
Drainage Report
for
**40 Weston Road,
Weston, Connecticut**


Prepared For:

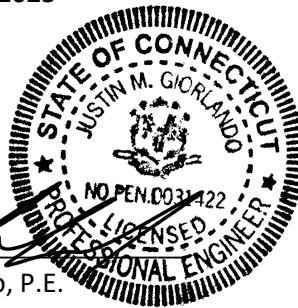
**40 Weston Road LLC, Owner
40 Weston Road
Weston, CT 06883**

Prepared By:

**Justin Giorlando, P.E. #31422
Force Engineering, LLC
65 Kellers Farm Road
Easton, CT 06612**

December 23, 2025


Justin Giorlando, P.E.
Principal Engineer



Force Engineering, L.L.C.
65 Kellers Farm Road, Easton, CT 06612
P: 860-705-8271
www.Force-CT.com

Introduction

The owners of 40 Weston Road in Weston, Connecticut propose to construct a new 6-bedroom home and driveway, install underground stormwater infiltration basins, and install a subsurface sewage disposal system. The topography of the site requires the use of retaining walls to accommodate necessary grading for construction of the home and patios. The improvements are shown on the "SITE PLAN for NEW HOME at 40 Weston Road, Weston, Connecticut" prepared by Force Engineering LLC on December 23, 2025.

Existing Conditions

The property is previously developed with a single family home that was razed after a house fire in 2024. The property is approximately 2.07 acres with the project site area being approximately 1.16 acres. The site is located to the west of Weston Road (State Route 57) approximately 200 feet south of its intersection with Broad Street. There are wetlands on the western side of the property at the edge of the lake and a drainage ditch adjacent to the northern property line, as determined by a Soil Investigation completed on December 27, 2024, by Mary Jaehnig, Soil Scientist. No portion of the property is located within the 100-year base flood zone or within a floodway. The site drains via overland flow to the lake and drainage ditch and ultimately drains to the Saugatuck River Watershed.

The NRCS Soil Survey identified the soils in the project area as being primarily gravelly Udorthents – Pits and Agawam Fine Sandy Loams. The soils on this property are expected to be hydrologic soil group C and B, respectively. The site investigations revealed a percolation rate of 12 inches/hour in the vicinity of the proposed septic system, 4.5 inches/hour at infiltration systems 1 and 3, and 40 inches/hour at infiltration system 2. The rates for the infiltration systems, with a 1.5 factor of safety, results in a design exfiltration rate that the underlying soils will provide at least the minimum infiltration rate required by the CT DEEP of 0.3 inches per hour to fully infiltrate the proposed stormwater detention systems within 72 hours.

The National Oceanic and Atmospheric Administration's National Weather Service publishes the Precipitation Intensity for this area by duration for each design storm in the NOAA Atlas 14. The type III, 24-hour, 50-year design storm used for hydrologic calculations at this location is 7.43 inches. The type III, 24-hour, 2-year design storm used for time of concentration calculations at this location is 3.52 inches.

Proposed Condition

The improvements noted previously include a total impervious area of approximately 15,449 square feet. The total disturbed area is approximately 1.16 acres. The roof of the proposed 6-bedroom single-family home, garage, driveway, patios, and walkways will drain to the underground infiltration systems via subsurface drainage piping.

Excavation and fill for this project is required for the installation of the home, driveway, and patios. The excavated materials will be redistributed on site with approximately 2,591 cubic yards of clean fill material and topsoil required.

The infiltration system consists of 22 units of the 4'x4'x8' Concrete Galleys installed in two rows, 12 units of the 4'x4'x8' Concrete Galleys installed in 4 rows, and 20 units of the Cultec R-150XLHD Galleys installed in 4 rows. Hooded catch basins and a water quality swale are utilized prior to stormwater entering the galleys to further aid removal of sediments and floatable materials. No overflow is expected from systems 2 and 3 during the 50-year design storm. Overflow is expected from system 1 during the 50-year design storm and will be dispersed as sheet flow from a 50 foot level spreader.

Conclusion

The proposed stormwater system is sized to maintain stormwater runoff for the 50-year storm event in accordance with the Town of Weston Drainage Standards. The standards require $P_{50} = 7.43''$ for the 50-year 24-hour storm event and $P_2 = 3.52''$ for the 2-year 24-hour storm event. Exfiltration was used in the analysis with a minimum 1.5 factor of safety for the stormwater infiltration systems. Additionally, the system was evaluated for water quality in accordance with the 2024 Connecticut Stormwater Quality Manual.

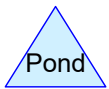
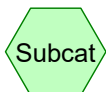
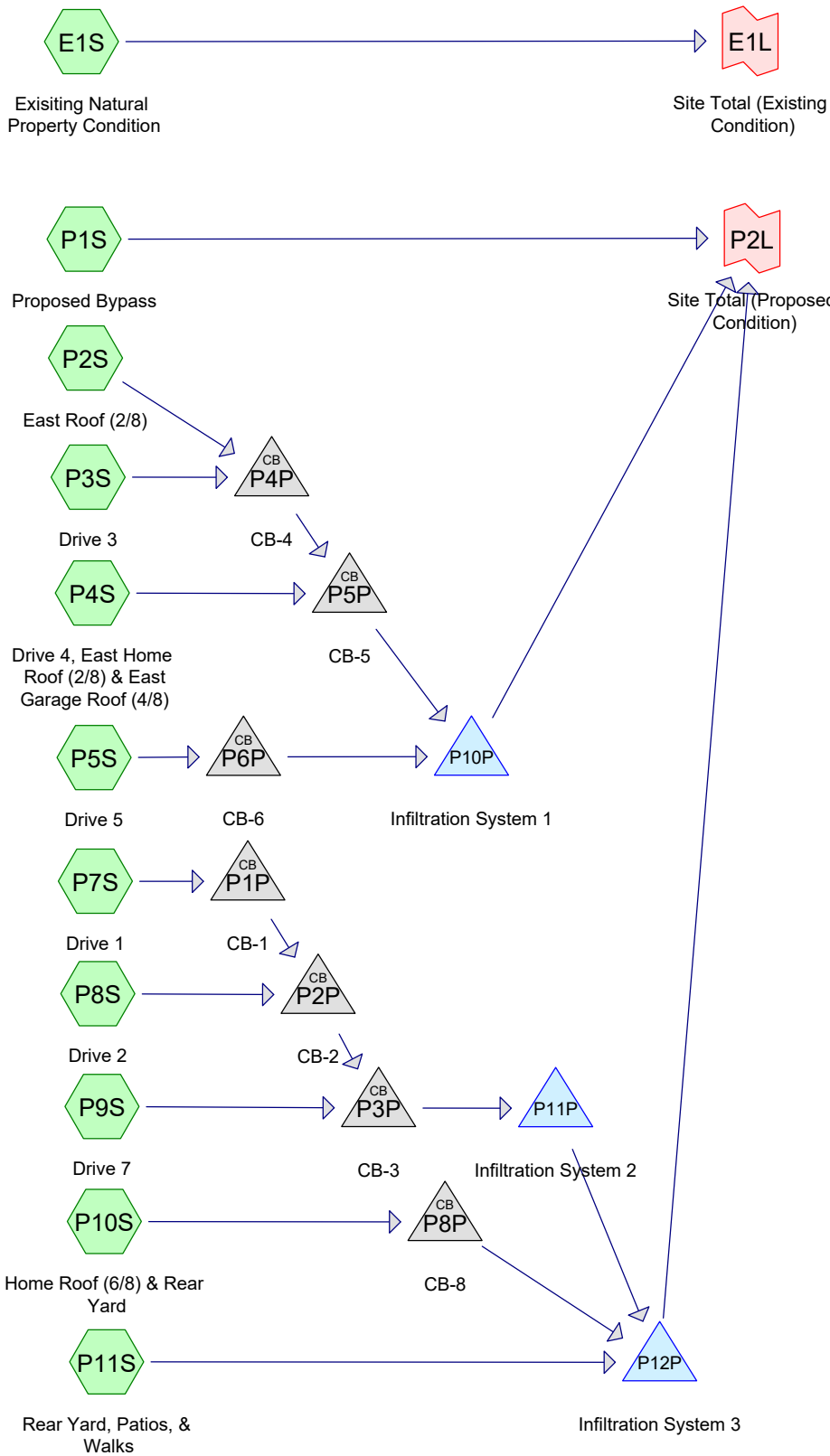
The following table summarizes the stormwater runoff control and water quality volume analysis:

Stormwater Runoff & Water Quality Summary		
Property Address	Pre-Development/Vacant Land Required	Post-Development w/Stormwater Infiltration
Peak Discharge Rate / Volume	3.33 cfs / 14,980 ft ³ (max.)	2.07 cfs / 6,612 ft ³
Water Quality Volume	0.041 af / 1,781 ft ³ (min.)	0.115 af / 5,024 ft ³

The drainage system provided for the proposed improvements is sufficient to meet the minimum stormwater runoff and water quality requirements. It is my opinion that, upon construction of the proposed improvements, this project will comply with the drainage regulations of the Town of Weston and will capture and treat the required design water quality volume through infiltration at this property.

ATTACHMENTS:

- HydroCAD Drainage Report
- Water Quality Volume Calculation
- NOAA ATLAS 14 Precipitation Data
- Hydrologic Soil Group Map



Routing Diagram for Weston - 40 Weston Road r-1
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Weston - 40 Weston Road r-1

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
9,567	61	>75% Grass cover, Good, HSG B (P4S, P5S)
5,847	74	>75% Grass cover, Good, HSG C (P10S, P11S, P3S, P7S, P8S, P9S)
127	98	Exterior Stairs, HSG C (P1S)
1,050	98	Garage roof, HSG B (P1S, P4S)
645	98	Gravel Access Drive, HSG B (P1S)
1,528	98	Unconnected patios, HSG C (P11S)
3,375	98	Unconnected pavement, HSG B (P4S, P5S)
5,530	98	Unconnected pavement, HSG C (P3S, P7S, P8S, P9S)
3,194	98	Unconnected roofs, HSG C (P10S, P2S, P4S)
30,405	58	Woods/grass comb., Good, HSG B (E1S, P1S)
40,132	72	Woods/grass comb., Good, HSG C (E1S, P1S)
101,400	71	TOTAL AREA

Summary for Subcatchment E1S: Existing Natural Property Condition

Runoff = 3.33 cfs @ 12.26 hrs, Volume= 14,980 cf, Depth= 3.55"

Routed to Link E1L : Site Total (Existing Condition)

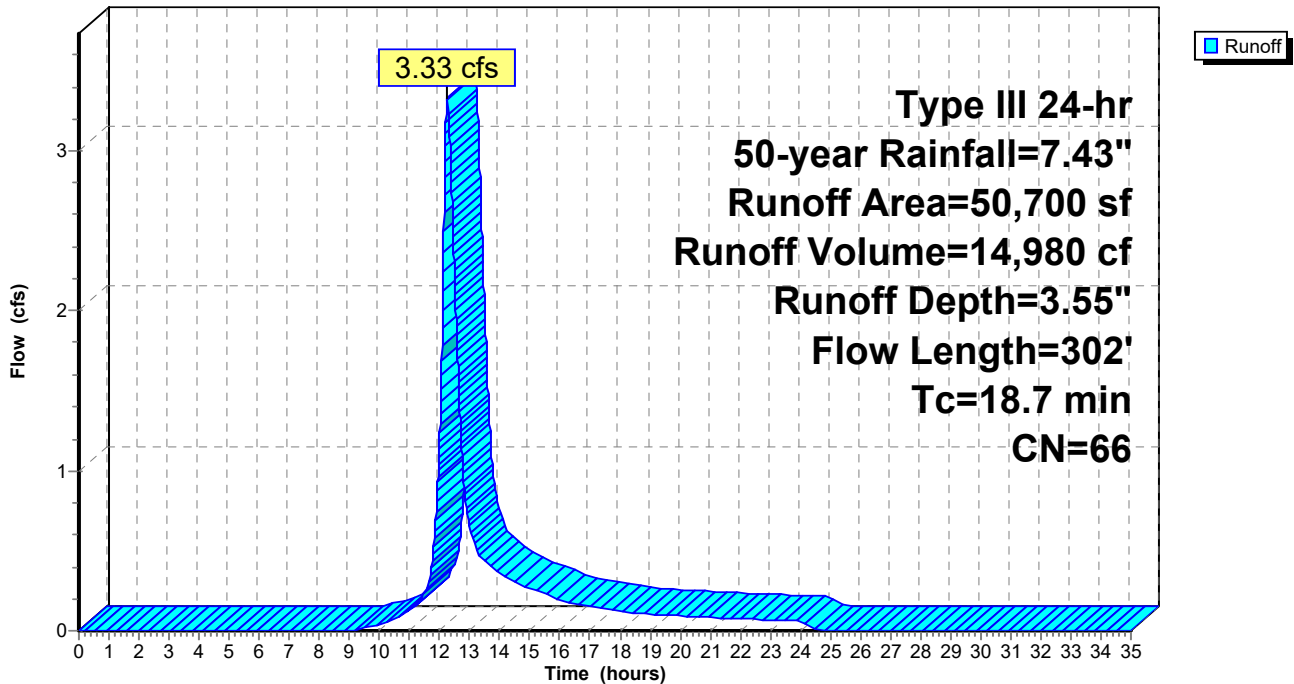
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
29,600	72	Woods/grass comb., Good, HSG C
21,100	58	Woods/grass comb., Good, HSG B
50,700	66	Weighted Average
50,700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	100	0.0400	0.11		Sheet Flow, Sheet Flow Woods: Light underbrush n= 0.400 P2= 3.52"
3.2	202	0.0450	1.06		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
18.7	302	Total			

Subcatchment E1S: Existing Natural Property Condition

Hydrograph



Summary for Subcatchment P10S: Home Roof (6/8) & Rear Yard

Runoff = 0.45 cfs @ 12.07 hrs, Volume= 1,443 cf, Depth= 6.36"
 Routed to Pond P8P : CB-8

