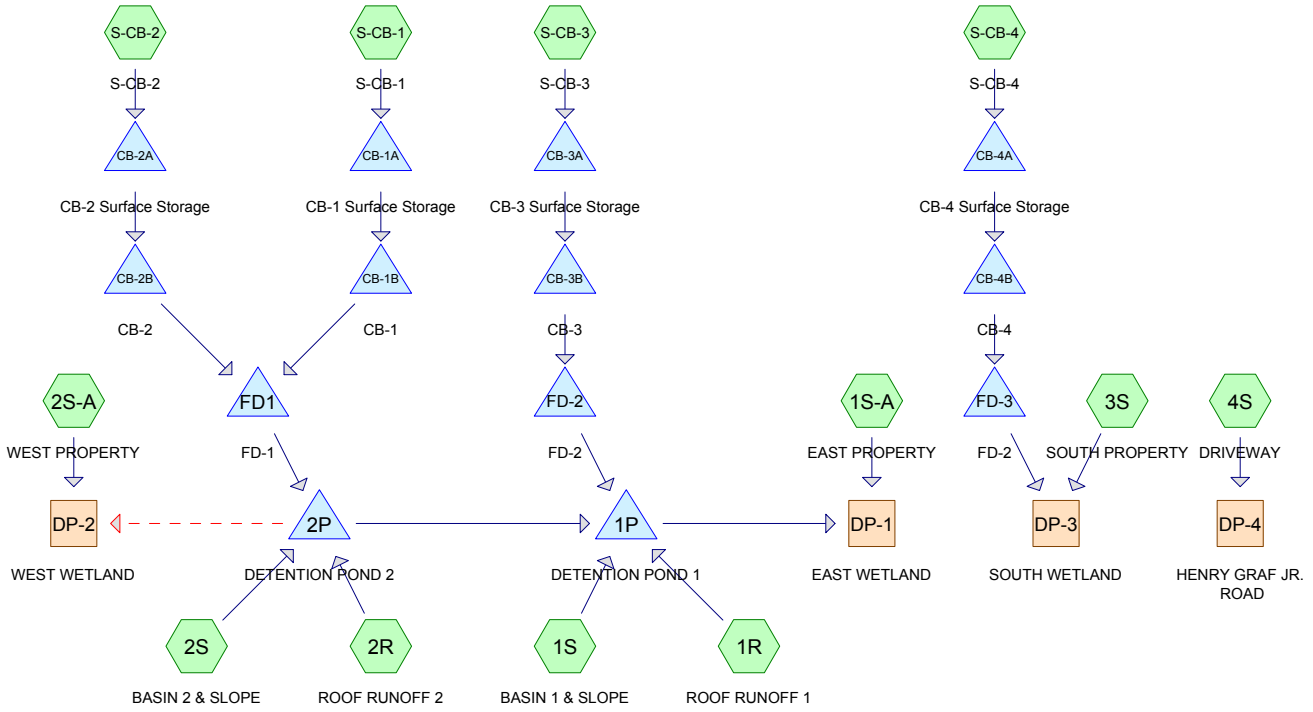


Subcat Reach Pond Link

Routing Diagram for 219-180_POST2_rev pipe check-AWL2
Prepared by Microsoft, Printed 4/13/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.665	80	>75% Grass cover, Good, HSG D (1S, 1S-A, 2S, 2S-A, 3S, S-CB-1, S-CB-2, S-CB-3, S-CB-4)
0.852	98	Paved parking, HSG D (1S, 4S, S-CB-1, S-CB-2, S-CB-3, S-CB-4)
0.231	98	Roofs, HSG D (1R, 2R)
0.000	98	Unconnected pavement, HSG D (2S)
1.749	**91**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.749	HSG D	1R, 1S, 1S-A, 2R, 2S, 2S-A, 3S, 4S, S-CB-1, S-CB-2, S-CB-3, S-CB-4
0.000	Other	
1.749		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.665	0.000	0.665	>75% Grass cover, Good	1S, 1S-A, 2S, 2S-A, 3S, S-CB-1, S-CB-2, S-CB-3, S-CB-4
0.000	0.000	0.000	0.852	0.000	0.852	Paved parking	1S, 4S, S-CB-1, S-CB-2, S-CB-3, S-CB-4
0.000	0.000	0.000	0.231	0.000	0.231	Roofs	1R, 2R
0.000	0.000	0.000	0.000	0.000	0.000	Unconnected pavement	2S
0.000	**0.000**	**0.000**	**1.749**	**0.000**	**1.749**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	12.30	12.00	37.0	0.0081	0.013	12.0	0.0	0.0
2	2P	14.00	13.80	68.0	0.0029	0.013	15.0	0.0	0.0
3	CB-1B	14.50	14.32	30.0	0.0060	0.013	12.0	0.0	0.0
4	CB-2B	14.50	14.32	30.0	0.0060	0.013	12.0	0.0	0.0
5	CB-3B	13.50	13.44	2.0	0.0300	0.013	12.0	0.0	0.0
6	CB-4B	12.82	12.54	52.0	0.0054	0.013	12.0	0.0	0.0
7	FD-2	13.44	13.27	11.0	0.0155	0.013	15.0	0.0	0.0
8	FD-3	12.54	12.40	23.0	0.0061	0.013	12.0	0.0	0.0
9	FD1	14.32	14.10	56.0	0.0039	0.013	12.0	0.0	0.0

Time span=0.00-48.00 hrs, dt=0.02 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: ROOF RUNOFF 1 Runoff Area=5,020 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.35 cfs 0.028 af

Subcatchment 1S: BASIN 1 & SLOPE Runoff Area=9,292 sf 0.54% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=80 Runoff=0.33 cfs 0.024 af

Subcatchment 1S-A: EAST PROPERTY Runoff Area=5,187 sf 0.00% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=80 Runoff=0.18 cfs 0.013 af

Subcatchment 2R: ROOF RUNOFF 2 Runoff Area=5,049 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.35 cfs 0.028 af

Subcatchment 2S: BASIN 2 & SLOPE Runoff Area=4,363 sf 0.46% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=80 Runoff=0.15 cfs 0.011 af

Subcatchment 2S-A: WEST PROPERTY Runoff Area=3,056 sf 0.00% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=80 Runoff=0.11 cfs 0.008 af

Subcatchment 3S: SOUTH PROPERTY Runoff Area=5,793 sf 0.00% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=80 Runoff=0.20 cfs 0.015 af

Subcatchment 4S: DRIVEWAY Runoff Area=1,175 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.08 cfs 0.006 af

Subcatchment S-CB-1: S-CB-1 Runoff Area=8,184 sf 90.07% Impervious Runoff Depth=2.65"
Tc=6.0 min CN=96 Runoff=0.54 cfs 0.041 af

Subcatchment S-CB-2: S-CB-2 Runoff Area=6,982 sf 96.66% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=0.47 cfs 0.037 af

Subcatchment S-CB-3: S-CB-3 Runoff Area=6,952 sf 98.53% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.48 cfs 0.038 af

Subcatchment S-CB-4: S-CB-4 Runoff Area=15,143 sf 98.55% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=1.04 cfs 0.083 af

Reach DP-1: EAST WETLAND Inflow=1.59 cfs 0.217 af
Outflow=1.59 cfs 0.217 af

Reach DP-2: WEST WETLAND Inflow=0.28 cfs 0.010 af
Outflow=0.28 cfs 0.010 af

Reach DP-3: SOUTH WETLAND Inflow=1.25 cfs 0.098 af
Outflow=1.25 cfs 0.098 af

Reach DP-4: HENRY GRAF JR. ROAD Inflow=0.08 cfs 0.006 af
Outflow=0.08 cfs 0.006 af

Pond 1P: DETENTION POND 1 Peak Elev=13.27' Storage=627 cf Inflow=2.03 cfs 0.204 af
Outflow=1.48 cfs 0.203 af

Pond 2P: DETENTION POND 2 Peak Elev=14.60' Storage=807 cf Inflow=1.51 cfs 0.117 af
Primary=0.97 cfs 0.115 af Secondary=0.19 cfs 0.002 af Outflow=1.16 cfs 0.117 af

Pond CB-1A: CB-1 Surface Storage Peak Elev=17.01' Storage=1 cf Inflow=0.54 cfs 0.041 af
Outflow=0.54 cfs 0.041 af

Pond CB-1B: CB-1 Peak Elev=15.07' Storage=7 cf Inflow=0.54 cfs 0.041 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0060 '/' Outflow=0.54 cfs 0.041 af

Pond CB-2A: CB-2 Surface Storage Peak Elev=17.01' Storage=0 cf Inflow=0.47 cfs 0.037 af
Outflow=0.47 cfs 0.037 af

Pond CB-2B: CB-2 Peak Elev=15.05' Storage=7 cf Inflow=0.47 cfs 0.037 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0060 '/' Outflow=0.47 cfs 0.037 af

Pond CB-3A: CB-3 Surface Storage Peak Elev=16.07' Storage=3 cf Inflow=0.48 cfs 0.038 af
Outflow=0.48 cfs 0.038 af

Pond CB-3B: CB-3 Peak Elev=13.91' Storage=5 cf Inflow=0.48 cfs 0.038 af
12.0" Round Culvert n=0.013 L=2.0' S=0.0300 '/' Outflow=0.48 cfs 0.038 af

Pond CB-4A: CB-4 Surface Storage Peak Elev=15.33' Storage=0 cf Inflow=1.04 cfs 0.083 af
Outflow=1.04 cfs 0.083 af

Pond CB-4B: CB-4 Peak Elev=13.49' Storage=9 cf Inflow=1.04 cfs 0.083 af
12.0" Round Culvert n=0.013 L=52.0' S=0.0054 '/' Outflow=1.04 cfs 0.083 af

Pond FD-2: FD-2 Peak Elev=13.77' Storage=4 cf Inflow=0.48 cfs 0.038 af
15.0" Round Culvert n=0.013 L=11.0' S=0.0155 '/' Outflow=0.48 cfs 0.038 af

Pond FD-3: FD-2 Peak Elev=13.16' Storage=8 cf Inflow=1.04 cfs 0.083 af
12.0" Round Culvert n=0.013 L=23.0' S=0.0061 '/' Outflow=1.04 cfs 0.083 af

Pond FD1: FD-1 Peak Elev=14.96' Storage=8 cf Inflow=1.01 cfs 0.078 af
12.0" Round Culvert n=0.013 L=56.0' S=0.0039 '/' Outflow=1.01 cfs 0.078 af

Total Runoff Area = 1.749 ac Runoff Volume = 0.331 af Average Runoff Depth = 2.27"
38.05% Pervious = 0.665 ac 61.95% Impervious = 1.084 ac

Summary for Subcatchment 1R: ROOF RUNOFF 1

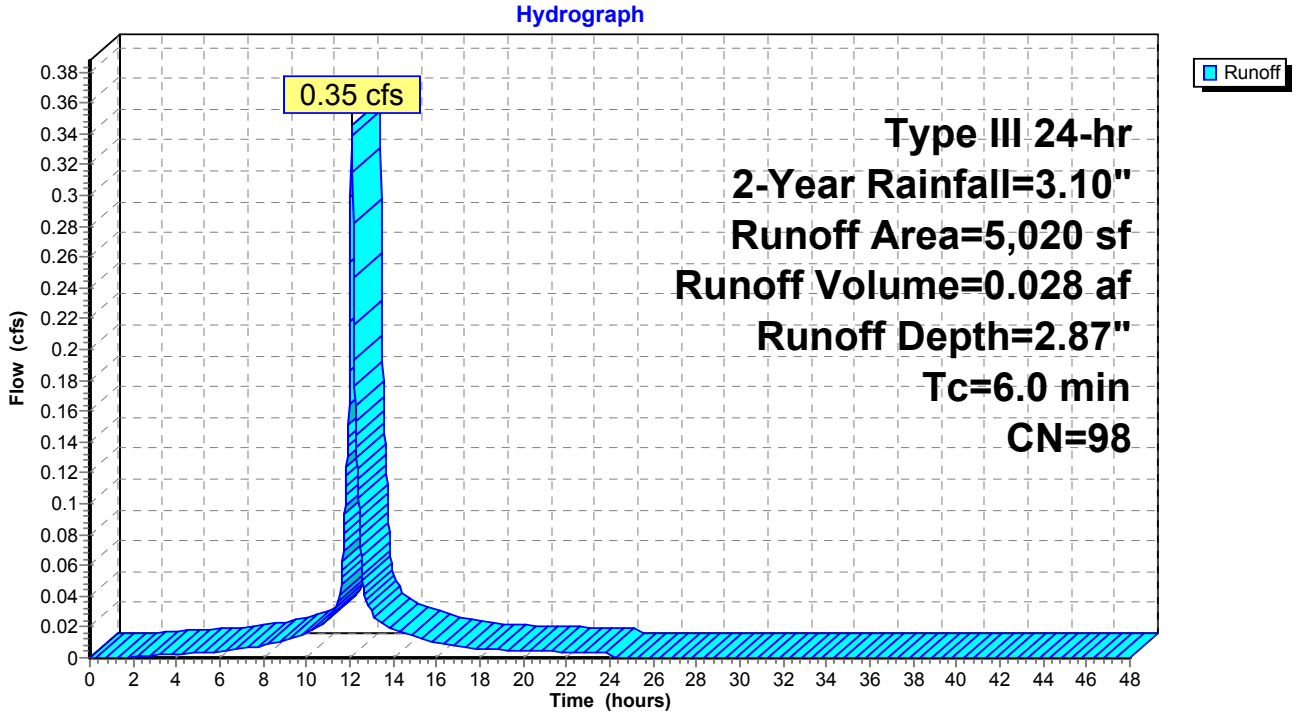
Runoff = 0.35 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,020	98	Roofs, HSG D
5,020		100.00% Impervious Area

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

Subcatchment 1R: ROOF RUNOFF 1



Summary for Subcatchment 1S: BASIN 1 & SLOPE

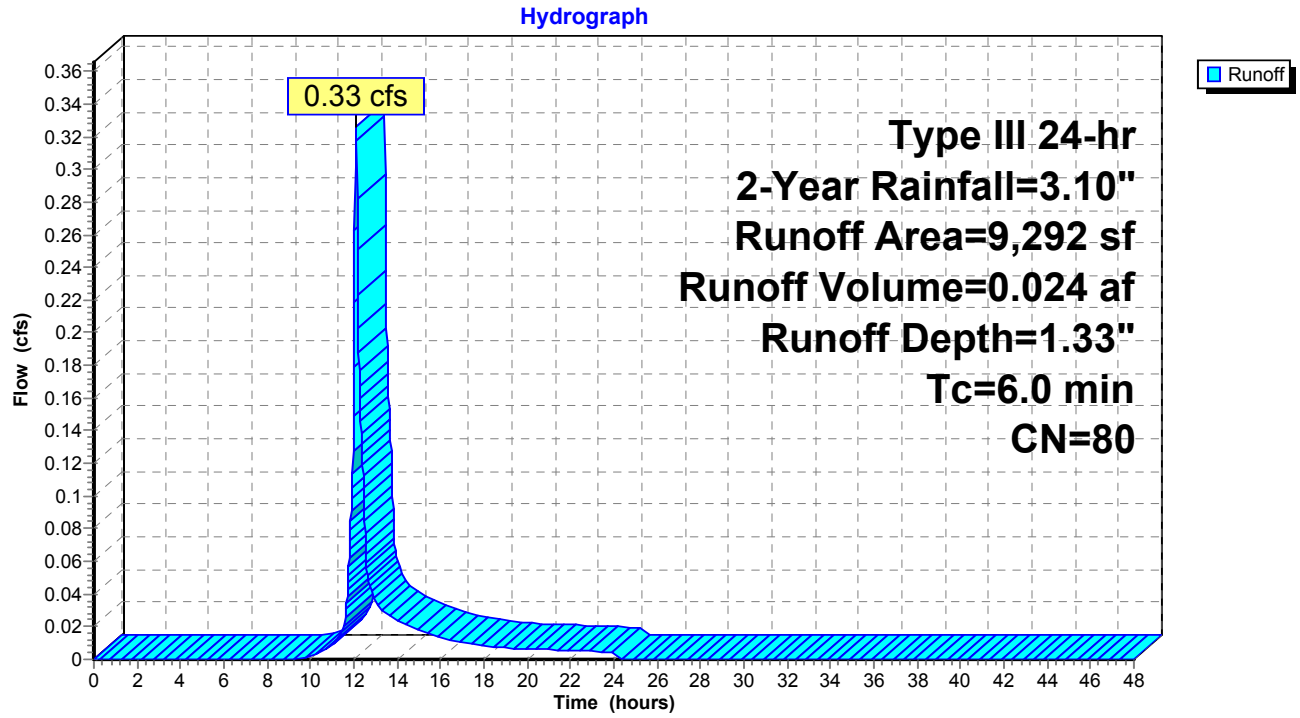
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
9,242	80	>75% Grass cover, Good, HSG D
50	98	Paved parking, HSG D
9,292	80	Weighted Average
9,242		99.46% Pervious Area
50		0.54% Impervious Area

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

Subcatchment 1S: BASIN 1 & SLOPE



Summary for Subcatchment 1S-A: EAST PROPERTY

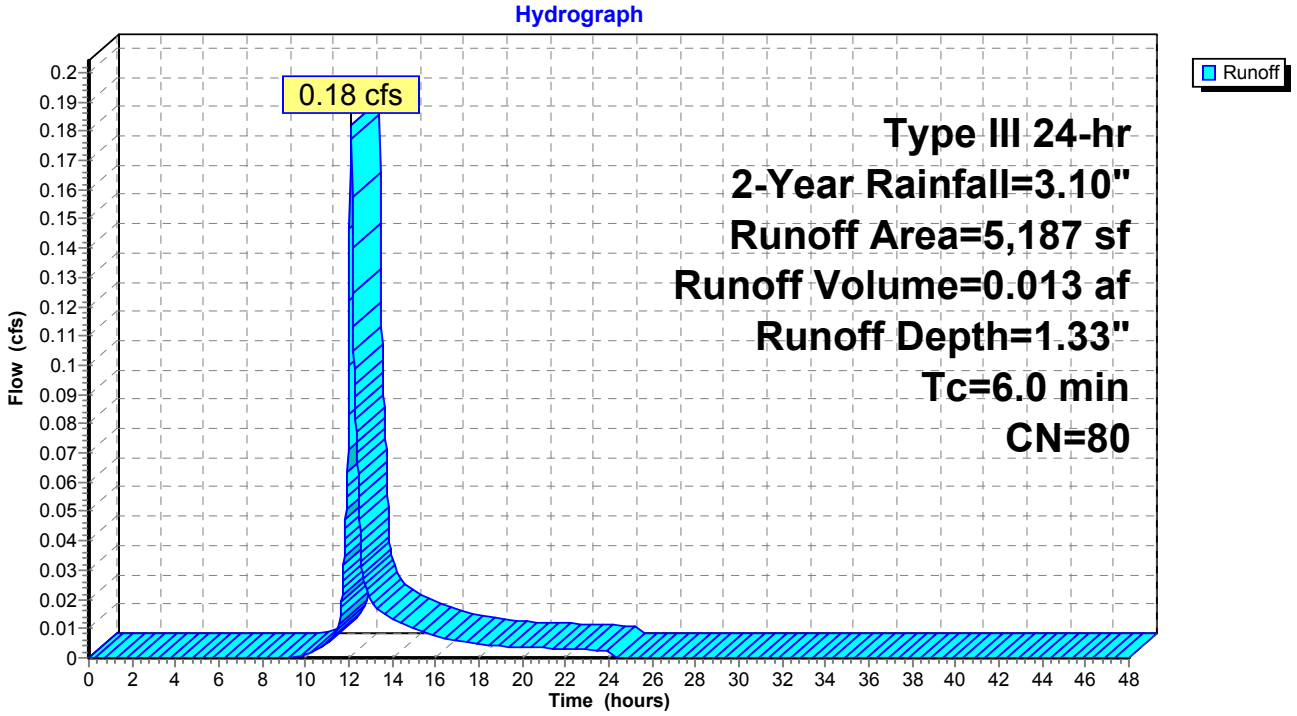
Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.013 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,187	80	>75% Grass cover, Good, HSG D
5,187		100.00% Pervious Area

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

Subcatchment 1S-A: EAST PROPERTY



Summary for Subcatchment 2R: ROOF RUNOFF 2

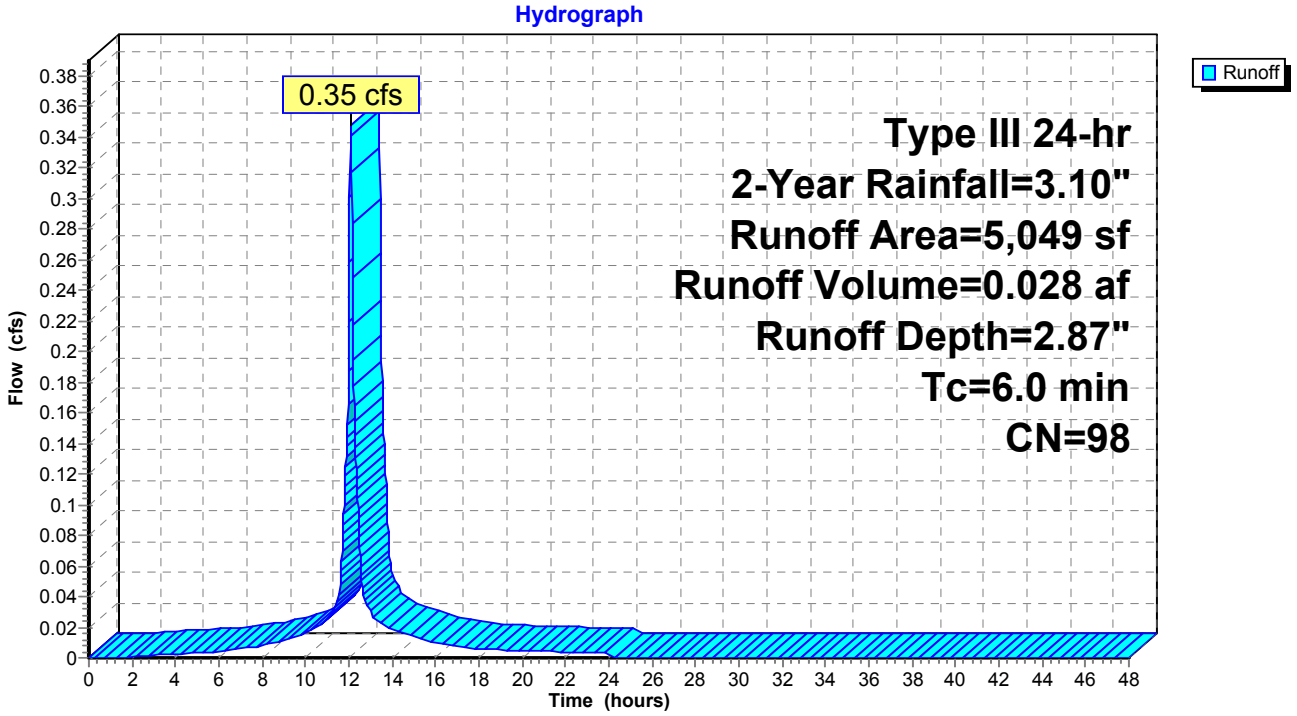
Runoff = 0.35 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,049	98	Roofs, HSG D
5,049		100.00% Impervious Area

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

Subcatchment 2R: ROOF RUNOFF 2



Summary for Subcatchment 2S: BASIN 2 & SLOPE

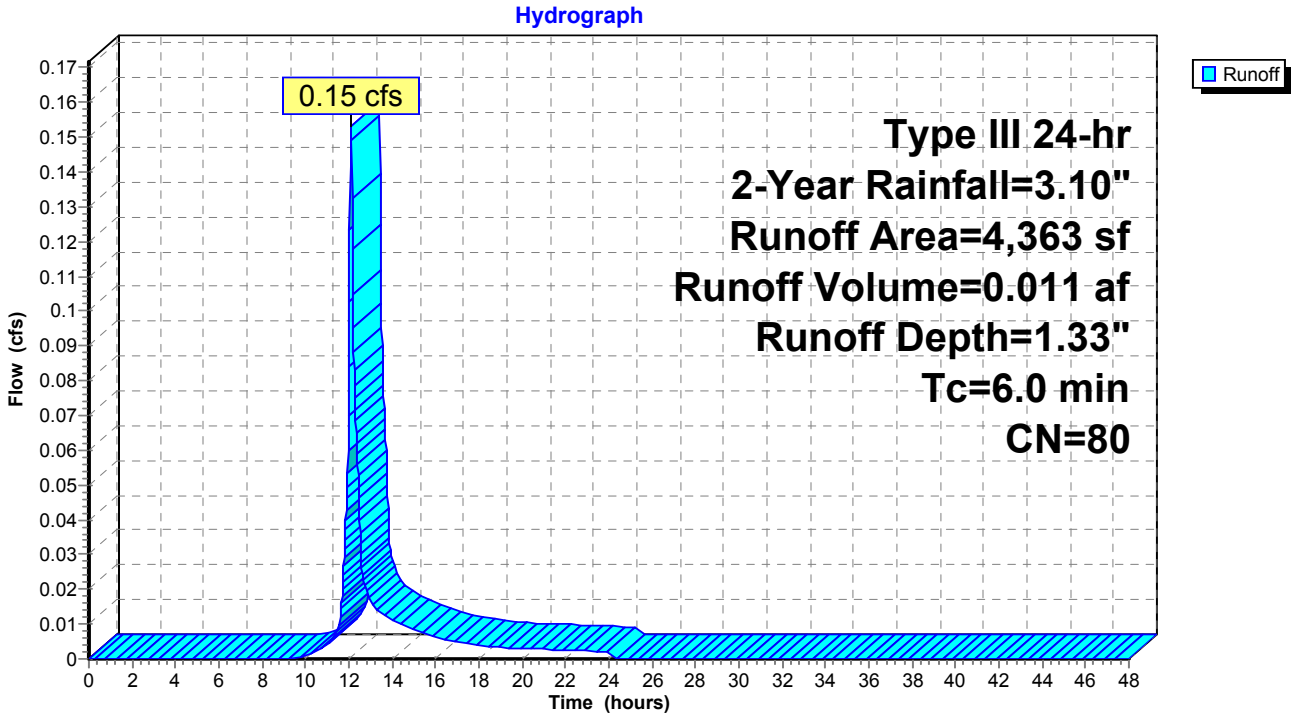
Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.011 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
4,343	80	>75% Grass cover, Good, HSG D
20	98	Unconnected pavement, HSG D
4,363	80	Weighted Average
4,343		99.54% Pervious Area
20		0.46% Impervious Area
20		100.00% Unconnected

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

Subcatchment 2S: BASIN 2 & SLOPE



Summary for Subcatchment 2S-A: WEST PROPERTY

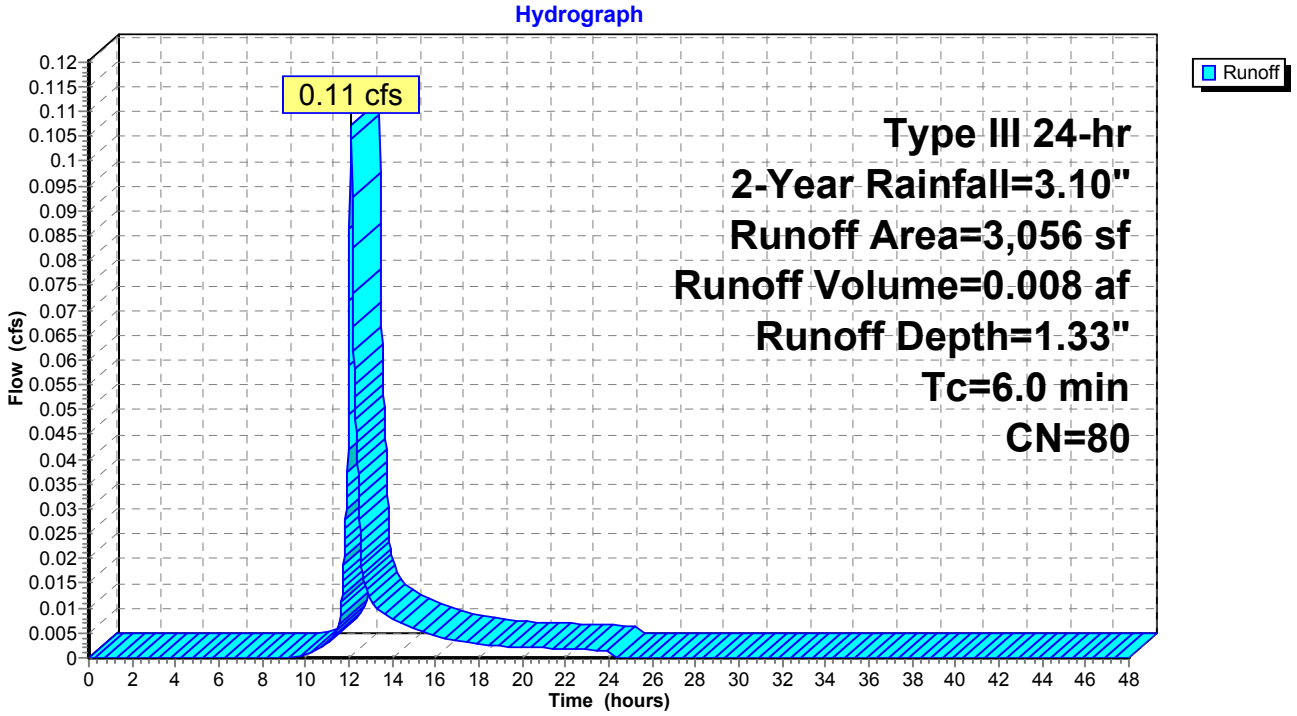
Runoff = 0.11 cfs @ 12.09 hrs, Volume= 0.008 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
3,056	80	>75% Grass cover, Good, HSG D
3,056		100.00% Pervious Area

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

Subcatchment 2S-A: WEST PROPERTY



Summary for Subcatchment 3S: SOUTH PROPERTY

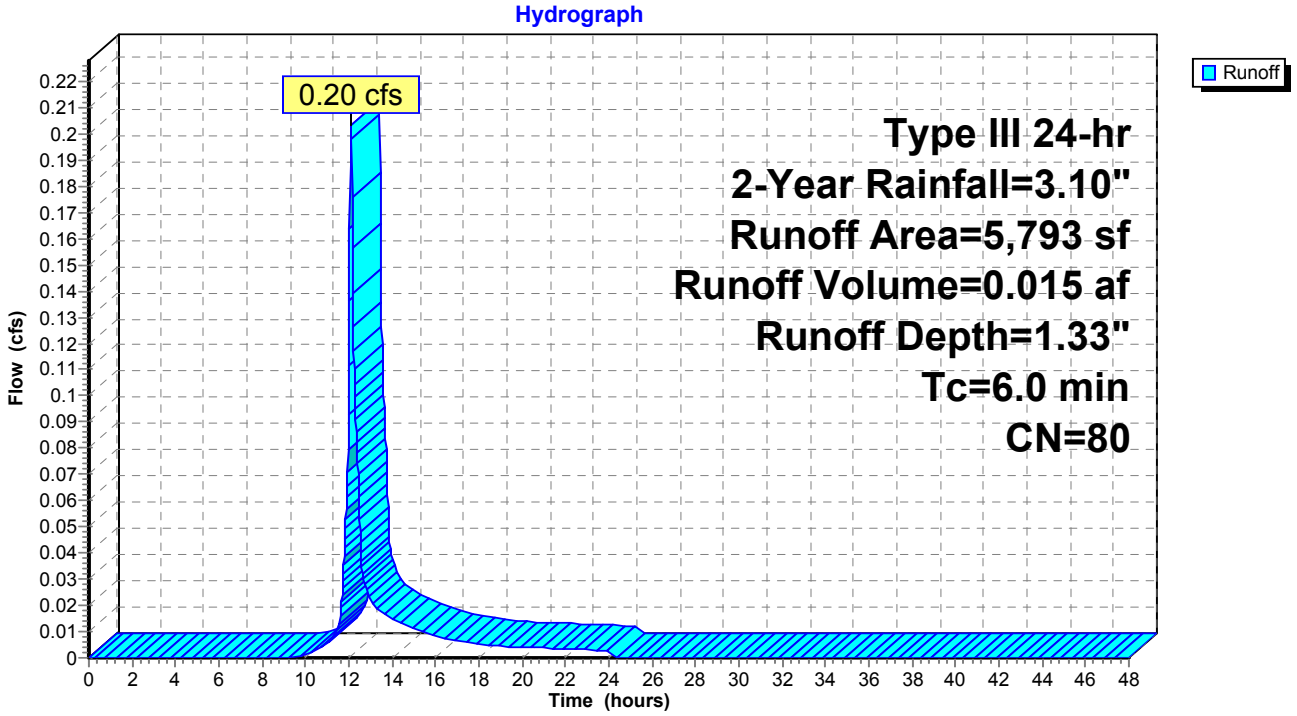
Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,793	80	>75% Grass cover, Good, HSG D
5,793		100.00% Pervious Area

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

Subcatchment 3S: SOUTH PROPERTY



Summary for Subcatchment 4S: DRIVEWAY

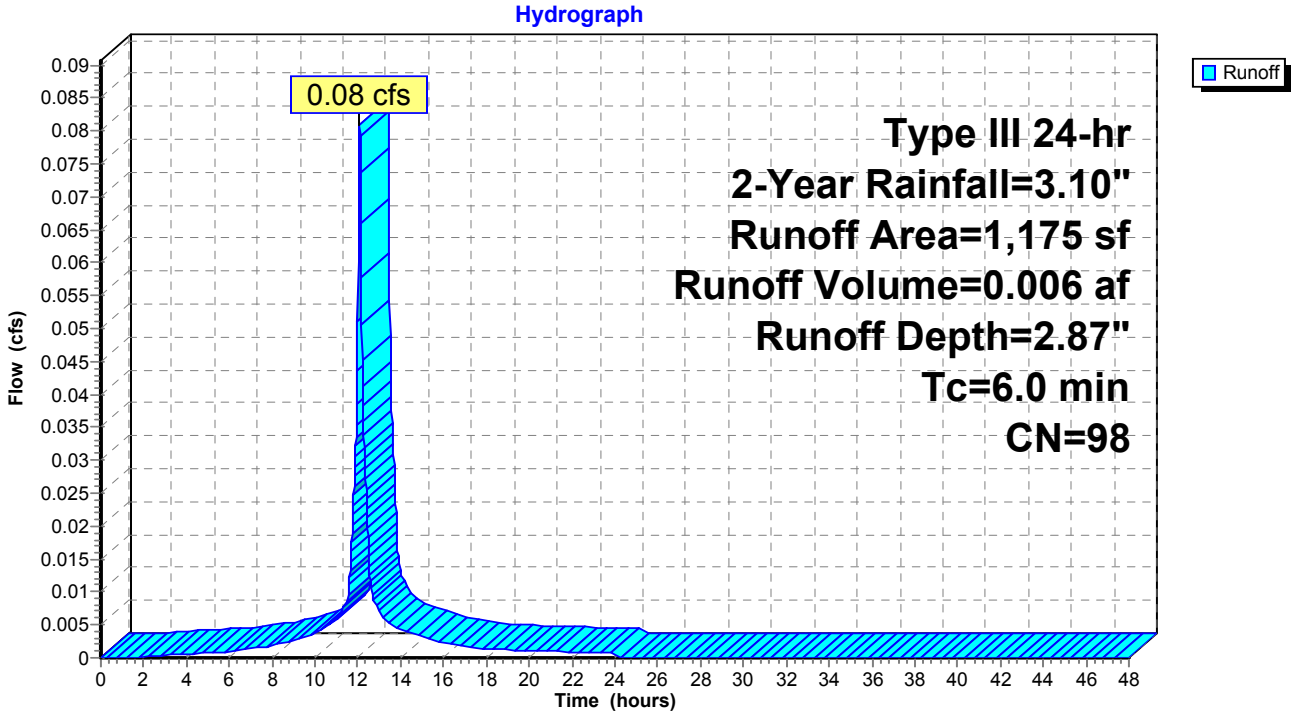
Runoff = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,175	98	Paved parking, HSG D
1,175		100.00% Impervious Area

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

Subcatchment 4S: DRIVEWAY



Summary for Subcatchment S-CB-1: S-CB-1

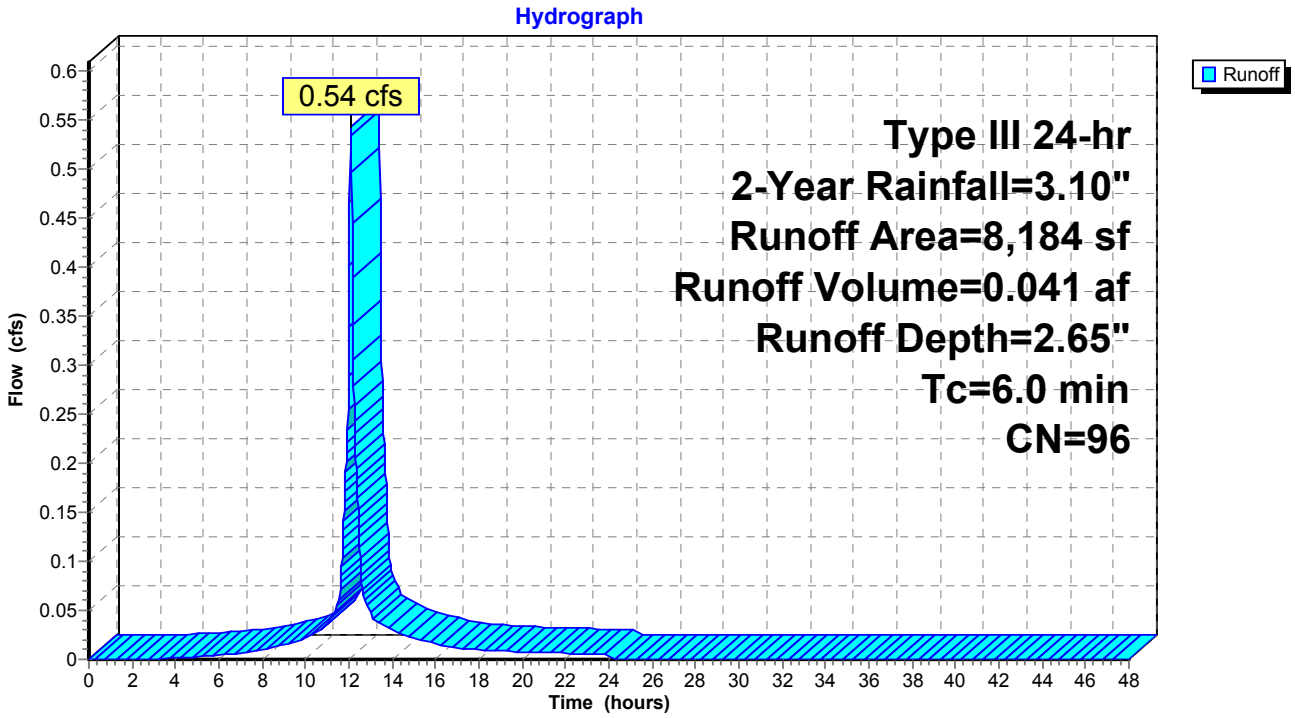
Runoff = 0.54 cfs @ 12.08 hrs, Volume= 0.041 af, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
7,371	98	Paved parking, HSG D
813	80	>75% Grass cover, Good, HSG D
8,184	96	Weighted Average
813		9.93% Pervious Area
7,371		90.07% Impervious Area

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

Subcatchment S-CB-1: S-CB-1



Summary for Subcatchment S-CB-2: S-CB-2

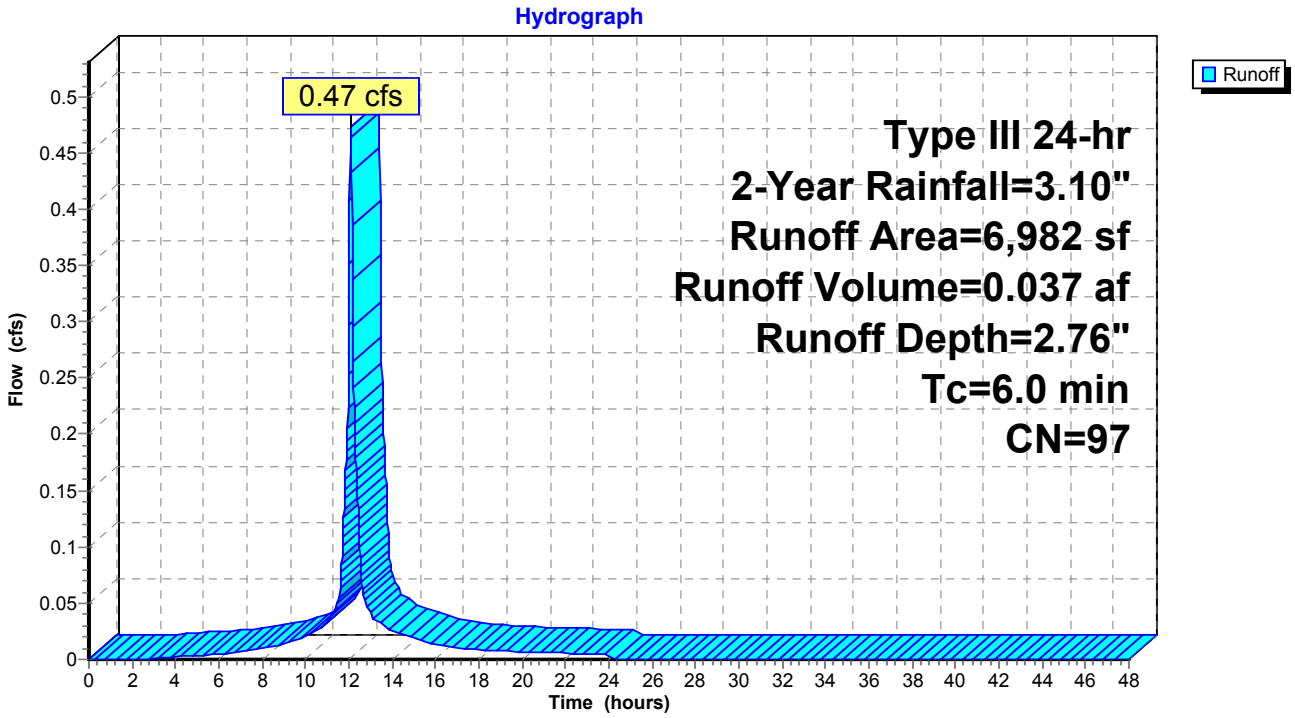
Runoff = 0.47 cfs @ 12.08 hrs, Volume= 0.037 af, Depth= 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
6,749	98	Paved parking, HSG D
233	80	>75% Grass cover, Good, HSG D
6,982	97	Weighted Average
233		3.34% Pervious Area
6,749		96.66% Impervious Area

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

Subcatchment S-CB-2: S-CB-2



Summary for Subcatchment S-CB-3: S-CB-3

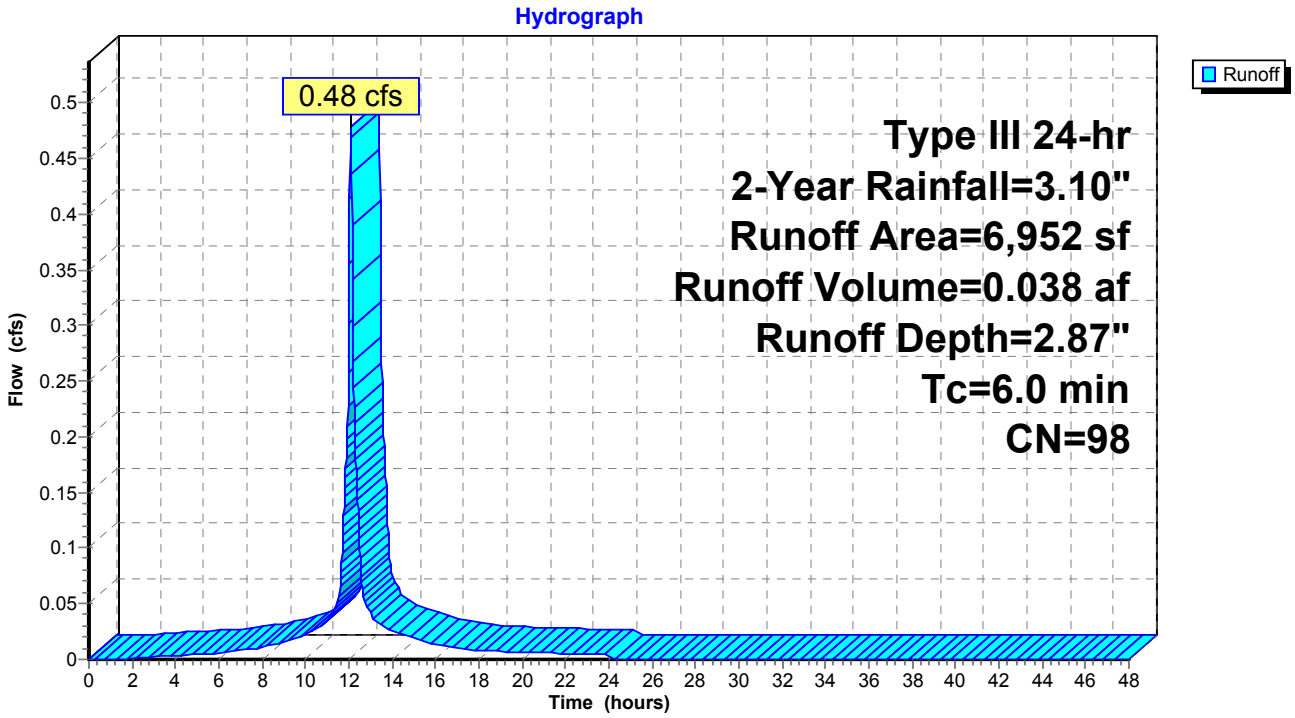
Runoff = 0.48 cfs @ 12.08 hrs, Volume= 0.038 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
6,850	98	Paved parking, HSG D
102	80	>75% Grass cover, Good, HSG D
6,952	98	Weighted Average
102		1.47% Pervious Area
6,850		98.53% Impervious Area

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

Subcatchment S-CB-3: S-CB-3



Summary for Subcatchment S-CB-4: S-CB-4

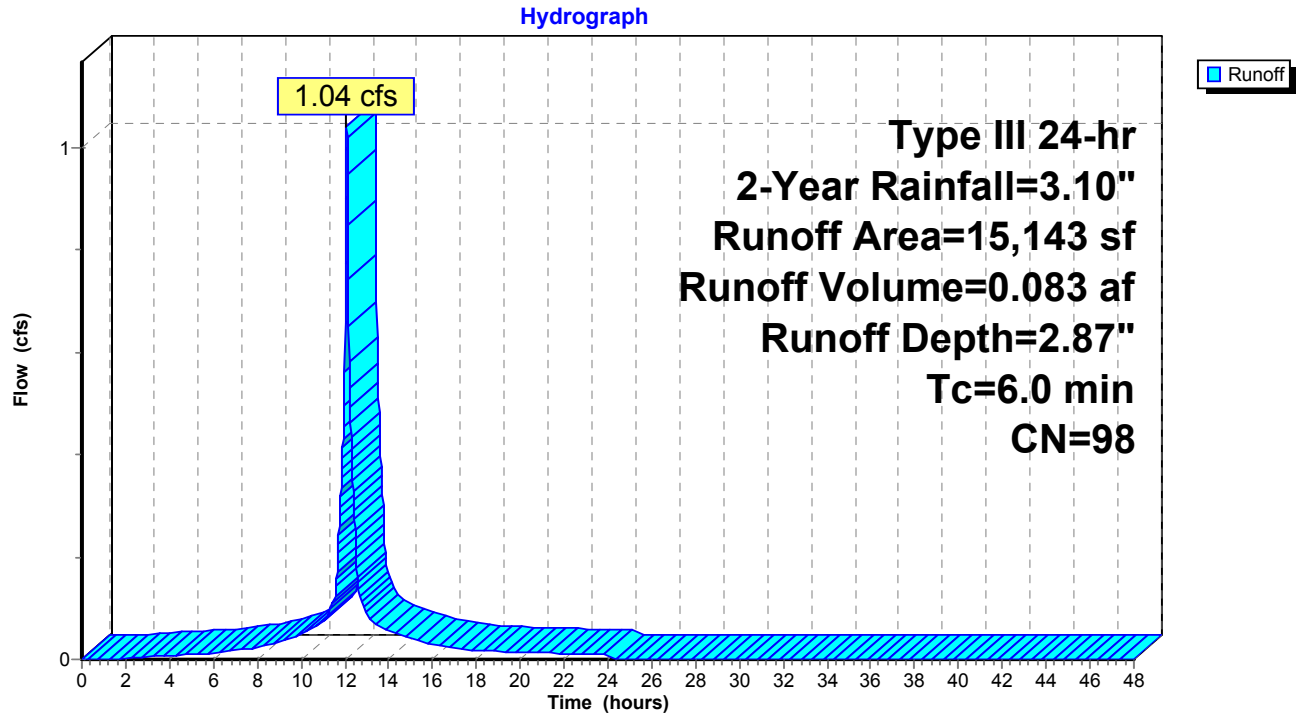
Runoff = 1.04 cfs @ 12.08 hrs, Volume= 0.083 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
14,923	98	Paved parking, HSG D
220	80	>75% Grass cover, Good, HSG D
15,143	98	Weighted Average
220		1.45% Pervious Area
14,923		98.55% Impervious Area

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

Subcatchment S-CB-4: S-CB-4



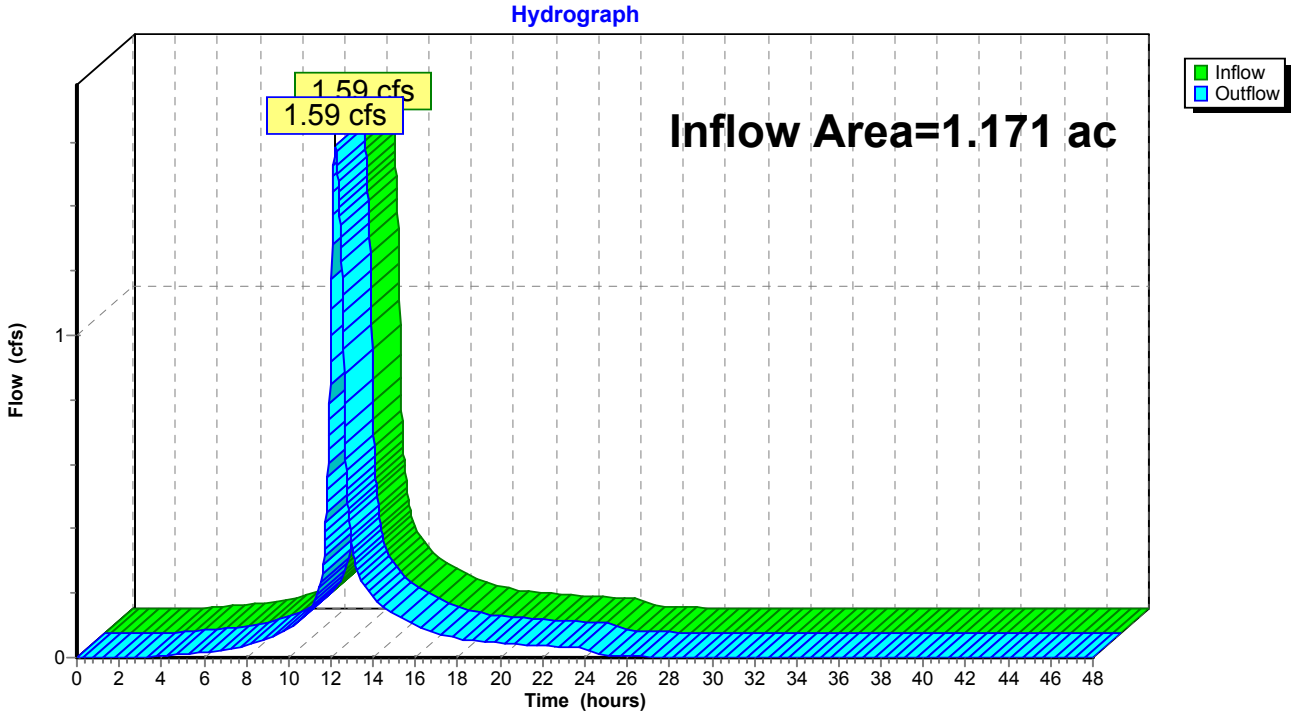
Summary for Reach DP-1: EAST WETLAND

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

Inflow Area = 1.171 ac, 60.96% Impervious, Inflow Depth = 2.22" for 2-Year event
Inflow = 1.59 cfs @ 12.21 hrs, Volume= 0.217 af
Outflow = 1.59 cfs @ 12.21 hrs, Volume= 0.217 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-1: EAST WETLAND



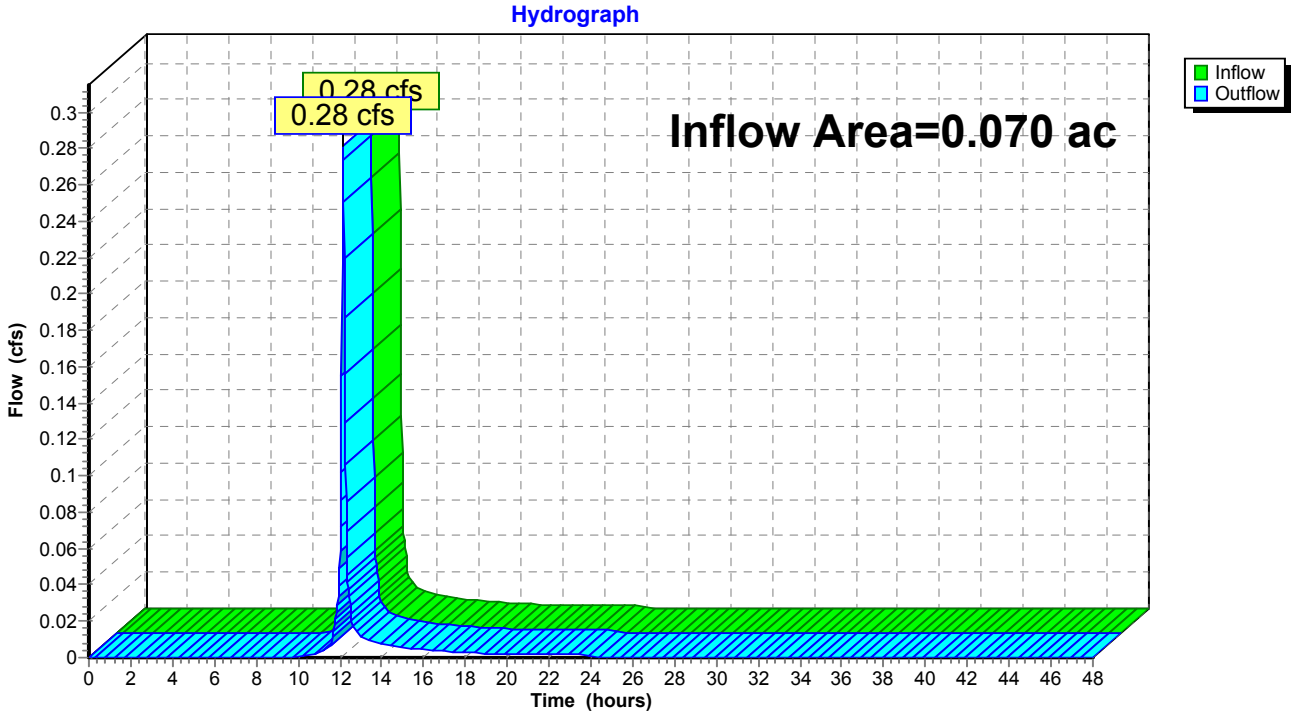
Summary for Reach DP-2: WEST WETLAND

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

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 1.74" for 2-Year event
Inflow = 0.28 cfs @ 12.14 hrs, Volume= 0.010 af
Outflow = 0.28 cfs @ 12.14 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-2: WEST WETLAND



