



**PETRUCELLI
ENGINEERING**

**RUDOLPH C. PETRUCELLI, P.E.
PAUL BERTÉ, P.E.**

HIDDEN COVE ON THE HUDSON

Village of Ossining

STORMWATER CAPACITY ANALYSIS

**Prepared by:
Petrucelli Engineering
600 North Broadway
Suite 200
White Plains, NY 10603**

**November 20, 2012
Revised
July 2, 2013
February 28, 2017**



Stormwater Management

Proposed re-routing of the existing stream flow

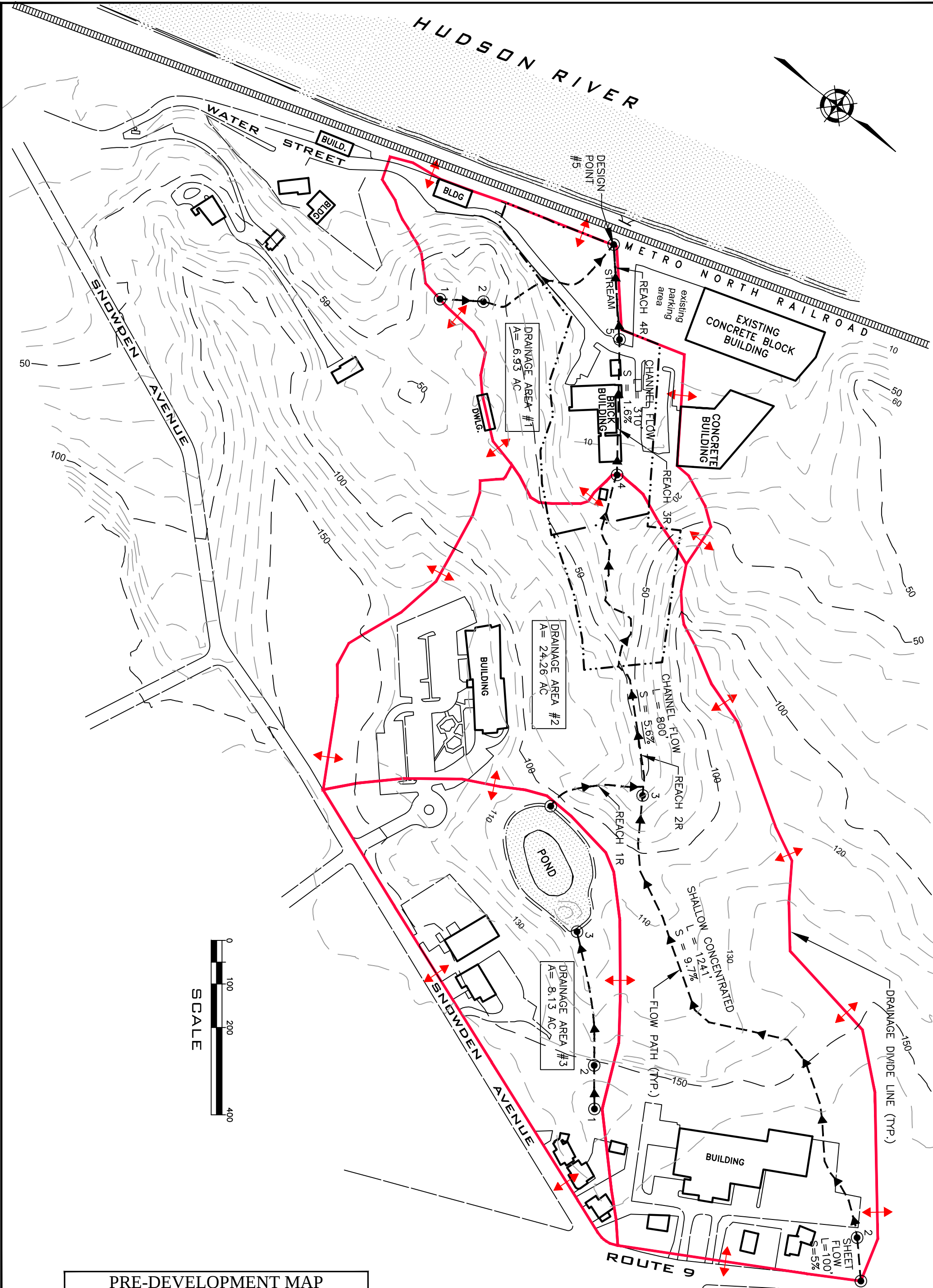
The existing stream that currently channel flows through the site takes in an approximate drainage area of 26.6 acres with a peak storage for a 100-year storm event of 6,797 c.f. The open channel drains the corresponding watershed area from Route 9 to the Hudson River. Runoff from the sub-basin is routed downstream until it reaches an existing brick culvert at the existing Mill Building. This culvert continues underneath the Mill Building and Water Street eventually discharging to an approximately 220' long open water course. The channel continues west before joining an existing drainage culvert (Design Point #5) crossing under the Metro-North tracks and then discharges into the Hudson River.

During demolition of the Mill Building, the brick culvert will remain in place and be maintained. Upon completion of the building demolition, a new reinforced concrete box culvert will be installed alongside the existing one and then tied into the stream at each end. When the new concrete box culvert is installed, the stream between the access road and the railroad will be cleaned of all debris and removed off the site. The existing brick culvert will collect stormwater for a time and be phased out as construction proceeds. Upon completion of the new box culvert, the brick culvert will be demolished and replaced with compacted earth.

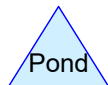
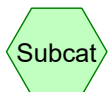
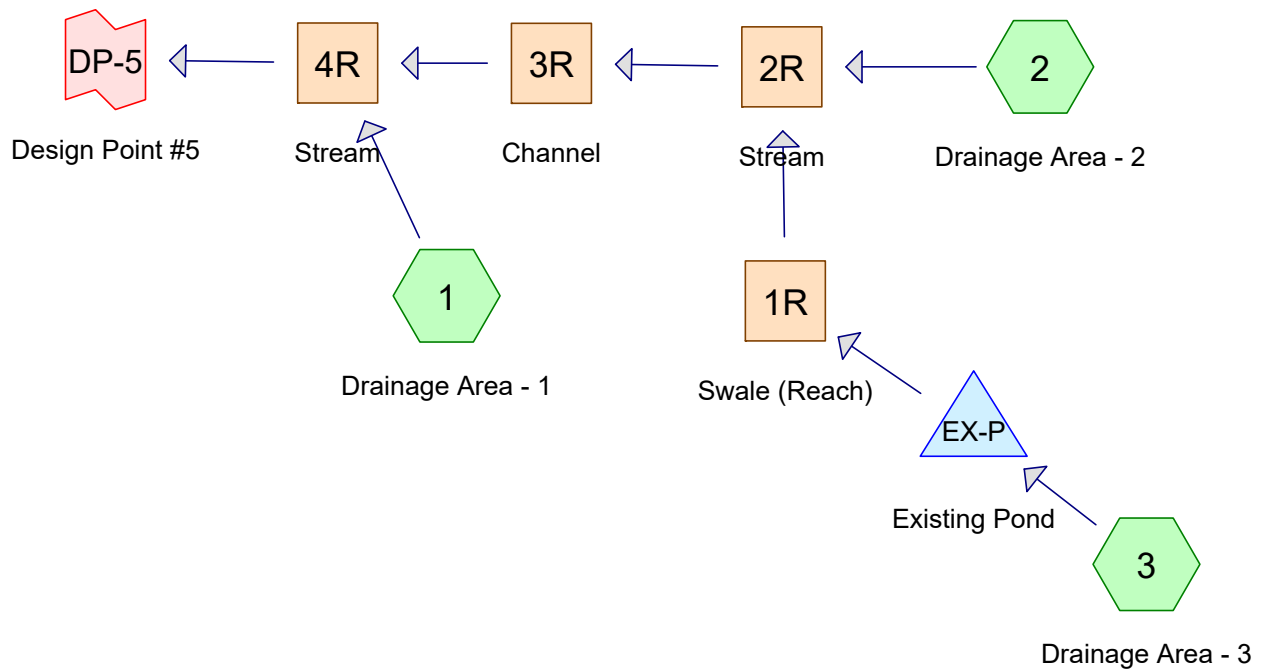
The project development requires the re-routing of the existing stream underneath the proposed 6-story building through a new series of 8' wide x 4' deep precast box culverts. The new box culvert includes a drainage structure with a weir inlet designed to transport the stream with flows during most conditions while allowing to control the peak stormwater elevations at the east side of the building. The enclosed box culvert will consist of a series of rectangular sections that will extend for the entire length of the proposed building and new improvement areas before discharging at a point on the stream.

Storm water Management Facilities Maintenance Program

- Precast concrete box culverts provide many years of service with the minimum amount of maintenance. The authority who is maintaining the building and property will have personnel to conduct periodic up-keeping of the condition of the box culverts to remove any drift and debris as needed.



1 2	SHEET NO.	STORMWATER CAPACITY ANAYALSIS			 PETRUCCELLI ENGINEERING 600 NORTH BROADWAY WHITE PLAINS, N.Y. 10603 9 1 4 . 9 4 8 . 3 6 2 9 PAUL BERTÉ, P.E.	REVISIONS		JOB NO. 2001	
		HIDDEN COVE ON THE HUDSON 36 NORTH WATER STREET VILLAGE OF OSSINING NEW YORK				07.02.13		DATE: 11.20.12	
						02.28.17		SCALE: AS NOTED	
								DRAWN BY: KMM	



Routing Diagram for PRE_DEV (Brick Culvert) Rev_Feb 28, 2017

Prepared by PETRUCCELLI ENGINEERING

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PRE_DEV (Brick Culvert) Rev_Feb 28, 2017

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.856	83	Brush, Poor, HSG D (1)
5.877	98	Paved parking & roofs (1, 2)
1.704	98	Paved roads w/ curbs & sewers (3)
0.159	98	Water Course (2)
24.410	79	Woods, Fair, HSG D (1, 2, 3)
33.005	84	TOTAL AREA

PRE_DEV (Brick Culvert) Rev_Feb 28, 2017

Prepared by PETRUCCELLI ENGINEERING

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Proposed Conditions

Type III 24-hr 1 YEAR Rainfall=2.78"

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Time span=5.00-24.00 hrs, dt=0.05 hrs, 381 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1: Drainage Area - 1	Runoff Area=279,005 sf 21.56% Impervious Runoff Depth>1.33" Flow Length=378' Tc=15.1 min CN=84 Runoff=7.51 cfs 0.712 af
Subcatchment2: Drainage Area - 2	Runoff Area=1,056,532 sf 19.19% Impervious Runoff Depth>1.27" Flow Length=1,341' Tc=18.3 min CN=83 Runoff=24.96 cfs 2.560 af
Subcatchment3: Drainage Area - 3	Runoff Area=102,167 sf 72.65% Impervious Runoff Depth>2.04" Flow Length=310' Tc=7.7 min CN=93 Runoff=5.12 cfs 0.399 af
Reach 1R: Swale (Reach)	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af n=0.030 L=228.0' S=0.1842 ' / ' Capacity=2,551.26 cfs Outflow=0.00 cfs 0.000 af
Reach 2R: Stream	Avg. Flow Depth=0.89' Max Vel=5.90 fps Inflow=24.96 cfs 2.560 af n=0.040 L=800.0' S=0.0537 ' / ' Capacity=598.05 cfs Outflow=24.63 cfs 2.555 af
Reach 3R: Channel	Avg. Flow Depth=0.84' Max Vel=2.93 fps Inflow=24.63 cfs 2.555 af n=0.040 L=310.0' S=0.0097 ' / ' Capacity=248.94 cfs Outflow=24.56 cfs 2.550 af
Reach 4R: Stream	Avg. Flow Depth=1.42' Max Vel=3.98 fps Inflow=31.10 cfs 3.262 af n=0.040 L=220.0' S=0.0136 ' / ' Capacity=150.76 cfs Outflow=31.10 cfs 3.259 af
Pond EX-P: Existing Pond	Peak Elev=87.37' Storage=17,382 cf Inflow=5.12 cfs 0.399 af Outflow=0.00 cfs 0.000 af
Link DP-5: Design Point #5	above 135.16 cfs Inflow=31.10 cfs 3.259 af Primary=0.00 cfs 0.000 af Secondary=31.10 cfs 3.259 af

Total Runoff Area = 33.005 ac Runoff Volume = 3.671 af Average Runoff Depth = 1.33"
76.55% Pervious = 25.265 ac 23.45% Impervious = 7.740 ac

Summary for Subcatchment 1: Drainage Area - 1

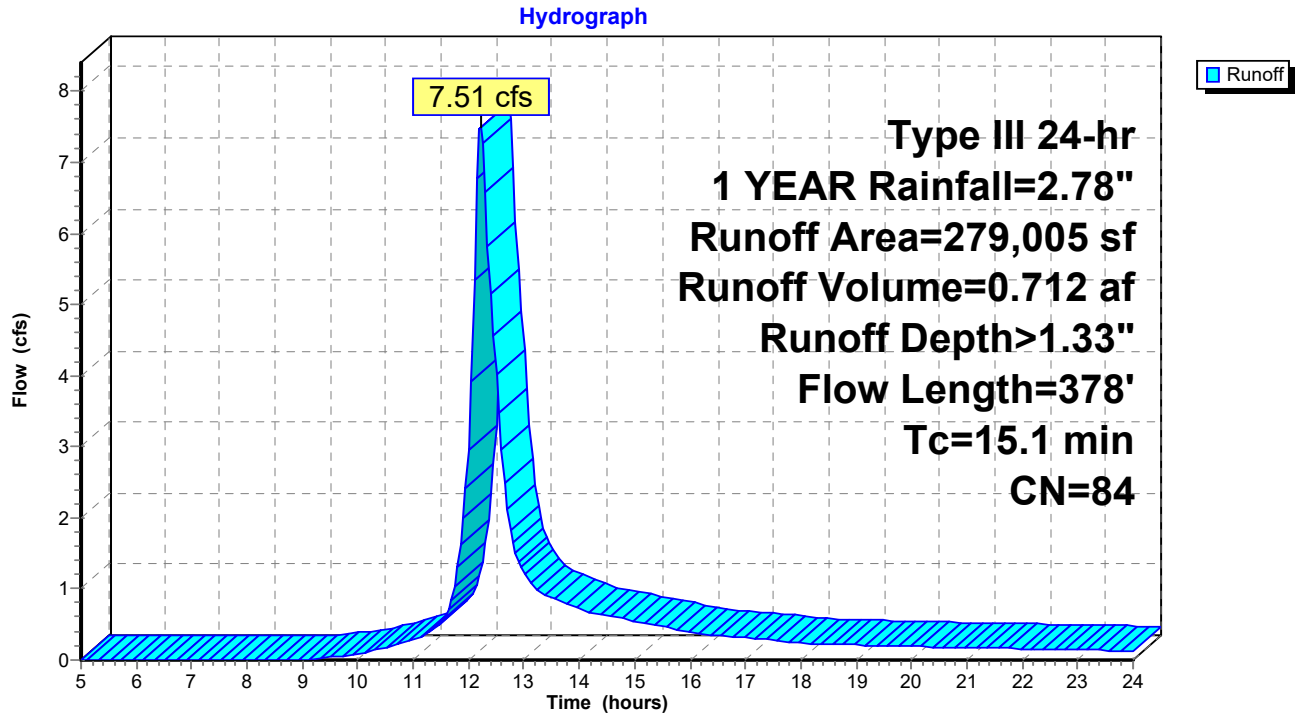
Runoff = 7.51 cfs @ 12.21 hrs, Volume= 0.712 af, Depth> 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YEAR Rainfall=2.78"

	Area (sf)	CN	Description
*	60,161	98	Paved parking & roofs
	37,271	83	Brush, Poor, HSG D
	181,573	79	Woods, Fair, HSG D
	279,005	84	Weighted Average
	218,844		78.44% Pervious Area
	60,161		21.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	70	0.0280	0.09		Sheet Flow, 1 to 2 Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	110	0.6000	12.47		Shallow Concentrated Flow, 2 to 3 Unpaved Kv= 16.1 fps
0.3	38	0.0100	2.03		Shallow Concentrated Flow, 3 to 4 Paved Kv= 20.3 fps
1.2	160	0.0200	2.28		Shallow Concentrated Flow, 4 to 5 Unpaved Kv= 16.1 fps
15.1	378	Total			

Subcatchment 1: Drainage Area - 1



Hydrograph for Subcatchment 1: Drainage Area - 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.16	0.00	0.00	18.00	2.58	1.18	0.24
5.25	0.17	0.00	0.00	18.25	2.59	1.19	0.23
5.50	0.18	0.00	0.00	18.50	2.60	1.20	0.22
5.75	0.19	0.00	0.00	18.75	2.61	1.20	0.22
6.00	0.20	0.00	0.00	19.00	2.62	1.21	0.21
6.25	0.21	0.00	0.00	19.25	2.63	1.22	0.21
6.50	0.22	0.00	0.00	19.50	2.64	1.23	0.20
6.75	0.24	0.00	0.00	19.75	2.65	1.23	0.19
7.00	0.25	0.00	0.00	20.00	2.66	1.24	0.19
7.25	0.27	0.00	0.00	20.25	2.67	1.25	0.18
7.50	0.28	0.00	0.00	20.50	2.68	1.26	0.18
7.75	0.30	0.00	0.00	20.75	2.69	1.26	0.18
8.00	0.32	0.00	0.00	21.00	2.70	1.27	0.17
8.25	0.34	0.00	0.00	21.25	2.70	1.28	0.17
8.50	0.36	0.00	0.00	21.50	2.71	1.28	0.17
8.75	0.38	0.00	0.00	21.75	2.72	1.29	0.16
9.00	0.41	0.00	0.00	22.00	2.73	1.29	0.16
9.25	0.43	0.00	0.02	22.25	2.73	1.30	0.15
9.50	0.46	0.00	0.04	22.50	2.74	1.31	0.15
9.75	0.49	0.01	0.06	22.75	2.75	1.31	0.15
10.00	0.53	0.01	0.09	23.00	2.75	1.32	0.14
10.25	0.56	0.02	0.12	23.25	2.76	1.32	0.14
10.50	0.60	0.02	0.17	23.50	2.77	1.33	0.13
10.75	0.65	0.03	0.22	23.75	2.77	1.33	0.13
11.00	0.70	0.04	0.28	24.00	2.78	1.34	0.13
11.25	0.75	0.06	0.37				
11.50	0.83	0.09	0.54				
11.75	0.99	0.15	1.04				
12.00	1.39	0.35	2.97				
12.25	1.79	0.60	7.28				
12.50	1.95	0.71	4.01				
12.75	2.03	0.76	1.83				
13.00	2.09	0.80	1.23				
13.25	2.13	0.84	0.97				
13.50	2.18	0.87	0.87				
13.75	2.22	0.90	0.80				
14.00	2.25	0.93	0.73				
14.25	2.29	0.95	0.66				
14.50	2.32	0.98	0.62				
14.75	2.35	1.00	0.58				
15.00	2.37	1.02	0.55				
15.25	2.40	1.04	0.51				
15.50	2.42	1.06	0.47				
15.75	2.44	1.07	0.43				
16.00	2.46	1.09	0.40				
16.25	2.48	1.10	0.36				
16.50	2.50	1.11	0.34				
16.75	2.51	1.13	0.33				
17.00	2.53	1.14	0.31				
17.25	2.54	1.15	0.29				
17.50	2.56	1.16	0.28				
17.75	2.57	1.17	0.26				

Summary for Subcatchment 2: Drainage Area - 2

Runoff = 24.96 cfs @ 12.26 hrs, Volume= 2.560 af, Depth> 1.27"

