STORMWATER REPORT

Collins Aerospace Solar

1 Hamilton Road
Windsor Locks, Connecticut

PREPARED FOR

Earthlight Technologies
128 West Road
Ellington, CT 06029

PREPARED BY

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Suite 200
Wethersfield, Connecticut
860.807.4300

December 19, 2022

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1

Project Summary

Project Description

The Petitioner, Earthlight Technologies, is proposing to construct a ±1.6 MW solar farm at 1 Hamilton Road in Windsdor Locks, CT on an existing paved area and wooded areas along with all associated utilities, access paths, fencing, and landscaping to support this use (the Project). When the Project reaches the end of its life cycle, the improvements constructed as part of this Project will be removed and the land will be restored in accordance with the decommissioning plan.

Site Description

The Project Site will be comprised on approximately ±8 acres off of Hamilton Road, (ID 016-001-002 in Windsor Locks, Connecticut (see Figure 1). The Project area is bounded by a commercial development to the east, by Collins Aerospace facility to the north, and by Bradley International Airport Connector (Route 20) to the west and south. The development site is all within the IND1 (Industrial) zone.

The northern project area under existing conditions is currently a parking lot while the southern project area is undeveloped woodland. There are two (2) delineated on-site wetland systems in proximity to the development area. Wetland system 1 is located in the tree line on the eastern portions of the property and discharges to the south under Route 20 by culvert, and wetland system 2 is located south/southwest of the development also discharging to the south under Route 20 by culvert. Under existing conditions, runoff from the northern project area is captured by catch basins and discharged to the west, while runoff from the southern project area generally flows overland to these wetland systems before exiting the site.

According to available soil mapping[1], a variety of soils exist on the site mostly representing Hydrologic Soil Groups A and B within the development area. See Appendix B for NRCS Web Soil Survey output and field-investigated data.

[1] https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

According to available CTDEEP Groundwater Classification maps, groundwater at the site is GB (see Appendix A). According to CTDEEP Aquifer Protection Area maps, the site is not listed as an Aquifer Protection Area (see Appendix A).

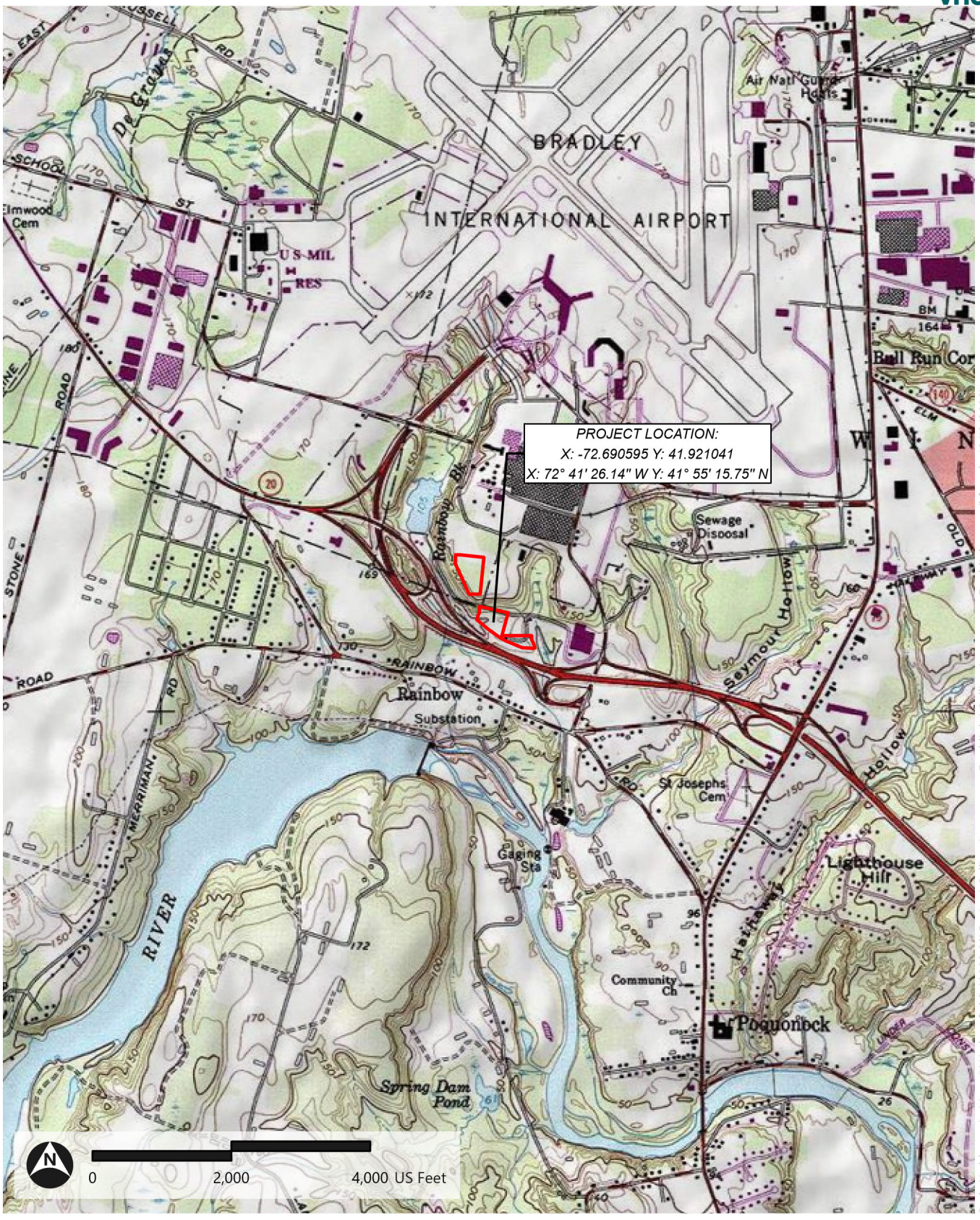
Methodology

The Project was designed to incorporate measures provided in the Connecticut Stormwater Quality Manual (CTDEEP 2004) as well as the CTDEEP Stormwater General Permit effective December 31, 2020. The conclusion of this analysis is that the proposed improvements will not increase the post-development peak runoff rates in comparison to existing predevelopment rates at any of the critical design points analyzed and stormwater quality leaving the site will be improved from existing conditions.

Figure 1: Site Location Map

Figure 1: USGS Site Location Map

Collins Aerospace Solar | Windsor Locks, CT



Path: \\vhb.com\gis\proj\Wethersfield\42693.00\Project\Collins Aerospace - Earthlight\Collins Aerospace - Earthlight.aprx (kfrench, 10/12/2022)

Source: USGS

2

Existing Drainage Conditions

Summary

Under existing conditions, runoff from the northern project area is captured by catch basins and discharged to the west, while runoff from the southern project area generally flows overland to the above-referenced wetland systems before exiting the site. The Site is generally at its highest elevation in the northern development area, with the southern portions being in more low-lying areas. Slopes within the existing parking lot are extremely flat, while the wooded area proposed to be cleared and developed ranges in slopes between 0% and 18%. All associated wetland systems flow off the property under Route 20 via culvert to the south, and ultimately to Farmington River.

Hydrologic Information

For the existing conditions hydrologic analysis, the Site has been divided into two (2) design points (the culverts) with six (6) total subwatersheds.. Table 1 provides a summary of the existing conditions hydrologic data. Figure 2 illustrates the existing drainage patterns on the Site. All portions of the Project area have been considered in the hydrologic analysis.

Drainage Area 1A - This ±3.9-acre area is located at the northern portion of the Project within a paved area. Untreated stormwater in this area generally is captured by catch basins and discharged to the west.

Drainage Area 1B - This ±1.5-acre area is located in the southwestern portion of the Project. Untreated stormwater in this area generally flows overland through woodland and grassed areas to the southwest towards the wetland system.

Drainage Area 1C - This ±0.7-acre area is located at the southwestern portion of the Project. Untreated stormwater in this area generally flows overland through woodland to a small natural depression located within the subwatershed.

Drainage Area 1D - This ±0.6-acre area is located at the southwestern portion of the Project. Untreated stormwater in this area generally flows overland through woodland to a small natural depression located within the subwatershed.

Drainage Area 1E - This ±0.6-acre area is located at the southeastern portion of the Project. Untreated stormwater in this area generally flows overland through woodland and grassed areas towards the natural depression of Drainage Area 1D.

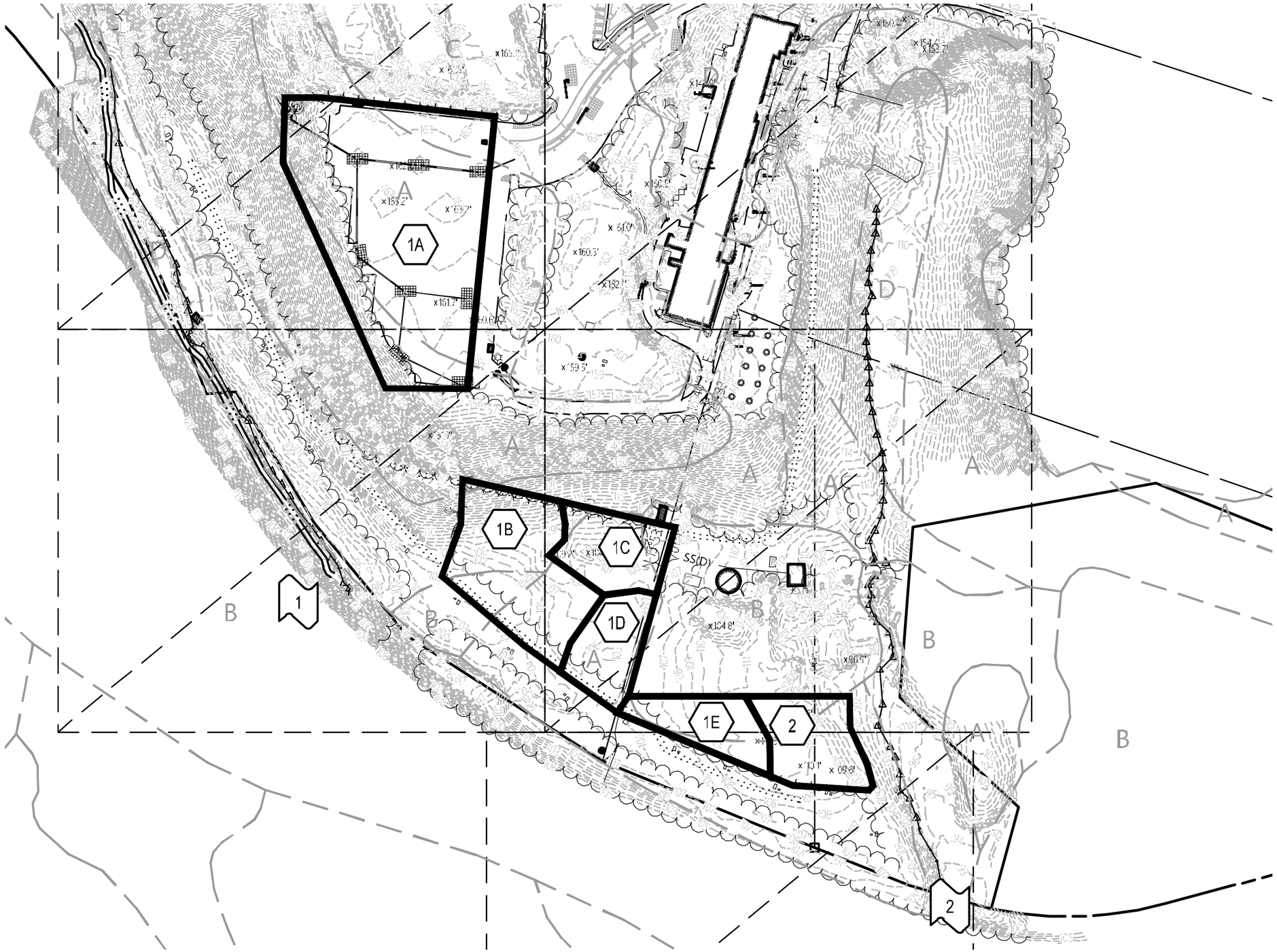
Drainage Area 2 - This ±0.7-acre area is located at the southeastern portion of the Project. Untreated stormwater in this area generally flows overland through woodland to the wetland system.

Table 1 summarizes the key hydrologic parameters for each drainage area used in the existing conditions analysis.

Table 1 Existing Conditions Hydrologic Data

Drainage Area	*Discharge Location*	*Area (acres)*	*Curve Number*	*Time of Concentration (min)*
1A	Western Wetland	3.9	84	10
1B	Western Wetland	1.5	49	10
1C	Western Wetland	0.7	51	10
1D	Western Wetland	0.6	49	10
1E	Western Wetland	0.6	59	10
2	Eastern Wetland	0.7	50	10

Figure 2: Existing Drainage Areas



Legend

SYMBOLS

- DESIGN POINT
- DRAINAGE AREA DESIGNATION
- PERMANENT STORMWATER BASIN

LINETYPES

- DRAINAGE AREA BOUNDARY
- HSG BOUNDARY
- WETLAND BOUNDARY

0 100 200 Feet

vhb

Existing Drainage Conditions

Figure 2

1 Hamilton Road
Windsor Locks, CT

12/19/2022

3

Proposed Drainage Conditions

Summary

The Site has been designed to maintain existing topography and mimic existing drainage patterns to the maximum extents feasible. Across the southern development area, the Project proposes to install permanent turf-forming grasses to help stabilize the topsoil from erosion, sequester nutrients and pollutants, and lower runoff rates from the facility to the surrounding discharge points.

The only impervious surfaces proposed to be constructed are small concrete pads for utility equipment. Once operational, vehicular access to the Project will be limited to infrequent maintenance visits. The permanent stormwater basins and vegetated buffers held to the wetlands will provide adequate residence time and treatment capabilities for the de minimis amount of imperviousness of the project.

In accordance with CTDEEP Stormwater General Permit, it is not proposed to install solar panels within 100 feet of the eastern and western wetland systems onsite, nor is it proposed to perform any land disturbance (i.e. tree clearing, grading, swales, stormwater basins, fences) within 50 feet of these systems.

Hydrologic Information

Natural drainage patterns will be maintained throughout the Site so that the proposed hydrologic conditions will closely match existing conditions. The proposed conditions analysis utilizes the same two (2) design points and six (6) subwatersheds from existing conditions. In accordance with CTDEEP Stormwater General Permit, a reduction in Hydrologic Soil Group of half a step has been considered in the proposed conditions hydrologic model for developed portions of the site. No grading over a two-foot change is proposed that would require reducing HSG by a full step.

Figure 3: Proposed Drainage Areas

Drainage Area 1A - This ±3.9-acre area is located at the northern portion of the Project within a paved area. Stormwater in this area will generally flow under the solar panels towards existing catch basins.

Drainage Area 1B - This ±1.5-acre area is located in the southwestern portion of the Project. Stormwater in this area will generally flow under the solar panels towards the western wetlands. The introduction of permanent meadowy vegetation and grass, along with a permanent stormwater basin, will serve to maintain water quality.

Drainage Area 1C - This ±0.7-acre area is located at the southwestern portion of the Project. Stormwater in this area will generally flow under the solar panels to an existing small natural depression located within the subwatershed.

Drainage Area 1D - This ±0.6-acre area is located at the southwestern portion of the Project. Stormwater in this area will generally flow under the solar panels to an existing small natural depression located within the subwatershed.

Drainage Area 1E - This ±0.6-acre area is located at the southeastern portion of the Project. Stormwater in this area will generally flow under the solar panels towards the natural depression of Drainage Area 1D. The introduction of permanent meadowy vegetation and grass will serve to improve water quality.

Drainage Area 2 - This ±0.7-acre area is located at the southeastern portion of the Project. Stormwater in this area will generally flow under the solar panels towards the eastern wetlands. The introduction of permanent meadowy vegetation and grass, along with a permanent stormwater basin, will serve to maintain water quality.

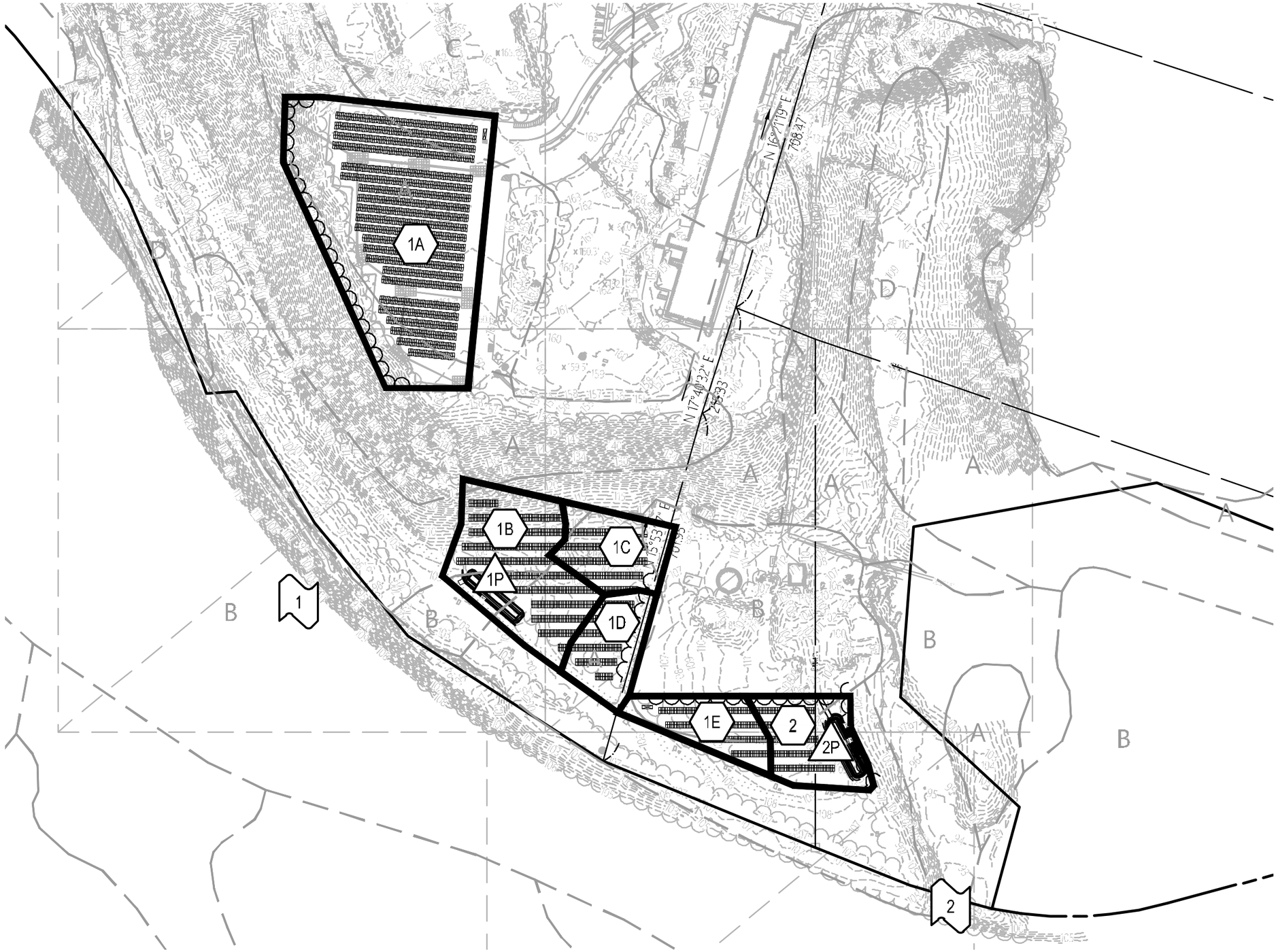
Table 2 summarizes the key hydrologic parameters for each drainage area used in the proposed conditions analysis. Only areas of the Site that are proposed to be disturbed by construction have been included in this drainage analysis, while portions of the Site unaffected by construction have been excluded.

Table 2 Proposed Conditions Hydrologic Data

Drainage Area	*Discharge Location*	*Area (acres)*	*Curve Number*	*Time of Concentration (min)*
1A	Western Wetland	3.9	84	10
1B	Western Wetland	1.5	55	10
1C	Western Wetland	0.7	56	10
1D	Western Wetland	0.6	56	10
1E	Western Wetland	0.6	63	10
2	Eastern Wetland	0.7	55	10

Figure 3: Proposed Drainage Areas

Figure 3: Proposed Drainage Areas



Legend

SYMBOLS

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- DRAINAGE AREA BOUNDARY
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- WETLAND BOUNDARY

0 100 200 Feet

vhb

Proposed Drainage Conditions

Figure 3

1 Hamilton Road
Windsor Locks, CT

12/19/2022

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Hydrologic Analysis

Hydrologic Analysis

The rainfall-runoff was evaluated for the 2-, 25-, 50-, and 100-year storm recurrence. Rainfall volumes used for this analysis were based on the National Weather Service NOAA Hydrometeorological Design Studies Center, Type III, 24—hour storm event for the Site. Rainfall depths were 3.22, 6.33, 7.21, and 8.18 inches respectively. Runoff coefficients for the pre- and post- development conditions provided in the tables below were determined using NRCS Technical Release 55 (TR-55) methodology as provided in the HydroCAD reports found in Appendix D.

In accordance with the guidance of CTDEEP Stormwater General Permit, the proposed conditions for development areas have been modelled with a loss of one-half class of Hydrologic Soil Group to conservatively estimate the effects of compaction during construction. The results of the pre- and post-development hydrologic models indicate that peak runoff rates from the Site will be reduced to both design points for all design storms with incorporation of the permanent stormwater basins.

Test pits were performed in the field to verify the existing soil horizons and infiltration tests were run in the location of the proposed permanent stormwater basins. In accordance with the 2004 Connecticut Stormwater Quality Manual, only ½ of the lowest tested rate at each basin was used in the hydrologic model.

Table 3 presents a summary of the existing and proposed conditions peak discharge rates.

Table 3 Peak Discharge Rates (cfs*)

Watershed	2-year	25-year	50-year	100-year
Design Point 1				
Existing	6.65	18.75	22.53	26.78
Proposed	6.65	17.34	20.40	23.77
Design Point 2				
Existing	0.02	0.80	1.17	1.63
Proposed	0.00	0.00	0.00	0.00

* Expressed in cubic feet per second

Floodplain Information / Analysis

Based upon the most recent Federal Emergency Management Agency (FEMA) mapping (FEMA Flood Insurance Rate Map No. 09003C0212F, dated September 26, 2008), the site does not contain listed any Flood Hazard Areas (1% Annual Chance or greater, or floodway). No portions of the Project are proposed within a flood hazard area. This mapping is included in Appendix A.

Water Quality Volume

Water Quality Volume (WQV) is based upon the first inch of rainfall, or a 1-inch rainfall event, over the acreage of proposed impervious surfaces for the development. Neither the solar panels nor the concrete equipment pads will be subject to vehicular access nor will they produce any pollutants to stormwater runoff. No new access roads are proposed. The site will have vehicular travel infrequently upon completion of construction, and the meadowy buffer areas will provide residence and treatment time. Two proposed permanent stormwater basins will also capture and treat water quality prior to discharge from the site.

Water Quality Flow

Water Quality Flow (WQF) is a rate of stormwater runoff based upon the first inch of rainfall, or a 1-inch rainfall event. This regulation is generally followed for "flow-through" treatment devices. As the proposed development does not incorporate any "flow-through" water quality treatment devices, WQF is not applicable to this project.

Appendix A:

FEMA Flood Insurance Rate Map

NOAA Rainfall Depth Estimates

CTDEEP Groundwater Classification Map

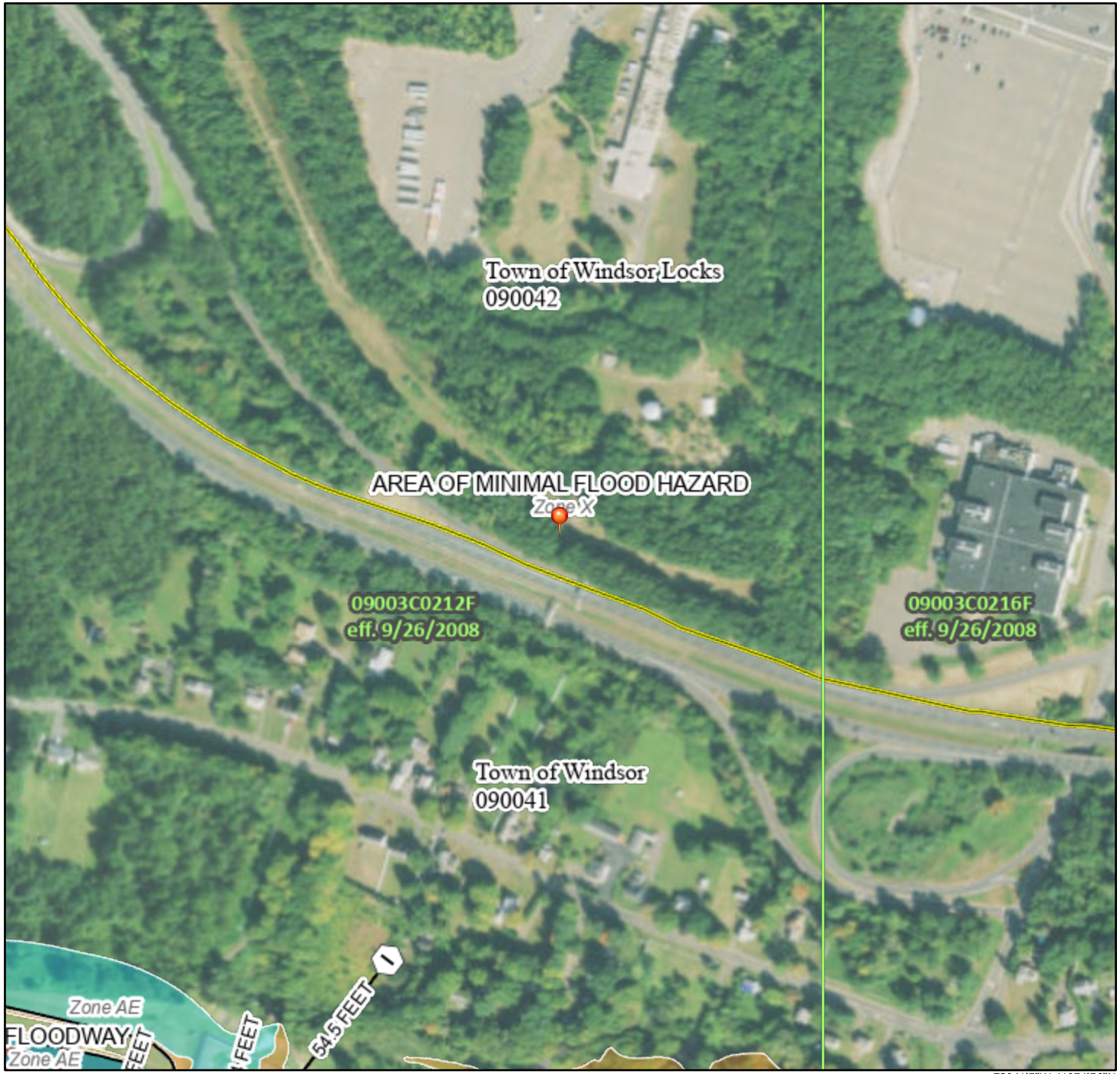
Aquifer Protection Area Map

FEMA Flood Insurance Rate Map

National Flood Hazard Layer FIRMette

FEMA

72°41'43"W 41°55'23"N



72°41'5"W 41°54'56"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/12/2022 at 9:02 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NOAA Rainfall Depth Estimates

NOAA Atlas 14, Volume 10, Version 3
Location name: Windsor Locks, Connecticut, USA*
Latitude: 41.9194°, Longitude: -72.6843°
Elevation: 119.2 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

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	0.347 (0.265-0.454)	0.417 (0.318-0.545)	0.531 (0.404-0.697)	0.625 (0.474-0.825)	0.754 (0.554-1.04)	0.851 (0.615-1.20)	0.953 (0.671-1.39)	1.07 (0.715-1.60)	1.23 (0.797-1.91)	1.37 (0.865-2.16)
10-min	0.492 (0.376-0.643)	0.590 (0.451-0.772)	0.750 (0.571-0.985)	0.884 (0.669-1.17)	1.07 (0.785-1.47)	1.21 (0.870-1.70)	1.35 (0.951-1.97)	1.51 (1.01-2.26)	1.75 (1.13-2.70)	1.94 (1.23-3.06)
15-min	0.579 (0.442-0.756)	0.695 (0.530-0.908)	0.884 (0.673-1.16)	1.04 (0.788-1.37)	1.26 (0.924-1.73)	1.42 (1.02-2.00)	1.59 (1.12-2.32)	1.78 (1.19-2.66)	2.05 (1.33-3.18)	2.28 (1.44-3.60)
30-min	0.776 (0.593-1.01)	0.937 (0.715-1.23)	1.20 (0.914-1.58)	1.42 (1.07-1.87)	1.72 (1.26-2.37)	1.94 (1.40-2.74)	2.18 (1.53-3.18)	2.44 (1.64-3.65)	2.82 (1.82-4.36)	3.13 (1.98-4.94)
60-min	0.974 (0.744-1.27)	1.18 (0.900-1.54)	1.52 (1.15-1.99)	1.79 (1.36-2.37)	2.18 (1.60-3.00)	2.47 (1.78-3.47)	2.77 (1.95-4.04)	3.11 (2.08-4.64)	3.59 (2.32-5.55)	3.98 (2.52-6.28)
2-hr	1.26 (0.968-1.63)	1.52 (1.16-1.97)	1.94 (1.48-2.52)	2.28 (1.74-3.00)	2.76 (2.05-3.79)	3.12 (2.27-4.38)	3.50 (2.49-5.12)	3.95 (2.65-5.87)	4.60 (2.99-7.08)	5.15 (3.27-8.09)
3-hr	1.45 (1.12-1.88)	1.75 (1.35-2.26)	2.23 (1.71-2.90)	2.63 (2.01-3.44)	3.18 (2.37-4.36)	3.59 (2.63-5.04)	4.03 (2.88-5.89)	4.56 (3.07-6.75)	5.35 (3.48-8.21)	6.03 (3.83-9.42)
6-hr	1.82 (1.41-2.34)	2.21 (1.71-2.84)	2.84 (2.19-3.66)	3.36 (2.58-4.36)	4.08 (3.06-5.56)	4.61 (3.40-6.44)	5.19 (3.74-7.56)	5.90 (3.99-8.68)	6.99 (4.56-10.7)	7.94 (5.06-12.3)
12-hr	2.22 (1.74-2.84)	2.73 (2.13-3.49)	3.56 (2.77-4.57)	4.25 (3.29-5.48)	5.20 (3.92-7.06)	5.90 (4.38-8.21)	6.66 (4.84-9.69)	7.62 (5.17-11.1)	9.12 (5.96-13.8)	10.4 (6.67-16.1)
24-hr	2.57 (2.03-3.26)	3.22 (2.53-4.08)	4.26 (3.34-5.43)	5.14 (4.00-6.58)	6.33 (4.81-8.57)	7.21 (5.39-10.0)	8.18 (6.00-11.9)	9.43 (6.42-13.7)	11.4 (7.50-17.2)	13.2 (8.47-20.2)
2-day	2.86 (2.27-3.60)	3.63 (2.87-4.57)	4.88 (3.85-6.17)	5.92 (4.64-7.53)	7.36 (5.64-9.92)	8.40 (6.34-11.6)	9.57 (7.10-13.9)	11.1 (7.60-16.1)	13.7 (9.01-20.5)	16.0 (10.3-24.4)
3-day	3.12 (2.48-3.91)	3.96 (3.15-4.97)	5.35 (4.23-6.73)	6.49 (5.11-8.22)	8.07 (6.21-10.8)	9.21 (6.98-12.7)	10.5 (7.83-15.3)	12.2 (8.38-17.6)	15.1 (9.97-22.6)	17.7 (11.4-26.9)
4-day	3.36 (2.68-4.21)	4.27 (3.40-5.35)	5.75 (4.57-7.23)	6.98 (5.51-8.82)	8.68 (6.69-11.6)	9.90 (7.52-13.6)	11.3 (8.44-16.4)	13.2 (9.02-18.9)	16.3 (10.7-24.2)	19.1 (12.3-28.8)
7-day	4.05 (3.25-5.03)	5.09 (4.08-6.33)	6.78 (5.41-8.47)	8.19 (6.50-10.3)	10.1 (7.84-13.5)	11.5 (8.79-15.8)	13.1 (9.81-18.9)	15.2 (10.5-21.7)	18.7 (12.4-27.6)	21.8 (14.1-32.9)
10-day	4.73 (3.80-5.86)	5.83 (4.69-7.23)	7.64 (6.12-9.50)	9.13 (7.27-11.4)	11.2 (8.68-14.8)	12.7 (9.68-17.3)	14.4 (10.8-20.5)	16.6 (11.4-23.6)	20.2 (13.4-29.7)	23.4 (15.2-35.1)
20-day	6.83 (5.54-8.41)	8.00 (6.47-9.85)	9.90 (7.98-12.2)	11.5 (9.20-14.3)	13.6 (10.6-17.8)	15.2 (11.6-20.4)	17.0 (12.6-23.8)	19.2 (13.3-27.1)	22.6 (15.1-33.0)	25.6 (16.7-38.1)
30-day	8.63 (7.02-10.6)	9.81 (7.97-12.0)	11.7 (9.51-14.5)	13.4 (10.7-16.5)	15.6 (12.1-20.1)	17.2 (13.1-22.8)	19.0 (14.0-26.1)	21.0 (14.7-29.5)	24.1 (16.1-35.1)	26.7 (17.4-39.6)
45-day	10.9 (8.89-13.3)	12.1 (9.87-14.8)	14.1 (11.5-17.3)	15.8 (12.7-19.4)	18.0 (14.1-23.1)	19.8 (15.1-25.9)	21.6 (15.8-29.1)	23.5 (16.4-32.7)	26.1 (17.5-37.7)	28.1 (18.3-41.5)
60-day	12.8 (10.5-15.6)	14.1 (11.5-17.1)	16.1 (13.1-19.7)	17.9 (14.5-22.0)	20.2 (15.8-25.7)	22.1 (16.8-28.6)	23.9 (17.5-31.9)	25.6 (18.0-35.6)	27.8 (18.7-40.1)	29.4 (19.2-43.3)

[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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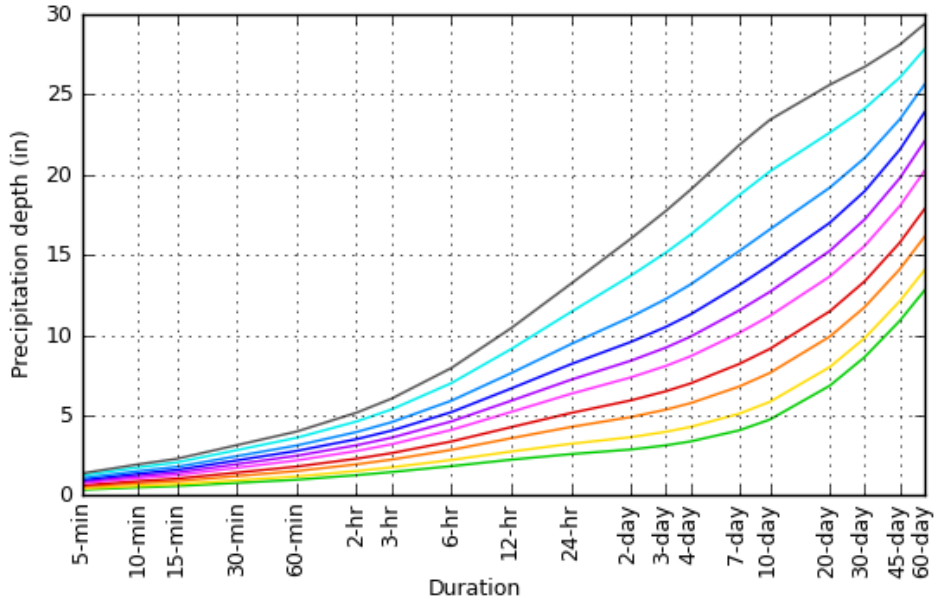
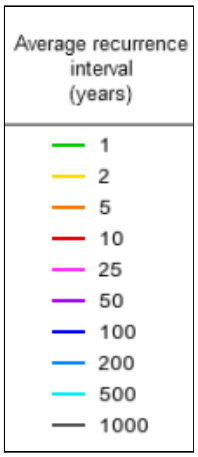
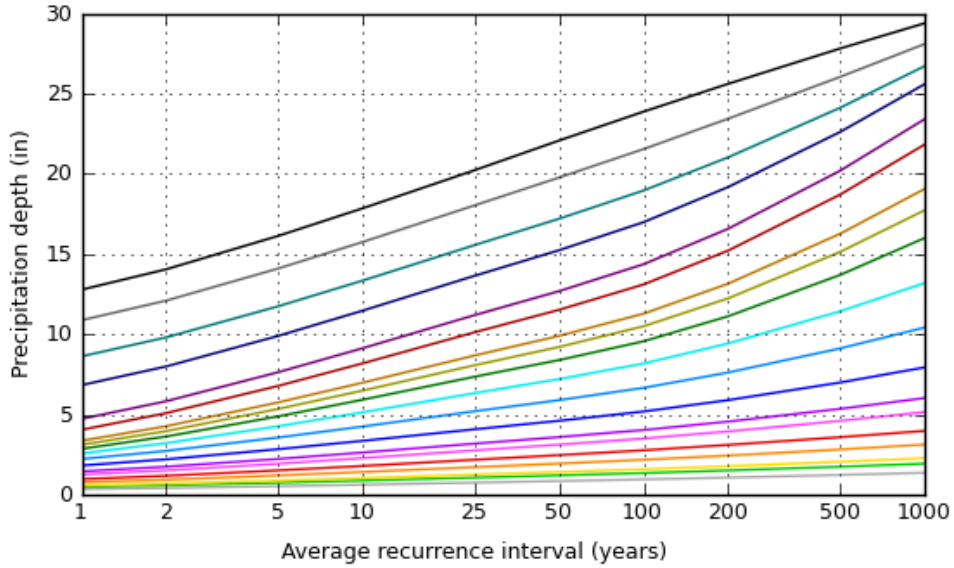
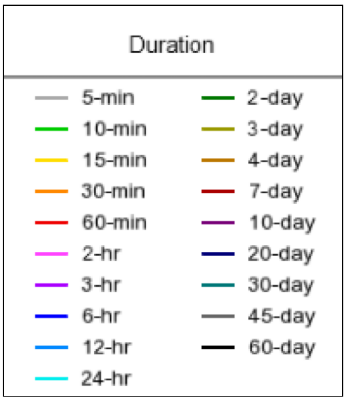
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.9194°, Longitude: -72.6843°









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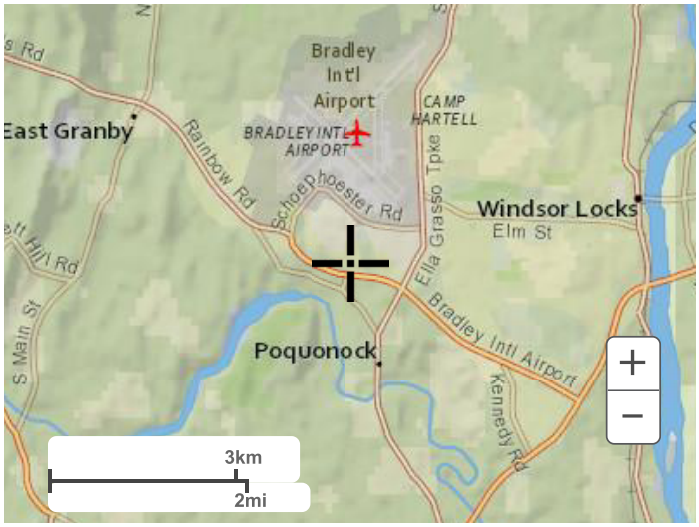
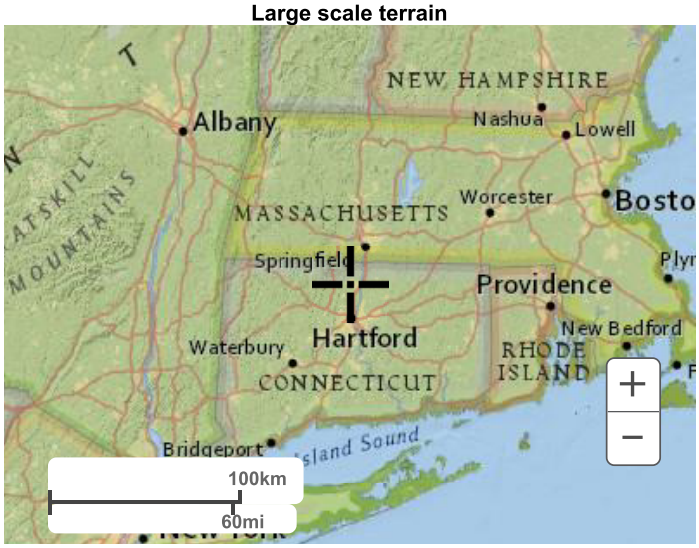
Maps & aerials

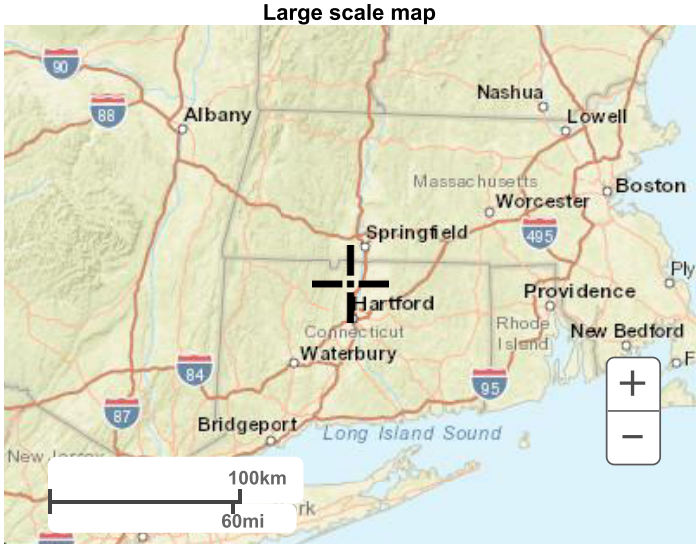
Small scale terrain



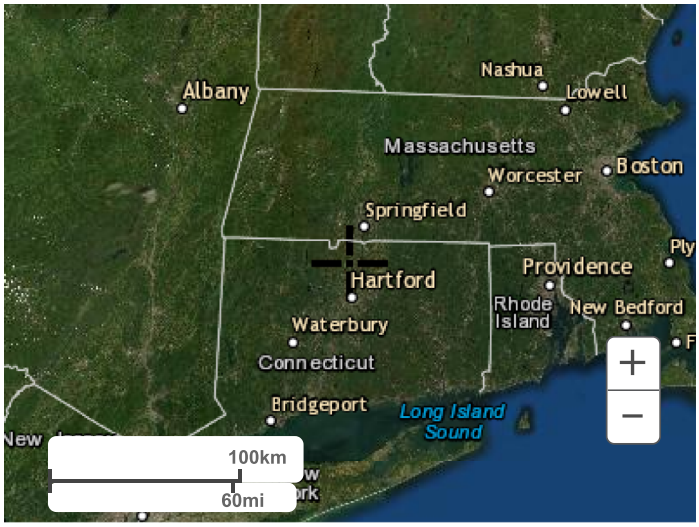
Large scale terrain



Large scale map



Large scale aerial



Back to Top

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

CTDEEP Groundwater Classification Map

WATER QUALITY CLASSIFICATIONS
WINDSOR LOCKS, CT

SURFACE WATER QUALITY CLASSES

A	A
AA	AA
B, B*	B, B*
SA	SA
SB	SB

NOTES:
Surface Water Classifications beginning with S refer to Coastal and Marine Surface Water.
B* is a subset of Class B where no direct wastewater discharges are allowed other than those consistent with Class AA, A and SA surface waters.

GROUND WATER QUALITY CLASSES

GA (white background)
GAA, GAAs
GA, GAA may not meet current standards
GB
GC

Area of Contribution to Public Supply Well

Final Aquifer Protection Area (Level A)
Major Basin Boundary

EXPLANATION

WATER QUALITY CLASSIFICATIONS (WQC) MAPS are one of the elements of the Water Quality Standards (WQS) for the State of Connecticut. The WQS are a part of Connecticut's clean water program and are essential for protecting and improving water quality. The WQS follow the principles of Connecticut's Clean Water Act which is in Chapter 446K of the Connecticut General Statutes. The WQS provide policy guidance in many areas, for example decisions on acceptable discharges to water resources, siting of landfills, remediation or prioritization of municipal sewerage system projects. The first two elements of the WQS are the Standards, which set an overall policy for management of water quality, and the Criteria, which are descriptive and numerical standards that describe the allowable parameters and goals for various water quality classifications. A discussion of these two elements is found in the Water Quality Standards document available on the CT DEEP website. The third element is the Classifications and the Water Quality Classification Maps which show the Classification assigned to each surface and groundwater resource throughout the State. The WQS are adopted using a public participation process. The WQC maps are also adopted using a public participation process but go through hearings separately from the Standards and Criteria hearings. Revision and adoption of the WQC data occurs in accordance with the public participation procedures contained in Section 22a-426 of the Connecticut General Statutes. Ground WQC is subject to Connecticut regulation and changes must be reviewed and adopted. All changes to the Surface WQC require an adoption process which is subject to federal review and approval in addition to CT regulation. The adoption dates for the WQC by major drainage basin are: Housatonic River, Hudson River and Southwest Coastal Basins - March 1999; Connecticut River and South Central Coastal Basins - February 1993; Thames River, Pawcatuck River and Southeast Coastal Basins - December 1986. Surface Water Classifications do not change after the adoption date until the next major revision. Ground Water Classifications may change after the adoption date under specific circumstances. The map may have more than one WQC adoption date because a town may be in more than one major drainage basin.

SURFACE WATERS in Connecticut are divided into freshwater classified as AA, A, B or B* and saline waters classified as SA or SB. Class AA designated uses are existing or proposed drinking water supplies; habitat for fish and other aquatic life and wildlife; recreation; and water supply for industry and agriculture. Class A designated uses are habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; navigation; and water supply for industry and agriculture. Class SA designated uses are habitat for marine fish, other aquatic life and wildlife; shellfish harvesting for direct human consumption; recreation; industrial water supply; and navigation. Class B designated uses are habitat for fish and aquatic life and wildlife; recreation; navigation; and industrial and agricultural water supply. Class B*, applicable to Candlewood Lake, is a subset of Class B and is identical in all ways to the designated uses, criteria and standards for Class B waters except for the restriction on direct discharges. Class SB designated uses are habitat for marine fish and aquatic life and wildlife; commercial shellfish harvesting; recreation; industrial water supply; and navigation.

Surface waters which are not specifically classified shall be considered as Class A or Class AA. Surface waters in GA ground water areas are assumed Class A or Class SA unless otherwise indicated. Surface waters in GAA ground water areas are assumed Class AA unless otherwise indicated.

On the WQC map a surface water quality goal of A is represented by blue colored water bodies. Surface water quality goal of AA is represented by purple colored water bodies. Surface water quality goal of B is represented by gold colored water bodies.

GROUND WATERS in Connecticut are classified as GAA, GA, GB and GC. Class GAA designated uses are existing or potential public supply of water suitable for drinking without treatment and baseflow for hydraulically-connected surface water bodies. The Class GAAs is a subclass of GAA for ground water that is tributary to a public water supply reservoir. The area of contribution to a public water supply well is represented by a 500-foot radius around the well and is assumed to be Class GAA unless otherwise classified. Class GA designated uses are existing private and potential public or private supplies of water suitable for drinking without treatment and baseflow for hydraulically-connected surface water bodies. All ground waters not specifically classified are considered as Class GA. Class GB designated uses are industrial process water and cooling waters and baseflow for hydraulically-connected water bodies and is presumed not suitable for human consumption without treatment. Class GC designated uses are assimilation of discharges authorized by the Commissioner pursuant to Section 22a-430 of the General Statutes.

On the WQC map GA is represented by white colored land areas. Class GAA and class GAAs are represented by blue colored land areas. The area of contribution to a public water supply well is shown by a blue cross-hatch overprint. A notation of GAA followed by a state abbreviation indicates a watershed that contributes to the public water supply for a state other than Connecticut. Class GA or Class GAA areas that currently may not be meeting the GA or GAA standards are represented on the WQC maps by tan colored land areas. Class GB is represented by green colored land areas. Class GC is represented by magenta colored land areas.

FINAL AQUIFER PROTECTION AREAS (Level A) are included on the WQC maps for informational purposes. These areas are anticipated to be reclassified GAA during the next major basin updates, subject to public participation. The Aquifer Protection Program helps protect Connecticut's public drinking water resources by delineating aquifer protection areas (also called wellhead protection areas) for public supply wells and establishing land use regulations within these areas. These areas represent the land area contributing ground water to active public water supply wells or well fields that serve more than 1000 people and are set in sand and gravel aquifers (stratified drift deposits).

DATA SOURCES

WATER QUALITY CLASSIFICATIONS DATA – Water quality classifications shown on this map are based on information from the following digital spatial datasets that are typically shown together – Ground Water Quality Classifications Poly, Surface Water Quality Classifications Line, and Surface Water Quality Classifications Poly. The map legend above reflects the content of these three data sources. These WQC data were initially compiled on 1:24,000-scale 7.5 minute USGS topographic quadrangle maps and later digitized at 1:24,000 scale. For example, the Surface Water Quality Classifications Line and Surface Water Quality Classifications Poly digital data assigns surface water quality classifications to water bodies such as rivers, streams, reservoirs, lakes, ponds and coves found in 1:24,000-scale hydrography data available from CT DEEP. The hydrography may not include all the waterbodies in Connecticut. The Ground Water Quality Classifications Poly data assigns ground water quality classifications, at 1:24,000 scale, to the remaining land areas in Connecticut.

AQUIFER PROTECTION AREA DATA – Aquifer Protection Areas shown on this map are from the Aquifer Protection Area digital dataset which contains polygon data intended to be used at 1:24,000 scale. The dataset contains regulated areas classified as Level A Aquifer Protection Area (Final) and Level B Aquifer Protection Area (Preliminary). The Level B areas are not shown on the WQC maps. The data was collected from 1991 to the present and is actively updated as Final area mapping replaces earlier Preliminary areas. The Aquifer Protection Areas are delineated by the individual water companies owning the well fields and submitted to the CT DEEP for approval. Preliminary mapping provides a general estimate of the area contributing ground water to the well field. Final mapping is based on extensive, site-specific, detailed modeling of the ground water flow system. CT DEEP may adjust Final area boundaries to be consistent with 1:24,000 scale topography and base map data where appropriate during the approval process.

MAJOR DRAINAGE BASIN DATA – Major drainage basins shown on this map are from Major Basin Line data developed by CT DEEP and intended to be used at 1:24,000 scale.

BASE MAP DATA - Based on data originally from 1:24,000-scale USGS 7.5 minute topographic quadrangle maps published between 1969 and 1992. It includes political boundaries, railroads, airports, hydrography, geographic names and geographic places. Streets and street names are from Tele Atlas® copyrighted data. Base map information is neither current nor complete.

RELATED INFORMATION
This map is intended to be printed at its original dimensions in order to maintain the 1:24,000 scale (1 inch = 2000 feet).
WATER QUALITY STANDARDS - Go to the CT DEEP website for a summary and the full text of the "Water Quality Standards" and for other information on water quality.
AQUIFER PROTECTION AREAS - Go to the CT DEEP website for more information.

