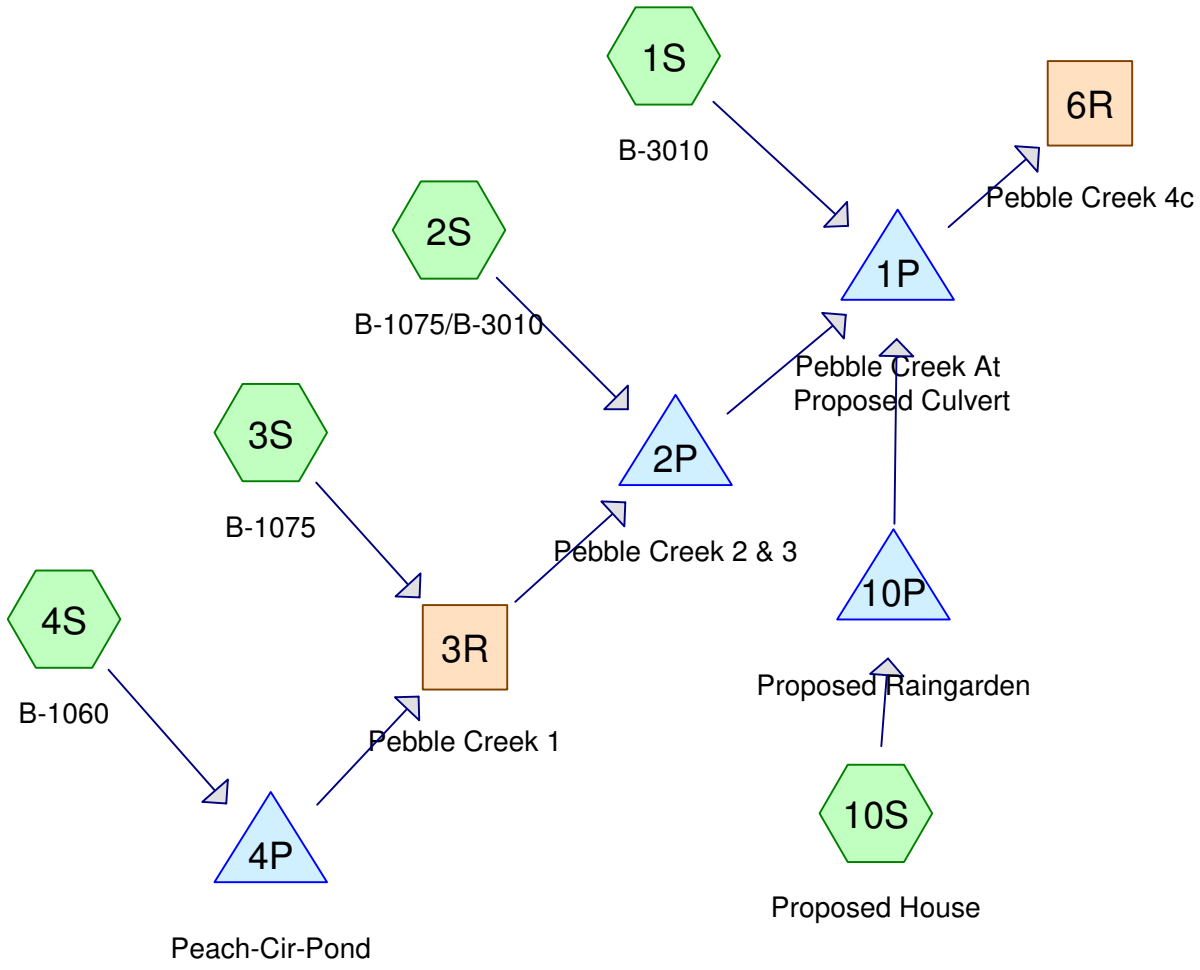
4 - 24" PIPES



Subcat Reach Pond Link

Routing Diagram for 24142-00-PROPOSED_CREEK-ANALYSIS v2.5 - 4 24in HDPE
Prepared by James R. Hill, Inc, Printed 2/6/2025

Project Notes

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.149	67	(2S)
2.862	73	(3S)
3.430	75	(4S)
0.863	74	>75% Grass cover, Good, HSG C (1S, 10S)
0.021	98	Paved parking, HSG D (1S)
0.115	98	Roofs, HSG D (1S)
0.087	98	Unconnected pavement, HSG C (10S)
0.062	98	Unconnected roofs, HSG C (10S)
0.553	70	Woods, Good, HSG C (1S)
11.142	**72**	**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: B-3010 Runoff Area=1.154 ac 11.79% Impervious Runoff Depth=1.95"
Flow Length=314' Tc=27.0 min CN=72/98 Runoff=2.05 cfs 0.187 af

Subcatchment 2S: B-1075/B-3010 Runoff Area=3.149 ac 0.00% Impervious Runoff Depth=1.33"
Tc=34.0 min CN=67/0 Runoff=3.26 cfs 0.348 af

Subcatchment 3S: B-1075 Runoff Area=2.862 ac 0.00% Impervious Runoff Depth=1.74"
Tc=37.9 min CN=73/0 Runoff=3.79 cfs 0.415 af

Subcatchment 4S: B-1060 Runoff Area=3.430 ac 0.00% Impervious Runoff Depth=1.89"
Tc=27.5 min CN=75/0 Runoff=6.02 cfs 0.539 af

Subcatchment 10S: Proposed House Runoff Area=0.547 ac 27.24% Impervious Runoff Depth=2.42"
Flow Length=227' Slope=0.0300 '/' Tc=9.6 min CN=74/98 Runoff=1.96 cfs 0.110 af

Reach 3R: Pebble Creek 1 Avg. Flow Depth=0.43' Max Vel=3.41 fps Inflow=8.83 cfs 0.954 af
n=0.032 L=306.3' S=0.0214 '/' Capacity=1,163.68 cfs Outflow=8.81 cfs 0.954 af

Reach 6R: Pebble Creek 4c Avg. Flow Depth=0.55' Max Vel=4.08 fps Inflow=14.19 cfs 1.600 af
n=0.032 L=123.0' S=0.0233 '/' Capacity=165.93 cfs Outflow=14.18 cfs 1.600 af

Pond 1P: Pebble Creek At Proposed Culvert Peak Elev=955.13' Storage=371 cf Inflow=14.19 cfs 1.600 af
24.0" Round Culvert x 4.00 n=0.013 L=36.0' S=0.0128 '/' Outflow=14.19 cfs 1.600 af

Pond 2P: Pebble Creek 2 & 3 Peak Elev=957.09' Storage=97 cf Inflow=12.02 cfs 1.302 af
36.0" Round Culvert n=0.025 L=16.0' S=0.0200 '/' Outflow=12.02 cfs 1.302 af

Pond 4P: Peach-Cir-Pond Peak Elev=967.31' Storage=4,287 cf Inflow=6.02 cfs 0.539 af
Outflow=5.04 cfs 0.539 af

Pond 10P: Proposed Raingarden Peak Elev=962.23' Storage=2,163 cf Inflow=1.96 cfs 0.110 af
Outflow=0.49 cfs 0.110 af

Total Runoff Area = 11.142 ac Runoff Volume = 1.600 af Average Runoff Depth = 1.72"
97.44% Pervious = 10.857 ac 2.56% Impervious = 0.285 ac

Summary for Subcatchment 1S: B-3010

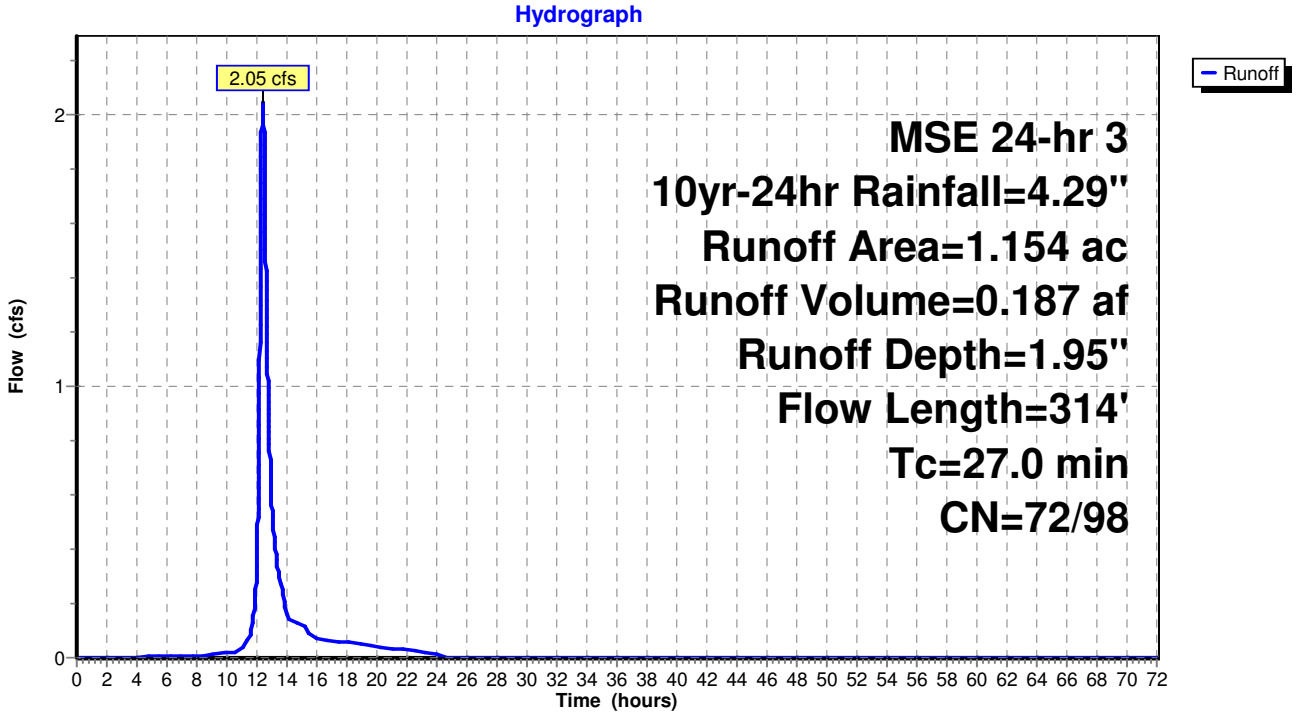
Runoff = 2.05 cfs @ 12.39 hrs, Volume= 0.187 af, Depth= 1.95"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.29"

Area (ac)	CN	Description
0.115	98	Roofs, HSG D
0.021	98	Paved parking, HSG D
0.553	70	Woods, Good, HSG C
0.465	74	>75% Grass cover, Good, HSG C
1.154	75	Weighted Average
1.018	72	88.21% Pervious Area
0.136	98	11.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.7	100	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.87"
4.3	214	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
27.0	314	Total			

