Ministers Estates

39 Sunset Rock Road
Andover, Massachusetts

SUPPLEMENTAL PROJECT REPORT

on
Drainage & Sedimentation Control
&
Project Stormwater Report

Prepared For:

MINSTERS LANE, LLC
42 School Street
Andover, MA 01810

Daniel Koravos, P.E.

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DK Engineering LLC
Address: 59 Granite Lane, Chester, NH 03036
Telephone No.: (603) 505-5226
E-mail Address: dan@dke.llc

V. Standard 3: Recharge

Required Recharge Volume

Treatment Train #1 (To Trench #1)

R_v = F * A = (0.60/12) ft * 10,007 sf + (0.25/12) ft * 2,937 sf = **562 cf**

F = Target Depth Factor ("A" Soils = 0.60 / "C" Soils = 0.25-inch)
A = Impervious Area (Plus 2 Buildings)

Treatment Train #2 (To Trench #2)

R_v = F * A = (0.60/12) ft * 6,373 sf = **319 cf**

F = Target Depth Factor ("A" Soils = 0.60-inch)
A = Impervious Area (Plus 1 Building)

Treatment Train #3 (To Infiltration Basin)

R_v = F * A = (0.60/12) ft * 12,847 sf + (0.35/12) ft * 13,489 sf = **1,036 cf**

F = Target Depth Factor ("A" Soils = 0.60 / "B" Soils = 0.35-inch)
A = Impervious Area (Plus 2 Buildings)

Provided Recharge Volume

For Infiltration Trenches

Bottom of the trench elevation (BE) Bottom area of the trench (BA)
Lowest pond outlet elevation (LE) Surface area at outlet elevation (SA)
Void Ratio = 0.40
Recharge Volume Provided (R_VP) = BA * (LE-BE) * 0.40

Note: The recharge volumes were conservatively determined by excluding the volume of the pipes within the trenches and assuming 40% voids for the entire volume.

Treatment Train #1 (Infiltration Trench #1)

R_VP = 2,400 * (208.5-204.8) * 0.40 = 3,552 cf ~ **3,552 cf > 562 cf Required**

Treatment Train #2 (Infiltration Trench #2)

R_VP = 3,840 * (210.3-206.6) * 0.40 = 5,683 cf ~ **5,683 cf > 319 cf Required**

(Infiltration Trench #3)

R_VP = 800 * (206.7-203.5) * 0.40 = 1,024 cf ~ **1,024 cf > 0 cf Required**

Treatment Train #3 (Infiltration Basin)

Infiltration Basin
Bottom of the basin elevation = 203.5 ft
Bottom area of the basin = 1,497 sf
Lowest pond outlet elevation = 206.7 ft
Surface area at elevation 206.7 = 6,635 sf

Recharge Volume Provided = (6,635 + 1,497)/2 * (206.7-203.5) = 13,011 cf

13,011 cf > 1,036 c.f. Required

Drawdown Time Calculation

Infiltration Basin

$Time_{Drawdown} = R_v \div (K * Area)$ = **43.5 hours**
K = Saturated Hydraulic Conductivity = 2.4 in./hr. = 0.20 ft./hr.
R_v = Storage Volume = 13,011 c.f.
Bottom Area = 1,497 s.f.

Infiltration Trench #1

$Time_{Drawdown} = R_v \div (K * Area)$ = **7.4 hours**
K = Saturated Hydraulic Conductivity = 2.4 in./hr. = 0.20 ft./hr.
R_v = Storage Volume = 3,552 c.f.
Bottom Area = 2,400 s.f.

Infiltration Trench #2

$Time_{Drawdown} = R_v \div (K * Area)$ = **7.4 hours**
K = Saturated Hydraulic Conductivity = 2.4 in./hr. = 0.20 ft./hr.
R_v = Storage Volume = 5,683 c.f.
Bottom Area = 3,840 s.f.

Infiltration Trench #3

$Time_{Drawdown} = R_v \div (K * Area)$ = **6.4 hours**
K = Saturated Hydraulic Conductivity = 2.4 in./hr. = 0.20 ft./hr.
R_v = Storage Volume = 1,024 c.f.
Bottom Area = 800 s.f.

Pretreatment

Total Area of the Roadway Pavement = 0.10 acs. (CB #1 & 2)

Annual Sediment Volume
= 0.10 acs. * 750 lbs./acre-storm ÷ 90 lbs./c.f. * 10 storms/year
= 8.5 c.f./year

Volume of 2 Catch Basin Sumps
Area * Depth = $2^2 * \pi * 4$ ft. * 2 = **100 c.f. of Storage Provided**

Total Area of the Roadway Pavement = 0.31 acs. (CB #3)

Annual Sediment Volume
= 0.31 acs. * 750 lbs./acre-storm ÷ 90 lbs./c.f. * 10 storms/year
= 26 c.f./year

Volume of Catch Basin Sump
Area * Depth = $2^2 * \pi * 4$ ft. = **50 c.f. of Storage Provided**

VI. Standard 4: Water Quality

Water Quality Treatment Volume

$V_{WQ} = (D_{WQ}/12 \text{ inches/foot}) * (A_{IMP} * 43{,}560 \text{ square feet/acre})$

V_{WQ} = Required Water Quality Volume (in cubic feet)
D_{WQ} = Water Quality Depth = 1/2 inch
A_{IMP} = Impervious Area (in acres) = 0.10 acs.

$V_{WQ} = (0.5/12 \text{ inches/foot}) * (0.10 * 43{,}560 \text{ square feet/acre})$

V_{WQ} = 182 c.f. ~ Treatment Train #1

$V_{WQ} = (D_{WQ}/12 \text{ inches/foot}) * (A_{IMP} * 43{,}560 \text{ square feet/acre})$

V_{WQ} = Required Water Quality Volume (in cubic feet)
D_{WQ} = Water Quality Depth = 1/2 inch
A_{IMP} = Impervious Area (in acres) = 0.35 acs.

$V_{WQ} = (0.5/12 \text{ inches/foot}) * (0.35 * 43{,}560 \text{ square feet/acre})$

V_{WQ} = 635 c.f. ~ Treatment Train #2

Stage-Area-Storage for Pond B24: Infiltration Tr #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
204.80	**2,400**	0
204.90	2,400	96
205.00	2,400	192
205.10	2,400	288
205.20	2,400	384
205.30	2,400	480
205.40	2,400	577
205.50	2,400	675
205.60	2,400	777
205.70	2,400	881
205.80	2,400	989
205.90	2,400	1,099
206.00	2,400	1,210
206.10	2,400	1,322
206.20	2,400	1,435
206.30	2,400	1,549
206.40	2,400	1,663
206.50	2,400	1,777
206.60	2,400	1,891
206.70	2,400	2,005
206.80	2,400	2,119
206.90	2,400	2,231
207.00	2,400	2,343
207.10	2,400	2,454
207.20	2,400	2,564
207.30	2,400	2,671
207.40	2,400	2,775
207.50	2,400	2,876
207.60	2,400	2,974
207.70	2,400	3,071
207.80	2,400	3,167
207.90	2,400	3,263
208.00	2,400	3,359
208.10	2,400	3,455
208.20	2,400	3,551
208.30	2,400	3,647
208.40	2,400	3,743
208.50	2,400	3,839
208.60	2,400	3,935
208.70	2,400	4,031
208.80	2,400	4,127
208.90	2,400	4,223
209.00	2,400	4,319
209.10	2,400	4,415
209.20	2,400	4,511
209.30	2,400	4,607
209.40	2,400	4,703
209.50	2,400	4,799
209.60	2,400	4,895
209.70	2,400	4,991
209.80	2,400	5,087
209.90	2,400	5,183

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
210.00	2,400	5,279
210.10	2,400	5,375
210.20	2,400	5,471
210.30	2,400	5,567
210.40	2,400	5,663
210.50	2,400	5,759
210.60	2,400	5,855
210.70	2,400	5,951
210.80	2,400	6,047
210.90	2,400	6,143
211.00	2,400	**6,239**
211.10	2,400	**6,239**
211.20	2,400	6,239
211.30	2,400	6,239
211.40	2,400	6,239
211.50	2,400	6,239

Stage-Area-Storage for Pond B34: Infiltration Tr #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
206.60	**3,840**	0
206.65	3,840	77
206.70	3,840	154
206.75	3,840	230
206.80	3,840	307
206.85	3,840	384
206.90	3,840	461
206.95	3,840	538
207.00	3,840	614
207.05	3,840	691
207.10	3,840	768
207.15	3,840	845
207.20	3,840	922
207.25	3,840	998
207.30	3,840	1,075
207.35	3,840	1,152
207.40	3,840	1,229
207.45	3,840	1,306
207.50	3,840	1,382
207.55	3,840	1,459
207.60	3,840	1,536
207.65	3,840	1,614
207.70	3,840	1,691
207.75	3,840	1,769
207.80	3,840	1,848
207.85	3,840	1,926
207.90	3,840	2,006
207.95	3,840	2,085
208.00	3,840	2,166
208.05	3,840	2,246
208.10	3,840	2,328
208.15	3,840	2,409
208.20	3,840	2,492
208.25	3,840	2,575
208.30	3,840	2,658
208.35	3,840	2,742
208.40	3,840	2,827
208.45	3,840	2,912
208.50	3,840	2,998
208.55	3,840	3,085
208.60	3,840	3,172
208.65	3,840	3,259
208.70	3,840	3,346
208.75	3,840	3,434
208.80	3,840	3,521
208.85	3,840	3,609
208.90	3,840	3,697
208.95	3,840	3,785
209.00	3,840	3,873
209.05	3,840	3,961
209.10	3,840	4,049
209.15	3,840	4,137
209.20	3,840	4,225
209.25	3,840	4,313
209.30	3,840	4,400
209.35	3,840	4,488
209.40	3,840	4,575
209.45	3,840	4,661
209.50	3,840	4,748
209.55	3,840	4,833
209.60	3,840	4,918
209.65	3,840	5,003
209.70	3,840	5,087
209.75	3,840	5,170
209.80	3,840	5,253
209.85	3,840	5,335
209.90	3,840	5,417
209.95	3,840	5,498
210.00	3,840	5,578
210.05	3,840	5,658
210.10	3,840	5,738
210.15	3,840	5,817
210.20	3,840	5,895
210.25	3,840	5,974
210.30	3,840	6,051
210.35	3,840	6,129
210.40	3,840	6,206
210.45	3,840	6,283
210.50	3,840	6,360
210.55	3,840	6,437
210.60	3,840	**6,513**

Stage-Area-Storage for Pond B44: Infiltration Tr #3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
203.50	**800**	0
203.55	800	16
203.60	800	32
203.65	800	48
203.70	800	64
203.75	800	80
203.80	800	96
203.85	800	112
203.90	800	128
203.95	800	144
204.00	800	160
204.05	800	176
204.10	800	192
204.15	800	208
204.20	800	224
204.25	800	240
204.30	800	256
204.35	800	272
204.40	800	288
204.45	800	304
204.50	800	320
204.55	800	336
204.60	800	352
204.65	800	369
204.70	800	385
204.75	800	402
204.80	800	419
204.85	800	436
204.90	800	454
204.95	800	472
205.00	800	490
205.05	800	508
205.10	800	526
205.15	800	544
205.20	800	562
205.25	800	581
205.30	800	599
205.35	800	617
205.40	800	635
205.45	800	653
205.50	800	671
205.55	800	688
205.60	800	705
205.65	800	722
205.70	800	739
205.75	800	755
205.80	800	772
205.85	800	788
205.90	800	804
205.95	800	820
206.00	800	836
206.05	800	852
206.10	800	868
206.15	800	884
206.20	800	900
206.25	800	916
206.30	800	932
206.35	800	948
206.40	800	964
206.45	800	980
206.50	800	996
206.55	800	1,012
206.60	800	1,028
206.65	800	1,044
206.70	800	1,060
206.75	800	1,076
206.80	800	1,092
206.85	800	1,108
206.90	800	1,124
206.95	800	1,140
207.00	800	1,156
207.05	800	1,172
207.10	800	1,188
207.15	800	1,204
207.20	800	1,220
207.25	800	**1,236**

Pre-Development vs. Post-Development Drainage Summary Tables

Point #1 (A)

Design Storm	Peak Flow Rate		
	Pre-Dev. (cfs)	Post-Dev. (cfs)	Δ (cfs)
2	0.0	0.0	0.0
10	0.0	0.0	0.0
25	0.1	0.2	0.1[1]
100	0.6	0.7	0.1[1]

Point #2 (B)

Design Storm	Peak Flow Rate		
	Pre-Dev. (cfs)	Post-Dev. (cfs)	Δ (cfs)
2	0.5	0.0	0.5
10	2.9	2.9	0.0
25	5.0	4.4	(1.6)
100	8.6	5.7	(2.9)

[1]An increase of this magnitude is negligible and considered to be zero.

Point #3 (C)

Design Storm	Peak Flow Rate		
	Pre-Dev. (cfs)	Post-Dev. (cfs)	Δ (cfs)
2	0.0	0.0	0.0
10	0.0	0.0	0.0
25	0.0	0.0	0.0
100	0.2	0.2	0.0

Point #4 (D)

Design Storm	Peak Flow Rate		
	Pre-Dev. (cfs)	Post-Dev. (cfs)	Δ (cfs)
2	0.0	0.0	0.0
10	0.1	0.0	(0.1)
25	0.2	0.1	(0.1)
100	1.0	1.1	0.1[1]

Point #5 (E)

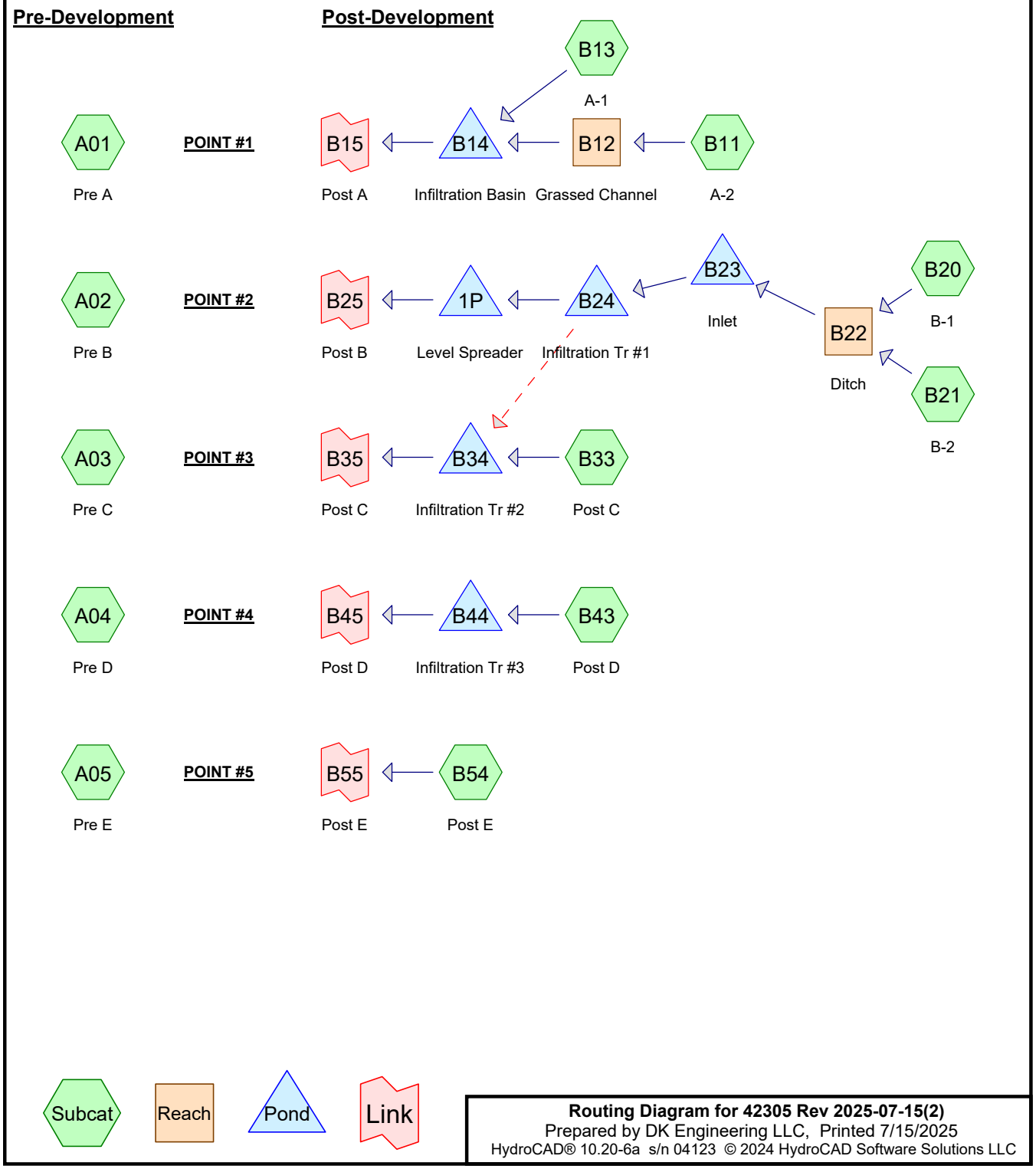
Design Storm	Peak Flow Rate		
	Pre-Dev. (cfs)	Post-Dev. (cfs)	Δ (cfs)
2	0.0	0.0	0.0
10	0.1	0.1	0.0
25	0.4	0.3	(0.1)
100	1.3	0.7	(0.6)

These Storm Drainage calculations were prepared in accordance with the applicable Town of Andover Regulations and the Massachusetts DEP Stormwater Handbook. Drainage structures and pipes were designed according to generally accepted engineering principles and in accordance with the stated regulations.

ii. Runoff and Mitigation Design Calculations

25-Year Design Storm Event – Detail

See Following Pages



Routing Diagram for 42305 Rev 2025-07-15(2)
Prepared by DK Engineering LLC, Printed 7/15/2025

Summary for Pond 1P: Level Spreader

Inflow Area = 1.634 ac, 16.98% Impervious, Inflow Depth = 1.8" for 25-yr event
Inflow = 4.5 cfs @ 12.34 hrs, Volume= 0.245 af
Outflow = 4.4 cfs @ 12.34 hrs, Volume= 0.238 af, Atten= 1%, Lag= 0.4 min
Primary = 4.4 cfs @ 12.34 hrs, Volume= 0.238 af
Routed to Link B25 : Post B

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs / 3
Peak Elev= 208.13' @ 12.34 hrs Surf.Area= 987 sf Storage= 511 cf

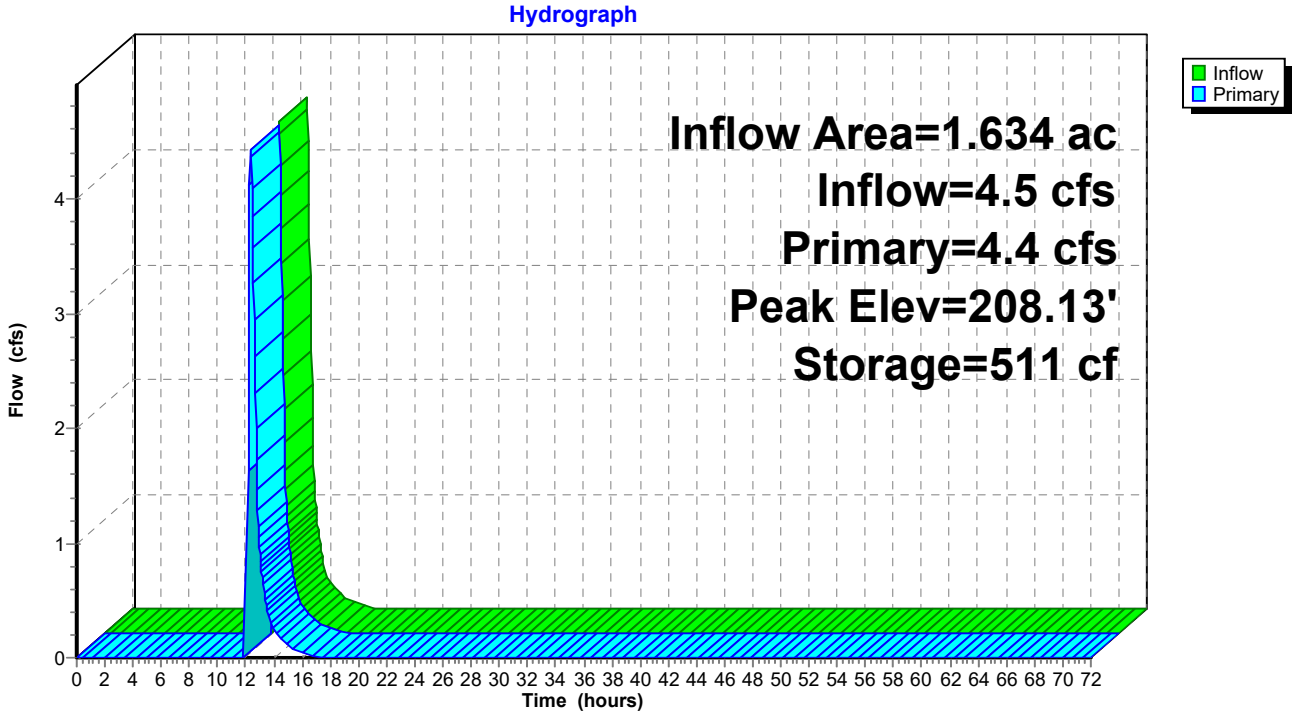
Plug-Flow detention time= 6.7 min calculated for 0.238 af (97% of inflow)
Center-of-Mass det. time= 1.7 min (773.4 - 771.6)

Volume	Invert	Avail.Storage	Storage Description
#1	207.50'	581 cf	**8.00'W x 80.00'L x 0.70'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	208.00'	**40.0' long + 3.0 '/' SideZ x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=4.4 cfs @ 12.34 hrs HW=208.13' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 4.4 cfs @ 0.84 fps)

Pond 1P: Level Spreader



Summary for Subcatchment A01: Pre A

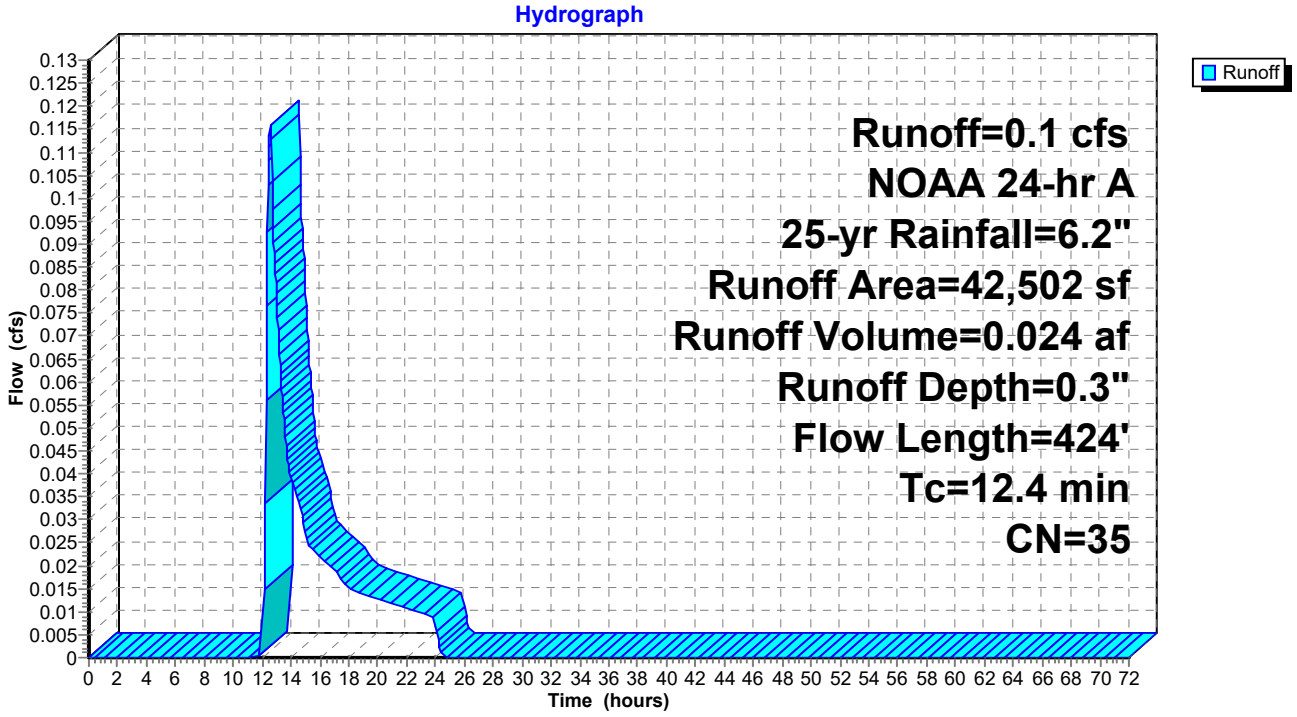
Runoff = 0.1 cfs @ 12.57 hrs, Volume= 0.024 af, Depth= 0.3"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
33,802	30	Woods, Good, HSG A
8,700	55	Woods, Good, HSG B
42,502	35	Weighted Average
42,502		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.1"
2.2	181	0.0750	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	73	0.1900	2.18		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.5	120	0.0750	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	424	Total			

Subcatchment A01: Pre A



Summary for Subcatchment A02: Pre B

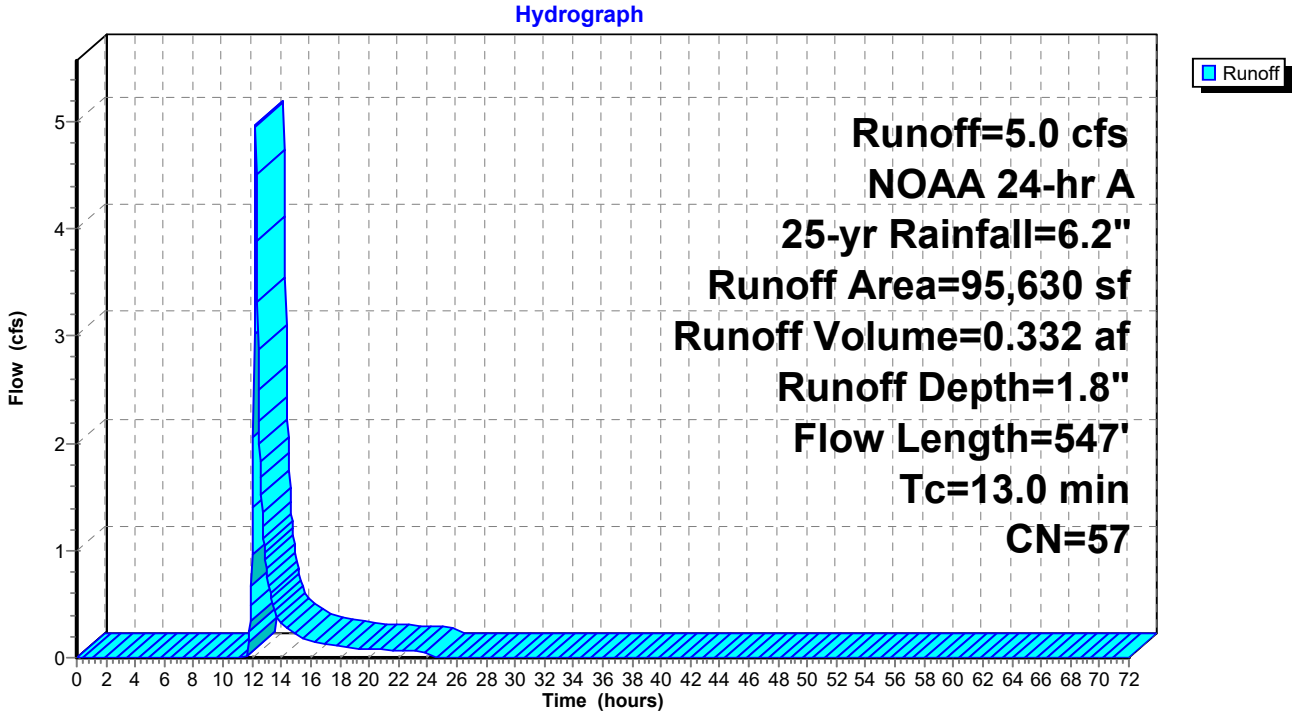
Runoff = 5.0 cfs @ 12.23 hrs, Volume= 0.332 af, Depth= 1.8"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

	Area (sf)	CN	Description
	452	98	Roofs, HSG A
	246	98	Paved parking, HSG B
	2,752	98	Paved parking, HSG A
*	995	98	Paved parking, HSG B
	589	98	Paved parking, HSG C
	26,841	30	Woods, Good, HSG A
	23,696	55	Woods, Good, HSG B
	19,684	70	Woods, Good, HSG C
	20,375	70	1/2 acre lots, 25% imp, HSG B
	95,630	57	Weighted Average
	85,502		89.41% Pervious Area
	10,128		10.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.1"
2.3	132	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	365	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.0	547	Total			

Subcatchment A02: Pre B



Summary for Subcatchment A03: Pre C

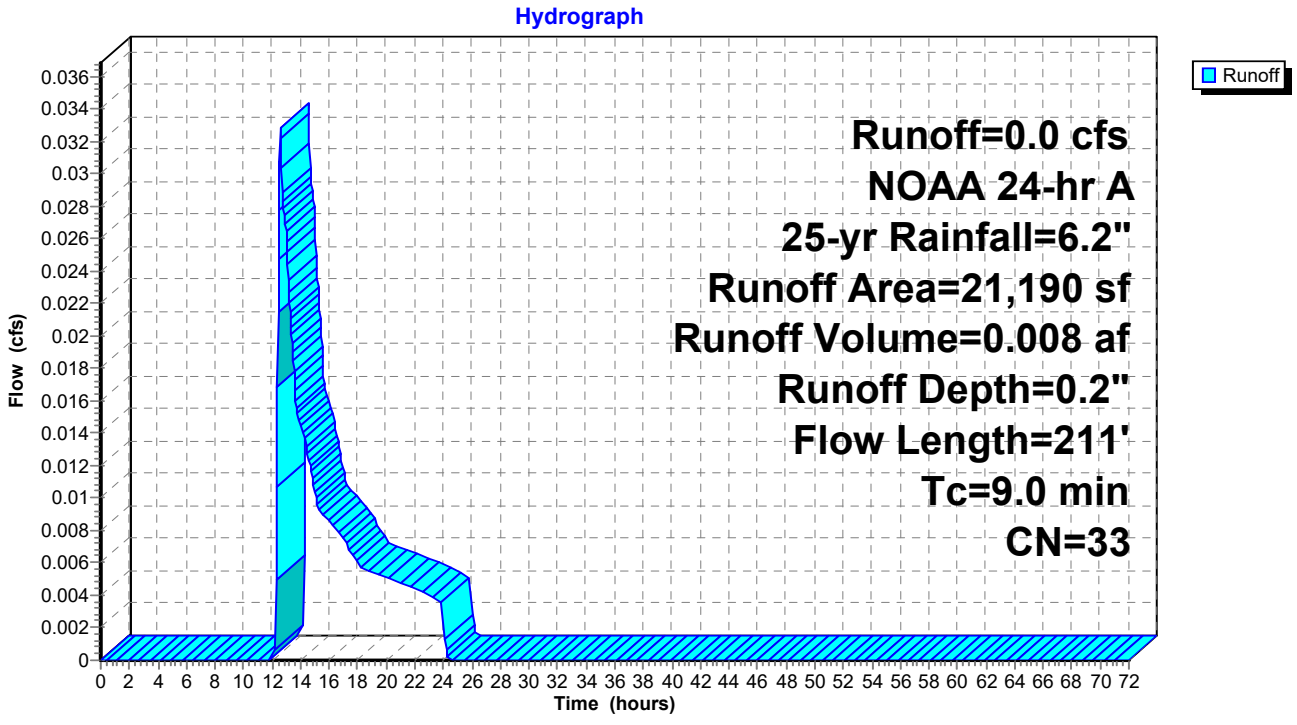
Runoff = 0.0 cfs @ 12.57 hrs, Volume= 0.008 af, Depth= 0.2"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
808	98	Roofs, HSG A
20,382	30	Woods, Good, HSG A
21,190	33	Weighted Average
20,382		96.19% Pervious Area
808		3.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.1"
1.8	161	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.0	211	Total			

Subcatchment A03: Pre C



Summary for Subcatchment A04: Pre D

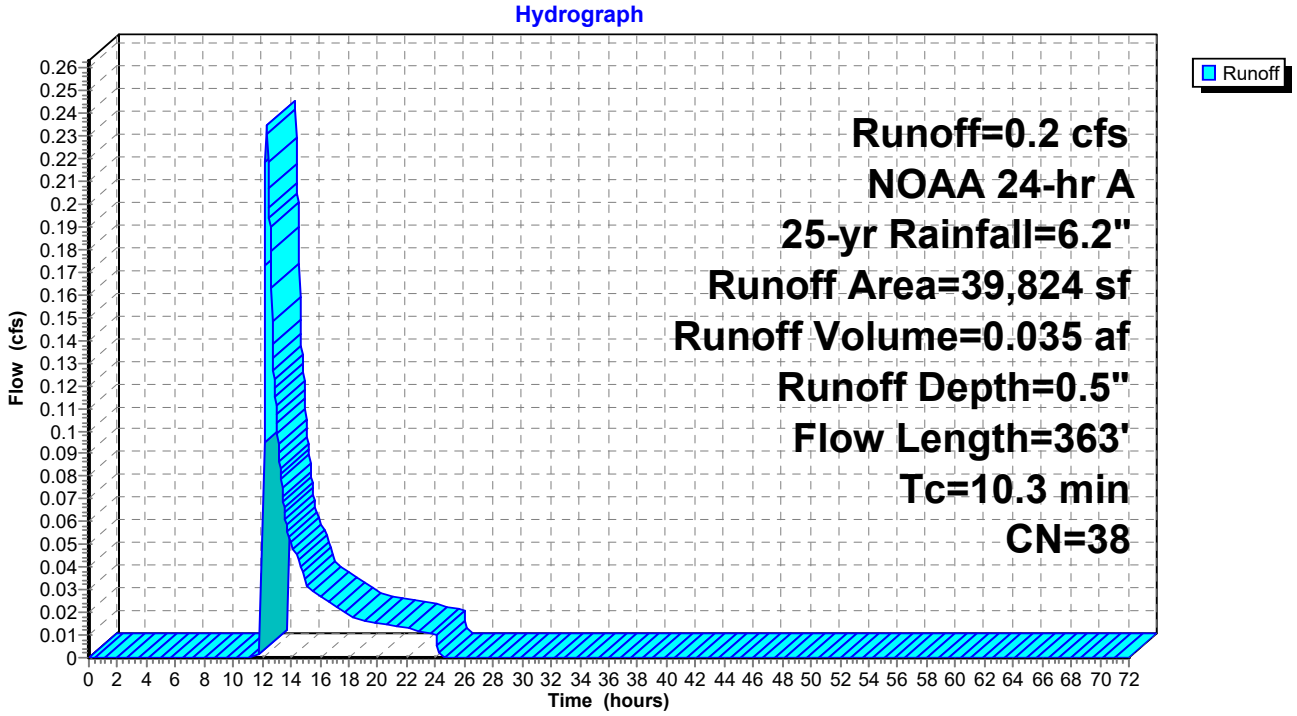
Runoff = 0.2 cfs @ 12.30 hrs, Volume= 0.035 af, Depth= 0.5"
Routed to nonexistent node 91L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
278	98	Roofs, HSG A
574	98	Roofs, HSG B
27,837	30	Woods, Good, HSG A
11,135	55	Woods, Good, HSG B
39,824	38	Weighted Average
38,972		97.86% Pervious Area
852		2.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	50	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.1"
2.1	142	0.0490	1.11		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	171	0.1290	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.3	363	Total			

Subcatchment A04: Pre D



Summary for Subcatchment A05: Pre E

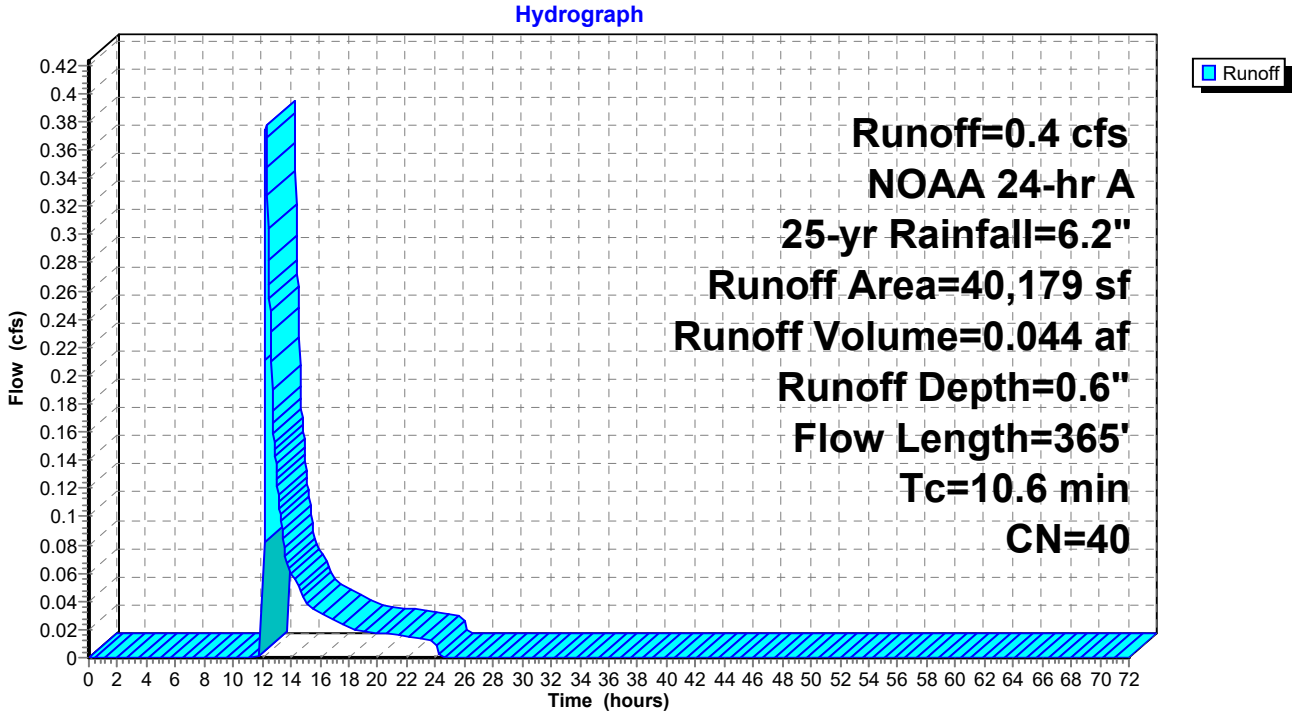
Runoff = 0.4 cfs @ 12.26 hrs, Volume= 0.044 af, Depth= 0.6"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
24,091	30	Woods, Good, HSG A
16,088	55	Woods, Good, HSG B
40,179	40	Weighted Average
40,179		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.1"
1.5	109	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	206	0.1260	1.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.6	365	Total			

Subcatchment A05: Pre E



Summary for Subcatchment B11: A-2

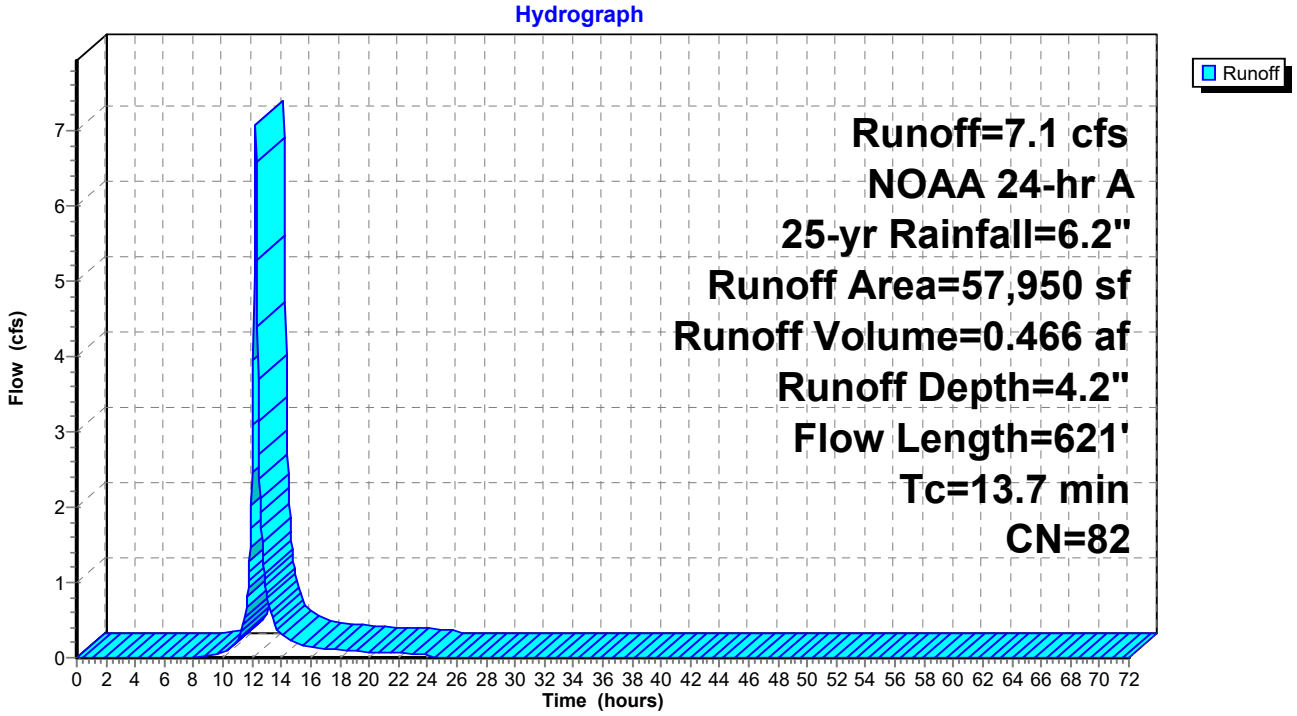
Runoff = 7.1 cfs @ 12.22 hrs, Volume= 0.466 af, Depth= 4.2"
Routed to Reach B12 : Grassed Channel