ADOPTED DATES

Water Quality Standards
February 25, 2011

Thames River, Pawcatuck River and Southeast Coastal Basins: December 1986

Connecticut River and South Central Coastal Basins: February 1993

Housatonic River, Hudson River and Southwest Coastal Basins: March 1999

MAP LOCATION

MAJOR BASINS

1 Pawcatuck
2 Southeast Coast
3 Thames
4 Connecticut
5 South Central Coast
6 Housatonic
7 Southwest Coast
8 Hudson

State Plane Coordinate System of 1983. Zone 3526
Lambert Conformal Conic Projection
North American Datum of 1983

0.5 0 1 Miles
1000 0 1000 2000 3000 4000 5000 6000 7000 Feet
0.5 0 1 Kilometers

SCALE 1:24,000 (1 inch = 2000 feet) when map is printed at original size

STATE OF CONNECTICUT
DEPARTMENT OF
ENERGY & ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127

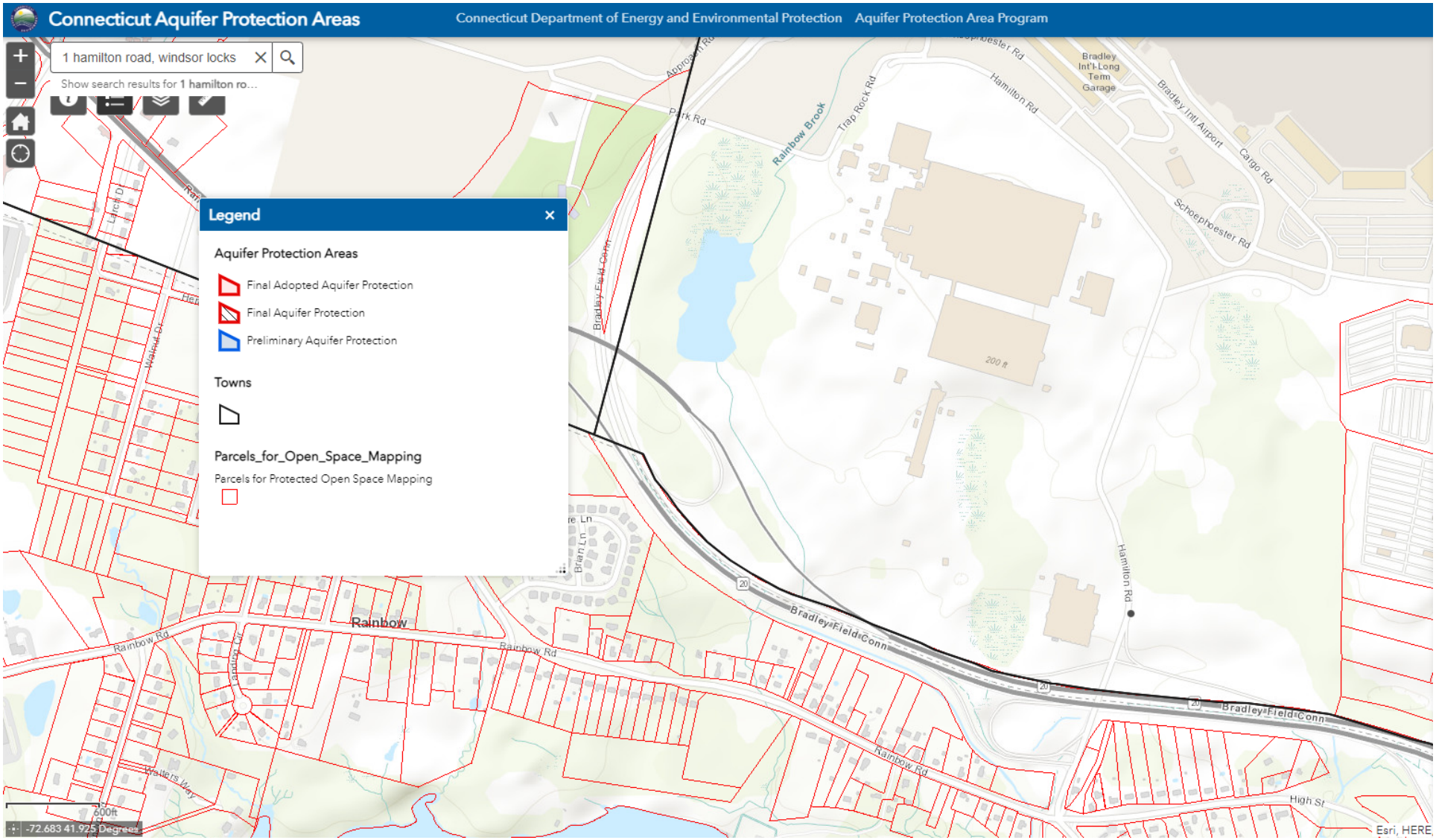
Map created by CT DEEP
October 2018

Map is not colorfast
Protect from light and moisture

SITE

SUFFIELD
ENFIELD
GRANBY
EAST GRANBY
WINDSOR LOCKS
SIMSBURY
EAST WINDSOR
WINDSOR
BLOOMFIELD
SOUTH WINDSOR

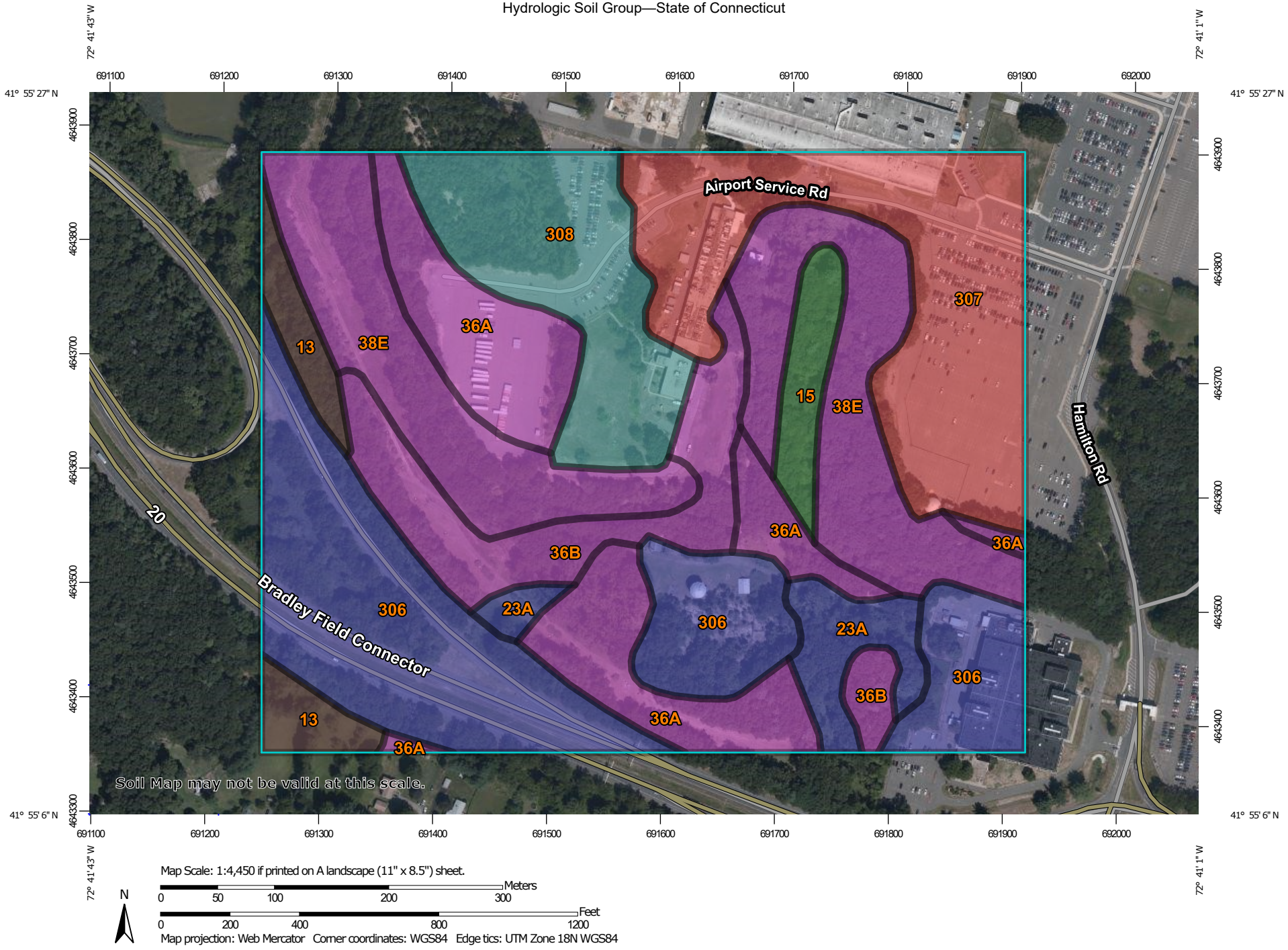
Aquifer Protection Area Map


Connecticut Aquifer Protection Areas
Connecticut Department of Energy and Environmental Protection Aquifer Protection Area Program
1 hamilton road, windsor locks
Show search results for 1 hamilton ro...
Legend
Aquifer Protection Areas
Final Adopted Aquifer Protection
Final Aquifer Protection
Preliminary Aquifer Protection
Towns
Parcels_for_Open_Space_Mapping
Parcels for Protected Open Space Mapping
Rainbow
Rainbow Rd
Bradley Field Conn
Hamilton Rd
Park Rd
Rainbow Brook
Trap Rock Rd
Schoephoester Rd
Cargo Rd
Bradley Int'l Airport
Bradley Int'l Long Term Garage
Brian Ln
Walters Way
High St
600ft
-72.683 41.925 Degrees
Esri, HERE

Appendix B:

NRCS Soil Survey Information
Test Pit and Infiltration Testing Data

NRCS Soil Survey Information


72° 41' 43" W
72° 41' 1" W
691100
691200
691300
691400
691500
691600
691700
691800
691900
692000
41° 55' 27" N
41° 55' 6" N
4643900
4643800
4643700
4643600
4643500
4643400
4643300
Airport Service Rd
Hamilton Rd
Bradley Field Connector
20
308
307
36A
13
38E
15
36B
306
23A
Soil Map may not be valid at this scale.
Map Scale: 1:4,450 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N 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 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: State of Connecticut
Survey Area Data: Version 21, Sep 7, 2021

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

Date(s) aerial images were photographed: Aug 24, 2019—Oct 24, 2019

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
13	Walpole sandy loam, 0 to 3 percent slopes	B/D	2.8	3.2%
15	Scarboro muck, 0 to 3 percent slopes	A/D	2.2	2.5%
23A	Sudbury sandy loam, 0 to 5 percent slopes	B	3.2	3.6%
36A	Windsor loamy sand, 0 to 3 percent slopes	A	11.6	13.2%
36B	Windsor loamy sand, 3 to 8 percent slopes	A	7.3	8.4%
38E	Hinckley loamy sand, 15 to 45 percent slopes	A	17.3	19.8%
306	Udorthents-Urban land complex	B	19.4	22.3%
307	Urban land	D	14.6	16.7%
308	Udorthents, smoothed	C	9.0	10.3%
Totals for Area of Interest			**87.3**	**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.

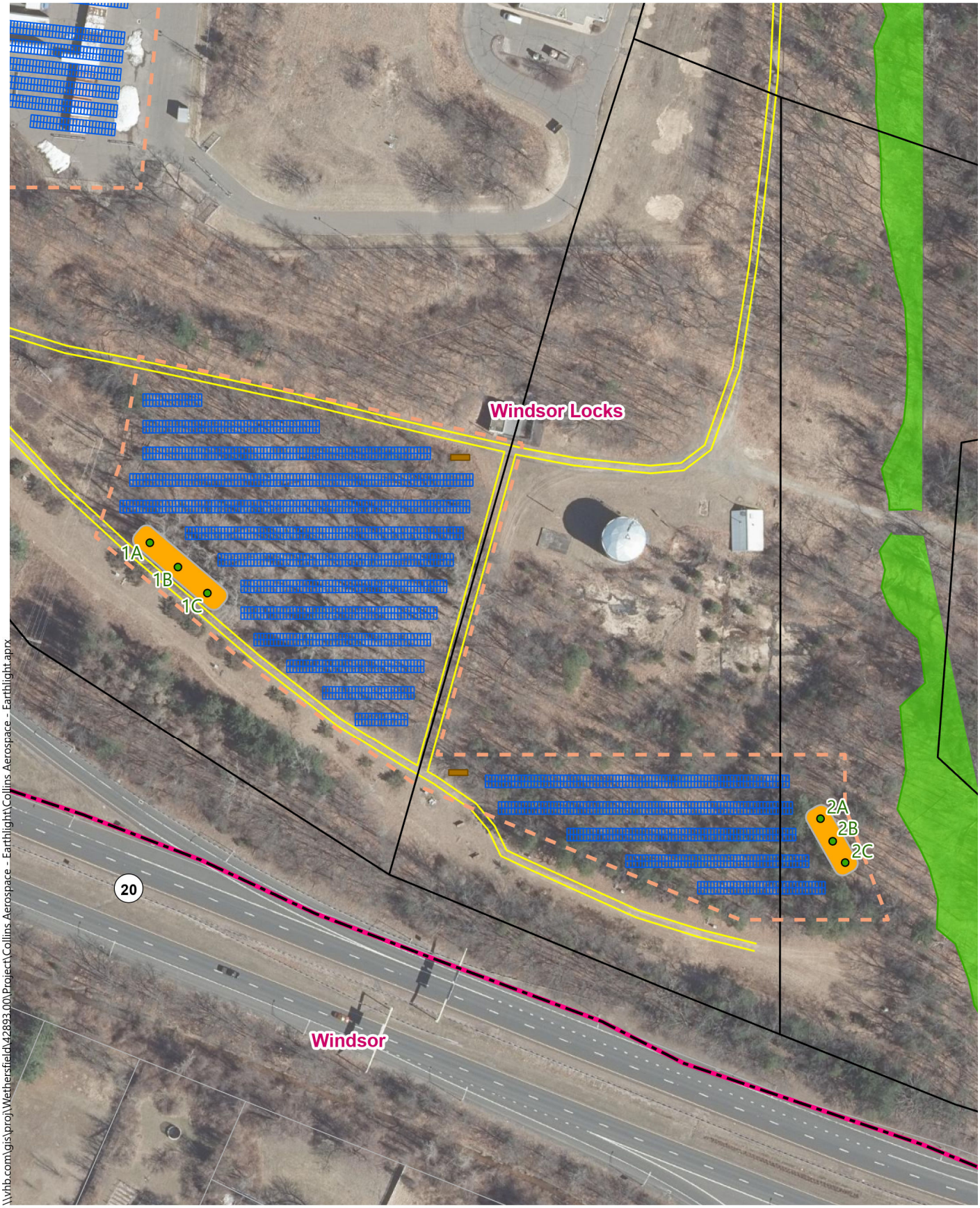
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Test Pit and Infiltration Testing Data



\\vhb.com\gis\proj\Wethersfield\42893.00\Project\Collins Aerospace - Earthlight\Collins Aerospace - Earthlight.aprx

0 50 100 200 Feet

- Project Parcel Boundary
- Parcels
- Solar Panels
- Limit of Clearing
- Stream
- Existing Access Path
- Equipment Pads
- Stormwater Basin
- Test Pit Locations
- Wetland Edge
- Wetland Area
- Town Boundary

Collins Aerospace Solar | Windsor Locks, Connecticut

Test Pit Locations

Source: VHB. CTDEEP, ESRI

Form #2 Technical Standards for Subsurface Sewage Disposal Systems

SITE INVESTIGATION FOR A SUBSURFACE SEWAGE DISPOSAL SYSTEM

Application/Permit #: _____

Property Owner_____Location Collins Aerospace - 1 Hamilton Road, Windsor Locks, CT

DEEP TEST PIT DATA/SOIL DESCRIPTIONS

DATE: 12/12/2022 (Record all Test Pits)

TEST PIT: 1A	TEST PIT: 1B	TEST PIT: 1C	TEST PIT:
existing grade +/- 103.5 0-6" topsoil 6-14" brown fine sandy loam 14-57" grey sandy loam 57-86" red-brown fine sandy loam	existing grade +/- 103.2 0-5" topsoil 5-16" brown fine sandy loam 16-80" grey sandy loam	existing grade +/- 103.9 0-6" topsoil 6-15" brown fine sandy loam 15-92" grey sandy loam	
Mottles: +/- 67"	Mottles: N/A	Mottles: +/- 92"	Mottles:
GW: N/A	GW: N/A	GW: N/A	GW:
Ledge: N/A	Ledge: N/A	Ledge: N/A	Ledge:
Roots:	Roots:	Roots:	Roots:
Restrictive: +/- 97.9	Restrictive: N/A	Restrictive: +/- 96.2	Restrictive:

COMMENTS: _____

GROUNDWATER TABLE (Near max., below max., etc.)_____

SOIL MOISTURE (High, medium, low, etc): _____

PERCOLATION TEST DATA

DATE:_____ (Record all Perc Tests)

PERC: 1A		PERC: 1B		PERC: 1C		PERC:	
DEPTH: 24" @ 12" BENCH		DEPTH: 24" @ 12" BENCH		DEPTH: 24" @ 12" BENCH		DEPTH:	
PRESOAK:		PRESOAK:		PRESOAK:		PRESOAK:	
TIME	READING	TIME	READING	TIME	READING	TIME	READING
10:31 10:36 10:41 10:46 10:50	2" 13" 18" 21" DRY	10:23 10:28 10:31	1" 17" DRY	10:15 10:20 10:24	2" 14" DRY		
PERC RATE: +/- 36" per hour		PERC RATE: +/- 140" per hour		PERC RATE: +/- 150" per hour		PERC RATE:	

COMMENTS: Investigated by Steven J. Kochis, PE - VHB

Form #2 Technical Standards for Subsurface Sewage Disposal Systems

SITE INVESTIGATION FOR A SUBSURFACE SEWAGE DISPOSAL SYSTEM

Application/Permit #: _____

Property Owner_____Location Collins Aerospace - 1 Hamilton Road, Windsor Locks, CT

DEEP TEST PIT DATA/SOIL DESCRIPTIONS

DATE: 12/12/2022 (Record all Test Pits)

TEST PIT: 2A	TEST PIT: 2B	TEST PIT: 2C	TEST PIT:
existing grade +/- 106.5 0-4" topsoil 4-15" dark brown fine sandy loam 15-48" red-brown fine sandy loam 48-78" grey coarse sand	existing grade +/- 106.0 0-4" topsoil 4-12" dark brown fine sandy loam 12-44" red-brown fine sandy loam 44-75" grey coarse sand	existing grade +/- 106.0 0-5" topsoil 5-14" dark brown fine sandy loam 14-48" red-brown fine sandy loam 48-81" grey coarse sand	
Mottles: N/A	Mottles: N/A	Mottles: N/A	Mottles:
GW: N/A	GW: N/A	GW: N/A	GW:
Ledge: N/A	Ledge: N/A	Ledge: N/A	Ledge:
Roots:	Roots:	Roots:	Roots:
Restrictive: N/A	Restrictive: N/A	Restrictive: N/A	Restrictive:

COMMENTS: _____

_____

GROUNDWATER TABLE (Near max., below max., etc.)_____

SOIL MOISTURE (High, medium, low, etc): _____

PERCOLATION TEST DATA

DATE:_____ (Record all Perc Tests)

PERC: 2A		PERC: 2B		PERC: 2C		PERC:	
DEPTH: 24" @ 12" BENCH		DEPTH: 24" @ 12" BENCH		DEPTH: 24" @ 12" BENCH		DEPTH:	
PRESOAK:		PRESOAK:		PRESOAK:		PRESOAK:	
TIME	READING	TIME	READING	TIME	READING	TIME	READING
12:05 12:10 12:15	1" 15" DRY	11:56 12:01 12:02	1" 22" DRY	11:52 11:56	2" DRY		
PERC RATE: +/- 108" per hour		PERC RATE: +/- 120" per hour		PERC RATE: +/- 330" per hour		PERC RATE:	

COMMENTS: Investigated by Steven J. Kochis, PE - VHB

_____

Appendix C:

Erosion and Sedimentation Control Checklist
Long Term Stormwater Operation and Maintenance Measures

Erosion and Sedimentation Control Checklist

Collins Aerospace Solar – Windsor Locks, CT – Hamilton Ave

Best Management Practices – Maintenance/ Evaluation Checklist

Construction Practices

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning/Repair Needed ☐yes ☐no (List Items)	Date of Cleaning/Repair	Performed by
Silt Fencing	Once per week or after a 0.5″ or greater storm event						
Compost Filter Sock	Once per week or after a 0.5″ or greater storm event						
Straw Wattles	Once per week or after a 0.5″ or greater storm event						
Temporary Sediment Trap & Diversion Swales	Once per week or after a 0.5″ or greater storm event						
Vegetated Slope Stabilization	Once per week or after a 0.5″ or greater storm event						
Energy Dissipators	Once per week or after a 0.5″ or greater storm event						

Stormwater Control Manager _____

Long Term Stormwater Operation and Maintenance Measures

Collins Aerospace Solar – Windsor Locks, CT – Hamilton Ave

Best Management Practices – Maintenance/ Evaluation Checklist

Long Term Practices

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning/Repair Needed ☐yes ☐no (List Items)	Date of Cleaning/Repair	Performed by
Trash/Litter	Routinely pick up and remove litter from entire property as required.						
Vegetated Areas	Inspect bi-annually. Replant bare areas upon identification.						
Energy Dissipators	Inspect monthly for the first 3 months and after any rain event exceeding 0.5″. Inspect 2x per year thereafter.						
Diversion Swales	Inspect monthly for the first 3 months and after any rain event exceeding 0.5″. Inspect 2x per year thereafter.						
Infiltration Basin	Inspect monthly for the first 3 months and after any rain event exceeding 0.5″. Inspect 2x per year thereafter.						

Stormwater Control Manager _____

Project Information

Site

Project Name:	Collins Aerospace Solar
Address or Locus:	1 Hamilton Road
City, State & Zip:	Windsor Locks, CT 06096

Developer

Client Name:	Earthlight Technologies
Client Address:	128 West Road
Client City, State & Zip:	Ellington, CT 06029
Client Telephone No.:	(860) 871-9700
Client Cell Phone:	
Client E-Mail:	jake@earthlighttech.com

Site Supervisor

Site Manager Name:	To be determined
Site Manager Address:	
Site Manager City, State & Zip:	
Site Manager Telephone No.:	
Site Manager Cell Phone:	
Site Manager E-Mail:	

Appendix D:

Diversion Swale & Sediment Trap Sizing
HydroCAD: Existing Conditions
HydroCAD: Proposed Conditions

Diversion Swale & Sediment Trap Sizing

Swale Sizing

Swale	1	
9,500	sf	
0.22	ac	

Reference DOT Drainage Manual 2000

Swale Slope, S =	0.010	ft / ft	
Manning's n for bare soil / ECB, n =	0.025		
Q100 (fallow soil) =	2.02	cfs	
Bottom width, w =	1	ft	
Side slopes, X:1 =	3		
Estimated flow depth, d =	0.5	ft	
Q = (1/n) * A * R^(2/3) * S^(1/2)			
A * R^(2/3) = Q / (1/n) / S^(1/2) =	**0.51**	(target for variable depth)	
A = (w * d) + 2 * (0.5d * Xd) =	1.25	sf	
P = w + 2 * (sqrt(d^2 + (Xd)^2) =	4.16	ft	
R = A / P =	0.30	ft	
A * R^(2/3) =	**0.56**	(must be close to target)	
y =	62.4	pcf	
ŧd = y * d * S =	**0.31**	psf	< 1.55 psf for ECB - OK
Velocity, V = Q / A =	**1.62**	fps	< 5.00 fps for ECB - OK

Summary for Subcatchment 1S: (new Subcat)

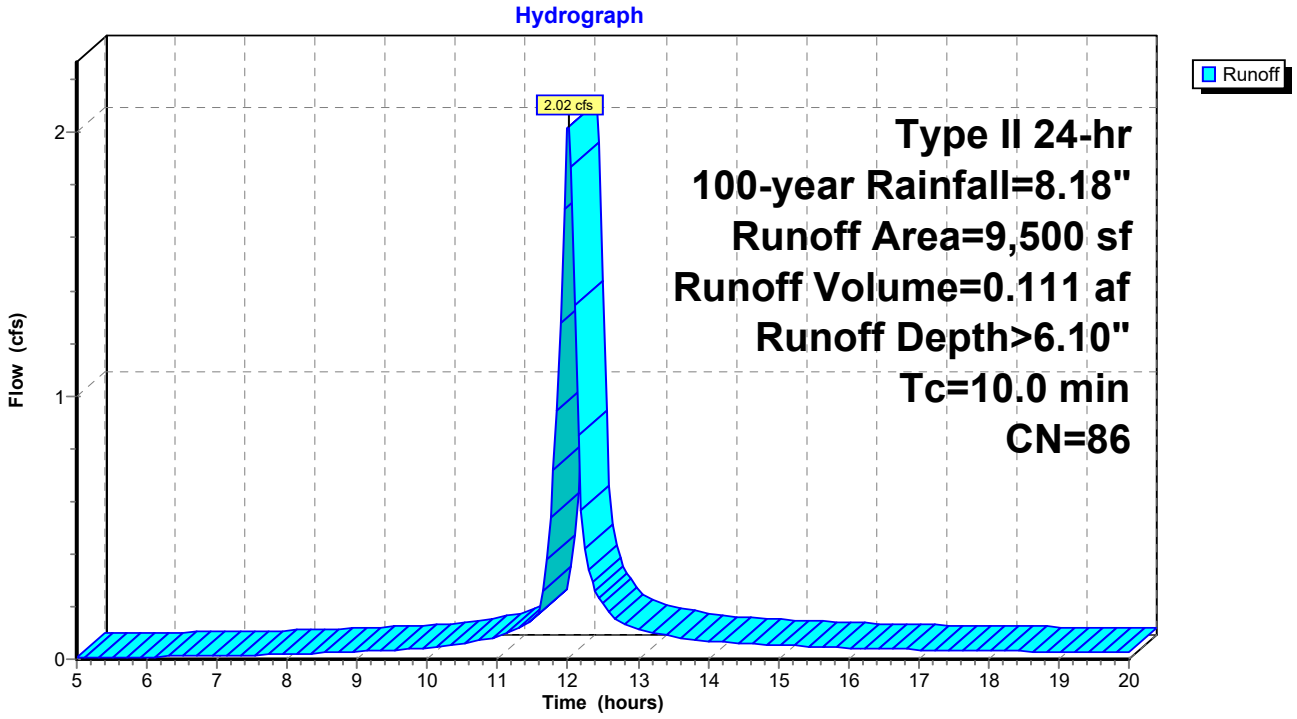
Runoff = 2.02 cfs @ 12.01 hrs, Volume= 0.111 af, Depth> 6.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-year Rainfall=8.18"

Area (sf)	CN	Description
9,500	86	Fallow, bare soil, HSG B
9,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: (new Subcat)

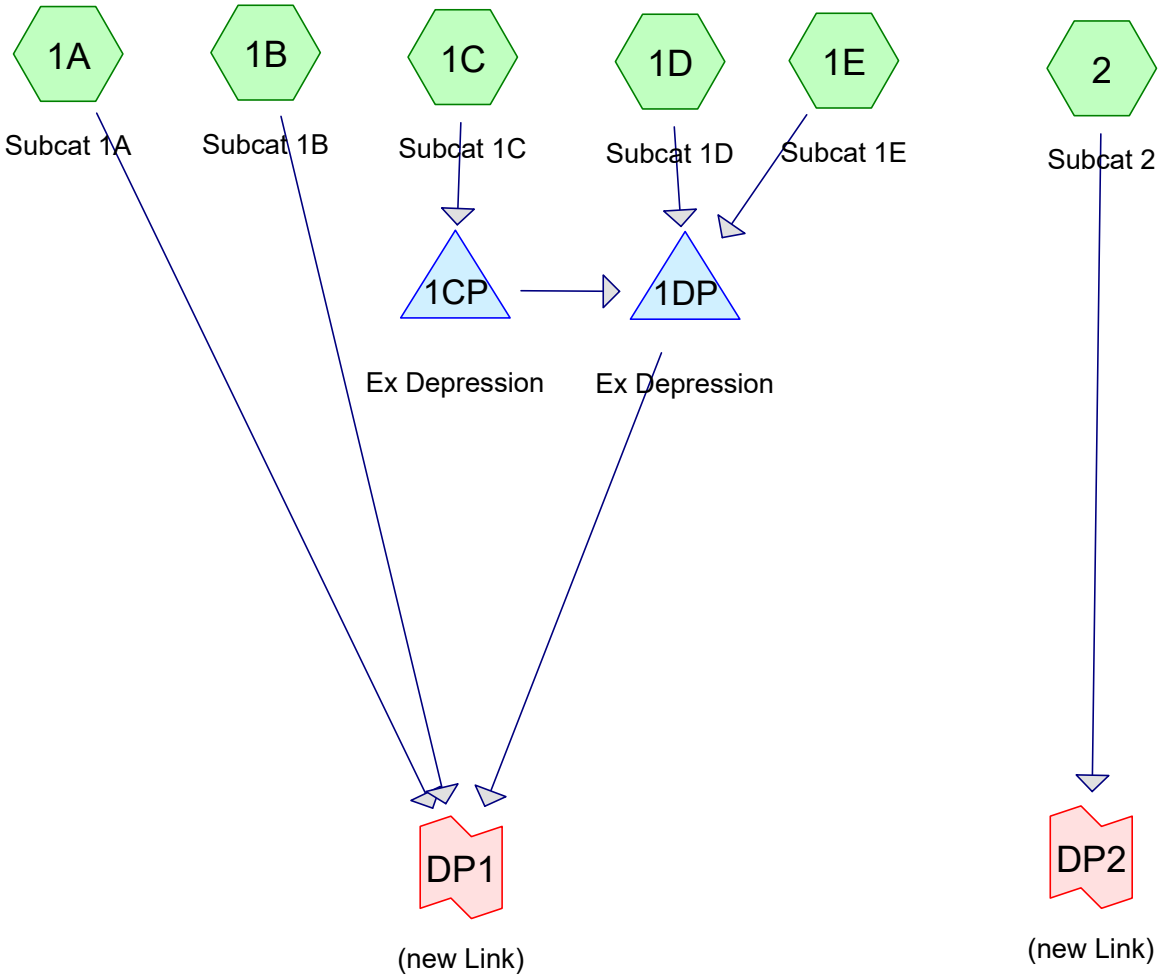


Sediment Trap Sizing
Collins Aerospace Solar
October 2022

TST #	Tributary Acreage, ac	*(134 cy / acre)** Volume Required Below Top of Spillway, cf	Volume Provided in Permanent Basin Below Top of Spillway, cf
1	1.5	5,335	9,500
2	0.7	2,674	6,270

* Per 2002 Connecticut Guidelines for Soil Erosion and Sediment Control

HydroCAD Analysis: Existing Conditions



Subcat Reach Pond Link

Routing Diagram for 42893.00 - Existing Conditions
Prepared by VHB, Printed 12/20/2022

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-year	Type III 24-hr		Default	24.00	1	3.22	2
2	25-year	Type III 24-hr		Default	24.00	1	6.33	2
3	50-year	Type III 24-hr		Default	24.00	1	7.21	2
4	100-year	Type III 24-hr		Default	24.00	1	8.18	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.242	39	>75% Grass cover, Good, HSG A (1A, 1B, 1C, 1D, 1E, 2)
0.289	61	>75% Grass cover, Good, HSG B (1B, 1C, 1D, 1E, 2)
0.054	74	>75% Grass cover, Good, HSG C (1A)
0.203	96	Gravel surface, HSG A (1B, 1C, 1D, 1E)
0.050	96	Gravel surface, HSG B (1B, 1C)
2.575	98	Paved parking, HSG A (1A)
0.271	98	Paved parking, HSG C (1A)
2.663	45	Woods, Poor, HSG A (1A, 1B, 1C, 1D, 1E, 2)
0.586	66	Woods, Poor, HSG B (1B, 1E, 2)
7.933	**67**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
6.683	HSG A	1A, 1B, 1C, 1D, 1E, 2
0.925	HSG B	1B, 1C, 1D, 1E, 2
0.325	HSG C	1A
0.000	HSG D	
0.000	Other	
7.933		**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
1.242	0.289	0.054	0.000	0.000	1.585	>75% Grass cover, Good	1A, 1B, 1C, 1D, 1E, 2
0.203	0.050	0.000	0.000	0.000	0.253	Gravel surface	1B, 1C, 1D, 1E
2.575	0.000	0.271	0.000	0.000	2.846	Paved parking	1A
2.663	0.586	0.000	0.000	0.000	3.249	Woods, Poor	1A, 1B, 1C, 1D, 1E, 2
6.683	**0.925**	**0.325**	**0.000**	**0.000**	**7.933**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=3.867 ac 73.60% Impervious Runoff Depth>1.58"
Tc=10.0 min CN=84 Runoff=6.65 cfs 0.509 af

Subcatchment1B: Subcat 1B Runoff Area=1.474 ac 0.00% Impervious Runoff Depth>0.09"
Tc=10.0 min CN=49 Runoff=0.02 cfs 0.011 af

Subcatchment1C: Subcat 1C Runoff Area=0.674 ac 0.00% Impervious Runoff Depth>0.12"
Tc=10.0 min CN=51 Runoff=0.02 cfs 0.007 af

Subcatchment1D: Subcat 1D Runoff Area=0.596 ac 0.00% Impervious Runoff Depth>0.09"
Tc=10.0 min CN=49 Runoff=0.01 cfs 0.004 af

Subcatchment1E: Subcat 1E Runoff Area=0.583 ac 0.00% Impervious Runoff Depth>0.33"
Tc=10.0 min CN=59 Runoff=0.12 cfs 0.016 af

Subcatchment2: Subcat 2 Runoff Area=0.739 ac 0.00% Impervious Runoff Depth>0.10"
Tc=10.0 min CN=50 Runoff=0.02 cfs 0.006 af

Pond 1CP: Ex Depression Peak Elev=104.88' Storage=18 cf Inflow=0.02 cfs 0.007 af
Outflow=0.02 cfs 0.007 af

Pond 1DP: Ex Depression Peak Elev=104.97' Storage=99 cf Inflow=0.12 cfs 0.020 af
Discarded=0.07 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.020 af

Link DP1: (new Link) Inflow=6.65 cfs 0.520 af
Primary=6.65 cfs 0.520 af

Link DP2: (new Link) Inflow=0.02 cfs 0.006 af
Primary=0.02 cfs 0.006 af

Total Runoff Area = 7.933 ac Runoff Volume = 0.553 af Average Runoff Depth = 0.84"
64.12% Pervious = 5.087 ac 35.88% Impervious = 2.846 ac

Summary for Subcatchment 1A: Subcat 1A

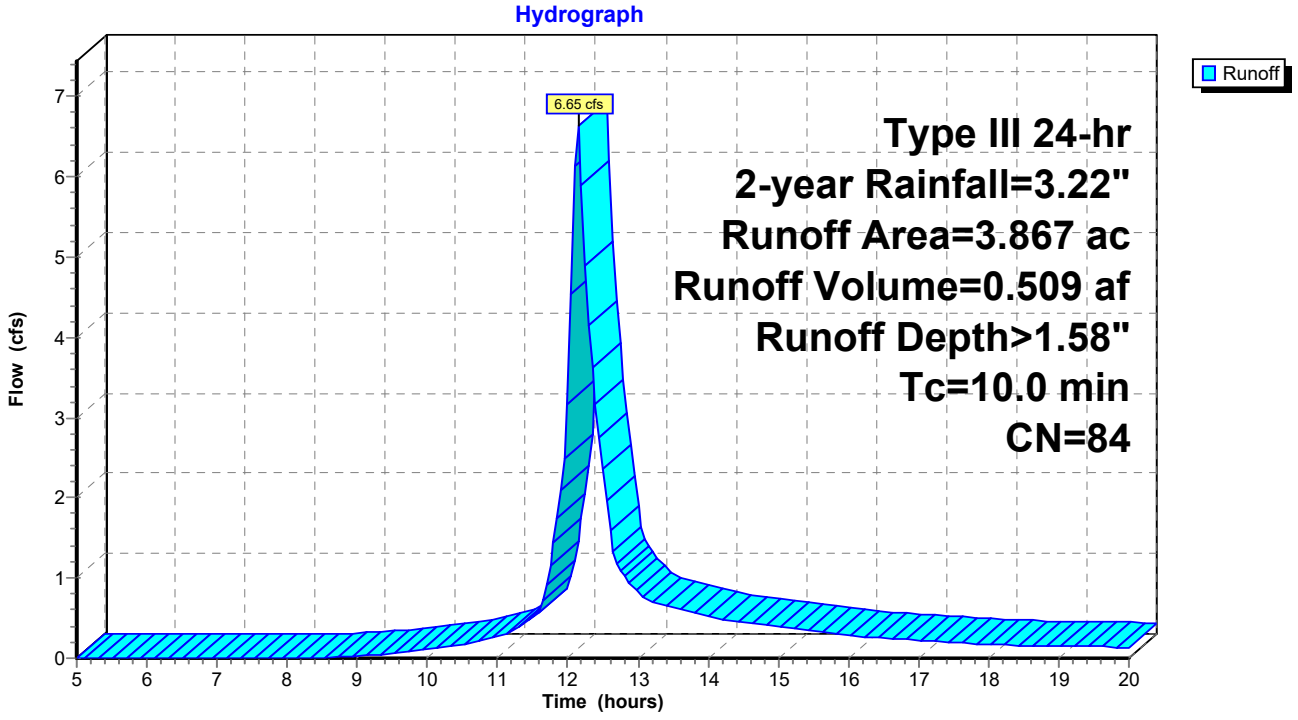
Runoff = 6.65 cfs @ 12.15 hrs, Volume= 0.509 af, Depth> 1.58"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

Area (ac)	CN	Description
0.271	98	Paved parking, HSG C
0.054	74	>75% Grass cover, Good, HSG C
0.285	45	Woods, Poor, HSG A
0.263	98	Paved parking, HSG A
0.131	39	>75% Grass cover, Good, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.238	39	>75% Grass cover, Good, HSG A
2.312	98	Paved parking, HSG A
0.308	45	Woods, Poor, HSG A
3.867	84	Weighted Average
1.021		26.40% Pervious Area
2.846		73.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 1B: Subcat 1B

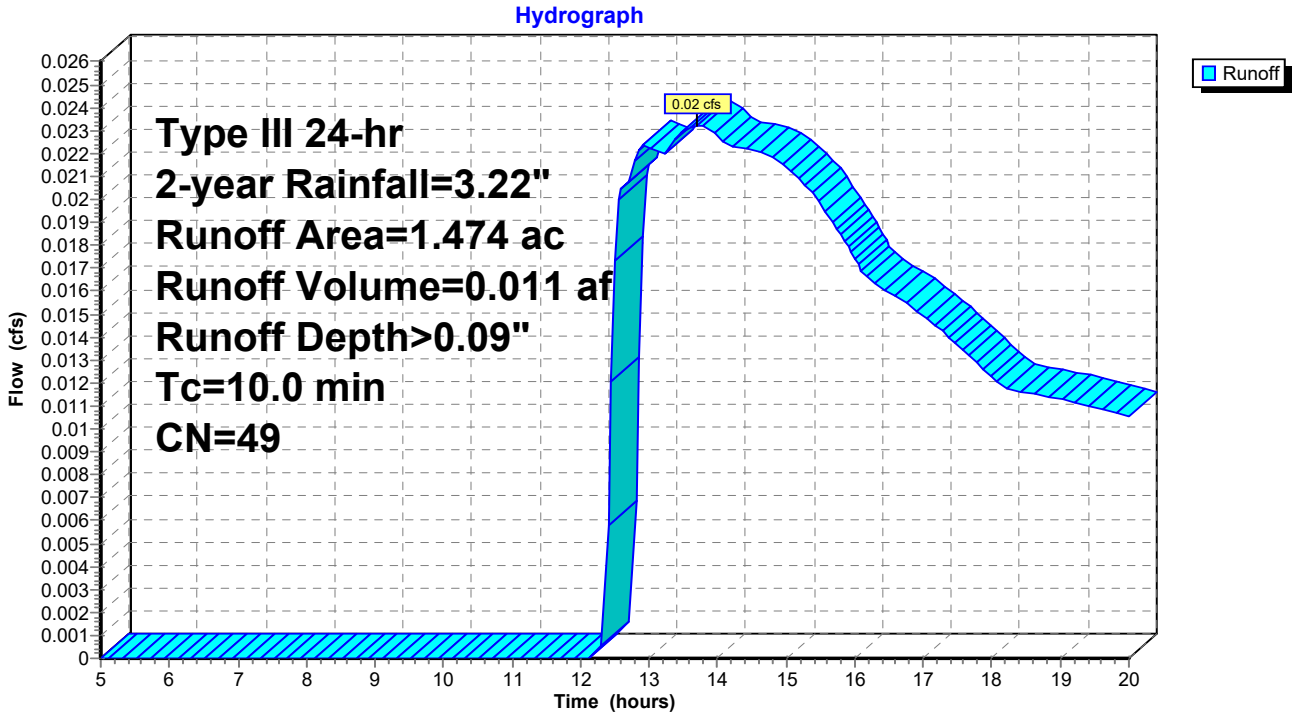
Runoff = 0.02 cfs @ 13.70 hrs, Volume= 0.011 af, Depth> 0.09"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

Area (ac)	CN	Description
0.315	45	Woods, Poor, HSG A
0.036	96	Gravel surface, HSG A
0.154	39	>75% Grass cover, Good, HSG A
0.023	39	>75% Grass cover, Good, HSG A
0.008	96	Gravel surface, HSG A
0.009	39	>75% Grass cover, Good, HSG A
0.031	96	Gravel surface, HSG A
0.499	45	Woods, Poor, HSG A
0.004	96	Gravel surface, HSG A
0.190	39	>75% Grass cover, Good, HSG A
0.120	61	>75% Grass cover, Good, HSG B
0.022	96	Gravel surface, HSG B
0.063	66	Woods, Poor, HSG B
1.474	49	Weighted Average
1.474		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1B: Subcat 1B



Summary for Subcatchment 1C: Subcat 1C

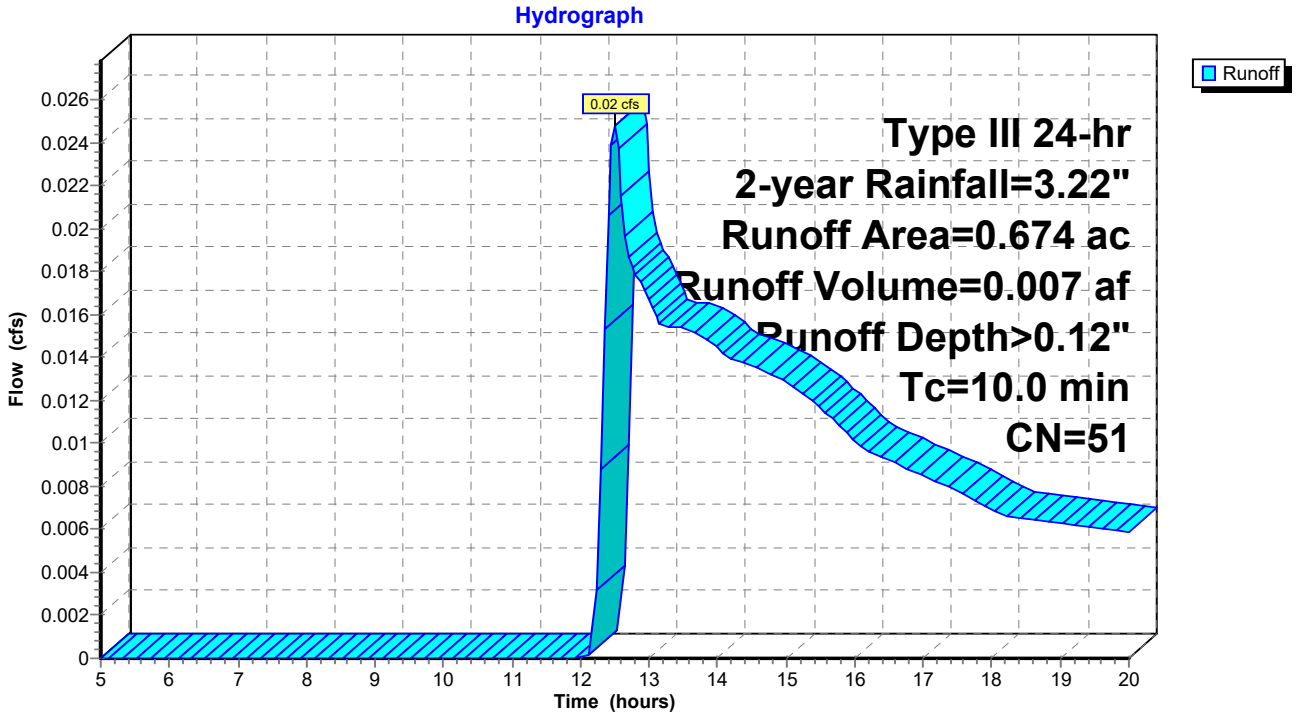
Runoff = 0.02 cfs @ 12.50 hrs, Volume= 0.007 af, Depth> 0.12"
Routed to Pond 1CP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

Area (ac)	CN	Description
0.393	45	Woods, Poor, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.007	39	>75% Grass cover, Good, HSG A
0.071	39	>75% Grass cover, Good, HSG A
0.015	39	>75% Grass cover, Good, HSG A
0.008	96	Gravel surface, HSG A
0.019	96	Gravel surface, HSG A
0.028	96	Gravel surface, HSG B
0.000	66	Woods, Poor, HSG B
0.048	61	>75% Grass cover, Good, HSG B
0.018	61	>75% Grass cover, Good, HSG B
0.006	61	>75% Grass cover, Good, HSG B
0.011	96	Gravel surface, HSG A
0.021	45	Woods, Poor, HSG A
0.020	39	>75% Grass cover, Good, HSG A
0.004	39	>75% Grass cover, Good, HSG A
0.674	51	Weighted Average
0.674		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1C: Subcat 1C



Summary for Subcatchment 1D: Subcat 1D

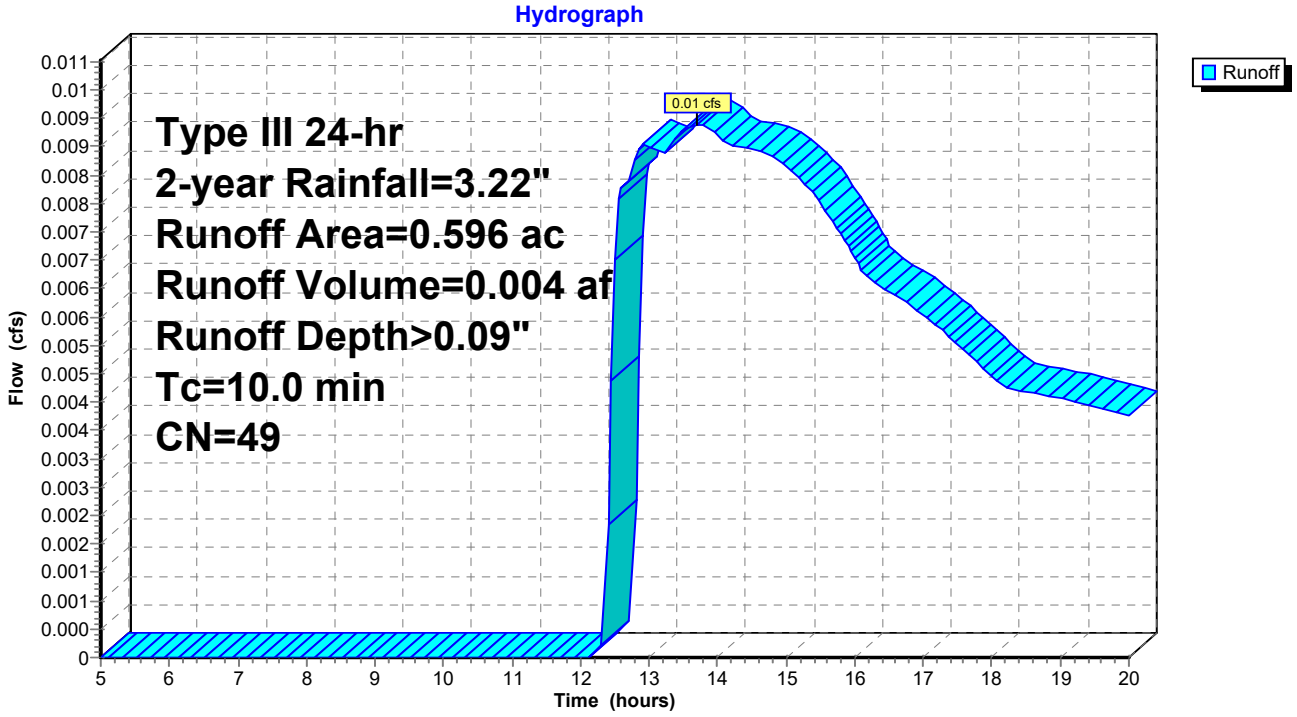
Runoff = 0.01 cfs @ 13.70 hrs, Volume= 0.004 af, Depth> 0.09"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

Area (ac)	CN	Description
0.074	96	Gravel surface, HSG A
0.309	45	Woods, Poor, HSG A
0.015	39	>75% Grass cover, Good, HSG A
0.153	39	>75% Grass cover, Good, HSG A
0.041	39	>75% Grass cover, Good, HSG A
0.004	61	>75% Grass cover, Good, HSG B
0.596	49	Weighted Average
0.596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1D: Subcat 1D



Summary for Subcatchment 1E: Subcat 1E

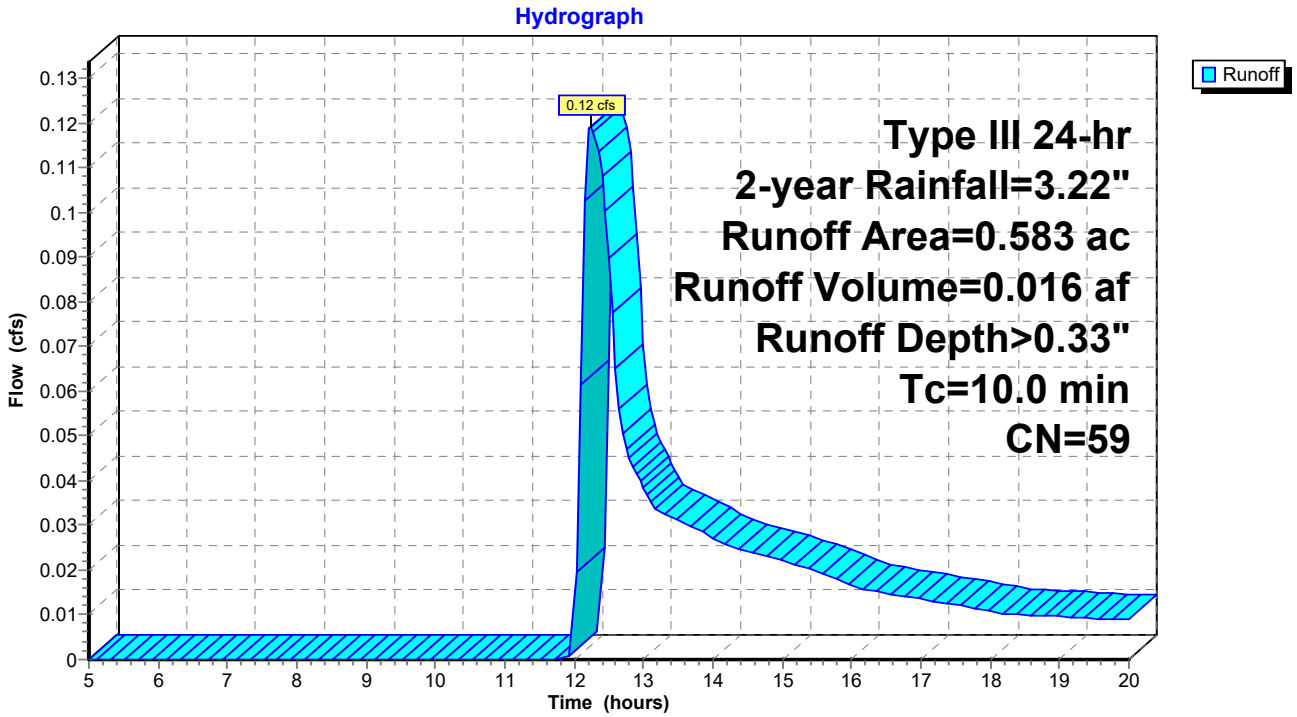
Runoff = 0.12 cfs @ 12.23 hrs, Volume= 0.016 af, Depth> 0.33"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

Area (ac)	CN	Description
0.012	96	Gravel surface, HSG A
0.093	45	Woods, Poor, HSG A
0.007	39	>75% Grass cover, Good, HSG A
0.009	39	>75% Grass cover, Good, HSG A
0.059	39	>75% Grass cover, Good, HSG A
0.000	96	Gravel surface, HSG B
0.321	66	Woods, Poor, HSG B
0.082	61	>75% Grass cover, Good, HSG B
0.583	59	Weighted Average
0.583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1E: Subcat 1E



Summary for Subcatchment 2: Subcat 2

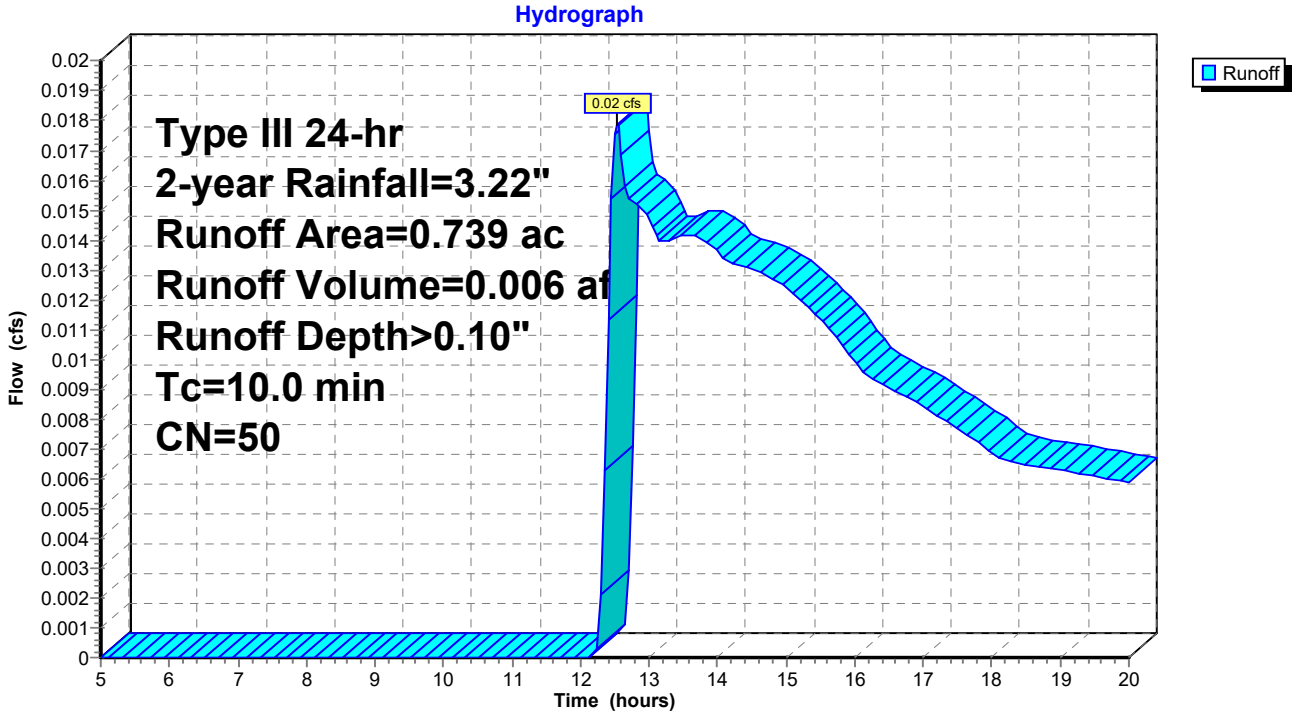
Runoff = 0.02 cfs @ 12.54 hrs, Volume= 0.006 af, Depth> 0.10"
Routed to Link DP2 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