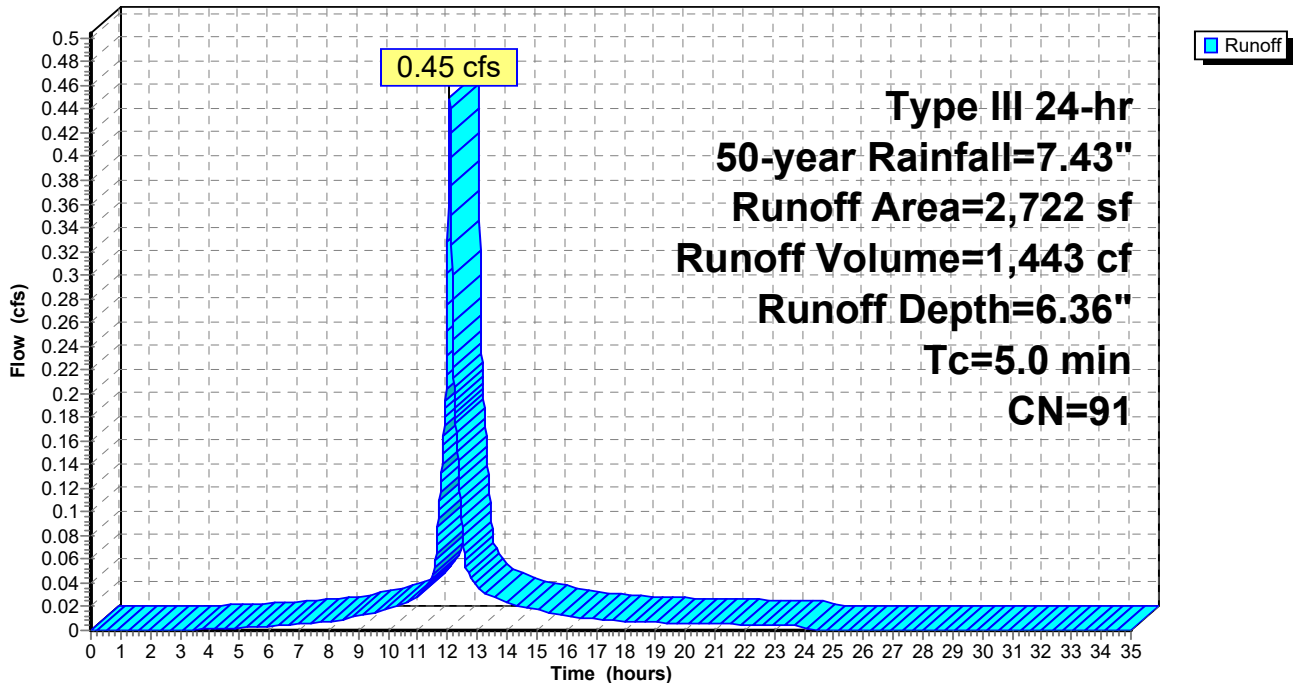
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
1,960	98	Unconnected roofs, HSG C
762	74	>75% Grass cover, Good, HSG C
2,722	91	Weighted Average
762		27.99% Pervious Area
1,960		72.01% Impervious Area
1,960		100.00% Unconnected

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

Subcatchment P10S: Home Roof (6/8) & Rear Yard

Hydrograph



Summary for Subcatchment P11S: Rear Yard, Patios, & Walks

Runoff = 0.43 cfs @ 12.07 hrs, Volume= 1,339 cf, Depth= 6.01"
 Routed to Pond P12P : Infiltration System 3

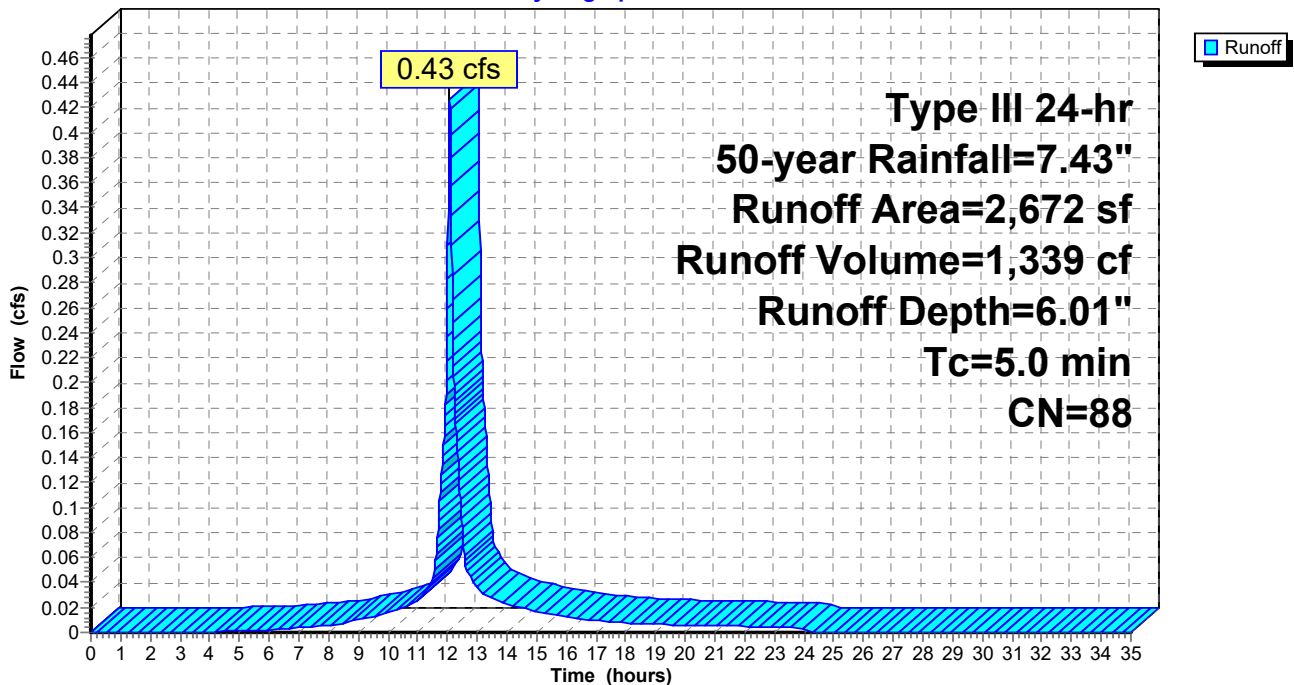
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
1,144	74	>75% Grass cover, Good, HSG C
* 1,528	98	Unconnected patios, HSG C
2,672	88	Weighted Average
1,144		42.81% Pervious Area
1,528		57.19% Impervious Area
1,528		100.00% Unconnected

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

Subcatchment P11S: Rear Yard, Patios, & Walks

Hydrograph



Summary for Subcatchment P1S: Proposed Bypass

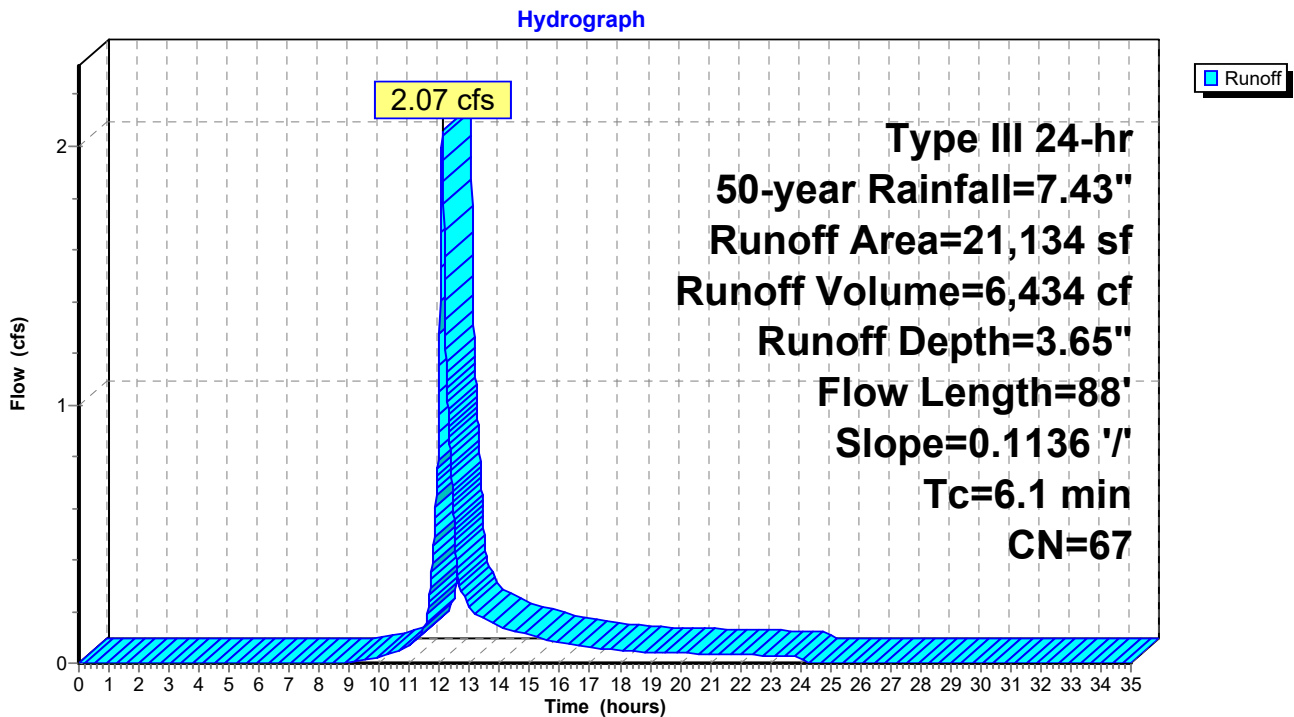
Runoff = 2.07 cfs @ 12.09 hrs, Volume= 6,434 cf, Depth= 3.65"
 Routed to Link P2L : Site Total (Proposed Condition)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
10,532	72	Woods/grass comb., Good, HSG C
9,305	58	Woods/grass comb., Good, HSG B
* 645	98	Gravel Access Drive, HSG B
* 127	98	Exterior Stairs, HSG C
525	98	Garage roof, HSG B
21,134	67	Weighted Average
19,837		93.86% Pervious Area
1,297		6.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	88	0.1136	0.24		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 3.52"

Subcatchment P1S: Proposed Bypass



Summary for Subcatchment P2S: East Roof (2/8)

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 370 cf, Depth= 7.19"
 Routed to Pond P4P : CB-4

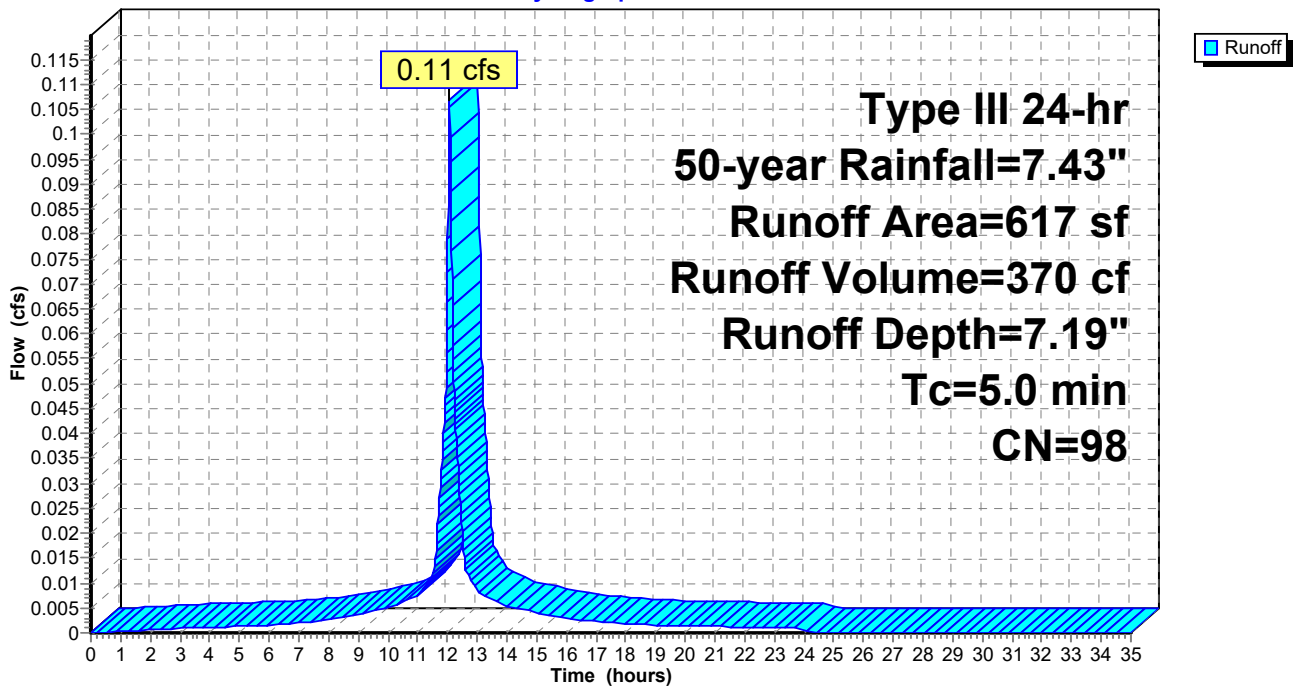
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
617	98	Unconnected roofs, HSG C
617		100.00% Impervious Area
617		100.00% Unconnected

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

Subcatchment P2S: East Roof (2/8)

Hydrograph



Summary for Subcatchment P3S: Drive 3

Runoff = 0.45 cfs @ 12.07 hrs, Volume= 1,414 cf, Depth= 6.13"
 Routed to Pond P4P : CB-4

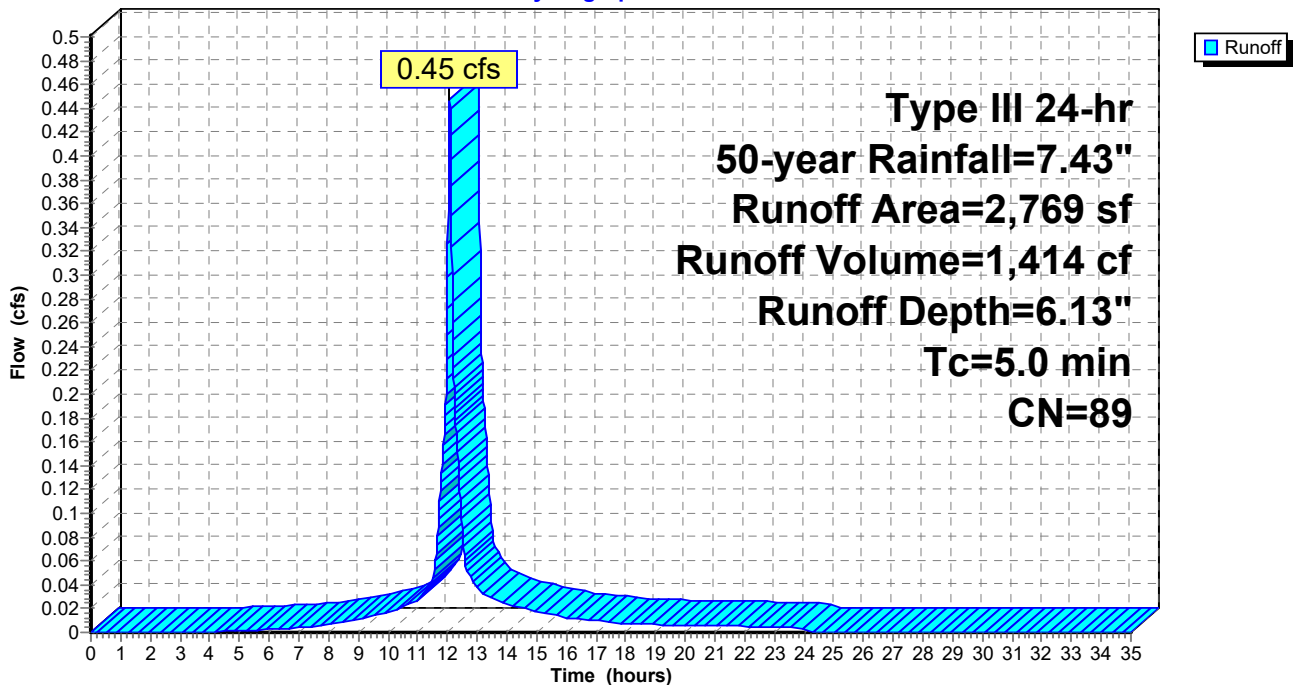
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
1,731	98	Unconnected pavement, HSG C
1,038	74	>75% Grass cover, Good, HSG C
2,769	89	Weighted Average
1,038		37.49% Pervious Area
1,731		62.51% Impervious Area
1,731		100.00% Unconnected

