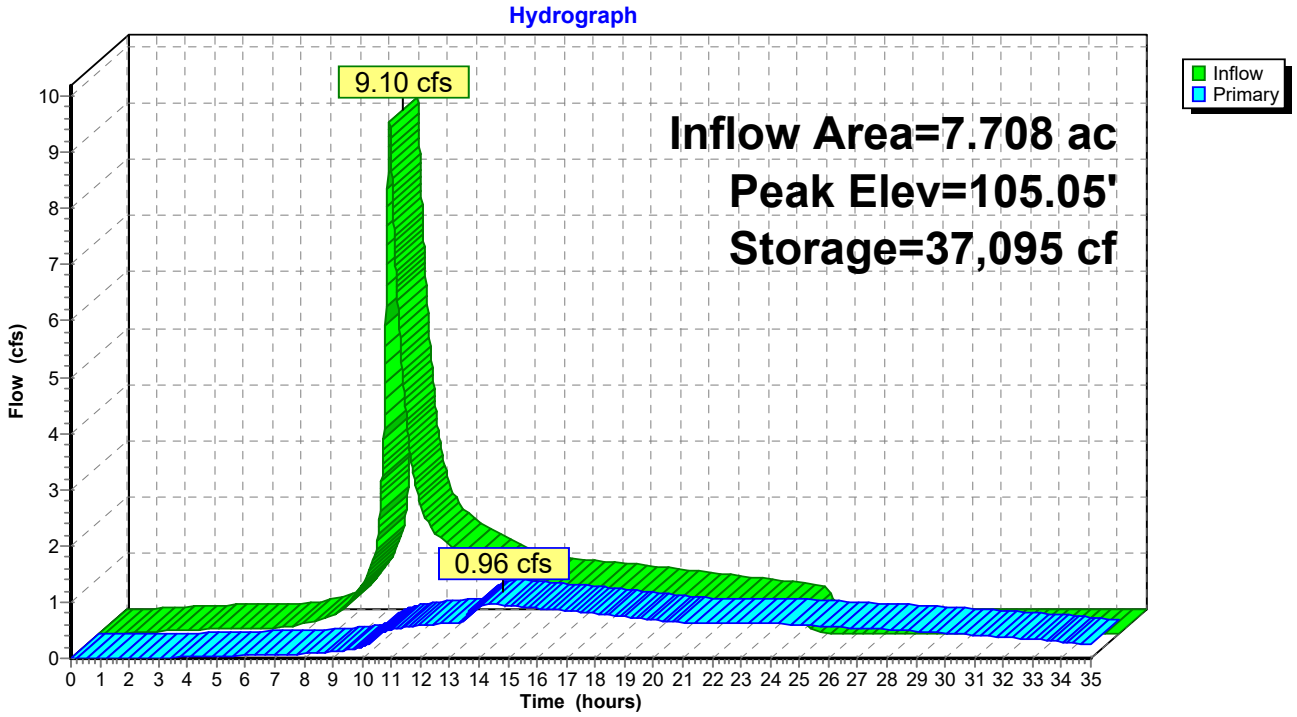
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

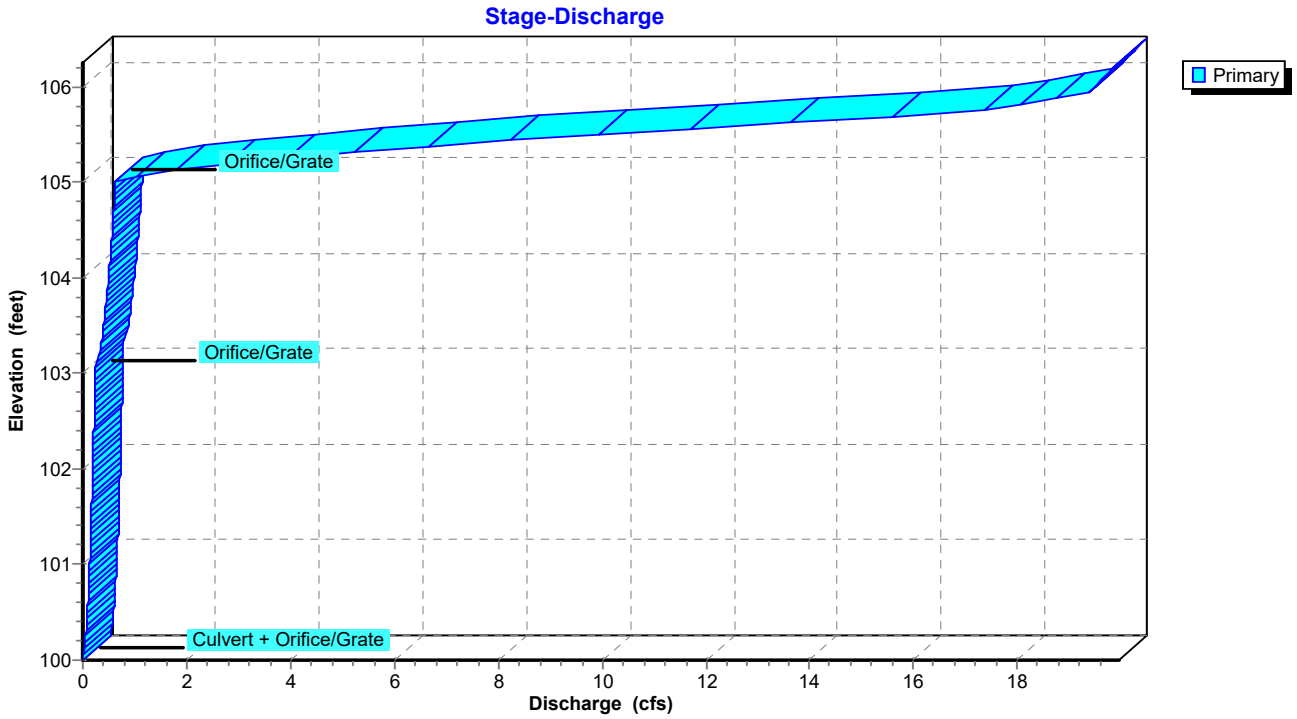
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.93 cfs @ 14.36 hrs HW=105.05' (Free Discharge)
└**1=Culvert** (Passes 0.93 cfs of 17.64 cfs potential flow)
  ├**2=Orifice/Grate** (Weir Controls 0.29 cfs @ 0.73 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.33 cfs @ 6.68 fps)
  └**4=Orifice/Grate** (Orifice Controls 0.31 cfs @ 10.72 fps)

Pond D3: Detention Pond 3



Pond D3: Detention Pond 3



Stage-Discharge for Pond D3: Detention Pond 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

MEMORANDUM

Solstra California, LLC
Solomon Hills Development
WG Project No. 1703-0001

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Date: June 18, 2024 (Revised July 30, 2025)

To: Mr. Klaus Hasbo (Solstra Communities California, LLC)

From: Brad Brechwald, PE, Greg Hulburd, PE (Wallace Group**)**

Subject: Solomon Hills Water Demand

Introduction

This technical memorandum was prepared for the Solomon Hills project to evaluate project water demand to serve the proposed development (project). The project proposes 4,000 residential units in addition to commercial, institutional, and open space uses as described in the project description that follows and, in the project's Specific Plan. This memorandum addresses the water demand over time resulting from the proposed project phasing. Evaluation of water supply will be addressed in separate documents prepared by the project's water supplier.

Project Description

The Solomon Hills Project proposes to create Santa Barbara County's first new community that will result in a sustainable, resilient, and healthy environment for its residents. The Project establishes a holistic framework for Smart Growth with a redevelopment of private lands historically used for grazing and oil and gas production. It's proposed Specific Plan includes the design and implementation of a central village closely surrounded by several neighborhoods, office and commercial space, a TK-8 school, fire/sheriff station, parks, open space, and public trails to allow walking and biking as an easy alternative to vehicle transport.

The Project's proposed Specific Plan allows for a balance of land uses primarily serving working families allowing 4,000 single and multifamily residential units, 650,000 square feet of commercial retail and office use and space, 25.5-acres of public and institutional uses and space, and 1,023 acres of recreational and open space uses. Critical infrastructure includes water supply and a water reclamation facility, interchange improvements along Highway 101, additional secondary access along Hwy 101 and Hwy 135 and several active and passive parks and public trails. Public benefits include developer sponsored Affordable housing near commercial and transportation access points, utility and access improvements that minimize traffic impacts to neighboring properties, new public trail access into the Orcutt Hills, recreational improvements and public access to the Remainder Parcel 3 Picnic Grounds, the preservation of open space ridgelines and valleys for habitat protection and the abandonment and remediation of all oilfield features and operations. The Project is designed to be built in four (4) buildout phases over a fourteen-year period for the orderly delivery of the Project. Phased grading, access, utility, horizontal and public improvements are scheduled ahead of and to align with the same buildout phases.

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Proposed Development Phasing

The Project includes a Phasing Plan for improvements that follows the orderly delivery of the Project, as described in the Specific Plan. Buildout improvements include future Projects approved with subsequent development plans (DVP's) and/or tentative parcel maps (TPM's) within each large lot Planning Area. The components of the Project that are to be implemented over the four (4) phases are as follows:

- Market Rate Residential Units
- Affordable Housing Units
- Retail and Office Commercial
- Public/Institutional Uses
- Infrastructure
- Parks and Public Trails
- Grading, Vesting Tentative Tract Map (VTTM) Recordation and Large Lot Horizonal Tract Improvements include:
    - Vegetation Removal and Mitigation
    - Soil Remediation and Oil Well Abandonment or Re-abandonment
    - Streets, Curbs, Gutters, Utilities, Public Trails, and Storm Water Controls

The project's first phase is proposed to start within three years of all entitlement approvals by the County and Local Agency Formation Commission (LAFCO) which are anticipated by the end of 2027. The post entitlement review and approval of improvement plans and tract recordation, and the subsequent review and approval of Planning Area DVP's and TPM's for the first buildout phase is anticipated to take approximately 2-years and grading and remediation of the first phase buildout area is anticipated to take approximately 1-year.

For the purposes of this phased water demand estimate, the phase durations are summarized as follows:

- Phase 1 Buildout: 5 years
- Phase 2 Buildout: 3 years
- Phase 3 Buildout: 5 years
- Phase 4 Buildout: 1 year

Proposed Development and Land Use

The Solomon Hills Development proposes development of 4,000 residential units in addition to commercial, institutional, and open space uses as described in the project Specific Plan. The breakdown of proposed land uses is provided in Table 1 based on the product and land use information provided by Solstra Communities California, LLC; the water demand estimate in this memorandum is based on this proposed land use.

Table 1. Proposed Land Uses

USE TYPE	DESCRIPTION[1]	QTY[2]	UNITS	TOTAL ACRES[2]
Residential				
Single Family	dwelling units	2,984	DU	400.8
Multifamily	dwelling units	1,016	DU	43.6
Subtotal Residential		*4,000*		*444.4*
Commercial				
Commercial Retail	Bldg SF	125,000	SF	12.2
Commercial Office	Bldg SF	525,000	SF	22.8
Subtotal Commercial		*650,000*		*35.0*
Institutional				
School	Bldg SF	110,000	SF	13.4
Police/Fire	Bldg SF	7,500	SF	2.2
Water Reclamation Facility	Bldg SF	10,000	SF	14.2
Subtotal Institutional		*127,500*		*29.8*
Parks and Trails				
Amenity Community Centers	Bldg SF	35,000	SF	12.0
Parks (SH Specific Plan Area)				55.5
Trails				4.0
Subtotal Parks and Trails				*71.5*
Open Space				
Basins				29.9
Other Irrigated Landscape (Slopes)				326.3
Non-Irrigated Open Space (SH Specific Plan Area)				610.4
Subtotal Open Space				*966.6*
Primary Roads				
Primary Roads				68.2
Subtotal Primary Roads				*68.2*
Total Specific Plan Area				*1616.0*
Remainder Parcel 3				
New Love Park				31

Common space areas within the development include streetscapes, parks, and buffer zones among other irrigated landscaped areas. Buffer zones are considered irrigated

[1] Bldg = building; DU = dwelling units; SF = square feet
[2] Solomon Hills Product Types and Acreage Summary, July 2025. Note acreages are developable pad acreages. Any difference with the Vesting Tentative Tract Map total lot acreages are accounted for in the "other irrigated landscape (slopes)" category.

landscape open space located along the periphery and between other development land use types (e.g., slopes, see “Other Irrigated Landscape” on Table 1). A significant area of the project will remain as undeveloped, open space.

The project proposes several park areas incorporated into several dispersed areas of the development. Park areas will be provided at the amenity community centers which include a main community center (6 acres), a 55+ recreation facility (3 acres), and a fitness center (3 acres). In addition to these areas, the parks category includes the proposed Hillcrest Park, Ridge View Park, school joint use park, Welcome Home Center and Main Street parks, neighborhood pocket parks , and linear parks within residential and roadway land use areas.

The development phasing plan used as a basis for the water demand projection is included as Attachment 1 and indicates how the various proposed land uses are introduced over the proposed development timeline.

Water Demand Analysis

The water demand estimate was generated using methodologies employed by agencies and projects within Santa Barbara County. Chapter 12 of the County of Santa Barabara’s Environmental Thresholds and Guidelines Manual (January 2021) discusses acceptable methods of estimating project water demand, (1) use of project-specific indoor and outdoor use factors based on specific water fixture and occupancy assumptions and (2) use of water duty factors (typically land use based).

Project Specific Water Demand

A project-specific water demand is generated for residential uses where sufficient project definition regarding housing types allows for a more detailed assessment of associated water demands. A project-specific water demand will reflect the project’s goal of minimizing water use throughout the proposed development since it considers water efficiencies of individual water fixture types.

This demand calculation method uses the “project-specific” water use factors combining water use fixture flow rates, assumed occupancy levels based on bedroom count (e.g., 2BD), and SB County established assumptions about fixture/water use per person per day (e.g., number of flushes etc.). The project intends to maximize use of water efficient fixtures thereby reducing the demands typically associated with conventional fixtures.

Project details related to individual housing product types are required for this method. Occupancies for each of the proposed product types were generated and combined with water use factors on a per capita basis. Occupancy estimates are based on residential occupancy data collected for a residential development water study[3] in Goleta. The study generated person per household occupancy levels by bedroom/bath count level (*i.e.*, 1 BR/1BA, 2 BR/1BA, etc.). Although the data in the referenced study are specific to the residential development in Goleta, they were used in this analysis absent other local data relating persons per household to

[3] Heritage Ridge Final Environmental Impact Report, Volume II, Appendix J, Annual Demand Water Report (2015, Mac Design Associates, Water Services for Willow Springs I, Willow Springs II, and Heritage Ridge).

individual residential unit classified by bedroom/bathroom count. Further, the total estimated population generated using these occupancy factors resulted in an overall project occupancy of 2.78 persons per household which is consistent with the US Census household occupancy value of 2.81 for Orcutt.[4] The water demand estimate included as Attachment 2 lists the bedroom count as well as occupancy by residential product type. The occupancy assumptions are summarized in Table 2; refer to Attachment 3 for more detail on the assumptions used to generate these occupancy rates.

Table 2. Assumed Residential Occupancy

No. Bedrooms	Housing Occupancy[1]	Senior Housing Occupancy[2]
1	1.40	1.106
2	1.625	1.117
3	2.36	1.534
4	3.90	-
5	4.65	-
6	5.03	-

1. Data presented in Heritage Ridge Final Environmental Impact Report, Volume II, Appendix J was used to generate assumed occupancies based solely on number of bedrooms for the 1-, 2-, and 3-bedroom categories. The occupancies for the 4-, 5-, and 6-bedroom categories were assumed, see Attachment 2.
2. Based on reductions of 21%, 27%, and 35% in occupancy for 1 BR/1BA, 2 BR/1BA, and 2 BR/2BA, respectively based on data presented in Heritage Ridge Final Environmental Impact Report, Volume II, Appendix J. The 2BR/2BA reduction of 35% was assumed for the 3 BR category.

The use factors, in turn, were generated using the County's *Environmental Thresholds and Guidelines Manual.* This manual provides standardized values for assumptions regarding frequency of use for individual water fixtures (e.g., four toilet flushes per person per day) and the gallons used per use which allow for a more project-specific estimate reflective of the project's commitment to water efficiency versus use of more general land-use based duty factors. The individual water fixture values from this guidance manual yield per capita indoor demand values ranging from 57 to 89 gallons per capita per day (gpcd). These County standard duty factors are based upon data from several decades ago, before current, higher efficiency appliances were available and before recent water conservation efforts.

By contrast, California Water Code §10609.4 sets indoor residential water use standards which target a reduction to 42 gpcd by 2030. Therefore, a higher level of indoor use efficiency will be required to comply with the California Water Code standards and as such, high efficiency water fixtures will be used in the project.

Therefore, the site-specific methodology presented in the County's *Environmental Thresholds and Guidelines Manual* was applied in this analysis but modified to incorporate higher levels of appliance water efficiency. The demands for each use presented in the County's manual were updated to reflect the water use efficiencies for US EPA Water Sense certified products (see "High Efficiency Fixtures" column) and are adopted herein for the project's water demand estimate. A summary of the values from the manual as well as the updated values used in this analysis is presented in Table 3.

[4] United States Census Bureau, Orcutt CDP, California, 2017-2021.

Table 3. Indoor Water Use Assumptions (per capita)

Specific Use	Frequency (Events/Day)	County Scenario 1		County Scenario 2		County Scenario 3		High Efficiency Fixtures[1]	
		gal/event	Annual Use (AFY)	gal/event	Annual Use (AFY)	gal/event	Annual Use (AFY)	gal/event	Annual Use (AFY)
Toilet flush[2]	4.0	5.5	0.0246	3.5	0.0157	1.6	0.0072	1.28	0.0057
Shower[3]	0.7	39.0	0.0306	30.0	0.0235	20.0	0.0157	20.0	0.0157
Tub bath[4]	0.2	24.0	0.0054	24.0	0.0054	24.0	0.0054	24.0	0.0054
Brush teeth[5]	1.3	2.5	0.0036	2.5	0.0036	2.5	0.0036	1.7	0.0025
Shaving[6]	0.25	4.5	0.0013	4.5	0.0013	4.5	0.0013	3.1	0.0009
Washing hands[7]	5.0	0.2	0.0011	0.2	0.0011	0.2	0.0011	0.1	0.0008
Drinking/cooking[8]	1.0	1.0	0.0011	1.0	0.0011	1.0	0.0011	1.0	0.0011
Clothes washing[9]	0.29	35.0	0.0114	35.0	0.0114	35.0	0.0114	14.0	0.0045
Dishwashing[10]	0.5	18.0	0.0101	18.0	0.0101	18.0	0.0101	3.2	0.0018
Garbage Disposal[11]	0.5	1.0	0.0006	1.0	0.0006	1.0	0.0006	1.0	0.0006
Subtotal Per Capita Use (AFY)			0.0898		0.0737		0.0574	0.0631	0.0389
Misc. Other Indoor Use (AFY)[12]			0.0009		0.0009		0.0009	0.0010	0.0009
10% Contingency[13]			0.0091		0.0075		0.0058		0.0040
Total Per Capita Use (AFY)			0.0998		0.0821		0.0641	0.0641	0.0438
gal/capita-day (gpcd) [14]			89.1		73.3		57.3		39.1

Notes:

1. High efficiency use proposed for Solomon Hills project; the values in this column form the basis of estimated indoor water demand. The three preceding columns present use factors from Table 8 of Santa Barabara County's Environmental Thresholds and Guidelines Manual.
2. EPA WaterSense high efficiency toilets rated at 1.28 gal/flush.

Notes (continued):

3. Assumes 10 min shower at flows of 3.9, 3.0, 2.0, and 2.0 GPM, for County scenarios 1, 2, 3, and high efficiency (EPA WaterSense), respectively. No reduction is assumed between County's scenario 3 and high efficiency scenario.
4. Assumes 1/2 tub volume of 24 gallons per bath for every scenario.
5. Brush teeth category for County scenarios estimate 2.5 gallon per event across three scenarios which is assumed based on standard faucet flow rate of 2.2 GPM. EPA WaterSense faucets achieve flows of 1.5 GPM. Therefore, reduced gallons per event for this category by a ratio of 1.5/2.2 = 0.68, so 2.5 x 0.68 = 1.7 gal/event.
6. Shaving category for County scenarios estimate 4.5 gallon per event across three scenarios which is assumed based on standard faucet flow rate of 2.2 GPM. EPA WaterSense faucets achieve flows of 1.5 GPM. Therefore, reduced gallons per event for this category by a ratio of 1.5/2.2 = 0.68, so 4.5 x 0.68 = 3.1 gal/event. Frequency assumed at once per day for 25% of the population.
7. Washing hands assumed 0.2 gal per event across three scenarios. Reduced volume for high efficiency category per event by 1.5/2.2 x 0.2 = 0.1 gal per event to reflect use of high efficiency faucets.
8. Drinking/cooking assumes 1 gallon per day per person.
9. Clothes washing assumed 35 gal per event across three scenarios. Reduced volume for high efficiency category to 14 gallons per event based on Energy Star ratings. Frequency is assumed 0.29 per day per person, or approximately twice a week per person.
10. Dishwashing assumed 18 gallons per event across three scenarios. Reduced volume for high efficiency category to 3.2 gallons per event based on Energy Star ratings. Frequency is assumed 0.5 per day per person.
11. Garbage disposal assumed 1 gallon per event across each scenario. Frequency is assumed 0.5 per day per person.
12. Miscellaneous other uses from Table 8 of the Environmental Thresholds and Guidelines Manual include demand due to pets, housecleaning, and aquaria.
13. In accordance with the Environmental Thresholds and Guidelines Manual, a ten percent contingency is added to include other occasional uses and leaks.
14. California Water Code Section 10609.4 specifies a standard indoor water demand of 55 gpcd which will be reduced to 47 gpcd by 2025 and 42 gpcd by 2030. The Solomon Hills project is planning for meeting and exceeding the 2030 state indoor water use target.

For outdoor irrigation uses, a water duty factor of 1.66 acre-feet per year per acre (afy/ac) was applied to residential irrigated areas based on consultation with the project landscape architect; the *Environmental Thresholds and Guidelines Manual* provides a range of 1.5 to 2.0 afy/ac for a "green lawns and ornamental gardens" category. This duty factor represents the irrigation demand for a residential landscape consisting of 80 percent drought tolerant plants and 20 percent turf. Using the California Model Water Efficiency Landscape Ordinance water use calculation,[5] the estimated residential outdoor water use is approximately 42 percent of the reference annual evapotranspiration (ET_o) of 47.32 inches;[6] the MWELO limits the irrigation water allowance to 55 percent of ET_o for residential landscapes. This estimated outdoor water use is consistent with the project's intent to implement high levels of water use efficiency which outperform state and county requirements such as the MWELO.

After accounting for the building footprint, residential outdoor landscaped areas were assumed to be 40 percent of the lot size for multifamily and 50 percent of the lot size for single-family homes based on preliminary residential layouts presented in the Specific Plan. The outdoor irrigation demand was combined with the project-specific indoor uses to generate overall residential water demand as potable water will be used in privately maintained residential landscapes.

Water conservation measures will be integrated into the project's design guidelines and covenants, conditions, and restrictions (CC&Rs) requiring the use of high efficiency indoor water fixtures and outdoor irrigation systems. The design guidelines will ensure that the estimated total water use meets irrigation targets.

In accordance with the County's environmental thresholds manual, a ten percent contingency factor, required for project-specific water use estimates, is applied to the residential water demand estimate. The results of this project-specific analysis are provided in Attachment 2.

Land Use Based Duty Factors

For open space, commercial, and institutional uses, land-use based water duty factors are used. Land use-based duty factor estimates will produce more conservative (i.e., higher) water demands but are applicable where project details (e.g., commercial and retail building plumbing details) are undefined.

We reviewed water duty factors evaluating a variety of local sources in Santa Barbara County. These sources include:

1. City of Santa Barbara Water Vision 2021 – *Updated Water Demand Factors*
2. City of Santa Maria *Utilities Capacity Study* (2012)
3. GSWC Orcutt Service Area, *2020 Urban Water Management Plan*

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[5] Based on California Model Water Efficiency Landscape Ordinance water use calculation: Water Use = (ETo)(0.62)((PF × A)/IE) where ETo is reference evapotranspiration PF is Plant Factor A is irrigated area in square feet IE is irrigation efficiency (0.72 assumed for overhead spray and 0.81 assumed for drip irrigation). Plant factors of 0.2 and 0.8 were selected for drought tolerant plants (low water use) and turf, respectively.

[6] California Irrigation Management Information System (CIMIS), Station ID no. 232, Santa Maria II annual average ET_o.

4. County of Santa Barbara – *Environmental Thresholds and Guidelines Manual* (January 2021)

Duty factors from the City of Santa Barbara are the most recently updated values within Santa Barbara County and best reflect water conservation efforts implemented over the last decade (albeit throughout a City comprised of existing residences, institutional, and commercial buildings). Consequently, water duty factors from this study were adopted for use in this demand estimate.

The adopted duty factors were applied to commercial office, retail, HOA amenity, school, police, and fire uses and are based on building square footage (Table 4). Outdoor irrigated spaces for these land uses are estimated separately.

Outdoor irrigation duty factors were used for irrigated areas associated with open spaces, commercial, and institutional uses (Table 5). These duty factors were selected based on consultation with the project landscape architect and fall within the range of listed demands for lawns and ornamental gardens (1 to 2 AFY/acre) provided in the *Environmental Thresholds and Guidelines Manual*. The development will be adhering to water efficient landscaping principles[7] and use of native plant species to the maximum extent possible to exceed conservation requirements under the state MWELO while achieving the appropriate landscape design aesthetic; therefore, the outdoor irrigation duty factors reflect this approach.

The combination of the selected indoor and outdoor irrigation duty factors results in an overall water use estimate in line with the commercial duty factor of 2.05 AFY/unit provided in the *Environmental Thresholds and Guidelines Manual* for commercial land use. For example, projected total water demands for commercial retail, office, the amenity community center, and school land uses result in demands of 2.16, 2.27, 1.90, and 2.16 AFY/acre, respectively.

Table 4. Water Duty Factors – Commercial and Institutional Uses (Indoor)

USE TYPE	Duty Factor (AFY/1,000 sf)
Amenity Community Center	0.39
Commercial Retail	0.17
Commercial Office	0.08
School	0.17
Police/Fire	0.17
Water Reclamation Facility[1]	1.68 AFY

1. Water demand for the water reclamation facility is reflective of indoor domestic and process use and is estimated for the entire facility rather than based on building square footage.

[7] Refer to Model Water Efficient Landscape Ordinance promulgated by California Department of Water Resources.

Table 5. Water Duty Factors – Outdoor Irrigation Use

USE TYPE	Outdoor Area (AFY/AC)
Residential Outdoor Irrigation	1.66
Common Irrigation Areas	
Roads	1.33
Basins Identified	1.35
Parks	1.35
Other Irrigated Landscape (Slopes)	1.35
Commercial/Institutional	
Amenity Community Center	1.52
Commercial Retail	1.41
Commercial Office	1.41
School	1.52
Police/Fire	1.52
Water Reclamation Facility	1.52

The water demand estimate for the water reclamation facility was based on consideration of water use for the proposed treatment system, domestic use for onsite personnel, and a ten percent contingency, consistent with the County's guidance for project-specific water use estimates, resulting in an overall water demand of approximately 1,500 gal/day or approximately 1.68 acre-feet per year.

Estimated Buildout Project Water Demand

Based on the evaluation presented above, the project's estimated buildout water demand is approximately 1,274 acre-feet per year (afy). This total translates to a project water use ratio of approximately 0.32 AFY/dwelling unit. In addition, based on the projected population of 11,125, the overall per capita water use is estimated at 102 gallons per capita per day. This estimate reflects demands only and does not consider the source of water supply. Assuming the project's potable water demand is 1,274 afy is a conservative assumption as the project plans to maximize use of recycled water for common area irrigation which would reduce the demand for potable water.

Table 6 presents a summary of the estimated water demands.

Table 6. Summary of Estimated Water Demand

USE TYPE	Estimated Demand (AFY)
Residential	652.4
Commercial	78.1
Institutional	33.6
Parks and Trails	107.0
Open Space	374.4
Primary Roads	28.9
Total	1,274.4

Recycled Water Use

The project is committed to a high level of water conservation with plans for buildings to use the highest efficiency water fixtures commercially available. Outdoor ornamental landscape plant palettes will favor native and drought tolerant species to minimize irrigation water demands. Further, the project will maximize use of recycled water for outdoor irrigation within parks, commercial areas, and common areas such as landscaped slopes and street landscaping. Development generated wastewater will be treated to disinfected tertiary standards at the proposed water reclamation facility (WRF) allowing for irrigation reuse and will be distributed via a proposed "purple pipe" network. Production of disinfected tertiary recycled water will maximize the development's ability to use recycled water in public landscapes.

The majority of the proposed development lies within the boundaries of the San Antonio Creek Valley Groundwater Basin (San Antonio Basin); however, at this time, the project assumes that recycled water flows must be applied within the Santa Maria River Valley Groundwater Basin (Santa Maria Basin) boundaries, since the currently proposed water sources for the project originate from within the Santa Maria Basin.

Table 7 summarizes the potential recycled water potential based on 26.7 acres of park, 6.5 acres of commercial area landscaping, 46.9 acres of irrigated slopes, and 3.5 acres of street landscaping within the Santa Maria Basin side of the development.

Table 7. Potential Recycled Water Demand within the Santa Maria Basin Side of Development

USE TYPE	Estimated Demand (AFY)
Parks, Open Space, Roadway Irrigation	104.0
Commercial Outdoor Irrigation	9.1
Total	113.1

Additional landscape area is proposed within the San Antonio Basin side of the project consisting of additional common area, commercial, and institutional outdoor irrigation. If the project were able (i.e., from a regulatory perspective) to apply recycled water for use on that side of the development significant additional water demand could be satisfied through use of recycled water. Table 8 summarizes the potential recycled water demand on the western side of the development overlying the San Antonio Basin.

Table 8. Potential Recycled Water Demand within the San Antonio Basin Side of Development

USE TYPE	Estimated Demand (AFY)
Parks, Open Space, Roadway Irrigation	390.1
Commercial Outdoor Irrigation	5.7
Institutional Outdoor Irrigation	11.9
Total	407.8

In total, there is an estimated annual 521 ac-ft of common area, commercial, and institutional outdoor irrigation demand for the development, of which, 113 ac-ft is located within the Santa Maria Basin and 408 ac-ft is located within the San Antonio Basin. Upon buildout of the project's outdoor irrigation areas, the total water supply demand will drop in accordance with the amount of recycled water used for irrigation.

Water Demand Phasing

The specific plan's phasing schedule indicates development over four phases. In this analysis, it is assumed the four phases are developed over a 14-year period. This development phasing is used as the basis for projecting water demand over the 14-year time frame with full water demand realized at buildout in year 14. The development phasing plan used as a basis for water demand and wastewater flow projection is included as Attachment 1. Water demand reflecting the assumed phasing is provided in Table 9.

Table 9. Projected Water Demand over 14-Year Development Period

Phase	Cumulative Water Demand (ac-ft)
Phase 1l	419
Phase 2	622
Phase 3	1,148
Phase 4 (Buildout)	1,274

Water Supply Assessments and Verification (SB 610 and SB 221)

The State of California has enacted laws intended to coordinate local water supply more closely with current and future land use decisions being made by cities and counties. These laws include Senate Bill 221 (Chapter 642, Statutes of 2001) and Senate Bill 610 (Chapter 643, Statutes of 2001). Together these laws serve as companion measures, intending to address the need to incorporate water supply and demand analysis at the earliest possible stage in the planning process. Both statutes require detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. Enactment of Senate Bill 610 and Senate Bill 221 has effectively amended existing water Sections 10910 through 10915 of the California Water Code, as described below.

Senate Bill 610 requires the preparation of a detailed water supply assessment by the responsible water agency early on when major projects subject to the California Environmental Quality Act (CEQA) undergo environmental review. The required assessment must determine whether available water supplies are sufficient to serve the demand generated by the project, as well as reasonably foreseeable cumulative demand in the region over the next 20 years. The assessment must also consider available water supply under average normal year, single dry year, and multiple dry year conditions. Additional requirements exist for water supplies identified as a groundwater source.

Additionally, the water assessment must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, as well as water received in prior years pursuant to those entitlements, rights, and contracts. The assessment must also include a description of the quantities of the water received in prior years by the public water system. Pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code, the final water assessment will be furnished to the lead agency for inclusion in the Negative Declaration or Draft Environmental Impact Report (CEQA document) prepared for the project. Pursuant to § 110911 (b) of the Water Code, the CEQA document must also be sent to the State Clearinghouse in the Governor's Office of Planning and Research.

For use in Senate Bill 610, California Water Code Section 10912 defines the term "project" in the following way:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel or both, having more than 500 rooms.

- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-used project that includes one or more of the projects specified in this subdivision.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

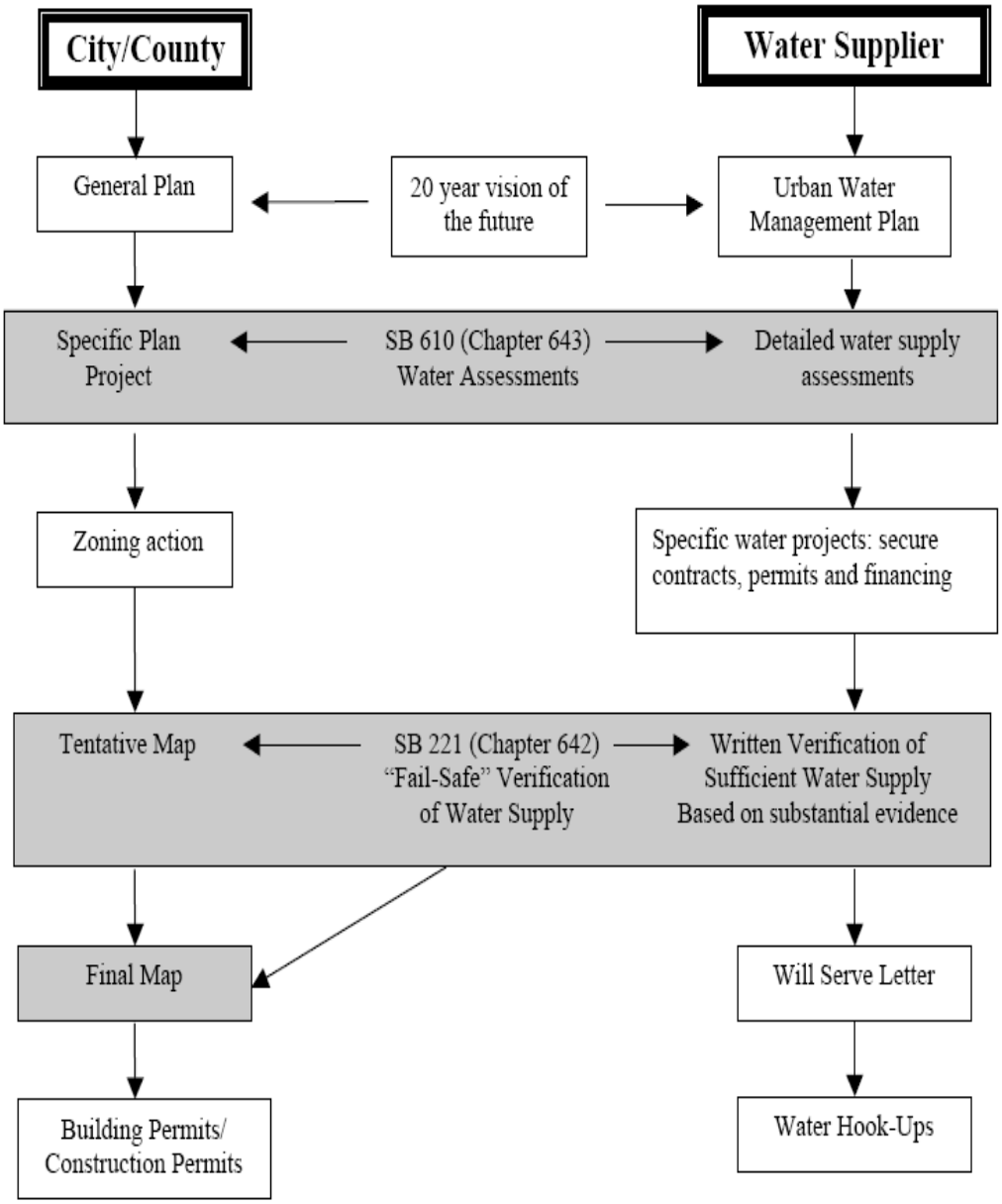
The proposed project includes an anticipated number of dwelling units in excess of 500. Assessment of the available water supplies necessary to meet the anticipated water demand from build-out of the Project over a twenty-year horizon therefore becomes necessary under the requirements of SB 610.

Senate Bill 221 prohibits local land use agencies from later approving tentative maps or developer agreements for large subdivisions without proper verification of an adequate and reliable supply of water. SB 221 is therefore a water sufficiency verification procedure requiring each city or county to include as a condition of approval of any tentative map, parcel map or development agreement for residential developments of 500 dwelling units or more, a requirement that a sufficient water supply be available. Such sufficiency must be provided through written verification from the public water system that will serve the development as requested by the city or county. Verification must conclude whether the Water Supplier is able or unable to provide a sufficient water supply based upon analysis as to whether water supplies available during normal, single dry, and multiple-dry years within a 20-year projection will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including but not limited to, agricultural and industrial uses.

SB221 is intended to narrowly define the broad land-use planning which occurs through the CEQA/SB610 water supply assessment process. SB 221 provides assurance of the future water demand availability during the final subdivision map approval stages which occur later in the process. An SB610 water supply assessment would come earlier during early land use planning stages.

The following chart is excerpted from the Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, illustrating the relationship between local land use agencies and water suppliers in their planning processes. The General Plan, prepared by a City or County Planning Department, and the Urban Water Management Plan, prepared by a Water Supplier, are the critical source documents used to substantiate the information required by SB 610 and SB 221 at the local level. For this project, these sources would include the Santa Barbara Comprehensive Plan (Conservation Element, adopted 1979 and amended August 2010), Orcutt Community Plan, adopted June 1997 and amended December 2020, the City of Santa Maria 2020 Urban Water Management Plan (UWMP), and Golden State Water Company's Orcutt Service Area 2020 UWMP.

Figure 1. Senate Bill 610 and Senate Bill 221 Flowchart



Both previously listed statutes repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. Water Code §10910[c][3] specifically states that if the projected water demand associated with the project was included as part of the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in its assessment. If the projected water demand for the Project was not included in the most recently adopted UWMP, the assessment must be prepared based on a combination of

information contained within the adopted UWMP and/or information available from other sources and reports. The project's water supplier is anticipated to lead the development of the SB 610 and 221 water supply assessment and verification.

Attachments

Attachment 1. Project Phasing

Attachment 2. Water Demand Estimate

Attachment 3. Residential Unit Occupancy Estimate

Attachment 1 - Project Development Phasing

7/24/2025

1703-0001 SOLOMON HILLS - PROJECT DEVELPOMENT PHASING

USE TYPE[1]	DESCRIPTION	QTY	UNITS	TOTAL ACRES[1]	Phase 1	Phase 1	Phase 2	Phase 2	Phase 3	Phase 3	Phase 4	Phase 4
Residential					Units	Acreage	Units	Acreage	Units	Acreage	Units	Acreage
MF Townhomes	MF-Attached	541	DU	27.0	236	11.8	0	0.0	305	15.2	0	0.0
MF Townhomes (Rental)	MF-Attached	75	DU	3.6	75	3.6	0	0.0	0	0.0	0	0.0
Section Sub-Total		*616*		*30.6*	*311*	*15*	*0*	*0*	*305*	*15*	*0*	*0*
SFD Entry	SF-Detached	224	DU	21.7	224	21.7	0	0.0	0	0.0	0	0.0
SFD Entry (Rental)	SF-Detached	62	DU	5.0	62	5.0	0	0.0	0	0.0	0	0.0
SFD Entry	SF-Detached	205	DU	20.6	53	5.3	0	0.0	152	15.3	0	0.0
SFD Entry	SF-Detached	377	DU	41.9	153	17.0	0	0.0	224	24.9	0	0.0
Section Sub-Total		*868*		*89.2*	***492***	***49***	***0***	***0***	***376***	***40***	***0***	***0***
SFD Entry	SF-Detached	261	DU	29.2	118	13.2	0	0.0	143	16.0	0	0.0
SFD Entry	SF-Detached	193	DU	27.4	40	5.7	0	0.0	153	21.7	0	0.0
SFD Move-up	SF-Detached	310	DU	54.1	104	18.1	0	0.0	130	22.7	76	13.3
SFD Move-up	SF-Detached	209	DU	37.8	54	9.8	0	0.0	155	28.0	0	0.0
Section Sub-Total		*973*		*148.5*	***316***	***47***	***0***	***0***	***581***	***88***	***76***	***13***
SFD Move-Up	SF-Detached	228	DU	45.0	83	16.4	80	15.8	65	12.8	0	0.0
SFD Move-Up	SF-Detached	151	DU	39.0	0	0.0	54	13.9	97	25.1	0	0.0
SFD Estate	SF-Detached	39	DU	15.4	0	0.0	*0*	0.0	*39*	15.4	0	0.0
Section Sub-Total		*418*		*99.4*	***83***	***16***	***134***	***30***	***201***	***53***	***0***	***0***
Active Adult MF (duplex)	MF-Attached	375	DU	29.0	75	5.8	300	23.2	0	0.0	0	0.0
Active Adult	SF-Detached	250	DU	22.2	55	4.9	*195*	17.3	*0*	0.0	*0*	0.0
Active Adult	SF-Detached	100	DU	12.5	0	0.0	100	12.5	0	0.0	0	0.0
Section Sub-Total		*725*		*63.7*	***130***	***11***	***595***	***53***	***0***	***0***	***0***	***0***
RHNA Low (Apartment)	MF-Attached	125	DU	4.7	42	1.6	22	0.8	45	1.7	16	0.6
RHNA Med (Apartment)	MF-Attached	75	DU	5.2	25	1.7	13	0.9	27	1.9	10	0.7
RHNA High (Apartment)	MF-Attached	200	DU	3.1	68	1.1	*35*	0.5	*73*	1.1	24	0.4
Section Sub-Total		400		13.0	***135***	***4***	***70***	***2***	***145***	***5***	***50***	***2***
Sub-Total Residential		*4,000*		*444.4*	1,467	143	799	85	1,608	202	126	15

USE TYPE[1]	DESCRIPTION	QTY	UNITS	TOTAL ACRES	Phase 1	Phase 1	Phase 2	Phase 2	Phase 3	Phase 3	Phase 4	Phase 4
Commercial					SF	Acreage	SF	Acreage	SF	Acreage	SF	Acreage
Commercial Retail	Bldg SF	125,000	SF	12.2	10,000	1.0	15,000	1.5	30,000	2.9	70,000	6.8
Commercial Office	Bldg SF	525,000	SF	22.8	5,000	0.2	25,000	1.1	130,000	5.6	365,000	15.9
Subtotal Commercial				35.0	***15,000***	***1.2***	***40,000***	***2.5***	***160,000***	***8.6***	***435,000***	***22.7***
Institutional												
School	Bldg SF	110,000	SF	13.4					110,000	13.4		
Police/Fire	Bldg SF	7,500	SF	2.2					7,500	2.2		
Water Reclamation Facility				14.2		14.2						
Subtotal Institutional				29.8	***0***	***14.2***	***0***	***0.0***	***117,500***	***15.6***	***0***	***0.0***
Primary Roads, Parkways, Multi-Use Paths												
Primary Roads, Parkways, Multi-Use Paths				68.2		11		0		9		1
Subtotal Primary Roads, Parkways, Multi-Use Paths				68.2		11		0		9		1
Parks and Trails												
Amenity Community Centers[3]	Bldg SF	35,000	SF	12.0	20,000	6.8		3		0	15,000	3.0
Parks				55.5		16		18		5.5		15
Trails				4.0				2.0				2
Subtotal Parks and Trails				71.5	***20,000***	***22.9***	***0***	***23.1***	***0***	***5.5***	***15,000***	***20.0***
Open Space												
Basins				29.9		30						
Other Irrigated Landscape (Slopes)				326.3		101		56		145		24
Open Space (non-irrigated)				610.4		610						
Subtotal Open Space				966.6		***741.6***		***56.1***		***144.8***		***24.1***
Total Specific Plan Area				1,615.5	**35,000**	**934**	**40,000**	**167**	**277,500**	**386**	**450,000**	**83**
Orcutt Community Plan - Remainder Parcel												
New Love Park				31.0		31						
						0						
Subtotal Remainder Parcel				31.0	**0**	**31**	***0***	**0**	***0***	**0**	**0**	**0**
TOTAL DEVELOPMENT[4]				1,616.0								

Notes:

1- Solomon Hills Product Types and Acreage Summary, July 2025.

2- Additional capacity included based on 3% of demand from other residential categories; the additional capacity could count toward accessory dwelling units or bonus density units

3- Amenity community centers include a main community center (6 ac), a 55+ recreation facility (3 ac), and a fitness center (3 ac).

4- Specific Plan Area is 1,616 acres and excludes 287 acres (31-acre New Love Park + 256 acres of natural open space) in the Orcutt Community Plan

Attachment 2 - Water Demand Estimate

7/24/2025

1703-0001 SOLOMON HILLS - WATER DEMAND ESTIMATE																
USE TYPE	DESCRIPTION	QTY	UNITS	TOTAL ACRES[1]	DU/AC	LOT SIZE (SF)	BED	AVG HOME (SF)	ESTIMATED OCCUPANCY	ESTIMATED POPULATION	LANDSCAPE AREA PER LOT (SF)	PERCENT AREA IRRIGATED LANDSCAPE	IRRIGATED AREA PER LOT (SF)	TOTAL INDOOR DEMAND (AFY)	TOTAL OUTDOOR DEMAND	TOTAL DEMAND (AFY)
Residential																
MF Townhomes	MF-Attached	541	DU	27.0	20.0	2,200	3.0	1,767.0	2.4	1,277	433.0	40%	173.2	50.7	3.6	54.2
MF Townhomes (Rental)	MF-Attached	75	DU	3.6	20.8	2,100	3.0	1,475.0	2.4	177	625.0	40%	250.0	7.0	0.7	7.7
Section Sub-Total		*616*		*30.6*	*20.1*					*1,454*				*57.7*	*4.3*	*62.0*
SFD Entry	SF-Detached	224	DU	21.7	10.3	3,000	3.0	1,672.9	2.4	529	1,327.1	50%	663.5	21.2	5.7	26.9
SFD Entry (Rental)	SF-Detached	62	DU	5.0	12.4	3,000	3.0	1,672.9	2.4	146	1,327.1	50%	663.5	5.9	1.6	7.4
SFD Entry	SF-Detached	205	DU	20.6	10.0	3,200	3.0	1,800.0	2.4	484	1,400.0	50%	700.0	19.4	5.5	24.9
SFD Entry	SF-Detached	377	DU	41.9	9.0	3,600	3.0	1,950.0	2.4	890	1,650.0	50%	825.0	35.7	11.9	47.5
Section Sub-Total		*868*		*89.2*	*9.7*					*2,048*				*82.2*	*17.3*	*106.7*
SFD Entry	SF-Detached	261	DU	29.2	8.9	4,000	4.0	2,100.0	3.9	1,018	1,900.0	50%	950.0	40.4	9.4	49.8
SFD Entry	SF-Detached	193	DU	27.4	7.0	4,500	4.0	2,200.0	3.9	753	2,300.0	50%	1,150.0	29.8	8.5	38.3
SFD Move-up	SF-Detached	310	DU	54.1	5.7	5,000	4.0	2,400.0	3.9	1,209	2,600.0	50%	1,300.0	47.9	15.4	63.3
SFD Move-up	SF-Detached	209	DU	37.8	5.5	5,500	4.0	2,700.0	3.9	815	2,800.0	50%	1,400.0	32.3	11.2	43.5
Section Sub-Total		*973*		*148.5*	*6.6*					*3,795*				*150.4*	*26.5*	*194.8*
SFD Move-Up	SF-Detached	228	DU	45.0	5.1	6,000	4.0	3,250.0	3.9	889	2,750.0	50%	1,375.0	35.3	11.9	47.2
SFD Move-Up	SF-Detached	151	DU	39.0	3.9	8,000	5.0	3,750.0	4.7	702	4,250.0	50%	2,125.0	27.8	12.2	40.0
SFD Estate	SF-Detached	39	DU	15.4	2.5	12,000	6.0	4,050.0	5.0	196	7,950.0	50%	3,975.0	7.7	5.9	13.7
Section Sub-Total		*418*		*99.4*	*4.2*					*1,788*				*70.7*	*30.1*	*100.8*
Active Adult MF (duplex)	MF-Attached	375	DU	29.0	12.9	5,850	2.0	1,500.0	1.1	419	4,350.0	40%	1,740.0	17.0	24.9	41.9
Active Adult	SF-Detached	250	DU	22.2	11.3	3,600	2.0	1,750.0	1.1	279	1,850.0	50%	925.0	11.6	8.8	20.4
Active Adult	SF-Detached	100	DU	12.5	8.0	5,000	3.0	2,100.0	1.5	153	2,900.0	50%	1,450.0	6.3	5.5	11.8
Section Sub-Total		*725*		*63.7*	*11.4*					*852*				*34.8*	*39.2*	*74.0*
RHNA Low (Apartment)	MF-Attached	125	DU	4.7	26.6	1,200	1.0	650.0	1.4	175	550.0	40%	220.0	7.0	1.0	8.1
RHNA Med (Apartment)	MF-Attached	75	DU	5.2	14.4	1,500	2.0	800.0	1.6	122	700.0	40%	280.0	5.0	0.8	5.8
RHNA High (Apartment)	MF-Attached	200	DU	3.1	64.5	2,500	3.0	950.0	2.4	472	1,550.0	40%	620.0	18.9	4.7	23.7
Section Sub-Total		*400*		*13.0*	*30.8*					*769*				*30.9*	*6.6*	*37.5*
Additional Capacity										420				17.2	0.0	17.2
Section Sub-Total										*420*				*17.2*	*0.0*	*17.2*
Deduct Residential Pocket Park Area																
Sub-Total Residential		*4,000*		*444.4*	*9.0*				*2.78*	*11,125*				*444.0*	*124.0*	*593.1*
Contingency (10%)														*44.4*	*12.4*	*59.3*
USE TYPE	DESCRIPTION	QTY	UNITS	TOTAL ACRES				INDOOR USE DUTY FACTOR	UNITS	IRRIGATION DUTY FACTOR[3]	UNITS	PERCENT AREA IRRIGATED LANDSCAPE	IRRIGATED AREA (AC)	TOTAL INDOOR DEMAND (AFY)	TOTAL OUTDOOR DEMAND	TOTAL DEMAND (AFY)
Commercial																
Commercial Retail	Bldg SF	125,000	SF	12.2				0.17	AFY/1,000 SF	1.41	AFY/AC	30%	3.66	21.3	5.2	26.4
Commercial Office	Bldg SF	525,000	SF	22.8				0.08	AFY/1,000 SF	1.41	AFY/AC	30%	6.84	42.0	9.6	51.6
Subtotal Commercial				*35.0*									*10.50*	*63.3*	*14.8*	*78.1*
Institutional																
School	Bldg SF	110,000	SF	13.4				0.17	AFY/1,000 SF	1.52	AFY/AC	50%	6.70	18.7	10.2	28.9
Police/Fire	Bldg SF	7,500	SF	2.2				0.17	AFY/1,000 SF	1.52	AFY/AC	20%	0.44	1.3	0.7	1.9
Water Reclamation Facility	Daily Demand	1,500	gal/day	14.2				1.68	AFY	1.52	AFY/AC	5%	0.71	1.7	1.1	2.8
Subtotal Institutional				*29.8*									*7.85*	*21.7*	*11.9*	*33.6*
Primary Roads, Parkways, Multi-Use Paths																
Primary Roads, Parkways, Multi-Use Paths				68.2						1.33	AFY/AC	32%	21.75	0.0	28.9	28.9
Subtotal Primary Roads, Parkways, Multi-Use Paths				*68.2*									*21.75*	*0.0*	*28.9*	*28.9*
Parks and Trails																
Amenity Community Centers[4]	Bldg SF	35,000	SF	12.0				0.39	AFY/1,000 SF	1.52	AFY/AC	50%	6.00	13.7	9.7	23.4
Parks	Daily Demand	27	gal/ac-day	55.5				1.68	AFY	1.35	AFY/AC	70%	38.85	1.7	51.8	53.4
Trails				4.0							AFY/AC	0%	0.00	0.0	0.0	0.0
Subtotal Parks and Trails				*71.5*									*44.85*	*15.3*	*61.5*	*76.8*
Open Space																
Basins				29.9							AFY/AC	0%	0.00	0.0	0.0	0.0
Other Irrigated Landscape (Slopes)				326.3						1.35	AFY/AC	85%	277.32	0.0	374.4	374.4
Open Space (non-irrigated)				610.4							AFY/AC	0%	0.00	0.0	0.0	0.0
Subtotal Open Space				*966.6*									*277.32*	*0.0*	*374.4*	*374.4*
Total Specific Plan Area				1,615.5									362.27			
Orcutt Community Plan - Remainder Parcel 3																
New Love Park	Daily Demand	27	gal/ac-day	31.0				0.94	AFY	1.35	AFY/AC	70%	21.70	0.9	29.3	30.2
Subtotal Remainder Parcel 3				*31.0*									*21.70*	*0.9*	*29.3*	*30.2*
Total Remainder Parcel 3				31.0									21.70			
SUBTOTAL RESIDENTIAL DEMAND				444.4										488.4	136.4	652.4
SUBTOTAL COMMERCIAL				35.0									10.5	63.3	14.8	78.1
SUBTOTAL INSTITUTIONAL				29.8									7.9	21.7	11.9	33.6
SUBTOTAL PARKS + TRAILS				71.5									66.6	16.3	90.8	107.0
SUBTOTAL OPEN SPACE				966.6									277.3	0.0	374.4	374.4
SUBTOTAL PRIMARY ROADS, PARKWAYS, MULTI-USE PATHS				68.2									21.8	0.0	28.9	28.9
TOTAL DEVELOPMENT[5]				1,616.0									384.0	589.6	657.2	1,274.4

Notes:

1- Water demand based on buildable pad acreage. Difference between pad and lot acreage is assigned to Irrigated Landscape (Slopes) category.

2- Additional capacity included based on 3% of demand from other residential categories; the additonal capacity could count toward accessory dwelling units or bonus density units. An additional 420 people are assumed contributing to total population.

3- Outdoor irrigation duty factors obtained from Brightview Design Group, September 2023. The residentail outdoor irrigation duty factor is 1.66 AFY/AC.

4- Amenity community centers include a main community center (6 ac), a 55+ recreation facility (3 ac), and a fitness center (3 ac).

5- Specific Plan Area is 1,616 acres and excludes 31-acre New Love Park in the Orcutt Community Plan. Water demands for New Love Park are counted in the project water demand.

RESIDENTIAL UNIT OCCUPANCY ESTIMATE

Use occupancy data provided in the Heritage Ridge Final Environmental Impact Report, Volume II, Appendix J:
MAC Design Associates, 2015, Water Services for Willow Springs I, Willow Springs II, and Heritage Ridge, July.

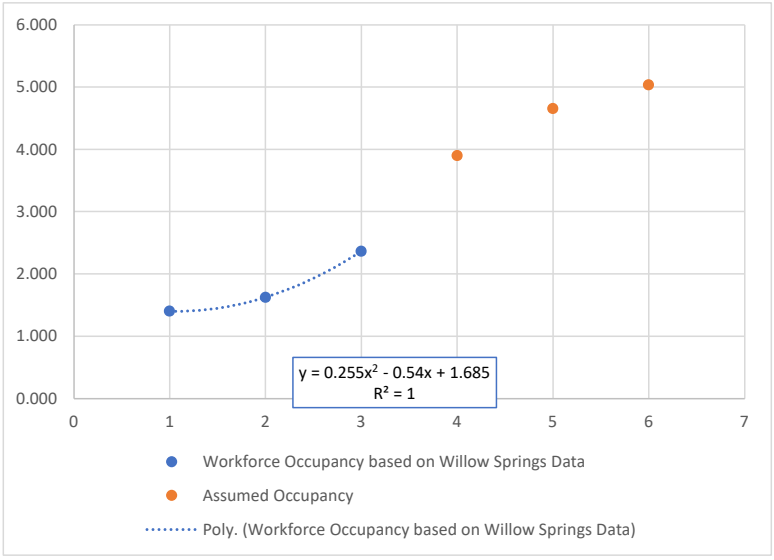
Heritage Ridge occupancy values are based on actual occupancy data from the Willow Springs I and Willow Springs II developments, located in the City of Goleta, Santa Barbara County.

Reported Occupant/Unit Ratio for Willow Spring I and Willow Springs II:

WORKFORCE HOUSING			SENIOR HOUSING			
# BED	# BATH	OCCUPANCY	# BED	# BATH	REDUCTION %	OCCUPANCY
1	1	1.400	1	1	21%	1.106
2	1	1.530	2	1	27%	1.117
2	2	1.720	2	2	35%	1.118
3	2	2.360				

Use the data above to generate a relationship between # of bedrooms versus total building occupancy rate:
Since two occupancy rates are provided for 2 bedroom units (1 bath vs. 2 bath) the **AVERAGE** occupancy rate is used

# BED	WORKFORCE OCCUPANCY	SENIOR OCCUPANCY
1	1.400	1.106
2	1.625	1.117
3	2.360	1.534



Using the trendline (right) calculate occupancy :

a = 0.255
b = -0.540
c = 1.685

# BED	WORKFORCE OCCUPANCY	
1	1.400	
2	1.625	
3	2.360	
4	3.605	
5	*5.360*	unlikely
6	*7.625*	unlikely

Given the large occupancy rates for estate-sized residential units (5+ rooms), differnet occupancy scenarios will be assumed and an estimated occupancy rate will be generated for 4, 5, and 6 bedroom units:

# BED	# OCCUPANTS	ASSUMED % OF UNITS WITH THIS OCCUPANCY	AVG. OCCUPANCY RATE
4	2	10%	3.900
	3	25%	
	4	35%	
	5	25%	
	6	5%	
5	2	3%	4.650
	3	5%	
	4	35%	
	5	40%	
	6	15%	
	7	2%	
6	2	2%	5.030
	3	8%	
	4	20%	
	5	35%	
	6	25%	
	7	10%	

Attachment 3 - Residential Occupancy Estimate

Compiling the actual occupancy rates from Heritage Ridge (1 -3 bedrroms) and the estimated occupancy rates for residential units with 4+ bedrooms:

Final Proposed Occupancy Rates:

# BED	WORKFORCE OCCUPANCY	SENIOR OCCUPANCY
1	1.400	1.106
2	1.625	1.117
3	2.360	1.534
4	3.900	
5	4.650	
6	5.030	

Population and Overall Project Household Occupancy Estimate

Residential Category	No. Units	No. Bedrooms	Occupancy	Est. Population
MF Townhomes	353	3.0	2.36	833.1
SFD Entry	308	3.0	2.36	726.9
SFD Entry (Flex to MF)	237	3.0	2.36	559.3
SFD Entry	306	3.0	2.36	722.2
Section Sub-Total	*1,204*			*2841.4*
SFD	398	4.0	3.90	1552.2
SFD Move-up	264	4.0	3.90	1029.6
SFD Move-up	279	4.0	3.90	1088.1
SFD Move-up	271	4.0	3.90	1056.9
Section Sub-Total	*1,212*			*4726.8*
SFD Moveup Exec Homes	249	4.0	3.90	971.1
SFD Partrial estate move-u	144	5.0	4.65	669.6
Estates	66	6.0	5.03	332.0
Section Sub-Total	*459*			*1972.7*
Active Adult MF (duplex)	375	2.0	1.12	419.0
Active Adult	250	2.0	1.12	279.4
Active Adult	100	3.0	1.53	153.4
Section Sub-Total	*725*			*851.8*
RHNA Low	100	1.0	1.40	140.0
RHNA Med	100	2.0	1.63	162.5
RHNA High	200	3.0	2.36	472.0
Section Sub-Total	400			*774.5*
Sub-Total Residential	*4,000*		2.79	*11,167*

* Orcutt Census Data 2017-2021 reports household occupancy of 2.81, so assumptions are considered reasonable.

PRELIMINARY STORM WATER CONTROL PLAN

for

Newlove Park

SOLOMON HILLS, SANTA BARBARA COUNTY, CA

June 30, 2025

PREPARED FOR:

Solstra Communities California
1555 Orcutt Hills Road
Orcutt, CA93455

PREPARED BY:

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2) WMZ Map

This Stormwater Control Plan was prepared using the template dated January 2017.

I. Project Data

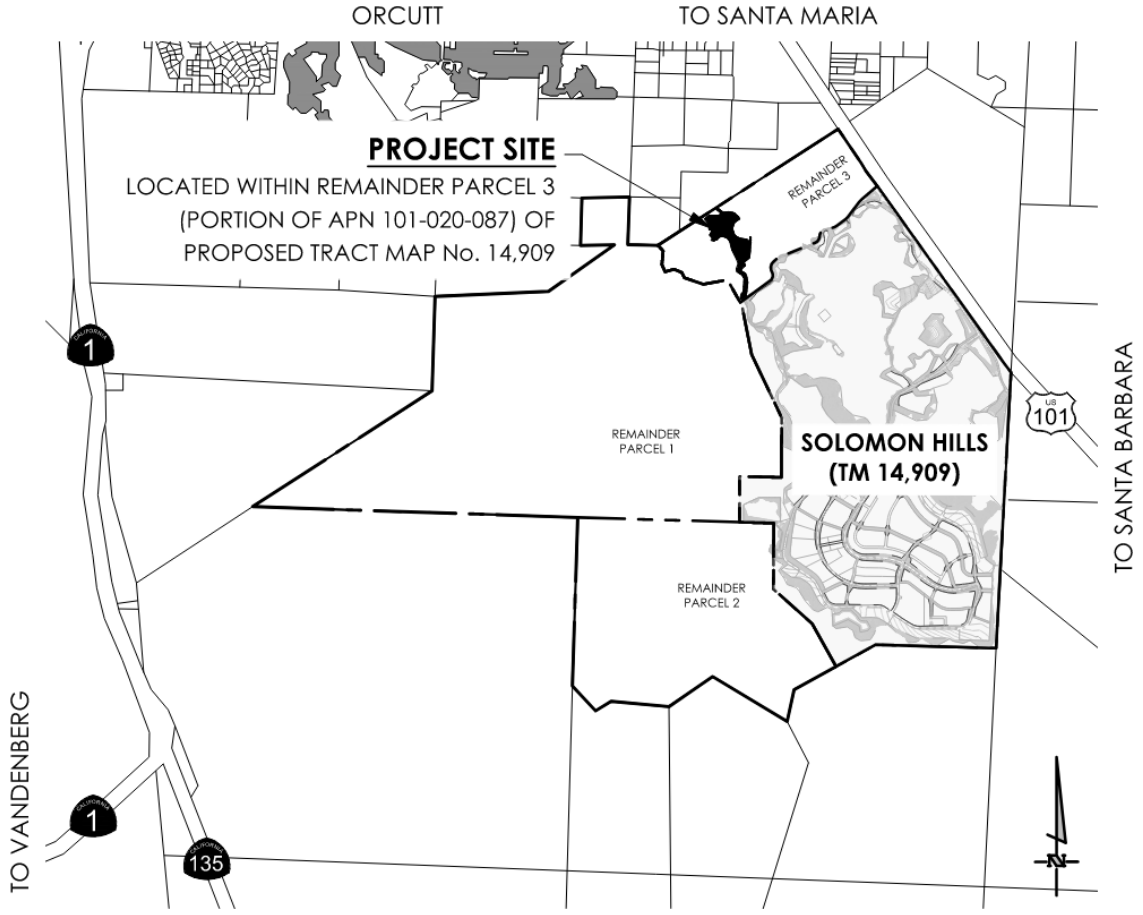
Table 1. Project Data

Project Name/Project Case Number	Newlove Park, 25CUP-00005
Project Location	Within remainder of parcel 3 (portion of APN 101-020-087) of proposed Tract Map No. 14,909
Project Phase No.	Entitlement Phase
Project Type and Description	Newlove Park will be improved to create more active spaces for sports and recreation and will be accessible to the general public. The improved Newlove Park will build upon the existing recreational infrastructure and include the following: public trails that will connect the Solomon Hills Trail system to the Orcutt Community Trail System, trailhead, two youth soccer fields, four pickleball courts, one little league baseball field, playground, recreational lawn area, activity nodes, overlooks, parking lot, and bathroom building.
New Impervious Surface Area (sf)	150,432
Replaced Impervious Surface Area (sf)	0.0
Pre-Project Impervious Surface Area (sf)	0.0
Post-Project Impervious Surface Area (sf)	150,432
"Net Impervious" Area, if applicable	150,432
Watershed Management Zone(s)	WMZ 1
Tier	Tier 1-4
85th percentile Design Storm Frequency Design Storm Depth (in)	1.0 in
95th percentile Design Storm Frequency Design Storm Depth (in)	1.6 in
Urban Sustainability Area, if applicable	Na

II. Setting

II.A. Project Location and Description

This project is located in the County of Santa Barbara between Orcutt and Los Alamos on the west side of highway 101, specifically within the remainder of parcel 3 (portion of APN 101-020-087) of proposed Tract Map No. 14,909. Newlove Park is outside of the Solomon hills specific plan boundary, but within the overall Solomon Hills project area. It will be improved to create more publicly accessible active spaces for sports and recreation. Improvements to the park will include the following: public trails that will connect the Solomon Hills Trail system to the Orcutt Community Trail System, trailhead, two youth soccer fields, four pickleball courts, one little league baseball field, playground, recreational lawn area, activity nodes, overlooks, parking lot, and bathroom building.



II.B. Existing Site Features and Conditions

The existing site is adjacent to the current park area and is comprised of mostly undeveloped open space with existing abandoned oil wells, oak trees, and brush cover. Within the site area the terrain consists of moderate to steep slopes and generally drains northeast to a common collection point. According to the NRCS Soil Survey, only Hydrologic Soil Group (HSG) type C soils are present onsite. See Appendix 1 for the NRCS Soil Survey Map.

II.C. Opportunities and Constraints for Stormwater Control

Site elevations vary drastically which are both an opportunity and a constraint. The change in elevation assists in the conveyance of water and provides clear locations of historic watershed patterns. The varying terrain does require more grading to provide flat buildable locations.

II.D. Summary of Design Approach for Meeting the Post-Construction Requirements

The proposed project is categorized into Drainage Management Areas (DMAs) and Drainage Areas (DAs). The DAs are undisturbed areas that drain towards the project. These areas are captured via a diverter trench that conveys the stormwater to the discharge location to match predevelopment conditions. To avoid mixing onsite and offsite stormwater runoff, this water is kept separate from onsite stormwater. The onsite disturbed areas are broken into DMAs and will satisfy Post Construction Requirements (PCRs) 1-4. Runoff is treated, retained, and detained (2-10 year storm events) within each DMA. The stormwater from larger events is then routed from multiple DMAs to a common detention basin to address flood control.

III. Low Impact Development Design Strategies

III.A. Site Design and Runoff Reduction (Performance Requirement No.1)

III.A.1. Limit disturbance to creeks and natural drainage features: When possible, grading avoided natural drainage features. To minimize the impacts to drainage features, headwalls and culverts are proposed at all crossings.

III.A.2. Minimize compaction of highly permeable soils: Large areas of open space are provided to minimize compaction of highly permeable soils.

III.A.3. Limit of clearing and grading of native vegetation to minimum area needed: Clearing of vegetation will only take place in areas that will be developed. Areas that historically convey stormwater water will be preserved.

III.A.4. Apply setbacks from creeks, wetlands, and riparian habitats: No creeks, wetlands, or riparian habitats are present on site.

III.A.5. Minimize stormwater runoff: Stormwater will be captured within each DMA where it will be treated, retained, onsite within LID features, chambers, or pavers before being metered out at the predevelopment 2-yr, 5-yr, and 10-yr flow rate to meet state post construction requirements 1-4. The stormwater will then be directed to a shared detention basin to meter out at the predevelopment 25-yr, 50-yr, and 100-yr flow rate to meet the requirements of Santa Barabara Flood Control.

III.A.6. Consideration of drainage as a design element within the project: Due to the variability of the site terrain, the change in elevation dictates a large portion of site design.

III.A.7. Tier 3 projects must include:

The total project area is 1,903 acres and with the intent of developing 1,616 acres. The remaining 287 acres is to remain as untouched open space. The open space will contain native oaks, coastal sage, and grasslands. The terrain will vary from gentle slopes to canyons. The grading is minimized to buildable areas and roads.

III.B. Site Constraints

III.B.1. Limitation of development envelope due to site constraints: The topography is the most limiting factor of the site as slopes become very steep around the perimeter. Abandoned wells and potential habitat locations are also present around the site and must be avoided.

III.C. Dispersal of Runoff to Pervious Areas

III.C.1. Reduce the amount of runoff for which Structural Control Measures are required.

Most of the site is comprised of pervious areas with interconnected hardscape paths. Self-treating and self-retaining areas are maximized onsite by allowing these impervious areas to drain to the landscaped areas to the maximum extent feasible.

IV. Documentation of Drainage Design

IV.A. Descriptions of each Drainage Management Area (DMA)

All the land cover within the project site was classified based on the DMA surface types listed in the technical guidance document (i.e. concrete/asphalt, landscape, crushed aggregate). The DMAs were delineated and categorized based on the three different treatment strategies of self-treating, self-retaining, and drains to a Stormwater Control Measure (SCM). The different surface area types were then summed in each of the DMAs and input into the SCM Sizing Calculator to determine the required treatment areas and retention volumes to satisfy the PCRs.

DMA's 1, 3, 4, 7, 11, 15 and 16 are self-treating areas that are hydraulically separated from impervious areas with the exception of incidental impervious area (<5% of total area).

DMA's 8 and 14 are classified as self-retaining areas where surrounding hardscape flows overland to a depressed landscaped region. These depressed areas have an overflow drain set 3 inches above the bottom of the depressed area.

DMA's 2, 5, 6, 9, 10, 12, 13, and 17 contain a mixture of concrete, asphalt, roof drainage, crushed aggregate, and porous pavers that drain to a bioretention basin within the DMA. These bioretention basins are sized to satisfy PCRs 2 & 3.

Table 2. Drainage Management Areas

DMA ID	Tributary Area (sf)	Impervious Area (sf)	DMA Type
1	34,560	0	Self-treating
2	60,915	49,009	SCM
3	50,045	0	Self-treating
4	36,041	0	Self-treating
5	19,474	7,618	SCM
6	21,680	8,227	SCM
7	19,314	0	Self-treating
8	8,433	2,488	Self-retaining
9	13,693	6,736	SCM

DMA ID	Tributary Area (sf)	Impervious Area (sf)	DMA Type
10	72,578	29,835	SCM
11	46,351	0	Self-treating
12	11,495	5,917	SCM
13	74,539	28,005	SCM
14	100,737	8,321	Self-retaining
15	83,375	0	Self-treating
16	117,868	3,005	Self-treating
17	19,010	4,276	SCM

IV.B. Description of each Stormwater Structural Control Measure

- SCM 1-8: Stormwater Bioretention Basin with underdrain, flow control orifice, 6 inches of above ground ponding before flowing into overflow catch basin. Overflow travels to downstream detention basin for PCR 4 and flood control.

IV.C Tabulation and Sizing Calcuation for Structural Control Measures

Onsite treatment of the 85th percentile storm event, retention of the 95th percentile storm event, and detention of the 2-yr, 5-yr, and 10-yr storm event will be achieved onsite by a stormwater facility. The different surface area types were then summed in each of the DMAs and input into the SCM Sizing Calculator to determine the required treatment areas and retention volumes to satisfy the PCRs. This information was also then input into the program Hydro CAD to determine the approximate size of the downstream detention facilities within the site to satisfy PCR 4 and detain the 25-100-yr storm events. The results can be seen in Attachment 2 & 3.

V. Source Control Measures

V.A. Site activities and potential sources of pollutants

Due to the parking having perimeter paths and parking lot areas, the site is susceptible to a variety of pollutant sources. Some examples of pollutant sources include pet waste, oils and hydrocarbons for cars, plant fertilizers from landscaping, organic matter such as leaves and branches, and any trash or garbage.

V.B. Source Control BMPs Table

Table 3. Source Control BMPs Table

Potential source of runoff pollutants	**Permanent source control BMPs**	**Operational source control BMPs**
Pet Waste	Stormwater Facilities	Maintenance crews and gardeners
Oils and Hydrocarbons	Stormwater Facilities	Cleanup crews with absorbent materials
Plant Fertilizers	Stormwater Facilities	Minimize fertilizer application

Leaf Litter & Garbage	Stormwater Facilities	Landscape Maintenance and cleanup crews.

VI. Stormwater Facility Maintenance

The onsite treatment and retention requirements will be met via stormwater facilities within each DMA. All onsite stormwater facilities will meet the Post Construction Requirements. An Operation and Maintenance (O & M) manual will be provided with the construction documents.

VII. Stormwater Control Plan/Construction Documents Cross-Checklist

Table 4. Stormwater Control Plan/Construction Documents Cross-Checklist

Stormwater Control Plan Page #	Source Control or LID Facility	See Plan Sheet #
Attachment 1	SCM 1 – Bioretention Basin	C5, C10
Attachment 1	SCM 2 – Bioretention Basin	C5, C10
Attachment 1	SCM 3 – Bioretention Basin	C5, C10
Attachment 1	SCM 4 – Bioretention Basin	C5, C10
Attachment 1	SCM 5 – Bioretention Basin	C5, C10
Attachment 1	SCM 6 – Bioretention Basin	C6, C10
Attachment 1	SCM 7 – Bioretention Basin	C6, C10
Attachment 1	SCM 8 – Bioretention Basin	C6, C10
Attachment 1	D1– Flood Control Basin	C5, C10
Attachment 1	D2– Flood Control Basin	C5, C10
Attachment 1	D3– Flood Control Basin	C6, C10

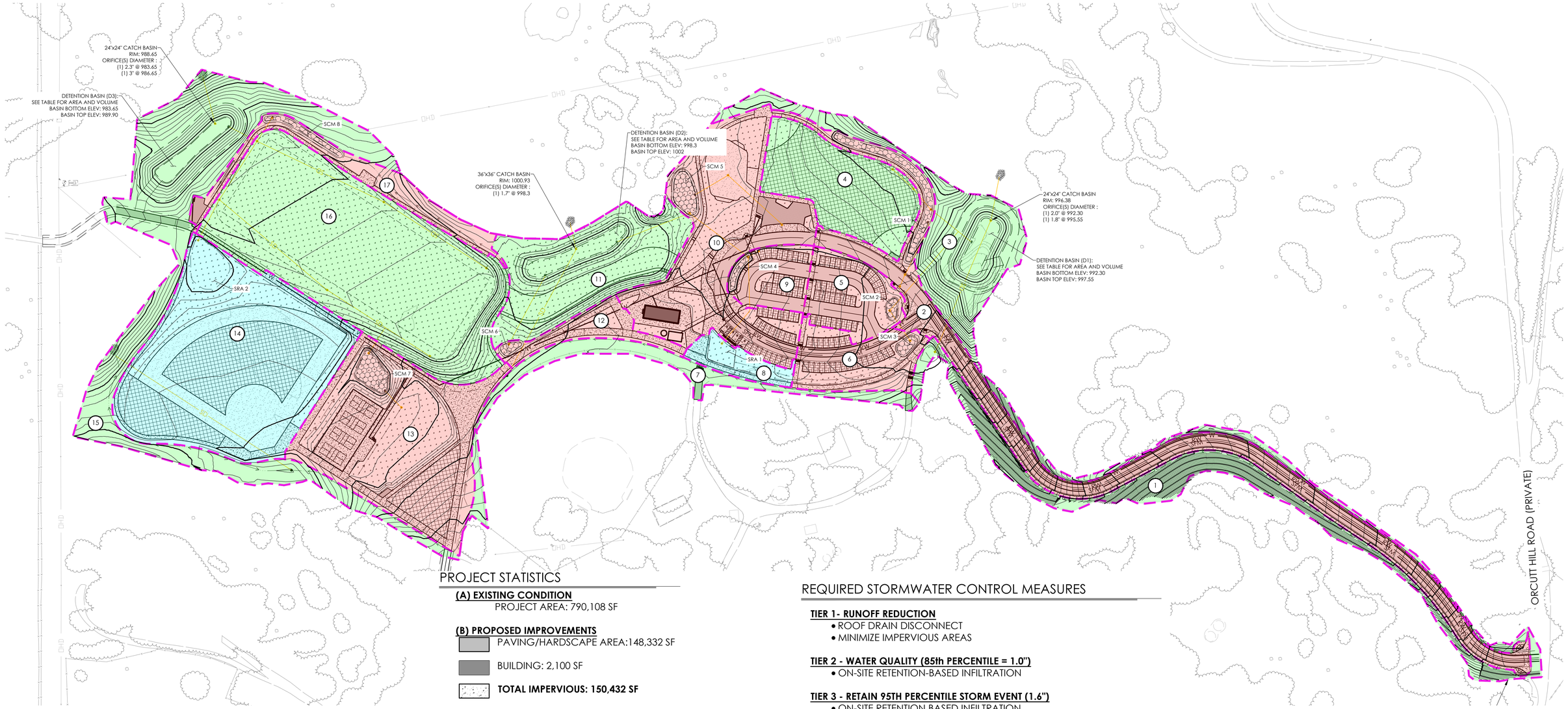
VIII. Certifications

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the Santa Barbara County Project Clean Water's Stormwater Technical Guide.

Attachments

Attachment I

Stormwater Control Plan Exhibit



PROJECT STATISTICS

(A) EXISTING CONDITION

PROJECT AREA: 790,108 SF

(B) PROPOSED IMPROVEMENTS

PAVING/HARDSCAPE AREA:148,332 SF

BUILDING: 2,100 SF

TOTAL IMPERVIOUS: 150,432 SF

(C) PROPOSED PERVIOUS

LANDSCAPE: 597,238 SF

PAVERS: 18,115 SF

BIORETENTION BASINS: 11,057 SF

SAND/DG: 13,266 SF

TOTAL PERVIOUS: 639,676 SF

LEGEND

- SD — PROPOSED HDPE STORM DRAIN
- DMA BOUNDARY
- SELF-TREATING AREA
- SELF-RETAINING AREA
- AREA DRAINING TO SCM
- (X) DMA ID

Bioretention Basin ID	Required Treatment Area (sf)	Provided Treatment Area (sf)	Provided Storage Volume (cuft)	Ponding Depth (in)	Depth Below Underdrain (ft)	Orifice Diameter (in)
SCM 1	2008	3215	3910	6	3.04	0.53
SCM 2	327	527	620	6	2.94	0.21
SCM 3	367	647	634	6	2.45	0.22
SCM 4	282	548	458	6	2.09	0.20
SCM 5	1299	2154	2389	6	2.77	0.42
SCM 6	259	540	381	6	1.76	0.19
SCM 7	1306	2379	2145	6	2.25	0.42
SCM 8	226	1047	419	6	1.00	0.17

REQUIRED STORMWATER CONTROL MEASURES

TIER 1- RUNOFF REDUCTION
- ROOF DRAIN DISCONNECT
- MINIMIZE IMPERVIOUS AREAS

TIER 2 - WATER QUALITY (85th PERCENTILE = 1.0")
- ON-SITE RETENTION-BASED INFILTRATION

TIER 3 - RETAIN 95TH PERCENTILE STORM EVENT (1.6")
- ON-SITE RETENTION BASED INFILTRATION.

TIER 4 - PEAK MANAGEMENT
- PEAK MANAGEMENT IS REQUIRED. SITE DISCHARGE WILL NOT EXCEED PRE-PROJECT PEAK FLOWS FOR THE 2-YEAR THROUGH 10-YEAR STORM EVENTS. PEAK MANAGEMENT WILL BE CONTROLLED IN DETENTION BASINS D1 - D3.

SB COUNTY FLOOD CONTROL MEASURES

DETENTION VOLUME SBUH METHOD
- PEAK MANAGEMENT IS REQUIRED. SITE DISCHARGE WILL NOT EXCEED PRE-PROJECT PEAK FLOWS FOR THE 2-YEAR THROUGH 100-YEAR STORM EVENTS.

Detention Basin ID	Tributary DMA	Bottom Area (sf)	100-yr Max Storage Depth (ft)	Total Depth (ft)	Storage Volume (ac-ft)	Total Volume * (ac-ft)
D1	2,3,4,5,6	3414	4.16	5.25	0.502	0.709
D2	8,9,10,11,12	4265	2.66	3.67	0.405	0.604
D3	13,14,15,16,17	3495	5.05	6.25	0.852	1.209

0 80 160 240 feet

1"=80'

STORMWATER NOTES

REFER TO PROJECT DRAINAGE REPORT AND STORM WATER CONTROL PLAN FOR MORE INFORMATION

N:\2200\2298.03-CU23-Solomon-Hills-Specific-Plan\Engineering TM\Sheet-Files\CUP_New Love Park\C10_Stormwater Control.dwg, C10, Jun 24, 2025 4:25pm, cmasik

JUNE 30, 2025

NEWLOVE PARK C.U.P.

PRELIMINARY STORMWATER CONTROL PLAN

C10

Attachment 2

Stormwater Control Measures Sizing Calculator

Central Coast Region Stormwater Control Measure Sizing Calculator

Version: 8/4/2017

1. Project Information

Project name:	New Love Park
Project location:	Solomon Hills, Santa Maria
Tier 2/Tier 3:	Tier 2 - Treatment
Design rainfall depth (in):	1.0
Total project area (ft2):	790108
Total DMA area (ft2):	790108
Total new impervious area (ft2):	150432
Total replaced impervious within a USA (ft2):	0
Total replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	639676
Total SCM area (ft2):	11057

2. DMA Characterization

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
DMA 1	Self-Treating	34560			
DMA 2.1	Drains to SCM	49009	Concrete or asphalt	New	SCM 1
DMA 2.2	Drains to SCM	11906	Landscape	New	SCM 1
DMA 3	Self-Treating	50045			
DMA 4	Self-Treating	36041			
DMA 5.1	Drains to SCM	7618	Concrete or asphalt	New	SCM 2
DMA 5.2	Drains to SCM	6228	Open/porous pavers	New	SCM 2
DMA 5.3	Drains to SCM	5628	Landscape	New	SCM 2
DMA 6.1	Drains to SCM	8227	Concrete or asphalt	New	SCM 3
DMA 6.2	Drains to SCM	3994	Open/porous pavers	New	SCM 3
DMA 6.3	Drains to SCM	9459	Landscape	New	SCM 3
DMA 7	Self-Treating	19314			
DMA 8.1	Self-Retaining	5945			
DMA 8.2	Drains to Self-Retaining	2488	Concrete or asphalt		DMA 8.1
DMA 9.1	Drains to SCM	6736	Concrete or asphalt	New	SCM 4
DMA 9.2	Drains to SCM	3817	Open/porous pavers	New	SCM 4
DMA 9.3	Drains to SCM	3140	Landscape	New	SCM 4
DMA 10.1	Drains to SCM	29835	Concrete or asphalt	New	SCM 5
DMA 10.2	Drains to SCM	4076	Open/porous pavers	New	SCM 5
DMA 10.3	Drains to SCM	12319	Crushed aggregate	New	SCM 5
DMA 10.4	Drains to SCM	26348	Landscape	New	SCM 5
DMA 11	Self-Treating	46351			
DMA 12.1	Drains to SCM	5917	Concrete or asphalt	New	SCM 6
DMA 12.2	Drains to SCM	5578	Landscape	New	SCM 6
DMA 13.1	Drains to SCM	28005	Concrete or asphalt	New	SCM 7
DMA 13.2	Drains to SCM	46534	Landscape	New	SCM 7
DMA 14.1	Self-Retaining	92416			
DMA 14.2	Drains to Self-Retaining	8321	Concrete or asphalt		DMA 14.1
DMA 15	Self-Treating	83375			
DMA 16	Self-Treating	117868			
DMA 17.1	Drains to SCM	4276	Concrete or asphalt	New	SCM 8
DMA 17.2	Drains to SCM	947	Crushed aggregate	New	SCM 8
DMA 17.3	Drains to SCM	13787	Landscape	New	SCM 8

DMA Summary Area	
Total assigned DMA area (ft2):	790108
New impervious area (ft2):	150432
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	639676

3. SCM Characterization

Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Flow Control Orifice?	Reservoir Depth (in)
SCM 1	Bioretention	1	HSG C/D	0.25	3215	Yes	6
SCM 2	Bioretention	1	HSG C/D	0.25	527	Yes	6
SCM 3	Bioretention	1	HSG C/D	0.25	647	Yes	6
SCM 4	Bioretention	1	HSG C/D	0.25	548	Yes	6
SCM 5	Bioretention	1	HSG C/D	0.25	2154	Yes	6
SCM 6	Bioretention	1	HSG C/D	0.25	540	Yes	6
SCM 7	Bioretention	1	HSG C/D	0.25	2379	Yes	6
SCM 8	Bioretention	1	HSG C/D	0.25	1047	Yes	6

4. Run SBUH Model

5. SCM Minimum Sizing Requirements

SCM Name	Mininum SCM Area (ft2)			
SCM 1	2008			
SCM 2	327			
SCM 3	367			
SCM 4	282			
SCM 5	1299			
SCM 6	259			
SCM 7	1306			
SCM 8	226			

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio
DMA 8.1	5945	DMA 8.2	2488	0.42
DMA 14.1	92416	DMA 14.2	8321	0.09

Central Coast Region Stormwater Control Measure Sizing Calculator

Version: 8/4/2017

1. Project Information

Project name:	New Love Park
Project location:	Solomon Hills, Santa Maria
Tier 2/Tier 3:	Tier 3 - Retention
Design rainfall depth (in):	1.6
Total project area (ft2):	790108
Total DMA area (ft2):	790108
Total new impervious area (ft2):	150432
Total replaced impervious within a USA (ft2):	0
Total replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	639676
Total SCM area (ft2):	11057

2. DMA Characterization

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
DMA 1	Self-Treating	34560			
DMA 2.1	Drains to SCM	49009	Concrete or asphalt	New	SCM 1
DMA 2.2	Drains to SCM	11906	Landscape	New	SCM 1
DMA 3	Self-Treating	50045			
DMA 4	Self-Treating	36041			
DMA 5.1	Drains to SCM	7618	Concrete or asphalt	New	SCM 2
DMA 5.2	Drains to SCM	6228	Open/porous pavers	New	SCM 2
DMA 5.3	Drains to SCM	5628	Landscape	New	SCM 2
DMA 6.1	Drains to SCM	8227	Concrete or asphalt	New	SCM 3
DMA 6.2	Drains to SCM	3994	Open/porous pavers	New	SCM 3
DMA 6.3	Drains to SCM	9459	Landscape	New	SCM 3
DMA 7	Self-Treating	19314			
DMA 8.1	Self-Retaining	5945			
DMA 8.2	Drains to Self-Retaining	2488	Concrete or asphalt		DMA 8.1
DMA 9.1	Drains to SCM	6736	Concrete or asphalt	New	SCM 4
DMA 9.2	Drains to SCM	3817	Open/porous pavers	New	SCM 4
DMA 9.3	Drains to SCM	3140	Landscape	New	SCM 4
DMA 10.1	Drains to SCM	29835	Concrete or asphalt	New	SCM 5
DMA 10.2	Drains to SCM	4076	Open/porous pavers	New	SCM 5
DMA 10.3	Drains to SCM	12319	Crushed aggregate	New	SCM 5
DMA 10.4	Drains to SCM	26348	Landscape	New	SCM 5
DMA 11	Self-Treating	46351			
DMA 12.1	Drains to SCM	5917	Concrete or asphalt	New	SCM 6
DMA 12.2	Drains to SCM	5578	Landscape	New	SCM 6
DMA 13.1	Drains to SCM	28005	Concrete or asphalt	New	SCM 7
DMA 13.2	Drains to SCM	46534	Landscape	New	SCM 7
DMA 14.1	Self-Retaining	92416			
DMA 14.2	Drains to Self-Retaining	8321	Concrete or asphalt		DMA 14.1
DMA 15	Self-Treating	83375			
DMA 16	Self-Treating	117868			
DMA 17.1	Drains to SCM	4276	Concrete or asphalt	New	SCM 8
DMA 17.2	Drains to SCM	947	Crushed aggregate	New	SCM 8
DMA 17.3	Drains to SCM	13787	Landscape	New	SCM 8

DMA Summary Area	
Total assigned DMA area (ft2):	790108
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Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	639676

3. SCM Characterization

Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Flow Control Orifice?	Reservoir Depth (in)
SCM 1	Bioretention	1	HSG C/D	0.25	3215	Yes	6
SCM 2	Bioretention	1	HSG C/D	0.25	**527**	Yes	6
SCM 3	Bioretention	1	HSG C/D	0.25	**647**	Yes	6
SCM 4	Bioretention	1	HSG C/D	0.25	548	Yes	6
SCM 5	Bioretention	1	HSG C/D	0.25	**2154**	Yes	6
SCM 6	Bioretention	1	HSG C/D	0.25	540	Yes	6
SCM 7	Bioretention	1	HSG C/D	0.25	**2379**	Yes	6
SCM 8	Bioretention	1	HSG C/D	0.25	1047	Yes	6

4. Run SBUH Model

5. SCM Minimum Sizing Requirements

SCM Name	Min. Required Storage Vol. (ft3)	Depth Below Underdrain (ft)	Drain Time (hours)	Orifice Diameter (in)
SCM 1	3910	3.04	48.6	0.53
SCM 2	620	2.94	47.1	0.21
SCM 3	634	2.45	39.2	0.22
SCM 4	458	2.09	33.4	0.20
SCM 5	2389	2.77	44.4	0.42
SCM 6	381	1.76	28.2	0.19
SCM 7	2145	2.25	36.1	0.42
SCM 8	419	1.00	13.5	0.17

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio
DMA 8.1	5945	DMA 8.2	2488	0.42
DMA 14.1	92416	DMA 14.2	8321	0.09

Attachment 3

Hydro CAD Results



Collection Point 20

Subcat Reach Pond Link

Routing Diagram for NewLove Pre Development DMAs
Prepared by RRM Design Group, Printed 6/24/2025
HydroCAD® 10.20-7a s/n 13395 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 year	Type I 24-hr		Default	24.00	1	2.38	2
2	10 year	Type I 24-hr		Default	24.00	1	3.40	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
17.697	48	Brush, Poor, HSG A (20 PRE)
94.384	77	Brush, Poor, HSG C (20 PRE)
35.394	83	Brush, Poor,HSG D (20 PRE)
147.475	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.697	HSG A	20 PRE
0.000	HSG B	
94.384	HSG C	20 PRE
35.394	HSG D	20 PRE
0.000	Other	
147.475		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
17.697	0.000	94.384	35.394	0.000	147.475	Brush, Poor	20 PRE
17.697	**0.000**	**94.384**	**35.394**	**0.000**	**147.475**	**TOTAL AREA**	

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20 PRE: Collection Point Runoff Area=6,424,000 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=14.86 cfs 7.149 af

Total Runoff Area = 147.475 ac Runoff Volume = 7.149 af Average Runoff Depth = 0.58"
100.00% Pervious = 147.475 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 20 PRE: Collection Point 20

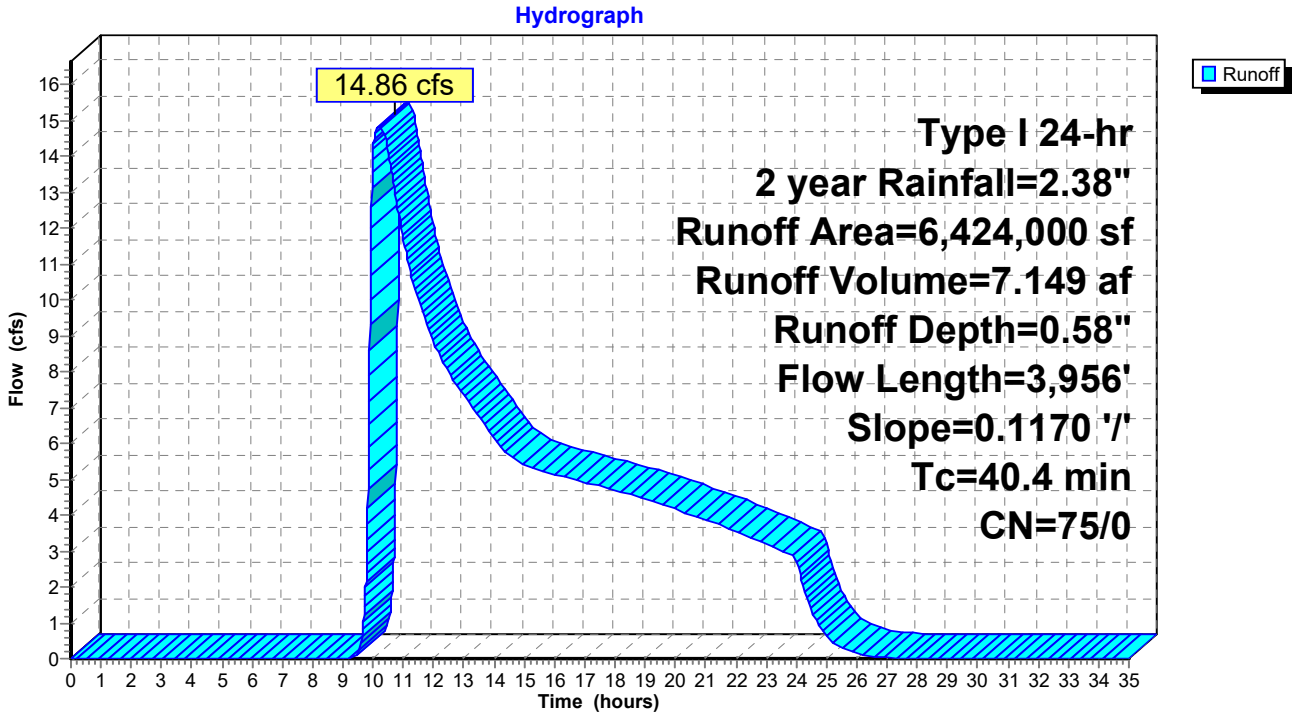
Runoff = 14.86 cfs @ 10.23 hrs, Volume= 7.149 af, Depth= 0.58"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	770,880	48	Brush, Poor, HSG A
*	4,111,360	77	Brush, Poor, HSG C
*	1,541,760	83	Brush, Poor,HSG D
	6,424,000	75	Weighted Average
	6,424,000	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20 PRE: Collection Point 20



Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20 PRE: Collection Point Runoff Area=6,424,000 sf 0.00% Impervious Runoff Depth=1.23"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=42.49 cfs 15.135 af

Total Runoff Area = 147.475 ac Runoff Volume = 15.135 af Average Runoff Depth = 1.23"
100.00% Pervious = 147.475 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 20 PRE: Collection Point 20

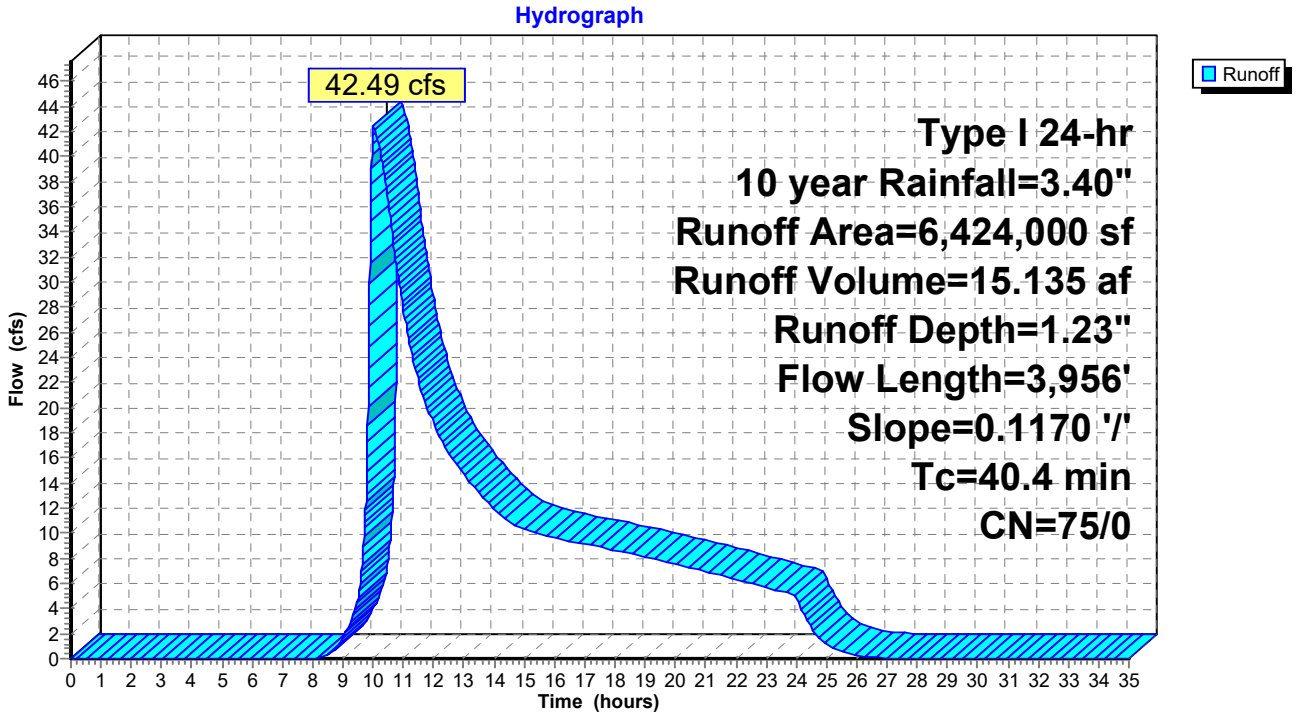
Runoff = 42.49 cfs @ 10.01 hrs, Volume= 15.135 af, Depth= 1.23"

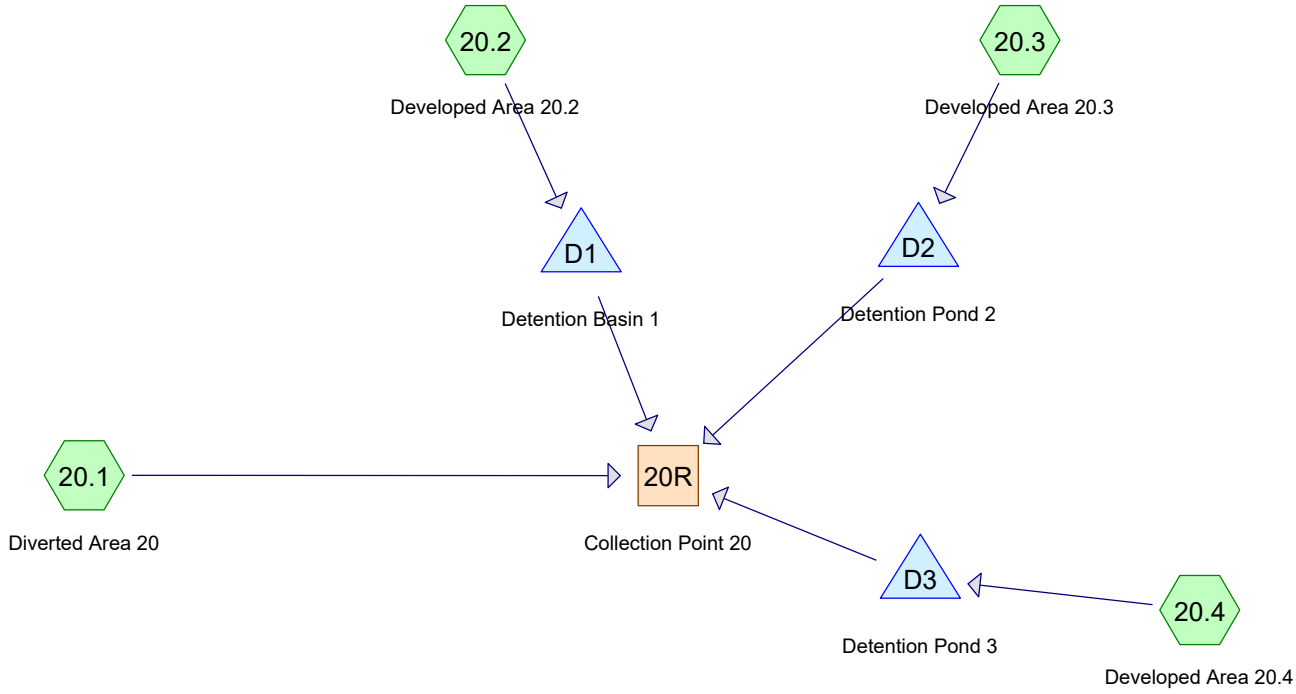
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	770,880	48	Brush, Poor, HSG A
*	4,111,360	77	Brush, Poor, HSG C
*	1,541,760	83	Brush, Poor,HSG D
	6,424,000	75	Weighted Average
	6,424,000	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20 PRE: Collection Point 20





Subcat Reach Pond Link

Routing Diagram for NewLove Post Development DMAs
Prepared by RRM Design Group, Printed 6/24/2025
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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 year	Type I 24-hr		Default	24.00	1	2.38	2
2	10 year	Type I 24-hr		Default	24.00	1	3.40	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
18.554	48	Brush, Poor, HSG A (20.1)
76.727	77	Brush, Poor, HSG C (20.1)
35.842	83	Brush, Poor, HSG D (20.1)
3.453	98	Hardscape (20.2, 20.3, 20.4)
0.031	39	Open Space, Good, HSG A (20.1)
11.805	74	Open Space, Good, HSG C (20.1, 20.2, 20.3, 20.4)
1.414	87	Pavers/DG, Good, HSG C (20.1, 20.2, 20.3, 20.4)
147.826	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
18.585	HSG A	20.1
0.000	HSG B	
89.946	HSG C	20.1, 20.2, 20.3, 20.4
35.842	HSG D	20.1
3.453	Other	20.2, 20.3, 20.4
147.826		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
18.554	0.000	76.727	35.842	0.000	131.123	Brush, Poor	20.1
0.000	0.000	0.000	0.000	3.453	3.453	Hardscape	20.2, 20.3, 20.4
0.031	0.000	11.805	0.000	0.000	11.835	Open Space, Good	20.1, 20.2, 20.3, 20.4
0.000	0.000	1.414	0.000	0.000	1.414	Pavers/DG, Good	20.1, 20.2, 20.3, 20.4
18.585	**0.000**	**89.946**	**35.842**	**3.453**	**147.826**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	D1	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
2	D2	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
3	D3	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20.1: Diverted Area 20 Runoff Area=5,782,549 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=13.38 cfs 6.435 af

Subcatchment20.2: Developed Area 20.2 Runoff Area=171,993 sf 37.71% Impervious Runoff Depth=1.17"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=1.90 cfs 0.386 af

Subcatchment20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=1.11"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=1.21 cfs 0.318 af

Subcatchment20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=0.77"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=2.16 cfs 0.496 af

Reach 20R: Collection Point 20 Inflow=13.71 cfs 7.405 af
Outflow=13.71 cfs 7.405 af

Pond D1: Detention Basin 1 Peak Elev=102.12' Storage=0.209 af Inflow=1.90 cfs 0.386 af
Outflow=0.15 cfs 0.297 af

Pond D2: Detention Pond 2 Peak Elev=101.16' Storage=0.144 af Inflow=1.21 cfs 0.318 af
Outflow=0.16 cfs 0.288 af

Pond D3: Detention Pond 3 Peak Elev=102.19' Storage=11,552 cf Inflow=2.16 cfs 0.496 af
Outflow=0.20 cfs 0.386 af

Total Runoff Area = 147.826 ac Runoff Volume = 7.634 af Average Runoff Depth = 0.62"
97.66% Pervious = 144.373 ac 2.34% Impervious = 3.453 ac

Summary for Subcatchment 20.1: Diverted Area 20

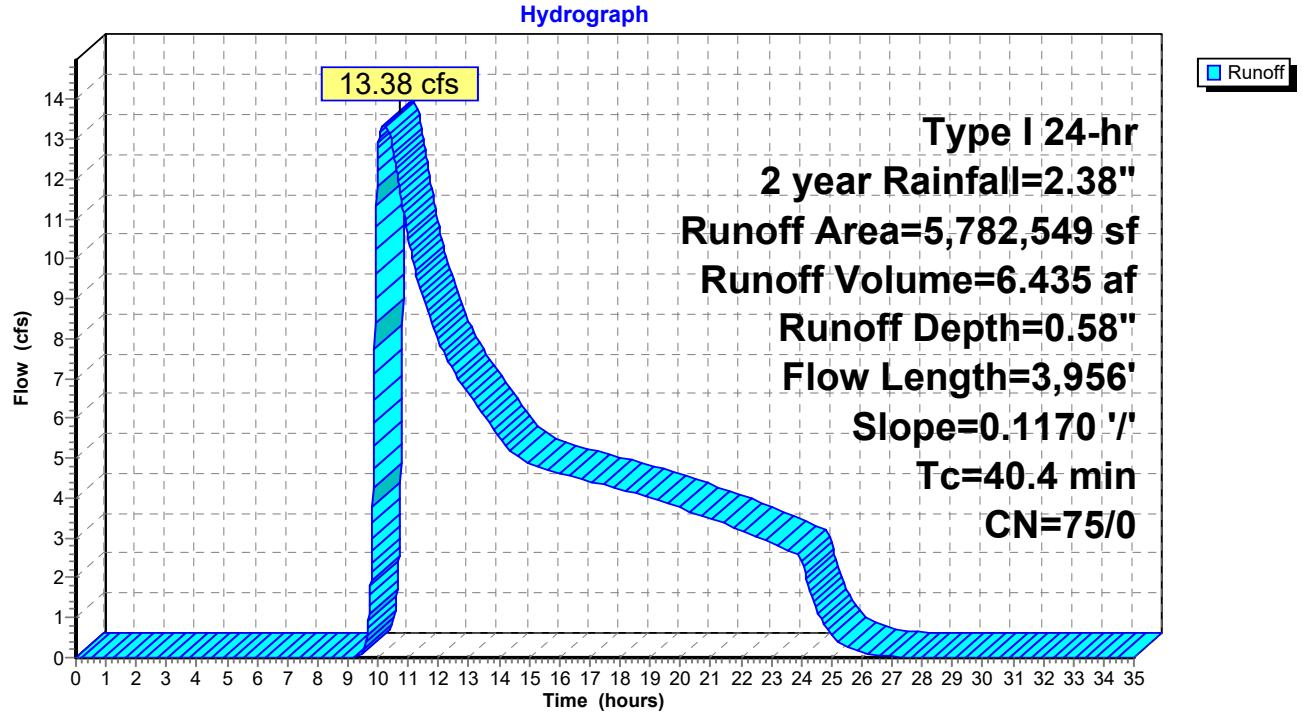
Runoff = 13.38 cfs @ 10.23 hrs, Volume= 6.435 af, Depth= 0.58"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	3,342,223	77	Brush, Poor, HSG C
*	1,561,288	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,782,549	75	Weighted Average
	5,782,549	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

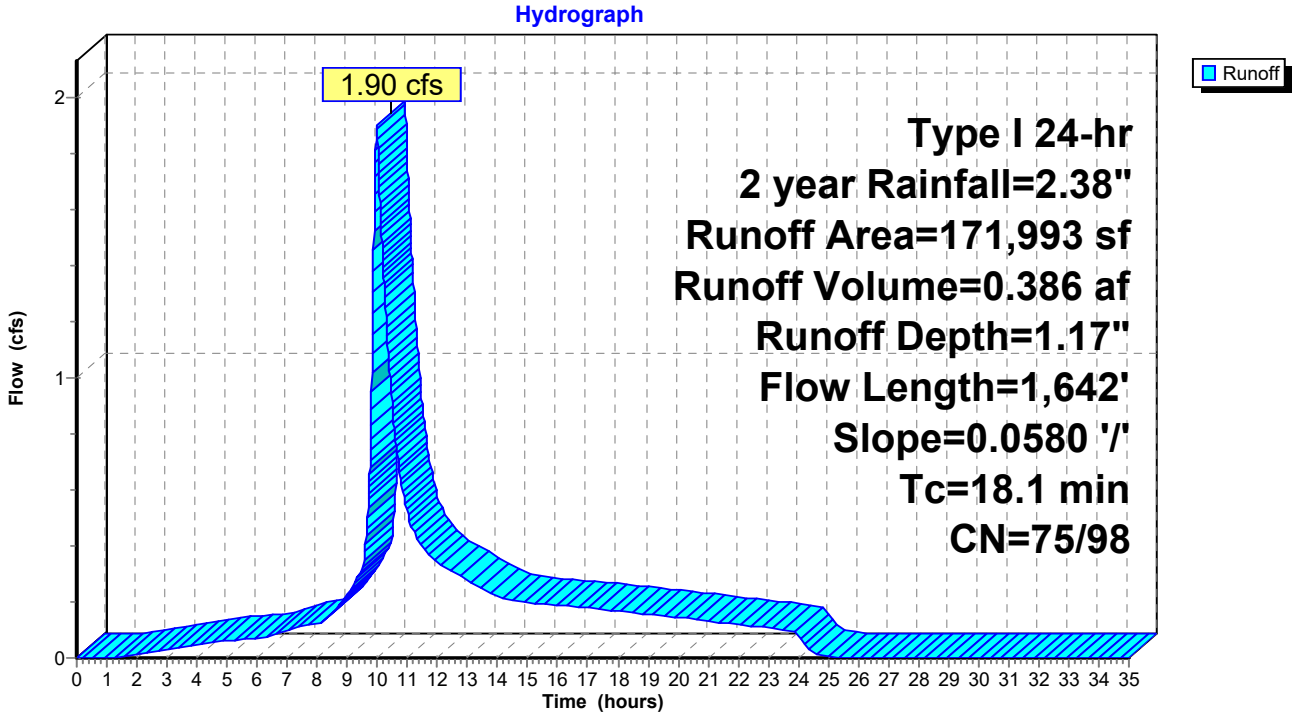
Runoff = 1.90 cfs @ 9.98 hrs, Volume= 0.386 af, Depth= 1.17"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	96,917	74	Open Space, Good, HSG C
*	10,222	87	Pavers/DG, Good, HSG C
*	64,854	98	Hardscape
	171,993	84	Weighted Average
	107,139	75	62.29% Pervious Area
	64,854	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

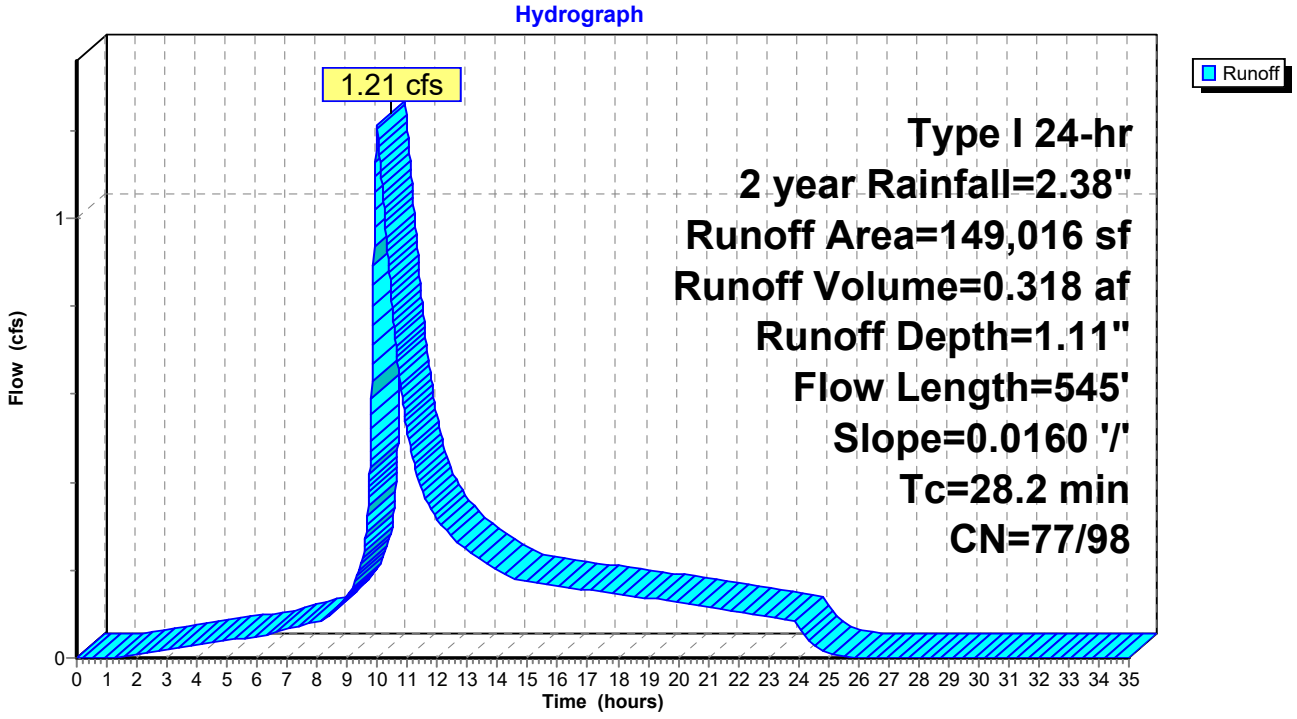
Runoff = 1.21 cfs @ 9.99 hrs, Volume= 0.318 af, Depth= 1.11"
Routed to Pond D2 : Detention Pond 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

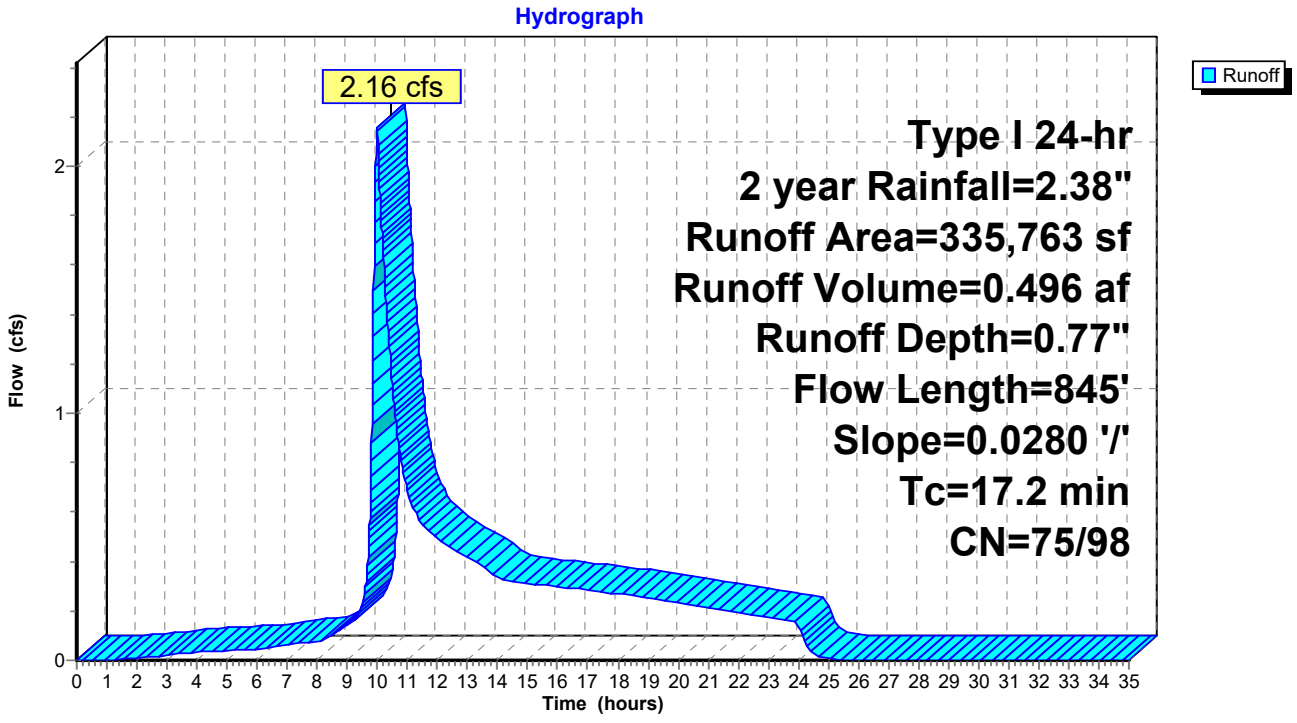
Runoff = 2.16 cfs @ 9.99 hrs, Volume= 0.496 af, Depth= 0.77"
Routed to Pond D3 : Detention Pond 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



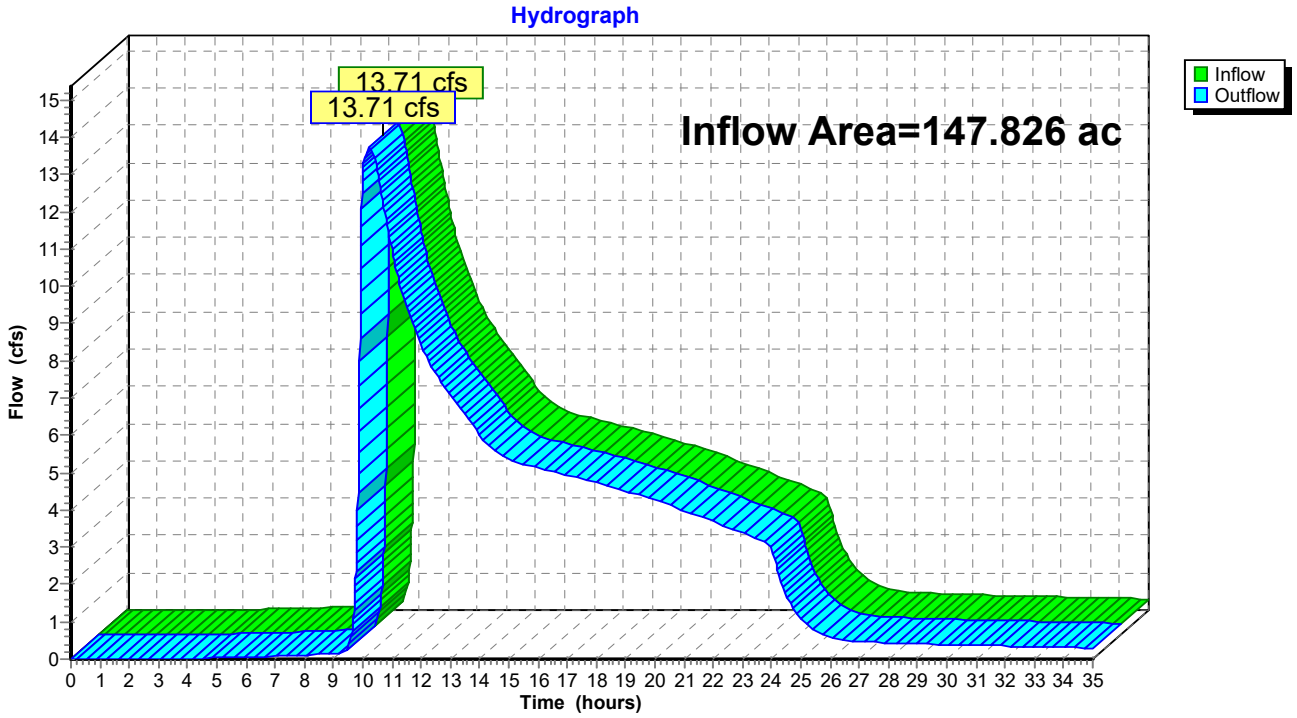
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 147.826 ac, 2.34% Impervious, Inflow Depth > 0.60" for 2 year event
Inflow = 13.71 cfs @ 10.24 hrs, Volume= 7.405 af
Outflow = 13.71 cfs @ 10.24 hrs, Volume= 7.405 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



Summary for Pond D1: Detention Basin 1

Inflow Area = 3.948 ac, 37.71% Impervious, Inflow Depth = 1.17" for 2 year event
Inflow = 1.90 cfs @ 9.98 hrs, Volume= 0.386 af
Outflow = 0.15 cfs @ 19.53 hrs, Volume= 0.297 af, Atten= 92%, Lag= 572.9 min
Primary = 0.15 cfs @ 19.53 hrs, Volume= 0.297 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.12' @ 19.53 hrs Storage= 0.209 af

Plug-Flow detention time= 616.1 min calculated for 0.297 af (77% of inflow)
Center-of-Mass det. time= 489.6 min (1,268.1 - 778.4)

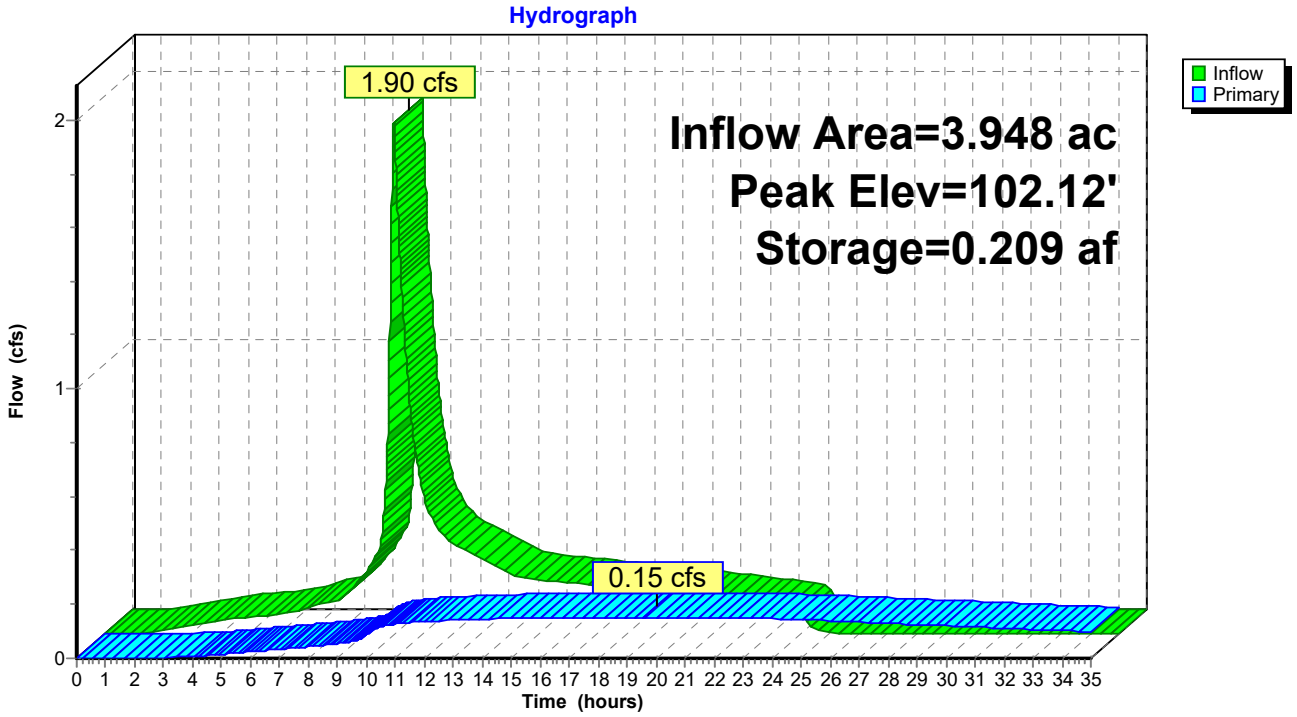
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

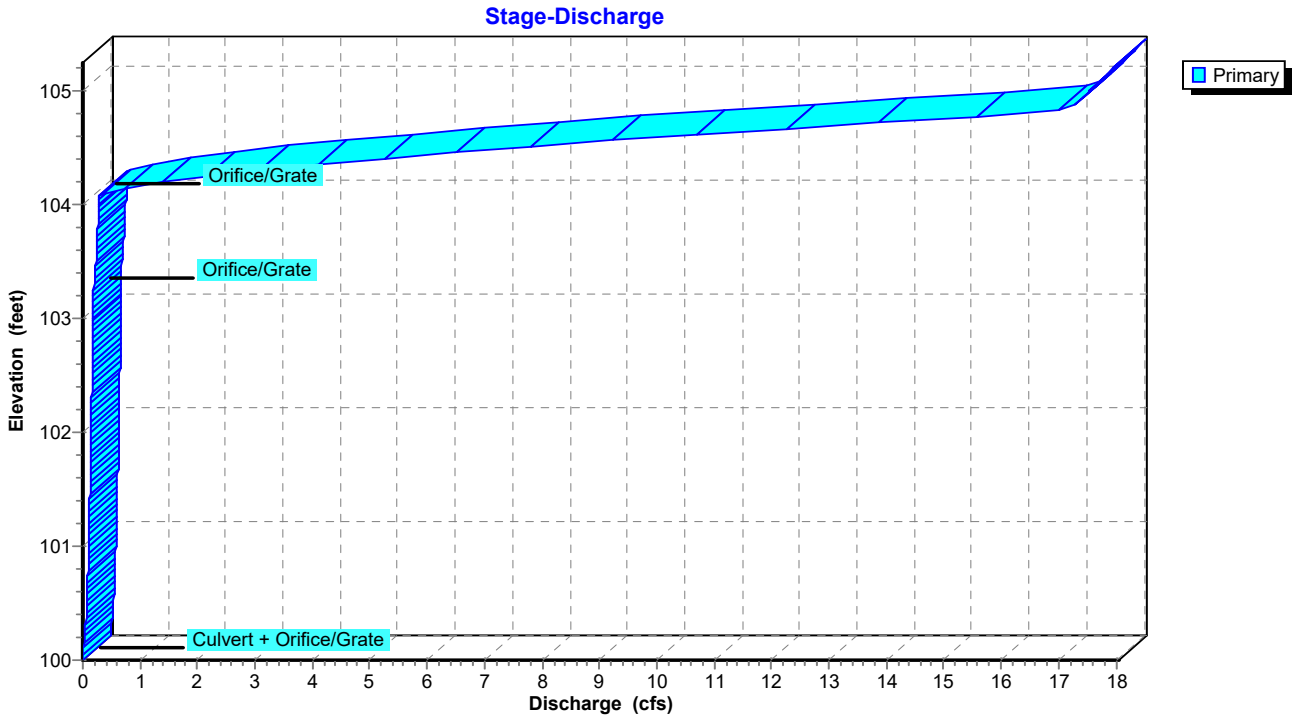
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 19.53 hrs HW=102.12' (Free Discharge)
└**1=Culvert** (Passes 0.15 cfs of 9.30 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 0.15 cfs @ 6.88 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Summary for Pond D2: Detention Pond 2

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 1.11" for 2 year event
Inflow = 1.21 cfs @ 9.99 hrs, Volume= 0.318 af
Outflow = 0.16 cfs @ 16.62 hrs, Volume= 0.288 af, Atten= 87%, Lag= 397.5 min
Primary = 0.16 cfs @ 16.62 hrs, Volume= 0.288 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.16' @ 16.62 hrs Storage= 0.144 af

Plug-Flow detention time= 492.0 min calculated for 0.288 af (91% of inflow)
Center-of-Mass det. time= 435.6 min (1,237.5 - 801.9)

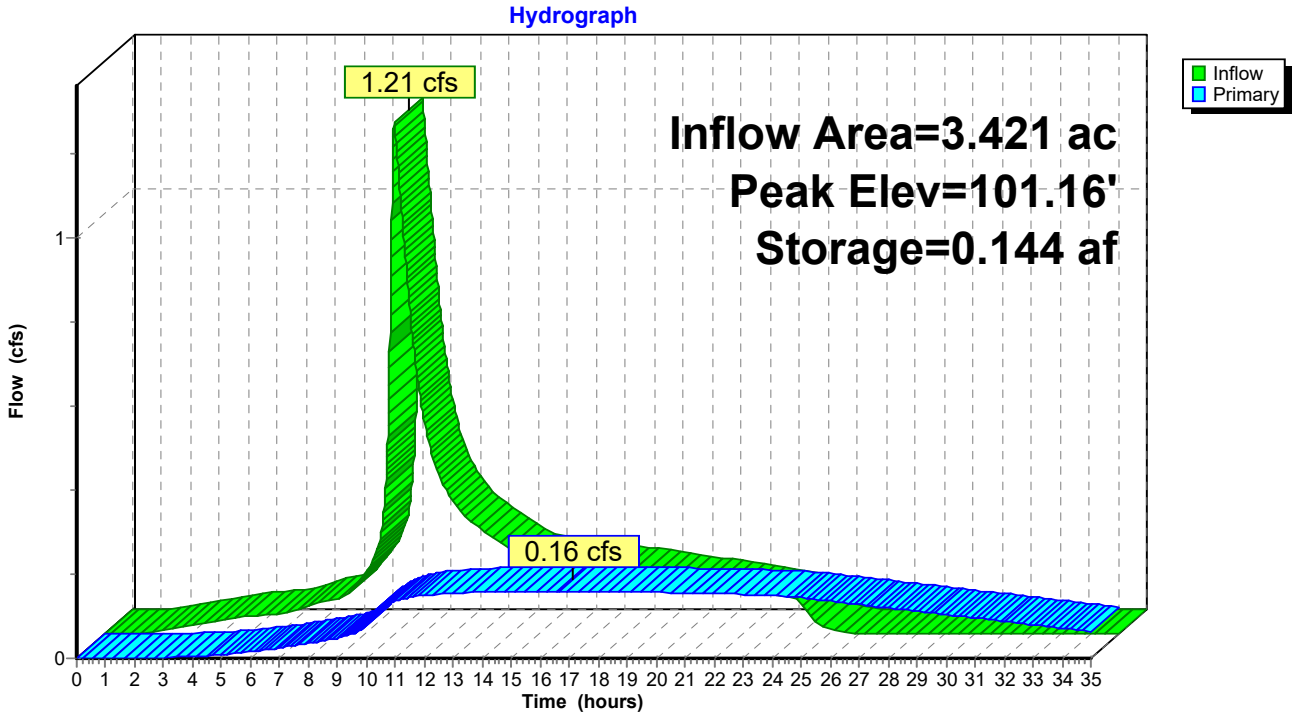
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.604 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.119
102.00	0.275
103.00	0.473
103.67	0.604

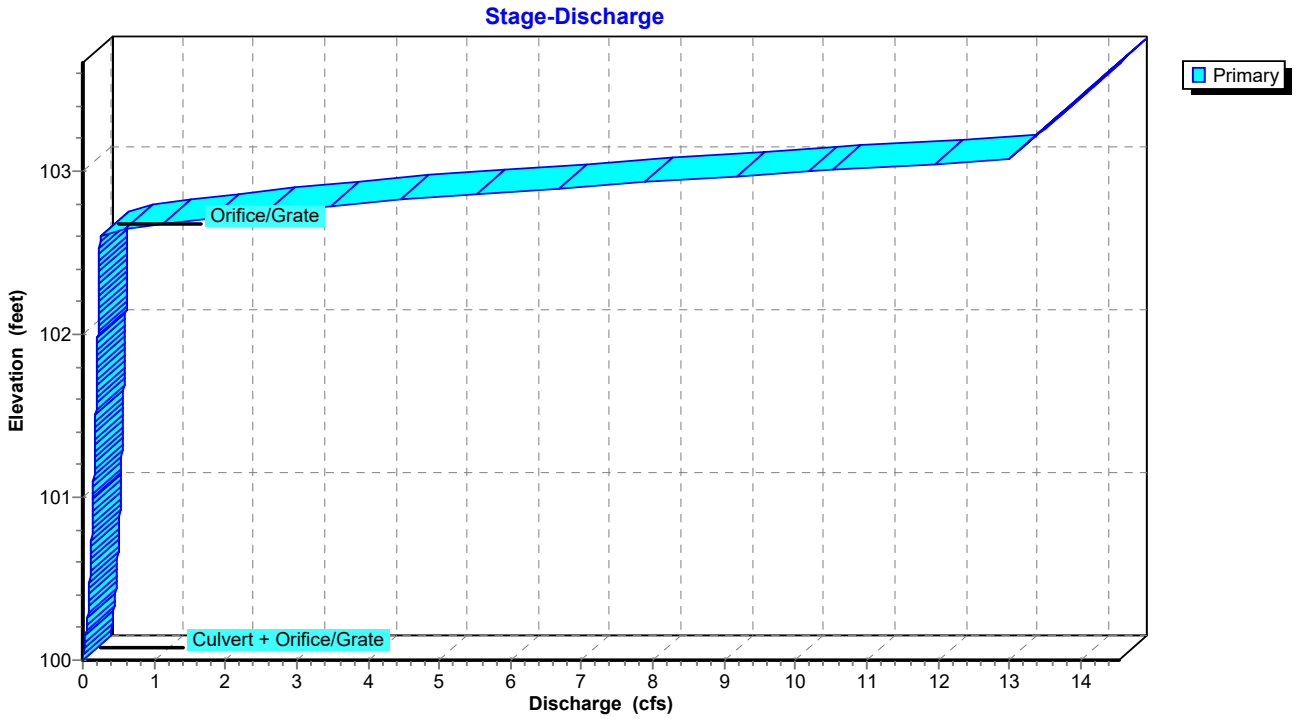
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 16.62 hrs HW=101.16' (Free Discharge)
└**1=Culvert** (Passes 0.16 cfs of 4.14 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Orifice Controls 0.16 cfs @ 5.03 fps)

Pond D2: Detention Pond 2



Pond D2: Detention Pond 2



Stage-Discharge for Pond D2: Detention Pond 2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Summary for Pond D3: Detention Pond 3

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 0.77" for 2 year event
Inflow = 2.16 cfs @ 9.99 hrs, Volume= 0.496 af
Outflow = 0.20 cfs @ 21.74 hrs, Volume= 0.386 af, Atten= 91%, Lag= 704.9 min
Primary = 0.20 cfs @ 21.74 hrs, Volume= 0.386 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.19' @ 21.74 hrs Storage= 11,552 cf

Plug-Flow detention time= 583.1 min calculated for 0.386 af (78% of inflow)
Center-of-Mass det. time= 465.7 min (1,305.1 - 839.4)

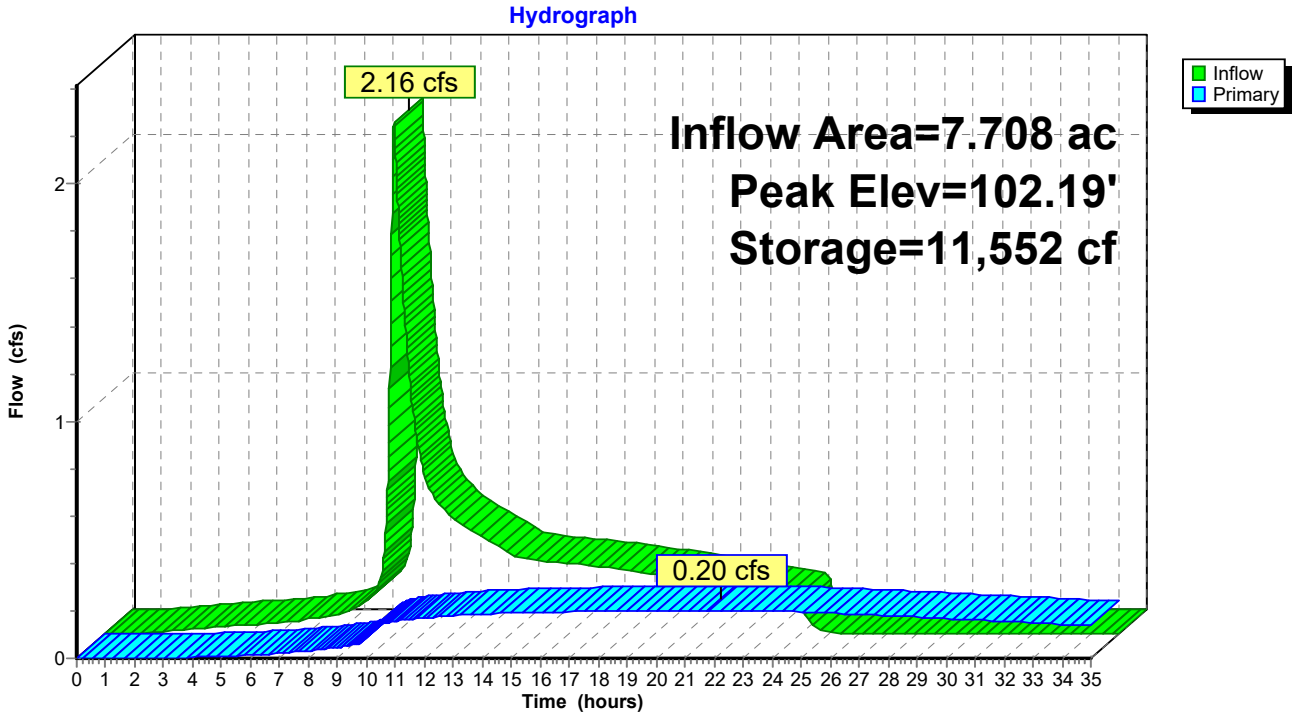
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

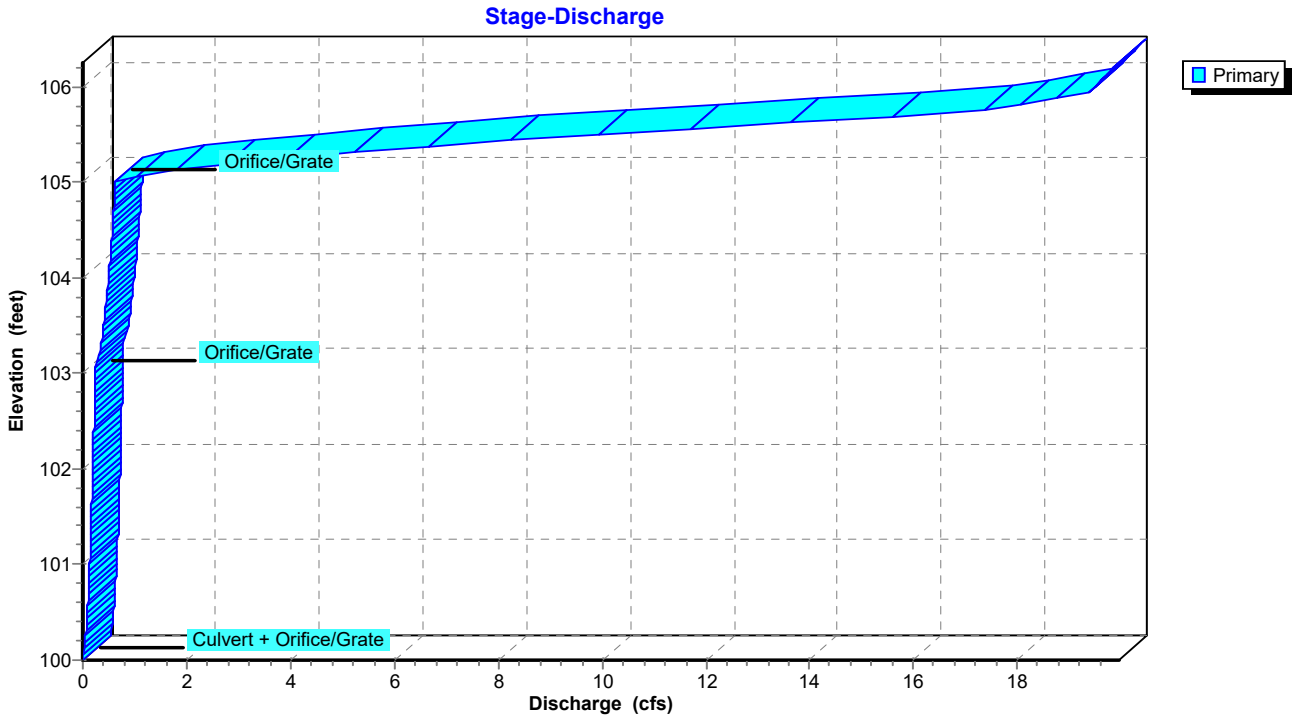
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 21.74 hrs HW=102.19' (Free Discharge)
└**1=Culvert** (Passes 0.20 cfs of 9.75 cfs potential flow)
├**2=Orifice/Grate** (Controls 0.00 cfs)
├**3=Orifice/Grate** (Controls 0.00 cfs)
└**4=Orifice/Grate** (Orifice Controls 0.20 cfs @ 6.98 fps)

Pond D3: Detention Pond 3



Pond D3: Detention Pond 3



Stage-Discharge for Pond D3: Detention Pond 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment20.1: Diverted Area 20 Runoff Area=5,782,549 sf 0.00% Impervious Runoff Depth=1.23"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=75/0 Runoff=38.25 cfs 13.623 af

Subcatchment20.2: Developed Area 20.2 Runoff Area=171,993 sf 37.71% Impervious Runoff Depth=1.96"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=3.33 cfs 0.645 af

Subcatchment20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=1.90"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=2.21 cfs 0.543 af

Subcatchment20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=1.47"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=4.75 cfs 0.941 af

Reach 20R: Collection Point 20 Inflow=38.65 cfs 15.142 af
Outflow=38.65 cfs 15.142 af

Pond D1: Detention Basin 1 Peak Elev=103.47' Storage=0.390 af Inflow=3.33 cfs 0.645 af
Outflow=0.23 cfs 0.422 af

Pond D2: Detention Pond 2 Peak Elev=102.07' Storage=0.290 af Inflow=2.21 cfs 0.543 af
Outflow=0.21 cfs 0.425 af

Pond D3: Detention Pond 3 Peak Elev=103.56' Storage=22,566 cf Inflow=4.75 cfs 0.941 af
Outflow=0.41 cfs 0.672 af

Total Runoff Area = 147.826 ac Runoff Volume = 15.753 af Average Runoff Depth = 1.28"
97.66% Pervious = 144.373 ac 2.34% Impervious = 3.453 ac

Summary for Subcatchment 20.1: Diverted Area 20

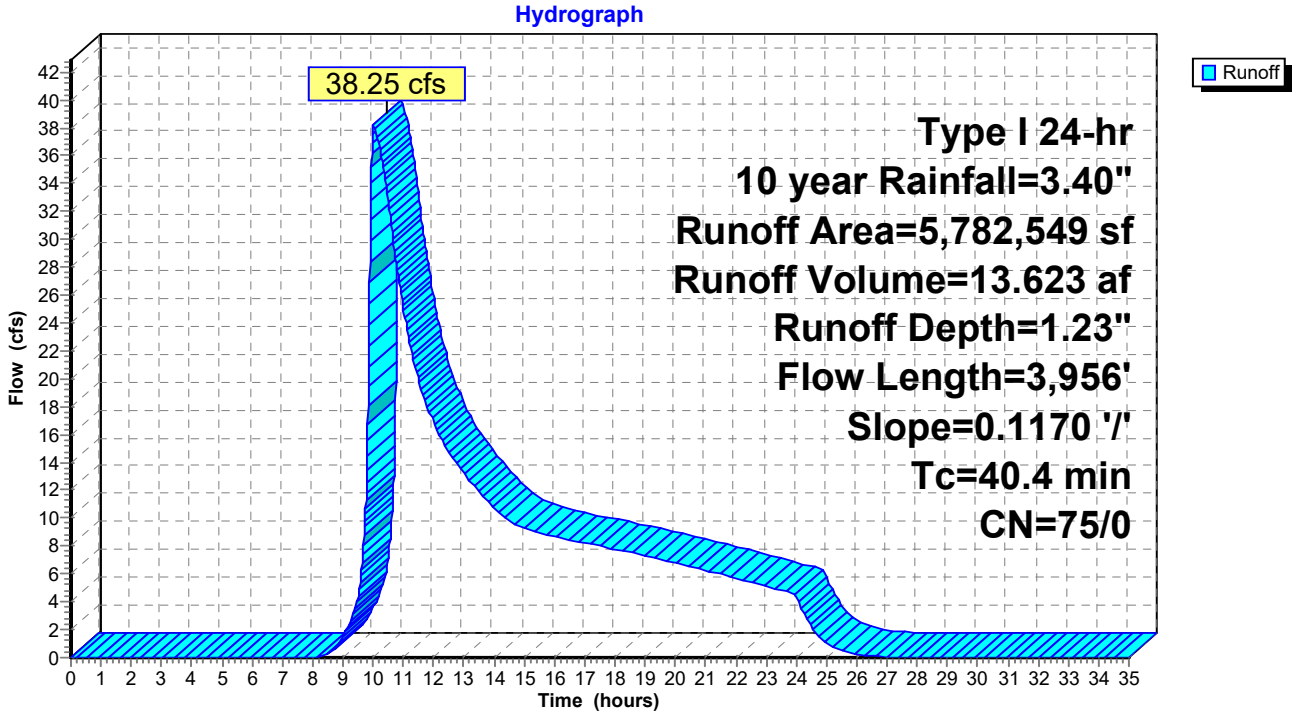
Runoff = 38.25 cfs @ 10.01 hrs, Volume= 13.623 af, Depth= 1.23"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	3,342,223	77	Brush, Poor, HSG C
*	1,561,288	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,782,549	75	Weighted Average
	5,782,549	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

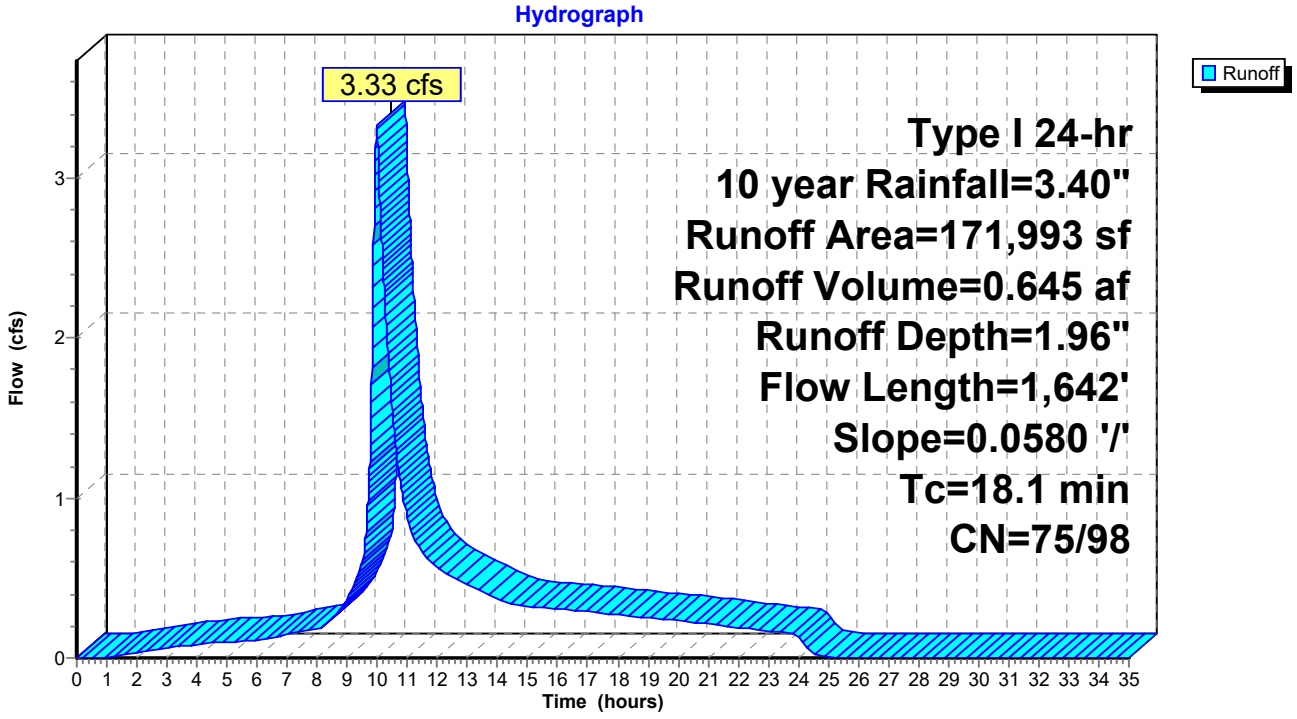
Runoff = 3.33 cfs @ 9.98 hrs, Volume= 0.645 af, Depth= 1.96"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	96,917	74	Open Space, Good, HSG C
*	10,222	87	Pavers/DG, Good, HSG C
*	64,854	98	Hardscape
	171,993	84	Weighted Average
	107,139	75	62.29% Pervious Area
	64,854	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

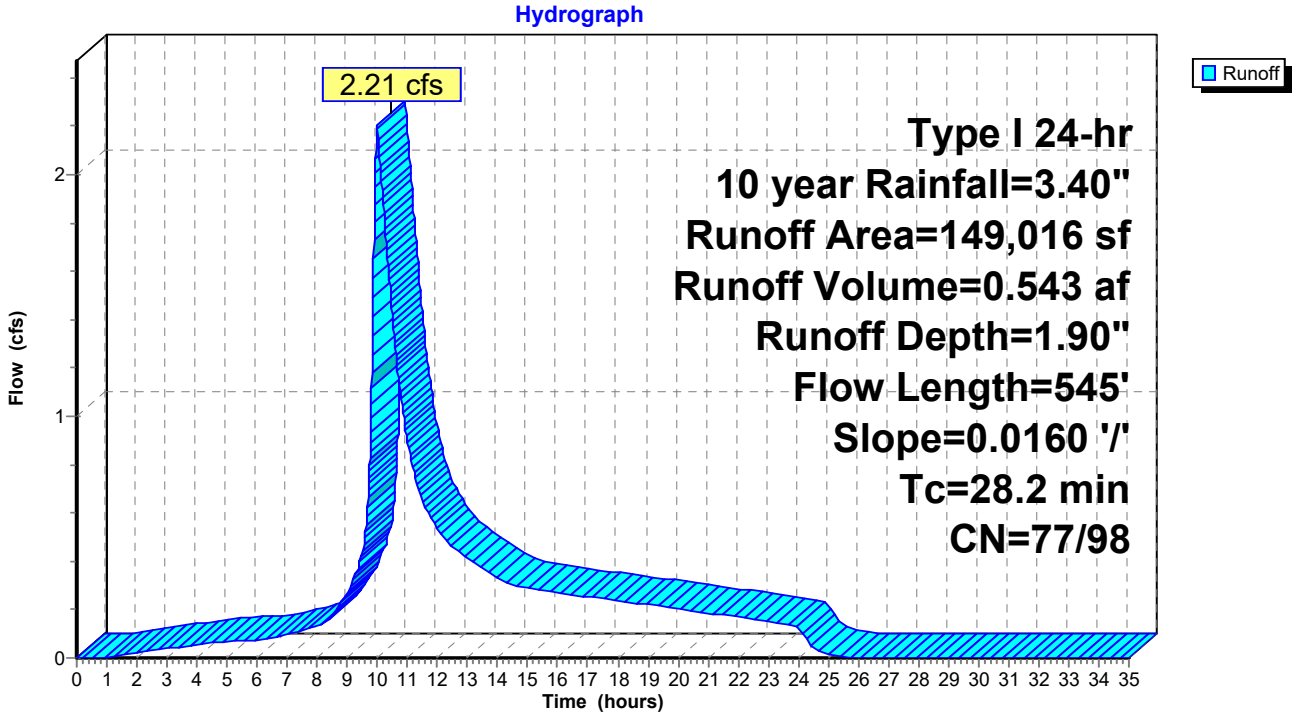
Runoff = 2.21 cfs @ 9.99 hrs, Volume= 0.543 af, Depth= 1.90"
Routed to Pond D2 : Detention Pond 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

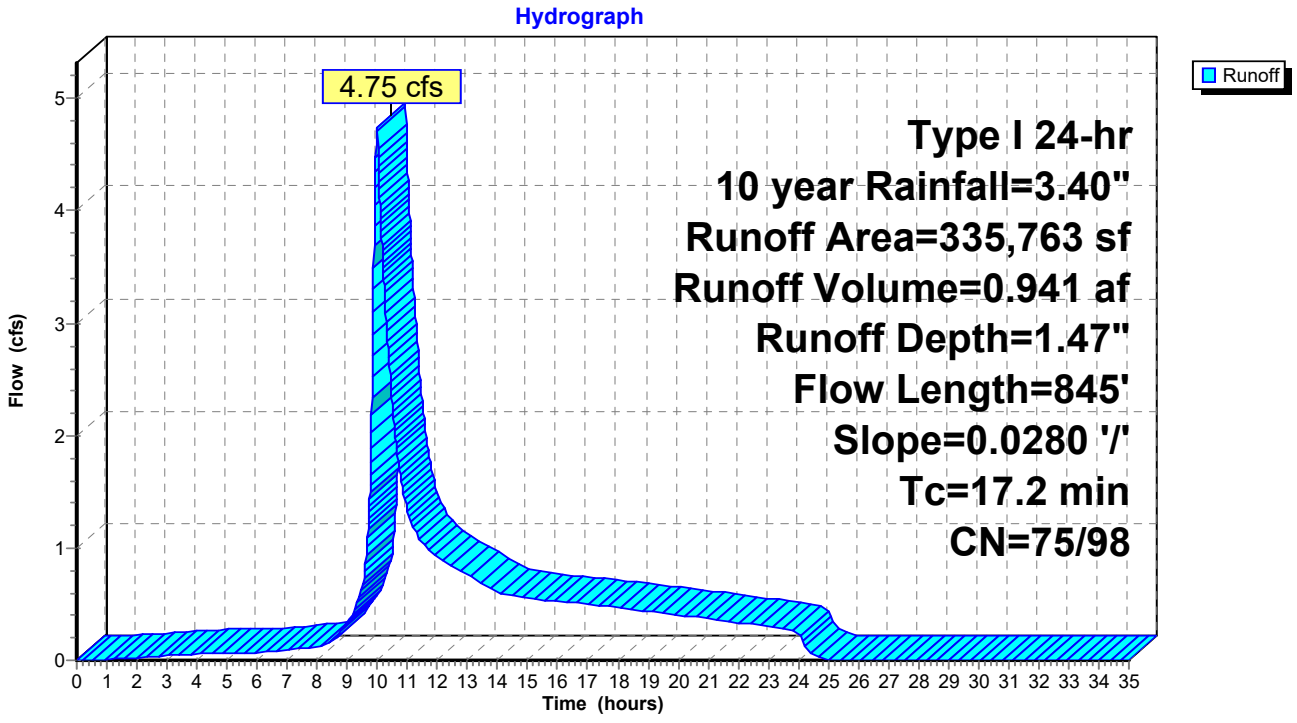
Runoff = 4.75 cfs @ 9.98 hrs, Volume= 0.941 af, Depth= 1.47"
Routed to Pond D3 : Detention Pond 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



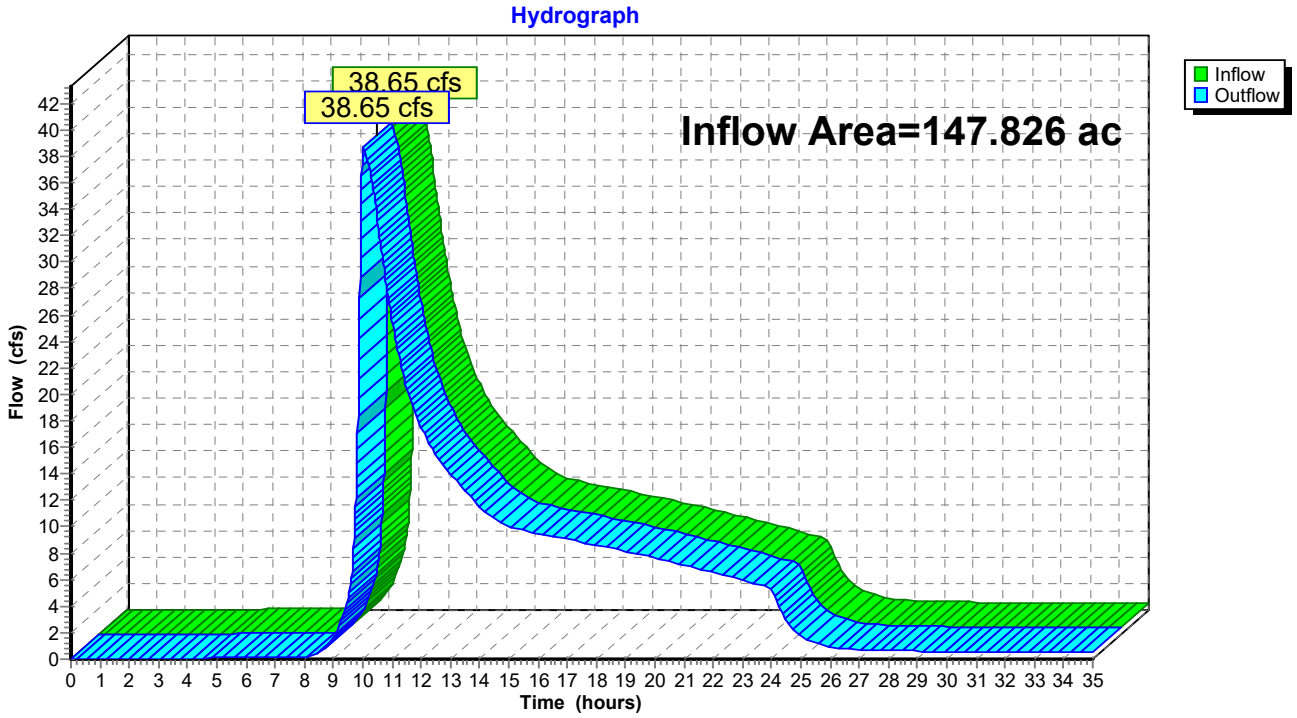
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 147.826 ac, 2.34% Impervious, Inflow Depth > 1.23" for 10 year event
Inflow = 38.65 cfs @ 10.01 hrs, Volume= 15.142 af
Outflow = 38.65 cfs @ 10.01 hrs, Volume= 15.142 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



Summary for Pond D1: Detention Basin 1

Inflow Area = 3.948 ac, 37.71% Impervious, Inflow Depth = 1.96" for 10 year event
Inflow = 3.33 cfs @ 9.98 hrs, Volume= 0.645 af
Outflow = 0.23 cfs @ 20.34 hrs, Volume= 0.422 af, Atten= 93%, Lag= 621.7 min
Primary = 0.23 cfs @ 20.34 hrs, Volume= 0.422 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.47' @ 20.34 hrs Storage= 0.390 af

Plug-Flow detention time= 673.4 min calculated for 0.421 af (65% of inflow)
Center-of-Mass det. time= 504.2 min (1,275.8 - 771.6)

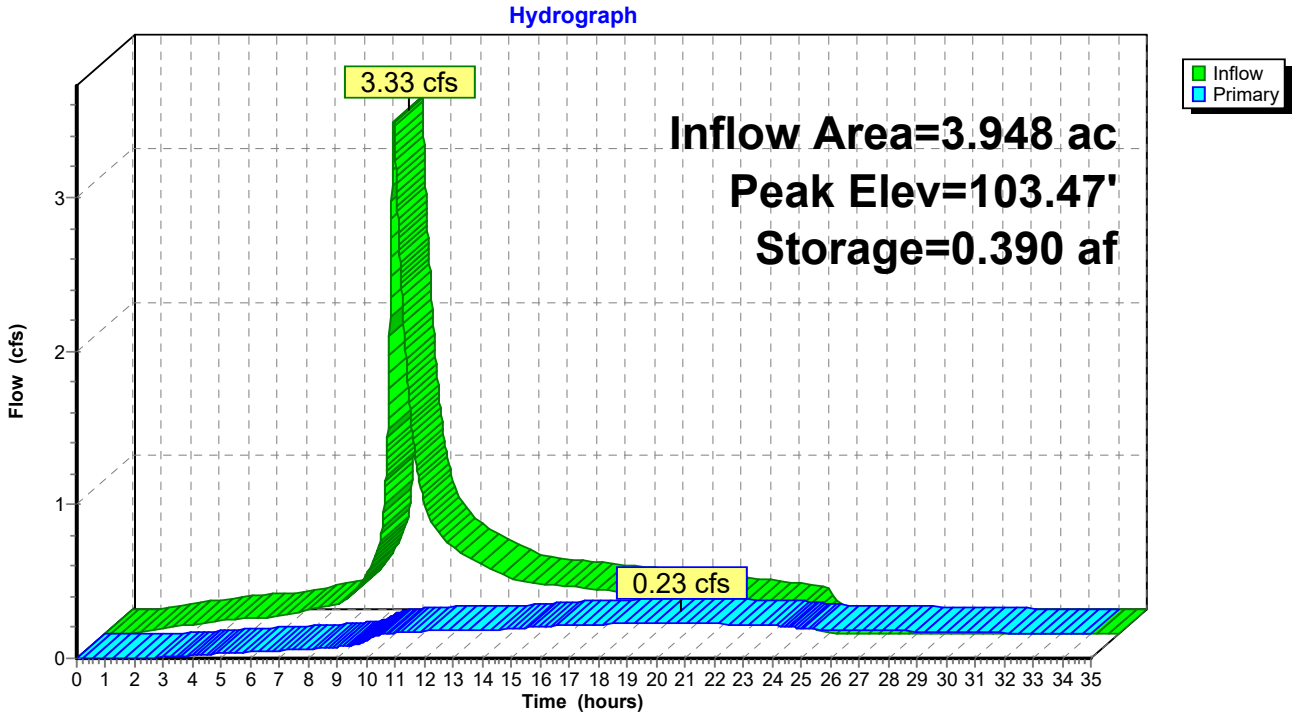
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

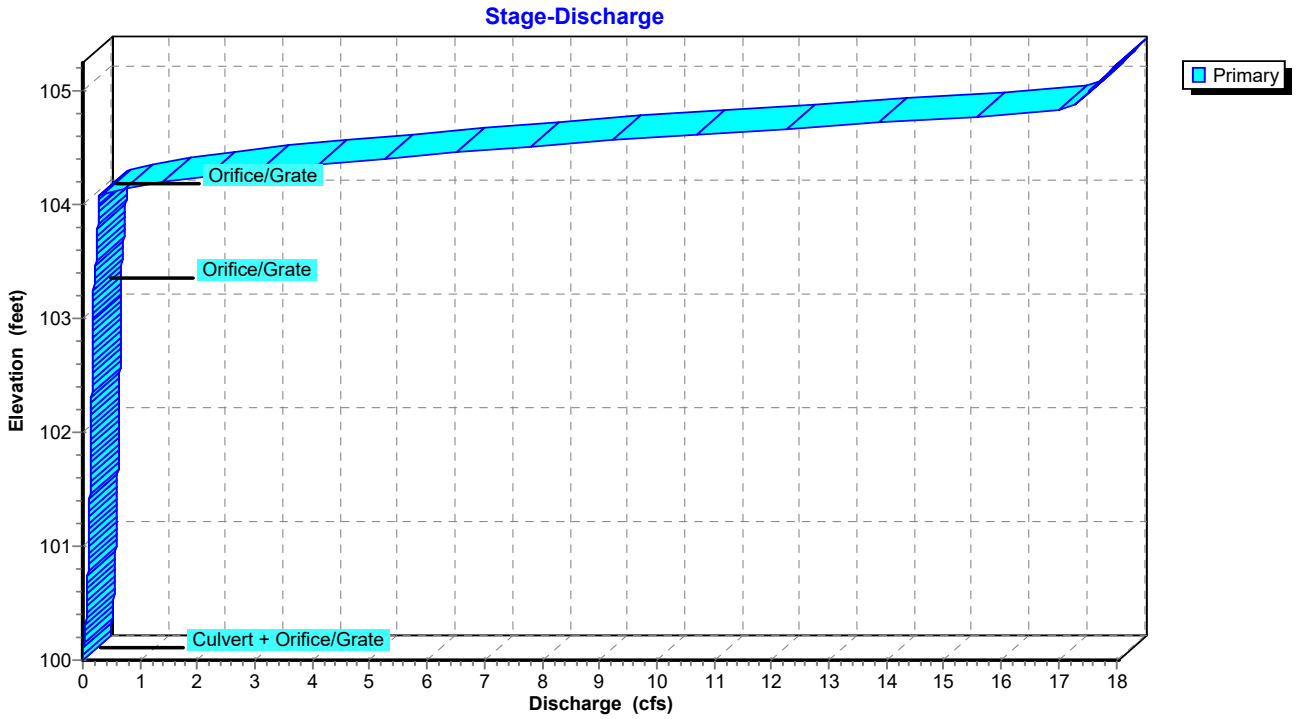
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.23 cfs @ 20.34 hrs HW=103.47' (Free Discharge)
└**1=Culvert** (Passes 0.23 cfs of 14.03 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 0.19 cfs @ 8.86 fps)
  └**4=Orifice/Grate** (Orifice Controls 0.03 cfs @ 1.82 fps)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Summary for Pond D2: Detention Pond 2

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 1.90" for 10 year event
Inflow = 2.21 cfs @ 9.99 hrs, Volume= 0.543 af
Outflow = 0.21 cfs @ 19.39 hrs, Volume= 0.425 af, Atten= 90%, Lag= 564.1 min
Primary = 0.21 cfs @ 19.39 hrs, Volume= 0.425 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.07' @ 19.39 hrs Storage= 0.290 af

Plug-Flow detention time= 601.3 min calculated for 0.425 af (78% of inflow)
Center-of-Mass det. time= 483.1 min (1,275.2 - 792.1)

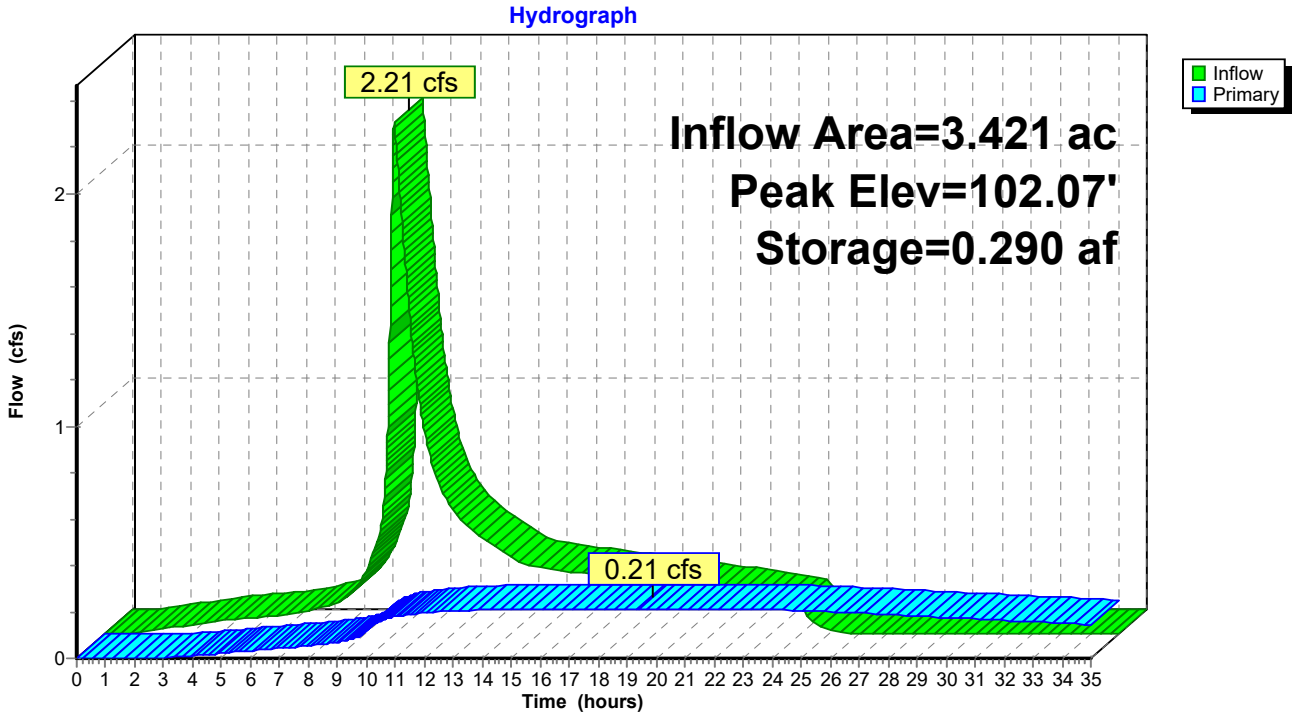
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.604 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.119
102.00	0.275
103.00	0.473
103.67	0.604

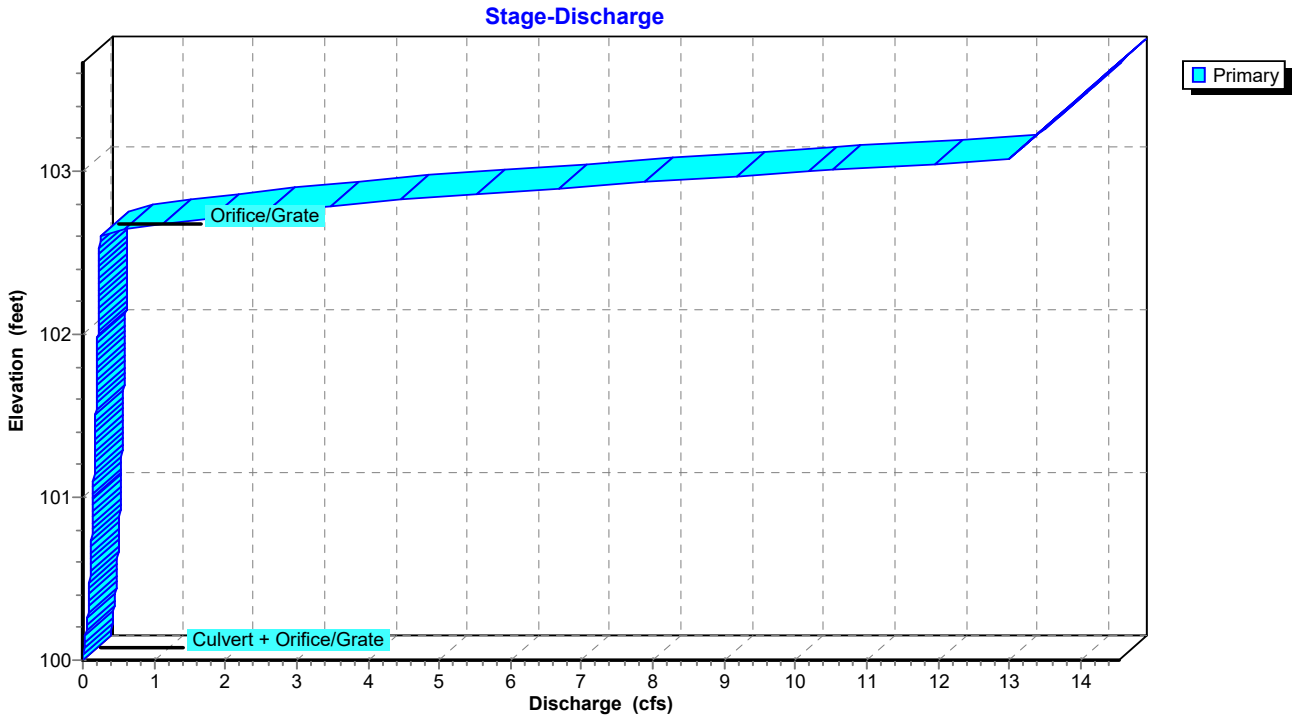
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 19.39 hrs HW=102.07' (Free Discharge)
└**1=Culvert** (Passes 0.21 cfs of 8.98 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 6.82 fps)

Pond D2: Detention Pond 2



Pond D2: Detention Pond 2



Stage-Discharge for Pond D2: Detention Pond 2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Summary for Pond D3: Detention Pond 3

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 1.47" for 10 year event
Inflow = 4.75 cfs @ 9.98 hrs, Volume= 0.941 af
Outflow = 0.41 cfs @ 19.71 hrs, Volume= 0.672 af, Atten= 91%, Lag= 583.9 min
Primary = 0.41 cfs @ 19.71 hrs, Volume= 0.672 af
Routed to Reach 20R : Collection Point 20

Routing by Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.56' @ 19.71 hrs Storage= 22,566 cf

Plug-Flow detention time= 595.4 min calculated for 0.671 af (71% of inflow)
Center-of-Mass det. time= 450.6 min (1,271.6 - 821.0)

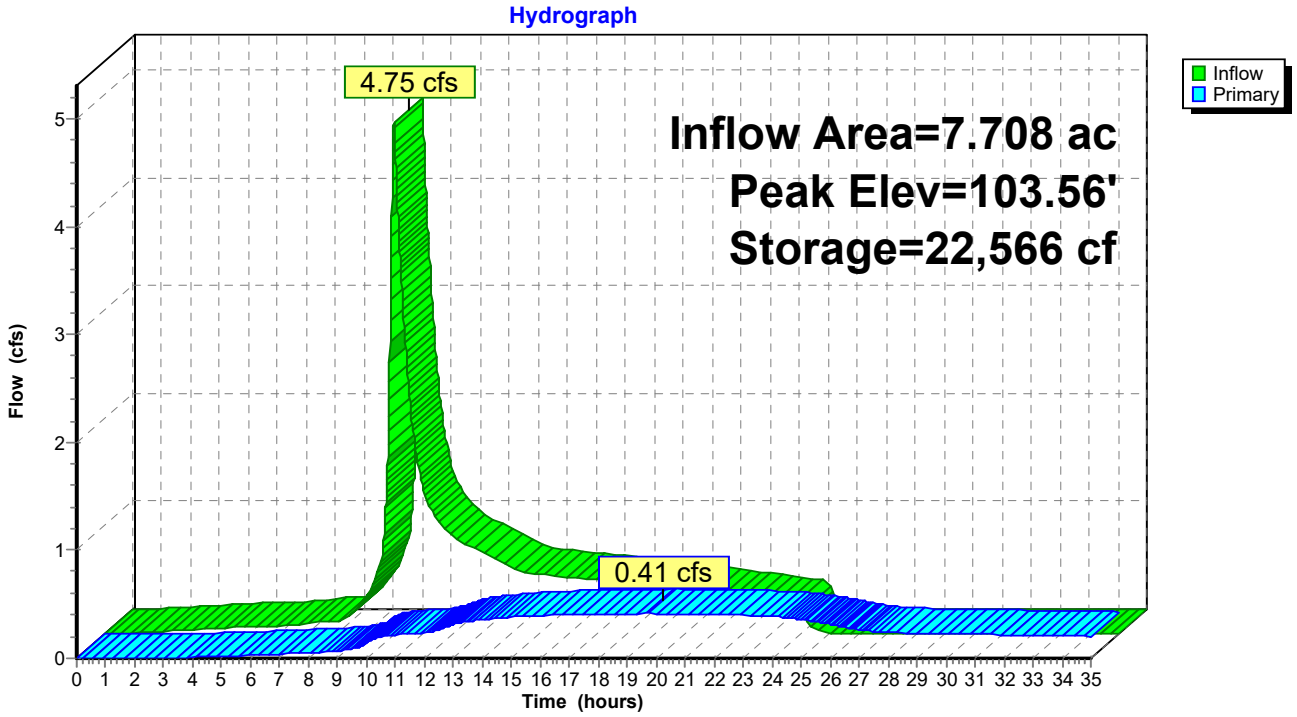
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

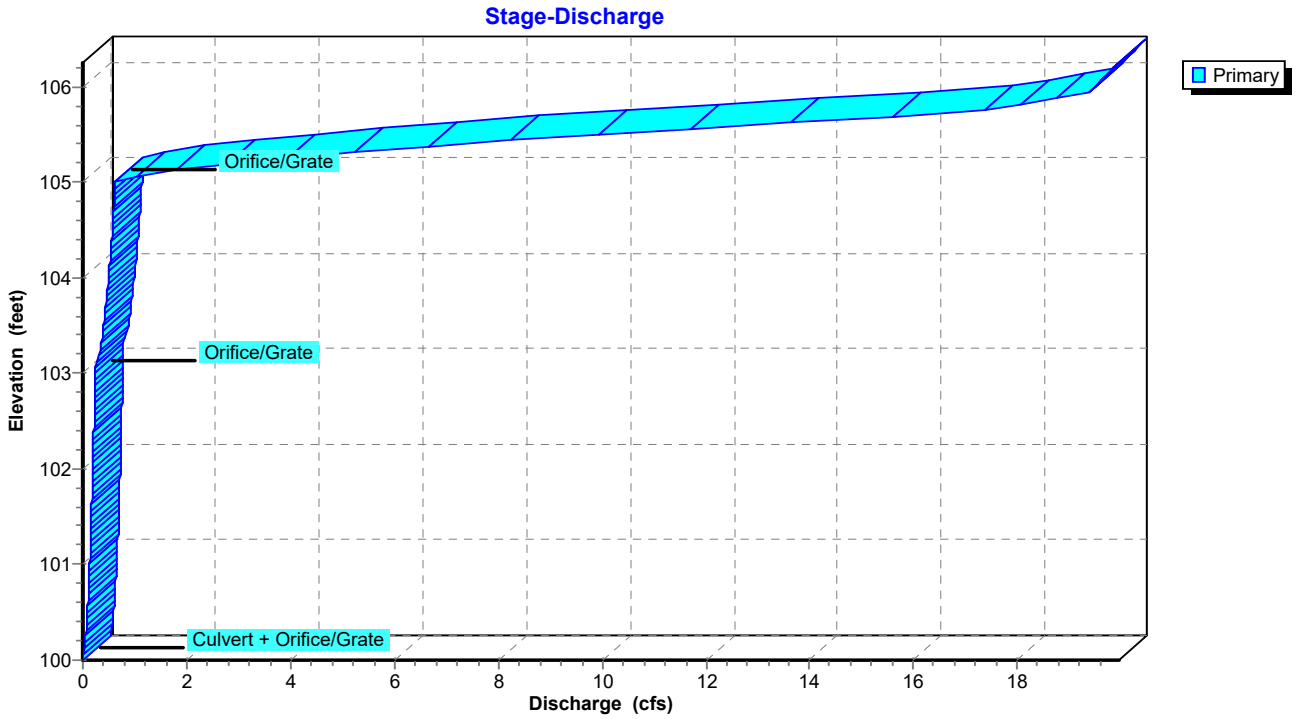
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.41 cfs @ 19.71 hrs HW=103.56' (Free Discharge)
└**1=Culvert** (Passes 0.41 cfs of 14.27 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 0.16 cfs @ 3.18 fps)
  └**4=Orifice/Grate** (Orifice Controls 0.26 cfs @ 8.96 fps)

Pond D3: Detention Pond 3



Pond D3: Detention Pond 3



Stage-Discharge for Pond D3: Detention Pond 3

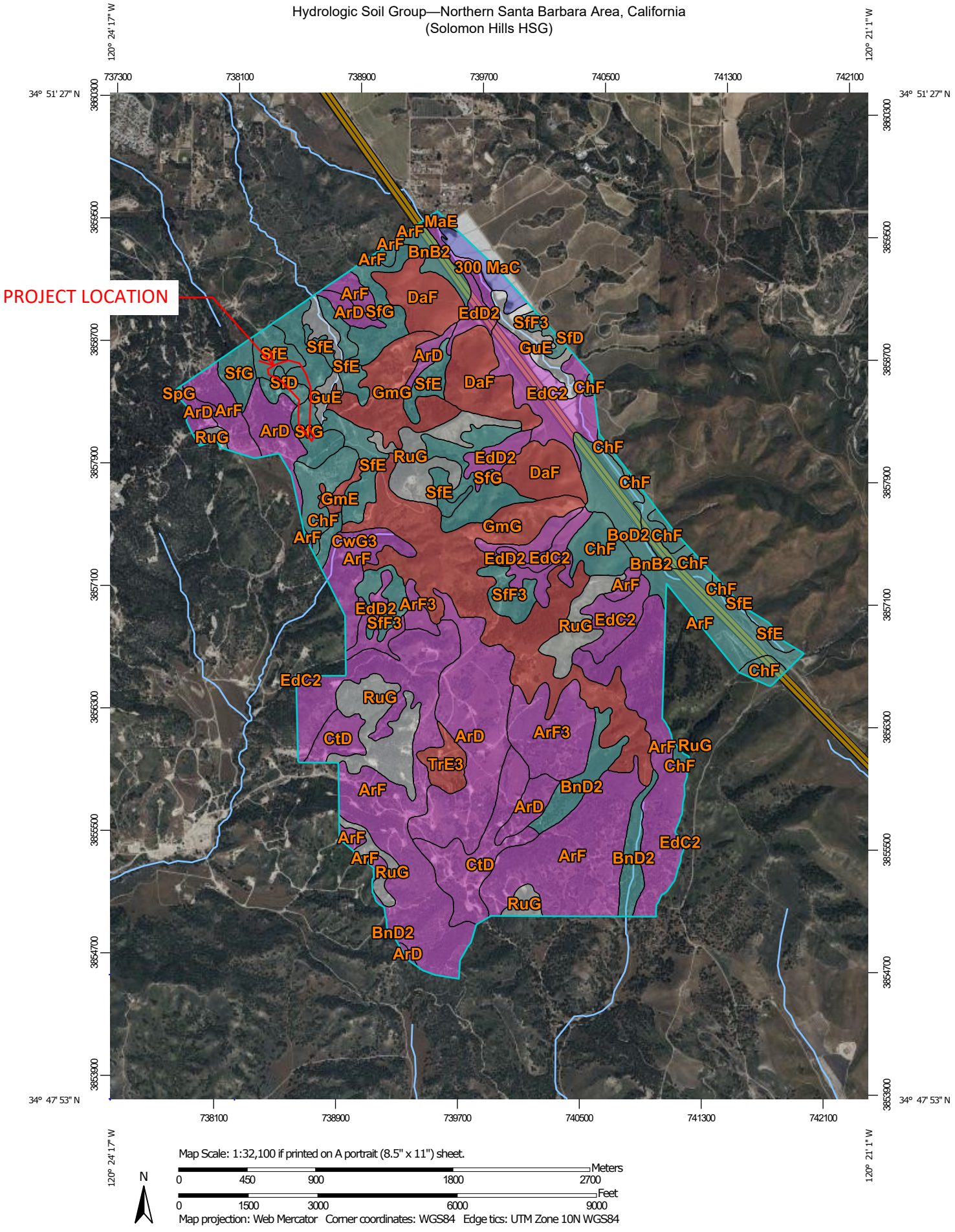
Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Appendices

Appendix I

NRCS Soil Survey

Hydrologic Soil Group—Northern Santa Barbara Area, California
(Solomon Hills HSG)



Map Scale: 1:32,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 450 900 1800 2700

Feet: 0 1500 3000 6000 9000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Northern Santa Barbara Area, California
Survey Area Data: Version 19, Sep 9, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 12, 2022—Apr 12, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
300	Corducci and Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	A	11.9	0.5%
ArD	Arnold sand, 5 to 15 percent slopes	A	223.8	9.0%
ArF	Arnold sand, 15 to 45 percent slopes	A	586.8	23.6%
ArF3	Arnold sand, 9 to 45 percent slopes, severely eroded	A	77.6	3.1%
BnB2	Betteravia loamy sand, dark variant, 0 to 5 percent slopes, eroded	C	131.5	5.3%
BnD2	Betteravia loamy sand, dark variant, 5 to 15 percent slopes, eroded	C	54.3	2.2%
BoD2	Botella loam, 2 to 15 percent slopes, eroded	C	17.0	0.7%
ChF	Chamise shaly loam, 15 to 45 percent slopes	C	85.9	3.5%
CtD	Corralitos sand, 2 to 15 percent slopes	A	87.7	3.5%
CwG3	Crow Hill loam, 15 to 75 percent slopes, severely eroded	C	6.7	0.3%
DaF	Diablo silty clay, 30 to 45 percent slopes	D	137.6	5.5%
EdC2	Elder sandy loam, 2 to 9 percent slopes, eroded	A	114.5	4.6%
EdD2	Elder sandy loam, 9 to 15 percent slopes, eroded	A	77.7	3.1%
GmE	Gaviota sandy loam, 15 to 30 percent slopes, MLRA 15	D	8.1	0.3%
GmG	Gaviota sandy loam, 30 to 75 percent slopes	D	308.6	12.4%
GuE	Gullied land		41.8	1.7%
MaC	Marina sand, 2 to 9 percent slopes	B	18.0	0.7%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MaE	Marina sand, 9 to 30 percent slopes	B	2.2	0.1%
RuG	Rough broken land		166.9	6.7%
SfD	San Andreas-Tierra complex, 5 to 15 percent slopes	C	15.1	0.6%
SfE	San Andreas-Tierra complex, 15 to 30 percent slopes	C	103.2	4.2%
SfF3	San Andreas-Tierra complex, 9 to 45 percent slopes, severely eroded	C	45.6	1.8%
SfG	San Andreas-Tierra complex, 30 to 75 percent slopes	C	141.4	5.7%
SpG	Sedimentary rock land		0.7	0.0%
TrE3	Tierra loam, 5 to 30 percent slopes, severely eroded	D	20.4	0.8%
Totals for Area of Interest			**2,485.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

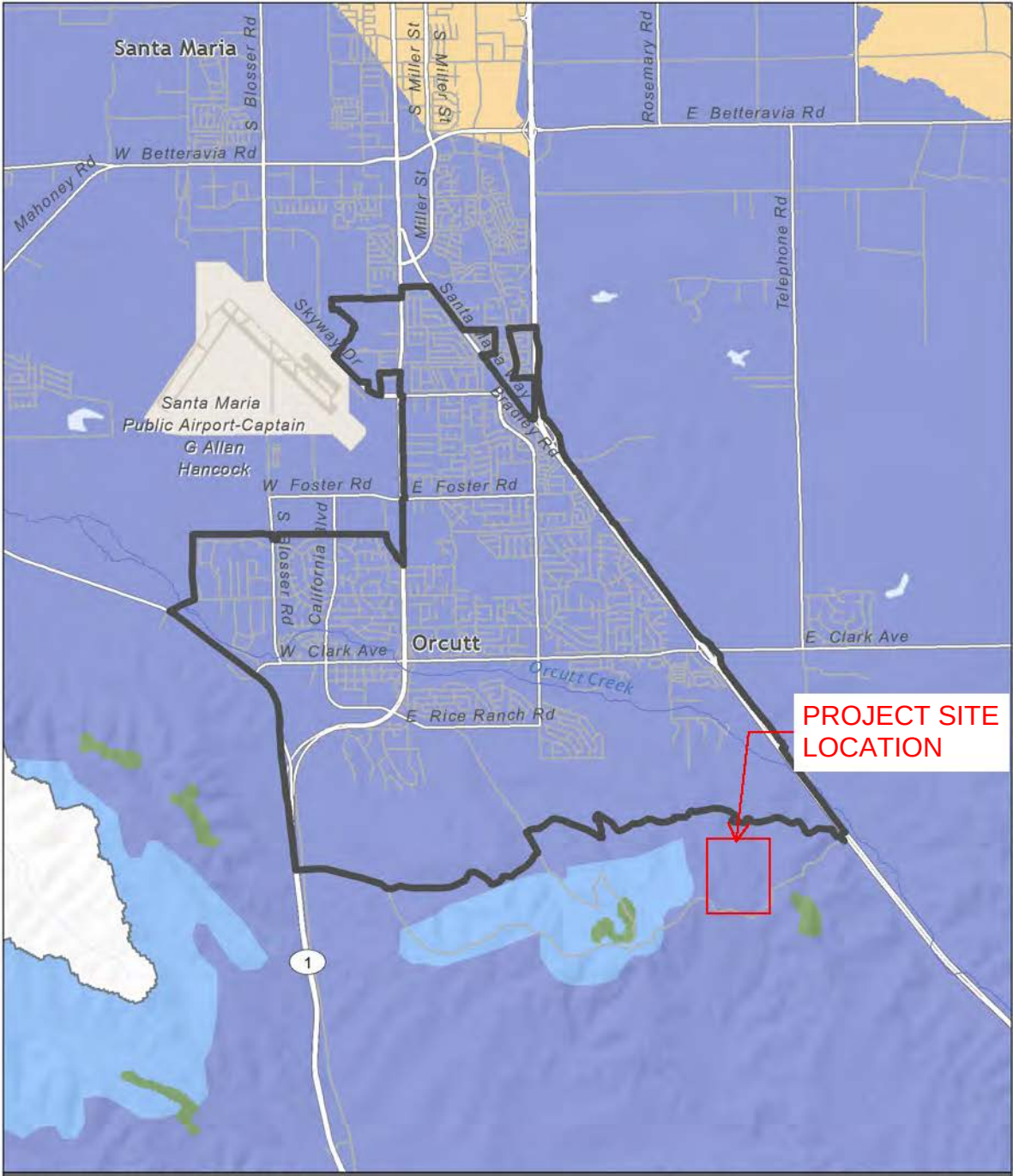
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix 2

WMZ Map



CENTRAL COAST JOINT EFFORT — **Orcutt, California**

Watershed management zones

1 2 3 4 5 6 7 8 9 10

Urban area boundary

0 0.25 0.5 1 Miles
0 0.5 1 2 km

Data sources
Watershed management zones: Stillwater Sciences, 2012
Base data: ESRI 2010

N

Stillwater Sciences
www.stillwatersci.com

PRELIMINARY STORM WATER CONTROL PLAN

for

Solomon Hills

SOLOMON HILLS, SANTA BARBARA COUNTY, CA

July 15, 2025

PREPARED FOR:

Solstra Communities California
1555 Orcutt Hills Road
Orcutt, CA93455

PREPARED BY:

Kevin Anderson, P.E.
Cordlan Maszk, EIT

3765 South Higuera St., Suite 102
San Luis Obispo, CA 93401
(805) 543-1794

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1) Stormwater Control Plan Exhibit
2) Stormwater Control Measures Sizing Calculator
3) Hydro CAD Results

Appendices

1) NRCS Soil Survey
2) WMZ Map

This Stormwater Control Plan was prepared using the template dated January 2017.