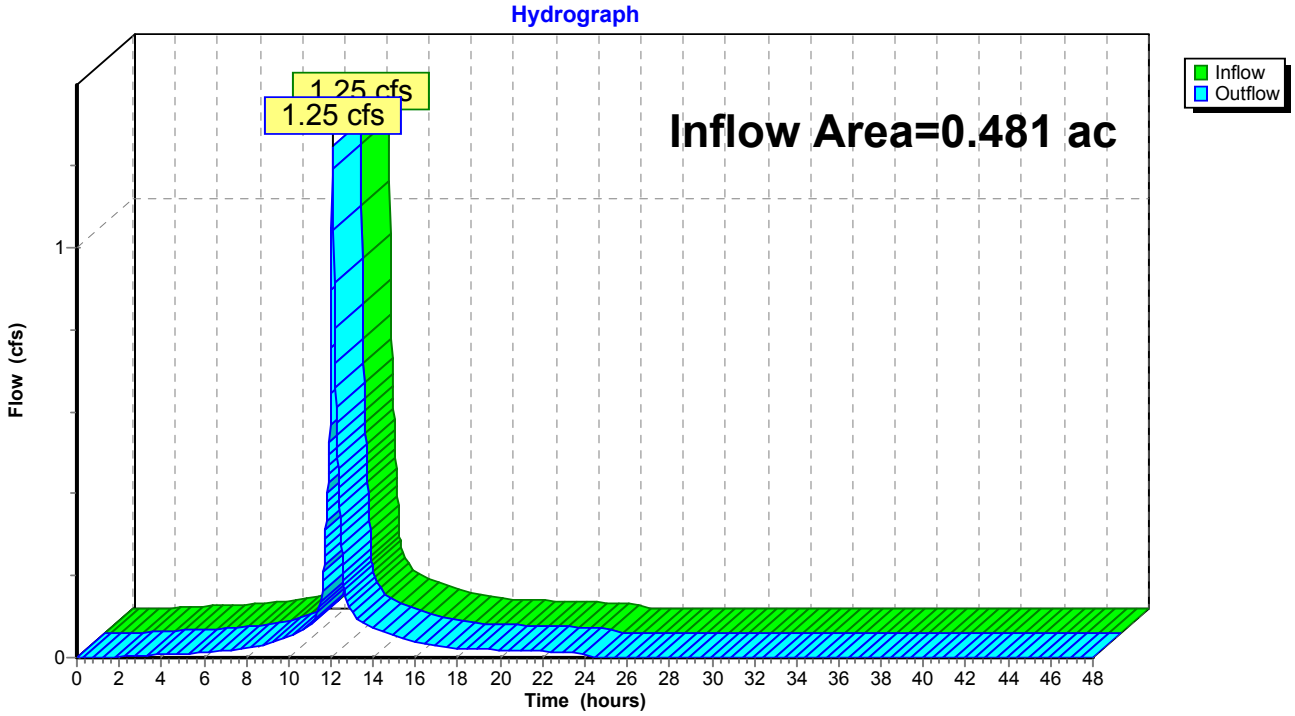
Summary for Reach DP-3: SOUTH WETLAND

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

Inflow Area = 0.481 ac, 71.28% Impervious, Inflow Depth = 2.44" for 2-Year event
Inflow = 1.25 cfs @ 12.09 hrs, Volume= 0.098 af
Outflow = 1.25 cfs @ 12.09 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-3: SOUTH WETLAND



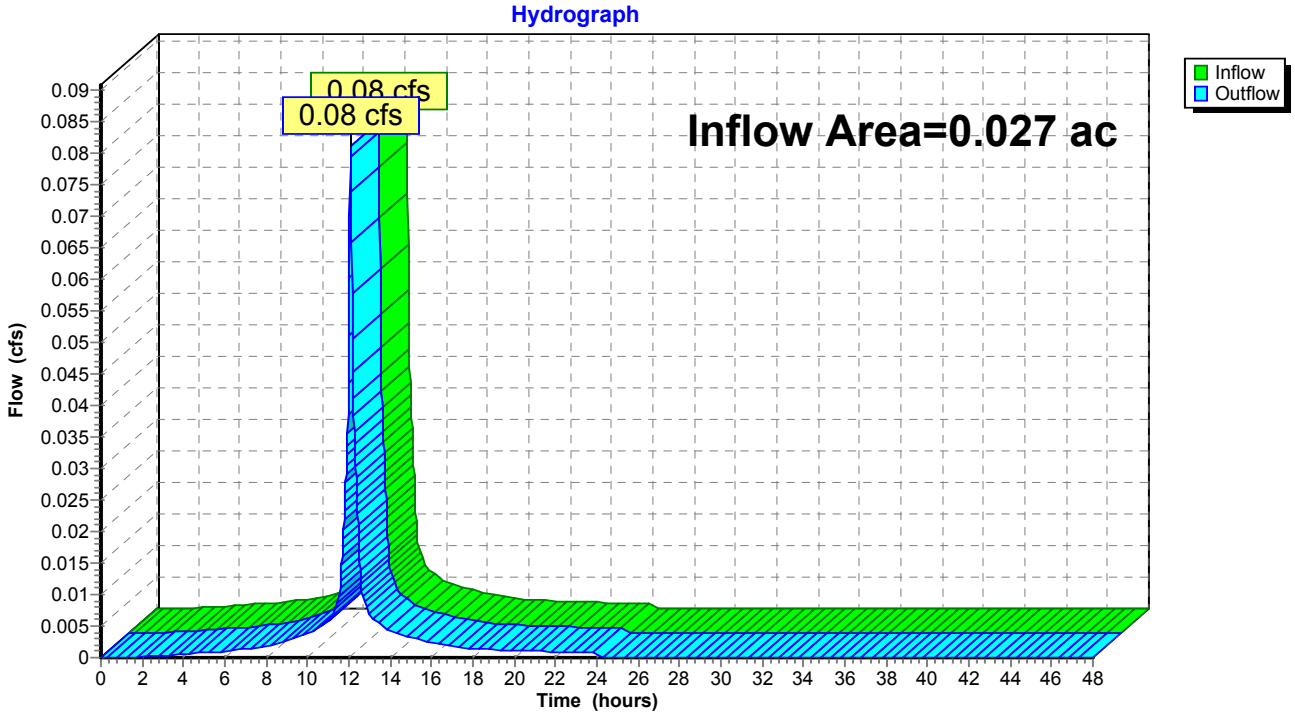
Summary for Reach DP-4: HENRY GRAF JR. ROAD

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

Inflow Area = 0.027 ac,100.00% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af
Outflow = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-4: HENRY GRAF JR. ROAD



Summary for Pond 1P: DETENTION POND 1

Inflow Area = 1.052 ac, 67.86% Impervious, Inflow Depth = 2.32" for 2-Year event
Inflow = 2.03 cfs @ 12.11 hrs, Volume= 0.204 af
Outflow = 1.48 cfs @ 12.23 hrs, Volume= 0.203 af, Atten= 27%, Lag= 7.2 min
Primary = 1.48 cfs @ 12.23 hrs, Volume= 0.203 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.27' @ 12.23 hrs Surf.Area= 1,335 sf Storage= 627 cf

Plug-Flow detention time= 9.5 min calculated for 0.203 af (100% of inflow)
Center-of-Mass det. time= 7.6 min (809.0 - 801.3)

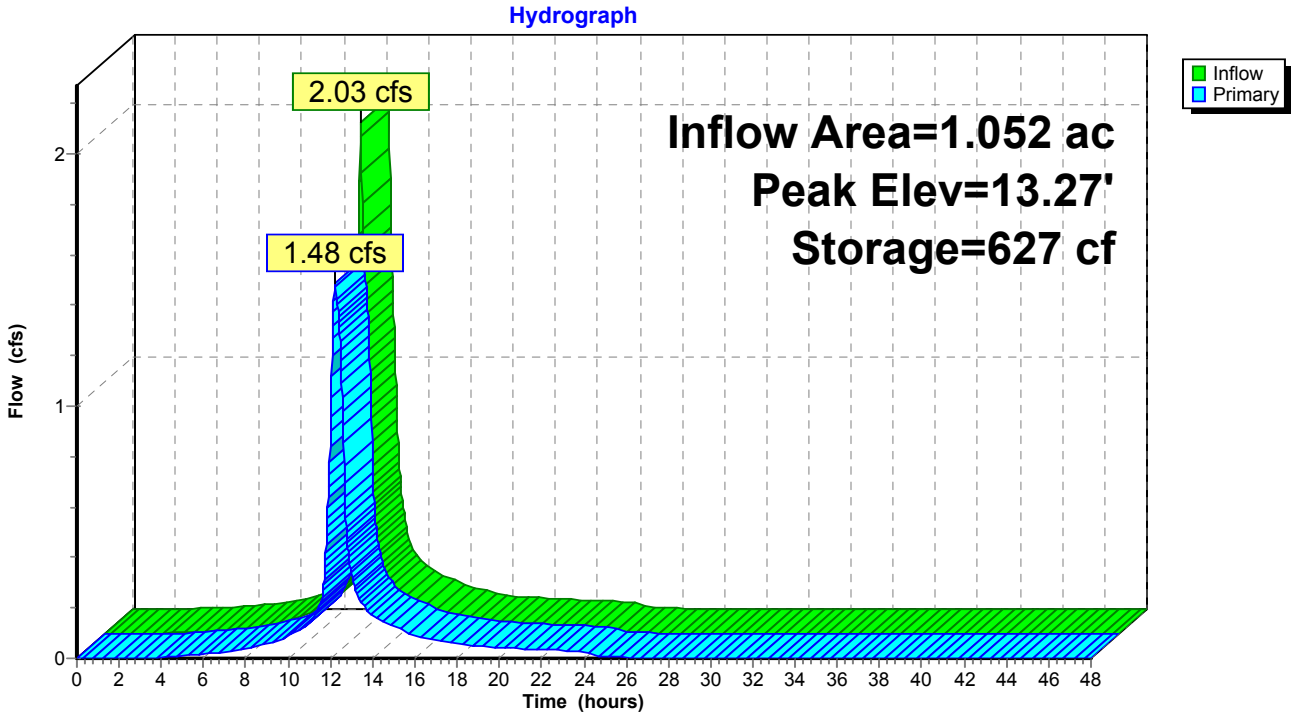
Volume	Invert	Avail.Storage	Storage Description
#1	12.20'	6,245 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.20	100	0	0
12.40	250	35	35
12.60	500	75	110
13.00	700	240	350
13.20	1,150	185	535
13.30	1,400	128	663
14.00	3,050	1,557	2,220
15.00	5,000	4,025	6,245

Device	Routing	Invert	Outlet Devices
#1	Primary	12.30'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.30' / 12.00' S= 0.0081 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	12.22'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	13.19'	**75.0 deg x 0.7' long Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=1.48 cfs @ 12.23 hrs HW=13.27' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.48 cfs of 2.34 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.43 cfs @ 4.09 fps)
  └─**3=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.06 cfs @ 0.89 fps)

Pond 1P: DETENTION POND 1



Summary for Pond 2P: DETENTION POND 2

Inflow Area = 0.564 ac, 78.07% Impervious, Inflow Depth = 2.49" for 2-Year event
Inflow = 1.51 cfs @ 12.09 hrs, Volume= 0.117 af
Outflow = 1.16 cfs @ 12.15 hrs, Volume= 0.117 af, Atten= 23%, Lag= 3.9 min
Primary = 0.97 cfs @ 12.15 hrs, Volume= 0.115 af
Secondary = 0.19 cfs @ 12.15 hrs, Volume= 0.002 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.60' @ 12.15 hrs Surf.Area= 1,561 sf Storage= 807 cf

Plug-Flow detention time= 41.1 min calculated for 0.117 af (100% of inflow)
Center-of-Mass det. time= 40.1 min (815.7 - 775.6)

Volume	Invert	Avail.Storage	Storage Description
#1	14.00'	3,720 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

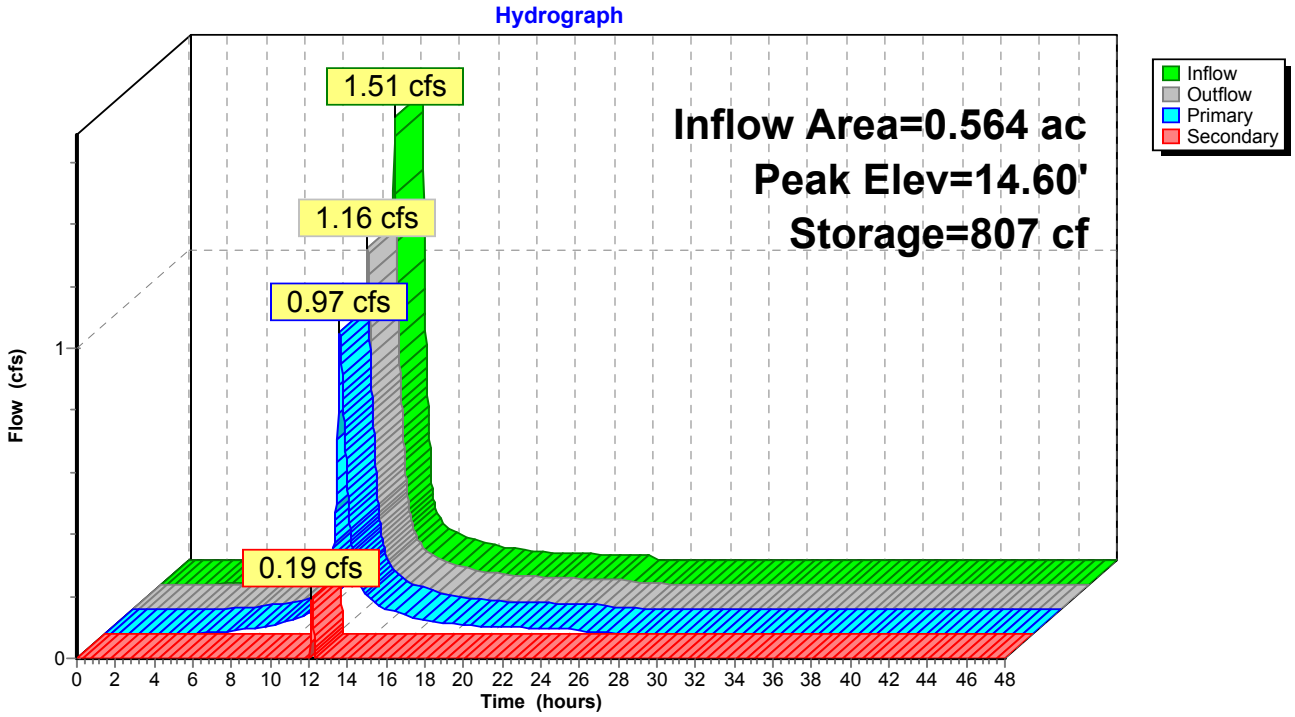
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.00	1,150	0	0
15.00	1,840	1,495	1,495
16.00	2,610	2,225	3,720

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**15.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 13.80' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Secondary	14.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.5' Crest Height

Primary OutFlow Max=0.97 cfs @ 12.15 hrs HW=14.59' TW=13.23' (Dynamic Tailwater)
↑└**1=Culvert** (Barrel Controls 0.97 cfs @ 2.47 fps)

Secondary OutFlow Max=0.19 cfs @ 12.15 hrs HW=14.59' TW=0.00' (Dynamic Tailwater)
↑└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.19 cfs @ 1.01 fps)

Pond 2P: DETENTION POND 2



Summary for Pond CB-1A: CB-1 Surface Storage

Inflow Area = 0.188 ac, 90.07% Impervious, Inflow Depth = 2.65" for 2-Year event
Inflow = 0.54 cfs @ 12.08 hrs, Volume= 0.041 af
Outflow = 0.54 cfs @ 12.09 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.3 min
Primary = 0.54 cfs @ 12.09 hrs, Volume= 0.041 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 17.01' @ 12.09 hrs Surf.Area= 108 sf Storage= 1 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (775.0 - 775.0)

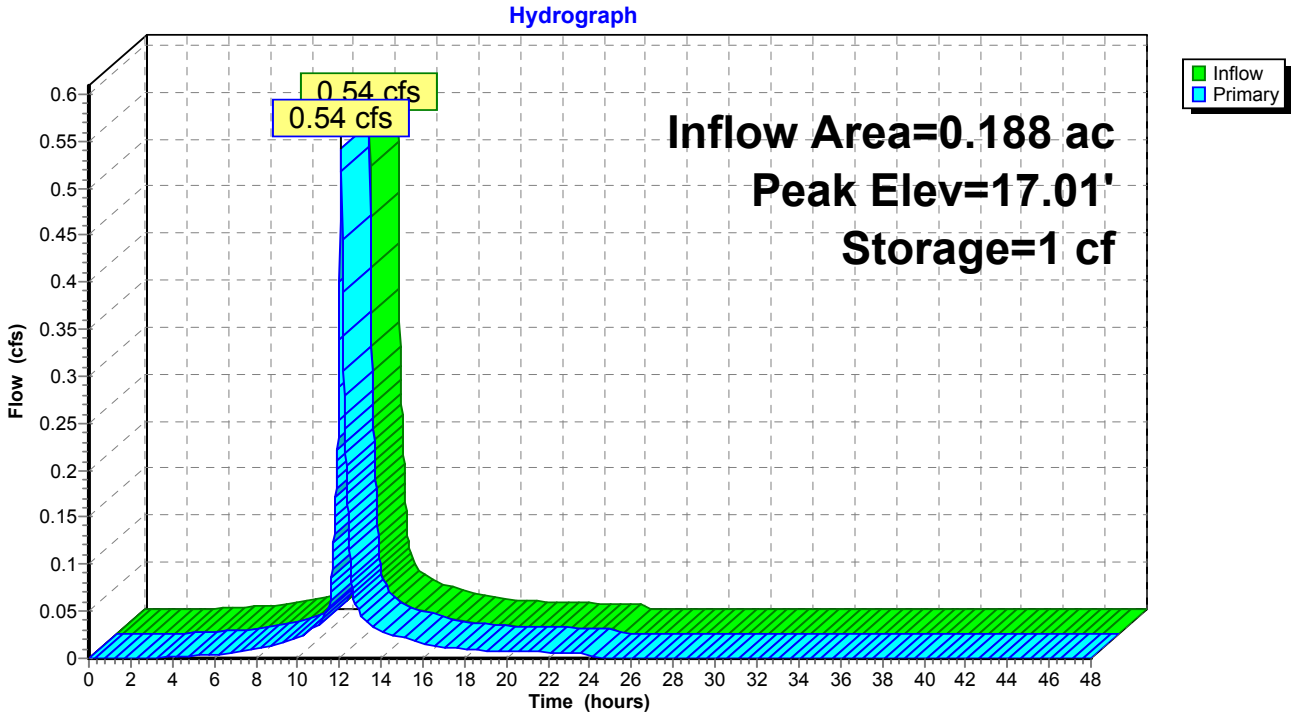
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	824 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	0	0	0
17.42	3,923	824	824

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.530 3.720

Primary OutFlow Max=0.54 cfs @ 12.09 hrs HW=17.01' TW=15.06' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 0.54 cfs)

Pond CB-1A: CB-1 Surface Storage



Summary for Pond CB-1B: CB-1

Inflow Area = 0.188 ac, 90.07% Impervious, Inflow Depth = 2.65" for 2-Year event
Inflow = 0.54 cfs @ 12.09 hrs, Volume= 0.041 af
Outflow = 0.54 cfs @ 12.09 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.1 min
Primary = 0.54 cfs @ 12.09 hrs, Volume= 0.041 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.07' @ 12.10 hrs Surf.Area= 13 sf Storage= 7 cf

Plug-Flow detention time= 1.0 min calculated for 0.041 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (775.7 - 775.0)

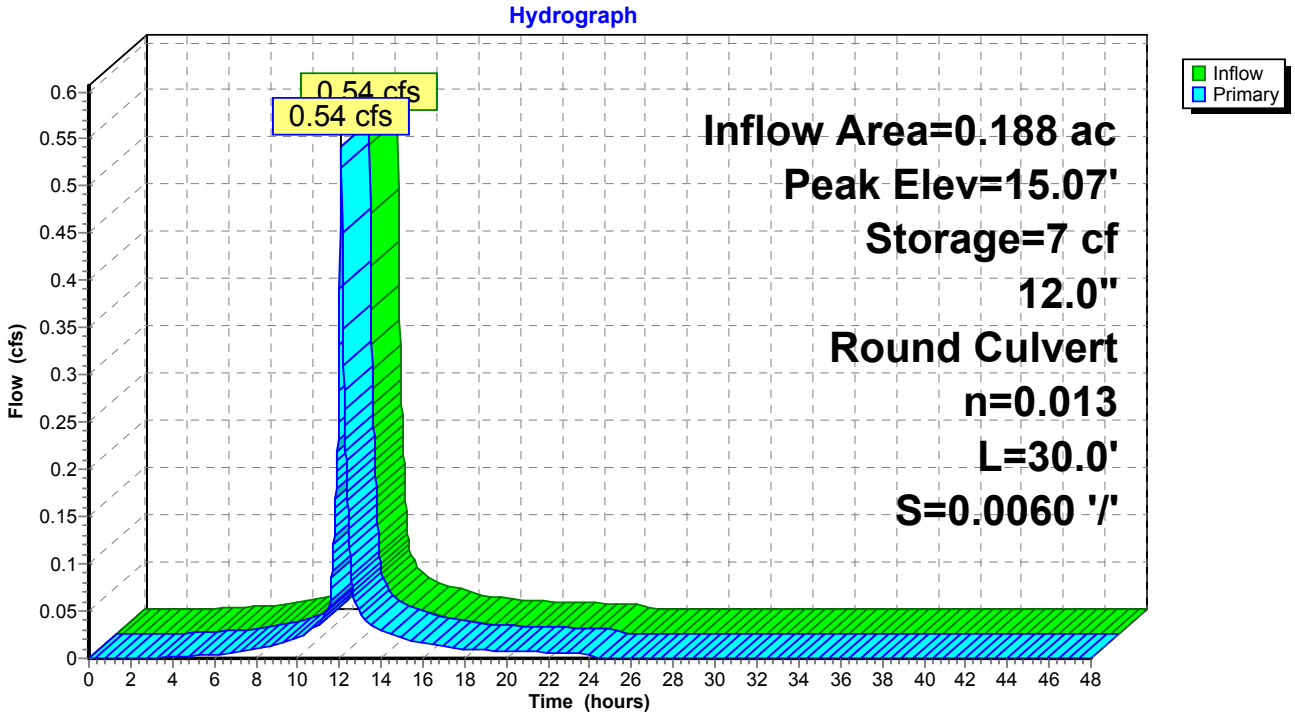
Volume	Invert	Avail.Storage	Storage Description
#1	14.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.50	13	0	0
15.75	13	16	16
15.76	4	0	16
17.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.32' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.09 hrs HW=15.06' TW=14.96' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.52 cfs @ 1.63 fps)

Pond CB-1B: CB-1



Summary for Pond CB-2A: CB-2 Surface Storage

Inflow Area = 0.160 ac, 96.66% Impervious, Inflow Depth = 2.76" for 2-Year event
Inflow = 0.47 cfs @ 12.08 hrs, Volume= 0.037 af
Outflow = 0.47 cfs @ 12.08 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min
Primary = 0.47 cfs @ 12.08 hrs, Volume= 0.037 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 17.01' @ 12.08 hrs Surf.Area= 41 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (766.8 - 766.8)

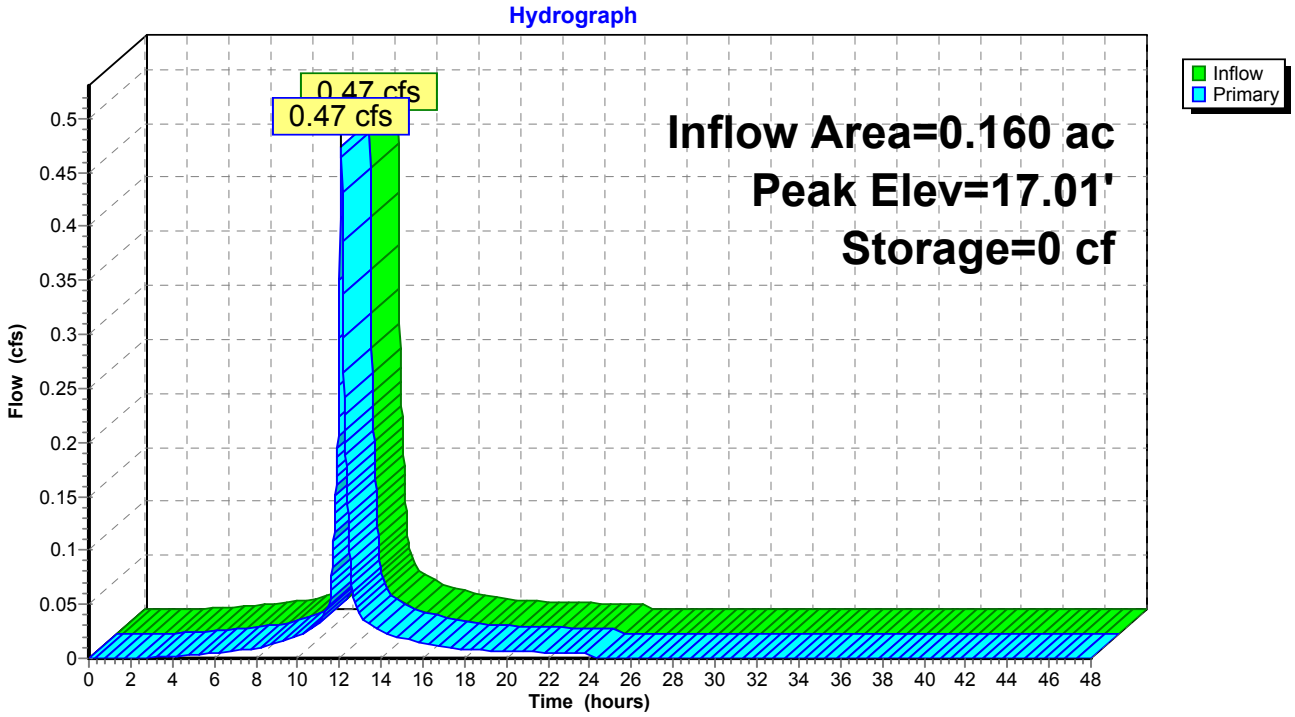
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	370 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	0	0	0
17.40	1,851	370	370

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**Special & User-Defined** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.530 3.720

Primary OutFlow Max=0.47 cfs @ 12.08 hrs HW=17.01' TW=15.04' (Dynamic Tailwater)
↑—**1=Special & User-Defined** (Custom Controls 0.47 cfs)

Pond CB-2A: CB-2 Surface Storage



Summary for Pond CB-2B: CB-2

Inflow Area = 0.160 ac, 96.66% Impervious, Inflow Depth = 2.76" for 2-Year event
Inflow = 0.47 cfs @ 12.08 hrs, Volume= 0.037 af
Outflow = 0.47 cfs @ 12.09 hrs, Volume= 0.037 af, Atten= 1%, Lag= 0.2 min
Primary = 0.47 cfs @ 12.09 hrs, Volume= 0.037 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.05' @ 12.10 hrs Surf.Area= 13 sf Storage= 7 cf
Flood Elev= 79.20' Surf.Area= 4 sf Storage= 21 cf

Plug-Flow detention time= 0.8 min calculated for 0.037 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (767.6 - 766.8)

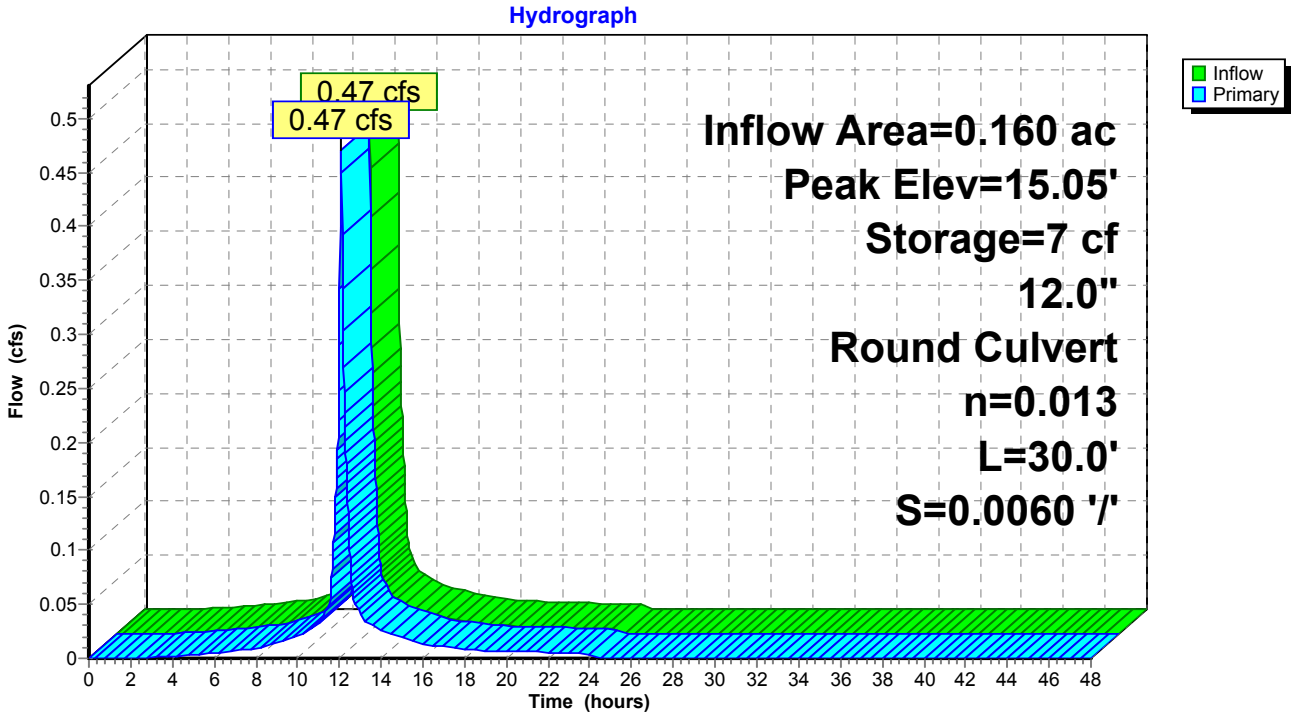
Volume	Invert	Avail.Storage	Storage Description
#1	14.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.50	13	0	0
15.75	13	16	16
15.76	4	0	16
17.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.32' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.44 cfs @ 12.09 hrs HW=15.04' TW=14.96' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.44 cfs @ 1.45 fps)

Pond CB-2B: CB-2



Summary for Pond CB-3A: CB-3 Surface Storage

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 0.48 cfs @ 12.08 hrs, Volume= 0.038 af
Outflow = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.2 min
Primary = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 16.07' @ 12.09 hrs Surf.Area= 97 sf Storage= 3 cf

Plug-Flow detention time= 0.0 min calculated for 0.038 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (757.1 - 757.1)

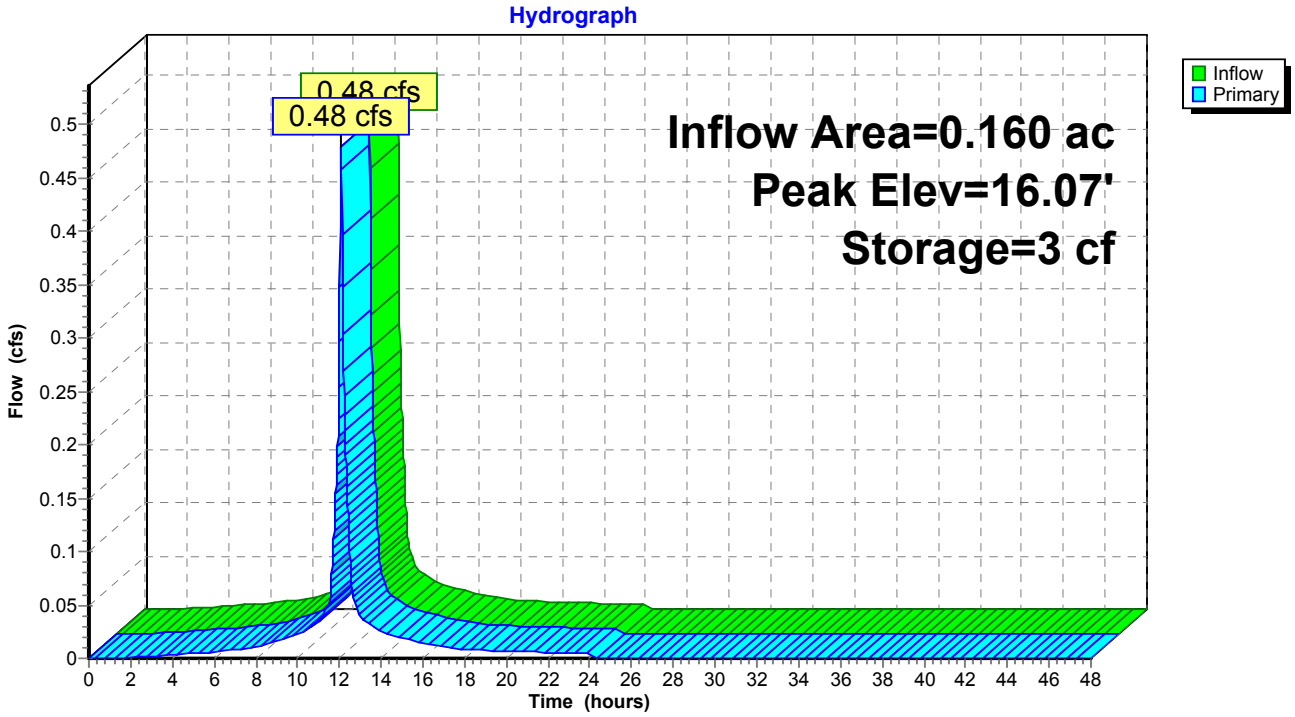
Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	45 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	0	0	0
16.25	361	45	45

Device	Routing	Invert	Outlet Devices
#1	Primary	16.00'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.053 3.720

Primary OutFlow Max=0.48 cfs @ 12.09 hrs HW=16.07' TW=13.90' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 0.48 cfs)

Pond CB-3A: CB-3 Surface Storage



Summary for Pond CB-3B: CB-3

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af
Outflow = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.1 min
Primary = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.91' @ 12.10 hrs Surf.Area= 13 sf Storage= 5 cf

Plug-Flow detention time= 0.6 min calculated for 0.038 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (757.7 - 757.1)

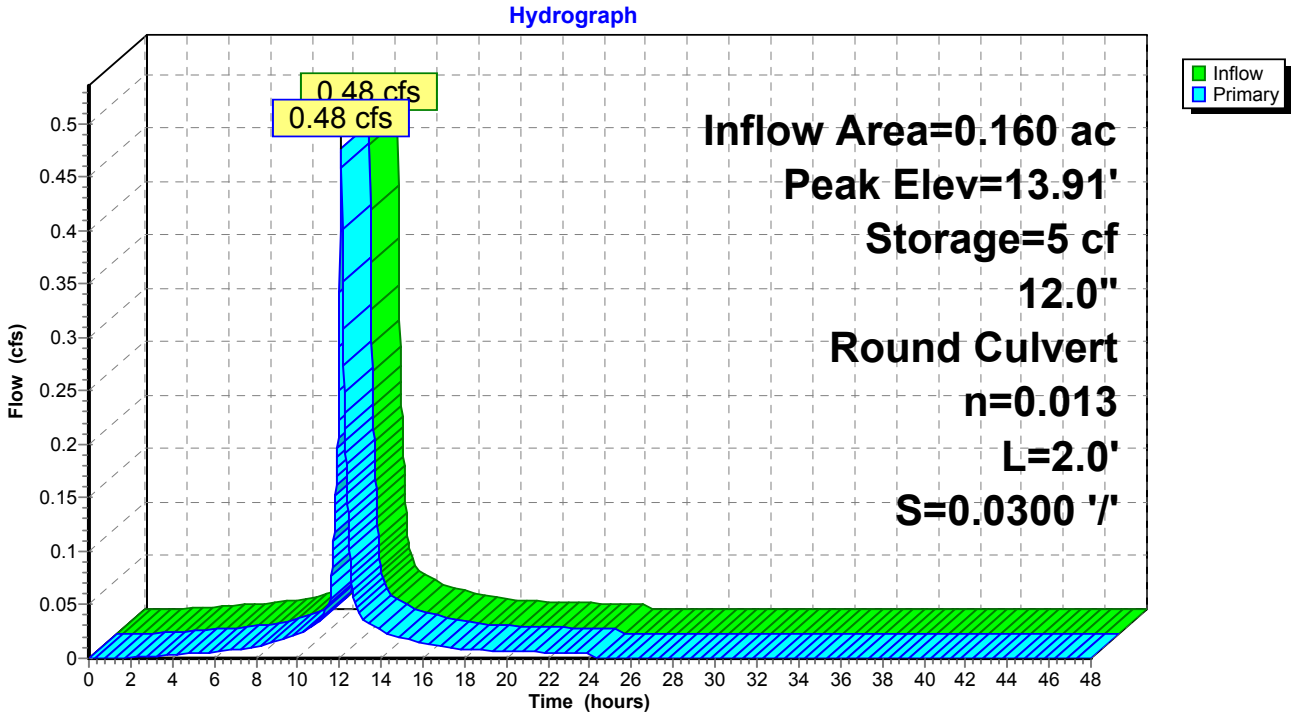
Volume	Invert	Avail.Storage	Storage Description
#1	13.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
13.50	13	0	0
14.75	13	16	16
14.76	4	0	16
16.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	13.50'	**12.0" Round Culvert** L= 2.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.50' / 13.44' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.46 cfs @ 12.09 hrs HW=13.90' TW=13.77' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.46 cfs @ 2.30 fps)

Pond CB-3B: CB-3



Summary for Pond CB-4A: CB-4 Surface Storage

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 1.04 cfs @ 12.08 hrs, Volume= 0.083 af
Outflow = 1.04 cfs @ 12.08 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min
Primary = 1.04 cfs @ 12.08 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.33' @ 12.08 hrs Surf.Area= 6 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (757.1 - 757.1)

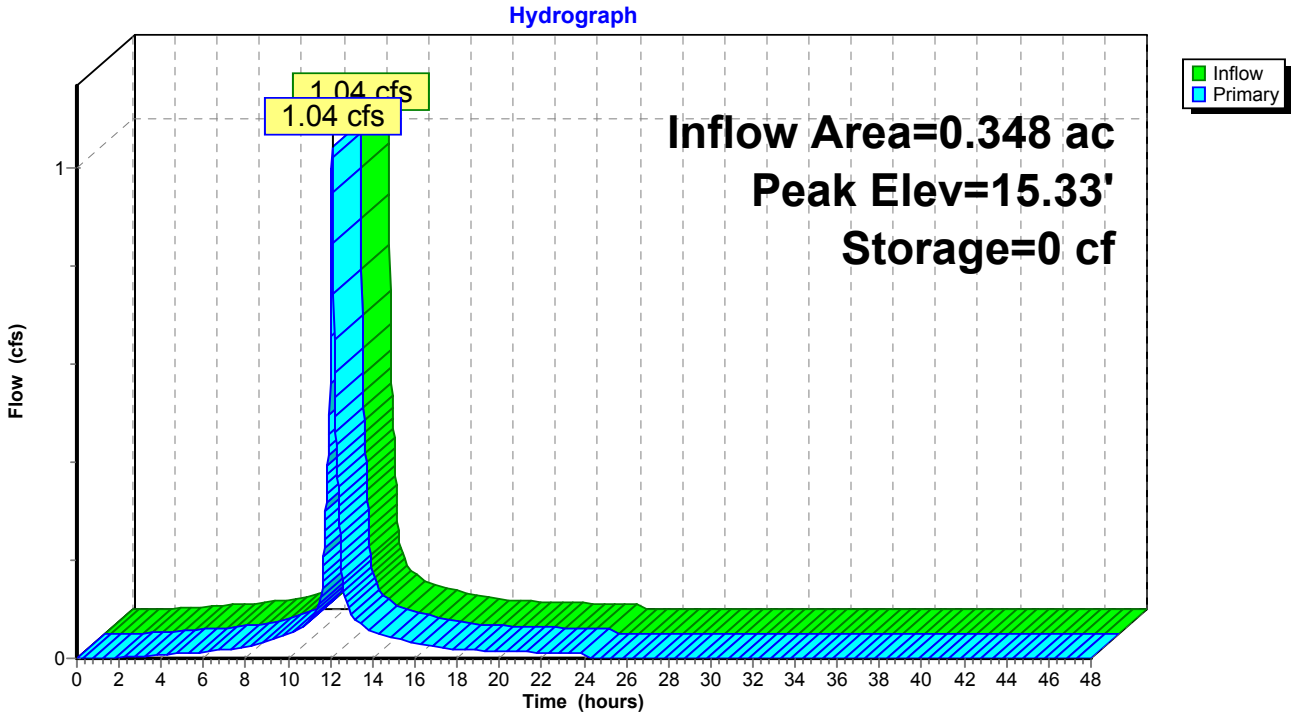
Volume	Invert	Avail.Storage	Storage Description
#1	15.32'	20 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.32	0	0	0
15.57	161	20	20

Device	Routing	Invert	Outlet Devices
#1	Primary	15.32'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 1.050 7.460

Primary OutFlow Max=1.04 cfs @ 12.08 hrs HW=15.33' TW=13.49' (Dynamic Tailwater)
↳**1=CB Rim** (Custom Controls 1.04 cfs)

Pond CB-4A: CB-4 Surface Storage



Summary for Pond CB-4B: CB-4

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 1.04 cfs @ 12.08 hrs, Volume= 0.083 af
Outflow = 1.04 cfs @ 12.08 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.1 min
Primary = 1.04 cfs @ 12.08 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.49' @ 12.09 hrs Surf.Area= 13 sf Storage= 9 cf

Plug-Flow detention time= 0.8 min calculated for 0.083 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (757.6 - 757.1)

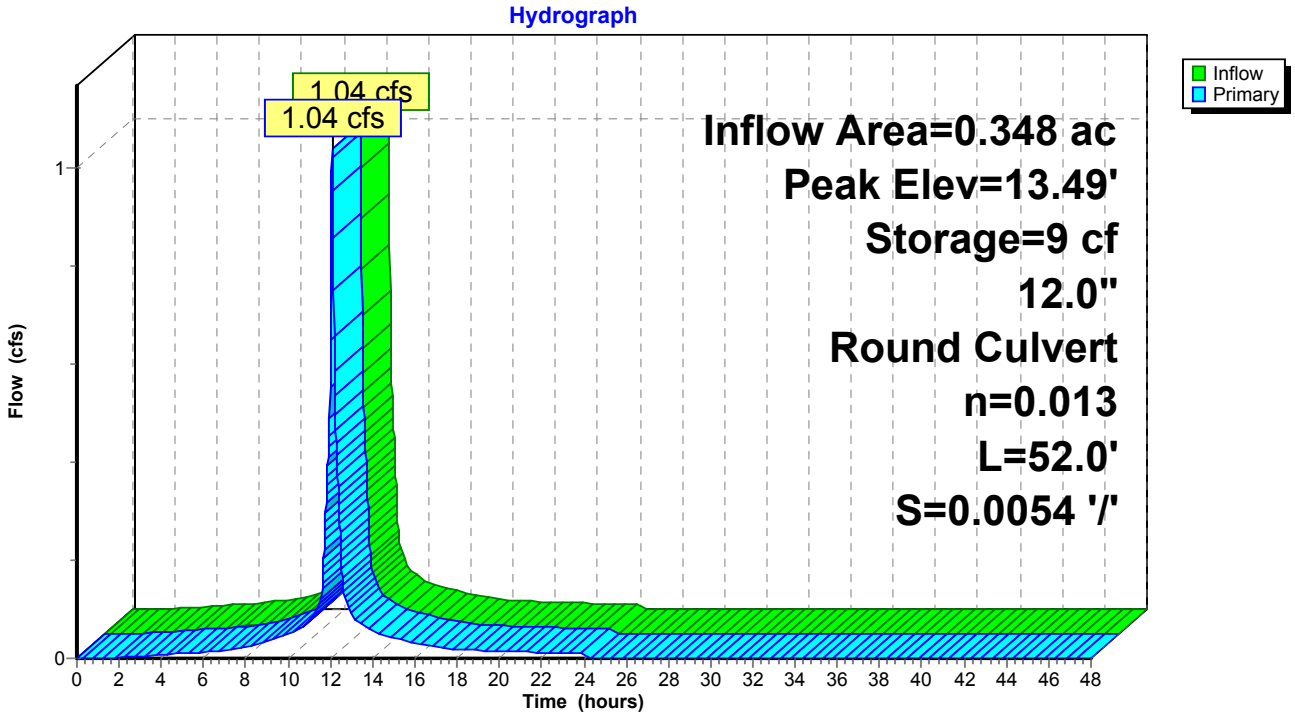
Volume	Invert	Avail.Storage	Storage Description
#1	12.82'	26 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.82	13	0	0
13.98	13	15	15
13.99	8	0	15
15.32	8	11	26

Device	Routing	Invert	Outlet Devices
#1	Primary	12.82'	**12.0" Round Culvert** L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.82' / 12.54' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.02 cfs @ 12.08 hrs HW=13.49' TW=13.16' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.02 cfs @ 2.59 fps)

Pond CB-4B: CB-4



Summary for Pond FD-2: FD-2

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af
Outflow = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.1 min
Primary = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.77' @ 12.09 hrs Surf.Area= 13 sf Storage= 4 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 25 cf

Plug-Flow detention time= 0.5 min calculated for 0.038 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (758.3 - 757.7)

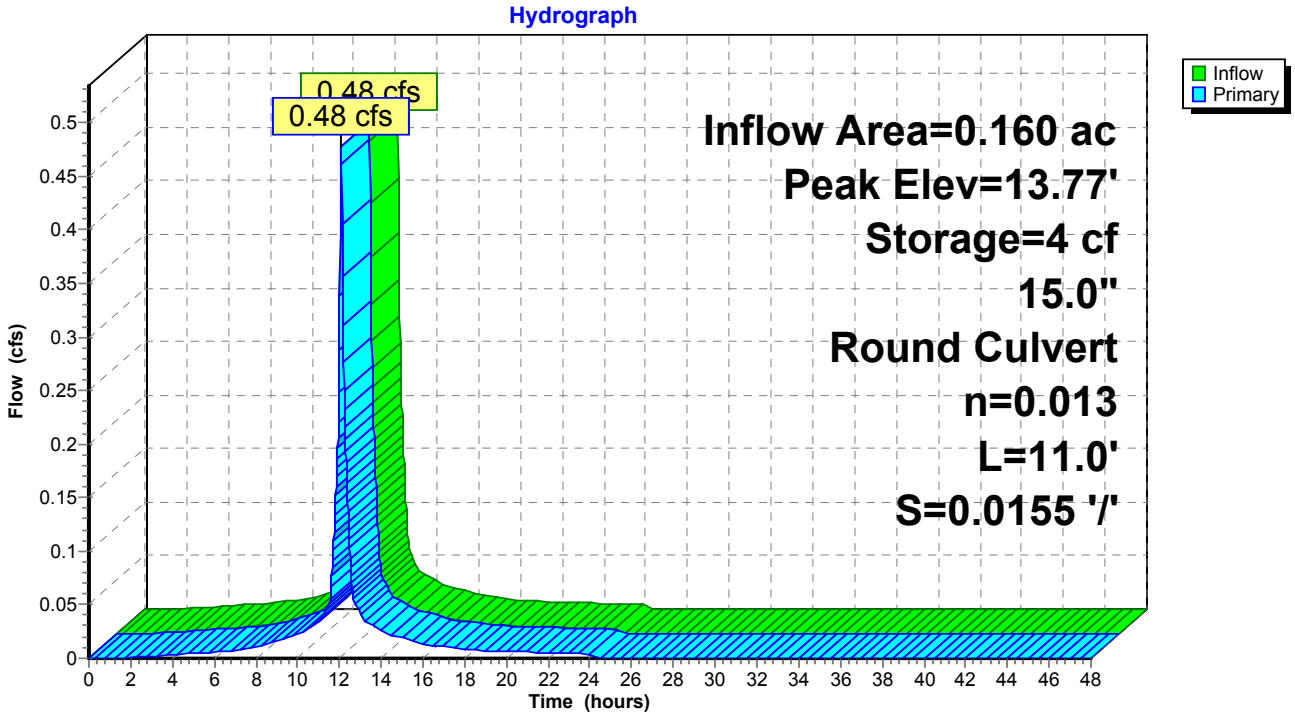
Volume	Invert	Avail.Storage	Storage Description
#1	13.44'	25 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
13.44	13	0	0
15.06	13	21	21
15.07	3	0	21
16.40	3	4	25

Device	Routing	Invert	Outlet Devices
#1	Primary	13.44'	**15.0" Round Culvert** L= 11.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.44' / 13.27' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.47 cfs @ 12.09 hrs HW=13.77' TW=13.09' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 0.47 cfs @ 2.73 fps)

Pond FD-2: FD-2


Hydrograph
Inflow
Primary
0.48 cfs
0.48 cfs
Inflow Area=0.160 ac
Peak Elev=13.77'
Storage=4 cf
15.0"
Round Culvert
n=0.013
L=11.0'
S=0.0155 '/'
Flow (cfs)
Time (hours)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond FD-3: FD-2

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 1.04 cfs @ 12.08 hrs, Volume= 0.083 af
Outflow = 1.04 cfs @ 12.09 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.1 min
Primary = 1.04 cfs @ 12.09 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.16' @ 12.09 hrs Surf.Area= 13 sf Storage= 8 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 34 cf

Plug-Flow detention time= 0.5 min calculated for 0.083 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (758.0 - 757.6)

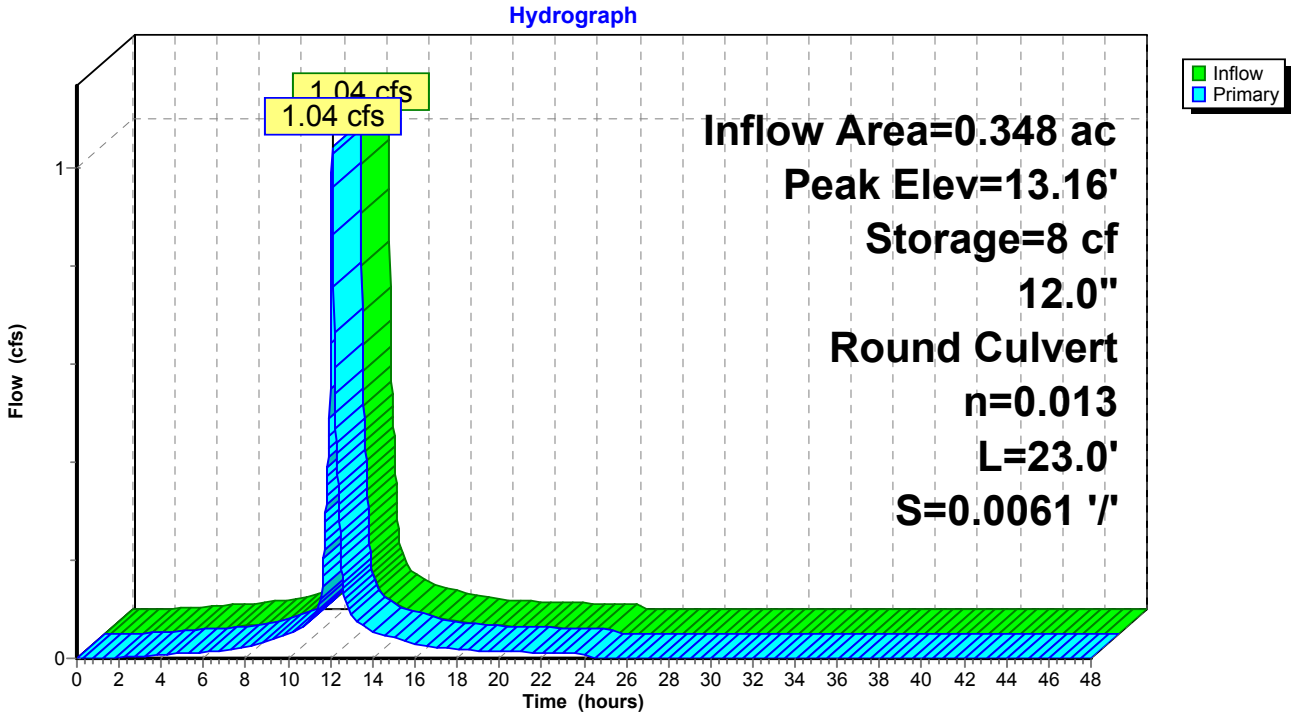
Volume	Invert	Avail.Storage	Storage Description
#1	12.54'	34 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.54	13	0	0
14.88	13	30	30
14.89	3	0	31
16.22	3	4	34

Device	Routing	Invert	Outlet Devices
#1	Primary	12.54'	**12.0" Round Culvert** L= 23.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.54' / 12.40' S= 0.0061 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.09 hrs HW=13.16' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.03 cfs @ 2.89 fps)

Pond FD-3: FD-2


Hydrograph
1.04 cfs
1.04 cfs
Inflow Area=0.348 ac
Peak Elev=13.16'
Storage=8 cf
12.0"
Round Culvert
n=0.013
L=23.0'
S=0.0061 '/'
Inflow
Primary
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Summary for Pond FD1: FD-1

Inflow Area = 0.348 ac, 93.10% Impervious, Inflow Depth = 2.70" for 2-Year event
Inflow = 1.01 cfs @ 12.09 hrs, Volume= 0.078 af
Outflow = 1.01 cfs @ 12.09 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.1 min
Primary = 1.01 cfs @ 12.09 hrs, Volume= 0.078 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.96' @ 12.09 hrs Surf.Area= 13 sf Storage= 8 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 29 cf

Plug-Flow detention time= 0.5 min calculated for 0.078 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (772.4 - 771.9)

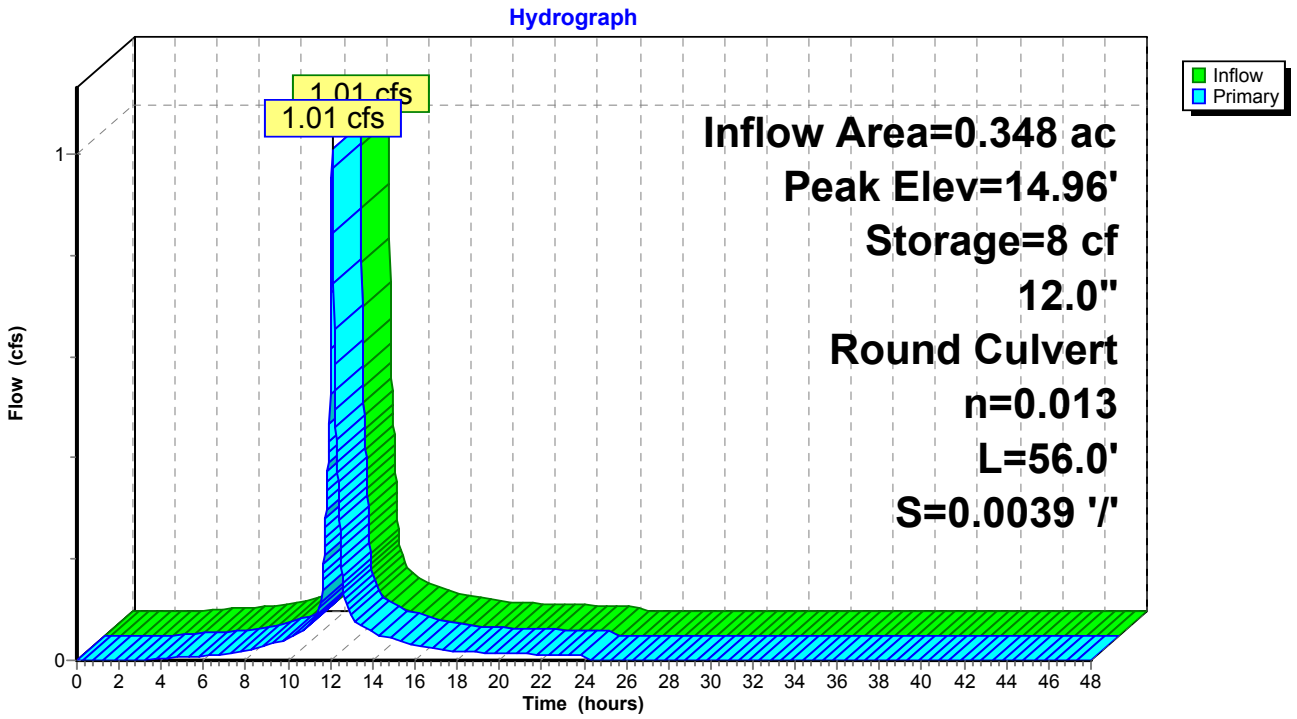
Volume	Invert	Avail.Storage	Storage Description
#1	14.32'	29 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.32	13	0	0
16.26	13	25	25
16.27	3	0	25
17.60	3	4	29

Device	Routing	Invert	Outlet Devices
#1	Primary	14.32'	**12.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.32' / 14.10' S= 0.0039 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.00 cfs @ 12.09 hrs HW=14.96' TW=14.55' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.00 cfs @ 2.71 fps)

Pond FD1: FD-1


Hydrograph
1.01 cfs
1.01 cfs
Inflow Area=0.348 ac
Peak Elev=14.96'
Storage=8 cf
12.0"
Round Culvert
n=0.013
L=56.0'
S=0.0039 '/'
Inflow
Primary
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Time span=0.00-48.00 hrs, dt=0.02 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: ROOF RUNOFF 1 Runoff Area=5,020 sf 100.00% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=98 Runoff=0.53 cfs 0.043 af

Subcatchment 1S: BASIN 1 & SLOPE Runoff Area=9,292 sf 0.54% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=80 Runoff=0.66 cfs 0.047 af

Subcatchment 1S-A: EAST PROPERTY Runoff Area=5,187 sf 0.00% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=80 Runoff=0.37 cfs 0.026 af

Subcatchment 2R: ROOF RUNOFF 2 Runoff Area=5,049 sf 100.00% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=98 Runoff=0.53 cfs 0.043 af

Subcatchment 2S: BASIN 2 & SLOPE Runoff Area=4,363 sf 0.46% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=80 Runoff=0.31 cfs 0.022 af

Subcatchment 2S-A: WEST PROPERTY Runoff Area=3,056 sf 0.00% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=80 Runoff=0.22 cfs 0.015 af

Subcatchment 3S: SOUTH PROPERTY Runoff Area=5,793 sf 0.00% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=80 Runoff=0.41 cfs 0.029 af

Subcatchment 4S: DRIVEWAY Runoff Area=1,175 sf 100.00% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af

Subcatchment S-CB-1: S-CB-1 Runoff Area=8,184 sf 90.07% Impervious Runoff Depth=4.23"
Tc=6.0 min CN=96 Runoff=0.85 cfs 0.066 af

Subcatchment S-CB-2: S-CB-2 Runoff Area=6,982 sf 96.66% Impervious Runoff Depth=4.35"
Tc=6.0 min CN=97 Runoff=0.73 cfs 0.058 af

Subcatchment S-CB-3: S-CB-3 Runoff Area=6,952 sf 98.53% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=98 Runoff=0.73 cfs 0.059 af

Subcatchment S-CB-4: S-CB-4 Runoff Area=15,143 sf 98.55% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=98 Runoff=1.59 cfs 0.129 af

Reach DP-1: EAST WETLAND Inflow=2.59 cfs 0.351 af
Outflow=2.59 cfs 0.351 af

Reach DP-2: WEST WETLAND Inflow=0.87 cfs 0.028 af
Outflow=0.87 cfs 0.028 af

Reach DP-3: SOUTH WETLAND Inflow=2.00 cfs 0.158 af
Outflow=2.00 cfs 0.158 af

Reach DP-4: HENRY GRAF JR. ROAD Inflow=0.12 cfs 0.010 af
Outflow=0.12 cfs 0.010 af

Pond 1P: DETENTION POND 1 Peak Elev=13.56' Storage=1,116 cf Inflow=3.21 cfs 0.326 af
Outflow=2.36 cfs 0.325 af

Pond 2P: DETENTION POND 2 Peak Elev=14.72' Storage=1,010 cf Inflow=2.37 cfs 0.189 af
Primary=1.39 cfs 0.177 af Secondary=0.68 cfs 0.013 af Outflow=2.07 cfs 0.189 af

Pond CB-1A: CB-1 Surface Storage Peak Elev=17.06' Storage=14 cf Inflow=0.85 cfs 0.066 af
Outflow=0.83 cfs 0.066 af

Pond CB-1B: CB-1 Peak Elev=15.26' Storage=10 cf Inflow=0.83 cfs 0.066 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0060 '/' Outflow=0.82 cfs 0.066 af

Pond CB-2A: CB-2 Surface Storage Peak Elev=17.04' Storage=4 cf Inflow=0.73 cfs 0.058 af
Outflow=0.73 cfs 0.058 af

Pond CB-2B: CB-2 Peak Elev=15.23' Storage=10 cf Inflow=0.73 cfs 0.058 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0060 '/' Outflow=0.72 cfs 0.058 af

Pond CB-3A: CB-3 Surface Storage Peak Elev=16.10' Storage=7 cf Inflow=0.73 cfs 0.059 af
Outflow=0.73 cfs 0.059 af

Pond CB-3B: CB-3 Peak Elev=14.02' Storage=7 cf Inflow=0.73 cfs 0.059 af
12.0" Round Culvert n=0.013 L=2.0' S=0.0300 '/' Outflow=0.73 cfs 0.059 af

Pond CB-4A: CB-4 Surface Storage Peak Elev=15.37' Storage=1 cf Inflow=1.59 cfs 0.129 af
Outflow=1.59 cfs 0.129 af

Pond CB-4B: CB-4 Peak Elev=13.70' Storage=11 cf Inflow=1.59 cfs 0.129 af
12.0" Round Culvert n=0.013 L=52.0' S=0.0054 '/' Outflow=1.59 cfs 0.129 af

Pond FD-2: FD-2 Peak Elev=13.86' Storage=6 cf Inflow=0.73 cfs 0.059 af
15.0" Round Culvert n=0.013 L=11.0' S=0.0155 '/' Outflow=0.73 cfs 0.059 af

Pond FD-3: FD-2 Peak Elev=13.34' Storage=10 cf Inflow=1.59 cfs 0.129 af
12.0" Round Culvert n=0.013 L=23.0' S=0.0061 '/' Outflow=1.59 cfs 0.129 af

Pond FD1: FD-1 Peak Elev=15.14' Storage=11 cf Inflow=1.54 cfs 0.124 af
12.0" Round Culvert n=0.013 L=56.0' S=0.0039 '/' Outflow=1.54 cfs 0.124 af

Total Runoff Area = 1.749 ac Runoff Volume = 0.549 af Average Runoff Depth = 3.76"
38.05% Pervious = 0.665 ac 61.95% Impervious = 1.084 ac

Summary for Subcatchment 1R: ROOF RUNOFF 1

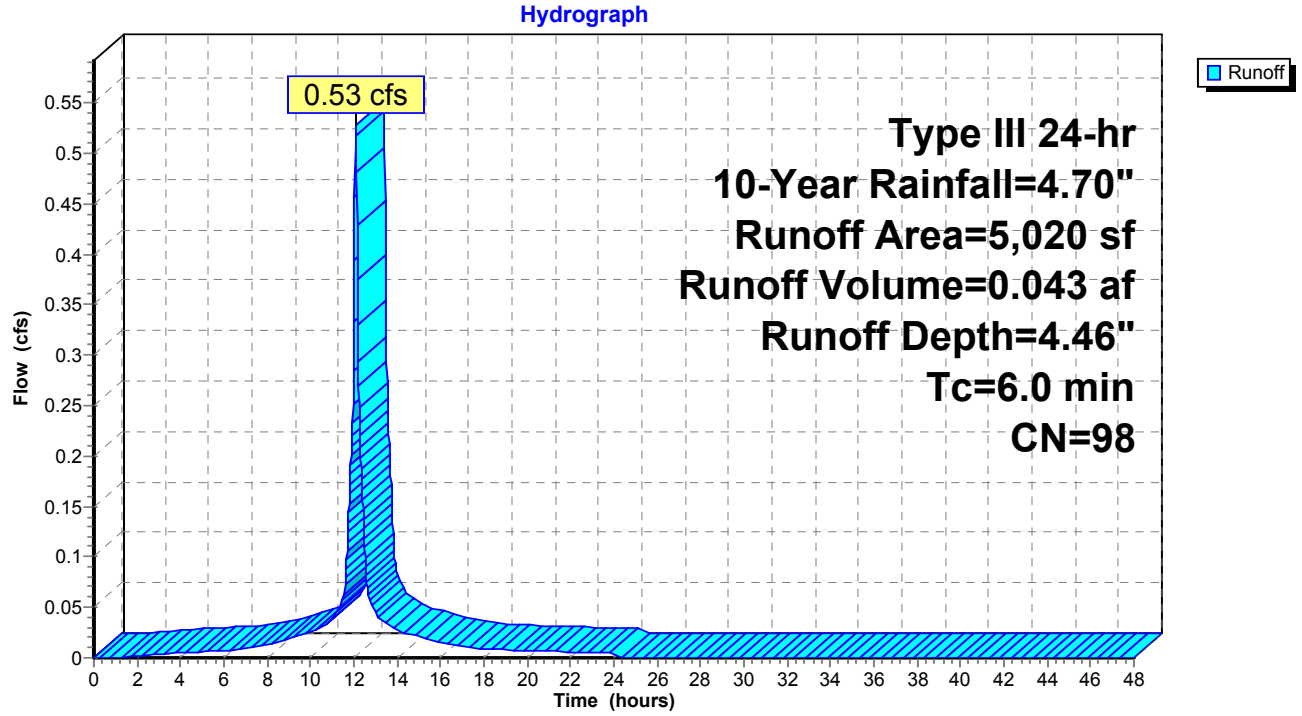
Runoff = 0.53 cfs @ 12.08 hrs, Volume= 0.043 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
5,020	98	Roofs, HSG D
5,020		100.00% Impervious Area

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

Subcatchment 1R: ROOF RUNOFF 1



Summary for Subcatchment 1S: BASIN 1 & SLOPE

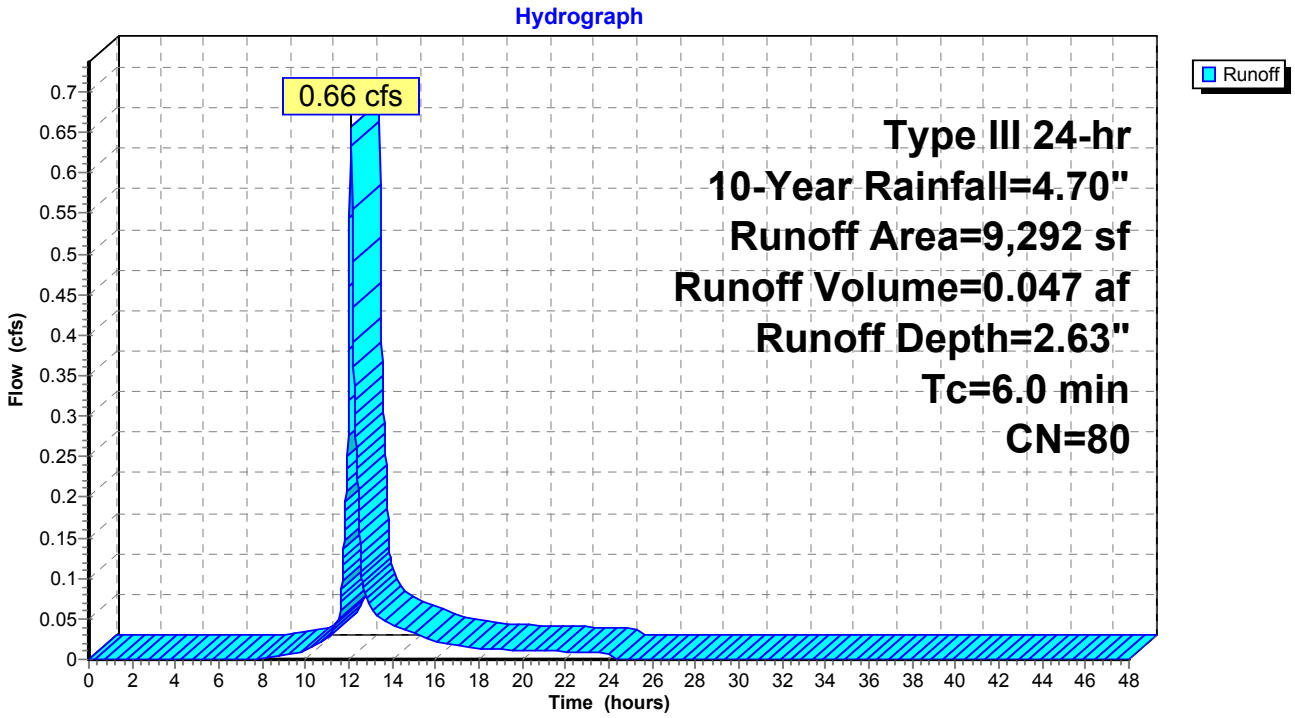
Runoff = 0.66 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
9,242	80	>75% Grass cover, Good, HSG D
50	98	Paved parking, HSG D
9,292	80	Weighted Average
9,242		99.46% Pervious Area
50		0.54% Impervious Area

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

Subcatchment 1S: BASIN 1 & SLOPE



Summary for Subcatchment 1S-A: EAST PROPERTY

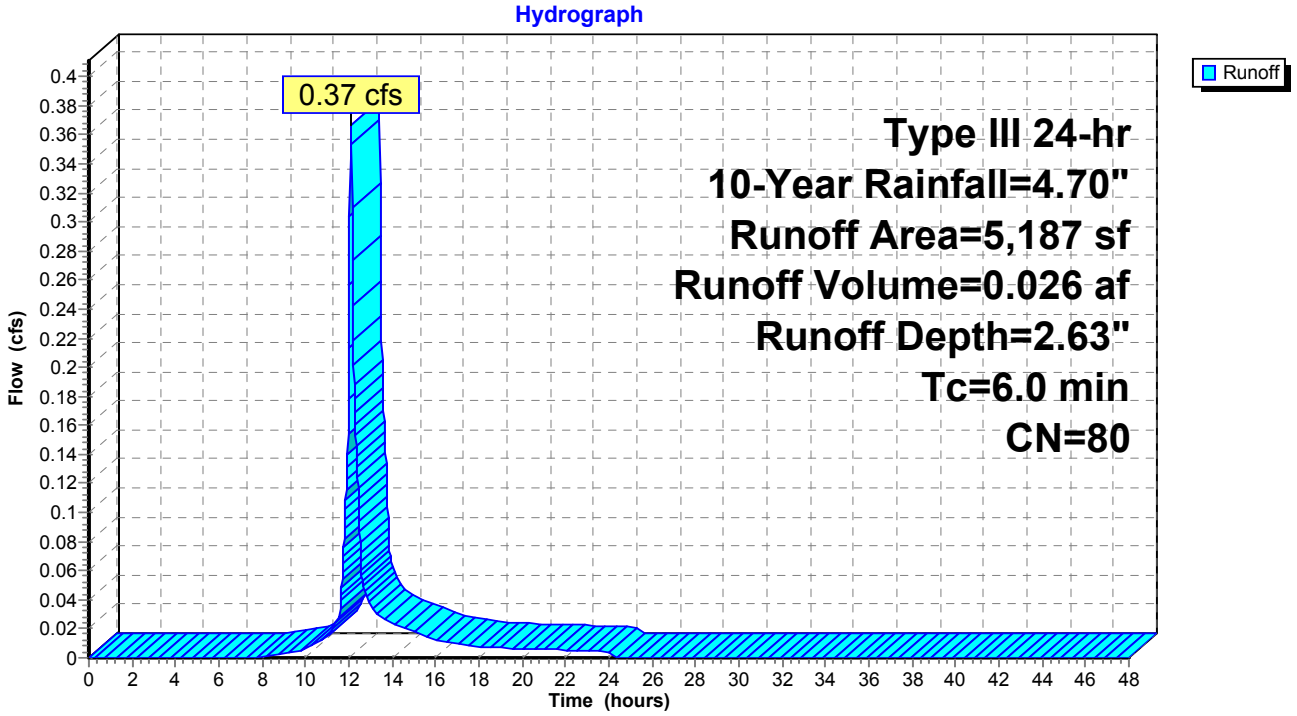
Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
5,187	80	>75% Grass cover, Good, HSG D
5,187		100.00% Pervious Area

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

Subcatchment 1S-A: EAST PROPERTY



Summary for Subcatchment 2R: ROOF RUNOFF 2

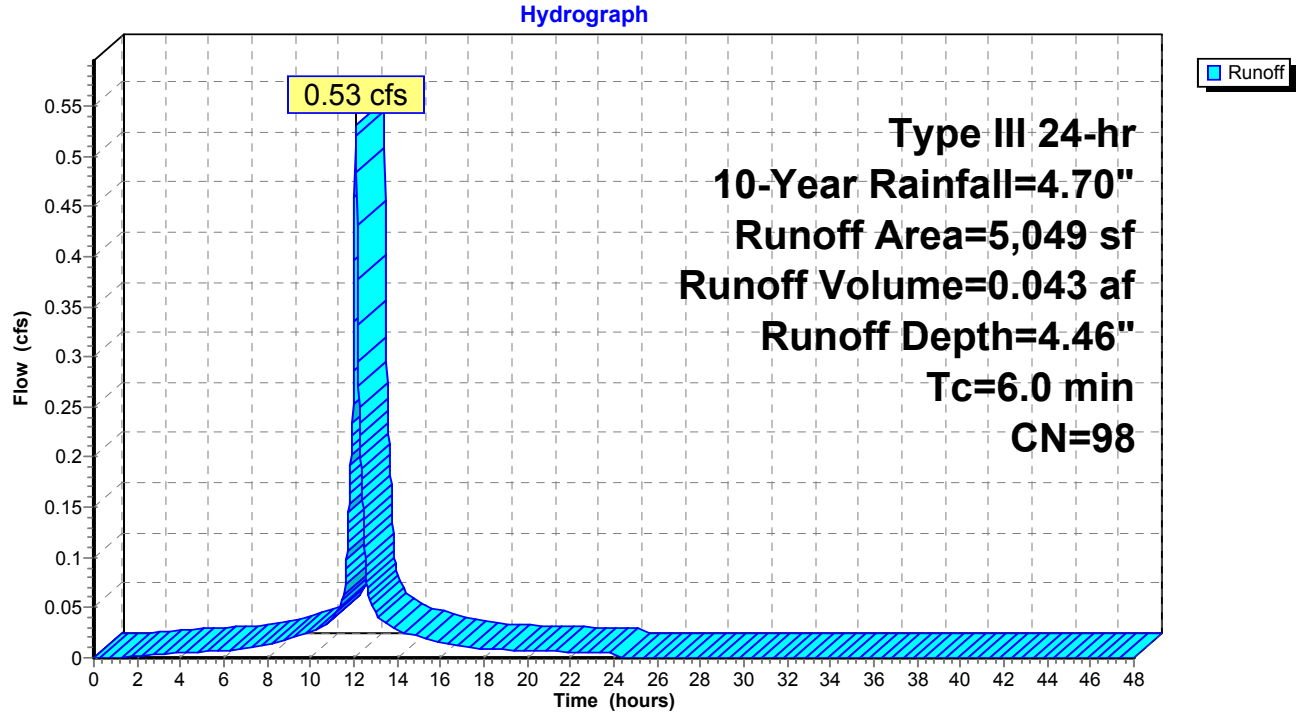
Runoff = 0.53 cfs @ 12.08 hrs, Volume= 0.043 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
5,049	98	Roofs, HSG D
5,049		100.00% Impervious Area

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

Subcatchment 2R: ROOF RUNOFF 2



Summary for Subcatchment 2S: BASIN 2 & SLOPE

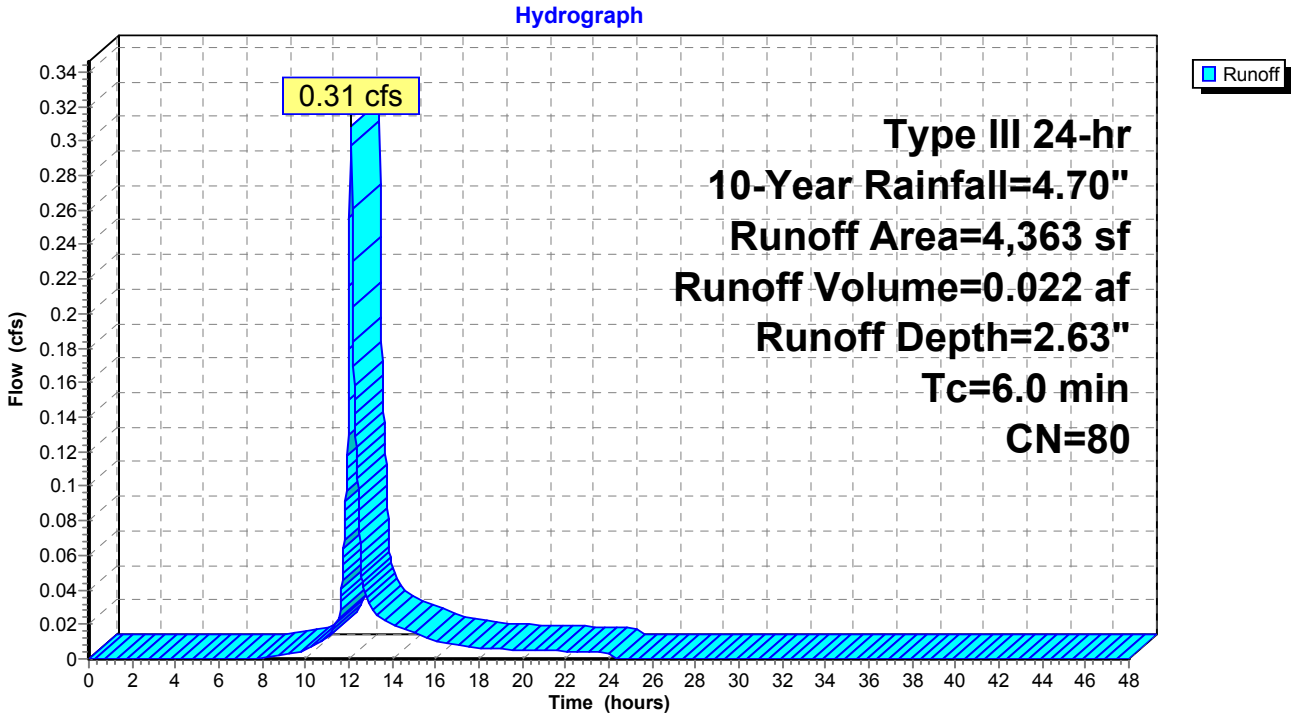
Runoff = 0.31 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
4,343	80	>75% Grass cover, Good, HSG D
20	98	Unconnected pavement, HSG D
4,363	80	Weighted Average
4,343		99.54% Pervious Area
20		0.46% Impervious Area
20		100.00% Unconnected

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

Subcatchment 2S: BASIN 2 & SLOPE



Summary for Subcatchment 2S-A: WEST PROPERTY

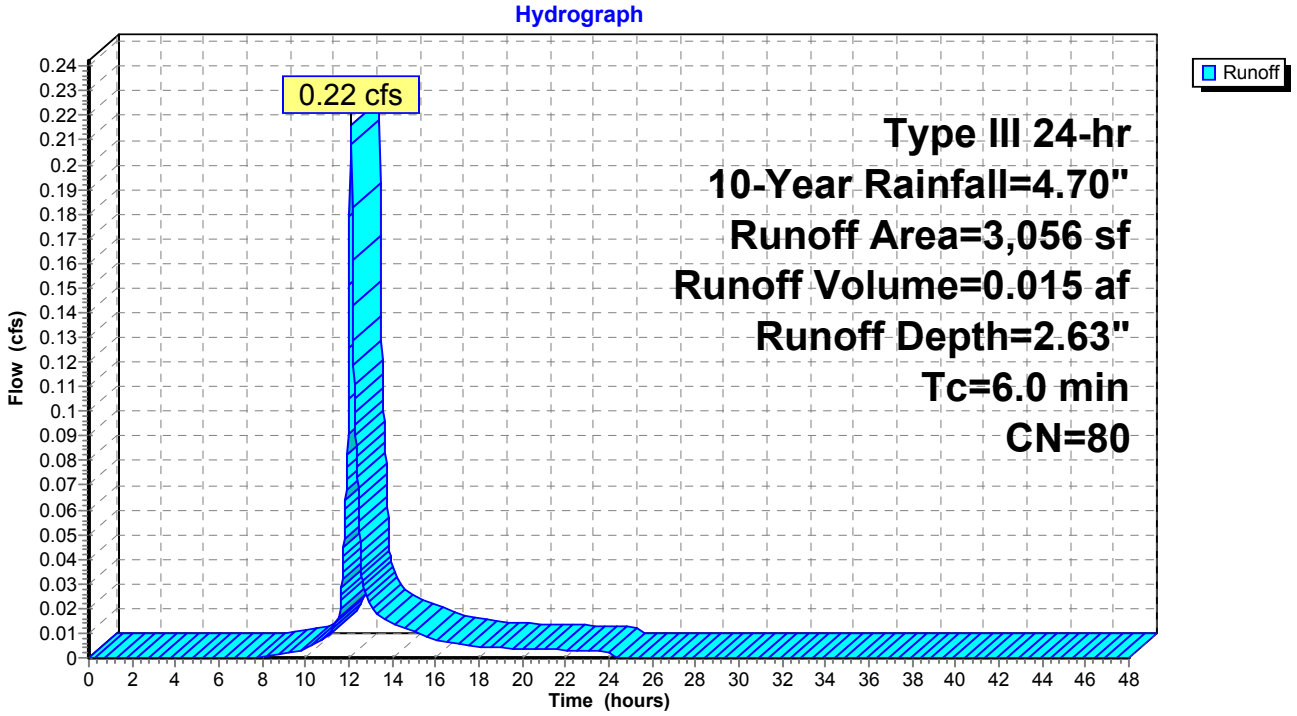
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
3,056	80	>75% Grass cover, Good, HSG D
3,056		100.00% Pervious Area

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

Subcatchment 2S-A: WEST PROPERTY



Summary for Subcatchment 3S: SOUTH PROPERTY

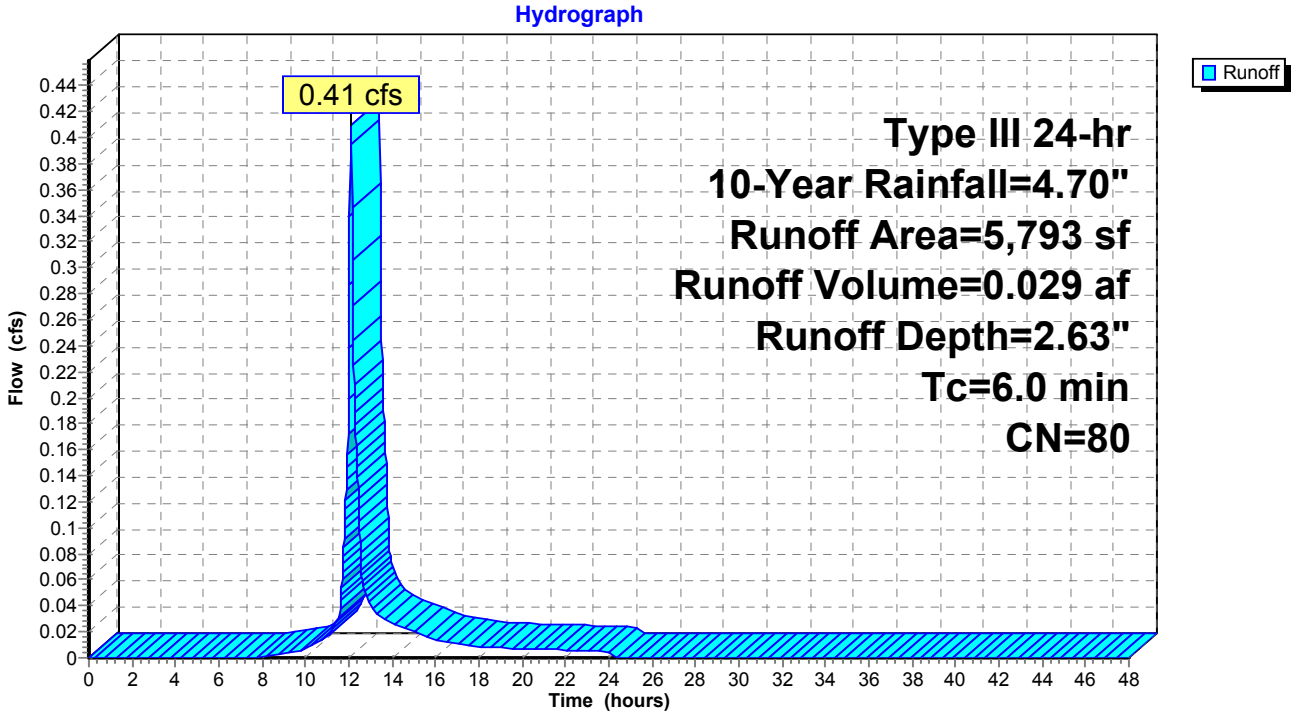
Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.029 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
5,793	80	>75% Grass cover, Good, HSG D
5,793		100.00% Pervious Area

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

Subcatchment 3S: SOUTH PROPERTY



Summary for Subcatchment 4S: DRIVEWAY

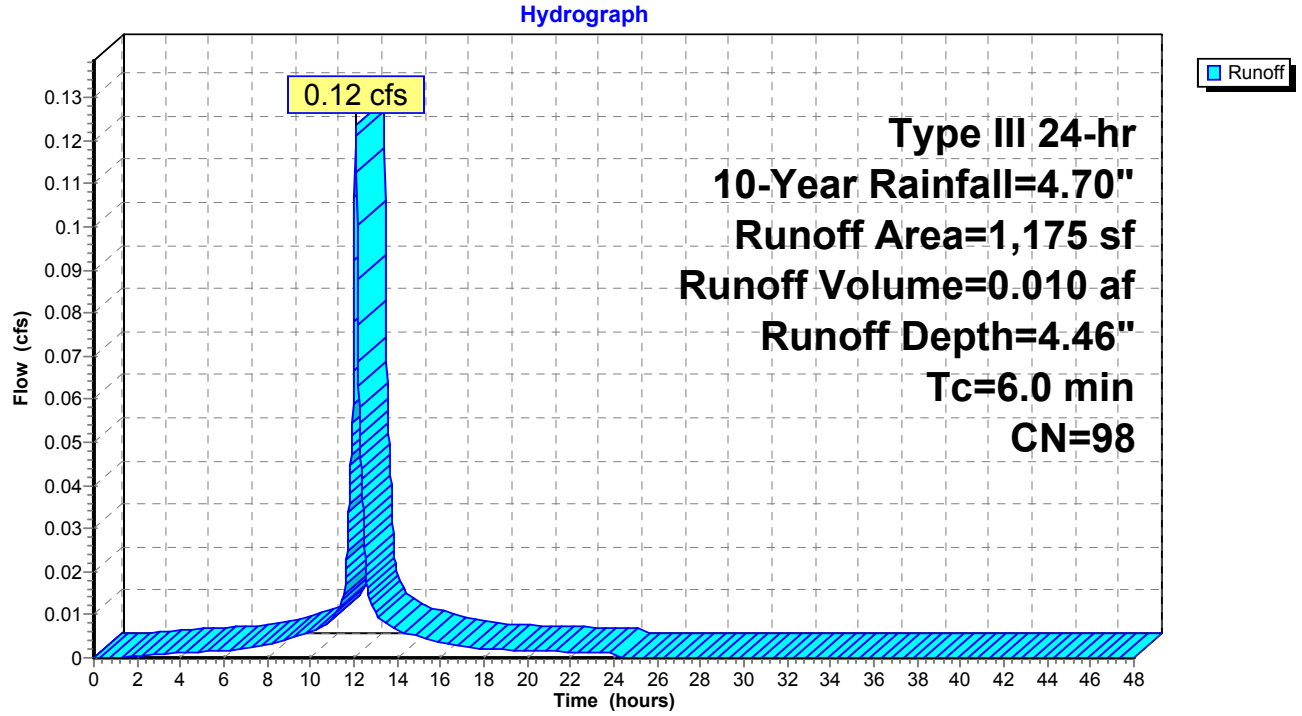
Runoff = 0.12 cfs @ 12.08 hrs, Volume= 0.010 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
1,175	98	Paved parking, HSG D
1,175		100.00% Impervious Area

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

Subcatchment 4S: DRIVEWAY



Summary for Subcatchment S-CB-1: S-CB-1

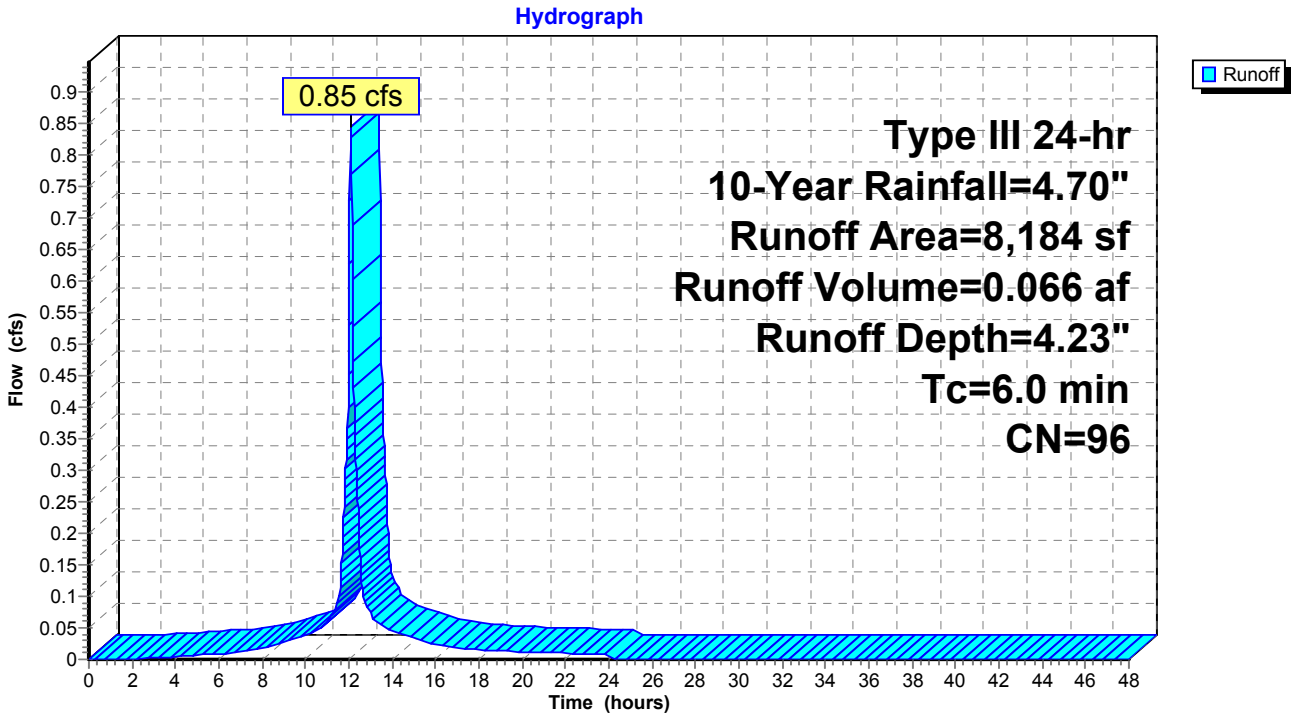
Runoff = 0.85 cfs @ 12.08 hrs, Volume= 0.066 af, Depth= 4.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
7,371	98	Paved parking, HSG D
813	80	>75% Grass cover, Good, HSG D
8,184	96	Weighted Average
813		9.93% Pervious Area
7,371		90.07% Impervious Area

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

Subcatchment S-CB-1: S-CB-1



Summary for Subcatchment S-CB-2: S-CB-2

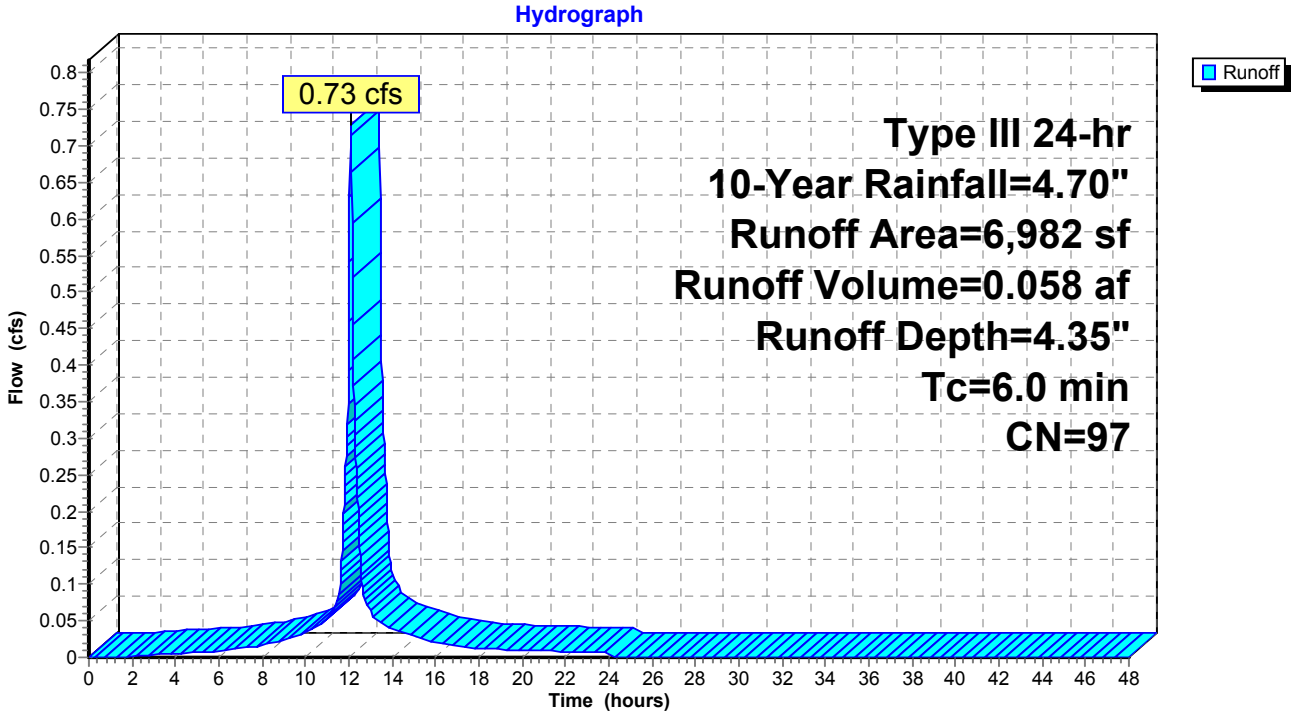
Runoff = 0.73 cfs @ 12.08 hrs, Volume= 0.058 af, Depth= 4.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
6,749	98	Paved parking, HSG D
233	80	>75% Grass cover, Good, HSG D
6,982	97	Weighted Average
233		3.34% Pervious Area
6,749		96.66% Impervious Area

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

Subcatchment S-CB-2: S-CB-2



Summary for Subcatchment S-CB-3: S-CB-3

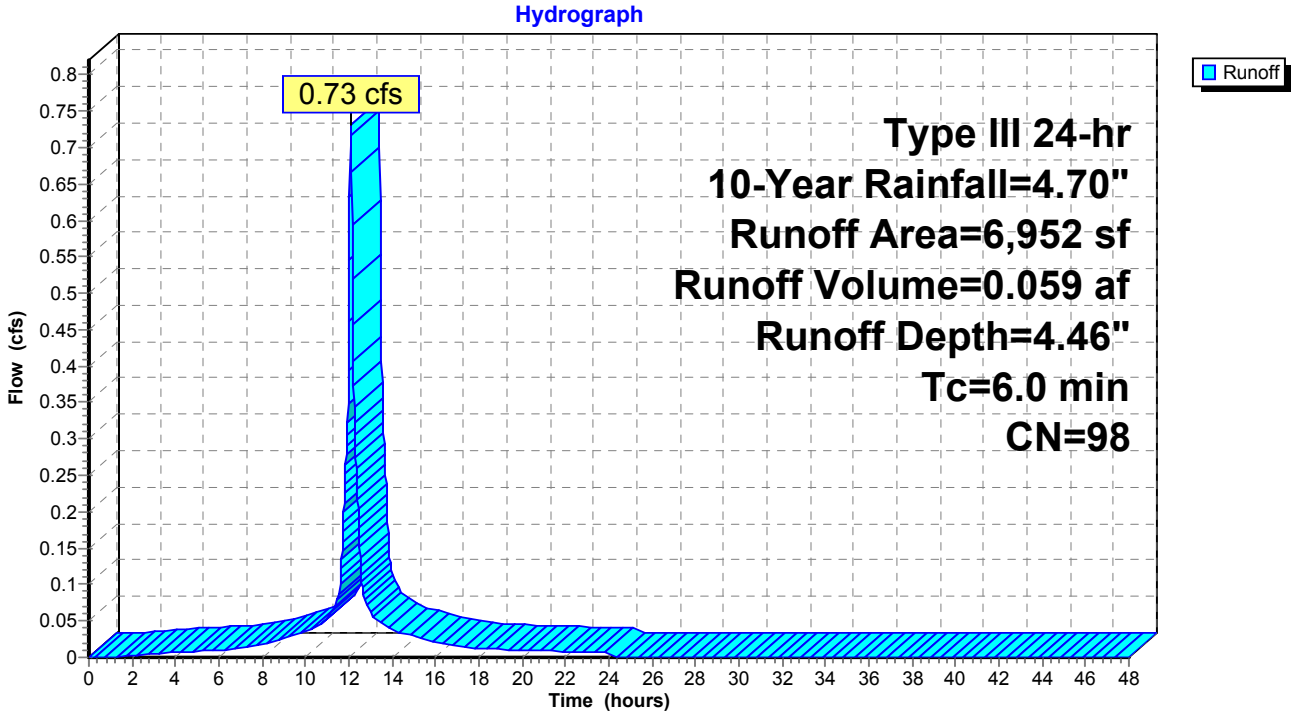
Runoff = 0.73 cfs @ 12.08 hrs, Volume= 0.059 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
6,850	98	Paved parking, HSG D
102	80	>75% Grass cover, Good, HSG D
6,952	98	Weighted Average
102		1.47% Pervious Area
6,850		98.53% Impervious Area

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

Subcatchment S-CB-3: S-CB-3



Summary for Subcatchment S-CB-4: S-CB-4

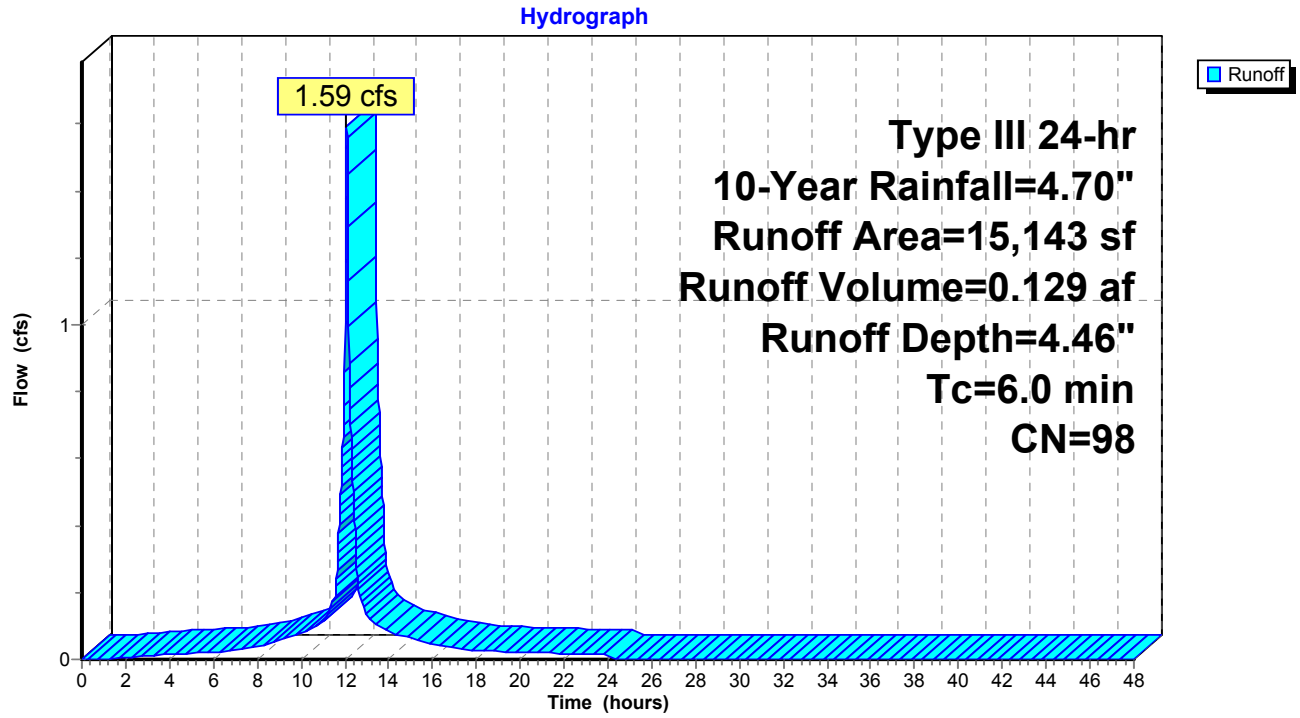
Runoff = 1.59 cfs @ 12.08 hrs, Volume= 0.129 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
14,923	98	Paved parking, HSG D
220	80	>75% Grass cover, Good, HSG D
15,143	98	Weighted Average
220		1.45% Pervious Area
14,923		98.55% Impervious Area

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

Subcatchment S-CB-4: S-CB-4



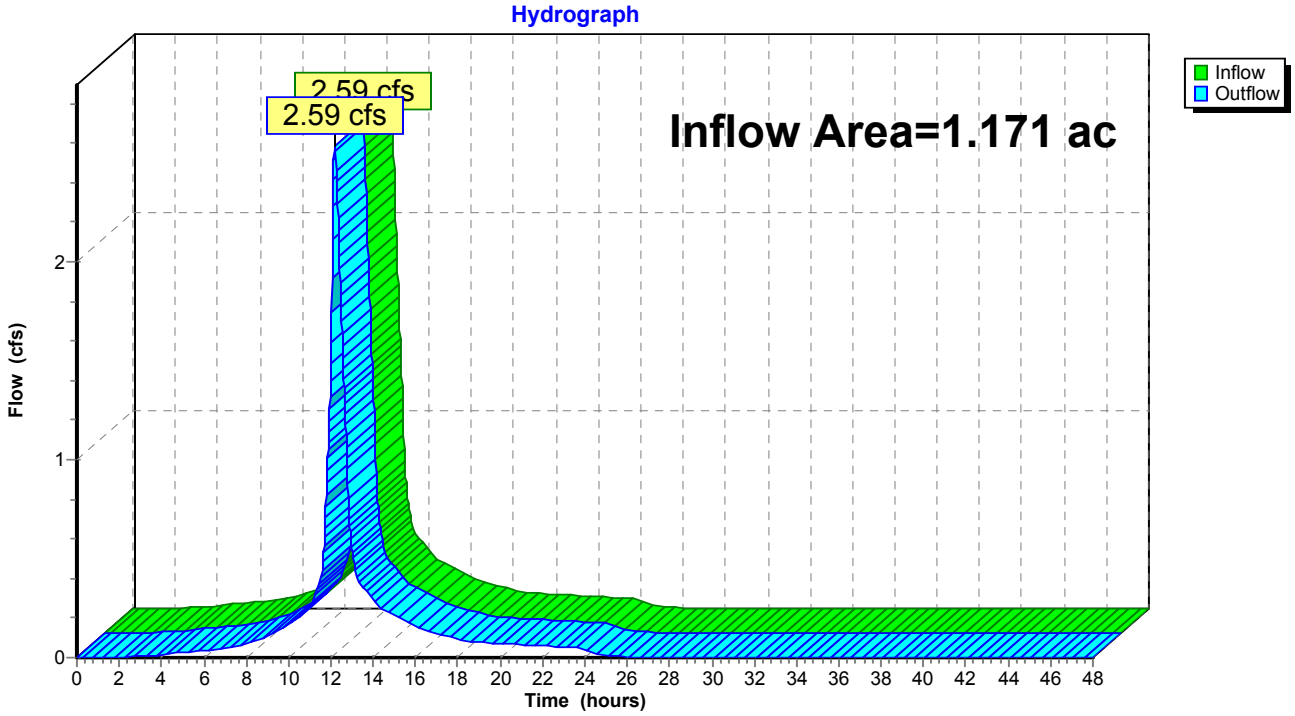
Summary for Reach DP-1: EAST WETLAND

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

Inflow Area = 1.171 ac, 60.96% Impervious, Inflow Depth = 3.60" for 10-Year event
Inflow = 2.59 cfs @ 12.18 hrs, Volume= 0.351 af
Outflow = 2.59 cfs @ 12.18 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-1: EAST WETLAND



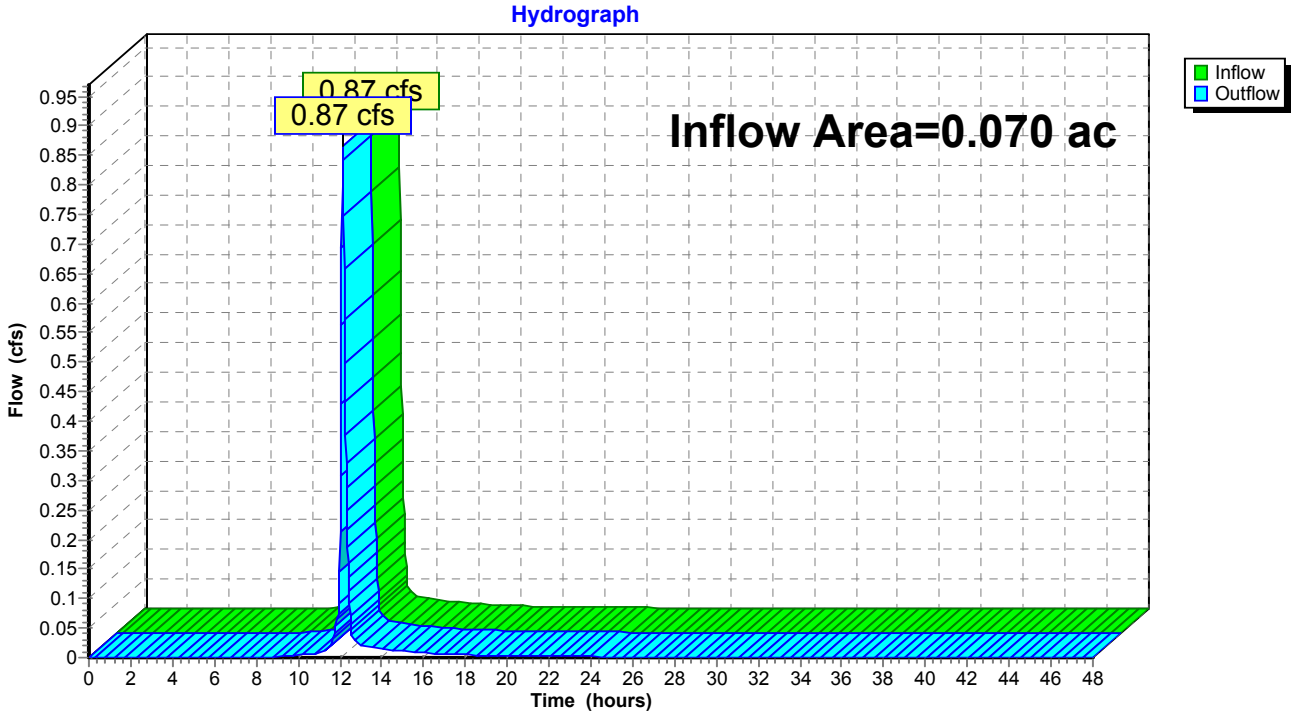
Summary for Reach DP-2: WEST WETLAND

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

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 4.79" for 10-Year event
Inflow = 0.87 cfs @ 12.13 hrs, Volume= 0.028 af
Outflow = 0.87 cfs @ 12.13 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-2: WEST WETLAND



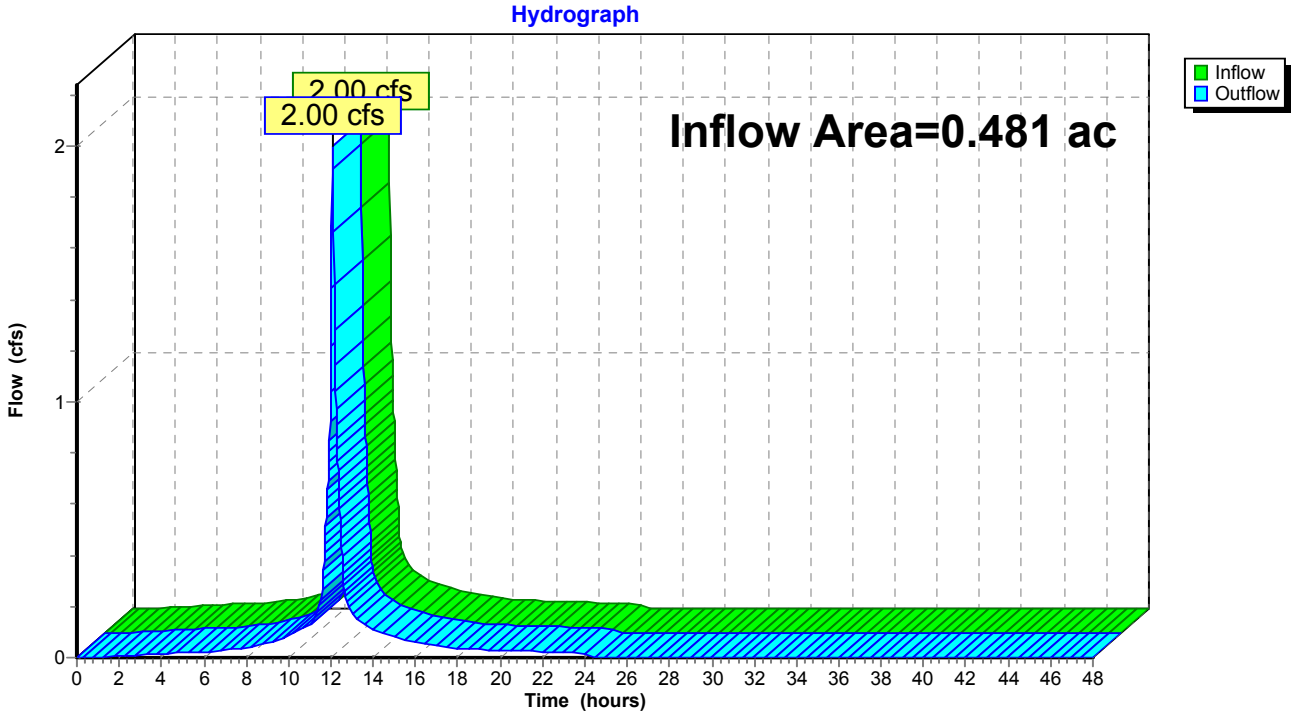
Summary for Reach DP-3: SOUTH WETLAND

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

Inflow Area = 0.481 ac, 71.28% Impervious, Inflow Depth = 3.96" for 10-Year event
Inflow = 2.00 cfs @ 12.09 hrs, Volume= 0.158 af
Outflow = 2.00 cfs @ 12.09 hrs, Volume= 0.158 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-3: SOUTH WETLAND