Subcatchment 1S: B-3010



Summary for Subcatchment 2S: B-1075/B-3010

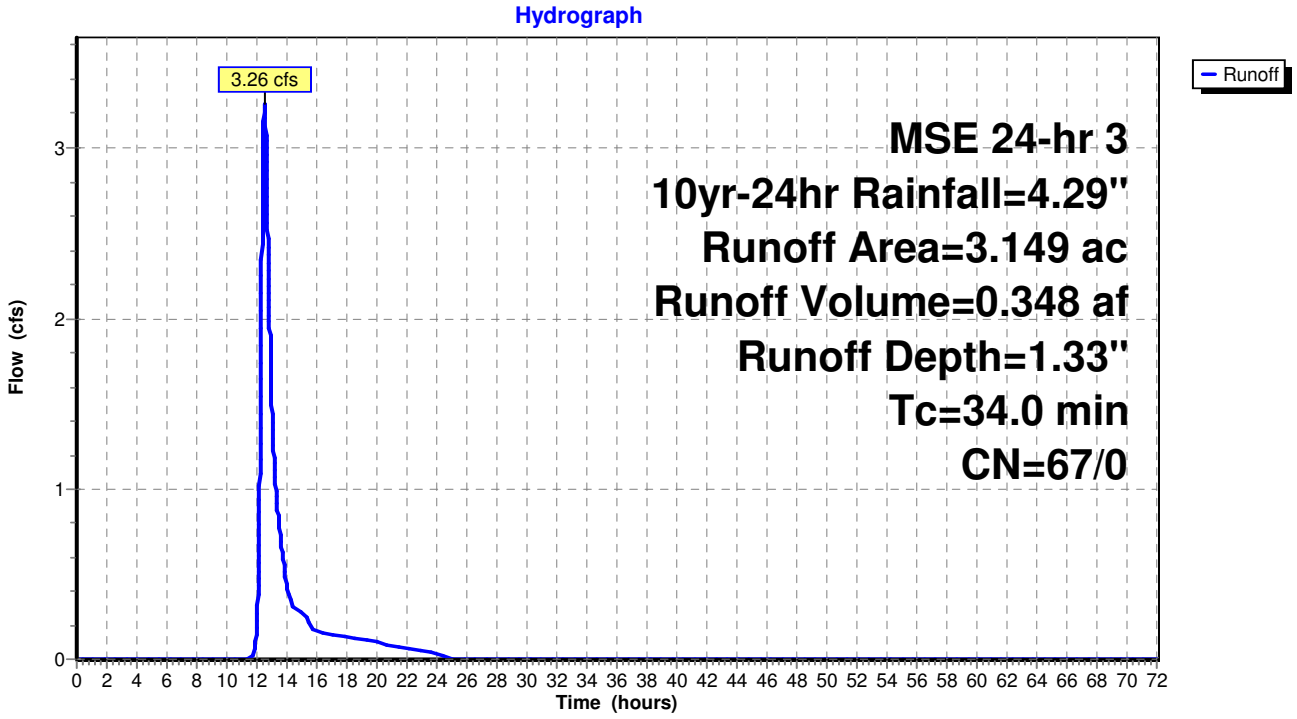
Runoff = 3.26 cfs @ 12.51 hrs, Volume= 0.348 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.29"

	Area (ac)	CN	Description
*	3.149	67	
	3.149	67	100.00% Pervious Area

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

Subcatchment 2S: B-1075/B-3010



Summary for Subcatchment 3S: B-1075

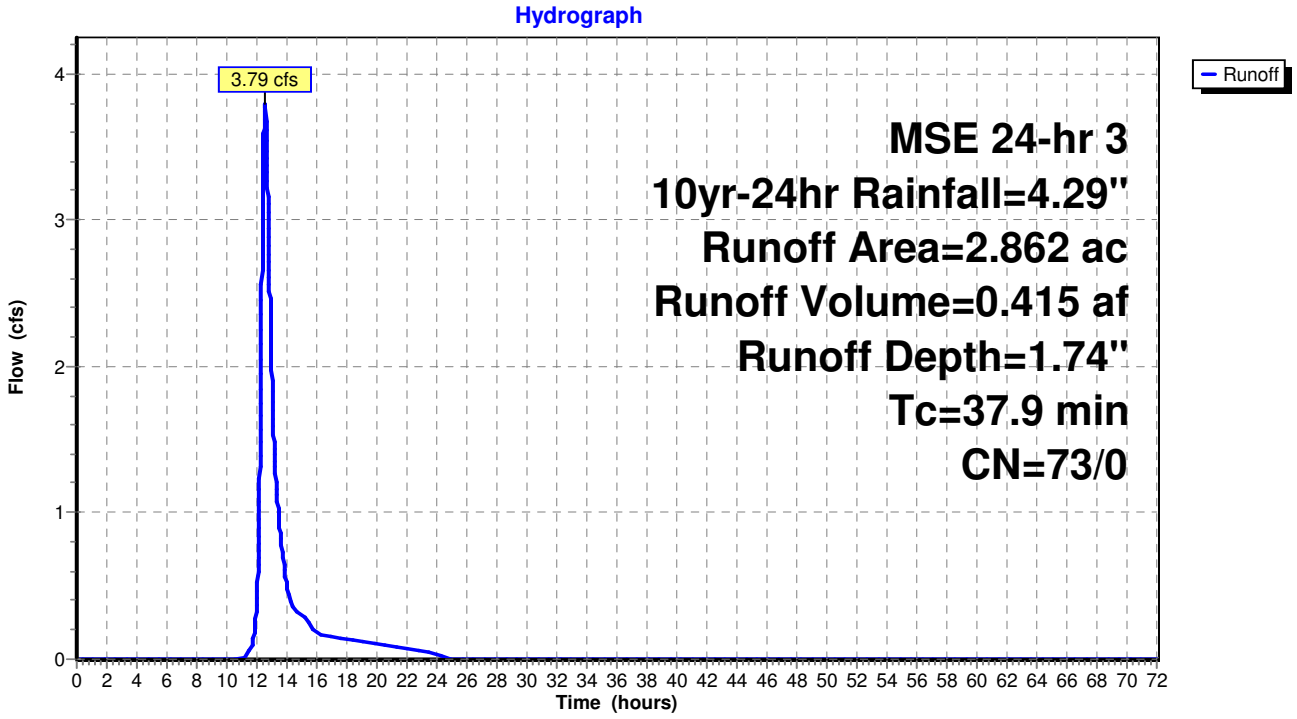
Runoff = 3.79 cfs @ 12.55 hrs, Volume= 0.415 af, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.29"

	Area (ac)	CN	Description
*	2.862	73	
	2.862	73	100.00% Pervious Area

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

Subcatchment 3S: B-1075



Summary for Subcatchment 4S: B-1060

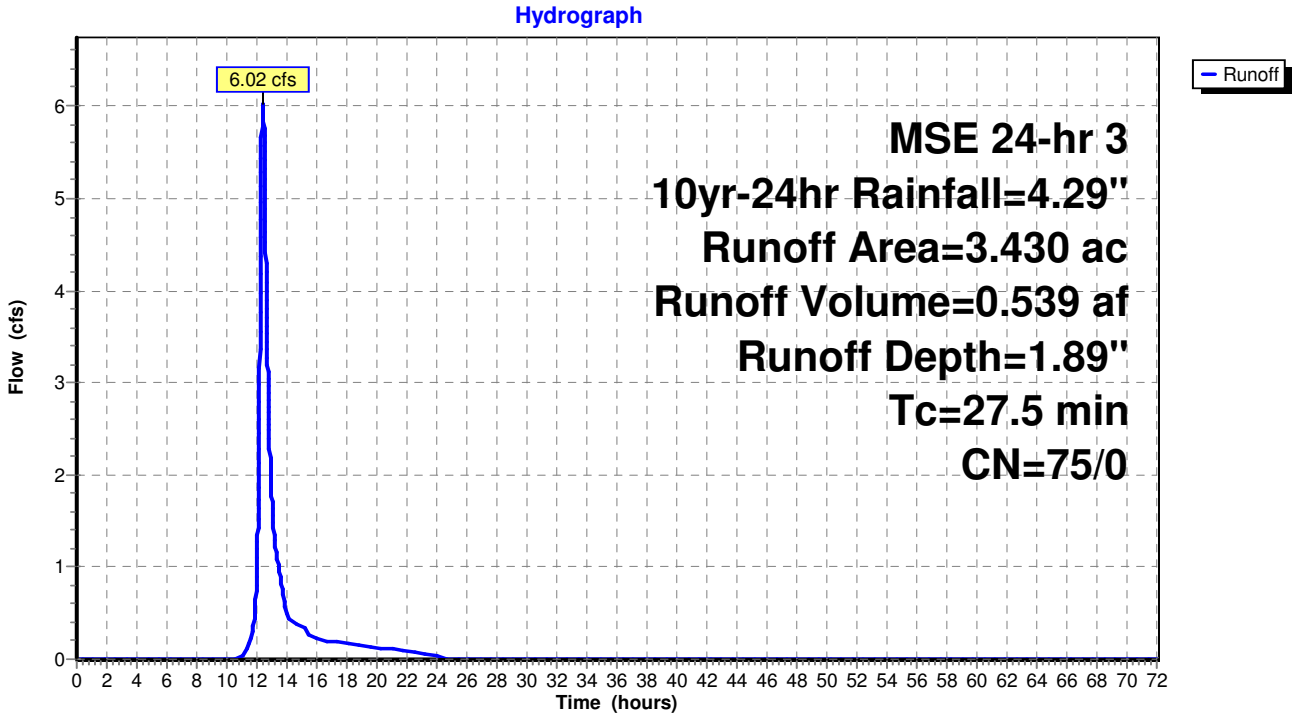
Runoff = 6.02 cfs @ 12.40 hrs, Volume= 0.539 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.29"

	Area (ac)	CN	Description
*	3.430	75	
	3.430	75	100.00% Pervious Area

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

Subcatchment 4S: B-1060



Summary for Subcatchment 10S: Proposed House

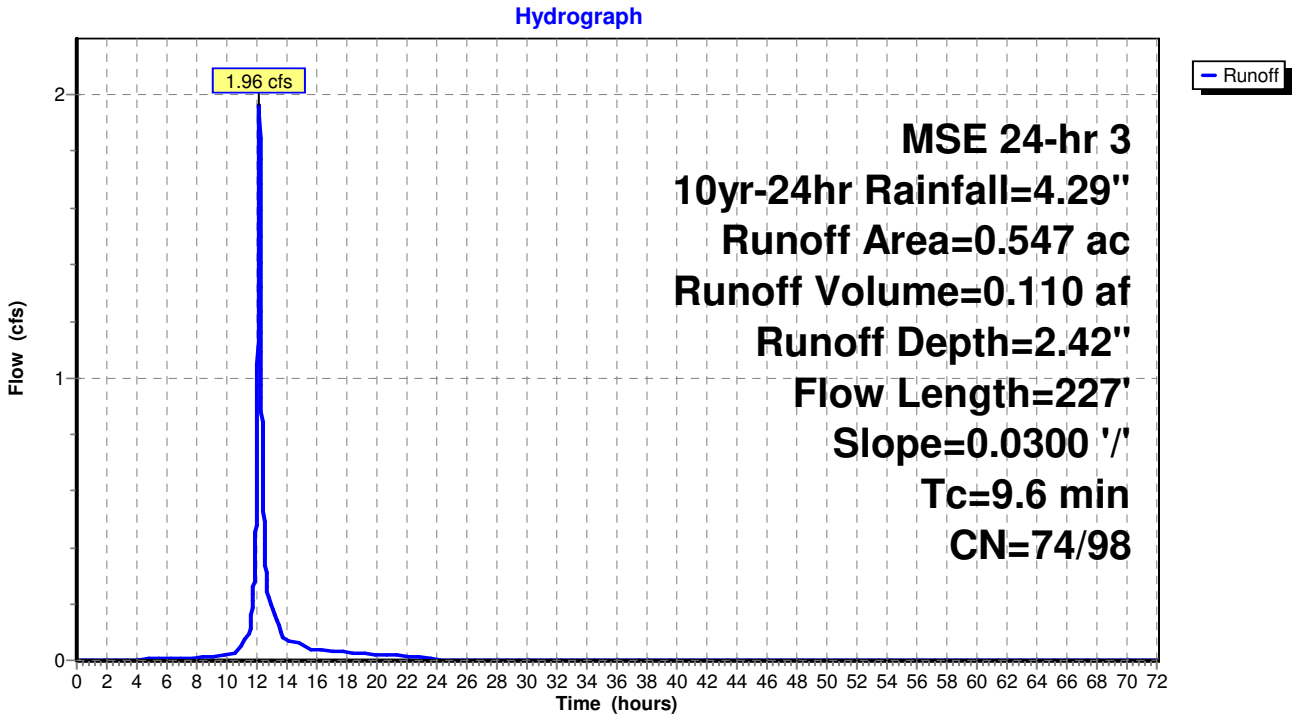
Runoff = 1.96 cfs @ 12.17 hrs, Volume= 0.110 af, Depth= 2.42"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.29"