I. Project Data

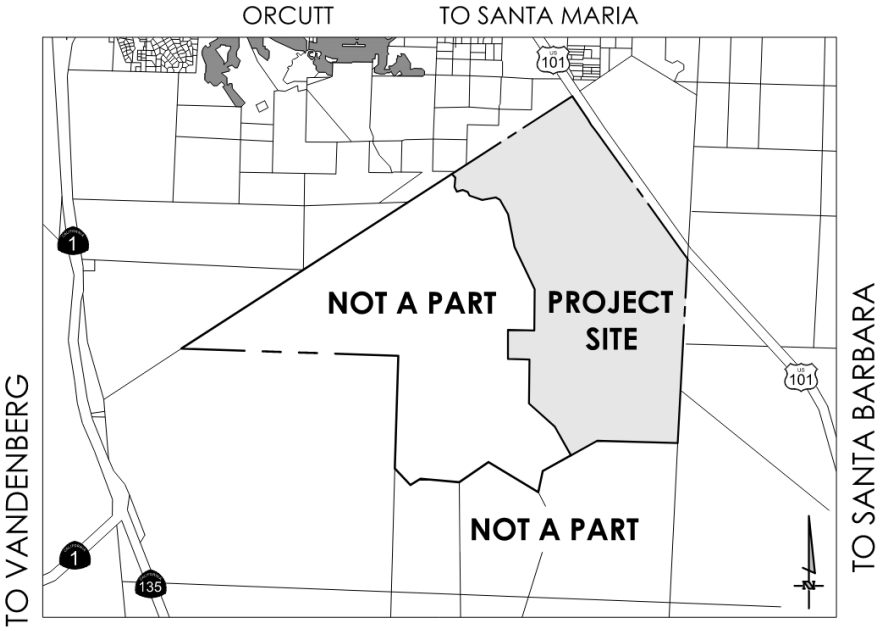
Table 1. Project Data

Project Name/Project Case Number	Solomon Hills
Project Location	101-020-085, -086, & -087
Project Phase No.	5 Phases
Project Type and Description	This project includes 4,000 new homes, 125,00 square feet of supportive commercial, 525,000 of office space, water reclamation facility, fire station, sherif substation, and school.
New Impervious Surface Area (sf)	19,080,163 sf (438 ac)
Replaced Impervious Surface Area (sf)	0 sf (0 ac)
Pre-Project Impervious Surface Area (sf)	0 sf (0 ac)
Post-Project Impervious Surface Area (sf)	19,080,163 sf (438 ac)
"Net Impervious" Area, if applicable	19,080,163 sf (438 ac)
Watershed Management Zone(s)	WMZ 1
Tier	Tier 1-4
85th percentile Design Storm Frequency Design Storm Depth (in)	1.0 in
95th percentile Design Storm Frequency Design Storm Depth (in)	1.6 in
Urban Sustainability Area, if applicable	Na

II. Setting

II.A. Project Location and Description

This project is located in the County of Santa Barbara between Orcutt and Los Alamos on the west side of highway 101. The following land uses will be present on site: residential, commercial, office, and public institutional. The project will provide 4,000 residential units, 125,00 square feet of supportive commercial, 525,000 of office space, water reclamation facility, fire station, sherif substation, and school. Of the 1,903-acre project area, only 1,656 acres is planned for development. The project will be broken into 5 phases of construction. The community is intended to be carbon neutral.



II.B. Existing Site Features and Conditions

The existing site is mostly undeveloped open space with existing oil wells, oak trees, and brush cover. The site has an average slope of 25 percent slopes and is bisected by a ridge running north to south. This ridgeline divides the watershed into an eastern and western portion. The existing project site consists of some active and inactive oil wells. Hydrologic soil groups A, C, & D are present on site per the NRS Soil Survey (Appendix 1).

II.C. Opportunities and Constraints for Stormwater Control

Site elevations vary drastically, which is both an opportunity and a constraint. The change in elevation assists in the conveyance of water and provides clear locations of historic watershed patterns. The varying terrain does require more grading to provide flat buildable locations.

II.D. Summary of Design Approach for Meeting the Post-Construction Requirements

The proposed project is a phased development that will be fully built out over time. At this phase, graded pads with anticipated land uses for future development are being established. To account for the required treatment area and retention volumes necessary to satisfy the Tier 1-3 PCRs, each of the proposed land uses was assigned an anticipated percent impervious that will

be tabulated in all the drainage management areas (DMAs). The DMAs for the project have been delineated by the hydrologic areas that drain to each of the Tier 4 detention basins, hillsides that receive offsite run-on, and graded slopes that drain offsite to existing areas. These DMAs were then separated into self-treating, self-retaining, and drains to a stormwater control measure for primary classification. Each of the DMAs were then entered into the Stormwater Control Measure Sizing Calculator to determine the total treatment area and volume required to mitigate the anticipated improvements. This analysis does not replace the need for future lot specific Storm Water Control Plans or stormwater control measure (SCM) sizing, but provides guidance for the types of SCMs that should be utilized and anticipated volume and area required to satisfy the PCR requirements.

Tier 4 detention requirements are superseded by the more stringent County of Santa Barbara Flood Control requirements. Please refer to Attachment 3 for the HydroCAD analysis which demonstrates that the 2-10 year events will not exceed the pre-development conditions and satisfies the Tier 4 requirements. For more information on the detention basin sizing and peak flow analysis for the project, refer to the Preliminary Hydrology Report prepared for the project.

III. Low Impact Development Design Strategies

III.A. Site Design and Runoff Reduction (Performance Requirement No.1)

III.A.1. Limit disturbance to creeks and natural drainage features: When possible, grading avoided natural drainage features. To minimize the impacts to drainage features, headwalls and culverts are proposed at all crossings.

III.A.2. Minimize compaction of highly permeable soils: Large areas of open space are provided to minimize compaction of highly permeable soils.

III.A.3. Limit of clearing and grading of native vegetation to minimum area needed: Clearing of vegetation will only take place in areas that will be developed. Areas that historically convey stormwater water will be preserved.

III.A.4. Apply setbacks from creeks, wetlands, and riparian habitats: Proper setback distances have been maintained from all creeks, wetlands, and habitats.

III.A.5. Minimize stormwater runoff: Stormwater will be captured within each DMA where it will be treated, retained, onsite within LID features, chambers, or pavers to meet state post construction requirements 1-3. The stormwater will then be directed to a shared detention basin to meter out at the predevelopment 2-yr through 100-yr flow rate to meet the requirements of Santa Barabara Flood Control.

III.A.6. Consideration of drainage as a design element within the project: Due to the variability of the site terrain, the change in elevation dictates a large portion of site design.

III.A.7. Tier 3 projects must include:

The total project area is 1,903 acres and with the intent of developing 1,656 acres. The remaining 247 acres is to remain as untouched open space. The open space will contain native oaks, coastal sage, and grasslands. The terrain will vary from gentle slopes to canyons. The grading is minimized to buildable areas and roads.

III.B. Site Constraints

III.B.1. Limitation of development envelope due to site constraints: The topography is the most limiting factor of the site. Benching is required to achieve building pads. Abandoned wells and existing wells to be abandoned are also present on site. These locations are avoided when possible.

III.C. Dispersal of Runoff to Pervious Areas

III.C.1. Reduce the amount of runoff for which Structural Control Measures are required.

In most cases the DMAs are comprised of multiple lots within a given area or pad. These areas are typically bound by roads or graded slopes. These areas will be retained onsite through chambers, basins, or pavers, before being routed to a localized detention facility.

IV. Documentation of Drainage Design

IV.A. Descriptions of each Drainage Management Area

Each DMA is comprised of one or more lots. Each lot is assigned a land use category with an assumed percent impervious. The calculated percent impervious area is then used to determine the required 95% retention volume. The DMA breakdown, assumed impervious area, and retention volume calculation can all be seen in Attachment 2. This volume will be retained on-site and storm events greater than the 95th percentile rain event will be routed a flood control detention basin. The detention basins listed below will consolidate the runoff from each DMA and meter out the 2–100-year storm event to meet Santa Barabara flood control and PCR Tier 4 requirements. Using the program Hydro CAD, the required detention volume was determined based on metered orifice flowrates. The results of the Hydro CAD modeling can be seen in Attachment 3

Table 2. Drainage Management Areas

DMA ID	Tributary Area (sf)	Impervious Area (sf)	DMA Type
1	989,958	519,387	SCM - Bioretention
2	205,027	163,774	SCM - Bioretention
3	977,627	688,446	SCM - Bioretention
4	3,489,199	1,969,068	SCM - Bioretention
5	18,611,996	11,180,757	SCM - Bioretention
6	1,372,227	419,839	SCM - Bioretention
7	534,690	242,858	SCM - Bioretention
8	4,800,431	2,773,957	SCM - Bioretention
9	1,858,157	1,122,077	SCM - Bioretention
10	790,108	150,432	SCM - Bioretention
11-39	32,046,123	0	Self-Treating

IV.B. Description of each Stormwater Structural Control Measure

- Anticipated SCMs for DMAs 1-9: Stormwater Bioretention Basin with underdrain, flow control orifice, and 6 inches of above ground ponding before flowing into overflow catch basin. Overflow travels to downstream detention basin for PCR 4 and flood control.
- SCMs for DMA 10: See SWCP for Newlove Park (25CUP-00005). 8 Stormwater Bioretention Basins with underdrains, flow control orifices, and 6 inches of above ground ponding before flowing into overflow catch basin. Overflow travels to downstream detention basin for PCR 4 and flood control.

IV.C Tabulation and Sizing Calcuation for Structural Control Measures

Onsite treatment of the 85th percentile storm event and retention of the 95th percentile storm event will be achieved onsite by a stormwater facility. Due to the scale of this project, the unknown layout of each given lot, and only being able to assume the impervious area of each lot, the sizing of each stormwater facility can only be estimated. The impervious and pervious square footage of each DMA, estimated by the anticipated imperviousness percentage of the land uses in each DMA, was entered into the SCM sizing calculator to determine the approximate treatment area and retention volume required for future development. To provide a conservative and consistent approach across the project site, all volumes and areas are determined based on utilizing bioretention systems with underdrains, flow control orifices, 6 inches of ponding depth, and infiltration into hydrologic soil group C/D soil. The results can be seen in Attachment 2 & 3.

V. Source Control Measures

V.A. Site activities and potential sources of pollutants

Due to the scale and varying land uses, the site is susceptible to a variety of pollutant sources. Some examples of pollutant sources include pet waste, oils and hydrocarbons for cars and other engines, plant fertilizers from gardens parks and other planters, organic matter such as leaves and branches, and any trash or garbage.

V.B. Source Control BMPs Table

Table 3. Source Control BMPs Table

Potential source of runoff pollutants	Permanent source control BMPs	Operational source control BMPs
Pet Waste	Stormwater Facilities	Maintenance crews and gardeners
Oils and Hydrocarbons	Stormwater Facilities	Cleanup crews with absorbent materials
Plant Fertilizers	Stormwater Facilities	Minimize fertilizer application
Leaf Litter & Garbage	Stormwater Facilities	Landscape Maintenance and cleanup crews.

VI. Stormwater Facility Maintenance

The onsite treatment and retention requirements will be met via stormwater facilities within each DMA and will be selected on a per lot basis to ensure the facility is the best application for

the proposed site conditions. All onsite stormwater facilities will meet the Post Construction Requirements. An Operation and Maintenance (O & M) manual will be provided with the construction documents.

VII. Stormwater Control Plan/Construction Documents Cross-Checklist

SCMs for Tiers 1-3 are not constructed as a part of this phase and will be determined when each lot is built out in the future. Therefore, a cross checklist for plan reference of the SCMs will not be available at this time. The below table does provide information on the preliminary plan sheet locations for the Flood control detention basins that satisfy Tier 4 requirements.

Table 4. Stormwater Control Plan/Construction Documents Cross-Checklist

Stormwater Control Plan Page #	Source Control or LID Facility	See Plan Sheet #
W2	D1 – Flood Control Basin	C-13
W2	D3– Flood Control Basin	C-13
W2	D5– Flood Control Basin	C-13
W2	D7– Flood Control Basin	C-12
W3	D12.1– Flood Control Basin	C-11
W3	D12.2– Flood Control Basin	C-11
W3	D15– Flood Control Basin	C-11
W3	D16.2– Flood Control Basin	C-11
W3	D16.3– Flood Control Basin	C-11
W2	D18– Flood Control Basin	C-13
C10 of Newlove Park Development 25CUP-00005	D20.2-D20.4	C5&6 of Newlove Park Development 25CUP-00005

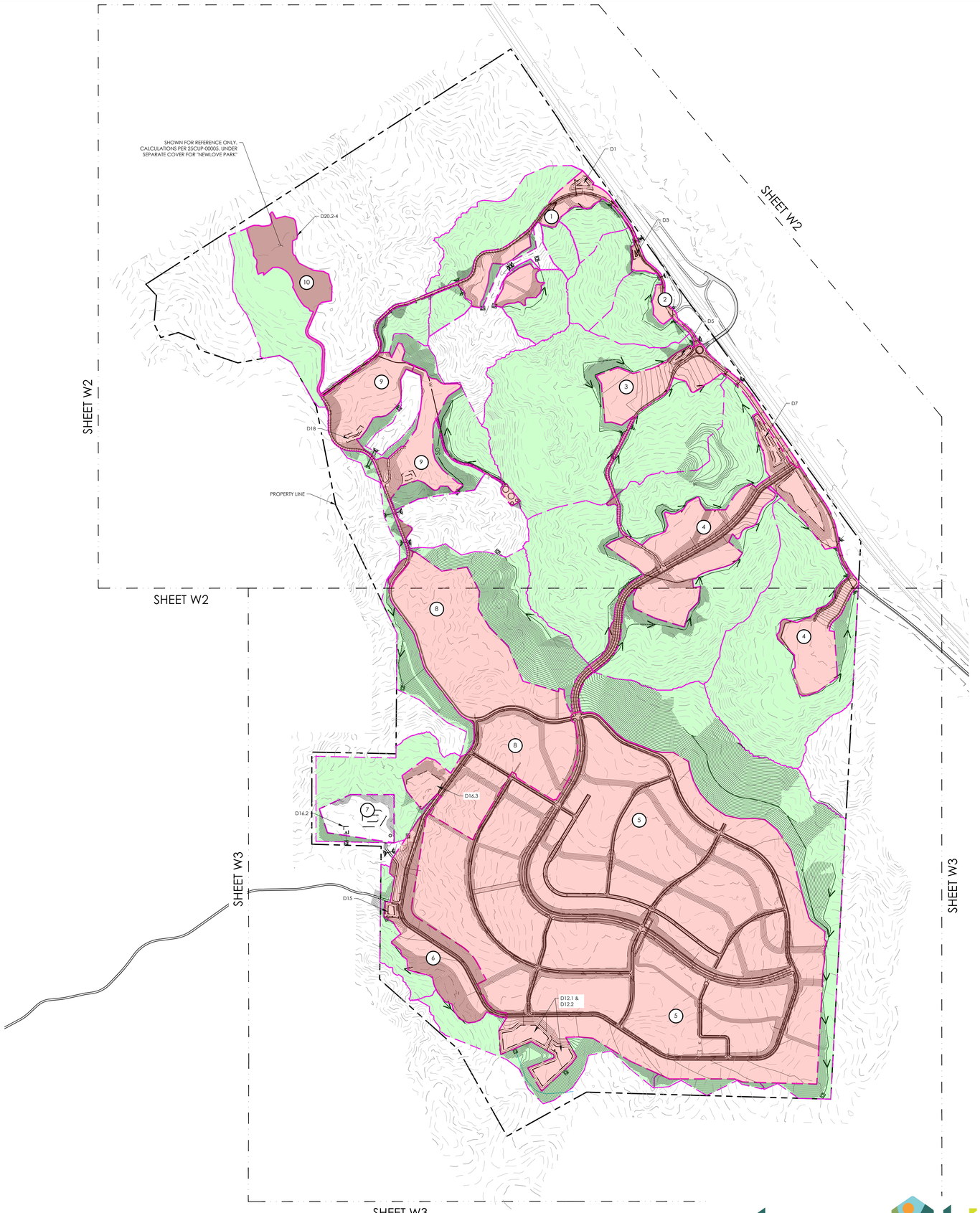
VIII. Certifications

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the Santa Barbara County Project Clean Water's Stormwater Technical Guide.

Attachments

Attachment I

Stormwater Control Plan Exhibit



PROJECT STATISTICS

(A) EXISTING CONDITION

PROJECT AREA: 65,675,543 SF (1508 AC)
IMPERVIOUS AREA: 0 SF

(B) PROPOSED IMPROVEMENTS

TOTAL AREA: 65,675,543 SF (1508 AC)
(i) Solomon Hills VTM:
TOTAL IMPERVIOUS: 19,080,163 SF
TOTAL PERVIOUS: 45,805,272 SF
(ii) Newlove Park
TOTAL IMPERVIOUS: 150,432 SF
TOTAL PERVIOUS: 639,676 SF

DMA ID	Tier 2 Required Treatment Area (sf)	Provided Treatment Area (sf)	Tier 3 Required Retention Volume (cuft)	Ponding Depth (in)	Depth Below Underdrain (ft)	Orifice Diameter (in)	Drawdown Time (hrs)
1	22,658	36,000	42,483	6	2.95	1.77	47.10
2	6,716	11,000	12,693	6	2.88	0.98	46.10
3	28,695	46,000	54,663	6	2.97	2.01	47.40
4	84,843	134,000	160,546	6	3.00	3.44	47.80
5	476,955	750,000	903,637	6	3.01	8.17	48.00
6	20,603	32,000	37,165	6	2.90	1.65	46.20
7	10,882	17,000	20,402	6	3.00	1.22	47.80
8	119,064	190,000	223,819	6	2.94	4.07	47.00
9	47,827	75,250	90,503	6	3.01	2.59	47.90

Percent Impervious by Land Use								
Brush	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road
0	0	35	72	65	75	80	55	90

LEGEND

- TRACT BOUNDARY
- 500 PROPOSED MAJOR CONTOUR (5' INTERVALS)
- 500 EXISTING MAJOR CONTOUR (20' INTERVALS)
- DMA BOUNDARY
- SELF-TREATING AREA
- AREA DRAINING TO SCM
- (X) DMA ID
- DIVERTER TERRACE
- ENERGY DISSIPATER

REQUIRED STORMWATER CONTROL MEASURES

TIER 1- RUNOFF REDUCTION
- ROOF DRAIN DISCONNECT
- MINIMIZE IMPERVIOUS AREAS

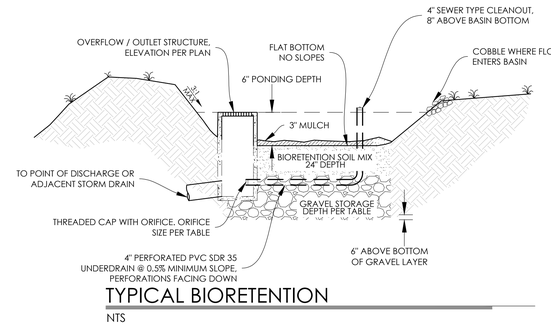
TIER 2 - WATER QUALITY (85th PERCENTILE = 1.0")
- ON-SITE RETENTION-BASED INFILTRATION

TIER 3 - RETAIN 95TH PERCENTILE STORM EVENT (1.6")
- ON-SITE RETENTION BASED INFILTRATION.

TIER 4 - PEAK MANAGEMENT
- PEAK MANAGEMENT IS REQUIRED. SITE DISCHARGE WILL NOT EXCEED PRE-PROJECT PEAK FLOWS FOR THE 2-YEAR THROUGH 10-YEAR STORM EVENTS. PEAK MANAGEMENT WILL BE CONTROLLED IN DETENTION BASINS D1 - D20.4.

SB COUNTY FLOOD CONTROL MEASURES

DETENTION VOLUME SBUH METHOD
- PEAK MANAGEMENT IS REQUIRED. SITE DISCHARGE WILL NOT EXCEED PRE-PROJECT PEAK FLOWS FOR THE 2-YEAR THROUGH 100-YEAR STORM EVENTS.



TYPICAL BIORETENTION

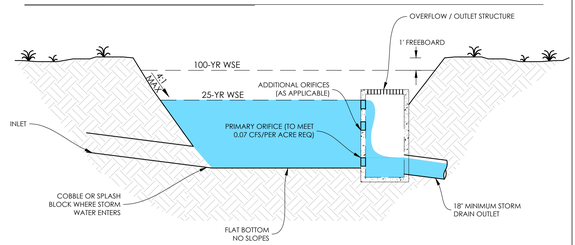
NTS

Table 2. Detention Basin Sizing

Basin ID	Bottom Area (sf)	100-yr Max Storage Depth (ft)	Total Depth (ft)	Storage Volume (ac-ft)	Total Volume* (ac-ft)
1	19,200	4.83	6.00	2.873	3.808
3	6,075	3.96	5.00	0.841	1.172
5	30,000	4.00	5.00	3.337	4.423
7	39,675	7.14	8.50	8.839	11.095
12.1	129,600	9.41	10.50	35.720	40.918
12.2	129,600	9.41	10.50	35.720	40.918
15	19,200	3.08	4.50	1.648	2.623
16.2	750	2.23	3.25	0.481	0.770
16.3	76,800	5.42	6.50	11.357	14.078
18	43,200	5.26	6.50	6.512	8.443
20.2	3,414	4.16	5.25	0.503	0.709
20.3	4,265	2.67	3.67	0.405	0.460
20.4	3,495	5.05	6.25	0.852	1.209

* Total Volume = Storage Volume + 1' Freeboard

TYPICAL DETENTION BASIN



0 600 1200 1800feet

1"=600'

rrm

solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
STORMWATER CONTROL PLAN

W1

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LEGEND

- TRACT BOUNDARY
- 500 PROPOSED MAJOR CONTOUR (5' INTERVALS)
- 500 EXISTING MAJOR CONTOUR (20' INTERVALS)
- DMA BOUNDARY
- SELF-TREATING AREA
- X DMA ID
- DIVERTER TERRACE
- ENERGY DISSIPATER

LAND USE DESIGNATION:

- NATURAL
- COMMERCIAL
- OPEN SPACE
- PUBLIC/INSTITUTIONAL
- RECREATIONAL
- RESIDENTIAL - MULTI FAMILY
- RESIDENTIAL 1 (~70% IMPERVIOUS)
- RESIDENTIAL 2 (~65% IMPERVIOUS)

SHOWN FOR REFERENCE ONLY. CALCULATIONS PER 25CUP-00005, UNDER SEPARATE COVER FOR "NEWLOVE PARK"

D1 D3 D5 D7 D18 D20.2-4

PROPERTY LINE

DMA ID	Tier 2 Required Treatment Area (sf)	Provided Treatment Area (sf)	Tier 3 Required Retention Volume (cuft)	Ponding Depth (in)	Depth Below Underdrain (ft)	Orifice Diameter (in)	Drawdown Time (hrs)
1	22,658	36,000	42,483	6	2.95	1.77	47.10
2	6,716	11,000	12,693	6	2.88	0.98	46.10
3	28,695	46,000	54,663	6	2.97	2.01	47.40
4	84,843	134,000	160,546	6	3.00	3.44	47.80
5	476,955	750,000	903,637	6	3.01	8.17	48.00
6	20,603	32,000	37,165	6	2.90	1.65	46.20
7	10,882	17,000	20,402	6	3.00	1.22	47.80
8	119,064	190,000	223,819	6	2.94	4.07	47.00
9	47,827	75,250	90,503	6	3.01	2.59	47.90

Percent Impervious by Land Use								
Brush	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road
0	0	35	72	65	75	80	55	90

SEE SHEET H6

0 300 600 900 feet

1"=300'

rrm

solomon hills

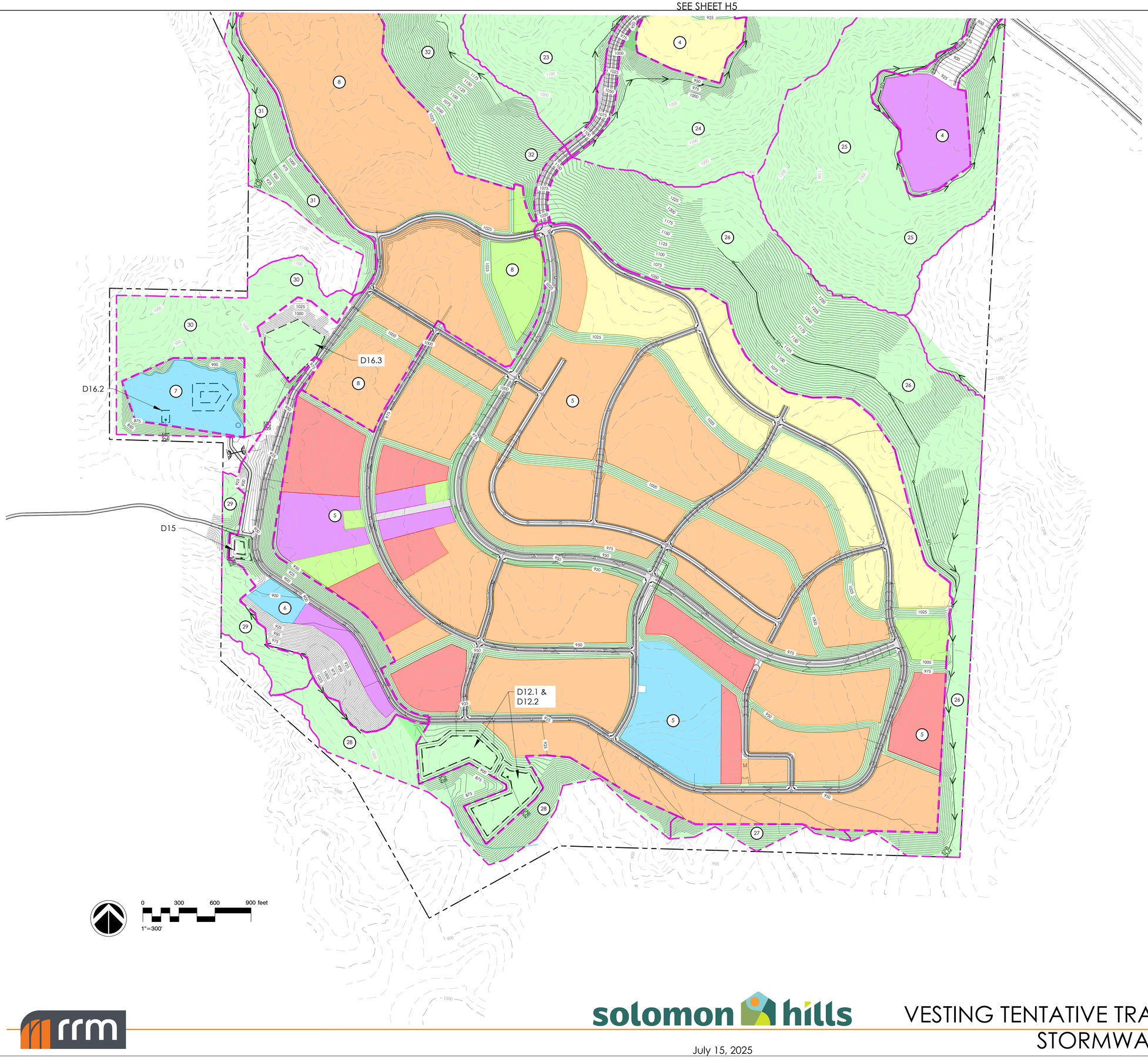
July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
STORMWATER CONTROL PLAN

W2

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SEE SHEET H5



LEGEND

- TRACT BOUNDARY
- PROPOSED MAJOR CONTOUR (5' INTERVALS)
- EXISTING MAJOR CONTOUR (20' INTERVALS)
- DMA BOUNDARY
- SELF-TREATING AREA
- DMA ID
- DIVERTER TERRACE
- ENERGY DISSIPATER

LAND USE DESIGNATION:

- NATURAL
- COMMERCIAL
- OPEN SPACE
- PUBLIC/INSTITUTIONAL
- RECREATIONAL
- RESIDENTIAL - MULTI FAMILY
- RESIDENTIAL 1 (~70% IMPERVIOUS)
- RESIDENTIAL 2 (~65% IMPERVIOUS)

DMA ID	Tier 2 Required Treatment Area (sf)	Provided Treatment Area (sf)	Tier 3 Required Retention Volume (cuft)	Ponding Depth (in)	Depth Below Underdrain (ft)	Orifice Diameter (in)	Drawdown Time (hrs)
1	22,658	36,000	42,483	6	2.95	1.77	47.10
2	6,716	11,000	12,693	6	2.88	0.98	46.10
3	28,695	46,000	54,663	6	2.97	2.01	47.40
4	84,843	134,000	160,546	6	3.00	3.44	47.80
5	476,955	750,000	903,637	6	3.01	8.17	48.00
6	20,603	32,000	37,165	6	2.90	1.65	46.20
7	10,882	17,000	20,402	6	3.00	1.22	47.80
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9	47,827	75,250	90,503	6	3.01	2.59	47.90

Percent Impervious by Land Use								
Brush	Open Space	Recreation	Residential 1	Residential 2	Residential MF	Commerical	Public/ Institutional	Road
0	0	35	72	65	75	80	55	90

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solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
STORMWATER CONTROL PLAN

W3

Attachment 2

Stormwater Control Measures Sizing Calculator

Central Coast Region Stormwater Control Measure Sizing Calculator

Version: 8/4/2017

1. Project Information

Project name:	New Love Park
Project location:	Solomon Hills, Santa Maria
Tier 2/Tier 3:	Tier 2 - Treatment
Design rainfall depth (in):	1.0
Total project area (ft2):	30981155
Total DMA area (ft2):	30981155
Total new impervious area (ft2):	17958086
Total replaced impervious within a USA (ft2):	0
Total replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	13023069
Total SCM area (ft2):	1216000

Check Total DMA and SCM areas to ensure they match total project area

2. DMA Characterization

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
DMA 1.1	Drains to SCM	519387	Concrete or asphalt	New	SCM 1
DMA 1.2	Drains to SCM	470571	Landscape	New	SCM 1
DMA 2.1	Drains to SCM	163774	Concrete or asphalt	New	SCM 2
DMA 2.2	Drains to SCM	41253	Landscape	New	SCM 2
DMA 3.1	Drains to SCM	688446	Concrete or asphalt	New	SCM 3
DMA 3.2	Drains to SCM	289181	Landscape	New	SCM 3
DMA 4.1	Drains to SCM	1969068	Concrete or asphalt	New	SCM 4
DMA 4.2	Drains to SCM	1520131	Landscape	New	SCM 4
DMA 5.1	Drains to SCM	11180757	Concrete or asphalt	New	SCM 5
DMA 5.2	Drains to SCM	7431239	Landscape	New	SCM 5
DMA 6.1	Drains to SCM	419839	Concrete or asphalt	New	SCM 6
DMA 6.2	Drains to SCM	952388	Landscape	New	SCM 6
DMA 7.1	Drains to SCM	242858	Concrete or asphalt	New	SCM 7
DMA 7.2	Drains to SCM	291832	Landscape	New	SCM 7
DMA 8.1	Drains to SCM	2773957	Concrete or asphalt	New	SCM 8
DMA 8.2	Drains to SCM	2026474	Landscape	New	SCM 8

DMA Summary Area	
Total assigned DMA area (ft2):	30981155
New impervious area (ft2):	17958086
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	13023069

3. SCM Characterization

Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Flow Control Orifice?	Reservoir Depth (in)
SCM 1	Bioretention	1	HSG C/D	0.25	36000	Yes	6
SCM 2	Bioretention	1	HSG C/D	0.25	11000	Yes	6
SCM 3	Bioretention	1	HSG C/D	0.25	46000	Yes	6
SCM 4	Bioretention	1	HSG C/D	0.25	134000	Yes	6
SCM 5	Bioretention	1	HSG C/D	0.25	750000	Yes	6
SCM 6	Bioretention	1	HSG C/D	0.25	32000	Yes	6
SCM 7	Bioretention	1	HSG C/D	0.25	17000	Yes	6
SCM 8	Bioretention	1	HSG C/D	0.25	190000	Yes	6

4. Run SBUH Model

5. SCM Minimum Sizing Requirements

SCM Name	Mininum SCM Area (ft2)			
SCM 1	22658			
SCM 2	6716			
SCM 3	28695			
SCM 4	84843			
SCM 5	476955			
SCM 6	20603			
SCM 7	10882			
SCM 8	119064			

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio

Central Coast Region Stormwater Control Measure Sizing Calculator

Version: 8/4/2017

1. Project Information

Project name:	New Love Park
Project location:	Solomon Hills, Santa Maria
Tier 2/Tier 3:	Tier 2 - Treatment
Design rainfall depth (in):	1.0
Total project area (ft2):	33904280
Total DMA area (ft2):	33904280
Total new impervious area (ft2):	1122077
Total replaced impervious within a USA (ft2):	0
Total replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	32782203
Total SCM area (ft2):	75250

2. DMA Characterization

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
DMA 9.1	Drains to SCM	1122077	Concrete or asphalt	New	SCM 9
DMA 9.2	Drains to SCM	736080	Landscape	New	SCM 9
DMA 11-39	Self-Treating	32046123			

DMA Summary Area	
Total assigned DMA area (ft2):	33904280
New impervious area (ft2):	1122077
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	32782203

3. SCM Characterization

Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Flow Control Orifice?	Reservoir Depth (in)
SCM 9	Bioretention	1	HSG C/D	0.25	75250	Yes	6

4. Run SBUH Model

5. SCM Minimum Sizing Requirements

SCM Name	Mininum SCM Area (ft2)			
SCM 9	47827			2.59

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio

Central Coast Region Stormwater Control Measure Sizing Calculator

Version: 8/4/2017

1. Project Information

Project name:	New Love Park
Project location:	Solomon Hills, Santa Maria
Tier 2/Tier 3:	Tier 3 - Retention
Design rainfall depth (in):	1.6
Total project area (ft2):	30981155
Total DMA area (ft2):	30981155
Total new impervious area (ft2):	17958086
Total replaced impervious within a USA (ft2):	0
Total replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	13023069
Total SCM area (ft2):	1216000

Check Total DMA and SCM areas to ensure they match total project area

2. DMA Characterization

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
DMA 1.1	Drains to SCM	519387	Concrete or asphalt	New	SCM 1
DMA 1.2	Drains to SCM	470571	Landscape	New	SCM 1
DMA 2.1	Drains to SCM	163774	Concrete or asphalt	New	SCM 2
DMA 2.2	Drains to SCM	41253	Landscape	New	SCM 2
DMA 3.1	Drains to SCM	688446	Concrete or asphalt	New	SCM 3
DMA 3.2	Drains to SCM	289181	Landscape	New	SCM 3
DMA 4.1	Drains to SCM	1969068	Concrete or asphalt	New	SCM 4
DMA 4.2	Drains to SCM	1520131	Landscape	New	SCM 4
DMA 5.1	Drains to SCM	11180757	Concrete or asphalt	New	SCM 5
DMA 5.2	Drains to SCM	7431239	Landscape	New	SCM 5
DMA 6.1	Drains to SCM	419839	Concrete or asphalt	New	SCM 6
DMA 6.2	Drains to SCM	952388	Landscape	New	SCM 6
DMA 7.1	Drains to SCM	242858	Concrete or asphalt	New	SCM 7
DMA 7.2	Drains to SCM	291832	Landscape	New	SCM 7
DMA 8.1	Drains to SCM	2773957	Concrete or asphalt	New	SCM 8
DMA 8.2	Drains to SCM	2026474	Landscape	New	SCM 8

DMA Summary Area	
Total assigned DMA area (ft2):	30981155
New impervious area (ft2):	17958086
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	13023069

3. SCM Characterization

Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Flow Control Orifice?	Reservoir Depth (in)
SCM 1	Bioretention	1	HSG C/D	0.25	**36000**	Yes	6
SCM 2	Bioretention	1	HSG C/D	0.25	11000	Yes	6
SCM 3	Bioretention	1	HSG C/D	0.25	46000	Yes	6
SCM 4	Bioretention	1	HSG C/D	0.25	**134000**	Yes	6
SCM 5	Bioretention	1	HSG C/D	0.25	750000	Yes	6
SCM 6	Bioretention	1	HSG C/D	0.25	**32000**	Yes	6
SCM 7	Bioretention	1	HSG C/D	0.25	**17000**	Yes	6
SCM 8	Bioretention	1	HSG C/D	0.25	**190000**	Yes	6

4. Run SBUH Model

5. SCM Minimum Sizing Requirements

SCM Name	Min. Required Storage Vol. (ft3)	Depth Below Underdrain (ft)	Drain Time (hours)	Orifice Diameter (in)
SCM 1	42483	2.95	47.1	1.77
SCM 2	12693	2.88	46.1	0.98
SCM 3	54663	2.97	47.4	2.01
SCM 4	160546	3.00	47.8	3.44
SCM 5	903637	3.01	48.0	8.17
SCM 6	37165	2.90	46.2	1.65
SCM 7	20402	3.00	47.8	1.22
SCM 8	223819	2.94	47.0	4.07

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio

Central Coast Region Stormwater Control Measure Sizing Calculator

Version: 8/4/2017

1. Project Information

Project name:	New Love Park
Project location:	Solomon Hills, Santa Maria
Tier 2/Tier 3:	Tier 3 - Retention
Design rainfall depth (in):	1.6
Total project area (ft2):	33904280
Total DMA area (ft2):	33904280
Total new impervious area (ft2):	1122077
Total replaced impervious within a USA (ft2):	0
Total replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	32782203
Total SCM area (ft2):	11057

2. DMA Characterization

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
DMA 9.1	Drains to SCM	1122077	Concrete or asphalt	New	SCM 9
DMA 9.2	Drains to SCM	736080	Landscape	New	SCM 9
DMA 11-39	Self-Treating	32046123			

DMA Summary Area	
Total assigned DMA area (ft2):	33904280
New impervious area (ft2):	1122077
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	32782203

3. SCM Characterization

Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Flow Control Orifice?	Reservoir Depth (in)
SCM 9	Bioretention	1	HSG C/D	0.25	75250	Yes	6

Note: SCM areas in 'Project Information' and 'SCM Characterization' blocks differ by more than 2%. Please check.

4. Run SBUH Model

5. SCM Minimum Sizing Requirements

SCM Name	Min. Required Storage Vol. (ft3)	Depth Below Underdrain (ft)	Drain Time (hours)	Orifice Diameter (in)
SCM 9	90503	3.01	47.9	2.59

Results are out of date.
Click 'Launch Model' to update.

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio

Attachment 3

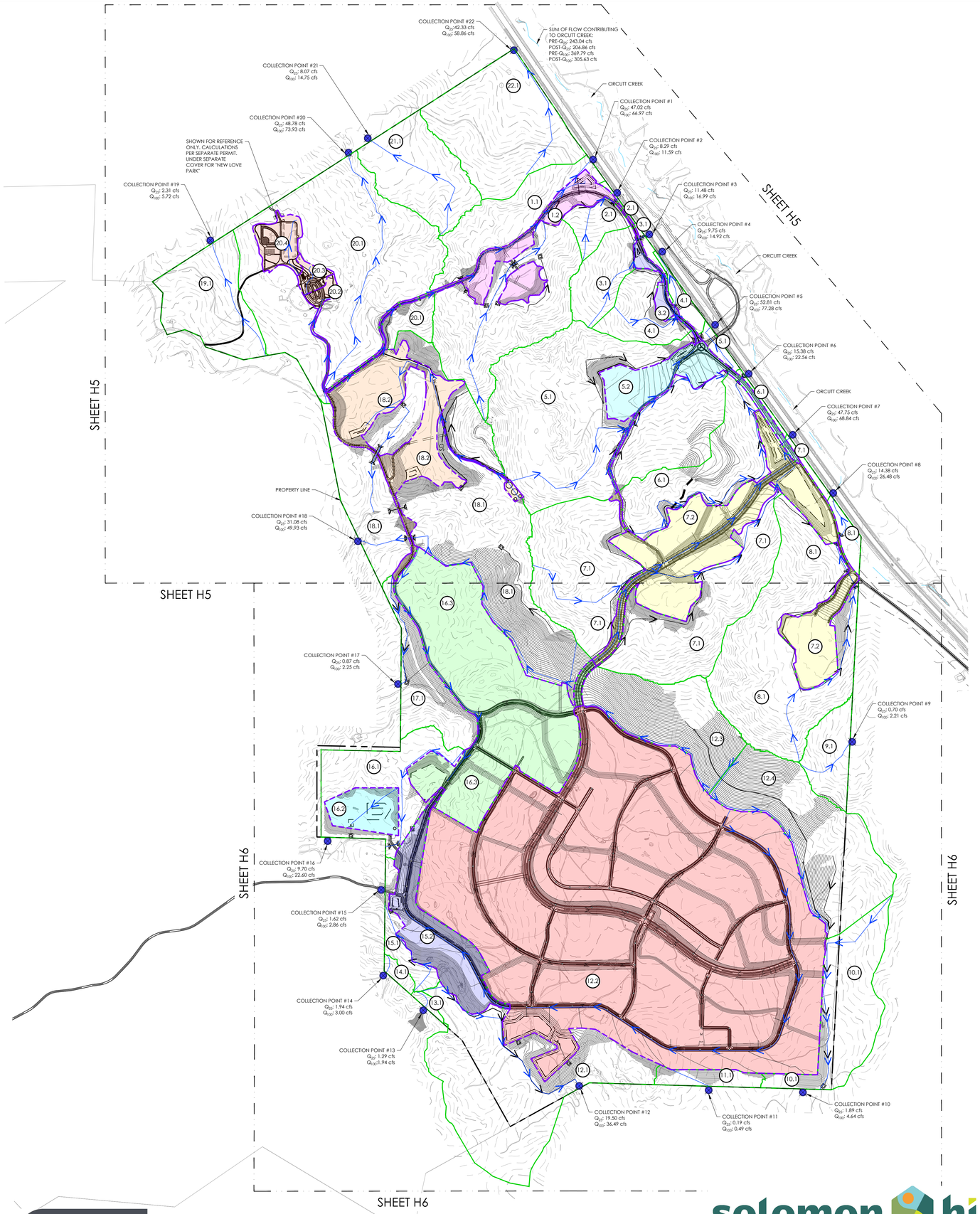
Hydro CAD Results

Collection Point Flow Data Summary Tables

Flow Summary Pre-Development																						
	Collection Point																					
Storm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2	16.23	3.11	2.84	2.19	12.67	5.29	14.21	1.56	0.08	0.64	0.07	3.61	0.34	0.36	0.46	2.17	1.25	12.24	0.27	14.86	0.80	14.58
5	28.95	5.42	5.58	5.14	25.74	9.05	29.28	3.67	0.20	1.44	0.28	8.45	0.66	0.84	1.05	6.06	2.90	25.14	0.60	29.09	2.31	23.71
10	40.16	7.44	8.06	7.94	38.34	12.33	43.92	7.05	0.34	2.59	0.52	14.46	0.95	1.29	1.98	10.67	5.28	37.41	1.08	42.49	4.32	31.53

Flow Summary Post-Development																						
	Collection Point																					
Storm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2	14.45	2.78	2.84	1.96	14.69	4.31	14.42	1.76	0.08	0.23	0.01	3.05	0.29	0.36	0.33	1.88	0.09	6.28	0.27	11.31	0.80	14.58
5	24.97	4.58	5.55	4.32	26.90	7.75	24.95	4.25	0.20	0.58	0.06	6.68	0.60	0.84	0.54	4.80	0.27	12.86	0.60	22.30	2.31	23.71
10	34.15	6.13	7.99	6.53	37.27	10.88	34.34	7.93	0.34	1.00	0.10	10.66	0.88	1.29	0.87	6.84	0.45	20.00	1.08	33.06	4.32	31.53

Delta Flow Summary: Post-Pre																						
	Collection Point																					
Storm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2	-1.78	-0.33	0.00	-0.23	2.02	-0.98	0.21	0.20	0.00	-0.41	-0.06	-0.56	-0.05	0.00	-0.13	-0.29	-1.16	-5.96	0.00	-3.55	0.00	0.00
5	-3.98	-0.84	-0.03	-0.82	1.16	-1.30	-4.33	0.58	0.00	-0.86	-0.22	-1.77	-0.06	0.00	-0.51	-1.26	-2.63	-12.28	0.00	-6.79	0.00	0.00
10	-6.01	-1.31	-0.07	-1.41	-1.07	-1.45	-9.58	0.88	0.00	-1.59	-0.42	-3.80	-0.07	0.00	-1.11	-3.83	-4.83	-17.41	0.00	-9.43	0.00	0.00



LEGEND

- TRACT BOUNDARY
- DRAINAGE AREA BOUNDARY
- DEVELOPED AREA BOUNDARY
- HYDROLOGIC FLOW PATH
- 500 — PROPOSED MAJOR CONTOUR (5' INTERVALS)
- 500 — EXISTING MAJOR CONTOUR (20' INTERVALS)
- COLLECTION POINT
- 22 — DRAINAGE AREA ID
- DIVERTER TERRACE
- ENERGY DISSIPATER
- STORM DRAIN CATCH BASIN

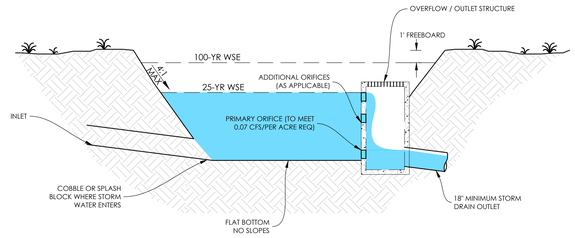
Table 2. Detention Basin Sizing

Basin ID	Bottom Area (sf)	100-yr Max Storage Depth (ft)	Total Depth (ft)	Storage Volume (ac-ft)	Total Volume* (ac-ft)
1	19,200	4.83	6.00	2.873	3.808
3	6,075	3.96	5.00	0.841	1.172
5	30,000	4.00	5.00	3.337	4.423
7	39,675	7.14	8.50	8.839	11.095
12.1	129,600	9.41	10.50	35.720	40.918
12.2	129,600	9.41	10.50	35.720	40.918
15	19,200	3.08	4.50	1.648	2.623
16.2	750	2.23	3.25	0.481	0.770
16.3	76,800	5.42	6.50	11.357	14.078
18	43,200	5.26	6.50	6.512	8.443
20.2	3,414	4.16	5.25	0.503	0.709
20.3	4,265	2.67	3.67	0.405	0.460
20.4	3,495	5.05	6.25	0.852	1.209

* Total Volume = Storage Volume + 1' Freeboard

Drainage Area ID	Area (ac)	CN	Flow Length (ft)	Slope (ft/ft)	TC (min)
1.1	84.92	79	4,203	0.154	38.2
1.2	22.73	80	4,976	0.077	21.5
2.1	6.79	80	1,201	0.241	20.7
3.1	19.34	75	1,628	0.219	24.1
3.2	4.71	87	1,531	0.029	19.5
4.1	21.42	73	1,976	0.131	29.5
5.1	126.41	77	4,927	0.087	48.7
5.2	22.44	82	2,416	0.102	18
6.1	40.36	77	4,184	0.045	55
7	168.05	78	5,491	0.088	51
7.2	80.10	77	4,041	0.080	20.4
8.1	89.77	64	4,270	0.105	43.1
9	16.15	53	879	0.241	17.9
10.1	42.34	54	3,248	0.100	38.8
11	7.58	49	560	0.125	16.9
12.1	90.76	49	3,100	0.072	41.8
12.2	427.27	74	7,353	0.018	31.4
12.3	42.31	69	3,115	0.072	48.2
12.4	62.78	65	3,621	0.064	56.2
13	1.55	73	294	0.408	9.5
14	2.51	71	246	0.524	8.2
15.1	0.53	52	1,585	0.165	25.7
15.2	31.50	58	2,036	0.010	24
16.1	30.26	66	2,287	0.072	36.8
16.2	12.27	67	808	0.068	15.7
16.3	110.20	77	3,863	0.008	64.7
17	24.47	52	1,613	0.094	29.7
18.1	133.41	69	4,653	0.053	55
18.2	42.66	67	3,224	0.034	22.1
19	35.50	56	1,740	0.099	30.2
20.1	123.03	74	3,956	0.117	40.4
20.2	3.95	82	1,642	0.058	18.1
20.3	3.42	81	545	0.016	28.2
20.4	7.71	77	845	0.028	17.2
21	35.30	65	2,036	0.135	29.7
22	58.00	81	1,968	0.139	29.1
Total	**1984.52**				

TYPICAL DETENTION BASIN



0 600 1200 1800 feet
1"=600'

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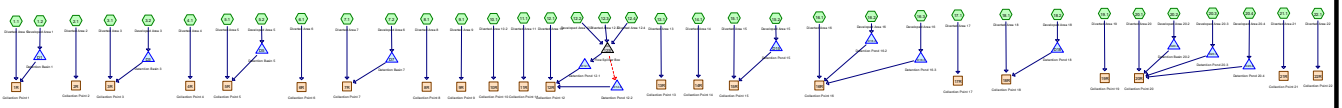
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solomon hills

July 15, 2025

VESTING TENTATIVE TRACT MAP NO. 14,909
POST-DEVELOPMENT HYDROLOGY EXHIBIT

H4



Subcat Reach Pond Link

Routing Diagram for SolomonHills Post Development DMAs
Prepared by RRM Design Group, Printed 7/15/2025
HydroCAD® 10.20-7a s/n 13395 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 year	Type I 24-hr		Default	24.00	1	2.38	2
2	5 year	Type I 24-hr		Default	24.00	1	2.95	2
3	10 year	Type I 24-hr		Default	24.00	1	3.40	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
19.336	75	Brush and open space, See Attachment 3 (3.1)
62.782	65	Brush and open space, See Attachment 3 (12.4)
22.097	73	Brush and open space, see Attachment 3. (4.1, 13.1)
40.361	77	Brush and open space, see Attachment 3. (6.1)
107.984	78	Brush and open space, see Attachment 3. (7.1)
89.775	64	Brush and open space, see Attachment 3. (8.1)
16.152	53	Brush and open space, see Attachment 3. (9.1)
42.341	54	Brush and open space, see Attachment 3. (10.1)
98.347	49	Brush and open space, see Attachment 3. (11.1, 12.1)
175.717	69	Brush and open space, see Attachment 3. (12.3, 18.1)
2.510	71	Brush and open space, see Attachment 3. (14.1)
30.122	66	Brush and open space, see Attachment 3. (16.1)
24.474	52	Brush and open space, see Attachment 3. (17.1)
84.354	79	Brush and open space, see attachment 3. (1.1)
125.902	77	Brush and opne space, see Attachment 3 (5.1)
18.554	48	Brush, Poor, HSG A (20.1)
68.407	77	Brush, Poor, HSG C (20.1)
34.445	83	Brush, Poor, HSG D (20.1)
9.656	80	Brush, see Attachment 3. (2.1)
2.889	87	Composite CN, see Attachment 3 (3.2)
374.352	74	Composite CN, see Attachment 3 (12.2)
17.260	82	Composite CN, see Attachment 3. (5.2)
9.430	52	Composite CN, see Attachment 3. (15.1)
25.308	58	Composite CN, see Attachment 3. (15.2)
12.275	67	Composite CN, see Attachment 3. (16.2)
101.713	77	Composite CN, see Attachment 3. (16.3)
38.285	87	Composite CN, see Attachment 3. (18.2)
63.306	77	Composite CN, see Attchment 3. (7.2)
16.470	80	Composite CN, see attachment 3. (1.2)
35.503	56	Existing brush, see Attachment 3. (19.1)
35.305	65	Existing brush, see Attachment 3. (21.1)
57.997	81	Existing brush, see Attachment 3. (22.1)
3.454	98	Hardscape (20.2, 20.3, 20.4)
0.031	39	Open Space, Good, HSG A (20.1)
11.805	74	Open Space, Good, HSG C (20.1, 20.2, 20.3, 20.4)
74.711	83	Paved; Open ditches (including right-of-way), HSG A (1.1, 1.2, 2.1, 3.2, 4.1, 5.1, 5.2, 7.2, 12.2, 15.1, 15.2, 16.1, 16.3, 18.2)
15.482	92	Paved; Open ditches (including right-of-way), HSG C (1.1, 1.2, 5.2, 7.1, 7.2, 12.2, 16.3, 18.2)
14.214	93	Paved; Open ditches (including right-of-way), HSG D (1.2, 2.1, 3.2, 5.2, 7.2, 12.2, 15.2, 16.1, 16.3, 18.2)

Area Listing (all nodes) (continued)

Area (acres)	CN	Description (subcatchment-numbers)
1.415	87	Pavers/DG, Good, HSG C (20.1, 20.2, 20.3, 20.4)
1,984.517	**72**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
93.296	HSG A	1.1, 1.2, 2.1, 3.2, 4.1, 5.1, 5.2, 7.2, 12.2, 15.1, 15.2, 16.1, 16.3, 18.2, 20.1
0.000	HSG B	
97.108	HSG C	1.1, 1.2, 5.2, 7.1, 7.2, 12.2, 16.3, 18.2, 20.1, 20.2, 20.3, 20.4
48.658	HSG D	1.2, 2.1, 3.2, 5.2, 7.2, 12.2, 15.2, 16.1, 16.3, 18.2, 20.1
1,745.455	Other	1.1, 1.2, 2.1, 3.1, 3.2, 4.1, 5.1, 5.2, 6.1, 7.1, 7.2, 8.1, 9.1, 10.1, 11.1, 12.1, 12.2, 12.3, 12.4, 13.1, 14.1, 15.1, 15.2, 16.1, 16.2, 16.3, 17.1, 18.1, 18.2, 19.1, 20.2, 20.3, 20.4, 21.1, 22.1
1,984.517		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Su Nu
0.000	0.000	0.000	0.000	82.118	82.118	Brush and open space, See Attachment 3	
0.000	0.000	0.000	0.000	649.880	649.880	Brush and open space, see Attachment 3.	
0.000	0.000	0.000	0.000	84.354	84.354	Brush and open space, see attachment 3.	
0.000	0.000	0.000	0.000	125.902	125.902	Brush and opne space, see Attachment 3	
18.554	0.000	68.407	34.445	0.000	121.405	Brush, Poor	
0.000	0.000	0.000	0.000	9.656	9.656	Brush, see Attachment 3.	
0.000	0.000	0.000	0.000	377.241	377.241	Composite CN, see Attachment 3	
0.000	0.000	0.000	0.000	204.271	204.271	Composite CN, see Attachment 3.	
0.000	0.000	0.000	0.000	63.306	63.306	Composite CN, see Attchment 3.	
0.000	0.000	0.000	0.000	16.470	16.470	Composite CN, see attachment 3.	
0.000	0.000	0.000	0.000	128.805	128.805	Existing brush, see Attachment 3.	
0.000	0.000	0.000	0.000	3.454	3.454	Hardscape	
0.031	0.000	11.805	0.000	0.000	11.835	Open Space, Good	
74.711	0.000	15.482	14.214	0.000	104.407	Paved; Open ditches (including right-of-way)	
0.000	0.000	1.415	0.000	0.000	1.415	Pavers/DG, Good	
93.296	**0.000**	**97.108**	**48.658**	**1,745.455**	**1,984.517**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	12.3	0.00	0.00	4,477.0	0.0270	0.013	0.0	24.0	0.0	
2	12.4	0.00	0.00	5,550.0	0.0200	0.013	0.0	21.0	0.0	
3	12S	110.00	100.00	80.0	0.1250	0.013	0.0	48.0	0.0	
4	12S	110.00	100.00	80.0	0.1250	0.013	0.0	48.0	0.0	
5	D1	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
6	D12.1	100.00	99.90	10.0	0.0100	0.013	0.0	30.0	0.0	
7	D12.2	100.00	99.90	10.0	0.0100	0.013	0.0	30.0	0.0	
8	D15	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
9	D16.2	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
10	D16.3	100.00	99.90	10.0	0.0100	0.013	0.0	24.0	0.0	
11	D18	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
12	D20.2	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
13	D20.3	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
14	D20.4	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
15	D3	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
16	D5	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	
17	D7	100.00	99.90	10.0	0.0100	0.013	0.0	18.0	0.0	

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: Diverted Area 1 Runoff Area=3,698,995 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=4,203' Slope=0.1540 '/' Tc=38.2 min CN=79/0 Runoff=14.39 cfs 5.365 af

Subcatchment 1.2: Developed Area 1 Runoff Area=989,958 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=4,976' Slope=0.0770 '/' Tc=21.5 min CN=82/0 Runoff=7.57 cfs 1.725 af

Subcatchment 2.1: Diverted Area 2 Runoff Area=426,454 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,202' Slope=0.2410 '/' Tc=20.7 min CN=80/0 Runoff=2.78 cfs 0.658 af

Subcatchment 3.1: Diverted Area 3 Runoff Area=842,263 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=1,628' Slope=0.2190 '/' Tc=24.1 min CN=75/0 Runoff=2.78 cfs 0.937 af

Subcatchment 3.2: Developed Area 3 Runoff Area=205,028 sf 0.00% Impervious Runoff Depth=1.08"
Flow Length=1,531' Slope=0.0290 '/' Tc=19.5 min CN=85/0 Runoff=2.12 cfs 0.425 af

Subcatchment 4.1: Diverted Area 4 Runoff Area=933,066 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=1,976' Slope=0.1310 '/' Tc=29.5 min CN=73/0 Runoff=1.96 cfs 0.900 af

Subcatchment 5.1: Diverted Area 5 Runoff Area=5,506,547 sf 0.00% Impervious Runoff Depth=0.67"
Flow Length=4,927' Slope=0.0870 '/' Tc=48.7 min CN=77/0 Runoff=14.53 cfs 7.018 af

Subcatchment 5.2: Developed Area 5 Runoff Area=977,666 sf 0.00% Impervious Runoff Depth=1.02"
Flow Length=2,416' Slope=0.1020 '/' Tc=18.0 min CN=84/0 Runoff=9.76 cfs 1.915 af

Subcatchment 6.1: Diverted Area 6 Runoff Area=1,758,127 sf 0.00% Impervious Runoff Depth=0.67"
Flow Length=4,184' Slope=0.0450 '/' Tc=55.0 min CN=77/0 Runoff=4.31 cfs 2.241 af

Subcatchment 7.1: Diverted Area 7 Runoff Area=4,706,562 sf 0.00% Impervious Runoff Depth=0.71"
Flow Length=5,491' Slope=0.0880 '/' Tc=51.0 min CN=78/0 Runoff=13.49 cfs 6.404 af

Subcatchment 7.2: Developed Area 6 Runoff Area=3,489,199 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=4,041' Slope=0.0800 '/' Tc=20.4 min CN=79/0 Runoff=20.74 cfs 5.060 af

Subcatchment 8.1: Diverted Area 8 Runoff Area=3,910,579 sf 0.00% Impervious Runoff Depth=0.23"
Flow Length=4,273' Slope=0.1050 '/' Tc=43.1 min CN=64/0 Runoff=1.76 cfs 1.713 af

Subcatchment 9.1: Diverted Area 9 Runoff Area=703,591 sf 0.00% Impervious Runoff Depth=0.04"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=0.08 cfs 0.052 af

Subcatchment 10.1: Diverted Area 10.2 Runoff Area=1,844,365 sf 0.00% Impervious Runoff Depth=0.05"
Flow Length=3,248' Slope=0.1000 '/' Tc=38.8 min CN=54/0 Runoff=0.23 cfs 0.176 af

Subcatchment 11.1: Diverted Area 11 Runoff Area=330,401 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=560' Slope=0.1250 '/' Tc=16.9 min CN=49/0 Runoff=0.01 cfs 0.005 af

Subcatchment 12.1: Diverted Area 12 Runoff Area=3,953,596 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=3,100' Slope=0.0720 '/' Tc=41.8 min CN=49/0 Runoff=0.16 cfs 0.063 af

Subcatchment 12.2: Developed Area Runoff Area=18,611,996 sf 0.00% Impervious Runoff Depth=0.58"
Flow Length=7,353' Slope=0.0180 '/' Tc=31.4 min CN=75/0 Runoff=50.77 cfs 20.711 af

Subcatchment 12.3: Diverted Area 12.3 Runoff Area=1,842,936 sf 0.00% Impervious Runoff Depth=0.37"
Flow Length=7,592' Tc=48.2 min CN=69/0 Runoff=1.61 cfs 1.295 af

Subcatchment 12.4: Diverted Area 12.4 Runoff Area=2,734,787 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=9,171' Tc=56.2 min CN=65/0 Runoff=1.36 cfs 1.328 af

Subcatchment 13.1: Diverted Area 13 Runoff Area=67,532 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=73/0 Runoff=0.29 cfs 0.065 af

Subcatchment 14.1: Diverted Area 14 Runoff Area=109,322 sf 0.00% Impervious Runoff Depth=0.43"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=0.36 cfs 0.090 af

Subcatchment 15.1: Diverted Area 15 Runoff Area=414,988 sf 0.00% Impervious Runoff Depth=0.03"
Flow Length=1,585' Slope=0.1650 '/' Tc=25.7 min CN=52/0 Runoff=0.04 cfs 0.023 af

Subcatchment 15.2: Developed Area 15 Runoff Area=1,372,228 sf 0.00% Impervious Runoff Depth=0.21"
Flow Length=2,036' Slope=0.0100 '/' Tc=24.0 min CN=63/0 Runoff=0.56 cfs 0.539 af

Subcatchment 16.1: Diverted Area 16 Runoff Area=1,317,955 sf 0.00% Impervious Runoff Depth=0.28"
Flow Length=2,287' Slope=0.0720 '/' Tc=36.8 min CN=66/0 Runoff=0.78 cfs 0.706 af

Subcatchment 16.2: Developed Area 16 Runoff Area=534,690 sf 0.00% Impervious Runoff Depth=0.31"
Flow Length=808' Slope=0.0680 '/' Tc=15.7 min CN=67/0 Runoff=0.47 cfs 0.315 af

Subcatchment 16.3: Developed Area 16 Runoff Area=4,800,431 sf 0.00% Impervious Runoff Depth=0.71"
Flow Length=3,863' Slope=0.0080 '/' Tc=64.7 min CN=78/0 Runoff=11.90 cfs 6.531 af

Subcatchment 17.1: Diverted Area 17 Runoff Area=1,066,067 sf 0.00% Impervious Runoff Depth=0.03"
Flow Length=1,613' Slope=0.0940 '/' Tc=29.7 min CN=52/0 Runoff=0.09 cfs 0.060 af

Subcatchment 18.1: Diverted Area 18 Runoff Area=5,811,307 sf 0.00% Impervious Runoff Depth=0.37"
Flow Length=4,653' Slope=0.0530 '/' Tc=55.0 min CN=69/0 Runoff=4.82 cfs 4.084 af

Subcatchment 18.2: Developed Area 18 Runoff Area=1,858,157 sf 0.00% Impervious Runoff Depth=1.21"
Flow Length=3,224' Slope=0.0340 '/' Tc=22.1 min CN=87/0 Runoff=20.74 cfs 4.306 af

Subcatchment 19.1: Diverted Area 19 Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.08"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=0.27 cfs 0.223 af

Subcatchment 20.1: Diverted Area 20 Runoff Area=5,359,234 sf 0.00% Impervious Runoff Depth=0.54"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=74/0 Runoff=10.86 cfs 5.557 af

Subcatchment 20.2: Developed Area 20.2 Runoff Area=3.949 ac 37.71% Impervious Runoff Depth=1.17"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=1.90 cfs 0.386 af

Subcatchment 20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=1.11"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=1.21 cfs 0.318 af

Subcatchment 20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=0.77"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=2.16 cfs 0.496 af

Subcatchment 21.1: Diverted Area 21 Runoff Area=1,537,885 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=0.80 cfs 0.747 af

Subcatchment 22.1: Diverted Area 22 Runoff Area=2,526,337 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=14.58 cfs 4.146 af

Reach 1R: Collection Point 1 Inflow=14.45 cfs 5.697 af
Outflow=14.45 cfs 5.697 af

Reach 2R: Collection Point 2 Inflow=2.78 cfs 0.658 af
Outflow=2.78 cfs 0.658 af

Reach 3R: Collection Point 3 Inflow=2.84 cfs 1.188 af
Outflow=2.84 cfs 1.188 af

Reach 4R: Collection Point 4 Inflow=1.96 cfs 0.900 af
Outflow=1.96 cfs 0.900 af

Reach 5R: Collection Point 5 Inflow=14.69 cfs 7.636 af
Outflow=14.69 cfs 7.636 af

Reach 6R: Collection Point 6 Inflow=4.31 cfs 2.241 af
Outflow=4.31 cfs 2.241 af

Reach 7R: Collection Point 7 Inflow=14.42 cfs 10.088 af
Outflow=14.42 cfs 10.088 af

Reach 8R: Collection Point 8 Inflow=1.76 cfs 1.713 af
Outflow=1.76 cfs 1.713 af

Reach 9R: Collection Point 9 Inflow=0.08 cfs 0.052 af
Outflow=0.08 cfs 0.052 af

Reach 10R: Collection Point 10 Inflow=0.23 cfs 0.176 af
Outflow=0.23 cfs 0.176 af

Reach 11R: Collection Point 11 Inflow=0.01 cfs 0.005 af
Outflow=0.01 cfs 0.005 af

Reach 12R: Collection Point 12 Inflow=3.05 cfs 5.250 af
Outflow=3.05 cfs 5.250 af

Reach 13R: Collection Point 13 Inflow=0.29 cfs 0.065 af
Outflow=0.29 cfs 0.065 af

Reach 14R: Collection Point 14 Inflow=0.36 cfs 0.090 af
Outflow=0.36 cfs 0.090 af

Reach 15R: Collection Point 15 Inflow=0.33 cfs 0.445 af
Outflow=0.33 cfs 0.445 af

Reach 16R: Collection Point 16 Inflow=1.88 cfs 3.214 af
Outflow=1.88 cfs 3.214 af

Reach 17R: Collection Point 17 Inflow=0.09 cfs 0.060 af
Outflow=0.09 cfs 0.060 af

Reach 18R: Collection Point 18 Inflow=6.28 cfs 7.342 af
Outflow=6.28 cfs 7.342 af

Reach 19R: Collection Point 19 Inflow=0.27 cfs 0.223 af
Outflow=0.27 cfs 0.223 af

Reach 20R: Collection Point 20 Inflow=11.21 cfs 6.527 af
Outflow=11.21 cfs 6.527 af

Reach 21R: Collection Point 21 Inflow=0.80 cfs 0.747 af
Outflow=0.80 cfs 0.747 af

Reach 22R: Collection Point 22 Inflow=14.58 cfs 4.146 af
Outflow=14.58 cfs 4.146 af

Pond 12S: Flow Splitter Box Peak Elev=111.84' Inflow=52.10 cfs 23.335 af
Primary=26.05 cfs 11.667 af Secondary=26.05 cfs 11.667 af Outflow=52.10 cfs 23.335 af

Pond D1: Detention Basin 1 Peak Elev=102.90' Storage=1.539 af Inflow=7.57 cfs 1.725 af
Outflow=0.18 cfs 0.332 af

Pond D12.1: Detention Pond 12.1 Peak Elev=103.15' Storage=10.208 af Inflow=26.05 cfs 11.667 af
Outflow=1.45 cfs 2.594 af

Pond D12.2: Detention Pond 12.2 Peak Elev=103.15' Storage=10.208 af Inflow=26.05 cfs 11.667 af
Outflow=1.45 cfs 2.594 af

Pond D15: Detention Pond 15 Peak Elev=100.66' Storage=0.303 af Inflow=0.56 cfs 0.539 af
Outflow=0.29 cfs 0.422 af

Pond D16.2: Detention Pond 16.2 Peak Elev=100.78' Storage=0.146 af Inflow=0.47 cfs 0.315 af
Outflow=0.18 cfs 0.280 af

Pond D16.3: Detention Pond 16.3 Peak Elev=102.70' Storage=5.208 af Inflow=11.90 cfs 6.531 af
Outflow=1.25 cfs 2.227 af

Pond D18: Detention Pond 18 Peak Elev=102.21' Storage=2.408 af Inflow=20.74 cfs 4.306 af
Outflow=1.78 cfs 3.257 af

Pond D20.2: Detention Basin 20.2 Peak Elev=102.12' Storage=0.209 af Inflow=1.90 cfs 0.386 af
Outflow=0.15 cfs 0.297 af

Pond D20.3: Detention Pond 20.3 Peak Elev=101.16' Storage=6,284 cf Inflow=1.21 cfs 0.318 af
Outflow=0.16 cfs 0.288 af

Pond D20.4: Detention Pond 20.4 Peak Elev=102.20' Storage=11,554 cf Inflow=2.16 cfs 0.496 af
Outflow=0.20 cfs 0.385 af

Pond D3: Detention Basin 3 Peak Elev=101.66' Storage=0.280 af Inflow=2.12 cfs 0.425 af
Outflow=0.13 cfs 0.251 af

Pond D5: Detention Basin 5 Peak Elev=102.05' Storage=1.571 af Inflow=9.76 cfs 1.915 af
Outflow=0.34 cfs 0.617 af

Pond D7: Detention Basin 7 Peak Elev=102.81' Storage=2.907 af Inflow=20.74 cfs 5.060 af
Outflow=2.04 cfs 3.684 af

Total Runoff Area = 1,984.517 ac Runoff Volume = 86.584 af Average Runoff Depth = 0.52"
99.83% Pervious = 1,981.063 ac 0.17% Impervious = 3.454 ac

Summary for Subcatchment 1.1: Diverted Area 1

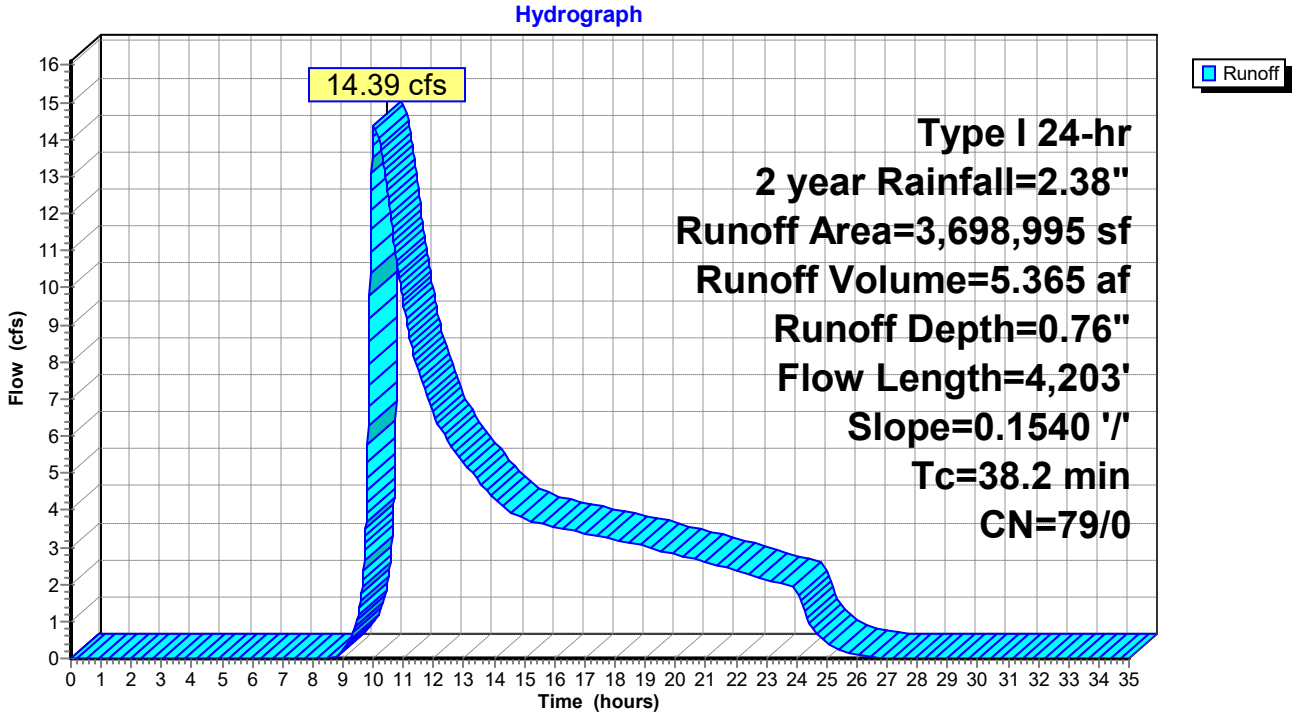
Runoff = 14.39 cfs @ 10.01 hrs, Volume= 5.365 af, Depth= 0.76"
Routed to Reach 1R : Collection Point 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	3,674,469	79	Brush and open space, see attachment 3.
*	24,523	83	Paved; Open ditches (including right-of-way), HSG A
*	3	92	Paved; Open ditches (including right-of-way), HSG C
	3,698,995	79	Weighted Average
	3,698,995	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1540	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.3	3,003	0.1540	3.28		**Kirpich Method,** General overland flow k= 2.00
38.2	4,203	Total			

Subcatchment 1.1: Diverted Area 1



Summary for Subcatchment 1.2: Developed Area 1

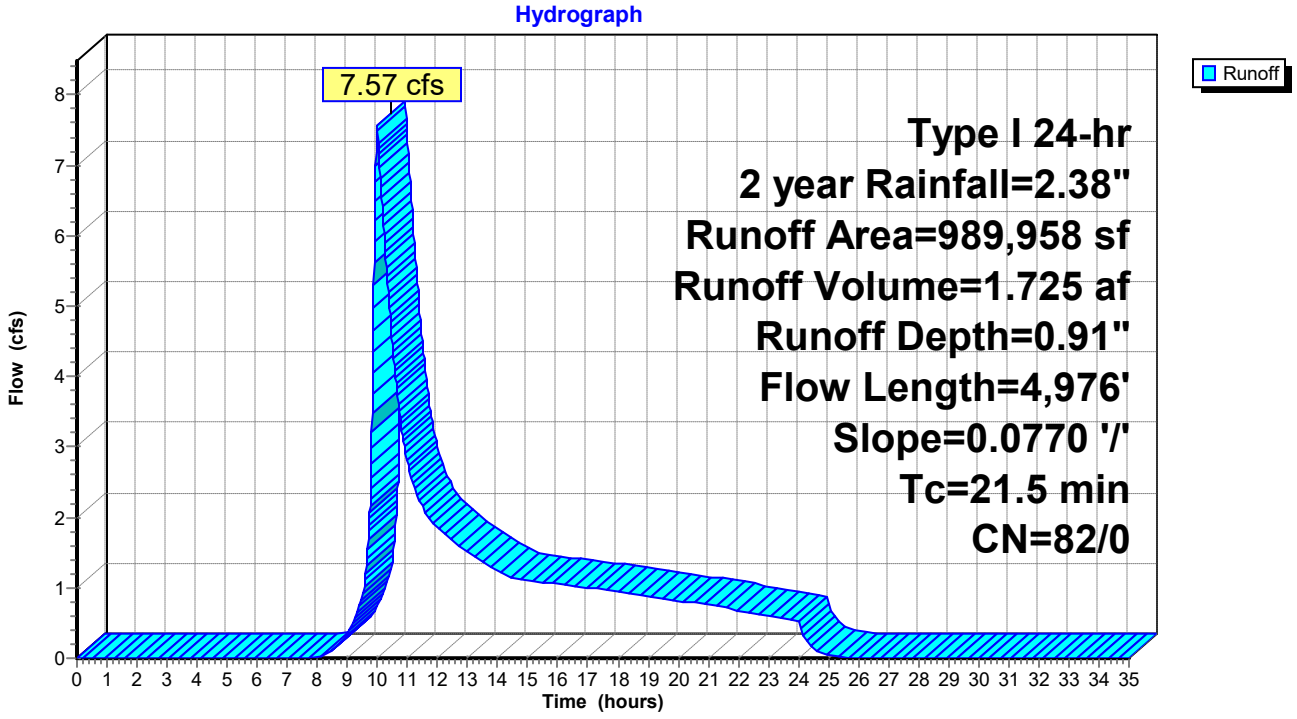
Runoff = 7.57 cfs @ 9.99 hrs, Volume= 1.725 af, Depth= 0.91"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	717,413	80	Composite CN, see attachment 3.
*	109,177	83	Paved; Open ditches (including right-of-way), HSG A
*	77,573	92	Paved; Open ditches (including right-of-way), HSG C
*	85,795	93	Paved; Open ditches (including right-of-way), HSG D
	989,958	82	Weighted Average
	989,958	82	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.7	1,200	0.0770	3.00		**Kerby Method,** Smooth impervious N= 0.02
4.8	3,776	0.0770	13.23		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
21.5	4,976	Total			

Subcatchment 1.2: Developed Area 1



Summary for Subcatchment 2.1: Diverted Area 2

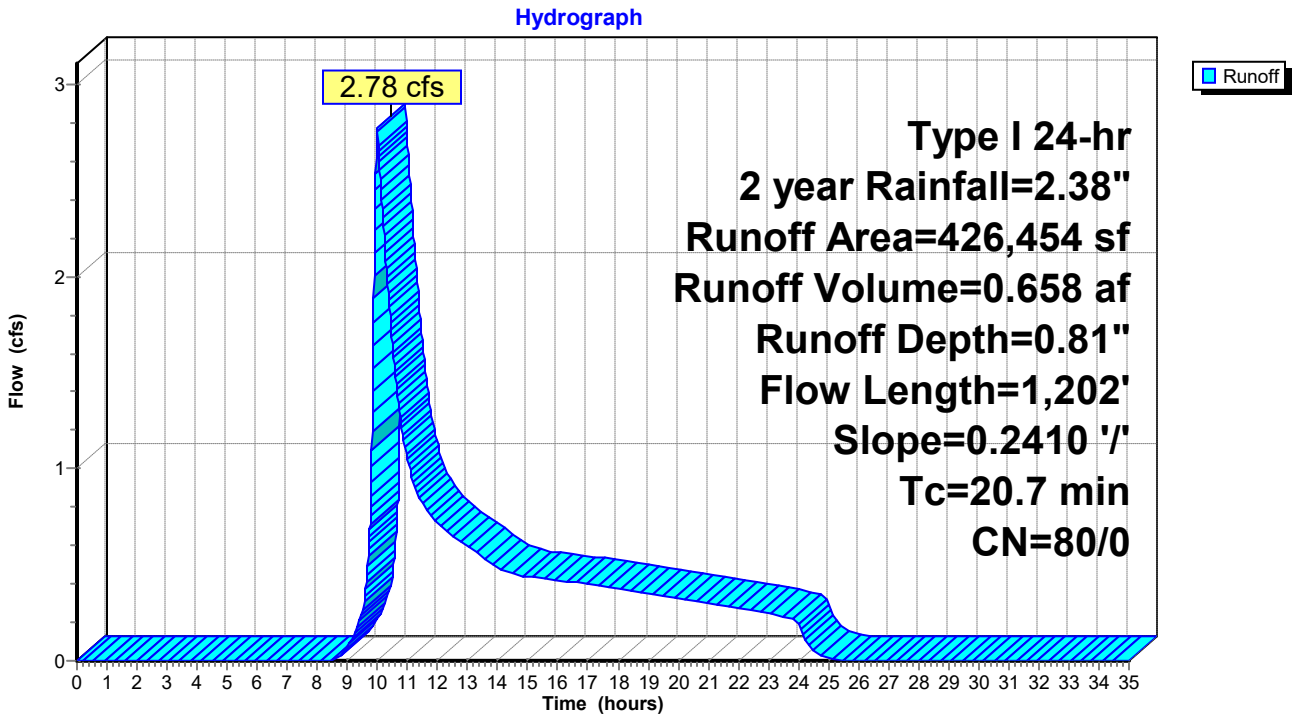
Runoff = 2.78 cfs @ 9.99 hrs, Volume= 0.658 af, Depth= 0.81"
Routed to Reach 2R : Collection Point 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	420,602	80	Brush, see Attachment 3.
*	4,339	83	Paved; Open ditches (including right-of-way), HSG A
*	1,513	93	Paved; Open ditches (including right-of-way), HSG D
	426,454	80	Weighted Average
	426,454	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	1,202	0.2410	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2.1: Diverted Area 2



Summary for Subcatchment 3.1: Diverted Area 3

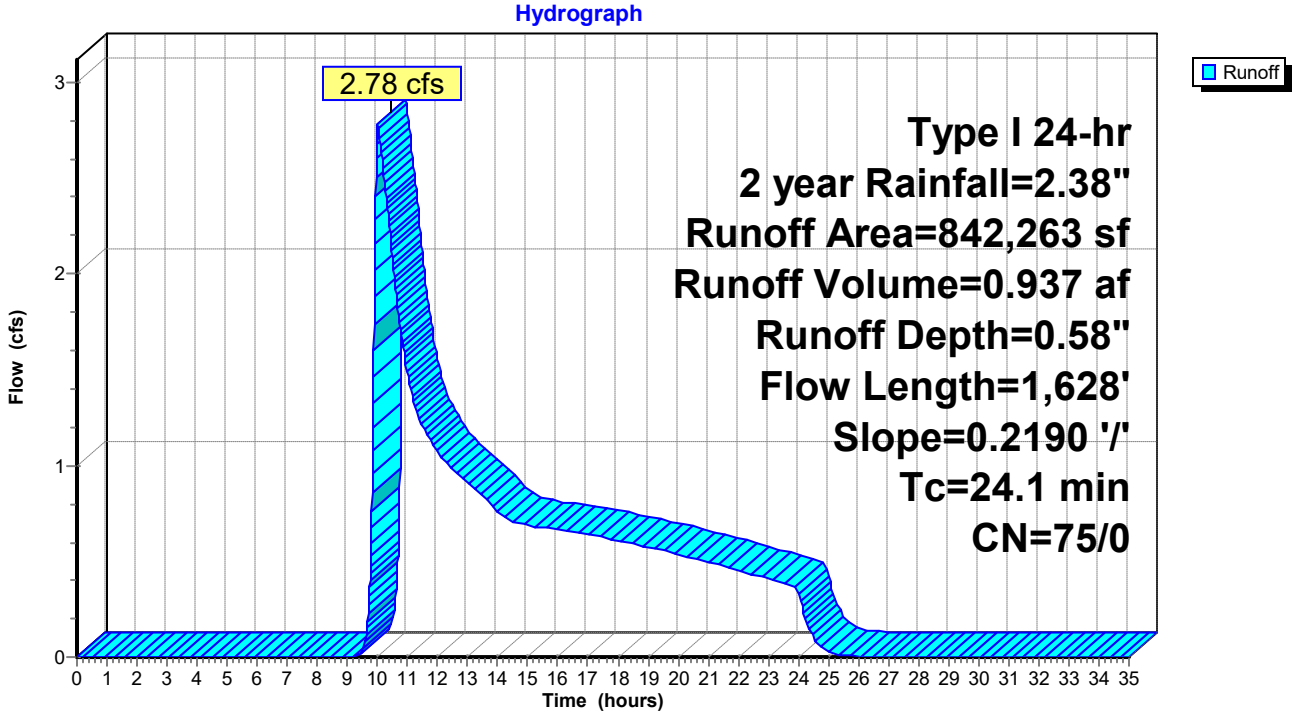
Runoff = 2.78 cfs @ 10.00 hrs, Volume= 0.937 af, Depth= 0.58"
Routed to Reach 3R : Collection Point 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	842,263	75	Brush and open space, See Attachment 3
	842,263	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	1,200	0.2190	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.0	428	0.2190	2.40		**Kirpich Method,** General overland flow k= 2.00
24.1	1,628	Total			

Subcatchment 3.1: Diverted Area 3



Summary for Subcatchment 3.2: Developed Area 3

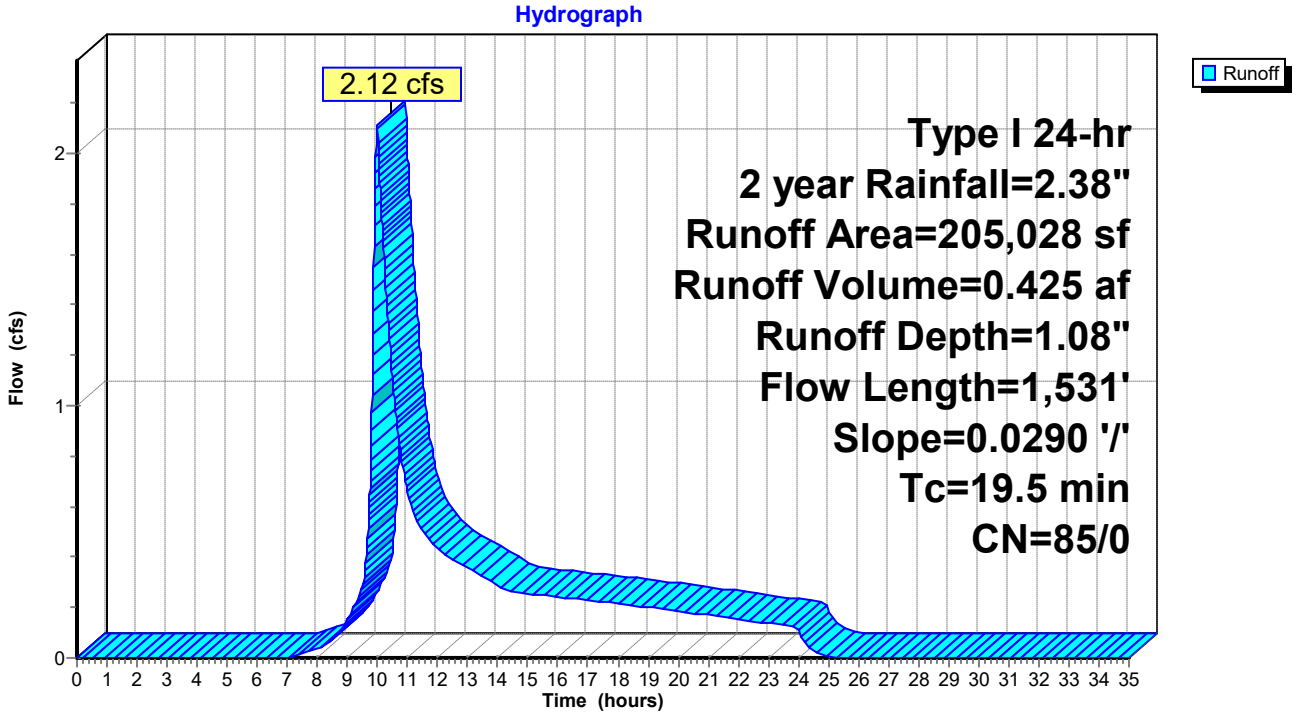
Runoff = 2.12 cfs @ 9.99 hrs, Volume= 0.425 af, Depth= 1.08"
Routed to Pond D3 : Detention Basin 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	125,827	87	Composite CN, see Attachment 3
*	78,995	83	Paved; Open ditches (including right-of-way), HSG A
*	206	93	Paved; Open ditches (including right-of-way), HSG D
	205,028	85	Weighted Average
	205,028	85	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.4	1,200	0.0290	2.39		**Kerby Method,** Smooth impervious N= 0.02
1.1	331	0.0290	5.19		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
19.5	1,531	Total			

Subcatchment 3.2: Developed Area 3



Summary for Subcatchment 4.1: Diverted Area 4

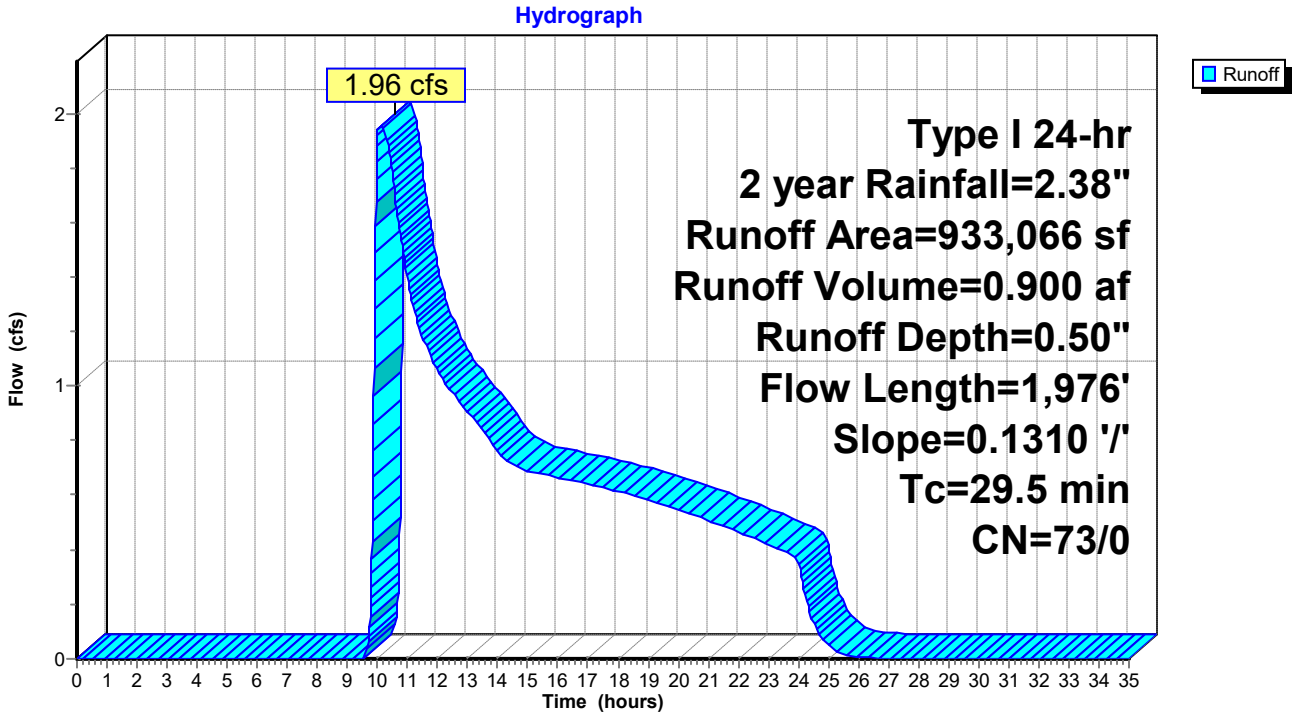
Runoff = 1.96 cfs @ 10.11 hrs, Volume= 0.900 af, Depth= 0.50"
Routed to Reach 4R : Collection Point 4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	38,033	83	Paved; Open ditches (including right-of-way), HSG A
*	895,033	73	Brush and open space, see Attachment 3.
	933,066	73	Weighted Average
	933,066	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.8	1,200	0.1310	0.84		**Kerby Method,** Pasture, average grass N= 0.40
5.7	776	0.1310	2.26		**Kirpich Method,** General overland flow k= 2.00
29.5	1,976	Total			

Subcatchment 4.1: Diverted Area 4



Summary for Subcatchment 5.1: Diverted Area 5

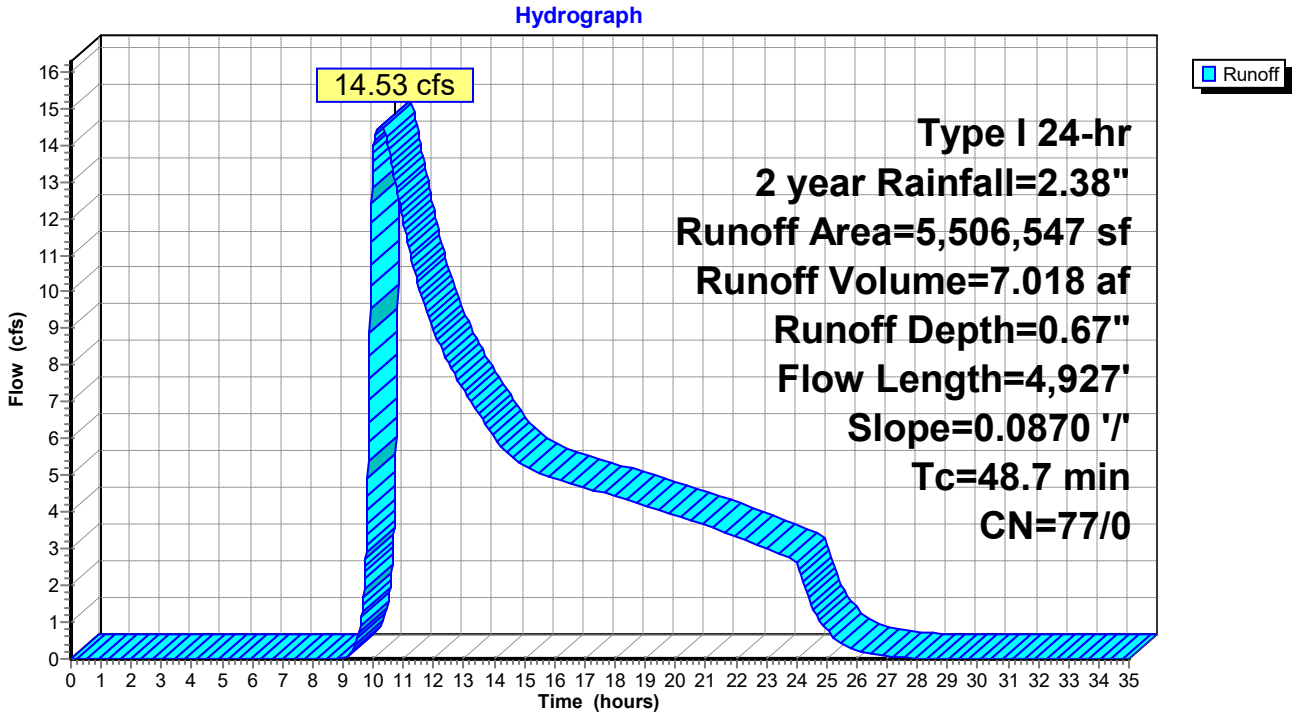
Runoff = 14.53 cfs @ 10.25 hrs, Volume= 7.018 af, Depth= 0.67"
Routed to Reach 5R : Collection Point 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	5,484,277	77	Brush and opne space, see Attachment 3
*	22,270	83	Paved; Open ditches (including right-of-way), HSG A
	5,506,547	77	Weighted Average
	5,506,547	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.2	1,200	0.0870	0.76		**Kerby Method,** Pasture, average grass N= 0.40
22.5	3,727	0.0870	2.77		**Kirpich Method,** General overland flow k= 2.00
48.7	4,927	Total			

Subcatchment 5.1: Diverted Area 5



Summary for Subcatchment 5.2: Developed Area 5

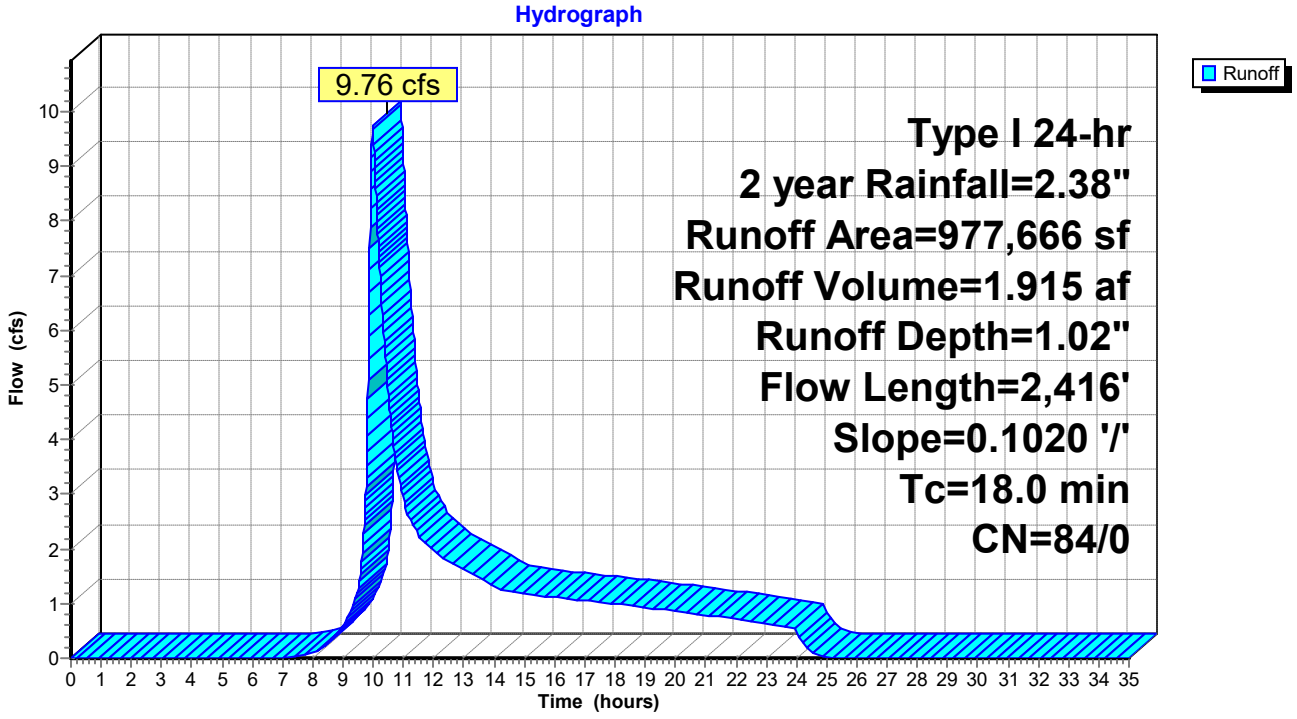
Runoff = 9.76 cfs @ 9.98 hrs, Volume= 1.915 af, Depth= 1.02"
Routed to Pond D5 : Detention Basin 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	751,855	82	Composite CN, see Attachment 3.
*	77,623	83	Paved; Open ditches (including right-of-way), HSG A
*	102,033	92	Paved; Open ditches (including right-of-way), HSG C
*	46,155	93	Paved; Open ditches (including right-of-way), HSG D
	977,666	84	Weighted Average
	977,666	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.2	1,200	0.1020	3.21		**Kerby Method,** Smooth impervious N= 0.02
1.8	1,216	0.1020	11.36		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.0	2,416	Total			

Subcatchment 5.2: Developed Area 5



Summary for Subcatchment 6.1: Diverted Area 6

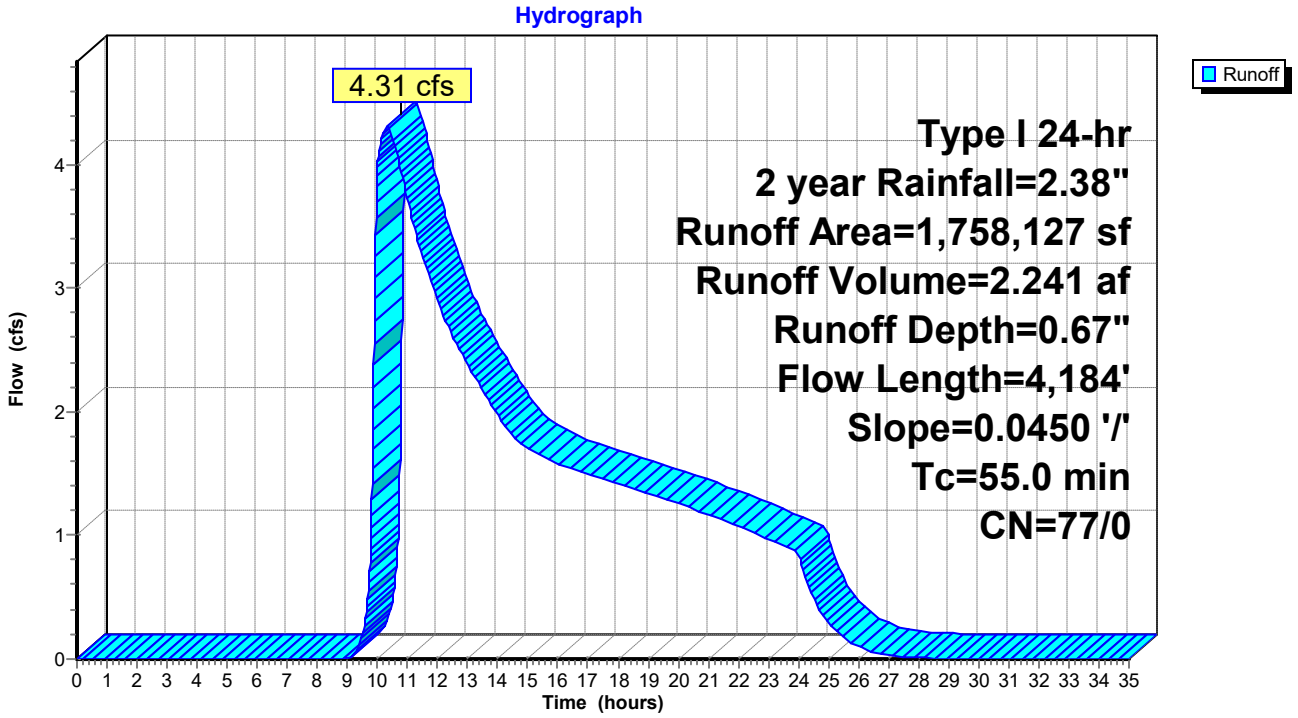
Runoff = 4.31 cfs @ 10.32 hrs, Volume= 2.241 af, Depth= 0.67"
Routed to Reach 6R : Collection Point 6

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,758,127	77	Brush and open space, see Attachment 3.
	1,758,127	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.6	1,200	0.0450	0.65		**Kerby Method,** Pasture, average grass N= 0.40
24.4	2,984	0.0450	2.04		**Kirpich Method,** General overland flow k= 2.00
55.0	4,184	Total			

Subcatchment 6.1: Diverted Area 6



Summary for Subcatchment 7.1: Diverted Area 7

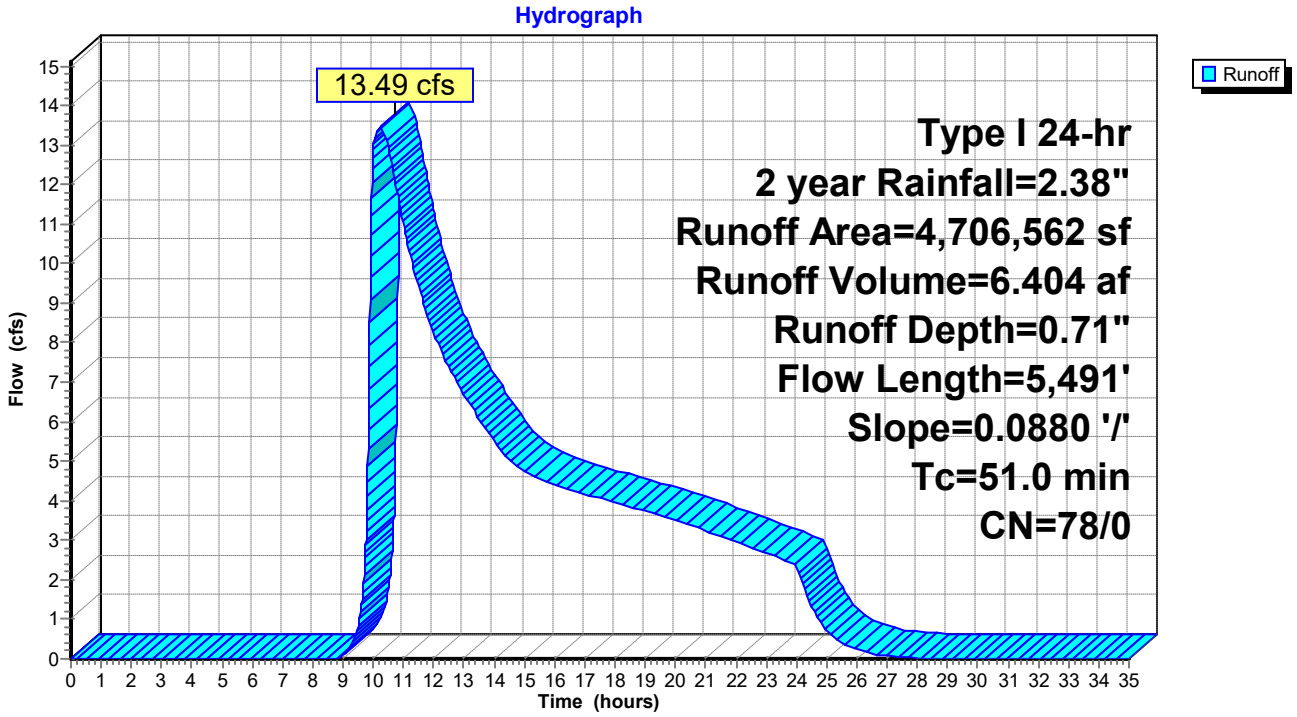
Runoff = 13.49 cfs @ 10.24 hrs, Volume= 6.404 af, Depth= 0.71"
Routed to Reach 7R : Collection Point 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	4,703,800	78	Brush and open space, see Attachment 3.
*	2,762	92	Paved; Open ditches (including right-of-way), HSG C
	4,706,562	78	Weighted Average
	4,706,562	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	1,200	0.0880	0.76		**Kerby Method,** Pasture, average grass N= 0.40
24.9	4,291	0.0880	2.87		**Kirpich Method,** General overland flow k= 2.00
51.0	5,491	Total			

Subcatchment 7.1: Diverted Area 7



Summary for Subcatchment 7.2: Developed Area 6

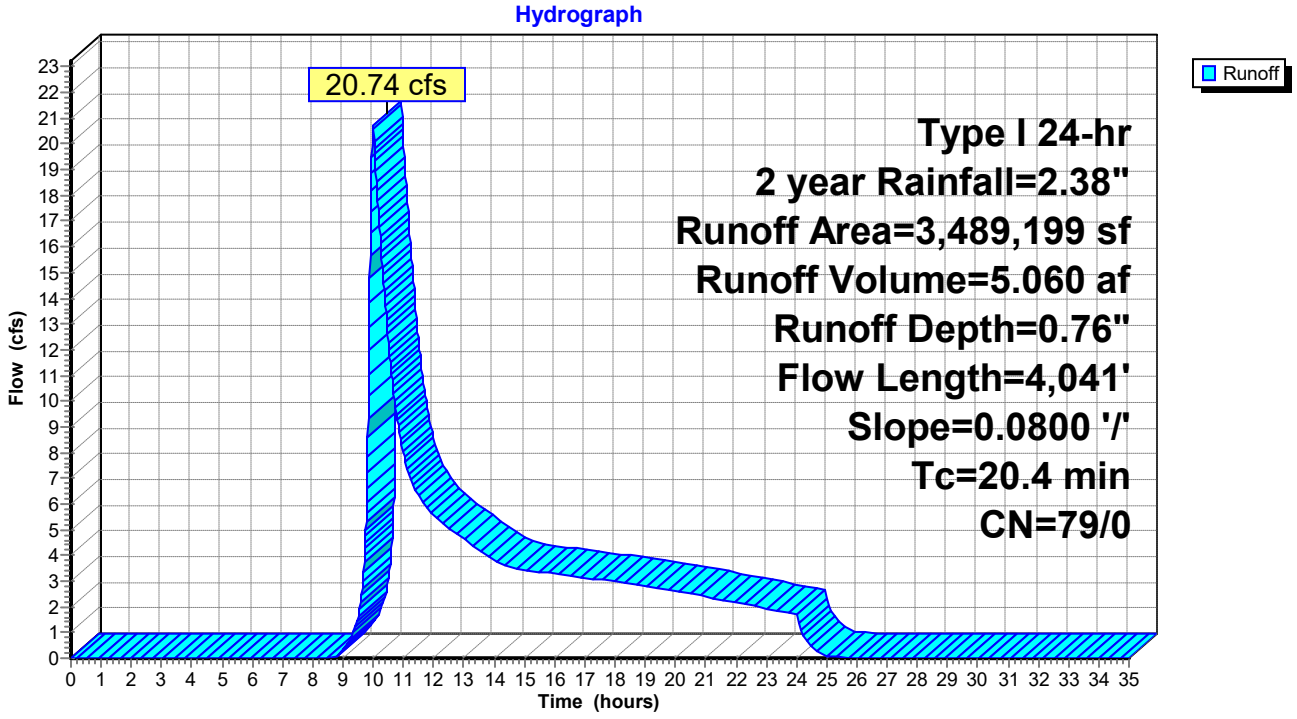
Runoff = 20.74 cfs @ 9.99 hrs, Volume= 5.060 af, Depth= 0.76"
Routed to Pond D7 : Detention Basin 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	2,757,608	77	Composite CN, see Attchment 3.
*	393,878	83	Paved; Open ditches (including right-of-way), HSG A
*	267,712	92	Paved; Open ditches (including right-of-way), HSG C
*	70,001	93	Paved; Open ditches (including right-of-way), HSG D
	3,489,199	79	Weighted Average
	3,489,199	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.6	1,200	0.0800	3.03		**Kerby Method,** Smooth impervious N= 0.02
3.8	2,841	0.0800	12.58		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
20.4	4,041	Total			

Subcatchment 7.2: Developed Area 6



Summary for Subcatchment 8.1: Diverted Area 8

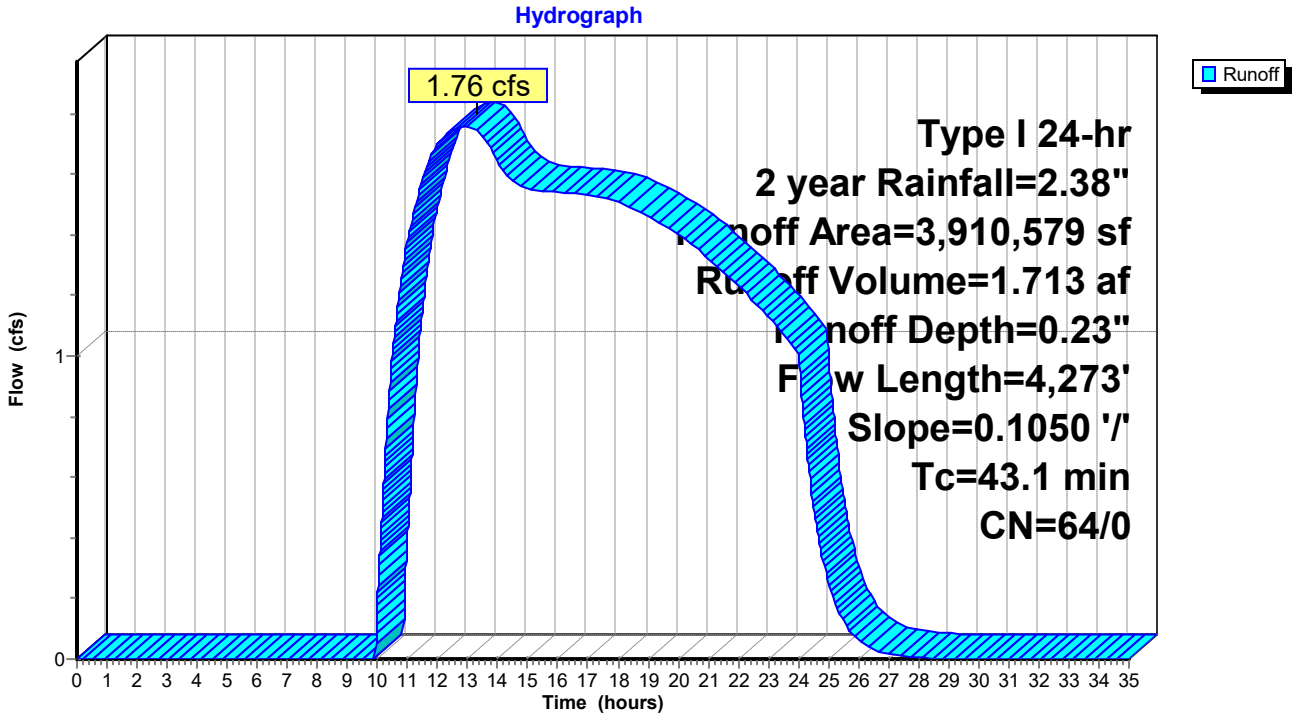
Runoff = 1.76 cfs @ 12.86 hrs, Volume= 1.713 af, Depth= 0.23"
Routed to Reach 8R : Collection Point 8

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	3,910,579	64	Brush and open space, see Attachment 3.
	3,910,579	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	1,200	0.1050	0.80		**Kerby Method,** Pasture, average grass N= 0.40
18.0	3,073	0.1050	2.84		**Kirpich Method,** General overland flow k= 2.00
43.1	4,273	Total			

Subcatchment 8.1: Diverted Area 8



Summary for Subcatchment 9.1: Diverted Area 9

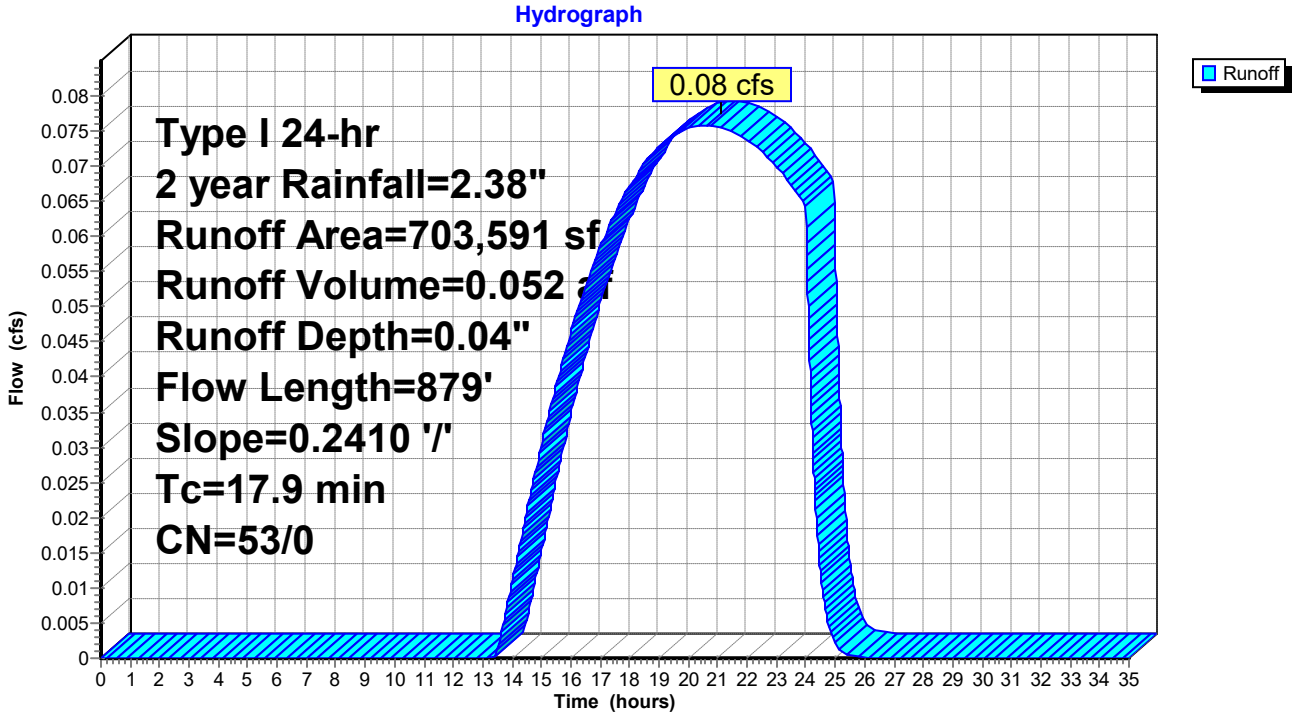
Runoff = 0.08 cfs @ 20.61 hrs, Volume= 0.052 af, Depth= 0.04"
Routed to Reach 9R : Collection Point 9

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	703,591	53	Brush and open space, see Attachment 3.
	703,591	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9.1: Diverted Area 9



Summary for Subcatchment 10.1: Diverted Area 10.2

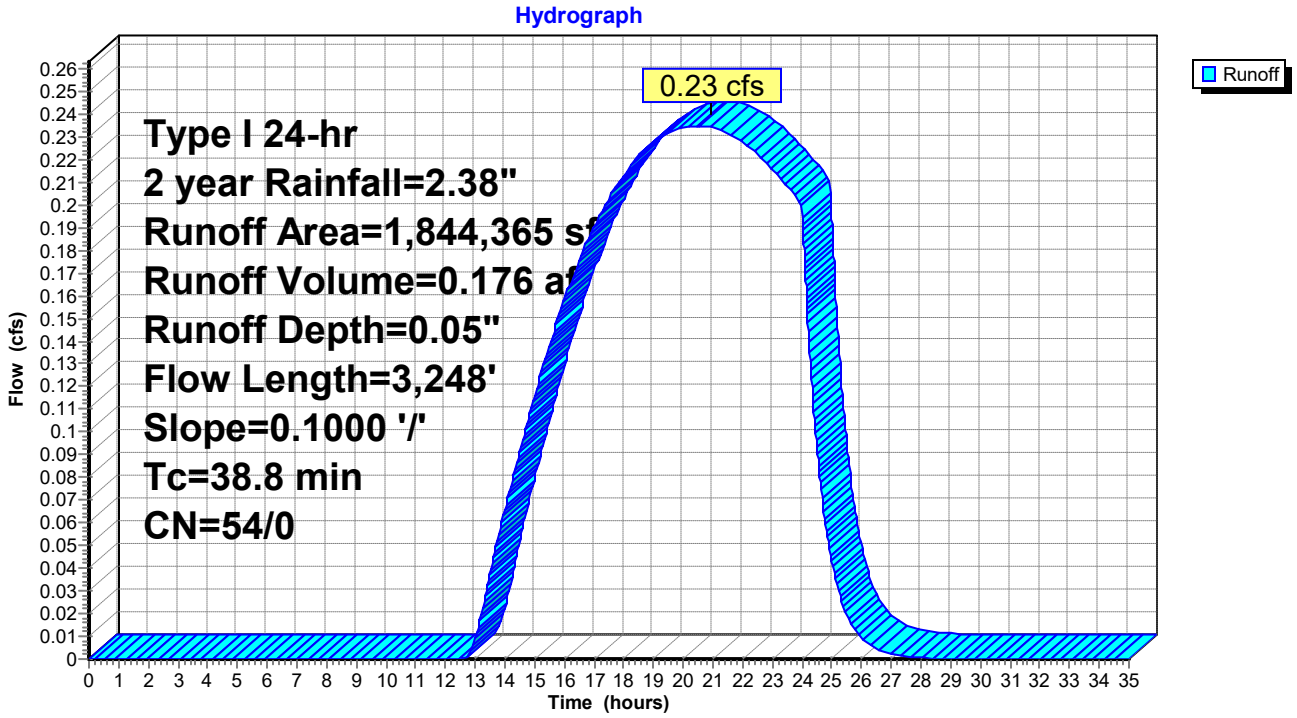
Runoff = 0.23 cfs @ 20.45 hrs, Volume= 0.176 af, Depth= 0.05"
Routed to Reach 10R : Collection Point 10

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,844,365	54	Brush and open space, see Attachment 3.
	1,844,365	54	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.1000	0.79		**Kerby Method,** Pasture, average grass N= 0.40
13.4	2,048	0.1000	2.54		**Kirpich Method,** General overland flow k= 2.00
38.8	3,248	Total			

Subcatchment 10.1: Diverted Area 10.2



Summary for Subcatchment 11.1: Diverted Area 11

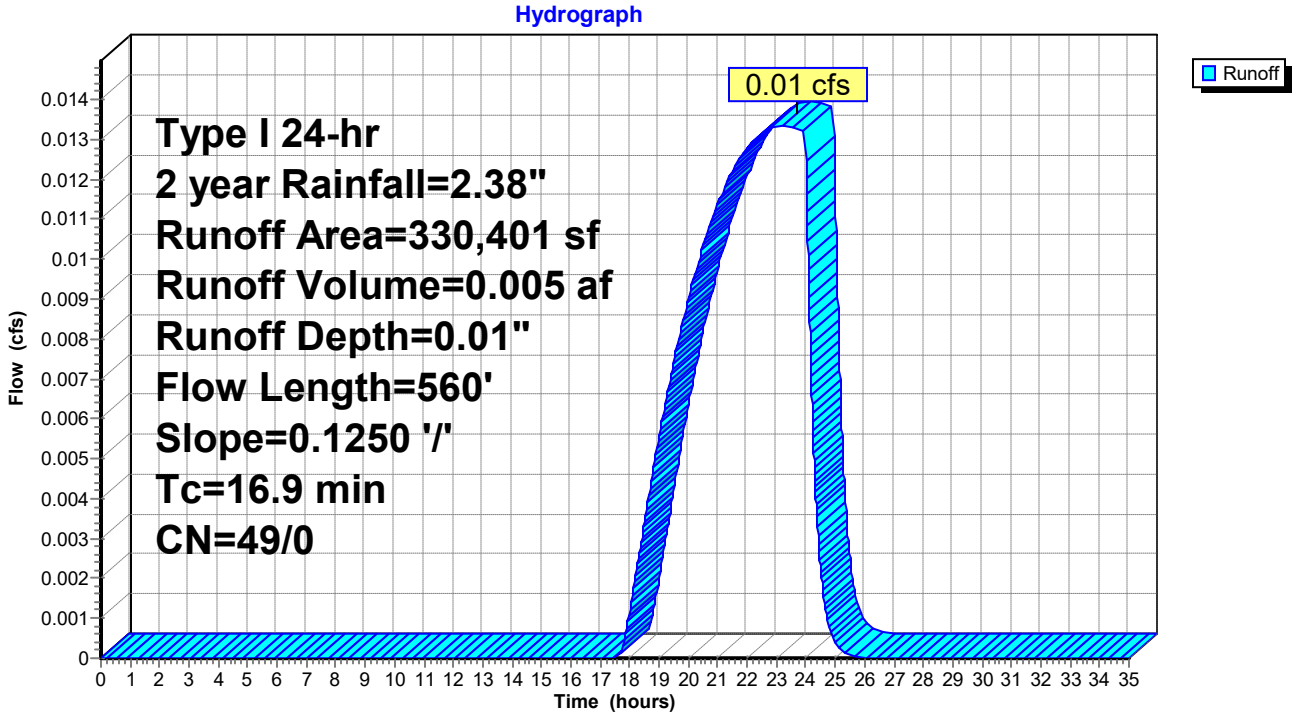
Runoff = 0.01 cfs @ 23.22 hrs, Volume= 0.005 af, Depth= 0.01"
Routed to Reach 11R : Collection Point 11

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	330,401	49	Brush and open space, see Attachment 3.
	330,401	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	560	0.1250	0.55		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 11.1: Diverted Area 11



Summary for Subcatchment 12.1: Diverted Area 12

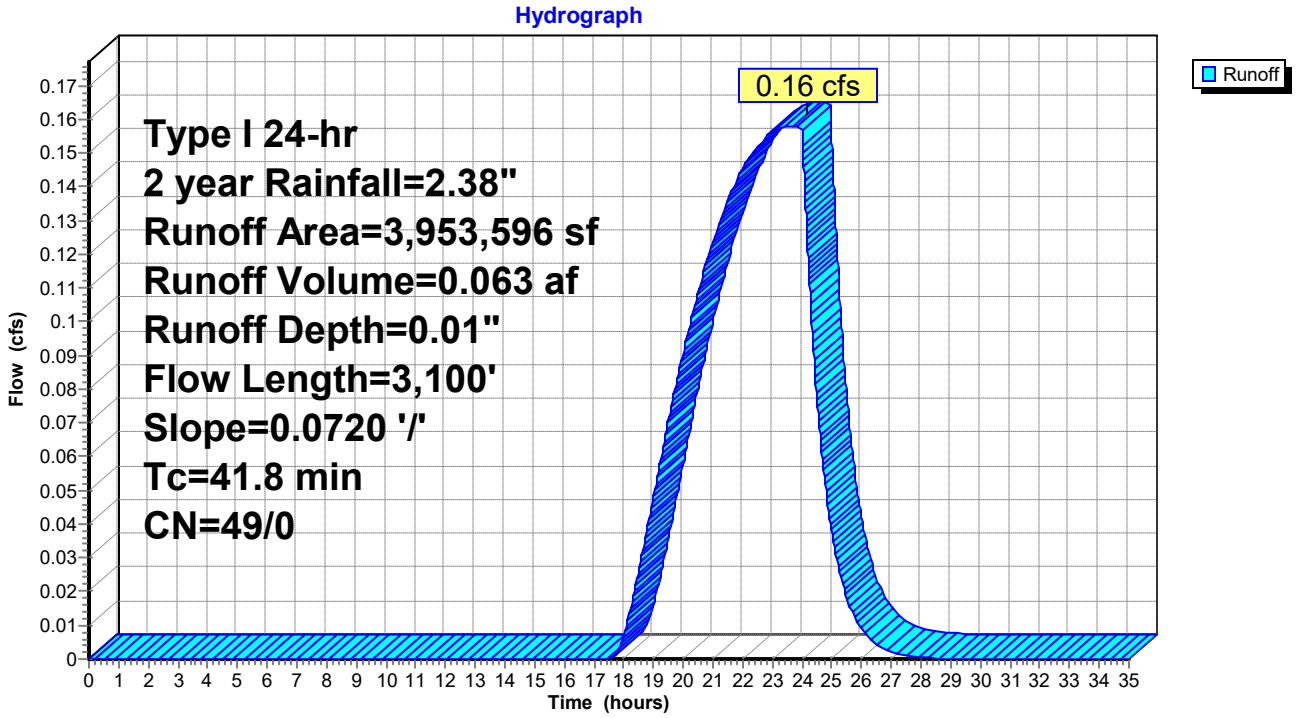
Runoff = 0.16 cfs @ 23.67 hrs, Volume= 0.063 af, Depth= 0.01"
Routed to Reach 12R : Collection Point 12

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	3,953,596	49	Brush and open space, see Attachment 3.
	3,953,596	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.4	1,900	0.0720	2.20		**Kirpich Method,** General overland flow k= 2.00
41.8	3,100	Total			

Subcatchment 12.1: Diverted Area 12



Summary for Subcatchment 12.2: Developed Area 12.1

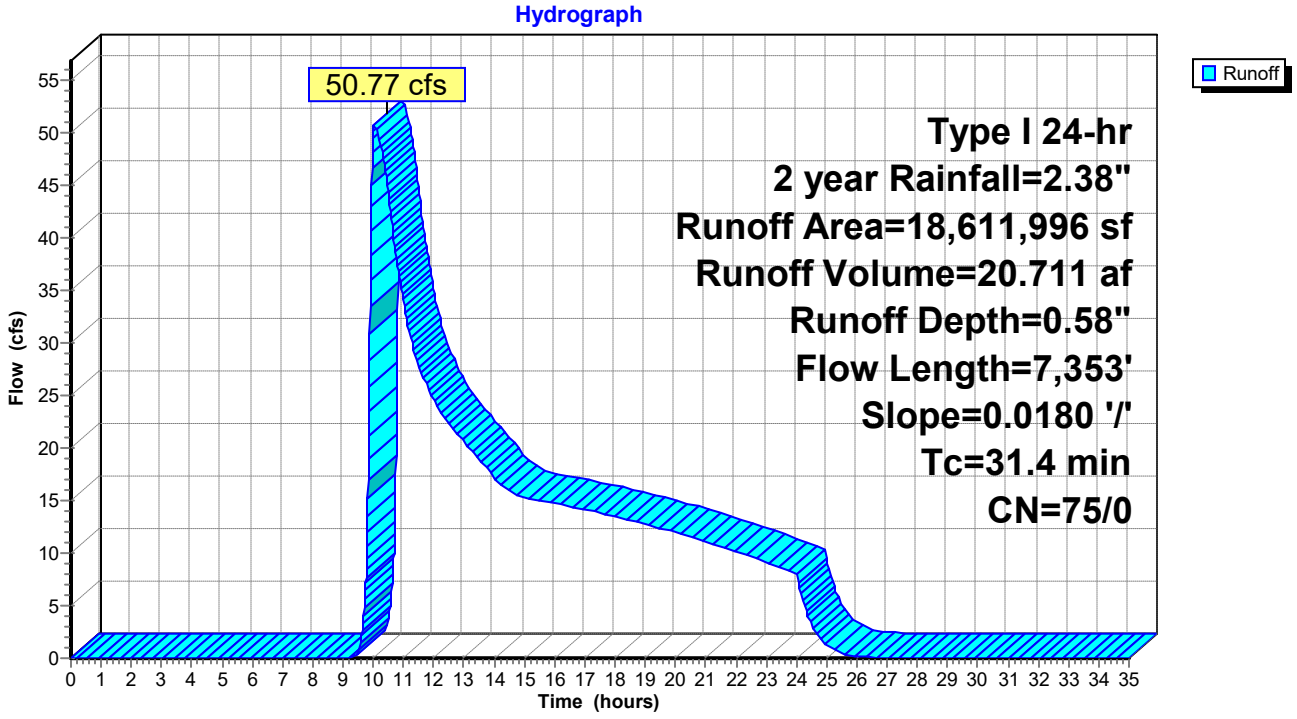
Runoff = 50.77 cfs @ 10.01 hrs, Volume= 20.711 af, Depth= 0.58"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	16,306,782	74	Composite CN, see Attachment 3
*	1,897,057	83	Paved; Open ditches (including right-of-way), HSG A
*	146,424	92	Paved; Open ditches (including right-of-way), HSG C
*	261,733	93	Paved; Open ditches (including right-of-way), HSG D
	18,611,996	75	Weighted Average
	18,611,996	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
9.3	1,200	0.0180	2.14		**Kerby Method,** Smooth impervious N= 0.02
12.1	6,153	0.0180	8.46		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
31.4	7,353	Total			

Subcatchment 12.2: Developed Area 12.1



Summary for Subcatchment 12.3: Diverted Area 12.3

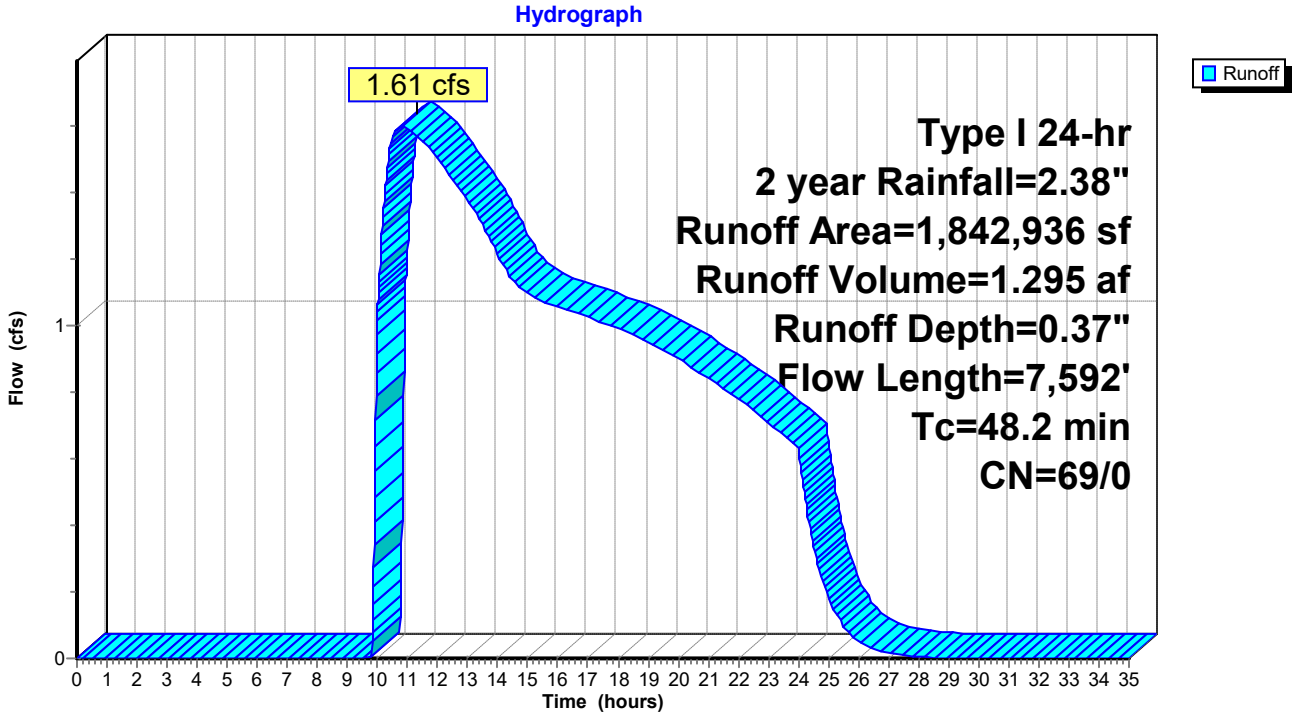
Runoff = 1.61 cfs @ 10.85 hrs, Volume= 1.295 af, Depth= 0.37"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,842,936	69	Brush and open space, see Attachment 3.
	1,842,936	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.5	1,915	0.0720	2.21		**Kirpich Method,** General overland flow k= 2.00
6.3	4,477	0.0270	11.83	37.17	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
48.2	7,592	Total			

Subcatchment 12.3: Diverted Area 12.3



Summary for Subcatchment 12.4: Diverted Area 12.4

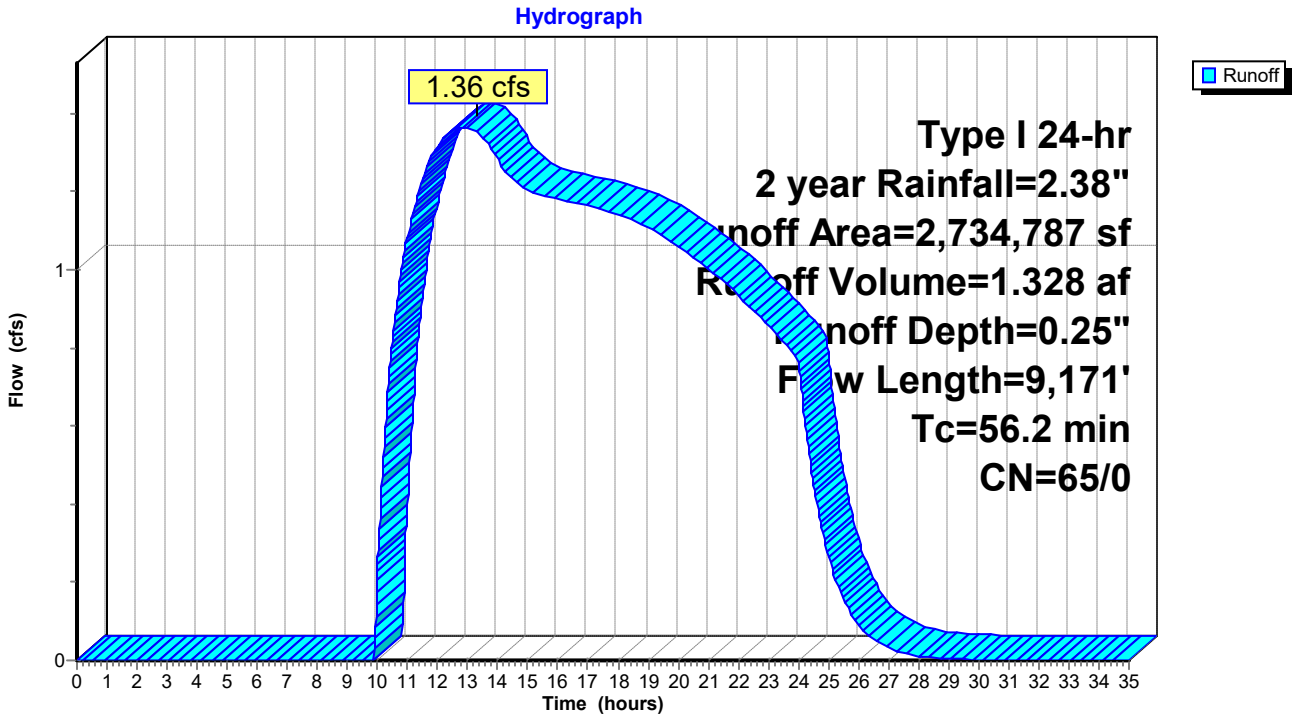
Runoff = 1.36 cfs @ 12.87 hrs, Volume= 1.328 af, Depth= 0.25"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	2,734,787	65	Brush and open space, See Attachment 3
	2,734,787	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
18.1	2,421	0.0640	2.23		**Kirpich Method,** General overland flow k= 2.00
9.9	5,550	0.0200	9.32	22.41	**Pipe Channel,** 21.0" Round Area= 2.4 sf Perim= 5.5' r= 0.44' n= 0.013
56.2	9,171	Total			

Subcatchment 12.4: Diverted Area 12.4



Summary for Subcatchment 13.1: Diverted Area 13

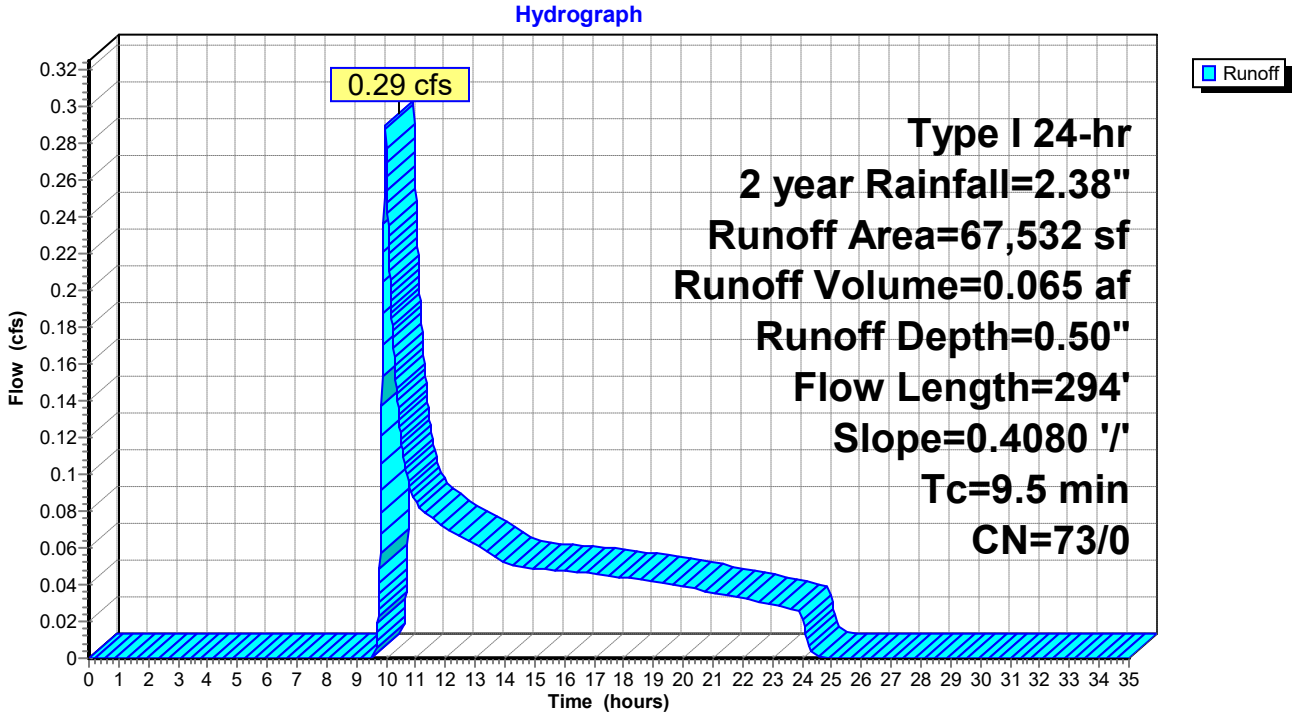
Runoff = 0.29 cfs @ 9.98 hrs, Volume= 0.065 af, Depth= 0.50"
Routed to Reach 13R : Collection Point 13

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	67,532	73	Brush and open space, see Attachment 3.
	67,532	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13.1: Diverted Area 13



Summary for Subcatchment 14.1: Diverted Area 14

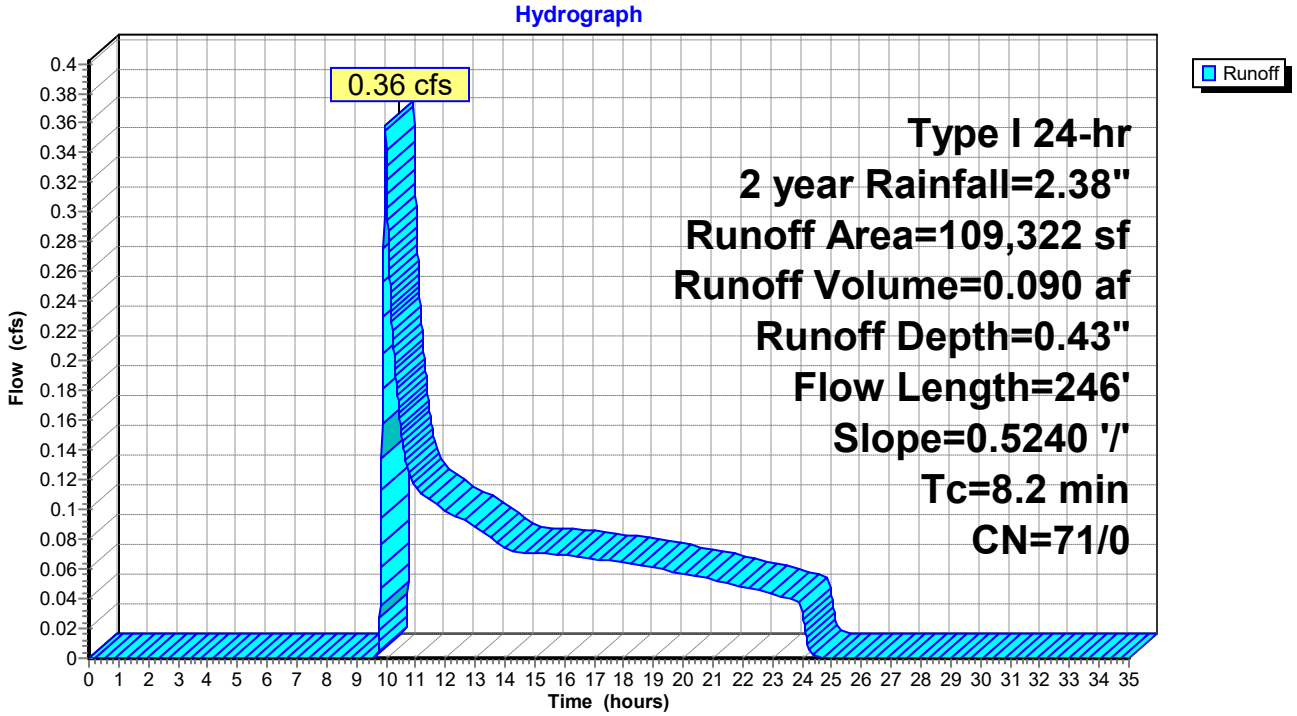
Runoff = 0.36 cfs @ 9.98 hrs, Volume= 0.090 af, Depth= 0.43"
Routed to Reach 14R : Collection Point 14

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	109,322	71	Brush and open space, see Attachment 3.
	109,322	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14.1: Diverted Area 14



Summary for Subcatchment 15.1: Diverted Area 15

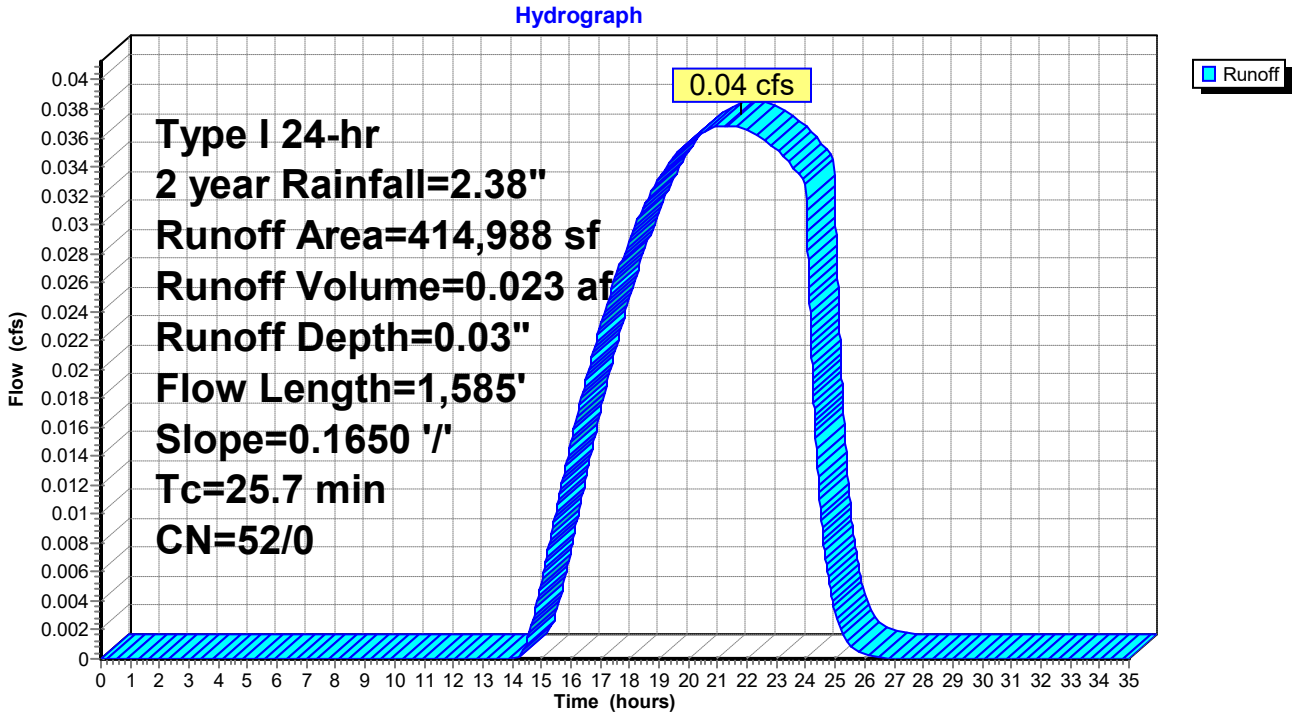
Runoff = 0.04 cfs @ 21.31 hrs, Volume= 0.023 af, Depth= 0.03"
Routed to Reach 15R : Collection Point 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	410,790	52	Composite CN, see Attachment 3.
*	4,198	83	Paved; Open ditches (including right-of-way), HSG A
	414,988	52	Weighted Average
	414,988	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	1,200	0.1650	0.89		**Kerby Method,** Pasture, average grass N= 0.40
3.1	385	0.1650	2.10		**Kirpich Method,** General overland flow k= 2.00
25.7	1,585	Total			

Subcatchment 15.1: Diverted Area 15



Summary for Subcatchment 15.2: Developed Area 15

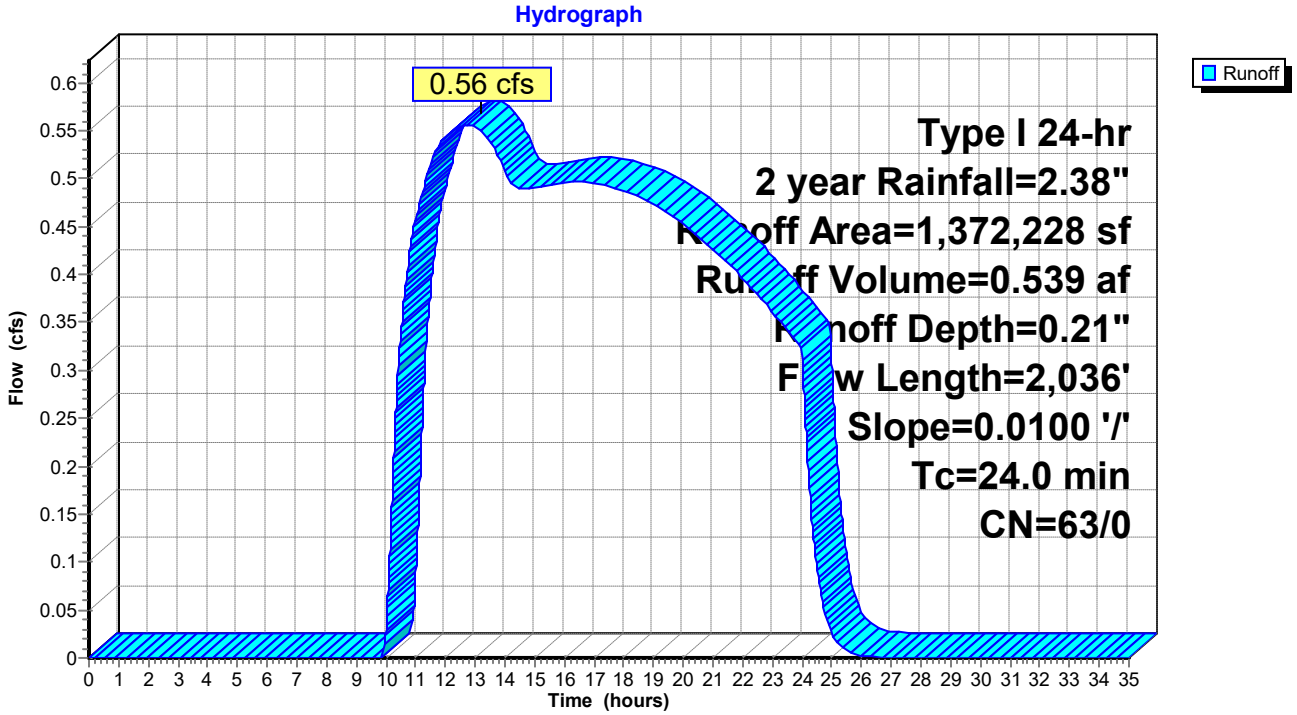
Runoff = 0.56 cfs @ 12.74 hrs, Volume= 0.539 af, Depth= 0.21"
Routed to Pond D15 : Detention Pond 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,102,421	58	Composite CN, see Attachment 3.
*	224,863	83	Paved; Open ditches (including right-of-way), HSG A
*	44,944	93	Paved; Open ditches (including right-of-way), HSG D
	1,372,228	63	Weighted Average
	1,372,228	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
10.7	1,200	0.0100	1.87		**Kerby Method,** Smooth impervious N= 0.02
3.3	836	0.0100	4.26		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
24.0	2,036	Total			