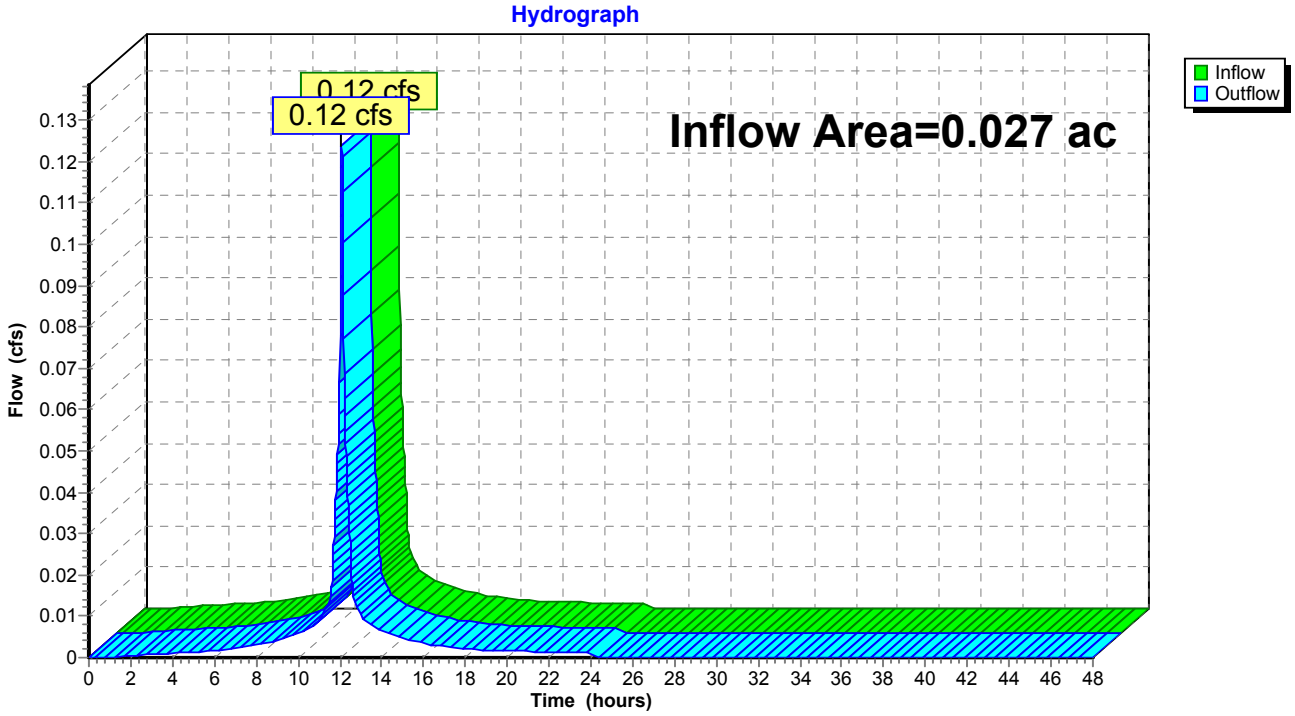
Summary for Reach DP-4: HENRY GRAF JR. ROAD

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

Inflow Area = 0.027 ac,100.00% Impervious, Inflow Depth = 4.46" for 10-Year event
Inflow = 0.12 cfs @ 12.08 hrs, Volume= 0.010 af
Outflow = 0.12 cfs @ 12.08 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-4: HENRY GRAF JR. ROAD



Summary for Pond 1P: DETENTION POND 1

Inflow Area = 1.052 ac, 67.86% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 3.21 cfs @ 12.10 hrs, Volume= 0.326 af
Outflow = 2.36 cfs @ 12.20 hrs, Volume= 0.325 af, Atten= 26%, Lag= 6.1 min
Primary = 2.36 cfs @ 12.20 hrs, Volume= 0.325 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.56' @ 12.20 hrs Surf.Area= 2,024 sf Storage= 1,116 cf

Plug-Flow detention time= 8.3 min calculated for 0.325 af (100% of inflow)
Center-of-Mass det. time= 7.2 min (796.5 - 789.3)

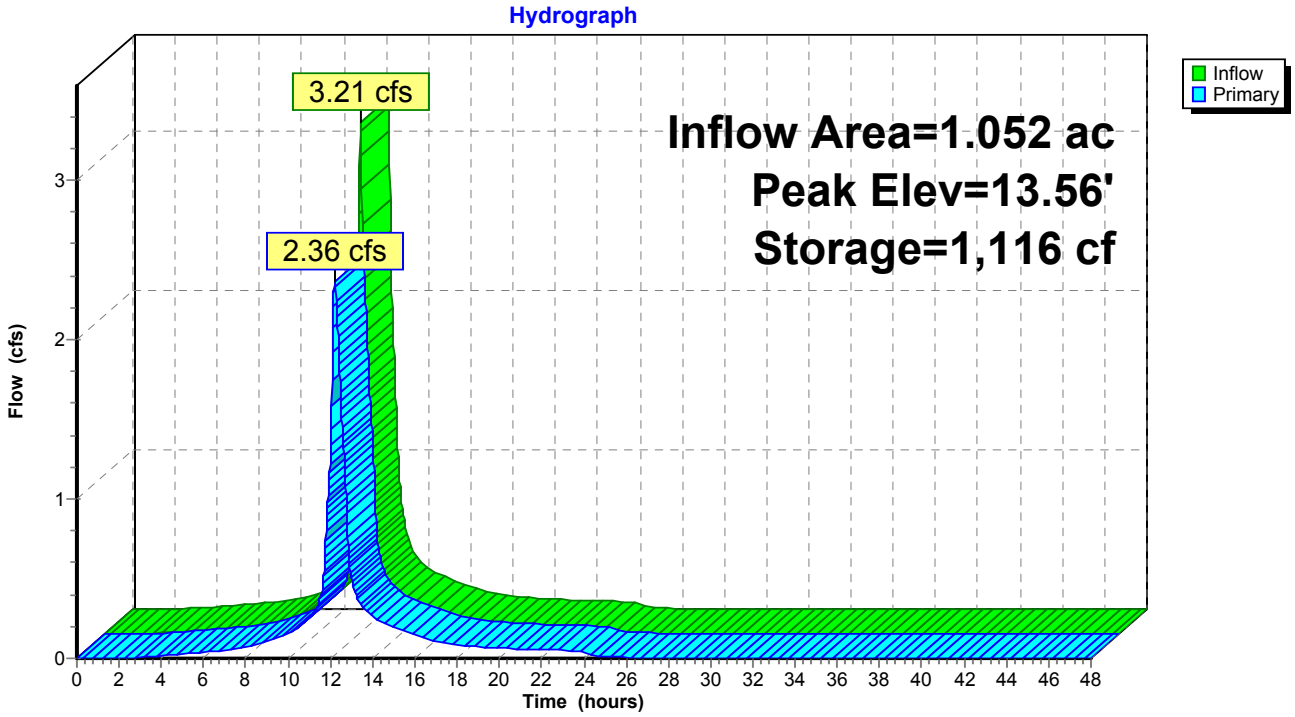
Volume	Invert	Avail.Storage	Storage Description
#1	12.20'	6,245 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.20	100	0	0
12.40	250	35	35
12.60	500	75	110
13.00	700	240	350
13.20	1,150	185	535
13.30	1,400	128	663
14.00	3,050	1,557	2,220
15.00	5,000	4,025	6,245

Device	Routing	Invert	Outlet Devices
#1	Primary	12.30'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.30' / 12.00' S= 0.0081 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	12.22'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	13.19'	**75.0 deg x 0.7' long Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=2.36 cfs @ 12.20 hrs HW=13.56' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.36 cfs of 3.09 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.69 cfs @ 4.84 fps)
  └─**3=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.67 cfs @ 1.81 fps)

Pond 1P: DETENTION POND 1



Summary for Pond 2P: DETENTION POND 2

Inflow Area = 0.564 ac, 78.07% Impervious, Inflow Depth = 4.03" for 10-Year event
Inflow = 2.37 cfs @ 12.09 hrs, Volume= 0.189 af
Outflow = 2.07 cfs @ 12.14 hrs, Volume= 0.189 af, Atten= 13%, Lag= 2.8 min
Primary = 1.39 cfs @ 12.14 hrs, Volume= 0.177 af
Secondary = 0.68 cfs @ 12.14 hrs, Volume= 0.013 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.72' @ 12.14 hrs Surf.Area= 1,648 sf Storage= 1,010 cf

Plug-Flow detention time= 32.1 min calculated for 0.189 af (100% of inflow)
Center-of-Mass det. time= 31.9 min (798.1 - 766.2)

Volume	Invert	Avail.Storage	Storage Description
#1	14.00'	3,720 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

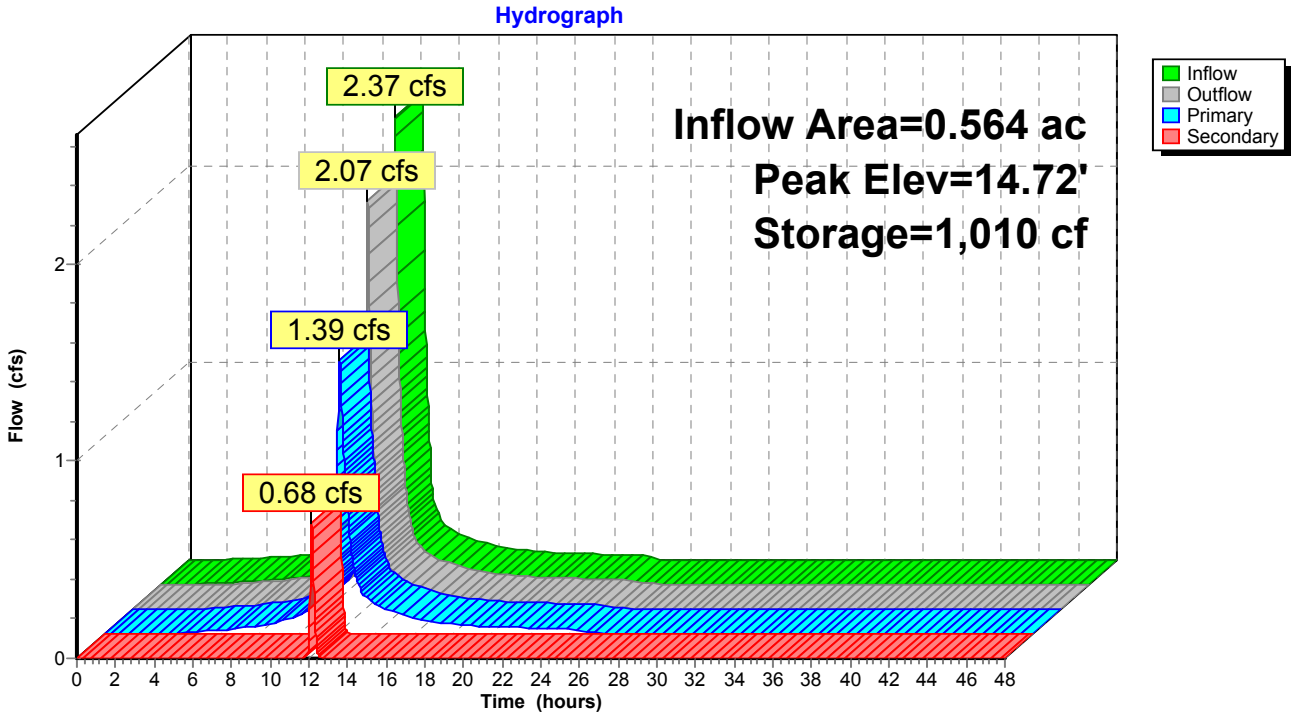
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.00	1,150	0	0
15.00	1,840	1,495	1,495
16.00	2,610	2,225	3,720

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**15.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 13.80' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Secondary	14.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.5' Crest Height

Primary OutFlow Max=1.39 cfs @ 12.14 hrs HW=14.72' TW=13.53' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.39 cfs @ 2.72 fps)

Secondary OutFlow Max=0.68 cfs @ 12.14 hrs HW=14.72' TW=0.00' (Dynamic Tailwater)
↑**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.68 cfs @ 1.57 fps)

Pond 2P: DETENTION POND 2



Summary for Pond CB-1A: CB-1 Surface Storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=41)

Inflow Area = 0.188 ac, 90.07% Impervious, Inflow Depth = 4.23" for 10-Year event
Inflow = 0.85 cfs @ 12.08 hrs, Volume= 0.066 af
Outflow = 0.83 cfs @ 12.10 hrs, Volume= 0.066 af, Atten= 3%, Lag= 1.1 min
Primary = 0.83 cfs @ 12.10 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 17.06' @ 12.10 hrs Surf.Area= 517 sf Storage= 14 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (763.9 - 763.9)

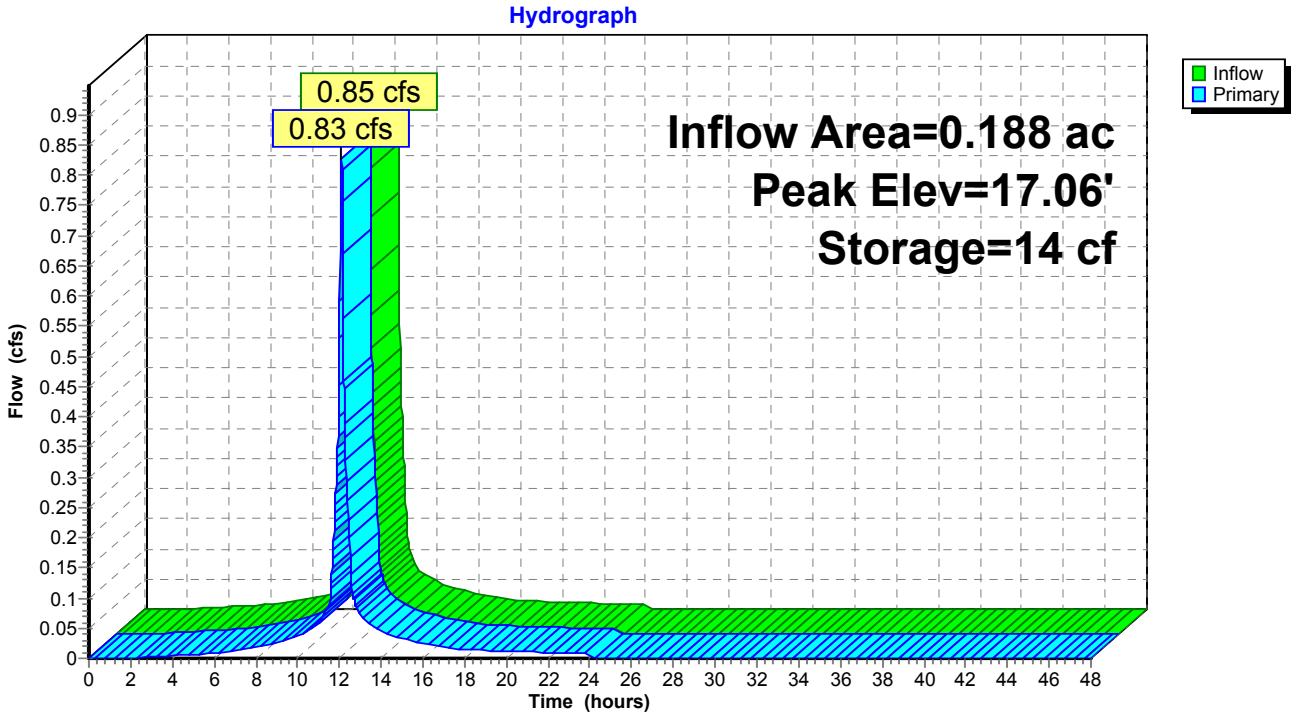
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	824 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	0	0	0
17.42	3,923	824	824

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.530 3.720

Primary OutFlow Max=0.82 cfs @ 12.10 hrs HW=17.06' TW=15.25' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 0.82 cfs)

Pond CB-1A: CB-1 Surface Storage



Summary for Pond CB-1B: CB-1

Inflow Area = 0.188 ac, 90.07% Impervious, Inflow Depth = 4.23" for 10-Year event
Inflow = 0.83 cfs @ 12.10 hrs, Volume= 0.066 af
Outflow = 0.82 cfs @ 12.10 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.1 min
Primary = 0.82 cfs @ 12.10 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.26' @ 12.11 hrs Surf.Area= 13 sf Storage= 10 cf

Plug-Flow detention time= 0.6 min calculated for 0.066 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (764.5 - 763.9)

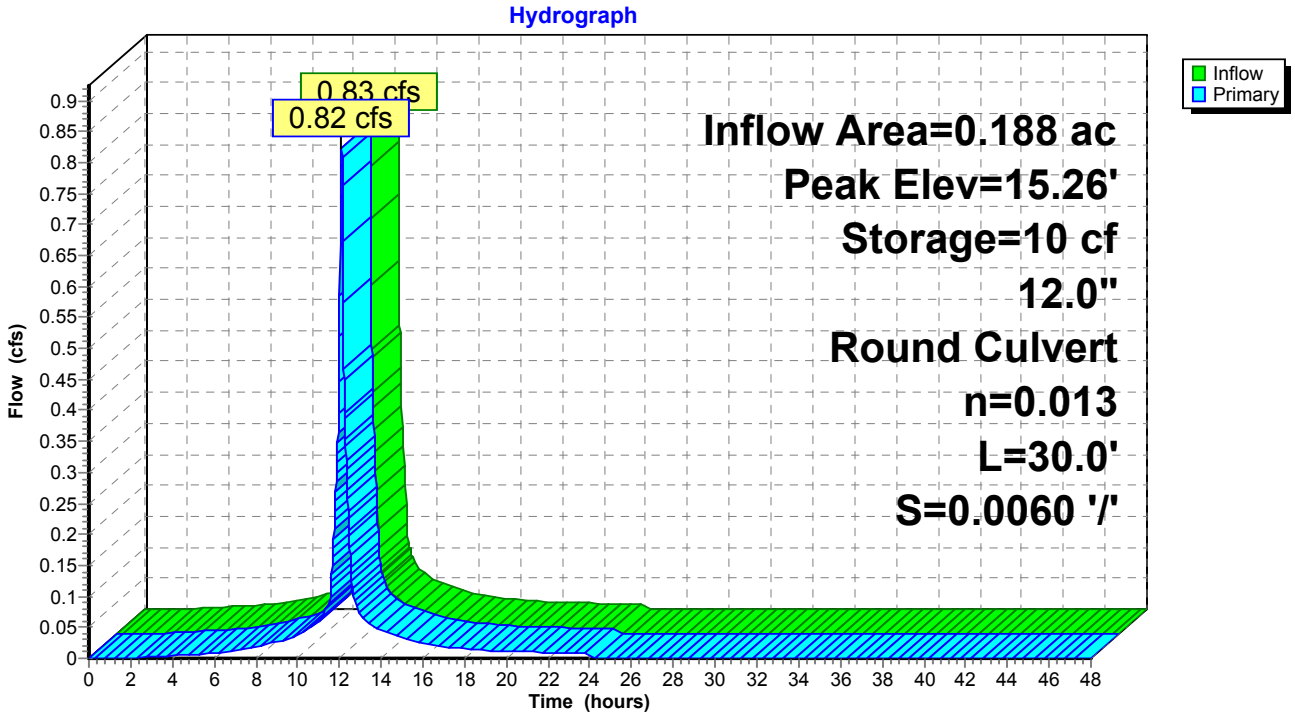
Volume	Invert	Avail.Storage	Storage Description
#1	14.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.50	13	0	0
15.75	13	16	16
15.76	4	0	16
17.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.32' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.10 hrs HW=15.25' TW=15.14' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.79 cfs @ 1.73 fps)

Pond CB-1B: CB-1



Summary for Pond CB-2A: CB-2 Surface Storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=113)

Inflow Area = 0.160 ac, 96.66% Impervious, Inflow Depth = 4.35" for 10-Year event
Inflow = 0.73 cfs @ 12.08 hrs, Volume= 0.058 af
Outflow = 0.73 cfs @ 12.09 hrs, Volume= 0.058 af, Atten= 1%, Lag= 0.5 min
Primary = 0.73 cfs @ 12.09 hrs, Volume= 0.058 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 17.04' @ 12.09 hrs Surf.Area= 185 sf Storage= 4 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (757.1 - 757.1)

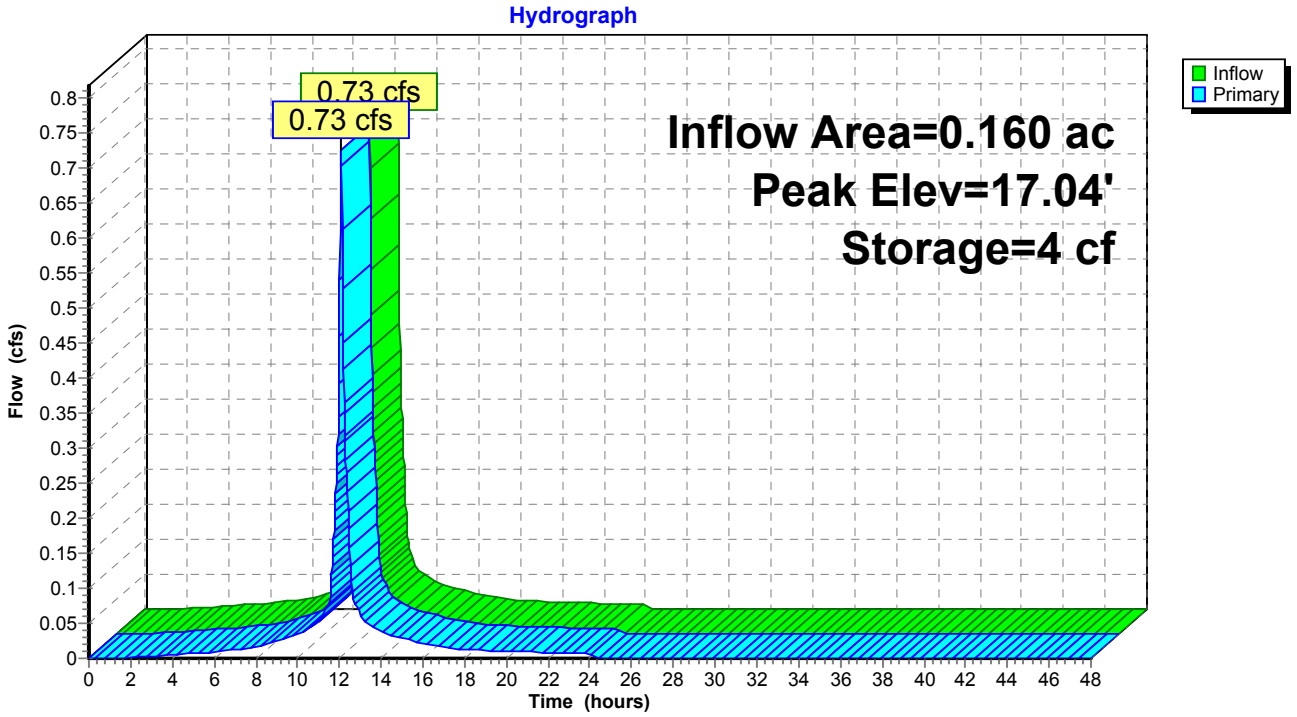
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	370 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	0	0	0
17.40	1,851	370	370

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**Special & User-Defined** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.530 3.720

Primary OutFlow Max=0.72 cfs @ 12.09 hrs HW=17.04' TW=15.22' (Dynamic Tailwater)
↑—**1=Special & User-Defined** (Custom Controls 0.72 cfs)

Pond CB-2A: CB-2 Surface Storage



Summary for Pond CB-2B: CB-2

Inflow Area = 0.160 ac, 96.66% Impervious, Inflow Depth = 4.35" for 10-Year event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 0.058 af
Outflow = 0.72 cfs @ 12.09 hrs, Volume= 0.058 af, Atten= 1%, Lag= 0.1 min
Primary = 0.72 cfs @ 12.09 hrs, Volume= 0.058 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.23' @ 12.11 hrs Surf.Area= 13 sf Storage= 10 cf
Flood Elev= 79.20' Surf.Area= 4 sf Storage= 21 cf

Plug-Flow detention time= 0.6 min calculated for 0.058 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (757.7 - 757.1)

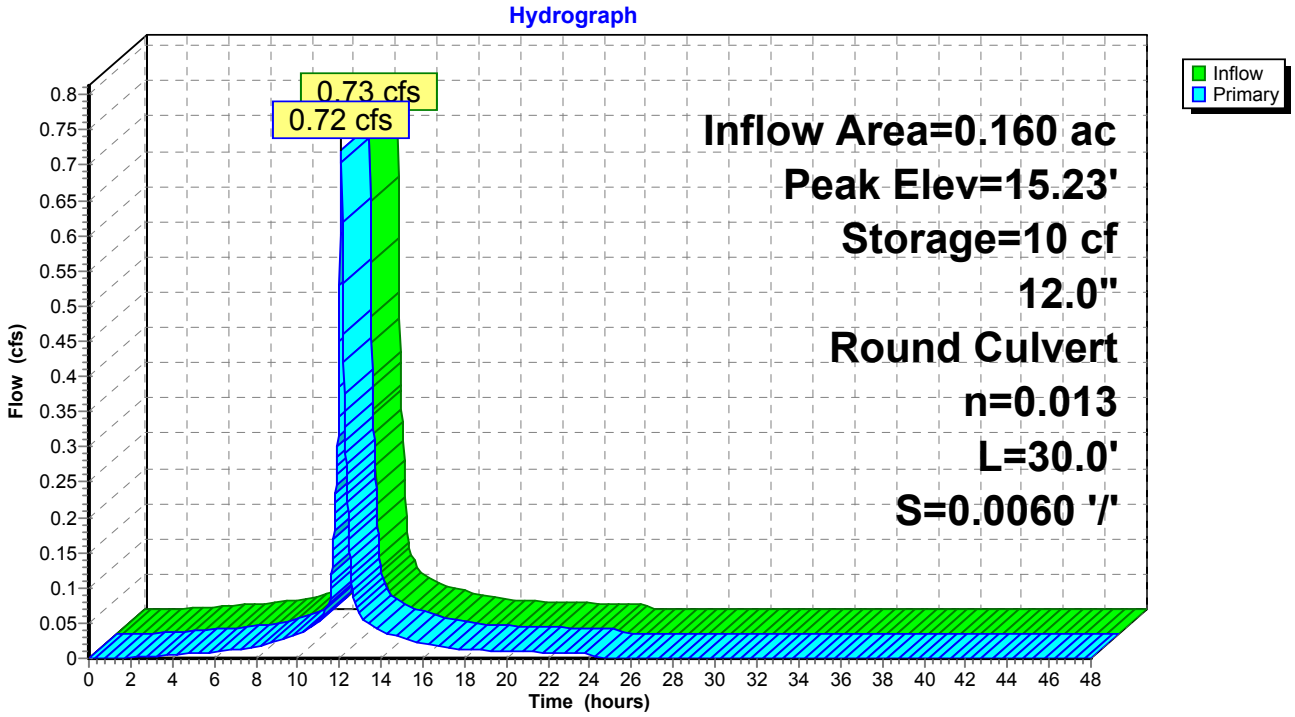
Volume	Invert	Avail.Storage	Storage Description
#1	14.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.50	13	0	0
15.75	13	16	16
15.76	4	0	16
17.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.32' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.09 hrs HW=15.22' TW=15.14' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.64 cfs @ 1.48 fps)

Pond CB-2B: CB-2



Summary for Pond CB-3A: CB-3 Surface Storage

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 4.46" for 10-Year event
Inflow = 0.73 cfs @ 12.08 hrs, Volume= 0.059 af
Outflow = 0.73 cfs @ 12.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.3 min
Primary = 0.73 cfs @ 12.09 hrs, Volume= 0.059 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 16.10' @ 12.09 hrs Surf.Area= 145 sf Storage= 7 cf

Plug-Flow detention time= 0.0 min calculated for 0.059 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (749.1 - 749.1)

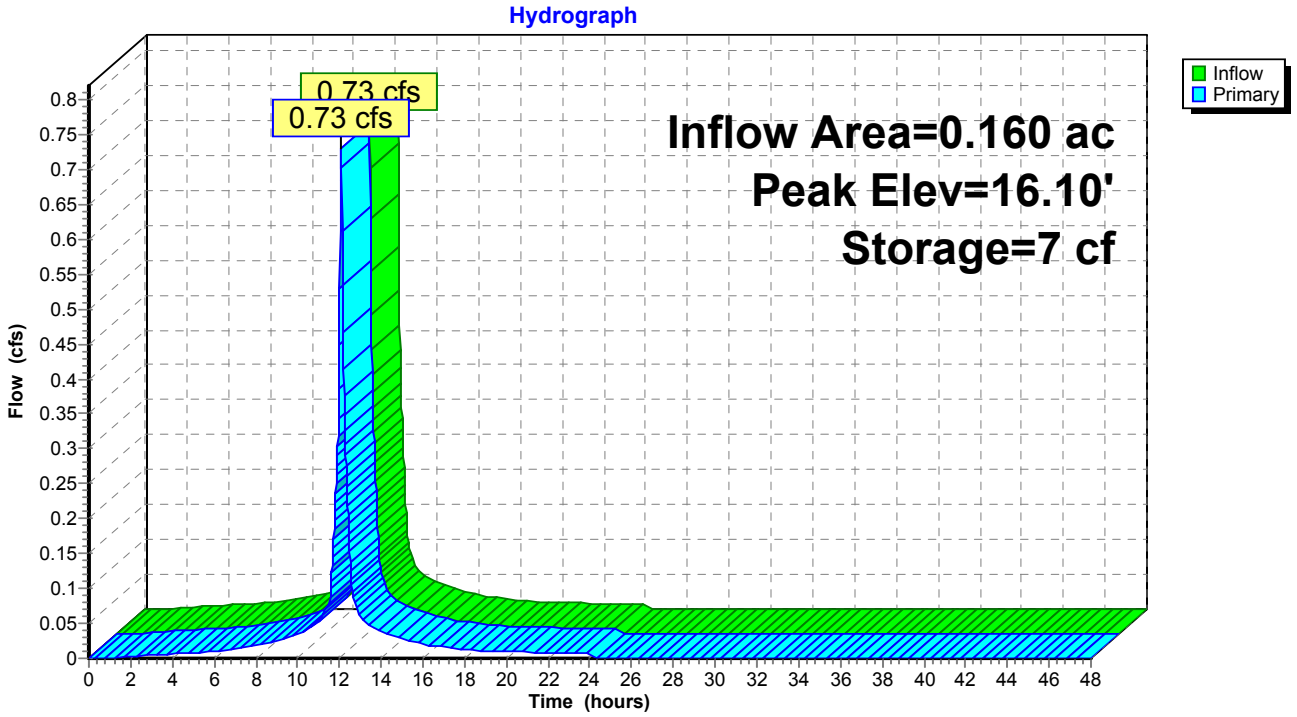
Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	45 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	0	0	0
16.25	361	45	45

Device	Routing	Invert	Outlet Devices
#1	Primary	16.00'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.053 3.720

Primary OutFlow Max=0.73 cfs @ 12.09 hrs HW=16.10' TW=14.02' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 0.73 cfs)

Pond CB-3A: CB-3 Surface Storage



Summary for Pond CB-3B: CB-3

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 4.46" for 10-Year event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 0.059 af
Outflow = 0.73 cfs @ 12.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.1 min
Primary = 0.73 cfs @ 12.09 hrs, Volume= 0.059 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.02' @ 12.10 hrs Surf.Area= 13 sf Storage= 7 cf

Plug-Flow detention time= 0.8 min calculated for 0.059 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (749.6 - 749.1)

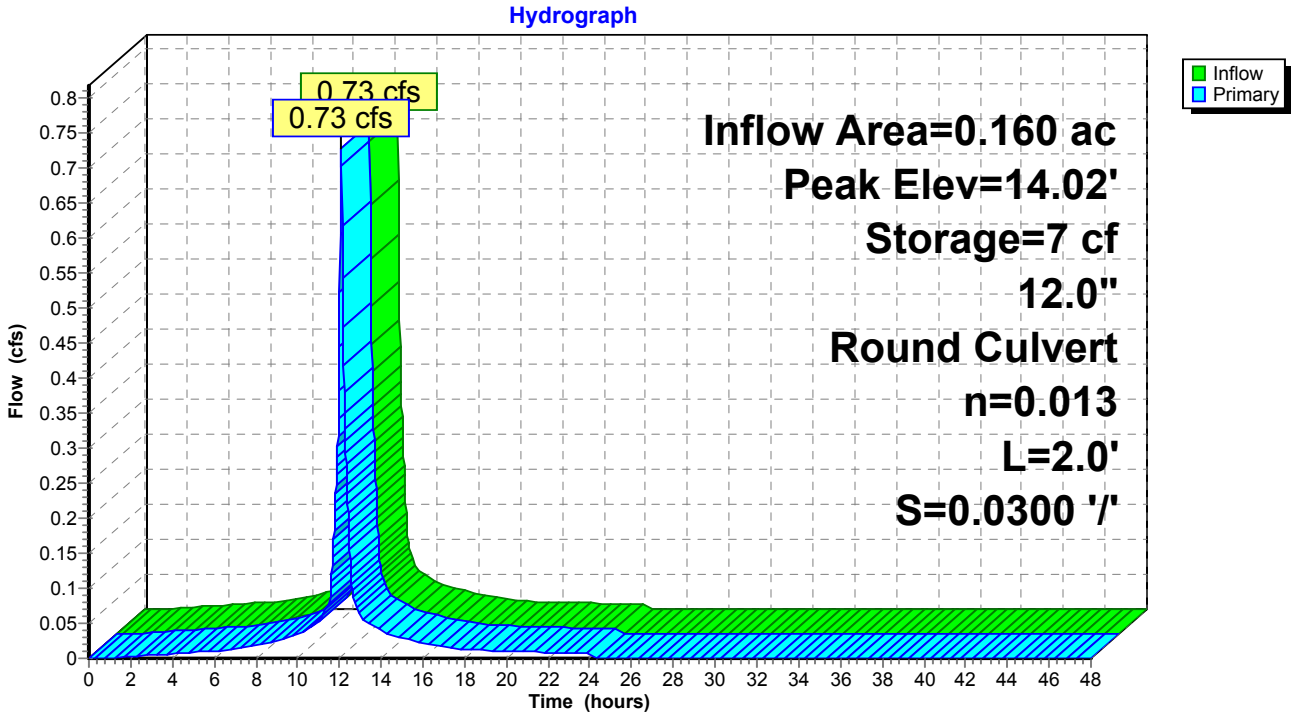
Volume	Invert	Avail.Storage	Storage Description
#1	13.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
13.50	13	0	0
14.75	13	16	16
14.76	4	0	16
16.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	13.50'	**12.0" Round Culvert** L= 2.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.50' / 13.44' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.71 cfs @ 12.09 hrs HW=14.02' TW=13.86' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.71 cfs @ 2.51 fps)

Pond CB-3B: CB-3



Summary for Pond CB-4A: CB-4 Surface Storage

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 4.46" for 10-Year event
Inflow = 1.59 cfs @ 12.08 hrs, Volume= 0.129 af
Outflow = 1.59 cfs @ 12.08 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.0 min
Primary = 1.59 cfs @ 12.08 hrs, Volume= 0.129 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.37' @ 12.08 hrs Surf.Area= 33 sf Storage= 1 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (749.1 - 749.1)

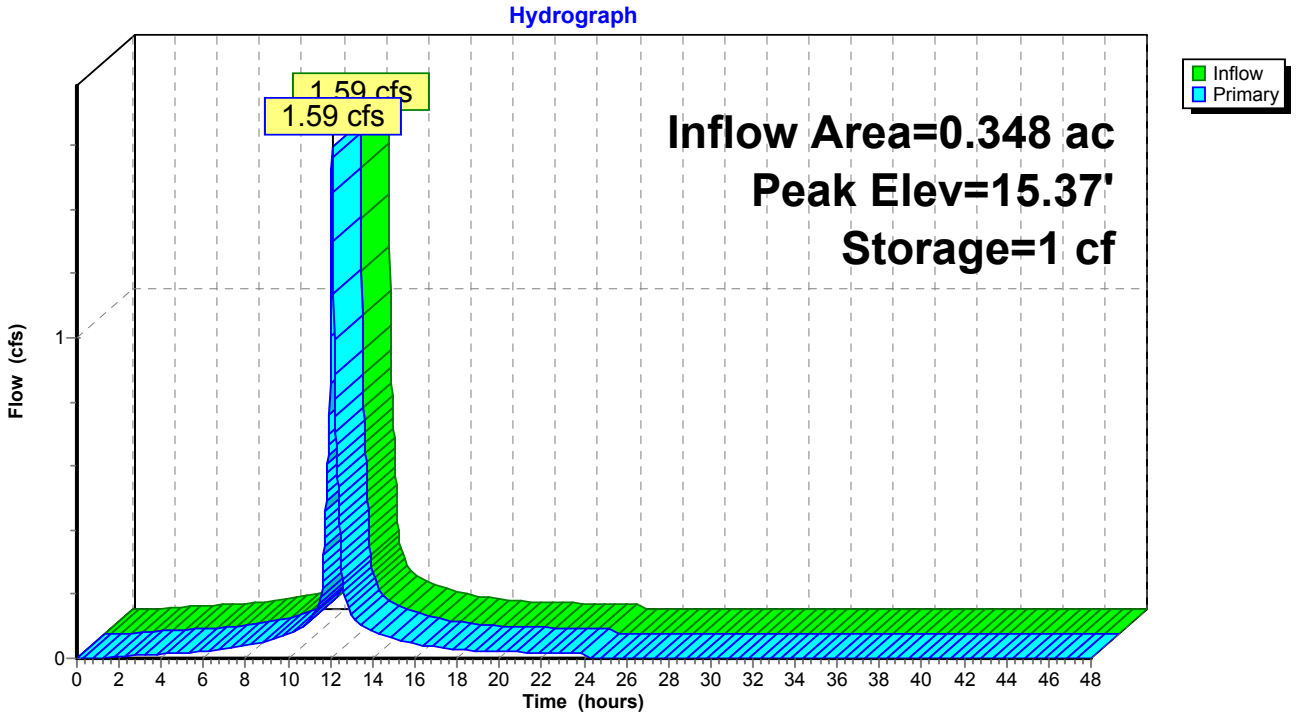
Volume	Invert	Avail.Storage	Storage Description
#1	15.32'	20 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.32	0	0	0
15.57	161	20	20

Device	Routing	Invert	Outlet Devices
#1	Primary	15.32'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 1.050 7.460

Primary OutFlow Max=1.59 cfs @ 12.08 hrs HW=15.37' TW=13.69' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 1.59 cfs)

Pond CB-4A: CB-4 Surface Storage



Summary for Pond CB-4B: CB-4

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 4.46" for 10-Year event
Inflow = 1.59 cfs @ 12.08 hrs, Volume= 0.129 af
Outflow = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.1 min
Primary = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.70' @ 12.09 hrs Surf.Area= 13 sf Storage= 11 cf

Plug-Flow detention time= 0.7 min calculated for 0.129 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (749.5 - 749.1)

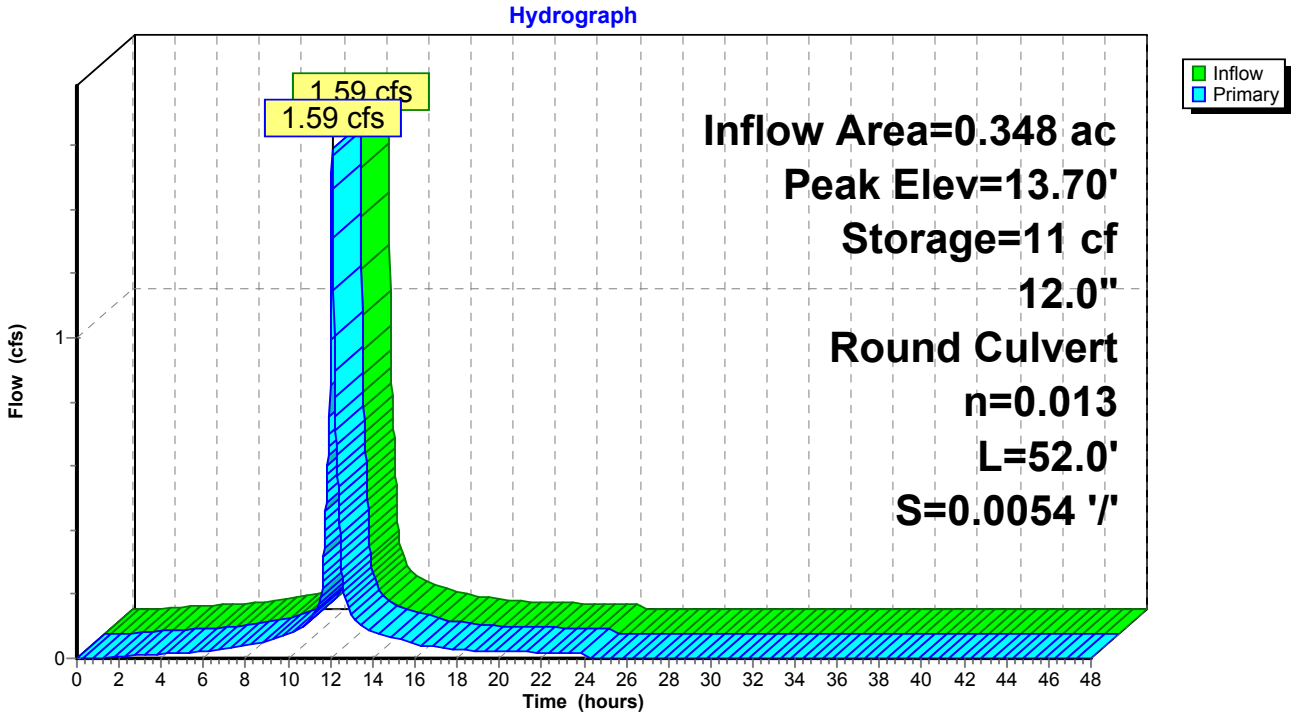
Volume	Invert	Avail.Storage	Storage Description
#1	12.82'	26 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.82	13	0	0
13.98	13	15	15
13.99	8	0	15
15.32	8	11	26

Device	Routing	Invert	Outlet Devices
#1	Primary	12.82'	**12.0" Round Culvert** L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.82' / 12.54' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.55 cfs @ 12.09 hrs HW=13.69' TW=13.34' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.55 cfs @ 2.83 fps)

Pond CB-4B: CB-4



Summary for Pond FD-2: FD-2

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 4.46" for 10-Year event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 0.059 af
Outflow = 0.73 cfs @ 12.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.1 min
Primary = 0.73 cfs @ 12.09 hrs, Volume= 0.059 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.86' @ 12.09 hrs Surf.Area= 13 sf Storage= 6 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 25 cf

Plug-Flow detention time= 0.4 min calculated for 0.059 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (750.1 - 749.6)

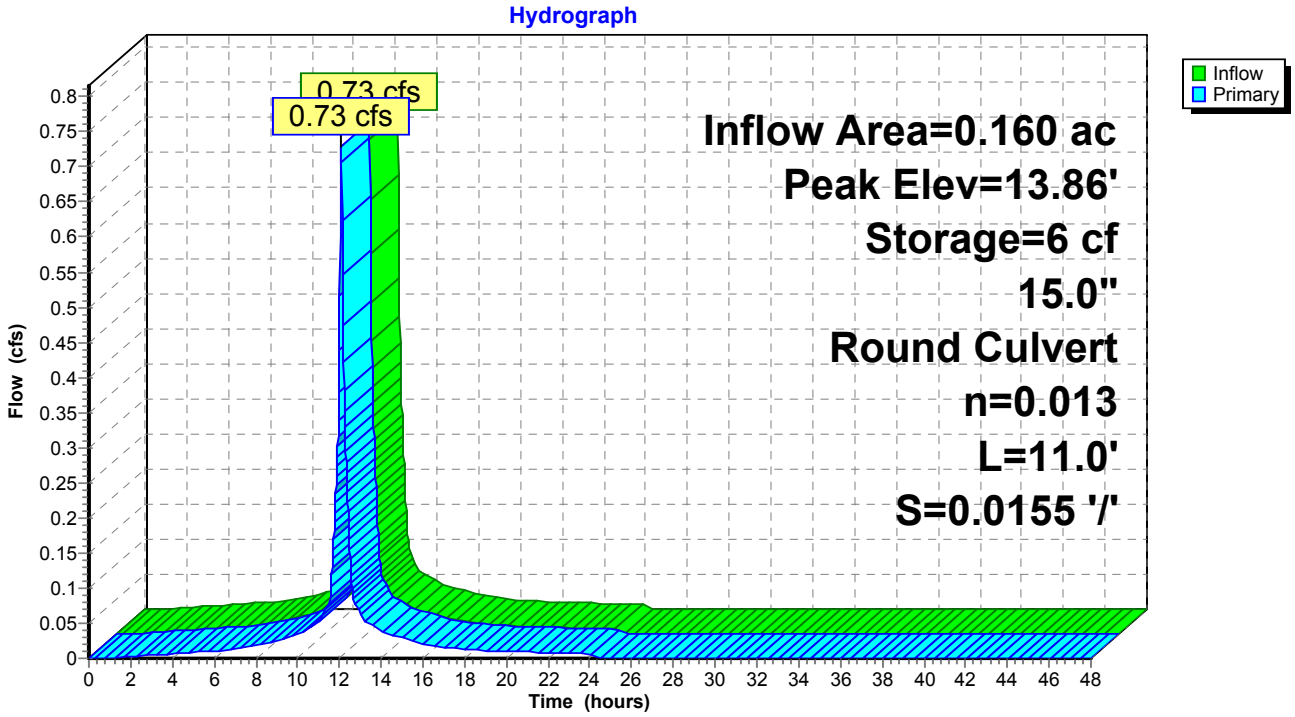
Volume	Invert	Avail.Storage	Storage Description
#1	13.44'	25 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
13.44	13	0	0
15.06	13	21	21
15.07	3	0	21
16.40	3	4	25

Device	Routing	Invert	Outlet Devices
#1	Primary	13.44'	**15.0" Round Culvert** L= 11.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.44' / 13.27' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.72 cfs @ 12.09 hrs HW=13.86' TW=13.42' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 0.72 cfs @ 2.97 fps)

Pond FD-2: FD-2


Hydrograph
Inflow
Primary
0.73 cfs
0.73 cfs
Inflow Area=0.160 ac
Peak Elev=13.86'
Storage=6 cf
15.0"
Round Culvert
n=0.013
L=11.0'
S=0.0155 '/'
Flow (cfs)
Time (hours)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond FD-3: FD-2

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 4.46" for 10-Year event
Inflow = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af
Outflow = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.1 min
Primary = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.34' @ 12.09 hrs Surf.Area= 13 sf Storage= 10 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 34 cf

Plug-Flow detention time= 0.4 min calculated for 0.129 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (749.9 - 749.5)

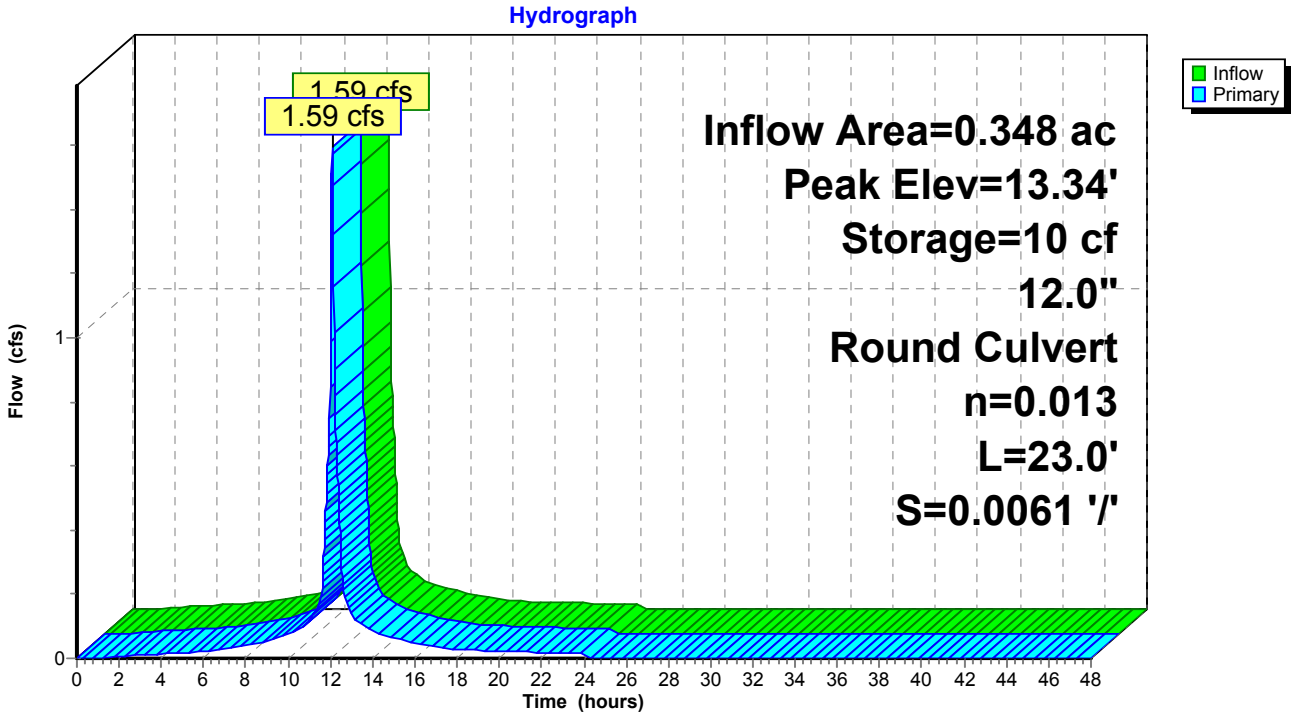
Volume	Invert	Avail.Storage	Storage Description
#1	12.54'	34 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.54	13	0	0
14.88	13	30	30
14.89	3	0	31
16.22	3	4	34

Device	Routing	Invert	Outlet Devices
#1	Primary	12.54'	**12.0" Round Culvert** L= 23.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.54' / 12.40' S= 0.0061 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.58 cfs @ 12.09 hrs HW=13.34' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.58 cfs @ 3.21 fps)

Pond FD-3: FD-2


Hydrograph
1.59 cfs
1.59 cfs
Inflow Area=0.348 ac
Peak Elev=13.34'
Storage=10 cf
12.0"
Round Culvert
n=0.013
L=23.0'
S=0.0061 '/'
Inflow
Primary
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Summary for Pond FD1: FD-1

Inflow Area = 0.348 ac, 93.10% Impervious, Inflow Depth = 4.29" for 10-Year event
Inflow = 1.54 cfs @ 12.10 hrs, Volume= 0.124 af
Outflow = 1.54 cfs @ 12.10 hrs, Volume= 0.124 af, Atten= 0%, Lag= 0.1 min
Primary = 1.54 cfs @ 12.10 hrs, Volume= 0.124 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.14' @ 12.10 hrs Surf.Area= 13 sf Storage= 11 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 29 cf

Plug-Flow detention time= 0.4 min calculated for 0.124 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (761.8 - 761.4)

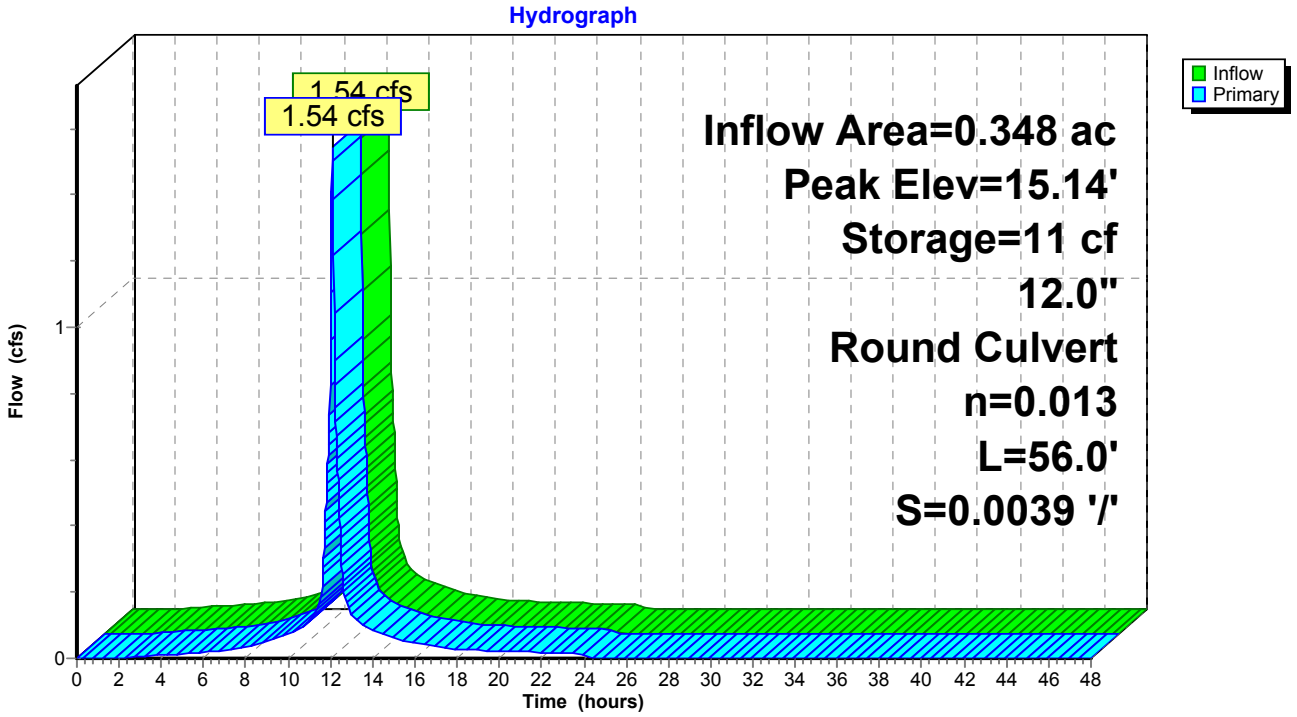
Volume	Invert	Avail.Storage	Storage Description
#1	14.32'	29 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.32	13	0	0
16.26	13	25	25
16.27	3	0	25
17.60	3	4	29