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

	Area (sf)	CN	Description
	11,250	98	Paved parking, HSG A
	7,293	98	Paved parking, HSG B
*	177	98	Paved parking, HSG A (Sidewalk)
*	887	98	Paved parking, HSG B (Sidewalk)
	7,131	68	<50% Grass cover, Poor, HSG A
	27,405	79	<50% Grass cover, Poor, HSG B
	3,807	55	Woods, Good, HSG B
	57,950	82	Weighted Average
	38,343		66.17% Pervious Area
	19,607		33.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.1"
1.9	197	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.3	339	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	35	0.0460	12.65	9.9	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
13.7	621	Total			

Subcatchment B11: A-2



Summary for Reach B12: Grassed Channel

Inflow Area = 1.330 ac, 33.83% Impervious, Inflow Depth = 4.2" for 25-yr event
Inflow = 7.1 cfs @ 12.22 hrs, Volume= 0.466 af
Outflow = 6.9 cfs @ 12.26 hrs, Volume= 0.466 af, Atten= 2%, Lag= 2.5 min
Routed to Pond B14 : Infiltration Basin

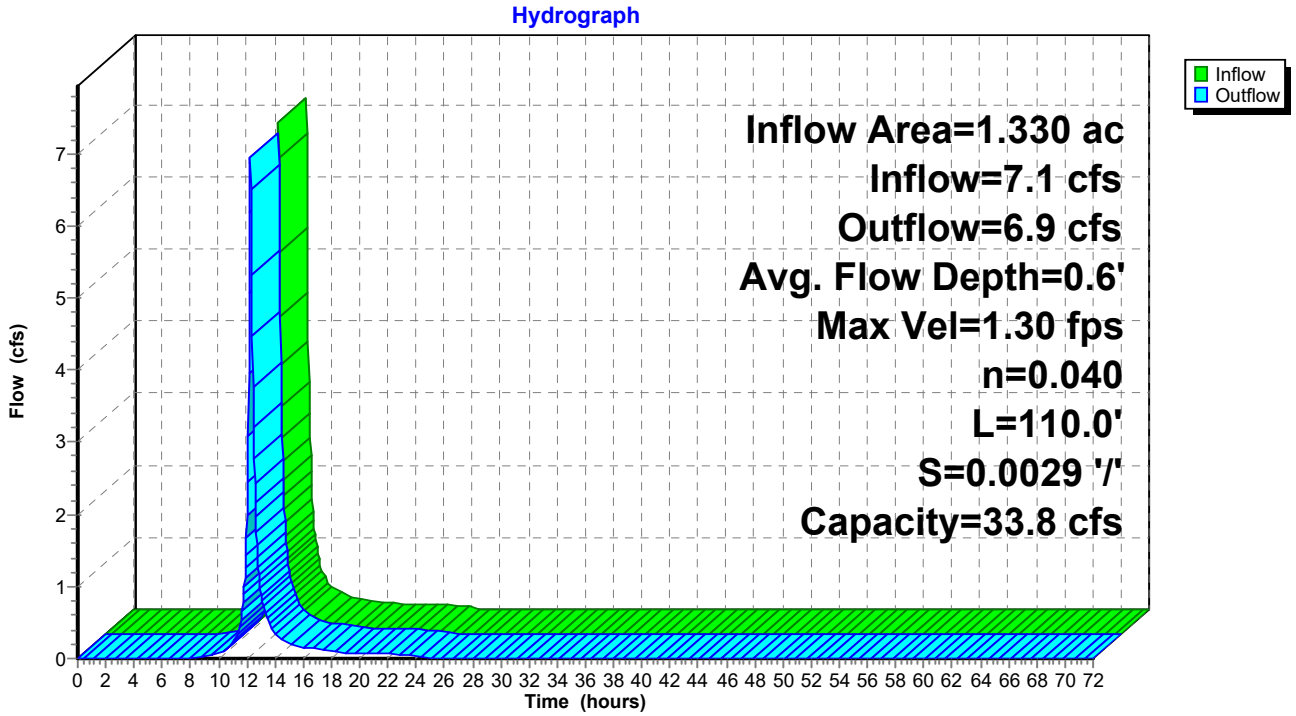
Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Max. Velocity= 1.30 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.30 fps, Avg. Travel Time= 6.1 min

Peak Storage= 593 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.6' , Surface Width= 10.0'
Bank-Full Depth= 1.5' Flow Area= 15.8 sf, Capacity= 33.8 cfs

7.50' x 1.50' deep channel, n= 0.040 Earth, dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 13.50'
Length= 110.0' Slope= 0.0029 '/'
Inlet Invert= 207.30', Outlet Invert= 206.98'

‡

Reach B12: Grassed Channel



Summary for Subcatchment B13: A-1

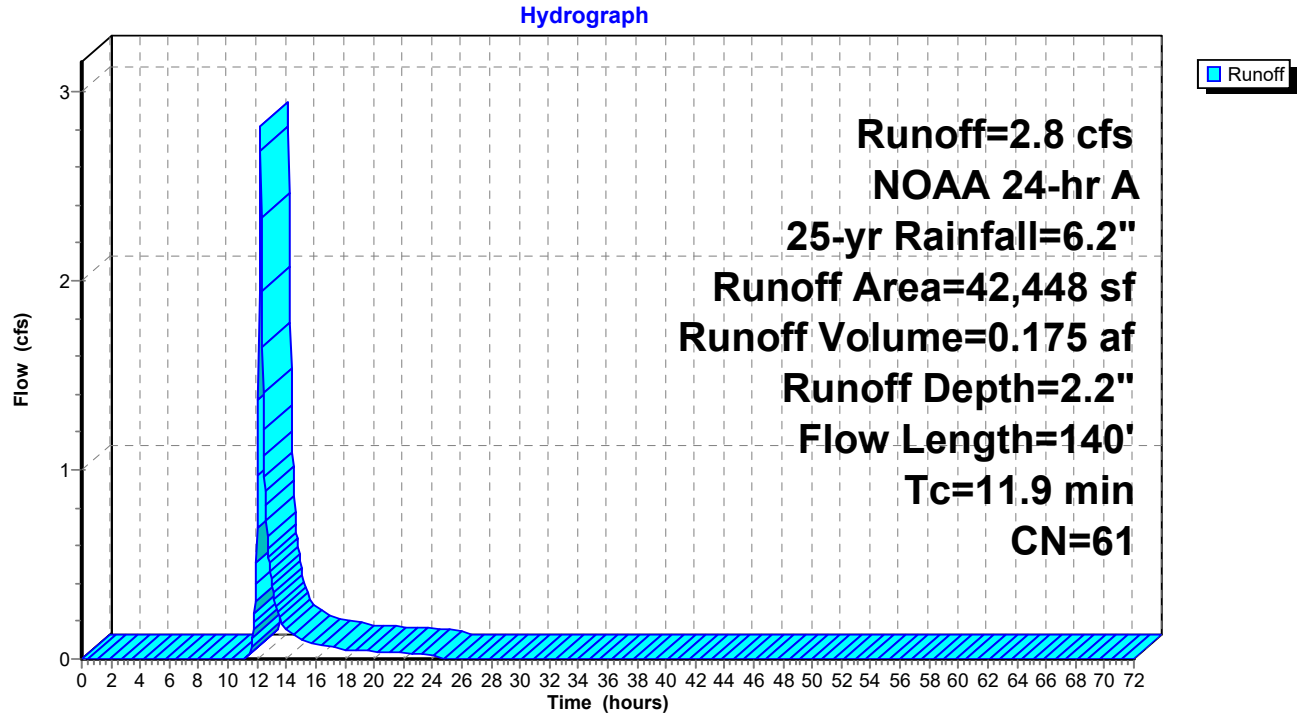
Runoff = 2.8 cfs @ 12.21 hrs, Volume= 0.175 af, Depth= 2.2"
Routed to Pond B14 : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
29,613	68	<50% Grass cover, Poor, HSG A
2,332	79	<50% Grass cover, Poor, HSG B
7,463	30	Woods, Good, HSG A
3,040	55	Woods, Good, HSG B
42,448	61	Weighted Average
42,448		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	50	0.0100	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.1"
0.5	58	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	32	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.9	140	Total			

Subcatchment B13: A-1



Summary for Pond B14: Infiltration Basin

Inflow Area = 2.305 ac, 19.53% Impervious, Inflow Depth = 3.3" for 25-yr event
Inflow = 9.6 cfs @ 12.24 hrs, Volume= 0.641 af
Outflow = 0.6 cfs @ 13.65 hrs, Volume= 0.641 af, Atten= 93%, Lag= 84.2 min
Discarded = 0.4 cfs @ 13.65 hrs, Volume= 0.589 af
Primary = 0.2 cfs @ 13.65 hrs, Volume= 0.052 af
Routed to Link B15 : Post A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 207.09' @ 13.65 hrs Surf.Area= 7,297 sf Storage= 17,344 cf

Plug-Flow detention time= 458.0 min calculated for 0.641 af (100% of inflow)
Center-of-Mass det. time= 458.2 min (1,270.5 - 812.3)

Volume	Invert	Avail.Storage	Storage Description
#1	203.50'	28,324 cf	**Custom Stage Data (Conic)** Listed below

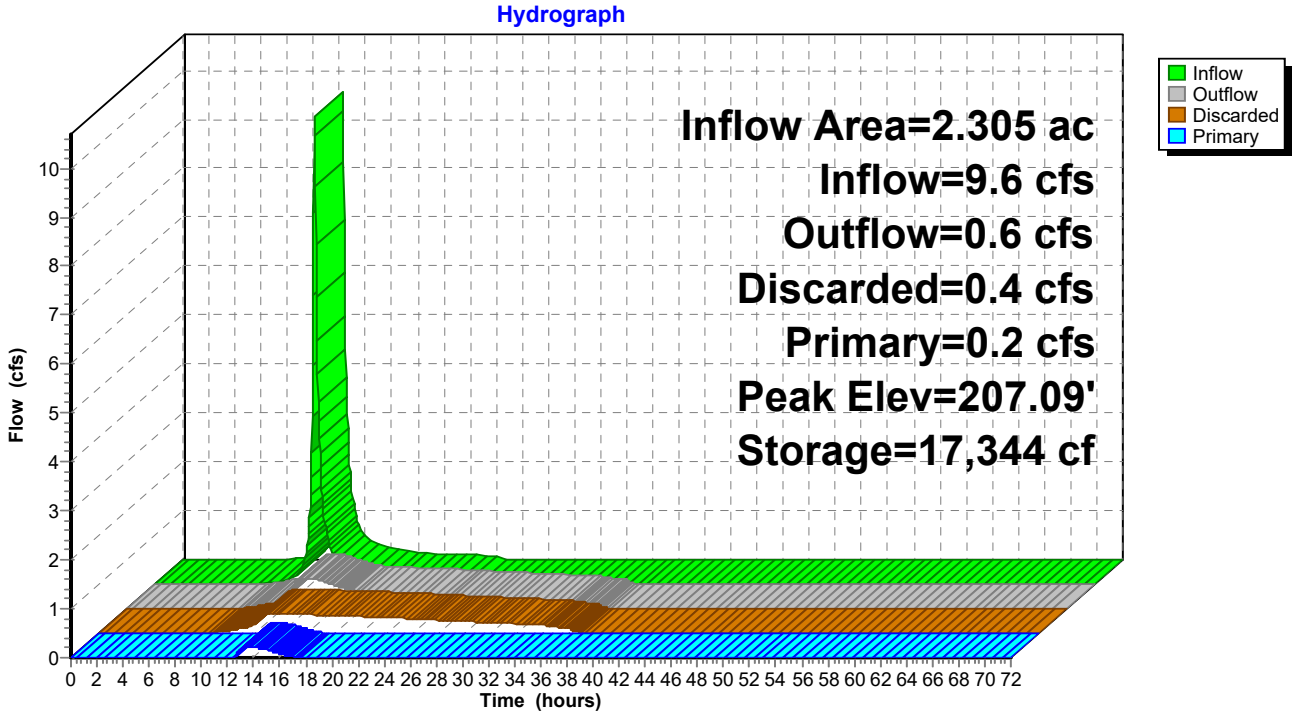
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
203.50	1,497	0	0	1,497
204.00	3,158	1,138	1,138	3,160
206.00	5,444	8,499	9,637	5,492
208.00	8,848	14,155	23,792	8,948
208.50	9,280	4,532	28,324	9,411

Device	Routing	Invert	Outlet Devices
#1	Discarded	203.50'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	201.00'	**12.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 201.00' / 200.00' S= 0.0200 '/' Cc= 0.900 n= 0.010, Flow Area= 0.79 sf
#3	Device 2	206.65'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	207.71'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.4 cfs @ 13.65 hrs HW=207.09' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.4 cfs)

Primary OutFlow Max=0.2 cfs @ 13.65 hrs HW=207.09' (Free Discharge)
└**2=Culvert** (Passes 0.2 cfs of 8.9 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 0.2 cfs @ 2.51 fps)
  └**4=Orifice/Grate** (Controls 0.0 cfs)

Pond B14: Infiltration Basin

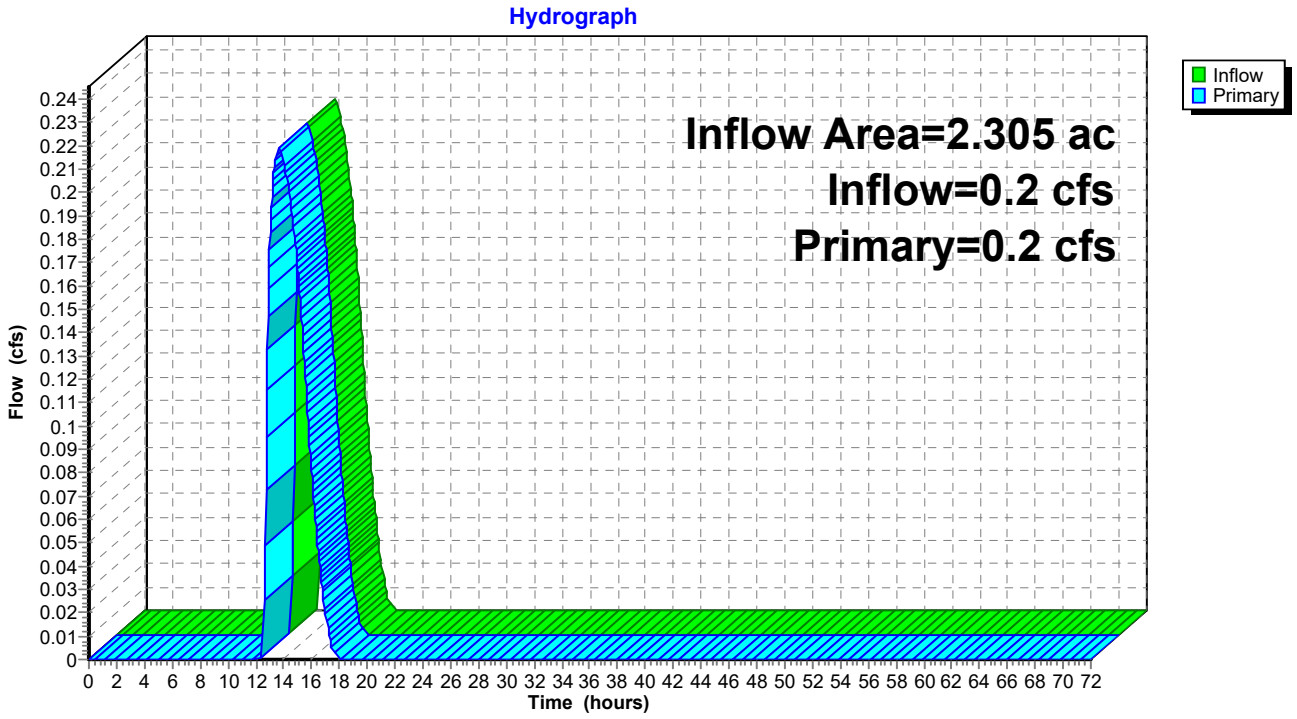


Summary for Link B15: Post A

Inflow Area = 2.305 ac, 19.53% Impervious, Inflow Depth = 0.3" for 25-yr event
Inflow = 0.2 cfs @ 13.65 hrs, Volume= 0.052 af
Primary = 0.2 cfs @ 13.65 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs

Link B15: Post A



Summary for Subcatchment B20: B-1

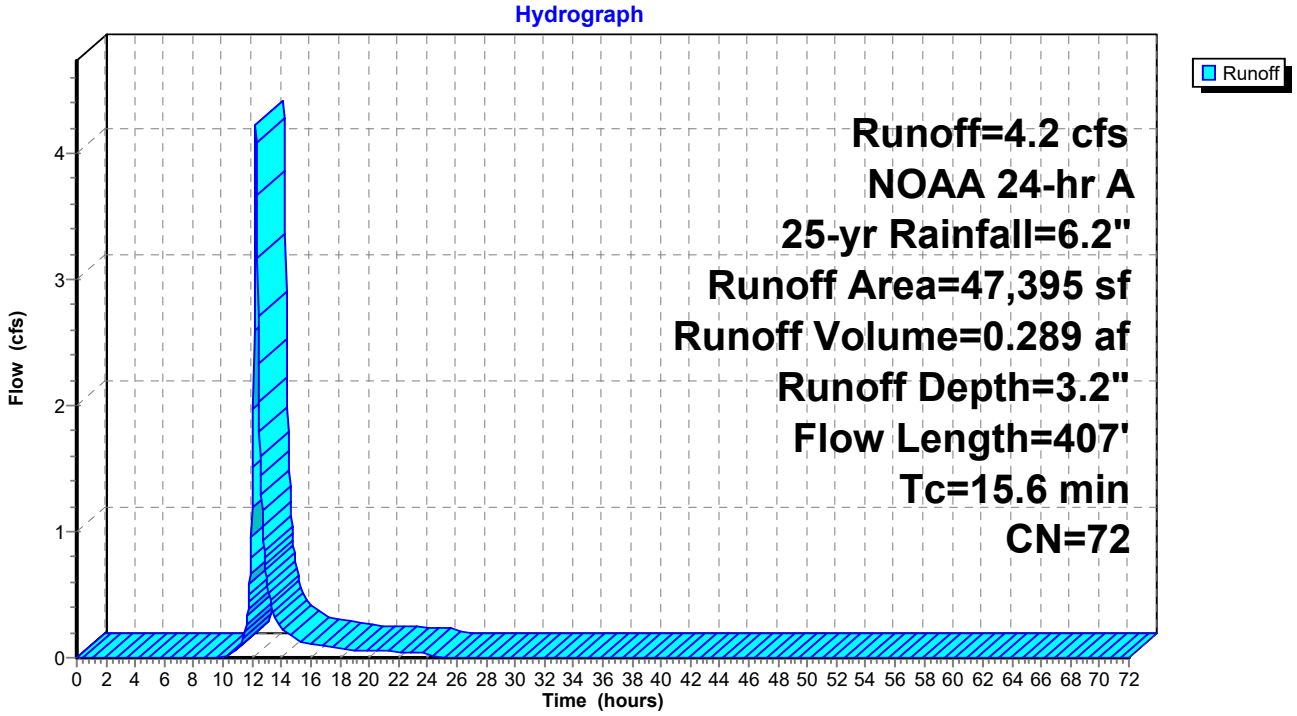
Runoff = 4.2 cfs @ 12.25 hrs, Volume= 0.289 af, Depth= 3.2"
Routed to Reach B22 : Ditch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

	Area (sf)	CN	Description
	3,893	98	Paved parking, HSG A
	501	98	Paved parking, HSG C
*	454	98	Paved parking, HSG A Sdwk
*	107	98	Paved parking, HSG C Sdwk
	10,314	68	<50% Grass cover, Poor, HSG A
	3,533	79	<50% Grass cover, Poor, HSG B
	975	86	<50% Grass cover, Poor, HSG C
	0	30	Woods, Good, HSG A
	4,163	55	Woods, Good, HSG B
	23,455	70	1/2 acre lots, 25% imp, HSG B
	47,395	72	Weighted Average
	36,576		77.17% Pervious Area
	10,819		22.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.1"
2.7	242	0.0460	1.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	115	0.0520	4.63		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.6	407	Total			

Subcatchment B20: B-1



Summary for Subcatchment B21: B-2

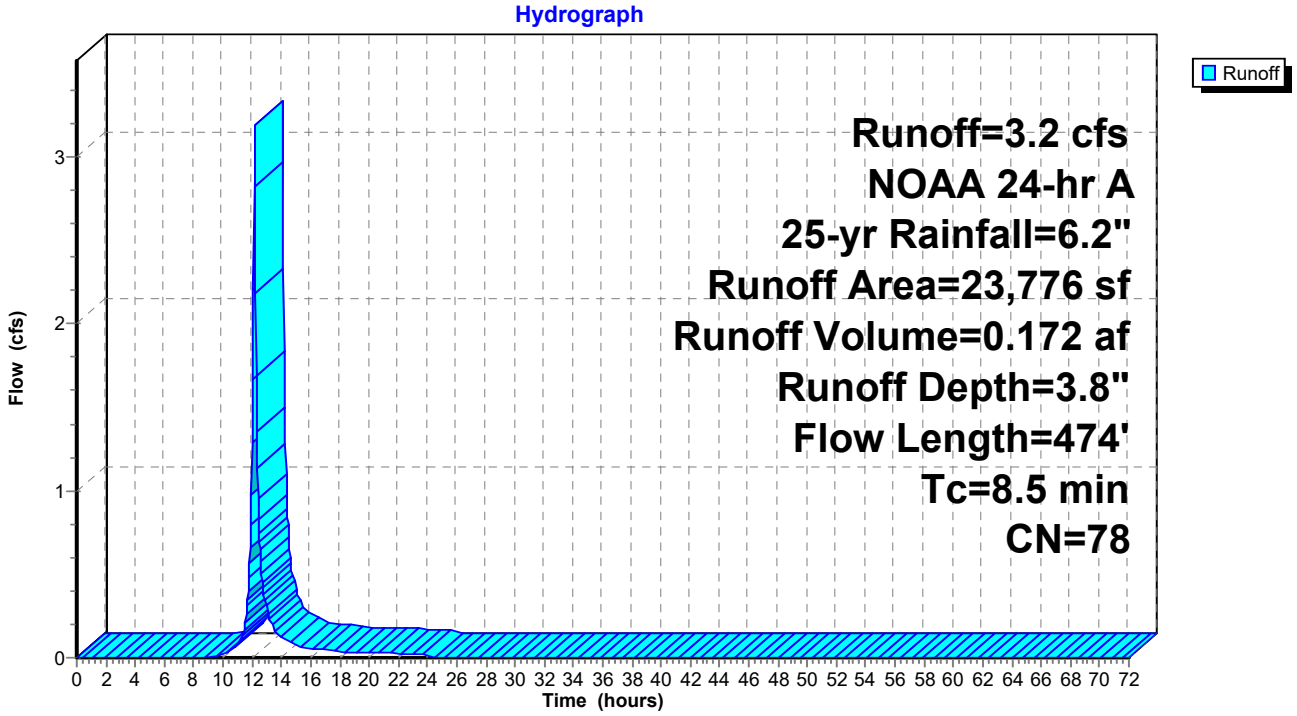
Runoff = 3.2 cfs @ 12.16 hrs, Volume= 0.172 af, Depth= 3.8"
Routed to Reach B22 : Ditch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

	Area (sf)	CN	Description
*	1,075	98	Paved parking, HSG C (Pvmt.)
*	188	98	Paved parking, HSG C (Sdwk.)
	5,197	68	<50% Grass cover, Poor, HSG A
	206	79	<50% Grass cover, Poor, HSG B
	11,142	86	<50% Grass cover, Poor, HSG C
	470	30	Woods, Good, HSG A
	52	55	Woods, Good, HSG B
	5,446	70	Woods, Good, HSG C
	23,776	78	Weighted Average
	22,513		94.69% Pervious Area
	1,263		5.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0800	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.1"
1.2	134	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	35	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	120	0.0460	1.07		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	135	0.0600	6.78	13.6	**Channel Flow,** Area= 2.0 sf Perim= 3.8' r= 0.53' n= 0.035 Earth, dense weeds
8.5	474	Total			

Subcatchment B21: B-2



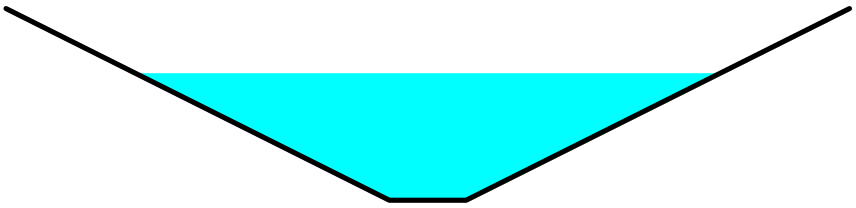
Summary for Reach B22: Ditch

Inflow Area = 1.634 ac, 16.98% Impervious, Inflow Depth = 3.4" for 25-yr event
Inflow = 6.8 cfs @ 12.20 hrs, Volume= 0.461 af
Outflow = 6.7 cfs @ 12.21 hrs, Volume= 0.461 af, Atten= 1%, Lag= 1.1 min
Routed to Pond B23 : Inlet

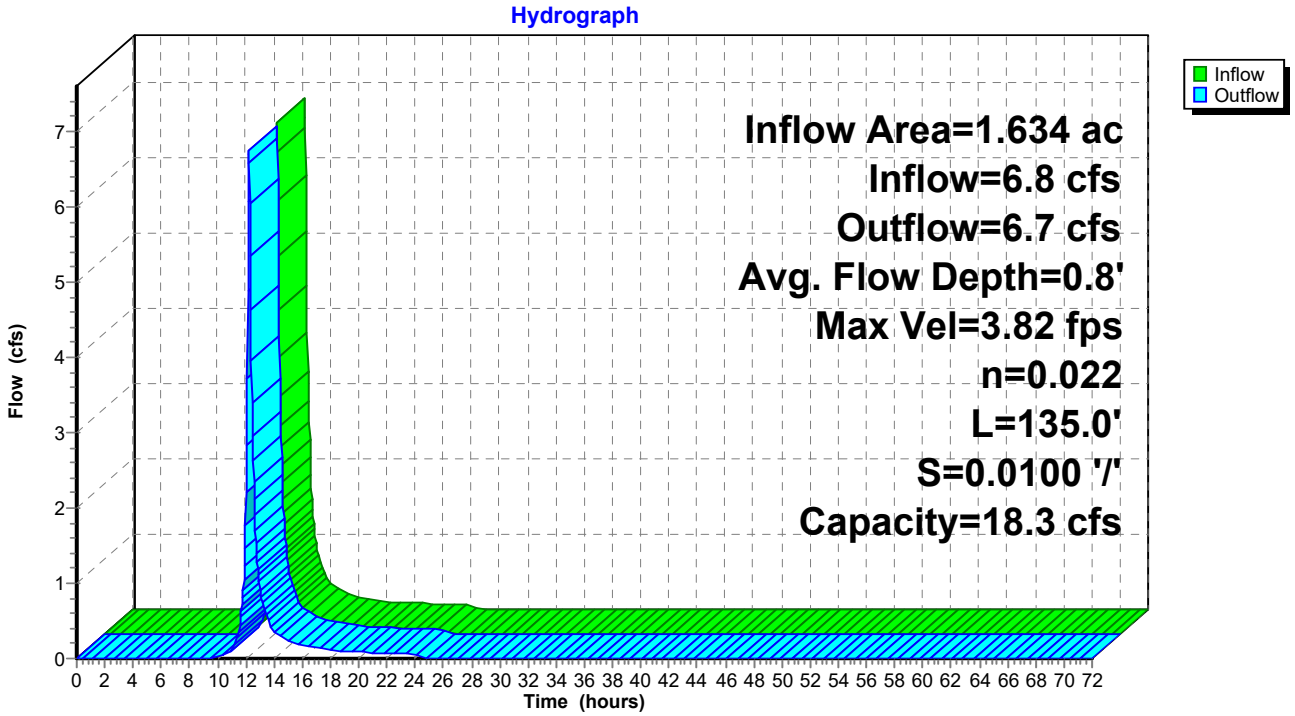
Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Max. Velocity= 3.82 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.34 fps, Avg. Travel Time= 1.7 min

Peak Storage= 241 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.8' , Surface Width= 3.8'
Bank-Full Depth= 1.3' Flow Area= 3.8 sf, Capacity= 18.3 cfs

0.50' x 1.25' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 2.0 '/' Top Width= 5.50'
Length= 135.0' Slope= 0.0100 '/'
Inlet Invert= 216.00', Outlet Invert= 214.65'



Reach B22: Ditch



Summary for Pond B23: Inlet

Inflow Area = 1.634 ac, 16.98% Impervious, Inflow Depth = 3.4" for 25-yr event
Inflow = 6.7 cfs @ 12.21 hrs, Volume= 0.461 af
Outflow = 6.7 cfs @ 12.23 hrs, Volume= 0.461 af, Atten= 1%, Lag= 0.7 min
Primary = 6.7 cfs @ 12.23 hrs, Volume= 0.461 af
Routed to Pond B24 : Infiltration Tr #1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 209.62' @ 12.23 hrs Surf.Area= 245 sf Storage= 122 cf
Flood Elev= 211.50' Surf.Area= 645 sf Storage= 935 cf

Plug-Flow detention time= 0.5 min calculated for 0.460 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (814.4 - 813.9)

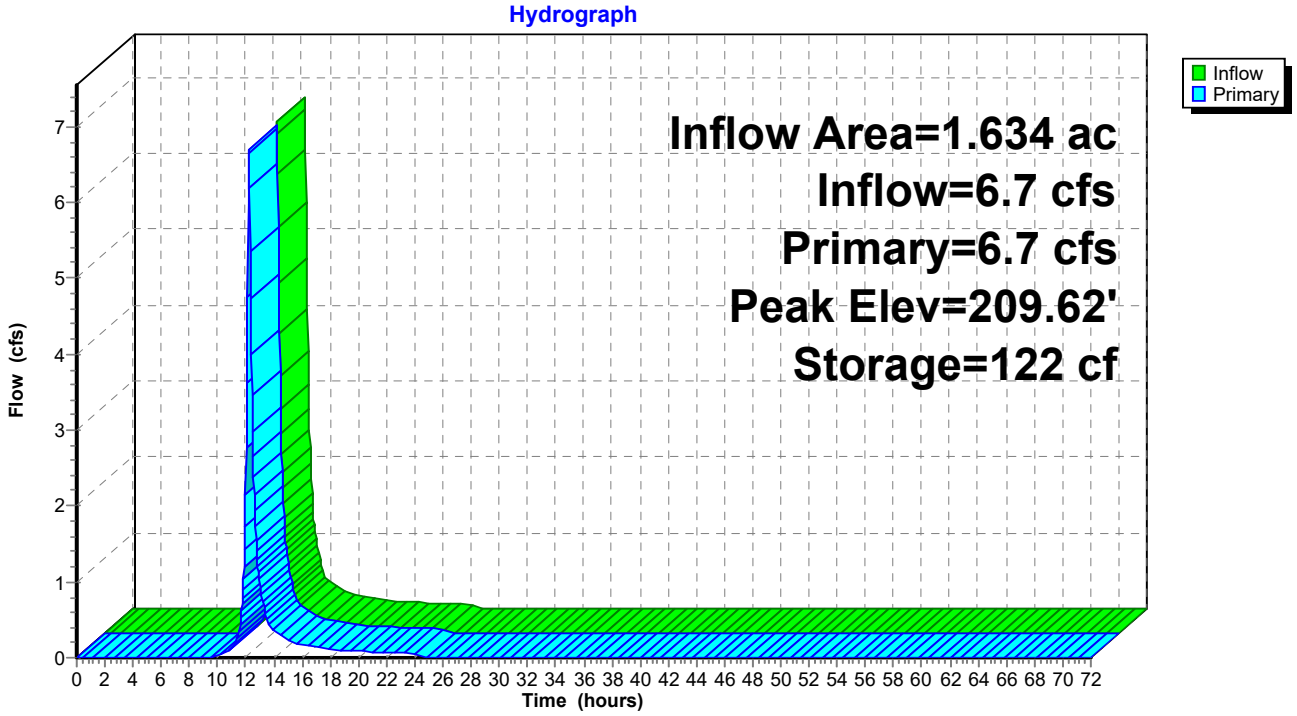
Volume	Invert	Avail.Storage	Storage Description
#1	209.00'	935 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
209.00	150	0	0
210.00	305	228	228
211.00	525	415	643
211.50	645	293	935

Device	Routing	Invert	Outlet Devices
#1	Primary	209.00'	**18.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.6 cfs @ 12.23 hrs HW=209.61' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 6.6 cfs @ 3.75 fps)

Pond B23: Inlet



Summary for Pond B24: Infiltration Tr #1

Inflow Area = 1.634 ac, 16.98% Impervious, Inflow Depth = 3.4" for 25-yr event
Inflow = 6.7 cfs @ 12.23 hrs, Volume= 0.461 af
Outflow = 5.2 cfs @ 12.34 hrs, Volume= 0.461 af, Atten= 22%, Lag= 6.7 min
Discarded = 0.1 cfs @ 11.16 hrs, Volume= 0.210 af
Primary = 4.5 cfs @ 12.34 hrs, Volume= 0.245 af
Routed to Pond 1P : Level Spreader
Secondary = 0.6 cfs @ 12.34 hrs, Volume= 0.006 af
Routed to Pond B34 : Infiltration Tr #2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 210.14' @ 12.34 hrs Surf.Area= 2,400 sf Storage= 5,415 cf

Plug-Flow detention time= 155.1 min calculated for 0.460 af (100% of inflow)
Center-of-Mass det. time= 155.2 min (969.6 - 814.4)

Volume	Invert	Avail.Storage	Storage Description
#1	204.80'	5,857 cf	**30.00'W x 80.00'L x 6.30'H Prismatoid** 15,120 cf Overall - 478 cf Embedded = 14,642 cf x 40.0% Voids
#2	205.30'	478 cf	**24.0" Round Pipe Storage** x 2 Inside #1 L= 76.0' S= 0.0050 '/'
		6,335 cf	Total Available Storage

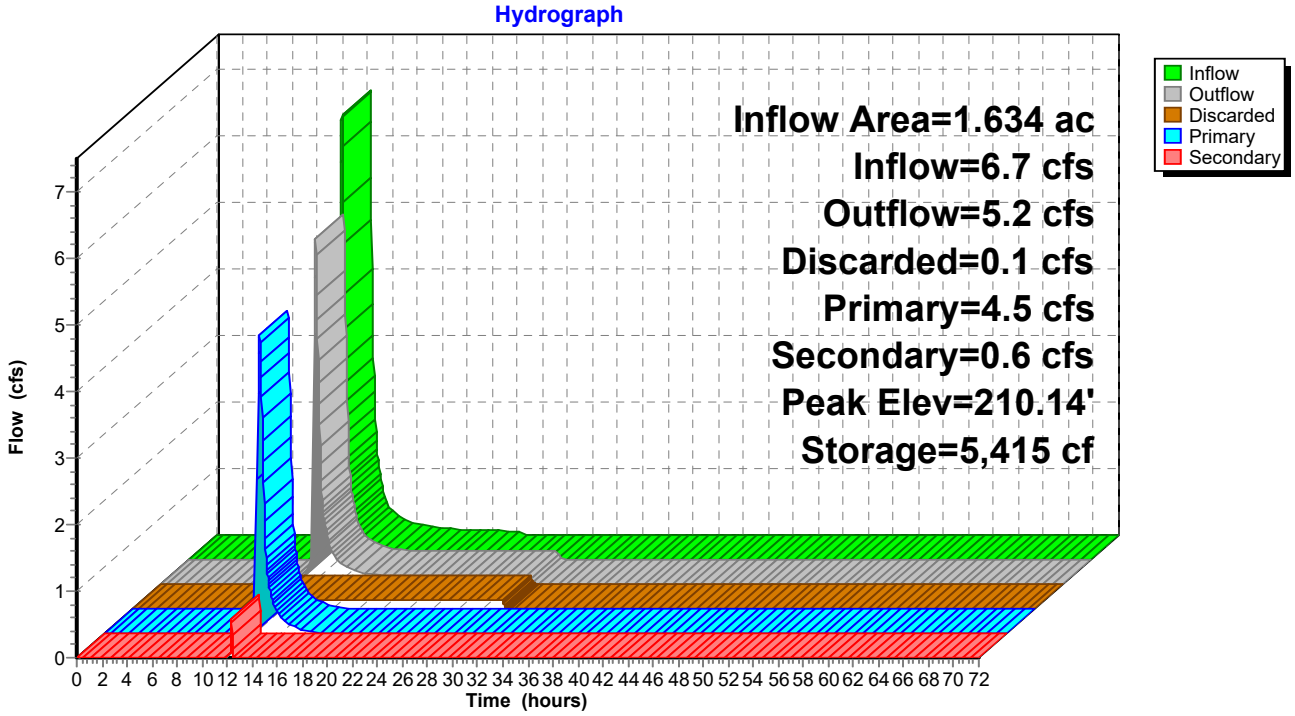
Device	Routing	Invert	Outlet Devices
#1	Discarded	204.80'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	208.50'	**6.0" Vert. Orifice X 4.00** C= 0.600 Limited to weir flow at low heads
#3	Secondary	209.73'	**10.0" Vert. Orifice/Grate** X 2 rows with 12.0" cc spacing C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.1 cfs @ 11.16 hrs HW=204.87' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=4.4 cfs @ 12.34 hrs HW=210.12' (Free Discharge)
↑—**2=Orifice** (Orifice Controls 4.4 cfs @ 5.65 fps)

Secondary OutFlow Max=0.5 cfs @ 12.34 hrs HW=210.12' (Free Discharge)
↑—**3=Orifice/Grate** (Orifice Controls 0.5 cfs @ 2.14 fps)

Pond B24: Infiltration Tr #1

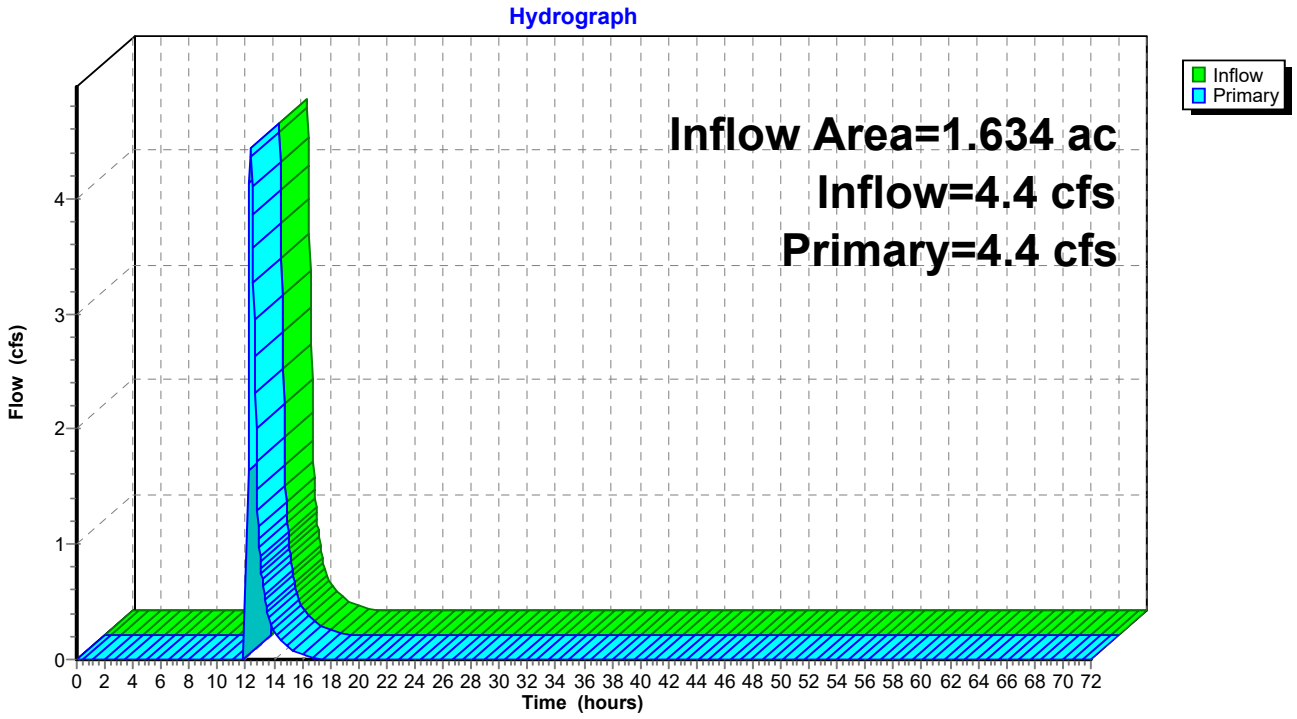


Summary for Link B25: Post B

Inflow Area = 1.634 ac, 16.98% Impervious, Inflow Depth = 1.8" for 25-yr event
Inflow = 4.4 cfs @ 12.34 hrs, Volume= 0.238 af
Primary = 4.4 cfs @ 12.34 hrs, Volume= 0.238 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs

Link B25: Post B



Summary for Subcatchment B33: Post C

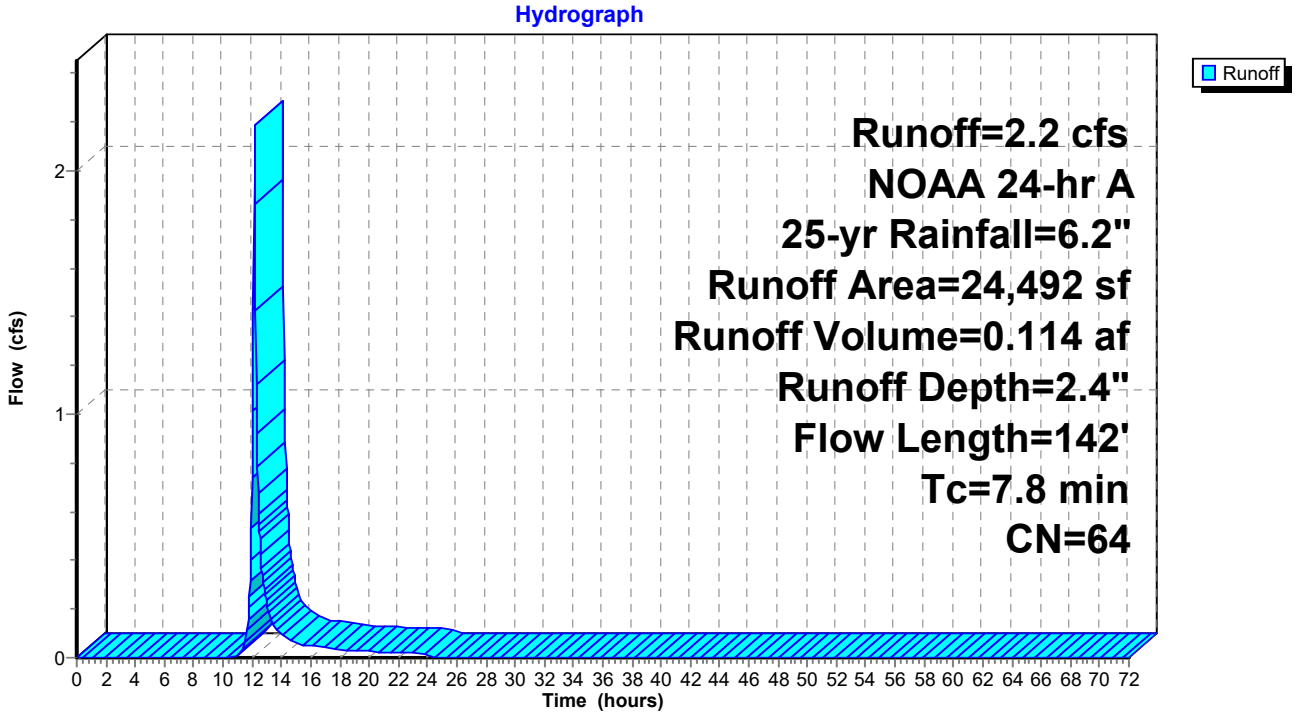
Runoff = 2.2 cfs @ 12.16 hrs, Volume= 0.114 af, Depth= 2.4"
Routed to Pond B34 : Infiltration Tr #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
3,010	98	Paved parking, HSG A
16,368	68	<50% Grass cover, Poor, HSG A
5,060	30	Woods, Good, HSG A
54	55	Woods, Good, HSG B
24,492	64	Weighted Average
21,482		87.71% Pervious Area
3,010		12.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0300	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.1"
0.3	41	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	51	0.1800	2.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	142	Total			

Subcatchment B33: Post C



Summary for Pond B34: Infiltration Tr #2

Inflow Area = 0.562 ac, 12.29% Impervious, Inflow Depth = 2.6" for 25-yr event
Inflow = 2.2 cfs @ 12.16 hrs, Volume= 0.120 af
Outflow = 0.2 cfs @ 11.88 hrs, Volume= 0.120 af, Atten= 90%, Lag= 0.0 min
Discarded = 0.2 cfs @ 11.88 hrs, Volume= 0.120 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link B35 : Post C

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 208.16' @ 13.05 hrs Surf.Area= 3,840 sf Storage= 2,425 cf

Plug-Flow detention time= 98.3 min calculated for 0.120 af (100% of inflow)
Center-of-Mass det. time= 98.3 min (919.2 - 820.9)

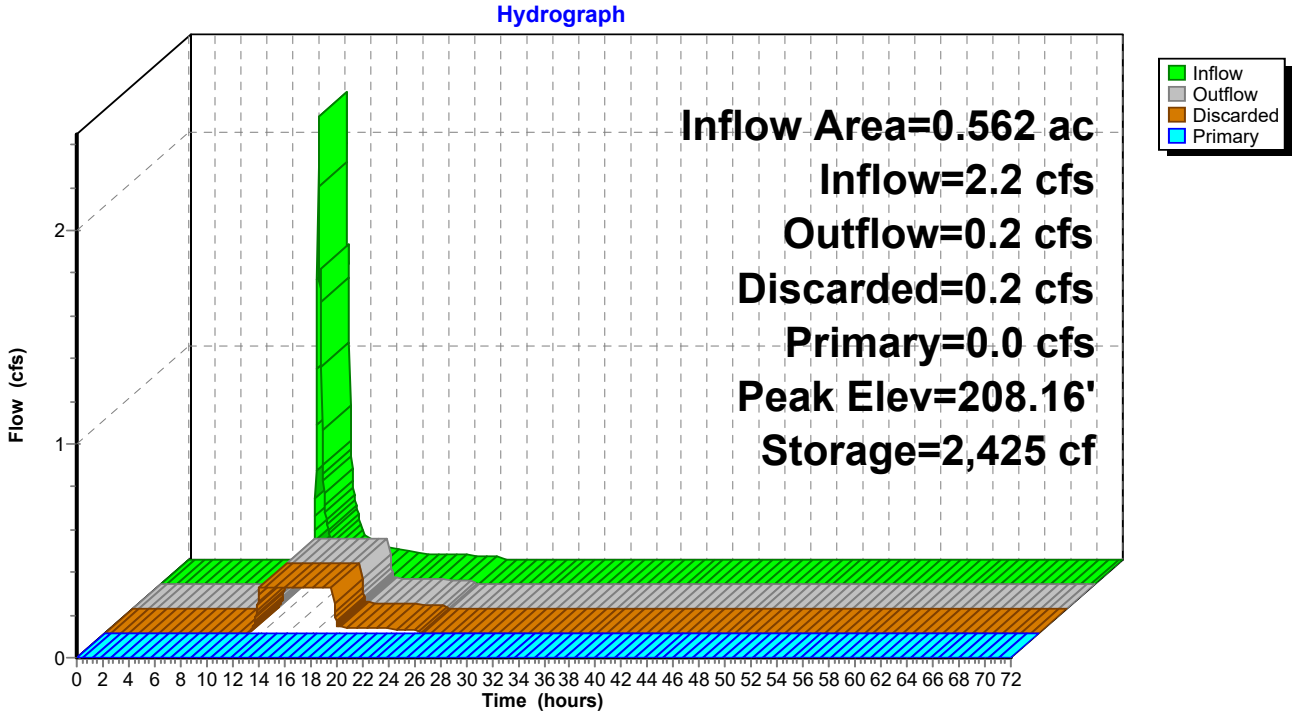
Volume	Invert	Avail.Storage	Storage Description
#1	206.60'	5,898 cf	**19.20'W x 200.00'L x 4.00'H Prismatoid** 15,360 cf Overall - 616 cf Embedded = 14,744 cf x 40.0% Voids
#2	207.50'	616 cf	**24.0" Round Pipe Storage** Inside #1 L= 196.0' S= 0.0050 '/'
		6,513 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	206.60'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	210.27'	**6.0" Horiz. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.2 cfs @ 11.88 hrs HW=206.64' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=206.60' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.0 cfs)

Pond B34: Infiltration Tr #2

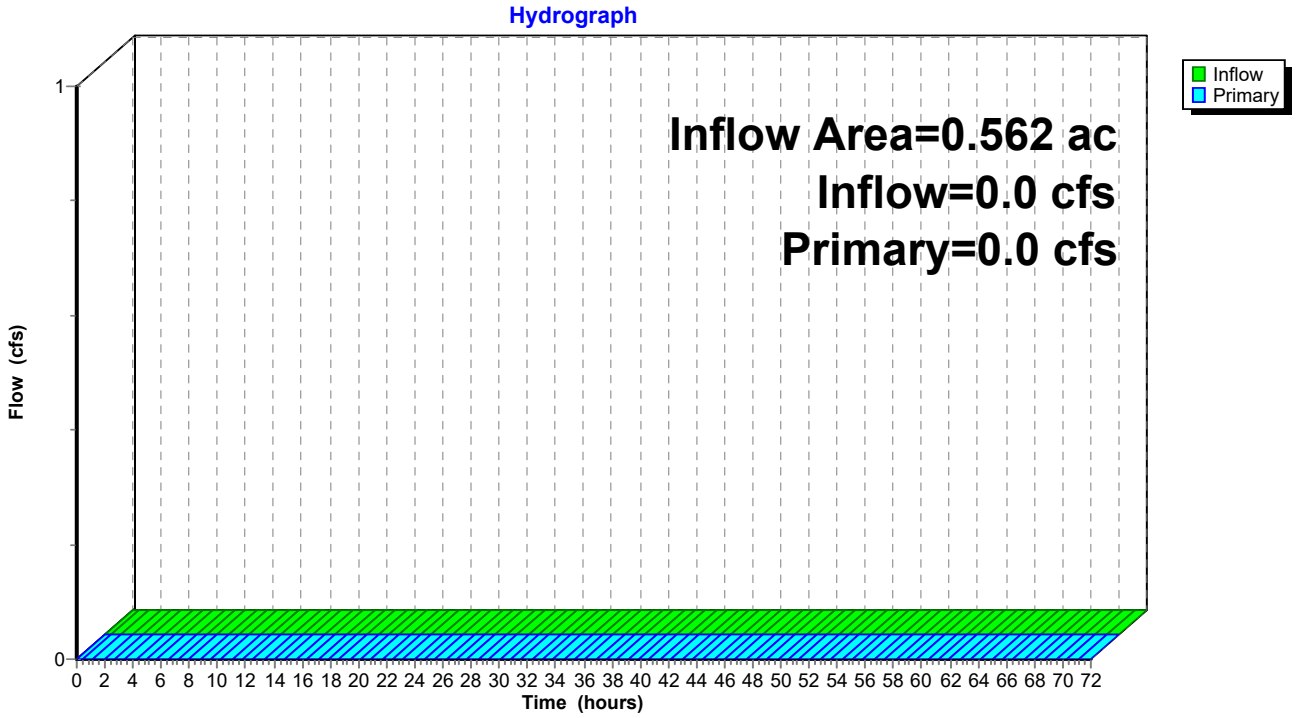


Summary for Link B35: Post C

Inflow Area = 0.562 ac, 12.29% Impervious, Inflow Depth = 0.0" for 25-yr event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 92L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs

Link B35: Post C



Summary for Subcatchment B43: Post D

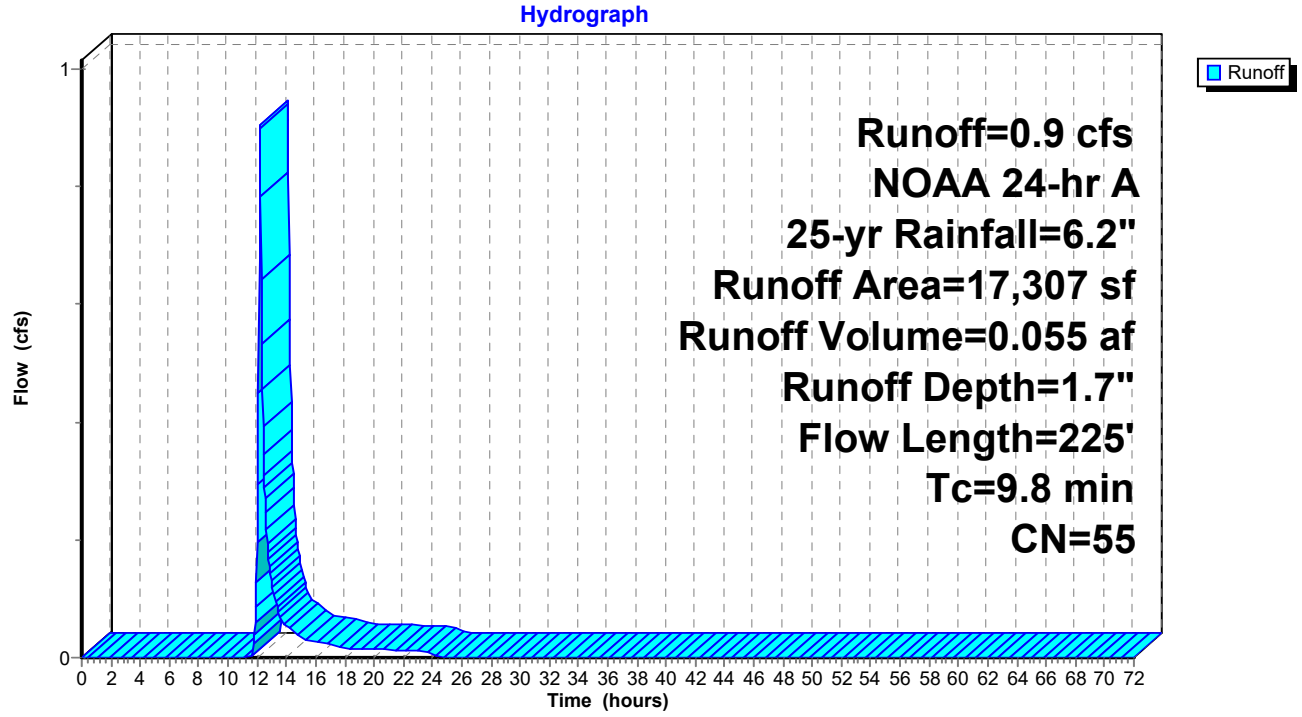
Runoff = 0.9 cfs @ 12.19 hrs, Volume= 0.055 af, Depth= 1.7"
Routed to Pond B44 : Infiltration Tr #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
11,278	68	<50% Grass cover, Poor, HSG A
46	79	<50% Grass cover, Poor, HSG B
5,983	30	Woods, Good, HSG A
17,307	55	Weighted Average
17,307		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0200	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.1"
0.9	75	0.0430	1.45		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	100	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.8	225	Total			

Subcatchment B43: Post D



Summary for Pond B44: Infiltration Tr #3

Inflow Area = 0.397 ac, 0.00% Impervious, Inflow Depth = 1.7" for 25-yr event
Inflow = 0.9 cfs @ 12.19 hrs, Volume= 0.055 af
Outflow = 0.2 cfs @ 12.74 hrs, Volume= 0.055 af, Atten= 80%, Lag= 33.0 min
Discarded = 0.0 cfs @ 11.92 hrs, Volume= 0.048 af
Primary = 0.1 cfs @ 12.74 hrs, Volume= 0.006 af
Routed to Link B45 : Post D

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 206.71' @ 12.72 hrs Surf.Area= 800 sf Storage= 1,064 cf

Plug-Flow detention time= 222.0 min calculated for 0.055 af (100% of inflow)
Center-of-Mass det. time= 221.9 min (1,067.4 - 845.4)

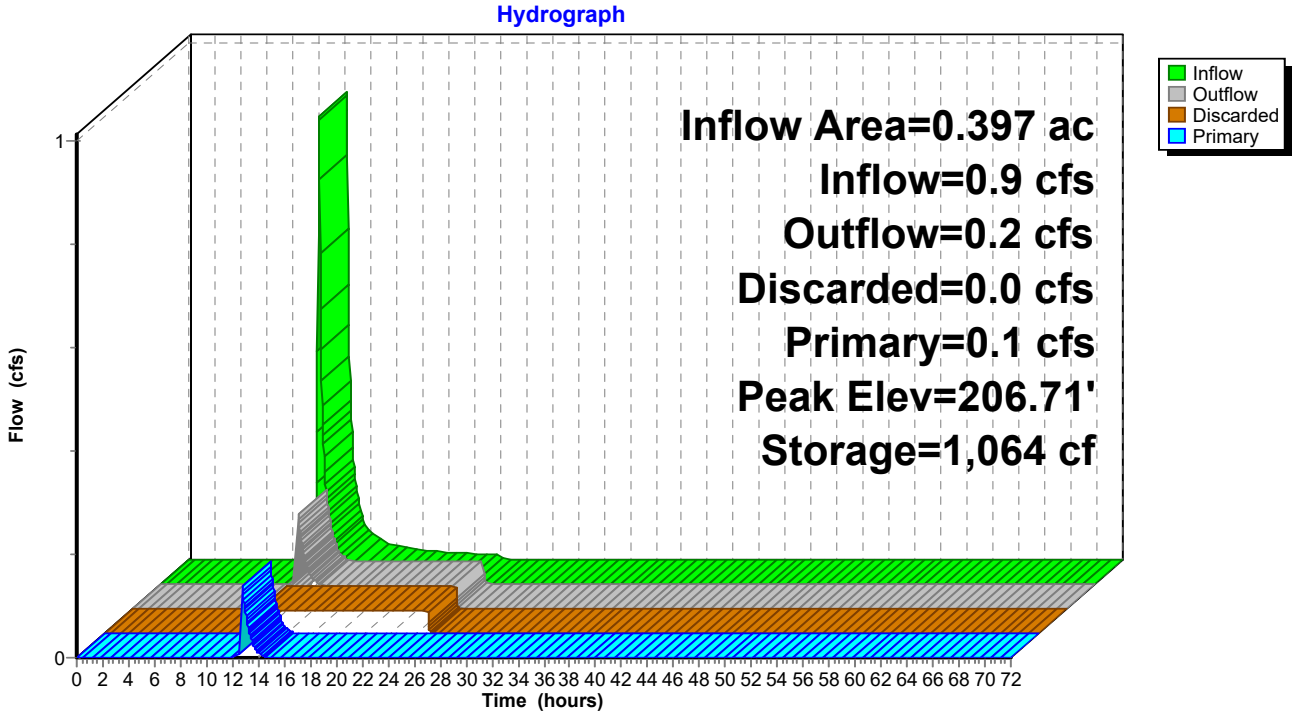
Volume	Invert	Avail.Storage	Storage Description
#1	203.50'	1,176 cf	**10.00'W x 80.00'L x 3.75'H Prismatoid** 3,000 cf Overall - 60 cf Embedded = 2,940 cf x 40.0% Voids
#2	204.50'	60 cf	**12.0" Round Pipe Storage** Inside #1 L= 76.0' S= 0.0050 '/'
		1,236 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	203.50'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	206.66'	**6.0" Horiz. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.0 cfs @ 11.92 hrs HW=203.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.1 cfs @ 12.74 hrs HW=206.71' (Free Discharge)
↑—**2=Orifice/Grate** (Weir Controls 0.1 cfs @ 0.75 fps)

Pond B44: Infiltration Tr #3

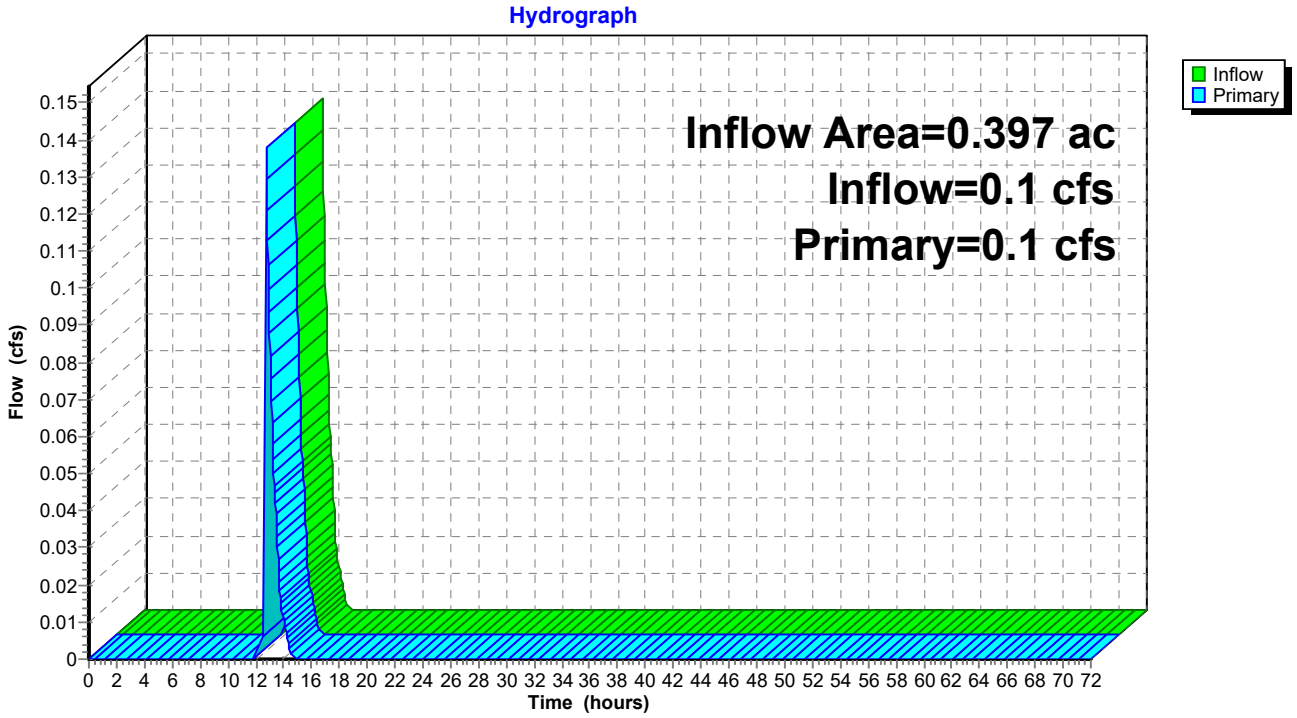


Summary for Link B45: Post D

Inflow Area = 0.397 ac, 0.00% Impervious, Inflow Depth = 0.2" for 25-yr event
Inflow = 0.1 cfs @ 12.74 hrs, Volume= 0.006 af
Primary = 0.1 cfs @ 12.74 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 92L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs

Link B45: Post D



Summary for Subcatchment B54: Post E

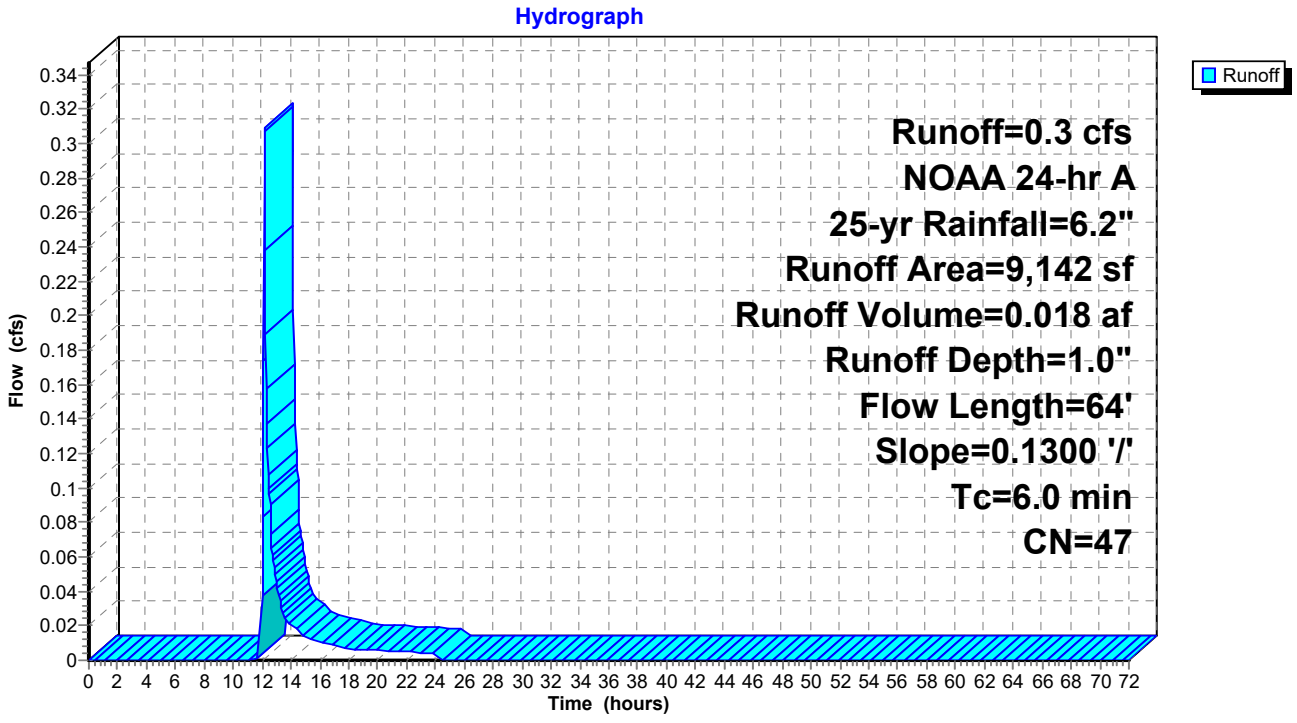
Runoff = 0.3 cfs @ 12.15 hrs, Volume= 0.018 af, Depth= 1.0"
Routed to Link B55 : Post E

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
4,207	68	<50% Grass cover, Poor, HSG A
4,935	30	Woods, Good, HSG A
9,142	47	Weighted Average
9,142		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	32	0.1300	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.1"
0.3	32	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.4	64	Total, Increased to minimum Tc = 6.0 min			

Subcatchment B54: Post E

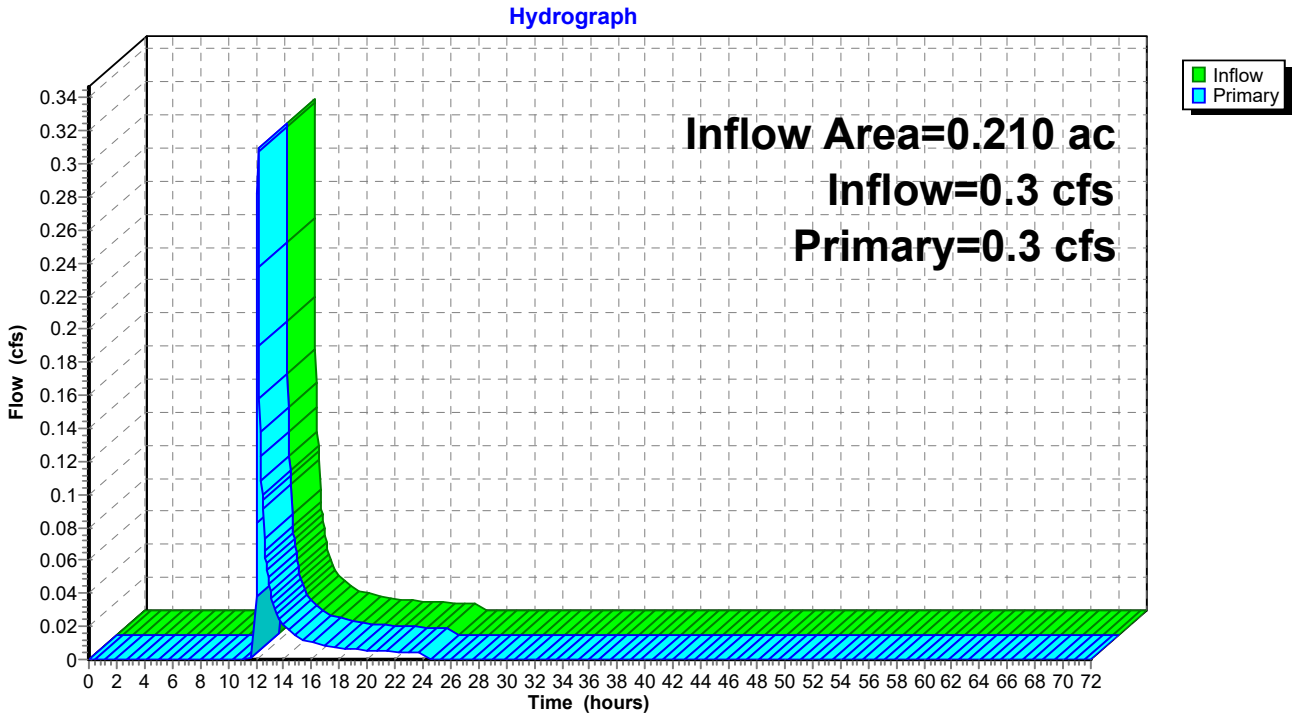


Summary for Link B55: Post E

Inflow Area = 0.210 ac, 0.00% Impervious, Inflow Depth = 1.0" for 25-yr event
Inflow = 0.3 cfs @ 12.15 hrs, Volume= 0.018 af
Primary = 0.3 cfs @ 12.15 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs

Link B55: Post E



iii. Runoff and Mitigation Design Summary Calculations

2, 10, 25 & 100-Year Design Storm Events Summary Calculations

See Following Pages

Time span=0.00-72.00 hrs, dt=0.04 hrs, 1801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond 1P: Level Spreader Peak Elev=207.50' Storage=0 cf Inflow=0.0 cfs 0.000 af
Outflow=0.0 cfs 0.000 af

SubcatchmentA01: Pre A Runoff Area=42,502 sf 0.00% Impervious Runoff Depth=0.0"
Flow Length=424' Tc=12.4 min CN=35 Runoff=0.0 cfs 0.000 af

SubcatchmentA02: Pre B Runoff Area=95,630 sf 10.59% Impervious Runoff Depth=0.3"
Flow Length=547' Tc=13.0 min CN=57 Runoff=0.5 cfs 0.057 af

SubcatchmentA03: Pre C Runoff Area=21,190 sf 3.81% Impervious Runoff Depth=0.0"
Flow Length=211' Tc=9.0 min CN=33 Runoff=0.0 cfs 0.000 af

SubcatchmentA04: Pre D Runoff Area=39,824 sf 2.14% Impervious Runoff Depth=0.0"
Flow Length=363' Tc=10.3 min CN=38 Runoff=0.0 cfs 0.000 af

SubcatchmentA05: Pre E Runoff Area=40,179 sf 0.00% Impervious Runoff Depth=0.0"
Flow Length=365' Tc=10.6 min CN=40 Runoff=0.0 cfs 0.000 af

SubcatchmentB11: A-2 Runoff Area=57,950 sf 33.83% Impervious Runoff Depth=1.5"
Flow Length=621' Tc=13.7 min CN=82 Runoff=2.6 cfs 0.171 af

Reach B12: Grassed Channel Avg. Flow Depth=0.3' Max Vel=0.92 fps Inflow=2.6 cfs 0.171 af
n=0.040 L=110.0' S=0.0029 '/' Capacity=33.8 cfs Outflow=2.6 cfs 0.171 af

SubcatchmentB13: A-1 Runoff Area=42,448 sf 0.00% Impervious Runoff Depth=0.4"
Flow Length=140' Tc=11.9 min CN=61 Runoff=0.4 cfs 0.036 af

Pond B14: Infiltration Basin Peak Elev=204.88' Storage=4,867 cf Inflow=3.0 cfs 0.207 af
Discarded=0.2 cfs 0.207 af Primary=0.0 cfs 0.000 af Outflow=0.2 cfs 0.207 af

Link B15: Post A Inflow=0.0 cfs 0.000 af
Primary=0.0 cfs 0.000 af

SubcatchmentB20: B-1 Runoff Area=47,395 sf 22.83% Impervious Runoff Depth=0.9"
Flow Length=407' Tc=15.6 min CN=72 Runoff=1.2 cfs 0.084 af

SubcatchmentB21: B-2 Runoff Area=23,776 sf 5.31% Impervious Runoff Depth=1.3"
Flow Length=474' Tc=8.5 min CN=78 Runoff=1.1 cfs 0.058 af

Reach B22: Ditch Avg. Flow Depth=0.5' Max Vel=2.80 fps Inflow=2.0 cfs 0.142 af
n=0.022 L=135.0' S=0.0100 '/' Capacity=18.3 cfs Outflow=2.0 cfs 0.142 af

Pond B23: Inlet Peak Elev=209.25' Storage=43 cf Inflow=2.0 cfs 0.142 af
Outflow=2.0 cfs 0.142 af

Pond B24: Infiltration Tr #1 Peak Elev=208.00' Storage=3,359 cf Inflow=2.0 cfs 0.142 af
Discarded=0.1 cfs 0.142 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.1 cfs 0.142 af

Link B25: Post B Inflow=0.0 cfs 0.000 af
Primary=0.0 cfs 0.000 af

Subcatchment B33: Post C Runoff Area=24,492 sf 12.29% Impervious Runoff Depth=0.6"
Flow Length=142' Tc=7.8 min CN=64 Runoff=0.4 cfs 0.026 af

Pond B34: Infiltration Tr #2 Peak Elev=206.69' Storage=132 cf Inflow=0.4 cfs 0.026 af
Discarded=0.2 cfs 0.026 af Primary=0.0 cfs 0.000 af Outflow=0.2 cfs 0.026 af

Link B35: Post C Inflow=0.0 cfs 0.000 af
Primary=0.0 cfs 0.000 af

Subcatchment B43: Post D Runoff Area=17,307 sf 0.00% Impervious Runoff Depth=0.3"
Flow Length=225' Tc=9.8 min CN=55 Runoff=0.1 cfs 0.008 af

Pond B44: Infiltration Tr #3 Peak Elev=203.57' Storage=21 cf Inflow=0.1 cfs 0.008 af
Discarded=0.0 cfs 0.008 af Primary=0.0 cfs 0.000 af Outflow=0.0 cfs 0.008 af

Link B45: Post D Inflow=0.0 cfs 0.000 af
Primary=0.0 cfs 0.000 af

Subcatchment B54: Post E Runoff Area=9,142 sf 0.00% Impervious Runoff Depth=0.1"
Flow Length=64' Slope=0.1300 '/' Tc=6.0 min CN=47 Runoff=0.0 cfs 0.001 af

Link B55: Post E Inflow=0.0 cfs 0.001 af
Primary=0.0 cfs 0.001 af

Total Runoff Area = 10.602 ac Runoff Volume = 0.441 af Average Runoff Depth = 0.5"
89.93% Pervious = 9.535 ac 10.07% Impervious = 1.067 ac

Time span=0.00-72.00 hrs, dt=0.04 hrs, 1801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond 1P: Level Spreader Peak Elev=208.10' Storage=479 cf Inflow=2.9 cfs 0.138 af
Outflow=2.9 cfs 0.129 af

SubcatchmentA01: Pre A Runoff Area=42,502 sf 0.00% Impervious Runoff Depth=0.1"
Flow Length=424' Tc=12.4 min CN=35 Runoff=0.0 cfs 0.007 af

SubcatchmentA02: Pre B Runoff Area=95,630 sf 10.59% Impervious Runoff Depth=1.1"
Flow Length=547' Tc=13.0 min CN=57 Runoff=2.9 cfs 0.208 af

SubcatchmentA03: Pre C Runoff Area=21,190 sf 3.81% Impervious Runoff Depth=0.0"
Flow Length=211' Tc=9.0 min CN=33 Runoff=0.0 cfs 0.002 af

SubcatchmentA04: Pre D Runoff Area=39,824 sf 2.14% Impervious Runoff Depth=0.2"
Flow Length=363' Tc=10.3 min CN=38 Runoff=0.1 cfs 0.014 af

SubcatchmentA05: Pre E Runoff Area=40,179 sf 0.00% Impervious Runoff Depth=0.2"
Flow Length=365' Tc=10.6 min CN=40 Runoff=0.1 cfs 0.019 af

SubcatchmentB11: A-2 Runoff Area=57,950 sf 33.83% Impervious Runoff Depth=3.1"
Flow Length=621' Tc=13.7 min CN=82 Runoff=5.3 cfs 0.347 af

Reach B12: Grassed Channel Avg. Flow Depth=0.5' Max Vel=1.18 fps Inflow=5.3 cfs 0.347 af
n=0.040 L=110.0' S=0.0029 '/' Capacity=33.8 cfs Outflow=5.2 cfs 0.347 af

SubcatchmentB13: A-1 Runoff Area=42,448 sf 0.00% Impervious Runoff Depth=1.4"
Flow Length=140' Tc=11.9 min CN=61 Runoff=1.8 cfs 0.114 af

Pond B14: Infiltration Basin Peak Elev=206.41' Storage=12,553 cf Inflow=6.9 cfs 0.461 af
Discarded=0.3 cfs 0.461 af Primary=0.0 cfs 0.000 af Outflow=0.3 cfs 0.461 af

Link B15: Post A Inflow=0.0 cfs 0.000 af
Primary=0.0 cfs 0.000 af

SubcatchmentB20: B-1 Runoff Area=47,395 sf 22.83% Impervious Runoff Depth=2.2"
Flow Length=407' Tc=15.6 min CN=72 Runoff=3.0 cfs 0.203 af

SubcatchmentB21: B-2 Runoff Area=23,776 sf 5.31% Impervious Runoff Depth=2.8"
Flow Length=474' Tc=8.5 min CN=78 Runoff=2.3 cfs 0.126 af

Reach B22: Ditch Avg. Flow Depth=0.7' Max Vel=3.50 fps Inflow=4.8 cfs 0.329 af
n=0.022 L=135.0' S=0.0100 '/' Capacity=18.3 cfs Outflow=4.8 cfs 0.329 af

Pond B23: Inlet Peak Elev=209.46' Storage=85 cf Inflow=4.8 cfs 0.329 af
Outflow=4.8 cfs 0.329 af

Pond B24: Infiltration Tr #1 Peak Elev=209.32' Storage=4,629 cf Inflow=4.8 cfs 0.329 af
Discarded=0.1 cfs 0.191 af Primary=2.9 cfs 0.138 af Secondary=0.0 cfs 0.000 af Outflow=3.0 cfs 0.329 af

Link B25: Post B Inflow=2.9 cfs 0.129 af
Primary=2.9 cfs 0.129 af

Subcatchment B33: Post C Runoff Area=24,492 sf 12.29% Impervious Runoff Depth=1.6"
Flow Length=142' Tc=7.8 min CN=64 Runoff=1.4 cfs 0.076 af

Pond B34: Infiltration Tr #2 Peak Elev=207.36' Storage=1,164 cf Inflow=1.4 cfs 0.076 af
Discarded=0.2 cfs 0.076 af Primary=0.0 cfs 0.000 af Outflow=0.2 cfs 0.076 af

Link B35: Post C Inflow=0.0 cfs 0.000 af
Primary=0.0 cfs 0.000 af

Subcatchment B43: Post D Runoff Area=17,307 sf 0.00% Impervious Runoff Depth=1.0"
Flow Length=225' Tc=9.8 min CN=55 Runoff=0.5 cfs 0.033 af

Pond B44: Infiltration Tr #3 Peak Elev=205.45' Storage=651 cf Inflow=0.5 cfs 0.033 af
Discarded=0.0 cfs 0.033 af Primary=0.0 cfs 0.000 af Outflow=0.0 cfs 0.033 af

Link B45: Post D Inflow=0.0 cfs 0.000 af
Primary=0.0 cfs 0.000 af

Subcatchment B54: Post E Runoff Area=9,142 sf 0.00% Impervious Runoff Depth=0.6"
Flow Length=64' Slope=0.1300 '/' Tc=6.0 min CN=47 Runoff=0.1 cfs 0.010 af

Link B55: Post E Inflow=0.1 cfs 0.010 af
Primary=0.1 cfs 0.010 af

Total Runoff Area = 10.602 ac Runoff Volume = 1.160 af Average Runoff Depth = 1.3"
89.93% Pervious = 9.535 ac 10.07% Impervious = 1.067 ac

Time span=0.00-72.00 hrs, dt=0.04 hrs, 1801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond 1P: Level Spreader Peak Elev=208.13' Storage=511 cf Inflow=4.5 cfs 0.245 af
Outflow=4.4 cfs 0.238 af

SubcatchmentA01: Pre A Runoff Area=42,502 sf 0.00% Impervious Runoff Depth=0.3"
Flow Length=424' Tc=12.4 min CN=35 Runoff=0.1 cfs 0.024 af

SubcatchmentA02: Pre B Runoff Area=95,630 sf 10.59% Impervious Runoff Depth=1.8"
Flow Length=547' Tc=13.0 min CN=57 Runoff=5.0 cfs 0.332 af

SubcatchmentA03: Pre C Runoff Area=21,190 sf 3.81% Impervious Runoff Depth=0.2"
Flow Length=211' Tc=9.0 min CN=33 Runoff=0.0 cfs 0.008 af

SubcatchmentA04: Pre D Runoff Area=39,824 sf 2.14% Impervious Runoff Depth=0.5"
Flow Length=363' Tc=10.3 min CN=38 Runoff=0.2 cfs 0.035 af

SubcatchmentA05: Pre E Runoff Area=40,179 sf 0.00% Impervious Runoff Depth=0.6"
Flow Length=365' Tc=10.6 min CN=40 Runoff=0.4 cfs 0.044 af

SubcatchmentB11: A-2 Runoff Area=57,950 sf 33.83% Impervious Runoff Depth=4.2"
Flow Length=621' Tc=13.7 min CN=82 Runoff=7.1 cfs 0.466 af

Reach B12: Grassed Channel Avg. Flow Depth=0.6' Max Vel=1.30 fps Inflow=7.1 cfs 0.466 af
n=0.040 L=110.0' S=0.0029 '/' Capacity=33.8 cfs Outflow=6.9 cfs 0.466 af

SubcatchmentB13: A-1 Runoff Area=42,448 sf 0.00% Impervious Runoff Depth=2.2"
Flow Length=140' Tc=11.9 min CN=61 Runoff=2.8 cfs 0.175 af

Pond B14: Infiltration Basin Peak Elev=207.09' Storage=17,344 cf Inflow=9.6 cfs 0.641 af
Discarded=0.4 cfs 0.589 af Primary=0.2 cfs 0.052 af Outflow=0.6 cfs 0.641 af

Link B15: Post A Inflow=0.2 cfs 0.052 af
Primary=0.2 cfs 0.052 af

SubcatchmentB20: B-1 Runoff Area=47,395 sf 22.83% Impervious Runoff Depth=3.2"
Flow Length=407' Tc=15.6 min CN=72 Runoff=4.2 cfs 0.289 af

SubcatchmentB21: B-2 Runoff Area=23,776 sf 5.31% Impervious Runoff Depth=3.8"
Flow Length=474' Tc=8.5 min CN=78 Runoff=3.2 cfs 0.172 af

Reach B22: Ditch Avg. Flow Depth=0.8' Max Vel=3.82 fps Inflow=6.8 cfs 0.461 af
n=0.022 L=135.0' S=0.0100 '/' Capacity=18.3 cfs Outflow=6.7 cfs 0.461 af

Pond B23: Inlet Peak Elev=209.62' Storage=122 cf Inflow=6.7 cfs 0.461 af
Outflow=6.7 cfs 0.461 af

Pond B24: Infiltration Tr #1 Peak Elev=210.14' Storage=5,415 cf Inflow=6.7 cfs 0.461 af
Discarded=0.1 cfs 0.210 af Primary=4.5 cfs 0.245 af Secondary=0.6 cfs 0.006 af Outflow=5.2 cfs 0.461 af

Link B25: Post B Inflow=4.4 cfs 0.238 af
Primary=4.4 cfs 0.238 af

Subcatchment B33: Post C Runoff Area=24,492 sf 12.29% Impervious Runoff Depth=2.4"
Flow Length=142' Tc=7.8 min CN=64 Runoff=2.2 cfs 0.114 af

Pond B34: Infiltration Tr #2 Peak Elev=208.16' Storage=2,425 cf Inflow=2.2 cfs 0.120 af
Discarded=0.2 cfs 0.120 af Primary=0.0 cfs 0.000 af Outflow=0.2 cfs 0.120 af

Link B35: Post C Inflow=0.0 cfs 0.000 af
Primary=0.0 cfs 0.000 af

Subcatchment B43: Post D Runoff Area=17,307 sf 0.00% Impervious Runoff Depth=1.7"
Flow Length=225' Tc=9.8 min CN=55 Runoff=0.9 cfs 0.055 af

Pond B44: Infiltration Tr #3 Peak Elev=206.71' Storage=1,064 cf Inflow=0.9 cfs 0.055 af
Discarded=0.0 cfs 0.048 af Primary=0.1 cfs 0.006 af Outflow=0.2 cfs 0.055 af

Link B45: Post D Inflow=0.1 cfs 0.006 af
Primary=0.1 cfs 0.006 af

Subcatchment B54: Post E Runoff Area=9,142 sf 0.00% Impervious Runoff Depth=1.0"
Flow Length=64' Slope=0.1300 '/' Tc=6.0 min CN=47 Runoff=0.3 cfs 0.018 af

Link B55: Post E Inflow=0.3 cfs 0.018 af
Primary=0.3 cfs 0.018 af

Total Runoff Area = 10.602 ac Runoff Volume = 1.732 af Average Runoff Depth = 2.0"
89.93% Pervious = 9.535 ac 10.07% Impervious = 1.067 ac

Time span=0.00-72.00 hrs, dt=0.04 hrs, 1801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond 1P: Level Spreader Peak Elev=208.15' Storage=535 cf Inflow=5.7 cfs 0.385 af
Outflow=5.7 cfs 0.375 af

Subcatchment A01: Pre A Runoff Area=42,502 sf 0.00% Impervious Runoff Depth=0.8"
Flow Length=424' Tc=12.4 min CN=35 Runoff=0.6 cfs 0.066 af

Subcatchment A02: Pre B Runoff Area=95,630 sf 10.59% Impervious Runoff Depth=3.0"
Flow Length=547' Tc=13.0 min CN=57 Runoff=8.6 cfs 0.552 af

Subcatchment A03: Pre C Runoff Area=21,190 sf 3.81% Impervious Runoff Depth=0.6"
Flow Length=211' Tc=9.0 min CN=33 Runoff=0.2 cfs 0.026 af

Subcatchment A04: Pre D Runoff Area=39,824 sf 2.14% Impervious Runoff Depth=1.1"
Flow Length=363' Tc=10.3 min CN=38 Runoff=1.0 cfs 0.082 af

Subcatchment A05: Pre E Runoff Area=40,179 sf 0.00% Impervious Runoff Depth=1.3"
Flow Length=365' Tc=10.6 min CN=40 Runoff=1.3 cfs 0.097 af

Subcatchment B11: A-2 Runoff Area=57,950 sf 33.83% Impervious Runoff Depth=5.9"
Flow Length=621' Tc=13.7 min CN=82 Runoff=9.8 cfs 0.652 af

Reach B12: Grassed Channel Avg. Flow Depth=0.7' Max Vel=1.45 fps Inflow=9.8 cfs 0.652 af
n=0.040 L=110.0' S=0.0029 '/' Capacity=33.8 cfs Outflow=9.6 cfs 0.652 af

Subcatchment B13: A-1 Runoff Area=42,448 sf 0.00% Impervious Runoff Depth=3.5"
Flow Length=140' Tc=11.9 min CN=61 Runoff=4.6 cfs 0.281 af

Pond B14: Infiltration Basin Peak Elev=208.08' Storage=24,532 cf Inflow=13.9 cfs 0.933 af
Discarded=0.5 cfs 0.707 af Primary=0.7 cfs 0.225 af Outflow=1.2 cfs 0.933 af

Link B15: Post A Inflow=0.7 cfs 0.225 af
Primary=0.7 cfs 0.225 af

Subcatchment B20: B-1 Runoff Area=47,395 sf 22.83% Impervious Runoff Depth=4.7"
Flow Length=407' Tc=15.6 min CN=72 Runoff=6.2 cfs 0.427 af

Subcatchment B21: B-2 Runoff Area=23,776 sf 5.31% Impervious Runoff Depth=5.4"
Flow Length=474' Tc=8.5 min CN=78 Runoff=4.5 cfs 0.246 af

Reach B22: Ditch Avg. Flow Depth=1.0' Max Vel=4.19 fps Inflow=9.9 cfs 0.673 af
n=0.022 L=135.0' S=0.0100 '/' Capacity=18.3 cfs Outflow=9.8 cfs 0.673 af

Pond B23: Inlet Peak Elev=210.28' Storage=320 cf Inflow=9.8 cfs 0.673 af
Outflow=9.6 cfs 0.673 af

Pond B24: Infiltration Tr #1 Peak Elev=211.03' Storage=6,271 cf Inflow=9.6 cfs 0.673 af
Discarded=0.1 cfs 0.233 af Primary=5.7 cfs 0.385 af Secondary=2.8 cfs 0.055 af Outflow=8.7 cfs 0.673 af

Link B25: Post B Inflow=5.7 cfs 0.375 af
Primary=5.7 cfs 0.375 af

Subcatchment B33: Post C Runoff Area=24,492 sf 12.29% Impervious Runoff Depth=3.8"
Flow Length=142' Tc=7.8 min CN=64 Runoff=3.4 cfs 0.178 af

Pond B34: Infiltration Tr #2 Peak Elev=210.33' Storage=6,100 cf Inflow=4.4 cfs 0.233 af
Discarded=0.2 cfs 0.224 af Primary=0.2 cfs 0.010 af Outflow=0.5 cfs 0.233 af

Link B35: Post C Inflow=0.2 cfs 0.010 af
Primary=0.2 cfs 0.010 af

Subcatchment B43: Post D Runoff Area=17,307 sf 0.00% Impervious Runoff Depth=2.8"
Flow Length=225' Tc=9.8 min CN=55 Runoff=1.6 cfs 0.093 af

Pond B44: Infiltration Tr #3 Peak Elev=206.99' Storage=1,151 cf Inflow=1.6 cfs 0.093 af
Discarded=0.0 cfs 0.056 af Primary=1.1 cfs 0.037 af Outflow=1.2 cfs 0.093 af

Link B45: Post D Inflow=1.1 cfs 0.037 af
Primary=1.1 cfs 0.037 af

Subcatchment B54: Post E Runoff Area=9,142 sf 0.00% Impervious Runoff Depth=2.0"
Flow Length=64' Slope=0.1300 '/' Tc=6.0 min CN=47 Runoff=0.7 cfs 0.034 af

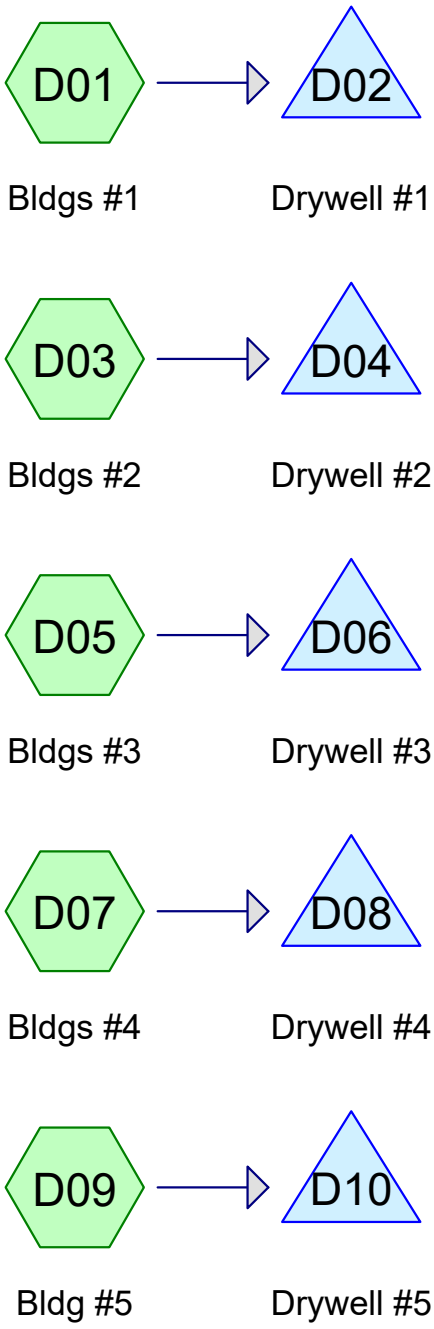
Link B55: Post E Inflow=0.7 cfs 0.034 af
Primary=0.7 cfs 0.034 af

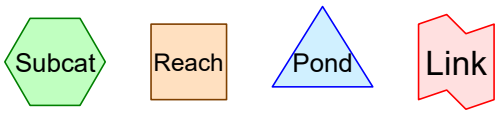
Total Runoff Area = 10.602 ac Runoff Volume = 2.733 af Average Runoff Depth = 3.1"
89.93% Pervious = 9.535 ac 10.07% Impervious = 1.067 ac

iv. Building Infiltration Systems

See Following Page

Building Infiltration Systems





Summary for Subcatchment D01: Bldgs #1

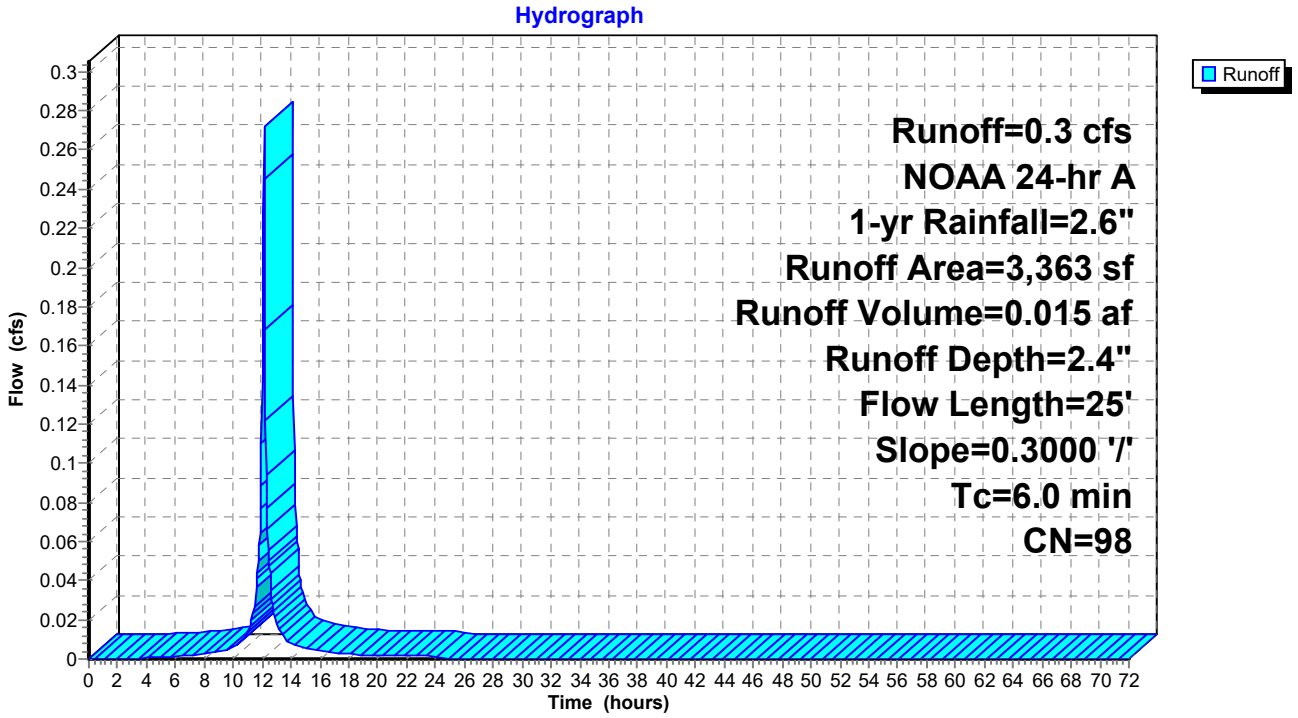
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.4"
Routed to Pond D02 : Drywell #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 1-yr Rainfall=2.6"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D01: Bldgs #1



Summary for Pond D02: Drywell #1

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.4" for 1-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.58 hrs, Volume= 0.015 af, Atten= 86%, Lag= 27.0 min
Discarded = 0.0 cfs @ 12.58 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 220.97' @ 12.58 hrs Surf.Area= 600 sf Storage= 239 cf

Plug-Flow detention time= 46.4 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 46.4 min (803.5 - 757.1)

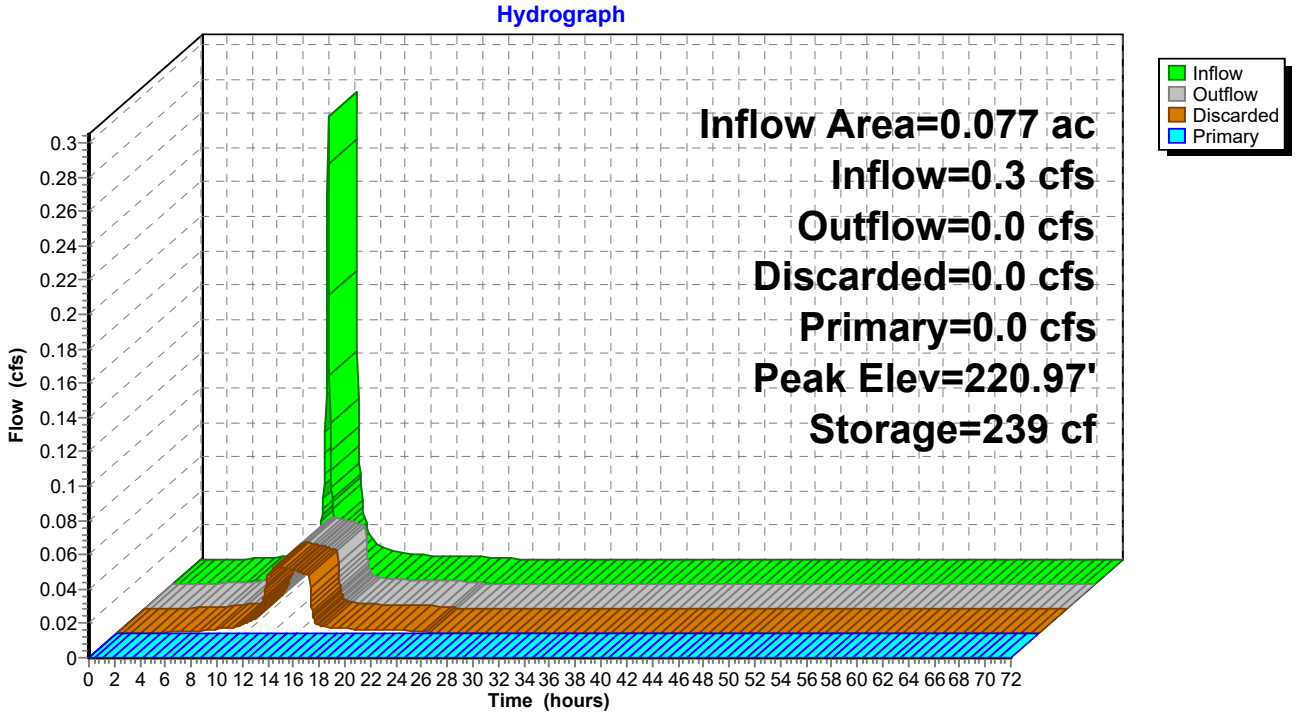
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	220.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.58 hrs HW=220.97' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D02: Drywell #1



Summary for Subcatchment D03: Bldgs #2

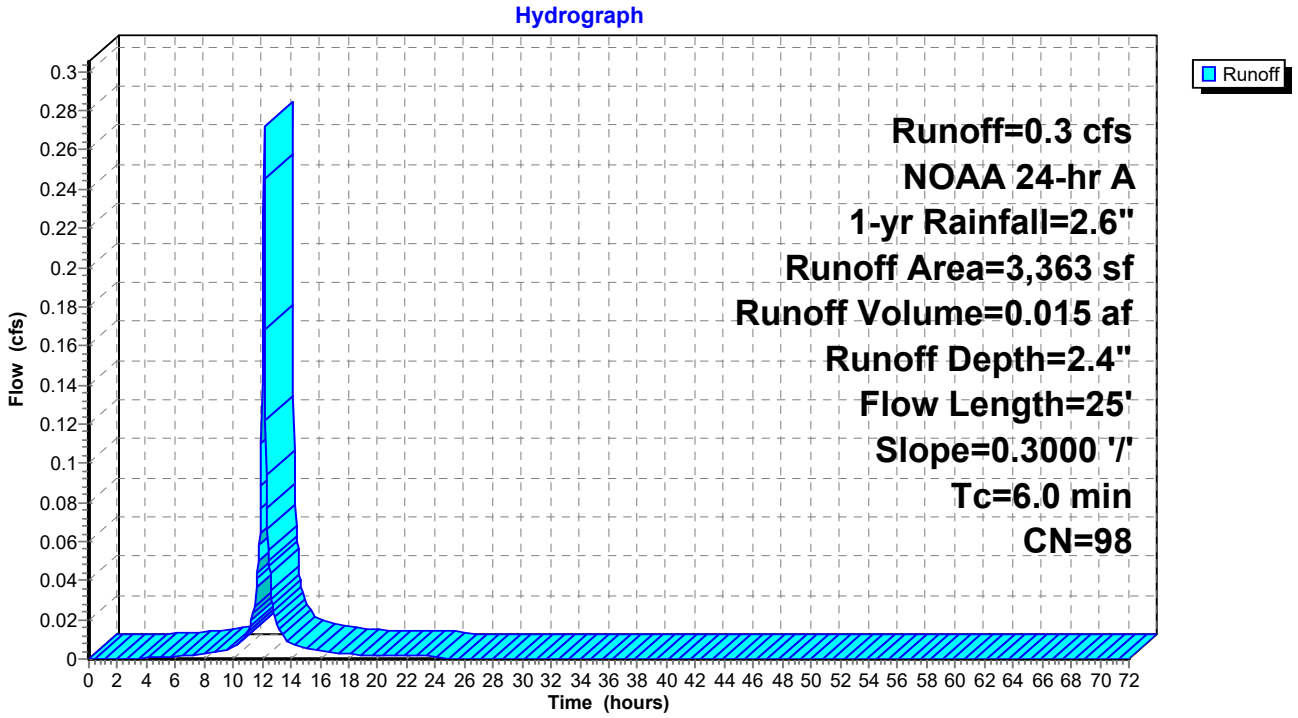
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.4"
Routed to Pond D04 : Drywell #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 1-yr Rainfall=2.6"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D03: Bldgs #2



Summary for Pond D04: Drywell #2

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.4" for 1-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.58 hrs, Volume= 0.015 af, Atten= 86%, Lag= 27.0 min
Discarded = 0.0 cfs @ 12.58 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 219.47' @ 12.58 hrs Surf.Area= 600 sf Storage= 239 cf

Plug-Flow detention time= 46.4 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 46.4 min (803.5 - 757.1)

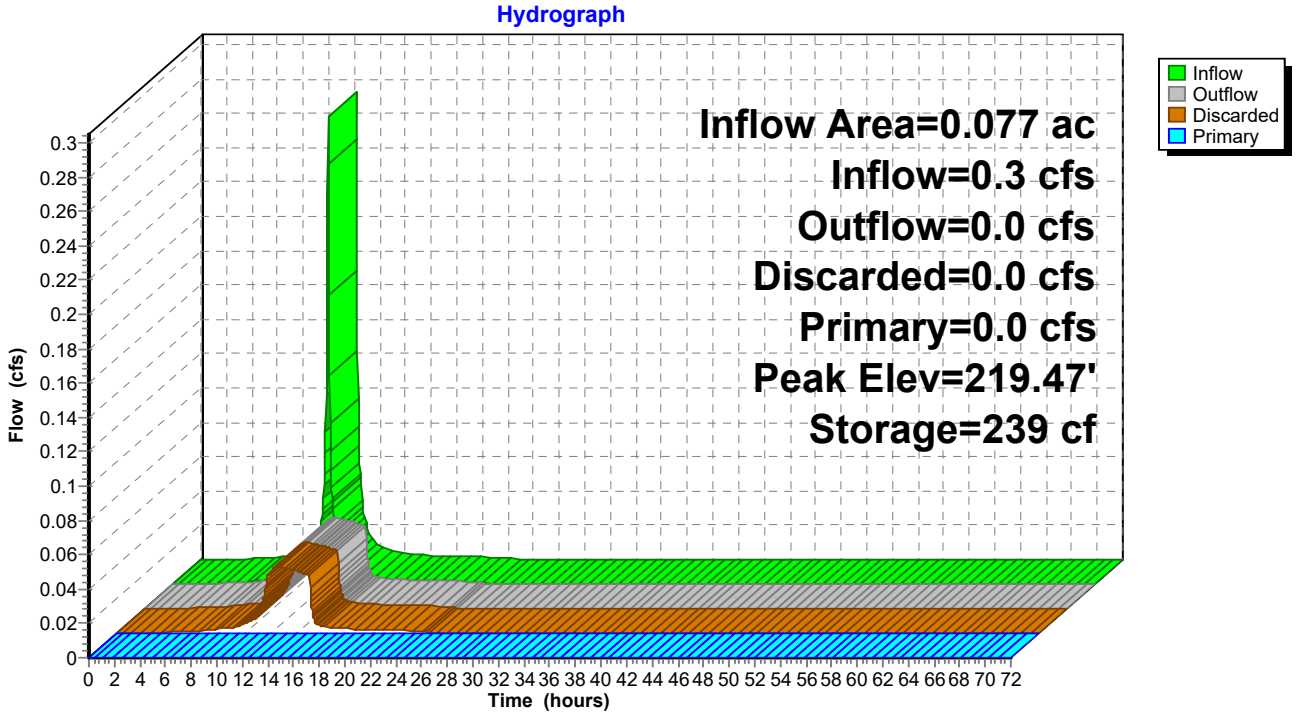
Volume	Invert	Avail.Storage	Storage Description
#1	218.50'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	219.00'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.50'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	222.90'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.58 hrs HW=219.47' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=218.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D04: Drywell #2



Summary for Subcatchment D05: Bldgs #3

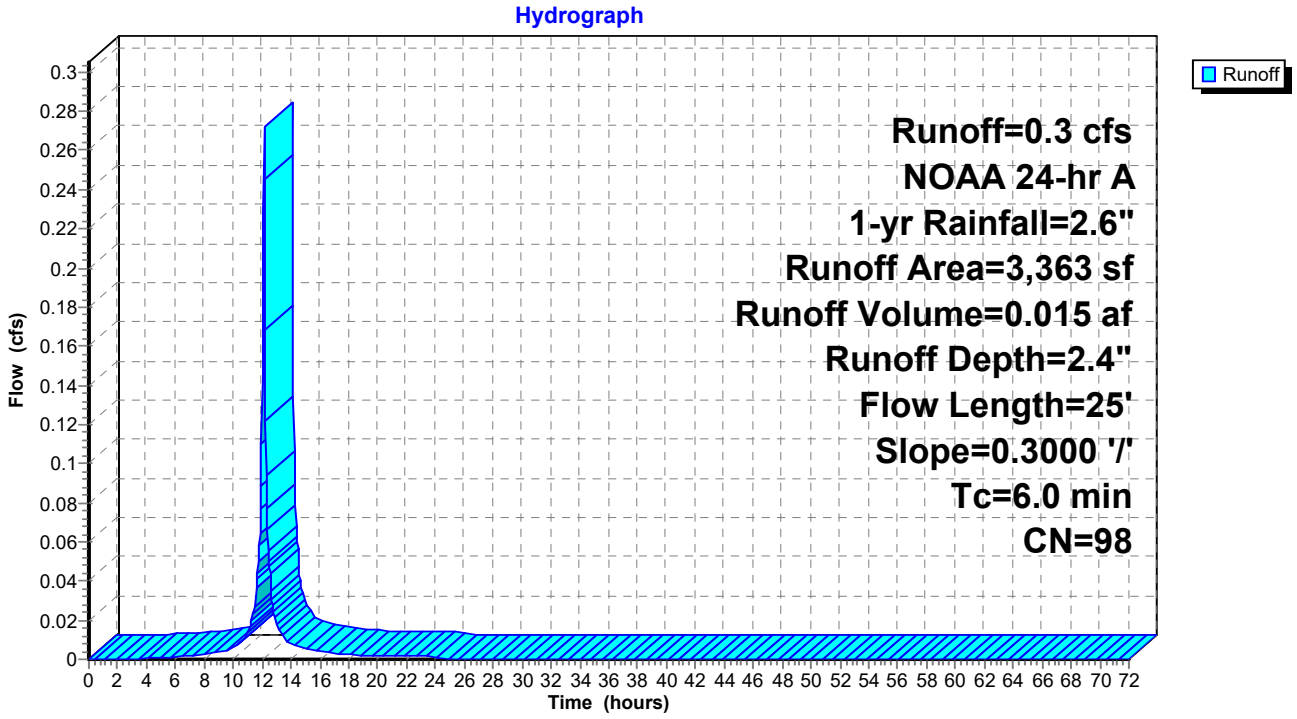
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.4"
Routed to Pond D06 : Drywell #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 1-yr Rainfall=2.6"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D05: Bldgs #3



Summary for Pond D06: Drywell #3

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.4" for 1-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.58 hrs, Volume= 0.015 af, Atten= 86%, Lag= 27.0 min
Discarded = 0.0 cfs @ 12.58 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 216.96' @ 12.58 hrs Surf.Area= 600 sf Storage= 239 cf

Plug-Flow detention time= 46.5 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 46.4 min (803.5 - 757.1)

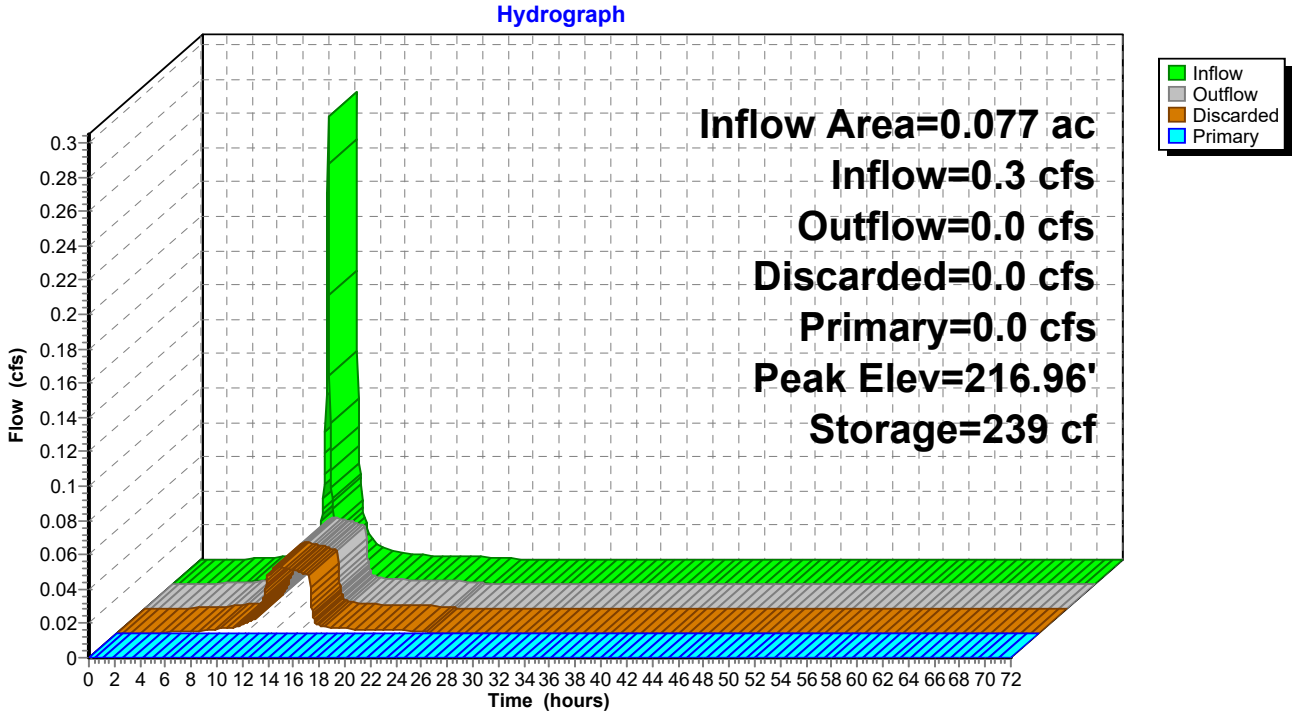
Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	216.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	220.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.58 hrs HW=216.96' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=216.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D06: Drywell #3



Summary for Subcatchment D07: Bldgs #4

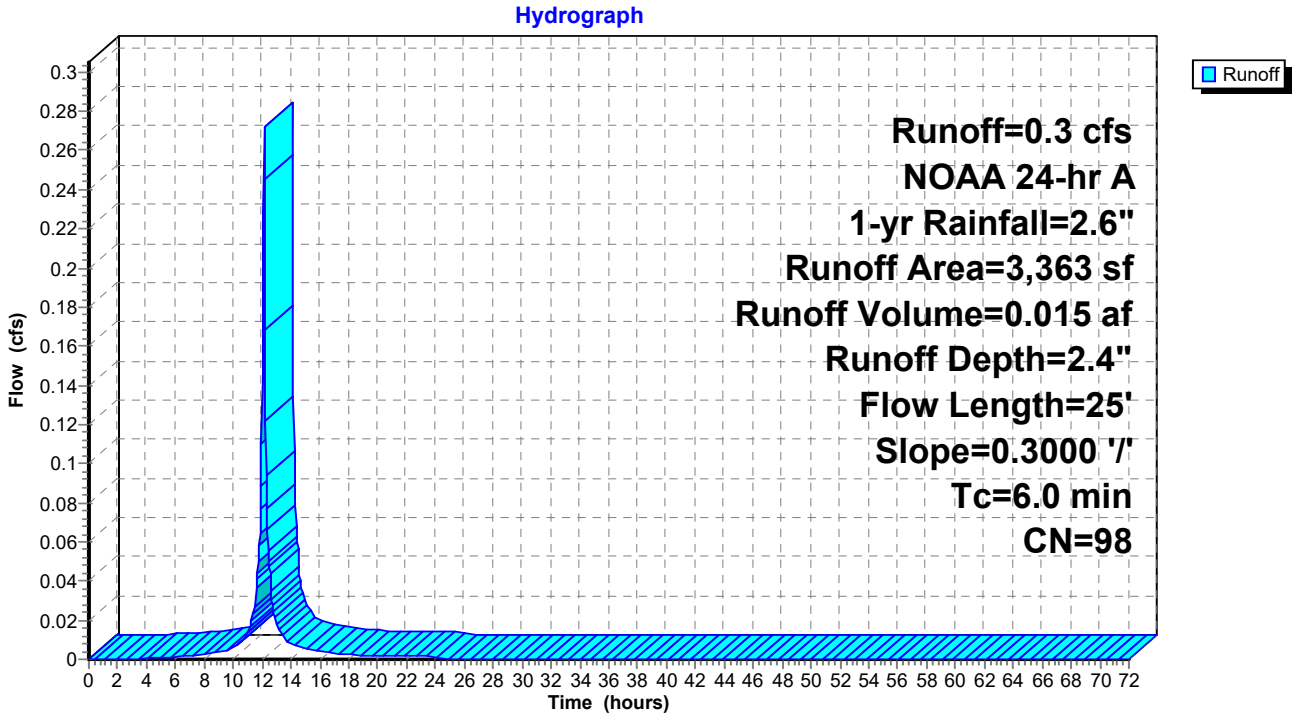
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.4"
Routed to Pond D08 : Drywell #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 1-yr Rainfall=2.6"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D07: Bldgs #4



Summary for Pond D08: Drywell #4

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.4" for 1-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af, Atten= 85%, Lag= 26.5 min
Discarded = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 225.96' @ 12.57 hrs Surf.Area= 600 sf Storage= 237 cf

Plug-Flow detention time= 44.9 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 44.8 min (802.0 - 757.1)

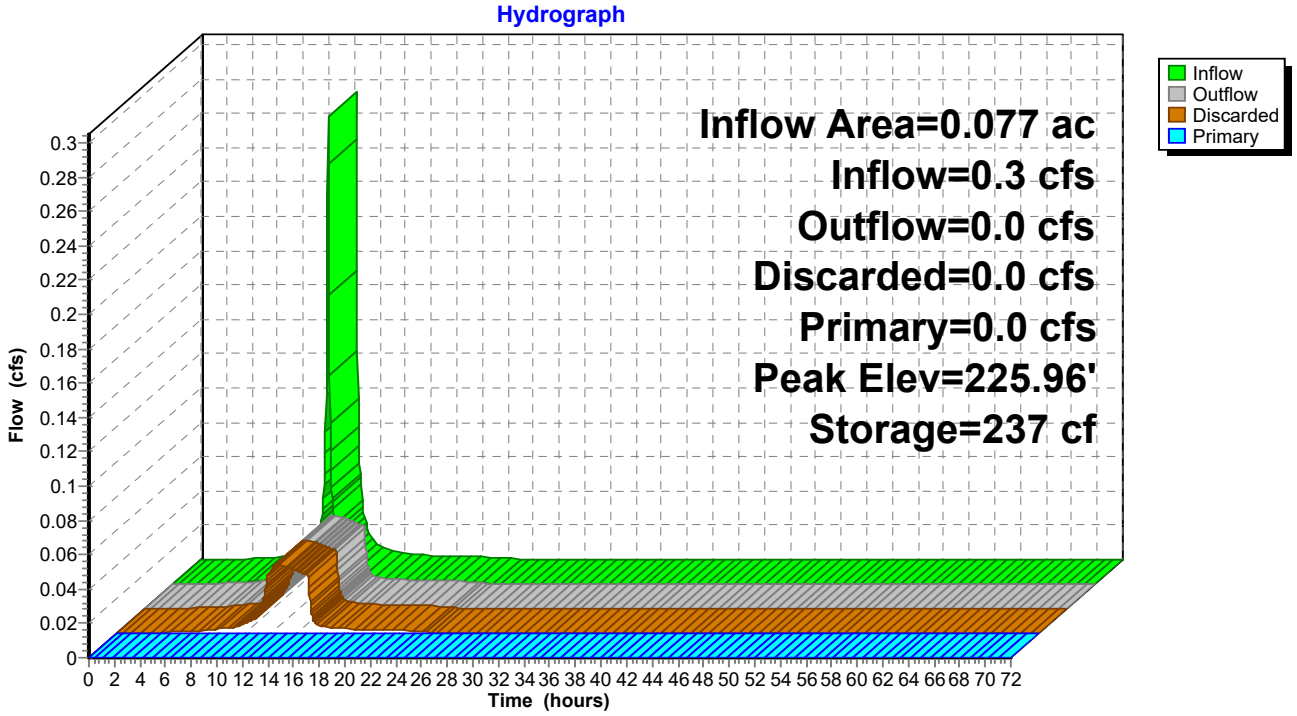
Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	1,042 cf	**12.00'W x 50.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	225.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	225.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	229.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.57 hrs HW=225.96' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D08: Drywell #4



Summary for Subcatchment D09: Bldg #5

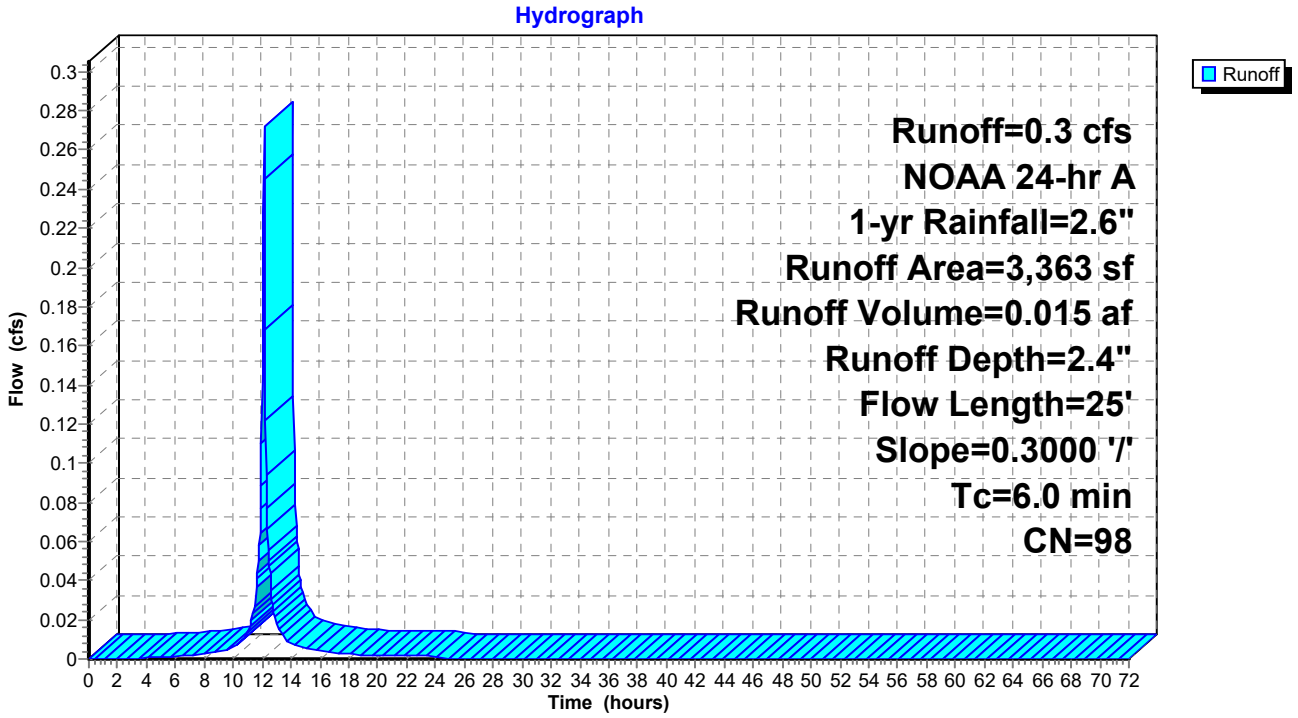
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.4"
Routed to Pond D10 : Drywell #5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 1-yr Rainfall=2.6"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D09: Bldg #5



Summary for Pond D10: Drywell #5

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.4" for 1-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.58 hrs, Volume= 0.015 af, Atten= 86%, Lag= 27.0 min
Discarded = 0.0 cfs @ 12.58 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 220.96' @ 12.58 hrs Surf.Area= 600 sf Storage= 239 cf

Plug-Flow detention time= 46.5 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 46.4 min (803.5 - 757.1)

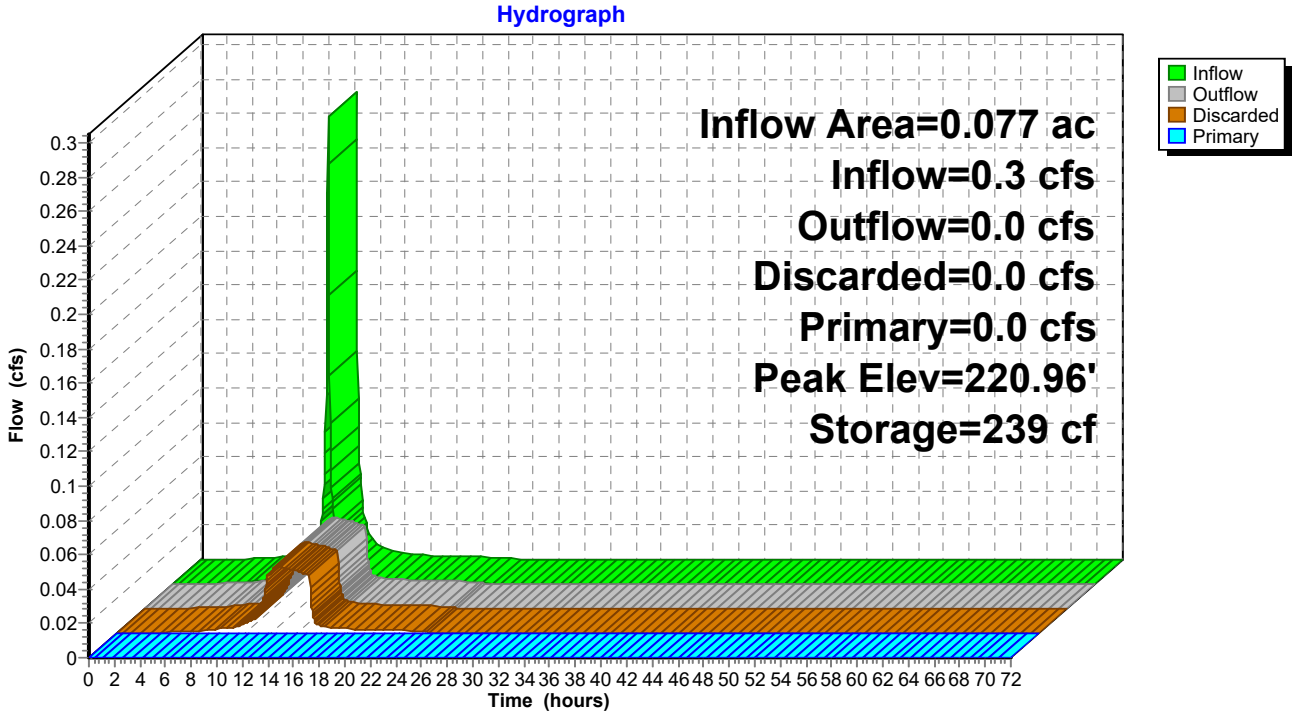
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	220.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.58 hrs HW=220.96' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D10: Drywell #5



Summary for Subcatchment D01: Bldgs #1

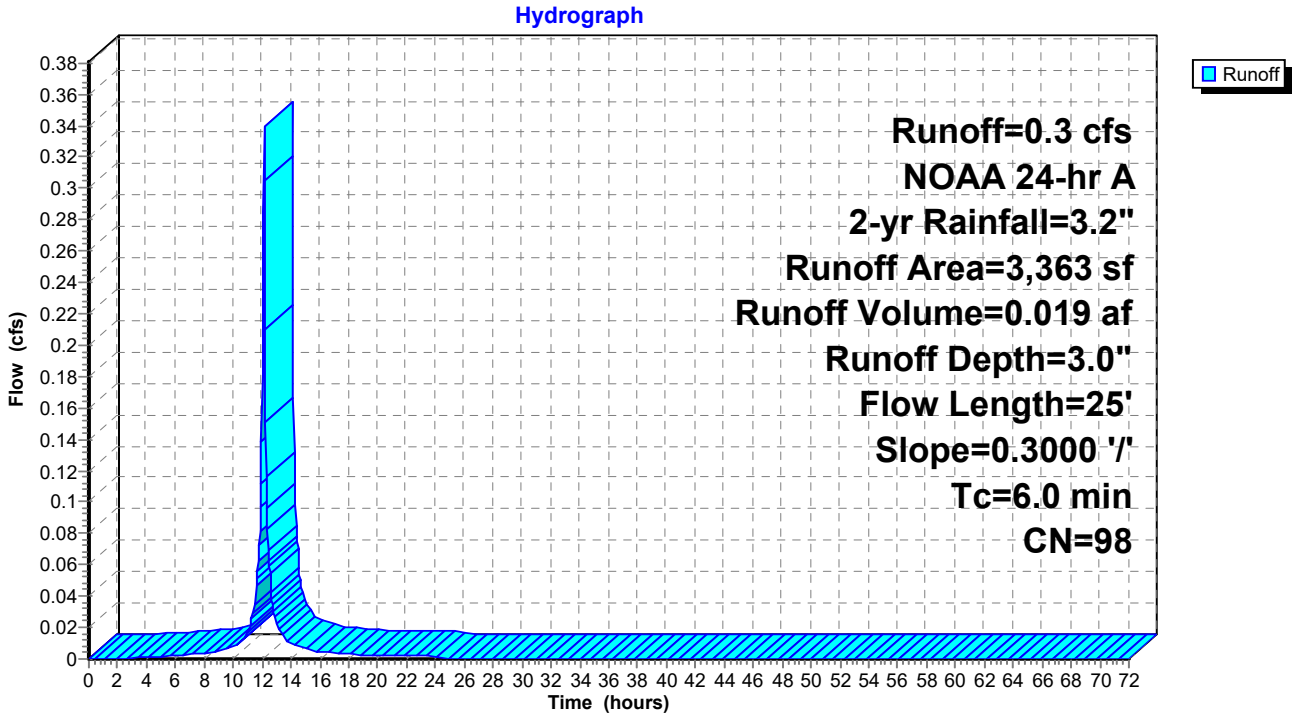
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af, Depth= 3.0"
Routed to Pond D02 : Drywell #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 2-yr Rainfall=3.2"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D01: Bldgs #1



Summary for Pond D02: Drywell #1

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 3.0" for 2-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af
Outflow = 0.0 cfs @ 12.62 hrs, Volume= 0.019 af, Atten= 88%, Lag= 29.7 min
Discarded = 0.0 cfs @ 12.62 hrs, Volume= 0.019 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 221.29' @ 12.62 hrs Surf.Area= 600 sf Storage= 326 cf

Plug-Flow detention time= 61.4 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 61.3 min (814.6 - 753.3)

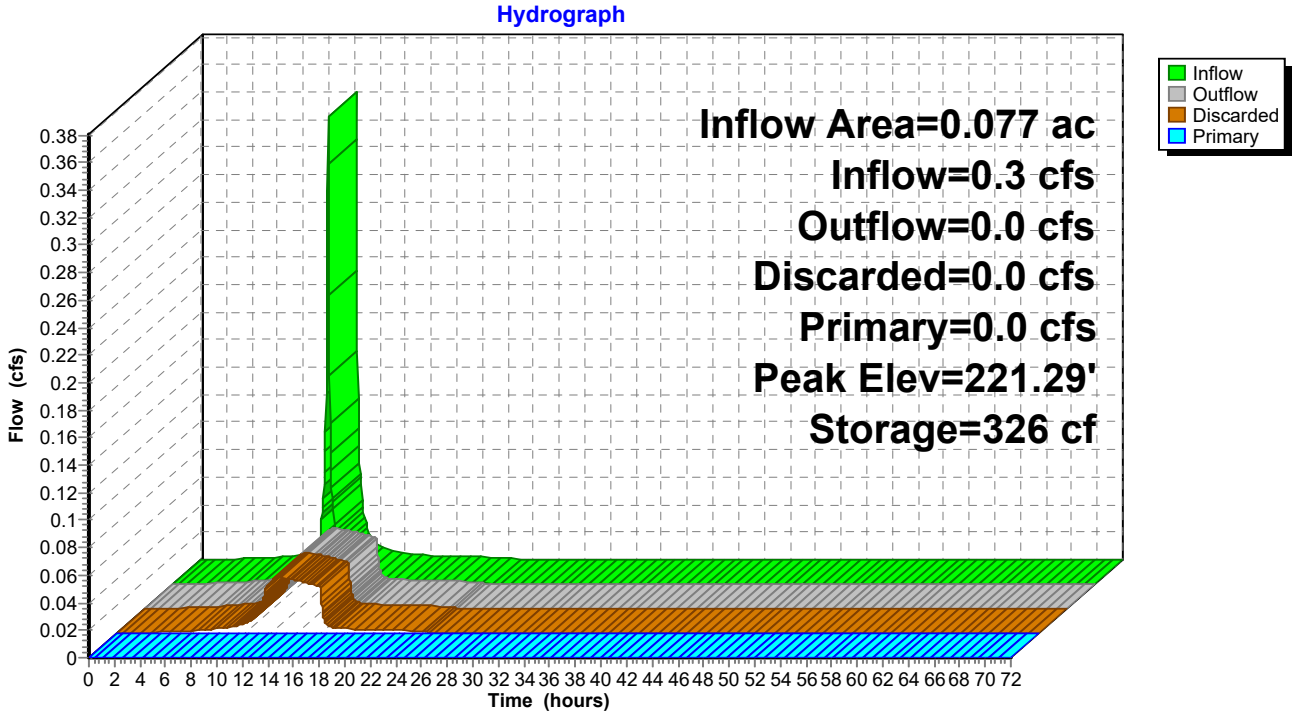
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	220.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.62 hrs HW=221.29' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D02: Drywell #1



Summary for Subcatchment D03: Bldgs #2

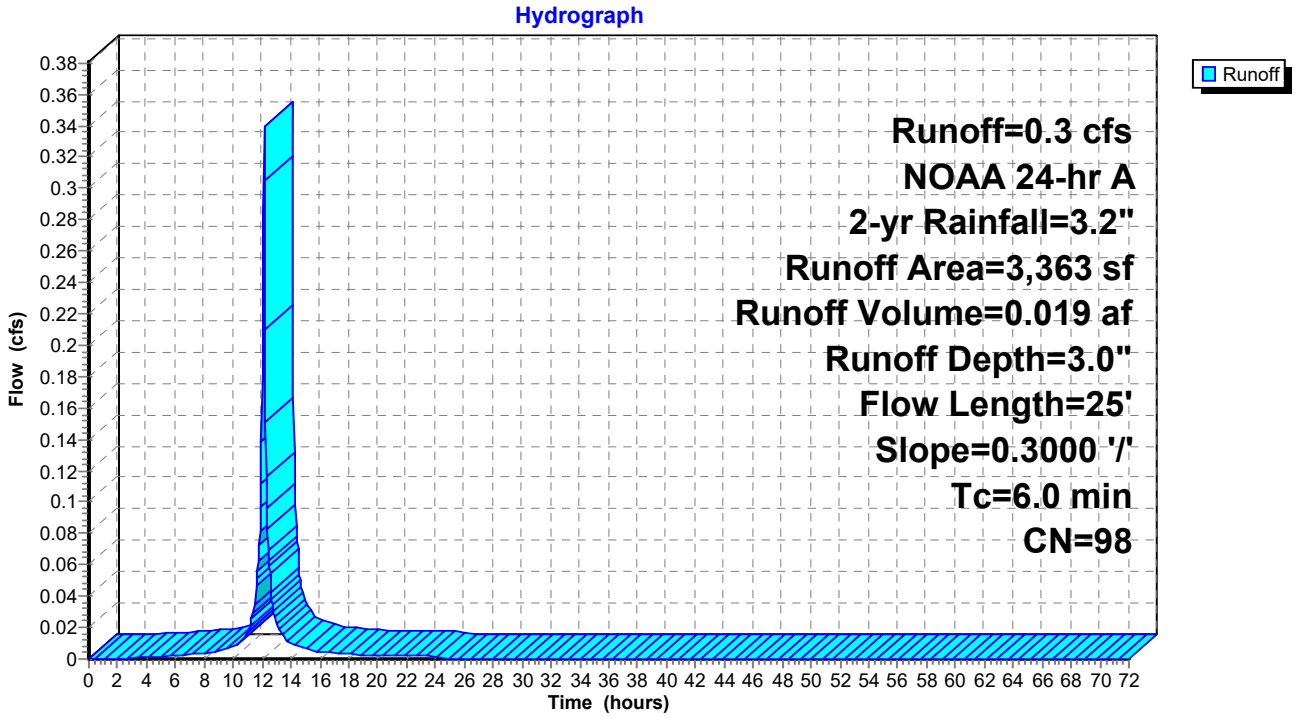
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af, Depth= 3.0"
Routed to Pond D04 : Drywell #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 2-yr Rainfall=3.2"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D03: Bldgs #2



Summary for Pond D04: Drywell #2

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 3.0" for 2-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af
Outflow = 0.0 cfs @ 12.62 hrs, Volume= 0.019 af, Atten= 88%, Lag= 29.7 min
Discarded = 0.0 cfs @ 12.62 hrs, Volume= 0.019 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 219.79' @ 12.62 hrs Surf.Area= 600 sf Storage= 326 cf

Plug-Flow detention time= 61.4 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 61.3 min (814.6 - 753.3)

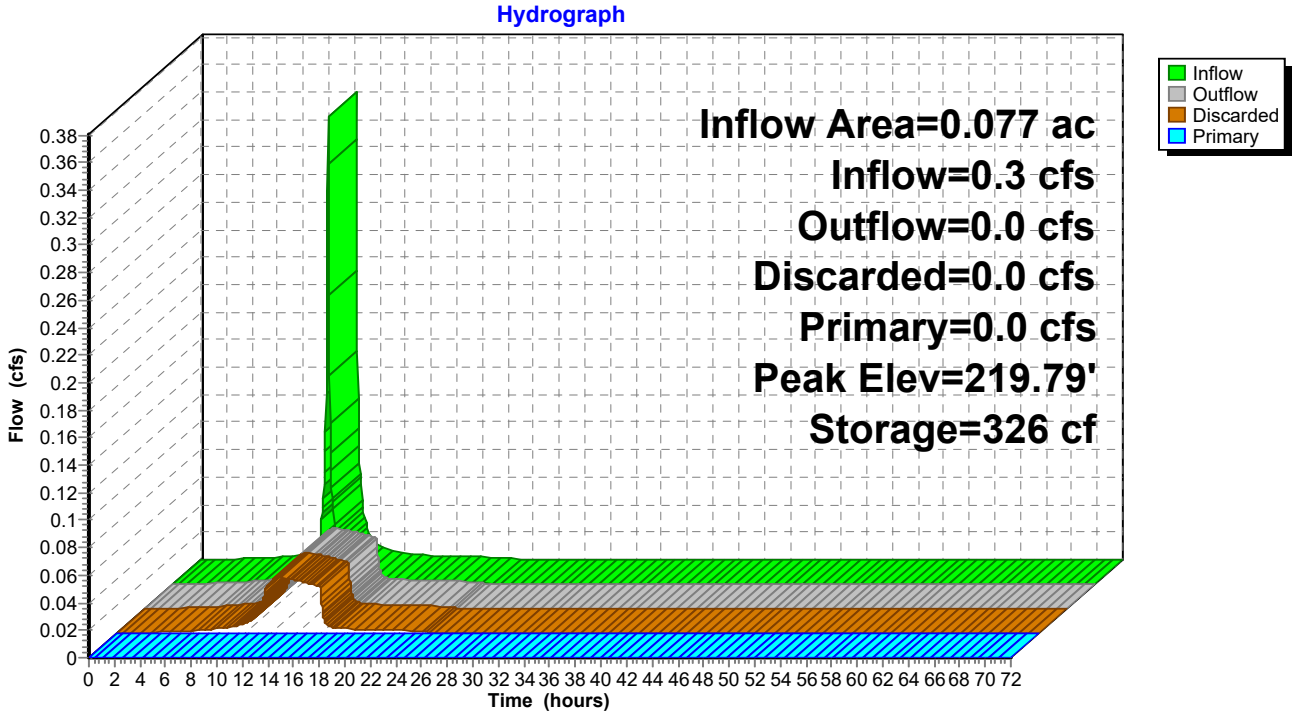
Volume	Invert	Avail.Storage	Storage Description
#1	218.50'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	219.00'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.50'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	222.90'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.62 hrs HW=219.79' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=218.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D04: Drywell #2



Summary for Subcatchment D05: Bldgs #3

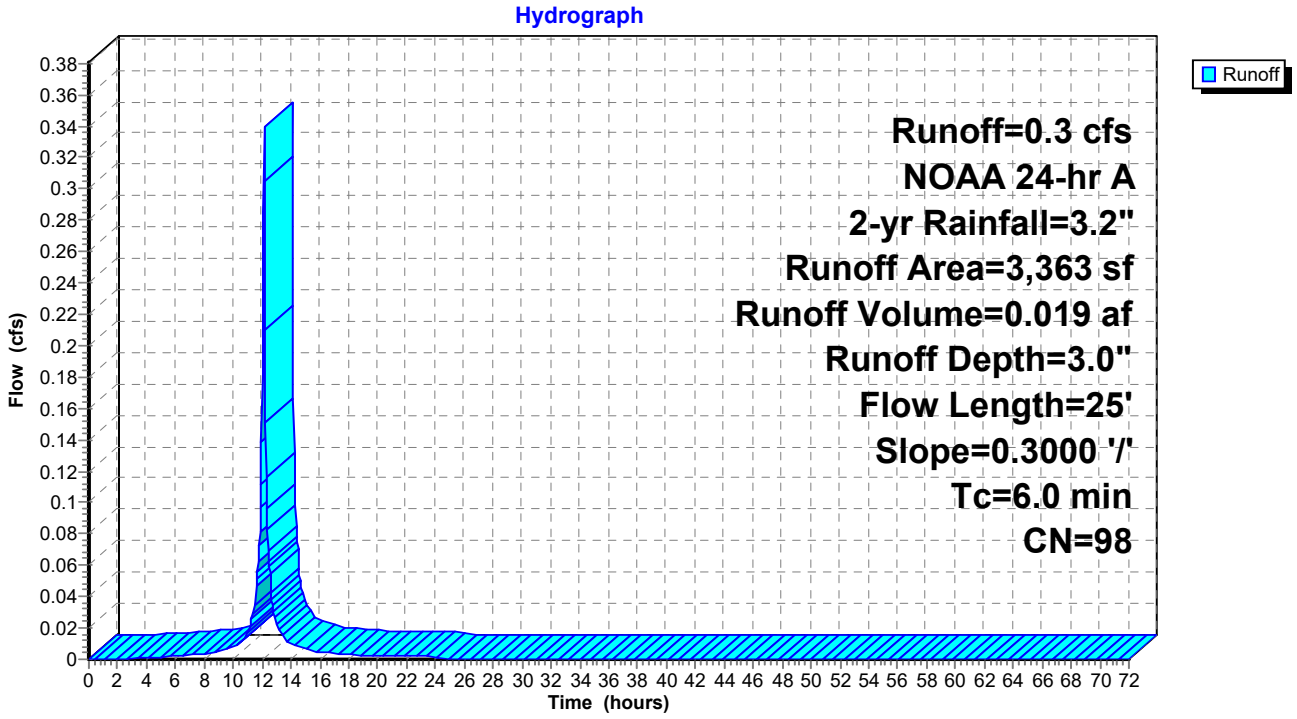
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af, Depth= 3.0"
Routed to Pond D06 : Drywell #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 2-yr Rainfall=3.2"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D05: Bldgs #3



Summary for Pond D06: Drywell #3

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 3.0" for 2-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af
Outflow = 0.0 cfs @ 12.62 hrs, Volume= 0.019 af, Atten= 88%, Lag= 29.7 min
Discarded = 0.0 cfs @ 12.62 hrs, Volume= 0.019 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 217.28' @ 12.62 hrs Surf.Area= 600 sf Storage= 326 cf

Plug-Flow detention time= 61.5 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 61.4 min (814.7 - 753.3)

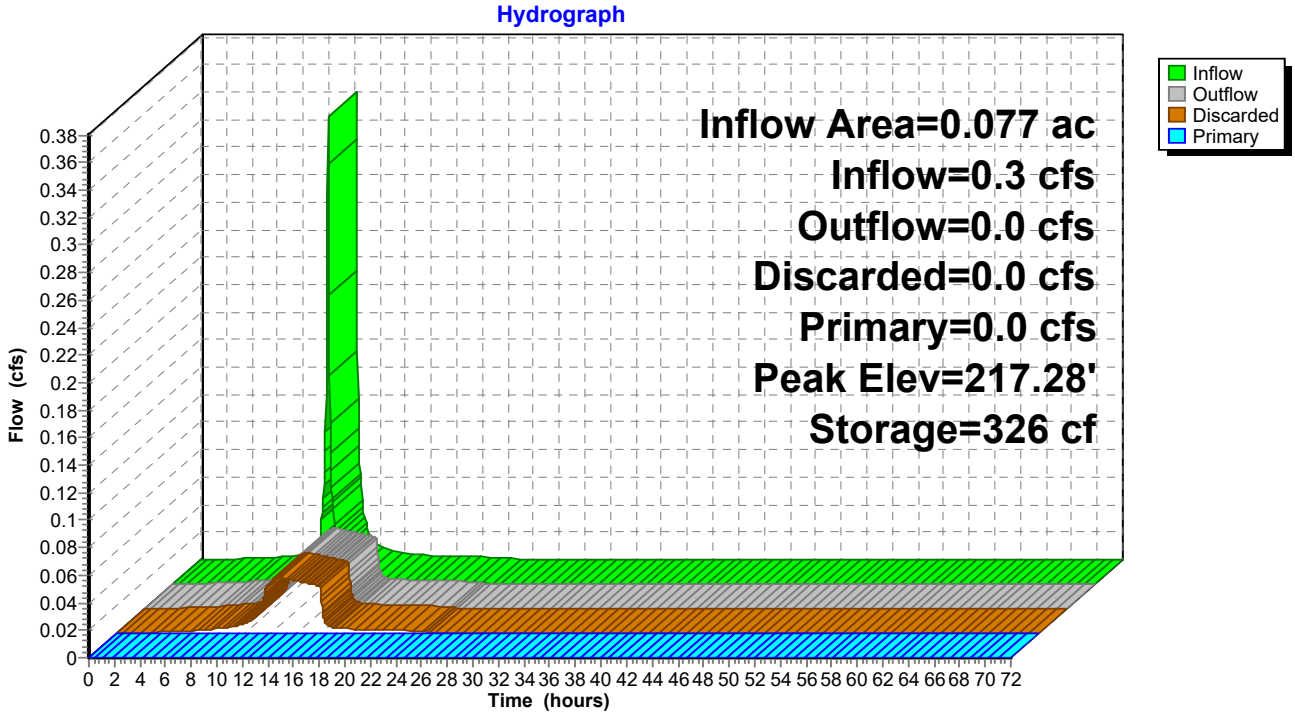
Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	216.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	220.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.62 hrs HW=217.28' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=216.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D06: Drywell #3



Summary for Subcatchment D07: Bldgs #4

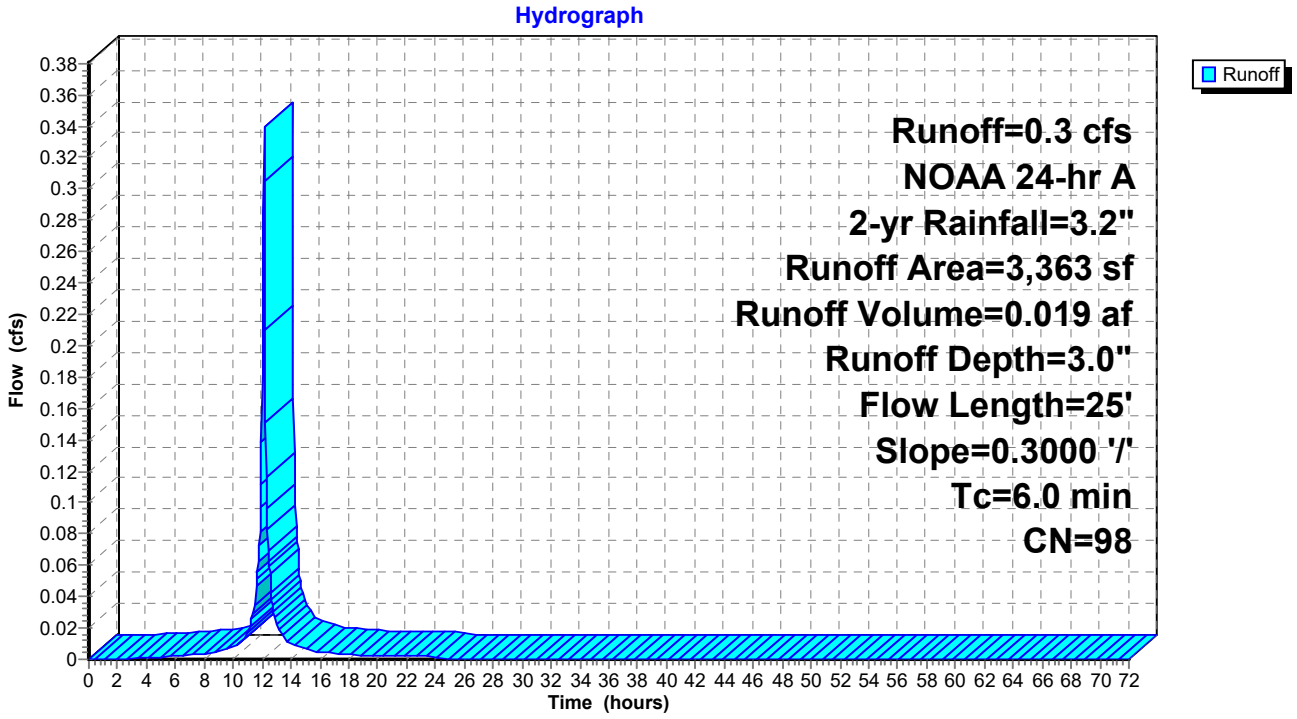
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af, Depth= 3.0"
Routed to Pond D08 : Drywell #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 2-yr Rainfall=3.2"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D07: Bldgs #4



Summary for Pond D08: Drywell #4

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 3.0" for 2-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af
Outflow = 0.0 cfs @ 12.61 hrs, Volume= 0.019 af, Atten= 88%, Lag= 29.1 min
Discarded = 0.0 cfs @ 12.61 hrs, Volume= 0.019 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 226.28' @ 12.61 hrs Surf.Area= 600 sf Storage= 323 cf

Plug-Flow detention time= 58.9 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 58.8 min (812.1 - 753.3)

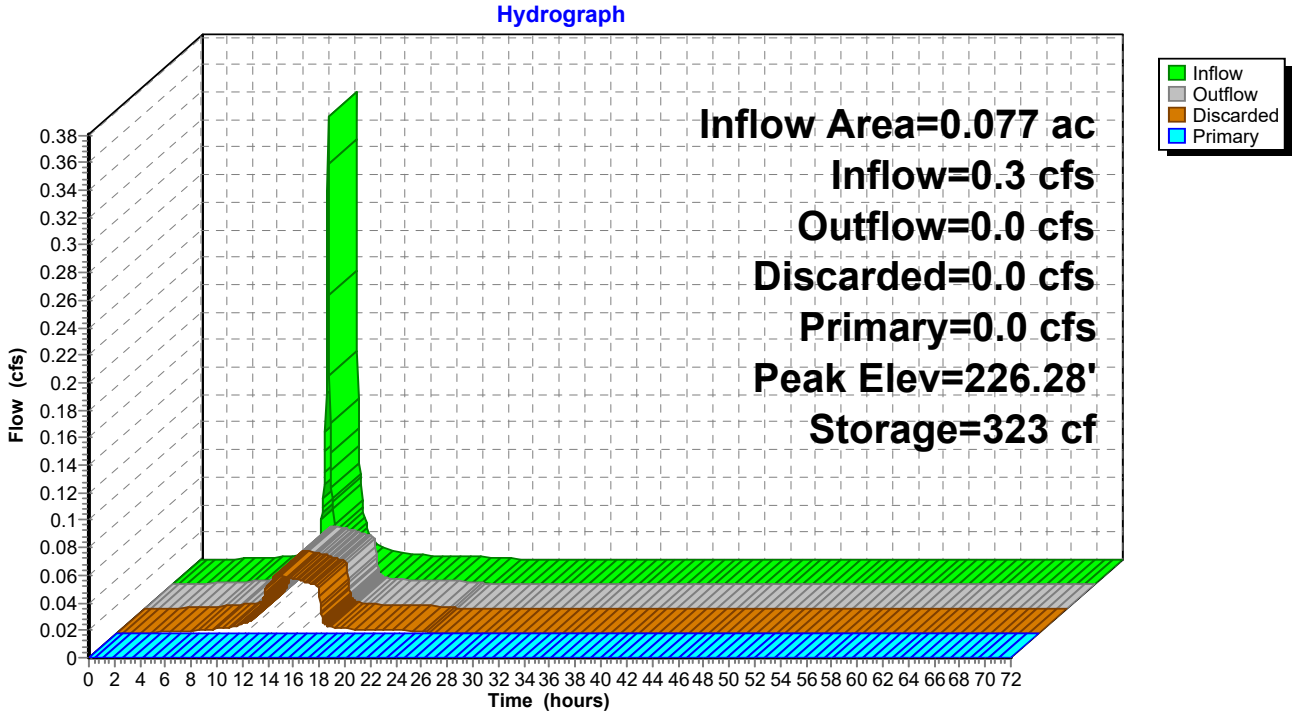
Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	1,042 cf	**12.00'W x 50.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	225.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	225.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	229.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.61 hrs HW=226.28' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D08: Drywell #4



Summary for Subcatchment D09: Bldg #5

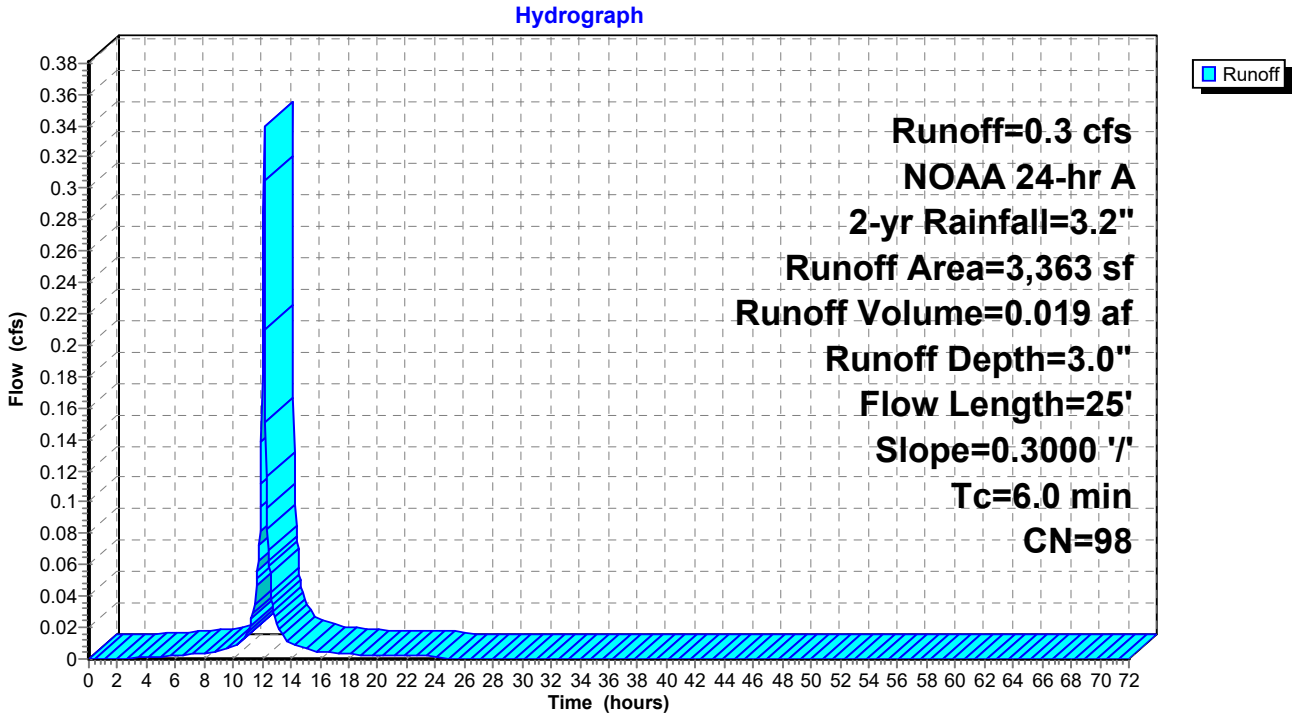
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af, Depth= 3.0"
Routed to Pond D10 : Drywell #5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 2-yr Rainfall=3.2"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D09: Bldg #5



Summary for Pond D10: Drywell #5

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 3.0" for 2-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.019 af
Outflow = 0.0 cfs @ 12.62 hrs, Volume= 0.019 af, Atten= 88%, Lag= 29.7 min
Discarded = 0.0 cfs @ 12.62 hrs, Volume= 0.019 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 221.28' @ 12.62 hrs Surf.Area= 600 sf Storage= 326 cf

Plug-Flow detention time= 61.5 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 61.4 min (814.7 - 753.3)

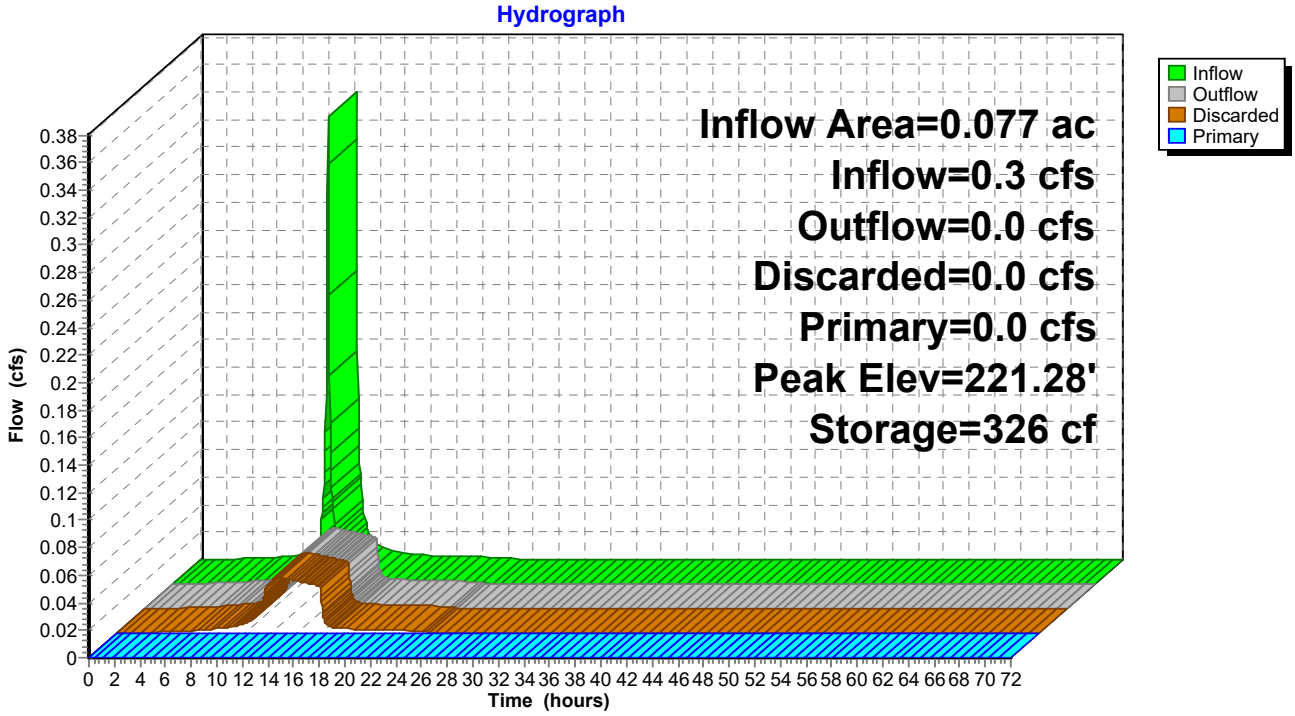
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	220.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.62 hrs HW=221.28' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D10: Drywell #5



Summary for Subcatchment D01: Bldgs #1

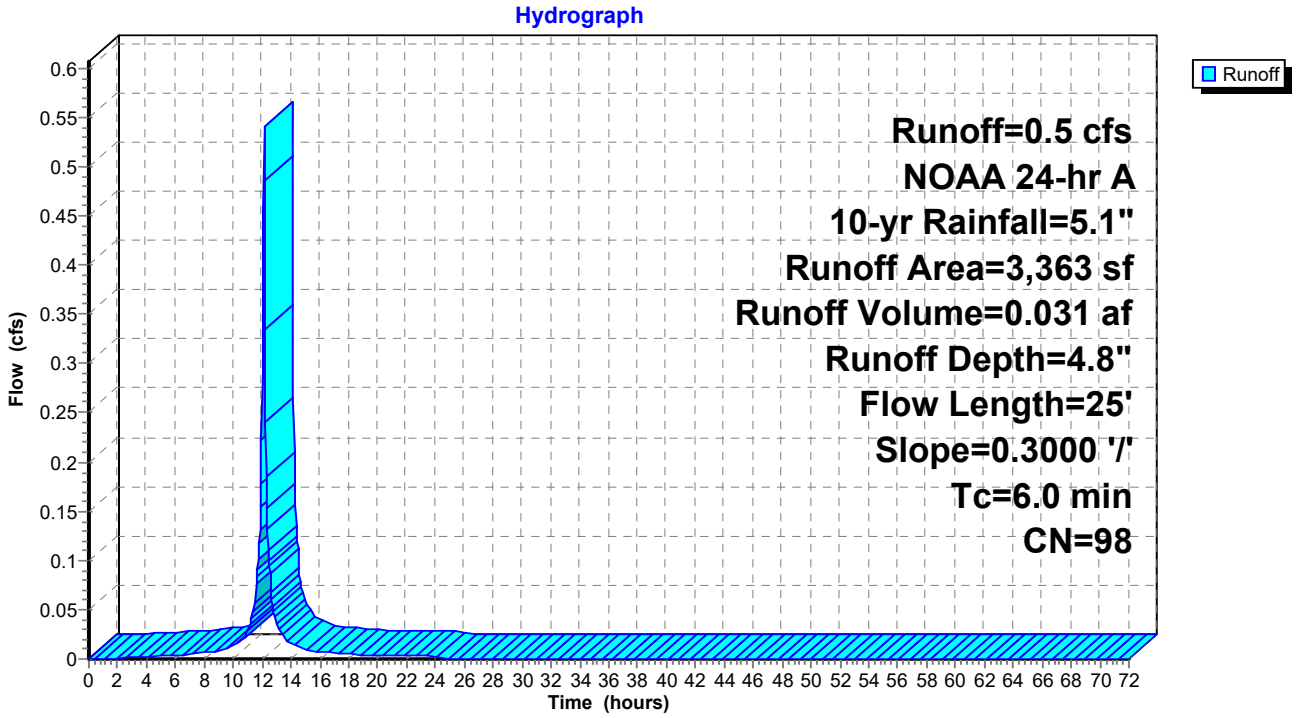
Runoff = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af, Depth= 4.8"
Routed to Pond D02 : Drywell #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 10-yr Rainfall=5.1"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D01: Bldgs #1



Summary for Pond D02: Drywell #1

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 4.8" for 10-yr event
Inflow = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af
Outflow = 0.0 cfs @ 12.83 hrs, Volume= 0.031 af, Atten= 91%, Lag= 42.2 min
Discarded = 0.0 cfs @ 12.83 hrs, Volume= 0.031 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 222.43' @ 12.83 hrs Surf.Area= 600 sf Storage= 604 cf

Plug-Flow detention time= 105.6 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 105.6 min (851.7 - 746.1)

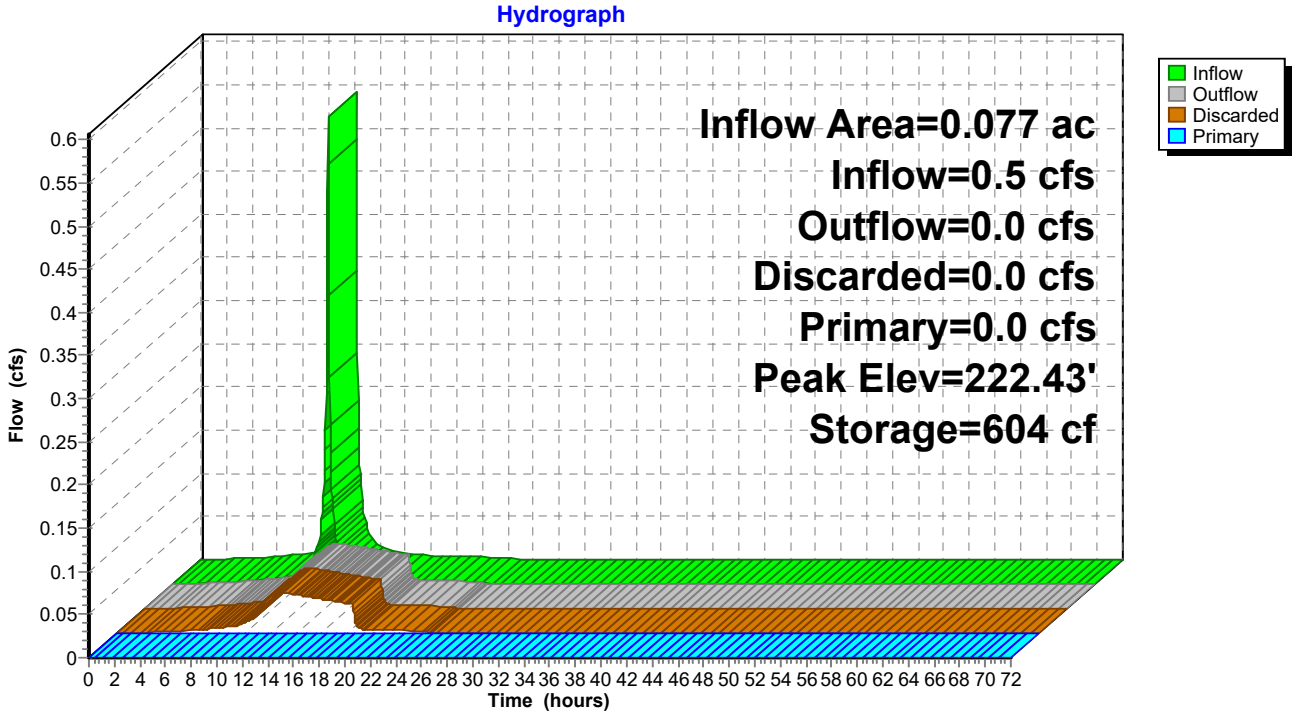
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	220.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.83 hrs HW=222.43' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D02: Drywell #1