Subcatchment 15.2: Developed Area 15



Summary for Subcatchment 16.1: Diverted Area 16

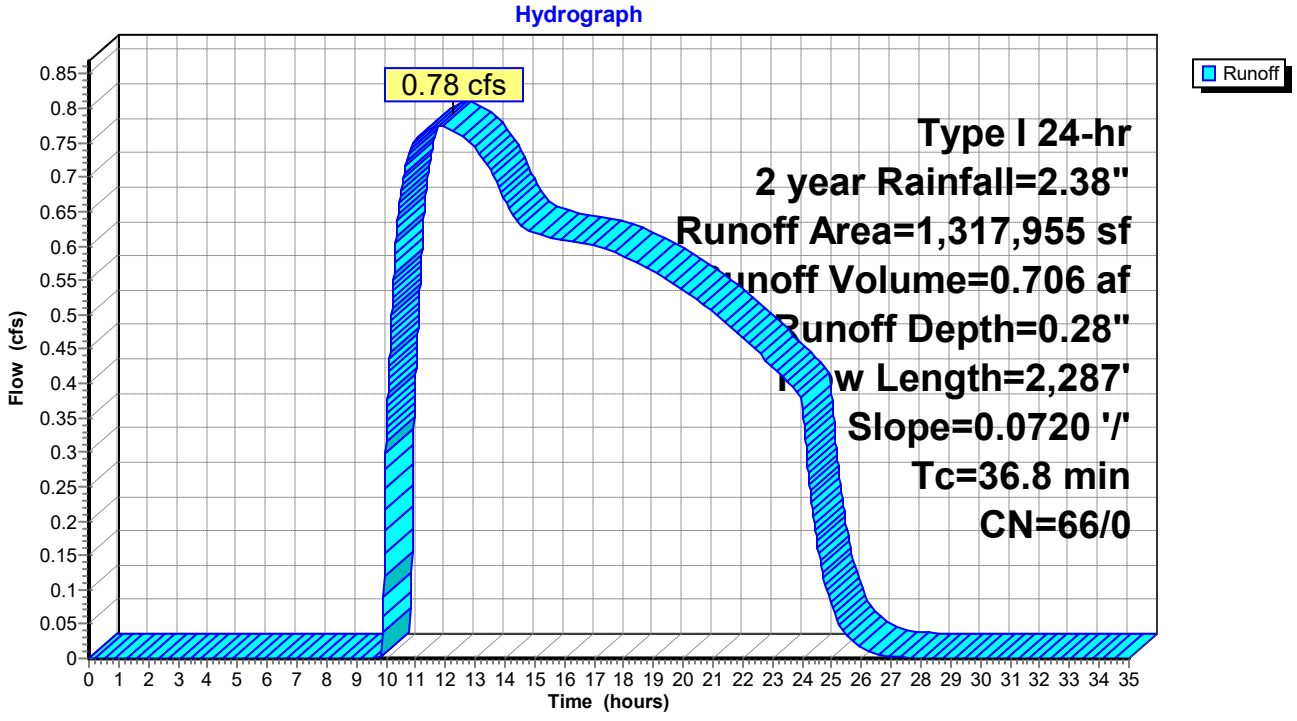
Runoff = 0.78 cfs @ 11.78 hrs, Volume= 0.706 af, Depth= 0.28"
Routed to Reach 16R : Collection Point 16

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,312,099	66	Brush and open space, see Attachment 3.
*	5,839	83	Paved; Open ditches (including right-of-way), HSG A
*	17	93	Paved; Open ditches (including right-of-way), HSG D
	1,317,955	66	Weighted Average
	1,317,955	66	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
9.4	1,087	0.0720	1.94		**Kirpich Method,** General overland flow k= 2.00
36.8	2,287	Total			

Subcatchment 16.1: Diverted Area 16



Summary for Subcatchment 16.2: Developed Area 16

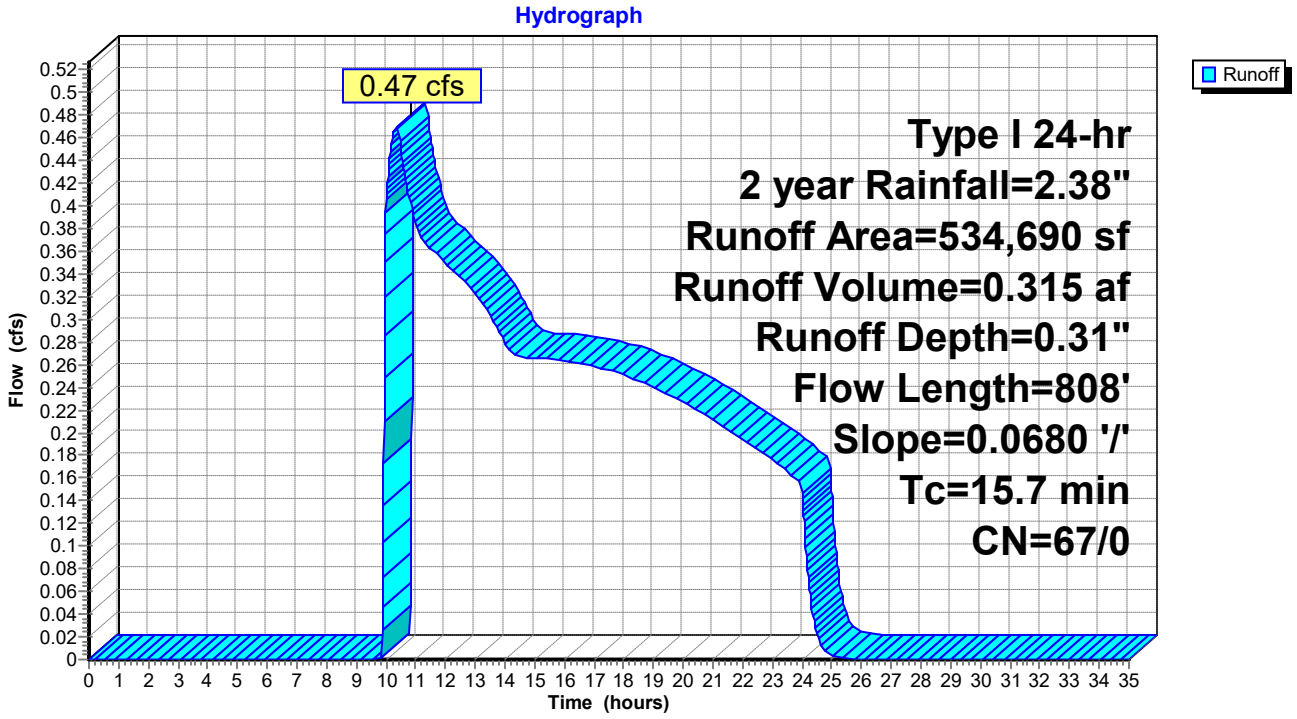
Runoff = 0.47 cfs @ 10.34 hrs, Volume= 0.315 af, Depth= 0.31"
Routed to Pond D16.2 : Detention Pond 16.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	534,690	67	Composite CN, see Attachment 3.
	534,690	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.7	808	0.0680	2.36		**Kerby Method,** Smooth impervious N= 0.02
15.7	808	Total			

Subcatchment 16.2: Developed Area 16



Summary for Subcatchment 16.3: Developed Area 16

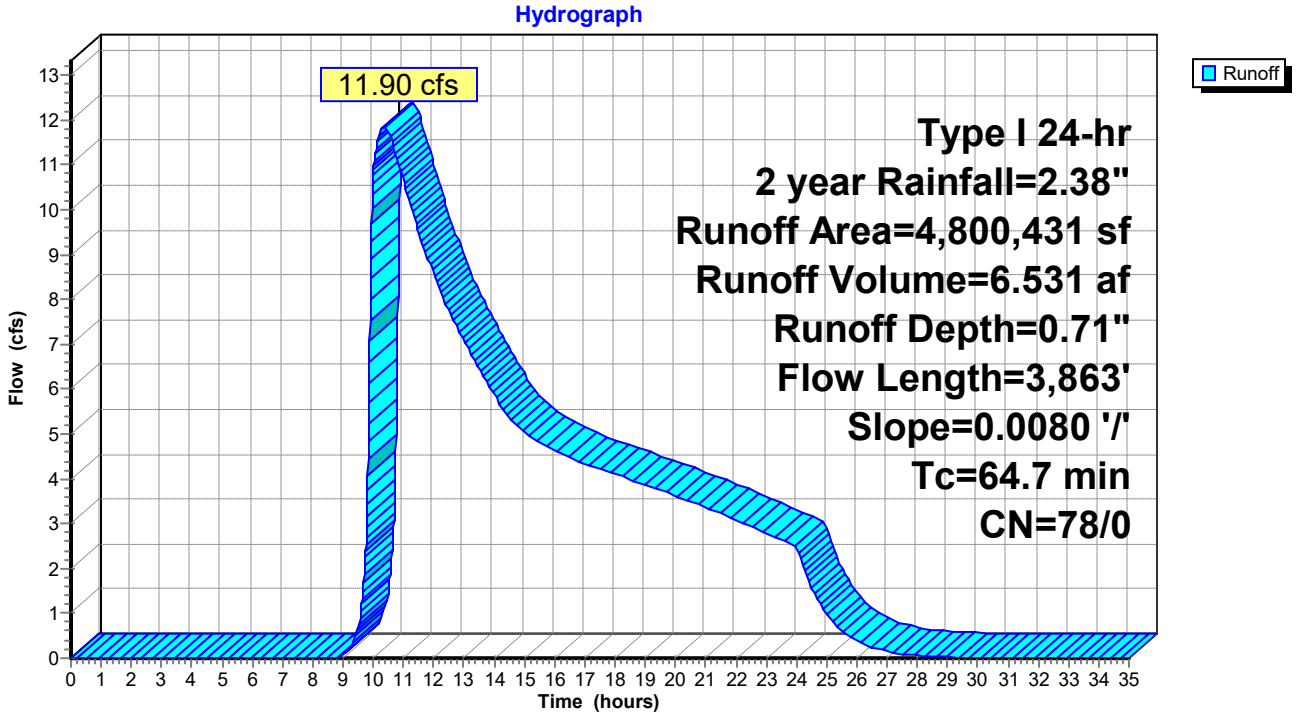
Runoff = 11.90 cfs @ 10.37 hrs, Volume= 6.531 af, Depth= 0.71"
Routed to Pond D16.3 : Detention Pond 16.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	4,430,615	77	Composite CN, see Attachment 3.
*	333,557	83	Paved; Open ditches (including right-of-way), HSG A
*	27,011	92	Paved; Open ditches (including right-of-way), HSG C
*	9,248	93	Paved; Open ditches (including right-of-way), HSG D
	4,800,431	78	Weighted Average
	4,800,431	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
11.3	1,200	0.0080	1.77		**Kerby Method,** Smooth impervious N= 0.02
43.4	2,663	0.0080	1.02		**Kirpich Method,** General overland flow k= 2.00
64.7	3,863	Total			

Subcatchment 16.3: Developed Area 16



Summary for Subcatchment 17.1: Diverted Area 17

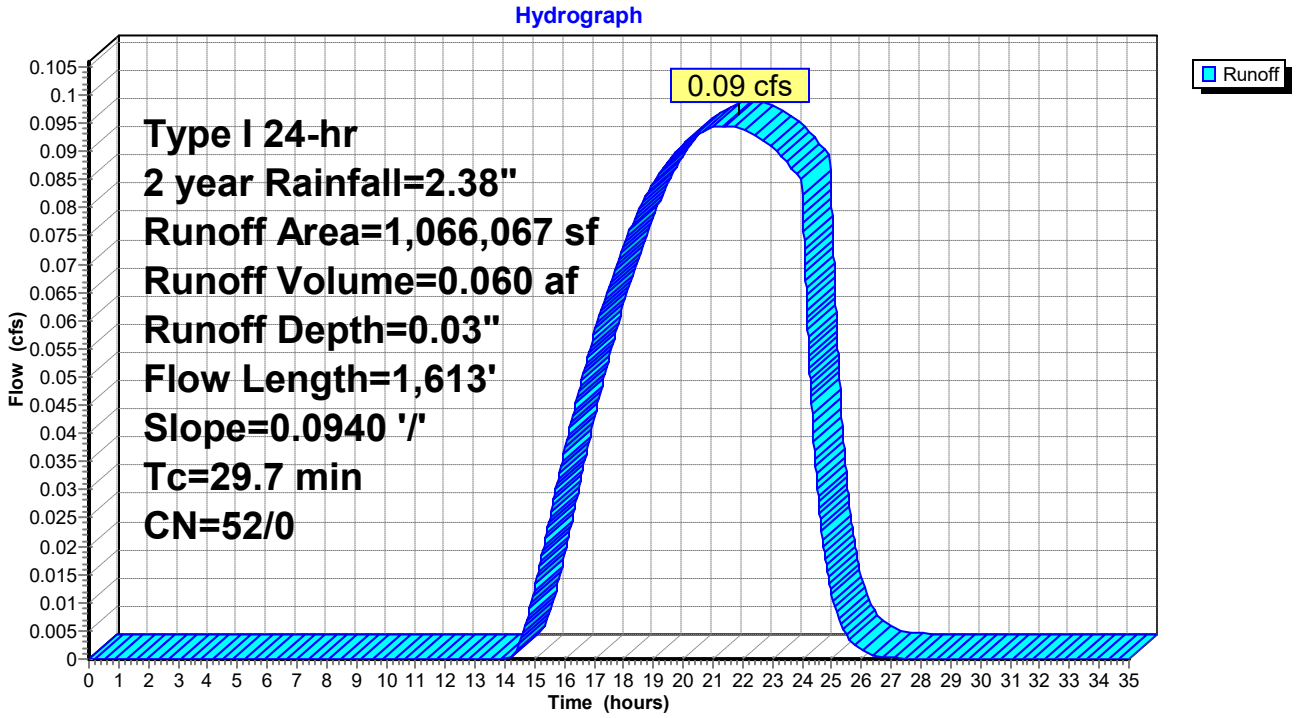
Runoff = 0.09 cfs @ 21.38 hrs, Volume= 0.060 af, Depth= 0.03"
Routed to Reach 17R : Collection Point 17

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,066,067	52	Brush and open space, see Attachment 3.
	1,066,067	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	1,200	0.0940	0.78		**Kerby Method,** Pasture, average grass N= 0.40
4.0	413	0.0940	1.72		**Kirpich Method,** General overland flow k= 2.00
29.7	1,613	Total			

Subcatchment 17.1: Diverted Area 17



Summary for Subcatchment 18.1: Diverted Area 18

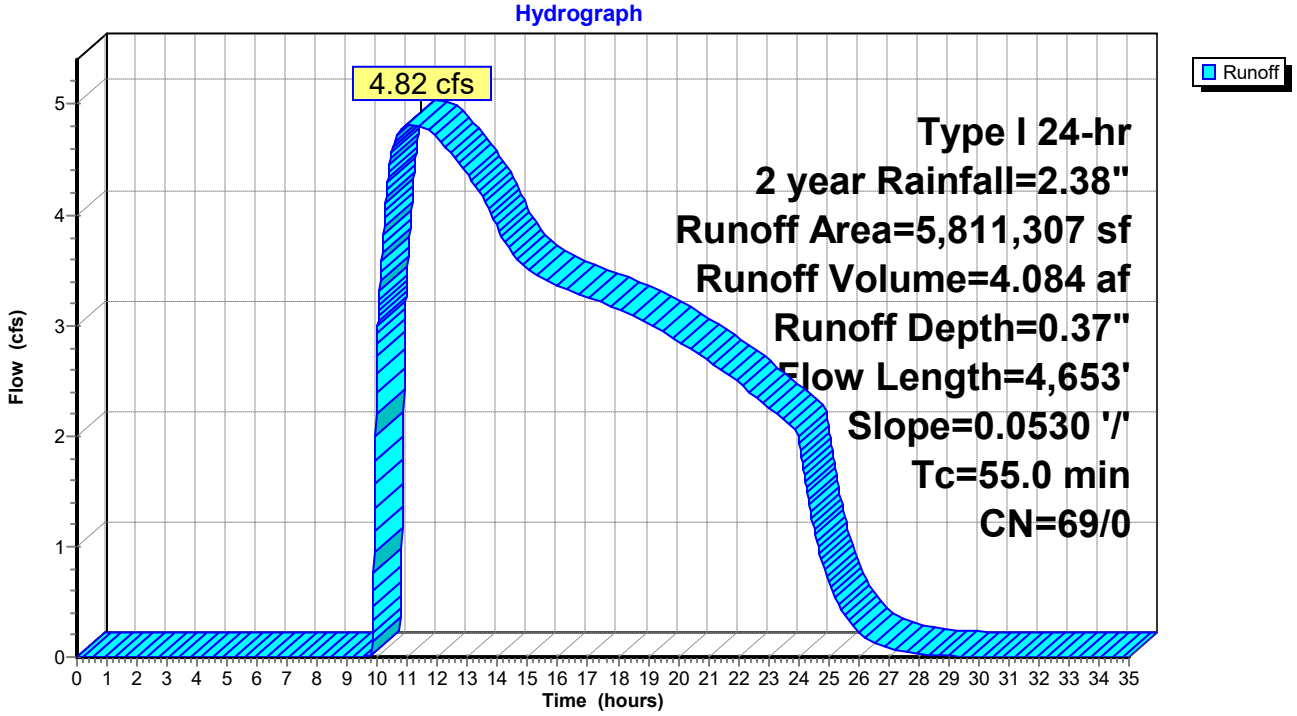
Runoff = 4.82 cfs @ 10.99 hrs, Volume= 4.084 af, Depth= 0.37"
Routed to Reach 18R : Collection Point 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	5,811,307	69	Brush and open space, see Attachment 3.
	5,811,307	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	1,200	0.0530	0.68		**Kerby Method,** Pasture, average grass N= 0.40
25.6	3,453	0.0530	2.25		**Kirpich Method,** General overland flow k= 2.00
55.0	4,653	Total			

Subcatchment 18.1: Diverted Area 18



Summary for Subcatchment 18.2: Developed Area 18

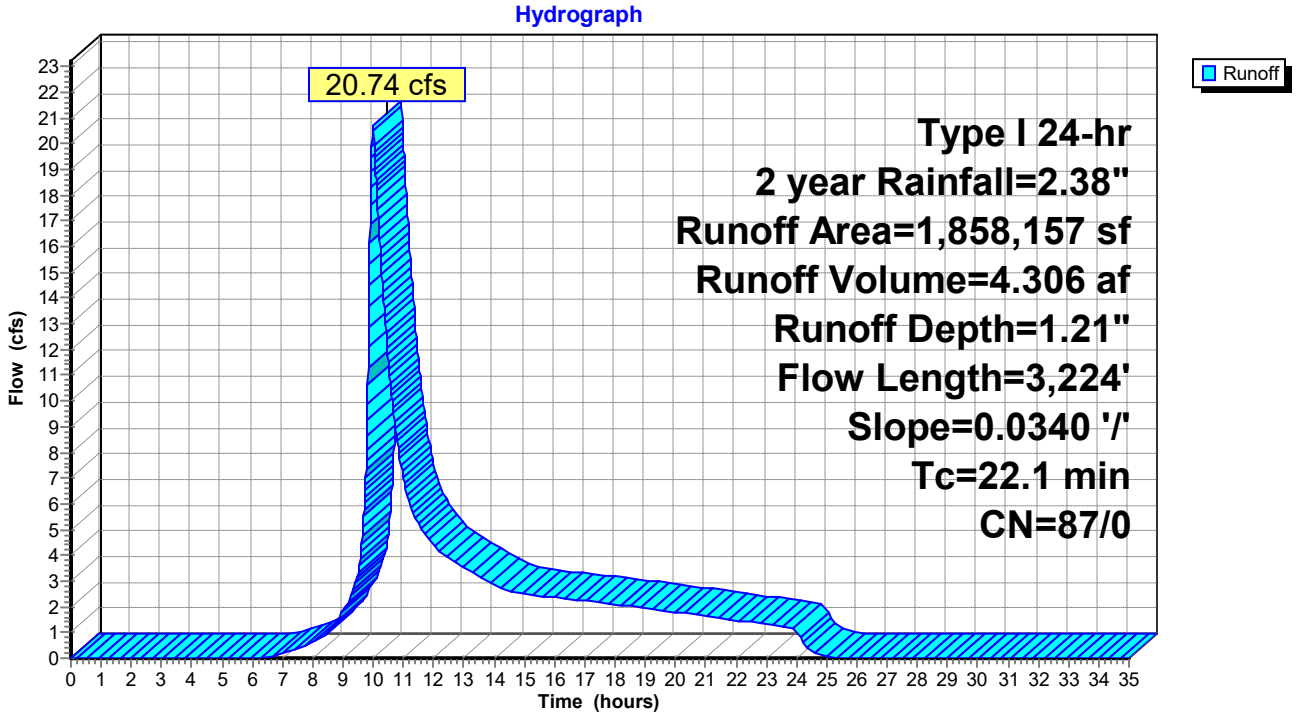
Runoff = 20.74 cfs @ 9.99 hrs, Volume= 4.306 af, Depth= 1.21"
Routed to Pond D18 : Detention Pond 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,667,674	87	Composite CN, see Attachment 3.
*	40,054	83	Paved; Open ditches (including right-of-way), HSG A
*	50,899	92	Paved; Open ditches (including right-of-way), HSG C
*	99,530	93	Paved; Open ditches (including right-of-way), HSG D
	1,858,157	87	Weighted Average
	1,858,157	87	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.1	1,200	0.0340	2.48		**Kerby Method,** Smooth impervious N= 0.02
4.0	2,024	0.0340	8.37		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
22.1	3,224	Total			

Subcatchment 18.2: Developed Area 18



Summary for Subcatchment 19.1: Diverted Area 19

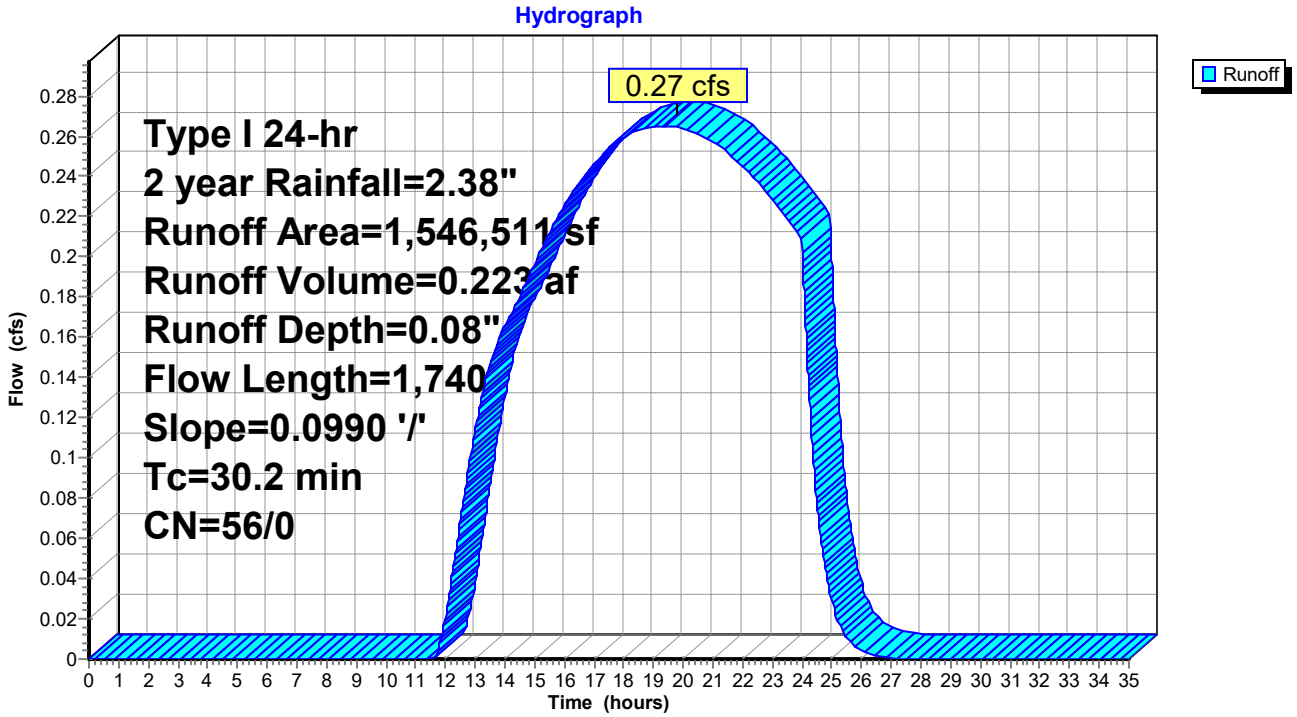
Runoff = 0.27 cfs @ 19.33 hrs, Volume= 0.223 af, Depth= 0.08"
Routed to Reach 19R : Collection Point 19

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,546,511	56	Existing brush, see Attachment 3.
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19.1: Diverted Area 19



Summary for Subcatchment 20.1: Diverted Area 20

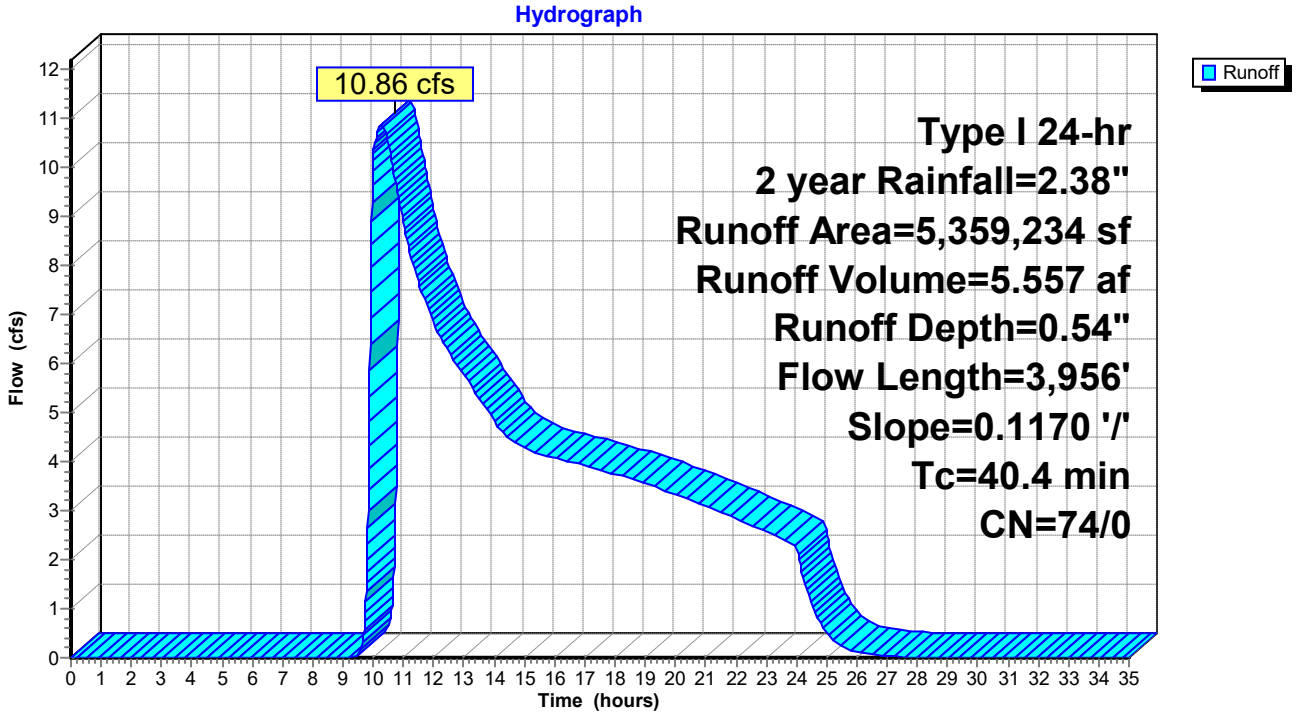
Runoff = 10.86 cfs @ 10.28 hrs, Volume= 5.557 af, Depth= 0.54"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	2,979,788	77	Brush, Poor, HSG C
*	1,500,408	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,359,234	74	Weighted Average
	5,359,234	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

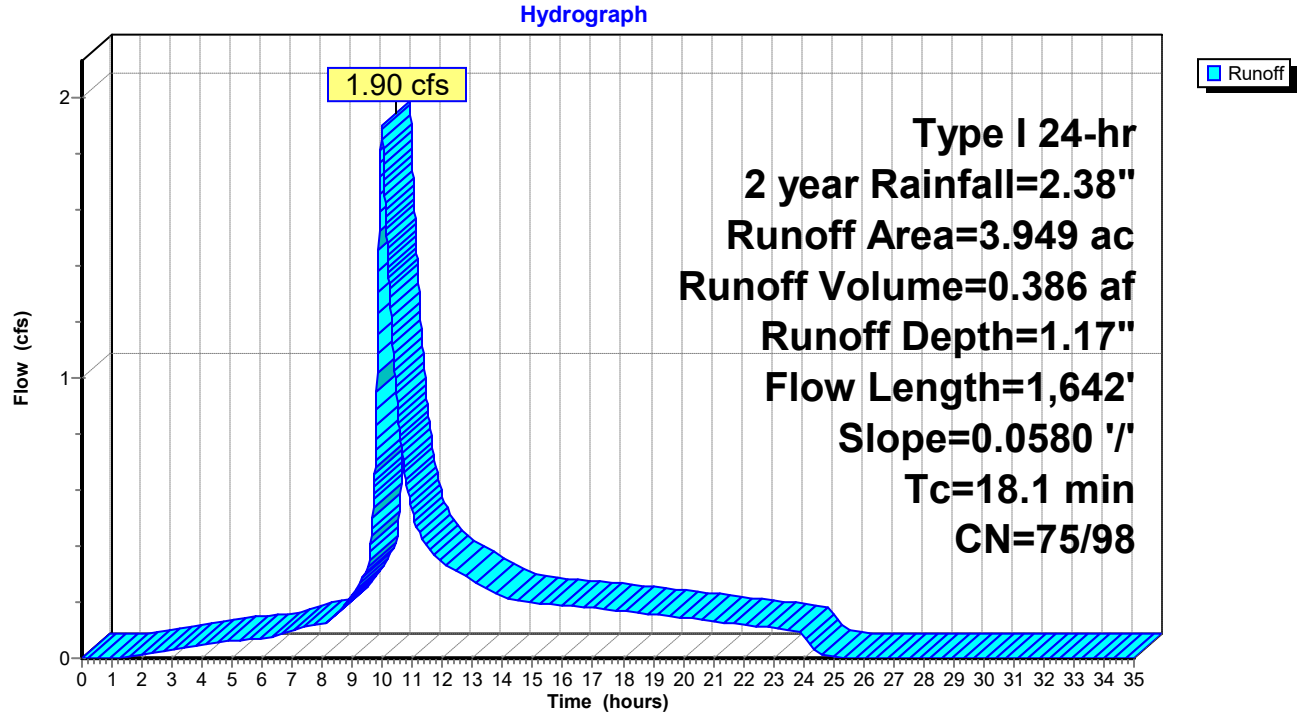
Runoff = 1.90 cfs @ 9.98 hrs, Volume= 0.386 af, Depth= 1.17"
Routed to Pond D20.2 : Detention Basin 20.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (ac)	CN	Description
*	2.225	74	Open Space, Good, HSG C
*	0.235	87	Pavers/DG, Good, HSG C
*	1.489	98	Hardscape
	3.949	84	Weighted Average
	2.460	75	62.29% Pervious Area
	1.489	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

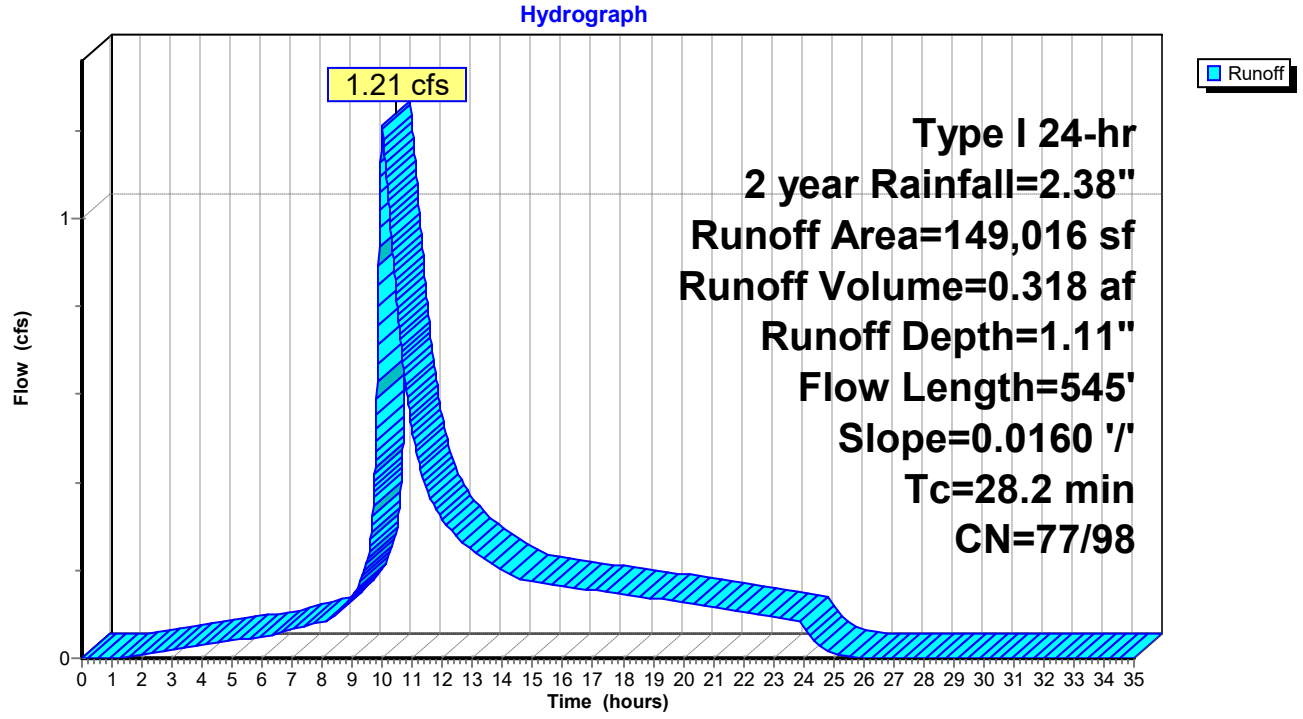
Runoff = 1.21 cfs @ 9.99 hrs, Volume= 0.318 af, Depth= 1.11"
Routed to Pond D20.3 : Detention Pond 20.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

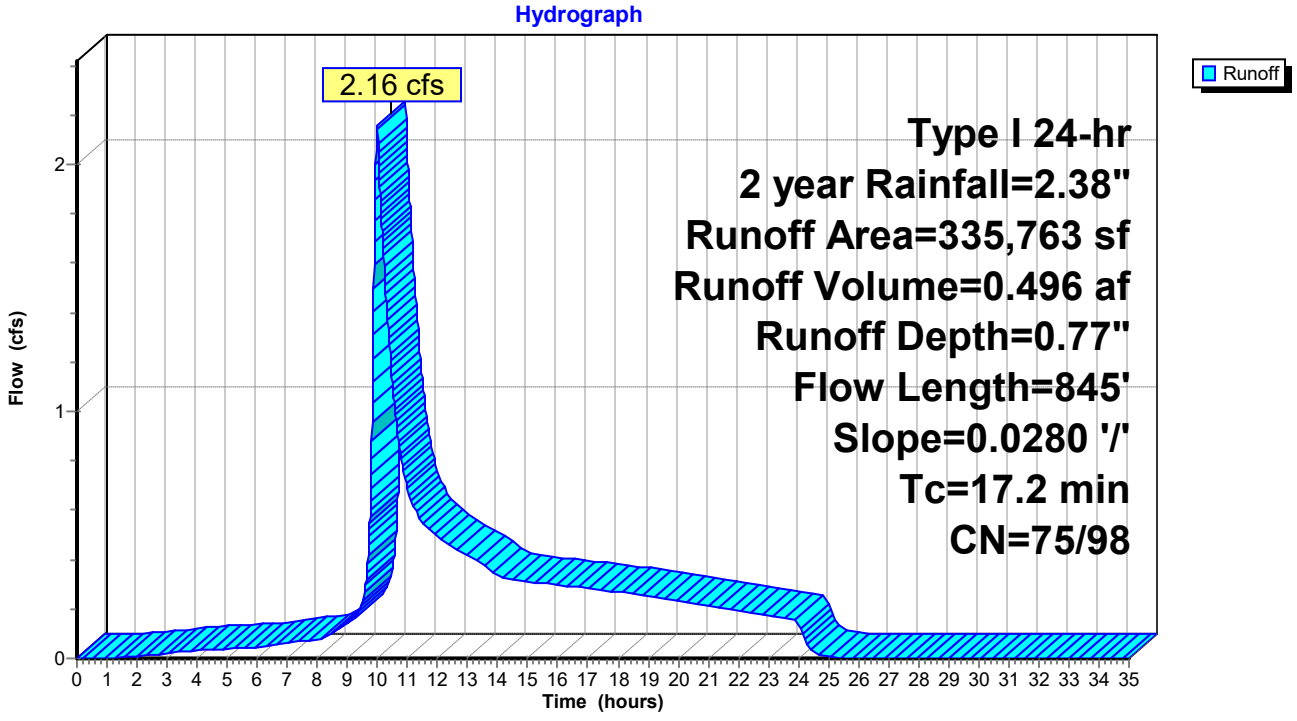
Runoff = 2.16 cfs @ 9.99 hrs, Volume= 0.496 af, Depth= 0.77"
Routed to Pond D20.4 : Detention Pond 20.4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



Summary for Subcatchment 21.1: Diverted Area 21

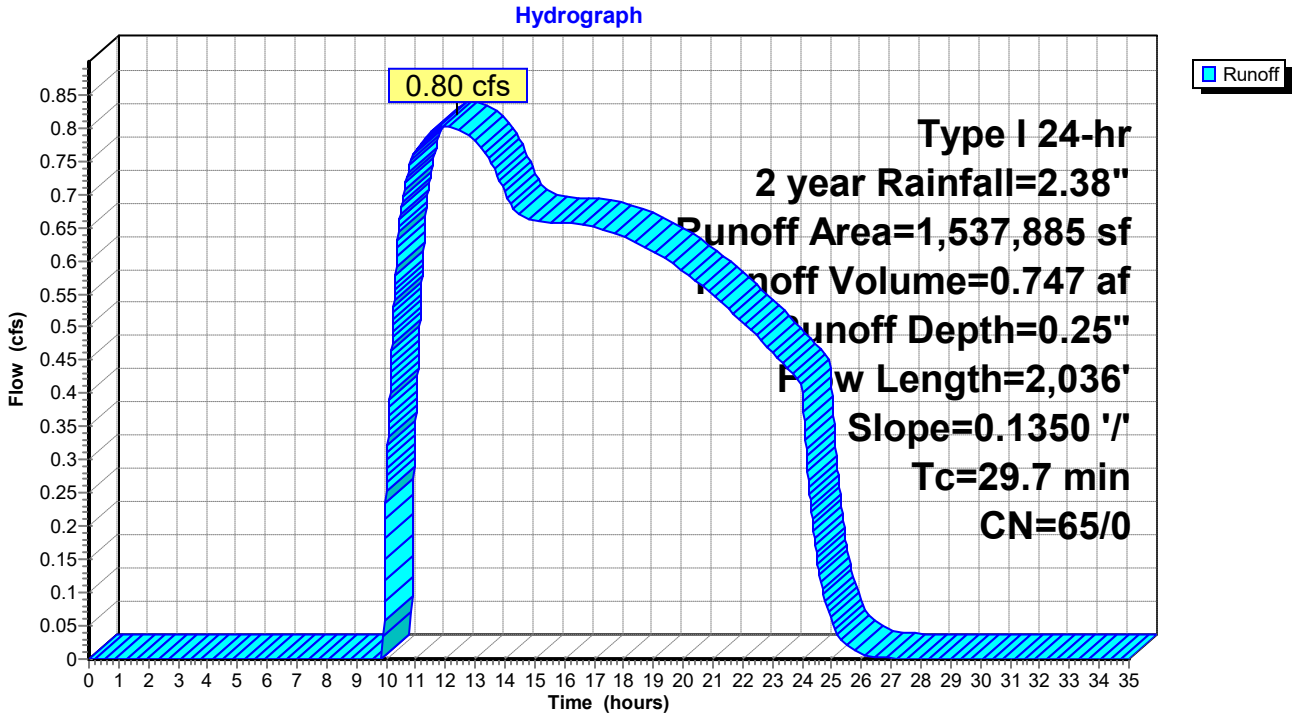
Runoff = 0.80 cfs @ 11.90 hrs, Volume= 0.747 af, Depth= 0.25"
Routed to Reach 21R : Collection Point 21

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	1,537,885	65	Existing brush, see Attachment 3.
	1,537,885	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21.1: Diverted Area 21



Summary for Subcatchment 22.1: Diverted Area 22

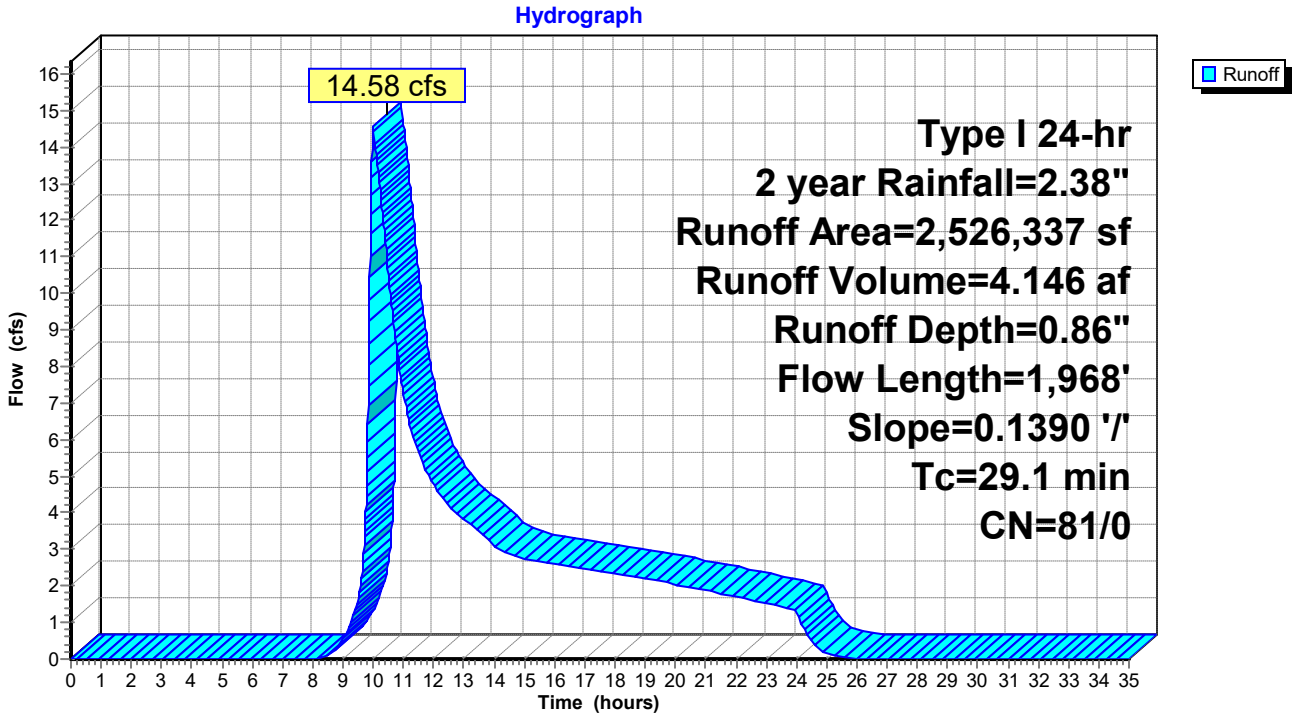
Runoff = 14.58 cfs @ 10.00 hrs, Volume= 4.146 af, Depth= 0.86"
Routed to Reach 22R : Collection Point 22

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 2 year Rainfall=2.38"

	Area (sf)	CN	Description
*	2,526,337	81	Existing brush, see Attachment 3.
	2,526,337	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22.1: Diverted Area 22



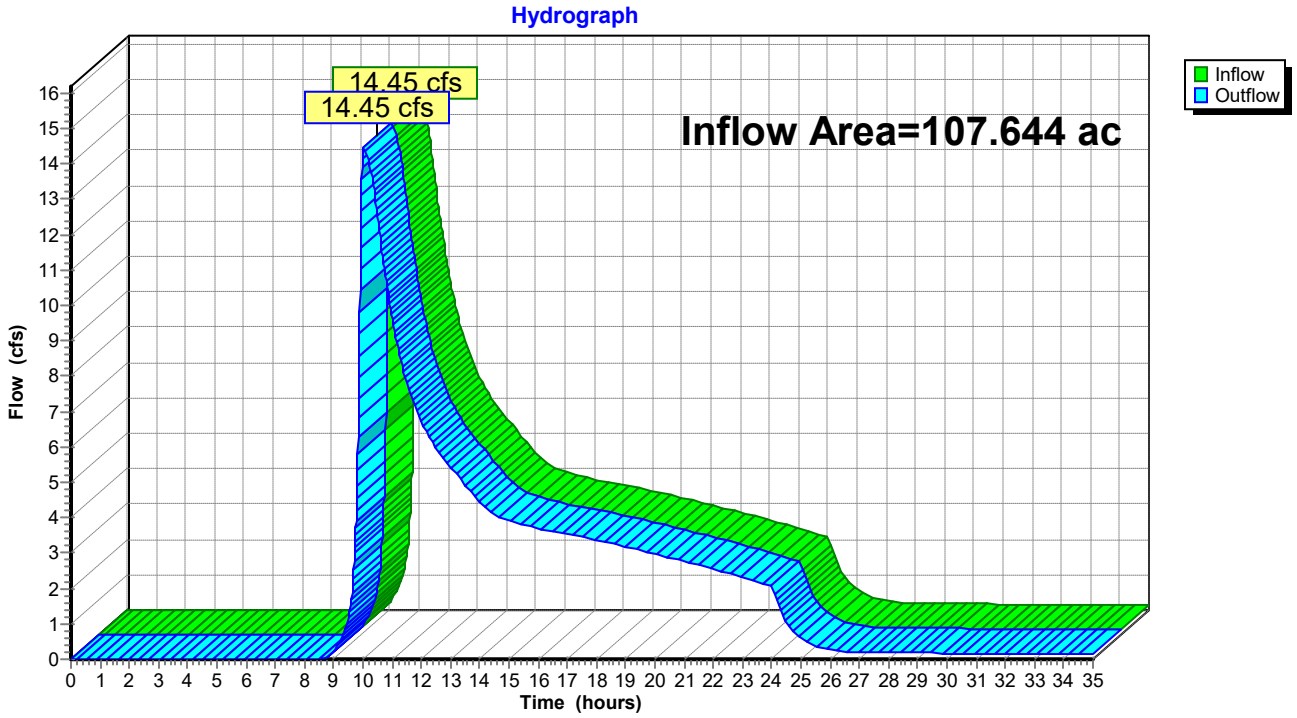
Summary for Reach 1R: Collection Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 107.644 ac, 0.00% Impervious, Inflow Depth > 0.64" for 2 year event
Inflow = 14.45 cfs @ 10.01 hrs, Volume= 5.697 af
Outflow = 14.45 cfs @ 10.01 hrs, Volume= 5.697 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 1R: Collection Point 1



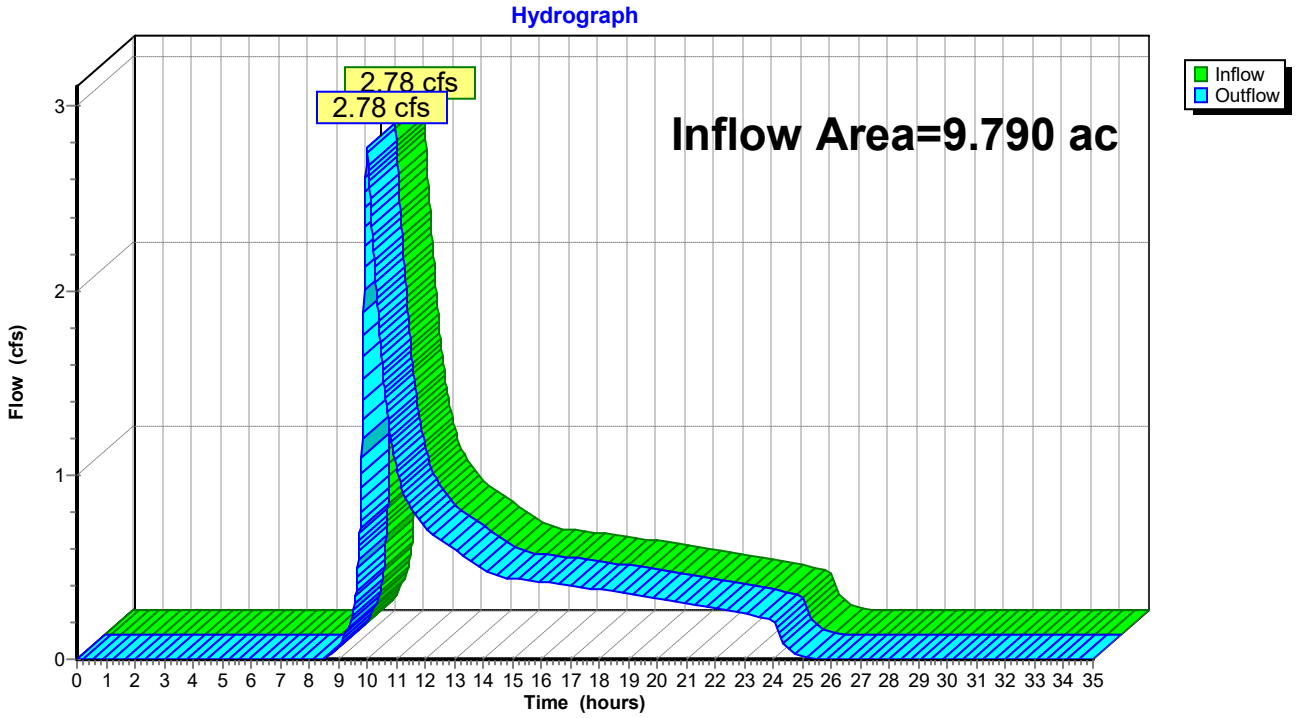
Summary for Reach 2R: Collection Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 9.790 ac, 0.00% Impervious, Inflow Depth = 0.81" for 2 year event
Inflow = 2.78 cfs @ 9.99 hrs, Volume= 0.658 af
Outflow = 2.78 cfs @ 9.99 hrs, Volume= 0.658 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 2R: Collection Point 2



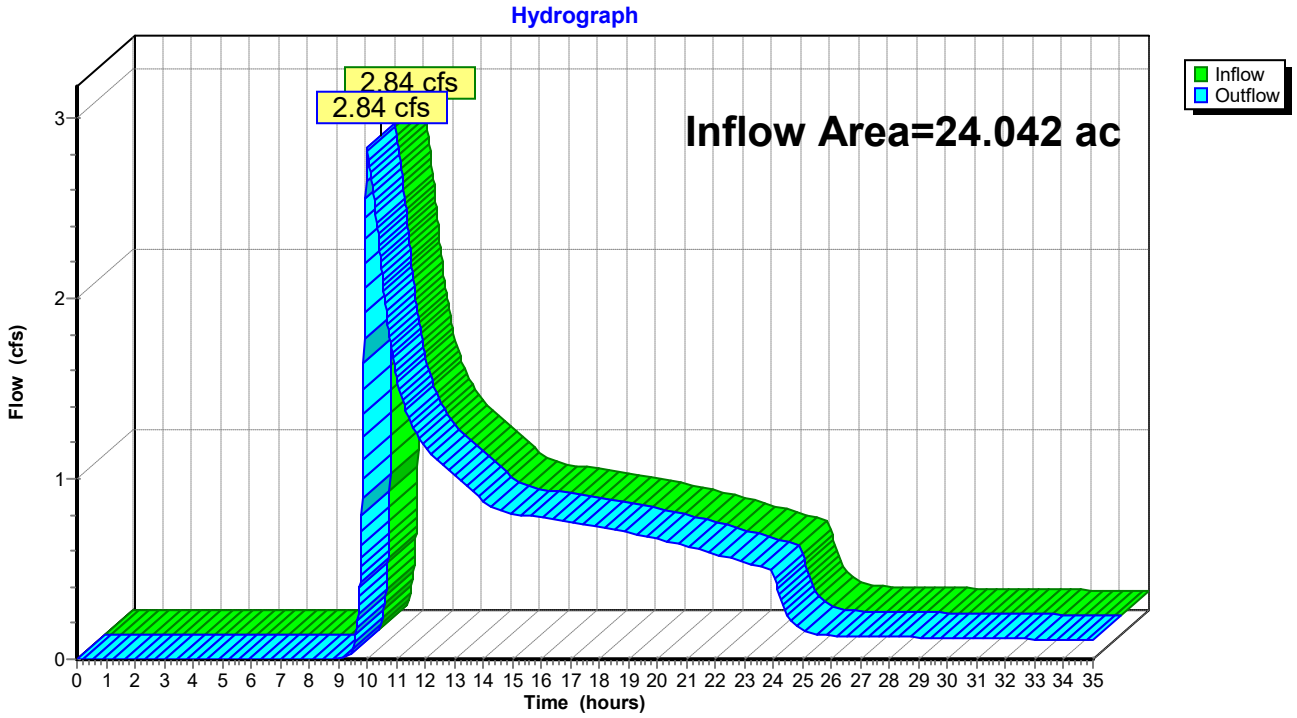
Summary for Reach 3R: Collection Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.042 ac, 0.00% Impervious, Inflow Depth > 0.59" for 2 year event
Inflow = 2.84 cfs @ 10.00 hrs, Volume= 1.188 af
Outflow = 2.84 cfs @ 10.00 hrs, Volume= 1.188 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 3R: Collection Point 3



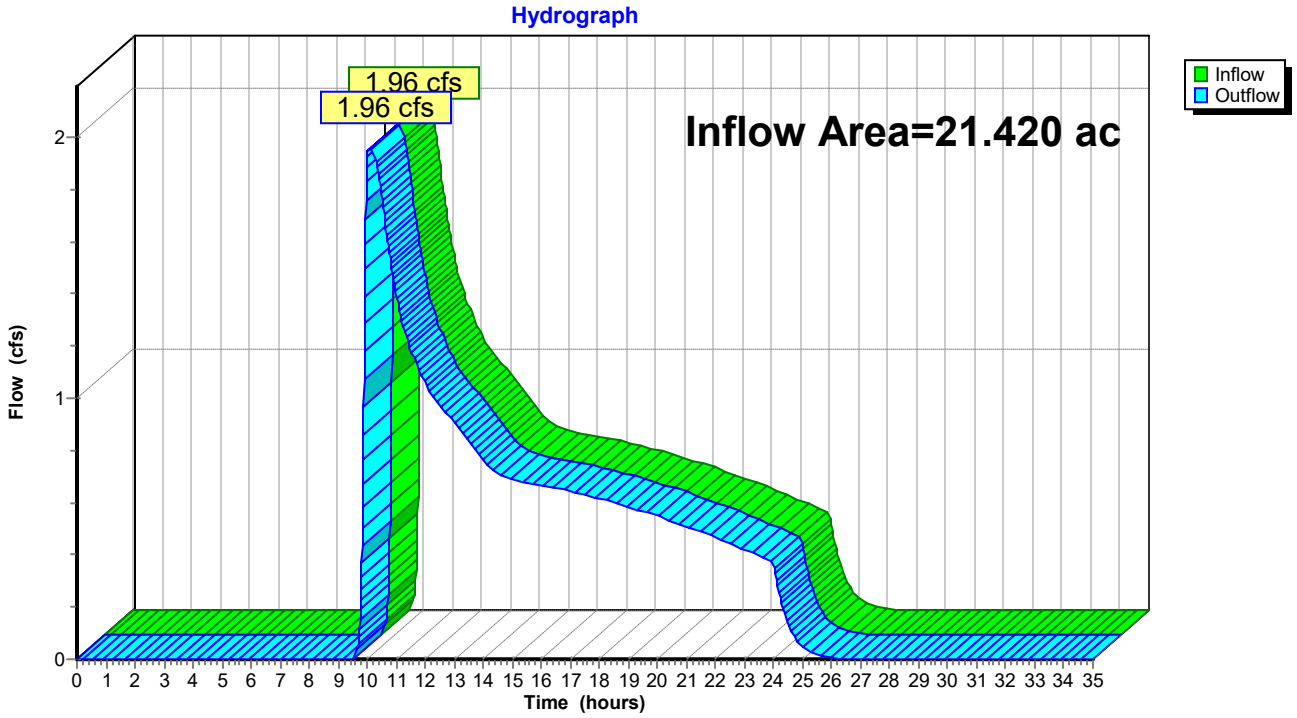
Summary for Reach 4R: Collection Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 21.420 ac, 0.00% Impervious, Inflow Depth = 0.50" for 2 year event
Inflow = 1.96 cfs @ 10.11 hrs, Volume= 0.900 af
Outflow = 1.96 cfs @ 10.11 hrs, Volume= 0.900 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 4R: Collection Point 4



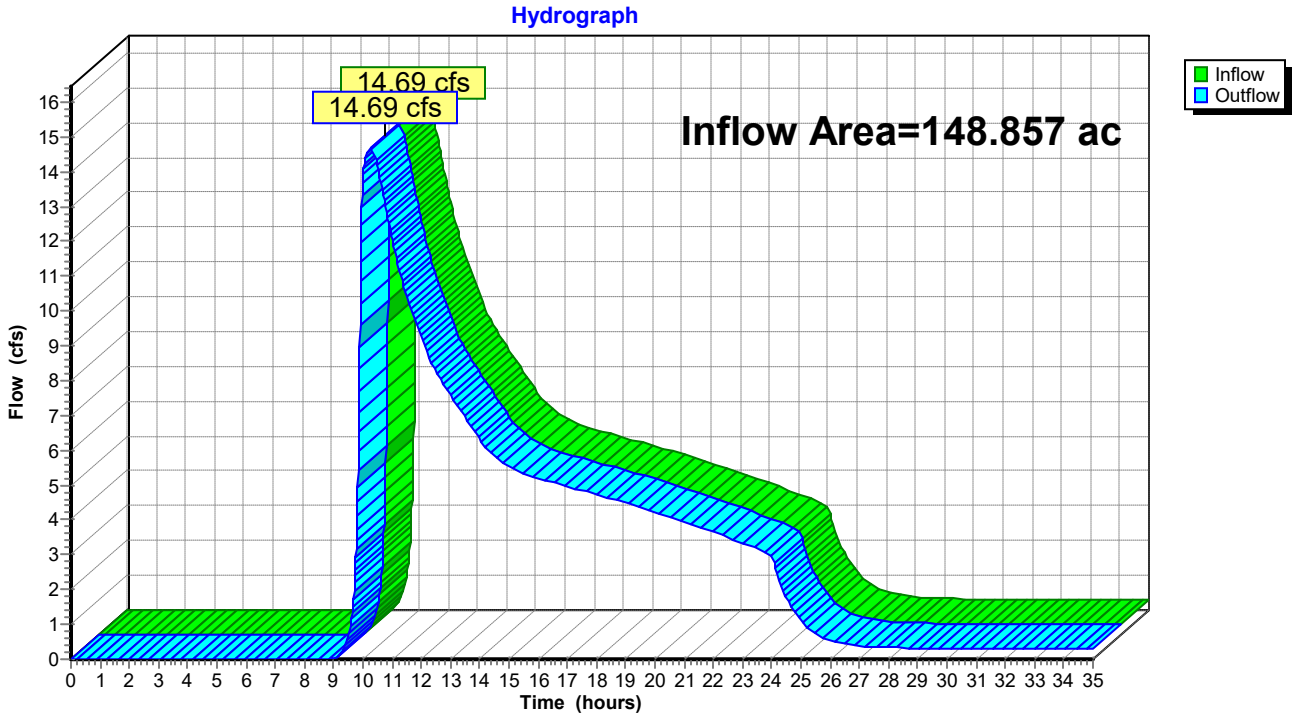
Summary for Reach 5R: Collection Point 5

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 148.857 ac, 0.00% Impervious, Inflow Depth > 0.62" for 2 year event
Inflow = 14.69 cfs @ 10.26 hrs, Volume= 7.636 af
Outflow = 14.69 cfs @ 10.26 hrs, Volume= 7.636 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 5R: Collection Point 5



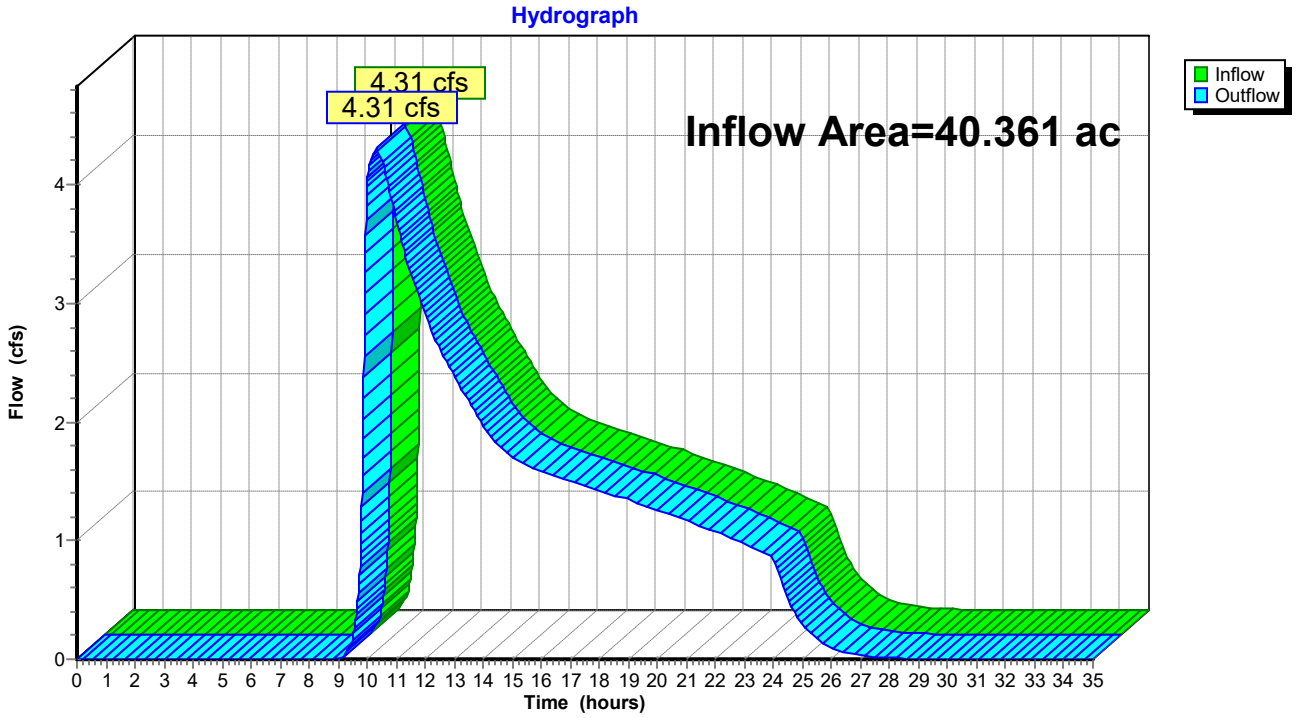
Summary for Reach 6R: Collection Point 6

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 40.361 ac, 0.00% Impervious, Inflow Depth = 0.67" for 2 year event
Inflow = 4.31 cfs @ 10.32 hrs, Volume= 2.241 af
Outflow = 4.31 cfs @ 10.32 hrs, Volume= 2.241 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 6R: Collection Point 6



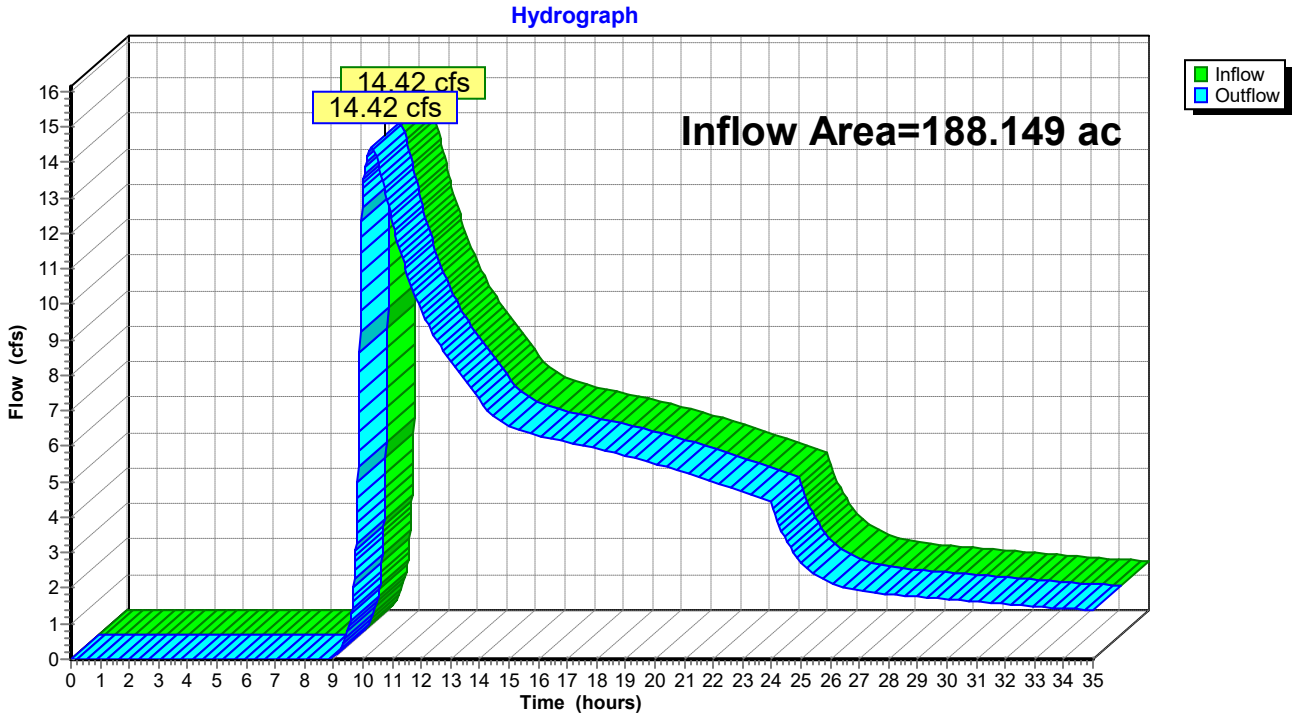
Summary for Reach 7R: Collection Point 7

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 188.149 ac, 0.00% Impervious, Inflow Depth > 0.64" for 2 year event
Inflow = 14.42 cfs @ 10.31 hrs, Volume= 10.088 af
Outflow = 14.42 cfs @ 10.31 hrs, Volume= 10.088 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 7R: Collection Point 7



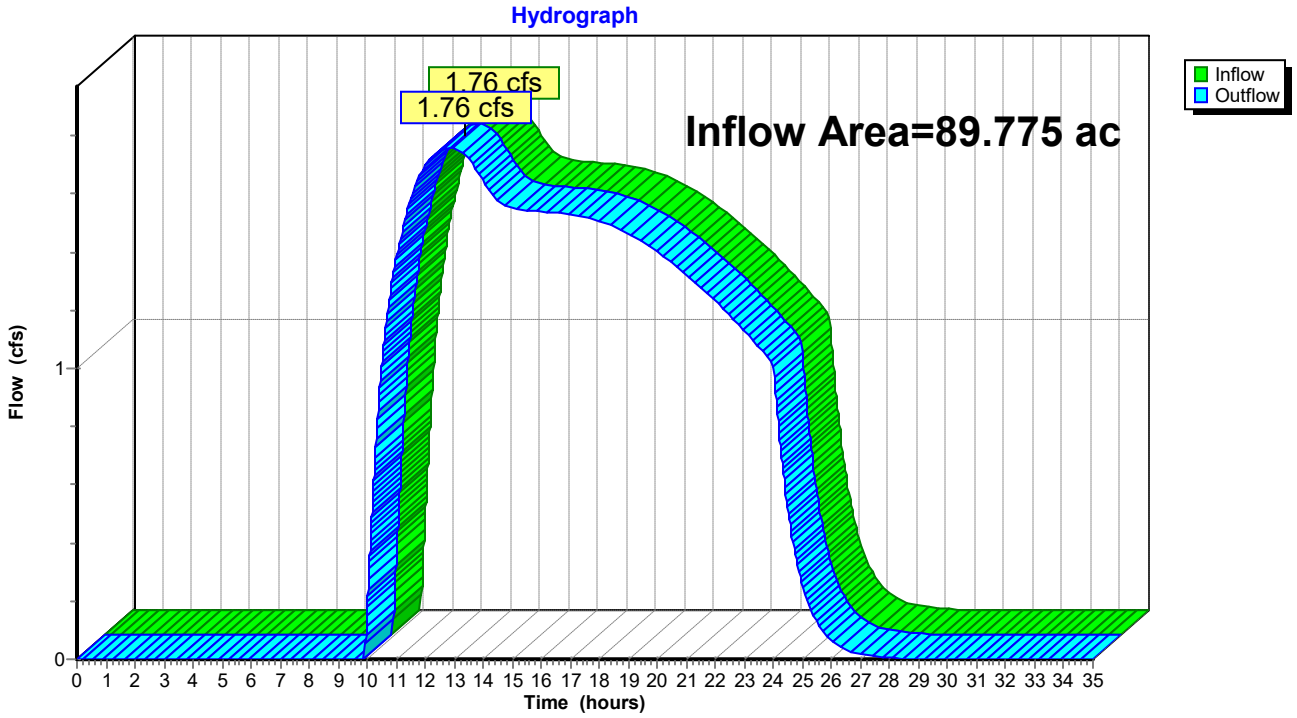
Summary for Reach 8R: Collection Point 8

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 89.775 ac, 0.00% Impervious, Inflow Depth = 0.23" for 2 year event
Inflow = 1.76 cfs @ 12.86 hrs, Volume= 1.713 af
Outflow = 1.76 cfs @ 12.86 hrs, Volume= 1.713 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 8R: Collection Point 8



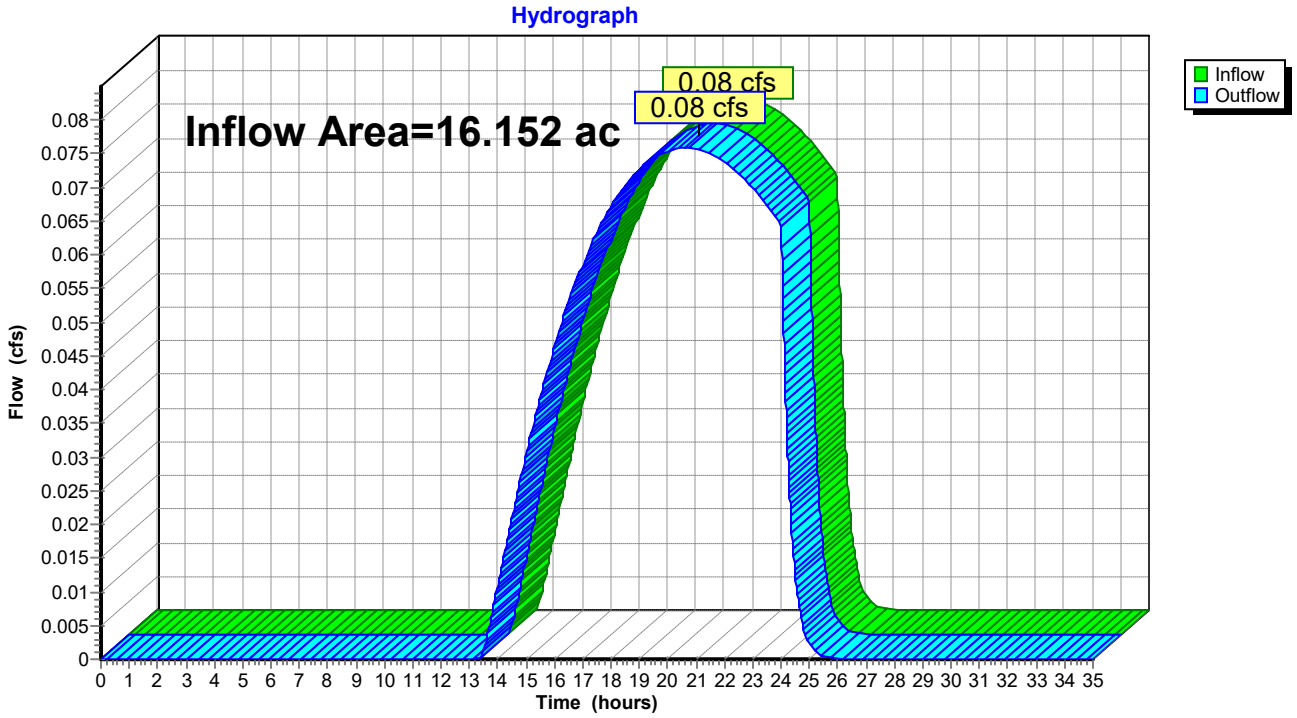
Summary for Reach 9R: Collection Point 9

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 16.152 ac, 0.00% Impervious, Inflow Depth = 0.04" for 2 year event
Inflow = 0.08 cfs @ 20.61 hrs, Volume= 0.052 af
Outflow = 0.08 cfs @ 20.61 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 9R: Collection Point 9



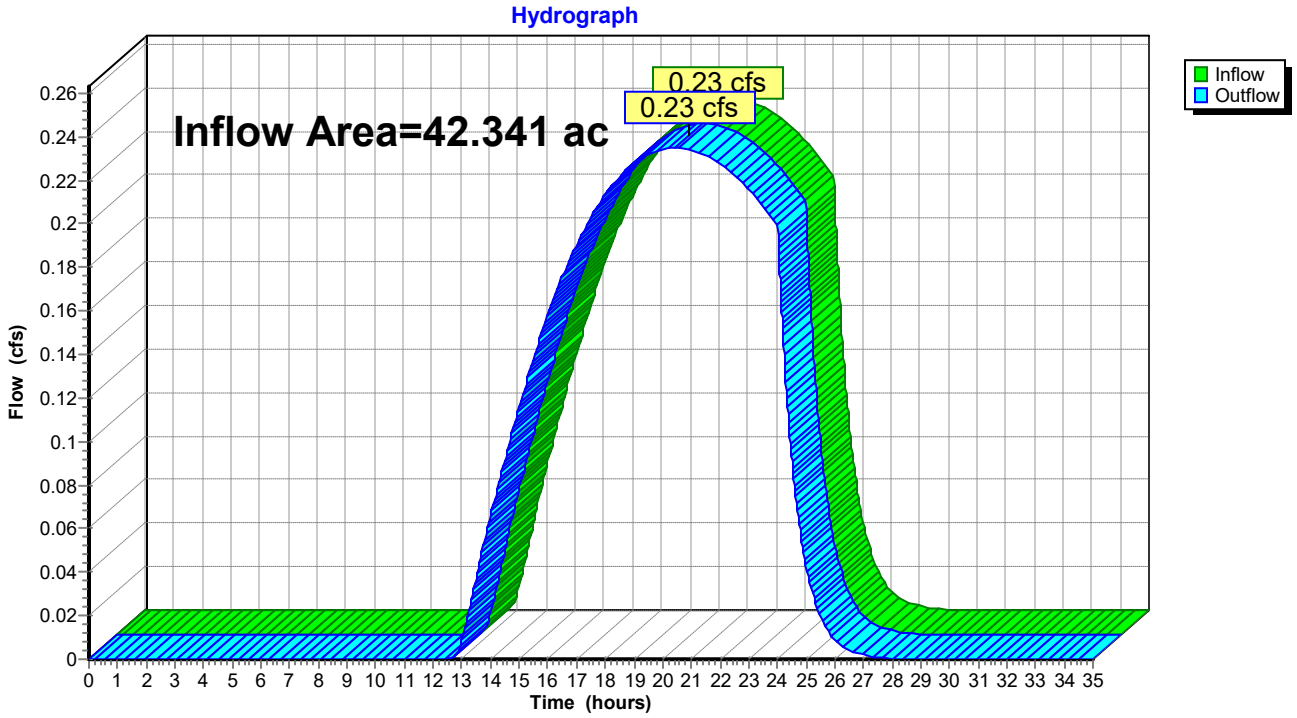
Summary for Reach 10R: Collection Point 10

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 42.341 ac, 0.00% Impervious, Inflow Depth = 0.05" for 2 year event
Inflow = 0.23 cfs @ 20.45 hrs, Volume= 0.176 af
Outflow = 0.23 cfs @ 20.45 hrs, Volume= 0.176 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 10R: Collection Point 10



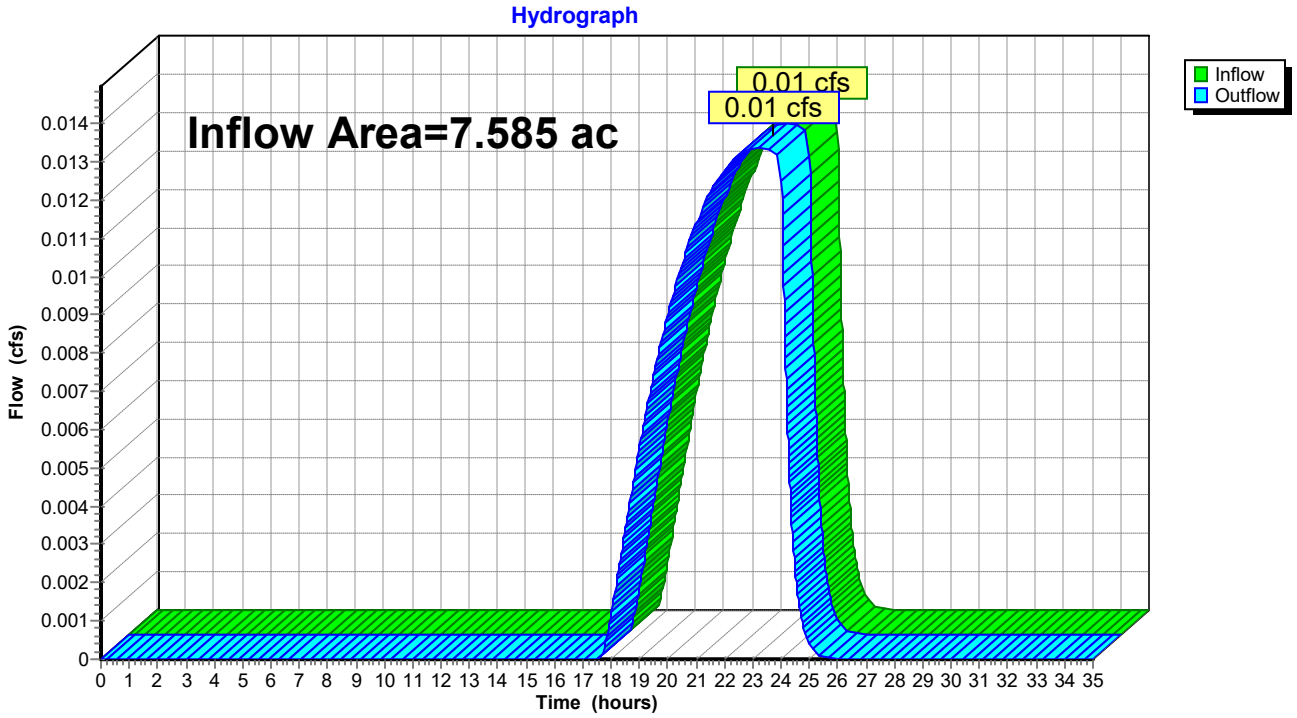
Summary for Reach 11R: Collection Point 11

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.585 ac, 0.00% Impervious, Inflow Depth = 0.01" for 2 year event
Inflow = 0.01 cfs @ 23.22 hrs, Volume= 0.005 af
Outflow = 0.01 cfs @ 23.22 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 11R: Collection Point 11



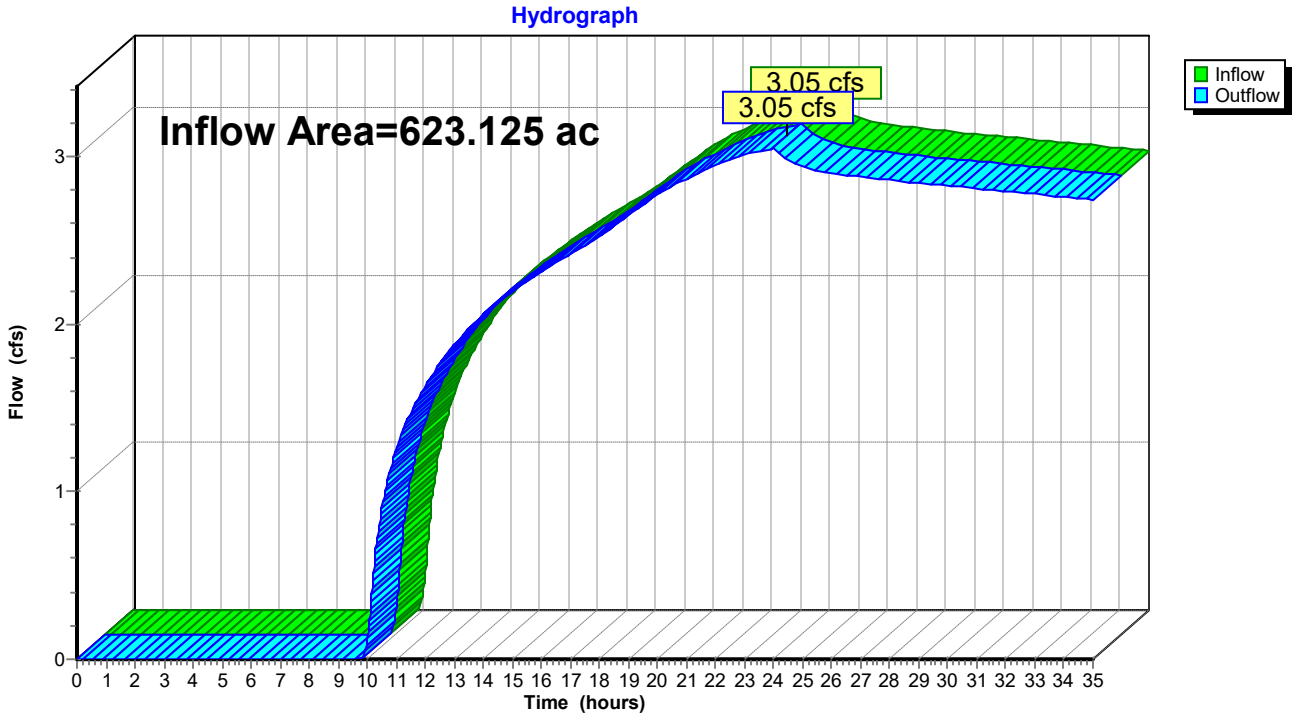
Summary for Reach 12R: Collection Point 12

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 623.125 ac, 0.00% Impervious, Inflow Depth > 0.10" for 2 year event
Inflow = 3.05 cfs @ 24.00 hrs, Volume= 5.250 af
Outflow = 3.05 cfs @ 24.00 hrs, Volume= 5.250 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 12R: Collection Point 12



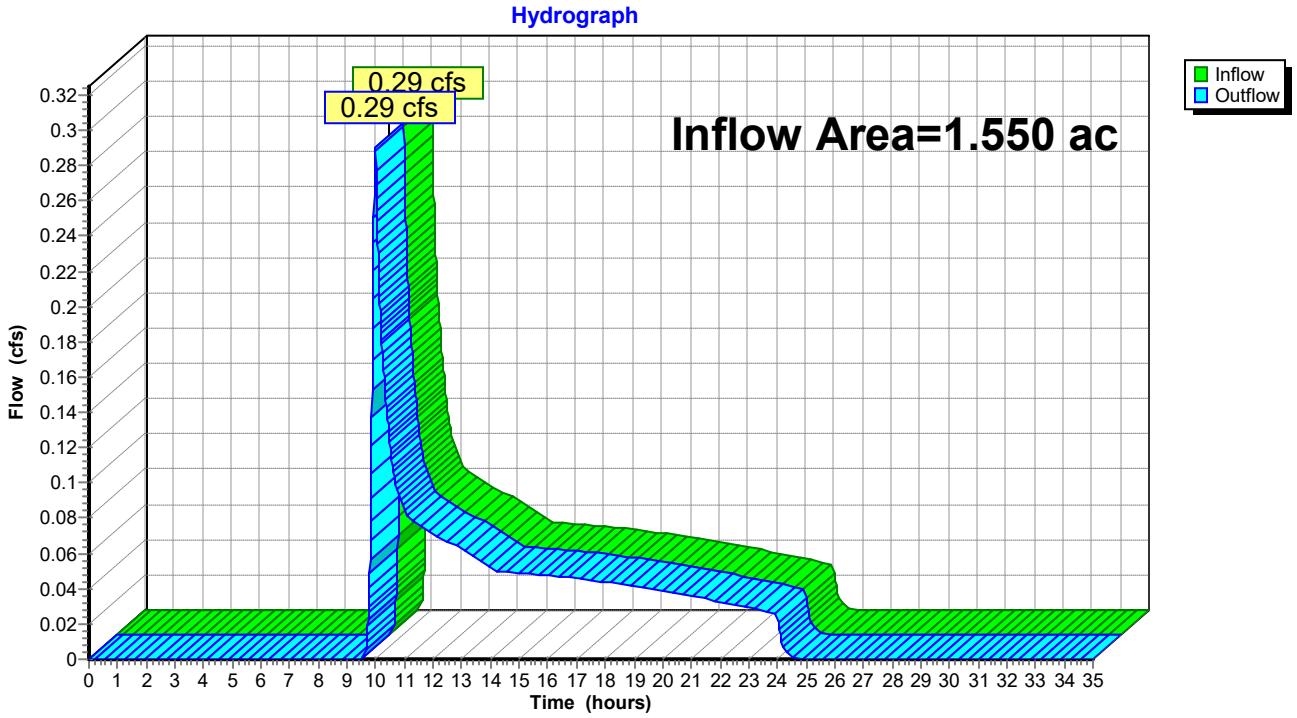
Summary for Reach 13R: Collection Point 13

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.550 ac, 0.00% Impervious, Inflow Depth = 0.50" for 2 year event
Inflow = 0.29 cfs @ 9.98 hrs, Volume= 0.065 af
Outflow = 0.29 cfs @ 9.98 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 13R: Collection Point 13



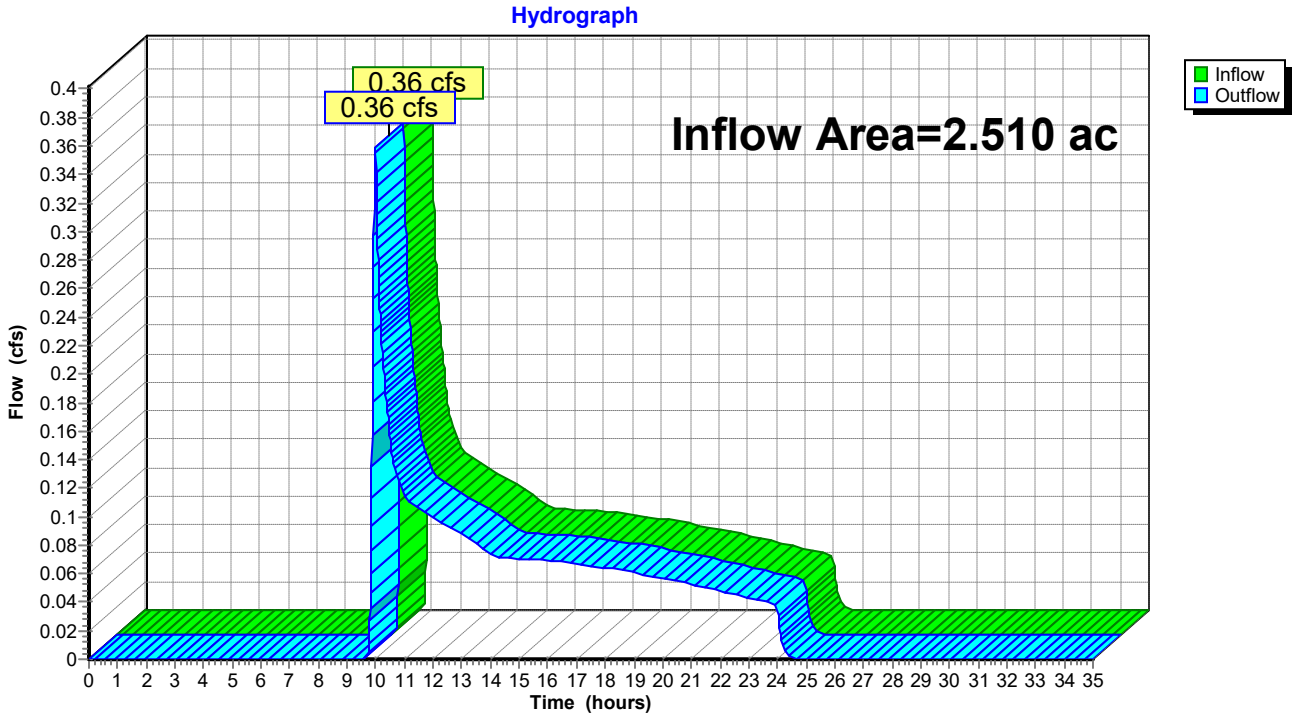
Summary for Reach 14R: Collection Point 14

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.510 ac, 0.00% Impervious, Inflow Depth = 0.43" for 2 year event
Inflow = 0.36 cfs @ 9.98 hrs, Volume= 0.090 af
Outflow = 0.36 cfs @ 9.98 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 14R: Collection Point 14



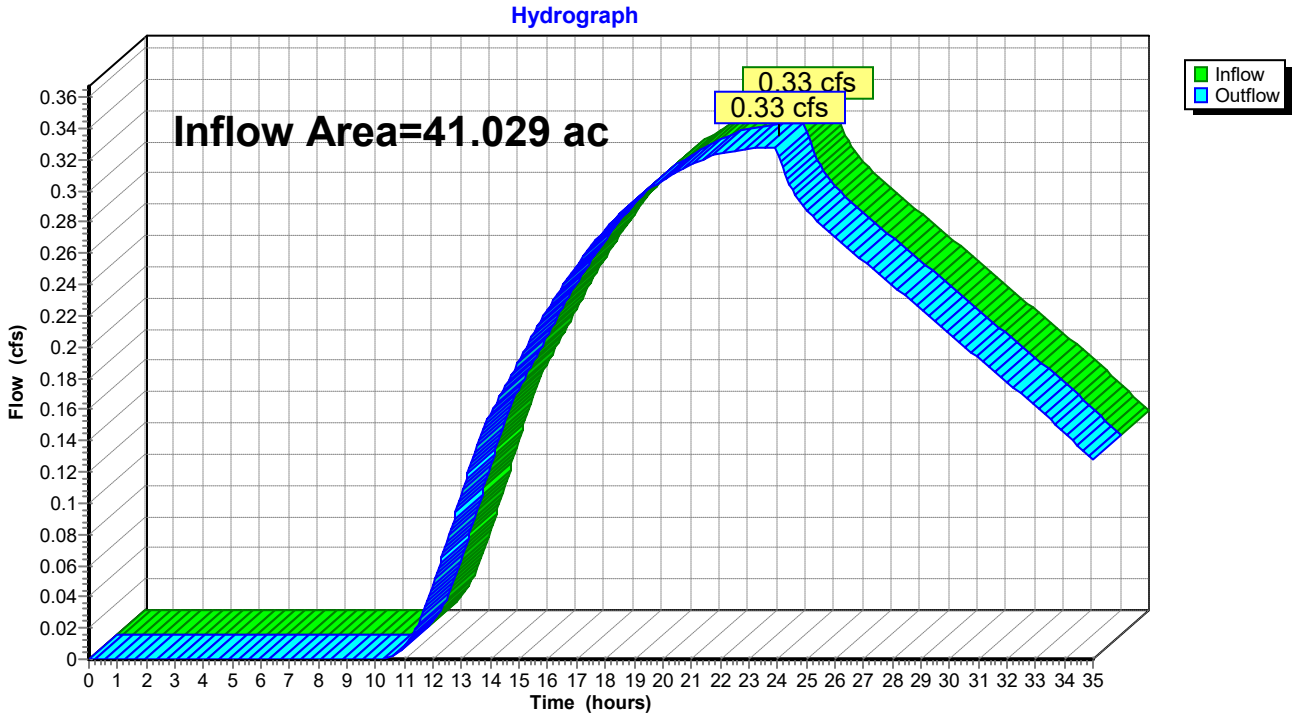
Summary for Reach 15R: Collection Point 15

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 41.029 ac, 0.00% Impervious, Inflow Depth > 0.13" for 2 year event
Inflow = 0.33 cfs @ 23.55 hrs, Volume= 0.445 af
Outflow = 0.33 cfs @ 23.55 hrs, Volume= 0.445 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 15R: Collection Point 15



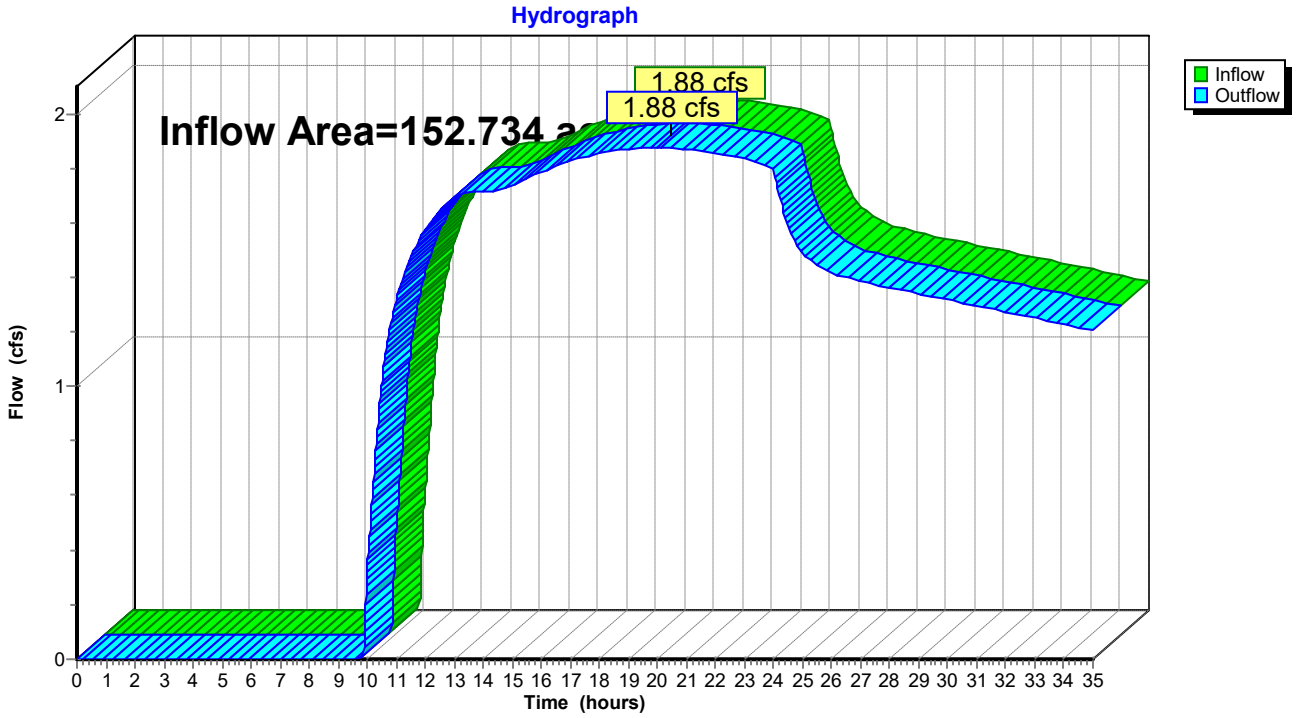
Summary for Reach 16R: Collection Point 16

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 152.734 ac, 0.00% Impervious, Inflow Depth > 0.25" for 2 year event
Inflow = 1.88 cfs @ 19.95 hrs, Volume= 3.214 af
Outflow = 1.88 cfs @ 19.95 hrs, Volume= 3.214 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 16R: Collection Point 16



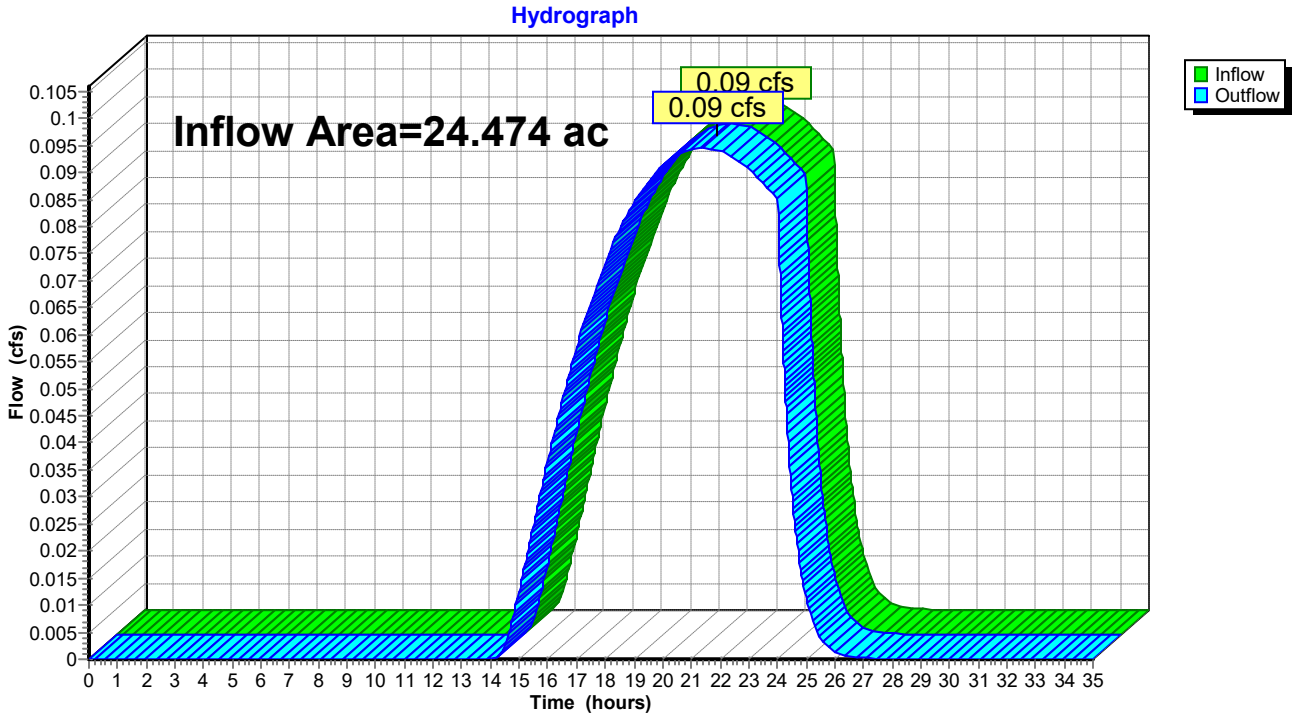
Summary for Reach 17R: Collection Point 17

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.474 ac, 0.00% Impervious, Inflow Depth = 0.03" for 2 year event
Inflow = 0.09 cfs @ 21.38 hrs, Volume= 0.060 af
Outflow = 0.09 cfs @ 21.38 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 17R: Collection Point 17



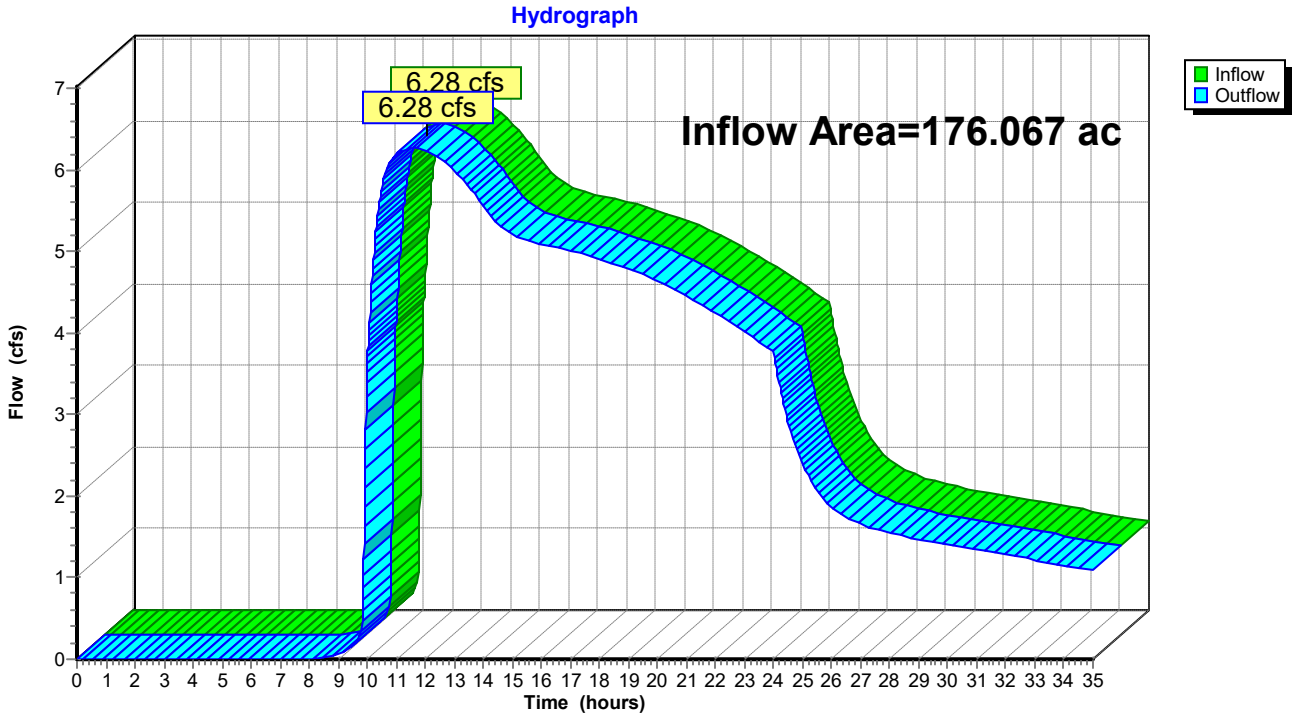
Summary for Reach 18R: Collection Point 18

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 176.067 ac, 0.00% Impervious, Inflow Depth > 0.50" for 2 year event
Inflow = 6.28 cfs @ 11.60 hrs, Volume= 7.342 af
Outflow = 6.28 cfs @ 11.60 hrs, Volume= 7.342 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 18R: Collection Point 18



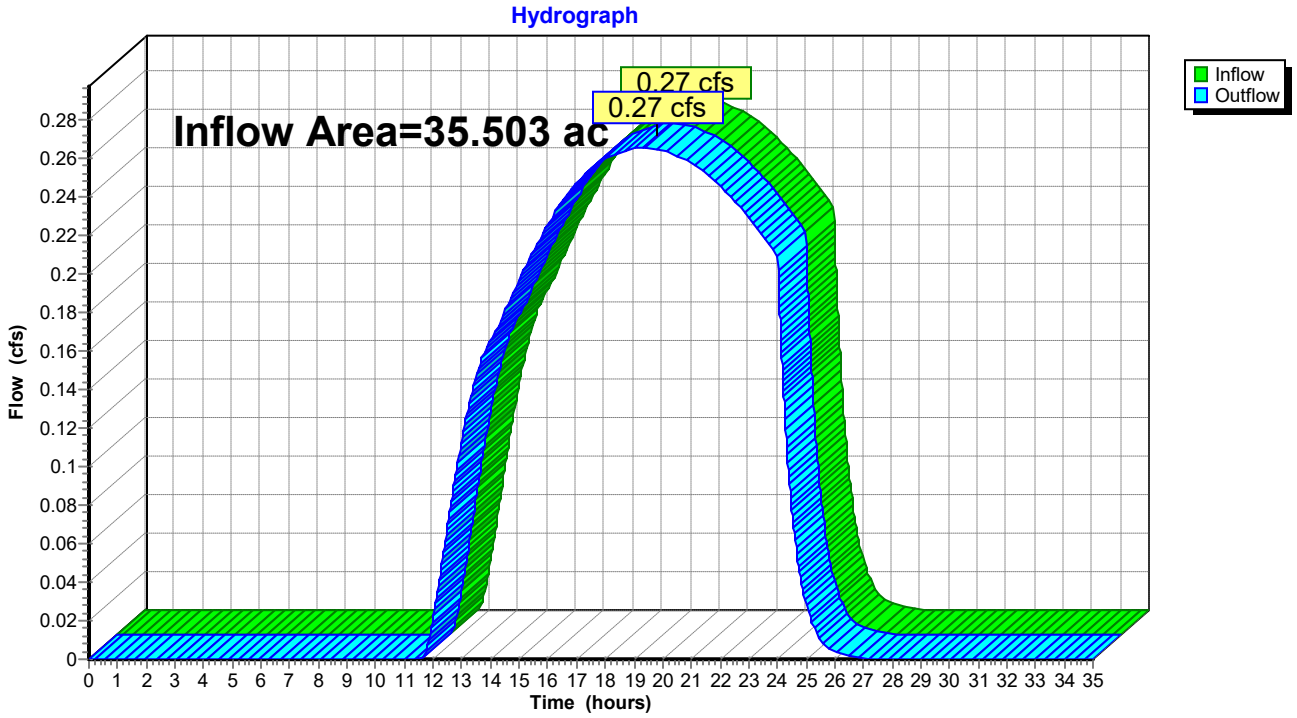
Summary for Reach 19R: Collection Point 19

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.503 ac, 0.00% Impervious, Inflow Depth = 0.08" for 2 year event
Inflow = 0.27 cfs @ 19.33 hrs, Volume= 0.223 af
Outflow = 0.27 cfs @ 19.33 hrs, Volume= 0.223 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 19R: Collection Point 19



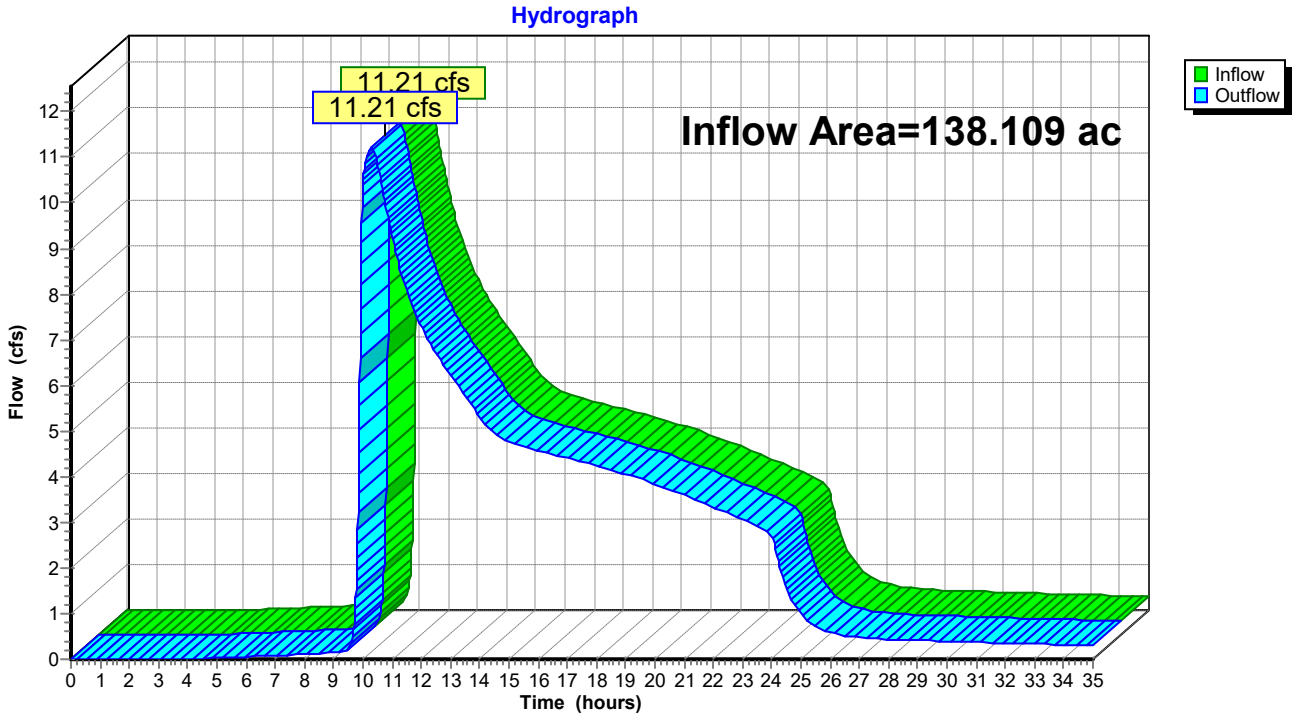
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 138.109 ac, 2.50% Impervious, Inflow Depth > 0.57" for 2 year event
Inflow = 11.21 cfs @ 10.29 hrs, Volume= 6.527 af
Outflow = 11.21 cfs @ 10.29 hrs, Volume= 6.527 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



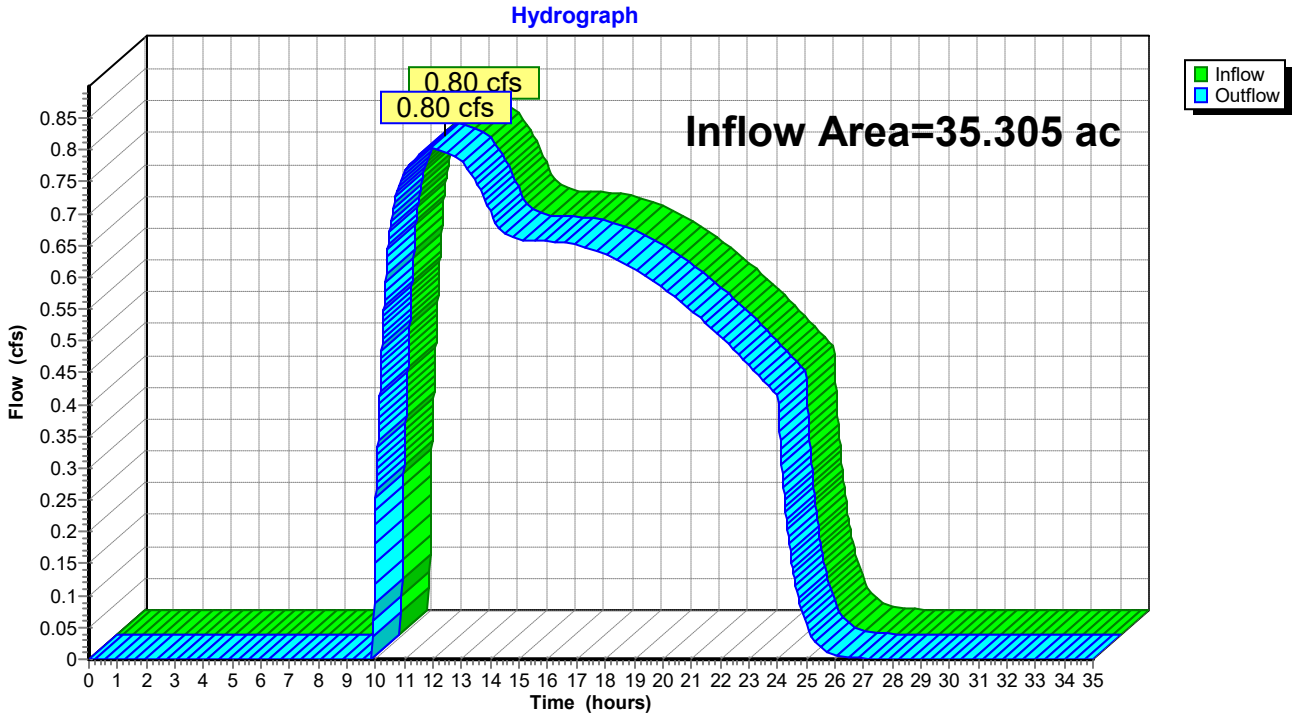
Summary for Reach 21R: Collection Point 21

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.305 ac, 0.00% Impervious, Inflow Depth = 0.25" for 2 year event
Inflow = 0.80 cfs @ 11.90 hrs, Volume= 0.747 af
Outflow = 0.80 cfs @ 11.90 hrs, Volume= 0.747 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 21R: Collection Point 21



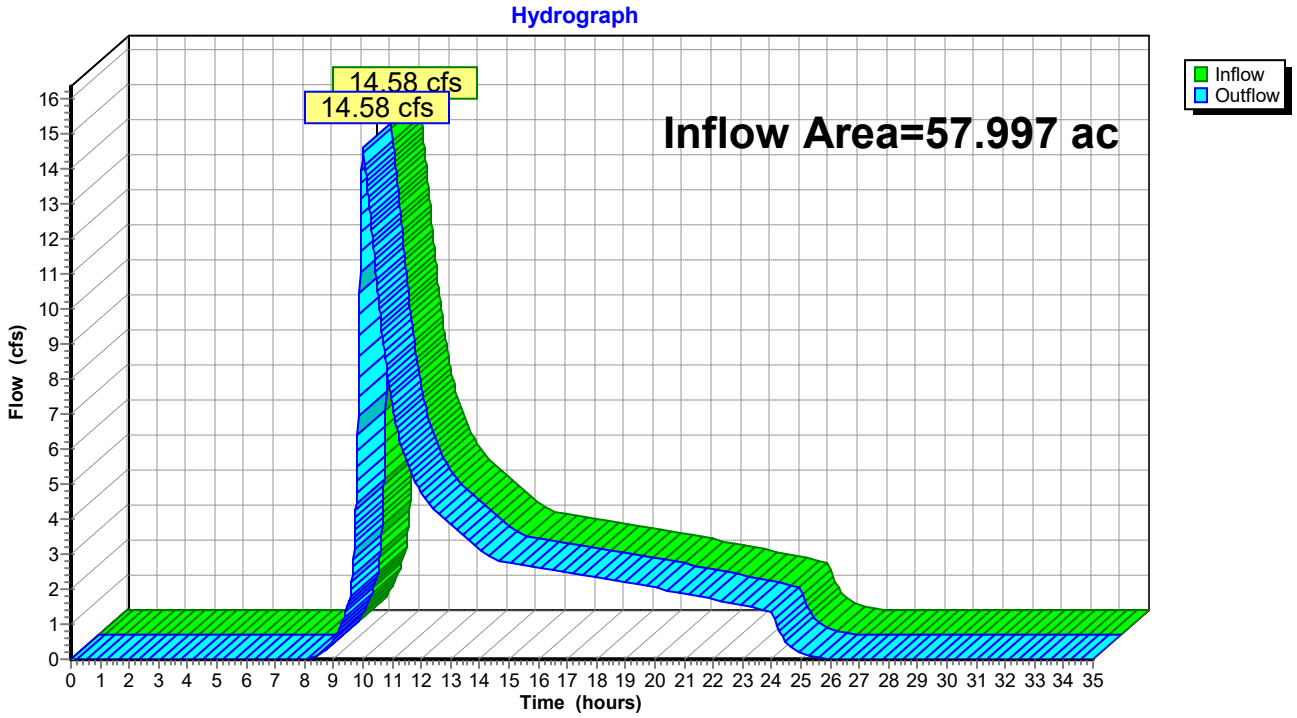
Summary for Reach 22R: Collection Point 22

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 57.997 ac, 0.00% Impervious, Inflow Depth = 0.86" for 2 year event
Inflow = 14.58 cfs @ 10.00 hrs, Volume= 4.146 af
Outflow = 14.58 cfs @ 10.00 hrs, Volume= 4.146 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 22R: Collection Point 22



Summary for Pond 12S: Flow Splitter Box

[57] Hint: Peaked at 111.84' (Flood elevation advised)

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 0.53" for 2 year event
Inflow = 52.10 cfs @ 10.02 hrs, Volume= 23.335 af
Outflow = 52.10 cfs @ 10.02 hrs, Volume= 23.335 af, Atten= 0%, Lag= 0.0 min
Primary = 26.05 cfs @ 10.02 hrs, Volume= 11.667 af
Routed to Pond D12.1 : Detention Pond 12.1
Secondary = 26.05 cfs @ 10.02 hrs, Volume= 11.667 af
Routed to Pond D12.2 : Detention Pond 12.2

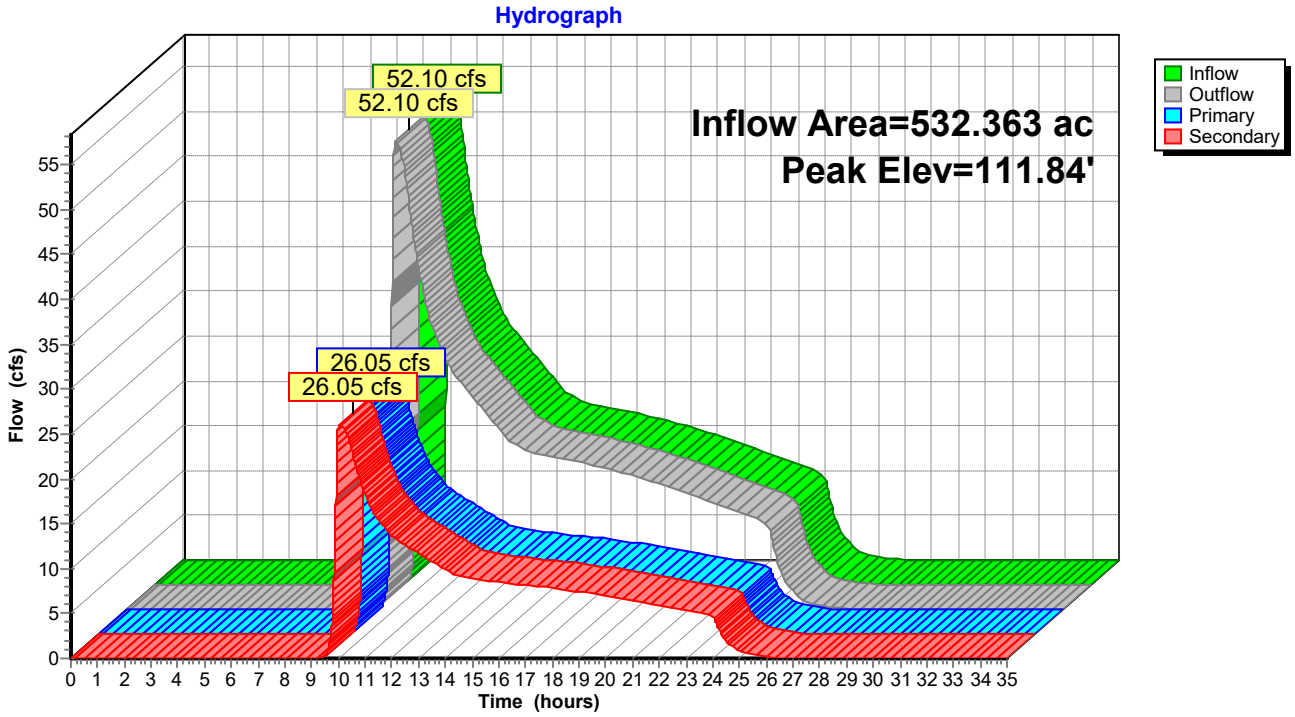
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 111.84' @ 10.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf
#2	Secondary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

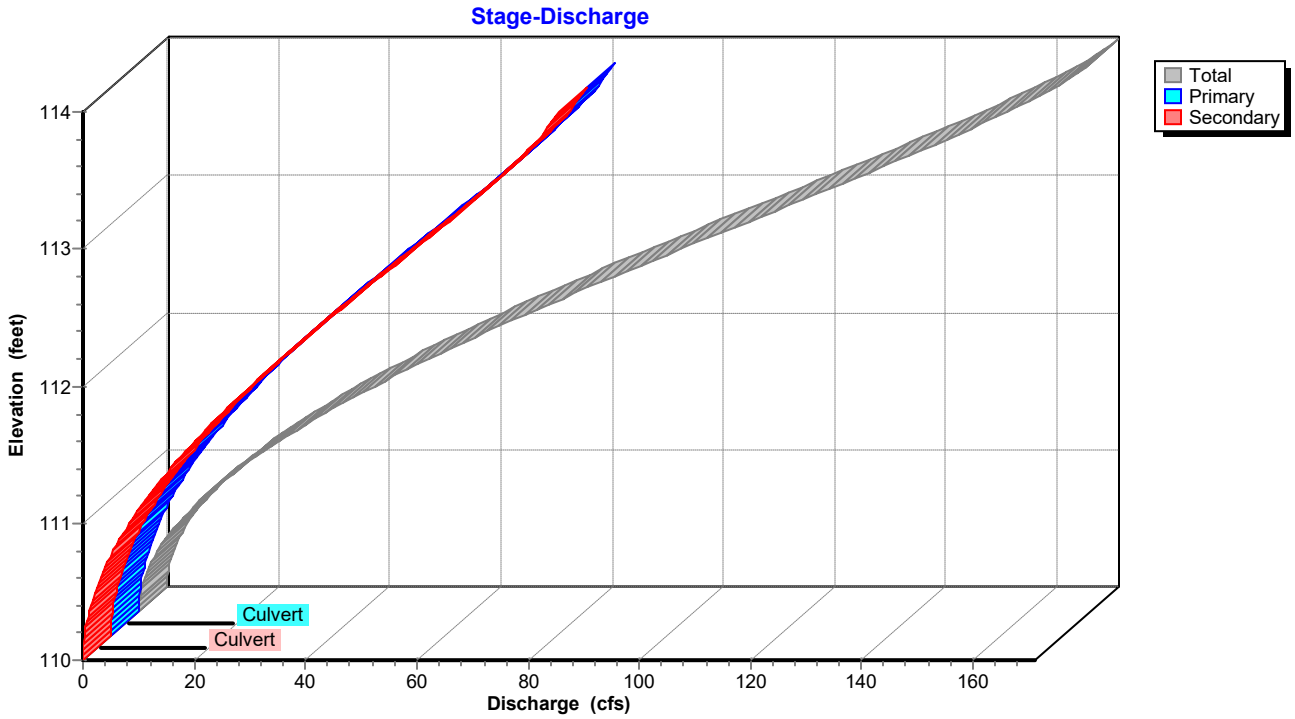
Primary OutFlow Max=26.05 cfs @ 10.02 hrs HW=111.84' TW=100.12' (Dynamic Tailwater)
1=Culvert (Inlet Controls 26.05 cfs @ 4.62 fps)

Secondary OutFlow Max=26.05 cfs @ 10.02 hrs HW=111.84' TW=100.12' (Dynamic Tailwater)
2=Culvert (Inlet Controls 26.05 cfs @ 4.62 fps)

Pond 12S: Flow Splitter Box



Pond 12S: Flow Splitter Box



Stage-Discharge for Pond 12S: Flow Splitter Box

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
110.00	0.00	0.00	0.00
110.05	0.05	0.02	0.02
110.10	0.18	0.09	0.09
110.15	0.40	0.20	0.20
110.20	0.72	0.36	0.36
110.25	1.11	0.56	0.56
110.30	1.60	0.80	0.80
110.35	2.17	1.08	1.08
110.40	2.82	1.41	1.41
110.45	3.55	1.78	1.78
110.50	4.37	2.18	2.18
110.55	5.26	2.63	2.63
110.60	6.23	3.12	3.12
110.65	7.29	3.64	3.64
110.70	8.41	4.21	4.21
110.75	9.62	4.81	4.81
110.80	10.90	5.45	5.45
110.85	12.25	6.12	6.12
110.90	13.67	6.84	6.84
110.95	15.17	7.58	7.58
111.00	16.73	8.36	8.36
111.05	18.36	9.18	9.18
111.10	20.06	10.03	10.03
111.15	21.82	10.91	10.91
111.20	23.65	11.83	11.83
111.25	25.54	12.77	12.77
111.30	27.50	13.75	13.75
111.35	29.51	14.75	14.75
111.40	31.58	15.79	15.79
111.45	33.71	16.86	16.86
111.50	35.90	17.95	17.95
111.55	38.14	19.07	19.07
111.60	40.43	20.22	20.22
111.65	42.78	21.39	21.39
111.70	45.17	22.59	22.59
111.75	47.61	23.81	23.81
111.80	50.11	25.05	25.05
111.85	52.64	26.32	26.32
111.90	55.22	27.61	27.61
111.95	57.84	28.92	28.92
112.00	60.51	30.25	30.25
112.05	63.21	31.60	31.60
112.10	65.95	32.97	32.97
112.15	68.72	34.36	34.36
112.20	71.53	35.76	35.76
112.25	74.36	37.18	37.18
112.30	77.23	38.62	38.62
112.35	80.13	40.06	40.06
112.40	83.05	41.52	41.52
112.45	85.99	43.00	43.00
112.50	88.96	44.48	44.48
112.55	91.94	45.97	45.97
112.60	94.94	47.47	47.47
112.65	97.95	48.98	48.98
112.70	100.98	50.49	50.49
112.75	104.02	52.01	52.01
112.80	107.06	53.53	53.53
112.85	110.10	55.05	55.05
112.90	113.15	56.58	56.58
112.95	116.20	58.10	58.10
113.00	119.24	59.62	59.62
113.05	122.27	61.13	61.13
113.10	125.29	62.64	62.64
113.15	128.29	64.15	64.15
113.20	131.28	65.64	65.64
113.25	134.24	67.12	67.12
113.30	137.17	68.59	68.59
113.35	140.08	70.04	70.04
113.40	142.94	71.47	71.47
113.45	145.76	72.88	72.88
113.50	148.54	74.27	74.27
113.55	151.25	75.63	75.63
113.60	153.91	76.95	76.95
113.65	156.49	78.24	78.24
113.70	158.99	79.49	79.49
113.75	161.39	80.70	80.70
113.80	163.69	81.84	81.84
113.85	165.85	82.93	82.93
113.90	167.86	83.93	83.93
113.95	169.66	84.83	84.83
114.00	**171.14**	**85.57**	**85.57**

Summary for Pond D1: Detention Basin 1

Inflow Area = 22.726 ac, 0.00% Impervious, Inflow Depth = 0.91" for 2 year event
Inflow = 7.57 cfs @ 9.99 hrs, Volume= 1.725 af
Outflow = 0.18 cfs @ 24.40 hrs, Volume= 0.332 af, Atten= 98%, Lag= 864.8 min
Primary = 0.18 cfs @ 24.40 hrs, Volume= 0.332 af
Routed to Reach 1R : Collection Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.90' @ 24.40 hrs Surf.Area= 0.624 ac Storage= 1.539 af

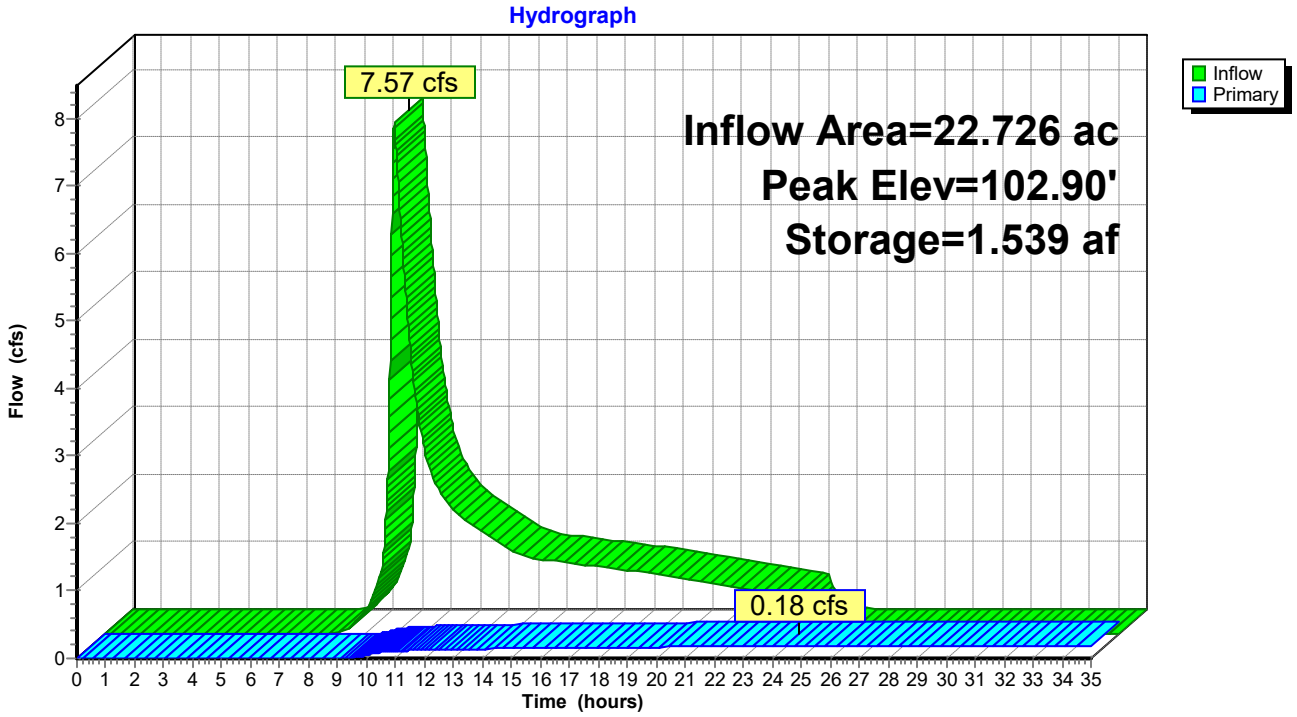
Plug-Flow detention time= 795.7 min calculated for 0.332 af (19% of inflow)
Center-of-Mass det. time= 533.5 min (1,390.9 - 857.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	3.808 af	**80.00'W x 240.00'L x 6.00'H Prismatoid Z=4.0**

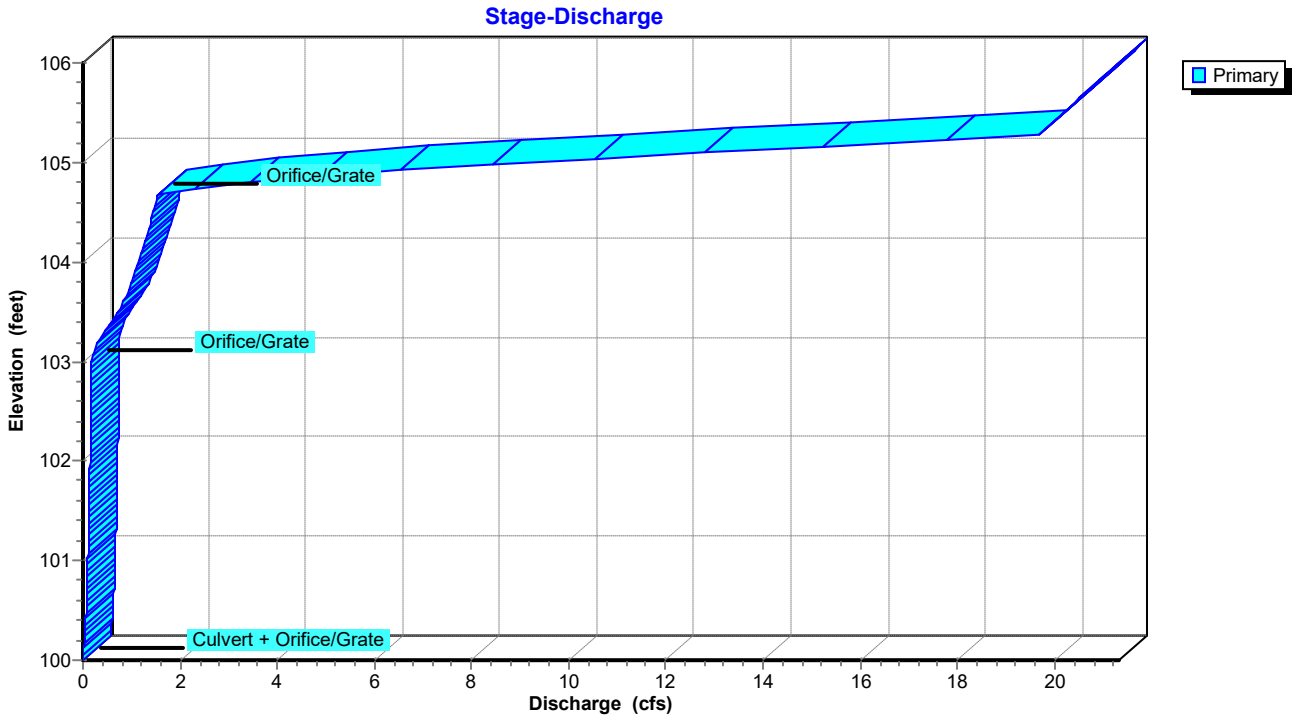
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.67'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	103.00'	**6.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 24.40 hrs HW=102.90' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.18 cfs of 12.48 cfs potential flow)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.18 cfs @ 8.09 fps)
- **4=Orifice/Grate** (Controls 0.00 cfs)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	16.92
100.05	0.00	102.65	0.17	105.25	19.13
100.10	0.01	102.70	0.17	105.30	19.73
100.15	0.03	102.75	0.17	105.35	19.85
100.20	0.04	102.80	0.17	105.40	19.97
100.25	0.04	102.85	0.17	105.45	20.08
100.30	0.05	102.90	0.18	105.50	20.20
100.35	0.05	102.95	0.18	105.55	20.32
100.40	0.06	103.00	0.18	105.60	20.43
100.45	0.06	103.05	0.19	105.65	20.55
100.50	0.07	103.10	0.21	105.70	20.66
100.55	0.07	103.15	0.25	105.75	20.77
100.60	0.08	103.20	0.30	105.80	20.89
100.65	0.08	103.25	0.36	105.85	21.00
100.70	0.08	103.30	0.43	105.90	21.11
100.75	0.09	103.35	0.51	105.95	21.22
100.80	0.09	103.40	0.58	106.00	**21.33**
100.85	0.09	103.45	0.66		
100.90	0.09	103.50	0.73		
100.95	0.10	103.55	0.78		
101.00	0.10	103.60	0.83		
101.05	0.10	103.65	0.88		
101.10	0.11	103.70	0.93		
101.15	0.11	103.75	0.97		
101.20	0.11	103.80	1.01		
101.25	0.11	103.85	1.05		
101.30	0.12	103.90	1.09		
101.35	0.12	103.95	1.12		
101.40	0.12	104.00	1.16		
101.45	0.12	104.05	1.19		
101.50	0.13	104.10	1.22		
101.55	0.13	104.15	1.25		
101.60	0.13	104.20	1.28		
101.65	0.13	104.25	1.31		
101.70	0.13	104.30	1.34		
101.75	0.14	104.35	1.37		
101.80	0.14	104.40	1.40		
101.85	0.14	104.45	1.42		
101.90	0.14	104.50	1.45		
101.95	0.14	104.55	1.48		
102.00	0.15	104.60	1.50		
102.05	0.15	104.65	1.53		
102.10	0.15	104.70	1.76		
102.15	0.15	104.75	2.46		
102.20	0.15	104.80	3.44		
102.25	0.15	104.85	4.62		
102.30	0.16	104.90	5.98		
102.35	0.16	104.95	7.48		
102.40	0.16	105.00	9.13		
102.45	0.16	105.05	10.91		
102.50	0.16	105.10	12.80		
102.55	0.16	105.15	14.81		

Summary for Pond D12.1: Detention Pond 12.1

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 0.26" for 2 year event
Inflow = 26.05 cfs @ 10.02 hrs, Volume= 11.667 af
Outflow = 1.45 cfs @ 24.67 hrs, Volume= 2.594 af, Atten= 94%, Lag= 879.3 min
Primary = 1.45 cfs @ 24.67 hrs, Volume= 2.594 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.15' @ 24.67 hrs Surf.Area= 3.510 ac Storage= 10.208 af

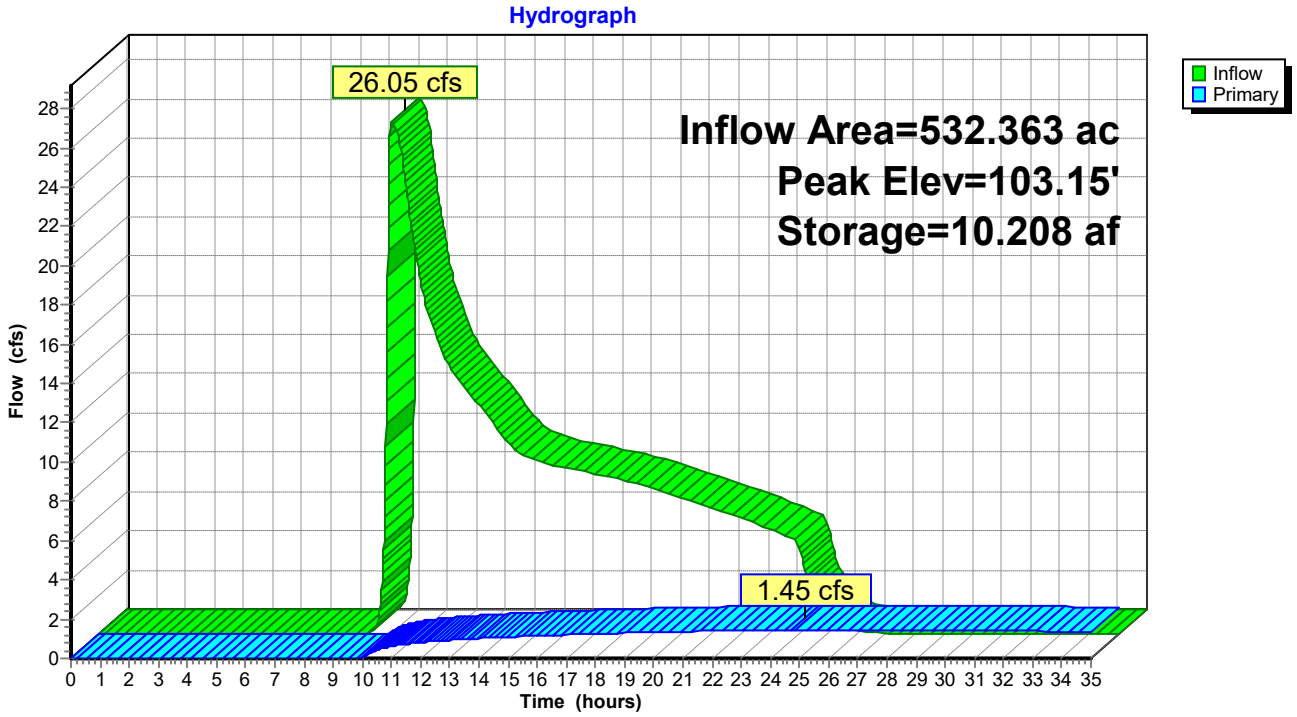
Plug-Flow detention time= 789.8 min calculated for 2.594 af (22% of inflow)
Center-of-Mass det. time= 496.8 min (1,419.2 - 922.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

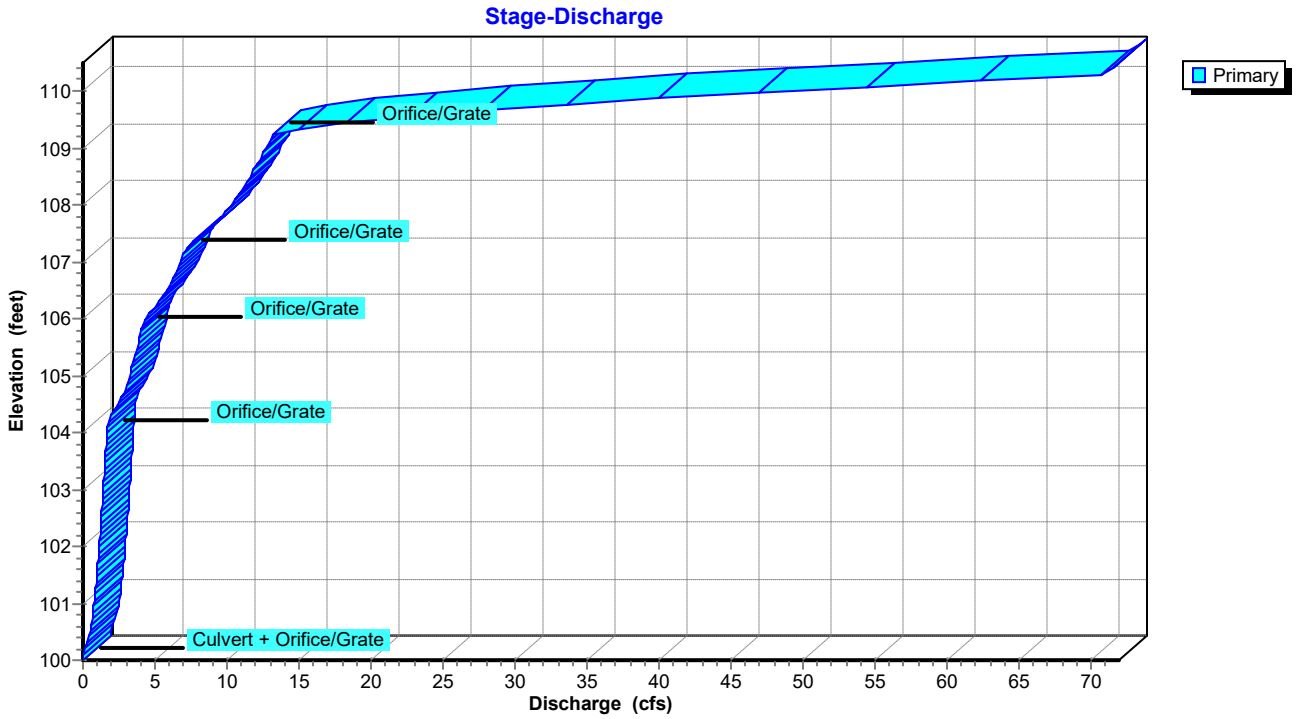
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.45 cfs @ 24.67 hrs HW=103.15' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.45 cfs of 28.92 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.45 cfs @ 8.32 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Controls 0.00 cfs)
  ├─**5=Orifice/Grate** (Controls 0.00 cfs)
  └─**6=Orifice/Grate** (Controls 0.00 cfs)

Pond D12.1: Detention Pond 12.1



Pond D12.1: Detention Pond 12.1



Stage-Discharge for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Summary for Pond D12.2: Detention Pond 12.2

Inflow = 26.05 cfs @ 10.02 hrs, Volume= 11.667 af
Outflow = 1.45 cfs @ 24.67 hrs, Volume= 2.594 af, Atten= 94%, Lag= 879.3 min
Primary = 1.45 cfs @ 24.67 hrs, Volume= 2.594 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.15' @ 24.67 hrs Surf.Area= 3.510 ac Storage= 10.208 af

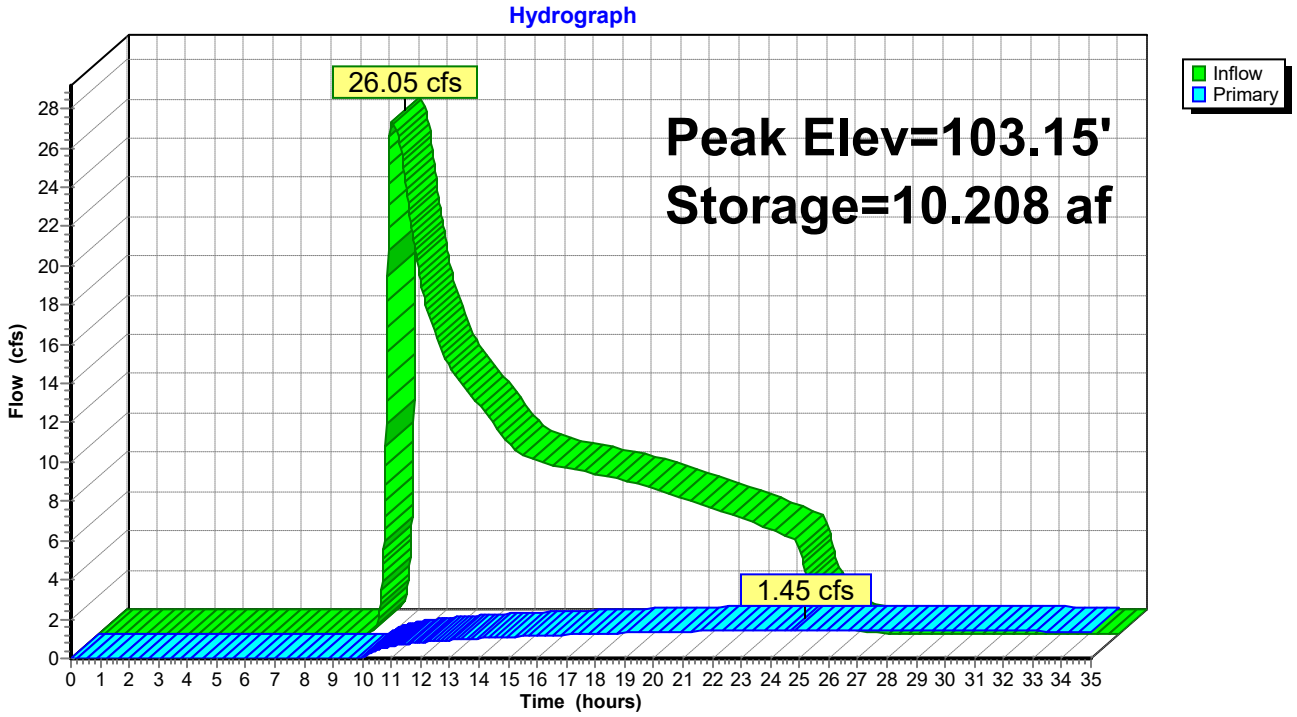
Plug-Flow detention time= 789.8 min calculated for 2.594 af (22% of inflow)
Center-of-Mass det. time= 496.8 min (1,419.2 - 922.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

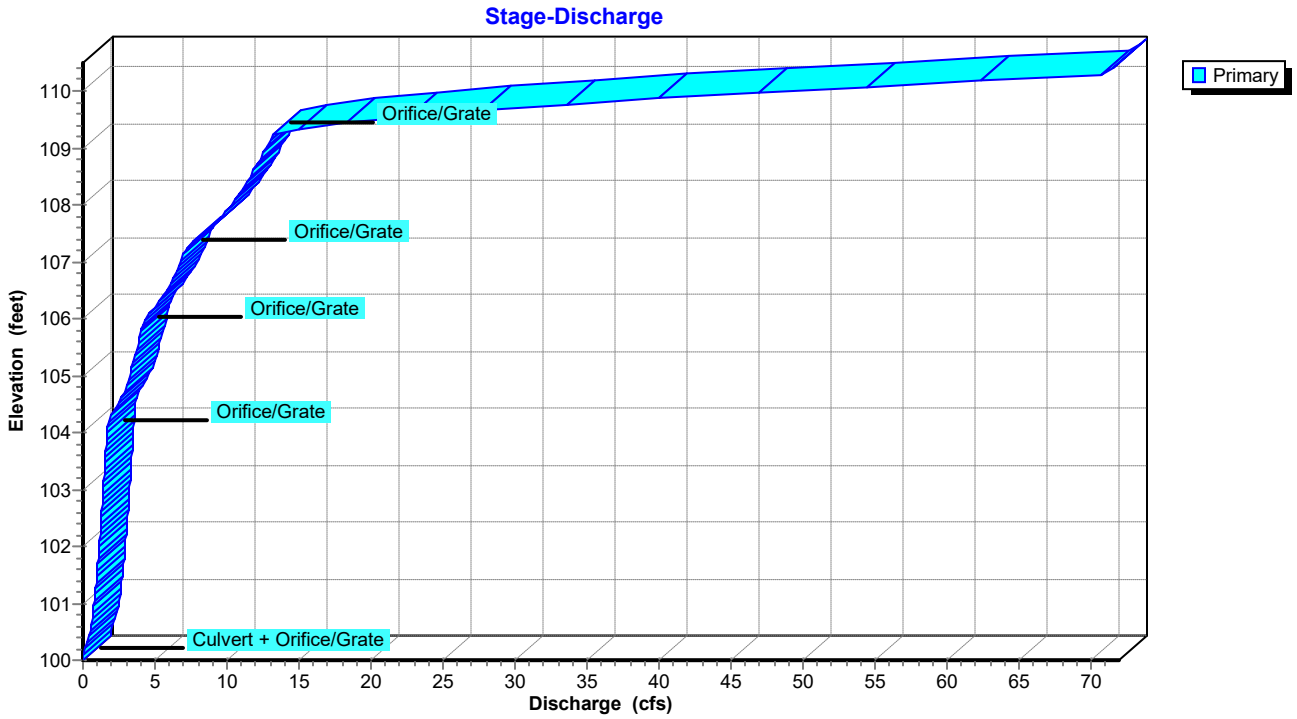
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.45 cfs @ 24.67 hrs HW=103.15' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.45 cfs of 28.92 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.45 cfs @ 8.32 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Controls 0.00 cfs)
  ├─**5=Orifice/Grate** (Controls 0.00 cfs)
  └─**6=Orifice/Grate** (Controls 0.00 cfs)

Pond D12.2: Detention Pond 12.2



Pond D12.2: Detention Pond 12.2



Stage-Discharge for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Summary for Pond D15: Detention Pond 15

Inflow Area = 31.502 ac, 0.00% Impervious, Inflow Depth = 0.21" for 2 year event
Inflow = 0.56 cfs @ 12.74 hrs, Volume= 0.539 af
Outflow = 0.29 cfs @ 24.04 hrs, Volume= 0.422 af, Atten= 47%, Lag= 677.9 min
Primary = 0.29 cfs @ 24.04 hrs, Volume= 0.422 af
Routed to Reach 15R : Collection Point 15

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 100.66' @ 24.04 hrs Surf.Area= 0.480 ac Storage= 0.303 af

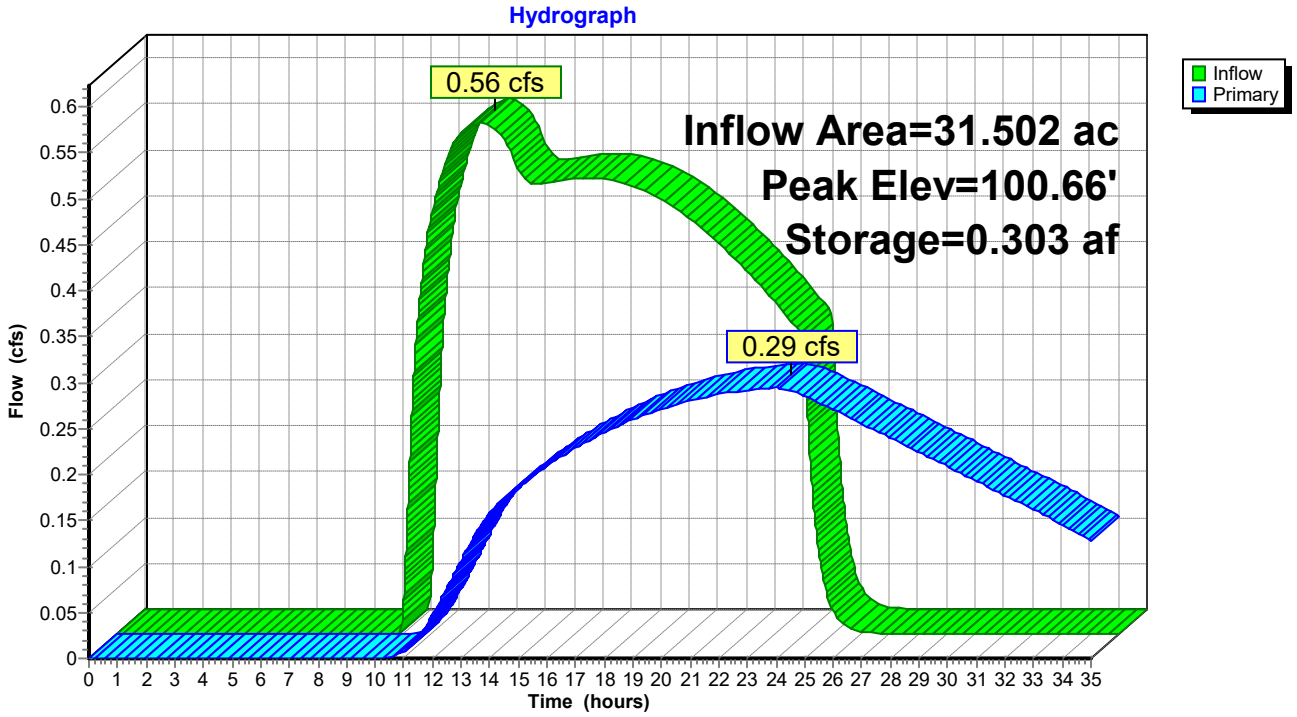
Plug-Flow detention time= 486.0 min calculated for 0.422 af (78% of inflow)
Center-of-Mass det. time= 394.1 min (1,409.2 - 1,015.1)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	2.623 af	**80.00'W x 240.00'L x 4.50'H Prismatoid Z=4.0**

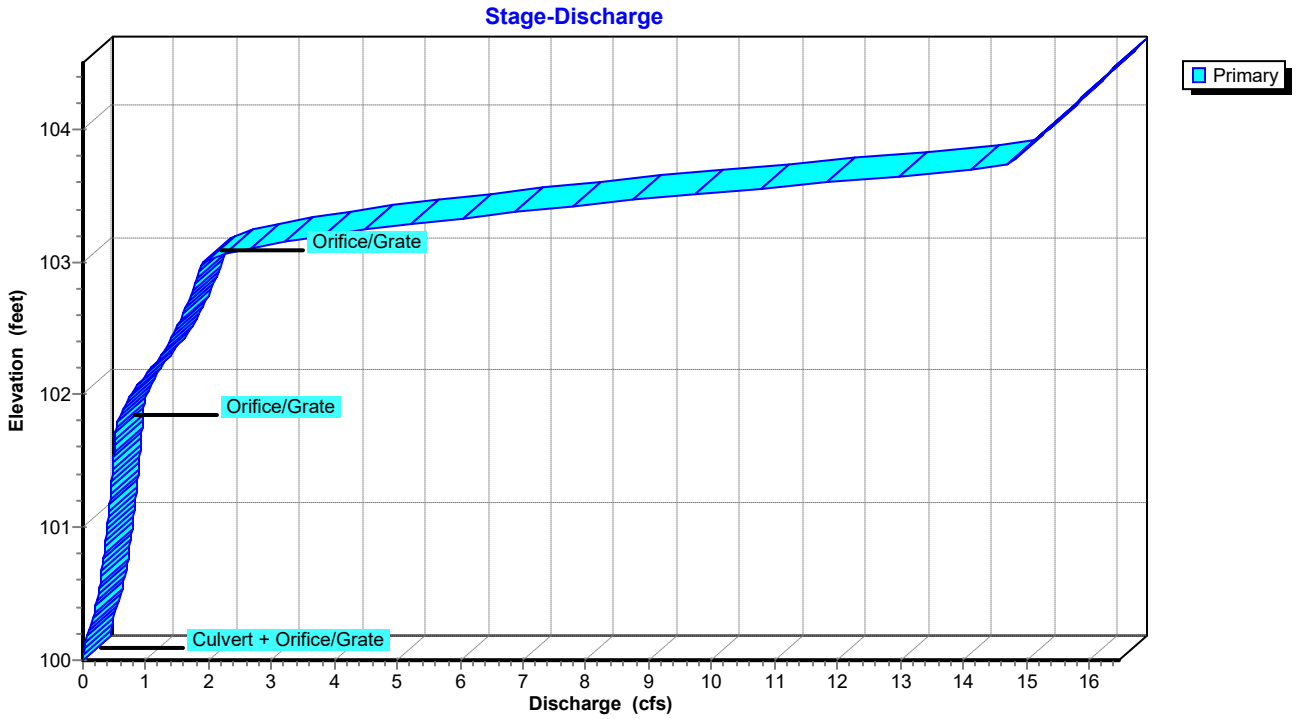
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	101.75'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 24.04 hrs HW=100.66' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.29 cfs of 1.57 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.29 cfs @ 3.37 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D15: Detention Pond 15



Pond D15: Detention Pond 15



Stage-Discharge for Pond D15: Detention Pond 15

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.58
100.05	0.01	102.65	1.63
100.10	0.02	102.70	1.67
100.15	0.05	102.75	1.71
100.20	0.08	102.80	1.75
100.25	0.12	102.85	1.79
100.30	0.15	102.90	1.83
100.35	0.18	102.95	1.87
100.40	0.20	103.00	1.91
100.45	0.22	103.05	2.17
100.50	0.24	103.10	2.63
100.55	0.26	103.15	3.21
100.60	0.28	103.20	3.89
100.65	0.29	103.25	4.65
100.70	0.31	103.30	5.49
100.75	0.32	103.35	6.40
100.80	0.33	103.40	7.38
100.85	0.35	103.45	8.41
100.90	0.36	103.50	9.50
100.95	0.37	103.55	10.65
101.00	0.38	103.60	11.85
101.05	0.39	103.65	13.10
101.10	0.41	103.70	14.39
101.15	0.42	103.75	14.74
101.20	0.43	103.80	14.86
101.25	0.44	103.85	14.98
101.30	0.45	103.90	15.10
101.35	0.46	103.95	15.22
101.40	0.47	104.00	15.34
101.45	0.48	104.05	15.46
101.50	0.49	104.10	15.57
101.55	0.49	104.15	15.69
101.60	0.50	104.20	15.80
101.65	0.51	104.25	15.92
101.70	0.52	104.30	16.03
101.75	0.53	104.35	16.14
101.80	0.55	104.40	16.26
101.85	0.60	104.45	16.37
101.90	0.65	104.50	**16.48**
101.95	0.70		
102.00	0.77		
102.05	0.84		
102.10	0.92		
102.15	1.00		
102.20	1.08		
102.25	1.17		
102.30	1.25		
102.35	1.32		
102.40	1.38		
102.45	1.43		
102.50	1.48		
102.55	1.53		

Summary for Pond D16.2: Detention Pond 16.2

Inflow Area = 12.275 ac, 0.00% Impervious, Inflow Depth = 0.31" for 2 year event
Inflow = 0.47 cfs @ 10.34 hrs, Volume= 0.315 af
Outflow = 0.18 cfs @ 22.87 hrs, Volume= 0.280 af, Atten= 62%, Lag= 752.0 min
Primary = 0.18 cfs @ 22.87 hrs, Volume= 0.280 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 100.78' @ 22.87 hrs Surf.Area= 0.202 ac Storage= 0.146 af

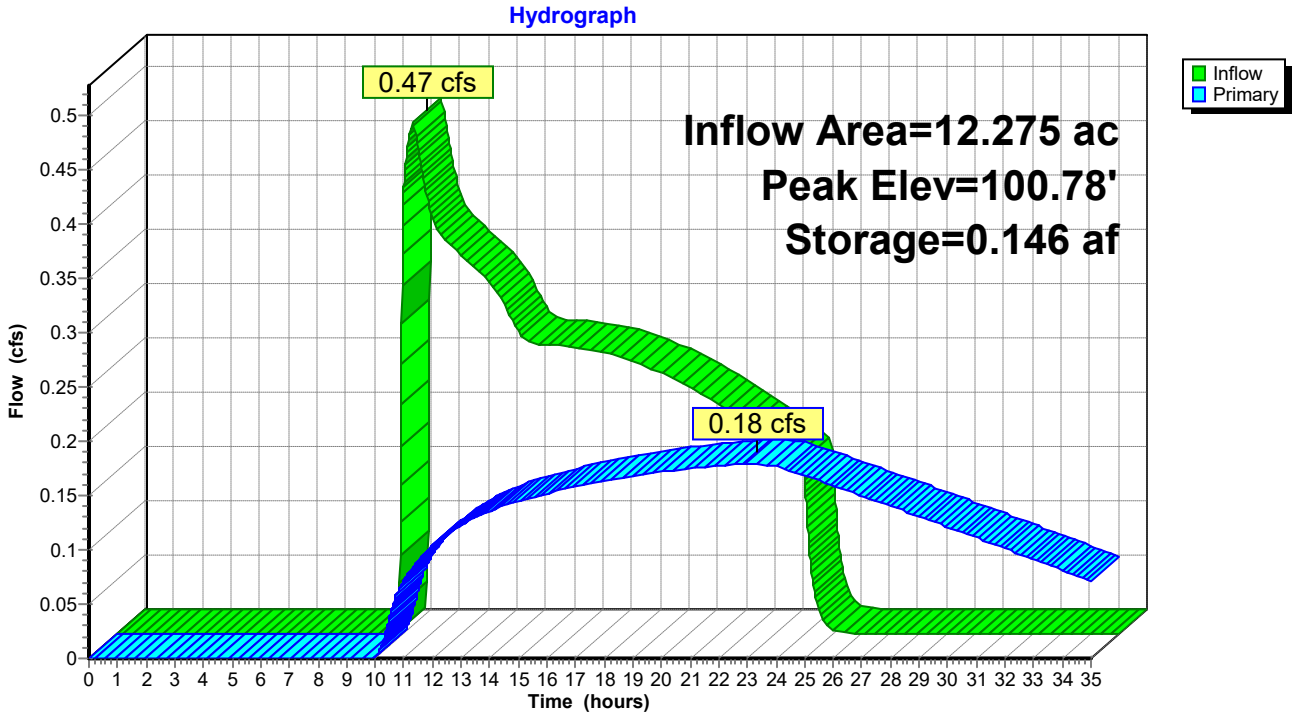
Plug-Flow detention time= 429.9 min calculated for 0.280 af (89% of inflow)
Center-of-Mass det. time= 378.0 min (1,340.3 - 962.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.770 af	**50.00'W x 150.00'L x 3.25'H Prismatoid Z=4.0**

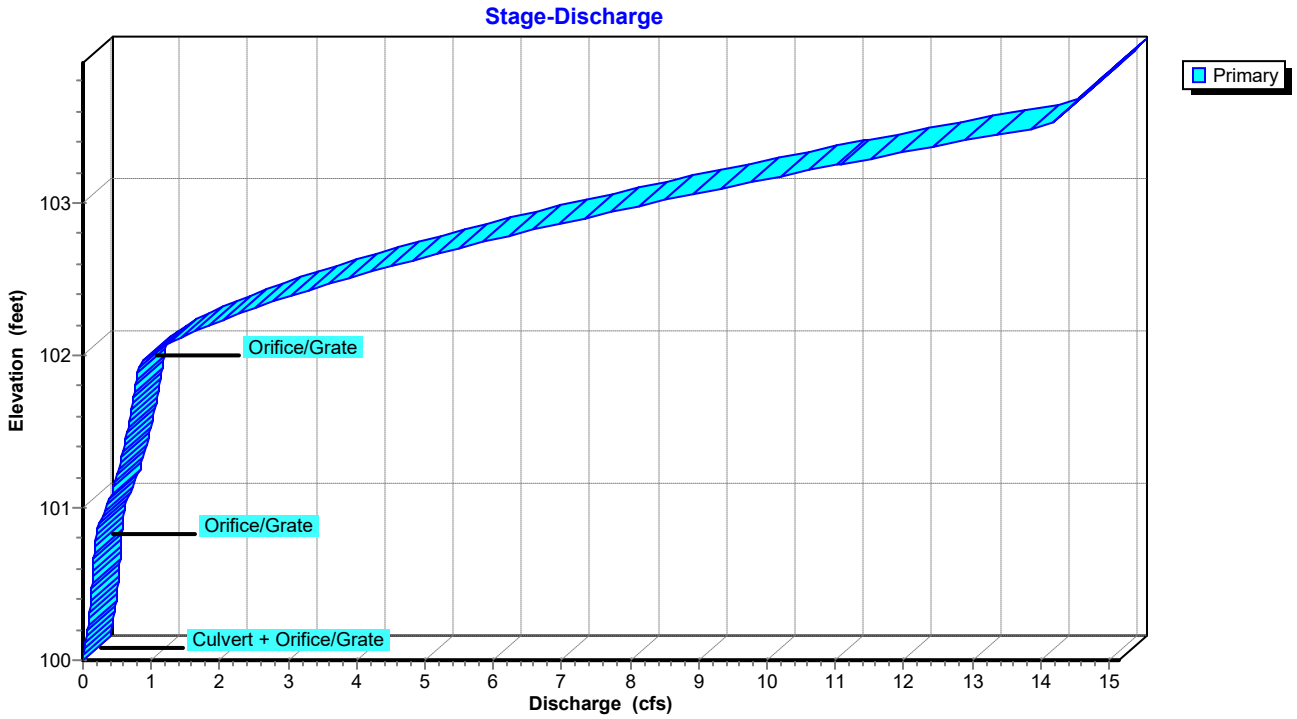
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	101.92'	**24.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.75'	**4.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 22.87 hrs HW=100.78' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.18 cfs of 2.12 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.18 cfs @ 4.02 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.61 fps)

Pond D16.2: Detention Pond 16.2



Pond D16.2: Detention Pond 16.2



Stage-Discharge for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.37	102.08	1.28	103.12	9.59
100.02	0.00	101.06	0.39	102.10	1.36	103.14	9.81
100.04	0.01	101.08	0.41	102.12	1.45	103.16	10.03
100.06	0.01	101.10	0.43	102.14	1.55	103.18	10.25
100.08	0.02	101.12	0.44	102.16	1.65	103.20	10.47
100.10	0.03	101.14	0.46	102.18	1.75	103.22	10.69
100.12	0.04	101.16	0.47	102.20	1.85	103.24	10.92
100.14	0.05	101.18	0.48	102.22	1.96	103.26	11.14
100.16	0.06	101.20	0.49	102.24	2.08	103.28	11.37
100.18	0.07	101.22	0.51	102.26	2.19	103.30	11.60
100.20	0.07	101.24	0.52	102.28	2.31	103.32	11.83
100.22	0.08	101.26	0.53	102.30	2.44	103.34	12.07
100.24	0.08	101.28	0.54	102.32	2.56	103.36	12.30
100.26	0.09	101.30	0.55	102.34	2.69	103.38	12.54
100.28	0.09	101.32	0.56	102.36	2.83	103.40	12.78
100.30	0.10	101.34	0.57	102.38	2.96	103.42	13.02
100.32	0.10	101.36	0.58	102.40	3.10	103.44	13.26
100.34	0.11	101.38	0.59	102.42	3.24	103.46	13.50
100.36	0.11	101.40	0.60	102.44	3.38	103.48	13.74
100.38	0.11	101.42	0.61	102.46	3.53	103.50	13.99
100.40	0.12	101.44	0.62	102.48	3.68	103.52	14.16
100.42	0.12	101.46	0.63	102.50	3.83	103.54	14.21
100.44	0.13	101.48	0.64	102.52	3.98	103.56	14.26
100.46	0.13	101.50	0.65	102.54	4.14	103.58	14.31
100.48	0.13	101.52	0.66	102.56	4.30	103.60	14.36
100.50	0.14	101.54	0.67	102.58	4.46	103.62	14.41
100.52	0.14	101.56	0.67	102.60	4.62	103.64	14.46
100.54	0.14	101.58	0.68	102.62	4.78	103.66	14.51
100.56	0.15	101.60	0.69	102.64	4.95	103.68	14.56
100.58	0.15	101.62	0.70	102.66	5.12	103.70	14.61
100.60	0.15	101.64	0.71	102.68	5.29	103.72	14.66
100.62	0.15	101.66	0.72	102.70	5.47	103.74	14.71
100.64	0.16	101.68	0.72	102.72	5.64	103.76	14.76
100.66	0.16	101.70	0.73	102.74	5.82	103.78	14.81
100.68	0.16	101.72	0.74	102.76	6.00	103.80	14.86
100.70	0.16	101.74	0.75	102.78	6.19	103.82	14.91
100.72	0.17	101.76	0.75	102.80	6.37	103.84	14.96
100.74	0.17	101.78	0.76	102.82	6.56	103.86	15.01
100.76	0.17	101.80	0.77	102.84	6.75	103.88	15.05
100.78	0.18	101.82	0.78	102.86	6.94	103.90	15.10
100.80	0.18	101.84	0.78	102.88	7.13	103.92	**15.15**
100.82	0.19	101.86	0.79	102.90	7.33		
100.84	0.20	101.88	0.80	102.92	7.52		
100.86	0.22	101.90	0.80	102.94	7.72		
100.88	0.23	101.92	0.81	102.96	7.92		
100.90	0.24	101.94	0.84	102.98	8.12		
100.92	0.26	101.96	0.88	103.00	8.33		
100.94	0.28	101.98	0.93	103.02	8.53		
100.96	0.30	102.00	0.98	103.04	8.74		
100.98	0.31	102.02	1.05	103.06	8.95		
101.00	0.33	102.04	1.12	103.08	9.16		
101.02	0.35	102.06	1.20	103.10	9.38		