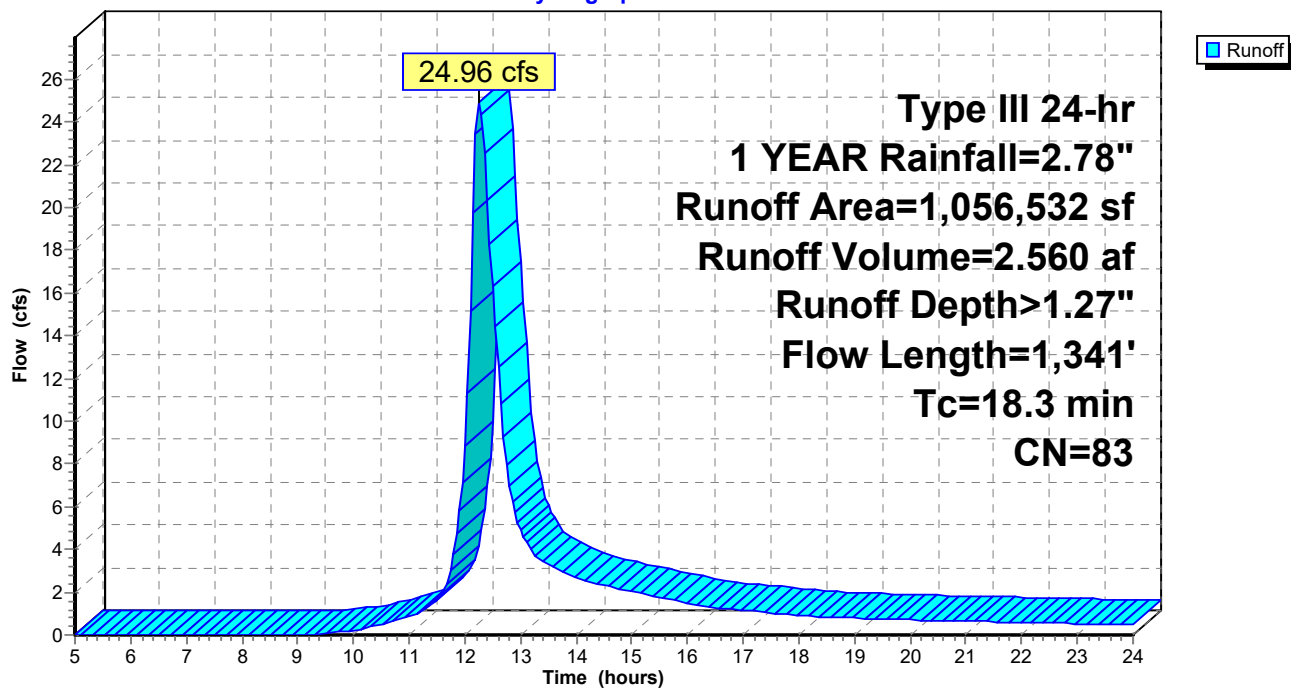
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YEAR Rainfall=2.78"

	Area (sf)	CN	Description
*	195,831	98	Paved parking & roofs
*	6,925	98	Water Course
	853,776	79	Woods, Fair, HSG D
	1,056,532	83	Weighted Average
	853,776		80.81% Pervious Area
	202,756		19.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		Sheet Flow, 1 to 2 Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	1,241	0.0970	5.01		Shallow Concentrated Flow, 2 to 3 Unpaved Kv= 16.1 fps
18.3	1,341	Total			

Subcatchment 2: Drainage Area - 2

Hydrograph



Hydrograph for Subcatchment 2: Drainage Area - 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.16	0.00	0.00	18.00	2.58	1.12	0.90
5.25	0.17	0.00	0.00	18.25	2.59	1.12	0.85
5.50	0.18	0.00	0.00	18.50	2.60	1.13	0.82
5.75	0.19	0.00	0.00	18.75	2.61	1.14	0.80
6.00	0.20	0.00	0.00	19.00	2.62	1.15	0.78
6.25	0.21	0.00	0.00	19.25	2.63	1.16	0.76
6.50	0.22	0.00	0.00	19.50	2.64	1.16	0.74
6.75	0.24	0.00	0.00	19.75	2.65	1.17	0.72
7.00	0.25	0.00	0.00	20.00	2.66	1.18	0.70
7.25	0.27	0.00	0.00	20.25	2.67	1.19	0.69
7.50	0.28	0.00	0.00	20.50	2.68	1.19	0.67
7.75	0.30	0.00	0.00	20.75	2.69	1.20	0.66
8.00	0.32	0.00	0.00	21.00	2.70	1.21	0.64
8.25	0.34	0.00	0.00	21.25	2.70	1.21	0.63
8.50	0.36	0.00	0.00	21.50	2.71	1.22	0.61
8.75	0.38	0.00	0.00	21.75	2.72	1.22	0.60
9.00	0.41	0.00	0.00	22.00	2.73	1.23	0.59
9.25	0.43	0.00	0.00	22.25	2.73	1.24	0.57
9.50	0.46	0.00	0.05	22.50	2.74	1.24	0.56
9.75	0.49	0.00	0.13	22.75	2.75	1.25	0.54
10.00	0.53	0.01	0.23	23.00	2.75	1.25	0.53
10.25	0.56	0.01	0.34	23.25	2.76	1.26	0.51
10.50	0.60	0.02	0.48	23.50	2.77	1.26	0.50
10.75	0.65	0.02	0.66	23.75	2.77	1.27	0.48
11.00	0.70	0.03	0.87	24.00	2.78	1.27	0.47
11.25	0.75	0.05	1.15				
11.50	0.83	0.07	1.69				
11.75	0.99	0.13	3.07				
12.00	1.39	0.32	8.83				
12.25	1.79	0.56	24.91				
12.50	1.95	0.66	16.34				
12.75	2.03	0.71	7.95				
13.00	2.09	0.75	4.91				
13.25	2.13	0.79	3.73				
13.50	2.18	0.82	3.27				
13.75	2.22	0.85	2.99				
14.00	2.25	0.87	2.72				
14.25	2.29	0.90	2.47				
14.50	2.32	0.92	2.30				
14.75	2.35	0.94	2.17				
15.00	2.37	0.96	2.04				
15.25	2.40	0.98	1.90				
15.50	2.42	1.00	1.77				
15.75	2.44	1.01	1.63				
16.00	2.46	1.03	1.49				
16.25	2.48	1.04	1.36				
16.50	2.50	1.05	1.28				
16.75	2.51	1.07	1.21				
17.00	2.53	1.08	1.15				
17.25	2.54	1.09	1.09				
17.50	2.56	1.10	1.03				
17.75	2.57	1.11	0.97				

Summary for Subcatchment 3: Drainage Area - 3

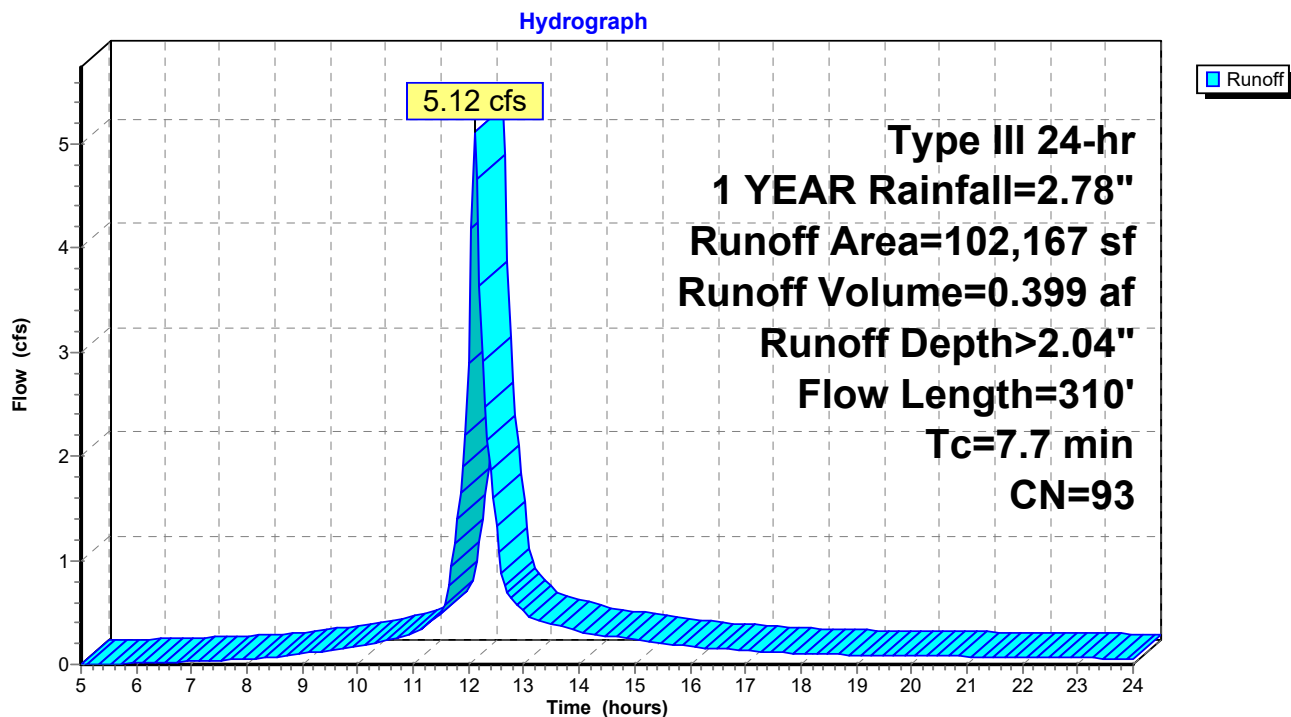
Runoff = 5.12 cfs @ 12.11 hrs, Volume= 0.399 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YEAR Rainfall=2.78"

	Area (sf)	CN	Description
*	74,229	98	Paved roads w/ curbs & sewers
	27,938	79	Woods, Fair, HSG D
	102,167	93	Weighted Average
	27,938		27.35% Pervious Area
	74,229		72.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.3000	0.24		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	210	0.0950	4.96		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
7.7	310	Total			

Subcatchment 3: Drainage Area - 3



Hydrograph for Subcatchment 3: Drainage Area - 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.16	0.00	0.00	18.00	2.58	1.85	0.10
5.25	0.17	0.00	0.00	18.25	2.59	1.87	0.10
5.50	0.18	0.00	0.01	18.50	2.60	1.88	0.10
5.75	0.19	0.00	0.01	18.75	2.61	1.89	0.09
6.00	0.20	0.00	0.01	19.00	2.62	1.89	0.09
6.25	0.21	0.00	0.01	19.25	2.63	1.90	0.09
6.50	0.22	0.01	0.02	19.50	2.64	1.91	0.09
6.75	0.24	0.01	0.02	19.75	2.65	1.92	0.08
7.00	0.25	0.01	0.03	20.00	2.66	1.93	0.08
7.25	0.27	0.02	0.03	20.25	2.67	1.94	0.08
7.50	0.28	0.02	0.04	20.50	2.68	1.95	0.08
7.75	0.30	0.02	0.05	20.75	2.69	1.96	0.08
8.00	0.32	0.03	0.05	21.00	2.70	1.96	0.07
8.25	0.34	0.04	0.06	21.25	2.70	1.97	0.07
8.50	0.36	0.04	0.07	21.50	2.71	1.98	0.07
8.75	0.38	0.05	0.09	21.75	2.72	1.99	0.07
9.00	0.41	0.06	0.10	22.00	2.73	1.99	0.07
9.25	0.43	0.08	0.12	22.25	2.73	2.00	0.07
9.50	0.46	0.09	0.13	22.50	2.74	2.01	0.06
9.75	0.49	0.11	0.15	22.75	2.75	2.01	0.06
10.00	0.53	0.12	0.17	23.00	2.75	2.02	0.06
10.25	0.56	0.15	0.20	23.25	2.76	2.03	0.06
10.50	0.60	0.17	0.23	23.50	2.77	2.03	0.06
10.75	0.65	0.20	0.26	23.75	2.77	2.04	0.06
11.00	0.70	0.23	0.30	24.00	2.78	2.04	0.05
11.25	0.75	0.27	0.38				
11.50	0.83	0.32	0.50				
11.75	0.99	0.44	1.16				
12.00	1.39	0.77	2.89				
12.25	1.79	1.13	2.91				
12.50	1.95	1.27	1.34				
12.75	2.03	1.34	0.65				
13.00	2.09	1.39	0.51				
13.25	2.13	1.44	0.42				
13.50	2.18	1.48	0.39				
13.75	2.22	1.52	0.35				
14.00	2.25	1.55	0.32				
14.25	2.29	1.58	0.29				
14.50	2.32	1.61	0.27				
14.75	2.35	1.64	0.26				
15.00	2.37	1.66	0.24				
15.25	2.40	1.69	0.22				
15.50	2.42	1.71	0.20				
15.75	2.44	1.73	0.19				
16.00	2.46	1.74	0.17				
16.25	2.48	1.76	0.16				
16.50	2.50	1.78	0.15				
16.75	2.51	1.79	0.14				
17.00	2.53	1.81	0.13				
17.25	2.54	1.82	0.13				
17.50	2.56	1.83	0.12				
17.75	2.57	1.84	0.11				

Summary for Reach 1R: Swale (Reach)

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth = 0.00" for 1 YEAR event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 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 @ 5.00 hrs

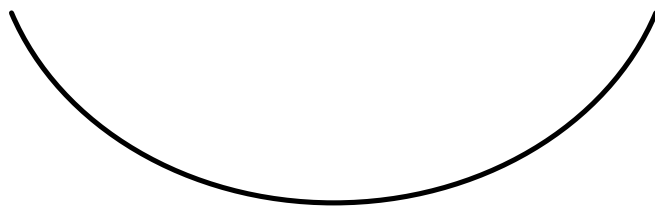
Average Depth at Peak Storage= 0.00'

Bank-Full Depth= 5.00' Flow Area= 60.0 sf, Capacity= 2,551.26 cfs

18.00' x 5.00' deep Parabolic Channel, n= 0.030 Stream, clean & straight

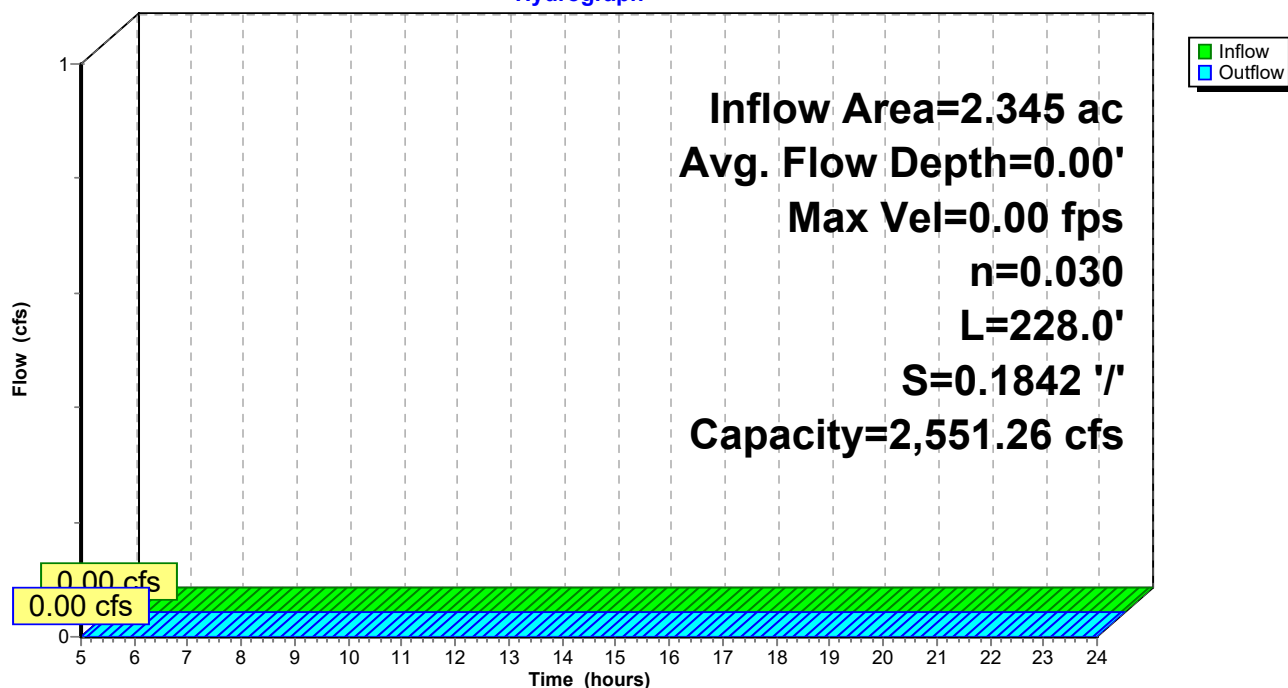
Length= 228.0' Slope= 0.1842 '/'

Inlet Invert= 95.00', Outlet Invert= 53.00'



Reach 1R: Swale (Reach)

Hydrograph



Hydrograph for Reach 1R: Swale (Reach)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
5.00	0.00	95.00	0.00	18.00	0.00	95.00	0.00
5.25	0.00	95.00	0.00	18.25	0.00	95.00	0.00
5.50	0.00	95.00	0.00	18.50	0.00	95.00	0.00
5.75	0.00	95.00	0.00	18.75	0.00	95.00	0.00
6.00	0.00	95.00	0.00	19.00	0.00	95.00	0.00
6.25	0.00	95.00	0.00	19.25	0.00	95.00	0.00
6.50	0.00	95.00	0.00	19.50	0.00	95.00	0.00
6.75	0.00	95.00	0.00	19.75	0.00	95.00	0.00
7.00	0.00	95.00	0.00	20.00	0.00	95.00	0.00
7.25	0.00	95.00	0.00	20.25	0.00	95.00	0.00
7.50	0.00	95.00	0.00	20.50	0.00	95.00	0.00
7.75	0.00	95.00	0.00	20.75	0.00	95.00	0.00
8.00	0.00	95.00	0.00	21.00	0.00	95.00	0.00
8.25	0.00	95.00	0.00	21.25	0.00	95.00	0.00
8.50	0.00	95.00	0.00	21.50	0.00	95.00	0.00
8.75	0.00	95.00	0.00	21.75	0.00	95.00	0.00
9.00	0.00	95.00	0.00	22.00	0.00	95.00	0.00
9.25	0.00	95.00	0.00	22.25	0.00	95.00	0.00
9.50	0.00	95.00	0.00	22.50	0.00	95.00	0.00
9.75	0.00	95.00	0.00	22.75	0.00	95.00	0.00
10.00	0.00	95.00	0.00	23.00	0.00	95.00	0.00
10.25	0.00	95.00	0.00	23.25	0.00	95.00	0.00
10.50	0.00	95.00	0.00	23.50	0.00	95.00	0.00
10.75	0.00	95.00	0.00	23.75	0.00	95.00	0.00
11.00	0.00	95.00	0.00	24.00	0.00	95.00	0.00
11.25	0.00	95.00	0.00				
11.50	0.00	95.00	0.00				
11.75	0.00	95.00	0.00				
12.00	0.00	95.00	0.00				
12.25	0.00	95.00	0.00				
12.50	0.00	95.00	0.00				
12.75	0.00	95.00	0.00				
13.00	0.00	95.00	0.00				
13.25	0.00	95.00	0.00				
13.50	0.00	95.00	0.00				
13.75	0.00	95.00	0.00				
14.00	0.00	95.00	0.00				
14.25	0.00	95.00	0.00				
14.50	0.00	95.00	0.00				
14.75	0.00	95.00	0.00				
15.00	0.00	95.00	0.00				
15.25	0.00	95.00	0.00				
15.50	0.00	95.00	0.00				
15.75	0.00	95.00	0.00				
16.00	0.00	95.00	0.00				
16.25	0.00	95.00	0.00				
16.50	0.00	95.00	0.00				
16.75	0.00	95.00	0.00				
17.00	0.00	95.00	0.00				
17.25	0.00	95.00	0.00				
17.50	0.00	95.00	0.00				
17.75	0.00	95.00	0.00				