Area (ac)	CN	Description
0.086	39	>75% Grass cover, Good, HSG A
0.440	45	Woods, Poor, HSG A
0.011	61	>75% Grass cover, Good, HSG B
0.202	66	Woods, Poor, HSG B
0.739	50	Weighted Average
0.739		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Pond 1CP: Ex Depression

Inflow Area = 0.674 ac, 0.00% Impervious, Inflow Depth > 0.12" for 2-year event
Inflow = 0.02 cfs @ 12.50 hrs, Volume= 0.007 af
Outflow = 0.02 cfs @ 13.05 hrs, Volume= 0.007 af, Atten= 34%, Lag= 32.8 min
Discarded = 0.02 cfs @ 13.05 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 104.88' @ 13.05 hrs Surf.Area= 141 sf Storage= 18 cf

Plug-Flow detention time= 15.2 min calculated for 0.007 af (98% of inflow)
Center-of-Mass det. time= 11.5 min (930.5 - 919.0)

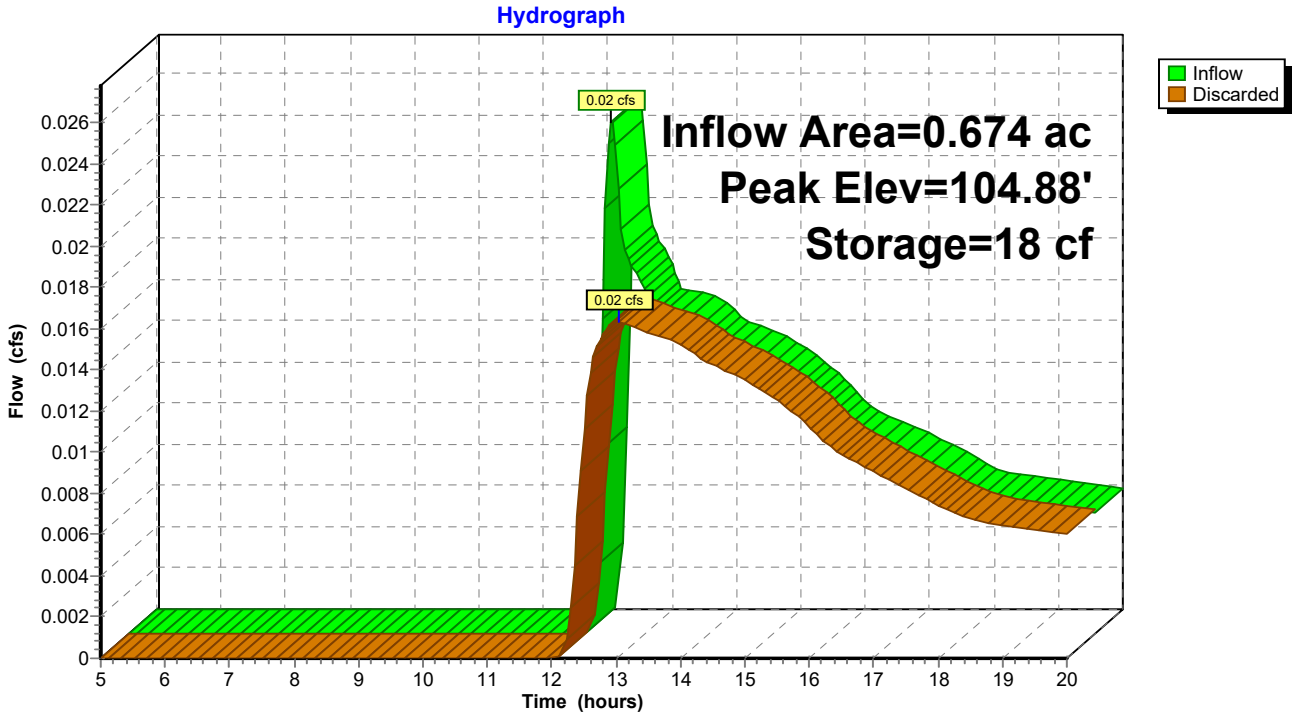
Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	10,413 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	250	42	42	250
106.00	1,600	827	869	1,604
107.00	4,100	2,754	3,623	4,111
108.00	9,900	6,790	10,413	9,918

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.02 cfs @ 13.05 hrs HW=104.88' (Free Discharge)
↑**1=Exfiltration** (Controls 0.02 cfs)

Pond 1CP: Ex Depression



Summary for Pond 1DP: Ex Depression

Inflow Area = 1.853 ac, 0.00% Impervious, Inflow Depth > 0.13" for 2-year event
Inflow = 0.12 cfs @ 12.23 hrs, Volume= 0.020 af
Outflow = 0.07 cfs @ 12.61 hrs, Volume= 0.020 af, Atten= 39%, Lag= 22.7 min
Discarded = 0.07 cfs @ 12.61 hrs, Volume= 0.020 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 104.97' @ 12.61 hrs Surf.Area= 626 sf Storage= 99 cf

Plug-Flow detention time= 16.2 min calculated for 0.020 af (99% of inflow)
Center-of-Mass det. time= 13.4 min (896.3 - 882.9)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	16,720 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

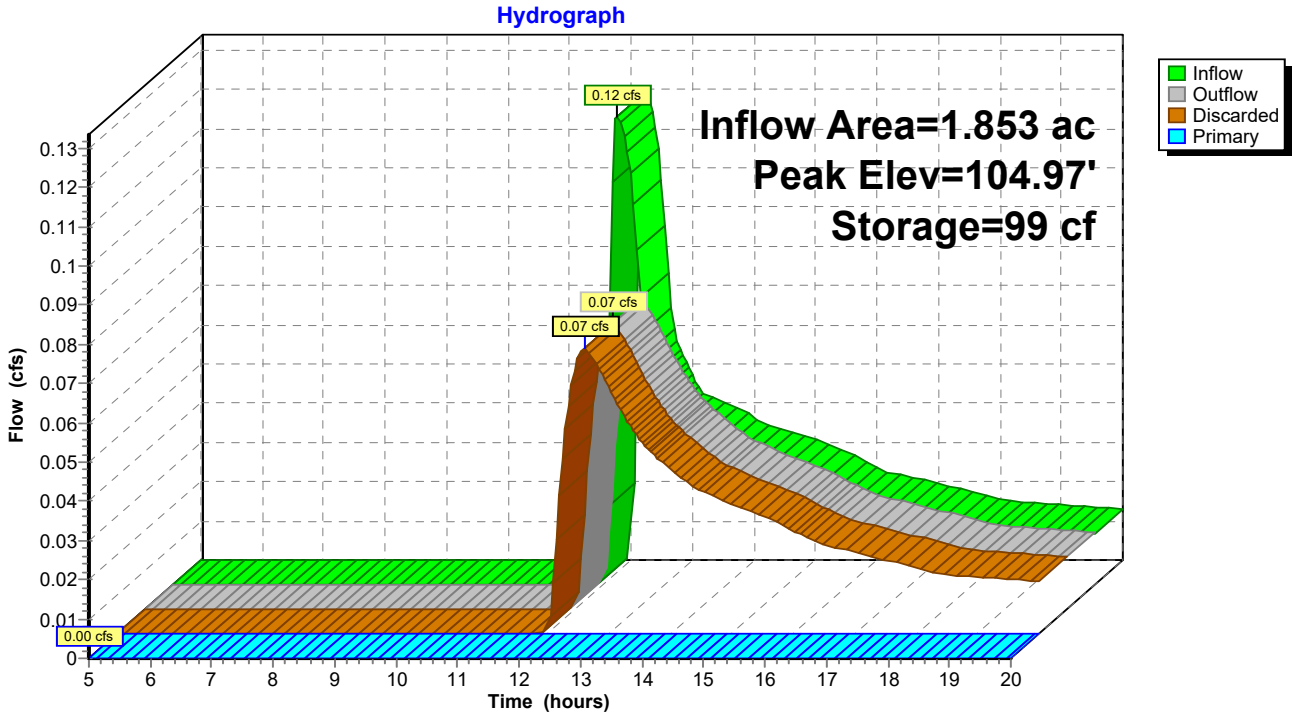
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	700	117	117	700
106.00	7,800	3,612	3,729	7,803
107.00	19,000	12,991	16,720	19,010

Device	Routing	Invert	Outlet Devices
#1	Primary	106.00'	**60.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.07 cfs @ 12.61 hrs HW=104.97' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=104.50' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1DP: Ex Depression

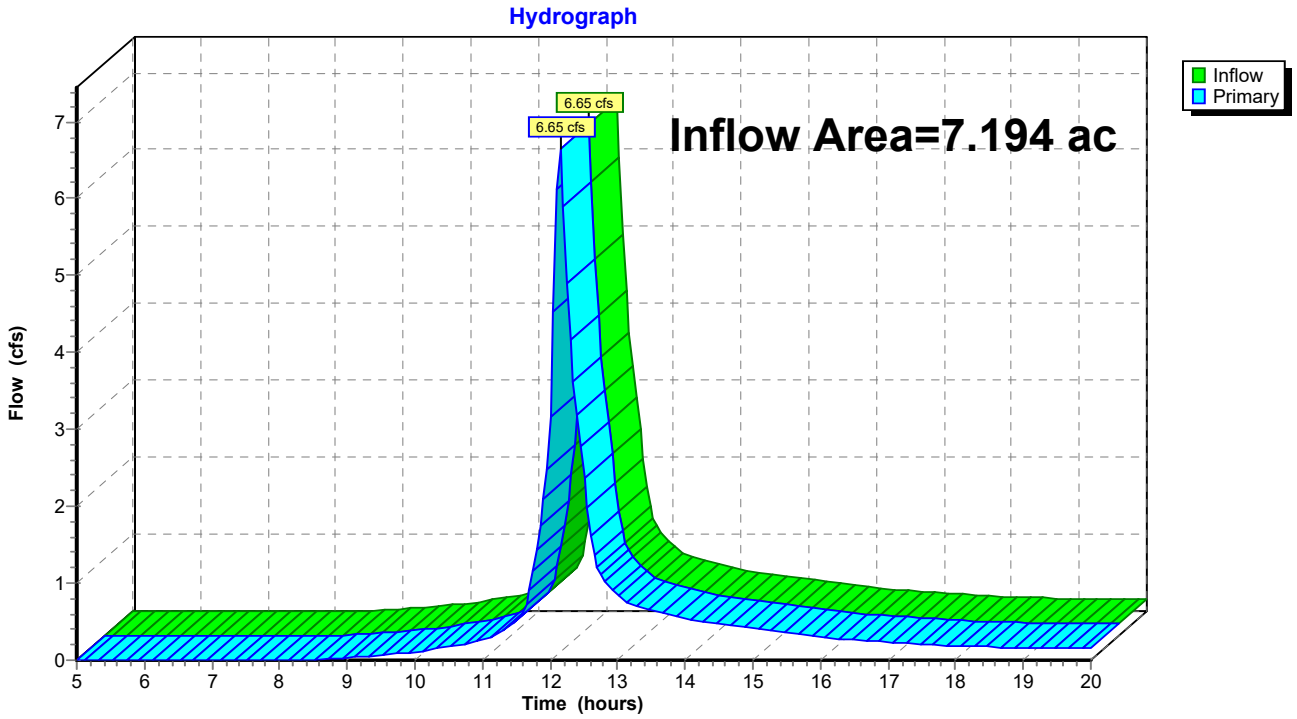


Summary for Link DP1: (new Link)

Inflow Area = 7.194 ac, 39.56% Impervious, Inflow Depth > 0.87" for 2-year event
Inflow = 6.65 cfs @ 12.15 hrs, Volume= 0.520 af
Primary = 6.65 cfs @ 12.15 hrs, Volume= 0.520 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP1: (new Link)

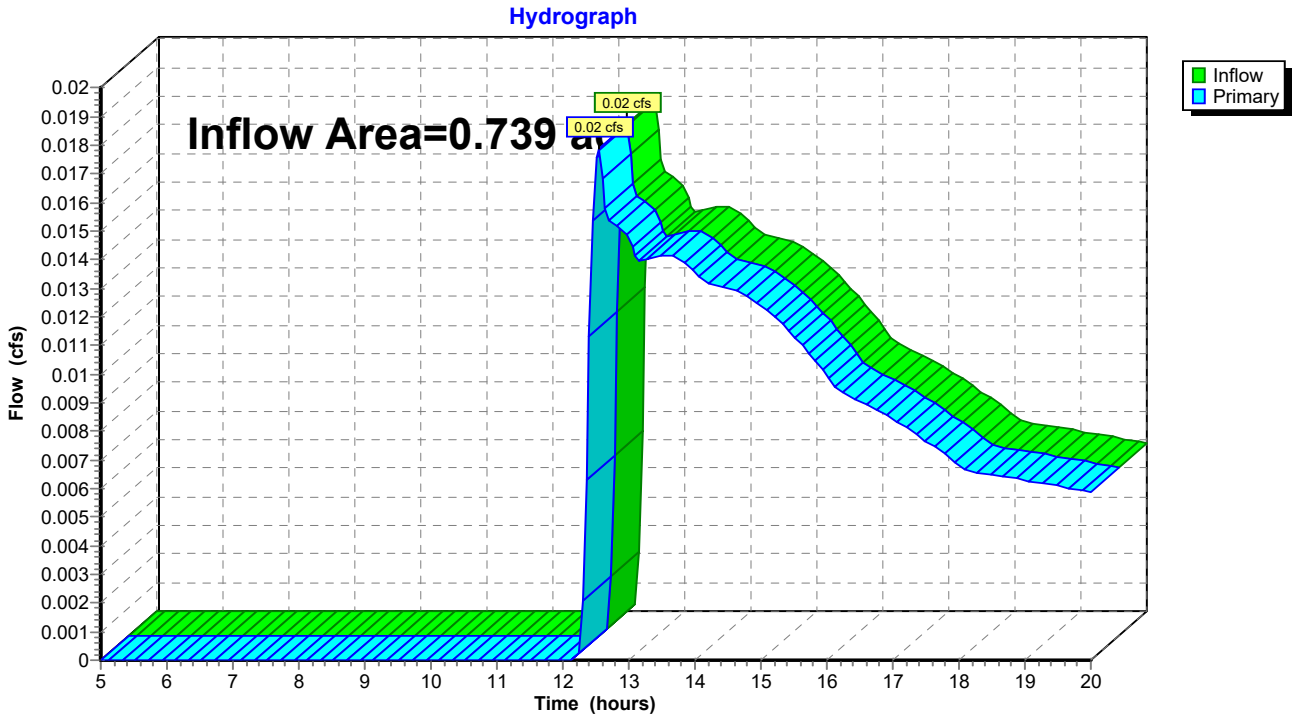


Summary for Link DP2: (new Link)

Inflow Area = 0.739 ac, 0.00% Impervious, Inflow Depth > 0.10" for 2-year event
Inflow = 0.02 cfs @ 12.54 hrs, Volume= 0.006 af
Primary = 0.02 cfs @ 12.54 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP2: (new Link)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=3.867 ac 73.60% Impervious Runoff Depth>4.24"
Tc=10.0 min CN=84 Runoff=17.34 cfs 1.367 af

Subcatchment1B: Subcat 1B Runoff Area=1.474 ac 0.00% Impervious Runoff Depth>1.09"
Tc=10.0 min CN=49 Runoff=1.46 cfs 0.134 af

Subcatchment1C: Subcat 1C Runoff Area=0.674 ac 0.00% Impervious Runoff Depth>1.24"
Tc=10.0 min CN=51 Runoff=0.79 cfs 0.070 af

Subcatchment1D: Subcat 1D Runoff Area=0.596 ac 0.00% Impervious Runoff Depth>1.09"
Tc=10.0 min CN=49 Runoff=0.59 cfs 0.054 af

Subcatchment1E: Subcat 1E Runoff Area=0.583 ac 0.00% Impervious Runoff Depth>1.87"
Tc=10.0 min CN=59 Runoff=1.15 cfs 0.091 af

Subcatchment2: Subcat 2 Runoff Area=0.739 ac 0.00% Impervious Runoff Depth>1.17"
Tc=10.0 min CN=50 Runoff=0.80 cfs 0.072 af

Pond 1CP: Ex Depression Peak Elev=106.03' Storage=926 cf Inflow=0.79 cfs 0.070 af
Outflow=0.19 cfs 0.068 af

Pond 1DP: Ex Depression Peak Elev=105.68' Storage=1,772 cf Inflow=1.73 cfs 0.145 af
Discarded=0.55 cfs 0.143 af Primary=0.00 cfs 0.000 af Outflow=0.55 cfs 0.143 af

Link DP1: (new Link) Inflow=18.75 cfs 1.501 af
Primary=18.75 cfs 1.501 af

Link DP2: (new Link) Inflow=0.80 cfs 0.072 af
Primary=0.80 cfs 0.072 af

Total Runoff Area = 7.933 ac Runoff Volume = 1.787 af Average Runoff Depth = 2.70"
64.12% Pervious = 5.087 ac 35.88% Impervious = 2.846 ac

Summary for Subcatchment 1A: Subcat 1A

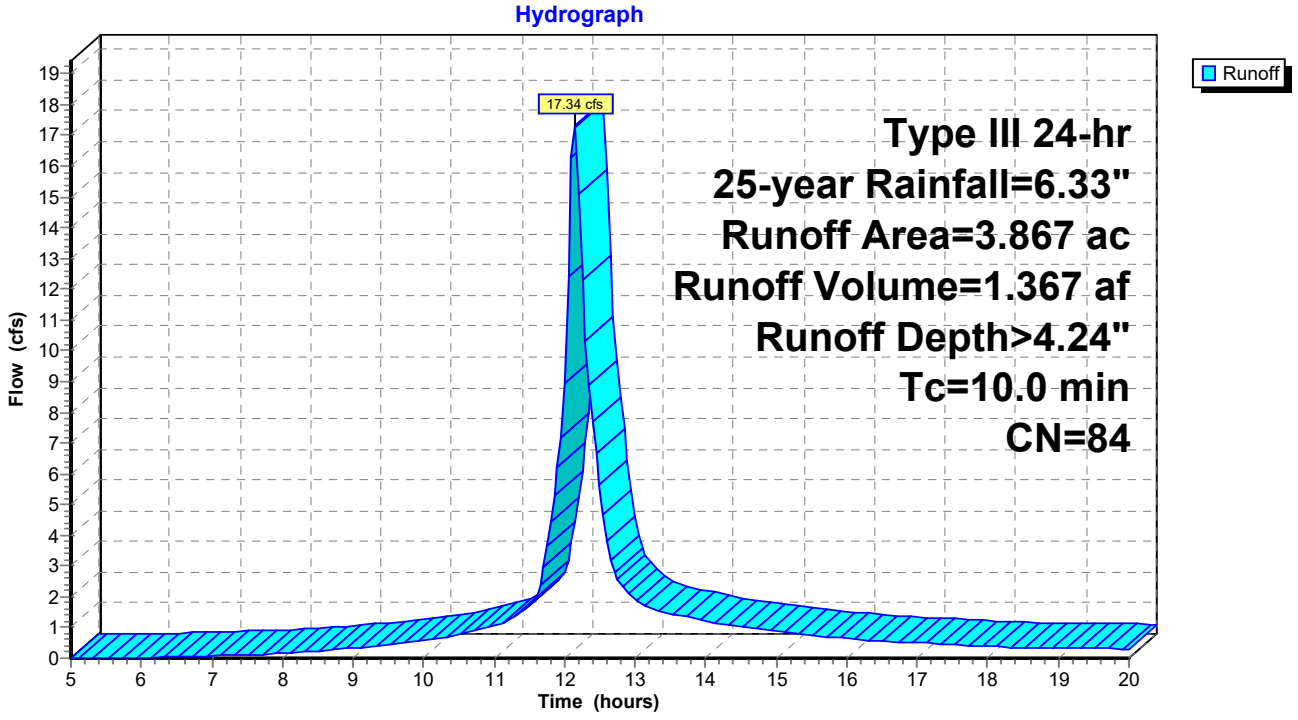
Runoff = 17.34 cfs @ 12.14 hrs, Volume= 1.367 af, Depth> 4.24"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

Area (ac)	CN	Description
0.271	98	Paved parking, HSG C
0.054	74	>75% Grass cover, Good, HSG C
0.285	45	Woods, Poor, HSG A
0.263	98	Paved parking, HSG A
0.131	39	>75% Grass cover, Good, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.238	39	>75% Grass cover, Good, HSG A
2.312	98	Paved parking, HSG A
0.308	45	Woods, Poor, HSG A
3.867	84	Weighted Average
1.021		26.40% Pervious Area
2.846		73.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 1B: Subcat 1B

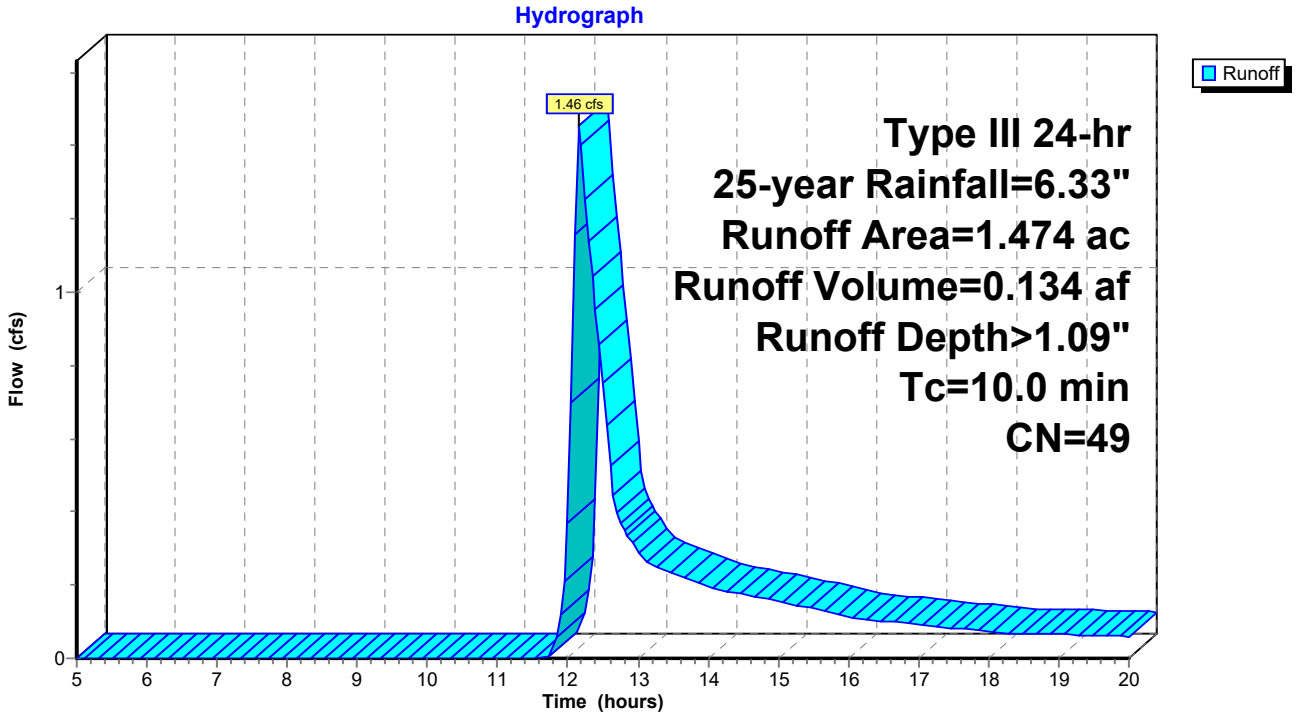
Runoff = 1.46 cfs @ 12.17 hrs, Volume= 0.134 af, Depth> 1.09"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

Area (ac)	CN	Description
0.315	45	Woods, Poor, HSG A
0.036	96	Gravel surface, HSG A
0.154	39	>75% Grass cover, Good, HSG A
0.023	39	>75% Grass cover, Good, HSG A
0.008	96	Gravel surface, HSG A
0.009	39	>75% Grass cover, Good, HSG A
0.031	96	Gravel surface, HSG A
0.499	45	Woods, Poor, HSG A
0.004	96	Gravel surface, HSG A
0.190	39	>75% Grass cover, Good, HSG A
0.120	61	>75% Grass cover, Good, HSG B
0.022	96	Gravel surface, HSG B
0.063	66	Woods, Poor, HSG B
1.474	49	Weighted Average
1.474		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1B: Subcat 1B



Summary for Subcatchment 1C: Subcat 1C

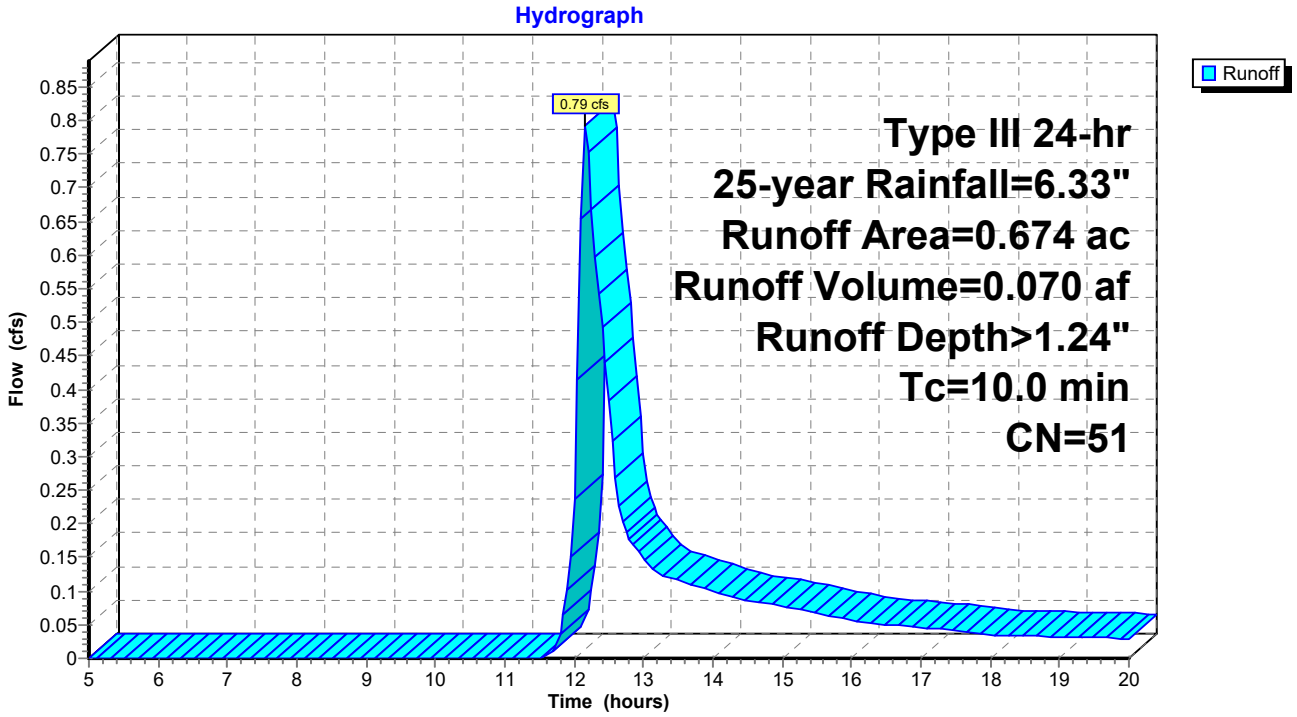
Runoff = 0.79 cfs @ 12.17 hrs, Volume= 0.070 af, Depth> 1.24"
Routed to Pond 1CP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

Area (ac)	CN	Description
0.393	45	Woods, Poor, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.007	39	>75% Grass cover, Good, HSG A
0.071	39	>75% Grass cover, Good, HSG A
0.015	39	>75% Grass cover, Good, HSG A
0.008	96	Gravel surface, HSG A
0.019	96	Gravel surface, HSG A
0.028	96	Gravel surface, HSG B
0.000	66	Woods, Poor, HSG B
0.048	61	>75% Grass cover, Good, HSG B
0.018	61	>75% Grass cover, Good, HSG B
0.006	61	>75% Grass cover, Good, HSG B
0.011	96	Gravel surface, HSG A
0.021	45	Woods, Poor, HSG A
0.020	39	>75% Grass cover, Good, HSG A
0.004	39	>75% Grass cover, Good, HSG A
0.674	51	Weighted Average
0.674		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1C: Subcat 1C



Summary for Subcatchment 1D: Subcat 1D

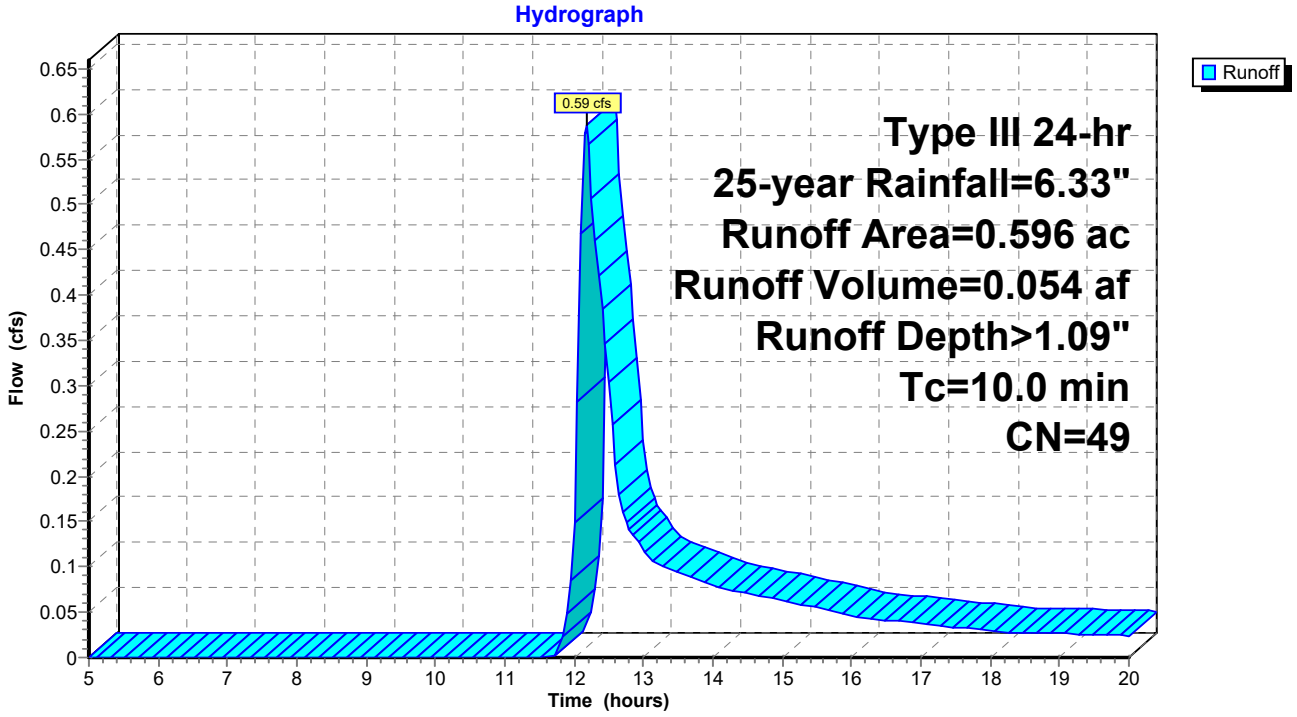
Runoff = 0.59 cfs @ 12.17 hrs, Volume= 0.054 af, Depth> 1.09"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

Area (ac)	CN	Description
0.074	96	Gravel surface, HSG A
0.309	45	Woods, Poor, HSG A
0.015	39	>75% Grass cover, Good, HSG A
0.153	39	>75% Grass cover, Good, HSG A
0.041	39	>75% Grass cover, Good, HSG A
0.004	61	>75% Grass cover, Good, HSG B
0.596	49	Weighted Average
0.596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1D: Subcat 1D



Summary for Subcatchment 1E: Subcat 1E

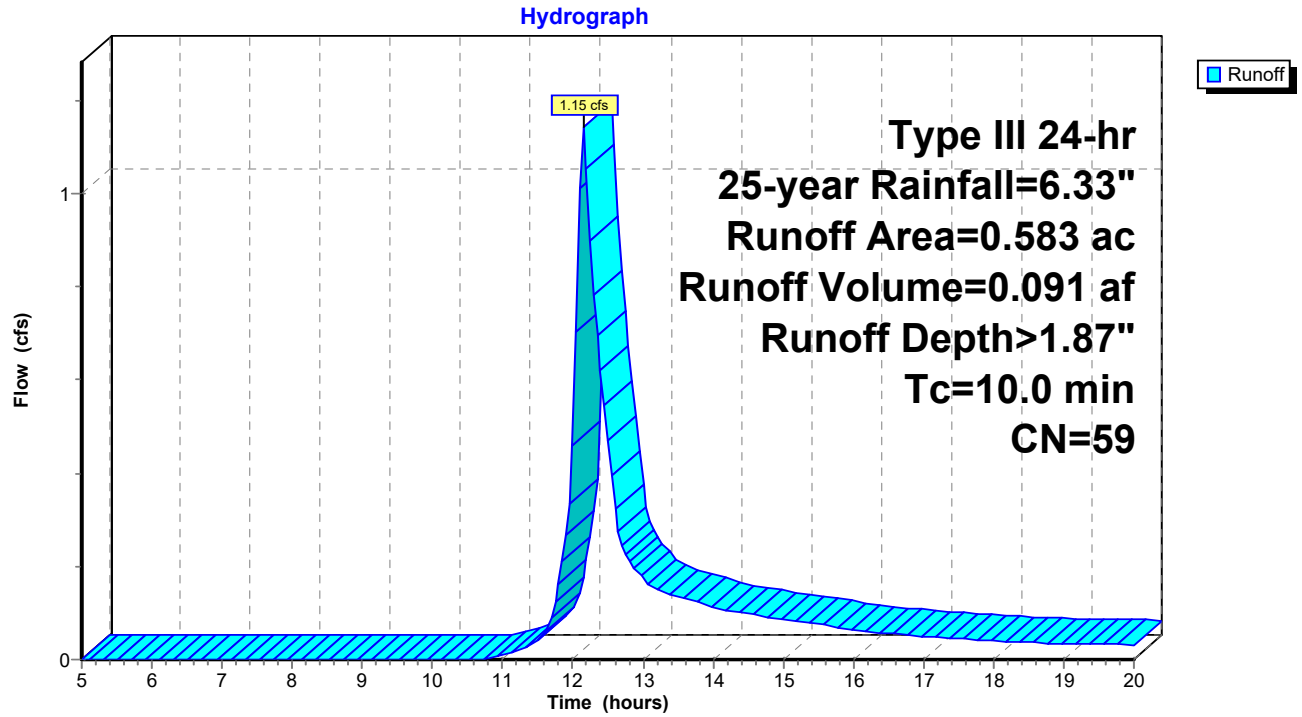
Runoff = 1.15 cfs @ 12.15 hrs, Volume= 0.091 af, Depth> 1.87"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

Area (ac)	CN	Description
0.012	96	Gravel surface, HSG A
0.093	45	Woods, Poor, HSG A
0.007	39	>75% Grass cover, Good, HSG A
0.009	39	>75% Grass cover, Good, HSG A
0.059	39	>75% Grass cover, Good, HSG A
0.000	96	Gravel surface, HSG B
0.321	66	Woods, Poor, HSG B
0.082	61	>75% Grass cover, Good, HSG B
0.583	59	Weighted Average
0.583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1E: Subcat 1E



Summary for Subcatchment 2: Subcat 2

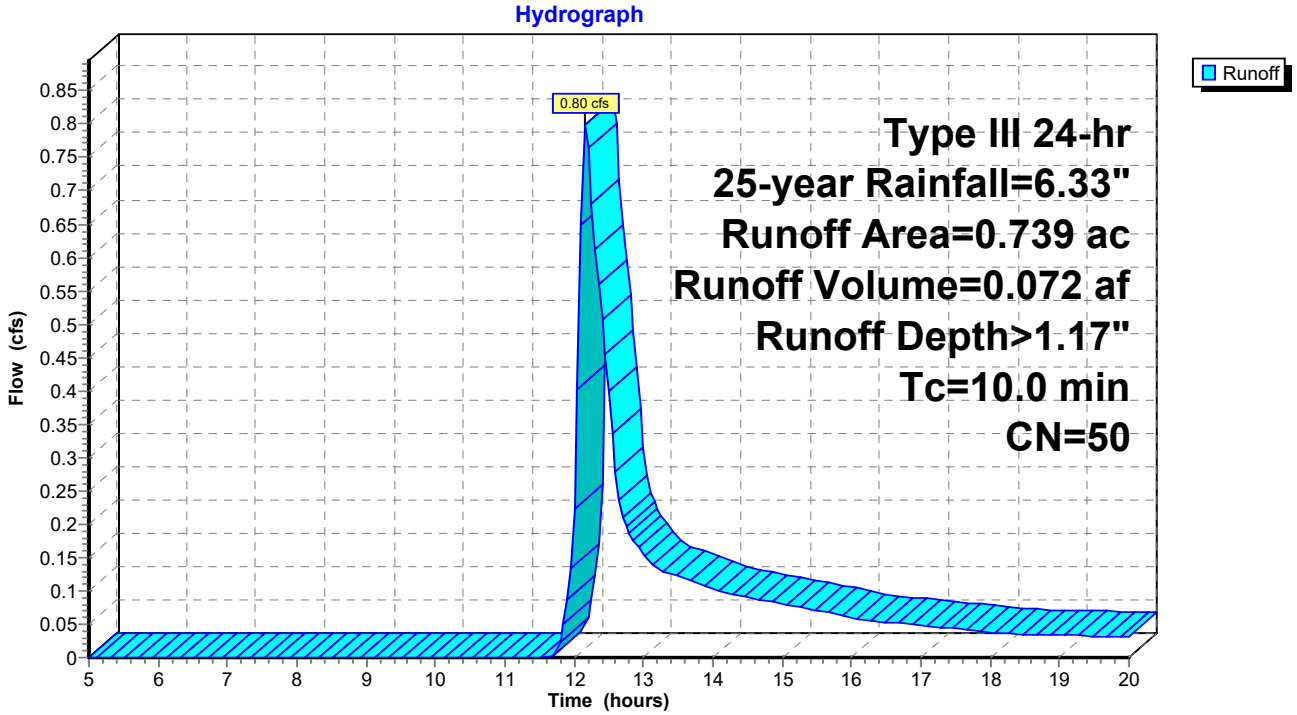
Runoff = 0.80 cfs @ 12.17 hrs, Volume= 0.072 af, Depth> 1.17"
Routed to Link DP2 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

Area (ac)	CN	Description
0.086	39	>75% Grass cover, Good, HSG A
0.440	45	Woods, Poor, HSG A
0.011	61	>75% Grass cover, Good, HSG B
0.202	66	Woods, Poor, HSG B
0.739	50	Weighted Average
0.739		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Pond 1CP: Ex Depression

Inflow Area = 0.674 ac, 0.00% Impervious, Inflow Depth > 1.24" for 25-year event
Inflow = 0.79 cfs @ 12.17 hrs, Volume= 0.070 af
Outflow = 0.19 cfs @ 12.73 hrs, Volume= 0.068 af, Atten= 75%, Lag= 33.7 min
Discarded = 0.19 cfs @ 12.73 hrs, Volume= 0.068 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 106.03' @ 12.73 hrs Surf.Area= 1,667 sf Storage= 926 cf

Plug-Flow detention time= 61.7 min calculated for 0.068 af (98% of inflow)
Center-of-Mass det. time= 55.4 min (894.1 - 838.7)

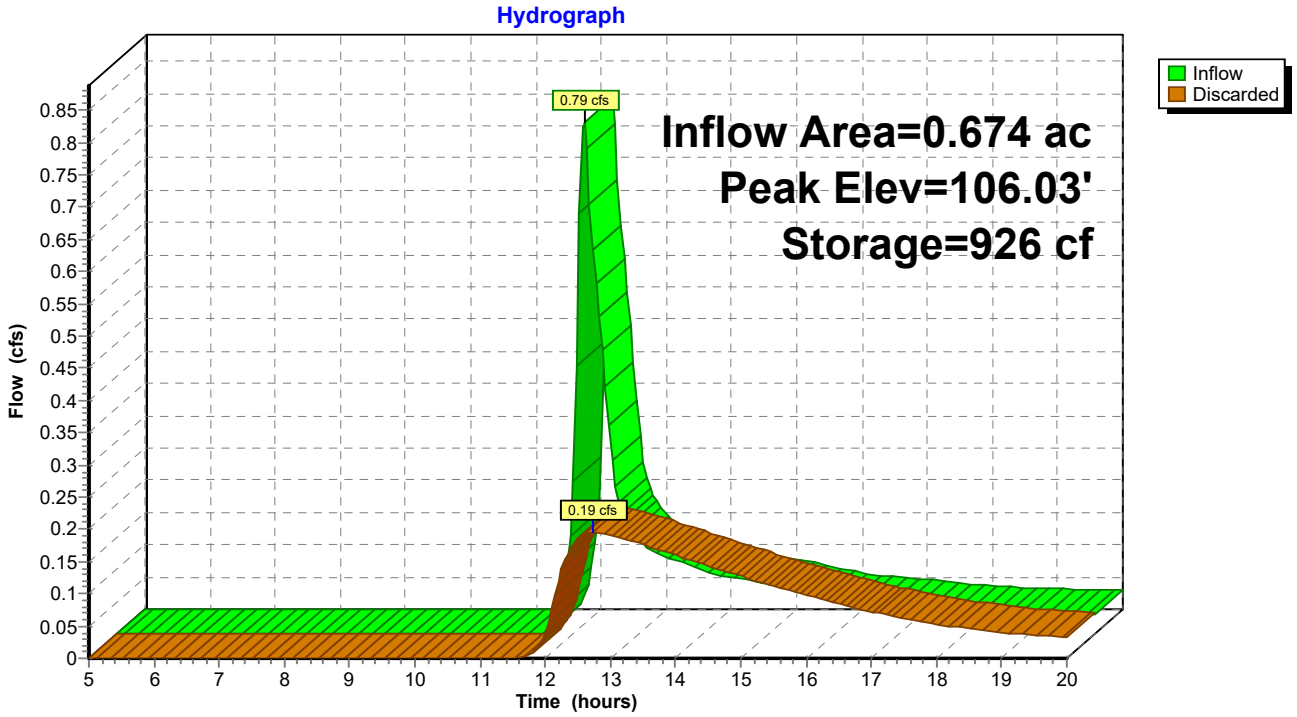
Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	10,413 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	250	42	42	250
106.00	1,600	827	869	1,604
107.00	4,100	2,754	3,623	4,111
108.00	9,900	6,790	10,413	9,918

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.19 cfs @ 12.73 hrs HW=106.03' (Free Discharge)
↑**1=Exfiltration** (Controls 0.19 cfs)

Pond 1CP: Ex Depression



Summary for Pond 1DP: Ex Depression

Inflow Area = 1.853 ac, 0.00% Impervious, Inflow Depth > 0.94" for 25-year event
Inflow = 1.73 cfs @ 12.16 hrs, Volume= 0.145 af
Outflow = 0.55 cfs @ 12.60 hrs, Volume= 0.143 af, Atten= 68%, Lag= 26.3 min
Discarded = 0.55 cfs @ 12.60 hrs, Volume= 0.143 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 105.68' @ 12.60 hrs Surf.Area= 4,734 sf Storage= 1,772 cf

Plug-Flow detention time= 40.0 min calculated for 0.143 af (99% of inflow)
Center-of-Mass det. time= 35.8 min (865.7 - 829.8)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	16,720 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

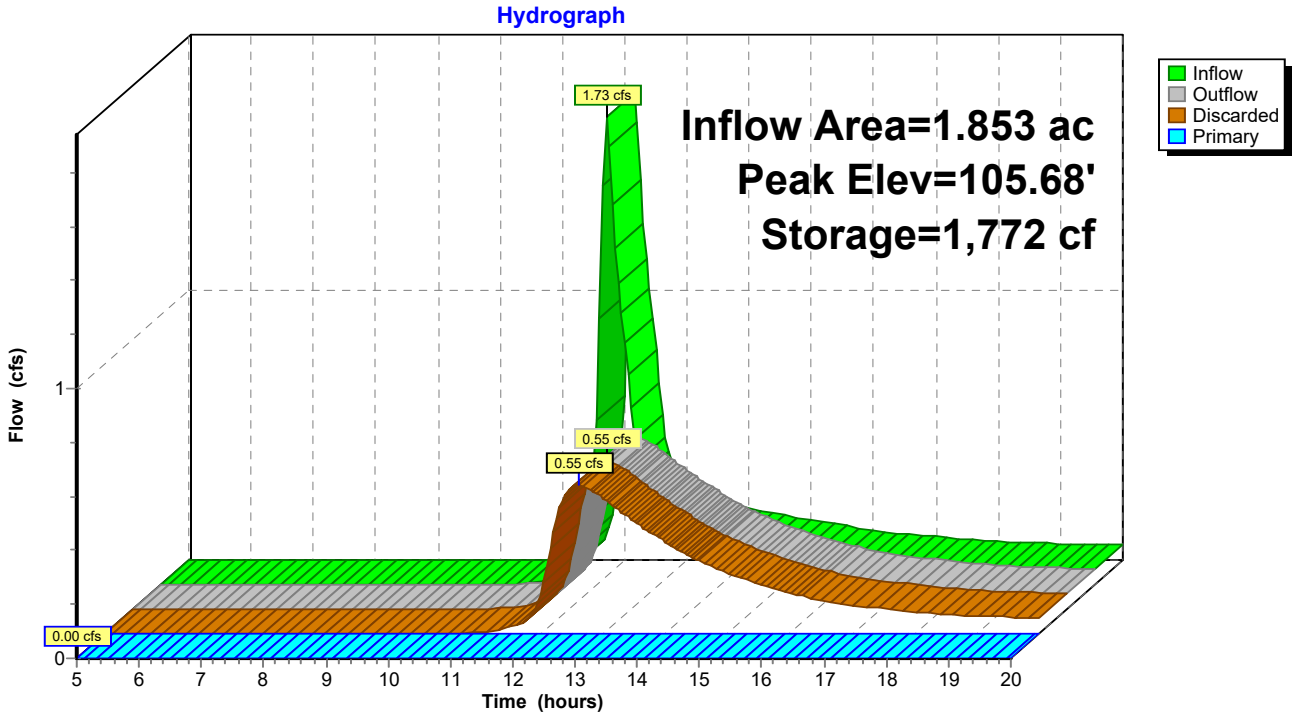
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	700	117	117	700
106.00	7,800	3,612	3,729	7,803
107.00	19,000	12,991	16,720	19,010

Device	Routing	Invert	Outlet Devices
#1	Primary	106.00'	**60.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.55 cfs @ 12.60 hrs HW=105.68' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.55 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=104.50' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1DP: Ex Depression

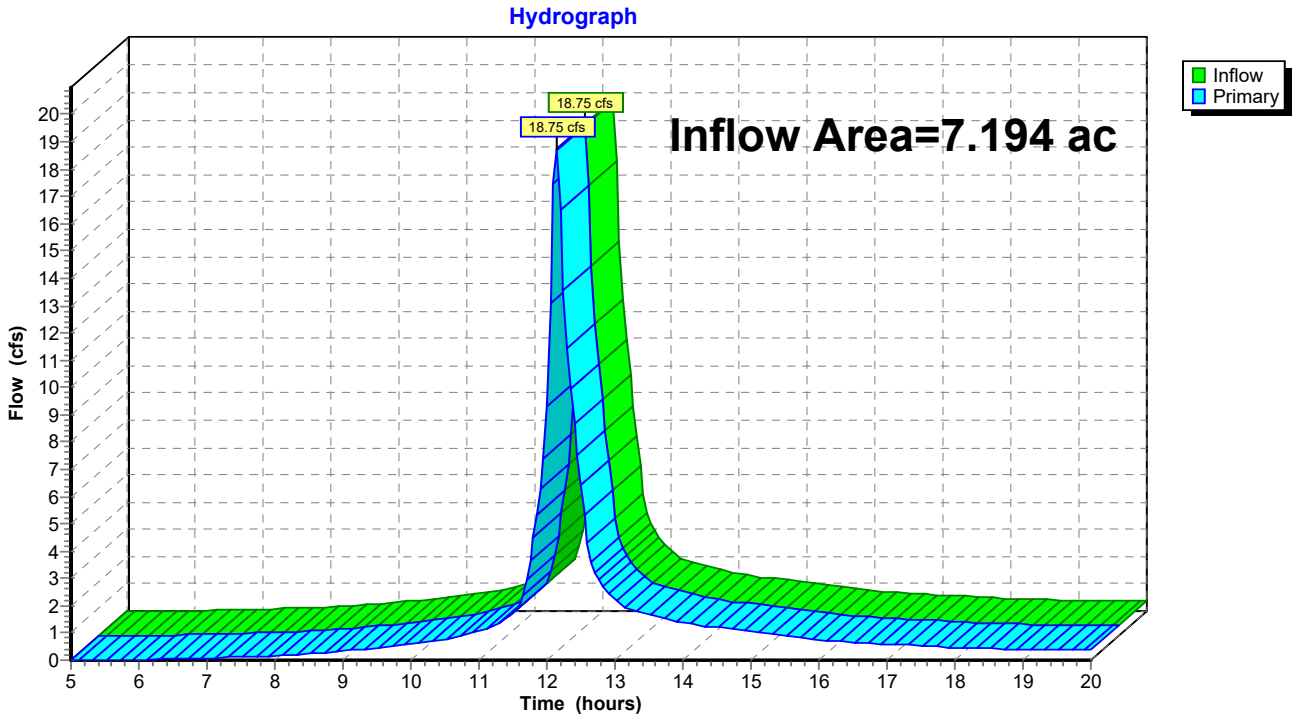


Summary for Link DP1: (new Link)

Inflow Area = 7.194 ac, 39.56% Impervious, Inflow Depth > 2.50" for 25-year event
Inflow = 18.75 cfs @ 12.14 hrs, Volume= 1.501 af
Primary = 18.75 cfs @ 12.14 hrs, Volume= 1.501 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP1: (new Link)

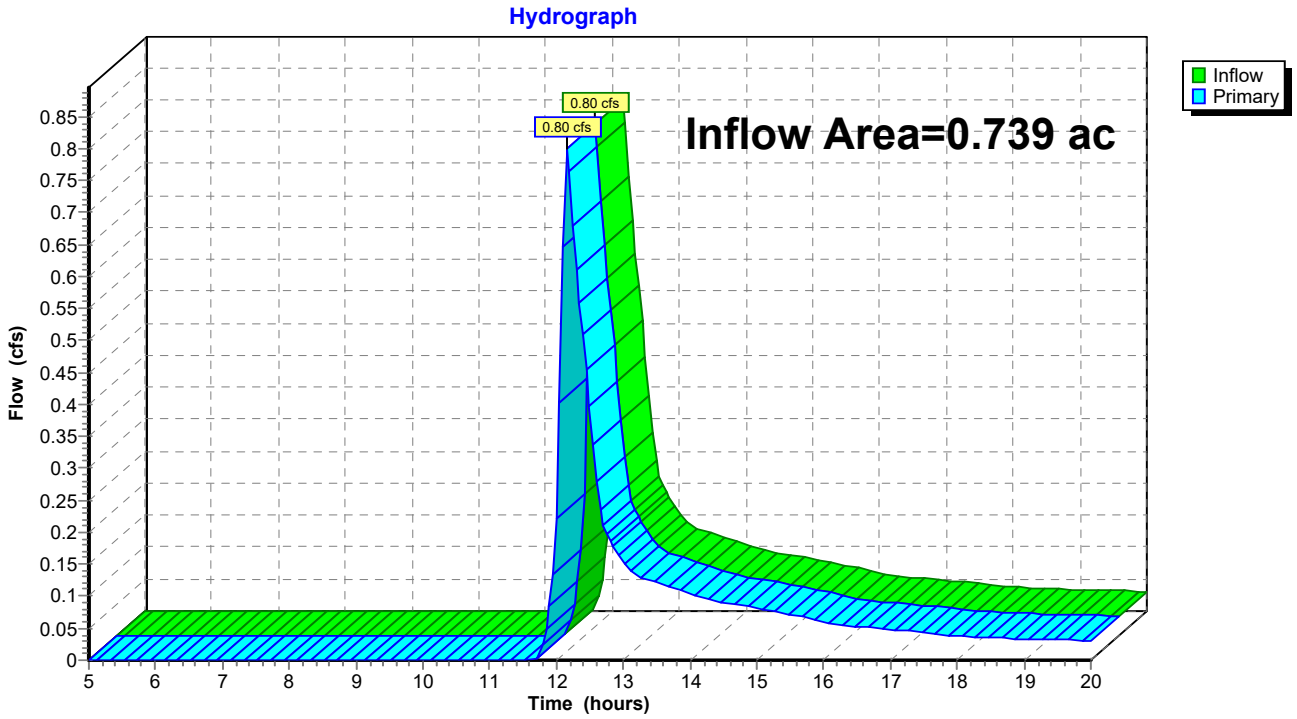


Summary for Link DP2: (new Link)