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

Subcatchment P3S: Drive 3

Hydrograph



Weston - 40 Weston Road r-1

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Type III 24-hr 50-year Rainfall=7.43"

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Summary for Subcatchment P4S: Drive 4, East Home Roof (2/8) & East Garage Roof (4/8)

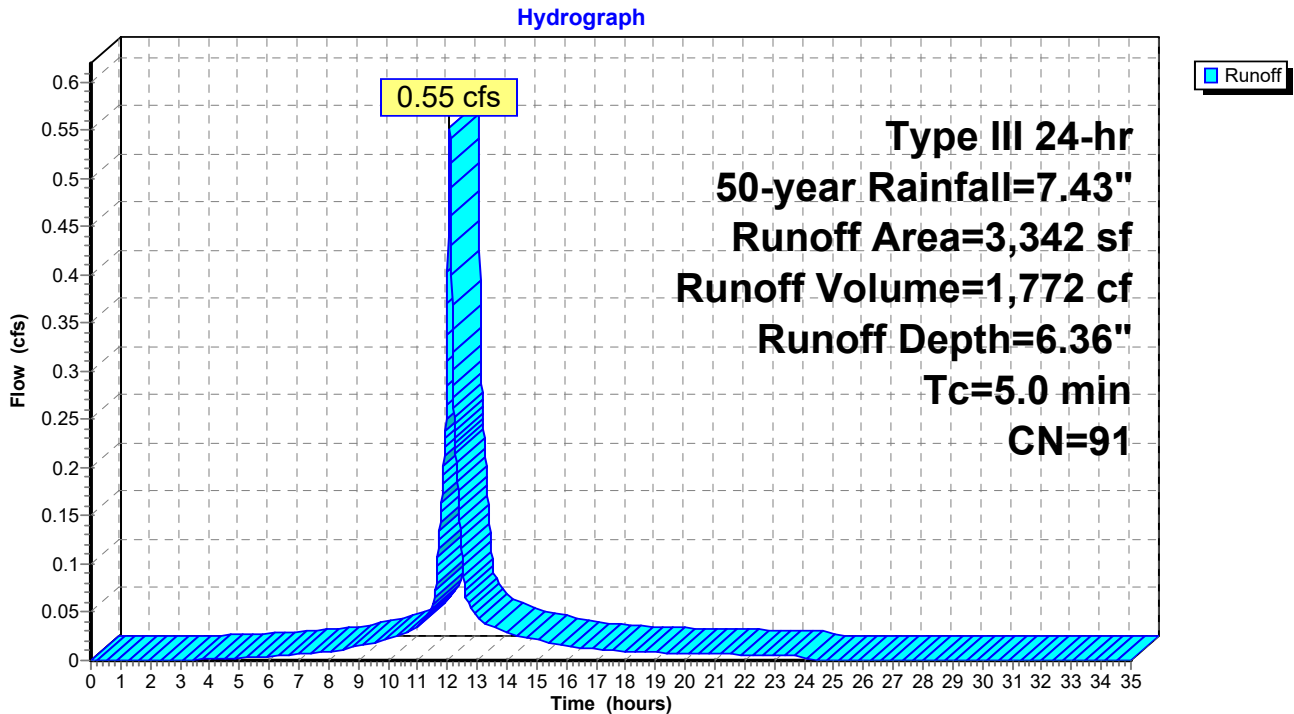
Runoff = 0.55 cfs @ 12.07 hrs, Volume= 1,772 cf, Depth= 6.36"
 Routed to Pond P5P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
1,532	98	Unconnected pavement, HSG B
668	61	>75% Grass cover, Good, HSG B
617	98	Unconnected roofs, HSG C
* 525	98	Garage roof, HSG B
3,342	91	Weighted Average
668		19.99% Pervious Area
2,674		80.01% Impervious Area
2,149		80.37% Unconnected

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

Subcatchment P4S: Drive 4, East Home Roof (2/8) & East Garage Roof (4/8)



Summary for Subcatchment P5S: Drive 5

Runoff = 0.87 cfs @ 12.13 hrs, Volume= 2,983 cf, Depth= 3.33"
 Routed to Pond P6P : CB-6

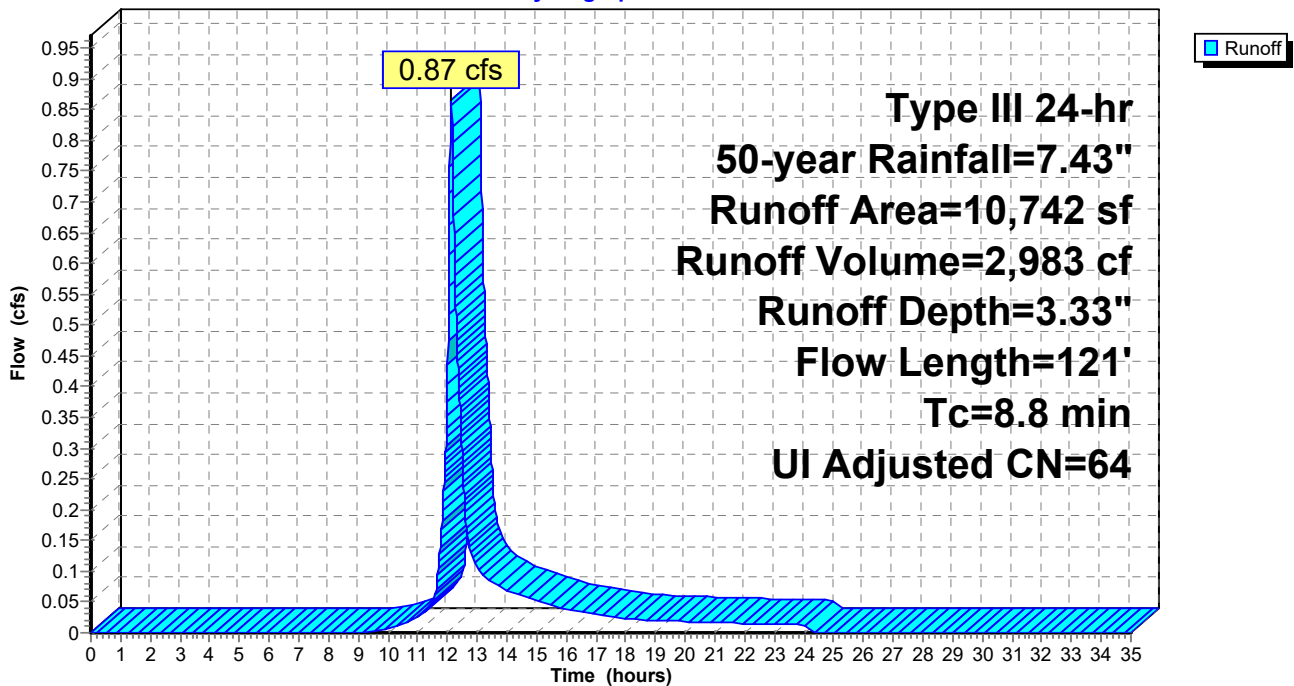
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Adj	Description
1,843	98		Unconnected pavement, HSG B
8,899	61		>75% Grass cover, Good, HSG B
10,742	67	64	Weighted Average, UI Adjusted
8,899			82.84% Pervious Area
1,843			17.16% Impervious Area
1,843			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	105	0.0670	0.20		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 3.52"
0.1	16	0.0200	2.87		Shallow Concentrated Flow, SCF Paved Kv= 20.3 fps
8.8	121	Total			

Subcatchment P5S: Drive 5

Hydrograph



Weston - 40 Weston Road r-1

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Type III 24-hr 50-year Rainfall=7.43"

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Summary for Subcatchment P7S: Drive 1

Runoff = 0.14 cfs @ 12.07 hrs, Volume= 447 cf, Depth= 5.90"
 Routed to Pond P1P : CB-1

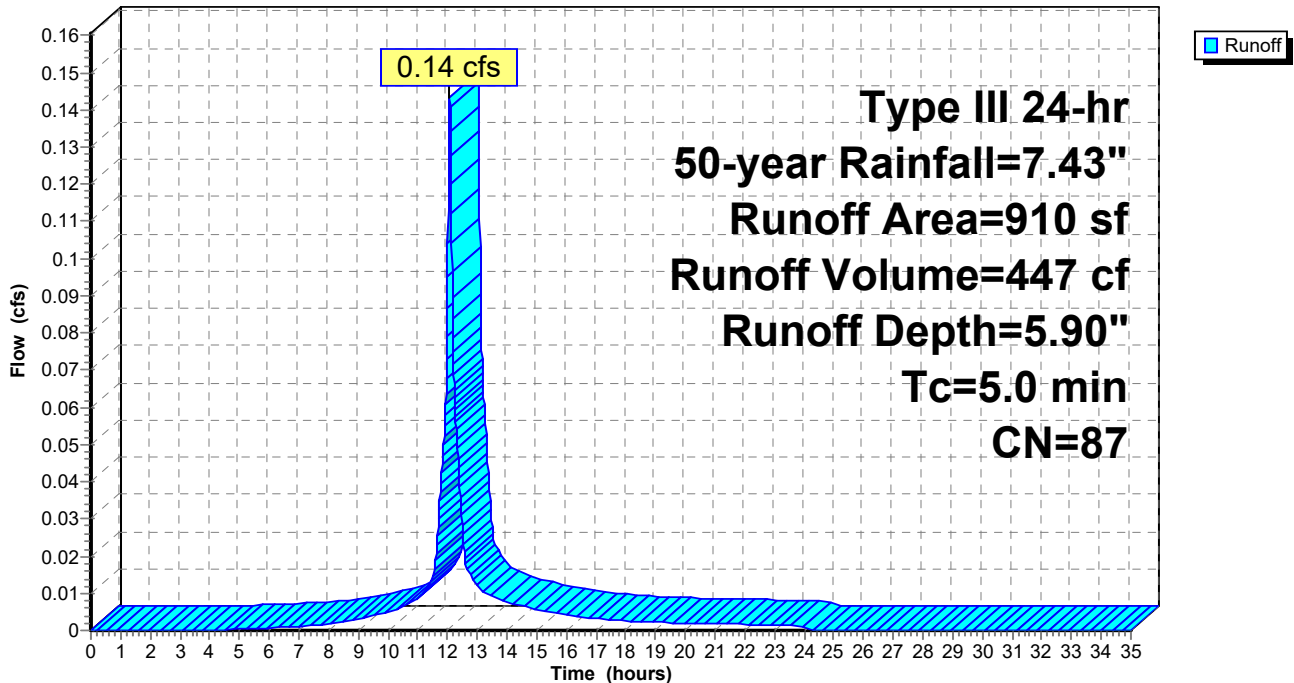
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
477	98	Unconnected pavement, HSG C
433	74	>75% Grass cover, Good, HSG C
910	87	Weighted Average
433		47.58% Pervious Area
477		52.42% Impervious Area
477		100.00% Unconnected

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

Subcatchment P7S: Drive 1

Hydrograph



Summary for Subcatchment P8S: Drive 2

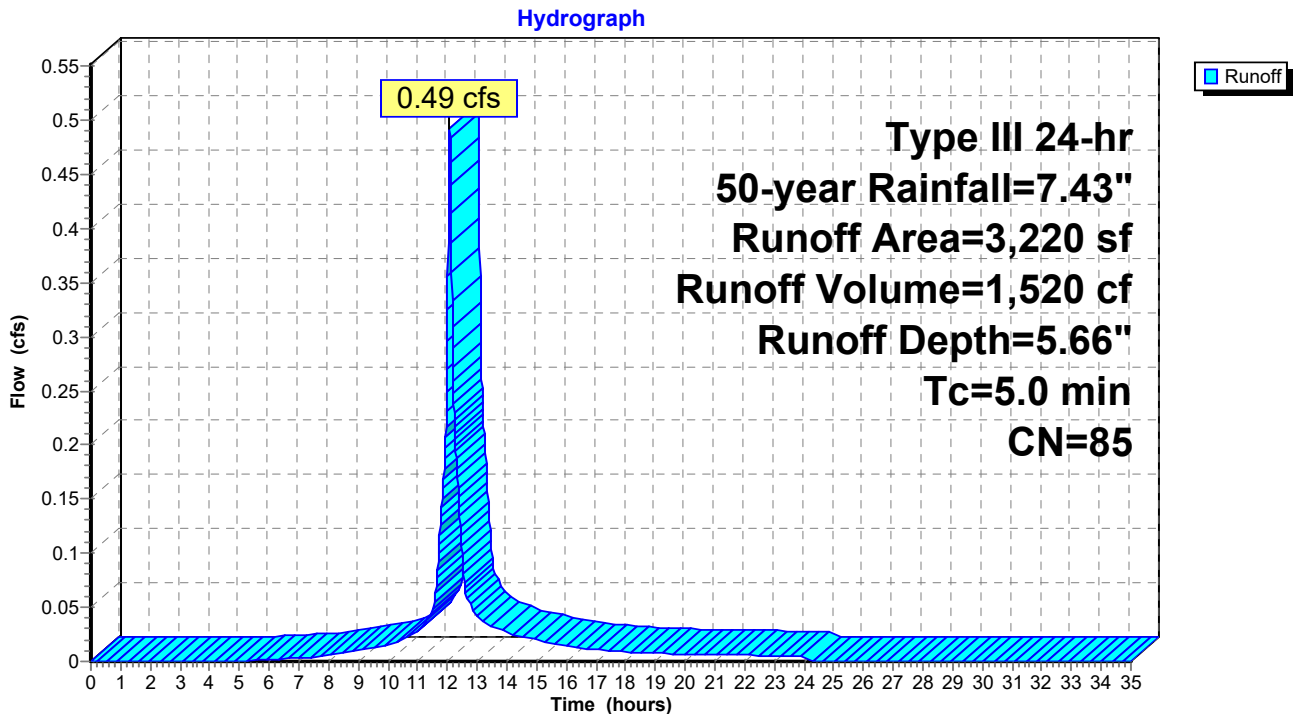
Runoff = 0.49 cfs @ 12.07 hrs, Volume= 1,520 cf, Depth= 5.66"
 Routed to Pond P2P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
1,429	98	Unconnected pavement, HSG C
1,791	74	>75% Grass cover, Good, HSG C
3,220	85	Weighted Average
1,791		55.62% Pervious Area
1,429		44.38% Impervious Area
1,429		100.00% Unconnected

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

Subcatchment P8S: Drive 2



Summary for Subcatchment P9S: Drive 7

Runoff = 0.43 cfs @ 12.07 hrs, Volume= 1,389 cf, Depth= 6.48"
 Routed to Pond P3P : CB-3