Summary for Pond D16.3: Detention Pond 16.3

Inflow Area = 110.203 ac, 0.00% Impervious, Inflow Depth = 0.71" for 2 year event
Inflow = 11.90 cfs @ 10.37 hrs, Volume= 6.531 af
Outflow = 1.25 cfs @ 24.75 hrs, Volume= 2.227 af, Atten= 89%, Lag= 862.9 min
Primary = 1.25 cfs @ 24.75 hrs, Volume= 2.227 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.70' @ 24.75 hrs Surf.Area= 2.092 ac Storage= 5.208 af

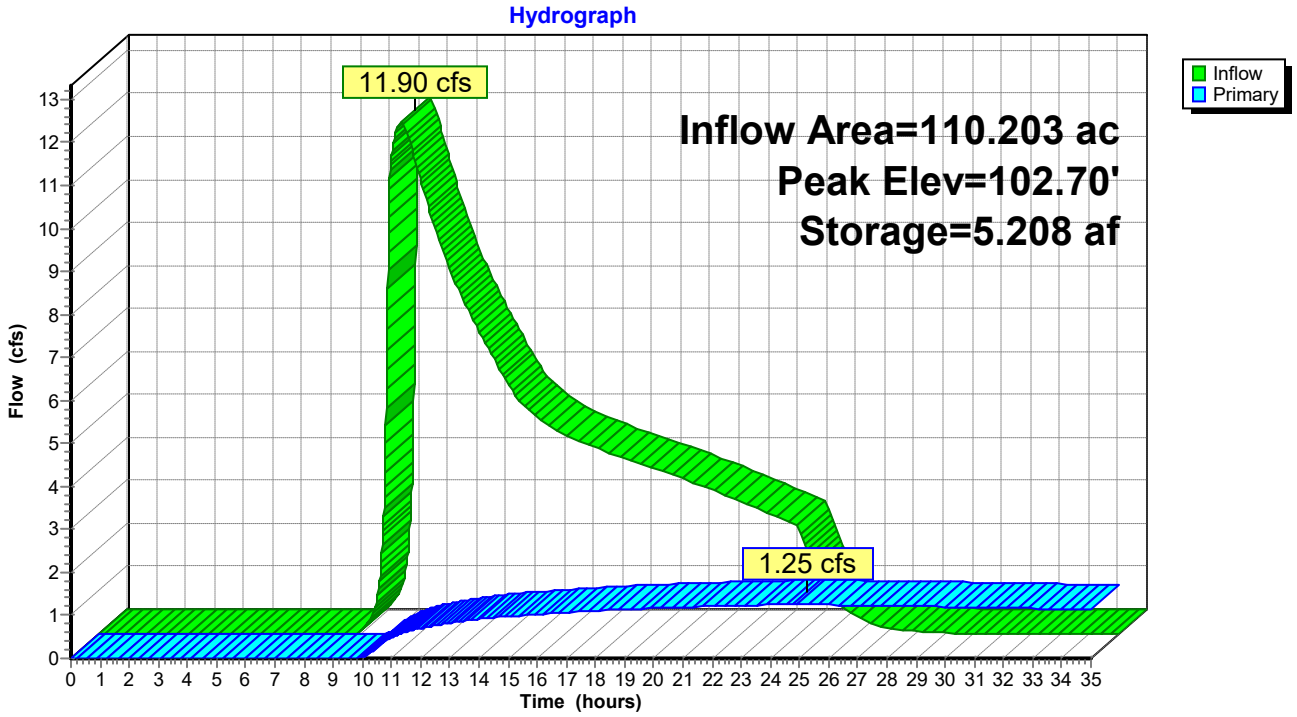
Plug-Flow detention time= 752.6 min calculated for 2.227 af (34% of inflow)
Center-of-Mass det. time= 489.4 min (1,415.2 - 925.8)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	14.078 af	**160.00'W x 480.00'L x 6.50'H Prismatoid Z=4.0**

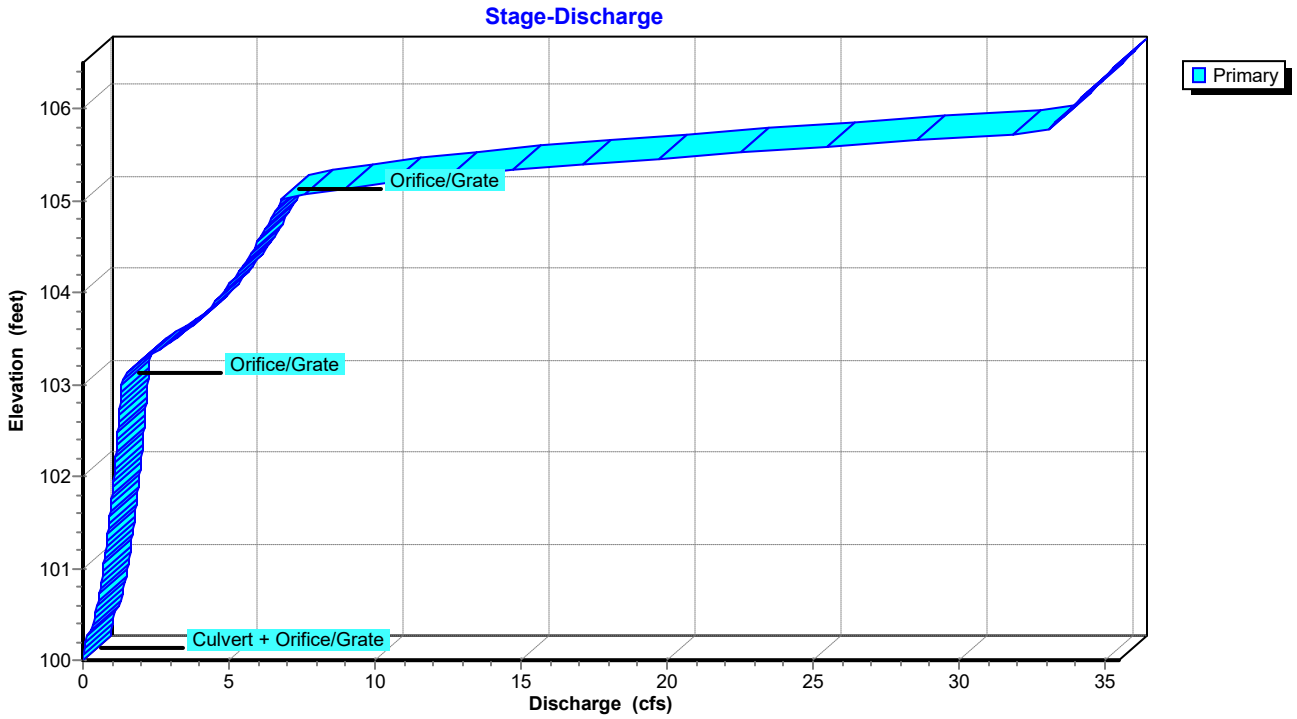
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**24.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.00'	**7.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.25 cfs @ 24.75 hrs HW=102.70' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.25 cfs of 17.74 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 1.25 cfs @ 7.58 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D16.3: Detention Pond 16.3



Pond D16.3: Detention Pond 16.3



Stage-Discharge for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.22	105.20	10.61
100.05	0.01	102.65	1.24	105.25	12.09
100.10	0.03	102.70	1.25	105.30	13.71
100.15	0.06	102.75	1.26	105.35	15.46
100.20	0.11	102.80	1.27	105.40	17.34
100.25	0.16	102.85	1.29	105.45	19.33
100.30	0.21	102.90	1.30	105.50	21.43
100.35	0.27	102.95	1.31	105.55	23.64
100.40	0.33	103.00	1.32	105.60	25.94
100.45	0.38	103.05	1.36	105.65	28.34
100.50	0.41	103.10	1.44	105.70	30.83
100.55	0.45	103.15	1.57	105.75	32.97
100.60	0.48	103.20	1.74	105.80	33.14
100.65	0.52	103.25	1.94	105.85	33.31
100.70	0.55	103.30	2.17	105.90	33.48
100.75	0.57	103.35	2.42	105.95	33.65
100.80	0.60	103.40	2.68	106.00	33.82
100.85	0.63	103.45	2.94	106.05	33.99
100.90	0.65	103.50	3.20	106.10	34.16
100.95	0.67	103.55	3.43	106.15	34.33
101.00	0.70	103.60	3.60	106.20	34.49
101.05	0.72	103.65	3.78	106.25	34.66
101.10	0.74	103.70	3.95	106.30	34.82
101.15	0.76	103.75	4.10	106.35	34.99
101.20	0.78	103.80	4.25	106.40	35.15
101.25	0.80	103.85	4.40	106.45	35.31
101.30	0.82	103.90	4.53	106.50	**35.48**
101.35	0.84	103.95	4.66		
101.40	0.86	104.00	4.79		
101.45	0.88	104.05	4.91		
101.50	0.90	104.10	5.03		
101.55	0.91	104.15	5.15		
101.60	0.93	104.20	5.26		
101.65	0.95	104.25	5.37		
101.70	0.96	104.30	5.48		
101.75	0.98	104.35	5.58		
101.80	1.00	104.40	5.69		
101.85	1.01	104.45	5.79		
101.90	1.03	104.50	5.89		
101.95	1.04	104.55	5.98		
102.00	1.06	104.60	6.08		
102.05	1.07	104.65	6.17		
102.10	1.09	104.70	6.26		
102.15	1.10	104.75	6.35		
102.20	1.12	104.80	6.44		
102.25	1.13	104.85	6.53		
102.30	1.14	104.90	6.61		
102.35	1.16	104.95	6.70		
102.40	1.17	105.00	6.78		
102.45	1.18	105.05	7.30		
102.50	1.20	105.10	8.19		
102.55	1.21	105.15	9.30		

Summary for Pond D18: Detention Pond 18

Inflow Area = 42.657 ac, 0.00% Impervious, Inflow Depth = 1.21" for 2 year event
Inflow = 20.74 cfs @ 9.99 hrs, Volume= 4.306 af
Outflow = 1.78 cfs @ 20.09 hrs, Volume= 3.257 af, Atten= 91%, Lag= 606.3 min
Primary = 1.78 cfs @ 20.09 hrs, Volume= 3.257 af
Routed to Reach 18R : Collection Point 18

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.21' @ 20.09 hrs Surf.Area= 1.193 ac Storage= 2.408 af

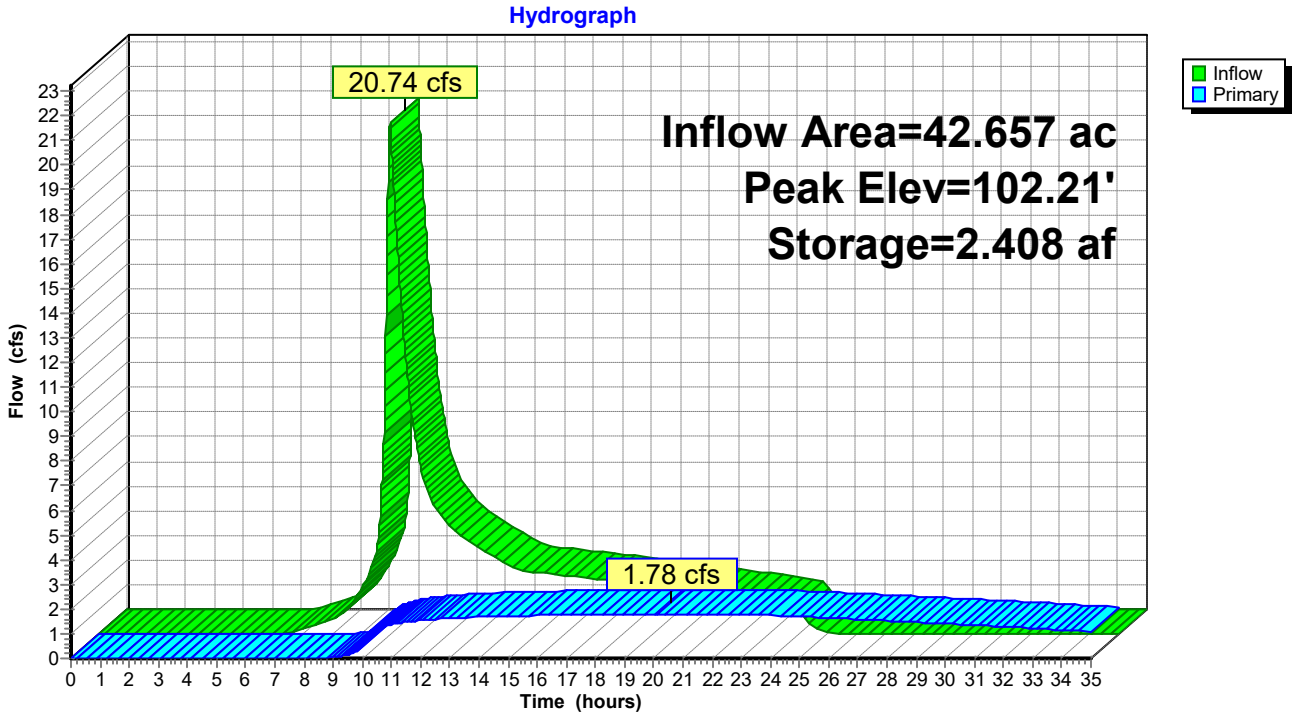
Plug-Flow detention time= 614.8 min calculated for 3.257 af (76% of inflow)
Center-of-Mass det. time= 490.7 min (1,317.3 - 826.6)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8.443 af	**120.00'W x 360.00'L x 6.50'H Prismatoid Z=4.0**

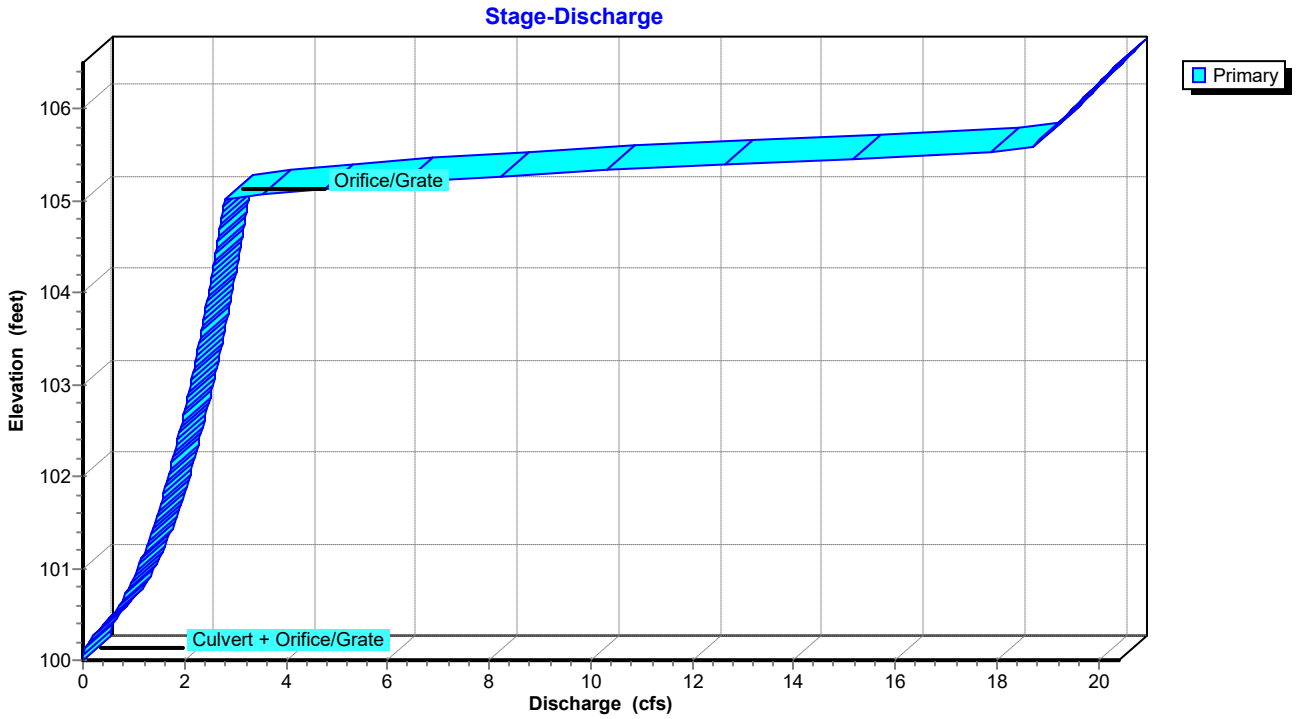
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.78 cfs @ 20.09 hrs HW=102.21' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.78 cfs of 9.82 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 1.78 cfs @ 6.66 fps)

Pond D18: Detention Pond 18



Pond D18: Detention Pond 18



Stage-Discharge for Pond D18: Detention Pond 18

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	6.36
100.05	0.01	102.65	1.98	105.25	7.77
100.10	0.03	102.70	2.00	105.30	9.33
100.15	0.07	102.75	2.02	105.35	11.02
100.20	0.12	102.80	2.04	105.40	12.84
100.25	0.19	102.85	2.06	105.45	14.77
100.30	0.26	102.90	2.08	105.50	16.81
100.35	0.34	102.95	2.10	105.55	18.64
100.40	0.42	103.00	2.12	105.60	18.74
100.45	0.51	103.05	2.14	105.65	18.83
100.50	0.59	103.10	2.16	105.70	18.93
100.55	0.66	103.15	2.18	105.75	19.03
100.60	0.71	103.20	2.19	105.80	19.12
100.65	0.77	103.25	2.21	105.85	19.22
100.70	0.82	103.30	2.23	105.90	19.31
100.75	0.87	103.35	2.25	105.95	19.40
100.80	0.92	103.40	2.27	106.00	19.50
100.85	0.96	103.45	2.29	106.05	19.59
100.90	1.00	103.50	2.30	106.10	19.68
100.95	1.04	103.55	2.32	106.15	19.77
101.00	1.08	103.60	2.34	106.20	19.86
101.05	1.12	103.65	2.36	106.25	19.95
101.10	1.16	103.70	2.38	106.30	20.05
101.15	1.19	103.75	2.39	106.35	20.14
101.20	1.23	103.80	2.41	106.40	20.23
101.25	1.26	103.85	2.43	106.45	20.31
101.30	1.29	103.90	2.44	106.50	**20.40**
101.35	1.32	103.95	2.46		
101.40	1.35	104.00	2.48		
101.45	1.38	104.05	2.49		
101.50	1.41	104.10	2.51		
101.55	1.44	104.15	2.53		
101.60	1.47	104.20	2.54		
101.65	1.50	104.25	2.56		
101.70	1.53	104.30	2.58		
101.75	1.55	104.35	2.59		
101.80	1.58	104.40	2.61		
101.85	1.61	104.45	2.62		
101.90	1.63	104.50	2.64		
101.95	1.66	104.55	2.66		
102.00	1.68	104.60	2.67		
102.05	1.71	104.65	2.69		
102.10	1.73	104.70	2.70		
102.15	1.75	104.75	2.72		
102.20	1.78	104.80	2.73		
102.25	1.80	104.85	2.75		
102.30	1.82	104.90	2.76		
102.35	1.85	104.95	2.78		
102.40	1.87	105.00	2.79		
102.45	1.89	105.05	3.25		
102.50	1.91	105.10	4.06		
102.55	1.93	105.15	5.12		

Summary for Pond D20.2: Detention Basin 20.2

Inflow Area = 3.949 ac, 37.71% Impervious, Inflow Depth = 1.17" for 2 year event
Inflow = 1.90 cfs @ 9.98 hrs, Volume= 0.386 af
Outflow = 0.15 cfs @ 19.53 hrs, Volume= 0.297 af, Atten= 92%, Lag= 573.2 min
Primary = 0.15 cfs @ 19.53 hrs, Volume= 0.297 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.12' @ 19.53 hrs Storage= 0.209 af

Plug-Flow detention time= 616.3 min calculated for 0.297 af (77% of inflow)
Center-of-Mass det. time= 489.9 min (1,268.3 - 778.4)

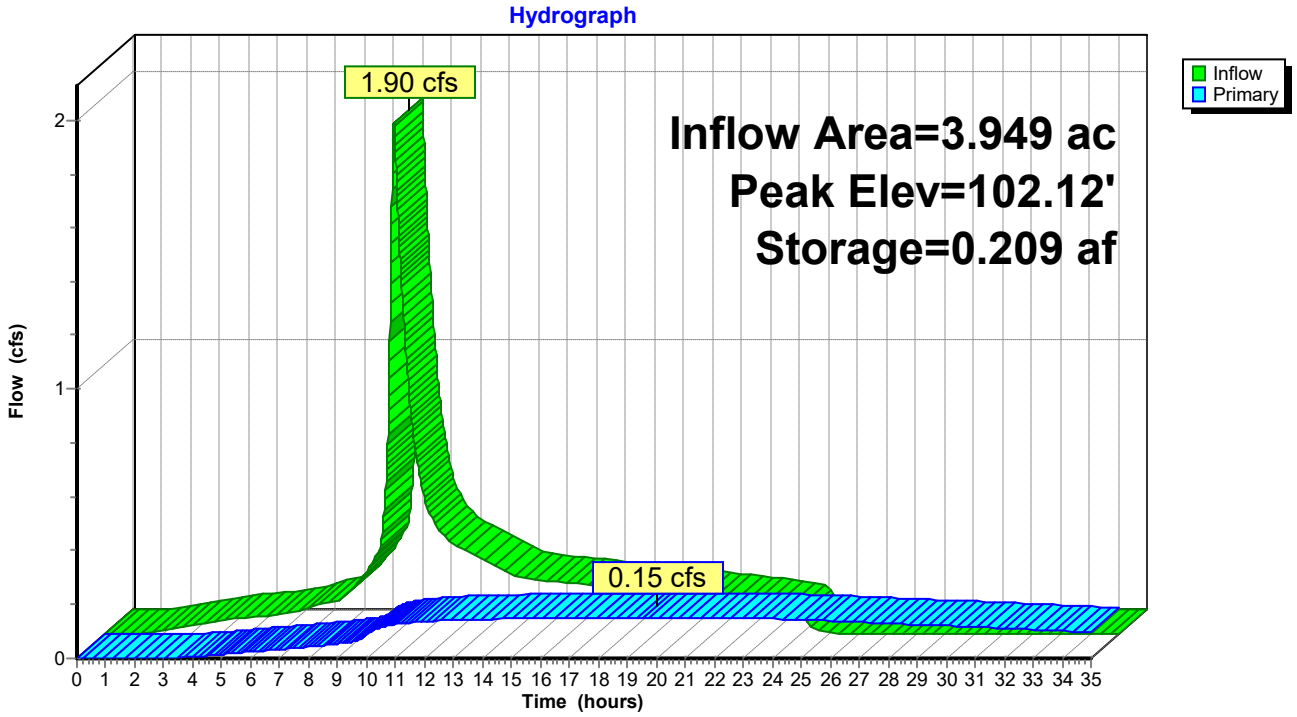
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

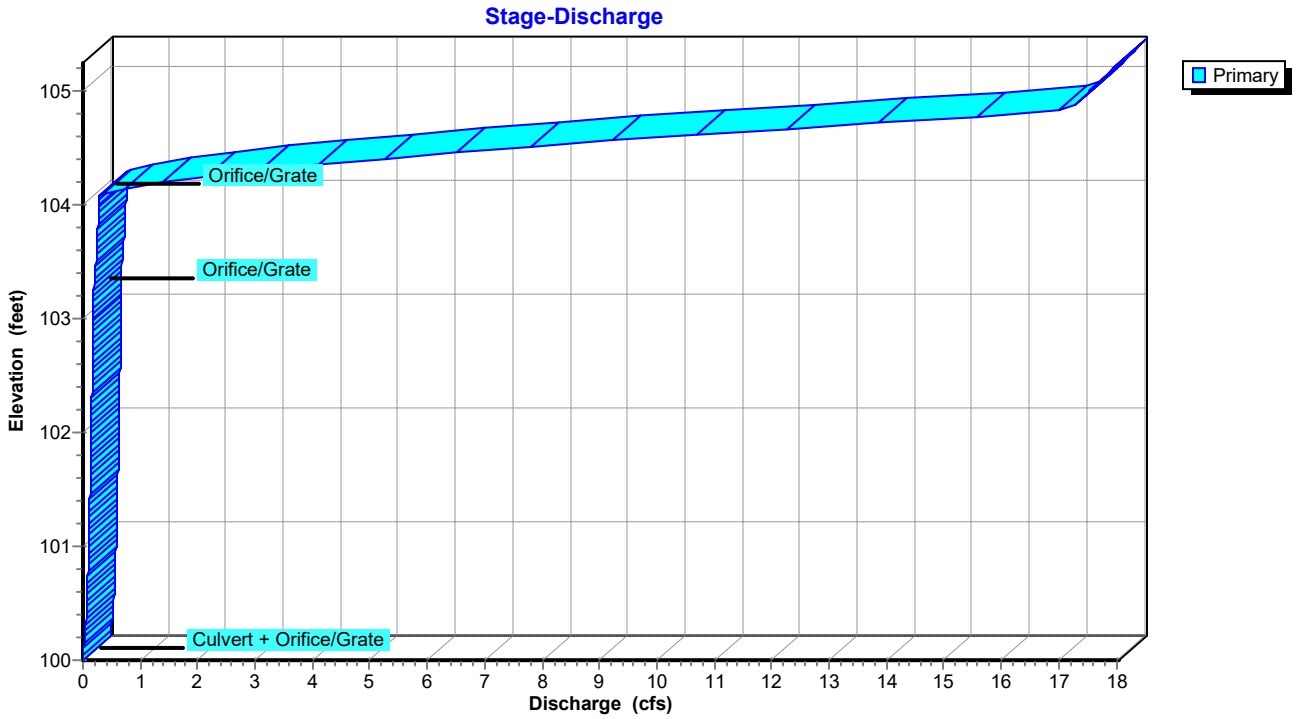
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 19.53 hrs HW=102.12' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.15 cfs of 9.29 cfs potential flow)
↑**2=Orifice/Grate** (Controls 0.00 cfs)
3=Orifice/Grate (Orifice Controls 0.15 cfs @ 6.88 fps)
4=Orifice/Grate (Controls 0.00 cfs)

Pond D20.2: Detention Basin 20.2



Pond D20.2: Detention Basin 20.2



Stage-Discharge for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Summary for Pond D20.3: Detention Pond 20.3

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 1.11" for 2 year event
Inflow = 1.21 cfs @ 9.99 hrs, Volume= 0.318 af
Outflow = 0.16 cfs @ 16.62 hrs, Volume= 0.288 af, Atten= 87%, Lag= 397.5 min
Primary = 0.16 cfs @ 16.62 hrs, Volume= 0.288 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.16' @ 16.62 hrs Storage= 6,284 cf

Plug-Flow detention time= 492.2 min calculated for 0.288 af (91% of inflow)
Center-of-Mass det. time= 435.9 min (1,237.7 - 801.9)

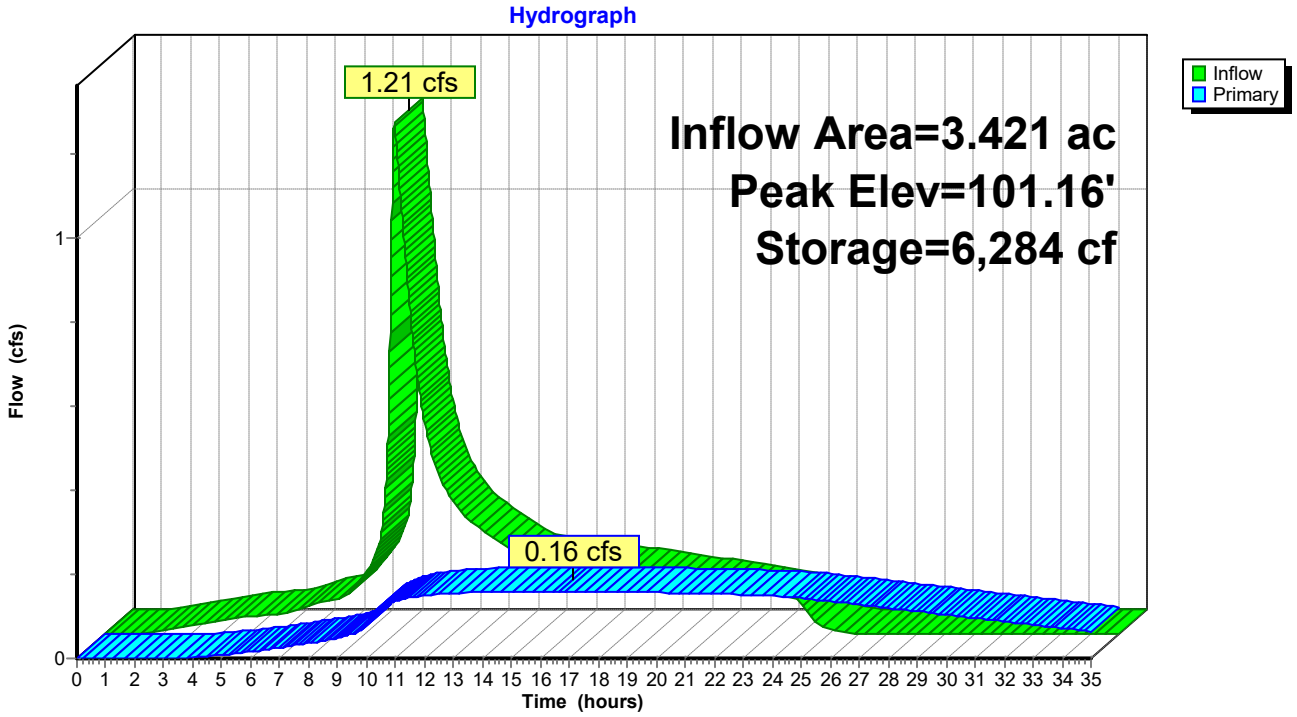
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	26,310 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	5,184
102.00	11,979
103.00	20,604
103.67	26,310

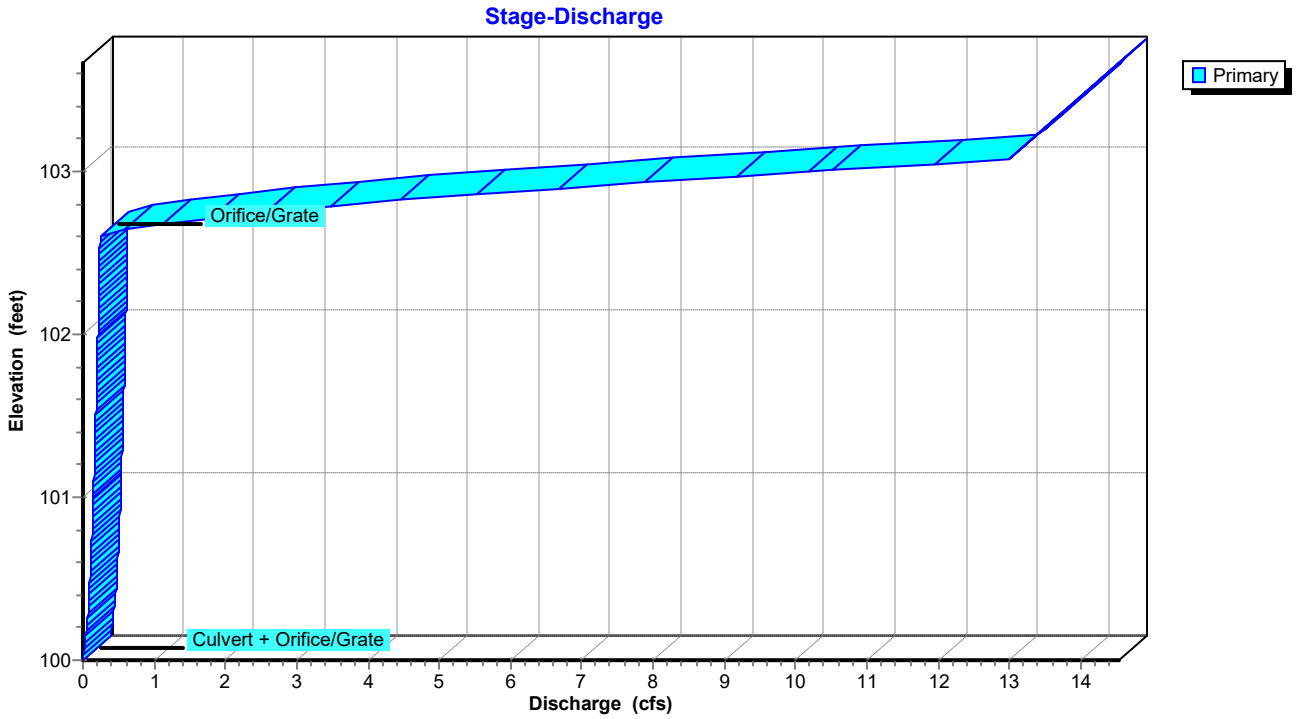
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 16.62 hrs HW=101.16' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.16 cfs of 4.14 cfs potential flow)
├**2=Orifice/Grate** (Controls 0.00 cfs)
└**3=Orifice/Grate** (Orifice Controls 0.16 cfs @ 5.03 fps)

Pond D20.3: Detention Pond 20.3



Pond D20.3: Detention Pond 20.3



Stage-Discharge for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Summary for Pond D20.4: Detention Pond 20.4

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 0.77" for 2 year event
Inflow = 2.16 cfs @ 9.99 hrs, Volume= 0.496 af
Outflow = 0.20 cfs @ 21.73 hrs, Volume= 0.385 af, Atten= 91%, Lag= 704.9 min
Primary = 0.20 cfs @ 21.73 hrs, Volume= 0.385 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.20' @ 21.73 hrs Storage= 11,554 cf

Plug-Flow detention time= 583.4 min calculated for 0.385 af (78% of inflow)
Center-of-Mass det. time= 466.0 min (1,305.4 - 839.4)

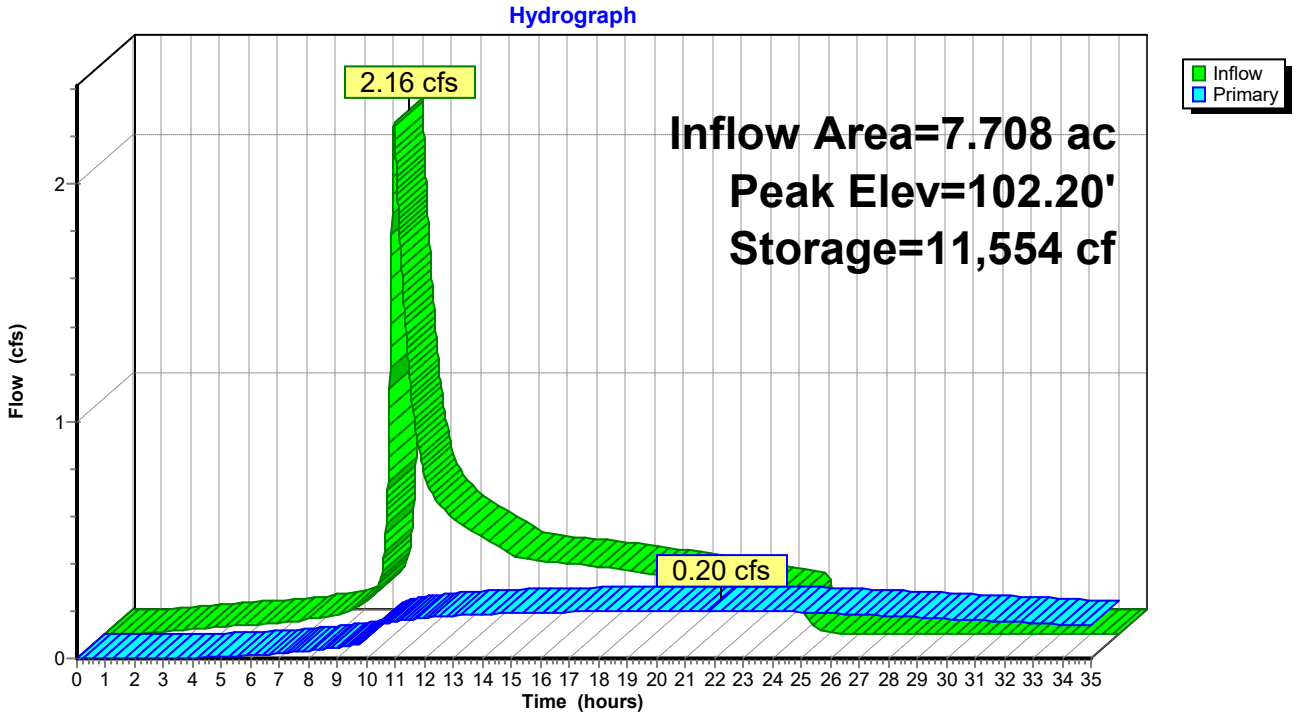
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

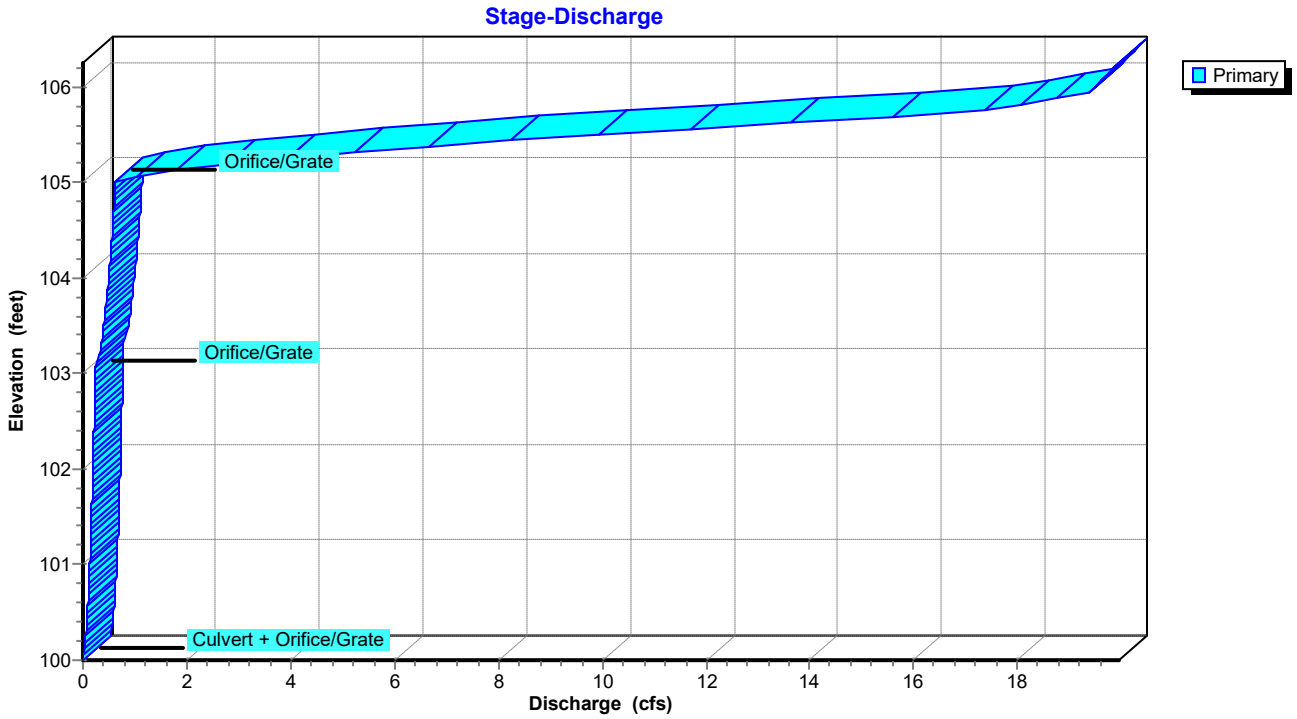
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 21.73 hrs HW=102.20' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.20 cfs of 9.75 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Orifice Controls 0.20 cfs @ 6.98 fps)

Pond D20.4: Detention Pond 20.4



Pond D20.4: Detention Pond 20.4



Stage-Discharge for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Summary for Pond D3: Detention Basin 3

Inflow Area = 4.707 ac, 0.00% Impervious, Inflow Depth = 1.08" for 2 year event
Inflow = 2.12 cfs @ 9.99 hrs, Volume= 0.425 af
Outflow = 0.13 cfs @ 23.33 hrs, Volume= 0.251 af, Atten= 94%, Lag= 800.6 min
Primary = 0.13 cfs @ 23.33 hrs, Volume= 0.251 af
Routed to Reach 3R : Collection Point 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.66' @ 23.33 hrs Surf.Area= 0.199 ac Storage= 0.280 af

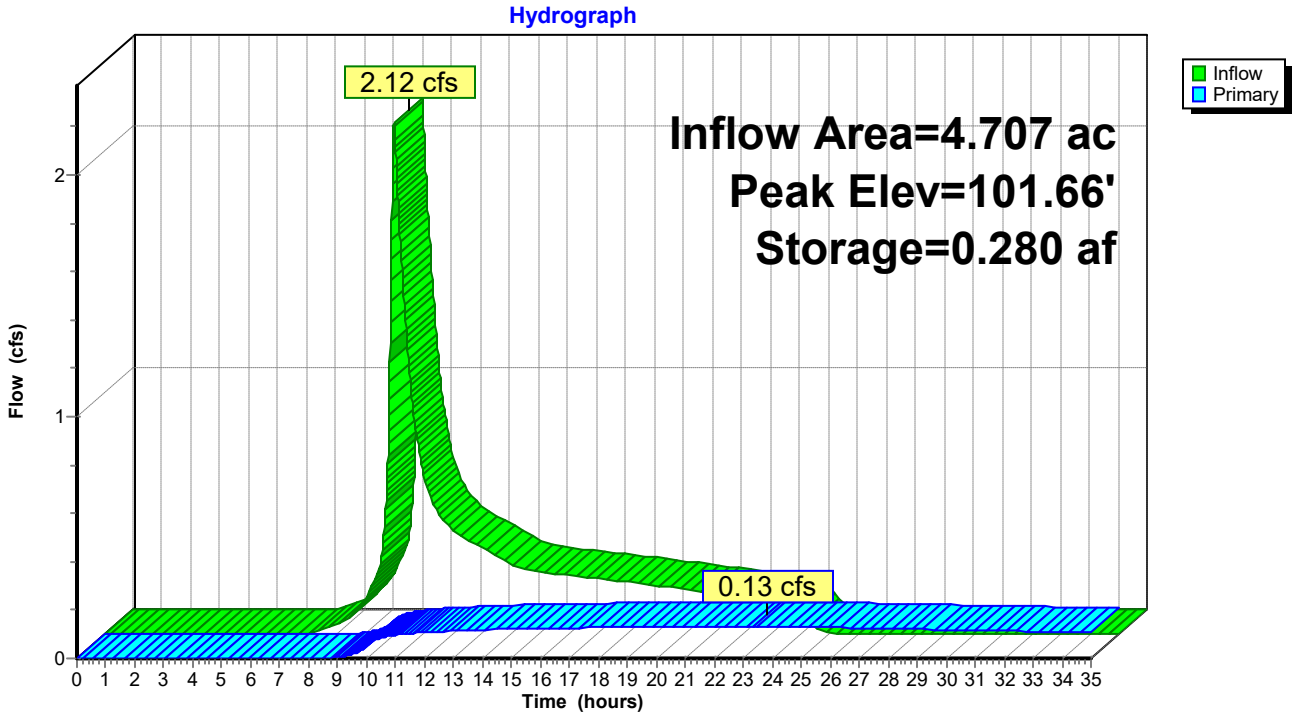
Plug-Flow detention time= 695.2 min calculated for 0.251 af (59% of inflow)
Center-of-Mass det. time= 512.8 min (1,349.6 - 836.8)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	1.172 af	**45.00'W x 135.00'L x 5.00'H Prismatoid Z=4.0**

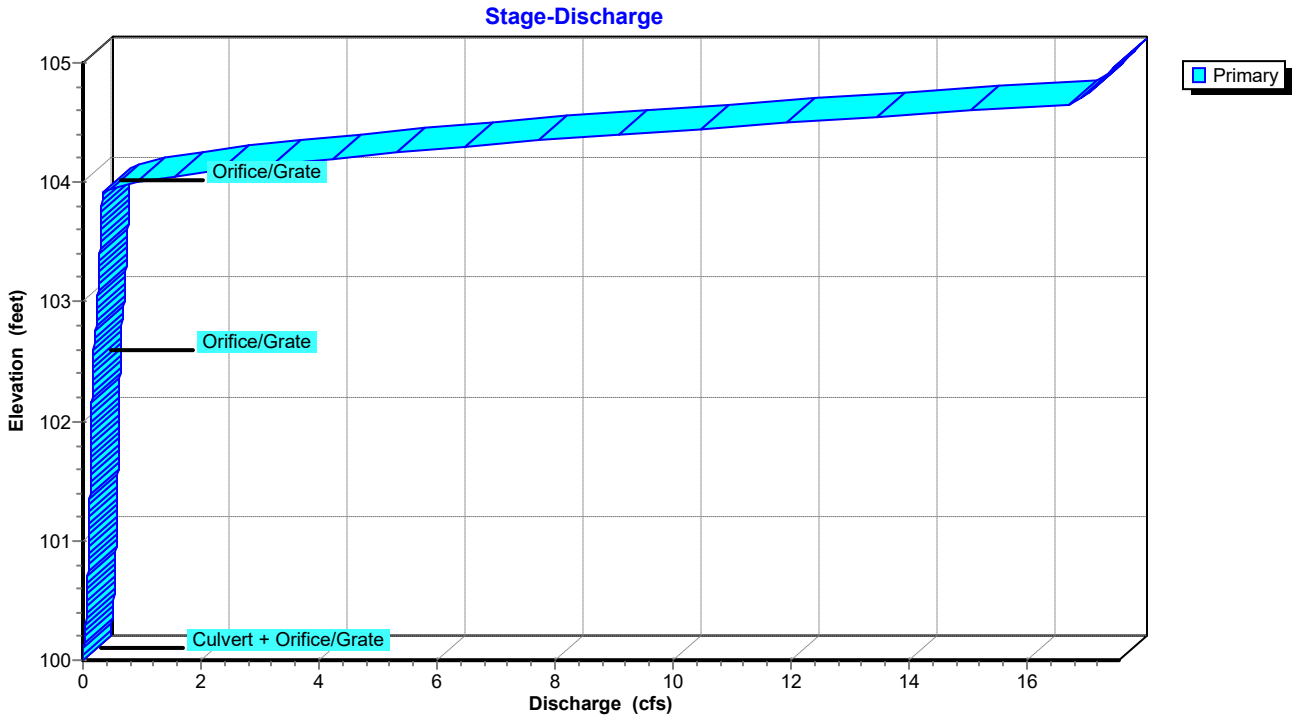
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.92'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.50'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 23.33 hrs HW=101.66' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.13 cfs of 7.07 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.13 cfs @ 6.05 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D3: Detention Basin 3



Pond D3: Detention Basin 3



Stage-Discharge for Pond D3: Detention Basin 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.18
100.05	0.00	102.65	0.20
100.10	0.01	102.70	0.21
100.15	0.03	102.75	0.21
100.20	0.04	102.80	0.22
100.25	0.04	102.85	0.23
100.30	0.05	102.90	0.24
100.35	0.05	102.95	0.24
100.40	0.06	103.00	0.25
100.45	0.06	103.05	0.25
100.50	0.07	103.10	0.26
100.55	0.07	103.15	0.26
100.60	0.08	103.20	0.27
100.65	0.08	103.25	0.27
100.70	0.08	103.30	0.28
100.75	0.09	103.35	0.28
100.80	0.09	103.40	0.29
100.85	0.09	103.45	0.29
100.90	0.09	103.50	0.29
100.95	0.10	103.55	0.30
101.00	0.10	103.60	0.30
101.05	0.10	103.65	0.31
101.10	0.11	103.70	0.31
101.15	0.11	103.75	0.31
101.20	0.11	103.80	0.32
101.25	0.11	103.85	0.32
101.30	0.12	103.90	0.33
101.35	0.12	103.95	0.47
101.40	0.12	104.00	0.92
101.45	0.12	104.05	1.56
101.50	0.13	104.10	2.34
101.55	0.13	104.15	3.23
101.60	0.13	104.20	4.22
101.65	0.13	104.25	5.31
101.70	0.13	104.30	6.48
101.75	0.14	104.35	7.73
101.80	0.14	104.40	9.06
101.85	0.14	104.45	10.46
101.90	0.14	104.50	11.92
101.95	0.14	104.55	13.45
102.00	0.15	104.60	15.04
102.05	0.15	104.65	16.69
102.10	0.15	104.70	16.91
102.15	0.15	104.75	17.02
102.20	0.15	104.80	17.12
102.25	0.15	104.85	17.23
102.30	0.16	104.90	17.33
102.35	0.16	104.95	17.44
102.40	0.16	105.00	**17.54**
102.45	0.16		
102.50	0.16		
102.55	0.17		

Summary for Pond D5: Detention Basin 5

Inflow Area = 22.444 ac, 0.00% Impervious, Inflow Depth = 1.02" for 2 year event
Inflow = 9.76 cfs @ 9.98 hrs, Volume= 1.915 af
Outflow = 0.34 cfs @ 24.16 hrs, Volume= 0.617 af, Atten= 97%, Lag= 850.4 min
Primary = 0.34 cfs @ 24.16 hrs, Volume= 0.617 af
Routed to Reach 5R : Collection Point 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.05' @ 24.16 hrs Surf.Area= 0.845 ac Storage= 1.571 af

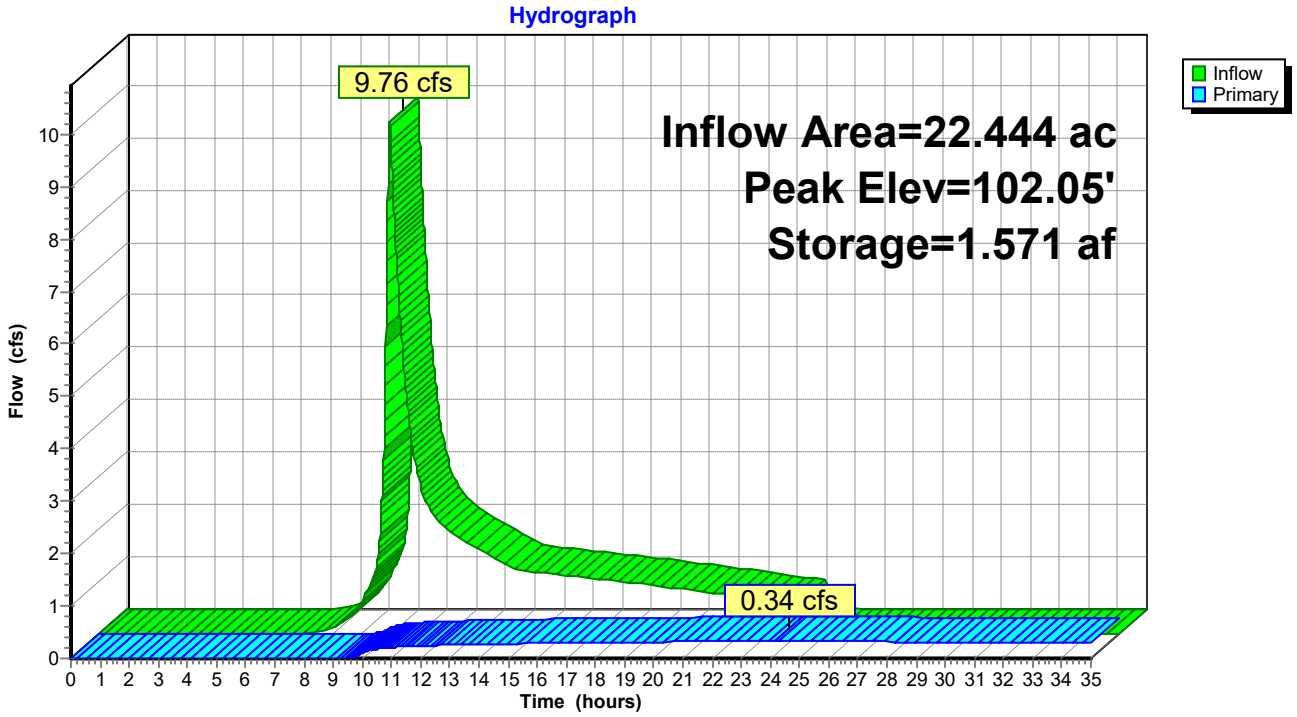
Plug-Flow detention time= 778.4 min calculated for 0.617 af (32% of inflow)
Center-of-Mass det. time= 539.2 min (1,380.8 - 841.6)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	4.423 af	**100.00'W x 300.00'L x 5.00'H Prismatoid Z=4.0**

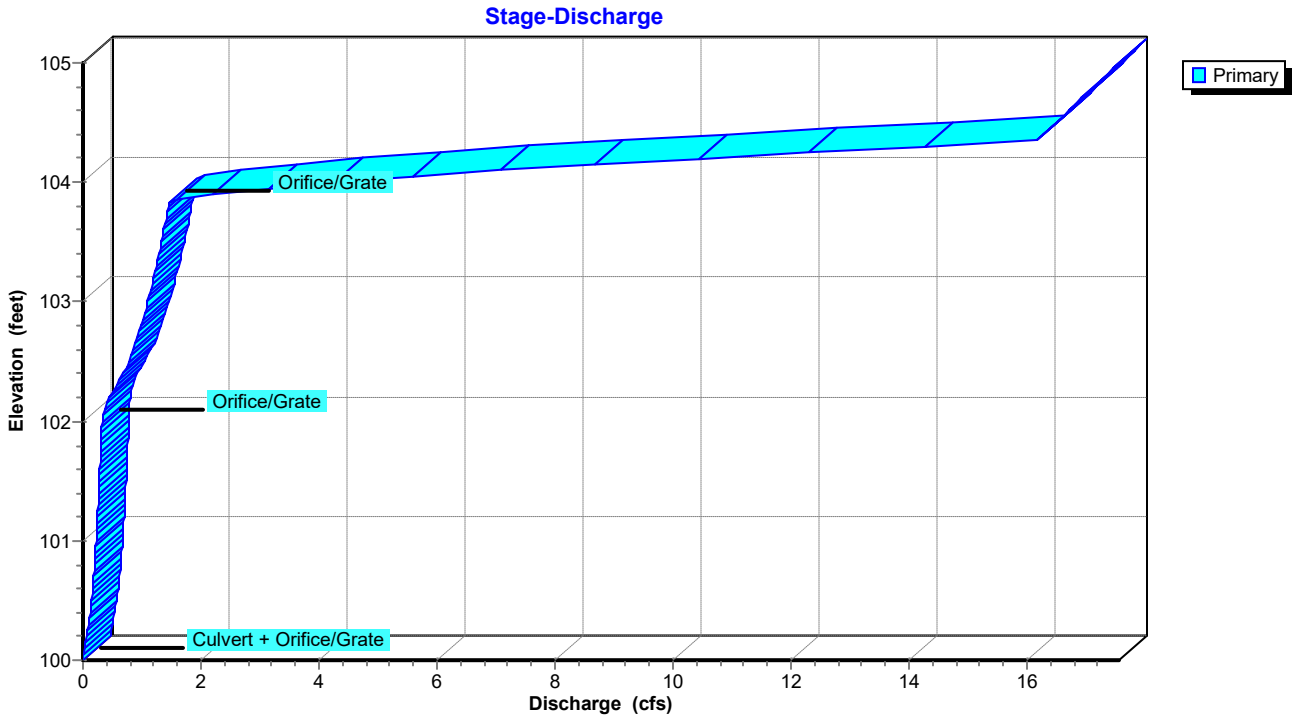
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.34 cfs @ 24.16 hrs HW=102.05' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.34 cfs of 8.81 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.33 cfs @ 6.68 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.76 fps)

Pond D5: Detention Basin 5



Pond D5: Detention Basin 5



Stage-Discharge for Pond D5: Detention Basin 5

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.86
100.05	0.01	102.65	0.89
100.10	0.02	102.70	0.92
100.15	0.04	102.75	0.96
100.20	0.06	102.80	0.99
100.25	0.08	102.85	1.02
100.30	0.10	102.90	1.04
100.35	0.11	102.95	1.07
100.40	0.12	103.00	1.10
100.45	0.13	103.05	1.12
100.50	0.14	103.10	1.15
100.55	0.15	103.15	1.17
100.60	0.16	103.20	1.20
100.65	0.17	103.25	1.22
100.70	0.18	103.30	1.24
100.75	0.19	103.35	1.27
100.80	0.19	103.40	1.29
100.85	0.20	103.45	1.31
100.90	0.21	103.50	1.33
100.95	0.21	103.55	1.35
101.00	0.22	103.60	1.37
101.05	0.23	103.65	1.39
101.10	0.23	103.70	1.41
101.15	0.24	103.75	1.43
101.20	0.25	103.80	1.45
101.25	0.25	103.85	1.58
101.30	0.26	103.90	2.21
101.35	0.26	103.95	3.14
101.40	0.27	104.00	4.27
101.45	0.27	104.05	5.59
101.50	0.28	104.10	7.06
101.55	0.28	104.15	8.68
101.60	0.29	104.20	10.42
101.65	0.29	104.25	12.29
101.70	0.30	104.30	14.27
101.75	0.30	104.35	16.14
101.80	0.31	104.40	16.26
101.85	0.31	104.45	16.37
101.90	0.31	104.50	16.48
101.95	0.32	104.55	16.59
102.00	0.32	104.60	16.70
102.05	0.34	104.65	16.80
102.10	0.36	104.70	16.91
102.15	0.40	104.75	17.02
102.20	0.45	104.80	17.12
102.25	0.50	104.85	17.23
102.30	0.56	104.90	17.33
102.35	0.62	104.95	17.44
102.40	0.69	105.00	**17.54**
102.45	0.74		
102.50	0.78		
102.55	0.82		

Summary for Pond D7: Detention Basin 7

Inflow Area = 80.101 ac, 0.00% Impervious, Inflow Depth = 0.76" for 2 year event
Inflow = 20.74 cfs @ 9.99 hrs, Volume= 5.060 af
Outflow = 2.04 cfs @ 22.57 hrs, Volume= 3.684 af, Atten= 90%, Lag= 754.6 min
Primary = 2.04 cfs @ 22.57 hrs, Volume= 3.684 af
Routed to Reach 7R : Collection Point 7

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.81' @ 22.57 hrs Surf.Area= 1.160 ac Storage= 2.907 af

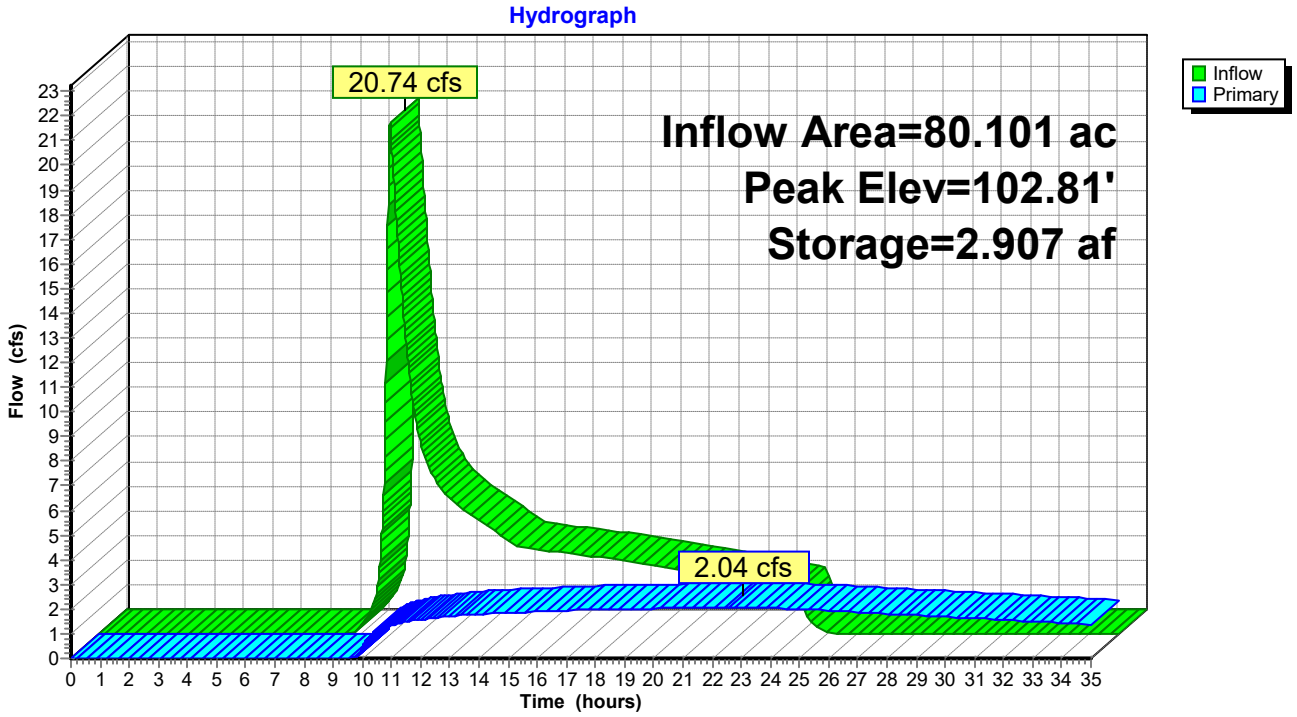
Plug-Flow detention time= 603.4 min calculated for 3.683 af (73% of inflow)
Center-of-Mass det. time= 470.3 min (1,345.5 - 875.1)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	11.095 af	**115.00'W x 345.00'L x 8.50'H Prismatoid Z=4.0**

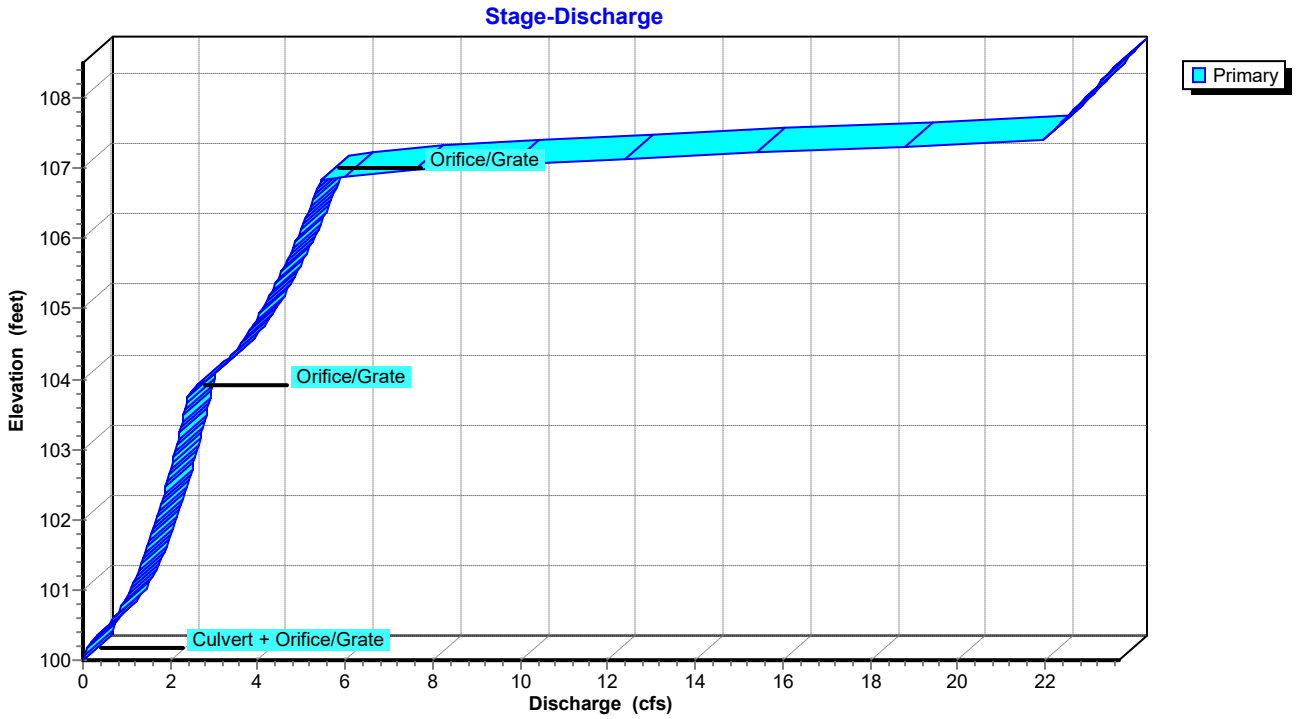
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	106.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.75'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.04 cfs @ 22.57 hrs HW=102.81' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.04 cfs of 12.22 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 2.04 cfs @ 7.64 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D7: Detention Basin 7



Pond D7: Detention Basin 7



Stage-Discharge for Pond D7: Detention Basin 7

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	4.28	107.80	22.59
100.05	0.01	102.65	1.98	105.25	4.32	107.85	22.67
100.10	0.03	102.70	2.00	105.30	4.36	107.90	22.75
100.15	0.07	102.75	2.02	105.35	4.40	107.95	22.83
100.20	0.12	102.80	2.04	105.40	4.44	108.00	22.91
100.25	0.19	102.85	2.06	105.45	4.48	108.05	22.99
100.30	0.26	102.90	2.08	105.50	4.52	108.10	23.07
100.35	0.34	102.95	2.10	105.55	4.56	108.15	23.15
100.40	0.42	103.00	2.12	105.60	4.60	108.20	23.22
100.45	0.51	103.05	2.14	105.65	4.64	108.25	23.30
100.50	0.59	103.10	2.16	105.70	4.68	108.30	23.38
100.55	0.66	103.15	2.18	105.75	4.71	108.35	23.46
100.60	0.71	103.20	2.19	105.80	4.75	108.40	23.53
100.65	0.77	103.25	2.21	105.85	4.79	108.45	23.61
100.70	0.82	103.30	2.23	105.90	4.82	108.50	**23.69**
100.75	0.87	103.35	2.25	105.95	4.86		
100.80	0.92	103.40	2.27	106.00	4.89		
100.85	0.96	103.45	2.29	106.05	4.93		
100.90	1.00	103.50	2.30	106.10	4.96		
100.95	1.04	103.55	2.32	106.15	5.00		
101.00	1.08	103.60	2.34	106.20	5.03		
101.05	1.12	103.65	2.36	106.25	5.07		
101.10	1.16	103.70	2.38	106.30	5.10		
101.15	1.19	103.75	2.39	106.35	5.13		
101.20	1.23	103.80	2.43	106.40	5.17		
101.25	1.26	103.85	2.50	106.45	5.20		
101.30	1.29	103.90	2.60	106.50	5.23		
101.35	1.32	103.95	2.71	106.55	5.26		
101.40	1.35	104.00	2.84	106.60	5.30		
101.45	1.38	104.05	2.96	106.65	5.33		
101.50	1.41	104.10	3.05	106.70	5.36		
101.55	1.44	104.15	3.14	106.75	5.39		
101.60	1.47	104.20	3.21	106.80	5.42		
101.65	1.50	104.25	3.29	106.85	5.57		
101.70	1.53	104.30	3.36	106.90	6.21		
101.75	1.55	104.35	3.42	106.95	7.15		
101.80	1.58	104.40	3.48	107.00	8.30		
101.85	1.61	104.45	3.54	107.05	9.63		
101.90	1.63	104.50	3.60	107.10	11.11		
101.95	1.66	104.55	3.66	107.15	12.74		
102.00	1.68	104.60	3.71	107.20	14.50		
102.05	1.71	104.65	3.77	107.25	16.38		
102.10	1.73	104.70	3.82	107.30	18.37		
102.15	1.75	104.75	3.87	107.35	20.47		
102.20	1.78	104.80	3.92	107.40	21.94		
102.25	1.80	104.85	3.97	107.45	22.02		
102.30	1.82	104.90	4.01	107.50	22.11		
102.35	1.85	104.95	4.06	107.55	22.19		
102.40	1.87	105.00	4.10	107.60	22.27		
102.45	1.89	105.05	4.15	107.65	22.35		
102.50	1.91	105.10	4.19	107.70	22.43		
102.55	1.93	105.15	4.24	107.75	22.51		

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: Diverted Area 1 Runoff Area=3,698,995 sf 0.00% Impervious Runoff Depth=1.15"
Flow Length=4,203' Slope=0.1540 '/' Tc=38.2 min CN=79/0 Runoff=24.89 cfs 8.152 af

Subcatchment 1.2: Developed Area 1 Runoff Area=989,958 sf 0.00% Impervious Runoff Depth=1.34"
Flow Length=4,976' Slope=0.0770 '/' Tc=21.5 min CN=82/0 Runoff=11.95 cfs 2.537 af

Subcatchment 2.1: Diverted Area 2 Runoff Area=426,454 sf 0.00% Impervious Runoff Depth=1.21"
Flow Length=1,202' Slope=0.2410 '/' Tc=20.7 min CN=80/0 Runoff=4.58 cfs 0.989 af

Subcatchment 3.1: Diverted Area 3 Runoff Area=842,263 sf 0.00% Impervious Runoff Depth=0.93"
Flow Length=1,628' Slope=0.2190 '/' Tc=24.1 min CN=75/0 Runoff=5.48 cfs 1.496 af

Subcatchment 3.2: Developed Area 3 Runoff Area=205,028 sf 0.00% Impervious Runoff Depth=1.55"
Flow Length=1,531' Slope=0.0290 '/' Tc=19.5 min CN=85/0 Runoff=3.16 cfs 0.607 af

Subcatchment 4.1: Diverted Area 4 Runoff Area=933,066 sf 0.00% Impervious Runoff Depth=0.83"
Flow Length=1,976' Slope=0.1310 '/' Tc=29.5 min CN=73/0 Runoff=4.32 cfs 1.476 af

Subcatchment 5.1: Diverted Area 5 Runoff Area=5,506,547 sf 0.00% Impervious Runoff Depth=1.04"
Flow Length=4,927' Slope=0.0870 '/' Tc=48.7 min CN=77/0 Runoff=26.30 cfs 10.919 af

Subcatchment 5.2: Developed Area 5 Runoff Area=977,666 sf 0.00% Impervious Runoff Depth=1.48"
Flow Length=2,416' Slope=0.1020 '/' Tc=18.0 min CN=84/0 Runoff=14.78 cfs 2.759 af

Subcatchment 6.1: Diverted Area 6 Runoff Area=1,758,127 sf 0.00% Impervious Runoff Depth=1.04"
Flow Length=4,184' Slope=0.0450 '/' Tc=55.0 min CN=77/0 Runoff=7.75 cfs 3.486 af

Subcatchment 7.1: Diverted Area 7 Runoff Area=4,706,562 sf 0.00% Impervious Runoff Depth=1.09"
Flow Length=5,491' Slope=0.0880 '/' Tc=51.0 min CN=78/0 Runoff=23.72 cfs 9.845 af

Subcatchment 7.2: Developed Area 6 Runoff Area=3,489,199 sf 0.00% Impervious Runoff Depth=1.15"
Flow Length=4,041' Slope=0.0800 '/' Tc=20.4 min CN=79/0 Runoff=35.13 cfs 7.690 af

Subcatchment 8.1: Diverted Area 8 Runoff Area=3,910,579 sf 0.00% Impervious Runoff Depth=0.45"
Flow Length=4,273' Slope=0.1050 '/' Tc=43.1 min CN=64/0 Runoff=4.25 cfs 3.345 af

Subcatchment 9.1: Diverted Area 9 Runoff Area=703,591 sf 0.00% Impervious Runoff Depth=0.14"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=0.20 cfs 0.185 af

Subcatchment 10.1: Diverted Area 10.2 Runoff Area=1,844,365 sf 0.00% Impervious Runoff Depth=0.16"
Flow Length=3,248' Slope=0.1000 '/' Tc=38.8 min CN=54/0 Runoff=0.58 cfs 0.561 af

Subcatchment 11.1: Diverted Area 11 Runoff Area=330,401 sf 0.00% Impervious Runoff Depth=0.07"
Flow Length=560' Slope=0.1250 '/' Tc=16.9 min CN=49/0 Runoff=0.06 cfs 0.042 af

Subcatchment 12.1: Diverted Area 12 Runoff Area=3,953,596 sf 0.00% Impervious Runoff Depth=0.07"
Flow Length=3,100' Slope=0.0720 '/' Tc=41.8 min CN=49/0 Runoff=0.66 cfs 0.506 af

Subcatchment 12.2: Developed Area Runoff Area=18,611,996 sf 0.00% Impervious Runoff Depth=0.93"
Flow Length=7,353' Slope=0.0180 '/' Tc=31.4 min CN=75/0 Runoff=101.22 cfs 33.051 af

Subcatchment 12.3: Diverted Area 12.3 Runoff Area=1,842,936 sf 0.00% Impervious Runoff Depth=0.64"
Flow Length=7,592' Tc=48.2 min CN=69/0 Runoff=3.87 cfs 2.267 af

Subcatchment 12.4: Diverted Area 12.4 Runoff Area=2,734,787 sf 0.00% Impervious Runoff Depth=0.48"
Flow Length=9,171' Tc=56.2 min CN=65/0 Runoff=3.10 cfs 2.529 af

Subcatchment 13.1: Diverted Area 13 Runoff Area=67,532 sf 0.00% Impervious Runoff Depth=0.83"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=73/0 Runoff=0.60 cfs 0.107 af

Subcatchment 14.1: Diverted Area 14 Runoff Area=109,322 sf 0.00% Impervious Runoff Depth=0.73"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=0.84 cfs 0.153 af

Subcatchment 15.1: Diverted Area 15 Runoff Area=414,988 sf 0.00% Impervious Runoff Depth=0.12"
Flow Length=1,585' Slope=0.1650 '/' Tc=25.7 min CN=52/0 Runoff=0.10 cfs 0.094 af

Subcatchment 15.2: Developed Area 15 Runoff Area=1,372,228 sf 0.00% Impervious Runoff Depth=0.41"
Flow Length=2,036' Slope=0.0100 '/' Tc=24.0 min CN=63/0 Runoff=1.58 cfs 1.082 af

Subcatchment 16.1: Diverted Area 16 Runoff Area=1,317,955 sf 0.00% Impervious Runoff Depth=0.52"
Flow Length=2,287' Slope=0.0720 '/' Tc=36.8 min CN=66/0 Runoff=2.11 cfs 1.314 af

Subcatchment 16.2: Developed Area 16 Runoff Area=534,690 sf 0.00% Impervious Runoff Depth=0.56"
Flow Length=808' Slope=0.0680 '/' Tc=15.7 min CN=67/0 Runoff=1.67 cfs 0.573 af

Subcatchment 16.3: Developed Area 16 Runoff Area=4,800,431 sf 0.00% Impervious Runoff Depth=1.09"
Flow Length=3,863' Slope=0.0080 '/' Tc=64.7 min CN=78/0 Runoff=20.74 cfs 10.041 af

Subcatchment 17.1: Diverted Area 17 Runoff Area=1,066,067 sf 0.00% Impervious Runoff Depth=0.12"
Flow Length=1,613' Slope=0.0940 '/' Tc=29.7 min CN=52/0 Runoff=0.27 cfs 0.240 af

Subcatchment 18.1: Diverted Area 18 Runoff Area=5,811,307 sf 0.00% Impervious Runoff Depth=0.64"
Flow Length=4,653' Slope=0.0530 '/' Tc=55.0 min CN=69/0 Runoff=11.34 cfs 7.149 af

Subcatchment 18.2: Developed Area 18 Runoff Area=1,858,157 sf 0.00% Impervious Runoff Depth=1.70"
Flow Length=3,224' Slope=0.0340 '/' Tc=22.1 min CN=87/0 Runoff=29.98 cfs 6.027 af

Subcatchment 19.1: Diverted Area 19 Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.21"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=0.60 cfs 0.609 af

Subcatchment 20.1: Diverted Area 20 Runoff Area=5,359,234 sf 0.00% Impervious Runoff Depth=0.88"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=74/0 Runoff=21.93 cfs 8.988 af

Subcatchment 20.2: Developed Area 20.2 Runoff Area=3.949 ac 37.71% Impervious Runoff Depth=1.60"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=2.68 cfs 0.528 af

Subcatchment 20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=1.54"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=1.75 cfs 0.440 af

Subcatchment 20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=1.14"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=3.54 cfs 0.735 af

Subcatchment 21.1: Diverted Area 21 Runoff Area=1,537,885 sf 0.00% Impervious Runoff Depth=0.48"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=2.31 cfs 1.422 af

Subcatchment 22.1: Diverted Area 22 Runoff Area=2,526,337 sf 0.00% Impervious Runoff Depth=1.28"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=23.71 cfs 6.163 af

Reach 1R: Collection Point 1 Inflow=24.97 cfs 9.055 af
Outflow=24.97 cfs 9.055 af

Reach 2R: Collection Point 2 Inflow=4.58 cfs 0.989 af
Outflow=4.58 cfs 0.989 af

Reach 3R: Collection Point 3 Inflow=5.55 cfs 1.804 af
Outflow=5.55 cfs 1.804 af

Reach 4R: Collection Point 4 Inflow=4.32 cfs 1.476 af
Outflow=4.32 cfs 1.476 af

Reach 5R: Collection Point 5 Inflow=26.49 cfs 12.115 af
Outflow=26.49 cfs 12.115 af

Reach 6R: Collection Point 6 Inflow=7.75 cfs 3.486 af
Outflow=7.75 cfs 3.486 af

Reach 7R: Collection Point 7 Inflow=24.95 cfs 15.020 af
Outflow=24.95 cfs 15.020 af

Reach 8R: Collection Point 8 Inflow=4.25 cfs 3.345 af
Outflow=4.25 cfs 3.345 af

Reach 9R: Collection Point 9 Inflow=0.20 cfs 0.185 af
Outflow=0.20 cfs 0.185 af

Reach 10R: Collection Point 10 Inflow=0.58 cfs 0.561 af
Outflow=0.58 cfs 0.561 af

Reach 11R: Collection Point 11 Inflow=0.06 cfs 0.042 af
Outflow=0.06 cfs 0.042 af

Reach 12R: Collection Point 12 Inflow=6.68 cfs 9.410 af
Outflow=6.68 cfs 9.410 af

Reach 13R: Collection Point 13 Inflow=0.60 cfs 0.107 af
Outflow=0.60 cfs 0.107 af

Reach 14R: Collection Point 14 Inflow=0.84 cfs 0.153 af
Outflow=0.84 cfs 0.153 af

Reach 15R: Collection Point 15 Inflow=0.54 cfs 0.854 af
Outflow=0.54 cfs 0.854 af

Reach 16R: Collection Point 16 Inflow=4.80 cfs 6.257 af
Outflow=4.80 cfs 6.257 af

Reach 17R: Collection Point 17 Inflow=0.27 cfs 0.240 af
Outflow=0.27 cfs 0.240 af

Reach 18R: Collection Point 18 Inflow=12.86 cfs 11.295 af
Outflow=12.86 cfs 11.295 af

Reach 19R: Collection Point 19 Inflow=0.60 cfs 0.609 af
Outflow=0.60 cfs 0.609 af

Reach 20R: Collection Point 20 Inflow=22.30 cfs 10.225 af
Outflow=22.30 cfs 10.225 af

Reach 21R: Collection Point 21 Inflow=2.31 cfs 1.422 af
Outflow=2.31 cfs 1.422 af

Reach 22R: Collection Point 22 Inflow=23.71 cfs 6.163 af
Outflow=23.71 cfs 6.163 af

Pond 12S: Flow Splitter Box Peak Elev=112.79' Inflow=106.69 cfs 37.847 af
Primary=53.34 cfs 18.924 af Secondary=53.34 cfs 18.924 af Outflow=106.69 cfs 37.847 af

Pond D1: Detention Basin 1 Peak Elev=103.59' Storage=1.984 af Inflow=11.95 cfs 2.537 af
Outflow=0.82 cfs 0.903 af

Pond D12.1: Detention Pond 12.1 Peak Elev=104.89' Storage=16.598 af Inflow=53.34 cfs 18.924 af
Outflow=3.09 cfs 4.452 af

Pond D12.2: Detention Pond 12.2 Peak Elev=104.89' Storage=16.598 af Inflow=53.34 cfs 18.924 af
Outflow=3.09 cfs 4.452 af

Pond D15: Detention Pond 15 Peak Elev=101.36' Storage=0.656 af Inflow=1.58 cfs 1.082 af
Outflow=0.46 cfs 0.760 af

Pond D16.2: Detention Pond 16.2 Peak Elev=101.08' Storage=0.208 af Inflow=1.67 cfs 0.573 af
Outflow=0.41 cfs 0.524 af

Pond D16.3: Detention Pond 16.3 Peak Elev=103.64' Storage=7.228 af Inflow=20.74 cfs 10.041 af
Outflow=3.76 cfs 4.419 af

Pond D18: Detention Pond 18 Peak Elev=103.19' Storage=3.624 af Inflow=29.98 cfs 6.027 af
Outflow=2.19 cfs 4.146 af

Pond D20.2: Detention Basin 20.2 Peak Elev=102.95' Storage=0.311 af Inflow=2.68 cfs 0.528 af
Outflow=0.18 cfs 0.362 af

Pond D20.3: Detention Pond 20.3 Peak Elev=101.65' Storage=9,632 cf Inflow=1.75 cfs 0.440 af
Outflow=0.19 cfs 0.369 af

Pond D20.4: Detention Pond 20.4 Peak Elev=103.17' Storage=18,803 cf Inflow=3.54 cfs 0.735 af
Outflow=0.29 cfs 0.506 af

Pond D3: Detention Basin 3 Peak Elev=102.36' Storage=0.429 af Inflow=3.16 cfs 0.607 af
Outflow=0.16 cfs 0.308 af

Pond D5: Detention Basin 5 Peak Elev=102.60' Storage=2.043 af Inflow=14.78 cfs 2.759 af
Outflow=0.85 cfs 1.196 af

Pond D7: Detention Basin 7 Peak Elev=104.20' Storage=4.606 af Inflow=35.13 cfs 7.690 af
Outflow=3.21 cfs 5.175 af

Total Runoff Area = 1,984.517 ac Runoff Volume = 138.109 af Average Runoff Depth = 0.84"
99.83% Pervious = 1,981.063 ac 0.17% Impervious = 3.454 ac

Summary for Subcatchment 1.1: Diverted Area 1

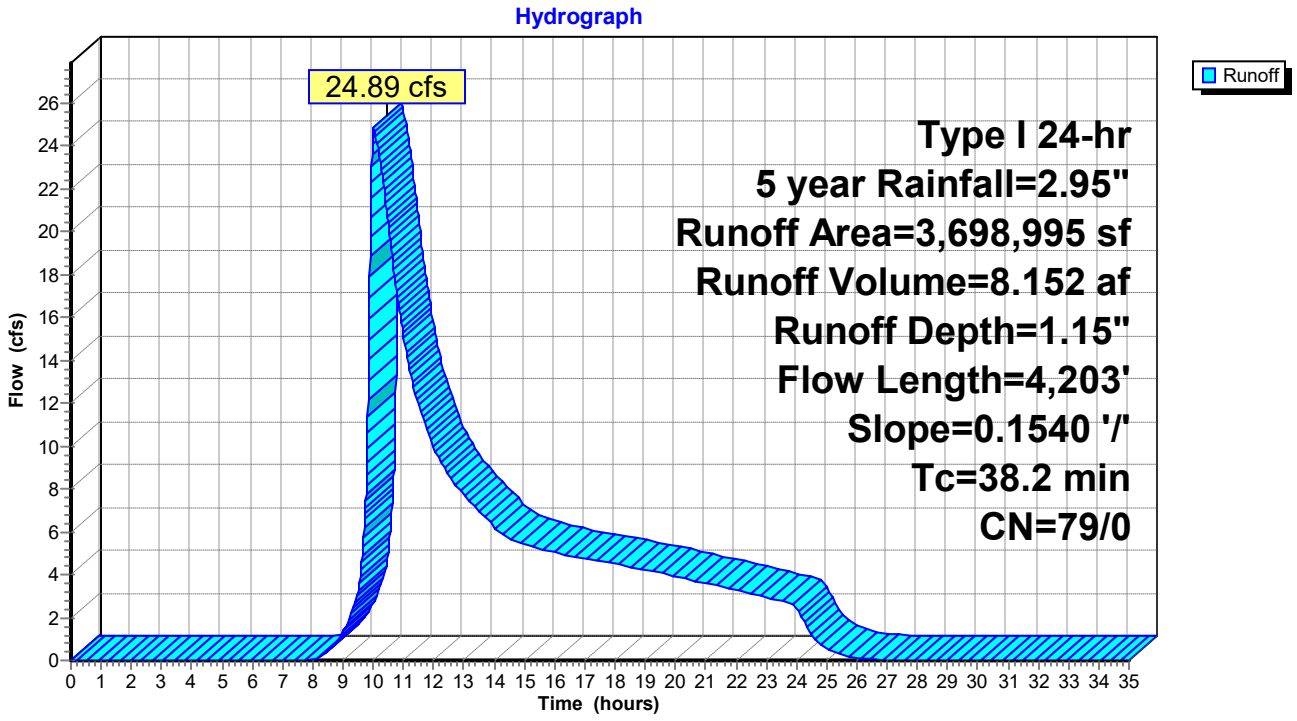
Runoff = 24.89 cfs @ 10.00 hrs, Volume= 8.152 af, Depth= 1.15"
Routed to Reach 1R : Collection Point 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	3,674,469	79	Brush and open space, see attachment 3.
*	24,523	83	Paved; Open ditches (including right-of-way), HSG A
*	3	92	Paved; Open ditches (including right-of-way), HSG C
	3,698,995	79	Weighted Average
	3,698,995	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1540	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.3	3,003	0.1540	3.28		**Kirpich Method,** General overland flow k= 2.00
38.2	4,203	Total			

Subcatchment 1.1: Diverted Area 1



Summary for Subcatchment 1.2: Developed Area 1

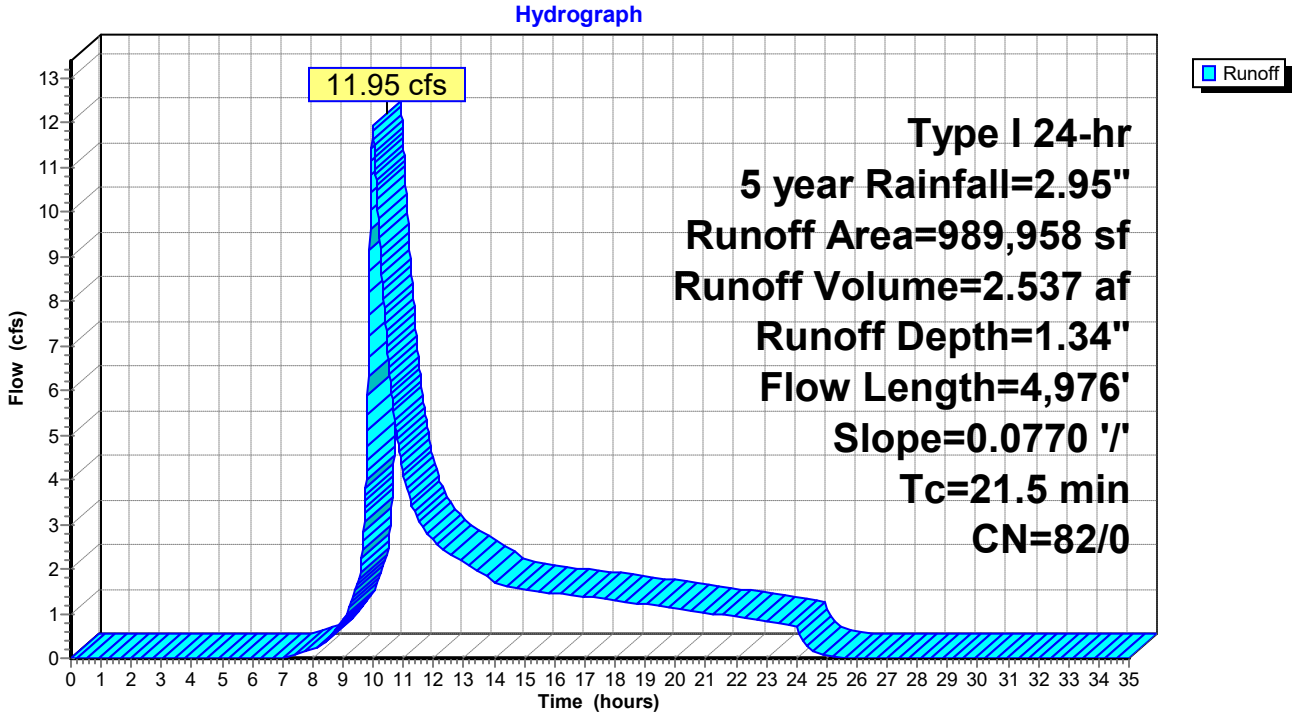
Runoff = 11.95 cfs @ 9.99 hrs, Volume= 2.537 af, Depth= 1.34"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	717,413	80	Composite CN, see attachment 3.
*	109,177	83	Paved; Open ditches (including right-of-way), HSG A
*	77,573	92	Paved; Open ditches (including right-of-way), HSG C
*	85,795	93	Paved; Open ditches (including right-of-way), HSG D
	989,958	82	Weighted Average
	989,958	82	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.7	1,200	0.0770	3.00		**Kerby Method,** Smooth impervious N= 0.02
4.8	3,776	0.0770	13.23		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
21.5	4,976	Total			

Subcatchment 1.2: Developed Area 1



Summary for Subcatchment 2.1: Diverted Area 2

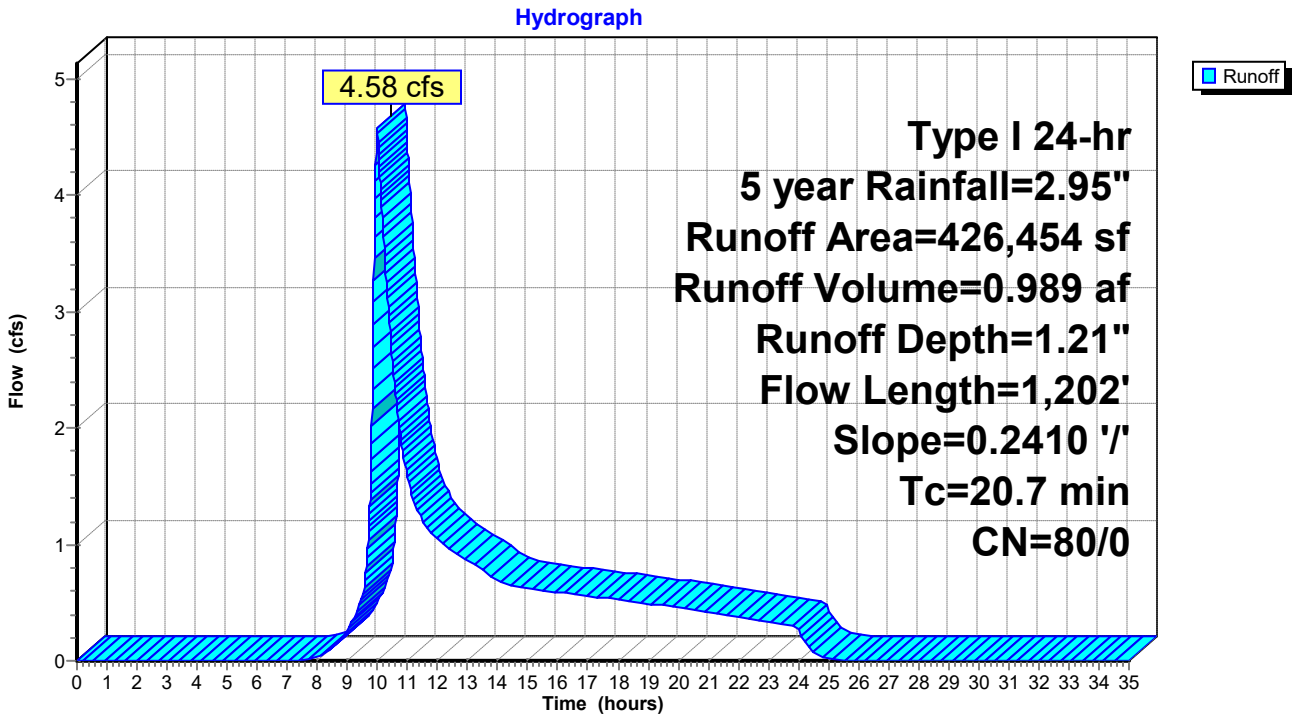
Runoff = 4.58 cfs @ 9.99 hrs, Volume= 0.989 af, Depth= 1.21"
Routed to Reach 2R : Collection Point 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	420,602	80	Brush, see Attachment 3.
*	4,339	83	Paved; Open ditches (including right-of-way), HSG A
*	1,513	93	Paved; Open ditches (including right-of-way), HSG D
	426,454	80	Weighted Average
	426,454	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	1,202	0.2410	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2.1: Diverted Area 2



Summary for Subcatchment 3.1: Diverted Area 3

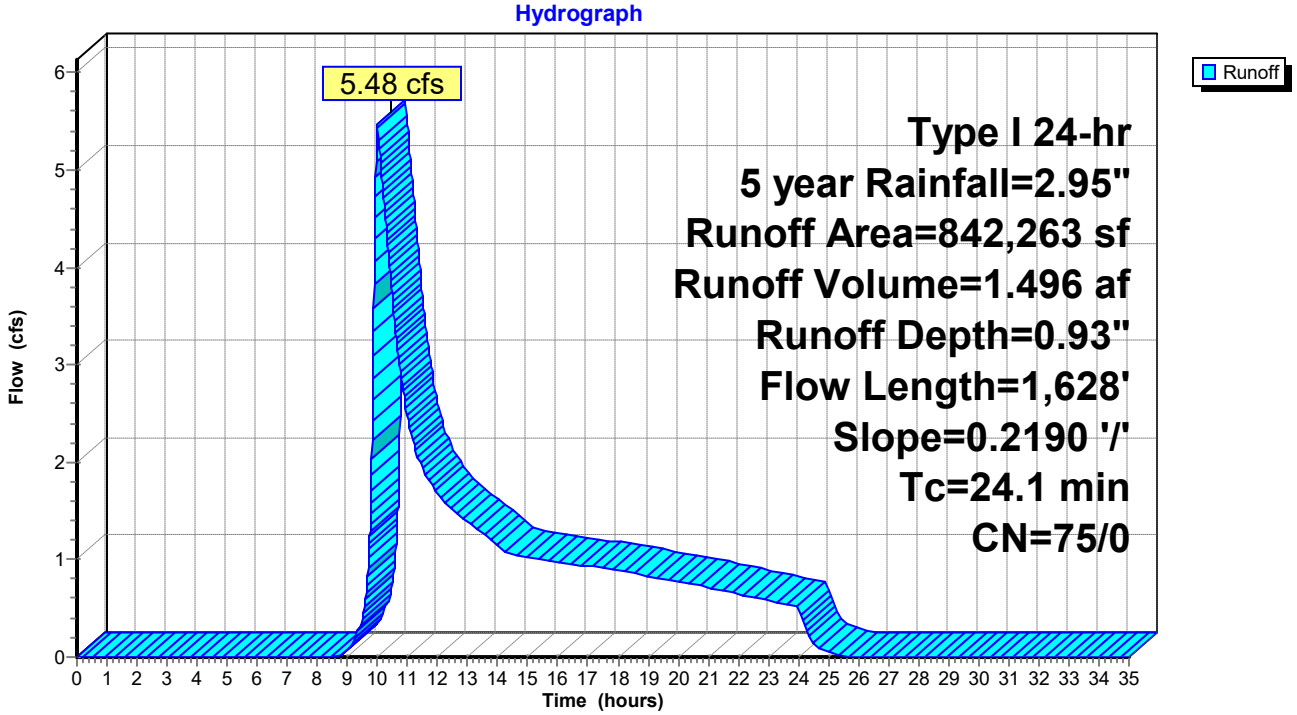
Runoff = 5.48 cfs @ 10.00 hrs, Volume= 1.496 af, Depth= 0.93"
Routed to Reach 3R : Collection Point 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	842,263	75	Brush and open space, See Attachment 3
	842,263	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	1,200	0.2190	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.0	428	0.2190	2.40		**Kirpich Method,** General overland flow k= 2.00
24.1	1,628	Total			

Subcatchment 3.1: Diverted Area 3



Summary for Subcatchment 3.2: Developed Area 3

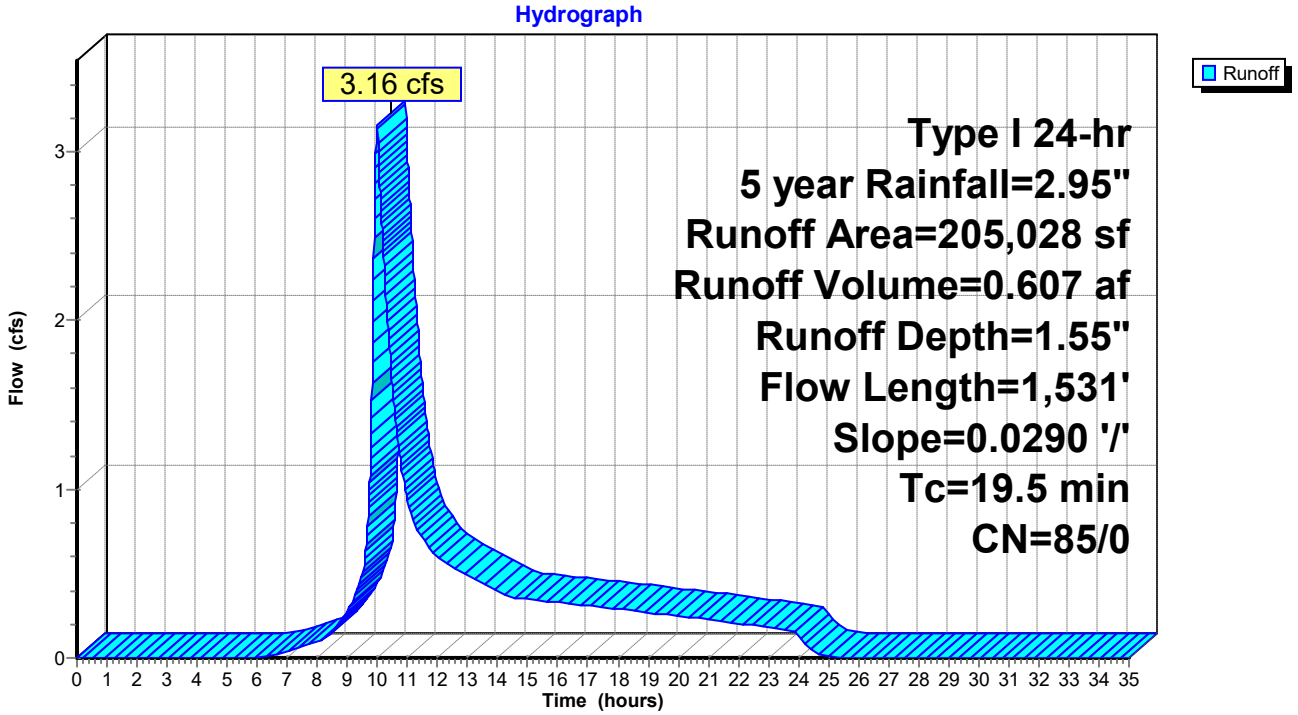
Runoff = 3.16 cfs @ 9.98 hrs, Volume= 0.607 af, Depth= 1.55"
Routed to Pond D3 : Detention Basin 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	125,827	87	Composite CN, see Attachment 3
*	78,995	83	Paved; Open ditches (including right-of-way), HSG A
*	206	93	Paved; Open ditches (including right-of-way), HSG D
	205,028	85	Weighted Average
	205,028	85	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.4	1,200	0.0290	2.39		**Kerby Method,** Smooth impervious N= 0.02
1.1	331	0.0290	5.19		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
19.5	1,531	Total			

Subcatchment 3.2: Developed Area 3



Summary for Subcatchment 4.1: Diverted Area 4

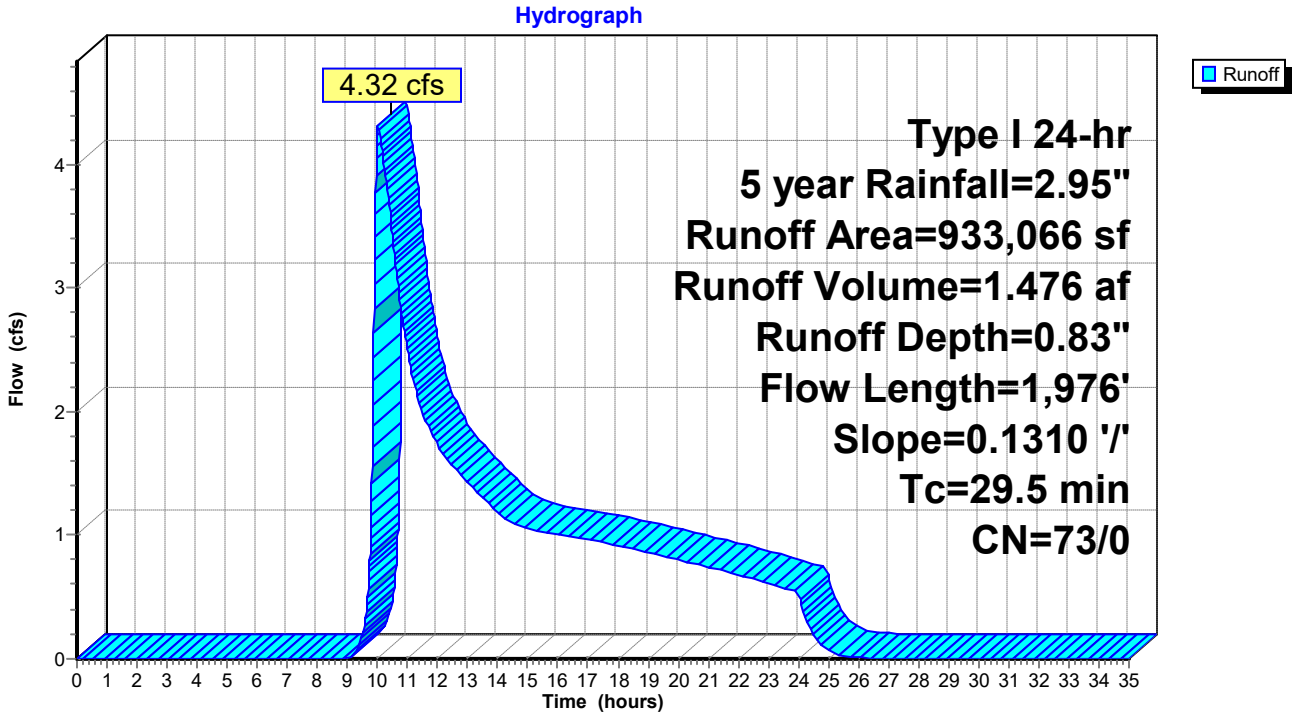
Runoff = 4.32 cfs @ 10.00 hrs, Volume= 1.476 af, Depth= 0.83"
Routed to Reach 4R : Collection Point 4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	38,033	83	Paved; Open ditches (including right-of-way), HSG A
*	895,033	73	Brush and open space, see Attachment 3.
	933,066	73	Weighted Average
	933,066	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.8	1,200	0.1310	0.84		**Kerby Method,** Pasture, average grass N= 0.40
5.7	776	0.1310	2.26		**Kirpich Method,** General overland flow k= 2.00
29.5	1,976	Total			

Subcatchment 4.1: Diverted Area 4



Summary for Subcatchment 5.1: Diverted Area 5

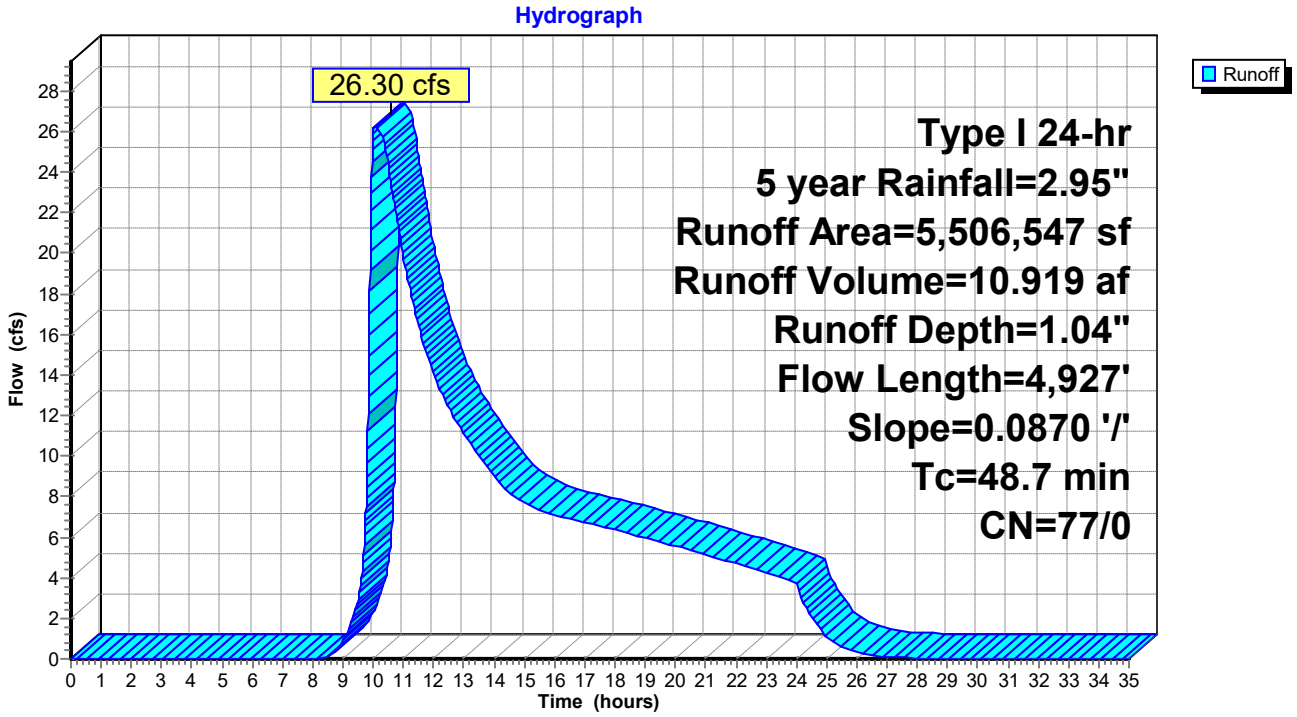
Runoff = 26.30 cfs @ 10.11 hrs, Volume= 10.919 af, Depth= 1.04"
Routed to Reach 5R : Collection Point 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	5,484,277	77	Brush and opne space, see Attachment 3
*	22,270	83	Paved; Open ditches (including right-of-way), HSG A
	5,506,547	77	Weighted Average
	5,506,547	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.2	1,200	0.0870	0.76		**Kerby Method,** Pasture, average grass N= 0.40
22.5	3,727	0.0870	2.77		**Kirpich Method,** General overland flow k= 2.00
48.7	4,927	Total			

Subcatchment 5.1: Diverted Area 5



Summary for Subcatchment 5.2: Developed Area 5

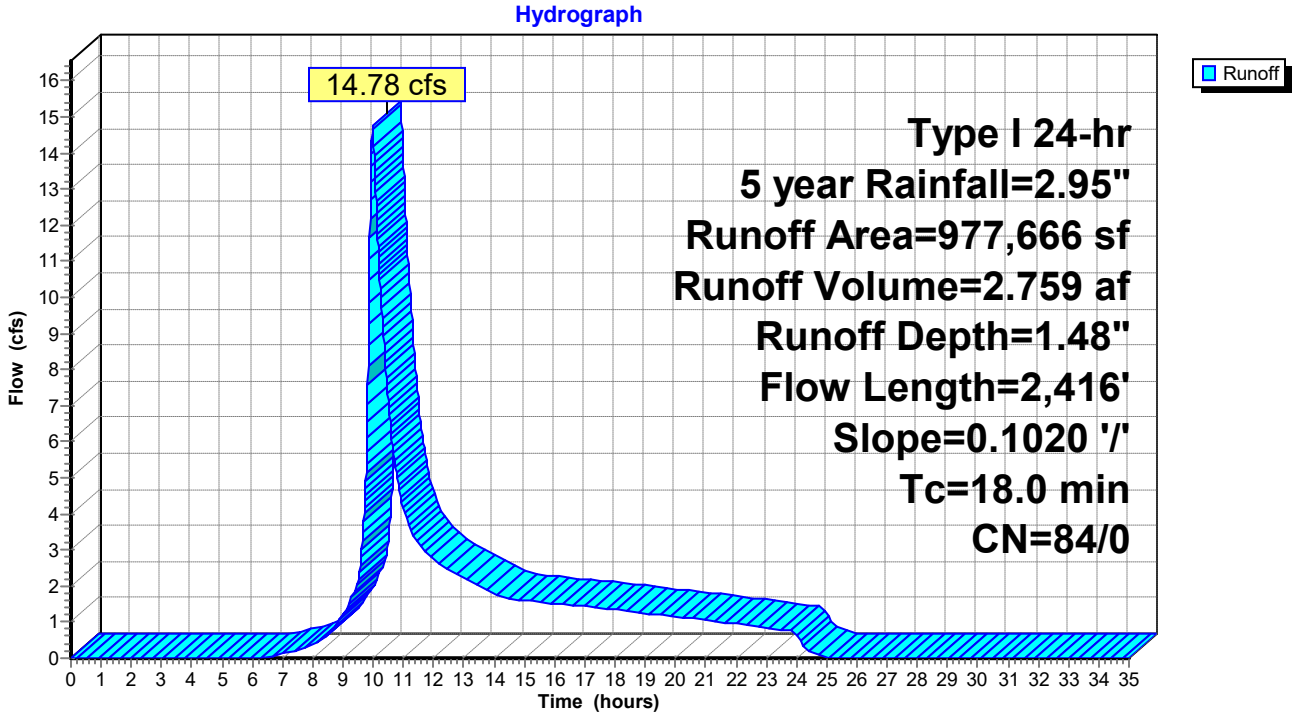
Runoff = 14.78 cfs @ 9.98 hrs, Volume= 2.759 af, Depth= 1.48"
Routed to Pond D5 : Detention Basin 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	751,855	82	Composite CN, see Attachment 3.
*	77,623	83	Paved; Open ditches (including right-of-way), HSG A
*	102,033	92	Paved; Open ditches (including right-of-way), HSG C
*	46,155	93	Paved; Open ditches (including right-of-way), HSG D
	977,666	84	Weighted Average
	977,666	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.2	1,200	0.1020	3.21		**Kerby Method,** Smooth impervious N= 0.02
1.8	1,216	0.1020	11.36		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.0	2,416	Total			

Subcatchment 5.2: Developed Area 5



Summary for Subcatchment 6.1: Diverted Area 6

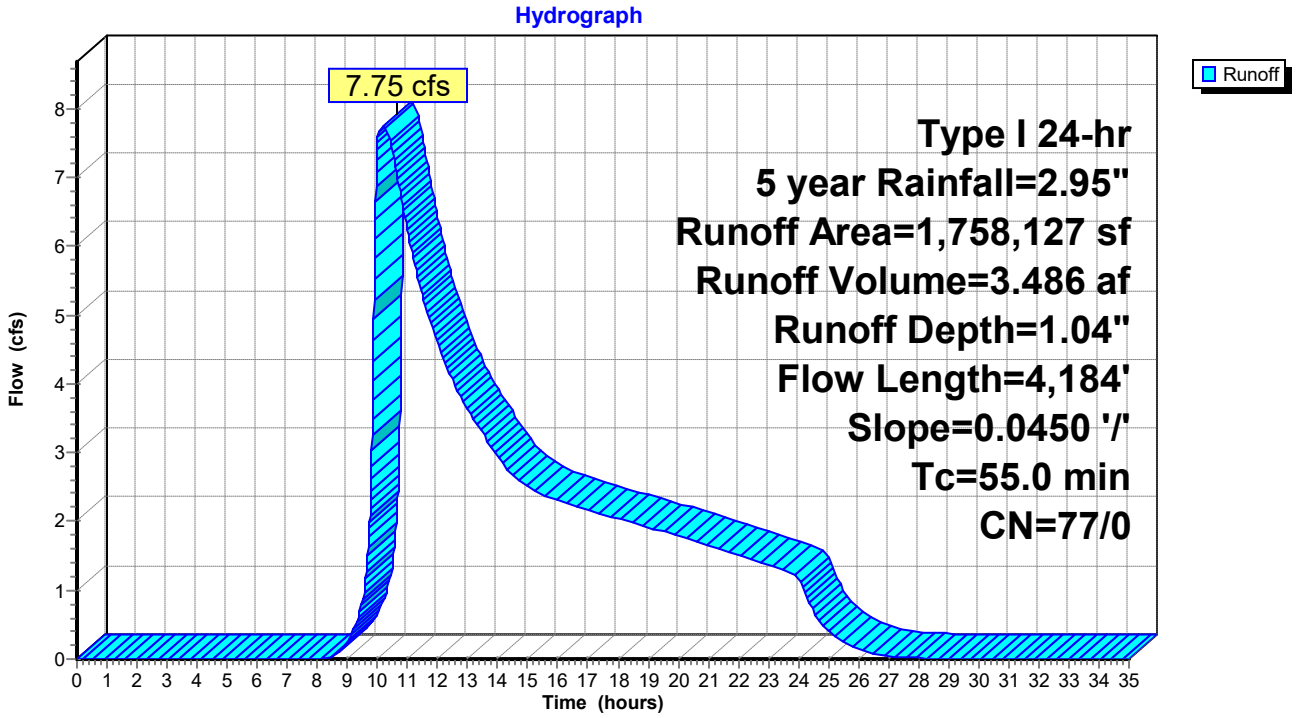
Runoff = 7.75 cfs @ 10.20 hrs, Volume= 3.486 af, Depth= 1.04"
Routed to Reach 6R : Collection Point 6

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,758,127	77	Brush and open space, see Attachment 3.
	1,758,127	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.6	1,200	0.0450	0.65		**Kerby Method,** Pasture, average grass N= 0.40
24.4	2,984	0.0450	2.04		**Kirpich Method,** General overland flow k= 2.00
55.0	4,184	Total			

Subcatchment 6.1: Diverted Area 6



Summary for Subcatchment 7.1: Diverted Area 7

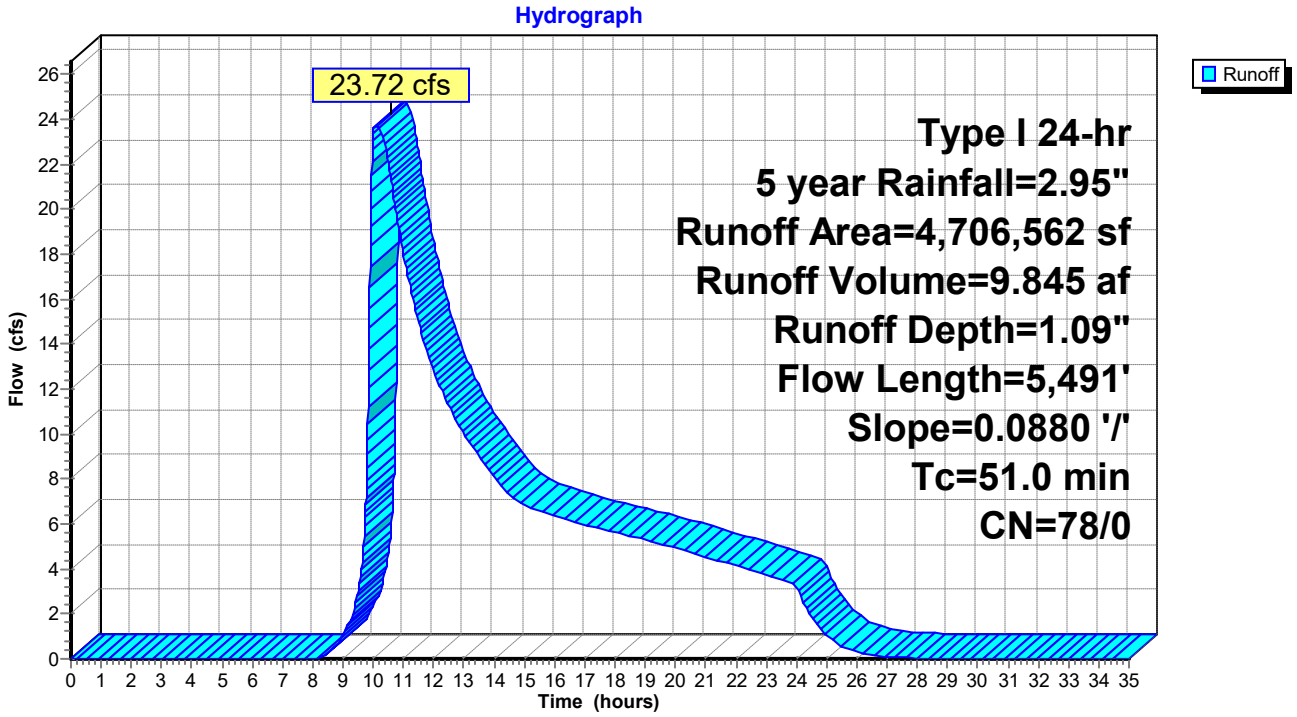
Runoff = 23.72 cfs @ 10.12 hrs, Volume= 9.845 af, Depth= 1.09"
Routed to Reach 7R : Collection Point 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	4,703,800	78	Brush and open space, see Attachment 3.
*	2,762	92	Paved; Open ditches (including right-of-way), HSG C
	4,706,562	78	Weighted Average
	4,706,562	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	1,200	0.0880	0.76		**Kerby Method,** Pasture, average grass N= 0.40
24.9	4,291	0.0880	2.87		**Kirpich Method,** General overland flow k= 2.00
51.0	5,491	Total			

Subcatchment 7.1: Diverted Area 7



Summary for Subcatchment 7.2: Developed Area 6

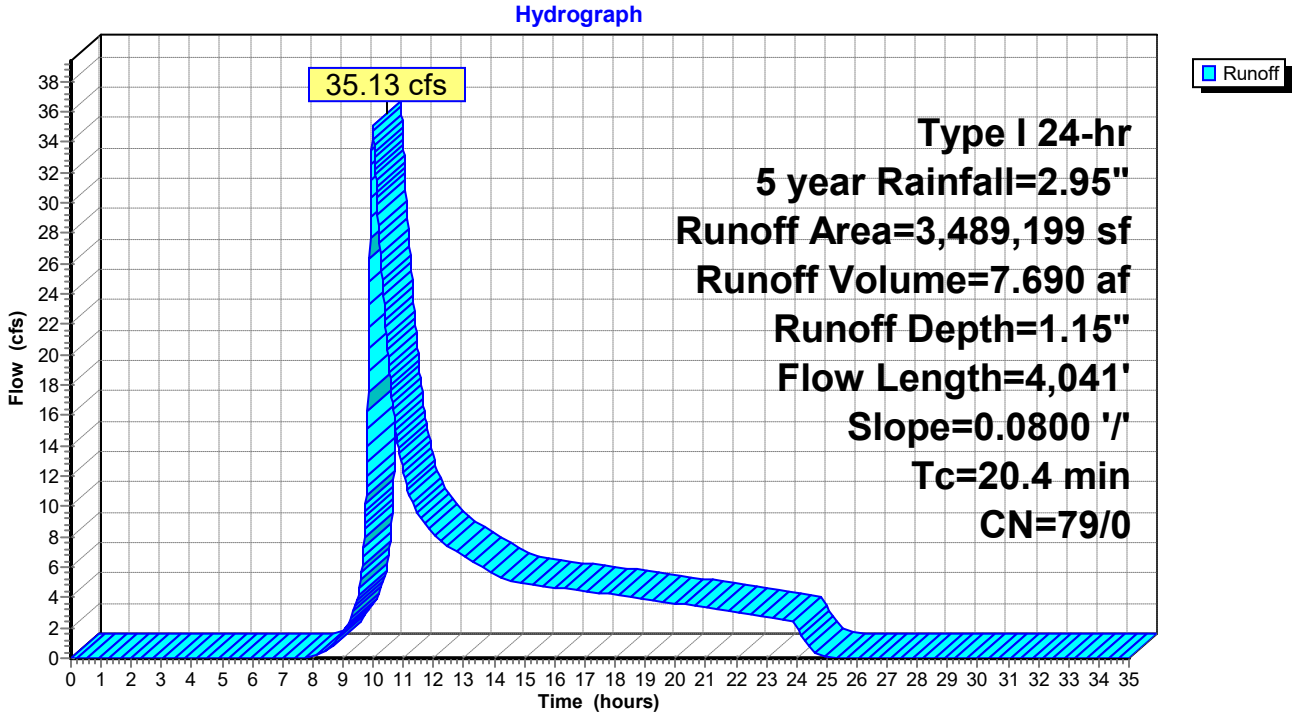
Runoff = 35.13 cfs @ 9.99 hrs, Volume= 7.690 af, Depth= 1.15"
Routed to Pond D7 : Detention Basin 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	2,757,608	77	Composite CN, see Attchment 3.
*	393,878	83	Paved; Open ditches (including right-of-way), HSG A
*	267,712	92	Paved; Open ditches (including right-of-way), HSG C
*	70,001	93	Paved; Open ditches (including right-of-way), HSG D
	3,489,199	79	Weighted Average
	3,489,199	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.6	1,200	0.0800	3.03		**Kerby Method,** Smooth impervious N= 0.02
3.8	2,841	0.0800	12.58		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
20.4	4,041	Total			

Subcatchment 7.2: Developed Area 6



Summary for Subcatchment 8.1: Diverted Area 8

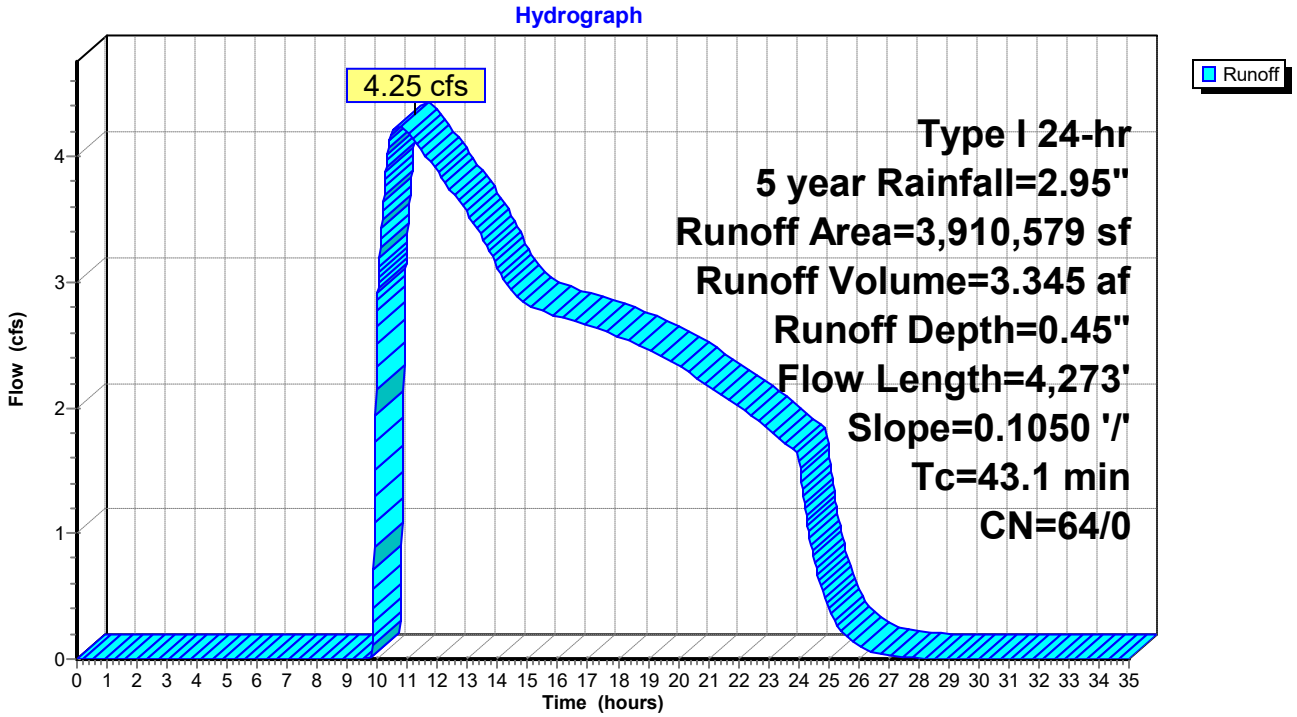
Runoff = 4.25 cfs @ 10.75 hrs, Volume= 3.345 af, Depth= 0.45"
Routed to Reach 8R : Collection Point 8

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	3,910,579	64	Brush and open space, see Attachment 3.
	3,910,579	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	1,200	0.1050	0.80		**Kerby Method,** Pasture, average grass N= 0.40
18.0	3,073	0.1050	2.84		**Kirpich Method,** General overland flow k= 2.00
43.1	4,273	Total			

Subcatchment 8.1: Diverted Area 8



Summary for Subcatchment 9.1: Diverted Area 9

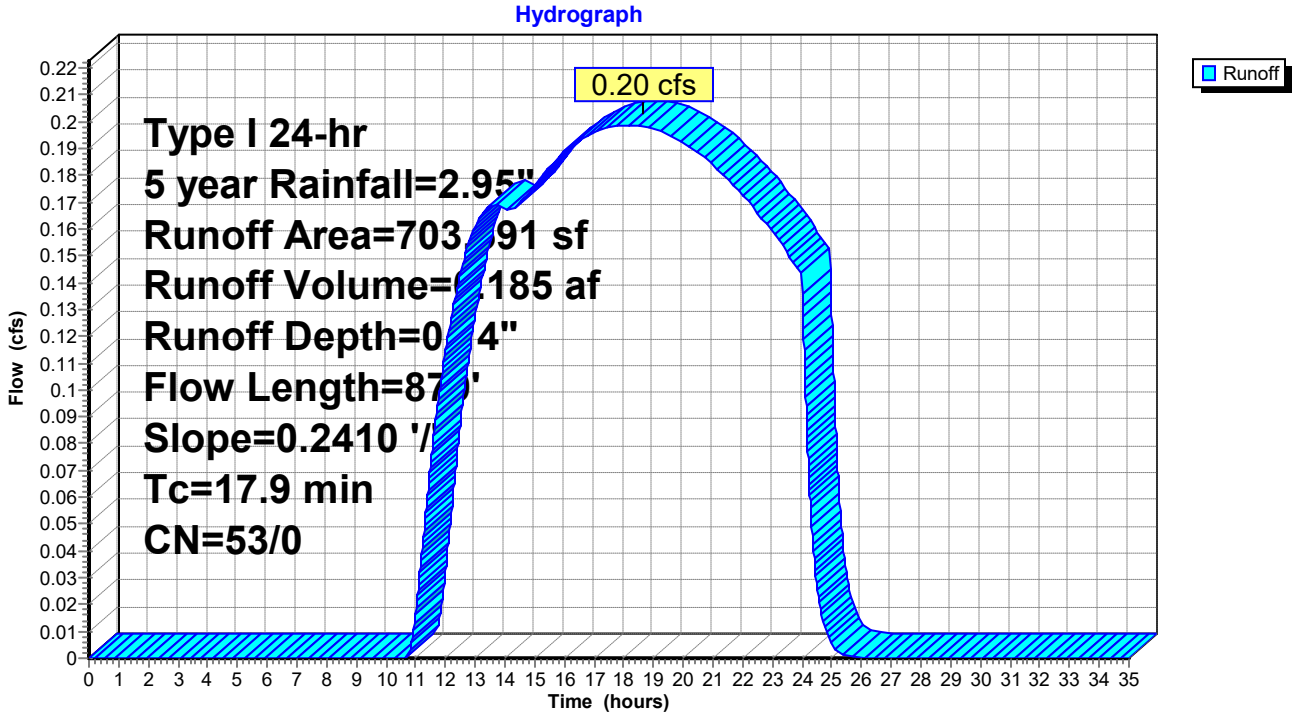
Runoff = 0.20 cfs @ 18.14 hrs, Volume= 0.185 af, Depth= 0.14"
Routed to Reach 9R : Collection Point 9

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	703,591	53	Brush and open space, see Attachment 3.
	703,591	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9.1: Diverted Area 9



Summary for Subcatchment 10.1: Diverted Area 10.2

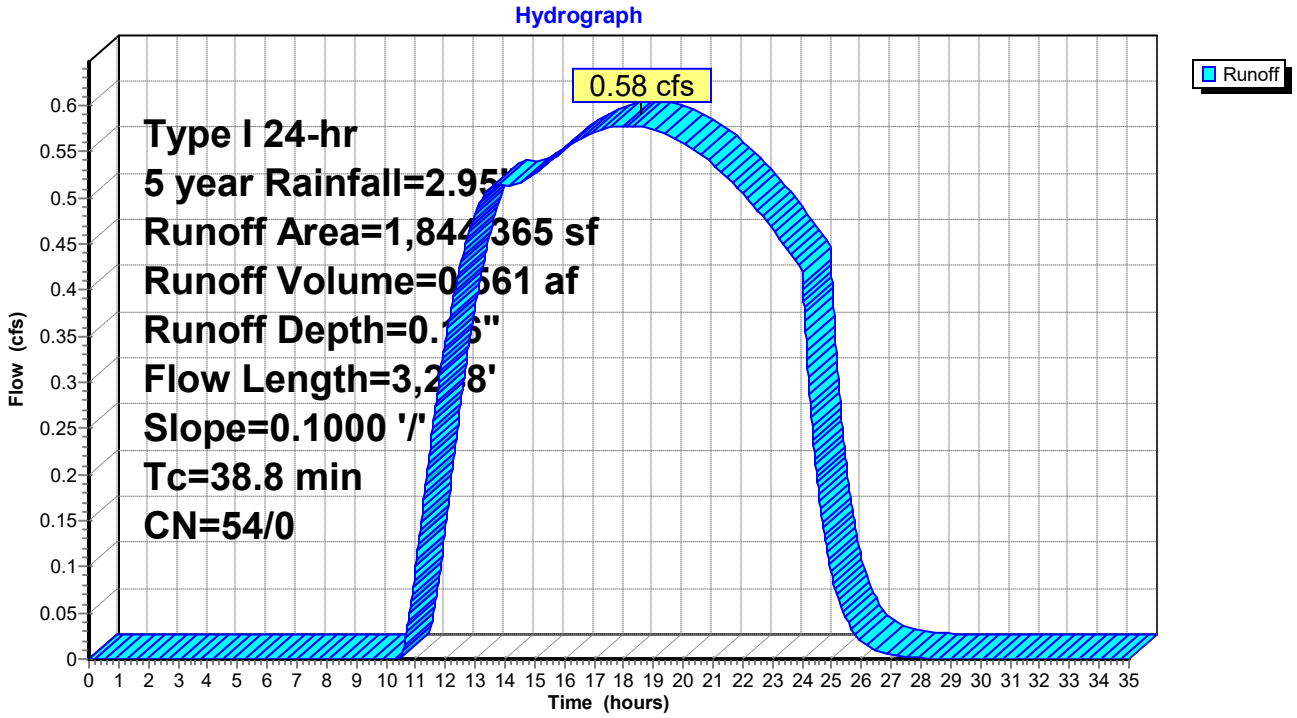
Runoff = 0.58 cfs @ 18.11 hrs, Volume= 0.561 af, Depth= 0.16"
Routed to Reach 10R : Collection Point 10

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,844,365	54	Brush and open space, see Attachment 3.
	1,844,365	54	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.1000	0.79		**Kerby Method,** Pasture, average grass N= 0.40
13.4	2,048	0.1000	2.54		**Kirpich Method,** General overland flow k= 2.00
38.8	3,248	Total			

Subcatchment 10.1: Diverted Area 10.2



Summary for Subcatchment 11.1: Diverted Area 11

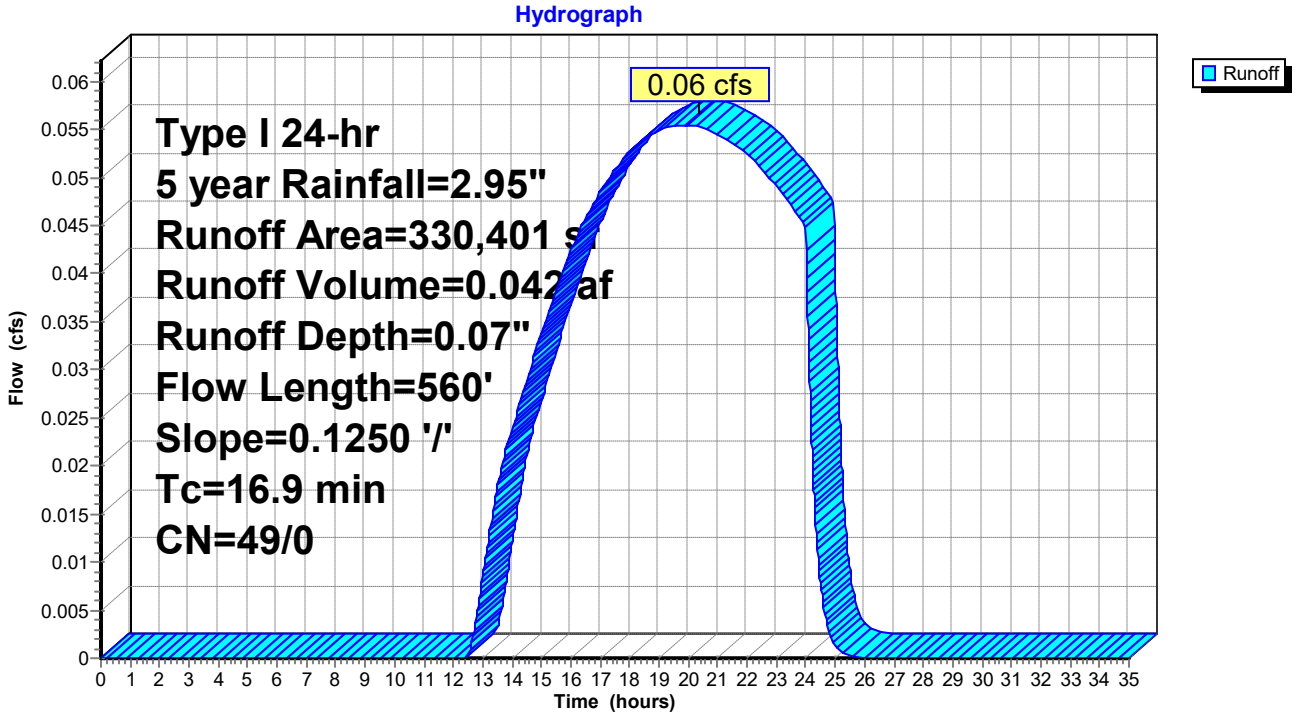
Runoff = 0.06 cfs @ 19.88 hrs, Volume= 0.042 af, Depth= 0.07"
Routed to Reach 11R : Collection Point 11

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	330,401	49	Brush and open space, see Attachment 3.
	330,401	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	560	0.1250	0.55		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 11.1: Diverted Area 11



Summary for Subcatchment 12.1: Diverted Area 12

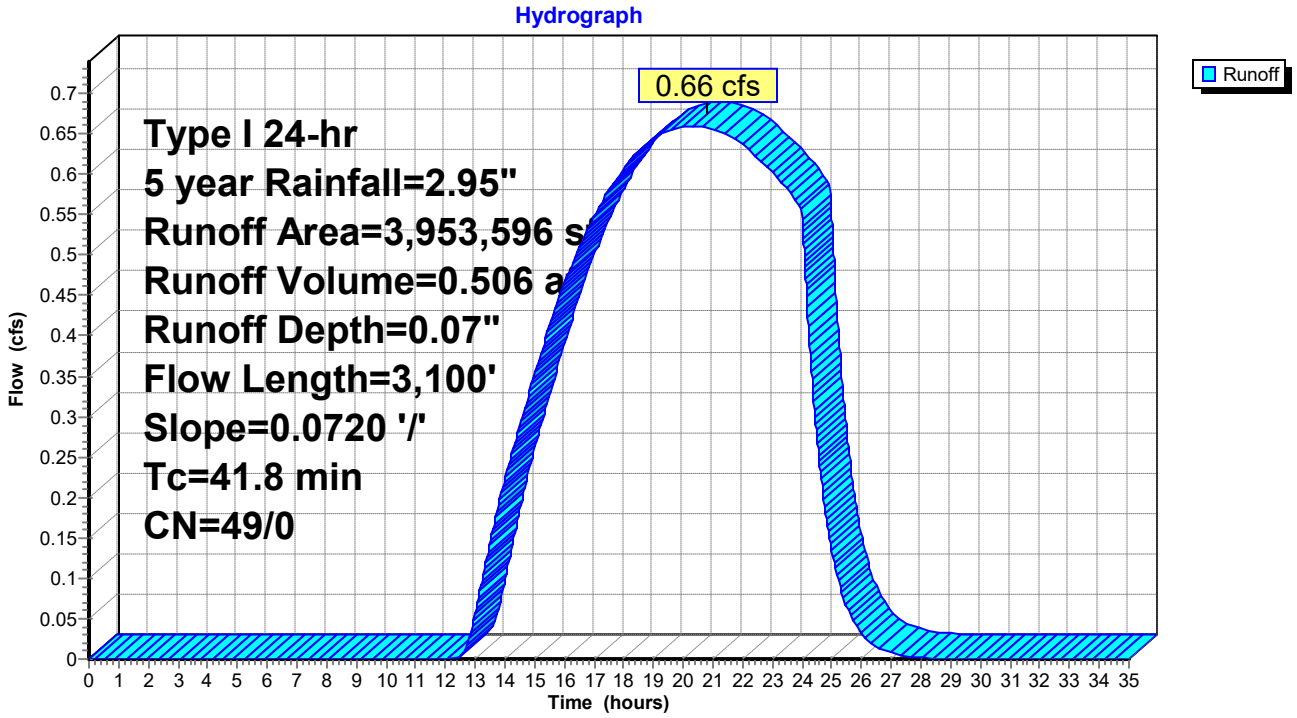
Runoff = 0.66 cfs @ 20.32 hrs, Volume= 0.506 af, Depth= 0.07"
Routed to Reach 12R : Collection Point 12

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	3,953,596	49	Brush and open space, see Attachment 3.
	3,953,596	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.4	1,900	0.0720	2.20		**Kirpich Method,** General overland flow k= 2.00
41.8	3,100	Total			

Subcatchment 12.1: Diverted Area 12



Summary for Subcatchment 12.2: Developed Area 12.1

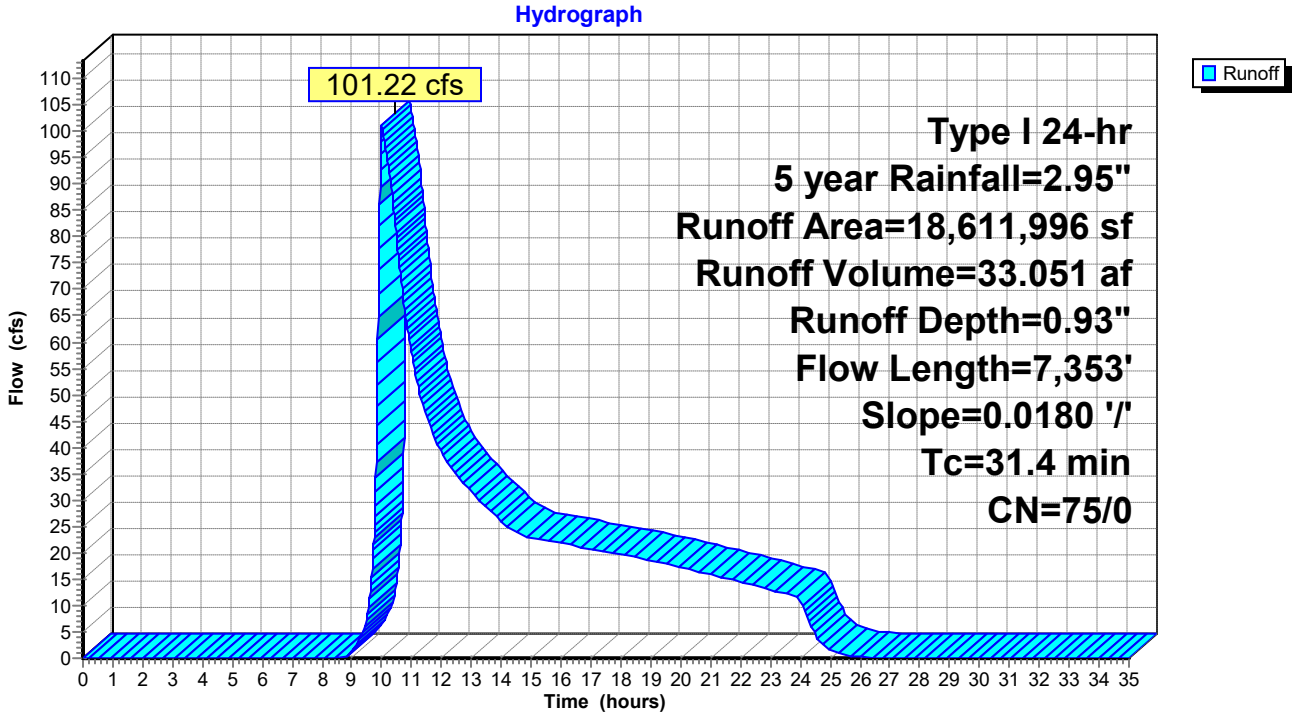
Runoff = 101.22 cfs @ 10.00 hrs, Volume= 33.051 af, Depth= 0.93"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	16,306,782	74	Composite CN, see Attachment 3
*	1,897,057	83	Paved; Open ditches (including right-of-way), HSG A
*	146,424	92	Paved; Open ditches (including right-of-way), HSG C
*	261,733	93	Paved; Open ditches (including right-of-way), HSG D
	18,611,996	75	Weighted Average
	18,611,996	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
9.3	1,200	0.0180	2.14		**Kerby Method,** Smooth impervious N= 0.02
12.1	6,153	0.0180	8.46		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
31.4	7,353	Total			

Subcatchment 12.2: Developed Area 12.1



Summary for Subcatchment 12.3: Diverted Area 12.3

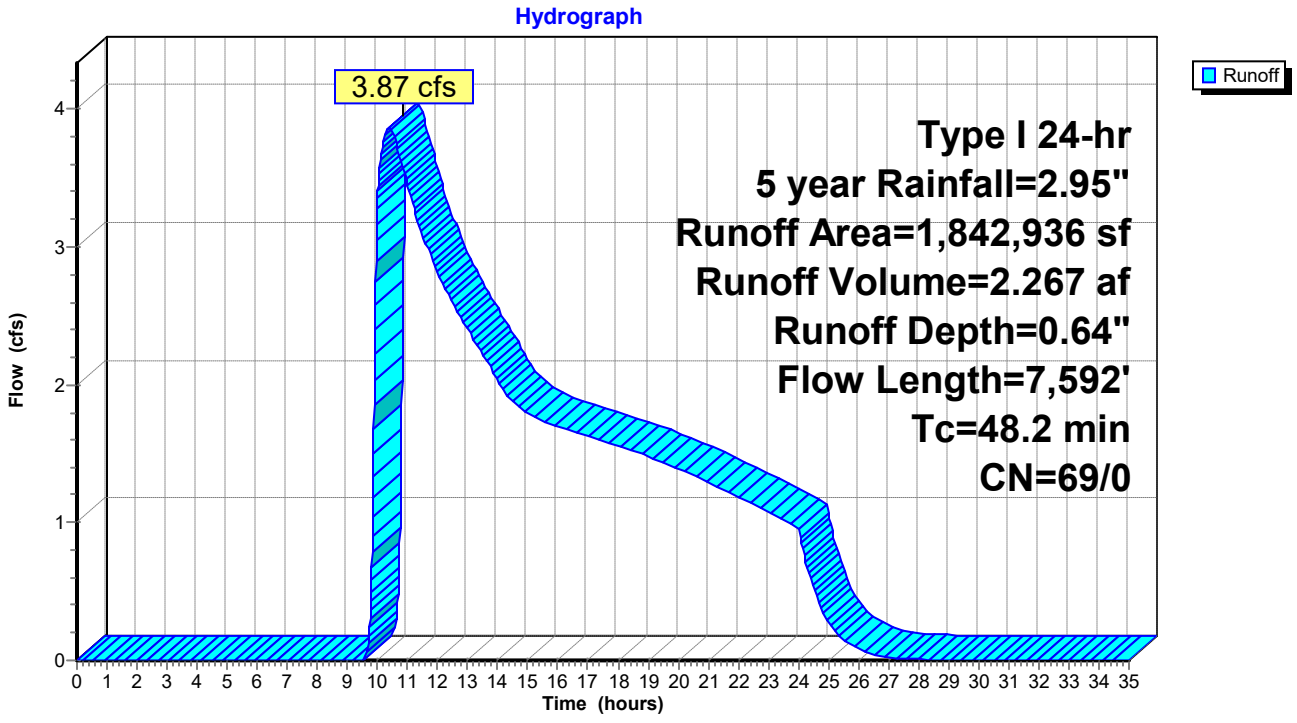
Runoff = 3.87 cfs @ 10.39 hrs, Volume= 2.267 af, Depth= 0.64"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,842,936	69	Brush and open space, see Attachment 3.
	1,842,936	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.5	1,915	0.0720	2.21		**Kirpich Method,** General overland flow k= 2.00
6.3	4,477	0.0270	11.83	37.17	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
48.2	7,592	Total			

Subcatchment 12.3: Diverted Area 12.3



Summary for Subcatchment 12.4: Diverted Area 12.4

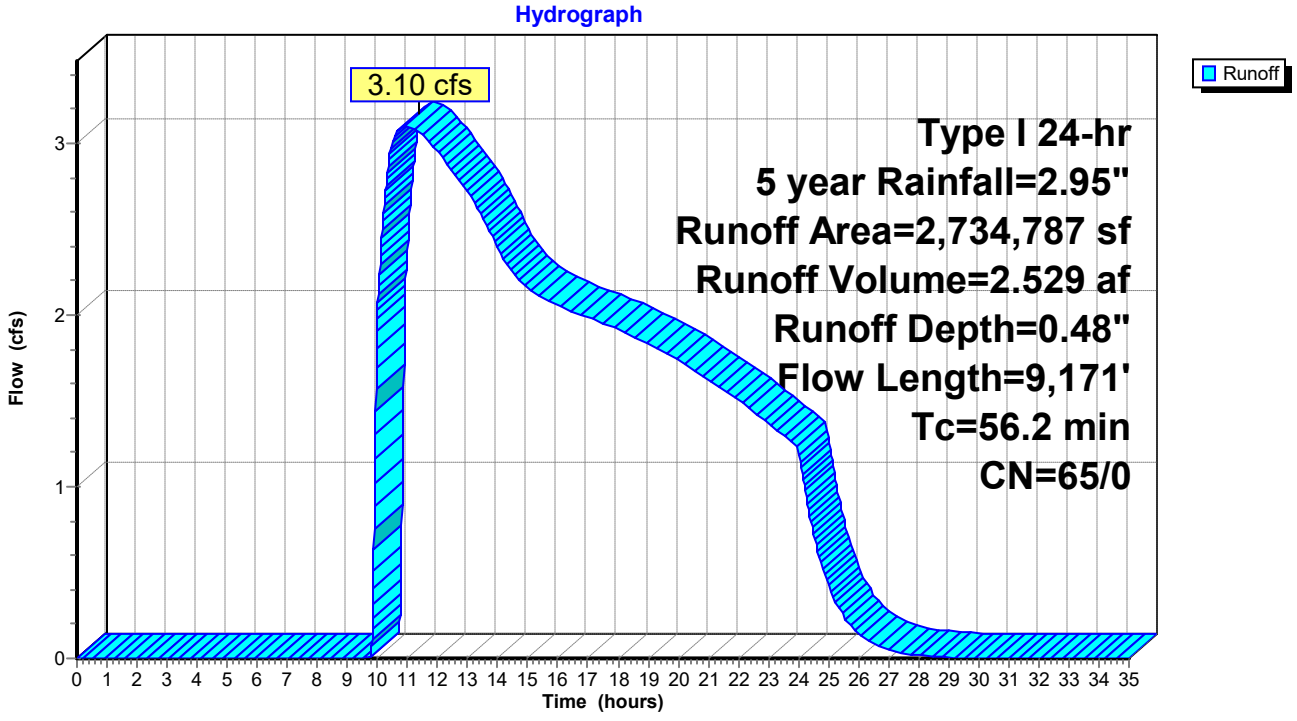
Runoff = 3.10 cfs @ 10.91 hrs, Volume= 2.529 af, Depth= 0.48"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	2,734,787	65	Brush and open space, See Attachment 3
	2,734,787	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
18.1	2,421	0.0640	2.23		**Kirpich Method,** General overland flow k= 2.00
9.9	5,550	0.0200	9.32	22.41	**Pipe Channel,** 21.0" Round Area= 2.4 sf Perim= 5.5' r= 0.44' n= 0.013
56.2	9,171	Total			

Subcatchment 12.4: Diverted Area 12.4



Summary for Subcatchment 13.1: Diverted Area 13

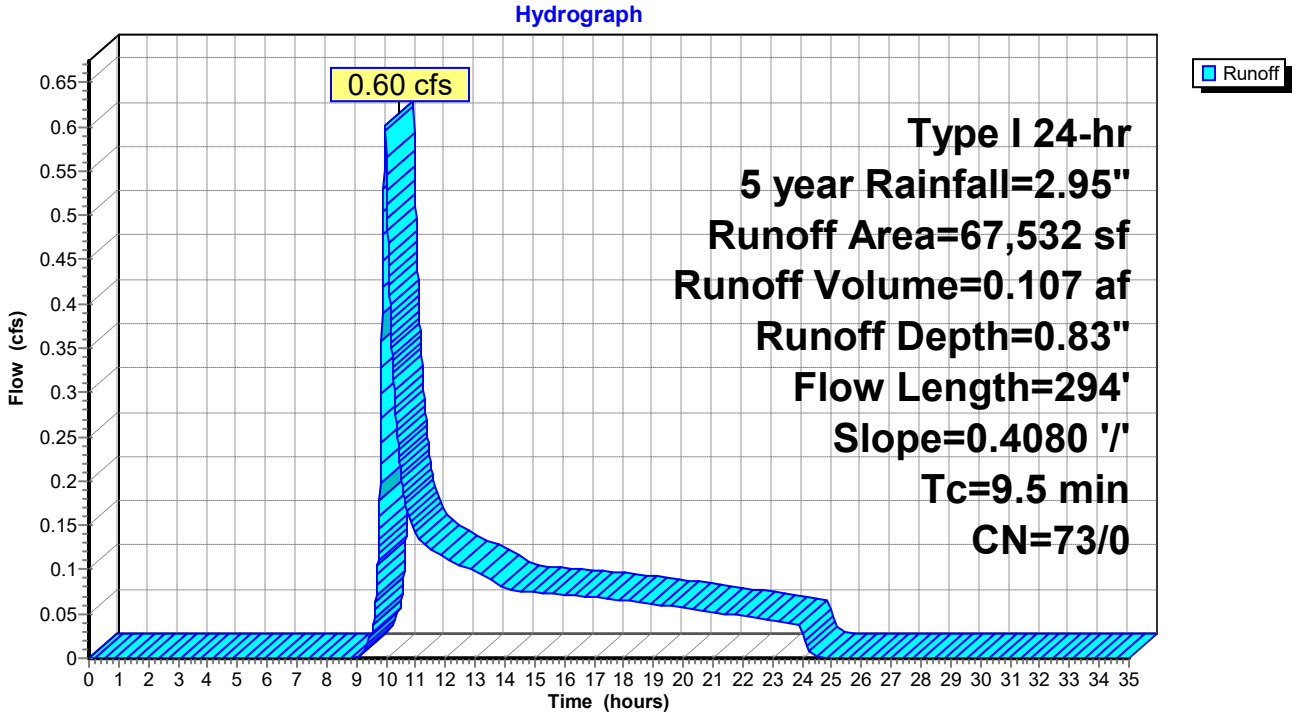
Runoff = 0.60 cfs @ 9.97 hrs, Volume= 0.107 af, Depth= 0.83"
Routed to Reach 13R : Collection Point 13

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	67,532	73	Brush and open space, see Attachment 3.
	67,532	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13.1: Diverted Area 13



Summary for Subcatchment 14.1: Diverted Area 14

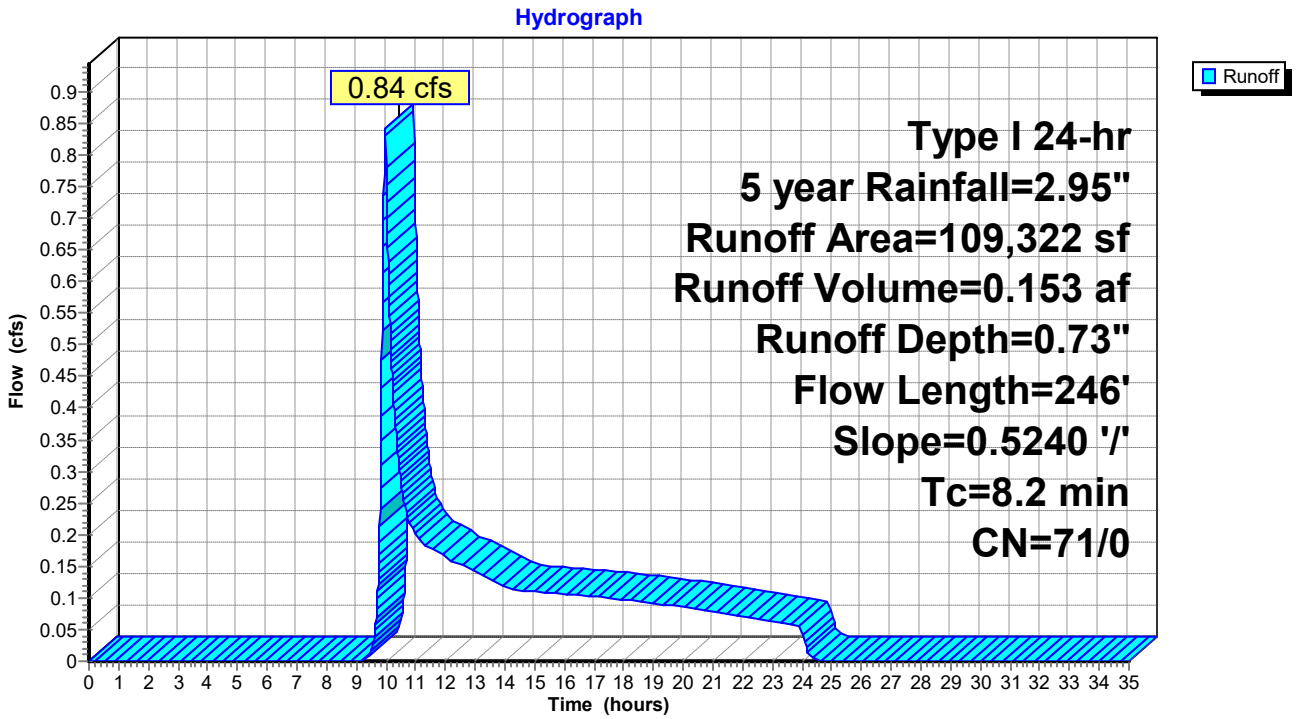
Runoff = 0.84 cfs @ 9.97 hrs, Volume= 0.153 af, Depth= 0.73"
Routed to Reach 14R : Collection Point 14

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	109,322	71	Brush and open space, see Attachment 3.
	109,322	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14.1: Diverted Area 14



Summary for Subcatchment 15.1: Diverted Area 15

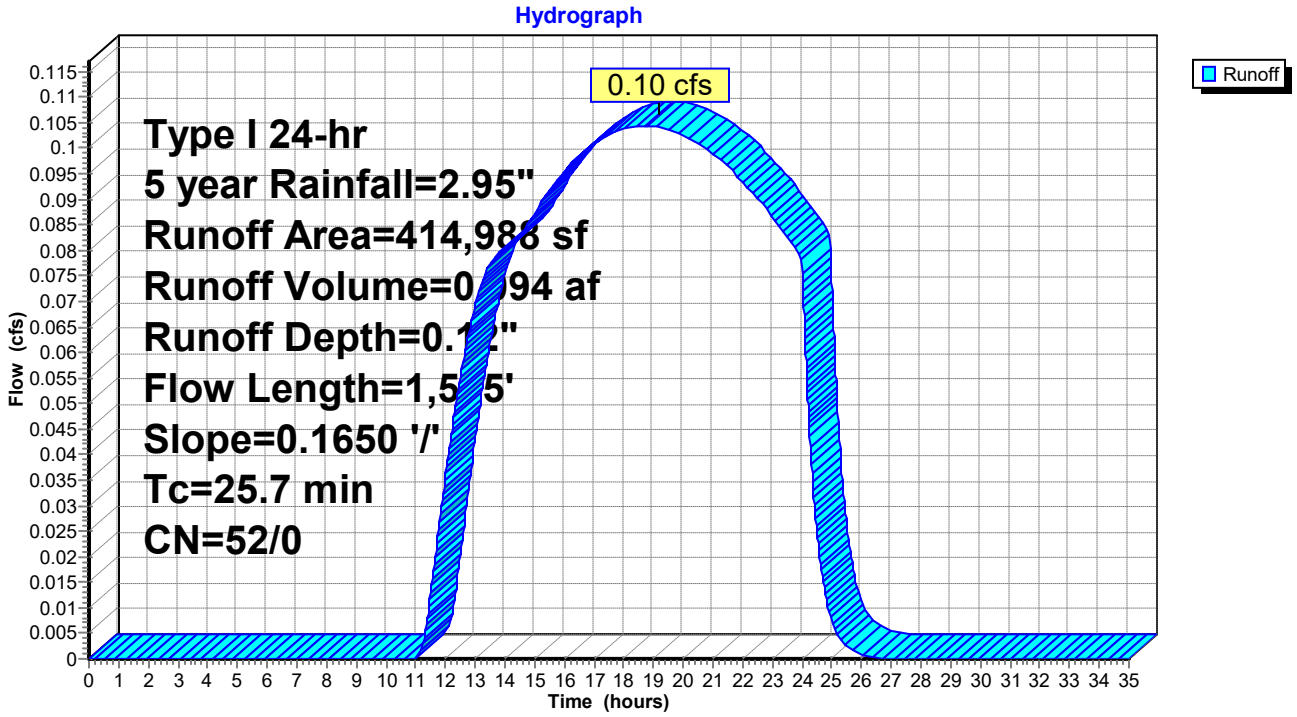
Runoff = 0.10 cfs @ 18.68 hrs, Volume= 0.094 af, Depth= 0.12"
Routed to Reach 15R : Collection Point 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	410,790	52	Composite CN, see Attachment 3.
*	4,198	83	Paved; Open ditches (including right-of-way), HSG A
	414,988	52	Weighted Average
	414,988	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	1,200	0.1650	0.89		**Kerby Method,** Pasture, average grass N= 0.40
3.1	385	0.1650	2.10		**Kirpich Method,** General overland flow k= 2.00
25.7	1,585	Total			

Subcatchment 15.1: Diverted Area 15



Summary for Subcatchment 15.2: Developed Area 15

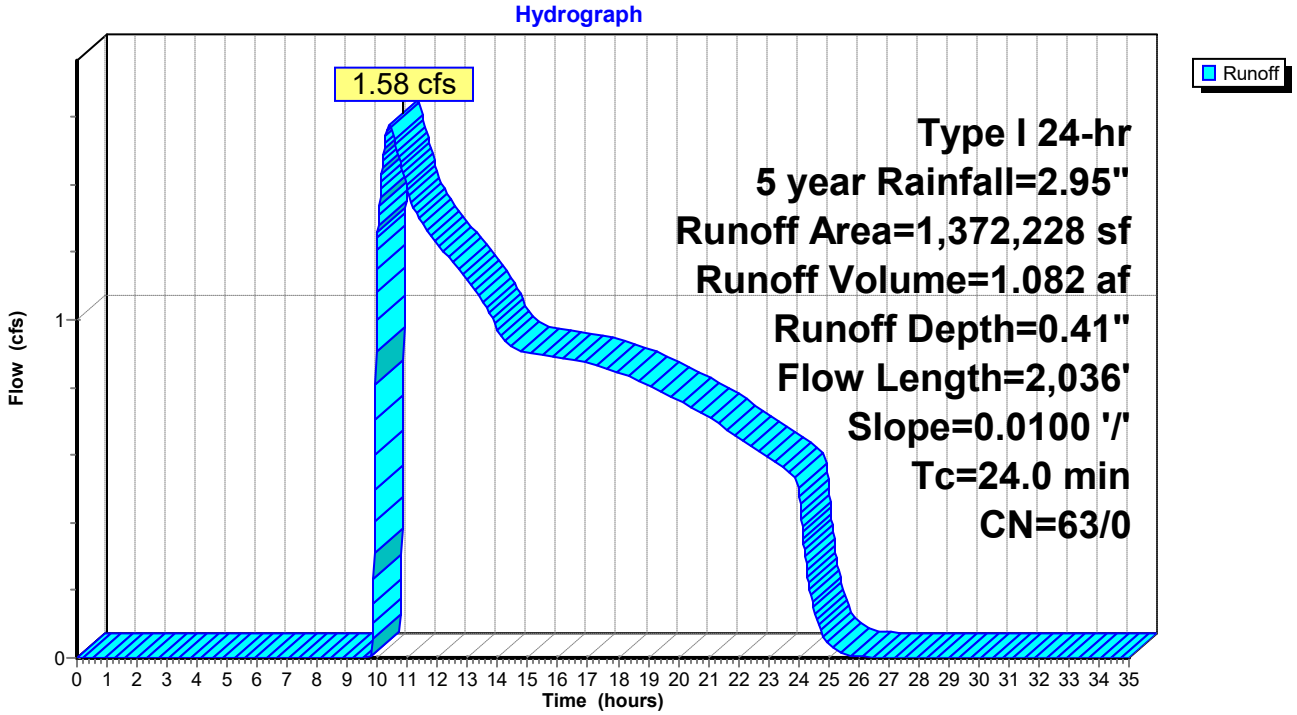
Runoff = 1.58 cfs @ 10.41 hrs, Volume= 1.082 af, Depth= 0.41"
Routed to Pond D15 : Detention Pond 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,102,421	58	Composite CN, see Attachment 3.
*	224,863	83	Paved; Open ditches (including right-of-way), HSG A
*	44,944	93	Paved; Open ditches (including right-of-way), HSG D
	1,372,228	63	Weighted Average
	1,372,228	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
10.7	1,200	0.0100	1.87		**Kerby Method,** Smooth impervious N= 0.02
3.3	836	0.0100	4.26		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
24.0	2,036	Total			

Subcatchment 15.2: Developed Area 15



Summary for Subcatchment 16.1: Diverted Area 16

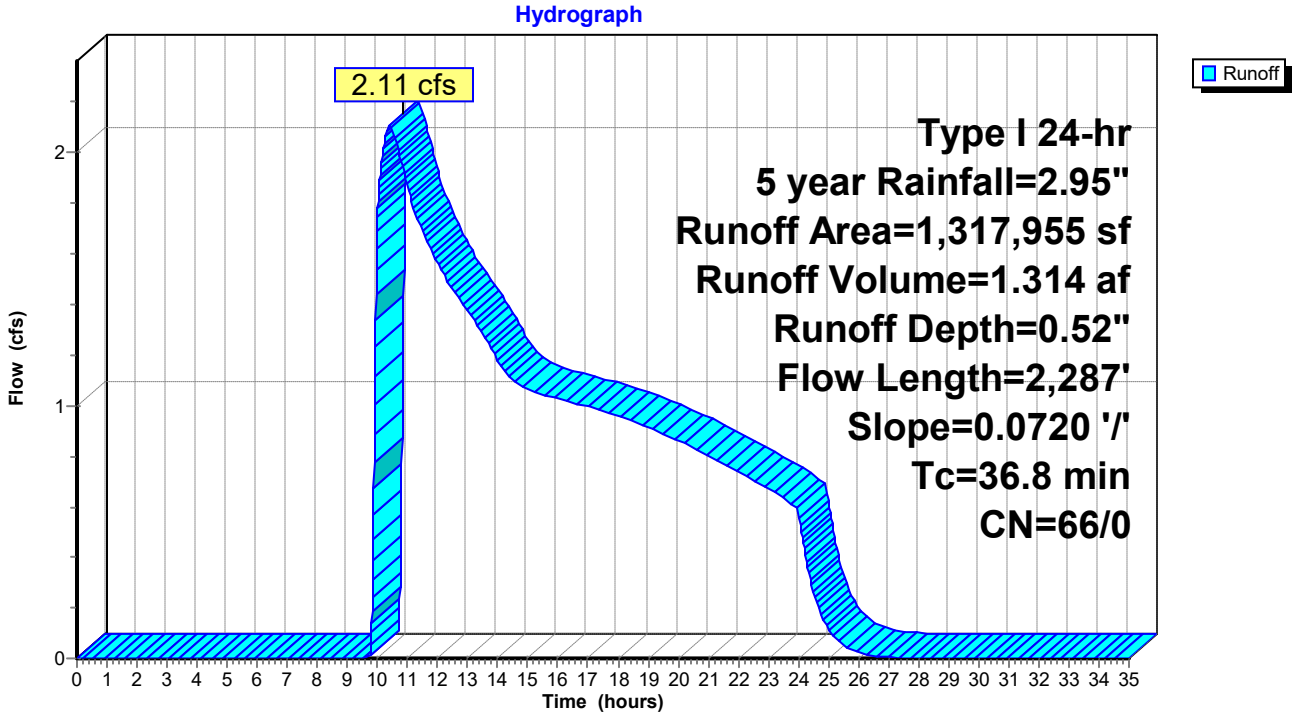
Runoff = 2.11 cfs @ 10.40 hrs, Volume= 1.314 af, Depth= 0.52"
Routed to Reach 16R : Collection Point 16

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,312,099	66	Brush and open space, see Attachment 3.
*	5,839	83	Paved; Open ditches (including right-of-way), HSG A
*	17	93	Paved; Open ditches (including right-of-way), HSG D
	1,317,955	66	Weighted Average
	1,317,955	66	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
9.4	1,087	0.0720	1.94		**Kirpich Method,** General overland flow k= 2.00
36.8	2,287	Total			