Inflow Area = 0.739 ac, 0.00% Impervious, Inflow Depth > 1.17" for 25-year event
Inflow = 0.80 cfs @ 12.17 hrs, Volume= 0.072 af
Primary = 0.80 cfs @ 12.17 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP2: (new Link)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=3.867 ac 73.60% Impervious Runoff Depth>5.03"
Tc=10.0 min CN=84 Runoff=20.40 cfs 1.622 af

Subcatchment1B: Subcat 1B Runoff Area=1.474 ac 0.00% Impervious Runoff Depth>1.52"
Tc=10.0 min CN=49 Runoff=2.18 cfs 0.186 af

Subcatchment1C: Subcat 1C Runoff Area=0.674 ac 0.00% Impervious Runoff Depth>1.69"
Tc=10.0 min CN=51 Runoff=1.15 cfs 0.095 af

Subcatchment1D: Subcat 1D Runoff Area=0.596 ac 0.00% Impervious Runoff Depth>1.52"
Tc=10.0 min CN=49 Runoff=0.88 cfs 0.075 af

Subcatchment1E: Subcat 1E Runoff Area=0.583 ac 0.00% Impervious Runoff Depth>2.43"
Tc=10.0 min CN=59 Runoff=1.51 cfs 0.118 af

Subcatchment2: Subcat 2 Runoff Area=0.739 ac 0.00% Impervious Runoff Depth>1.60"
Tc=10.0 min CN=50 Runoff=1.17 cfs 0.099 af

Pond 1CP: Ex Depression Peak Elev=106.28' Storage=1,391 cf Inflow=1.15 cfs 0.095 af
Outflow=0.25 cfs 0.093 af

Pond 1DP: Ex Depression Peak Elev=105.83' Storage=2,558 cf Inflow=2.39 cfs 0.193 af
Discarded=0.70 cfs 0.191 af Primary=0.00 cfs 0.000 af Outflow=0.70 cfs 0.191 af

Link DP1: (new Link) Inflow=22.53 cfs 1.808 af
Primary=22.53 cfs 1.808 af

Link DP2: (new Link) Inflow=1.17 cfs 0.099 af
Primary=1.17 cfs 0.099 af

Total Runoff Area = 7.933 ac Runoff Volume = 2.196 af Average Runoff Depth = 3.32"
64.12% Pervious = 5.087 ac 35.88% Impervious = 2.846 ac

Summary for Subcatchment 1A: Subcat 1A

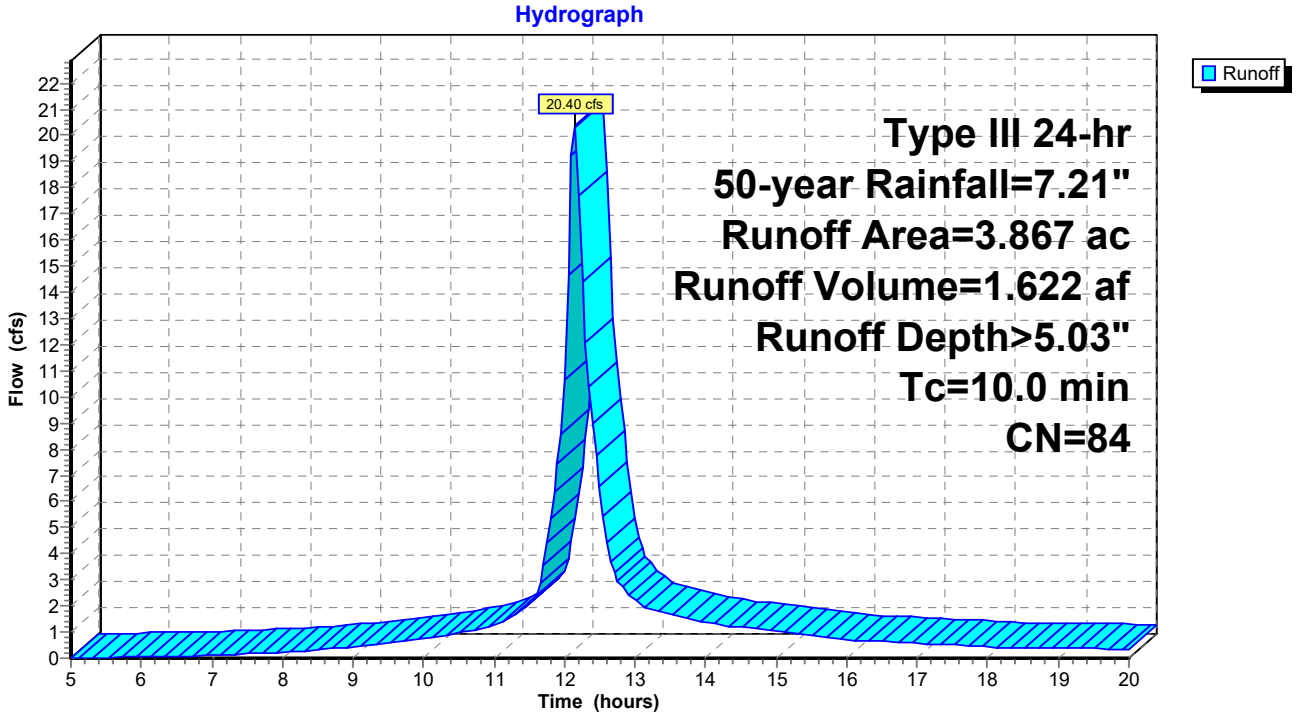
Runoff = 20.40 cfs @ 12.14 hrs, Volume= 1.622 af, Depth> 5.03"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

Area (ac)	CN	Description
0.271	98	Paved parking, HSG C
0.054	74	>75% Grass cover, Good, HSG C
0.285	45	Woods, Poor, HSG A
0.263	98	Paved parking, HSG A
0.131	39	>75% Grass cover, Good, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.238	39	>75% Grass cover, Good, HSG A
2.312	98	Paved parking, HSG A
0.308	45	Woods, Poor, HSG A
3.867	84	Weighted Average
1.021		26.40% Pervious Area
2.846		73.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 1B: Subcat 1B

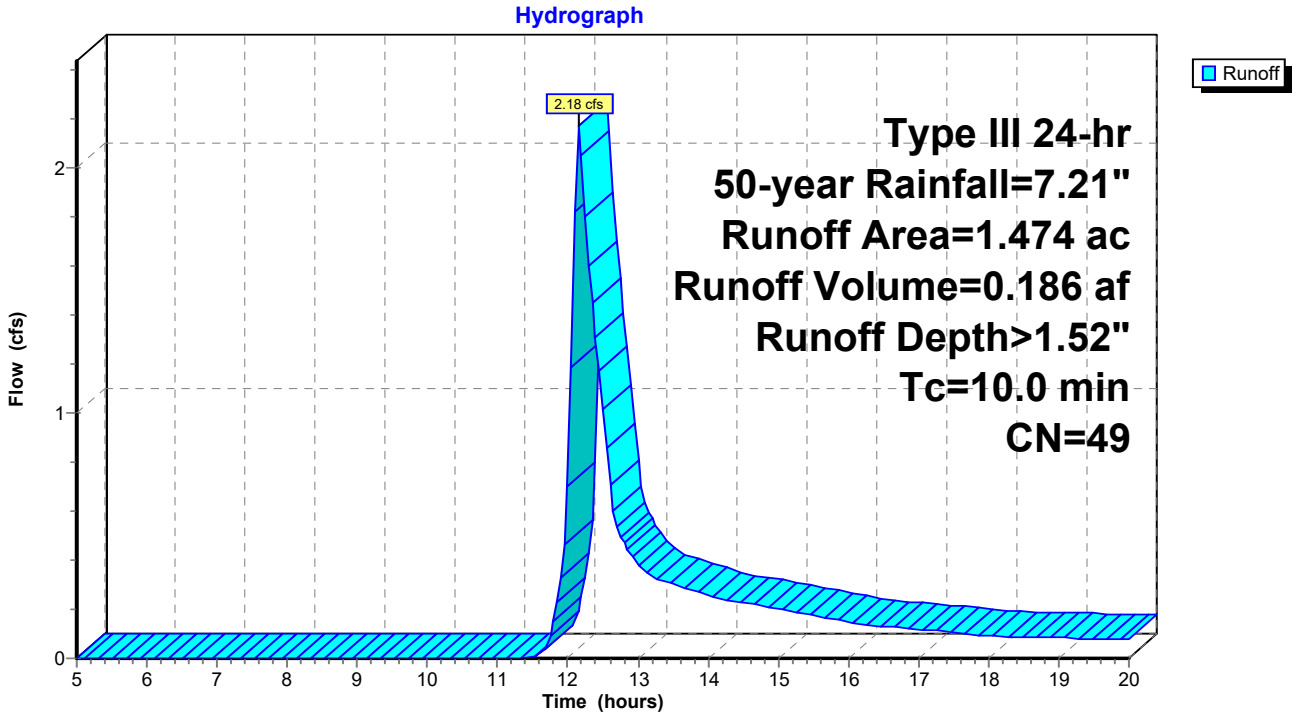
Runoff = 2.18 cfs @ 12.16 hrs, Volume= 0.186 af, Depth> 1.52"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

Area (ac)	CN	Description
0.315	45	Woods, Poor, HSG A
0.036	96	Gravel surface, HSG A
0.154	39	>75% Grass cover, Good, HSG A
0.023	39	>75% Grass cover, Good, HSG A
0.008	96	Gravel surface, HSG A
0.009	39	>75% Grass cover, Good, HSG A
0.031	96	Gravel surface, HSG A
0.499	45	Woods, Poor, HSG A
0.004	96	Gravel surface, HSG A
0.190	39	>75% Grass cover, Good, HSG A
0.120	61	>75% Grass cover, Good, HSG B
0.022	96	Gravel surface, HSG B
0.063	66	Woods, Poor, HSG B
1.474	49	Weighted Average
1.474		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1B: Subcat 1B



Summary for Subcatchment 1C: Subcat 1C

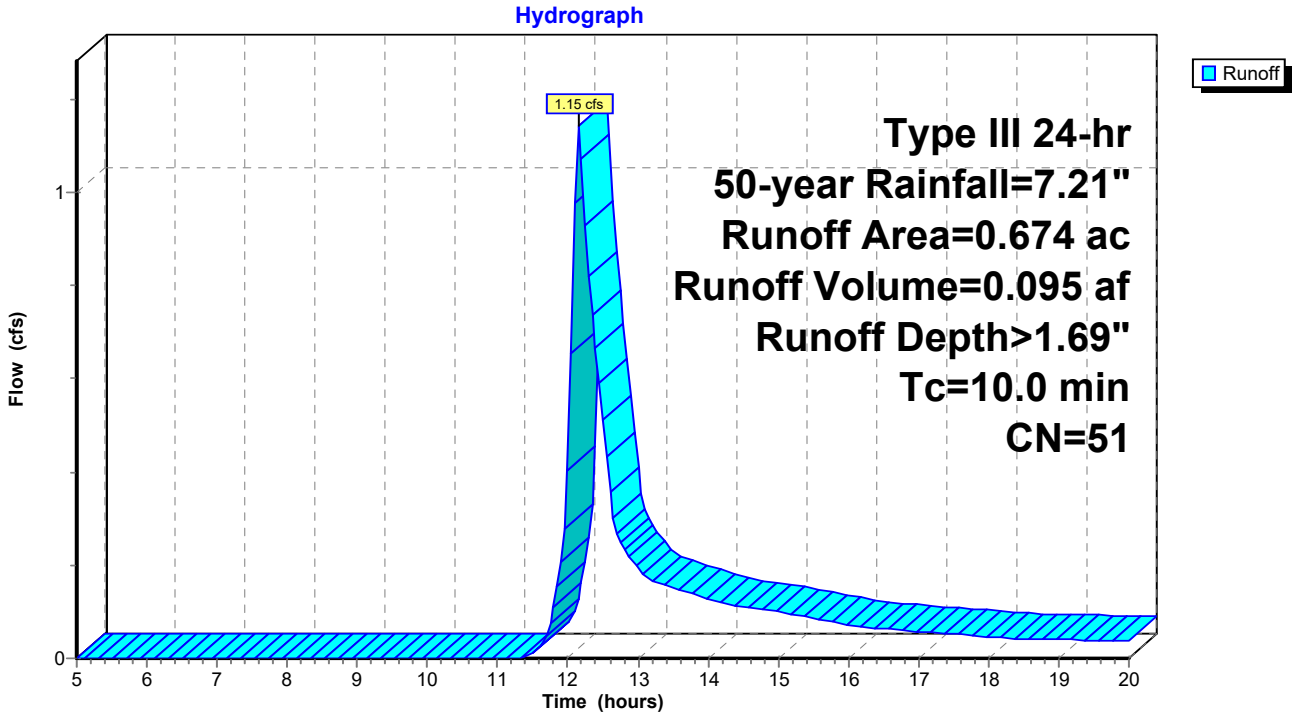
Runoff = 1.15 cfs @ 12.16 hrs, Volume= 0.095 af, Depth> 1.69"
Routed to Pond 1CP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

Area (ac)	CN	Description
0.393	45	Woods, Poor, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.007	39	>75% Grass cover, Good, HSG A
0.071	39	>75% Grass cover, Good, HSG A
0.015	39	>75% Grass cover, Good, HSG A
0.008	96	Gravel surface, HSG A
0.019	96	Gravel surface, HSG A
0.028	96	Gravel surface, HSG B
0.000	66	Woods, Poor, HSG B
0.048	61	>75% Grass cover, Good, HSG B
0.018	61	>75% Grass cover, Good, HSG B
0.006	61	>75% Grass cover, Good, HSG B
0.011	96	Gravel surface, HSG A
0.021	45	Woods, Poor, HSG A
0.020	39	>75% Grass cover, Good, HSG A
0.004	39	>75% Grass cover, Good, HSG A
0.674	51	Weighted Average
0.674		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1C: Subcat 1C



Summary for Subcatchment 1D: Subcat 1D

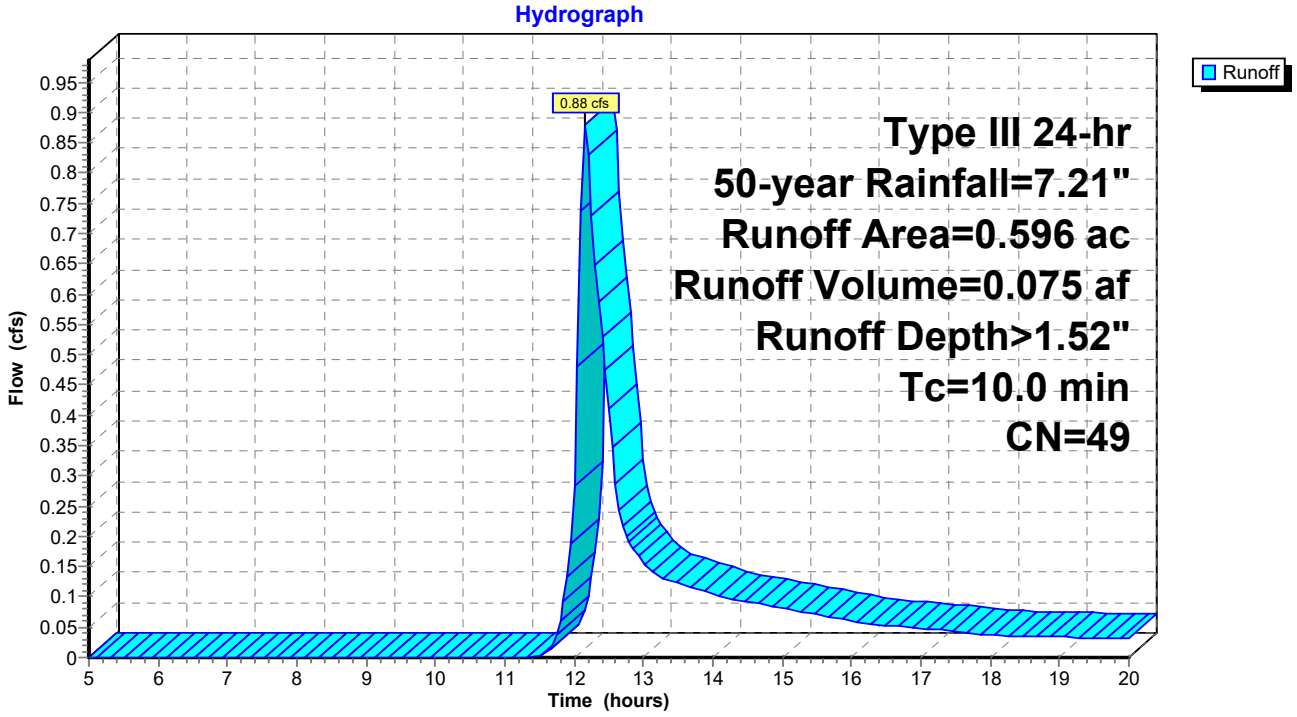
Runoff = 0.88 cfs @ 12.16 hrs, Volume= 0.075 af, Depth> 1.52"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

Area (ac)	CN	Description
0.074	96	Gravel surface, HSG A
0.309	45	Woods, Poor, HSG A
0.015	39	>75% Grass cover, Good, HSG A
0.153	39	>75% Grass cover, Good, HSG A
0.041	39	>75% Grass cover, Good, HSG A
0.004	61	>75% Grass cover, Good, HSG B
0.596	49	Weighted Average
0.596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1D: Subcat 1D



Summary for Subcatchment 1E: Subcat 1E

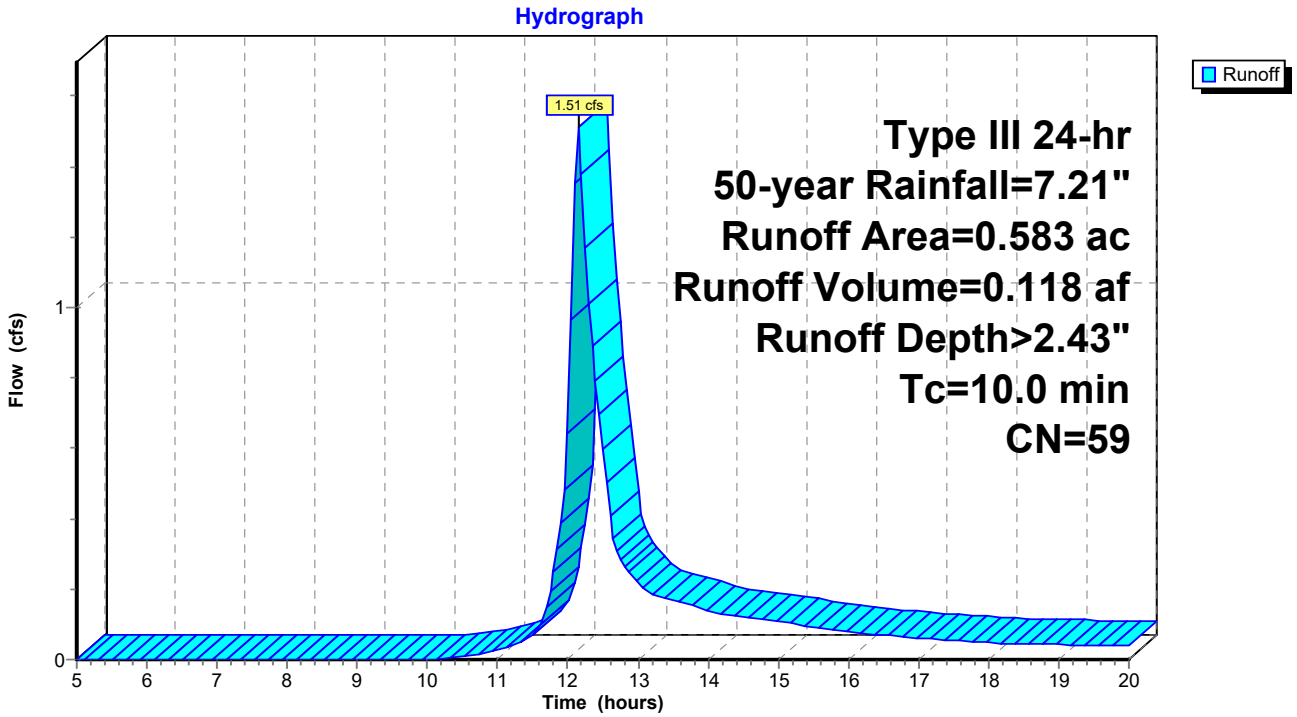
Runoff = 1.51 cfs @ 12.15 hrs, Volume= 0.118 af, Depth> 2.43"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

Area (ac)	CN	Description
0.012	96	Gravel surface, HSG A
0.093	45	Woods, Poor, HSG A
0.007	39	>75% Grass cover, Good, HSG A
0.009	39	>75% Grass cover, Good, HSG A
0.059	39	>75% Grass cover, Good, HSG A
0.000	96	Gravel surface, HSG B
0.321	66	Woods, Poor, HSG B
0.082	61	>75% Grass cover, Good, HSG B
0.583	59	Weighted Average
0.583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1E: Subcat 1E



Summary for Subcatchment 2: Subcat 2

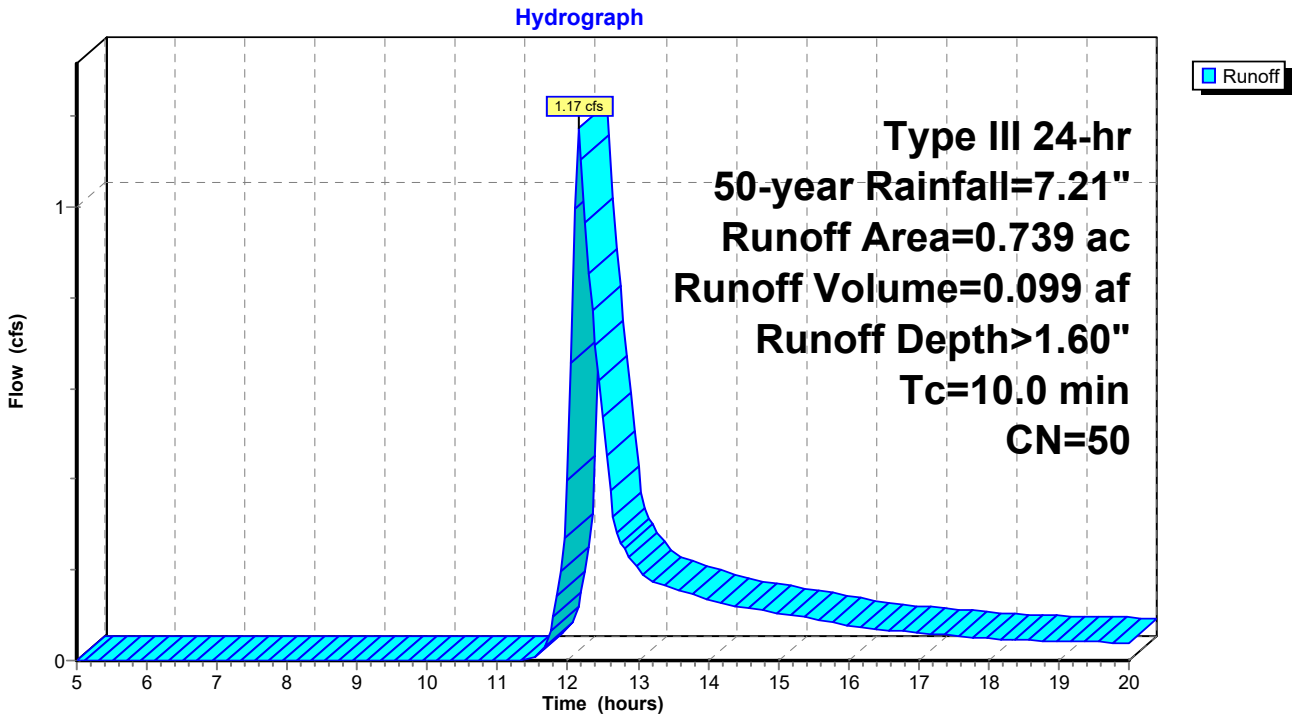
Runoff = 1.17 cfs @ 12.16 hrs, Volume= 0.099 af, Depth> 1.60"
Routed to Link DP2 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

Area (ac)	CN	Description
0.086	39	>75% Grass cover, Good, HSG A
0.440	45	Woods, Poor, HSG A
0.011	61	>75% Grass cover, Good, HSG B
0.202	66	Woods, Poor, HSG B
0.739	50	Weighted Average
0.739		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Pond 1CP: Ex Depression

Inflow Area = 0.674 ac, 0.00% Impervious, Inflow Depth > 1.69" for 50-year event
Inflow = 1.15 cfs @ 12.16 hrs, Volume= 0.095 af
Outflow = 0.25 cfs @ 12.73 hrs, Volume= 0.093 af, Atten= 78%, Lag= 34.5 min
Discarded = 0.25 cfs @ 12.73 hrs, Volume= 0.093 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 106.28' @ 12.73 hrs Surf.Area= 2,178 sf Storage= 1,391 cf

Plug-Flow detention time= 71.9 min calculated for 0.093 af (97% of inflow)
Center-of-Mass det. time= 63.9 min (895.0 - 831.1)

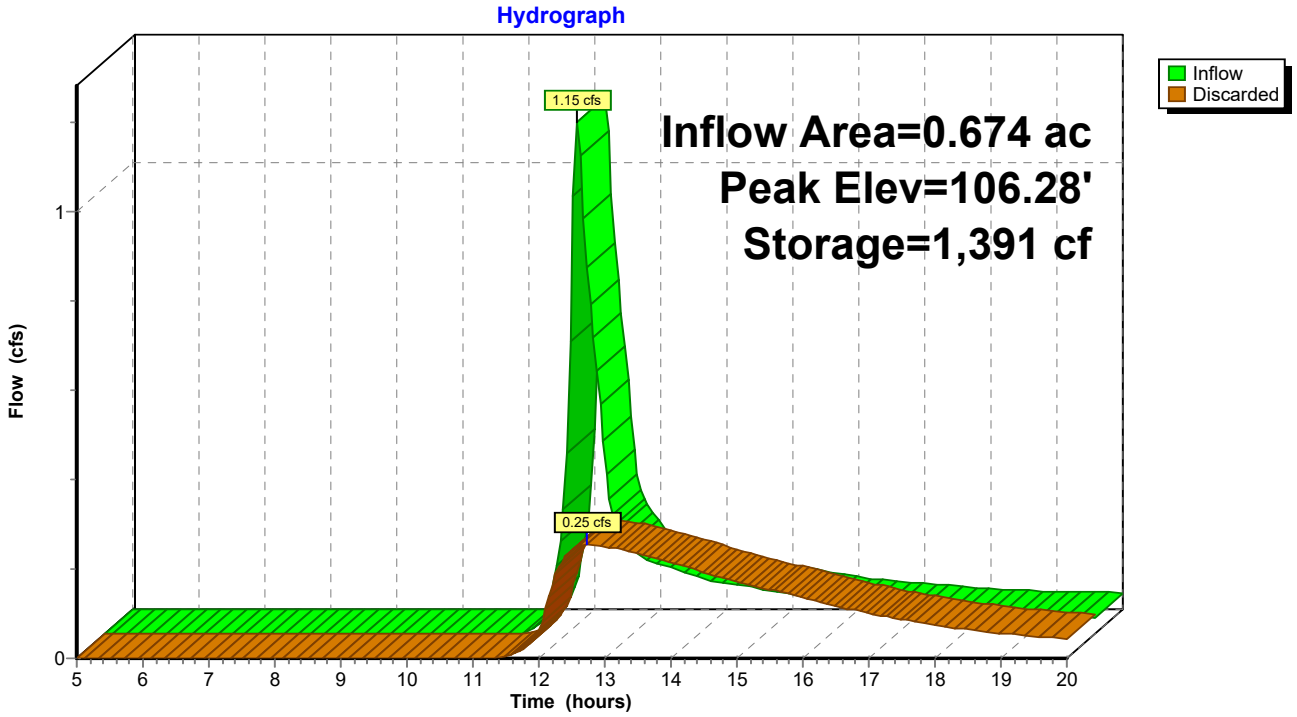
Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	10,413 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	250	42	42	250
106.00	1,600	827	869	1,604
107.00	4,100	2,754	3,623	4,111
108.00	9,900	6,790	10,413	9,918

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.25 cfs @ 12.73 hrs HW=106.28' (Free Discharge)
↑**1=Exfiltration** (Controls 0.25 cfs)

Pond 1CP: Ex Depression



Summary for Pond 1DP: Ex Depression

Inflow Area = 1.853 ac, 0.00% Impervious, Inflow Depth > 1.25" for 50-year event
Inflow = 2.39 cfs @ 12.16 hrs, Volume= 0.193 af
Outflow = 0.70 cfs @ 12.60 hrs, Volume= 0.191 af, Atten= 71%, Lag= 26.7 min
Discarded = 0.70 cfs @ 12.60 hrs, Volume= 0.191 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 105.83' @ 12.60 hrs Surf.Area= 6,059 sf Storage= 2,558 cf

Plug-Flow detention time= 45.2 min calculated for 0.190 af (98% of inflow)
Center-of-Mass det. time= 40.8 min (864.1 - 823.4)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	16,720 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

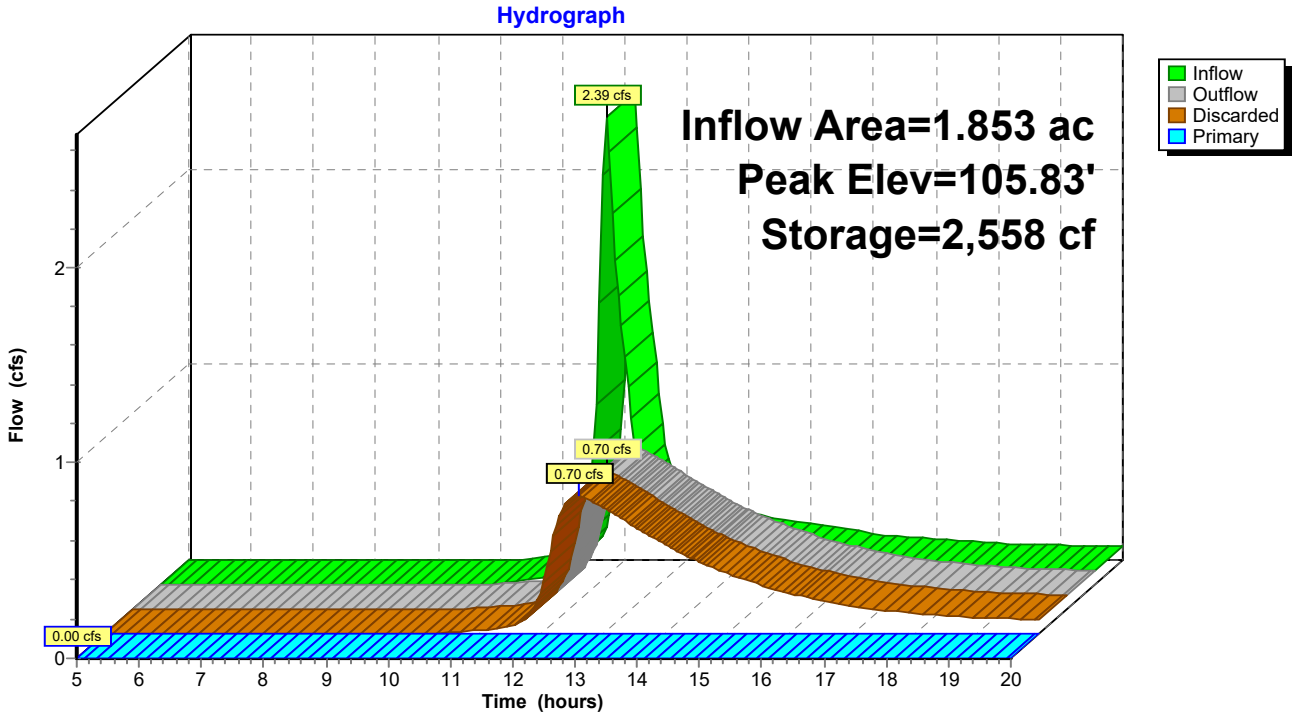
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	700	117	117	700
106.00	7,800	3,612	3,729	7,803
107.00	19,000	12,991	16,720	19,010

Device	Routing	Invert	Outlet Devices
#1	Primary	106.00'	**60.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.70 cfs @ 12.60 hrs HW=105.83' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.70 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=104.50' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1DP: Ex Depression

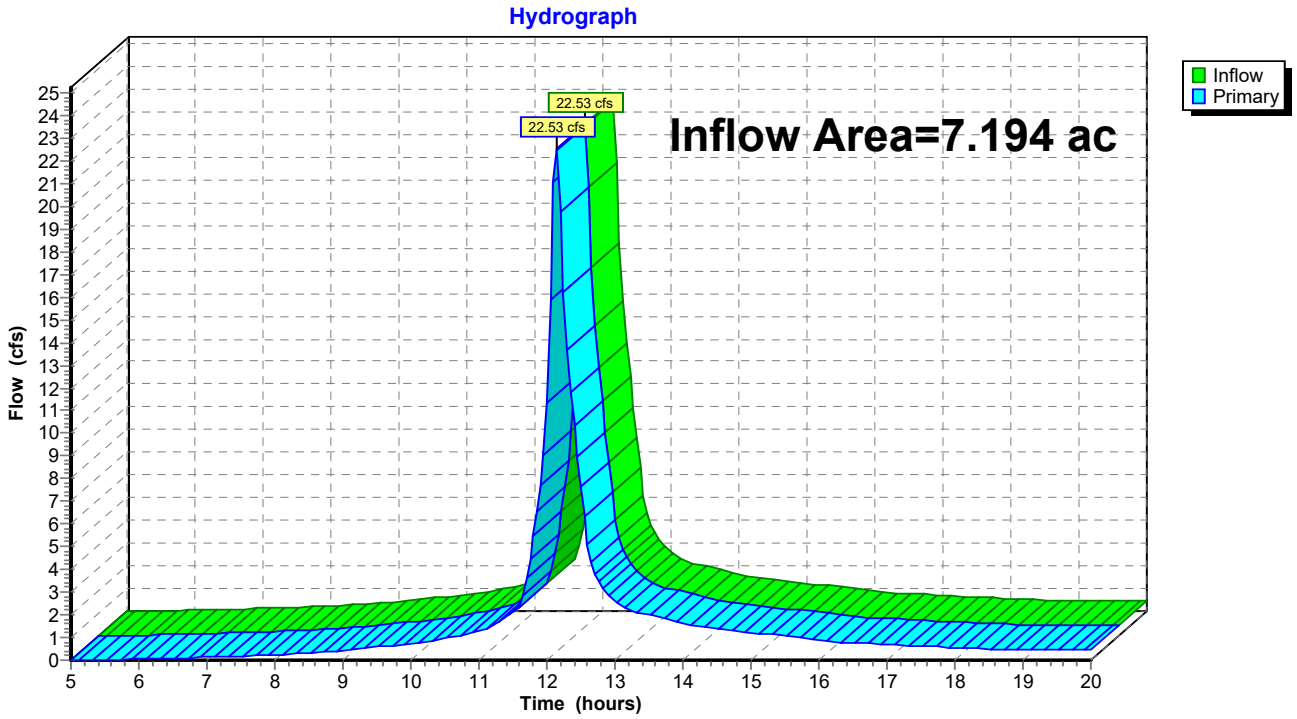


Summary for Link DP1: (new Link)

Inflow Area = 7.194 ac, 39.56% Impervious, Inflow Depth > 3.02" for 50-year event
Inflow = 22.53 cfs @ 12.14 hrs, Volume= 1.808 af
Primary = 22.53 cfs @ 12.14 hrs, Volume= 1.808 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP1: (new Link)

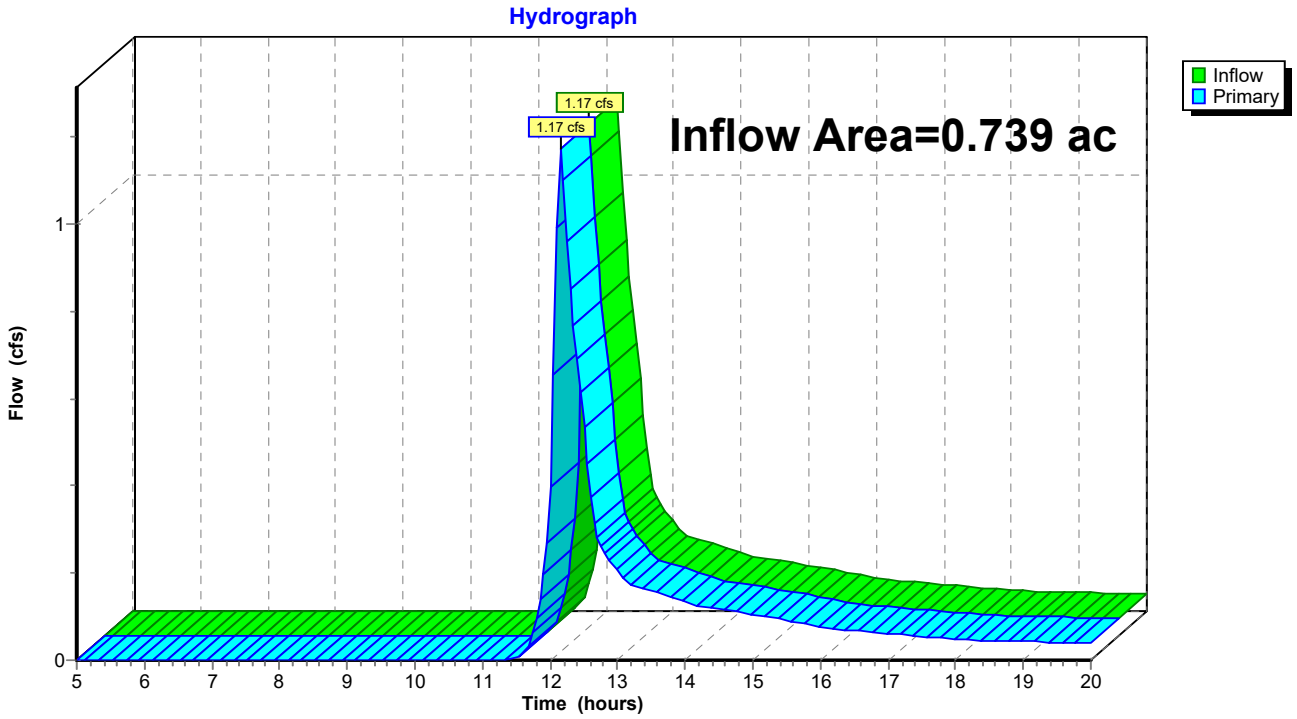


Summary for Link DP2: (new Link)

Inflow Area = 0.739 ac, 0.00% Impervious, Inflow Depth > 1.60" for 50-year event
Inflow = 1.17 cfs @ 12.16 hrs, Volume= 0.099 af
Primary = 1.17 cfs @ 12.16 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP2: (new Link)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=3.867 ac 73.60% Impervious Runoff Depth>5.92"
Tc=10.0 min CN=84 Runoff=23.77 cfs 1.906 af

Subcatchment1B: Subcat 1B Runoff Area=1.474 ac 0.00% Impervious Runoff Depth>2.04"
Tc=10.0 min CN=49 Runoff=3.06 cfs 0.250 af

Subcatchment1C: Subcat 1C Runoff Area=0.674 ac 0.00% Impervious Runoff Depth>2.24"
Tc=10.0 min CN=51 Runoff=1.57 cfs 0.126 af

Subcatchment1D: Subcat 1D Runoff Area=0.596 ac 0.00% Impervious Runoff Depth>2.04"
Tc=10.0 min CN=49 Runoff=1.24 cfs 0.101 af

Subcatchment1E: Subcat 1E Runoff Area=0.583 ac 0.00% Impervious Runoff Depth>3.09"
Tc=10.0 min CN=59 Runoff=1.94 cfs 0.150 af

Subcatchment2: Subcat 2 Runoff Area=0.739 ac 0.00% Impervious Runoff Depth>2.14"
Tc=10.0 min CN=50 Runoff=1.63 cfs 0.132 af

Pond 1CP: Ex Depression Peak Elev=106.52' Storage=1,979 cf Inflow=1.57 cfs 0.126 af
Outflow=0.32 cfs 0.122 af

Pond 1DP: Ex Depression Peak Elev=105.98' Storage=3,539 cf Inflow=3.18 cfs 0.251 af
Discarded=0.88 cfs 0.248 af Primary=0.00 cfs 0.000 af Outflow=0.88 cfs 0.248 af

Link DP1: (new Link) Inflow=26.78 cfs 2.156 af
Primary=26.78 cfs 2.156 af

Link DP2: (new Link) Inflow=1.63 cfs 0.132 af
Primary=1.63 cfs 0.132 af

Total Runoff Area = 7.933 ac Runoff Volume = 2.665 af Average Runoff Depth = 4.03"
64.12% Pervious = 5.087 ac 35.88% Impervious = 2.846 ac

Summary for Subcatchment 1A: Subcat 1A

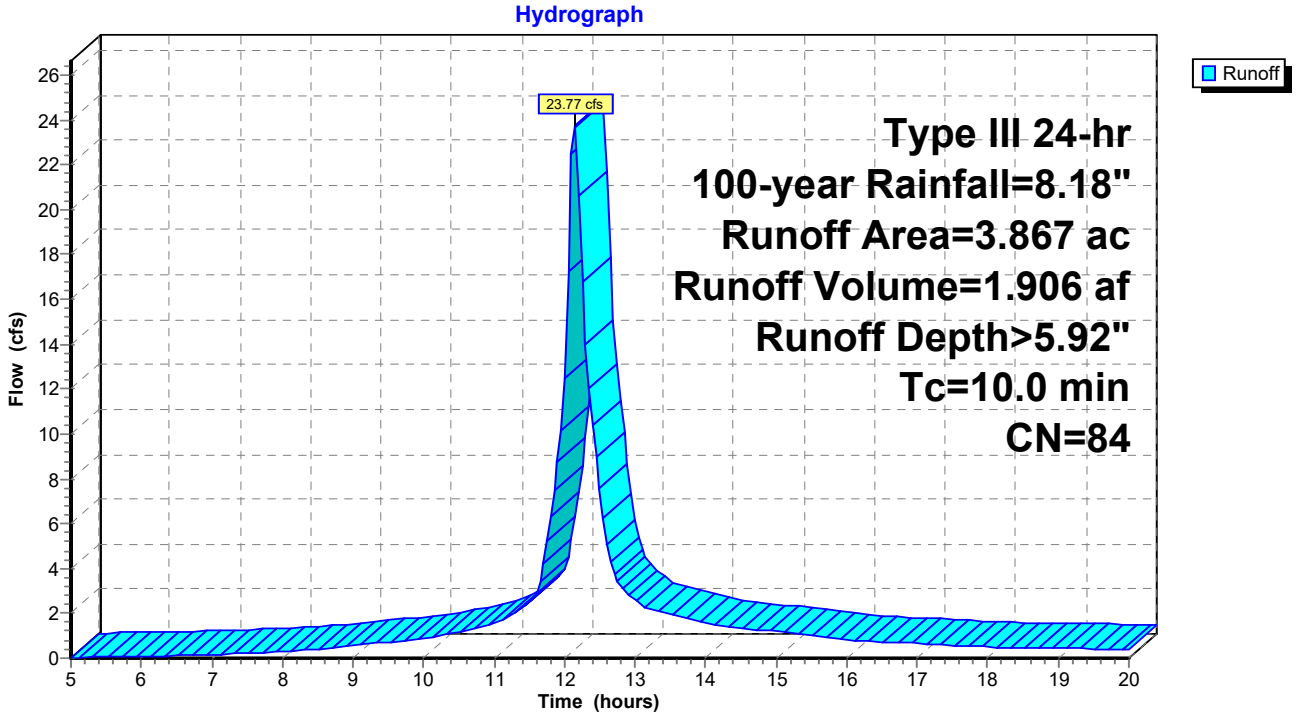
Runoff = 23.77 cfs @ 12.14 hrs, Volume= 1.906 af, Depth> 5.92"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

Area (ac)	CN	Description
0.271	98	Paved parking, HSG C
0.054	74	>75% Grass cover, Good, HSG C
0.285	45	Woods, Poor, HSG A
0.263	98	Paved parking, HSG A
0.131	39	>75% Grass cover, Good, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.238	39	>75% Grass cover, Good, HSG A
2.312	98	Paved parking, HSG A
0.308	45	Woods, Poor, HSG A
3.867	84	Weighted Average
1.021		26.40% Pervious Area
2.846		73.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 1B: Subcat 1B

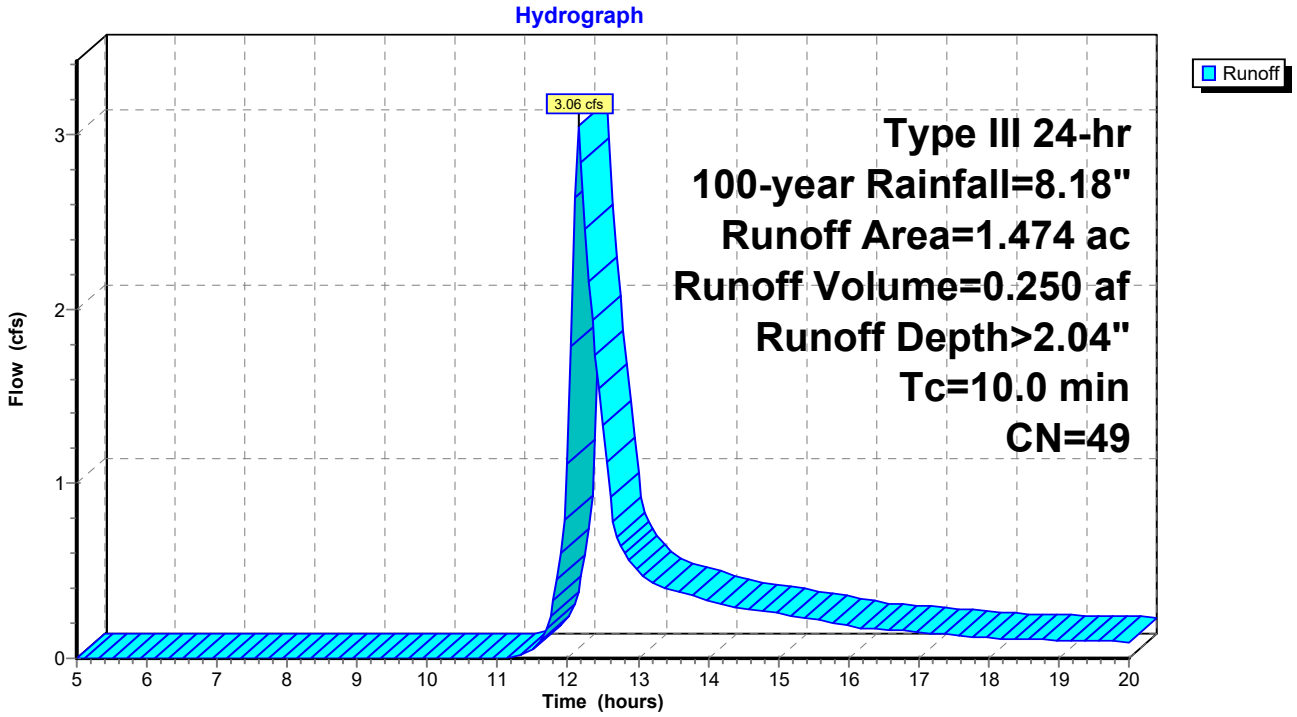
Runoff = 3.06 cfs @ 12.16 hrs, Volume= 0.250 af, Depth> 2.04"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

Area (ac)	CN	Description
0.315	45	Woods, Poor, HSG A
0.036	96	Gravel surface, HSG A
0.154	39	>75% Grass cover, Good, HSG A
0.023	39	>75% Grass cover, Good, HSG A
0.008	96	Gravel surface, HSG A
0.009	39	>75% Grass cover, Good, HSG A
0.031	96	Gravel surface, HSG A
0.499	45	Woods, Poor, HSG A
0.004	96	Gravel surface, HSG A
0.190	39	>75% Grass cover, Good, HSG A
0.120	61	>75% Grass cover, Good, HSG B
0.022	96	Gravel surface, HSG B
0.063	66	Woods, Poor, HSG B
1.474	49	Weighted Average
1.474		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1B: Subcat 1B



Summary for Subcatchment 1C: Subcat 1C

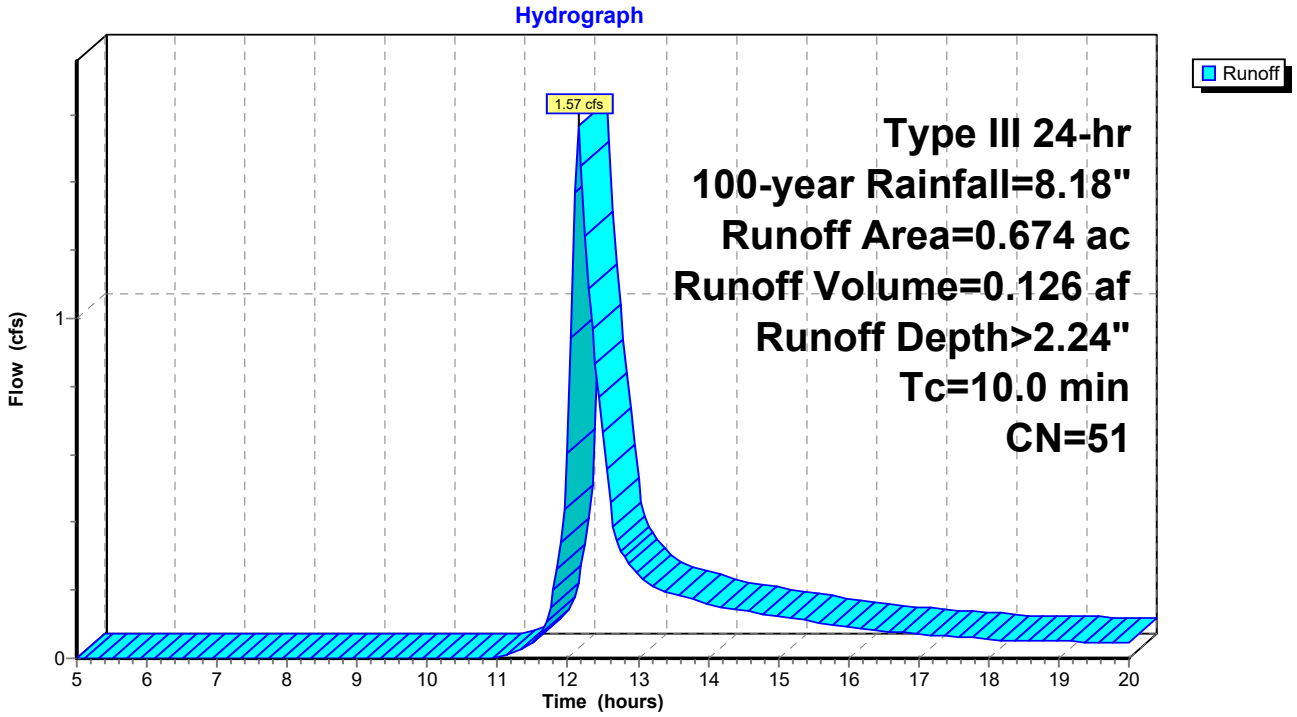
Runoff = 1.57 cfs @ 12.16 hrs, Volume= 0.126 af, Depth> 2.24"
Routed to Pond 1CP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

Area (ac)	CN	Description
0.393	45	Woods, Poor, HSG A
0.005	39	>75% Grass cover, Good, HSG A
0.007	39	>75% Grass cover, Good, HSG A
0.071	39	>75% Grass cover, Good, HSG A
0.015	39	>75% Grass cover, Good, HSG A
0.008	96	Gravel surface, HSG A
0.019	96	Gravel surface, HSG A
0.028	96	Gravel surface, HSG B
0.000	66	Woods, Poor, HSG B
0.048	61	>75% Grass cover, Good, HSG B
0.018	61	>75% Grass cover, Good, HSG B
0.006	61	>75% Grass cover, Good, HSG B
0.011	96	Gravel surface, HSG A
0.021	45	Woods, Poor, HSG A
0.020	39	>75% Grass cover, Good, HSG A
0.004	39	>75% Grass cover, Good, HSG A
0.674	51	Weighted Average
0.674		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1C: Subcat 1C



