Brightwood Solar

Jeremy Hill Road Stonington, Connecticut

PREPARED FOR

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PREPARED BY



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Project Summary

Project Description

The Petitioner is proposing to construct a ±5 MW solar farm on a cleared portion of land 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 petition 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 ±27 acres over two parcels west of Jeremy Hill Road, (Map, Block, Lot: 90-1-1 and 115-7823) in Stonington and North Stonington, Connecticut (see Figure 1). The site is bounded by residential to the east, church facilities and North Stonington Town Line to the north, and farm fields to the west and south.

The project area under existing conditions is scarred timber harvest land. There are three delineated on-site wetland systems on the development site. The wetlands are located along the west edge of the site, the east edge of the site, and north-east corner of the site. Under existing conditions, runoff from the project are generally flows to the west or the east off the property. There are three design points that the water flows towards: one path flows into the wetlands to the west draining north, a small portion of western flows drain to the south, and the other path flows into the wetland system to the east which drains south.

Based on the NRCS Web Soil Survey¹, the majority of on-Site soils within the Project area belong to the Hydrologic Soil Group "C", indicating that the soils have a slow infiltration rate when thoroughly wet. See Appendix B for NRCS Web Soil Survey output.

According to available CTDEEP Groundwater Classification maps, groundwater at the site is GA (see Appendix A). The CTDEEP Aquifer Protection Areas Mapping website does not show the site as being within an Aquifer Protection Area.

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



Methodology

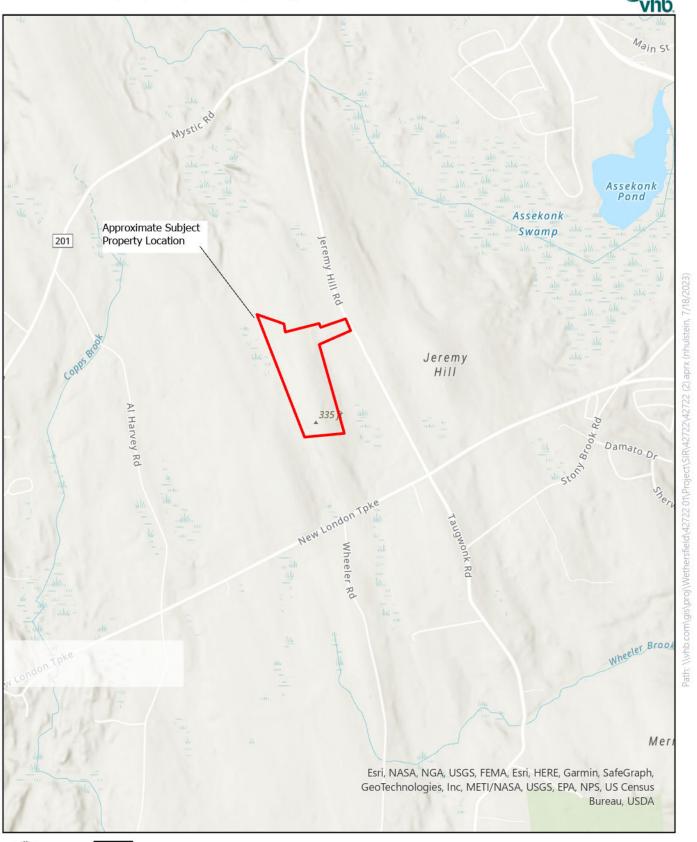
The Project was designed to incorporate measures provided in the Connecticut Stormwater Quality Manual (CTDEEP 2024) as well as the CTDEEP Stormwater General Permit. The conclusion of this analysis is that the proposed improvements will not increase the post-development peak runoff rates in comparison to existing pre-development rates at any of the critical design points analyzed and the quality of stormwater runoff leaving the Site will be improved prior to discharge from the Site.



Figure 1: Site Location Map

Figure 1: Subject Property Location Map

5 MW-AC Solar Project | Jeremy Hill Road, Stonington, Connecticut



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Existing Drainage Conditions

Summary

Under existing conditions, untreated stormwater runoff from the Project area generally flows to the west and the east off the site. One path flows into the wetlands to the west and flows north off the site, one path flows into the wetlands to the west and flows south off the site, and the third path flows into the wetland system to the east that flows south off the site.

The Site is generally at its highest elevation in the central southern portion of the Project and slopes down into the west and east sides of the site. The majority of the Project area is comprised of scarred harvest land with small portions of remaining forest. Terrain slopes in the Project area range from 0% to approximately 15% with no slopes exceeding 15% existing slope.

Hydrologic Information

For the existing conditions hydrologic analysis, the Site has been divided into three (3) drainage areas, which have been identified as areas at the Project limits where flow begins to concentrate naturally. 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 site and tributary offsite areas have been considered in the hydrologic analysis discharging to the Design Points.

<u>Drainage Area 1 - This ± 12.4 -acre area is located at the western portion of the Site.</u> Untreated stormwater in this area generally flows overland to the west towards the western wetland system (Design Point 1) which drains off the site to the north.

<u>Drainage Area 2 - This ± 13.8 -acre area is located at the eastern portion of the Site.</u> Untreated stormwater in this area generally flows overland to the east towards the eastern wetland system (Design Point 2) which drains off the site to the south.



<u>Drainage Area 3 - This ± 0.9 -acre area is located at the southwestern portion of the Site. Untreated stormwater in this area generally flows overland to the west towards the western wetland system (Design Point 3) which drains off the site to the south.</u>

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)	
1	West Wetland	12.4	83	10	
2	East Wetland	13.8	85	10	
3	West Wetland	0.9	86	10	



Figure 2: Existing Drainage Areas



Legend

SYMBOLS



DESIGN POINT



DRAINAGE AREA DESIGNATION



DRAINAGE POND

LINETYPES



DRAINAGE AREA BOUNDARY

HSG DESIGNATIONS

WETLAND BOUNDARY



Vhb Existing Drainage Conditions

Figure 2

Brightwood Solar Jeremy Hill Road - Stonington, CT

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Proposed Drainage Conditions

Summary

The Site has been designed to maintain existing topography and mimic existing drainage patterns to the maximum extents feasible. In the majority of the on-Site areas, 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. Mature vegetation has been preserved to the maximum extents practicable and only a minimal amount of tree clearing is proposed. As a result, the Project will have minimal impact to surrounding ecologically sensitive areas.

The only impervious surfaces proposed to be constructed are access roads and small concrete pads for utility equipment. Once operational, vehicular access to the Project will be limited to infrequent maintenance visits. The vegetated buffers and proposed stormwater basins will provide water quality treatment.

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 eight (8) drainage areas and the same three (3) design points from existing conditions. In accordance with the 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.

<u>Drainage Area 1A - This ±4.6-acre area is located at the northwestern portion of the Site.</u> Stormwater in this area generally flows under the solar array to the northwest towards stormwater basin 1A. The outlet of stormwater basin 1 discharges into wetland system 1 (Design Point 1).

<u>Drainage Area 1B - This ± 4.9 -acre area is located at the central western portion of the Site. Stormwater in this area generally flows under the solar array to the west</u>



towards stormwater basin 1B. The outlet of stormwater basin 1B discharges into wetland system 1 (Design Point 1).

<u>Drainage Area 1C - This ±2.9-acre</u> area is located at the south western portion of the Site. Stormwater in this area generally flows under the solar array to the western wetland system (Design Point 1). This sub-watershed is long and narrow with flow that is very spread out and no stormwater basin is proposed.

<u>Drainage Area 2A -</u> This ± 1.1 -acre area is located at the northeastern portion of the Site. Stormwater in this area generally flows under the solar array to the east towards stormwater basin 2A. The outlet of stormwater basin 2A discharges into wetland system 3 (Design Point 2).

<u>Drainage Area 2B - This ±2.6-acre</u> area is located at the central eastern portion of the Site. Untreated stormwater in this area generally flows under the solar array to the northeast towards stormwater basin 2B. The outlet of stormwater basin 2B discharges into wetland system 2 (Design Point 2).

<u>Drainage Area 2C -</u> This ±5.0-acre area is located at the central eastern portion of the Site. Stormwater in this area generally flows under the solar array to the east towards stormwater basin 2C. The outlet of stormwater basin 2C discharges into wetland system 2 (Design Point 2).

<u>Drainage Area 2D -</u> This ±4.8-acre area is located at the south eastern portion of the Site. Stormwater in this area generally flows under the solar array to the east towards stormwater basin 2D. The outlet of stormwater basin 2D discharges into wetland system 2 (Design Point 2).

Drainage Area 3A - This ± 0.9 -acre area is located at the south western portion of the Site. Stormwater in this area generally flows under the solar array to the west towards the western wetland system and flows south off the site (Design Point 3).



Table 2 summarizes the key hydrologic parameters for each drainage area used in the proposed conditions analysis.

Table 2 Proposed Conditions Hydrologic Data

Drainage Area	Discharge Location	Area (acres)	Curve Number	Time of Concentration (min)
1A	West Wetland	4.6	82	10
1B	West Wetland	4.9	82	10
1C	West Wetland	2.9	83	10
2A	East Wetland	1.1	83	10
2B	East Wetland	2.6	81	10
2C	East Wetland	5.0	81	10
2D	East Wetland	4.8	81	10
3	West Wetland	0.9	82	10



Figure 3: Proposed Drainage Areas



Legend

SYMBOLS



DESIGN POINT



DRAINAGE AREA DESIGNATION



DRAINAGE POND

LINETYPES



DRAINAGE AREA BOUNDARY

HSG DESIGNATIONS

WETLAND BOUNDARY

vhb

Proposed Drainage Conditions

Figure 3

Brightwood Solar Jeremy Hill Road - Stonington, CT



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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 3.16, 6.15, 6.99, 7.92 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 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 at all design points for all design storms by virtue of reduced curve numbers and even more conservative with the implementation of the proposed permanent stormwater basins. No credit for infiltration into the soils during rainfall events was taken in the modelling.



Table 3 presents a summary of the existing and proposed conditions peak discharge rates where stormwater basins are proposed.

Table 3 Peak Discharge Rates (cfs*)

Watershed	2-year	25-year	50-year	100-year
Design Point 1				
Existing	19.8	52.6	62.0	72.4
Proposed	4.7	47.2	56.5	66.4
Design Point 2				
Existing	24.1	61.0	71.4	82.9
Proposed	5.6	51.0	60.8	71.6
Design Point 3				
Existing	1.6	3.9	4.6	5.3
Proposed	1.3	3.6	4.2	4.9

^{*} Expressed in cubic feet per second

Floodplain Information / Analysis

No portions of the Site lie within the Federal Emergency Management Agency (FEMA) mapped 1% annual chance flood A/AE flood zones as shown on the FEMA Flood Insurance Rate Map No. 09011C0391H, dated April 3, 2020 (included in Appendix A).

Water Quality Volume

Water Quality Volume (WQV) is based upon the first inch of rainfall, or a 1.3-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. The crushed stone access paths will be trafficked infrequently and the grassy meadows downstream of the paths will provide residence time of stormwater runoff to remove the small amount of sediment from runoff. The panels have been designed to have less than 50% ground cover ratio. Vegetated buffers and the permanent stormwater basins will provide water quality treatment.

Water Quality Flow

Water Quality Flow (WQF) is a rate of stormwater runoff based upon a 1.3-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:

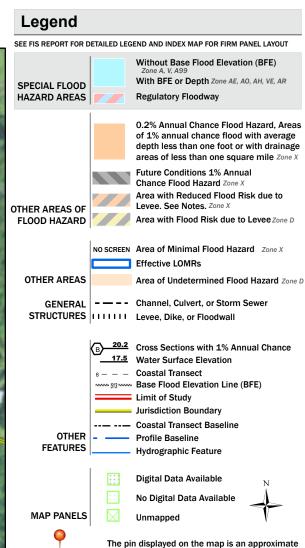
FEMA Flood Insurance Rate Map
NOAA Rainfall Depth Estimates
CTDEEP Groundwater Classification Map
Aquifer Protection Area Mapping



FEMA Flood Insurance Rate Map

National Flood Hazard Layer FIRMette





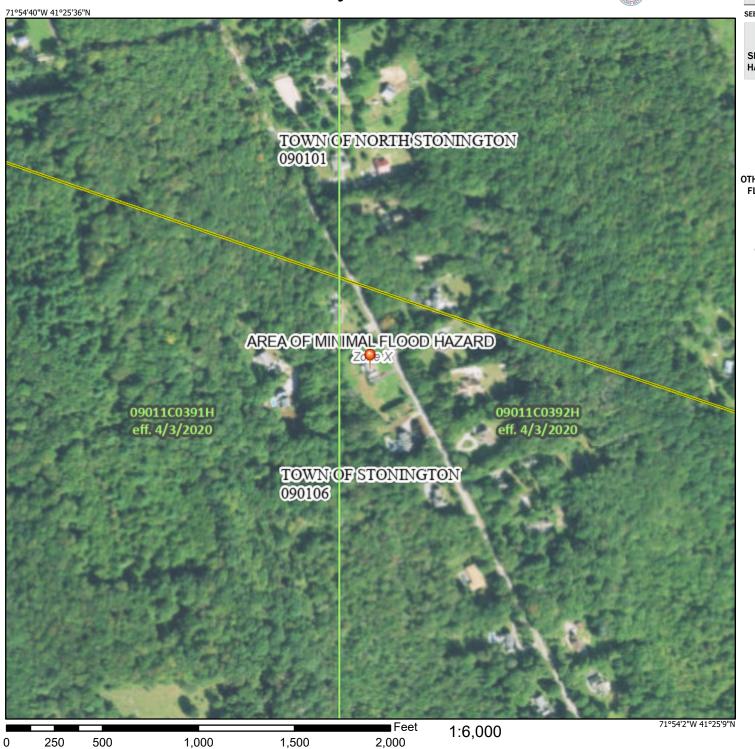
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

point selected by the user and does not represent

an authoritative property location.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/6/2023 at 4:09 PM 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.



Basemap Imagery Source: USGS National Map 2023



NOAA Rainfall Depth Estimates



NOAA Atlas 14, Volume 10, Version 3 Location name: Stonington, Connecticut, USA* Latitude: 41.423°, Longitude: -71.9058° Elevation: 287 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

D4!.				Average	recurrence	interval (ye	ears)			
Duration	1	2	5	10	25	50	100	200	500	1000
5-min	0.335 (0.256-0.435)	0.402 (0.308-0.524)	0.512 (0.390-0.668)	0.604 (0.459-0.791)	0.730 (0.539-0.987)	0.825 (0.597-1.13)	0.925 (0.653-1.30)	1.04 (0.696-1.48)	1.20 (0.778-1.75)	1.34 (0.847-1.97
10-min	0.474 (0.363-0.617)	0.570 (0.436-0.742)	0.727 (0.554-0.949)	0.856 (0.650-1.12)	1.04 (0.763-1.40)	1.17 (0.847-1.60)	1.31 (0.925-1.85)	1.47 (0.986-2.09)	1.70 (1.10-2.48)	1.90 (1.20-2.80)
15-min	0.558 (0.427-0.726)	0.671 (0.513-0.873)	0.855 (0.652-1.12)	1.01 (0.764-1.32)	1.22 (0.898-1.64)	1.38 (0.996-1.88)	1.54 (1.09-2.17)	1.73 (1.16-2.46)	2.00 (1.30-2.92)	2.23 (1.41-3.29)
30-min	0.778 (0.596-1.01)	0.936 (0.716-1.22)	1.19 (0.911-1.56)	1.41 (1.07-1.84)	1.70 (1.26-2.30)	1.92 (1.39-2.64)	2.16 (1.52-3.04)	2.42 (1.62-3.44)	2.81 (1.82-4.08)	3.12 (1.98-4.61)
60-min	0.998 (0.764-1.30)	1.20 (0.919-1.56)	1.53 (1.17-2.00)	1.81 (1.37-2.37)	2.19 (1.62-2.96)	2.47 (1.79-3.39)	2.77 (1.96-3.91)	3.12 (2.09-4.43)	3.61 (2.33-5.25)	4.02 (2.54-5.93)
2-hr	1.31 (1.01-1.69)	1.58 (1.21-2.04)	2.01 (1.54-2.60)	2.37 (1.81-3.08)	2.86 (2.13-3.84)	3.24 (2.36-4.41)	3.63 (2.58-5.08)	4.08 (2.74-5.76)	4.72 (3.07-6.83)	5.26 (3.34-7.71)
3-hr	1.53 (1.18-1.96)	1.83 (1.42-2.36)	2.33 (1.80-3.01)	2.75 (2.10-3.56)	3.32 (2.47-4.44)	3.74 (2.74-5.08)	4.20 (2.99-5.85)	4.71 (3.18-6.63)	5.47 (3.56-7.87)	6.09 (3.88-8.89)
6-hr	1.96 (1.52-2.50)	2.34 (1.82-2.99)	2.96 (2.30-3.79)	3.48 (2.68-4.47)	4.19 (3.14-5.56)	4.72 (3.47-6.36)	5.28 (3.78-7.32)	5.93 (4.02-8.28)	6.87 (4.49-9.83)	7.66 (4.89-11.1)
12-hr	2.44 (1.92-3.10)	2.91 (2.28-3.70)	3.66 (2.86-4.67)	4.29 (3.33-5.49)	5.16 (3.89-6.80)	5.81 (4.29-7.77)	6.49 (4.67-8.94)	7.28 (4.96-10.1)	8.44 (5.54-12.0)	9.39 (6.03-13.5)
24-hr	2.88 (2.27-3.63)	3.44 (2.71-4.34)	4.34 (3.41-5.49)	5.10 (3.98-6.47)	6.13 (4.65-8.04)	6.91 (5.14-9.19)	7.73 (5.60-10.6)	8.68 (5.94-12.0)	10.1 (6.65-14.2)	11.3 (7.25-16.1)
2-day	3.22 (2.56-4.03)	3.87 (3.07-4.85)	4.94 (3.90-6.20)	5.82 (4.58-7.34)	7.04 (5.37-9.16)	7.94 (5.94-10.5)	8.91 (6.50-12.1)	10.0 (6.90-13.7)	11.7 (7.75-16.4)	13.1 (8.48-18.6)
3-day	3.48 (2.78-4.34)	4.18 (3.33-5.22)	5.32 (4.23-6.66)	6.27 (4.95-7.87)	7.58 (5.80-9.82)	8.55 (6.42-11.3)	9.59 (7.01-13.0)	10.8 (7.44-14.7)	12.6 (8.34-17.5)	14.1 (9.12-19.9)
4-day	3.73 (2.98-4.64)	4.46 (3.56-5.55)	5.65 (4.50-7.05)	6.64 (5.26-8.32)	8.01 (6.14-10.3)	9.02 (6.79-11.8)	10.1 (7.40-13.6)	11.4 (7.85-15.4)	13.2 (8.78-18.4)	14.8 (9.58-20.8)
7-day	4.43 (3.56-5.48)	5.22 (4.19-6.46)	6.51 (5.21-8.08)	7.59 (6.04-9.44)	9.07 (6.99-11.6)	10.2 (7.68-13.3)	11.3 (8.33-15.2)	12.7 (8.80-17.1)	14.6 (9.76-20.2)	16.3 (10.6-22.8)
10-day	5.12 (4.13-6.31)	5.95 (4.80-7.34)	7.31 (5.87-9.03)	8.43 (6.73-10.5)	9.98 (7.71-12.7)	11.1 (8.44-14.4)	12.4 (9.08-16.4)	13.7 (9.55-18.5)	15.7 (10.5-21.6)	17.3 (11.3-24.1)
20-day	7.27 (5.91-8.90)	8.17 (6.63-10.0)	9.64 (7.80-11.8)	10.9 (8.73-13.4)	12.5 (9.73-15.8)	13.8 (10.5-17.6)	15.1 (11.1-19.7)	16.4 (11.5-21.9)	18.2 (12.2-24.8)	19.5 (12.8-27.0)
30-day	9.07 (7.40-11.0)	10.0 (8.16-12.2)	11.6 (9.39-14.1)	12.9 (10.4-15.8)	14.6 (11.4-18.3)	16.0 (12.2-20.3)	17.4 (12.7-22.4)	18.6 (13.1-24.7)	20.2 (13.6-27.5)	21.3 (14.0-29.4)
45-day	11.3 (9.24-13.7)	12.3 (10.1-14.9)	14.0 (11.4-17.0)	15.4 (12.4-18.7)	17.3 (13.5-21.5)	18.8 (14.3-23.6)	20.2 (14.7-25.8)	21.4 (15.1-28.3)	22.9 (15.5-30.9)	23.8 (15.7-32.7)
60-day	13.1 (10.8-15.9)	14.2 (11.7-17.2)	16.0 (13.1-19.4)	17.5 (14.2-21.3)	19.5 (15.2-24.2)	21.1 (16.1-26.4)	22.6 (16.5-28.7)	23.8 (16.9-31.4)	25.2 (17.1-34.0)	26.1 (17.2-35.7)

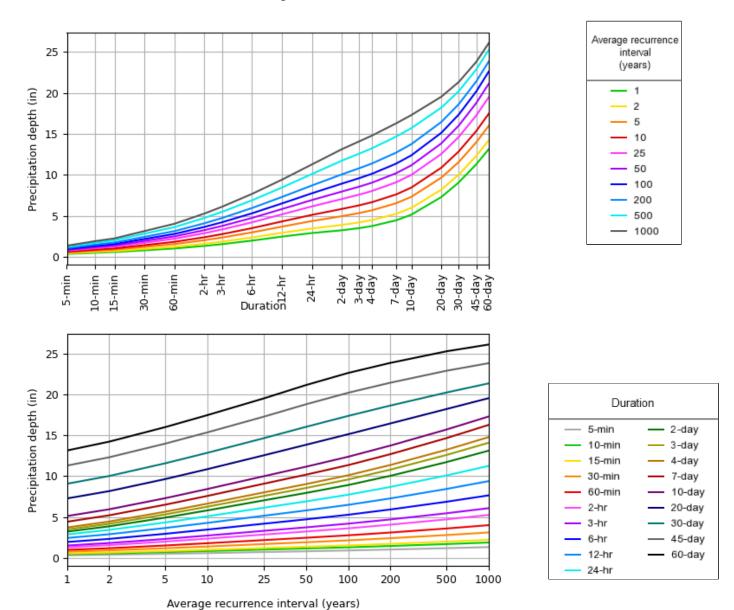
Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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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PDS-based depth-duration-frequency (DDF) curves Latitude: 41.4230°, Longitude: -71.9058°



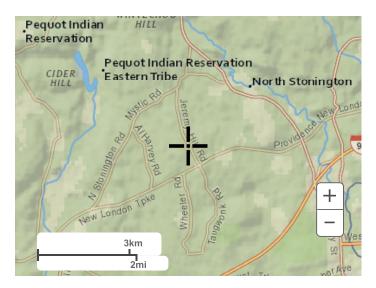
NOAA Atlas 14, Volume 10, Version 3

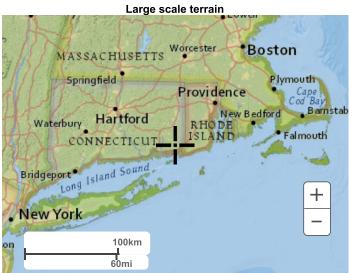
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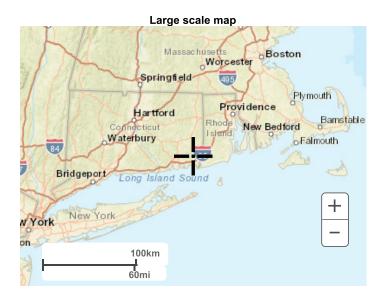
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Maps & aerials

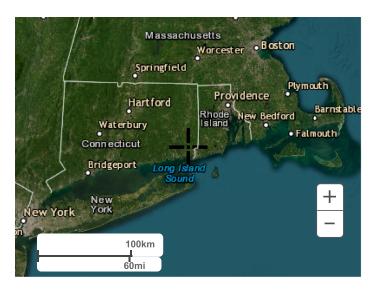
Small scale terrain







Large scale aerial



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

Disclaimer



CTDEEP Groundwater Classification Map

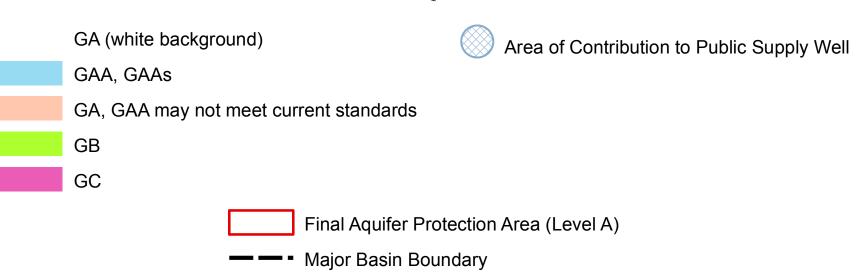
WATER QUALITY CLASSIFICATIONS STONINGTON, CT





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



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

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

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

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

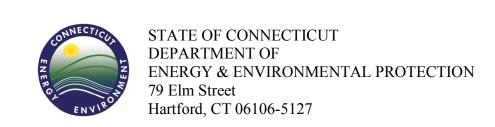
State Plane Coordinate System of 1983, Zone 3526
Lambert Conformal Conic Projection
North American Datum of 1983