Subcatchment 16.1: Diverted Area 16



Summary for Subcatchment 16.2: Developed Area 16

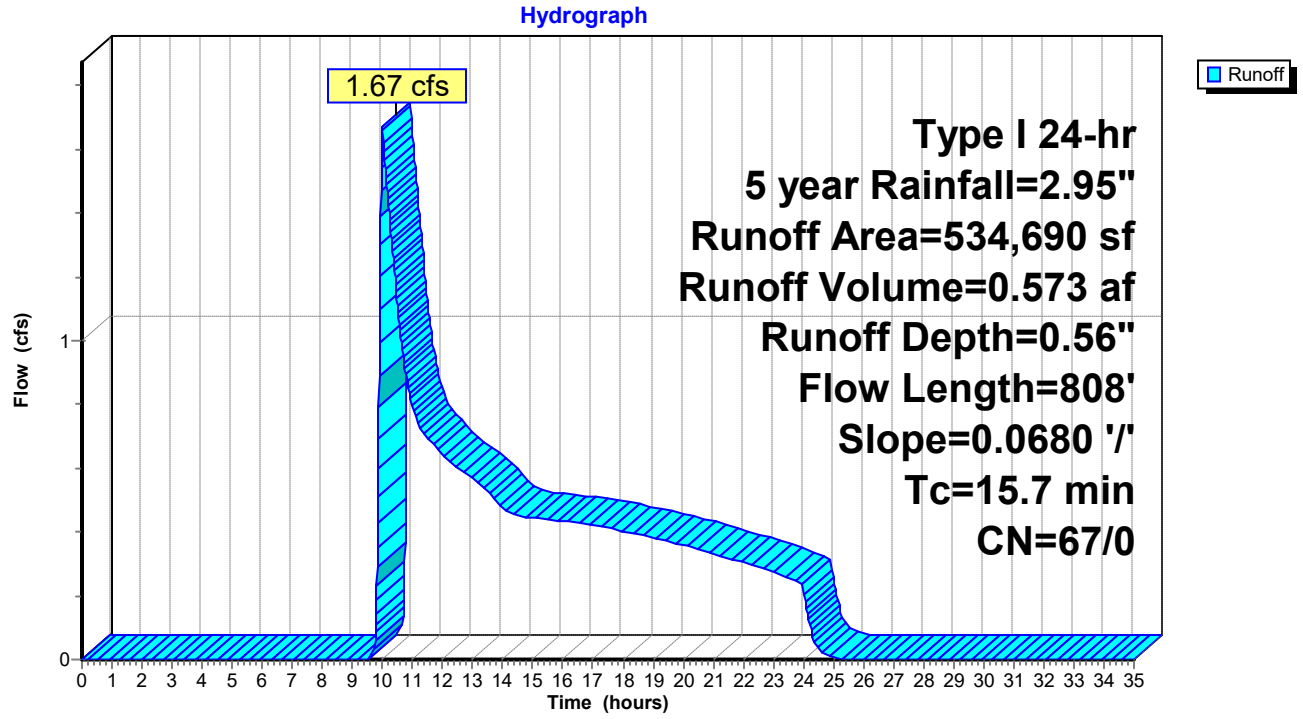
Runoff = 1.67 cfs @ 10.00 hrs, Volume= 0.573 af, Depth= 0.56"
Routed to Pond D16.2 : Detention Pond 16.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	534,690	67	Composite CN, see Attachment 3.
	534,690	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.7	808	0.0680	2.36		**Kerby Method,** Smooth impervious N= 0.02
15.7	808	Total			

Subcatchment 16.2: Developed Area 16



Summary for Subcatchment 16.3: Developed Area 16

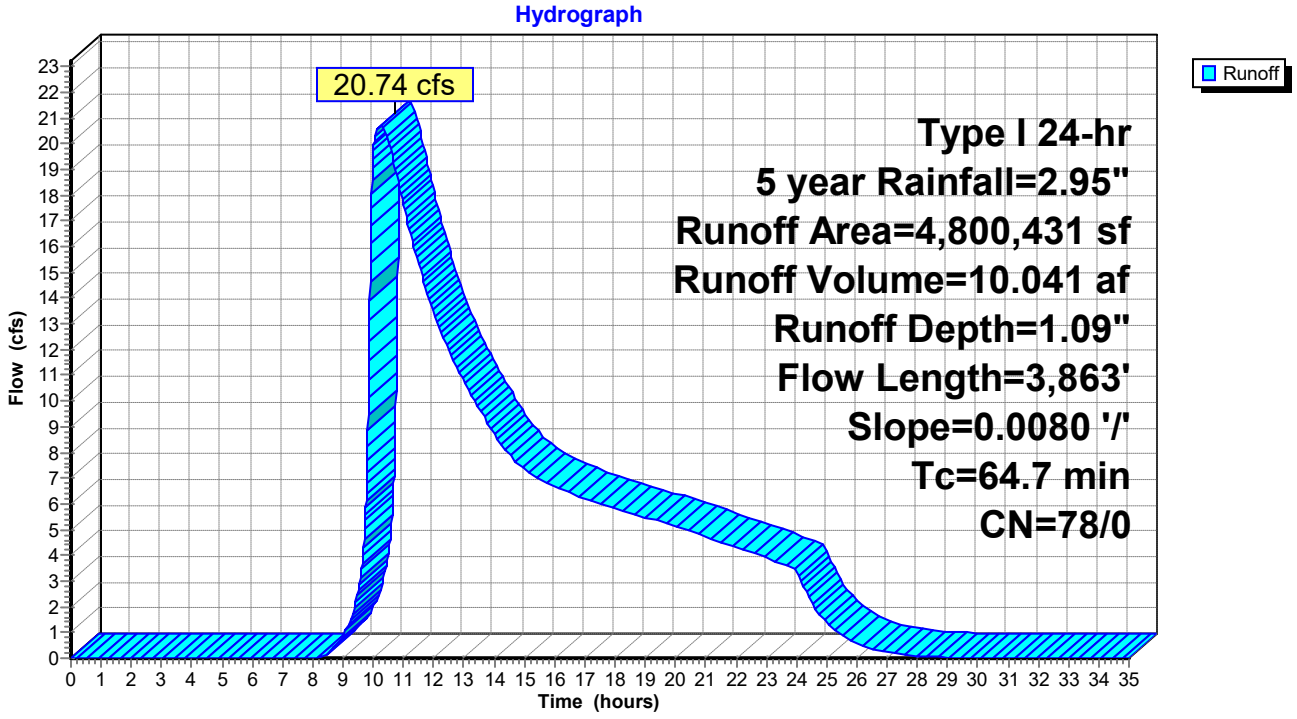
Runoff = 20.74 cfs @ 10.27 hrs, Volume= 10.041 af, Depth= 1.09"
Routed to Pond D16.3 : Detention Pond 16.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	4,430,615	77	Composite CN, see Attachment 3.
*	333,557	83	Paved; Open ditches (including right-of-way), HSG A
*	27,011	92	Paved; Open ditches (including right-of-way), HSG C
*	9,248	93	Paved; Open ditches (including right-of-way), HSG D
	4,800,431	78	Weighted Average
	4,800,431	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
11.3	1,200	0.0080	1.77		**Kerby Method,** Smooth impervious N= 0.02
43.4	2,663	0.0080	1.02		**Kirpich Method,** General overland flow k= 2.00
64.7	3,863	Total			

Subcatchment 16.3: Developed Area 16



Summary for Subcatchment 17.1: Diverted Area 17

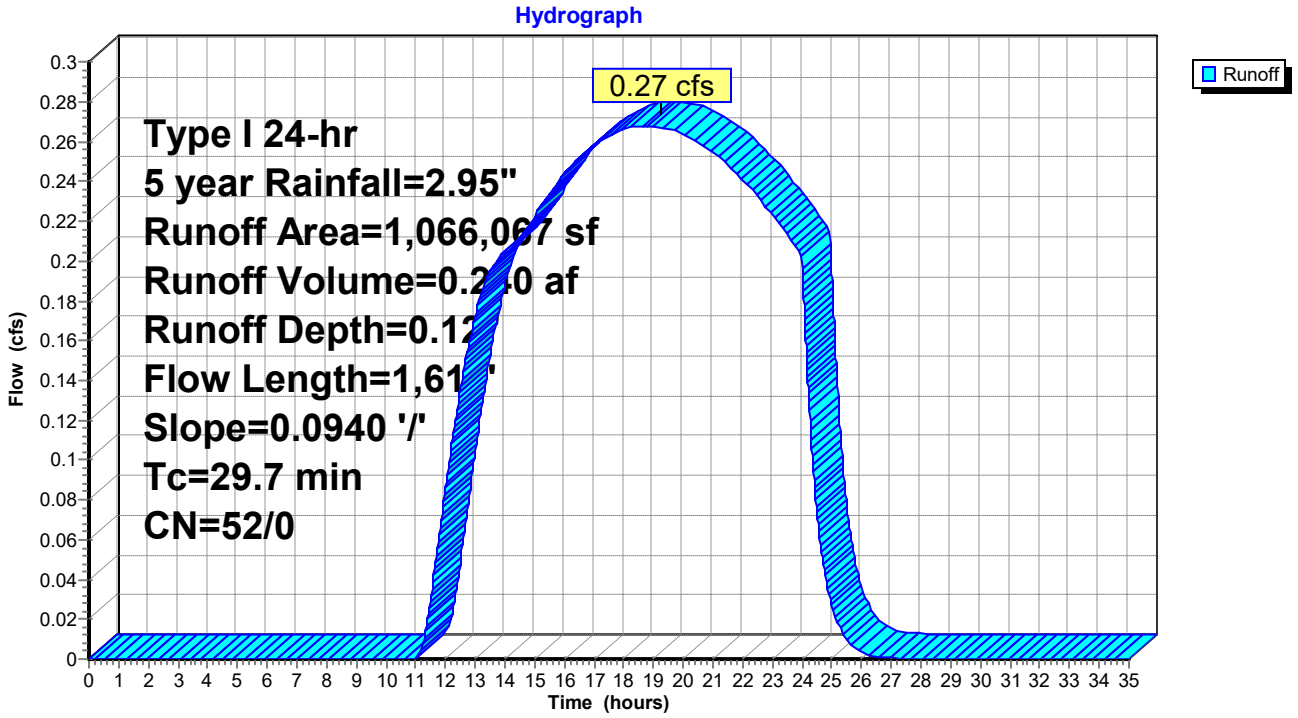
Runoff = 0.27 cfs @ 18.75 hrs, Volume= 0.240 af, Depth= 0.12"
Routed to Reach 17R : Collection Point 17

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,066,067	52	Brush and open space, see Attachment 3.
	1,066,067	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	1,200	0.0940	0.78		**Kerby Method,** Pasture, average grass N= 0.40
4.0	413	0.0940	1.72		**Kirpich Method,** General overland flow k= 2.00
29.7	1,613	Total			

Subcatchment 17.1: Diverted Area 17



Summary for Subcatchment 18.1: Diverted Area 18

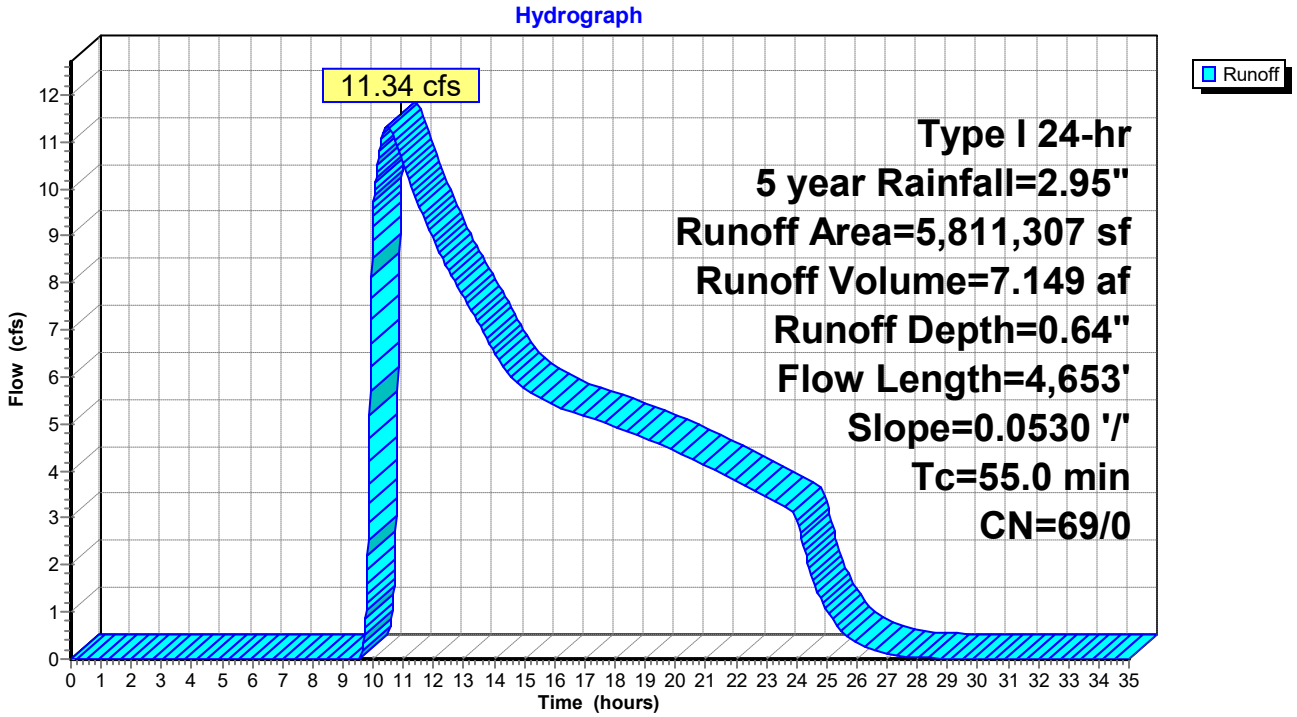
Runoff = 11.34 cfs @ 10.44 hrs, Volume= 7.149 af, Depth= 0.64"
Routed to Reach 18R : Collection Point 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	5,811,307	69	Brush and open space, see Attachment 3.
	5,811,307	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	1,200	0.0530	0.68		**Kerby Method,** Pasture, average grass N= 0.40
25.6	3,453	0.0530	2.25		**Kirpich Method,** General overland flow k= 2.00
55.0	4,653	Total			

Subcatchment 18.1: Diverted Area 18



Summary for Subcatchment 18.2: Developed Area 18

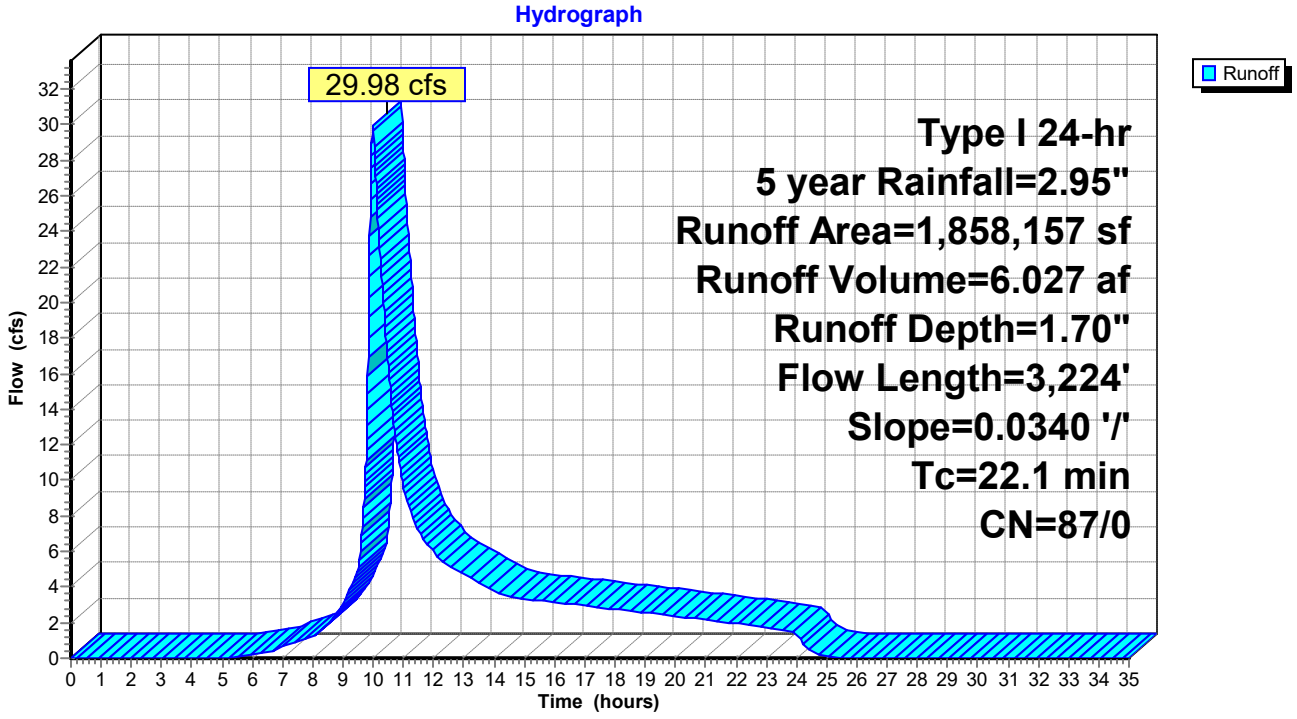
Runoff = 29.98 cfs @ 9.99 hrs, Volume= 6.027 af, Depth= 1.70"
Routed to Pond D18 : Detention Pond 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,667,674	87	Composite CN, see Attachment 3.
*	40,054	83	Paved; Open ditches (including right-of-way), HSG A
*	50,899	92	Paved; Open ditches (including right-of-way), HSG C
*	99,530	93	Paved; Open ditches (including right-of-way), HSG D
	1,858,157	87	Weighted Average
	1,858,157	87	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.1	1,200	0.0340	2.48		**Kerby Method,** Smooth impervious N= 0.02
4.0	2,024	0.0340	8.37		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
22.1	3,224	Total			

Subcatchment 18.2: Developed Area 18



Summary for Subcatchment 19.1: Diverted Area 19

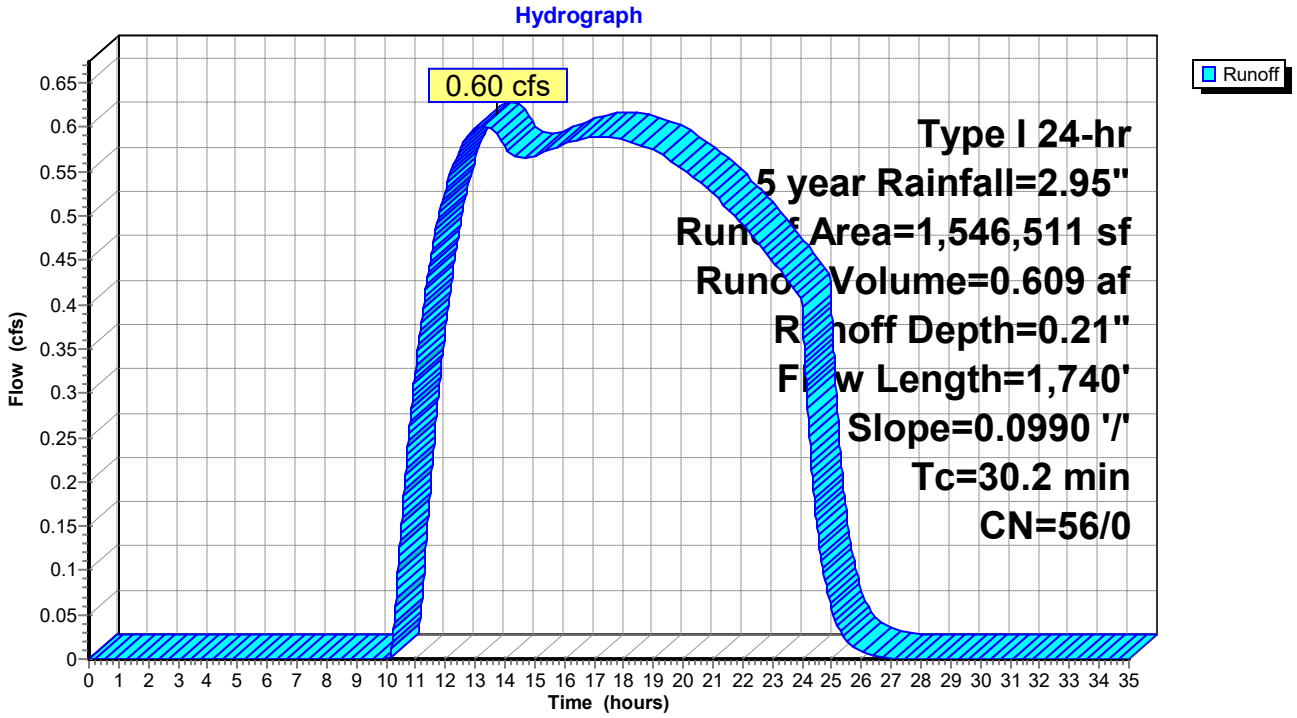
Runoff = 0.60 cfs @ 13.25 hrs, Volume= 0.609 af, Depth= 0.21"
Routed to Reach 19R : Collection Point 19

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,546,511	56	Existing brush, see Attachment 3.
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19.1: Diverted Area 19



Summary for Subcatchment 20.1: Diverted Area 20

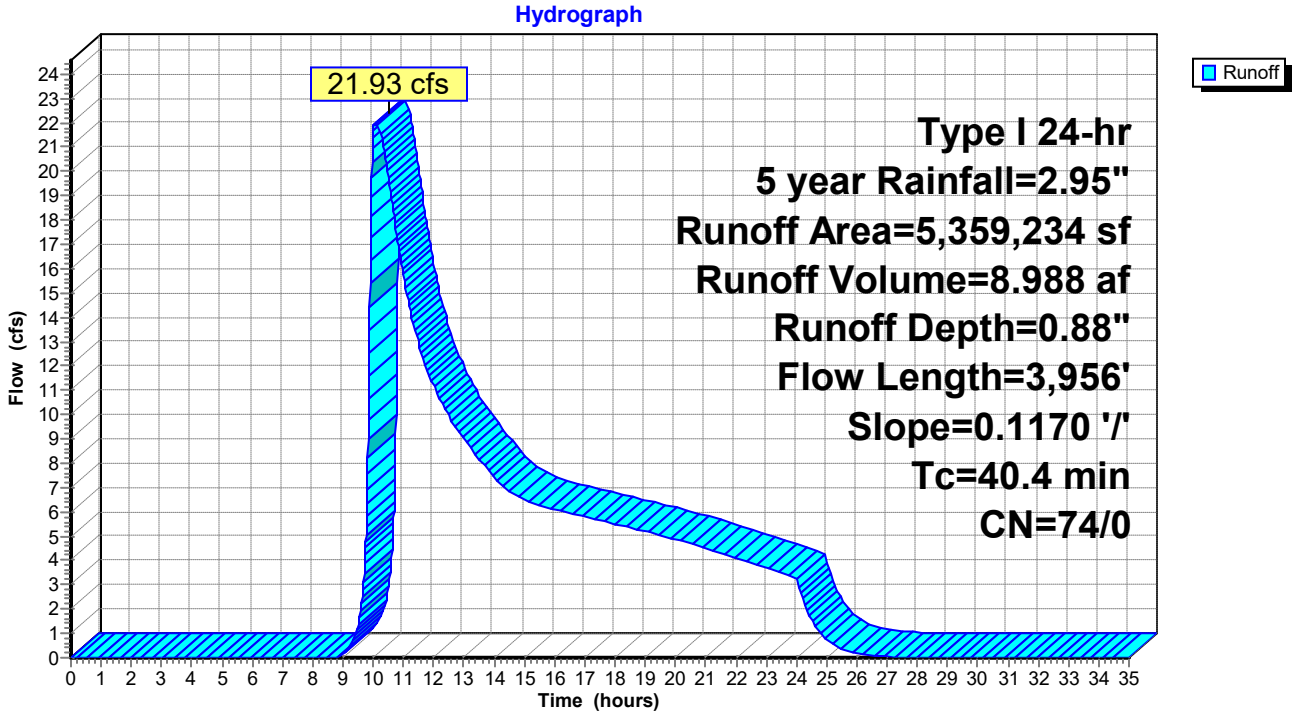
Runoff = 21.93 cfs @ 10.06 hrs, Volume= 8.988 af, Depth= 0.88"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	2,979,788	77	Brush, Poor, HSG C
*	1,500,408	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,359,234	74	Weighted Average
	5,359,234	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

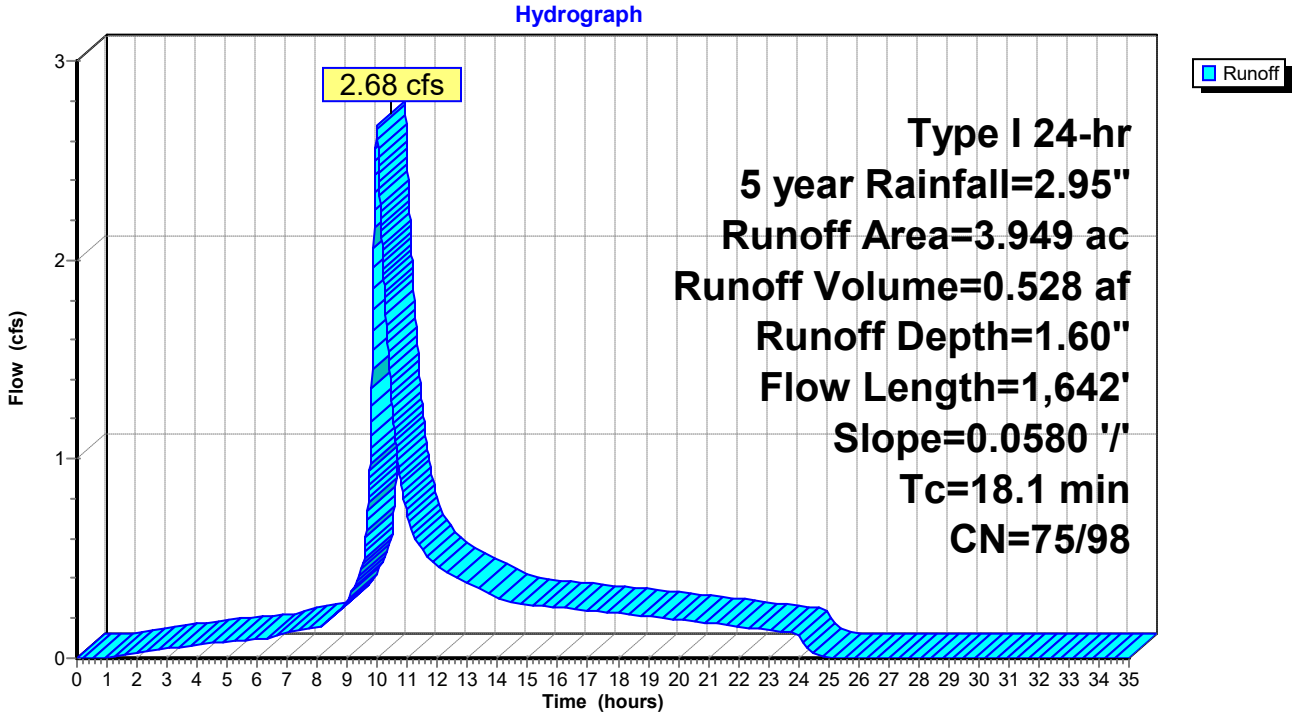
Runoff = 2.68 cfs @ 9.98 hrs, Volume= 0.528 af, Depth= 1.60"
Routed to Pond D20.2 : Detention Basin 20.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (ac)	CN	Description
*	2.225	74	Open Space, Good, HSG C
*	0.235	87	Pavers/DG, Good, HSG C
*	1.489	98	Hardscape
	3.949	84	Weighted Average
	2.460	75	62.29% Pervious Area
	1.489	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

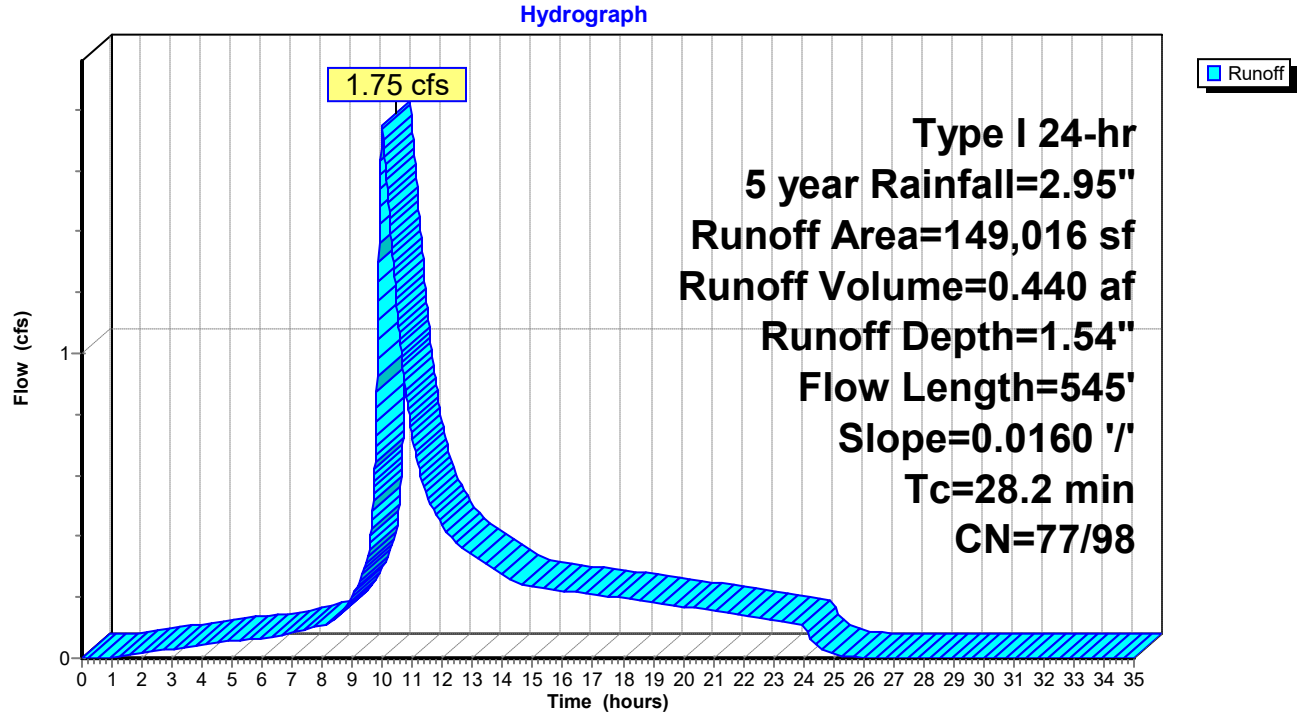
Runoff = 1.75 cfs @ 9.99 hrs, Volume= 0.440 af, Depth= 1.54"
Routed to Pond D20.3 : Detention Pond 20.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

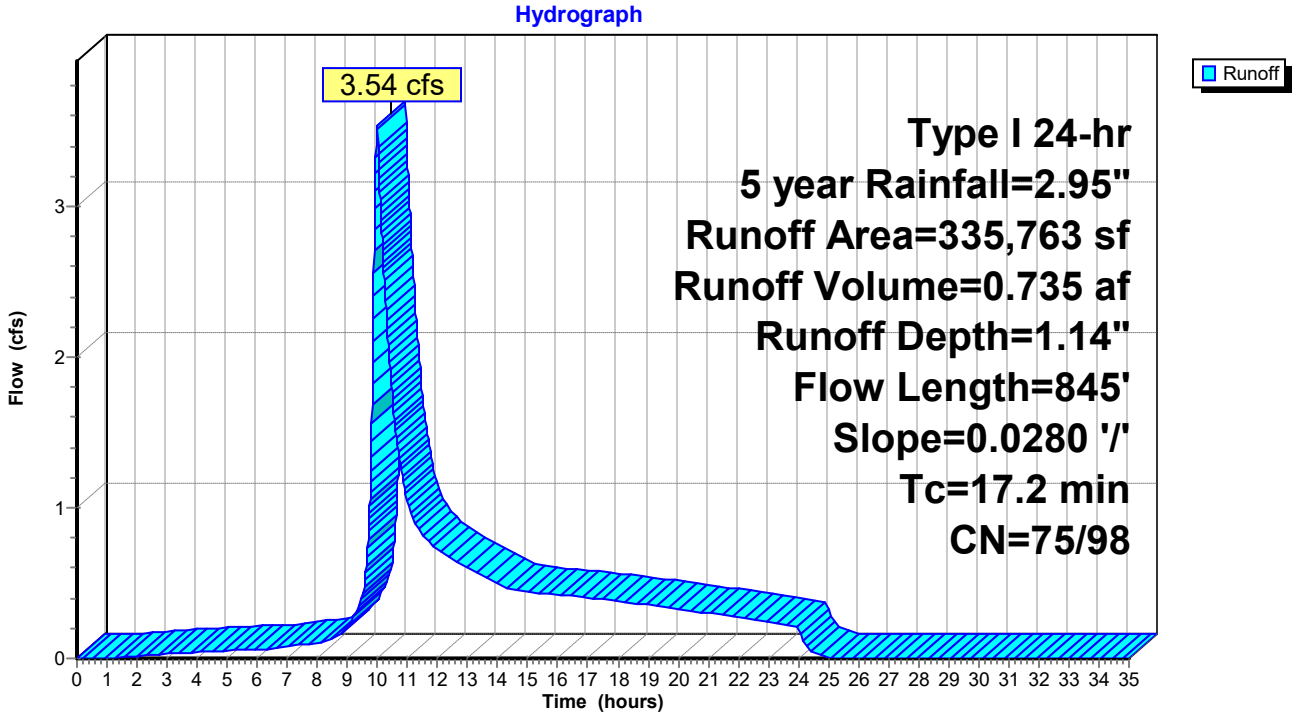
Runoff = 3.54 cfs @ 9.98 hrs, Volume= 0.735 af, Depth= 1.14"
Routed to Pond D20.4 : Detention Pond 20.4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



Summary for Subcatchment 21.1: Diverted Area 21

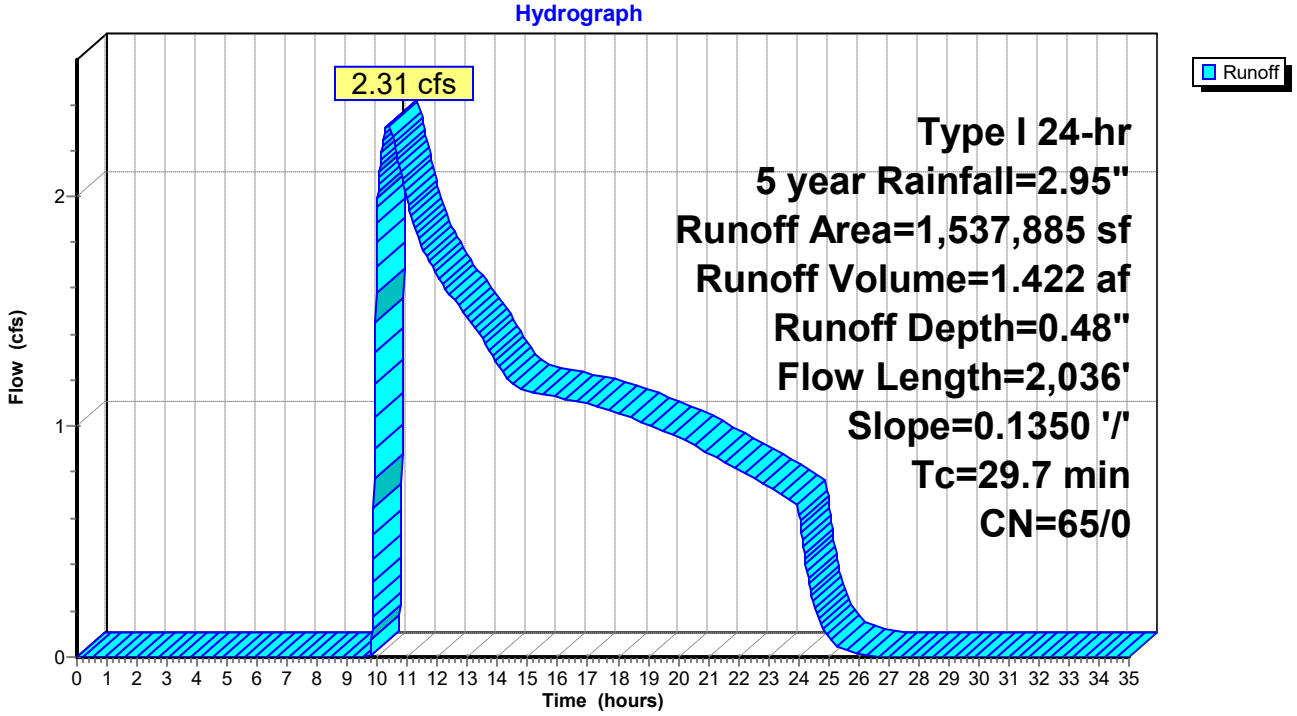
Runoff = 2.31 cfs @ 10.37 hrs, Volume= 1.422 af, Depth= 0.48"
Routed to Reach 21R : Collection Point 21

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	1,537,885	65	Existing brush, see Attachment 3.
	1,537,885	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21.1: Diverted Area 21



Summary for Subcatchment 22.1: Diverted Area 22

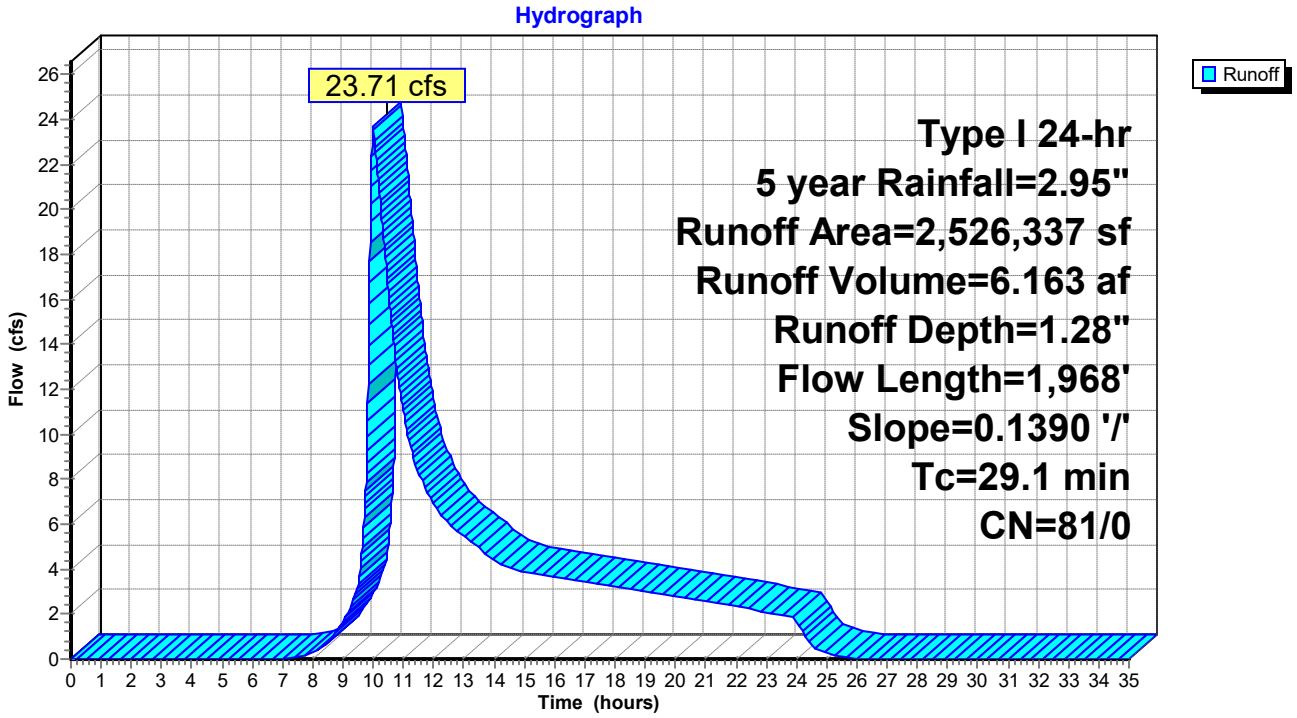
Runoff = 23.71 cfs @ 10.00 hrs, Volume= 6.163 af, Depth= 1.28"
Routed to Reach 22R : Collection Point 22

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 5 year Rainfall=2.95"

	Area (sf)	CN	Description
*	2,526,337	81	Existing brush, see Attachment 3.
	2,526,337	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22.1: Diverted Area 22



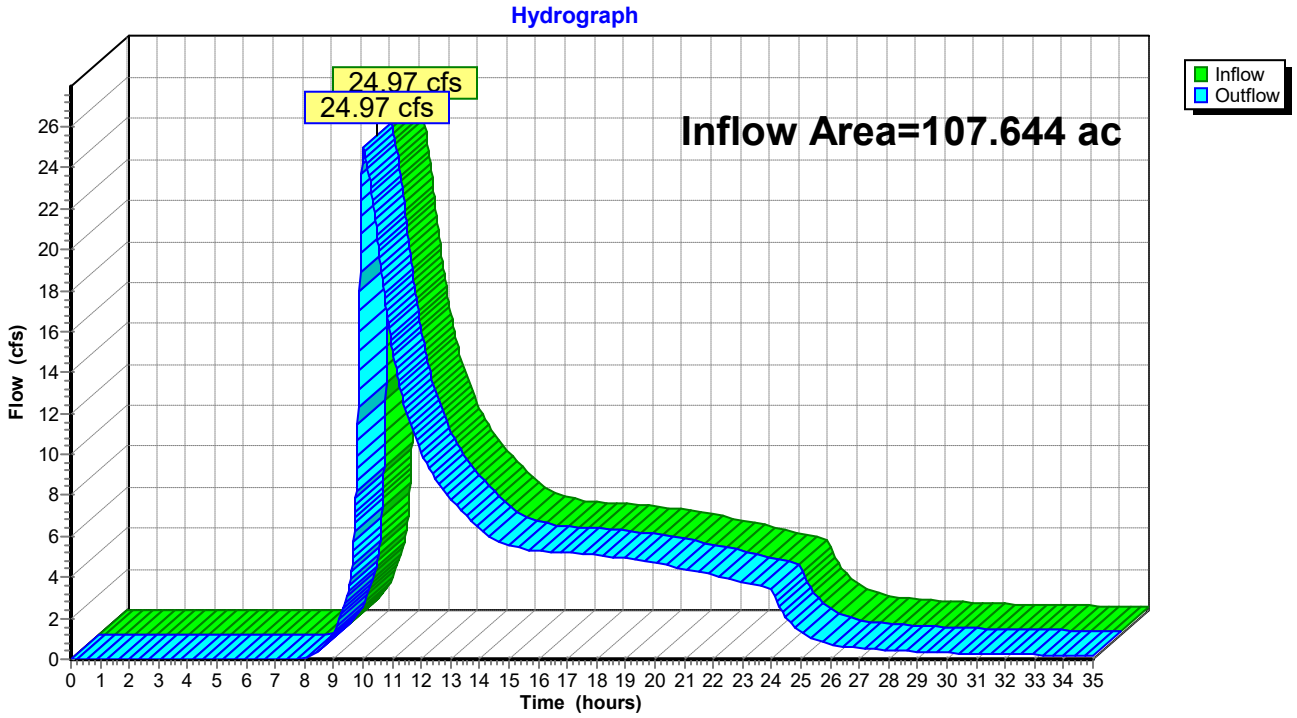
Summary for Reach 1R: Collection Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 107.644 ac, 0.00% Impervious, Inflow Depth > 1.01" for 5 year event
Inflow = 24.97 cfs @ 10.00 hrs, Volume= 9.055 af
Outflow = 24.97 cfs @ 10.00 hrs, Volume= 9.055 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 1R: Collection Point 1



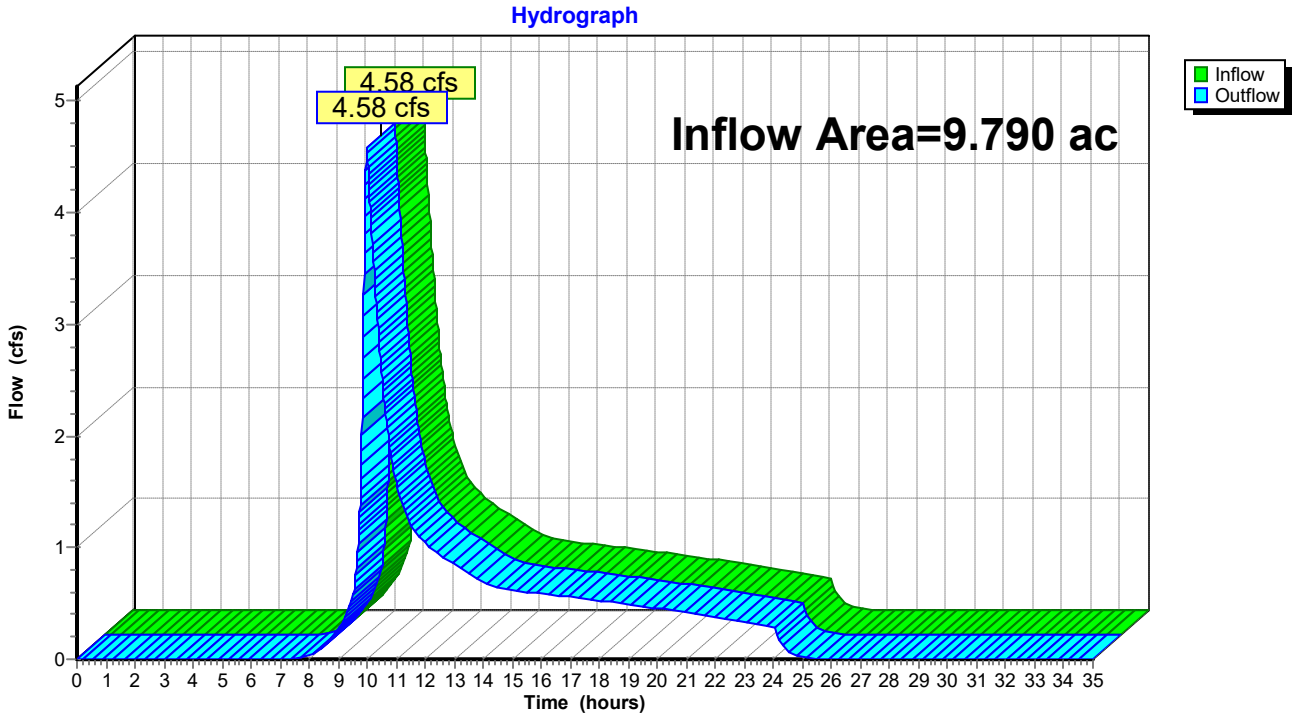
Summary for Reach 2R: Collection Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 9.790 ac, 0.00% Impervious, Inflow Depth = 1.21" for 5 year event
Inflow = 4.58 cfs @ 9.99 hrs, Volume= 0.989 af
Outflow = 4.58 cfs @ 9.99 hrs, Volume= 0.989 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 2R: Collection Point 2



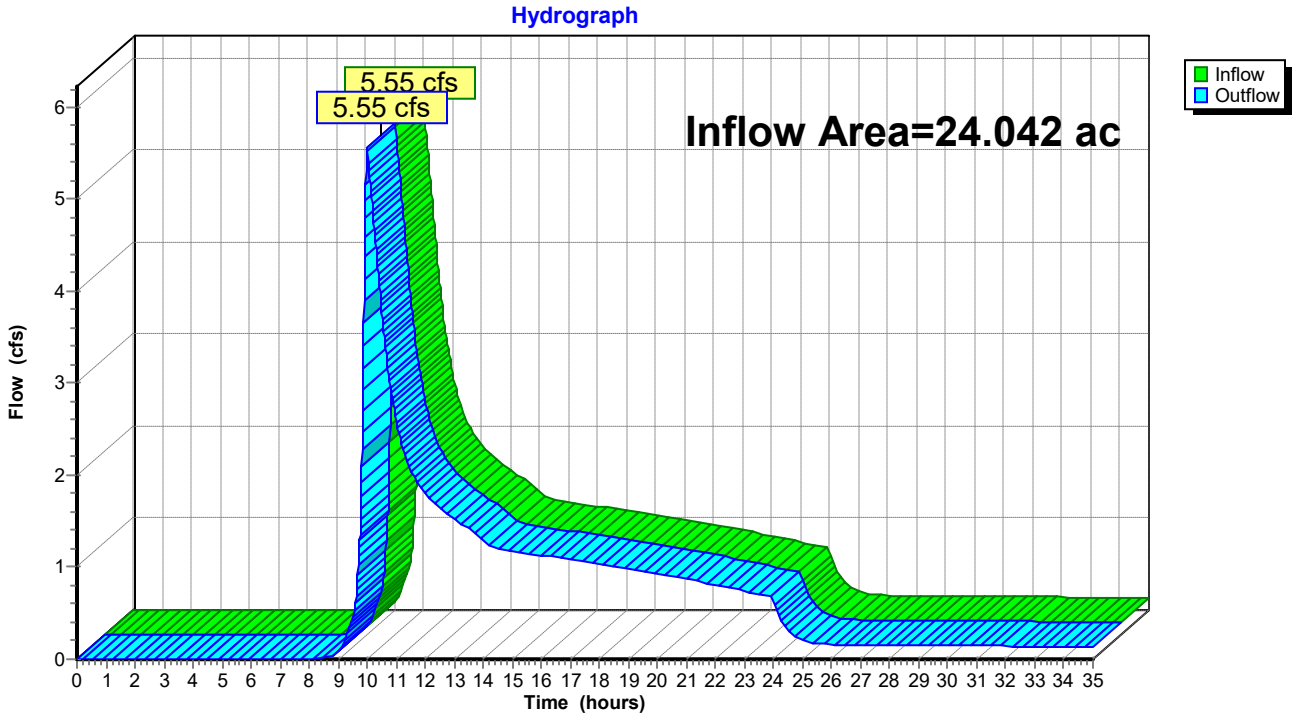
Summary for Reach 3R: Collection Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.042 ac, 0.00% Impervious, Inflow Depth > 0.90" for 5 year event
Inflow = 5.55 cfs @ 10.00 hrs, Volume= 1.804 af
Outflow = 5.55 cfs @ 10.00 hrs, Volume= 1.804 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 3R: Collection Point 3



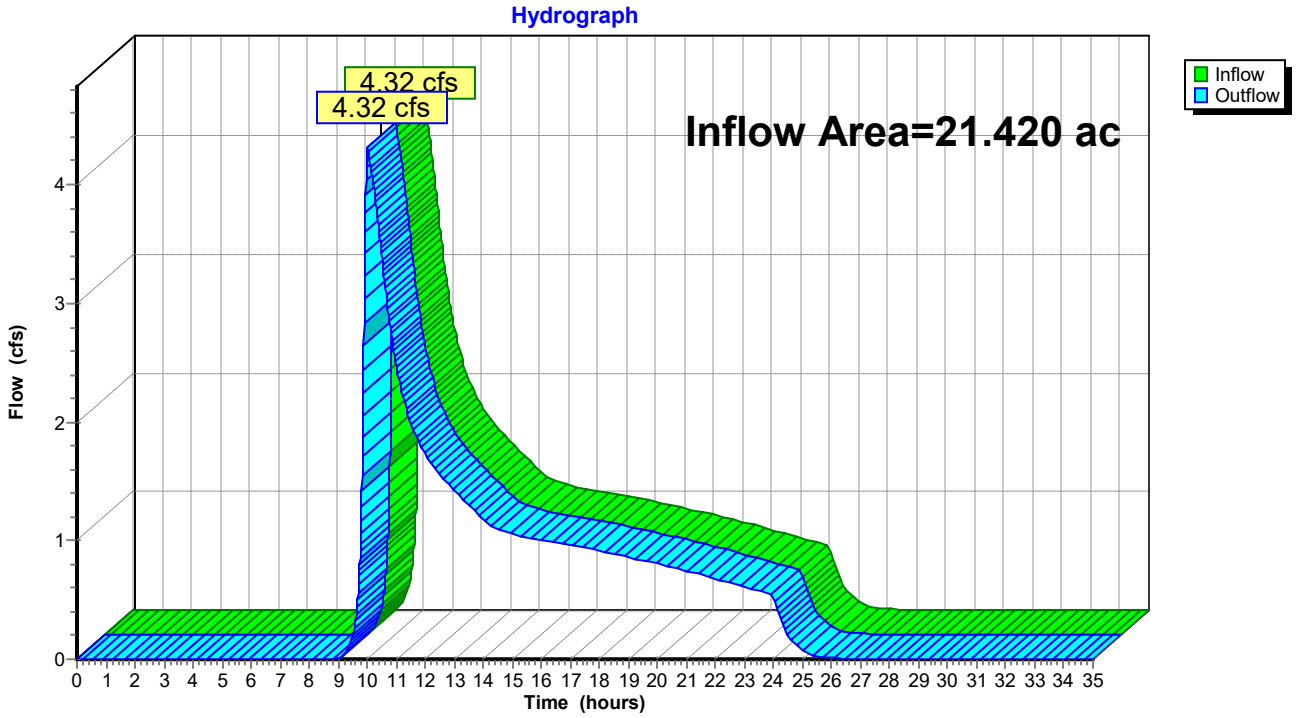
Summary for Reach 4R: Collection Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 21.420 ac, 0.00% Impervious, Inflow Depth = 0.83" for 5 year event
Inflow = 4.32 cfs @ 10.00 hrs, Volume= 1.476 af
Outflow = 4.32 cfs @ 10.00 hrs, Volume= 1.476 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 4R: Collection Point 4



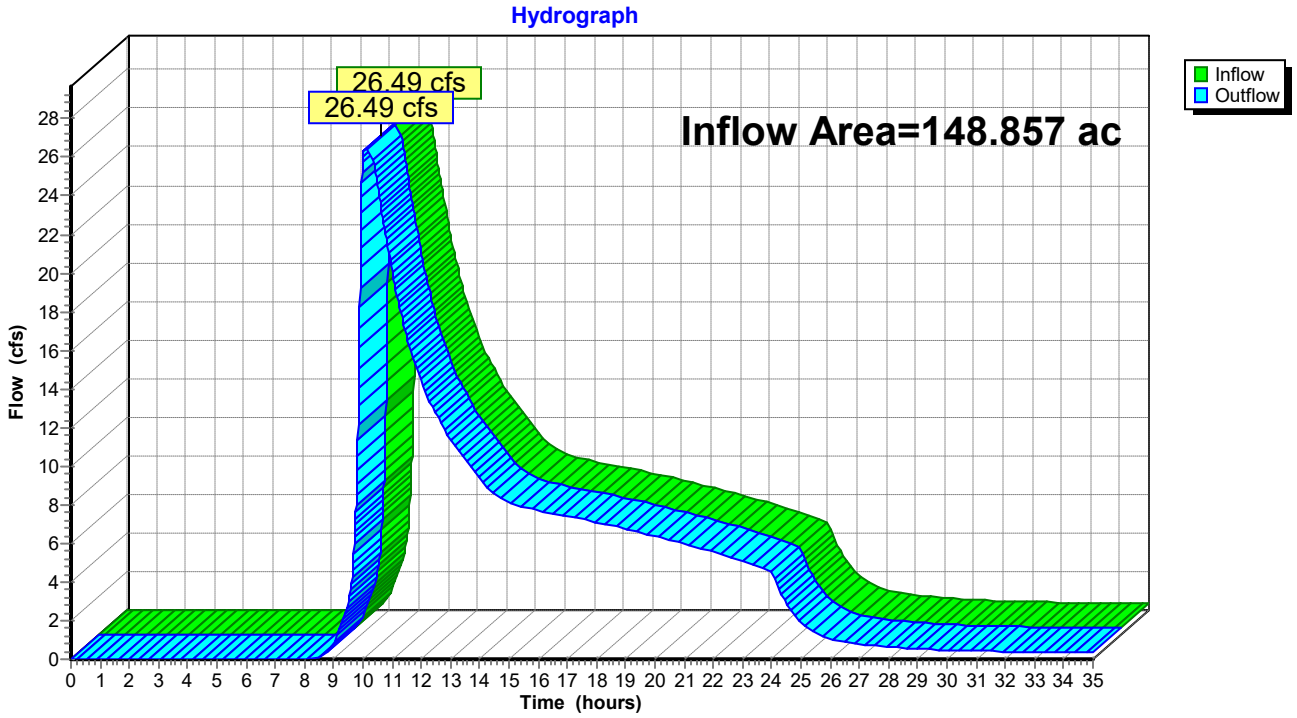
Summary for Reach 5R: Collection Point 5

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 148.857 ac, 0.00% Impervious, Inflow Depth > 0.98" for 5 year event
Inflow = 26.49 cfs @ 10.12 hrs, Volume= 12.115 af
Outflow = 26.49 cfs @ 10.12 hrs, Volume= 12.115 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 5R: Collection Point 5



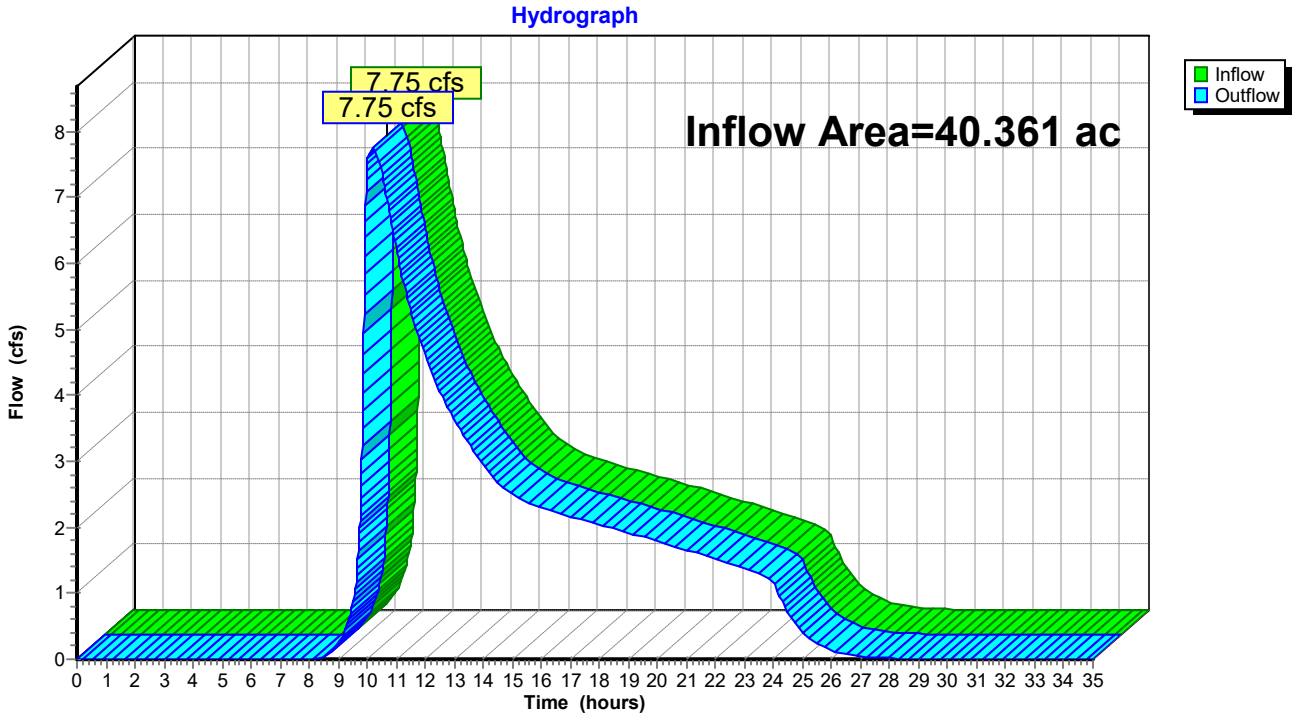
Summary for Reach 6R: Collection Point 6

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 40.361 ac, 0.00% Impervious, Inflow Depth = 1.04" for 5 year event
Inflow = 7.75 cfs @ 10.20 hrs, Volume= 3.486 af
Outflow = 7.75 cfs @ 10.20 hrs, Volume= 3.486 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 6R: Collection Point 6



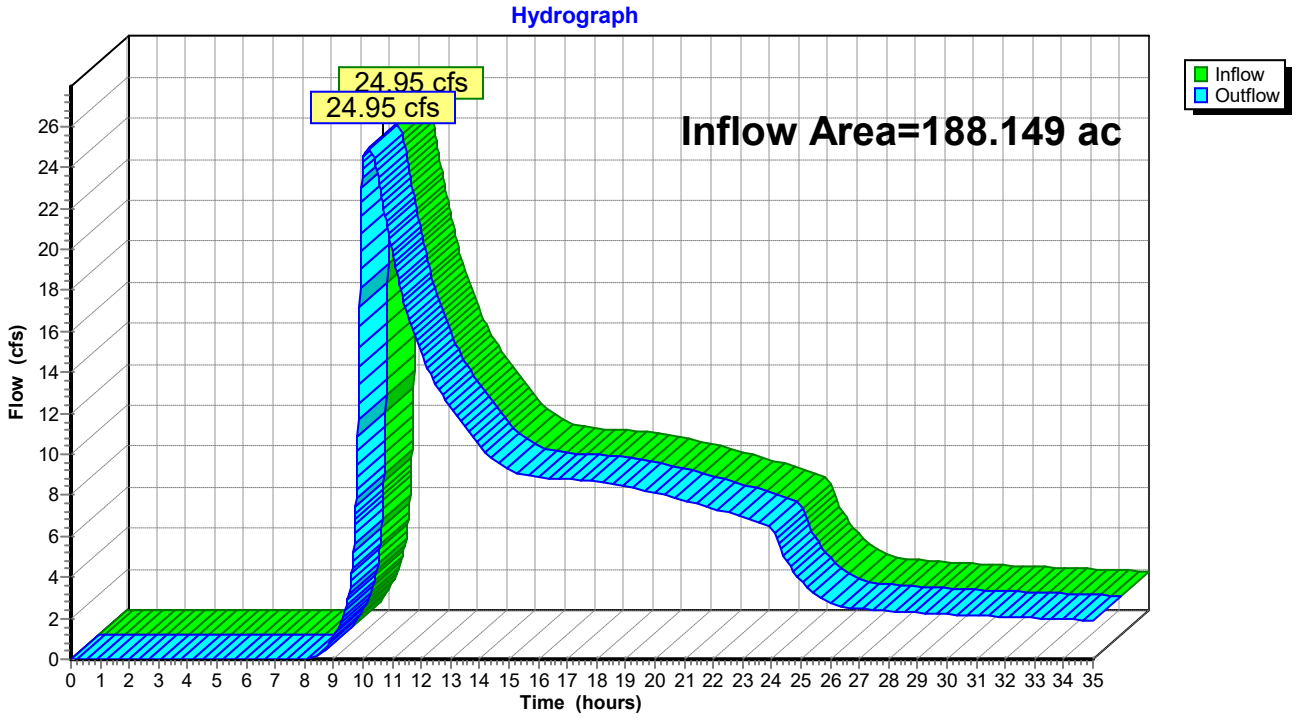
Summary for Reach 7R: Collection Point 7

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 188.149 ac, 0.00% Impervious, Inflow Depth > 0.96" for 5 year event
Inflow = 24.95 cfs @ 10.18 hrs, Volume= 15.020 af
Outflow = 24.95 cfs @ 10.18 hrs, Volume= 15.020 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 7R: Collection Point 7



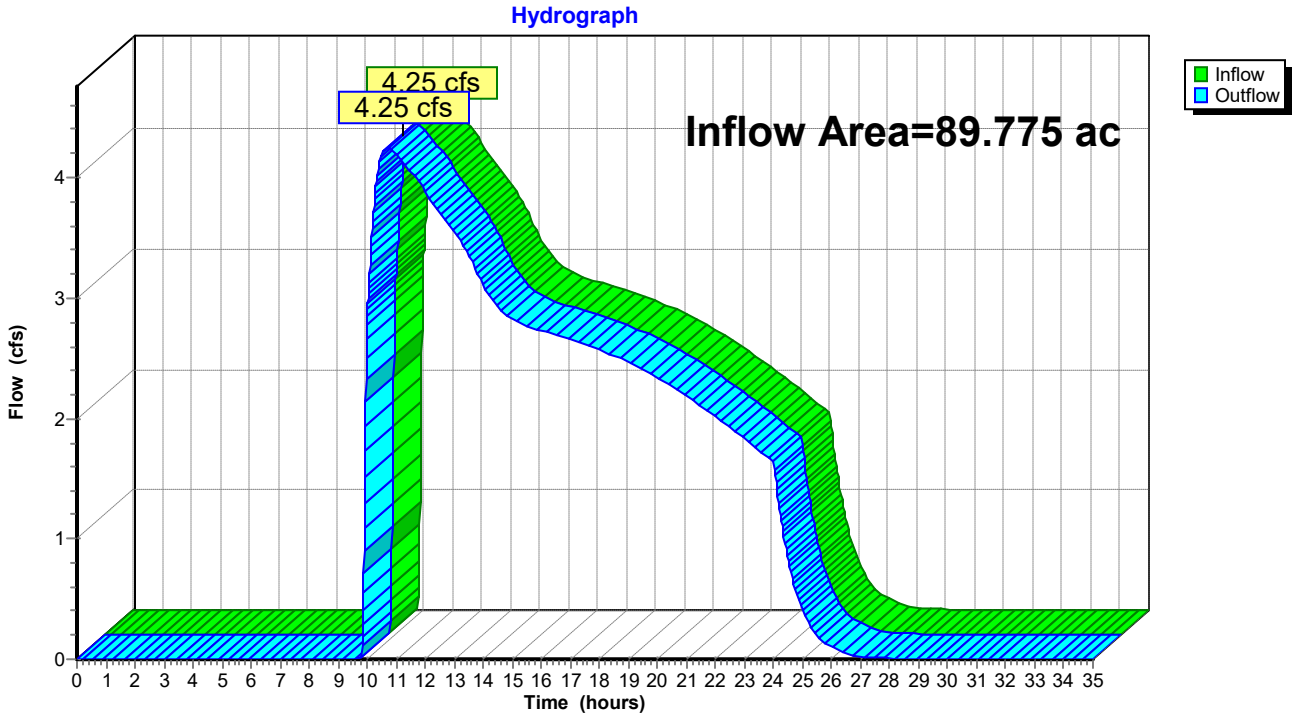
Summary for Reach 8R: Collection Point 8

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 89.775 ac, 0.00% Impervious, Inflow Depth = 0.45" for 5 year event
Inflow = 4.25 cfs @ 10.75 hrs, Volume= 3.345 af
Outflow = 4.25 cfs @ 10.75 hrs, Volume= 3.345 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 8R: Collection Point 8



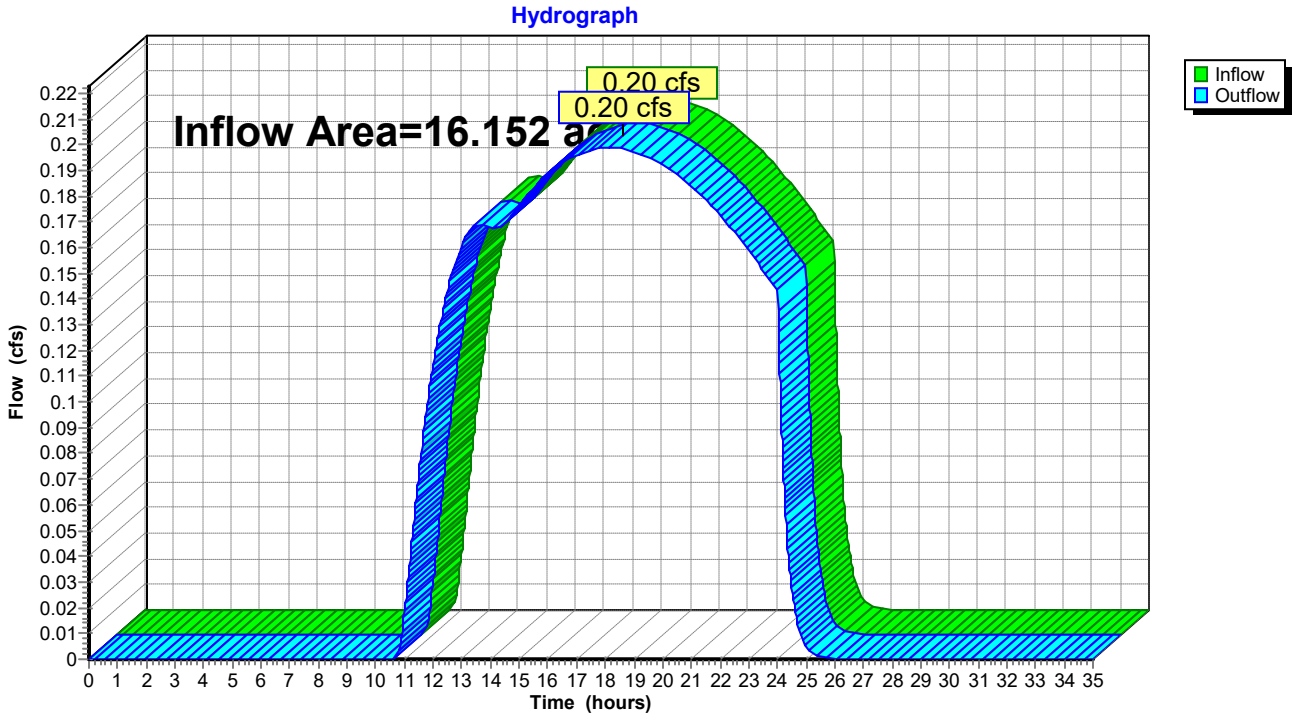
Summary for Reach 9R: Collection Point 9

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 16.152 ac, 0.00% Impervious, Inflow Depth = 0.14" for 5 year event
Inflow = 0.20 cfs @ 18.14 hrs, Volume= 0.185 af
Outflow = 0.20 cfs @ 18.14 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 9R: Collection Point 9



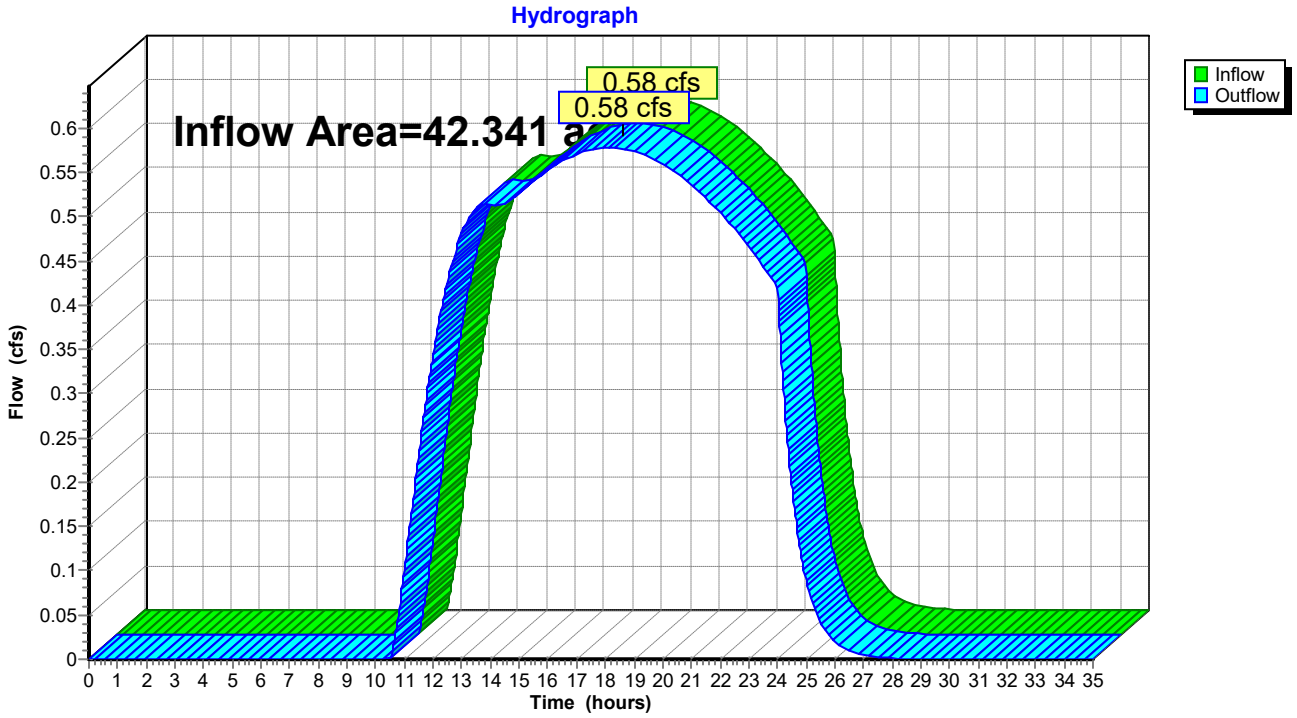
Summary for Reach 10R: Collection Point 10

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 42.341 ac, 0.00% Impervious, Inflow Depth = 0.16" for 5 year event
Inflow = 0.58 cfs @ 18.11 hrs, Volume= 0.561 af
Outflow = 0.58 cfs @ 18.11 hrs, Volume= 0.561 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 10R: Collection Point 10



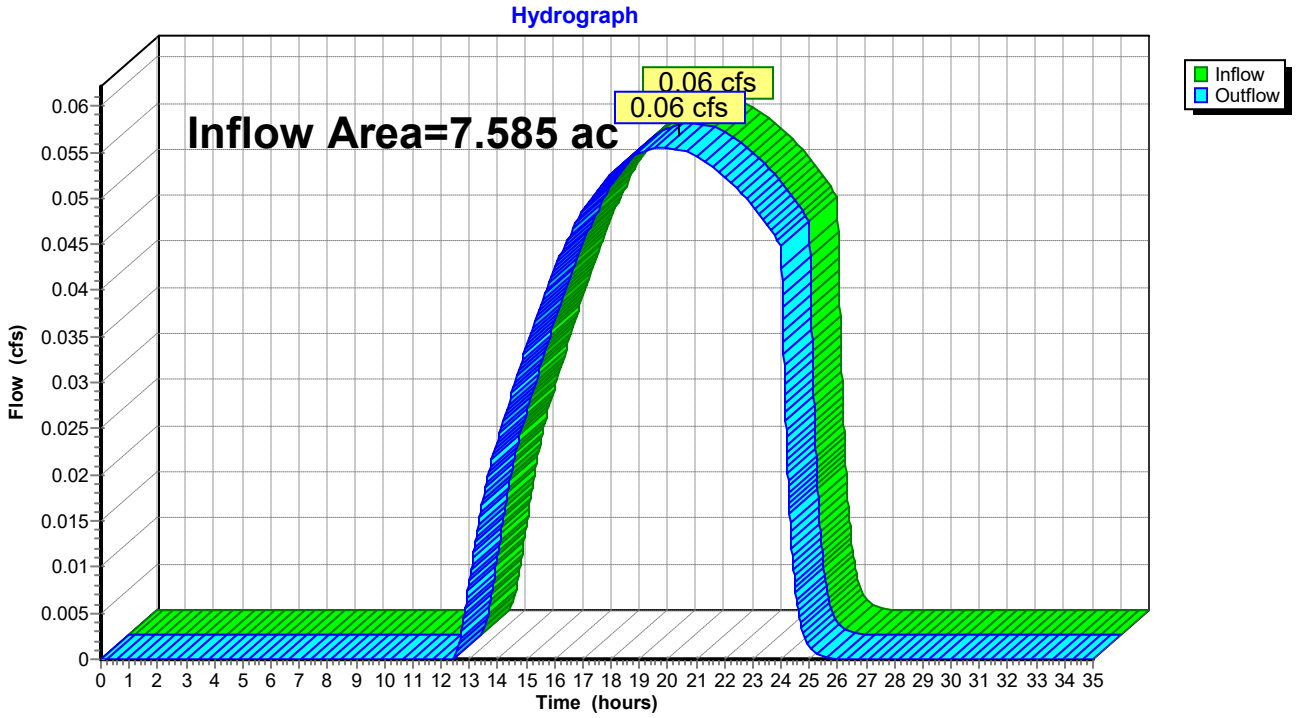
Summary for Reach 11R: Collection Point 11

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.585 ac, 0.00% Impervious, Inflow Depth = 0.07" for 5 year event
Inflow = 0.06 cfs @ 19.88 hrs, Volume= 0.042 af
Outflow = 0.06 cfs @ 19.88 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 11R: Collection Point 11



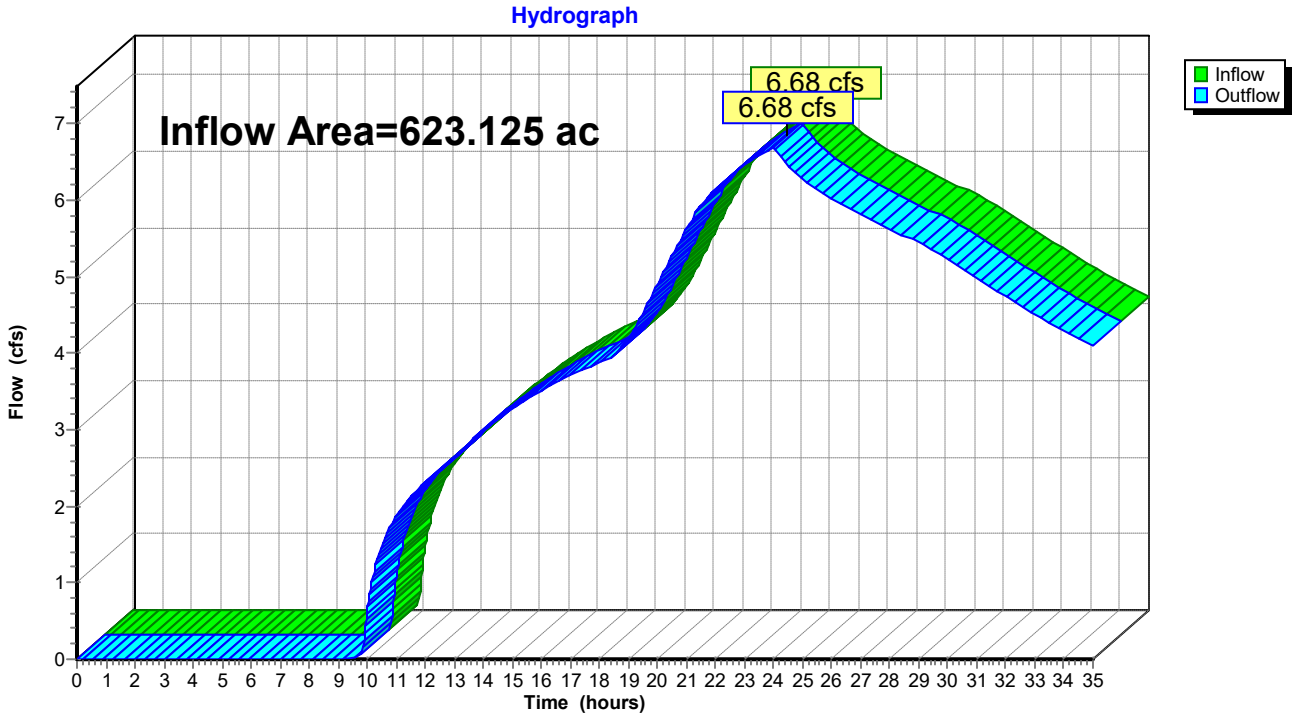
Summary for Reach 12R: Collection Point 12

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 623.125 ac, 0.00% Impervious, Inflow Depth > 0.18" for 5 year event
Inflow = 6.68 cfs @ 24.00 hrs, Volume= 9.410 af
Outflow = 6.68 cfs @ 24.00 hrs, Volume= 9.410 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 12R: Collection Point 12



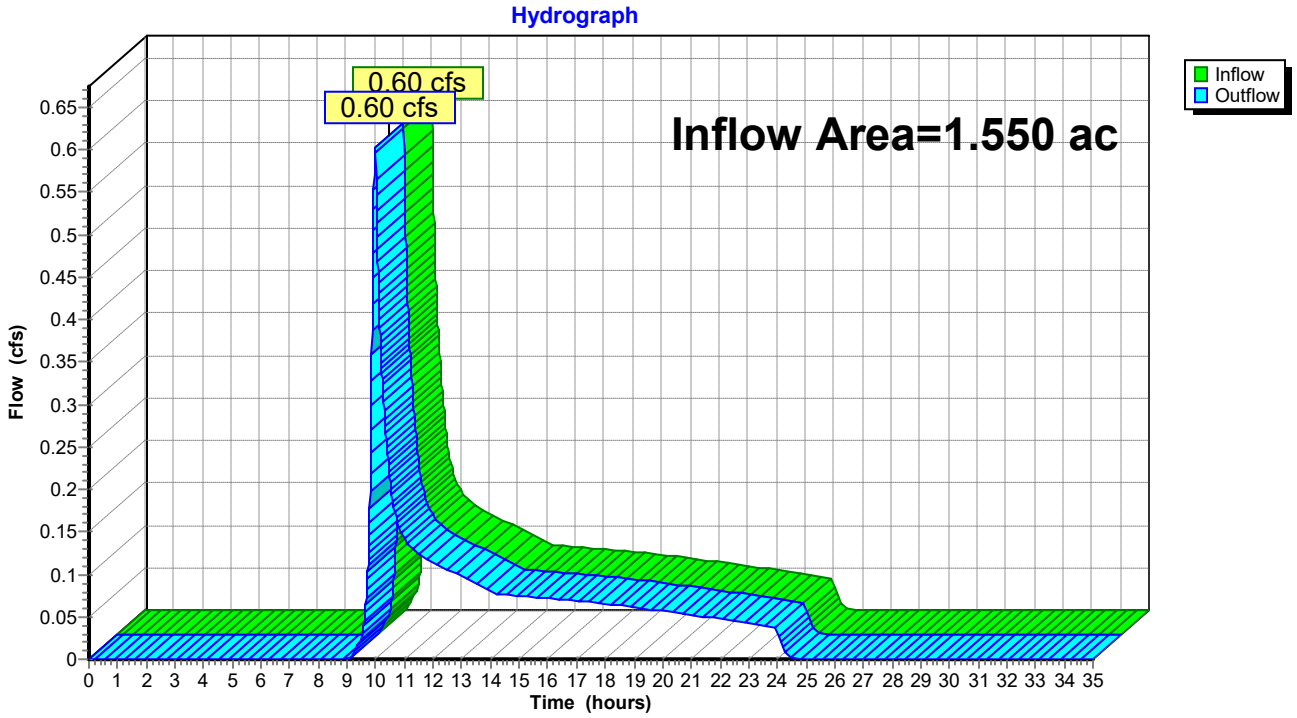
Summary for Reach 13R: Collection Point 13

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.550 ac, 0.00% Impervious, Inflow Depth = 0.83" for 5 year event
Inflow = 0.60 cfs @ 9.97 hrs, Volume= 0.107 af
Outflow = 0.60 cfs @ 9.97 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 13R: Collection Point 13



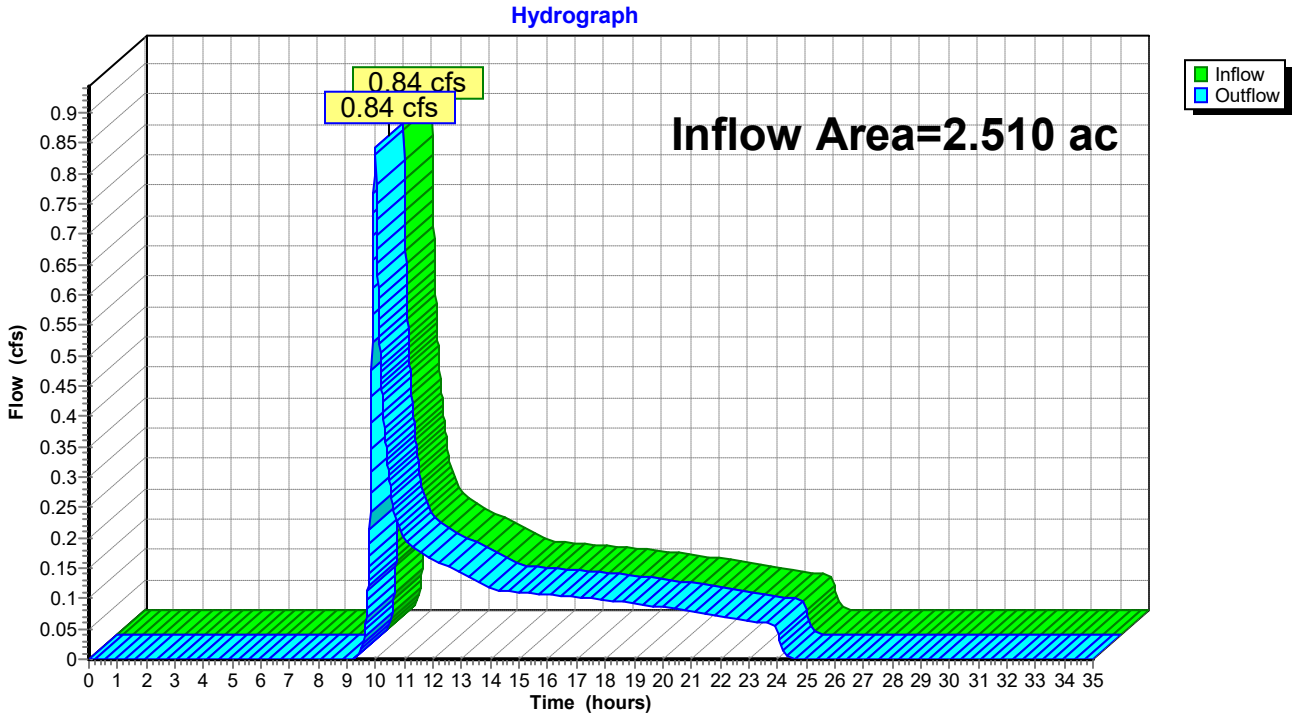
Summary for Reach 14R: Collection Point 14

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.510 ac, 0.00% Impervious, Inflow Depth = 0.73" for 5 year event
Inflow = 0.84 cfs @ 9.97 hrs, Volume= 0.153 af
Outflow = 0.84 cfs @ 9.97 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 14R: Collection Point 14



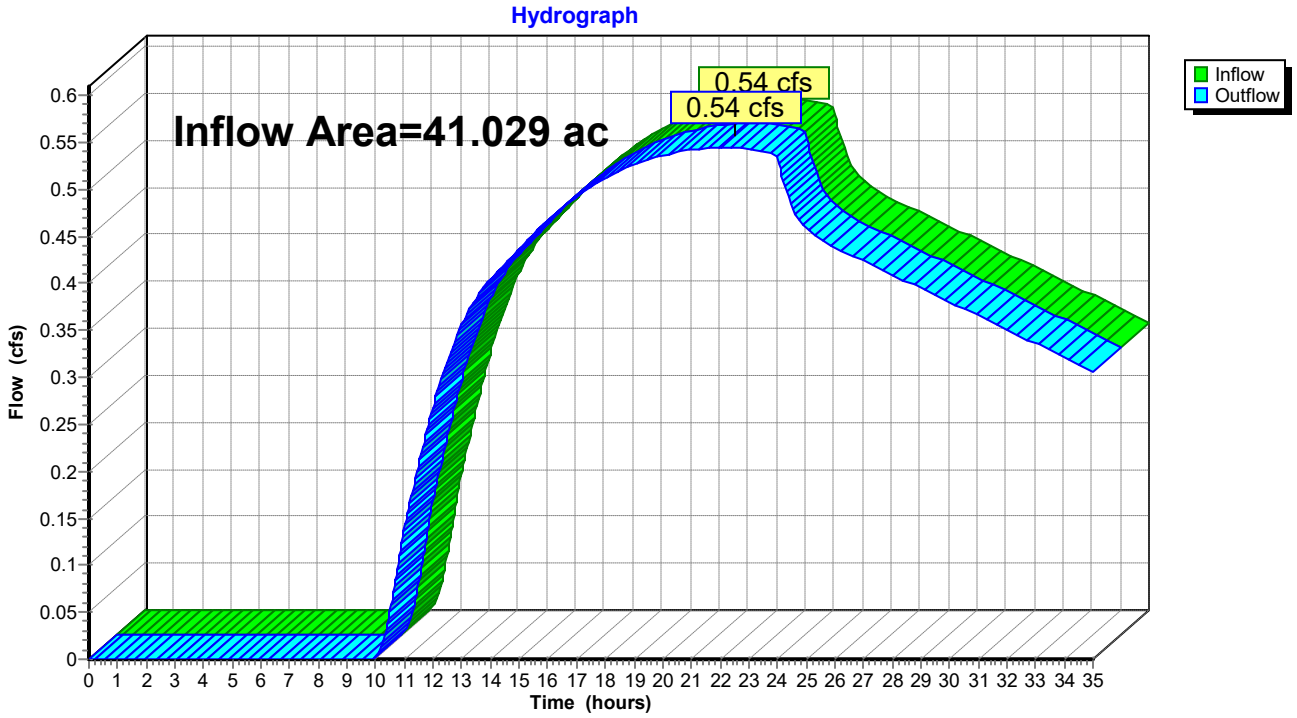
Summary for Reach 15R: Collection Point 15

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 41.029 ac, 0.00% Impervious, Inflow Depth > 0.25" for 5 year event
Inflow = 0.54 cfs @ 22.04 hrs, Volume= 0.854 af
Outflow = 0.54 cfs @ 22.04 hrs, Volume= 0.854 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 15R: Collection Point 15



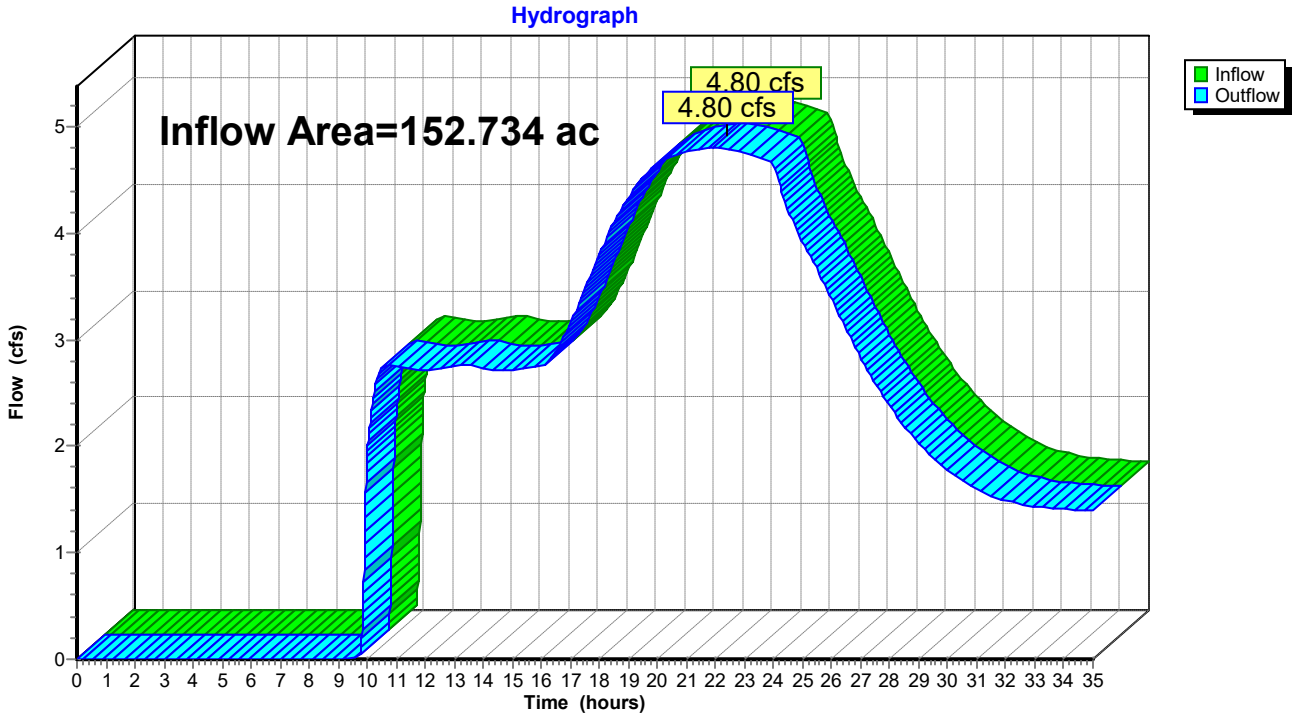
Summary for Reach 16R: Collection Point 16

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 152.734 ac, 0.00% Impervious, Inflow Depth > 0.49" for 5 year event
Inflow = 4.80 cfs @ 21.91 hrs, Volume= 6.257 af
Outflow = 4.80 cfs @ 21.91 hrs, Volume= 6.257 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 16R: Collection Point 16



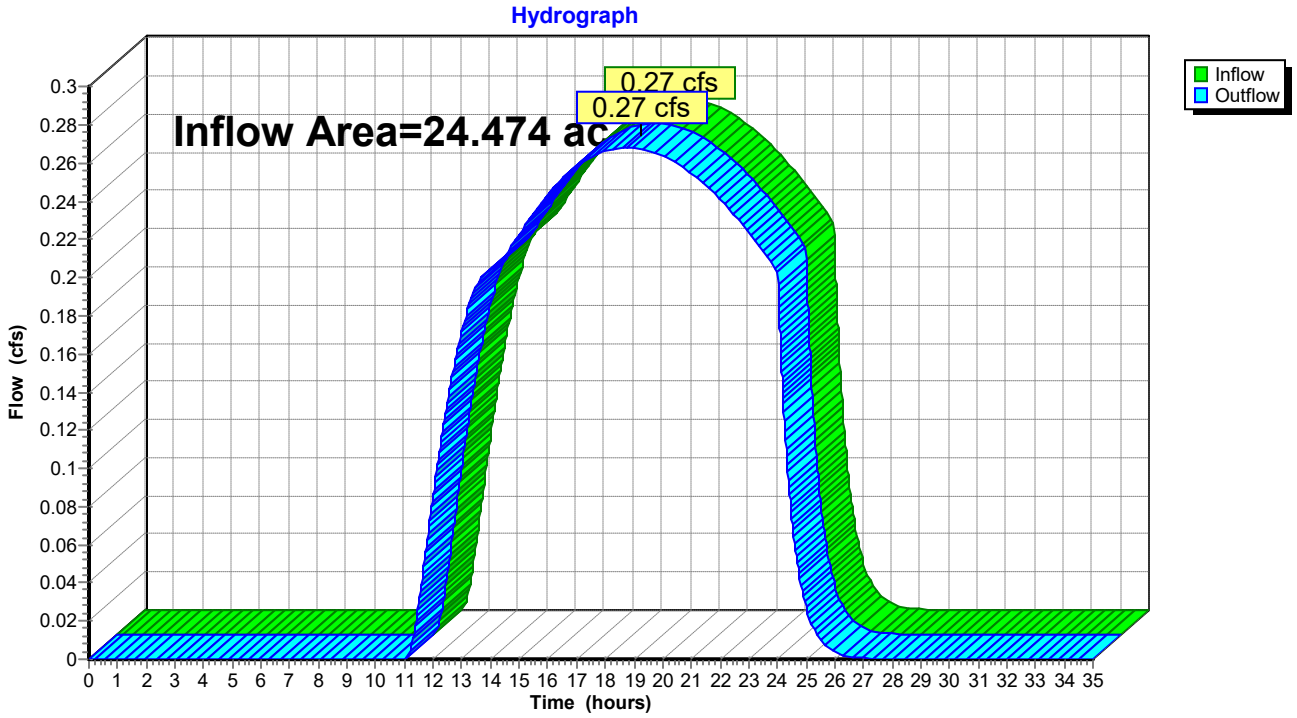
Summary for Reach 17R: Collection Point 17

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.474 ac, 0.00% Impervious, Inflow Depth = 0.12" for 5 year event
Inflow = 0.27 cfs @ 18.75 hrs, Volume= 0.240 af
Outflow = 0.27 cfs @ 18.75 hrs, Volume= 0.240 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 17R: Collection Point 17



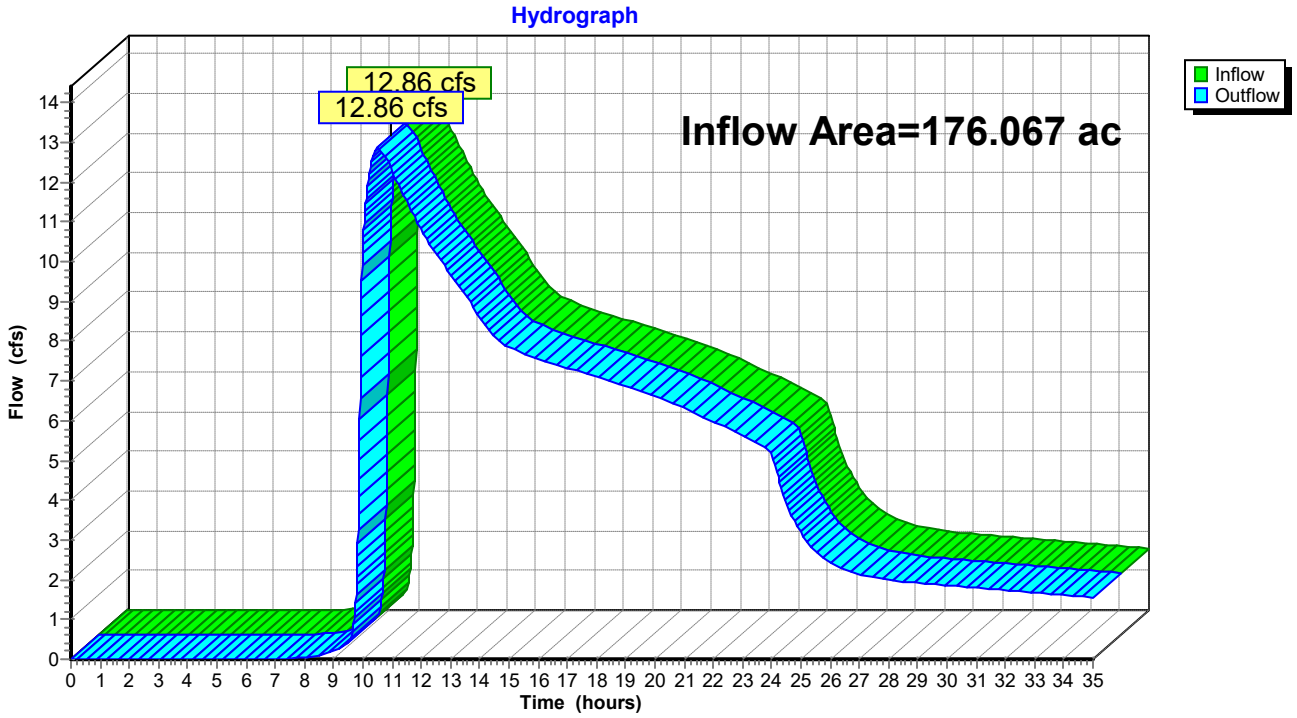
Summary for Reach 18R: Collection Point 18

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 176.067 ac, 0.00% Impervious, Inflow Depth > 0.77" for 5 year event
Inflow = 12.86 cfs @ 10.48 hrs, Volume= 11.295 af
Outflow = 12.86 cfs @ 10.48 hrs, Volume= 11.295 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 18R: Collection Point 18



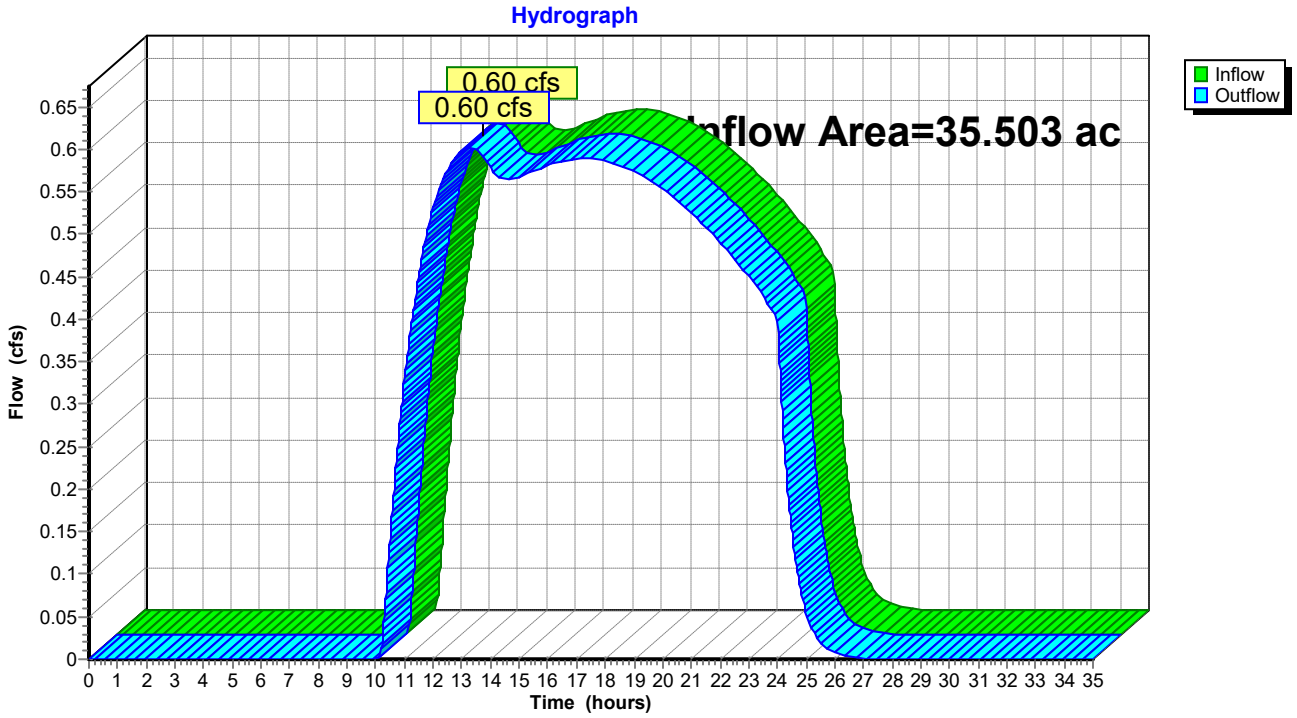
Summary for Reach 19R: Collection Point 19

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.503 ac, 0.00% Impervious, Inflow Depth = 0.21" for 5 year event
Inflow = 0.60 cfs @ 13.25 hrs, Volume= 0.609 af
Outflow = 0.60 cfs @ 13.25 hrs, Volume= 0.609 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 19R: Collection Point 19



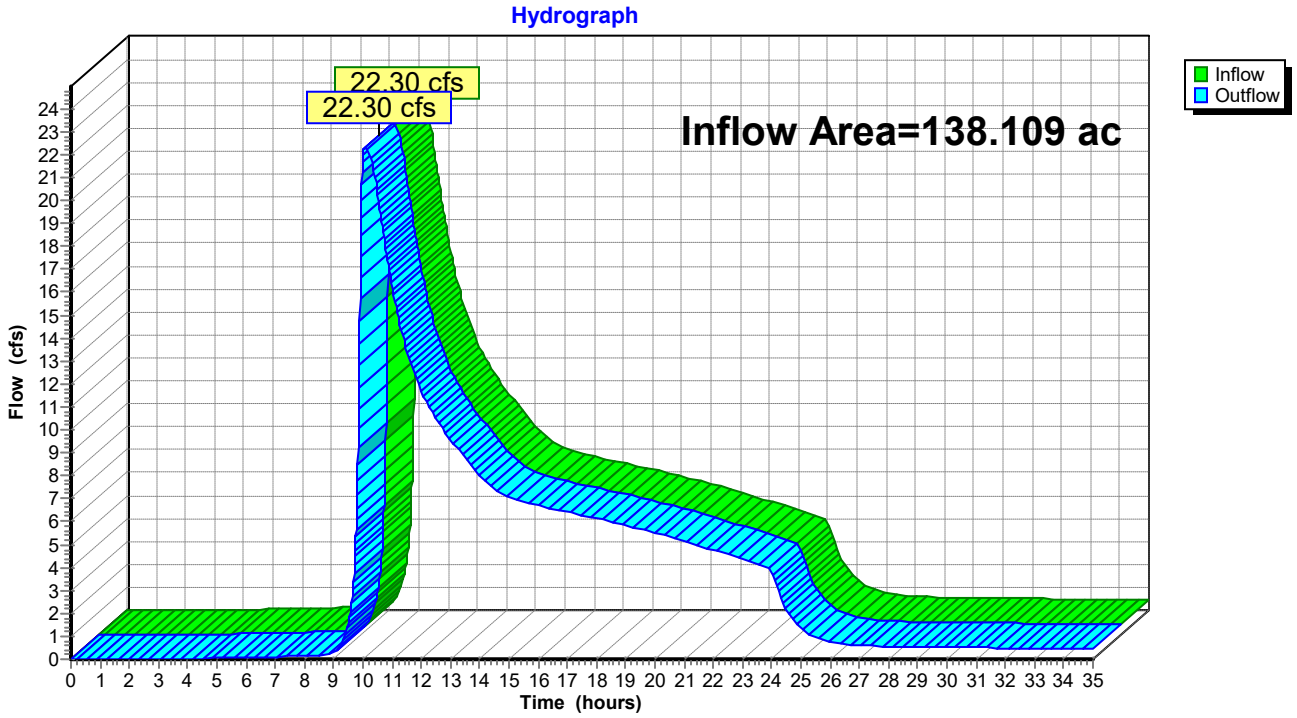
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 138.109 ac, 2.50% Impervious, Inflow Depth > 0.89" for 5 year event
Inflow = 22.30 cfs @ 10.08 hrs, Volume= 10.225 af
Outflow = 22.30 cfs @ 10.08 hrs, Volume= 10.225 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



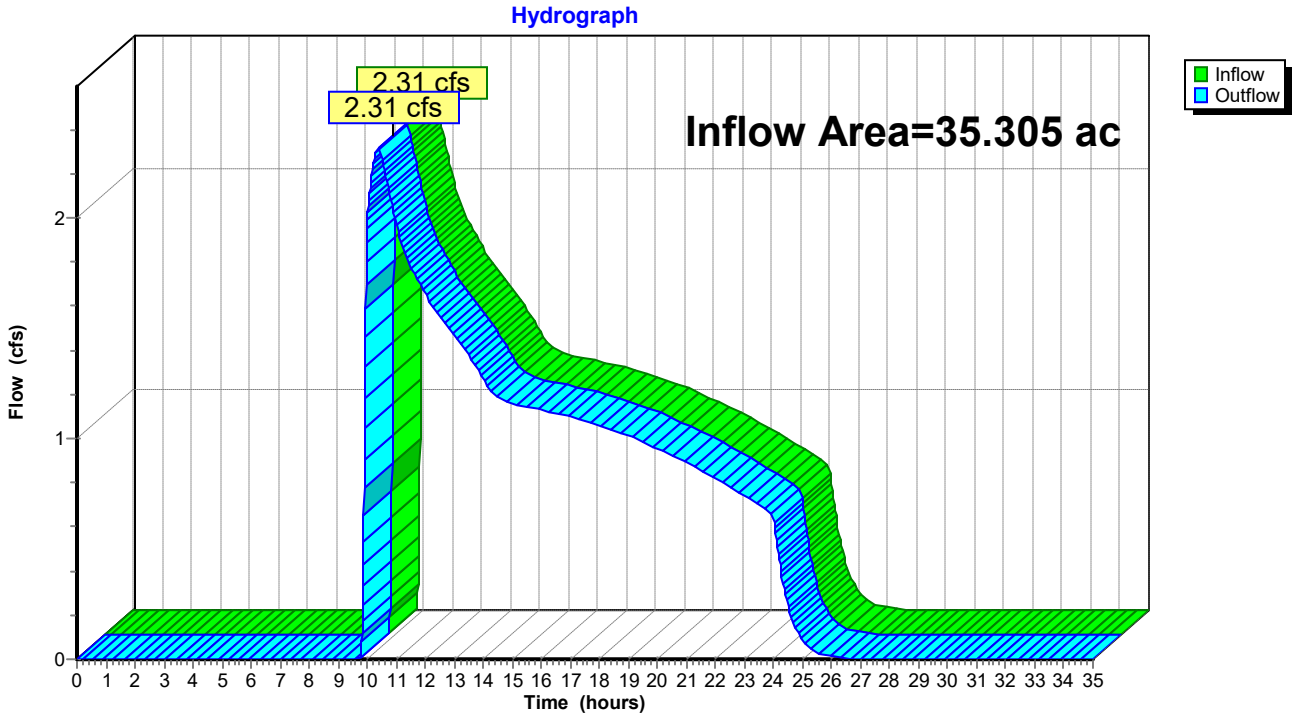
Summary for Reach 21R: Collection Point 21

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.305 ac, 0.00% Impervious, Inflow Depth = 0.48" for 5 year event
Inflow = 2.31 cfs @ 10.37 hrs, Volume= 1.422 af
Outflow = 2.31 cfs @ 10.37 hrs, Volume= 1.422 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 21R: Collection Point 21



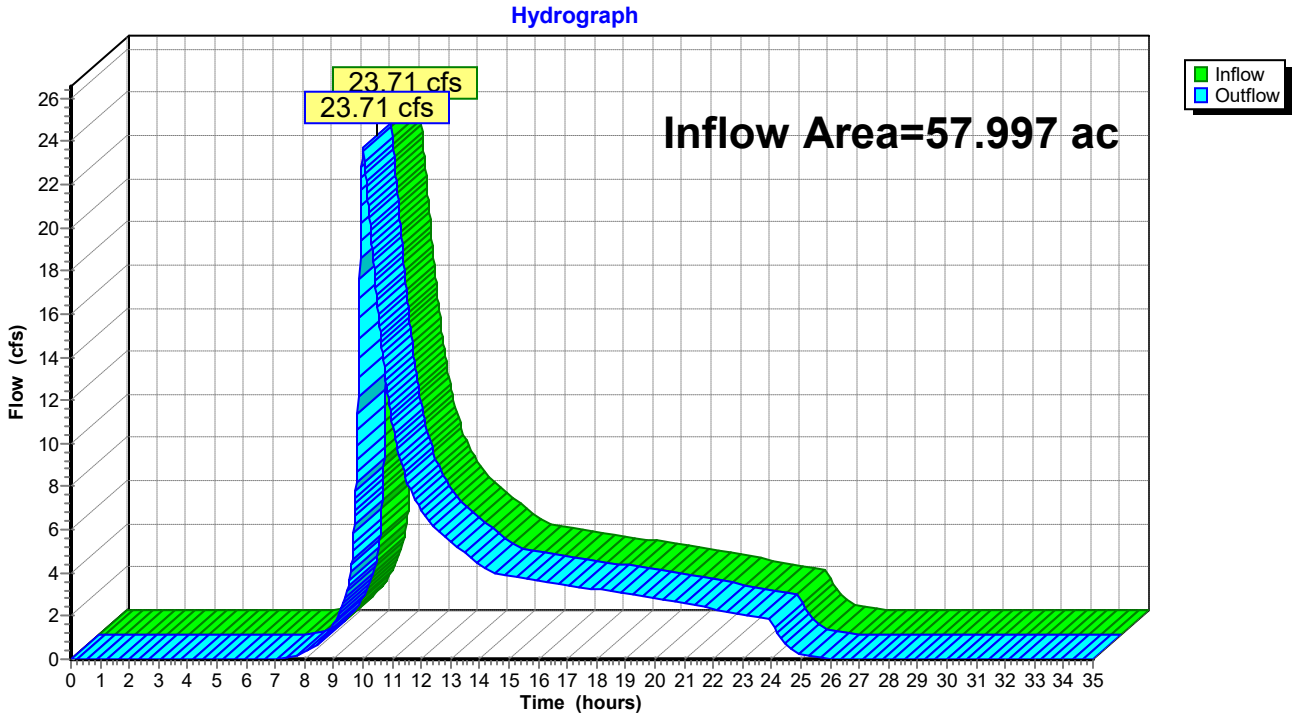
Summary for Reach 22R: Collection Point 22

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 57.997 ac, 0.00% Impervious, Inflow Depth = 1.28" for 5 year event
Inflow = 23.71 cfs @ 10.00 hrs, Volume= 6.163 af
Outflow = 23.71 cfs @ 10.00 hrs, Volume= 6.163 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 22R: Collection Point 22



Summary for Pond 12S: Flow Splitter Box

[57] Hint: Peaked at 112.79' (Flood elevation advised)

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 0.85" for 5 year event
Inflow = 106.69 cfs @ 10.00 hrs, Volume= 37.847 af
Outflow = 106.69 cfs @ 10.00 hrs, Volume= 37.847 af, Atten= 0%, Lag= 0.0 min
Primary = 53.34 cfs @ 10.00 hrs, Volume= 18.924 af
Routed to Pond D12.1 : Detention Pond 12.1
Secondary = 53.34 cfs @ 10.00 hrs, Volume= 18.924 af
Routed to Pond D12.2 : Detention Pond 12.2

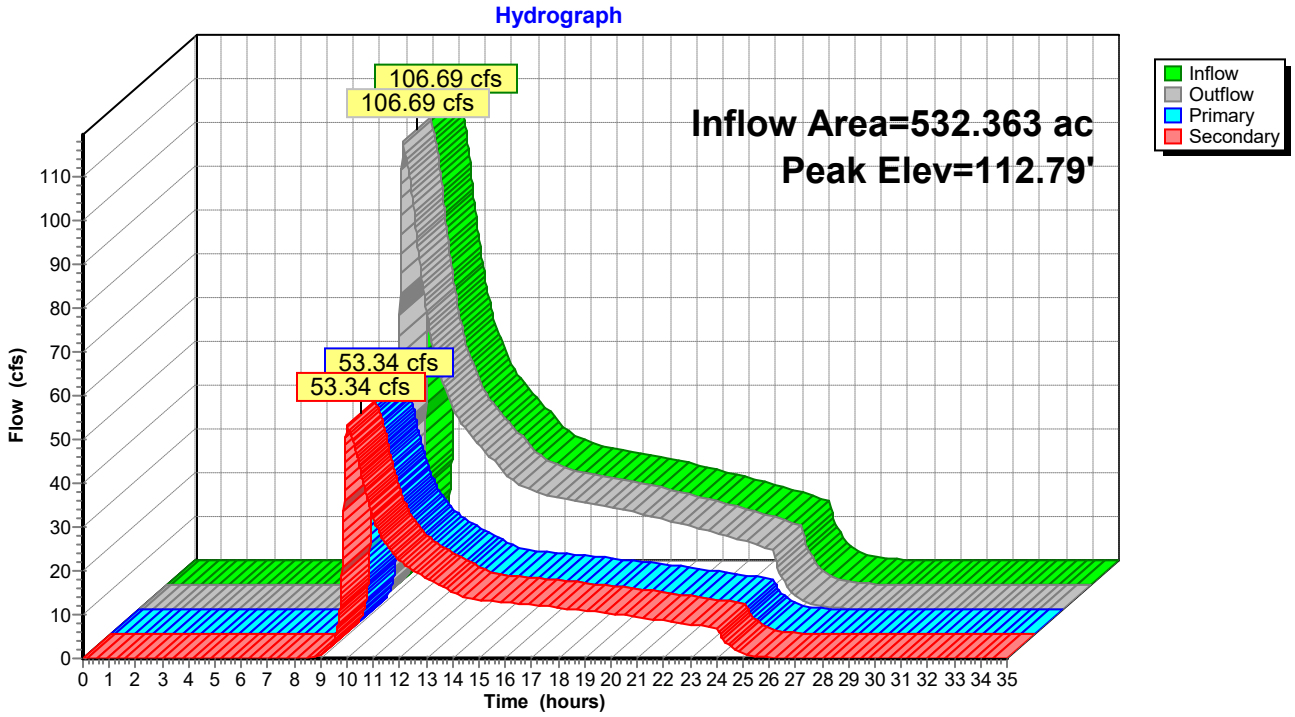
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 112.79' @ 10.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf
#2	Secondary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

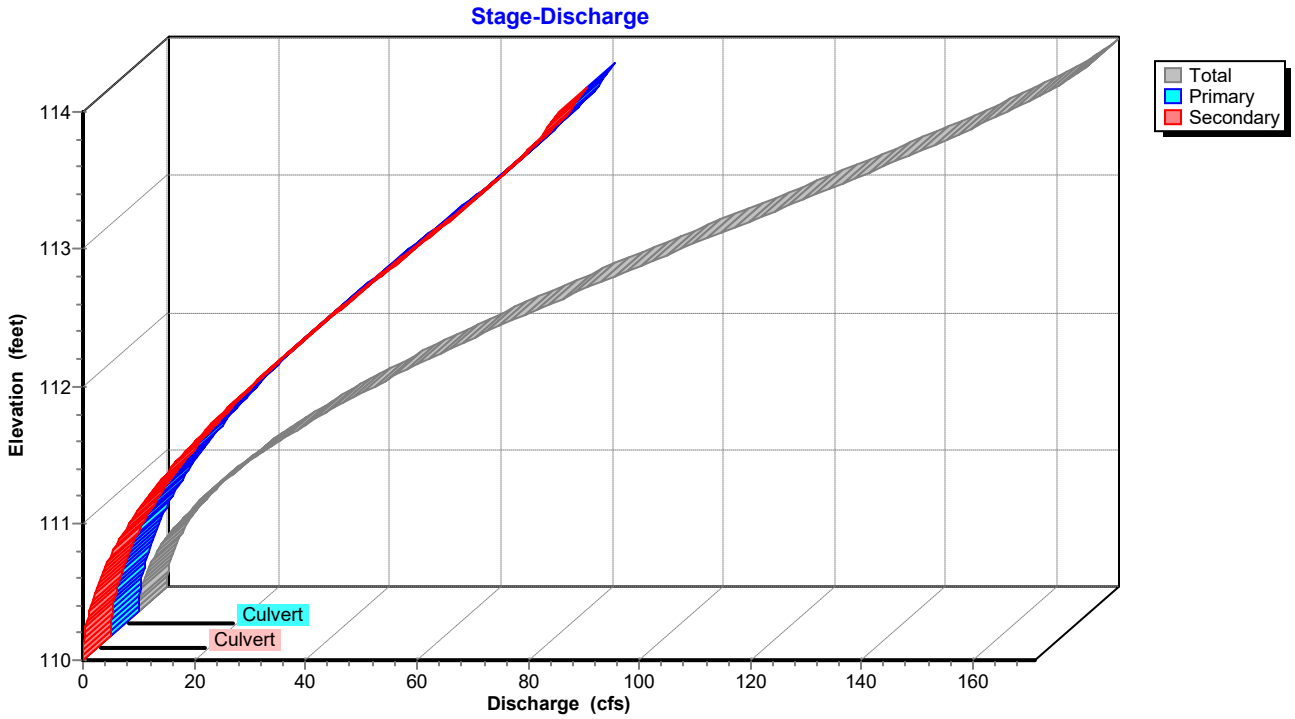
Primary OutFlow Max=53.31 cfs @ 10.00 hrs HW=112.79' TW=100.31' (Dynamic Tailwater)
1=Culvert (Inlet Controls 53.31 cfs @ 5.69 fps)

Secondary OutFlow Max=53.31 cfs @ 10.00 hrs HW=112.79' TW=100.31' (Dynamic Tailwater)
2=Culvert (Inlet Controls 53.31 cfs @ 5.69 fps)

Pond 12S: Flow Splitter Box



Pond 12S: Flow Splitter Box



Stage-Discharge for Pond 12S: Flow Splitter Box

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
110.00	0.00	0.00	0.00
110.05	0.05	0.02	0.02
110.10	0.18	0.09	0.09
110.15	0.40	0.20	0.20
110.20	0.72	0.36	0.36
110.25	1.11	0.56	0.56
110.30	1.60	0.80	0.80
110.35	2.17	1.08	1.08
110.40	2.82	1.41	1.41
110.45	3.55	1.78	1.78
110.50	4.37	2.18	2.18
110.55	5.26	2.63	2.63
110.60	6.23	3.12	3.12
110.65	7.29	3.64	3.64
110.70	8.41	4.21	4.21
110.75	9.62	4.81	4.81
110.80	10.90	5.45	5.45
110.85	12.25	6.12	6.12
110.90	13.67	6.84	6.84
110.95	15.17	7.58	7.58
111.00	16.73	8.36	8.36
111.05	18.36	9.18	9.18
111.10	20.06	10.03	10.03
111.15	21.82	10.91	10.91
111.20	23.65	11.83	11.83
111.25	25.54	12.77	12.77
111.30	27.50	13.75	13.75
111.35	29.51	14.75	14.75
111.40	31.58	15.79	15.79
111.45	33.71	16.86	16.86
111.50	35.90	17.95	17.95
111.55	38.14	19.07	19.07
111.60	40.43	20.22	20.22
111.65	42.78	21.39	21.39
111.70	45.17	22.59	22.59
111.75	47.61	23.81	23.81
111.80	50.11	25.05	25.05
111.85	52.64	26.32	26.32
111.90	55.22	27.61	27.61
111.95	57.84	28.92	28.92
112.00	60.51	30.25	30.25
112.05	63.21	31.60	31.60
112.10	65.95	32.97	32.97
112.15	68.72	34.36	34.36
112.20	71.53	35.76	35.76
112.25	74.36	37.18	37.18
112.30	77.23	38.62	38.62
112.35	80.13	40.06	40.06
112.40	83.05	41.52	41.52
112.45	85.99	43.00	43.00
112.50	88.96	44.48	44.48
112.55	91.94	45.97	45.97
112.60	94.94	47.47	47.47
112.65	97.95	48.98	48.98
112.70	100.98	50.49	50.49
112.75	104.02	52.01	52.01
112.80	107.06	53.53	53.53
112.85	110.10	55.05	55.05
112.90	113.15	56.58	56.58
112.95	116.20	58.10	58.10
113.00	119.24	59.62	59.62
113.05	122.27	61.13	61.13
113.10	125.29	62.64	62.64
113.15	128.29	64.15	64.15
113.20	131.28	65.64	65.64
113.25	134.24	67.12	67.12
113.30	137.17	68.59	68.59
113.35	140.08	70.04	70.04
113.40	142.94	71.47	71.47
113.45	145.76	72.88	72.88
113.50	148.54	74.27	74.27
113.55	151.25	75.63	75.63
113.60	153.91	76.95	76.95
113.65	156.49	78.24	78.24
113.70	158.99	79.49	79.49
113.75	161.39	80.70	80.70
113.80	163.69	81.84	81.84
113.85	165.85	82.93	82.93
113.90	167.86	83.93	83.93
113.95	169.66	84.83	84.83
114.00	**171.14**	**85.57**	**85.57**

Summary for Pond D1: Detention Basin 1

Inflow Area = 22.726 ac, 0.00% Impervious, Inflow Depth = 1.34" for 5 year event
Inflow = 11.95 cfs @ 9.99 hrs, Volume= 2.537 af
Outflow = 0.82 cfs @ 23.01 hrs, Volume= 0.903 af, Atten= 93%, Lag= 781.6 min
Primary = 0.82 cfs @ 23.01 hrs, Volume= 0.903 af
Routed to Reach 1R : Collection Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.59' @ 23.01 hrs Surf.Area= 0.671 ac Storage= 1.984 af

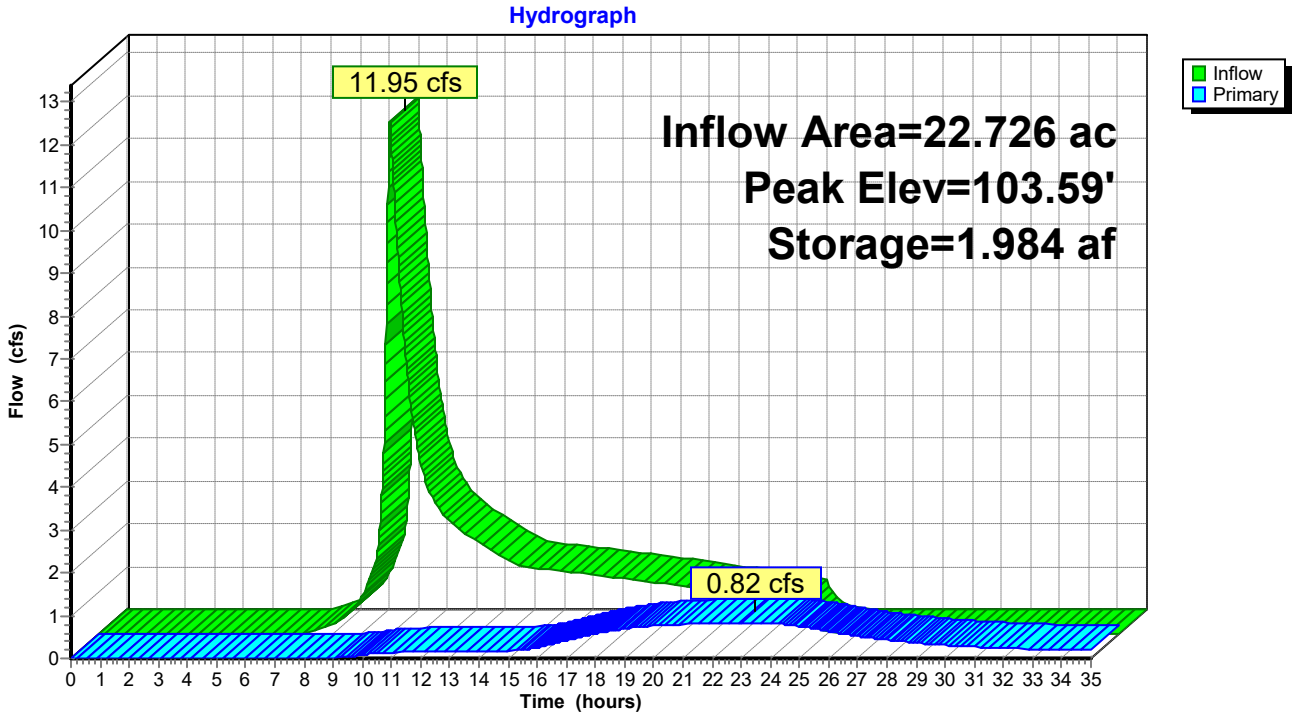
Plug-Flow detention time= 767.0 min calculated for 0.903 af (36% of inflow)
Center-of-Mass det. time= 534.0 min (1,373.1 - 839.1)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	3.808 af	**80.00'W x 240.00'L x 6.00'H Prismatoid Z=4.0**

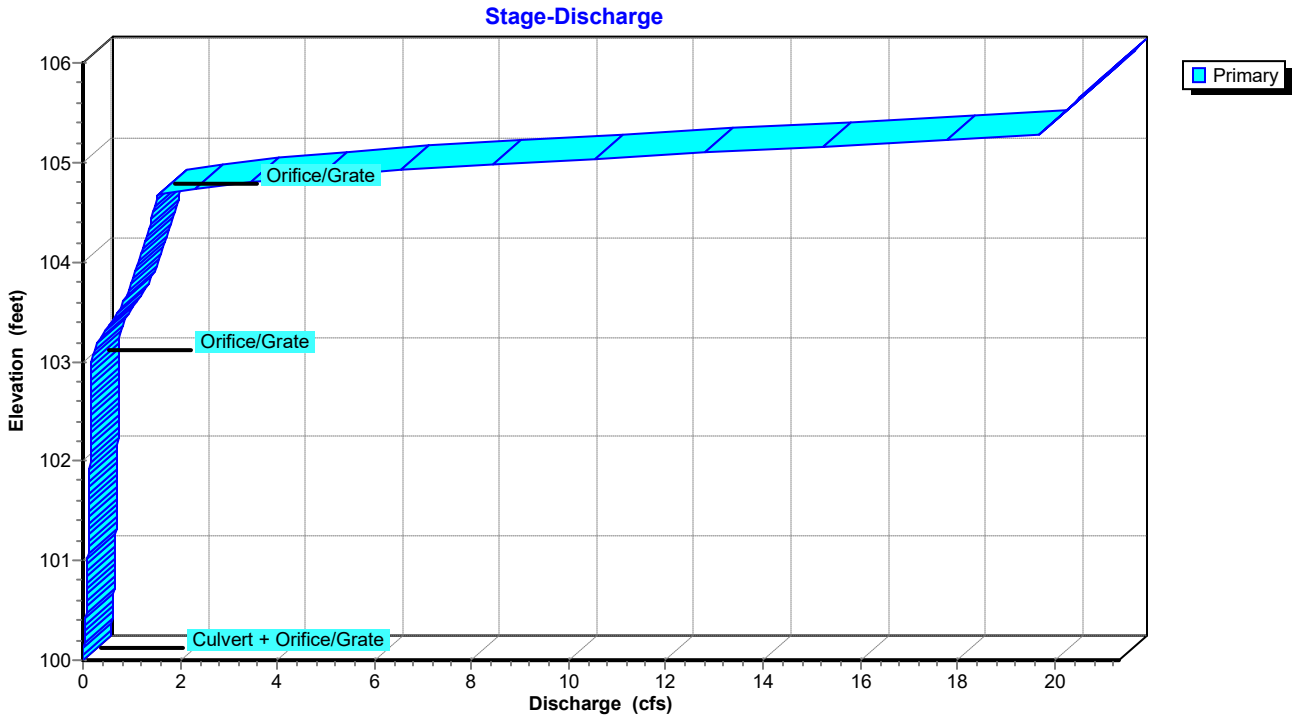
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.67'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	103.00'	**6.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.82 cfs @ 23.01 hrs HW=103.59' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.20 cfs of 14.34 cfs potential flow)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.20 cfs @ 9.02 fps)
- **4=Orifice/Grate** (Orifice Controls 0.63 cfs @ 2.72 fps)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	16.92
100.05	0.00	102.65	0.17	105.25	19.13
100.10	0.01	102.70	0.17	105.30	19.73
100.15	0.03	102.75	0.17	105.35	19.85
100.20	0.04	102.80	0.17	105.40	19.97
100.25	0.04	102.85	0.17	105.45	20.08
100.30	0.05	102.90	0.18	105.50	20.20
100.35	0.05	102.95	0.18	105.55	20.32
100.40	0.06	103.00	0.18	105.60	20.43
100.45	0.06	103.05	0.19	105.65	20.55
100.50	0.07	103.10	0.21	105.70	20.66
100.55	0.07	103.15	0.25	105.75	20.77
100.60	0.08	103.20	0.30	105.80	20.89
100.65	0.08	103.25	0.36	105.85	21.00
100.70	0.08	103.30	0.43	105.90	21.11
100.75	0.09	103.35	0.51	105.95	21.22
100.80	0.09	103.40	0.58	106.00	**21.33**
100.85	0.09	103.45	0.66		
100.90	0.09	103.50	0.73		
100.95	0.10	103.55	0.78		
101.00	0.10	103.60	0.83		
101.05	0.10	103.65	0.88		
101.10	0.11	103.70	0.93		
101.15	0.11	103.75	0.97		
101.20	0.11	103.80	1.01		
101.25	0.11	103.85	1.05		
101.30	0.12	103.90	1.09		
101.35	0.12	103.95	1.12		
101.40	0.12	104.00	1.16		
101.45	0.12	104.05	1.19		
101.50	0.13	104.10	1.22		
101.55	0.13	104.15	1.25		
101.60	0.13	104.20	1.28		
101.65	0.13	104.25	1.31		
101.70	0.13	104.30	1.34		
101.75	0.14	104.35	1.37		
101.80	0.14	104.40	1.40		
101.85	0.14	104.45	1.42		
101.90	0.14	104.50	1.45		
101.95	0.14	104.55	1.48		
102.00	0.15	104.60	1.50		
102.05	0.15	104.65	1.53		
102.10	0.15	104.70	1.76		
102.15	0.15	104.75	2.46		
102.20	0.15	104.80	3.44		
102.25	0.15	104.85	4.62		
102.30	0.16	104.90	5.98		
102.35	0.16	104.95	7.48		
102.40	0.16	105.00	9.13		
102.45	0.16	105.05	10.91		
102.50	0.16	105.10	12.80		
102.55	0.16	105.15	14.81		

Summary for Pond D12.1: Detention Pond 12.1

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 0.43" for 5 year event
Inflow = 53.34 cfs @ 10.00 hrs, Volume= 18.924 af
Outflow = 3.09 cfs @ 24.46 hrs, Volume= 4.452 af, Atten= 94%, Lag= 867.1 min
Primary = 3.09 cfs @ 24.46 hrs, Volume= 4.452 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.89' @ 24.46 hrs Surf.Area= 3.819 ac Storage= 16.598 af

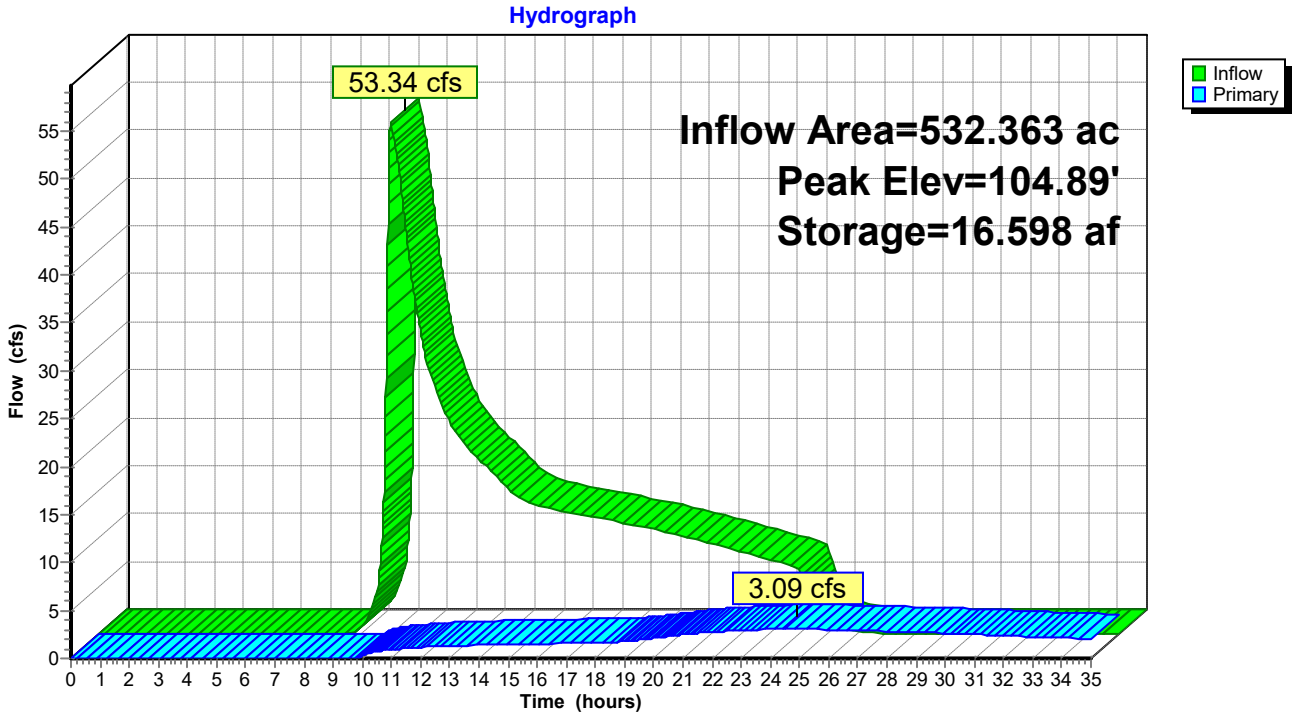
Plug-Flow detention time= 831.8 min calculated for 4.452 af (24% of inflow)
Center-of-Mass det. time= 554.5 min (1,451.1 - 896.6)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

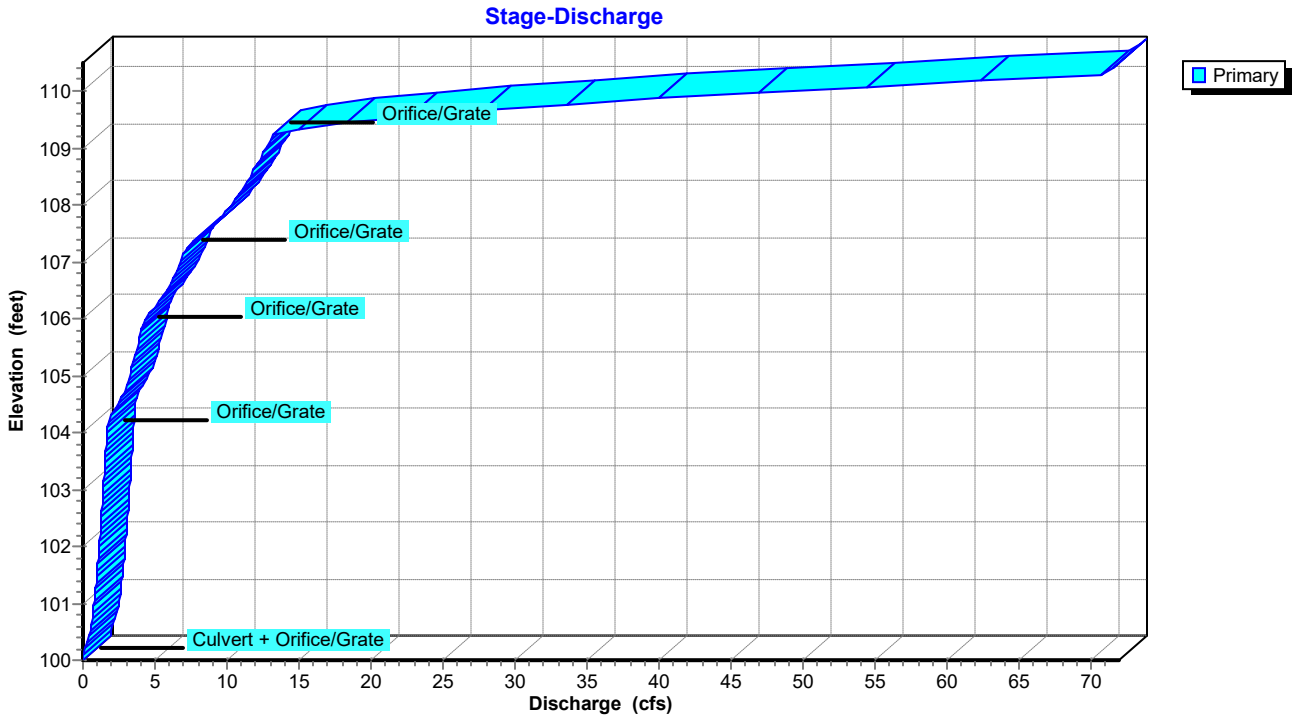
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.09 cfs @ 24.46 hrs HW=104.89' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.09 cfs of 45.12 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.83 cfs @ 10.47 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 1.26 cfs @ 3.61 fps)
  ├─**5=Orifice/Grate** (Controls 0.00 cfs)
  └─**6=Orifice/Grate** (Controls 0.00 cfs)

Pond D12.1: Detention Pond 12.1



Pond D12.1: Detention Pond 12.1



Stage-Discharge for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Summary for Pond D12.2: Detention Pond 12.2

Inflow = 53.34 cfs @ 10.00 hrs, Volume= 18.924 af
Outflow = 3.09 cfs @ 24.46 hrs, Volume= 4.452 af, Atten= 94%, Lag= 867.1 min
Primary = 3.09 cfs @ 24.46 hrs, Volume= 4.452 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.89' @ 24.46 hrs Surf.Area= 3.819 ac Storage= 16.598 af

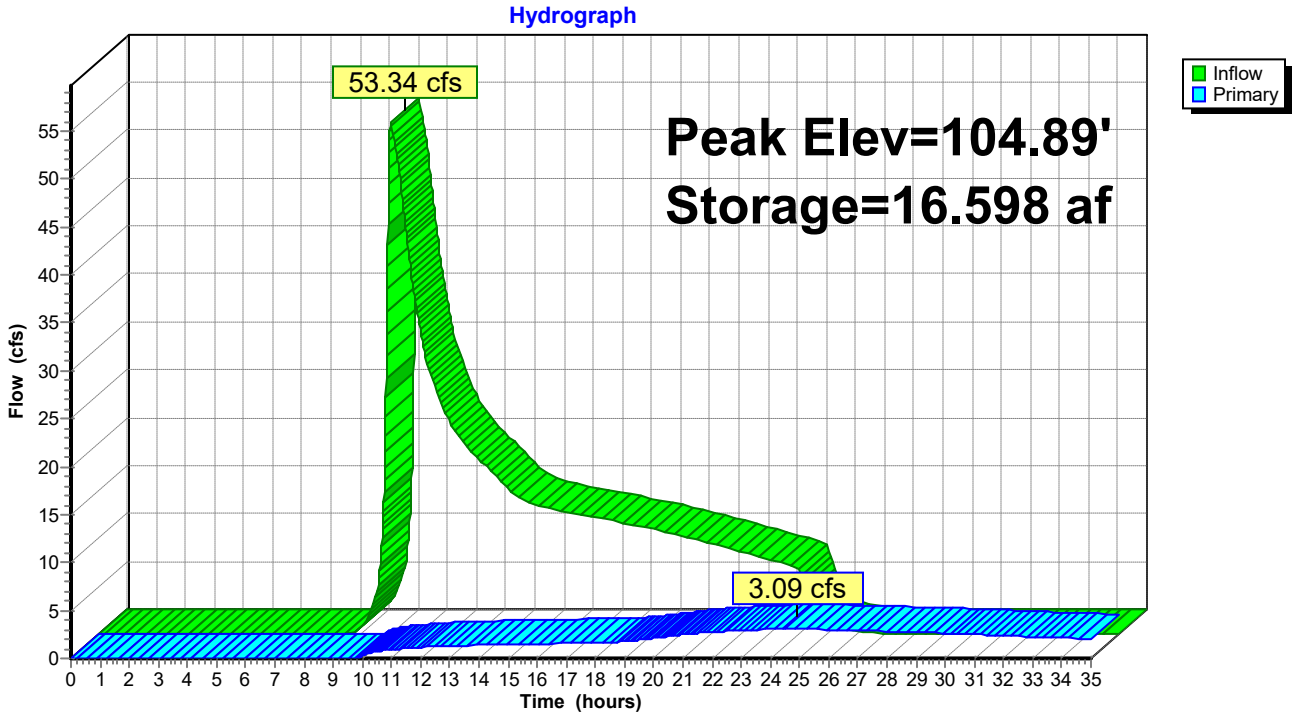
Plug-Flow detention time= 831.8 min calculated for 4.452 af (24% of inflow)
Center-of-Mass det. time= 554.5 min (1,451.1 - 896.6)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

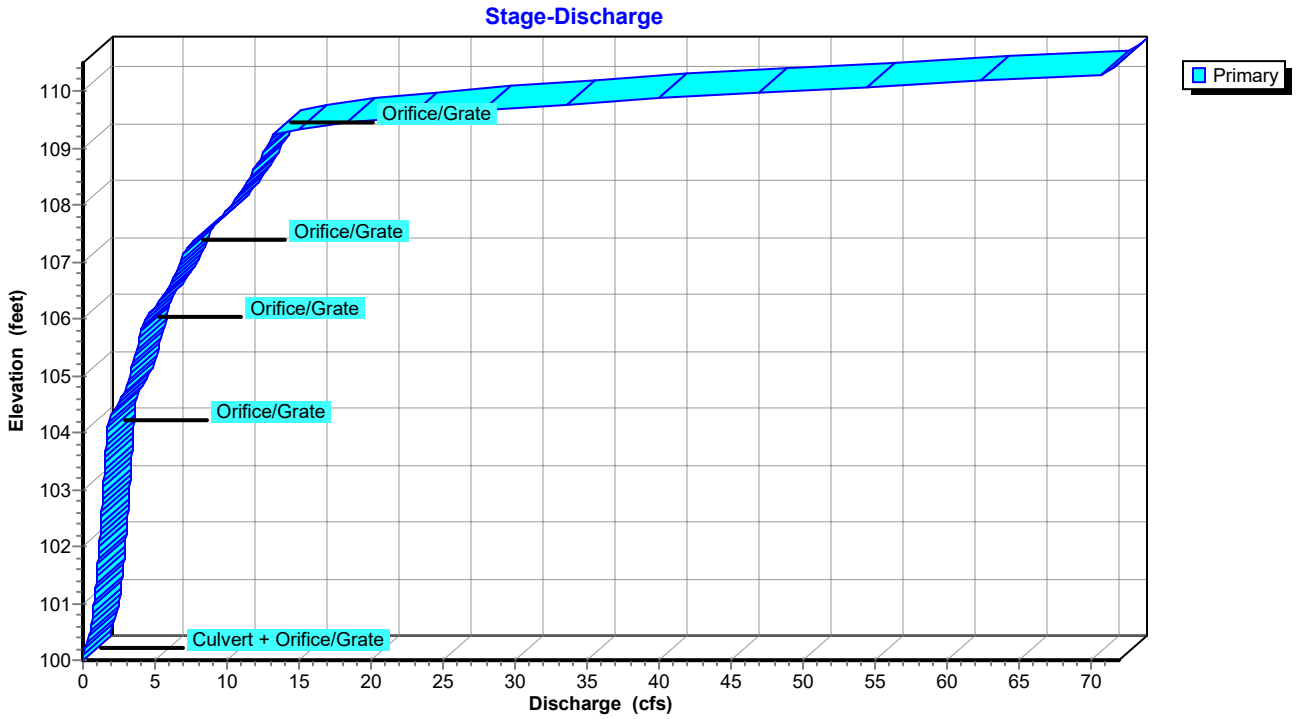
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.09 cfs @ 24.46 hrs HW=104.89' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.09 cfs of 45.12 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.83 cfs @ 10.47 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 1.26 cfs @ 3.61 fps)
  ├─**5=Orifice/Grate** (Controls 0.00 cfs)
  └─**6=Orifice/Grate** (Controls 0.00 cfs)

Pond D12.2: Detention Pond 12.2



Pond D12.2: Detention Pond 12.2



Stage-Discharge for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Summary for Pond D15: Detention Pond 15

Inflow Area = 31.502 ac, 0.00% Impervious, Inflow Depth = 0.41" for 5 year event
Inflow = 1.58 cfs @ 10.41 hrs, Volume= 1.082 af
Outflow = 0.46 cfs @ 24.06 hrs, Volume= 0.760 af, Atten= 71%, Lag= 819.2 min
Primary = 0.46 cfs @ 24.06 hrs, Volume= 0.760 af
Routed to Reach 15R : Collection Point 15

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.36' @ 24.06 hrs Surf.Area= 0.524 ac Storage= 0.656 af

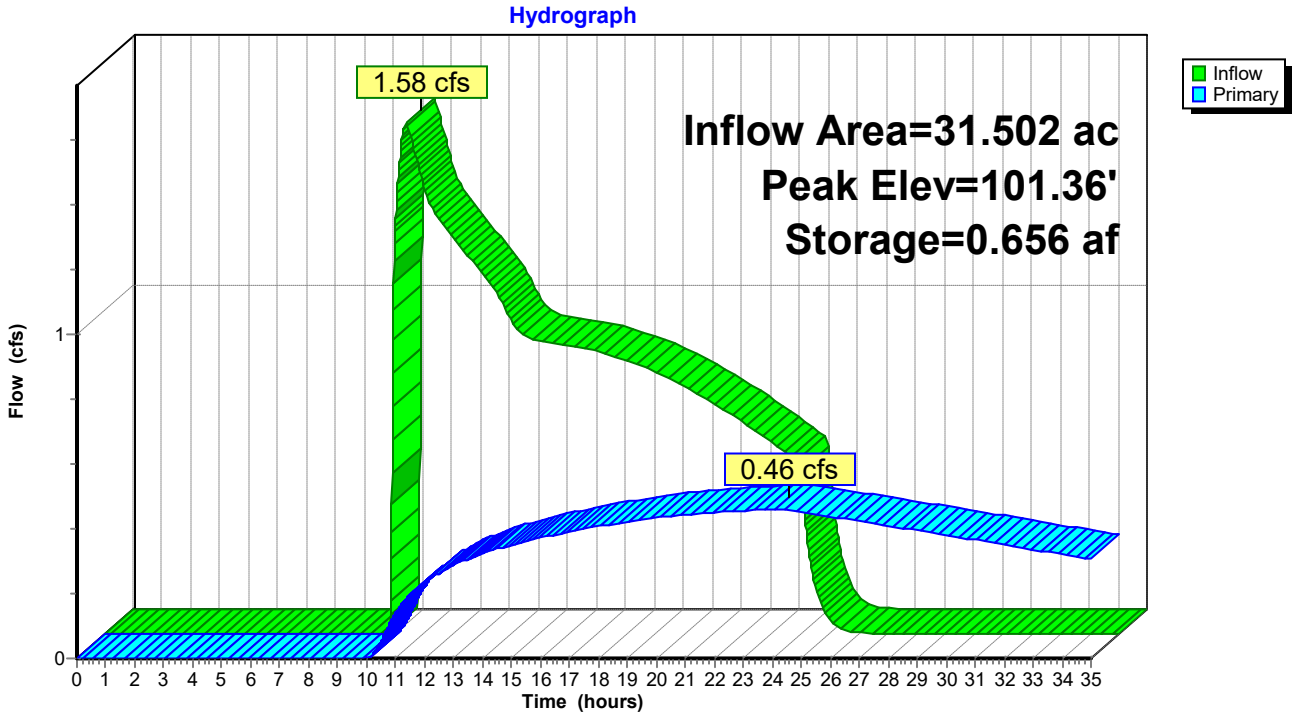
Plug-Flow detention time= 565.2 min calculated for 0.760 af (70% of inflow)
Center-of-Mass det. time= 431.3 min (1,393.8 - 962.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	2.623 af	**80.00'W x 240.00'L x 4.50'H Prismatoid Z=4.0**

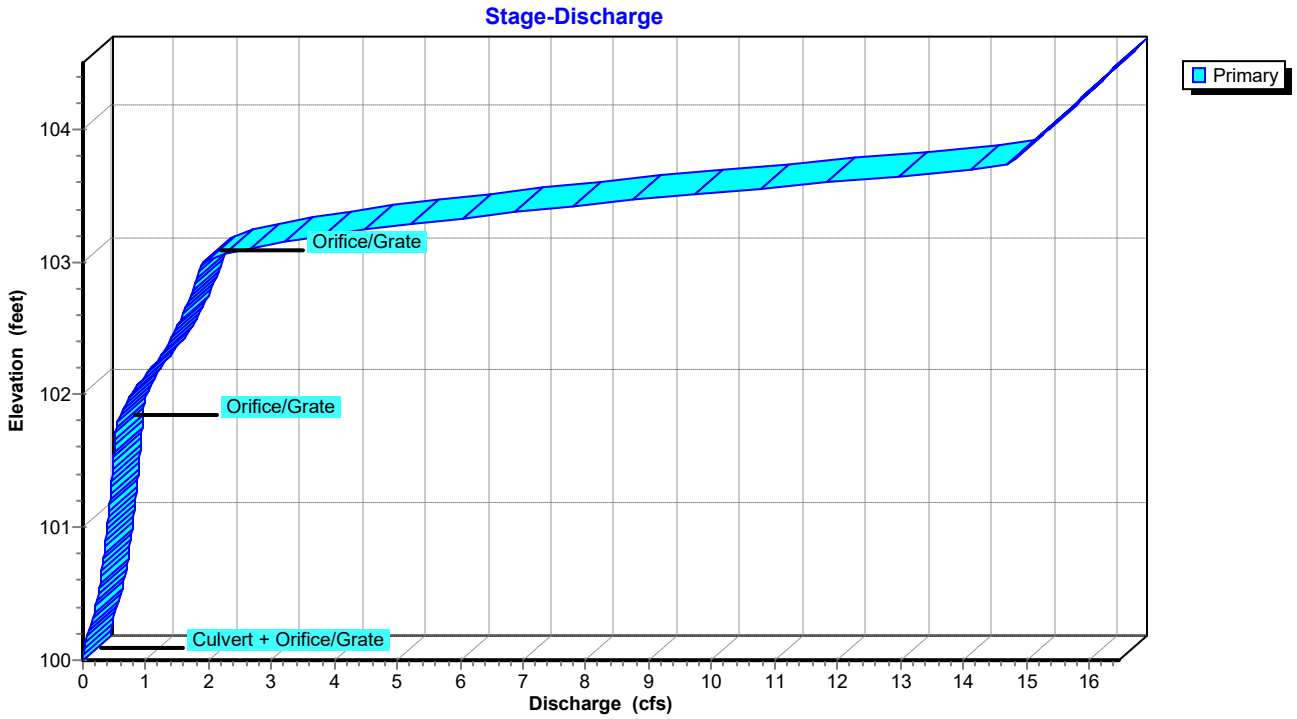
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	101.75'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.46 cfs @ 24.06 hrs HW=101.36' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.46 cfs of 5.32 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.46 cfs @ 5.26 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D15: Detention Pond 15



Pond D15: Detention Pond 15



Stage-Discharge for Pond D15: Detention Pond 15

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.58
100.05	0.01	102.65	1.63
100.10	0.02	102.70	1.67
100.15	0.05	102.75	1.71
100.20	0.08	102.80	1.75
100.25	0.12	102.85	1.79
100.30	0.15	102.90	1.83
100.35	0.18	102.95	1.87
100.40	0.20	103.00	1.91
100.45	0.22	103.05	2.17
100.50	0.24	103.10	2.63
100.55	0.26	103.15	3.21
100.60	0.28	103.20	3.89
100.65	0.29	103.25	4.65
100.70	0.31	103.30	5.49
100.75	0.32	103.35	6.40
100.80	0.33	103.40	7.38
100.85	0.35	103.45	8.41
100.90	0.36	103.50	9.50
100.95	0.37	103.55	10.65
101.00	0.38	103.60	11.85
101.05	0.39	103.65	13.10
101.10	0.41	103.70	14.39
101.15	0.42	103.75	14.74
101.20	0.43	103.80	14.86
101.25	0.44	103.85	14.98
101.30	0.45	103.90	15.10
101.35	0.46	103.95	15.22
101.40	0.47	104.00	15.34
101.45	0.48	104.05	15.46
101.50	0.49	104.10	15.57
101.55	0.49	104.15	15.69
101.60	0.50	104.20	15.80
101.65	0.51	104.25	15.92
101.70	0.52	104.30	16.03
101.75	0.53	104.35	16.14
101.80	0.55	104.40	16.26
101.85	0.60	104.45	16.37
101.90	0.65	104.50	**16.48**
101.95	0.70		
102.00	0.77		
102.05	0.84		
102.10	0.92		
102.15	1.00		
102.20	1.08		
102.25	1.17		
102.30	1.25		
102.35	1.32		
102.40	1.38		
102.45	1.43		
102.50	1.48		
102.55	1.53		

Summary for Pond D16.2: Detention Pond 16.2

Inflow Area = 12.275 ac, 0.00% Impervious, Inflow Depth = 0.56" for 5 year event
Inflow = 1.67 cfs @ 10.00 hrs, Volume= 0.573 af
Outflow = 0.41 cfs @ 17.62 hrs, Volume= 0.524 af, Atten= 75%, Lag= 457.1 min
Primary = 0.41 cfs @ 17.62 hrs, Volume= 0.524 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.08' @ 17.62 hrs Surf.Area= 0.213 ac Storage= 0.208 af

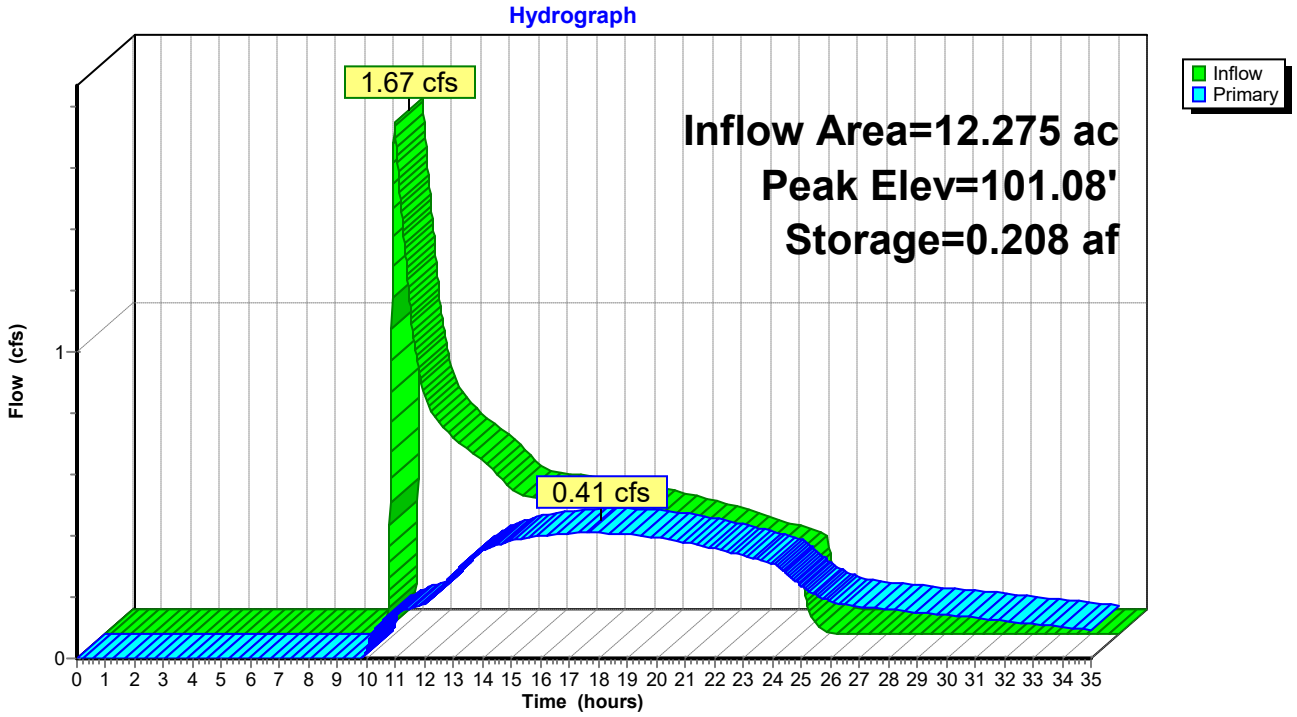
Plug-Flow detention time= 362.0 min calculated for 0.524 af (91% of inflow)
Center-of-Mass det. time= 318.2 min (1,240.4 - 922.2)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.770 af	**50.00'W x 150.00'L x 3.25'H Prismatoid Z=4.0**

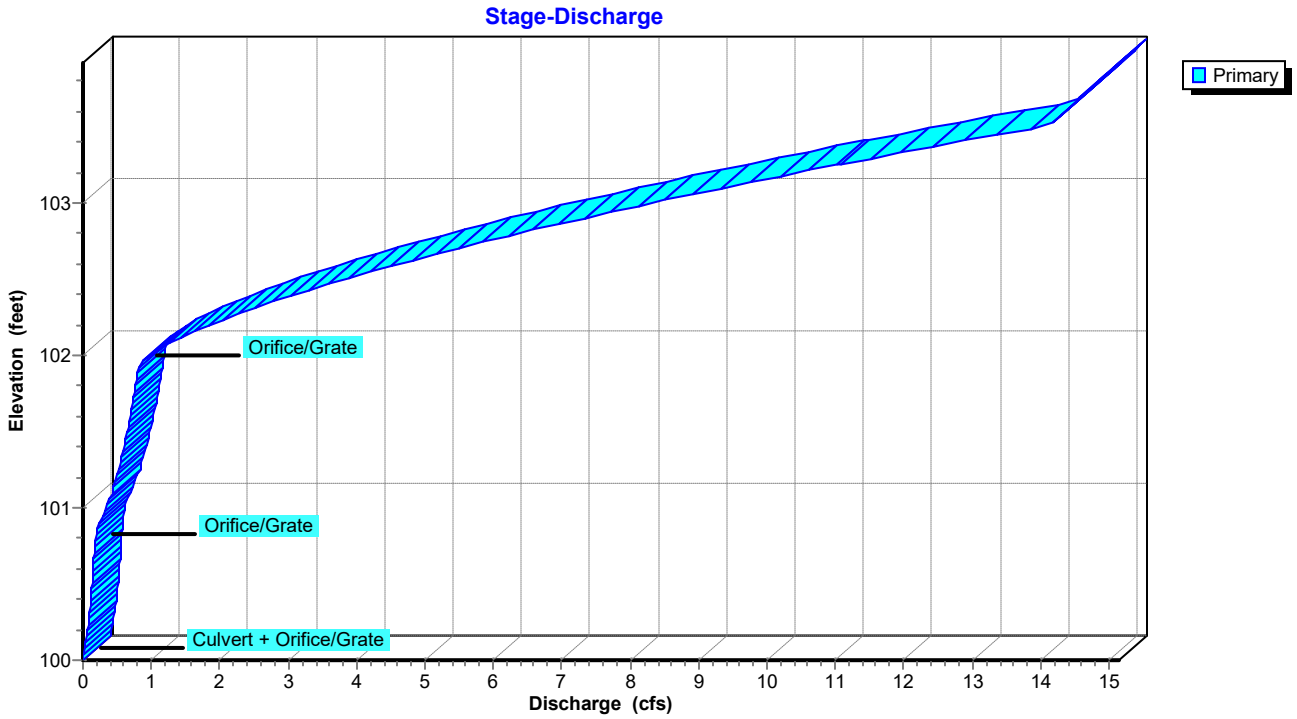
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	101.92'	**24.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.75'	**4.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.41 cfs @ 17.62 hrs HW=101.08' TW=0.00' (Dynamic Tailwater)
↑└─**1=Culvert** (Passes 0.41 cfs of 3.67 cfs potential flow)
↑ ├─**2=Orifice/Grate** (Controls 0.00 cfs)
↑ ├─**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 4.80 fps)
↑ └─**4=Orifice/Grate** (Orifice Controls 0.20 cfs @ 1.95 fps)

Pond D16.2: Detention Pond 16.2



Pond D16.2: Detention Pond 16.2



Stage-Discharge for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.37	102.08	1.28	103.12	9.59
100.02	0.00	101.06	0.39	102.10	1.36	103.14	9.81
100.04	0.01	101.08	0.41	102.12	1.45	103.16	10.03
100.06	0.01	101.10	0.43	102.14	1.55	103.18	10.25
100.08	0.02	101.12	0.44	102.16	1.65	103.20	10.47
100.10	0.03	101.14	0.46	102.18	1.75	103.22	10.69
100.12	0.04	101.16	0.47	102.20	1.85	103.24	10.92
100.14	0.05	101.18	0.48	102.22	1.96	103.26	11.14
100.16	0.06	101.20	0.49	102.24	2.08	103.28	11.37
100.18	0.07	101.22	0.51	102.26	2.19	103.30	11.60
100.20	0.07	101.24	0.52	102.28	2.31	103.32	11.83
100.22	0.08	101.26	0.53	102.30	2.44	103.34	12.07
100.24	0.08	101.28	0.54	102.32	2.56	103.36	12.30
100.26	0.09	101.30	0.55	102.34	2.69	103.38	12.54
100.28	0.09	101.32	0.56	102.36	2.83	103.40	12.78
100.30	0.10	101.34	0.57	102.38	2.96	103.42	13.02
100.32	0.10	101.36	0.58	102.40	3.10	103.44	13.26
100.34	0.11	101.38	0.59	102.42	3.24	103.46	13.50
100.36	0.11	101.40	0.60	102.44	3.38	103.48	13.74
100.38	0.11	101.42	0.61	102.46	3.53	103.50	13.99
100.40	0.12	101.44	0.62	102.48	3.68	103.52	14.16
100.42	0.12	101.46	0.63	102.50	3.83	103.54	14.21
100.44	0.13	101.48	0.64	102.52	3.98	103.56	14.26
100.46	0.13	101.50	0.65	102.54	4.14	103.58	14.31
100.48	0.13	101.52	0.66	102.56	4.30	103.60	14.36
100.50	0.14	101.54	0.67	102.58	4.46	103.62	14.41
100.52	0.14	101.56	0.67	102.60	4.62	103.64	14.46
100.54	0.14	101.58	0.68	102.62	4.78	103.66	14.51
100.56	0.15	101.60	0.69	102.64	4.95	103.68	14.56
100.58	0.15	101.62	0.70	102.66	5.12	103.70	14.61
100.60	0.15	101.64	0.71	102.68	5.29	103.72	14.66
100.62	0.15	101.66	0.72	102.70	5.47	103.74	14.71
100.64	0.16	101.68	0.72	102.72	5.64	103.76	14.76
100.66	0.16	101.70	0.73	102.74	5.82	103.78	14.81
100.68	0.16	101.72	0.74	102.76	6.00	103.80	14.86
100.70	0.16	101.74	0.75	102.78	6.19	103.82	14.91
100.72	0.17	101.76	0.75	102.80	6.37	103.84	14.96
100.74	0.17	101.78	0.76	102.82	6.56	103.86	15.01
100.76	0.17	101.80	0.77	102.84	6.75	103.88	15.05
100.78	0.18	101.82	0.78	102.86	6.94	103.90	15.10
100.80	0.18	101.84	0.78	102.88	7.13	103.92	**15.15**
100.82	0.19	101.86	0.79	102.90	7.33		
100.84	0.20	101.88	0.80	102.92	7.52		
100.86	0.22	101.90	0.80	102.94	7.72		
100.88	0.23	101.92	0.81	102.96	7.92		
100.90	0.24	101.94	0.84	102.98	8.12		
100.92	0.26	101.96	0.88	103.00	8.33		
100.94	0.28	101.98	0.93	103.02	8.53		
100.96	0.30	102.00	0.98	103.04	8.74		
100.98	0.31	102.02	1.05	103.06	8.95		
101.00	0.33	102.04	1.12	103.08	9.16		
101.02	0.35	102.06	1.20	103.10	9.38		

Summary for Pond D16.3: Detention Pond 16.3

Inflow Area = 110.203 ac, 0.00% Impervious, Inflow Depth = 1.09" for 5 year event
Inflow = 20.74 cfs @ 10.27 hrs, Volume= 10.041 af
Outflow = 3.76 cfs @ 23.35 hrs, Volume= 4.419 af, Atten= 82%, Lag= 784.6 min
Primary = 3.76 cfs @ 23.35 hrs, Volume= 4.419 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.64' @ 23.35 hrs Surf.Area= 2.211 ac Storage= 7.228 af

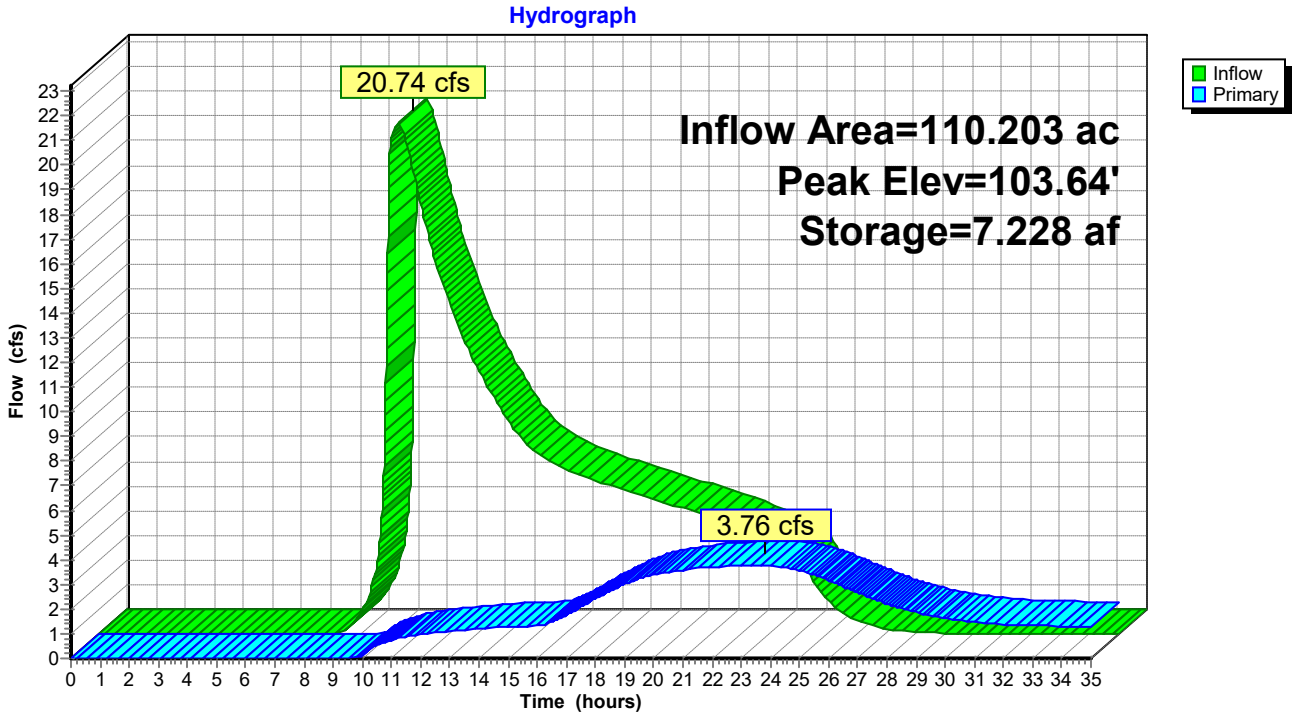
Plug-Flow detention time= 713.6 min calculated for 4.418 af (44% of inflow)
Center-of-Mass det. time= 481.5 min (1,385.5 - 904.0)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	14.078 af	**160.00'W x 480.00'L x 6.50'H Prismatoid Z=4.0**