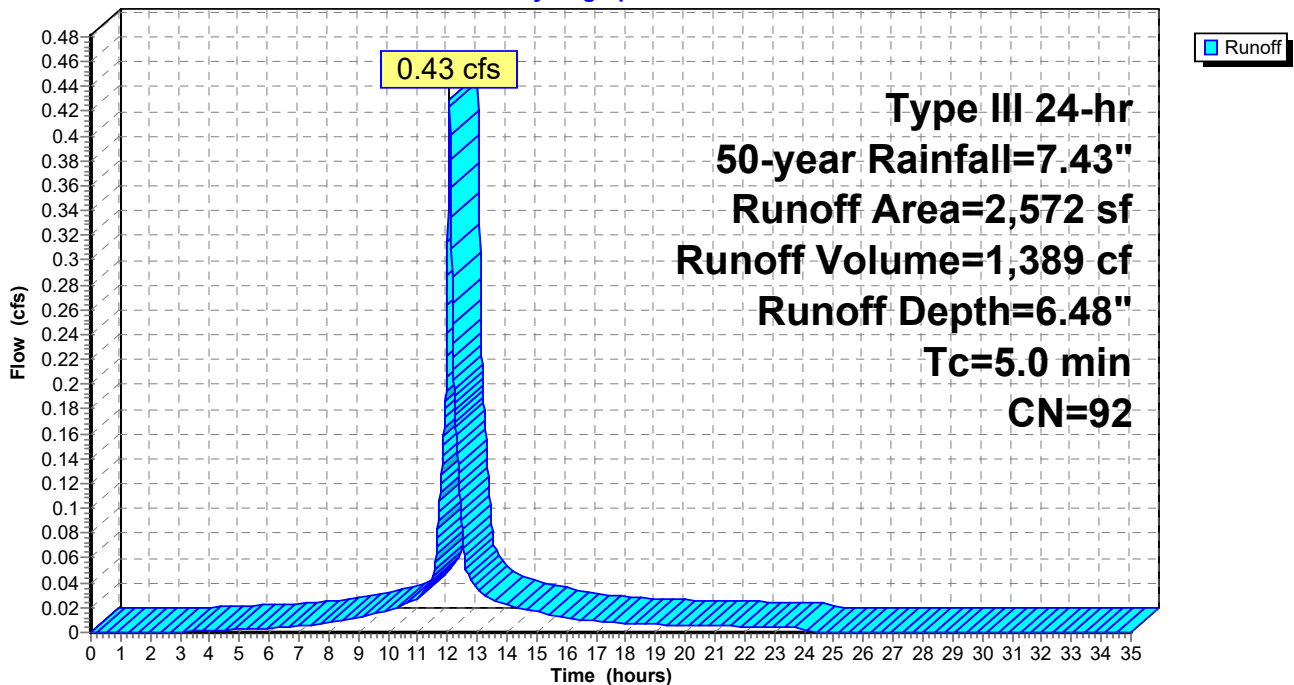
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Type III 24-hr 50-year Rainfall=7.43"

Area (sf)	CN	Description
1,893	98	Unconnected pavement, HSG C
679	74	>75% Grass cover, Good, HSG C
2,572	92	Weighted Average
679		26.40% Pervious Area
1,893		73.60% Impervious Area
1,893		100.00% Unconnected

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

Subcatchment P9S: Drive 7

Hydrograph



Summary for Pond P10P: Infiltration System 1

Inflow Area = 17,470 sf, 39.30% Impervious, Inflow Depth = 4.49" for 50-year event
 Inflow = 1.87 cfs @ 12.09 hrs, Volume= 6,539 cf
 Outflow = 0.62 cfs @ 12.50 hrs, Volume= 6,539 cf, Atten= 67%, Lag= 24.7 min
 Discarded = 0.19 cfs @ 12.50 hrs, Volume= 6,361 cf
 Primary = 0.43 cfs @ 12.50 hrs, Volume= 178 cf
 Routed to Link P2L : Site Total (Proposed Condition)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 61.93' @ 12.50 hrs Surf.Area= 1,055 sf Storage= 2,589 cf

Plug-Flow detention time= 161.7 min calculated for 6,537 cf (100% of inflow)
 Center-of-Mass det. time= 161.6 min (966.9 - 805.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	58.00'	485 cf	10.80'W x 90.00'L x 4.00'H Field A 3,888 cf Overall - 2,676 cf Embedded = 1,212 cf x 40.0% Voids
#2A	58.00'	2,058 cf	Concrete Galley 4x8x4 x 22 Inside #1 Inside= 42.0"W x 43.0"H => 12.47 sf x 7.50'L = 93.6 cf Outside= 52.8"W x 48.0"H => 15.20 sf x 8.00'L = 121.6 cf 22 Chambers in 2 Rows
#3	64.50'	16 cf	2.00'W x 2.00'L x 4.00'H CB-3
#4	63.00'	16 cf	2.00'W x 2.00'L x 4.00'H CB-4
#5	61.50'	16 cf	2.00'W x 2.00'L x 4.00'H CB-5
#6	59.70'	16 cf	2.00'W x 2.00'L x 4.00'H CB-6
#7	60.40'	45 cf	1.50'W x 50.00'L x 1.50'H Prismaoid 113 cf Overall x 40.0% Voids
		2,652 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	61.90'	30.0' long Sharp-Crested Rectangular Weir 0 End Contraction(s)
#2	Discarded	58.00'	3.000 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 50.00' Phase-In= 0.01'

Discarded OutFlow Max=0.19 cfs @ 12.50 hrs HW=61.93' (Free Discharge)
 ↳ **2=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=0.38 cfs @ 12.50 hrs HW=61.92' TW=0.00' (Dynamic Tailwater)
 ↳ **1=Sharp-Crested Rectangular Weir** (Weir Controls 0.38 cfs @ 0.51 fps)

Pond P10P: Infiltration System 1 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x4 (Concrete Galley, UCPI 4x8x4 Galley or equivalent)

Inside= 42.0"W x 43.0"H => 12.47 sf x 7.50'L = 93.6 cf

Outside= 52.8"W x 48.0"H => 15.20 sf x 8.00'L = 121.6 cf

11 Chambers/Row x 8.00' Long = 88.00' Row Length +12.0" End Stone x 2 = 90.00' Base Length

2 Rows x 52.8" Wide + 12.0" Side Stone x 2 = 10.80' Base Width

48.0" Chamber Height = 4.00' Field Height

22 Chambers x 93.6 cf = 2,058.4 cf Chamber Storage

22 Chambers x 121.6 cf = 2,676.0 cf Displacement

3,888.0 cf Field - 2,676.0 cf Chambers = 1,212.0 cf Stone x 40.0% Voids = 484.8 cf Stone Storage

Chamber Storage + Stone Storage = 2,543.2 cf = 0.058 af

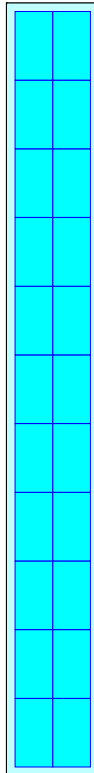
Overall Storage Efficiency = 65.4%

Overall System Size = 90.00' x 10.80' x 4.00'

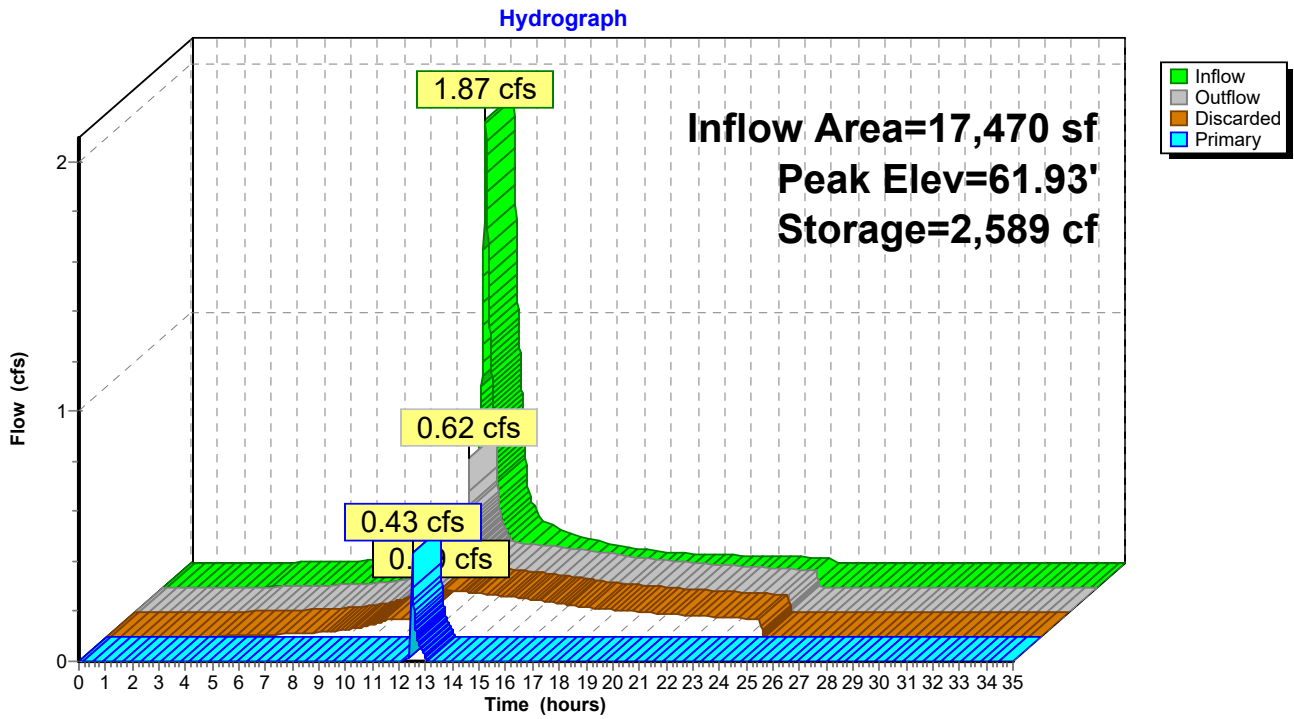
22 Chambers

144.0 cy Field

44.9 cy Stone



Pond P10P: Infiltration System 1



Summary for Pond P11P: Infiltration System 2

Inflow Area = 6,702 sf, 56.68% Impervious, Inflow Depth = 6.01" for 50-year event
 Inflow = 1.07 cfs @ 12.07 hrs, Volume= 3,356 cf
 Outflow = 0.20 cfs @ 12.50 hrs, Volume= 3,356 cf, Atten= 81%, Lag= 25.9 min
 Discarded = 0.20 cfs @ 12.50 hrs, Volume= 3,356 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Pond P12P : Infiltration System 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 63.55' @ 12.50 hrs Surf.Area= 510 sf Storage= 950 cf

Plug-Flow detention time= 32.1 min calculated for 3,355 cf (100% of inflow)
 Center-of-Mass det. time= 32.1 min (814.3 - 782.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	61.00'	232 cf	19.60'W x 26.00'L x 4.00'H Field A 2,038 cf Overall - 1,460 cf Embedded = 579 cf x 40.0% Voids
#2A	61.00'	1,123 cf	Concrete Galley 4x8x4 x 12 Inside #1 Inside= 42.0"W x 43.0"H => 12.47 sf x 7.50'L = 93.6 cf Outside= 52.8"W x 48.0"H => 15.20 sf x 8.00'L = 121.6 cf 12 Chambers in 4 Rows
#3	65.50'	16 cf	2.00'W x 2.00'L x 4.00'H CB-1
#4	64.00'	16 cf	2.00'W x 2.00'L x 4.00'H CB-2
#5	65.00'	18 cf	2.00'W x 2.00'L x 4.50'H CB-7
		1,404 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 59.00' S= 0.0600 ' /' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	61.00'	10.000 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 49.00' Phase-In= 0.01'

Discarded OutFlow Max=0.20 cfs @ 12.50 hrs HW=63.55' (Free Discharge)

↑**2=Exfiltration** (Controls 0.20 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=61.00' TW=58.50' (Dynamic Tailwater)

↑**1=Culvert** (Controls 0.00 cfs)

Pond P11P: Infiltration System 2 - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x4 (Concrete Galley, UCPI 4x8x4 Galley or equivalent)

Inside= 42.0"W x 43.0"H => 12.47 sf x 7.50'L = 93.6 cf

Outside= 52.8"W x 48.0"H => 15.20 sf x 8.00'L = 121.6 cf

3 Chambers/Row x 8.00' Long = 24.00' Row Length +12.0" End Stone x 2 = 26.00' Base Length

4 Rows x 52.8" Wide + 12.0" Side Stone x 2 = 19.60' Base Width

48.0" Chamber Height = 4.00' Field Height

12 Chambers x 93.6 cf = 1,122.7 cf Chamber Storage

12 Chambers x 121.6 cf = 1,459.6 cf Displacement

2,038.4 cf Field - 1,459.6 cf Chambers = 578.8 cf Stone x 40.0% Voids = 231.5 cf Stone Storage

Chamber Storage + Stone Storage = 1,354.3 cf = 0.031 af

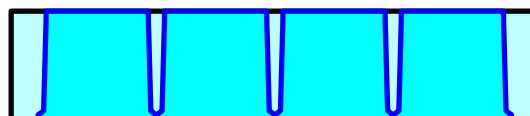
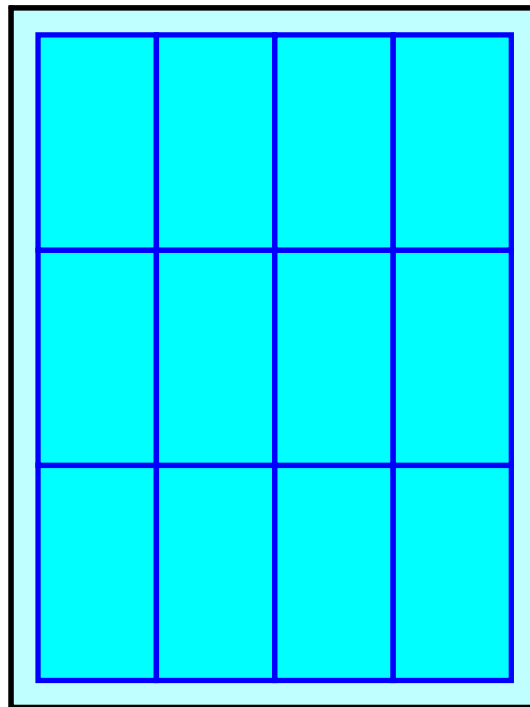
Overall Storage Efficiency = 66.4%

Overall System Size = 26.00' x 19.60' x 4.00'