0.5 0 1 Miles

1000 0 1000 2000 3000 4000 5000 6000 7000 Feet

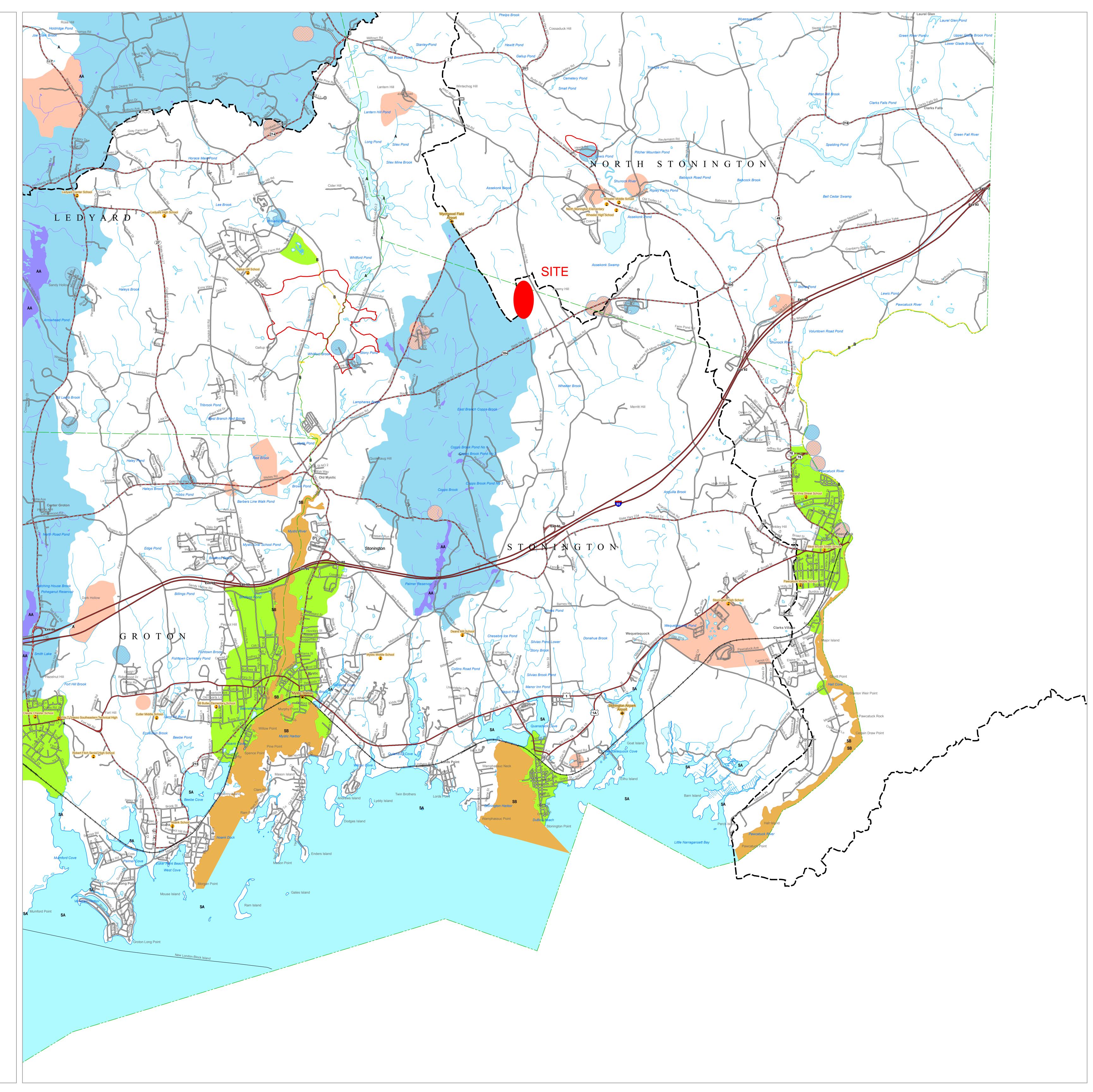
1 0.5 0 1 Kilometers

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



Map created by CT DEEP
October 2018

Map is not colorfast
Protect from light and moisture





Aquifer Protection Area Mapping

AQUIFER PROTECTION AREAS

Stonington, CT December 23, 2021

Level A APA (Final Adopted)

Level A APA (Final)

Level B APA (Preliminary)

Town Boundary

Rhode Island WHPA
More information at
www.dem.ri.gov

NOTE: The Aquifer Protection Areas were delineated through Connecitcut's Level A and Level B Mapping Processes. Aquifer Protection Areas are delineated for active public water supply wells in stratified drift that serve more than 1000 people, in accordance with Sections 22a-354c and 22a-354z of the Connecticut General Statutes. Level B Mapping delineates a preliminary aquifer protection area, providing an estimate of the land area from which the well draws its water. Level A Mapping delineates the final Aquifer Protection Area, which becomes the regulatory boundary for land use controls designed to protect the well from contamination. As Level A Mapping is completed for each well field and approved by DEEP, it replaces the Level B Mapping. Final Adopted Level A Areas are those where towns have land use regulations for them

Masschusetts and Rhode Island Wellhead Protection Areas may be shown for informational purposes.

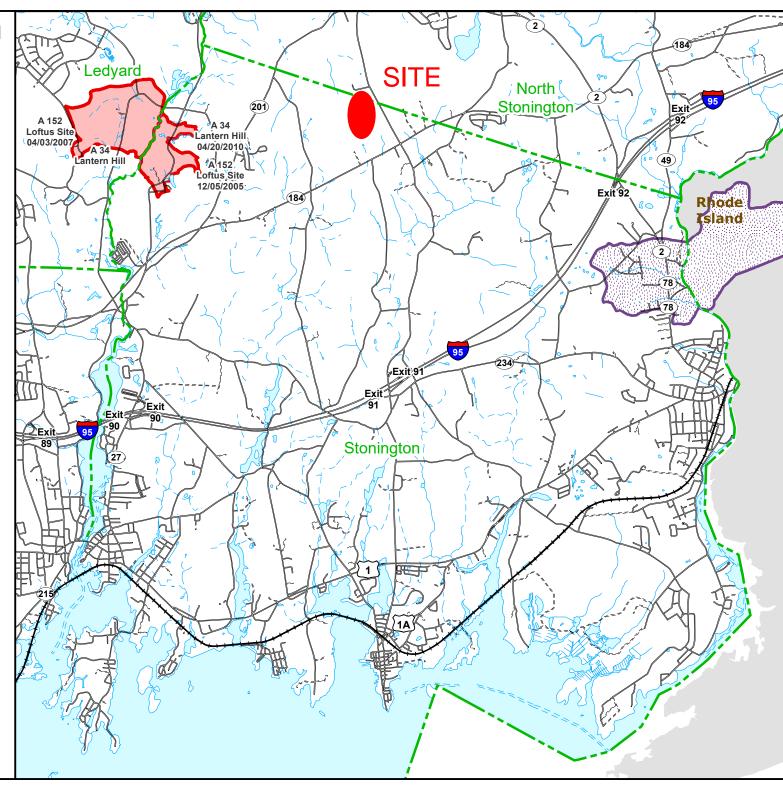
QUESTIONS:

Bureau of Water Protection and Land Reuse Planning and Standards Division Phone: (860) 424-3020

www.ct.gov/deep/aquiferprotection







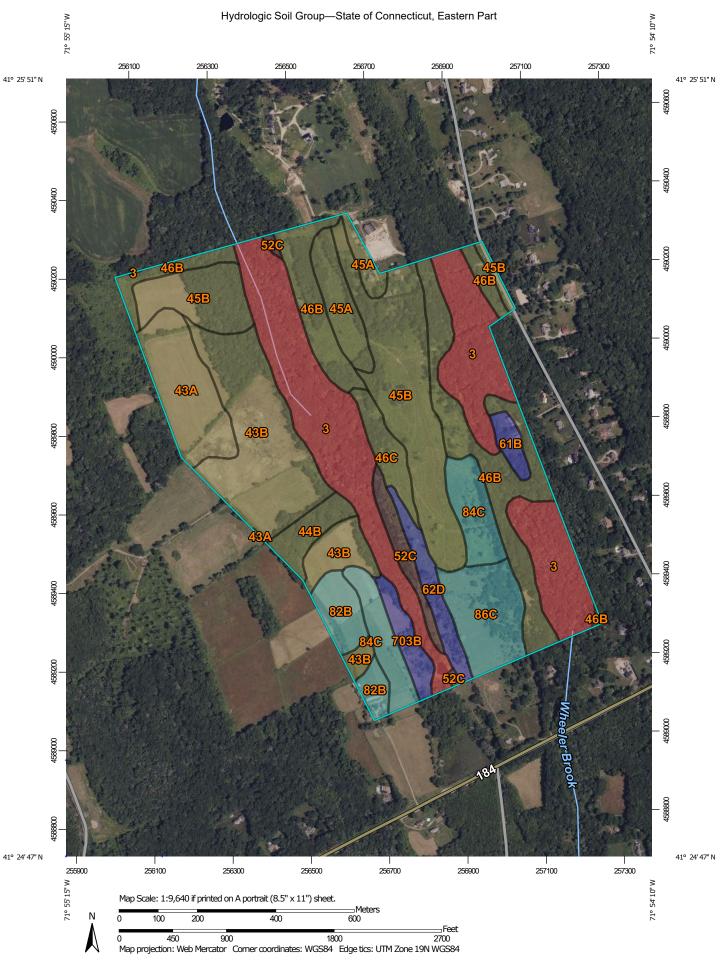


Appendix B:

NRCS Soil Survey Information



NRCS Soil Survey Information



MAP LEGEND MAP INFORMATION The soil surveys that comprise your AOI were mapped at Area of Interest (AOI) С 1:12.000. Area of Interest (AOI) C/D Please rely on the bar scale on each map sheet for map Soils D measurements. Soil Rating Polygons Not rated or not available Α Source of Map: Natural Resources Conservation Service Web Soil Survey URL: **Water Features** A/D Coordinate System: Web Mercator (EPSG:3857) Streams and Canals В Maps from the Web Soil Survey are based on the Web Mercator Transportation projection, which preserves direction and shape but distorts B/D Rails distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more Interstate Highways accurate calculations of distance or area are required. C/D **US Routes** This product is generated from the USDA-NRCS certified data as D Major Roads of the version date(s) listed below. Not rated or not available -Local Roads Soil Survey Area: State of Connecticut, Eastern Part Soil Rating Lines Survey Area Data: Version 1, Sep 15, 2023 Background Aerial Photography Soil map units are labeled (as space allows) for map scales 1:50.000 or larger. Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022 B/D 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 C/D shifting of map unit boundaries may be evident. D Not rated or not available **Soil Rating Points** A/D B/D

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	D	52.4	23.0%
43A	Rainbow silt loam, 0 to 3 percent slopes	C/D	13.6	5.9%
43B	Rainbow silt loam, 3 to 8 percent slopes	C/D	31.0	13.6%
44B	Rainbow silt loam, 2 to 8 percent slopes, very stony	C/D	4.4	1.9%
45A	Woodbridge fine sandy loam, 0 to 3 percent slopes	C/D	8.6	3.8%
45B	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D	35.7	15.6%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	C/D	31.1	13.6%
46C	Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony	C/D	4.7	2.1%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	B/D	4.4	1.9%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	В	2.2	1.0%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	В	5.1	2.2%
82B	Broadbrook silt loam, 3 to 8 percent slopes	С	6.9	3.0%
84C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	С	12.4	5.4%
86C	Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony	С	11.5	5.1%
703B	Haven silt loam, 3 to 8 percent slopes	В	3.9	1.7%
Totals for Area of Inte	rest	227.9	100.0%	

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Appendix C:

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



Erosion and Sedimentation Control Checklist

Brightwood Solar – Stonington, CT – Jeremy Hill Road

Best Management Practices – Maintenance/ Evaluation Checklist

Long Term Practices

Best	Inspection Frequency	Date	Inspector	Minimum Maintenance and	Cleaning/Repair Needed	Date of	Performed
Management		Inspected		Key Items to Check	☐yes ☐no (List Items)	Cleaning/Repair	by
Practice							
Trash/Litter	Routinely pick up and remove litter						
	from entire property as required.						
Stormwater	Inspect bi-annually. Check stabilized						
Basin	riprap spillway, side slopes, and clean						
	accumulated sediment if infiltration is						
	impeded.						
Vegetated	Inspect bi-annually.						
Areas	Replant bare areas upon identification.						



Long Term Stormwater Operation and Maintenance Measures

Brightwood Solar – Stonington, CT – Jeremy Hill Road

Best Management Practices – Maintenance/ Evaluation Checklist

Construction Practices

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



Project Information

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J	ı	u	L	c

Site					
Project Name:	GCE	Jeremy H	ill Solar		
Address or Locus:	Jeren	ny Hill Roa	nd		
City, State & Zip:	Ston	ington, (СТ		
Developer					
Client Name:		Greens	kies Clean Energy, LLC		
Client Address:		127 Wa Level	27 Washington Avenue, West Bldg, Garden evel		
Client City, State & 2	zip:	North Haven, CT 06473			
Client Telephone No).:	(858) 349-2666			
Client Cell Phone:					
Client E-Mail:		Jean-paul.lamarche@greenskies.com			
Site Supervisor					
Site Manager Name:			To be determined		
Site Manager Addre	ss:				
Site Manager City, S	tate 8	ι Zip:			
Site Manager Teleph	none N	No.:			
Site Manager Cell Ph	none:	-			

Site Manager E-Mail:



Appendix D:

Sediment Trap Sizing HydroCAD: Existing Conditions HydroCAD: Proposed Conditions



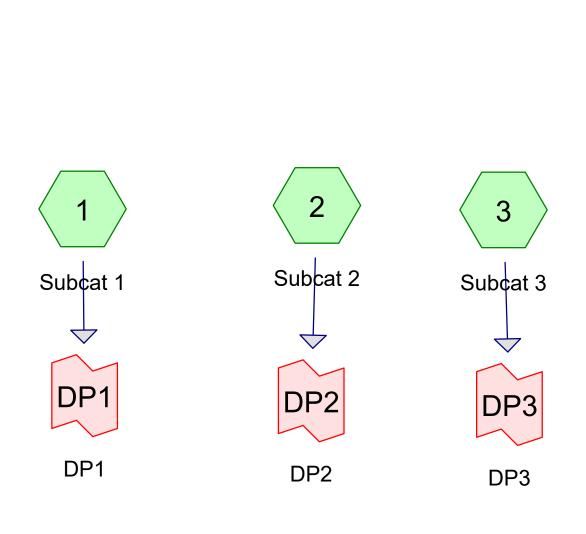
Sediment Trap Sizing

Sediment Trap Sizing Brightwood Solar, Stonington, CT May 2024

Basin #	Tributary Acreage, ac	(134 cy / acre)* Volume Required Below Top of Spillway, cf	Volume Provided in Permanent Basin Below Top of Spillway, cf
1A	4.6	16,529	24,176
1B	4.9	17,857	20,386
2A	1.1	3,854	6,882
2B	2.6	9,527	12,284
2C	5.0	18,024	20,386
2D	4.8	17,366	20,386



HydroCAD Analysis: Existing Conditions











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Page 2

Rainfall Events Listing

Event#	Event	Storm Type	Curve	Mode	Duration	B/B	Depth	AMC
	Name				(hours)		(inches)	
1	2 year	Type III 24-hr		Default	24.00	1	3.16	2
2	25 year	Type III 24-hr		Default	24.00	1	6.15	2
3	50 year	Type III 24-hr		Default	24.00	1	6.99	2
4	100 year	Type III 24-hr		Default	24.00	1	7.92	2

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Area Listing (all nodes)

Area	CN	Description
 (acres)		(subcatchment-numbers)
23.101	86	<50% Grass cover, Poor, HSG C (1, 2, 3)
0.528	96	Gravel surface, HSG C (1, 2)
3.491	73	Woods, Fair, HSG C (1, 2)
27.120	85	TOTAL AREA

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Soil Listing (all nodes)

Area	Soil	Subcatchment
(acres)	Group	Numbers
0.000	HSG A	
0.000	HSG B	
27.120	HSG C	1, 2, 3
0.000	HSG D	
0.000	Other	
27.120		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	23.101	0.000	0.000	23.101	<50% Grass cover, Poor	1, 2, 3
0.000	0.000	0.528	0.000	0.000	0.528	Gravel surface	1, 2
0.000	0.000	3.491	0.000	0.000	3.491	Woods, Fair	1, 2
0.000	0.000	27.120	0.000	0.000	27.120	TOTAL AREA	

42722.01 - Existing Conditions

Type III 24-hr 2 year Rainfall=3.16"

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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

Subcatchment1: Subcat 1 Runoff Area=12.430 ac 0.00% Impervious Runoff Depth>1.46"

Tc=10.0 min CN=83 Runoff=19.79 cfs 1.514 af

Subcatchment2: Subcat 2 Runoff Area=13.820 ac 0.00% Impervious Runoff Depth>1.60"

Tc=10.0 min CN=85 Runoff=24.11 cfs 1.847 af

Subcatchment3: Subcat3 Runoff Area=0.870 ac 0.00% Impervious Runoff Depth>1.68"

Tc=10.0 min CN=86 Runoff=1.59 cfs 0.122 af

Link DP1: DP1 Inflow=19.79 cfs 1.514 af

Primary=19.79 cfs 1.514 af

Link DP2: DP2

Primary=24.11 cfs 1.847 af

Link DP3: DP3 Inflow=1.59 cfs 0.122 af

Primary=1.59 cfs 0.122 af

Total Runoff Area = 27.120 ac Runoff Volume = 3.483 af Average Runoff Depth = 1.54" 100.00% Pervious = 27.120 ac 0.00% Impervious = 0.000 ac

Page 7

Summary for Subcatchment 1: Subcat 1

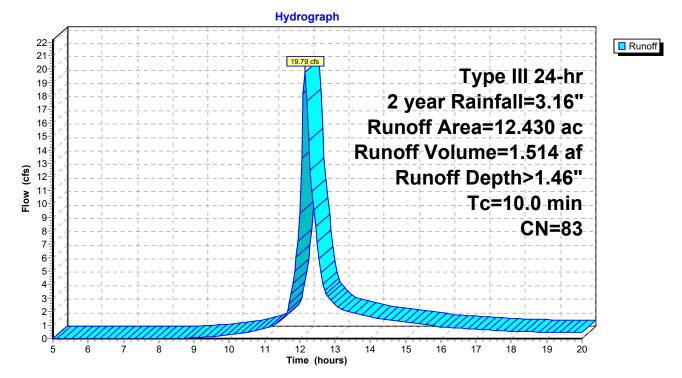
Runoff = 19.79 cfs @ 12.15 hrs, Volume= 1.514 af, Depth> 1.46"

Routed to Link DP1: DP1

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=3.16"

_	Area (ac)	CN	Desc	ription						
	9.4	172	86	<50%	50% Grass cover, Poor, HSG C						
	0.2	277	96	Grav	el surface						
_	2.6	2.681 73 Woods, Fair, HSG C				SG C					
	12.430 83 Weighted Average				hted Aver	age					
	12.430 100.00% Pervious Area				00% Pervi	ous Area					
		Leng	th :	Slope	Velocity	Capacity	Description				
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
	10.0						Direct Entry.				

Subcatchment 1: Subcat 1



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Summary for Subcatchment 2: Subcat 2

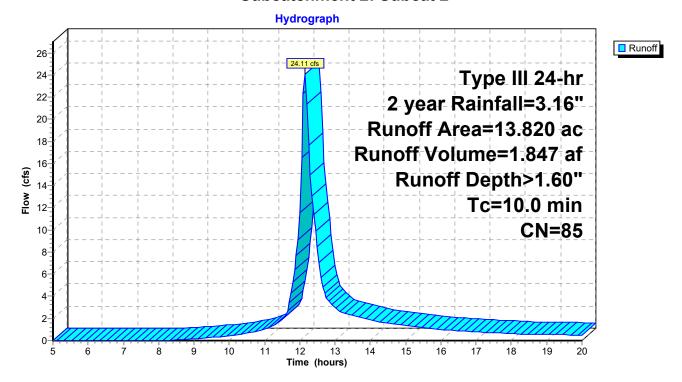
Runoff = 24.11 cfs @ 12.14 hrs, Volume= 1.847 af, Depth> 1.60"

Routed to Link DP2: DP2

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=3.16"

_	Area	(ac)	CN	N Description							
	12.	760	86	<50%	, HSG C						
0.251 96 Gravel surface, HSG C											
0.810 73 Woods, Fair, HSG C											
	13.820 85 Weighted Average										
	13.820			100.0	00% Pervi	ous Area					
	_										
	Tc	Leng		Slope	Velocity	Capacity	Description				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	10.0						Direct Entry.				

Subcatchment 2: Subcat 2



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Summary for Subcatchment 3: Subcat 3

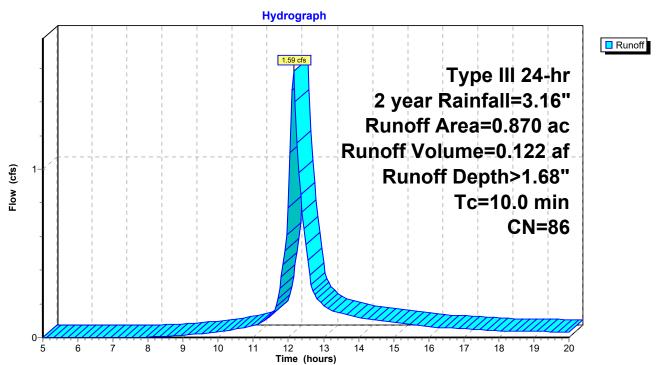
Runoff = 1.59 cfs @ 12.14 hrs, Volume= 0.122 af, Depth> 1.68"

Routed to Link DP3: DP3

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=3.16"

	Area	(ac)	CN	Desc	escription							
	0.	870	86	<50%	HSG C							
	0.870 100.00% Pervious Area											
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
_	10.0	(100	<i>5</i> ()	(11/11)	(II/Sec)	(CIS)	Direct Entry,					

Subcatchment 3: Subcat 3



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Summary for Link DP1: DP1

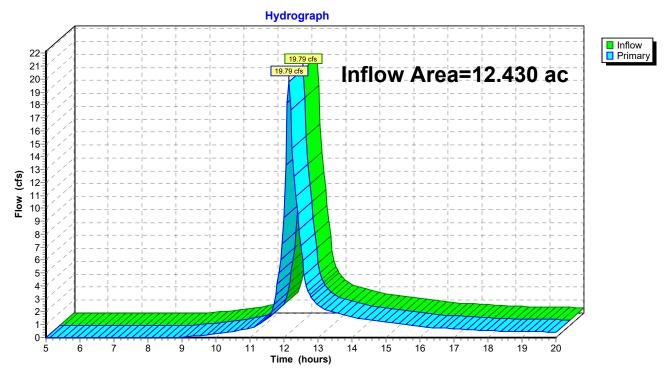
Inflow Area = 12.430 ac, 0.00% Impervious, Inflow Depth > 1.46" for 2 year event

Inflow = 19.79 cfs @ 12.15 hrs, Volume= 1.514 af

Primary = 19.79 cfs @ 12.15 hrs, Volume= 1.514 af, Atten= 0%, Lag= 0.0 min

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

Link DP1: DP1



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Summary for Link DP2: DP2

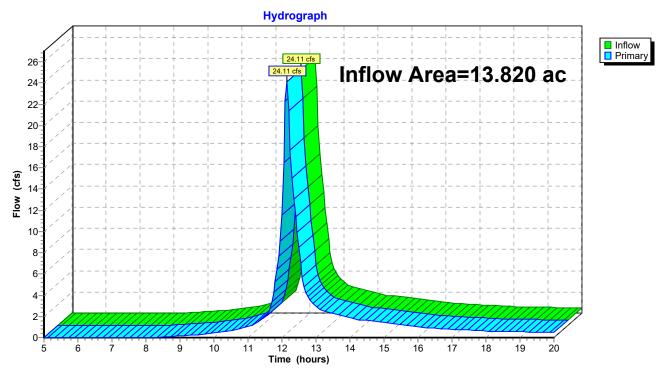
Inflow Area = 13.820 ac, 0.00% Impervious, Inflow Depth > 1.60" for 2 year event

Inflow = 24.11 cfs @ 12.14 hrs, Volume= 1.847 af

Primary = 24.11 cfs @ 12.14 hrs, Volume= 1.847 af, Atten= 0%, Lag= 0.0 min

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

Link DP2: DP2



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Summary for Link DP3: DP3

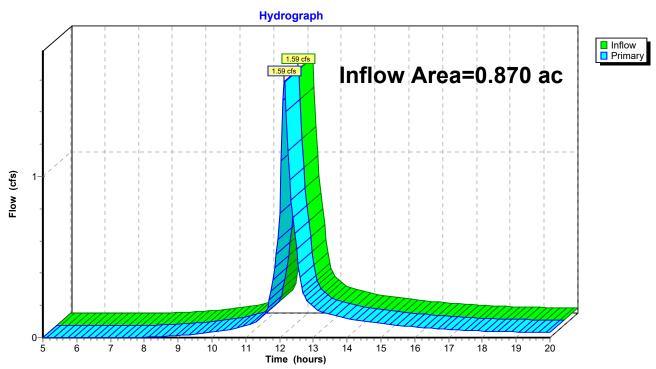
Inflow Area = 0.870 ac, 0.00% Impervious, Inflow Depth > 1.68" for 2 year event

Inflow = 1.59 cfs @ 12.14 hrs, Volume= 0.122 af

Primary = 1.59 cfs @ 12.14 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min

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

Link DP3: DP3



42722.01 - Existing Conditions

Type III 24-hr 25 year Rainfall=6.15"

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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

Subcatchment1: Subcat 1 Runoff Area=12.430 ac 0.00% Impervious Runoff Depth>3.98"

Tc=10.0 min CN=83 Runoff=52.59 cfs 4.118 af

Subcatchment2: Subcat2 Runoff Area=13.820 ac 0.00% Impervious Runoff Depth>4.18"

Tc=10.0 min CN=85 Runoff=60.96 cfs 4.819 af

Subcatchment3: Subcat3 Runoff Area=0.870 ac 0.00% Impervious Runoff Depth>4.29"

Tc=10.0 min CN=86 Runoff=3.91 cfs 0.311 af

Link DP1: DP1 Inflow=52.59 cfs 4.118 af

Primary=52.59 cfs 4.118 af

Link DP2: DP2

Primary=60.96 cfs 4.819 af

Link DP3: DP3 Inflow=3.91 cfs 0.311 af

Primary=3.91 cfs 0.311 af

Total Runoff Area = 27.120 ac Runoff Volume = 9.249 af Average Runoff Depth = 4.09" 100.00% Pervious = 27.120 ac 0.00% Impervious = 0.000 ac

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Summary for Subcatchment 1: Subcat 1

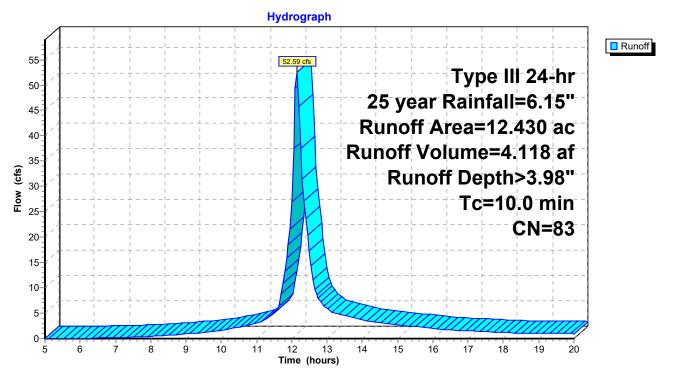
Runoff = 52.59 cfs @ 12.14 hrs, Volume= 4.118 af, Depth> 3.98"

Routed to Link DP1: DP1

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=6.15"

_	Area (ac)	CN	Description							
	9.4	172	86	<50%	6 Grass co	over, Poor,	, HSG C				
0.277 96 Gravel surface, HSG C											
2.681 73 Woods, Fair, HSG C											
	12.430 83 Weighted Average										
	12.430			100.0	00% Pervi	ous Area					
		Leng	th :	Slope	Velocity	Capacity	Description				
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
	10.0						Direct Entry.				

Subcatchment 1: Subcat 1



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Summary for Subcatchment 2: Subcat 2

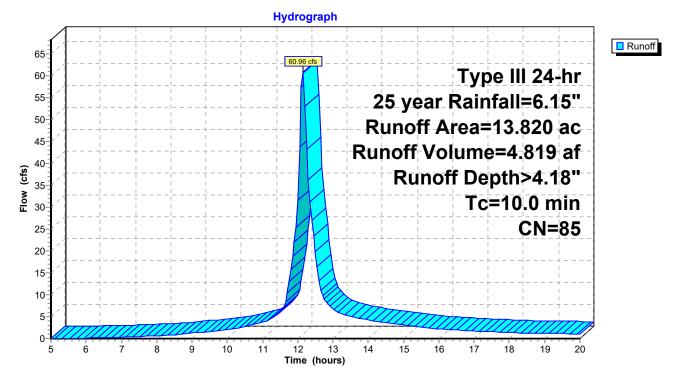
Runoff = 60.96 cfs @ 12.14 hrs, Volume= 4.819 af, Depth> 4.18"

Routed to Link DP2: DP2

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=6.15"

_	Area	(ac)	CN	N Description							
	12.	760	86	<50%	, HSG C						
0.251 96 Gravel surface, HSG C											
0.810 73 Woods, Fair, HSG C											
	13.820 85 Weighted Average										
	13.820			100.0	00% Pervi	ous Area					
	_										
	Tc	Leng		Slope	Velocity	Capacity	Description				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	10.0						Direct Entry.				

Subcatchment 2: Subcat 2



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Summary for Subcatchment 3: Subcat 3

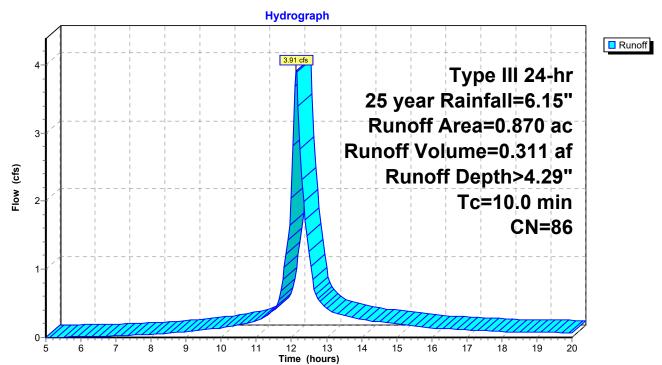
Runoff = 3.91 cfs @ 12.14 hrs, Volume= 0.311 af, Depth> 4.29"

Routed to Link DP3: DP3

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=6.15"

	Area	(ac)	CN	Desc	escription							
	0.	870	86	<50%	HSG C							
	0.870 100.00% Pervious Area											
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
_	10.0	(100	<i>5</i> ()	(11/11)	(II/Sec)	(CIS)	Direct Entry,					

Subcatchment 3: Subcat 3



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Summary for Link DP1: DP1

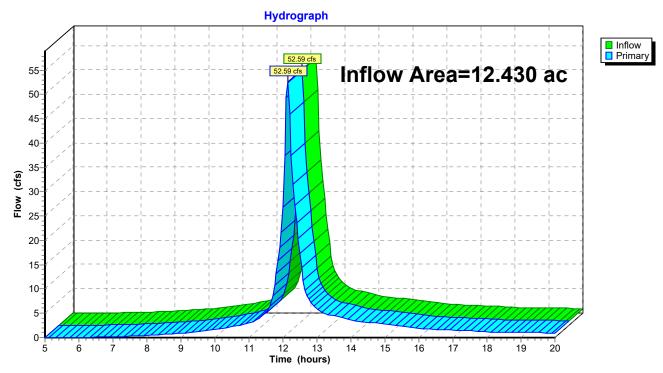
Inflow Area = 12.430 ac, 0.00% Impervious, Inflow Depth > 3.98" for 25 year event

Inflow = 52.59 cfs @ 12.14 hrs, Volume= 4.118 af

Primary = 52.59 cfs @ 12.14 hrs, Volume= 4.118 af, Atten= 0%, Lag= 0.0 min

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

Link DP1: DP1



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Summary for Link DP2: DP2

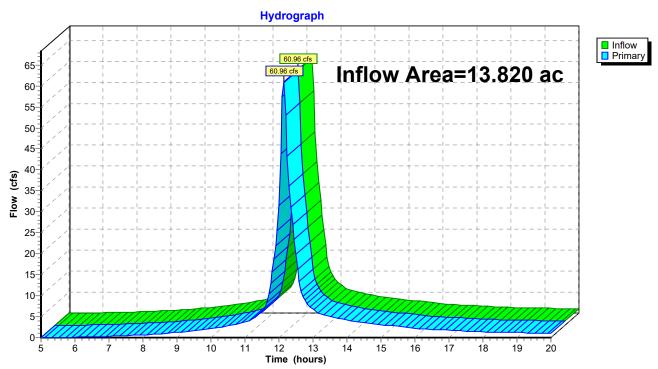
Inflow Area = 13.820 ac, 0.00% Impervious, Inflow Depth > 4.18" for 25 year event

Inflow = 60.96 cfs @ 12.14 hrs, Volume= 4.819 af

Primary = 60.96 cfs @ 12.14 hrs, Volume= 4.819 af, Atten= 0%, Lag= 0.0 min

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

Link DP2: DP2



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Summary for Link DP3: DP3

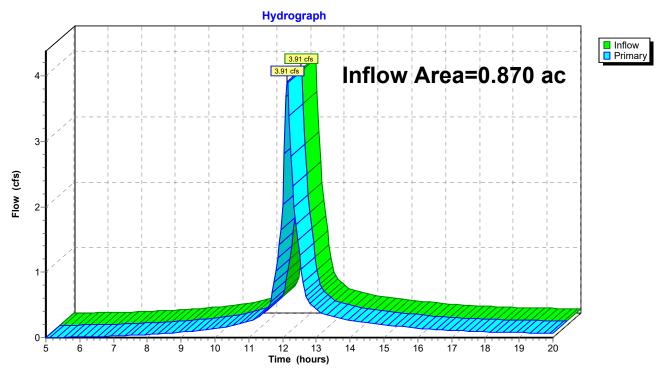
Inflow Area = 0.870 ac, 0.00% Impervious, Inflow Depth > 4.29" for 25 year event

Inflow = 3.91 cfs @ 12.14 hrs, Volume= 0.311 af

Primary = 3.91 cfs @ 12.14 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

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

Link DP3: DP3



42722.01 - Existing Conditions

Type III 24-hr 50 year Rainfall=6.99" Printed 5/17/2024

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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

Subcatchment1: Subcat 1 Runoff Area=12.430 ac 0.00% Impervious Runoff Depth>4.72"

Tc=10.0 min CN=83 Runoff=61.98 cfs 4.894 af

Subcatchment2: Subcat2 Runoff Area=13.820 ac 0.00% Impervious Runoff Depth>4.94"

Tc=10.0 min CN=85 Runoff=71.39 cfs 5.694 af

Subcatchment3: Subcat3 Runoff Area=0.870 ac 0.00% Impervious Runoff Depth>5.05"

Tc=10.0 min CN=86 Runoff=4.57 cfs 0.366 af

Link DP1: DP1 Inflow=61.98 cfs 4.894 af

Primary=61.98 cfs 4.894 af

Link DP2: DP2

Primary=71.39 cfs 5.694 af

Link DP3: DP3 Inflow=4.57 cfs 0.366 af

Primary=4.57 cfs 0.366 af

Total Runoff Area = 27.120 ac Runoff Volume = 10.954 af Average Runoff Depth = 4.85" 100.00% Pervious = 27.120 ac 0.00% Impervious = 0.000 ac

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Summary for Subcatchment 1: Subcat 1

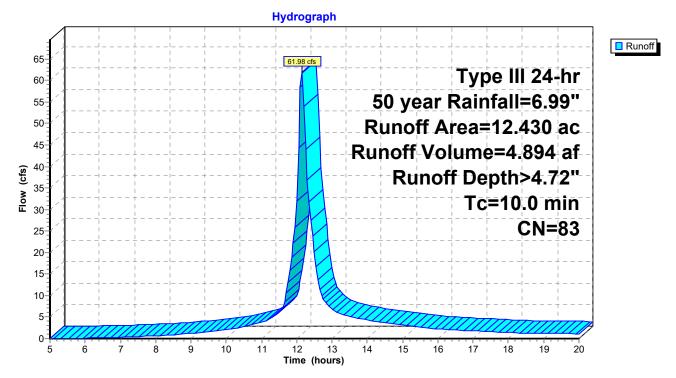
Runoff = 61.98 cfs @ 12.14 hrs, Volume= 4.894 af, Depth> 4.72"

Routed to Link DP1: DP1

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=6.99"

_	Area (ac)	CN	Description							
	9.4	172	86	<50%	6 Grass co	over, Poor,	, HSG C				
0.277 96 Gravel surface, HSG C											
2.681 73 Woods, Fair, HSG C											
	12.430 83 Weighted Average										
	12.430			100.0	00% Pervi	ous Area					
		Leng	th :	Slope	Velocity	Capacity	Description				
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
	10.0						Direct Entry.				

Subcatchment 1: Subcat 1



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Summary for Subcatchment 2: Subcat 2

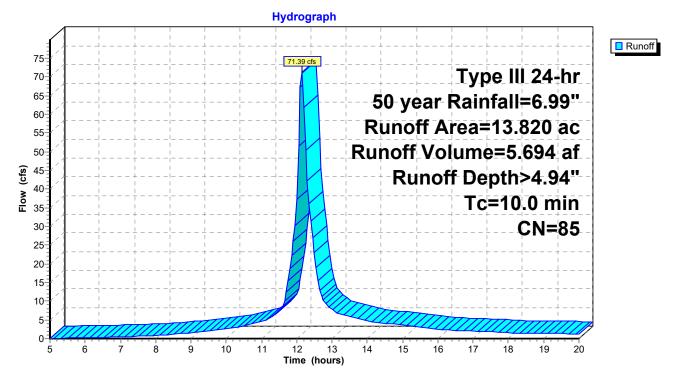
Runoff = 71.39 cfs @ 12.14 hrs, Volume= 5.694 af, Depth> 4.94"

Routed to Link DP2: DP2

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=6.99"

_	Area ((ac)	CN Description								
	12.760 86 <50% Grass cover, Poor, HSG C										
0.251 96 Gravel surface, HSG C											
_	0.810 73 Woods, Fair, HSG C										
	13.820 85 Weighted Average										
	13.	820		100.0	00% Pervi	ous Area					
	Тс	Leng	th :	Slope	Velocity	Capacity	Description				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	10.0						Direct Entry.				

Subcatchment 2: Subcat 2



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Summary for Subcatchment 3: Subcat 3

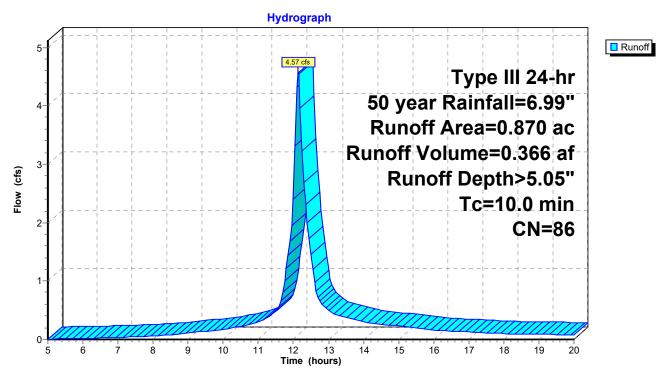
Runoff = 4.57 cfs @ 12.14 hrs, Volume= 0.366 af, Depth> 5.05"

Routed to Link DP3: DP3

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=6.99"

_	Area	(ac)	CN	Desc	cription		
	0.	870	86	<50%	% Grass co	over, Poor,	HSG C
	0.	870		100.0	00% Pervi	ous Area	
	Tc	Leng	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	10.0						Direct Entry

Subcatchment 3: Subcat 3



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Summary for Link DP1: DP1

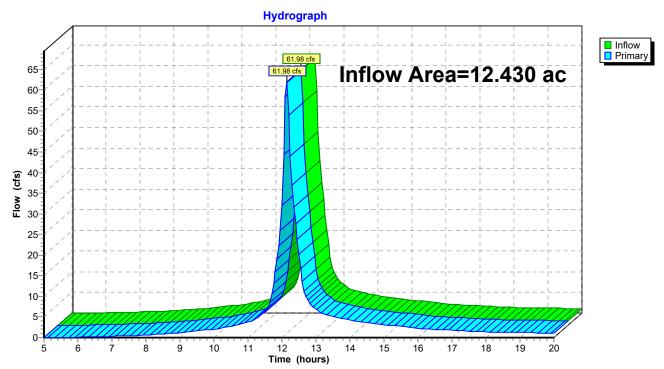
Inflow Area = 12.430 ac, 0.00% Impervious, Inflow Depth > 4.72" for 50 year event

Inflow = 61.98 cfs @ 12.14 hrs, Volume= 4.894 af

Primary = 61.98 cfs @ 12.14 hrs, Volume= 4.894 af, Atten= 0%, Lag= 0.0 min

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

Link DP1: DP1



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Summary for Link DP2: DP2

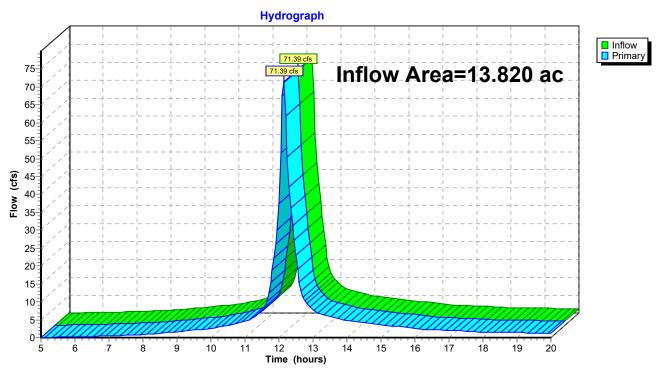
Inflow Area = 13.820 ac, 0.00% Impervious, Inflow Depth > 4.94" for 50 year event

Inflow = 71.39 cfs @ 12.14 hrs, Volume= 5.694 af

Primary = 71.39 cfs @ 12.14 hrs, Volume= 5.694 af, Atten= 0%, Lag= 0.0 min

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

Link DP2: DP2



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Summary for Link DP3: DP3

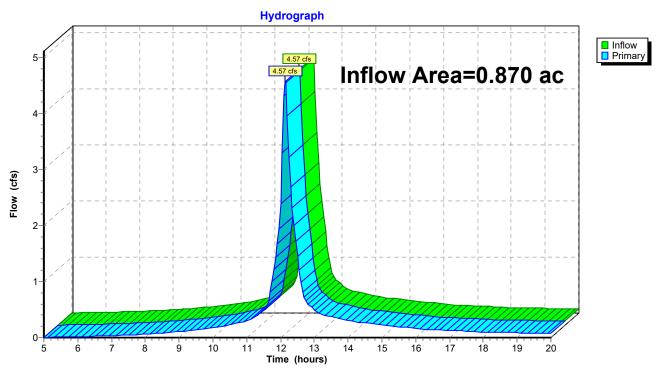
Inflow Area = 0.870 ac, 0.00% Impervious, Inflow Depth > 5.05" for 50 year event

Inflow = 4.57 cfs @ 12.14 hrs, Volume= 0.366 af

Primary = 4.57 cfs @ 12.14 hrs, Volume= 0.366 af, Atten= 0%, Lag= 0.0 min

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

Link DP3: DP3



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Type III 24-hr 100 year Rainfall=7.92"
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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

Subcatchment1: Subcat 1 Runoff Area=12.430 ac 0.00% Impervious Runoff Depth>5.56"

Tc=10.0 min CN=83 Runoff=72.38 cfs 5.763 af

Subcatchment2: Subcat2 Runoff Area=13.820 ac 0.00% Impervious Runoff Depth>5.79"

Tc=10.0 min CN=85 Runoff=82.92 cfs 6.670 af

Subcatchment3: Subcat3 Runoff Area=0.870 ac 0.00% Impervious Runoff Depth>5.91"

Tc=10.0 min CN=86 Runoff=5.29 cfs 0.428 af

Link DP1: DP1 Inflow=72.38 cfs 5.763 af

Primary=72.38 cfs 5.763 af

Link DP2: DP2

Primary=82.92 cfs 6.670 af

Link DP3: DP3 Inflow=5.29 cfs 0.428 af

Primary=5.29 cfs 0.428 af

Total Runoff Area = 27.120 ac Runoff Volume = 12.862 af Average Runoff Depth = 5.69" 100.00% Pervious = 27.120 ac 0.00% Impervious = 0.000 ac

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Summary for Subcatchment 1: Subcat 1

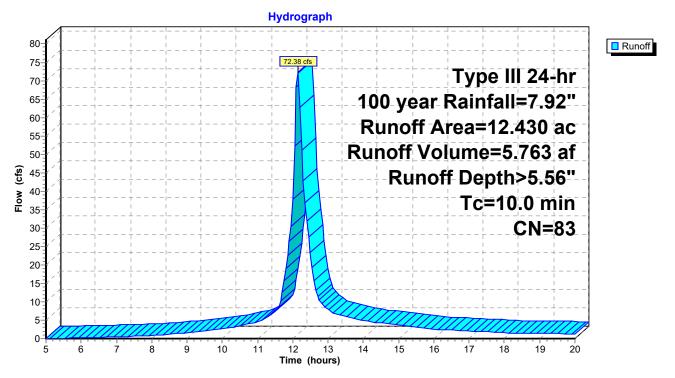
Runoff = 72.38 cfs @ 12.14 hrs, Volume= 5.763 af, Depth> 5.56"

Routed to Link DP1: DP1

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=7.92"

_	Area (ac)	CN	Desc	ription			
	9.472 86 <50% Grass cover, Poor, H						, HSG C	
0.277 96 Gravel surface, HSG C					el surface	, HSG C		
2.681 73 Woods, Fair, HSG C						SG C		
12.430 83 Weighted Average					hted Aver	age		
	12.430 100.00% Pervious Area				00% Pervi	ous Area		
		Leng	th :	Slope	Velocity	Capacity	Description	
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)		
	10.0						Direct Entry.	

Subcatchment 1: Subcat 1



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Summary for Subcatchment 2: Subcat 2

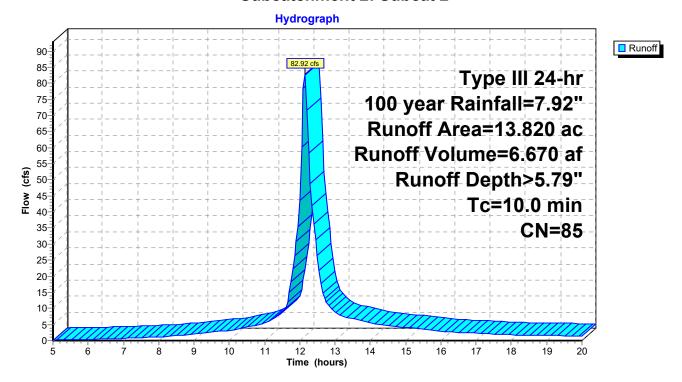
Runoff = 82.92 cfs @ 12.14 hrs, Volume= 6.670 af, Depth> 5.79"

Routed to Link DP2: DP2

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=7.92"

_	Area	(ac)	CN	Desc	Description					
_	12.	760	86	<50%	6 Grass co	over, Poor,	, HSG C			
0.251 96 Gravel surface, HSG C					el surface	, HSG C				
0.810 73 Woods, Fair, HSG C										
	13.820 85 Weighted Average					age				
	13.820 100.00% Pervious Area				00% Pervi	ous Area				
	Tc	Leng		Slope	Velocity	Capacity	Description			
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	10.0						Direct Entry.			

Subcatchment 2: Subcat 2



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Summary for Subcatchment 3: Subcat 3

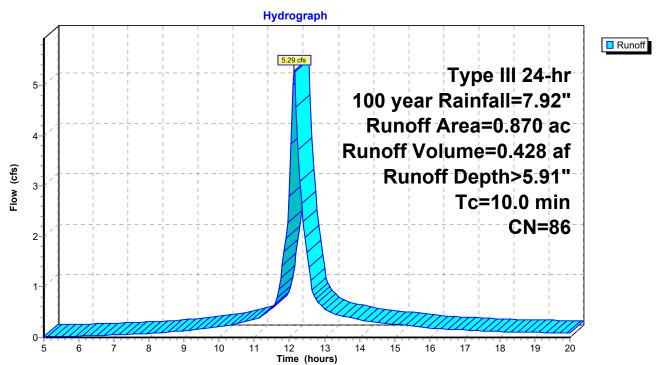
Runoff = 5.29 cfs @ 12.14 hrs, Volume= 0.428 af, Depth> 5.91"

Routed to Link DP3: DP3

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=7.92"

	Area	(ac)	CN	Desc	cription		
0.870 86 <50% Grass cover, Poor, HSG C							HSG C
	0.870 100.00% Pervious Area						
	т.		41.	01	\	0 '(Describethon
		Leng		Slope	•		Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	10.0						Direct Entry,

Subcatchment 3: Subcat 3



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Summary for Link DP1: DP1

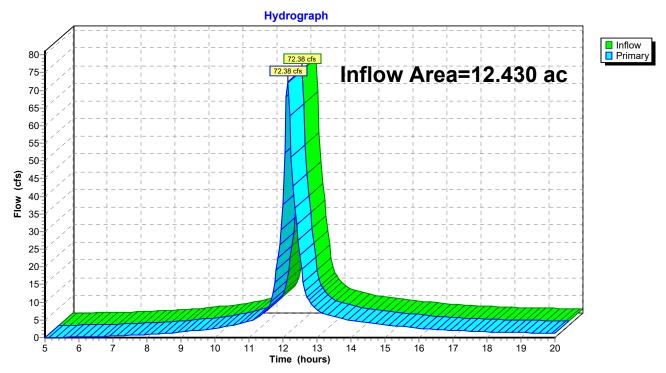
Inflow Area = 12.430 ac, 0.00% Impervious, Inflow Depth > 5.56" for 100 year event

Inflow = 72.38 cfs @ 12.14 hrs, Volume= 5.763 af

Primary = 72.38 cfs @ 12.14 hrs, Volume= 5.763 af, Atten= 0%, Lag= 0.0 min

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

Link DP1: DP1



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Summary for Link DP2: DP2

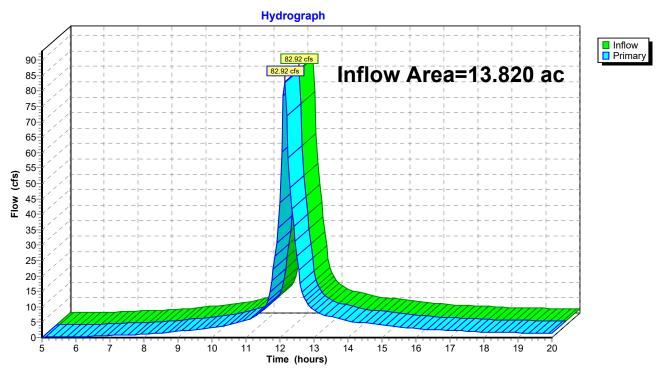
Inflow Area = 13.820 ac, 0.00% Impervious, Inflow Depth > 5.79" for 100 year event

Inflow = 82.92 cfs @ 12.14 hrs, Volume= 6.670 af

Primary = 82.92 cfs @ 12.14 hrs, Volume= 6.670 af, Atten= 0%, Lag= 0.0 min

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

Link DP2: DP2



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Summary for Link DP3: DP3

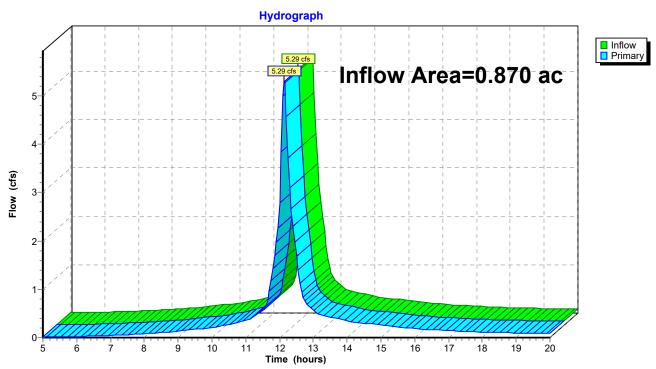
Inflow Area = 0.870 ac, 0.00% Impervious, Inflow Depth > 5.91" for 100 year event

Inflow = 5.29 cfs @ 12.14 hrs, Volume= 0.428 af

Primary = 5.29 cfs @ 12.14 hrs, Volume= 0.428 af, Atten= 0%, Lag= 0.0 min

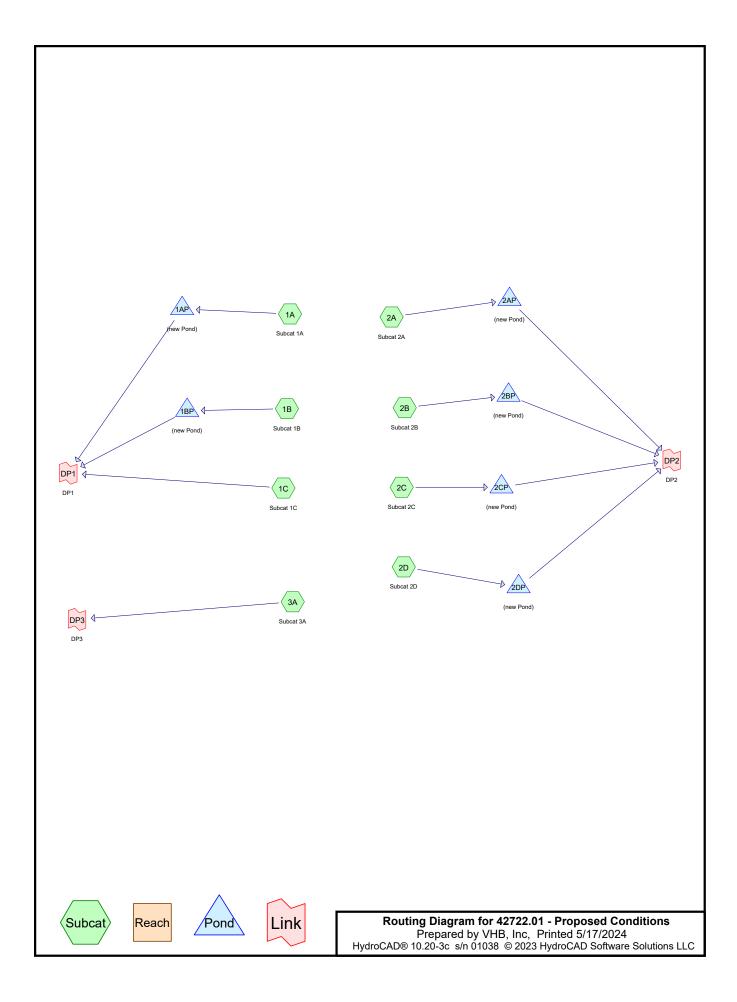
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP3: DP3





HydroCAD Analysis: Proposed Conditions



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Rainfall Events Listing

Event#	Event	Storm Type	Curve	Mode	Duration	B/B	Depth	AMC
	Name				(hours)		(inches)	
1	2 YR	Type III 24-hr		Default	24.00	1	3.16	2
2	25 YR	Type III 24-hr		Default	24.00	1	6.15	2
3	50 YR	Type III 24-hr		Default	24.00	1	6.99	2
4	100 YR	Type III 24-hr		Default	24.00	1	7.92	2

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Area Listing (all nodes)

Are	ea CN	Description
(acre	s)	(subcatchment-numbers)
25.88	84 81	50-75% Grass cover, Fair, HSG C-D (1A, 1B, 1C, 2A, 2B, 2C, 2D, 3A)
0.95	51 96	Gravel surface, HSG C (1A, 1B, 1C, 2A, 3A)
26.83	35 82	TOTAL AREA

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Soil Listing (all nodes)

Area	Soil	Subcatchment
(acres)	Group	Numbers
0.000	HSG A	
0.000	HSG B	
26.835	HSG C	1A, 1B, 1C, 2A, 2B, 2C, 2D, 3A
0.000	HSG D	
0.000	Other	
26.835		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	25.884	0.000	0.000	25.884	50-75% Grass cover, Fair	1A, 1B,
							1C, 2A, 2B, 2C,
							2D, 3A
0.000	0.000	0.951	0.000	0.000	0.951	Gravel surface	1A, 1B,
							1C, 2A, 3A
0.000	0.000	26.835	0.000	0.000	26.835	TOTAL AREA	

Type III 24-hr 2 YR Rainfall=3.16" Printed 5/17/2024

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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

Reacti fouling by Stor-ind+frai	is method - Forta routing by Stor-Ind method
Subcatchment1A: Subcat1A	Runoff Area=4.567 ac 0.00% Impervious Runoff Depth>1.39" Tc=10.0 min CN=82 Runoff=6.93 cfs 0.530 af
Subcatchment1B: Subcat1B	Runoff Area=4.937 ac 0.00% Impervious Runoff Depth>1.39" Tc=10.0 min CN=82 Runoff=7.49 cfs 0.573 af
Subcatchment1C: Subcat1C	Runoff Area=2.926 ac 0.00% Impervious Runoff Depth>1.46" Tc=10.0 min CN=83 Runoff=4.66 cfs 0.356 af
Subcatchment2A: Subcat 2A	Runoff Area=1.066 ac 0.00% Impervious Runoff Depth>1.46" Tc=10.0 min CN=83 Runoff=1.70 cfs 0.130 af
Subcatchment2B: Subcat 2B	Runoff Area=2.633 ac 0.00% Impervious Runoff Depth>1.33" Tc=10.0 min CN=81 Runoff=3.80 cfs 0.291 af
Subcatchment2C: Subcat 2C	Runoff Area=4.992 ac 0.00% Impervious Runoff Depth>1.33" Tc=10.0 min CN=81 Runoff=7.21 cfs 0.552 af
Subcatchment2D: Subcat 2D	Runoff Area=4.856 ac 0.00% Impervious Runoff Depth>1.33" Tc=10.0 min CN=81 Runoff=7.01 cfs 0.537 af
Subcatchment3A: Subcat3A	Runoff Area=0.858 ac 0.00% Impervious Runoff Depth>1.39" Tc=10.0 min CN=82 Runoff=1.30 cfs 0.100 af
Pond 1AP: (new Pond)	Peak Elev=279.61' Storage=0.312 af Inflow=6.93 cfs 0.530 af Outflow=0.92 cfs 0.231 af
Pond 1BP: (new Pond)	Peak Elev=278.73' Storage=0.268 af Inflow=7.49 cfs 0.573 af Outflow=2.83 cfs 0.332 af
Pond 2AP: (new Pond)	Peak Elev=290.54' Storage=0.077 af Inflow=1.70 cfs 0.130 af Outflow=0.24 cfs 0.054 af
Pond 2BP: (new Pond)	Peak Elev=290.62' Storage=0.149 af Inflow=3.80 cfs 0.291 af Outflow=1.02 cfs 0.150 af
Pond 2CP: (new Pond)	Peak Elev=284.71' Storage=0.265 af Inflow=7.21 cfs 0.552 af Outflow=2.40 cfs 0.311 af
Pond 2DP: (new Pond)	Peak Elev=291.70' Storage=0.263 af Inflow=7.01 cfs 0.537 af Outflow=2.18 cfs 0.296 af
Link DP1: DP1	Inflow=4.69 cfs 0.919 af Primary=4.69 cfs 0.919 af
Link DP2: DP2	Inflow=5.55 cfs 0.811 af Primary=5.55 cfs 0.811 af

Type III 24-hr 2 YR Rainfall=3.16" Printed 5/17/2024

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Link DP3: DP3Inflow=1.30 cfs 0.100 af

Primary=1.30 cfs 0.100 af

Total Runoff Area = 26.835 ac Runoff Volume = 3.071 af Average Runoff Depth = 1.37" 100.00% Pervious = 26.835 ac 0.00% Impervious = 0.000 ac

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Summary for Subcatchment 1A: Subcat 1A

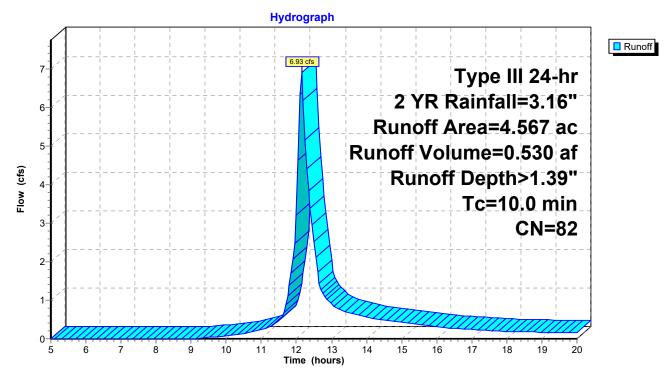
Runoff = 6.93 cfs @ 12.15 hrs, Volume= 0.530 af, Depth> 1.39"

Routed to Pond 1AP: (new Pond)

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 YR Rainfall=3.16"

	Area	(ac)	CN	Desc	cription					
	0.	257	96	Grav	Gravel surface, HSG C					
*	4.	310	81	50-7	5% Grass	cover, Fair	r, HSG C-D			
	4.567 82 Weighted Average									
	4.	567		100.	00% Pervi	ous Area				
	Тс	Leng	nth	Slope	Velocity	Capacity	Description			
	(min)	(fee	,	(ft/ft)	(ft/sec)	(cfs)	Description			
_	10.0	(/	(1411)	()	(3.3)	Direct Entry,			
	10.0						Direct Littiy,			

Subcatchment 1A: Subcat 1A



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Summary for Subcatchment 1B: Subcat 1B

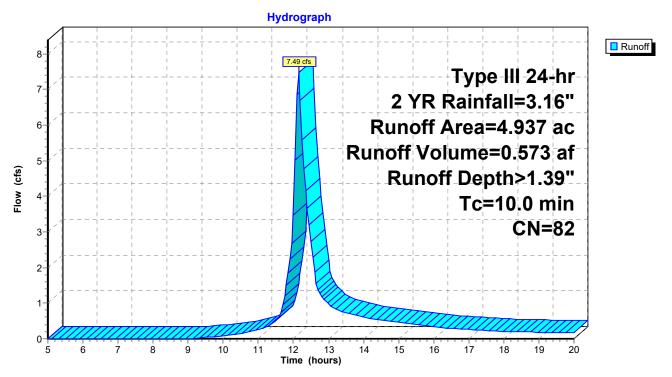
Runoff = 7.49 cfs @ 12.15 hrs, Volume= 0.573 af, Depth> 1.39"

Routed to Pond 1BP: (new Pond)

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 YR Rainfall=3.16"

_	Area	(ac)	CN	Desc	Description					
	0.	174	96	Grav	el surface	, HSG C				
*	4.	763	81	50-7	5% Grass	cover, Fair	r, HSG C-D			
	4.	4.937 82 Weighted Average								
	4.	937		100.	00% Pervi	ous Area				
	Tc	Leng	jth -	Slope	Velocity	Capacity	Description			
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	10.0	•					Direct Entry,			

Subcatchment 1B: Subcat 1B



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Summary for Subcatchment 1C: Subcat 1C

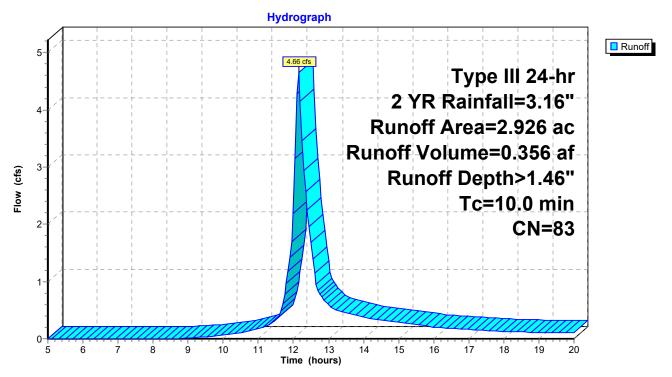
Runoff = 4.66 cfs @ 12.15 hrs, Volume= 0.356 af, Depth> 1.46"

Routed to Link DP1: DP1

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 YR Rainfall=3.16"

	Area	(ac)	CN	Desc	cription					
	0.	322	96	Grav	Gravel surface, HSG C					
*	2.	604	81	50-7	5% Grass	cover, Fair	r, HSG C-D			
	2.926 83 Weighted Average									
	2.926 100.00% Pervious Area									
	_					_				
	Tc	Leng	th S	Slope	Velocity	Capacity	Description			
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	10.0						Direct Entry,			

Subcatchment 1C: Subcat 1C



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Summary for Subcatchment 2A: Subcat 2A

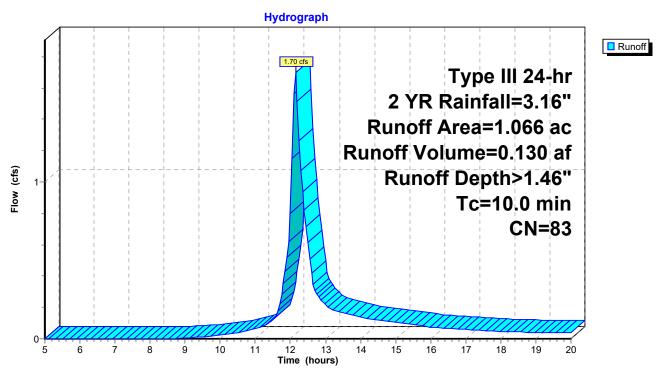
Runoff = 1.70 cfs @ 12.15 hrs, Volume= 0.130 af, Depth> 1.46"

Routed to Pond 2AP: (new Pond)

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 YR Rainfall=3.16"

_	Area	(ac)	CN	Desc	cription					
	0.	134	96	Grav	Gravel surface, HSG C					
4	0.	932	81	50-7	5% Grass	cover, Fair	r, HSG C-D			
	1.	1.066 83 Weighted Average								
	1.066 100.00% Pervious Area									
	Tc Len		th S	Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	10.0	•		•			Direct Entry,			

Subcatchment 2A: Subcat 2A



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Summary for Subcatchment 2B: Subcat 2B

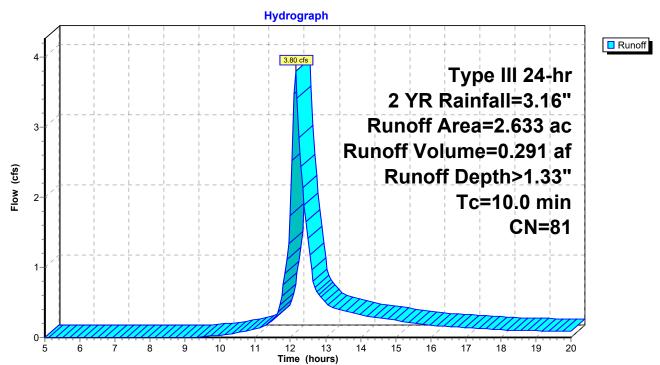
Runoff = 3.80 cfs @ 12.15 hrs, Volume= 0.291 af, Depth> 1.33"

Routed to Pond 2BP: (new Pond)

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 YR Rainfall=3.16"

	Area	(ac)	CN	Desc	cription		
*	2.	633	81 50-75% Grass cover, Fair, HSG C-D				
	2.633 100.00% Pervious Area						
	Tc	Leng		Slope	,	. ,	·
_	(min)	(fee	:t)	(ft/ft)	(ft/sec)	(cfs)	
	10.0						Direct Entry,

Subcatchment 2B: Subcat 2B



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Summary for Subcatchment 2C: Subcat 2C

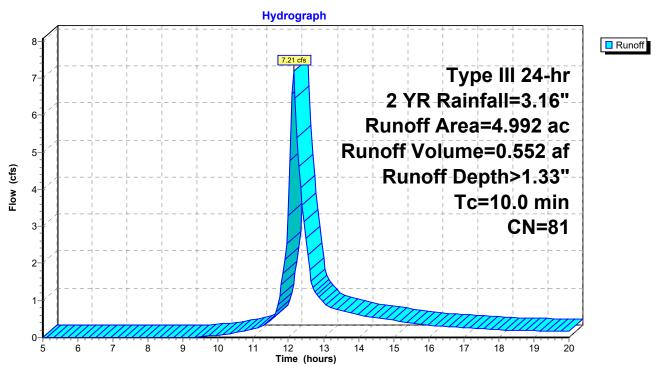
Runoff = 7.21 cfs @ 12.15 hrs, Volume= 0.552 af, Depth> 1.33"

Routed to Pond 2CP: (new Pond)

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 YR Rainfall=3.16"

	Area	(ac)	CN	Desc	cription				
*	4.	992	81	50-7	0-75% Grass cover, Fair, HSG C-D				
	4.992 100.00% Pervious Area								
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
_	10.0	(166	<i>(</i>)	(1011)	(II/SEC)	(015)	Direct Entry,		

Subcatchment 2C: Subcat 2C



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Summary for Subcatchment 2D: Subcat 2D

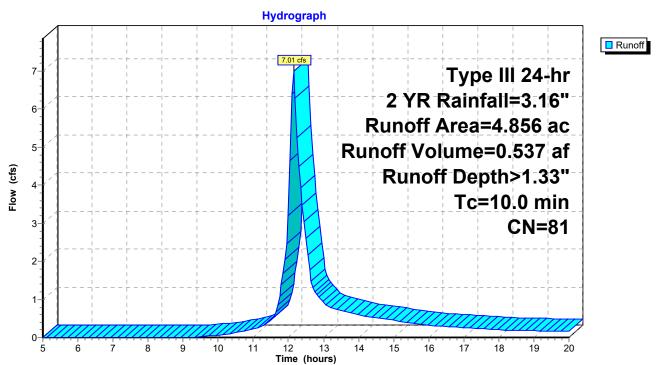
Runoff = 7.01 cfs @ 12.15 hrs, Volume= 0.537 af, Depth> 1.33"

Routed to Pond 2DP: (new Pond)

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 YR Rainfall=3.16"

	Area	(ac)	CN	Desc	cription				
*	4.	856	81	50-7	50-75% Grass cover, Fair, HSG C-D				
	4.856 100.00% Pervious Area								
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
_	10.0	(100	··/	(15/10)	(.2300)	(0.0)	Direct Entry,		

Subcatchment 2D: Subcat 2D



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Summary for Subcatchment 3A: Subcat 3A

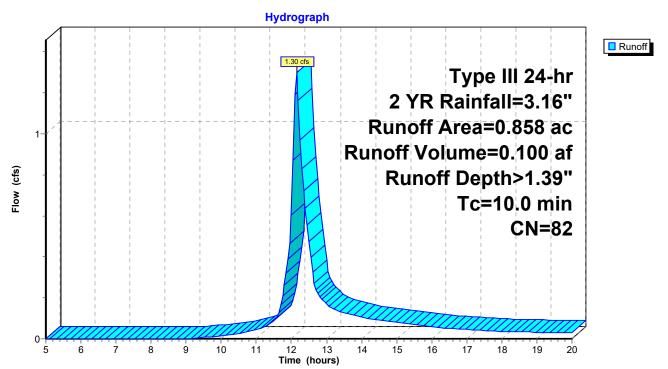
Runoff = 1.30 cfs @ 12.15 hrs, Volume= 0.100 af, Depth> 1.39"

Routed to Link DP3: DP3

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 YR Rainfall=3.16"

	Area	(ac)	CN	Desc	cription					
	0.	064	96	Grav	Gravel surface, HSG C					
*	0.	794	81	50-7	50-75% Grass cover, Fair, HSG C-D					
	0.	858	858 82 Weighted Average							
	0.	858		100.	00% Pervi	ous Area				
	Тс	Leng	jth :	Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	10.0	•					Direct Entry,			

Subcatchment 3A: Subcat 3A



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Summary for Pond 1AP: (new Pond)

Inflow Area = 4.567 ac, 0.00% Impervious, Inflow Depth > 1.39" for 2 YR event

Inflow = 6.93 cfs @ 12.15 hrs, Volume= 0.530 af

Outflow = 0.92 cfs @ 12.98 hrs, Volume= 0.231 af, Atten= 87%, Lag= 50.2 min

Primary = 0.92 cfs @ 12.98 hrs, Volume= 0.231 af

Routed to Link DP1: DP1

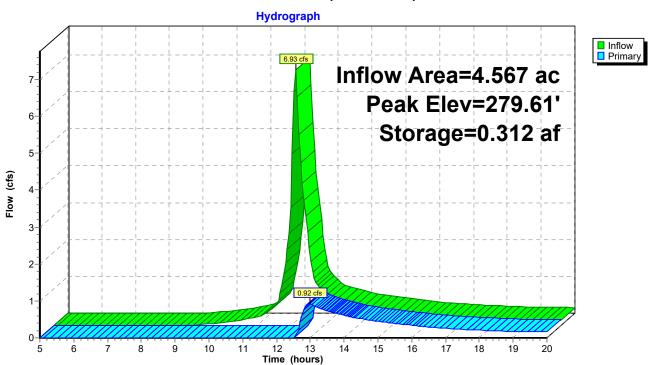
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 279.61' @ 12.98 hrs Surf.Area= 0.155 ac Storage= 0.312 af

Plug-Flow detention time= 198.3 min calculated for 0.231 af (43% of inflow) Center-of-Mass det. time= 111.4 min (913.6 - 802.2)

Volume	Invert	Avail.Storage	Storage Description
#1	277.00'	0.555 af	25.00'W x 150.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	H 2. C	O.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.91 cfs @ 12.98 hrs HW=279.61' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.91 cfs @ 0.81 fps)

Pond 1AP: (new Pond)



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Summary for Pond 1BP: (new Pond)

Inflow Area = 4.937 ac, 0.00% Impervious, Inflow Depth > 1.39" for 2 YR event

Inflow = 7.49 cfs @ 12.15 hrs, Volume= 0.573 af

Outflow = 2.83 cfs @ 12.50 hrs, Volume= 0.332 af, Atten= 62%, Lag= 20.9 min

Primary = 2.83 cfs @ 12.50 hrs, Volume= 0.332 af

Routed to Link DP1: DP1

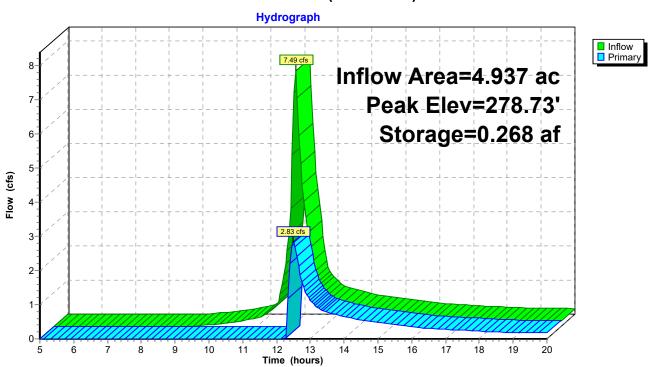
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 278.73' @ 12.50 hrs Surf.Area= 0.138 ac Storage= 0.268 af

Plug-Flow detention time= 148.2 min calculated for 0.331 af (58% of inflow) Center-of-Mass det. time= 70.7 min (872.9 - 802.2)

Volume	Invert	Avail.Storage	Storage Description
#1	276.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Ce	O.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=2.82 cfs @ 12.50 hrs HW=278.73' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 2.82 cfs @ 1.18 fps)

Pond 1BP: (new Pond)



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Summary for Pond 2AP: (new Pond)