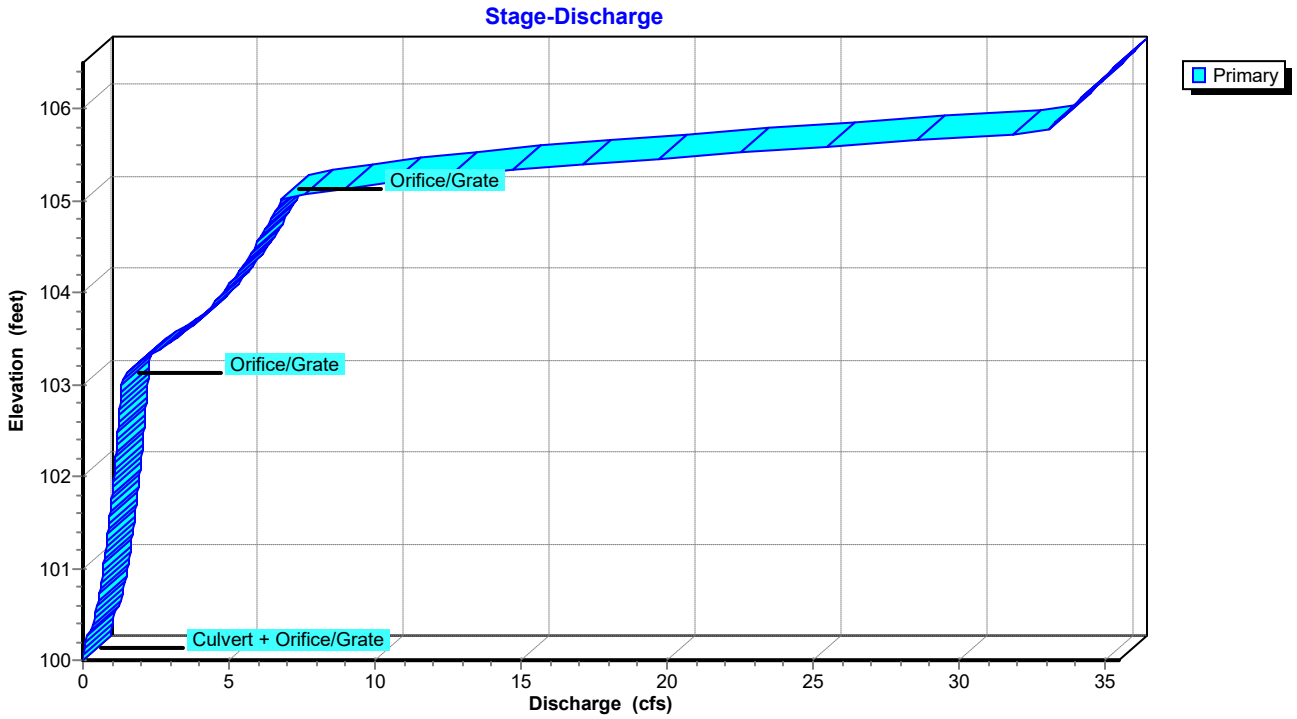
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**24.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.00'	**7.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.76 cfs @ 23.35 hrs HW=103.64' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.76 cfs of 24.60 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 1.47 cfs @ 8.90 fps)
  └─**4=Orifice/Grate** (Orifice Controls 2.29 cfs @ 2.86 fps)

Pond D16.3: Detention Pond 16.3



Pond D16.3: Detention Pond 16.3



Stage-Discharge for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.22	105.20	10.61
100.05	0.01	102.65	1.24	105.25	12.09
100.10	0.03	102.70	1.25	105.30	13.71
100.15	0.06	102.75	1.26	105.35	15.46
100.20	0.11	102.80	1.27	105.40	17.34
100.25	0.16	102.85	1.29	105.45	19.33
100.30	0.21	102.90	1.30	105.50	21.43
100.35	0.27	102.95	1.31	105.55	23.64
100.40	0.33	103.00	1.32	105.60	25.94
100.45	0.38	103.05	1.36	105.65	28.34
100.50	0.41	103.10	1.44	105.70	30.83
100.55	0.45	103.15	1.57	105.75	32.97
100.60	0.48	103.20	1.74	105.80	33.14
100.65	0.52	103.25	1.94	105.85	33.31
100.70	0.55	103.30	2.17	105.90	33.48
100.75	0.57	103.35	2.42	105.95	33.65
100.80	0.60	103.40	2.68	106.00	33.82
100.85	0.63	103.45	2.94	106.05	33.99
100.90	0.65	103.50	3.20	106.10	34.16
100.95	0.67	103.55	3.43	106.15	34.33
101.00	0.70	103.60	3.60	106.20	34.49
101.05	0.72	103.65	3.78	106.25	34.66
101.10	0.74	103.70	3.95	106.30	34.82
101.15	0.76	103.75	4.10	106.35	34.99
101.20	0.78	103.80	4.25	106.40	35.15
101.25	0.80	103.85	4.40	106.45	35.31
101.30	0.82	103.90	4.53	106.50	**35.48**
101.35	0.84	103.95	4.66		
101.40	0.86	104.00	4.79		
101.45	0.88	104.05	4.91		
101.50	0.90	104.10	5.03		
101.55	0.91	104.15	5.15		
101.60	0.93	104.20	5.26		
101.65	0.95	104.25	5.37		
101.70	0.96	104.30	5.48		
101.75	0.98	104.35	5.58		
101.80	1.00	104.40	5.69		
101.85	1.01	104.45	5.79		
101.90	1.03	104.50	5.89		
101.95	1.04	104.55	5.98		
102.00	1.06	104.60	6.08		
102.05	1.07	104.65	6.17		
102.10	1.09	104.70	6.26		
102.15	1.10	104.75	6.35		
102.20	1.12	104.80	6.44		
102.25	1.13	104.85	6.53		
102.30	1.14	104.90	6.61		
102.35	1.16	104.95	6.70		
102.40	1.17	105.00	6.78		
102.45	1.18	105.05	7.30		
102.50	1.20	105.10	8.19		
102.55	1.21	105.15	9.30		

Summary for Pond D18: Detention Pond 18

Inflow Area = 42.657 ac, 0.00% Impervious, Inflow Depth = 1.70" for 5 year event
Inflow = 29.98 cfs @ 9.99 hrs, Volume= 6.027 af
Outflow = 2.19 cfs @ 20.82 hrs, Volume= 4.146 af, Atten= 93%, Lag= 650.2 min
Primary = 2.19 cfs @ 20.82 hrs, Volume= 4.146 af
Routed to Reach 18R : Collection Point 18

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.19' @ 20.82 hrs Surf.Area= 1.288 ac Storage= 3.624 af

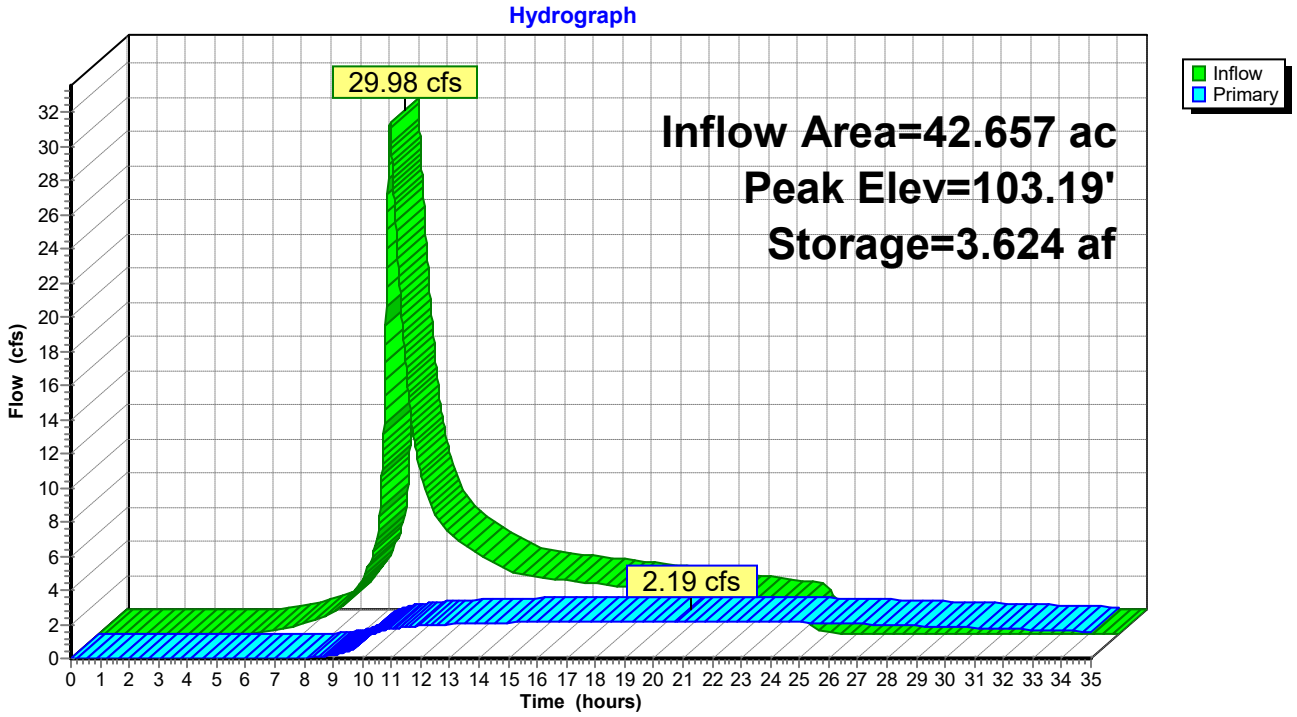
Plug-Flow detention time= 663.9 min calculated for 4.146 af (69% of inflow)
Center-of-Mass det. time= 513.6 min (1,325.1 - 811.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8.443 af	**120.00'W x 360.00'L x 6.50'H Prismatoid Z=4.0**

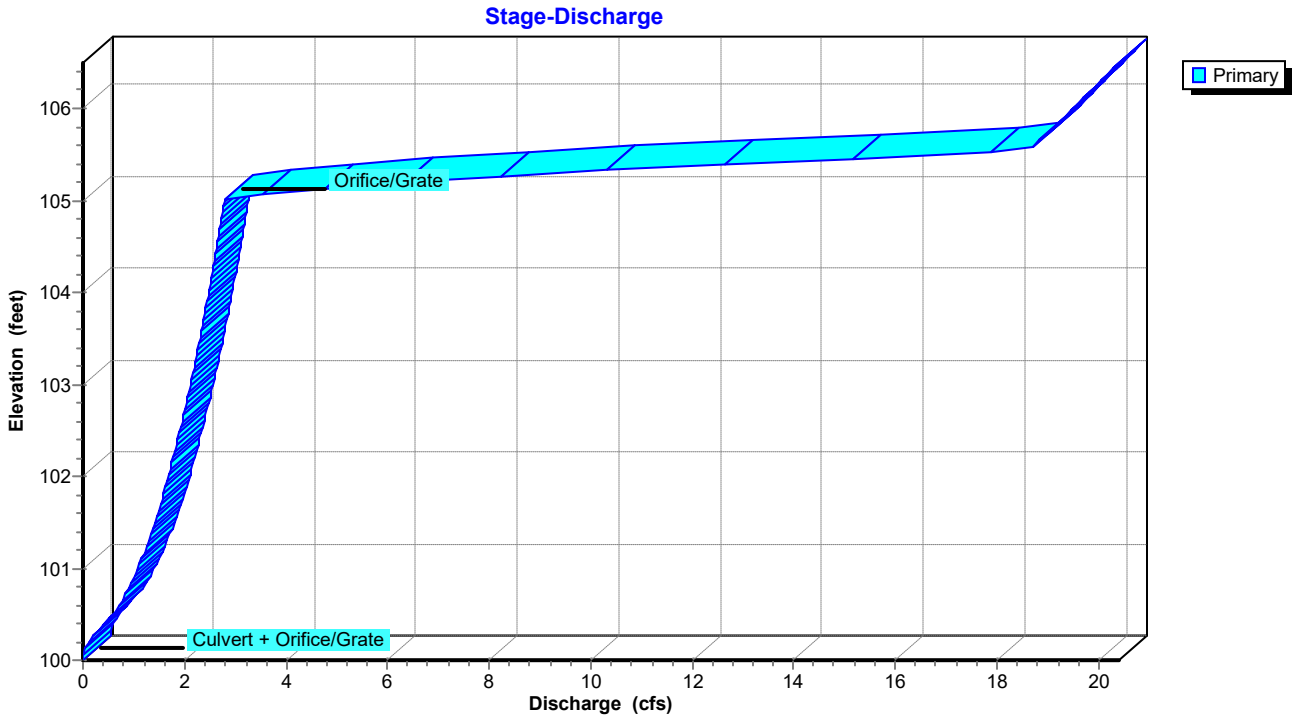
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.19 cfs @ 20.82 hrs HW=103.19' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.19 cfs of 13.28 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 2.19 cfs @ 8.19 fps)

Pond D18: Detention Pond 18



Pond D18: Detention Pond 18



Stage-Discharge for Pond D18: Detention Pond 18

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	6.36
100.05	0.01	102.65	1.98	105.25	7.77
100.10	0.03	102.70	2.00	105.30	9.33
100.15	0.07	102.75	2.02	105.35	11.02
100.20	0.12	102.80	2.04	105.40	12.84
100.25	0.19	102.85	2.06	105.45	14.77
100.30	0.26	102.90	2.08	105.50	16.81
100.35	0.34	102.95	2.10	105.55	18.64
100.40	0.42	103.00	2.12	105.60	18.74
100.45	0.51	103.05	2.14	105.65	18.83
100.50	0.59	103.10	2.16	105.70	18.93
100.55	0.66	103.15	2.18	105.75	19.03
100.60	0.71	103.20	2.19	105.80	19.12
100.65	0.77	103.25	2.21	105.85	19.22
100.70	0.82	103.30	2.23	105.90	19.31
100.75	0.87	103.35	2.25	105.95	19.40
100.80	0.92	103.40	2.27	106.00	19.50
100.85	0.96	103.45	2.29	106.05	19.59
100.90	1.00	103.50	2.30	106.10	19.68
100.95	1.04	103.55	2.32	106.15	19.77
101.00	1.08	103.60	2.34	106.20	19.86
101.05	1.12	103.65	2.36	106.25	19.95
101.10	1.16	103.70	2.38	106.30	20.05
101.15	1.19	103.75	2.39	106.35	20.14
101.20	1.23	103.80	2.41	106.40	20.23
101.25	1.26	103.85	2.43	106.45	20.31
101.30	1.29	103.90	2.44	106.50	**20.40**
101.35	1.32	103.95	2.46		
101.40	1.35	104.00	2.48		
101.45	1.38	104.05	2.49		
101.50	1.41	104.10	2.51		
101.55	1.44	104.15	2.53		
101.60	1.47	104.20	2.54		
101.65	1.50	104.25	2.56		
101.70	1.53	104.30	2.58		
101.75	1.55	104.35	2.59		
101.80	1.58	104.40	2.61		
101.85	1.61	104.45	2.62		
101.90	1.63	104.50	2.64		
101.95	1.66	104.55	2.66		
102.00	1.68	104.60	2.67		
102.05	1.71	104.65	2.69		
102.10	1.73	104.70	2.70		
102.15	1.75	104.75	2.72		
102.20	1.78	104.80	2.73		
102.25	1.80	104.85	2.75		
102.30	1.82	104.90	2.76		
102.35	1.85	104.95	2.78		
102.40	1.87	105.00	2.79		
102.45	1.89	105.05	3.25		
102.50	1.91	105.10	4.06		
102.55	1.93	105.15	5.12		

Summary for Pond D20.2: Detention Basin 20.2

Inflow Area = 3.949 ac, 37.71% Impervious, Inflow Depth = 1.60" for 5 year event
Inflow = 2.68 cfs @ 9.98 hrs, Volume= 0.528 af
Outflow = 0.18 cfs @ 20.91 hrs, Volume= 0.362 af, Atten= 93%, Lag= 655.9 min
Primary = 0.18 cfs @ 20.91 hrs, Volume= 0.362 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.95' @ 20.91 hrs Storage= 0.311 af

Plug-Flow detention time= 663.9 min calculated for 0.362 af (69% of inflow)
Center-of-Mass det. time= 505.2 min (1,279.8 - 774.6)

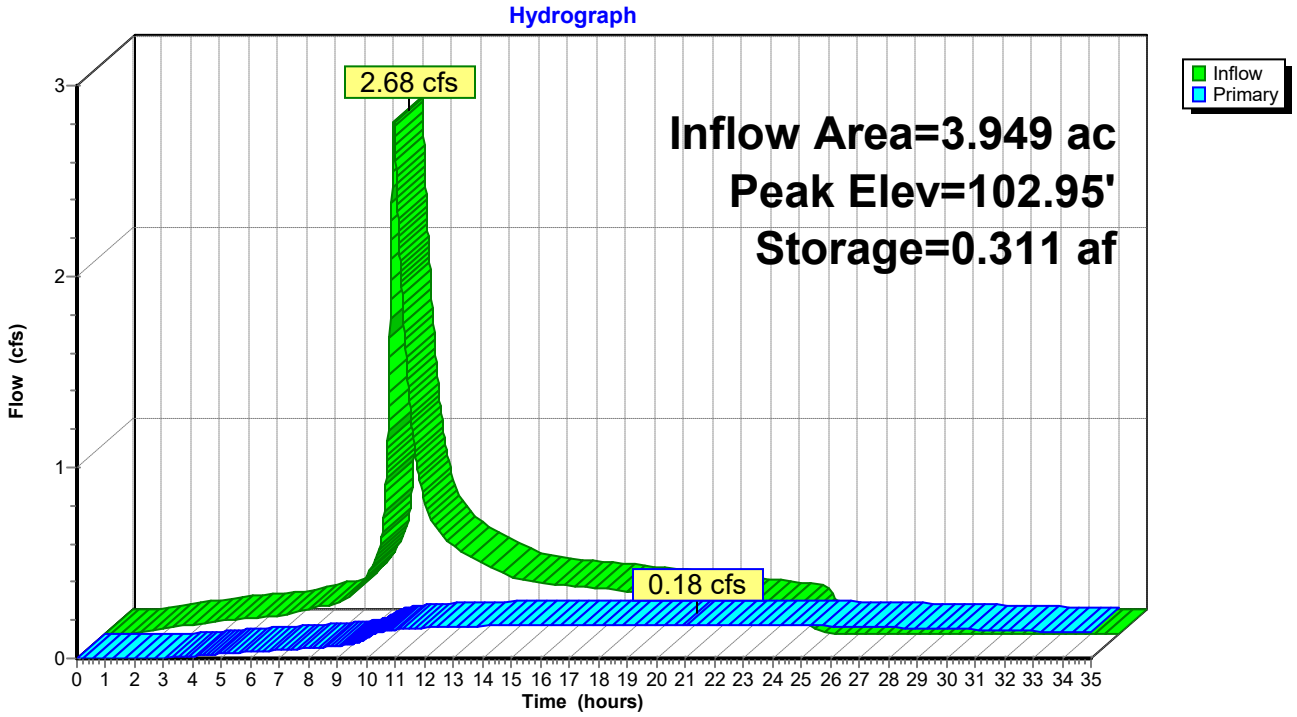
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

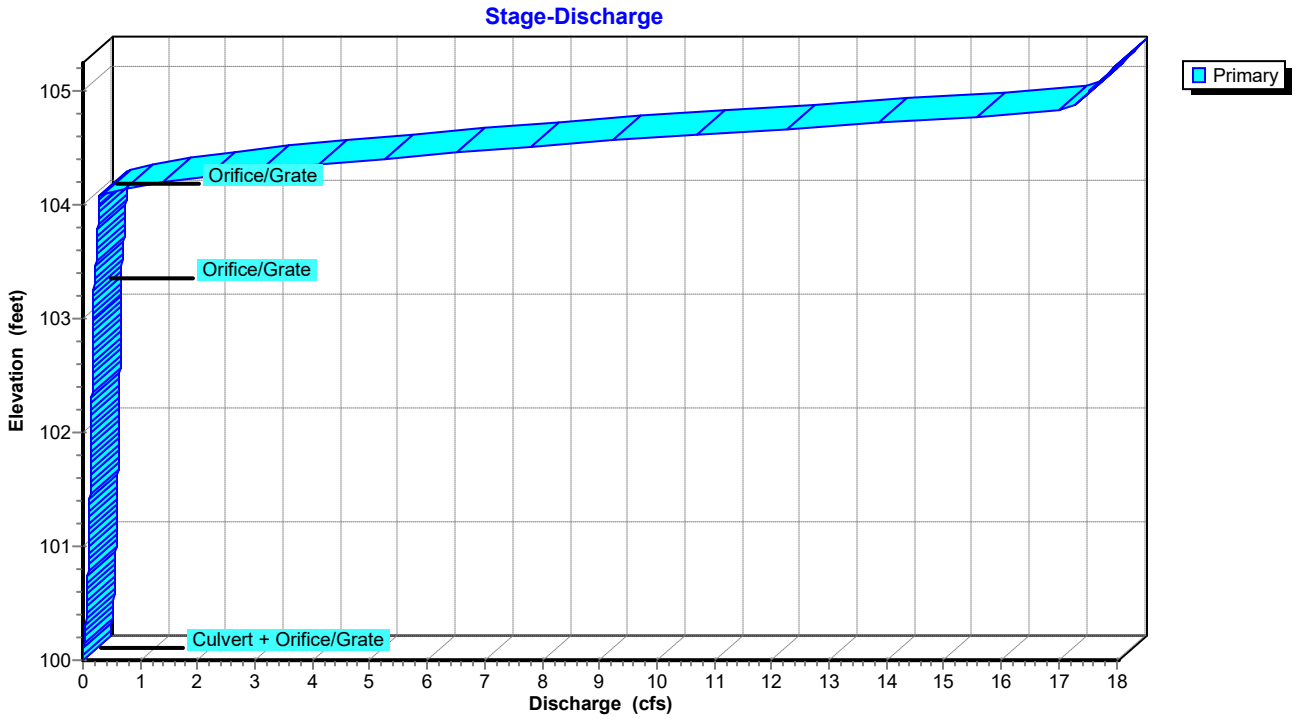
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 20.91 hrs HW=102.95' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.18 cfs of 12.63 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.18 cfs @ 8.16 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D20.2: Detention Basin 20.2



Pond D20.2: Detention Basin 20.2



Stage-Discharge for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Summary for Pond D20.3: Detention Pond 20.3

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 1.54" for 5 year event
Inflow = 1.75 cfs @ 9.99 hrs, Volume= 0.440 af
Outflow = 0.19 cfs @ 18.44 hrs, Volume= 0.369 af, Atten= 89%, Lag= 507.2 min
Primary = 0.19 cfs @ 18.44 hrs, Volume= 0.369 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.65' @ 18.44 hrs Storage= 9,632 cf

Plug-Flow detention time= 562.4 min calculated for 0.369 af (84% of inflow)
Center-of-Mass det. time= 469.5 min (1,265.8 - 796.3)

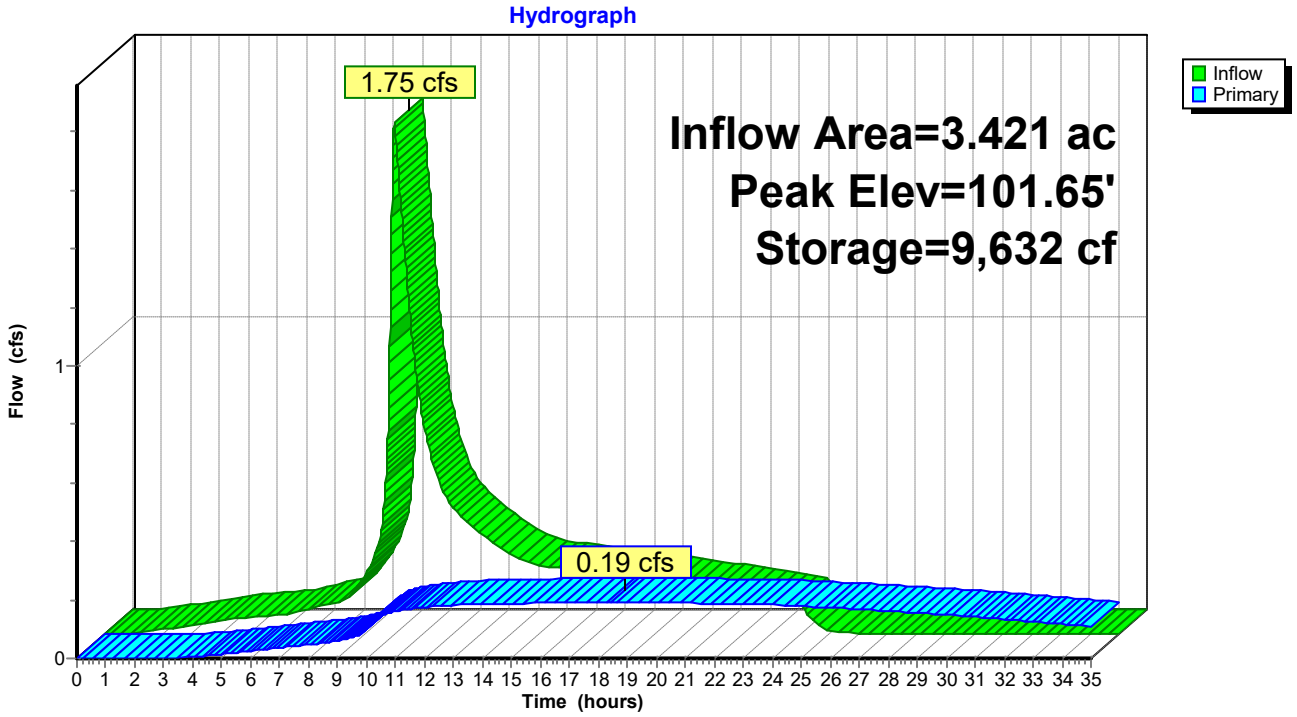
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	26,310 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	5,184
102.00	11,979
103.00	20,604
103.67	26,310

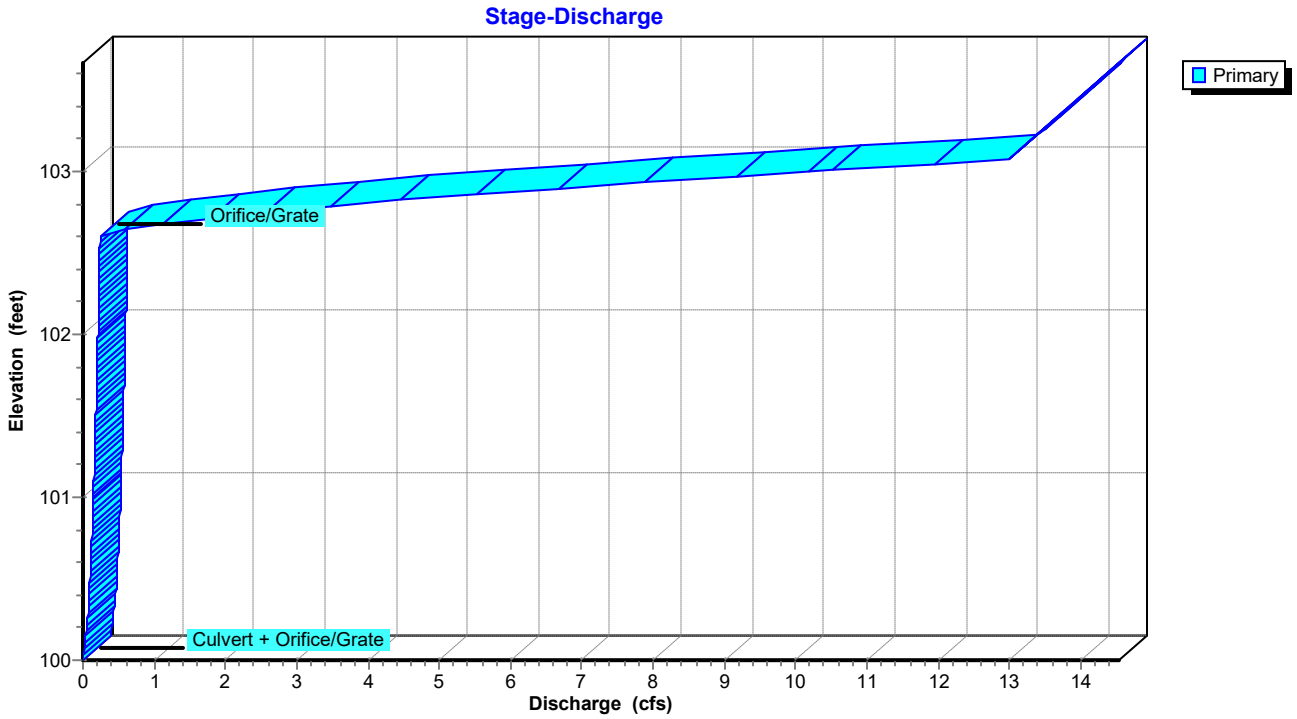
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 18.44 hrs HW=101.65' TW=0.00' (Dynamic Tailwater)
1=Culvert (Passes 0.19 cfs of 7.02 cfs potential flow)
2=Orifice/Grate (Controls 0.00 cfs)
3=Orifice/Grate (Orifice Controls 0.19 cfs @ 6.06 fps)

Pond D20.3: Detention Pond 20.3



Pond D20.3: Detention Pond 20.3



Stage-Discharge for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Summary for Pond D20.4: Detention Pond 20.4

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 1.14" for 5 year event
Inflow = 3.54 cfs @ 9.98 hrs, Volume= 0.735 af
Outflow = 0.29 cfs @ 21.28 hrs, Volume= 0.506 af, Atten= 92%, Lag= 677.9 min
Primary = 0.29 cfs @ 21.28 hrs, Volume= 0.506 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.17' @ 21.28 hrs Storage= 18,803 cf

Plug-Flow detention time= 636.9 min calculated for 0.506 af (69% of inflow)
Center-of-Mass det. time= 481.3 min (1,309.8 - 828.5)

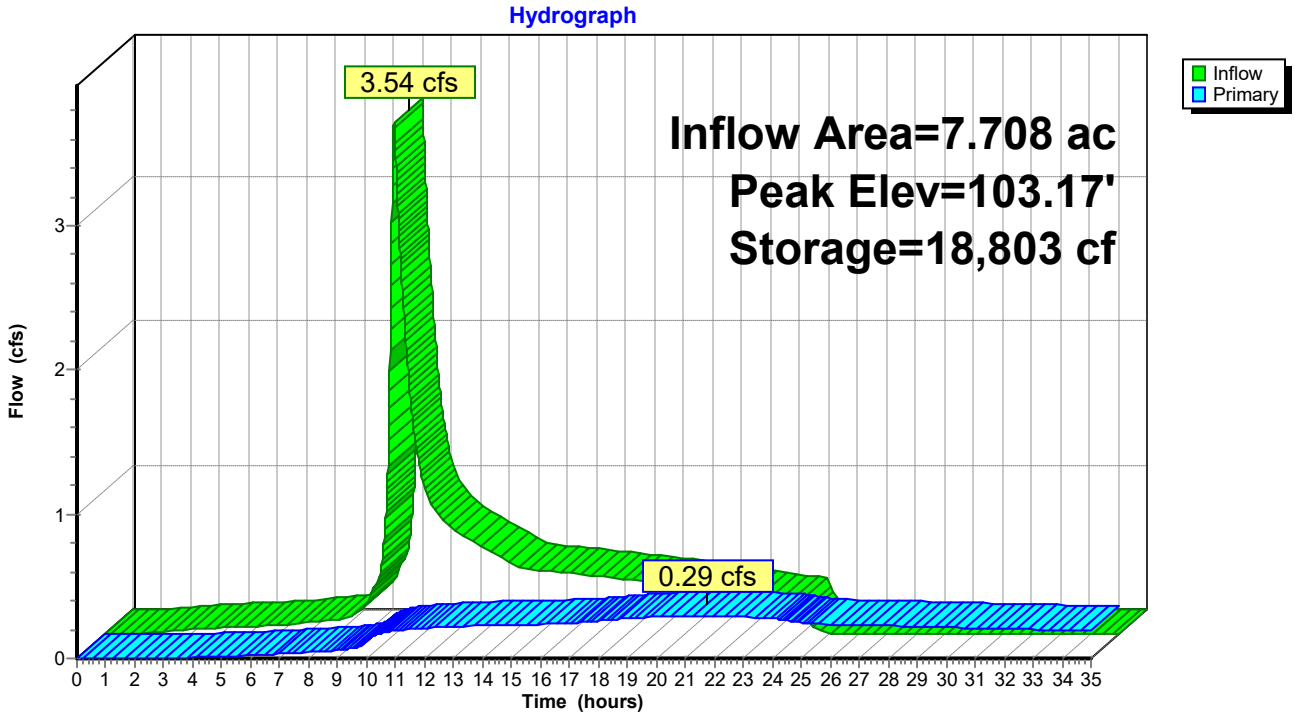
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

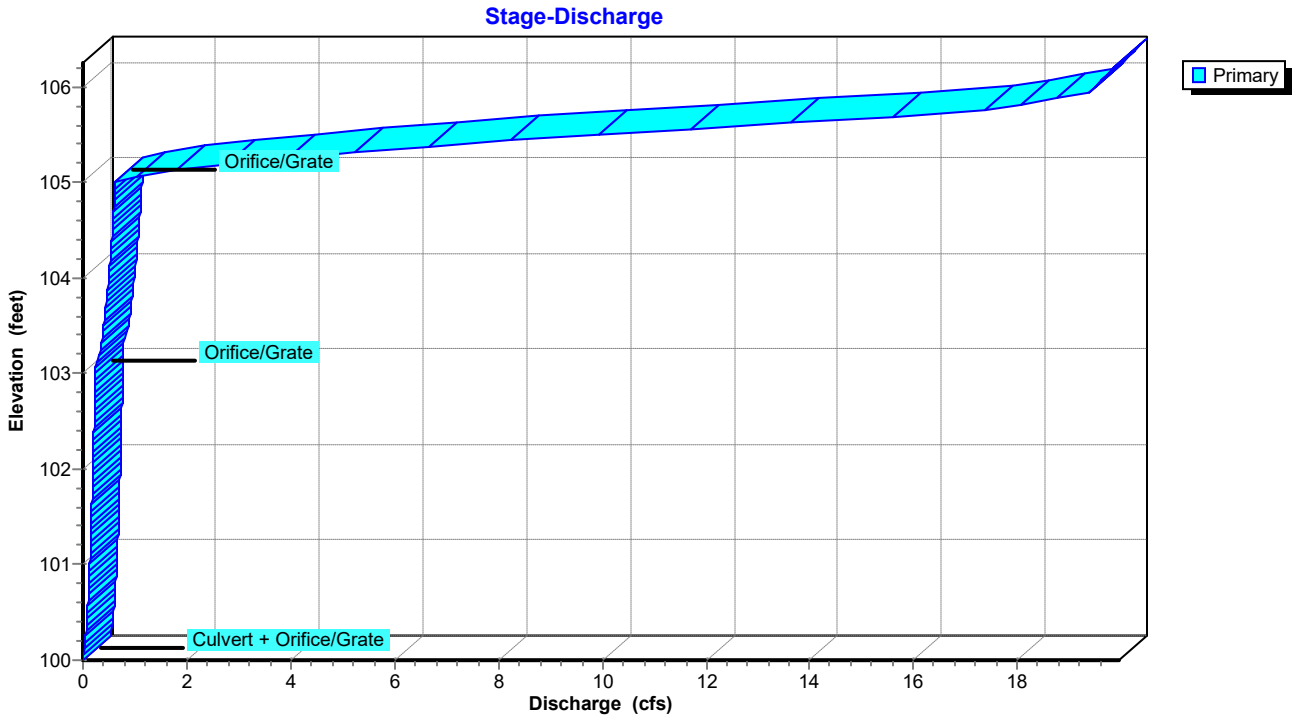
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 21.28 hrs HW=103.17' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.29 cfs of 13.24 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.05 cfs @ 1.41 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.24 cfs @ 8.44 fps)

Pond D20.4: Detention Pond 20.4



Pond D20.4: Detention Pond 20.4



Stage-Discharge for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Summary for Pond D3: Detention Basin 3

Inflow Area = 4.707 ac, 0.00% Impervious, Inflow Depth = 1.55" for 5 year event
Inflow = 3.16 cfs @ 9.98 hrs, Volume= 0.607 af
Outflow = 0.16 cfs @ 24.00 hrs, Volume= 0.308 af, Atten= 95%, Lag= 841.2 min
Primary = 0.16 cfs @ 24.00 hrs, Volume= 0.308 af
Routed to Reach 3R : Collection Point 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.36' @ 24.00 hrs Surf.Area= 0.226 ac Storage= 0.429 af

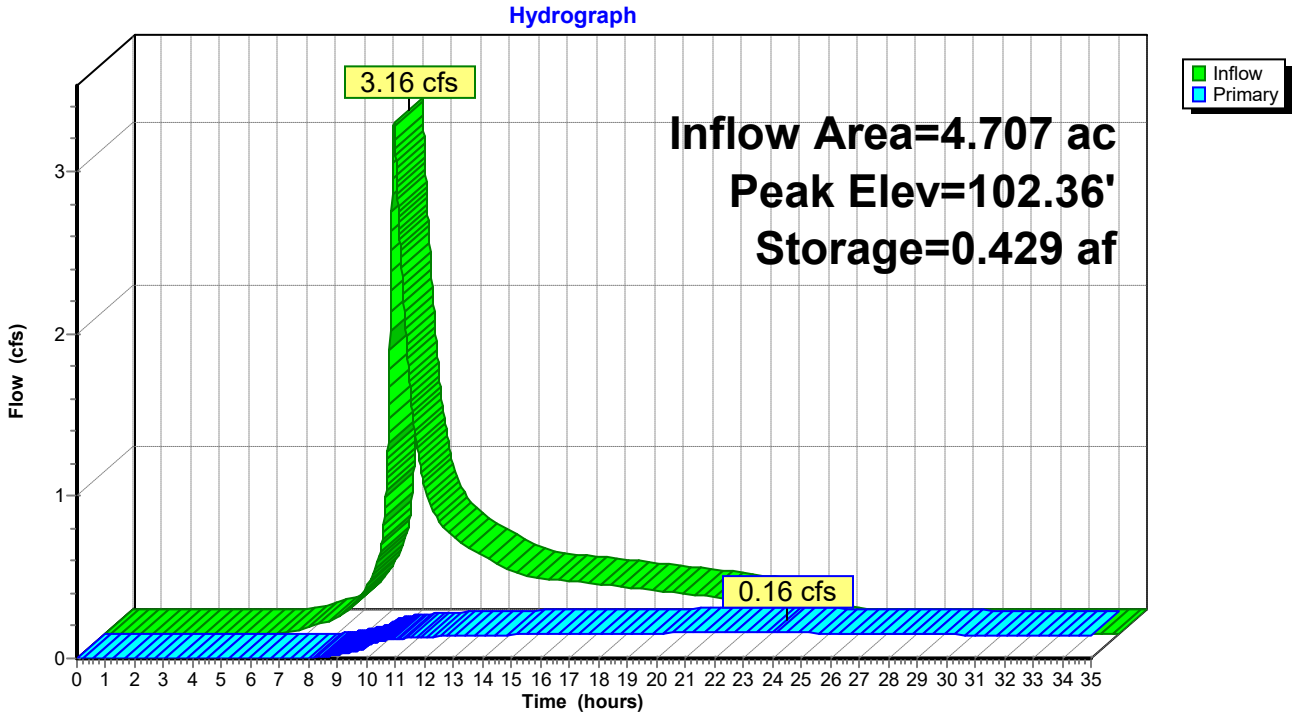
Plug-Flow detention time= 728.6 min calculated for 0.308 af (51% of inflow)
Center-of-Mass det. time= 527.9 min (1,348.3 - 820.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	1.172 af	**45.00'W x 135.00'L x 5.00'H Prismatoid Z=4.0**

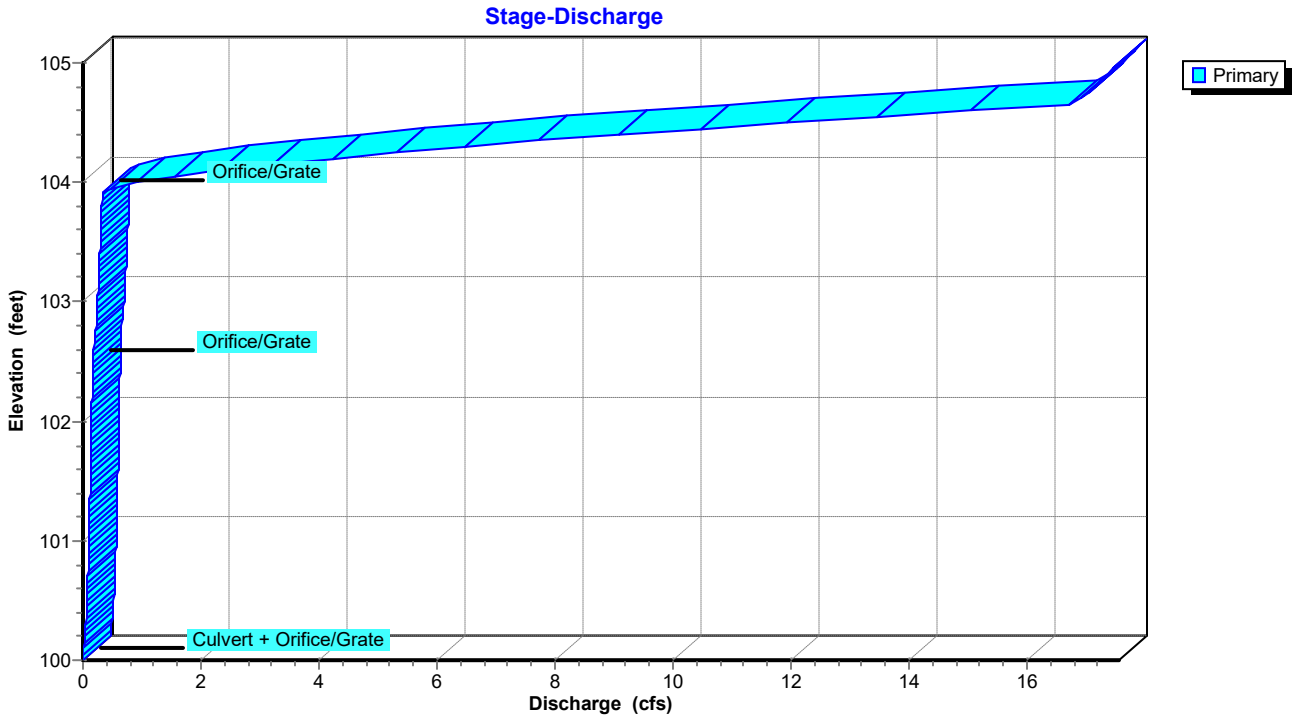
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.92'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.50'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 24.00 hrs HW=102.36' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.16 cfs of 10.74 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.16 cfs @ 7.27 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond D3: Detention Basin 3



Pond D3: Detention Basin 3



Stage-Discharge for Pond D3: Detention Basin 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.18
100.05	0.00	102.65	0.20
100.10	0.01	102.70	0.21
100.15	0.03	102.75	0.21
100.20	0.04	102.80	0.22
100.25	0.04	102.85	0.23
100.30	0.05	102.90	0.24
100.35	0.05	102.95	0.24
100.40	0.06	103.00	0.25
100.45	0.06	103.05	0.25
100.50	0.07	103.10	0.26
100.55	0.07	103.15	0.26
100.60	0.08	103.20	0.27
100.65	0.08	103.25	0.27
100.70	0.08	103.30	0.28
100.75	0.09	103.35	0.28
100.80	0.09	103.40	0.29
100.85	0.09	103.45	0.29
100.90	0.09	103.50	0.29
100.95	0.10	103.55	0.30
101.00	0.10	103.60	0.30
101.05	0.10	103.65	0.31
101.10	0.11	103.70	0.31
101.15	0.11	103.75	0.31
101.20	0.11	103.80	0.32
101.25	0.11	103.85	0.32
101.30	0.12	103.90	0.33
101.35	0.12	103.95	0.47
101.40	0.12	104.00	0.92
101.45	0.12	104.05	1.56
101.50	0.13	104.10	2.34
101.55	0.13	104.15	3.23
101.60	0.13	104.20	4.22
101.65	0.13	104.25	5.31
101.70	0.13	104.30	6.48
101.75	0.14	104.35	7.73
101.80	0.14	104.40	9.06
101.85	0.14	104.45	10.46
101.90	0.14	104.50	11.92
101.95	0.14	104.55	13.45
102.00	0.15	104.60	15.04
102.05	0.15	104.65	16.69
102.10	0.15	104.70	16.91
102.15	0.15	104.75	17.02
102.20	0.15	104.80	17.12
102.25	0.15	104.85	17.23
102.30	0.16	104.90	17.33
102.35	0.16	104.95	17.44
102.40	0.16	105.00	**17.54**
102.45	0.16		
102.50	0.16		
102.55	0.17		

Summary for Pond D5: Detention Basin 5

Inflow Area = 22.444 ac, 0.00% Impervious, Inflow Depth = 1.48" for 5 year event
Inflow = 14.78 cfs @ 9.98 hrs, Volume= 2.759 af
Outflow = 0.85 cfs @ 22.96 hrs, Volume= 1.196 af, Atten= 94%, Lag= 779.0 min
Primary = 0.85 cfs @ 22.96 hrs, Volume= 1.196 af
Routed to Reach 5R : Collection Point 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.60' @ 22.96 hrs Surf.Area= 0.889 ac Storage= 2.043 af

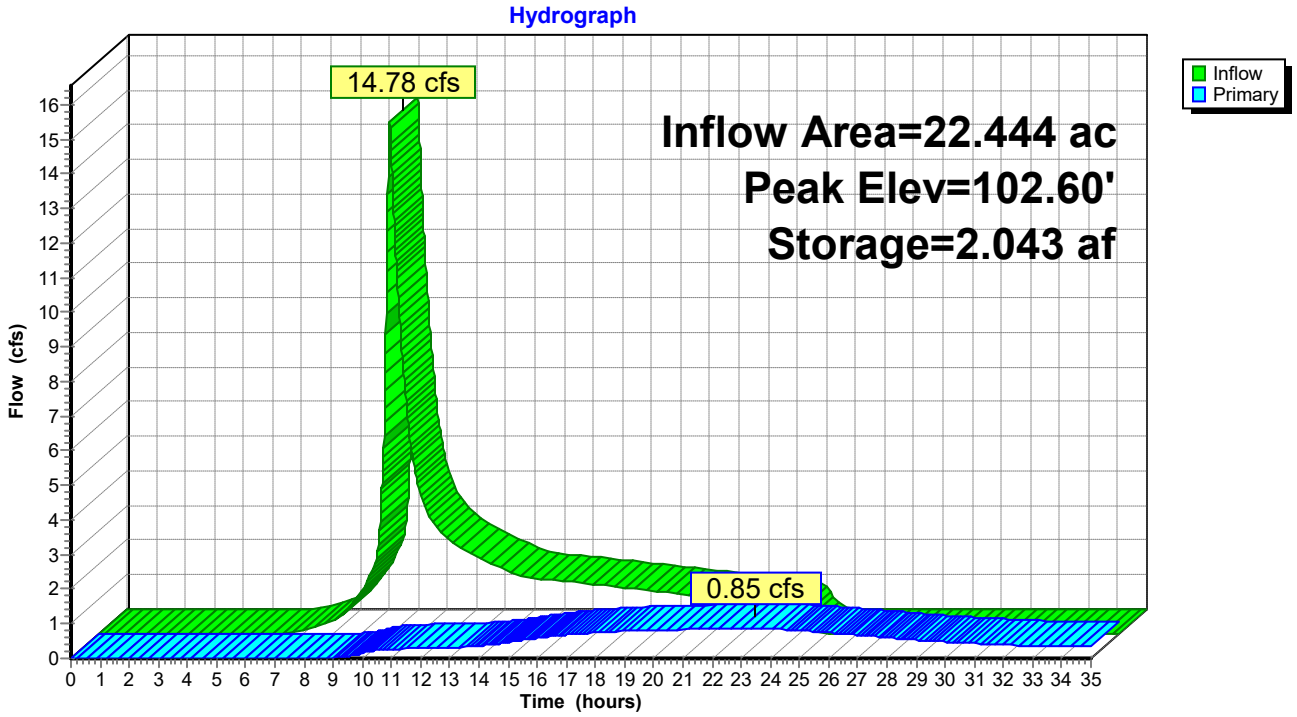
Plug-Flow detention time= 747.8 min calculated for 1.196 af (43% of inflow)
Center-of-Mass det. time= 531.6 min (1,356.1 - 824.6)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	4.423 af	**100.00'W x 300.00'L x 5.00'H Prismatoid Z=4.0**

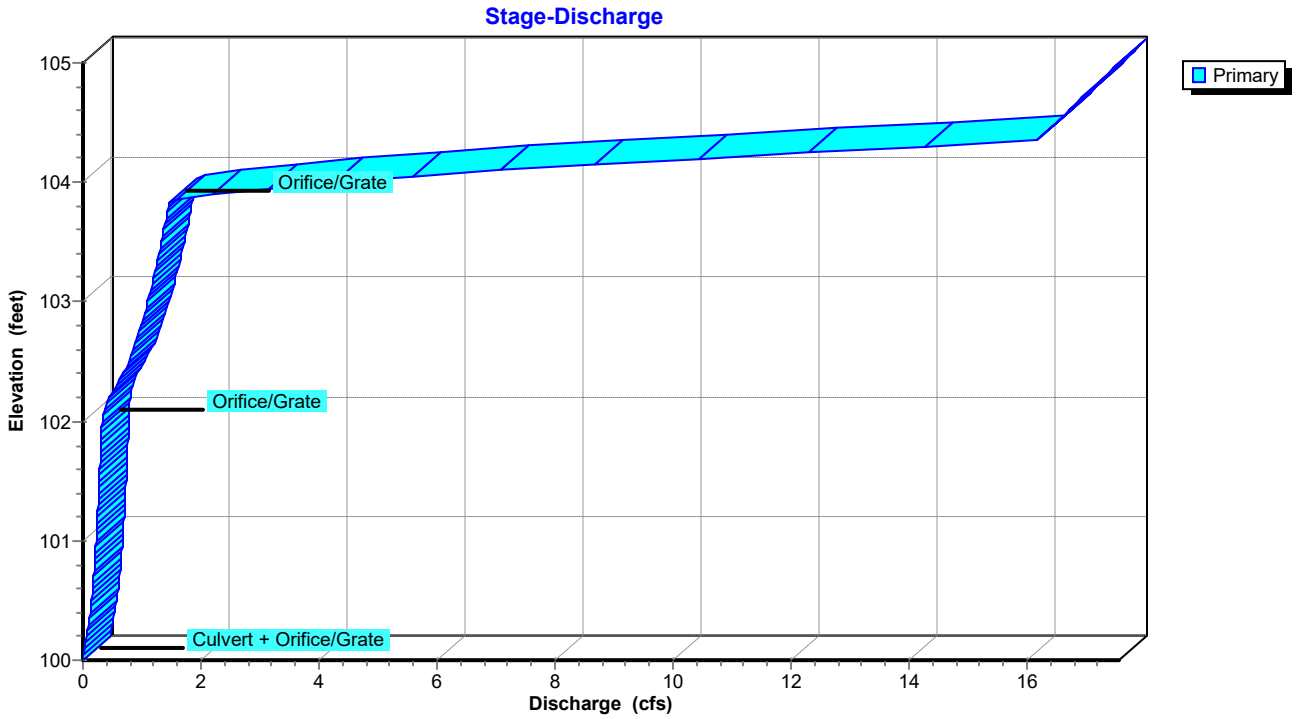
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.85 cfs @ 22.96 hrs HW=102.60' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.85 cfs of 11.56 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.37 cfs @ 7.57 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.48 cfs @ 2.91 fps)

Pond D5: Detention Basin 5



Pond D5: Detention Basin 5



Stage-Discharge for Pond D5: Detention Basin 5

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.86
100.05	0.01	102.65	0.89
100.10	0.02	102.70	0.92
100.15	0.04	102.75	0.96
100.20	0.06	102.80	0.99
100.25	0.08	102.85	1.02
100.30	0.10	102.90	1.04
100.35	0.11	102.95	1.07
100.40	0.12	103.00	1.10
100.45	0.13	103.05	1.12
100.50	0.14	103.10	1.15
100.55	0.15	103.15	1.17
100.60	0.16	103.20	1.20
100.65	0.17	103.25	1.22
100.70	0.18	103.30	1.24
100.75	0.19	103.35	1.27
100.80	0.19	103.40	1.29
100.85	0.20	103.45	1.31
100.90	0.21	103.50	1.33
100.95	0.21	103.55	1.35
101.00	0.22	103.60	1.37
101.05	0.23	103.65	1.39
101.10	0.23	103.70	1.41
101.15	0.24	103.75	1.43
101.20	0.25	103.80	1.45
101.25	0.25	103.85	1.58
101.30	0.26	103.90	2.21
101.35	0.26	103.95	3.14
101.40	0.27	104.00	4.27
101.45	0.27	104.05	5.59
101.50	0.28	104.10	7.06
101.55	0.28	104.15	8.68
101.60	0.29	104.20	10.42
101.65	0.29	104.25	12.29
101.70	0.30	104.30	14.27
101.75	0.30	104.35	16.14
101.80	0.31	104.40	16.26
101.85	0.31	104.45	16.37
101.90	0.31	104.50	16.48
101.95	0.32	104.55	16.59
102.00	0.32	104.60	16.70
102.05	0.34	104.65	16.80
102.10	0.36	104.70	16.91
102.15	0.40	104.75	17.02
102.20	0.45	104.80	17.12
102.25	0.50	104.85	17.23
102.30	0.56	104.90	17.33
102.35	0.62	104.95	17.44
102.40	0.69	105.00	**17.54**
102.45	0.74		
102.50	0.78		
102.55	0.82		

Summary for Pond D7: Detention Basin 7

Inflow Area = 80.101 ac, 0.00% Impervious, Inflow Depth = 1.15" for 5 year event
Inflow = 35.13 cfs @ 9.99 hrs, Volume= 7.690 af
Outflow = 3.21 cfs @ 21.34 hrs, Volume= 5.175 af, Atten= 91%, Lag= 681.2 min
Primary = 3.21 cfs @ 21.34 hrs, Volume= 5.175 af
Routed to Reach 7R : Collection Point 7

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.20' @ 21.34 hrs Surf.Area= 1.291 ac Storage= 4.606 af

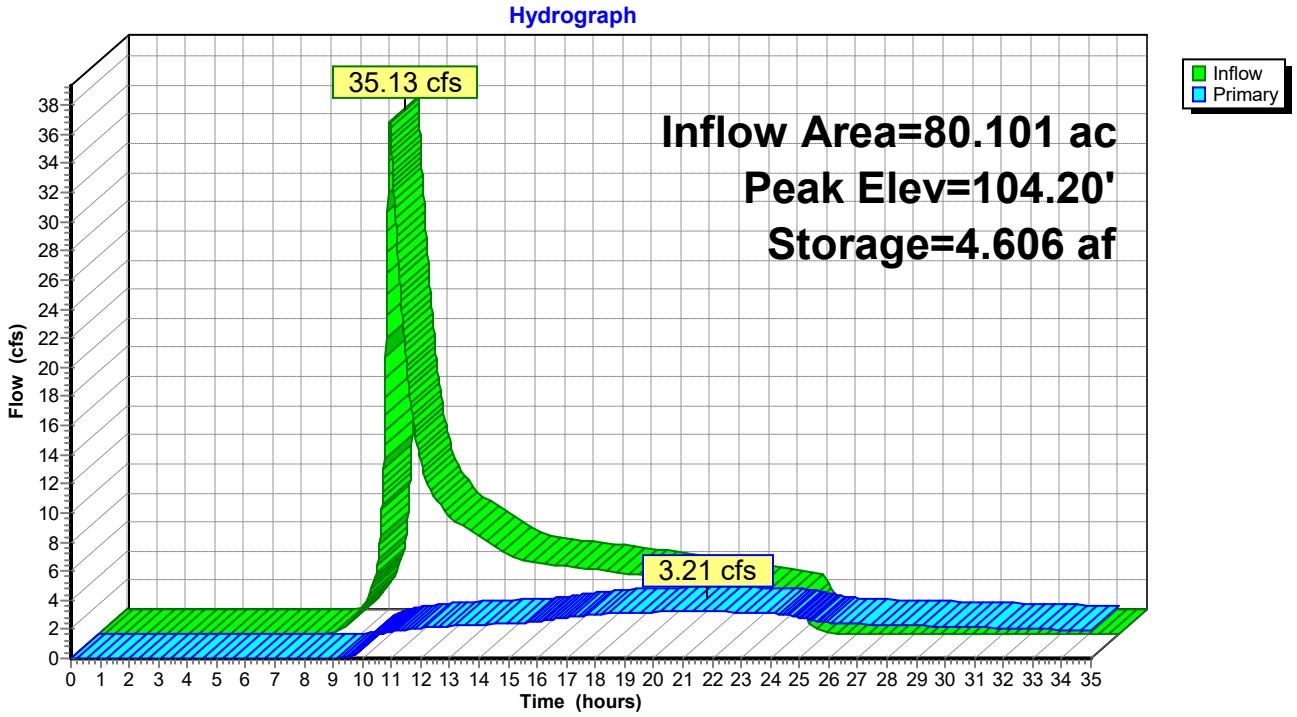
Plug-Flow detention time= 638.6 min calculated for 5.174 af (67% of inflow)
Center-of-Mass det. time= 482.9 min (1,337.2 - 854.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	11.095 af	**115.00'W x 345.00'L x 8.50'H Prismatoid Z=4.0**

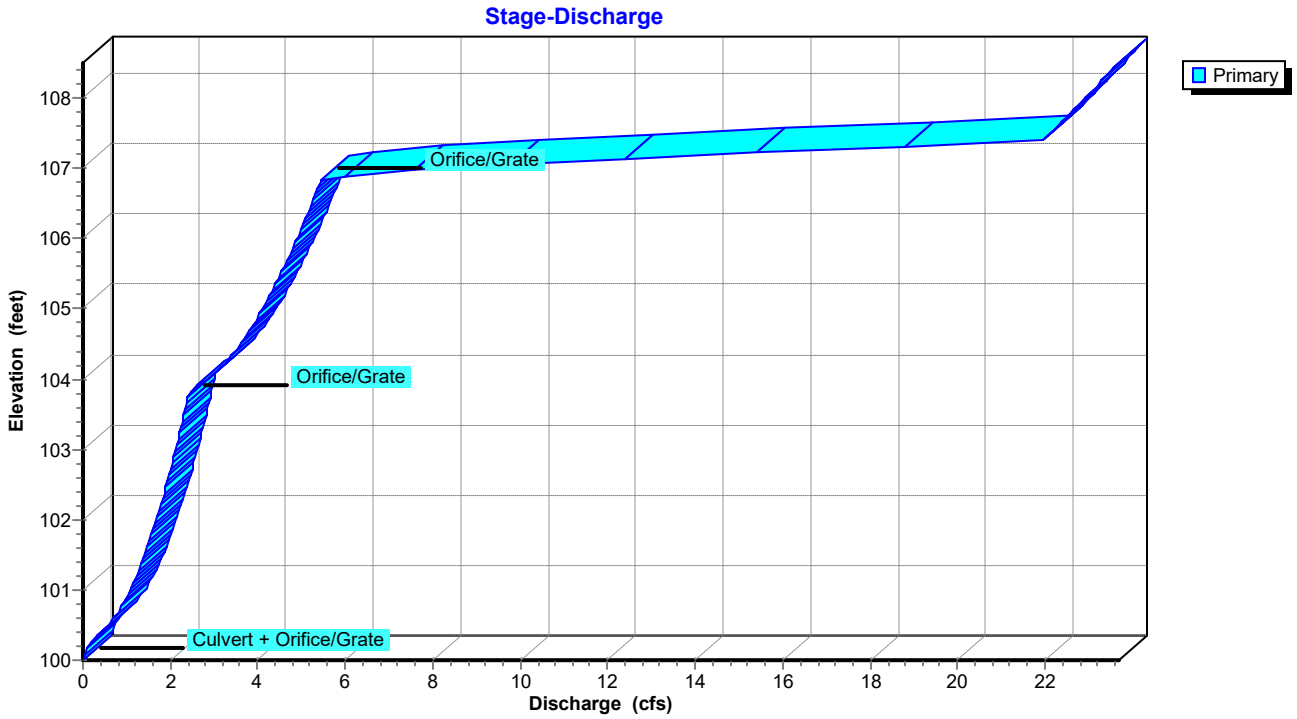
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	106.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.75'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.21 cfs @ 21.34 hrs HW=104.20' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.21 cfs of 15.80 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 2.54 cfs @ 9.52 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.67 cfs @ 2.56 fps)

Pond D7: Detention Basin 7



Pond D7: Detention Basin 7



Stage-Discharge for Pond D7: Detention Basin 7

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	4.28	107.80	22.59
100.05	0.01	102.65	1.98	105.25	4.32	107.85	22.67
100.10	0.03	102.70	2.00	105.30	4.36	107.90	22.75
100.15	0.07	102.75	2.02	105.35	4.40	107.95	22.83
100.20	0.12	102.80	2.04	105.40	4.44	108.00	22.91
100.25	0.19	102.85	2.06	105.45	4.48	108.05	22.99
100.30	0.26	102.90	2.08	105.50	4.52	108.10	23.07
100.35	0.34	102.95	2.10	105.55	4.56	108.15	23.15
100.40	0.42	103.00	2.12	105.60	4.60	108.20	23.22
100.45	0.51	103.05	2.14	105.65	4.64	108.25	23.30
100.50	0.59	103.10	2.16	105.70	4.68	108.30	23.38
100.55	0.66	103.15	2.18	105.75	4.71	108.35	23.46
100.60	0.71	103.20	2.19	105.80	4.75	108.40	23.53
100.65	0.77	103.25	2.21	105.85	4.79	108.45	23.61
100.70	0.82	103.30	2.23	105.90	4.82	108.50	**23.69**
100.75	0.87	103.35	2.25	105.95	4.86		
100.80	0.92	103.40	2.27	106.00	4.89		
100.85	0.96	103.45	2.29	106.05	4.93		
100.90	1.00	103.50	2.30	106.10	4.96		
100.95	1.04	103.55	2.32	106.15	5.00		
101.00	1.08	103.60	2.34	106.20	5.03		
101.05	1.12	103.65	2.36	106.25	5.07		
101.10	1.16	103.70	2.38	106.30	5.10		
101.15	1.19	103.75	2.39	106.35	5.13		
101.20	1.23	103.80	2.43	106.40	5.17		
101.25	1.26	103.85	2.50	106.45	5.20		
101.30	1.29	103.90	2.60	106.50	5.23		
101.35	1.32	103.95	2.71	106.55	5.26		
101.40	1.35	104.00	2.84	106.60	5.30		
101.45	1.38	104.05	2.96	106.65	5.33		
101.50	1.41	104.10	3.05	106.70	5.36		
101.55	1.44	104.15	3.14	106.75	5.39		
101.60	1.47	104.20	3.21	106.80	5.42		
101.65	1.50	104.25	3.29	106.85	5.57		
101.70	1.53	104.30	3.36	106.90	6.21		
101.75	1.55	104.35	3.42	106.95	7.15		
101.80	1.58	104.40	3.48	107.00	8.30		
101.85	1.61	104.45	3.54	107.05	9.63		
101.90	1.63	104.50	3.60	107.10	11.11		
101.95	1.66	104.55	3.66	107.15	12.74		
102.00	1.68	104.60	3.71	107.20	14.50		
102.05	1.71	104.65	3.77	107.25	16.38		
102.10	1.73	104.70	3.82	107.30	18.37		
102.15	1.75	104.75	3.87	107.35	20.47		
102.20	1.78	104.80	3.92	107.40	21.94		
102.25	1.80	104.85	3.97	107.45	22.02		
102.30	1.82	104.90	4.01	107.50	22.11		
102.35	1.85	104.95	4.06	107.55	22.19		
102.40	1.87	105.00	4.10	107.60	22.27		
102.45	1.89	105.05	4.15	107.65	22.35		
102.50	1.91	105.10	4.19	107.70	22.43		
102.55	1.93	105.15	4.24	107.75	22.51		

Time span=0.00-35.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: Diverted Area 1 Runoff Area=3,698,995 sf 0.00% Impervious Runoff Depth=1.49"
Flow Length=4,203' Slope=0.1540 '/' Tc=38.2 min CN=79/0 Runoff=34.05 cfs 10.535 af

Subcatchment 1.2: Developed Area 1 Runoff Area=989,958 sf 0.00% Impervious Runoff Depth=1.70"
Flow Length=4,976' Slope=0.0770 '/' Tc=21.5 min CN=82/0 Runoff=15.67 cfs 3.220 af

Subcatchment 2.1: Diverted Area 2 Runoff Area=426,454 sf 0.00% Impervious Runoff Depth=1.56"
Flow Length=1,202' Slope=0.2410 '/' Tc=20.7 min CN=80/0 Runoff=6.13 cfs 1.271 af

Subcatchment 3.1: Diverted Area 3 Runoff Area=842,263 sf 0.00% Impervious Runoff Depth=1.23"
Flow Length=1,628' Slope=0.2190 '/' Tc=24.1 min CN=75/0 Runoff=7.90 cfs 1.984 af

Subcatchment 3.2: Developed Area 3 Runoff Area=205,028 sf 0.00% Impervious Runoff Depth=1.93"
Flow Length=1,531' Slope=0.0290 '/' Tc=19.5 min CN=85/0 Runoff=4.02 cfs 0.757 af

Subcatchment 4.1: Diverted Area 4 Runoff Area=933,066 sf 0.00% Impervious Runoff Depth=1.11"
Flow Length=1,976' Slope=0.1310 '/' Tc=29.5 min CN=73/0 Runoff=6.53 cfs 1.987 af

Subcatchment 5.1: Diverted Area 5 Runoff Area=5,506,547 sf 0.00% Impervious Runoff Depth=1.36"
Flow Length=4,927' Slope=0.0870 '/' Tc=48.7 min CN=77/0 Runoff=37.06 cfs 14.292 af

Subcatchment 5.2: Developed Area 5 Runoff Area=977,666 sf 0.00% Impervious Runoff Depth=1.85"
Flow Length=2,416' Slope=0.1020 '/' Tc=18.0 min CN=84/0 Runoff=18.97 cfs 3.462 af

Subcatchment 6.1: Diverted Area 6 Runoff Area=1,758,127 sf 0.00% Impervious Runoff Depth=1.36"
Flow Length=4,184' Slope=0.0450 '/' Tc=55.0 min CN=77/0 Runoff=10.88 cfs 4.563 af

Subcatchment 7.1: Diverted Area 7 Runoff Area=4,706,562 sf 0.00% Impervious Runoff Depth=1.42"
Flow Length=5,491' Slope=0.0880 '/' Tc=51.0 min CN=78/0 Runoff=32.94 cfs 12.802 af

Subcatchment 7.2: Developed Area 6 Runoff Area=3,489,199 sf 0.00% Impervious Runoff Depth=1.49"
Flow Length=4,041' Slope=0.0800 '/' Tc=20.4 min CN=79/0 Runoff=47.58 cfs 9.937 af

Subcatchment 8.1: Diverted Area 8 Runoff Area=3,910,579 sf 0.00% Impervious Runoff Depth=0.66"
Flow Length=4,273' Slope=0.1050 '/' Tc=43.1 min CN=64/0 Runoff=7.93 cfs 4.901 af

Subcatchment 9.1: Diverted Area 9 Runoff Area=703,591 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=879' Slope=0.2410 '/' Tc=17.9 min CN=53/0 Runoff=0.34 cfs 0.339 af

Subcatchment 10.1: Diverted Area 10.2 Runoff Area=1,844,365 sf 0.00% Impervious Runoff Depth=0.28"
Flow Length=3,248' Slope=0.1000 '/' Tc=38.8 min CN=54/0 Runoff=1.00 cfs 0.994 af

Subcatchment 11.1: Diverted Area 11 Runoff Area=330,401 sf 0.00% Impervious Runoff Depth=0.15"
Flow Length=560' Slope=0.1250 '/' Tc=16.9 min CN=49/0 Runoff=0.10 cfs 0.094 af

Subcatchment 12.1: Diverted Area 12 Runoff Area=3,953,596 sf 0.00% Impervious Runoff Depth=0.15"
Flow Length=3,100' Slope=0.0720 '/' Tc=41.8 min CN=49/0 Runoff=1.22 cfs 1.121 af

Subcatchment 12.2: Developed Area Runoff Area=18,611,996 sf 0.00% Impervious Runoff Depth=1.23"
Flow Length=7,353' Slope=0.0180 '/' Tc=31.4 min CN=75/0 Runoff=146.98 cfs 43.849 af

Subcatchment 12.3: Diverted Area 12.3 Runoff Area=1,842,936 sf 0.00% Impervious Runoff Depth=0.89"
Flow Length=7,592' Tc=48.2 min CN=69/0 Runoff=6.28 cfs 3.154 af

Subcatchment 12.4: Diverted Area 12.4 Runoff Area=2,734,787 sf 0.00% Impervious Runoff Depth=0.70"
Flow Length=9,171' Tc=56.2 min CN=65/0 Runoff=5.46 cfs 3.663 af

Subcatchment 13.1: Diverted Area 13 Runoff Area=67,532 sf 0.00% Impervious Runoff Depth=1.11"
Flow Length=294' Slope=0.4080 '/' Tc=9.5 min CN=73/0 Runoff=0.88 cfs 0.144 af

Subcatchment 14.1: Diverted Area 14 Runoff Area=109,322 sf 0.00% Impervious Runoff Depth=1.00"
Flow Length=246' Slope=0.5240 '/' Tc=8.2 min CN=71/0 Runoff=1.29 cfs 0.209 af

Subcatchment 15.1: Diverted Area 15 Runoff Area=414,988 sf 0.00% Impervious Runoff Depth=0.22"
Flow Length=1,585' Slope=0.1650 '/' Tc=25.7 min CN=52/0 Runoff=0.17 cfs 0.178 af

Subcatchment 15.2: Developed Area 15 Runoff Area=1,372,228 sf 0.00% Impervious Runoff Depth=0.61"
Flow Length=2,036' Slope=0.0100 '/' Tc=24.0 min CN=63/0 Runoff=3.21 cfs 1.605 af

Subcatchment 16.1: Diverted Area 16 Runoff Area=1,317,955 sf 0.00% Impervious Runoff Depth=0.75"
Flow Length=2,287' Slope=0.0720 '/' Tc=36.8 min CN=66/0 Runoff=3.75 cfs 1.882 af

Subcatchment 16.2: Developed Area 16 Runoff Area=534,690 sf 0.00% Impervious Runoff Depth=0.79"
Flow Length=808' Slope=0.0680 '/' Tc=15.7 min CN=67/0 Runoff=3.05 cfs 0.813 af

Subcatchment 16.3: Developed Area 16 Runoff Area=4,800,431 sf 0.00% Impervious Runoff Depth=1.42"
Flow Length=3,863' Slope=0.0080 '/' Tc=64.7 min CN=78/0 Runoff=28.64 cfs 13.057 af

Subcatchment 17.1: Diverted Area 17 Runoff Area=1,066,067 sf 0.00% Impervious Runoff Depth=0.22"
Flow Length=1,613' Slope=0.0940 '/' Tc=29.7 min CN=52/0 Runoff=0.45 cfs 0.457 af

Subcatchment 18.1: Diverted Area 18 Runoff Area=5,811,307 sf 0.00% Impervious Runoff Depth=0.89"
Flow Length=4,653' Slope=0.0530 '/' Tc=55.0 min CN=69/0 Runoff=18.31 cfs 9.946 af

Subcatchment 18.2: Developed Area 18 Runoff Area=1,858,157 sf 0.00% Impervious Runoff Depth=2.09"
Flow Length=3,224' Slope=0.0340 '/' Tc=22.1 min CN=87/0 Runoff=37.55 cfs 7.439 af

Subcatchment 19.1: Diverted Area 19 Runoff Area=1,546,511 sf 0.00% Impervious Runoff Depth=0.35"
Flow Length=1,740' Slope=0.0990 '/' Tc=30.2 min CN=56/0 Runoff=1.08 cfs 1.021 af

Subcatchment 20.1: Diverted Area 20 Runoff Area=5,359,234 sf 0.00% Impervious Runoff Depth=1.17"
Flow Length=3,956' Slope=0.1170 '/' Tc=40.4 min CN=74/0 Runoff=32.66 cfs 12.010 af

Subcatchment 20.2: Developed Area 20.2 Runoff Area=3.949 ac 37.71% Impervious Runoff Depth=1.96"
Flow Length=1,642' Slope=0.0580 '/' Tc=18.1 min CN=75/98 Runoff=3.33 cfs 0.645 af

Subcatchment 20.3: Developed Area 20.3 Runoff Area=149,016 sf 30.18% Impervious Runoff Depth=1.90"
Flow Length=545' Slope=0.0160 '/' Tc=28.2 min CN=77/98 Runoff=2.21 cfs 0.543 af

Subcatchment 20.4: Developed Area 20.4 Runoff Area=335,763 sf 12.09% Impervious Runoff Depth=1.47"
Flow Length=845' Slope=0.0280 '/' Tc=17.2 min CN=75/98 Runoff=4.75 cfs 0.941 af

Subcatchment 21.1: Diverted Area 21 Runoff Area=1,537,885 sf 0.00% Impervious Runoff Depth=0.70"
Flow Length=2,036' Slope=0.1350 '/' Tc=29.7 min CN=65/0 Runoff=4.32 cfs 2.060 af

Subcatchment 22.1: Diverted Area 22 Runoff Area=2,526,337 sf 0.00% Impervious Runoff Depth=1.63"
Flow Length=1,968' Slope=0.1390 '/' Tc=29.1 min CN=81/0 Runoff=31.53 cfs 7.868 af

Reach 1R: Collection Point 1 Inflow=34.15 cfs 12.066 af
Outflow=34.15 cfs 12.066 af

Reach 2R: Collection Point 2 Inflow=6.13 cfs 1.271 af
Outflow=6.13 cfs 1.271 af

Reach 3R: Collection Point 3 Inflow=7.99 cfs 2.362 af
Outflow=7.99 cfs 2.362 af

Reach 4R: Collection Point 4 Inflow=6.53 cfs 1.987 af
Outflow=6.53 cfs 1.987 af

Reach 5R: Collection Point 5 Inflow=37.27 cfs 16.048 af
Outflow=37.27 cfs 16.048 af

Reach 6R: Collection Point 6 Inflow=10.88 cfs 4.563 af
Outflow=10.88 cfs 4.563 af

Reach 7R: Collection Point 7 Inflow=34.34 cfs 19.627 af
Outflow=34.34 cfs 19.627 af

Reach 8R: Collection Point 8 Inflow=7.93 cfs 4.901 af
Outflow=7.93 cfs 4.901 af

Reach 9R: Collection Point 9 Inflow=0.34 cfs 0.339 af
Outflow=0.34 cfs 0.339 af

Reach 10R: Collection Point 10 Inflow=1.00 cfs 0.994 af
Outflow=1.00 cfs 0.994 af

Reach 11R: Collection Point 11 Inflow=0.10 cfs 0.094 af
Outflow=0.10 cfs 0.094 af

Reach 12R: Collection Point 12 Inflow=10.66 cfs 15.264 af
Outflow=10.66 cfs 15.264 af

Reach 13R: Collection Point 13 Inflow=0.88 cfs 0.144 af
Outflow=0.88 cfs 0.144 af

Reach 14R: Collection Point 14 Inflow=1.29 cfs 0.209 af
Outflow=1.29 cfs 0.209 af

Reach 15R: Collection Point 15 Inflow=0.87 cfs 1.236 af
Outflow=0.87 cfs 1.236 af

Reach 16R: Collection Point 16 Inflow=6.84 cfs 9.745 af
Outflow=6.84 cfs 9.745 af

Reach 17R: Collection Point 17 Inflow=0.45 cfs 0.457 af
Outflow=0.45 cfs 0.457 af

Reach 18R: Collection Point 18 Inflow=20.00 cfs 14.712 af
Outflow=20.00 cfs 14.712 af

Reach 19R: Collection Point 19 Inflow=1.08 cfs 1.021 af
Outflow=1.08 cfs 1.021 af

Reach 20R: Collection Point 20 Inflow=33.06 cfs 13.528 af
Outflow=33.06 cfs 13.528 af

Reach 21R: Collection Point 21 Inflow=4.32 cfs 2.060 af
Outflow=4.32 cfs 2.060 af

Reach 22R: Collection Point 22 Inflow=31.53 cfs 7.868 af
Outflow=31.53 cfs 7.868 af

Pond 12S: Flow Splitter Box Peak Elev=113.67' Inflow=157.36 cfs 50.666 af
Primary=78.68 cfs 25.333 af Secondary=78.68 cfs 25.333 af Outflow=157.36 cfs 50.666 af

Pond D1: Detention Basin 1 Peak Elev=103.99' Storage=2.258 af Inflow=15.67 cfs 3.220 af
Outflow=1.15 cfs 1.531 af

Pond D12.1: Detention Pond 12.1 Peak Elev=106.17' Storage=21.622 af Inflow=78.68 cfs 25.333 af
Outflow=4.90 cfs 7.072 af

Pond D12.2: Detention Pond 12.2 Peak Elev=106.17' Storage=21.622 af Inflow=78.68 cfs 25.333 af
Outflow=4.90 cfs 7.072 af

Pond D15: Detention Pond 15 Peak Elev=101.98' Storage=0.991 af Inflow=3.21 cfs 1.605 af
Outflow=0.74 cfs 1.058 af

Pond D16.2: Detention Pond 16.2 Peak Elev=101.36' Storage=0.269 af Inflow=3.05 cfs 0.813 af
Outflow=0.58 cfs 0.755 af

Pond D16.3: Detention Pond 16.3 Peak Elev=104.19' Storage=8.465 af Inflow=28.64 cfs 13.057 af
Outflow=5.25 cfs 7.107 af

Pond D18: Detention Pond 18 Peak Elev=103.98' Storage=4.672 af Inflow=37.55 cfs 7.439 af
Outflow=2.47 cfs 4.766 af

Pond D20.2: Detention Basin 20.2 Peak Elev=103.47' Storage=0.390 af Inflow=3.33 cfs 0.645 af
Outflow=0.23 cfs 0.422 af

Pond D20.3: Detention Pond 20.3 Peak Elev=102.07' Storage=12,625 cf Inflow=2.21 cfs 0.543 af
Outflow=0.21 cfs 0.425 af

Pond D20.4: Detention Pond 20.4 Peak Elev=103.56' Storage=22,566 cf Inflow=4.75 cfs 0.941 af
Outflow=0.41 cfs 0.671 af

Pond D3: Detention Basin 3 Peak Elev=102.81' Storage=0.532 af Inflow=4.02 cfs 0.757 af
Outflow=0.22 cfs 0.378 af

Pond D5: Detention Basin 5 Peak Elev=103.01' Storage=2.420 af Inflow=18.97 cfs 3.462 af
Outflow=1.10 cfs 1.756 af

Pond D7: Detention Basin 7 Peak Elev=105.07' Storage=5.763 af Inflow=47.58 cfs 9.937 af
Outflow=4.16 cfs 6.825 af

Total Runoff Area = 1,984.517 ac Runoff Volume = 183.744 af Average Runoff Depth = 1.11"
99.83% Pervious = 1,981.063 ac 0.17% Impervious = 3.454 ac

Summary for Subcatchment 1.1: Diverted Area 1

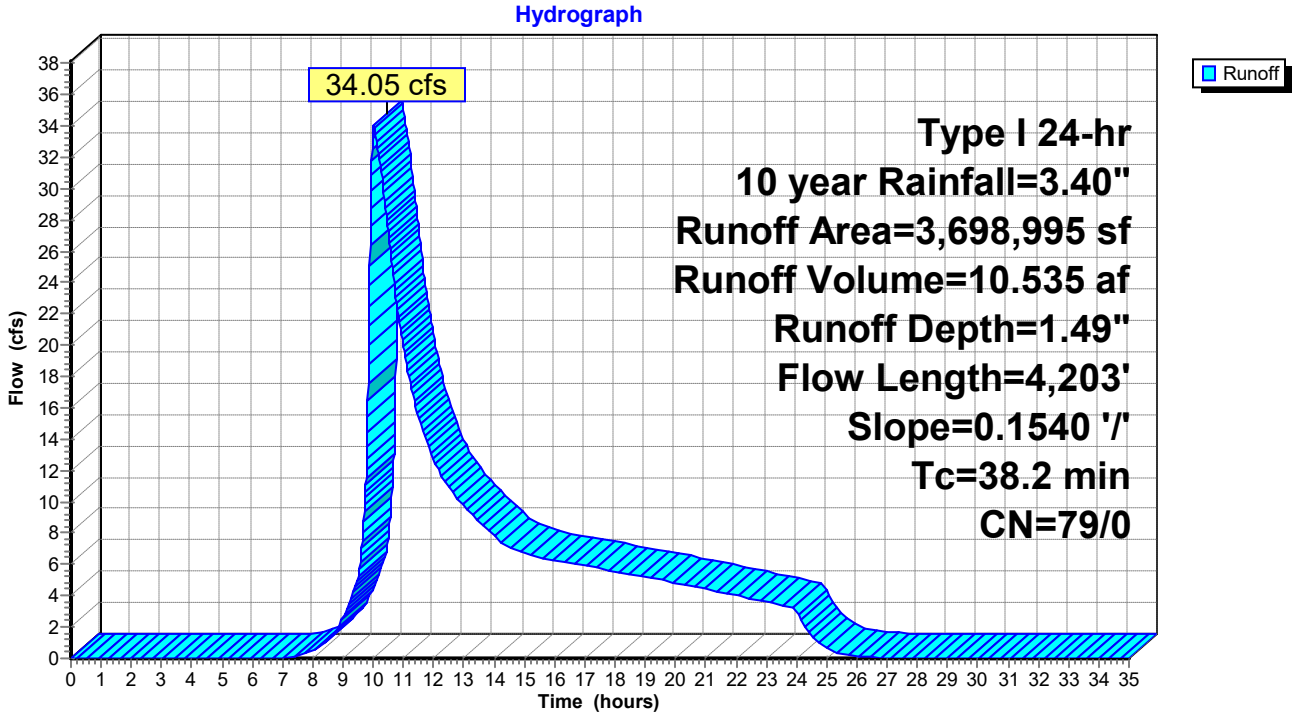
Runoff = 34.05 cfs @ 10.00 hrs, Volume= 10.535 af, Depth= 1.49"
Routed to Reach 1R : Collection Point 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	3,674,469	79	Brush and open space, see attachment 3.
*	24,523	83	Paved; Open ditches (including right-of-way), HSG A
*	3	92	Paved; Open ditches (including right-of-way), HSG C
	3,698,995	79	Weighted Average
	3,698,995	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	1,200	0.1540	0.87		**Kerby Method,** Pasture, average grass N= 0.40
15.3	3,003	0.1540	3.28		**Kirpich Method,** General overland flow k= 2.00
38.2	4,203	Total			

Subcatchment 1.1: Diverted Area 1



Summary for Subcatchment 1.2: Developed Area 1

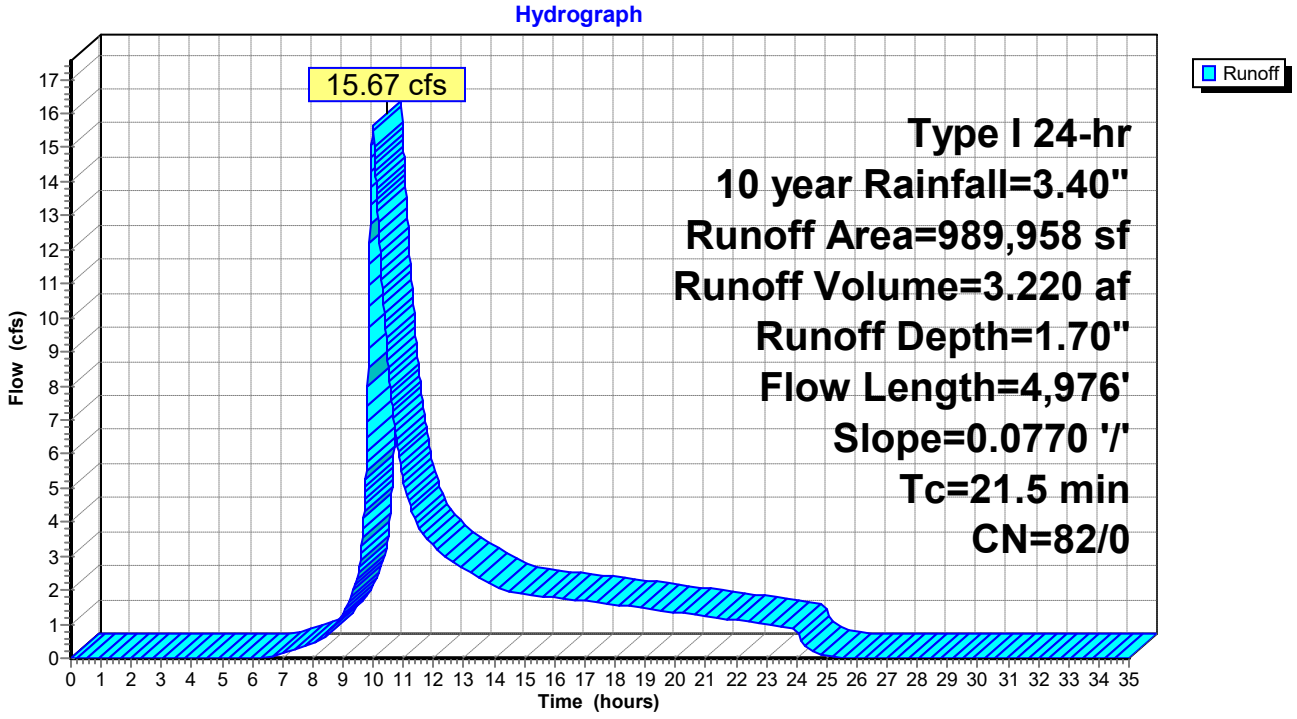
Runoff = 15.67 cfs @ 9.99 hrs, Volume= 3.220 af, Depth= 1.70"
Routed to Pond D1 : Detention Basin 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	717,413	80	Composite CN, see attachment 3.
*	109,177	83	Paved; Open ditches (including right-of-way), HSG A
*	77,573	92	Paved; Open ditches (including right-of-way), HSG C
*	85,795	93	Paved; Open ditches (including right-of-way), HSG D
	989,958	82	Weighted Average
	989,958	82	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.7	1,200	0.0770	3.00		**Kerby Method,** Smooth impervious N= 0.02
4.8	3,776	0.0770	13.23		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
21.5	4,976	Total			

Subcatchment 1.2: Developed Area 1



Summary for Subcatchment 2.1: Diverted Area 2

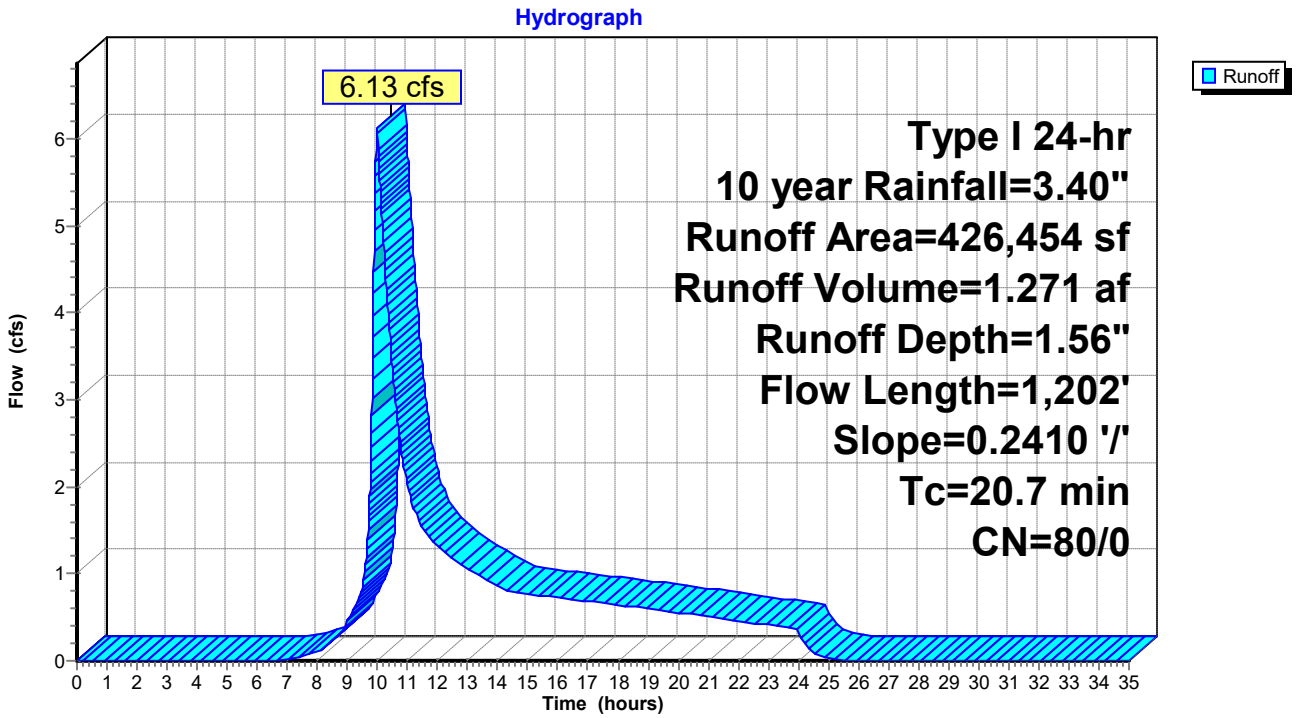
Runoff = 6.13 cfs @ 9.99 hrs, Volume= 1.271 af, Depth= 1.56"
Routed to Reach 2R : Collection Point 2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	420,602	80	Brush, see Attachment 3.
*	4,339	83	Paved; Open ditches (including right-of-way), HSG A
*	1,513	93	Paved; Open ditches (including right-of-way), HSG D
	426,454	80	Weighted Average
	426,454	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	1,202	0.2410	0.97		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 2.1: Diverted Area 2



Summary for Subcatchment 3.1: Diverted Area 3

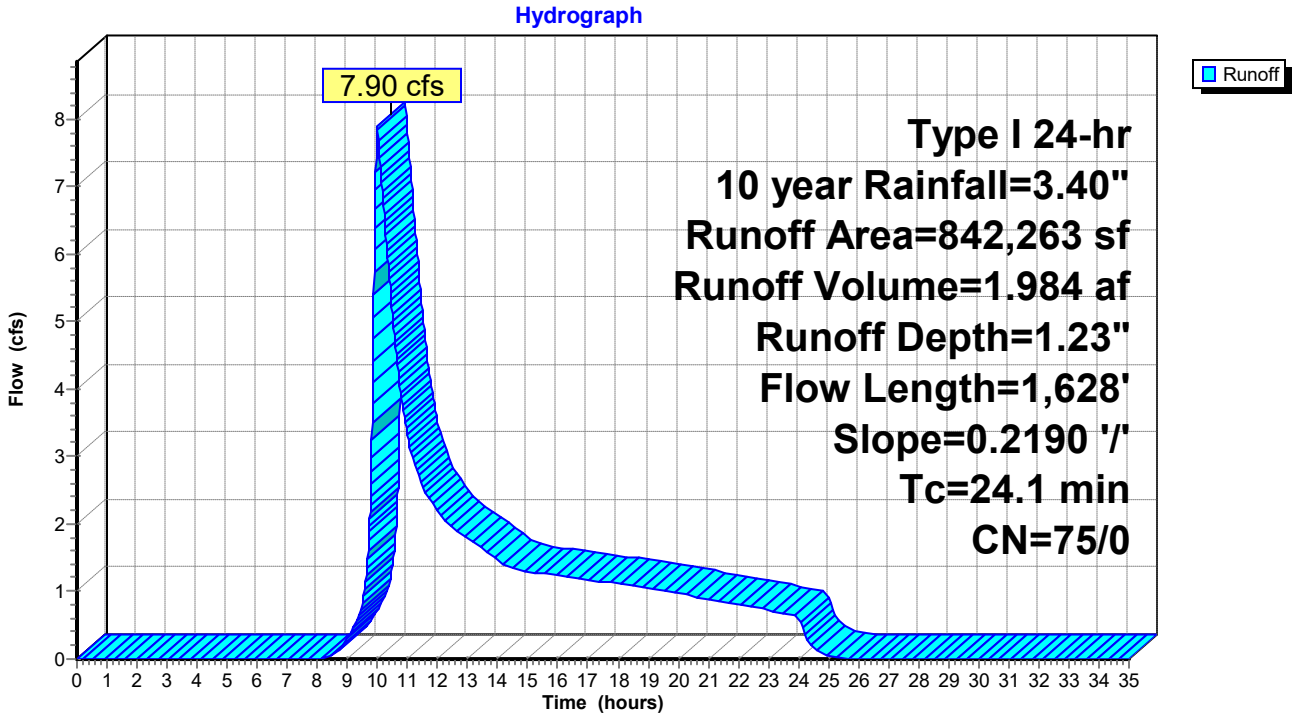
Runoff = 7.90 cfs @ 9.99 hrs, Volume= 1.984 af, Depth= 1.23"
Routed to Reach 3R : Collection Point 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	842,263	75	Brush and open space, See Attachment 3
	842,263	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	1,200	0.2190	0.95		**Kerby Method,** Pasture, average grass N= 0.40
3.0	428	0.2190	2.40		**Kirpich Method,** General overland flow k= 2.00
24.1	1,628	Total			

Subcatchment 3.1: Diverted Area 3



Summary for Subcatchment 3.2: Developed Area 3

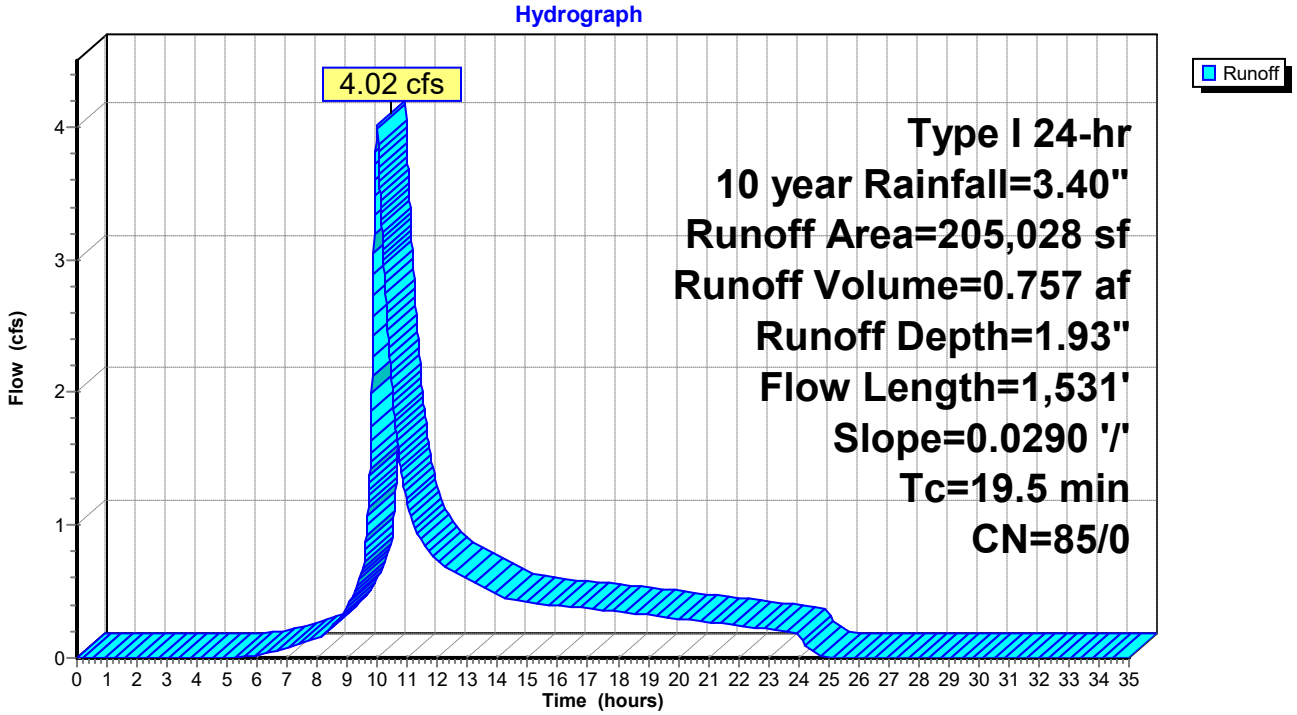
Runoff = 4.02 cfs @ 9.98 hrs, Volume= 0.757 af, Depth= 1.93"
Routed to Pond D3 : Detention Basin 3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	125,827	87	Composite CN, see Attachment 3
*	78,995	83	Paved; Open ditches (including right-of-way), HSG A
*	206	93	Paved; Open ditches (including right-of-way), HSG D
	205,028	85	Weighted Average
	205,028	85	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.4	1,200	0.0290	2.39		**Kerby Method,** Smooth impervious N= 0.02
1.1	331	0.0290	5.19		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
19.5	1,531	Total			

Subcatchment 3.2: Developed Area 3



Summary for Subcatchment 4.1: Diverted Area 4

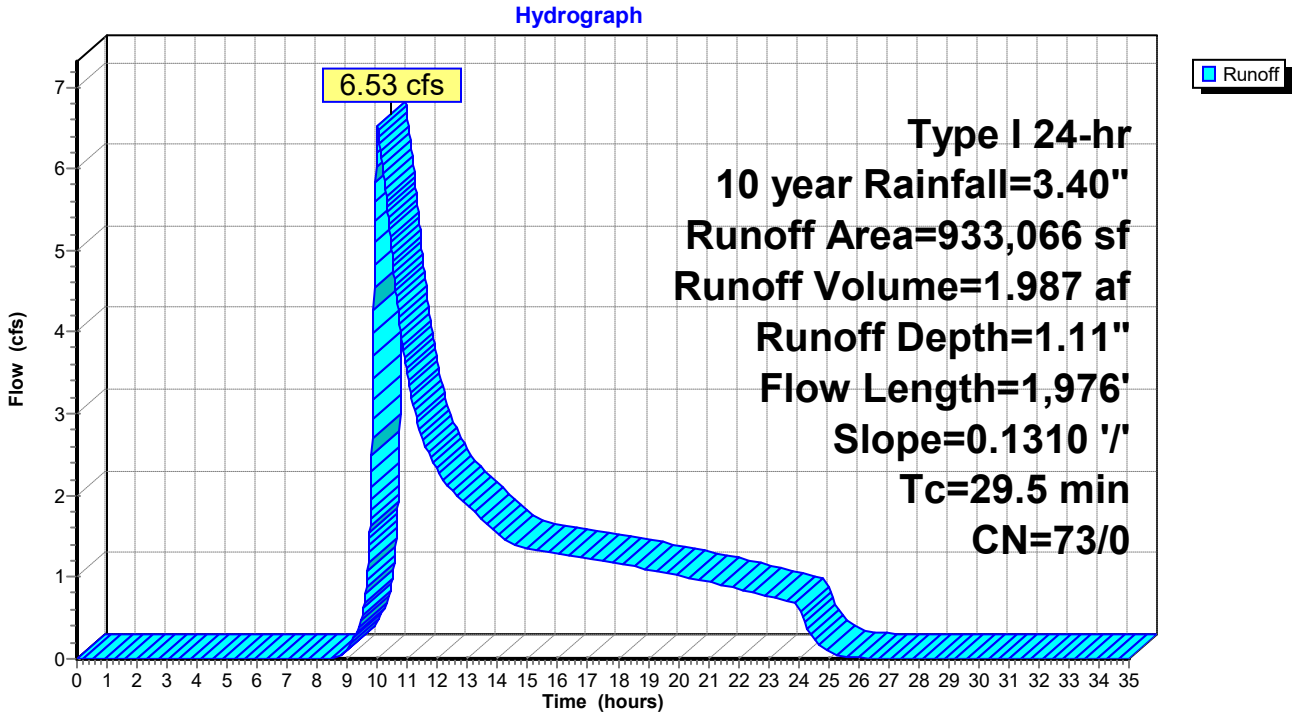
Runoff = 6.53 cfs @ 10.00 hrs, Volume= 1.987 af, Depth= 1.11"
Routed to Reach 4R : Collection Point 4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	38,033	83	Paved; Open ditches (including right-of-way), HSG A
*	895,033	73	Brush and open space, see Attachment 3.
	933,066	73	Weighted Average
	933,066	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.8	1,200	0.1310	0.84		**Kerby Method,** Pasture, average grass N= 0.40
5.7	776	0.1310	2.26		**Kirpich Method,** General overland flow k= 2.00
29.5	1,976	Total			

Subcatchment 4.1: Diverted Area 4



Summary for Subcatchment 5.1: Diverted Area 5

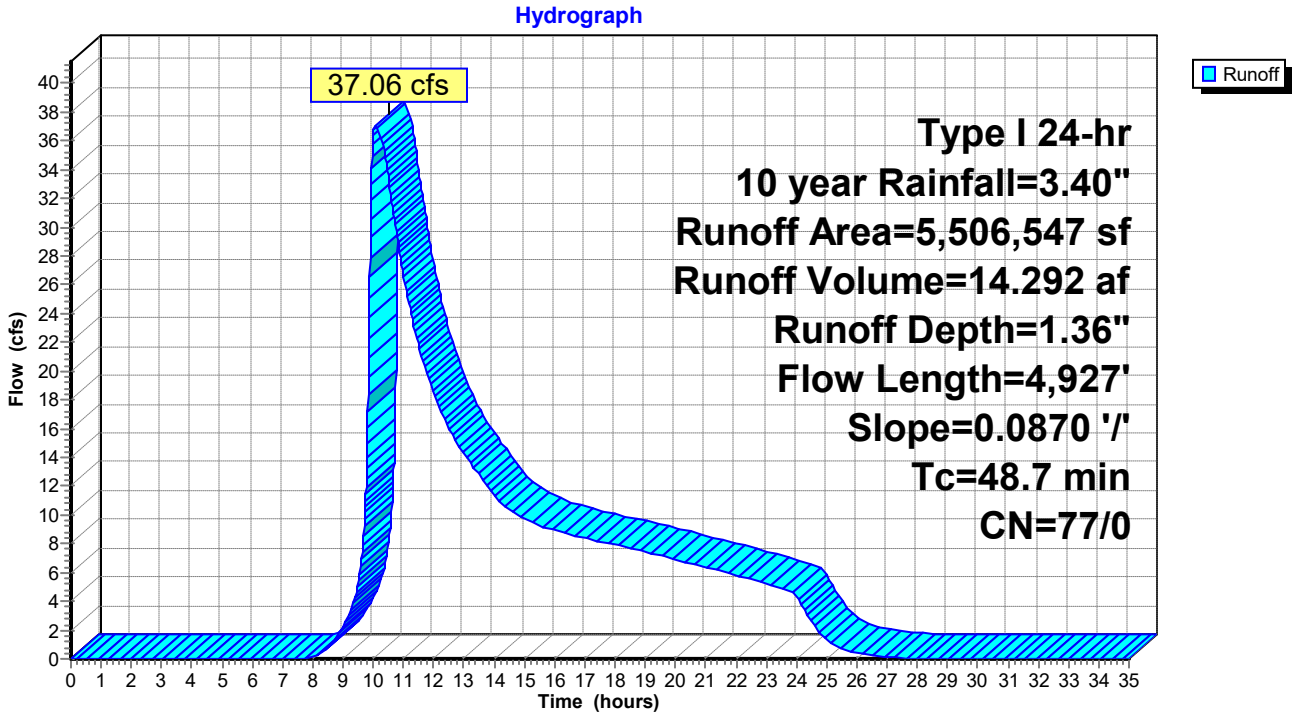
Runoff = 37.06 cfs @ 10.03 hrs, Volume= 14.292 af, Depth= 1.36"
Routed to Reach 5R : Collection Point 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	5,484,277	77	Brush and opne space, see Attachment 3
*	22,270	83	Paved; Open ditches (including right-of-way), HSG A
	5,506,547	77	Weighted Average
	5,506,547	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.2	1,200	0.0870	0.76		**Kerby Method,** Pasture, average grass N= 0.40
22.5	3,727	0.0870	2.77		**Kirpich Method,** General overland flow k= 2.00
48.7	4,927	Total			

Subcatchment 5.1: Diverted Area 5



Summary for Subcatchment 5.2: Developed Area 5

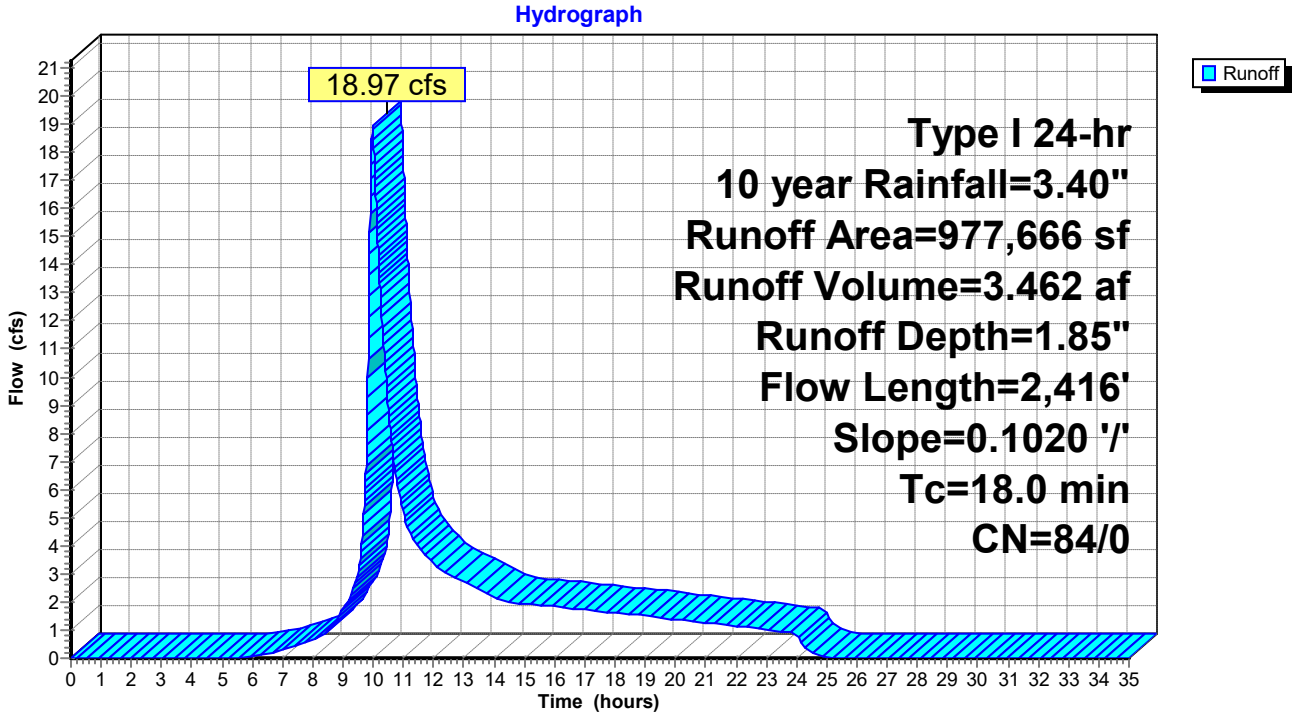
Runoff = 18.97 cfs @ 9.98 hrs, Volume= 3.462 af, Depth= 1.85"
Routed to Pond D5 : Detention Basin 5

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	751,855	82	Composite CN, see Attachment 3.
*	77,623	83	Paved; Open ditches (including right-of-way), HSG A
*	102,033	92	Paved; Open ditches (including right-of-way), HSG C
*	46,155	93	Paved; Open ditches (including right-of-way), HSG D
	977,666	84	Weighted Average
	977,666	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.2	1,200	0.1020	3.21		**Kerby Method,** Smooth impervious N= 0.02
1.8	1,216	0.1020	11.36		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.0	2,416	Total			

Subcatchment 5.2: Developed Area 5



Summary for Subcatchment 6.1: Diverted Area 6

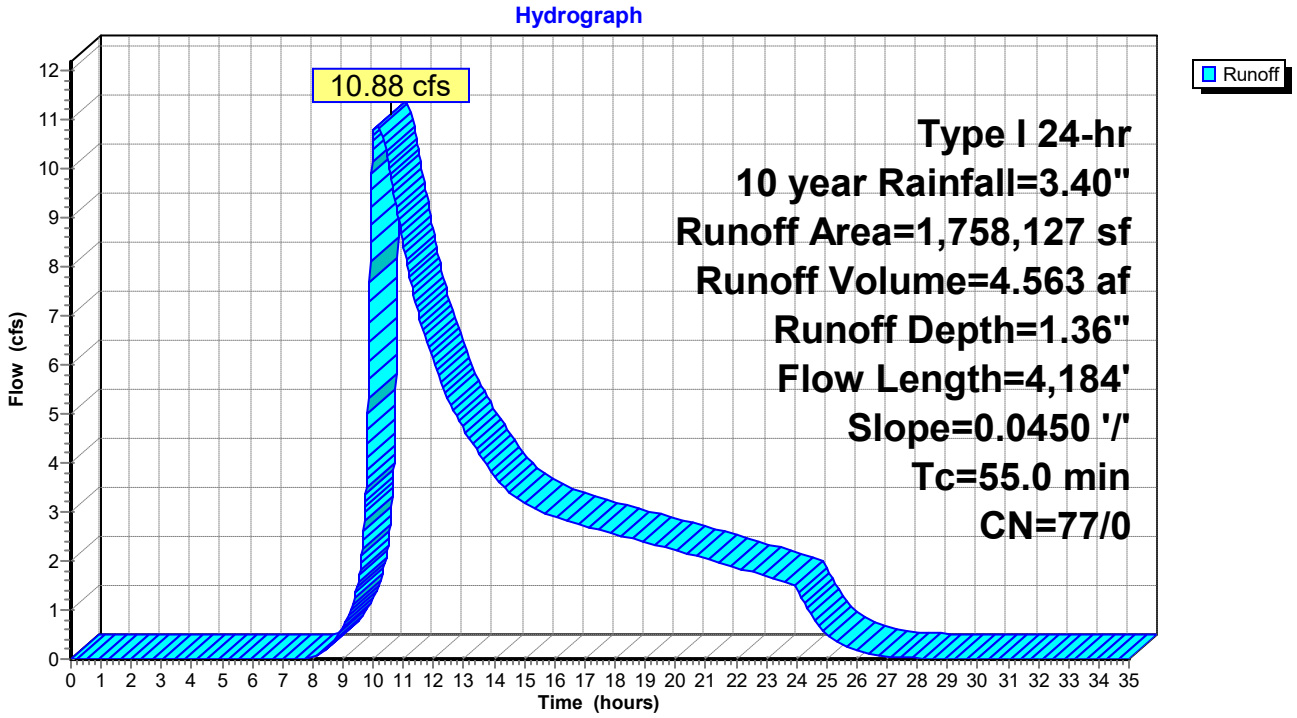
Runoff = 10.88 cfs @ 10.13 hrs, Volume= 4.563 af, Depth= 1.36"
Routed to Reach 6R : Collection Point 6

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,758,127	77	Brush and open space, see Attachment 3.
	1,758,127	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.6	1,200	0.0450	0.65		**Kerby Method,** Pasture, average grass N= 0.40
24.4	2,984	0.0450	2.04		**Kirpich Method,** General overland flow k= 2.00
55.0	4,184	Total			

Subcatchment 6.1: Diverted Area 6



Summary for Subcatchment 7.1: Diverted Area 7

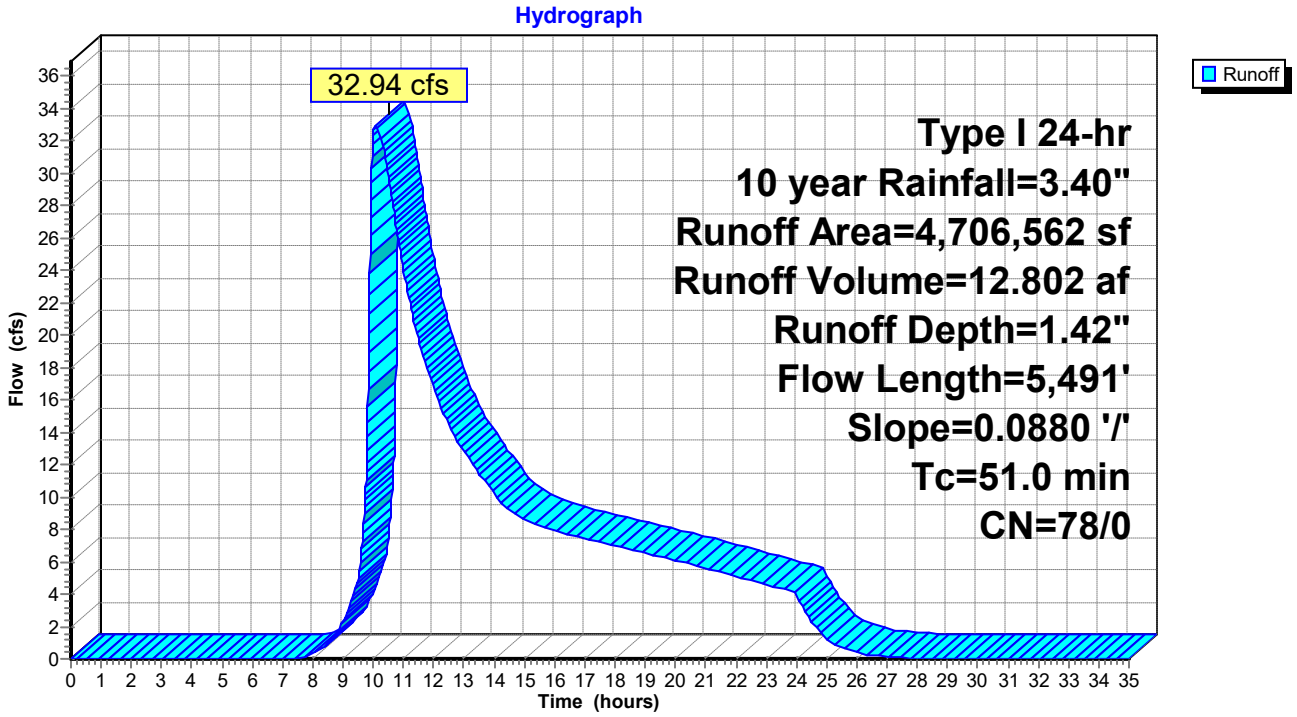
Runoff = 32.94 cfs @ 10.04 hrs, Volume= 12.802 af, Depth= 1.42"
Routed to Reach 7R : Collection Point 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	4,703,800	78	Brush and open space, see Attachment 3.
*	2,762	92	Paved; Open ditches (including right-of-way), HSG C
	4,706,562	78	Weighted Average
	4,706,562	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	1,200	0.0880	0.76		**Kerby Method,** Pasture, average grass N= 0.40
24.9	4,291	0.0880	2.87		**Kirpich Method,** General overland flow k= 2.00
51.0	5,491	Total			

Subcatchment 7.1: Diverted Area 7



Summary for Subcatchment 7.2: Developed Area 6

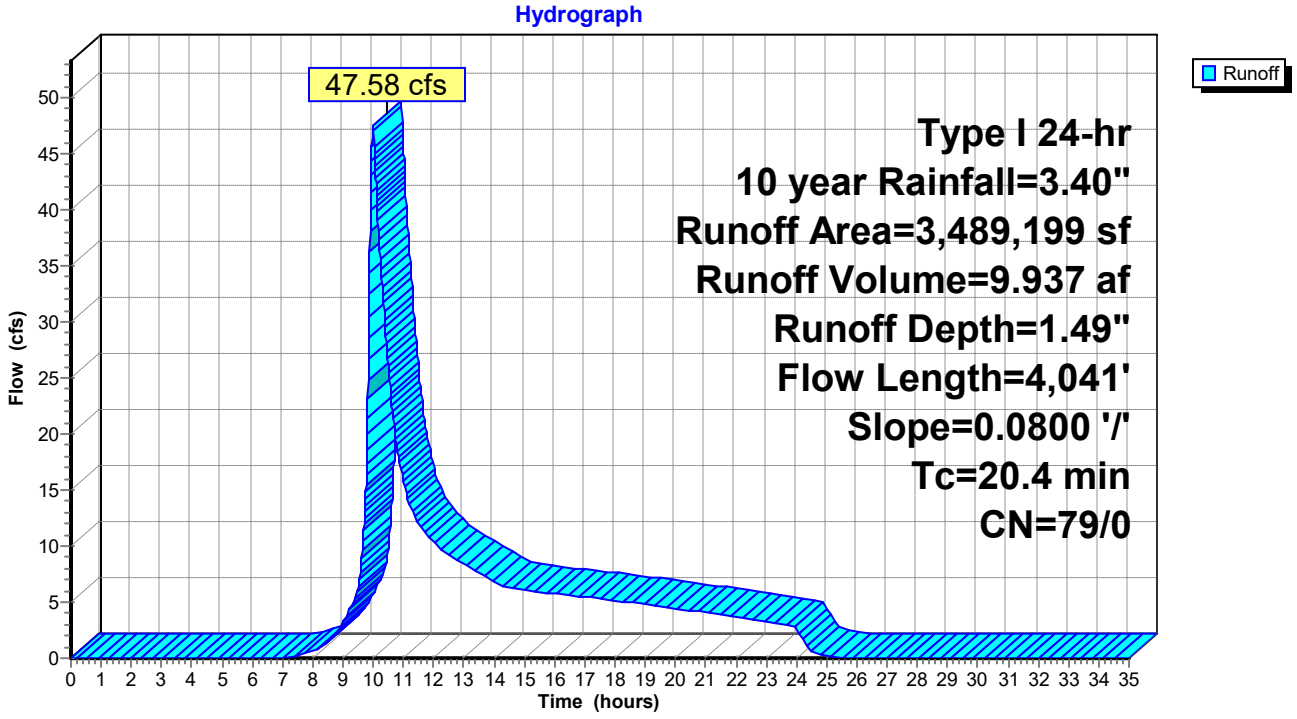
Runoff = 47.58 cfs @ 9.99 hrs, Volume= 9.937 af, Depth= 1.49"
Routed to Pond D7 : Detention Basin 7

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	2,757,608	77	Composite CN, see Attchment 3.
*	393,878	83	Paved; Open ditches (including right-of-way), HSG A
*	267,712	92	Paved; Open ditches (including right-of-way), HSG C
*	70,001	93	Paved; Open ditches (including right-of-way), HSG D
	3,489,199	79	Weighted Average
	3,489,199	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
6.6	1,200	0.0800	3.03		**Kerby Method,** Smooth impervious N= 0.02
3.8	2,841	0.0800	12.58		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
20.4	4,041	Total			

Subcatchment 7.2: Developed Area 6



Summary for Subcatchment 8.1: Diverted Area 8

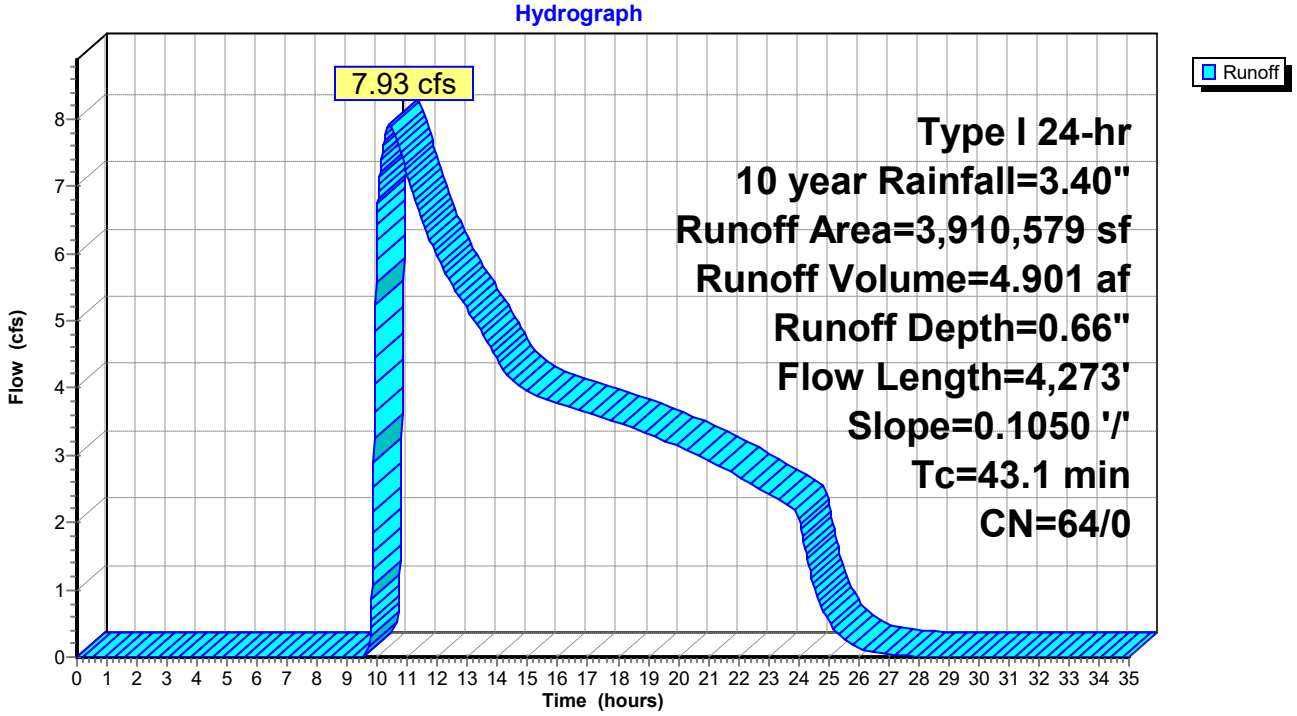
Runoff = 7.93 cfs @ 10.41 hrs, Volume= 4.901 af, Depth= 0.66"
Routed to Reach 8R : Collection Point 8

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	3,910,579	64	Brush and open space, see Attachment 3.
	3,910,579	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	1,200	0.1050	0.80		**Kerby Method,** Pasture, average grass N= 0.40
18.0	3,073	0.1050	2.84		**Kirpich Method,** General overland flow k= 2.00
43.1	4,273	Total			

Subcatchment 8.1: Diverted Area 8



Summary for Subcatchment 9.1: Diverted Area 9

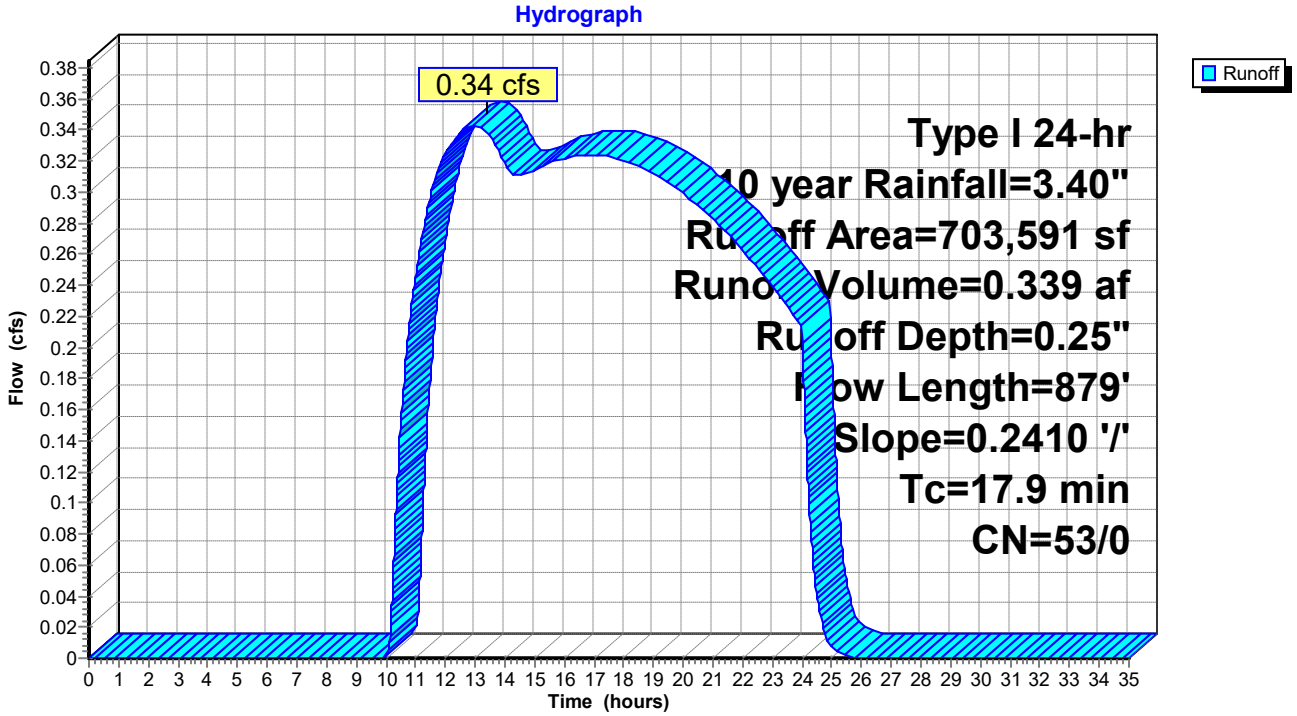
Runoff = 0.34 cfs @ 12.94 hrs, Volume= 0.339 af, Depth= 0.25"
Routed to Reach 9R : Collection Point 9

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	703,591	53	Brush and open space, see Attachment 3.
	703,591	53	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	879	0.2410	0.82		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 9.1: Diverted Area 9



Summary for Subcatchment 10.1: Diverted Area 10.2

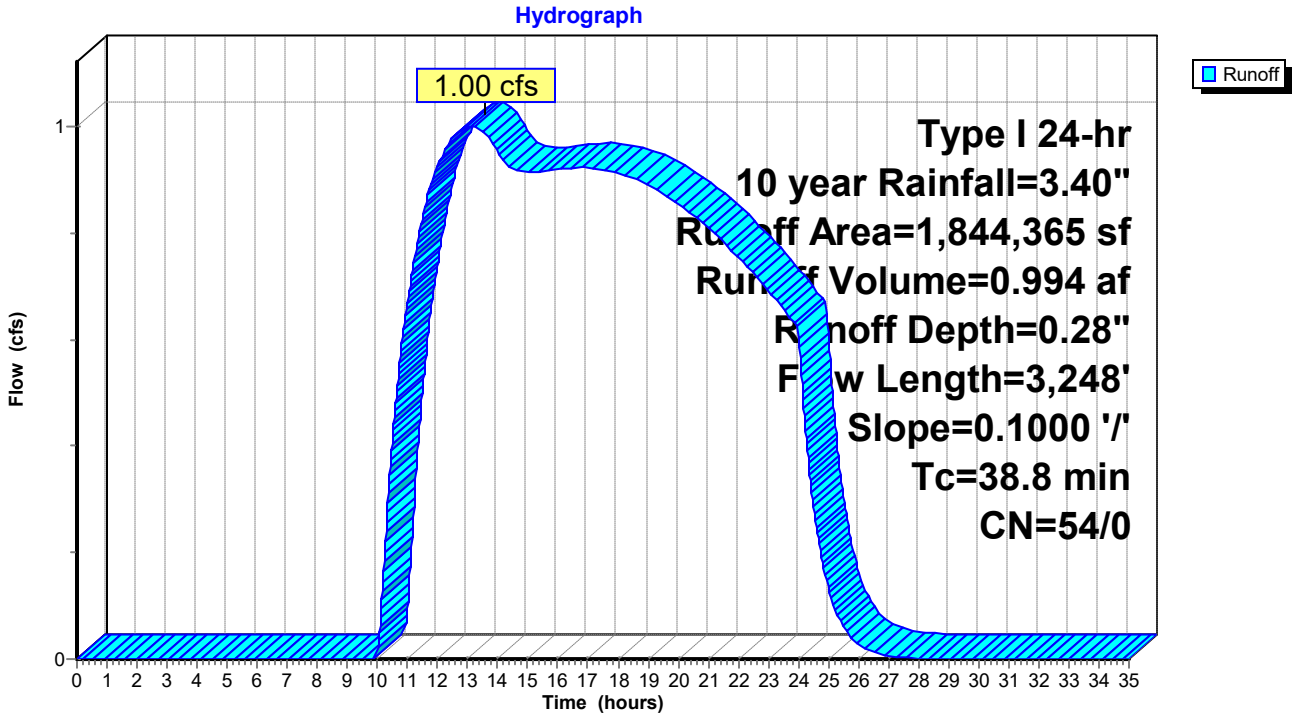
Runoff = 1.00 cfs @ 13.10 hrs, Volume= 0.994 af, Depth= 0.28"
Routed to Reach 10R : Collection Point 10

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,844,365	54	Brush and open space, see Attachment 3.
	1,844,365	54	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.1000	0.79		**Kerby Method,** Pasture, average grass N= 0.40
13.4	2,048	0.1000	2.54		**Kirpich Method,** General overland flow k= 2.00
38.8	3,248	Total			

Subcatchment 10.1: Diverted Area 10.2



Summary for Subcatchment 11.1: Diverted Area 11

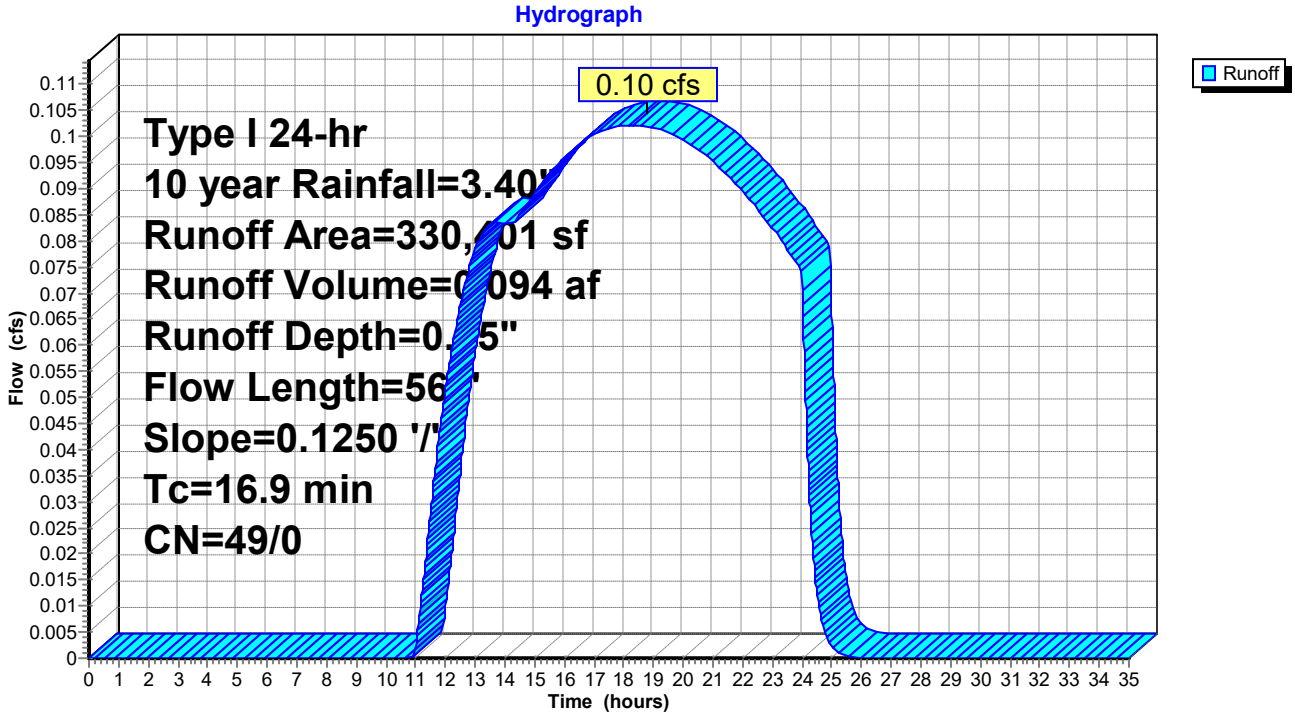
Runoff = 0.10 cfs @ 18.30 hrs, Volume= 0.094 af, Depth= 0.15"
Routed to Reach 11R : Collection Point 11

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	330,401	49	Brush and open space, see Attachment 3.
	330,401	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	560	0.1250	0.55		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 11.1: Diverted Area 11



Summary for Subcatchment 12.1: Diverted Area 12

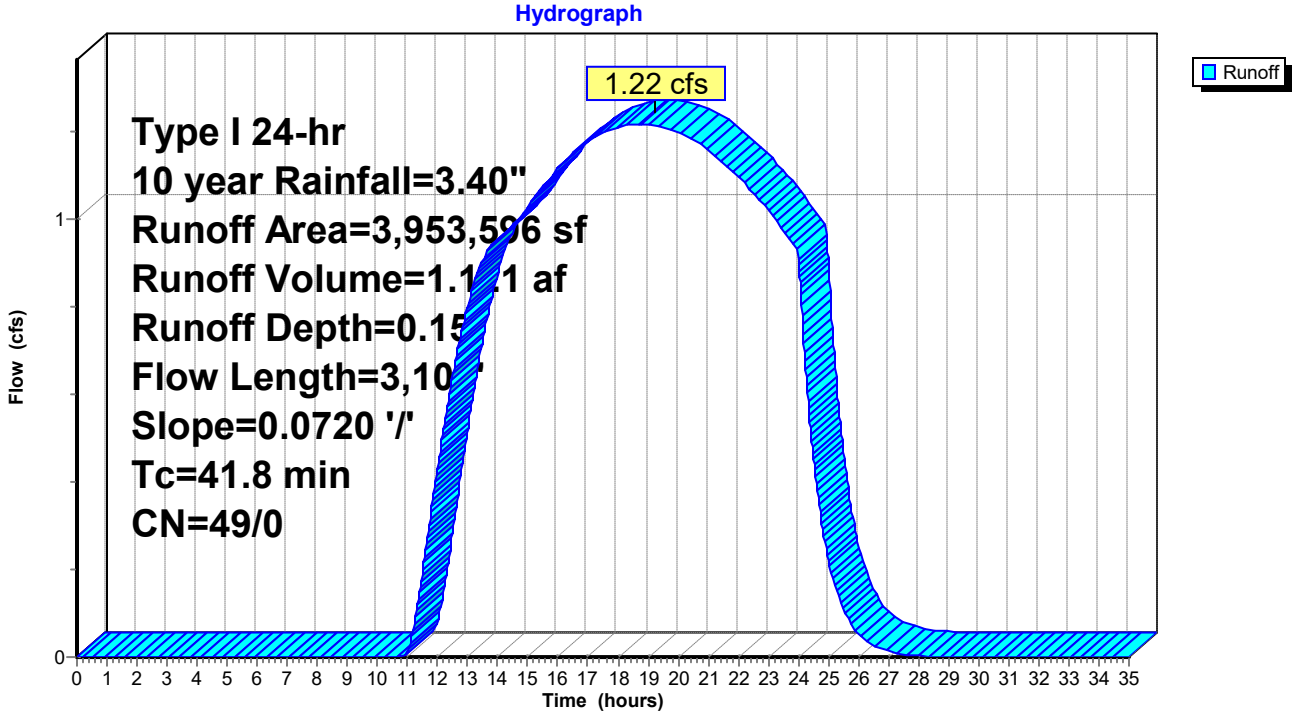
Runoff = 1.22 cfs @ 18.74 hrs, Volume= 1.121 af, Depth= 0.15"
Routed to Reach 12R : Collection Point 12

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	3,953,596	49	Brush and open space, see Attachment 3.
	3,953,596	49	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.4	1,900	0.0720	2.20		**Kirpich Method,** General overland flow k= 2.00
41.8	3,100	Total			

Subcatchment 12.1: Diverted Area 12



Summary for Subcatchment 12.2: Developed Area 12.1

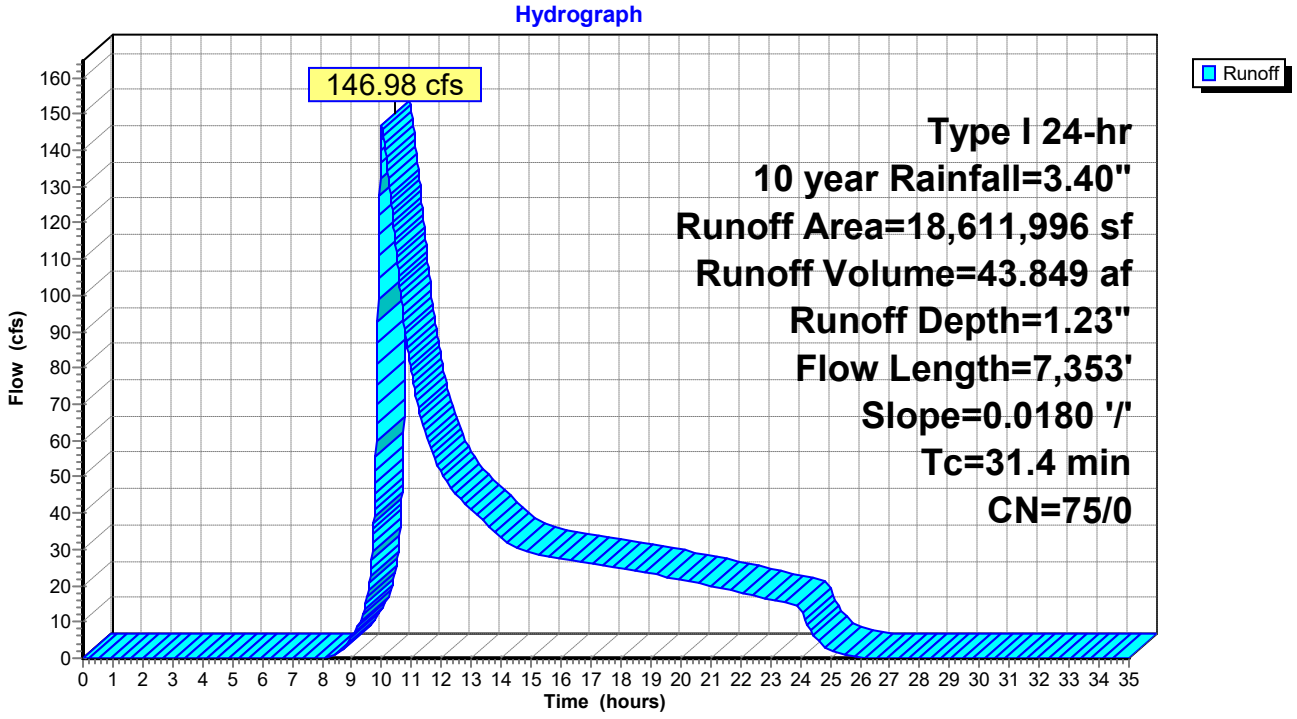
Runoff = 146.98 cfs @ 10.00 hrs, Volume= 43.849 af, Depth= 1.23"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	16,306,782	74	Composite CN, see Attachment 3
*	1,897,057	83	Paved; Open ditches (including right-of-way), HSG A
*	146,424	92	Paved; Open ditches (including right-of-way), HSG C
*	261,733	93	Paved; Open ditches (including right-of-way), HSG D
	18,611,996	75	Weighted Average
	18,611,996	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
9.3	1,200	0.0180	2.14		**Kerby Method,** Smooth impervious N= 0.02
12.1	6,153	0.0180	8.46		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
31.4	7,353	Total			

Subcatchment 12.2: Developed Area 12.1



Summary for Subcatchment 12.3: Diverted Area 12.3

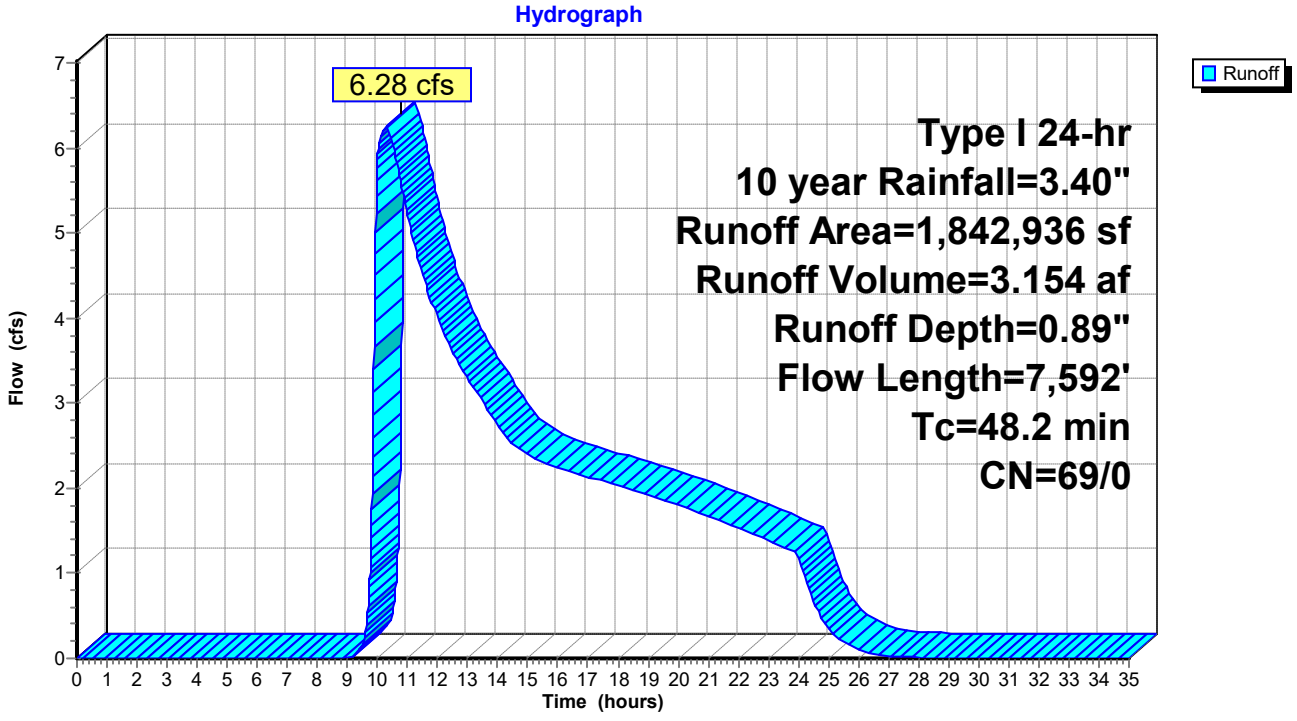
Runoff = 6.28 cfs @ 10.28 hrs, Volume= 3.154 af, Depth= 0.89"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,842,936	69	Brush and open space, see Attachment 3.
	1,842,936	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
14.5	1,915	0.0720	2.21		**Kirpich Method,** General overland flow k= 2.00
6.3	4,477	0.0270	11.83	37.17	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
48.2	7,592	Total			

Subcatchment 12.3: Diverted Area 12.3



Summary for Subcatchment 12.4: Diverted Area 12.4

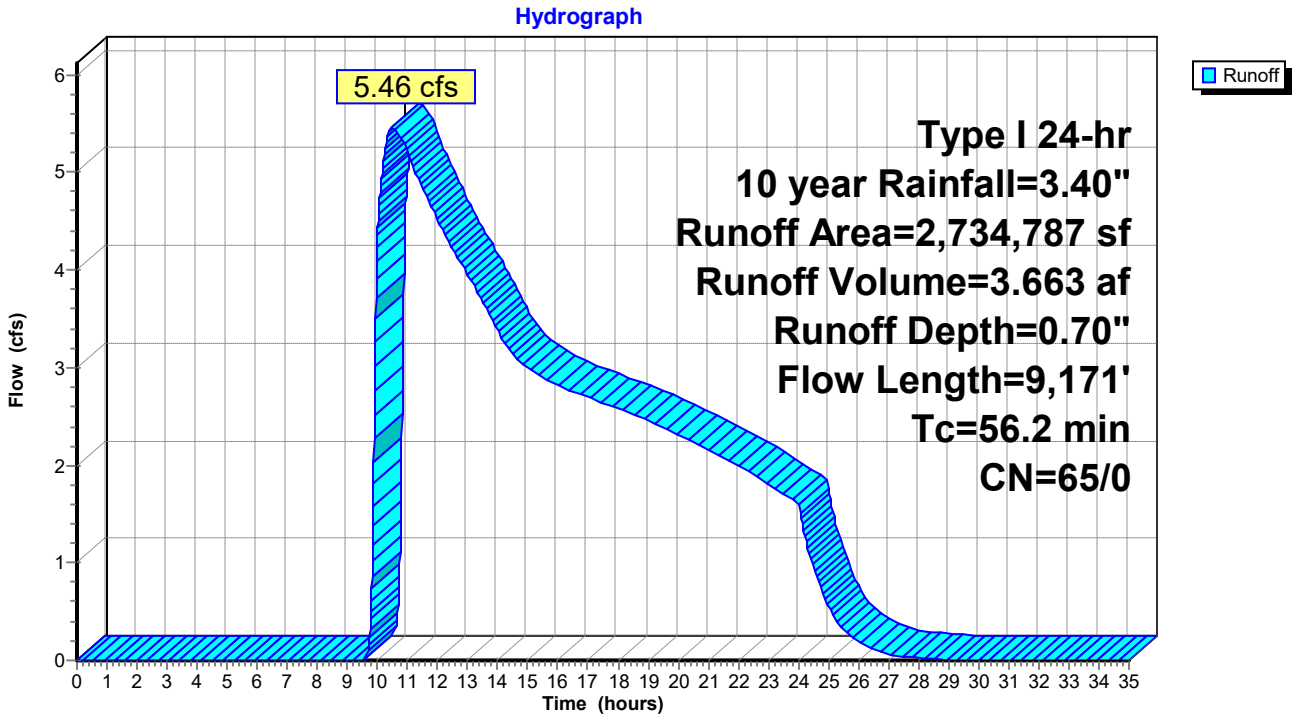
Runoff = 5.46 cfs @ 10.48 hrs, Volume= 3.663 af, Depth= 0.70"
Routed to Pond 12S : Flow Splitter Box

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	2,734,787	65	Brush and open space, See Attachment 3
	2,734,787	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.2	1,200	0.0640	0.71		**Kerby Method,** Pasture, average grass N= 0.40
18.1	2,421	0.0640	2.23		**Kirpich Method,** General overland flow k= 2.00
9.9	5,550	0.0200	9.32	22.41	**Pipe Channel,** 21.0" Round Area= 2.4 sf Perim= 5.5' r= 0.44' n= 0.013
56.2	9,171	Total			

Subcatchment 12.4: Diverted Area 12.4



Summary for Subcatchment 13.1: Diverted Area 13

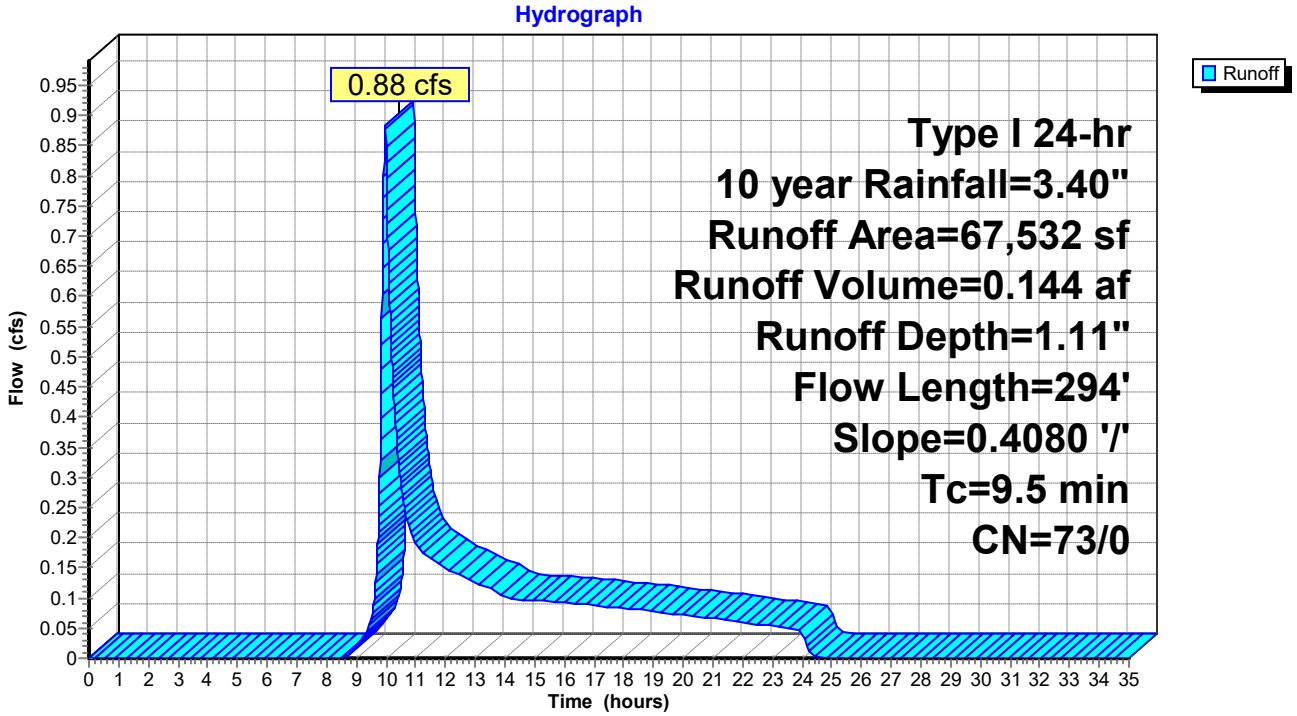
Runoff = 0.88 cfs @ 9.97 hrs, Volume= 0.144 af, Depth= 1.11"
Routed to Reach 13R : Collection Point 13

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	67,532	73	Brush and open space, see Attachment 3.
	67,532	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	294	0.4080	0.52		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 13.1: Diverted Area 13



Summary for Subcatchment 14.1: Diverted Area 14

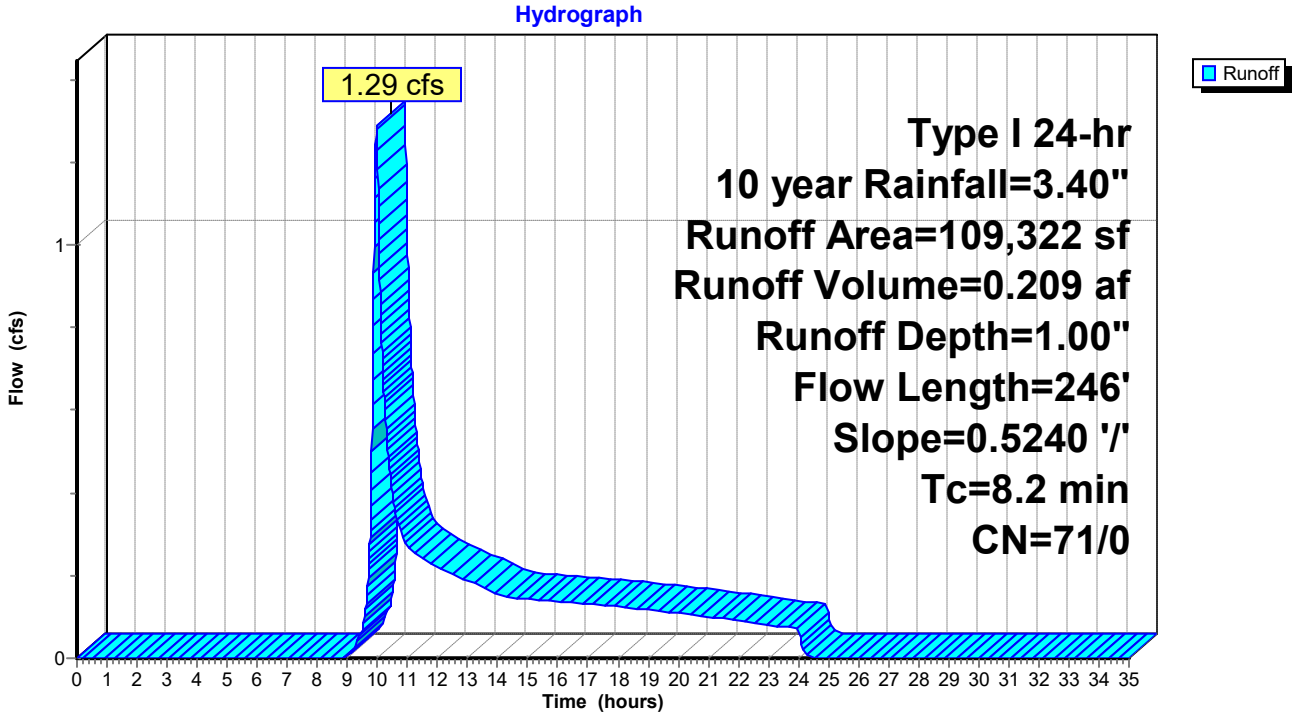
Runoff = 1.29 cfs @ 9.97 hrs, Volume= 0.209 af, Depth= 1.00"
Routed to Reach 14R : Collection Point 14

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	109,322	71	Brush and open space, see Attachment 3.
	109,322	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	246	0.5240	0.50		**Kerby Method,** Pasture, average grass N= 0.40

Subcatchment 14.1: Diverted Area 14



Summary for Subcatchment 15.1: Diverted Area 15

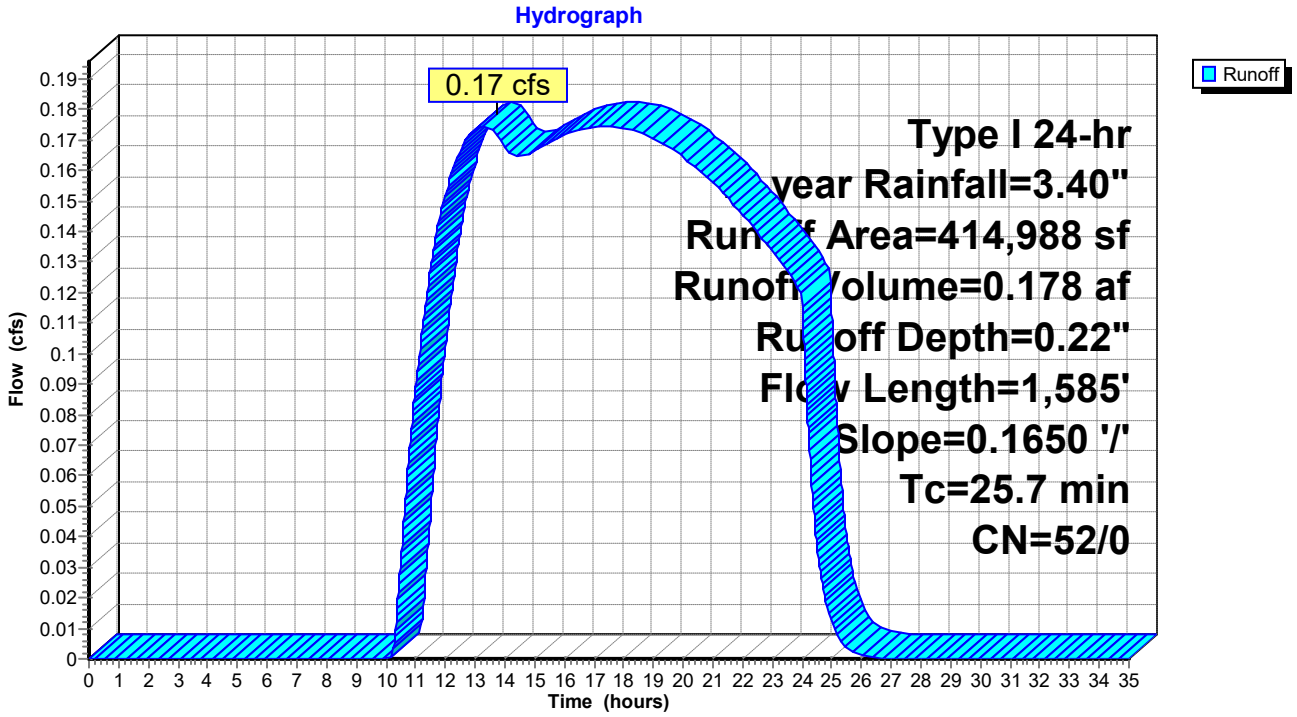
Runoff = 0.17 cfs @ 13.27 hrs, Volume= 0.178 af, Depth= 0.22"
Routed to Reach 15R : Collection Point 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	410,790	52	Composite CN, see Attachment 3.
*	4,198	83	Paved; Open ditches (including right-of-way), HSG A
	414,988	52	Weighted Average
	414,988	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	1,200	0.1650	0.89		**Kerby Method,** Pasture, average grass N= 0.40
3.1	385	0.1650	2.10		**Kirpich Method,** General overland flow k= 2.00
25.7	1,585	Total			

Subcatchment 15.1: Diverted Area 15



Summary for Subcatchment 15.2: Developed Area 15

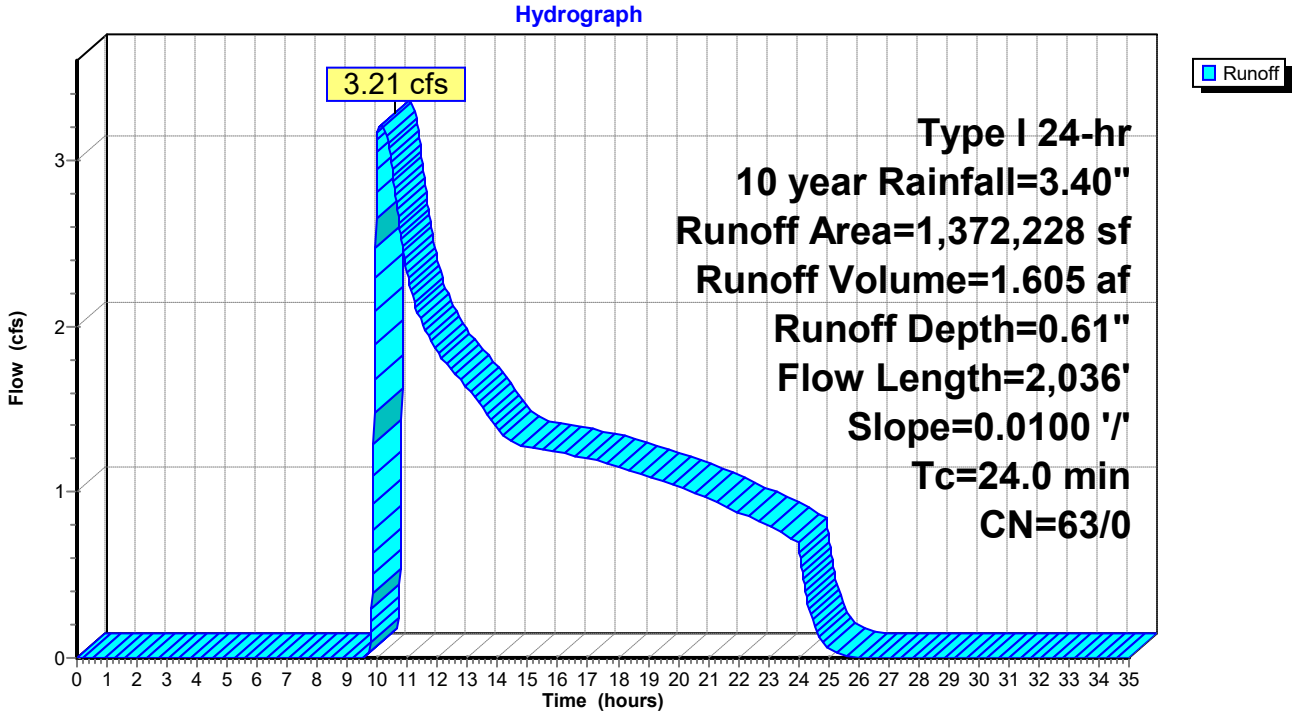
Runoff = 3.21 cfs @ 10.14 hrs, Volume= 1.605 af, Depth= 0.61"
Routed to Pond D15 : Detention Pond 15

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,102,421	58	Composite CN, see Attachment 3.
*	224,863	83	Paved; Open ditches (including right-of-way), HSG A
*	44,944	93	Paved; Open ditches (including right-of-way), HSG D
	1,372,228	63	Weighted Average
	1,372,228	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
10.7	1,200	0.0100	1.87		**Kerby Method,** Smooth impervious N= 0.02
3.3	836	0.0100	4.26		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
24.0	2,036	Total			

Subcatchment 15.2: Developed Area 15



Summary for Subcatchment 16.1: Diverted Area 16

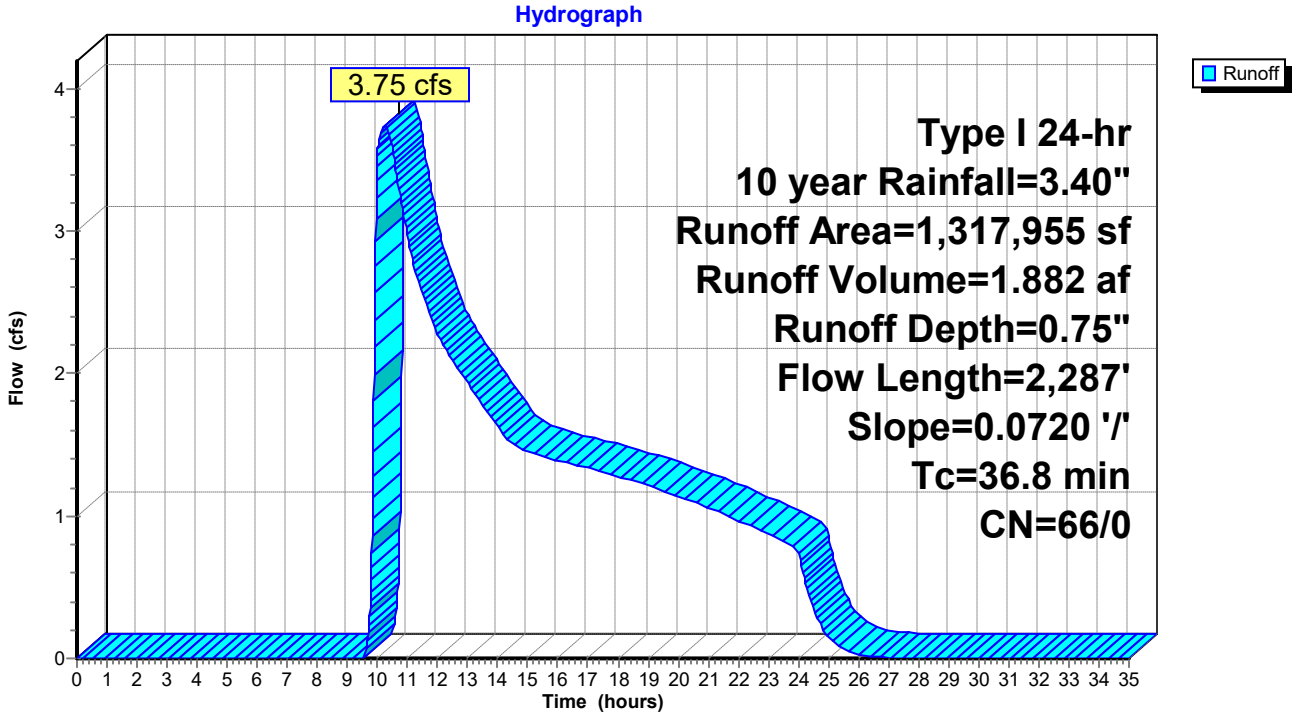
Runoff = 3.75 cfs @ 10.25 hrs, Volume= 1.882 af, Depth= 0.75"
Routed to Reach 16R : Collection Point 16

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,312,099	66	Brush and open space, see Attachment 3.
*	5,839	83	Paved; Open ditches (including right-of-way), HSG A
*	17	93	Paved; Open ditches (including right-of-way), HSG D
	1,317,955	66	Weighted Average
	1,317,955	66	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	1,200	0.0720	0.73		**Kerby Method,** Pasture, average grass N= 0.40
9.4	1,087	0.0720	1.94		**Kirpich Method,** General overland flow k= 2.00
36.8	2,287	Total			

Subcatchment 16.1: Diverted Area 16



Summary for Subcatchment 16.2: Developed Area 16

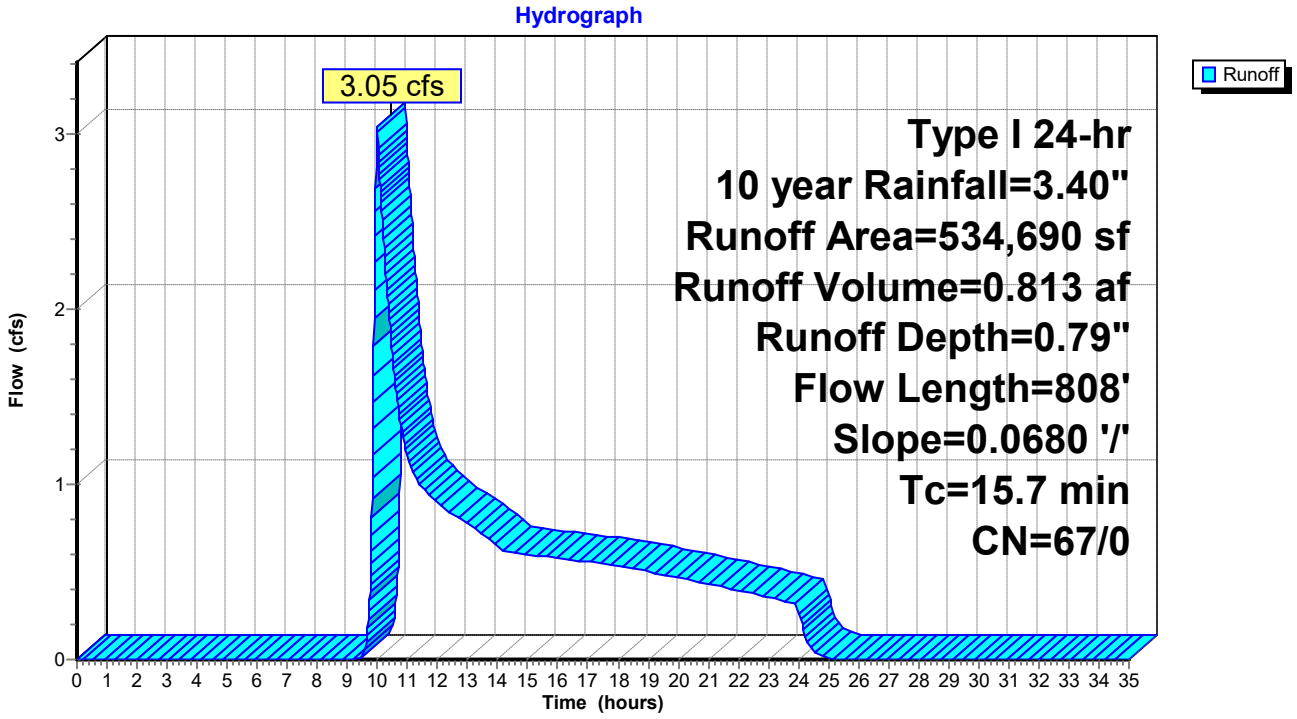
Runoff = 3.05 cfs @ 9.99 hrs, Volume= 0.813 af, Depth= 0.79"
Routed to Pond D16.2 : Detention Pond 16.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	534,690	67	Composite CN, see Attachment 3.
	534,690	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.7	808	0.0680	2.36		**Kerby Method,** Smooth impervious N= 0.02
15.7	808	Total			