Area (ac)	CN	Description
0.398	74	>75% Grass cover, Good, HSG C
0.087	98	Unconnected pavement, HSG C
0.062	98	Unconnected roofs, HSG C
0.547	81	Weighted Average
0.398	74	72.76% Pervious Area
0.149	98	27.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0300	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.87"
0.8	127	0.0300	2.60		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.6	227	Total			

Subcatchment 10S: Proposed House



Summary for Reach 3R: Pebble Creek 1

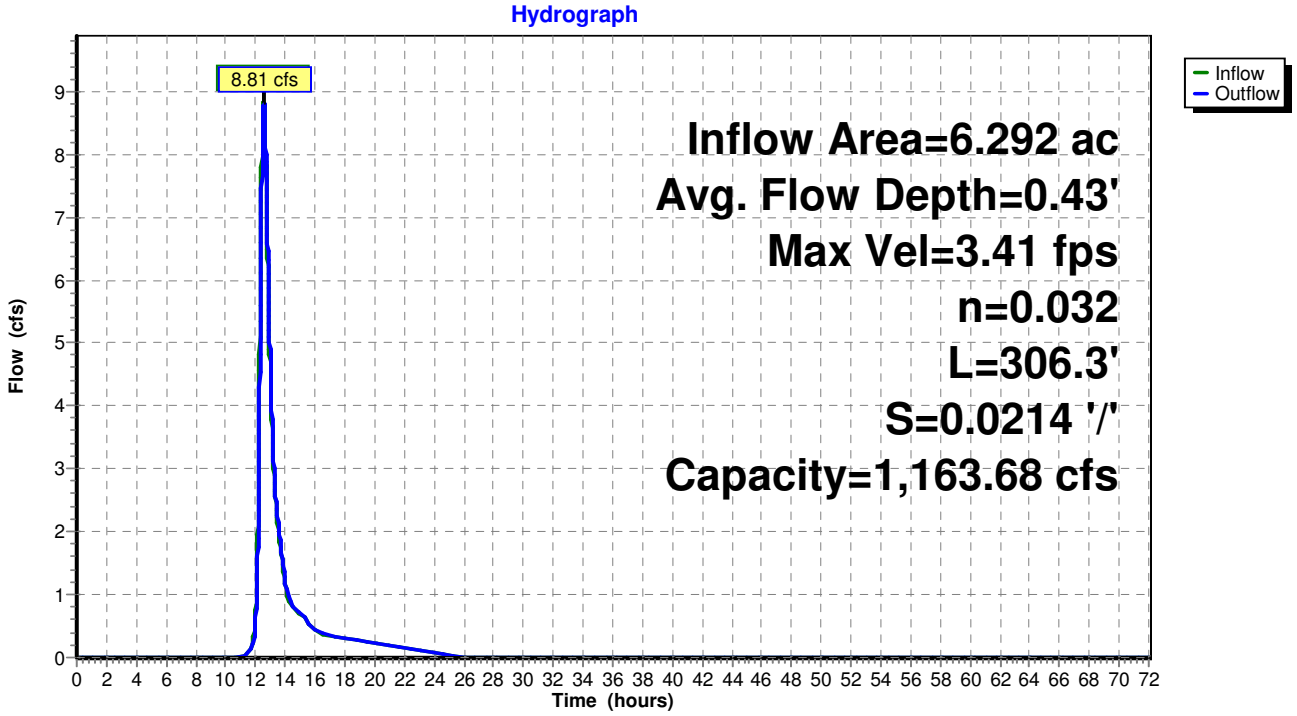
Inflow Area = 6.292 ac, 0.00% Impervious, Inflow Depth = 1.82" for 10yr-24hr event
Inflow = 8.83 cfs @ 12.55 hrs, Volume= 0.954 af
Outflow = 8.81 cfs @ 12.57 hrs, Volume= 0.954 af, Atten= 0%, Lag= 1.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.41 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.01 fps, Avg. Travel Time= 5.0 min

Peak Storage= 792 cf @ 12.57 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 5.00' Flow Area= 87.5 sf, Capacity= 1,163.68 cfs

5.00' x 5.00' deep channel, n= 0.032
Side Slope Z-value= 2.5 '/' Top Width= 30.00'
Length= 306.3' Slope= 0.0214 '/'
Inlet Invert= 963.55', Outlet Invert= 957.00'

Reach 3R: Pebble Creek 1



Summary for Reach 6R: Pebble Creek 4c

Segment of the existing channel from the east property line to the existing Smithtown Road culverts.

Some minor excavation to culvert outlet elevation and for riprap placement, see below:

Existing elevation at property line = 953.86
Proposed elevation at property line = 953.50

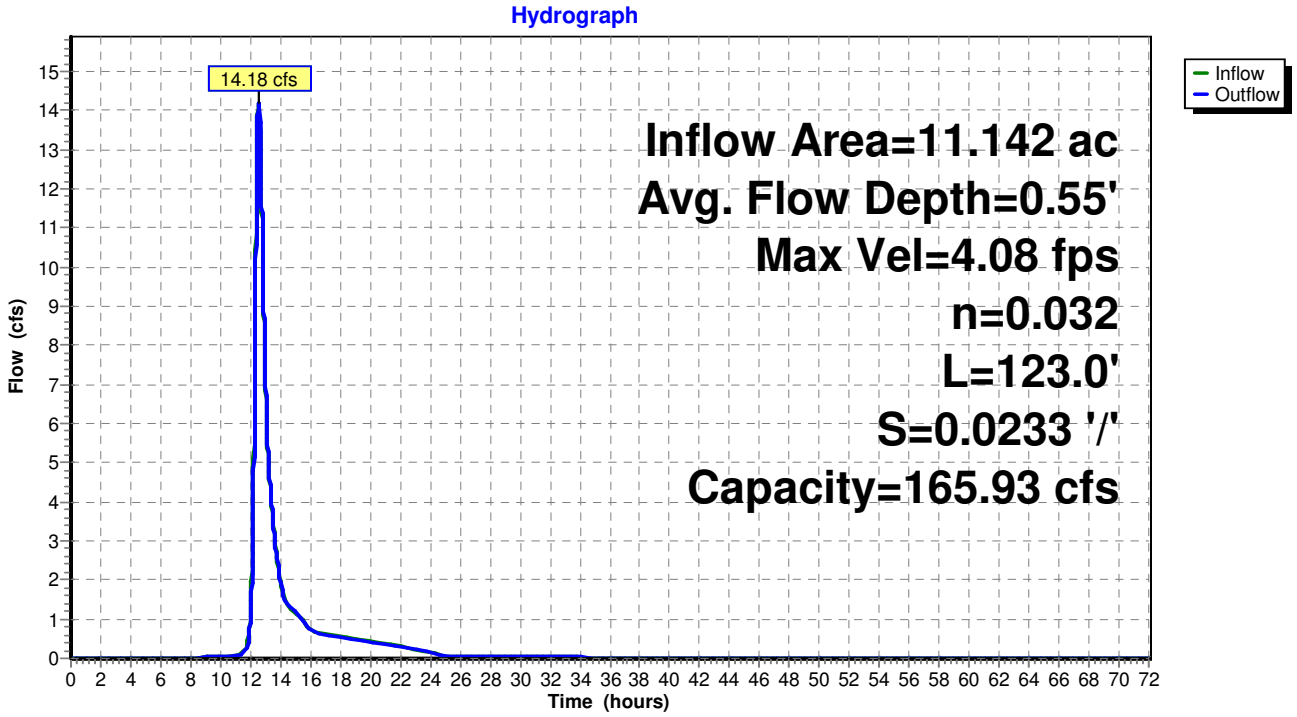
Inflow Area = 11.142 ac, 2.56% Impervious, Inflow Depth = 1.72" for 10yr-24hr event
Inflow = 14.19 cfs @ 12.54 hrs, Volume= 1.600 af
Outflow = 14.18 cfs @ 12.54 hrs, Volume= 1.600 af, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.72 fps, Avg. Travel Time= 2.8 min

Peak Storage= 427 cf @ 12.54 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 2.00' Flow Area= 20.0 sf, Capacity= 165.93 cfs

5.00' x 2.00' deep channel, n= 0.032
Side Slope Z-value= 2.5 '/' Top Width= 15.00'
Length= 123.0' Slope= 0.0233 '/'
Inlet Invert= 953.86', Outlet Invert= 951.00'

Reach 6R: Pebble Creek 4c



Summary for Pond 1P: Pebble Creek At Proposed Culvert

Inflow Area = 11.142 ac, 2.56% Impervious, Inflow Depth = 1.72" for 10yr-24hr event
Inflow = 14.19 cfs @ 12.53 hrs, Volume= 1.600 af
Outflow = 14.19 cfs @ 12.54 hrs, Volume= 1.600 af, Atten= 0%, Lag= 0.7 min
Primary = 14.19 cfs @ 12.54 hrs, Volume= 1.600 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 955.13' @ 12.54 hrs Surf.Area= 1,038 sf Storage= 371 cf

Plug-Flow detention time= 0.4 min calculated for 1.600 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (867.9 - 867.4)

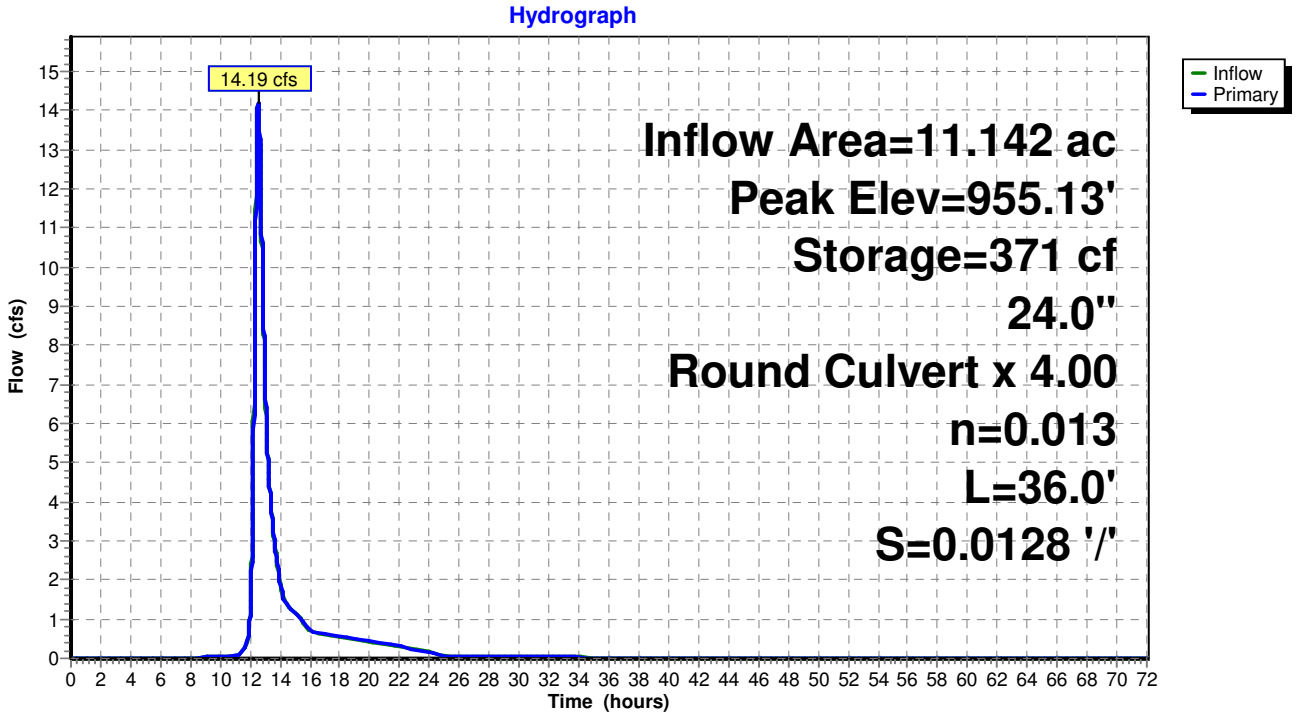
Volume	Invert	Avail.Storage	Storage Description
#1	954.32'	6,034 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
954.32	30	0	0
955.00	718	254	254
956.00	3,125	1,922	2,176
957.00	4,592	3,859	6,034