Summary for Subcatchment 1D: Subcat 1D

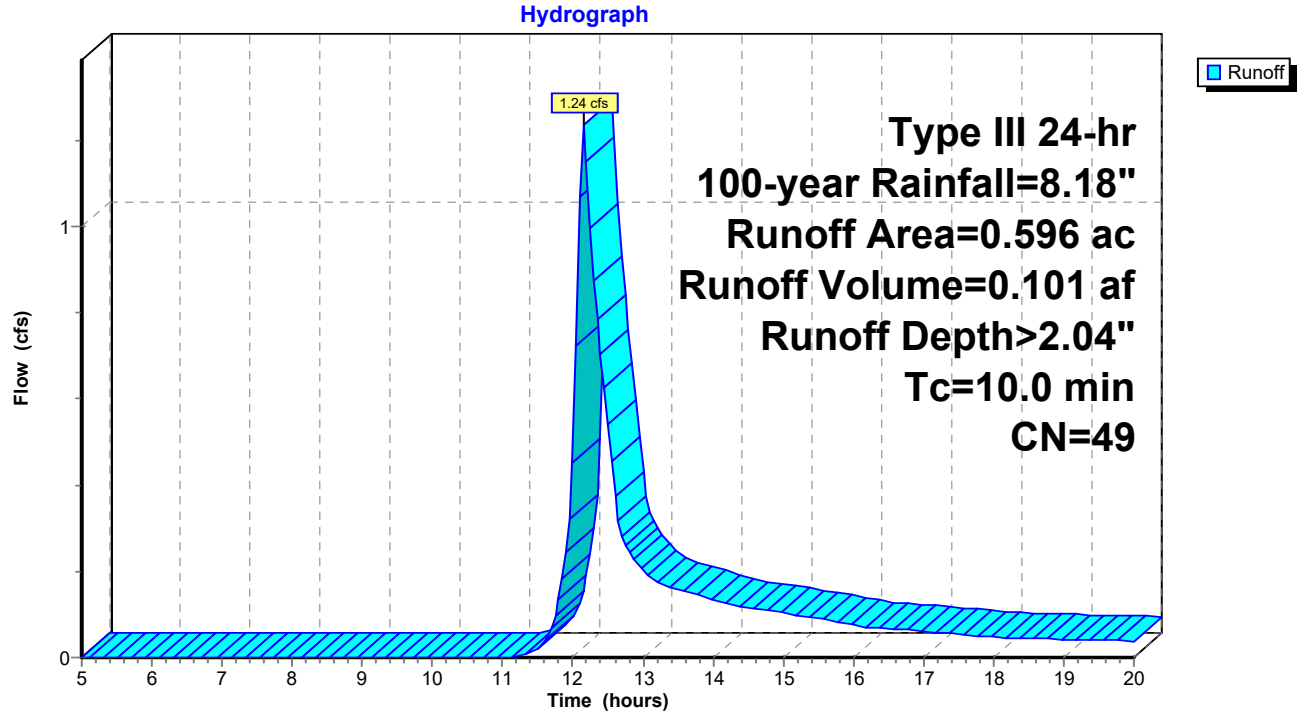
Runoff = 1.24 cfs @ 12.16 hrs, Volume= 0.101 af, Depth> 2.04"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

Area (ac)	CN	Description
0.074	96	Gravel surface, HSG A
0.309	45	Woods, Poor, HSG A
0.015	39	>75% Grass cover, Good, HSG A
0.153	39	>75% Grass cover, Good, HSG A
0.041	39	>75% Grass cover, Good, HSG A
0.004	61	>75% Grass cover, Good, HSG B
0.596	49	Weighted Average
0.596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1D: Subcat 1D



Summary for Subcatchment 1E: Subcat 1E

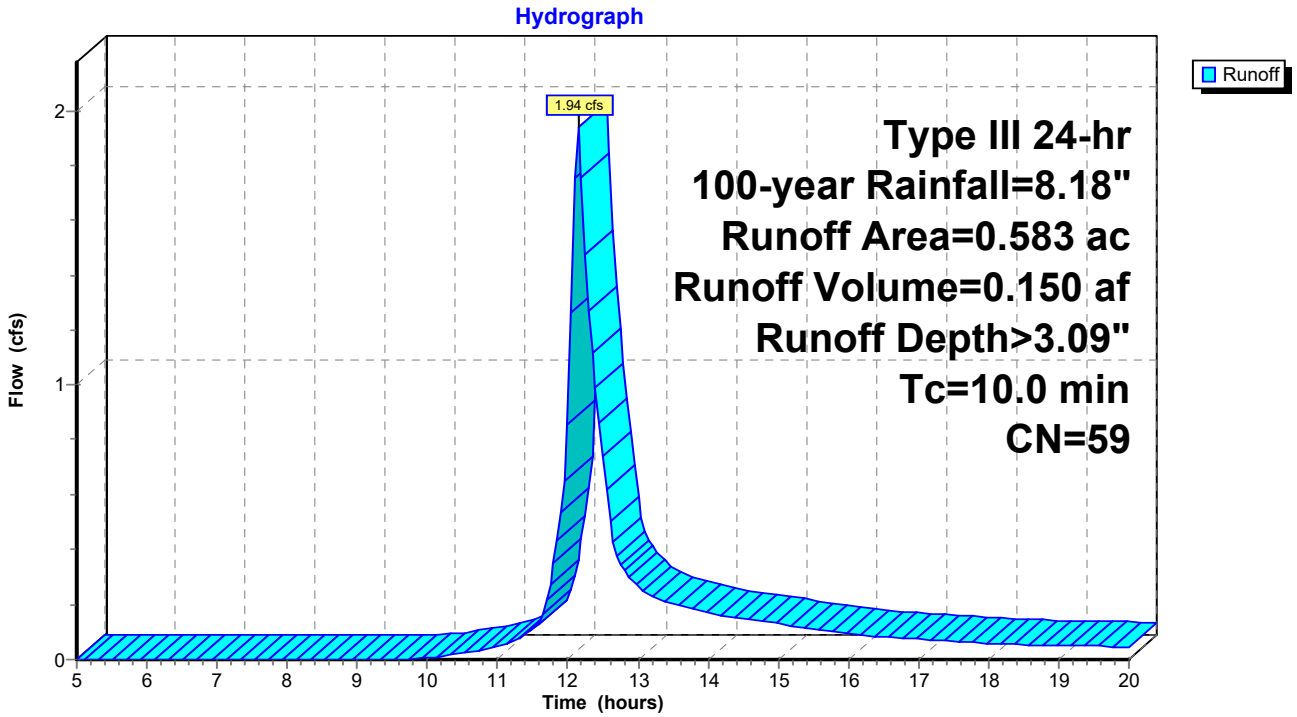
Runoff = 1.94 cfs @ 12.15 hrs, Volume= 0.150 af, Depth> 3.09"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

Area (ac)	CN	Description
0.012	96	Gravel surface, HSG A
0.093	45	Woods, Poor, HSG A
0.007	39	>75% Grass cover, Good, HSG A
0.009	39	>75% Grass cover, Good, HSG A
0.059	39	>75% Grass cover, Good, HSG A
0.000	96	Gravel surface, HSG B
0.321	66	Woods, Poor, HSG B
0.082	61	>75% Grass cover, Good, HSG B
0.583	59	Weighted Average
0.583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1E: Subcat 1E



Summary for Subcatchment 2: Subcat 2

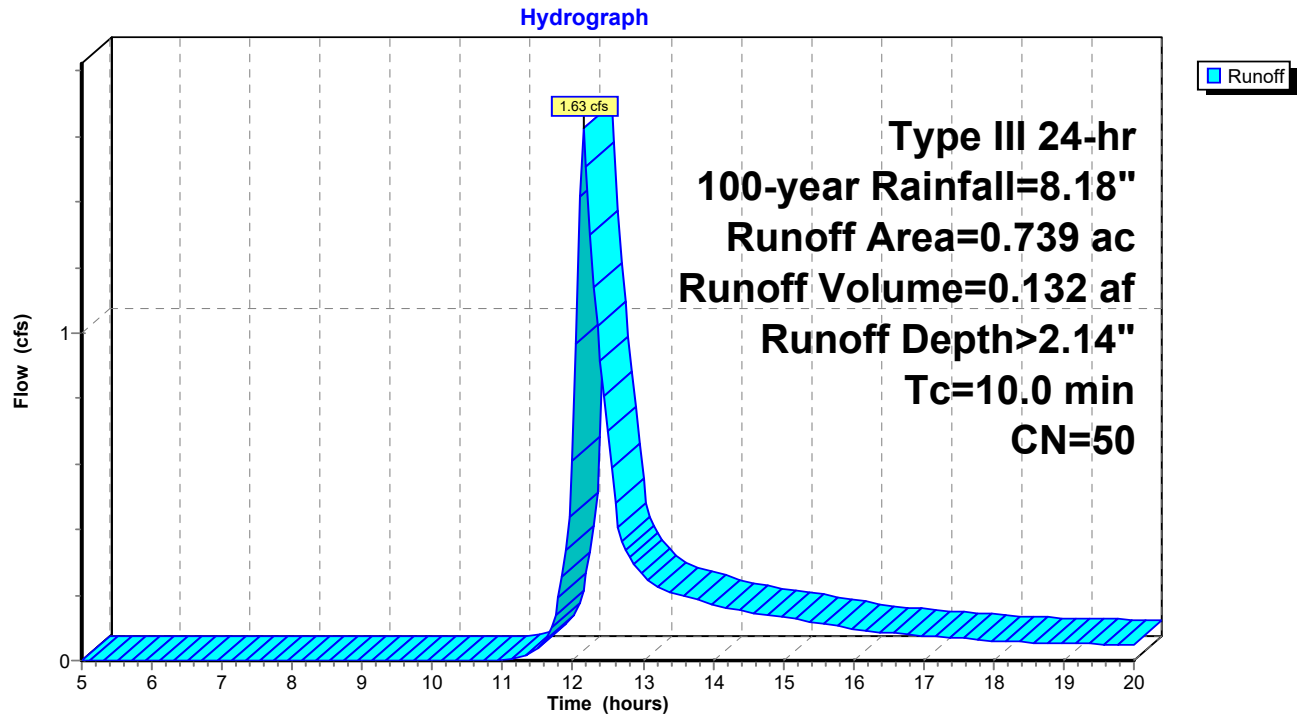
Runoff = 1.63 cfs @ 12.16 hrs, Volume= 0.132 af, Depth> 2.14"
Routed to Link DP2 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

Area (ac)	CN	Description
0.086	39	>75% Grass cover, Good, HSG A
0.440	45	Woods, Poor, HSG A
0.011	61	>75% Grass cover, Good, HSG B
0.202	66	Woods, Poor, HSG B
0.739	50	Weighted Average
0.739		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Pond 1CP: Ex Depression

Inflow Area = 0.674 ac, 0.00% Impervious, Inflow Depth > 2.24" for 100-year event
Inflow = 1.57 cfs @ 12.16 hrs, Volume= 0.126 af
Outflow = 0.32 cfs @ 12.74 hrs, Volume= 0.122 af, Atten= 80%, Lag= 35.3 min
Discarded = 0.32 cfs @ 12.74 hrs, Volume= 0.122 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 106.52' @ 12.74 hrs Surf.Area= 2,748 sf Storage= 1,979 cf

Plug-Flow detention time= 81.6 min calculated for 0.122 af (97% of inflow)
Center-of-Mass det. time= 71.9 min (896.5 - 824.6)

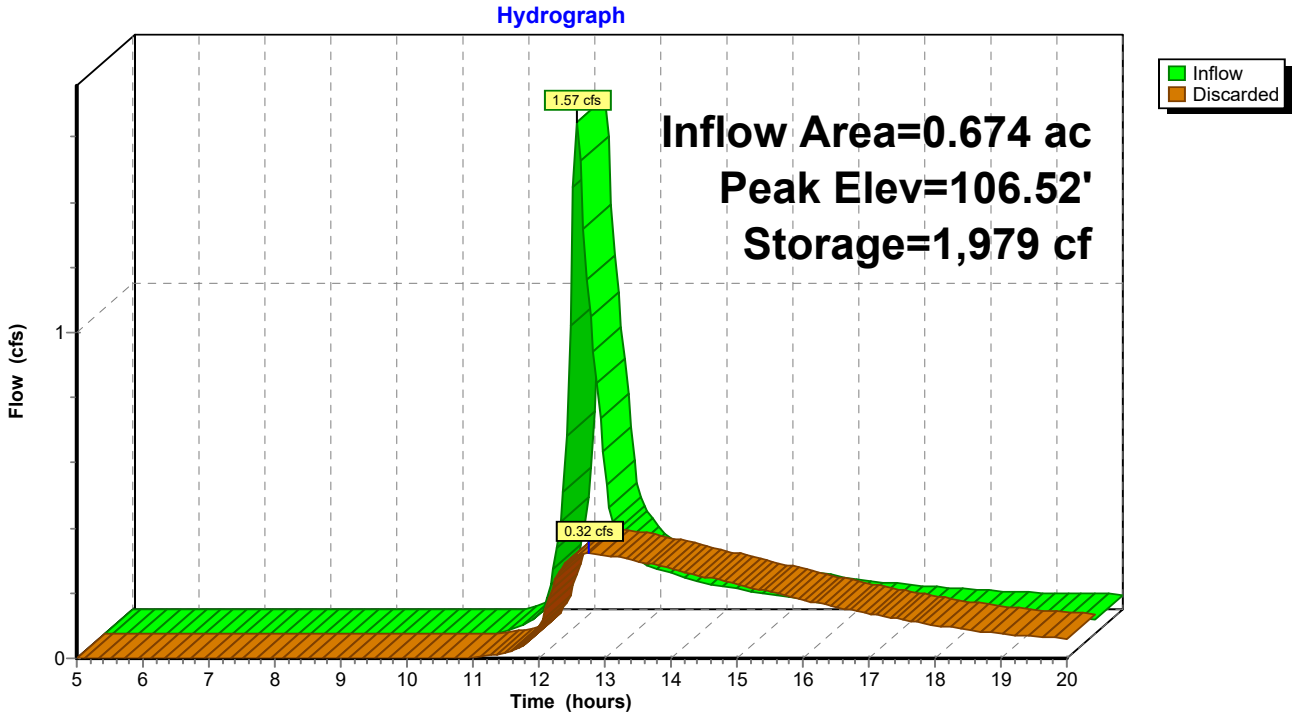
Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	10,413 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	250	42	42	250
106.00	1,600	827	869	1,604
107.00	4,100	2,754	3,623	4,111
108.00	9,900	6,790	10,413	9,918

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.32 cfs @ 12.74 hrs HW=106.52' (Free Discharge)
↑**1=Exfiltration** (Controls 0.32 cfs)

Pond 1CP: Ex Depression



Summary for Pond 1DP: Ex Depression

Inflow Area = 1.853 ac, 0.00% Impervious, Inflow Depth > 1.63" for 100-year event
Inflow = 3.18 cfs @ 12.15 hrs, Volume= 0.251 af
Outflow = 0.88 cfs @ 12.61 hrs, Volume= 0.248 af, Atten= 72%, Lag= 27.2 min
Discarded = 0.88 cfs @ 12.61 hrs, Volume= 0.248 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 105.98' @ 12.61 hrs Surf.Area= 7,532 sf Storage= 3,539 cf

Plug-Flow detention time= 50.5 min calculated for 0.247 af (98% of inflow)
Center-of-Mass det. time= 45.8 min (863.4 - 817.6)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	16,720 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

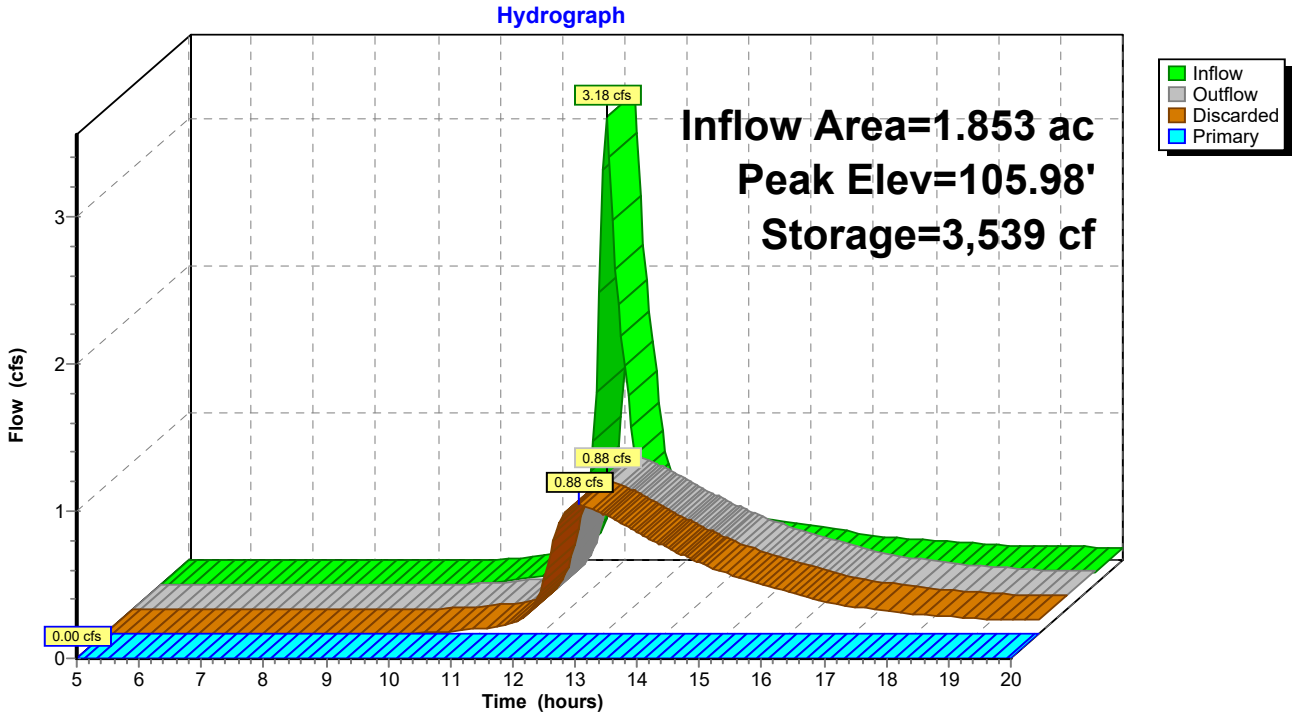
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	700	117	117	700
106.00	7,800	3,612	3,729	7,803
107.00	19,000	12,991	16,720	19,010

Device	Routing	Invert	Outlet Devices
#1	Primary	106.00'	**60.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.88 cfs @ 12.61 hrs HW=105.98' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.88 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=104.50' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1DP: Ex Depression

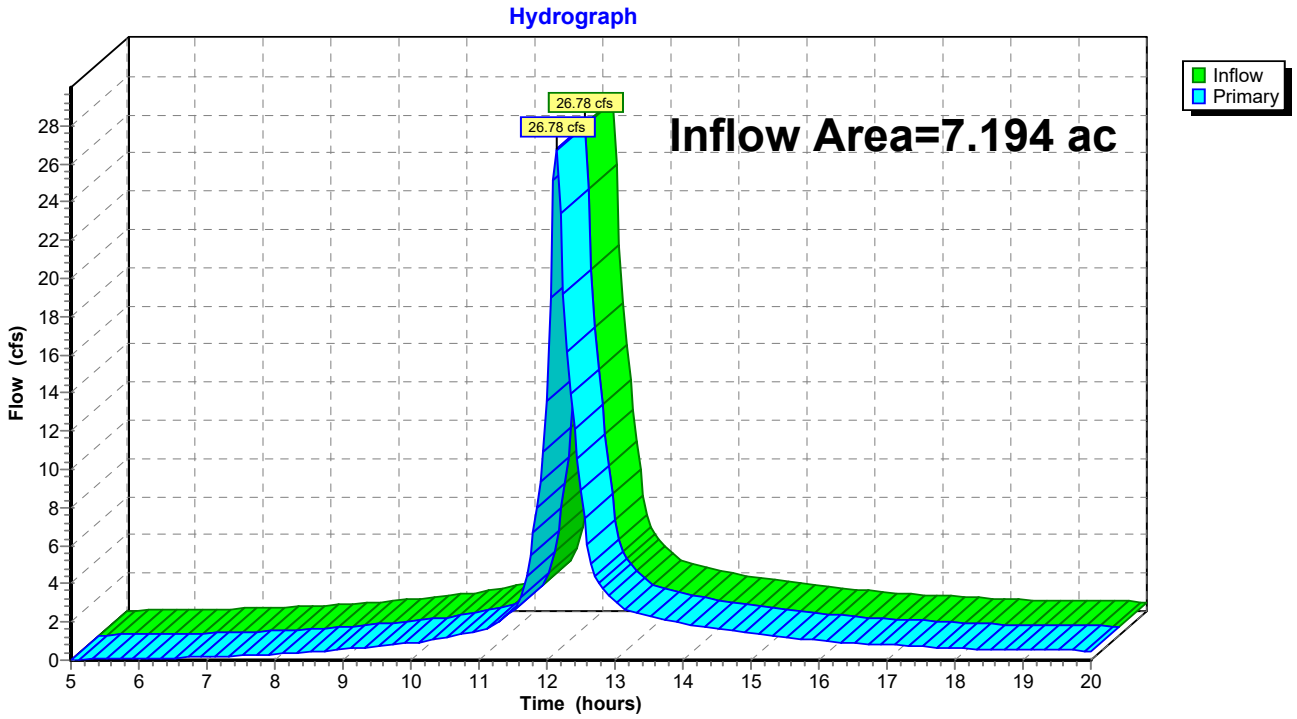


Summary for Link DP1: (new Link)

Inflow Area = 7.194 ac, 39.56% Impervious, Inflow Depth > 3.60" for 100-year event
Inflow = 26.78 cfs @ 12.14 hrs, Volume= 2.156 af
Primary = 26.78 cfs @ 12.14 hrs, Volume= 2.156 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP1: (new Link)

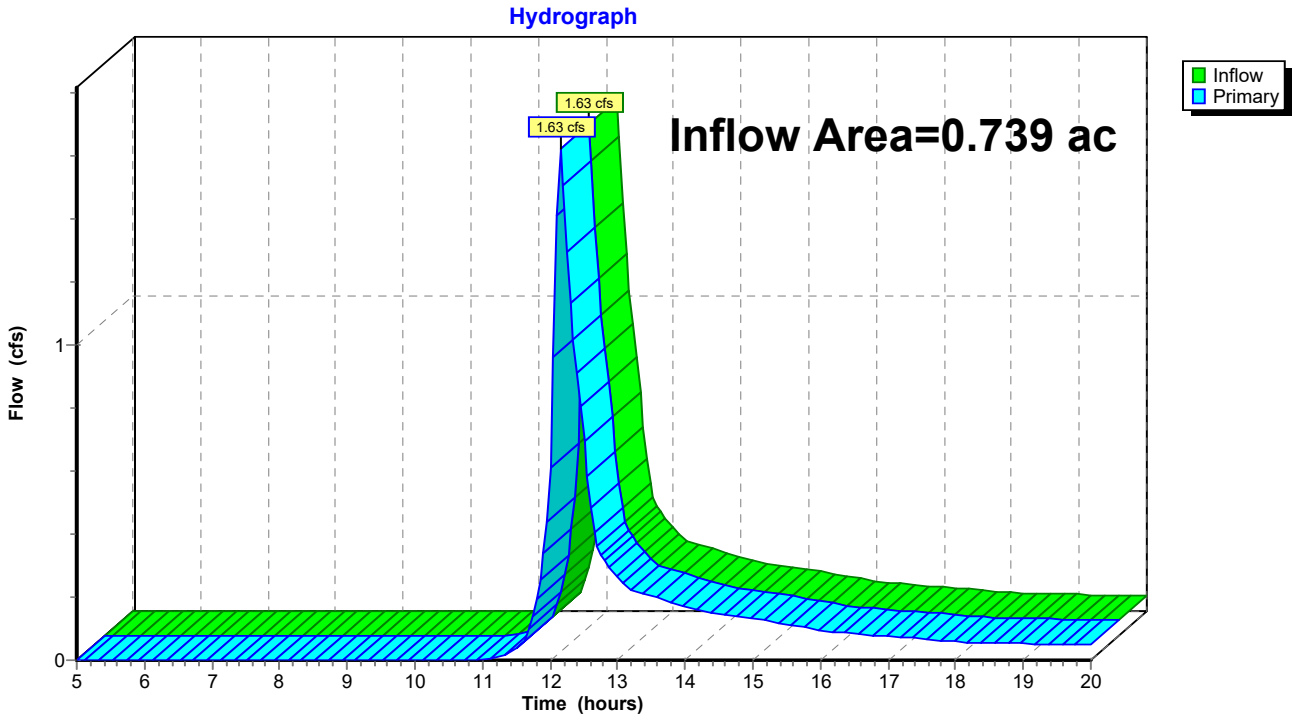


Summary for Link DP2: (new Link)

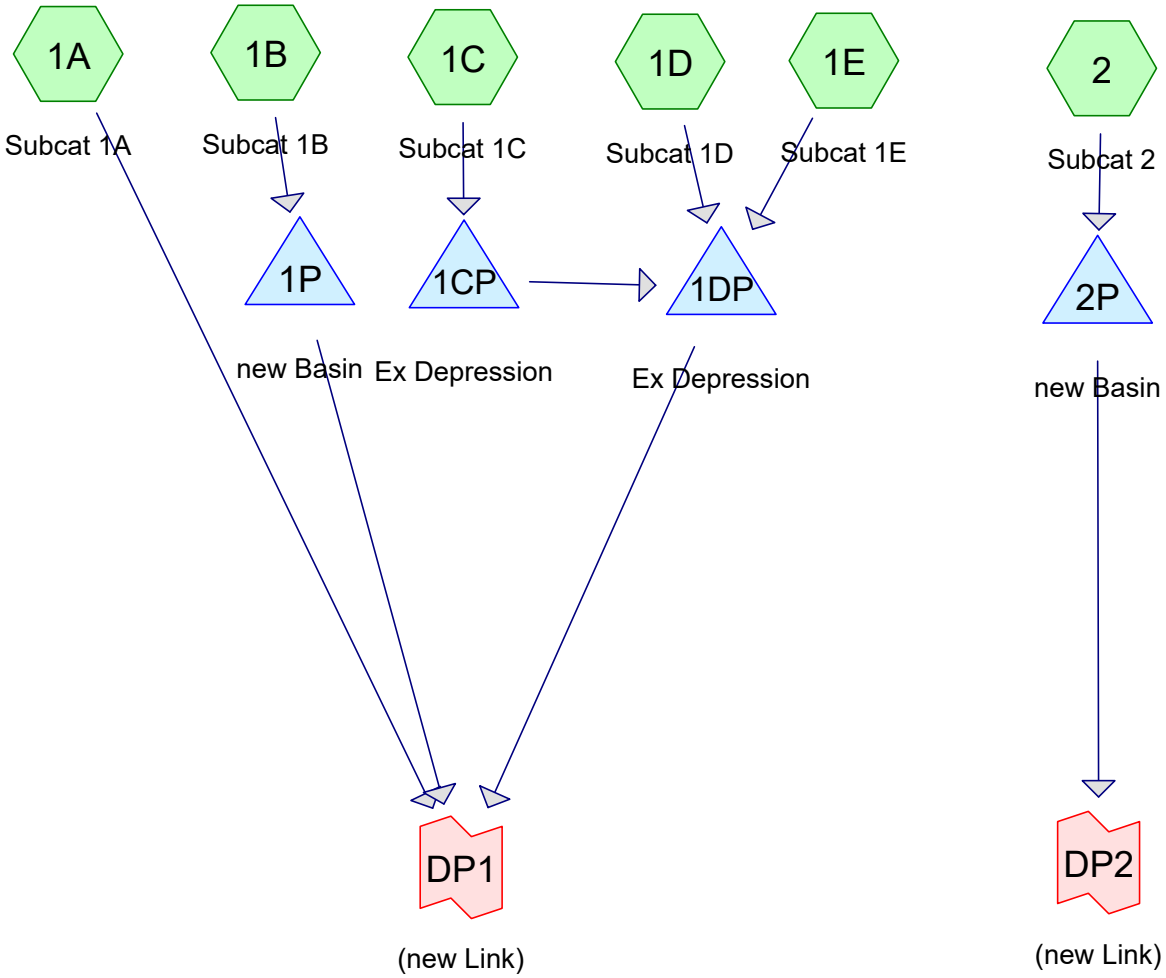
Inflow Area = 0.739 ac, 0.00% Impervious, Inflow Depth > 2.14" for 100-year event
Inflow = 1.63 cfs @ 12.16 hrs, Volume= 0.132 af
Primary = 1.63 cfs @ 12.16 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min

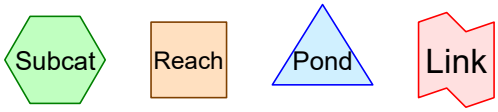
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP2: (new Link)



HydroCAD Analysis: Proposed Conditions





Routing Diagram for 42893.00 - Proposed Conditions
Prepared by VHB, Printed 12/20/2022

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-year	Type III 24-hr		Default	24.00	1	3.22	2
2	25-year	Type III 24-hr		Default	24.00	1	6.33	2
3	50-year	Type III 24-hr		Default	24.00	1	7.21	2
4	100-year	Type III 24-hr		Default	24.00	1	8.18	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.939	50	50-75% Grass cover, Good, HSG A-B (1B, 1C, 1D, 1E, 2)
0.875	67	50-75% Grass cover, Good, HSG B-C (1B, 1C, 1D, 1E, 2)
0.054	74	50-75% Grass cover, Good, HSG C (1A)
0.374	39	>75% Grass cover, Good, HSG A (1A)
0.203	96	Gravel surface, HSG A (1B, 1C, 1D, 1E)
0.050	96	Gravel surface, HSG B (1B, 1C)
2.575	98	Paved parking, HSG A (1A)
0.271	98	Paved parking, HSG C (1A)
0.593	45	Woods, Poor, HSG A (1A)
7.934	**70**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
6.684	HSG A	1A, 1B, 1C, 1D, 1E, 2
0.925	HSG B	1B, 1C, 1D, 1E, 2
0.325	HSG C	1A
0.000	HSG D	
0.000	Other	
7.934		**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
2.939	0.875	0.054	0.000	0.000	3.868	50-75% Grass cover, Good	1A, 1B, 1C, 1D, 1E, 2
0.374	0.000	0.000	0.000	0.000	0.374	>75% Grass cover, Good	1A
0.203	0.050	0.000	0.000	0.000	0.253	Gravel surface	1B, 1C, 1D, 1E
2.575	0.000	0.271	0.000	0.000	2.846	Paved parking	1A
0.593	0.000	0.000	0.000	0.000	0.593	Woods, Poor	1A
6.684	**0.925**	**0.325**	**0.000**	**0.000**	**7.934**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=3.867 ac 73.60% Impervious Runoff Depth>1.58"
Tc=10.0 min CN=84 Runoff=6.65 cfs 0.509 af

Subcatchment1B: Subcat 1B Runoff Area=1.474 ac 0.00% Impervious Runoff Depth>0.22"
Tc=10.0 min CN=55 Runoff=0.15 cfs 0.026 af

Subcatchment1C: Subcat 1C Runoff Area=0.674 ac 0.00% Impervious Runoff Depth>0.24"
Tc=10.0 min CN=56 Runoff=0.08 cfs 0.014 af

Subcatchment1D: Subcat 1D Runoff Area=0.596 ac 0.00% Impervious Runoff Depth>0.24"
Tc=10.0 min CN=56 Runoff=0.07 cfs 0.012 af

Subcatchment1E: Subcat 1E Runoff Area=0.583 ac 0.00% Impervious Runoff Depth>0.47"
Tc=10.0 min CN=63 Runoff=0.22 cfs 0.023 af

Subcatchment2: Subcat 2 Runoff Area=0.740 ac 0.00% Impervious Runoff Depth>0.22"
Tc=10.0 min CN=55 Runoff=0.08 cfs 0.013 af

Pond 1CP: Ex Depression Peak Elev=105.12' Storage=79 cf Inflow=0.08 cfs 0.014 af
Outflow=0.04 cfs 0.013 af

Pond 1DP: Ex Depression Peak Elev=105.14' Storage=247 cf Inflow=0.28 cfs 0.035 af
Discarded=0.14 cfs 0.034 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.034 af

Pond 1P: new Basin Peak Elev=100.54' Storage=0.001 af Inflow=0.15 cfs 0.026 af
Discarded=0.14 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.026 af

Pond 2P: new Basin Peak Elev=103.02' Storage=0.000 af Inflow=0.08 cfs 0.013 af
Discarded=0.07 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.013 af

Link DP1: (new Link) Inflow=6.65 cfs 0.509 af
Primary=6.65 cfs 0.509 af

Link DP2: (new Link) Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.934 ac Runoff Volume = 0.597 af Average Runoff Depth = 0.90"
64.13% Pervious = 5.088 ac 35.87% Impervious = 2.846 ac

Summary for Subcatchment 1A: Subcat 1A

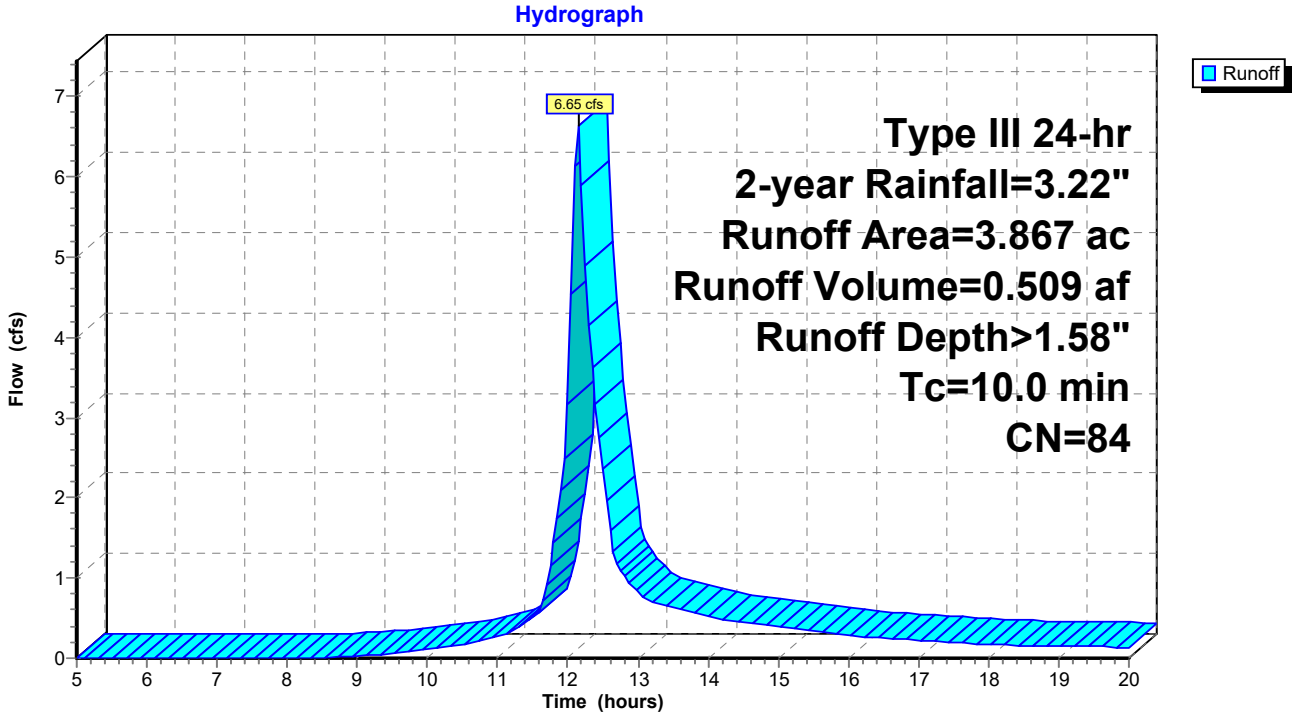
Runoff = 6.65 cfs @ 12.15 hrs, Volume= 0.509 af, Depth> 1.58"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

	Area (ac)	CN	Description
	0.271	98	Paved parking, HSG C
*	0.054	74	50-75% Grass cover, Good, HSG C
	0.285	45	Woods, Poor, HSG A
	0.263	98	Paved parking, HSG A
	0.131	39	>75% Grass cover, Good, HSG A
	0.005	39	>75% Grass cover, Good, HSG A
	0.238	39	>75% Grass cover, Good, HSG A
	2.312	98	Paved parking, HSG A
	0.308	45	Woods, Poor, HSG A
	3.867	84	Weighted Average
	1.021		26.40% Pervious Area
	2.846		73.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 1B: Subcat 1B

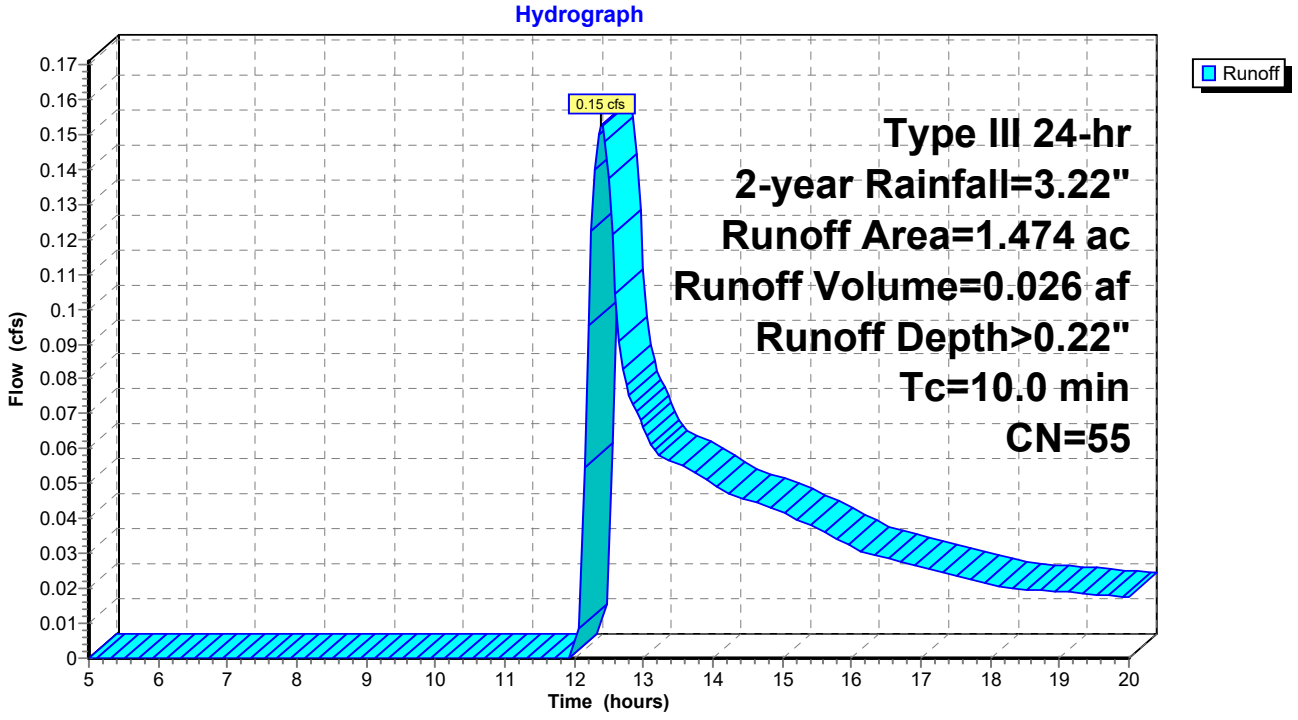
Runoff = 0.15 cfs @ 12.39 hrs, Volume= 0.026 af, Depth> 0.22"
Routed to Pond 1P : new Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

	Area (ac)	CN	Description
	0.036	96	Gravel surface, HSG A
*	0.023	50	50-75% Grass cover, Good, HSG A-B
*	0.470	50	50-75% Grass cover, Good, HSG A-B
	0.008	96	Gravel surface, HSG A
*	0.009	50	50-75% Grass cover, Good, HSG A-B
	0.031	96	Gravel surface, HSG A
	0.004	96	Gravel surface, HSG A
*	0.688	50	50-75% Grass cover, Good, HSG A-B
*	0.183	67	50-75% Grass cover, Good, HSG B-C
	0.022	96	Gravel surface, HSG B
	1.474	55	Weighted Average
	1.474		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1B: Subcat 1B



Summary for Subcatchment 1C: Subcat 1C

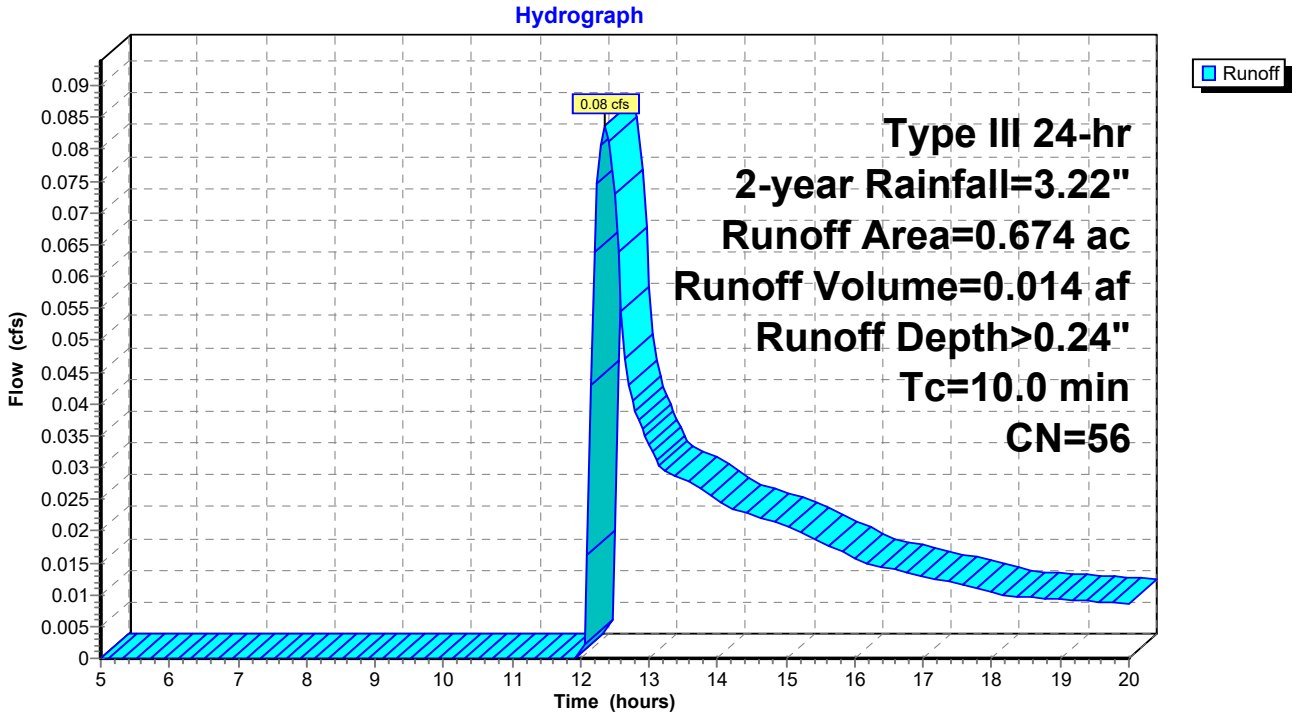
Runoff = 0.08 cfs @ 12.37 hrs, Volume= 0.014 af, Depth> 0.24"
Routed to Pond 1CP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

	Area (ac)	CN	Description
*	0.007	50	50-75% Grass cover, Good, HSG A-B
*	0.005	50	50-75% Grass cover, Good, HSG A-B
*	0.479	50	50-75% Grass cover, Good, HSG A-B
	0.008	96	Gravel surface, HSG A
	0.019	96	Gravel surface, HSG A
	0.028	96	Gravel surface, HSG B
*	0.006	67	50-75% Grass cover, Good, HSG B-C
*	0.018	67	50-75% Grass cover, Good, HSG B-C
*	0.048	67	50-75% Grass cover, Good, HSG B-C
	0.011	96	Gravel surface, HSG A
*	0.004	50	50-75% Grass cover, Good, HSG A-B
*	0.041	50	50-75% Grass cover, Good, HSG A-B
	0.674	56	Weighted Average
	0.674		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1C: Subcat 1C



Summary for Subcatchment 1D: Subcat 1D

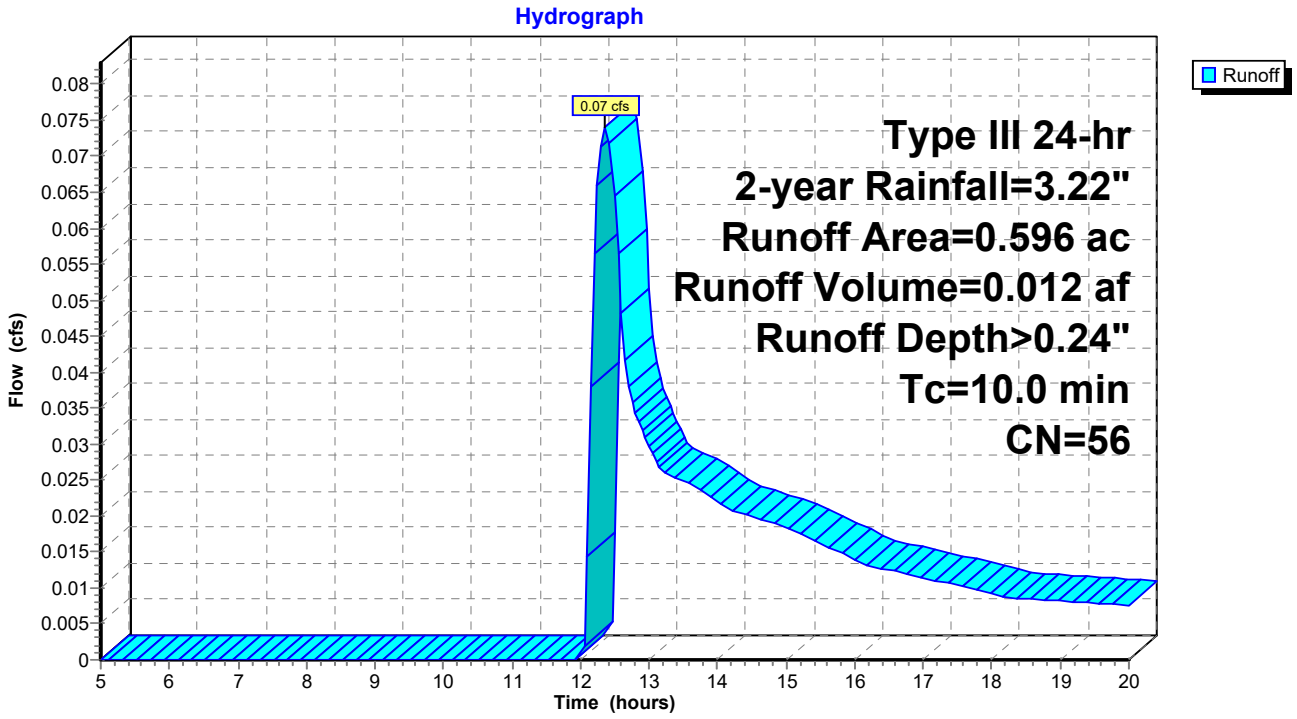
Runoff = 0.07 cfs @ 12.37 hrs, Volume= 0.012 af, Depth> 0.24"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

	Area (ac)	CN	Description
	0.074	96	Gravel surface, HSG A
*	0.041	50	50-75% Grass cover, Good, HSG A-B
*	0.462	50	50-75% Grass cover, Good, HSG A-B
*	0.015	50	50-75% Grass cover, Good, HSG A-B
*	0.004	67	50-75% Grass cover, Good, HSG B-C
	0.596	56	Weighted Average
	0.596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1D: Subcat 1D



Summary for Subcatchment 1E: Subcat 1E

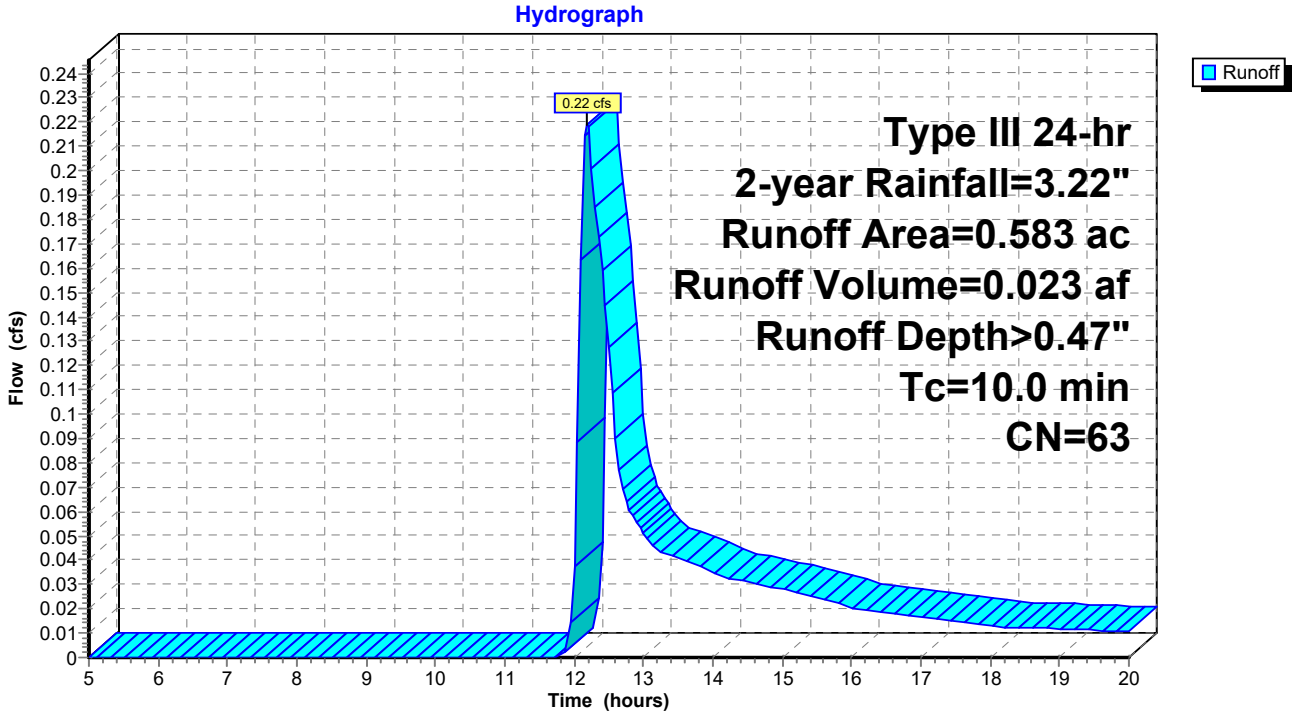
Runoff = 0.22 cfs @ 12.18 hrs, Volume= 0.023 af, Depth> 0.47"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

	Area (ac)	CN	Description
	0.012	96	Gravel surface, HSG A
*	0.007	50	50-75% Grass cover, Good, HSG A-B
*	0.009	50	50-75% Grass cover, Good, HSG A-B
*	0.152	50	50-75% Grass cover, Good, HSG A-B
	0.000	96	Gravel surface, HSG B
*	0.403	67	50-75% Grass cover, Good, HSG B-C
	0.583	63	Weighted Average
	0.583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1E: Subcat 1E



Summary for Subcatchment 2: Subcat 2

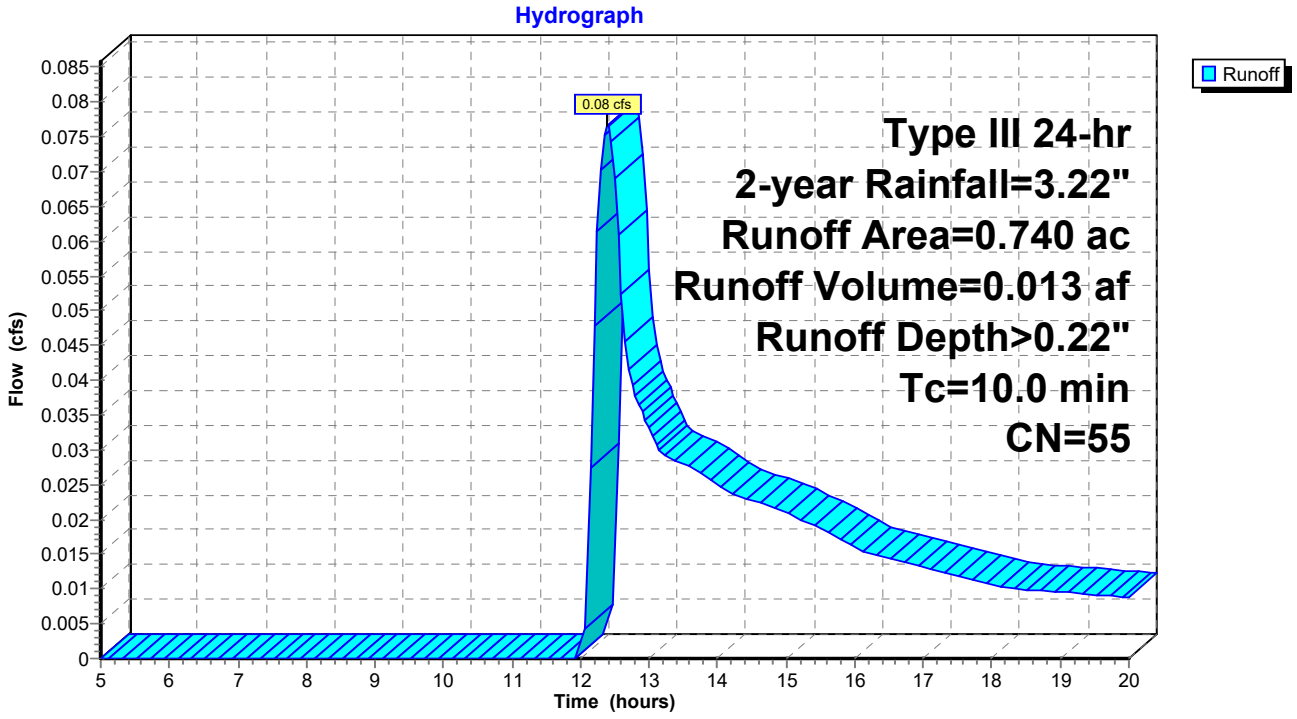
Runoff = 0.08 cfs @ 12.39 hrs, Volume= 0.013 af, Depth> 0.22"
Routed to Pond 2P : new Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.22"