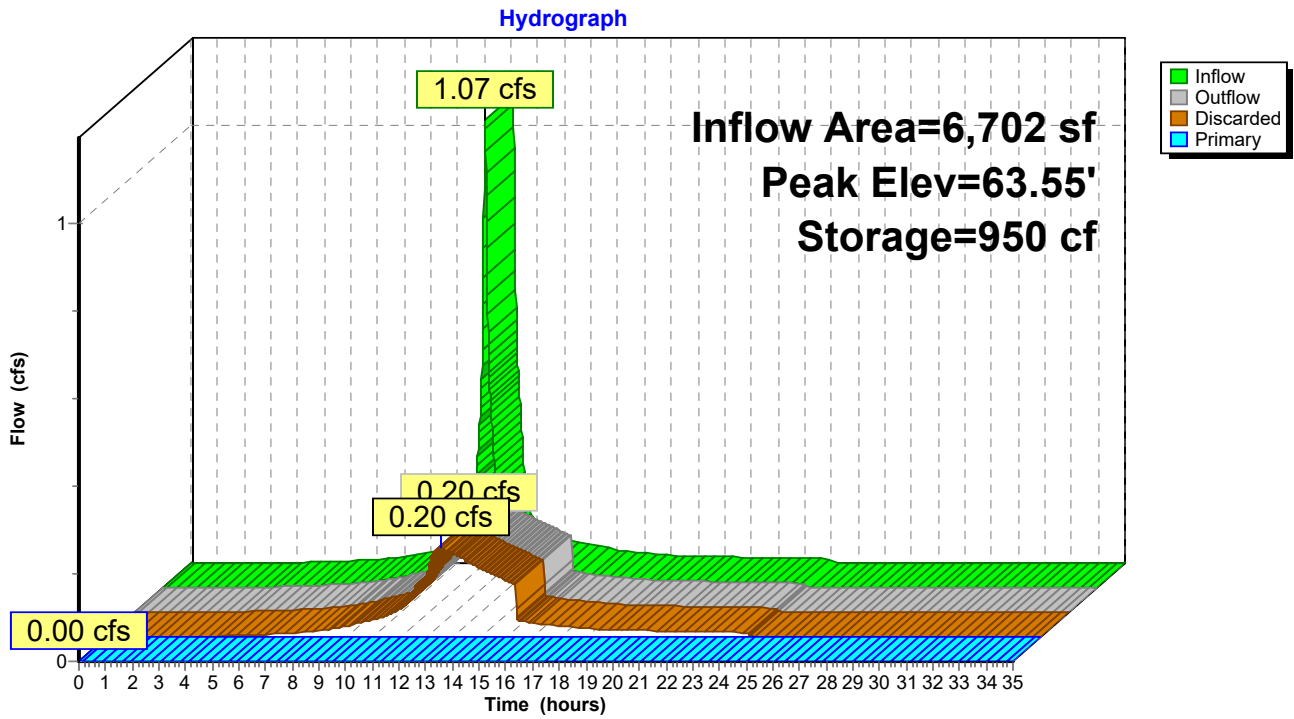
12 Chambers

75.5 cy Field

21.4 cy Stone



Pond P11P: Infiltration System 2



Summary for Pond P12P: Infiltration System 3

Inflow Area = 12,096 sf, 60.24% Impervious, Inflow Depth = 2.76" for 50-year event
 Inflow = 0.88 cfs @ 12.07 hrs, Volume= 2,782 cf
 Outflow = 0.09 cfs @ 12.75 hrs, Volume= 2,782 cf, Atten= 89%, Lag= 40.9 min
 Discarded = 0.09 cfs @ 12.75 hrs, Volume= 2,782 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link P2L : Site Total (Proposed Condition)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 60.72' @ 12.75 hrs Surf.Area= 783 sf Storage= 1,030 cf

Plug-Flow detention time= 95.1 min calculated for 2,781 cf (100% of inflow)
 Center-of-Mass det. time= 95.0 min (873.5 - 778.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	58.50'	576 cf	14.50'W x 54.00'L x 2.54'H Field A 1,990 cf Overall - 551 cf Embedded = 1,439 cf x 40.0% Voids
#2A	59.00'	551 cf	Cultec R-150XLHD x 20 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 4 rows
#3	61.50'	62 cf	Water Quality Swale (Conic) Listed below (Recalc)
#4	59.00'	20 cf	6.0" Round Pipe Storage-Impervious L= 100.0' S= 0.0500 '/
		1,208 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.50	93	0	0	93
62.00	157	62	62	160

Device	Routing	Invert	Outlet Devices
#1	Discarded	58.50'	3.000 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 50.00' Phase-In= 0.01'
#2	Primary	61.00'	1.5" x 0.5" Horiz. Orifice/Grate X 6.00 columns X 14 rows C= 0.600 in 12.0" x 12.0" Grate (44% open area) Limited to weir flow at low heads

Discarded OutFlow Max=0.09 cfs @ 12.75 hrs HW=60.72' (Free Discharge)
 ↑1=Exfiltration (Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=58.50' TW=0.00' (Dynamic Tailwater)
 ↑2=Orifice/Grate (Controls 0.00 cfs)

Pond P12P: Infiltration System 3 - Chamber Wizard Field A

Chamber Model = Cultec R-150XLHD (Cultec Recharger® 150XLHD)

Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf

Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap

Row Length Adjustment= +0.75' x 2.65 sf x 4 rows

33.0" Wide + 6.0" Spacing = 39.0" C-C Row Spacing

5 Chambers/Row x 10.25' Long +0.75' Row Adjustment = 52.00' Row Length +12.0" End Stone x 2 = 54.00' Base Length

4 Rows x 33.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 14.50' Base Width

6.0" Stone Base + 18.5" Chamber Height + 6.0" Stone Cover = 2.54' Field Height

20 Chambers x 27.2 cf +0.75' Row Adjustment x 2.65 sf x 4 Rows = 551.0 cf Chamber Storage

1,990.1 cf Field - 551.0 cf Chambers = 1,439.1 cf Stone x 40.0% Voids = 575.7 cf Stone Storage

Chamber Storage + Stone Storage = 1,126.6 cf = 0.026 af

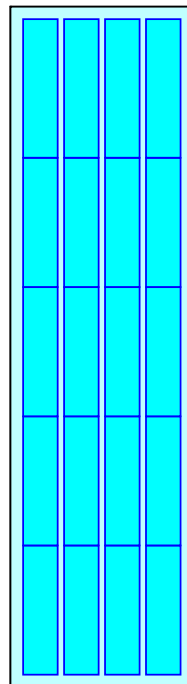
Overall Storage Efficiency = 56.6%

Overall System Size = 54.00' x 14.50' x 2.54'

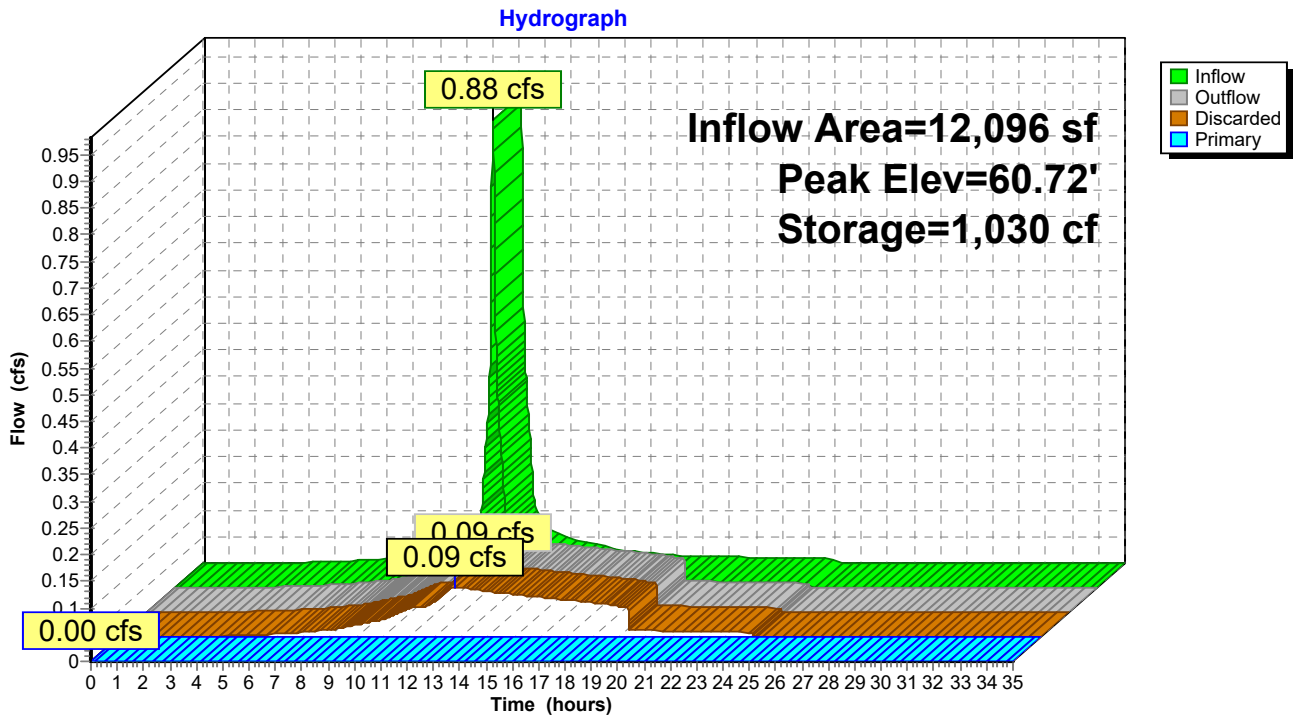
20 Chambers

73.7 cy Field

53.3 cy Stone



Pond P12P: Infiltration System 3



Summary for Pond P1P: CB-1

Inflow Area = 910 sf, 52.42% Impervious, Inflow Depth = 5.90" for 50-year event
 Inflow = 0.14 cfs @ 12.07 hrs, Volume= 447 cf
 Outflow = 0.14 cfs @ 12.07 hrs, Volume= 447 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.14 cfs @ 12.07 hrs, Volume= 447 cf
 Routed to Pond P2P : CB-2

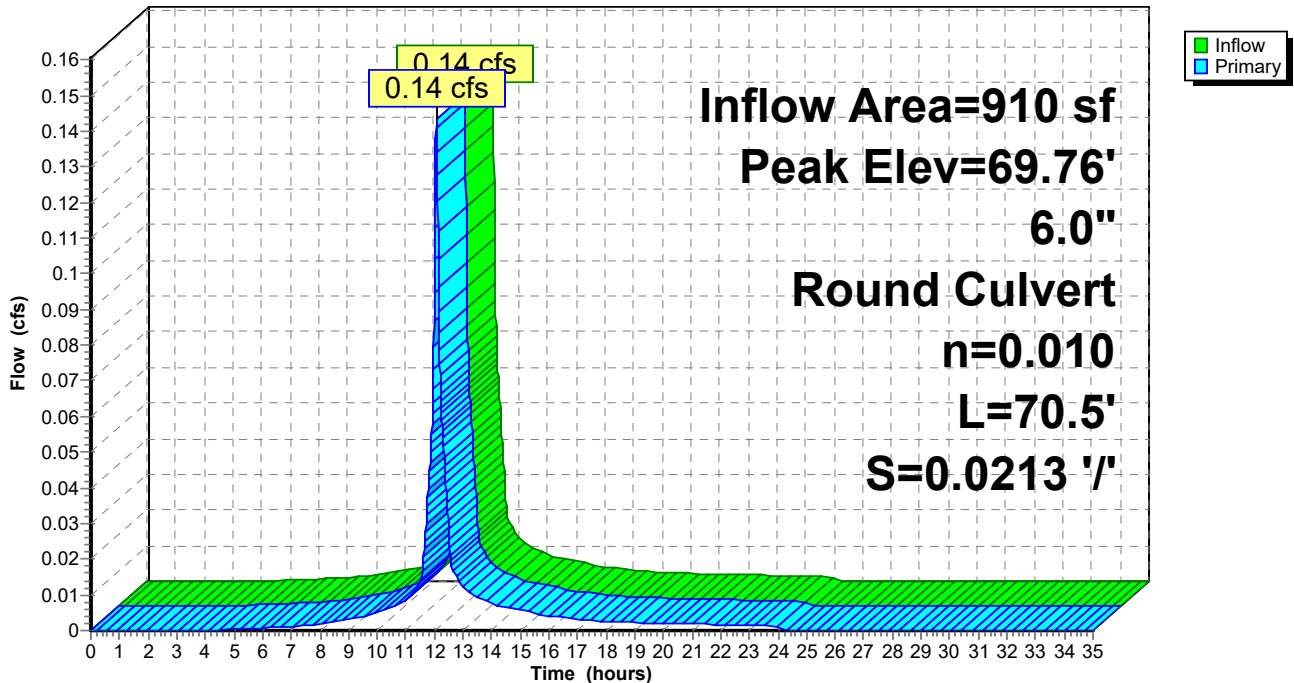
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 69.76' @ 12.07 hrs
 Flood Elev= 71.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.50'	6.0" Round Culvert L= 70.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.50' / 68.00' S= 0.0213 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.14 cfs @ 12.07 hrs HW=69.76' TW=69.29' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 0.14 cfs @ 1.38 fps)

Pond P1P: CB-1

Hydrograph



Summary for Pond P2P: CB-2

Inflow Area = 4,130 sf, 46.15% Impervious, Inflow Depth = 5.72" for 50-year event
 Inflow = 0.64 cfs @ 12.07 hrs, Volume= 1,967 cf
 Outflow = 0.64 cfs @ 12.07 hrs, Volume= 1,967 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.64 cfs @ 12.07 hrs, Volume= 1,967 cf
 Routed to Pond P3P : CB-3

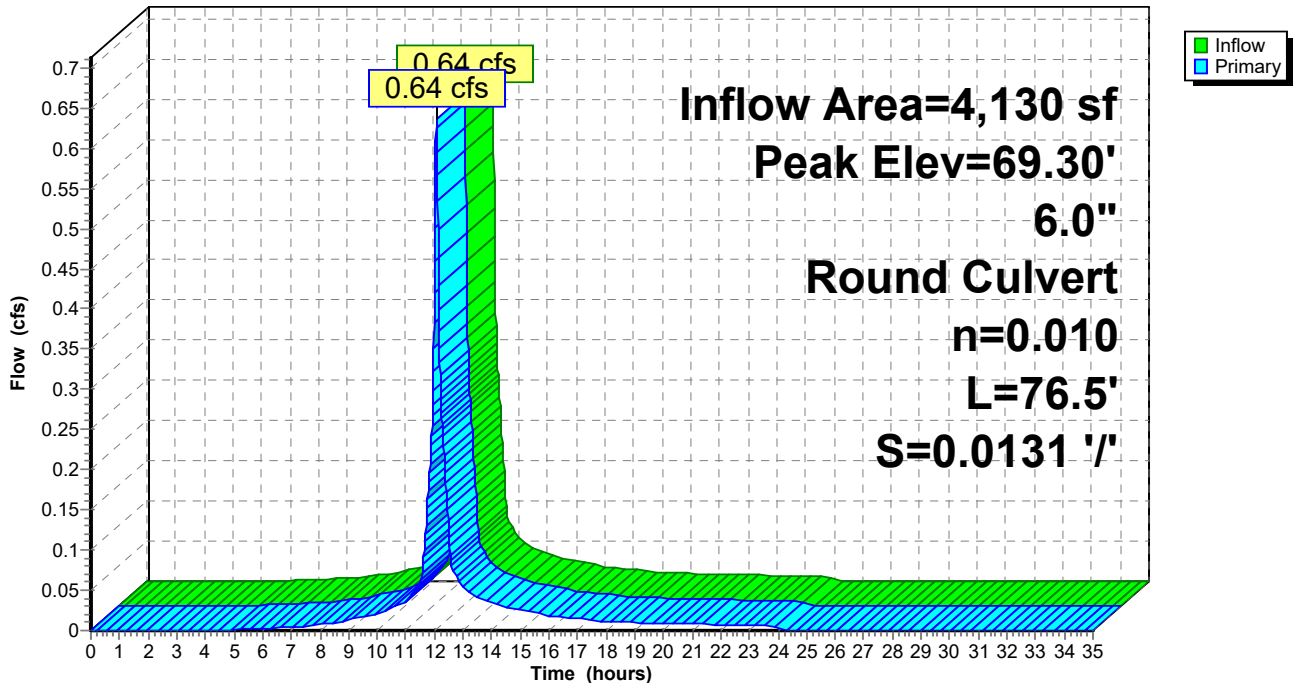
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 69.30' @ 12.08 hrs
 Flood Elev= 70.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	6.0" Round Culvert L= 76.5' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.00' S= 0.0131 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.63 cfs @ 12.07 hrs HW=69.29' TW=68.48' (Dynamic Tailwater)
 ←1=Culvert (Outlet Controls 0.63 cfs @ 3.22 fps)