Device	Routing	Invert	Outlet Devices
#1	Primary	954.32'	**24.0" Round Culvert X 4.00** L= 36.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 954.32' / 953.86' S= 0.0128 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.18 cfs @ 12.54 hrs HW=955.13' TW=954.41' (Dynamic Tailwater)
1=Culvert (Barrel Controls 14.18 cfs @ 4.37 fps)

Pond 1P: Pebble Creek At Proposed Culvert



Summary for Pond 2P: Pebble Creek 2 & 3

[61] Hint: Exceeded Reach 3R outlet invert by 0.09' @ 12.56 hrs

Inflow Area = 9.441 ac, 0.00% Impervious, Inflow Depth = 1.66" for 10yr-24hr event
Inflow = 12.02 cfs @ 12.55 hrs, Volume= 1.302 af
Outflow = 12.02 cfs @ 12.56 hrs, Volume= 1.302 af, Atten= 0%, Lag= 0.3 min
Primary = 12.02 cfs @ 12.56 hrs, Volume= 1.302 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 957.09' @ 12.56 hrs Surf.Area= 230 sf Storage= 97 cf

Plug-Flow detention time= 0.2 min calculated for 1.302 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (856.1 - 855.9)

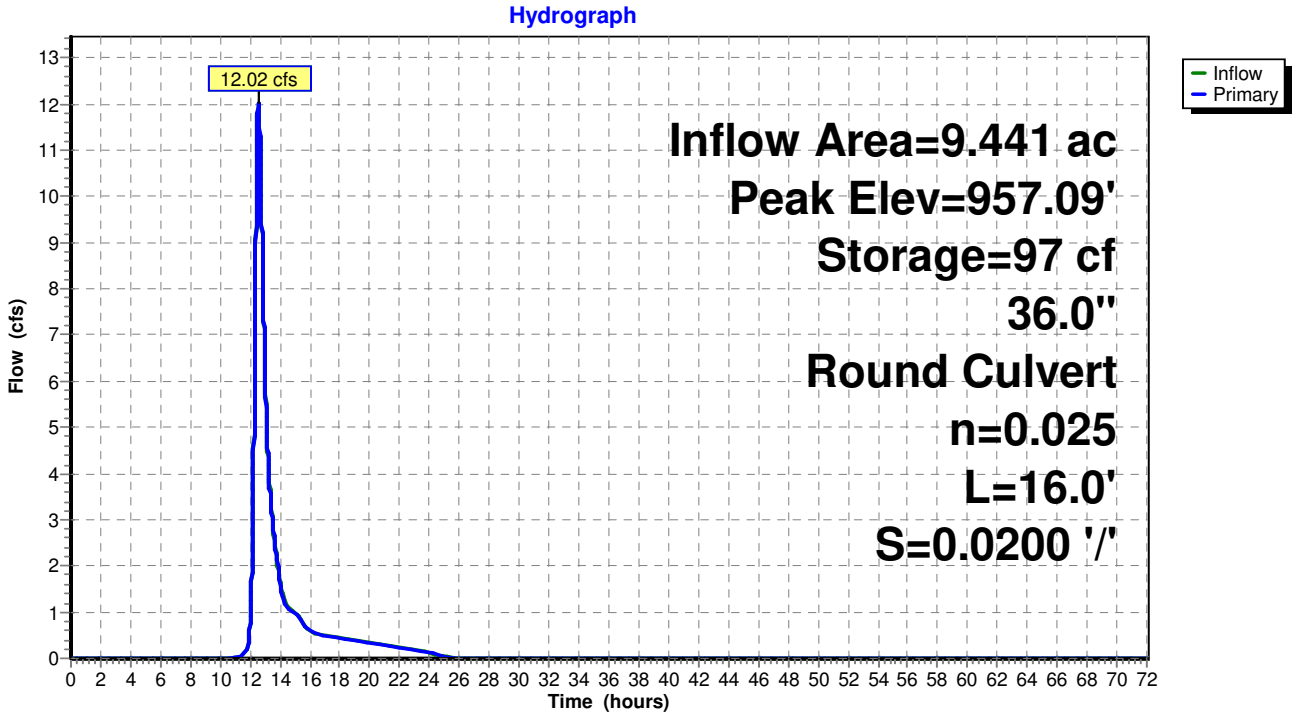
Volume	Invert	Avail.Storage	Storage Description
#1	955.49'	6,816 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
955.49	10	0	0
957.00	99	82	82
958.00	1,580	840	922
959.00	2,874	2,227	3,149
960.00	4,461	3,668	6,816

Device	Routing	Invert	Outlet Devices
#1	Primary	955.49'	**36.0" Round Culvert** L= 16.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 955.49' / 955.17' S= 0.0200 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 7.07 sf

Primary OutFlow Max=12.02 cfs @ 12.56 hrs HW=957.09' TW=955.13' (Dynamic Tailwater)
1=Culvert (Barrel Controls 12.02 cfs @ 4.56 fps)

Pond 2P: Pebble Creek 2 & 3



Summary for Pond 4P: Peach-Cir-Pond

Inflow Area = 3.430 ac, 0.00% Impervious, Inflow Depth = 1.89" for 10yr-24hr event
Inflow = 6.02 cfs @ 12.40 hrs, Volume= 0.539 af
Outflow = 5.04 cfs @ 12.55 hrs, Volume= 0.539 af, Atten= 16%, Lag= 8.7 min
Primary = 5.04 cfs @ 12.55 hrs, Volume= 0.539 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 965.85' Surf.Area= 1,587 sf Storage= 758 cf
Peak Elev= 967.31' @ 12.55 hrs Surf.Area= 3,204 sf Storage= 4,287 cf (3,529 cf above start)

Plug-Flow detention time= 45.2 min calculated for 0.522 af (97% of inflow)
Center-of-Mass det. time= 23.2 min (857.2 - 834.0)

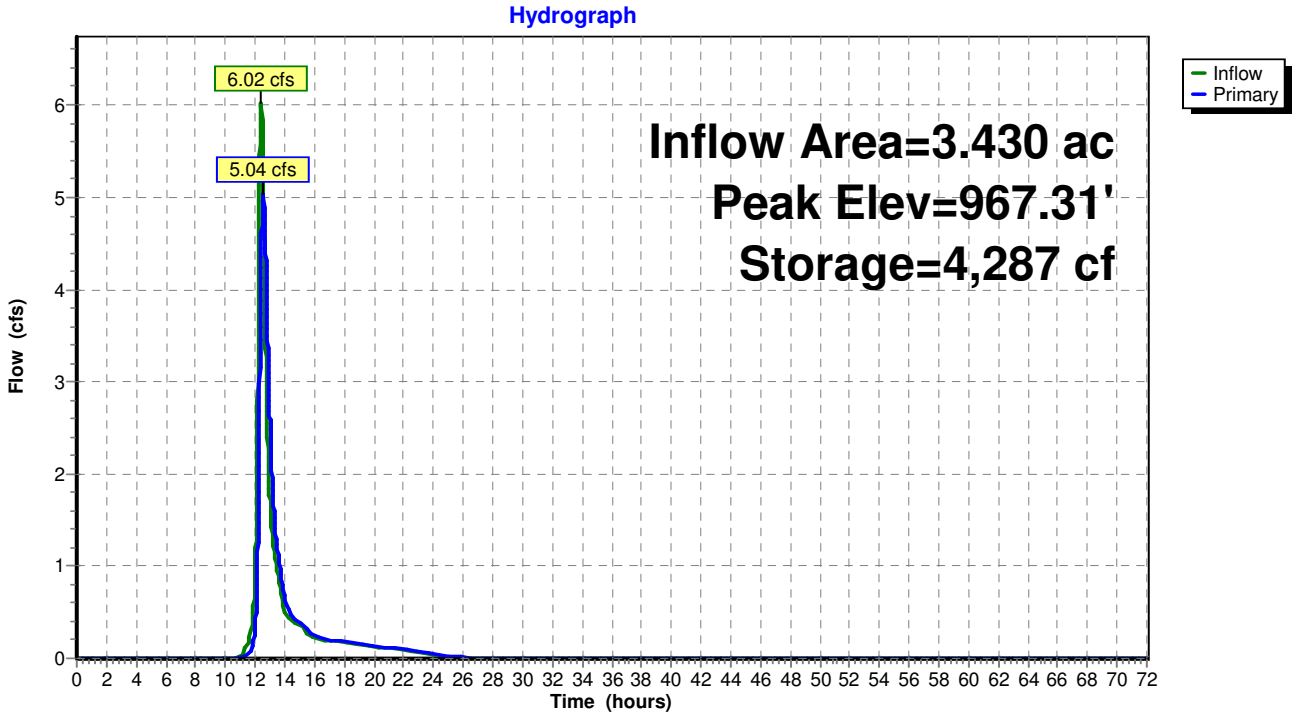
Volume	Invert	Avail.Storage	Storage Description
#1	965.00'	8,659 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
965.00	197	0	0
966.00	1,832	1,015	1,015
967.00	2,859	2,346	3,360
968.00	3,987	3,423	6,783
968.44	4,540	1,876	8,659

Device	Routing	Invert	Outlet Devices
#1	Primary	963.79'	**24.0" Round Culvert** L= 122.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 963.79' / 963.55' S= 0.0020 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	965.85'	**18.0" Round Culvert** L= 24.0' RCP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 965.85' / 965.79' S= 0.0025 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#3	Primary	968.00'	**12.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=5.03 cfs @ 12.55 hrs HW=967.31' TW=963.98' (Dynamic Tailwater)
- **1=Culvert** (Passes 5.03 cfs of 19.22 cfs potential flow)
  - **2=Culvert** (Barrel Controls 5.03 cfs @ 3.65 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Peach-Cir-Pond



Summary for Pond 10P: Proposed Raingarden

Inflow Area = 0.547 ac, 27.24% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
Inflow = 1.96 cfs @ 12.17 hrs, Volume= 0.110 af
Outflow = 0.49 cfs @ 12.48 hrs, Volume= 0.110 af, Atten= 75%, Lag= 18.3 min
Primary = 0.49 cfs @ 12.48 hrs, Volume= 0.110 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 962.23' @ 12.48 hrs Surf.Area= 2,369 sf Storage= 2,163 cf

Plug-Flow detention time= 290.3 min calculated for 0.110 af (100% of inflow)
Center-of-Mass det. time= 290.3 min (1,078.4 - 788.1)