Summary for Subcatchment D03: Bldgs #2

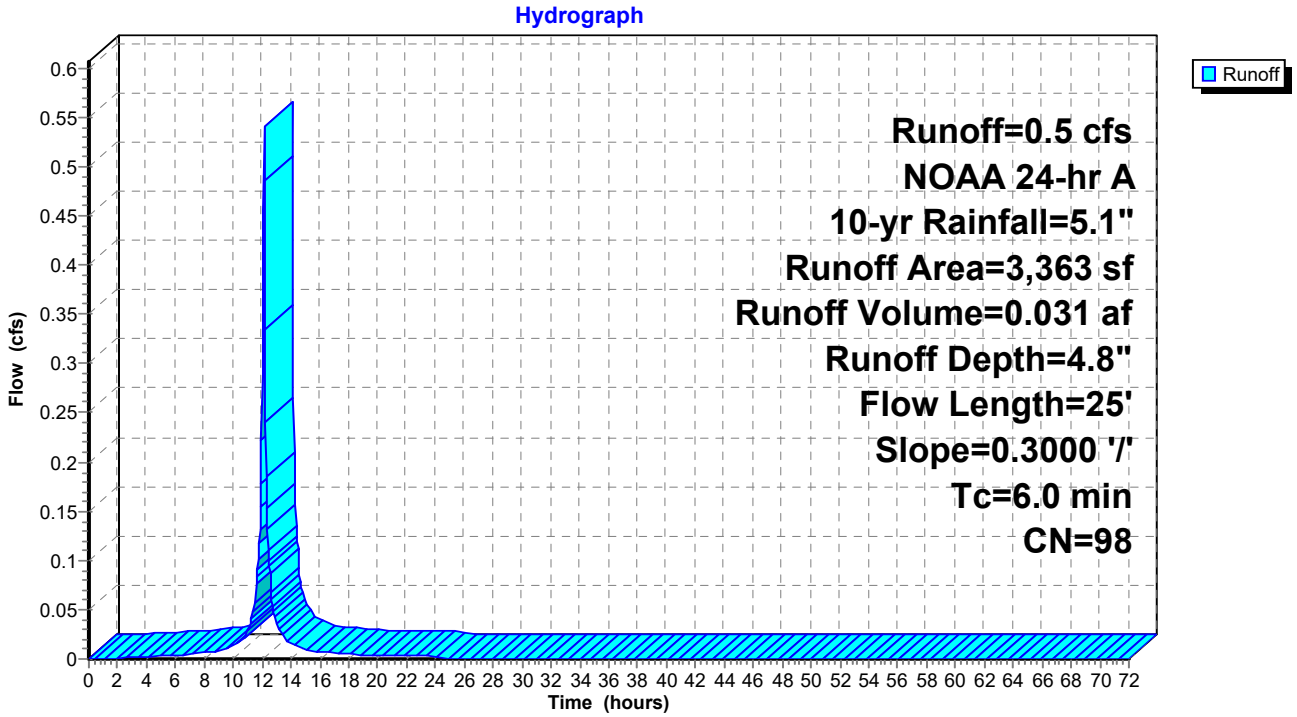
Runoff = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af, Depth= 4.8"
Routed to Pond D04 : Drywell #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 10-yr Rainfall=5.1"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D03: Bldgs #2



Summary for Pond D04: Drywell #2

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 4.8" for 10-yr event
Inflow = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af
Outflow = 0.0 cfs @ 12.83 hrs, Volume= 0.031 af, Atten= 91%, Lag= 42.2 min
Discarded = 0.0 cfs @ 12.83 hrs, Volume= 0.031 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 220.93' @ 12.83 hrs Surf.Area= 600 sf Storage= 604 cf

Plug-Flow detention time= 105.6 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 105.6 min (851.7 - 746.1)

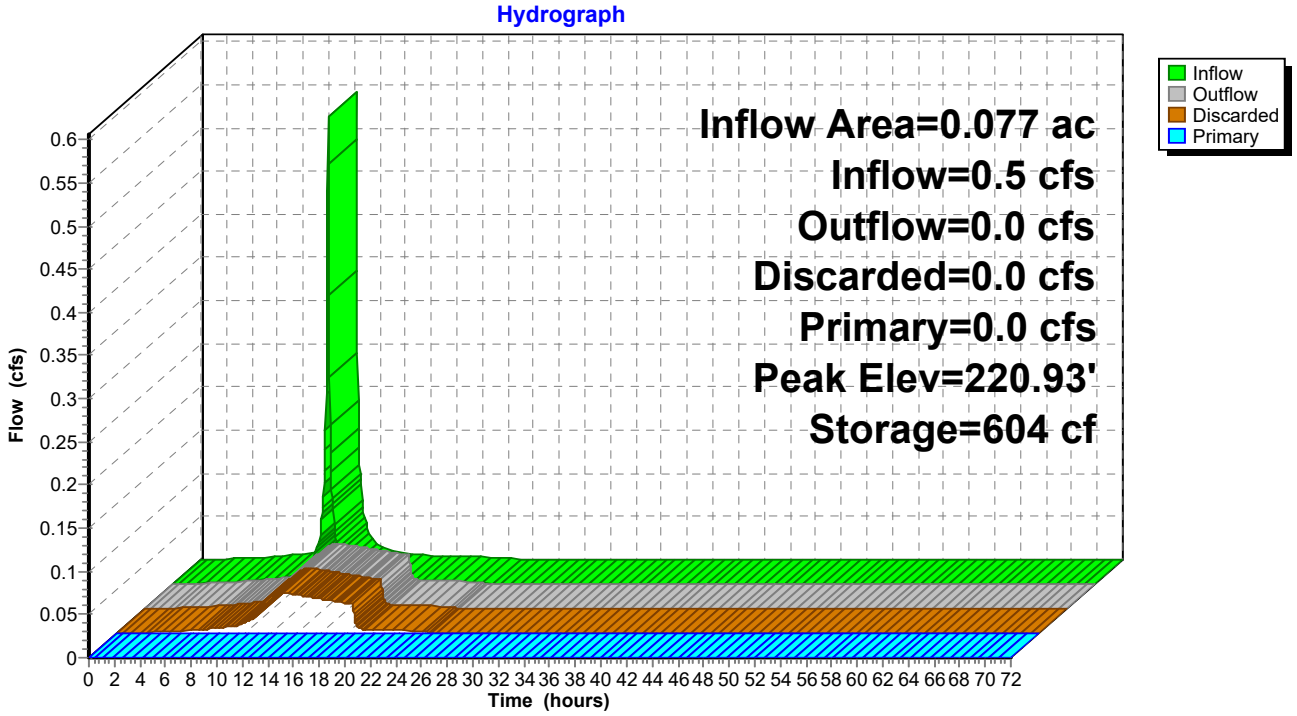
Volume	Invert	Avail.Storage	Storage Description
#1	218.50'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	219.00'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.50'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	222.90'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.83 hrs HW=220.93' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=218.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D04: Drywell #2



Summary for Subcatchment D05: Bldgs #3

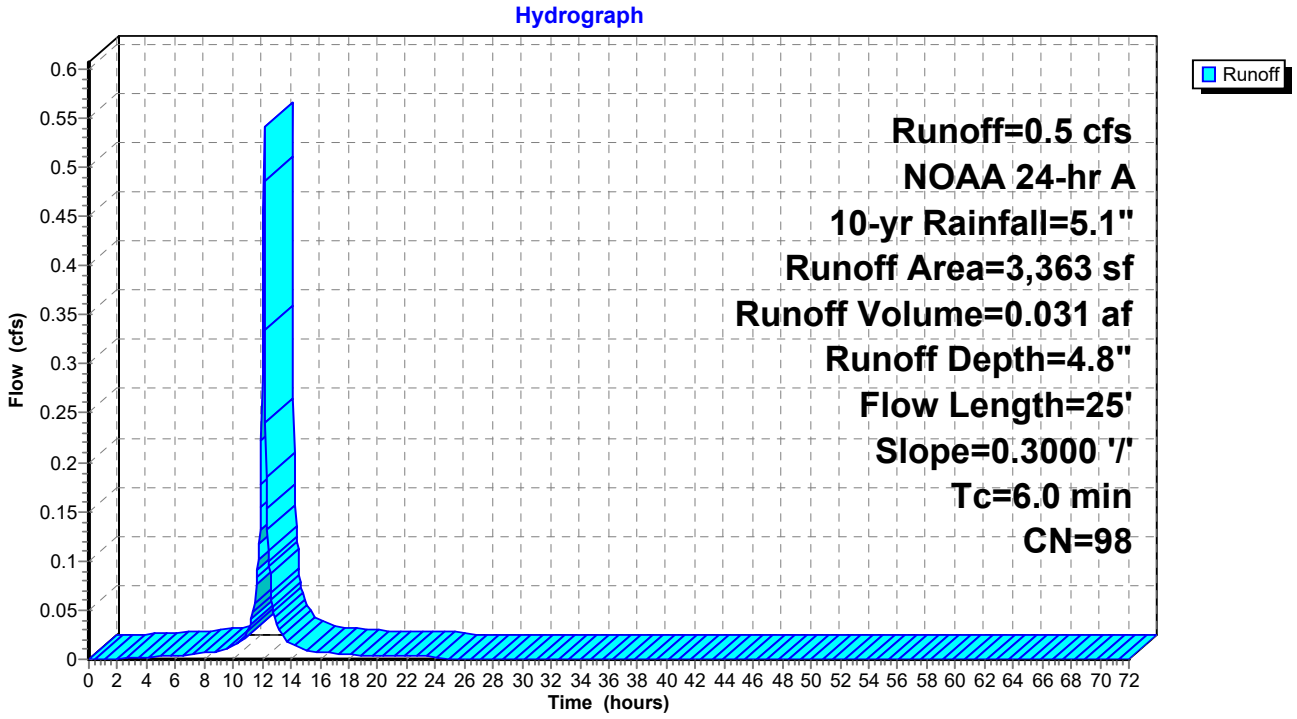
Runoff = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af, Depth= 4.8"
Routed to Pond D06 : Drywell #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 10-yr Rainfall=5.1"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D05: Bldgs #3



Summary for Pond D06: Drywell #3

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 4.8" for 10-yr event
Inflow = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af
Outflow = 0.0 cfs @ 12.83 hrs, Volume= 0.031 af, Atten= 91%, Lag= 42.2 min
Discarded = 0.0 cfs @ 12.83 hrs, Volume= 0.031 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 218.42' @ 12.83 hrs Surf.Area= 600 sf Storage= 604 cf

Plug-Flow detention time= 105.8 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 105.8 min (851.8 - 746.1)

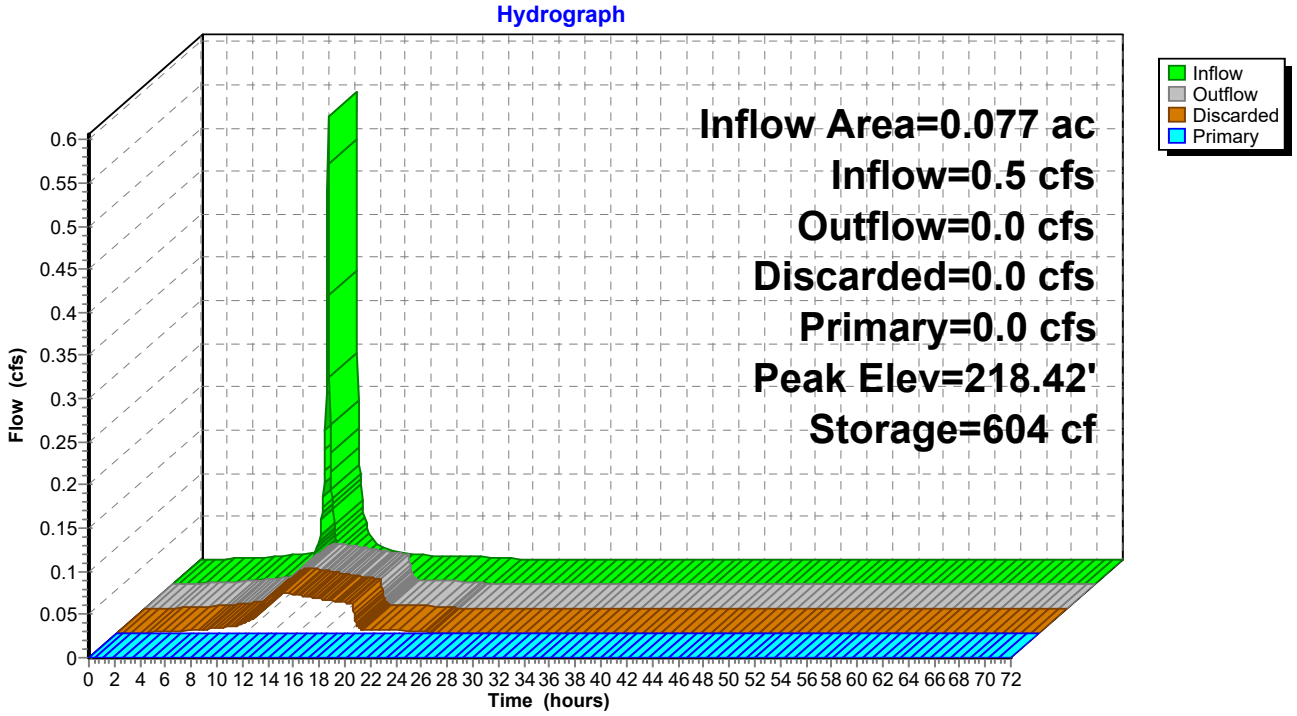
Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	216.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	220.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.83 hrs HW=218.41' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=216.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D06: Drywell #3



Summary for Subcatchment D07: Bldgs #4

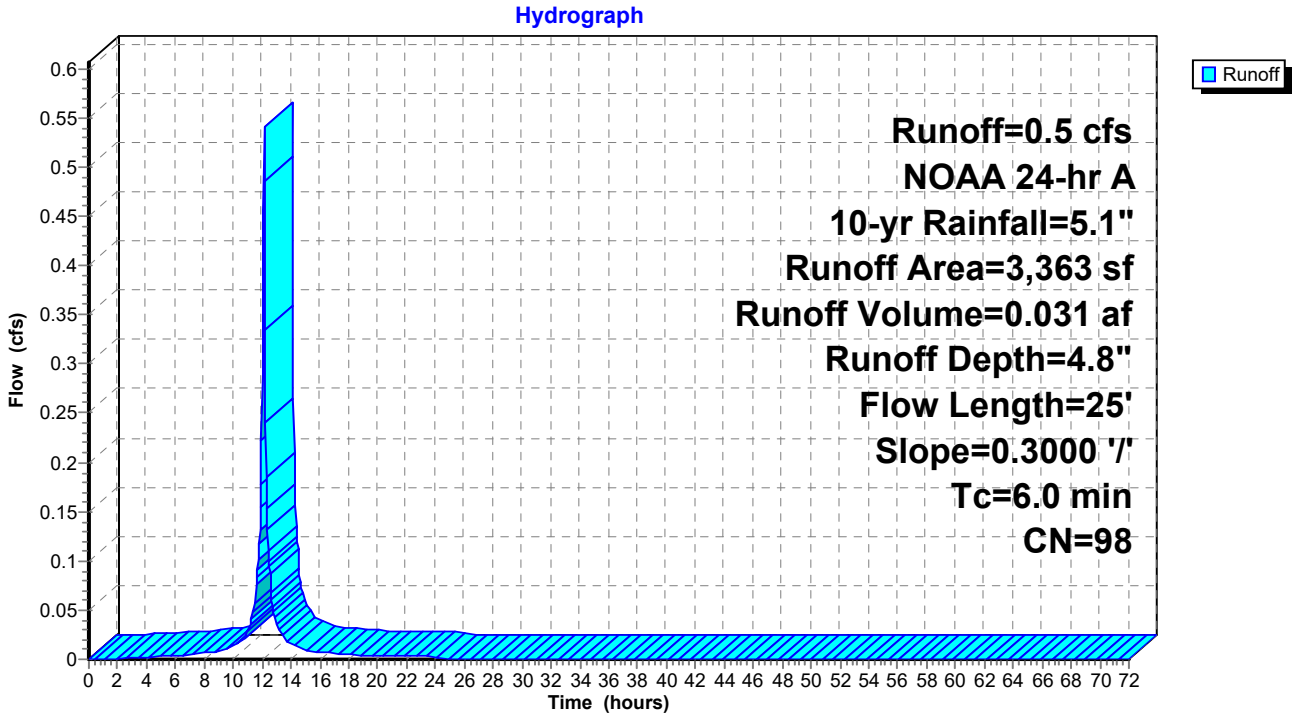
Runoff = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af, Depth= 4.8"
Routed to Pond D08 : Drywell #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 10-yr Rainfall=5.1"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D07: Bldgs #4



Summary for Pond D08: Drywell #4

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 4.8" for 10-yr event
Inflow = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af
Outflow = 0.0 cfs @ 12.77 hrs, Volume= 0.031 af, Atten= 91%, Lag= 38.8 min
Discarded = 0.0 cfs @ 12.77 hrs, Volume= 0.031 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 227.39' @ 12.77 hrs Surf.Area= 600 sf Storage= 596 cf

Plug-Flow detention time= 99.0 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 98.9 min (845.0 - 746.1)

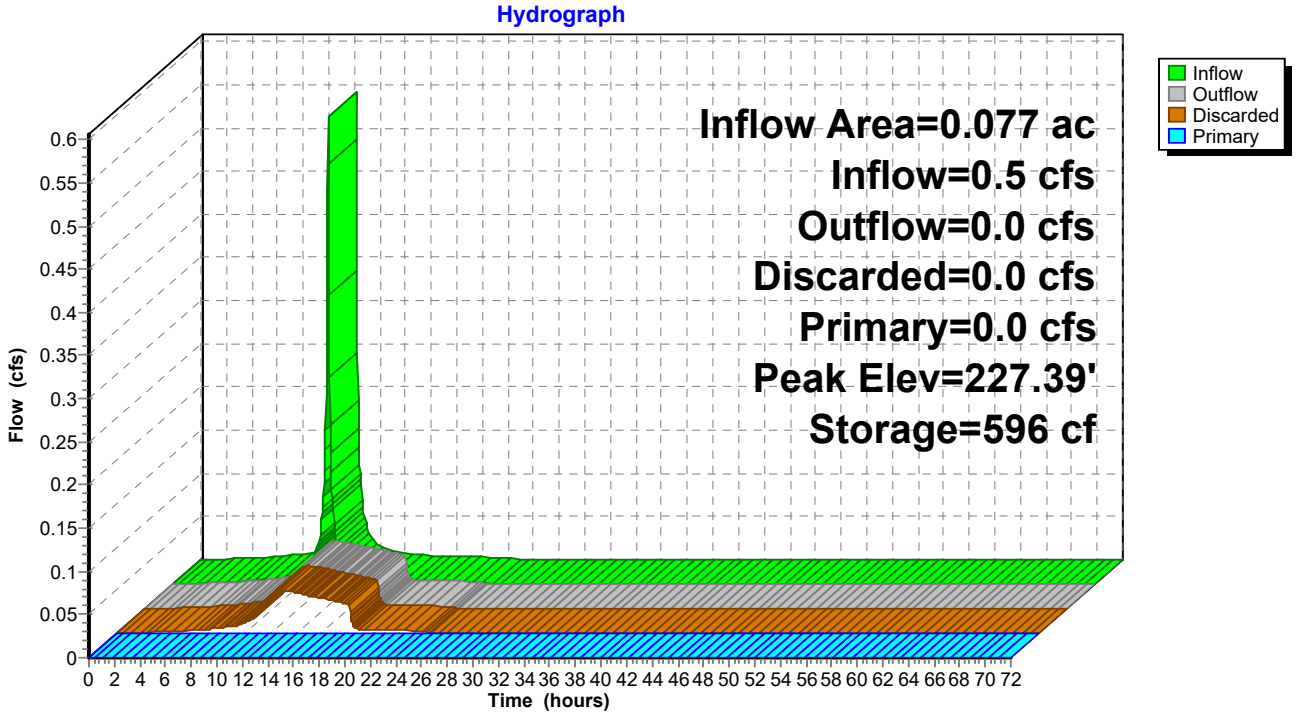
Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	1,042 cf	**12.00'W x 50.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	225.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	225.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	229.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.77 hrs HW=227.39' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D08: Drywell #4



Summary for Subcatchment D09: Bldg #5

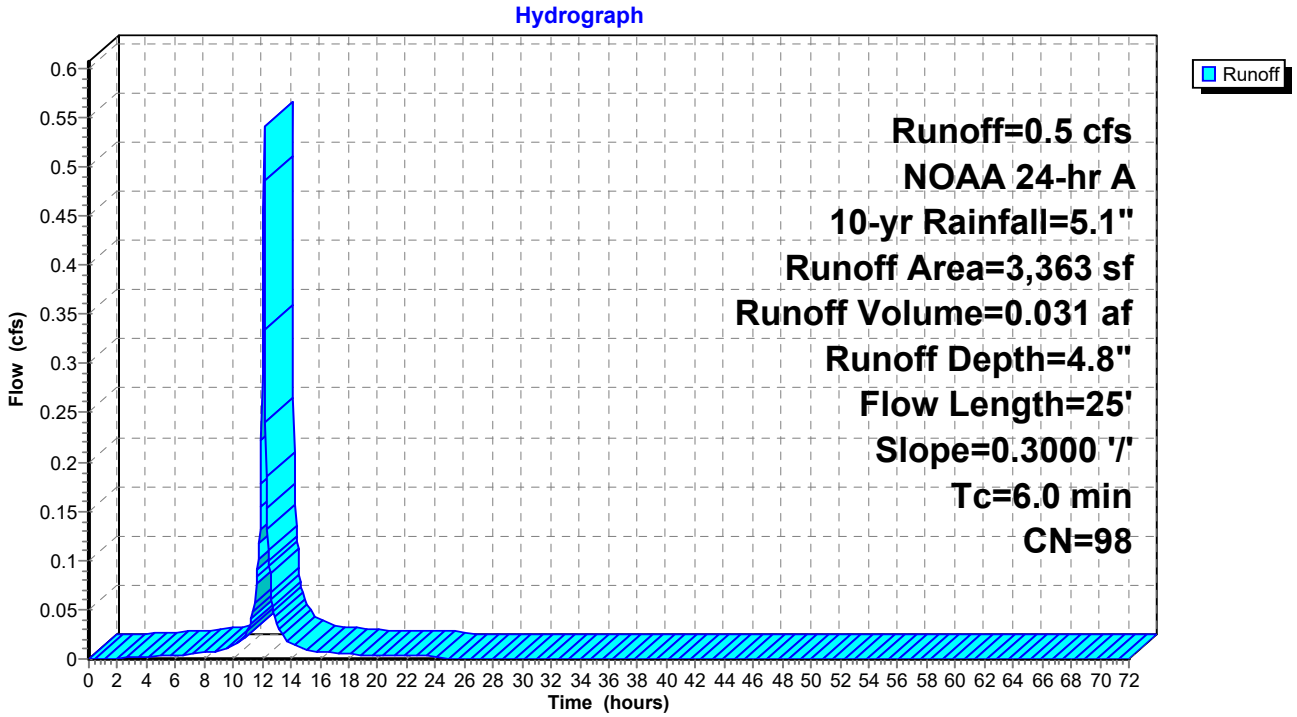
Runoff = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af, Depth= 4.8"
Routed to Pond D10 : Drywell #5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 10-yr Rainfall=5.1"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D09: Bldg #5



Summary for Pond D10: Drywell #5

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 4.8" for 10-yr event
Inflow = 0.5 cfs @ 12.12 hrs, Volume= 0.031 af
Outflow = 0.0 cfs @ 12.83 hrs, Volume= 0.031 af, Atten= 91%, Lag= 42.2 min
Discarded = 0.0 cfs @ 12.83 hrs, Volume= 0.031 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 222.42' @ 12.83 hrs Surf.Area= 600 sf Storage= 604 cf

Plug-Flow detention time= 105.8 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 105.8 min (851.8 - 746.1)

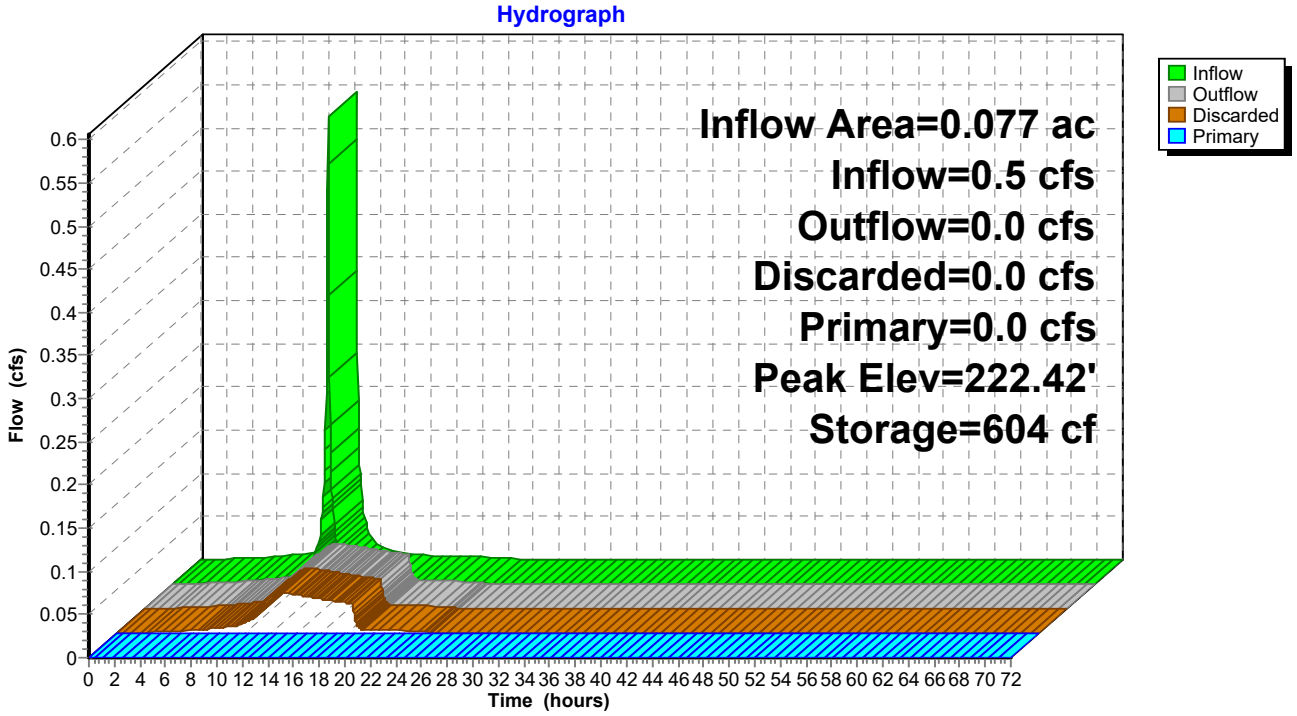
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	220.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.83 hrs HW=222.41' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D10: Drywell #5



Summary for Subcatchment D01: Bldgs #1

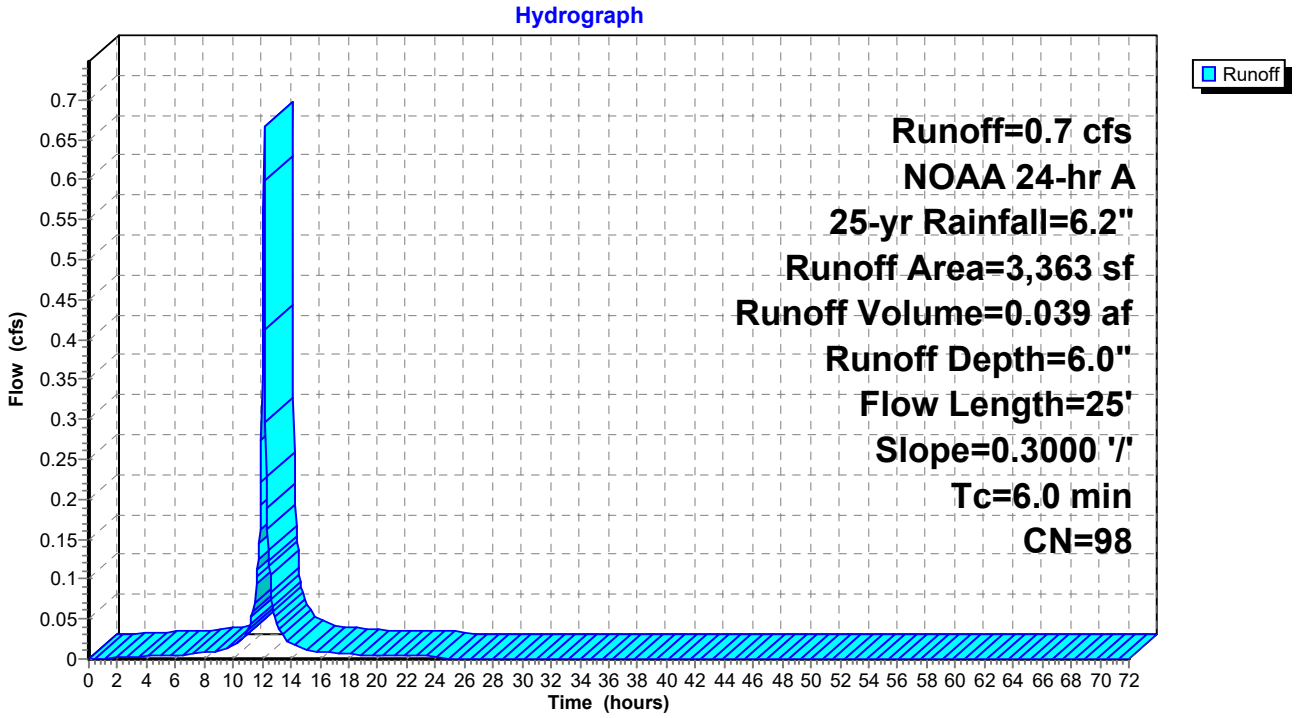
Runoff = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af, Depth= 6.0"
Routed to Pond D02 : Drywell #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D01: Bldgs #1



Summary for Pond D02: Drywell #1

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 6.0" for 25-yr event
Inflow = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af
Outflow = 0.1 cfs @ 12.93 hrs, Volume= 0.039 af, Atten= 92%, Lag= 48.3 min
Discarded = 0.1 cfs @ 12.93 hrs, Volume= 0.039 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 223.20' @ 12.93 hrs Surf.Area= 600 sf Storage= 790 cf

Plug-Flow detention time= 131.6 min calculated for 0.039 af (100% of inflow)
Center-of-Mass det. time= 131.6 min (874.9 - 743.3)

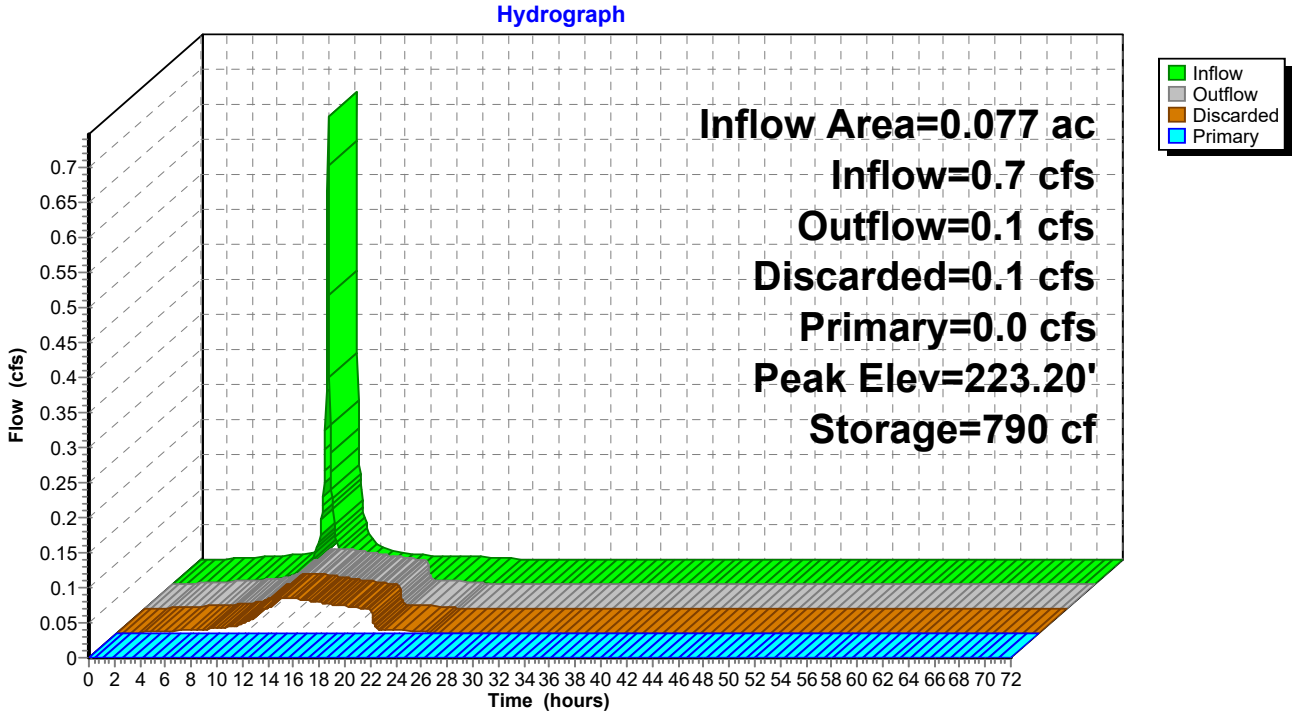
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	220.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.93 hrs HW=223.20' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D02: Drywell #1



Summary for Subcatchment D03: Bldgs #2

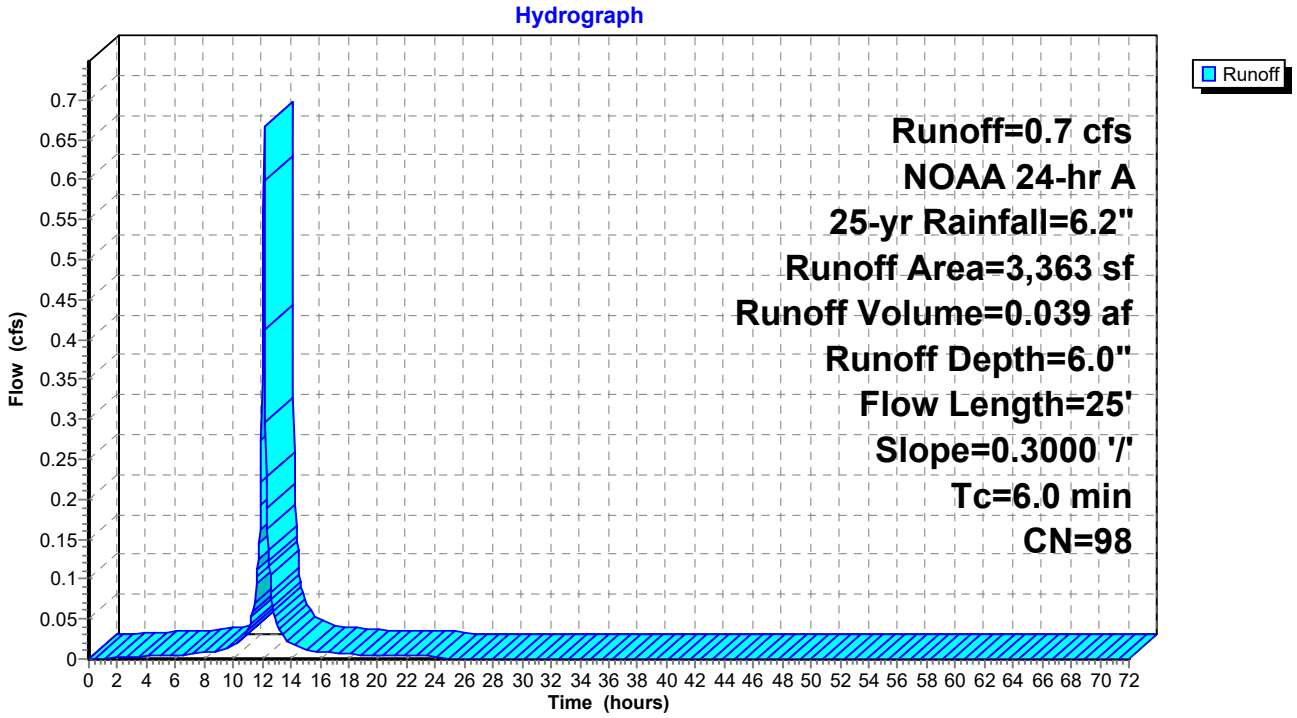
Runoff = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af, Depth= 6.0"
Routed to Pond D04 : Drywell #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D03: Bldgs #2



Summary for Pond D04: Drywell #2

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 6.0" for 25-yr event
Inflow = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af
Outflow = 0.1 cfs @ 12.93 hrs, Volume= 0.039 af, Atten= 92%, Lag= 48.3 min
Discarded = 0.1 cfs @ 12.93 hrs, Volume= 0.039 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 221.70' @ 12.93 hrs Surf.Area= 600 sf Storage= 790 cf

Plug-Flow detention time= 131.6 min calculated for 0.039 af (100% of inflow)
Center-of-Mass det. time= 131.6 min (874.9 - 743.3)

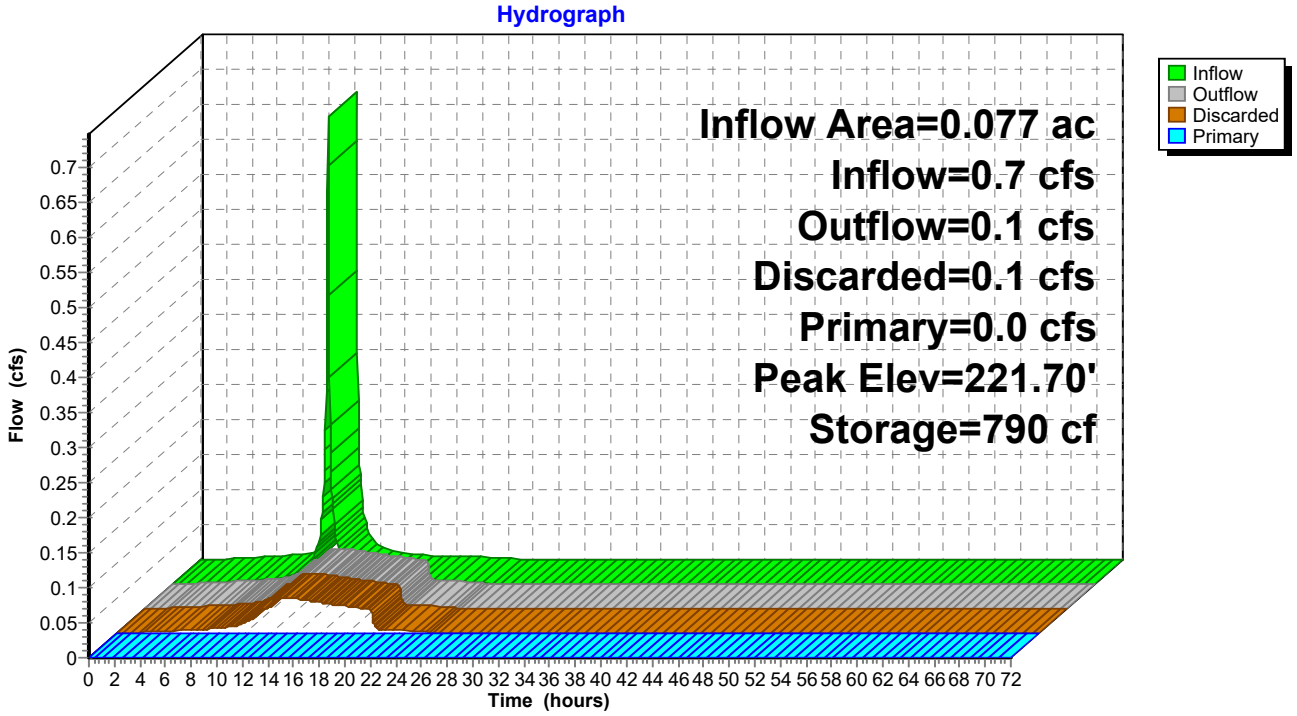
Volume	Invert	Avail.Storage	Storage Description
#1	218.50'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	219.00'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.50'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	222.90'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.93 hrs HW=221.70' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=218.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D04: Drywell #2



Summary for Subcatchment D05: Bldgs #3

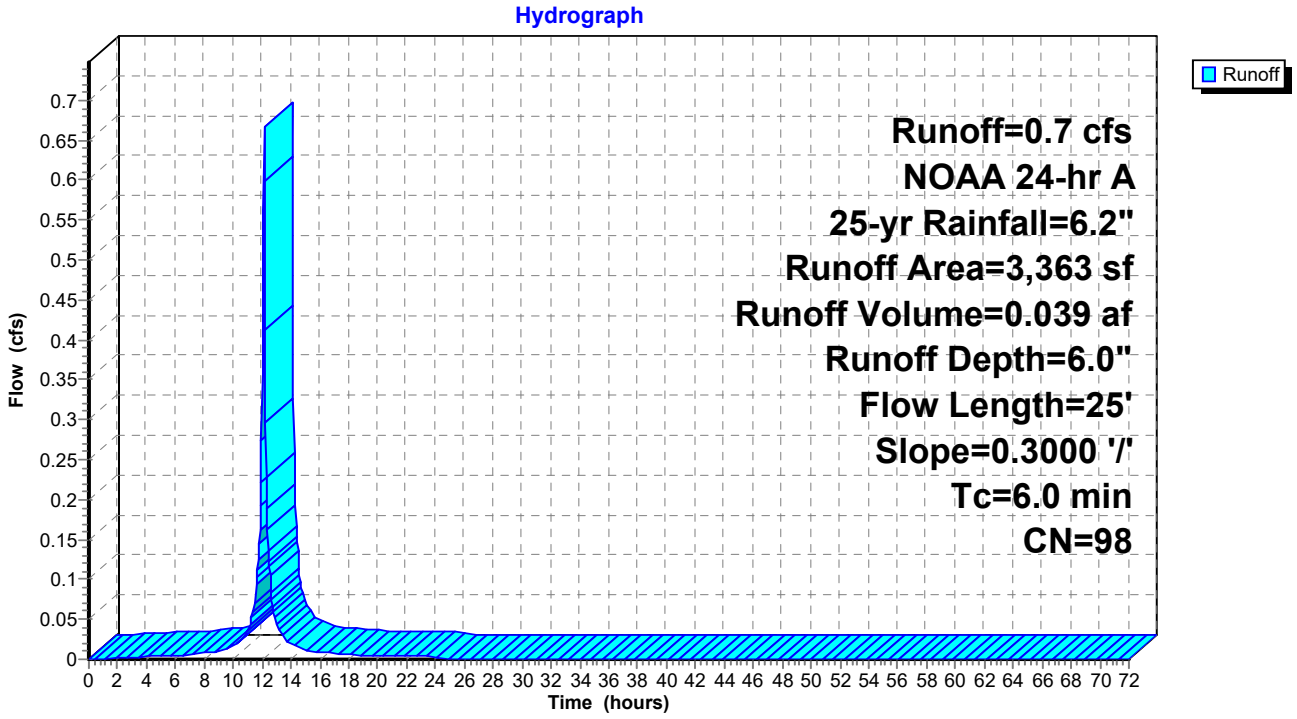
Runoff = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af, Depth= 6.0"
Routed to Pond D06 : Drywell #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D05: Bldgs #3