Pond P2P: CB-2

Hydrograph



Summary for Pond P3P: CB-3

Inflow Area = 6,702 sf, 56.68% Impervious, Inflow Depth = 6.01" for 50-year event
 Inflow = 1.07 cfs @ 12.07 hrs, Volume= 3,356 cf
 Outflow = 1.07 cfs @ 12.07 hrs, Volume= 3,356 cf, Atten= 0%, Lag= 0.0 min
 Primary = 1.07 cfs @ 12.07 hrs, Volume= 3,356 cf
 Routed to Pond P11P : Infiltration System 2

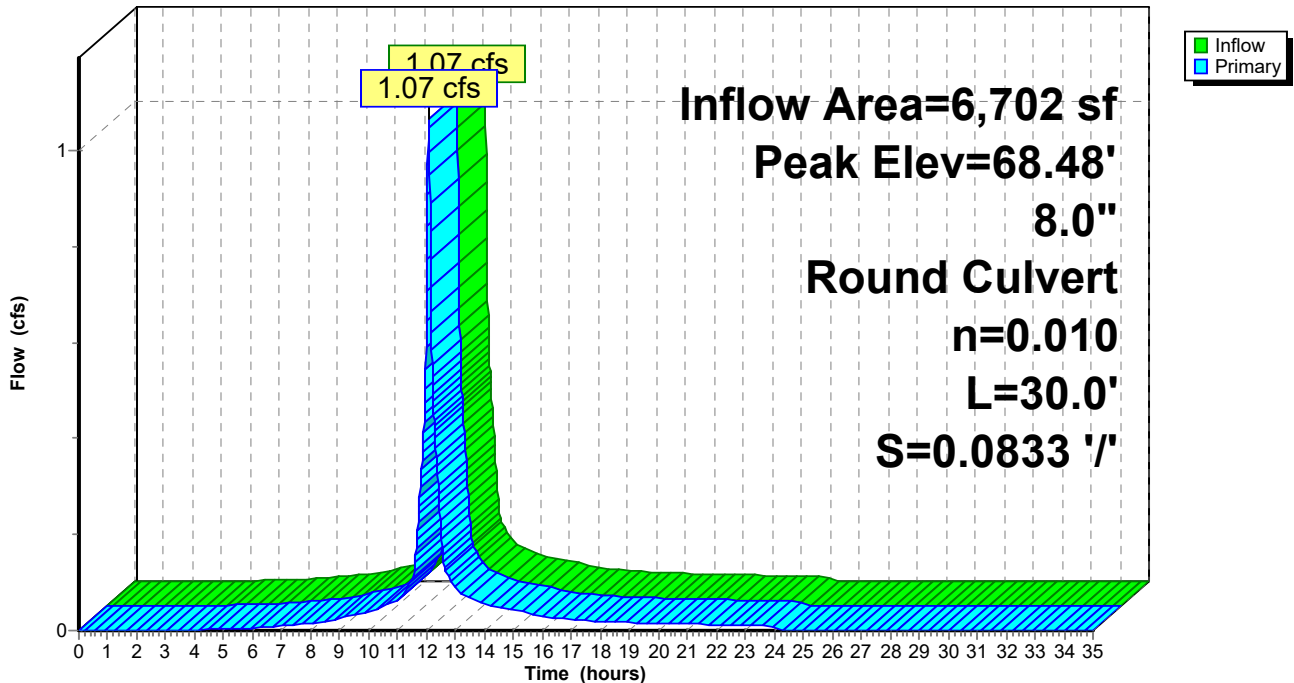
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 68.48' @ 12.07 hrs
 Flood Elev= 69.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	67.50'	8.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.50' / 65.00' S= 0.0833 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.06 cfs @ 12.07 hrs HW=68.48' TW=62.32' (Dynamic Tailwater)
 ←**1=Culvert** (Inlet Controls 1.06 cfs @ 3.05 fps)

Pond P3P: CB-3

Hydrograph



Summary for Pond P4P: CB-4

Inflow Area = 3,386 sf, 69.34% Impervious, Inflow Depth = 6.32" for 50-year event
 Inflow = 0.55 cfs @ 12.07 hrs, Volume= 1,784 cf
 Outflow = 0.55 cfs @ 12.07 hrs, Volume= 1,784 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.55 cfs @ 12.07 hrs, Volume= 1,784 cf
 Routed to Pond P5P : CB-5

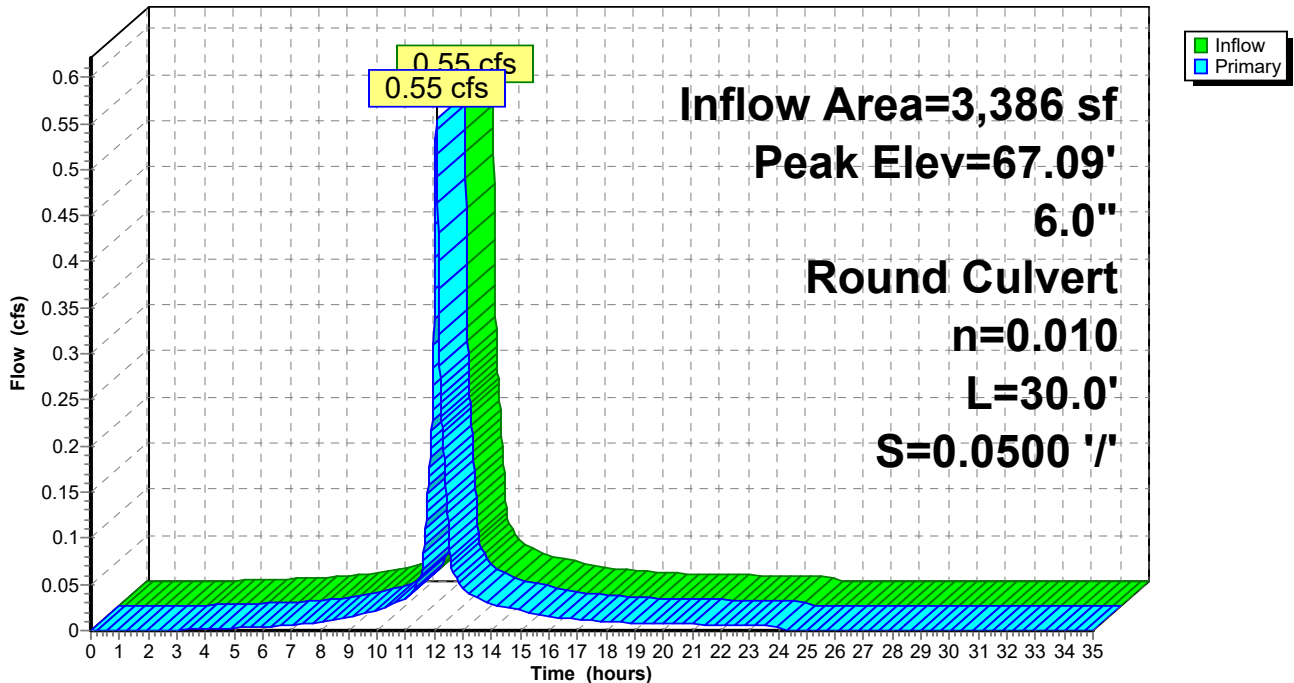
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 67.09' @ 12.07 hrs
 Flood Elev= 68.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.50'	6.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 66.50' / 65.00' S= 0.0500 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.55 cfs @ 12.07 hrs HW=67.09' TW=65.77' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 0.55 cfs @ 2.82 fps)

Pond P4P: CB-4

Hydrograph



Summary for Pond P5P: CB-5

Inflow Area = 6,728 sf, 74.64% Impervious, Inflow Depth = 6.34" for 50-year event
 Inflow = 1.11 cfs @ 12.07 hrs, Volume= 3,556 cf
 Outflow = 1.11 cfs @ 12.07 hrs, Volume= 3,556 cf, Atten= 0%, Lag= 0.0 min
 Primary = 1.11 cfs @ 12.07 hrs, Volume= 3,556 cf
 Routed to Pond P10P : Infiltration System 1

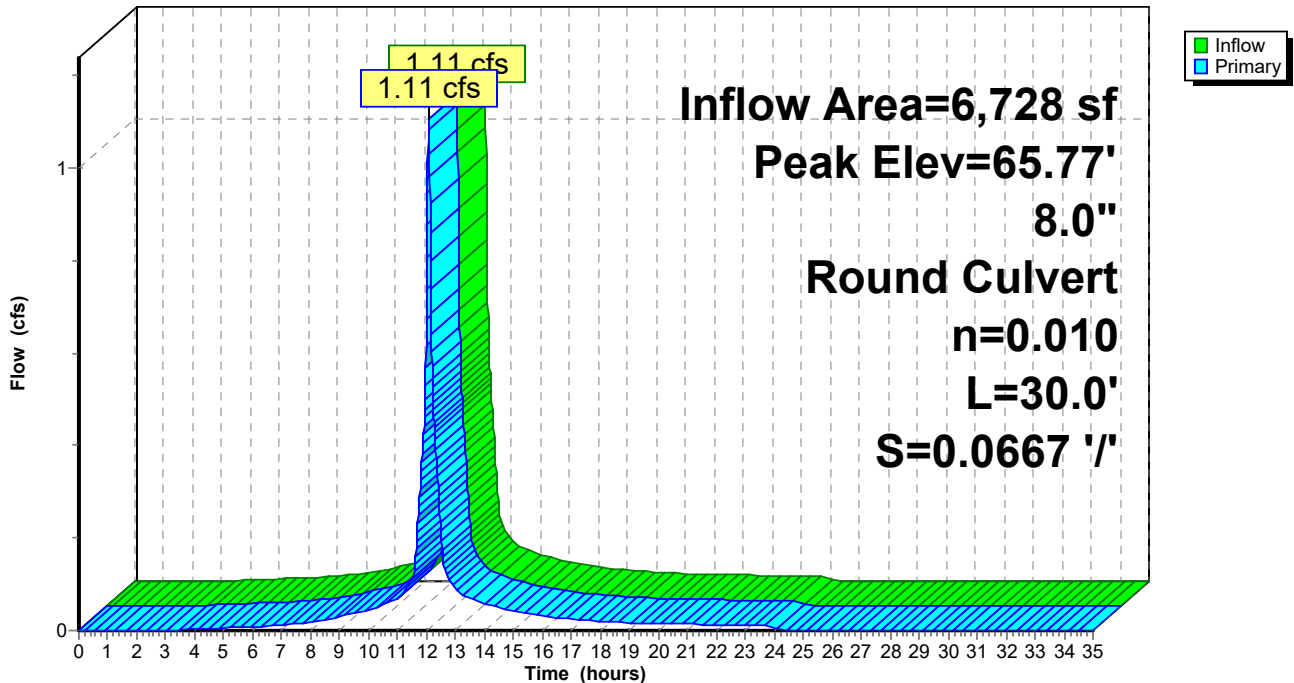
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 65.77' @ 12.07 hrs
 Flood Elev= 67.00'

Device #	Routing	Invert	Outlet Devices
#1	Primary	65.00'	8.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 65.00' / 63.00' S= 0.0667 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.11 cfs @ 12.07 hrs HW=65.77' TW=59.70' (Dynamic Tailwater)
 ←1=Culvert (Inlet Controls 1.11 cfs @ 3.17 fps)

Pond P5P: CB-5

Hydrograph



Summary for Pond P6P: CB-6

Inflow Area = 10,742 sf, 17.16% Impervious, Inflow Depth = 3.33" for 50-year event
 Inflow = 0.87 cfs @ 12.13 hrs, Volume= 2,983 cf
 Outflow = 0.87 cfs @ 12.13 hrs, Volume= 2,983 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.87 cfs @ 12.13 hrs, Volume= 2,983 cf
 Routed to Pond P10P : Infiltration System 1

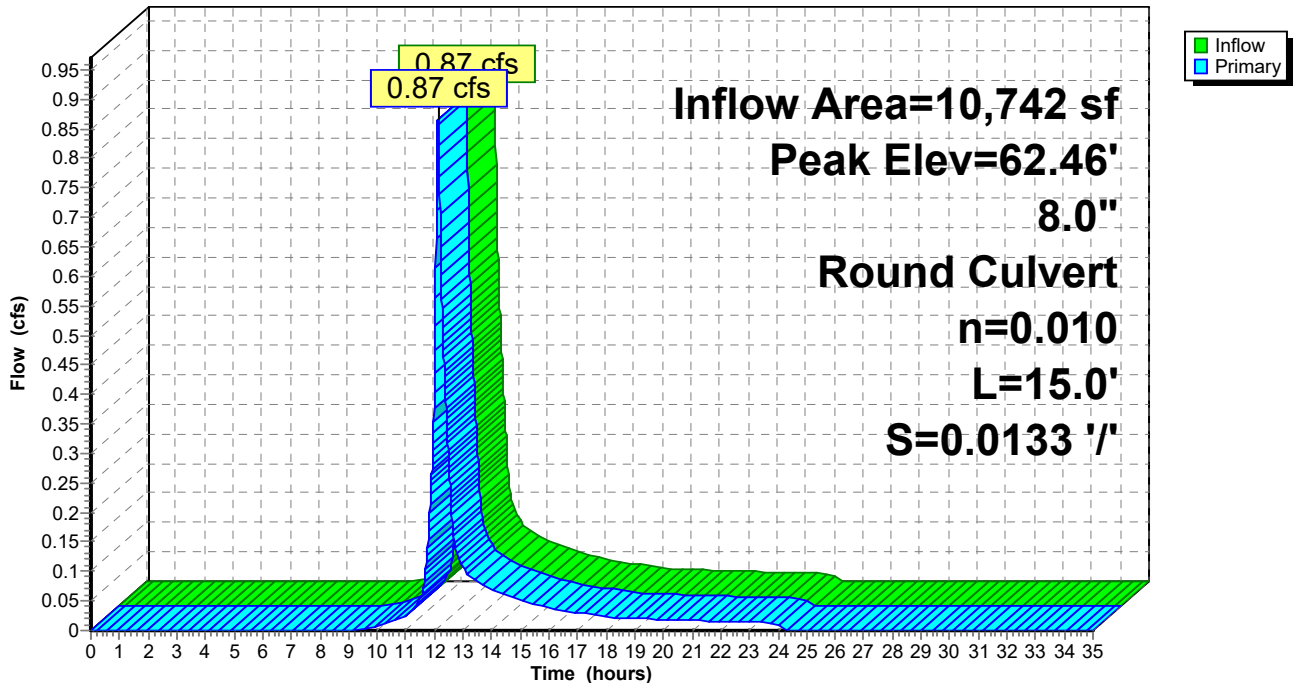
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 62.46' @ 12.13 hrs
 Flood Elev= 63.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.70'	8.0" Round Culvert L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.70' / 61.50' S= 0.0133 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.87 cfs @ 12.13 hrs HW=62.46' TW=60.20' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 0.87 cfs @ 2.48 fps)