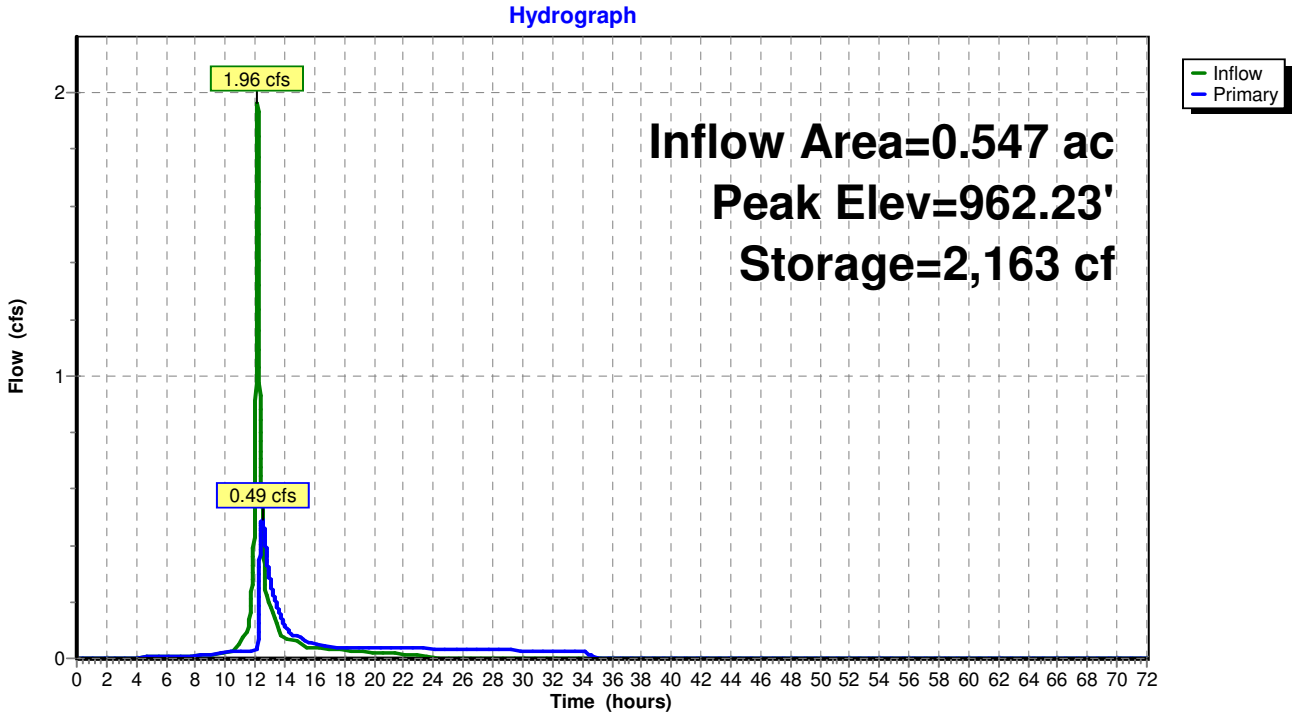
Volume	Invert	Avail.Storage	Storage Description
#1	961.00'	7,722 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
961.00	1,226	0	0
962.00	2,070	1,648	1,648
963.00	3,359	2,715	4,363
964.00	3,359	3,359	7,722

Device	Routing	Invert	Outlet Devices
#1	Primary	961.90'	**12.0" Round Culvert** L= 47.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 961.90' / 959.00' S= 0.0617 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Primary	961.00'	**0.800 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.49 cfs @ 12.48 hrs HW=962.23' TW=955.12' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.45 cfs @ 1.96 fps)
2=Exfiltration (Exfiltration Controls 0.04 cfs)

Pond 10P: Proposed Raingarden



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: B-3010 Runoff Area=1.154 ac 11.79% Impervious Runoff Depth=4.54"
Flow Length=314' Tc=27.0 min CN=72/98 Runoff=4.89 cfs 0.437 af

Subcatchment 2S: B-1075/B-3010 Runoff Area=3.149 ac 0.00% Impervious Runoff Depth=3.64"
Tc=34.0 min CN=67/0 Runoff=9.51 cfs 0.957 af

Subcatchment 3S: B-1075 Runoff Area=2.862 ac 0.00% Impervious Runoff Depth=4.30"
Tc=37.9 min CN=73/0 Runoff=9.61 cfs 1.025 af

Subcatchment 4S: B-1060 Runoff Area=3.430 ac 0.00% Impervious Runoff Depth=4.52"
Tc=27.5 min CN=75/0 Runoff=14.63 cfs 1.292 af

Subcatchment 10S: Proposed House Runoff Area=0.547 ac 27.24% Impervious Runoff Depth=5.16"
Flow Length=227' Slope=0.0300 '/' Tc=9.6 min CN=74/98 Runoff=4.20 cfs 0.235 af

Reach 3R: Pebble Creek 1 Avg. Flow Depth=0.73' Max Vel=4.62 fps Inflow=23.24 cfs 2.318 af
n=0.032 L=306.3' S=0.0214 '/' Capacity=1,163.68 cfs Outflow=23.19 cfs 2.318 af

Reach 6R: Pebble Creek 4c Avg. Flow Depth=0.94' Max Vel=5.50 fps Inflow=37.89 cfs 3.946 af
n=0.032 L=123.0' S=0.0233 '/' Capacity=165.93 cfs Outflow=37.89 cfs 3.946 af

Pond 1P: Pebble Creek At Proposed Culvert Peak Elev=955.80' Storage=1,601 cf Inflow=38.01 cfs 3.946 af
24.0" Round Culvert x 4.00 n=0.013 L=36.0' S=0.0128 '/' Outflow=37.89 cfs 3.946 af

Pond 2P: Pebble Creek 2 & 3 Peak Elev=958.44' Storage=1,732 cf Inflow=32.69 cfs 3.274 af
36.0" Round Culvert n=0.025 L=16.0' S=0.0200 '/' Outflow=32.25 cfs 3.274 af

Pond 4P: Peach-Cir-Pond Peak Elev=968.27' Storage=7,892 cf Inflow=14.63 cfs 1.292 af
Outflow=13.86 cfs 1.292 af

Pond 10P: Proposed Raingarden Peak Elev=962.76' Storage=3,580 cf Inflow=4.20 cfs 0.235 af
Outflow=2.31 cfs 0.235 af

Total Runoff Area = 11.142 ac Runoff Volume = 3.947 af Average Runoff Depth = 4.25"
97.44% Pervious = 10.857 ac 2.56% Impervious = 0.285 ac

Summary for Subcatchment 1S: B-3010

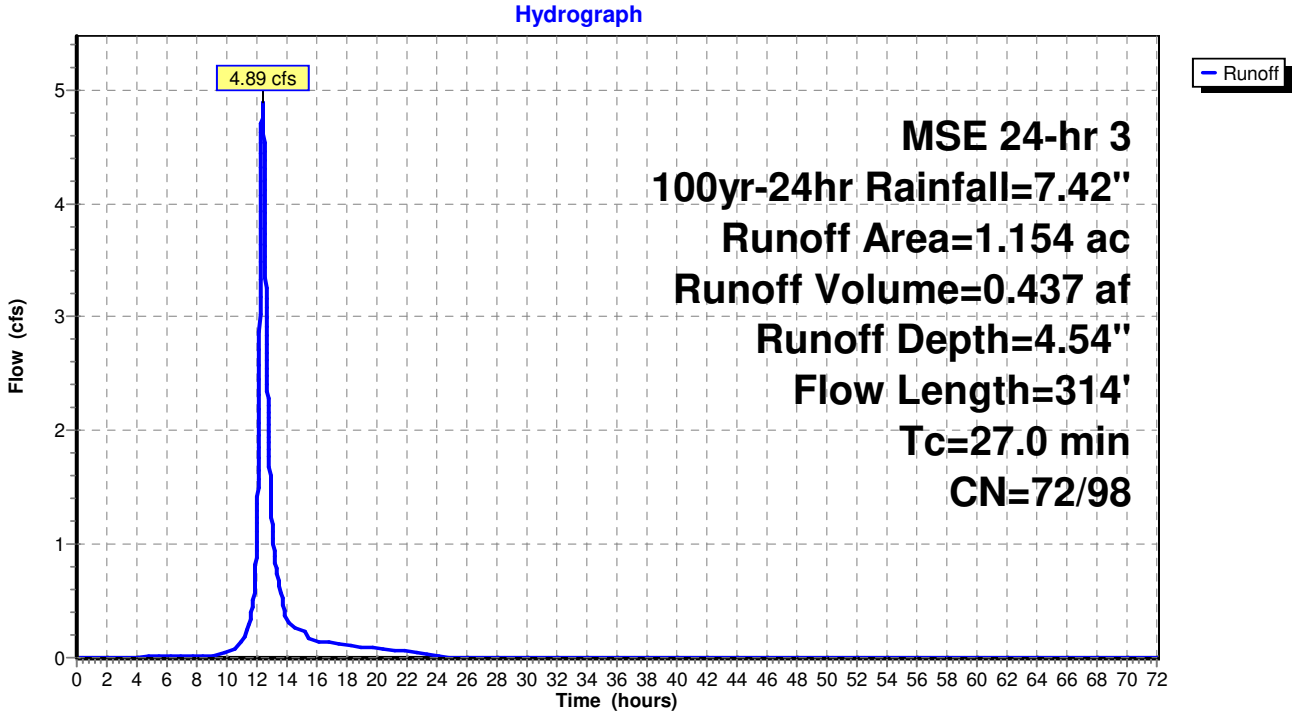
Runoff = 4.89 cfs @ 12.39 hrs, Volume= 0.437 af, Depth= 4.54"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.42"

Area (ac)	CN	Description
0.115	98	Roofs, HSG D
0.021	98	Paved parking, HSG D
0.553	70	Woods, Good, HSG C
0.465	74	>75% Grass cover, Good, HSG C
1.154	75	Weighted Average
1.018	72	88.21% Pervious Area
0.136	98	11.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.7	100	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.87"
4.3	214	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
27.0	314	Total			

Subcatchment 1S: B-3010



Summary for Subcatchment 2S: B-1075/B-3010

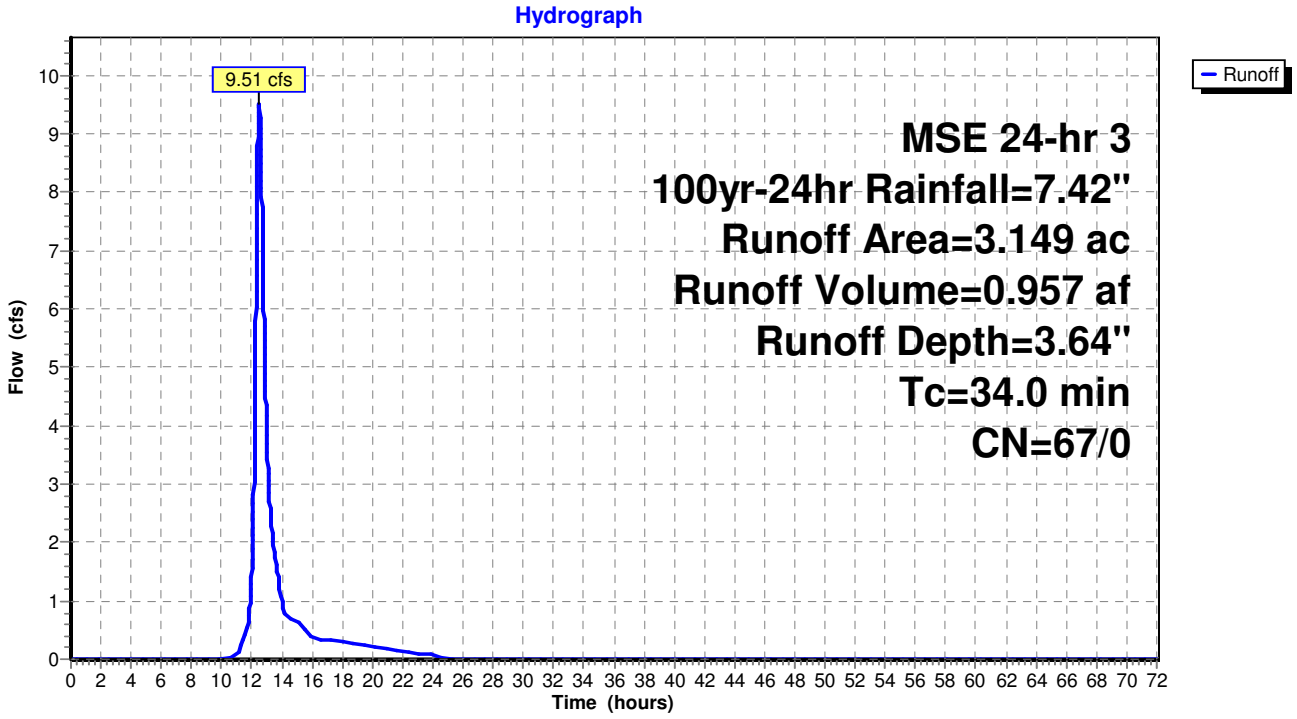
Runoff = 9.51 cfs @ 12.50 hrs, Volume= 0.957 af, Depth= 3.64"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.42"