Summary for Pond D06: Drywell #3

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 6.0" for 25-yr event
Inflow = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af
Outflow = 0.1 cfs @ 12.93 hrs, Volume= 0.039 af, Atten= 92%, Lag= 48.4 min
Discarded = 0.1 cfs @ 12.93 hrs, Volume= 0.039 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 219.19' @ 12.93 hrs Surf.Area= 600 sf Storage= 790 cf

Plug-Flow detention time= 131.9 min calculated for 0.039 af (100% of inflow)
Center-of-Mass det. time= 131.8 min (875.1 - 743.3)

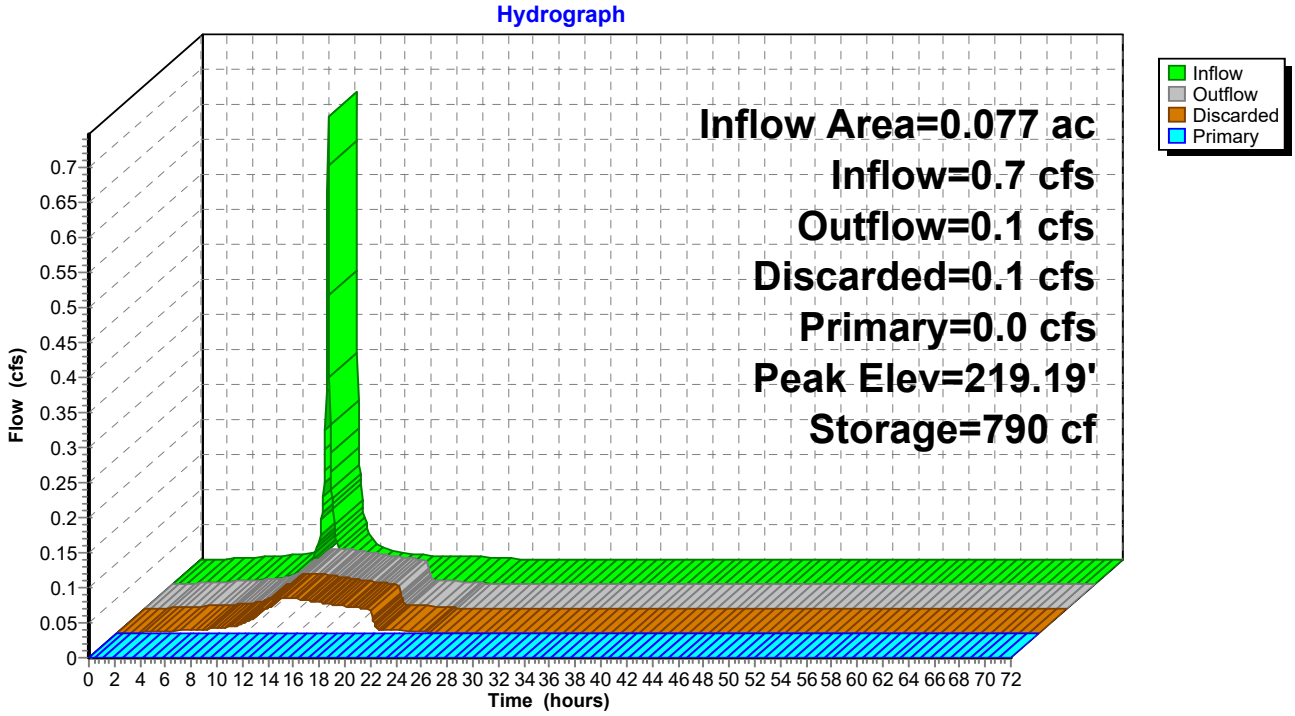
Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	216.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	220.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.93 hrs HW=219.19' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=216.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D06: Drywell #3



Summary for Subcatchment D07: Bldgs #4

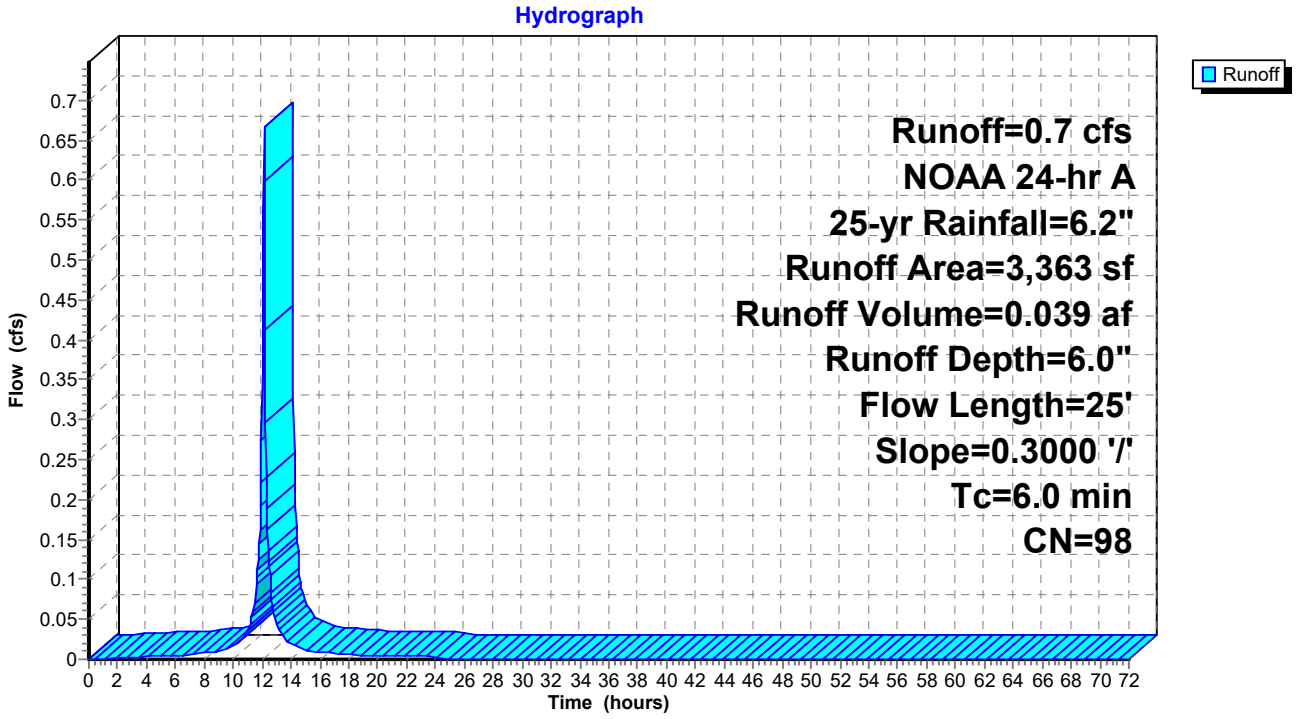
Runoff = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af, Depth= 6.0"
Routed to Pond D08 : Drywell #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D07: Bldgs #4



Summary for Pond D08: Drywell #4

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 6.0" for 25-yr event
Inflow = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af
Outflow = 0.1 cfs @ 12.87 hrs, Volume= 0.039 af, Atten= 92%, Lag= 44.7 min
Discarded = 0.1 cfs @ 12.87 hrs, Volume= 0.039 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 228.15' @ 12.87 hrs Surf.Area= 600 sf Storage= 777 cf

Plug-Flow detention time= 121.9 min calculated for 0.039 af (100% of inflow)
Center-of-Mass det. time= 121.8 min (865.1 - 743.3)

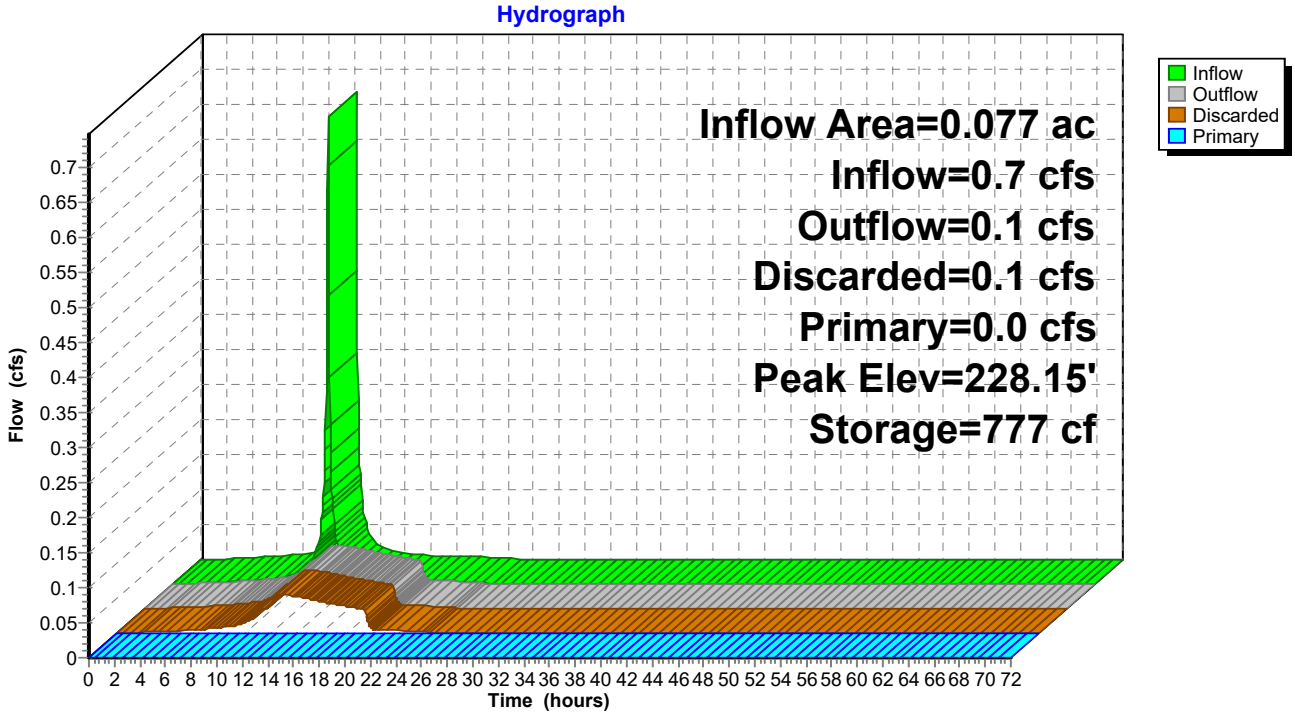
Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	1,042 cf	**12.00'W x 50.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	225.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	225.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	229.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.87 hrs HW=228.15' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D08: Drywell #4



Summary for Subcatchment D09: Bldg #5

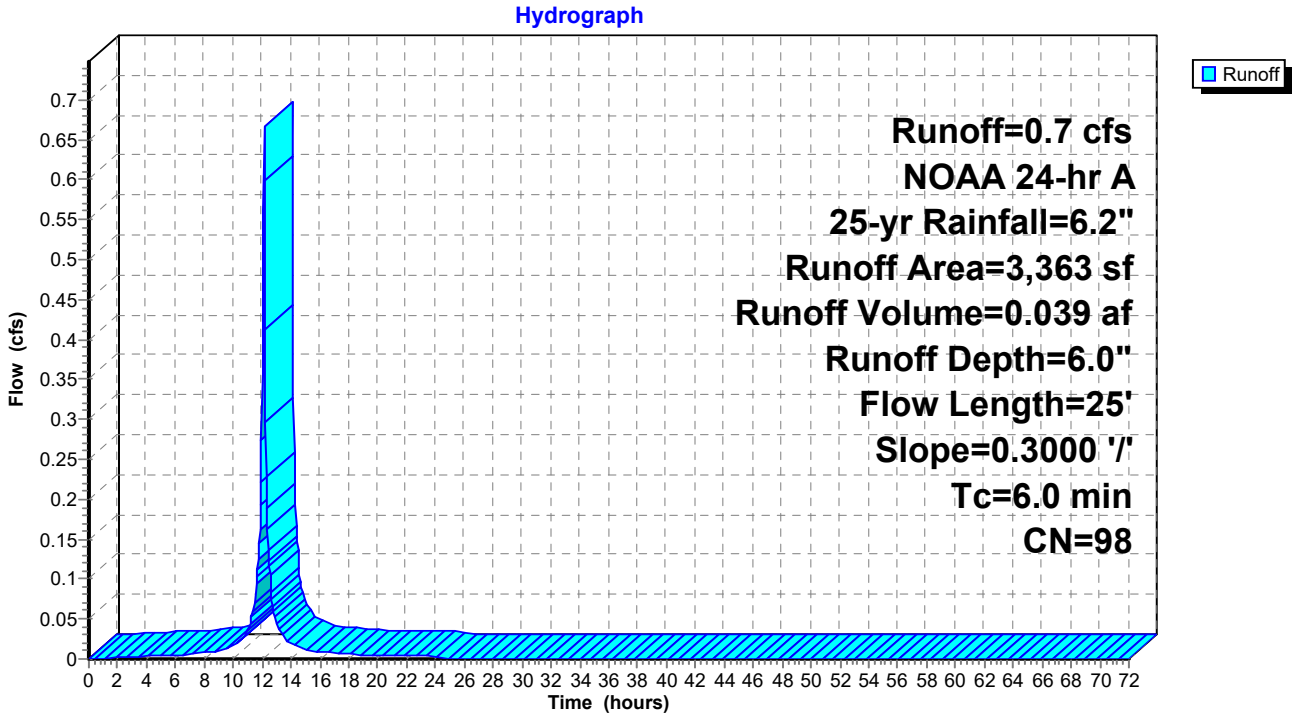
Runoff = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af, Depth= 6.0"
Routed to Pond D10 : Drywell #5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 25-yr Rainfall=6.2"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D09: Bldg #5



Summary for Pond D10: Drywell #5

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 6.0" for 25-yr event
Inflow = 0.7 cfs @ 12.12 hrs, Volume= 0.039 af
Outflow = 0.1 cfs @ 12.93 hrs, Volume= 0.039 af, Atten= 92%, Lag= 48.4 min
Discarded = 0.1 cfs @ 12.93 hrs, Volume= 0.039 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 223.19' @ 12.93 hrs Surf.Area= 600 sf Storage= 790 cf

Plug-Flow detention time= 131.9 min calculated for 0.039 af (100% of inflow)
Center-of-Mass det. time= 131.8 min (875.1 - 743.3)

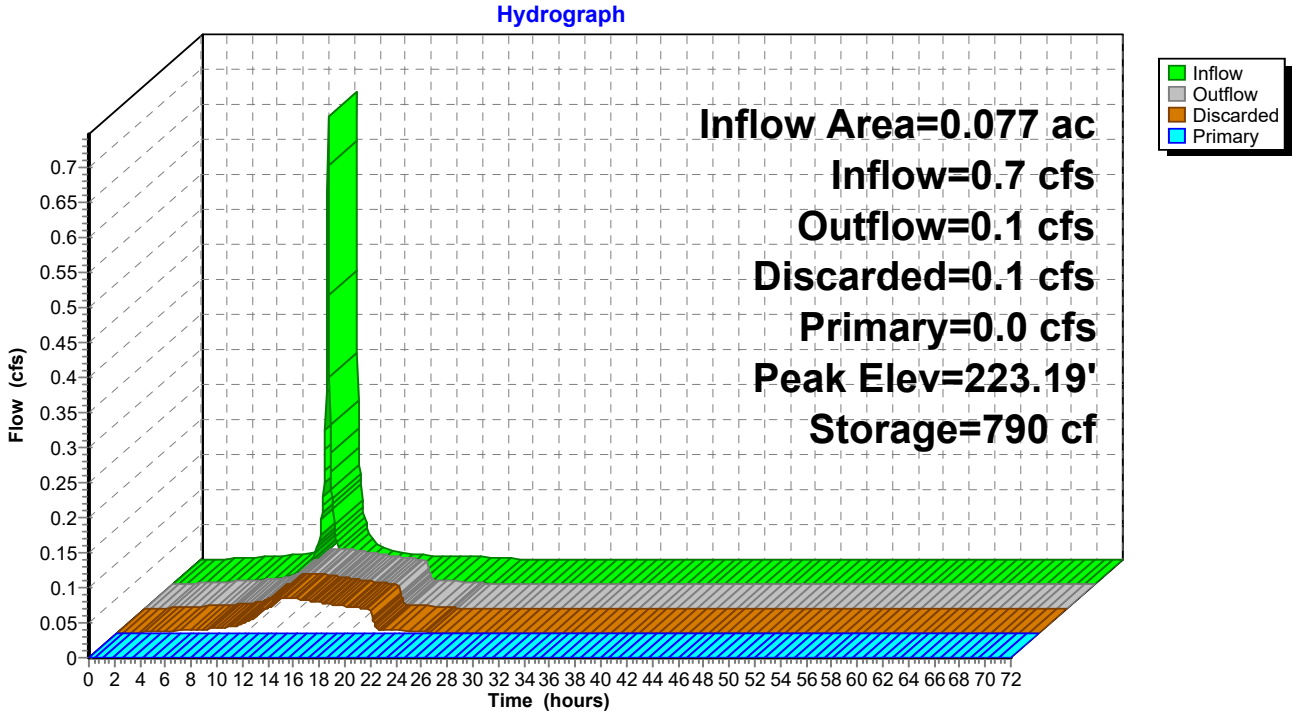
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	220.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.93 hrs HW=223.19' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D10: Drywell #5



Summary for Subcatchment D01: Bldgs #1

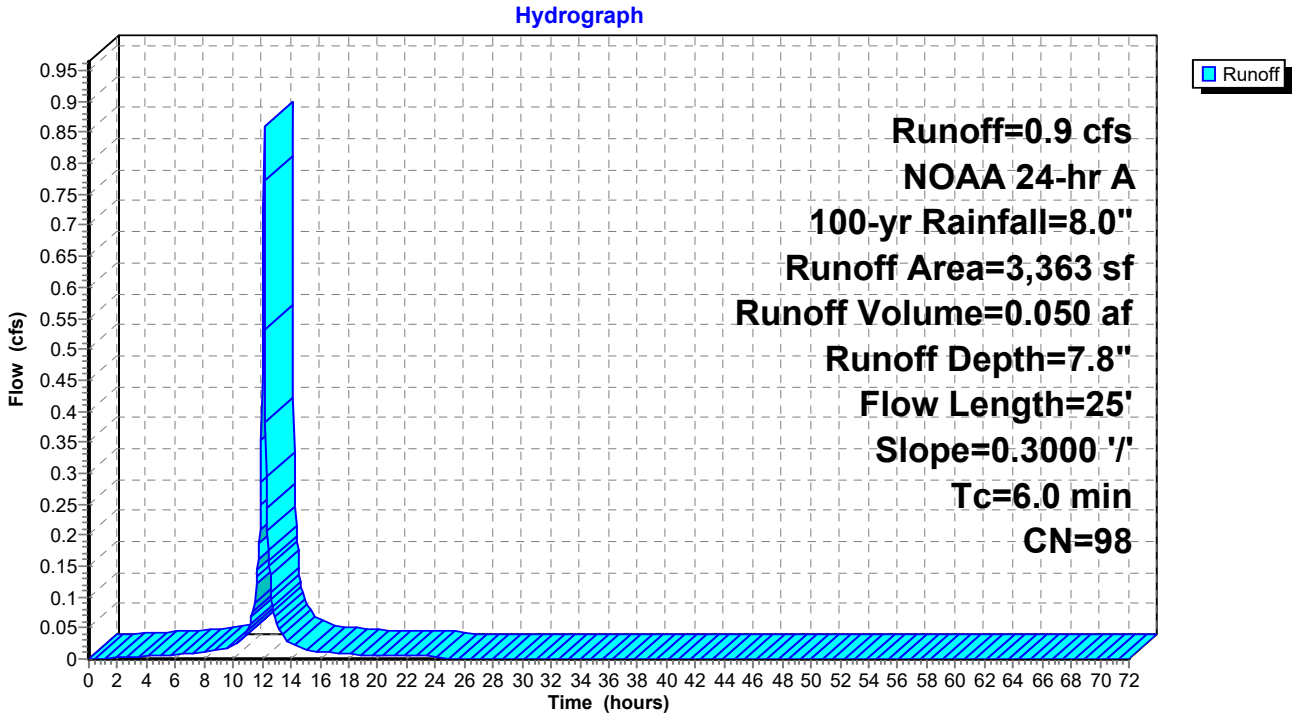
Runoff = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af, Depth= 7.8"
Routed to Pond D02 : Drywell #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 100-yr Rainfall=8.0"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D01: Bldgs #1



Summary for Pond D02: Drywell #1

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 7.8" for 100-yr event
Inflow = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af
Outflow = 0.1 cfs @ 12.88 hrs, Volume= 0.050 af, Atten= 90%, Lag= 45.3 min
Discarded = 0.1 cfs @ 12.86 hrs, Volume= 0.050 af
Primary = 0.0 cfs @ 12.88 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 224.41' @ 12.88 hrs Surf.Area= 600 sf Storage= 1,078 cf

Plug-Flow detention time= 167.0 min calculated for 0.050 af (100% of inflow)
Center-of-Mass det. time= 166.9 min (907.2 - 740.3)

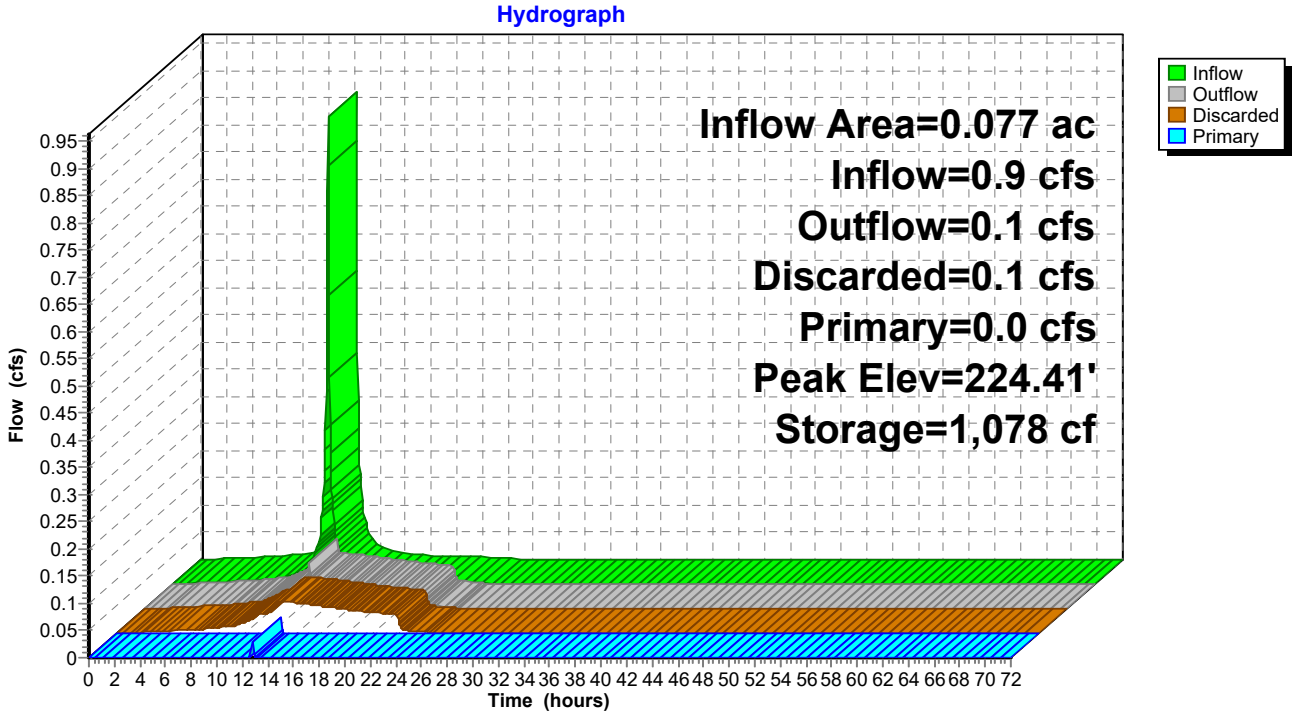
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	220.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.86 hrs HW=224.40' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 12.88 hrs HW=224.41' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.0 cfs @ 0.21 fps)

Pond D02: Drywell #1



Summary for Subcatchment D03: Bldgs #2

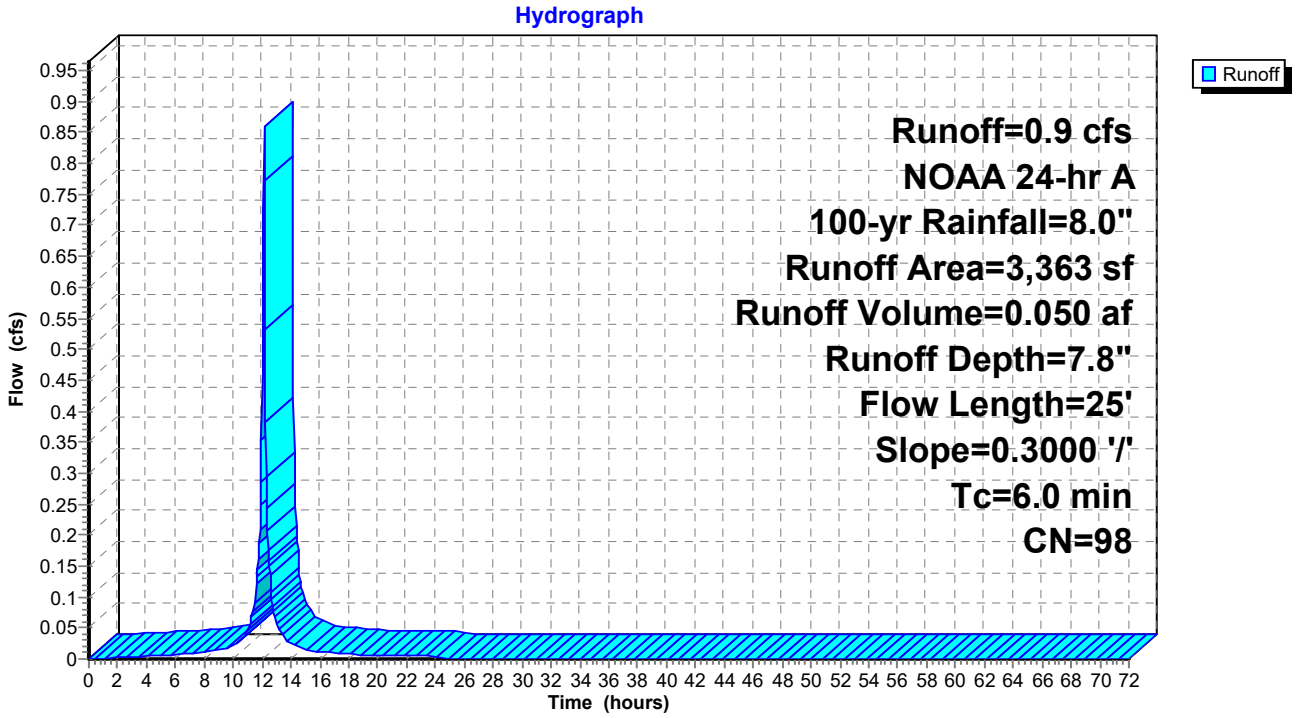
Runoff = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af, Depth= 7.8"
Routed to Pond D04 : Drywell #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 100-yr Rainfall=8.0"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D03: Bldgs #2



Summary for Pond D04: Drywell #2

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 7.8" for 100-yr event
Inflow = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af
Outflow = 0.1 cfs @ 12.88 hrs, Volume= 0.050 af, Atten= 90%, Lag= 45.3 min
Discarded = 0.1 cfs @ 12.86 hrs, Volume= 0.050 af
Primary = 0.0 cfs @ 12.88 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 222.91' @ 12.88 hrs Surf.Area= 600 sf Storage= 1,078 cf

Plug-Flow detention time= 167.0 min calculated for 0.050 af (100% of inflow)
Center-of-Mass det. time= 166.9 min (907.2 - 740.3)

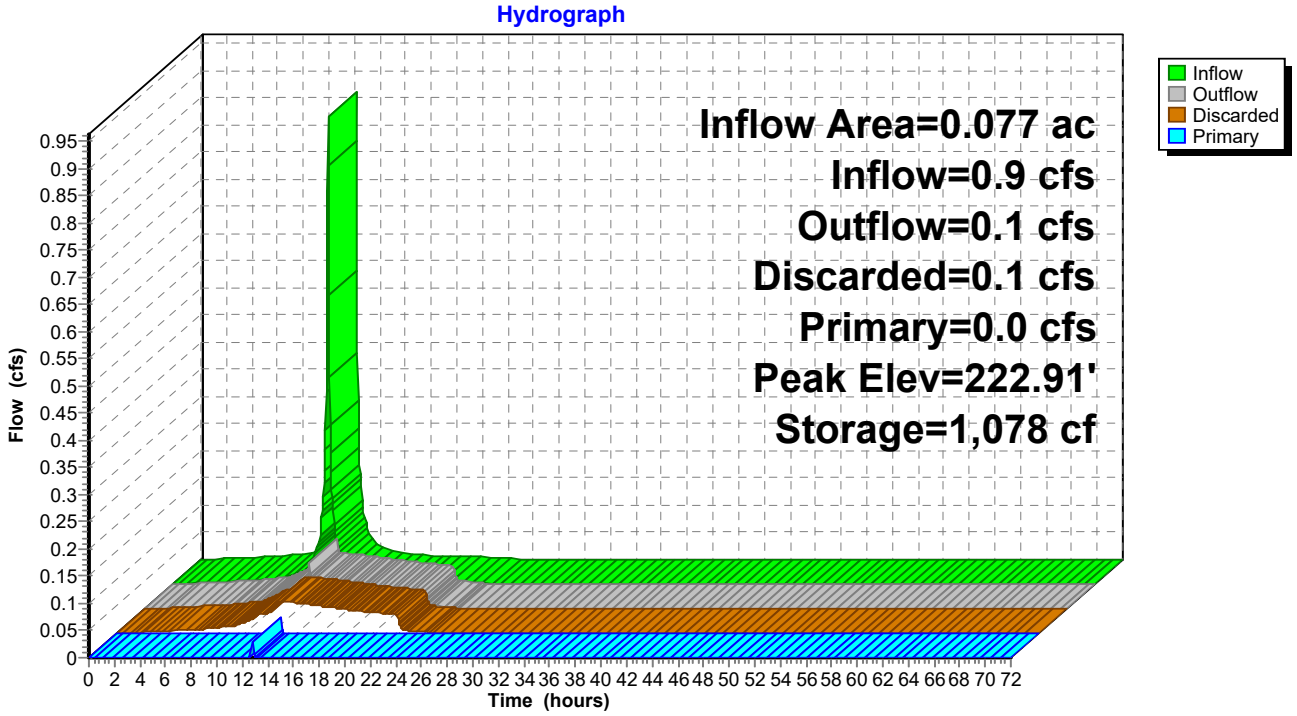
Volume	Invert	Avail.Storage	Storage Description
#1	218.50'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	219.00'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.50'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	222.90'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.86 hrs HW=222.90' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 12.88 hrs HW=222.91' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.0 cfs @ 0.21 fps)

Pond D04: Drywell #2



Summary for Subcatchment D05: Bldgs #3

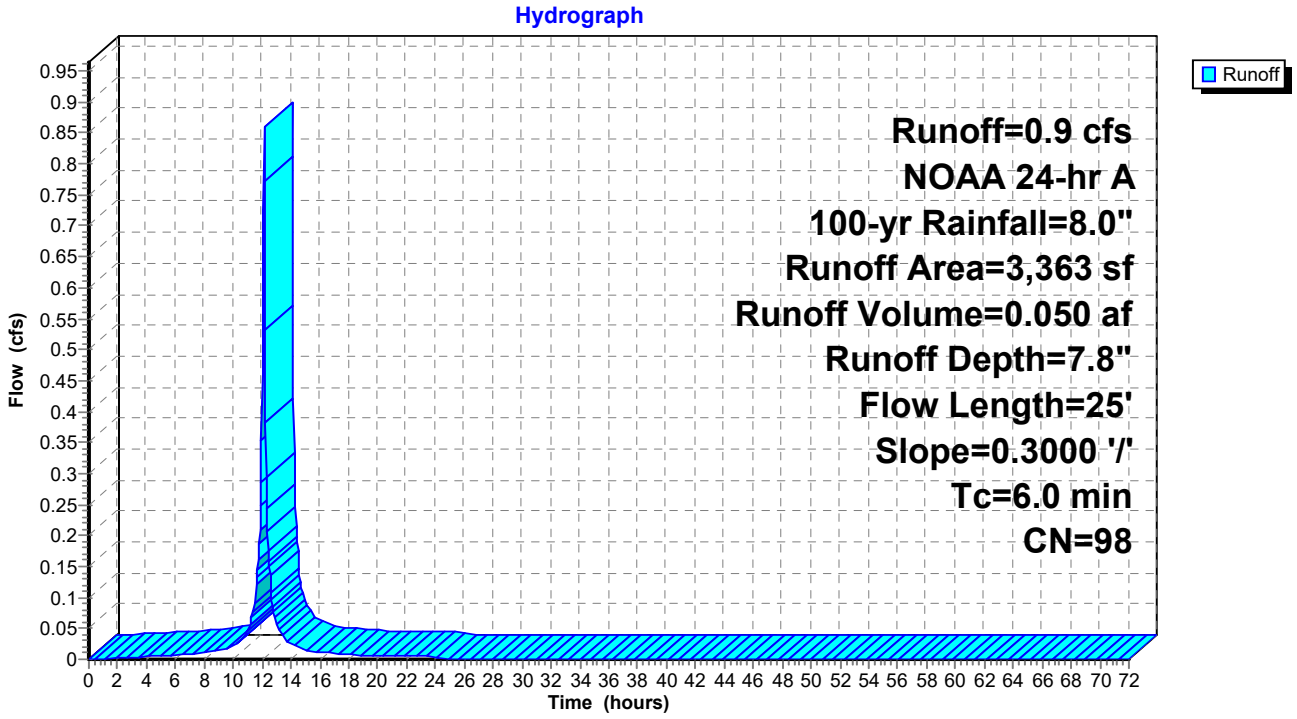
Runoff = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af, Depth= 7.8"
Routed to Pond D06 : Drywell #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 100-yr Rainfall=8.0"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D05: Bldgs #3



Summary for Pond D06: Drywell #3

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 7.8" for 100-yr event
Inflow = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af
Outflow = 0.1 cfs @ 12.92 hrs, Volume= 0.050 af, Atten= 92%, Lag= 47.8 min
Discarded = 0.1 cfs @ 12.92 hrs, Volume= 0.050 af
Primary = 0.0 cfs @ 12.92 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 220.40' @ 12.93 hrs Surf.Area= 600 sf Storage= 1,081 cf

Plug-Flow detention time= 167.6 min calculated for 0.050 af (100% of inflow)
Center-of-Mass det. time= 167.6 min (907.9 - 740.3)

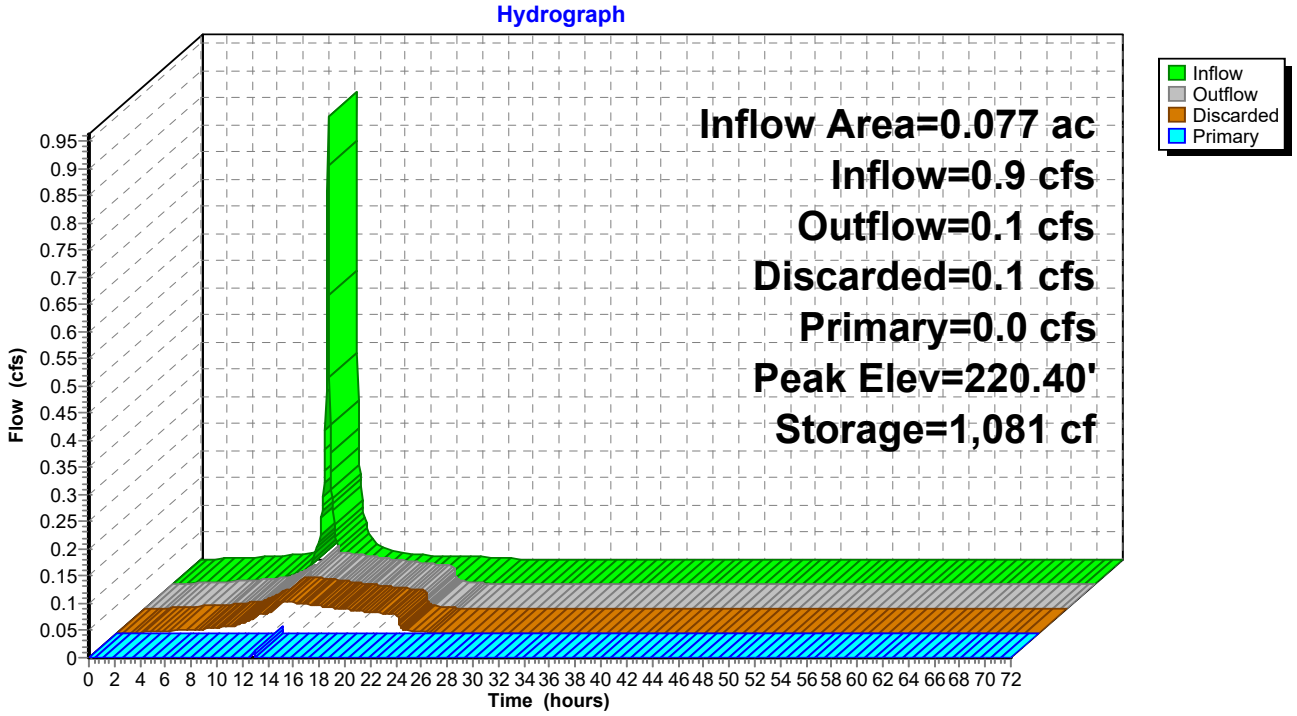
Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	216.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	220.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.92 hrs HW=220.40' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 12.92 hrs HW=220.40' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.0 cfs @ 0.14 fps)

Pond D06: Drywell #3



Summary for Subcatchment D07: Bldgs #4

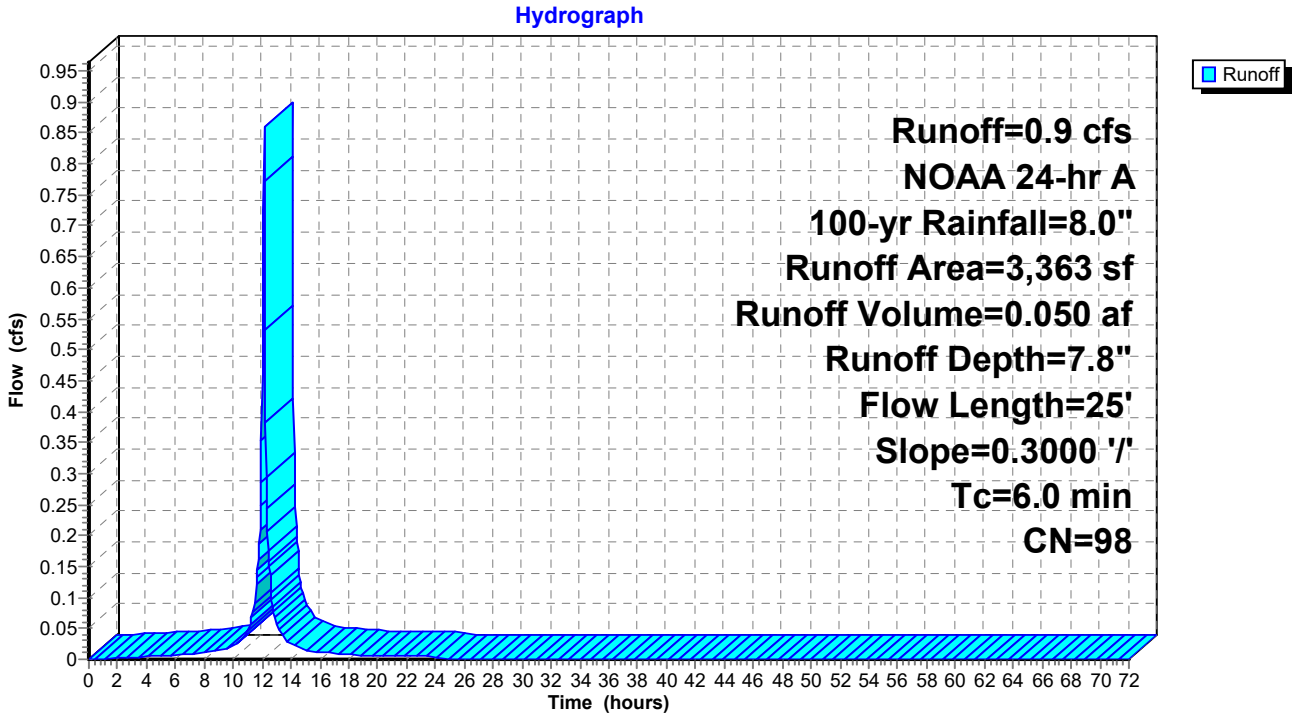
Runoff = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af, Depth= 7.8"
Routed to Pond D08 : Drywell #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 100-yr Rainfall=8.0"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D07: Bldgs #4



Summary for Pond D08: Drywell #4

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 7.8" for 100-yr event
Inflow = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af
Outflow = 0.1 cfs @ 12.96 hrs, Volume= 0.050 af, Atten= 93%, Lag= 50.2 min
Discarded = 0.1 cfs @ 12.96 hrs, Volume= 0.050 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 229.34' @ 12.96 hrs Surf.Area= 600 sf Storage= 1,064 cf

Plug-Flow detention time= 153.1 min calculated for 0.050 af (100% of inflow)
Center-of-Mass det. time= 153.0 min (893.4 - 740.3)

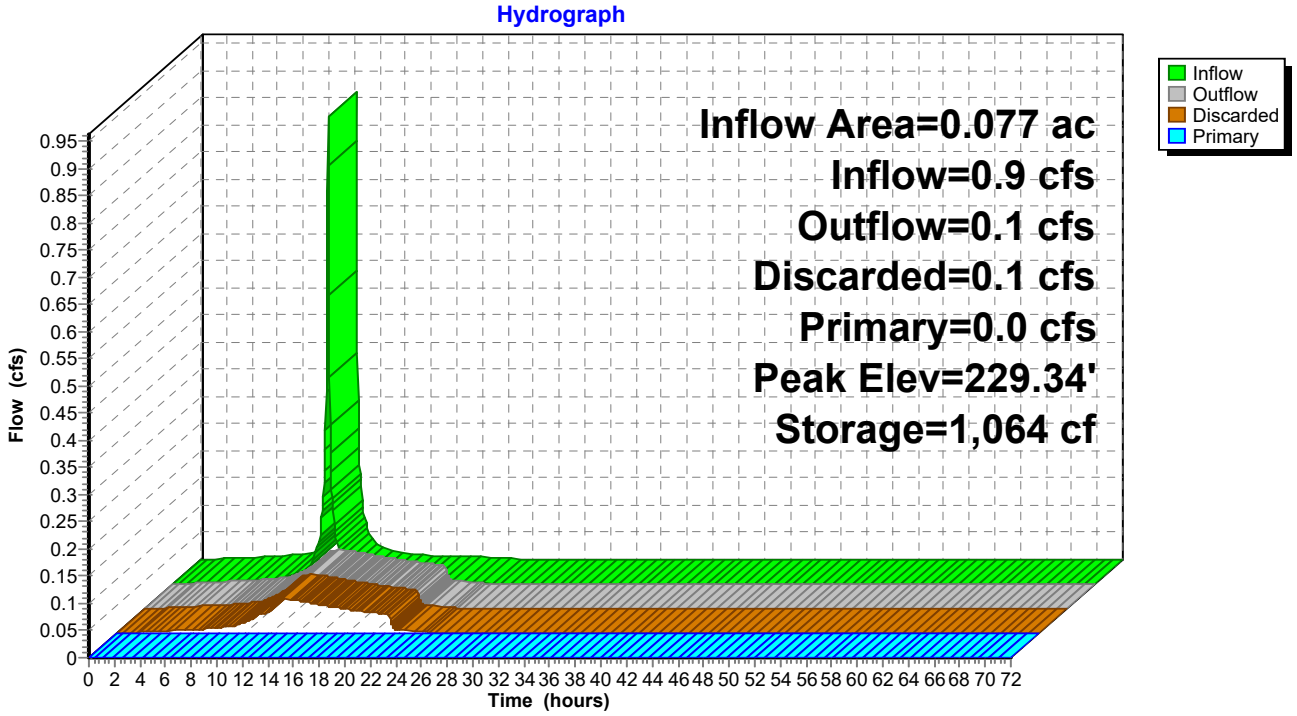
Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	1,042 cf	**12.00'W x 50.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	225.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	225.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	229.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.96 hrs HW=229.34' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D08: Drywell #4



Summary for Subcatchment D09: Bldg #5

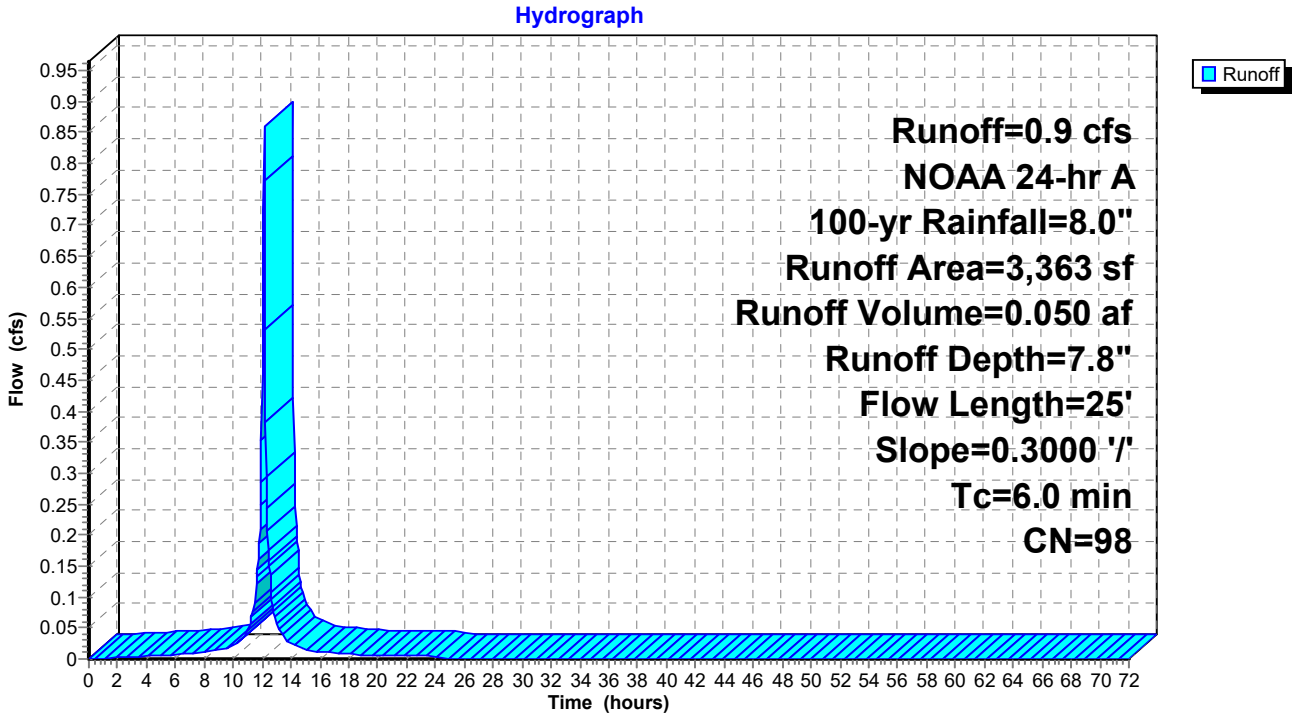
Runoff = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af, Depth= 7.8"
Routed to Pond D10 : Drywell #5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A 100-yr Rainfall=8.0"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D09: Bldg #5



Summary for Pond D10: Drywell #5

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 7.8" for 100-yr event
Inflow = 0.9 cfs @ 12.12 hrs, Volume= 0.050 af
Outflow = 0.1 cfs @ 12.92 hrs, Volume= 0.050 af, Atten= 92%, Lag= 47.8 min
Discarded = 0.1 cfs @ 12.92 hrs, Volume= 0.050 af
Primary = 0.0 cfs @ 12.92 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 224.40' @ 12.93 hrs Surf.Area= 600 sf Storage= 1,081 cf

Plug-Flow detention time= 167.6 min calculated for 0.050 af (100% of inflow)
Center-of-Mass det. time= 167.6 min (907.9 - 740.3)

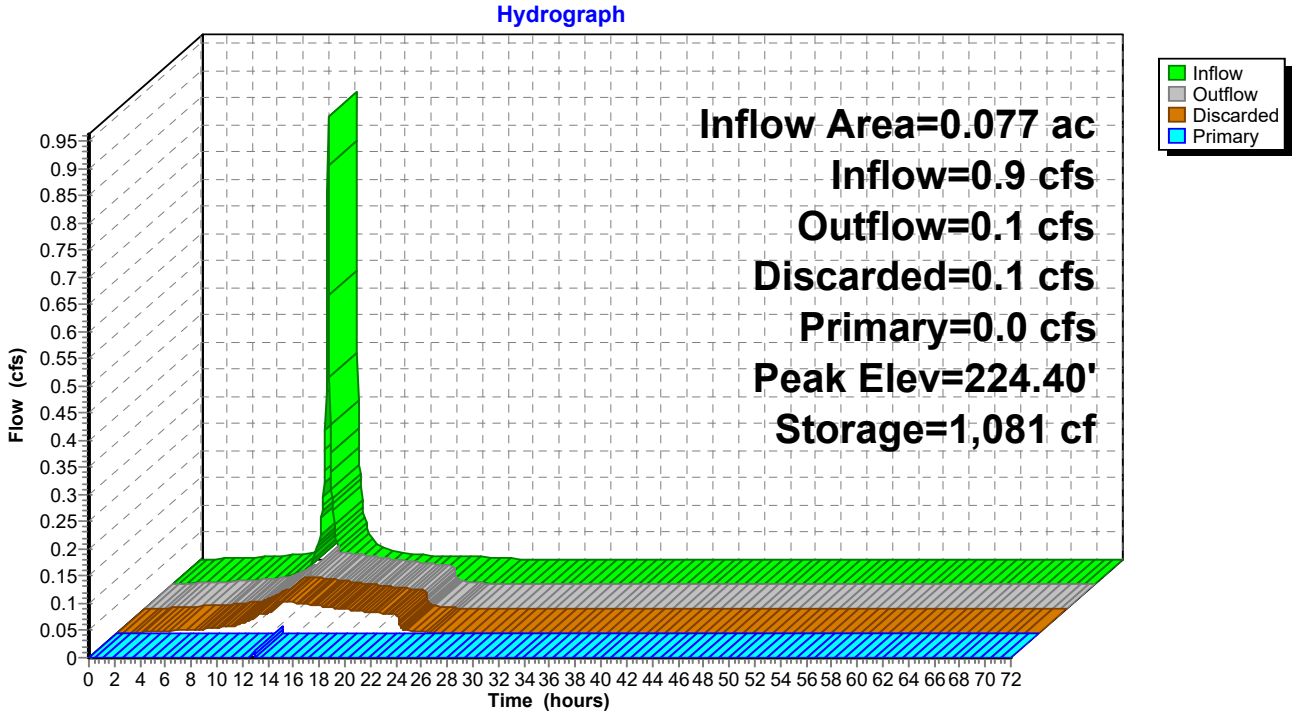
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	220.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.1 cfs @ 12.92 hrs HW=224.40' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 12.92 hrs HW=224.40' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.0 cfs @ 0.14 fps)

Pond D10: Drywell #5



Summary for Subcatchment D01: Bldgs #1

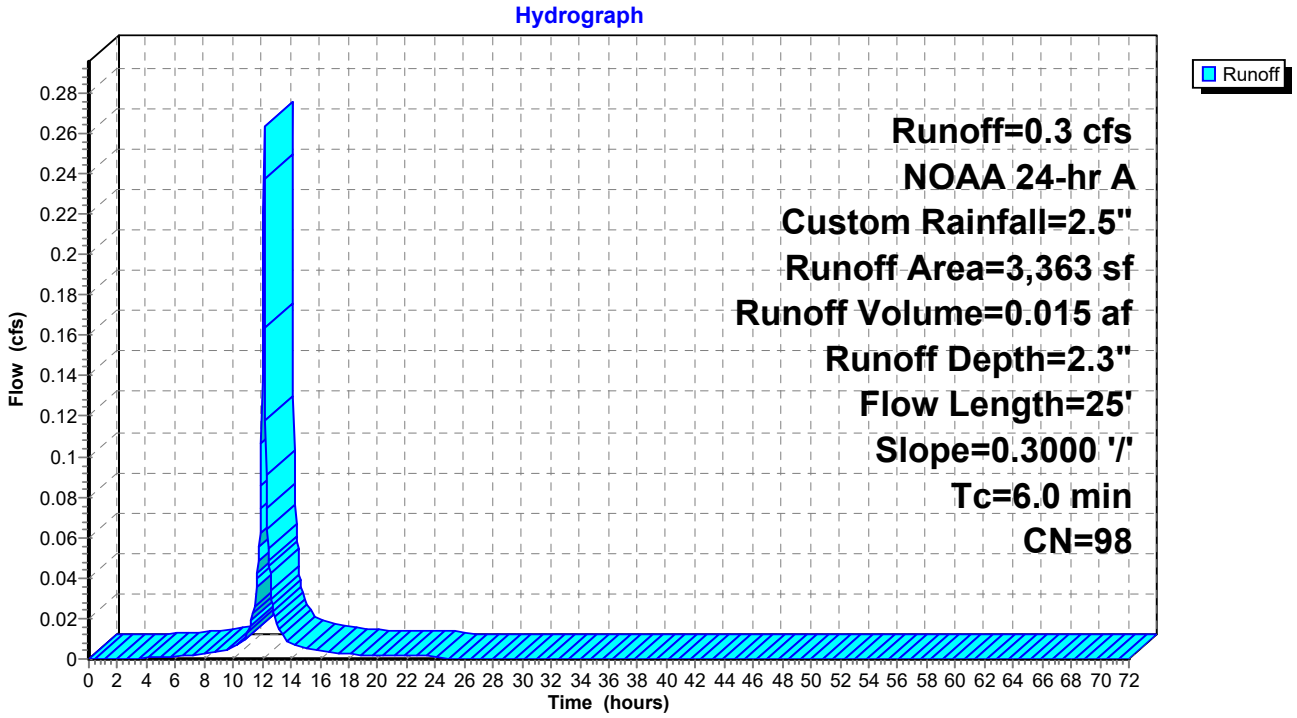
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.3"
Routed to Pond D02 : Drywell #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A Custom Rainfall=2.5"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D01: Bldgs #1



Summary for Pond D02: Drywell #1

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.3" for Custom event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af, Atten= 85%, Lag= 26.6 min
Discarded = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 220.93' @ 12.57 hrs Surf.Area= 600 sf Storage= 228 cf

Plug-Flow detention time= 44.5 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 44.5 min (802.2 - 757.7)

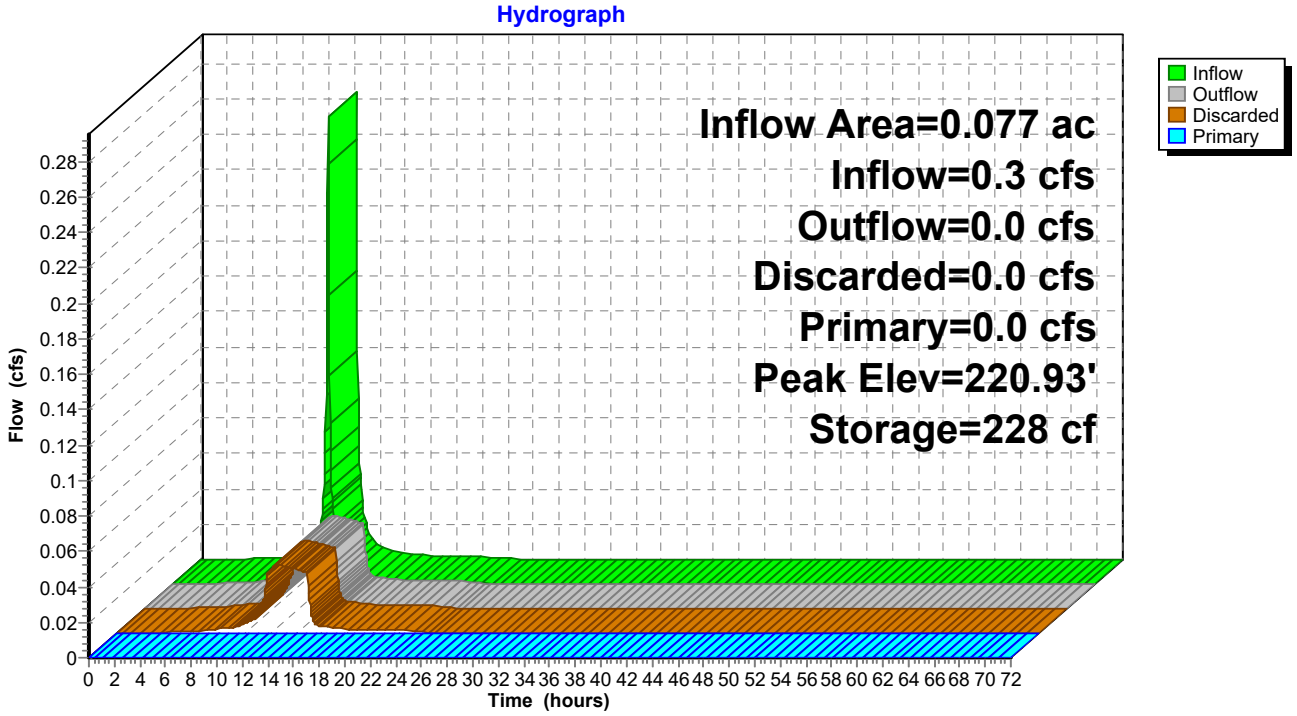
Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	220.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.57 hrs HW=220.93' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D02: Drywell #1



Summary for Subcatchment D03: Bldgs #2

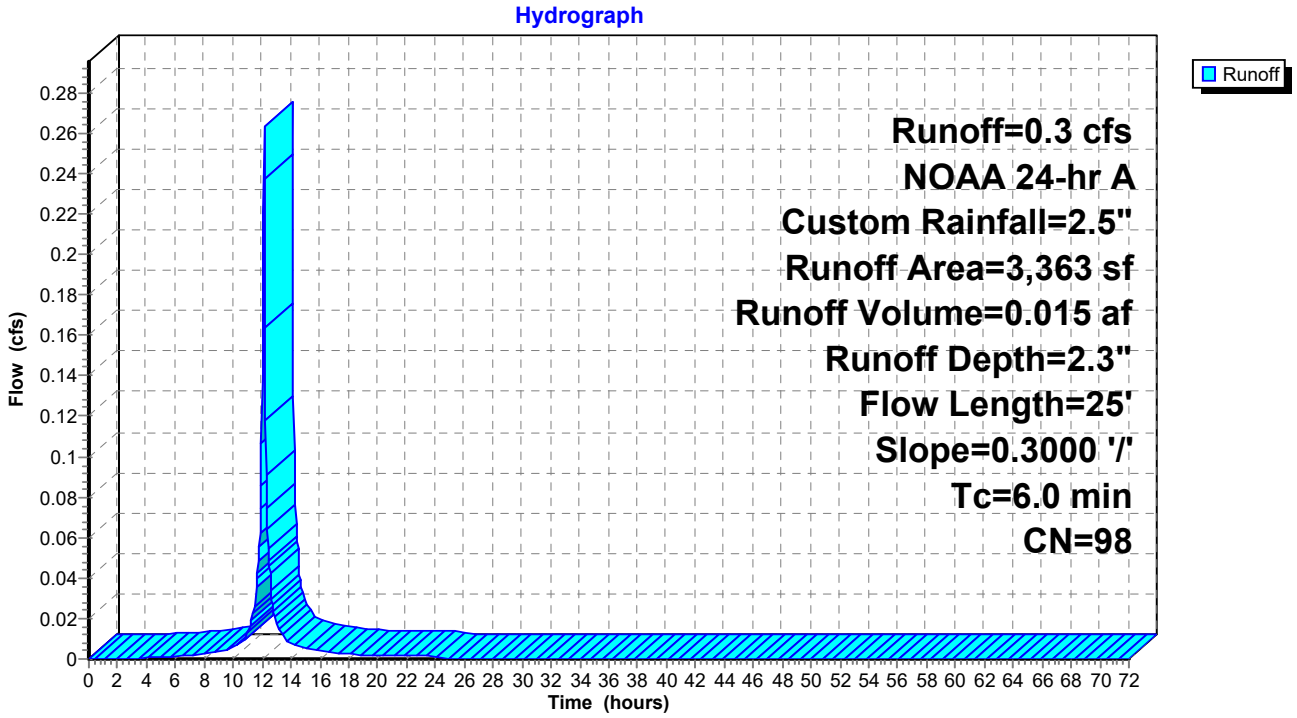
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.3"
Routed to Pond D04 : Drywell #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A Custom Rainfall=2.5"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D03: Bldgs #2



Summary for Pond D04: Drywell #2

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.3" for Custom event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af, Atten= 85%, Lag= 26.6 min
Discarded = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 219.43' @ 12.57 hrs Surf.Area= 600 sf Storage= 228 cf

Plug-Flow detention time= 44.5 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 44.5 min (802.2 - 757.7)

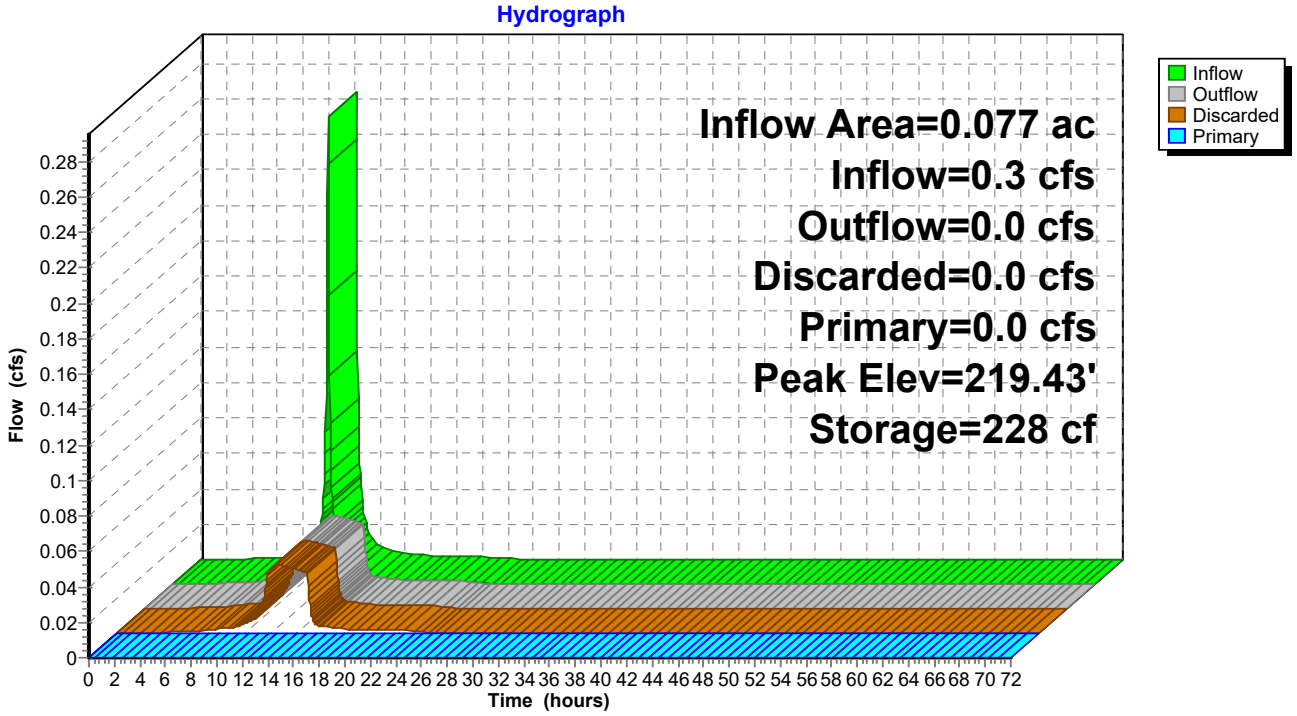
Volume	Invert	Avail.Storage	Storage Description
#1	218.50'	1,042 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	219.00'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.50'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	222.90'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.57 hrs HW=219.43' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=218.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D04: Drywell #2



Summary for Subcatchment D05: Bldgs #3

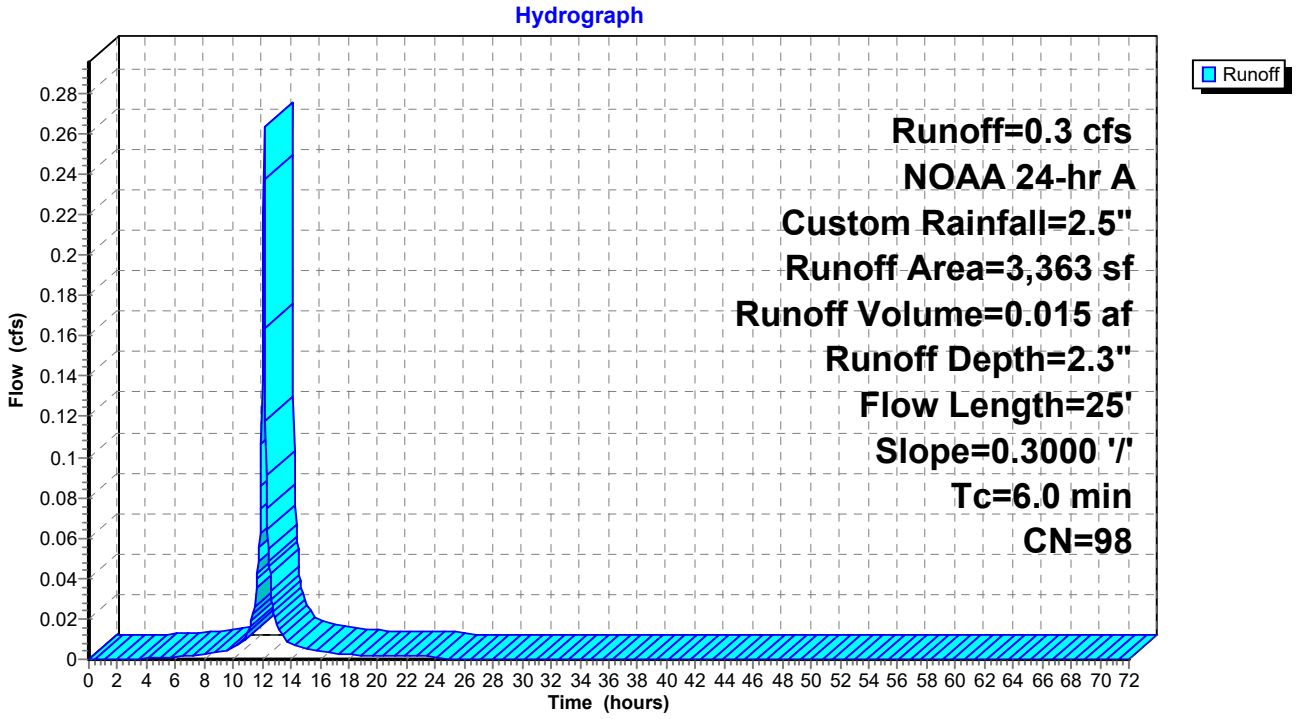
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.3"
Routed to Pond D06 : Drywell #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A Custom Rainfall=2.5"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D05: Bldgs #3



Summary for Pond D06: Drywell #3

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.3" for Custom event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af, Atten= 85%, Lag= 26.6 min
Discarded = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 216.92' @ 12.57 hrs Surf.Area= 600 sf Storage= 228 cf

Plug-Flow detention time= 44.6 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 44.5 min (802.2 - 757.7)

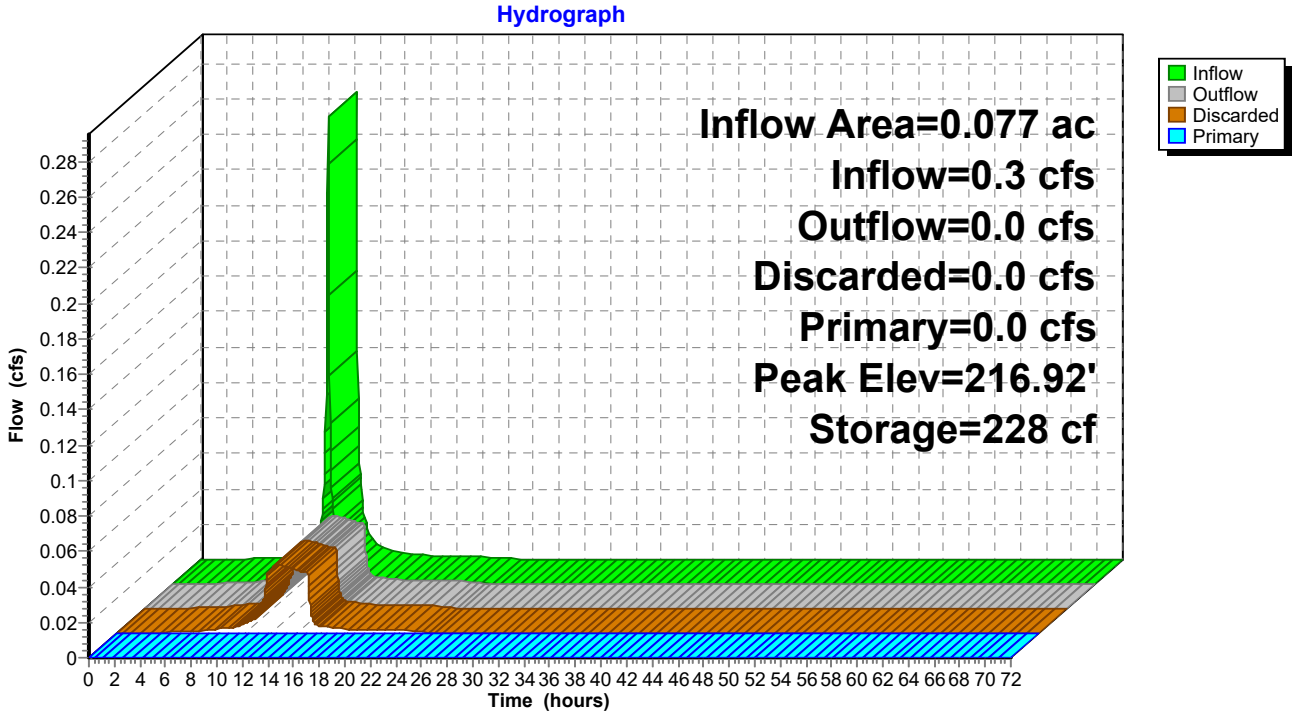
Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	216.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	220.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.57 hrs HW=216.92' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=216.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D06: Drywell #3



Summary for Subcatchment D07: Bldgs #4

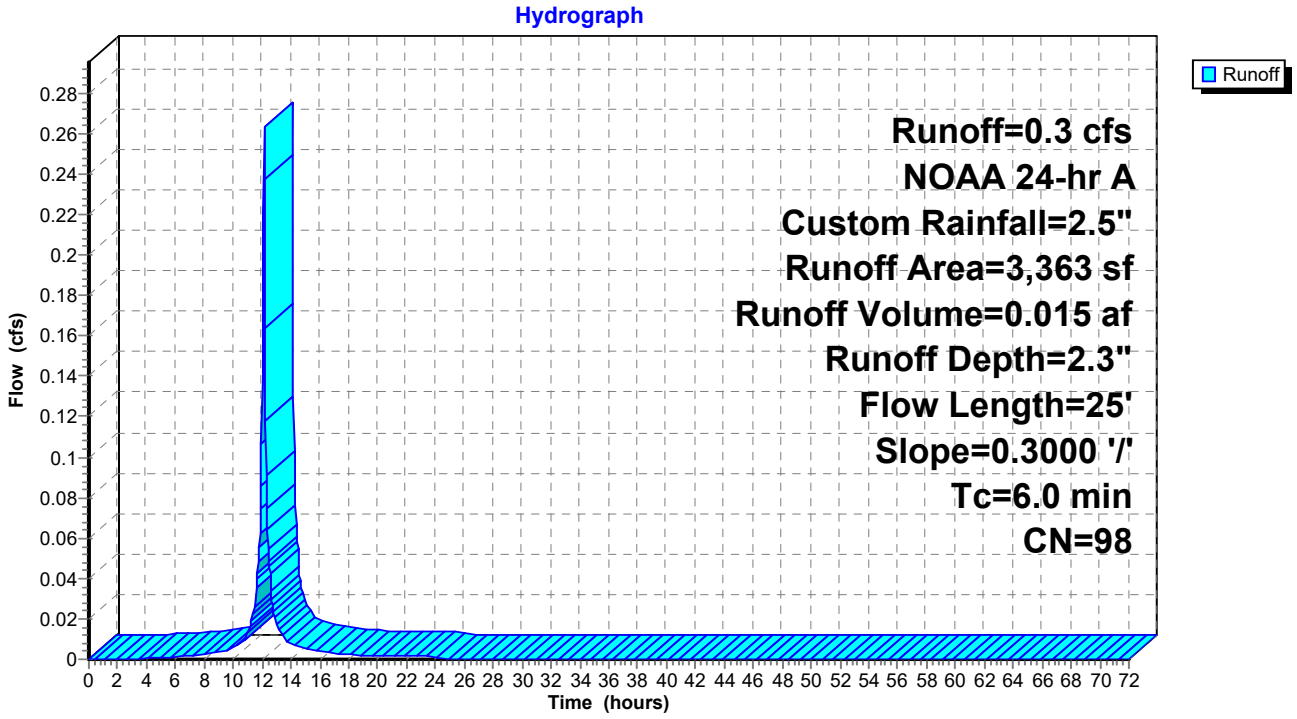
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.3"
Routed to Pond D08 : Drywell #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A Custom Rainfall=2.5"

Area (sf)	CN	Description
3,363	98	Roofs, HSG C
3,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D07: Bldgs #4



Summary for Pond D08: Drywell #4

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.3" for Custom event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.56 hrs, Volume= 0.015 af, Atten= 85%, Lag= 26.1 min
Discarded = 0.0 cfs @ 12.56 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 225.92' @ 12.56 hrs Surf.Area= 600 sf Storage= 226 cf

Plug-Flow detention time= 43.1 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 43.1 min (800.8 - 757.7)

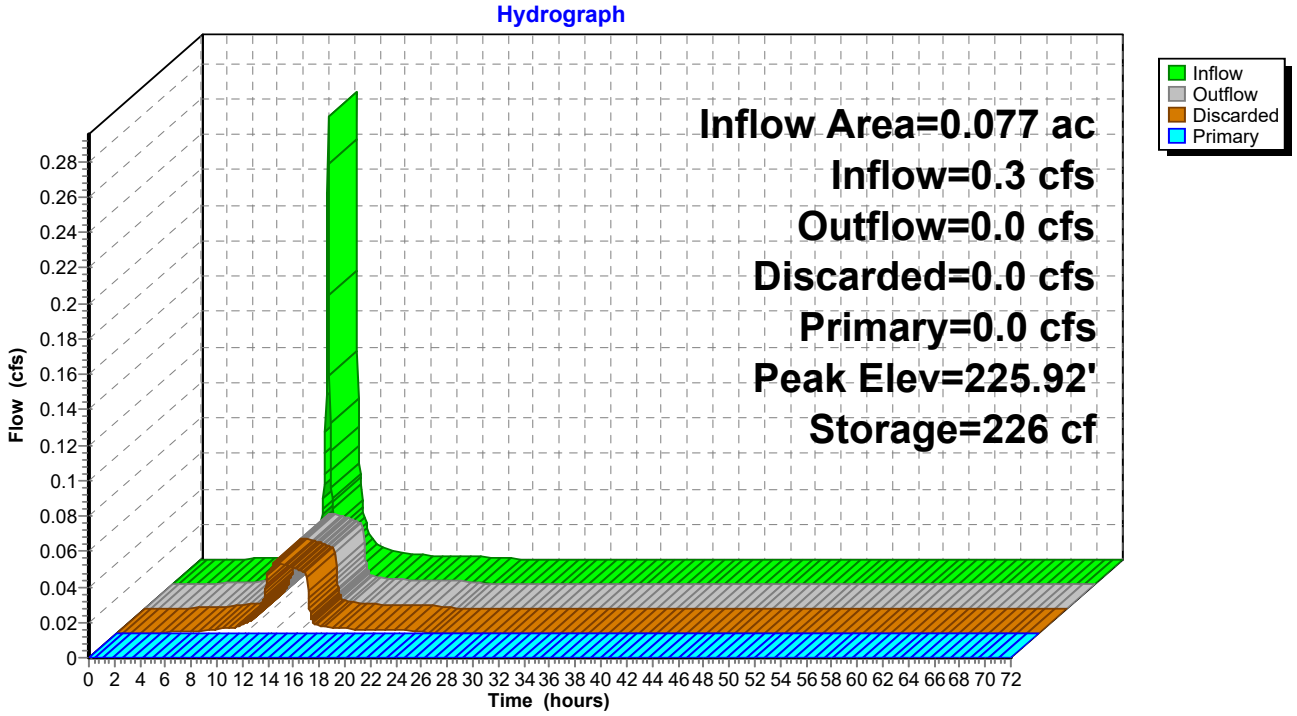
Volume	Invert	Avail.Storage	Storage Description
#1	225.00'	1,042 cf	**12.00'W x 50.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 36 cf Embedded = 2,604 cf x 40.0% Voids
#2	225.50'	36 cf	**12.0" Round Pipe Storage** Inside #1 L= 46.0' S= 0.0050 '/'
		1,078 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	225.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	229.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.56 hrs HW=225.92' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=225.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D08: Drywell #4



Summary for Subcatchment D09: Bldg #5

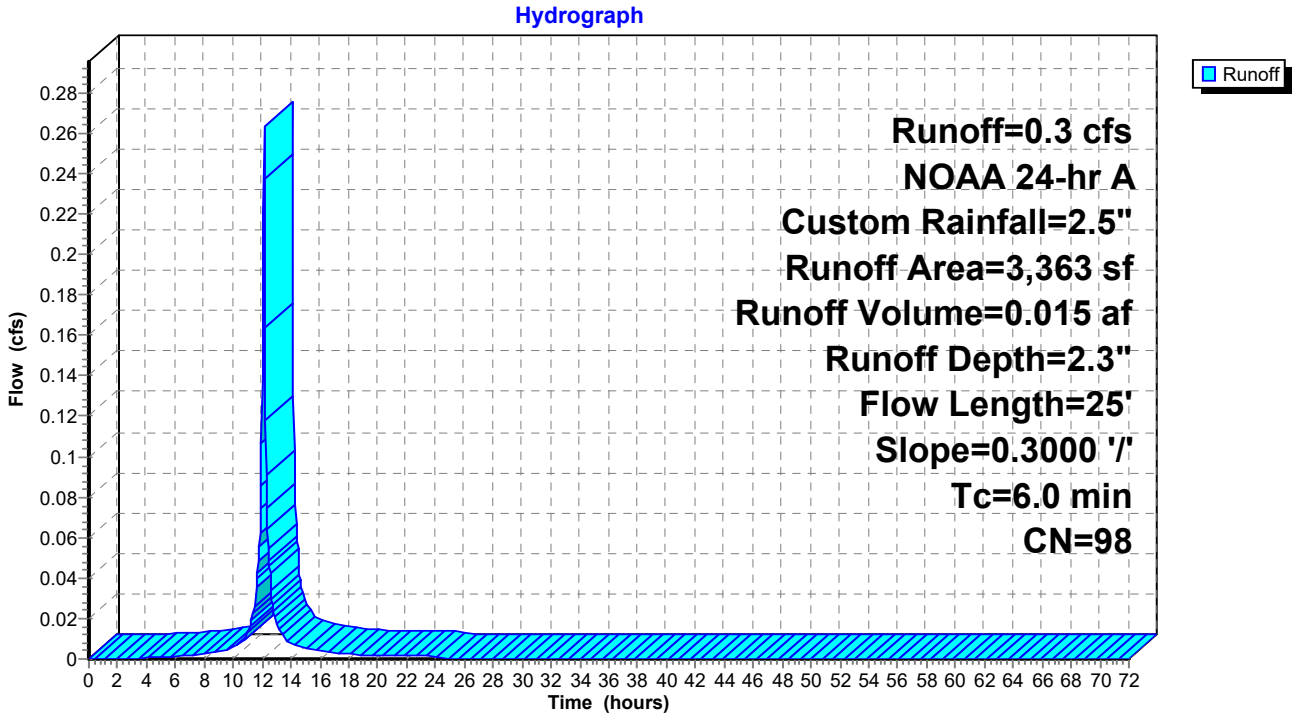
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 2.3"
Routed to Pond D10 : Drywell #5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
NOAA 24-hr A Custom Rainfall=2.5"

Area (sf)	CN	Description
3,363	98	Unconnected roofs, HSG C
3,363		100.00% Impervious Area
3,363		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.3000	3.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.1"
0.1	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment D09: Bldg #5



Summary for Pond D10: Drywell #5

Inflow Area = 0.077 ac,100.00% Impervious, Inflow Depth = 2.3" for Custom event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.015 af
Outflow = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af, Atten= 85%, Lag= 26.6 min
Discarded = 0.0 cfs @ 12.57 hrs, Volume= 0.015 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.04 hrs
Peak Elev= 220.92' @ 12.57 hrs Surf.Area= 600 sf Storage= 228 cf

Plug-Flow detention time= 44.6 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 44.5 min (802.2 - 757.7)

Volume	Invert	Avail.Storage	Storage Description
#1	220.00'	1,040 cf	**20.00'W x 30.00'L x 4.40'H Prismatoid** 2,640 cf Overall - 41 cf Embedded = 2,599 cf x 40.0% Voids
#2	220.50'	41 cf	**12.0" Round Pipe Storage** x 2 Inside #1 L= 26.0' S= 0.0050 '/'
		1,081 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	**2.400 in/hr Exfiltration over Wetted area**
#2	Primary	224.40'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.0 cfs @ 12.57 hrs HW=220.92' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond D10: Drywell #5