Stage-Discharge for Reach 1R: Swale (Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
95.00	0.00	0.00	97.60	28.81	648.28
95.05	2.20	0.13	97.65	29.15	674.88
95.10	3.49	0.59	97.70	29.49	702.02
95.15	4.56	1.42	97.75	29.82	729.73
95.20	5.52	2.65	97.80	30.15	757.98
95.25	6.40	4.29	97.85	30.47	786.79
95.30	7.21	6.36	97.90	30.79	816.15
95.35	7.98	8.87	97.95	31.12	846.06
95.40	8.71	11.83	98.00	31.43	876.53
95.45	9.41	15.25	98.05	31.75	907.56
95.50	10.09	19.14	98.10	32.06	939.14
95.55	10.73	23.49	98.15	32.37	971.27
95.60	11.36	28.33	98.20	32.68	1,003.96
95.65	11.97	33.65	98.25	32.99	1,037.20
95.70	12.56	39.46	98.30	33.29	1,071.00
95.75	13.13	45.77	98.35	33.59	1,105.36
95.80	13.69	52.57	98.40	33.89	1,140.27
95.85	14.24	59.88	98.45	34.19	1,175.74
95.90	14.77	67.69	98.50	34.48	1,211.76
95.95	15.30	76.01	98.55	34.78	1,248.34
96.00	15.81	84.83	98.60	35.07	1,285.48
96.05	16.31	94.18	98.65	35.36	1,323.17
96.10	16.80	104.04	98.70	35.64	1,361.42
96.15	17.29	114.42	98.75	35.93	1,400.23
96.20	17.76	125.32	98.80	36.21	1,439.59
96.25	18.23	136.74	98.85	36.49	1,479.51
96.30	18.69	148.69	98.90	36.77	1,519.98
96.35	19.15	161.17	98.95	37.05	1,561.02
96.40	19.59	174.17	99.00	37.33	1,602.61
96.45	20.03	187.71	99.05	37.60	1,644.75
96.50	20.47	201.78	99.10	37.88	1,687.45
96.55	20.89	216.38	99.15	38.15	1,730.71
96.60	21.32	231.52	99.20	38.42	1,774.53
96.65	21.73	247.20	99.25	38.68	1,818.90
96.70	22.14	263.41	99.30	38.95	1,863.83
96.75	22.55	280.16	99.35	39.21	1,909.32
96.80	22.95	297.45	99.40	39.48	1,955.36
96.85	23.35	315.28	99.45	39.74	2,001.96
96.90	23.74	333.66	99.50	40.00	2,049.12
96.95	24.13	352.58	99.55	40.26	2,096.83
97.00	24.51	372.04	99.60	40.51	2,145.10
97.05	24.89	392.05	99.65	40.77	2,193.92
97.10	25.26	412.60	99.70	41.02	2,243.30
97.15	25.64	433.70	99.75	41.28	2,293.24
97.20	26.00	455.34	99.80	41.53	2,343.73
97.25	26.37	477.54	99.85	41.78	2,394.78
97.30	26.73	500.28	99.90	42.03	2,446.39
97.35	27.08	523.57	99.95	42.27	2,498.55
97.40	27.43	547.41	100.00	42.52	2,551.26
97.45	27.78	571.80			
97.50	28.13	596.74			
97.55	28.47	622.24			

Summary for Reach 2R: Stream

Inflow Area = 26.600 ac, 23.90% Impervious, Inflow Depth > 1.16" for 1 YEAR event
Inflow = 24.96 cfs @ 12.26 hrs, Volume= 2.560 af
Outflow = 24.63 cfs @ 12.29 hrs, Volume= 2.555 af, Atten= 1%, Lag= 1.8 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.90 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 2.39 fps, Avg. Travel Time= 5.6 min

Peak Storage= 3,337 cf @ 12.29 hrs

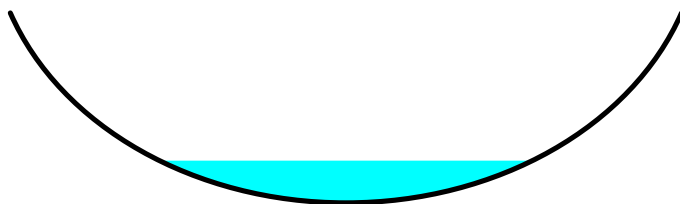
Average Depth at Peak Storage= 0.89'

Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 598.05 cfs

15.00' x 4.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

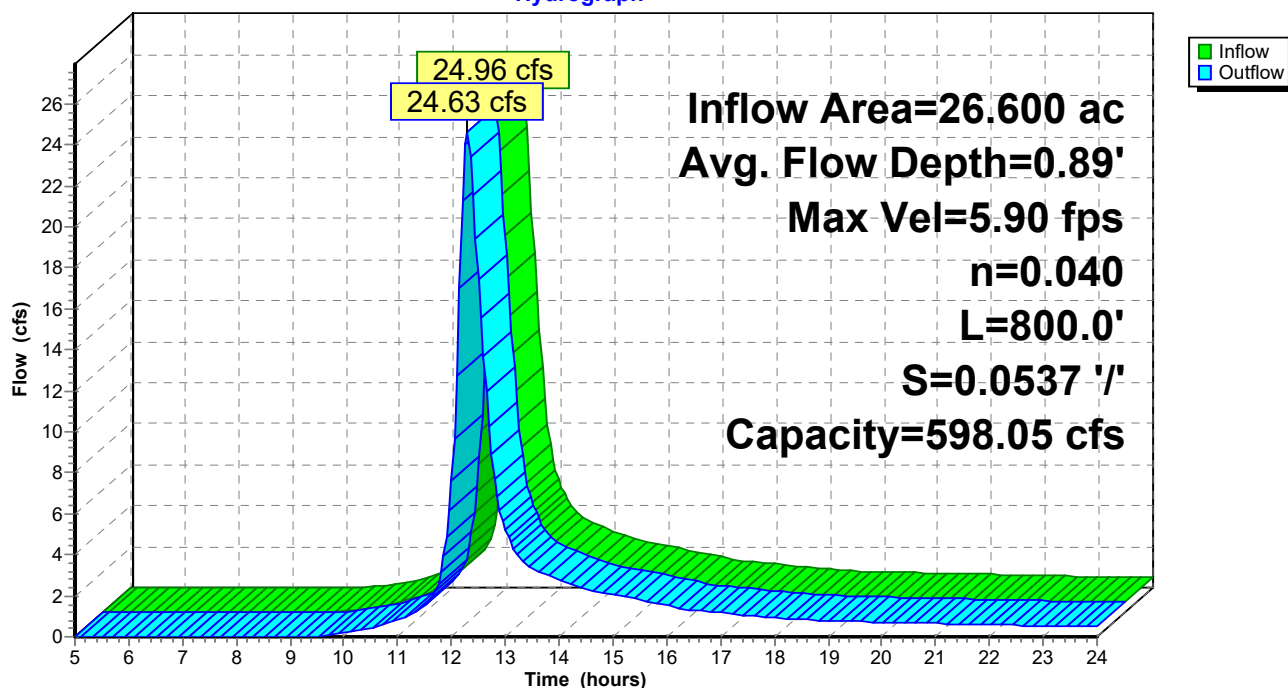
Length= 800.0' Slope= 0.0537 '/'

Inlet Invert= 53.00', Outlet Invert= 10.00'



Reach 2R: Stream

Hydrograph



Hydrograph for Reach 2R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.00	0	53.00	0.00
5.50	0.00	0	53.00	0.00
6.00	0.00	0	53.00	0.00
6.50	0.00	0	53.00	0.00
7.00	0.00	0	53.00	0.00
7.50	0.00	0	53.00	0.00
8.00	0.00	0	53.00	0.00
8.50	0.00	0	53.00	0.00
9.00	0.00	0	53.00	0.00
9.50	0.05	18	53.02	0.02
10.00	0.23	107	53.09	0.18
10.50	0.48	197	53.13	0.43
11.00	0.87	306	53.18	0.81
11.50	1.69	482	53.24	1.54
12.00	8.83	1,465	53.51	7.59
12.50	16.34	2,622	53.75	17.46
13.00	4.91	1,131	53.43	5.24
13.50	3.27	826	53.35	3.34
14.00	2.72	727	53.32	2.77
14.50	2.30	644	53.30	2.33
15.00	2.04	593	53.28	2.07
15.50	1.77	537	53.26	1.80
16.00	1.49	478	53.24	1.52
16.50	1.28	427	53.22	1.30
17.00	1.15	397	53.21	1.17
17.50	1.03	368	53.20	1.04
18.00	0.90	337	53.19	0.92
18.50	0.82	311	53.18	0.82
19.00	0.78	301	53.18	0.78
19.50	0.74	291	53.17	0.75
20.00	0.70	281	53.17	0.71
20.50	0.67	272	53.17	0.68
21.00	0.64	264	53.16	0.65
21.50	0.61	257	53.16	0.62
22.00	0.59	248	53.16	0.59
22.50	0.56	239	53.15	0.56
23.00	0.53	230	53.15	0.53
23.50	0.50	221	53.14	0.50
24.00	0.47	212	53.14	0.48

Stage-Discharge for Reach 2R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
53.00	0.00	0.00	55.60	11.58	242.67
53.05	0.88	0.06	55.65	11.71	252.61
53.10	1.41	0.23	55.70	11.84	262.74
53.15	1.84	0.55	55.75	11.98	273.07
53.20	2.23	1.00	55.80	12.11	283.60
53.25	2.59	1.63	55.85	12.24	294.36
53.30	2.92	2.41	55.90	12.36	305.31
53.35	3.23	3.35	55.95	12.49	316.46
53.40	3.52	4.46	56.00	12.62	327.80
53.45	3.81	5.76	56.05	12.74	339.38
53.50	4.08	7.22	56.10	12.87	351.15
53.55	4.34	8.86	56.15	12.99	363.12
53.60	4.59	10.67	56.20	13.11	375.29
53.65	4.84	12.68	56.25	13.23	387.68
53.70	5.07	14.87	56.30	13.35	400.28
53.75	5.30	17.24	56.35	13.47	413.07
53.80	5.53	19.78	56.40	13.59	426.05
53.85	5.75	22.54	56.45	13.71	439.27
53.90	5.96	25.48	56.50	13.83	452.68
53.95	6.17	28.60	56.55	13.94	466.29
54.00	6.38	31.90	56.60	14.06	480.10
54.05	6.58	35.42	56.65	14.17	494.14
54.10	6.78	39.13	56.70	14.29	508.37
54.15	6.97	43.02	56.75	14.40	522.81
54.20	7.17	47.10	56.80	14.51	537.43
54.25	7.35	51.39	56.85	14.62	552.29
54.30	7.54	55.88	56.90	14.73	567.35
54.35	7.72	60.55	56.95	14.84	582.60
54.40	7.90	65.42	57.00	14.95	598.05
54.45	8.07	70.50			
54.50	8.25	75.78			
54.55	8.42	81.24			
54.60	8.59	86.90			
54.65	8.75	92.78			
54.70	8.92	98.86			
54.75	9.08	105.12			
54.80	9.24	111.58			
54.85	9.40	118.27			
54.90	9.56	125.15			
54.95	9.71	132.22			
55.00	9.86	139.49			
55.05	10.01	146.98			
55.10	10.16	154.67			
55.15	10.31	162.55			
55.20	10.46	170.63			
55.25	10.60	178.93			
55.30	10.75	187.43			
55.35	10.89	196.13			
55.40	11.03	205.02			
55.45	11.17	214.14			
55.50	11.31	223.45			
55.55	11.44	232.97			

Summary for Reach 3R: Channel

Inflow Area = 26.600 ac, 23.90% Impervious, Inflow Depth > 1.15" for 1 YEAR event
Inflow = 24.63 cfs @ 12.29 hrs, Volume= 2.555 af
Outflow = 24.56 cfs @ 12.31 hrs, Volume= 2.550 af, Atten= 0%, Lag= 1.2 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.93 fps, Min. Travel Time= 1.8 min

Avg. Velocity = 0.97 fps, Avg. Travel Time= 5.3 min

Peak Storage= 2,598 cf @ 12.31 hrs

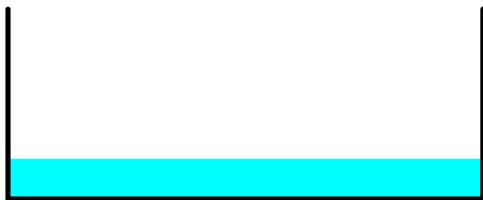
Average Depth at Peak Storage= 0.84'

Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 248.94 cfs

10.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals

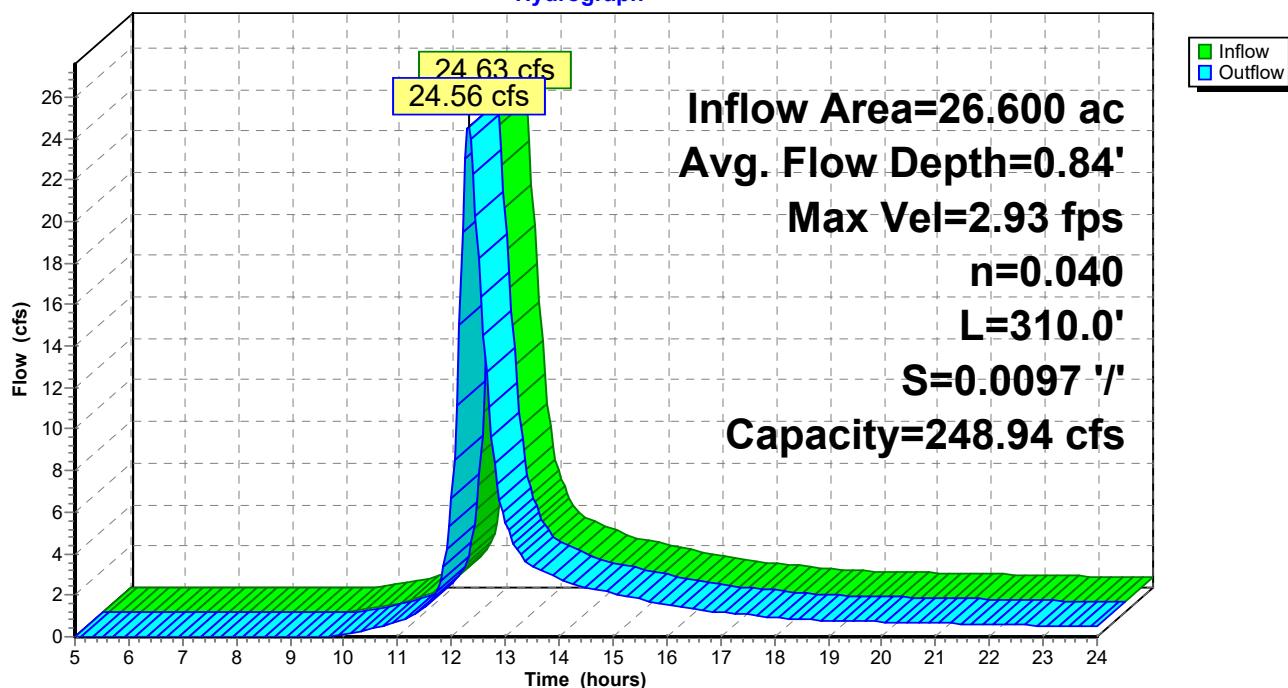
Length= 310.0' Slope= 0.0097 '/'

Inlet Invert= 6.00', Outlet Invert= 3.00'



Reach 3R: Channel

Hydrograph



Hydrograph for Reach 3R: Channel

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.00	0	6.00	0.00
5.50	0.00	0	6.00	0.00
6.00	0.00	0	6.00	0.00
6.50	0.00	0	6.00	0.00
7.00	0.00	0	6.00	0.00
7.50	0.00	0	6.00	0.00
8.00	0.00	0	6.00	0.00
8.50	0.00	0	6.00	0.00
9.00	0.00	0	6.00	0.00
9.50	0.02	4	6.00	0.01
10.00	0.18	79	6.03	0.11
10.50	0.43	192	6.06	0.37
11.00	0.81	299	6.10	0.75
11.50	1.54	443	6.14	1.42
12.00	7.59	1,152	6.37	6.70
12.50	17.46	2,153	6.69	18.26
13.00	5.24	1,021	6.33	5.50
13.50	3.34	759	6.24	3.40
14.00	2.77	676	6.22	2.82
14.50	2.33	608	6.20	2.36
15.00	2.07	563	6.18	2.09
15.50	1.80	519	6.17	1.82
16.00	1.52	469	6.15	1.55
16.50	1.30	423	6.14	1.31
17.00	1.17	398	6.13	1.18
17.50	1.04	374	6.12	1.06
18.00	0.92	345	6.11	0.94
18.50	0.82	319	6.10	0.83
19.00	0.78	309	6.10	0.79
19.50	0.75	300	6.10	0.75
20.00	0.71	291	6.09	0.72
20.50	0.68	282	6.09	0.68
21.00	0.65	276	6.09	0.65
21.50	0.62	269	6.09	0.62
22.00	0.59	262	6.08	0.59
22.50	0.56	255	6.08	0.57
23.00	0.53	248	6.08	0.54
23.50	0.50	239	6.08	0.51
24.00	0.48	229	6.07	0.48

Stage-Discharge for Reach 3R: Channel

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
6.00	0.00	0.00	8.60	5.23	135.90
6.05	0.49	0.26	8.65	5.27	139.68
6.10	0.77	0.79	8.70	5.31	143.47
6.15	1.01	1.53	8.75	5.36	147.29
6.20	1.22	2.44	8.80	5.40	151.13
6.25	1.40	3.52	8.85	5.44	154.99
6.30	1.57	4.74	8.90	5.48	158.88
6.35	1.73	6.08	8.95	5.52	162.78
6.40	1.88	7.54	9.00	5.56	166.71
6.45	2.03	9.12	9.05	5.60	170.66
6.50	2.16	10.81	9.10	5.63	174.62
6.55	2.29	12.59	9.15	5.67	178.61
6.60	2.41	14.46	9.20	5.71	182.61
6.65	2.53	16.44	9.25	5.74	186.63
6.70	2.64	18.49	9.30	5.78	190.67
6.75	2.75	20.62	9.35	5.81	194.73
6.80	2.85	22.82	9.40	5.85	198.81
6.85	2.95	25.11	9.45	5.88	202.90
6.90	3.05	27.46	9.50	5.91	207.01
6.95	3.14	29.88	9.55	5.95	211.13
7.00	3.24	32.36	9.60	5.98	215.27
7.05	3.32	34.91	9.65	6.01	219.43
7.10	3.41	37.52	9.70	6.04	223.60
7.15	3.49	40.19	9.75	6.07	227.79
7.20	3.58	42.91	9.80	6.11	231.99
7.25	3.65	45.69	9.85	6.14	236.21
7.30	3.73	48.51	9.90	6.16	240.44
7.35	3.81	51.39	9.95	6.19	244.68
7.40	3.88	54.31	10.00	6.22	248.94
7.45	3.95	57.29			
7.50	4.02	60.31			
7.55	4.09	63.37			
7.60	4.15	66.47			
7.65	4.22	69.62			
7.70	4.28	72.81			
7.75	4.34	76.04			
7.80	4.41	79.30			
7.85	4.46	82.60			
7.90	4.52	85.94			
7.95	4.58	89.31			
8.00	4.64	92.71			
8.05	4.69	96.15			
8.10	4.74	99.62			
8.15	4.80	103.12			
8.20	4.85	106.65			
8.25	4.90	110.21			
8.30	4.95	113.80			
8.35	5.00	117.42			
8.40	5.04	121.06			
8.45	5.09	124.74			
8.50	5.14	128.44			
8.55	5.18	132.16			

Summary for Reach 4R: Stream

Inflow Area = 33.005 ac, 23.45% Impervious, Inflow Depth > 1.19" for 1 YEAR event
Inflow = 31.10 cfs @ 12.29 hrs, Volume= 3.262 af
Outflow = 31.10 cfs @ 12.30 hrs, Volume= 3.259 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 3.98 fps, Min. Travel Time= 0.9 min

Avg. Velocity = 1.60 fps, Avg. Travel Time= 2.3 min

Peak Storage= 1,717 cf @ 12.31 hrs

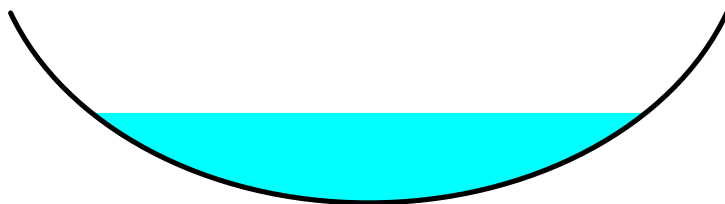
Average Depth at Peak Storage= 1.42'

Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 150.76 cfs

12.00' x 3.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

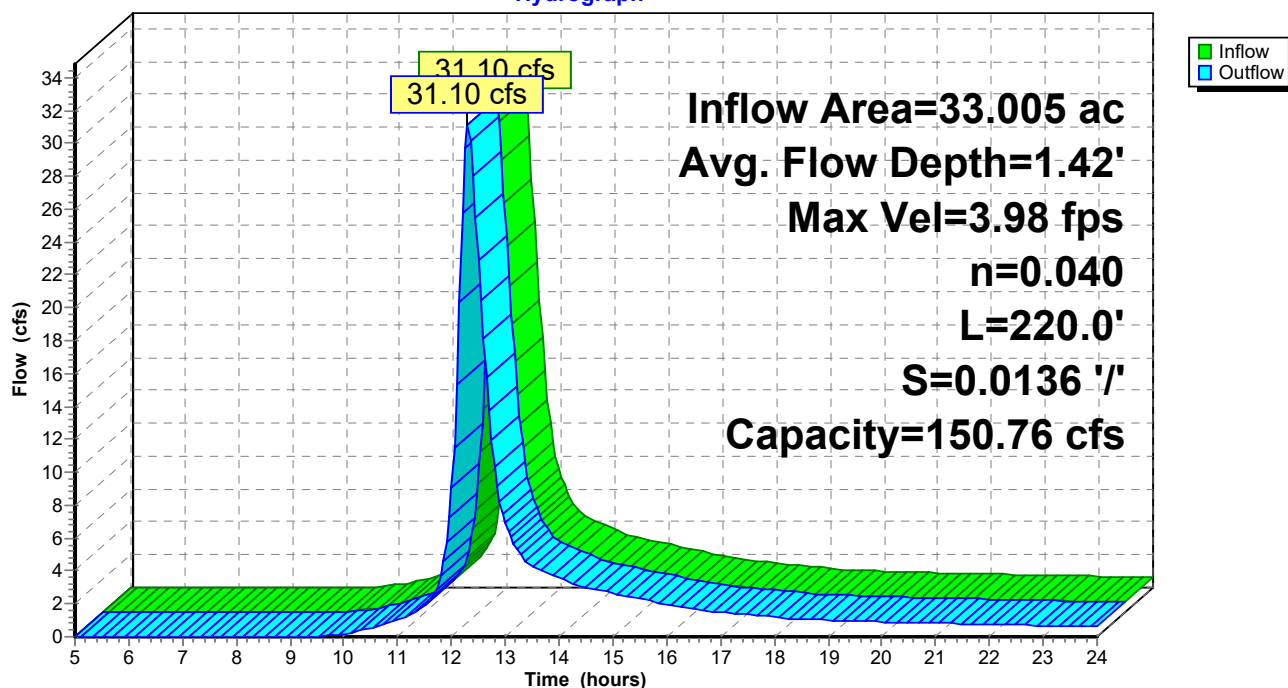
Length= 220.0' Slope= 0.0136 '/'

Inlet Invert= 3.00', Outlet Invert= 0.00'



Reach 4R: Stream

Hydrograph



Hydrograph for Reach 4R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.00	0	3.00	0.00
5.50	0.00	0	3.00	0.00
6.00	0.00	0	3.00	0.00
6.50	0.00	0	3.00	0.00
7.00	0.00	0	3.00	0.00
7.50	0.00	0	3.00	0.00
8.00	0.00	0	3.00	0.00
8.50	0.00	0	3.00	0.00
9.00	0.00	1	3.00	0.00
9.50	0.05	15	3.06	0.03
10.00	0.20	46	3.13	0.18
10.50	0.54	97	3.21	0.51
11.00	1.03	154	3.28	1.00
11.50	1.95	240	3.38	1.88
12.00	9.66	719	3.79	9.03
12.50	22.27	1,381	4.23	22.86
13.00	6.74	597	3.70	6.92
13.50	4.27	428	3.56	4.31
14.00	3.54	376	3.52	3.57
14.50	2.98	333	3.48	3.00
15.00	2.64	305	3.45	2.65
15.50	2.30	278	3.42	2.31
16.00	1.95	248	3.39	1.96
16.50	1.66	221	3.36	1.67
17.00	1.49	205	3.34	1.50
17.50	1.33	190	3.33	1.34
18.00	1.18	175	3.31	1.19
18.50	1.05	161	3.29	1.06
19.00	1.00	155	3.29	1.00
19.50	0.95	150	3.28	0.96
20.00	0.90	145	3.27	0.91
20.50	0.86	140	3.27	0.86
21.00	0.82	136	3.26	0.83
21.50	0.79	131	3.26	0.79
22.00	0.75	127	3.25	0.76
22.50	0.72	123	3.24	0.72
23.00	0.68	119	3.24	0.68
23.50	0.64	114	3.23	0.65
24.00	0.61	110	3.23	0.61

Stage-Discharge for Reach 4R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
3.00	0.00	0.00	4.04	3.28	16.07	5.08	5.04	69.90
3.02	0.21	0.01	4.06	3.32	16.73	5.10	5.07	71.32
3.04	0.38	0.02	4.08	3.36	17.41	5.12	5.10	72.76
3.06	0.51	0.03	4.10	3.40	18.11	5.14	5.13	74.22
3.08	0.61	0.07	4.12	3.44	18.82	5.16	5.16	75.68
3.10	0.71	0.11	4.14	3.47	19.54	5.18	5.19	77.17
3.12	0.80	0.15	4.16	3.51	20.28	5.20	5.22	78.67
3.14	0.89	0.22	4.18	3.55	21.03	5.22	5.25	80.18
3.16	0.97	0.29	4.20	3.59	21.79	5.24	5.28	81.71
3.18	1.05	0.37	4.22	3.63	22.57	5.26	5.30	83.25
3.20	1.12	0.47	4.24	3.66	23.37	5.28	5.33	84.80
3.22	1.20	0.57	4.26	3.70	24.18	5.30	5.36	86.38
3.24	1.27	0.69	4.28	3.74	25.00	5.32	5.39	87.97
3.26	1.34	0.82	4.30	3.77	25.84	5.34	5.42	89.57
3.28	1.40	0.96	4.32	3.81	26.69	5.36	5.45	91.19
3.30	1.47	1.11	4.34	3.85	27.56	5.38	5.47	92.82
3.32	1.53	1.28	4.36	3.88	28.44	5.40	5.50	94.46
3.34	1.59	1.46	4.38	3.92	29.33	5.42	5.53	96.13
3.36	1.65	1.65	4.40	3.95	30.25	5.44	5.56	97.80
3.38	1.71	1.86	4.42	3.99	31.17	5.46	5.58	99.49
3.40	1.77	2.07	4.44	4.02	32.11	5.48	5.61	101.20
3.42	1.83	2.30	4.46	4.06	33.07	5.50	5.64	102.92
3.44	1.89	2.54	4.48	4.09	34.03	5.52	5.66	104.65
3.46	1.94	2.80	4.50	4.13	35.01	5.54	5.69	106.40
3.48	2.00	3.06	4.52	4.16	36.01	5.56	5.72	108.17
3.50	2.05	3.35	4.54	4.19	37.03	5.58	5.74	109.95
3.52	2.10	3.64	4.56	4.23	38.05	5.60	5.77	111.74
3.54	2.15	3.95	4.58	4.26	39.09	5.62	5.80	113.55
3.56	2.20	4.27	4.60	4.29	40.15	5.64	5.82	115.38
3.58	2.26	4.61	4.62	4.33	41.22	5.66	5.85	117.22
3.60	2.31	4.95	4.64	4.36	42.31	5.68	5.88	119.07
3.62	2.35	5.31	4.66	4.39	43.41	5.70	5.90	120.94
3.64	2.40	5.69	4.68	4.43	44.52	5.72	5.93	122.83
3.66	2.45	6.07	4.70	4.46	45.65	5.74	5.95	124.73
3.68	2.50	6.48	4.72	4.49	46.79	5.76	5.98	126.64
3.70	2.55	6.89	4.74	4.52	47.95	5.78	6.01	128.57
3.72	2.59	7.32	4.76	4.55	49.13	5.80	6.03	130.51
3.74	2.64	7.76	4.78	4.59	50.31	5.82	6.06	132.47
3.76	2.68	8.22	4.80	4.62	51.51	5.84	6.08	134.44
3.78	2.73	8.69	4.82	4.65	52.73	5.86	6.11	136.43
3.80	2.77	9.17	4.84	4.68	53.97	5.88	6.13	138.43
3.82	2.82	9.67	4.86	4.71	55.21	5.90	6.16	140.45
3.84	2.86	10.18	4.88	4.74	56.47	5.92	6.18	142.49
3.86	2.91	10.71	4.90	4.77	57.75	5.94	6.21	144.53
3.88	2.95	11.25	4.92	4.80	59.04	5.96	6.23	146.60
3.90	2.99	11.80	4.94	4.84	60.35	5.98	6.26	148.67
3.92	3.03	12.37	4.96	4.87	61.67	6.00	6.28	150.76
3.94	3.08	12.95	4.98	4.90	63.00			
3.96	3.12	13.54	5.00	4.93	64.35			
3.98	3.16	14.15	5.02	4.96	65.72			
4.00	3.20	14.78	5.04	4.99	67.09			
4.02	3.24	15.41	5.06	5.02	68.49			

Summary for Pond EX-P: Existing Pond

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth > 2.04" for 1 YEAR event
 Inflow = 5.12 cfs @ 12.11 hrs, Volume= 0.399 af
 Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 87.37' @ 24.00 hrs Surf.Area= 6,986 sf Storage= 17,382 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

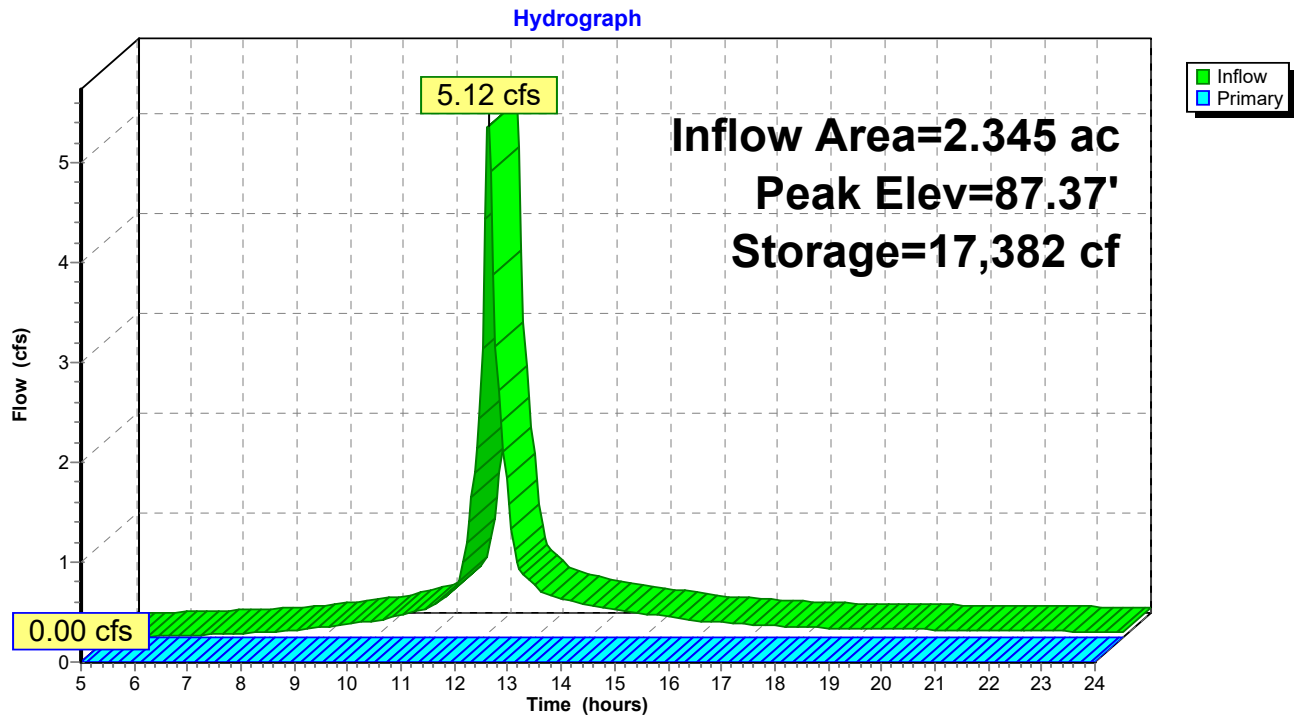
Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	277,808 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	635	0	0
90.00	14,042	36,693	36,693
100.00	34,181	241,115	277,808

Device	Routing	Invert	Outlet Devices
#1	Primary	95.00'	65.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=85.00' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond EX-P: Existing Pond



Hydrograph for Pond EX-P: Existing Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.00	0	85.00	0.00
5.50	0.01	6	85.00	0.00
6.00	0.01	21	85.00	0.00
6.50	0.02	47	85.01	0.00
7.00	0.03	89	85.01	0.00
7.50	0.04	150	85.02	0.00
8.00	0.05	233	85.03	0.00
8.50	0.07	346	85.05	0.00
9.00	0.10	503	85.07	0.00
9.50	0.13	715	85.10	0.00
10.00	0.17	987	85.13	0.00
10.50	0.23	1,340	85.18	0.00
11.00	0.30	1,814	85.25	0.00
11.50	0.50	2,510	85.34	0.00
12.00	2.89	4,816	85.66	0.00
12.50	1.34	10,338	86.41	0.00
13.00	0.51	11,649	86.59	0.00
13.50	0.39	12,425	86.69	0.00
14.00	0.32	13,061	86.78	0.00
14.50	0.27	13,587	86.85	0.00
15.00	0.24	14,048	86.91	0.00
15.50	0.20	14,447	86.97	0.00
16.00	0.17	14,783	87.01	0.00
16.50	0.15	15,066	87.05	0.00
17.00	0.13	15,321	87.09	0.00
17.50	0.12	15,548	87.12	0.00
18.00	0.10	15,747	87.15	0.00
18.50	0.10	15,924	87.17	0.00
19.00	0.09	16,092	87.19	0.00
19.50	0.09	16,253	87.21	0.00
20.00	0.08	16,404	87.24	0.00
20.50	0.08	16,548	87.26	0.00
21.00	0.07	16,686	87.27	0.00
21.50	0.07	16,818	87.29	0.00
22.00	0.07	16,943	87.31	0.00
22.50	0.06	17,062	87.33	0.00
23.00	0.06	17,175	87.34	0.00
23.50	0.06	17,282	87.35	0.00
24.00	0.05	17,382	87.37	0.00

Stage-Discharge for Pond EX-P: Existing Pond

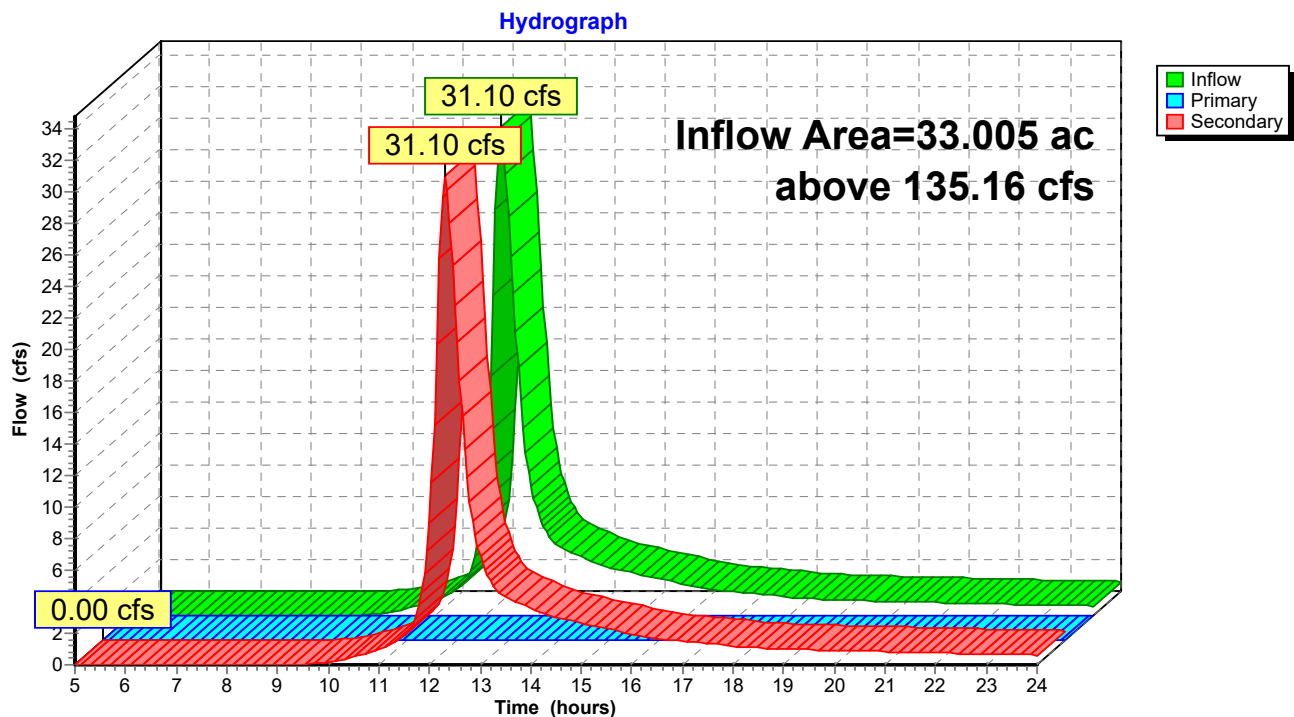
Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
85.00	0.00	92.80	0.00
85.15	0.00	92.95	0.00
85.30	0.00	93.10	0.00
85.45	0.00	93.25	0.00
85.60	0.00	93.40	0.00
85.75	0.00	93.55	0.00
85.90	0.00	93.70	0.00
86.05	0.00	93.85	0.00
86.20	0.00	94.00	0.00
86.35	0.00	94.15	0.00
86.50	0.00	94.30	0.00
86.65	0.00	94.45	0.00
86.80	0.00	94.60	0.00
86.95	0.00	94.75	0.00
87.10	0.00	94.90	0.00
87.25	0.00	95.05	1.70
87.40	0.00	95.20	13.60
87.55	0.00	95.35	33.11
87.70	0.00	95.50	59.75
87.85	0.00	95.65	91.80
88.00	0.00	95.80	124.65
88.15	0.00	95.95	161.30
88.30	0.00	96.10	200.22
88.45	0.00	96.25	241.41
88.60	0.00	96.40	285.33
88.75	0.00	96.55	332.40
88.90	0.00	96.70	381.80
89.05	0.00	96.85	433.43
89.20	0.00	97.00	487.20
89.35	0.00	97.15	544.25
89.50	0.00	97.30	603.55
89.65	0.00	97.45	665.04
89.80	0.00	97.60	727.04
89.95	0.00	97.75	789.97
90.10	0.00	97.90	854.51
90.25	0.00	98.05	921.66
90.40	0.00	98.20	992.71
90.55	0.00	98.35	1,065.72
90.70	0.00	98.50	1,140.64
90.85	0.00	98.65	1,217.47
91.00	0.00	98.80	1,296.18
91.15	0.00	98.95	1,376.74
91.30	0.00	99.10	1,461.29
91.45	0.00	99.25	1,549.05
91.60	0.00	99.40	1,638.98
91.75	0.00	99.55	1,731.70
91.90	0.00	99.70	1,827.97
92.05	0.00	99.85	1,926.59
92.20	0.00	100.00	2,027.55
92.35	0.00		
92.50	0.00		
92.65	0.00		

Summary for Link DP-5: Design Point #5

Inflow Area = 33.005 ac, 23.45% Impervious, Inflow Depth > 1.19" for 1 YEAR event
Inflow = 31.10 cfs @ 12.30 hrs, Volume= 3.259 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Secondary = 31.10 cfs @ 12.30 hrs, Volume= 3.259 af

Primary outflow = Inflow above 135.16 cfs, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Link DP-5: Design Point #5



Hydrograph for Link DP-5: Design Point #5

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Secondary (cfs)
5.00	0.00	0.00	0.00	0.00
5.50	0.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	0.00
6.50	0.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	0.00
7.50	0.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	0.00
8.50	0.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	0.00
9.50	0.03	0.00	0.00	0.03
10.00	0.18	0.00	0.00	0.18
10.50	0.51	0.00	0.00	0.51
11.00	1.00	0.00	0.00	1.00
11.50	1.88	0.00	0.00	1.88
12.00	9.03	0.00	0.00	9.03
12.50	22.86	0.00	0.00	22.86
13.00	6.92	0.00	0.00	6.92
13.50	4.31	0.00	0.00	4.31
14.00	3.57	0.00	0.00	3.57
14.50	3.00	0.00	0.00	3.00
15.00	2.65	0.00	0.00	2.65
15.50	2.31	0.00	0.00	2.31
16.00	1.96	0.00	0.00	1.96
16.50	1.67	0.00	0.00	1.67
17.00	1.50	0.00	0.00	1.50
17.50	1.34	0.00	0.00	1.34
18.00	1.19	0.00	0.00	1.19
18.50	1.06	0.00	0.00	1.06
19.00	1.00	0.00	0.00	1.00
19.50	0.96	0.00	0.00	0.96
20.00	0.91	0.00	0.00	0.91
20.50	0.86	0.00	0.00	0.86
21.00	0.83	0.00	0.00	0.83
21.50	0.79	0.00	0.00	0.79
22.00	0.76	0.00	0.00	0.76
22.50	0.72	0.00	0.00	0.72
23.00	0.68	0.00	0.00	0.68
23.50	0.65	0.00	0.00	0.65
24.00	0.61	0.00	0.00	0.61