	Area (ac)	CN	Description
*	3.149	67	
	3.149	67	100.00% Pervious Area

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

Subcatchment 2S: B-1075/B-3010



Summary for Subcatchment 3S: B-1075

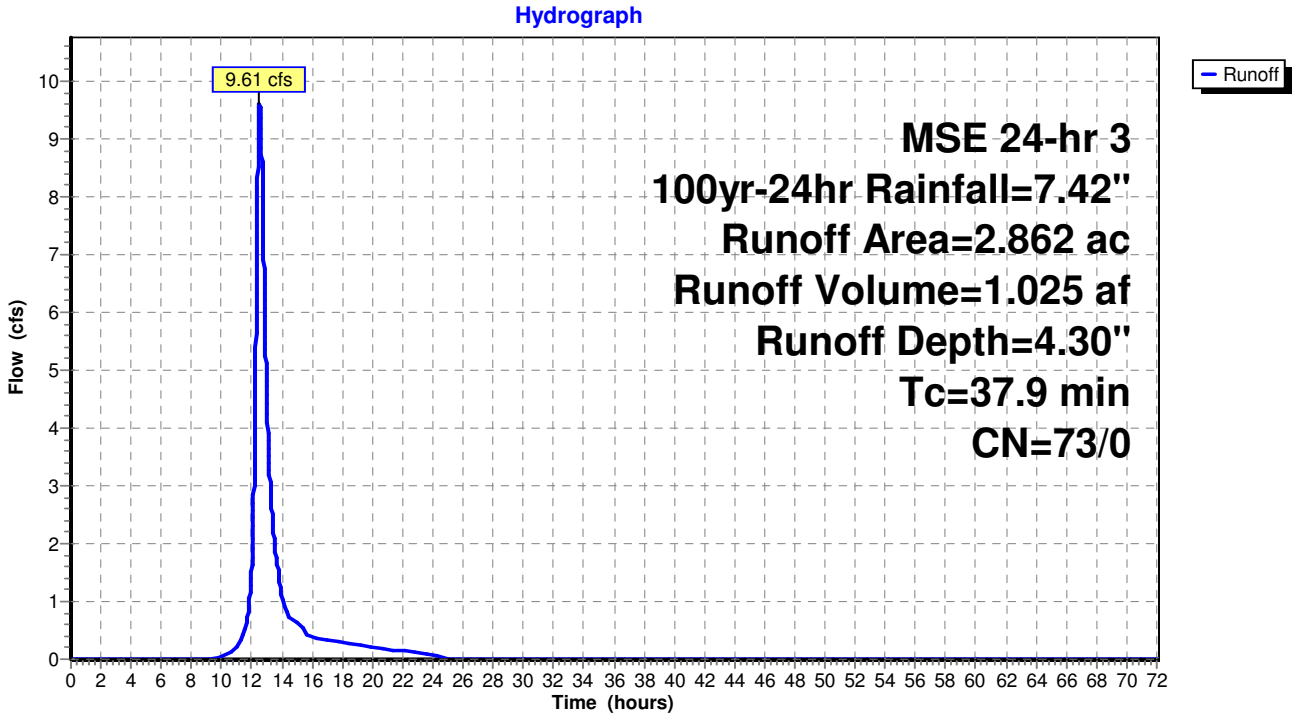
Runoff = 9.61 cfs @ 12.51 hrs, Volume= 1.025 af, Depth= 4.30"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.42"

	Area (ac)	CN	Description
*	2.862	73	
	2.862	73	100.00% Pervious Area

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

Subcatchment 3S: B-1075



Summary for Subcatchment 4S: B-1060

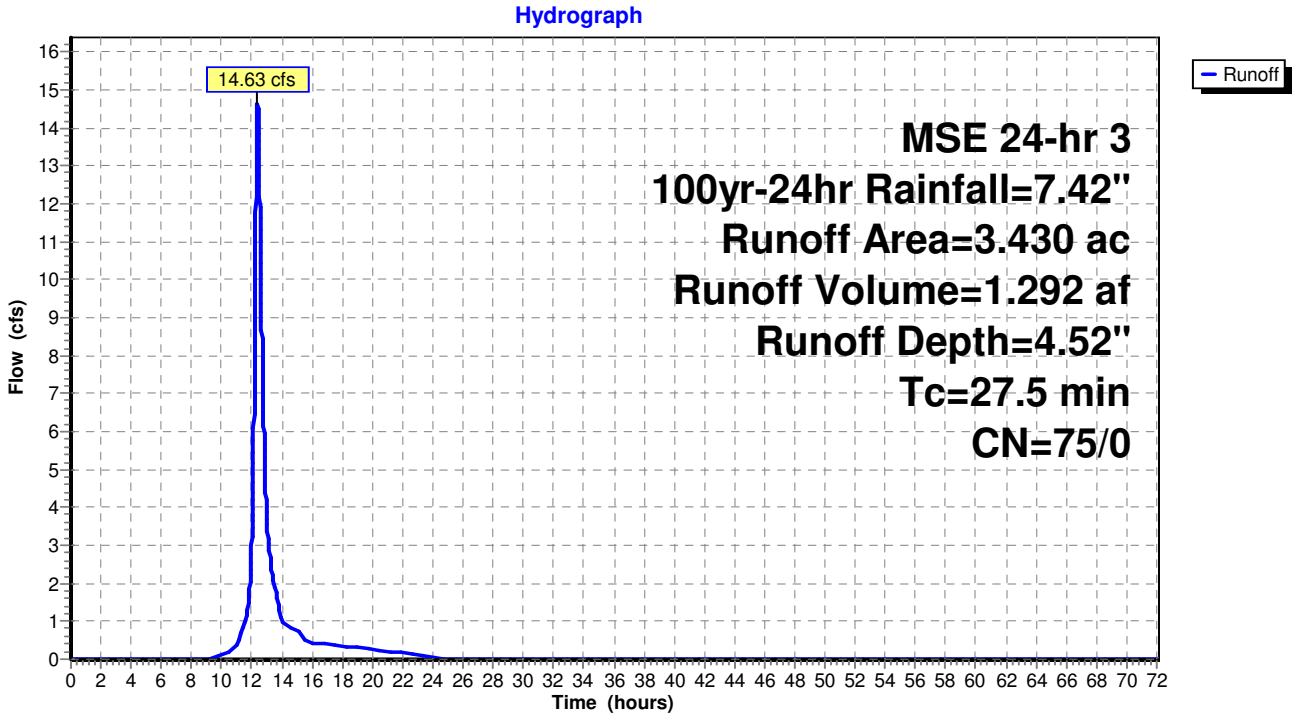
Runoff = 14.63 cfs @ 12.38 hrs, Volume= 1.292 af, Depth= 4.52"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.42"

	Area (ac)	CN	Description
*	3.430	75	
	3.430	75	100.00% Pervious Area

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

Subcatchment 4S: B-1060



Summary for Subcatchment 10S: Proposed House

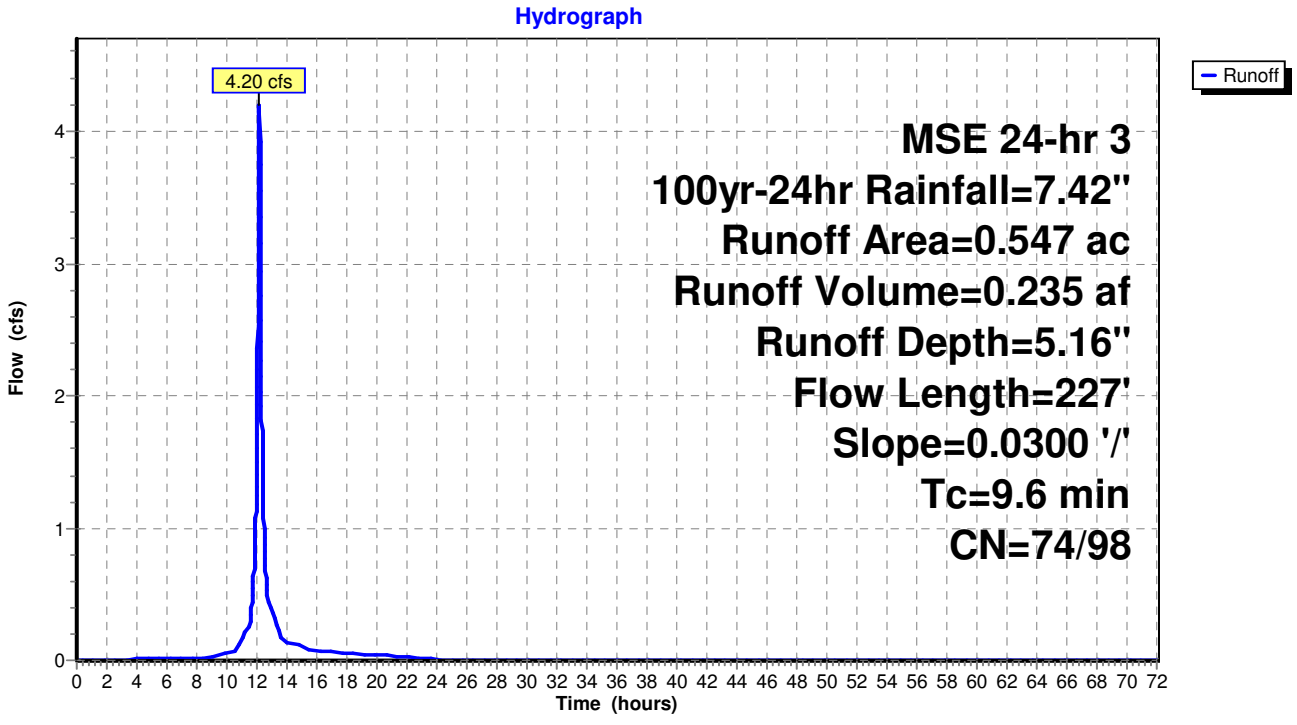
Runoff = 4.20 cfs @ 12.17 hrs, Volume= 0.235 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.42"

Area (ac)	CN	Description
0.398	74	>75% Grass cover, Good, HSG C
0.087	98	Unconnected pavement, HSG C
0.062	98	Unconnected roofs, HSG C
0.547	81	Weighted Average
0.398	74	72.76% Pervious Area
0.149	98	27.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0300	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.87"
0.8	127	0.0300	2.60		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.6	227	Total			