Pond P6P: CB-6

Hydrograph



Summary for Pond P8P: CB-8

Inflow Area = 2,722 sf, 72.01% Impervious, Inflow Depth = 6.36" for 50-year event
 Inflow = 0.45 cfs @ 12.07 hrs, Volume= 1,443 cf
 Outflow = 0.45 cfs @ 12.07 hrs, Volume= 1,443 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.45 cfs @ 12.07 hrs, Volume= 1,443 cf
 Routed to Pond P12P : Infiltration System 3

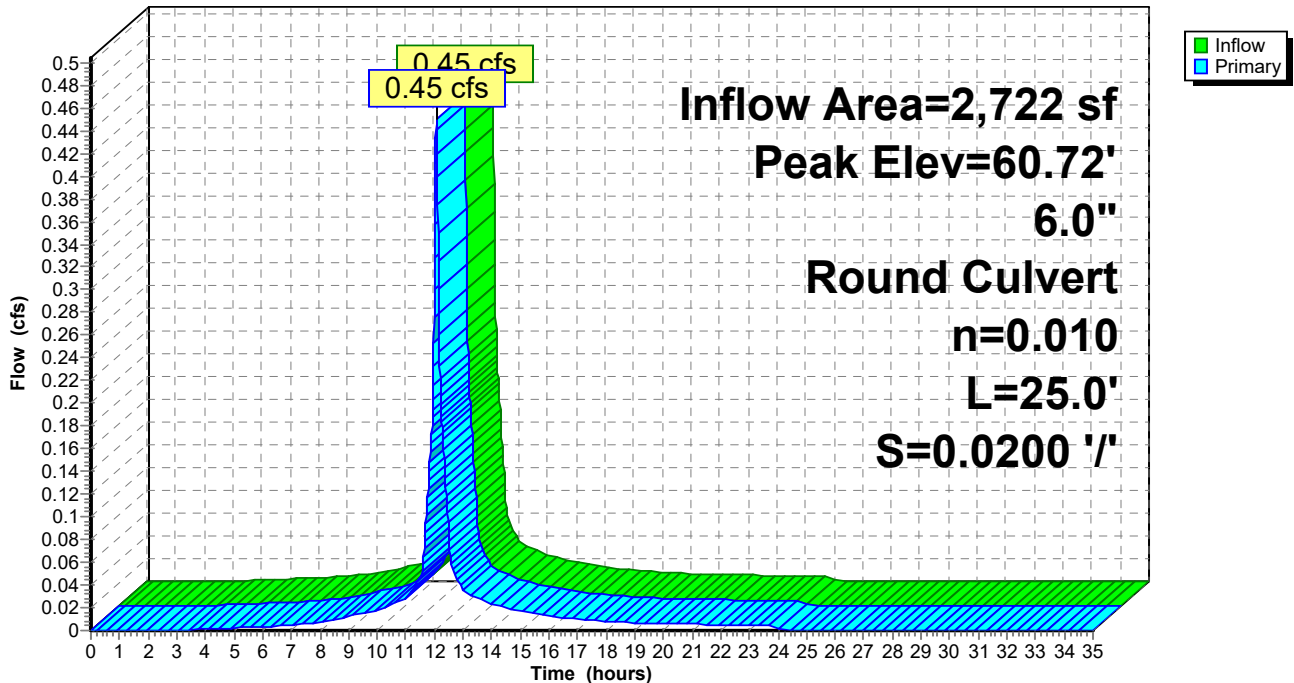
Routing by Dyn-Stor-Ind method, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs
 Peak Elev= 60.72' @ 12.75 hrs
 Flood Elev= 61.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	6.0" Round Culvert L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.00' / 59.50' S= 0.0200 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.45 cfs @ 12.07 hrs HW=60.61' TW=59.61' (Dynamic Tailwater)
 ↑ **1=Culvert** (Inlet Controls 0.45 cfs @ 2.29 fps)

Pond P8P: CB-8

Hydrograph

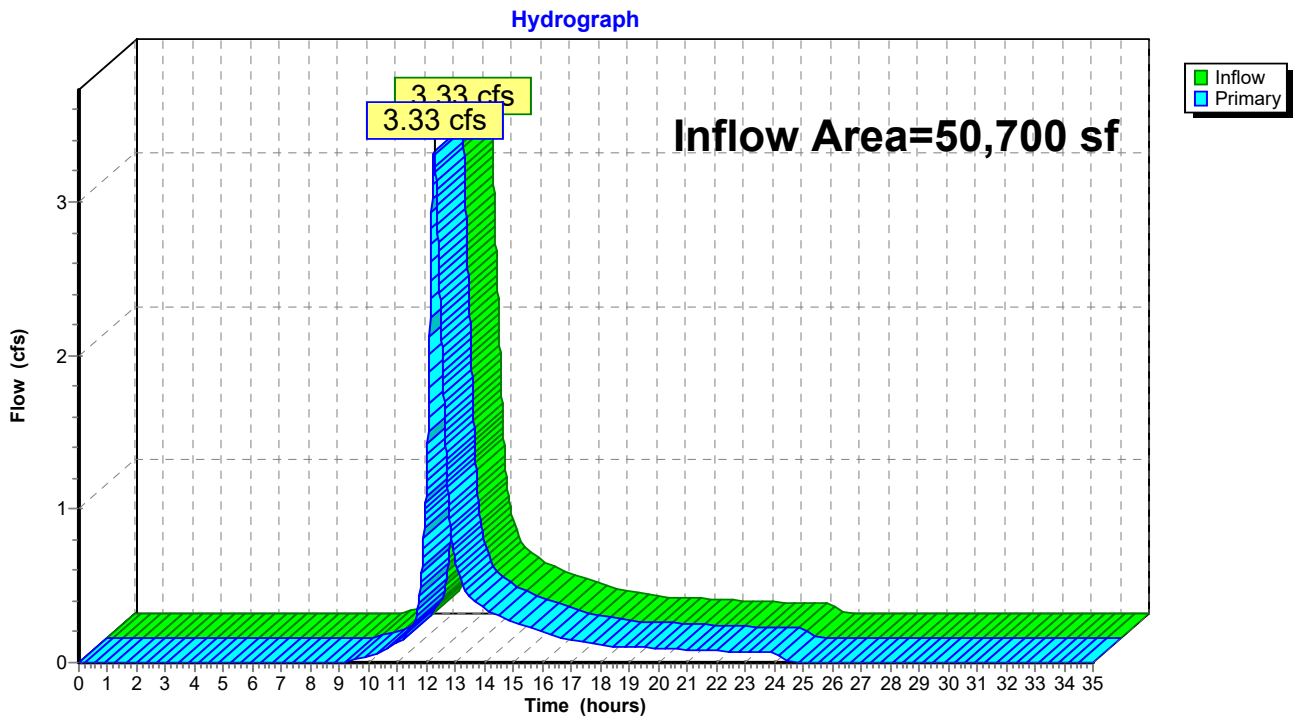


Summary for Link E1L: Site Total (Existing Condition)

Inflow Area = 50,700 sf, 0.00% Impervious, Inflow Depth = 3.55" for 50-year event
Inflow = 3.33 cfs @ 12.26 hrs, Volume= 14,980 cf
Primary = 3.33 cfs @ 12.26 hrs, Volume= 14,980 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Link E1L: Site Total (Existing Condition)

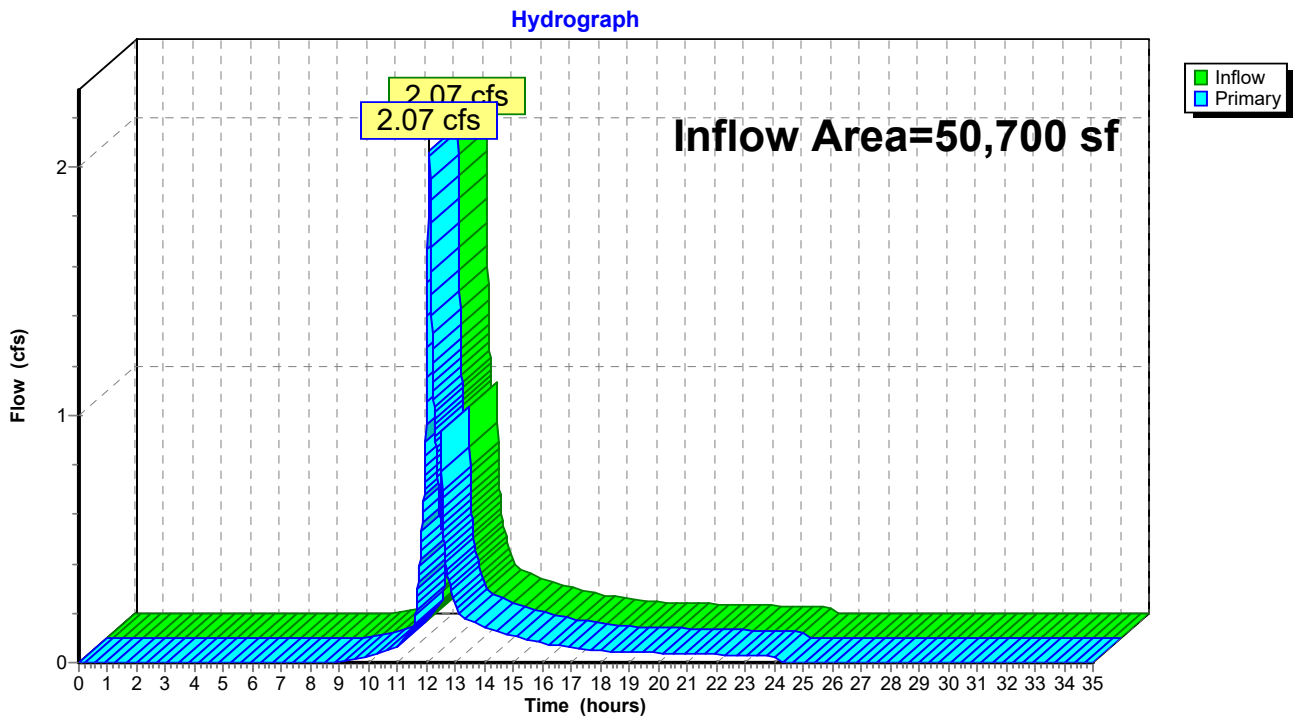


Summary for Link P2L: Site Total (Proposed Condition)

Inflow Area = 50,700 sf, 30.47% Impervious, Inflow Depth = 1.56" for 50-year event
Inflow = 2.07 cfs @ 12.09 hrs, Volume= 6,612 cf
Primary = 2.07 cfs @ 12.09 hrs, Volume= 6,612 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-35.00 hrs, dt= 0.01 hrs

Link P2L: Site Total (Proposed Condition)



Water Quality Computations

Project: 40 Weston Road Computed By: Justin Giorlando, PE

Town: Weston, CT Date: 10/10/2025

System: Multiple Underground Retention Systems

Water Quality Volume

Compute volumetric runoff coefficient, R

$$R = 0.05 + 0.009(I)$$

Compute water quality volume, WQV

$$WQV = (P)(R)(A)/12$$

Project Site Area (SF)	50,700 SF
New Impervious Area (SF)	15,449 SF

Water Quality Volume (WQV)	
Area (A) =	1.164 acres
Design Precipitation (P) =	1.3 inches
New % Impervious Cover (I) =	30.5 %
Volumetric Runoff Coefficient (R) =	0.324
Required WQV =	0.041 acre-feet
Required WQV =	1781 cubic feet