Inflow Area = 1.066 ac, 0.00% Impervious, Inflow Depth > 1.46" for 2 YR event

Inflow = 1.70 cfs @ 12.15 hrs, Volume= 0.130 af

Outflow = 0.24 cfs @ 12.90 hrs, Volume= 0.054 af, Atten= 86%, Lag= 44.9 min

Primary = 0.24 cfs @ 12.90 hrs, Volume= 0.054 af

Routed to Link DP2: DP2

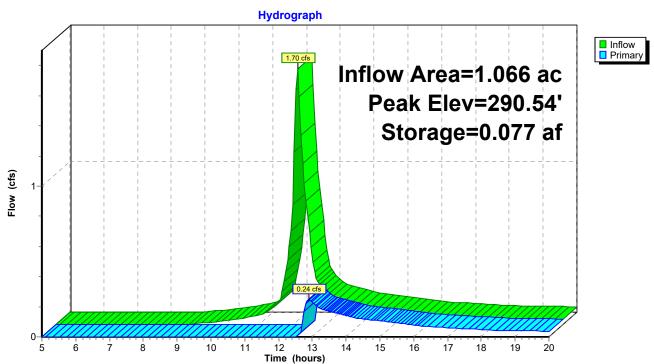
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 290.54' @ 12.90 hrs Surf.Area= 0.045 ac Storage= 0.077 af

Plug-Flow detention time= 200.9 min calculated for 0.054 af (42% of inflow) Center-of-Mass det. time= 113.2 min (912.8 - 799.6)

Volume	Invert	Avail.Storage	Storage Description
#1	288.00'	0.158 af	15.00'W x 50.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	H 2. C	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.22 cfs @ 12.90 hrs HW=290.54' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.22 cfs @ 0.51 fps)

Pond 2AP: (new Pond)



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Summary for Pond 2BP: (new Pond)

Inflow Area = 2.633 ac, 0.00% Impervious, Inflow Depth > 1.33" for 2 YR event

Inflow = 3.80 cfs @ 12.15 hrs, Volume= 0.291 af

Outflow = 1.02 cfs @ 12.60 hrs, Volume= 0.150 af, Atten= 73%, Lag= 26.9 min

Primary = 1.02 cfs @ 12.60 hrs, Volume= 0.150 af

Routed to Link DP2: DP2

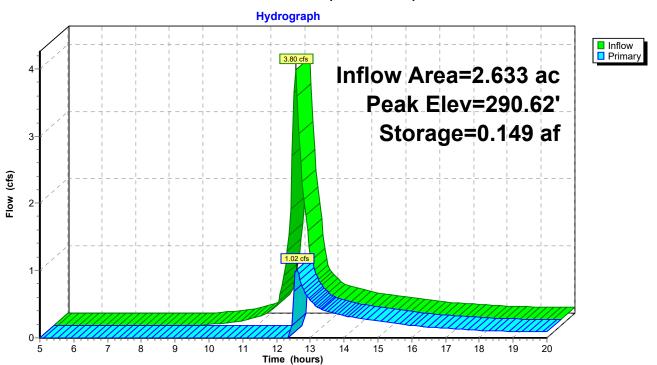
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 290.62' @ 12.60 hrs Surf.Area= 0.082 ac Storage= 0.149 af

Plug-Flow detention time= 167.2 min calculated for 0.149 af (51% of inflow) Center-of-Mass det. time= 85.1 min (889.9 - 804.8)

Volume	Invert	Avail.Storage	Storage Description
#1	288.00'	0.282 af	15.00'W x 100.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	H 2. C	O.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=1.00 cfs @ 12.60 hrs HW=290.62' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 1.00 cfs @ 0.83 fps)

Pond 2BP: (new Pond)



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Summary for Pond 2CP: (new Pond)

Inflow Area = 4.992 ac, 0.00% Impervious, Inflow Depth > 1.33" for 2 YR event

Inflow = 7.21 cfs @ 12.15 hrs, Volume= 0.552 af

Outflow = 2.40 cfs @ 12.53 hrs, Volume= 0.311 af, Atten= 67%, Lag= 23.2 min

Primary = 2.40 cfs @ 12.53 hrs, Volume= 0.311 af

Routed to Link DP2: DP2

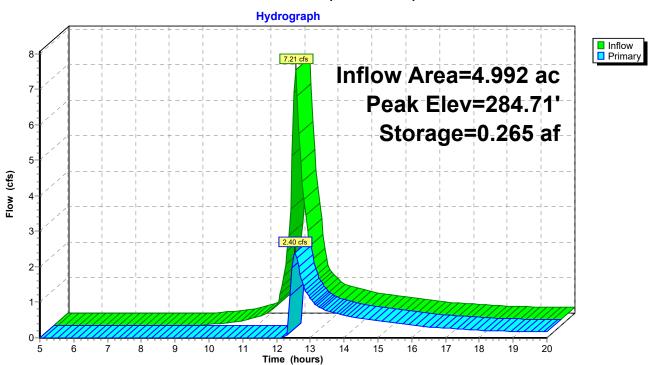
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 284.71' @ 12.53 hrs Surf.Area= 0.137 ac Storage= 0.265 af

Plug-Flow detention time= 154.8 min calculated for 0.311 af (56% of inflow) Center-of-Mass det. time= 74.6 min (879.4 - 804.8)

Volume	Invert	Avail.Storage	Storage Description
#1	282.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Ce	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=2.37 cfs @ 12.53 hrs HW=284.71' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 2.37 cfs @ 1.11 fps)

Pond 2CP: (new Pond)



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Summary for Pond 2DP: (new Pond)

Inflow Area = 4.856 ac, 0.00% Impervious, Inflow Depth > 1.33" for 2 YR event

Inflow = 7.01 cfs @ 12.15 hrs, Volume= 0.537 af

Outflow = 2.18 cfs @ 12.56 hrs, Volume= 0.296 af, Atten= 69%, Lag= 24.5 min

Primary = 2.18 cfs @ 12.56 hrs, Volume= 0.296 af

Routed to Link DP2: DP2

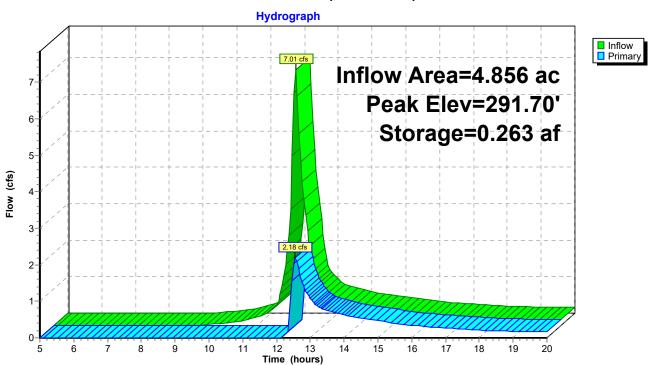
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 291.70' @ 12.56 hrs Surf.Area= 0.137 ac Storage= 0.263 af

Plug-Flow detention time= 157.5 min calculated for 0.295 af (55% of inflow) Center-of-Mass det. time= 77.6 min (882.4 - 804.8)

Volume	Invert	Avail.Storage	Storage Description
#1	289.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Co	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=2.15 cfs @ 12.56 hrs HW=291.70' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 2.15 cfs @ 1.07 fps)

Pond 2DP: (new Pond)



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Summary for Link DP1: DP1

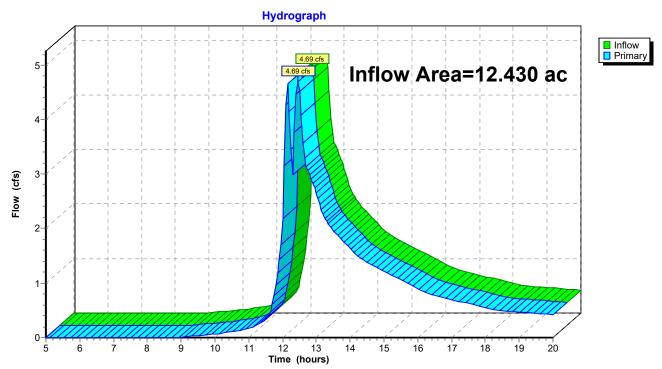
Inflow Area = 12.430 ac, 0.00% Impervious, Inflow Depth > 0.89" for 2 YR event

Inflow = 4.69 cfs @ 12.45 hrs, Volume= 0.919 af

Primary = 4.69 cfs @ 12.45 hrs, Volume= 0.919 af, Atten= 0%, Lag= 0.0 min

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

Link DP1: DP1



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Summary for Link DP2: DP2

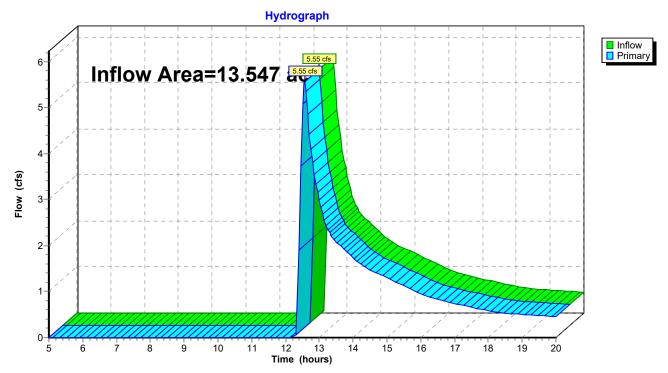
Inflow Area = 13.547 ac, 0.00% Impervious, Inflow Depth > 0.72" for 2 YR event

Inflow = 5.55 cfs @ 12.56 hrs, Volume= 0.811 af

Primary = 5.55 cfs @ 12.56 hrs, Volume= 0.811 af, Atten= 0%, Lag= 0.0 min

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

Link DP2: DP2



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Summary for Link DP3: DP3

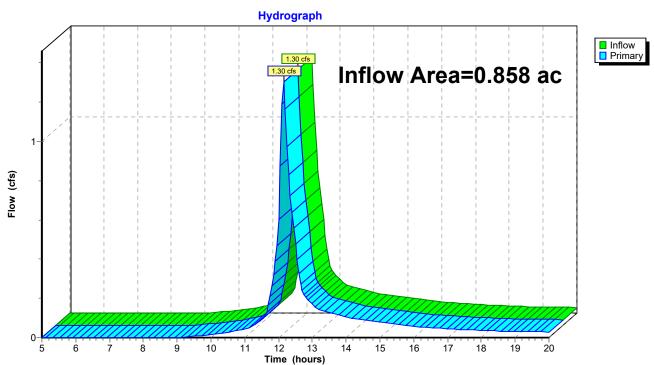
Inflow Area = 0.858 ac, 0.00% Impervious, Inflow Depth > 1.39" for 2 YR event

Inflow = 1.30 cfs @ 12.15 hrs, Volume= 0.100 af

Primary = 1.30 cfs @ 12.15 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min

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

Link DP3: DP3



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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

reason reasong by each married	mio momou i chia realimg by elek ma memea
Subcatchment1A: Subcat1A	Runoff Area=4.567 ac 0.00% Impervious Runoff Depth>3.87" Tc=10.0 min CN=82 Runoff=18.90 cfs 1.474 af
Subcatchment1B: Subcat1B	Runoff Area=4.937 ac 0.00% Impervious Runoff Depth>3.87" Tc=10.0 min CN=82 Runoff=20.43 cfs 1.593 af
Subcatchment1C: Subcat1C	Runoff Area=2.926 ac 0.00% Impervious Runoff Depth>3.98" Tc=10.0 min CN=83 Runoff=12.38 cfs 0.969 af
Subcatchment2A: Subcat 2A	Runoff Area=1.066 ac 0.00% Impervious Runoff Depth>3.98" Tc=10.0 min CN=83 Runoff=4.51 cfs 0.353 af
Subcatchment2B: Subcat 2B	Runoff Area=2.633 ac 0.00% Impervious Runoff Depth>3.77" Tc=10.0 min CN=81 Runoff=10.65 cfs 0.827 af
Subcatchment2C: Subcat 2C	Runoff Area=4.992 ac 0.00% Impervious Runoff Depth>3.77" Tc=10.0 min CN=81 Runoff=20.18 cfs 1.568 af
Subcatchment2D: Subcat 2D	Runoff Area=4.856 ac 0.00% Impervious Runoff Depth>3.77" Tc=10.0 min CN=81 Runoff=19.63 cfs 1.526 af
Subcatchment3A: Subcat3A	Runoff Area=0.858 ac 0.00% Impervious Runoff Depth>3.87" Tc=10.0 min CN=82 Runoff=3.55 cfs 0.277 af
Pond 1AP: (new Pond)	Peak Elev=280.21' Storage=0.410 af Inflow=18.90 cfs 1.474 af Outflow=17.01 cfs 1.170 af
Pond 1BP: (new Pond)	Peak Elev=279.26' Storage=0.345 af Inflow=20.43 cfs 1.593 af Outflow=18.83 cfs 1.348 af
Pond 2AP: (new Pond)	Peak Elev=290.81' Storage=0.090 af Inflow=4.51 cfs 0.353 af Outflow=4.39 cfs 0.277 af
Pond 2BP: (new Pond)	Peak Elev=291.01' Storage=0.183 af Inflow=10.65 cfs 0.827 af Outflow=10.12 cfs 0.684 af
Pond 2CP: (new Pond)	Peak Elev=285.25' Storage=0.344 af Inflow=20.18 cfs 1.568 af Outflow=18.59 cfs 1.323 af
Pond 2DP: (new Pond)	Peak Elev=292.24' Storage=0.342 af Inflow=19.63 cfs 1.526 af Outflow=18.07 cfs 1.281 af
Link DP1: DP1	Inflow=47.12 cfs 3.488 af Primary=47.12 cfs 3.488 af
Link DP2: DP2	Inflow=51.03 cfs 3.566 af Primary=51.03 cfs 3.566 af

Type III 24-hr 25 YR Rainfall=6.15"

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Link DP3: DP3Inflow=3.55 cfs 0.277 af
Primary=3.55 cfs 0.277 af

Total Runoff Area = 26.835 ac Runoff Volume = 8.588 af Average Runoff Depth = 3.84" 100.00% Pervious = 26.835 ac 0.00% Impervious = 0.000 ac

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Summary for Subcatchment 1A: Subcat 1A

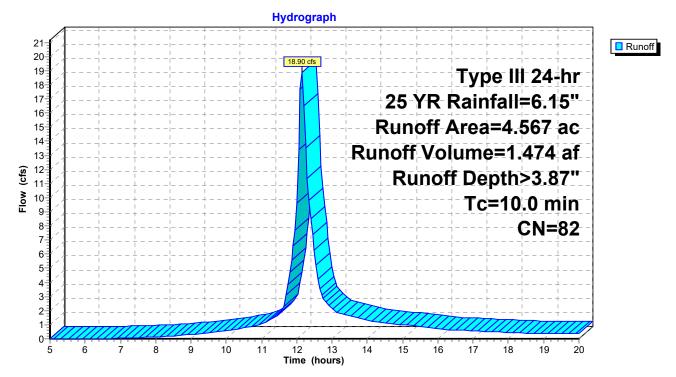
Runoff = 18.90 cfs @ 12.14 hrs, Volume= 1.474 af, Depth> 3.87"

Routed to Pond 1AP: (new Pond)

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 YR Rainfall=6.15"

	Area	(ac)	CN	Desc	ription					
	0.	257	96	Grav	Gravel surface, HSG C					
*	4.	310	81	50-7	50-75% Grass cover, Fair, HSG C-D					
	4.	567 82 Weighted Average								
	4.567 100.00% Pervious Area									
	Tc	Leng	jth :	Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	10.0						Direct Entry,			

Subcatchment 1A: Subcat 1A



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Summary for Subcatchment 1B: Subcat 1B

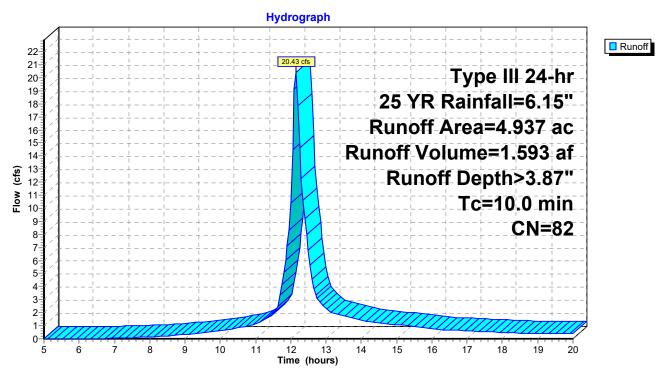
Runoff = 20.43 cfs @ 12.14 hrs, Volume= 1.593 af, Depth> 3.87"

Routed to Pond 1BP: (new Pond)

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 YR Rainfall=6.15"

_	Area (ac) CN Description							
	0.174 96 Gravel surface, HSG C							
*	4.	763	763 81 50-75% Grass cover, Fair, HSG C-D					
	4.	4.937 82 Weighted Average						
	4.	937		100.	00% Pervi	ous Area		
	Тс	Tc Leng		Slope	e Velocity	Capacity	Description	
_	(min)	(fe	et)	(ft/ft)	(ft/sec)	(cfs)		
	10.0						Direct Entry,	

Subcatchment 1B: Subcat 1B



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Summary for Subcatchment 1C: Subcat 1C

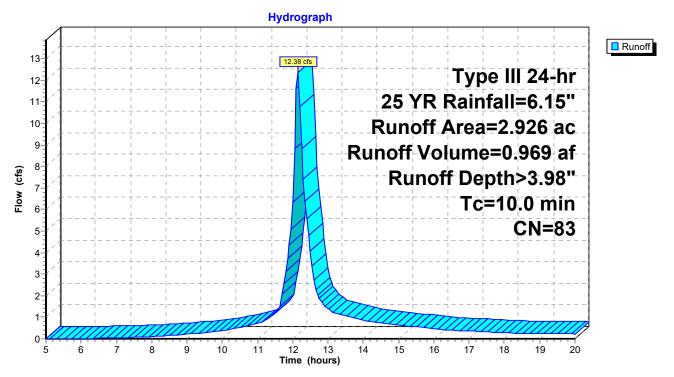
Runoff = 12.38 cfs @ 12.14 hrs, Volume= 0.969 af, Depth> 3.98"

Routed to Link DP1: DP1

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 YR Rainfall=6.15"

_	Area	(ac)	CN	Desc	Description						
	0.	322	22 96 Gravel surface, HSG C								
*	2.	604	81	50-7	50-75% Grass cover, Fair, HSG C-D						
	2.	926 83 Weighted Average									
	2.	926		100.	00% Pervi	ous Area					
	Tc	Leng	th S	Slope	Velocity	Capacity	Description				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	10.0	•	•	•			Direct Entry,				

Subcatchment 1C: Subcat 1C



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Summary for Subcatchment 2A: Subcat 2A

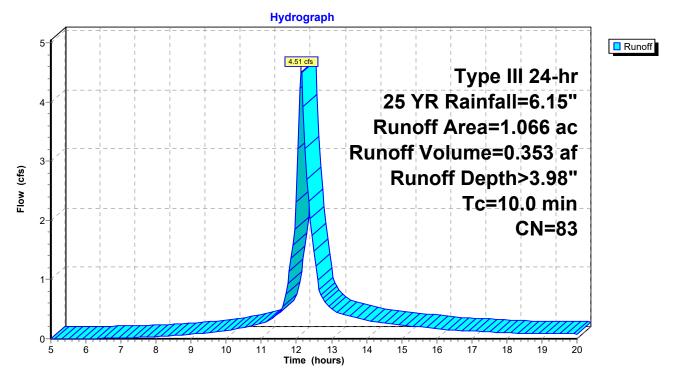
Runoff = 4.51 cfs @ 12.14 hrs, Volume= 0.353 af, Depth> 3.98"

Routed to Pond 2AP: (new Pond)

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 YR Rainfall=6.15"

_	Area	(ac)	CN	Desc	Description						
	0.	134 96 Gravel surface, HSG C									
4	0.	932	81	50-7	50-75% Grass cover, Fair, HSG C-D						
	1.	066	066 83 Weighted Average								
	1.066 100.00% Pervious Area										
	Тс	Leng	th S	Slope	Velocity	Capacity	Description				
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	10.0	•		•			Direct Entry,				

Subcatchment 2A: Subcat 2A



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Summary for Subcatchment 2B: Subcat 2B

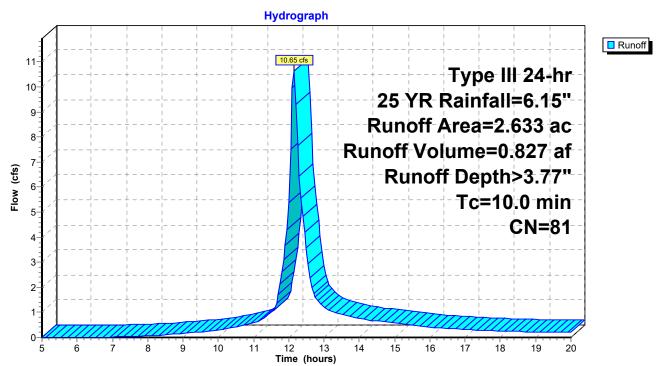
Runoff = 10.65 cfs @ 12.14 hrs, Volume= 0.827 af, Depth> 3.77"

Routed to Pond 2BP: (new Pond)

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 YR Rainfall=6.15"

	Area	(ac)	CN	Desc	cription			
*	2.	633	81	50-75% Grass cover, Fair, HSG C-D				
	2.633 100.00% Pervious Area							
	Tc	Leng		Slope	,	. ,	·	
_	(min)	(fee	:t)	(ft/ft)	(ft/sec)	(cfs)		
	10.0						Direct Entry,	

Subcatchment 2B: Subcat 2B



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Summary for Subcatchment 2C: Subcat 2C

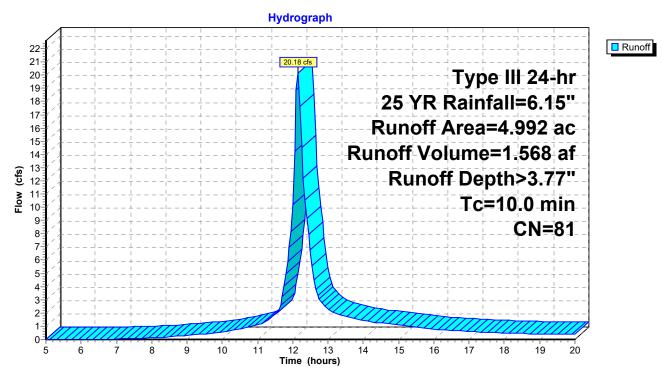
Runoff = 20.18 cfs @ 12.14 hrs, Volume= 1.568 af, Depth> 3.77"

Routed to Pond 2CP: (new Pond)

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 YR Rainfall=6.15"

	Area	(ac)	CN	Desc	cription				
*	4.	992	81	50-7	0-75% Grass cover, Fair, HSG C-D				
	4.992 100.00% Pervious Area								
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
_	10.0	(166	<i>5</i> L)	(1011)	(II/SEC)	(015)	Direct Entry,		

Subcatchment 2C: Subcat 2C



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Summary for Subcatchment 2D: Subcat 2D

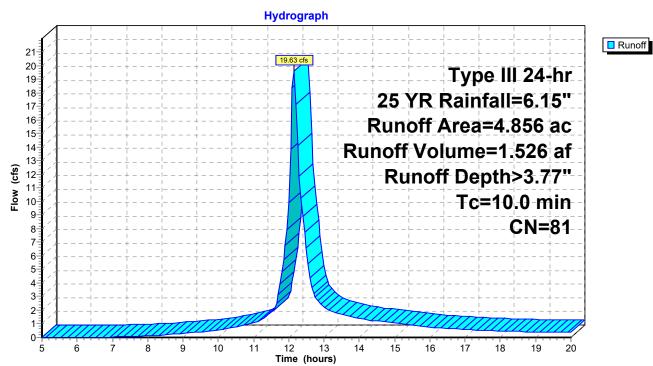
Runoff = 19.63 cfs @ 12.14 hrs, Volume= 1.526 af, Depth> 3.77"

Routed to Pond 2DP: (new Pond)

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 YR Rainfall=6.15"

_	Area	(ac)	CN	Desc	cription					
*	4.	856	81	50-7	60-75% Grass cover, Fair, HSG C-D					
	4.856 100.00% Pervious Area									
	Тс	Leng	th	Slope	,	Capacity	Description			
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	10.0						Direct Entry,			

Subcatchment 2D: Subcat 2D



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Summary for Subcatchment 3A: Subcat 3A

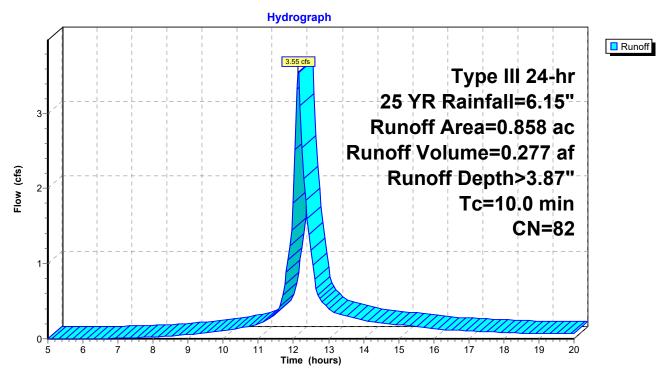
Runoff = 3.55 cfs @ 12.14 hrs, Volume= 0.277 af, Depth> 3.87"