Time span=5.00-24.00 hrs, dt=0.05 hrs, 381 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1: Drainage Area - 1	Runoff Area=279,005 sf 21.56% Impervious Runoff Depth>3.38" Flow Length=378' Tc=15.1 min CN=84 Runoff=19.02 cfs 1.805 af
Subcatchment2: Drainage Area - 2	Runoff Area=1,056,532 sf 19.19% Impervious Runoff Depth>3.28" Flow Length=1,341' Tc=18.3 min CN=83 Runoff=65.04 cfs 6.633 af
Subcatchment3: Drainage Area - 3	Runoff Area=102,167 sf 72.65% Impervious Runoff Depth>4.30" Flow Length=310' Tc=7.7 min CN=93 Runoff=10.41 cfs 0.841 af
Reach 1R: Swale (Reach)	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af n=0.030 L=228.0' S=0.1842 '/' Capacity=2,551.26 cfs Outflow=0.00 cfs 0.000 af
Reach 2R: Stream	Avg. Flow Depth=1.39' Max Vel=7.85 fps Inflow=65.04 cfs 6.633 af n=0.040 L=800.0' S=0.0537 '/' Capacity=598.05 cfs Outflow=64.70 cfs 6.624 af
Reach 3R: Channel	Avg. Flow Depth=1.57' Max Vel=4.11 fps Inflow=64.70 cfs 6.624 af n=0.040 L=310.0' S=0.0097 '/' Capacity=248.94 cfs Outflow=64.36 cfs 6.616 af
Reach 4R: Stream	Avg. Flow Depth=2.24' Max Vel=5.26 fps Inflow=81.76 cfs 8.421 af n=0.040 L=220.0' S=0.0136 '/' Capacity=150.76 cfs Outflow=81.44 cfs 8.416 af
Pond EX-P: Existing Pond	Peak Elev=89.99' Storage=36,621 cf Inflow=10.41 cfs 0.841 af Outflow=0.00 cfs 0.000 af
Link DP-5: Design Point #5	above 135.16 cfs Inflow=81.44 cfs 8.416 af Primary=0.00 cfs 0.000 af Secondary=81.44 cfs 8.416 af

Total Runoff Area = 33.005 ac Runoff Volume = 9.278 af Average Runoff Depth = 3.37"
76.55% Pervious = 25.265 ac 23.45% Impervious = 7.740 ac

Summary for Subcatchment 1: Drainage Area - 1

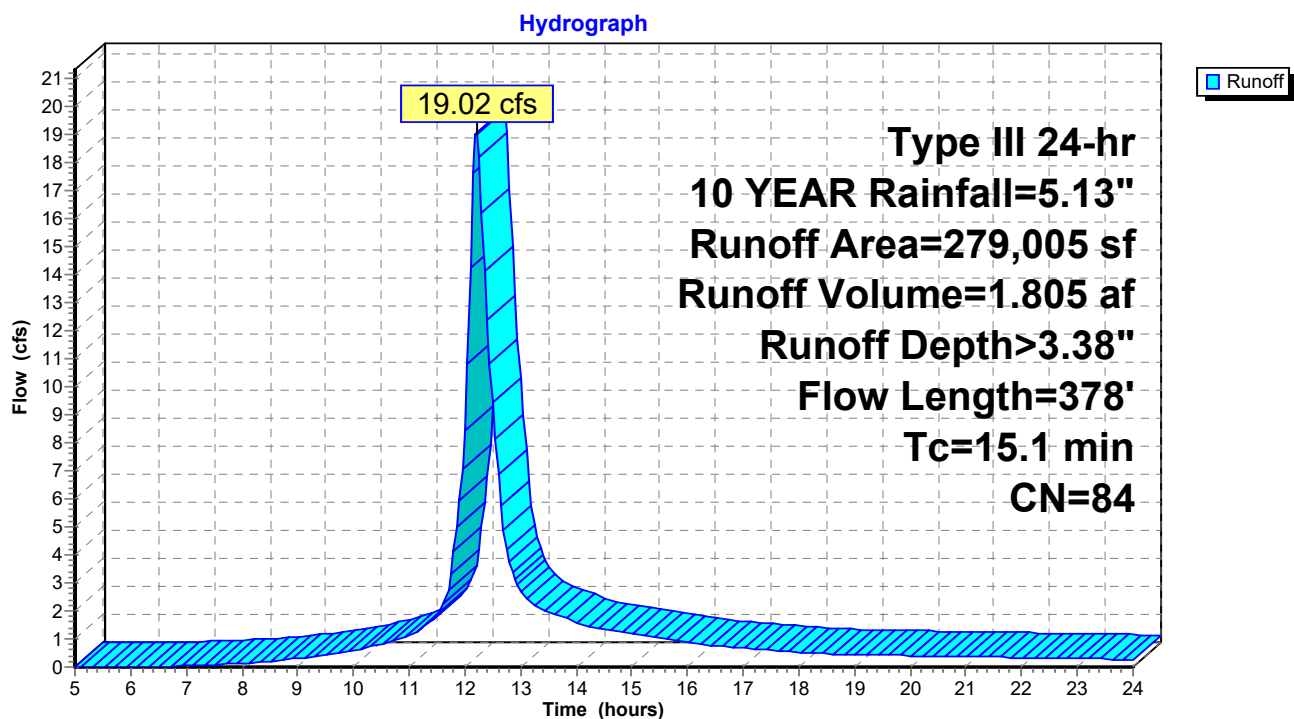
Runoff = 19.02 cfs @ 12.21 hrs, Volume= 1.805 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=5.13"

	Area (sf)	CN	Description
*	60,161	98	Paved parking & roofs
	37,271	83	Brush, Poor, HSG D
	181,573	79	Woods, Fair, HSG D
	279,005	84	Weighted Average
	218,844		78.44% Pervious Area
	60,161		21.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	70	0.0280	0.09		Sheet Flow, 1 to 2 Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	110	0.6000	12.47		Shallow Concentrated Flow, 2 to 3 Unpaved Kv= 16.1 fps
0.3	38	0.0100	2.03		Shallow Concentrated Flow, 3 to 4 Paved Kv= 20.3 fps
1.2	160	0.0200	2.28		Shallow Concentrated Flow, 4 to 5 Unpaved Kv= 16.1 fps
15.1	378	Total			

Subcatchment 1: Drainage Area - 1



Hydrograph for Subcatchment 1: Drainage Area - 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.29	0.00	0.00	18.00	4.76	3.05	0.52
5.25	0.31	0.00	0.00	18.25	4.78	3.07	0.48
5.50	0.33	0.00	0.00	18.50	4.80	3.09	0.47
5.75	0.35	0.00	0.00	18.75	4.82	3.11	0.46
6.00	0.37	0.00	0.00	19.00	4.84	3.12	0.45
6.25	0.39	0.00	0.00	19.25	4.86	3.14	0.44
6.50	0.41	0.00	0.01	19.50	4.88	3.16	0.43
6.75	0.44	0.00	0.02	19.75	4.89	3.17	0.41
7.00	0.46	0.00	0.04	20.00	4.91	3.19	0.40
7.25	0.49	0.01	0.06	20.25	4.93	3.20	0.39
7.50	0.52	0.01	0.08	20.50	4.94	3.22	0.38
7.75	0.55	0.01	0.11	20.75	4.96	3.23	0.38
8.00	0.58	0.02	0.13	21.00	4.97	3.25	0.37
8.25	0.62	0.03	0.16	21.25	4.99	3.26	0.36
8.50	0.66	0.04	0.21	21.50	5.00	3.27	0.35
8.75	0.70	0.05	0.26	21.75	5.02	3.29	0.34
9.00	0.75	0.06	0.31	22.00	5.03	3.30	0.33
9.25	0.80	0.07	0.37	22.25	5.04	3.31	0.33
9.50	0.85	0.09	0.44	22.50	5.06	3.32	0.32
9.75	0.91	0.11	0.52	22.75	5.07	3.34	0.31
10.00	0.97	0.14	0.60	23.00	5.08	3.35	0.30
10.25	1.04	0.17	0.69	23.25	5.10	3.36	0.29
10.50	1.11	0.20	0.83	23.50	5.11	3.37	0.28
10.75	1.19	0.24	0.98	23.75	5.12	3.38	0.27
11.00	1.28	0.29	1.14	24.00	5.13	3.39	0.27
11.25	1.39	0.35	1.38				
11.50	1.53	0.43	1.87				
11.75	1.82	0.62	3.34				
12.00	2.56	1.17	8.45				
12.25	3.31	1.77	18.19				
12.50	3.60	2.02	9.44				
12.75	3.74	2.14	4.19				
13.00	3.85	2.24	2.78				
13.25	3.94	2.32	2.18				
13.50	4.02	2.39	1.94				
13.75	4.09	2.45	1.77				
14.00	4.16	2.51	1.60				
14.25	4.22	2.57	1.45				
14.50	4.28	2.62	1.36				
14.75	4.33	2.67	1.27				
15.00	4.38	2.71	1.19				
15.25	4.43	2.75	1.11				
15.50	4.47	2.79	1.02				
15.75	4.51	2.83	0.94				
16.00	4.55	2.86	0.86				
16.25	4.58	2.89	0.78				
16.50	4.61	2.91	0.74				
16.75	4.64	2.94	0.70				
17.00	4.67	2.97	0.66				
17.25	4.69	2.99	0.63				
17.50	4.72	3.01	0.59				
17.75	4.74	3.03	0.55				

Summary for Subcatchment 2: Drainage Area - 2

Runoff = 65.04 cfs @ 12.25 hrs, Volume= 6.633 af, Depth> 3.28"

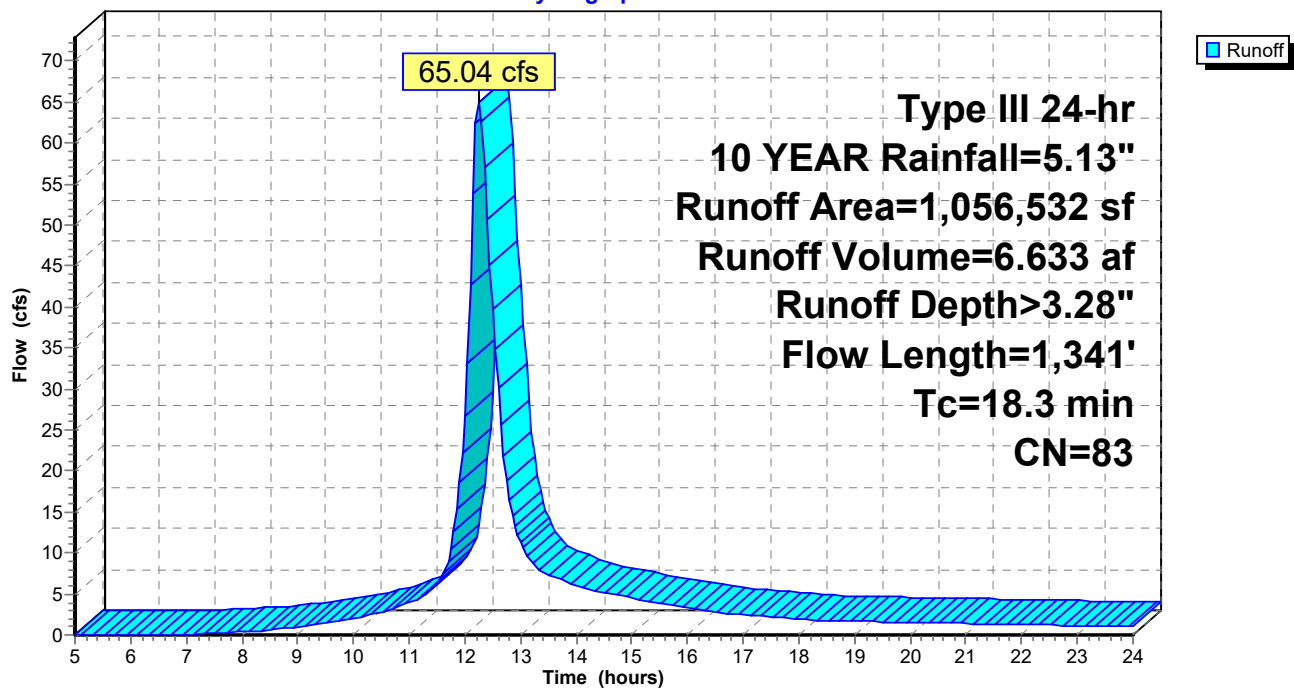
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=5.13"

	Area (sf)	CN	Description
*	195,831	98	Paved parking & roofs
*	6,925	98	Water Course
	853,776	79	Woods, Fair, HSG D
	1,056,532	83	Weighted Average
	853,776		80.81% Pervious Area
	202,756		19.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		Sheet Flow, 1 to 2 Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	1,241	0.0970	5.01		Shallow Concentrated Flow, 2 to 3 Unpaved Kv= 16.1 fps
18.3	1,341	Total			

Subcatchment 2: Drainage Area - 2

Hydrograph



Hydrograph for Subcatchment 2: Drainage Area - 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.29	0.00	0.00	18.00	4.76	2.96	1.96
5.25	0.31	0.00	0.00	18.25	4.78	2.98	1.83
5.50	0.33	0.00	0.00	18.50	4.80	2.99	1.77
5.75	0.35	0.00	0.00	18.75	4.82	3.01	1.73
6.00	0.37	0.00	0.00	19.00	4.84	3.03	1.68
6.25	0.39	0.00	0.00	19.25	4.86	3.05	1.64
6.50	0.41	0.00	0.00	19.50	4.88	3.06	1.60
6.75	0.44	0.00	0.01	19.75	4.89	3.08	1.56
7.00	0.46	0.00	0.06	20.00	4.91	3.09	1.52
7.25	0.49	0.00	0.13	20.25	4.93	3.11	1.48
7.50	0.52	0.01	0.20	20.50	4.94	3.12	1.44
7.75	0.55	0.01	0.29	20.75	4.96	3.14	1.41
8.00	0.58	0.01	0.38	21.00	4.97	3.15	1.38
8.25	0.62	0.02	0.49	21.25	4.99	3.16	1.35
8.50	0.66	0.03	0.63	21.50	5.00	3.18	1.32
8.75	0.70	0.04	0.80	21.75	5.02	3.19	1.29
9.00	0.75	0.05	0.99	22.00	5.03	3.20	1.26
9.25	0.80	0.06	1.21	22.25	5.04	3.21	1.23
9.50	0.85	0.08	1.45	22.50	5.06	3.23	1.19
9.75	0.91	0.10	1.72	22.75	5.07	3.24	1.16
10.00	0.97	0.12	2.01	23.00	5.08	3.25	1.13
10.25	1.04	0.15	2.34	23.25	5.10	3.26	1.10
10.50	1.11	0.18	2.80	23.50	5.11	3.27	1.07
10.75	1.19	0.22	3.34	23.75	5.12	3.28	1.04
11.00	1.28	0.26	3.93	24.00	5.13	3.29	1.00
11.25	1.39	0.32	4.73				
11.50	1.53	0.40	6.35				
11.75	1.82	0.58	10.51				
12.00	2.56	1.11	26.63				
12.25	3.31	1.70	65.04				
12.50	3.60	1.94	39.84				
12.75	3.74	2.06	18.73				
13.00	3.85	2.15	11.33				
13.25	3.94	2.23	8.51				
13.50	4.02	2.30	7.41				
13.75	4.09	2.37	6.74				
14.00	4.16	2.43	6.10				
14.25	4.22	2.48	5.51				
14.50	4.28	2.53	5.13				
14.75	4.33	2.58	4.82				
15.00	4.38	2.62	4.51				
15.25	4.43	2.66	4.20				
15.50	4.47	2.70	3.89				
15.75	4.51	2.73	3.58				
16.00	4.55	2.77	3.26				
16.25	4.58	2.79	2.97				
16.50	4.61	2.82	2.79				
16.75	4.64	2.85	2.65				
17.00	4.67	2.87	2.51				
17.25	4.69	2.90	2.37				
17.50	4.72	2.92	2.24				
17.75	4.74	2.94	2.10				

Summary for Subcatchment 3: Drainage Area - 3

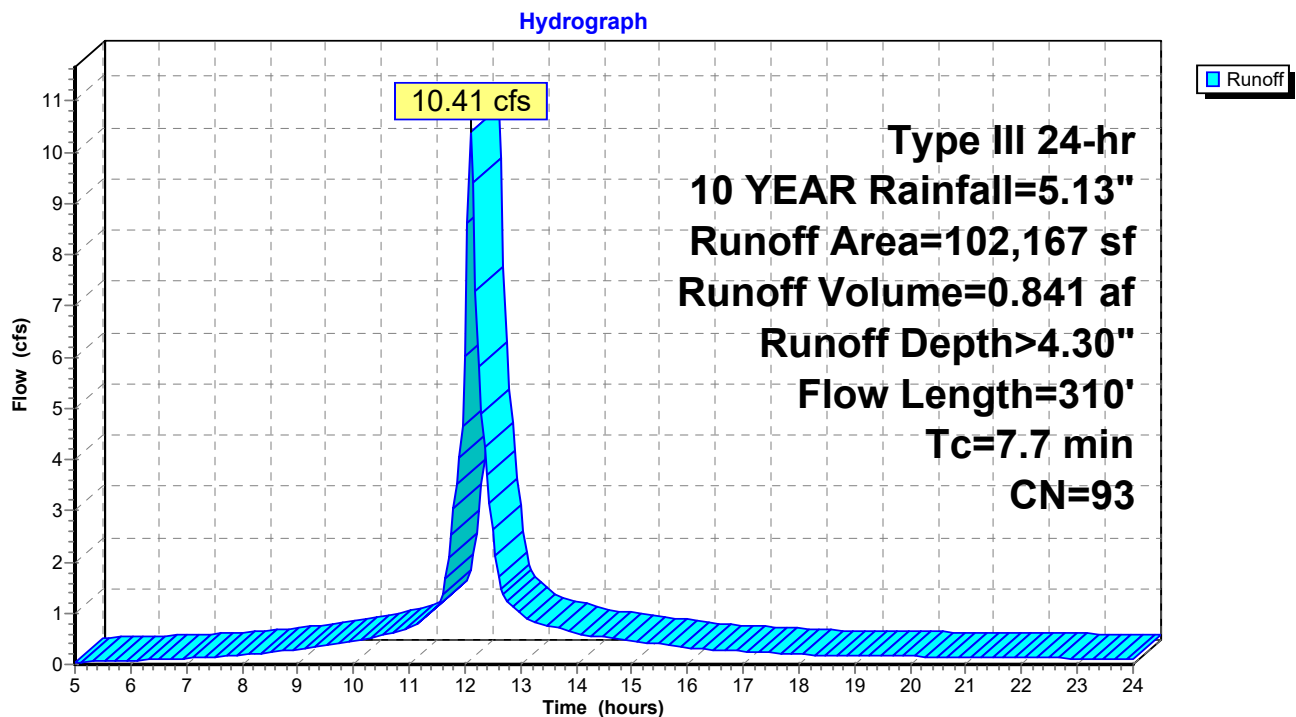
Runoff = 10.41 cfs @ 12.11 hrs, Volume= 0.841 af, Depth> 4.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=5.13"

	Area (sf)	CN	Description
*	74,229	98	Paved roads w/ curbs & sewers
	27,938	79	Woods, Fair, HSG D
	102,167	93	Weighted Average
	27,938		27.35% Pervious Area
	74,229		72.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.3000	0.24		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	210	0.0950	4.96		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
7.7	310	Total			

Subcatchment 3: Drainage Area - 3



Hydrograph for Subcatchment 3: Drainage Area - 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.29	0.02	0.05	18.00	4.76	3.96	0.20
5.25	0.31	0.03	0.05	18.25	4.78	3.98	0.19
5.50	0.33	0.03	0.06	18.50	4.80	4.00	0.18
5.75	0.35	0.04	0.07	18.75	4.82	4.02	0.18
6.00	0.37	0.05	0.07	19.00	4.84	4.04	0.17
6.25	0.39	0.06	0.08	19.25	4.86	4.06	0.17
6.50	0.41	0.07	0.10	19.50	4.88	4.08	0.17
6.75	0.44	0.08	0.11	19.75	4.89	4.09	0.16
7.00	0.46	0.09	0.12	20.00	4.91	4.11	0.16
7.25	0.49	0.11	0.14	20.25	4.93	4.13	0.15
7.50	0.52	0.12	0.15	20.50	4.94	4.14	0.15
7.75	0.55	0.14	0.17	20.75	4.96	4.16	0.15
8.00	0.58	0.16	0.18	21.00	4.97	4.17	0.14
8.25	0.62	0.18	0.20	21.25	4.99	4.19	0.14
8.50	0.66	0.20	0.23	21.50	5.00	4.20	0.14
8.75	0.70	0.23	0.26	21.75	5.02	4.21	0.13
9.00	0.75	0.26	0.30	22.00	5.03	4.23	0.13
9.25	0.80	0.30	0.33	22.25	5.04	4.24	0.13
9.50	0.85	0.34	0.37	22.50	5.06	4.25	0.12
9.75	0.91	0.38	0.40	22.75	5.07	4.27	0.12
10.00	0.97	0.43	0.44	23.00	5.08	4.28	0.12
10.25	1.04	0.48	0.49	23.25	5.10	4.29	0.11
10.50	1.11	0.54	0.56	23.50	5.11	4.30	0.11
10.75	1.19	0.61	0.64	23.75	5.12	4.31	0.11
11.00	1.28	0.68	0.71	24.00	5.13	4.33	0.10
11.25	1.39	0.77	0.88				
11.50	1.53	0.89	1.14				
11.75	1.82	1.15	2.54				
12.00	2.56	1.84	6.03				
12.25	3.31	2.55	5.80				
12.50	3.60	2.83	2.62				
12.75	3.74	2.97	1.27				
13.00	3.85	3.07	0.99				
13.25	3.94	3.16	0.83				
13.50	4.02	3.24	0.75				
13.75	4.09	3.31	0.68				
14.00	4.16	3.38	0.61				
14.25	4.22	3.44	0.56				
14.50	4.28	3.49	0.53				
14.75	4.33	3.54	0.49				
15.00	4.38	3.59	0.46				
15.25	4.43	3.64	0.43				
15.50	4.47	3.68	0.39				
15.75	4.51	3.72	0.36				
16.00	4.55	3.75	0.32				
16.25	4.58	3.78	0.30				
16.50	4.61	3.81	0.29				
16.75	4.64	3.84	0.27				
17.00	4.67	3.87	0.26				
17.25	4.69	3.90	0.24				
17.50	4.72	3.92	0.23				
17.75	4.74	3.94	0.21				

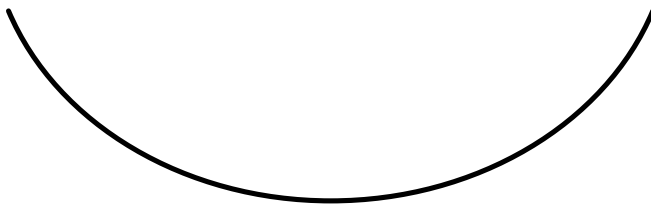
Summary for Reach 1R: Swale (Reach)

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth = 0.00" for 10 YEAR event
 Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

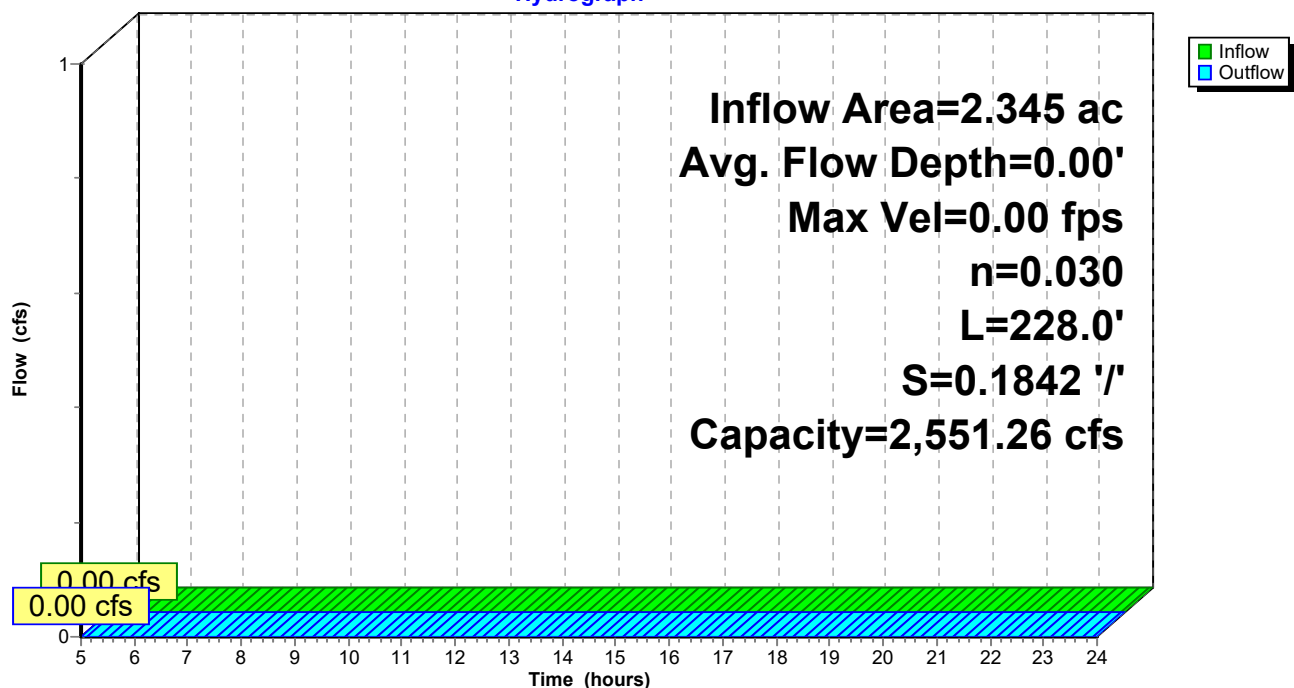
Peak Storage= 0 cf @ 5.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 5.00' Flow Area= 60.0 sf, Capacity= 2,551.26 cfs

18.00' x 5.00' deep Parabolic Channel, n= 0.030 Stream, clean & straight
 Length= 228.0' Slope= 0.1842 '/'
 Inlet Invert= 95.00', Outlet Invert= 53.00'



Reach 1R: Swale (Reach)

Hydrograph



Hydrograph for Reach 1R: Swale (Reach)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
5.00	0.00	95.00	0.00	18.00	0.00	95.00	0.00
5.25	0.00	95.00	0.00	18.25	0.00	95.00	0.00
5.50	0.00	95.00	0.00	18.50	0.00	95.00	0.00
5.75	0.00	95.00	0.00	18.75	0.00	95.00	0.00
6.00	0.00	95.00	0.00	19.00	0.00	95.00	0.00
6.25	0.00	95.00	0.00	19.25	0.00	95.00	0.00
6.50	0.00	95.00	0.00	19.50	0.00	95.00	0.00
6.75	0.00	95.00	0.00	19.75	0.00	95.00	0.00
7.00	0.00	95.00	0.00	20.00	0.00	95.00	0.00
7.25	0.00	95.00	0.00	20.25	0.00	95.00	0.00
7.50	0.00	95.00	0.00	20.50	0.00	95.00	0.00
7.75	0.00	95.00	0.00	20.75	0.00	95.00	0.00
8.00	0.00	95.00	0.00	21.00	0.00	95.00	0.00
8.25	0.00	95.00	0.00	21.25	0.00	95.00	0.00
8.50	0.00	95.00	0.00	21.50	0.00	95.00	0.00
8.75	0.00	95.00	0.00	21.75	0.00	95.00	0.00
9.00	0.00	95.00	0.00	22.00	0.00	95.00	0.00
9.25	0.00	95.00	0.00	22.25	0.00	95.00	0.00
9.50	0.00	95.00	0.00	22.50	0.00	95.00	0.00
9.75	0.00	95.00	0.00	22.75	0.00	95.00	0.00
10.00	0.00	95.00	0.00	23.00	0.00	95.00	0.00
10.25	0.00	95.00	0.00	23.25	0.00	95.00	0.00
10.50	0.00	95.00	0.00	23.50	0.00	95.00	0.00
10.75	0.00	95.00	0.00	23.75	0.00	95.00	0.00
11.00	0.00	95.00	0.00	24.00	0.00	95.00	0.00
11.25	0.00	95.00	0.00				
11.50	0.00	95.00	0.00				
11.75	0.00	95.00	0.00				
12.00	0.00	95.00	0.00				
12.25	0.00	95.00	0.00				
12.50	0.00	95.00	0.00				
12.75	0.00	95.00	0.00				
13.00	0.00	95.00	0.00				
13.25	0.00	95.00	0.00				
13.50	0.00	95.00	0.00				
13.75	0.00	95.00	0.00				
14.00	0.00	95.00	0.00				
14.25	0.00	95.00	0.00				
14.50	0.00	95.00	0.00				
14.75	0.00	95.00	0.00				
15.00	0.00	95.00	0.00				
15.25	0.00	95.00	0.00				
15.50	0.00	95.00	0.00				
15.75	0.00	95.00	0.00				
16.00	0.00	95.00	0.00				
16.25	0.00	95.00	0.00				
16.50	0.00	95.00	0.00				
16.75	0.00	95.00	0.00				
17.00	0.00	95.00	0.00				
17.25	0.00	95.00	0.00				
17.50	0.00	95.00	0.00				
17.75	0.00	95.00	0.00				

Stage-Discharge for Reach 1R: Swale (Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
95.00	0.00	0.00	97.60	28.81	648.28
95.05	2.20	0.13	97.65	29.15	674.88
95.10	3.49	0.59	97.70	29.49	702.02
95.15	4.56	1.42	97.75	29.82	729.73
95.20	5.52	2.65	97.80	30.15	757.98
95.25	6.40	4.29	97.85	30.47	786.79
95.30	7.21	6.36	97.90	30.79	816.15
95.35	7.98	8.87	97.95	31.12	846.06
95.40	8.71	11.83	98.00	31.43	876.53
95.45	9.41	15.25	98.05	31.75	907.56
95.50	10.09	19.14	98.10	32.06	939.14
95.55	10.73	23.49	98.15	32.37	971.27
95.60	11.36	28.33	98.20	32.68	1,003.96
95.65	11.97	33.65	98.25	32.99	1,037.20
95.70	12.56	39.46	98.30	33.29	1,071.00
95.75	13.13	45.77	98.35	33.59	1,105.36
95.80	13.69	52.57	98.40	33.89	1,140.27
95.85	14.24	59.88	98.45	34.19	1,175.74
95.90	14.77	67.69	98.50	34.48	1,211.76
95.95	15.30	76.01	98.55	34.78	1,248.34
96.00	15.81	84.83	98.60	35.07	1,285.48
96.05	16.31	94.18	98.65	35.36	1,323.17
96.10	16.80	104.04	98.70	35.64	1,361.42
96.15	17.29	114.42	98.75	35.93	1,400.23
96.20	17.76	125.32	98.80	36.21	1,439.59
96.25	18.23	136.74	98.85	36.49	1,479.51
96.30	18.69	148.69	98.90	36.77	1,519.98
96.35	19.15	161.17	98.95	37.05	1,561.02
96.40	19.59	174.17	99.00	37.33	1,602.61
96.45	20.03	187.71	99.05	37.60	1,644.75
96.50	20.47	201.78	99.10	37.88	1,687.45
96.55	20.89	216.38	99.15	38.15	1,730.71
96.60	21.32	231.52	99.20	38.42	1,774.53
96.65	21.73	247.20	99.25	38.68	1,818.90
96.70	22.14	263.41	99.30	38.95	1,863.83
96.75	22.55	280.16	99.35	39.21	1,909.32
96.80	22.95	297.45	99.40	39.48	1,955.36
96.85	23.35	315.28	99.45	39.74	2,001.96
96.90	23.74	333.66	99.50	40.00	2,049.12
96.95	24.13	352.58	99.55	40.26	2,096.83
97.00	24.51	372.04	99.60	40.51	2,145.10
97.05	24.89	392.05	99.65	40.77	2,193.92
97.10	25.26	412.60	99.70	41.02	2,243.30
97.15	25.64	433.70	99.75	41.28	2,293.24
97.20	26.00	455.34	99.80	41.53	2,343.73
97.25	26.37	477.54	99.85	41.78	2,394.78
97.30	26.73	500.28	99.90	42.03	2,446.39
97.35	27.08	523.57	99.95	42.27	2,498.55
97.40	27.43	547.41	100.00	42.52	2,551.26
97.45	27.78	571.80			
97.50	28.13	596.74			
97.55	28.47	622.24			

Summary for Reach 2R: Stream

Inflow Area = 26.600 ac, 23.90% Impervious, Inflow Depth > 2.99" for 10 YEAR event
 Inflow = 65.04 cfs @ 12.25 hrs, Volume= 6.633 af
 Outflow = 64.70 cfs @ 12.27 hrs, Volume= 6.624 af, Atten= 1%, Lag= 1.2 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 7.85 fps, Min. Travel Time= 1.7 min

Avg. Velocity = 2.97 fps, Avg. Travel Time= 4.5 min

Peak Storage= 6,575 cf @ 12.27 hrs

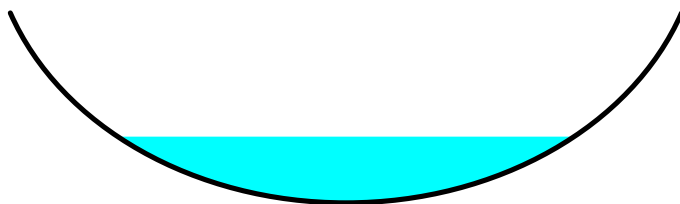
Average Depth at Peak Storage= 1.39'

Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 598.05 cfs

15.00' x 4.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

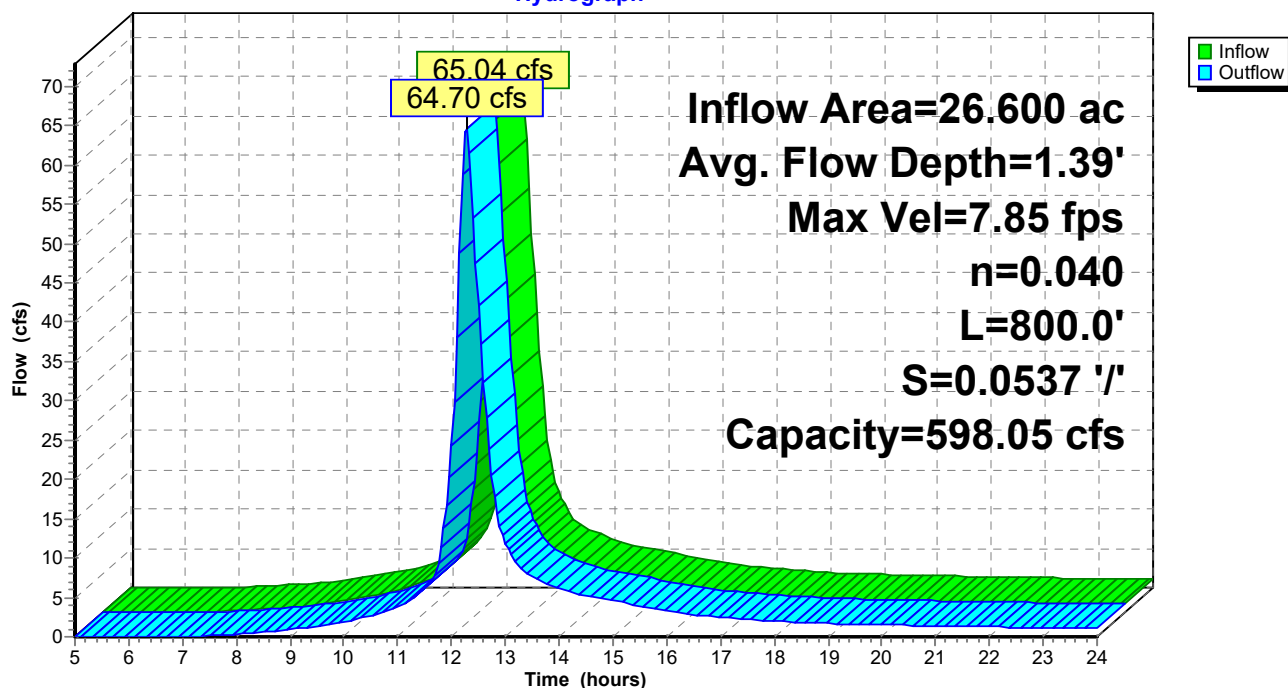
Length= 800.0' Slope= 0.0537 '/'

Inlet Invert= 53.00', Outlet Invert= 10.00'



Reach 2R: Stream

Hydrograph



Hydrograph for Reach 2R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.00	0	53.00	0.00
5.50	0.00	0	53.00	0.00
6.00	0.00	0	53.00	0.00
6.50	0.00	0	53.00	0.00
7.00	0.06	24	53.03	0.02
7.50	0.20	100	53.09	0.16
8.00	0.38	169	53.12	0.34
8.50	0.63	243	53.15	0.58
9.00	0.99	340	53.19	0.93
9.50	1.45	449	53.23	1.39
10.00	2.01	566	53.27	1.94
10.50	2.80	712	53.32	2.69
11.00	3.93	908	53.37	3.82
11.50	6.35	1,251	53.46	6.05
12.00	26.63	3,300	53.88	24.24
12.50	39.84	4,862	54.14	42.13
13.00	11.33	2,007	53.63	11.92
13.50	7.41	1,458	53.51	7.54
14.00	6.10	1,273	53.47	6.20
14.50	5.13	1,124	53.43	5.19
15.00	4.51	1,028	53.40	4.56
15.50	3.89	928	53.38	3.95
16.00	3.26	824	53.35	3.32
16.50	2.79	736	53.32	2.82
17.00	2.51	683	53.31	2.54
17.50	2.24	631	53.29	2.27
18.00	1.96	577	53.27	1.99
18.50	1.77	533	53.26	1.78
19.00	1.68	515	53.25	1.69
19.50	1.60	497	53.25	1.61
20.00	1.52	480	53.24	1.53
20.50	1.44	464	53.24	1.45
21.00	1.38	449	53.23	1.39
21.50	1.32	435	53.23	1.33
22.00	1.26	420	53.22	1.27
22.50	1.19	405	53.22	1.20
23.00	1.13	391	53.21	1.14
23.50	1.07	376	53.21	1.08
24.00	1.00	361	53.20	1.01

Stage-Discharge for Reach 2R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
53.00	0.00	0.00	55.60	11.58	242.67
53.05	0.88	0.06	55.65	11.71	252.61
53.10	1.41	0.23	55.70	11.84	262.74
53.15	1.84	0.55	55.75	11.98	273.07
53.20	2.23	1.00	55.80	12.11	283.60
53.25	2.59	1.63	55.85	12.24	294.36
53.30	2.92	2.41	55.90	12.36	305.31
53.35	3.23	3.35	55.95	12.49	316.46
53.40	3.52	4.46	56.00	12.62	327.80
53.45	3.81	5.76	56.05	12.74	339.38
53.50	4.08	7.22	56.10	12.87	351.15
53.55	4.34	8.86	56.15	12.99	363.12
53.60	4.59	10.67	56.20	13.11	375.29
53.65	4.84	12.68	56.25	13.23	387.68
53.70	5.07	14.87	56.30	13.35	400.28
53.75	5.30	17.24	56.35	13.47	413.07
53.80	5.53	19.78	56.40	13.59	426.05
53.85	5.75	22.54	56.45	13.71	439.27
53.90	5.96	25.48	56.50	13.83	452.68
53.95	6.17	28.60	56.55	13.94	466.29
54.00	6.38	31.90	56.60	14.06	480.10
54.05	6.58	35.42	56.65	14.17	494.14
54.10	6.78	39.13	56.70	14.29	508.37
54.15	6.97	43.02	56.75	14.40	522.81
54.20	7.17	47.10	56.80	14.51	537.43
54.25	7.35	51.39	56.85	14.62	552.29
54.30	7.54	55.88	56.90	14.73	567.35
54.35	7.72	60.55	56.95	14.84	582.60
54.40	7.90	65.42	57.00	14.95	598.05
54.45	8.07	70.50			
54.50	8.25	75.78			
54.55	8.42	81.24			
54.60	8.59	86.90			
54.65	8.75	92.78			
54.70	8.92	98.86			
54.75	9.08	105.12			
54.80	9.24	111.58			
54.85	9.40	118.27			
54.90	9.56	125.15			
54.95	9.71	132.22			
55.00	9.86	139.49			
55.05	10.01	146.98			
55.10	10.16	154.67			
55.15	10.31	162.55			
55.20	10.46	170.63			
55.25	10.60	178.93			
55.30	10.75	187.43			
55.35	10.89	196.13			
55.40	11.03	205.02			
55.45	11.17	214.14			
55.50	11.31	223.45			
55.55	11.44	232.97			