Subcatchment 16.2: Developed Area 16



Summary for Subcatchment 16.3: Developed Area 16

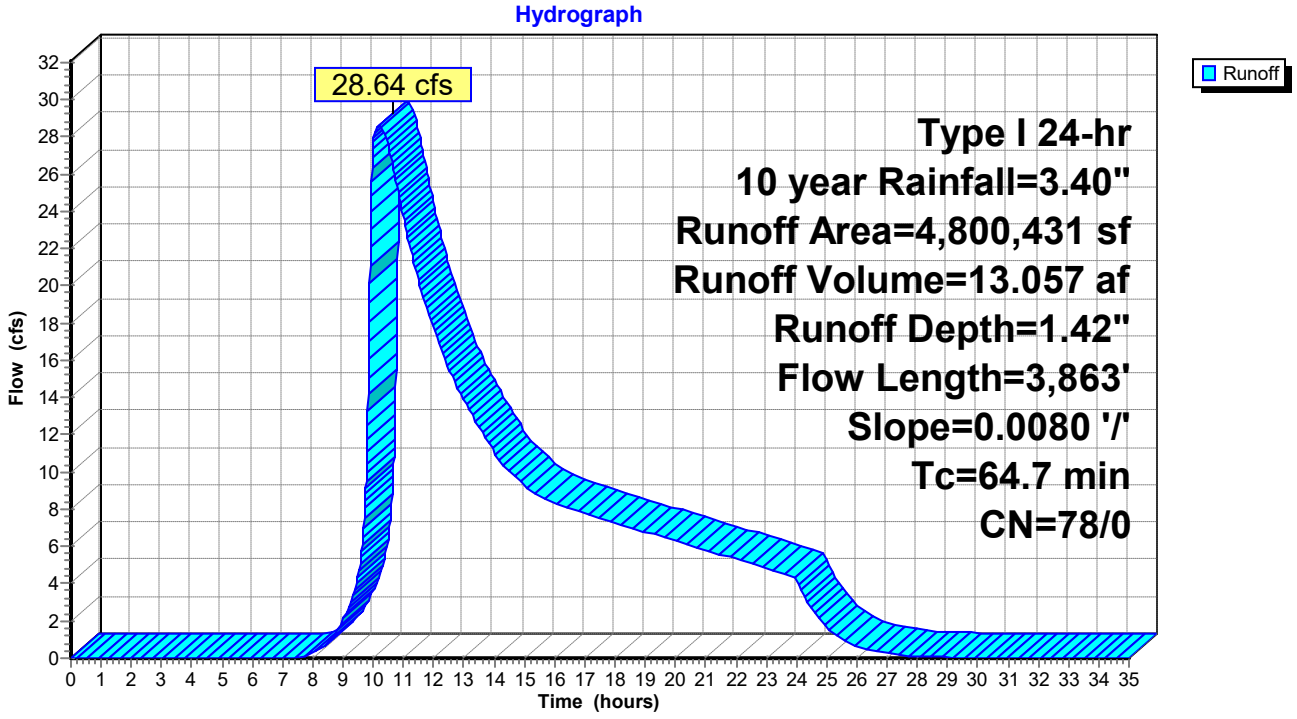
Runoff = 28.64 cfs @ 10.22 hrs, Volume= 13.057 af, Depth= 1.42"
Routed to Pond D16.3 : Detention Pond 16.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	4,430,615	77	Composite CN, see Attachment 3.
*	333,557	83	Paved; Open ditches (including right-of-way), HSG A
*	27,011	92	Paved; Open ditches (including right-of-way), HSG C
*	9,248	93	Paved; Open ditches (including right-of-way), HSG D
	4,800,431	78	Weighted Average
	4,800,431	78	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
11.3	1,200	0.0080	1.77		**Kerby Method,** Smooth impervious N= 0.02
43.4	2,663	0.0080	1.02		**Kirpich Method,** General overland flow k= 2.00
64.7	3,863	Total			

Subcatchment 16.3: Developed Area 16



Summary for Subcatchment 17.1: Diverted Area 17

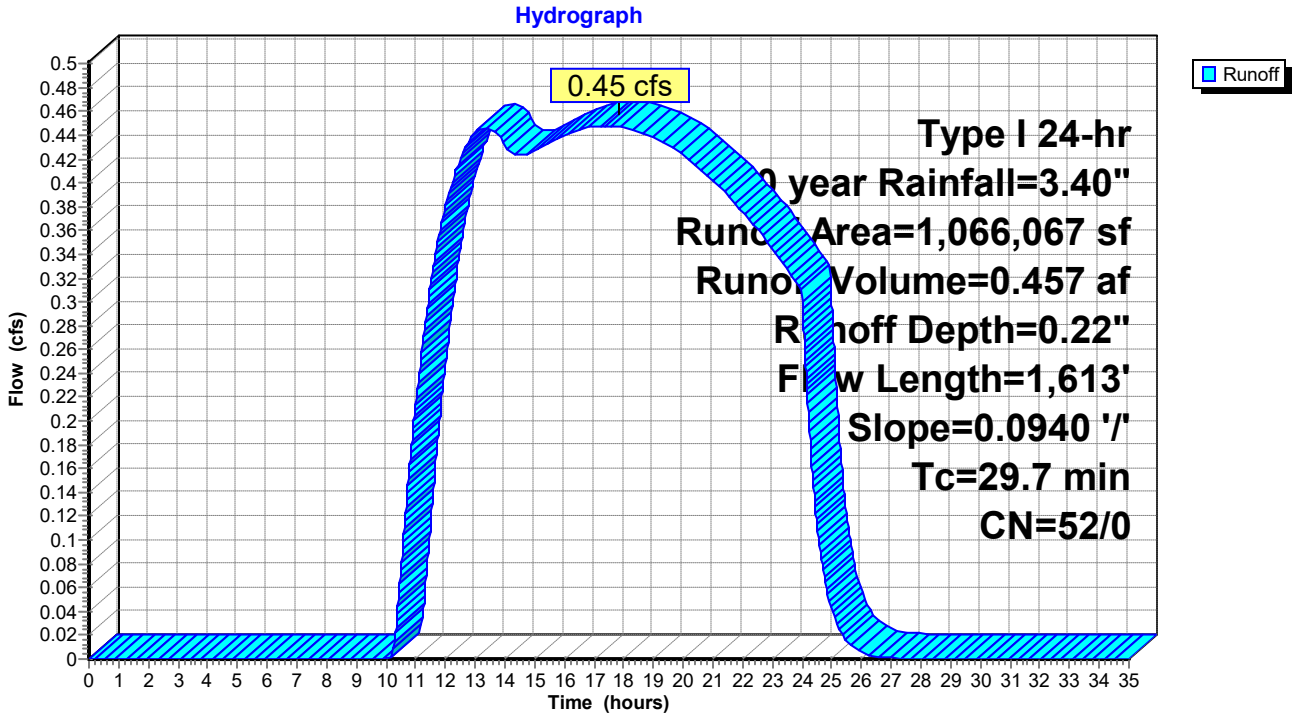
Runoff = 0.45 cfs @ 17.39 hrs, Volume= 0.457 af, Depth= 0.22"
Routed to Reach 17R : Collection Point 17

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,066,067	52	Brush and open space, see Attachment 3.
	1,066,067	52	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	1,200	0.0940	0.78		**Kerby Method,** Pasture, average grass N= 0.40
4.0	413	0.0940	1.72		**Kirpich Method,** General overland flow k= 2.00
29.7	1,613	Total			

Subcatchment 17.1: Diverted Area 17



Summary for Subcatchment 18.1: Diverted Area 18

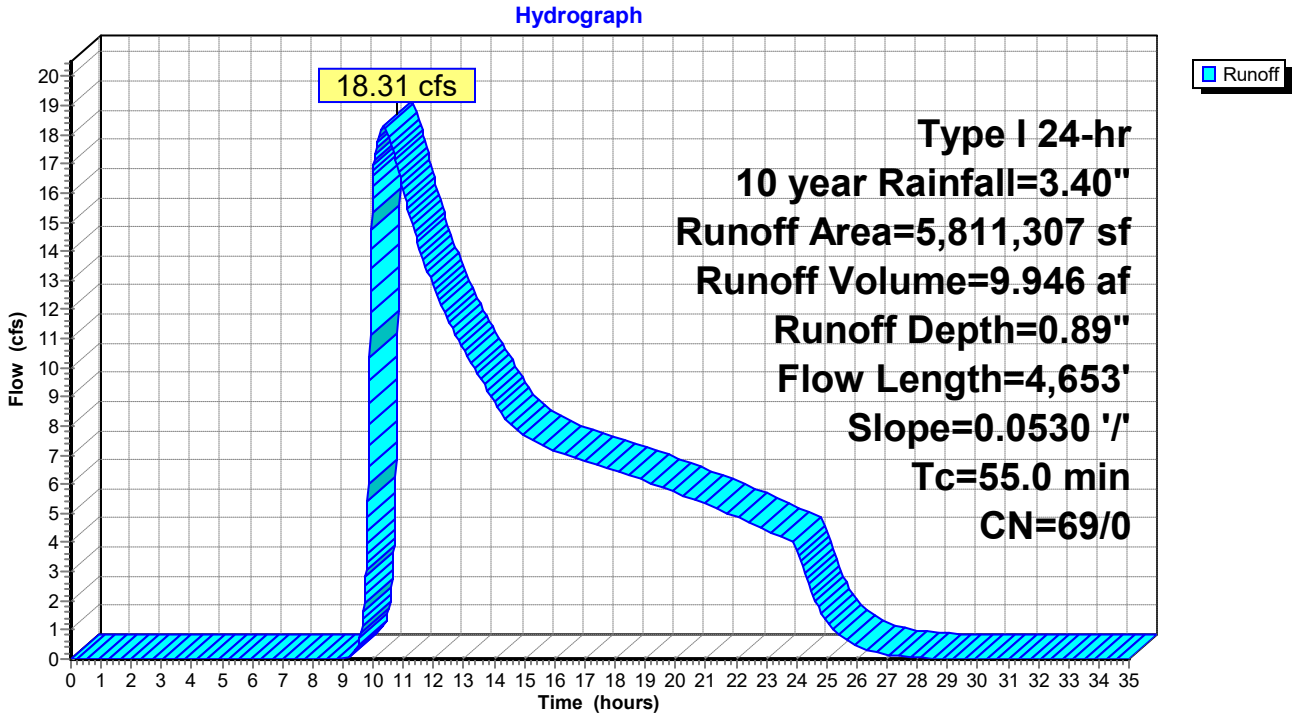
Runoff = 18.31 cfs @ 10.35 hrs, Volume= 9.946 af, Depth= 0.89"
Routed to Reach 18R : Collection Point 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	5,811,307	69	Brush and open space, see Attachment 3.
	5,811,307	69	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.4	1,200	0.0530	0.68		**Kerby Method,** Pasture, average grass N= 0.40
25.6	3,453	0.0530	2.25		**Kirpich Method,** General overland flow k= 2.00
55.0	4,653	Total			

Subcatchment 18.1: Diverted Area 18



Summary for Subcatchment 18.2: Developed Area 18

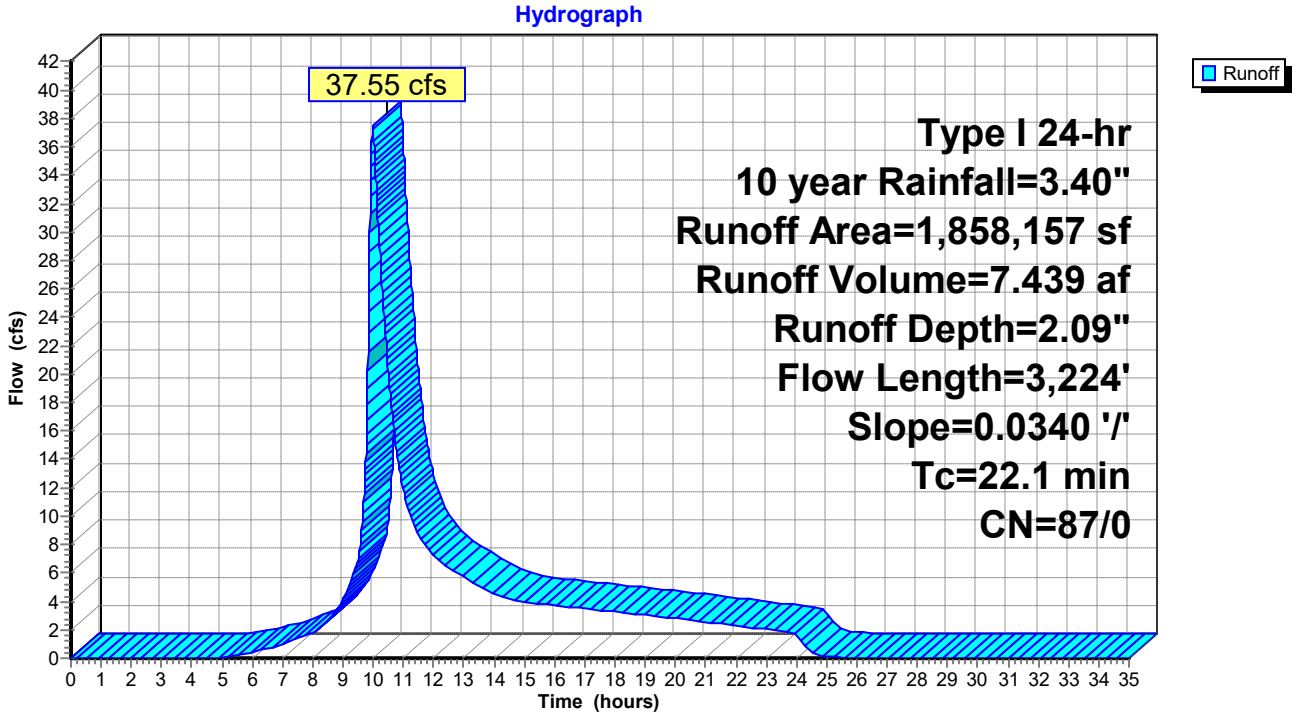
Runoff = 37.55 cfs @ 9.98 hrs, Volume= 7.439 af, Depth= 2.09"
Routed to Pond D18 : Detention Pond 18

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,667,674	87	Composite CN, see Attachment 3.
*	40,054	83	Paved; Open ditches (including right-of-way), HSG A
*	50,899	92	Paved; Open ditches (including right-of-way), HSG C
*	99,530	93	Paved; Open ditches (including right-of-way), HSG D
	1,858,157	87	Weighted Average
	1,858,157	87	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
8.1	1,200	0.0340	2.48		**Kerby Method,** Smooth impervious N= 0.02
4.0	2,024	0.0340	8.37		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
22.1	3,224	Total			

Subcatchment 18.2: Developed Area 18



Summary for Subcatchment 19.1: Diverted Area 19

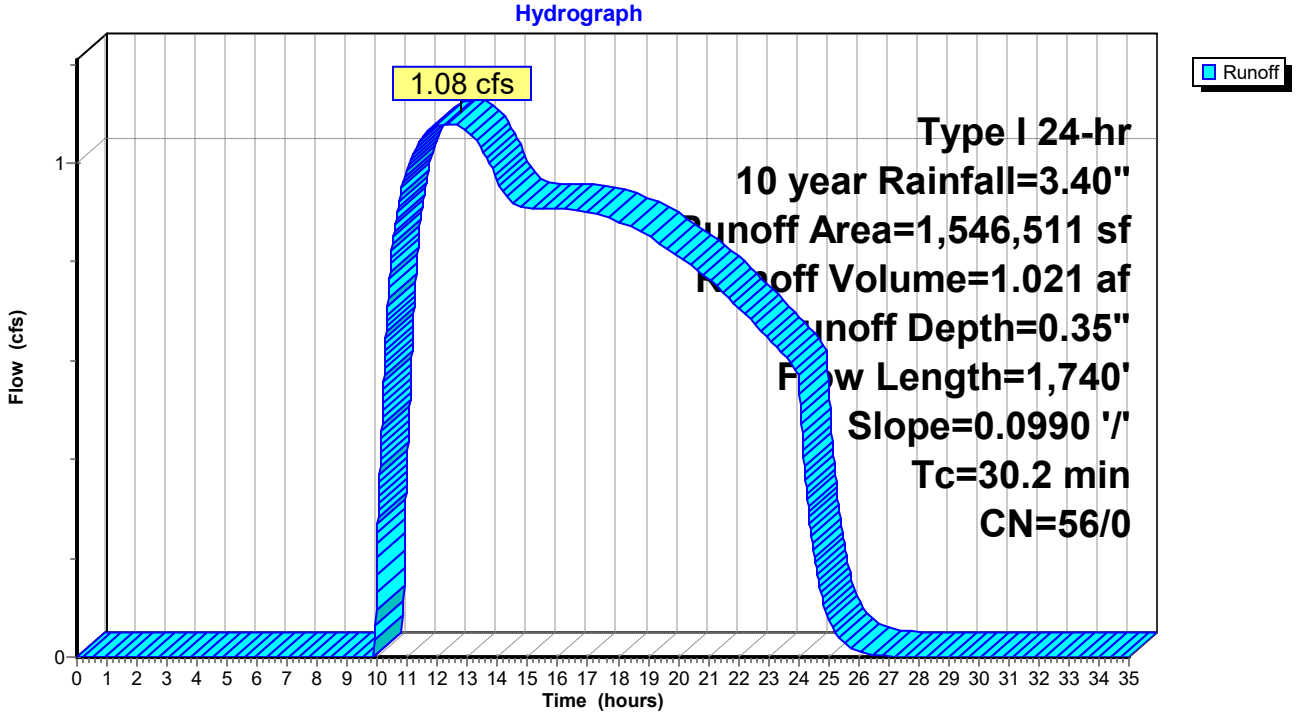
Runoff = 1.08 cfs @ 12.32 hrs, Volume= 1.021 af, Depth= 0.35"
Routed to Reach 19R : Collection Point 19

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,546,511	56	Existing brush, see Attachment 3.
	1,546,511	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,200	0.0990	0.79		**Kerby Method,** Pasture, average grass N= 0.40
4.8	540	0.0990	1.86		**Kirpich Method,** General overland flow k= 2.00
30.2	1,740	Total			

Subcatchment 19.1: Diverted Area 19



Summary for Subcatchment 20.1: Diverted Area 20

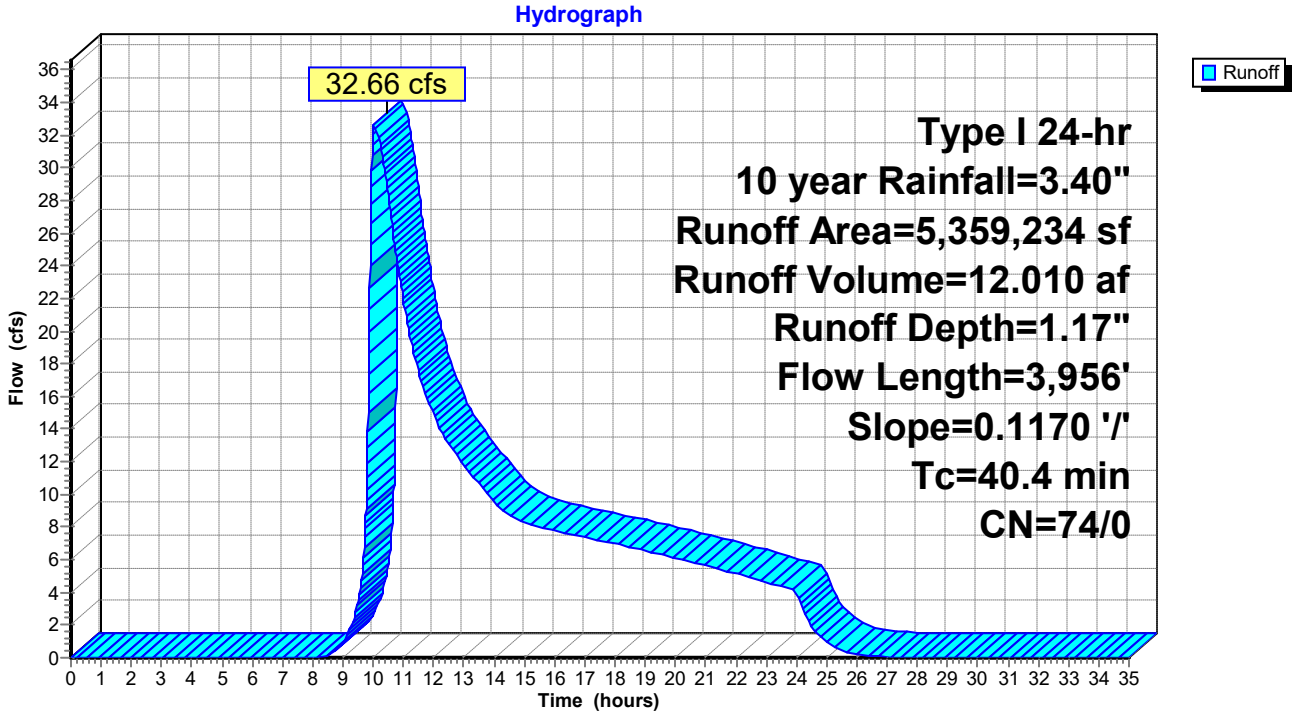
Runoff = 32.66 cfs @ 10.01 hrs, Volume= 12.010 af, Depth= 1.17"
Routed to Reach 20R : Collection Point 20

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	808,224	48	Brush, Poor, HSG A
*	2,979,788	77	Brush, Poor, HSG C
*	1,500,408	83	Brush, Poor, HSG D
*	1,333	39	Open Space, Good, HSG A
*	68,505	74	Open Space, Good, HSG C
*	976	87	Pavers/DG, Good, HSG C
	5,359,234	74	Weighted Average
	5,359,234	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	1,200	0.1170	0.82		**Kerby Method,** Pasture, average grass N= 0.40
15.9	2,756	0.1170	2.89		**Kirpich Method,** General overland flow k= 2.00
40.4	3,956	Total			

Subcatchment 20.1: Diverted Area 20



Summary for Subcatchment 20.2: Developed Area 20.2

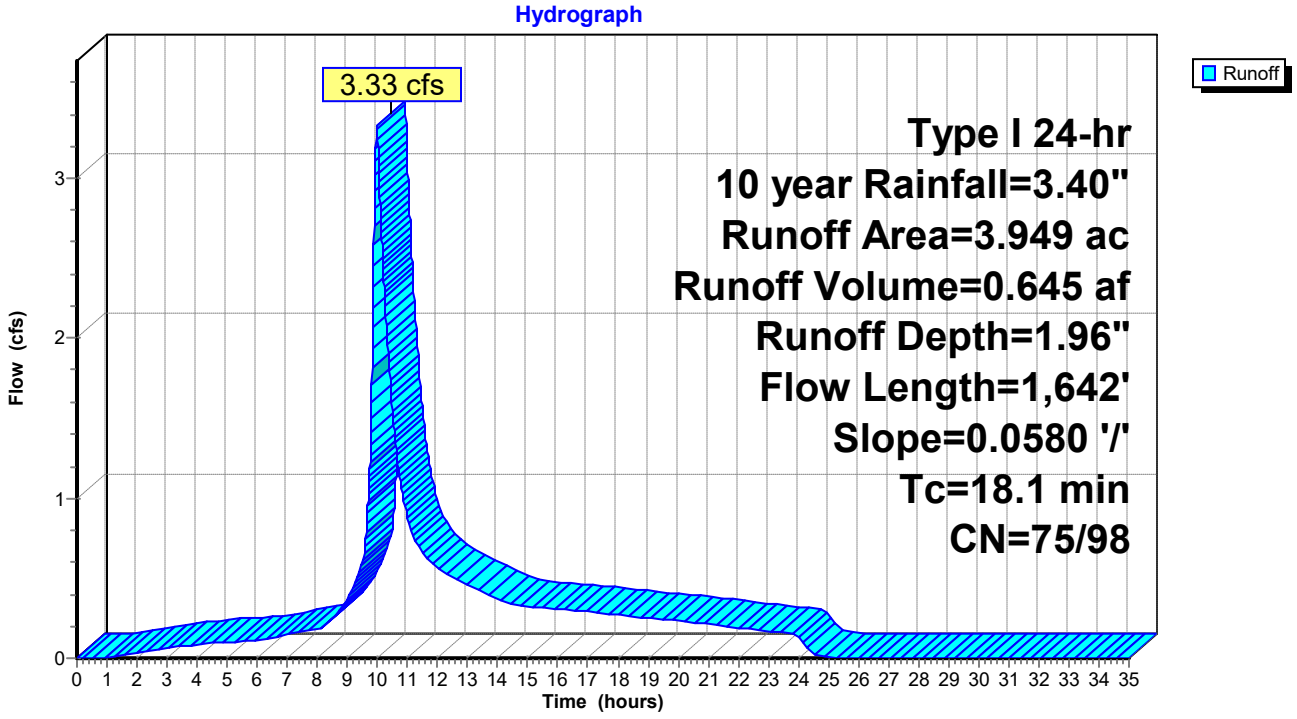
Runoff = 3.33 cfs @ 9.98 hrs, Volume= 0.645 af, Depth= 1.96"
Routed to Pond D20.2 : Detention Basin 20.2

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (ac)	CN	Description
*	2.225	74	Open Space, Good, HSG C
*	0.235	87	Pavers/DG, Good, HSG C
*	1.489	98	Hardscape
	3.949	84	Weighted Average
	2.460	75	62.29% Pervious Area
	1.489	98	37.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.1	1,200	0.0580	2.81		**Kerby Method,** Smooth impervious N= 0.02
1.0	442	0.0580	7.25		**Kirpich Method,** Concrete or asphalt surfaces k= 0.40
18.1	1,642	Total			

Subcatchment 20.2: Developed Area 20.2



Summary for Subcatchment 20.3: Developed Area 20.3

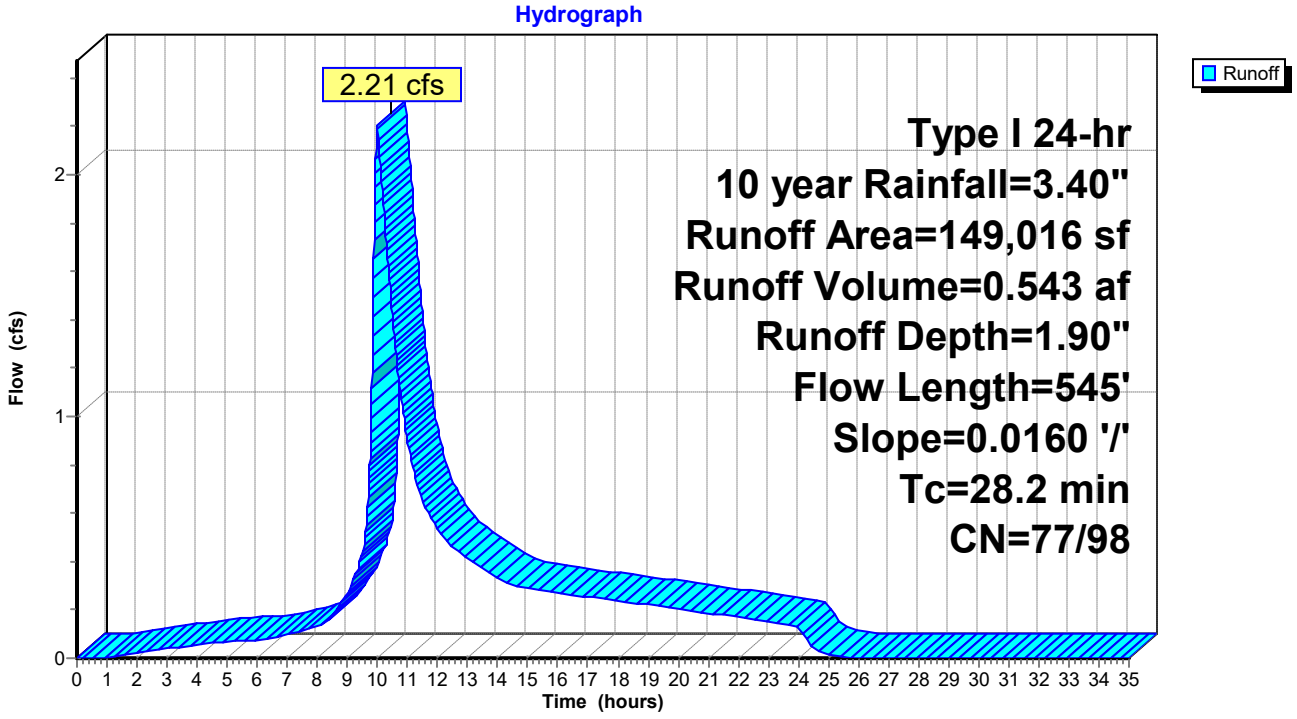
Runoff = 2.21 cfs @ 9.99 hrs, Volume= 0.543 af, Depth= 1.90"
Routed to Pond D20.3 : Detention Pond 20.3

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	83,828	74	Open Space, Good, HSG C
*	20,212	87	Pavers/DG, Good, HSG C
*	44,976	98	Hardscape
	149,016	83	Weighted Average
	104,040	77	69.82% Pervious Area
	44,976	98	30.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
5.1	313	0.0160	1.02		**Kerby Method,** Smooth impervious N= 0.02
13.1	232	0.0160	0.30		**Kerby Method,** Poor grass or cultivated row crops N= 0.20
28.2	545	Total			

Subcatchment 20.3: Developed Area 20.3



Summary for Subcatchment 20.4: Developed Area 20.4

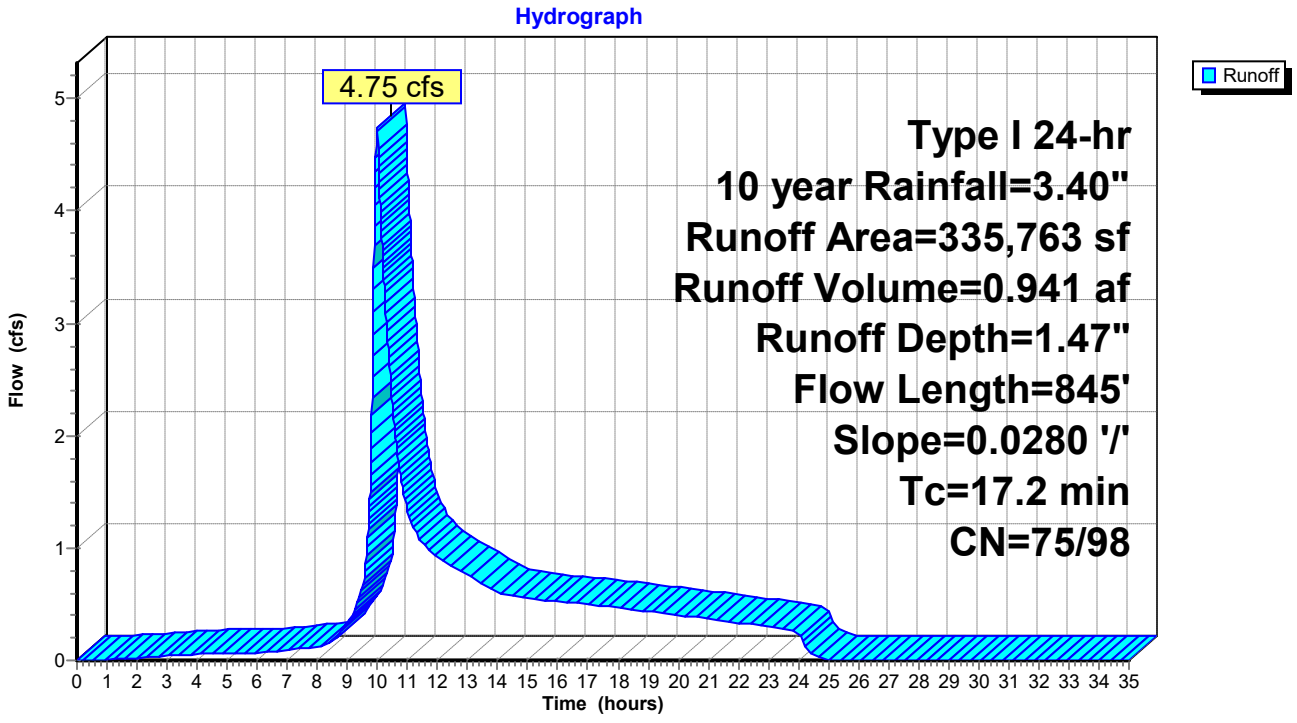
Runoff = 4.75 cfs @ 9.98 hrs, Volume= 0.941 af, Depth= 1.47"
Routed to Pond D20.4 : Detention Pond 20.4

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	264,956	74	Open Space, Good, HSG C
*	30,205	87	Pavers/DG, Good, HSG C
*	40,602	98	Hardscape
	335,763	78	Weighted Average
	295,161	75	87.91% Pervious Area
	40,602	98	12.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Lot Time**
7.2	845	0.0280	1.97		**Kerby Method,** Smooth impervious N= 0.02
17.2	845	Total			

Subcatchment 20.4: Developed Area 20.4



Summary for Subcatchment 21.1: Diverted Area 21

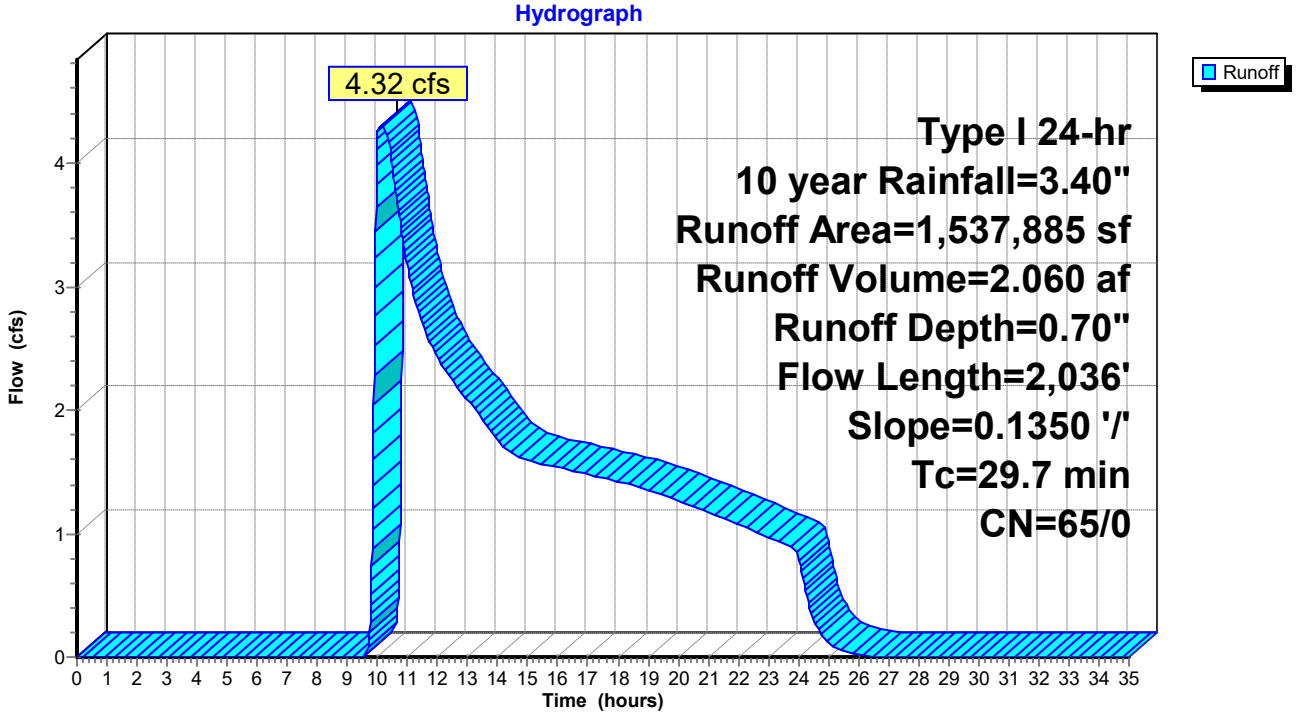
Runoff = 4.32 cfs @ 10.15 hrs, Volume= 2.060 af, Depth= 0.70"
Routed to Reach 21R : Collection Point 21

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	1,537,885	65	Existing brush, see Attachment 3.
	1,537,885	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	1,200	0.1350	0.85		**Kerby Method,** Pasture, average grass N= 0.40
6.0	836	0.1350	2.32		**Kirpich Method,** General overland flow k= 2.00
29.7	2,036	Total			

Subcatchment 21.1: Diverted Area 21



Summary for Subcatchment 22.1: Diverted Area 22

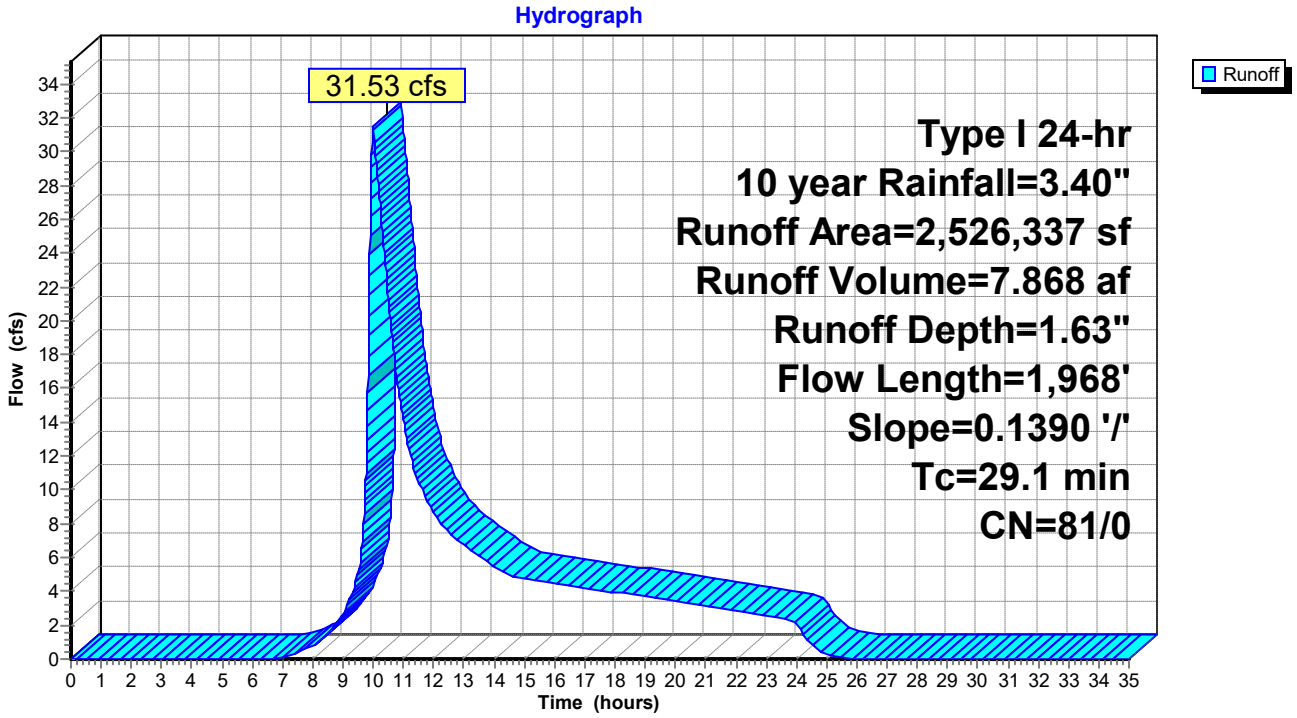
Runoff = 31.53 cfs @ 9.99 hrs, Volume= 7.868 af, Depth= 1.63"
Routed to Reach 22R : Collection Point 22

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Type I 24-hr 10 year Rainfall=3.40"

	Area (sf)	CN	Description
*	2,526,337	81	Existing brush, see Attachment 3.
	2,526,337	81	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	1,200	0.1390	0.85		**Kerby Method,** Pasture, average grass N= 0.40
5.6	768	0.1390	2.30		**Kirpich Method,** General overland flow k= 2.00
29.1	1,968	Total			

Subcatchment 22.1: Diverted Area 22



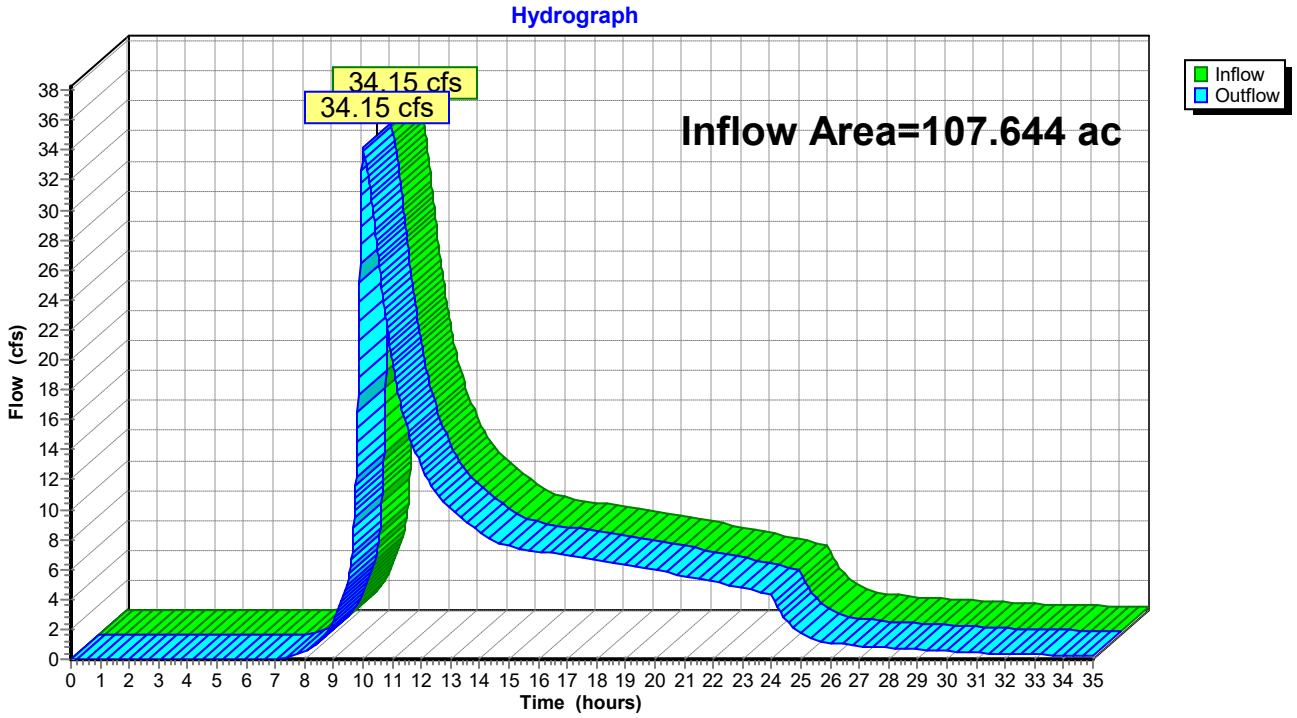
Summary for Reach 1R: Collection Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 107.644 ac, 0.00% Impervious, Inflow Depth > 1.35" for 10 year event
Inflow = 34.15 cfs @ 10.00 hrs, Volume= 12.066 af
Outflow = 34.15 cfs @ 10.00 hrs, Volume= 12.066 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 1R: Collection Point 1



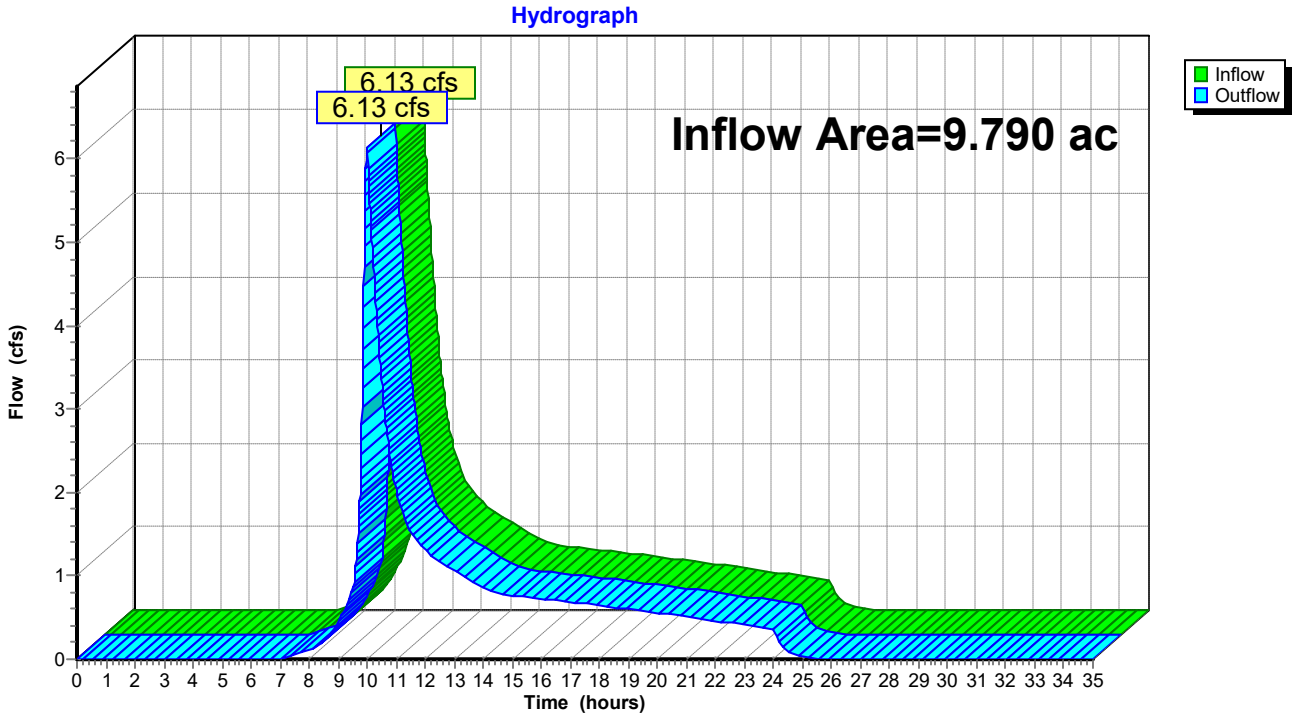
Summary for Reach 2R: Collection Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 9.790 ac, 0.00% Impervious, Inflow Depth = 1.56" for 10 year event
Inflow = 6.13 cfs @ 9.99 hrs, Volume= 1.271 af
Outflow = 6.13 cfs @ 9.99 hrs, Volume= 1.271 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 2R: Collection Point 2



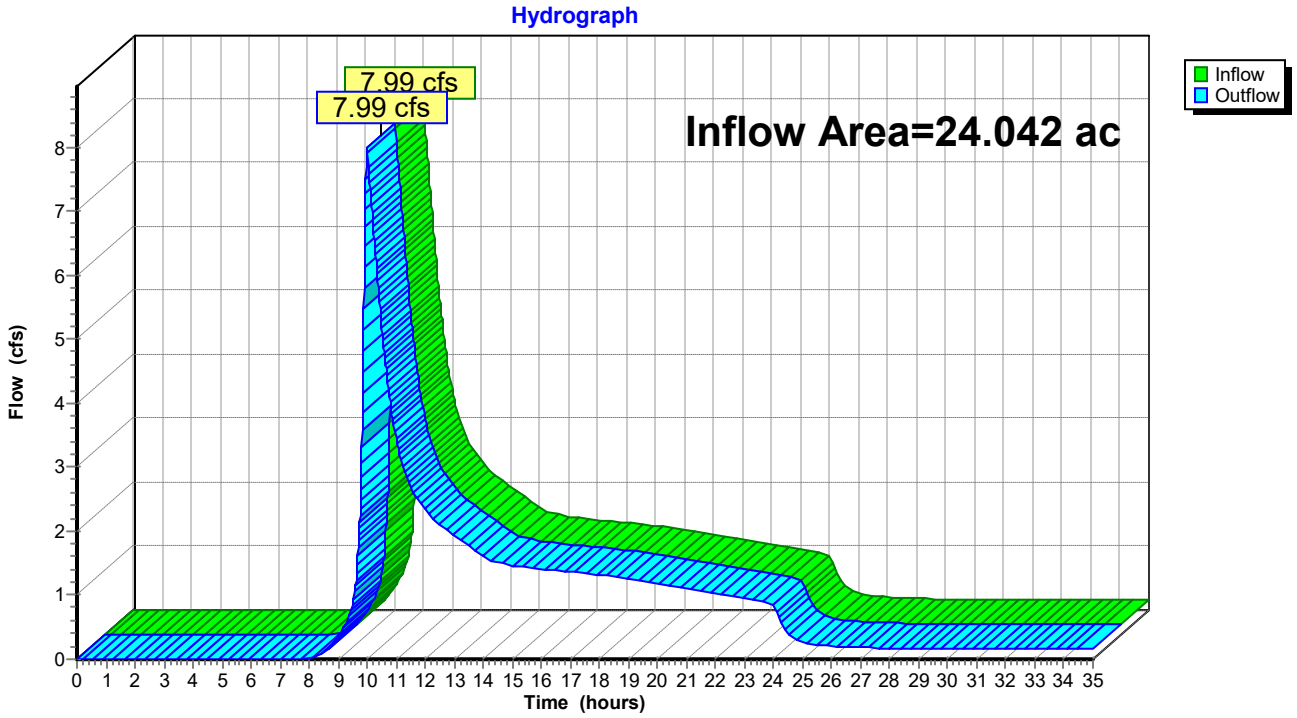
Summary for Reach 3R: Collection Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.042 ac, 0.00% Impervious, Inflow Depth > 1.18" for 10 year event
Inflow = 7.99 cfs @ 9.99 hrs, Volume= 2.362 af
Outflow = 7.99 cfs @ 9.99 hrs, Volume= 2.362 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 3R: Collection Point 3



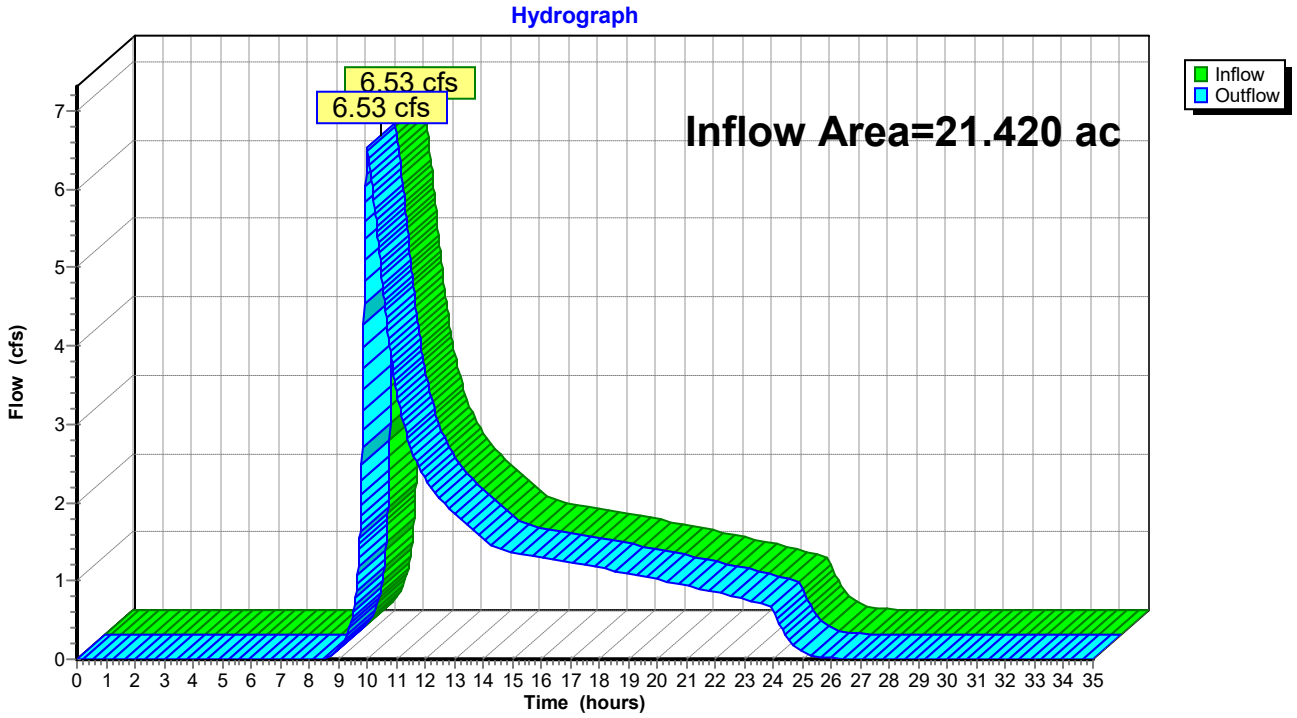
Summary for Reach 4R: Collection Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 21.420 ac, 0.00% Impervious, Inflow Depth = 1.11" for 10 year event
Inflow = 6.53 cfs @ 10.00 hrs, Volume= 1.987 af
Outflow = 6.53 cfs @ 10.00 hrs, Volume= 1.987 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 4R: Collection Point 4



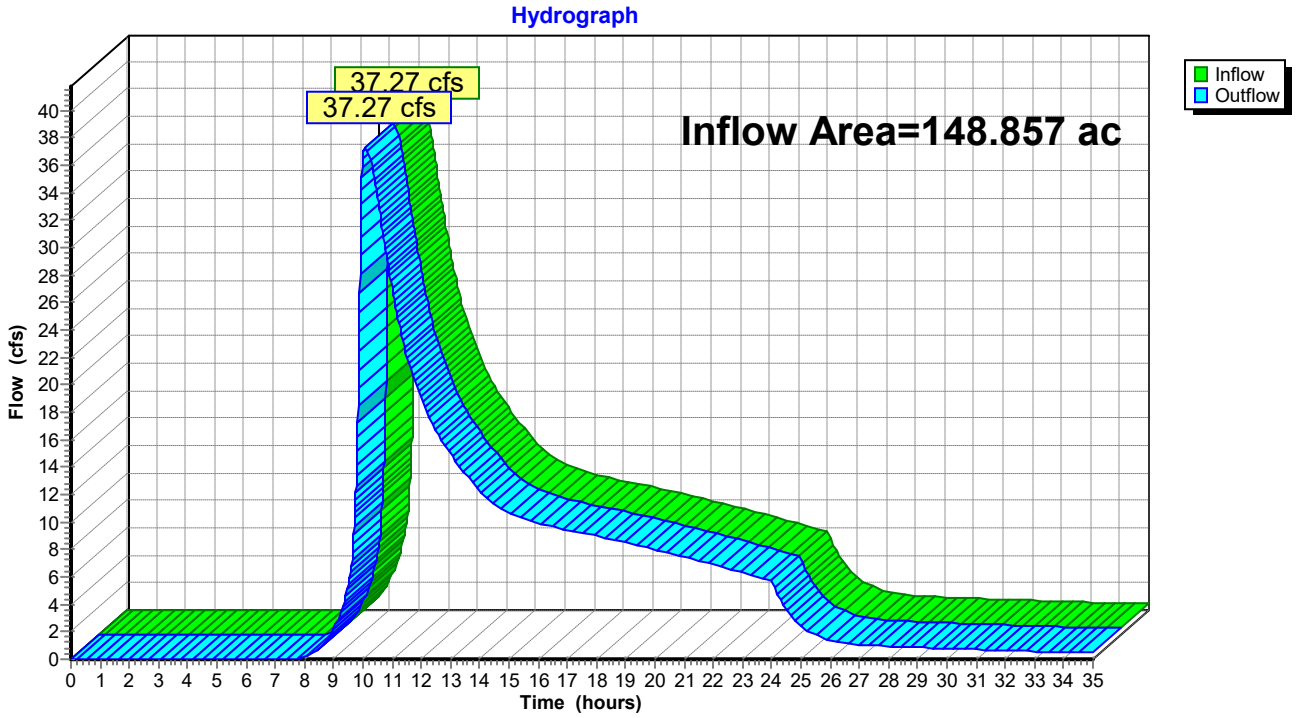
Summary for Reach 5R: Collection Point 5

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 148.857 ac, 0.00% Impervious, Inflow Depth > 1.29" for 10 year event
Inflow = 37.27 cfs @ 10.03 hrs, Volume= 16.048 af
Outflow = 37.27 cfs @ 10.03 hrs, Volume= 16.048 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 5R: Collection Point 5



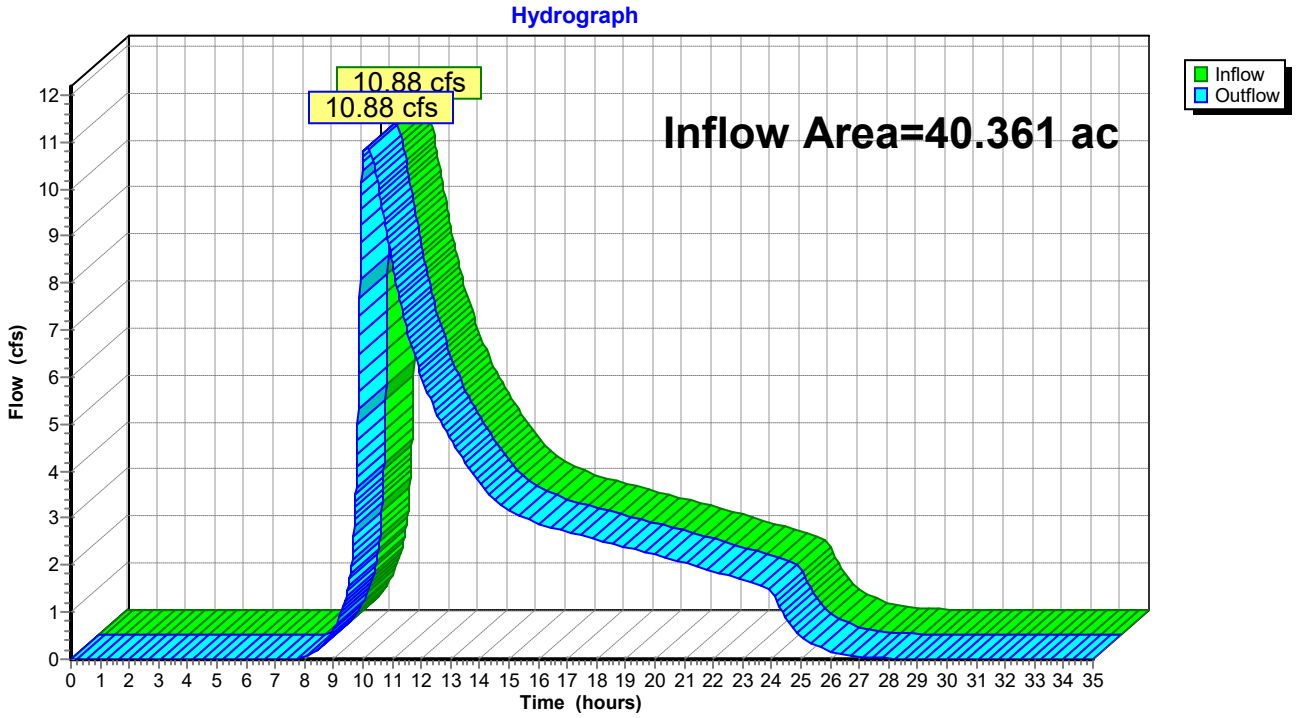
Summary for Reach 6R: Collection Point 6

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 40.361 ac, 0.00% Impervious, Inflow Depth = 1.36" for 10 year event
Inflow = 10.88 cfs @ 10.13 hrs, Volume= 4.563 af
Outflow = 10.88 cfs @ 10.13 hrs, Volume= 4.563 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 6R: Collection Point 6



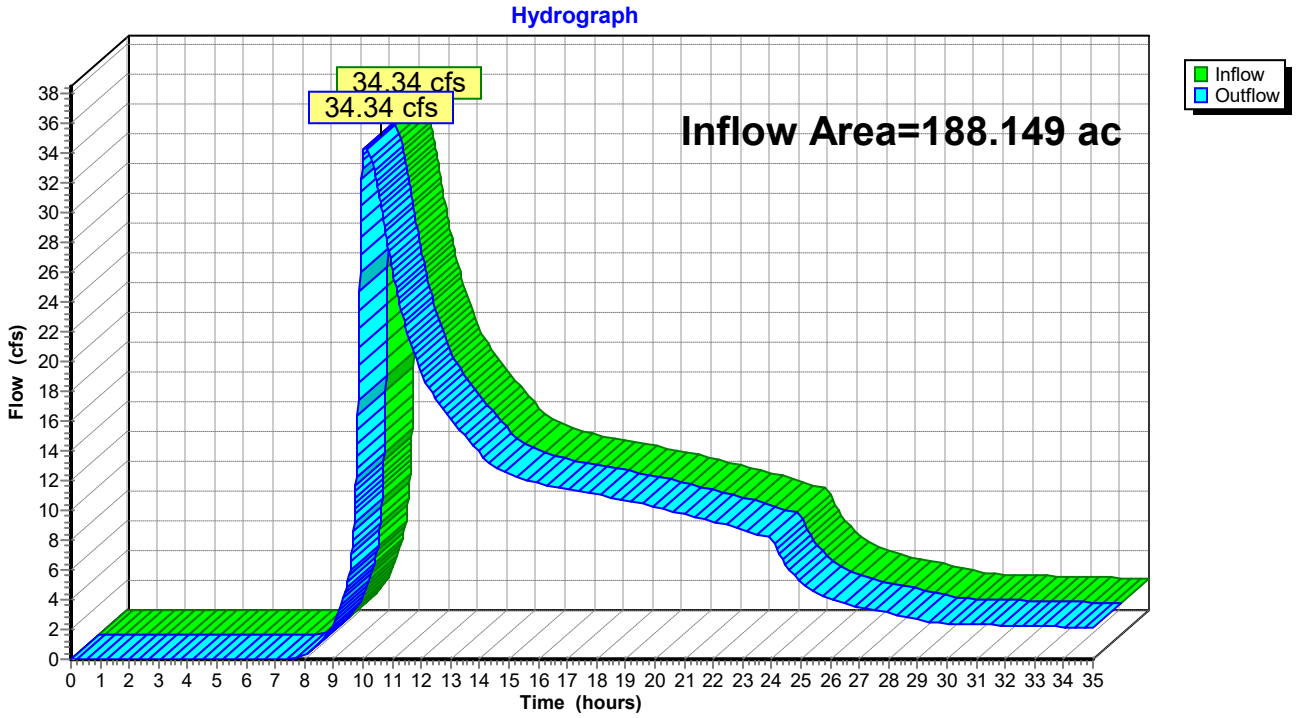
Summary for Reach 7R: Collection Point 7

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 188.149 ac, 0.00% Impervious, Inflow Depth > 1.25" for 10 year event
Inflow = 34.34 cfs @ 10.10 hrs, Volume= 19.627 af
Outflow = 34.34 cfs @ 10.10 hrs, Volume= 19.627 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 7R: Collection Point 7



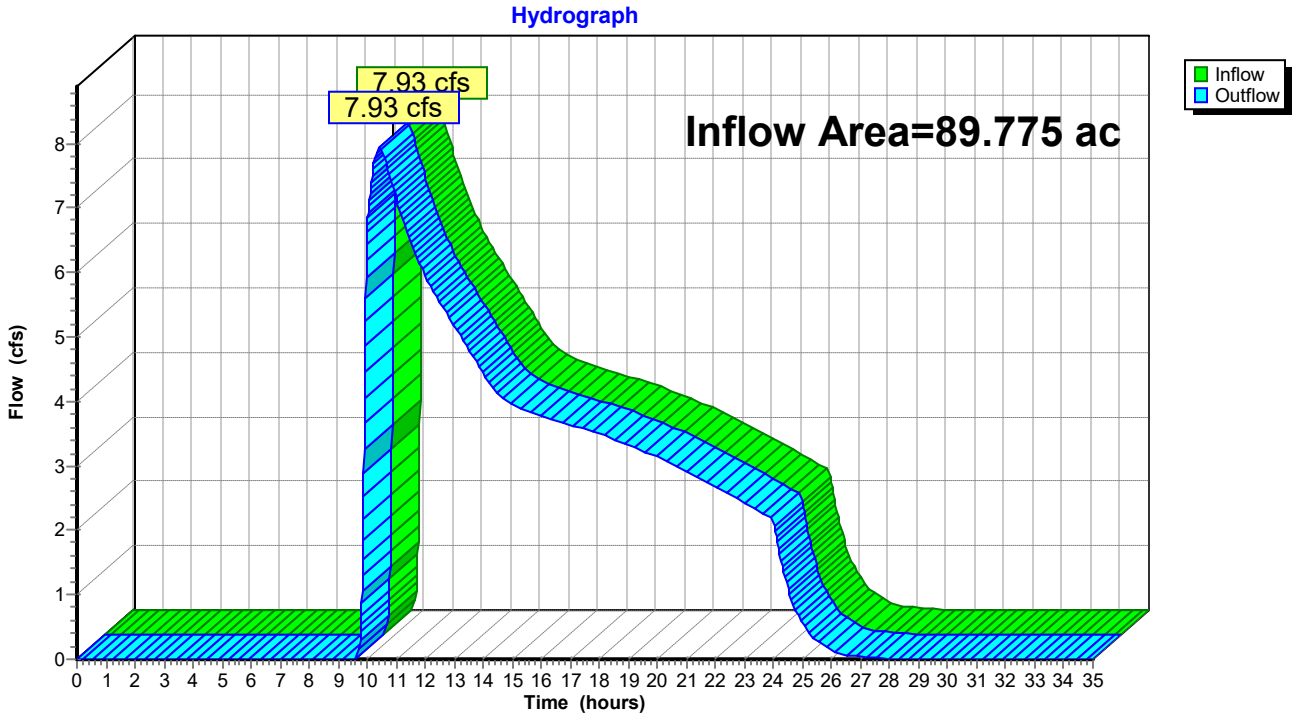
Summary for Reach 8R: Collection Point 8

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 89.775 ac, 0.00% Impervious, Inflow Depth = 0.66" for 10 year event
Inflow = 7.93 cfs @ 10.41 hrs, Volume= 4.901 af
Outflow = 7.93 cfs @ 10.41 hrs, Volume= 4.901 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 8R: Collection Point 8



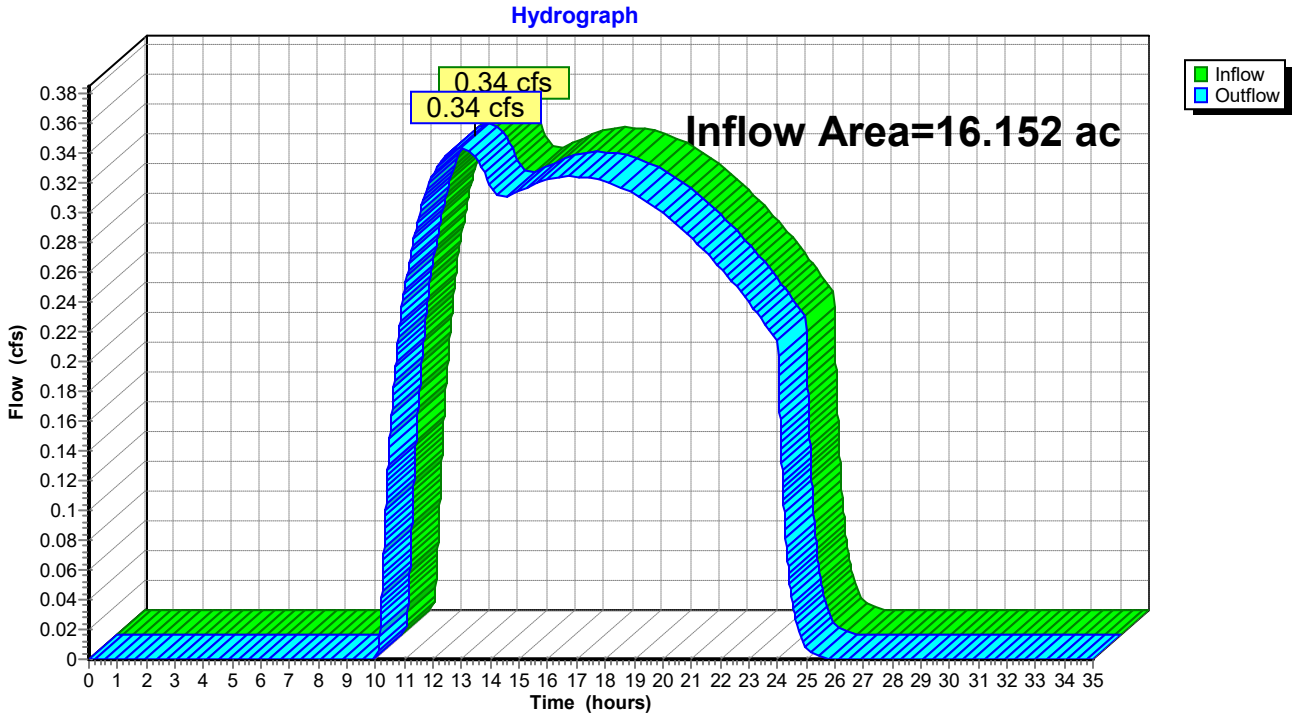
Summary for Reach 9R: Collection Point 9

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 16.152 ac, 0.00% Impervious, Inflow Depth = 0.25" for 10 year event
Inflow = 0.34 cfs @ 12.94 hrs, Volume= 0.339 af
Outflow = 0.34 cfs @ 12.94 hrs, Volume= 0.339 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 9R: Collection Point 9



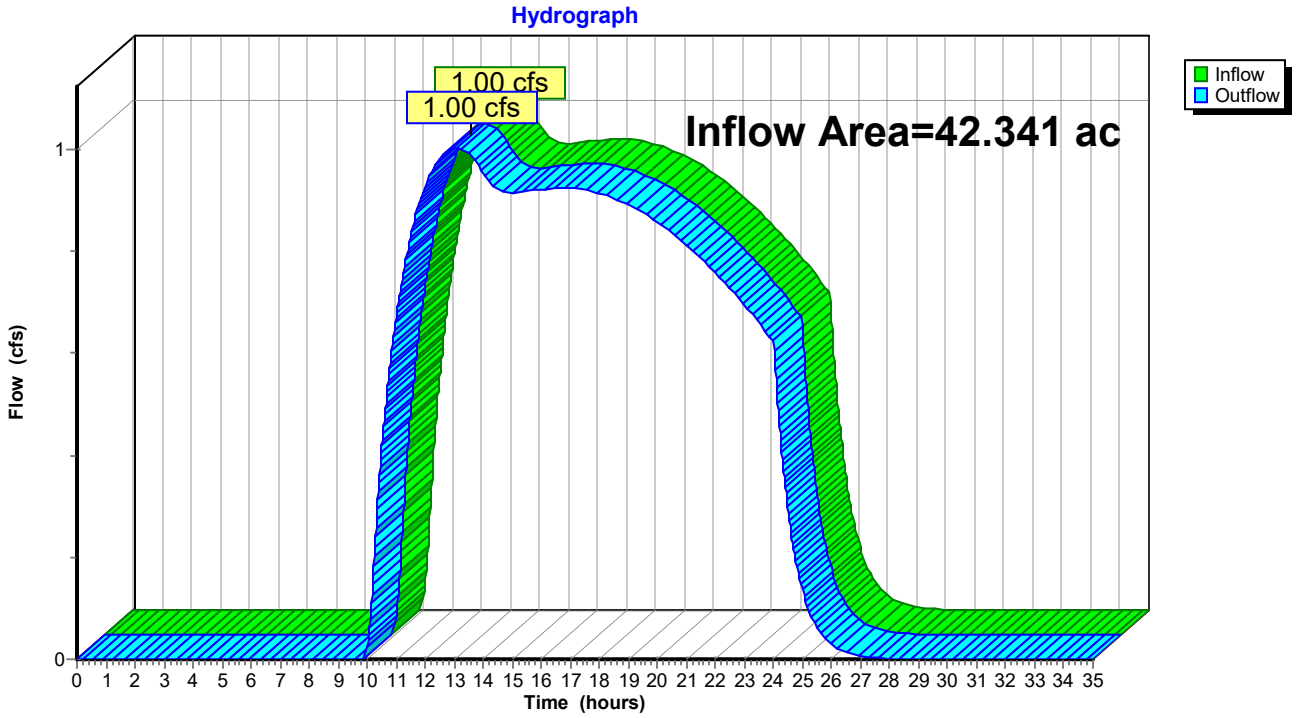
Summary for Reach 10R: Collection Point 10

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 42.341 ac, 0.00% Impervious, Inflow Depth = 0.28" for 10 year event
Inflow = 1.00 cfs @ 13.10 hrs, Volume= 0.994 af
Outflow = 1.00 cfs @ 13.10 hrs, Volume= 0.994 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 10R: Collection Point 10



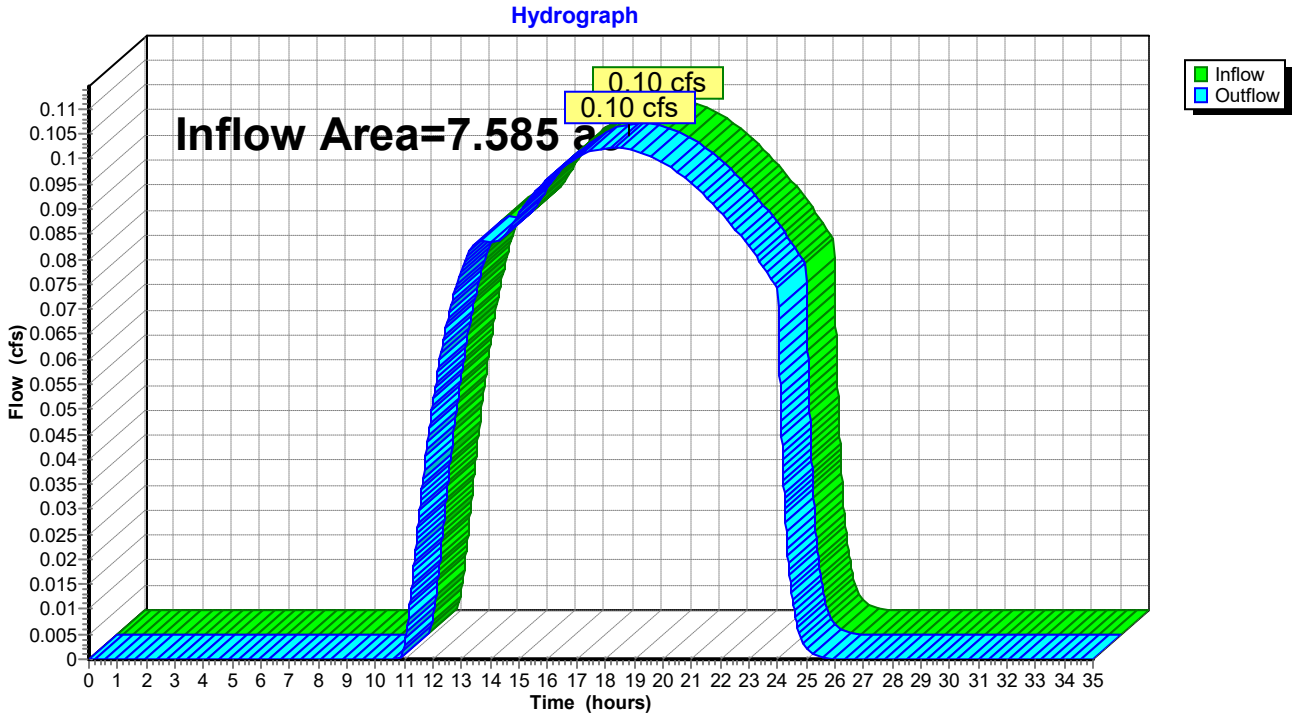
Summary for Reach 11R: Collection Point 11

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.585 ac, 0.00% Impervious, Inflow Depth = 0.15" for 10 year event
Inflow = 0.10 cfs @ 18.30 hrs, Volume= 0.094 af
Outflow = 0.10 cfs @ 18.30 hrs, Volume= 0.094 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 11R: Collection Point 11



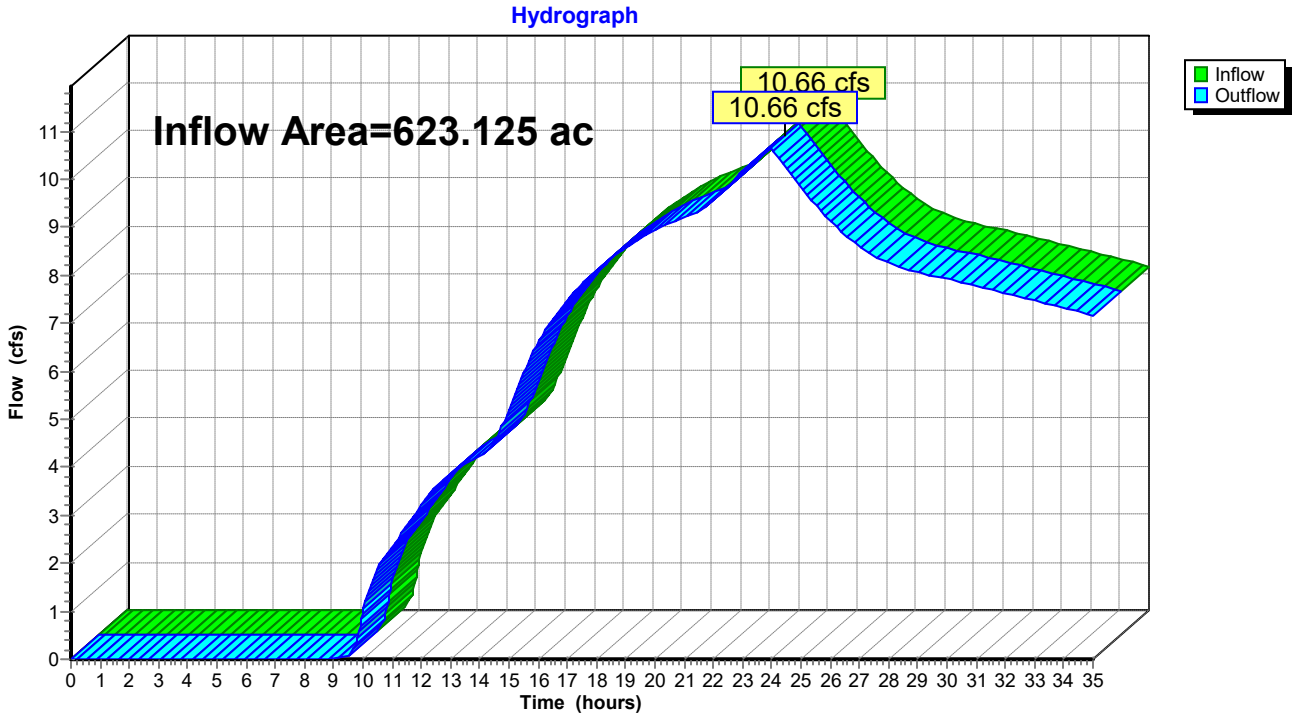
Summary for Reach 12R: Collection Point 12

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 623.125 ac, 0.00% Impervious, Inflow Depth > 0.29" for 10 year event
Inflow = 10.66 cfs @ 24.00 hrs, Volume= 15.264 af
Outflow = 10.66 cfs @ 24.00 hrs, Volume= 15.264 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 12R: Collection Point 12



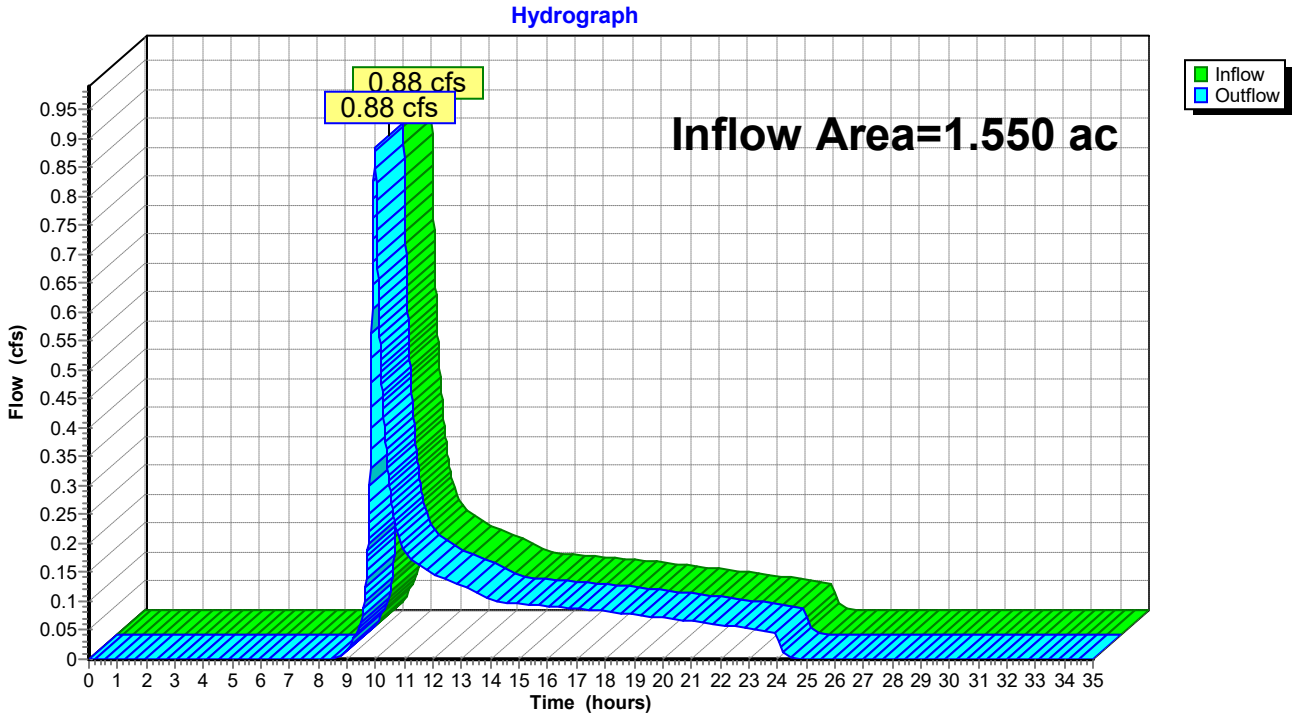
Summary for Reach 13R: Collection Point 13

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.550 ac, 0.00% Impervious, Inflow Depth = 1.11" for 10 year event
Inflow = 0.88 cfs @ 9.97 hrs, Volume= 0.144 af
Outflow = 0.88 cfs @ 9.97 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 13R: Collection Point 13



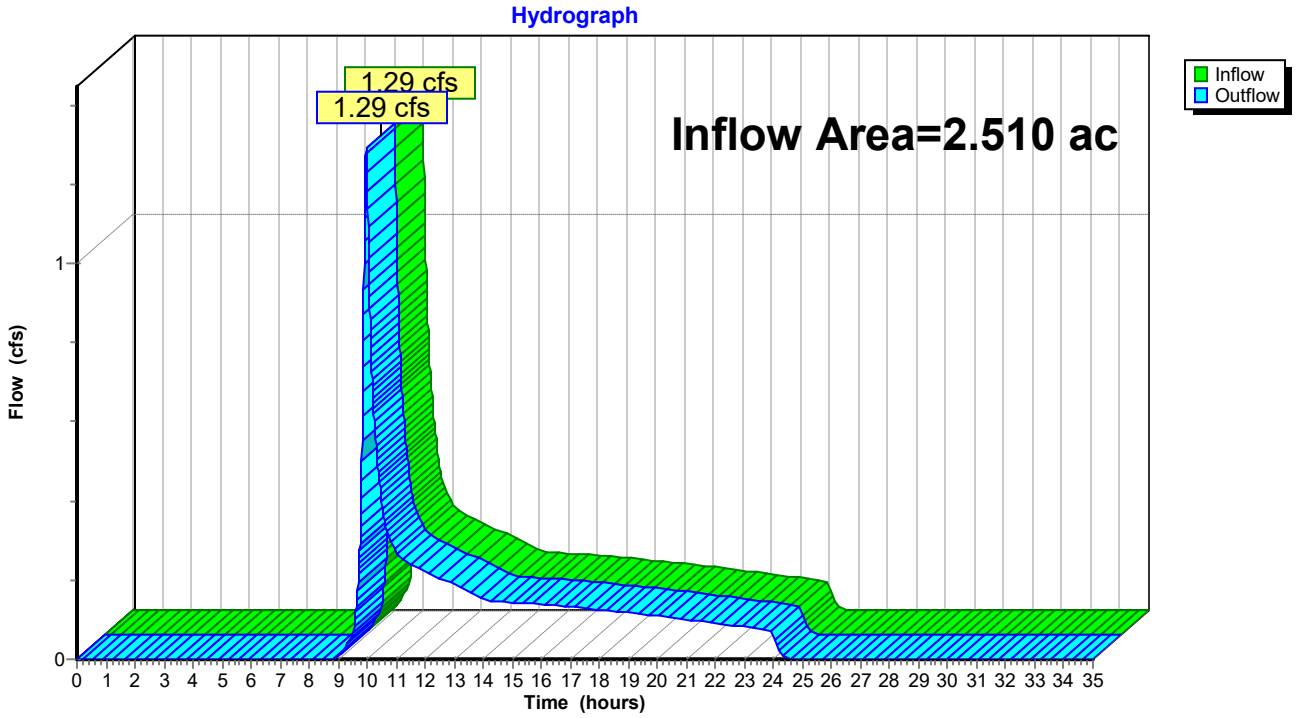
Summary for Reach 14R: Collection Point 14

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.510 ac, 0.00% Impervious, Inflow Depth = 1.00" for 10 year event
Inflow = 1.29 cfs @ 9.97 hrs, Volume= 0.209 af
Outflow = 1.29 cfs @ 9.97 hrs, Volume= 0.209 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 14R: Collection Point 14



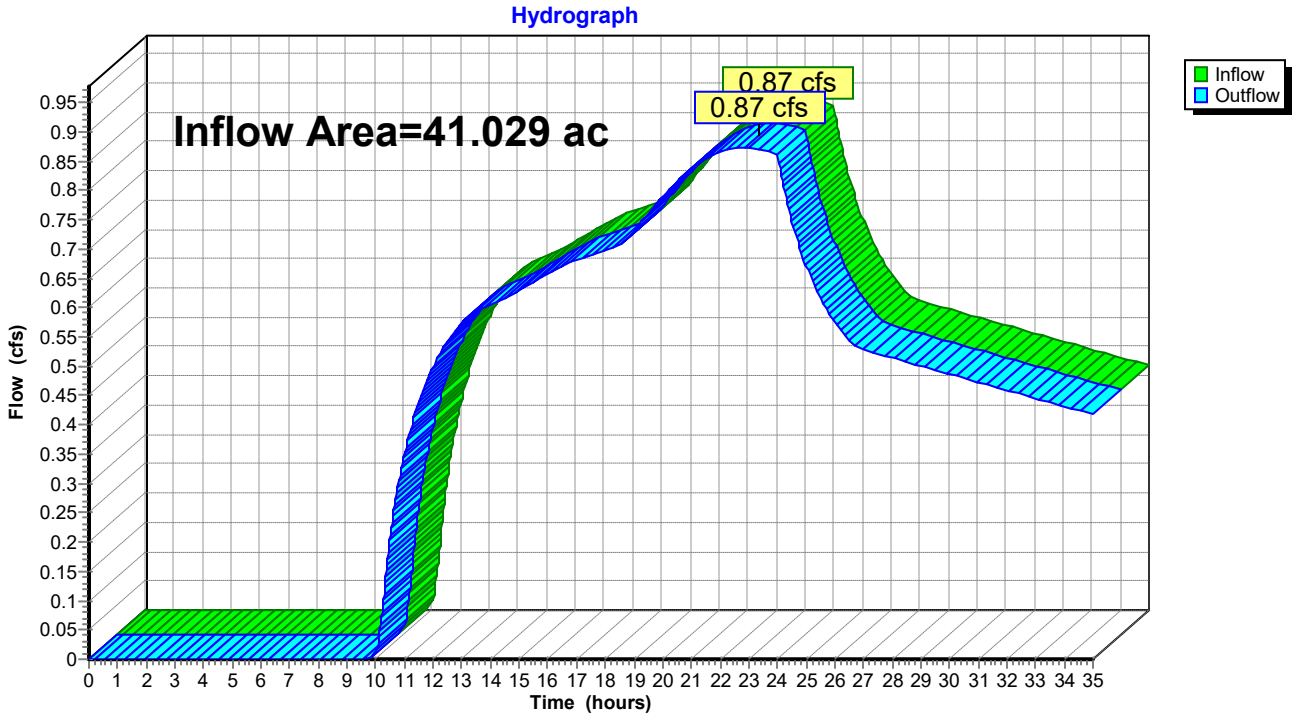
Summary for Reach 15R: Collection Point 15

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 41.029 ac, 0.00% Impervious, Inflow Depth > 0.36" for 10 year event
Inflow = 0.87 cfs @ 22.88 hrs, Volume= 1.236 af
Outflow = 0.87 cfs @ 22.88 hrs, Volume= 1.236 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 15R: Collection Point 15



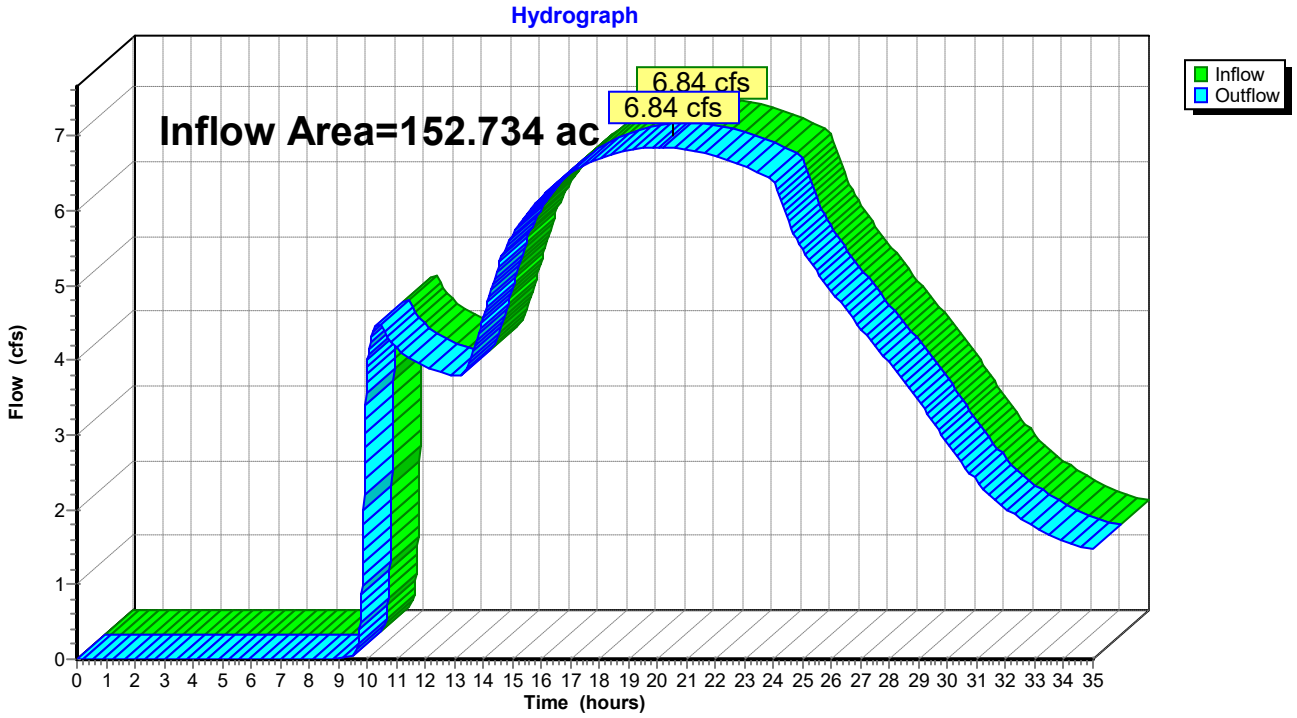
Summary for Reach 16R: Collection Point 16

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 152.734 ac, 0.00% Impervious, Inflow Depth > 0.77" for 10 year event
Inflow = 6.84 cfs @ 20.03 hrs, Volume= 9.745 af
Outflow = 6.84 cfs @ 20.03 hrs, Volume= 9.745 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 16R: Collection Point 16



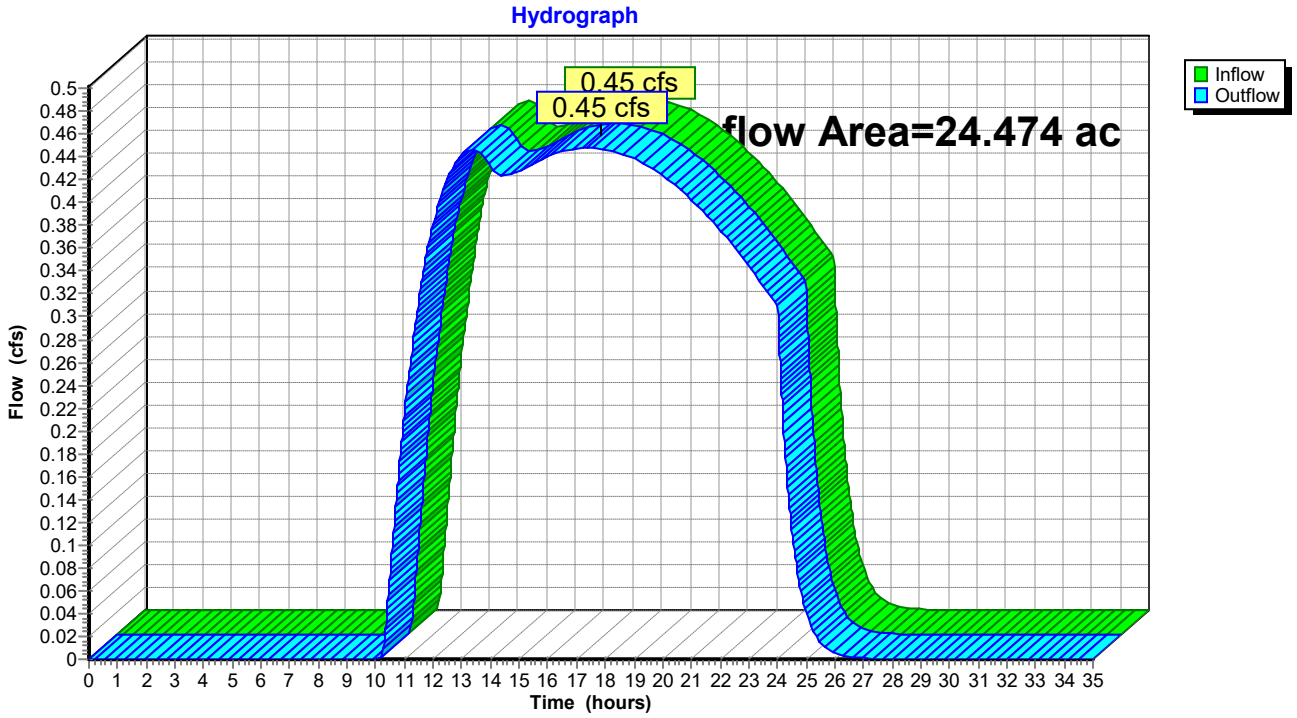
Summary for Reach 17R: Collection Point 17

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 24.474 ac, 0.00% Impervious, Inflow Depth = 0.22" for 10 year event
Inflow = 0.45 cfs @ 17.39 hrs, Volume= 0.457 af
Outflow = 0.45 cfs @ 17.39 hrs, Volume= 0.457 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 17R: Collection Point 17



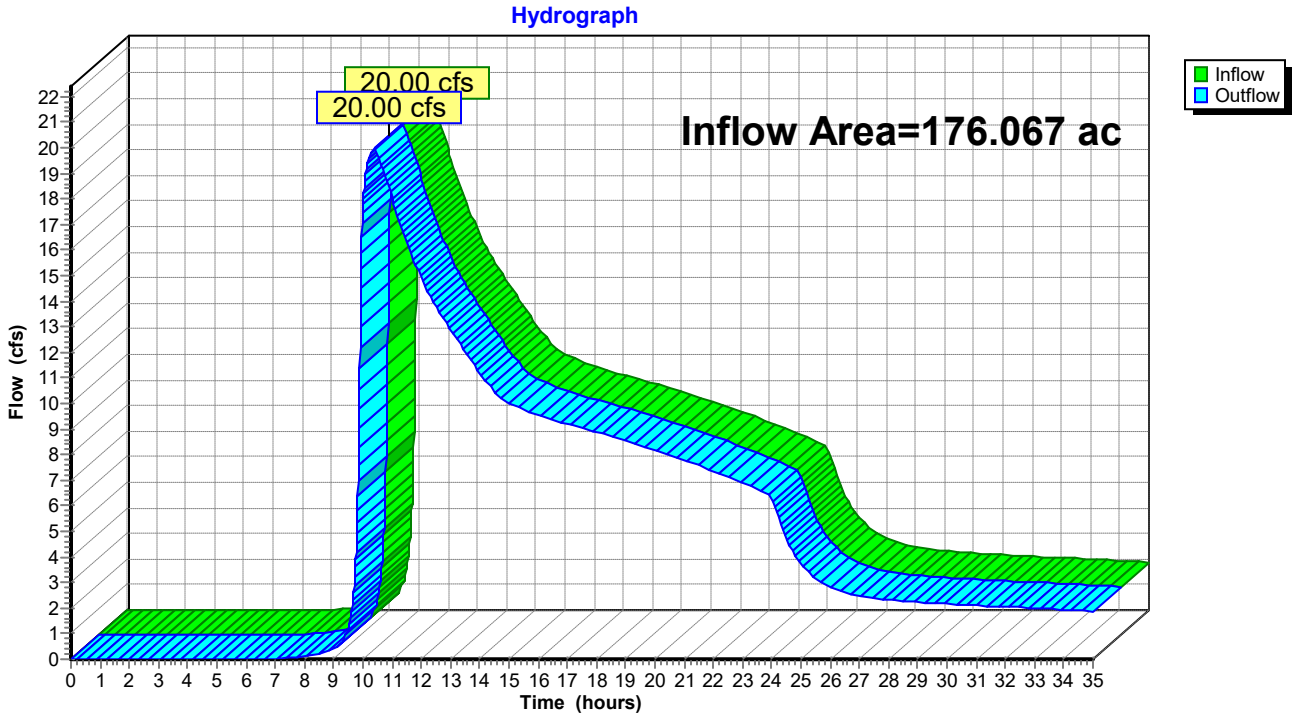
Summary for Reach 18R: Collection Point 18

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 176.067 ac, 0.00% Impervious, Inflow Depth > 1.00" for 10 year event
Inflow = 20.00 cfs @ 10.38 hrs, Volume= 14.712 af
Outflow = 20.00 cfs @ 10.38 hrs, Volume= 14.712 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 18R: Collection Point 18



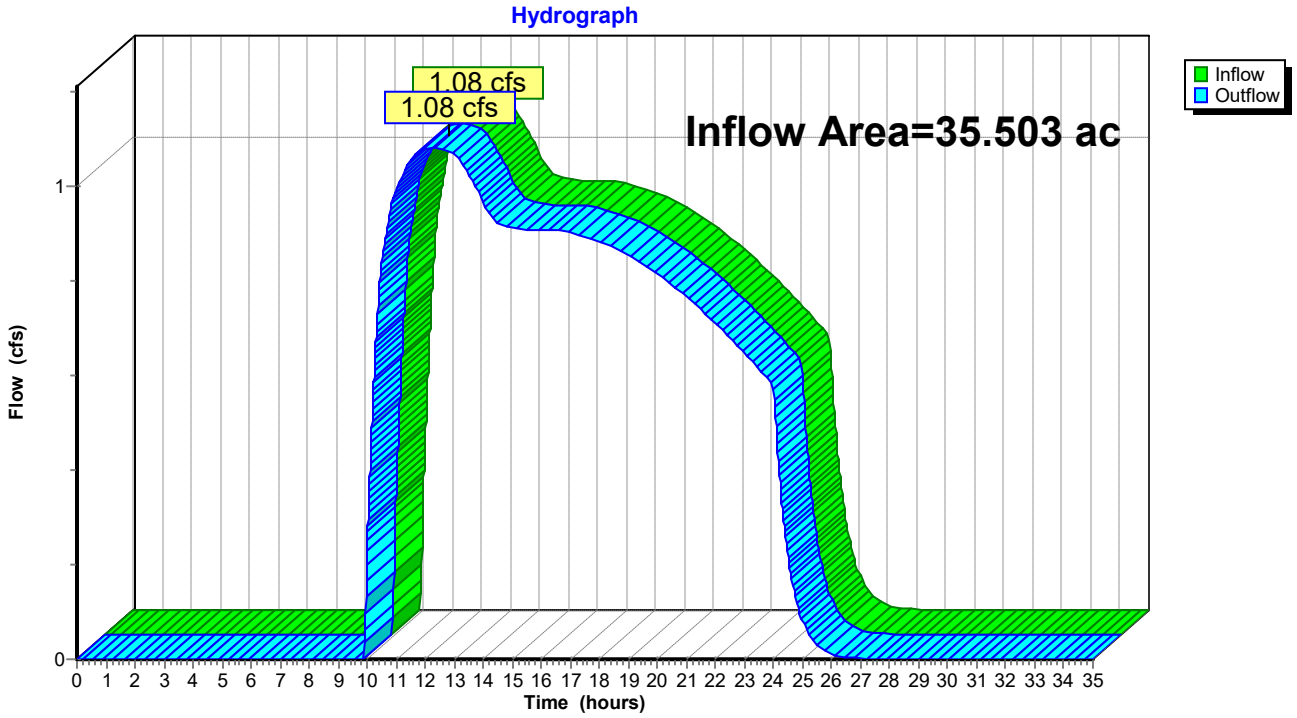
Summary for Reach 19R: Collection Point 19

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.503 ac, 0.00% Impervious, Inflow Depth = 0.35" for 10 year event
Inflow = 1.08 cfs @ 12.32 hrs, Volume= 1.021 af
Outflow = 1.08 cfs @ 12.32 hrs, Volume= 1.021 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 19R: Collection Point 19



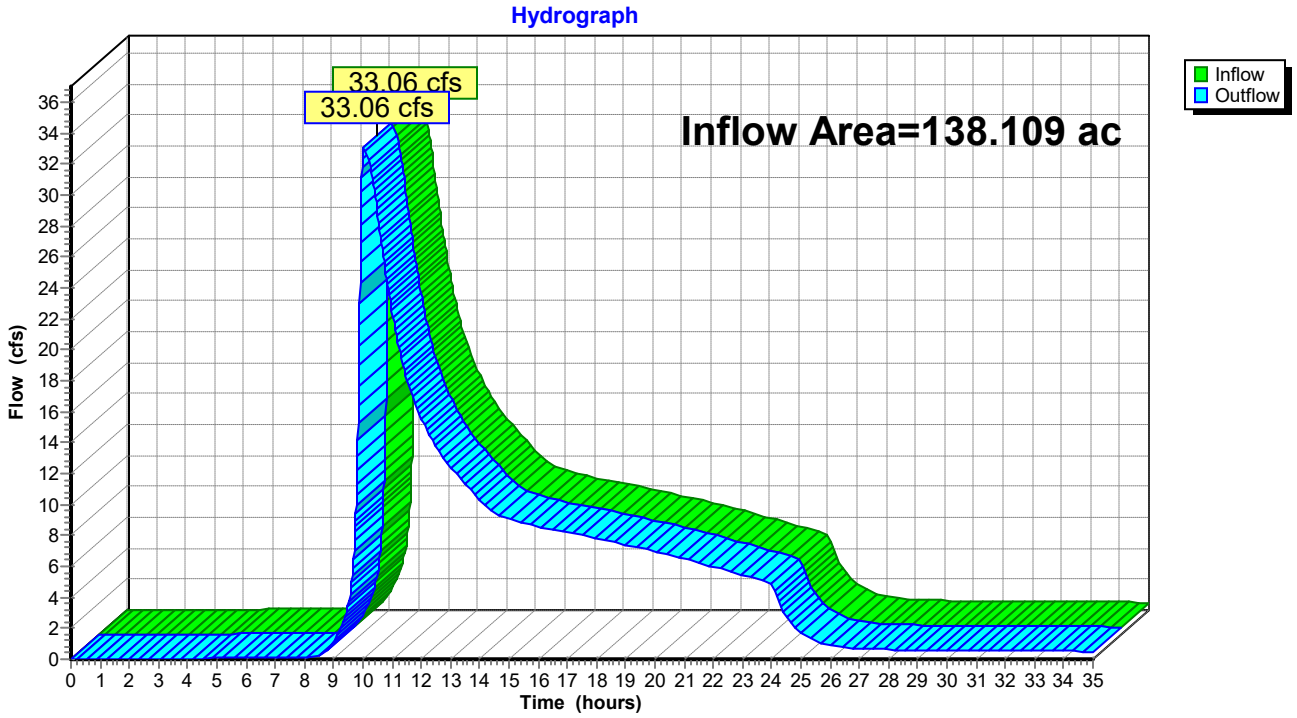
Summary for Reach 20R: Collection Point 20

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 138.109 ac, 2.50% Impervious, Inflow Depth > 1.18" for 10 year event
Inflow = 33.06 cfs @ 10.01 hrs, Volume= 13.528 af
Outflow = 33.06 cfs @ 10.01 hrs, Volume= 13.528 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 20R: Collection Point 20



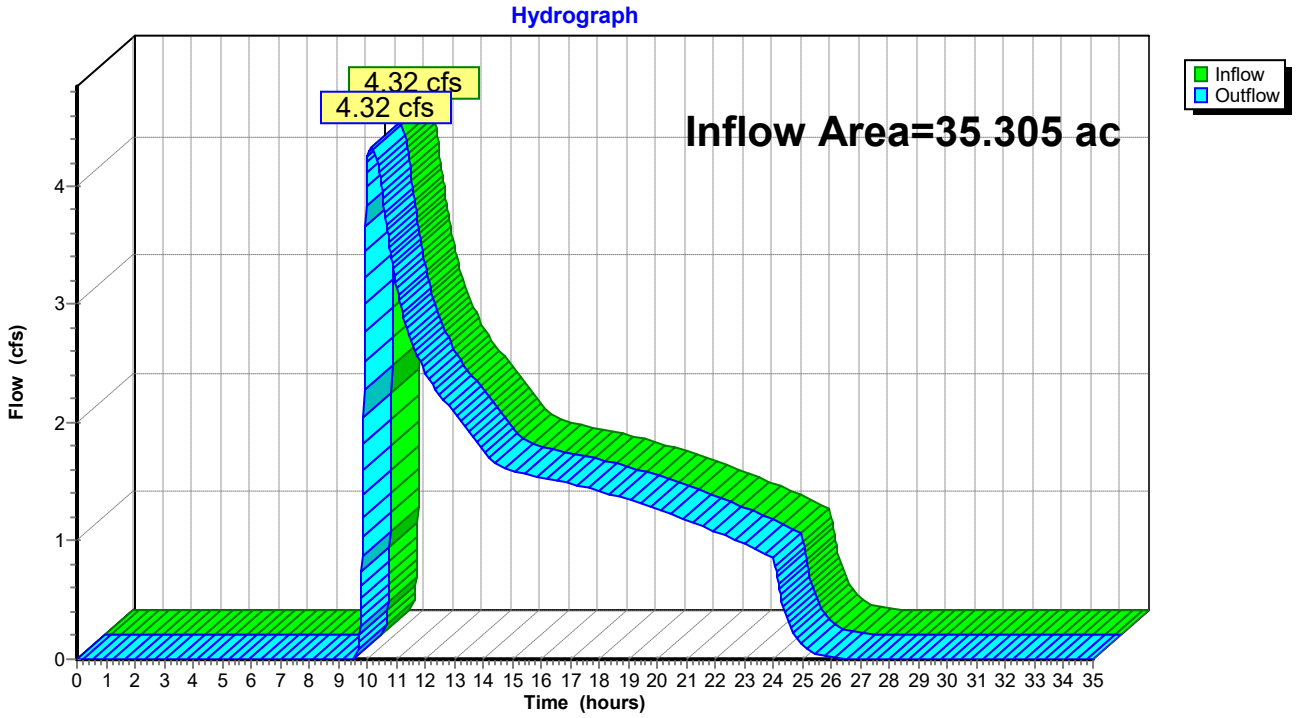
Summary for Reach 21R: Collection Point 21

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 35.305 ac, 0.00% Impervious, Inflow Depth = 0.70" for 10 year event
Inflow = 4.32 cfs @ 10.15 hrs, Volume= 2.060 af
Outflow = 4.32 cfs @ 10.15 hrs, Volume= 2.060 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 21R: Collection Point 21



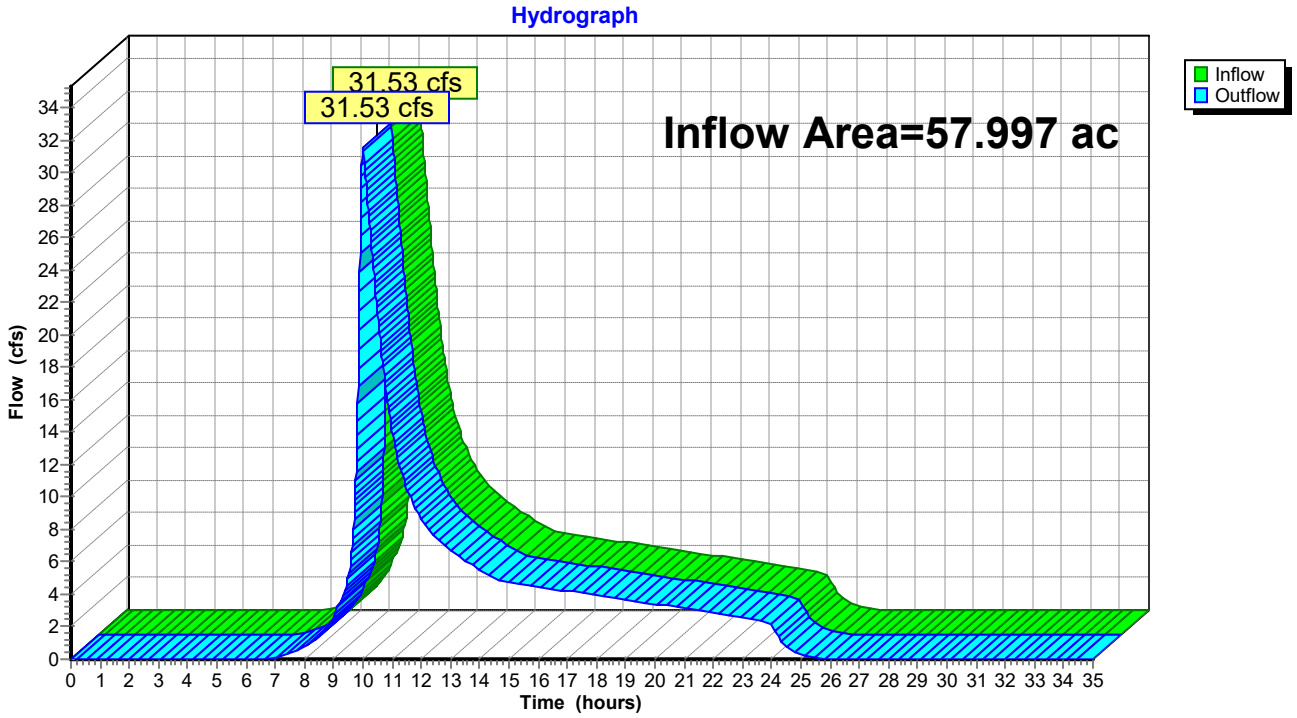
Summary for Reach 22R: Collection Point 22

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 57.997 ac, 0.00% Impervious, Inflow Depth = 1.63" for 10 year event
Inflow = 31.53 cfs @ 9.99 hrs, Volume= 7.868 af
Outflow = 31.53 cfs @ 9.99 hrs, Volume= 7.868 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Reach 22R: Collection Point 22



Summary for Pond 12S: Flow Splitter Box

[57] Hint: Peaked at 113.67' (Flood elevation advised)

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 1.14" for 10 year event
Inflow = 157.36 cfs @ 10.00 hrs, Volume= 50.666 af
Outflow = 157.36 cfs @ 10.00 hrs, Volume= 50.666 af, Atten= 0%, Lag= 0.0 min
Primary = 78.68 cfs @ 10.00 hrs, Volume= 25.333 af
Routed to Pond D12.1 : Detention Pond 12.1
Secondary = 78.68 cfs @ 10.00 hrs, Volume= 25.333 af
Routed to Pond D12.2 : Detention Pond 12.2

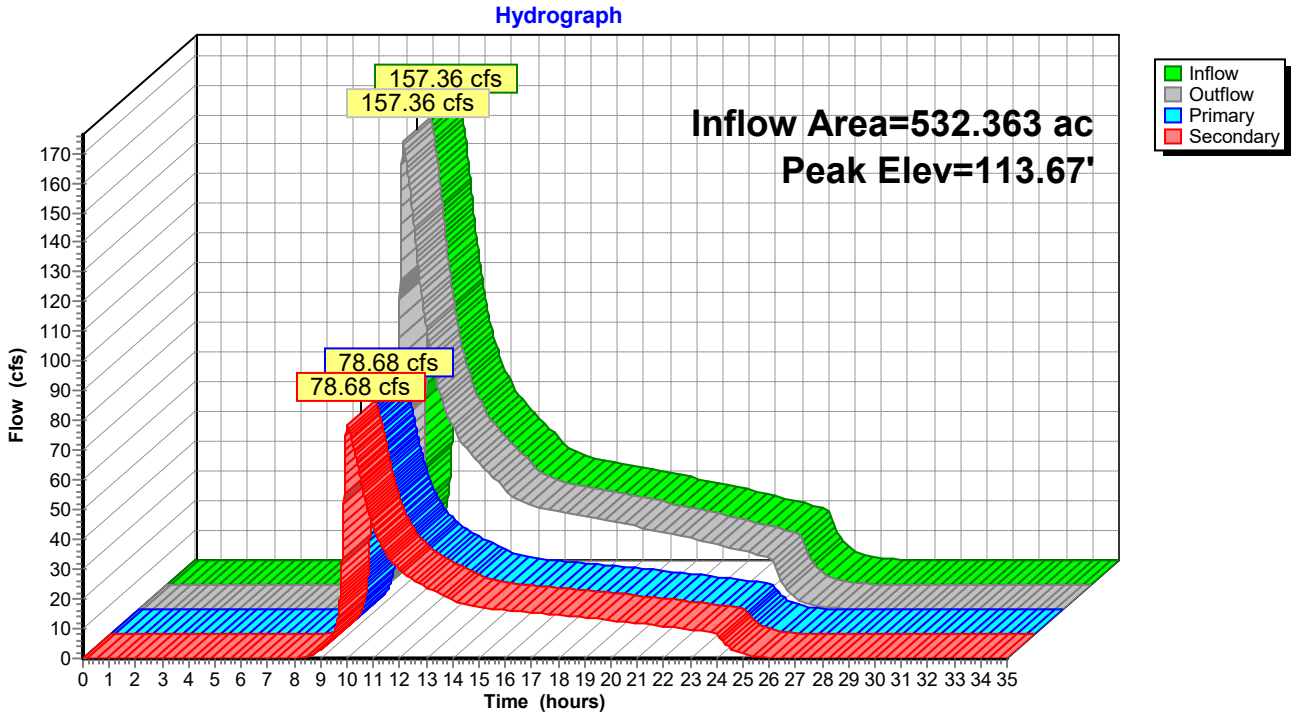
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 113.67' @ 10.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf
#2	Secondary	110.00'	**48.0" Round Culvert** L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 100.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

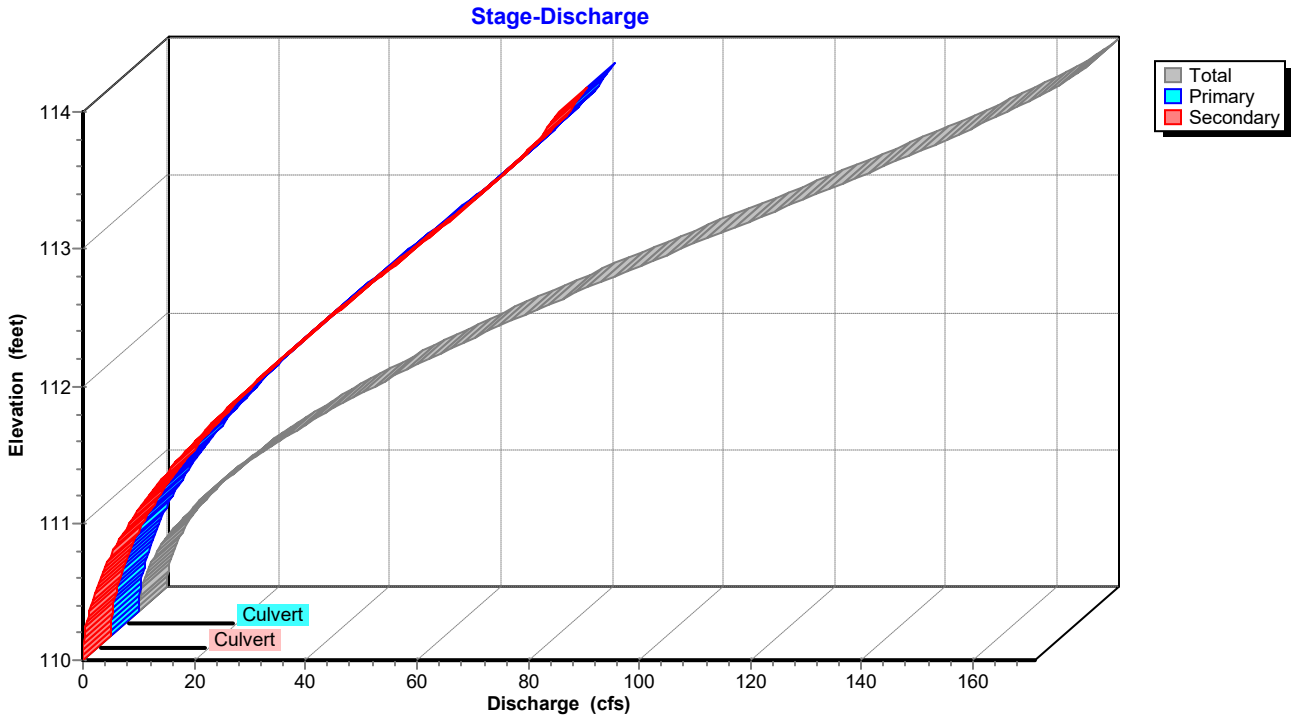
Primary OutFlow Max=78.66 cfs @ 10.00 hrs HW=113.67' TW=100.53' (Dynamic Tailwater)
1=Culvert (Inlet Controls 78.66 cfs @ 6.52 fps)

Secondary OutFlow Max=78.66 cfs @ 10.00 hrs HW=113.67' TW=100.53' (Dynamic Tailwater)
2=Culvert (Inlet Controls 78.66 cfs @ 6.52 fps)

Pond 12S: Flow Splitter Box



Pond 12S: Flow Splitter Box



Stage-Discharge for Pond 12S: Flow Splitter Box

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
110.00	0.00	0.00	0.00
110.05	0.05	0.02	0.02
110.10	0.18	0.09	0.09
110.15	0.40	0.20	0.20
110.20	0.72	0.36	0.36
110.25	1.11	0.56	0.56
110.30	1.60	0.80	0.80
110.35	2.17	1.08	1.08
110.40	2.82	1.41	1.41
110.45	3.55	1.78	1.78
110.50	4.37	2.18	2.18
110.55	5.26	2.63	2.63
110.60	6.23	3.12	3.12
110.65	7.29	3.64	3.64
110.70	8.41	4.21	4.21
110.75	9.62	4.81	4.81
110.80	10.90	5.45	5.45
110.85	12.25	6.12	6.12
110.90	13.67	6.84	6.84
110.95	15.17	7.58	7.58
111.00	16.73	8.36	8.36
111.05	18.36	9.18	9.18
111.10	20.06	10.03	10.03
111.15	21.82	10.91	10.91
111.20	23.65	11.83	11.83
111.25	25.54	12.77	12.77
111.30	27.50	13.75	13.75
111.35	29.51	14.75	14.75
111.40	31.58	15.79	15.79
111.45	33.71	16.86	16.86
111.50	35.90	17.95	17.95
111.55	38.14	19.07	19.07
111.60	40.43	20.22	20.22
111.65	42.78	21.39	21.39
111.70	45.17	22.59	22.59
111.75	47.61	23.81	23.81
111.80	50.11	25.05	25.05
111.85	52.64	26.32	26.32
111.90	55.22	27.61	27.61
111.95	57.84	28.92	28.92
112.00	60.51	30.25	30.25
112.05	63.21	31.60	31.60
112.10	65.95	32.97	32.97
112.15	68.72	34.36	34.36
112.20	71.53	35.76	35.76
112.25	74.36	37.18	37.18
112.30	77.23	38.62	38.62
112.35	80.13	40.06	40.06
112.40	83.05	41.52	41.52
112.45	85.99	43.00	43.00
112.50	88.96	44.48	44.48
112.55	91.94	45.97	45.97
112.60	94.94	47.47	47.47
112.65	97.95	48.98	48.98
112.70	100.98	50.49	50.49
112.75	104.02	52.01	52.01
112.80	107.06	53.53	53.53
112.85	110.10	55.05	55.05
112.90	113.15	56.58	56.58
112.95	116.20	58.10	58.10
113.00	119.24	59.62	59.62
113.05	122.27	61.13	61.13
113.10	125.29	62.64	62.64
113.15	128.29	64.15	64.15
113.20	131.28	65.64	65.64
113.25	134.24	67.12	67.12
113.30	137.17	68.59	68.59
113.35	140.08	70.04	70.04
113.40	142.94	71.47	71.47
113.45	145.76	72.88	72.88
113.50	148.54	74.27	74.27
113.55	151.25	75.63	75.63
113.60	153.91	76.95	76.95
113.65	156.49	78.24	78.24
113.70	158.99	79.49	79.49
113.75	161.39	80.70	80.70
113.80	163.69	81.84	81.84
113.85	165.85	82.93	82.93
113.90	167.86	83.93	83.93
113.95	169.66	84.83	84.83
114.00	**171.14**	**85.57**	**85.57**

Summary for Pond D1: Detention Basin 1

Inflow Area = 22.726 ac, 0.00% Impervious, Inflow Depth = 1.70" for 10 year event
Inflow = 15.67 cfs @ 9.99 hrs, Volume= 3.220 af
Outflow = 1.15 cfs @ 21.74 hrs, Volume= 1.531 af, Atten= 93%, Lag= 705.3 min
Primary = 1.15 cfs @ 21.74 hrs, Volume= 1.531 af
Routed to Reach 1R : Collection Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.99' @ 21.74 hrs Surf.Area= 0.699 ac Storage= 2.258 af

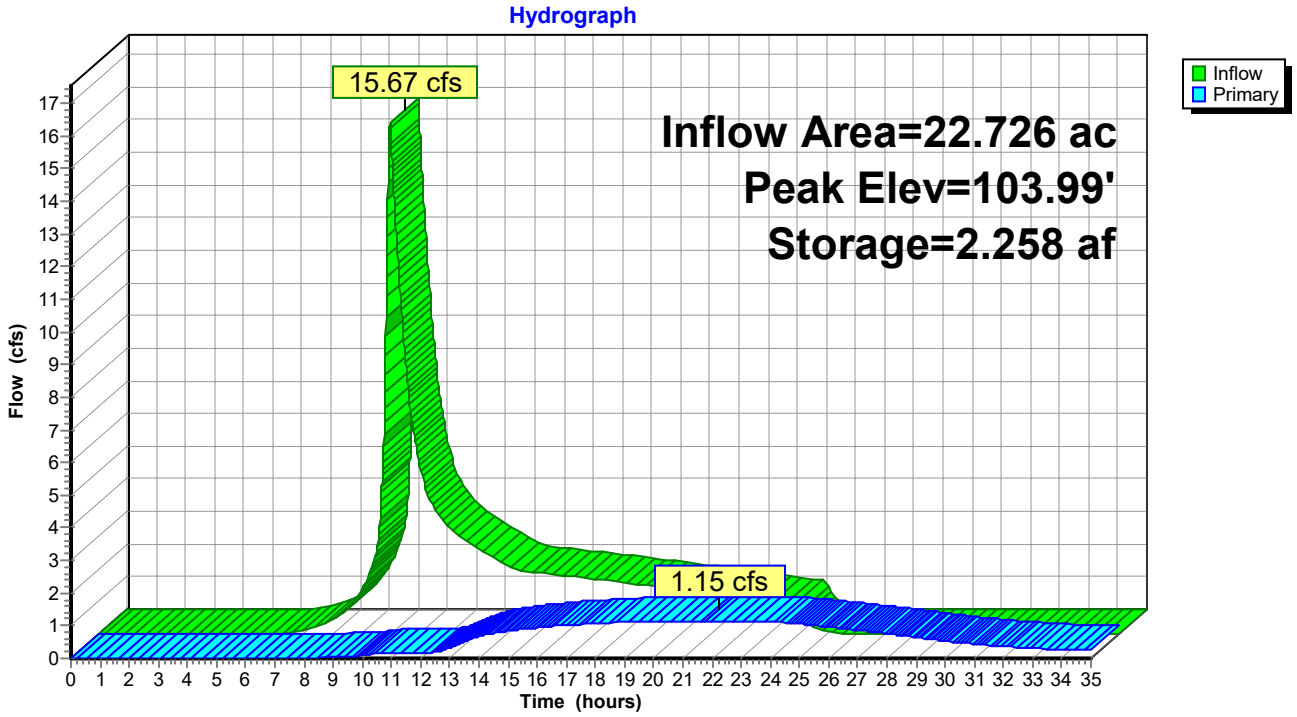
Plug-Flow detention time= 709.8 min calculated for 1.531 af (48% of inflow)
Center-of-Mass det. time= 501.1 min (1,329.2 - 828.1)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	3.808 af	**80.00'W x 240.00'L x 6.00'H Prismatoid Z=4.0**

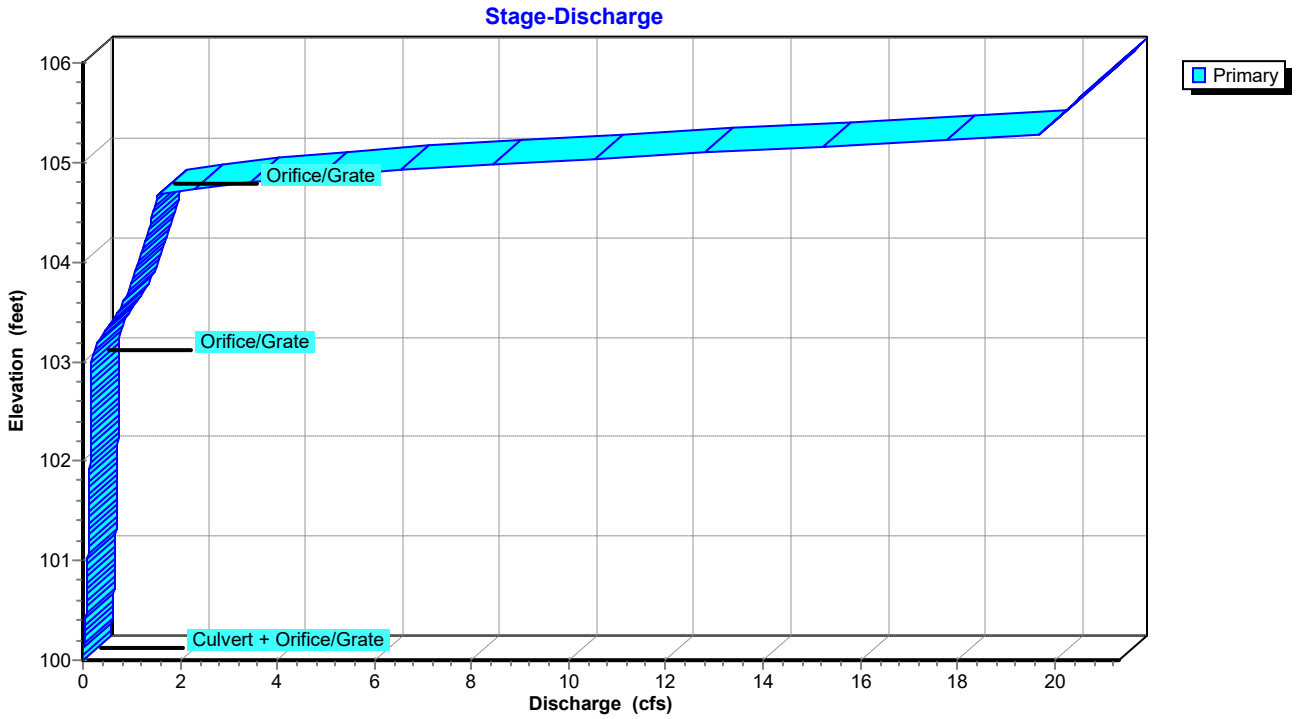
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.67'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	103.00'	**6.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.15 cfs @ 21.74 hrs HW=103.99' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.21 cfs of 15.32 cfs potential flow)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 9.52 fps)
- **4=Orifice/Grate** (Orifice Controls 0.94 cfs @ 4.09 fps)

Pond D1: Detention Basin 1



Pond D1: Detention Basin 1



Stage-Discharge for Pond D1: Detention Basin 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	16.92
100.05	0.00	102.65	0.17	105.25	19.13
100.10	0.01	102.70	0.17	105.30	19.73
100.15	0.03	102.75	0.17	105.35	19.85
100.20	0.04	102.80	0.17	105.40	19.97
100.25	0.04	102.85	0.17	105.45	20.08
100.30	0.05	102.90	0.18	105.50	20.20
100.35	0.05	102.95	0.18	105.55	20.32
100.40	0.06	103.00	0.18	105.60	20.43
100.45	0.06	103.05	0.19	105.65	20.55
100.50	0.07	103.10	0.21	105.70	20.66
100.55	0.07	103.15	0.25	105.75	20.77
100.60	0.08	103.20	0.30	105.80	20.89
100.65	0.08	103.25	0.36	105.85	21.00
100.70	0.08	103.30	0.43	105.90	21.11
100.75	0.09	103.35	0.51	105.95	21.22
100.80	0.09	103.40	0.58	106.00	**21.33**
100.85	0.09	103.45	0.66		
100.90	0.09	103.50	0.73		
100.95	0.10	103.55	0.78		
101.00	0.10	103.60	0.83		
101.05	0.10	103.65	0.88		
101.10	0.11	103.70	0.93		
101.15	0.11	103.75	0.97		
101.20	0.11	103.80	1.01		
101.25	0.11	103.85	1.05		
101.30	0.12	103.90	1.09		
101.35	0.12	103.95	1.12		
101.40	0.12	104.00	1.16		
101.45	0.12	104.05	1.19		
101.50	0.13	104.10	1.22		
101.55	0.13	104.15	1.25		
101.60	0.13	104.20	1.28		
101.65	0.13	104.25	1.31		
101.70	0.13	104.30	1.34		
101.75	0.14	104.35	1.37		
101.80	0.14	104.40	1.40		
101.85	0.14	104.45	1.42		
101.90	0.14	104.50	1.45		
101.95	0.14	104.55	1.48		
102.00	0.15	104.60	1.50		
102.05	0.15	104.65	1.53		
102.10	0.15	104.70	1.76		
102.15	0.15	104.75	2.46		
102.20	0.15	104.80	3.44		
102.25	0.15	104.85	4.62		
102.30	0.16	104.90	5.98		
102.35	0.16	104.95	7.48		
102.40	0.16	105.00	9.13		
102.45	0.16	105.05	10.91		
102.50	0.16	105.10	12.80		
102.55	0.16	105.15	14.81		

Summary for Pond D12.1: Detention Pond 12.1

Inflow Area = 532.363 ac, 0.00% Impervious, Inflow Depth = 0.57" for 10 year event
Inflow = 78.68 cfs @ 10.00 hrs, Volume= 25.333 af
Outflow = 4.90 cfs @ 24.32 hrs, Volume= 7.072 af, Atten= 94%, Lag= 859.2 min
Primary = 4.90 cfs @ 24.32 hrs, Volume= 7.072 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 106.17' @ 24.32 hrs Surf.Area= 4.051 ac Storage= 21.622 af

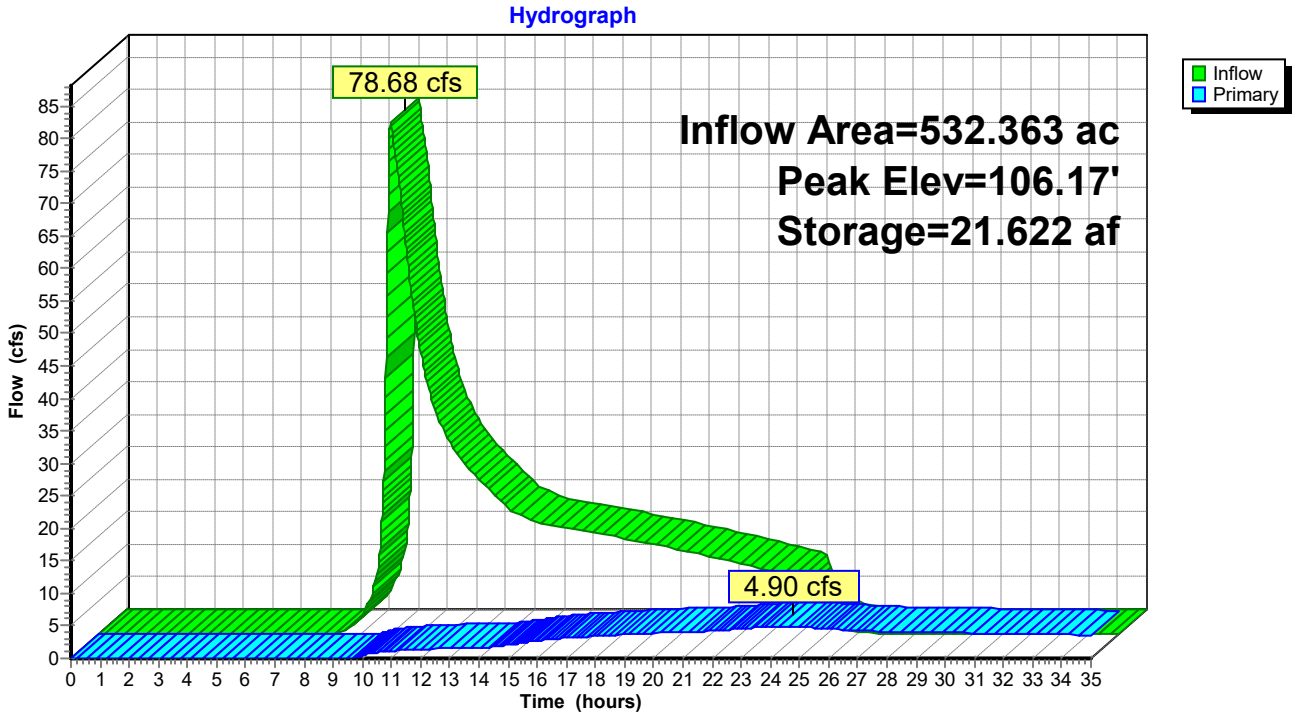
Plug-Flow detention time= 835.0 min calculated for 7.070 af (28% of inflow)
Center-of-Mass det. time= 572.6 min (1,454.6 - 882.0)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

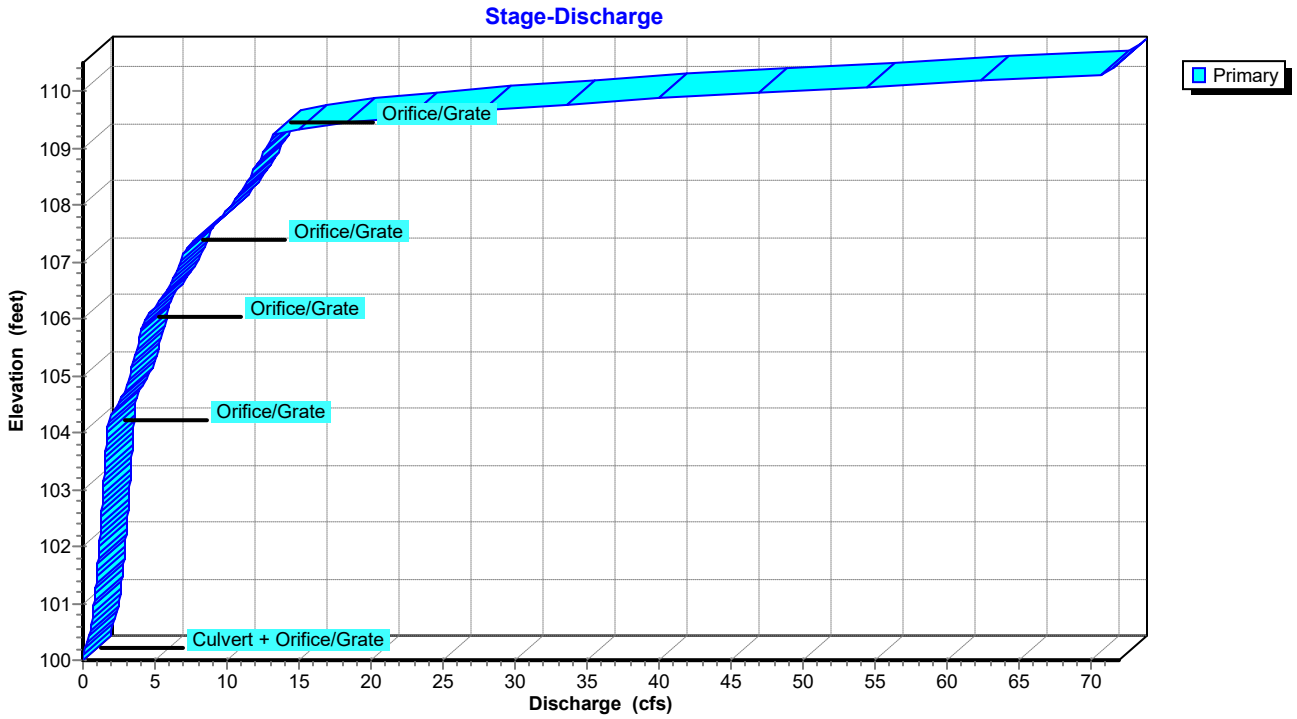
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.90 cfs @ 24.32 hrs HW=106.17' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.90 cfs of 52.43 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 2.06 cfs @ 11.80 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 2.28 cfs @ 6.53 fps)
  ├─**5=Orifice/Grate** (Orifice Controls 0.57 cfs @ 1.99 fps)
  └─**6=Orifice/Grate** (Controls 0.00 cfs)

Pond D12.1: Detention Pond 12.1



Pond D12.1: Detention Pond 12.1



Stage-Discharge for Pond D12.1: Detention Pond 12.1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Summary for Pond D12.2: Detention Pond 12.2

Inflow = 78.68 cfs @ 10.00 hrs, Volume= 25.333 af
Outflow = 4.90 cfs @ 24.32 hrs, Volume= 7.072 af, Atten= 94%, Lag= 859.2 min
Primary = 4.90 cfs @ 24.32 hrs, Volume= 7.072 af
Routed to Reach 12R : Collection Point 12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 106.17' @ 24.32 hrs Surf.Area= 4.051 ac Storage= 21.622 af

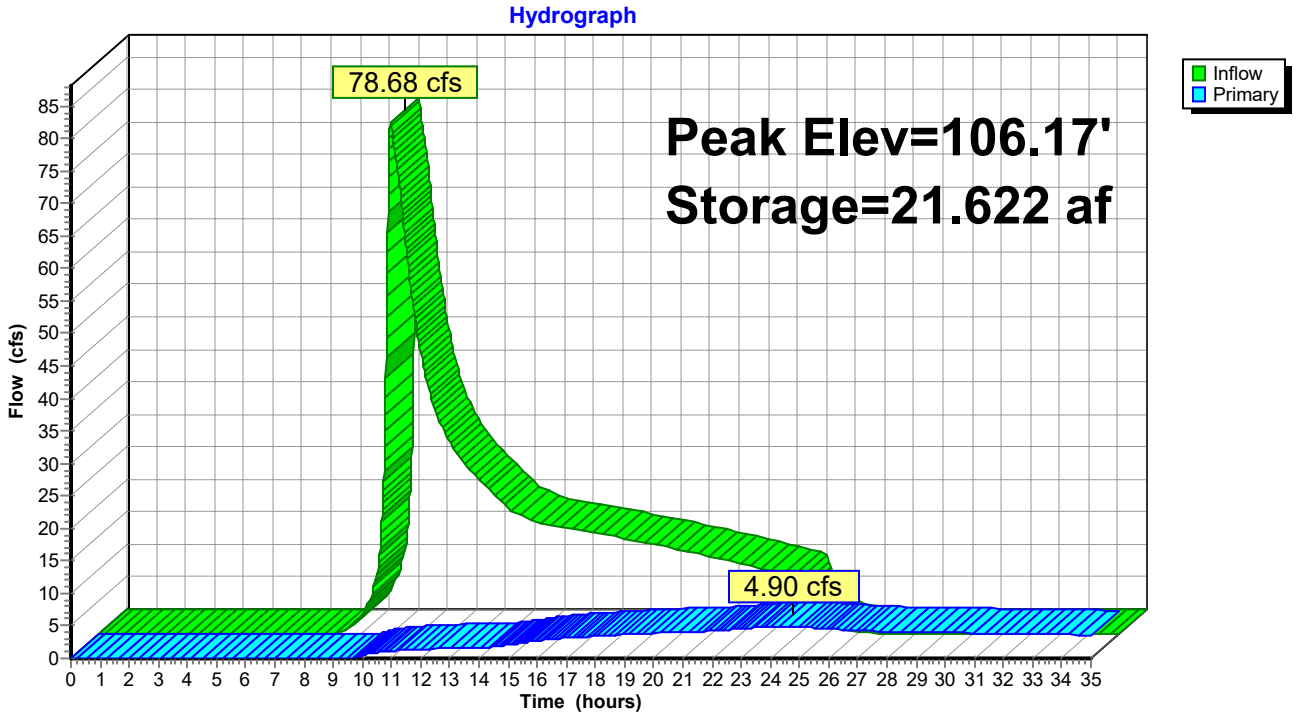
Plug-Flow detention time= 835.0 min calculated for 7.070 af (28% of inflow)
Center-of-Mass det. time= 572.6 min (1,454.6 - 882.0)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	40.918 af	**180.00'W x 720.00'L x 10.50'H Prismatoid Z=4.0**

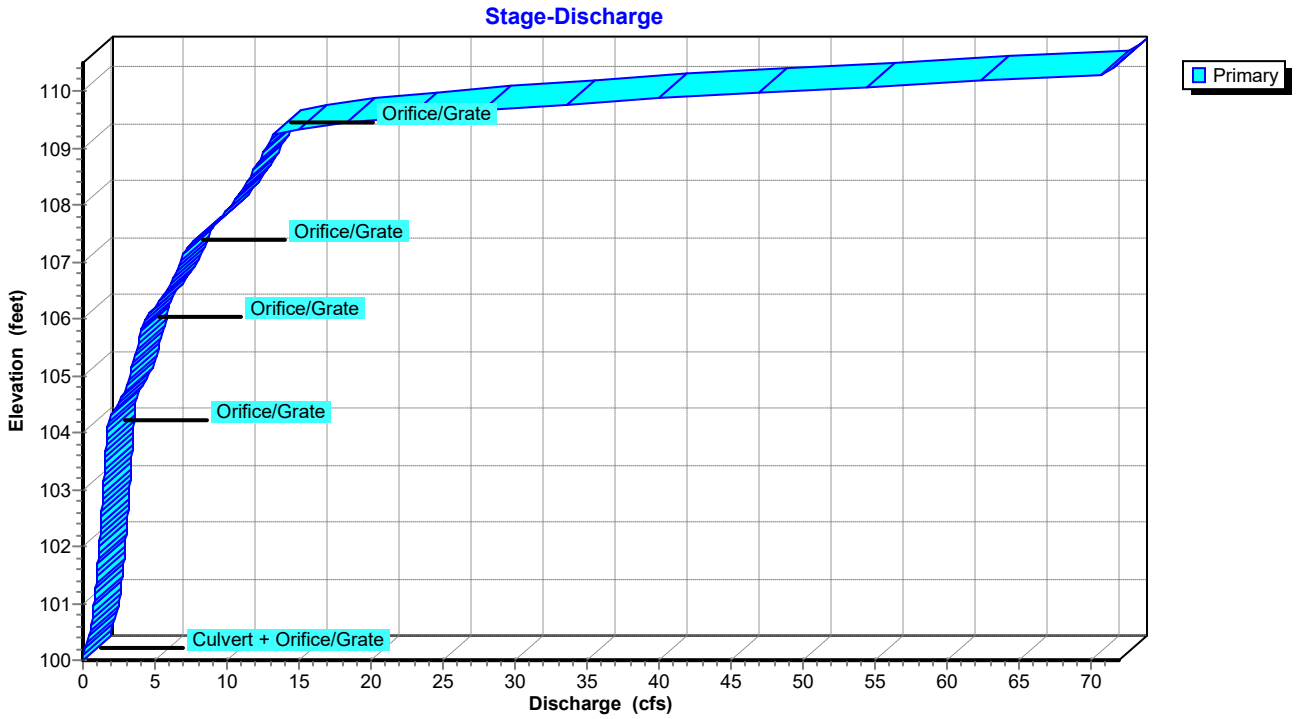
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**30.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	100.00'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	104.00'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	105.83'	**6.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#6	Device 1	107.16'	**5.0" Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.90 cfs @ 24.32 hrs HW=106.17' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.90 cfs of 52.43 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 2.06 cfs @ 11.80 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 2.28 cfs @ 6.53 fps)
  ├─**5=Orifice/Grate** (Orifice Controls 0.57 cfs @ 1.99 fps)
  └─**6=Orifice/Grate** (Controls 0.00 cfs)

Pond D12.2: Detention Pond 12.2



Pond D12.2: Detention Pond 12.2



Stage-Discharge for Pond D12.2: Detention Pond 12.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	105.20	3.45	110.40	71.49
100.10	0.05	105.30	3.56	110.50	**71.88**
100.20	0.17	105.40	3.66		
100.30	0.31	105.50	3.76		
100.40	0.41	105.60	3.85		
100.50	0.49	105.70	3.94		
100.60	0.55	105.80	4.03		
100.70	0.61	105.90	4.15		
100.80	0.67	106.00	4.36		
100.90	0.72	106.10	4.66		
101.00	0.77	106.20	5.01		
101.10	0.81	106.30	5.33		
101.20	0.85	106.40	5.58		
101.30	0.89	106.50	5.81		
101.40	0.93	106.60	6.03		
101.50	0.97	106.70	6.22		
101.60	1.01	106.80	6.41		
101.70	1.04	106.90	6.59		
101.80	1.07	107.00	6.76		
101.90	1.11	107.10	6.92		
102.00	1.14	107.20	7.09		
102.10	1.17	107.30	7.43		
102.20	1.20	107.40	7.92		
102.30	1.23	107.50	8.47		
102.40	1.26	107.60	8.92		
102.50	1.28	107.70	9.31		
102.60	1.31	107.80	9.66		
102.70	1.34	107.90	9.98		
102.80	1.36	108.00	10.28		
102.90	1.39	108.10	10.56		
103.00	1.41	108.20	10.83		
103.10	1.44	108.30	11.10		
103.20	1.46	108.40	11.35		
103.30	1.49	108.50	11.59		
103.40	1.51	108.60	11.83		
103.50	1.53	108.70	12.06		
103.60	1.56	108.80	12.28		
103.70	1.58	108.90	12.50		
103.80	1.60	109.00	12.71		
103.90	1.62	109.10	12.92		
104.00	1.65	109.20	13.13		
104.10	1.70	109.30	13.91		
104.20	1.82	109.40	16.56		
104.30	1.99	109.50	20.26		
104.40	2.20	109.60	24.74		
104.50	2.43	109.70	29.89		
104.60	2.64	109.80	35.62		
104.70	2.81	109.90	41.88		
104.80	2.96	110.00	48.62		
104.90	3.09	110.10	55.82		
105.00	3.22	110.20	63.44		
105.10	3.34	110.30	71.10		

Summary for Pond D15: Detention Pond 15

Inflow Area = 31.502 ac, 0.00% Impervious, Inflow Depth = 0.61" for 10 year event
Inflow = 3.21 cfs @ 10.14 hrs, Volume= 1.605 af
Outflow = 0.74 cfs @ 23.58 hrs, Volume= 1.058 af, Atten= 77%, Lag= 805.9 min
Primary = 0.74 cfs @ 23.58 hrs, Volume= 1.058 af
Routed to Reach 15R : Collection Point 15

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.98' @ 23.58 hrs Surf.Area= 0.563 ac Storage= 0.991 af

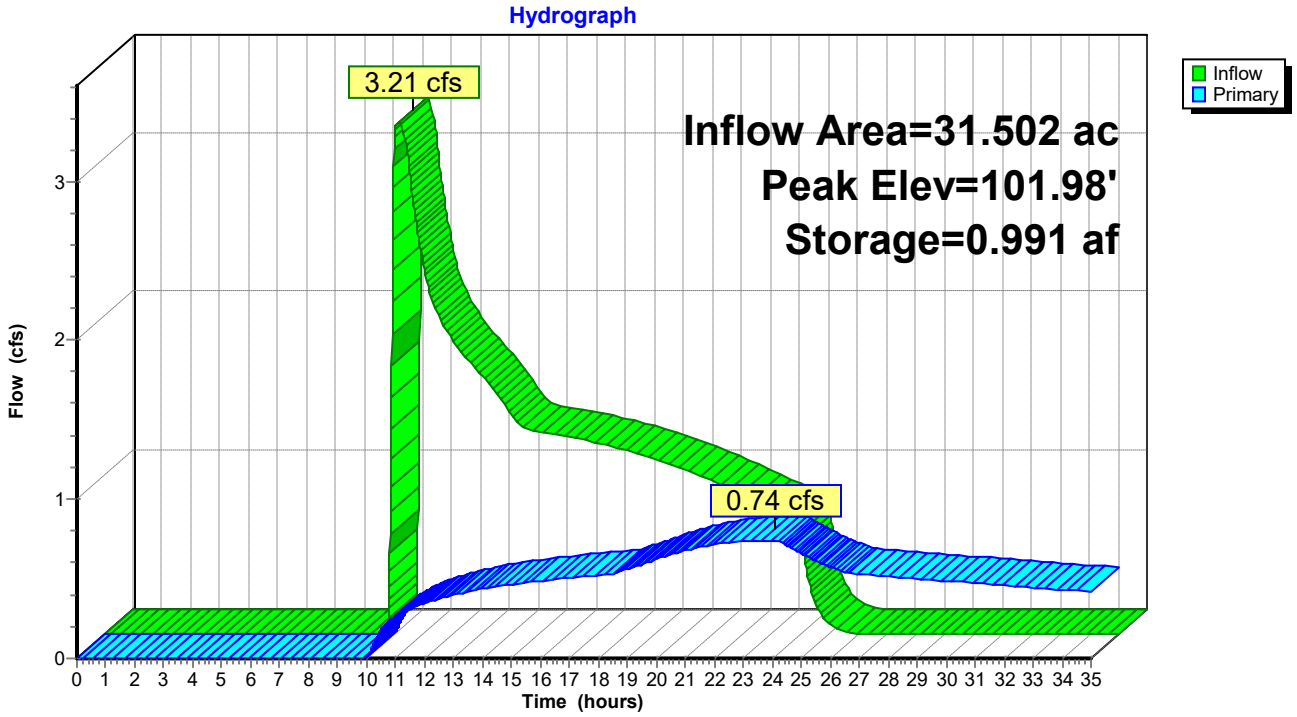
Plug-Flow detention time= 600.5 min calculated for 1.058 af (66% of inflow)
Center-of-Mass det. time= 444.8 min (1,380.9 - 936.1)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	2.623 af	**80.00'W x 240.00'L x 4.50'H Prismatoid Z=4.0**

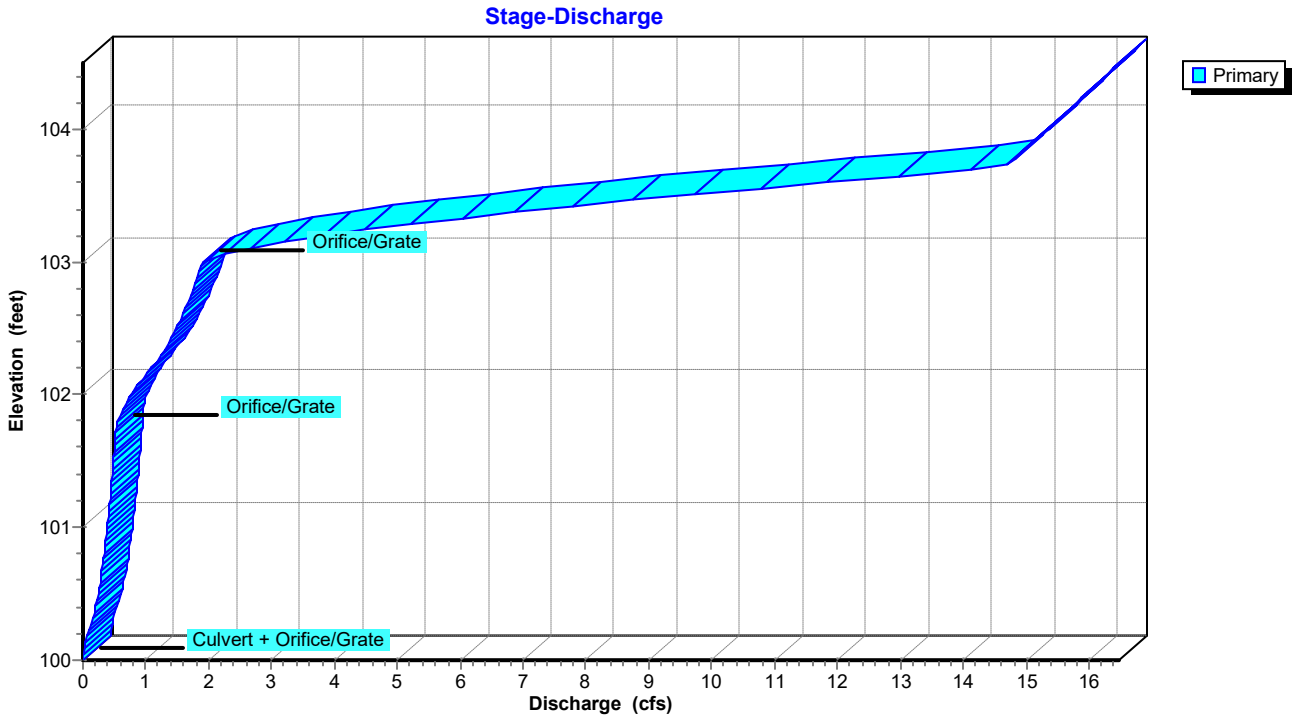
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	101.75'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.74 cfs @ 23.58 hrs HW=101.98' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.74 cfs of 8.45 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.57 cfs @ 6.48 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.18 cfs @ 1.54 fps)

Pond D15: Detention Pond 15



Pond D15: Detention Pond 15



Stage-Discharge for Pond D15: Detention Pond 15

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.58
100.05	0.01	102.65	1.63
100.10	0.02	102.70	1.67
100.15	0.05	102.75	1.71
100.20	0.08	102.80	1.75
100.25	0.12	102.85	1.79
100.30	0.15	102.90	1.83
100.35	0.18	102.95	1.87
100.40	0.20	103.00	1.91
100.45	0.22	103.05	2.17
100.50	0.24	103.10	2.63
100.55	0.26	103.15	3.21
100.60	0.28	103.20	3.89
100.65	0.29	103.25	4.65
100.70	0.31	103.30	5.49
100.75	0.32	103.35	6.40
100.80	0.33	103.40	7.38
100.85	0.35	103.45	8.41
100.90	0.36	103.50	9.50
100.95	0.37	103.55	10.65
101.00	0.38	103.60	11.85
101.05	0.39	103.65	13.10
101.10	0.41	103.70	14.39
101.15	0.42	103.75	14.74
101.20	0.43	103.80	14.86
101.25	0.44	103.85	14.98
101.30	0.45	103.90	15.10
101.35	0.46	103.95	15.22
101.40	0.47	104.00	15.34
101.45	0.48	104.05	15.46
101.50	0.49	104.10	15.57
101.55	0.49	104.15	15.69
101.60	0.50	104.20	15.80
101.65	0.51	104.25	15.92
101.70	0.52	104.30	16.03
101.75	0.53	104.35	16.14
101.80	0.55	104.40	16.26
101.85	0.60	104.45	16.37
101.90	0.65	104.50	**16.48**
101.95	0.70		
102.00	0.77		
102.05	0.84		
102.10	0.92		
102.15	1.00		
102.20	1.08		
102.25	1.17		
102.30	1.25		
102.35	1.32		
102.40	1.38		
102.45	1.43		
102.50	1.48		
102.55	1.53		

Summary for Pond D16.2: Detention Pond 16.2

Inflow Area = 12.275 ac, 0.00% Impervious, Inflow Depth = 0.79" for 10 year event
Inflow = 3.05 cfs @ 9.99 hrs, Volume= 0.813 af
Outflow = 0.58 cfs @ 15.84 hrs, Volume= 0.755 af, Atten= 81%, Lag= 351.0 min
Primary = 0.58 cfs @ 15.84 hrs, Volume= 0.755 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 101.36' @ 15.84 hrs Surf.Area= 0.225 ac Storage= 0.269 af

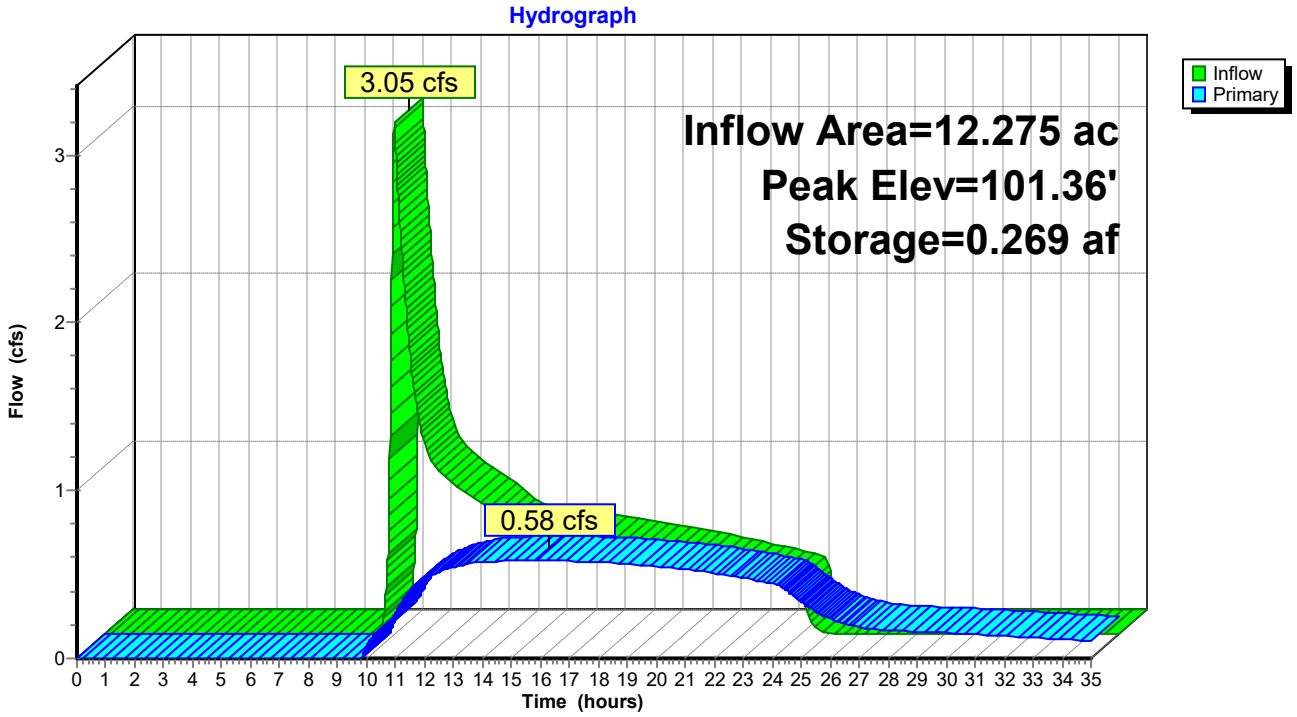
Plug-Flow detention time= 321.4 min calculated for 0.755 af (93% of inflow)
Center-of-Mass det. time= 284.0 min (1,185.4 - 901.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.770 af	**50.00'W x 150.00'L x 3.25'H Prismatoid Z=4.0**

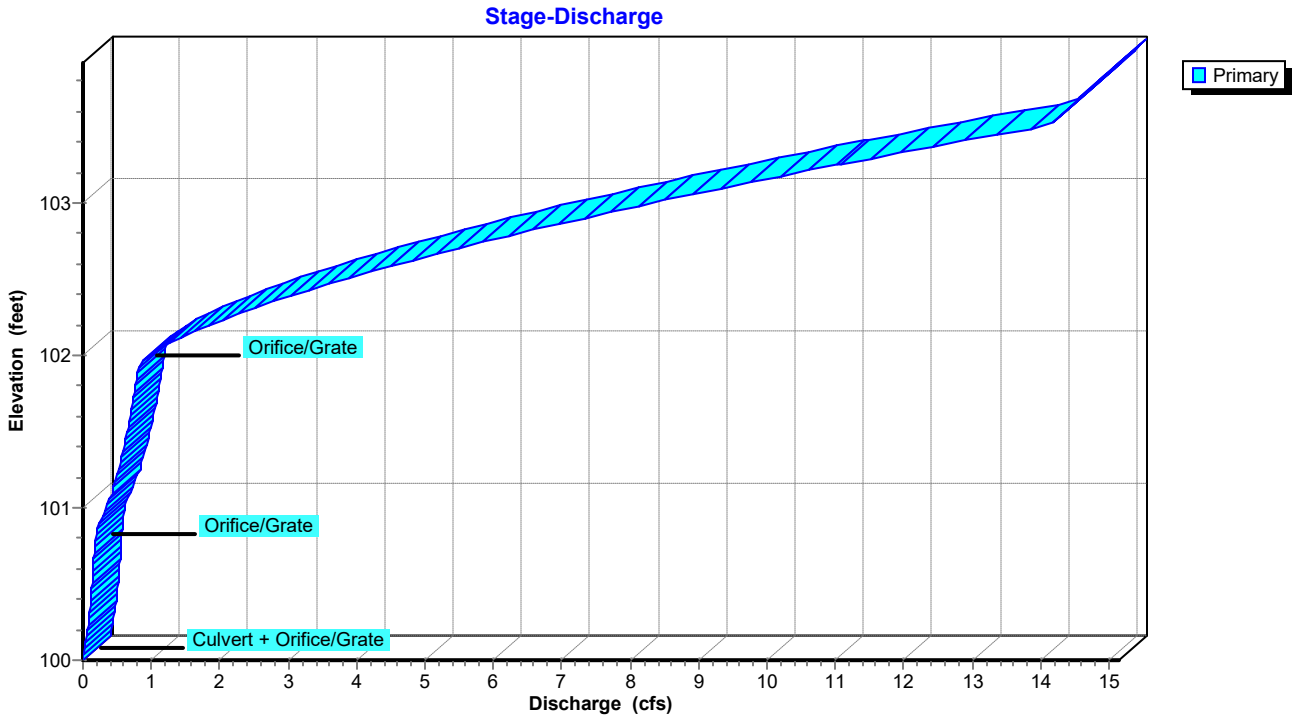
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	101.92'	**24.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.75'	**4.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.58 cfs @ 15.84 hrs HW=101.36' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.58 cfs of 5.30 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.24 cfs @ 5.44 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.35 cfs @ 3.13 fps)

Pond D16.2: Detention Pond 16.2



Pond D16.2: Detention Pond 16.2



Stage-Discharge for Pond D16.2: Detention Pond 16.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.37	102.08	1.28	103.12	9.59
100.02	0.00	101.06	0.39	102.10	1.36	103.14	9.81
100.04	0.01	101.08	0.41	102.12	1.45	103.16	10.03
100.06	0.01	101.10	0.43	102.14	1.55	103.18	10.25
100.08	0.02	101.12	0.44	102.16	1.65	103.20	10.47
100.10	0.03	101.14	0.46	102.18	1.75	103.22	10.69
100.12	0.04	101.16	0.47	102.20	1.85	103.24	10.92
100.14	0.05	101.18	0.48	102.22	1.96	103.26	11.14
100.16	0.06	101.20	0.49	102.24	2.08	103.28	11.37
100.18	0.07	101.22	0.51	102.26	2.19	103.30	11.60
100.20	0.07	101.24	0.52	102.28	2.31	103.32	11.83
100.22	0.08	101.26	0.53	102.30	2.44	103.34	12.07
100.24	0.08	101.28	0.54	102.32	2.56	103.36	12.30
100.26	0.09	101.30	0.55	102.34	2.69	103.38	12.54
100.28	0.09	101.32	0.56	102.36	2.83	103.40	12.78
100.30	0.10	101.34	0.57	102.38	2.96	103.42	13.02
100.32	0.10	101.36	0.58	102.40	3.10	103.44	13.26
100.34	0.11	101.38	0.59	102.42	3.24	103.46	13.50
100.36	0.11	101.40	0.60	102.44	3.38	103.48	13.74
100.38	0.11	101.42	0.61	102.46	3.53	103.50	13.99
100.40	0.12	101.44	0.62	102.48	3.68	103.52	14.16
100.42	0.12	101.46	0.63	102.50	3.83	103.54	14.21
100.44	0.13	101.48	0.64	102.52	3.98	103.56	14.26
100.46	0.13	101.50	0.65	102.54	4.14	103.58	14.31
100.48	0.13	101.52	0.66	102.56	4.30	103.60	14.36
100.50	0.14	101.54	0.67	102.58	4.46	103.62	14.41
100.52	0.14	101.56	0.67	102.60	4.62	103.64	14.46
100.54	0.14	101.58	0.68	102.62	4.78	103.66	14.51
100.56	0.15	101.60	0.69	102.64	4.95	103.68	14.56
100.58	0.15	101.62	0.70	102.66	5.12	103.70	14.61
100.60	0.15	101.64	0.71	102.68	5.29	103.72	14.66
100.62	0.15	101.66	0.72	102.70	5.47	103.74	14.71
100.64	0.16	101.68	0.72	102.72	5.64	103.76	14.76
100.66	0.16	101.70	0.73	102.74	5.82	103.78	14.81
100.68	0.16	101.72	0.74	102.76	6.00	103.80	14.86
100.70	0.16	101.74	0.75	102.78	6.19	103.82	14.91
100.72	0.17	101.76	0.75	102.80	6.37	103.84	14.96
100.74	0.17	101.78	0.76	102.82	6.56	103.86	15.01
100.76	0.17	101.80	0.77	102.84	6.75	103.88	15.05
100.78	0.18	101.82	0.78	102.86	6.94	103.90	15.10
100.80	0.18	101.84	0.78	102.88	7.13	103.92	**15.15**
100.82	0.19	101.86	0.79	102.90	7.33		
100.84	0.20	101.88	0.80	102.92	7.52		
100.86	0.22	101.90	0.80	102.94	7.72		
100.88	0.23	101.92	0.81	102.96	7.92		
100.90	0.24	101.94	0.84	102.98	8.12		
100.92	0.26	101.96	0.88	103.00	8.33		
100.94	0.28	101.98	0.93	103.02	8.53		
100.96	0.30	102.00	0.98	103.04	8.74		
100.98	0.31	102.02	1.05	103.06	8.95		
101.00	0.33	102.04	1.12	103.08	9.16		
101.02	0.35	102.06	1.20	103.10	9.38		

Summary for Pond D16.3: Detention Pond 16.3

Inflow Area = 110.203 ac, 0.00% Impervious, Inflow Depth = 1.42" for 10 year event
Inflow = 28.64 cfs @ 10.22 hrs, Volume= 13.057 af
Outflow = 5.25 cfs @ 22.14 hrs, Volume= 7.107 af, Atten= 82%, Lag= 715.1 min
Primary = 5.25 cfs @ 22.14 hrs, Volume= 7.107 af
Routed to Reach 16R : Collection Point 16

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 104.19' @ 22.14 hrs Surf.Area= 2.282 ac Storage= 8.465 af