Device	Routing	Invert	Outlet Devices
#1	Primary	14.32'	**12.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.32' / 14.10' S= 0.0039 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.54 cfs @ 12.10 hrs HW=15.14' TW=14.70' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.54 cfs @ 3.02 fps)

Pond FD1: FD-1


Hydrograph
1.54 cfs
1.54 cfs
Inflow Area=0.348 ac
Peak Elev=15.14'
Storage=11 cf
12.0"
Round Culvert
n=0.013
L=56.0'
S=0.0039 '/'
Inflow
Primary
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Time span=0.00-48.00 hrs, dt=0.02 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: ROOF RUNOFF 1 Runoff Area=5,020 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.65 cfs 0.053 af

Subcatchment 1S: BASIN 1 & SLOPE Runoff Area=9,292 sf 0.54% Impervious Runoff Depth=3.60"
Tc=6.0 min CN=80 Runoff=0.90 cfs 0.064 af

Subcatchment 1S-A: EAST PROPERTY Runoff Area=5,187 sf 0.00% Impervious Runoff Depth=3.60"
Tc=6.0 min CN=80 Runoff=0.50 cfs 0.036 af

Subcatchment 2R: ROOF RUNOFF 2 Runoff Area=5,049 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.66 cfs 0.054 af

Subcatchment 2S: BASIN 2 & SLOPE Runoff Area=4,363 sf 0.46% Impervious Runoff Depth=3.60"
Tc=6.0 min CN=80 Runoff=0.42 cfs 0.030 af

Subcatchment 2S-A: WEST PROPERTY Runoff Area=3,056 sf 0.00% Impervious Runoff Depth=3.60"
Tc=6.0 min CN=80 Runoff=0.29 cfs 0.021 af

Subcatchment 3S: SOUTH PROPERTY Runoff Area=5,793 sf 0.00% Impervious Runoff Depth=3.60"
Tc=6.0 min CN=80 Runoff=0.56 cfs 0.040 af

Subcatchment 4S: DRIVEWAY Runoff Area=1,175 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.15 cfs 0.013 af

Subcatchment S-CB-1: S-CB-1 Runoff Area=8,184 sf 90.07% Impervious Runoff Depth=5.33"
Tc=6.0 min CN=96 Runoff=1.05 cfs 0.083 af

Subcatchment S-CB-2: S-CB-2 Runoff Area=6,982 sf 96.66% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=0.90 cfs 0.073 af

Subcatchment S-CB-3: S-CB-3 Runoff Area=6,952 sf 98.53% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.91 cfs 0.074 af

Subcatchment S-CB-4: S-CB-4 Runoff Area=15,143 sf 98.55% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=1.97 cfs 0.161 af

Reach DP-1: EAST WETLAND Inflow=3.30 cfs 0.445 af
Outflow=3.30 cfs 0.445 af

Reach DP-2: WEST WETLAND Inflow=1.26 cfs 0.043 af
Outflow=1.26 cfs 0.043 af

Reach DP-3: SOUTH WETLAND Inflow=2.53 cfs 0.201 af
Outflow=2.53 cfs 0.201 af

Reach DP-4: HENRY GRAF JR. ROAD Inflow=0.15 cfs 0.013 af
Outflow=0.15 cfs 0.013 af

Pond 1P: DETENTION POND 1 Peak Elev=13.70' Storage=1,421 cf Inflow=3.96 cfs 0.409 af
Outflow=2.98 cfs 0.409 af

Pond 2P: DETENTION POND 2 Peak Elev=14.79' Storage=1,121 cf Inflow=2.95 cfs 0.240 af
Primary=1.62 cfs 0.218 af Secondary=1.01 cfs 0.022 af Outflow=2.63 cfs 0.240 af

Pond CB-1A: CB-1 Surface Storage Peak Elev=17.08' Storage=32 cf Inflow=1.05 cfs 0.083 af
Outflow=1.01 cfs 0.083 af

Pond CB-1B: CB-1 Peak Elev=15.38' Storage=11 cf Inflow=1.01 cfs 0.083 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0060 '/' Outflow=1.00 cfs 0.083 af

Pond CB-2A: CB-2 Surface Storage Peak Elev=17.07' Storage=10 cf Inflow=0.90 cfs 0.073 af
Outflow=0.89 cfs 0.073 af

Pond CB-2B: CB-2 Peak Elev=15.35' Storage=11 cf Inflow=0.89 cfs 0.073 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0060 '/' Outflow=0.89 cfs 0.073 af

Pond CB-3A: CB-3 Surface Storage Peak Elev=16.12' Storage=11 cf Inflow=0.91 cfs 0.074 af
Outflow=0.90 cfs 0.074 af

Pond CB-3B: CB-3 Peak Elev=14.09' Storage=8 cf Inflow=0.90 cfs 0.074 af
12.0" Round Culvert n=0.013 L=2.0' S=0.0300 '/' Outflow=0.90 cfs 0.074 af

Pond CB-4A: CB-4 Surface Storage Peak Elev=15.40' Storage=2 cf Inflow=1.97 cfs 0.161 af
Outflow=1.97 cfs 0.161 af

Pond CB-4B: CB-4 Peak Elev=13.85' Storage=13 cf Inflow=1.97 cfs 0.161 af
12.0" Round Culvert n=0.013 L=52.0' S=0.0054 '/' Outflow=1.97 cfs 0.161 af

Pond FD-2: FD-2 Peak Elev=13.92' Storage=6 cf Inflow=0.90 cfs 0.074 af
15.0" Round Culvert n=0.013 L=11.0' S=0.0155 '/' Outflow=0.90 cfs 0.074 af

Pond FD-3: FD-2 Peak Elev=13.46' Storage=12 cf Inflow=1.97 cfs 0.161 af
12.0" Round Culvert n=0.013 L=23.0' S=0.0061 '/' Outflow=1.97 cfs 0.161 af

Pond FD1: FD-1 Peak Elev=15.26' Storage=12 cf Inflow=1.89 cfs 0.156 af
12.0" Round Culvert n=0.013 L=56.0' S=0.0039 '/' Outflow=1.89 cfs 0.156 af

Total Runoff Area = 1.749 ac Runoff Volume = 0.702 af Average Runoff Depth = 4.81"
38.05% Pervious = 0.665 ac 61.95% Impervious = 1.084 ac

Summary for Subcatchment 1R: ROOF RUNOFF 1

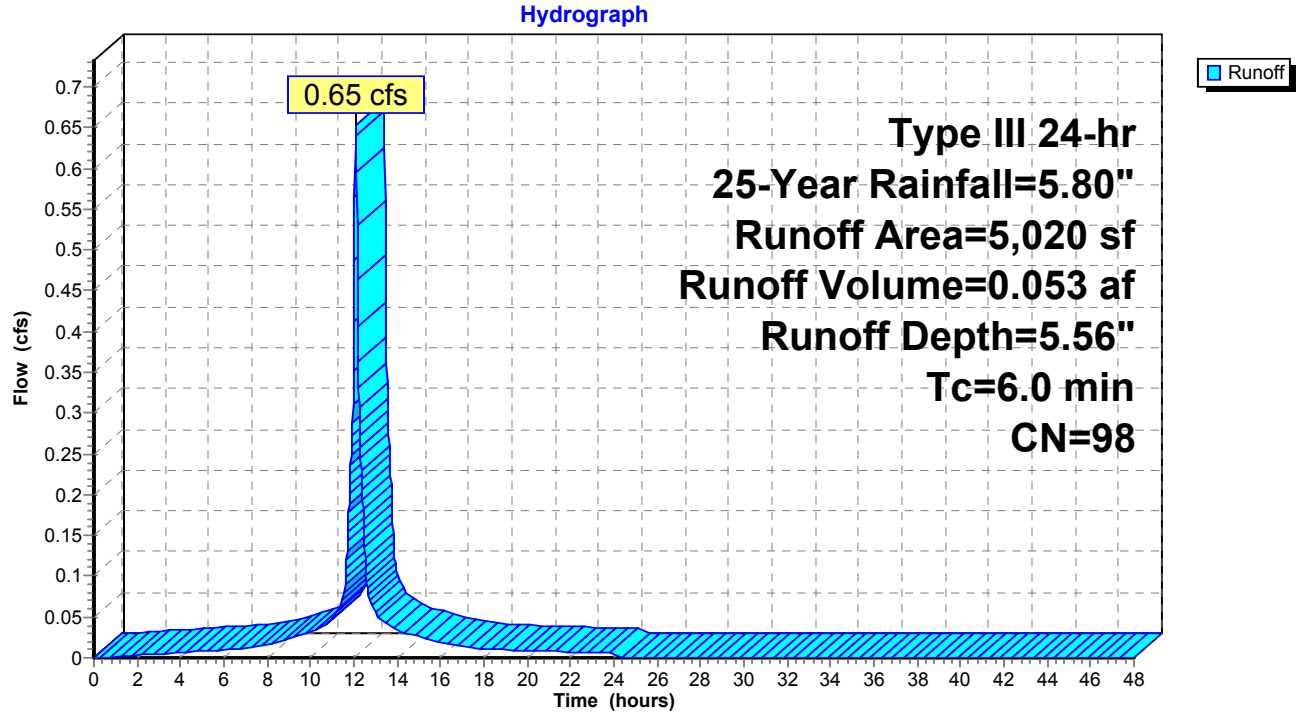
Runoff = 0.65 cfs @ 12.08 hrs, Volume= 0.053 af, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
5,020	98	Roofs, HSG D
5,020		100.00% Impervious Area

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

Subcatchment 1R: ROOF RUNOFF 1



Summary for Subcatchment 1S: BASIN 1 & SLOPE

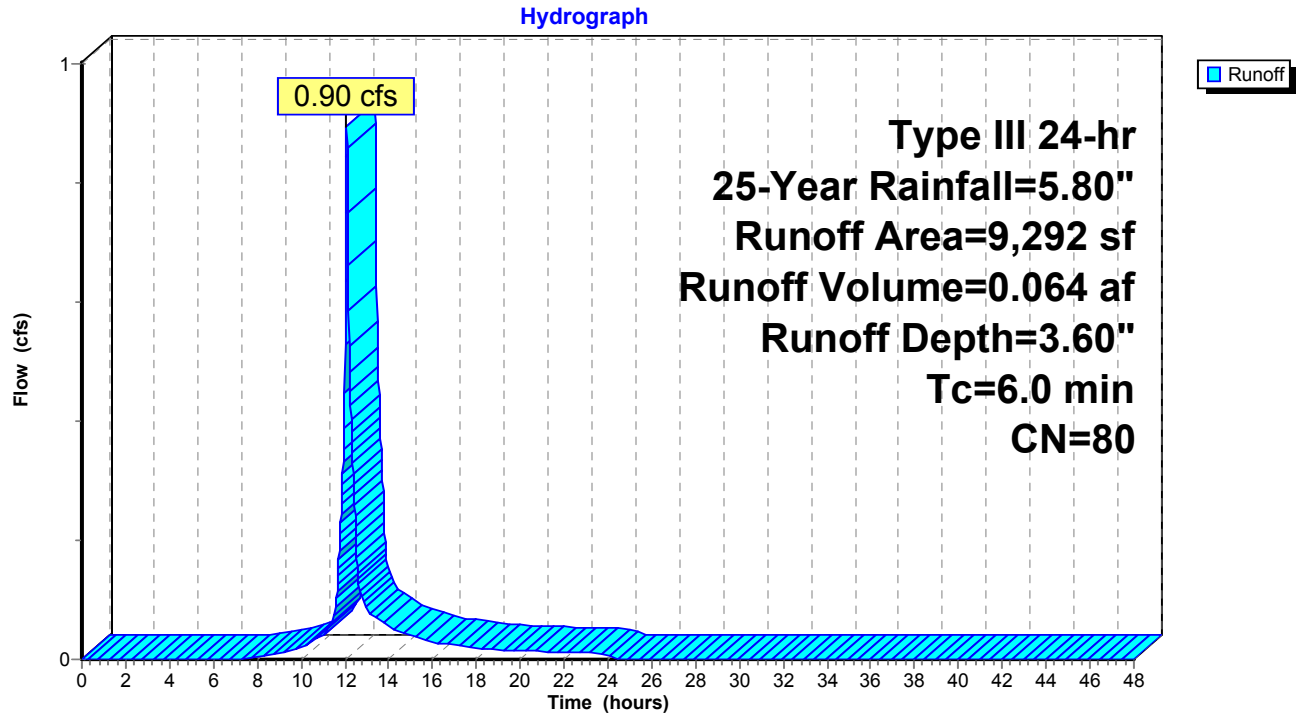
Runoff = 0.90 cfs @ 12.09 hrs, Volume= 0.064 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
9,242	80	>75% Grass cover, Good, HSG D
50	98	Paved parking, HSG D
9,292	80	Weighted Average
9,242		99.46% Pervious Area
50		0.54% Impervious Area

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

Subcatchment 1S: BASIN 1 & SLOPE



Summary for Subcatchment 1S-A: EAST PROPERTY

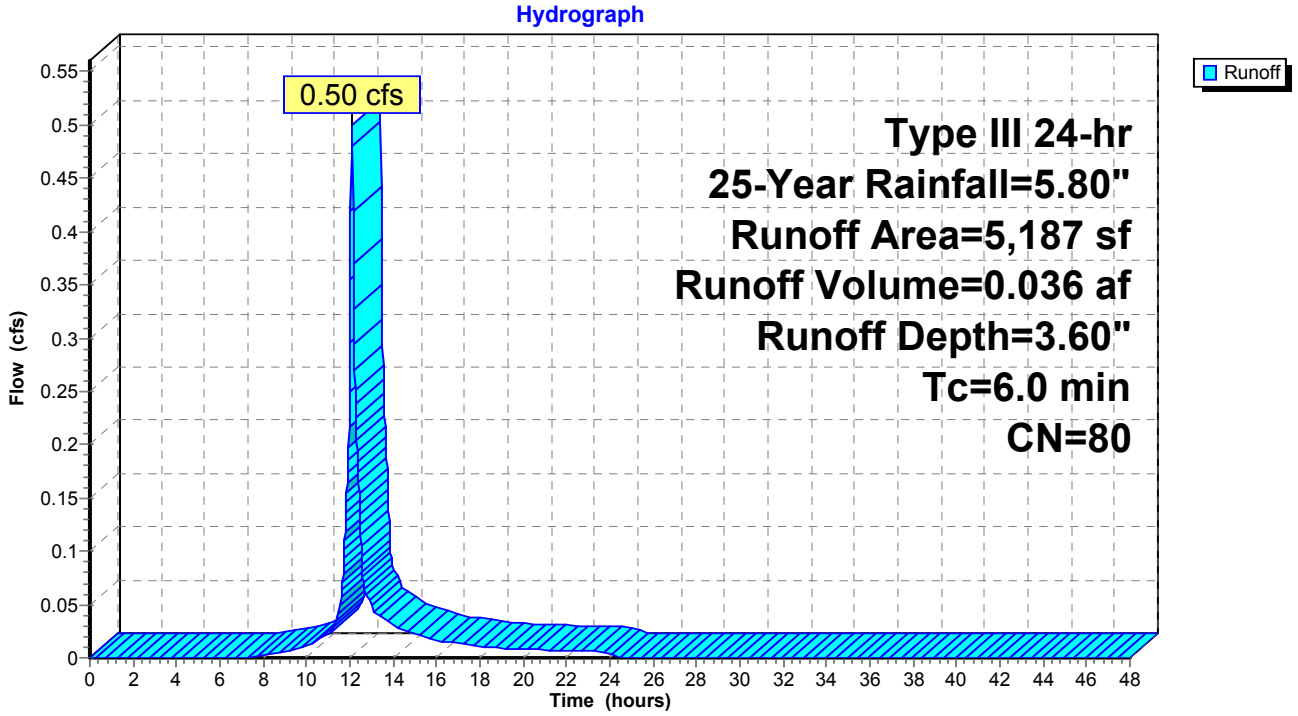
Runoff = 0.50 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
5,187	80	>75% Grass cover, Good, HSG D
5,187		100.00% Pervious Area

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

Subcatchment 1S-A: EAST PROPERTY



Summary for Subcatchment 2R: ROOF RUNOFF 2

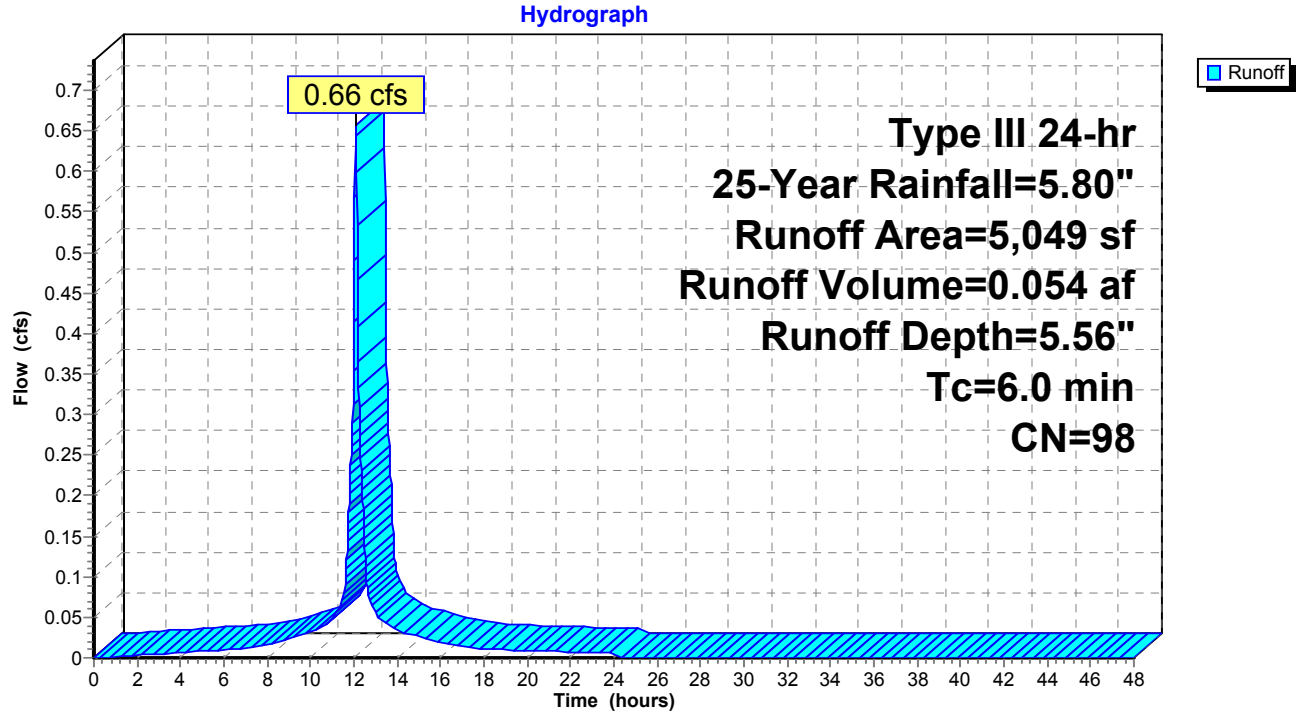
Runoff = 0.66 cfs @ 12.08 hrs, Volume= 0.054 af, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
5,049	98	Roofs, HSG D
5,049		100.00% Impervious Area

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

Subcatchment 2R: ROOF RUNOFF 2



Summary for Subcatchment 2S: BASIN 2 & SLOPE

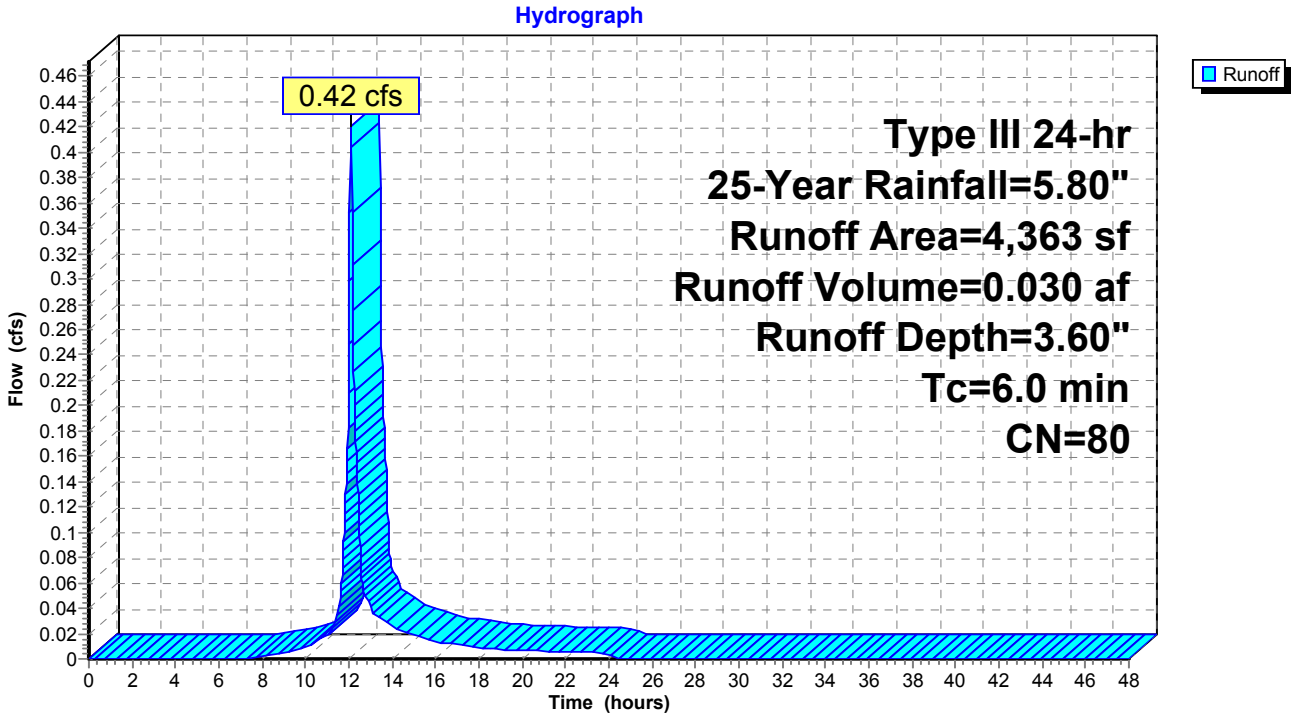
Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.030 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
4,343	80	>75% Grass cover, Good, HSG D
20	98	Unconnected pavement, HSG D
4,363	80	Weighted Average
4,343		99.54% Pervious Area
20		0.46% Impervious Area
20		100.00% Unconnected

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

Subcatchment 2S: BASIN 2 & SLOPE



Summary for Subcatchment 2S-A: WEST PROPERTY

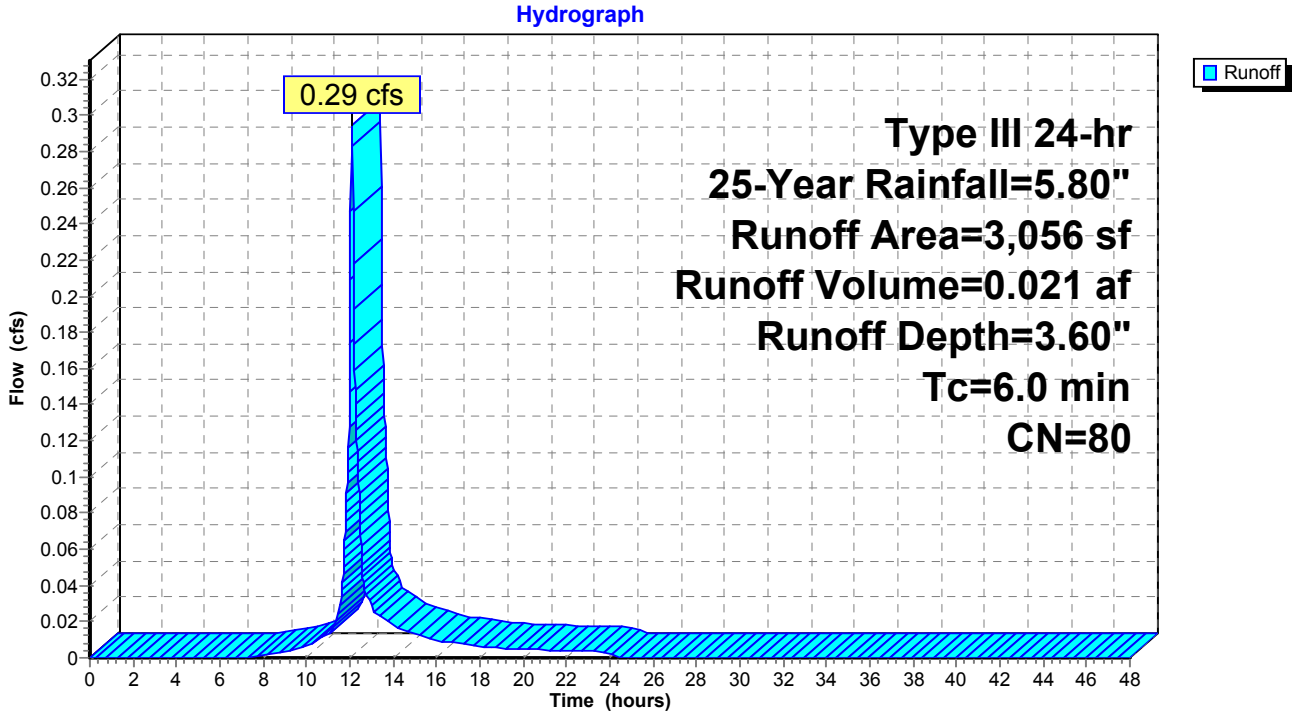
Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.021 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
3,056	80	>75% Grass cover, Good, HSG D
3,056		100.00% Pervious Area

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

Subcatchment 2S-A: WEST PROPERTY



Summary for Subcatchment 3S: SOUTH PROPERTY

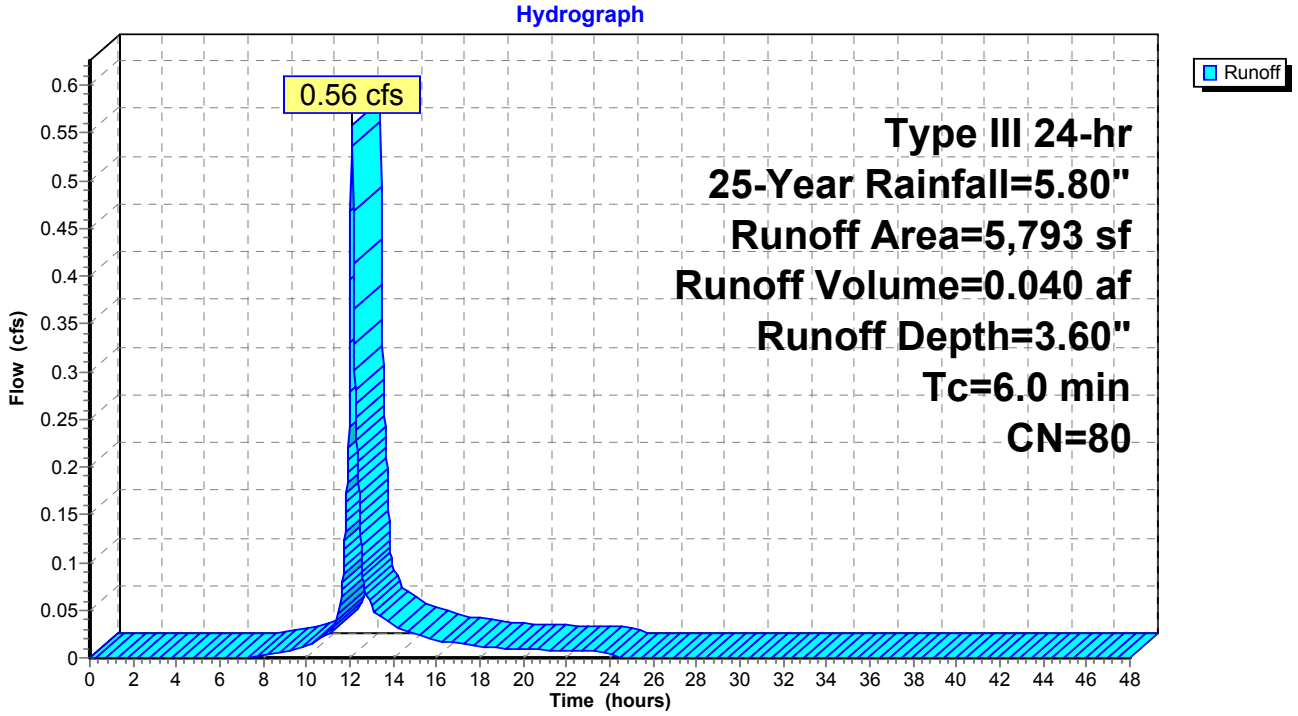
Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
5,793	80	>75% Grass cover, Good, HSG D
5,793		100.00% Pervious Area

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

Subcatchment 3S: SOUTH PROPERTY



Summary for Subcatchment 4S: DRIVEWAY

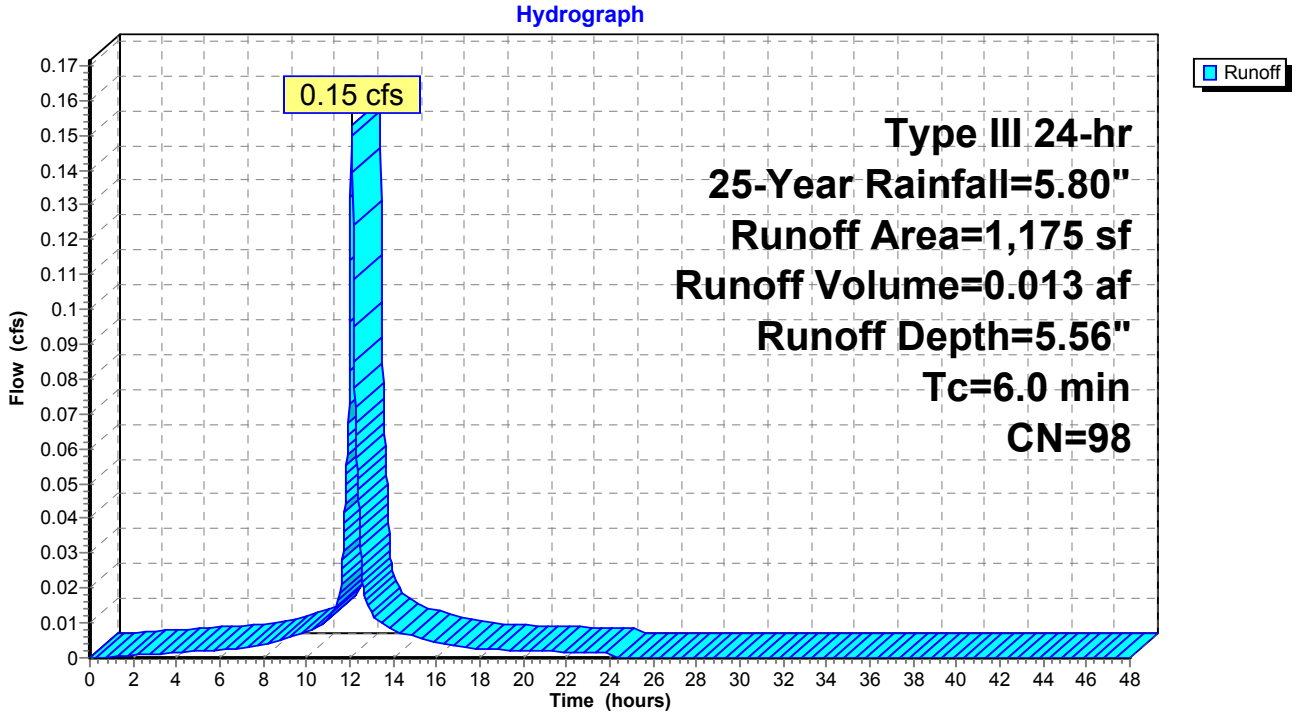
Runoff = 0.15 cfs @ 12.08 hrs, Volume= 0.013 af, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
1,175	98	Paved parking, HSG D
1,175		100.00% Impervious Area

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

Subcatchment 4S: DRIVEWAY



Summary for Subcatchment S-CB-1: S-CB-1

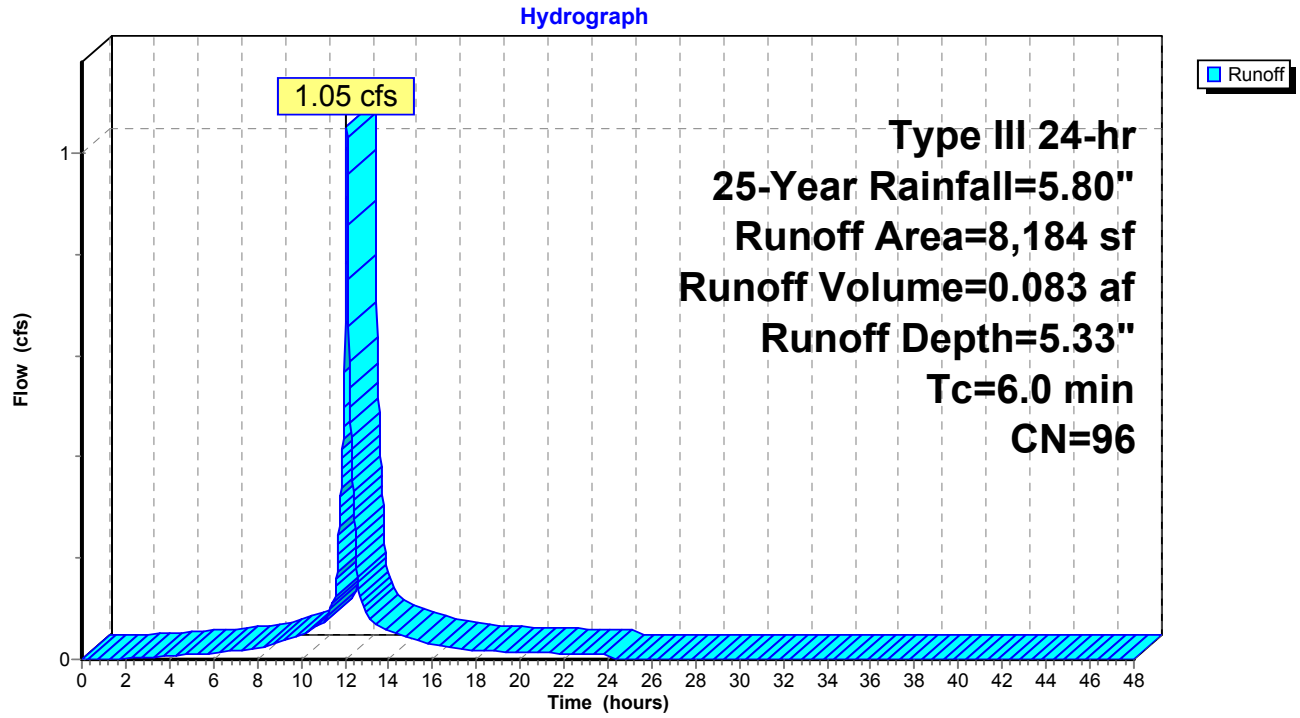
Runoff = 1.05 cfs @ 12.08 hrs, Volume= 0.083 af, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
7,371	98	Paved parking, HSG D
813	80	>75% Grass cover, Good, HSG D
8,184	96	Weighted Average
813		9.93% Pervious Area
7,371		90.07% Impervious Area

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

Subcatchment S-CB-1: S-CB-1



Summary for Subcatchment S-CB-2: S-CB-2

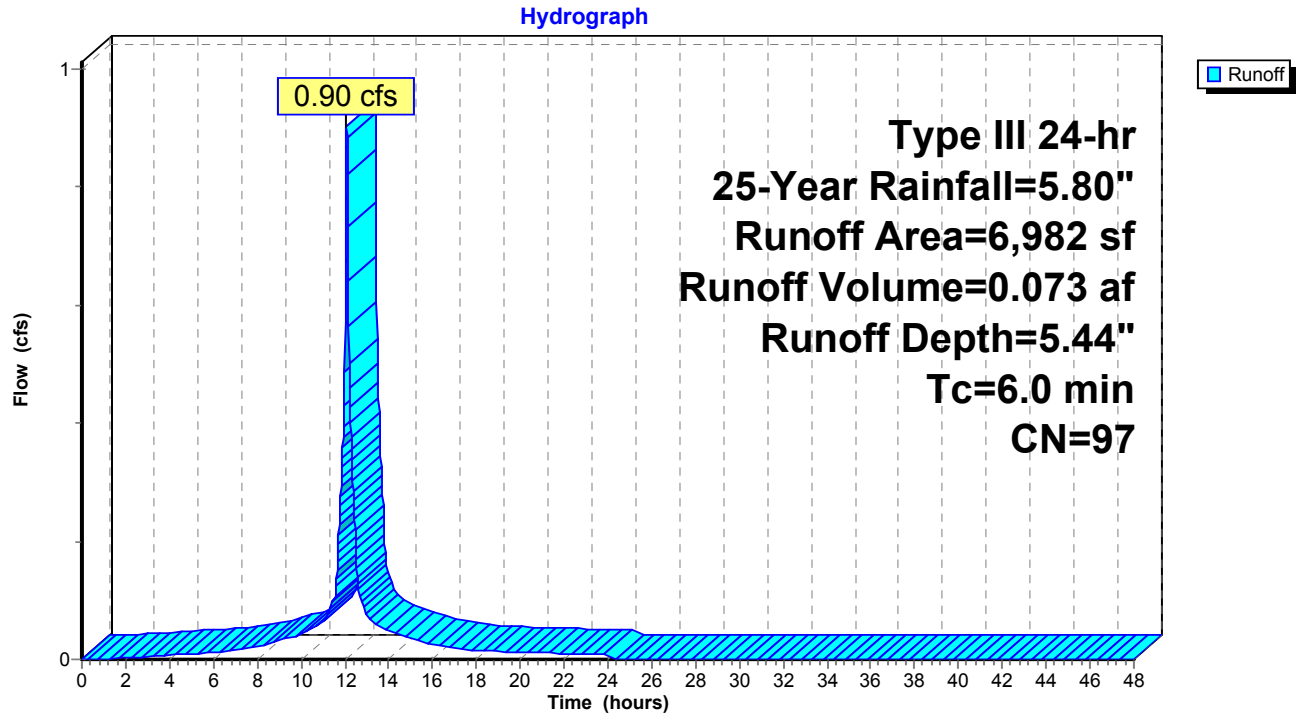
Runoff = 0.90 cfs @ 12.08 hrs, Volume= 0.073 af, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
6,749	98	Paved parking, HSG D
233	80	>75% Grass cover, Good, HSG D
6,982	97	Weighted Average
233		3.34% Pervious Area
6,749		96.66% Impervious Area

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

Subcatchment S-CB-2: S-CB-2



Summary for Subcatchment S-CB-3: S-CB-3

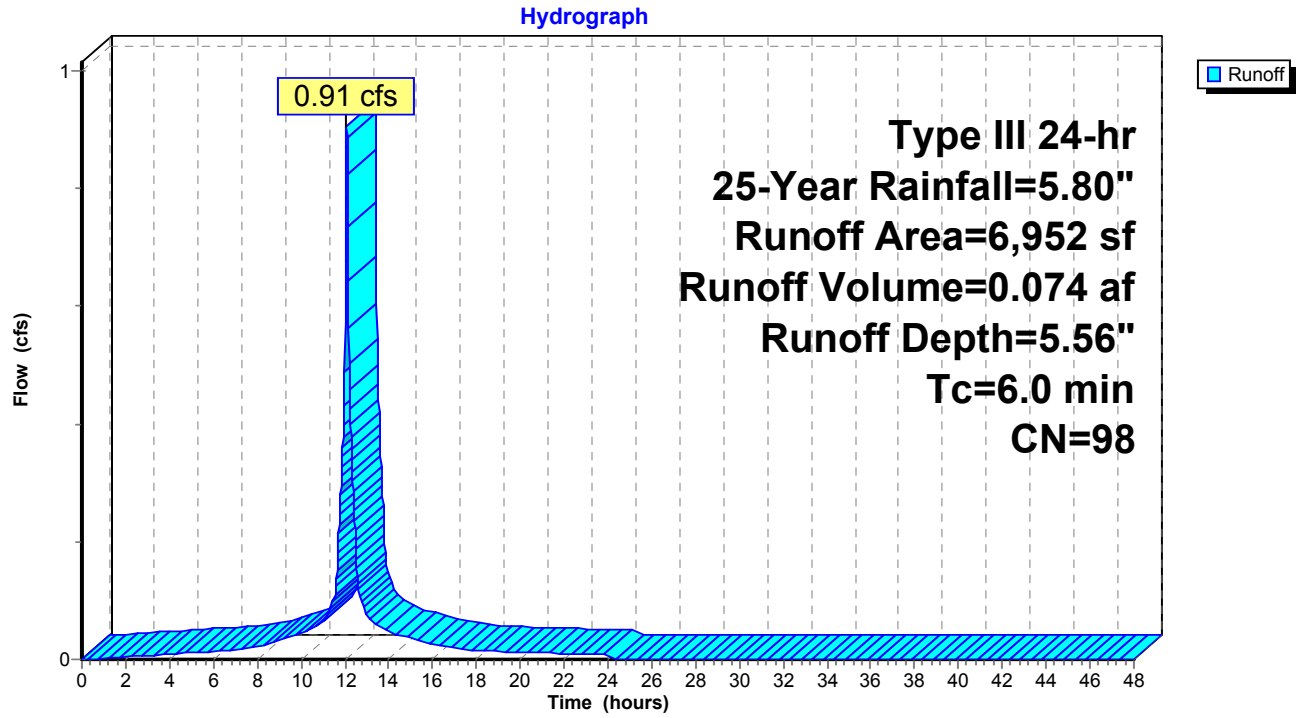
Runoff = 0.91 cfs @ 12.08 hrs, Volume= 0.074 af, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
6,850	98	Paved parking, HSG D
102	80	>75% Grass cover, Good, HSG D
6,952	98	Weighted Average
102		1.47% Pervious Area
6,850		98.53% Impervious Area

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

Subcatchment S-CB-3: S-CB-3



Summary for Subcatchment S-CB-4: S-CB-4

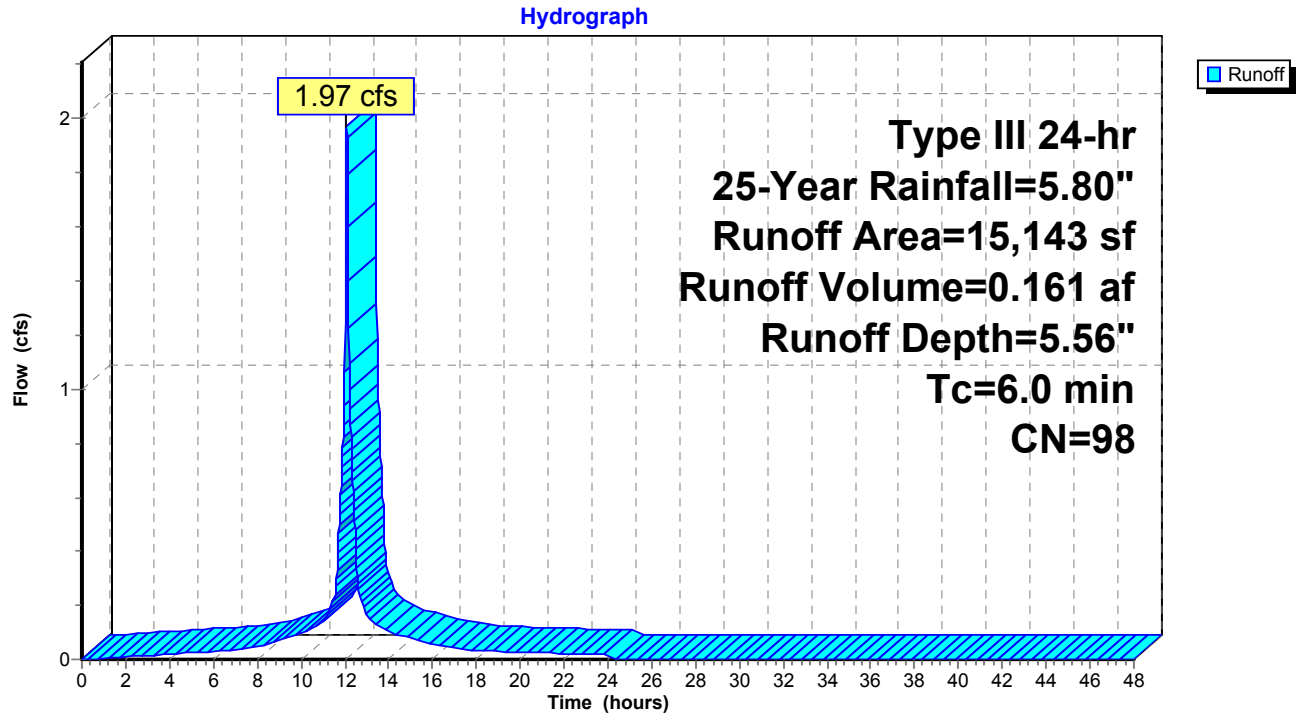
Runoff = 1.97 cfs @ 12.08 hrs, Volume= 0.161 af, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=5.80"

Area (sf)	CN	Description
14,923	98	Paved parking, HSG D
220	80	>75% Grass cover, Good, HSG D
15,143	98	Weighted Average
220		1.45% Pervious Area
14,923		98.55% Impervious Area

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

Subcatchment S-CB-4: S-CB-4



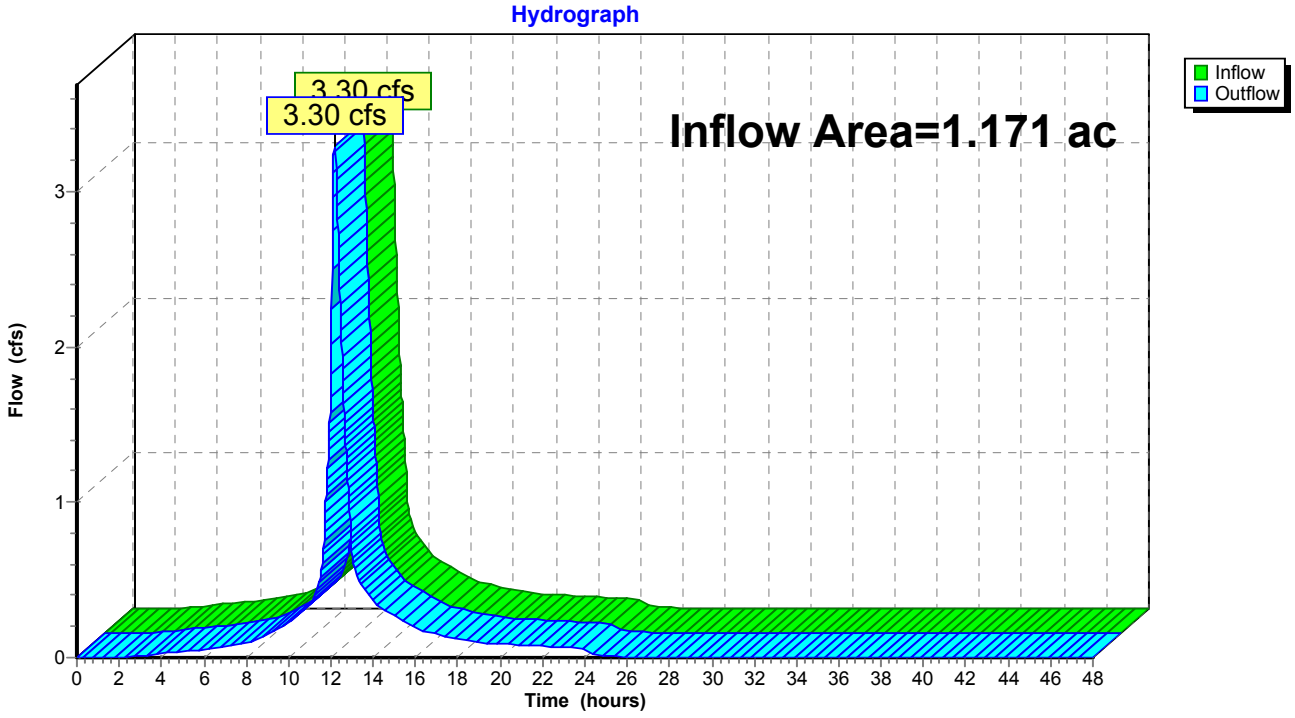
Summary for Reach DP-1: EAST WETLAND

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

Inflow Area = 1.171 ac, 60.96% Impervious, Inflow Depth = 4.56" for 25-Year event
Inflow = 3.30 cfs @ 12.17 hrs, Volume= 0.445 af
Outflow = 3.30 cfs @ 12.17 hrs, Volume= 0.445 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-1: EAST WETLAND



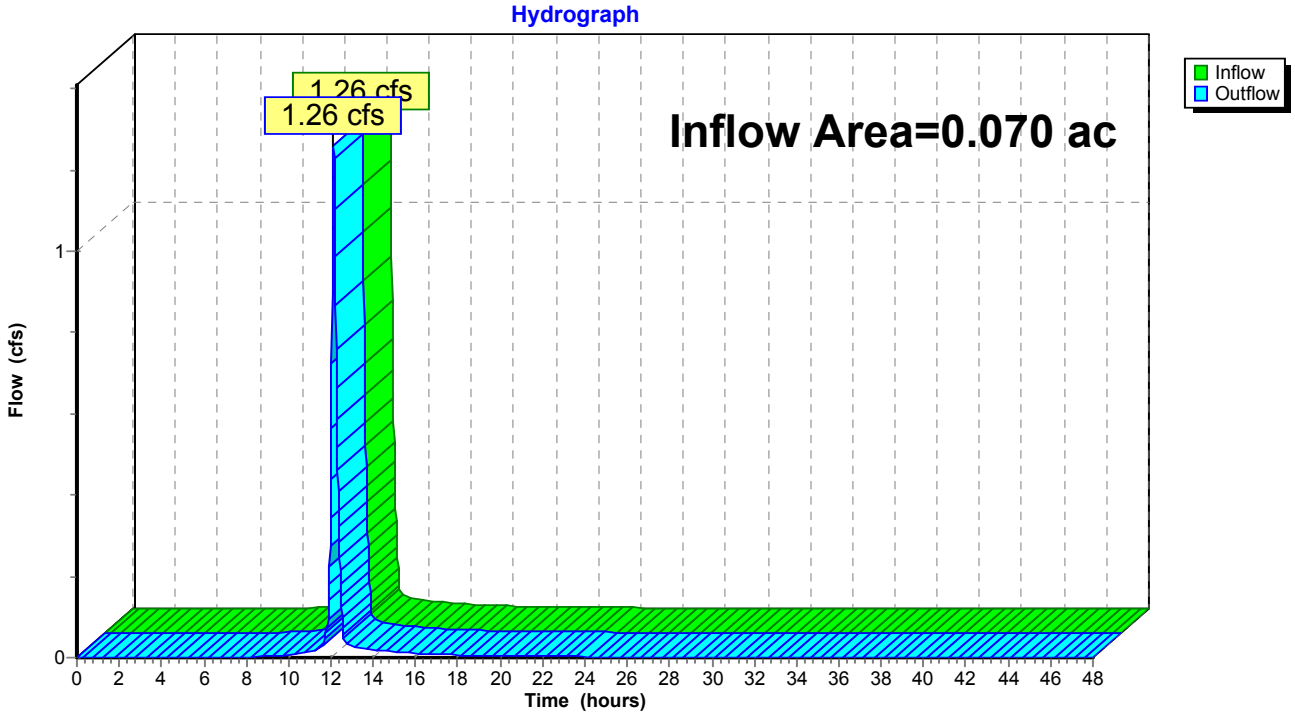
Summary for Reach DP-2: WEST WETLAND

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

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 7.33" for 25-Year event
Inflow = 1.26 cfs @ 12.13 hrs, Volume= 0.043 af
Outflow = 1.26 cfs @ 12.13 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-2: WEST WETLAND



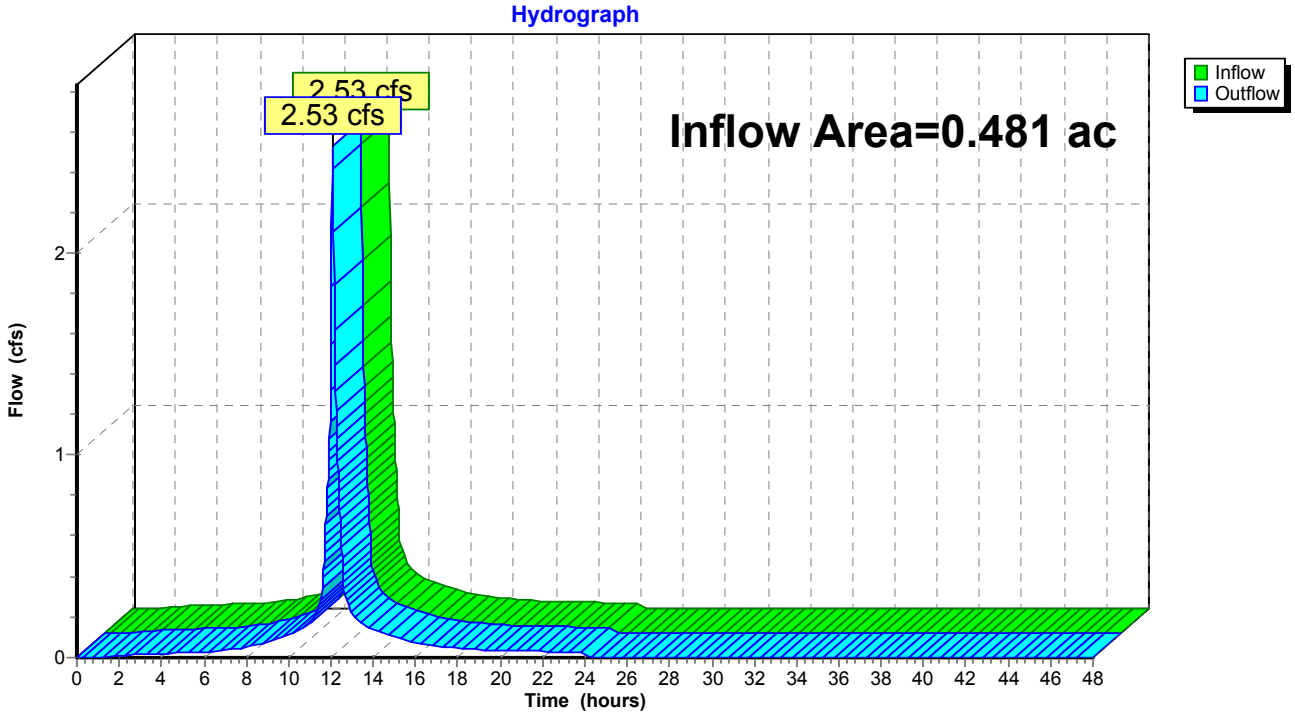
Summary for Reach DP-3: SOUTH WETLAND

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

Inflow Area = 0.481 ac, 71.28% Impervious, Inflow Depth = 5.02" for 25-Year event
Inflow = 2.53 cfs @ 12.09 hrs, Volume= 0.201 af
Outflow = 2.53 cfs @ 12.09 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-3: SOUTH WETLAND