Summary for Reach 3R: Channel

Inflow Area = 26.600 ac, 23.90% Impervious, Inflow Depth > 2.99" for 10 YEAR event
Inflow = 64.70 cfs @ 12.27 hrs, Volume= 6.624 af
Outflow = 64.36 cfs @ 12.29 hrs, Volume= 6.616 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.11 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 4.1 min

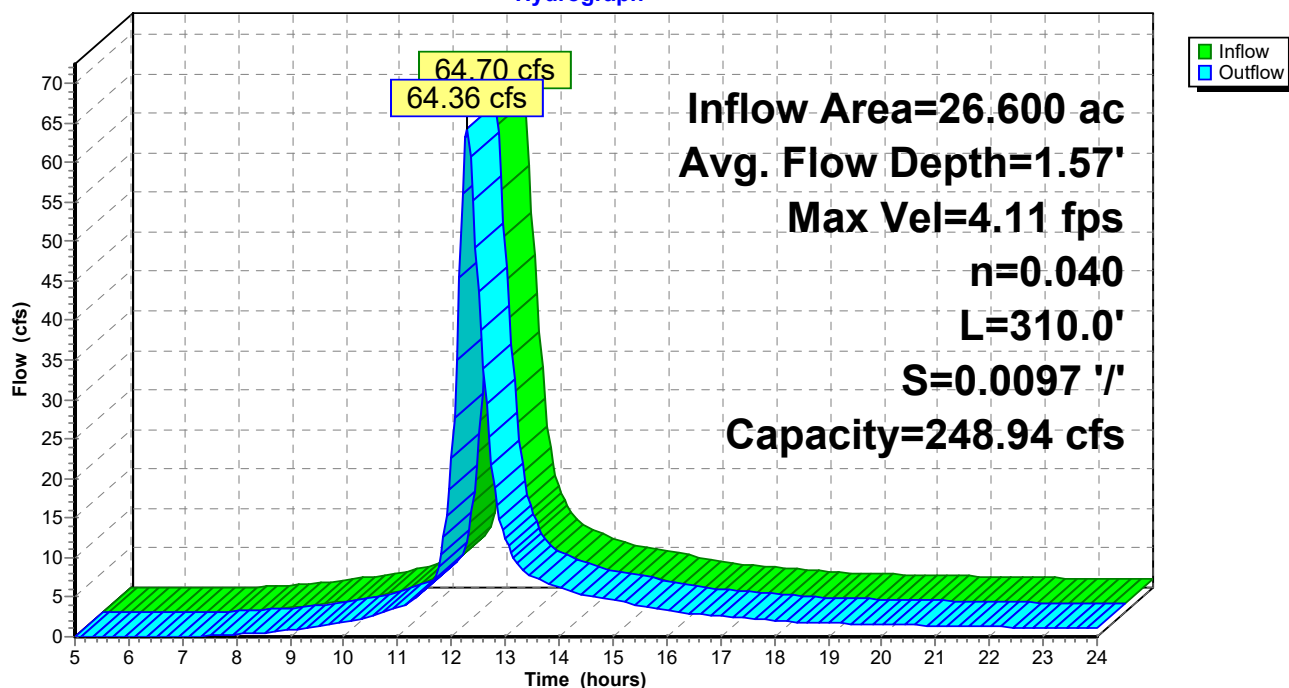
Peak Storage= 4,855 cf @ 12.29 hrs
Average Depth at Peak Storage= 1.57'
Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 248.94 cfs

10.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals
Length= 310.0' Slope= 0.0097 '/'
Inlet Invert= 6.00', Outlet Invert= 3.00'



Reach 3R: Channel

Hydrograph



Hydrograph for Reach 3R: Channel

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.00	0	6.00	0.00
5.50	0.00	0	6.00	0.00
6.00	0.00	0	6.00	0.00
6.50	0.00	0	6.00	0.00
7.00	0.02	7	6.00	0.01
7.50	0.16	76	6.02	0.10
8.00	0.34	169	6.05	0.30
8.50	0.58	244	6.08	0.53
9.00	0.93	331	6.11	0.88
9.50	1.39	428	6.14	1.34
10.00	1.94	529	6.17	1.89
10.50	2.69	647	6.21	2.62
11.00	3.82	803	6.26	3.73
11.50	6.05	1,057	6.34	5.83
12.00	24.24	2,465	6.80	22.61
12.50	42.13	3,766	7.21	43.74
13.00	11.92	1,686	6.54	12.37
13.50	7.54	1,249	6.40	7.63
14.00	6.20	1,107	6.36	6.28
14.50	5.19	990	6.32	5.23
15.00	4.56	914	6.29	4.60
15.50	3.95	837	6.27	3.99
16.00	3.32	755	6.24	3.37
16.50	2.82	681	6.22	2.85
17.00	2.54	639	6.21	2.56
17.50	2.27	596	6.19	2.29
18.00	1.99	551	6.18	2.02
18.50	1.78	514	6.17	1.79
19.00	1.69	498	6.16	1.70
19.50	1.61	483	6.16	1.62
20.00	1.53	467	6.15	1.54
20.50	1.45	452	6.15	1.46
21.00	1.39	439	6.14	1.40
21.50	1.33	427	6.14	1.33
22.00	1.27	415	6.13	1.27
22.50	1.20	403	6.13	1.21
23.00	1.14	391	6.13	1.15
23.50	1.08	378	6.12	1.08
24.00	1.01	365	6.12	1.02

Stage-Discharge for Reach 3R: Channel

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
6.00	0.00	0.00	8.60	5.23	135.90
6.05	0.49	0.26	8.65	5.27	139.68
6.10	0.77	0.79	8.70	5.31	143.47
6.15	1.01	1.53	8.75	5.36	147.29
6.20	1.22	2.44	8.80	5.40	151.13
6.25	1.40	3.52	8.85	5.44	154.99
6.30	1.57	4.74	8.90	5.48	158.88
6.35	1.73	6.08	8.95	5.52	162.78
6.40	1.88	7.54	9.00	5.56	166.71
6.45	2.03	9.12	9.05	5.60	170.66
6.50	2.16	10.81	9.10	5.63	174.62
6.55	2.29	12.59	9.15	5.67	178.61
6.60	2.41	14.46	9.20	5.71	182.61
6.65	2.53	16.44	9.25	5.74	186.63
6.70	2.64	18.49	9.30	5.78	190.67
6.75	2.75	20.62	9.35	5.81	194.73
6.80	2.85	22.82	9.40	5.85	198.81
6.85	2.95	25.11	9.45	5.88	202.90
6.90	3.05	27.46	9.50	5.91	207.01
6.95	3.14	29.88	9.55	5.95	211.13
7.00	3.24	32.36	9.60	5.98	215.27
7.05	3.32	34.91	9.65	6.01	219.43
7.10	3.41	37.52	9.70	6.04	223.60
7.15	3.49	40.19	9.75	6.07	227.79
7.20	3.58	42.91	9.80	6.11	231.99
7.25	3.65	45.69	9.85	6.14	236.21
7.30	3.73	48.51	9.90	6.16	240.44
7.35	3.81	51.39	9.95	6.19	244.68
7.40	3.88	54.31	10.00	6.22	248.94
7.45	3.95	57.29			
7.50	4.02	60.31			
7.55	4.09	63.37			
7.60	4.15	66.47			
7.65	4.22	69.62			
7.70	4.28	72.81			
7.75	4.34	76.04			
7.80	4.41	79.30			
7.85	4.46	82.60			
7.90	4.52	85.94			
7.95	4.58	89.31			
8.00	4.64	92.71			
8.05	4.69	96.15			
8.10	4.74	99.62			
8.15	4.80	103.12			
8.20	4.85	106.65			
8.25	4.90	110.21			
8.30	4.95	113.80			
8.35	5.00	117.42			
8.40	5.04	121.06			
8.45	5.09	124.74			
8.50	5.14	128.44			
8.55	5.18	132.16			

Summary for Reach 4R: Stream

Inflow Area = 33.005 ac, 23.45% Impervious, Inflow Depth > 3.06" for 10 YEAR event
 Inflow = 81.76 cfs @ 12.27 hrs, Volume= 8.421 af
 Outflow = 81.44 cfs @ 12.28 hrs, Volume= 8.416 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.26 fps, Min. Travel Time= 0.7 min

Avg. Velocity = 1.98 fps, Avg. Travel Time= 1.8 min

Peak Storage= 3,399 cf @ 12.28 hrs

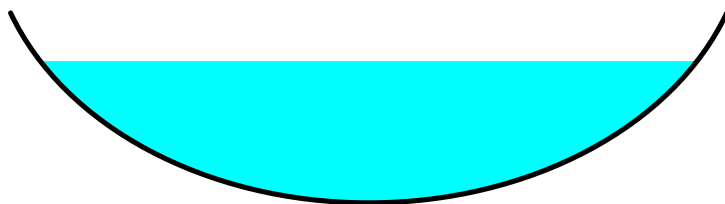
Average Depth at Peak Storage= 2.24'

Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 150.76 cfs

12.00' x 3.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

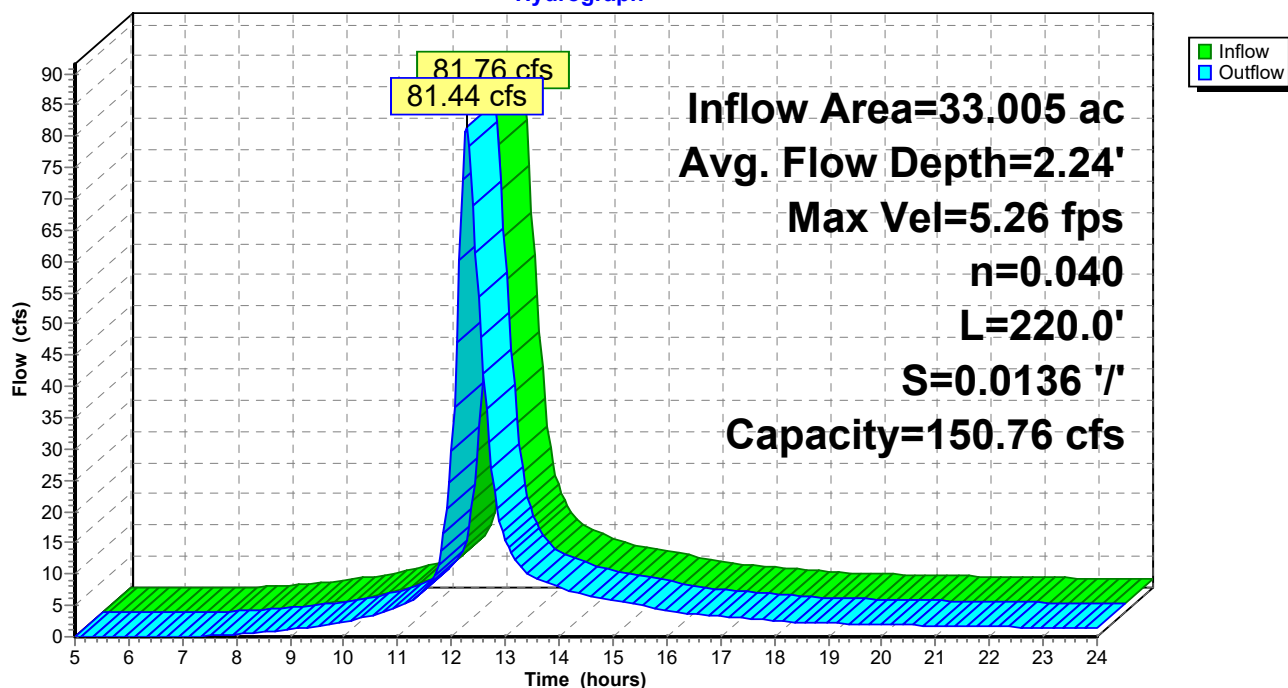
Length= 220.0' Slope= 0.0136 '/'

Inlet Invert= 3.00', Outlet Invert= 0.00'



Reach 4R: Stream

Hydrograph



Hydrograph for Reach 4R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.00	0	3.00	0.00
5.50	0.00	0	3.00	0.00
6.00	0.00	0	3.00	0.00
6.50	0.01	2	3.01	0.00
7.00	0.05	16	3.06	0.04
7.50	0.19	44	3.12	0.17
8.00	0.44	84	3.19	0.42
8.50	0.73	122	3.24	0.71
9.00	1.19	172	3.31	1.16
9.50	1.78	228	3.37	1.75
10.00	2.48	289	3.43	2.45
10.50	3.44	363	3.50	3.39
11.00	4.87	463	3.59	4.81
11.50	7.70	634	3.73	7.54
12.00	31.06	1,666	4.39	29.82
12.50	53.17	2,550	4.85	54.39
13.00	15.15	1,049	4.02	15.46
13.50	9.57	753	3.82	9.64
14.00	7.88	657	3.75	7.93
14.50	6.59	579	3.69	6.62
15.00	5.79	529	3.65	5.82
15.50	5.02	479	3.61	5.04
16.00	4.23	425	3.56	4.26
16.50	3.59	378	3.52	3.60
17.00	3.23	351	3.49	3.24
17.50	2.88	325	3.47	2.90
18.00	2.53	297	3.44	2.55
18.50	2.26	274	3.42	2.27
19.00	2.15	264	3.41	2.15
19.50	2.05	255	3.40	2.05
20.00	1.94	246	3.39	1.95
20.50	1.84	237	3.38	1.85
21.00	1.76	230	3.37	1.77
21.50	1.69	223	3.36	1.69
22.00	1.61	216	3.36	1.61
22.50	1.53	208	3.35	1.53
23.00	1.45	201	3.34	1.45
23.50	1.37	193	3.33	1.37
24.00	1.29	185	3.32	1.29

Stage-Discharge for Reach 4R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
3.00	0.00	0.00	4.04	3.28	16.07	5.08	5.04	69.90
3.02	0.21	0.01	4.06	3.32	16.73	5.10	5.07	71.32
3.04	0.38	0.02	4.08	3.36	17.41	5.12	5.10	72.76
3.06	0.51	0.03	4.10	3.40	18.11	5.14	5.13	74.22
3.08	0.61	0.07	4.12	3.44	18.82	5.16	5.16	75.68
3.10	0.71	0.11	4.14	3.47	19.54	5.18	5.19	77.17
3.12	0.80	0.15	4.16	3.51	20.28	5.20	5.22	78.67
3.14	0.89	0.22	4.18	3.55	21.03	5.22	5.25	80.18
3.16	0.97	0.29	4.20	3.59	21.79	5.24	5.28	81.71
3.18	1.05	0.37	4.22	3.63	22.57	5.26	5.30	83.25
3.20	1.12	0.47	4.24	3.66	23.37	5.28	5.33	84.80
3.22	1.20	0.57	4.26	3.70	24.18	5.30	5.36	86.38
3.24	1.27	0.69	4.28	3.74	25.00	5.32	5.39	87.97
3.26	1.34	0.82	4.30	3.77	25.84	5.34	5.42	89.57
3.28	1.40	0.96	4.32	3.81	26.69	5.36	5.45	91.19
3.30	1.47	1.11	4.34	3.85	27.56	5.38	5.47	92.82
3.32	1.53	1.28	4.36	3.88	28.44	5.40	5.50	94.46
3.34	1.59	1.46	4.38	3.92	29.33	5.42	5.53	96.13
3.36	1.65	1.65	4.40	3.95	30.25	5.44	5.56	97.80
3.38	1.71	1.86	4.42	3.99	31.17	5.46	5.58	99.49
3.40	1.77	2.07	4.44	4.02	32.11	5.48	5.61	101.20
3.42	1.83	2.30	4.46	4.06	33.07	5.50	5.64	102.92
3.44	1.89	2.54	4.48	4.09	34.03	5.52	5.66	104.65
3.46	1.94	2.80	4.50	4.13	35.01	5.54	5.69	106.40
3.48	2.00	3.06	4.52	4.16	36.01	5.56	5.72	108.17
3.50	2.05	3.35	4.54	4.19	37.03	5.58	5.74	109.95
3.52	2.10	3.64	4.56	4.23	38.05	5.60	5.77	111.74
3.54	2.15	3.95	4.58	4.26	39.09	5.62	5.80	113.55
3.56	2.20	4.27	4.60	4.29	40.15	5.64	5.82	115.38
3.58	2.26	4.61	4.62	4.33	41.22	5.66	5.85	117.22
3.60	2.31	4.95	4.64	4.36	42.31	5.68	5.88	119.07
3.62	2.35	5.31	4.66	4.39	43.41	5.70	5.90	120.94
3.64	2.40	5.69	4.68	4.43	44.52	5.72	5.93	122.83
3.66	2.45	6.07	4.70	4.46	45.65	5.74	5.95	124.73
3.68	2.50	6.48	4.72	4.49	46.79	5.76	5.98	126.64
3.70	2.55	6.89	4.74	4.52	47.95	5.78	6.01	128.57
3.72	2.59	7.32	4.76	4.55	49.13	5.80	6.03	130.51
3.74	2.64	7.76	4.78	4.59	50.31	5.82	6.06	132.47
3.76	2.68	8.22	4.80	4.62	51.51	5.84	6.08	134.44
3.78	2.73	8.69	4.82	4.65	52.73	5.86	6.11	136.43
3.80	2.77	9.17	4.84	4.68	53.97	5.88	6.13	138.43
3.82	2.82	9.67	4.86	4.71	55.21	5.90	6.16	140.45
3.84	2.86	10.18	4.88	4.74	56.47	5.92	6.18	142.49
3.86	2.91	10.71	4.90	4.77	57.75	5.94	6.21	144.53
3.88	2.95	11.25	4.92	4.80	59.04	5.96	6.23	146.60
3.90	2.99	11.80	4.94	4.84	60.35	5.98	6.26	148.67
3.92	3.03	12.37	4.96	4.87	61.67	6.00	6.28	150.76
3.94	3.08	12.95	4.98	4.90	63.00			
3.96	3.12	13.54	5.00	4.93	64.35			
3.98	3.16	14.15	5.02	4.96	65.72			
4.00	3.20	14.78	5.04	4.99	67.09			
4.02	3.24	15.41	5.06	5.02	68.49			

Summary for Pond EX-P: Existing Pond

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth > 4.30" for 10 YEAR event
 Inflow = 10.41 cfs @ 12.11 hrs, Volume= 0.841 af
 Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 89.99' @ 24.00 hrs Surf.Area= 14,016 sf Storage= 36,621 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