Subcatchment 10S: Proposed House



Summary for Reach 3R: Pebble Creek 1

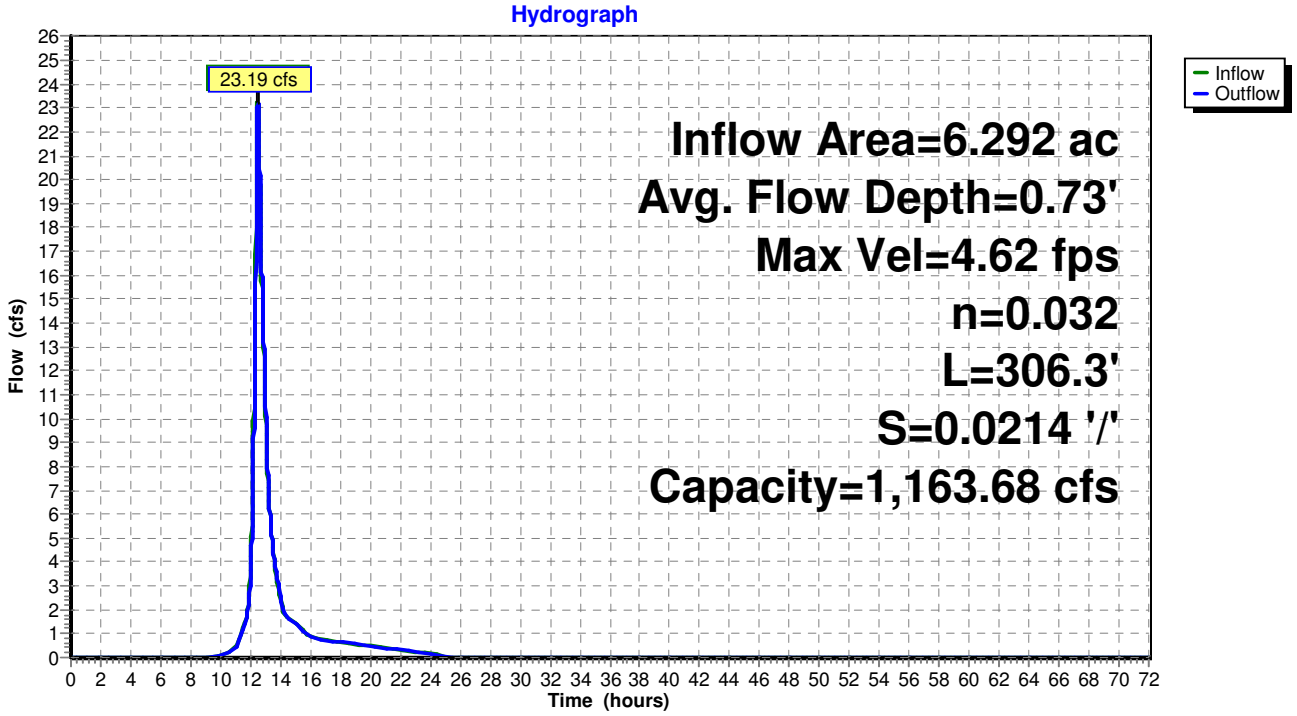
Inflow Area = 6.292 ac, 0.00% Impervious, Inflow Depth = 4.42" for 100yr-24hr event
Inflow = 23.24 cfs @ 12.47 hrs, Volume= 2.318 af
Outflow = 23.19 cfs @ 12.49 hrs, Volume= 2.318 af, Atten= 0%, Lag= 1.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.62 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 4.5 min

Peak Storage= 1,538 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.73'
Bank-Full Depth= 5.00' Flow Area= 87.5 sf, Capacity= 1,163.68 cfs

5.00' x 5.00' deep channel, n= 0.032
Side Slope Z-value= 2.5 '/' Top Width= 30.00'
Length= 306.3' Slope= 0.0214 '/'
Inlet Invert= 963.55', Outlet Invert= 957.00'

Reach 3R: Pebble Creek 1



Summary for Reach 6R: Pebble Creek 4c

Segment of the existing channel from the east property line to the existing Smithtown Road culverts.

Some minor excavation to culvert outlet elevation and for riprap placement, see below:

Existing elevation at property line = 953.86
Proposed elevation at property line = 953.50

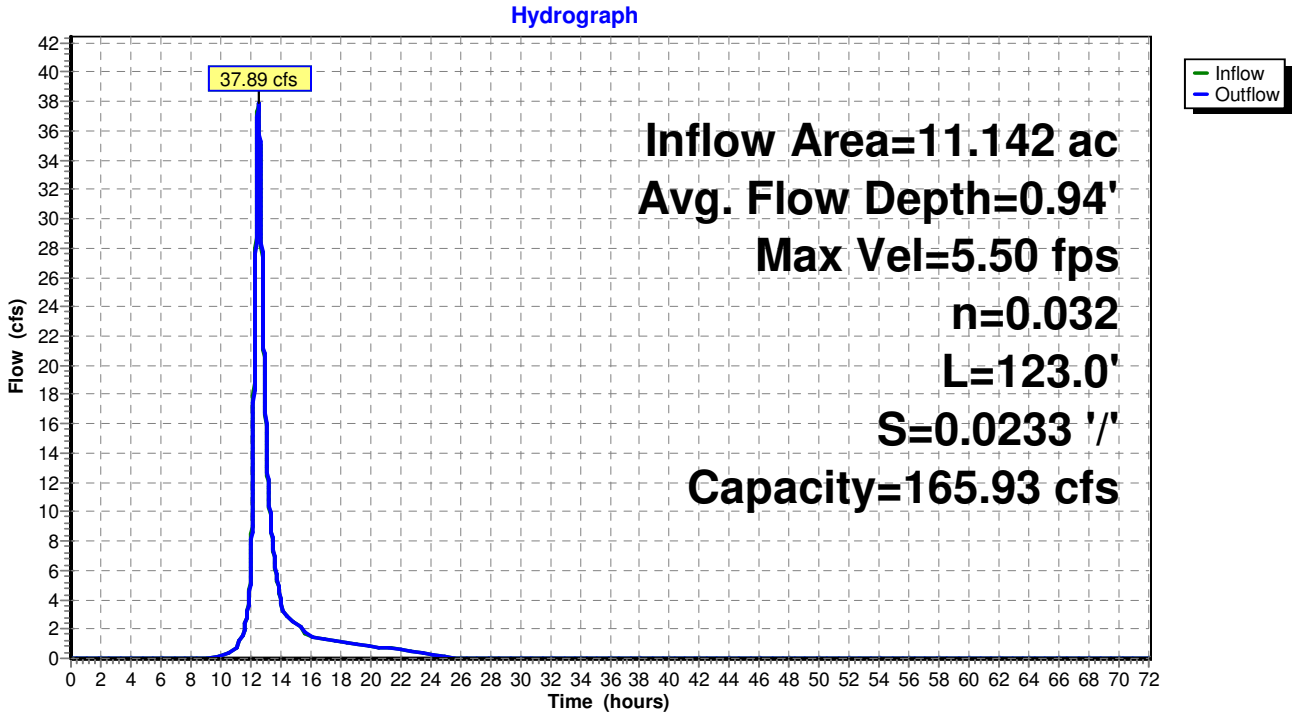
Inflow Area = 11.142 ac, 2.56% Impervious, Inflow Depth = 4.25" for 100yr-24hr event
Inflow = 37.89 cfs @ 12.53 hrs, Volume= 3.946 af
Outflow = 37.89 cfs @ 12.53 hrs, Volume= 3.946 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.50 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.84 fps, Avg. Travel Time= 2.4 min

Peak Storage= 847 cf @ 12.53 hrs
Average Depth at Peak Storage= 0.94'
Bank-Full Depth= 2.00' Flow Area= 20.0 sf, Capacity= 165.93 cfs

5.00' x 2.00' deep channel, n= 0.032
Side Slope Z-value= 2.5 '/' Top Width= 15.00'
Length= 123.0' Slope= 0.0233 '/'
Inlet Invert= 953.86', Outlet Invert= 951.00'

Reach 6R: Pebble Creek 4c



Summary for Pond 1P: Pebble Creek At Proposed Culvert

Inflow Area = 11.142 ac, 2.56% Impervious, Inflow Depth = 4.25" for 100yr-24hr event
Inflow = 38.01 cfs @ 12.51 hrs, Volume= 3.946 af
Outflow = 37.89 cfs @ 12.53 hrs, Volume= 3.946 af, Atten= 0%, Lag= 1.1 min
Primary = 37.89 cfs @ 12.53 hrs, Volume= 3.946 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 955.80' @ 12.53 hrs Surf.Area= 2,646 sf Storage= 1,601 cf

Plug-Flow detention time= 0.5 min calculated for 3.946 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (838.9 - 838.3)

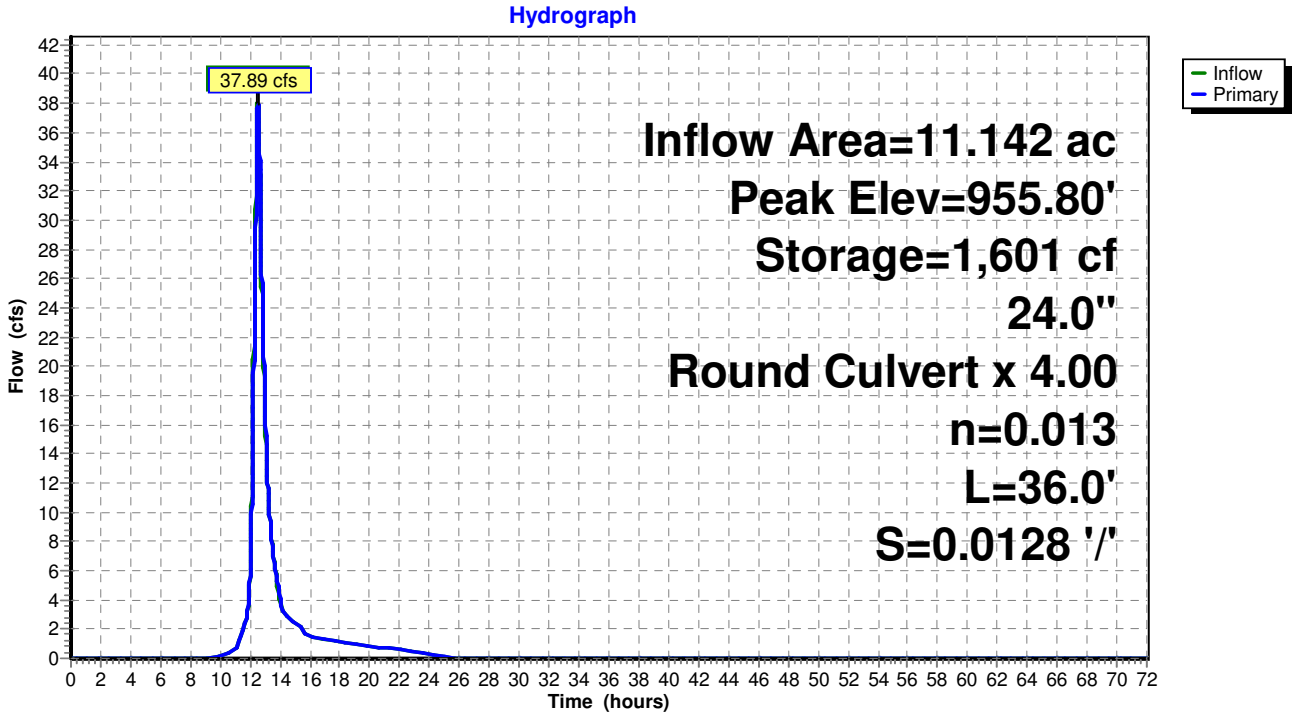
Volume	Invert	Avail.Storage	Storage Description
#1	954.32'	6,034 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
954.32	30	0	0
955.00	718	254	254
956.00	3,125	1,922	2,176
957.00	4,592	3,859	6,034

Device	Routing	Invert	Outlet Devices
#1	Primary	954.32'	**24.0" Round Culvert X 4.00** L= 36.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 954.32' / 953.86' S= 0.0128 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=37.89 cfs @ 12.53 hrs HW=955.80' TW=954.80' (Dynamic Tailwater)
1=Culvert (Barrel Controls 37.89 cfs @ 5.29 fps)

Pond 1P: Pebble Creek At Proposed Culvert



Summary for Pond 2P: Pebble Creek 2 & 3

[62] Hint: Exceeded Reach 3R OUTLET depth by 0.71' @ 12.54 hrs

Inflow Area = 9.441 ac, 0.00% Impervious, Inflow Depth = 4.16" for 100yr-24hr event
Inflow = 32.69 cfs @ 12.49 hrs, Volume= 3.274 af
Outflow = 32.25 cfs @ 12.53 hrs, Volume= 3.274 af, Atten= 1%, Lag= 2.1 min
Primary = 32.25 cfs @ 12.53 hrs, Volume= 3.274 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 958.44' @ 12.53 hrs Surf.Area= 2,143 sf Storage= 1,732 cf

Plug-Flow detention time= 0.4 min calculated for 3.274 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (834.1 - 833.7)

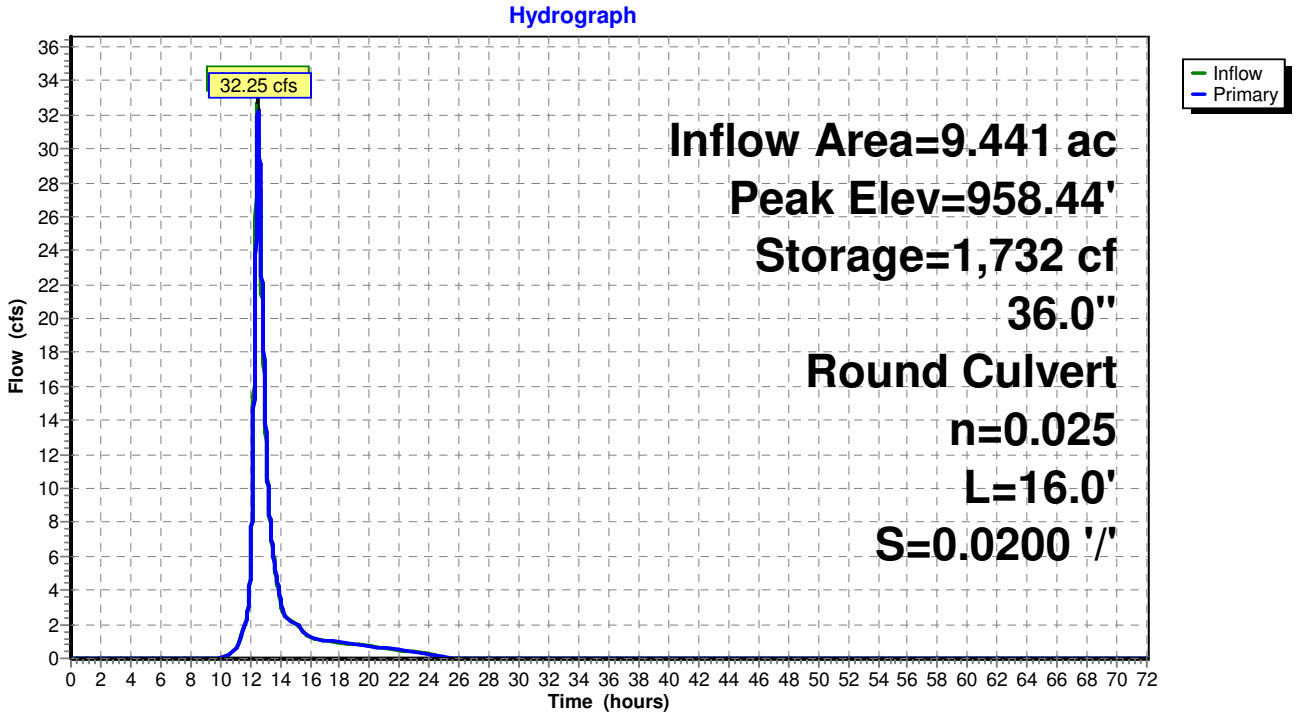
Volume	Invert	Avail.Storage	Storage Description
#1	955.49'	6,816 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
955.49	10	0	0
957.00	99	82	82
958.00	1,580	840	922
959.00	2,874	2,227	3,149
960.00	4,461	3,668	6,816

Device	Routing	Invert	Outlet Devices
#1	Primary	955.49'	**36.0" Round Culvert** L= 16.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 955.49' / 955.17' S= 0.0200 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 7.07 sf

Primary OutFlow Max=32.25 cfs @ 12.53 hrs HW=958.44' TW=955.80' (Dynamic Tailwater)
1=Culvert (Barrel Controls 32.25 cfs @ 5.78 fps)

Pond 2P: Pebble Creek 2 & 3



Summary for Pond 4P: Peach-Cir-Pond

Inflow Area = 3.430 ac, 0.00% Impervious, Inflow Depth = 4.52" for 100yr-24hr event
Inflow = 14.63 cfs @ 12.38 hrs, Volume= 1.292 af
Outflow = 13.86 cfs @ 12.46 hrs, Volume= 1.292 af, Atten= 5%, Lag= 4.8 min
Primary = 13.86 cfs @ 12.46 hrs, Volume= 1.292 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 965.85' Surf.Area= 1,587 sf Storage= 758 cf
Peak Elev= 968.27' @ 12.46 hrs Surf.Area= 4,322 sf Storage= 7,892 cf (7,134 cf above start)

Plug-Flow detention time= 27.6 min calculated for 1.275 af (99% of inflow)
Center-of-Mass det. time= 17.1 min (833.3 - 816.2)

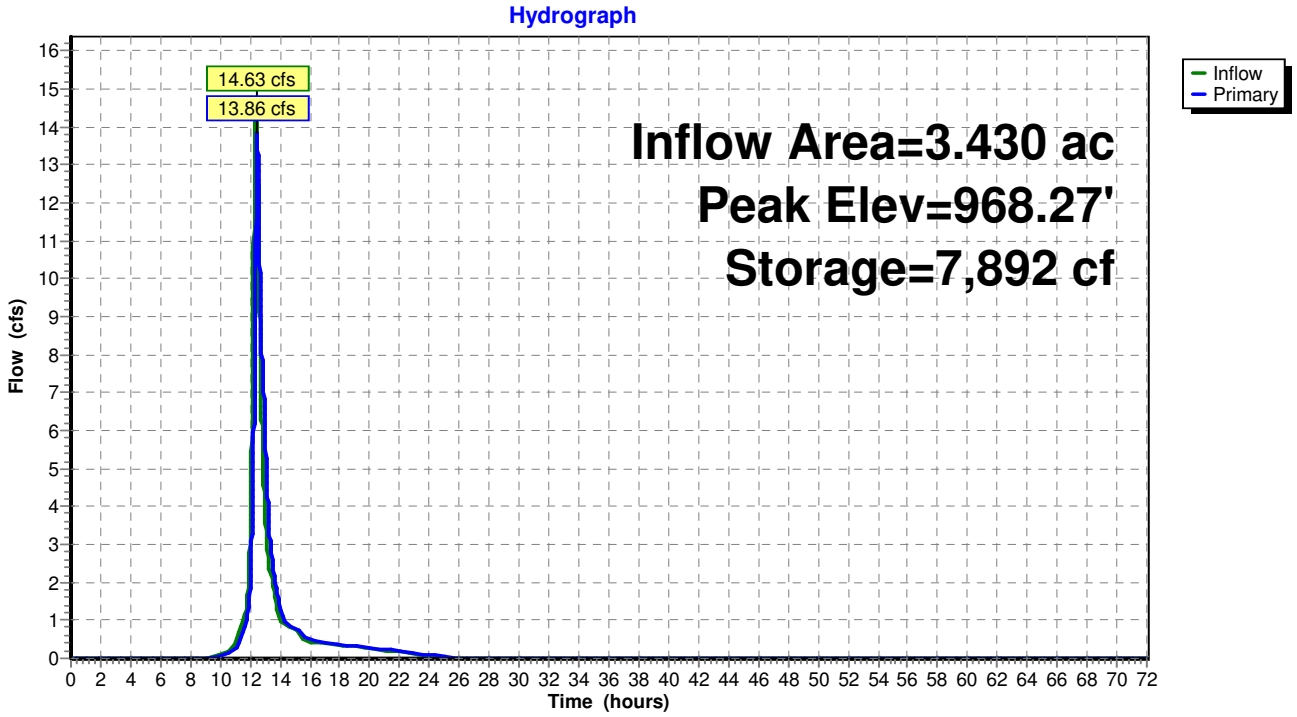
Volume	Invert	Avail.Storage	Storage Description
#1	965.00'	8,659 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
965.00	197	0	0
966.00	1,832	1,015	1,015
967.00	2,859	2,346	3,360
968.00	3,987	3,423	6,783
968.44	4,540	1,876	8,659

Device	Routing	Invert	Outlet Devices
#1	Primary	963.79'	**24.0" Round Culvert** L= 122.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 963.79' / 963.55' S= 0.0020 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	965.85'	**18.0" Round Culvert** L= 24.0' RCP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 965.85' / 965.79' S= 0.0025 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#3	Primary	968.00'	**12.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=13.86 cfs @ 12.46 hrs HW=968.27' TW=964.28' (Dynamic Tailwater)
- **1=Culvert** (Passes 9.58 cfs of 23.91 cfs potential flow)
  - **2=Culvert** (Barrel Controls 9.58 cfs @ 5.42 fps)
- **3=Broad-Crested Rectangular Weir** (Weir Controls 4.28 cfs @ 1.34 fps)

Pond 4P: Peach-Cir-Pond



Summary for Pond 10P: Proposed Raingarden

Inflow Area = 0.547 ac, 27.24% Impervious, Inflow Depth = 5.16" for 100yr-24hr event
Inflow = 4.20 cfs @ 12.17 hrs, Volume= 0.235 af
Outflow = 2.31 cfs @ 12.29 hrs, Volume= 0.235 af, Atten= 45%, Lag= 7.1 min
Primary = 2.31 cfs @ 12.29 hrs, Volume= 0.235 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 962.76' @ 12.29 hrs Surf.Area= 3,044 sf Storage= 3,580 cf

Plug-Flow detention time= 171.8 min calculated for 0.235 af (100% of inflow)
Center-of-Mass det. time= 171.9 min (951.3 - 779.5)

Volume	Invert	Avail.Storage	Storage Description
#1	961.00'	7,722 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
961.00	1,226	0	0
962.00	2,070	1,648	1,648
963.00	3,359	2,715	4,363
964.00	3,359	3,359	7,722

Device	Routing	Invert	Outlet Devices
#1	Primary	961.90'	**12.0" Round Culvert** L= 47.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 961.90' / 959.00' S= 0.0617 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Primary	961.00'	**0.800 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=2.31 cfs @ 12.29 hrs HW=962.76' TW=955.41' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.25 cfs @ 3.15 fps)
└─**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Pond 10P: Proposed Raingarden