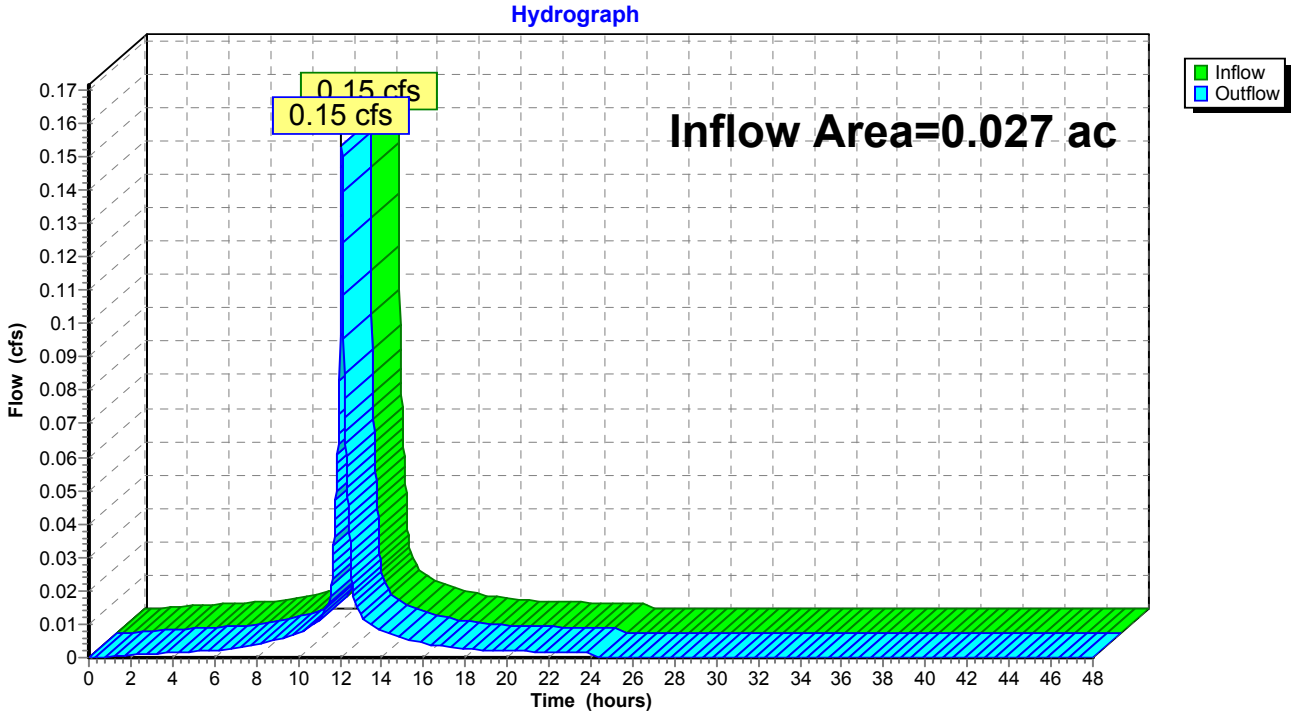
Summary for Reach DP-4: HENRY GRAF JR. ROAD

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

Inflow Area = 0.027 ac,100.00% Impervious, Inflow Depth = 5.56" for 25-Year event
Inflow = 0.15 cfs @ 12.08 hrs, Volume= 0.013 af
Outflow = 0.15 cfs @ 12.08 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-4: HENRY GRAF JR. ROAD



Summary for Pond 1P: DETENTION POND 1

Inflow Area = 1.052 ac, 67.86% Impervious, Inflow Depth = 4.67" for 25-Year event
Inflow = 3.96 cfs @ 12.10 hrs, Volume= 0.409 af
Outflow = 2.98 cfs @ 12.19 hrs, Volume= 0.409 af, Atten= 25%, Lag= 5.7 min
Primary = 2.98 cfs @ 12.19 hrs, Volume= 0.409 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.70' @ 12.19 hrs Surf.Area= 2,352 sf Storage= 1,421 cf

Plug-Flow detention time= 7.9 min calculated for 0.409 af (100% of inflow)
Center-of-Mass det. time= 7.0 min (790.7 - 783.7)

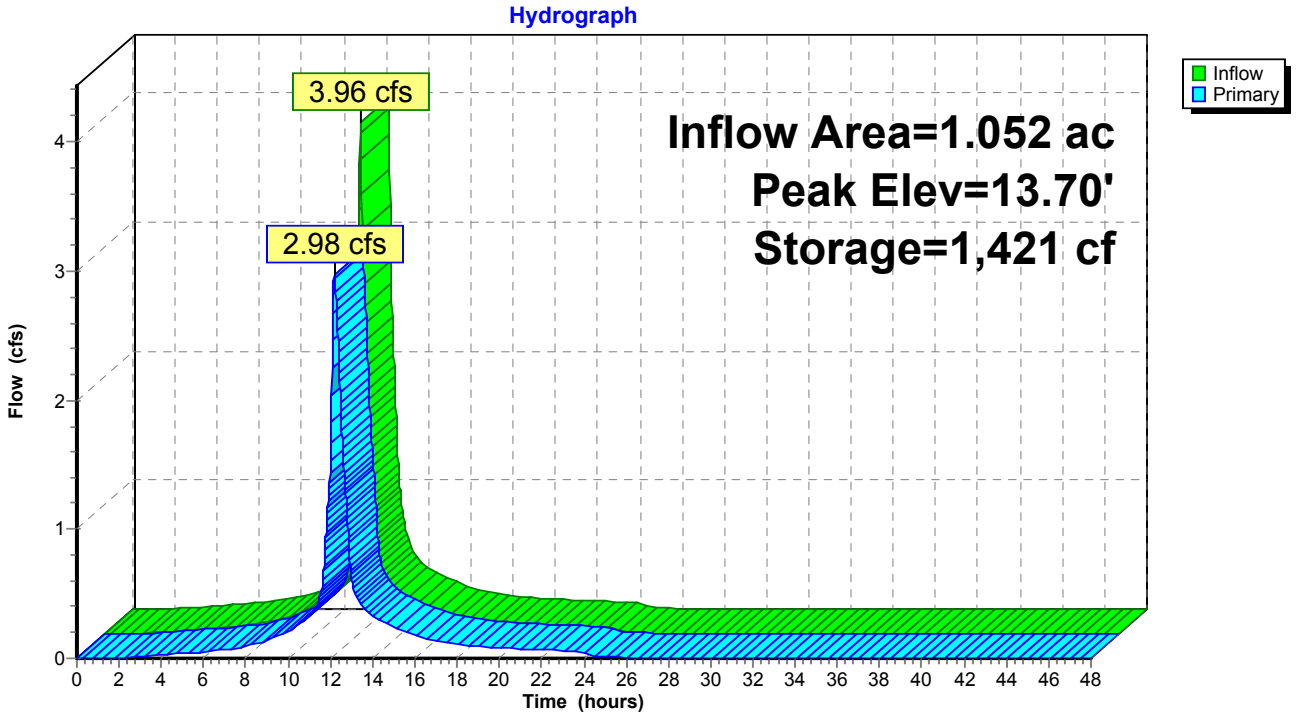
Volume	Invert	Avail.Storage	Storage Description
#1	12.20'	6,245 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.20	100	0	0
12.40	250	35	35
12.60	500	75	110
13.00	700	240	350
13.20	1,150	185	535
13.30	1,400	128	663
14.00	3,050	1,557	2,220
15.00	5,000	4,025	6,245

Device	Routing	Invert	Outlet Devices
#1	Primary	12.30'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.30' / 12.00' S= 0.0081 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	12.22'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	13.19'	**75.0 deg x 0.7' long Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=2.97 cfs @ 12.19 hrs HW=13.70' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 2.97 cfs of 3.24 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 1.80 cfs @ 5.16 fps)
  └**3=Sharp-Crested Vee/Trap Weir** (Weir Controls 1.17 cfs @ 2.09 fps)

Pond 1P: DETENTION POND 1



Summary for Pond 2P: DETENTION POND 2

Inflow Area = 0.564 ac, 78.07% Impervious, Inflow Depth = 5.10" for 25-Year event
Inflow = 2.95 cfs @ 12.10 hrs, Volume= 0.240 af
Outflow = 2.63 cfs @ 12.14 hrs, Volume= 0.240 af, Atten= 11%, Lag= 2.7 min
Primary = 1.62 cfs @ 12.14 hrs, Volume= 0.218 af
Secondary = 1.01 cfs @ 12.14 hrs, Volume= 0.022 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.79' @ 12.14 hrs Surf.Area= 1,694 sf Storage= 1,121 cf

Plug-Flow detention time= 29.0 min calculated for 0.240 af (100% of inflow)
Center-of-Mass det. time= 28.5 min (790.3 - 761.9)

Volume	Invert	Avail.Storage	Storage Description
#1	14.00'	3,720 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

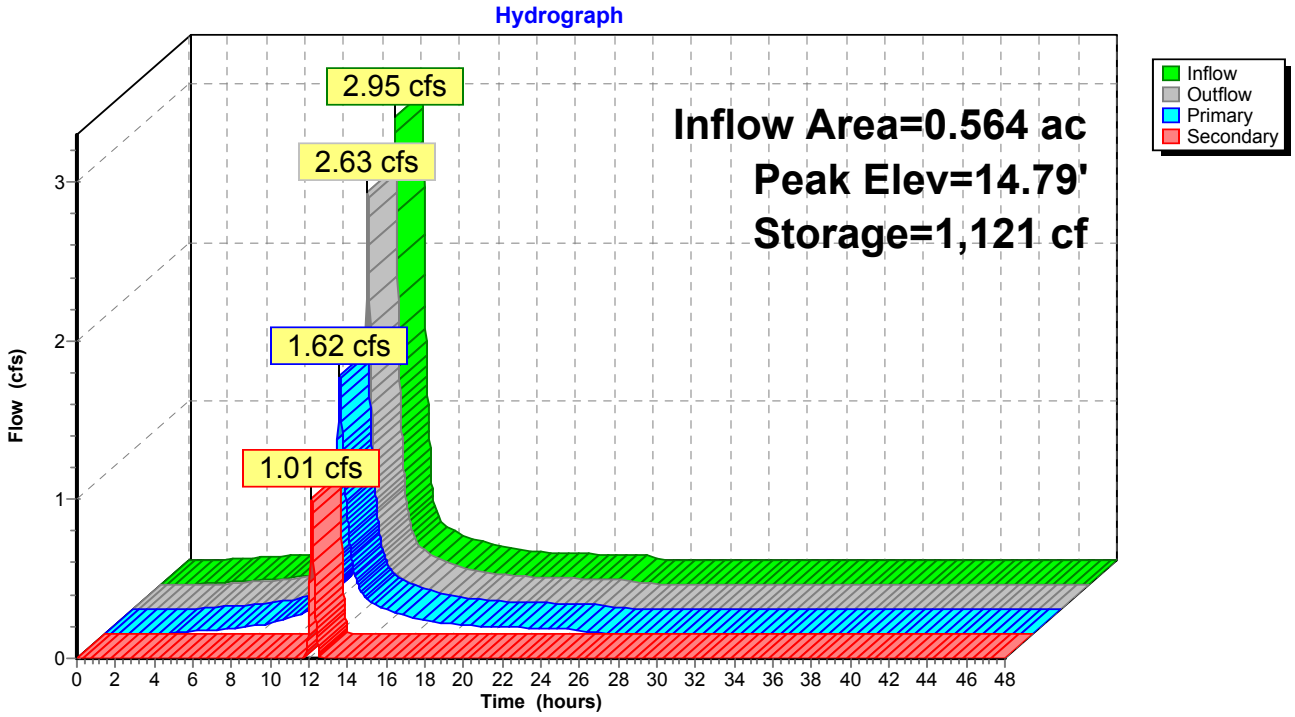
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.00	1,150	0	0
15.00	1,840	1,495	1,495
16.00	2,610	2,225	3,720

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**15.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 13.80' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Secondary	14.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.5' Crest Height

Primary OutFlow Max=1.62 cfs @ 12.14 hrs HW=14.79' TW=13.67' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.62 cfs @ 2.84 fps)

Secondary OutFlow Max=1.00 cfs @ 12.14 hrs HW=14.79' TW=0.00' (Dynamic Tailwater)
↑**2=Sharp-Crested Rectangular Weir** (Weir Controls 1.00 cfs @ 1.80 fps)

Pond 2P: DETENTION POND 2



Summary for Pond CB-1A: CB-1 Surface Storage

Inflow Area = 0.188 ac, 90.07% Impervious, Inflow Depth = 5.33" for 25-Year event
Inflow = 1.05 cfs @ 12.08 hrs, Volume= 0.083 af
Outflow = 1.01 cfs @ 12.11 hrs, Volume= 0.083 af, Atten= 5%, Lag= 1.5 min
Primary = 1.01 cfs @ 12.11 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 17.08' @ 12.11 hrs Surf.Area= 775 sf Storage= 32 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.1 min (759.0 - 759.0)

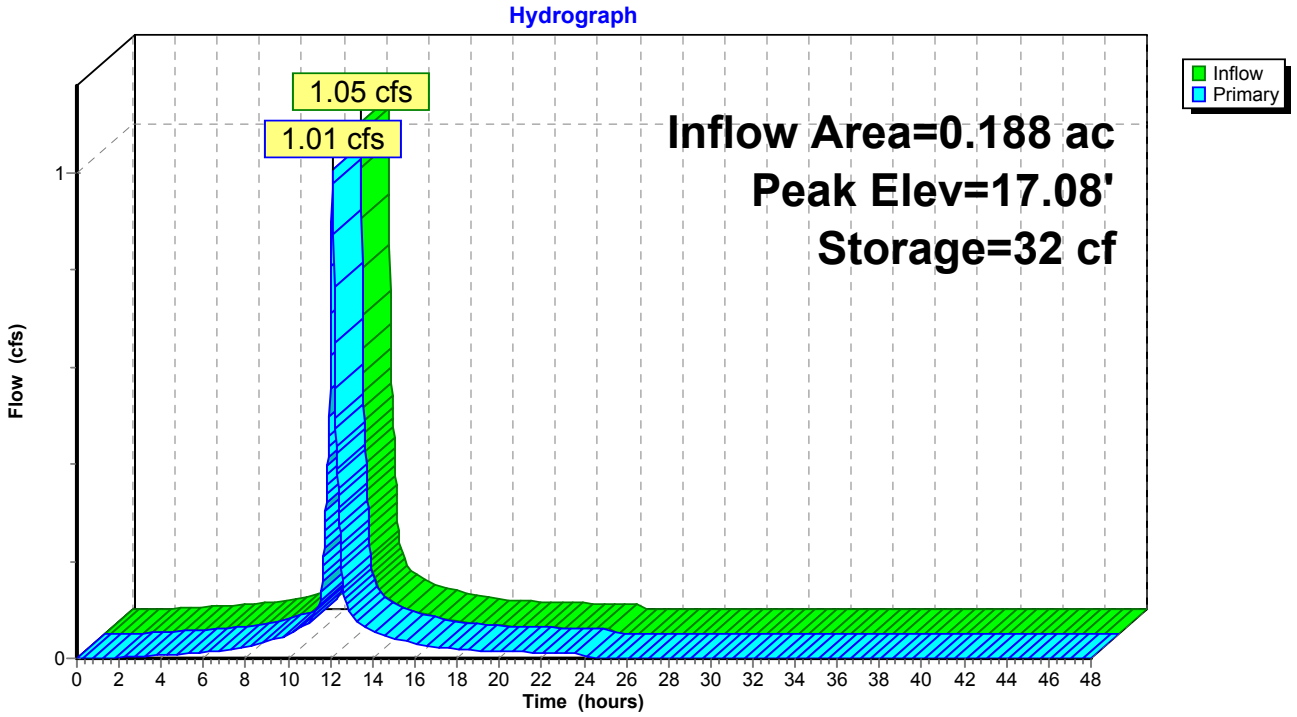
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	824 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	0	0	0
17.42	3,923	824	824

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.530 3.720

Primary OutFlow Max=1.00 cfs @ 12.11 hrs HW=17.08' TW=15.37' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 1.00 cfs)

Pond CB-1A: CB-1 Surface Storage



Summary for Pond CB-1B: CB-1

Inflow Area = 0.188 ac, 90.07% Impervious, Inflow Depth = 5.33" for 25-Year event
Inflow = 1.01 cfs @ 12.11 hrs, Volume= 0.083 af
Outflow = 1.00 cfs @ 12.11 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.2 min
Primary = 1.00 cfs @ 12.11 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.38' @ 12.12 hrs Surf.Area= 13 sf Storage= 11 cf

Plug-Flow detention time= 0.5 min calculated for 0.083 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (759.6 - 759.0)

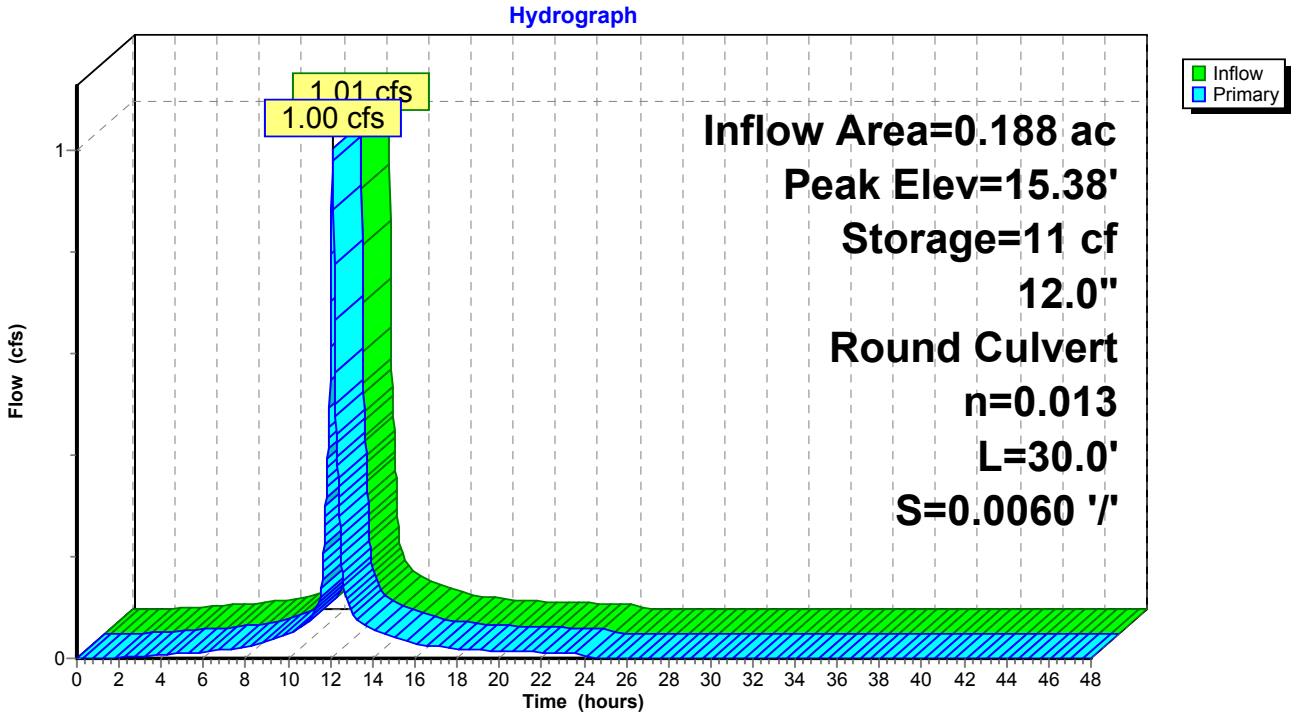
Volume	Invert	Avail.Storage	Storage Description
#1	14.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.50	13	0	0
15.75	13	16	16
15.76	4	0	16
17.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.32' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.98 cfs @ 12.11 hrs HW=15.37' TW=15.26' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.98 cfs @ 1.80 fps)

Pond CB-1B: CB-1



Summary for Pond CB-2A: CB-2 Surface Storage

Inflow Area = 0.160 ac, 96.66% Impervious, Inflow Depth = 5.44" for 25-Year event
Inflow = 0.90 cfs @ 12.08 hrs, Volume= 0.073 af
Outflow = 0.89 cfs @ 12.10 hrs, Volume= 0.073 af, Atten= 1%, Lag= 0.7 min
Primary = 0.89 cfs @ 12.10 hrs, Volume= 0.073 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 17.07' @ 12.10 hrs Surf.Area= 305 sf Storage= 10 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (752.8 - 752.8)

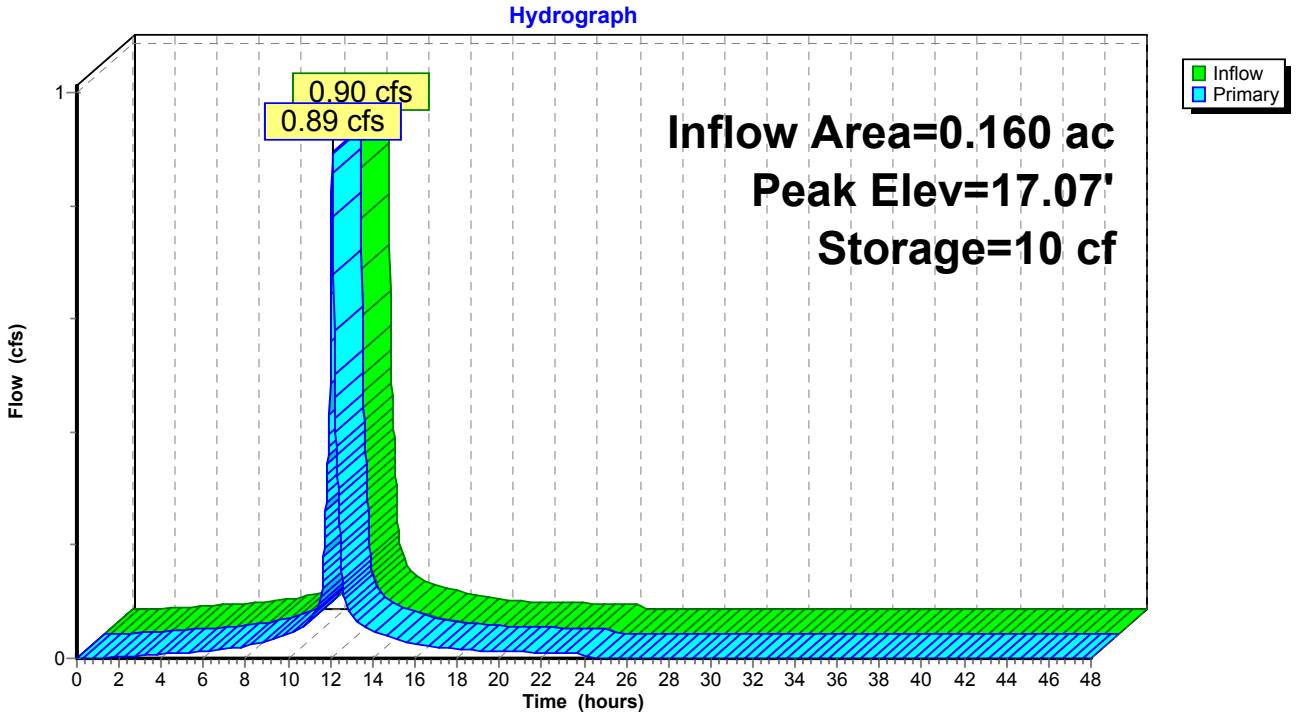
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	370 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	0	0	0
17.40	1,851	370	370

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**Special & User-Defined** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.530 3.720

Primary OutFlow Max=0.89 cfs @ 12.10 hrs HW=17.07' TW=15.33' (Dynamic Tailwater)
↑—**1=Special & User-Defined** (Custom Controls 0.89 cfs)

Pond CB-2A: CB-2 Surface Storage



Summary for Pond CB-2B: CB-2

Inflow Area = 0.160 ac, 96.66% Impervious, Inflow Depth = 5.44" for 25-Year event
Inflow = 0.89 cfs @ 12.10 hrs, Volume= 0.073 af
Outflow = 0.89 cfs @ 12.10 hrs, Volume= 0.073 af, Atten= 1%, Lag= 0.1 min
Primary = 0.89 cfs @ 12.10 hrs, Volume= 0.073 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.35' @ 12.12 hrs Surf.Area= 13 sf Storage= 11 cf
Flood Elev= 79.20' Surf.Area= 4 sf Storage= 21 cf

Plug-Flow detention time= 0.6 min calculated for 0.073 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (753.4 - 752.8)

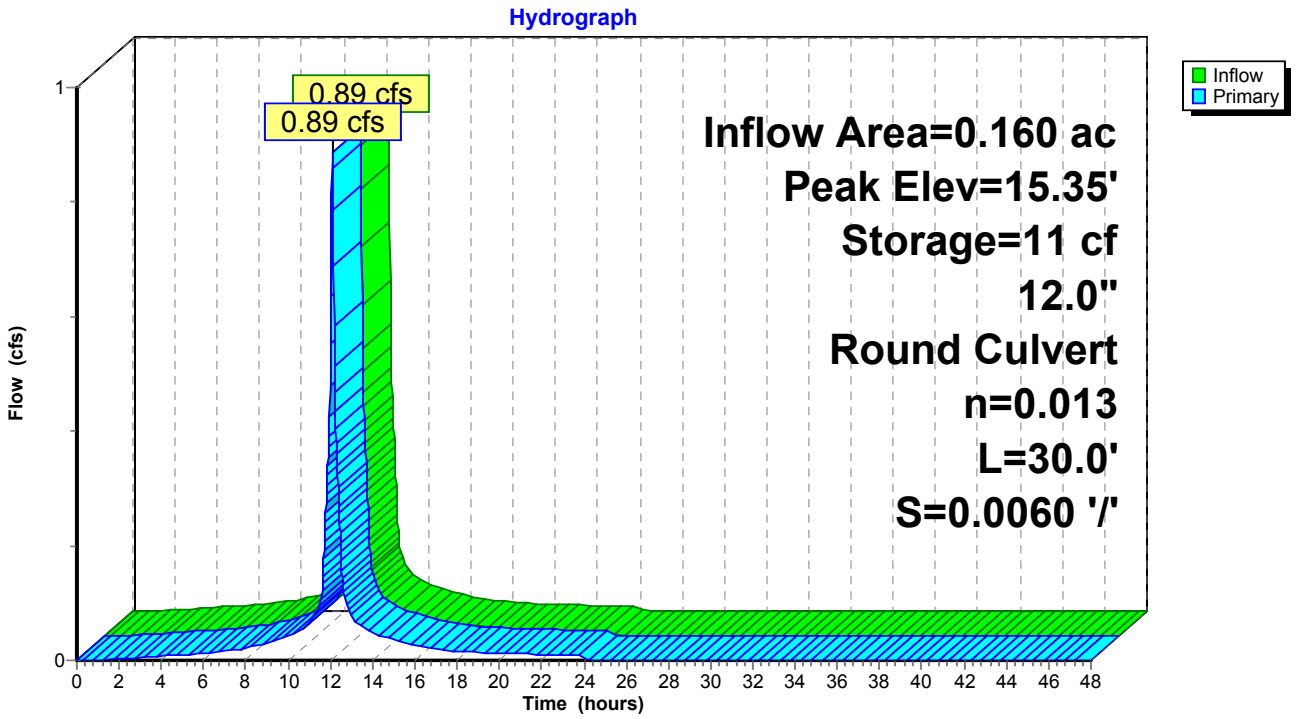
Volume	Invert	Avail.Storage	Storage Description
#1	14.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.50	13	0	0
15.75	13	16	16
15.76	4	0	16
17.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.32' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.77 cfs @ 12.10 hrs HW=15.34' TW=15.26' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 0.77 cfs @ 1.49 fps)

Pond CB-2B: CB-2



Summary for Pond CB-3A: CB-3 Surface Storage

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 5.56" for 25-Year event
Inflow = 0.91 cfs @ 12.08 hrs, Volume= 0.074 af
Outflow = 0.90 cfs @ 12.09 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.4 min
Primary = 0.90 cfs @ 12.09 hrs, Volume= 0.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 16.12' @ 12.09 hrs Surf.Area= 178 sf Storage= 11 cf

Plug-Flow detention time= 0.1 min calculated for 0.074 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (745.7 - 745.7)

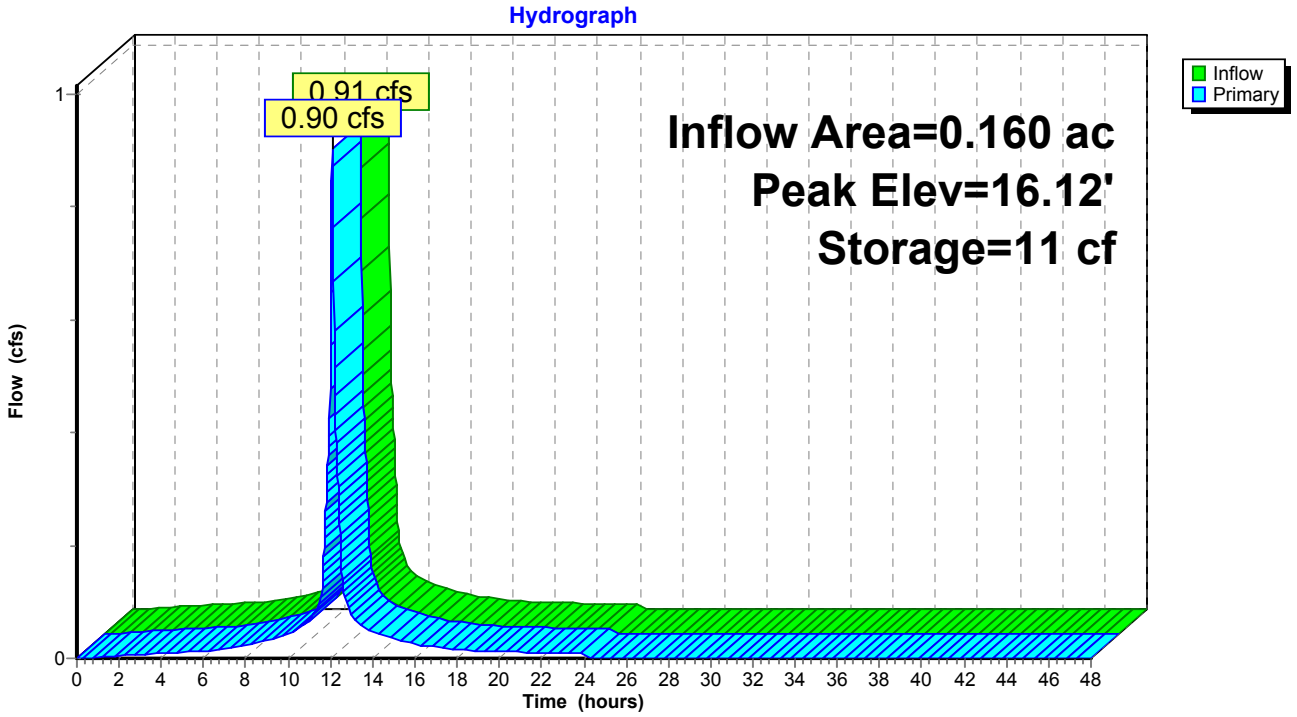
Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	45 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	0	0	0
16.25	361	45	45

Device	Routing	Invert	Outlet Devices
#1	Primary	16.00'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.053 3.720

Primary OutFlow Max=0.90 cfs @ 12.09 hrs HW=16.12' TW=14.08' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 0.90 cfs)

Pond CB-3A: CB-3 Surface Storage



Summary for Pond CB-3B: CB-3

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 5.56" for 25-Year event
Inflow = 0.90 cfs @ 12.09 hrs, Volume= 0.074 af
Outflow = 0.90 cfs @ 12.09 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.1 min
Primary = 0.90 cfs @ 12.09 hrs, Volume= 0.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.09' @ 12.10 hrs Surf.Area= 13 sf Storage= 8 cf

Plug-Flow detention time= 0.5 min calculated for 0.074 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (746.2 - 745.7)

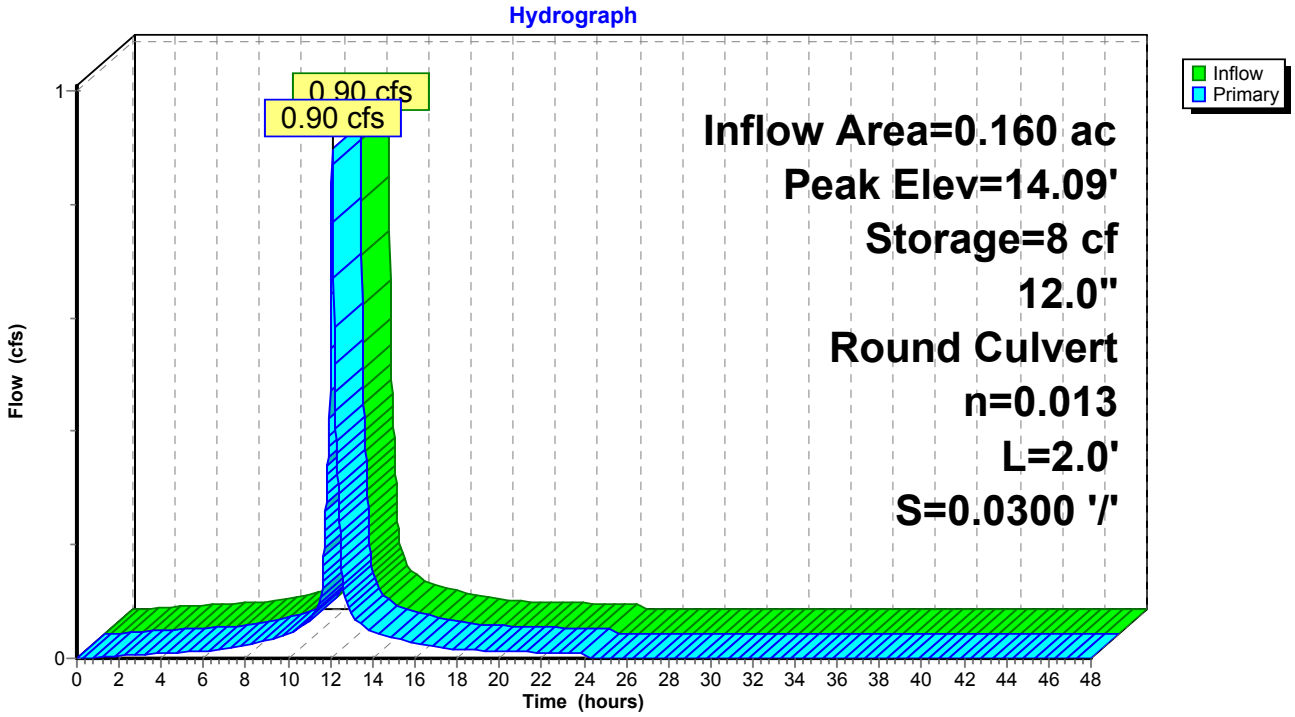
Volume	Invert	Avail.Storage	Storage Description
#1	13.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
13.50	13	0	0
14.75	13	16	16
14.76	4	0	16
16.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	13.50'	**12.0" Round Culvert** L= 2.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.50' / 13.44' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.87 cfs @ 12.09 hrs HW=14.08' TW=13.92' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.87 cfs @ 2.63 fps)

Pond CB-3B: CB-3



Summary for Pond CB-4A: CB-4 Surface Storage

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 5.56" for 25-Year event
Inflow = 1.97 cfs @ 12.08 hrs, Volume= 0.161 af
Outflow = 1.97 cfs @ 12.08 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.1 min
Primary = 1.97 cfs @ 12.08 hrs, Volume= 0.161 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.40' @ 12.08 hrs Surf.Area= 52 sf Storage= 2 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (745.7 - 745.7)

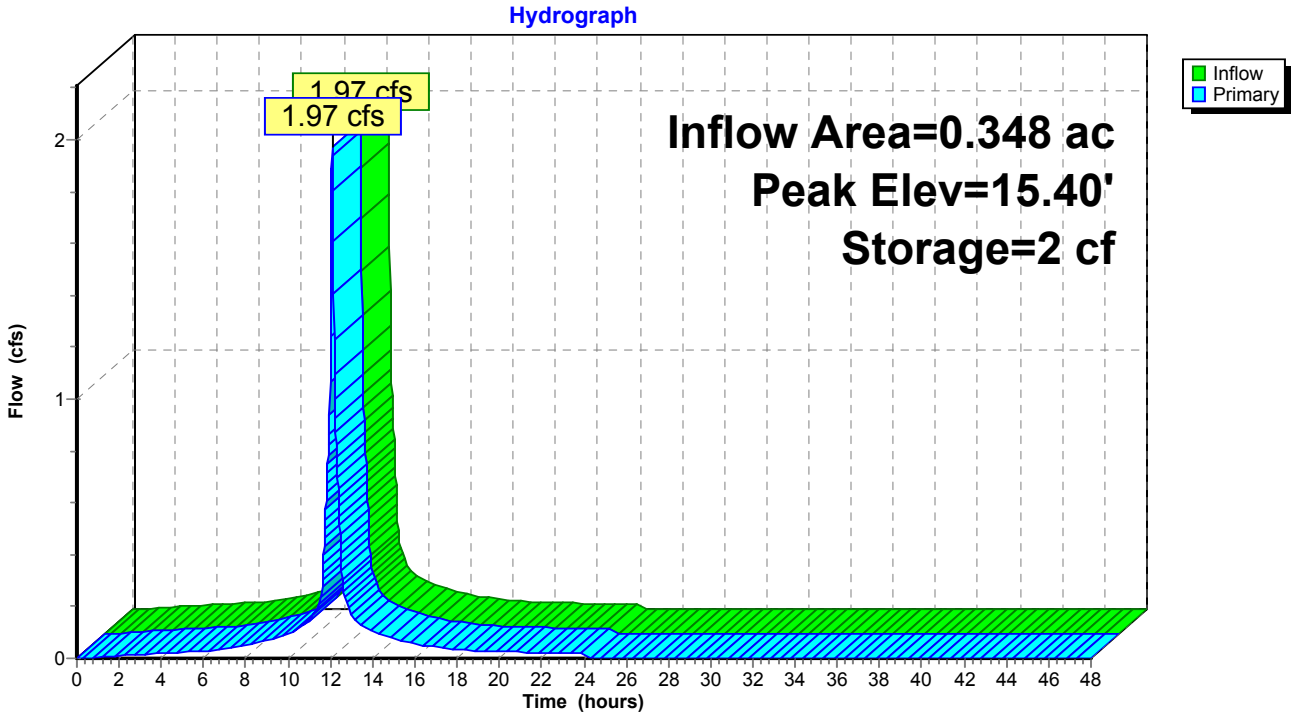
Volume	Invert	Avail.Storage	Storage Description
#1	15.32'	20 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.32	0	0	0
15.57	161	20	20

Device	Routing	Invert	Outlet Devices
#1	Primary	15.32'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 1.050 7.460

Primary OutFlow Max=1.96 cfs @ 12.08 hrs HW=15.40' TW=13.84' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 1.96 cfs)

Pond CB-4A: CB-4 Surface Storage



Summary for Pond CB-4B: CB-4

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 5.56" for 25-Year event
Inflow = 1.97 cfs @ 12.08 hrs, Volume= 0.161 af
Outflow = 1.97 cfs @ 12.09 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.1 min
Primary = 1.97 cfs @ 12.09 hrs, Volume= 0.161 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.85' @ 12.10 hrs Surf.Area= 13 sf Storage= 13 cf

Plug-Flow detention time= 0.7 min calculated for 0.161 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (746.0 - 745.7)

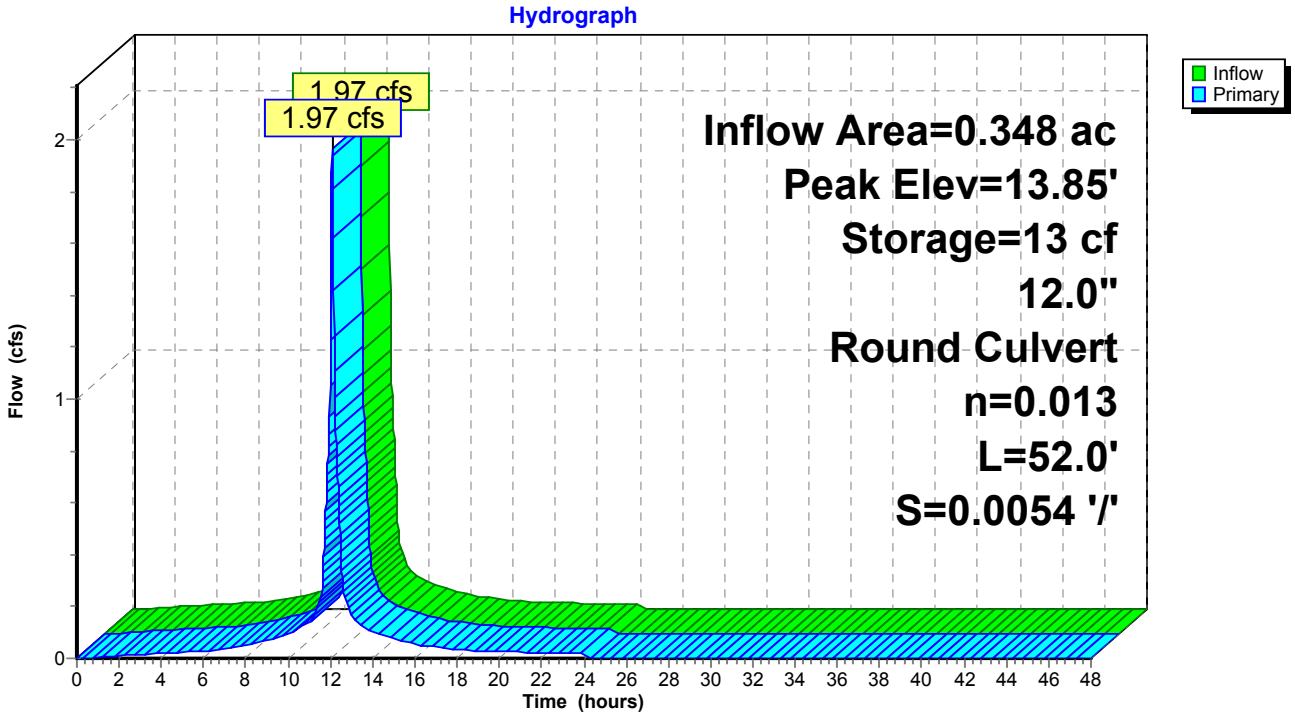
Volume	Invert	Avail.Storage	Storage Description
#1	12.82'	26 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.82	13	0	0
13.98	13	15	15
13.99	8	0	15
15.32	8	11	26

Device	Routing	Invert	Outlet Devices
#1	Primary	12.82'	**12.0" Round Culvert** L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.82' / 12.54' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.90 cfs @ 12.09 hrs HW=13.84' TW=13.46' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.90 cfs @ 2.96 fps)

Pond CB-4B: CB-4



Summary for Pond FD-2: FD-2

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 5.56" for 25-Year event
Inflow = 0.90 cfs @ 12.09 hrs, Volume= 0.074 af
Outflow = 0.90 cfs @ 12.09 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.1 min
Primary = 0.90 cfs @ 12.09 hrs, Volume= 0.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.92' @ 12.09 hrs Surf.Area= 13 sf Storage= 6 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 25 cf

Plug-Flow detention time= 0.4 min calculated for 0.074 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (746.6 - 746.2)

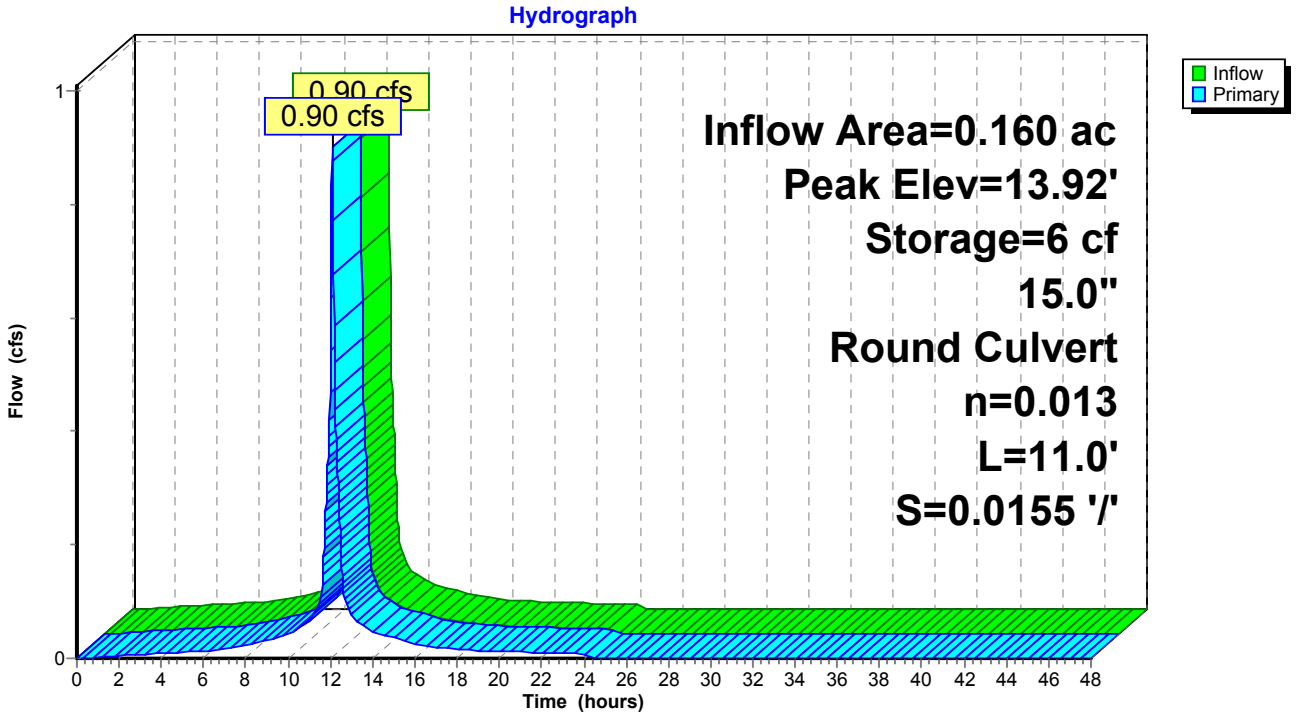
Volume	Invert	Avail.Storage	Storage Description
#1	13.44'	25 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
13.44	13	0	0
15.06	13	21	21
15.07	3	0	21
16.40	3	4	25

Device	Routing	Invert	Outlet Devices
#1	Primary	13.44'	**15.0" Round Culvert** L= 11.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.44' / 13.27' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.89 cfs @ 12.09 hrs HW=13.92' TW=13.57' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 0.89 cfs @ 3.09 fps)

Pond FD-2: FD-2


Hydrograph
Inflow
Primary
0.90 cfs
0.90 cfs
Inflow Area=0.160 ac
Peak Elev=13.92'
Storage=6 cf
15.0"
Round Culvert
n=0.013
L=11.0'
S=0.0155 '/'
Flow (cfs)
Time (hours)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond FD-3: FD-2

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 5.56" for 25-Year event
Inflow = 1.97 cfs @ 12.09 hrs, Volume= 0.161 af
Outflow = 1.97 cfs @ 12.09 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.1 min
Primary = 1.97 cfs @ 12.09 hrs, Volume= 0.161 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.46' @ 12.09 hrs Surf.Area= 13 sf Storage= 12 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 34 cf

Plug-Flow detention time= 0.3 min calculated for 0.161 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (746.4 - 746.0)

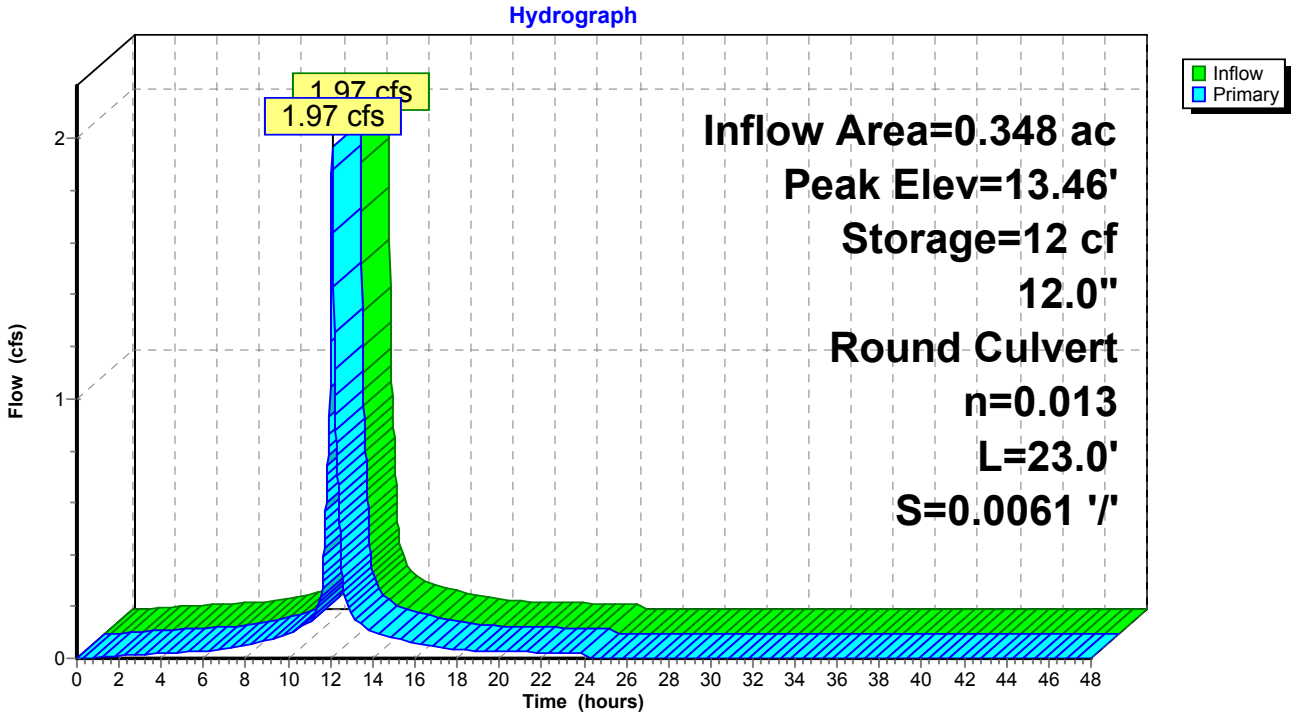
Volume	Invert	Avail.Storage	Storage Description
#1	12.54'	34 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.54	13	0	0
14.88	13	30	30
14.89	3	0	31
16.22	3	4	34

Device	Routing	Invert	Outlet Devices
#1	Primary	12.54'	**12.0" Round Culvert** L= 23.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.54' / 12.40' S= 0.0061 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.95 cfs @ 12.09 hrs HW=13.46' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.95 cfs @ 3.38 fps)

Pond FD-3: FD-2


Hydrograph
1.97 cfs
1.97 cfs
Inflow Area=0.348 ac
Peak Elev=13.46'
Storage=12 cf
12.0"
Round Culvert
n=0.013
L=23.0'
S=0.0061 '/'
Inflow
Primary
Flow (cfs)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Summary for Pond FD1: FD-1

Inflow Area = 0.348 ac, 93.10% Impervious, Inflow Depth = 5.38" for 25-Year event
Inflow = 1.89 cfs @ 12.10 hrs, Volume= 0.156 af
Outflow = 1.89 cfs @ 12.10 hrs, Volume= 0.156 af, Atten= 0%, Lag= 0.1 min
Primary = 1.89 cfs @ 12.10 hrs, Volume= 0.156 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.26' @ 12.10 hrs Surf.Area= 13 sf Storage= 12 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 29 cf

Plug-Flow detention time= 0.4 min calculated for 0.156 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (757.1 - 756.7)

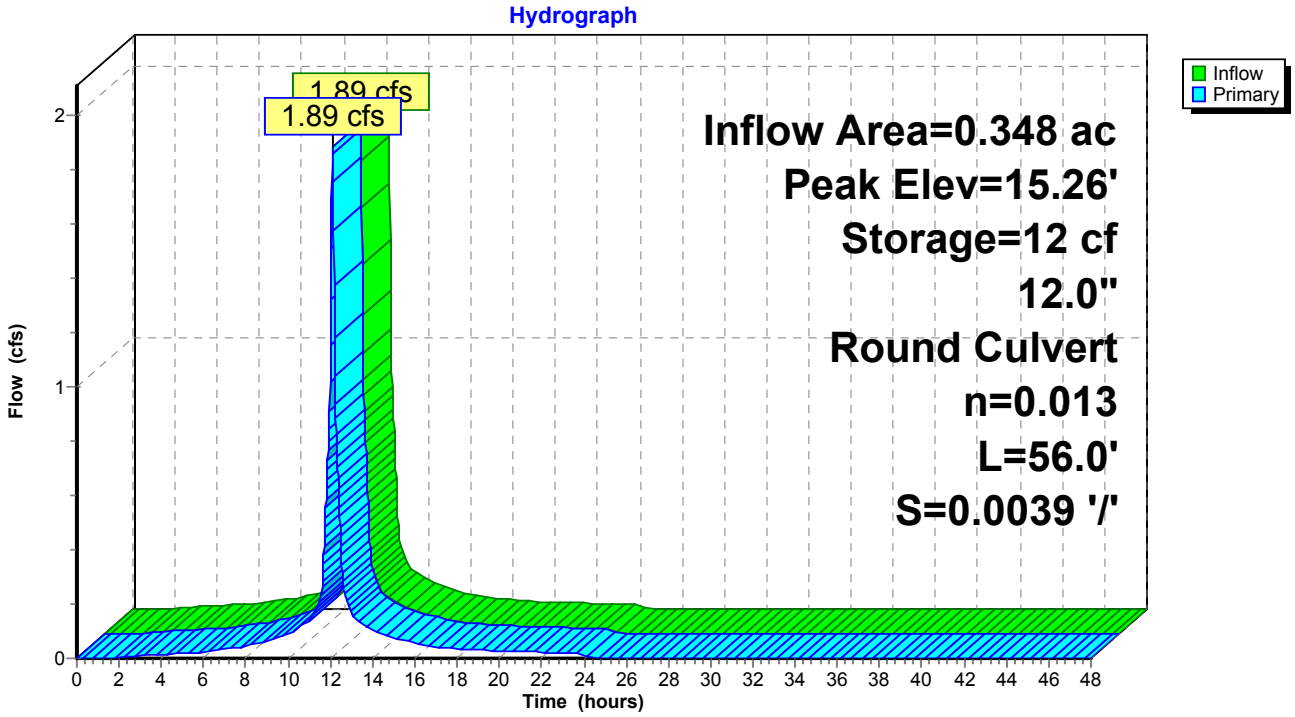
Volume	Invert	Avail.Storage	Storage Description
#1	14.32'	29 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.32	13	0	0
16.26	13	25	25
16.27	3	0	25
17.60	3	4	29

Device	Routing	Invert	Outlet Devices
#1	Primary	14.32'	**12.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.32' / 14.10' S= 0.0039 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.88 cfs @ 12.10 hrs HW=15.26' TW=14.77' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.88 cfs @ 3.18 fps)

Pond FD1: FD-1


Hydrograph
1.89 cfs
1.89 cfs
Inflow Area=0.348 ac
Peak Elev=15.26'
Storage=12 cf
12.0"
Round Culvert
n=0.013
L=56.0'
S=0.0039 '/'
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Time span=0.00-48.00 hrs, dt=0.02 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: ROOF RUNOFF 1 Runoff Area=5,020 sf 100.00% Impervious Runoff Depth=8.06"
Tc=6.0 min CN=98 Runoff=0.94 cfs 0.077 af

Subcatchment 1S: BASIN 1 & SLOPE Runoff Area=9,292 sf 0.54% Impervious Runoff Depth=5.91"
Tc=6.0 min CN=80 Runoff=1.45 cfs 0.105 af