Routed to Link DP3: DP3

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 YR Rainfall=6.15"

_	Area	(ac)	CN	Desc	Description						
_	0.	.064	96	96 Gravel surface, HSG C							
,	0.	794	81	50-7	50-75% Grass cover, Fair, HSG C-D						
_	0.	0.858 82 Weighted Average									
	0.858 100.00% Pervious Area										
	Tc	Leng	ıth	Slope	Velocity	Capacity	Description				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
_	10.0						Direct Entry,				

Subcatchment 3A: Subcat 3A



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Summary for Pond 1AP: (new Pond)

Inflow Area = 4.567 ac, 0.00% Impervious, Inflow Depth > 3.87" for 25 YR event

Inflow = 18.90 cfs @ 12.14 hrs, Volume= 1.474 af

Outflow = 17.01 cfs @ 12.20 hrs, Volume= 1.170 af, Atten= 10%, Lag= 3.4 min

Primary = 17.01 cfs @ 12.20 hrs, Volume= 1.170 af

Routed to Link DP1: DP1

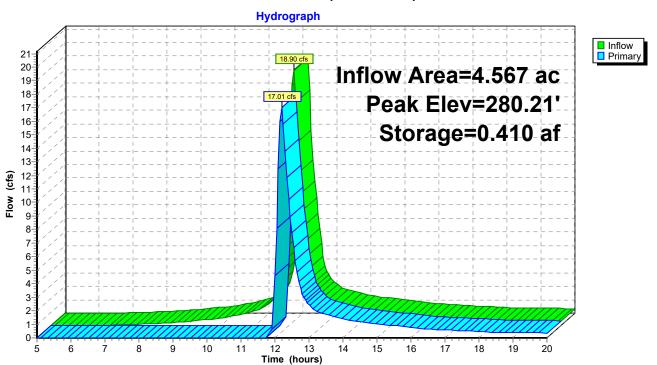
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 280.21' @ 12.20 hrs Surf.Area= 0.172 ac Storage= 0.410 af

Plug-Flow detention time= 91.8 min calculated for 1.170 af (79% of inflow) Center-of-Mass det. time= 38.6 min (817.3 - 778.7)

Volume	Invert	Avail.Storage	Storage Description
#1	277.00'	0.555 af	25.00'W x 150.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Co	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=16.96 cfs @ 12.20 hrs HW=280.21' (Free Discharge) 1=Broad-Crested Rectangular Weir (Weir Controls 16.96 cfs @ 2.24 fps)

Pond 1AP: (new Pond)



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Summary for Pond 1BP: (new Pond)

Inflow Area = 4.937 ac, 0.00% Impervious, Inflow Depth > 3.87" for 25 YR event

Inflow = 20.43 cfs @ 12.14 hrs, Volume= 1.593 af

Outflow = 18.83 cfs @ 12.19 hrs, Volume= 1.348 af, Atten= 8%, Lag= 2.9 min

Primary = 18.83 cfs @ 12.19 hrs, Volume= 1.348 af

Routed to Link DP1: DP1

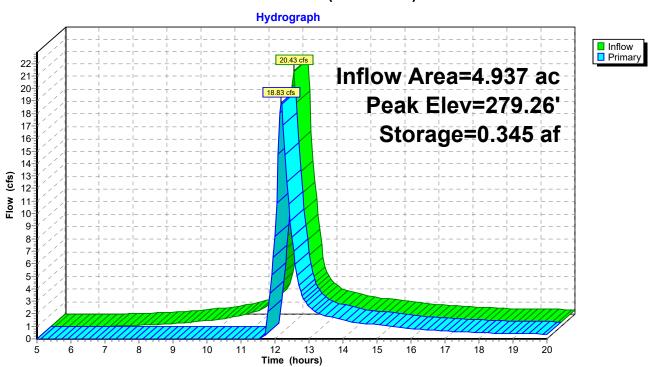
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 279.26' @ 12.19 hrs Surf.Area= 0.154 ac Storage= 0.345 af

Plug-Flow detention time= 74.7 min calculated for 1.344 af (84% of inflow) Center-of-Mass det. time= 31.5 min (810.1 - 778.7)

Volume	Invert	Avail.Storage	Storage Description
#1	276.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2.9 Co	.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=18.62 cfs @ 12.19 hrs HW=279.25' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 18.62 cfs @ 2.30 fps)

Pond 1BP: (new Pond)



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Summary for Pond 2AP: (new Pond)

Inflow Area = 1.066 ac, 0.00% Impervious, Inflow Depth > 3.98" for 25 YR event

Inflow = 4.51 cfs @ 12.14 hrs, Volume= 0.353 af

Outflow = 4.39 cfs @ 12.17 hrs, Volume= 0.277 af, Atten= 3%, Lag= 1.6 min

Primary = 4.39 cfs @ 12.17 hrs, Volume= 0.277 af

Routed to Link DP2: DP2

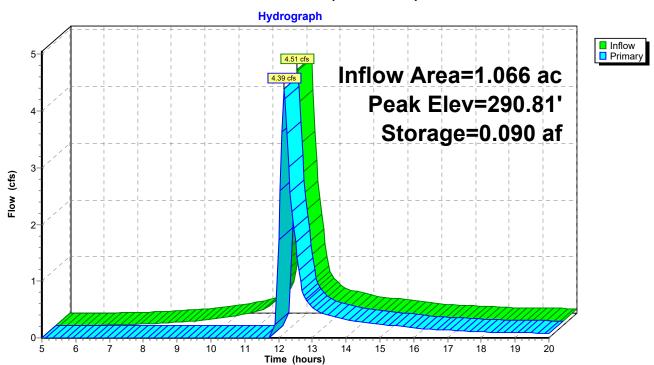
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 290.81' @ 12.17 hrs Surf.Area= 0.049 ac Storage= 0.090 af

Plug-Flow detention time= 91.6 min calculated for 0.276 af (78% of inflow) Center-of-Mass det. time= 37.8 min (814.2 - 776.4)

Volume	Invert	Avail.Storage	Storage Description
#1	288.00'	0.158 af	15.00'W x 50.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Ce	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=4.29 cfs @ 12.17 hrs HW=290.80' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 4.29 cfs @ 1.37 fps)

Pond 2AP: (new Pond)



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Summary for Pond 2BP: (new Pond)

Inflow Area = 2.633 ac, 0.00% Impervious, Inflow Depth > 3.77" for 25 YR event

Inflow = 10.65 cfs @ 12.14 hrs, Volume= 0.827 af

Outflow = 10.12 cfs @ 12.18 hrs, Volume= 0.684 af, Atten= 5%, Lag= 2.0 min

Primary = 10.12 cfs @ 12.18 hrs, Volume= 0.684 af

Routed to Link DP2: DP2

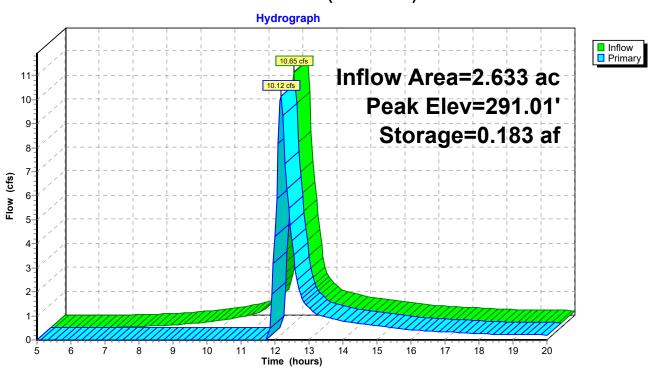
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 291.01' @ 12.18 hrs Surf.Area= 0.090 ac Storage= 0.183 af

Plug-Flow detention time= 78.7 min calculated for 0.682 af (82% of inflow) Center-of-Mass det. time= 31.9 min (812.8 - 780.9)

Volume	Invert	Avail.Storage	Storage Description
#1	288.00'	0.282 af	15.00'W x 100.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	H 2. C	O.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=9.96 cfs @ 12.18 hrs HW=291.01' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 9.96 cfs @ 1.86 fps)

Pond 2BP: (new Pond)



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Summary for Pond 2CP: (new Pond)

Inflow Area = 4.992 ac, 0.00% Impervious, Inflow Depth > 3.77" for 25 YR event

Inflow = 20.18 cfs @ 12.14 hrs, Volume= 1.568 af

Outflow = 18.59 cfs @ 12.19 hrs, Volume= 1.323 af, Atten= 8%, Lag= 2.9 min

Primary = 18.59 cfs @ 12.19 hrs, Volume= 1.323 af

Routed to Link DP2 : DP2

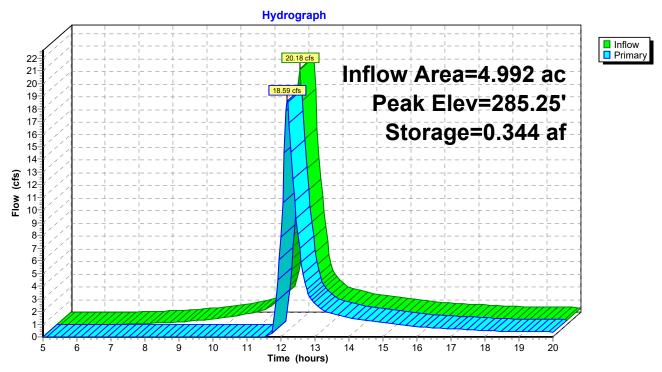
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 285.25' @ 12.19 hrs Surf.Area= 0.154 ac Storage= 0.344 af

Plug-Flow detention time= 74.7 min calculated for 1.319 af (84% of inflow) Center-of-Mass det. time= 31.0 min (811.9 - 780.9)

Volume	Invert	Avail.Storage	Storage Description
#1	282.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert Ou	utlet Devices
#1	Primary	He 2.5 Cc	.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=18.40 cfs @ 12.19 hrs HW=285.25' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 18.40 cfs @ 2.29 fps)

Pond 2CP: (new Pond)



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Summary for Pond 2DP: (new Pond)

Inflow Area = 4.856 ac, 0.00% Impervious, Inflow Depth > 3.77" for 25 YR event

Inflow = 19.63 cfs @ 12.14 hrs, Volume= 1.526 af

Outflow = 18.07 cfs @ 12.19 hrs, Volume= 1.281 af, Atten= 8%, Lag= 2.9 min

Primary = 18.07 cfs @ 12.19 hrs, Volume= 1.281 af

Routed to Link DP2: DP2

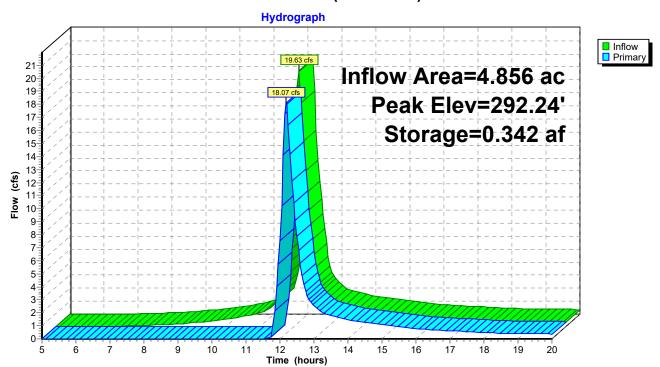
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 292.24' @ 12.19 hrs Surf.Area= 0.154 ac Storage= 0.342 af

Plug-Flow detention time= 76.8 min calculated for 1.281 af (84% of inflow) Center-of-Mass det. time= 31.5 min (812.4 - 780.9)

Volume	Invert	Avail.Storage	Storage Description
#1	289.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert Ou	utlet Devices
#1	Primary	He 2.5 Co	.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=17.88 cfs @ 12.19 hrs HW=292.23' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 17.88 cfs @ 2.27 fps)

Pond 2DP: (new Pond)



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Summary for Link DP1: DP1

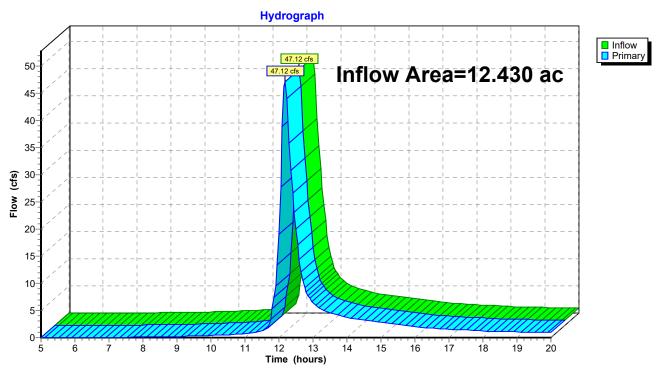
Inflow Area = 12.430 ac, 0.00% Impervious, Inflow Depth > 3.37" for 25 YR event

Inflow = 47.12 cfs @ 12.18 hrs, Volume= 3.488 af

Primary = 47.12 cfs @ 12.18 hrs, Volume= 3.488 af, Atten= 0%, Lag= 0.0 min

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

Link DP1: DP1



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Summary for Link DP2: DP2

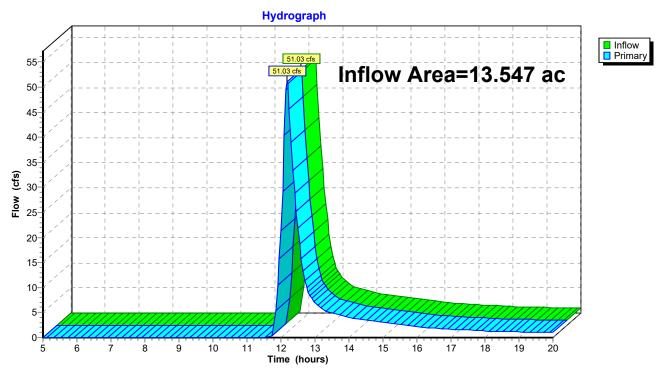
Inflow Area = 13.547 ac, 0.00% Impervious, Inflow Depth > 3.16" for 25 YR event

Inflow = 51.03 cfs @ 12.19 hrs, Volume= 3.566 af

Primary = 51.03 cfs @ 12.19 hrs, Volume= 3.566 af, Atten= 0%, Lag= 0.0 min

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

Link DP2: DP2



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Summary for Link DP3: DP3

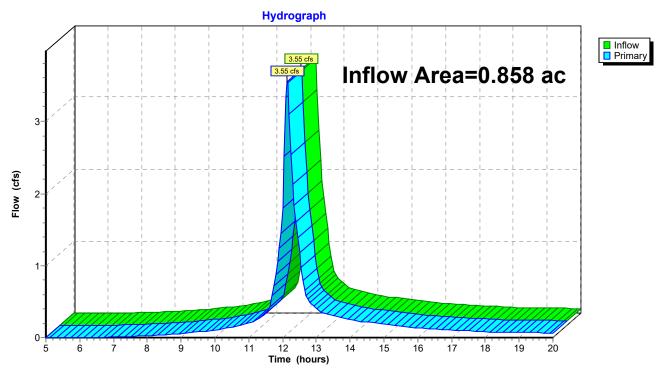
Inflow Area = 0.858 ac, 0.00% Impervious, Inflow Depth > 3.87" for 25 YR event

Inflow = 3.55 cfs @ 12.14 hrs, Volume= 0.277 af

Primary = 3.55 cfs @ 12.14 hrs, Volume= 0.277 af, Atten= 0%, Lag= 0.0 min

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

Link DP3: DP3



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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: Subcat1A	Runoff Area=4.567 ac 0.00% Impervious Runoff Depth>4.61" Tc=10.0 min CN=82 Runoff=22.35 cfs 1.756 af
Subcatchment1B: Subcat1B	Runoff Area=4.937 ac 0.00% Impervious Runoff Depth>4.61" Tc=10.0 min CN=82 Runoff=24.16 cfs 1.899 af
Subcatchment1C: Subcat1C	Runoff Area=2.926 ac 0.00% Impervious Runoff Depth>4.72" Tc=10.0 min CN=83 Runoff=14.59 cfs 1.152 af
Subcatchment2A: Subcat2A	Runoff Area=1.066 ac 0.00% Impervious Runoff Depth>4.72" Tc=10.0 min CN=83 Runoff=5.32 cfs 0.420 af
Subcatchment2B: Subcat2B	Runoff Area=2.633 ac 0.00% Impervious Runoff Depth>4.51" Tc=10.0 min CN=81 Runoff=12.63 cfs 0.989 af
Subcatchment2C: Subcat 2C	Runoff Area=4.992 ac 0.00% Impervious Runoff Depth>4.51" Tc=10.0 min CN=81 Runoff=23.95 cfs 1.874 af
Subcatchment2D: Subcat 2D	Runoff Area=4.856 ac 0.00% Impervious Runoff Depth>4.51" Tc=10.0 min CN=81 Runoff=23.29 cfs 1.823 af
Subcatchment3A: Subcat3A	Runoff Area=0.858 ac 0.00% Impervious Runoff Depth>4.61" Tc=10.0 min CN=82 Runoff=4.20 cfs 0.330 af
Pond 1AP: (new Pond)	Peak Elev=280.30' Storage=0.425 af Inflow=22.35 cfs 1.756 af Outflow=20.36 cfs 1.452 af
Pond 1BP: (new Pond)	Peak Elev=279.35' Storage=0.359 af Inflow=24.16 cfs 1.899 af Outflow=22.36 cfs 1.653 af
Pond 2AP: (new Pond)	Peak Elev=290.84' Storage=0.091 af Inflow=5.32 cfs 0.420 af Outflow=5.19 cfs 0.343 af
Pond 2BP: (new Pond)	Peak Elev=291.07' Storage=0.189 af Inflow=12.63 cfs 0.989 af Outflow=12.17 cfs 0.845 af
Pond 2CP: (new Pond)	Peak Elev=285.34' Storage=0.358 af Inflow=23.95 cfs 1.874 af Outflow=22.16 cfs 1.629 af
Pond 2DP: (new Pond)	Peak Elev=292.33' Storage=0.355 af Inflow=23.29 cfs 1.823 af Outflow=21.54 cfs 1.578 af
Link DP1: DP1	Inflow=56.47 cfs 4.256 af Primary=56.47 cfs 4.256 af
Link DP2: DP2	Inflow=60.79 cfs 4.395 af Primary=60.79 cfs 4.395 af

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Type III 24-hr 50 YR Rainfall=6.99"

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Link DP3: DP3Inflow=4.20 cfs 0.330 af

Primary=4.20 cfs 0.330 af

Total Runoff Area = 26.835 ac Runoff Volume = 10.243 af Average Runoff Depth = 4.58" 100.00% Pervious = 26.835 ac 0.00% Impervious = 0.000 ac

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Summary for Subcatchment 1A: Subcat 1A

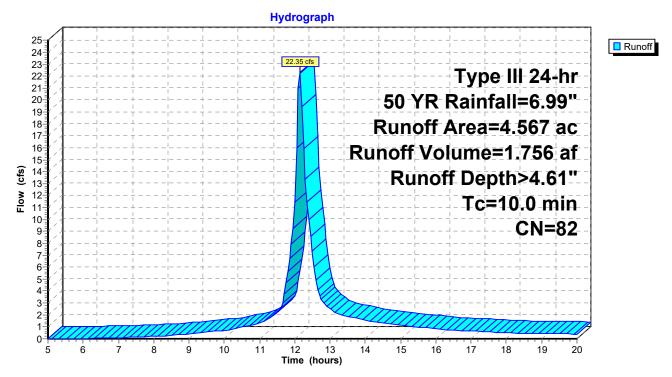
Runoff = 22.35 cfs @ 12.14 hrs, Volume= 1.756 af, Depth> 4.61"

Routed to Pond 1AP: (new Pond)

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 YR Rainfall=6.99"

	Area	(ac)	CN	Desc	cription		
	0.	257	96	Grav	el surface	, HSG C	
*	4.	310	81	50-7	5% Grass	cover, Fair	r, HSG C-D
	4.	567	82	Weig	ghted Aver	age	
	4.	567		100.	00% Pervi	ous Area	
	_						
	Tc	Leng	ıth ·	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	10.0						Direct Entry,

Subcatchment 1A: Subcat 1A



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Summary for Subcatchment 1B: Subcat 1B

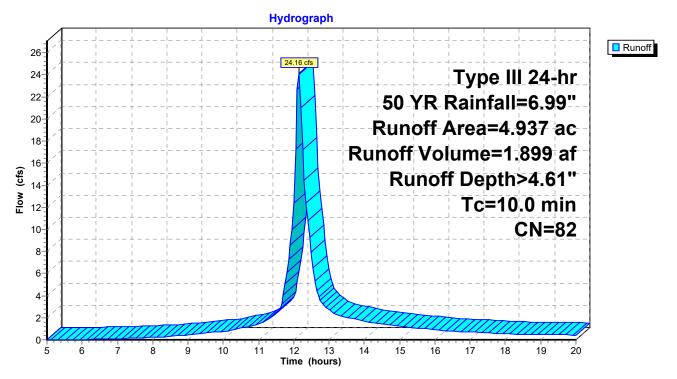
Runoff = 24.16 cfs @ 12.14 hrs, Volume= 1.899 af, Depth> 4.61"

Routed to Pond 1BP: (new Pond)

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 YR Rainfall=6.99"

_	Area	(ac)	CN	Desc	cription		
	0.	174	96	Grav	el surface	, HSG C	
*	4.	763	81	50-7	5% Grass	cover, Fair	r, HSG C-D
	4.	.937	937 82 Weighted Average				
	4.	1.937 100.00% Pervious Area				ous Area	
	Tc (min)	Leng (fee	•	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	10.0				, ,	, ,	Direct Entry,

Subcatchment 1B: Subcat 1B



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Summary for Subcatchment 1C: Subcat 1C

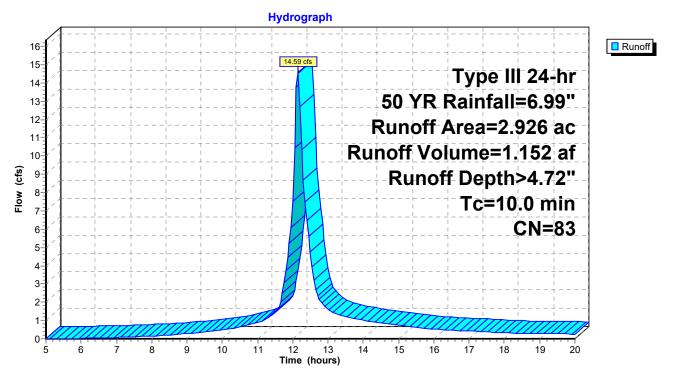
Runoff = 14.59 cfs @ 12.14 hrs, Volume= 1.152 af, Depth> 4.72"

Routed to Link DP1: DP1

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 YR Rainfall=6.99"

_	Area	(ac)	CN	Desc	cription		
	0.	322	96	Grav	el surface	, HSG C	
*	2.	604	81	50-7	5% Grass	cover, Fair	r, HSG C-D
	2.	926	926 83 Weighted Average				
	2.	2.926 100.00% Pervious Area				ous Area	
	Tc	Leng	th S	Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	10.0	•	•	•			Direct Entry,

Subcatchment 1C: Subcat 1C



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Summary for Subcatchment 2A: Subcat 2A

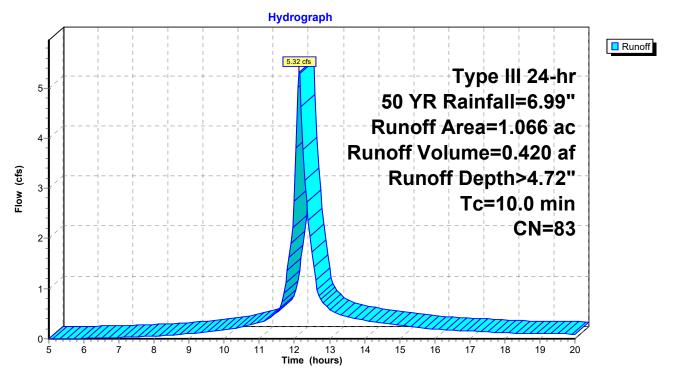
Runoff = 5.32 cfs @ 12.14 hrs, Volume= 0.420 af, Depth> 4.72"

Routed to Pond 2AP: (new Pond)

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 YR Rainfall=6.99"

	Area	(ac)	CN	Desc	cription		
	0.	134	96	Grav	el surface	, HSG C	
*	0.	932	81	50-7	5% Grass	cover, Fair	r, HSG C-D
	1.	1.066 83 Weighted Average					
	1.	1.066 100.00% Pervious Area				ous Area	
	_			01			B
	Tc	Leng	jth	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	10.0						Direct Entry,

Subcatchment 2A: Subcat 2A



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Summary for Subcatchment 2B: Subcat 2B

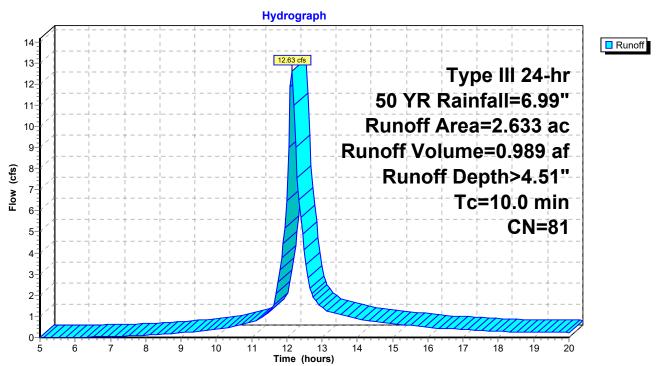
Runoff = 12.63 cfs @ 12.14 hrs, Volume= 0.989 af, Depth> 4.51"

Routed to Pond 2BP: (new Pond)

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 YR Rainfall=6.99"

_	Area	(ac)	CN	Desc	cription		
*	2.	633	81	50-7	5% Grass	cover, Fair	r, HSG C-D
	2.	2.633 100.00% Pervious Area					
	Тс	Leng	th	Slope	,	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	10.0						Direct Entry,

Subcatchment 2B: Subcat 2B



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Summary for Subcatchment 2C: Subcat 2C

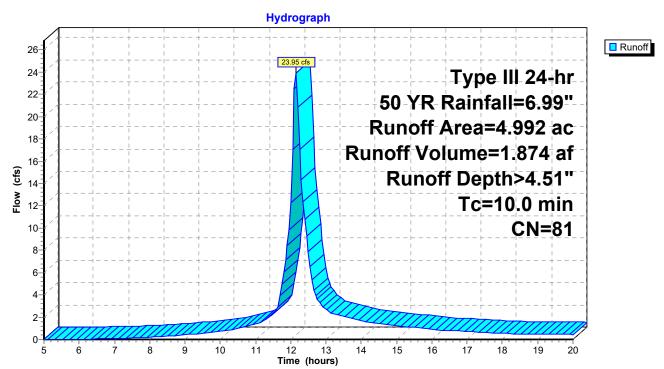
Runoff = 23.95 cfs @ 12.14 hrs, Volume= 1.874 af, Depth> 4.51"

Routed to Pond 2CP: (new Pond)

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 YR Rainfall=6.99"

	Area	(ac)	CN	Desc	cription		
*	4.	992	81	50-7	5% Grass	cover, Fair	r, HSG C-D
	4.	992		100.	00% Pervi	ous Area	
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	10.0	,		, ,	,	, ,	Direct Entry,

Subcatchment 2C: Subcat 2C



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Summary for Subcatchment 2D: Subcat 2D

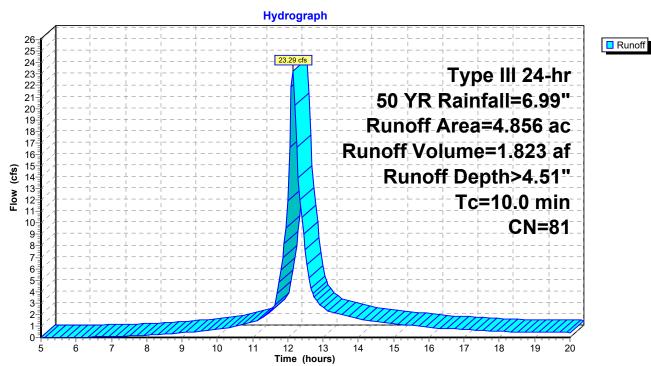
Runoff = 23.29 cfs @ 12.14 hrs, Volume= 1.823 af, Depth> 4.51"

Routed to Pond 2DP: (new Pond)

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 YR Rainfall=6.99"

_	Area	(ac)	CN	Desc	cription		
*	4.	856	81	50-7	5% Grass	cover, Fair	r, HSG C-D
	4.	856		100.	00% Pervi	ous Area	
	Тс	Leng	th	Slope	,	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	10.0						Direct Entry,

Subcatchment 2D: Subcat 2D



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Summary for Subcatchment 3A: Subcat 3A

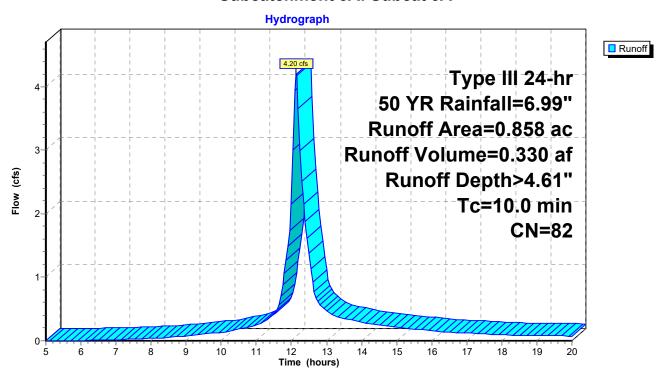
Runoff = 4.20 cfs @ 12.14 hrs, Volume= 0.330 af, Depth> 4.61"

Routed to Link DP3: DP3

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 YR Rainfall=6.99"

Area	(ac)	CN	Desc	cription		
0.	064	96	Grav	el surface	, HSG C	
0.	794	81	50-7	5% Grass	cover, Fair	r, HSG C-D
0.	858	82	Weig	hted Aver	age	
0.	858		100.	00% Pervi	ous Area	
Tc	Leng	th	Slope	Velocity	Capacity	Description
(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
10.0						Direct Entry,
	0. 0. 0. Tc (min)	(min) (fee	0.064 96 0.794 81 0.858 82 0.858 Tc Length (min) (feet)	0.064 96 Grav 0.794 81 50-7 0.858 82 Weig 0.858 100.0 Tc Length Slope (min) (feet) (ft/ft)	0.064 96 Gravel surface 0.794 81 50-75% Grass 0.858 82 Weighted Aver 0.858 100.00% Pervi Tc Length Slope Velocity (min) (feet) (ft/ft) (ft/sec)	0.064 96 Gravel surface, HSG C 0.794 81 50-75% Grass cover, Fai 0.858 82 Weighted Average 100.00% Pervious Area Tc Length Slope Velocity Capacity (min) (feet) (ft/ft) (ft/sec) (cfs)

Subcatchment 3A: Subcat 3A



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Summary for Pond 1AP: (new Pond)

Inflow Area = 4.567 ac, 0.00% Impervious, Inflow Depth > 4.61" for 50 YR event

Inflow = 22.35 cfs @ 12.14 hrs, Volume= 1.756 af

Outflow = 20.36 cfs @ 12.19 hrs, Volume= 1.452 af, Atten= 9%, Lag= 3.1 min

Primary = 20.36 cfs @ 12.19 hrs, Volume= 1.452 af

Routed to Link DP1: DP1

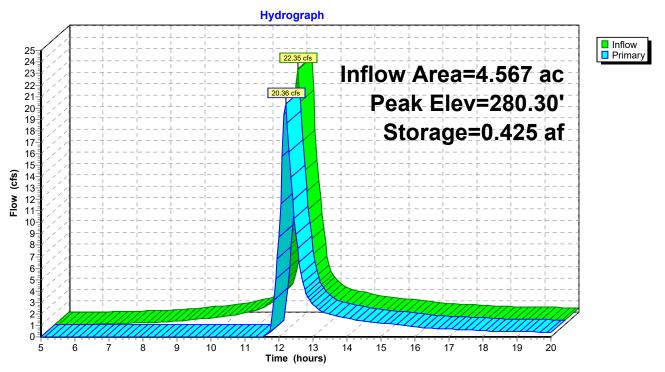
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 280.30' @ 12.19 hrs Surf.Area= 0.175 ac Storage= 0.425 af

Plug-Flow detention time= 83.7 min calculated for 1.452 af (83% of inflow) Center-of-Mass det. time= 35.9 min (810.5 - 774.5)

Volume	Invert	Avail.Storage	Storage Description
#1	277.00'	0.555 af	25.00'W x 150.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Co	9.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=20.19 cfs @ 12.19 hrs HW=280.29' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 20.19 cfs @ 2.36 fps)

Pond 1AP: (new Pond)



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Summary for Pond 1BP: (new Pond)

Inflow Area = 4.937 ac, 0.00% Impervious, Inflow Depth > 4.61" for 50 YR event

Inflow = 24.16 cfs @ 12.14 hrs, Volume= 1.899 af

Outflow = 22.36 cfs @ 12.19 hrs, Volume= 1.653 af, Atten= 7%, Lag= 2.8 min

Primary = 22.36 cfs @ 12.19 hrs, Volume= 1.653 af

Routed to Link DP1: DP1

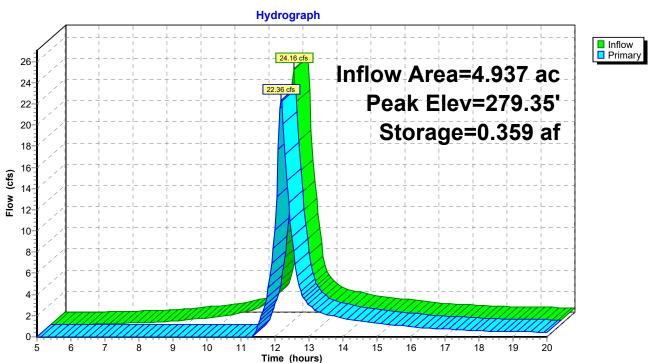
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 279.35' @ 12.19 hrs Surf.Area= 0.157 ac Storage= 0.359 af

Plug-Flow detention time= 68.8 min calculated for 1.653 af (87% of inflow) Center-of-Mass det. time= 29.7 min (804.3 - 774.5)

Volume	Invert	Avail.Storage	Storage Description
#1	276.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2.9 Co	.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=22.08 cfs @ 12.19 hrs HW=279.34' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 22.08 cfs @ 2.43 fps)

Pond 1BP: (new Pond)



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Summary for Pond 2AP: (new Pond)

Inflow Area = 1.066 ac, 0.00% Impervious, Inflow Depth > 4.72" for 50 YR event

Inflow = 5.32 cfs @ 12.14 hrs, Volume= 0.420 af

Outflow = 5.19 cfs @ 12.17 hrs, Volume= 0.343 af, Atten= 2%, Lag= 1.5 min

Primary = 5.19 cfs @ 12.17 hrs, Volume= 0.343 af

Routed to Link DP2: DP2

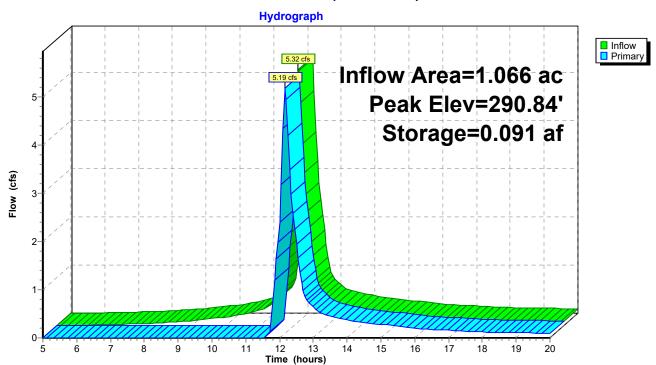
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 290.84' @ 12.17 hrs Surf.Area= 0.049 ac Storage= 0.091 af

Plug-Flow detention time= 83.6 min calculated for 0.342 af (82% of inflow) Center-of-Mass det. time= 35.2 min (807.5 - 772.3)

Volume	Invert	Avail.Storage	Storage Description
#1	288.00'	0.158 af	15.00'W x 50.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	H 2. C	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=5.08 cfs @ 12.17 hrs HW=290.84' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 5.08 cfs @ 1.45 fps)

Pond 2AP: (new Pond)



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Summary for Pond 2BP: (new Pond)

Inflow Area = 2.633 ac, 0.00% Impervious, Inflow Depth > 4.51" for 50 YR event

Inflow = 12.63 cfs @ 12.14 hrs, Volume= 0.989 af

Outflow = 12.17 cfs @ 12.17 hrs, Volume= 0.845 af, Atten= 4%, Lag= 1.9 min

Primary = 12.17 cfs @ 12.17 hrs, Volume= 0.845 af

Routed to Link DP2: DP2

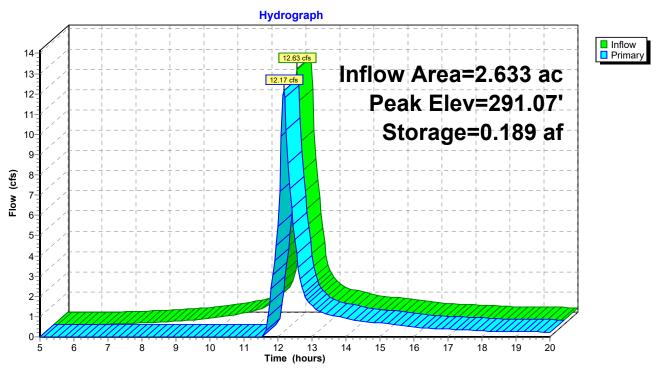
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 291.07' @ 12.17 hrs Surf.Area= 0.091 ac Storage= 0.189 af

Plug-Flow detention time= 71.4 min calculated for 0.843 af (85% of inflow) Center-of-Mass det. time= 29.9 min (806.5 - 776.7)

Volume	Invert	Avail.Storage	Storage Description
#1	288.00'	0.282 af	15.00'W x 100.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	290.50' 10.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Wei 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74	

Primary OutFlow Max=11.89 cfs @ 12.17 hrs HW=291.07' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 11.89 cfs @ 1.99 fps)

Pond 2BP: (new Pond)



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Summary for Pond 2CP: (new Pond)

Inflow Area = 4.992 ac, 0.00% Impervious, Inflow Depth > 4.51" for 50 YR event

Inflow = 23.95 cfs @ 12.14 hrs, Volume= 1.874 af

Outflow = 22.16 cfs @ 12.19 hrs, Volume= 1.629 af, Atten= 7%, Lag= 2.8 min

Primary = 22.16 cfs @ 12.19 hrs, Volume= 1.629 af

Routed to Link DP2: DP2

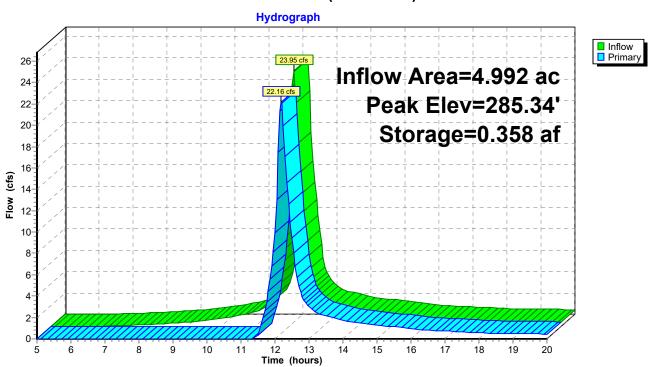
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 285.34' @ 12.19 hrs Surf.Area= 0.157 ac Storage= 0.358 af

Plug-Flow detention time= 67.9 min calculated for 1.623 af (87% of inflow) Center-of-Mass det. time= 29.2 min (805.9 - 776.7)

Volume	Invert	Avail.Storage	Storage Description
#1	282.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Co	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=21.89 cfs @ 12.19 hrs HW=285.34' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 21.89 cfs @ 2.42 fps)

Pond 2CP: (new Pond)



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Summary for Pond 2DP: (new Pond)

Inflow Area = 4.856 ac, 0.00% Impervious, Inflow Depth > 4.51" for 50 YR event

Inflow = 23.29 cfs @ 12.14 hrs, Volume= 1.823 af

Outflow = 21.54 cfs @ 12.19 hrs, Volume= 1.578 af, Atten= 8%, Lag= 2.8 min

Primary = 21.54 cfs @ 12.19 hrs, Volume= 1.578 af

Routed to Link DP2: DP2

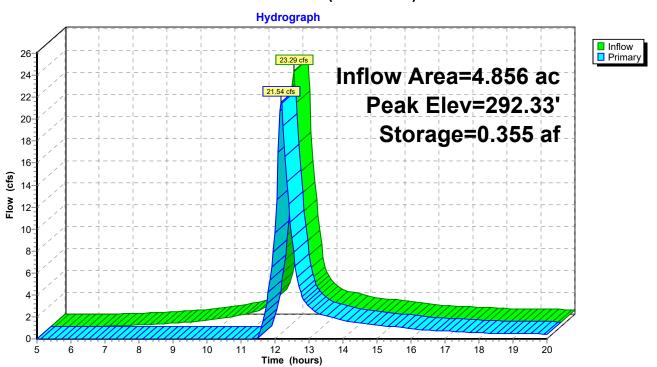
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 292.33' @ 12.19 hrs Surf.Area= 0.156 ac Storage= 0.355 af

Plug-Flow detention time= 69.1 min calculated for 1.573 af (86% of inflow) Center-of-Mass det. time= 29.7 min (806.4 - 776.7)

Volume	Invert	Avail.Storage	Storage Description
#1	289.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	291.50' 10.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular We 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74	

Primary OutFlow Max=21.28 cfs @ 12.19 hrs HW=292.32' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 21.28 cfs @ 2.40 fps)

Pond 2DP: (new Pond)



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Summary for Link DP1: DP1

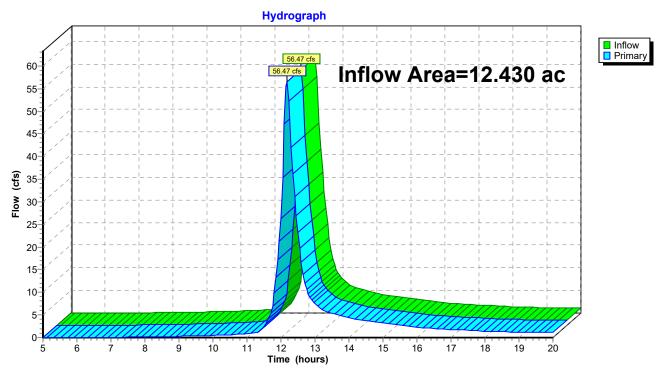
Inflow Area = 12.430 ac, 0.00% Impervious, Inflow Depth > 4.11" for 50 YR event

Inflow = 56.47 cfs @ 12.17 hrs, Volume= 4.256 af

Primary = 56.47 cfs @ 12.17 hrs, Volume= 4.256 af, Atten= 0%, Lag= 0.0 min

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

Link DP1: DP1



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Summary for Link DP2: DP2

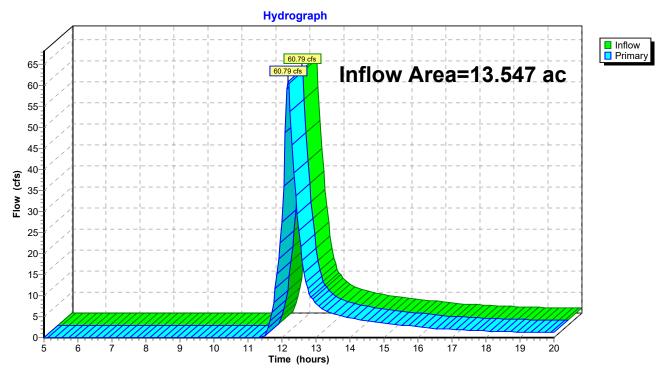
Inflow Area = 13.547 ac, 0.00% Impervious, Inflow Depth > 3.89" for 50 YR event

Inflow = 60.79 cfs @ 12.18 hrs, Volume= 4.395 af

Primary = 60.79 cfs @ 12.18 hrs, Volume= 4.395 af, Atten= 0%, Lag= 0.0 min

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

Link DP2: DP2



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Summary for Link DP3: DP3

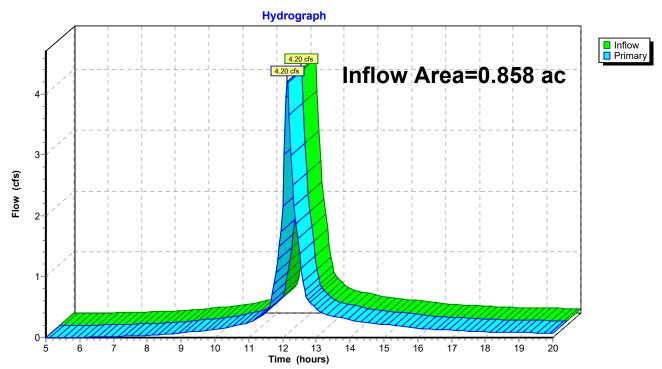
Inflow Area = 0.858 ac, 0.00% Impervious, Inflow Depth > 4.61" for 50 YR event

Inflow = 4.20 cfs @ 12.14 hrs, Volume= 0.330 af

Primary = 4.20 cfs @ 12.14 hrs, Volume= 0.330 af, Atten= 0%, Lag= 0.0 min

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

Link DP3: DP3



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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

3 ,	,
Subcatchment1A: Subcat1A	Runoff Area=4.567 ac 0.00% Impervious Runoff Depth>5.45" Tc=10.0 min CN=82 Runoff=26.17 cfs 2.074 af
Subcatchment1B: Subcat1B	Runoff Area=4.937 ac 0.00% Impervious Runoff Depth>5.45" Tc=10.0 min CN=82 Runoff=28.29 cfs 2.242 af
Subcatchment1C: Subcat1C	Runoff Area=2.926 ac 0.00% Impervious Runoff Depth>5.56" Tc=10.0 min CN=83 Runoff=17.04 cfs 1.357 af
Subcatchment2A: Subcat2A	Runoff Area=1.066 ac 0.00% Impervious Runoff Depth>5.56" Tc=10.0 min CN=83 Runoff=6.21 cfs 0.494 af
Subcatchment2B: Subcat2B	Runoff Area=2.633 ac 0.00% Impervious Runoff Depth>5.33" Tc=10.0 min CN=81 Runoff=14.83 cfs 1.170 af
Subcatchment2C: Subcat 2C	Runoff Area=4.992 ac 0.00% Impervious Runoff Depth>5.33" Tc=10.0 min CN=81 Runoff=28.12 cfs 2.219 af
Subcatchment2D: Subcat2D	Runoff Area=4.856 ac 0.00% Impervious Runoff Depth>5.33" Tc=10.0 min CN=81 Runoff=27.36 cfs 2.158 af
Subcatchment3A: Subcat3A	Runoff Area=0.858 ac 0.00% Impervious Runoff Depth>5.45" Tc=10.0 min CN=82 Runoff=4.92 cfs 0.390 af
Pond 1AP: (new Pond)	Peak Elev=280.39' Storage=0.440 af Inflow=26.17 cfs 2.074 af Outflow=23.97 cfs 1.768 af
Pond 1BP: (new Pond)	Peak Elev=279.44' Storage=0.373 af Inflow=28.29 cfs 2.242 af Outflow=26.29 cfs 1.995 af
Pond 2AP: (new Pond)	Peak Elev=290.88' Storage=0.093 af Inflow=6.21 cfs 0.494 af Outflow=6.08 cfs 0.418 af
Pond 2BP: (new Pond)	Peak Elev=291.13' Storage=0.194 af Inflow=14.83 cfs 1.170 af Outflow=14.30 cfs 1.027 af
Pond 2CP: (new Pond)	Peak Elev=285.44' Storage=0.373 af Inflow=28.12 cfs 2.219 af Outflow=26.13 cfs 1.972 af
Pond 2DP: (new Pond)	Peak Elev=292.42' Storage=0.370 af Inflow=27.36 cfs 2.158 af Outflow=25.40 cfs 1.912 af
Link DP1: DP1	Inflow=66.44 cfs 5.120 af Primary=66.44 cfs 5.120 af
Link DP2: DP2	Inflow=71.62 cfs 5.329 af Primary=71.62 cfs 5.329 af

42722.01 - Proposed Conditions

Type III 24-hr 100 YR Rainfall=7.92"

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Link DP3: DP3

Inflow=4.92 cfs 0.390 af Primary=4.92 cfs 0.390 af

Total Runoff Area = 26.835 ac Runoff Volume = 12.103 af Average Runoff Depth = 5.41" 100.00% Pervious = 26.835 ac 0.00% Impervious = 0.000 ac

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Summary for Subcatchment 1A: Subcat 1A

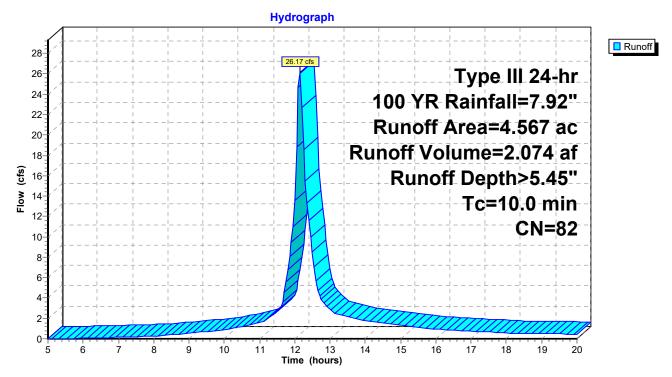
Runoff = 26.17 cfs @ 12.14 hrs, Volume= 2.074 af, Depth> 5.45"

Routed to Pond 1AP: (new Pond)

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 YR Rainfall=7.92"

	Area	(ac)	CN	Desc	cription			
	0.257 96 Gravel surface, HSG C							
*	4.	310 81 50-75% Grass cover, Fair, HSG C-D						
	4.	4.567 82 Weighted Average						
	4.567 100.00% Pervious Area							
	Тс	Leng	nth	Slope	Velocity	Capacity	Description	
	(min)	(fee	,	(ft/ft)	(ft/sec)	(cfs)	Description	
_	10.0	(/	(1411)	()	(3.3)	Direct Entry,	
	10.0						Direct Littiy,	

Subcatchment 1A: Subcat 1A



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Summary for Subcatchment 1B: Subcat 1B

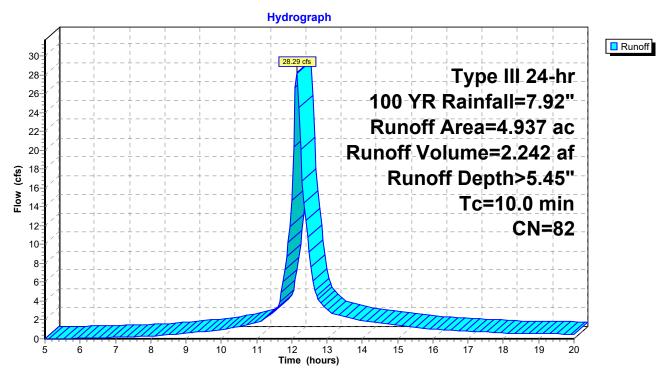
Runoff = 28.29 cfs @ 12.14 hrs, Volume= 2.242 af, Depth> 5.45"

Routed to Pond 1BP: (new Pond)

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 YR Rainfall=7.92"

Area	(ac)	CN	Desc	Description						
0.	0.174 96 Gravel surface, HSG C									
4.	763	63 81 50-75% Grass cover, Fair, HSG C-D								
4.	937 82 Weighted Average									
4.	4.937 100.00% Pervious Area									
_			01			B				
IC	Leng	jth	Slope	Velocity	Capacity	Description				
(min)	(fe	et)	(ft/ft)	(ft/sec)	(cfs)					
10.0						Direct Entry,				
	0. 4. 4. 4. Tc (min)	4.763 4.937 4.937 Tc Leng (min) (fee	0.174 96 4.763 81 4.937 82 4.937 Tc Length (min) (feet)	0.174 96 Grav 4.763 81 50-7 4.937 82 Weig 4.937 100.4 Tc Length Slope (min) (feet) (ft/ft)	0.174 96 Gravel surface 4.763 81 50-75% Grass 4.937 82 Weighted Aver 4.937 100.00% Pervi Tc Length Slope Velocity (min) (feet) (ft/ft) (ft/sec)	0.174 96 Gravel surface, HSG C 4.763 81 50-75% Grass cover, Fair 4.937 82 Weighted Average 4.937 100.00% Pervious Area Tc Length Slope Velocity Capacity (min) (feet) (ft/ft) (ft/sec) (cfs)				

Subcatchment 1B: Subcat 1B



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Summary for Subcatchment 1C: Subcat 1C

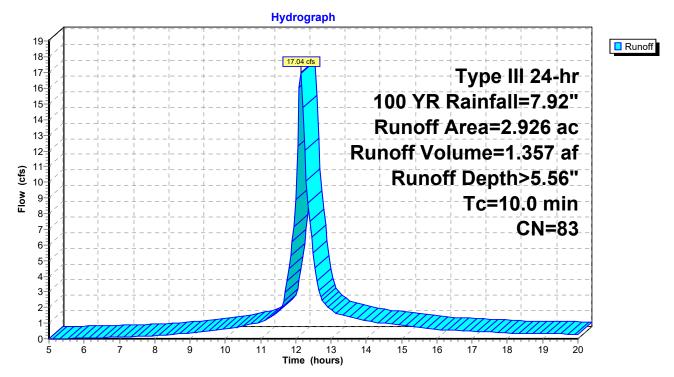
Runoff = 17.04 cfs @ 12.14 hrs, Volume= 1.357 af, Depth> 5.56"

Routed to Link DP1: DP1

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 YR Rainfall=7.92"

	Area	(ac)	CN	Desc	cription			
	0.	0.322 96 Gravel surface, HSG C						
*	2.	604	604 81 50-75% Grass cover, Fair, HSG C-D					
	2.	2.926 83 Weighted Average						
	2.926 100.00% Pervious Area							
	_					_		
	Tc	Leng	th S	Slope	Velocity	Capacity	Description	
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		
	10.0						Direct Entry,	

Subcatchment 1C: Subcat 1C



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Summary for Subcatchment 2A: Subcat 2A

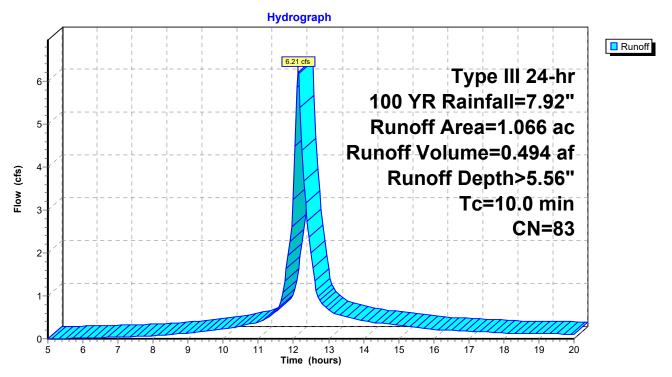
Runoff = 6.21 cfs @ 12.14 hrs, Volume= 0.494 af, Depth> 5.56"

Routed to Pond 2AP: (new Pond)

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 YR Rainfall=7.92"

_	Area	(ac)	CN	Desc	cription			
	0.	0.134 96 Gravel surface, HSG C						
*	0.	0.932 81 50-75% Grass cover, Fair, HSG C-D						
	1.	1.066 83 Weighted Average						
	1.066 100.00% Pervious Area							
	_	_						
	Tc	Leng	ith :	Slope	Velocity	Capacity	Description	
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		
_	10.0						Direct Entry,	

Subcatchment 2A: Subcat 2A



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Summary for Subcatchment 2B: Subcat 2B

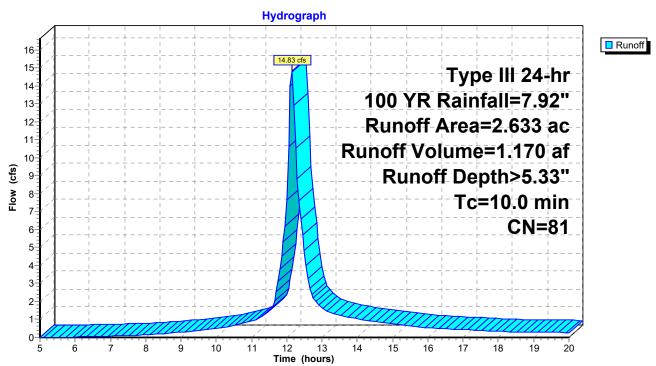
Runoff = 14.83 cfs @ 12.14 hrs, Volume= 1.170 af, Depth> 5.33"

Routed to Pond 2BP: (new Pond)

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 YR Rainfall=7.92"

_	Area	(ac)	CN	Desc	cription		
*	2.	633	8 81 50-75% Grass cover, Fair, HSG C-D				
	2.633 100.00% Pervious Area						
	Тс	Leng	th	Slope	,	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	10.0						Direct Entry,

Subcatchment 2B: Subcat 2B



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Summary for Subcatchment 2C: Subcat 2C

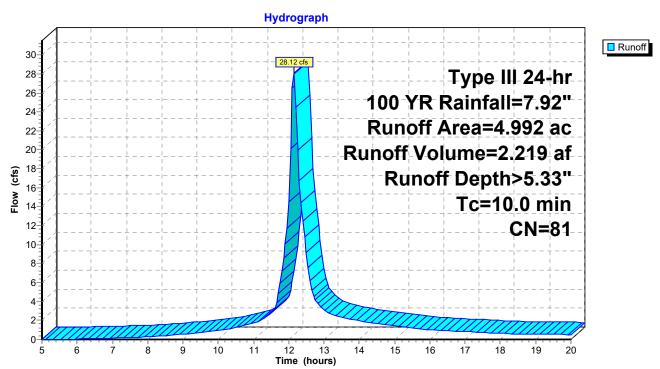
Runoff = 28.12 cfs @ 12.14 hrs, Volume= 2.219 af, Depth> 5.33"

Routed to Pond 2CP: (new Pond)

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 YR Rainfall=7.92"

	Area	(ac)	CN	Desc	cription			
*	4.	992	81	50-7	50-75% Grass cover, Fair, HSG C-D			
	4.992 100.00% Pervious Area							
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	·	
_	10.0	(100	, c,	(10/11)	(10300)	(013)	Direct Entry,	

Subcatchment 2C: Subcat 2C



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Summary for Subcatchment 2D: Subcat 2D

Runoff = 27.36 cfs @ 12.14 hrs, Volume= 2.15

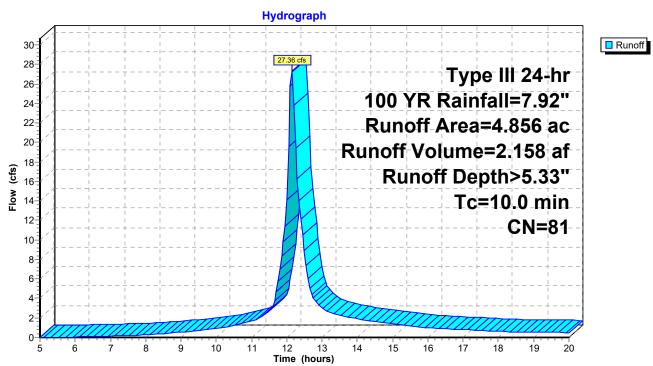
Routed to Pond 2DP: (new Pond)

2.158 af, Depth> 5.33"

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 YR Rainfall=7.92"

	Area	(ac)	CN	Desc	cription		
*	4.	856	81	50-7	5% Grass	cover, Fair	r, HSG C-D
	4.856 100.00% Pervious Area						
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	10.0	(100	··/	(15/10)	(.2300)	(0.0)	Direct Entry,

Subcatchment 2D: Subcat 2D



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Summary for Subcatchment 3A: Subcat 3A

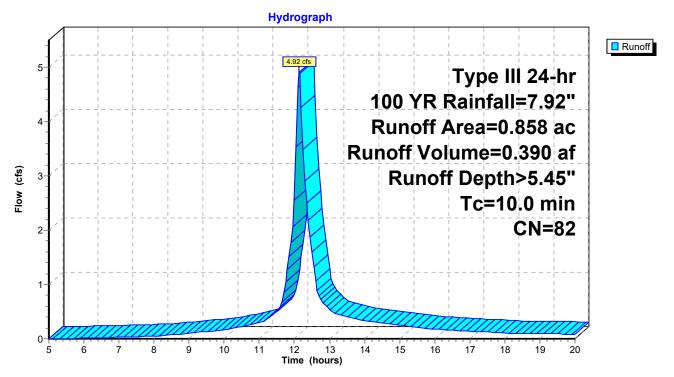
Runoff = 4.92 cfs @ 12.14 hrs, Volume= 0.390 af, Depth> 5.45"

Routed to Link DP3: DP3

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 YR Rainfall=7.92"

	Area	(ac)	CN	Desc	Description					
	0.064 96 Gravel surface, HSG C									
*	0.	794	81 50-75% Grass cover, Fair, HSG C-D							
	0.	858 82 Weighted Average								
	0.	0.858 100.00% Pervious Area								
	Тс	Leng	jth :	Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	10.0	•					Direct Entry,			

Subcatchment 3A: Subcat 3A



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Summary for Pond 1AP: (new Pond)

Inflow Area = 4.567 ac, 0.00% Impervious, Inflow Depth > 5.45" for 100 YR event

Inflow = 26.17 cfs @ 12.14 hrs, Volume= 2.074 af

Outflow = 23.97 cfs @ 12.19 hrs, Volume= 1.768 af, Atten= 8%, Lag= 3.0 min

Primary = 23.97 cfs @ 12.19 hrs, Volume= 1.768 af

Routed to Link DP1 : DP1

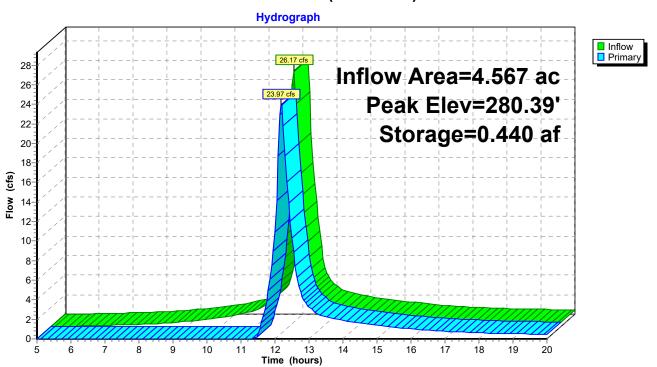
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 280.39' @ 12.19 hrs Surf.Area= 0.177 ac Storage= 0.440 af

Plug-Flow detention time= 76.8 min calculated for 1.762 af (85% of inflow) Center-of-Mass det. time= 34.1 min (804.6 - 770.5)

Volume	Invert	Avail.Storage	Storage Description
#1	277.00'	0.555 af	25.00'W x 150.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Co	9.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=23.72 cfs @ 12.19 hrs HW=280.38' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 23.72 cfs @ 2.48 fps)

Pond 1AP: (new Pond)



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Summary for Pond 1BP: (new Pond)

Inflow Area = 4.937 ac, 0.00% Impervious, Inflow Depth > 5.45" for 100 YR event

Inflow = 28.29 cfs @ 12.14 hrs, Volume= 2.242 af

Outflow = 26.29 cfs @ 12.18 hrs, Volume= 1.995 af, Atten= 7%, Lag= 2.7 min

Primary = 26.29 cfs @ 12.18 hrs, Volume= 1.995 af

Routed to Link DP1: DP1

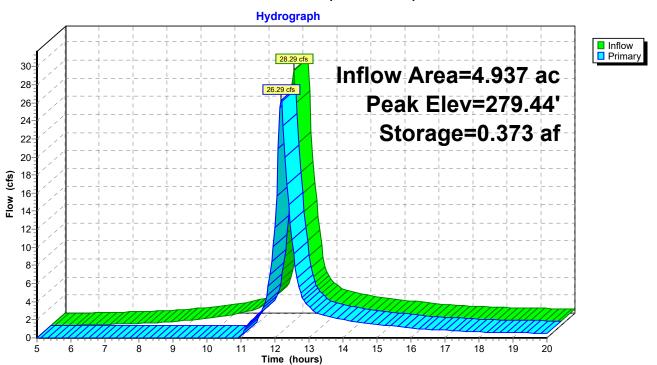
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 279.44' @ 12.18 hrs Surf.Area= 0.160 ac Storage= 0.373 af

Plug-Flow detention time= 62.9 min calculated for 1.989 af (89% of inflow) Center-of-Mass det. time= 28.3 min (798.8 - 770.5)

Volume	Invert	Avail.Storage	Storage Description
#1	276.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Ce	O.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=25.92 cfs @ 12.18 hrs HW=279.43' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 25.92 cfs @ 2.55 fps)

Pond 1BP: (new Pond)



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Summary for Pond 2AP: (new Pond)

Inflow Area = 1.066 ac, 0.00% Impervious, Inflow Depth > 5.56" for 100 YR event

Inflow = 6.21 cfs @ 12.14 hrs, Volume= 0.494 af

Outflow = 6.08 cfs @ 12.16 hrs, Volume= 0.418 af, Atten= 2%, Lag= 1.5 min

Primary = 6.08 cfs @ 12.16 hrs, Volume= 0.418 af

Routed to Link DP2: DP2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 290.88' @ 12.16 hrs Surf.Area= 0.050 ac Storage= 0.093 af

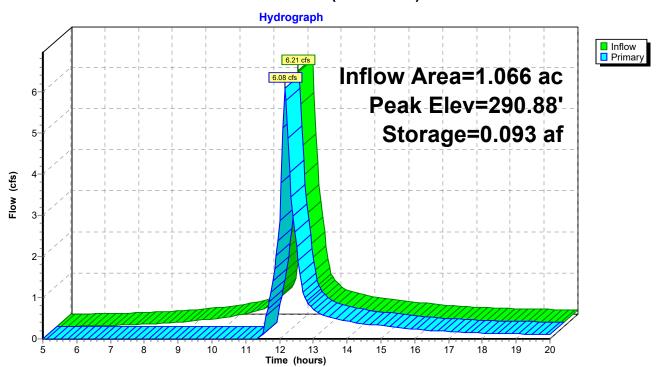
Plug-Flow detention time= 77.5 min calculated for 0.416 af (84% of inflow)

Center-of-Mass det. time= 33.3 min (801.7 - 768.4)

Volume	Invert	Avail.Storage	Storage Description
#1	288.00'	0.158 af	15.00'W x 50.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2. Ce	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=5.96 cfs @ 12.16 hrs HW=290.87' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 5.96 cfs @ 1.53 fps)

Pond 2AP: (new Pond)



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Summary for Pond 2BP: (new Pond)

Inflow Area = 2.633 ac, 0.00% Impervious, Inflow Depth > 5.33" for 100 YR event

Inflow = 14.83 cfs @ 12.14 hrs, Volume= 1.170 af

Outflow = 14.30 cfs @ 12.17 hrs, Volume= 1.027 af, Atten= 4%, Lag= 1.8 min

Primary = 14.30 cfs @ 12.17 hrs, Volume= 1.027 af

Routed to Link DP2 : DP2

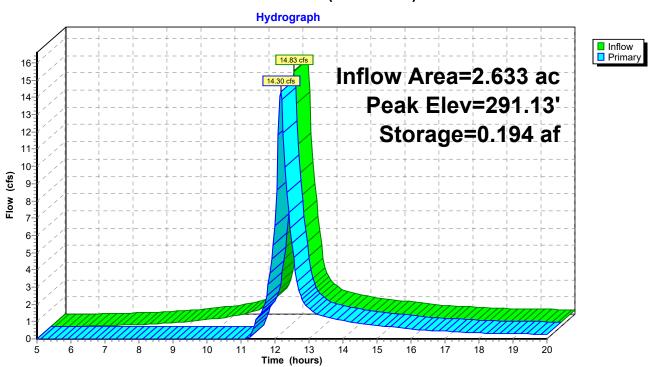
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 291.13' @ 12.17 hrs Surf.Area= 0.092 ac Storage= 0.194 af

Plug-Flow detention time= 65.9 min calculated for 1.027 af (88% of inflow) Center-of-Mass det. time= 28.3 min (800.9 - 772.6)

Volume	Invert	Avail.Storage	Storage Description
#1	288.00'	0.282 af	15.00'W x 100.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	H 2. C	0.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 oef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=14.00 cfs @ 12.17 hrs HW=291.12' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 14.00 cfs @ 2.11 fps)

Pond 2BP: (new Pond)



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Summary for Pond 2CP: (new Pond)

Inflow Area = 4.992 ac, 0.00% Impervious, Inflow Depth > 5.33" for 100 YR event

Inflow 28.12 cfs @ 12.14 hrs, Volume= 2.219 af

26.13 cfs @ 12.18 hrs, Volume= 26.13 cfs @ 12.18 hrs, Volume= Outflow 1.972 af, Atten= 7%, Lag= 2.7 min

1.972 af Primary =

Routed to Link DP2: DP2

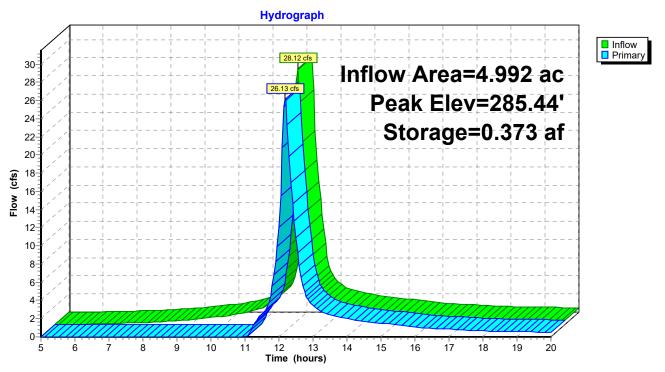
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 285.44' @ 12.18 hrs Surf.Area= 0.160 ac Storage= 0.373 af

Plug-Flow detention time= 62.7 min calculated for 1.972 af (89% of inflow) Center-of-Mass det. time= 27.7 min (800.4 - 772.6)

Volume	Invert	Avail.Storage	Storage Description
#1	282.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert Οι	ıtlet Devices
#1	Primary	He	.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ad (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50
		Co	pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=25.77 cfs @ 12.18 hrs HW=285.43' (Free Discharge) -1=Broad-Crested Rectangular Weir (Weir Controls 25.77 cfs @ 2.54 fps)

Pond 2CP: (new Pond)



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Summary for Pond 2DP: (new Pond)

Inflow Area = 4.856 ac, 0.00% Impervious, Inflow Depth > 5.33" for 100 YR event

Inflow = 27.36 cfs @ 12.14 hrs, Volume= 2.158 af

Outflow = 25.40 cfs @ 12.19 hrs, Volume= 1.912 af, Atten= 7%, Lag= 2.7 min

Primary = 25.40 cfs @ 12.19 hrs, Volume= 1.912 af

Routed to Link DP2: DP2

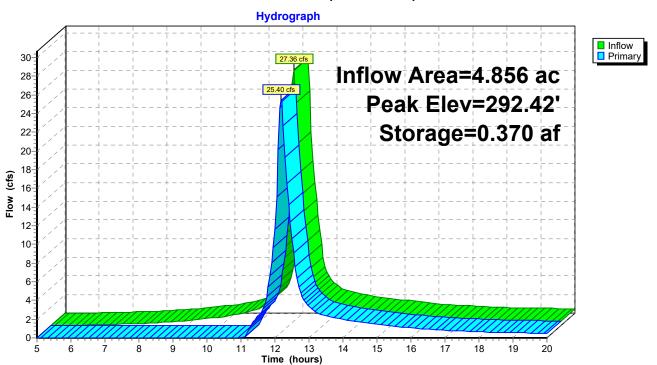
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 292.42' @ 12.19 hrs Surf.Area= 0.159 ac Storage= 0.370 af

Plug-Flow detention time= 63.2 min calculated for 1.906 af (88% of inflow) Center-of-Mass det. time= 28.2 min (800.8 - 772.6)

Volume	Invert	Avail.Storage	Storage Description
#1	289.00'	0.468 af	15.00'W x 175.00'L x 4.00'H Prismatoid Z=3.0
Device	Routing	Invert O	utlet Devices
#1	Primary	He 2.5 Co	9.0' long + 1.0 '/' SideZ x 8.0' breadth Broad-Crested Rectangular Weir ead (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 50 3.00 3.50 4.00 4.50 5.00 5.50 pef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=25.06 cfs @ 12.19 hrs HW=292.41' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 25.06 cfs @ 2.52 fps)

Pond 2DP: (new Pond)



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Summary for Link DP1: DP1

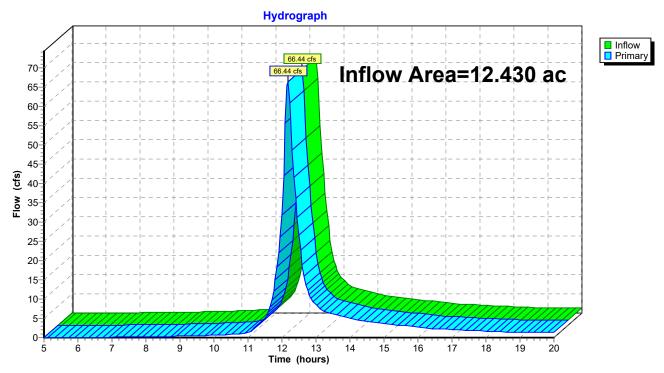
Inflow Area = 12.430 ac, 0.00% Impervious, Inflow Depth > 4.94" for 100 YR event

Inflow 66.44 cfs @ 12.17 hrs, Volume= 5.120 af

66.44 cfs @ 12.17 hrs, Volume= 5.120 af, Atten= 0%, Lag= 0.0 min Primary

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

Link DP1: DP1



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Summary for Link DP2: DP2

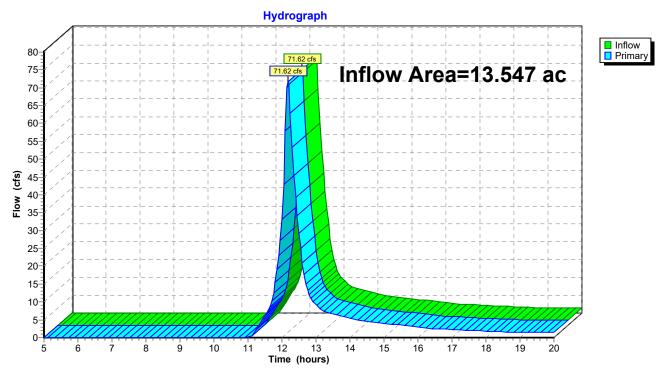
Inflow Area = 13.547 ac, 0.00% Impervious, Inflow Depth > 4.72" for 100 YR event

Inflow = 71.62 cfs @ 12.18 hrs, Volume= 5.329 af

Primary = 71.62 cfs @ 12.18 hrs, Volume= 5.329 af, Atten= 0%, Lag= 0.0 min

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

Link DP2: DP2



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Summary for Link DP3: DP3

Inflow Area = 0.858 ac, 0.00% Impervious, Inflow Depth > 5.45" for 100 YR event

Inflow = 4.92 cfs @ 12.14 hrs, Volume= 0.390 af

Primary = 4.92 cfs @ 12.14 hrs, Volume= 0.390 af, Atten= 0%, Lag= 0.0 min

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

Link DP3: DP3