	Area (ac)	CN	Description
*	0.527	50	50-75% Grass cover, Good, HSG A-B
*	0.213	67	50-75% Grass cover, Good, HSG B-C
	0.740	55	Weighted Average
	0.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Pond 1CP: Ex Depression

Inflow Area = 0.674 ac, 0.00% Impervious, Inflow Depth > 0.24" for 2-year event
Inflow = 0.08 cfs @ 12.37 hrs, Volume= 0.014 af
Outflow = 0.04 cfs @ 12.74 hrs, Volume= 0.013 af, Atten= 51%, Lag= 22.1 min
Discarded = 0.04 cfs @ 12.74 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 105.12' @ 12.74 hrs Surf.Area= 355 sf Storage= 79 cf

Plug-Flow detention time= 22.9 min calculated for 0.013 af (99% of inflow)
Center-of-Mass det. time= 19.2 min (901.8 - 882.6)

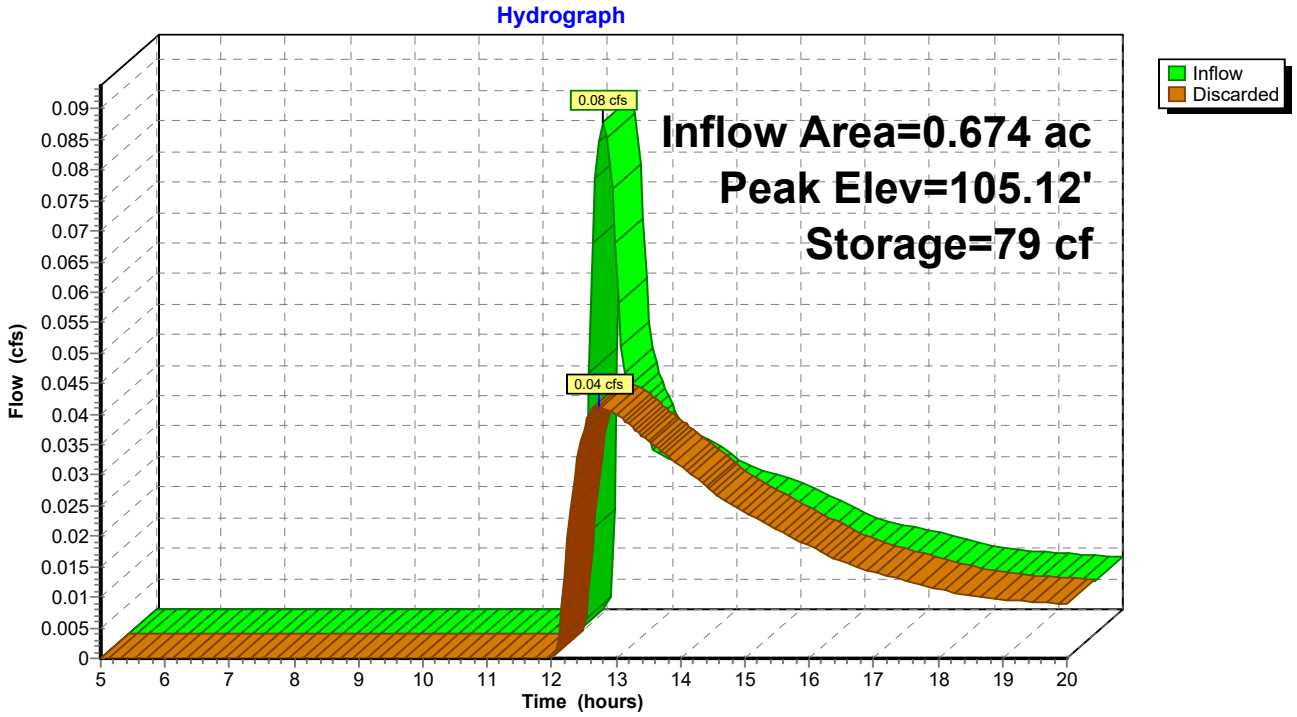
Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	10,413 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	250	42	42	250
106.00	1,600	827	869	1,604
107.00	4,100	2,754	3,623	4,111
108.00	9,900	6,790	10,413	9,918

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.04 cfs @ 12.74 hrs HW=105.12' (Free Discharge)
↑**1=Exfiltration** (Controls 0.04 cfs)

Pond 1CP: Ex Depression



Summary for Pond 1DP: Ex Depression

Inflow Area = 1.853 ac, 0.00% Impervious, Inflow Depth > 0.22" for 2-year event
Inflow = 0.28 cfs @ 12.21 hrs, Volume= 0.035 af
Outflow = 0.14 cfs @ 12.60 hrs, Volume= 0.034 af, Atten= 48%, Lag= 23.1 min
Discarded = 0.14 cfs @ 12.60 hrs, Volume= 0.034 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 105.14' @ 12.60 hrs Surf.Area= 1,223 sf Storage= 247 cf

Plug-Flow detention time= 21.4 min calculated for 0.034 af (99% of inflow)
Center-of-Mass det. time= 18.5 min (880.9 - 862.5)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	16,720 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

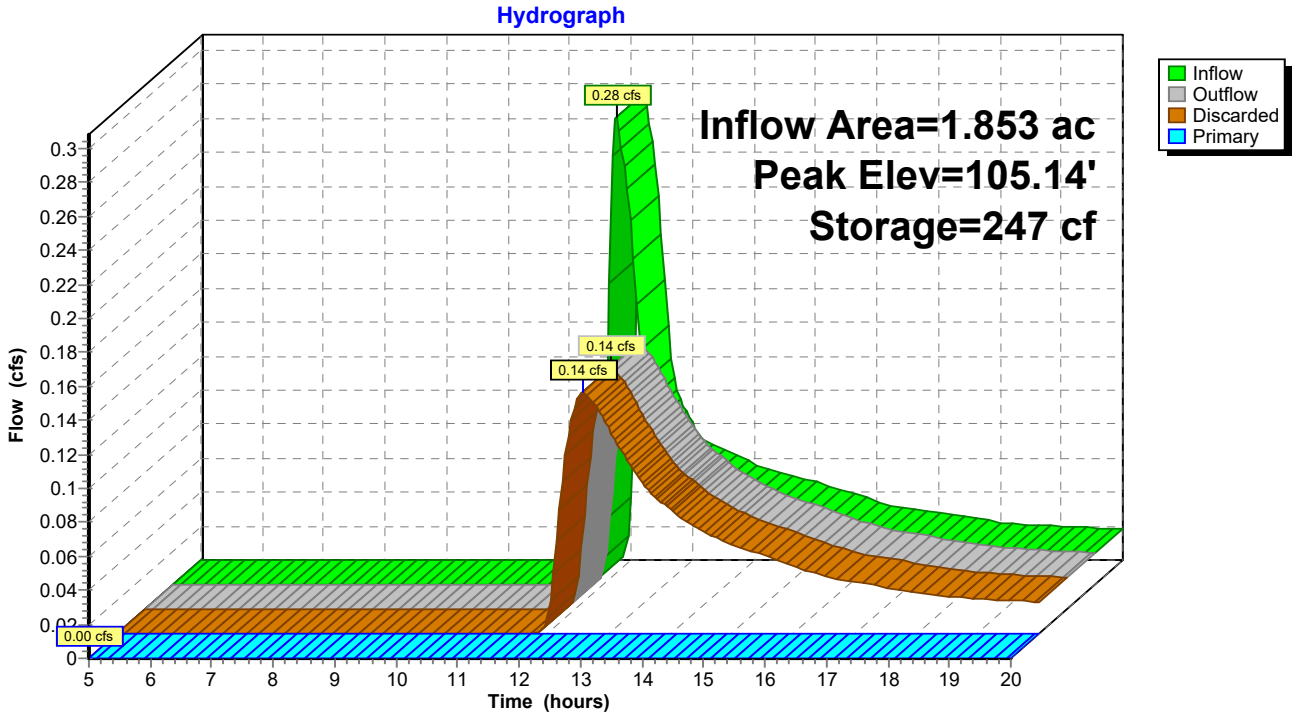
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	700	117	117	700
106.00	7,800	3,612	3,729	7,803
107.00	19,000	12,991	16,720	19,010

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	106.00'	**60.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.14 cfs @ 12.60 hrs HW=105.14' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=104.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1DP: Ex Depression



Summary for Pond 1P: new Basin

Inflow Area = 1.474 ac, 0.00% Impervious, Inflow Depth > 0.22" for 2-year event
Inflow = 0.15 cfs @ 12.39 hrs, Volume= 0.026 af
Outflow = 0.14 cfs @ 12.48 hrs, Volume= 0.026 af, Atten= 6%, Lag= 4.9 min
Discarded = 0.14 cfs @ 12.48 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 100.54' @ 12.48 hrs Surf.Area= 0.028 ac Storage= 0.001 af

Plug-Flow detention time= 5.0 min calculated for 0.026 af (99% of inflow)
Center-of-Mass det. time= 3.5 min (892.1 - 888.6)

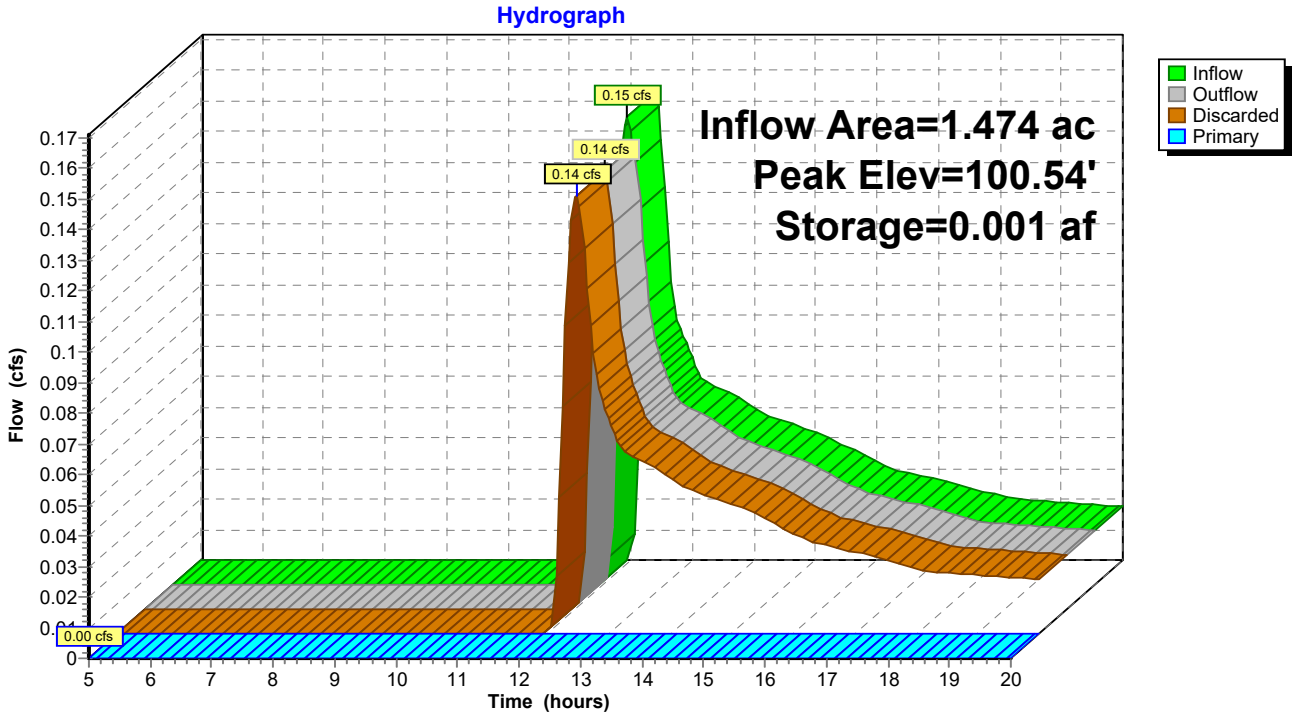
Volume	Invert	Avail.Storage	Storage Description
#1	100.50'	0.218 af	**10.00'W x 120.00'L x 3.50'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	103.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.14 cfs @ 12.48 hrs HW=100.54' (Free Discharge)
1=Exfiltration (Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=100.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: new Basin



Summary for Pond 2P: new Basin

Inflow Area = 0.740 ac, 0.00% Impervious, Inflow Depth > 0.22" for 2-year event
Inflow = 0.08 cfs @ 12.39 hrs, Volume= 0.013 af
Outflow = 0.07 cfs @ 12.47 hrs, Volume= 0.013 af, Atten= 5%, Lag= 4.4 min
Discarded = 0.07 cfs @ 12.47 hrs, Volume= 0.013 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP2 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 103.02' @ 12.47 hrs Surf.Area= 0.023 ac Storage= 0.000 af

Plug-Flow detention time= 4.3 min calculated for 0.013 af (100% of inflow)
Center-of-Mass det. time= 3.0 min (891.6 - 888.6)

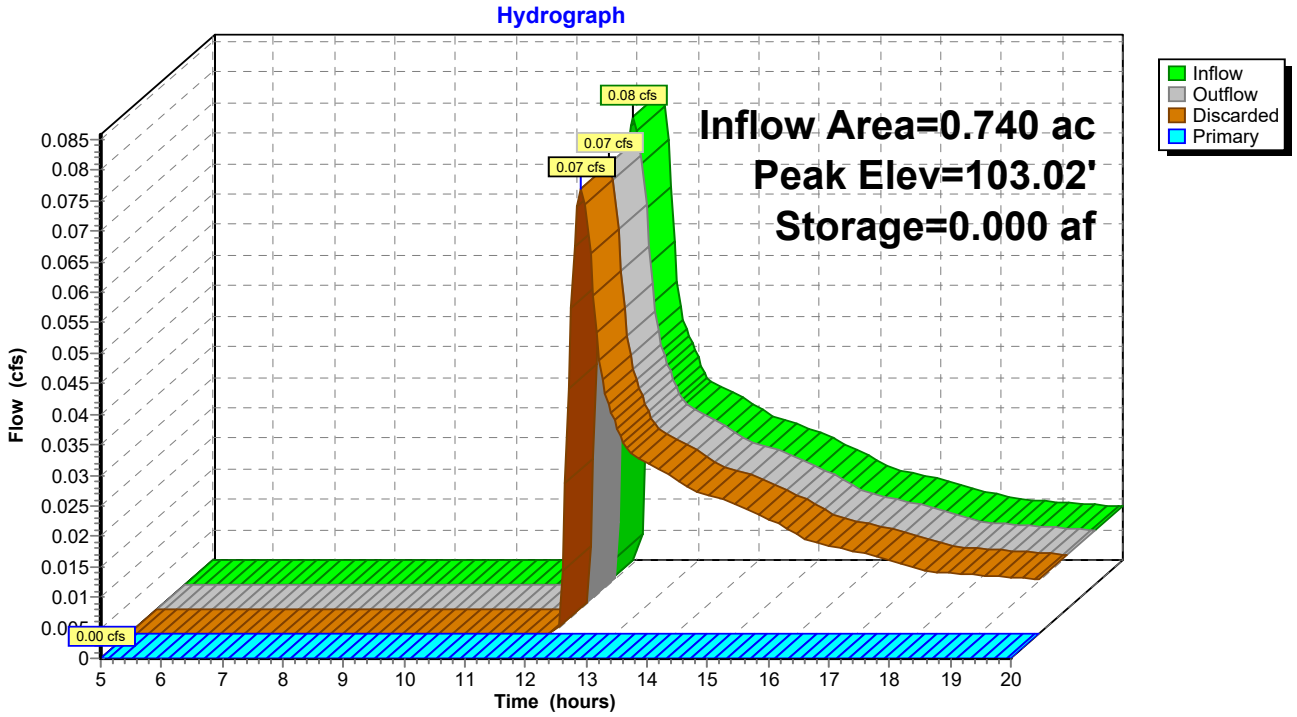
Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	0.144 af	**10.00'W x 100.00'L x 3.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	105.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.12 cfs @ 12.47 hrs HW=103.02' (Free Discharge)
1=Exfiltration (Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=103.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: new Basin

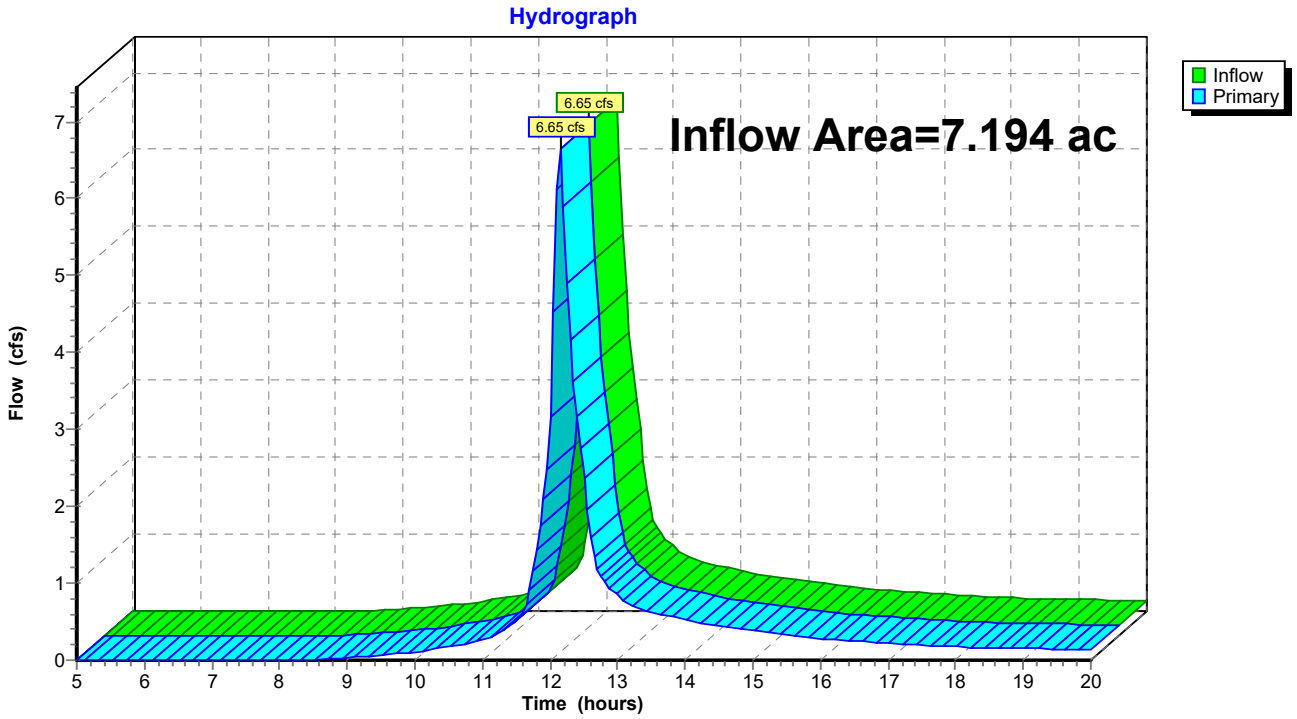


Summary for Link DP1: (new Link)

Inflow Area = 7.194 ac, 39.56% Impervious, Inflow Depth > 0.85" for 2-year event
Inflow = 6.65 cfs @ 12.15 hrs, Volume= 0.509 af
Primary = 6.65 cfs @ 12.15 hrs, Volume= 0.509 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP1: (new Link)

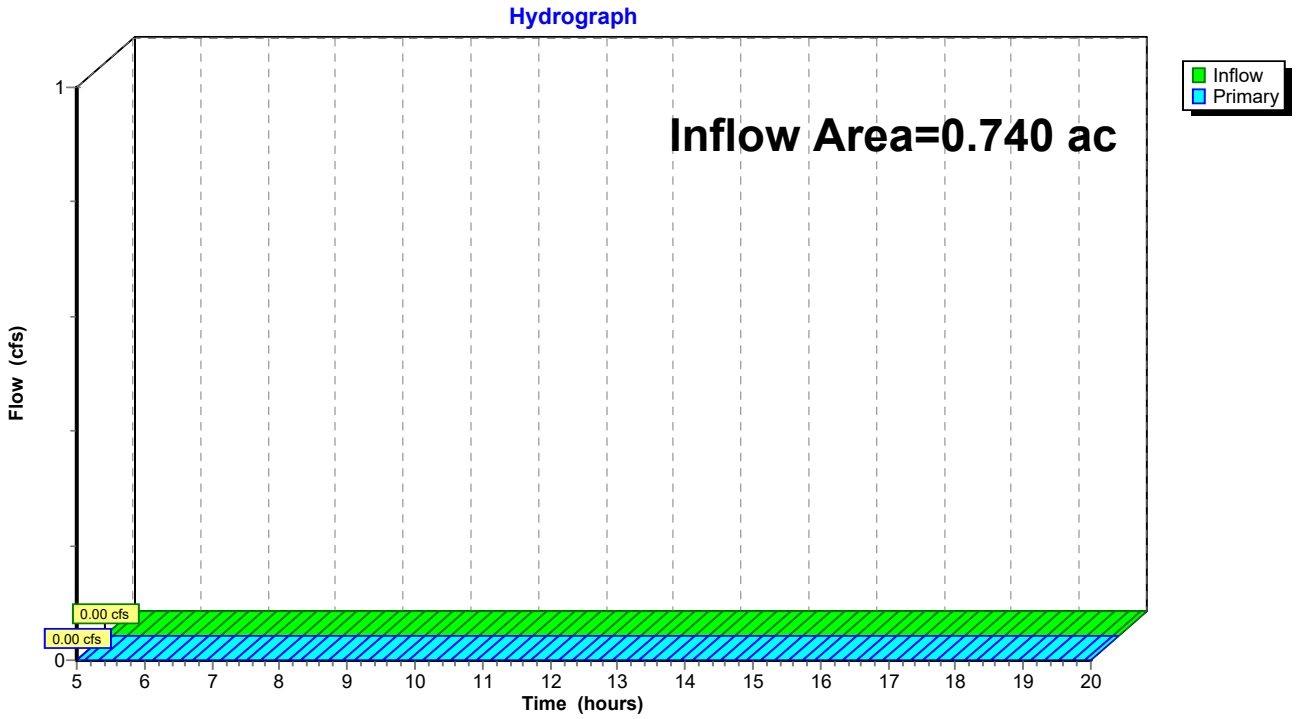


Summary for Link DP2: (new Link)

Inflow Area = 0.740 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP2: (new Link)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=3.867 ac 73.60% Impervious Runoff Depth>4.24"
Tc=10.0 min CN=84 Runoff=17.34 cfs 1.367 af

Subcatchment1B: Subcat 1B Runoff Area=1.474 ac 0.00% Impervious Runoff Depth>1.54"
Tc=10.0 min CN=55 Runoff=2.31 cfs 0.190 af

Subcatchment1C: Subcat 1C Runoff Area=0.674 ac 0.00% Impervious Runoff Depth>1.62"
Tc=10.0 min CN=56 Runoff=1.12 cfs 0.091 af

Subcatchment1D: Subcat 1D Runoff Area=0.596 ac 0.00% Impervious Runoff Depth>1.62"
Tc=10.0 min CN=56 Runoff=0.99 cfs 0.081 af

Subcatchment1E: Subcat 1E Runoff Area=0.583 ac 0.00% Impervious Runoff Depth>2.21"
Tc=10.0 min CN=63 Runoff=1.38 cfs 0.107 af

Subcatchment2: Subcat 2 Runoff Area=0.740 ac 0.00% Impervious Runoff Depth>1.54"
Tc=10.0 min CN=55 Runoff=1.16 cfs 0.095 af

Pond 1CP: Ex Depression Peak Elev=106.26' Storage=1,361 cf Inflow=1.12 cfs 0.091 af
Outflow=0.25 cfs 0.089 af

Pond 1DP: Ex Depression Peak Elev=105.83' Storage=2,539 cf Inflow=2.37 cfs 0.188 af
Discarded=0.70 cfs 0.186 af Primary=0.00 cfs 0.000 af Outflow=0.70 cfs 0.186 af

Pond 1P: new Basin Peak Elev=102.20' Storage=0.074 af Inflow=2.31 cfs 0.190 af
Discarded=0.32 cfs 0.178 af Primary=0.00 cfs 0.000 af Outflow=0.32 cfs 0.178 af

Pond 2P: new Basin Peak Elev=104.04' Storage=0.032 af Inflow=1.16 cfs 0.095 af
Discarded=0.21 cfs 0.095 af Primary=0.00 cfs 0.000 af Outflow=0.21 cfs 0.095 af

Link DP1: (new Link) Inflow=17.34 cfs 1.367 af
Primary=17.34 cfs 1.367 af

Link DP2: (new Link) Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.934 ac Runoff Volume = 1.931 af Average Runoff Depth = 2.92"
64.13% Pervious = 5.088 ac 35.87% Impervious = 2.846 ac

Summary for Subcatchment 1A: Subcat 1A

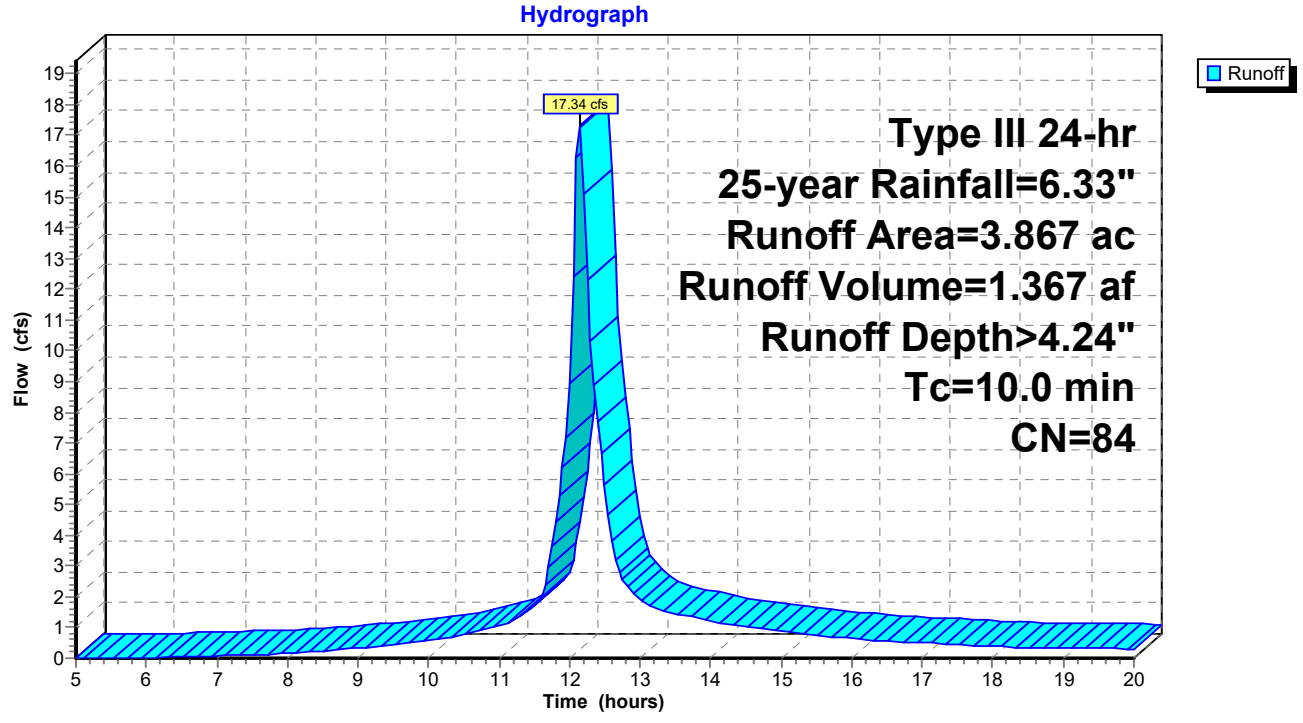
Runoff = 17.34 cfs @ 12.14 hrs, Volume= 1.367 af, Depth> 4.24"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

	Area (ac)	CN	Description
	0.271	98	Paved parking, HSG C
*	0.054	74	50-75% Grass cover, Good, HSG C
	0.285	45	Woods, Poor, HSG A
	0.263	98	Paved parking, HSG A
	0.131	39	>75% Grass cover, Good, HSG A
	0.005	39	>75% Grass cover, Good, HSG A
	0.238	39	>75% Grass cover, Good, HSG A
	2.312	98	Paved parking, HSG A
	0.308	45	Woods, Poor, HSG A
	3.867	84	Weighted Average
	1.021		26.40% Pervious Area
	2.846		73.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 1B: Subcat 1B

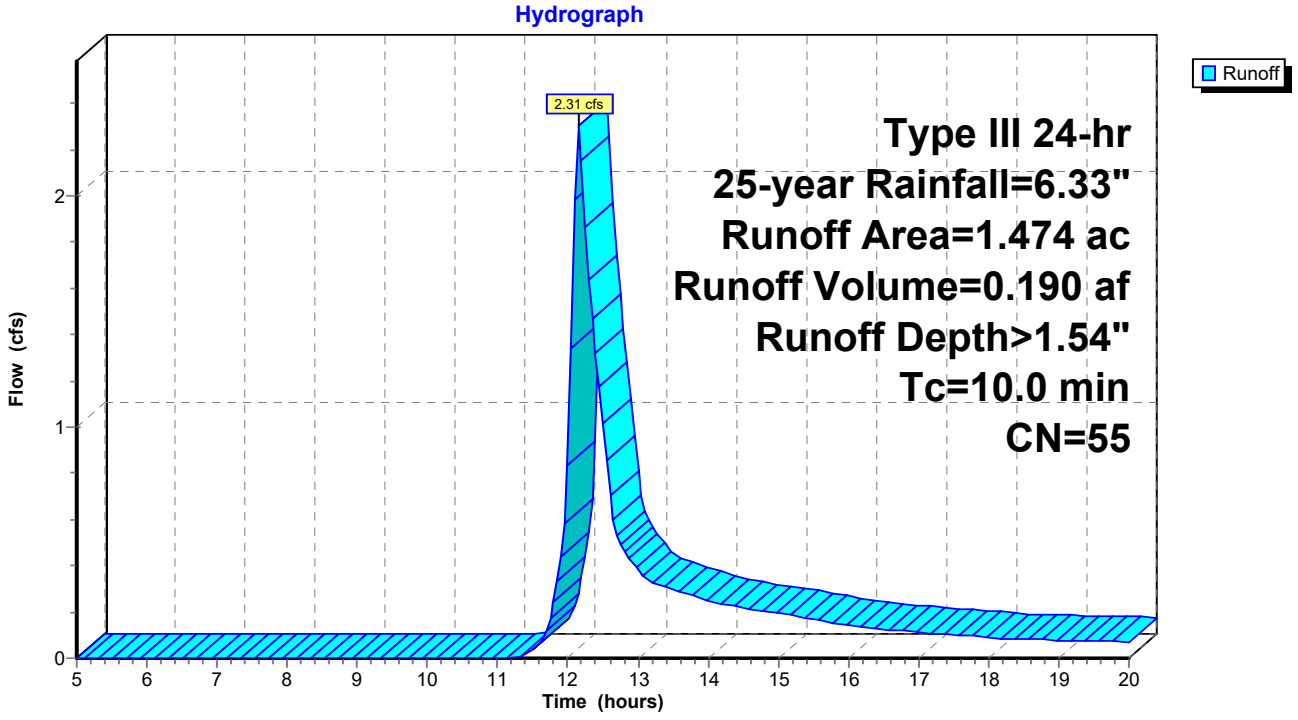
Runoff = 2.31 cfs @ 12.16 hrs, Volume= 0.190 af, Depth> 1.54"
Routed to Pond 1P : new Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

	Area (ac)	CN	Description
	0.036	96	Gravel surface, HSG A
*	0.023	50	50-75% Grass cover, Good, HSG A-B
*	0.470	50	50-75% Grass cover, Good, HSG A-B
	0.008	96	Gravel surface, HSG A
*	0.009	50	50-75% Grass cover, Good, HSG A-B
	0.031	96	Gravel surface, HSG A
	0.004	96	Gravel surface, HSG A
*	0.688	50	50-75% Grass cover, Good, HSG A-B
*	0.183	67	50-75% Grass cover, Good, HSG B-C
	0.022	96	Gravel surface, HSG B
	1.474	55	Weighted Average
	1.474		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1B: Subcat 1B



Summary for Subcatchment 1C: Subcat 1C

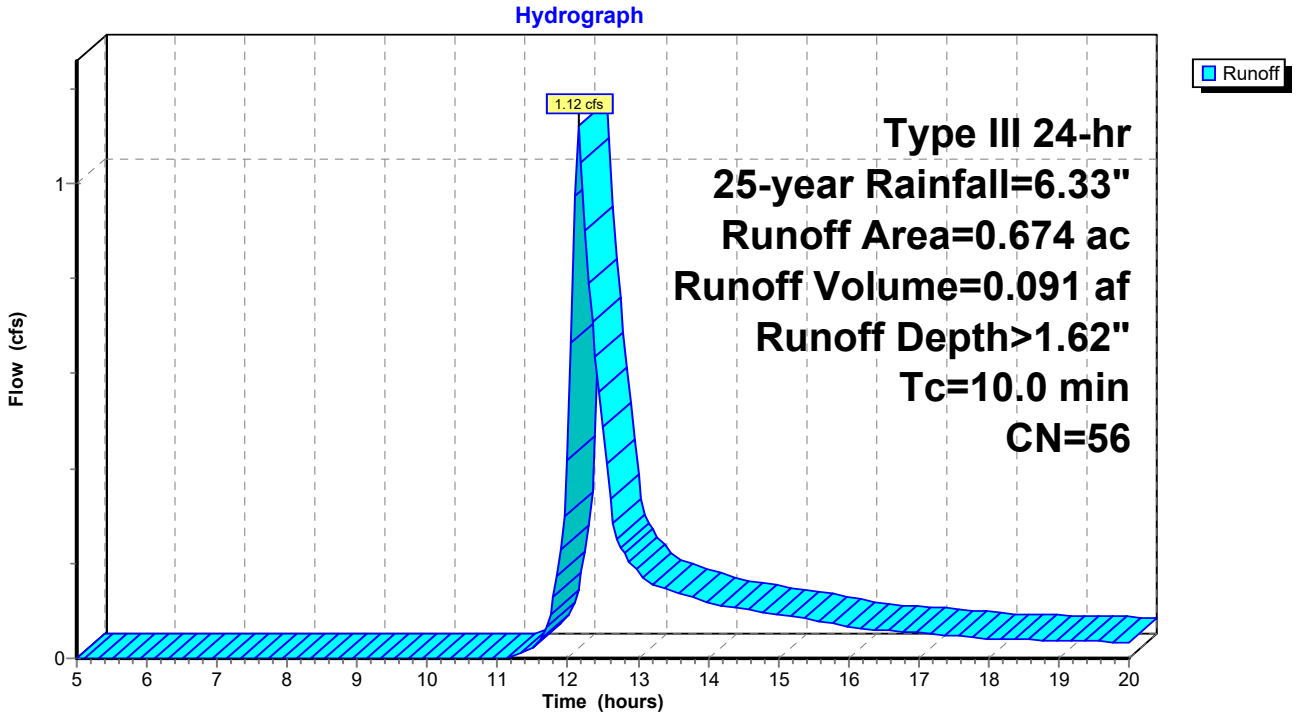
Runoff = 1.12 cfs @ 12.16 hrs, Volume= 0.091 af, Depth> 1.62"
Routed to Pond 1CP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

	Area (ac)	CN	Description
*	0.007	50	50-75% Grass cover, Good, HSG A-B
*	0.005	50	50-75% Grass cover, Good, HSG A-B
*	0.479	50	50-75% Grass cover, Good, HSG A-B
	0.008	96	Gravel surface, HSG A
	0.019	96	Gravel surface, HSG A
	0.028	96	Gravel surface, HSG B
*	0.006	67	50-75% Grass cover, Good, HSG B-C
*	0.018	67	50-75% Grass cover, Good, HSG B-C
*	0.048	67	50-75% Grass cover, Good, HSG B-C
	0.011	96	Gravel surface, HSG A
*	0.004	50	50-75% Grass cover, Good, HSG A-B
*	0.041	50	50-75% Grass cover, Good, HSG A-B
	0.674	56	Weighted Average
	0.674		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1C: Subcat 1C



Summary for Subcatchment 1D: Subcat 1D

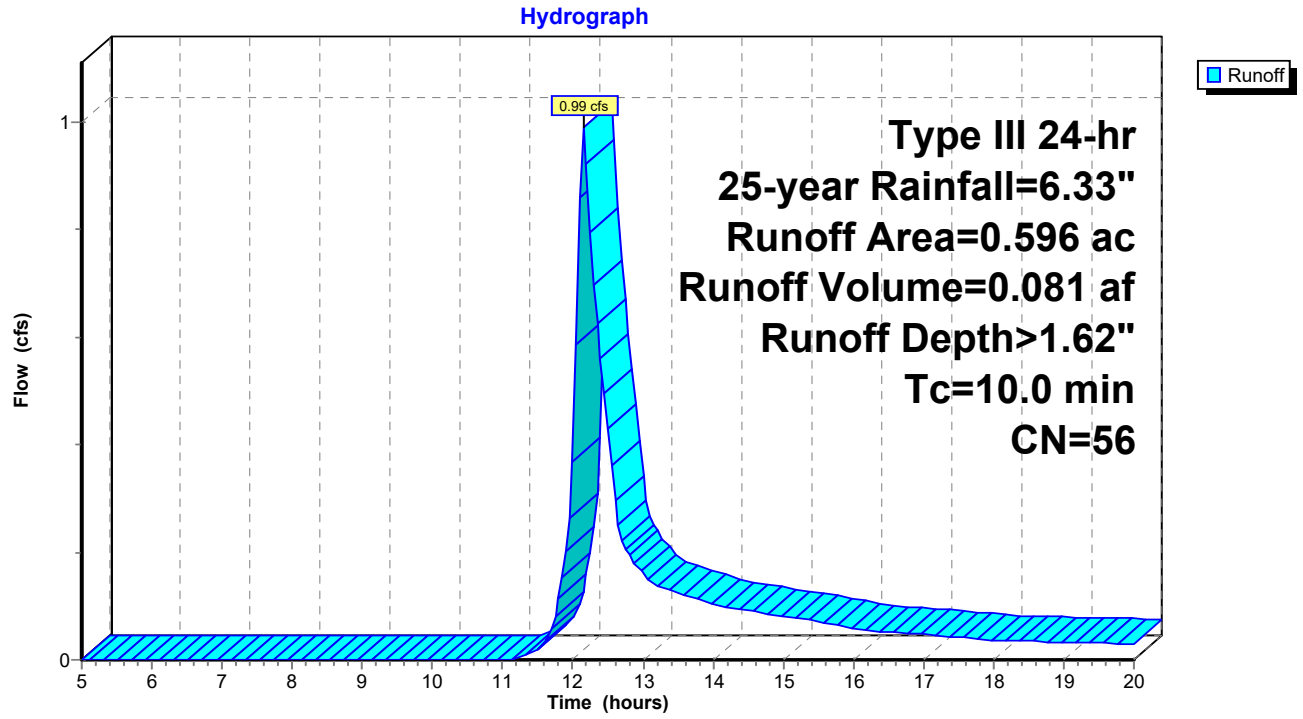
Runoff = 0.99 cfs @ 12.16 hrs, Volume= 0.081 af, Depth> 1.62"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

	Area (ac)	CN	Description
	0.074	96	Gravel surface, HSG A
*	0.041	50	50-75% Grass cover, Good, HSG A-B
*	0.462	50	50-75% Grass cover, Good, HSG A-B
*	0.015	50	50-75% Grass cover, Good, HSG A-B
*	0.004	67	50-75% Grass cover, Good, HSG B-C
	0.596	56	Weighted Average
	0.596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1D: Subcat 1D



Summary for Subcatchment 1E: Subcat 1E

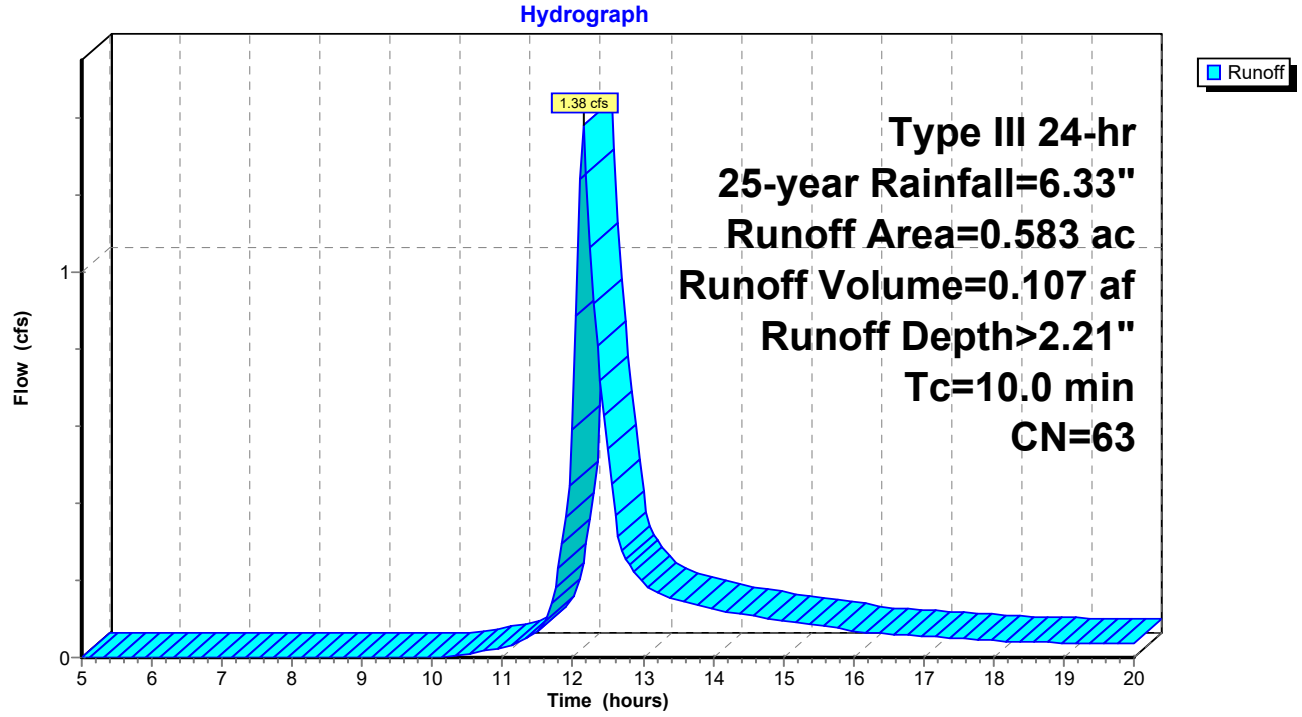
Runoff = 1.38 cfs @ 12.15 hrs, Volume= 0.107 af, Depth> 2.21"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

	Area (ac)	CN	Description
	0.012	96	Gravel surface, HSG A
*	0.007	50	50-75% Grass cover, Good, HSG A-B
*	0.009	50	50-75% Grass cover, Good, HSG A-B
*	0.152	50	50-75% Grass cover, Good, HSG A-B
	0.000	96	Gravel surface, HSG B
*	0.403	67	50-75% Grass cover, Good, HSG B-C
	0.583	63	Weighted Average
	0.583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1E: Subcat 1E



Summary for Subcatchment 2: Subcat 2

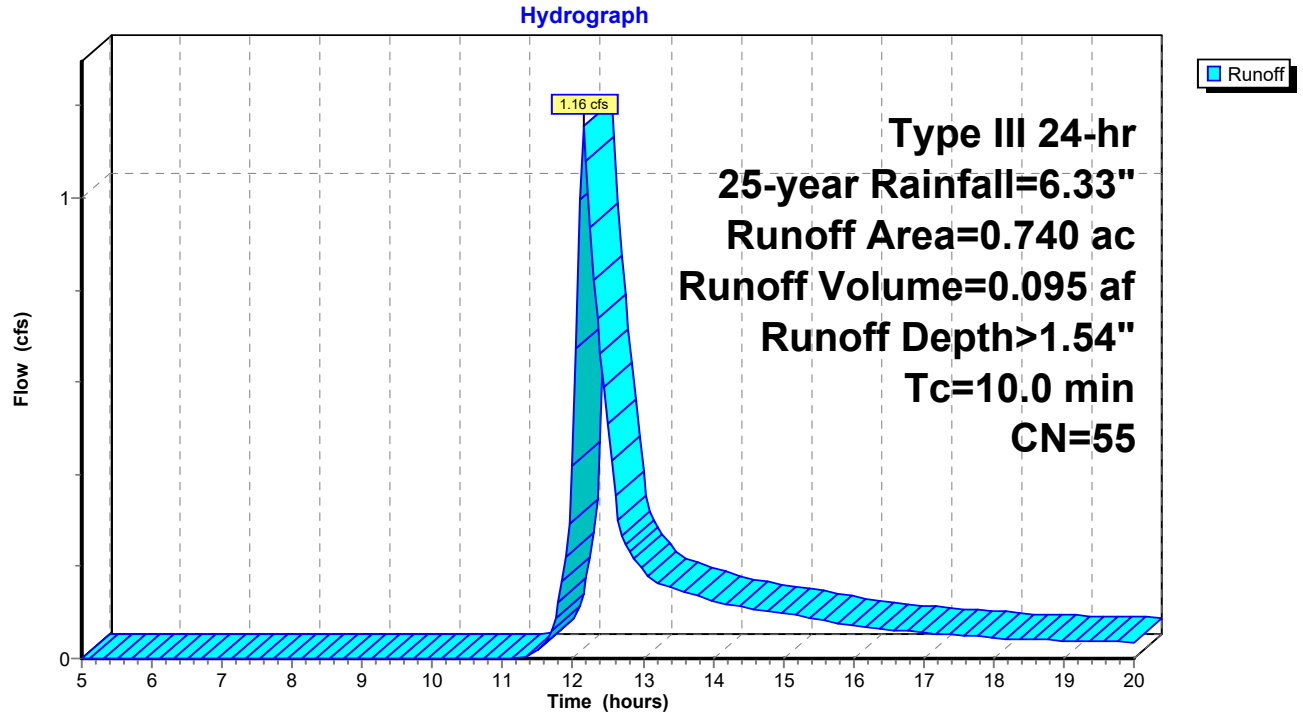
Runoff = 1.16 cfs @ 12.16 hrs, Volume= 0.095 af, Depth> 1.54"
Routed to Pond 2P : new Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.33"

	Area (ac)	CN	Description
*	0.527	50	50-75% Grass cover, Good, HSG A-B
*	0.213	67	50-75% Grass cover, Good, HSG B-C
	0.740	55	Weighted Average
	0.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Pond 1CP: Ex Depression

Inflow Area = 0.674 ac, 0.00% Impervious, Inflow Depth > 1.62" for 25-year event
Inflow = 1.12 cfs @ 12.16 hrs, Volume= 0.091 af
Outflow = 0.25 cfs @ 12.71 hrs, Volume= 0.089 af, Atten= 78%, Lag= 33.1 min
Discarded = 0.25 cfs @ 12.71 hrs, Volume= 0.089 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 106.26' @ 12.71 hrs Surf.Area= 2,146 sf Storage= 1,361 cf

Plug-Flow detention time= 70.7 min calculated for 0.089 af (98% of inflow)
Center-of-Mass det. time= 63.5 min (890.9 - 827.4)

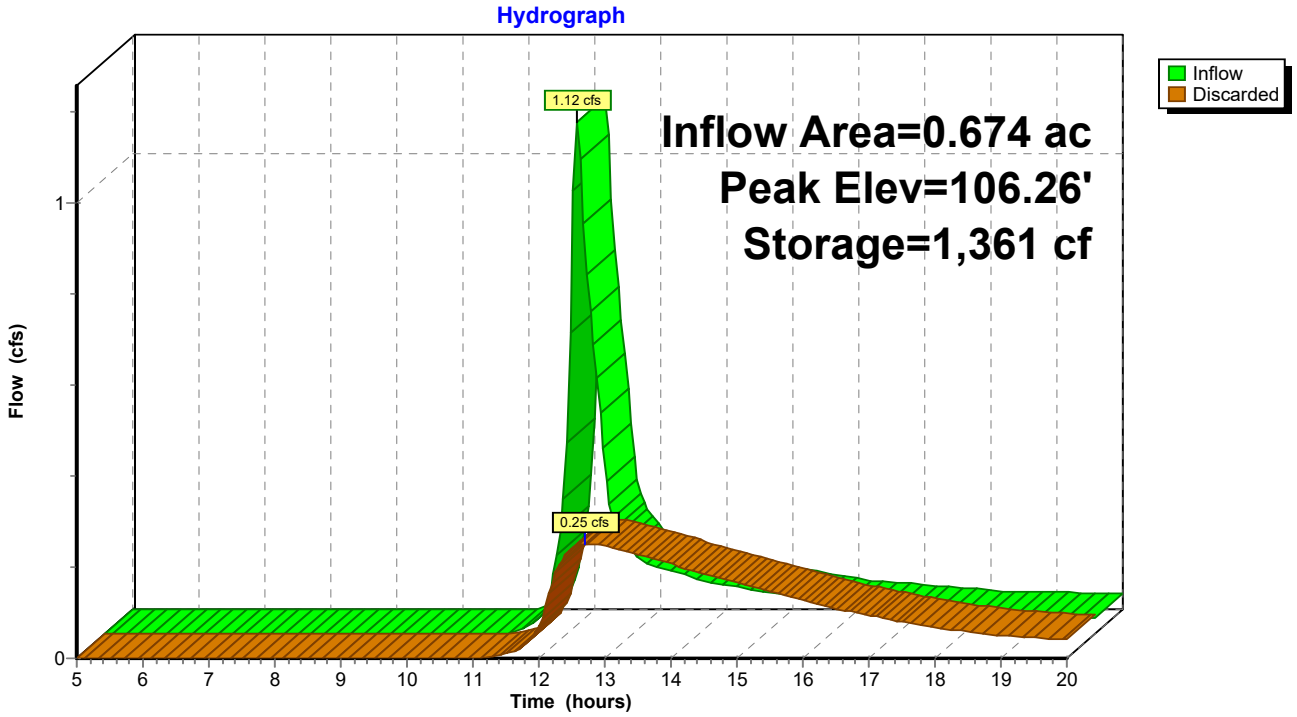
Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	10,413 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	250	42	42	250
106.00	1,600	827	869	1,604
107.00	4,100	2,754	3,623	4,111
108.00	9,900	6,790	10,413	9,918

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.25 cfs @ 12.71 hrs HW=106.26' (Free Discharge)
↑**1=Exfiltration** (Controls 0.25 cfs)

Pond 1CP: Ex Depression



Summary for Pond 1DP: Ex Depression

Inflow Area = 1.853 ac, 0.00% Impervious, Inflow Depth > 1.22" for 25-year event
Inflow = 2.37 cfs @ 12.15 hrs, Volume= 0.188 af
Outflow = 0.70 cfs @ 12.59 hrs, Volume= 0.186 af, Atten= 70%, Lag= 26.2 min
Discarded = 0.70 cfs @ 12.59 hrs, Volume= 0.186 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 105.83' @ 12.59 hrs Surf.Area= 6,028 sf Storage= 2,539 cf

Plug-Flow detention time= 44.9 min calculated for 0.185 af (99% of inflow)
Center-of-Mass det. time= 40.7 min (860.4 - 819.6)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	16,720 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

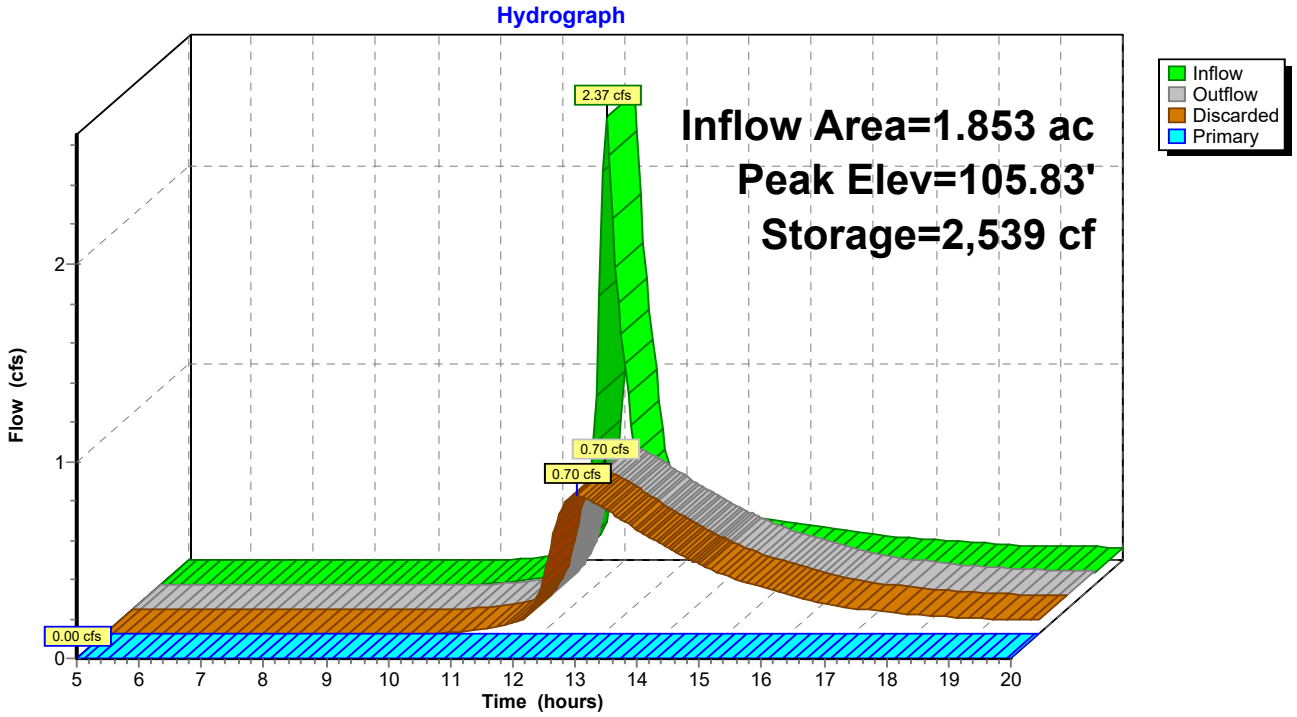
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	700	117	117	700
106.00	7,800	3,612	3,729	7,803
107.00	19,000	12,991	16,720	19,010

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	106.00'	**60.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.70 cfs @ 12.59 hrs HW=105.83' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.70 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=104.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1DP: Ex Depression



Summary for Pond 1P: new Basin

Inflow Area = 1.474 ac, 0.00% Impervious, Inflow Depth > 1.54" for 25-year event
Inflow = 2.31 cfs @ 12.16 hrs, Volume= 0.190 af
Outflow = 0.32 cfs @ 13.28 hrs, Volume= 0.178 af, Atten= 86%, Lag= 67.0 min
Discarded = 0.32 cfs @ 13.28 hrs, Volume= 0.178 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 102.20' @ 13.28 hrs Surf.Area= 0.060 ac Storage= 0.074 af

Plug-Flow detention time= 126.7 min calculated for 0.178 af (94% of inflow)
Center-of-Mass det. time= 106.5 min (936.0 - 829.5)

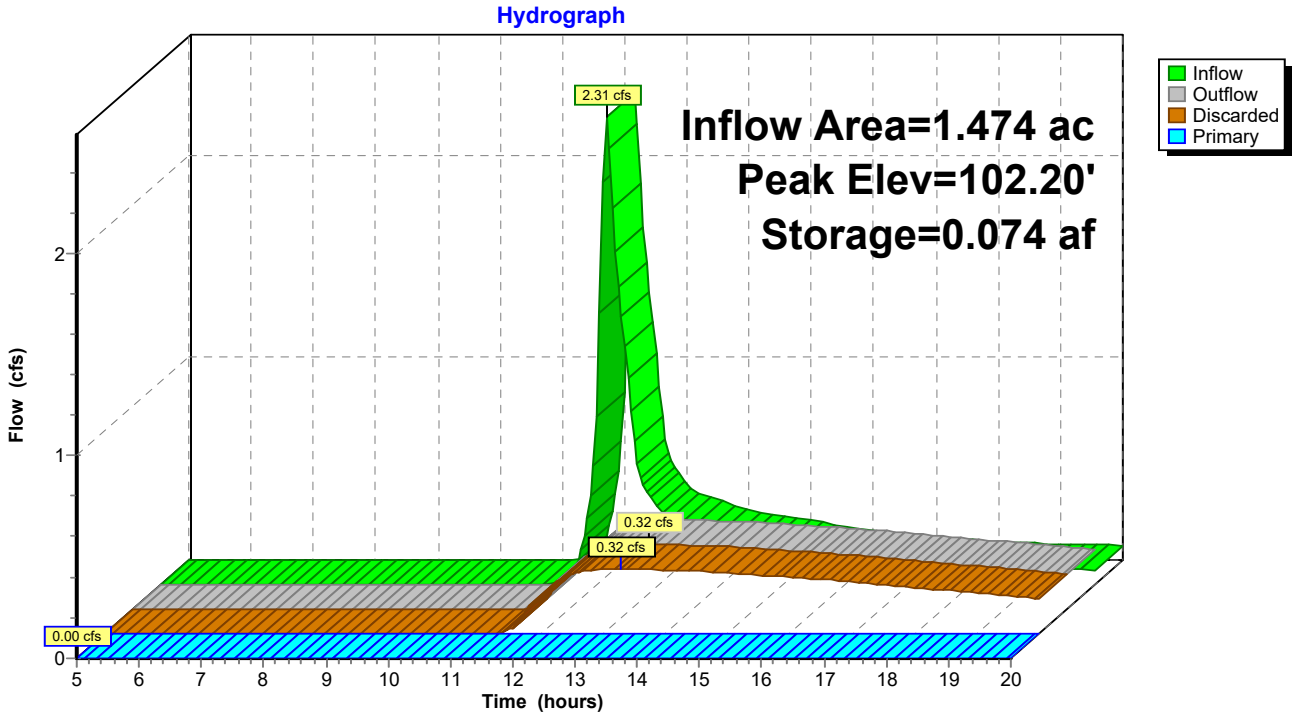
Volume	Invert	Avail.Storage	Storage Description
#1	100.50'	0.218 af	**10.00'W x 120.00'L x 3.50'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	103.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.32 cfs @ 13.28 hrs HW=102.20' (Free Discharge)
1=Exfiltration (Controls 0.32 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=100.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: new Basin



Summary for Pond 2P: new Basin

Inflow Area = 0.740 ac, 0.00% Impervious, Inflow Depth > 1.54" for 25-year event
Inflow = 1.16 cfs @ 12.16 hrs, Volume= 0.095 af
Outflow = 0.21 cfs @ 12.93 hrs, Volume= 0.095 af, Atten= 82%, Lag= 46.1 min
Discarded = 0.21 cfs @ 12.93 hrs, Volume= 0.095 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP2 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 104.04' @ 12.93 hrs Surf.Area= 0.040 ac Storage= 0.032 af

Plug-Flow detention time= 72.2 min calculated for 0.095 af (99% of inflow)
Center-of-Mass det. time= 71.2 min (900.6 - 829.5)

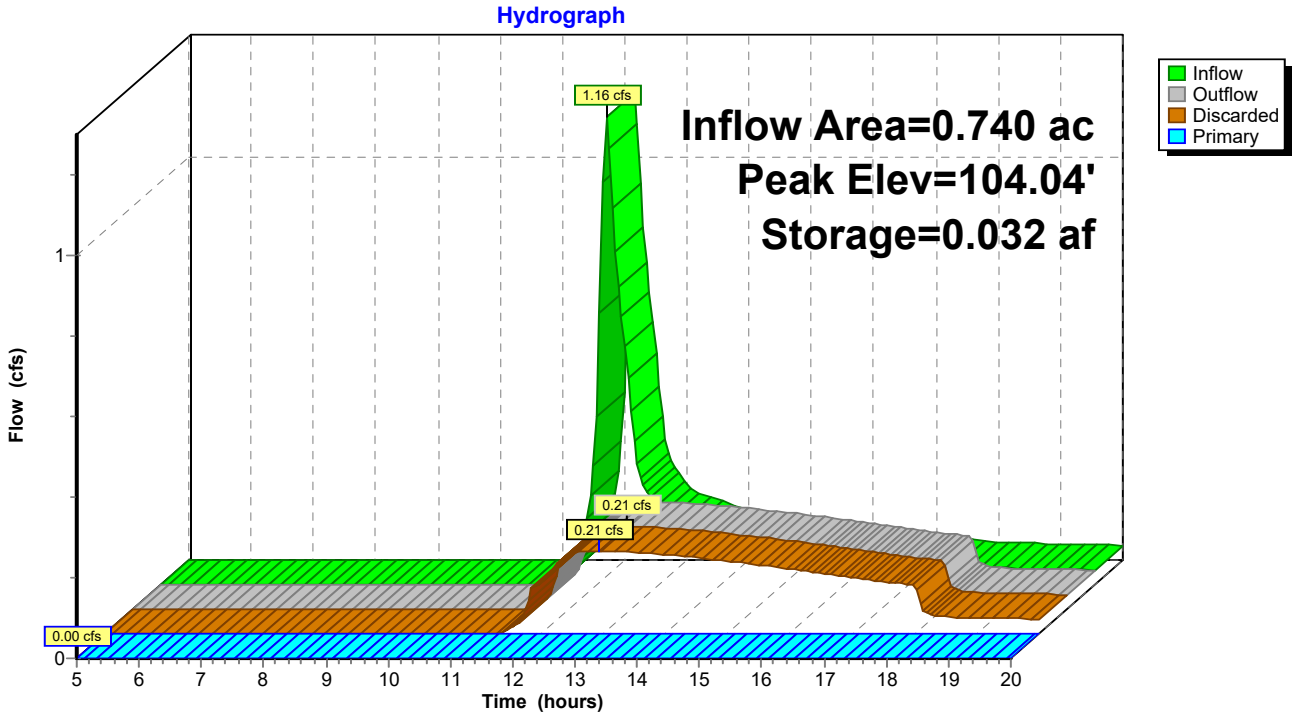
Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	0.144 af	**10.00'W x 100.00'L x 3.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	105.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.21 cfs @ 12.93 hrs HW=104.04' (Free Discharge)
1=Exfiltration (Controls 0.21 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=103.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: new Basin

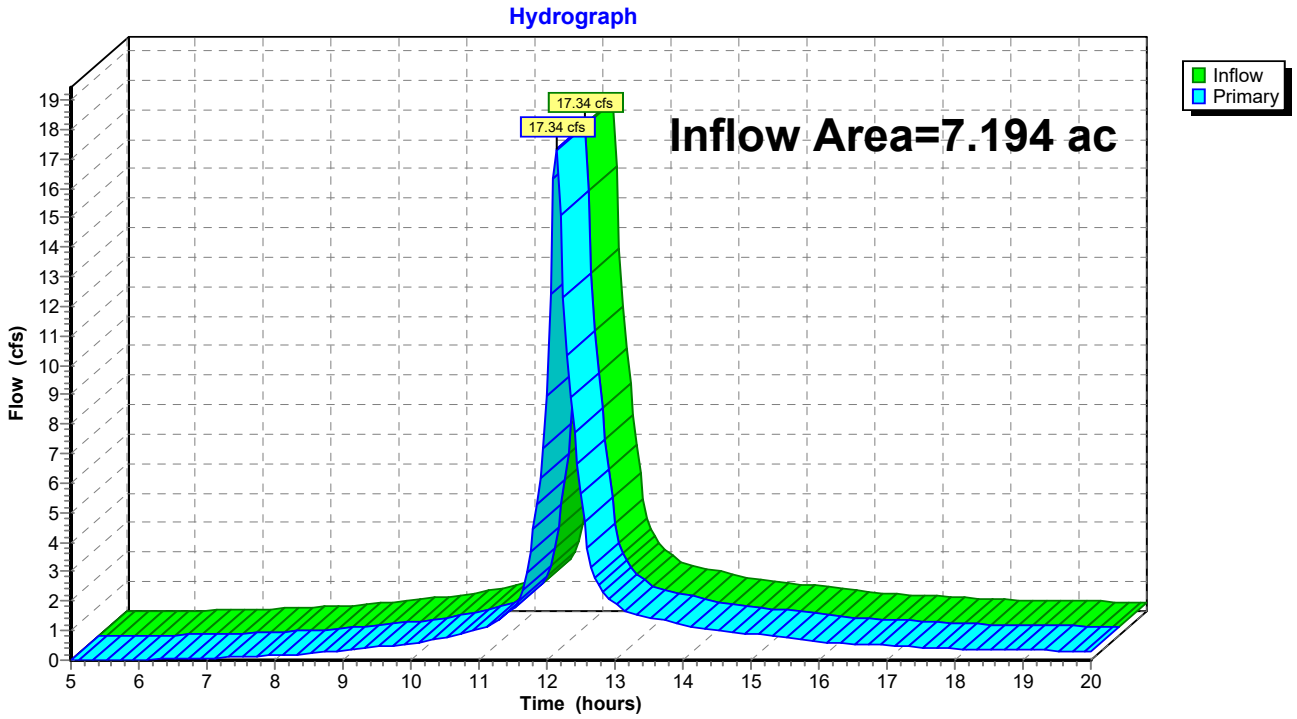


Summary for Link DP1: (new Link)

Inflow Area = 7.194 ac, 39.56% Impervious, Inflow Depth > 2.28" for 25-year event
Inflow = 17.34 cfs @ 12.14 hrs, Volume= 1.367 af
Primary = 17.34 cfs @ 12.14 hrs, Volume= 1.367 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP1: (new Link)

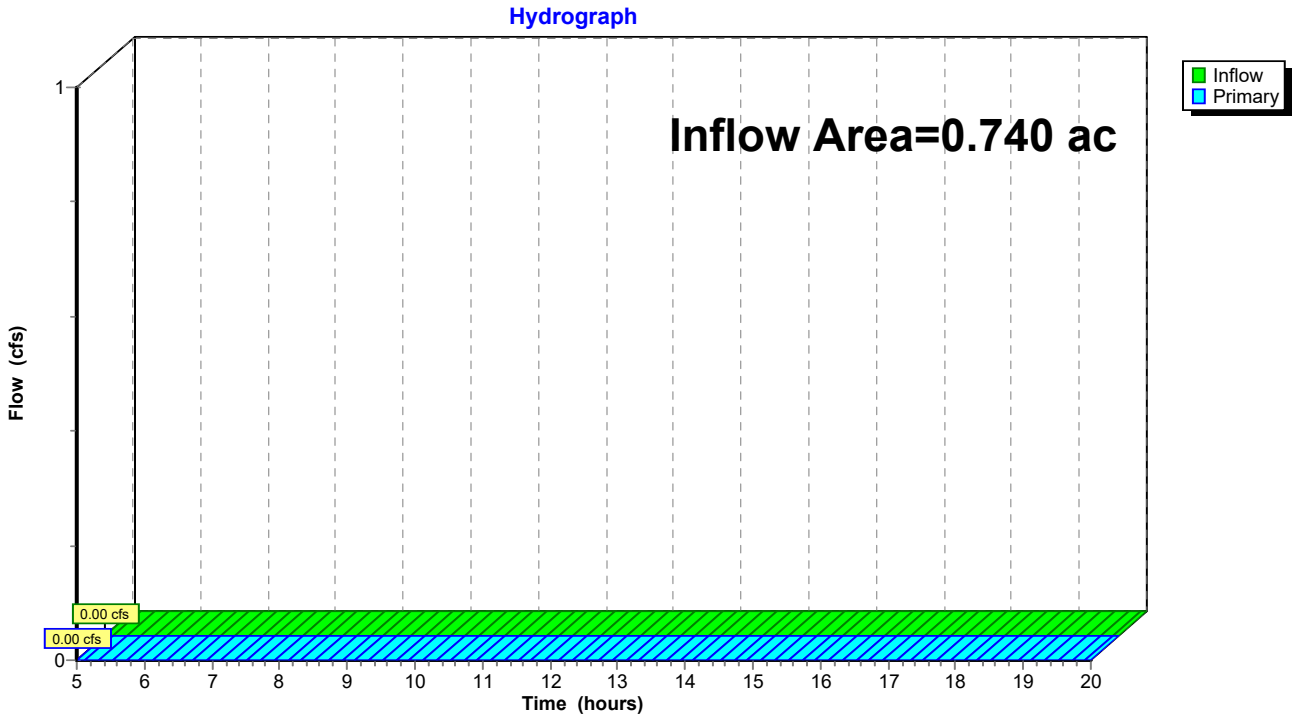


Summary for Link DP2: (new Link)

Inflow Area = 0.740 ac, 0.00% Impervious, Inflow Depth = 0.00" for 25-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP2: (new Link)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=3.867 ac 73.60% Impervious Runoff Depth>5.03"
Tc=10.0 min CN=84 Runoff=20.40 cfs 1.622 af

Subcatchment1B: Subcat 1B Runoff Area=1.474 ac 0.00% Impervious Runoff Depth>2.05"
Tc=10.0 min CN=55 Runoff=3.16 cfs 0.252 af

Subcatchment1C: Subcat 1C Runoff Area=0.674 ac 0.00% Impervious Runoff Depth>2.15"
Tc=10.0 min CN=56 Runoff=1.52 cfs 0.121 af

Subcatchment1D: Subcat 1D Runoff Area=0.596 ac 0.00% Impervious Runoff Depth>2.15"
Tc=10.0 min CN=56 Runoff=1.35 cfs 0.107 af

Subcatchment1E: Subcat 1E Runoff Area=0.583 ac 0.00% Impervious Runoff Depth>2.82"
Tc=10.0 min CN=63 Runoff=1.78 cfs 0.137 af

Subcatchment2: Subcat 2 Runoff Area=0.740 ac 0.00% Impervious Runoff Depth>2.05"
Tc=10.0 min CN=55 Runoff=1.59 cfs 0.127 af

Pond 1CP: Ex Depression Peak Elev=106.50' Storage=1,922 cf Inflow=1.52 cfs 0.121 af
Outflow=0.31 cfs 0.118 af

Pond 1DP: Ex Depression Peak Elev=105.97' Storage=3,482 cf Inflow=3.12 cfs 0.243 af
Discarded=0.87 cfs 0.241 af Primary=0.00 cfs 0.000 af Outflow=0.87 cfs 0.241 af

Pond 1P: new Basin Peak Elev=102.71' Storage=0.108 af Inflow=3.16 cfs 0.252 af
Discarded=0.38 cfs 0.220 af Primary=0.00 cfs 0.000 af Outflow=0.38 cfs 0.220 af

Pond 2P: new Basin Peak Elev=104.41' Storage=0.048 af Inflow=1.59 cfs 0.127 af
Discarded=0.24 cfs 0.126 af Primary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.126 af

Link DP1: (new Link) Inflow=20.40 cfs 1.622 af
Primary=20.40 cfs 1.622 af

Link DP2: (new Link) Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.934 ac Runoff Volume = 2.365 af Average Runoff Depth = 3.58"
64.13% Pervious = 5.088 ac 35.87% Impervious = 2.846 ac

Summary for Subcatchment 1A: Subcat 1A

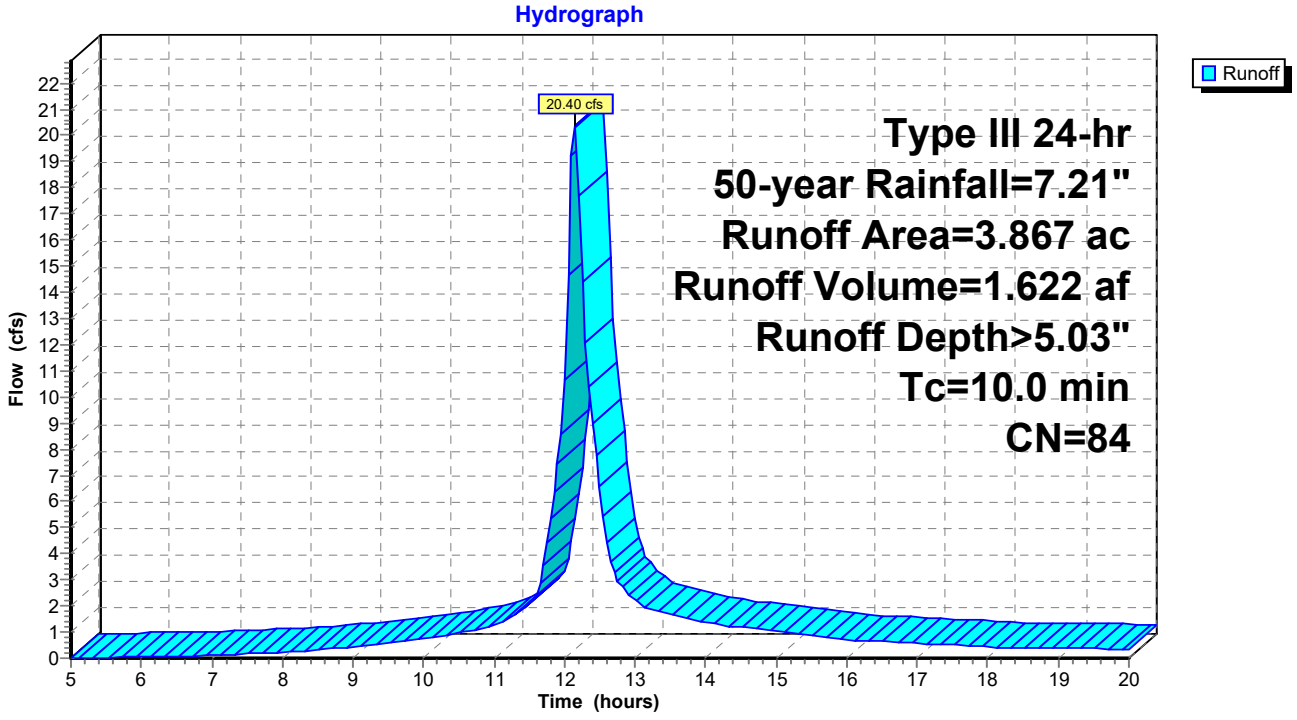
Runoff = 20.40 cfs @ 12.14 hrs, Volume= 1.622 af, Depth> 5.03"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

	Area (ac)	CN	Description
	0.271	98	Paved parking, HSG C
*	0.054	74	50-75% Grass cover, Good, HSG C
	0.285	45	Woods, Poor, HSG A
	0.263	98	Paved parking, HSG A
	0.131	39	>75% Grass cover, Good, HSG A
	0.005	39	>75% Grass cover, Good, HSG A
	0.238	39	>75% Grass cover, Good, HSG A
	2.312	98	Paved parking, HSG A
	0.308	45	Woods, Poor, HSG A
	3.867	84	Weighted Average
	1.021		26.40% Pervious Area
	2.846		73.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 1B: Subcat 1B

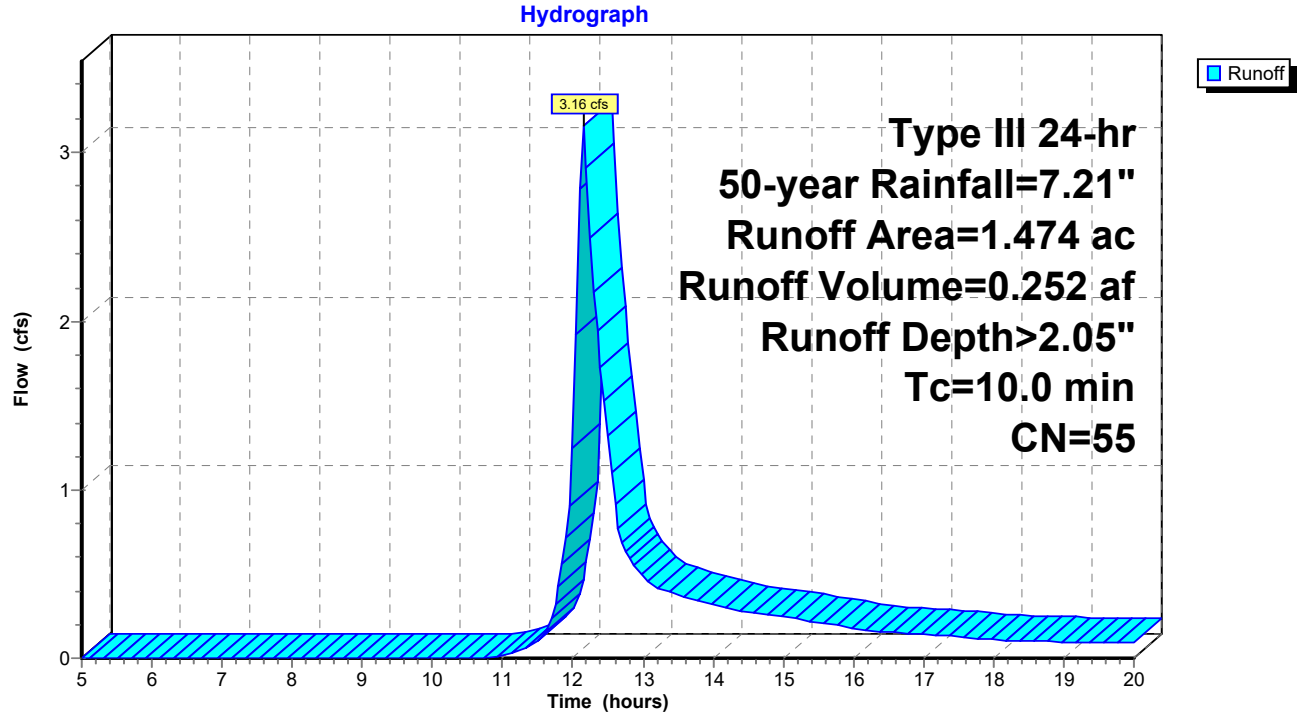
Runoff = 3.16 cfs @ 12.16 hrs, Volume= 0.252 af, Depth> 2.05"
Routed to Pond 1P : new Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

	Area (ac)	CN	Description
	0.036	96	Gravel surface, HSG A
*	0.023	50	50-75% Grass cover, Good, HSG A-B
*	0.470	50	50-75% Grass cover, Good, HSG A-B
	0.008	96	Gravel surface, HSG A
*	0.009	50	50-75% Grass cover, Good, HSG A-B
	0.031	96	Gravel surface, HSG A
	0.004	96	Gravel surface, HSG A
*	0.688	50	50-75% Grass cover, Good, HSG A-B
*	0.183	67	50-75% Grass cover, Good, HSG B-C
	0.022	96	Gravel surface, HSG B
	1.474	55	Weighted Average
	1.474		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1B: Subcat 1B



Summary for Subcatchment 1C: Subcat 1C

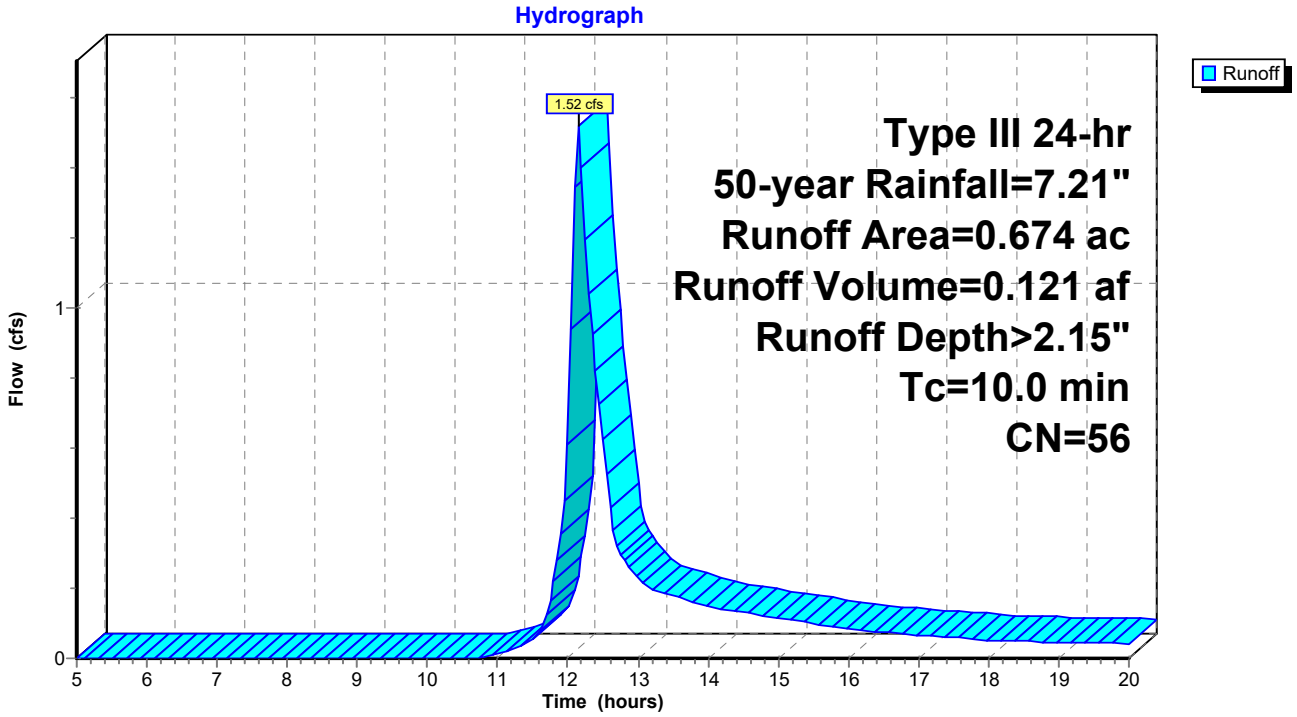
Runoff = 1.52 cfs @ 12.15 hrs, Volume= 0.121 af, Depth> 2.15"
Routed to Pond 1CP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

	Area (ac)	CN	Description
*	0.007	50	50-75% Grass cover, Good, HSG A-B
*	0.005	50	50-75% Grass cover, Good, HSG A-B
*	0.479	50	50-75% Grass cover, Good, HSG A-B
	0.008	96	Gravel surface, HSG A
	0.019	96	Gravel surface, HSG A
	0.028	96	Gravel surface, HSG B
*	0.006	67	50-75% Grass cover, Good, HSG B-C
*	0.018	67	50-75% Grass cover, Good, HSG B-C
*	0.048	67	50-75% Grass cover, Good, HSG B-C
	0.011	96	Gravel surface, HSG A
*	0.004	50	50-75% Grass cover, Good, HSG A-B
*	0.041	50	50-75% Grass cover, Good, HSG A-B
	0.674	56	Weighted Average
	0.674		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1C: Subcat 1C



Summary for Subcatchment 1D: Subcat 1D

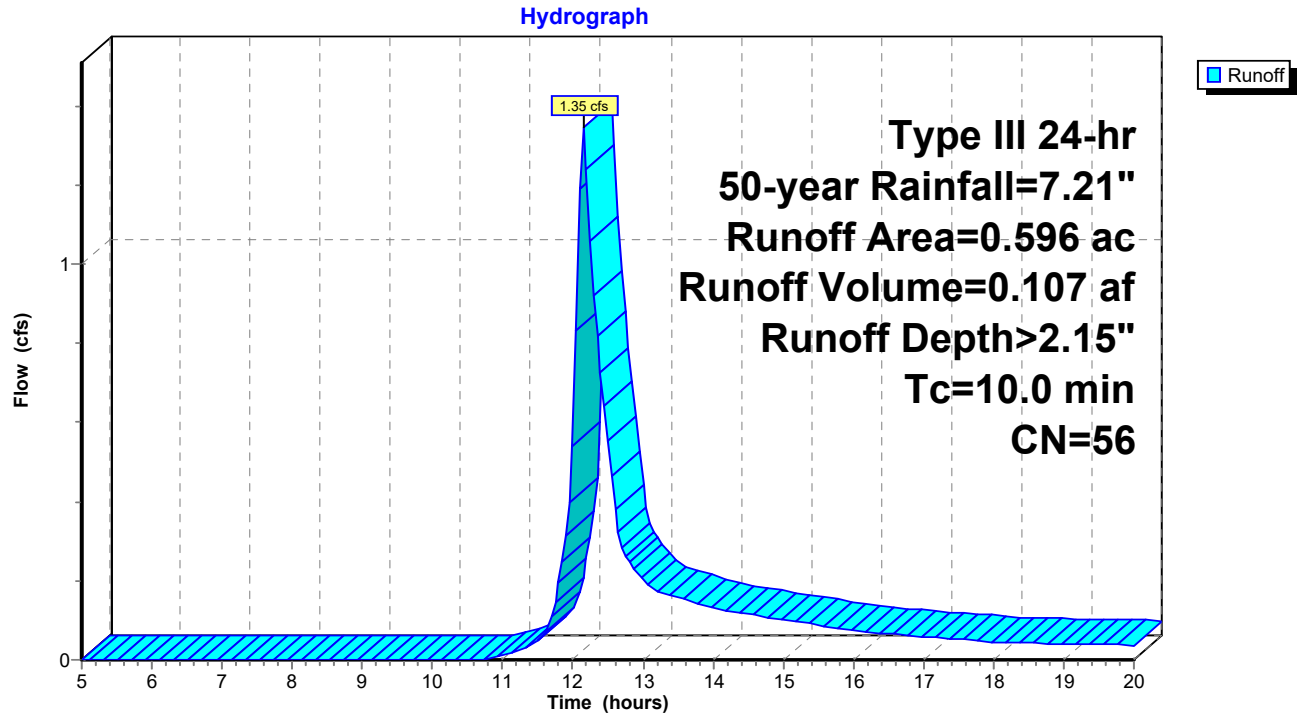
Runoff = 1.35 cfs @ 12.15 hrs, Volume= 0.107 af, Depth> 2.15"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

	Area (ac)	CN	Description
	0.074	96	Gravel surface, HSG A
*	0.041	50	50-75% Grass cover, Good, HSG A-B
*	0.462	50	50-75% Grass cover, Good, HSG A-B
*	0.015	50	50-75% Grass cover, Good, HSG A-B
*	0.004	67	50-75% Grass cover, Good, HSG B-C
	0.596	56	Weighted Average
	0.596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1D: Subcat 1D



Summary for Subcatchment 1E: Subcat 1E

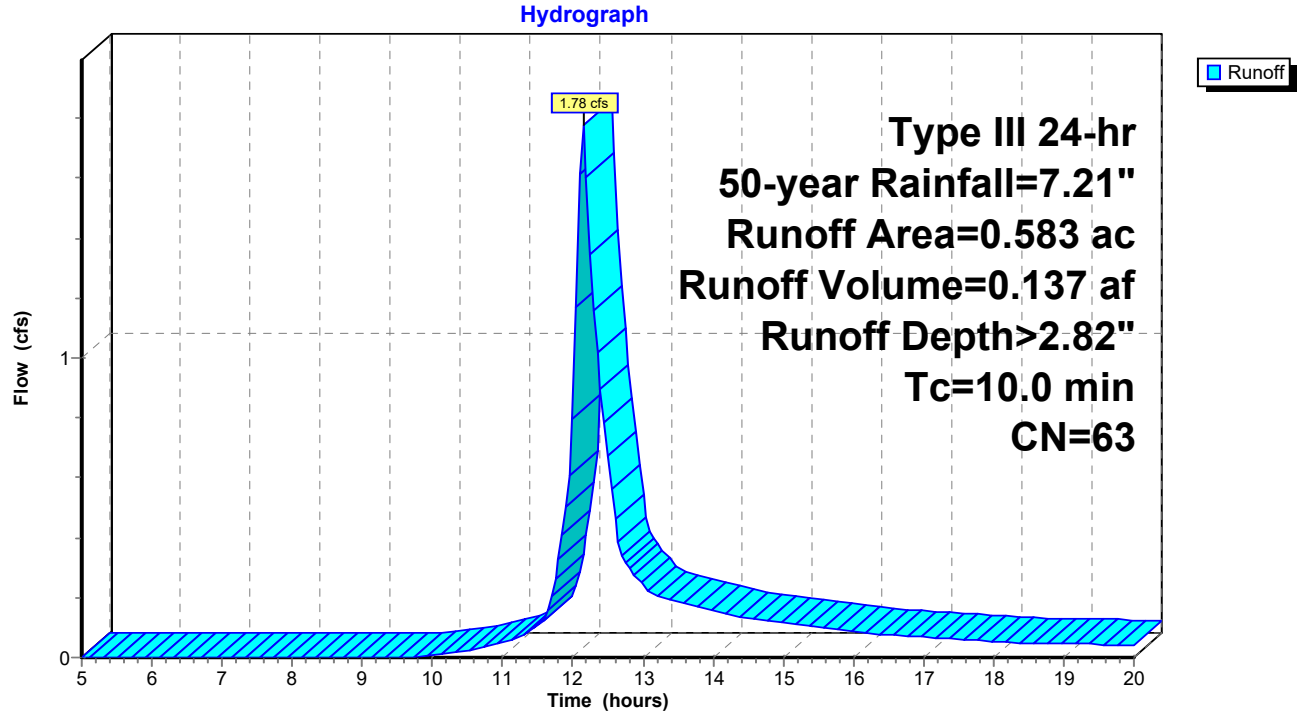
Runoff = 1.78 cfs @ 12.15 hrs, Volume= 0.137 af, Depth> 2.82"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

	Area (ac)	CN	Description
	0.012	96	Gravel surface, HSG A
*	0.007	50	50-75% Grass cover, Good, HSG A-B
*	0.009	50	50-75% Grass cover, Good, HSG A-B
*	0.152	50	50-75% Grass cover, Good, HSG A-B
	0.000	96	Gravel surface, HSG B
*	0.403	67	50-75% Grass cover, Good, HSG B-C
	0.583	63	Weighted Average
	0.583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1E: Subcat 1E



Summary for Subcatchment 2: Subcat 2

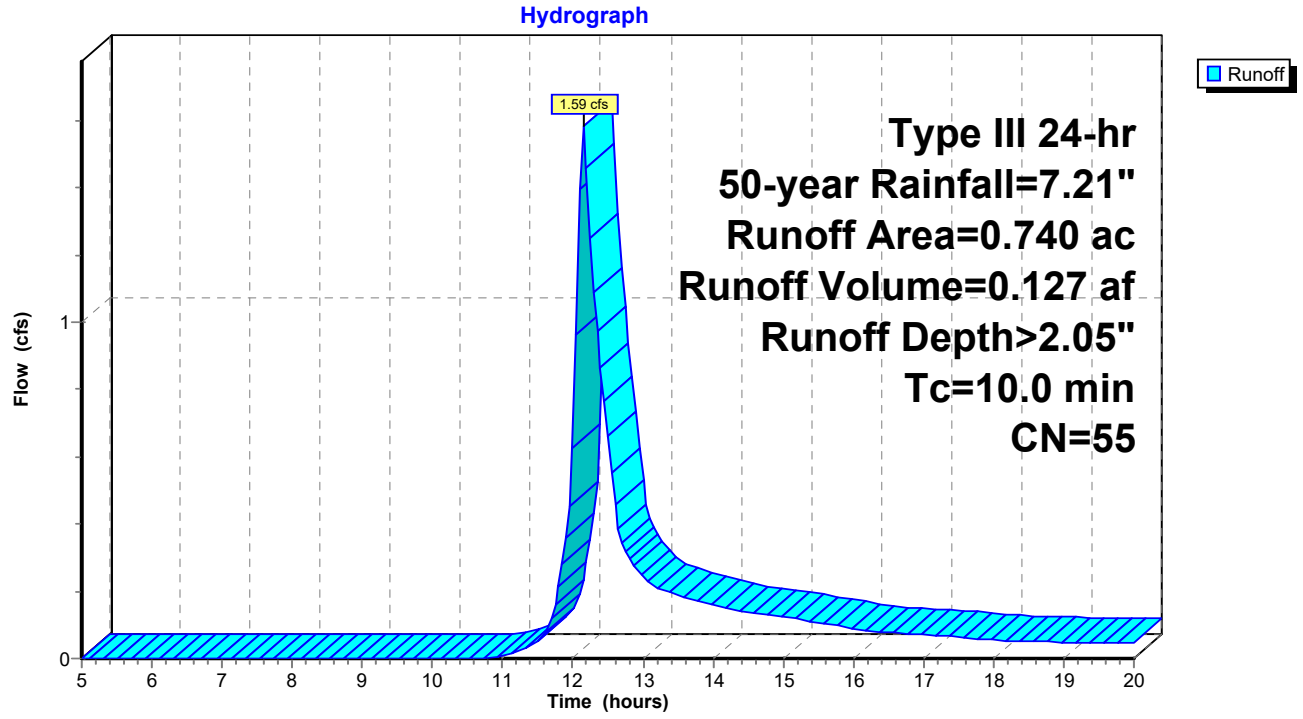
Runoff = 1.59 cfs @ 12.16 hrs, Volume= 0.127 af, Depth> 2.05"
Routed to Pond 2P : new Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.21"

	Area (ac)	CN	Description
*	0.527	50	50-75% Grass cover, Good, HSG A-B
*	0.213	67	50-75% Grass cover, Good, HSG B-C
	0.740	55	Weighted Average
	0.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Pond 1CP: Ex Depression

Inflow Area = 0.674 ac, 0.00% Impervious, Inflow Depth > 2.15" for 50-year event
Inflow = 1.52 cfs @ 12.15 hrs, Volume= 0.121 af
Outflow = 0.31 cfs @ 12.72 hrs, Volume= 0.118 af, Atten= 79%, Lag= 33.8 min
Discarded = 0.31 cfs @ 12.72 hrs, Volume= 0.118 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 106.50' @ 12.72 hrs Surf.Area= 2,695 sf Storage= 1,922 cf

Plug-Flow detention time= 80.1 min calculated for 0.117 af (97% of inflow)
Center-of-Mass det. time= 71.3 min (892.3 - 821.0)

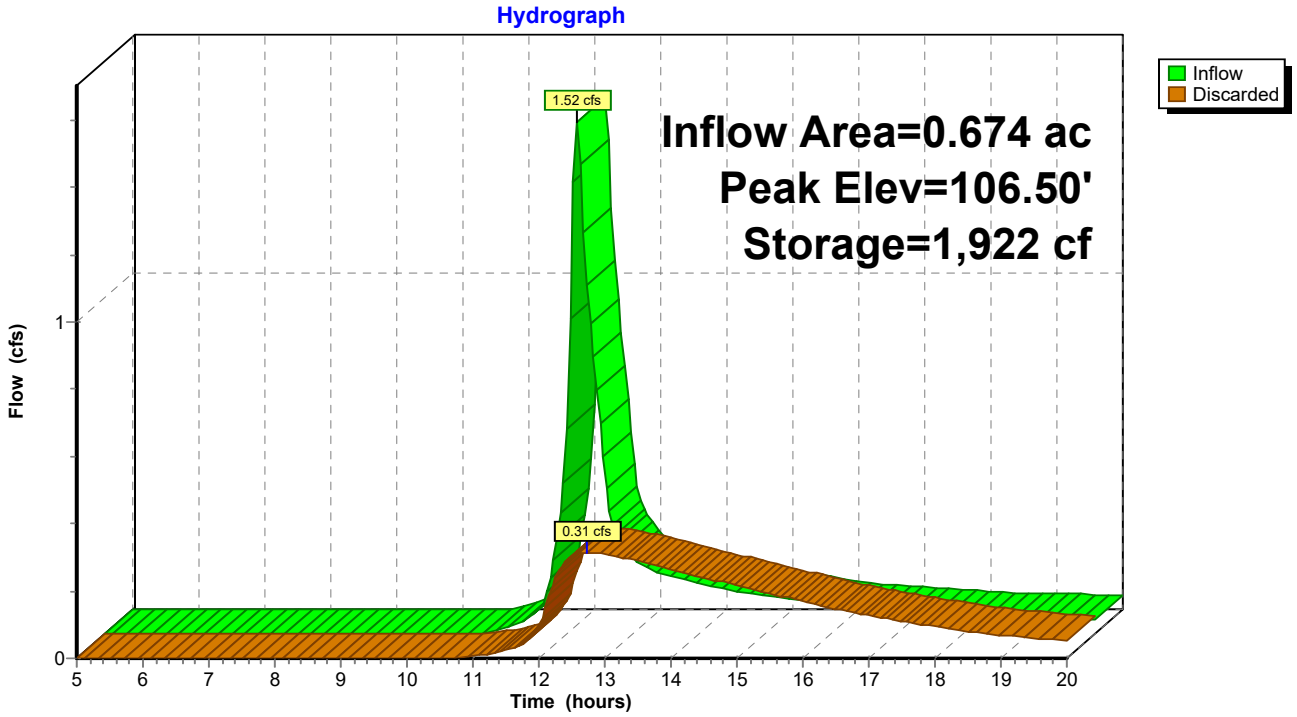
Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	10,413 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	250	42	42	250
106.00	1,600	827	869	1,604
107.00	4,100	2,754	3,623	4,111
108.00	9,900	6,790	10,413	9,918

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.31 cfs @ 12.72 hrs HW=106.50' (Free Discharge)
1=Exfiltration (Controls 0.31 cfs)

Pond 1CP: Ex Depression



Summary for Pond 1DP: Ex Depression

Inflow Area = 1.853 ac, 0.00% Impervious, Inflow Depth > 1.58" for 50-year event
Inflow = 3.12 cfs @ 12.15 hrs, Volume= 0.243 af
Outflow = 0.87 cfs @ 12.60 hrs, Volume= 0.241 af, Atten= 72%, Lag= 26.7 min
Discarded = 0.87 cfs @ 12.60 hrs, Volume= 0.241 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 105.97' @ 12.60 hrs Surf.Area= 7,450 sf Storage= 3,482 cf

Plug-Flow detention time= 50.0 min calculated for 0.240 af (99% of inflow)
Center-of-Mass det. time= 45.6 min (859.5 - 814.0)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	16,720 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

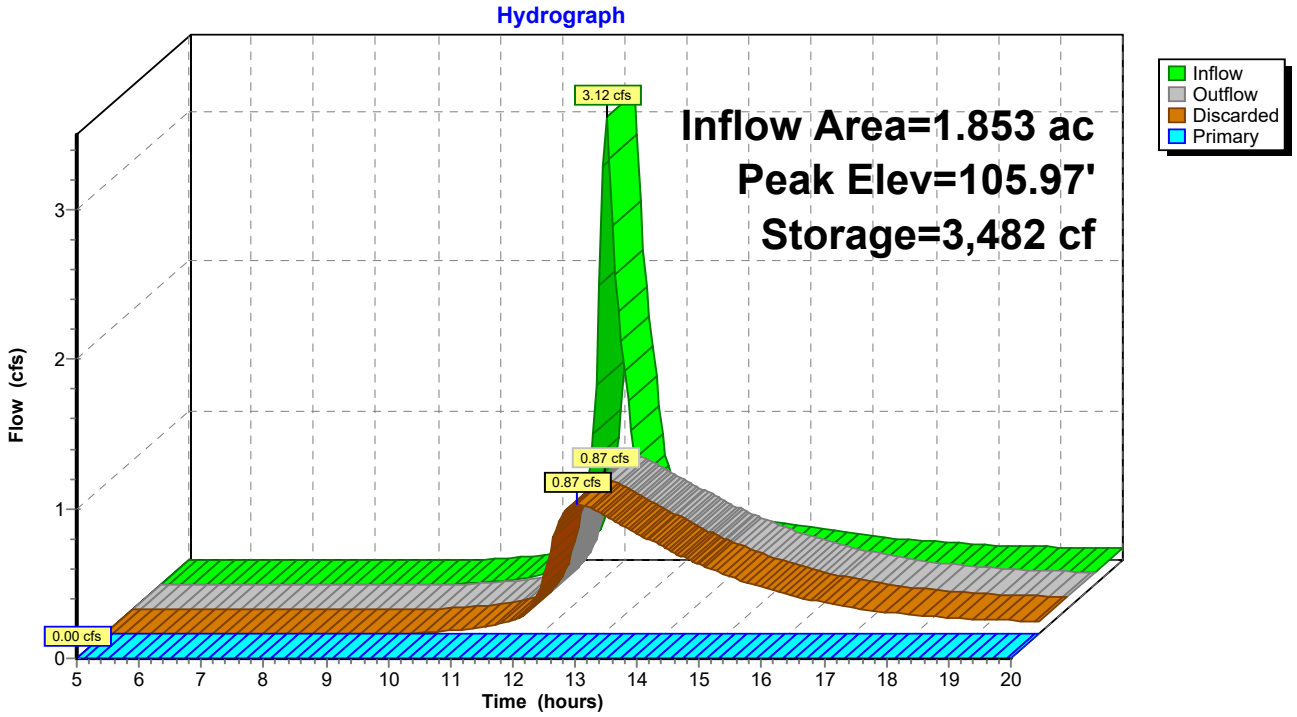
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	700	117	117	700
106.00	7,800	3,612	3,729	7,803
107.00	19,000	12,991	16,720	19,010

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	106.00'	**60.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.87 cfs @ 12.60 hrs HW=105.97' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.87 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=104.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1DP: Ex Depression



Summary for Pond 1P: new Basin

Inflow Area = 1.474 ac, 0.00% Impervious, Inflow Depth > 2.05" for 50-year event
Inflow = 3.16 cfs @ 12.16 hrs, Volume= 0.252 af
Outflow = 0.38 cfs @ 13.50 hrs, Volume= 0.220 af, Atten= 88%, Lag= 80.9 min
Discarded = 0.38 cfs @ 13.50 hrs, Volume= 0.220 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 102.71' @ 13.50 hrs Surf.Area= 0.071 ac Storage= 0.108 af

Plug-Flow detention time= 152.9 min calculated for 0.219 af (87% of inflow)
Center-of-Mass det. time= 114.5 min (937.4 - 822.9)

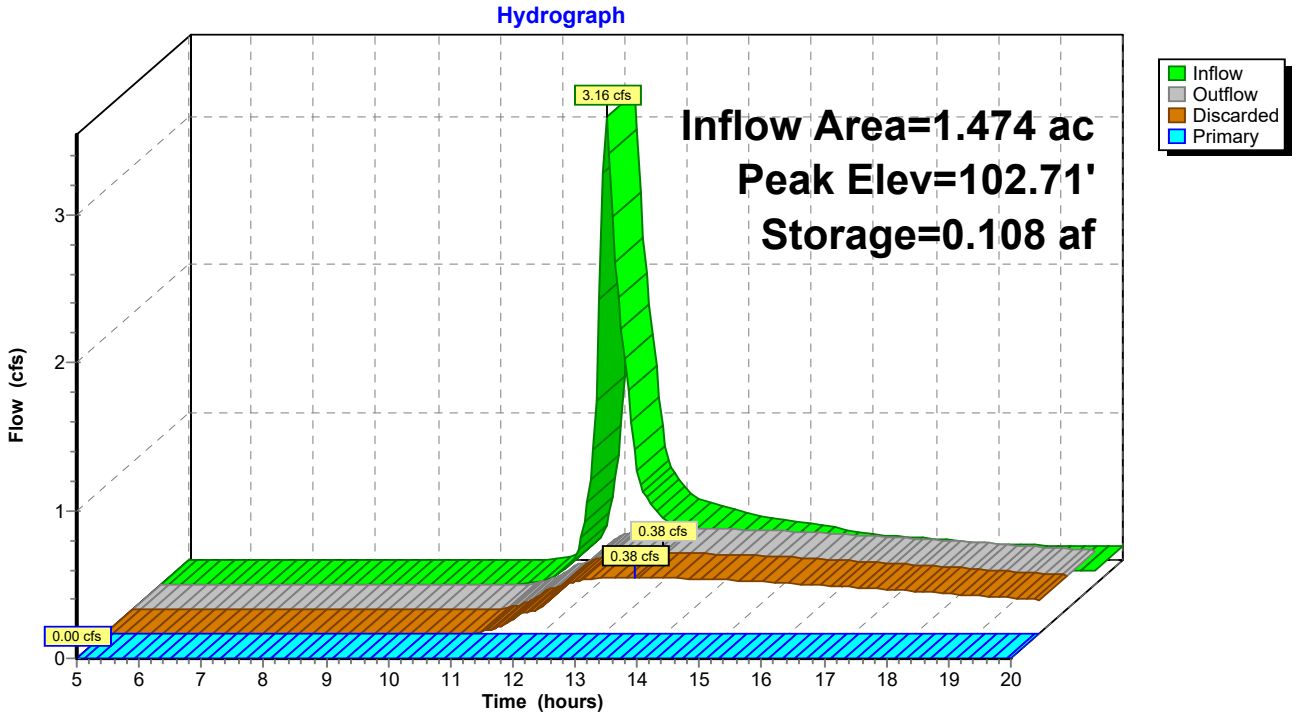
Volume	Invert	Avail.Storage	Storage Description
#1	100.50'	0.218 af	**10.00'W x 120.00'L x 3.50'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	103.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.38 cfs @ 13.50 hrs HW=102.71' (Free Discharge)
1=Exfiltration (Controls 0.38 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=100.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: new Basin



Summary for Pond 2P: new Basin

Inflow Area = 0.740 ac, 0.00% Impervious, Inflow Depth > 2.05" for 50-year event
Inflow = 1.59 cfs @ 12.16 hrs, Volume= 0.127 af
Outflow = 0.24 cfs @ 13.02 hrs, Volume= 0.126 af, Atten= 85%, Lag= 52.1 min
Discarded = 0.24 cfs @ 13.02 hrs, Volume= 0.126 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP2 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 104.41' @ 13.02 hrs Surf.Area= 0.046 ac Storage= 0.048 af

Plug-Flow detention time= 98.2 min calculated for 0.126 af (100% of inflow)
Center-of-Mass det. time= 97.4 min (920.3 - 822.9)

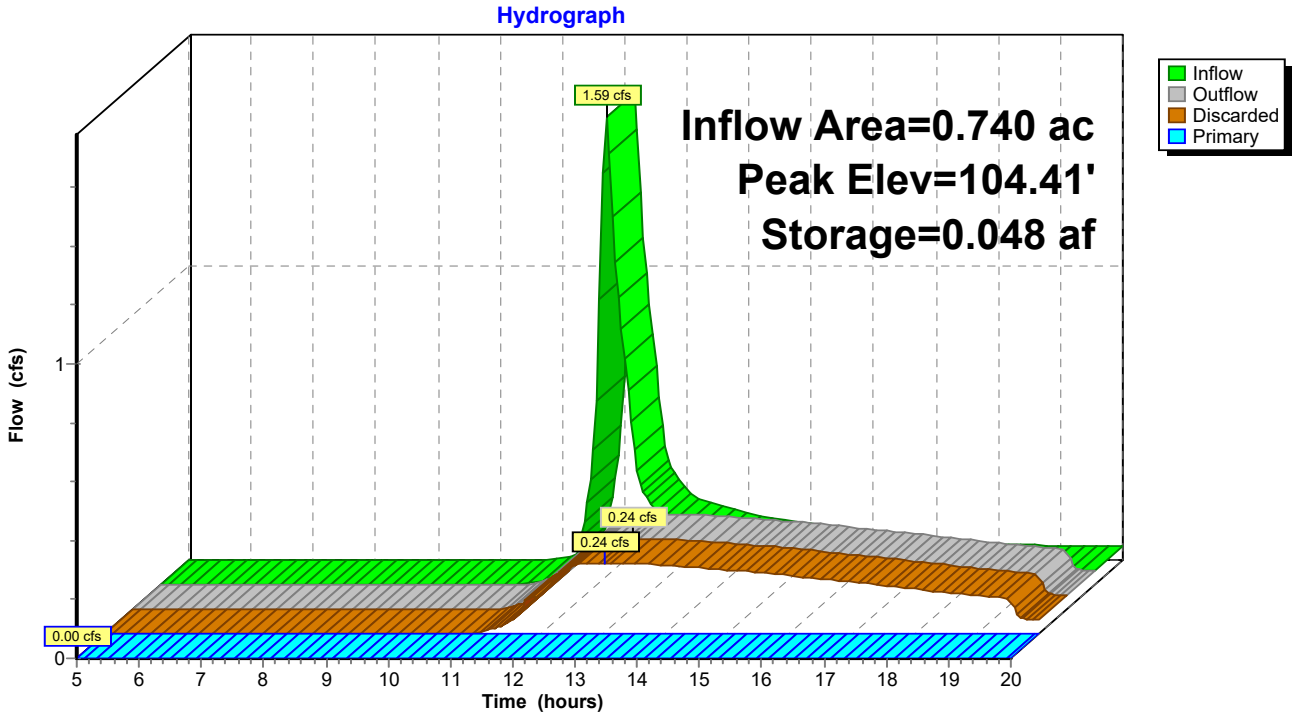
Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	0.144 af	**10.00'W x 100.00'L x 3.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	105.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.24 cfs @ 13.02 hrs HW=104.41' (Free Discharge)
1=Exfiltration (Controls 0.24 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=103.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: new Basin

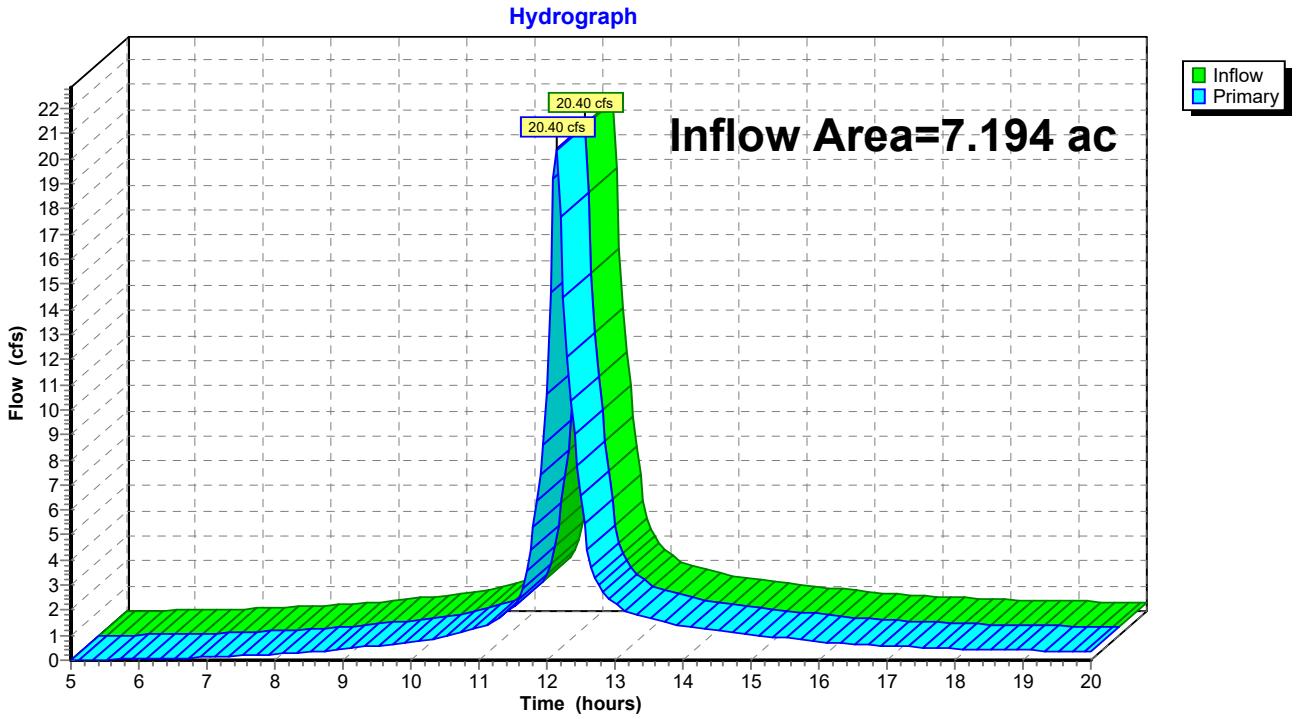


Summary for Link DP1: (new Link)

Inflow Area = 7.194 ac, 39.56% Impervious, Inflow Depth > 2.71" for 50-year event
Inflow = 20.40 cfs @ 12.14 hrs, Volume= 1.622 af
Primary = 20.40 cfs @ 12.14 hrs, Volume= 1.622 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP1: (new Link)

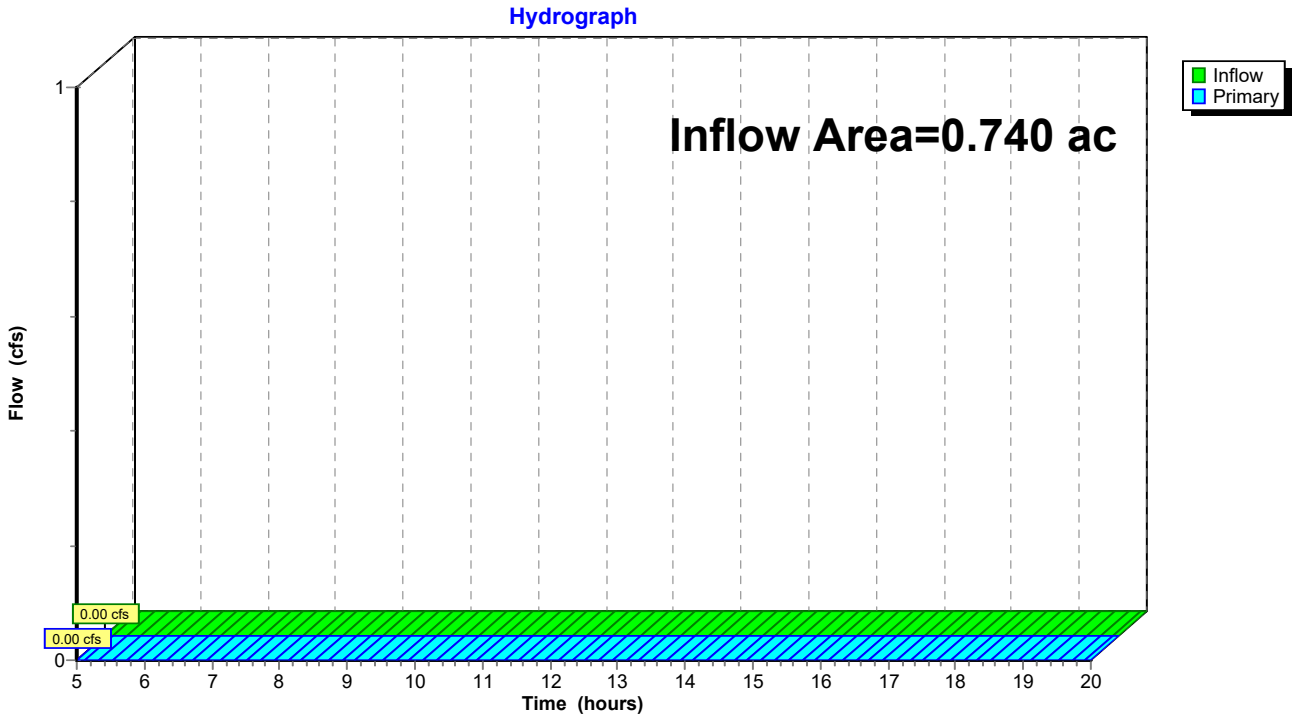


Summary for Link DP2: (new Link)

Inflow Area = 0.740 ac, 0.00% Impervious, Inflow Depth = 0.00" for 50-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP2: (new Link)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=3.867 ac 73.60% Impervious Runoff Depth>5.92"
Tc=10.0 min CN=84 Runoff=23.77 cfs 1.906 af

Subcatchment1B: Subcat 1B Runoff Area=1.474 ac 0.00% Impervious Runoff Depth>2.66"
Tc=10.0 min CN=55 Runoff=4.17 cfs 0.326 af

Subcatchment1C: Subcat 1C Runoff Area=0.674 ac 0.00% Impervious Runoff Depth>2.76"
Tc=10.0 min CN=56 Runoff=1.99 cfs 0.155 af

Subcatchment1D: Subcat 1D Runoff Area=0.596 ac 0.00% Impervious Runoff Depth>2.76"
Tc=10.0 min CN=56 Runoff=1.76 cfs 0.137 af

Subcatchment1E: Subcat 1E Runoff Area=0.583 ac 0.00% Impervious Runoff Depth>3.52"
Tc=10.0 min CN=63 Runoff=2.23 cfs 0.171 af

Subcatchment2: Subcat 2 Runoff Area=0.740 ac 0.00% Impervious Runoff Depth>2.66"
Tc=10.0 min CN=55 Runoff=2.10 cfs 0.164 af

Pond 1CP: Ex Depression Peak Elev=106.73' Storage=2,608 cf Inflow=1.99 cfs 0.155 af
Outflow=0.39 cfs 0.151 af

Pond 1DP: Ex Depression Peak Elev=106.04' Storage=4,027 cf Inflow=4.00 cfs 0.308 af
Discarded=0.95 cfs 0.284 af Primary=1.06 cfs 0.021 af Outflow=2.01 cfs 0.305 af

Pond 1P: new Basin Peak Elev=103.25' Storage=0.149 af Inflow=4.17 cfs 0.326 af
Discarded=0.44 cfs 0.267 af Primary=0.00 cfs 0.000 af Outflow=0.44 cfs 0.267 af

Pond 2P: new Basin Peak Elev=104.79' Storage=0.067 af Inflow=2.10 cfs 0.164 af
Discarded=0.28 cfs 0.156 af Primary=0.00 cfs 0.000 af Outflow=0.28 cfs 0.156 af

Link DP1: (new Link) Inflow=23.77 cfs 1.927 af
Primary=23.77 cfs 1.927 af

Link DP2: (new Link) Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.934 ac Runoff Volume = 2.860 af Average Runoff Depth = 4.33"
64.13% Pervious = 5.088 ac 35.87% Impervious = 2.846 ac

Summary for Subcatchment 1A: Subcat 1A

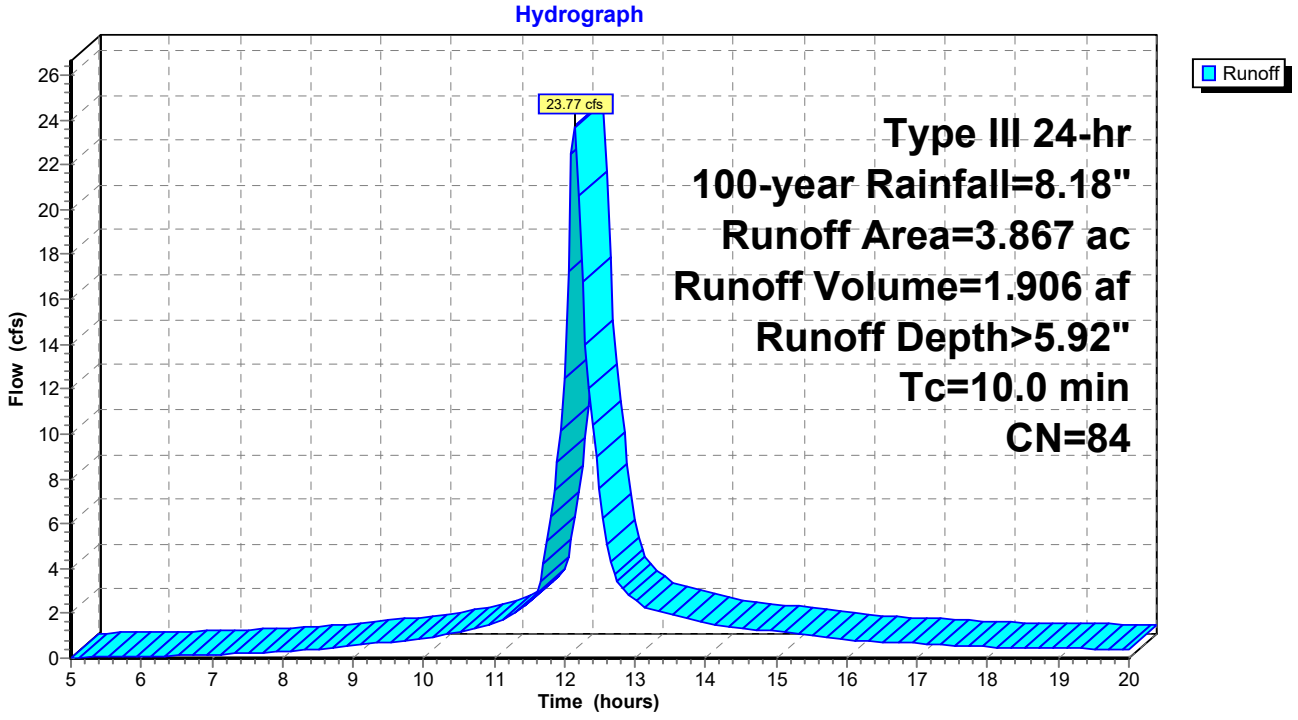
Runoff = 23.77 cfs @ 12.14 hrs, Volume= 1.906 af, Depth> 5.92"
Routed to Link DP1 : (new Link)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

	Area (ac)	CN	Description
	0.271	98	Paved parking, HSG C
*	0.054	74	50-75% Grass cover, Good, HSG C
	0.285	45	Woods, Poor, HSG A
	0.263	98	Paved parking, HSG A
	0.131	39	>75% Grass cover, Good, HSG A
	0.005	39	>75% Grass cover, Good, HSG A
	0.238	39	>75% Grass cover, Good, HSG A
	2.312	98	Paved parking, HSG A
	0.308	45	Woods, Poor, HSG A
	3.867	84	Weighted Average
	1.021		26.40% Pervious Area
	2.846		73.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 1B: Subcat 1B

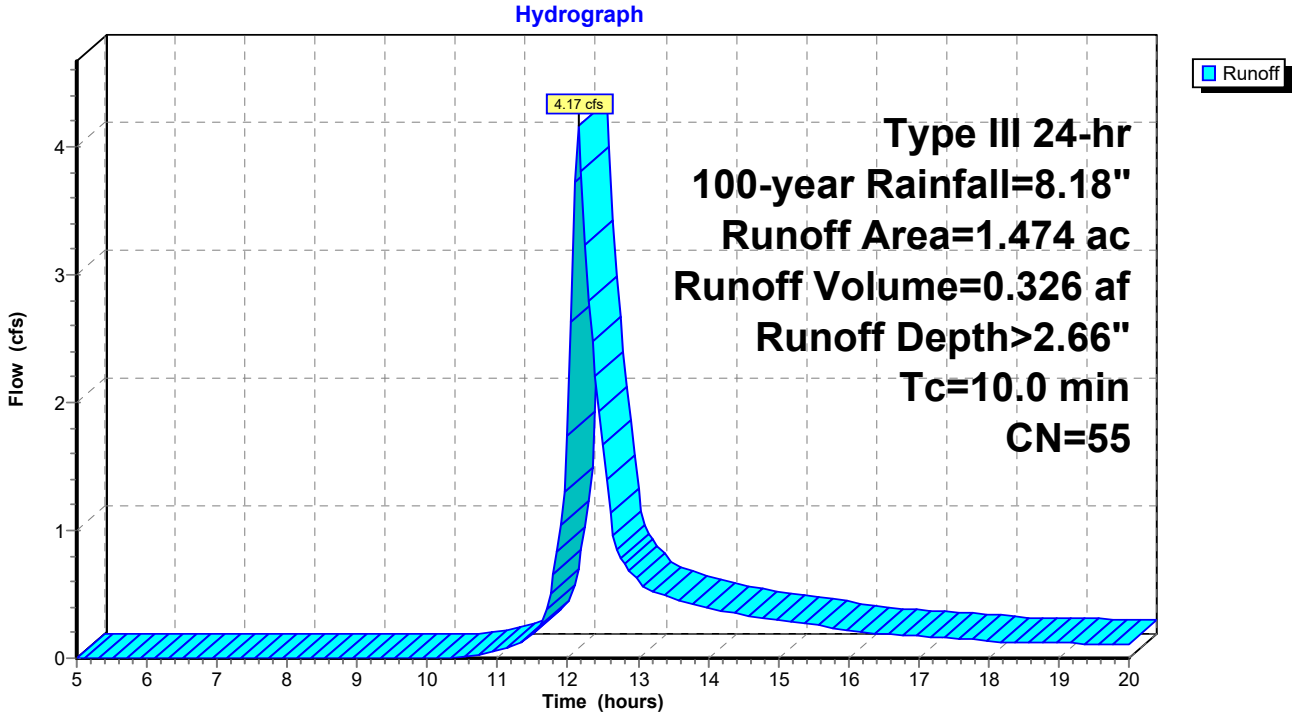
Runoff = 4.17 cfs @ 12.15 hrs, Volume= 0.326 af, Depth> 2.66"
Routed to Pond 1P : new Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

	Area (ac)	CN	Description
	0.036	96	Gravel surface, HSG A
*	0.023	50	50-75% Grass cover, Good, HSG A-B
*	0.470	50	50-75% Grass cover, Good, HSG A-B
	0.008	96	Gravel surface, HSG A
*	0.009	50	50-75% Grass cover, Good, HSG A-B
	0.031	96	Gravel surface, HSG A
	0.004	96	Gravel surface, HSG A
*	0.688	50	50-75% Grass cover, Good, HSG A-B
*	0.183	67	50-75% Grass cover, Good, HSG B-C
	0.022	96	Gravel surface, HSG B
	1.474	55	Weighted Average
	1.474		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1B: Subcat 1B



Summary for Subcatchment 1C: Subcat 1C

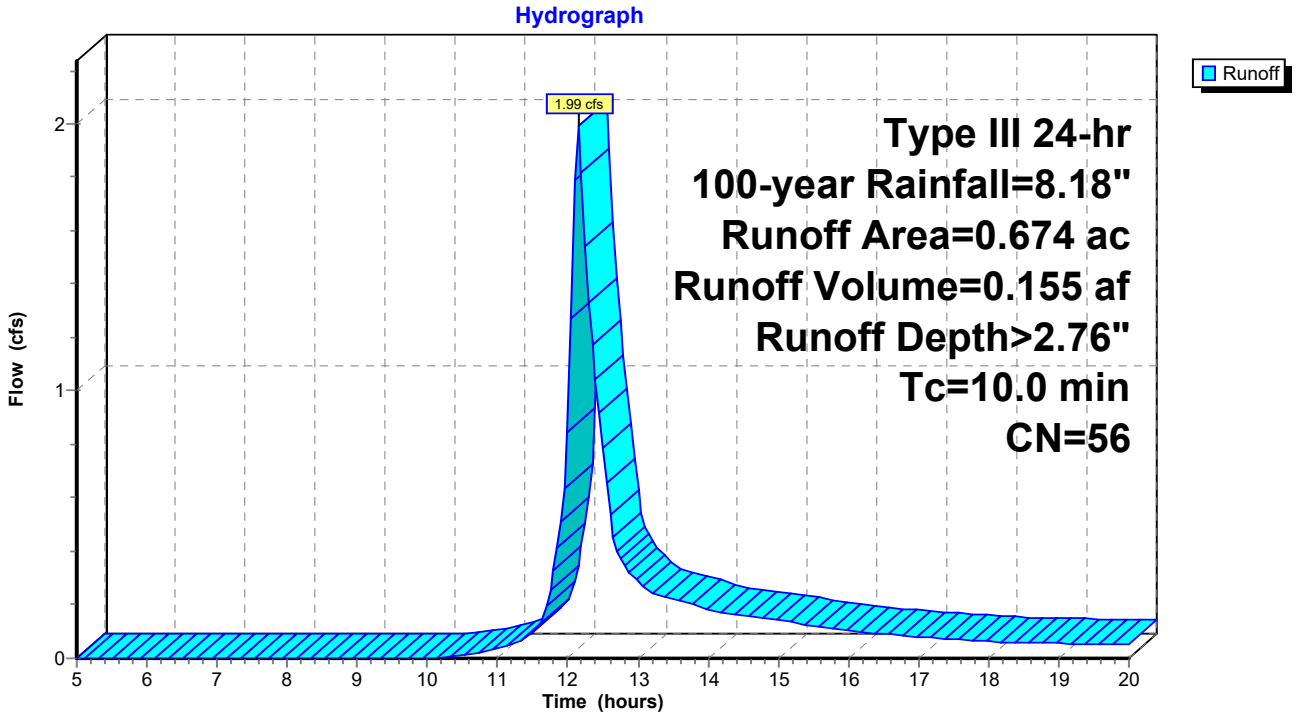
Runoff = 1.99 cfs @ 12.15 hrs, Volume= 0.155 af, Depth> 2.76"
Routed to Pond 1CP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

	Area (ac)	CN	Description
*	0.007	50	50-75% Grass cover, Good, HSG A-B
*	0.005	50	50-75% Grass cover, Good, HSG A-B
*	0.479	50	50-75% Grass cover, Good, HSG A-B
	0.008	96	Gravel surface, HSG A
	0.019	96	Gravel surface, HSG A
	0.028	96	Gravel surface, HSG B
*	0.006	67	50-75% Grass cover, Good, HSG B-C
*	0.018	67	50-75% Grass cover, Good, HSG B-C
*	0.048	67	50-75% Grass cover, Good, HSG B-C
	0.011	96	Gravel surface, HSG A
*	0.004	50	50-75% Grass cover, Good, HSG A-B
*	0.041	50	50-75% Grass cover, Good, HSG A-B
	0.674	56	Weighted Average
	0.674		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1C: Subcat 1C



Summary for Subcatchment 1D: Subcat 1D

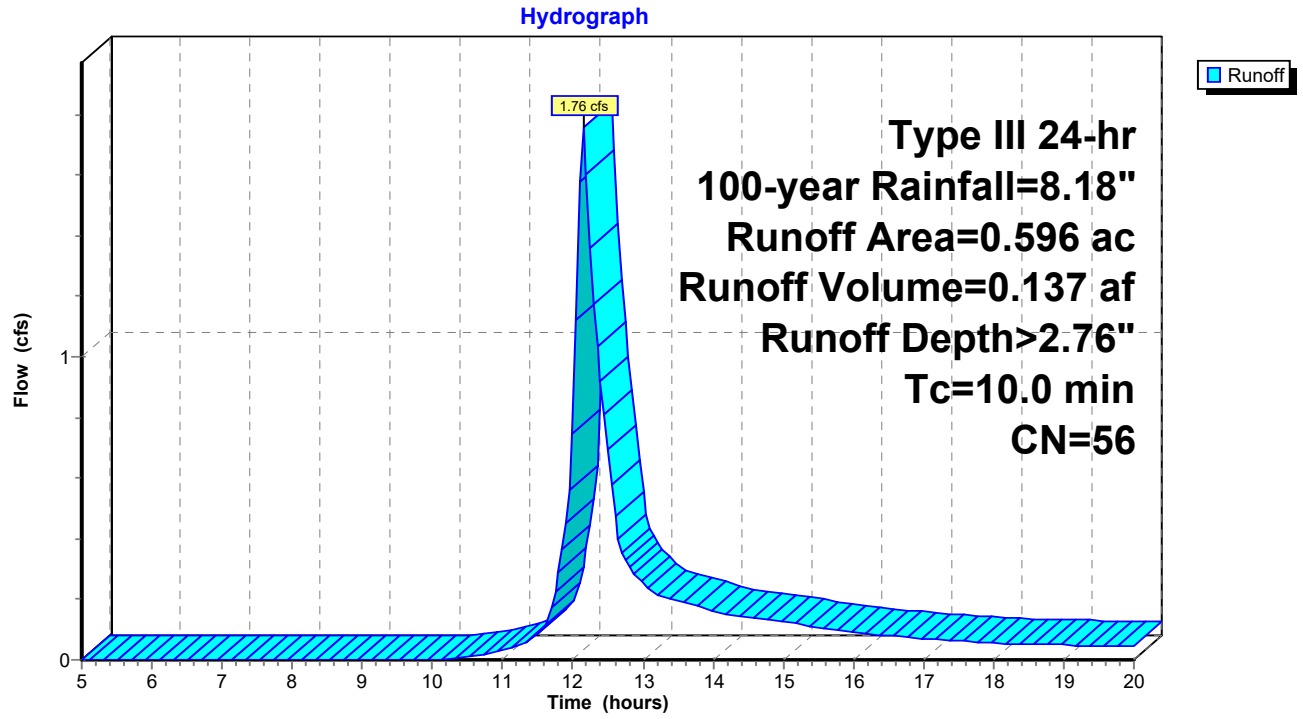
Runoff = 1.76 cfs @ 12.15 hrs, Volume= 0.137 af, Depth> 2.76"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

	Area (ac)	CN	Description
	0.074	96	Gravel surface, HSG A
*	0.041	50	50-75% Grass cover, Good, HSG A-B
*	0.462	50	50-75% Grass cover, Good, HSG A-B
*	0.015	50	50-75% Grass cover, Good, HSG A-B
*	0.004	67	50-75% Grass cover, Good, HSG B-C
	0.596	56	Weighted Average
	0.596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1D: Subcat 1D



Summary for Subcatchment 1E: Subcat 1E

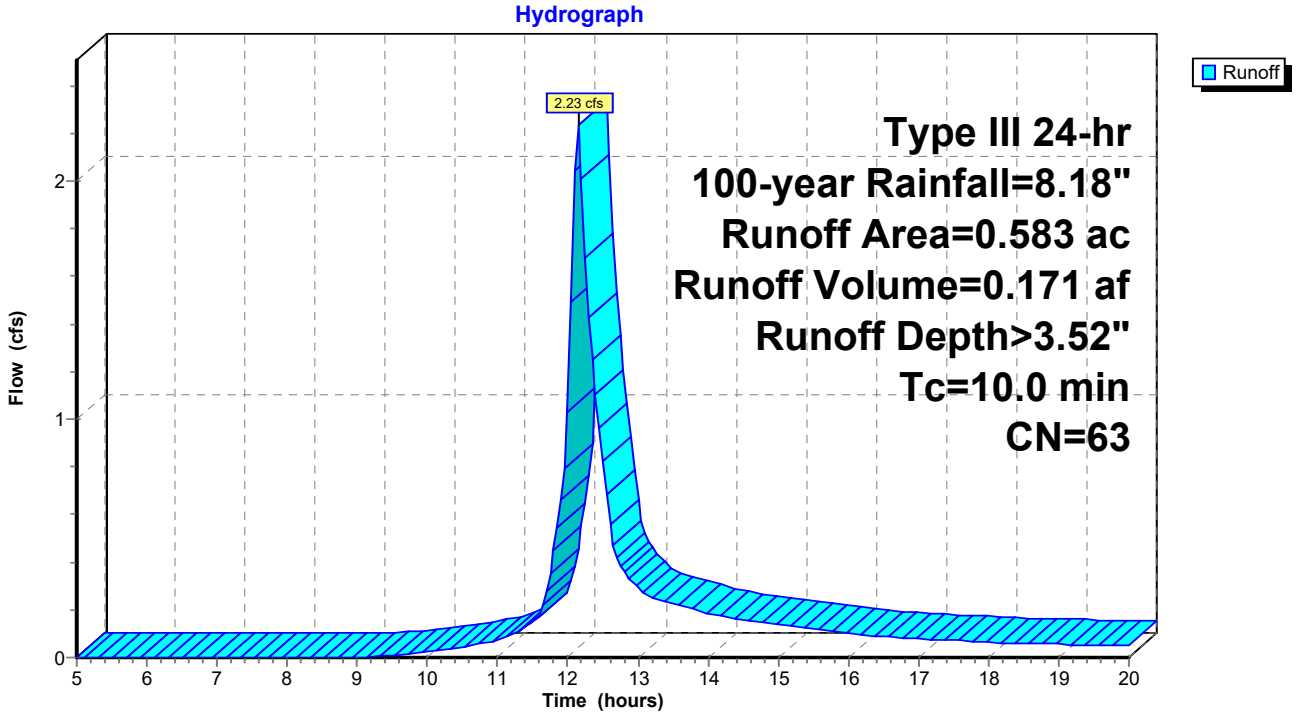
Runoff = 2.23 cfs @ 12.15 hrs, Volume= 0.171 af, Depth> 3.52"
Routed to Pond 1DP : Ex Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

	Area (ac)	CN	Description
	0.012	96	Gravel surface, HSG A
*	0.007	50	50-75% Grass cover, Good, HSG A-B
*	0.009	50	50-75% Grass cover, Good, HSG A-B
*	0.152	50	50-75% Grass cover, Good, HSG A-B
	0.000	96	Gravel surface, HSG B
*	0.403	67	50-75% Grass cover, Good, HSG B-C
	0.583	63	Weighted Average
	0.583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1E: Subcat 1E



Summary for Subcatchment 2: Subcat 2

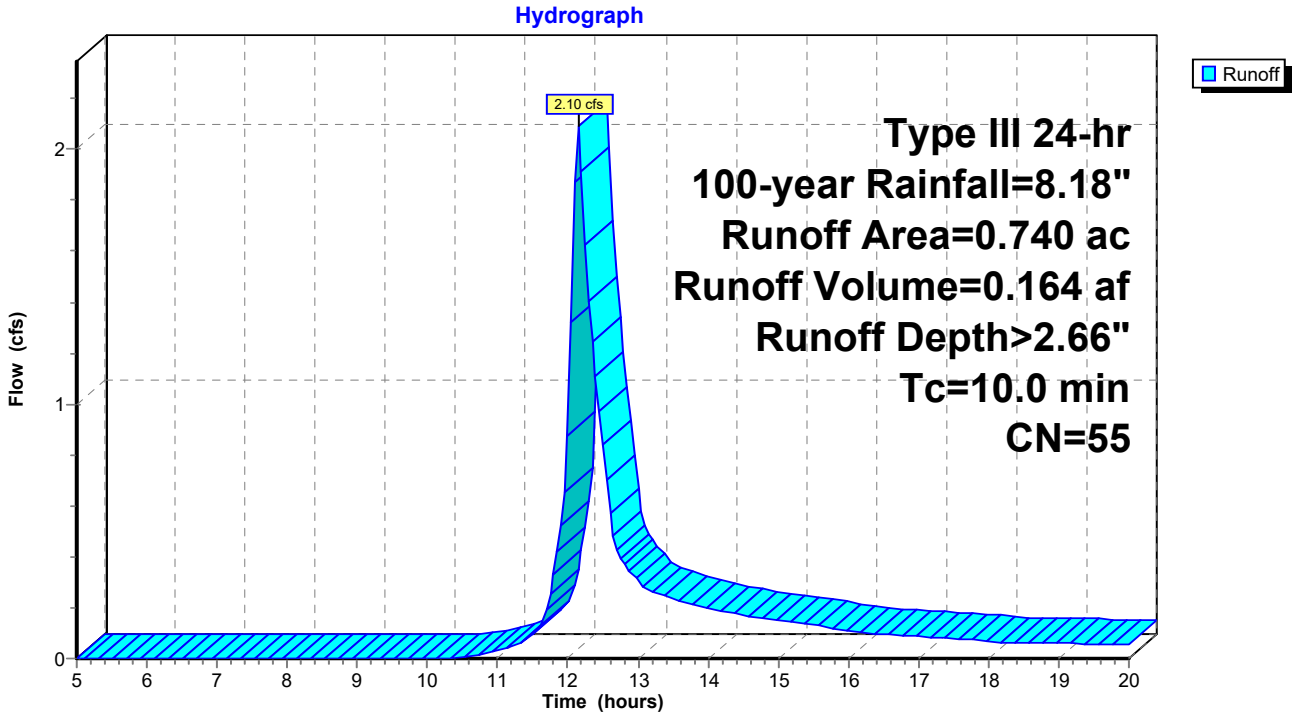
Runoff = 2.10 cfs @ 12.15 hrs, Volume= 0.164 af, Depth> 2.66"
Routed to Pond 2P : new Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.18"

	Area (ac)	CN	Description
*	0.527	50	50-75% Grass cover, Good, HSG A-B
*	0.213	67	50-75% Grass cover, Good, HSG B-C
	0.740	55	Weighted Average
	0.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Pond 1CP: Ex Depression

Inflow Area = 0.674 ac, 0.00% Impervious, Inflow Depth > 2.76" for 100-year event
Inflow = 1.99 cfs @ 12.15 hrs, Volume= 0.155 af
Outflow = 0.39 cfs @ 12.73 hrs, Volume= 0.151 af, Atten= 81%, Lag= 34.5 min
Discarded = 0.39 cfs @ 12.73 hrs, Volume= 0.151 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 106.73' @ 12.73 hrs Surf.Area= 3,298 sf Storage= 2,608 cf

Plug-Flow detention time= 89.2 min calculated for 0.150 af (97% of inflow)
Center-of-Mass det. time= 78.5 min (893.9 - 815.3)

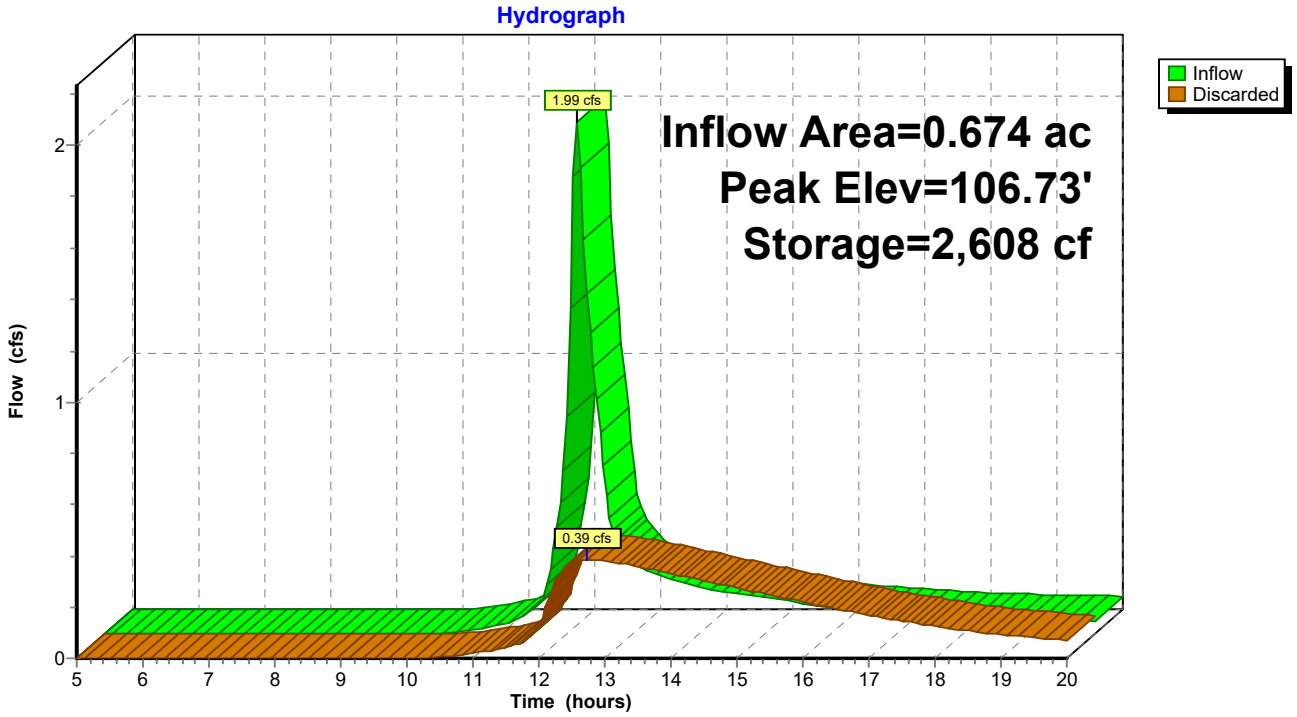
Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	10,413 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	250	42	42	250
106.00	1,600	827	869	1,604
107.00	4,100	2,754	3,623	4,111
108.00	9,900	6,790	10,413	9,918

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'

Discarded OutFlow Max=0.39 cfs @ 12.73 hrs HW=106.73' (Free Discharge)
↑**1=Exfiltration** (Controls 0.39 cfs)

Pond 1CP: Ex Depression



Summary for Pond 1DP: Ex Depression

Inflow Area = 1.853 ac, 0.00% Impervious, Inflow Depth > 2.00" for 100-year event
Inflow = 4.00 cfs @ 12.15 hrs, Volume= 0.308 af
Outflow = 2.01 cfs @ 12.42 hrs, Volume= 0.305 af, Atten= 50%, Lag= 16.0 min
Discarded = 0.95 cfs @ 12.42 hrs, Volume= 0.284 af
Primary = 1.06 cfs @ 12.42 hrs, Volume= 0.021 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 106.04' @ 12.42 hrs Surf.Area= 8,131 sf Storage= 4,027 cf

Plug-Flow detention time= 48.7 min calculated for 0.305 af (99% of inflow)
Center-of-Mass det. time= 44.3 min (853.0 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	104.50'	16,720 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

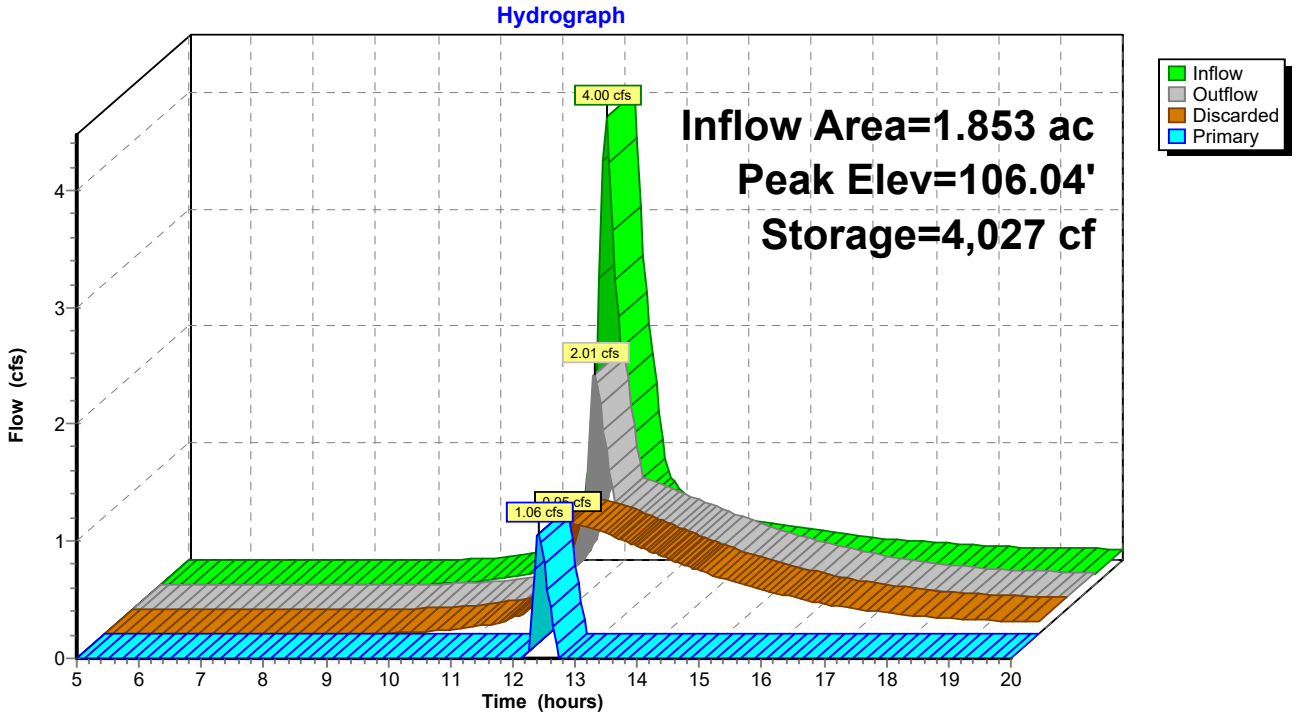
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.50	0	0	0	0
105.00	700	117	117	700
106.00	7,800	3,612	3,729	7,803
107.00	19,000	12,991	16,720	19,010

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	106.00'	**60.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.95 cfs @ 12.42 hrs HW=106.04' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.95 cfs)

Primary OutFlow Max=0.98 cfs @ 12.42 hrs HW=106.04' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.98 cfs @ 0.45 fps)

Pond 1DP: Ex Depression



Summary for Pond 1P: new Basin

Inflow Area = 1.474 ac, 0.00% Impervious, Inflow Depth > 2.66" for 100-year event
Inflow = 4.17 cfs @ 12.15 hrs, Volume= 0.326 af
Outflow = 0.44 cfs @ 13.67 hrs, Volume= 0.267 af, Atten= 89%, Lag= 91.3 min
Discarded = 0.44 cfs @ 13.67 hrs, Volume= 0.267 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP1 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 103.25' @ 13.67 hrs Surf.Area= 0.083 ac Storage= 0.149 af

Plug-Flow detention time= 170.7 min calculated for 0.266 af (81% of inflow)
Center-of-Mass det. time= 120.3 min (937.4 - 817.1)

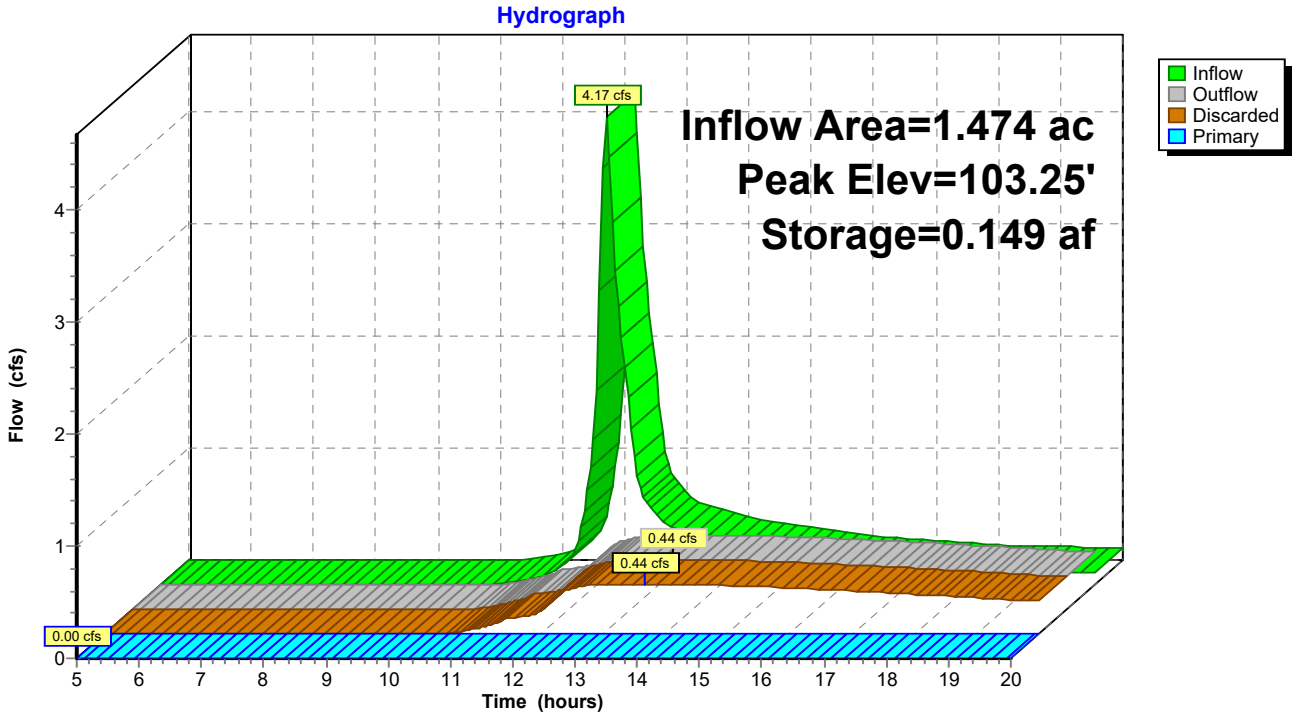
Volume	Invert	Avail.Storage	Storage Description
#1	100.50'	0.218 af	**10.00'W x 120.00'L x 3.50'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.50'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	103.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.44 cfs @ 13.67 hrs HW=103.25' (Free Discharge)
1=Exfiltration (Controls 0.44 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=100.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: new Basin



Summary for Pond 2P: new Basin

Inflow Area = 0.740 ac, 0.00% Impervious, Inflow Depth > 2.66" for 100-year event
Inflow = 2.10 cfs @ 12.15 hrs, Volume= 0.164 af
Outflow = 0.28 cfs @ 13.10 hrs, Volume= 0.156 af, Atten= 87%, Lag= 57.1 min
Discarded = 0.28 cfs @ 13.10 hrs, Volume= 0.156 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link DP2 : (new Link)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 104.79' @ 13.10 hrs Surf.Area= 0.053 ac Storage= 0.067 af

Plug-Flow detention time= 126.5 min calculated for 0.156 af (95% of inflow)
Center-of-Mass det. time= 109.3 min (926.5 - 817.1)

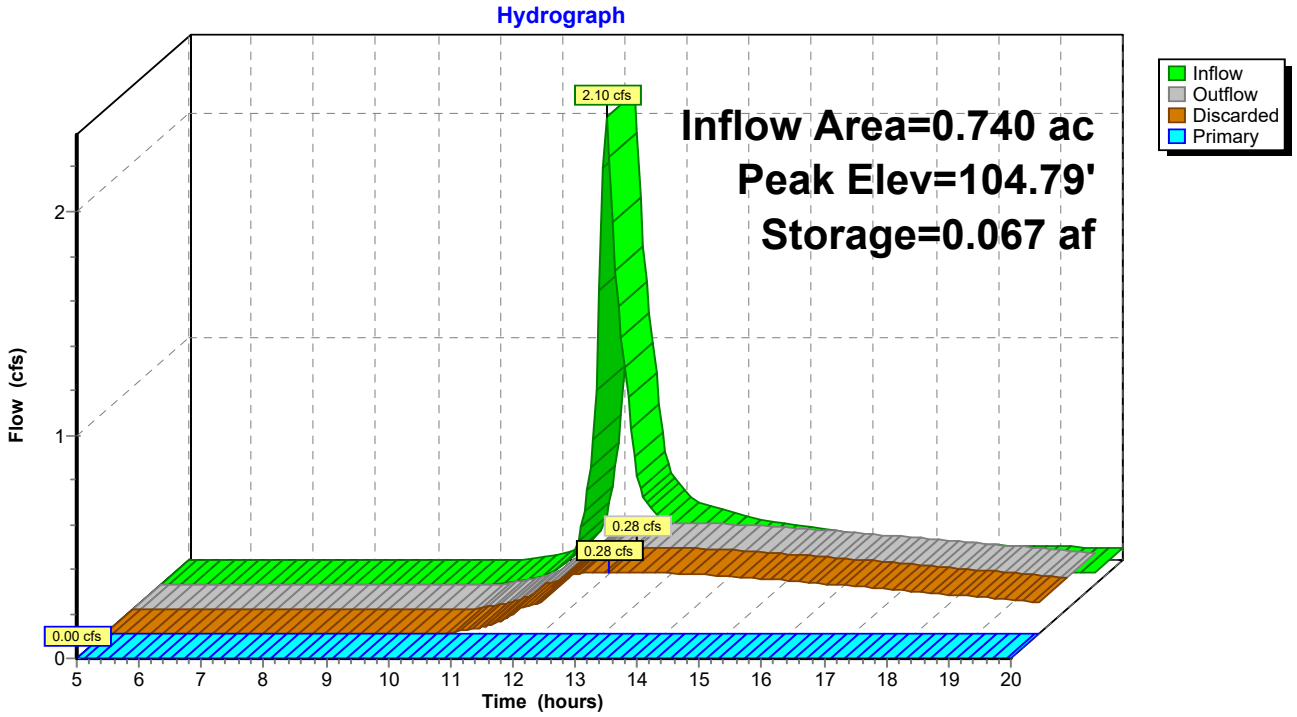
Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	0.144 af	**10.00'W x 100.00'L x 3.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**5.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 10.00'
#2	Primary	105.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.28 cfs @ 13.10 hrs HW=104.79' (Free Discharge)
1=Exfiltration (Controls 0.28 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=103.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: new Basin

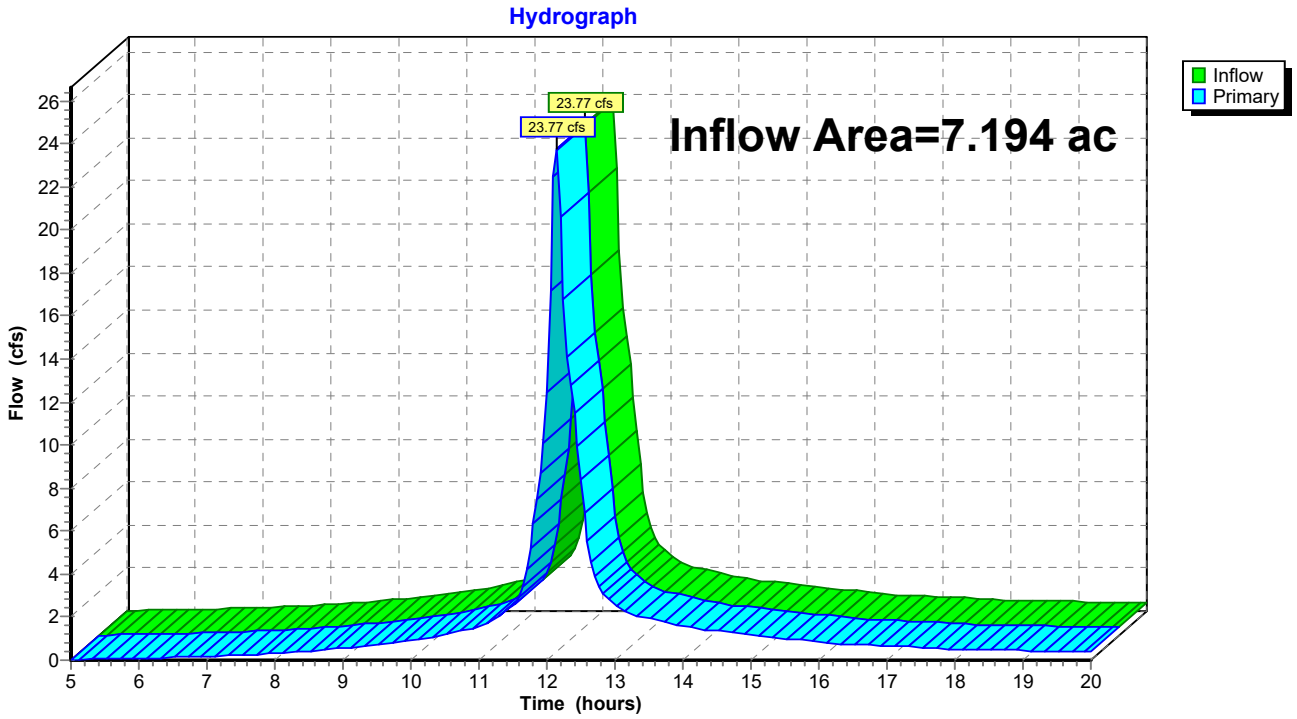


Summary for Link DP1: (new Link)

Inflow Area = 7.194 ac, 39.56% Impervious, Inflow Depth > 3.22" for 100-year event
Inflow = 23.77 cfs @ 12.14 hrs, Volume= 1.927 af
Primary = 23.77 cfs @ 12.14 hrs, Volume= 1.927 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP1: (new Link)



Summary for Link DP2: (new Link)

Inflow Area = 0.740 ac, 0.00% Impervious, Inflow Depth = 0.00" for 100-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP2: (new Link)