Subcatchment 1S-A: EAST PROPERTY Runoff Area=5,187 sf 0.00% Impervious Runoff Depth=5.91"
Tc=6.0 min CN=80 Runoff=0.81 cfs 0.059 af

Subcatchment 2R: ROOF RUNOFF 2 Runoff Area=5,049 sf 100.00% Impervious Runoff Depth=8.06"
Tc=6.0 min CN=98 Runoff=0.94 cfs 0.078 af

Subcatchment 2S: BASIN 2 & SLOPE Runoff Area=4,363 sf 0.46% Impervious Runoff Depth=5.91"
Tc=6.0 min CN=80 Runoff=0.68 cfs 0.049 af

Subcatchment 2S-A: WEST PROPERTY Runoff Area=3,056 sf 0.00% Impervious Runoff Depth=5.91"
Tc=6.0 min CN=80 Runoff=0.48 cfs 0.035 af

Subcatchment 3S: SOUTH PROPERTY Runoff Area=5,793 sf 0.00% Impervious Runoff Depth=5.91"
Tc=6.0 min CN=80 Runoff=0.90 cfs 0.065 af

Subcatchment 4S: DRIVEWAY Runoff Area=1,175 sf 100.00% Impervious Runoff Depth=8.06"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment S-CB-1: S-CB-1 Runoff Area=8,184 sf 90.07% Impervious Runoff Depth=7.82"
Tc=6.0 min CN=96 Runoff=1.52 cfs 0.122 af

Subcatchment S-CB-2: S-CB-2 Runoff Area=6,982 sf 96.66% Impervious Runoff Depth=7.94"
Tc=6.0 min CN=97 Runoff=1.30 cfs 0.106 af

Subcatchment S-CB-3: S-CB-3 Runoff Area=6,952 sf 98.53% Impervious Runoff Depth=8.06"
Tc=6.0 min CN=98 Runoff=1.30 cfs 0.107 af

Subcatchment S-CB-4: S-CB-4 Runoff Area=15,143 sf 98.55% Impervious Runoff Depth=8.06"
Tc=6.0 min CN=98 Runoff=2.83 cfs 0.233 af

Reach DP-1: EAST WETLAND Inflow=4.40 cfs 0.657 af
Outflow=4.40 cfs 0.657 af

Reach DP-2: WEST WETLAND Inflow=2.13 cfs 0.081 af
Outflow=2.13 cfs 0.081 af

Reach DP-3: SOUTH WETLAND Inflow=3.71 cfs 0.299 af
Outflow=3.71 cfs 0.299 af

Reach DP-4: HENRY GRAF JR. ROAD Inflow=0.22 cfs 0.018 af
Outflow=0.22 cfs 0.018 af

Pond 1P: DETENTION POND 1 Peak Elev=13.99' Storage=2,201 cf Inflow=5.61 cfs 0.599 af
Outflow=3.85 cfs 0.598 af

Pond 2P: DETENTION POND 2 Peak Elev=14.91' Storage=1,339 cf Inflow=4.18 cfs 0.356 af
Primary=2.10 cfs 0.309 af Secondary=1.73 cfs 0.046 af Outflow=3.83 cfs 0.355 af

Pond CB-1A: CB-1 Surface Storage Peak Elev=17.14' Storage=93 cf Inflow=1.52 cfs 0.122 af
Outflow=1.38 cfs 0.122 af

Pond CB-1B: CB-1 Peak Elev=15.70' Storage=16 cf Inflow=1.38 cfs 0.122 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0060 '/' Outflow=1.37 cfs 0.122 af

Pond CB-2A: CB-2 Surface Storage Peak Elev=17.12' Storage=35 cf Inflow=1.30 cfs 0.106 af
Outflow=1.26 cfs 0.106 af

Pond CB-2B: CB-2 Peak Elev=15.67' Storage=15 cf Inflow=1.26 cfs 0.106 af
12.0" Round Culvert n=0.013 L=30.0' S=0.0060 '/' Outflow=1.25 cfs 0.106 af

Pond CB-3A: CB-3 Surface Storage Peak Elev=16.18' Storage=22 cf Inflow=1.30 cfs 0.107 af
Outflow=1.29 cfs 0.107 af

Pond CB-3B: CB-3 Peak Elev=14.24' Storage=10 cf Inflow=1.29 cfs 0.107 af
12.0" Round Culvert n=0.013 L=2.0' S=0.0300 '/' Outflow=1.29 cfs 0.107 af

Pond CB-4A: CB-4 Surface Storage Peak Elev=15.47' Storage=7 cf Inflow=2.83 cfs 0.233 af
Outflow=2.83 cfs 0.233 af

Pond CB-4B: CB-4 Peak Elev=14.37' Storage=18 cf Inflow=2.83 cfs 0.233 af
12.0" Round Culvert n=0.013 L=52.0' S=0.0054 '/' Outflow=2.81 cfs 0.233 af

Pond FD-2: FD-2 Peak Elev=14.08' Storage=8 cf Inflow=1.29 cfs 0.107 af
15.0" Round Culvert n=0.013 L=11.0' S=0.0155 '/' Outflow=1.28 cfs 0.107 af

Pond FD-3: FD-2 Peak Elev=13.77' Storage=16 cf Inflow=2.81 cfs 0.233 af
12.0" Round Culvert n=0.013 L=23.0' S=0.0061 '/' Outflow=2.82 cfs 0.233 af

Pond FD1: FD-1 Peak Elev=15.57' Storage=16 cf Inflow=2.61 cfs 0.228 af
12.0" Round Culvert n=0.013 L=56.0' S=0.0039 '/' Outflow=2.61 cfs 0.228 af

Total Runoff Area = 1.749 ac Runoff Volume = 1.055 af Average Runoff Depth = 7.24"
38.05% Pervious = 0.665 ac 61.95% Impervious = 1.084 ac

Summary for Subcatchment 1R: ROOF RUNOFF 1

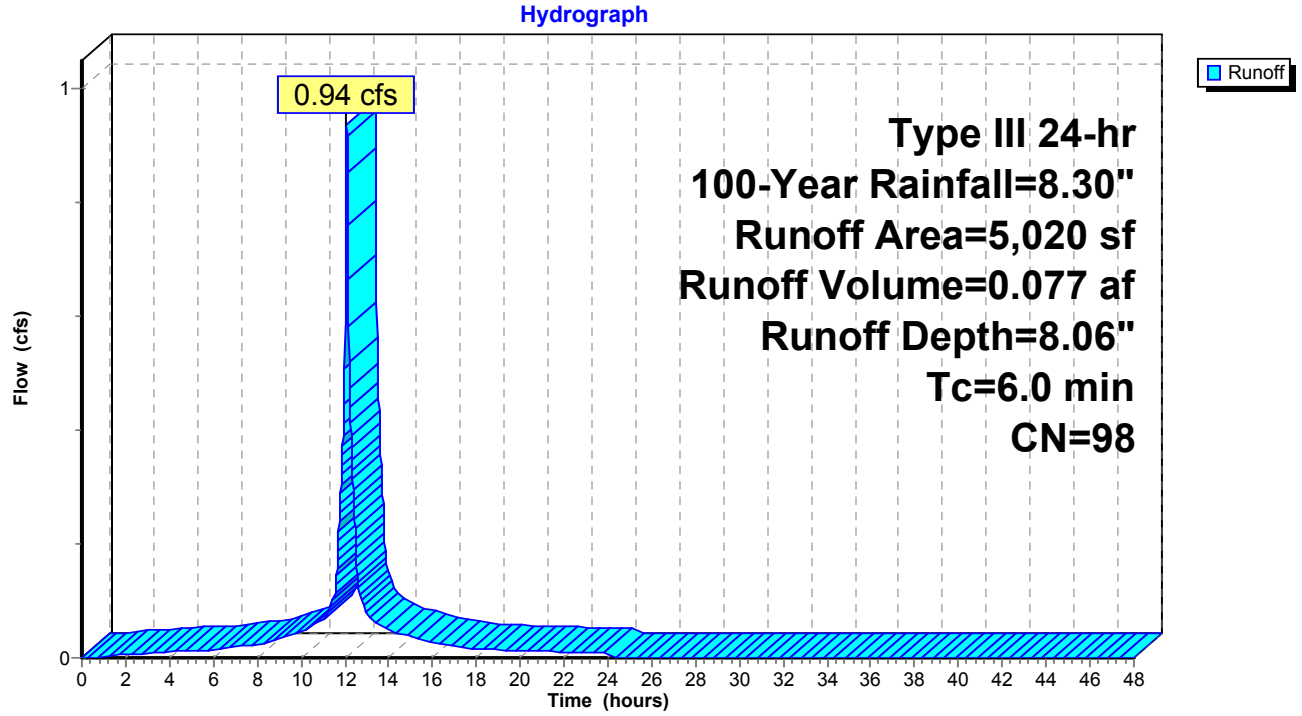
Runoff = 0.94 cfs @ 12.08 hrs, Volume= 0.077 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
5,020	98	Roofs, HSG D
5,020		100.00% Impervious Area

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

Subcatchment 1R: ROOF RUNOFF 1



Summary for Subcatchment 1S: BASIN 1 & SLOPE

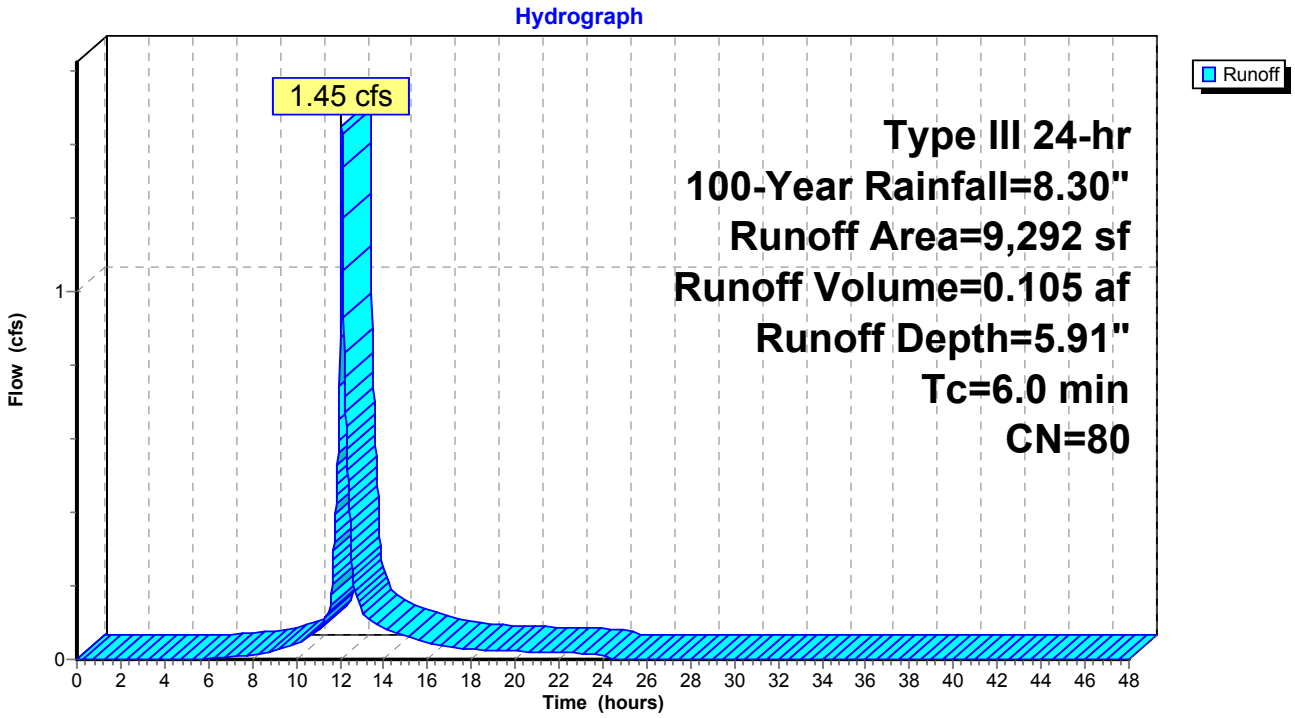
Runoff = 1.45 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
9,242	80	>75% Grass cover, Good, HSG D
50	98	Paved parking, HSG D
9,292	80	Weighted Average
9,242		99.46% Pervious Area
50		0.54% Impervious Area

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

Subcatchment 1S: BASIN 1 & SLOPE



Summary for Subcatchment 1S-A: EAST PROPERTY

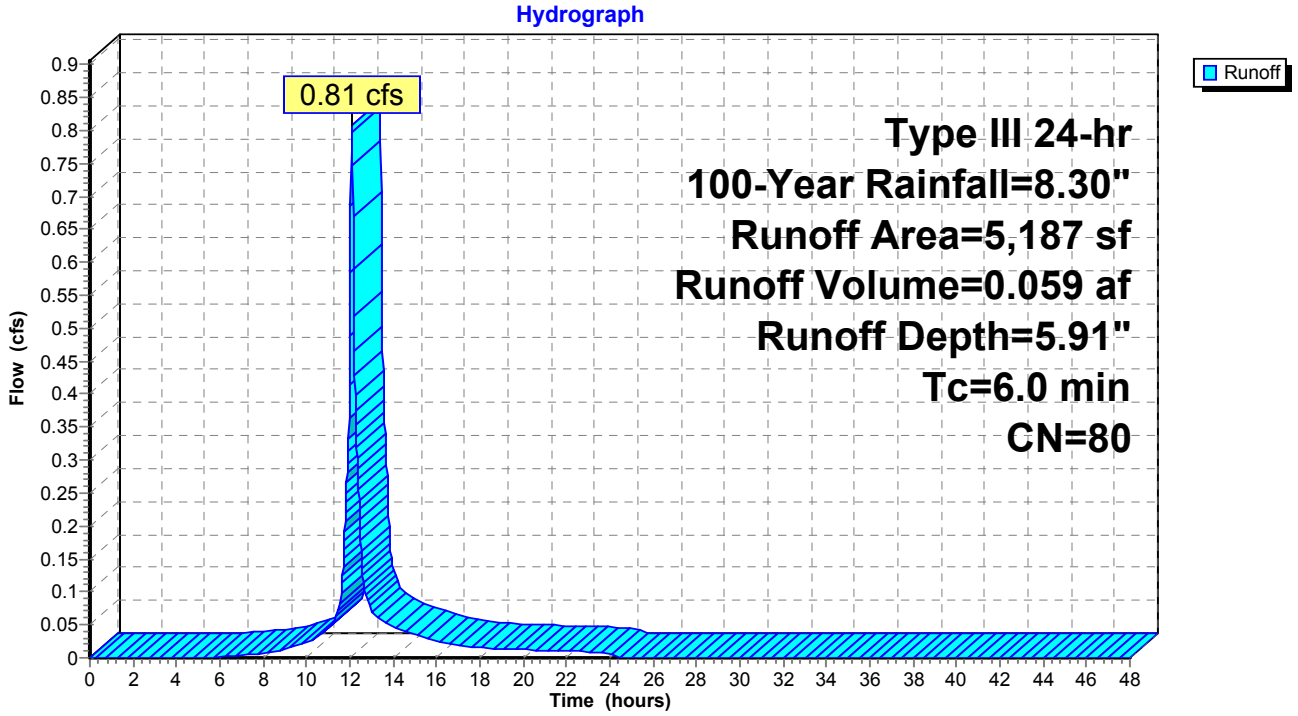
Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.059 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
5,187	80	>75% Grass cover, Good, HSG D
5,187		100.00% Pervious Area

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

Subcatchment 1S-A: EAST PROPERTY



Summary for Subcatchment 2R: ROOF RUNOFF 2

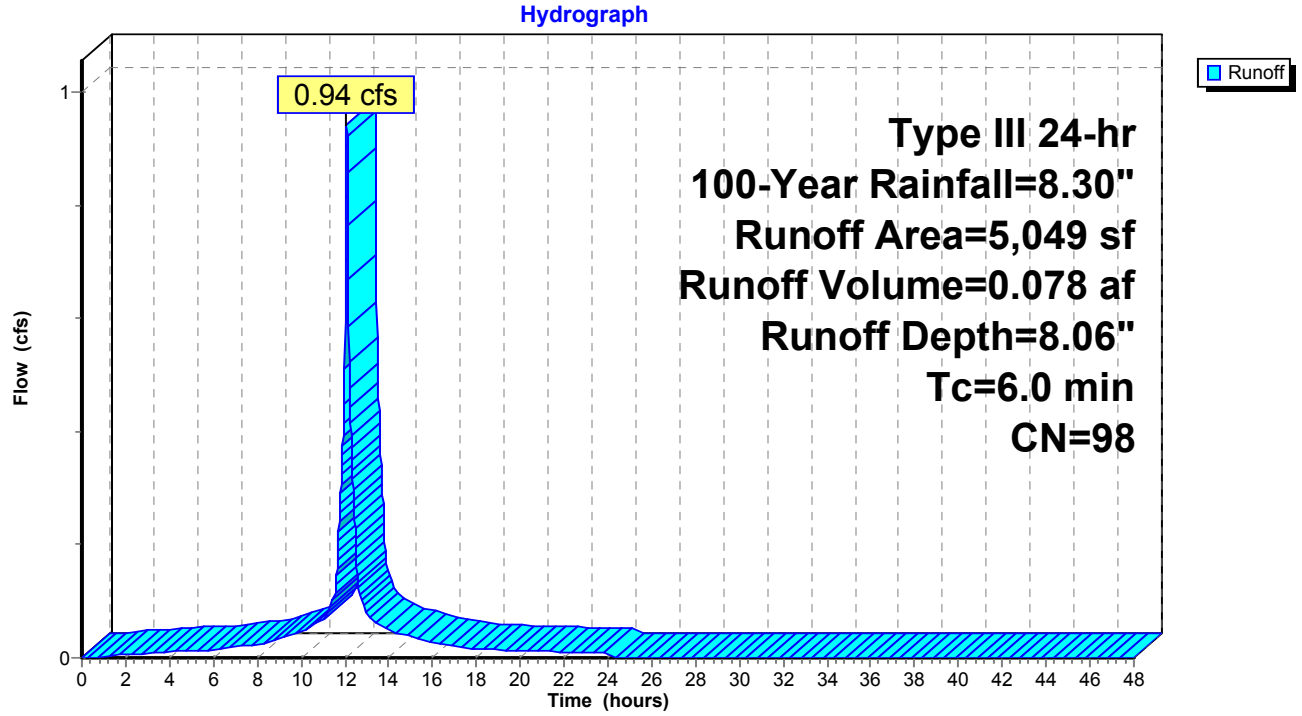
Runoff = 0.94 cfs @ 12.08 hrs, Volume= 0.078 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
5,049	98	Roofs, HSG D
5,049		100.00% Impervious Area

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

Subcatchment 2R: ROOF RUNOFF 2



Summary for Subcatchment 2S: BASIN 2 & SLOPE

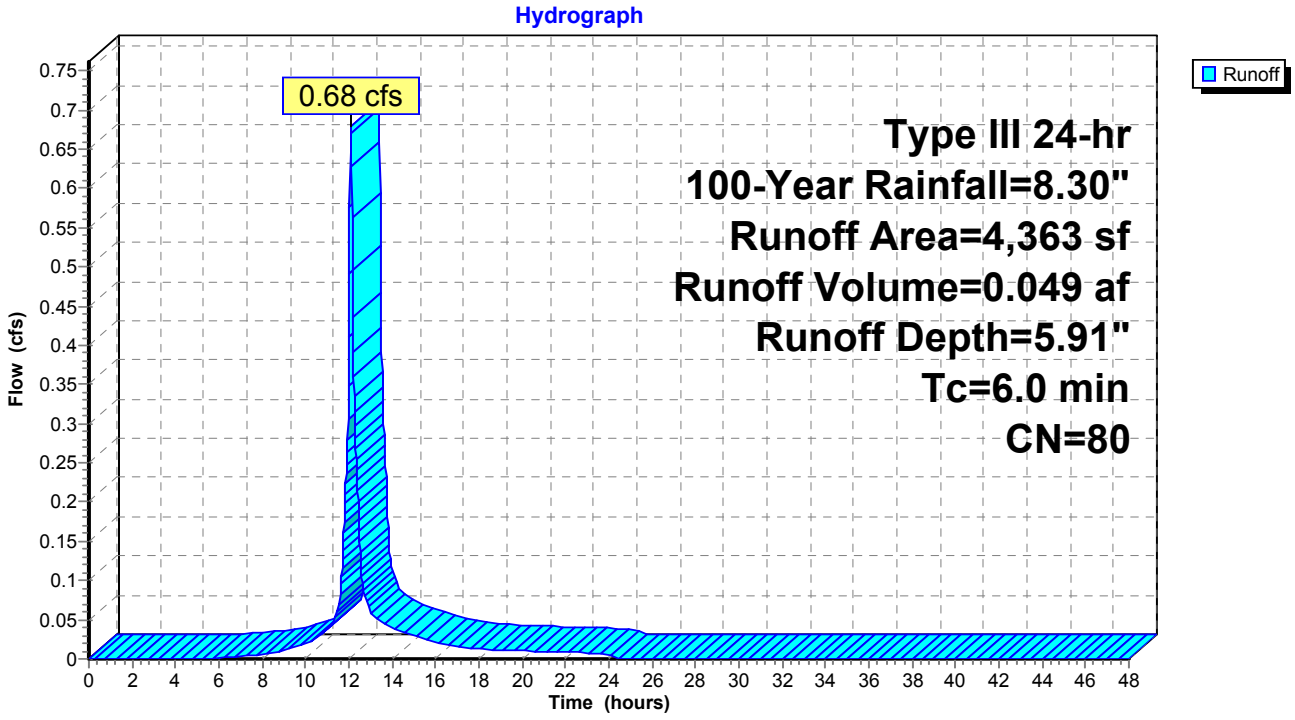
Runoff = 0.68 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
4,343	80	>75% Grass cover, Good, HSG D
20	98	Unconnected pavement, HSG D
4,363	80	Weighted Average
4,343		99.54% Pervious Area
20		0.46% Impervious Area
20		100.00% Unconnected

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

Subcatchment 2S: BASIN 2 & SLOPE



Summary for Subcatchment 2S-A: WEST PROPERTY

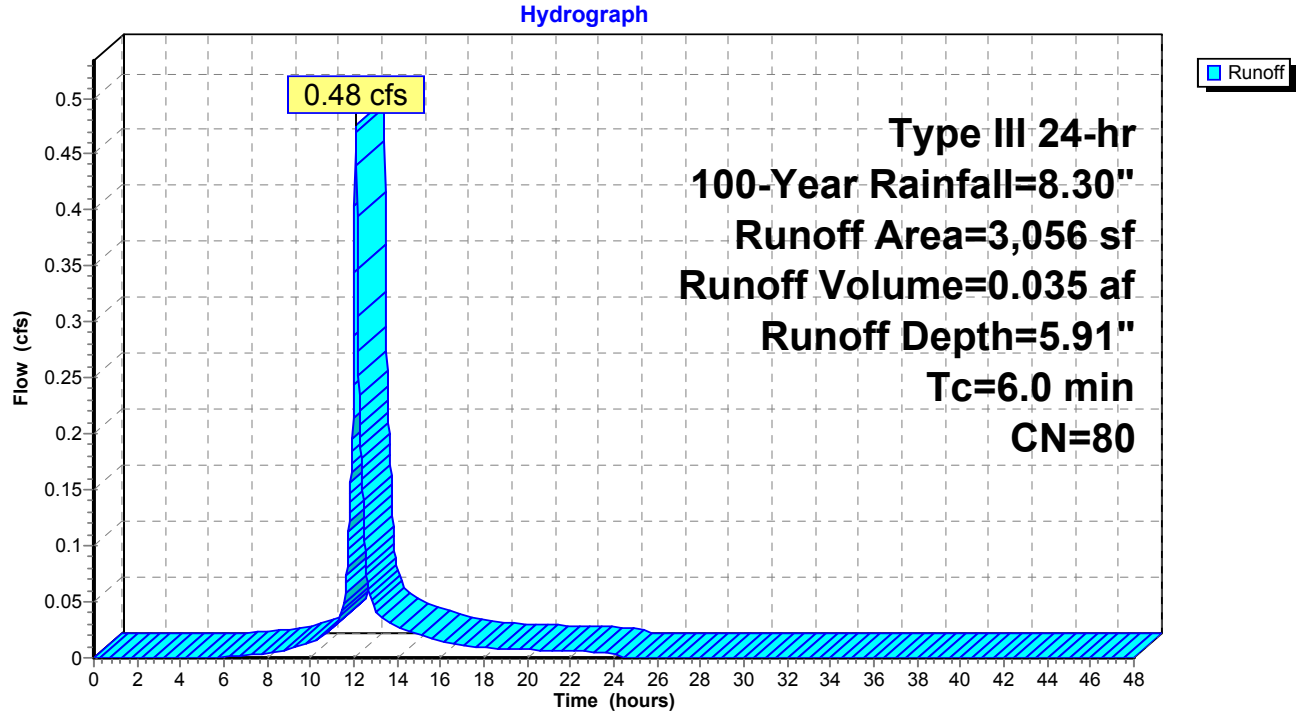
Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
3,056	80	>75% Grass cover, Good, HSG D
3,056		100.00% Pervious Area

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

Subcatchment 2S-A: WEST PROPERTY



Summary for Subcatchment 3S: SOUTH PROPERTY

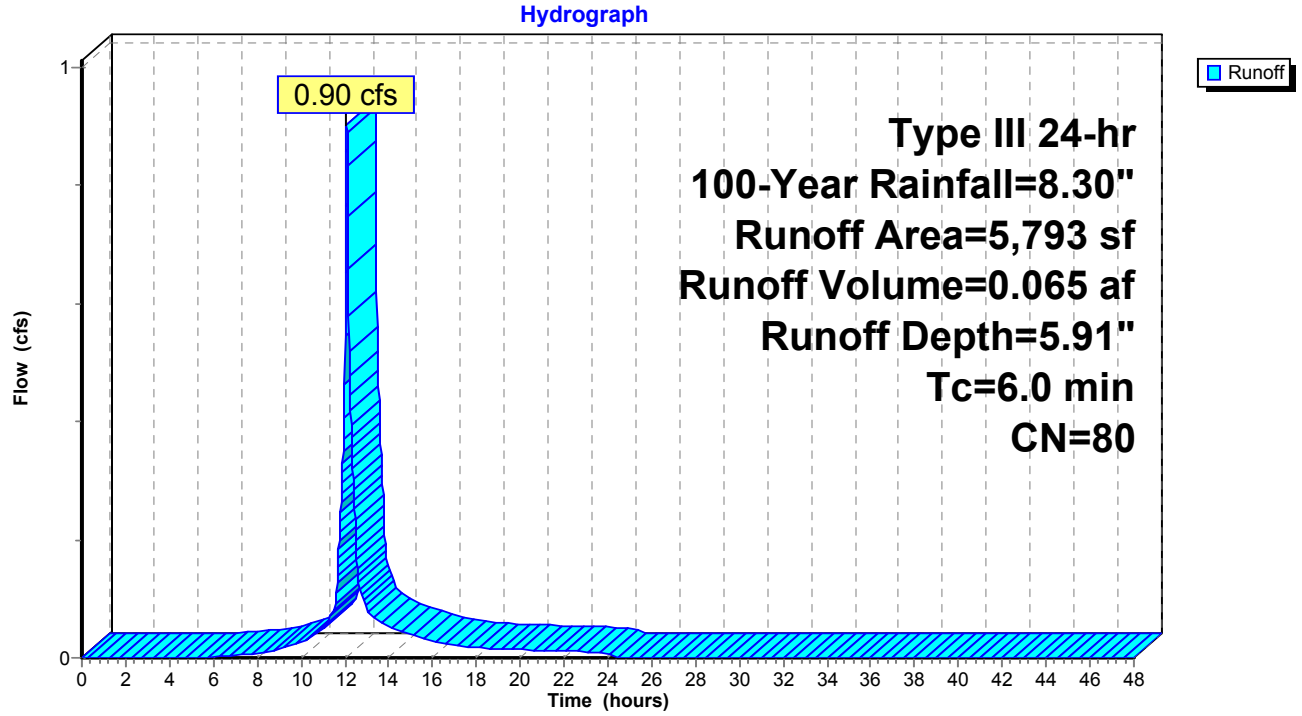
Runoff = 0.90 cfs @ 12.09 hrs, Volume= 0.065 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
5,793	80	>75% Grass cover, Good, HSG D
5,793		100.00% Pervious Area

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

Subcatchment 3S: SOUTH PROPERTY



Summary for Subcatchment 4S: DRIVEWAY

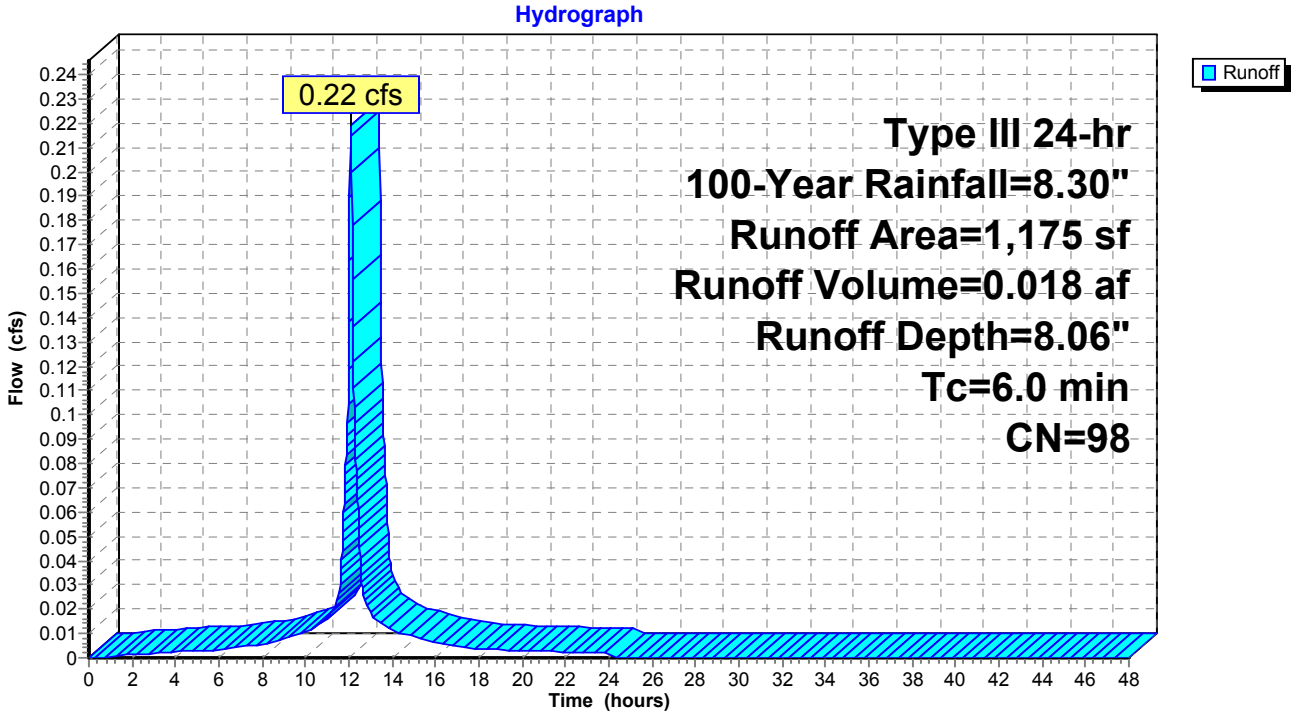
Runoff = 0.22 cfs @ 12.08 hrs, Volume= 0.018 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
1,175	98	Paved parking, HSG D
1,175		100.00% Impervious Area

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

Subcatchment 4S: DRIVEWAY



Summary for Subcatchment S-CB-1: S-CB-1

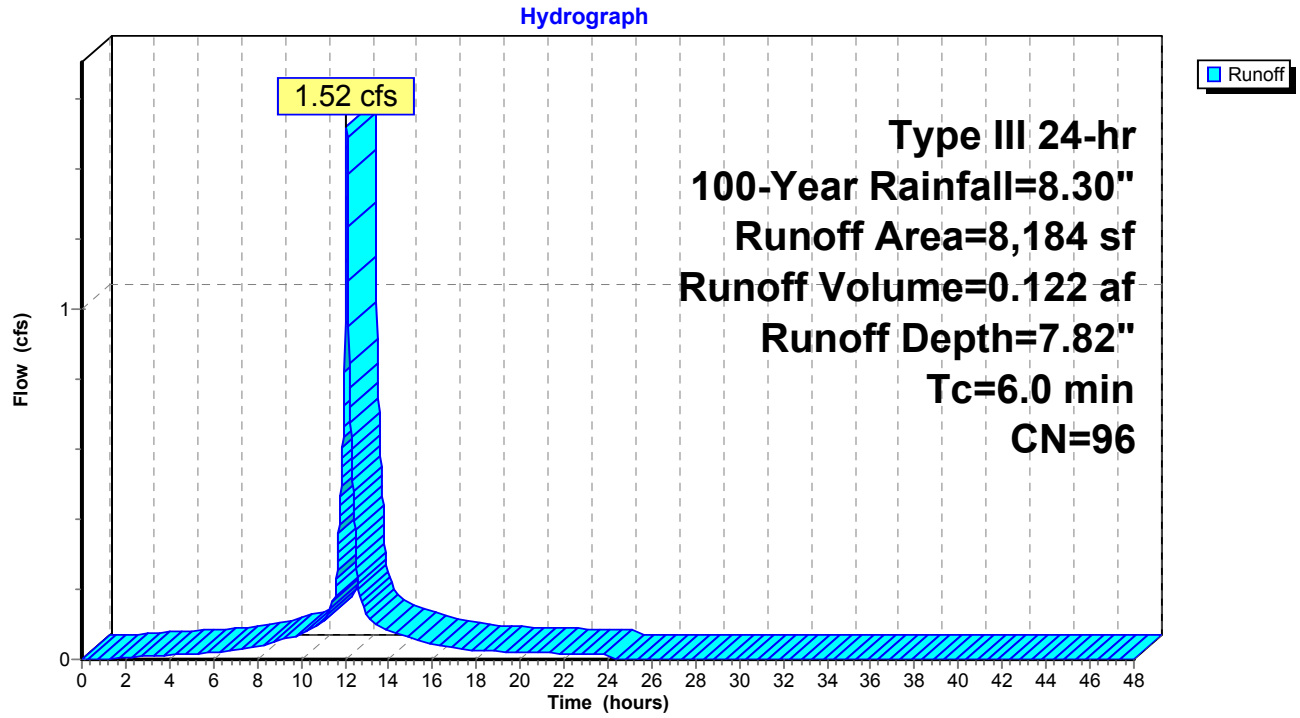
Runoff = 1.52 cfs @ 12.08 hrs, Volume= 0.122 af, Depth= 7.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
7,371	98	Paved parking, HSG D
813	80	>75% Grass cover, Good, HSG D
8,184	96	Weighted Average
813		9.93% Pervious Area
7,371		90.07% Impervious Area

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

Subcatchment S-CB-1: S-CB-1



Summary for Subcatchment S-CB-2: S-CB-2

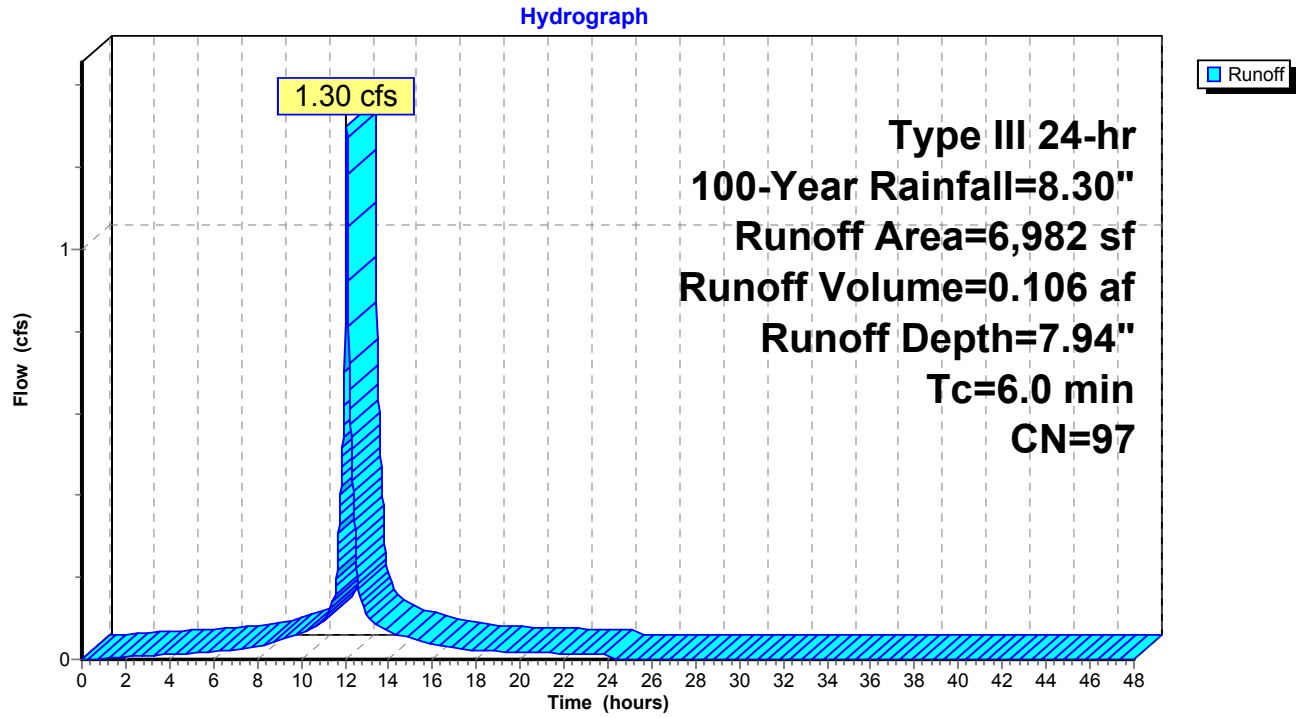
Runoff = 1.30 cfs @ 12.08 hrs, Volume= 0.106 af, Depth= 7.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
6,749	98	Paved parking, HSG D
233	80	>75% Grass cover, Good, HSG D
6,982	97	Weighted Average
233		3.34% Pervious Area
6,749		96.66% Impervious Area

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

Subcatchment S-CB-2: S-CB-2



Summary for Subcatchment S-CB-3: S-CB-3

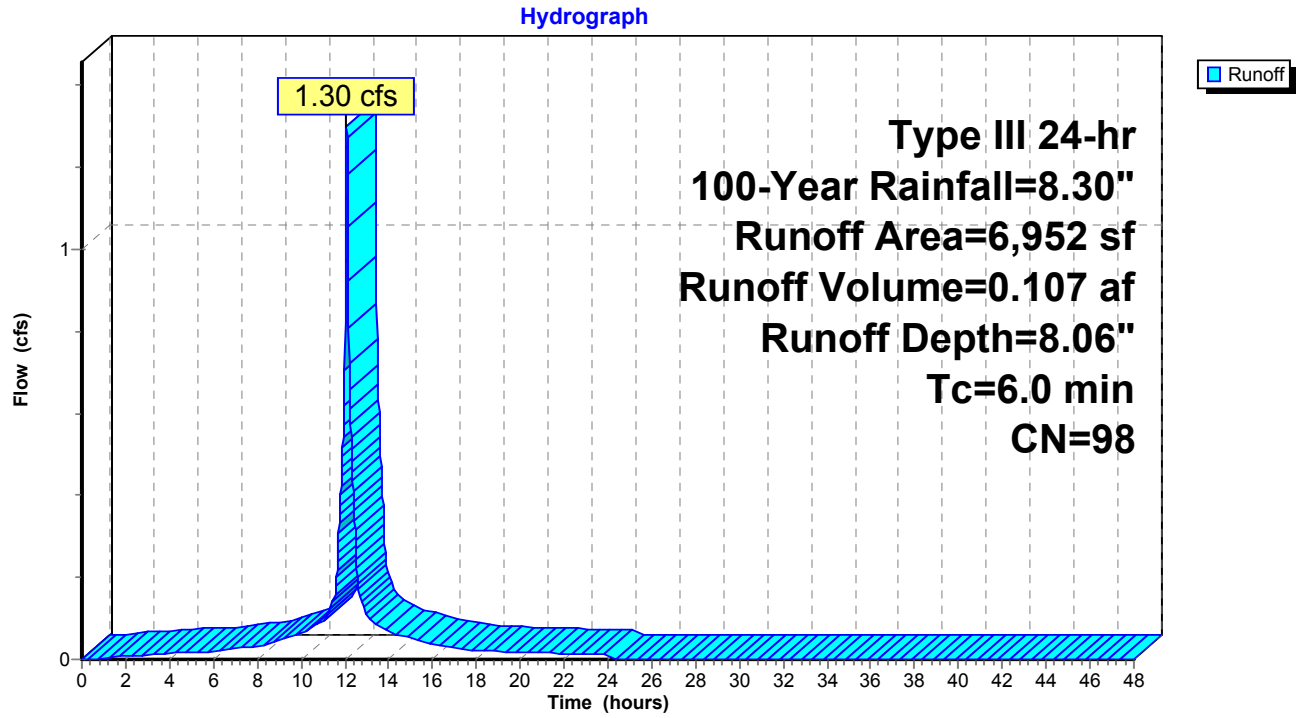
Runoff = 1.30 cfs @ 12.08 hrs, Volume= 0.107 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
6,850	98	Paved parking, HSG D
102	80	>75% Grass cover, Good, HSG D
6,952	98	Weighted Average
102		1.47% Pervious Area
6,850		98.53% Impervious Area

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

Subcatchment S-CB-3: S-CB-3



Summary for Subcatchment S-CB-4: S-CB-4

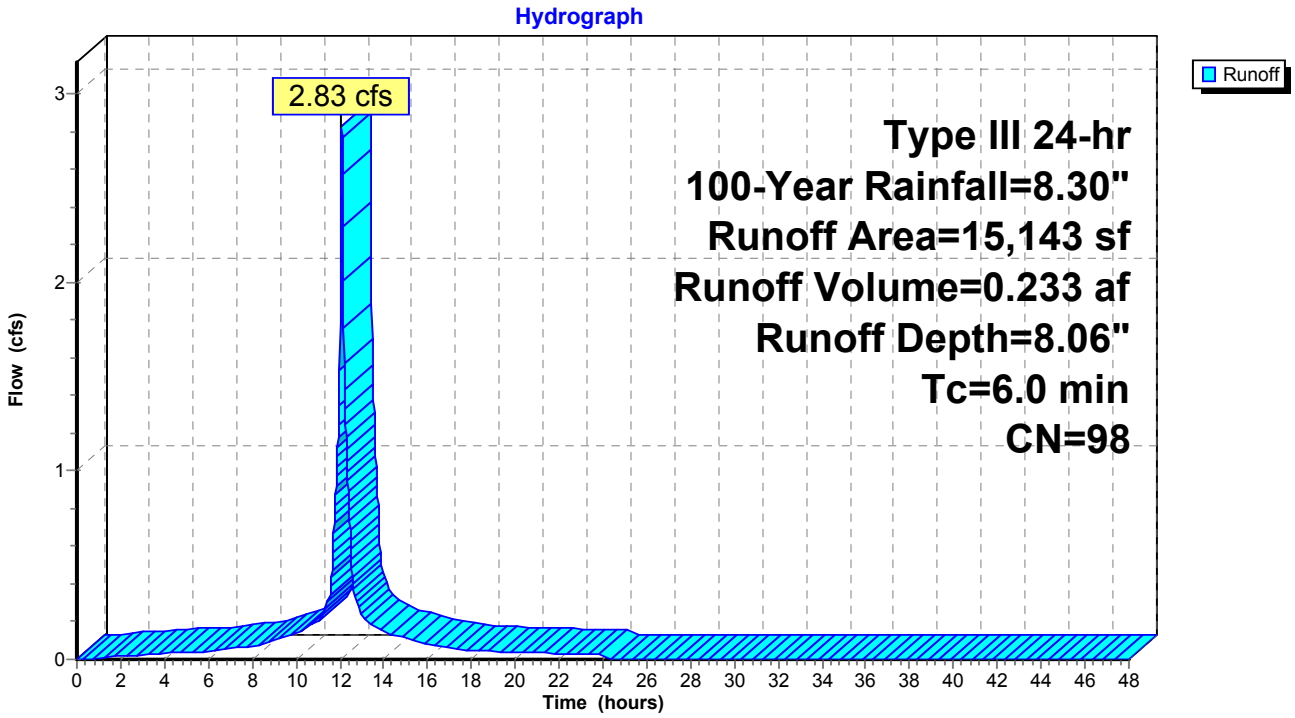
Runoff = 2.83 cfs @ 12.08 hrs, Volume= 0.233 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
14,923	98	Paved parking, HSG D
220	80	>75% Grass cover, Good, HSG D
15,143	98	Weighted Average
220		1.45% Pervious Area
14,923		98.55% Impervious Area

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

Subcatchment S-CB-4: S-CB-4



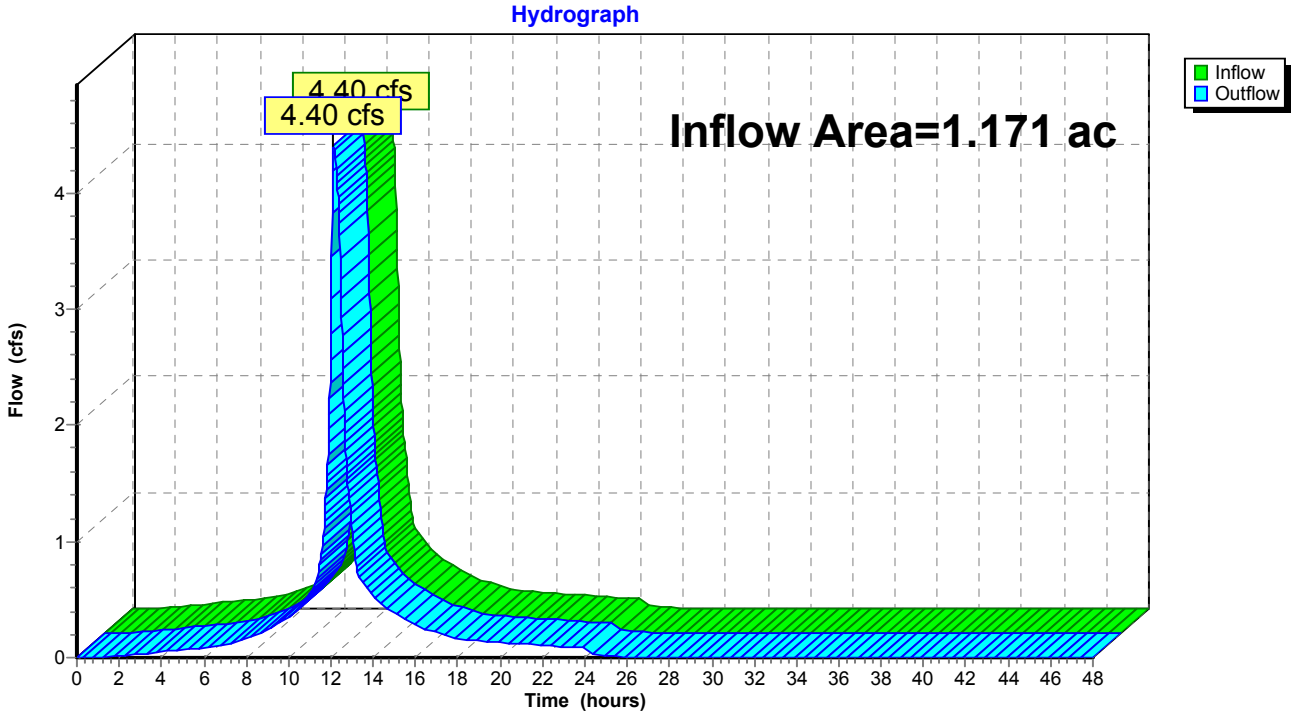
Summary for Reach DP-1: EAST WETLAND

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

Inflow Area = 1.171 ac, 60.96% Impervious, Inflow Depth = 6.73" for 100-Year event
Inflow = 4.40 cfs @ 12.14 hrs, Volume= 0.657 af
Outflow = 4.40 cfs @ 12.14 hrs, Volume= 0.657 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-1: EAST WETLAND



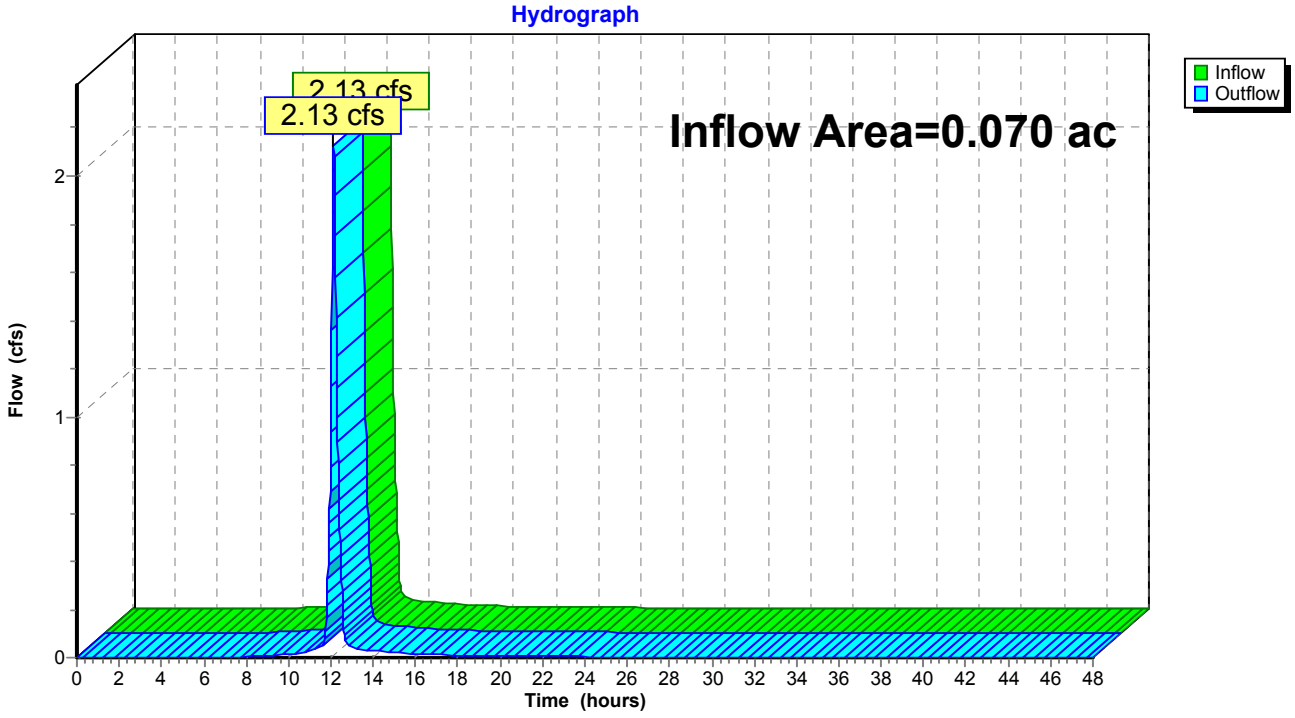
Summary for Reach DP-2: WEST WETLAND

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

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 13.83" for 100-Year event
Inflow = 2.13 cfs @ 12.13 hrs, Volume= 0.081 af
Outflow = 2.13 cfs @ 12.13 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-2: WEST WETLAND



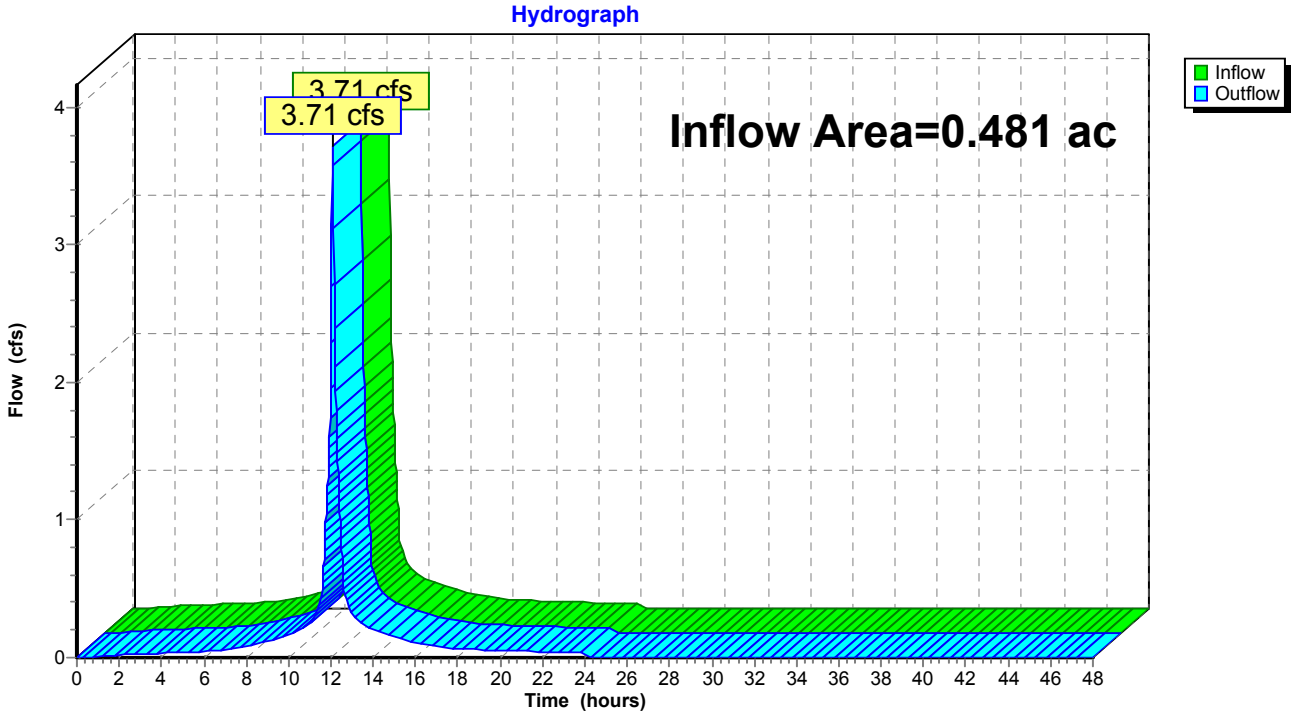
Summary for Reach DP-3: SOUTH WETLAND

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

Inflow Area = 0.481 ac, 71.28% Impervious, Inflow Depth = 7.46" for 100-Year event
Inflow = 3.71 cfs @ 12.09 hrs, Volume= 0.299 af
Outflow = 3.71 cfs @ 12.09 hrs, Volume= 0.299 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-3: SOUTH WETLAND