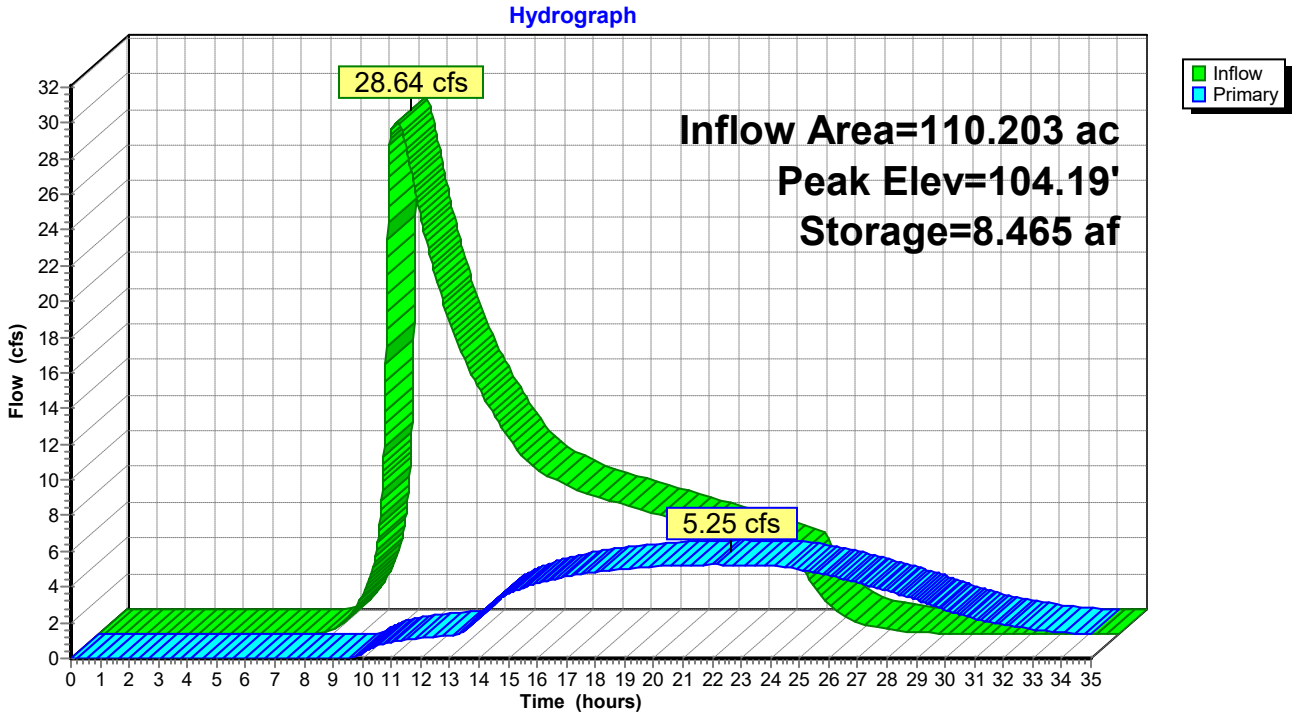
Plug-Flow detention time= 659.0 min calculated for 7.105 af (54% of inflow)
Center-of-Mass det. time= 457.9 min (1,349.2 - 891.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	14.078 af	**160.00'W x 480.00'L x 6.50'H Prismatoid Z=4.0**

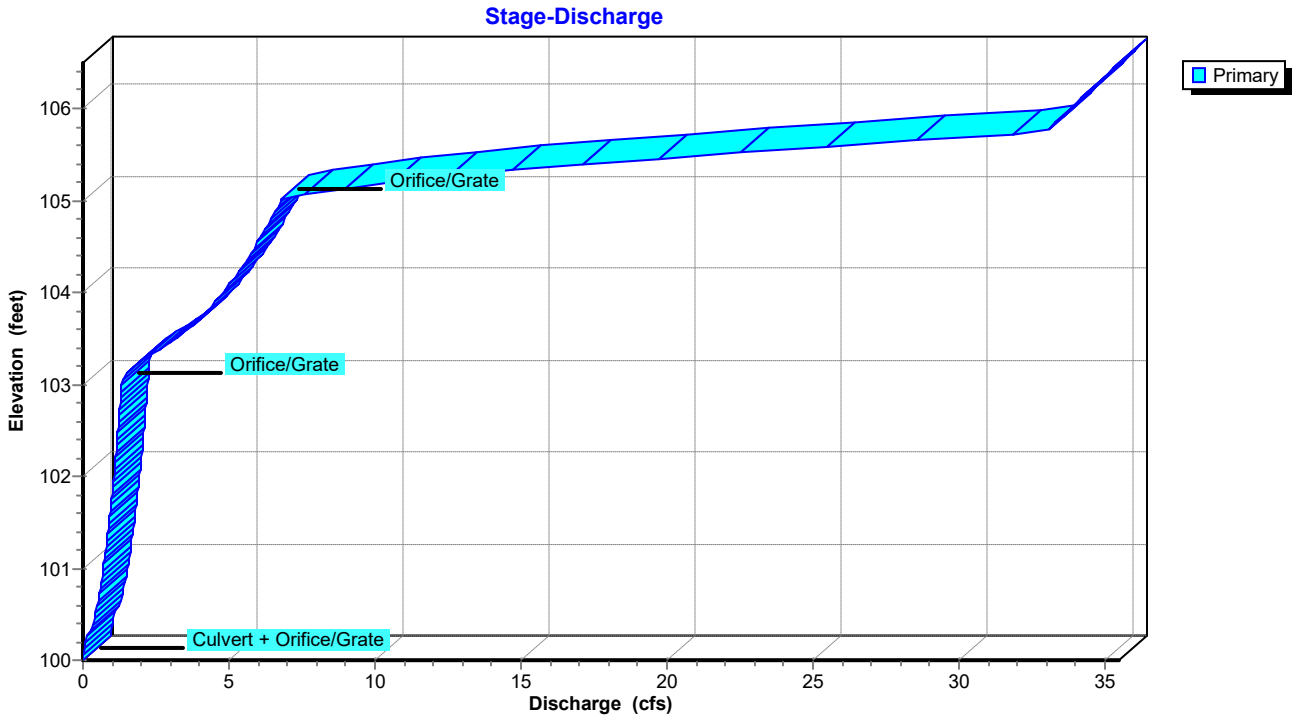
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**24.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.00'	**7.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.25 cfs @ 22.14 hrs HW=104.19' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 5.25 cfs of 27.03 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 1.58 cfs @ 9.59 fps)
  └─**4=Orifice/Grate** (Orifice Controls 3.67 cfs @ 4.57 fps)

Pond D16.3: Detention Pond 16.3



Pond D16.3: Detention Pond 16.3



Stage-Discharge for Pond D16.3: Detention Pond 16.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.22	105.20	10.61
100.05	0.01	102.65	1.24	105.25	12.09
100.10	0.03	102.70	1.25	105.30	13.71
100.15	0.06	102.75	1.26	105.35	15.46
100.20	0.11	102.80	1.27	105.40	17.34
100.25	0.16	102.85	1.29	105.45	19.33
100.30	0.21	102.90	1.30	105.50	21.43
100.35	0.27	102.95	1.31	105.55	23.64
100.40	0.33	103.00	1.32	105.60	25.94
100.45	0.38	103.05	1.36	105.65	28.34
100.50	0.41	103.10	1.44	105.70	30.83
100.55	0.45	103.15	1.57	105.75	32.97
100.60	0.48	103.20	1.74	105.80	33.14
100.65	0.52	103.25	1.94	105.85	33.31
100.70	0.55	103.30	2.17	105.90	33.48
100.75	0.57	103.35	2.42	105.95	33.65
100.80	0.60	103.40	2.68	106.00	33.82
100.85	0.63	103.45	2.94	106.05	33.99
100.90	0.65	103.50	3.20	106.10	34.16
100.95	0.67	103.55	3.43	106.15	34.33
101.00	0.70	103.60	3.60	106.20	34.49
101.05	0.72	103.65	3.78	106.25	34.66
101.10	0.74	103.70	3.95	106.30	34.82
101.15	0.76	103.75	4.10	106.35	34.99
101.20	0.78	103.80	4.25	106.40	35.15
101.25	0.80	103.85	4.40	106.45	35.31
101.30	0.82	103.90	4.53	106.50	**35.48**
101.35	0.84	103.95	4.66		
101.40	0.86	104.00	4.79		
101.45	0.88	104.05	4.91		
101.50	0.90	104.10	5.03		
101.55	0.91	104.15	5.15		
101.60	0.93	104.20	5.26		
101.65	0.95	104.25	5.37		
101.70	0.96	104.30	5.48		
101.75	0.98	104.35	5.58		
101.80	1.00	104.40	5.69		
101.85	1.01	104.45	5.79		
101.90	1.03	104.50	5.89		
101.95	1.04	104.55	5.98		
102.00	1.06	104.60	6.08		
102.05	1.07	104.65	6.17		
102.10	1.09	104.70	6.26		
102.15	1.10	104.75	6.35		
102.20	1.12	104.80	6.44		
102.25	1.13	104.85	6.53		
102.30	1.14	104.90	6.61		
102.35	1.16	104.95	6.70		
102.40	1.17	105.00	6.78		
102.45	1.18	105.05	7.30		
102.50	1.20	105.10	8.19		
102.55	1.21	105.15	9.30		

Summary for Pond D18: Detention Pond 18

Inflow Area = 42.657 ac, 0.00% Impervious, Inflow Depth = 2.09" for 10 year event
Inflow = 37.55 cfs @ 9.98 hrs, Volume= 7.439 af
Outflow = 2.47 cfs @ 21.34 hrs, Volume= 4.766 af, Atten= 93%, Lag= 681.4 min
Primary = 2.47 cfs @ 21.34 hrs, Volume= 4.766 af
Routed to Reach 18R : Collection Point 18

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.98' @ 21.34 hrs Surf.Area= 1.366 ac Storage= 4.672 af

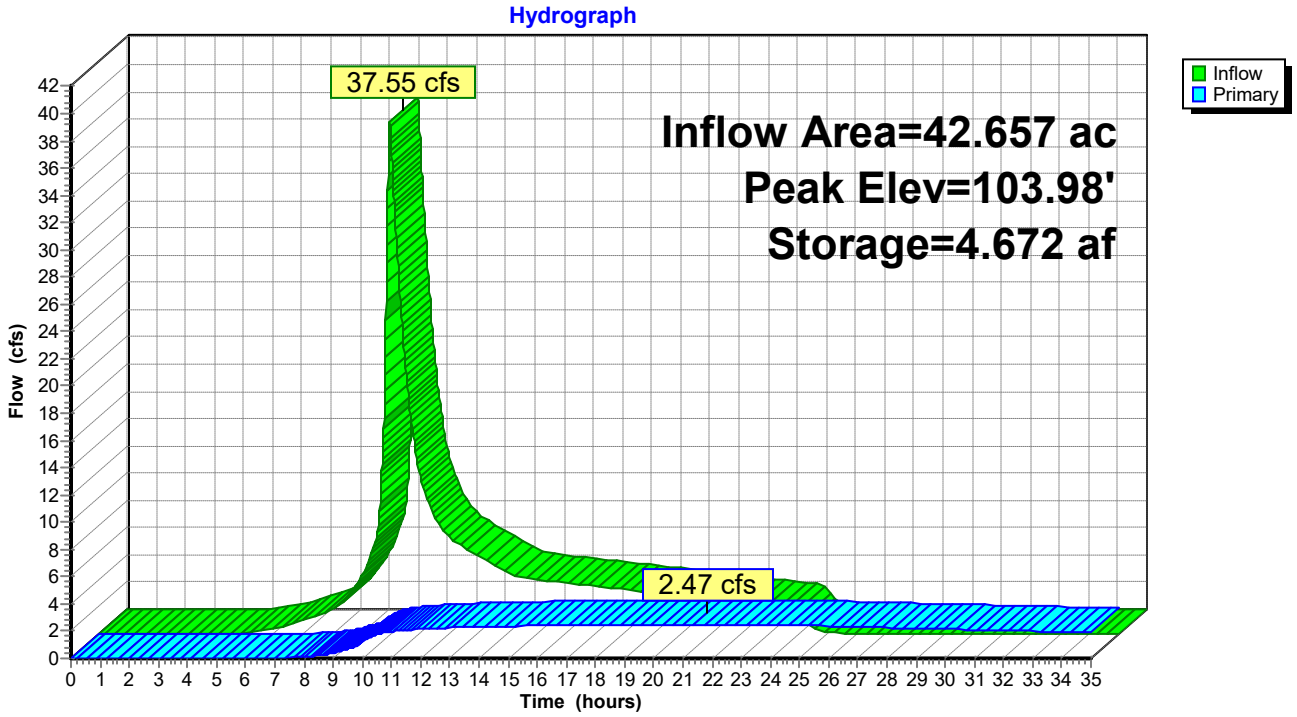
Plug-Flow detention time= 689.4 min calculated for 4.764 af (64% of inflow)
Center-of-Mass det. time= 524.7 min (1,327.0 - 802.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8.443 af	**120.00'W x 360.00'L x 6.50'H Prismatoid Z=4.0**

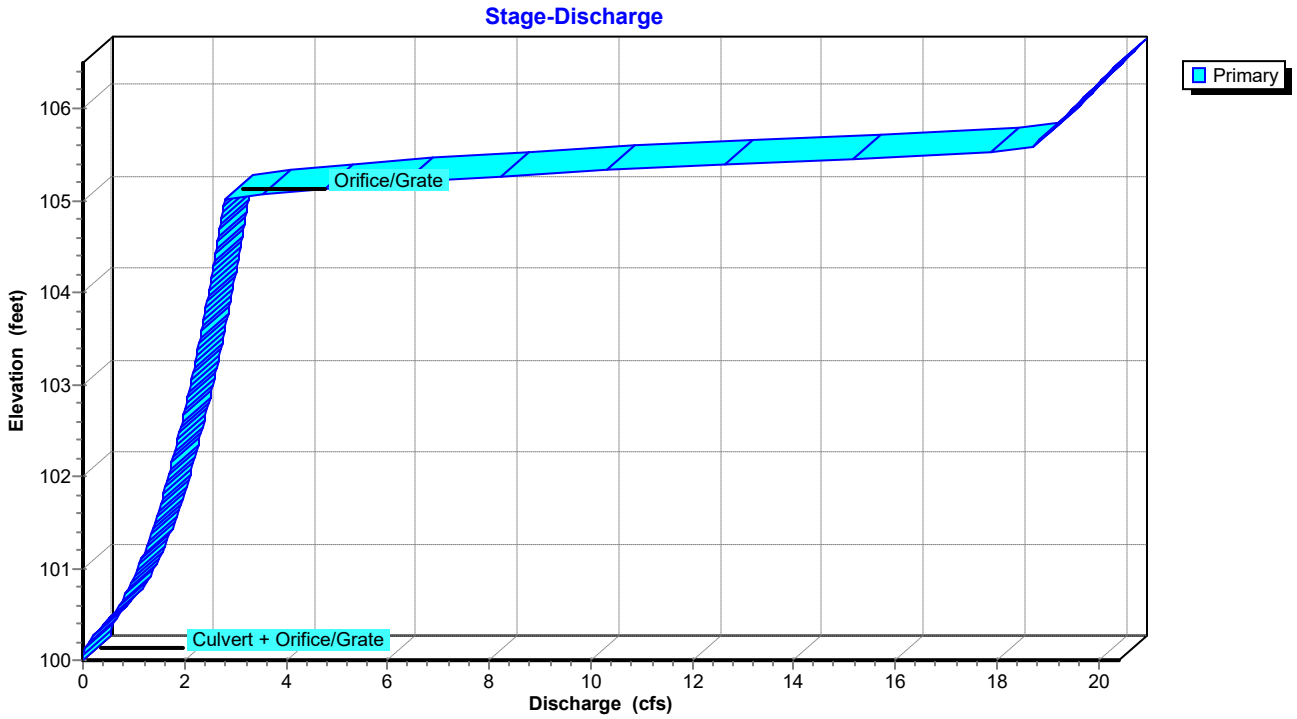
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.47 cfs @ 21.34 hrs HW=103.98' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.47 cfs of 15.29 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 2.47 cfs @ 9.24 fps)

Pond D18: Detention Pond 18



Pond D18: Detention Pond 18



Stage-Discharge for Pond D18: Detention Pond 18

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	6.36
100.05	0.01	102.65	1.98	105.25	7.77
100.10	0.03	102.70	2.00	105.30	9.33
100.15	0.07	102.75	2.02	105.35	11.02
100.20	0.12	102.80	2.04	105.40	12.84
100.25	0.19	102.85	2.06	105.45	14.77
100.30	0.26	102.90	2.08	105.50	16.81
100.35	0.34	102.95	2.10	105.55	18.64
100.40	0.42	103.00	2.12	105.60	18.74
100.45	0.51	103.05	2.14	105.65	18.83
100.50	0.59	103.10	2.16	105.70	18.93
100.55	0.66	103.15	2.18	105.75	19.03
100.60	0.71	103.20	2.19	105.80	19.12
100.65	0.77	103.25	2.21	105.85	19.22
100.70	0.82	103.30	2.23	105.90	19.31
100.75	0.87	103.35	2.25	105.95	19.40
100.80	0.92	103.40	2.27	106.00	19.50
100.85	0.96	103.45	2.29	106.05	19.59
100.90	1.00	103.50	2.30	106.10	19.68
100.95	1.04	103.55	2.32	106.15	19.77
101.00	1.08	103.60	2.34	106.20	19.86
101.05	1.12	103.65	2.36	106.25	19.95
101.10	1.16	103.70	2.38	106.30	20.05
101.15	1.19	103.75	2.39	106.35	20.14
101.20	1.23	103.80	2.41	106.40	20.23
101.25	1.26	103.85	2.43	106.45	20.31
101.30	1.29	103.90	2.44	106.50	**20.40**
101.35	1.32	103.95	2.46		
101.40	1.35	104.00	2.48		
101.45	1.38	104.05	2.49		
101.50	1.41	104.10	2.51		
101.55	1.44	104.15	2.53		
101.60	1.47	104.20	2.54		
101.65	1.50	104.25	2.56		
101.70	1.53	104.30	2.58		
101.75	1.55	104.35	2.59		
101.80	1.58	104.40	2.61		
101.85	1.61	104.45	2.62		
101.90	1.63	104.50	2.64		
101.95	1.66	104.55	2.66		
102.00	1.68	104.60	2.67		
102.05	1.71	104.65	2.69		
102.10	1.73	104.70	2.70		
102.15	1.75	104.75	2.72		
102.20	1.78	104.80	2.73		
102.25	1.80	104.85	2.75		
102.30	1.82	104.90	2.76		
102.35	1.85	104.95	2.78		
102.40	1.87	105.00	2.79		
102.45	1.89	105.05	3.25		
102.50	1.91	105.10	4.06		
102.55	1.93	105.15	5.12		

Summary for Pond D20.2: Detention Basin 20.2

Inflow Area = 3.949 ac, 37.71% Impervious, Inflow Depth = 1.96" for 10 year event
Inflow = 3.33 cfs @ 9.98 hrs, Volume= 0.645 af
Outflow = 0.23 cfs @ 20.34 hrs, Volume= 0.422 af, Atten= 93%, Lag= 621.6 min
Primary = 0.23 cfs @ 20.34 hrs, Volume= 0.422 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.47' @ 20.34 hrs Storage= 0.390 af

Plug-Flow detention time= 673.5 min calculated for 0.422 af (65% of inflow)
Center-of-Mass det. time= 504.2 min (1,275.8 - 771.6)

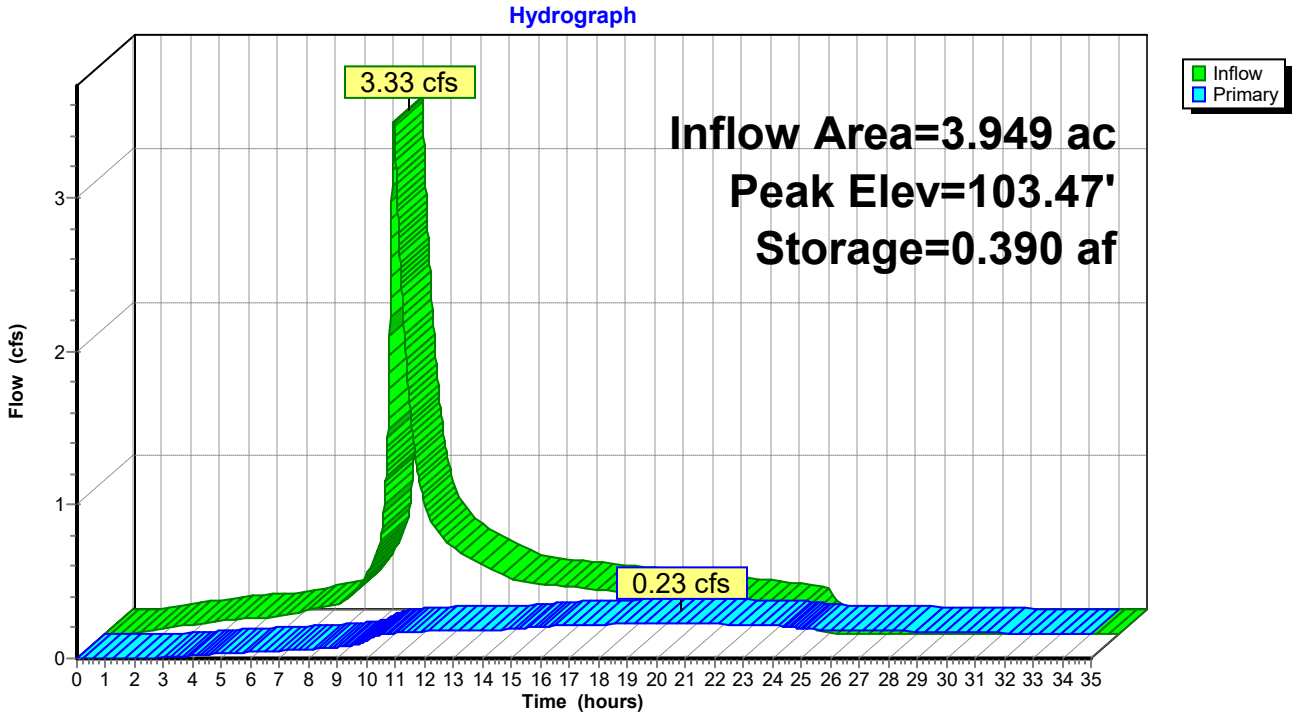
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	0.709 af	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (acre-feet)
100.00	0.000
101.00	0.094
102.00	0.194
103.00	0.317
104.00	0.473
105.00	0.658
105.25	0.709

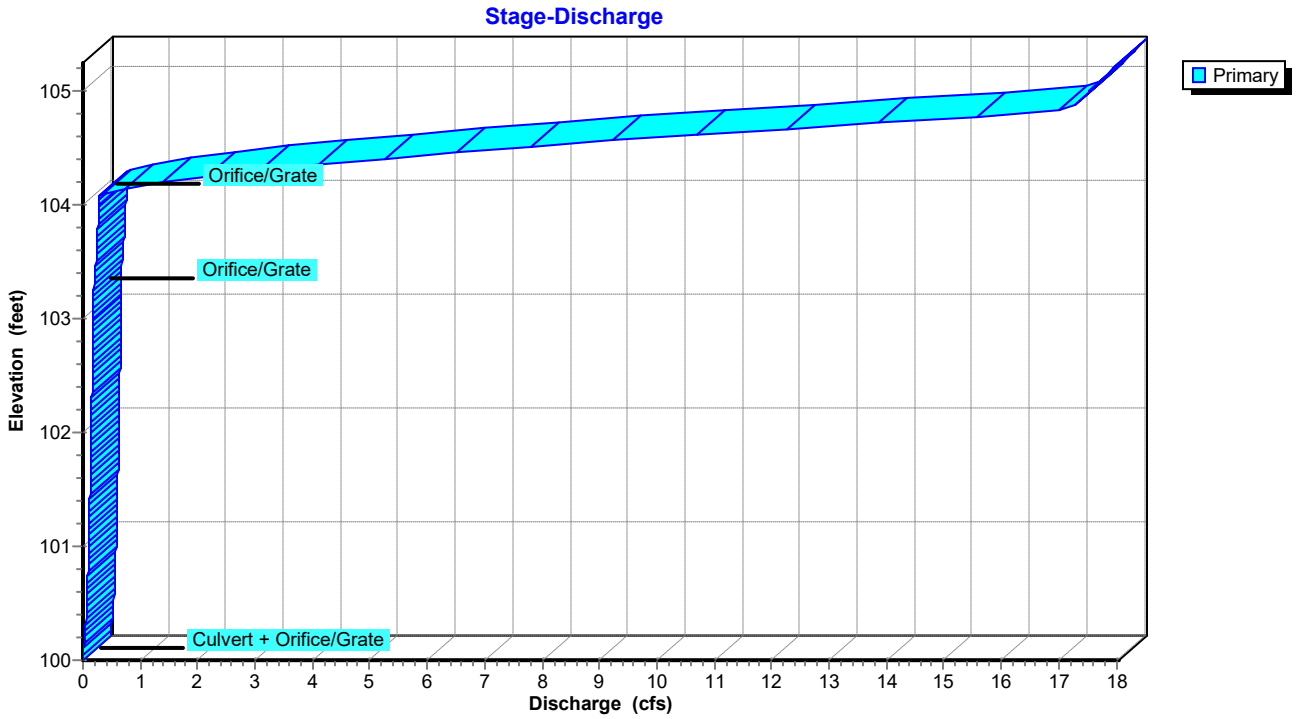
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	104.08'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.25'	**1.8" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.23 cfs @ 20.34 hrs HW=103.47' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.23 cfs of 14.03 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.19 cfs @ 8.86 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.03 cfs @ 1.82 fps)

Pond D20.2: Detention Basin 20.2



Pond D20.2: Detention Basin 20.2



Stage-Discharge for Pond D20.2: Detention Basin 20.2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.17	105.20	17.95
100.05	0.00	102.65	0.17	105.25	**18.05**
100.10	0.01	102.70	0.17		
100.15	0.03	102.75	0.17		
100.20	0.04	102.80	0.17		
100.25	0.04	102.85	0.17		
100.30	0.05	102.90	0.18		
100.35	0.05	102.95	0.18		
100.40	0.06	103.00	0.18		
100.45	0.06	103.05	0.18		
100.50	0.07	103.10	0.18		
100.55	0.07	103.15	0.18		
100.60	0.08	103.20	0.19		
100.65	0.08	103.25	0.19		
100.70	0.08	103.30	0.19		
100.75	0.09	103.35	0.20		
100.80	0.09	103.40	0.21		
100.85	0.09	103.45	0.22		
100.90	0.09	103.50	0.23		
100.95	0.10	103.55	0.24		
101.00	0.10	103.60	0.24		
101.05	0.10	103.65	0.25		
101.10	0.11	103.70	0.25		
101.15	0.11	103.75	0.26		
101.20	0.11	103.80	0.26		
101.25	0.11	103.85	0.27		
101.30	0.12	103.90	0.27		
101.35	0.12	103.95	0.27		
101.40	0.12	104.00	0.28		
101.45	0.12	104.05	0.28		
101.50	0.13	104.10	0.36		
101.55	0.13	104.15	0.77		
101.60	0.13	104.20	1.38		
101.65	0.13	104.25	2.13		
101.70	0.13	104.30	3.00		
101.75	0.14	104.35	3.97		
101.80	0.14	104.40	5.04		
101.85	0.14	104.45	6.20		
101.90	0.14	104.50	7.43		
101.95	0.14	104.55	8.75		
102.00	0.15	104.60	10.13		
102.05	0.15	104.65	11.58		
102.10	0.15	104.70	13.10		
102.15	0.15	104.75	14.68		
102.20	0.15	104.80	16.31		
102.25	0.15	104.85	17.23		
102.30	0.16	104.90	17.33		
102.35	0.16	104.95	17.44		
102.40	0.16	105.00	17.54		
102.45	0.16	105.05	17.64		
102.50	0.16	105.10	17.75		
102.55	0.16	105.15	17.85		

Summary for Pond D20.3: Detention Pond 20.3

Inflow Area = 3.421 ac, 30.18% Impervious, Inflow Depth = 1.90" for 10 year event
Inflow = 2.21 cfs @ 9.99 hrs, Volume= 0.543 af
Outflow = 0.21 cfs @ 19.39 hrs, Volume= 0.425 af, Atten= 90%, Lag= 564.1 min
Primary = 0.21 cfs @ 19.39 hrs, Volume= 0.425 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.07' @ 19.39 hrs Storage= 12,625 cf

Plug-Flow detention time= 601.5 min calculated for 0.425 af (78% of inflow)
Center-of-Mass det. time= 483.2 min (1,275.3 - 792.1)

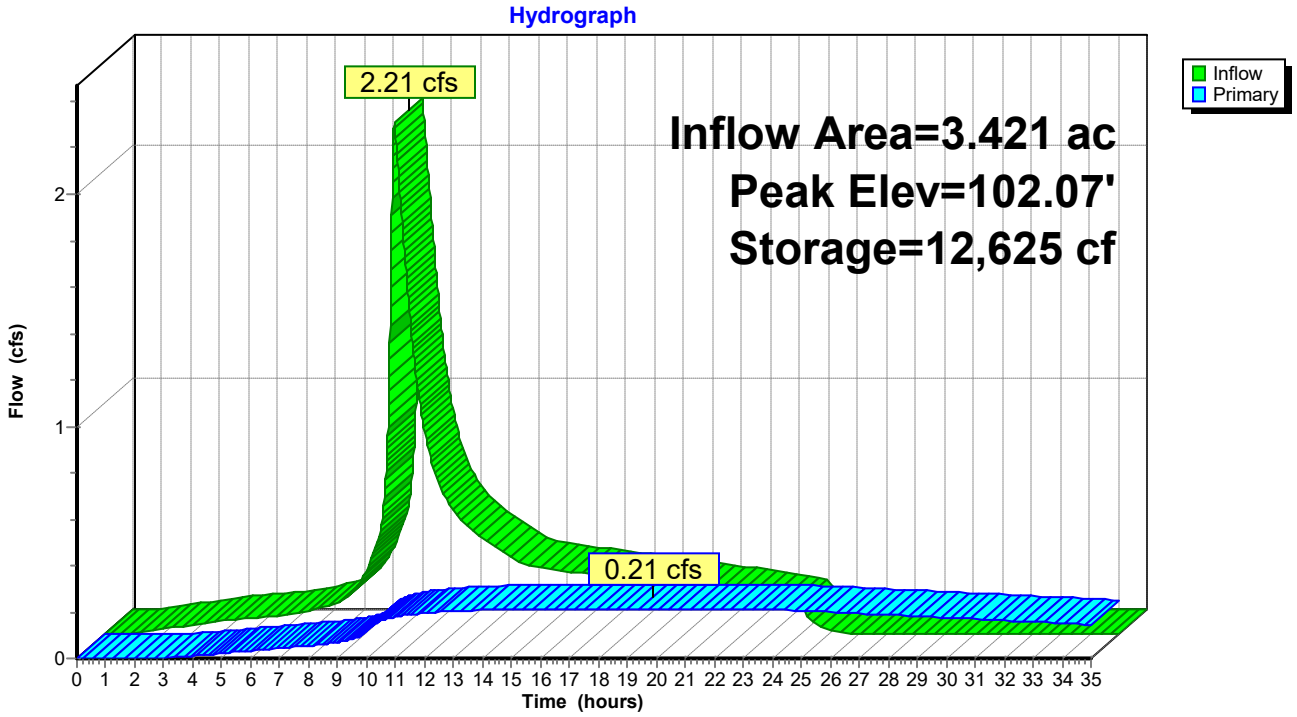
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	26,310 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	5,184
102.00	11,979
103.00	20,604
103.67	26,310

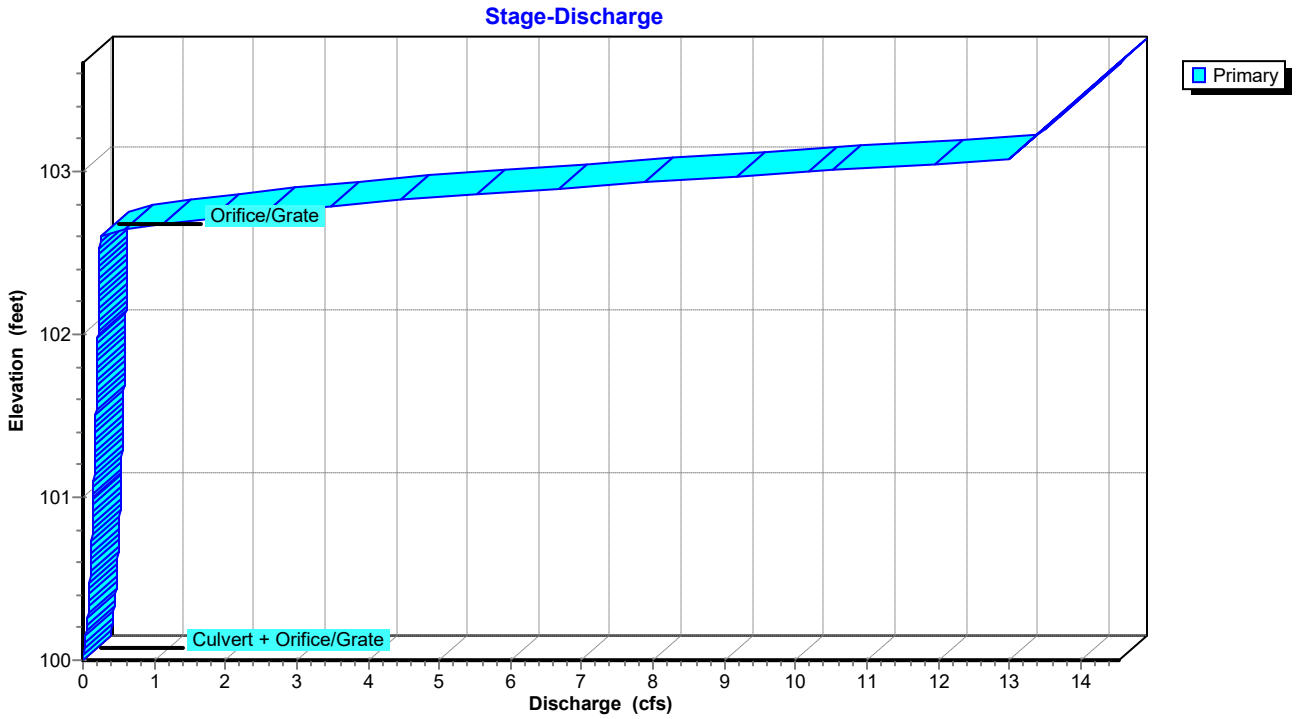
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	102.60'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**1.7" Vert. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 19.39 hrs HW=102.07' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.21 cfs of 8.98 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 6.82 fps)

Pond D20.3: Detention Pond 20.3



Pond D20.3: Detention Pond 20.3



Stage-Discharge for Pond D20.3: Detention Pond 20.3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	101.04	0.15	102.08	0.22	103.12	13.10
100.02	0.00	101.06	0.15	102.10	0.22	103.14	13.15
100.04	0.00	101.08	0.15	102.12	0.22	103.16	13.21
100.06	0.01	101.10	0.15	102.14	0.22	103.18	13.26
100.08	0.02	101.12	0.16	102.16	0.22	103.20	13.32
100.10	0.03	101.14	0.16	102.18	0.22	103.22	13.37
100.12	0.03	101.16	0.16	102.20	0.22	103.24	13.43
100.14	0.04	101.18	0.16	102.22	0.22	103.26	13.48
100.16	0.05	101.20	0.16	102.24	0.22	103.28	13.53
100.18	0.05	101.22	0.16	102.26	0.22	103.30	13.59
100.20	0.05	101.24	0.16	102.28	0.23	103.32	13.64
100.22	0.06	101.26	0.17	102.30	0.23	103.34	13.69
100.24	0.06	101.28	0.17	102.32	0.23	103.36	13.75
100.26	0.07	101.30	0.17	102.34	0.23	103.38	13.80
100.28	0.07	101.32	0.17	102.36	0.23	103.40	13.85
100.30	0.07	101.34	0.17	102.38	0.23	103.42	13.90
100.32	0.08	101.36	0.17	102.40	0.23	103.44	13.96
100.34	0.08	101.38	0.17	102.42	0.23	103.46	14.01
100.36	0.08	101.40	0.18	102.44	0.23	103.48	14.06
100.38	0.08	101.42	0.18	102.46	0.23	103.50	14.11
100.40	0.09	101.44	0.18	102.48	0.24	103.52	14.16
100.42	0.09	101.46	0.18	102.50	0.24	103.54	14.21
100.44	0.09	101.48	0.18	102.52	0.24	103.56	14.26
100.46	0.09	101.50	0.18	102.54	0.24	103.58	14.31
100.48	0.10	101.52	0.18	102.56	0.24	103.60	14.36
100.50	0.10	101.54	0.18	102.58	0.24	103.62	14.41
100.52	0.10	101.56	0.19	102.60	0.24	103.64	14.46
100.54	0.10	101.58	0.19	102.62	0.35	103.66	**14.51**
100.56	0.11	101.60	0.19	102.64	0.56		
100.58	0.11	101.62	0.19	102.66	0.82		
100.60	0.11	101.64	0.19	102.68	1.13		
100.62	0.11	101.66	0.19	102.70	1.49		
100.64	0.11	101.68	0.19	102.72	1.88		
100.66	0.12	101.70	0.19	102.74	2.30		
100.68	0.12	101.72	0.19	102.76	2.76		
100.70	0.12	101.74	0.20	102.78	3.25		
100.72	0.12	101.76	0.20	102.80	3.76		
100.74	0.12	101.78	0.20	102.82	4.30		
100.76	0.13	101.80	0.20	102.84	4.87		
100.78	0.13	101.82	0.20	102.86	5.46		
100.80	0.13	101.84	0.20	102.88	6.07		
100.82	0.13	101.86	0.20	102.90	6.70		
100.84	0.13	101.88	0.20	102.92	7.36		
100.86	0.13	101.90	0.21	102.94	8.04		
100.88	0.14	101.92	0.21	102.96	8.73		
100.90	0.14	101.94	0.21	102.98	9.45		
100.92	0.14	101.96	0.21	103.00	10.19		
100.94	0.14	101.98	0.21	103.02	10.94		
100.96	0.14	102.00	0.21	103.04	11.71		
100.98	0.14	102.02	0.21	103.06	12.50		
101.00	0.15	102.04	0.21	103.08	12.99		
101.02	0.15	102.06	0.21	103.10	13.04		

Summary for Pond D20.4: Detention Pond 20.4

Inflow Area = 7.708 ac, 12.09% Impervious, Inflow Depth = 1.47" for 10 year event
Inflow = 4.75 cfs @ 9.98 hrs, Volume= 0.941 af
Outflow = 0.41 cfs @ 19.71 hrs, Volume= 0.671 af, Atten= 91%, Lag= 583.9 min
Primary = 0.41 cfs @ 19.71 hrs, Volume= 0.671 af
Routed to Reach 20R : Collection Point 20

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.56' @ 19.71 hrs Storage= 22,566 cf

Plug-Flow detention time= 595.7 min calculated for 0.671 af (71% of inflow)
Center-of-Mass det. time= 450.6 min (1,271.7 - 821.0)

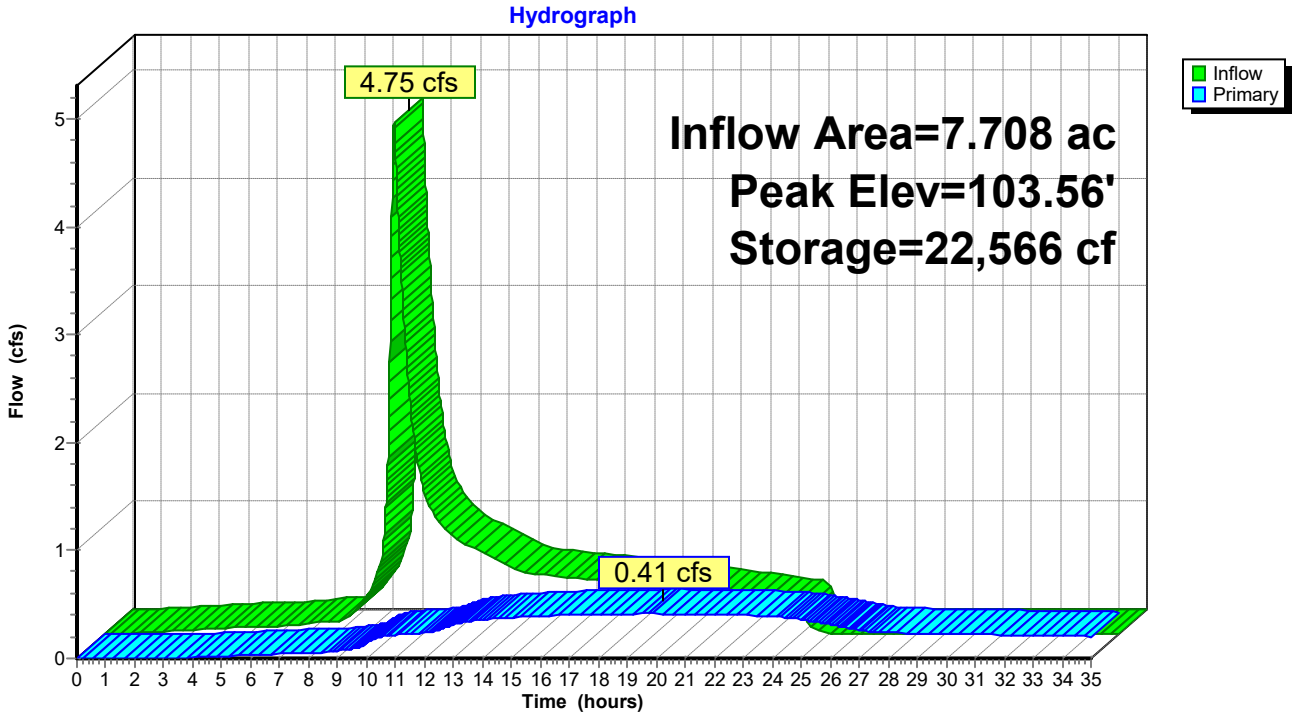
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	52,664 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
100.00	0
101.00	4,356
102.00	10,193
103.00	17,163
104.00	26,789
105.00	36,503
106.00	48,395
106.25	52,664

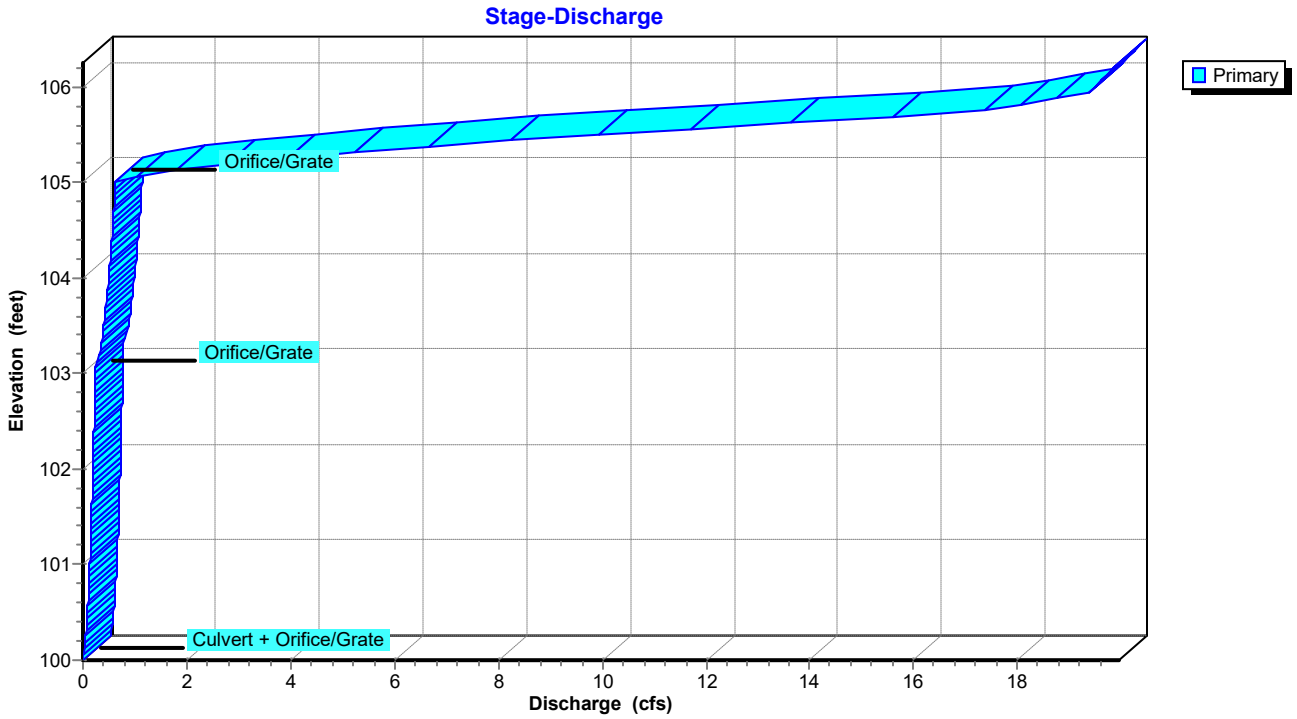
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	105.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	103.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	100.00'	**2.3" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.41 cfs @ 19.71 hrs HW=103.56' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.41 cfs of 14.27 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.16 cfs @ 3.18 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.26 cfs @ 8.96 fps)

Pond D20.4: Detention Pond 20.4



Pond D20.4: Detention Pond 20.4



Stage-Discharge for Pond D20.4: Detention Pond 20.4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.22	105.20	2.99
100.05	0.00	102.65	0.22	105.25	3.93
100.10	0.02	102.70	0.22	105.30	4.96
100.15	0.03	102.75	0.23	105.35	6.09
100.20	0.04	102.80	0.23	105.40	7.29
100.25	0.05	102.85	0.23	105.45	8.58
100.30	0.06	102.90	0.23	105.50	9.94
100.35	0.07	102.95	0.23	105.55	11.36
100.40	0.08	103.00	0.24	105.60	12.86
100.45	0.08	103.05	0.24	105.65	14.41
100.50	0.09	103.10	0.26	105.70	16.03
100.55	0.09	103.15	0.28	105.75	17.39
100.60	0.10	103.20	0.31	105.80	17.94
100.65	0.10	103.25	0.33	105.85	18.48
100.70	0.11	103.30	0.35	105.90	19.00
100.75	0.11	103.35	0.36	105.95	19.40
100.80	0.12	103.40	0.38	106.00	19.50
100.85	0.12	103.45	0.39	106.05	19.59
100.90	0.12	103.50	0.40	106.10	19.68
100.95	0.13	103.55	0.41	106.15	19.77
101.00	0.13	103.60	0.42	106.20	19.86
101.05	0.14	103.65	0.43	106.25	**19.95**
101.10	0.14	103.70	0.44		
101.15	0.14	103.75	0.45		
101.20	0.15	103.80	0.46		
101.25	0.15	103.85	0.47		
101.30	0.15	103.90	0.48		
101.35	0.16	103.95	0.49		
101.40	0.16	104.00	0.50		
101.45	0.16	104.05	0.50		
101.50	0.16	104.10	0.51		
101.55	0.17	104.15	0.52		
101.60	0.17	104.20	0.53		
101.65	0.17	104.25	0.53		
101.70	0.18	104.30	0.54		
101.75	0.18	104.35	0.55		
101.80	0.18	104.40	0.56		
101.85	0.18	104.45	0.56		
101.90	0.19	104.50	0.57		
101.95	0.19	104.55	0.58		
102.00	0.19	104.60	0.58		
102.05	0.19	104.65	0.59		
102.10	0.20	104.70	0.59		
102.15	0.20	104.75	0.60		
102.20	0.20	104.80	0.61		
102.25	0.20	104.85	0.61		
102.30	0.21	104.90	0.62		
102.35	0.21	104.95	0.63		
102.40	0.21	105.00	0.63		
102.45	0.21	105.05	0.93		
102.50	0.22	105.10	1.47		
102.55	0.22	105.15	2.17		

Summary for Pond D3: Detention Basin 3

Inflow Area = 4.707 ac, 0.00% Impervious, Inflow Depth = 1.93" for 10 year event
Inflow = 4.02 cfs @ 9.98 hrs, Volume= 0.757 af
Outflow = 0.22 cfs @ 22.81 hrs, Volume= 0.378 af, Atten= 94%, Lag= 769.9 min
Primary = 0.22 cfs @ 22.81 hrs, Volume= 0.378 af
Routed to Reach 3R : Collection Point 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 102.81' @ 22.81 hrs Surf.Area= 0.244 ac Storage= 0.532 af

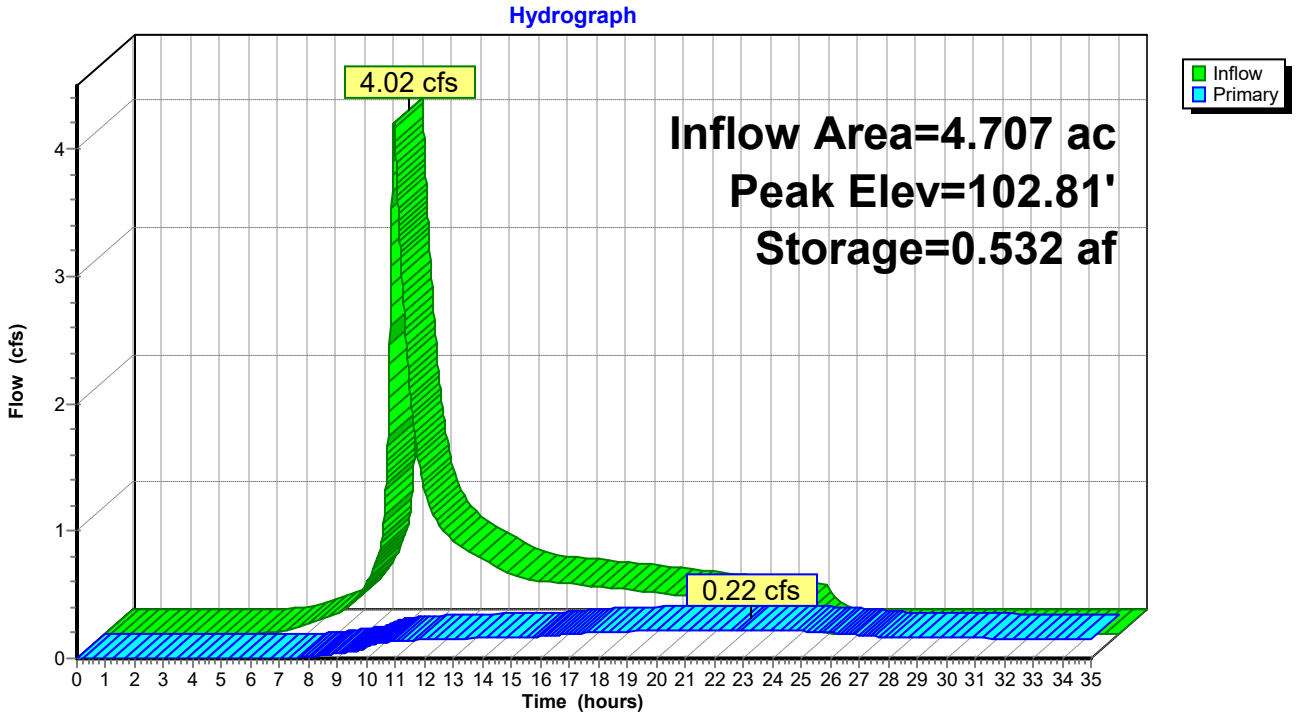
Plug-Flow detention time= 727.1 min calculated for 0.378 af (50% of inflow)
Center-of-Mass det. time= 526.9 min (1,337.5 - 810.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	1.172 af	**45.00'W x 135.00'L x 5.00'H Prismatoid Z=4.0**

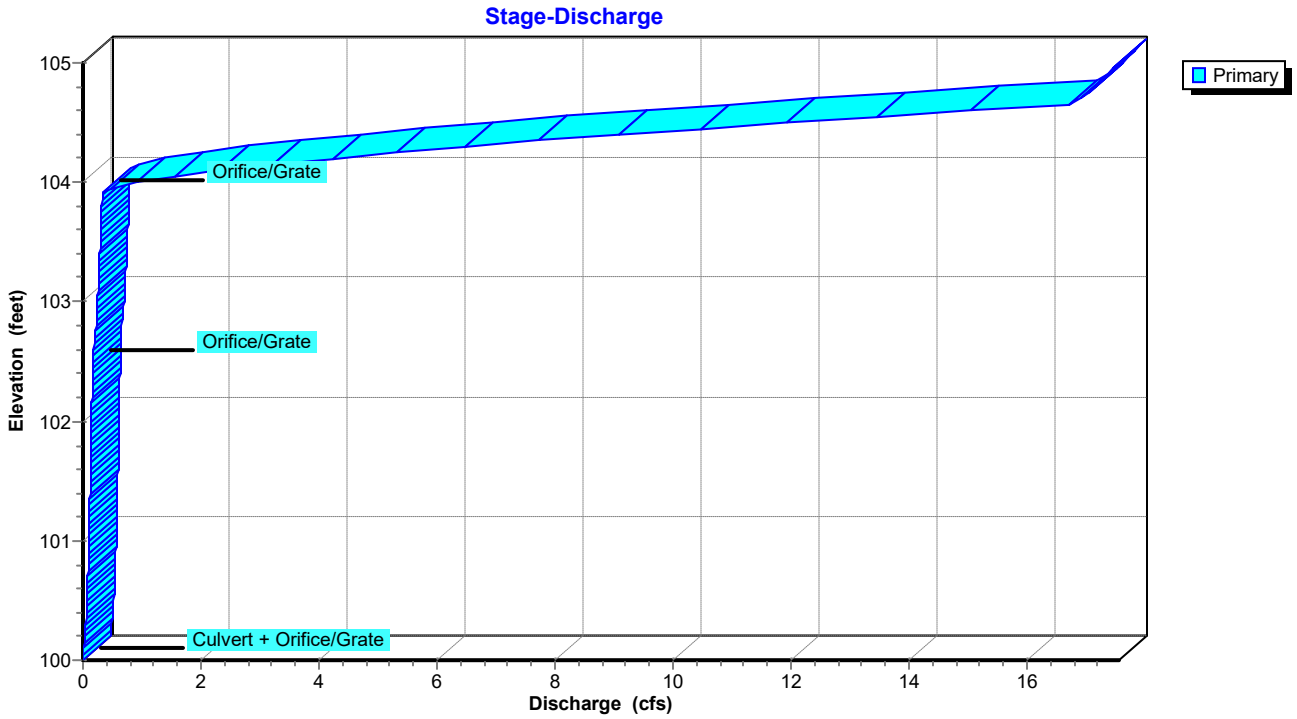
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.92'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.50'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 22.81 hrs HW=102.81' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.22 cfs of 12.20 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.17 cfs @ 7.94 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.05 cfs @ 2.27 fps)

Pond D3: Detention Basin 3



Pond D3: Detention Basin 3



Stage-Discharge for Pond D3: Detention Basin 3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.18
100.05	0.00	102.65	0.20
100.10	0.01	102.70	0.21
100.15	0.03	102.75	0.21
100.20	0.04	102.80	0.22
100.25	0.04	102.85	0.23
100.30	0.05	102.90	0.24
100.35	0.05	102.95	0.24
100.40	0.06	103.00	0.25
100.45	0.06	103.05	0.25
100.50	0.07	103.10	0.26
100.55	0.07	103.15	0.26
100.60	0.08	103.20	0.27
100.65	0.08	103.25	0.27
100.70	0.08	103.30	0.28
100.75	0.09	103.35	0.28
100.80	0.09	103.40	0.29
100.85	0.09	103.45	0.29
100.90	0.09	103.50	0.29
100.95	0.10	103.55	0.30
101.00	0.10	103.60	0.30
101.05	0.10	103.65	0.31
101.10	0.11	103.70	0.31
101.15	0.11	103.75	0.31
101.20	0.11	103.80	0.32
101.25	0.11	103.85	0.32
101.30	0.12	103.90	0.33
101.35	0.12	103.95	0.47
101.40	0.12	104.00	0.92
101.45	0.12	104.05	1.56
101.50	0.13	104.10	2.34
101.55	0.13	104.15	3.23
101.60	0.13	104.20	4.22
101.65	0.13	104.25	5.31
101.70	0.13	104.30	6.48
101.75	0.14	104.35	7.73
101.80	0.14	104.40	9.06
101.85	0.14	104.45	10.46
101.90	0.14	104.50	11.92
101.95	0.14	104.55	13.45
102.00	0.15	104.60	15.04
102.05	0.15	104.65	16.69
102.10	0.15	104.70	16.91
102.15	0.15	104.75	17.02
102.20	0.15	104.80	17.12
102.25	0.15	104.85	17.23
102.30	0.16	104.90	17.33
102.35	0.16	104.95	17.44
102.40	0.16	105.00	**17.54**
102.45	0.16		
102.50	0.16		
102.55	0.17		

Summary for Pond D5: Detention Basin 5

Inflow Area = 22.444 ac, 0.00% Impervious, Inflow Depth = 1.85" for 10 year event
Inflow = 18.97 cfs @ 9.98 hrs, Volume= 3.462 af
Outflow = 1.10 cfs @ 22.30 hrs, Volume= 1.756 af, Atten= 94%, Lag= 739.3 min
Primary = 1.10 cfs @ 22.30 hrs, Volume= 1.756 af
Routed to Reach 5R : Collection Point 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 103.01' @ 22.30 hrs Surf.Area= 0.923 ac Storage= 2.420 af

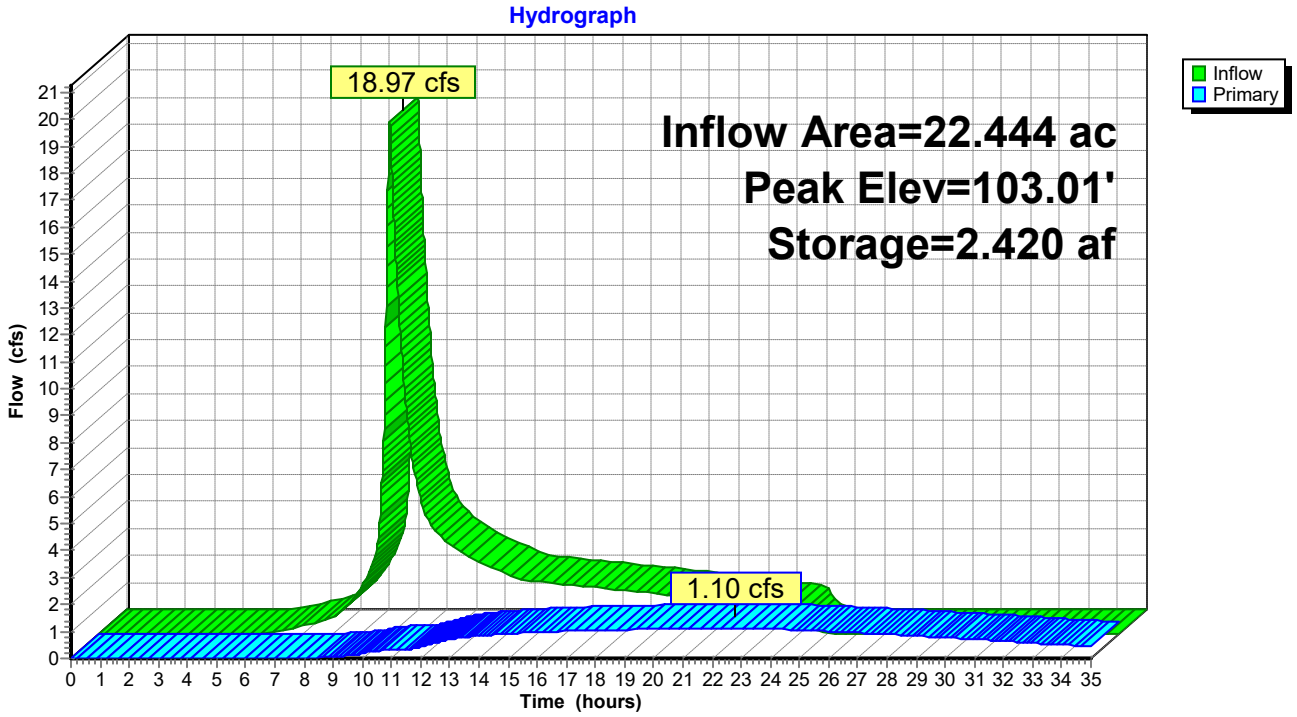
Plug-Flow detention time= 730.7 min calculated for 1.756 af (51% of inflow)
Center-of-Mass det. time= 530.8 min (1,345.1 - 814.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	4.423 af	**100.00'W x 300.00'L x 5.00'H Prismatoid Z=4.0**

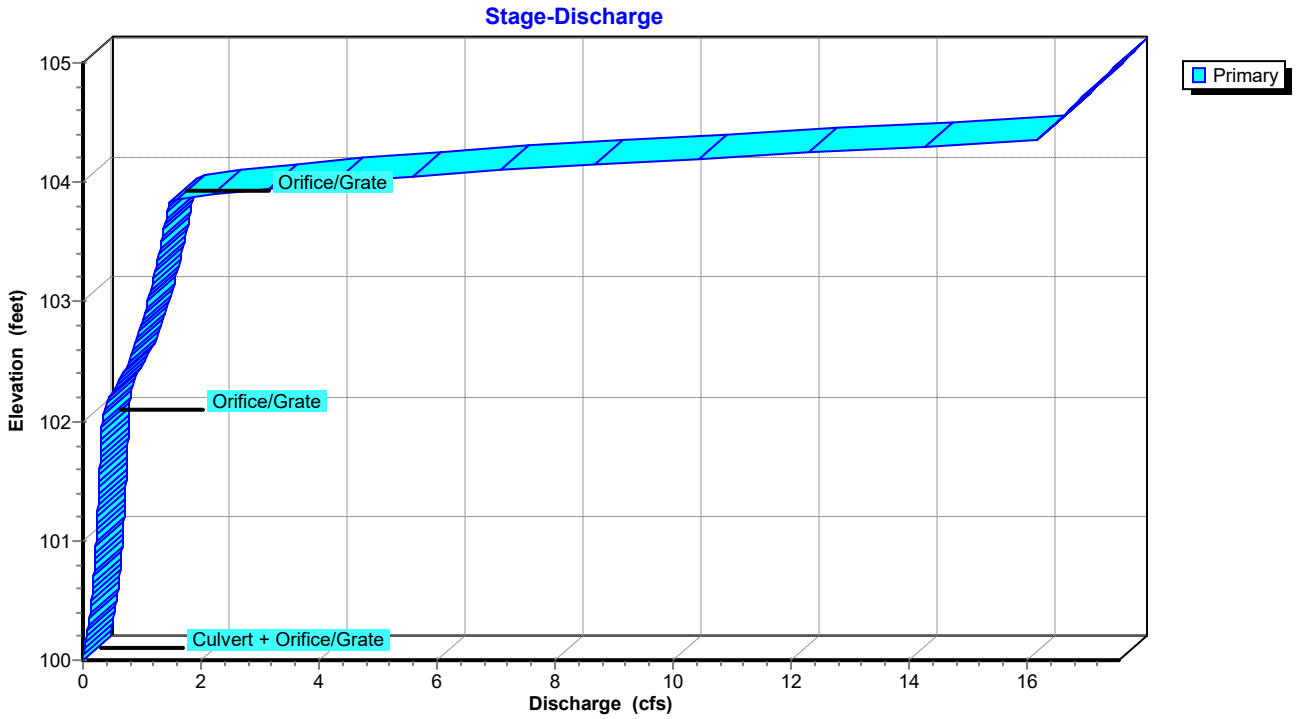
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	103.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	102.00'	**5.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.10 cfs @ 22.30 hrs HW=103.01' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.10 cfs of 12.80 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.40 cfs @ 8.18 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.70 cfs @ 4.26 fps)

Pond D5: Detention Basin 5



Pond D5: Detention Basin 5



Stage-Discharge for Pond D5: Detention Basin 5

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	0.86
100.05	0.01	102.65	0.89
100.10	0.02	102.70	0.92
100.15	0.04	102.75	0.96
100.20	0.06	102.80	0.99
100.25	0.08	102.85	1.02
100.30	0.10	102.90	1.04
100.35	0.11	102.95	1.07
100.40	0.12	103.00	1.10
100.45	0.13	103.05	1.12
100.50	0.14	103.10	1.15
100.55	0.15	103.15	1.17
100.60	0.16	103.20	1.20
100.65	0.17	103.25	1.22
100.70	0.18	103.30	1.24
100.75	0.19	103.35	1.27
100.80	0.19	103.40	1.29
100.85	0.20	103.45	1.31
100.90	0.21	103.50	1.33
100.95	0.21	103.55	1.35
101.00	0.22	103.60	1.37
101.05	0.23	103.65	1.39
101.10	0.23	103.70	1.41
101.15	0.24	103.75	1.43
101.20	0.25	103.80	1.45
101.25	0.25	103.85	1.58
101.30	0.26	103.90	2.21
101.35	0.26	103.95	3.14
101.40	0.27	104.00	4.27
101.45	0.27	104.05	5.59
101.50	0.28	104.10	7.06
101.55	0.28	104.15	8.68
101.60	0.29	104.20	10.42
101.65	0.29	104.25	12.29
101.70	0.30	104.30	14.27
101.75	0.30	104.35	16.14
101.80	0.31	104.40	16.26
101.85	0.31	104.45	16.37
101.90	0.31	104.50	16.48
101.95	0.32	104.55	16.59
102.00	0.32	104.60	16.70
102.05	0.34	104.65	16.80
102.10	0.36	104.70	16.91
102.15	0.40	104.75	17.02
102.20	0.45	104.80	17.12
102.25	0.50	104.85	17.23
102.30	0.56	104.90	17.33
102.35	0.62	104.95	17.44
102.40	0.69	105.00	**17.54**
102.45	0.74		
102.50	0.78		
102.55	0.82		

Summary for Pond D7: Detention Basin 7

Inflow Area = 80.101 ac, 0.00% Impervious, Inflow Depth = 1.49" for 10 year event
Inflow = 47.58 cfs @ 9.99 hrs, Volume= 9.937 af
Outflow = 4.16 cfs @ 20.74 hrs, Volume= 6.825 af, Atten= 91%, Lag= 645.4 min
Primary = 4.16 cfs @ 20.74 hrs, Volume= 6.825 af
Routed to Reach 7R : Collection Point 7

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
Peak Elev= 105.07' @ 20.74 hrs Surf.Area= 1.377 ac Storage= 5.763 af

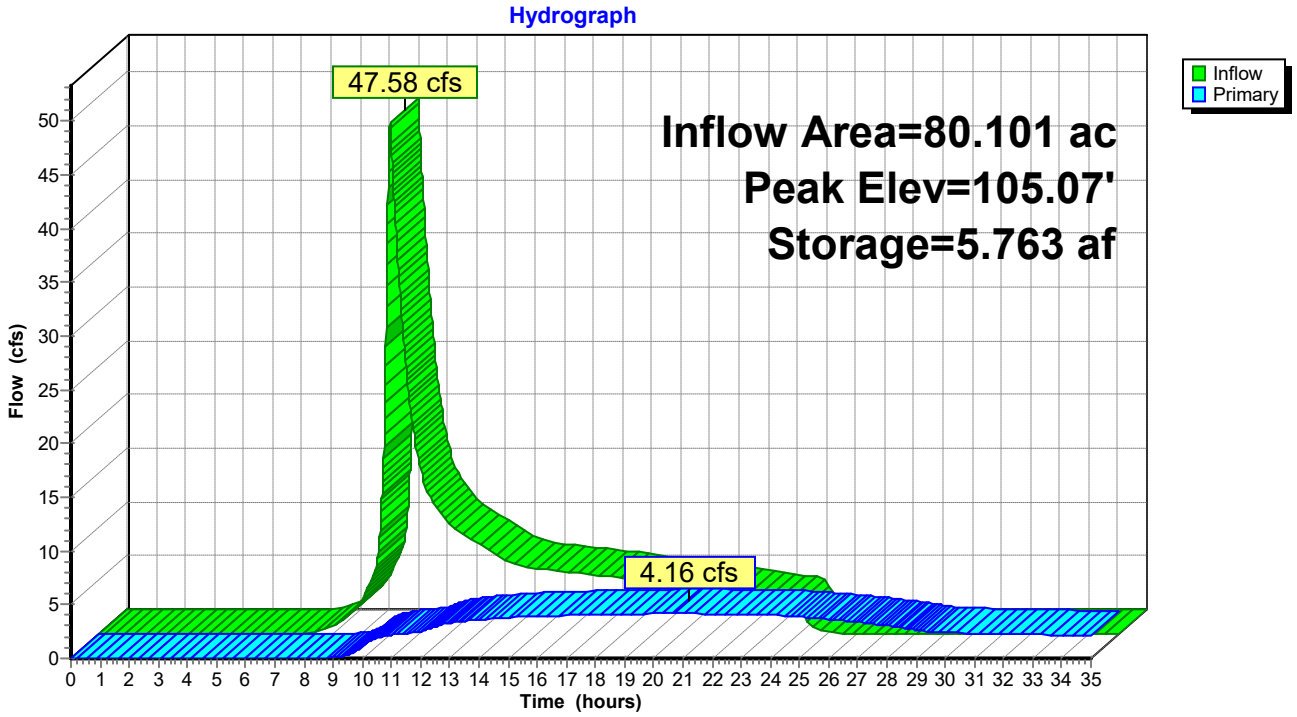
Plug-Flow detention time= 617.8 min calculated for 6.823 af (69% of inflow)
Center-of-Mass det. time= 467.1 min (1,309.1 - 842.0)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	11.095 af	**115.00'W x 345.00'L x 8.50'H Prismatoid Z=4.0**

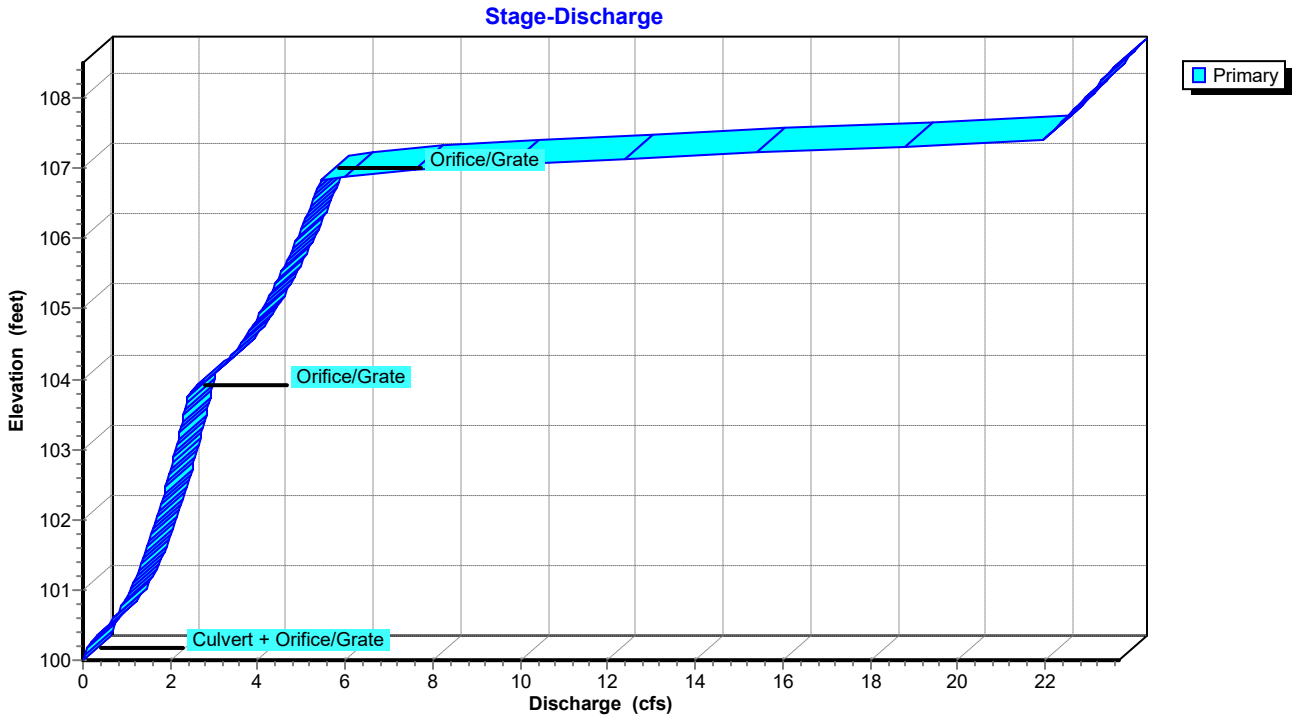
Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**18.0" Round Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 100.00' / 99.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	106.83'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	100.00'	**7.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.75'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.16 cfs @ 20.74 hrs HW=105.07' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.16 cfs of 17.68 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 2.81 cfs @ 10.52 fps)
  └─**4=Orifice/Grate** (Orifice Controls 1.35 cfs @ 5.16 fps)

Pond D7: Detention Basin 7



Pond D7: Detention Basin 7



Stage-Discharge for Pond D7: Detention Basin 7

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
100.00	0.00	102.60	1.96	105.20	4.28	107.80	22.59
100.05	0.01	102.65	1.98	105.25	4.32	107.85	22.67
100.10	0.03	102.70	2.00	105.30	4.36	107.90	22.75
100.15	0.07	102.75	2.02	105.35	4.40	107.95	22.83
100.20	0.12	102.80	2.04	105.40	4.44	108.00	22.91
100.25	0.19	102.85	2.06	105.45	4.48	108.05	22.99
100.30	0.26	102.90	2.08	105.50	4.52	108.10	23.07
100.35	0.34	102.95	2.10	105.55	4.56	108.15	23.15
100.40	0.42	103.00	2.12	105.60	4.60	108.20	23.22
100.45	0.51	103.05	2.14	105.65	4.64	108.25	23.30
100.50	0.59	103.10	2.16	105.70	4.68	108.30	23.38
100.55	0.66	103.15	2.18	105.75	4.71	108.35	23.46
100.60	0.71	103.20	2.19	105.80	4.75	108.40	23.53
100.65	0.77	103.25	2.21	105.85	4.79	108.45	23.61
100.70	0.82	103.30	2.23	105.90	4.82	108.50	**23.69**
100.75	0.87	103.35	2.25	105.95	4.86		
100.80	0.92	103.40	2.27	106.00	4.89		
100.85	0.96	103.45	2.29	106.05	4.93		
100.90	1.00	103.50	2.30	106.10	4.96		
100.95	1.04	103.55	2.32	106.15	5.00		
101.00	1.08	103.60	2.34	106.20	5.03		
101.05	1.12	103.65	2.36	106.25	5.07		
101.10	1.16	103.70	2.38	106.30	5.10		
101.15	1.19	103.75	2.39	106.35	5.13		
101.20	1.23	103.80	2.43	106.40	5.17		
101.25	1.26	103.85	2.50	106.45	5.20		
101.30	1.29	103.90	2.60	106.50	5.23		
101.35	1.32	103.95	2.71	106.55	5.26		
101.40	1.35	104.00	2.84	106.60	5.30		
101.45	1.38	104.05	2.96	106.65	5.33		
101.50	1.41	104.10	3.05	106.70	5.36		
101.55	1.44	104.15	3.14	106.75	5.39		
101.60	1.47	104.20	3.21	106.80	5.42		
101.65	1.50	104.25	3.29	106.85	5.57		
101.70	1.53	104.30	3.36	106.90	6.21		
101.75	1.55	104.35	3.42	106.95	7.15		
101.80	1.58	104.40	3.48	107.00	8.30		
101.85	1.61	104.45	3.54	107.05	9.63		
101.90	1.63	104.50	3.60	107.10	11.11		
101.95	1.66	104.55	3.66	107.15	12.74		
102.00	1.68	104.60	3.71	107.20	14.50		
102.05	1.71	104.65	3.77	107.25	16.38		
102.10	1.73	104.70	3.82	107.30	18.37		
102.15	1.75	104.75	3.87	107.35	20.47		
102.20	1.78	104.80	3.92	107.40	21.94		
102.25	1.80	104.85	3.97	107.45	22.02		
102.30	1.82	104.90	4.01	107.50	22.11		
102.35	1.85	104.95	4.06	107.55	22.19		
102.40	1.87	105.00	4.10	107.60	22.27		
102.45	1.89	105.05	4.15	107.65	22.35		
102.50	1.91	105.10	4.19	107.70	22.43		
102.55	1.93	105.15	4.24	107.75	22.51		

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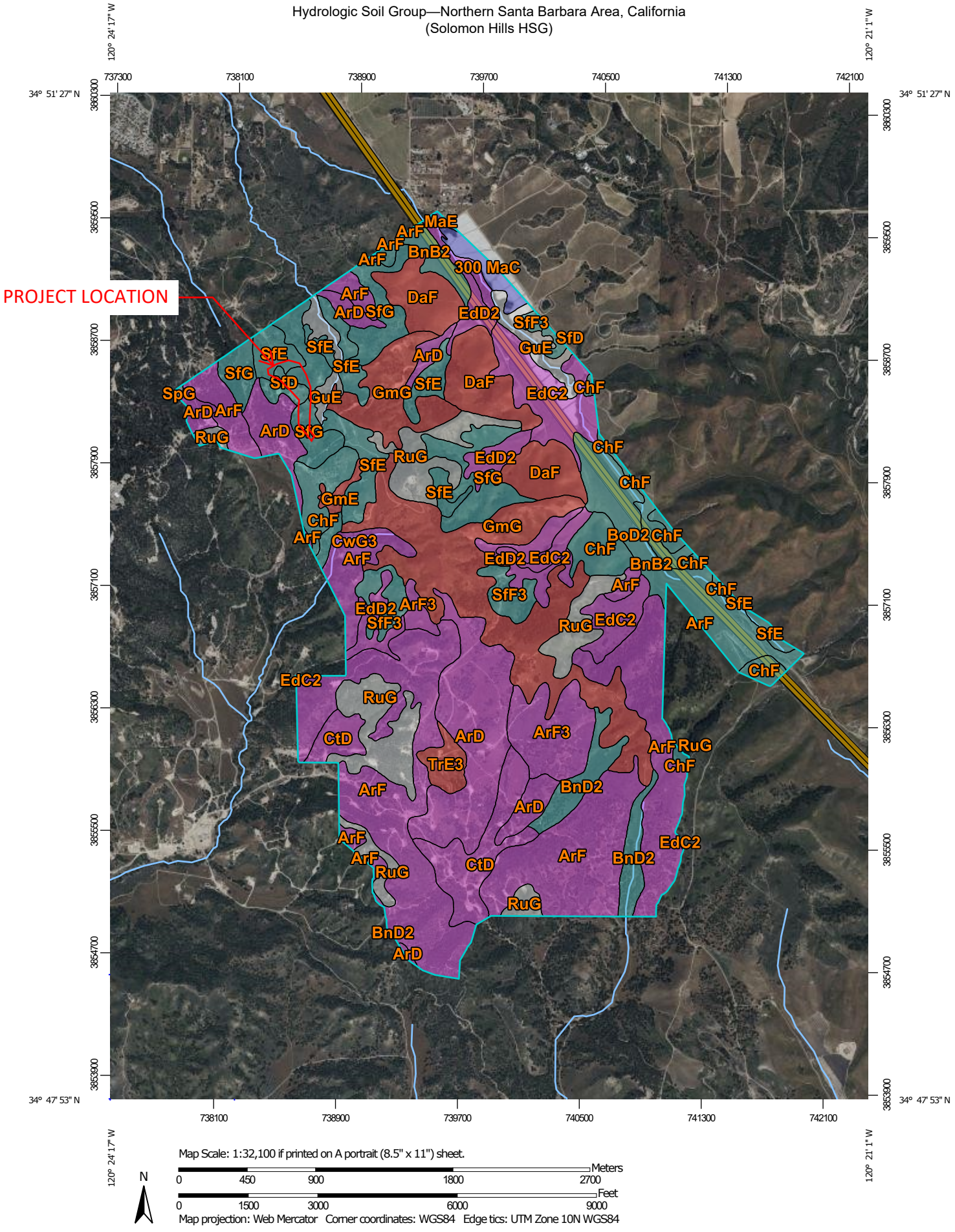
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Appendices

Appendix I

NRCS Soil Survey

Hydrologic Soil Group—Northern Santa Barbara Area, California
(Solomon Hills HSG)



Map Scale: 1:32,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 450 900 1800 2700

Feet: 0 1500 3000 6000 9000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Northern Santa Barbara Area, California
Survey Area Data: Version 19, Sep 9, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 12, 2022—Apr 12, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
300	Corducci and Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	A	11.9	0.5%
ArD	Arnold sand, 5 to 15 percent slopes	A	223.8	9.0%
ArF	Arnold sand, 15 to 45 percent slopes	A	586.8	23.6%
ArF3	Arnold sand, 9 to 45 percent slopes, severely eroded	A	77.6	3.1%
BnB2	Betteravia loamy sand, dark variant, 0 to 5 percent slopes, eroded	C	131.5	5.3%
BnD2	Betteravia loamy sand, dark variant, 5 to 15 percent slopes, eroded	C	54.3	2.2%
BoD2	Botella loam, 2 to 15 percent slopes, eroded	C	17.0	0.7%
ChF	Chamise shaly loam, 15 to 45 percent slopes	C	85.9	3.5%
CtD	Corralitos sand, 2 to 15 percent slopes	A	87.7	3.5%
CwG3	Crow Hill loam, 15 to 75 percent slopes, severely eroded	C	6.7	0.3%
DaF	Diablo silty clay, 30 to 45 percent slopes	D	137.6	5.5%
EdC2	Elder sandy loam, 2 to 9 percent slopes, eroded	A	114.5	4.6%
EdD2	Elder sandy loam, 9 to 15 percent slopes, eroded	A	77.7	3.1%
GmE	Gaviota sandy loam, 15 to 30 percent slopes, MLRA 15	D	8.1	0.3%
GmG	Gaviota sandy loam, 30 to 75 percent slopes	D	308.6	12.4%
GuE	Gullied land		41.8	1.7%
MaC	Marina sand, 2 to 9 percent slopes	B	18.0	0.7%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MaE	Marina sand, 9 to 30 percent slopes	B	2.2	0.1%
RuG	Rough broken land		166.9	6.7%
SfD	San Andreas-Tierra complex, 5 to 15 percent slopes	C	15.1	0.6%
SfE	San Andreas-Tierra complex, 15 to 30 percent slopes	C	103.2	4.2%
SfF3	San Andreas-Tierra complex, 9 to 45 percent slopes, severely eroded	C	45.6	1.8%
SfG	San Andreas-Tierra complex, 30 to 75 percent slopes	C	141.4	5.7%
SpG	Sedimentary rock land		0.7	0.0%
TrE3	Tierra loam, 5 to 30 percent slopes, severely eroded	D	20.4	0.8%
Totals for Area of Interest			**2,485.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

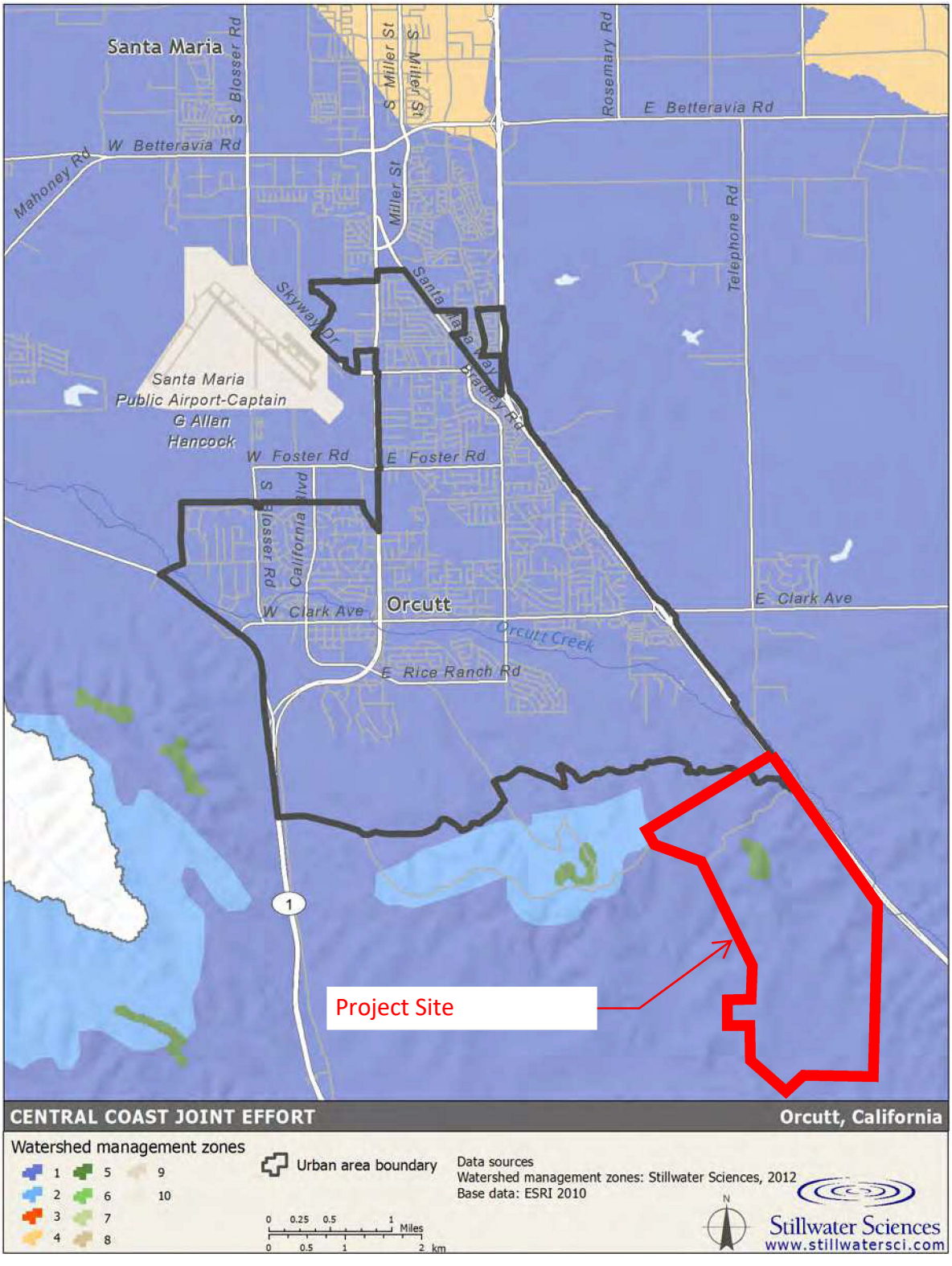
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix 2

WMZ Map


Santa Maria
S Blosser Rd
S Miller St
Rosemary Rd
E Betteravia Rd
W Betteravia Rd
Mahoney Rd
Miller St
Telephone Rd
Skyway Dr
Santa Maria Way
Bradley Rd
Santa Maria Public Airport-Captain G Allan Hancock
W Foster Rd
E Foster Rd
S Blosser Rd
California Blvd
W Clark Ave
Orcutt
E Clark Ave
Orcutt Creek
E Rice Ranch Rd
1
Project Site
CENTRAL COAST JOINT EFFORT
Orcutt, California
Watershed management zones
1
2
3
4
5
6
7
8
9
10
Urban area boundary
0 0.25 0.5 1 Miles
0 0.5 1 2 km
Data sources
Watershed management zones: Stillwater Sciences, 2012
Base data: ESRI 2010
N
Stillwater Sciences
www.stillwatersci.com

Solomon Hills Water Supply Fact Sheet – CADIZ Water Company (September 2025)

About Solstra Communities California, LLC

Solstra Communities California, LLC is a U.S.-based company backed by private investors dedicated to creating thoughtful, sustainable, resilient communities through the repurposing and revitalizing of unique properties such as Solomon Hills. Solstra leadership has a demonstrated track record of creating sustainable neighborhoods, engaging in extensive community collaboration efforts, and managing complex, long-term projects in Denmark and throughout Europe. They have assembled a local project team, along with international sustainability experts, to guide them in creating a model sustainable community for Santa Barbara County's working families. Solstra purchased Pacific Coast Energy Company (PCEC) and its assets in 2019. The acquisition included the 1,616-acre Solomon Hills area in northern Santa Barbara County. For more information, please visit https://solomonhillsca.com/.

About Cadiz, Inc.

Founded in 1983, Cadiz, Inc. (NASDAQ: CDZI) is a California water solutions company dedicated to providing access to clean, reliable and affordable water for people through a unique combination of water supply, storage, pipeline and treatment solutions. With 45,000 acres of land in California, 2.5 million acre-feet of water supply, 220 miles of pipeline assets and the most cost-effective water treatment filtration technology in the industry, Cadiz offers a full suite of solutions to address the impacts of climate change on clean water access.

In the early '90s, Cadiz secured the first permits and approvals to capture groundwater before it is lost to evaporation and put it to beneficial use for agriculture. Cadiz began sustainable farming 9,600 acres in the arid Cadiz Valley, growing a variety of crops including lemons, alfalfa and hemp. In 1998, Cadiz began an environmental review and permitting process to authorize the use of the Cadiz aquifer as a groundwater storage bank to store surplus water from the Colorado River, which began the Cadiz Water Project. In 2008, we purchased a 99-year lease of land along the California-Arizona Railroad to build a 43-mile water pipeline that connects our groundwater storage bank to the Colorado River Aqueduct. In 2011 we purchased the first stretch of a 220-mile pipeline from El Paso Natural Gas and completed purchase of the entire pipeline in 2020. The pipeline stretches

from Cadiz to Bakersfield, California. We are currently in the process of converting the pipeline for transportation of water. This is the first known project converting a fossil fuel pipeline to transport water. In 2022 we acquired ATEC Systems, a water filtration technology company, which will allow Cadiz to bring scalable, low-cost filtration to local water supplies.

Supply Terms

Under the terms of the Solstra Agreement, water supply of up to 1,274 acre feet will be made available to Solstra via the Coastal Branch of the State Water Project through an exchange with one or more contractors of the California State Water Project. Cadiz expects to receive net revenue of approximately $850 per AF in 2024 dollars for water purchased by Solstra over the contract term. The duration of the contract term is for forty years with a renewable option for another forty years.

The Company's Northern Pipeline has a delivery capacity of 25,000 AFY. Following execution of the Solstra Agreement, approximately 65% of the delivery capacity of the Northern Pipeline, or 16,175 AFY, has been reserved under water supply agreements, with the remaining capacity in the final stages of contracting.

The Company anticipates final development of the Northern Pipeline conversion project will occur in 2025, with construction beginning in 2026 and commencement of water delivery as early as 2027.

Solomon Hills Water Supply and Conveyance Fact Sheet

Central Coast Water Authority "CCWA"

(September 2025)

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About Central Coast Water Authority "CCWA"

The Central Coast Water Authority (CCWA) is a public entity organized under a joint exercise of powers agreement dated August 1, 1991, by the cities and special districts responsible for the creation and maintenance of water resources in portions of the North County, Santa Ynez Valley, and the South Coast areas of Santa Barbara County.

CCWA is presently composed of eight members, all of which are public agencies. Each member agency is represented on the CCWA Board of Directors by one individual and an alternate. In addition, CCWA has one associate member, the La Cumbre Mutual Water Company and two non-member, private water users, Raytheon, Inc., and Morehart Land Company. Water service is also provided to Golden State Water Company and Vandenberg Air Force Base.

CCWA owns and operates a water treatment plant and pipeline that delivers water from the State Water Project to project participants in Santa Barbara and San Luis Obispo Counties. The distribution system consists of an approximate 130 mile long pipeline, treated water tanks at the water treatment plant, three interim storage facilities, one energy dissipation facility, nine turnouts, four isolation valve facilities, a chloramines removal and water pumping facility and Lake Cachuma inlet monitoring facility.

Supply and Conveyance Terms

Solstra is working with several members of the Central Coast Water Authority to purchase between 1,275 to 1,400 AF of Table "A" water and similar Conveyance Capacity in the Coastal Branch pipeline. Under the terms of a Solstra Agreement, Solstra will purchase the supply and conveyance in four phases to coincide with its four phases of development. A final agreement will need the approval of the CCWA membership. The purchase agreement will require Solstra to assume all fixed and variable charges from CCWA for the amount of Table A water and Conveyance purchased. In addition, Solstra will pay an acquisition fee for the transfer to the member selling the rights.

Fixed acquisition and conveyance costs for members generally range from $1,350 to $1,450 per Acre Foot and variable operating costs range from $400 to $850 per Acre Foot.

Agency	Table "A" Amt
Guadalupe	550
Santa Maria	16,200
Golden State	500
VSFB	5,500
Buellton	178
Santa Ynez (Solvang)	1,500
Santa Ynez	500
Goleta	4,500
Morehart	200
La Cumbre	1,000
Raytheon	50
Santa Barbara	3,000
Montecito	3,000
Carpinteria	2,000

FILE NAME: 1703-0001-TITL.DWG Plot Date: 7/25/2025

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES 0 1 2 3

SHEET INDEX

SHEET No.	SHEET ID	DESCRIPTION
1	T-1	TITLE SHEET
2-21	W-1 TO W-20	WATER SUPPLY PIPELINE PLAN
22-23	C-1 TO C-2	PUMP STATION SITE PLAN

LEGEND

PROPERTY LINE

WL WATER LINE

SOLSTRA CALIFORNIA LLC

SOLOMON HILLS DEVELOPMENT
OFF-SITE WATER, GAS, AND TELECOMMUNICATIONS
IN SANTA BARBARA COUNTY

OWNER & APPLICANT

KLAUS HASBO
SOLSTRA COMMUNITIES CALIFORNIA, LLC
1555 ORCUTT HILLS ROAD
ORCUTT, CA 93455

CONTACT PERSON:
PETER KIESECKER
PHONE: (805) 937-2576

PREPARED BY

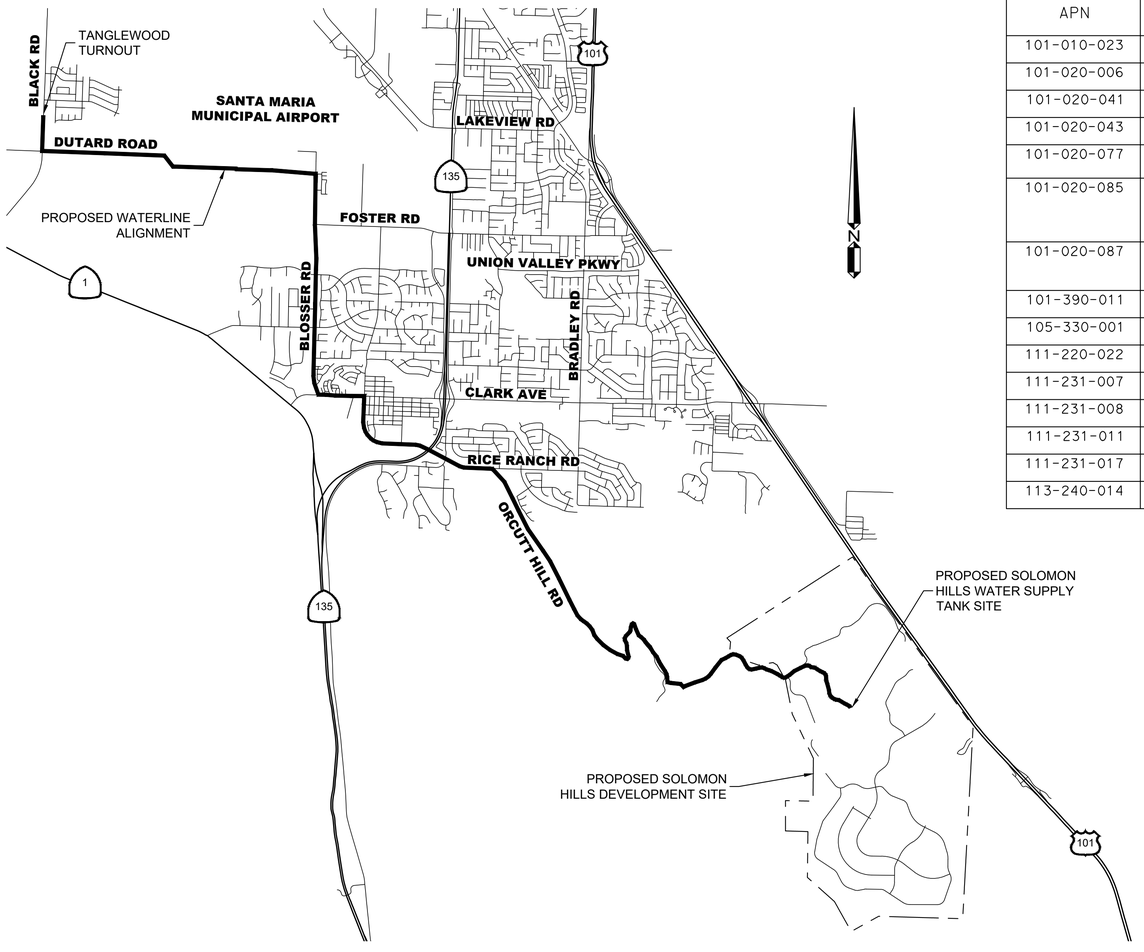
WALLACE GROUP
612 CLARION COURT
SAN LUIS OBISPO, CA 93401

CONTACT PERSON(S):
BRAD BRECHWALD, P.E., GREG HULBURD, P.E.
PHONE: (805) 544-4011

PROJECT DESCRIPTION

WATER SUPPLIED BY GOLDEN STATE WATER COMPANY WILL BE DELIVERED TO THE SOLOMON HILLS DEVELOPMENT VIA A 10.2-MILE, PROPOSED 16" DIAMETER DUCTILE IRON PIPELINE FROM THE EXISTING STATE WATER PROJECT TURNOUT LOCATED SOUTHWEST OF THE TANGLEWOOD DEVELOPMENT ON BLACK ROAD. THE PIPELINE RUNS THROUGH EXISTING PUBLIC UTILITY EASEMENTS WITHIN THE PUBLIC RIGHT OF WAY AND EXISTING EASEMENTS HELD BY LAGUNA COUNTY SANITATION DISTRICT (LCSD) AND PACIFIC COAST ENERGY COMPANY (PCEC). THE PIPELINE WOULD DELIVER WATER TO THE PROPOSED DOMESTIC WATER SUPPLY TANK SITE LOCATED ON THE SADDLE OF SOLOMON HILLS PEAK.

TWO BOOSTER PUMP STATIONS WILL DELIVER WATER FROM THE TANGLEWOOD TURNOUT LOCATION TO THE SOLOMON HILLS WATER SUPPLY STORAGE TANKS: ONE AT A PARCEL ON CLARK AVENUE (APN 105-330-001) AND ONE ON A PCEC-OWNED PARCEL ON ORCUTT HILL ROAD (APN 101-020-077). EACH PUMP STATION WILL BE HOUSED WITHIN A CLOSED BUILDING APPROXIMATELY 20 FEET BY 40 FEET IN DIMENSION WITH A TOTAL SITE FOOTPRINT OF APPROXIMATELY 13,000 SQUARE FEET TO ACCOMMODATE SITE ACCESS AND ANCILLARY FACILITIES.



VICINITY MAP
1" = 3000'

PROJECT PARCELS

APN	STATION	SHEET
101-010-023	Sta 348+99 TO Sta 389+37	W-13, W-14, W-15
101-020-006	Sta 424+99 TO Sta 426+66	W-16
101-020-041	Sta 441+45 TO Sta 444+57	W-16
101-020-043	Sta 438+64 TO Sta 441+45	W-16
101-020-077	Sta 389+37 TO Sta 424+99 Sta 426+66 TO Sta 438+64	W-15, W-16, C-2
101-020-085	Sta 444+57 TO Sta 477+28 Sta 479+43 TO Sta 502+13 Sta 520+25 TO Sta 530+45 Sta 537+39 TO Sta 539+14	W-16, W-17, W-18, W-19, W-20
101-020-087	Sta 477+28 TO Sta 479+43 Sta 502+13 TO Sta 520+25 Sta 530+45 TO Sta 537+39	W-18, W-19, W-20
101-390-011	Sta 309+43 TO Sta 348+99	W-12, W-13
105-330-001	Sta 232+26	W-9, C-1
111-220-022	Sta 24+61 TO Sta 72+14	W-1, W-2, W-3
111-231-007	Sta 73+00 TO Sta 86+60	W-3, W-4
111-231-008	Sta 86+60 TO Sta 119+22	W-4, W-5, W-6
111-231-011	Sta 119+22 TO Sta 154+55	W-5, W-6
111-231-017	Sta 72+15 TO Sta 73+18	W-3
113-240-014	Sta 10+00	W-1

ESTIMATED EARTHWORK QUANTITIES

SITE	CUT, CY	FILL, CY	NET CUT/FILL, CY
TURNOUT	100	0	-100
PUMP STATION 1	25	105	80
PUMP STATION 2	130	550	420

UTILITY	TOTAL EXCAVATION, CY	*EXPORT, CY	**IMPORTED MATERIALS, CY
WATER	32,510	7,520	24,990
GAS	6,490	2,890	2,750
TELECOMM	5,530	2,750	2,520

*EXPORT = TOTAL EX. - NATIVE BACKFILL
**IMPORTED MATERIALS INCLUDES SAND BEDDING, SLURRY BACKFILL (WHERE APPLICABLE) AND HMA

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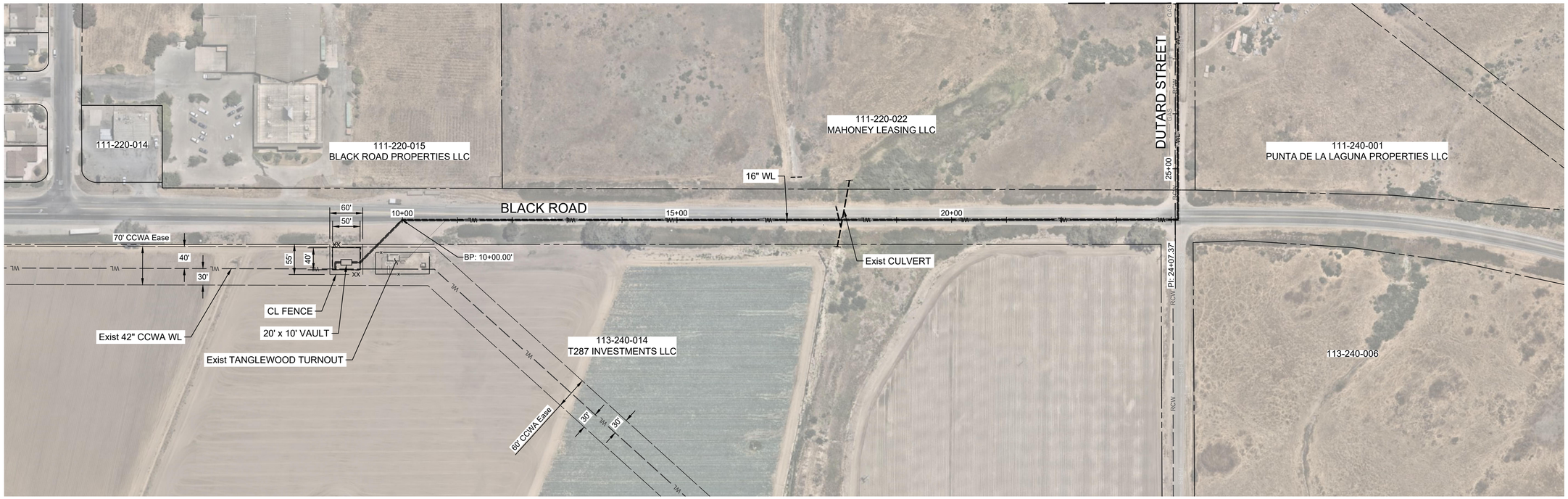
SOLSTRA CALIFORNIA LLC
SOLOMON HILLS DEVELOPMENT
TITLE SHEET

JOB #: 1703-0001
DESIGNERS: GH
DRAWN BY: ZVC
DATE: 07/25/25

DRAWING NO.
T-1
1 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES 0 1 2 3

STA: 28+00
MATCHLINE



PARCEL INFORMATION	
APN	STATION
111-220-022	Sta 24+61 TO Sta 72+14
113-240-014	Sta 10+00

GRAPHIC SCALE
0 50' 100' 200'
(IN FEET)
1 IN = 100 FT

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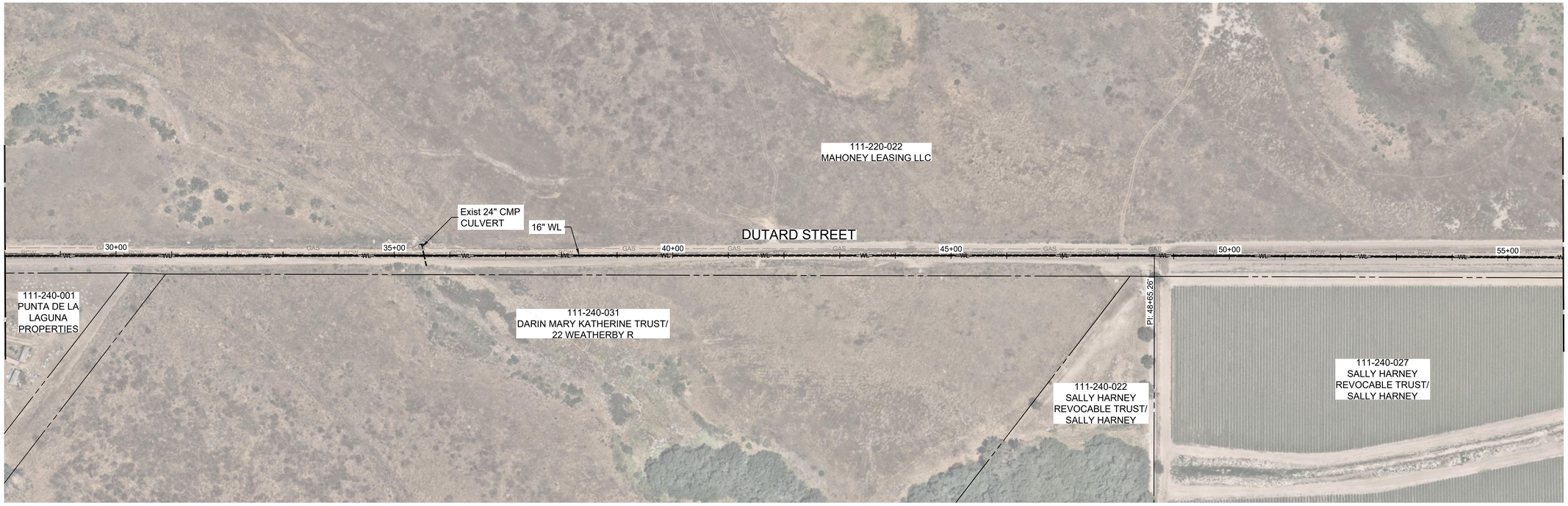
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WATER LINE LAYOUT

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W-1
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0 1 2 3



PARCEL INFORMATION	
APN	STATION
111-220-022	Sta 24+61 TO Sta 72+14

GRAPHIC SCALE
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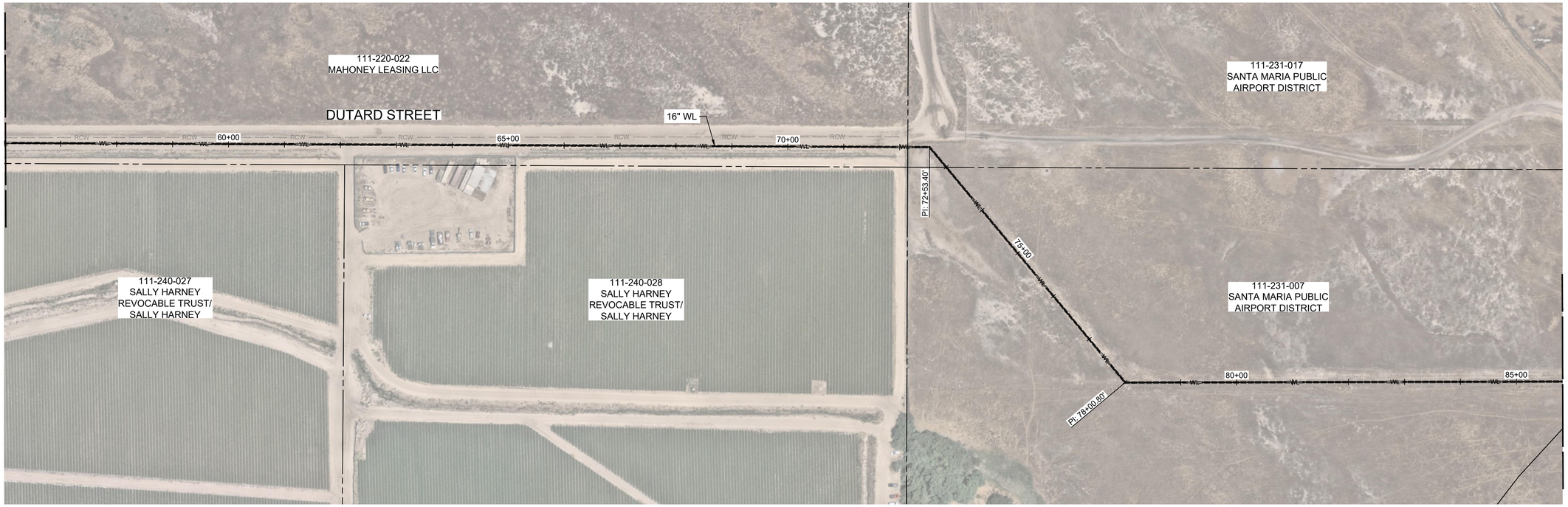
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0 1 2 3



PARCEL INFORMATION	
APN	STATION
111-220-022	Sta 24+61 TO Sta 72+14
111-231-007	Sta 73+00 TO Sta 86+60
111-231-017	Sta 72+14 TO Sta 73+00

GRAPHIC SCALE
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(IN FEET)
1 IN = 100 FT

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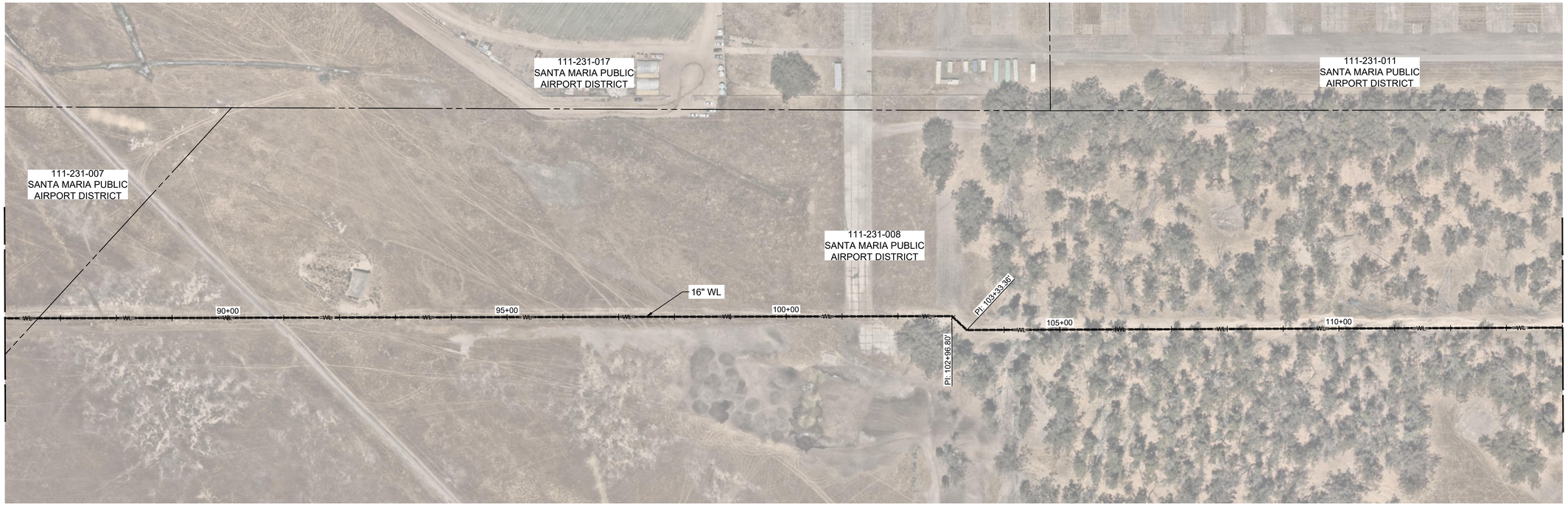
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W-3
4 OF 23 SHEETS

FOR REDUCED PLANS
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0 1 2 3



PARCEL INFORMATION	
APN	STATION
111-231-007	Sta 73+00 TO Sta 86+60
111-231-008	Sta 86+60 TO Sta 119+22

GRAPHIC SCALE
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5 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION	
APN	STATION
111-231-008	Sta 86+60 TO Sta 119+22
111-231-011	Sta 119+22 TO Sta 154+55

GRAPHIC SCALE
0 50' 100' 200'
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W-5
6 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION

APN	STATION
111-231-008	Sta 86+78 TO Sta 119+39
111-231-011	Sta 119+22 TO Sta 154+55

GRAPHIC SCALE
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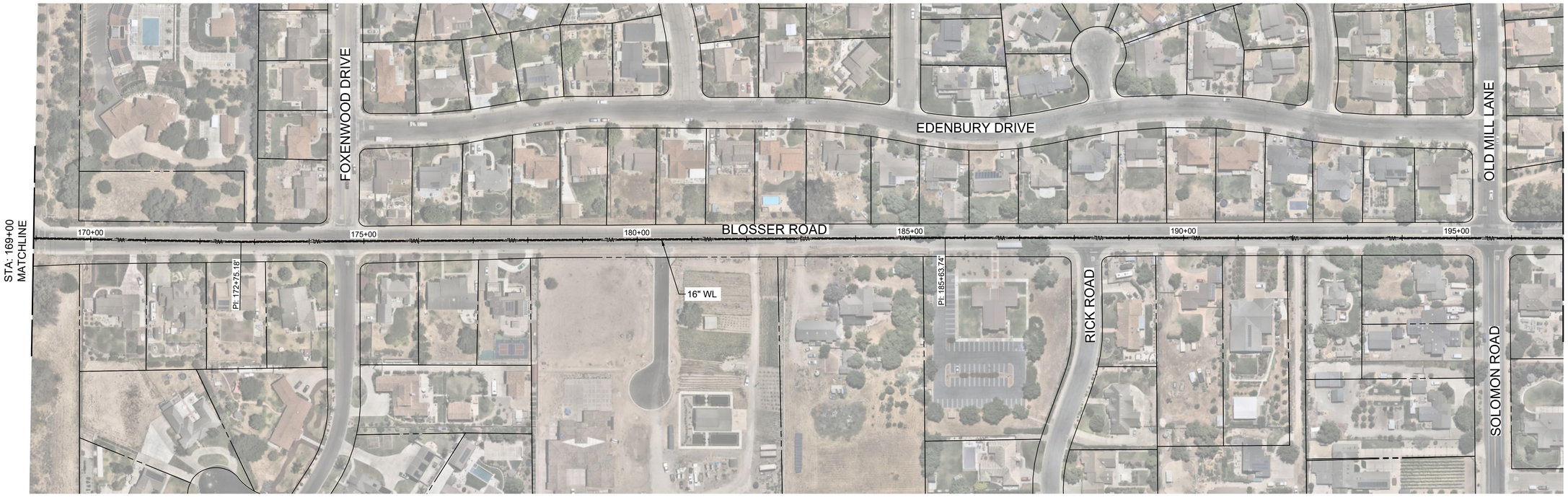
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SOLOMON HILLS DEVELOPMENT
WATER LINE LAYOUT

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DRAWING NO.
W-6
7 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



GRAPHIC SCALE
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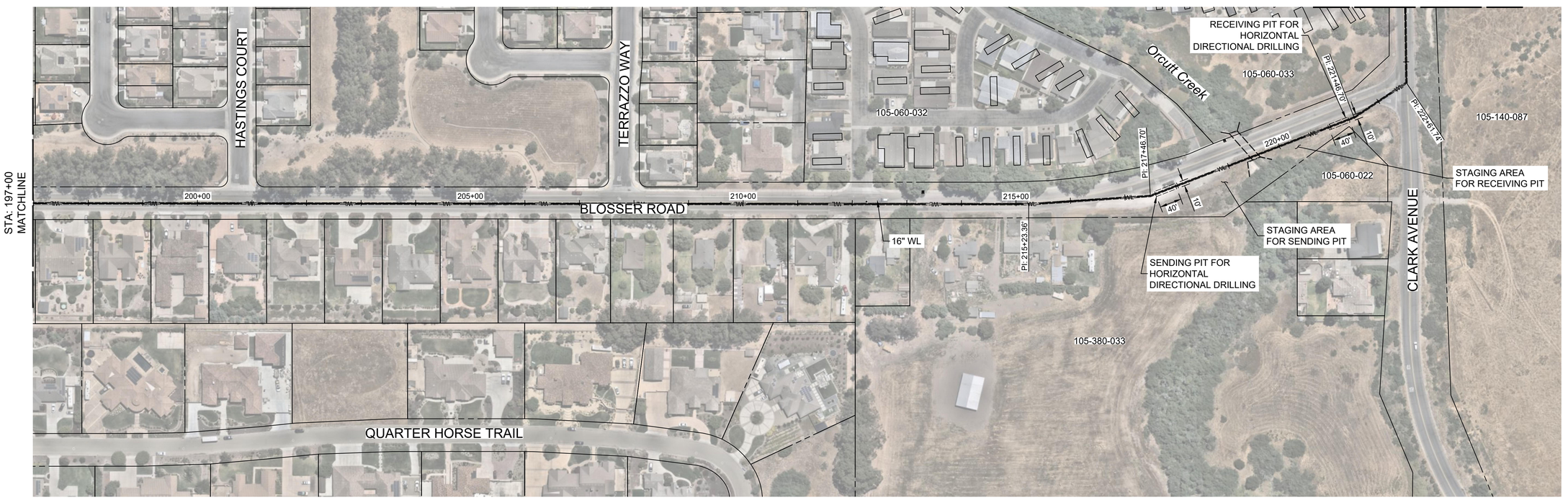
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SOLSTRA CALIFORNIA LLC
SOLOMON HILLS DEVELOPMENT
WATER LINE LAYOUT

JOB #: 1703-0001
DESIGNERS: GH
DRAWN BY: ZVC
DATE: 07/25/25

DRAWING NO.
W-7
8 OF 21 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



GRAPHIC SCALE
0 50' 100' 200'
(IN FEET)
1 IN = 100 FT

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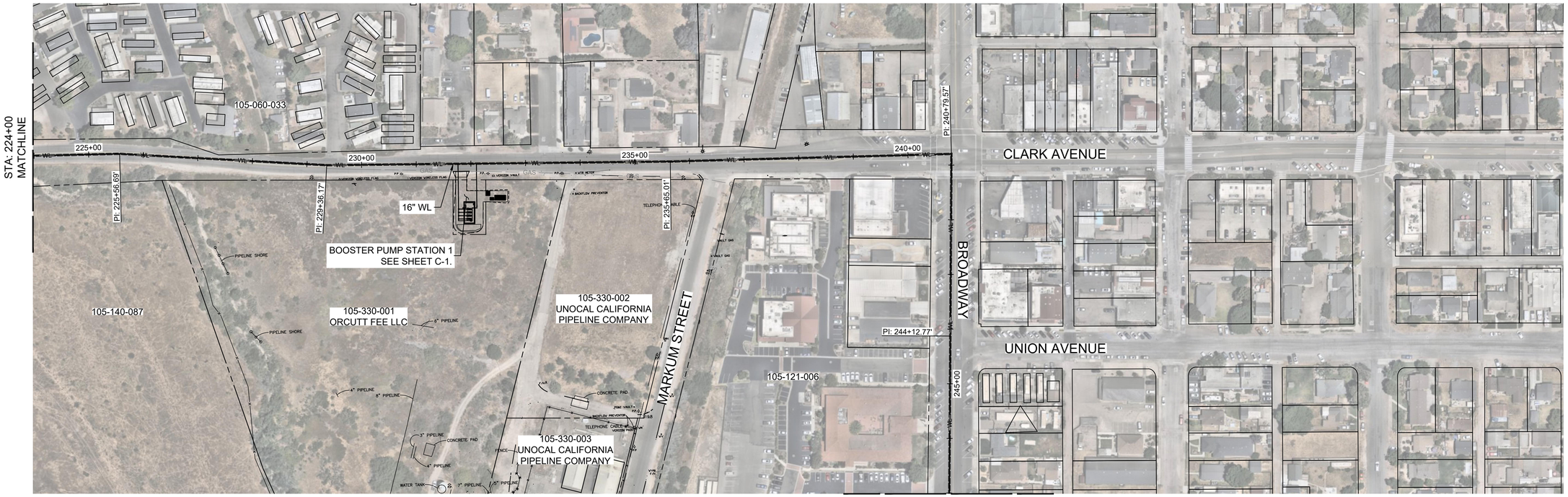
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WATER LINE LAYOUT

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DRAWN BY: ZVC
DATE: 07/25/25

DRAWING NO.
W-8
9 OF 21 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



MATCHLINE
STA: 247+00

PARCEL INFORMATION	
APN	STATION
105-330-001	Sta 232+00

GRAPHIC SCALE
0 50' 100' 200'
(IN FEET)
1 IN = 100 FT

N

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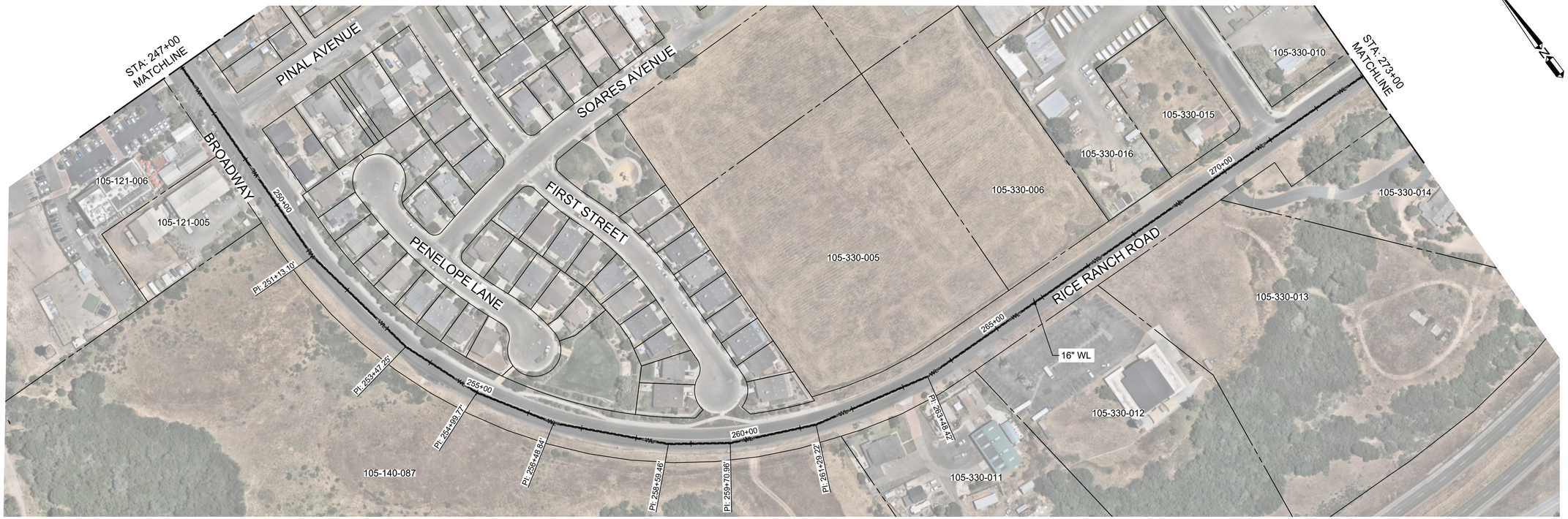
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SOLOMON HILLS DEVELOPMENT
WATER LINE LAYOUT

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DESIGNERS: GH
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DATE: 07/25/25

DRAWING NO.
W-9
10 OF 21 SHEETS

FOR REDUCED PLANS
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0 1 2 3



GRAPHIC SCALE
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(IN FEET)
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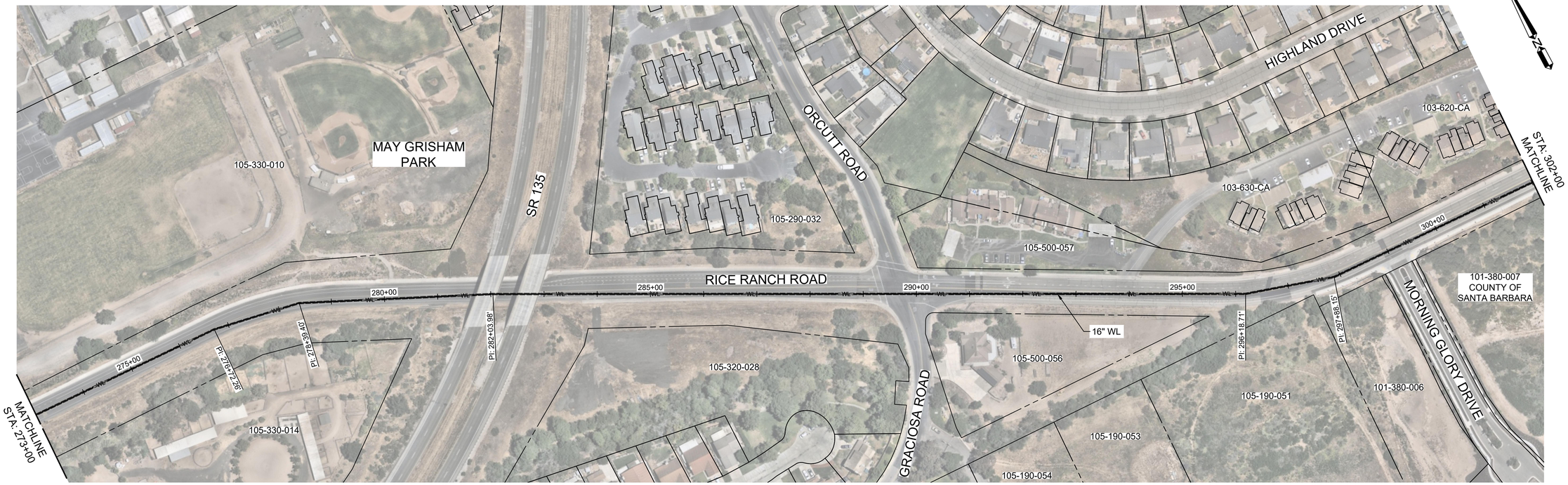
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SOLOMON HILLS DEVELOPMENT
WATER LINE LAYOUT

JOB #: 1703-0001
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DRAWN BY: ZVC
DATE: 07/25/25

DRAWING NO.
W-10
11 OF 21 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



GRAPHIC SCALE
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(IN FEET)
1 IN = 100 FT

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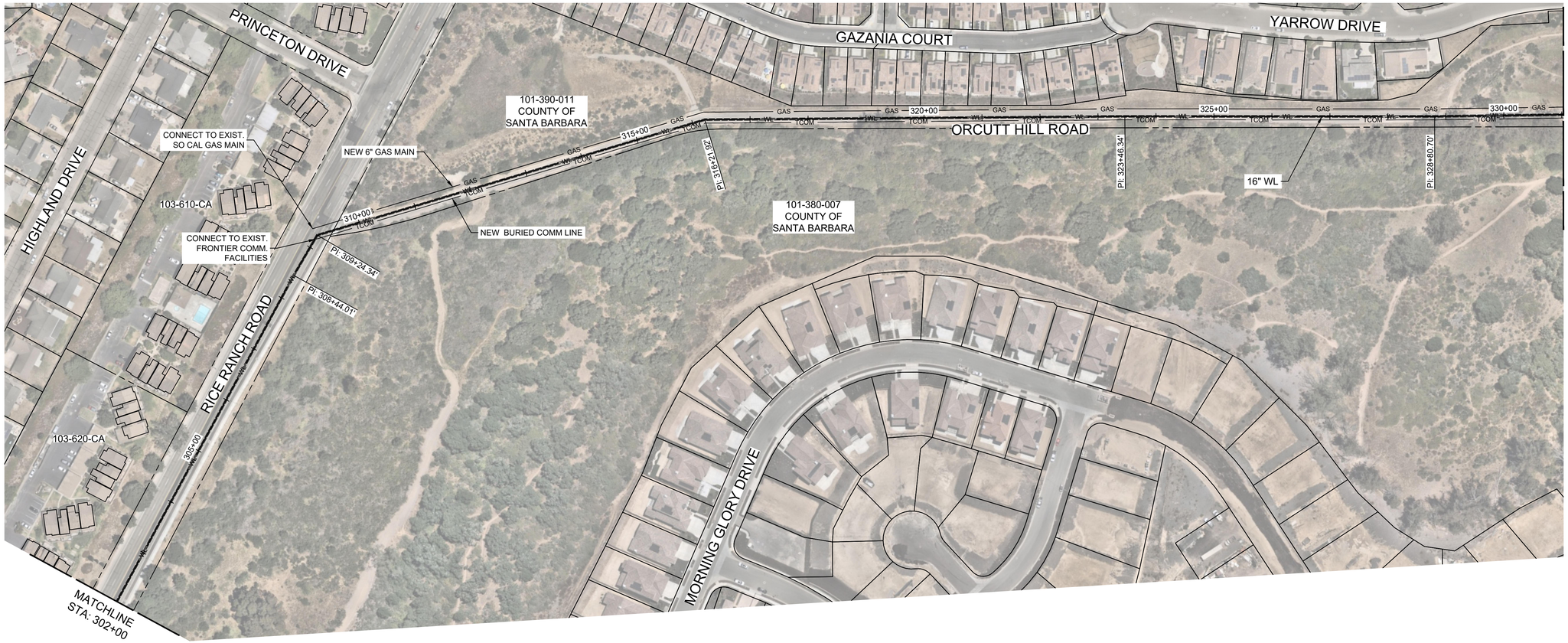
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WATER LINE LAYOUT

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DRAWING NO.
W-11
12 OF 21 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION	
APN	STATION
101-390-011	Sta 309+43 TO Sta 348+99

GRAPHIC SCALE
0 50' 100' 200'
(IN FEET)
1 IN = 100 FT

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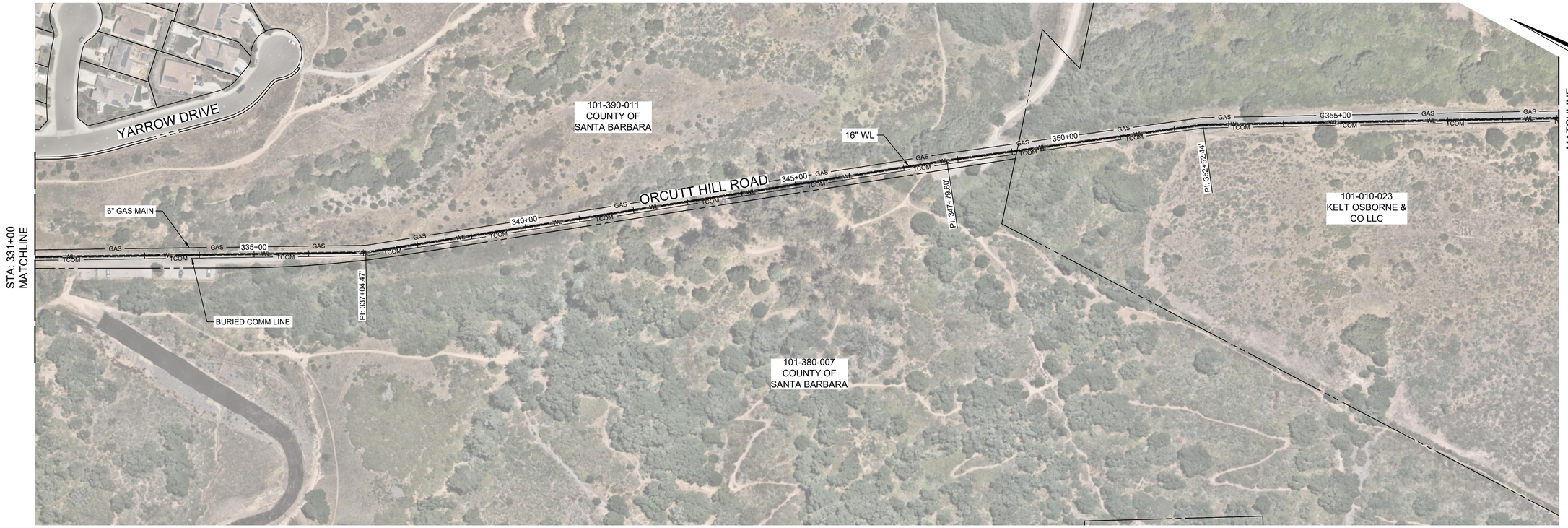
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WATER LINE LAYOUT

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DRAWING NO.
W-12
13 OF 21 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION

APN	STATION
101-010-023	Sta 348+99 TO Sta 389+37
101-390-011	Sta 309+43 TO Sta 348+99

GRAPHIC SCALE
0 50' 100' 200'
(IN FEET)
1 IN = 100 FT

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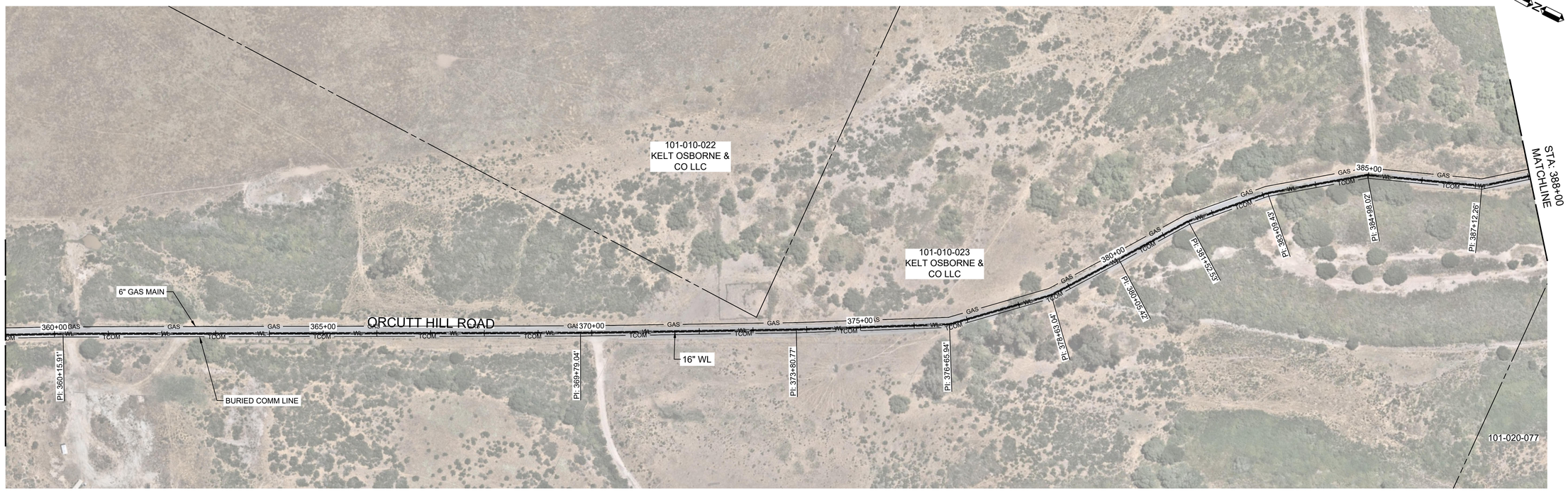
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WATER LINE LAYOUT

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DRAWING NO.
W-13
14 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION	
APN	STATION
101-010-023	Sta 348+99 TO Sta 389+37

GRAPHIC SCALE
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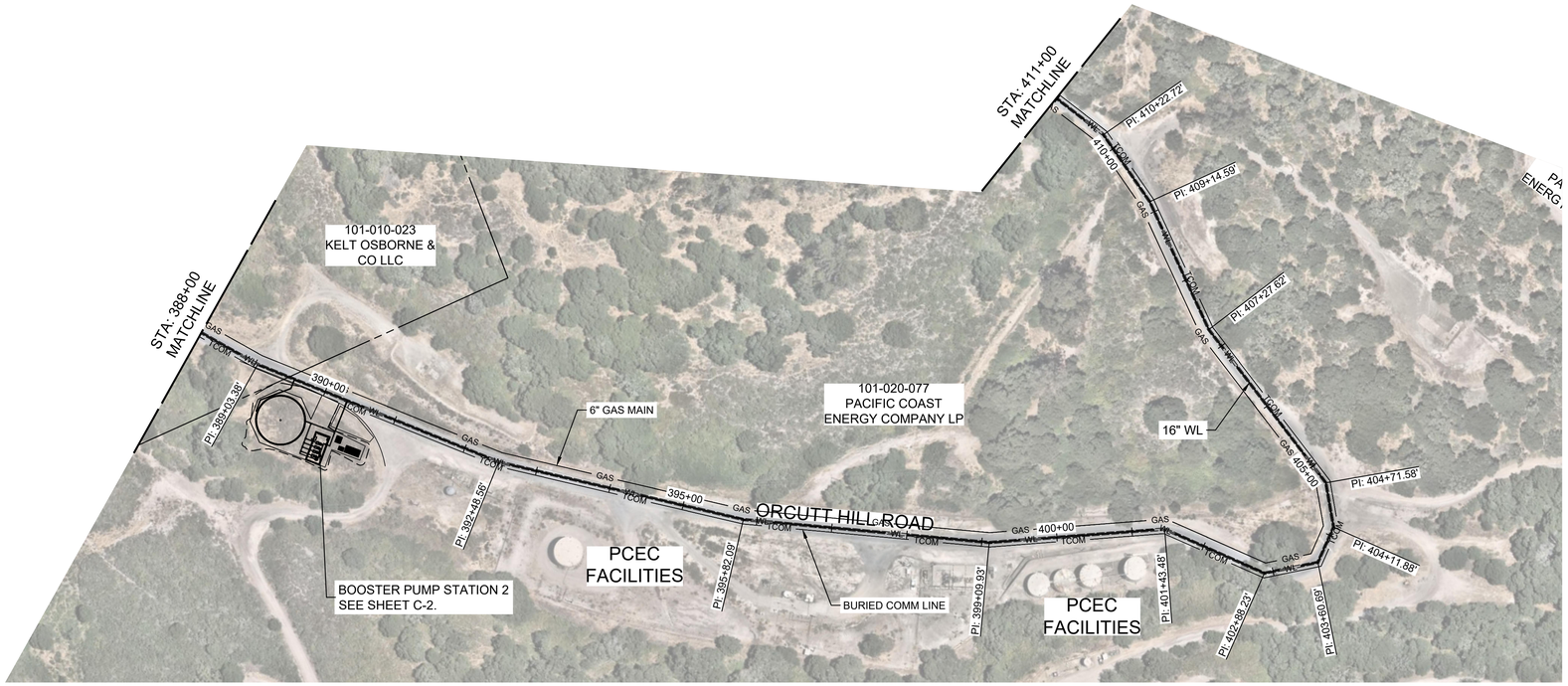
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DRAWING NO.
W-14
15 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION	
APN	STATION
101-010-023	Sta 348+99 TO Sta 389+37
101-020-077	Sta 389+37 TO Sta 424+99 Sta 426+66 TO Sta 438+64

GRAPHIC SCALE
0 50' 100' 200'
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WATER LINE LAYOUT

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DRAWING NO.
W-15
16 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION	
APN	STATION
101-020-006	Sta 424+99 TO Sta 426+66
101-020-041	Sta 441+45 TO Sta 444+57
101-020-043	Sta 438+64 TO Sta 441+45
101-020-077	Sta 389+37 TO Sta 424+99 Sta 426+66 TO Sta 438+64
101-020-085	Sta 444+57 TO Sta 477+28 Sta 479+43 TO Sta 502+13 Sta 520+25 TO Sta 530+45 Sta 537+39 TO Sta 539+14

GRAPHIC SCALE
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1 IN = 100 FT

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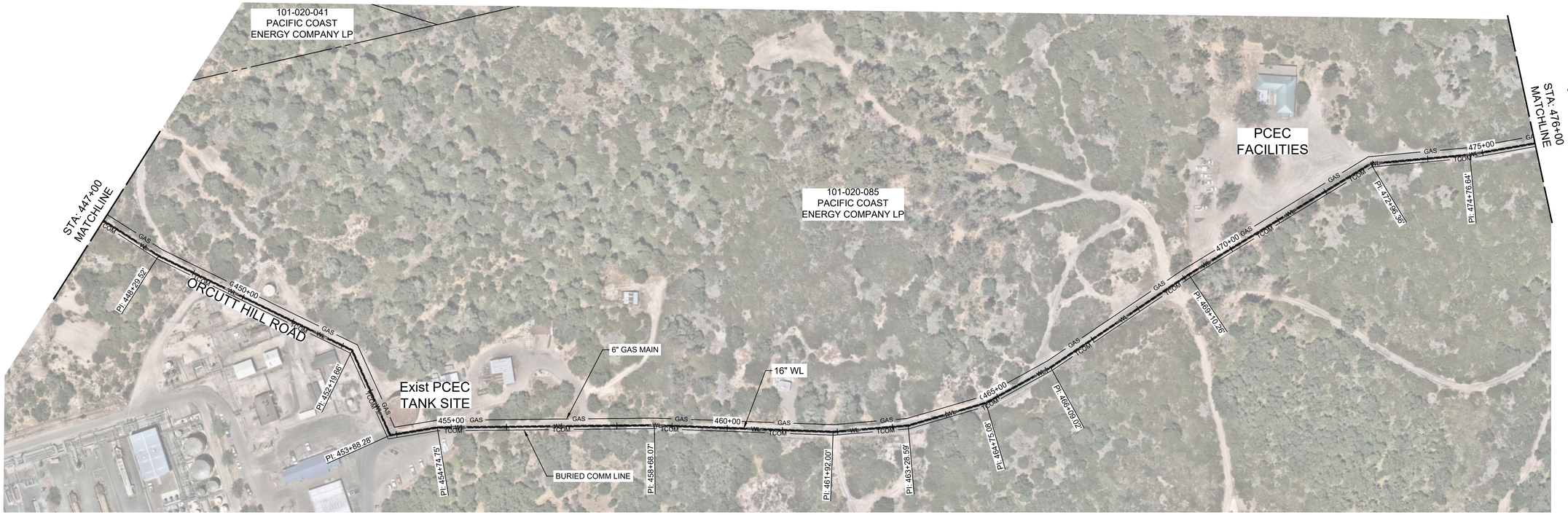
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WATER LINE LAYOUT

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DRAWING NO.
W-16
17 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION

APN	STATION
101-020-085	Sta 444+57 TO Sta 477+28 Sta 479+43 TO Sta 502+13 Sta 520+25 TO Sta 530+45 Sta 537+39 TO Sta 539+14

GRAPHIC SCALE
0 50' 100' 200'
(IN FEET)
1 IN = 100 FT

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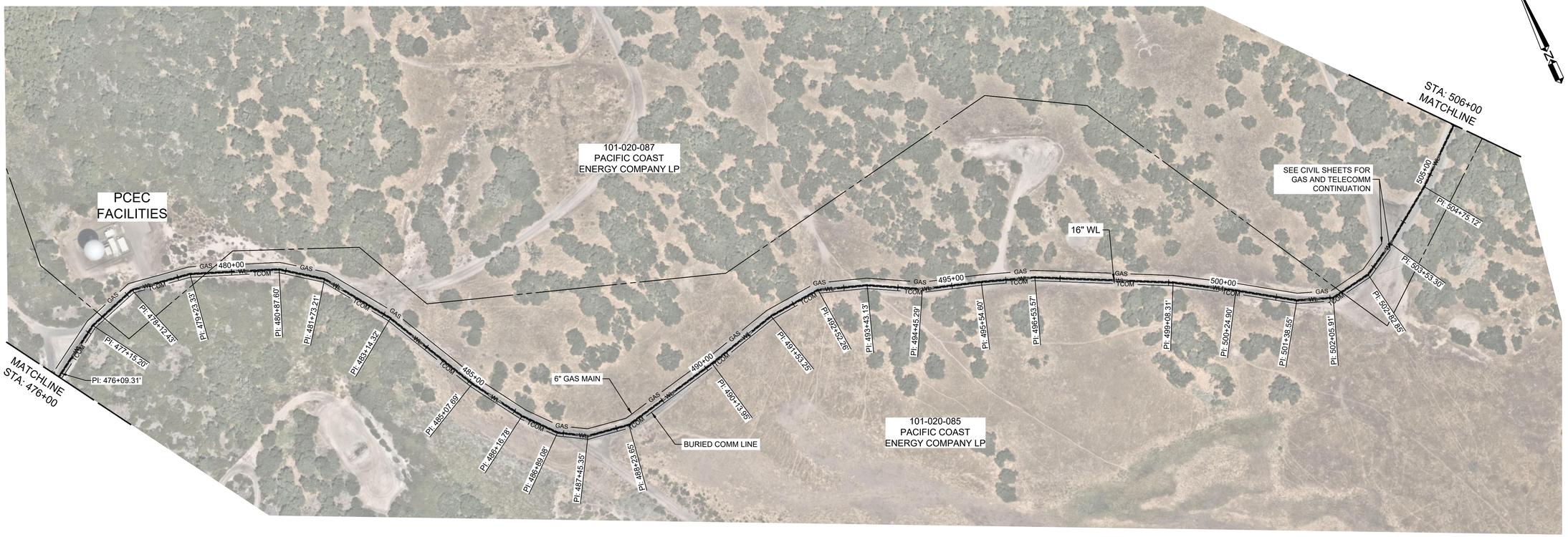
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DATE: 07/25/25

DRAWING NO.
W-17
18 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION

APN	STATION
101-020-085	Sta 444+57 TO Sta 477+28 Sta 479+43 TO Sta 502+13 Sta 520+25 TO Sta 530+45 Sta 537+39 TO Sta 539+14
101-020-087	Sta 477+28 TO Sta 479+43 Sta 502+13 TO Sta 520+25 Sta 530+45 TO Sta 537+39

GRAPHIC SCALE
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(IN FEET)
1 IN = 100 FT

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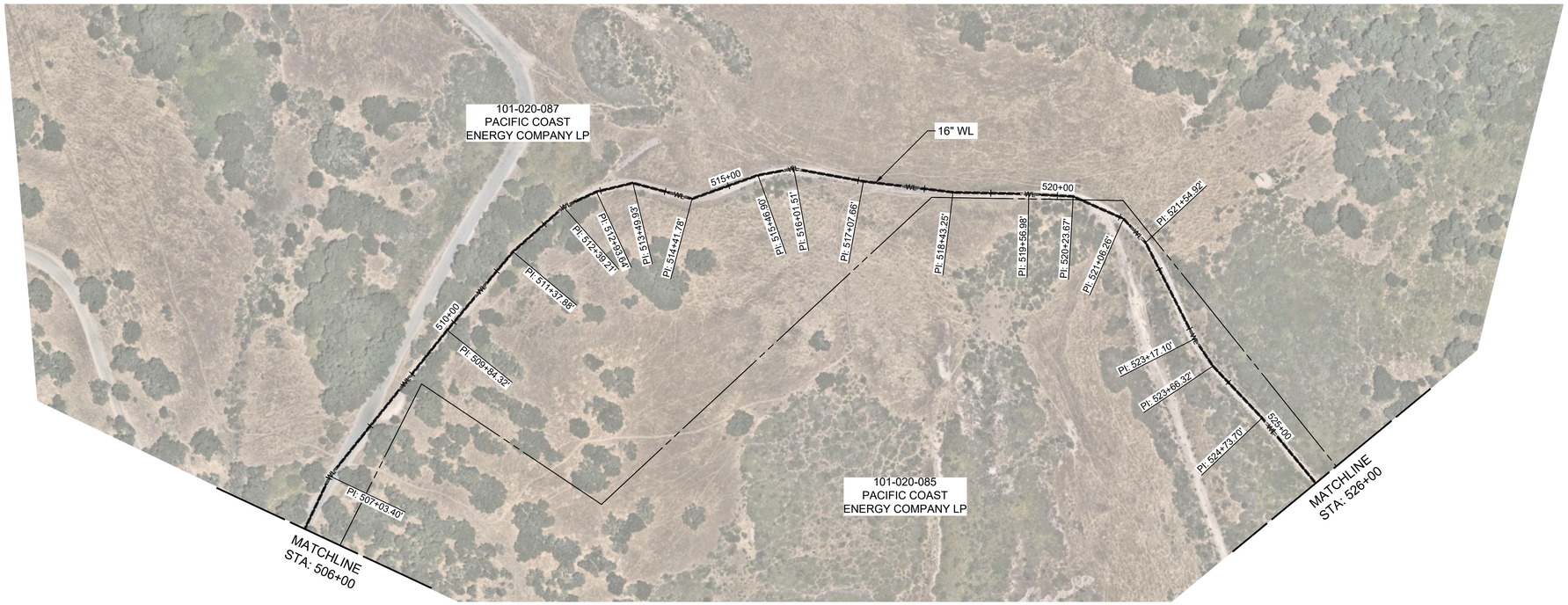
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SOLOMON HILLS DEVELOPMENT
WATER LINE LAYOUT

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DRAWING NO.
W-18
19 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION

APN	STATION
101-020-085	Sta 444+57 TO Sta 477+28 Sta 479+43 TO Sta 502+13 Sta 520+25 TO Sta 530+45 Sta 537+39 TO Sta 539+14
101-020-087	Sta 477+28 TO Sta 479+43 Sta 502+13 TO Sta 520+25 Sta 530+45 TO Sta 537+39

GRAPHIC SCALE
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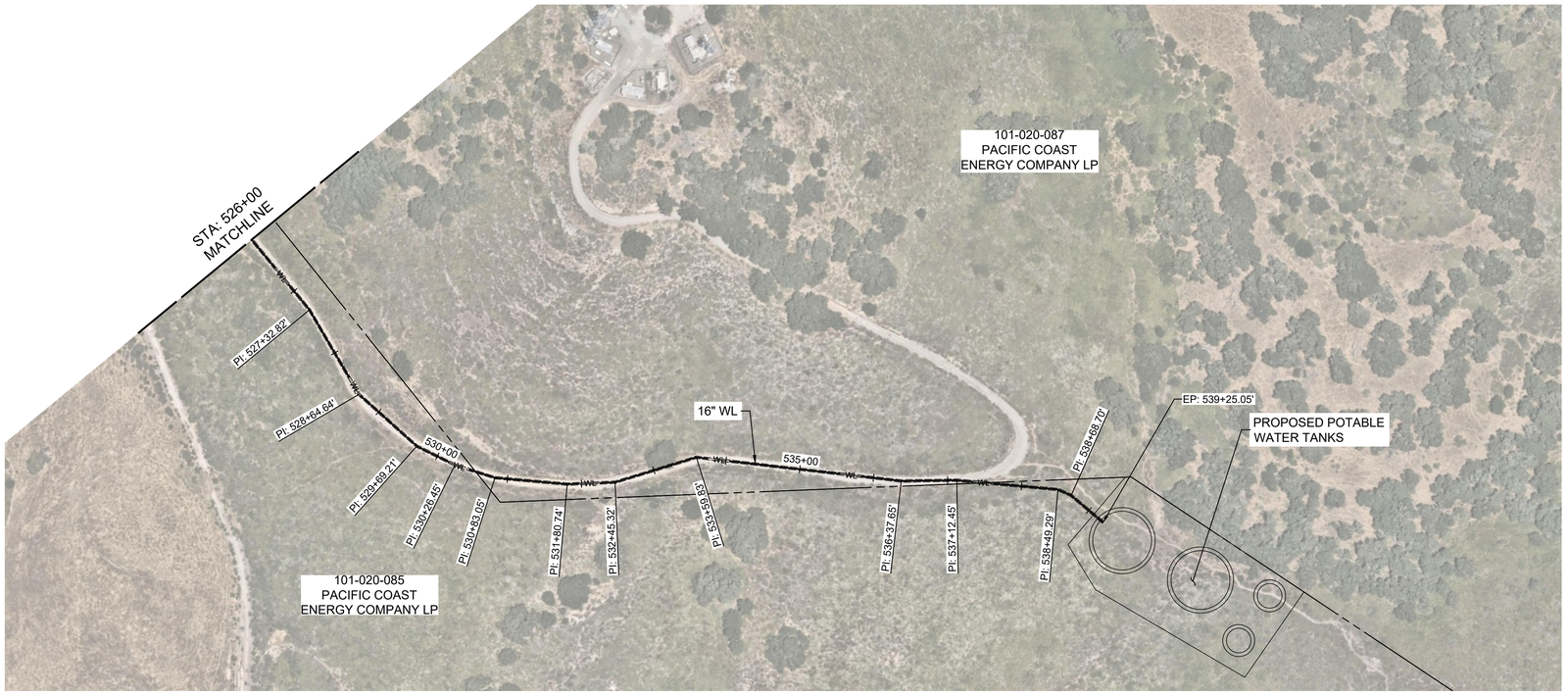
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WATER LINE LAYOUT

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DRAWING NO.
W-19
20 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



PARCEL INFORMATION

APN	STATION
101-020-085	Sta 444+57 TO Sta 477+28 Sta 479+43 TO Sta 502+13 Sta 520+25 TO Sta 530+45 Sta 537+39 TO Sta 539+14
101-020-087	Sta 477+28 TO Sta 479+43 Sta 502+13 TO Sta 520+25 Sta 530+45 TO Sta 537+39

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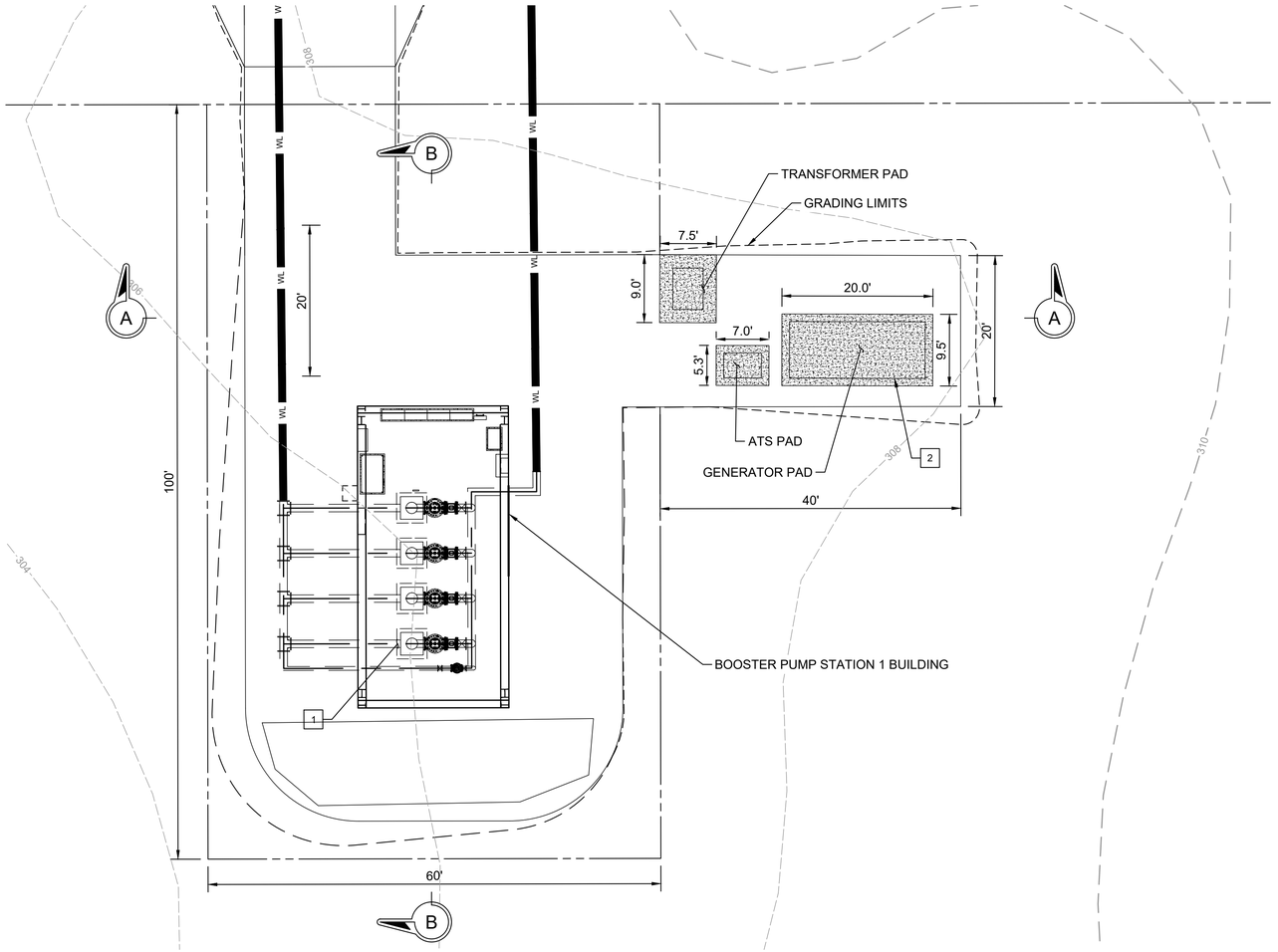
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WATER LINE LAYOUT

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W-20
21 OF 23 SHEETS

FOR REDUCED PLANS
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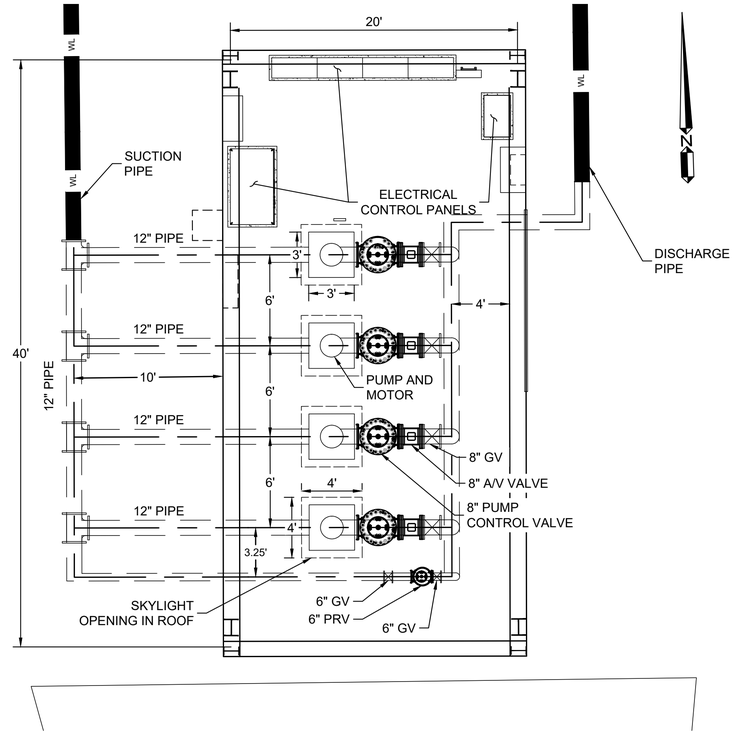


BOOSTER PUMP STATION 1 SITE PLAN

SCALE: 1"=10'

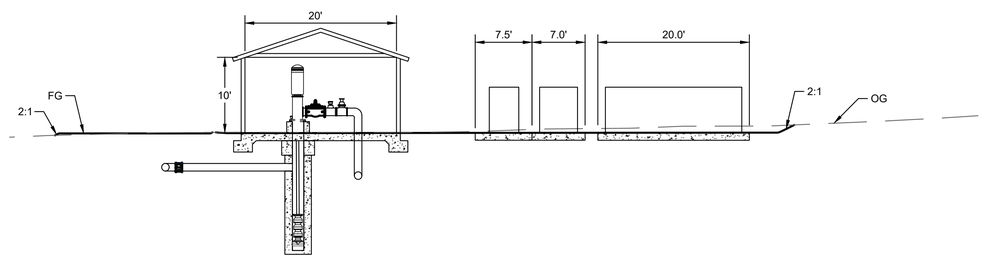
KEY NOTES:

1. VERTICAL CAN PUMPS (x4), 550 GPM AT A TDH OF 370', 75 HP MOTORS. PUMP AND MOTOR NOISE RATING = 90 dB AT 3'.
2. EMERGENCY BACKUP GENERATOR, 200 kW.



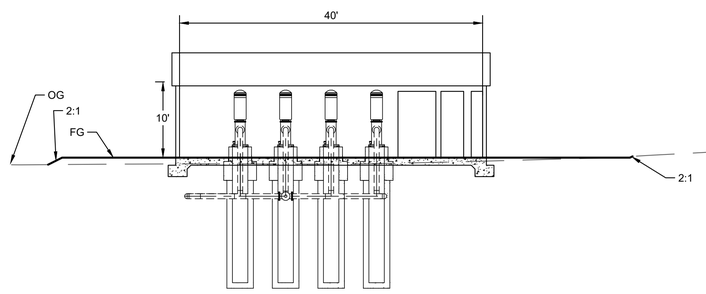
BOOSTER PUMP STATION 1 FLOOR PLAN

SCALE: 1"=5'



SECTION A

SCALE: 1"=10'



SECTION B

SCALE: 1"=10'

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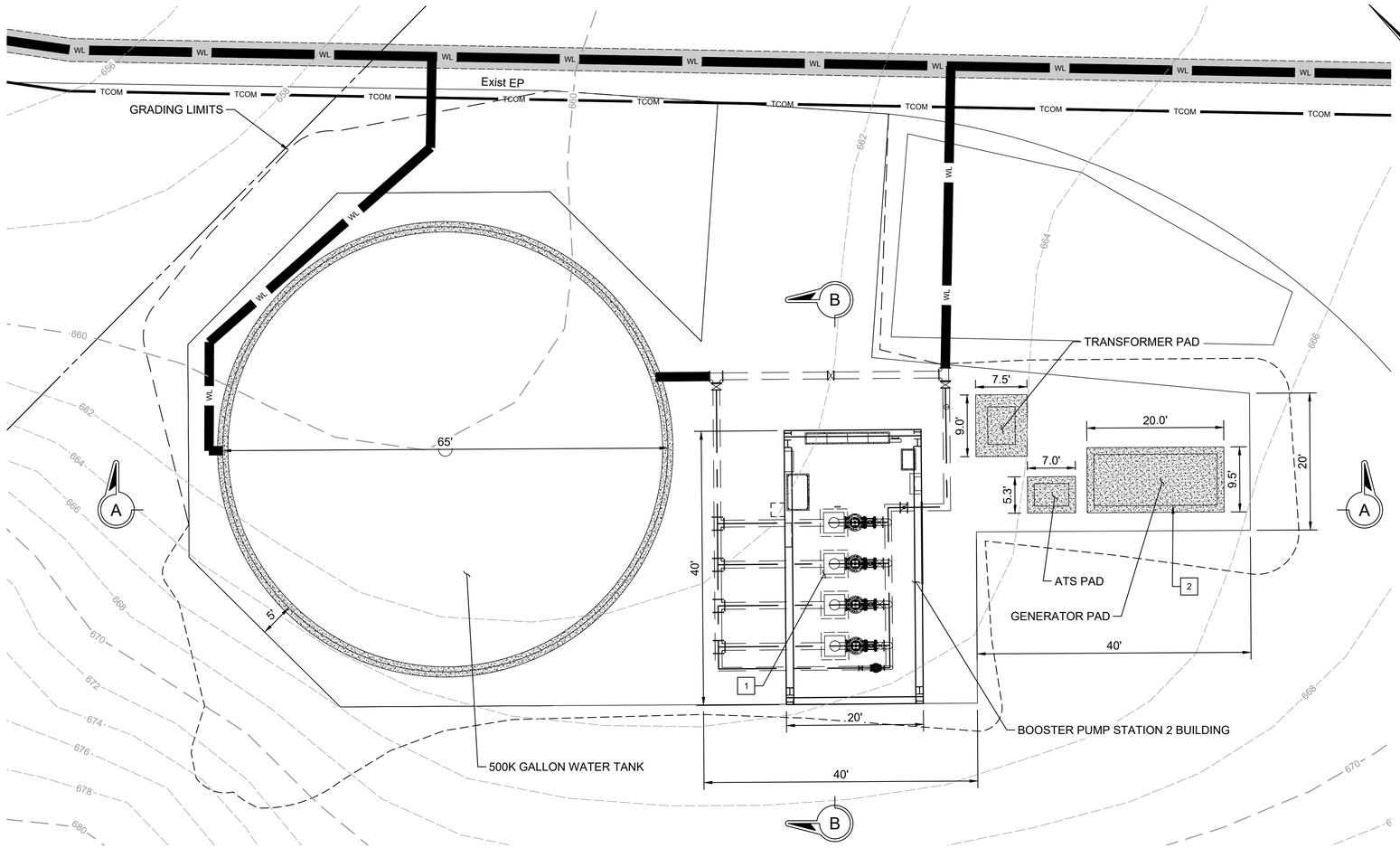
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SOLSTRA CALIFORNIA LLC
SOLOMON HILLS DEVELOPMENT
BOOSTER PUMP STATION 1 SITE PLAN

JOB #: 1703-0001
DESIGNERS: GH
DRAWN BY: ZVC
DATE: 07/25/25

DRAWING NO.
C-1
22 OF 23 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3



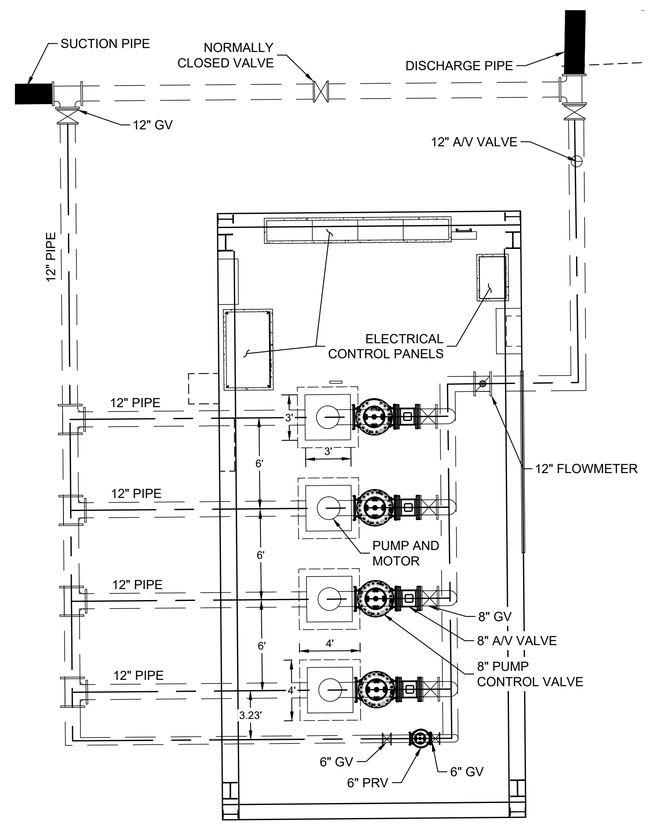
BOOSTER PUMP STATION 2 SITE PLAN

SCALE: 1"=10'

KEY NOTES:

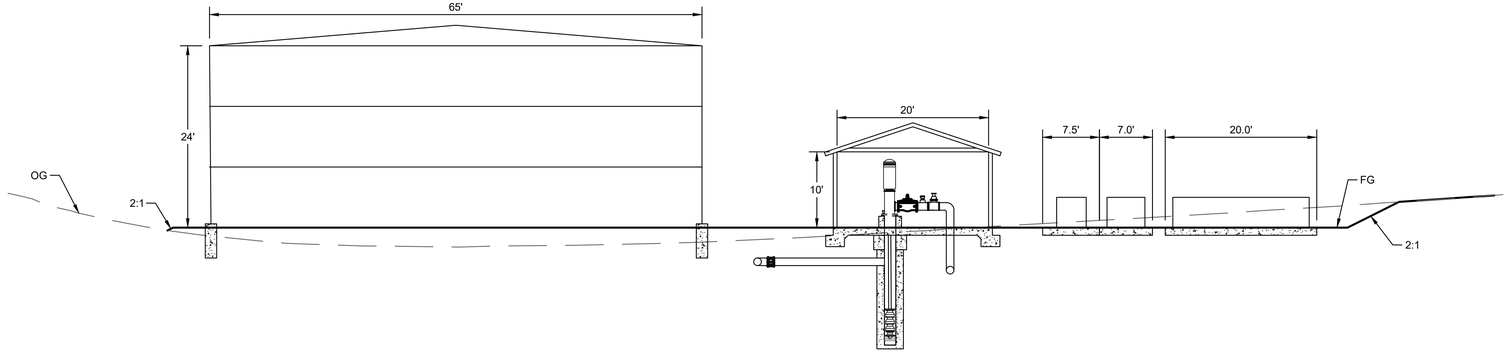
1 VERTICAL CAN PUMPS (x4), 550 GPM AT A TDH OF 600', 125HP MOTORS. PUMP AND MOTOR NOISE RATING = 90 dB AT 3'.

2 EMERGENCY BACKUP GENERATOR, 300 kW.



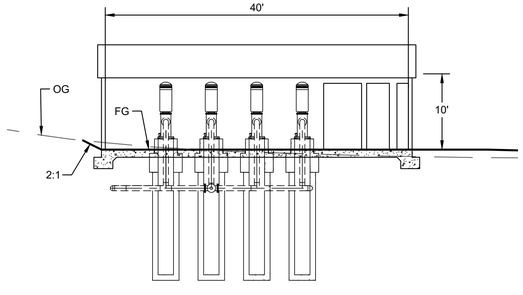
BOOSTER PUMP STATION 2 FLOOR PLAN

SCALE: 1"=5'



SECTION A

SCALE: 1"=10'



SECTION B

SCALE: 1"=10'

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SIGNATURE

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BOOSTER PUMP STATION 2 SITE PLAN

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DRAWING NO.
C-2
23 OF 23 SHEETS