NOAA Atlas 14, Volume 10, Version 3
Location name: Weston, Connecticut, USA*
Latitude: 41.1839°, Longitude: -73.3694°
Elevation: 64 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.365 (0.285-0.463)	0.425 (0.331-0.540)	0.523 (0.406-0.666)	0.605 (0.467-0.774)	0.717 (0.535-0.949)	0.802 (0.586-1.08)	0.890 (0.629-1.23)	0.983 (0.664-1.40)	1.11 (0.722-1.63)	1.21 (0.767-1.81)
10-min	0.517 (0.403-0.656)	0.602 (0.469-0.765)	0.741 (0.575-0.944)	0.857 (0.661-1.10)	1.02 (0.758-1.34)	1.14 (0.830-1.53)	1.26 (0.891-1.75)	1.39 (0.939-1.98)	1.57 (1.02-2.30)	1.72 (1.09-2.56)
15-min	0.608 (0.474-0.772)	0.708 (0.552-0.900)	0.872 (0.677-1.11)	1.01 (0.778-1.29)	1.20 (0.891-1.58)	1.34 (0.976-1.80)	1.48 (1.05-2.06)	1.64 (1.10-2.33)	1.85 (1.20-2.71)	2.02 (1.28-3.01)
30-min	0.846 (0.660-1.07)	0.986 (0.768-1.25)	1.21 (0.942-1.55)	1.40 (1.08-1.80)	1.66 (1.24-2.20)	1.86 (1.36-2.50)	2.06 (1.45-2.85)	2.27 (1.53-3.23)	2.55 (1.65-3.73)	2.76 (1.75-4.11)
60-min	1.08 (0.845-1.38)	1.26 (0.984-1.60)	1.56 (1.21-1.98)	1.80 (1.39-2.30)	2.13 (1.59-2.82)	2.39 (1.74-3.21)	2.65 (1.86-3.64)	2.90 (1.96-4.12)	3.24 (2.10-4.74)	3.50 (2.21-5.21)
2-hr	1.39 (1.09-1.75)	1.64 (1.29-2.07)	2.06 (1.60-2.60)	2.40 (1.86-3.05)	2.87 (2.15-3.78)	3.23 (2.37-4.32)	3.60 (2.56-4.96)	3.99 (2.70-5.64)	4.54 (2.95-6.61)	4.97 (3.16-7.37)
3-hr	1.60 (1.26-2.00)	1.90 (1.49-2.39)	2.40 (1.88-3.02)	2.81 (2.19-3.55)	3.37 (2.54-4.43)	3.80 (2.80-5.08)	4.25 (3.04-5.86)	4.74 (3.21-6.67)	5.44 (3.54-7.88)	6.00 (3.82-8.85)
6-hr	2.00 (1.59-2.50)	2.40 (1.90-3.00)	3.06 (2.41-3.83)	3.60 (2.82-4.53)	4.34 (3.29-5.68)	4.90 (3.64-6.53)	5.49 (3.96-7.56)	6.16 (4.19-8.62)	7.13 (4.66-10.3)	7.93 (5.06-11.6)
12-hr	2.47 (1.97-3.06)	2.98 (2.37-3.69)	3.80 (3.02-4.73)	4.48 (3.54-5.60)	5.42 (4.14-7.05)	6.13 (4.58-8.12)	6.87 (4.99-9.42)	7.74 (5.28-10.7)	9.00 (5.90-12.9)	10.1 (6.43-14.6)
24-hr	2.89 (2.32-3.56)	3.52 (2.82-4.33)	4.54 (3.63-5.61)	5.39 (4.28-6.69)	6.56 (5.04-8.49)	7.43 (5.59-9.81)	8.36 (6.12-11.4)	9.47 (6.49-13.1)	11.1 (7.32-15.8)	12.5 (8.05-18.1)
2-day	3.20 (2.59-3.92)	3.97 (3.21-4.86)	5.23 (4.20-6.42)	6.27 (5.01-7.73)	7.71 (5.96-9.93)	8.76 (6.65-11.5)	9.92 (7.33-13.6)	11.3 (7.79-15.5)	13.5 (8.91-19.1)	15.4 (9.91-22.1)
3-day	3.46 (2.80-4.21)	4.30 (3.48-5.24)	5.68 (4.59-6.95)	6.83 (5.48-8.38)	8.40 (6.53-10.8)	9.57 (7.28-12.6)	10.8 (8.03-14.8)	12.4 (8.54-16.9)	14.8 (9.79-20.9)	16.9 (10.9-24.2)
4-day	3.70 (3.01-4.50)	4.60 (3.73-5.58)	6.05 (4.90-7.38)	7.26 (5.84-8.90)	8.93 (6.95-11.4)	10.2 (7.75-13.3)	11.5 (8.53-15.6)	13.1 (9.07-17.9)	15.7 (10.4-22.0)	17.8 (11.5-25.5)
7-day	4.42 (3.62-5.34)	5.39 (4.40-6.52)	6.98 (5.68-8.46)	8.30 (6.71-10.1)	10.1 (7.90-12.8)	11.5 (8.76-14.8)	12.9 (9.58-17.3)	14.6 (10.1-19.8)	17.2 (11.4-24.0)	19.4 (12.6-27.6)
10-day	5.13 (4.21-6.17)	6.15 (5.04-7.40)	7.82 (6.38-9.44)	9.21 (7.47-11.2)	11.1 (8.70-14.0)	12.5 (9.59-16.1)	14.1 (10.4-18.7)	15.8 (11.0-21.3)	18.4 (12.2-25.6)	20.5 (13.3-29.0)
20-day	7.25 (5.99-8.67)	8.40 (6.93-10.0)	10.3 (8.43-12.3)	11.8 (9.64-14.2)	13.9 (11.0-17.4)	15.6 (11.9-19.7)	17.2 (12.7-22.5)	19.0 (13.3-25.4)	21.5 (14.4-29.6)	23.5 (15.3-33.0)
30-day	9.01 (7.47-10.7)	10.2 (8.48-12.2)	12.2 (10.1-14.6)	13.9 (11.4-16.7)	16.2 (12.8-20.1)	18.0 (13.8-22.6)	19.7 (14.6-25.5)	21.6 (15.1-28.7)	24.0 (16.1-32.9)	25.8 (16.8-36.1)
45-day	11.2 (9.32-13.3)	12.5 (10.4-14.8)	14.7 (12.2-17.5)	16.5 (13.6-19.7)	19.0 (15.0-23.3)	20.9 (16.0-26.1)	22.8 (16.8-29.2)	24.6 (17.3-32.6)	27.0 (18.2-36.9)	28.8 (18.8-40.1)
60-day	13.0 (10.9-15.4)	14.4 (12.0-17.0)	16.7 (13.9-19.8)	18.6 (15.3-22.2)	21.2 (16.8-26.0)	23.3 (17.9-29.0)	25.3 (18.6-32.2)	27.2 (19.2-35.9)	29.6 (19.9-40.2)	31.3 (20.4-43.4)

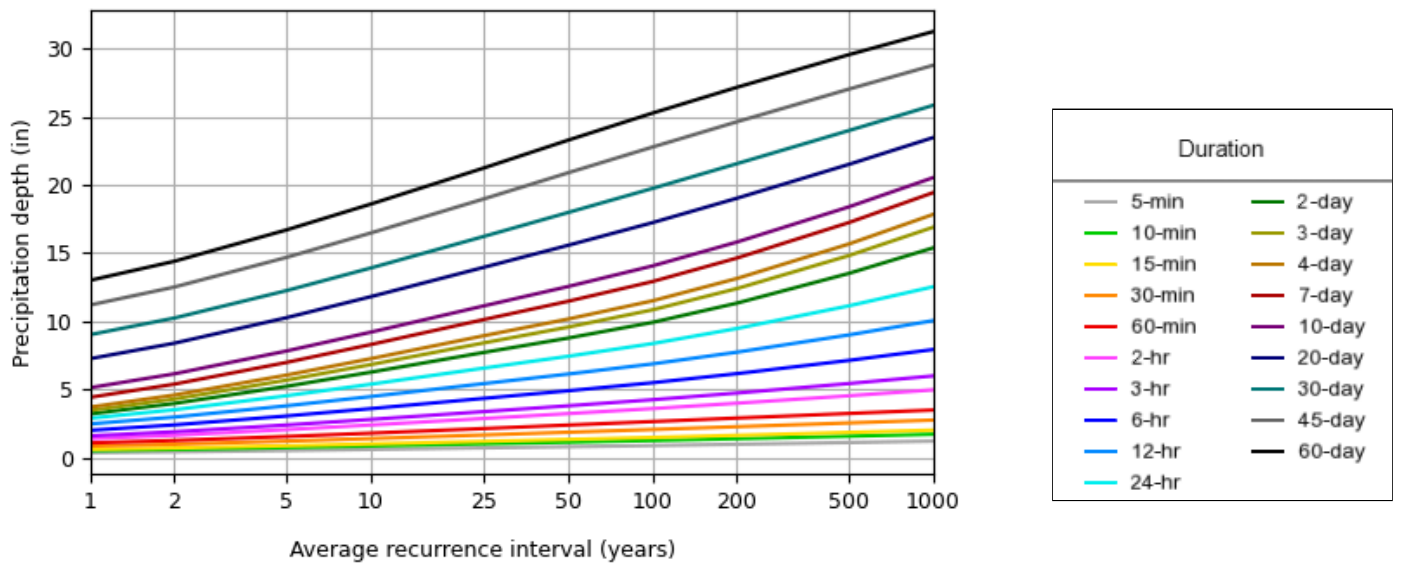
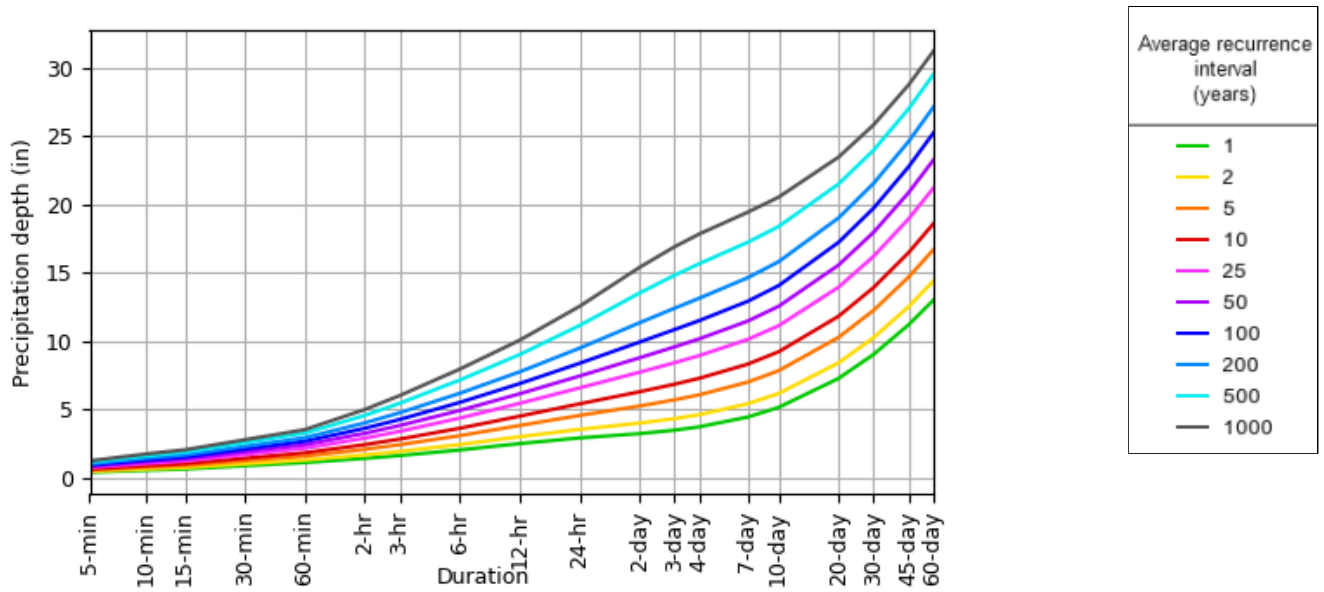
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves

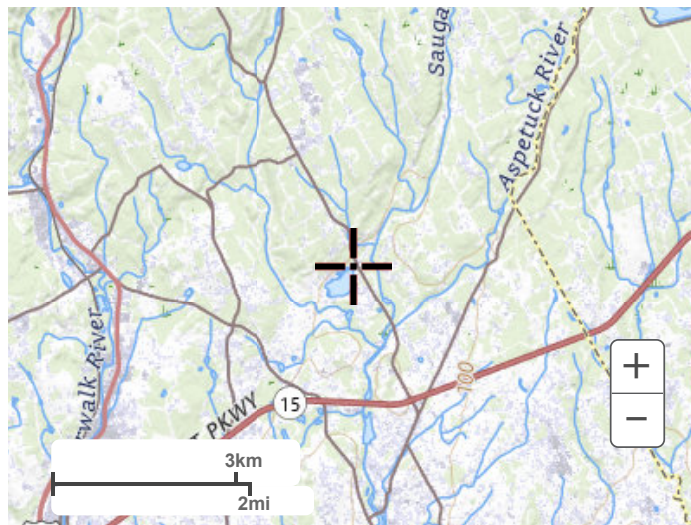
Latitude: 41.1839°, Longitude: -73.3694°



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Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial

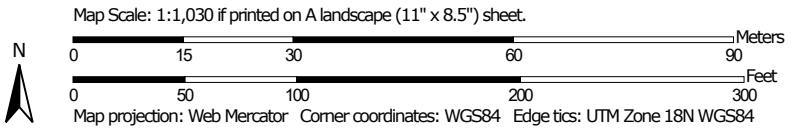
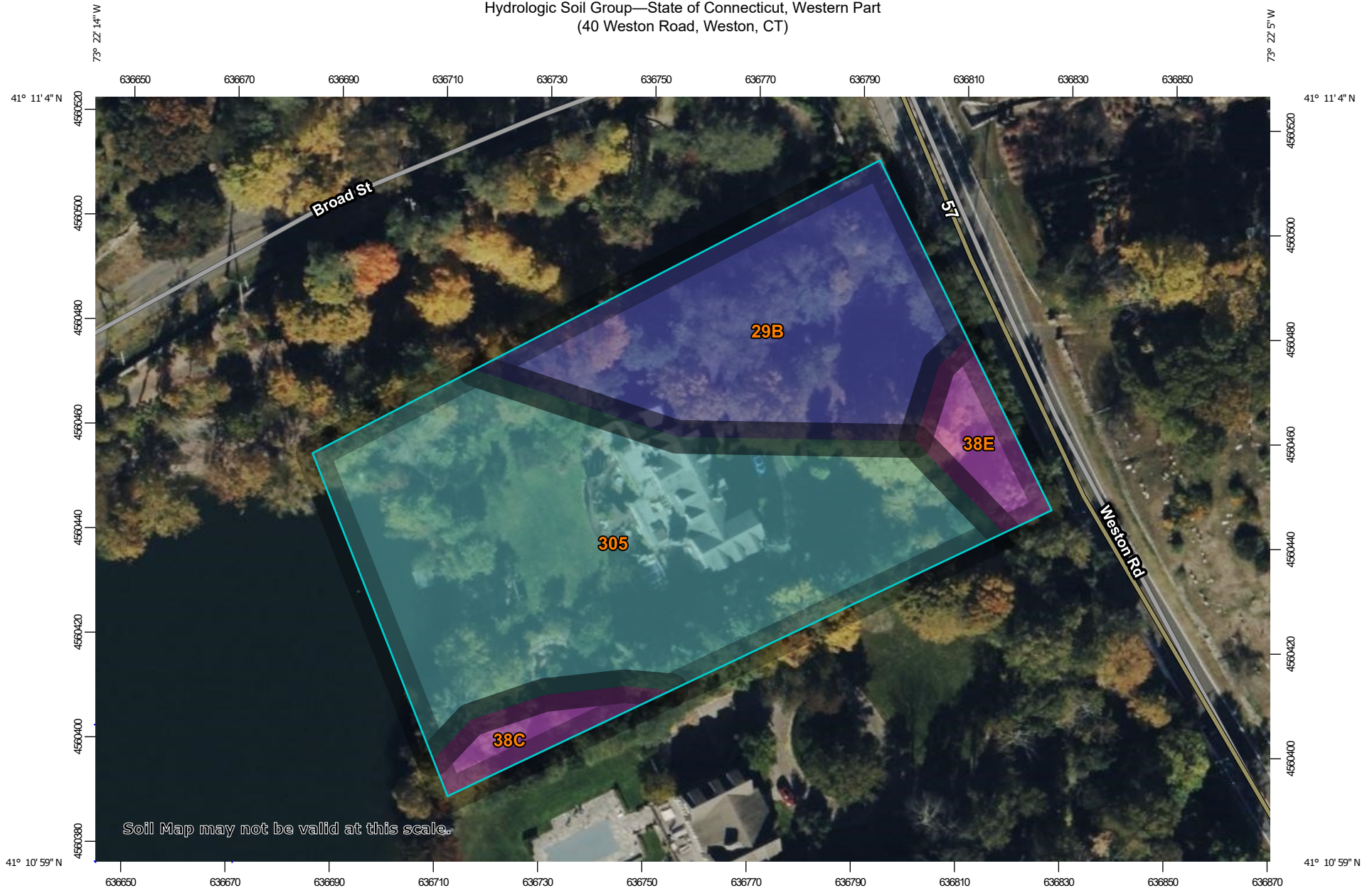


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1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov


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Hydrologic Soil Group—State of Connecticut, Western Part
(40 Weston Road, Weston, CT)



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: State of Connecticut, Western Part
 Survey Area Data: Version 6, Sep 16, 2025

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
29B	Agawam fine sandy loam, 3 to 8 percent slopes	B	0.7	31.0%
38C	Hinckley loamy sand, 3 to 15 percent slopes	A	0.1	4.1%
38E	Hinckley loamy sand, 15 to 45 percent slopes	A	0.1	5.2%
305	Udorthents-Pits complex, gravelly	C	1.3	59.8%
Totals for Area of Interest			2.3	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher