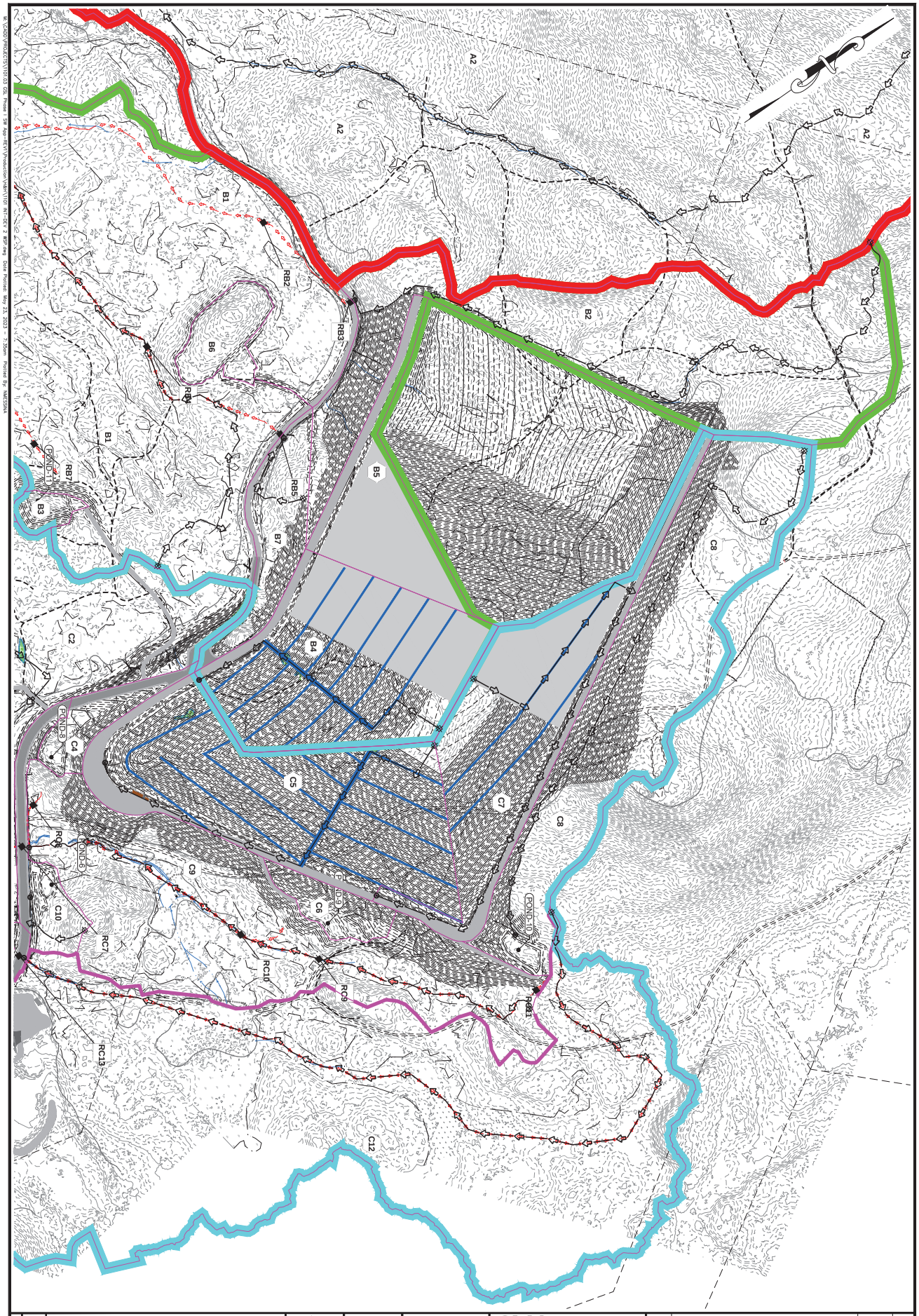
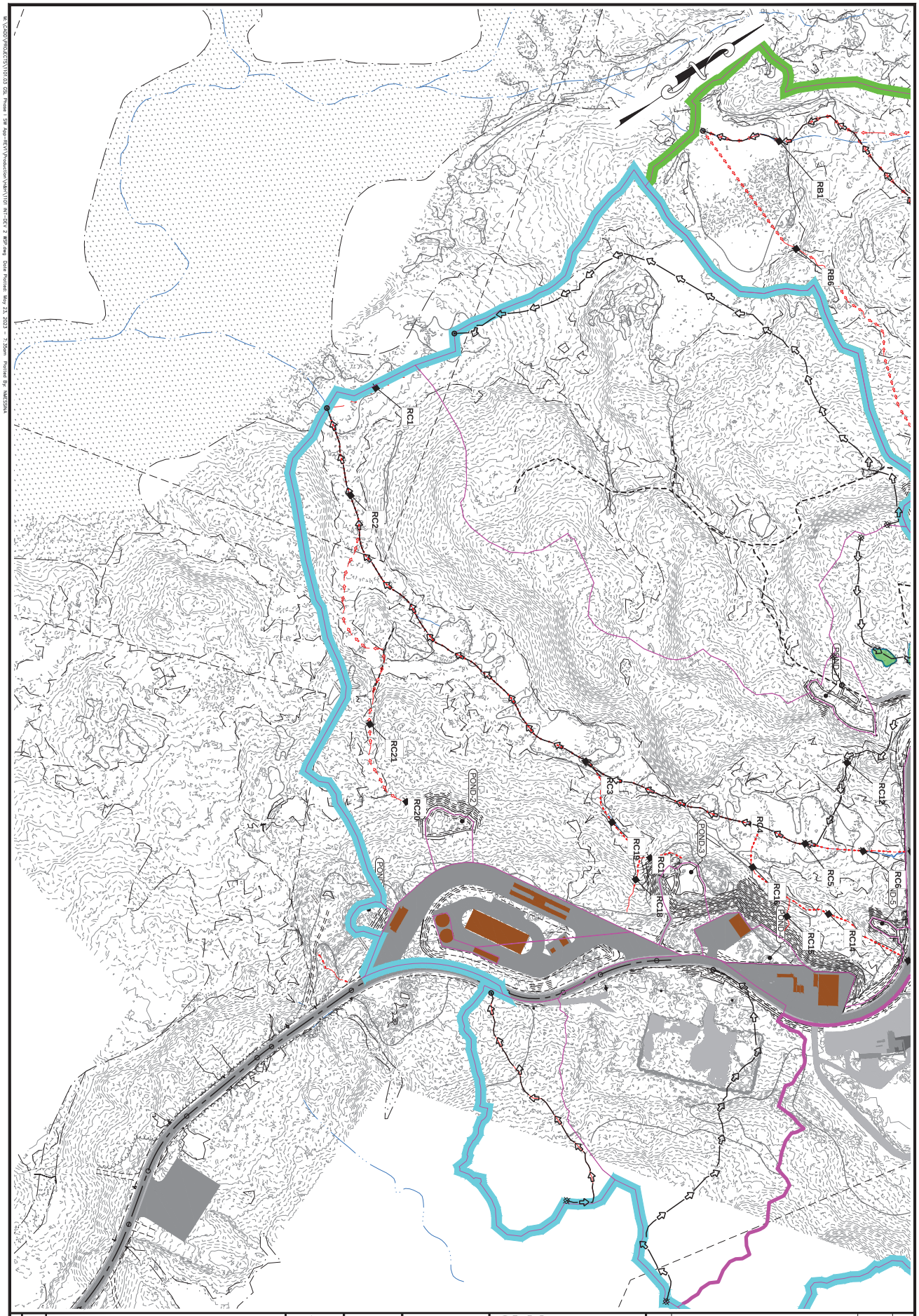


sheet 3 of 4	drawing no. INTDEV2-3	Granite State Landfill, LLC. Dalton, New Hampshire NHDES Alteration of Terrain Permit Application Intermediate-Development 2 Drainage Diagram	date: April 2023 project no: 1101 checked by: AJS designed by: NJM drawn by: NJM approved by: AJS scale: 0 150' 300' Scale: 1" = 150'	CMA ENGINEERS Civil/Environmental/Structural Portsmouth, NH 603/431-6196 • Manchester, NH 603/627-0708 • Portland, ME 207/541-4223 cmaengineers.com	no. / revision / date / by

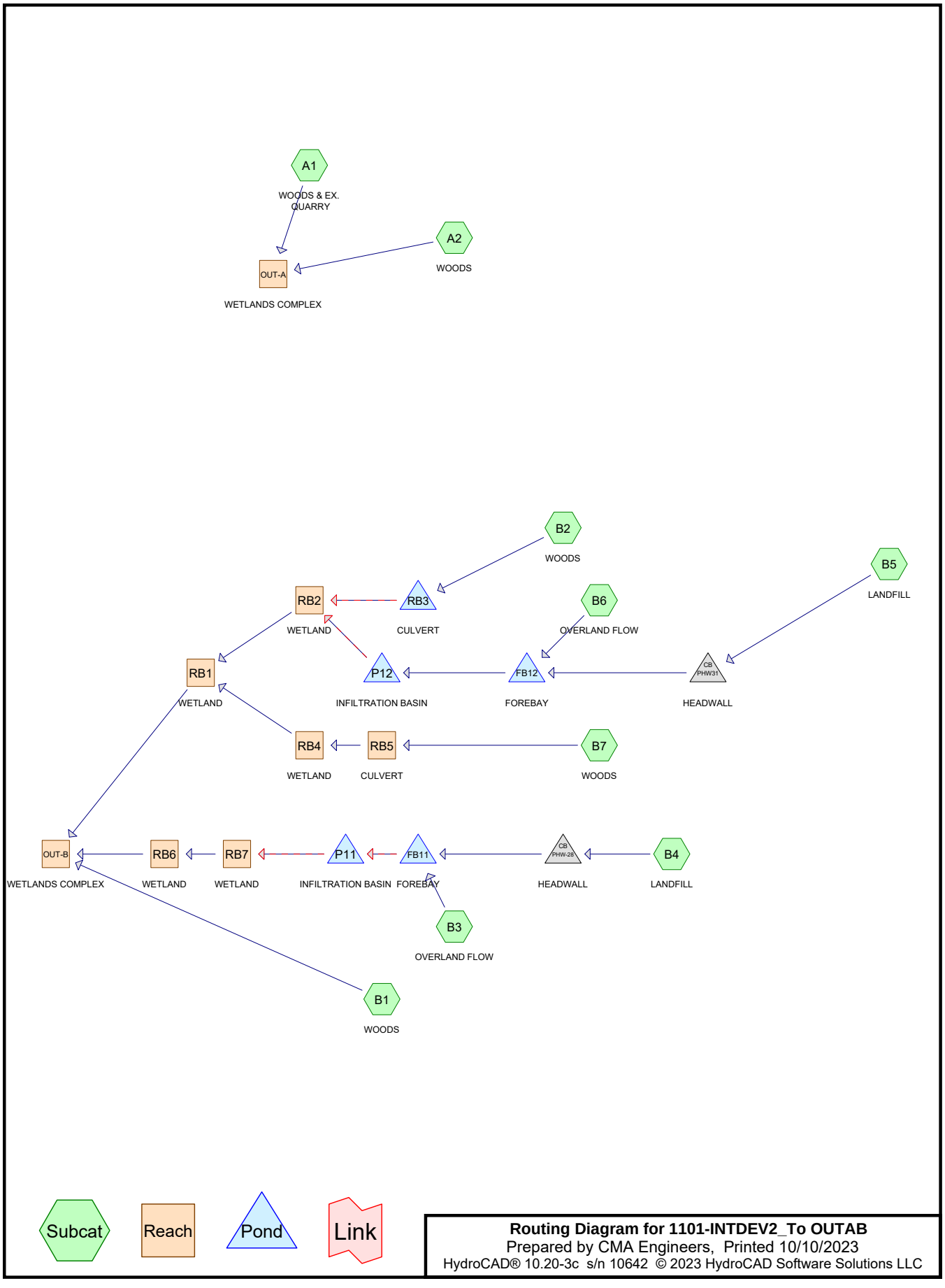


sheet 4 of 4	INTDEV2-4 drawing no.	Granite State Landfill, LLC. Dalton, New Hampshire NHDES Alteration of Terrain Permit Application Intermediate-Devlopment 2 Drainage Diagram	date: April 2023 project no: 1101 checked by: AJS designed by: NJM drawn by: NJM approved by: AJS scale: 0 150' 300' Scale: 1" = 150'	CMA ENGINEERS Civil/Environmental/Structural Portsmouth, NH 603/431-6196 • Manchester, NH 603/627-0708 • Portland, ME 207/541-4223 cmaengineers.com

no.	revision	date	by

Appendix J.4.ii

10-Year, 24-Hour Storm Calculations (Full Calculations)



Routing Diagram for 1101-INTDEV2_To OUTAB
Prepared by CMA Engineers, Printed 10/10/2023
HydroCAD® 10.20-3c s/n 10642 © 2023 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "1101 Pre-development.hcp"

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-yr	Type II 24-hr		Default	24.00	1	3.31	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
12.560	86	Fallow, bare soil, HSG B (A1)
0.050	96	Gravel surface, HSG A (A2)
1.850	96	Gravel surface, HSG B (A1, A2, B1, B4, B7)
2.280	96	Gravel surface, HSG C (A1, A2, B1, B2, B4, B5, B7)
7.030	98	Landfill, Geomembrane (B4, B5)
5.680	74	Landfill, Grass (B4)
2.690	30	Meadow, non-grazed, HSG A (A2, B1)
3.700	58	Meadow, non-grazed, HSG B (A1, A2, B1, B7)
11.250	71	Meadow, non-grazed, HSG C (A1, A2, B1, B2, B3, B4, B5, B6, B7)
0.980	78	Meadow, non-grazed, HSG D (B1)
0.020	98	Paved parking, HSG B (B7)
0.190	98	Paved parking, HSG C (B1, B7)
0.060	98	Unconnected roofs, HSG B (A1)
21.270	30	Woods, Good, HSG A (A2, B1)
90.440	55	Woods, Good, HSG B (A1, A2, B1, B2, B7)
103.470	70	Woods, Good, HSG C (A1, A2, B1, B2, B7)
2.230	77	Woods, Good, HSG D (A1, A2, B1)
265.750	**63**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
24.010	HSG A	A2, B1
108.630	HSG B	A1, A2, B1, B2, B4, B7
117.190	HSG C	A1, A2, B1, B2, B3, B4, B5, B6, B7
3.210	HSG D	A1, A2, B1
12.710	Other	B4, B5
265.750		**TOTAL AREA**

Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: WOODS & EX. QUARRY Runoff Area=89.280 ac 0.07% Impervious Runoff Depth>0.57"
Flow Length=5,225' Tc=85.7 min CN=63 Runoff=15.2 cfs 4.235 af

Subcatchment A2: WOODS Runoff Area=92.770 ac 0.00% Impervious Runoff Depth>0.65"
Flow Length=5,210' Tc=75.7 min CN=65 Runoff=20.9 cfs 5.060 af

Subcatchment B1: WOODS Runoff Area=46.220 ac 0.06% Impervious Runoff Depth=0.15"
Flow Length=3,520' Tc=51.0 min CN=50 Runoff=1.1 cfs 0.584 af

Subcatchment B2: WOODS Runoff Area=17.710 ac 0.00% Impervious Runoff Depth=0.75"
Flow Length=2,435' Tc=33.8 min CN=67 Runoff=8.7 cfs 1.100 af

Subcatchment B3: OVERLAND FLOW Runoff Area=0.590 ac 0.00% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=71 Runoff=1.0 cfs 0.046 af

Subcatchment B4: LANDFILL Runoff Area=10.420 ac 38.39% Impervious Runoff Depth=1.77"
Flow Length=1,245' Tc=14.5 min CN=84 Runoff=24.4 cfs 1.541 af

Subcatchment B5: LANDFILL Runoff Area=4.180 ac 72.49% Impervious Runoff Depth=2.65"
Tc=6.0 min CN=94 Runoff=18.2 cfs 0.923 af

Subcatchment B6: OVERLAND FLOW Runoff Area=1.690 ac 0.00% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=71 Runoff=2.8 cfs 0.133 af

Subcatchment B7: WOODS Runoff Area=2.890 ac 6.23% Impervious Runoff Depth=1.05"
Flow Length=390' Tc=21.2 min CN=73 Runoff=3.1 cfs 0.254 af

Reach OUT-A: WETLANDS COMPLEX Inflow=35.8 cfs 9.295 af
Outflow=35.8 cfs 9.295 af

Reach OUT-B: WETLANDS COMPLEX Inflow=20.1 cfs 2.630 af
Outflow=20.1 cfs 2.630 af

Reach RB1: WETLAND Avg. Flow Depth=0.24' Max Vel=1.43 fps Inflow=9.6 cfs 1.353 af
n=0.035 L=1,120.0' S=0.0129 '/' Capacity=184.3 cfs Outflow=8.4 cfs 1.351 af

Reach RB2: WETLAND Avg. Flow Depth=0.22' Max Vel=2.56 fps Inflow=8.2 cfs 1.100 af
n=0.035 L=1,055.0' S=0.0474 '/' Capacity=211.4 cfs Outflow=7.9 cfs 1.100 af

Reach RB4: WETLAND Avg. Flow Depth=0.14' Max Vel=1.67 fps Inflow=3.1 cfs 0.254 af
n=0.035 L=1,600.0' S=0.0358 '/' Capacity=142.7 cfs Outflow=2.1 cfs 0.253 af

Reach RB5: CULVERT Avg. Flow Depth=0.42' Max Vel=7.71 fps Inflow=3.1 cfs 0.254 af
18.0" Round Pipe n=0.013 L=24.6' S=0.0305 '/' Capacity=18.3 cfs Outflow=3.1 cfs 0.254 af

Reach RB6: WETLAND Avg. Flow Depth=0.32' Max Vel=1.99 fps Inflow=20.4 cfs 0.695 af
n=0.035 L=475.0' S=0.0168 '/' Capacity=210.2 cfs Outflow=18.4 cfs 0.695 af

Reach RB7: WETLAND Avg. Flow Depth=0.51' Max Vel=4.76 fps Inflow=22.4 cfs 0.695 af
n=0.035 L=1,050.0' S=0.0533 '/' Capacity=391.6 cfs Outflow=20.4 cfs 0.695 af

Pond FB11: FOREBAY Peak Elev=1,144.36' Storage=3,828 cf Inflow=24.9 cfs 1.588 af
Discarded=0.3 cfs 0.329 af Primary=24.6 cfs 1.234 af Outflow=24.9 cfs 1.563 af

Pond FB12: FOREBAY Peak Elev=1,139.12' Storage=16,081 cf Inflow=21.0 cfs 1.056 af
Discarded=1.0 cfs 0.922 af Primary=9.0 cfs 0.135 af Outflow=10.0 cfs 1.057 af

Pond P11: INFILTRATION BASIN Peak Elev=1,142.47' Storage=9,549 cf Inflow=24.6 cfs 1.234 af
Discarded=0.8 cfs 0.539 af Primary=22.4 cfs 0.695 af Secondary=0.0 cfs 0.000 af Outflow=23.3 cfs 1.234 af

Pond P12: INFILTRATION BASIN Peak Elev=1,134.01' Storage=743 cf Inflow=9.0 cfs 0.135 af
Discarded=6.4 cfs 0.135 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=6.4 cfs 0.135 af

Pond PHW-28: HEADWALL Peak Elev=1,178.60' Inflow=24.4 cfs 1.541 af
24.0" Round Culvert n=0.013 L=835.1' S=0.0371 '/' Outflow=24.4 cfs 1.541 af

Pond PHW31: HEADWALL Peak Elev=1,183.45' Inflow=18.2 cfs 0.923 af
24.0" Round Culvert n=0.013 L=715.0' S=0.0587 '/' Outflow=18.2 cfs 0.923 af

Pond RB3: CULVERT Peak Elev=1,135.72' Storage=762 cf Inflow=8.7 cfs 1.100 af
Primary=8.0 cfs 1.099 af Secondary=0.2 cfs 0.001 af Outflow=8.2 cfs 1.100 af

Total Runoff Area = 265.750 ac Runoff Volume = 13.878 af Average Runoff Depth = 0.63"
97.25% Pervious = 258.450 ac 2.75% Impervious = 7.300 ac

Summary for Subcatchment A1: WOODS & EX. QUARRY

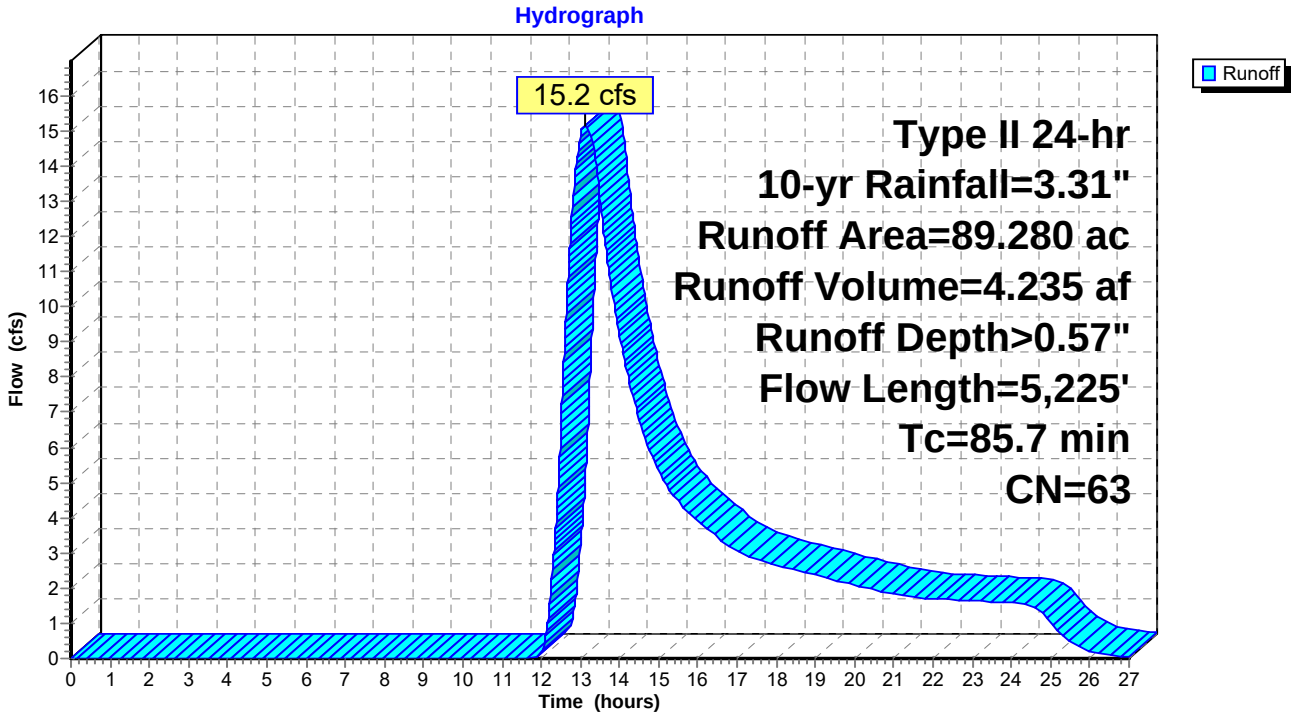
Runoff = 15.2 cfs @ 13.14 hrs, Volume= 4.235 af, Depth> 0.57"
Routed to Reach OUT-A : WETLANDS COMPLEX

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
54.380	55	Woods, Good, HSG B
18.160	70	Woods, Good, HSG C
0.130	77	Woods, Good, HSG D
1.240	96	Gravel surface, HSG B
12.560	86	Fallow, bare soil, HSG B
0.060	98	Unconnected roofs, HSG B
0.560	71	Meadow, non-grazed, HSG C
2.040	58	Meadow, non-grazed, HSG B
0.150	96	Gravel surface, HSG C
89.280	63	Weighted Average
89.220	63	99.93% Pervious Area
0.060	98	0.07% Impervious Area
0.060		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	100	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
49.5	3,400	0.2100	1.15		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.5	1,280	0.0800	14.12	282.43	**Parabolic Channel,** W=15.00' D=2.00' Area=20.0 sf Perim=15.7' n= 0.035 Earth, dense weeds
1.4	445	0.0250	5.12	136.46	**Parabolic Channel,** W=40.00' D=1.00' Area=26.7 sf Perim=40.1' n= 0.035
85.7	5,225	Total			

Subcatchment A1: WOODS & EX. QUARRY



Summary for Subcatchment A2: WOODS

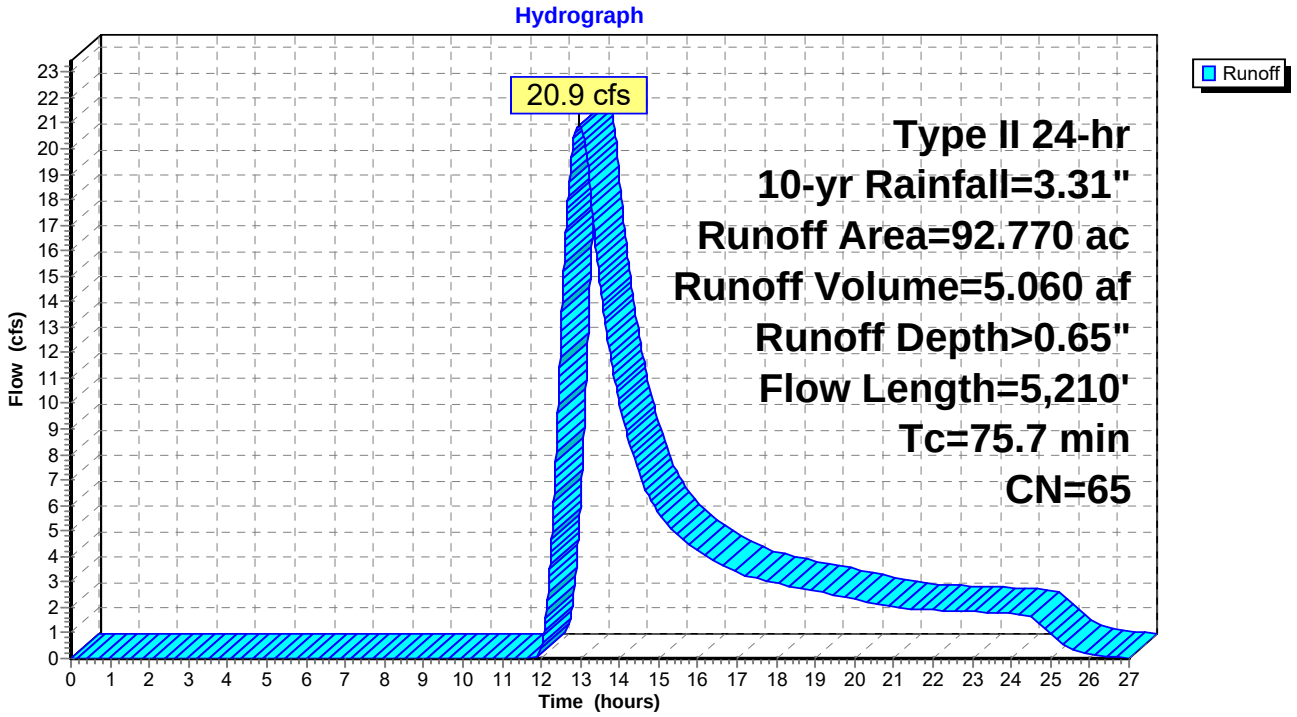
Runoff = 20.9 cfs @ 12.95 hrs, Volume= 5.060 af, Depth> 0.65"
Routed to Reach OUT-A : WETLANDS COMPLEX

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.480	30	Woods, Good, HSG A
30.030	55	Woods, Good, HSG B
56.130	70	Woods, Good, HSG C
0.520	77	Woods, Good, HSG D
1.530	58	Meadow, non-grazed, HSG B
0.460	30	Meadow, non-grazed, HSG A
2.710	71	Meadow, non-grazed, HSG C
0.050	96	Gravel surface, HSG A
0.560	96	Gravel surface, HSG B
0.300	96	Gravel surface, HSG C
92.770	65	Weighted Average
92.770	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	30	0.2000	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
22.9	70	0.0500	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
35.1	2,230	0.1790	1.06		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.5	1,520	0.1050	16.38	436.88	**Parabolic Channel,** W=20.00' D=2.00' Area=26.7 sf Perim=20.5' n= 0.035 Earth, dense weeds
1.5	735	0.0250	8.13	1,083.54	**Parabolic Channel,** W=100.00' D=2.00' Area=133.3 sf Perim=100.1' n= 0.035 Earth, dense weeds
8.0	625	0.0016	1.30	51.82	**Parabolic Channel,** W=60.00' D=1.00' Area=40.0 sf Perim=60.0' n= 0.035 Earth, dense weeds
75.7	5,210	Total			

Subcatchment A2: WOODS



Summary for Subcatchment B1: WOODS

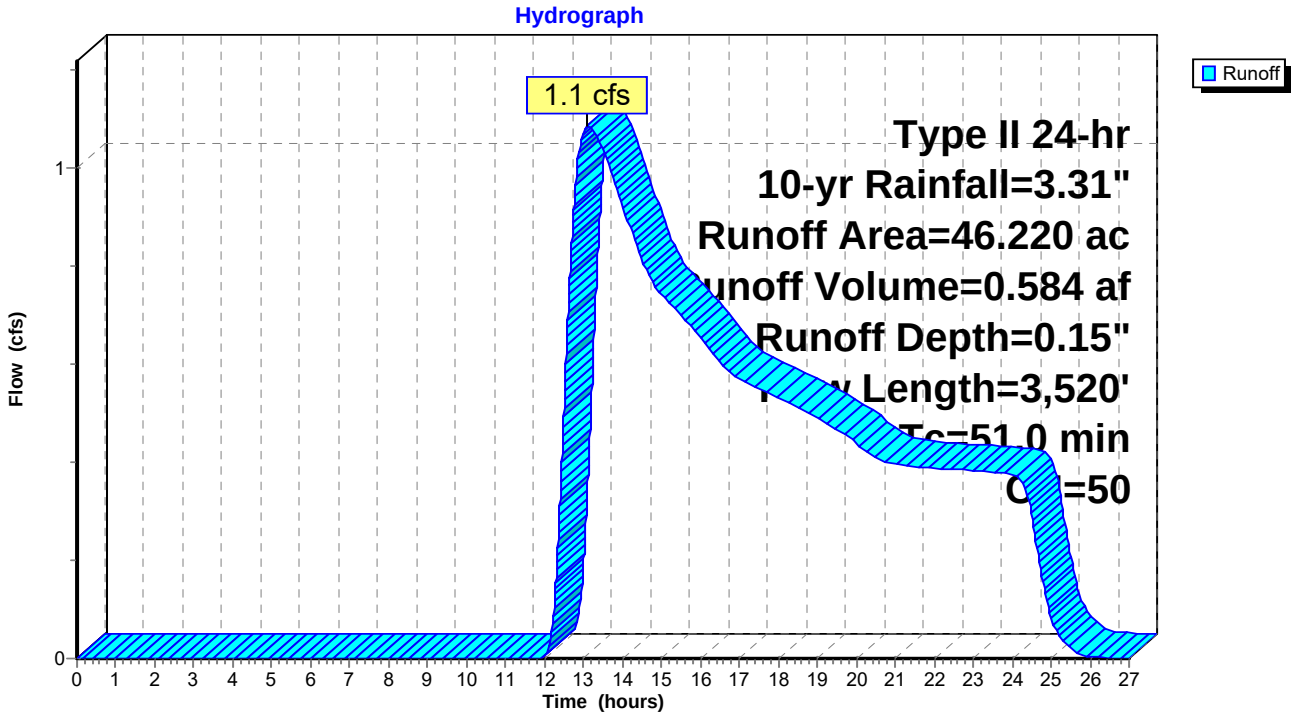
Runoff = 1.1 cfs @ 13.09 hrs, Volume= 0.584 af, Depth= 0.15"
Routed to Reach OUT-B : WETLANDS COMPLEX

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.010	96	Gravel surface, HSG B
0.590	96	Gravel surface, HSG C
0.030	98	Paved parking, HSG C
0.980	78	Meadow, non-grazed, HSG D
1.580	77	Woods, Good, HSG D
0.010	58	Meadow, non-grazed, HSG B
1.740	55	Woods, Good, HSG B
2.230	30	Meadow, non-grazed, HSG A
20.790	30	Woods, Good, HSG A
1.270	71	Meadow, non-grazed, HSG C
16.990	70	Woods, Good, HSG C
46.220	50	Weighted Average
46.190	50	99.94% Pervious Area
0.030	98	0.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	100	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
6.9	195	0.0350	0.47		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
5.7	2,105	0.0358	6.12	142.84	**Parabolic Channel,** W=35.00' D=1.00' Area=23.3 sf Perim=35.1' n= 0.035
5.1	1,120	0.0129	3.68	183.94	**Parabolic Channel,** W=75.00' D=1.00' Area=50.0 sf Perim=75.0' n= 0.035
51.0	3,520	Total			

Subcatchment B1: WOODS



Summary for Subcatchment B2: WOODS

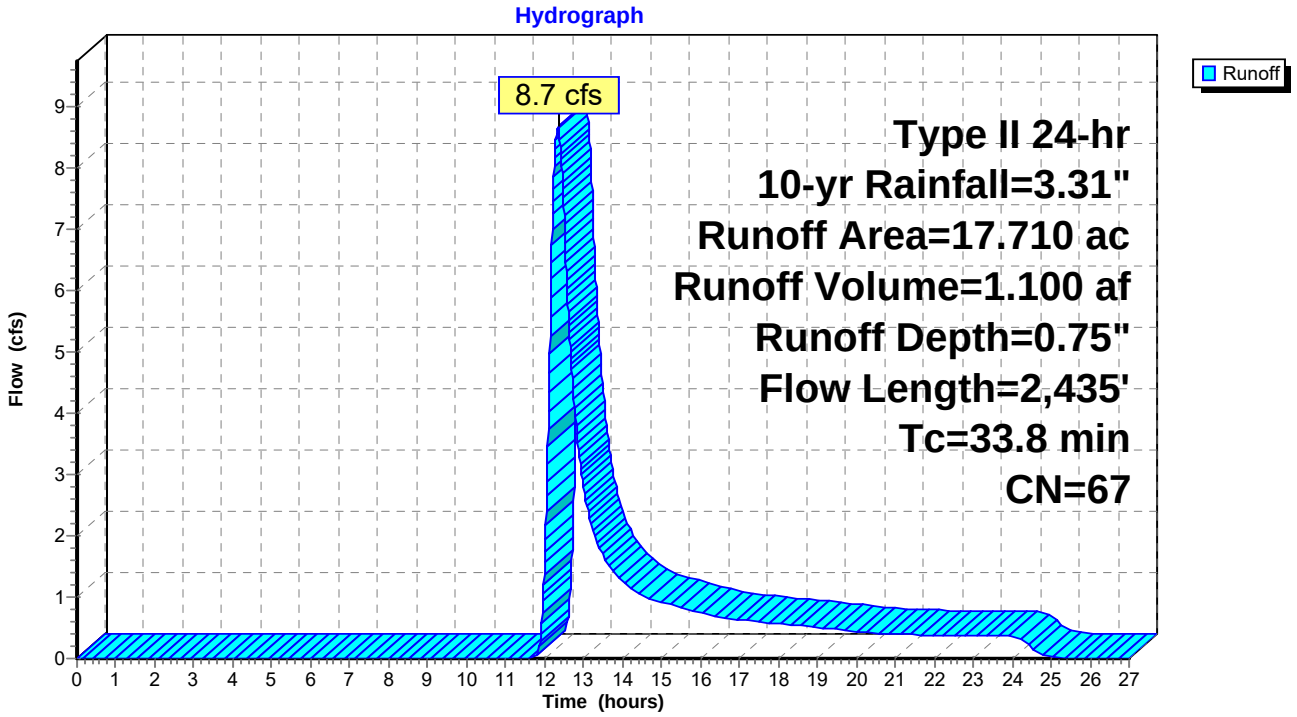
Runoff = 8.7 cfs @ 12.35 hrs, Volume= 1.100 af, Depth= 0.75"
Routed to Pond RB3 : CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.060	96	Gravel surface, HSG C
2.300	71	Meadow, non-grazed, HSG C
4.230	55	Woods, Good, HSG B
11.120	70	Woods, Good, HSG C
17.710	67	Weighted Average
17.710	67	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	100	0.2700	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
16.8	865	0.1175	0.86		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.5	270	0.0875	9.51	95.10	**Parabolic Channel,** W=15.00' D=1.00' Area=10.0 sf Perim=15.2' n= 0.035
1.0	1,200	0.1000	20.62	247.47	**Trap/Vee/Rect Channel Flow,** Bot.W=0.00' D=2.00' Z= 3.0 '/' Top.W=12.00' n= 0.022
33.8	2,435	Total			

Subcatchment B2: WOODS



Summary for Subcatchment B3: OVERLAND FLOW

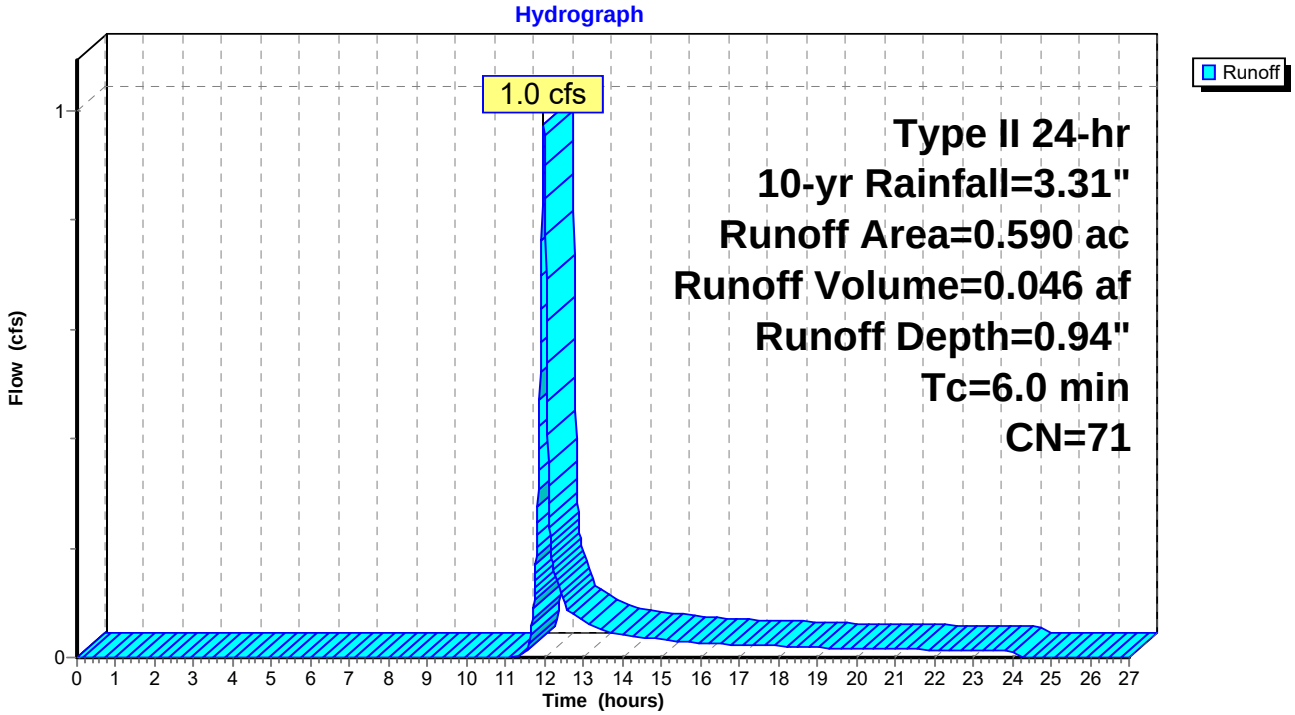
Runoff = 1.0 cfs @ 11.98 hrs, Volume= 0.046 af, Depth= 0.94"
Routed to Pond FB11 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.590	71	Meadow, non-grazed, HSG C
0.590	71	100.00% Pervious Area

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

Subcatchment B3: OVERLAND FLOW



Summary for Subcatchment B4: LANDFILL

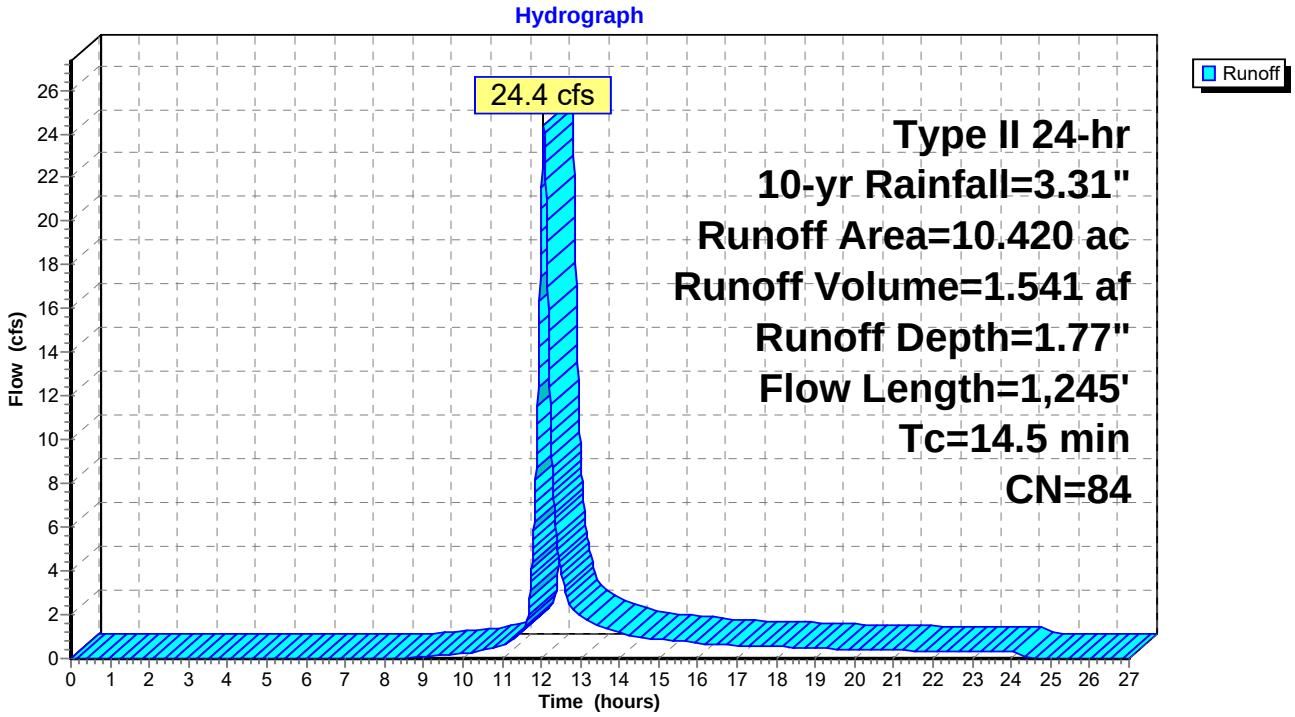
Runoff = 24.4 cfs @ 12.07 hrs, Volume= 1.541 af, Depth= 1.77"
Routed to Pond PHW-28 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

	Area (ac)	CN	Description
	0.350	96	Gravel surface, HSG C
*	5.680	74	Landfill, Grass
	0.030	96	Gravel surface, HSG B
	0.360	71	Meadow, non-grazed, HSG C
*	4.000	98	Landfill, Geomembrane
	10.420	84	Weighted Average
	6.420	75	61.61% Pervious Area
	4.000	98	38.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	100	0.0500	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.32"
0.2	55	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	350	0.0400	4.79	67.04	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 2.0 '/' Top.W=11.00' n= 0.069 Riprap, 6-inch
0.7	480	0.3300	11.54	129.83	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=1.50' Z= 3.0 '/' Top.W=12.00' n= 0.069 Riprap, 6-inch
0.8	260	0.0500	5.29	95.16	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
14.5	1,245	Total			

Subcatchment B4: LANDFILL



Summary for Subcatchment B5: LANDFILL

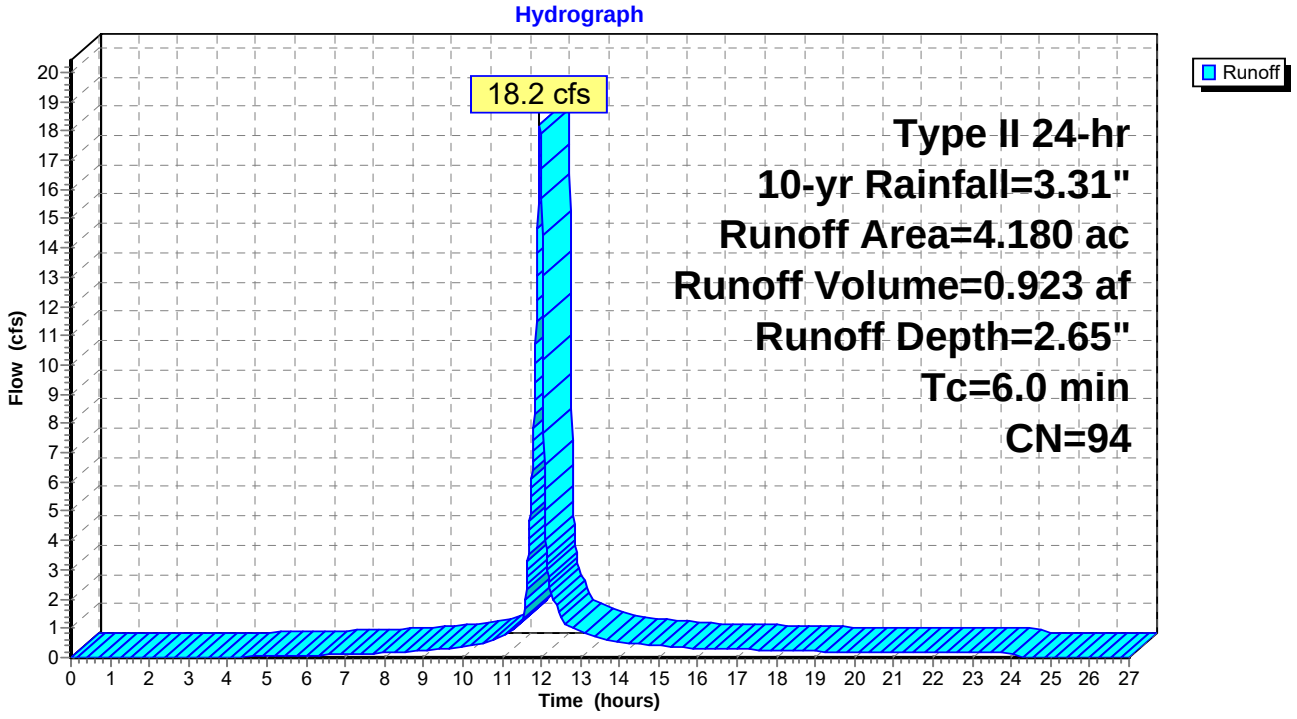
Runoff = 18.2 cfs @ 11.97 hrs, Volume= 0.923 af, Depth= 2.65"
Routed to Pond PHW31 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

	Area (ac)	CN	Description
*	3.030	98	Landfill, Geomembrane
	0.610	96	Gravel surface, HSG C
	0.540	71	Meadow, non-grazed, HSG C
	4.180	94	Weighted Average
	1.150	84	27.51% Pervious Area
	3.030	98	72.49% Impervious Area

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

Subcatchment B5: LANDFILL



Summary for Subcatchment B6: OVERLAND FLOW

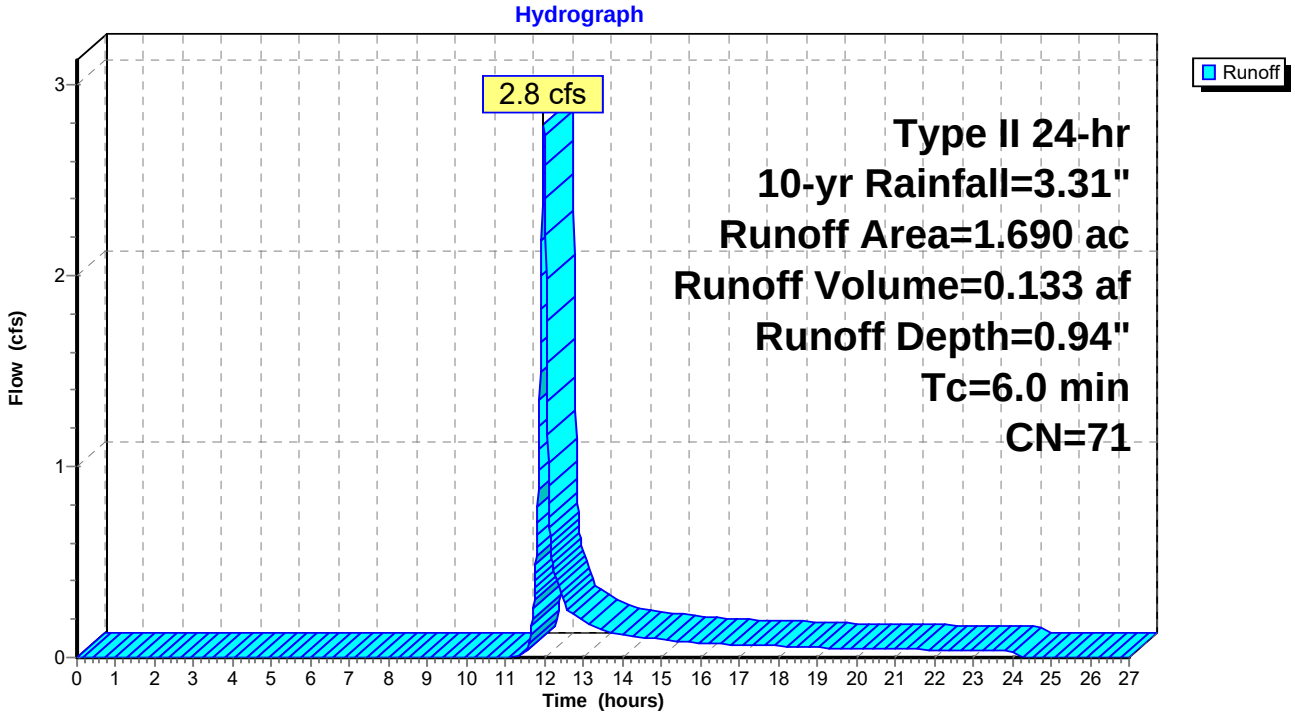
Runoff = 2.8 cfs @ 11.98 hrs, Volume= 0.133 af, Depth= 0.94"
Routed to Pond FB12 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
1.690	71	Meadow, non-grazed, HSG C
1.690	71	100.00% Pervious Area

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

Subcatchment B6: OVERLAND FLOW



Summary for Subcatchment B7: WOODS

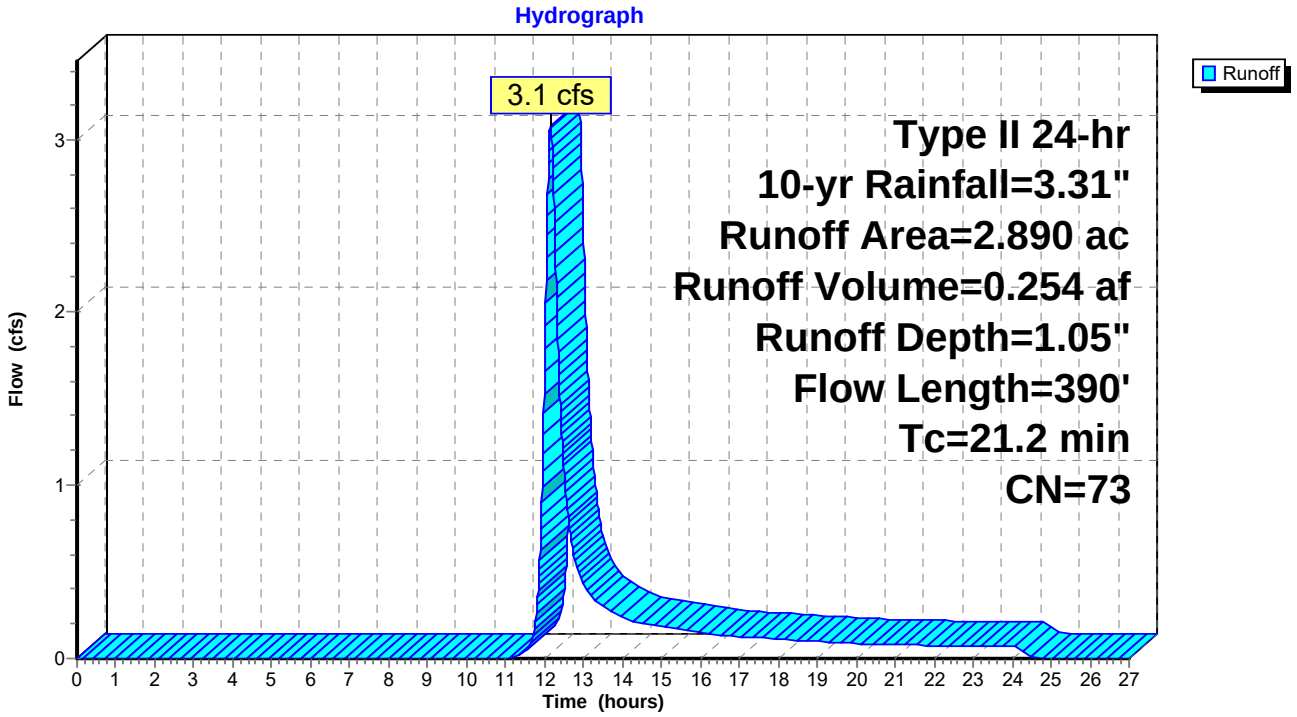
Runoff = 3.1 cfs @ 12.15 hrs, Volume= 0.254 af, Depth= 1.05"
Routed to Reach RB5 : CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.060	55	Woods, Good, HSG B
0.120	58	Meadow, non-grazed, HSG B
0.010	96	Gravel surface, HSG B
0.020	98	Paved parking, HSG B
0.160	98	Paved parking, HSG C
0.220	96	Gravel surface, HSG C
1.230	71	Meadow, non-grazed, HSG C
1.070	70	Woods, Good, HSG C
2.890	73	Weighted Average
2.710	72	93.77% Pervious Area
0.180	98	6.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	100	0.1500	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
1.0	85	0.3050	1.38		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
0.6	205	0.0125	5.26	14.02	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022
21.2	390	Total			

Subcatchment B7: WOODS

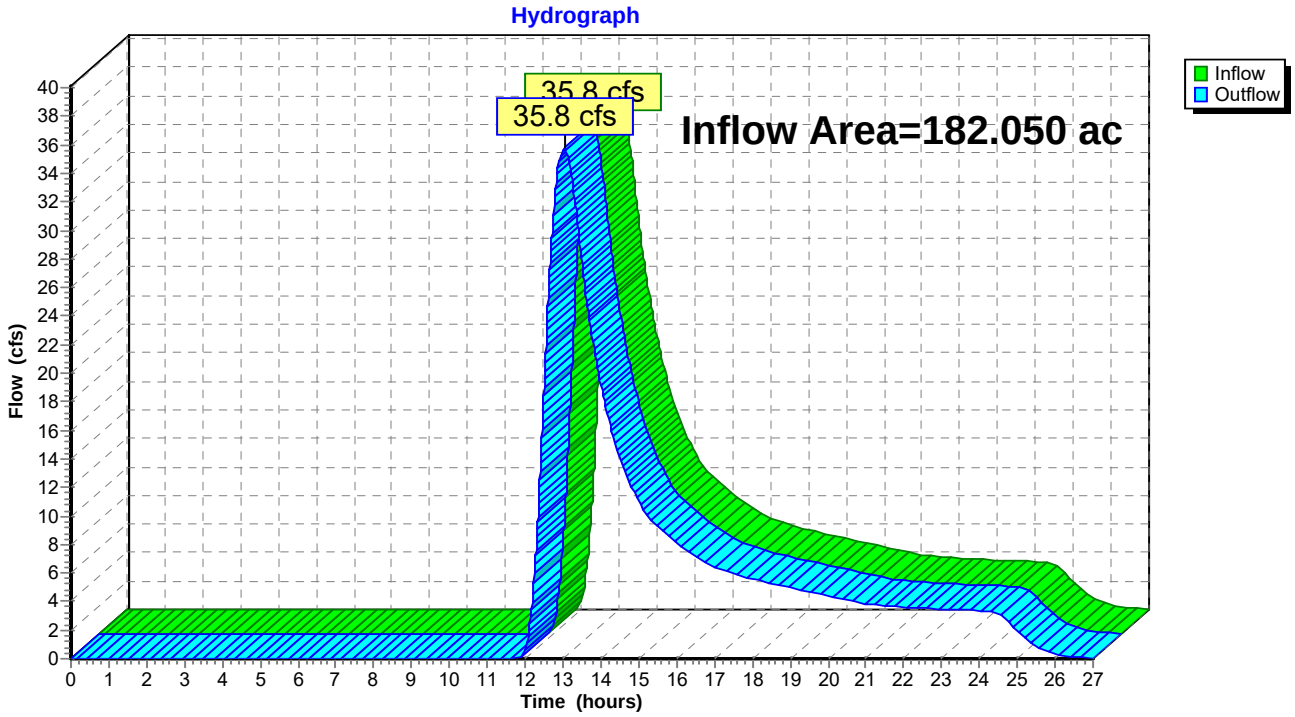


Summary for Reach OUT-A: WETLANDS COMPLEX

Inflow Area = 182.050 ac, 0.03% Impervious, Inflow Depth > 0.61" for 10-yr event
Inflow = 35.8 cfs @ 13.04 hrs, Volume= 9.295 af
Outflow = 35.8 cfs @ 13.04 hrs, Volume= 9.295 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3

Reach OUT-A: WETLANDS COMPLEX

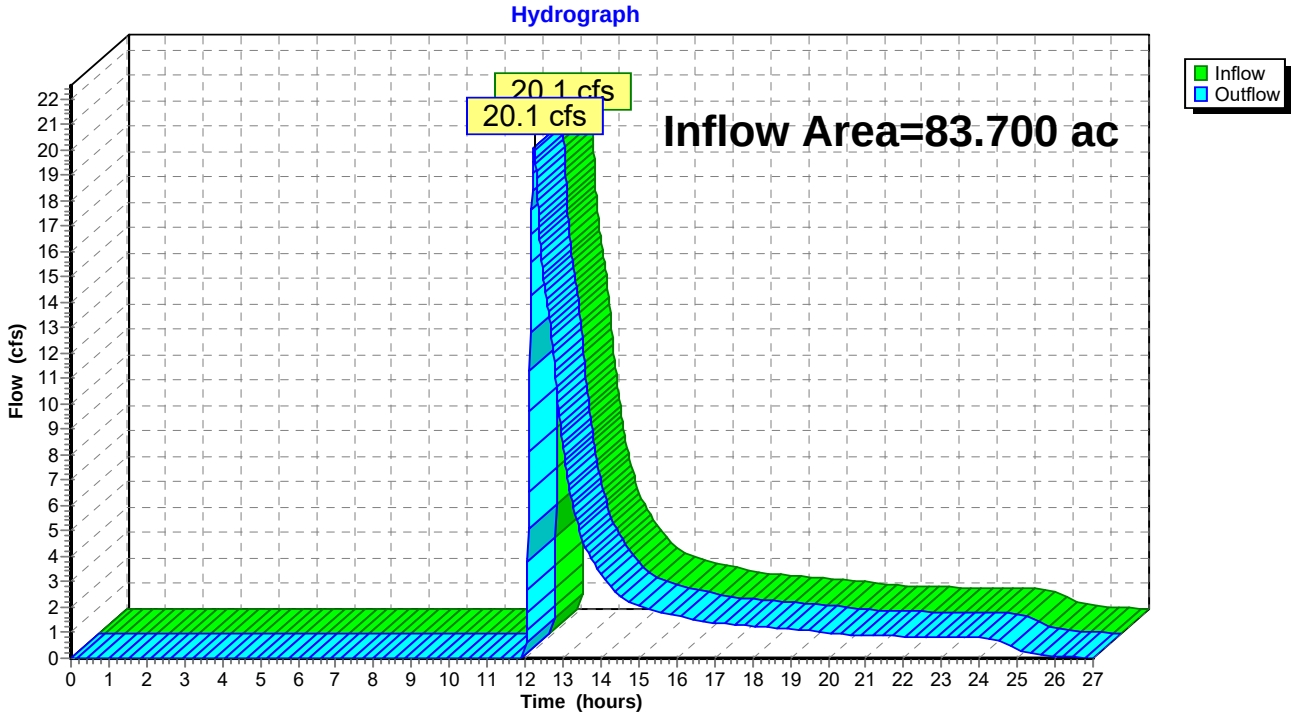


Summary for Reach OUT-B: WETLANDS COMPLEX

Inflow Area = 83.700 ac, 8.65% Impervious, Inflow Depth > 0.38" for 10-yr event
Inflow = 20.1 cfs @ 12.23 hrs, Volume= 2.630 af
Outflow = 20.1 cfs @ 12.23 hrs, Volume= 2.630 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node FDGA

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3

Reach OUT-B: WETLANDS COMPLEX



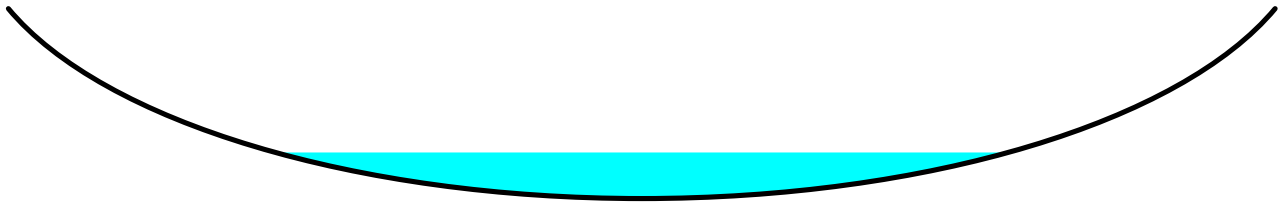
Summary for Reach RB1: WETLAND

Inflow Area = 26.470 ac, 12.13% Impervious, Inflow Depth > 0.61" for 10-yr event
Inflow = 9.6 cfs @ 12.46 hrs, Volume= 1.353 af
Outflow = 8.4 cfs @ 12.65 hrs, Volume= 1.351 af, Atten= 12%, Lag= 10.9 min
Routed to Reach OUT-B : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.43 fps, Min. Travel Time= 13.1 min
Avg. Velocity = 0.65 fps, Avg. Travel Time= 28.8 min

Peak Storage= 6,610 cf @ 12.65 hrs
Average Depth at Peak Storage= 0.24' , Surface Width= 36.79'
Bank-Full Depth= 1.00' Flow Area= 50.0 sf, Capacity= 184.3 cfs

75.00' x 1.00' deep Parabolic Channel, n= 0.035
Length= 1,120.0' Slope= 0.0129 '/'
Inlet Invert= 1,080.00', Outlet Invert= 1,065.50'



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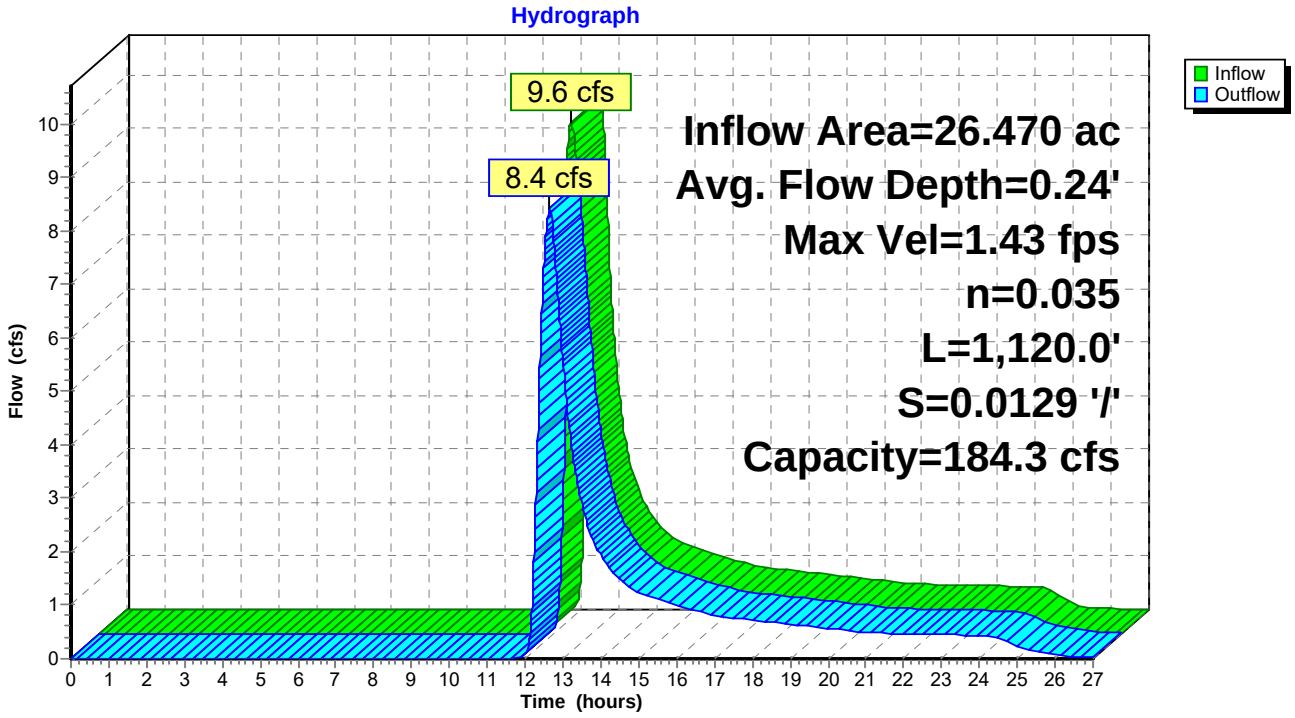
Reach RB1: WETLAND



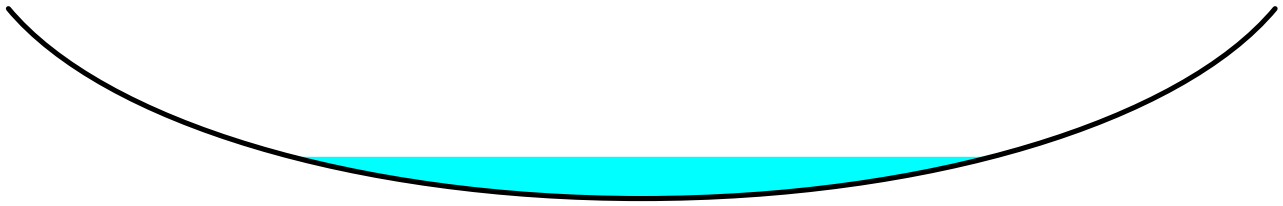
Summary for Reach RB2: WETLAND

Inflow Area = 23.580 ac, 12.85% Impervious, Inflow Depth = 0.56" for 10-yr event
Inflow = 8.2 cfs @ 12.42 hrs, Volume= 1.100 af
Outflow = 7.9 cfs @ 12.51 hrs, Volume= 1.100 af, Atten= 5%, Lag= 5.4 min
Routed to Reach RB1 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 2.56 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 1.11 fps, Avg. Travel Time= 15.8 min

Peak Storage= 3,237 cf @ 12.51 hrs
Average Depth at Peak Storage= 0.22' , Surface Width= 21.04'
Bank-Full Depth= 1.00' Flow Area= 30.0 sf, Capacity= 211.4 cfs

45.00' x 1.00' deep Parabolic Channel, n= 0.035
Length= 1,055.0' Slope= 0.0474 '/'
Inlet Invert= 1,130.00', Outlet Invert= 1,080.00'



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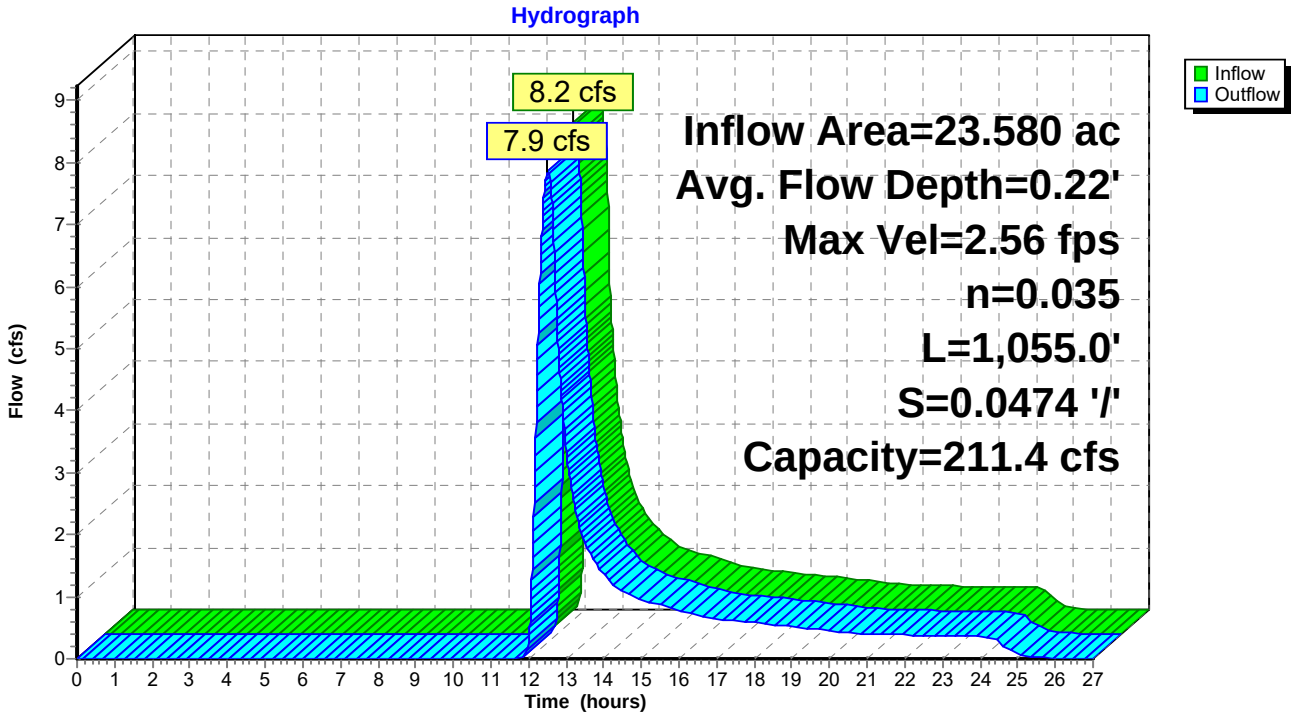
Reach RB2: WETLAND



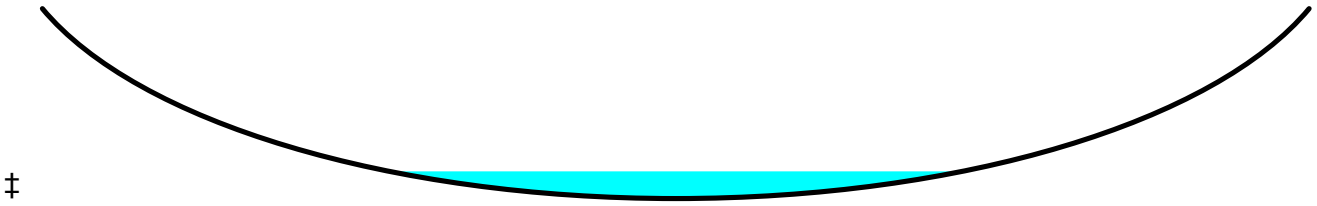
Summary for Reach RB4: WETLAND

Inflow Area = 2.890 ac, 6.23% Impervious, Inflow Depth = 1.05" for 10-yr event
Inflow = 3.1 cfs @ 12.16 hrs, Volume= 0.254 af
Outflow = 2.1 cfs @ 12.31 hrs, Volume= 0.253 af, Atten= 32%, Lag= 9.2 min
Routed to Reach RB1 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.67 fps, Min. Travel Time= 16.0 min
Avg. Velocity = 0.68 fps, Avg. Travel Time= 39.1 min

Peak Storage= 2,001 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.14' , Surface Width= 13.19'
Bank-Full Depth= 1.00' Flow Area= 23.3 sf, Capacity= 142.7 cfs

35.00' x 1.00' deep Parabolic Channel, n= 0.035
Length= 1,600.0' Slope= 0.0358 '/'
Inlet Invert= 1,137.20', Outlet Invert= 1,080.00'



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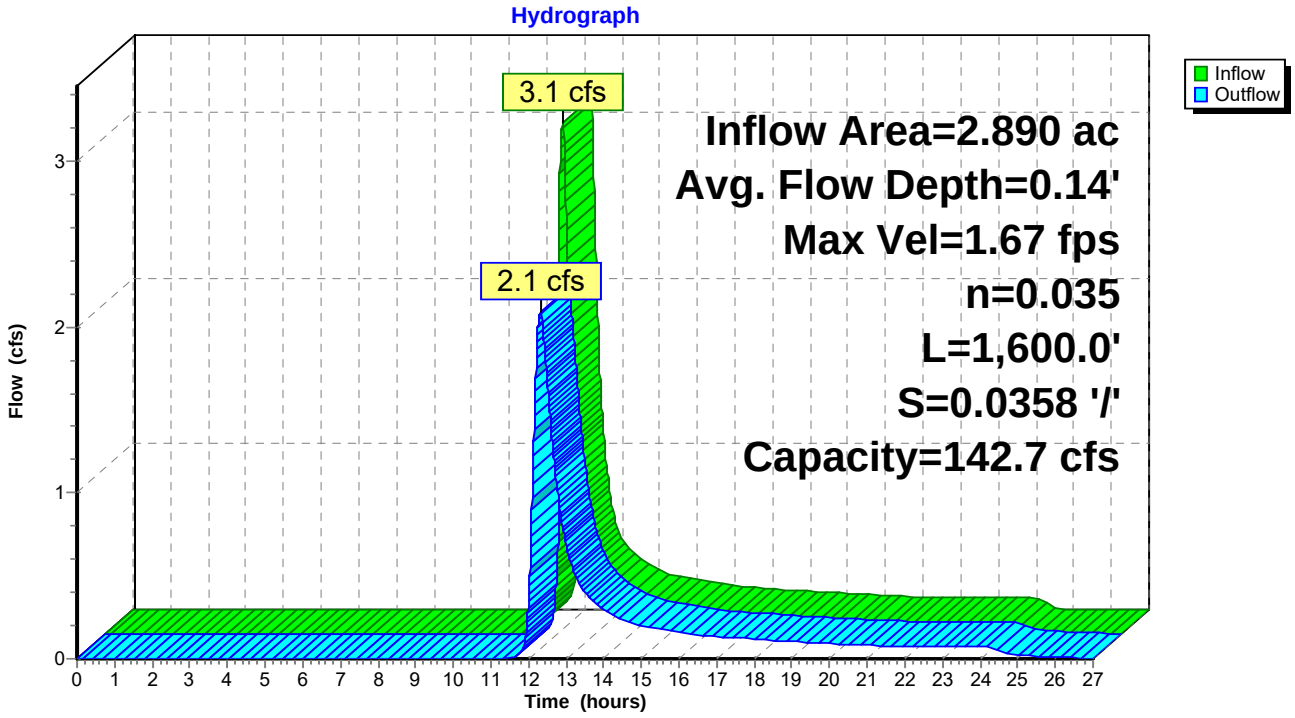
Reach RB4: WETLAND



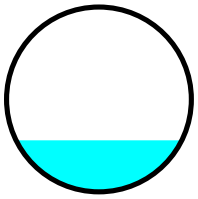
Summary for Reach RB5: CULVERT

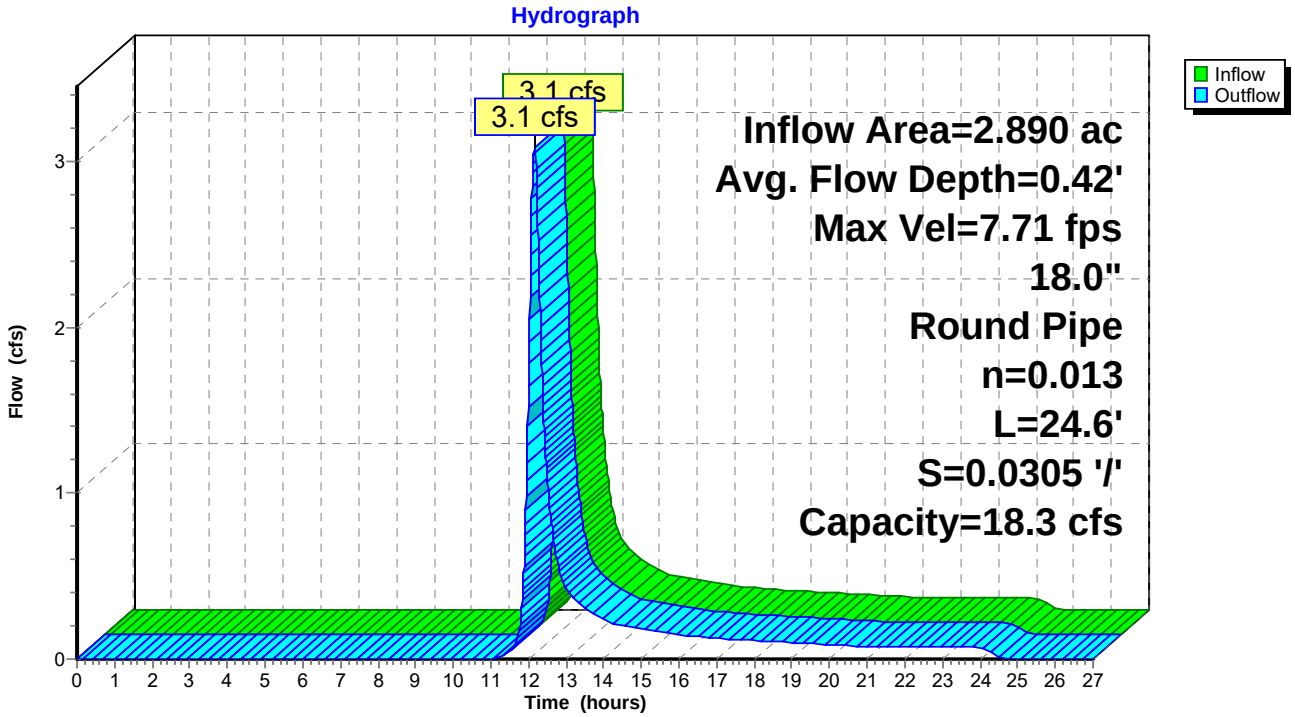
Inflow Area = 2.890 ac, 6.23% Impervious, Inflow Depth = 1.05" for 10-yr event
Inflow = 3.1 cfs @ 12.15 hrs, Volume= 0.254 af
Outflow = 3.1 cfs @ 12.16 hrs, Volume= 0.254 af, Atten= 0%, Lag= 0.1 min
Routed to Reach RB4 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 7.71 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 0.1 min

Peak Storage= 10 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.42' , Surface Width= 1.34'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 18.3 cfs

18.0" Round Pipe
n= 0.013
Length= 24.6' Slope= 0.0305 '/'
Inlet Invert= 1,137.25', Outlet Invert= 1,136.50'





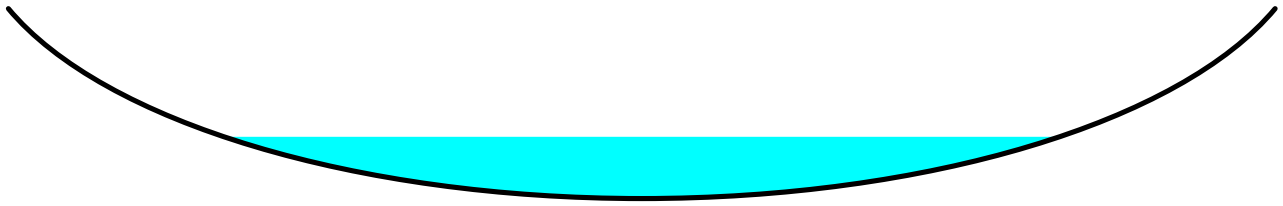
Summary for Reach RB6: WETLAND

Inflow Area = 11.010 ac, 36.33% Impervious, Inflow Depth = 0.76" for 10-yr event
Inflow = 20.4 cfs @ 12.16 hrs, Volume= 0.695 af
Outflow = 18.4 cfs @ 12.22 hrs, Volume= 0.695 af, Atten= 10%, Lag= 3.4 min
Routed to Reach OUT-B : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.99 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 0.44 fps, Avg. Travel Time= 18.0 min

Peak Storage= 4,390 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.32' , Surface Width= 42.72'
Bank-Full Depth= 1.00' Flow Area= 50.0 sf, Capacity= 210.2 cfs

75.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
Length= 475.0' Slope= 0.0168 '/'
Inlet Invert= 1,070.00', Outlet Invert= 1,062.00'



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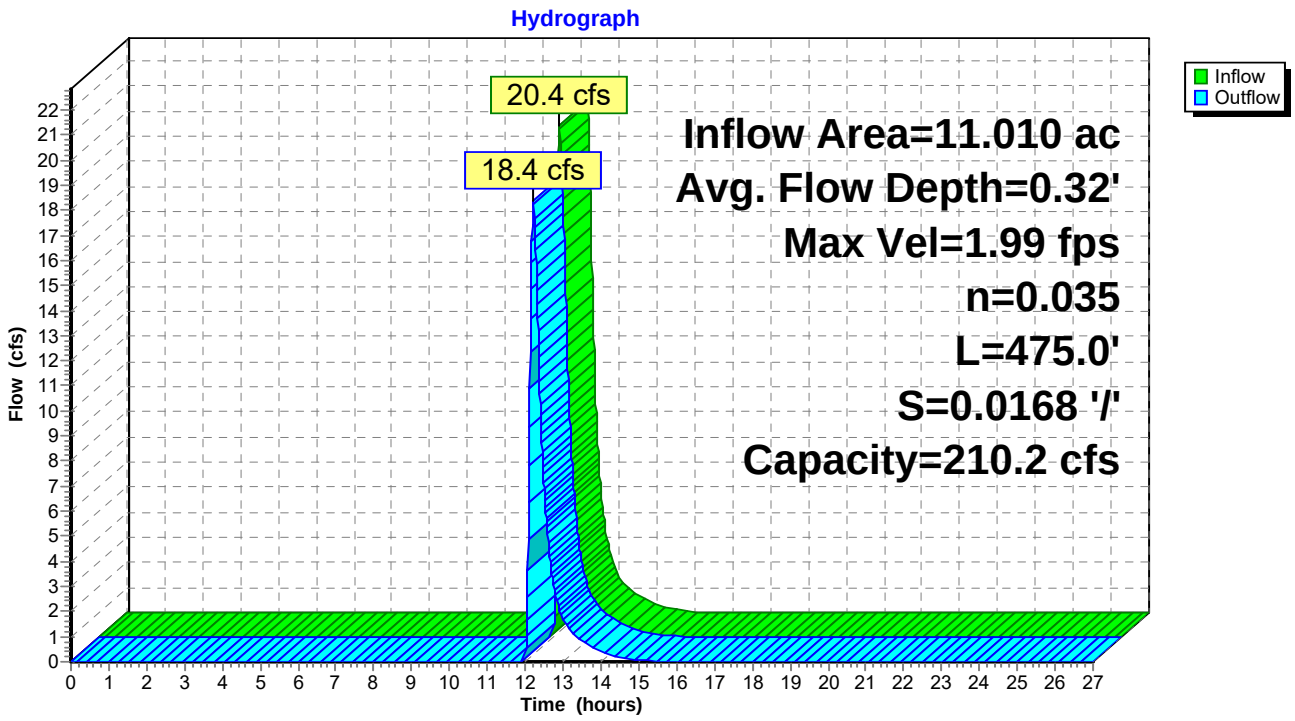


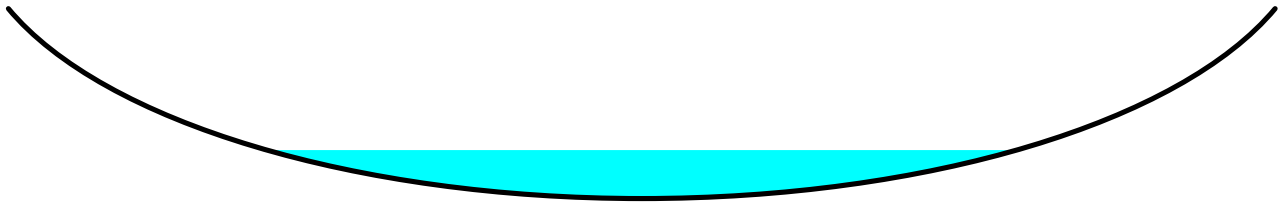
Summary for Reach RB7: WETLAND

Inflow Area = 11.010 ac, 36.33% Impervious, Inflow Depth = 0.76" for 10-yr event
Inflow = 22.4 cfs @ 12.11 hrs, Volume= 0.695 af
Outflow = 20.4 cfs @ 12.16 hrs, Volume= 0.695 af, Atten= 9%, Lag= 3.1 min
Routed to Reach RB6 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.76 fps, Min. Travel Time= 3.7 min
Avg. Velocity = 1.25 fps, Avg. Travel Time= 14.0 min

Peak Storage= 4,498 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.51' , Surface Width= 12.62'
Bank-Full Depth= 2.00' Flow Area= 33.3 sf, Capacity= 391.6 cfs

25.00' x 2.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
Length= 1,050.0' Slope= 0.0533 '/'
Inlet Invert= 1,126.00', Outlet Invert= 1,070.00'



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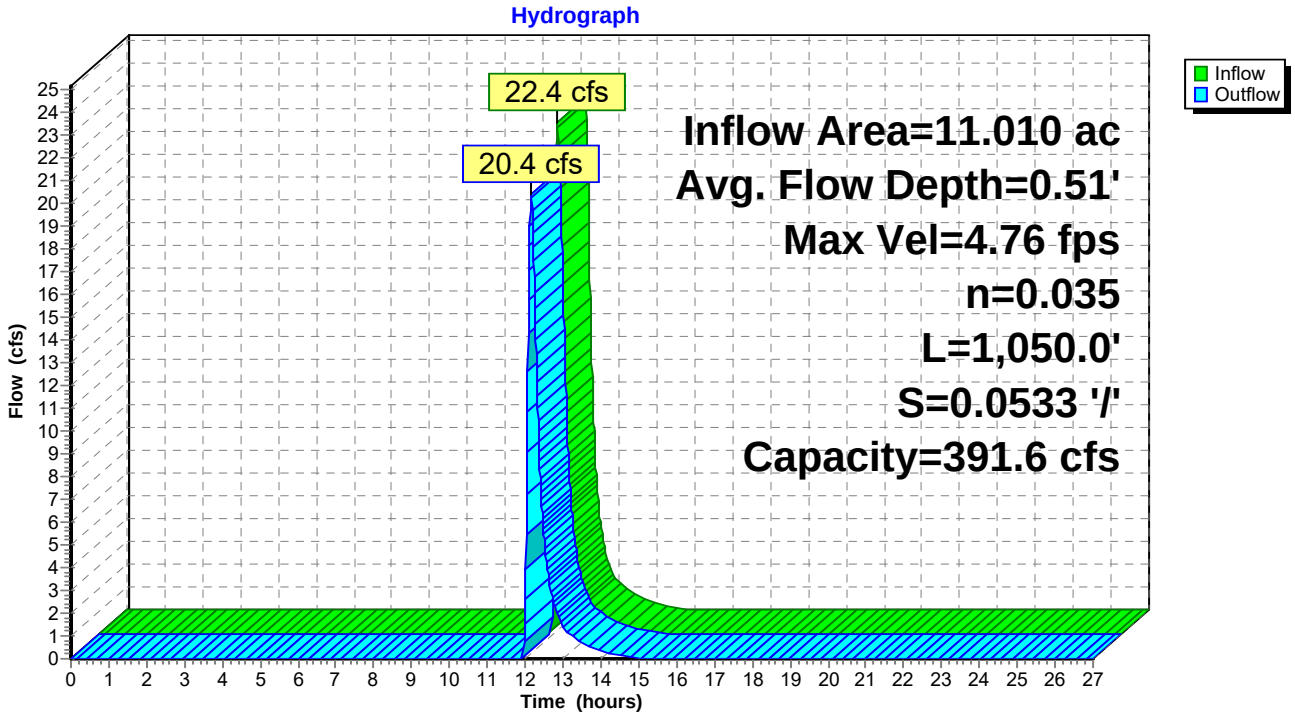
Reach RB7: WETLAND



Summary for Pond FB11: FOREBAY

Inflow Area = 11.010 ac, 36.33% Impervious, Inflow Depth = 1.73" for 10-yr event
Inflow = 24.9 cfs @ 12.06 hrs, Volume= 1.588 af
Outflow = 24.9 cfs @ 12.07 hrs, Volume= 1.563 af, Atten= 0%, Lag= 0.3 min
Discarded = 0.3 cfs @ 12.07 hrs, Volume= 0.329 af
Primary = 24.6 cfs @ 12.07 hrs, Volume= 1.234 af
Routed to Pond P11 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 1,144.36' @ 12.07 hrs Surf.Area= 2,223 sf Storage= 3,828 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 28.8 min (862.5 - 833.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,142.00'	4,149 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

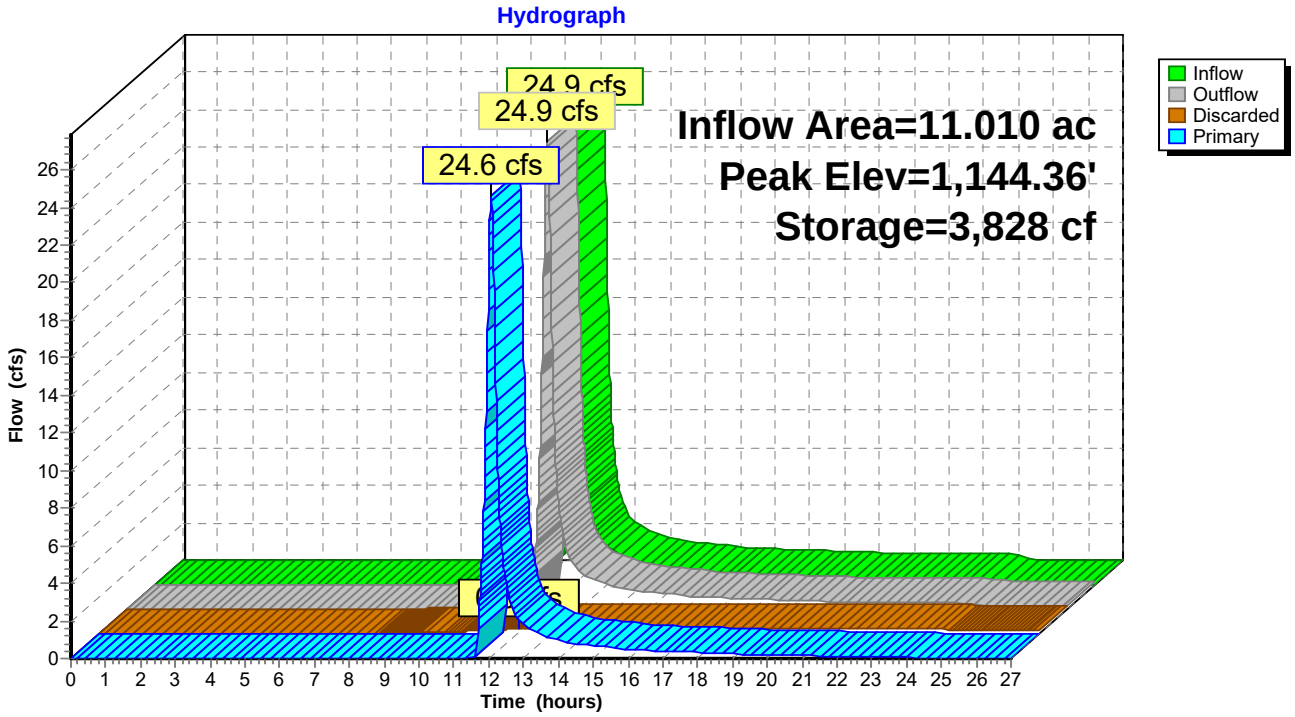
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,142.00	1,025	0	0
1,144.00	2,040	3,065	3,065
1,144.50	2,295	1,084	4,149

Device	Routing	Invert	Outlet Devices
#1	Primary	1,144.00'	**45.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,142.00'	**5.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.3 cfs @ 12.07 hrs HW=1,144.36' (Free Discharge)
↑**2=Exfiltration** (Exfiltration Controls 0.3 cfs)

Primary OutFlow Max=24.6 cfs @ 12.07 hrs HW=1,144.36' TW=1,142.44' (Dynamic Tailwater)
↑**1=Broad-Crested Rectangular Weir** (Weir Controls 24.6 cfs @ 1.49 fps)

Pond FB11: FOREBAY



Summary for Pond FB12: FOREBAY

Inflow Area = 5.870 ac, 51.62% Impervious, Inflow Depth = 2.16" for 10-yr event
Inflow = 21.0 cfs @ 11.97 hrs, Volume= 1.056 af
Outflow = 10.0 cfs @ 12.06 hrs, Volume= 1.057 af, Atten= 53%, Lag= 5.6 min
Discarded = 1.0 cfs @ 12.06 hrs, Volume= 0.922 af
Primary = 9.0 cfs @ 12.06 hrs, Volume= 0.135 af
Routed to Pond P12 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 1,139.12' @ 12.06 hrs Surf.Area= 8,726 sf Storage= 16,081 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 115.4 min (908.7 - 793.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,137.00'	19,431 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

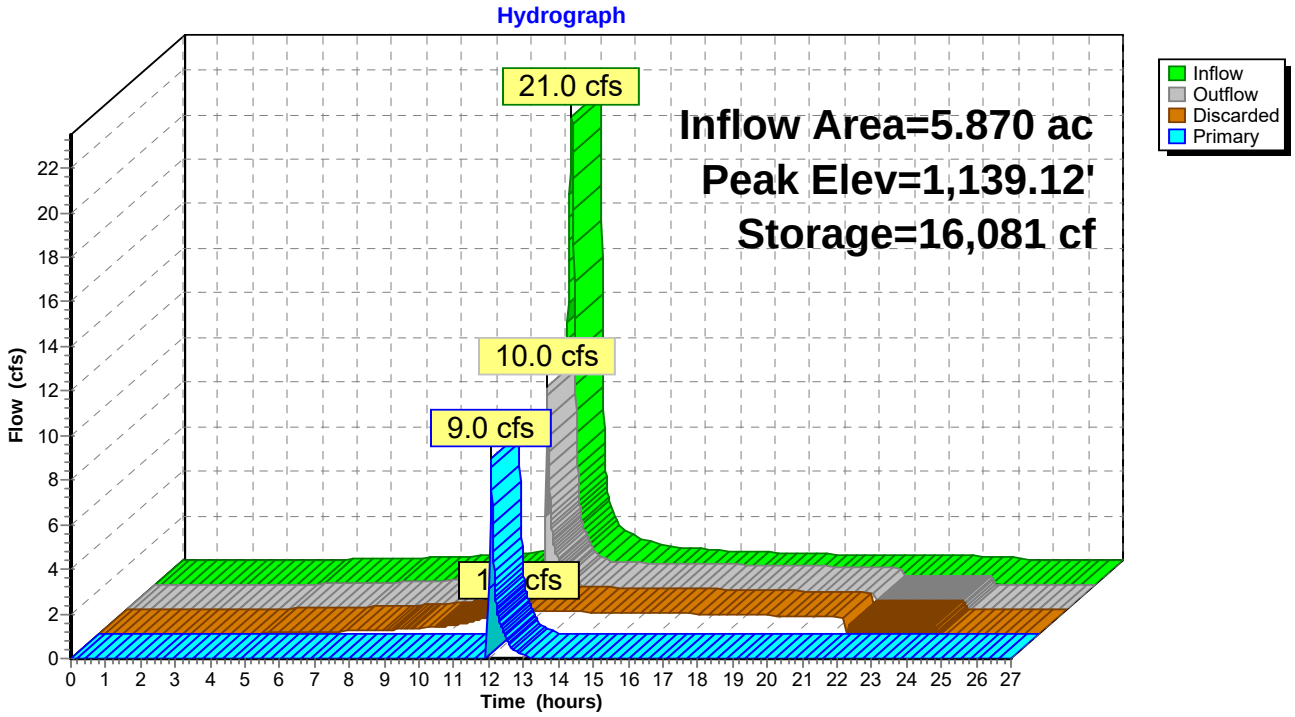
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,137.00	6,410	0	0
1,139.00	8,590	15,000	15,000
1,139.50	9,135	4,431	19,431

Device	Routing	Invert	Outlet Devices
#1	Primary	1,139.00'	**85.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,137.00'	**5.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=1.0 cfs @ 12.06 hrs HW=1,139.12' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 1.0 cfs)

Primary OutFlow Max=8.9 cfs @ 12.06 hrs HW=1,139.12' TW=1,134.01' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 8.9 cfs @ 0.84 fps)

Pond FB12: FOREBAY



Summary for Pond P11: INFILTRATION BASIN

Inflow Area = 11.010 ac, 36.33% Impervious, Inflow Depth = 1.35" for 10-yr event
Inflow = 24.6 cfs @ 12.07 hrs, Volume= 1.234 af
Outflow = 23.3 cfs @ 12.11 hrs, Volume= 1.234 af, Atten= 5%, Lag= 2.3 min
Discarded = 0.8 cfs @ 12.11 hrs, Volume= 0.539 af
Primary = 22.4 cfs @ 12.11 hrs, Volume= 0.695 af
Routed to Reach RB7 : WETLAND
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach RB7 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 1,142.47' @ 12.11 hrs Surf.Area= 7,325 sf Storage= 9,549 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 38.2 min (839.6 - 801.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,141.00'	22,080 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,141.00	5,680	0	0
1,144.00	9,040	22,080	22,080

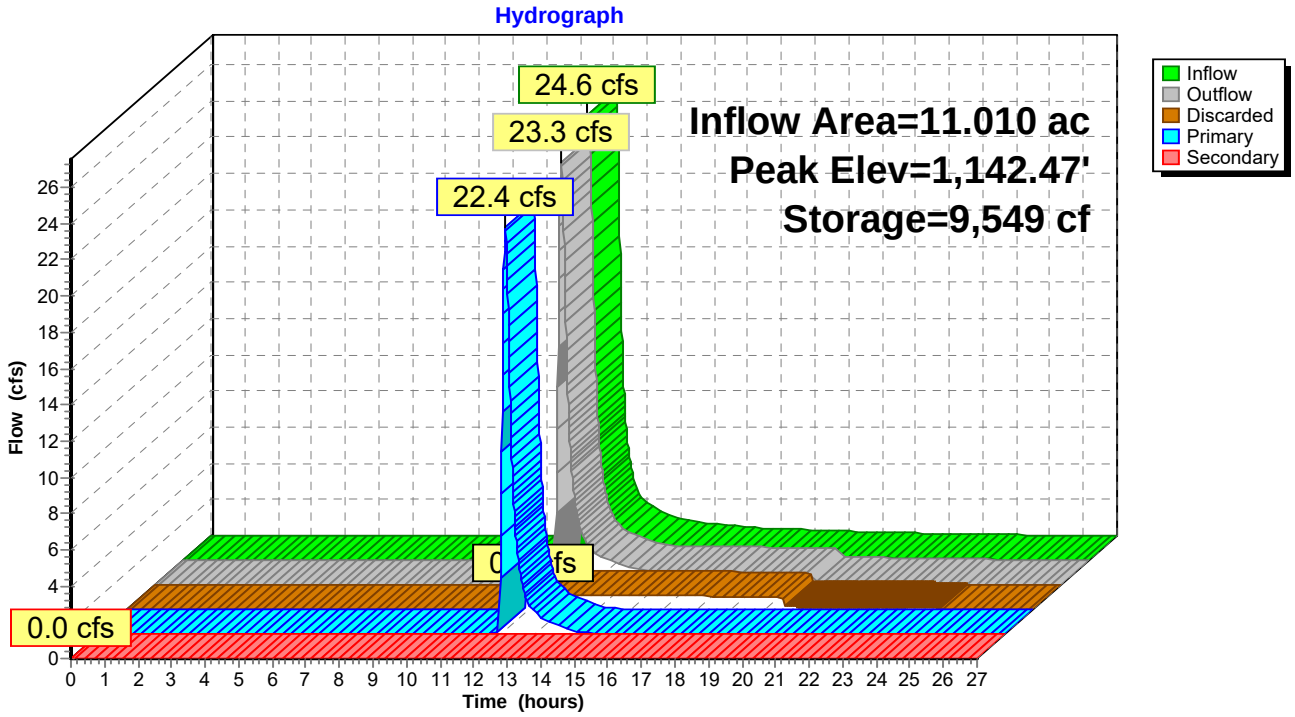
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,141.00'	**5.000 in/hr Exfiltration over Surface area**
#2	Primary	1,125.00'	**24.0" Round Culvert** L= 110.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,125.00' / 1,122.00' S= 0.0271 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#3	Device 2	1,141.90'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	1,143.50'	**10.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.8 cfs @ 12.11 hrs HW=1,142.47' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.8 cfs)

Primary OutFlow Max=22.4 cfs @ 12.11 hrs HW=1,142.47' TW=1,126.48' (Dynamic Tailwater)
└**2=Culvert** (Passes 22.4 cfs of 59.4 cfs potential flow)
└**3=Orifice/Grate** (Weir Controls 22.4 cfs @ 2.47 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,141.00' TW=1,126.00' (Dynamic Tailwater)
└**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond P11: INFILTRATION BASIN



Summary for Pond P12: INFILTRATION BASIN

Inflow Area = 5.870 ac, 51.62% Impervious, Inflow Depth = 0.28" for 10-yr event
Inflow = 9.0 cfs @ 12.06 hrs, Volume= 0.135 af
Outflow = 6.4 cfs @ 12.11 hrs, Volume= 0.135 af, Atten= 29%, Lag= 2.5 min
Discarded = 6.4 cfs @ 12.11 hrs, Volume= 0.135 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach RB2 : WETLAND
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach RB2 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 1,134.01' @ 12.11 hrs Surf.Area= 55,141 sf Storage= 743 cf

Plug-Flow detention time= 1.5 min calculated for 0.135 af (100% of inflow)
Center-of-Mass det. time= 1.5 min (736.0 - 734.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,134.00'	116,305 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,134.00	55,100	0	0
1,136.00	61,205	116,305	116,305

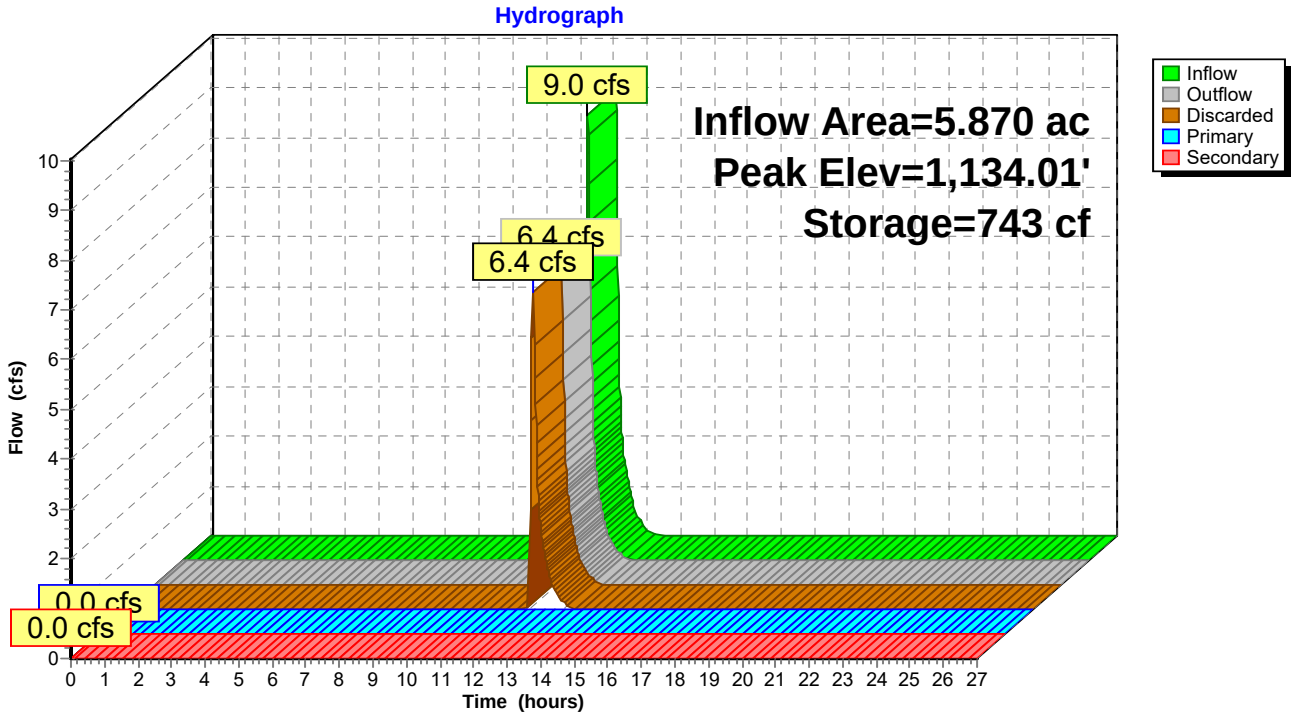
Device	Routing	Invert	Outlet Devices
#1	Primary	1,132.00'	**24.0" Round Culvert** L= 55.8' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,132.00' / 1,131.50' S= 0.0090 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Discarded	1,134.00'	**5.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#3	Secondary	1,135.50'	**10.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#4	Device 1	1,135.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=6.4 cfs @ 12.11 hrs HW=1,134.01' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 6.4 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,134.00' TW=1,130.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.0 cfs of 14.2 cfs potential flow)
└**4=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,134.00' TW=1,130.00' (Dynamic Tailwater)
└**3=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond P12: INFILTRATION BASIN



Summary for Pond PHW-28: HEADWALL

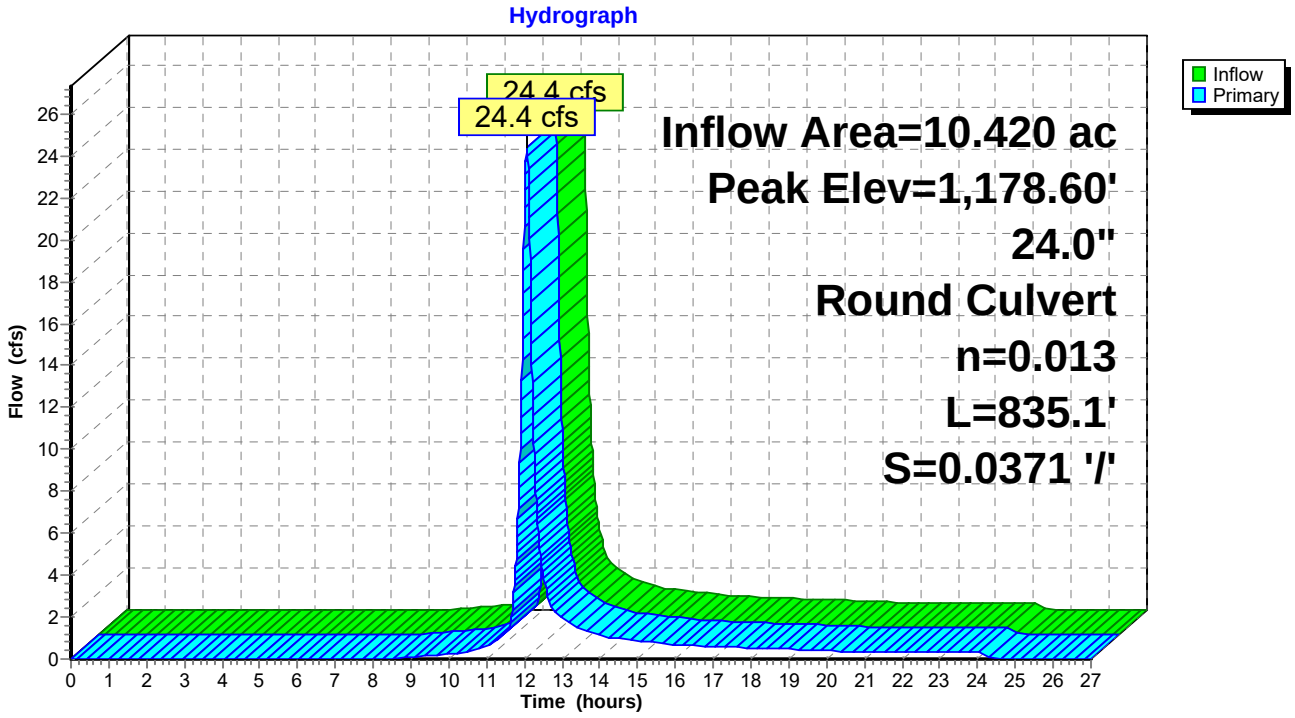
Inflow Area = 10.420 ac, 38.39% Impervious, Inflow Depth = 1.77" for 10-yr event
Inflow = 24.4 cfs @ 12.07 hrs, Volume= 1.541 af
Outflow = 24.4 cfs @ 12.07 hrs, Volume= 1.541 af, Atten= 0%, Lag= 0.0 min
Primary = 24.4 cfs @ 12.07 hrs, Volume= 1.541 af
Routed to Pond FB11 : FOREBAY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 1,178.60' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,175.00'	**24.0" Round Culvert** L= 835.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,175.00' / 1,144.00' S= 0.0371 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=24.4 cfs @ 12.07 hrs HW=1,178.60' TW=1,144.36' (Dynamic Tailwater)
1=Culvert (Inlet Controls 24.4 cfs @ 7.76 fps)

Pond PHW-28: HEADWALL



Summary for Pond PHW31: HEADWALL

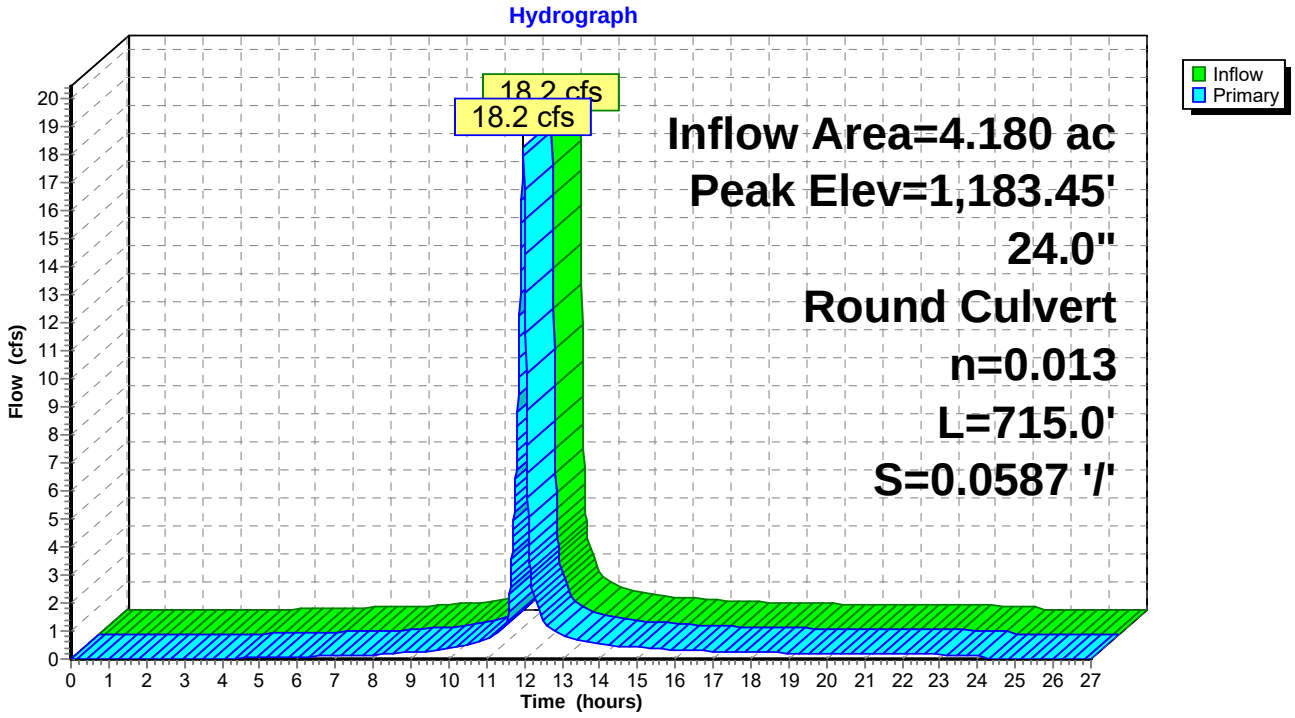
Inflow Area = 4.180 ac, 72.49% Impervious, Inflow Depth = 2.65" for 10-yr event
Inflow = 18.2 cfs @ 11.97 hrs, Volume= 0.923 af
Outflow = 18.2 cfs @ 11.97 hrs, Volume= 0.923 af, Atten= 0%, Lag= 0.0 min
Primary = 18.2 cfs @ 11.97 hrs, Volume= 0.923 af
Routed to Pond FB12 : FOREBAY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 1,183.45' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,181.00'	**24.0" Round Culvert** L= 715.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,181.00' / 1,139.00' S= 0.0587 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=18.2 cfs @ 11.97 hrs HW=1,183.45' TW=1,138.60' (Dynamic Tailwater)
1=Culvert (Inlet Controls 18.2 cfs @ 5.80 fps)

Pond PHW31: HEADWALL



Summary for Pond RB3: CULVERT

Inflow Area = 17.710 ac, 0.00% Impervious, Inflow Depth = 0.75" for 10-yr event
Inflow = 8.7 cfs @ 12.35 hrs, Volume= 1.100 af
Outflow = 8.2 cfs @ 12.42 hrs, Volume= 1.100 af, Atten= 5%, Lag= 4.3 min
Primary = 8.0 cfs @ 12.42 hrs, Volume= 1.099 af
Routed to Reach RB2 : WETLAND
Secondary = 0.2 cfs @ 12.42 hrs, Volume= 0.001 af
Routed to Reach RB2 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 1,135.72' @ 12.42 hrs Surf.Area= 1,525 sf Storage= 762 cf

Plug-Flow detention time= 0.3 min calculated for 1.100 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (907.4 - 907.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,133.25'	4,635 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

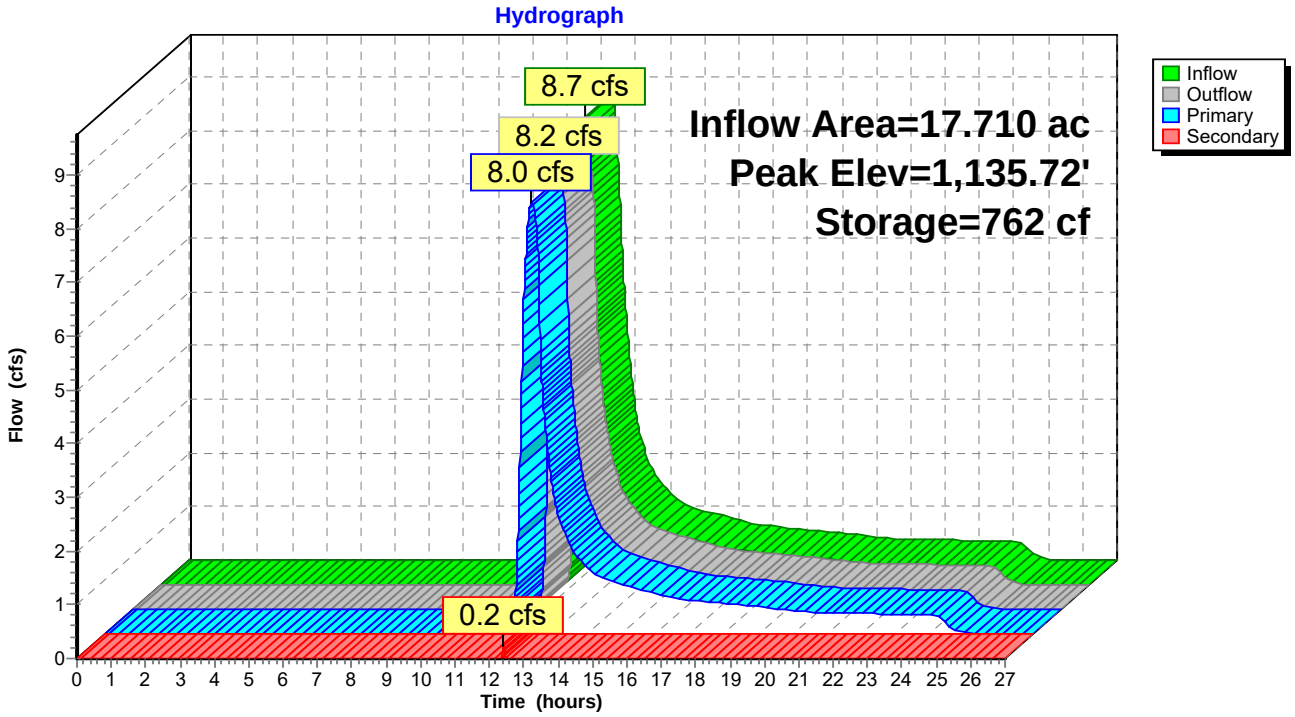
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,133.25	0	0	0
1,134.00	20	8	8
1,135.00	225	123	130
1,136.00	2,025	1,125	1,255
1,137.00	4,735	3,380	4,635

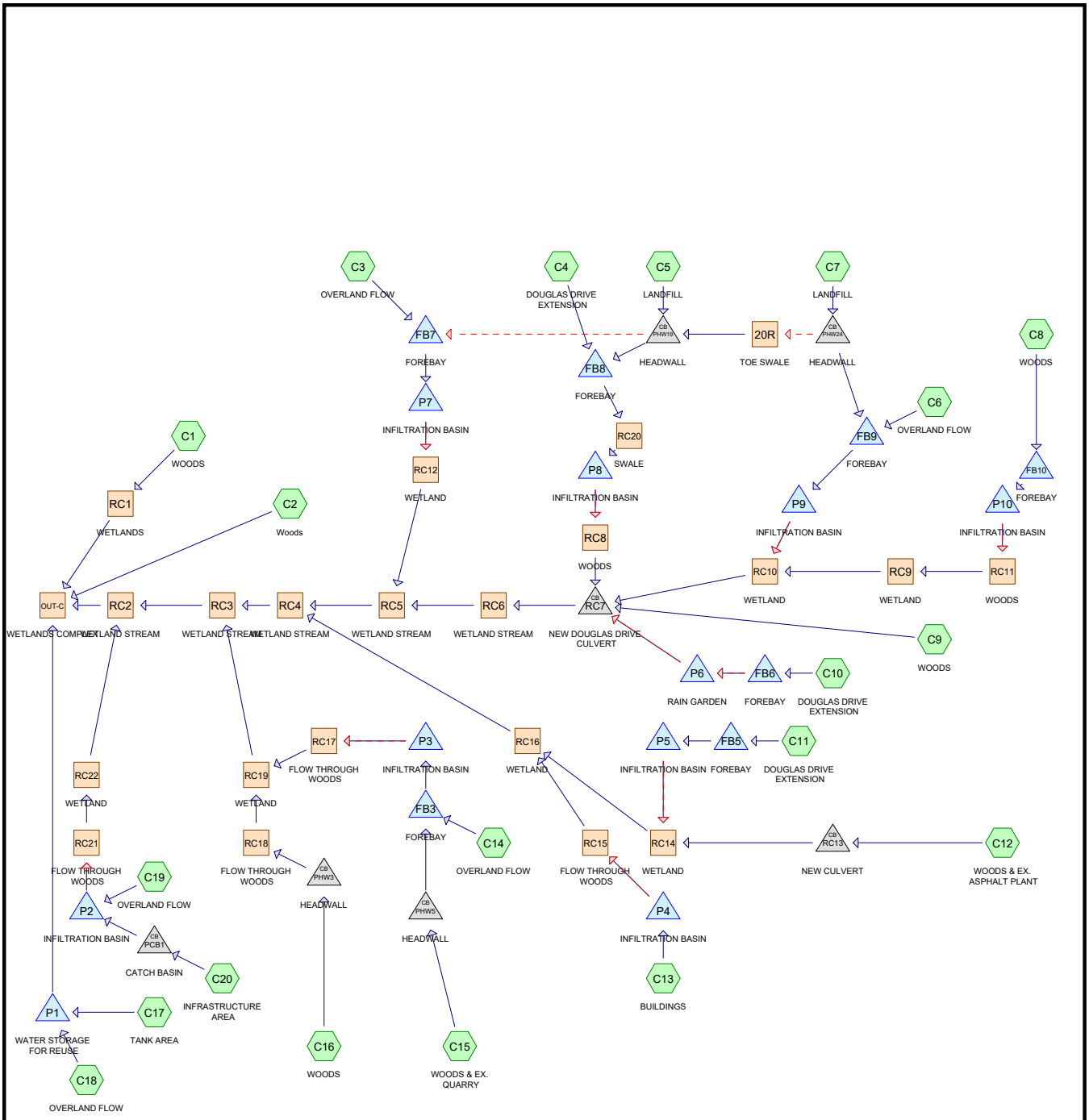
Device	Routing	Invert	Outlet Devices
#1	Primary	1,133.25'	**15.0" Round Culvert** L= 26.3' Ke= 0.500 Inlet / Outlet Invert= 1,133.25' / 1,132.00' S= 0.0475 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	1,135.70'	**24.0' long + 10.0 '/' SideZ x 24.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=8.0 cfs @ 12.42 hrs HW=1,135.72' TW=1,130.21' (Dynamic Tailwater)
1=Culvert (Inlet Controls 8.0 cfs @ 6.54 fps)

Secondary OutFlow Max=0.2 cfs @ 12.42 hrs HW=1,135.72' TW=1,130.21' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 0.2 cfs @ 0.40 fps)

Pond RB3: CULVERT





Routing Diagram for 1101-INTDEV2_To OUTC
Prepared by CMA Engineers, Printed 10/10/2023
HydroCAD® 10.20-3c s/n 10642 © 2023 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "1101 Pre-development.hcp"

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-yr	Type II 24-hr		Default	24.00	1	3.31	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.400	77	Fallow, bare soil, HSG A (C15)
9.740	86	Fallow, bare soil, HSG B (C12, C15)
0.640	96	Gravel surface, HSG A (C11, C12, C15)
2.050	96	Gravel surface, HSG B (C10, C11, C12, C15, C2, C7)
2.770	96	Gravel surface, HSG C (C10, C11, C14, C15, C16, C2, C20, C4, C5, C7)
0.080	96	Gravel surface, HSG D (C10, C5)
3.000	98	Landfill, Geomembrane (C7)
14.570	74	Landfill, Grass (C5, C7)
1.970	30	Meadow, non-grazed, HSG A (C1, C11, C12, C13, C15, C2, C3)
8.530	58	Meadow, non-grazed, HSG B (C11, C12, C15, C16, C2, C7, C8, C9)
23.840	71	Meadow, non-grazed, HSG C (C1, C10, C11, C13, C14, C15, C16, C19, C2, C20, C3, C4, C5, C6, C7, C8, C9)
2.520	78	Meadow, non-grazed, HSG D (C1, C10, C2, C4, C5, C9)
0.600	98	Paved parking, HSG A (C11, C13, C15)
0.270	98	Paved parking, HSG B (C10, C11, C15, C2)
5.930	98	Paved parking, HSG C (C10, C11, C13, C15, C17, C2, C20, C4)
0.020	98	Paved parking, HSG D (C10)
0.010	98	Roofs, HSG A (C11)
0.610	98	Roofs, HSG C (C11, C13, C20)
0.020	98	Unconnected roofs, HSG A (C12)
0.090	98	Unconnected roofs, HSG B (C12)
0.270	98	Water Surface, HSG C (C18)
10.550	30	Woods, Good, HSG A (C1, C12, C2)
44.950	55	Woods, Good, HSG B (C10, C12, C15, C16, C2, C8, C9)
101.220	70	Woods, Good, HSG C (C1, C12, C2, C3, C8, C9)
10.280	77	Woods, Good, HSG D (C1, C12, C2, C9)
245.930	**68**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
15.190	HSG A	C1, C11, C12, C13, C15, C2, C3
65.630	HSG B	C10, C11, C12, C15, C16, C2, C7, C8, C9
134.640	HSG C	C1, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C2, C20, C3, C4, C5, C6, C7, C8, C9
12.900	HSG D	C1, C10, C12, C2, C4, C5, C9
17.570	Other	C5, C7
245.930		**TOTAL AREA**

Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment C1: WOODS Runoff Area=39.170 ac 0.00% Impervious Runoff Depth=0.61"
Flow Length=2,195' Tc=40.4 min CN=64 Runoff=12.7 cfs 1.995 af

Subcatchment C10: DOUGLAS DRIVE Runoff Area=2.010 ac 31.34% Impervious Runoff Depth=1.35"
Flow Length=210' Tc=17.3 min CN=78 Runoff=3.2 cfs 0.227 af

Subcatchment C11: DOUGLAS DRIVE Runoff Area=1.810 ac 75.14% Impervious Runoff Depth=2.27"
Tc=6.0 min CN=90 Runoff=7.1 cfs 0.342 af

Subcatchment C12: WOODS & EX. Runoff Area=54.070 ac 0.20% Impervious Runoff Depth=0.75"
Flow Length=3,290' Tc=43.9 min CN=67 Runoff=21.9 cfs 3.359 af

Subcatchment C13: BUILDINGS Runoff Area=0.970 ac 40.21% Impervious Runoff Depth=1.49"
Tc=6.0 min CN=80 Runoff=2.6 cfs 0.120 af

Subcatchment C14: OVERLAND FLOW Runoff Area=0.930 ac 0.00% Impervious Runoff Depth=1.00"
Tc=6.0 min CN=72 Runoff=1.6 cfs 0.077 af

Subcatchment C15: WOODS & EX. QUARRY Runoff Area=15.910 ac 2.77% Impervious Runoff Depth=0.75"
Flow Length=1,520' Tc=37.9 min CN=67 Runoff=7.2 cfs 0.988 af

Subcatchment C16: WOODS Runoff Area=6.130 ac 0.00% Impervious Runoff Depth=0.31"
Flow Length=950' Tc=39.0 min CN=56 Runoff=0.7 cfs 0.161 af

Subcatchment C17: TANK AREA Runoff Area=0.220 ac 100.00% Impervious Runoff Depth=3.08"
Tc=6.0 min CN=98 Runoff=1.0 cfs 0.056 af

Subcatchment C18: OVERLAND FLOW Runoff Area=0.270 ac 100.00% Impervious Runoff Depth=3.08"
Tc=6.0 min CN=98 Runoff=1.3 cfs 0.069 af

Subcatchment C19: OVERLAND FLOW Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=71 Runoff=1.7 cfs 0.083 af

Subcatchment C2: Woods Runoff Area=61.700 ac 0.26% Impervious Runoff Depth=0.75"
Flow Length=3,605' Tc=29.2 min CN=67 Runoff=33.6 cfs 3.833 af

Subcatchment C20: INFRASTRUCTURE Runoff Area=5.960 ac 66.44% Impervious Runoff Depth=2.18"
Tc=6.0 min CN=89 Runoff=22.6 cfs 1.084 af

Subcatchment C3: OVERLAND FLOW Runoff Area=0.780 ac 0.00% Impervious Runoff Depth=0.70"
Flow Length=100' Slope=0.1300 '/' Tc=20.8 min CN=66 Runoff=0.5 cfs 0.045 af

Subcatchment C4: DOUGLAS DRIVE Runoff Area=1.420 ac 19.72% Impervious Runoff Depth=1.35"
Tc=6.0 min CN=78 Runoff=3.4 cfs 0.160 af

Subcatchment C5: LANDFILL Runoff Area=12.500 ac 0.00% Impervious Runoff Depth=1.23"
Flow Length=1,530' Tc=14.9 min CN=76 Runoff=19.6 cfs 1.280 af

Subcatchment C6: OVERLAND FLOW Runoff Area=1.290 ac 0.00% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=71 Runoff=2.1 cfs 0.102 af

Subcatchment C7: LANDFILL Runoff Area=9.350 ac 32.09% Impervious Runoff Depth=1.77"
Flow Length=2,345' Tc=22.1 min CN=84 Runoff=17.5 cfs 1.383 af

Subcatchment C8: WOODS Runoff Area=14.060 ac 0.00% Impervious Runoff Depth=0.57"
Flow Length=2,265' Tc=39.0 min CN=63 Runoff=4.2 cfs 0.667 af

Subcatchment C9: WOODS Runoff Area=16.330 ac 0.00% Impervious Runoff Depth=0.65"
Flow Length=1,960' Tc=32.0 min CN=65 Runoff=6.9 cfs 0.891 af

Reach 20R: TOE SWALE Avg. Flow Depth=0.61' Max Vel=2.56 fps Inflow=8.2 cfs 0.261 af
n=0.069 L=1,065.0' S=0.0423 '/' Capacity=78.3 cfs Outflow=7.0 cfs 0.261 af

Reach OUT-C: WETLANDS COMPLEX Inflow=58.1 cfs 10.620 af
Outflow=58.1 cfs 10.620 af

Reach RC1: WETLANDS Avg. Flow Depth=0.37' Max Vel=1.66 fps Inflow=12.7 cfs 1.995 af
n=0.035 L=525.0' S=0.0099 '/' Capacity=107.5 cfs Outflow=12.3 cfs 1.995 af

Reach RC10: WETLAND Avg. Flow Depth=0.17' Max Vel=2.07 fps Inflow=3.0 cfs 0.146 af
n=0.035 L=1,010.0' S=0.0433 '/' Capacity=496.7 cfs Outflow=2.4 cfs 0.146 af

Reach RC11: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=255.0' S=0.0784 '/' Capacity=31.5 cfs Outflow=0.0 cfs 0.000 af

Reach RC12: WETLAND Avg. Flow Depth=0.06' Max Vel=1.58 fps Inflow=0.3 cfs 0.005 af
n=0.035 L=310.0' S=0.0905 '/' Capacity=405.6 cfs Outflow=0.2 cfs 0.005 af

Reach RC14: WETLAND Avg. Flow Depth=0.43' Max Vel=4.14 fps Inflow=22.1 cfs 3.375 af
n=0.035 L=440.0' S=0.0500 '/' Capacity=610.7 cfs Outflow=22.1 cfs 3.375 af

Reach RC15: FLOW THROUGH WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=165.0' S=0.2000 '/' Capacity=33.2 cfs Outflow=0.0 cfs 0.000 af

Reach RC16: WETLAND Avg. Flow Depth=0.43' Max Vel=2.98 fps Inflow=22.1 cfs 3.375 af
n=0.035 L=319.0' S=0.0265 '/' Capacity=140.5 cfs Outflow=22.1 cfs 3.375 af

Reach RC17: FLOW THROUGH WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=158.1' S=0.1265 '/' Capacity=80.5 cfs Outflow=0.0 cfs 0.000 af

Reach RC18: FLOW THROUGH WOODS Avg. Flow Depth=0.11' Max Vel=1.07 fps Inflow=0.7 cfs 0.161 af
n=0.100 L=195.0' S=0.1641 '/' Capacity=76.3 cfs Outflow=0.7 cfs 0.161 af

Reach RC19: WETLAND Avg. Flow Depth=0.09' Max Vel=1.40 fps Inflow=0.7 cfs 0.161 af
n=0.035 L=545.0' S=0.0454 '/' Capacity=114.7 cfs Outflow=0.6 cfs 0.161 af

Reach RC2: WETLAND STREAM Avg. Flow Depth=0.35' Max Vel=2.91 fps Inflow=28.0 cfs 4.793 af
n=0.035 L=445.0' S=0.0332 '/' Capacity=1,248.5 cfs Outflow=28.0 cfs 4.791 af

Reach RC20: SWALE Avg. Flow Depth=0.15' Max Vel=2.37 fps Inflow=12.7 cfs 0.484 af
n=0.022 L=64.0' S=0.0156 '/' Capacity=994.2 cfs Outflow=12.7 cfs 0.484 af

Reach RC21: FLOW THROUGH WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=140.0' S=0.1000 '/' Capacity=47.6 cfs Outflow=0.0 cfs 0.000 af

Reach RC22: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=1,155.0' S=0.0515 '/' Capacity=306.0 cfs Outflow=0.0 cfs 0.000 af

Reach RC3: WETLAND STREAM Avg. Flow Depth=0.34' Max Vel=2.97 fps Inflow=28.9 cfs 4.796 af
n=0.035 L=1,160.0' S=0.0351 '/' Capacity=1,284.7 cfs Outflow=28.0 cfs 4.793 af

Reach RC4: WETLAND STREAM Avg. Flow Depth=0.61' Max Vel=4.49 fps Inflow=28.4 cfs 4.636 af
n=0.035 L=645.0' S=0.0376 '/' Capacity=1,660.9 cfs Outflow=28.3 cfs 4.635 af

Reach RC5: WETLAND STREAM Avg. Flow Depth=0.16' Max Vel=2.17 fps Inflow=6.8 cfs 1.261 af
n=0.035 L=205.0' S=0.0498 '/' Capacity=1,529.4 cfs Outflow=6.8 cfs 1.261 af

Reach RC6: WETLAND STREAM Avg. Flow Depth=0.22' Max Vel=1.38 fps Inflow=7.0 cfs 1.257 af
n=0.035 L=315.0' S=0.0135 '/' Capacity=795.1 cfs Outflow=6.8 cfs 1.256 af

Reach RC8: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=210.0' S=0.0464 '/' Capacity=97.7 cfs Outflow=0.0 cfs 0.000 af

Reach RC9: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=955.0' S=0.0335 '/' Capacity=436.9 cfs Outflow=0.0 cfs 0.000 af

Pond FB10: FOREBAY Peak Elev=1,212.07' Storage=2,914 cf Inflow=4.2 cfs 0.667 af
Discarded=0.2 cfs 0.282 af Primary=3.9 cfs 0.360 af Outflow=4.2 cfs 0.642 af

Pond FB3: FOREBAY Peak Elev=1,122.11' Storage=3,053 cf Inflow=7.4 cfs 1.066 af
Discarded=0.2 cfs 0.275 af Primary=7.2 cfs 0.762 af Outflow=7.4 cfs 1.038 af

Pond FB5: FOREBAY Peak Elev=1,133.39' Storage=1,429 cf Inflow=7.1 cfs 0.342 af
Discarded=0.2 cfs 0.154 af Primary=6.8 cfs 0.189 af Outflow=7.0 cfs 0.343 af

Pond FB6: FOREBAY Peak Elev=1,125.61' Storage=3,946 cf Inflow=3.2 cfs 0.227 af
Primary=0.0 cfs 0.000 af Secondary=0.4 cfs 0.227 af Outflow=0.4 cfs 0.227 af

Pond FB7: FOREBAY Peak Elev=1,142.17' Storage=4,196 cf Inflow=12.4 cfs 0.816 af
Discarded=0.3 cfs 0.343 af Primary=12.1 cfs 0.465 af Outflow=12.4 cfs 0.807 af

Pond FB8: FOREBAY Peak Elev=1,151.31' Storage=6,198 cf Inflow=13.2 cfs 0.931 af
Discarded=0.4 cfs 0.446 af Primary=12.7 cfs 0.484 af Outflow=13.1 cfs 0.930 af

Pond FB9: FOREBAY Peak Elev=1,177.16' Storage=4,342 cf Inflow=9.7 cfs 1.224 af
Discarded=0.3 cfs 0.415 af Primary=9.4 cfs 0.777 af Outflow=9.7 cfs 1.192 af

Pond P1: WATER STORAGE FOR REUSE Peak Elev=1,136.04' Storage=5,473 cf Inflow=2.3 cfs 0.126 af
Outflow=0.0 cfs 0.000 af

Pond P10: INFILTRATION BASIN Peak Elev=1,208.00' Storage=5,966 cf Inflow=3.9 cfs 0.360 af
Discarded=0.8 cfs 0.360 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.8 cfs 0.360 af

Pond P2: INFILTRATION BASIN Peak Elev=1,108.83' Storage=23,813 cf Inflow=24.3 cfs 1.167 af
Discarded=1.2 cfs 1.167 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=1.2 cfs 1.167 af

Pond P3: INFILTRATION BASIN Peak Elev=1,118.98' Storage=17,483 cf Inflow=7.2 cfs 0.762 af
Discarded=0.7 cfs 0.724 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.7 cfs 0.724 af

Pond P4: INFILTRATION BASIN Peak Elev=1,139.13' Storage=940 cf Inflow=2.6 cfs 0.120 af
Discarded=0.8 cfs 0.120 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.8 cfs 0.120 af

Pond P5: INFILTRATION BASIN Peak Elev=1,132.31' Storage=5,471 cf Inflow=6.8 cfs 0.189 af
Discarded=0.4 cfs 0.173 af Primary=0.7 cfs 0.016 af Secondary=0.0 cfs 0.000 af Outflow=1.1 cfs 0.189 af

Pond P6: RAIN GARDEN Peak Elev=1,124.44' Storage=1,820 cf Inflow=0.4 cfs 0.227 af
Primary=0.4 cfs 0.220 af Secondary=0.0 cfs 0.000 af Outflow=0.4 cfs 0.220 af

Pond P7: INFILTRATION BASIN Peak Elev=1,140.13' Storage=12,148 cf Inflow=12.1 cfs 0.465 af
Discarded=1.4 cfs 0.459 af Primary=0.3 cfs 0.005 af Secondary=0.0 cfs 0.000 af Outflow=1.6 cfs 0.465 af

Pond P8: INFILTRATION BASIN Peak Elev=1,147.08' Storage=14,558 cf Inflow=12.7 cfs 0.484 af
Discarded=0.9 cfs 0.484 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.9 cfs 0.484 af

Pond P9: INFILTRATION BASIN Peak Elev=1,175.25' Storage=13,963 cf Inflow=9.4 cfs 0.777 af
Discarded=0.9 cfs 0.631 af Primary=3.0 cfs 0.146 af Secondary=0.0 cfs 0.000 af Outflow=3.9 cfs 0.777 af

Pond PCB1: CATCH BASIN Peak Elev=1,147.19' Inflow=22.6 cfs 1.084 af
15.0" Round Culvert n=0.013 L=145.3' S=0.1445 '/' Outflow=22.6 cfs 1.084 af

Pond PHW19: HEADWALL Peak Elev=1,170.64' Inflow=23.9 cfs 1.541 af
Primary=12.0 cfs 0.771 af Secondary=12.0 cfs 0.771 af Outflow=23.9 cfs 1.541 af

Pond PHW24: HEADWALL Peak Elev=1,215.38' Inflow=17.5 cfs 1.383 af
Primary=9.2 cfs 1.122 af Secondary=8.2 cfs 0.261 af Outflow=17.5 cfs 1.383 af

Pond PHW3: HEADWALL Peak Elev=1,153.88' Inflow=0.7 cfs 0.161 af
15.0" Round Culvert n=0.013 L=541.7' S=0.0471 '/' Outflow=0.7 cfs 0.161 af

Pond PHW5: HEADWALL Peak Elev=1,145.60' Inflow=7.2 cfs 0.988 af
15.0" Round Culvert n=0.013 L=353.3' S=0.0609 '/' Outflow=7.2 cfs 0.988 af

Pond RC13: NEW CULVERT Peak Elev=1,127.34' Inflow=21.9 cfs 3.359 af
60.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=54.8' S=0.0182 '/' Outflow=21.9 cfs 3.359 af

Pond RC7: NEW DOUGLAS DRIVE CULVERT Peak Elev=1,110.64' Inflow=7.0 cfs 1.257 af
144.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=43.2' S=0.0058 '/' Outflow=7.0 cfs 1.257 af

Total Runoff Area = 245.930 ac Runoff Volume = 16.925 af Average Runoff Depth = 0.83"
95.60% Pervious = 235.110 ac 4.40% Impervious = 10.820 ac

Summary for Subcatchment C1: WOODS

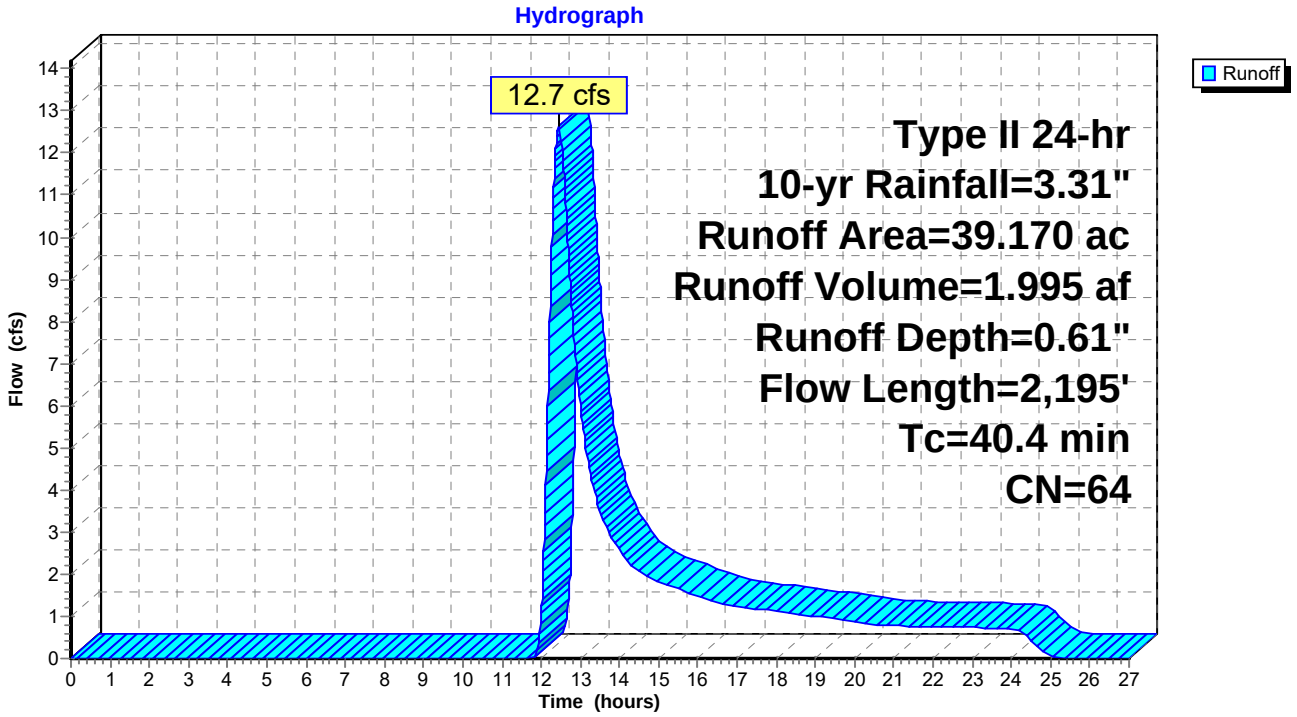
Runoff = 12.7 cfs @ 12.44 hrs, Volume= 1.995 af, Depth= 0.61"
Routed to Reach RC1 : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
6.300	30	Woods, Good, HSG A
2.430	77	Woods, Good, HSG D
0.080	78	Meadow, non-grazed, HSG D
0.270	30	Meadow, non-grazed, HSG A
0.840	71	Meadow, non-grazed, HSG C
29.250	70	Woods, Good, HSG C
39.170	64	Weighted Average
39.170	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.2150	0.10		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
20.3	835	0.0750	0.68		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
3.1	1,260	0.0450	6.87	228.95	**Parabolic Channel,** W=50.00' D=1.00' Area=33.3 sf Perim=50.1' n= 0.035 Earth, dense weeds
40.4	2,195	Total			

Subcatchment C1: WOODS



Summary for Subcatchment C10: DOUGLAS DRIVE EXTENSION

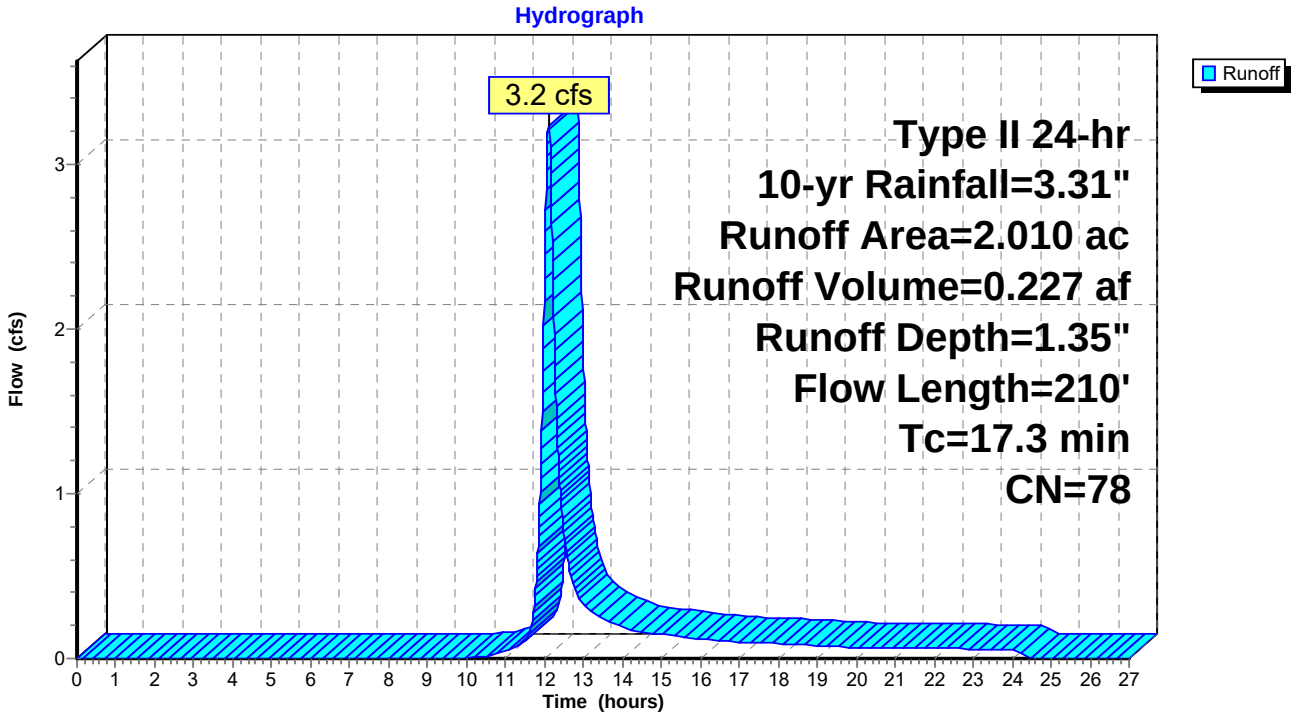
Runoff = 3.2 cfs @ 12.10 hrs, Volume= 0.227 af, Depth= 1.35"
Routed to Pond FB6 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.380	55	Woods, Good, HSG B
0.020	98	Paved parking, HSG D
0.010	96	Gravel surface, HSG D
0.120	98	Paved parking, HSG B
0.020	96	Gravel surface, HSG B
0.490	98	Paved parking, HSG C
0.090	96	Gravel surface, HSG C
0.870	71	Meadow, non-grazed, HSG C
0.010	78	Meadow, non-grazed, HSG D
2.010	78	Weighted Average
1.380	69	68.66% Pervious Area
0.630	98	31.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	100	0.2800	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
2.0	110	0.1300	0.90		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
17.3	210	Total			

Subcatchment C10: DOUGLAS DRIVE EXTENSION



Summary for Subcatchment C11: DOUGLAS DRIVE EXTENSION

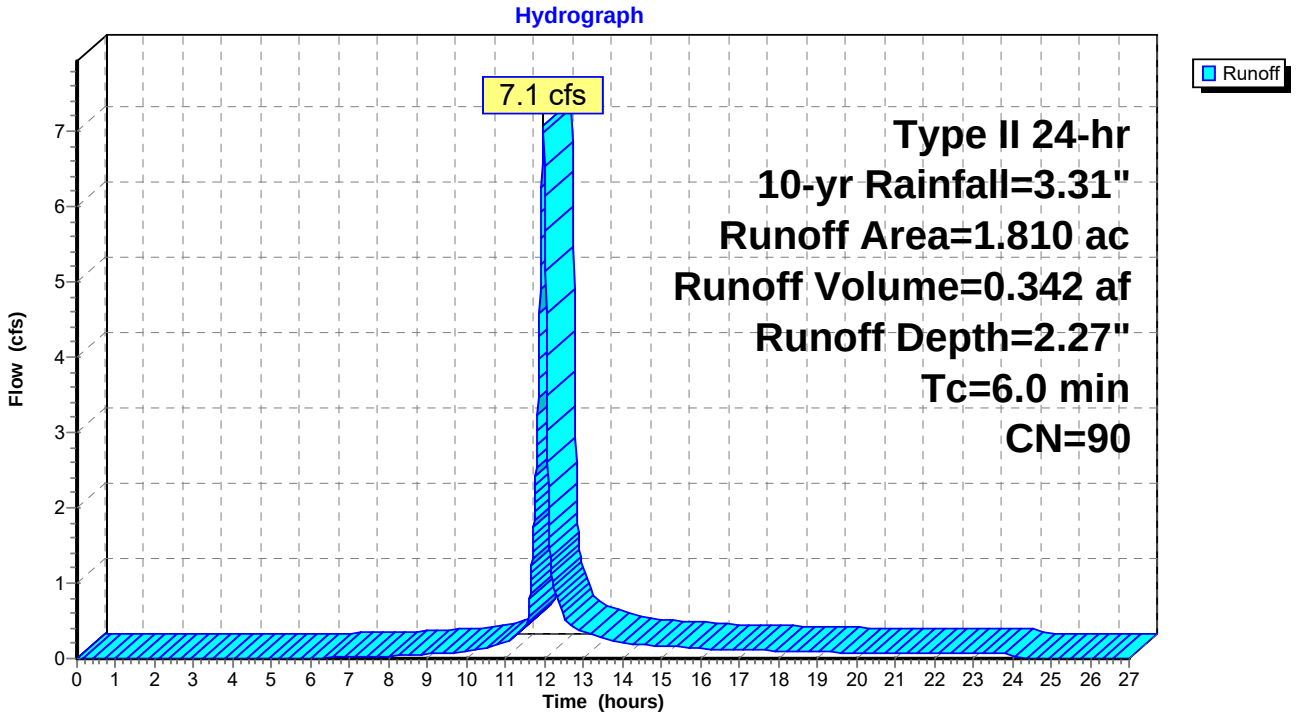
Runoff = 7.1 cfs @ 11.97 hrs, Volume= 0.342 af, Depth= 2.27"
Routed to Pond FB5 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.180	98	Roofs, HSG C
0.010	98	Roofs, HSG A
0.490	98	Paved parking, HSG A
0.040	96	Gravel surface, HSG A
0.590	98	Paved parking, HSG C
0.020	96	Gravel surface, HSG C
0.090	98	Paved parking, HSG B
0.010	96	Gravel surface, HSG B
0.080	30	Meadow, non-grazed, HSG A
0.020	58	Meadow, non-grazed, HSG B
0.280	71	Meadow, non-grazed, HSG C
1.810	90	Weighted Average
0.450	67	24.86% Pervious Area
1.360	98	75.14% Impervious Area

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

Subcatchment C11: DOUGLAS DRIVE EXTENSION



Summary for Subcatchment C12: WOODS & EX. ASPHALT PLANT

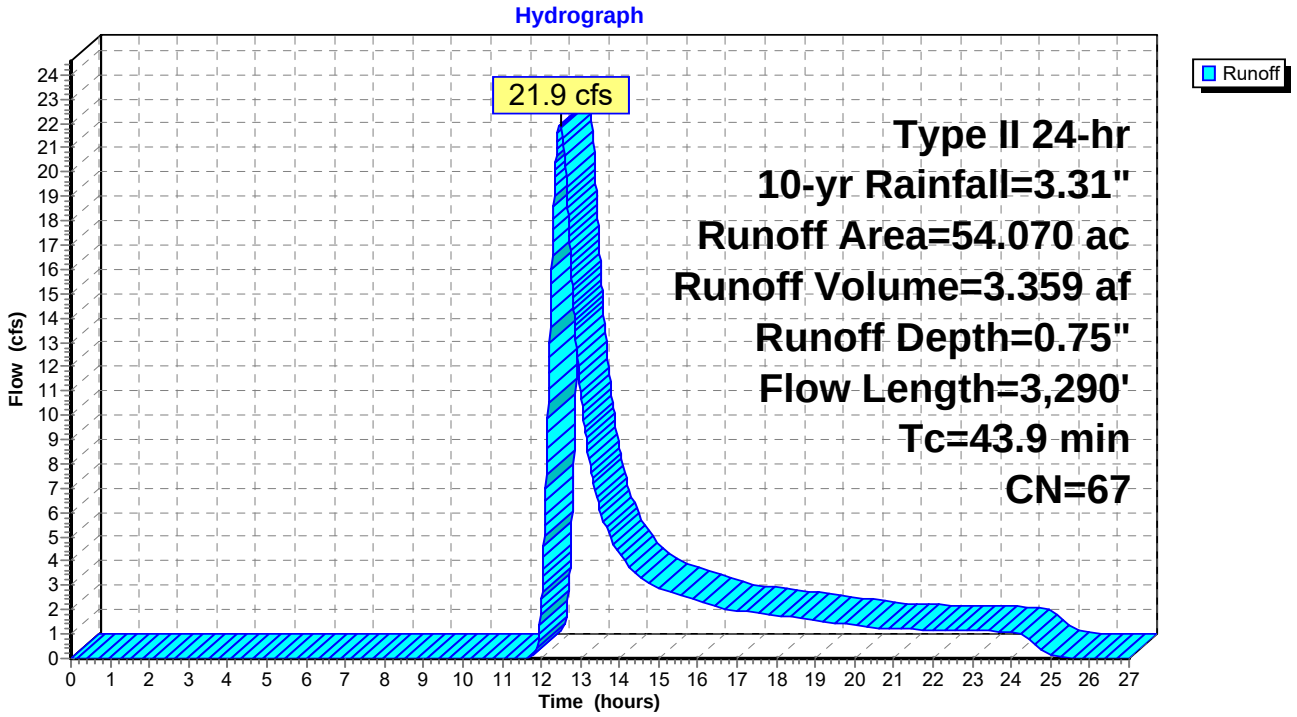
Runoff = 21.9 cfs @ 12.48 hrs, Volume= 3.359 af, Depth= 0.75"
Routed to Pond RC13 : NEW CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
17.950	55	Woods, Good, HSG B
1.980	58	Meadow, non-grazed, HSG B
6.860	86	Fallow, bare soil, HSG B
0.490	30	Meadow, non-grazed, HSG A
0.730	30	Woods, Good, HSG A
0.090	98	Unconnected roofs, HSG B
0.020	98	Unconnected roofs, HSG A
0.510	96	Gravel surface, HSG A
1.100	96	Gravel surface, HSG B
3.700	77	Woods, Good, HSG D
20.640	70	Woods, Good, HSG C
54.070	67	Weighted Average
53.960	67	99.80% Pervious Area
0.110	98	0.20% Impervious Area
0.110		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	100	0.1150	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
16.3	600	0.0600	0.61		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
5.5	2,400	0.0200	7.24	386.23	**Parabolic Channel, wetland** W=40.00' D=2.00' Area=53.3 sf Perim=40.3' n= 0.035
0.3	190	0.0400	11.89	79.24	**Parabolic Channel, stream** W=5.00' D=2.00' Area=6.7 sf Perim=6.7' n= 0.025
43.9	3,290	Total			

Subcatchment C12: WOODS & EX. ASPHALT PLANT



Summary for Subcatchment C13: BUILDINGS

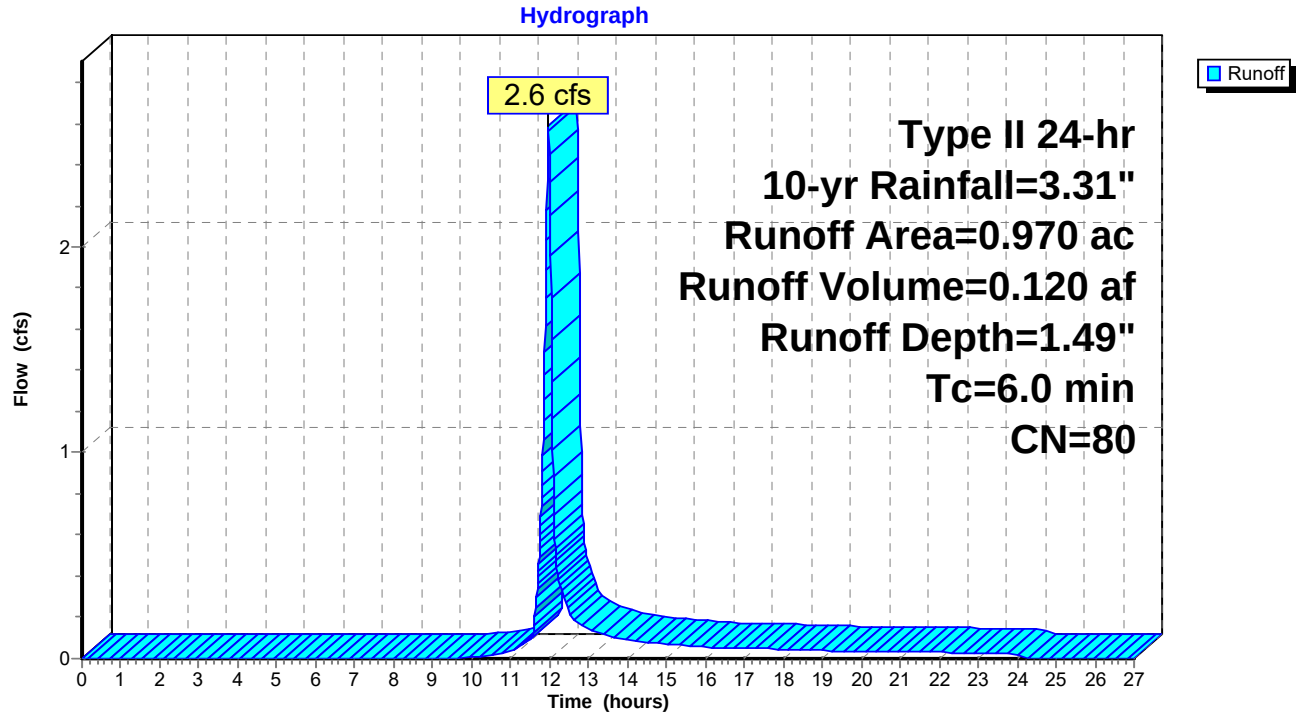
Runoff = 2.6 cfs @ 11.98 hrs, Volume= 0.120 af, Depth= 1.49"
Routed to Pond P4 : INFILTRATION BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.310	98	Paved parking, HSG C
0.060	98	Roofs, HSG C
0.020	98	Paved parking, HSG A
0.050	30	Meadow, non-grazed, HSG A
0.530	71	Meadow, non-grazed, HSG C
0.970	80	Weighted Average
0.580	67	59.79% Pervious Area
0.390	98	40.21% Impervious Area

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

Subcatchment C13: BUILDINGS



Summary for Subcatchment C14: OVERLAND FLOW

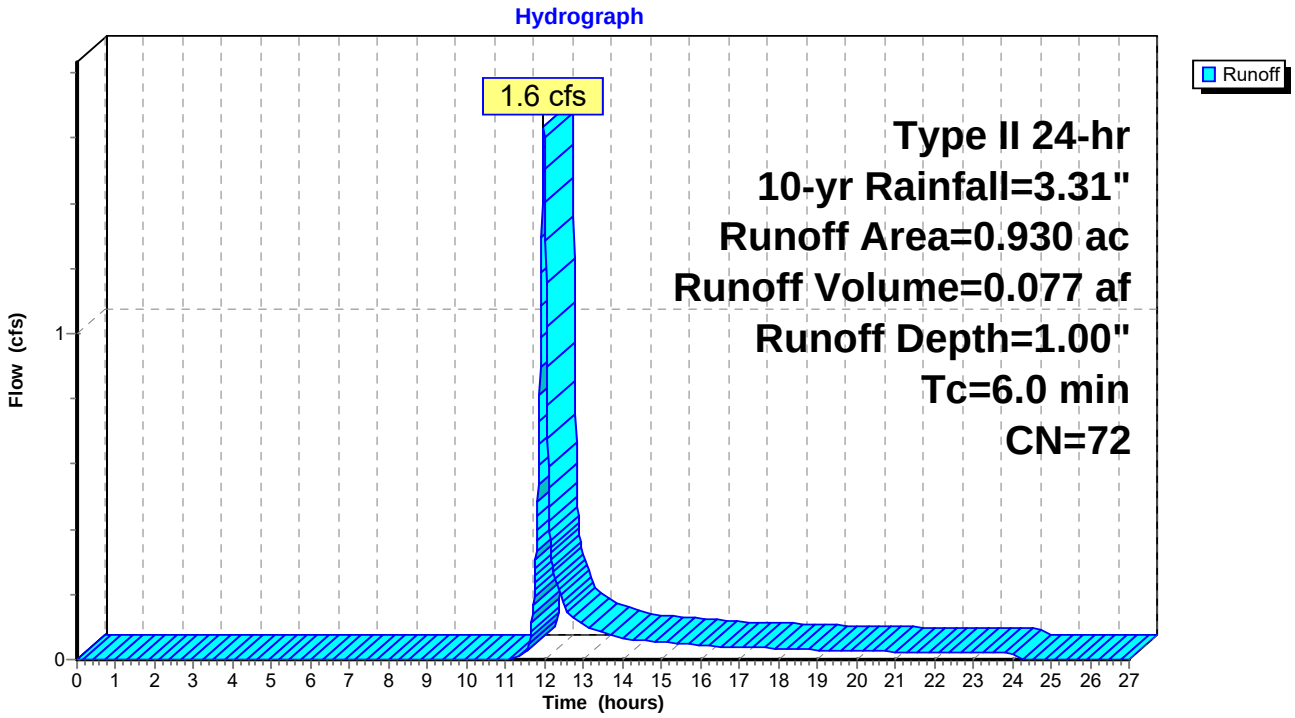
Runoff = 1.6 cfs @ 11.98 hrs, Volume= 0.077 af, Depth= 1.00"
Routed to Pond FB3 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.890	71	Meadow, non-grazed, HSG C
0.040	96	Gravel surface, HSG C
0.930	72	Weighted Average
0.930	72	100.00% Pervious Area

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

Subcatchment C14: OVERLAND FLOW



Summary for Subcatchment C15: WOODS & EX. QUARRY

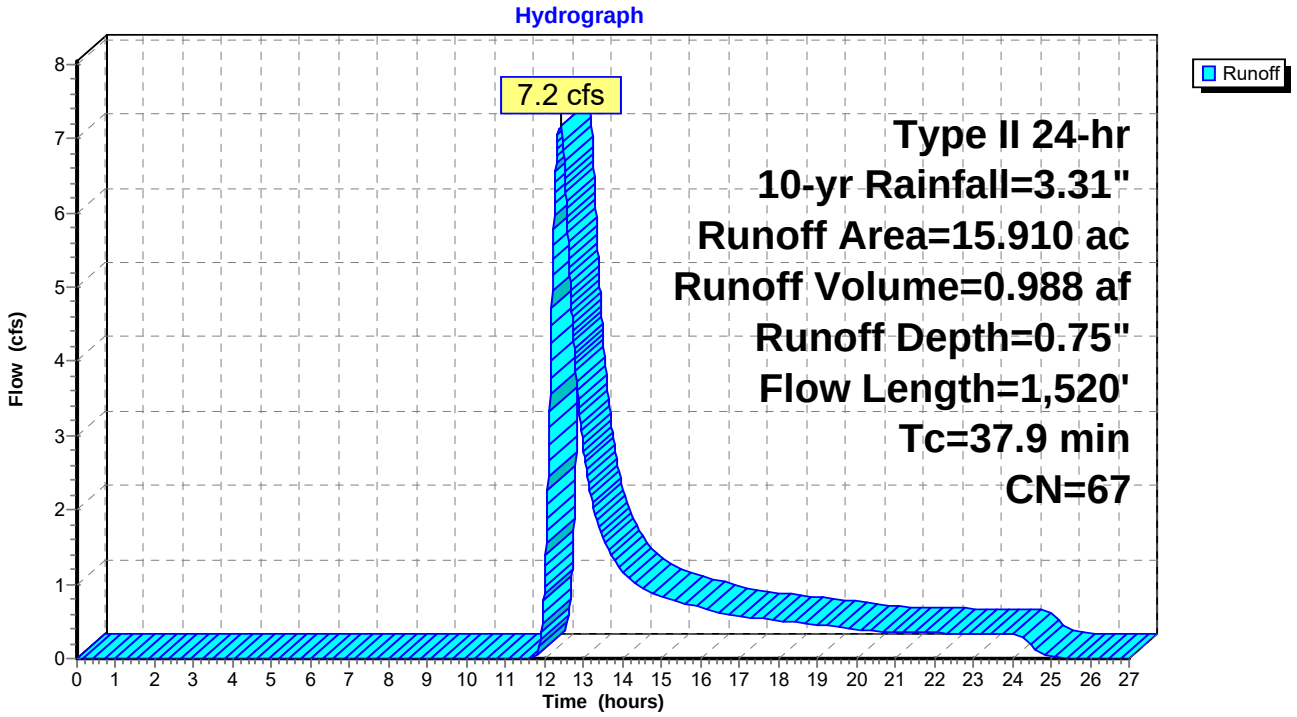
Runoff = 7.2 cfs @ 12.42 hrs, Volume= 0.988 af, Depth= 0.75"
Routed to Pond PHW5 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
6.680	55	Woods, Good, HSG B
3.050	58	Meadow, non-grazed, HSG B
2.880	86	Fallow, bare soil, HSG B
1.400	77	Fallow, bare soil, HSG A
0.090	96	Gravel surface, HSG A
0.730	96	Gravel surface, HSG B
0.050	96	Gravel surface, HSG C
0.320	98	Paved parking, HSG C
0.090	98	Paved parking, HSG A
0.030	98	Paved parking, HSG B
0.090	58	Meadow, non-grazed, HSG B
0.170	30	Meadow, non-grazed, HSG A
0.330	71	Meadow, non-grazed, HSG C
15.910	67	Weighted Average
15.470	66	97.23% Pervious Area
0.440	98	2.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.1750	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
16.7	750	0.0900	0.75		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
2.1	505	0.0625	4.03		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	165	0.0100	4.11	12.32	**Trap/Vee/Rect Channel Flow,** Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00' n= 0.022 Earth, clean & straight
37.9	1,520	Total			

Subcatchment C15: WOODS & EX. QUARRY



Summary for Subcatchment C16: WOODS

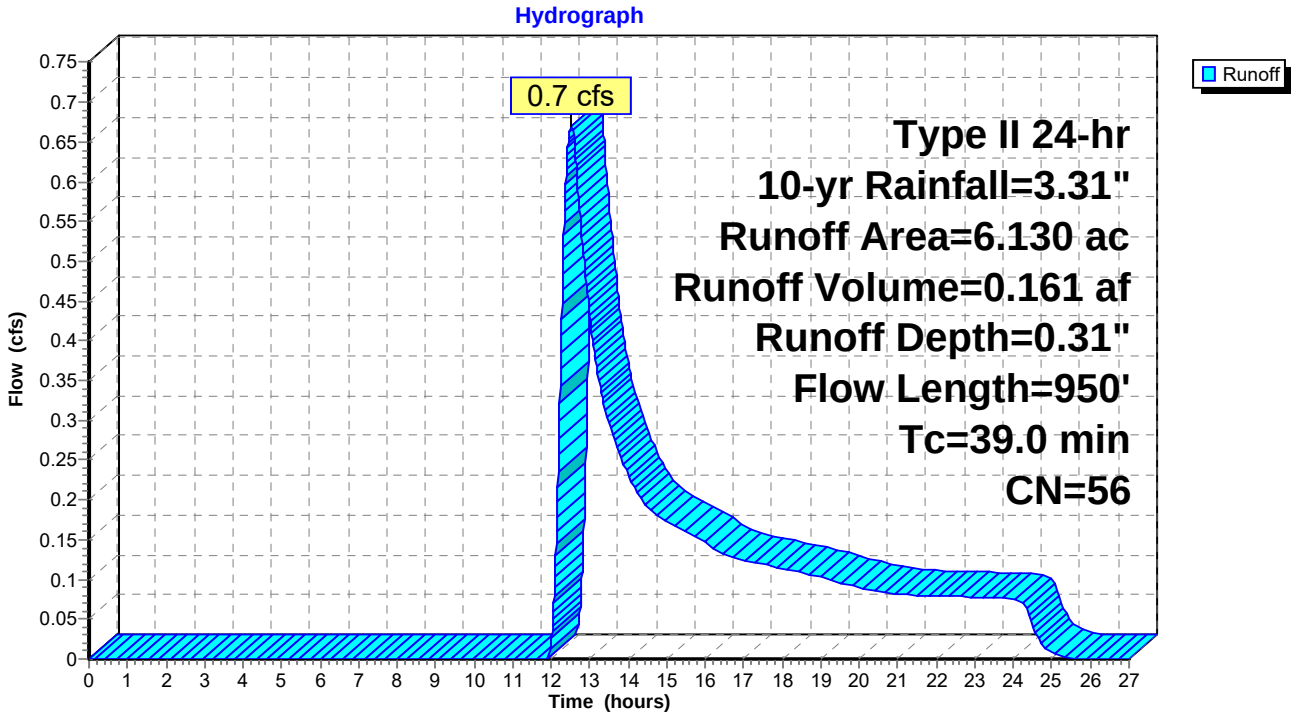
Runoff = 0.7 cfs @ 12.52 hrs, Volume= 0.161 af, Depth= 0.31"
Routed to Pond PHW3 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.030	96	Gravel surface, HSG C
4.350	55	Woods, Good, HSG B
1.630	58	Meadow, non-grazed, HSG B
0.120	71	Meadow, non-grazed, HSG C
6.130	56	Weighted Average
6.130	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.6	100	0.0850	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
12.0	540	0.0900	0.75		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
2.4	310	0.0925	2.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
39.0	950	Total			

Subcatchment C16: WOODS



Summary for Subcatchment C17: TANK AREA

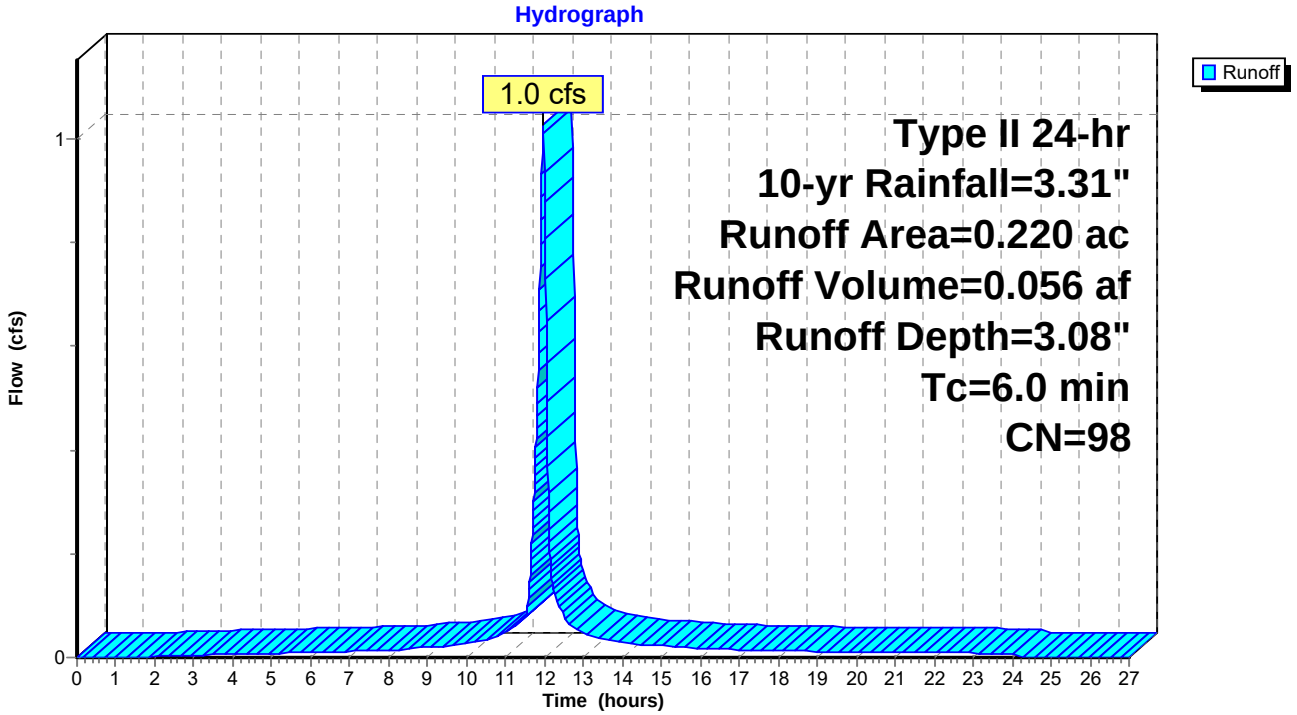
Runoff = 1.0 cfs @ 11.97 hrs, Volume= 0.056 af, Depth= 3.08"
Routed to Pond P1 : WATER STORAGE FOR REUSE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.220	98	Paved parking, HSG C
0.220	98	100.00% Impervious Area

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

Subcatchment C17: TANK AREA



Summary for Subcatchment C18: OVERLAND FLOW

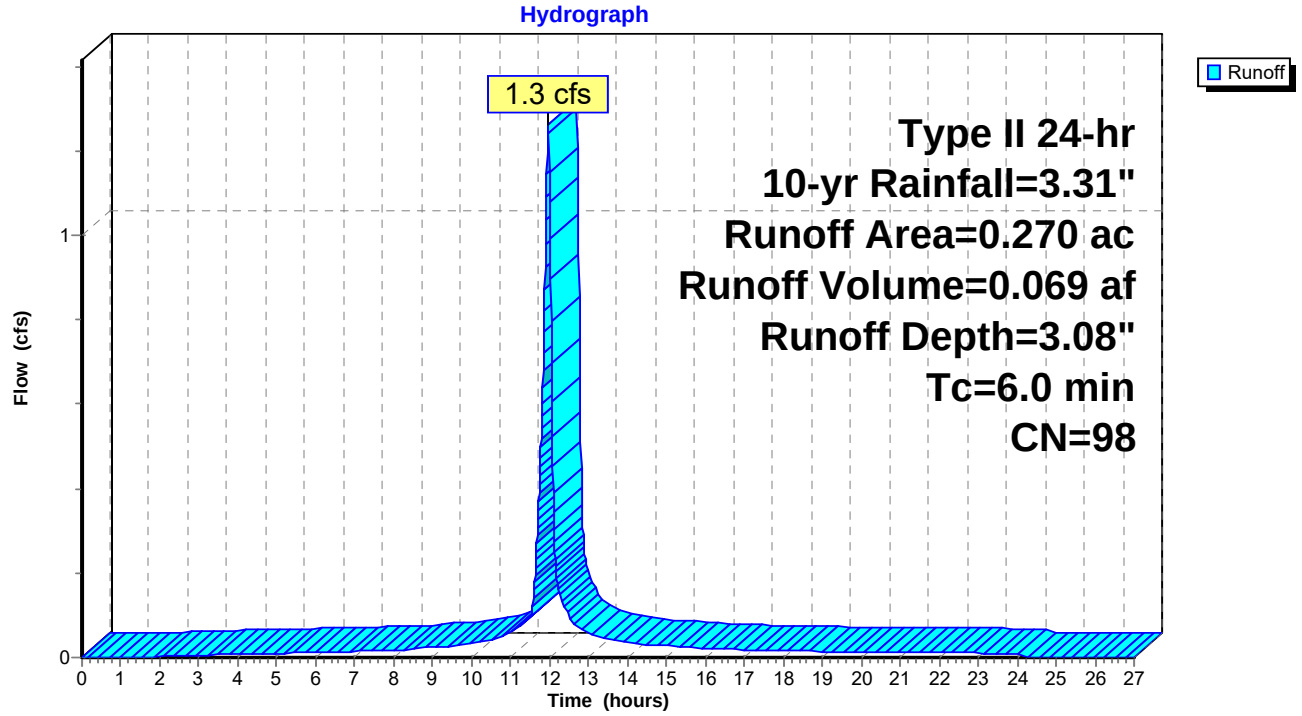
Runoff = 1.3 cfs @ 11.97 hrs, Volume= 0.069 af, Depth= 3.08"
Routed to Pond P1 : WATER STORAGE FOR REUSE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.270	98	Water Surface, HSG C
0.270	98	100.00% Impervious Area

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

Subcatchment C18: OVERLAND FLOW



Summary for Subcatchment C19: OVERLAND FLOW

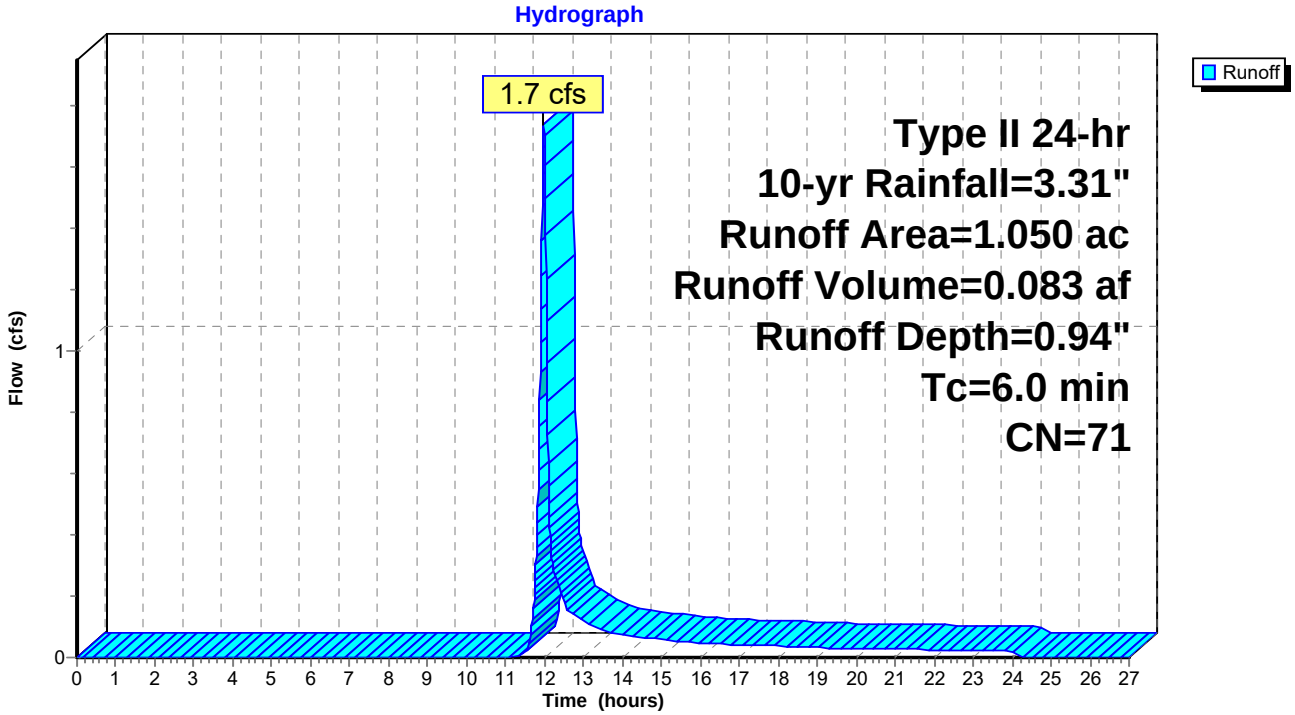
Runoff = 1.7 cfs @ 11.98 hrs, Volume= 0.083 af, Depth= 0.94"
Routed to Pond P2 : INFILTRATION BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
1.050	71	Meadow, non-grazed, HSG C
1.050	71	100.00% Pervious Area

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

Subcatchment C19: OVERLAND FLOW



Summary for Subcatchment C2: Woods

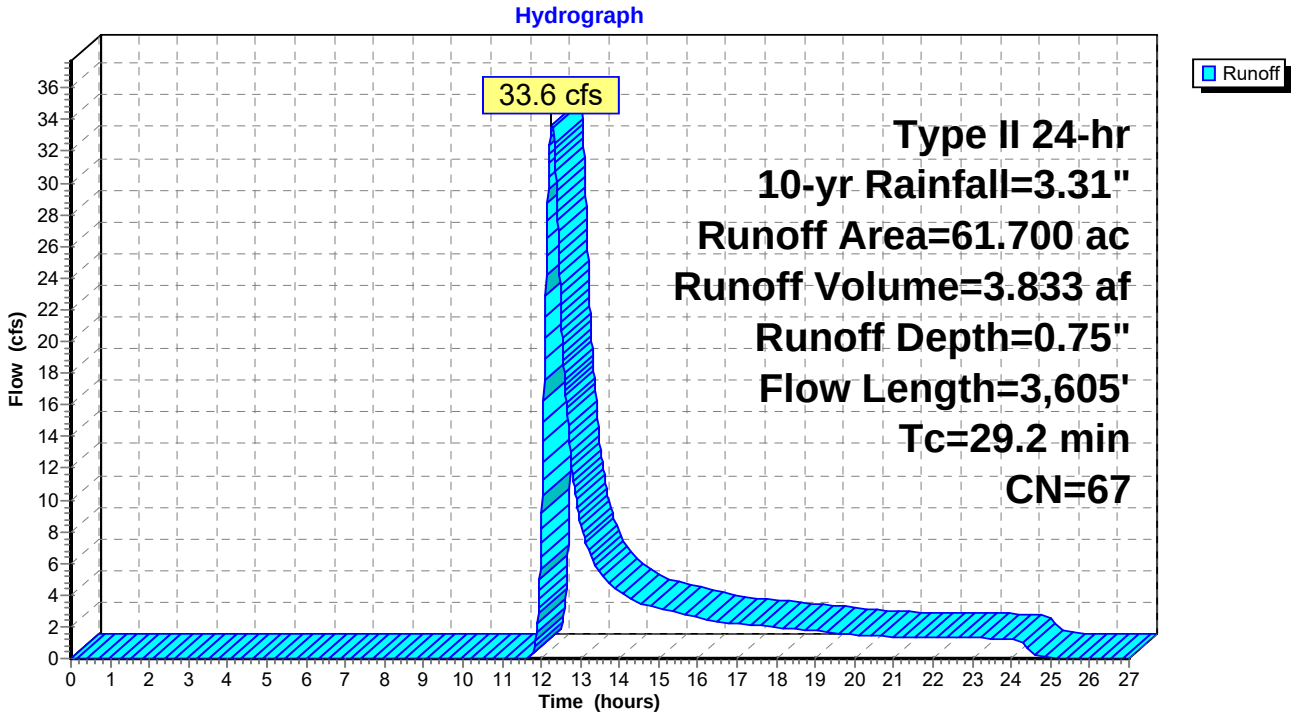
Runoff = 33.6 cfs @ 12.27 hrs, Volume= 3.833 af, Depth= 0.75"
Routed to Reach OUT-C : WETLANDS COMPLEX

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
3.520	30	Woods, Good, HSG A
0.830	30	Meadow, non-grazed, HSG A
3.210	55	Woods, Good, HSG B
0.690	58	Meadow, non-grazed, HSG B
3.540	77	Woods, Good, HSG D
2.000	78	Meadow, non-grazed, HSG D
4.920	71	Meadow, non-grazed, HSG C
0.130	98	Paved parking, HSG C
0.030	98	Paved parking, HSG B
0.400	96	Gravel surface, HSG C
0.020	96	Gravel surface, HSG B
42.410	70	Woods, Good, HSG C
61.700	67	Weighted Average
61.540	67	99.74% Pervious Area
0.160	98	0.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	100	0.1400	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
3.4	190	0.1350	0.92		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.0	660	0.0500	11.37	379.12	**Parabolic Channel,** W=25.00' D=2.00' Area=33.3 sf Perim=25.4' n= 0.035 Earth, dense weeds
4.6	2,655	0.0350	9.62	1,282.06	**Parabolic Channel,** W=100.00' D=2.00' Area=133.3 sf Perim=100.1' n= 0.035 Earth, dense weeds
29.2	3,605	Total			

Subcatchment C2: Woods



Summary for Subcatchment C20: INFRASTRUCTURE AREA

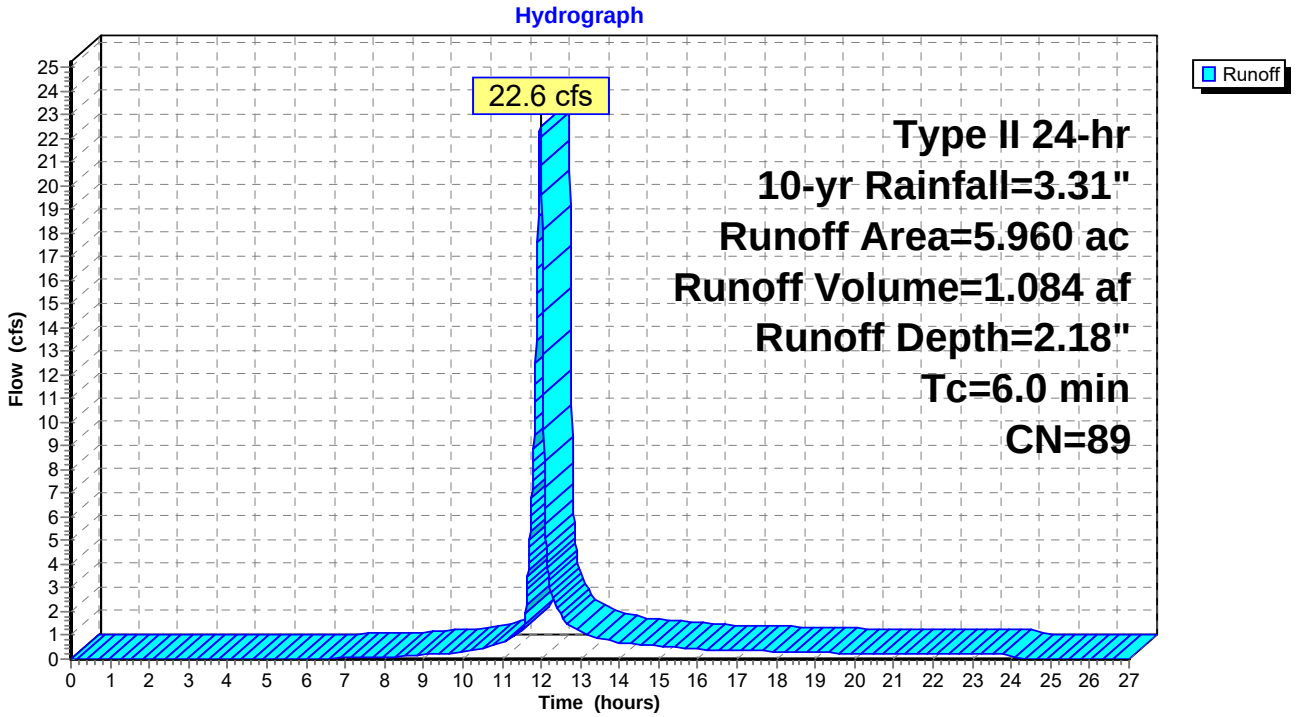
Runoff = 22.6 cfs @ 11.97 hrs, Volume= 1.084 af, Depth= 2.18"
Routed to Pond PCB1 : CATCH BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
3.590	98	Paved parking, HSG C
0.370	98	Roofs, HSG C
0.070	96	Gravel surface, HSG C
1.930	71	Meadow, non-grazed, HSG C
5.960	89	Weighted Average
2.000	72	33.56% Pervious Area
3.960	98	66.44% Impervious Area

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

Subcatchment C20: INFRASTRUCTURE AREA



Summary for Subcatchment C3: OVERLAND FLOW

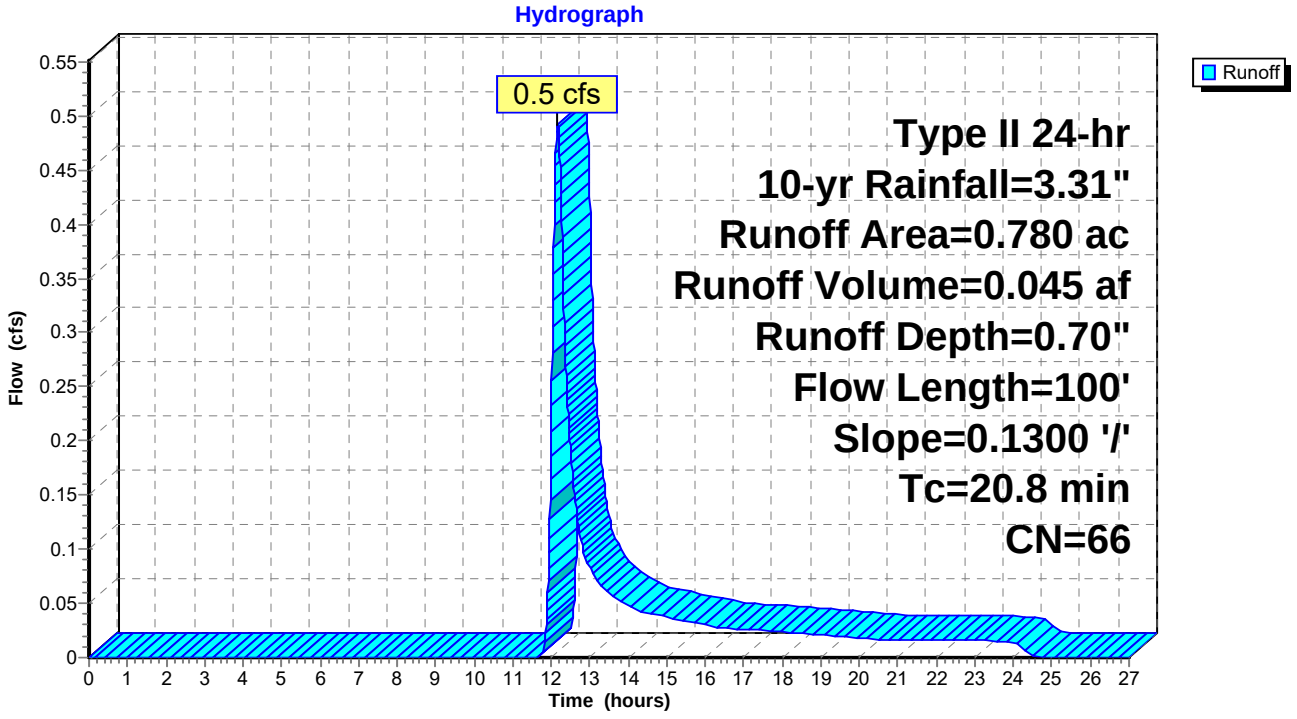
Runoff = 0.5 cfs @ 12.17 hrs, Volume= 0.045 af, Depth= 0.70"
Routed to Pond FB7 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.300	70	Woods, Good, HSG C
0.080	30	Meadow, non-grazed, HSG A
0.400	71	Meadow, non-grazed, HSG C
0.780	66	Weighted Average
0.780	66	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	100	0.1300	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"

Subcatchment C3: OVERLAND FLOW



Summary for Subcatchment C4: DOUGLAS DRIVE EXTENSION

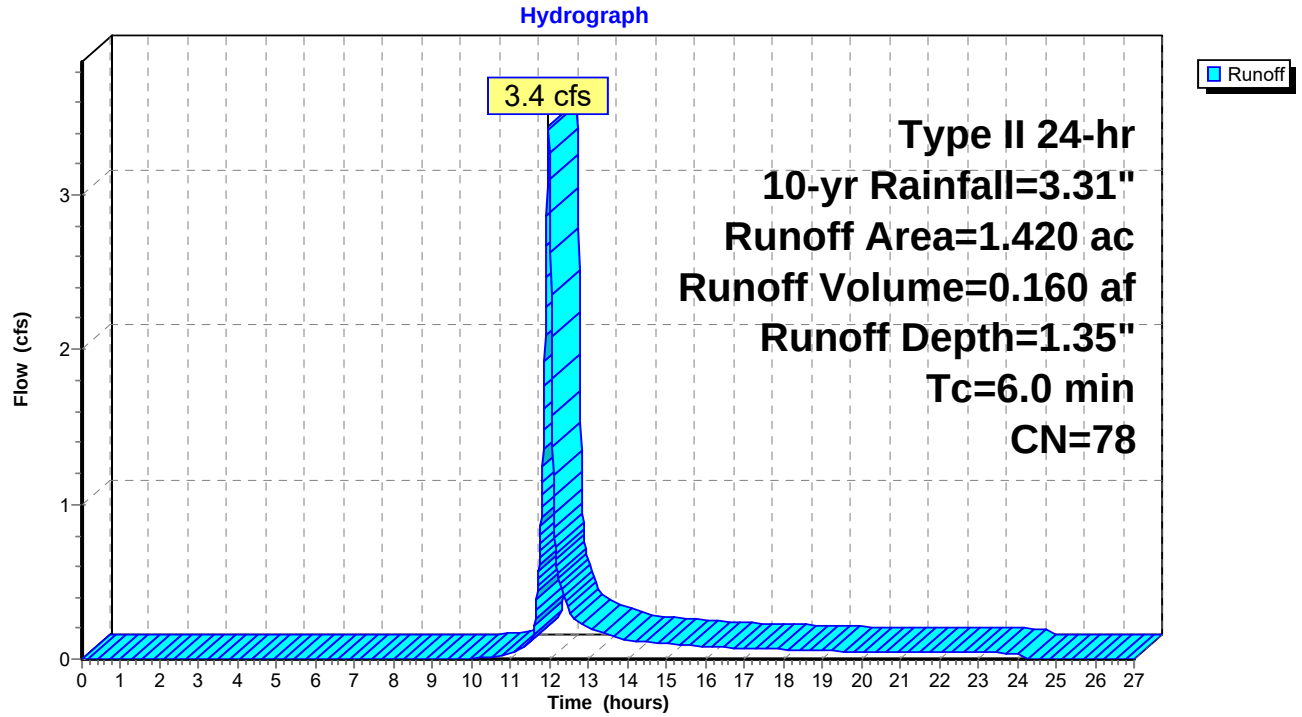
Runoff = 3.4 cfs @ 11.98 hrs, Volume= 0.160 af, Depth= 1.35"
Routed to Pond FB8 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.280	98	Paved parking, HSG C
0.070	96	Gravel surface, HSG C
0.150	78	Meadow, non-grazed, HSG D
0.920	71	Meadow, non-grazed, HSG C
1.420	78	Weighted Average
1.140	73	80.28% Pervious Area
0.280	98	19.72% Impervious Area

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

Subcatchment C4: DOUGLAS DRIVE EXTENSION



Summary for Subcatchment C5: LANDFILL

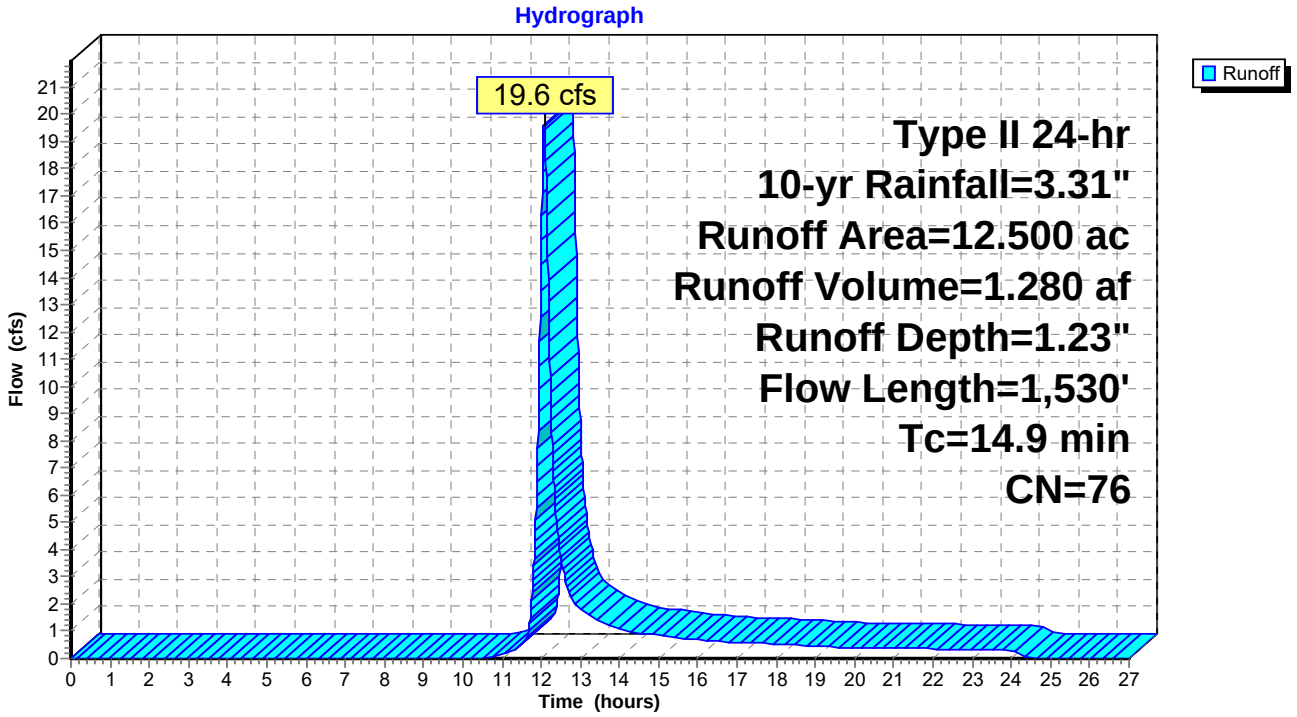
Runoff = 19.6 cfs @ 12.07 hrs, Volume= 1.280 af, Depth= 1.23"
Routed to Pond PHW19 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

	Area (ac)	CN	Description
	1.090	96	Gravel surface, HSG C
	0.070	96	Gravel surface, HSG D
	0.010	78	Meadow, non-grazed, HSG D
*	10.500	74	Landfill, Grass
	0.830	71	Meadow, non-grazed, HSG C
	12.500	76	Weighted Average
	12.500	76	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	75	0.0500	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.32"
1.8	25	0.3300	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.32"
0.1	15	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	175	0.0400	4.79	67.04	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 2.0 '/' Top.W=11.00' n= 0.069 Riprap, 6-inch
0.7	460	0.3300	11.54	129.83	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=1.50' Z= 3.0 '/' Top.W=12.00' n= 0.069 Riprap, 6-inch
2.5	780	0.0500	5.29	95.16	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
14.9	1,530	Total			

Subcatchment C5: LANDFILL



Summary for Subcatchment C6: OVERLAND FLOW

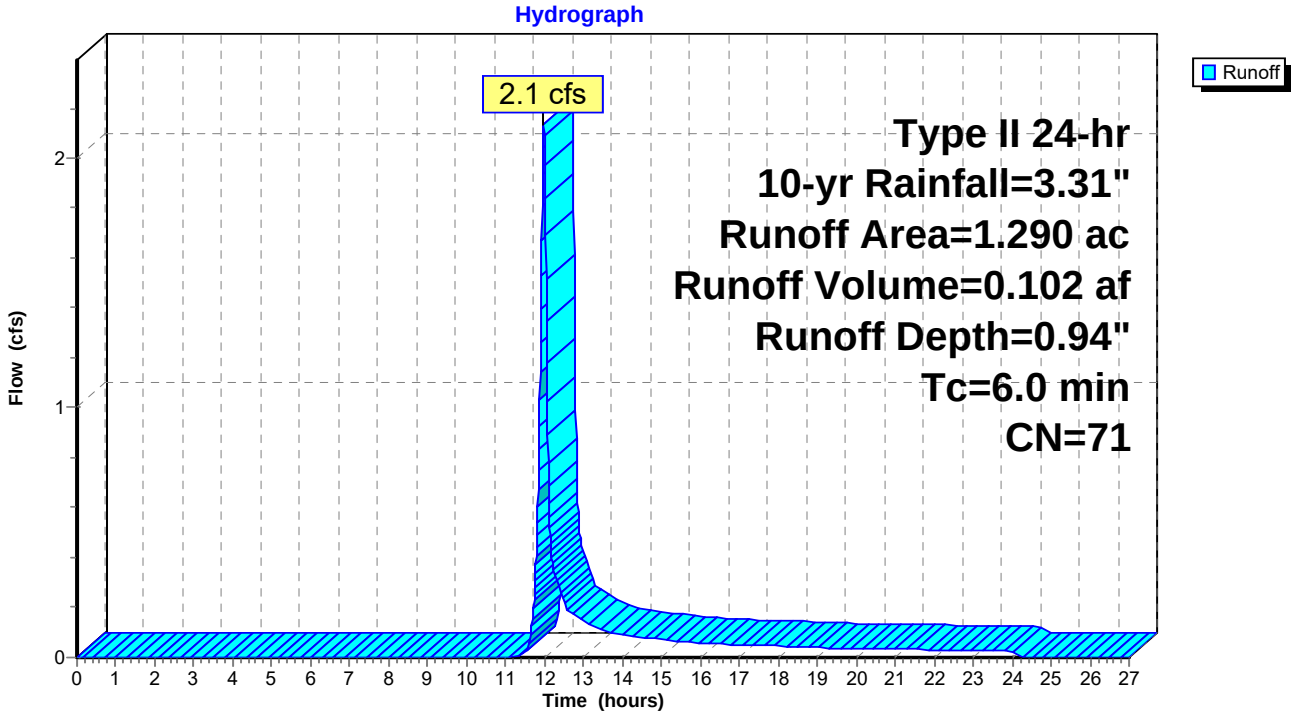
Runoff = 2.1 cfs @ 11.98 hrs, Volume= 0.102 af, Depth= 0.94"
Routed to Pond FB9 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
1.290	71	Meadow, non-grazed, HSG C
1.290	71	100.00% Pervious Area

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

Subcatchment C6: OVERLAND FLOW



Summary for Subcatchment C7: LANDFILL

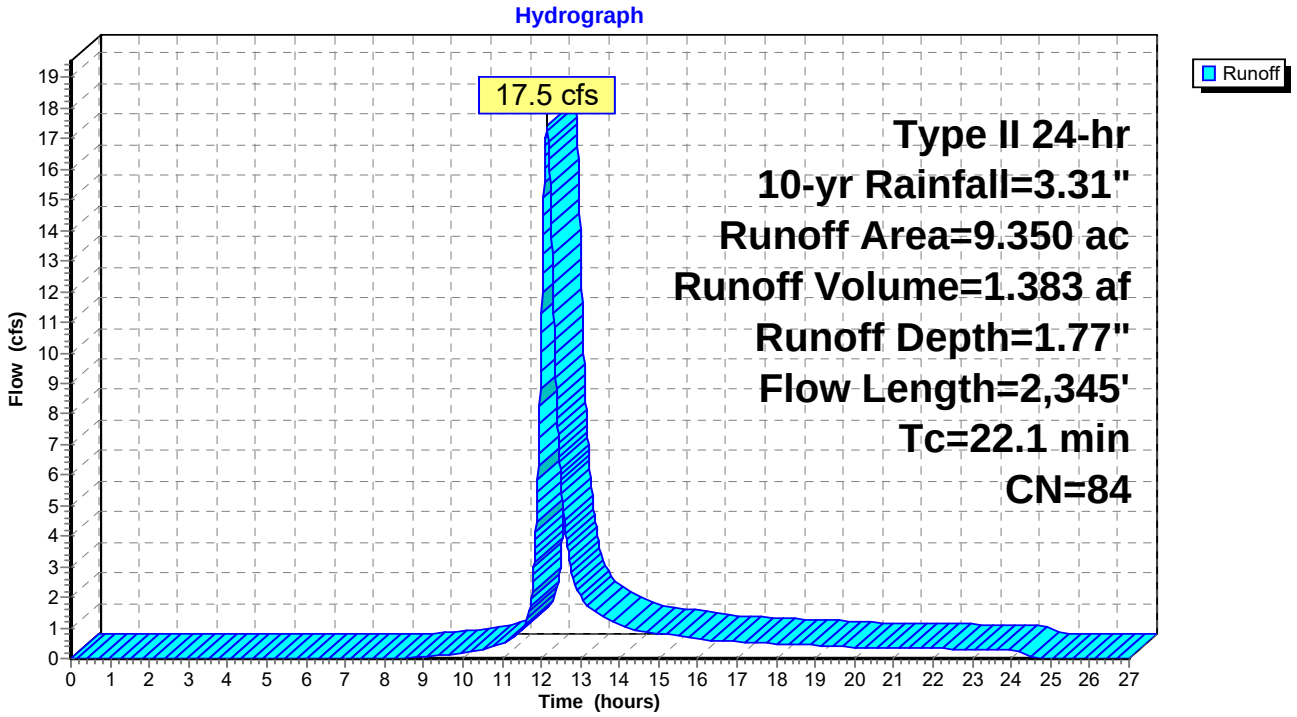
Runoff = 17.5 cfs @ 12.15 hrs, Volume= 1.383 af, Depth= 1.77"
Routed to Pond PHW24 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

	Area (ac)	CN	Description
	0.170	96	Gravel surface, HSG B
	0.910	96	Gravel surface, HSG C
	0.120	58	Meadow, non-grazed, HSG B
	1.080	71	Meadow, non-grazed, HSG C
*	3.000	98	Landfill, Geomembrane
*	4.070	74	Landfill, Grass
	9.350	84	Weighted Average
	6.350	77	67.91% Pervious Area
	3.000	98	32.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	100	0.0500	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.32"
0.3	25	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	75	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	520	0.0400	4.79	67.04	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 2.0 '/' Top.W=11.00' n= 0.069 Riprap, 6-inch
5.8	585	0.0050	1.67	30.09	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
2.3	1,040	0.1000	7.48	134.57	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
22.1	2,345	Total			

Subcatchment C7: LANDFILL



Summary for Subcatchment C8: WOODS

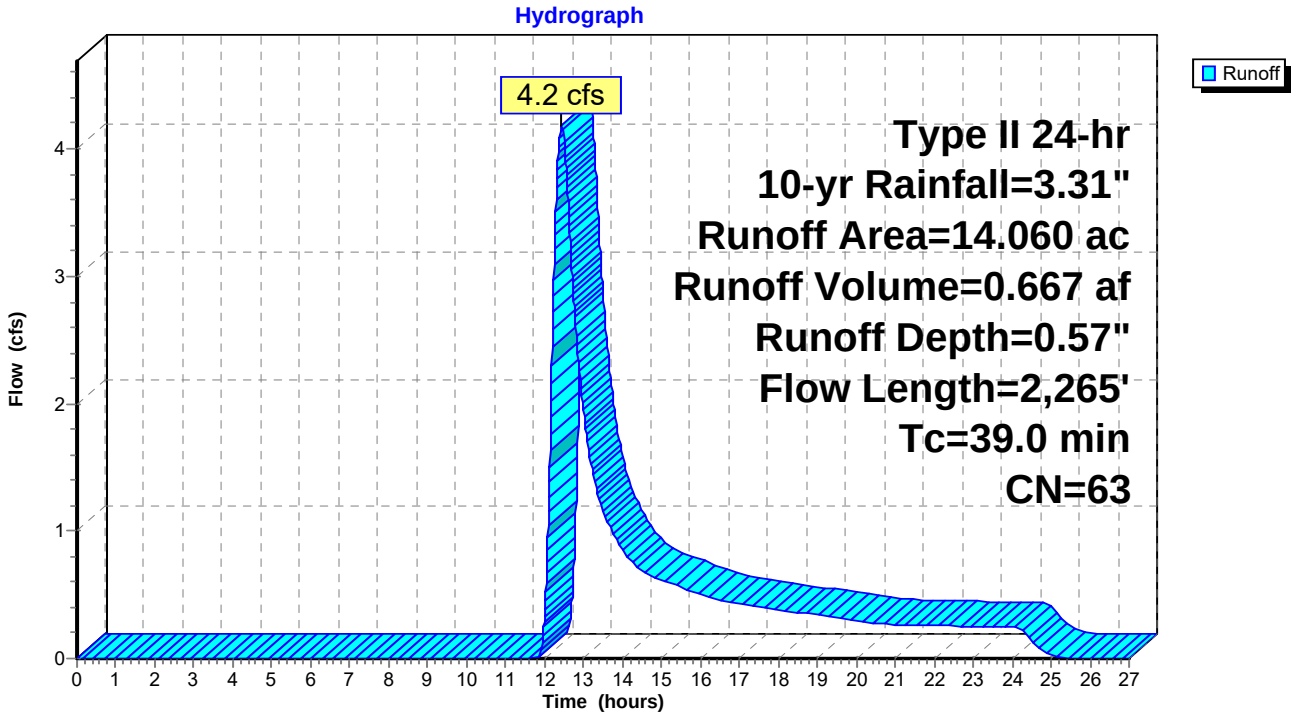
Runoff = 4.2 cfs @ 12.44 hrs, Volume= 0.667 af, Depth= 0.57"
Routed to Pond FB10 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
6.610	55	Woods, Good, HSG B
0.500	58	Meadow, non-grazed, HSG B
5.010	71	Meadow, non-grazed, HSG C
1.940	70	Woods, Good, HSG C
14.060	63	Weighted Average
14.060	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.1350	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
9.4	440	0.0975	0.78		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
6.8	685	0.0050	1.68	26.93	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 2.5 '/' Top.W=13.00' n= 0.069 Riprap, 6-inch
2.3	1,040	0.1000	7.53	120.43	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=2.00' Z= 2.5 '/' Top.W=13.00' n= 0.069 Riprap, 6-inch
39.0	2,265	Total			

Subcatchment C8: WOODS



Summary for Subcatchment C9: WOODS

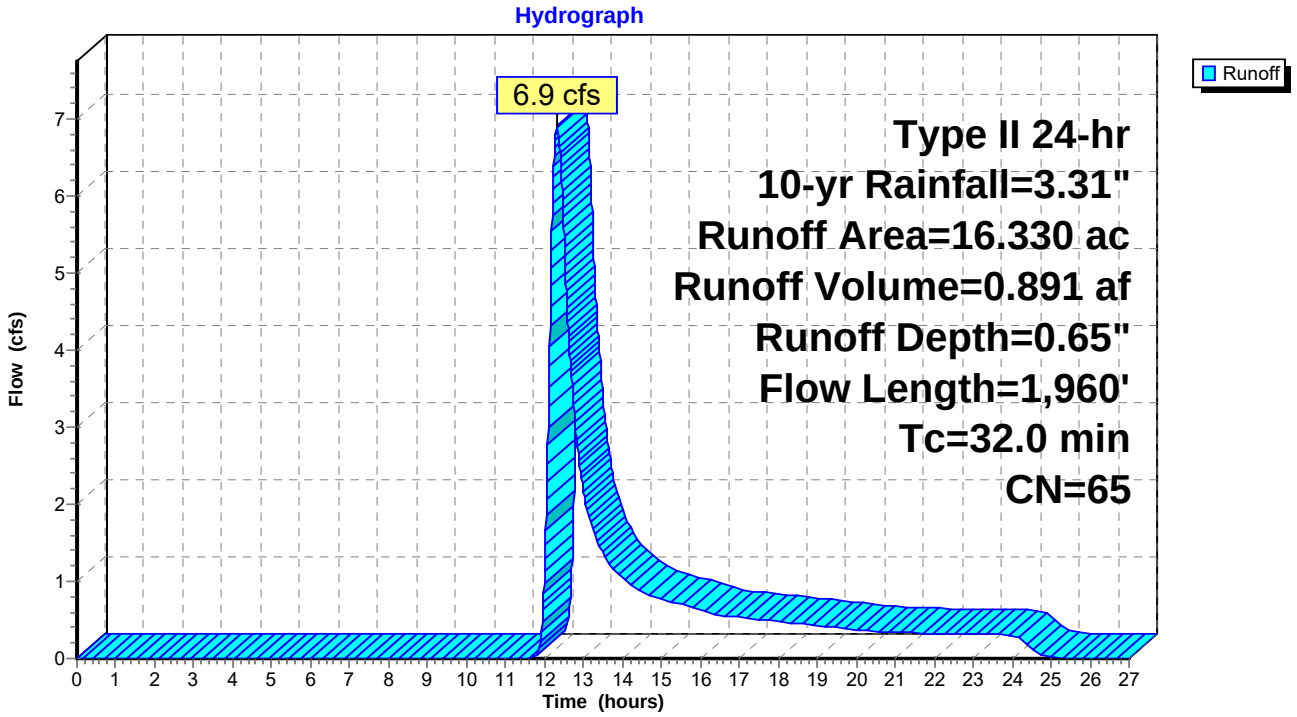
Runoff = 6.9 cfs @ 12.33 hrs, Volume= 0.891 af, Depth= 0.65"
Routed to Pond RC7 : NEW DOUGLAS DRIVE CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
5.770	55	Woods, Good, HSG B
0.450	58	Meadow, non-grazed, HSG B
0.610	77	Woods, Good, HSG D
0.270	78	Meadow, non-grazed, HSG D
2.550	71	Meadow, non-grazed, HSG C
6.680	70	Woods, Good, HSG C
16.330	65	Weighted Average
16.330	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0600	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.32"
0.8	50	0.1900	1.09		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
2.9	1,810	0.0400	10.23	477.30	**Parabolic Channel,** W=35.00' D=2.00' Area=46.7 sf Perim=35.3' n= 0.035
32.0	1,960	Total			

Subcatchment C9: WOODS



Summary for Reach 20R: TOE SWALE

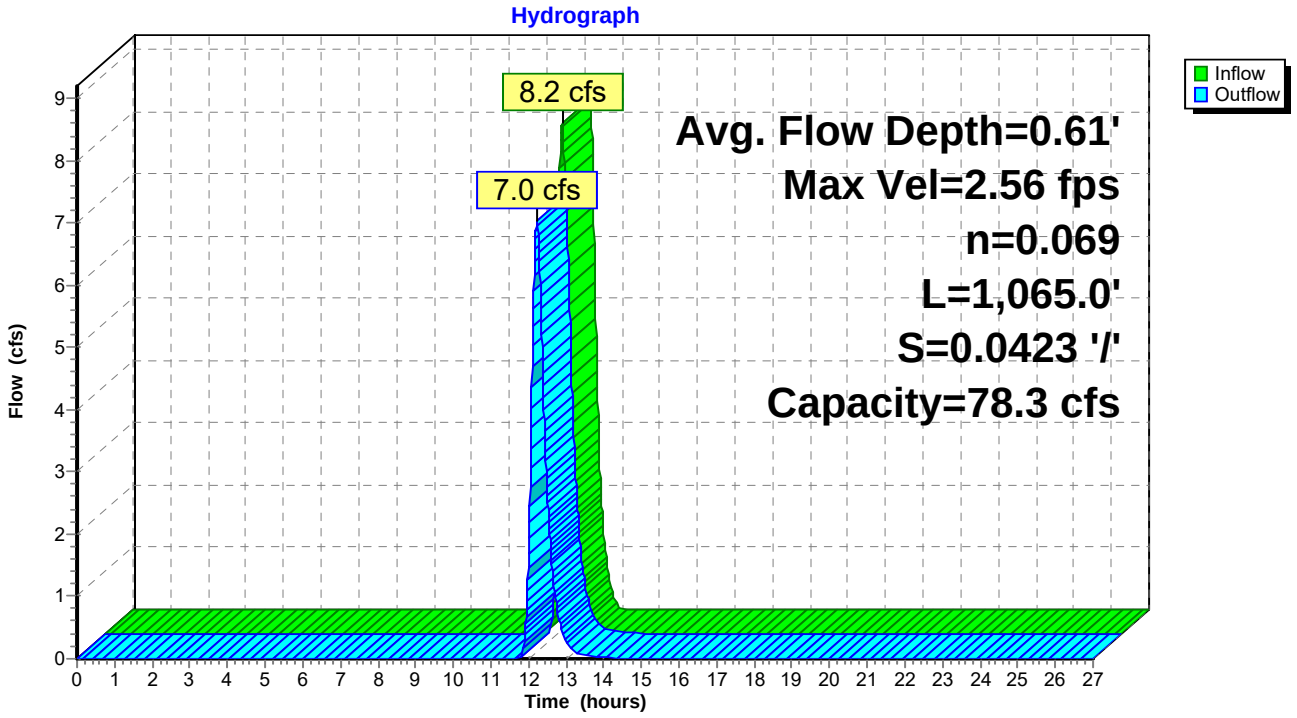
Inflow = 8.2 cfs @ 12.15 hrs, Volume= 0.261 af
Outflow = 7.0 cfs @ 12.22 hrs, Volume= 0.261 af, Atten= 14%, Lag= 4.4 min
Routed to Pond PHW19 : HEADWALL

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.56 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 0.54 fps, Avg. Travel Time= 32.7 min

Peak Storage= 2,932 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.61' , Surface Width= 6.04'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 78.3 cfs

3.00' x 2.00' deep channel, n= 0.069 Riprap, 6-inch
Side Slope Z-value= 2.5 '/' Top Width= 13.00'
Length= 1,065.0' Slope= 0.0423 '/'
Inlet Invert= 1,214.50', Outlet Invert= 1,169.50'

Reach 20R: TOE SWALE

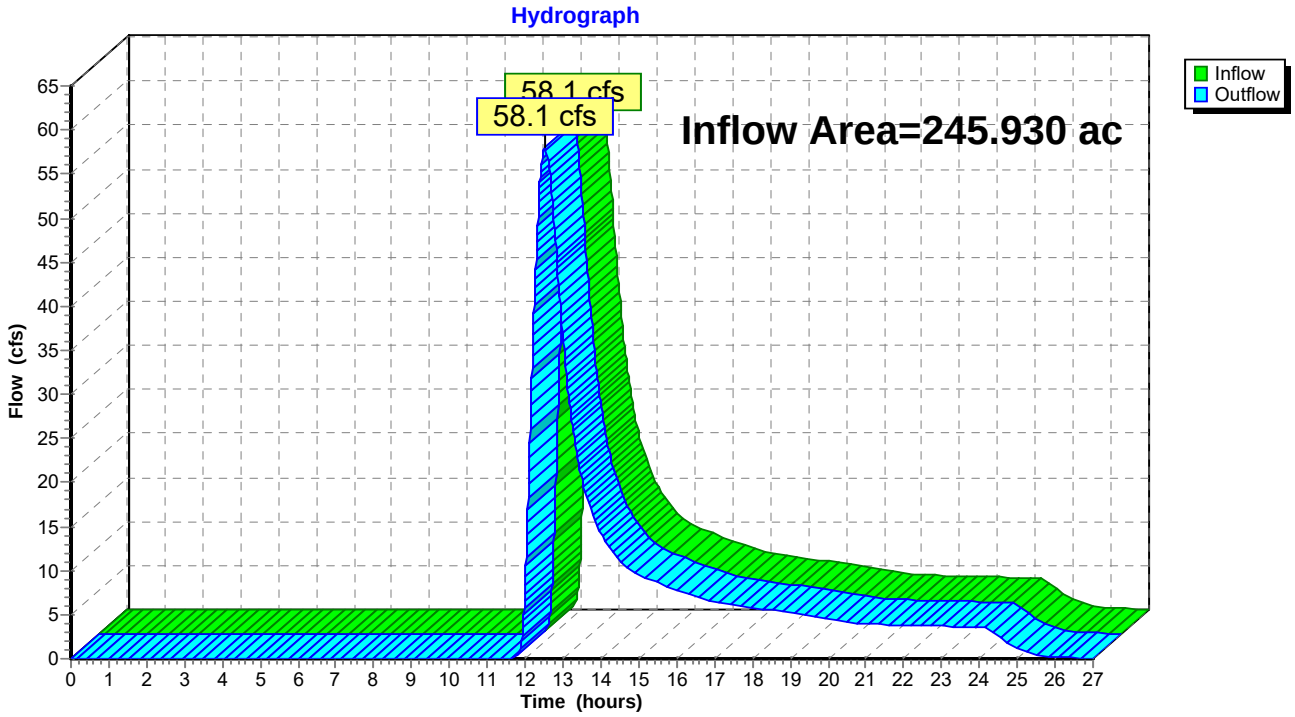


Summary for Reach OUT-C: WETLANDS COMPLEX

Inflow Area = 245.930 ac, 4.40% Impervious, Inflow Depth > 0.52" for 10-yr event
Inflow = 58.1 cfs @ 12.51 hrs, Volume= 10.620 af
Outflow = 58.1 cfs @ 12.51 hrs, Volume= 10.620 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs

Reach OUT-C: WETLANDS COMPLEX



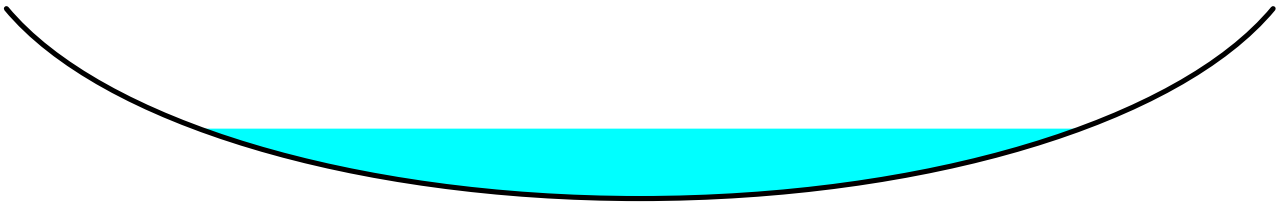
Summary for Reach RC1: WETLANDS

Inflow Area = 39.170 ac, 0.00% Impervious, Inflow Depth = 0.61" for 10-yr event
Inflow = 12.7 cfs @ 12.44 hrs, Volume= 1.995 af
Outflow = 12.3 cfs @ 12.52 hrs, Volume= 1.995 af, Atten= 3%, Lag= 5.0 min
Routed to Reach OUT-C : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.66 fps, Min. Travel Time= 5.3 min
Avg. Velocity = 0.76 fps, Avg. Travel Time= 11.5 min

Peak Storage= 3,900 cf @ 12.52 hrs
Average Depth at Peak Storage= 0.37' , Surface Width= 30.31'
Bank-Full Depth= 1.00' Flow Area= 33.3 sf, Capacity= 107.5 cfs

50.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
Length= 525.0' Slope= 0.0099 '/'
Inlet Invert= 1,020.94', Outlet Invert= 1,015.73'



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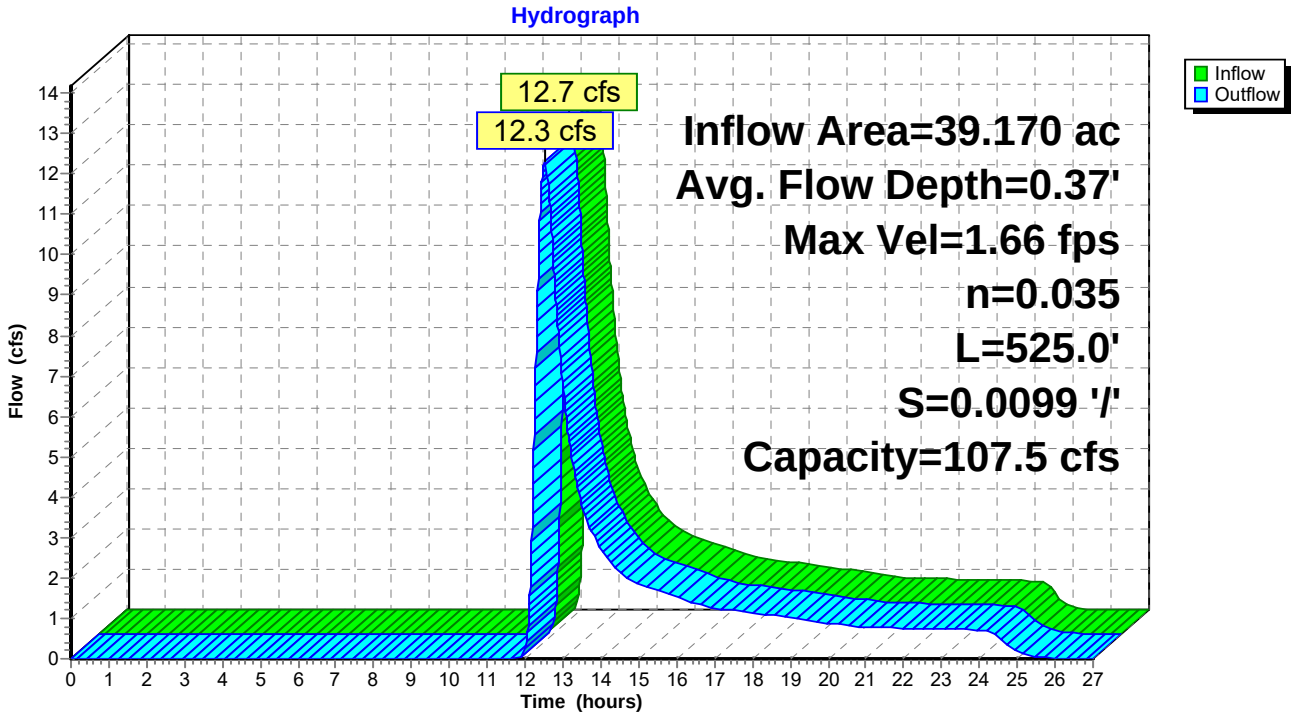
Reach RC1: WETLANDS



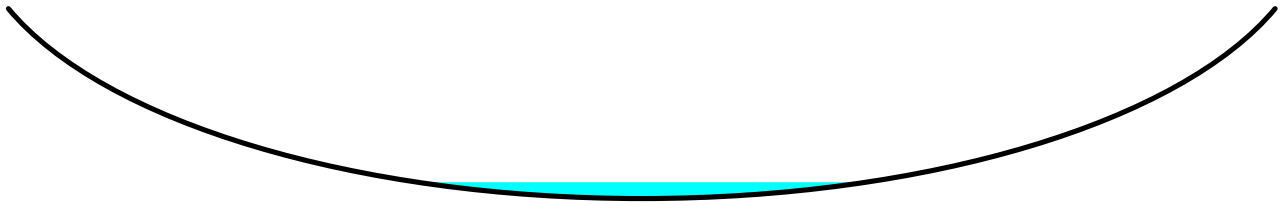
Summary for Reach RC10: WETLAND

Inflow Area = 24.700 ac, 12.15% Impervious, Inflow Depth = 0.07" for 10-yr event
Inflow = 3.0 cfs @ 12.57 hrs, Volume= 0.146 af
Outflow = 2.4 cfs @ 12.71 hrs, Volume= 0.146 af, Atten= 19%, Lag= 8.5 min
Routed to Pond RC7 : NEW DOUGLAS DRIVE CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.07 fps, Min. Travel Time= 8.1 min
Avg. Velocity = 0.81 fps, Avg. Travel Time= 20.8 min

Peak Storage= 1,167 cf @ 12.71 hrs
Average Depth at Peak Storage= 0.17' , Surface Width= 10.20'
Bank-Full Depth= 2.00' Flow Area= 46.7 sf, Capacity= 496.7 cfs

35.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 1,010.0' Slope= 0.0433 '/'
Inlet Invert= 1,154.00', Outlet Invert= 1,110.25'



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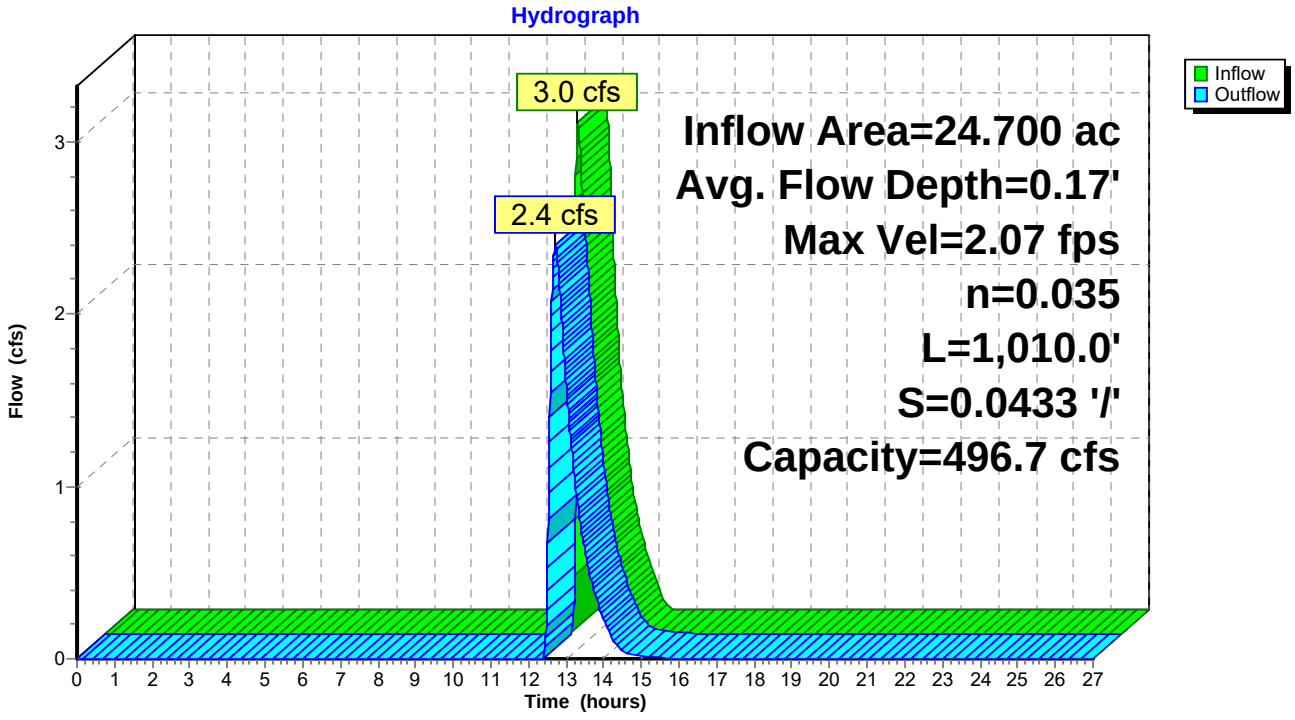
Reach RC10: WETLAND



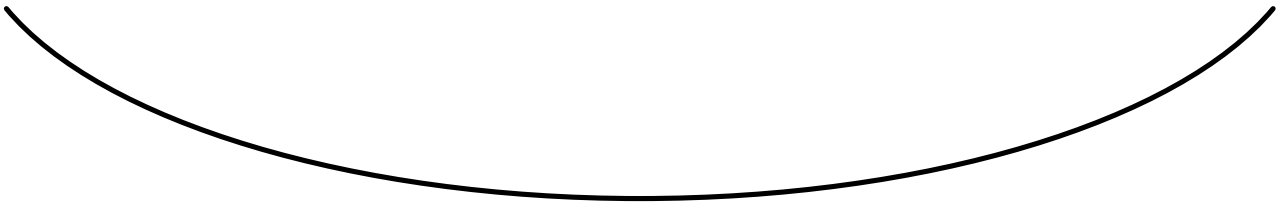
Summary for Reach RC11: WOODS

Inflow Area = 14.060 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach RC9 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 10.0 sf, Capacity= 31.5 cfs

15.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
Length= 255.0' Slope= 0.0784 '/'
Inlet Invert= 1,206.00', Outlet Invert= 1,186.00'



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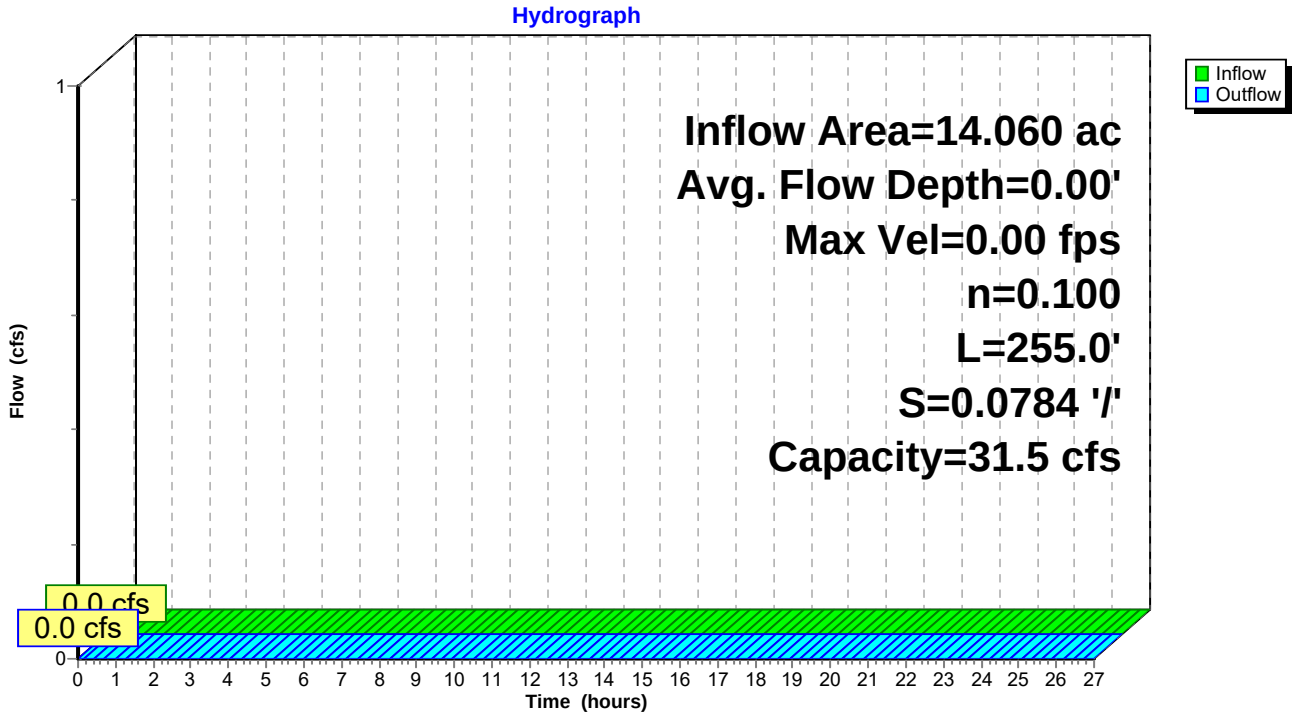
Reach RC11: WOODS



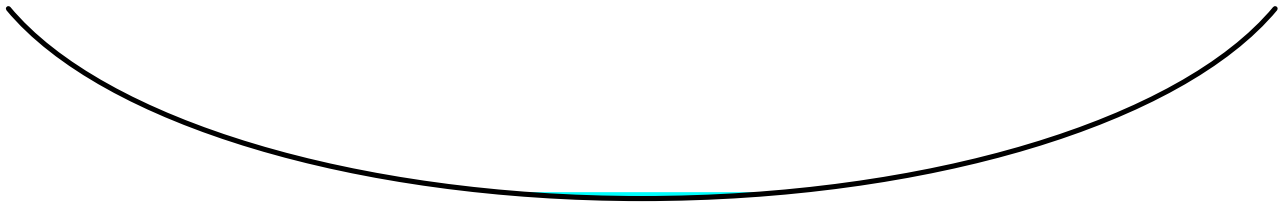
Summary for Reach RC12: WETLAND

Inflow Area = 0.780 ac, 0.00% Impervious, Inflow Depth = 0.08" for 10-yr event
Inflow = 0.3 cfs @ 12.71 hrs, Volume= 0.005 af
Outflow = 0.2 cfs @ 12.75 hrs, Volume= 0.005 af, Atten= 7%, Lag= 2.8 min
Routed to Reach RC5 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.58 fps, Min. Travel Time= 3.3 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 5.5 min

Peak Storage= 47 cf @ 12.75 hrs
Average Depth at Peak Storage= 0.06' , Surface Width= 3.57'
Bank-Full Depth= 2.00' Flow Area= 26.7 sf, Capacity= 405.6 cfs

20.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 310.0' Slope= 0.0905 '/'
Inlet Invert= 1,133.81', Outlet Invert= 1,105.76'



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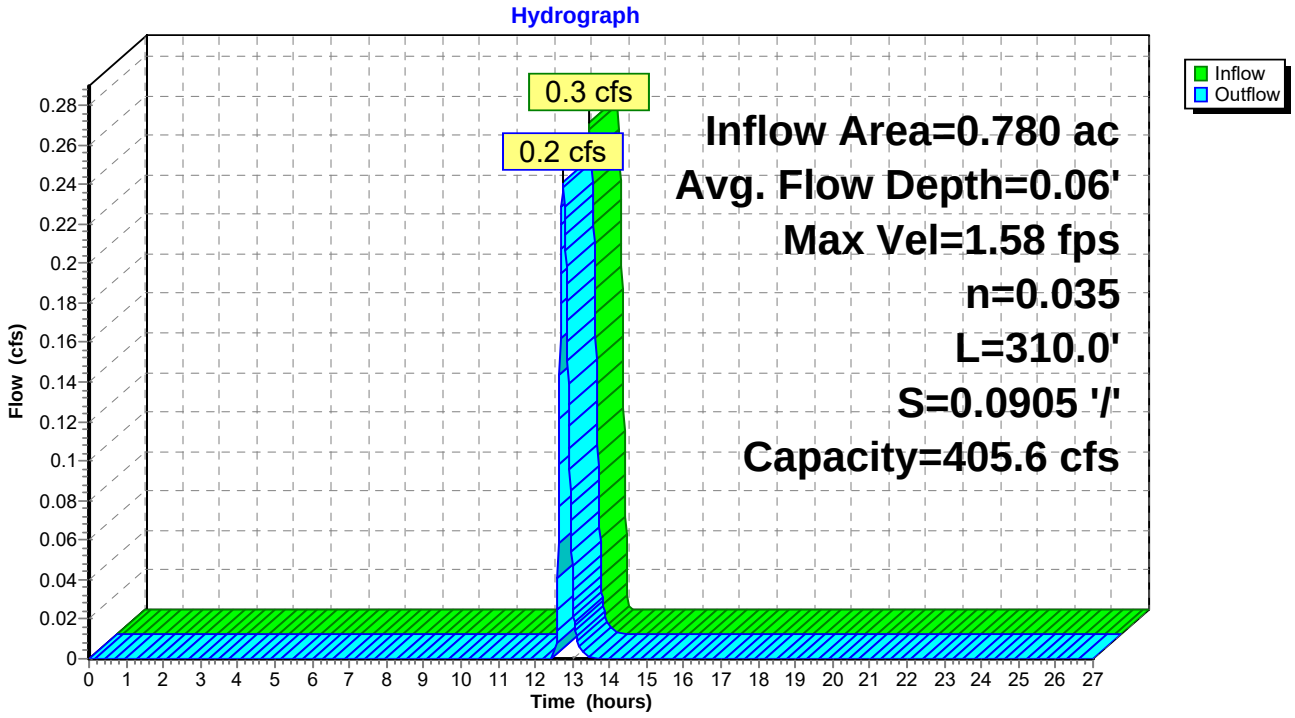
Reach RC12: WETLAND



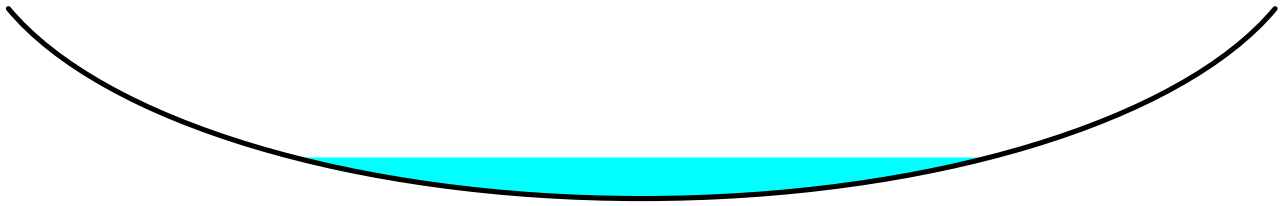
Summary for Reach RC14: WETLAND

Inflow Area = 55.880 ac, 2.63% Impervious, Inflow Depth = 0.72" for 10-yr event
Inflow = 22.1 cfs @ 12.48 hrs, Volume= 3.375 af
Outflow = 22.1 cfs @ 12.49 hrs, Volume= 3.375 af, Atten= 0%, Lag= 1.0 min
Routed to Reach RC16 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.14 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 4.0 min

Peak Storage= 2,353 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.43' , Surface Width= 18.58'
Bank-Full Depth= 2.00' Flow Area= 53.3 sf, Capacity= 610.7 cfs

40.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 440.0' Slope= 0.0500 '/'
Inlet Invert= 1,126.00', Outlet Invert= 1,104.00'



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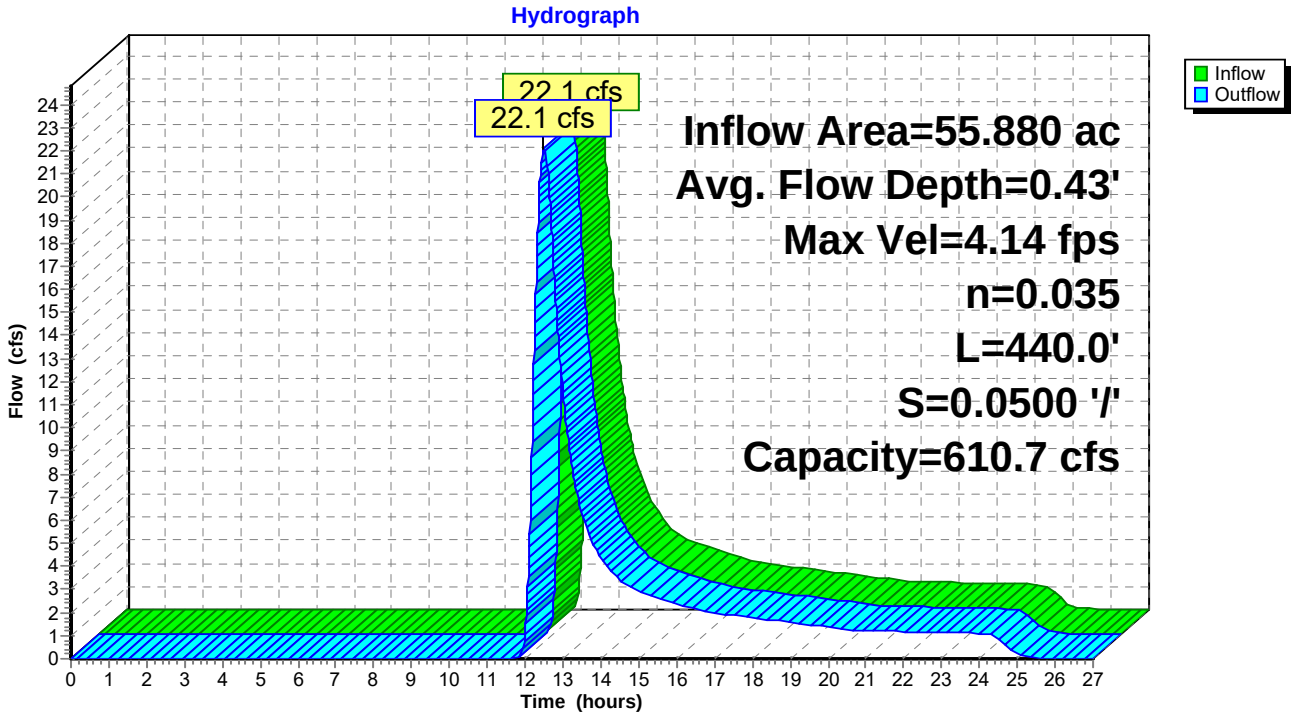
Reach RC14: WETLAND



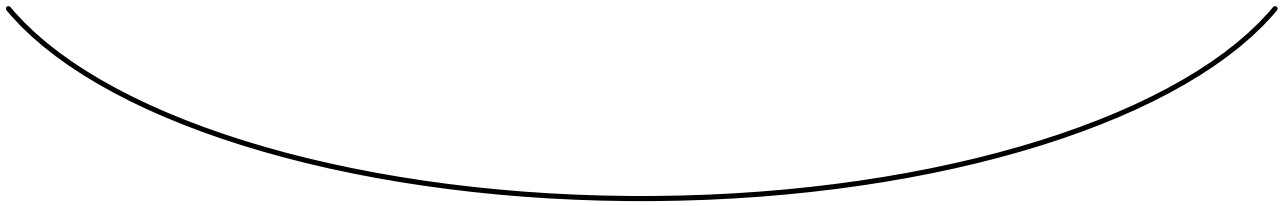
Summary for Reach RC15: FLOW THROUGH WOODS

Inflow Area = 0.970 ac, 40.21% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach RC16 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 33.2 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
Length= 165.0' Slope= 0.2000 '/'
Inlet Invert= 1,137.00', Outlet Invert= 1,104.00'



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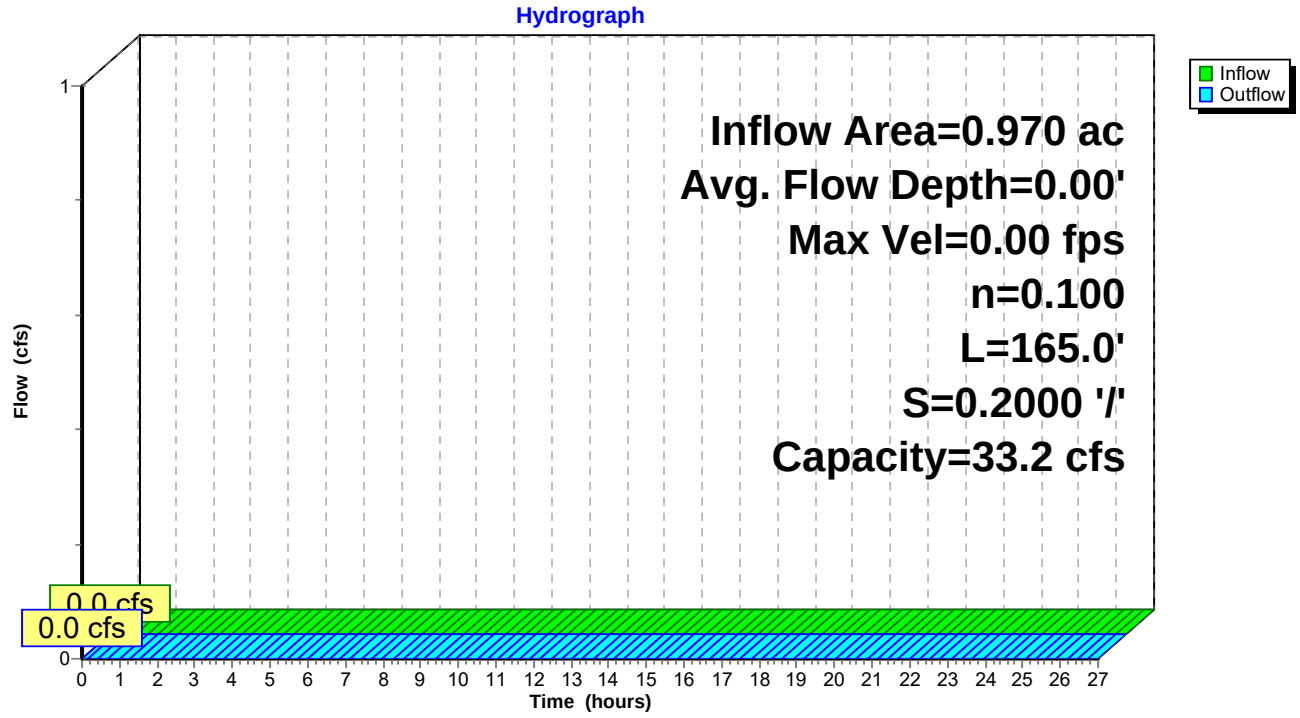
Reach RC15: FLOW THROUGH WOODS



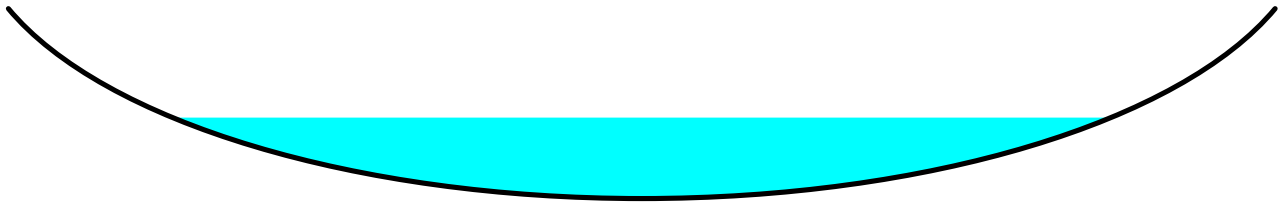
Summary for Reach RC16: WETLAND

Inflow Area = 56.850 ac, 3.27% Impervious, Inflow Depth = 0.71" for 10-yr event
Inflow = 22.1 cfs @ 12.49 hrs, Volume= 3.375 af
Outflow = 22.1 cfs @ 12.52 hrs, Volume= 3.375 af, Atten= 0%, Lag= 1.3 min
Routed to Reach RC4 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.98 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 4.0 min

Peak Storage= 2,360 cf @ 12.52 hrs
Average Depth at Peak Storage= 0.43' , Surface Width= 26.09'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 140.5 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.035
Length= 319.0' Slope= 0.0265 '/'
Inlet Invert= 1,104.00', Outlet Invert= 1,095.55'



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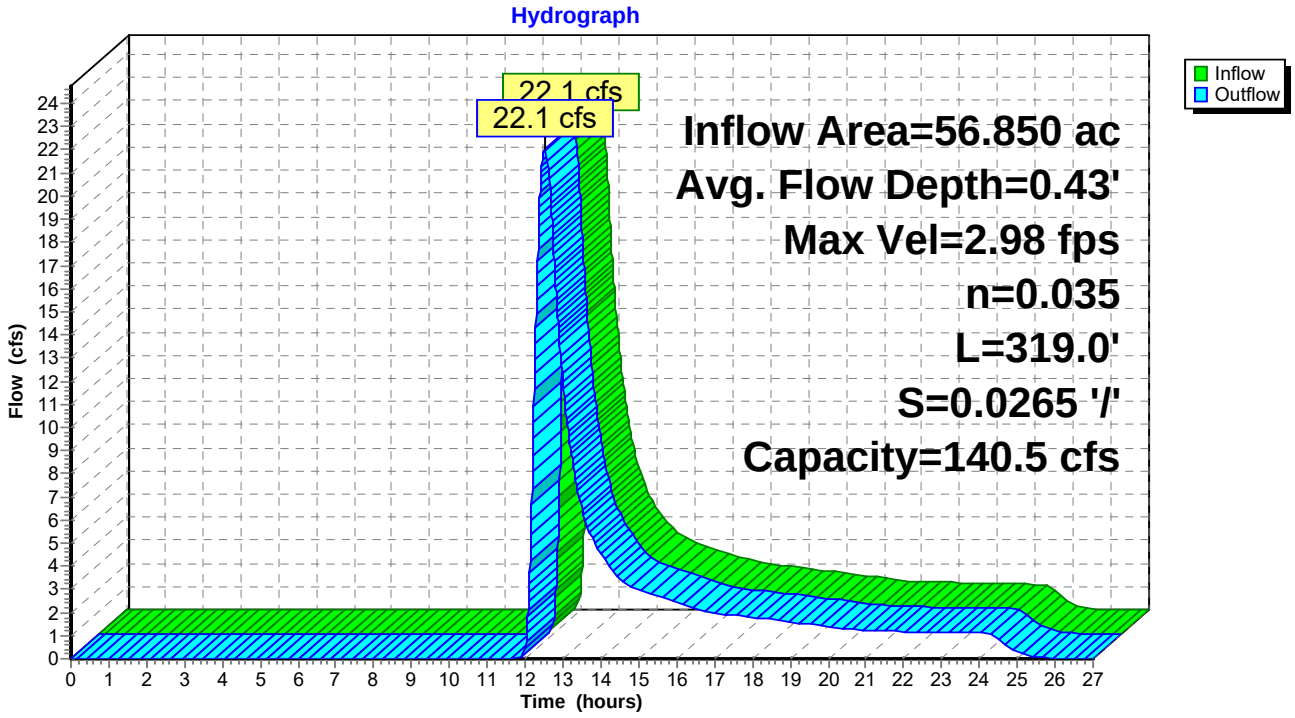
Reach RC16: WETLAND



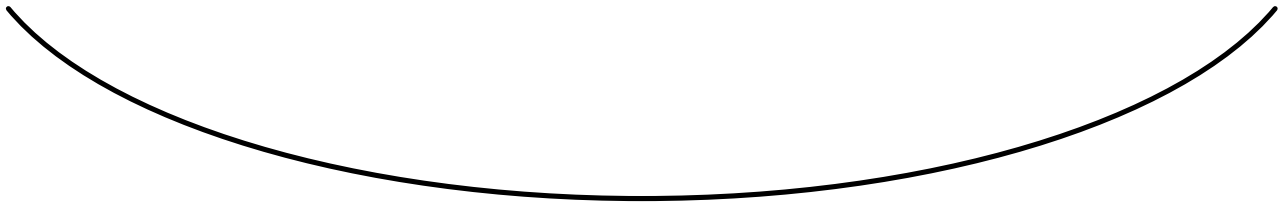
Summary for Reach RC17: FLOW THROUGH WOODS

Inflow Area = 16.840 ac, 2.61% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach RC19 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 80.5 cfs

30.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
Length= 158.1' Slope= 0.1265 '/'
Inlet Invert= 1,116.00', Outlet Invert= 1,096.00'



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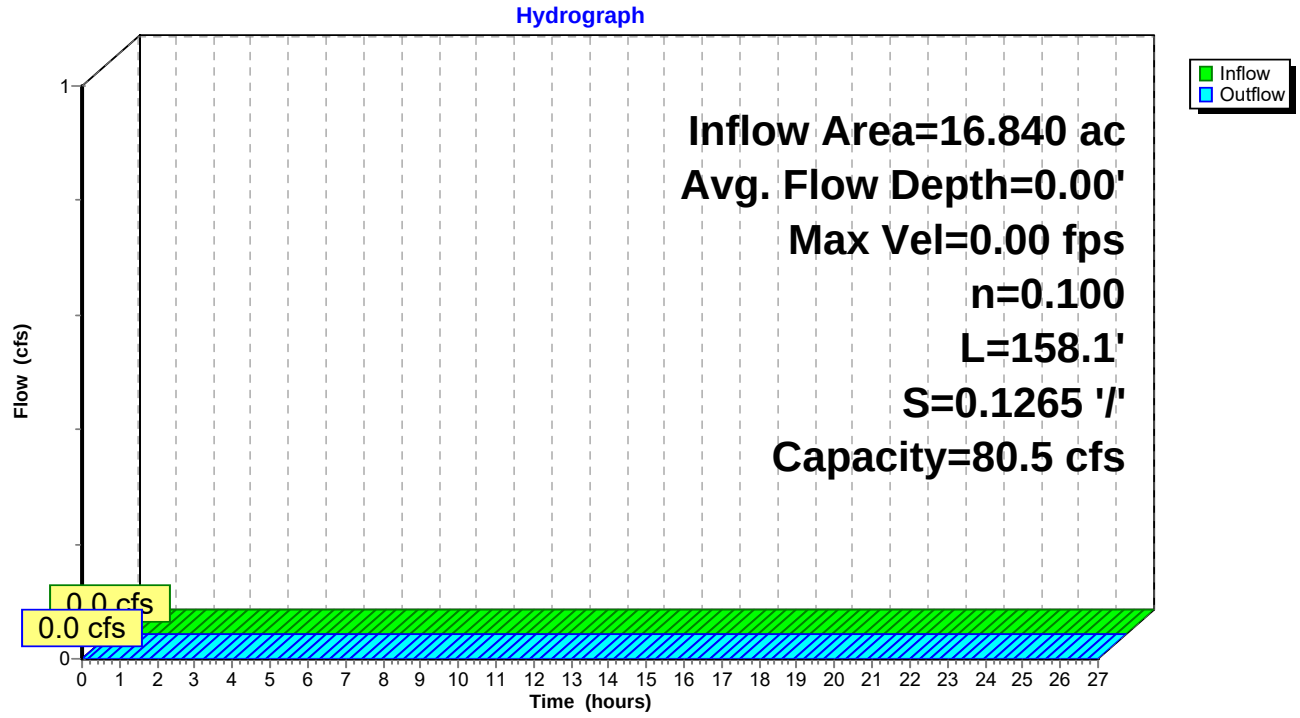
Reach RC17: FLOW THROUGH WOODS



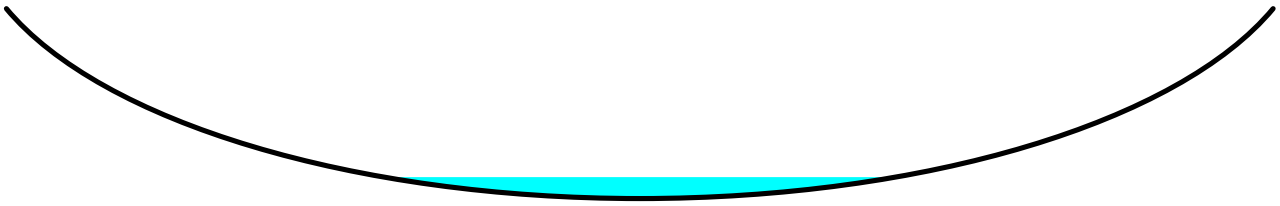
Summary for Reach RC18: FLOW THROUGH WOODS

Inflow Area = 6.130 ac, 0.00% Impervious, Inflow Depth = 0.31" for 10-yr event
Inflow = 0.7 cfs @ 12.52 hrs, Volume= 0.161 af
Outflow = 0.7 cfs @ 12.56 hrs, Volume= 0.161 af, Atten= 1%, Lag= 2.3 min
Routed to Reach RC19 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.07 fps, Min. Travel Time= 3.0 min
Avg. Velocity = 0.59 fps, Avg. Travel Time= 5.5 min

Peak Storage= 122 cf @ 12.56 hrs
Average Depth at Peak Storage= 0.11' , Surface Width= 8.36'
Bank-Full Depth= 1.00' Flow Area= 16.7 sf, Capacity= 76.3 cfs

25.00' x 1.00' deep Parabolic Channel, n= 0.100 Very weedy reaches w/pools
Length= 195.0' Slope= 0.1641 '/'
Inlet Invert= 1,128.00', Outlet Invert= 1,096.00'



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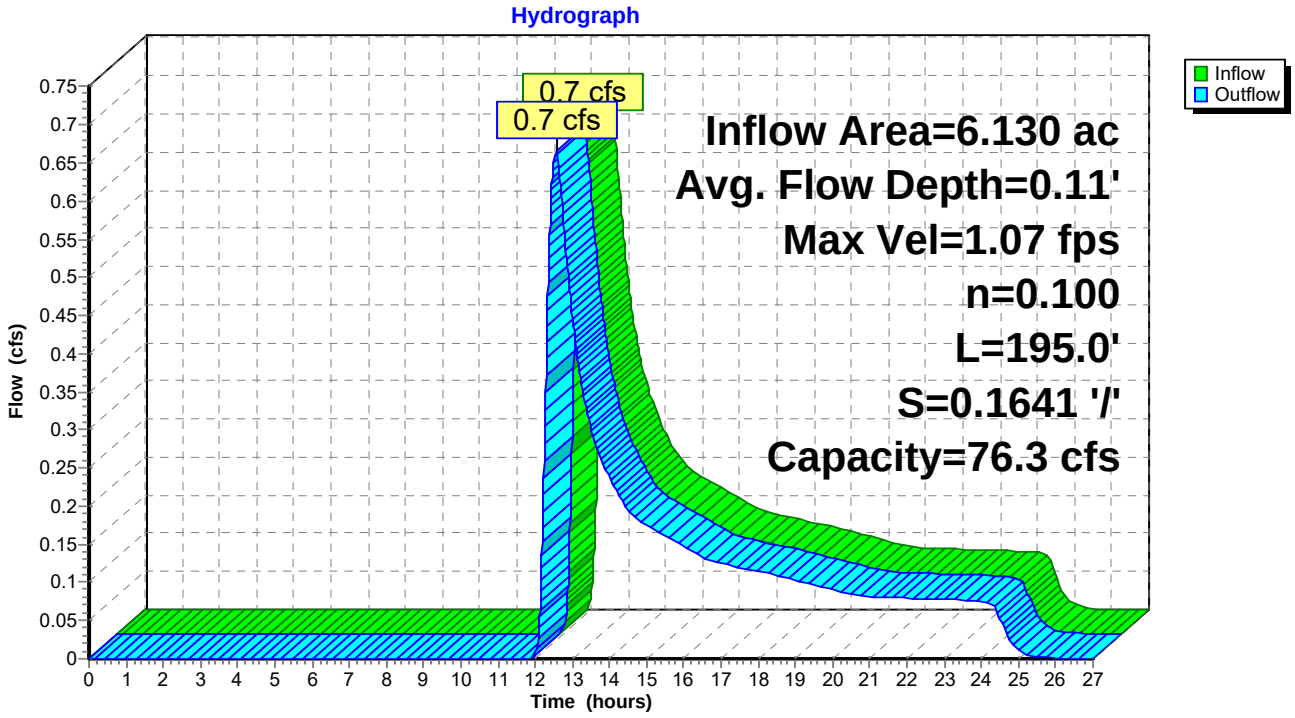
Reach RC18: FLOW THROUGH WOODS



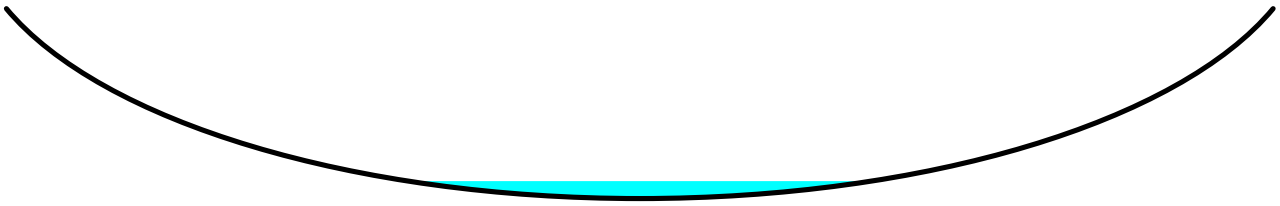
Summary for Reach RC19: WETLAND

Inflow Area = 22.970 ac, 1.92% Impervious, Inflow Depth = 0.08" for 10-yr event
Inflow = 0.7 cfs @ 12.56 hrs, Volume= 0.161 af
Outflow = 0.6 cfs @ 12.65 hrs, Volume= 0.161 af, Atten= 3%, Lag= 5.1 min
Routed to Reach RC3 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.40 fps, Min. Travel Time= 6.5 min
Avg. Velocity = 0.78 fps, Avg. Travel Time= 11.6 min

Peak Storage= 250 cf @ 12.65 hrs
Average Depth at Peak Storage= 0.09' , Surface Width= 7.55'
Bank-Full Depth= 1.00' Flow Area= 16.7 sf, Capacity= 114.7 cfs

25.00' x 1.00' deep Parabolic Channel, n= 0.035
Length= 545.0' Slope= 0.0454 '/'
Inlet Invert= 1,096.00', Outlet Invert= 1,071.27'



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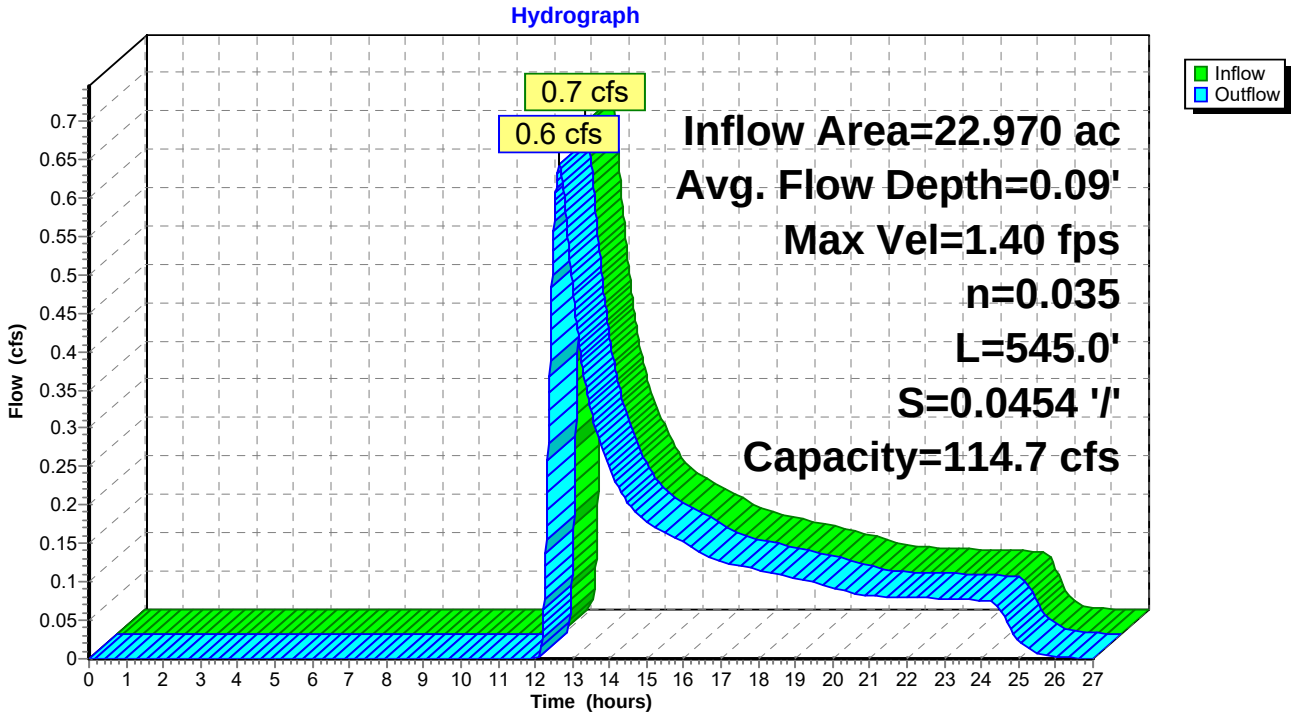
Reach RC19: WETLAND



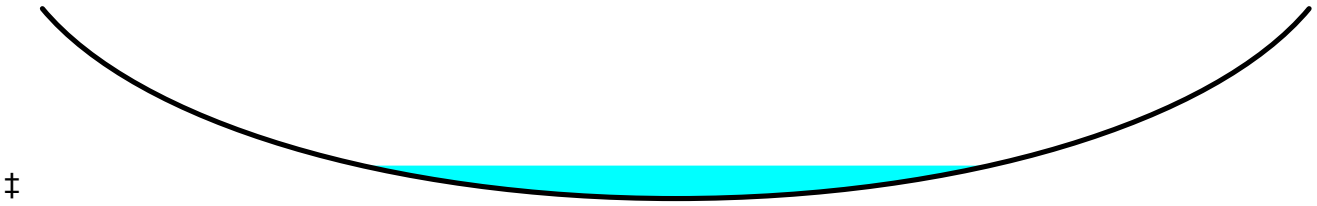
Summary for Reach RC2: WETLAND STREAM

Inflow Area = 144.570 ac, 7.03% Impervious, Inflow Depth > 0.40" for 10-yr event
Inflow = 28.0 cfs @ 12.64 hrs, Volume= 4.793 af
Outflow = 28.0 cfs @ 12.68 hrs, Volume= 4.791 af, Atten= 0%, Lag= 1.9 min
Routed to Reach OUT-C : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.91 fps, Min. Travel Time= 2.5 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 5.7 min

Peak Storage= 4,272 cf @ 12.68 hrs
Average Depth at Peak Storage= 0.35' , Surface Width= 41.60'
Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 1,248.5 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 445.0' Slope= 0.0332 '/'
Inlet Invert= 1,030.50', Outlet Invert= 1,015.73'



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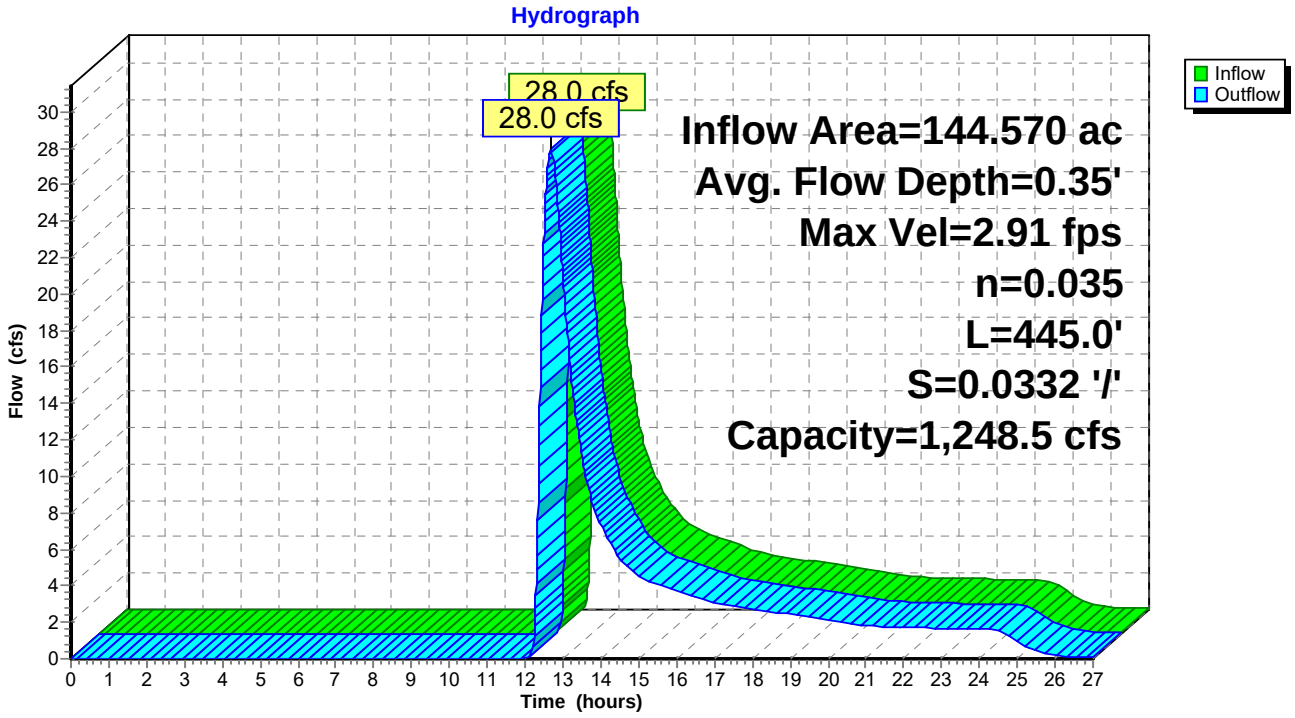
Reach RC2: WETLAND STREAM



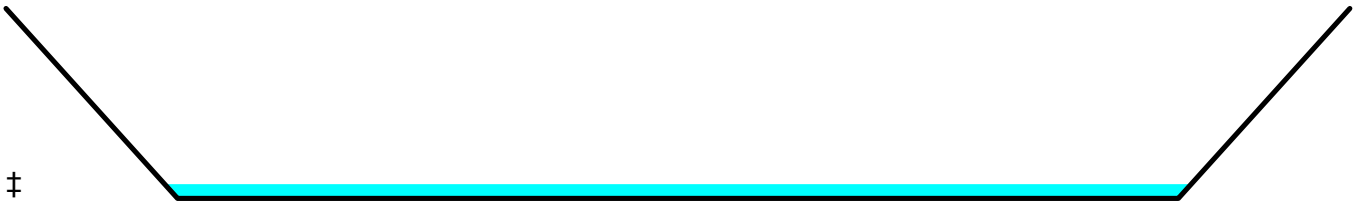
Summary for Reach RC20: SWALE

Inflow Area = 13.920 ac, 2.01% Impervious, Inflow Depth = 0.42" for 10-yr event
Inflow = 12.7 cfs @ 12.09 hrs, Volume= 0.484 af
Outflow = 12.7 cfs @ 12.10 hrs, Volume= 0.484 af, Atten= 0%, Lag= 0.3 min
Routed to Pond P8 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.37 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.81 fps, Avg. Travel Time= 1.3 min

Peak Storage= 341 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.15' , Surface Width= 35.90'
Bank-Full Depth= 2.00' Flow Area= 82.0 sf, Capacity= 994.2 cfs

35.00' x 2.00' deep channel, n= 0.022
Side Slope Z-value= 3.0 '/' Top Width= 47.00'
Length= 64.0' Slope= 0.0156 '/'
Inlet Invert= 1,151.00', Outlet Invert= 1,150.00'



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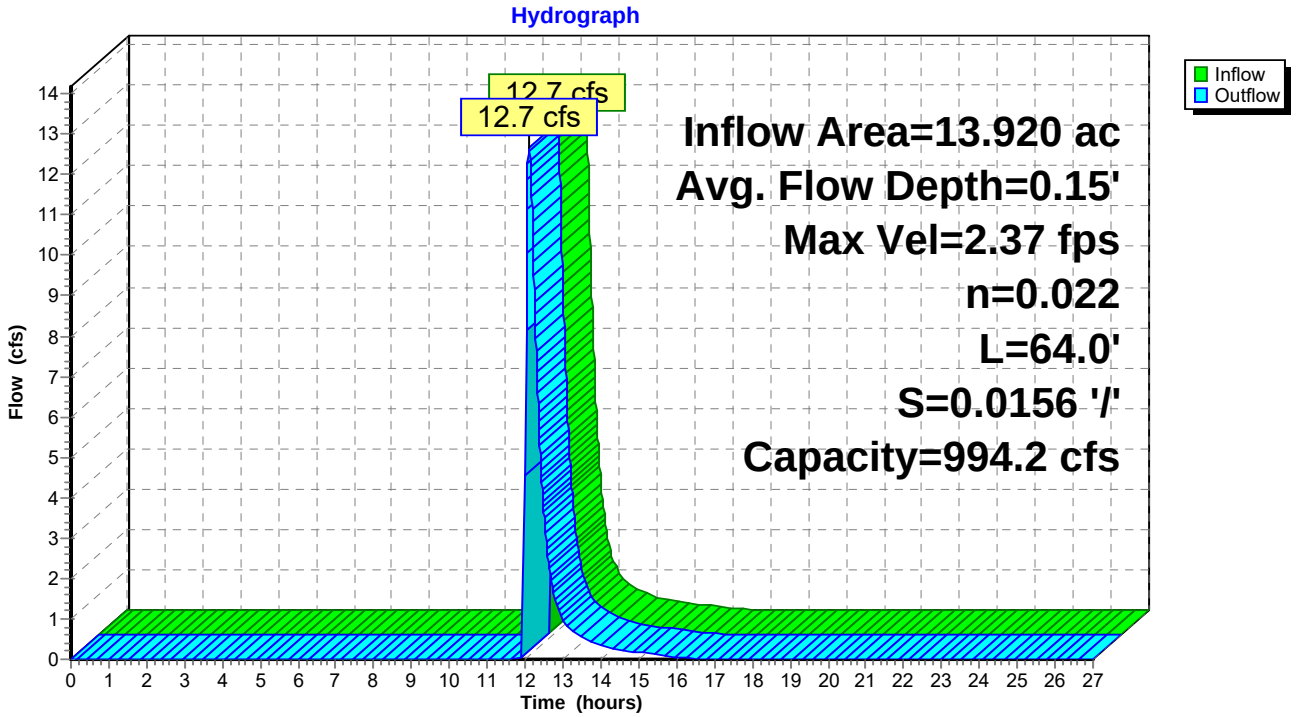
Reach RC20: SWALE



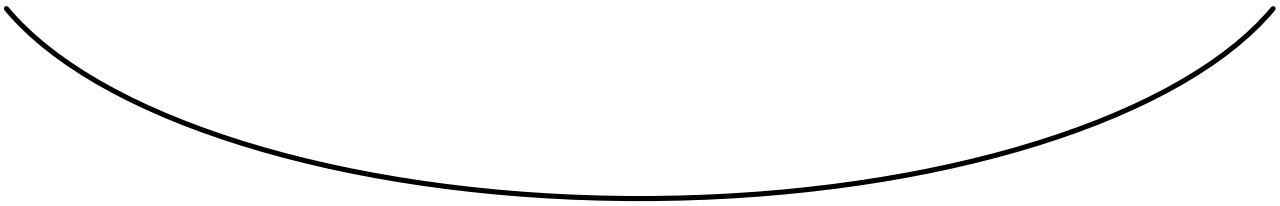
Summary for Reach RC21: FLOW THROUGH WOODS

Inflow Area = 7.010 ac, 56.49% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach RC22 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 47.6 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
Length= 140.0' Slope= 0.1000 '/'
Inlet Invert= 1,104.00', Outlet Invert= 1,090.00'



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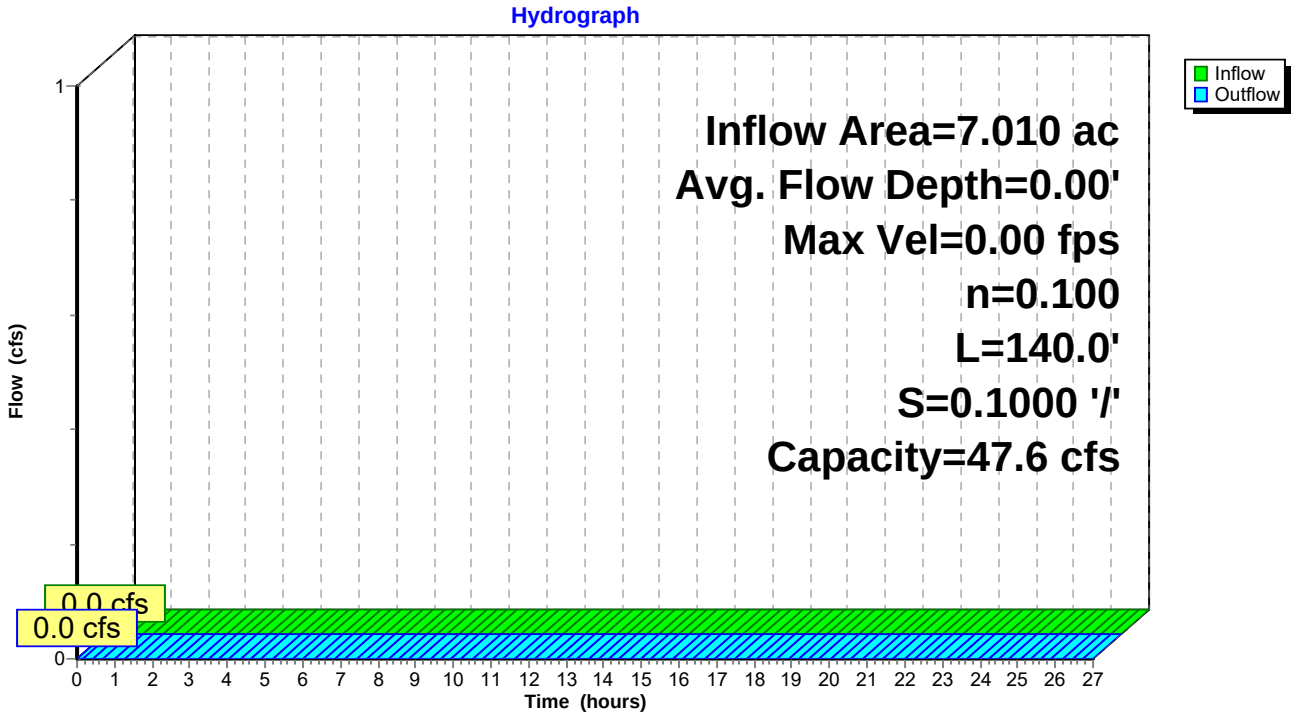
Reach RC21: FLOW THROUGH WOODS



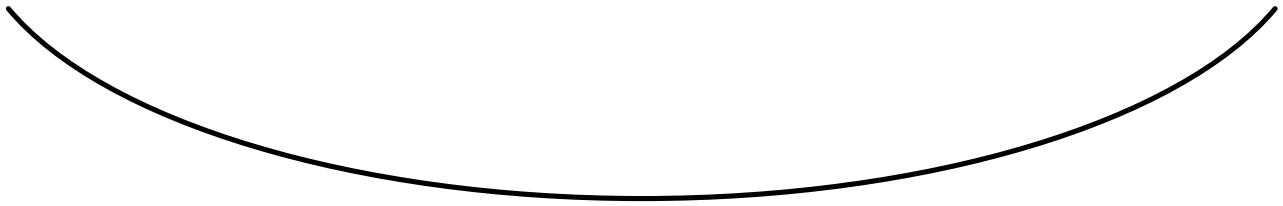
Summary for Reach RC22: WETLAND

Inflow Area = 7.010 ac, 56.49% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach RC2 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 26.7 sf, Capacity= 306.0 cfs

20.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 1,155.0' Slope= 0.0515 '/'
Inlet Invert= 1,090.00', Outlet Invert= 1,030.50'



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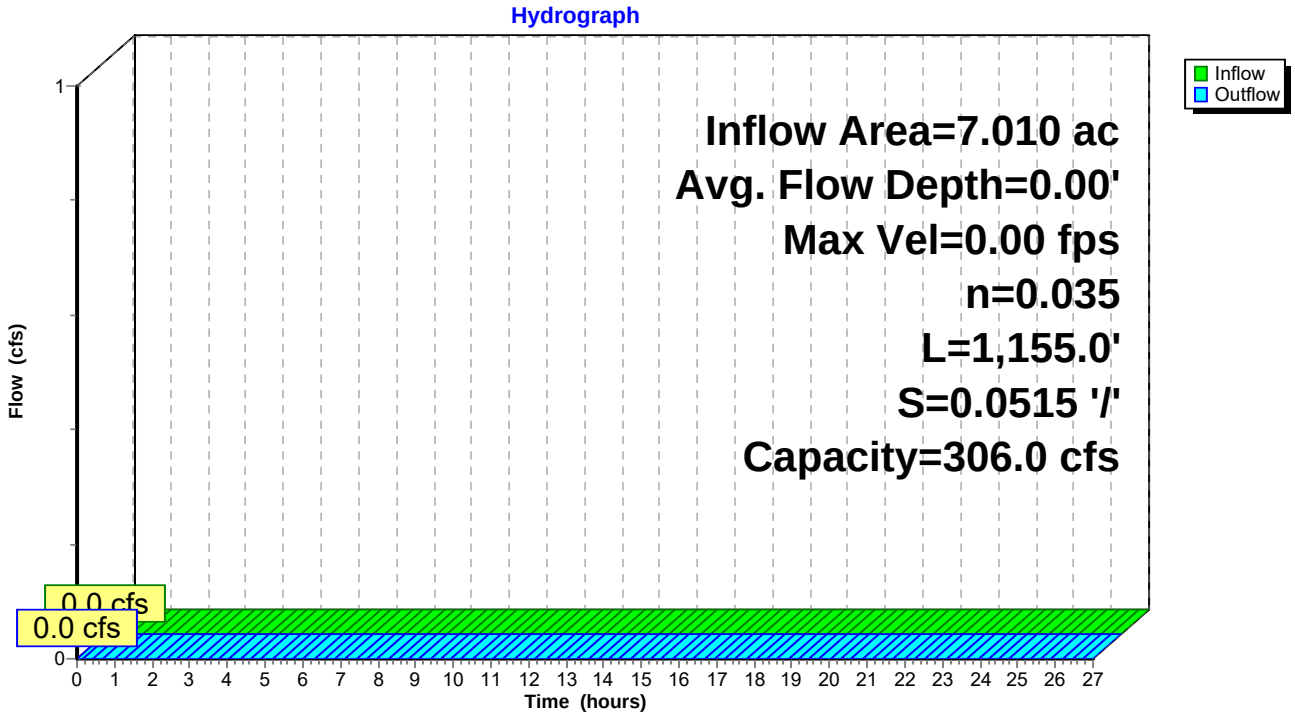
Reach RC22: WETLAND



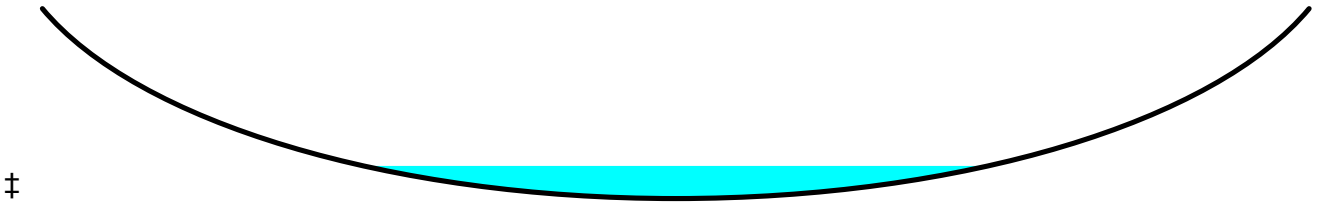
Summary for Reach RC3: WETLAND STREAM

Inflow Area = 137.560 ac, 4.51% Impervious, Inflow Depth > 0.42" for 10-yr event
Inflow = 28.9 cfs @ 12.54 hrs, Volume= 4.796 af
Outflow = 28.0 cfs @ 12.64 hrs, Volume= 4.793 af, Atten= 3%, Lag= 6.4 min
Routed to Reach RC2 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.97 fps, Min. Travel Time= 6.5 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 14.6 min

Peak Storage= 10,947 cf @ 12.64 hrs
Average Depth at Peak Storage= 0.34' , Surface Width= 41.36'
Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 1,284.7 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 1,160.0' Slope= 0.0351 '/'
Inlet Invert= 1,071.27', Outlet Invert= 1,030.50'



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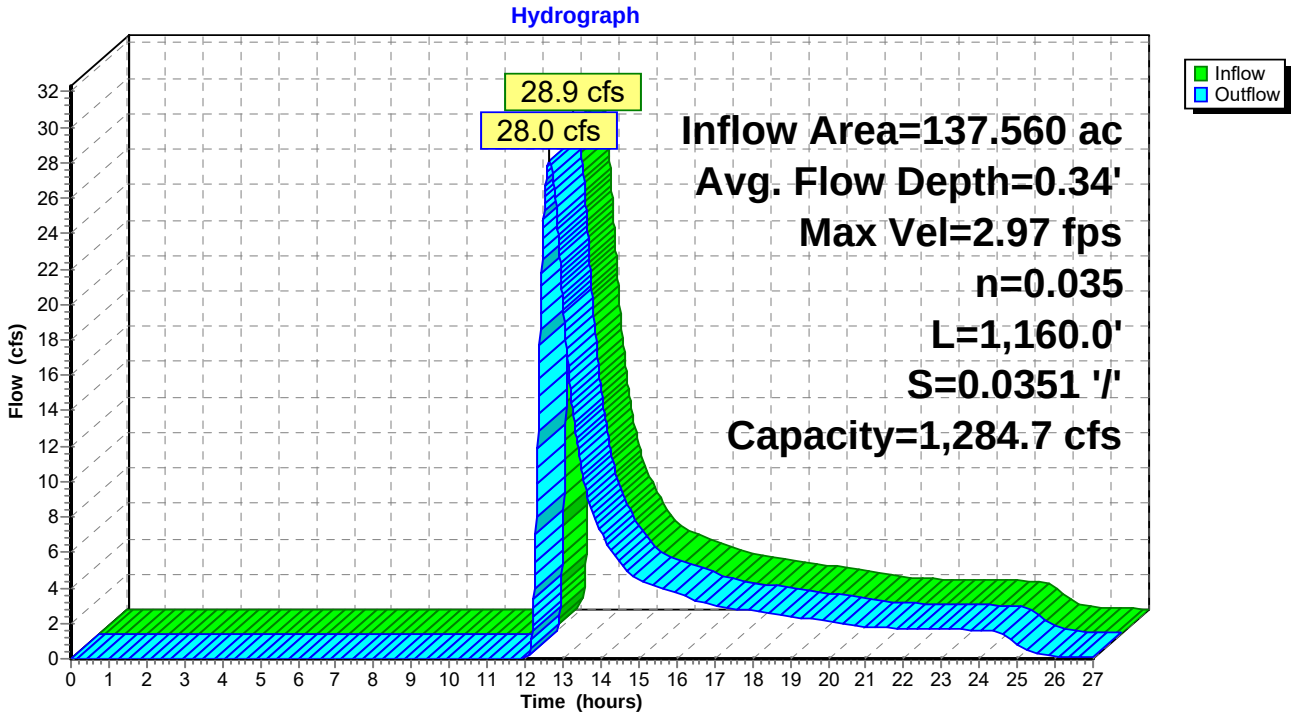
Reach RC3: WETLAND STREAM



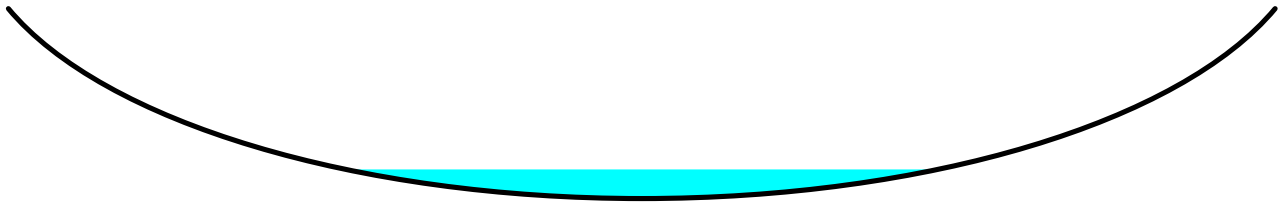
Summary for Reach RC4: WETLAND STREAM

Inflow Area = 114.590 ac, 5.04% Impervious, Inflow Depth > 0.49" for 10-yr event
Inflow = 28.4 cfs @ 12.50 hrs, Volume= 4.636 af
Outflow = 28.3 cfs @ 12.53 hrs, Volume= 4.635 af, Atten= 0%, Lag= 2.1 min
Routed to Reach RC3 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.49 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 1.95 fps, Avg. Travel Time= 5.5 min

Peak Storage= 4,060 cf @ 12.53 hrs
Average Depth at Peak Storage= 0.61' , Surface Width= 15.57'
Bank-Full Depth= 4.00' Flow Area= 106.7 sf, Capacity= 1,660.9 cfs

40.00' x 4.00' deep Parabolic Channel, n= 0.035
Length= 645.0' Slope= 0.0376 '/'
Inlet Invert= 1,095.55', Outlet Invert= 1,071.27'



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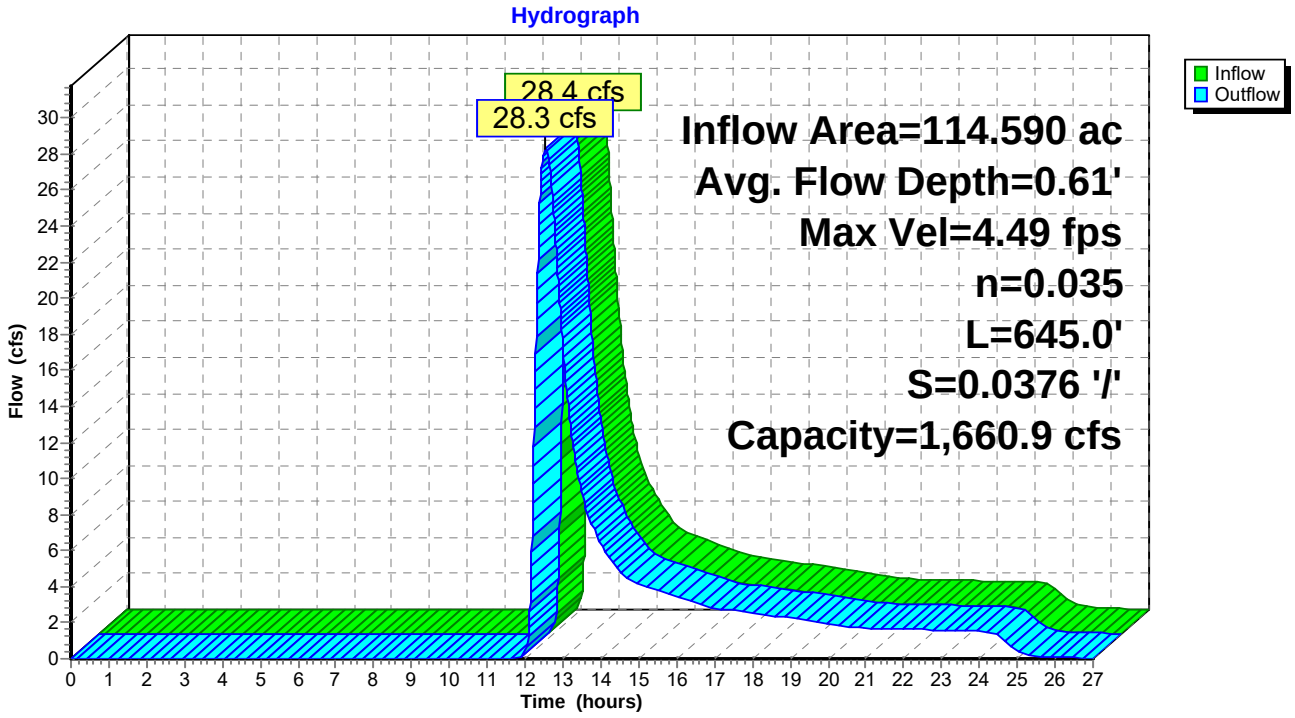
Reach RC4: WETLAND STREAM



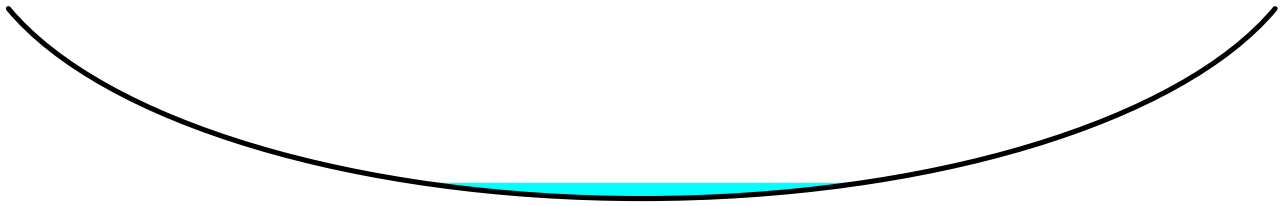
Summary for Reach RC5: WETLAND STREAM

Inflow Area = 57.740 ac, 6.77% Impervious, Inflow Depth > 0.26" for 10-yr event
Inflow = 6.8 cfs @ 12.38 hrs, Volume= 1.261 af
Outflow = 6.8 cfs @ 12.39 hrs, Volume= 1.261 af, Atten= 0%, Lag= 1.0 min
Routed to Reach RC4 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.17 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 1.02 fps, Avg. Travel Time= 3.4 min

Peak Storage= 641 cf @ 12.39 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 28.62'
Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 1,529.4 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 205.0' Slope= 0.0498 '/'
Inlet Invert= 1,105.76', Outlet Invert= 1,095.55'



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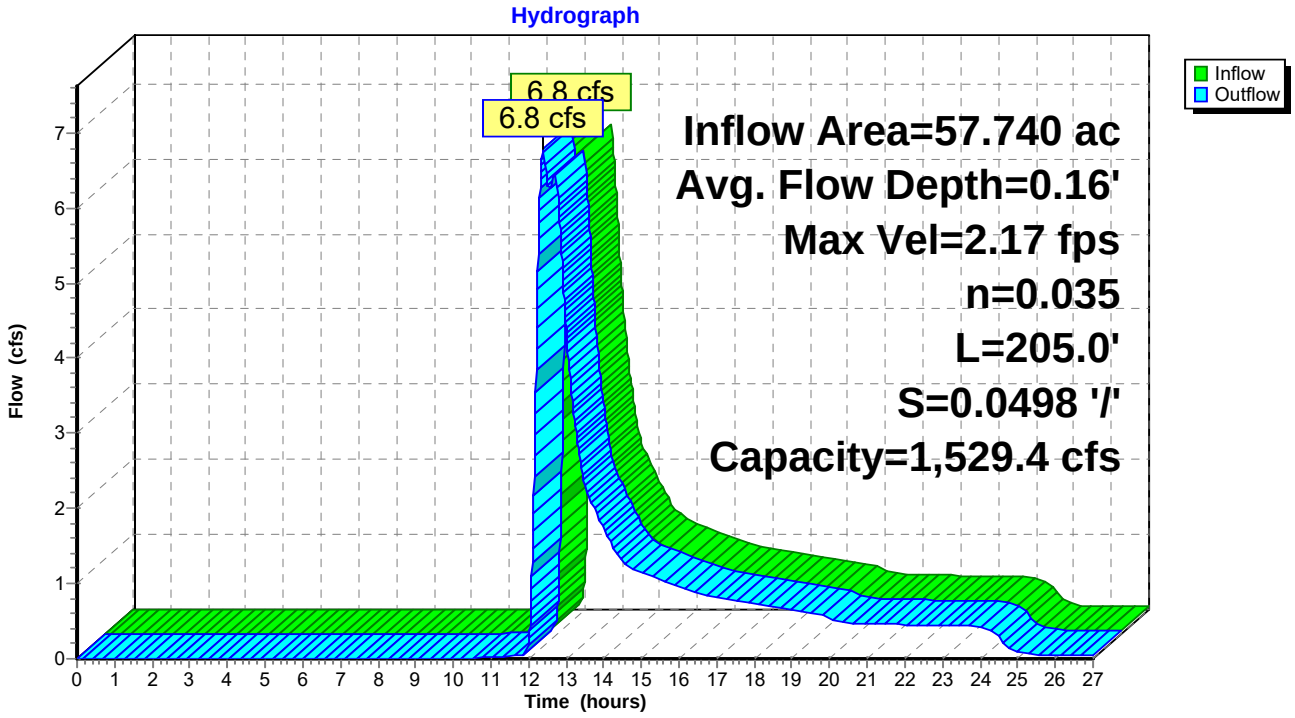
Reach RC5: WETLAND STREAM



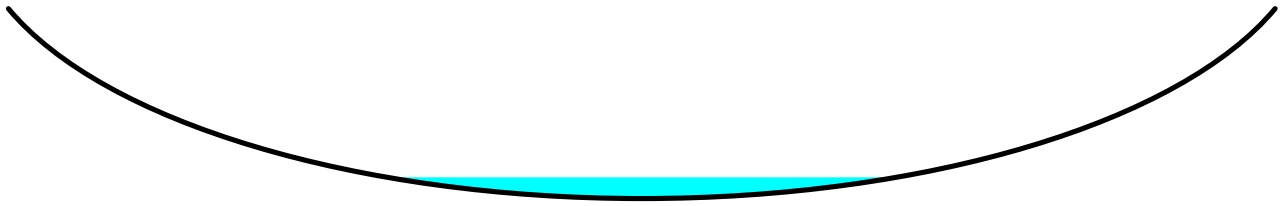
Summary for Reach RC6: WETLAND STREAM

Inflow Area = 56.960 ac, 6.86% Impervious, Inflow Depth > 0.26" for 10-yr event
Inflow = 7.0 cfs @ 12.33 hrs, Volume= 1.257 af
Outflow = 6.8 cfs @ 12.38 hrs, Volume= 1.256 af, Atten= 2%, Lag= 2.6 min
Routed to Reach RC5 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.38 fps, Min. Travel Time= 3.8 min
Avg. Velocity = 0.63 fps, Avg. Travel Time= 8.3 min

Peak Storage= 1,555 cf @ 12.38 hrs
Average Depth at Peak Storage= 0.22' , Surface Width= 33.32'
Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 795.1 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
Length= 315.0' Slope= 0.0135 '/'
Inlet Invert= 1,110.00', Outlet Invert= 1,105.76'



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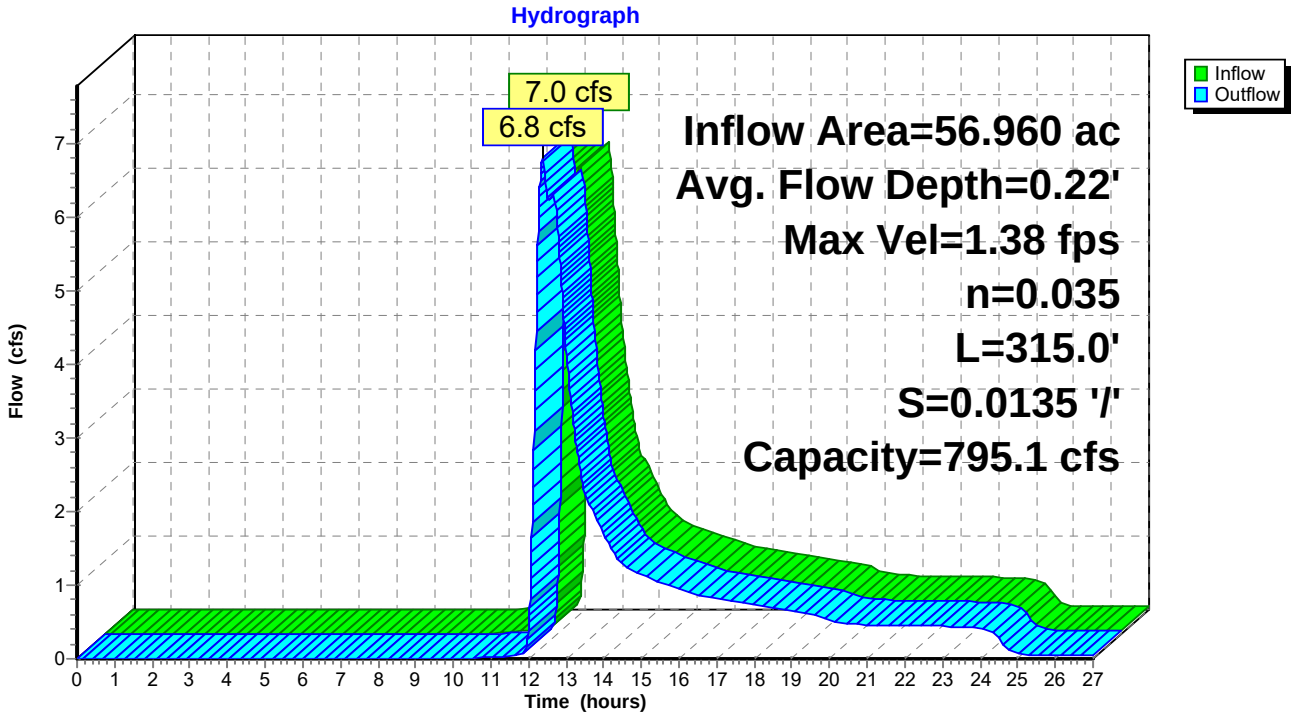
Reach RC6: WETLAND STREAM



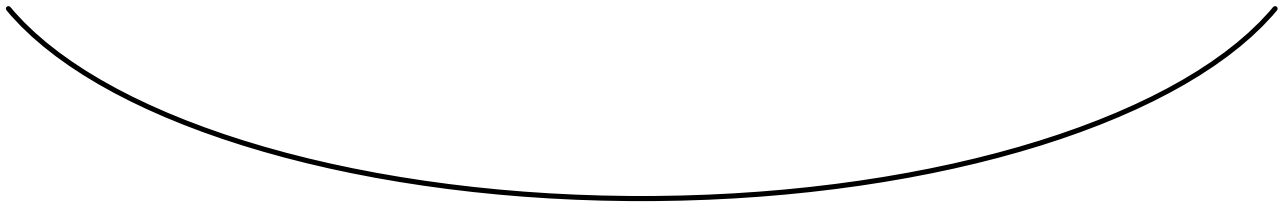
Summary for Reach RC8: WOODS

Inflow Area = 13.920 ac, 2.01% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Pond RC7 : NEW DOUGLAS DRIVE CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 97.7 cfs

60.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
Length= 210.0' Slope= 0.0464 '/'
Inlet Invert= 1,120.00', Outlet Invert= 1,110.25'



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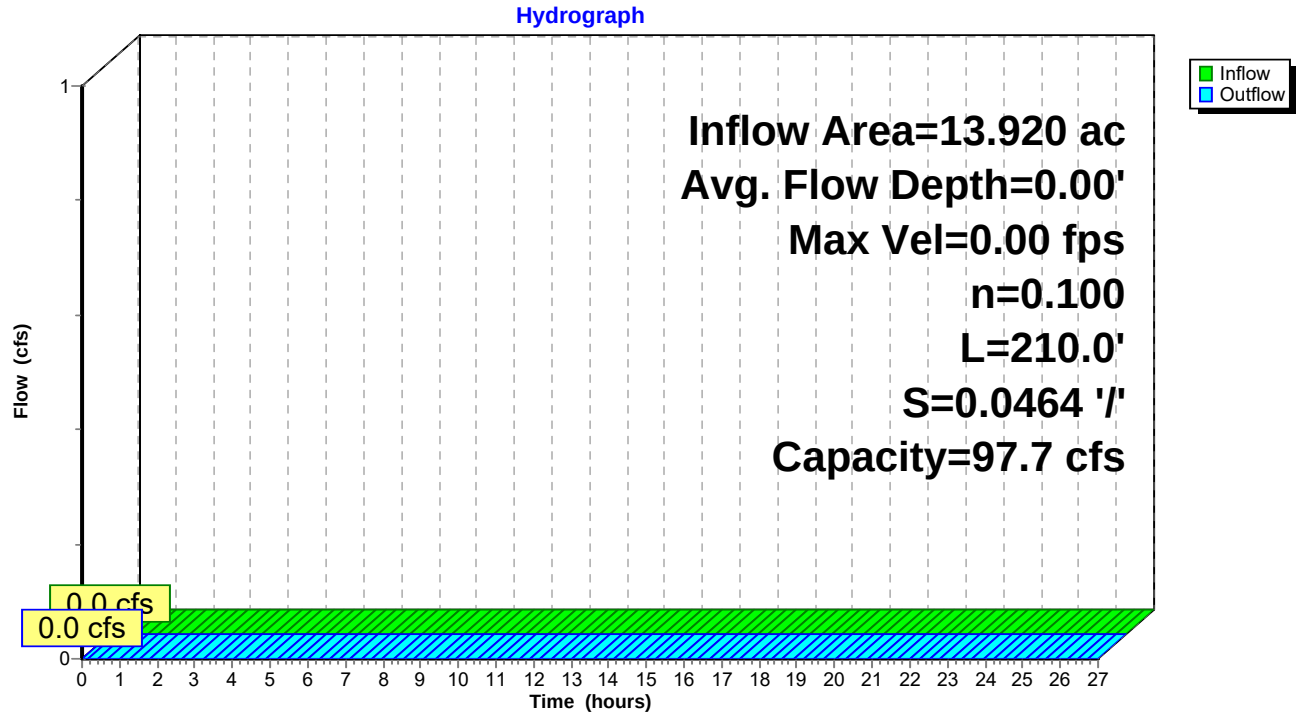
Reach RC8: WOODS



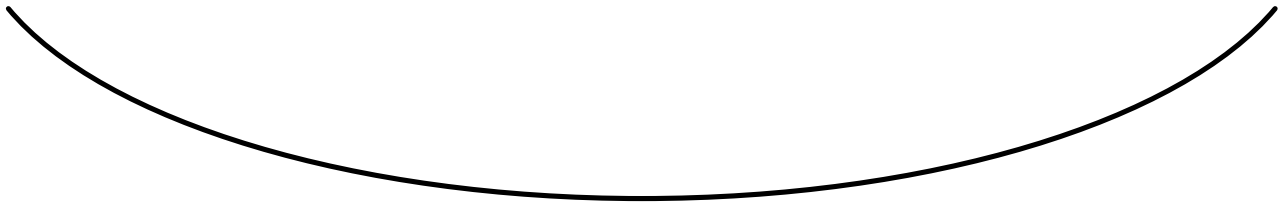
Summary for Reach RC9: WETLAND

Inflow Area = 14.060 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach RC10 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 46.7 sf, Capacity= 436.9 cfs

35.00' x 2.00' deep Parabolic Channel, n= 0.035
Length= 955.0' Slope= 0.0335 '/'
Inlet Invert= 1,186.00', Outlet Invert= 1,154.00'



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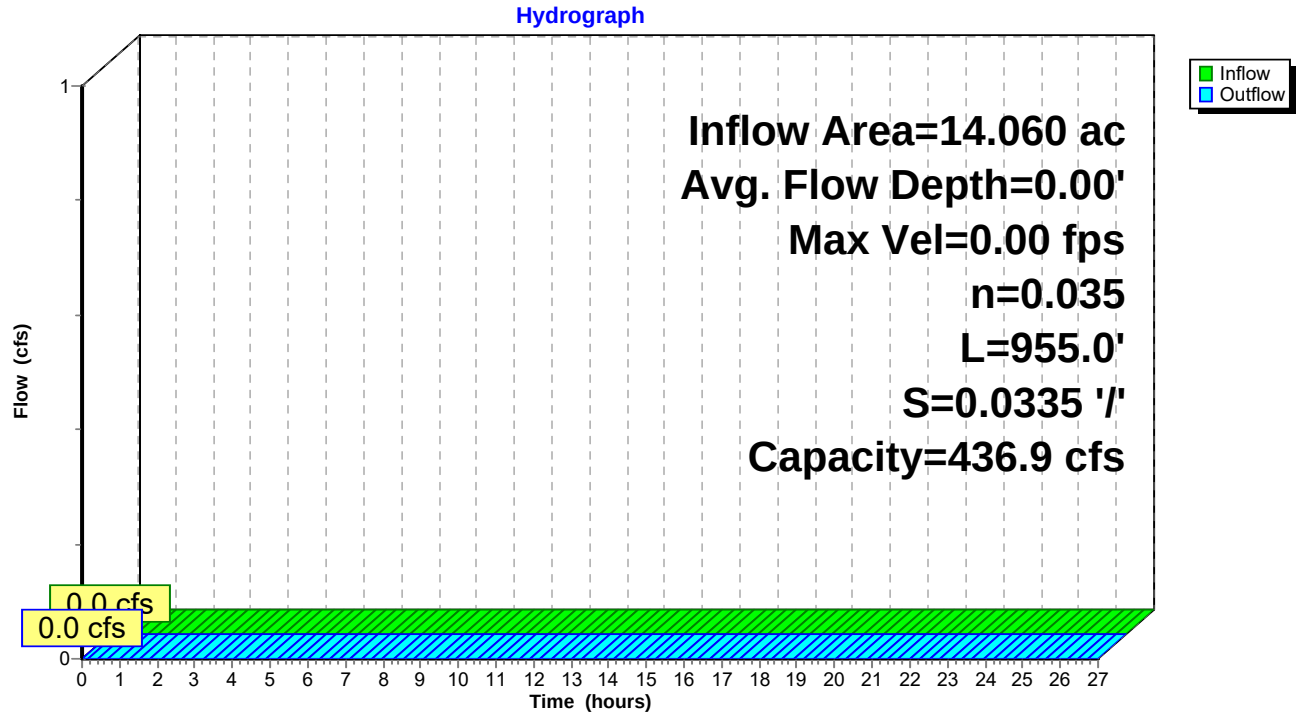
Reach RC9: WETLAND



Summary for Pond FB10: FOREBAY

Inflow Area = 14.060 ac, 0.00% Impervious, Inflow Depth = 0.57" for 10-yr event
Inflow = 4.2 cfs @ 12.44 hrs, Volume= 0.667 af
Outflow = 4.2 cfs @ 12.44 hrs, Volume= 0.642 af, Atten= 0%, Lag= 0.4 min
Discarded = 0.2 cfs @ 12.44 hrs, Volume= 0.282 af
Primary = 3.9 cfs @ 12.44 hrs, Volume= 0.360 af
Routed to Pond P10 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Peak Elev= 1,212.07' @ 12.44 hrs Surf.Area= 2,112 sf Storage= 2,914 cf

Plug-Flow detention time= 76.6 min calculated for 0.642 af (96% of inflow)
Center-of-Mass det. time= 57.0 min (986.2 - 929.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,210.00'	5,423 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

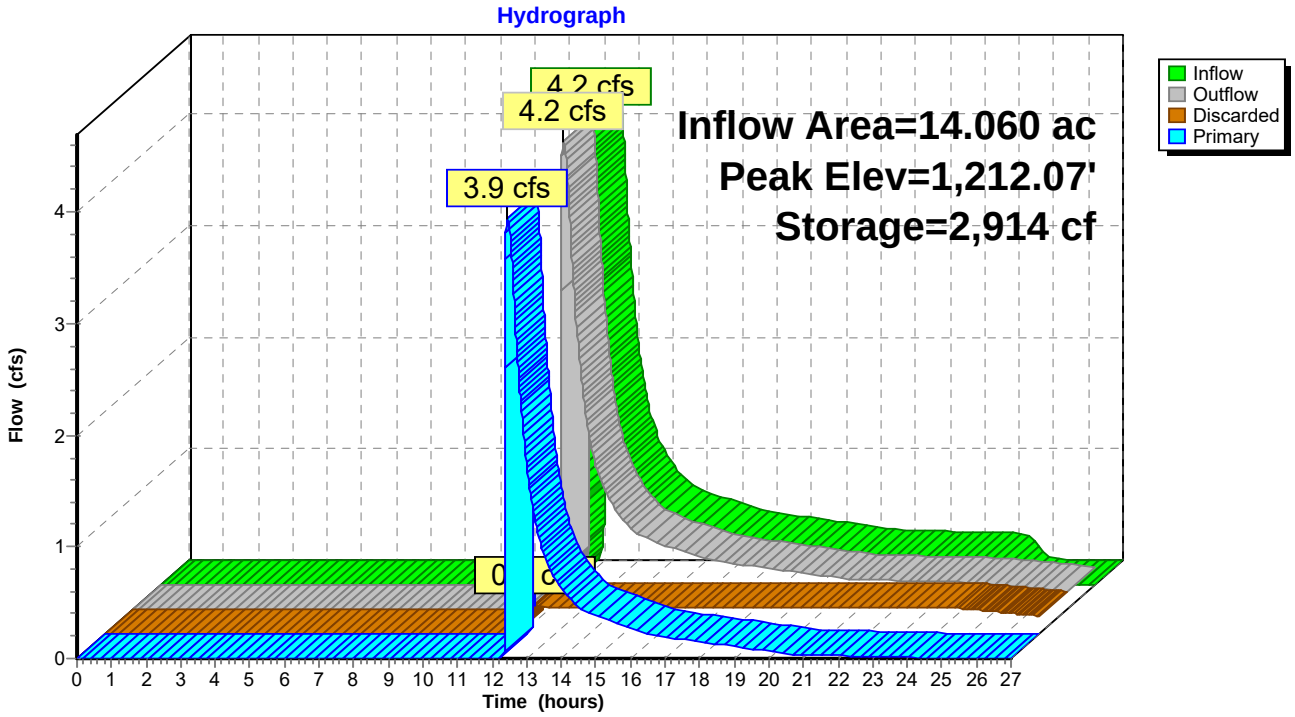
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,210.00	745	0	0
1,212.00	2,020	2,765	2,765
1,213.00	3,295	2,658	5,423

Device	Routing	Invert	Outlet Devices
#1	Primary	1,212.00'	**85.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,210.00'	**5.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.2 cfs @ 12.44 hrs HW=1,212.07' (Free Discharge)
↑**2=Exfiltration** (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=3.9 cfs @ 12.44 hrs HW=1,212.07' TW=1,207.14' (Dynamic Tailwater)
↑**1=Broad-Crested Rectangular Weir** (Weir Controls 3.9 cfs @ 0.64 fps)

Pond FB10: FOREBAY



Summary for Pond FB3: FOREBAY

Inflow Area = 16.840 ac, 2.61% Impervious, Inflow Depth = 0.76" for 10-yr event
Inflow = 7.4 cfs @ 12.39 hrs, Volume= 1.066 af
Outflow = 7.4 cfs @ 12.40 hrs, Volume= 1.038 af, Atten= 0%, Lag= 0.6 min
Discarded = 0.2 cfs @ 12.40 hrs, Volume= 0.275 af
Primary = 7.2 cfs @ 12.40 hrs, Volume= 0.762 af
Routed to Pond P3 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Peak Elev= 1,122.11' @ 12.40 hrs Surf.Area= 1,983 sf Storage= 3,053 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 35.0 min (942.4 - 907.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,120.00'	3,865 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

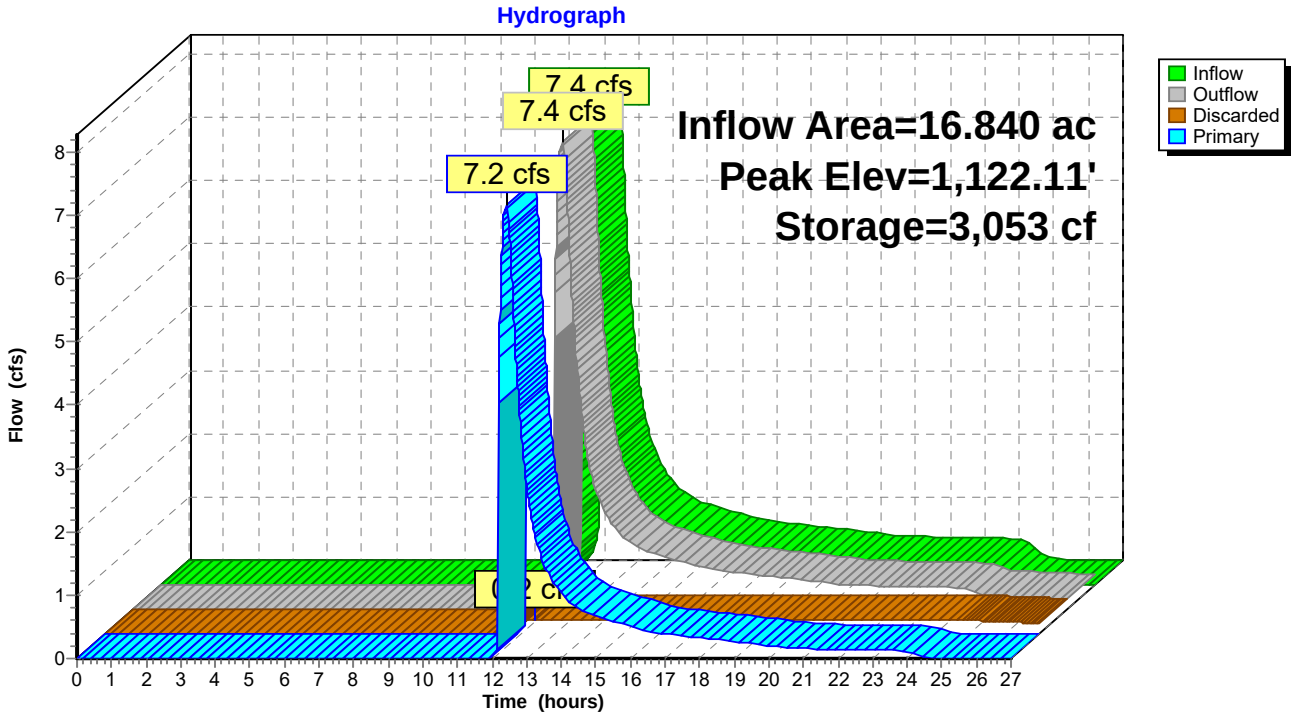
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,120.00	915	0	0
1,122.00	1,920	2,835	2,835
1,122.50	2,200	1,030	3,865

Device	Routing	Invert	Outlet Devices
#1	Primary	1,122.00'	**80.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,120.00'	**5.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.2 cfs @ 12.40 hrs HW=1,122.11' (Free Discharge)
↑**2=Exfiltration** (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=7.2 cfs @ 12.40 hrs HW=1,122.11' TW=1,116.44' (Dynamic Tailwater)
↑**1=Broad-Crested Rectangular Weir** (Weir Controls 7.2 cfs @ 0.80 fps)

Pond FB3: FOREBAY



Summary for Pond FB5: FOREBAY

Inflow Area = 1.810 ac, 75.14% Impervious, Inflow Depth = 2.27" for 10-yr event
Inflow = 7.1 cfs @ 11.97 hrs, Volume= 0.342 af
Outflow = 7.0 cfs @ 11.98 hrs, Volume= 0.343 af, Atten= 1%, Lag= 0.7 min
Discarded = 0.2 cfs @ 11.98 hrs, Volume= 0.154 af
Primary = 6.8 cfs @ 11.98 hrs, Volume= 0.189 af
Routed to Pond P5 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Peak Elev= 1,133.39' @ 11.98 hrs Surf.Area= 1,322 sf Storage= 1,429 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 36.9 min (839.5 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,132.00'	3,153 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

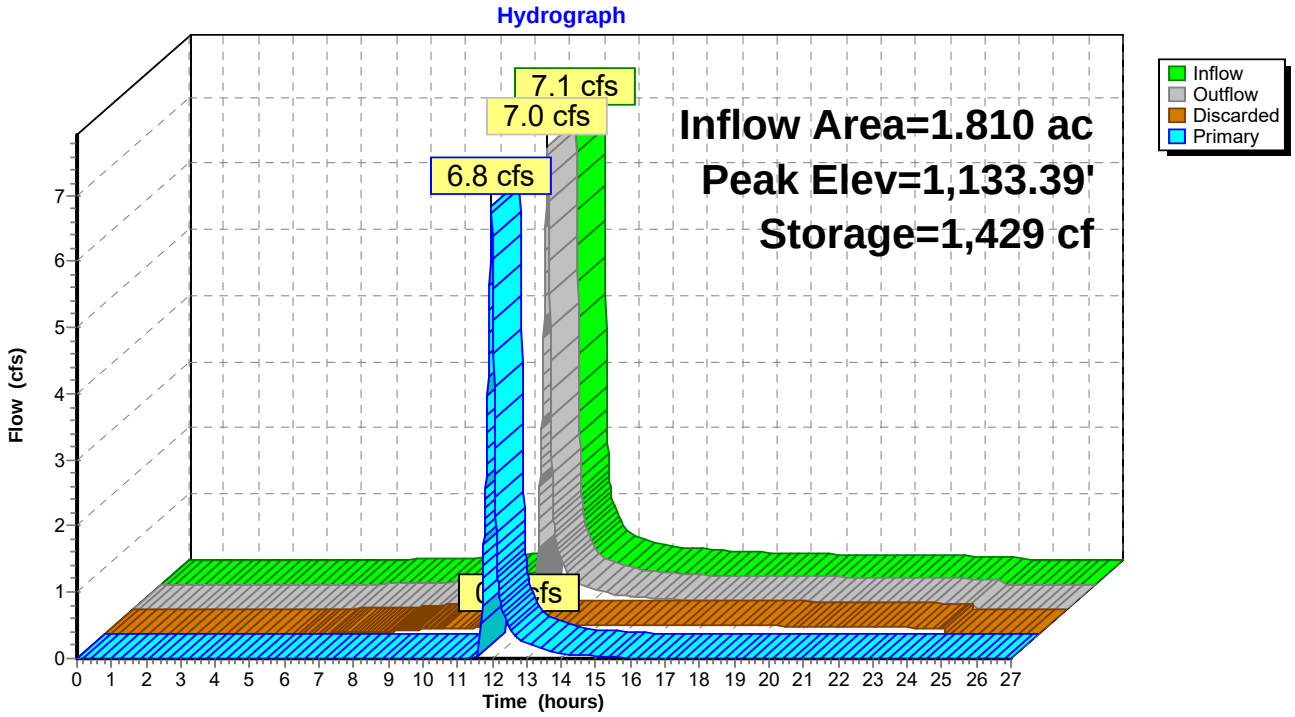
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,132.00	730	0	0
1,134.00	1,580	2,310	2,310
1,134.50	1,792	843	3,153

Device	Routing	Invert	Outlet Devices
#1	Primary	1,133.00'	**10.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,132.00'	**5.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.2 cfs @ 11.98 hrs HW=1,133.39' (Free Discharge)
↑**2=Exfiltration** (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=6.8 cfs @ 11.98 hrs HW=1,133.39' TW=1,131.53' (Dynamic Tailwater)
↑**1=Broad-Crested Rectangular Weir** (Weir Controls 6.8 cfs @ 1.55 fps)

Pond FB5: FOREBAY



Summary for Pond FB6: FOREBAY

Inflow Area = 2.010 ac, 31.34% Impervious, Inflow Depth = 1.35" for 10-yr event
Inflow = 3.2 cfs @ 12.10 hrs, Volume= 0.227 af
Outflow = 0.4 cfs @ 12.84 hrs, Volume= 0.227 af, Atten= 88%, Lag= 44.2 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond P6 : RAIN GARDEN
Secondary = 0.4 cfs @ 12.84 hrs, Volume= 0.227 af
Routed to Pond P6 : RAIN GARDEN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Peak Elev= 1,125.61' @ 12.84 hrs Surf.Area= 3,302 sf Storage= 3,946 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 99.5 min (954.0 - 854.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,124.00'	7,305 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

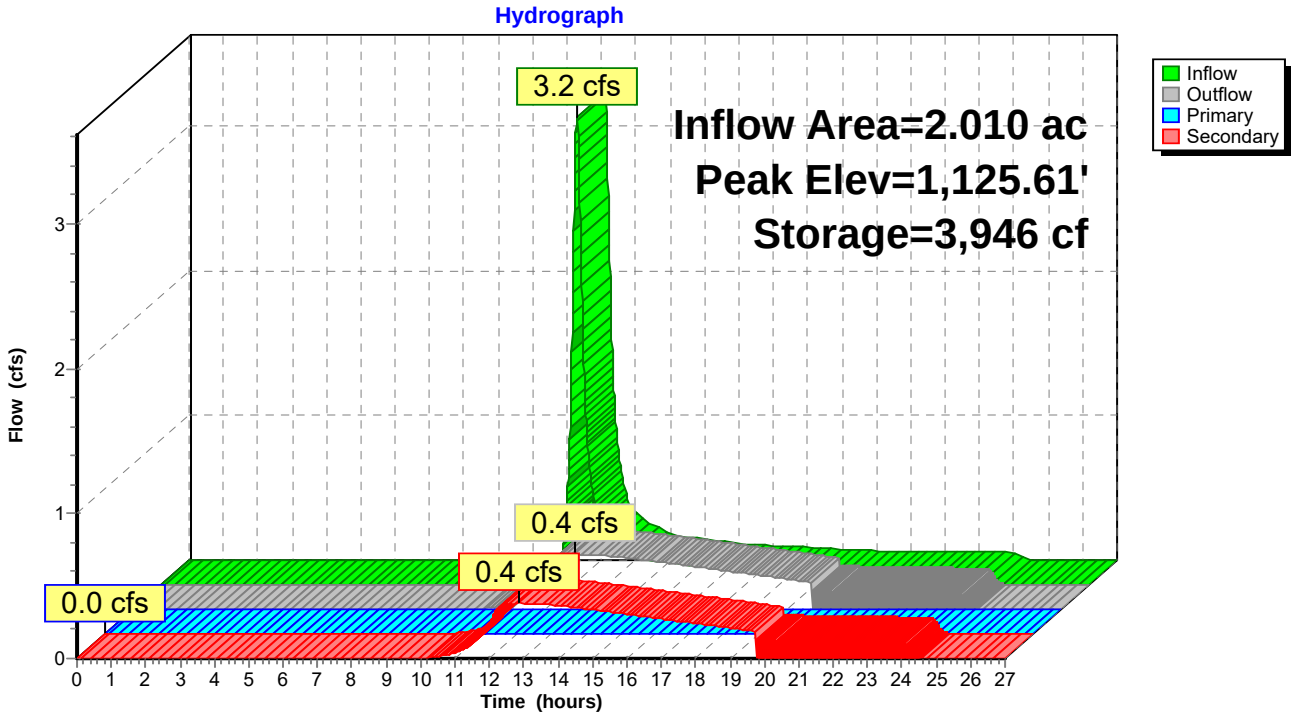
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,124.00	1,600	0	0
1,126.00	3,715	5,315	5,315
1,126.50	4,245	1,990	7,305

Device	Routing	Invert	Outlet Devices
#1	Primary	1,126.00'	**90.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Secondary	1,124.00'	**5.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,124.00' TW=1,122.25' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Secondary OutFlow Max=0.4 cfs @ 12.84 hrs HW=1,125.61' TW=1,124.15' (Dynamic Tailwater)
↑—**2=Exfiltration** (Exfiltration Controls 0.4 cfs)

Pond FB6: FOREBAY



Summary for Pond FB7: FOREBAY

Inflow Area = 0.780 ac, 0.00% Impervious, Inflow Depth = 12.55" for 10-yr event
Inflow = 12.4 cfs @ 12.10 hrs, Volume= 0.816 af
Outflow = 12.4 cfs @ 12.11 hrs, Volume= 0.807 af, Atten= 0%, Lag= 0.4 min
Discarded = 0.3 cfs @ 12.11 hrs, Volume= 0.343 af
Primary = 12.1 cfs @ 12.11 hrs, Volume= 0.465 af
Routed to Pond P7 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Peak Elev= 1,142.17' @ 12.11 hrs Surf.Area= 2,566 sf Storage= 4,196 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 71.8 min (913.8 - 841.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,140.00'	5,066 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,140.00	1,295	0	0
1,142.00	2,465	3,760	3,760
1,142.50	2,757	1,306	5,066

Device	Routing	Invert	Outlet Devices
#1	Primary	1,142.00'	**70.0' long + 3.0 '/' SideZ x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,140.00'	**5.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.3 cfs @ 12.11 hrs HW=1,142.17' (Free Discharge)
2=Exfiltration (Exfiltration Controls 0.3 cfs)

Primary OutFlow Max=12.1 cfs @ 12.11 hrs HW=1,142.17' TW=1,139.31' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 12.1 cfs @ 0.99 fps)

Pond FB7: FOREBAY