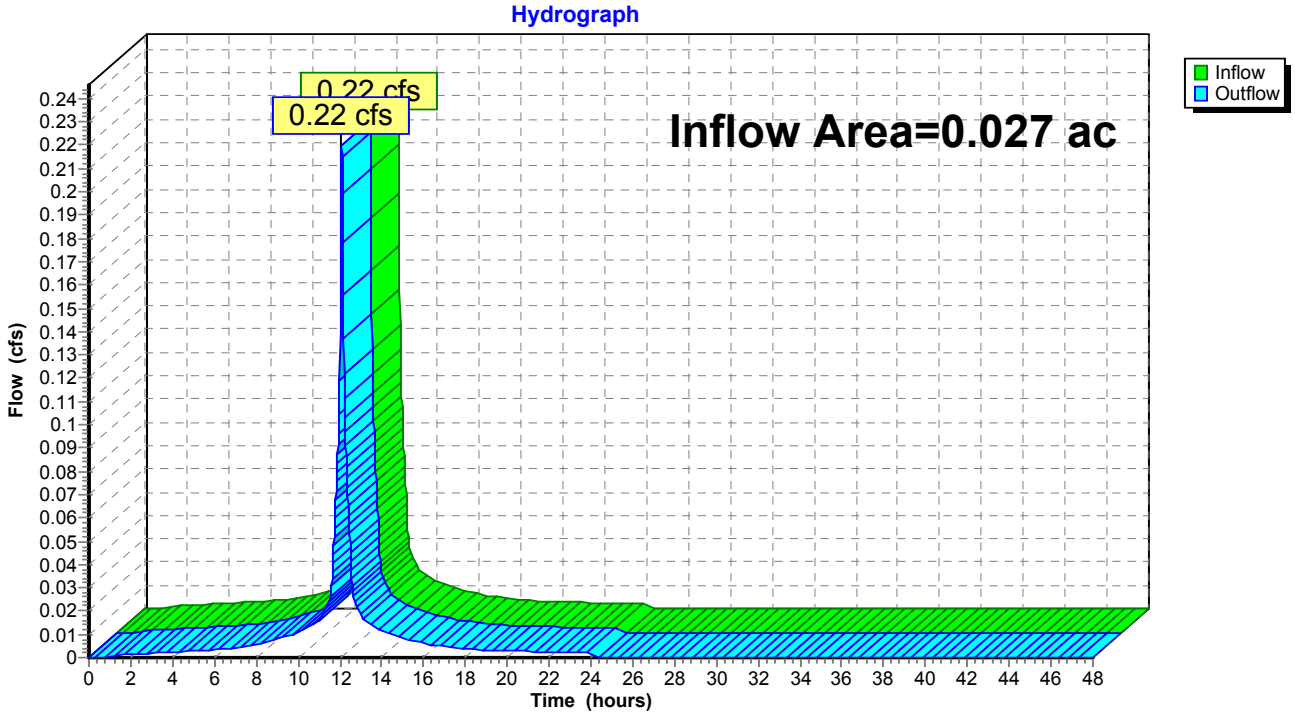
Summary for Reach DP-4: HENRY GRAF JR. ROAD

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

Inflow Area = 0.027 ac,100.00% Impervious, Inflow Depth = 8.06" for 100-Year event
Inflow = 0.22 cfs @ 12.08 hrs, Volume= 0.018 af
Outflow = 0.22 cfs @ 12.08 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Reach DP-4: HENRY GRAF JR. ROAD



Summary for Pond 1P: DETENTION POND 1

Inflow Area = 1.052 ac, 67.86% Impervious, Inflow Depth = 6.83" for 100-Year event
Inflow = 5.61 cfs @ 12.10 hrs, Volume= 0.599 af
Outflow = 3.85 cfs @ 12.21 hrs, Volume= 0.598 af, Atten= 31%, Lag= 7.0 min
Primary = 3.85 cfs @ 12.21 hrs, Volume= 0.598 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.99' @ 12.21 hrs Surf.Area= 3,035 sf Storage= 2,201 cf

Plug-Flow detention time= 7.7 min calculated for 0.598 af (100% of inflow)
Center-of-Mass det. time= 6.9 min (781.9 - 775.0)

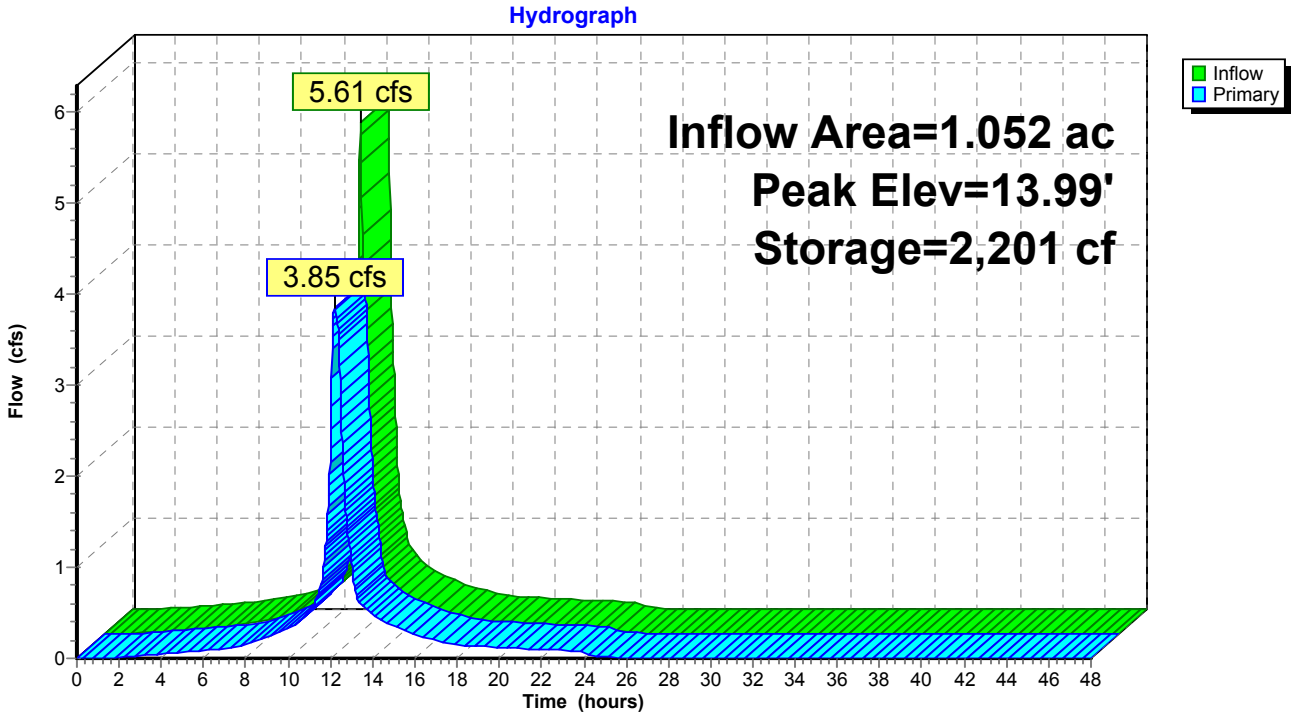
Volume	Invert	Avail.Storage	Storage Description
#1	12.20'	6,245 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.20	100	0	0
12.40	250	35	35
12.60	500	75	110
13.00	700	240	350
13.20	1,150	185	535
13.30	1,400	128	663
14.00	3,050	1,557	2,220
15.00	5,000	4,025	6,245

Device	Routing	Invert	Outlet Devices
#1	Primary	12.30'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.30' / 12.00' S= 0.0081 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	12.22'	**8.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	13.19'	**75.0 deg x 0.7' long Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=3.85 cfs @ 12.21 hrs HW=13.99' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 3.85 cfs @ 4.90 fps)
└**2=Orifice/Grate** (Passes < 2.02 cfs potential flow)
└**3=Sharp-Crested Vee/Trap Weir** (Passes < 2.69 cfs potential flow)

Pond 1P: DETENTION POND 1



Summary for Pond 2P: DETENTION POND 2

Inflow Area = 0.564 ac, 78.07% Impervious, Inflow Depth = 7.56" for 100-Year event
Inflow = 4.18 cfs @ 12.10 hrs, Volume= 0.356 af
Outflow = 3.83 cfs @ 12.14 hrs, Volume= 0.355 af, Atten= 8%, Lag= 2.6 min
Primary = 2.10 cfs @ 12.14 hrs, Volume= 0.309 af
Secondary = 1.73 cfs @ 12.14 hrs, Volume= 0.046 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.91' @ 12.14 hrs Surf.Area= 1,781 sf Storage= 1,339 cf

Plug-Flow detention time= 23.6 min calculated for 0.355 af (100% of inflow)
Center-of-Mass det. time= 23.6 min (778.9 - 755.3)

Volume	Invert	Avail.Storage	Storage Description
#1	14.00'	3,720 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

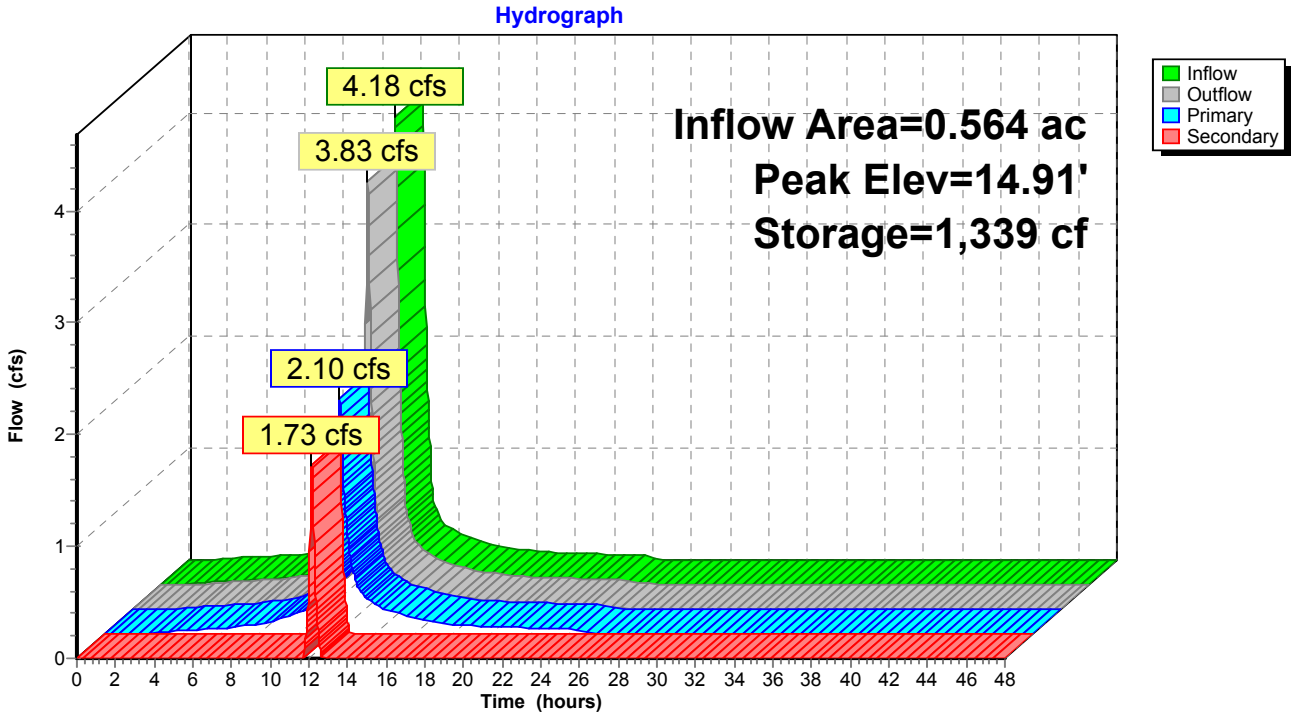
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.00	1,150	0	0
15.00	1,840	1,495	1,495
16.00	2,610	2,225	3,720

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**15.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 13.80' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Secondary	14.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.5' Crest Height

Primary OutFlow Max=2.10 cfs @ 12.14 hrs HW=14.91' TW=13.94' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.10 cfs @ 3.05 fps)

Secondary OutFlow Max=1.72 cfs @ 12.14 hrs HW=14.91' TW=0.00' (Dynamic Tailwater)
2=Sharp-Crested Rectangular Weir (Weir Controls 1.72 cfs @ 2.17 fps)

Pond 2P: DETENTION POND 2



Summary for Pond CB-1A: CB-1 Surface Storage

Inflow Area = 0.188 ac, 90.07% Impervious, Inflow Depth = 7.82" for 100-Year event
Inflow = 1.52 cfs @ 12.08 hrs, Volume= 0.122 af
Outflow = 1.38 cfs @ 12.12 hrs, Volume= 0.122 af, Atten= 9%, Lag= 2.2 min
Primary = 1.38 cfs @ 12.12 hrs, Volume= 0.122 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 17.14' @ 12.12 hrs Surf.Area= 1,319 sf Storage= 93 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.2 min (751.8 - 751.7)

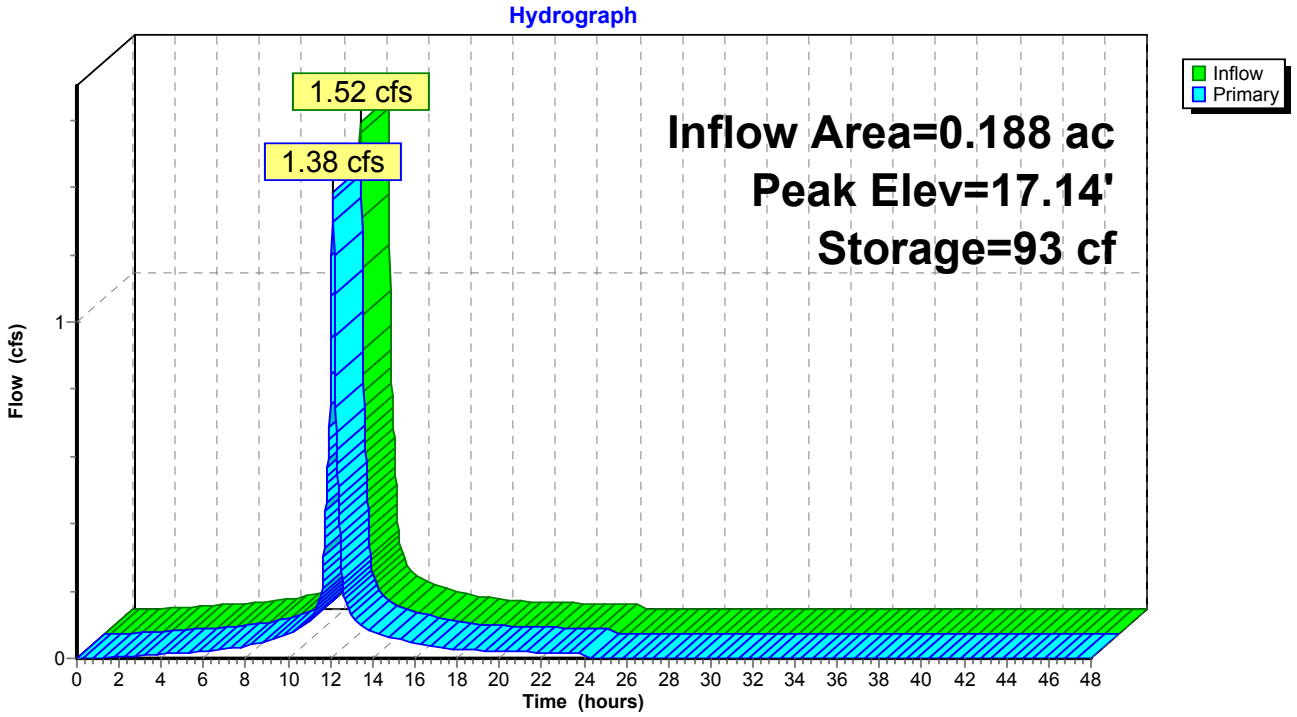
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	824 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	0	0	0
17.42	3,923	824	824

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.530 3.720

Primary OutFlow Max=1.38 cfs @ 12.12 hrs HW=17.14' TW=15.68' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 1.38 cfs)

Pond CB-1A: CB-1 Surface Storage



Summary for Pond CB-1B: CB-1

Inflow Area = 0.188 ac, 90.07% Impervious, Inflow Depth = 7.82" for 100-Year event
Inflow = 1.38 cfs @ 12.12 hrs, Volume= 0.122 af
Outflow = 1.37 cfs @ 12.13 hrs, Volume= 0.122 af, Atten= 1%, Lag= 0.4 min
Primary = 1.37 cfs @ 12.13 hrs, Volume= 0.122 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.70' @ 12.13 hrs Surf.Area= 13 sf Storage= 16 cf

Plug-Flow detention time= 0.8 min calculated for 0.122 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (752.3 - 751.8)

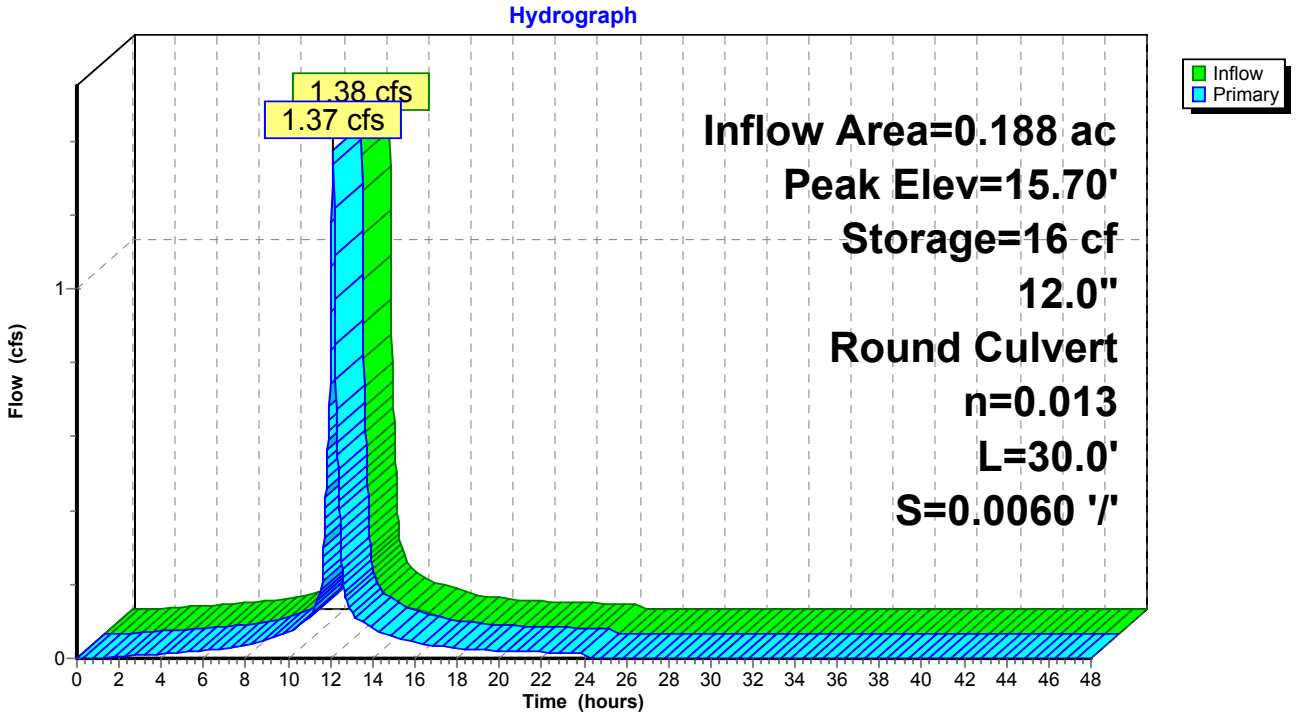
Volume	Invert	Avail.Storage	Storage Description
#1	14.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.50	13	0	0
15.75	13	16	16
15.76	4	0	16
17.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.32' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.38 cfs @ 12.13 hrs HW=15.69' TW=15.56' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.38 cfs @ 1.76 fps)

Pond CB-1B: CB-1



Summary for Pond CB-2A: CB-2 Surface Storage

Inflow Area = 0.160 ac, 96.66% Impervious, Inflow Depth = 7.94" for 100-Year event
Inflow = 1.30 cfs @ 12.08 hrs, Volume= 0.106 af
Outflow = 1.26 cfs @ 12.10 hrs, Volume= 0.106 af, Atten= 3%, Lag= 1.2 min
Primary = 1.26 cfs @ 12.10 hrs, Volume= 0.106 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 17.12' @ 12.10 hrs Surf.Area= 566 sf Storage= 35 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.1 min (746.6 - 746.5)

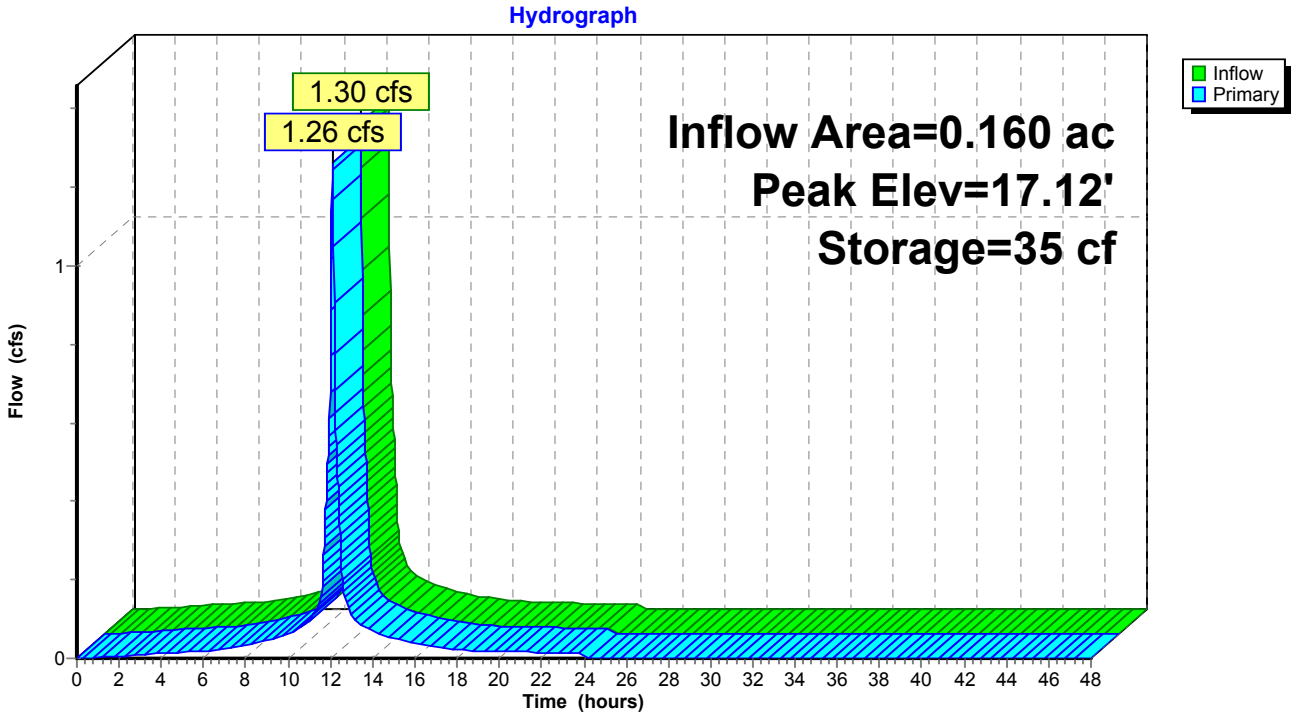
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	370 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	0	0	0
17.40	1,851	370	370

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**Special & User-Defined** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.530 3.720

Primary OutFlow Max=1.26 cfs @ 12.10 hrs HW=17.12' TW=15.61' (Dynamic Tailwater)
↑—**1=Special & User-Defined** (Custom Controls 1.26 cfs)

Pond CB-2A: CB-2 Surface Storage



Summary for Pond CB-2B: CB-2

Inflow Area = 0.160 ac, 96.66% Impervious, Inflow Depth = 7.94" for 100-Year event
Inflow = 1.26 cfs @ 12.10 hrs, Volume= 0.106 af
Outflow = 1.25 cfs @ 12.10 hrs, Volume= 0.106 af, Atten= 1%, Lag= 0.1 min
Primary = 1.25 cfs @ 12.10 hrs, Volume= 0.106 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.67' @ 12.13 hrs Surf.Area= 13 sf Storage= 15 cf
Flood Elev= 79.20' Surf.Area= 4 sf Storage= 21 cf

Plug-Flow detention time= 0.5 min calculated for 0.106 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (747.1 - 746.6)

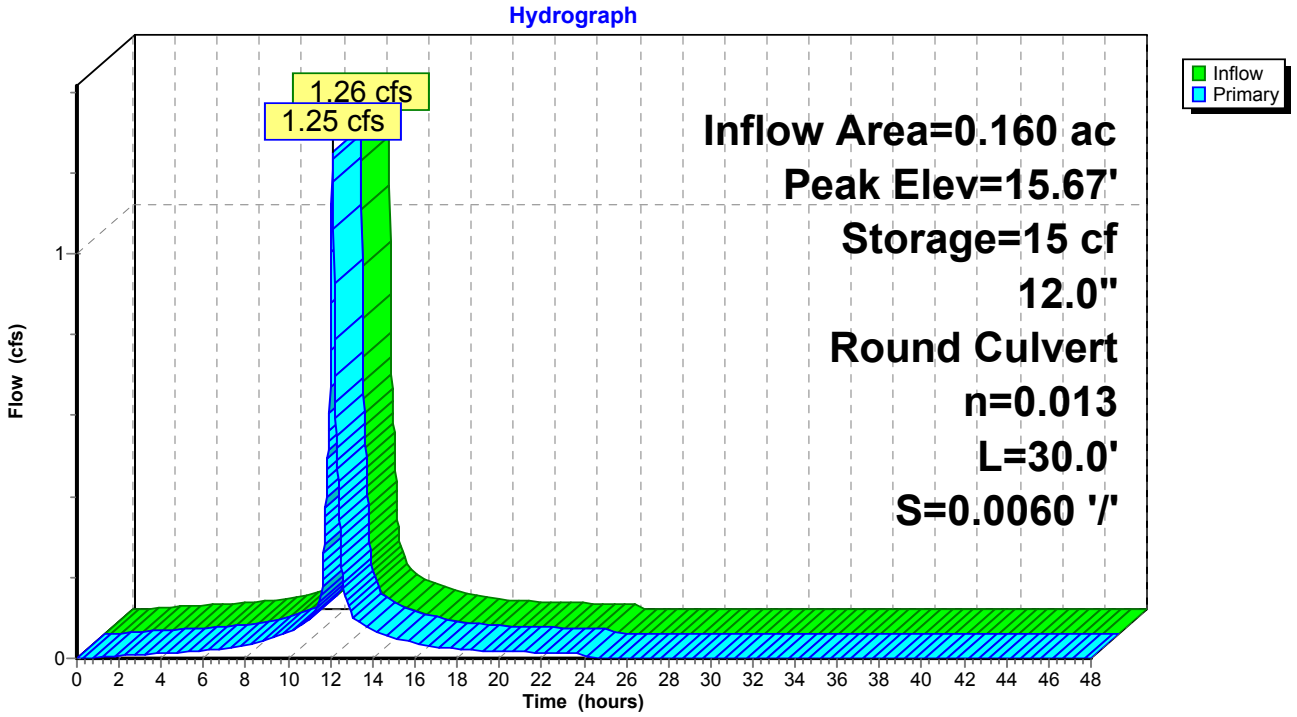
Volume	Invert	Avail.Storage	Storage Description
#1	14.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.50	13	0	0
15.75	13	16	16
15.76	4	0	16
17.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.32' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.91 cfs @ 12.10 hrs HW=15.61' TW=15.56' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.91 cfs @ 1.30 fps)

Pond CB-2B: CB-2



Summary for Pond CB-3A: CB-3 Surface Storage

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 8.06" for 100-Year event
Inflow = 1.30 cfs @ 12.08 hrs, Volume= 0.107 af
Outflow = 1.29 cfs @ 12.09 hrs, Volume= 0.107 af, Atten= 1%, Lag= 0.6 min
Primary = 1.29 cfs @ 12.09 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 16.18' @ 12.09 hrs Surf.Area= 253 sf Storage= 22 cf

Plug-Flow detention time= 0.1 min calculated for 0.107 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (740.8 - 740.8)

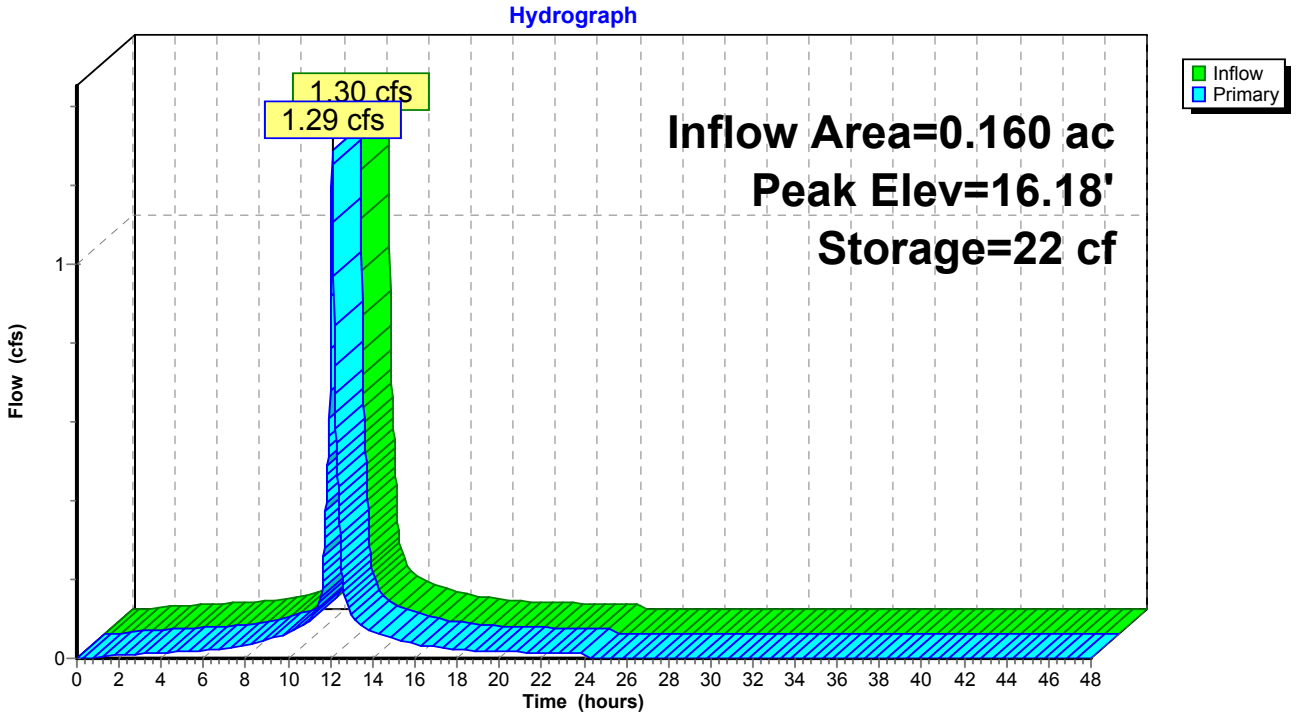
Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	45 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	0	0	0
16.25	361	45	45

Device	Routing	Invert	Outlet Devices
#1	Primary	16.00'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 0.053 3.720

Primary OutFlow Max=1.28 cfs @ 12.09 hrs HW=16.17' TW=14.23' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 1.28 cfs)

Pond CB-3A: CB-3 Surface Storage



Summary for Pond CB-3B: CB-3

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 8.06" for 100-Year event
Inflow = 1.29 cfs @ 12.09 hrs, Volume= 0.107 af
Outflow = 1.29 cfs @ 12.09 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.1 min
Primary = 1.29 cfs @ 12.09 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.24' @ 12.12 hrs Surf.Area= 13 sf Storage= 10 cf

Plug-Flow detention time= 0.4 min calculated for 0.107 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (741.2 - 740.8)

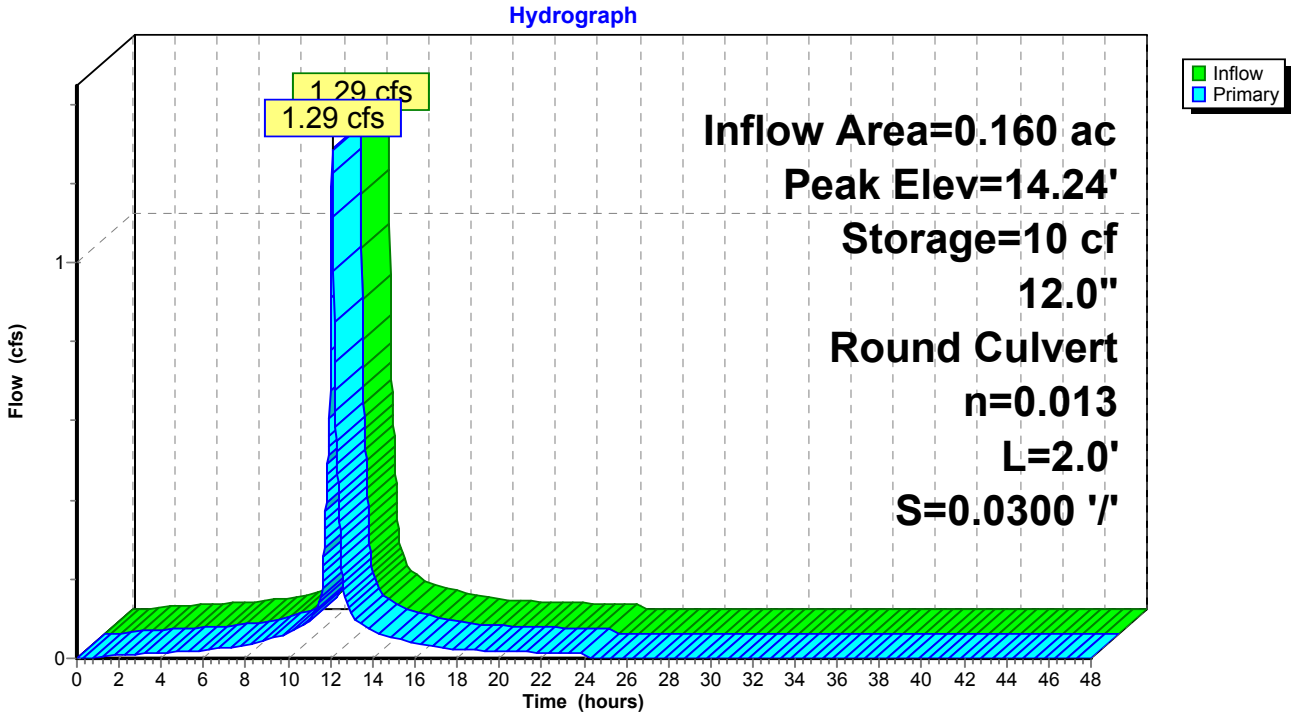
Volume	Invert	Avail.Storage	Storage Description
#1	13.50'	21 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
13.50	13	0	0
14.75	13	16	16
14.76	4	0	16
16.00	4	5	21

Device	Routing	Invert	Outlet Devices
#1	Primary	13.50'	**12.0" Round Culvert** L= 2.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.50' / 13.44' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.19 cfs @ 12.09 hrs HW=14.23' TW=14.05' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.19 cfs @ 2.71 fps)

Pond CB-3B: CB-3



Summary for Pond CB-4A: CB-4 Surface Storage

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 8.06" for 100-Year event
Inflow = 2.83 cfs @ 12.08 hrs, Volume= 0.233 af
Outflow = 2.83 cfs @ 12.09 hrs, Volume= 0.233 af, Atten= 0%, Lag= 0.1 min
Primary = 2.83 cfs @ 12.09 hrs, Volume= 0.233 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.47' @ 12.09 hrs Surf.Area= 94 sf Storage= 7 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (740.8 - 740.8)

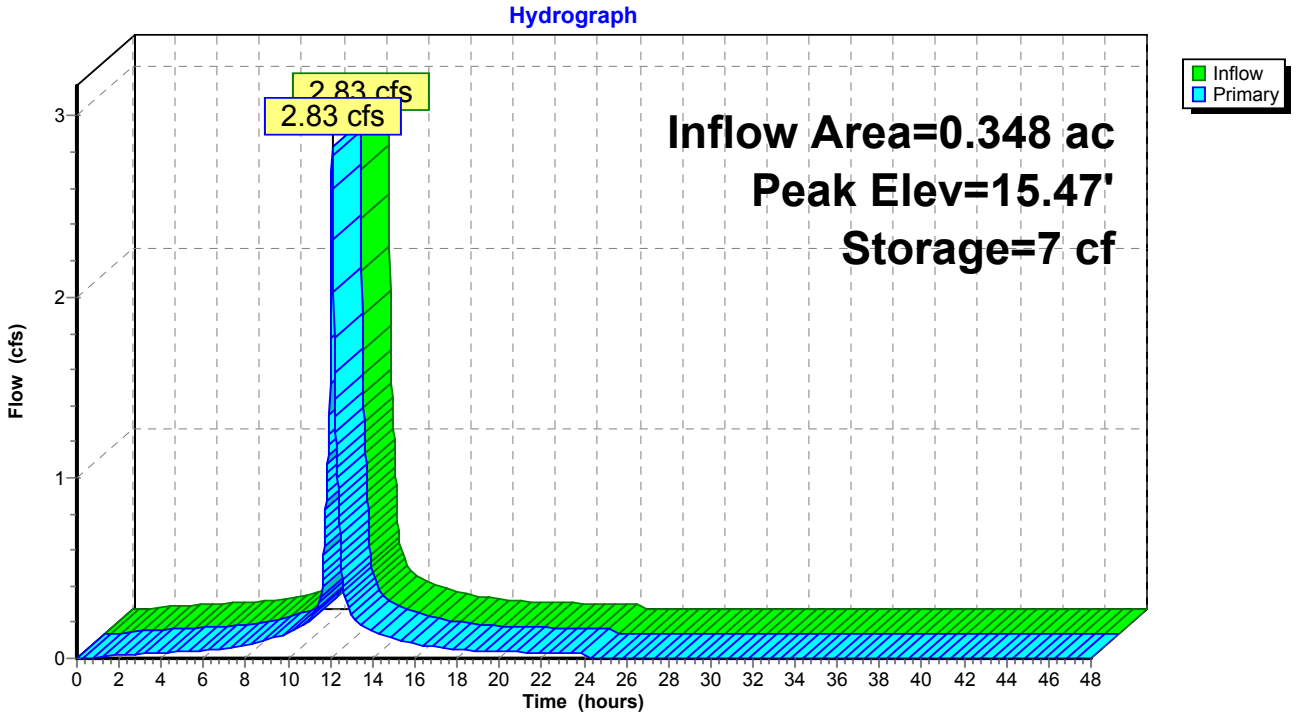
Volume	Invert	Avail.Storage	Storage Description
#1	15.32'	20 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.32	0	0	0
15.57	161	20	20

Device	Routing	Invert	Outlet Devices
#1	Primary	15.32'	**CB Rim** Head (feet) 0.00 0.01 0.50 Disch. (cfs) 0.000 1.050 7.460

Primary OutFlow Max=2.81 cfs @ 12.09 hrs HW=15.46' TW=14.33' (Dynamic Tailwater)
↑—**1=CB Rim** (Custom Controls 2.81 cfs)

Pond CB-4A: CB-4 Surface Storage



Summary for Pond CB-4B: CB-4

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 8.06" for 100-Year event
Inflow = 2.83 cfs @ 12.09 hrs, Volume= 0.233 af
Outflow = 2.81 cfs @ 12.09 hrs, Volume= 0.233 af, Atten= 1%, Lag= 0.2 min
Primary = 2.81 cfs @ 12.09 hrs, Volume= 0.233 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.37' @ 12.10 hrs Surf.Area= 8 sf Storage= 18 cf

Plug-Flow detention time= 0.6 min calculated for 0.233 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (741.1 - 740.8)

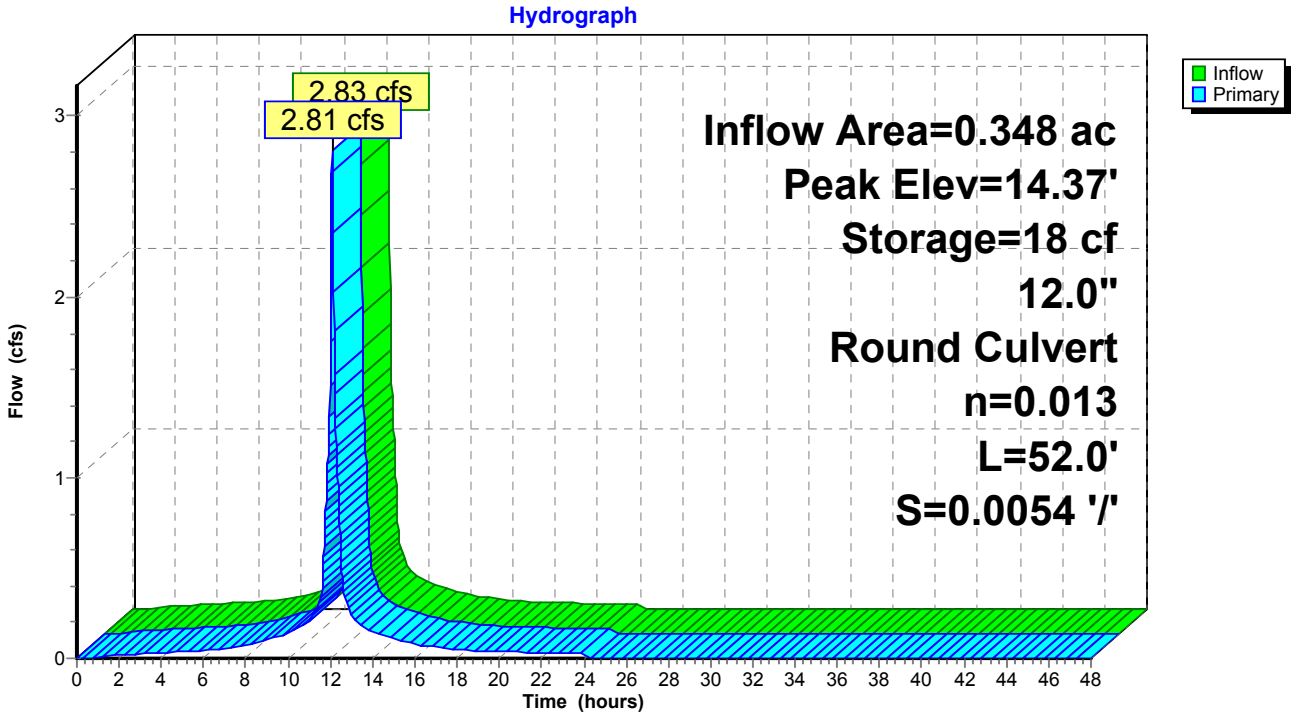
Volume	Invert	Avail.Storage	Storage Description
#1	12.82'	26 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.82	13	0	0
13.98	13	15	15
13.99	8	0	15
15.32	8	11	26

Device	Routing	Invert	Outlet Devices
#1	Primary	12.82'	**12.0" Round Culvert** L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.82' / 12.54' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.72 cfs @ 12.09 hrs HW=14.34' TW=13.76' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 2.72 cfs @ 3.47 fps)

Pond CB-4B: CB-4



Summary for Pond FD-2: FD-2

Inflow Area = 0.160 ac, 98.53% Impervious, Inflow Depth = 8.06" for 100-Year event
Inflow = 1.29 cfs @ 12.09 hrs, Volume= 0.107 af
Outflow = 1.28 cfs @ 12.09 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min
Primary = 1.28 cfs @ 12.09 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 14.08' @ 12.15 hrs Surf.Area= 13 sf Storage= 8 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 25 cf

Plug-Flow detention time= 0.4 min calculated for 0.107 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (741.6 - 741.2)

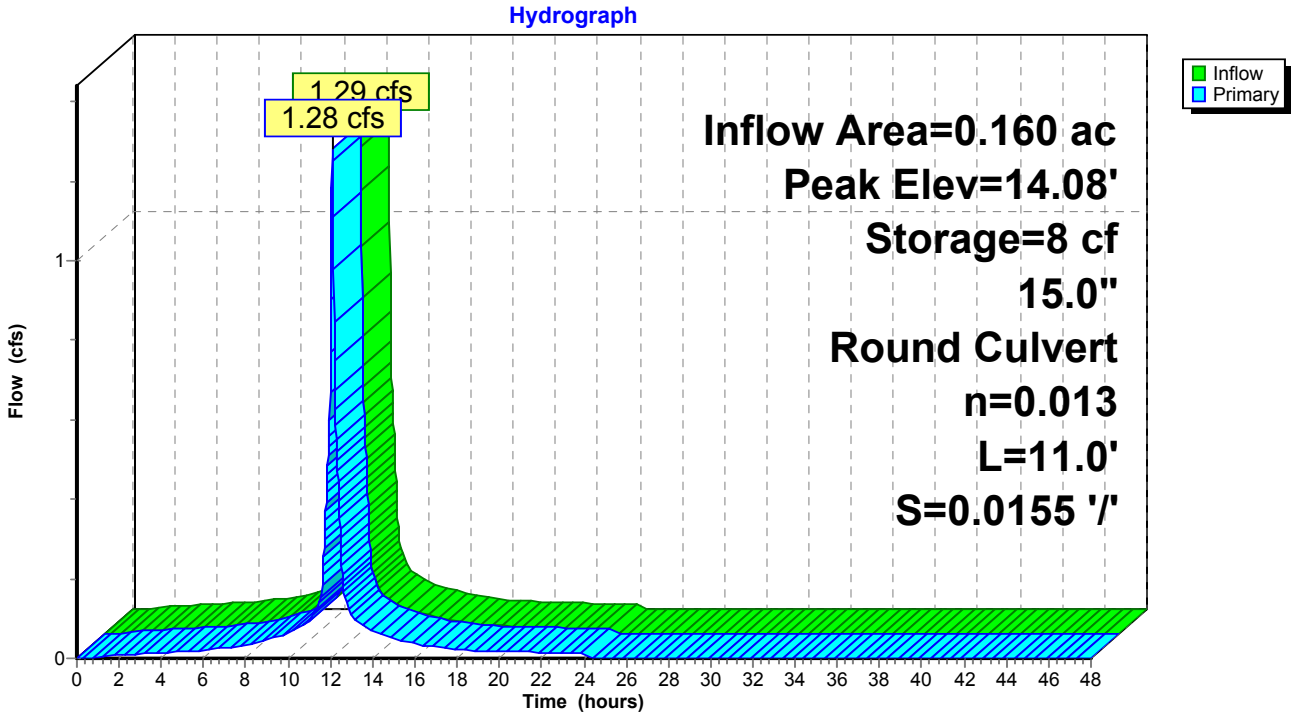
Volume	Invert	Avail.Storage	Storage Description
#1	13.44'	25 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
13.44	13	0	0
15.06	13	21	21
15.07	3	0	21
16.40	3	4	25

Device	Routing	Invert	Outlet Devices
#1	Primary	13.44'	**15.0" Round Culvert** L= 11.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.44' / 13.27' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.13 cfs @ 12.09 hrs HW=14.05' TW=13.82' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 1.13 cfs @ 2.80 fps)

Pond FD-2: FD-2


Hydrograph
1.29 cfs
1.28 cfs
Inflow Area=0.160 ac
Peak Elev=14.08'
Storage=8 cf
15.0"
Round Culvert
n=0.013
L=11.0'
S=0.0155 '/'
Inflow
Primary
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Summary for Pond FD-3: FD-2

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.348 ac, 98.55% Impervious, Inflow Depth = 8.06" for 100-Year event
Inflow = 2.81 cfs @ 12.09 hrs, Volume= 0.233 af
Outflow = 2.82 cfs @ 12.09 hrs, Volume= 0.233 af, Atten= 0%, Lag= 0.1 min
Primary = 2.82 cfs @ 12.09 hrs, Volume= 0.233 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 13.77' @ 12.09 hrs Surf.Area= 13 sf Storage= 16 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 34 cf

Plug-Flow detention time= 0.3 min calculated for 0.233 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (741.4 - 741.1)

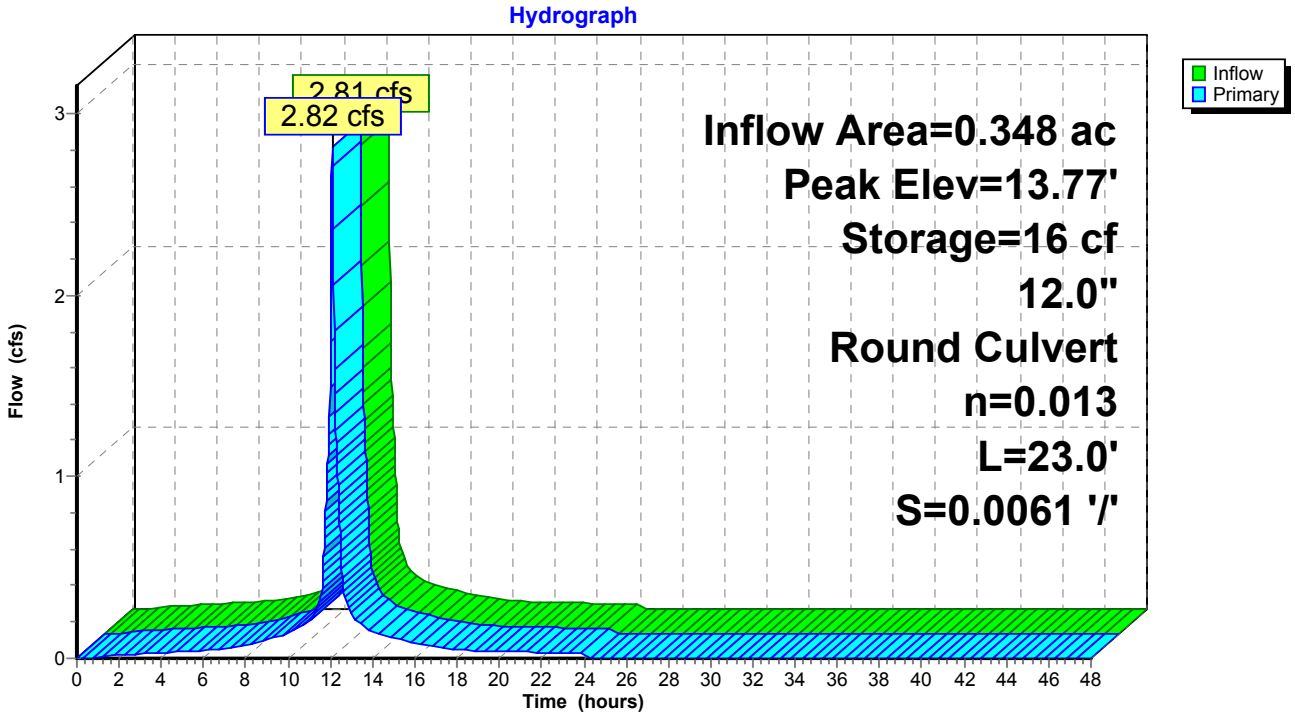
Volume	Invert	Avail.Storage	Storage Description
#1	12.54'	34 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.54	13	0	0
14.88	13	30	30
14.89	3	0	31
16.22	3	4	34

Device	Routing	Invert	Outlet Devices
#1	Primary	12.54'	**12.0" Round Culvert** L= 23.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.54' / 12.40' S= 0.0061 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.80 cfs @ 12.09 hrs HW=13.76' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 2.80 cfs @ 3.71 fps)

Pond FD-3: FD-2


Hydrograph
2.81 cfs
2.82 cfs
Inflow Area=0.348 ac
Peak Elev=13.77'
Storage=16 cf
12.0"
Round Culvert
n=0.013
L=23.0'
S=0.0061 '/'
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond FD1: FD-1

Inflow Area = 0.348 ac, 93.10% Impervious, Inflow Depth = 7.88" for 100-Year event
Inflow = 2.61 cfs @ 12.11 hrs, Volume= 0.228 af
Outflow = 2.61 cfs @ 12.12 hrs, Volume= 0.228 af, Atten= 0%, Lag= 0.2 min
Primary = 2.61 cfs @ 12.12 hrs, Volume= 0.228 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Peak Elev= 15.57' @ 12.12 hrs Surf.Area= 13 sf Storage= 16 cf
Flood Elev= 75.02' Surf.Area= 3 sf Storage= 29 cf

Plug-Flow detention time= 0.3 min calculated for 0.228 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (750.2 - 749.9)

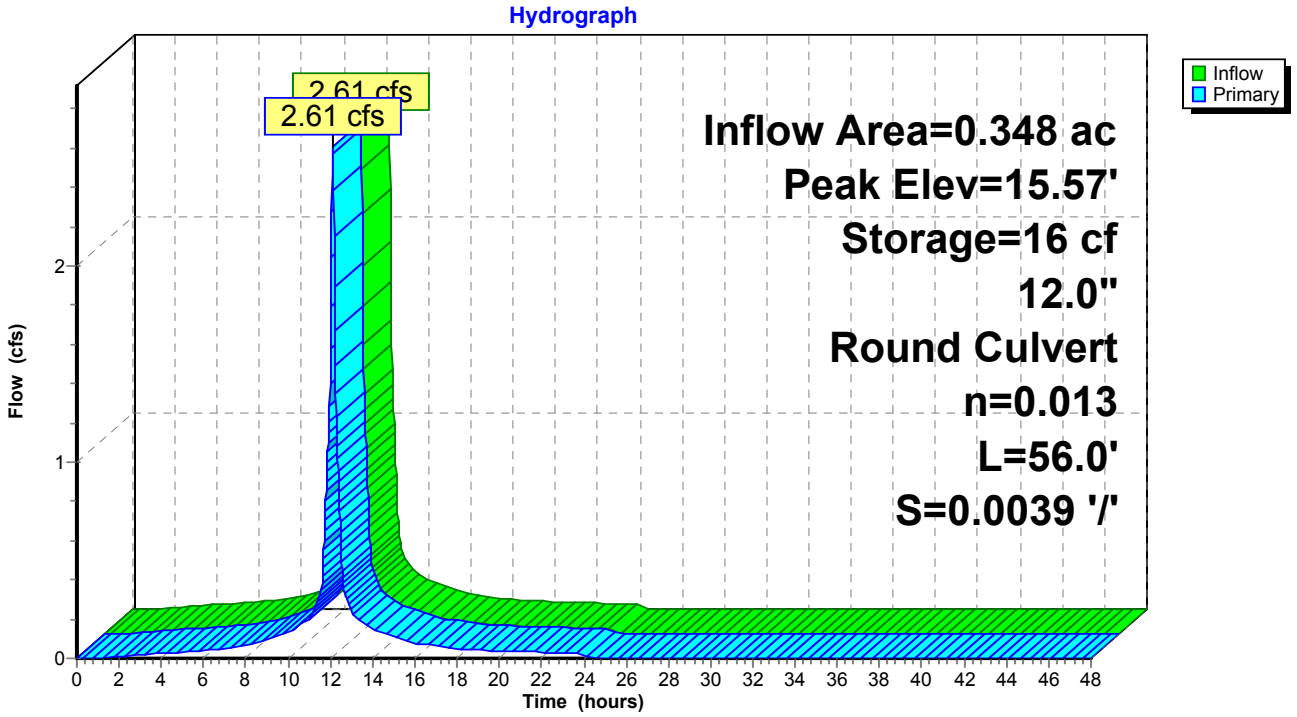
Volume	Invert	Avail.Storage	Storage Description
#1	14.32'	29 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.32	13	0	0
16.26	13	25	25
16.27	3	0	25
17.60	3	4	29

Device	Routing	Invert	Outlet Devices
#1	Primary	14.32'	**12.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.32' / 14.10' S= 0.0039 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.60 cfs @ 12.12 hrs HW=15.56' TW=14.90' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 2.60 cfs @ 3.41 fps)

Pond FD1: FD-1


Hydrograph
2.61 cfs
2.61 cfs
Inflow Area=0.348 ac
Peak Elev=15.57'
Storage=16 cf
12.0"
Round Culvert
n=0.013
L=56.0'
S=0.0039 '/'
Inflow
Primary
Flow (cfs)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)