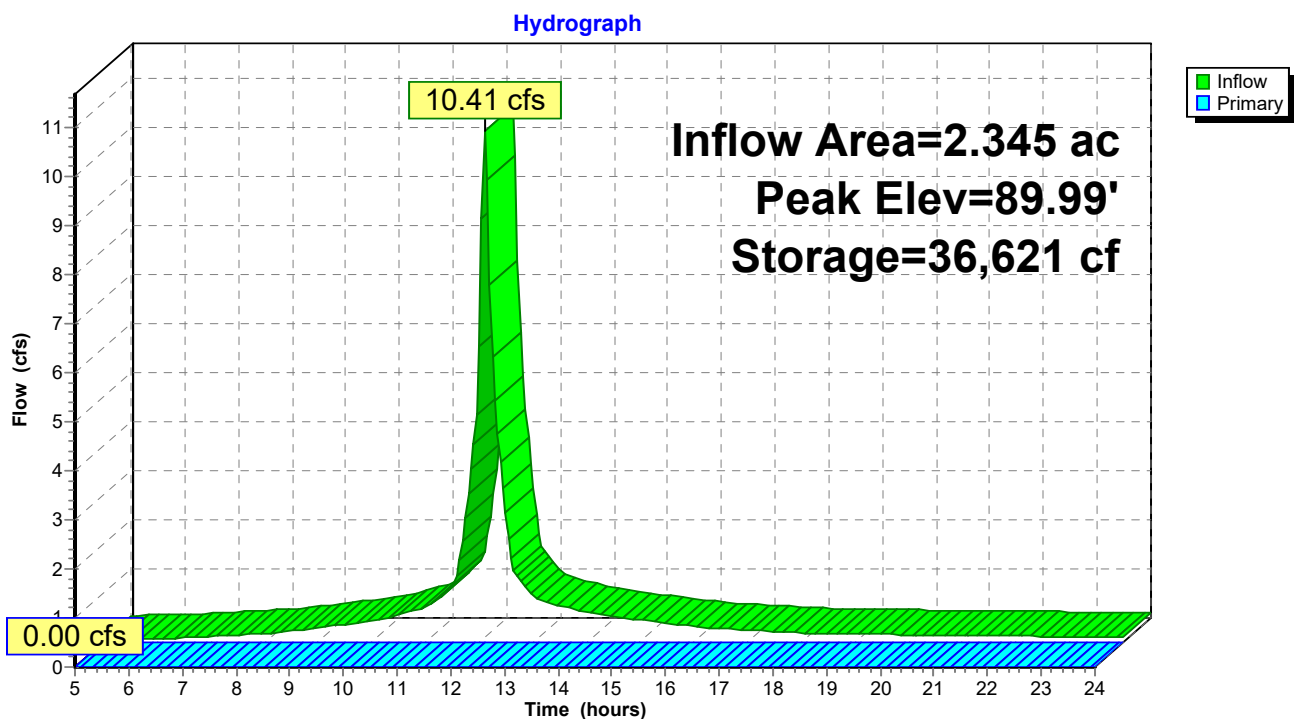
Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	277,808 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	635	0	0
90.00	14,042	36,693	36,693
100.00	34,181	241,115	277,808

Device	Routing	Invert	Outlet Devices
#1	Primary	95.00'	65.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=85.00' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond EX-P: Existing Pond



Hydrograph for Pond EX-P: Existing Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.05	4	85.00	0.00
5.50	0.06	102	85.01	0.00
6.00	0.07	224	85.03	0.00
6.50	0.10	375	85.05	0.00
7.00	0.12	570	85.08	0.00
7.50	0.15	814	85.11	0.00
8.00	0.18	1,111	85.15	0.00
8.50	0.23	1,479	85.20	0.00
9.00	0.30	1,956	85.27	0.00
9.50	0.37	2,553	85.35	0.00
10.00	0.44	3,279	85.45	0.00
10.50	0.56	4,172	85.57	0.00
11.00	0.71	5,316	85.72	0.00
11.50	1.14	6,920	85.94	0.00
12.00	6.03	11,898	86.62	0.00
12.50	2.62	23,022	88.14	0.00
13.00	0.99	25,585	88.49	0.00
13.50	0.75	27,093	88.69	0.00
14.00	0.61	28,324	88.86	0.00
14.50	0.53	29,340	89.00	0.00
15.00	0.46	30,230	89.12	0.00
15.50	0.39	30,999	89.22	0.00
16.00	0.32	31,645	89.31	0.00
16.50	0.29	32,189	89.39	0.00
17.00	0.26	32,677	89.45	0.00
17.50	0.23	33,113	89.51	0.00
18.00	0.20	33,495	89.56	0.00
18.50	0.18	33,834	89.61	0.00
19.00	0.17	34,157	89.65	0.00
19.50	0.17	34,463	89.70	0.00
20.00	0.16	34,754	89.74	0.00
20.50	0.15	35,029	89.77	0.00
21.00	0.14	35,293	89.81	0.00
21.50	0.14	35,544	89.84	0.00
22.00	0.13	35,783	89.88	0.00
22.50	0.12	36,011	89.91	0.00
23.00	0.12	36,226	89.94	0.00
23.50	0.11	36,430	89.96	0.00
24.00	0.10	36,621	89.99	0.00

Stage-Discharge for Pond EX-P: Existing Pond

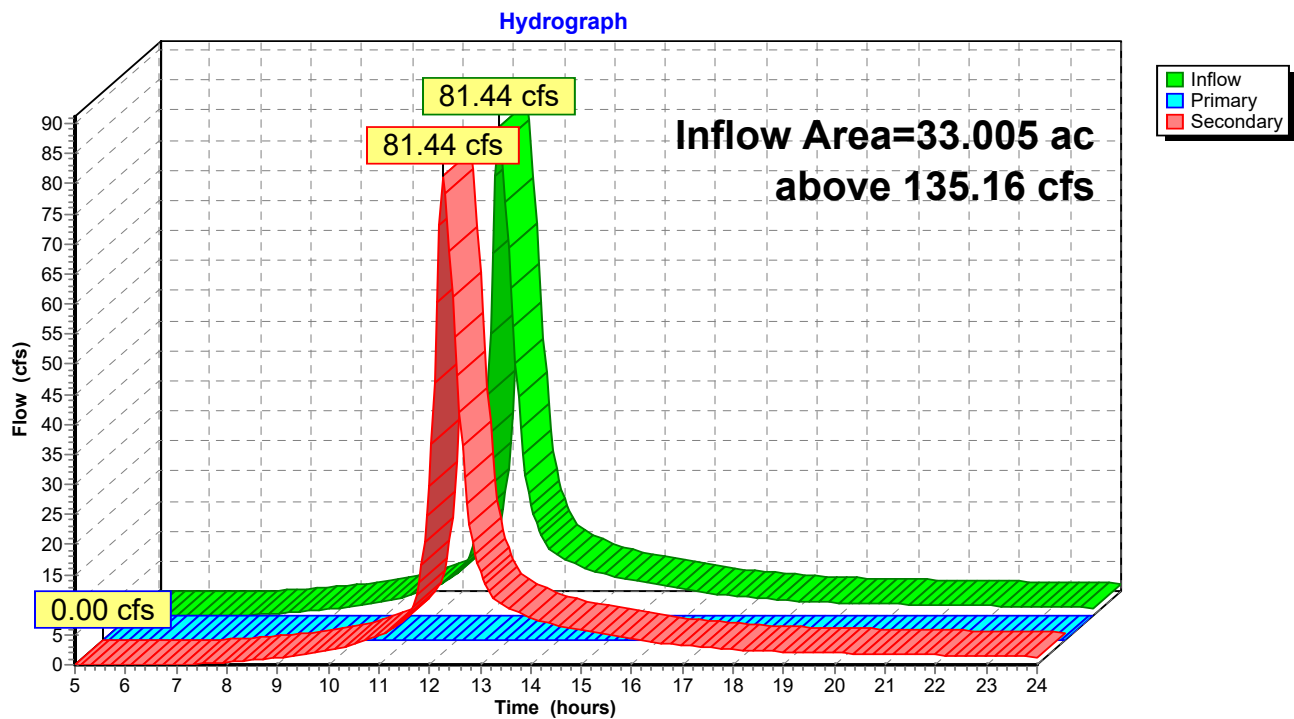
Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
85.00	0.00	92.80	0.00
85.15	0.00	92.95	0.00
85.30	0.00	93.10	0.00
85.45	0.00	93.25	0.00
85.60	0.00	93.40	0.00
85.75	0.00	93.55	0.00
85.90	0.00	93.70	0.00
86.05	0.00	93.85	0.00
86.20	0.00	94.00	0.00
86.35	0.00	94.15	0.00
86.50	0.00	94.30	0.00
86.65	0.00	94.45	0.00
86.80	0.00	94.60	0.00
86.95	0.00	94.75	0.00
87.10	0.00	94.90	0.00
87.25	0.00	95.05	1.70
87.40	0.00	95.20	13.60
87.55	0.00	95.35	33.11
87.70	0.00	95.50	59.75
87.85	0.00	95.65	91.80
88.00	0.00	95.80	124.65
88.15	0.00	95.95	161.30
88.30	0.00	96.10	200.22
88.45	0.00	96.25	241.41
88.60	0.00	96.40	285.33
88.75	0.00	96.55	332.40
88.90	0.00	96.70	381.80
89.05	0.00	96.85	433.43
89.20	0.00	97.00	487.20
89.35	0.00	97.15	544.25
89.50	0.00	97.30	603.55
89.65	0.00	97.45	665.04
89.80	0.00	97.60	727.04
89.95	0.00	97.75	789.97
90.10	0.00	97.90	854.51
90.25	0.00	98.05	921.66
90.40	0.00	98.20	992.71
90.55	0.00	98.35	1,065.72
90.70	0.00	98.50	1,140.64
90.85	0.00	98.65	1,217.47
91.00	0.00	98.80	1,296.18
91.15	0.00	98.95	1,376.74
91.30	0.00	99.10	1,461.29
91.45	0.00	99.25	1,549.05
91.60	0.00	99.40	1,638.98
91.75	0.00	99.55	1,731.70
91.90	0.00	99.70	1,827.97
92.05	0.00	99.85	1,926.59
92.20	0.00	100.00	2,027.55
92.35	0.00		
92.50	0.00		
92.65	0.00		

Summary for Link DP-5: Design Point #5

Inflow Area = 33.005 ac, 23.45% Impervious, Inflow Depth > 3.06" for 10 YEAR event
Inflow = 81.44 cfs @ 12.28 hrs, Volume= 8.416 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Secondary = 81.44 cfs @ 12.28 hrs, Volume= 8.416 af

Primary outflow = Inflow above 135.16 cfs, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Link DP-5: Design Point #5



Hydrograph for Link DP-5: Design Point #5

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Secondary (cfs)
5.00	0.00	0.00	0.00	0.00
5.50	0.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	0.00
6.50	0.00	0.00	0.00	0.00
7.00	0.04	0.00	0.00	0.04
7.50	0.17	0.00	0.00	0.17
8.00	0.42	0.00	0.00	0.42
8.50	0.71	0.00	0.00	0.71
9.00	1.16	0.00	0.00	1.16
9.50	1.75	0.00	0.00	1.75
10.00	2.45	0.00	0.00	2.45
10.50	3.39	0.00	0.00	3.39
11.00	4.81	0.00	0.00	4.81
11.50	7.54	0.00	0.00	7.54
12.00	29.82	0.00	0.00	29.82
12.50	54.39	0.00	0.00	54.39
13.00	15.46	0.00	0.00	15.46
13.50	9.64	0.00	0.00	9.64
14.00	7.93	0.00	0.00	7.93
14.50	6.62	0.00	0.00	6.62
15.00	5.82	0.00	0.00	5.82
15.50	5.04	0.00	0.00	5.04
16.00	4.26	0.00	0.00	4.26
16.50	3.60	0.00	0.00	3.60
17.00	3.24	0.00	0.00	3.24
17.50	2.90	0.00	0.00	2.90
18.00	2.55	0.00	0.00	2.55
18.50	2.27	0.00	0.00	2.27
19.00	2.15	0.00	0.00	2.15
19.50	2.05	0.00	0.00	2.05
20.00	1.95	0.00	0.00	1.95
20.50	1.85	0.00	0.00	1.85
21.00	1.77	0.00	0.00	1.77
21.50	1.69	0.00	0.00	1.69
22.00	1.61	0.00	0.00	1.61
22.50	1.53	0.00	0.00	1.53
23.00	1.45	0.00	0.00	1.45
23.50	1.37	0.00	0.00	1.37
24.00	1.29	0.00	0.00	1.29

Time span=5.00-24.00 hrs, dt=0.05 hrs, 381 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1: Drainage Area - 1 Runoff Area=279,005 sf 21.56% Impervious Runoff Depth>7.31"
Flow Length=378' Tc=15.1 min CN=84 Runoff=39.93 cfs 3.900 af

Subcatchment2: Drainage Area - 2 Runoff Area=1,056,532 sf 19.19% Impervious Runoff Depth>7.18"
Flow Length=1,341' Tc=18.3 min CN=83 Runoff=138.57 cfs 14.519 af

Subcatchment3: Drainage Area - 3 Runoff Area=102,167 sf 72.65% Impervious Runoff Depth>8.31"
Flow Length=310' Tc=7.7 min CN=93 Runoff=19.57 cfs 1.625 af

Reach 1R: Swale (Reach) Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=228.0' S=0.1842 ' Capacity=2,551.26 cfs Outflow=0.00 cfs 0.000 af

Reach 2R: Stream Avg. Flow Depth=1.99' Max Vel=9.83 fps Inflow=138.57 cfs 14.519 af
n=0.040 L=800.0' S=0.0537 ' Capacity=598.05 cfs Outflow=138.20 cfs 14.506 af

Reach 3R: Channel Avg. Flow Depth=2.63' Max Vel=5.24 fps Inflow=138.20 cfs 14.506 af
n=0.040 L=310.0' S=0.0097 ' Capacity=248.94 cfs Outflow=137.96 cfs 14.493 af

Reach 4R: Stream Avg. Flow Depth=3.23' Max Vel=6.53 fps Inflow=174.73 cfs 18.394 af
n=0.040 L=220.0' S=0.0136 ' Capacity=150.76 cfs Outflow=174.65 cfs 18.387 af

Pond EX-P: Existing Pond Peak Elev=91.41' Storage=70,749 cf Inflow=19.57 cfs 1.625 af
Outflow=0.00 cfs 0.000 af

Link DP-5: Design Point #5 above 135.16 cfs Inflow=174.65 cfs 18.387 af
Primary=39.49 cfs 0.542 af Secondary=135.16 cfs 17.845 af

Total Runoff Area = 33.005 ac Runoff Volume = 20.044 af Average Runoff Depth = 7.29"
76.55% Pervious = 25.265 ac 23.45% Impervious = 7.740 ac

Summary for Subcatchment 1: Drainage Area - 1

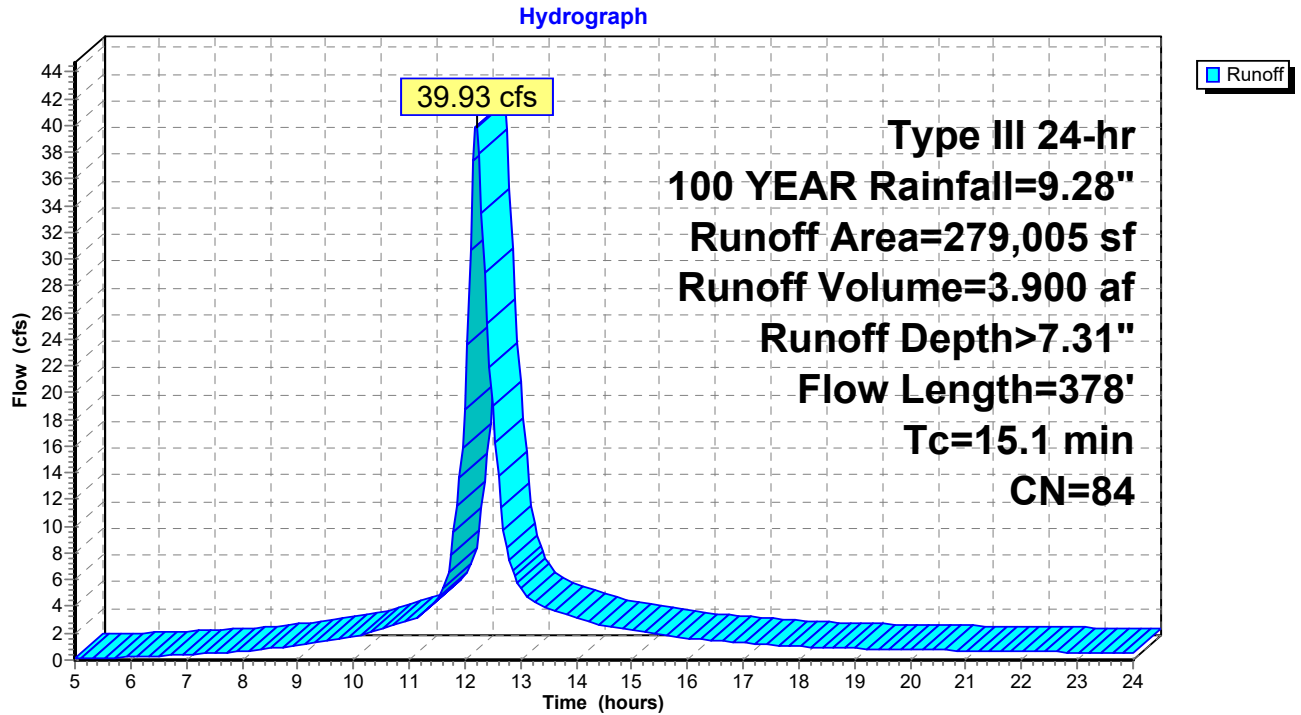
Runoff = 39.93 cfs @ 12.20 hrs, Volume= 3.900 af, Depth> 7.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=9.28"

	Area (sf)	CN	Description
*	60,161	98	Paved parking & roofs
	37,271	83	Brush, Poor, HSG D
	181,573	79	Woods, Fair, HSG D
	279,005	84	Weighted Average
	218,844		78.44% Pervious Area
	60,161		21.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	70	0.0280	0.09		Sheet Flow, 1 to 2 Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	110	0.6000	12.47		Shallow Concentrated Flow, 2 to 3 Unpaved Kv= 16.1 fps
0.3	38	0.0100	2.03		Shallow Concentrated Flow, 3 to 4 Paved Kv= 20.3 fps
1.2	160	0.0200	2.28		Shallow Concentrated Flow, 4 to 5 Unpaved Kv= 16.1 fps
15.1	378	Total			

Subcatchment 1: Drainage Area - 1



Hydrograph for Subcatchment 1: Drainage Area - 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.53	0.01	0.09	18.00	8.61	6.68	0.99
5.25	0.56	0.02	0.12	18.25	8.65	6.72	0.93
5.50	0.60	0.02	0.15	18.50	8.68	6.75	0.90
5.75	0.63	0.03	0.18	18.75	8.72	6.79	0.88
6.00	0.67	0.04	0.21	19.00	8.75	6.82	0.86
6.25	0.71	0.05	0.24	19.25	8.79	6.85	0.84
6.50	0.75	0.06	0.28	19.50	8.82	6.88	0.82
6.75	0.79	0.07	0.33	19.75	8.85	6.91	0.79
7.00	0.84	0.09	0.39	20.00	8.88	6.94	0.77
7.25	0.89	0.11	0.45	20.25	8.91	6.97	0.75
7.50	0.94	0.13	0.51	20.50	8.94	7.00	0.74
7.75	1.00	0.15	0.57	20.75	8.97	7.03	0.72
8.00	1.06	0.18	0.64	21.00	9.00	7.06	0.70
8.25	1.12	0.21	0.73	21.25	9.02	7.08	0.69
8.50	1.19	0.24	0.84	21.50	9.05	7.11	0.67
8.75	1.27	0.28	0.98	21.75	9.08	7.13	0.65
9.00	1.35	0.33	1.12	22.00	9.10	7.16	0.64
9.25	1.44	0.38	1.27	22.25	9.13	7.18	0.62
9.50	1.54	0.44	1.43	22.50	9.15	7.20	0.61
9.75	1.64	0.50	1.60	22.75	9.17	7.23	0.59
10.00	1.75	0.58	1.78	23.00	9.20	7.25	0.57
10.25	1.87	0.66	1.98	23.25	9.22	7.27	0.56
10.50	2.01	0.75	2.29	23.50	9.24	7.29	0.54
10.75	2.16	0.86	2.62	23.75	9.26	7.31	0.53
11.00	2.32	0.98	2.97	24.00	9.28	7.33	0.51
11.25	2.52	1.13	3.49				
11.50	2.77	1.33	4.57				
11.75	3.30	1.76	7.87				
12.00	4.64	2.94	18.81				
12.25	5.98	4.18	37.87				
12.50	6.51	4.68	19.03				
12.75	6.76	4.92	8.34				
13.00	6.96	5.10	5.48				
13.25	7.12	5.26	4.27				
13.50	7.27	5.40	3.81				
13.75	7.41	5.53	3.46				
14.00	7.53	5.64	3.12				
14.25	7.64	5.75	2.82				
14.50	7.74	5.85	2.64				
14.75	7.84	5.94	2.47				
15.00	7.93	6.03	2.31				
15.25	8.01	6.11	2.15				
15.50	8.09	6.18	1.98				
15.75	8.16	6.25	1.82				
16.00	8.22	6.31	1.65				
16.25	8.28	6.37	1.51				
16.50	8.34	6.42	1.42				
16.75	8.39	6.47	1.35				
17.00	8.44	6.52	1.28				
17.25	8.49	6.56	1.21				
17.50	8.53	6.61	1.14				
17.75	8.57	6.65	1.06				

Summary for Subcatchment 2: Drainage Area - 2

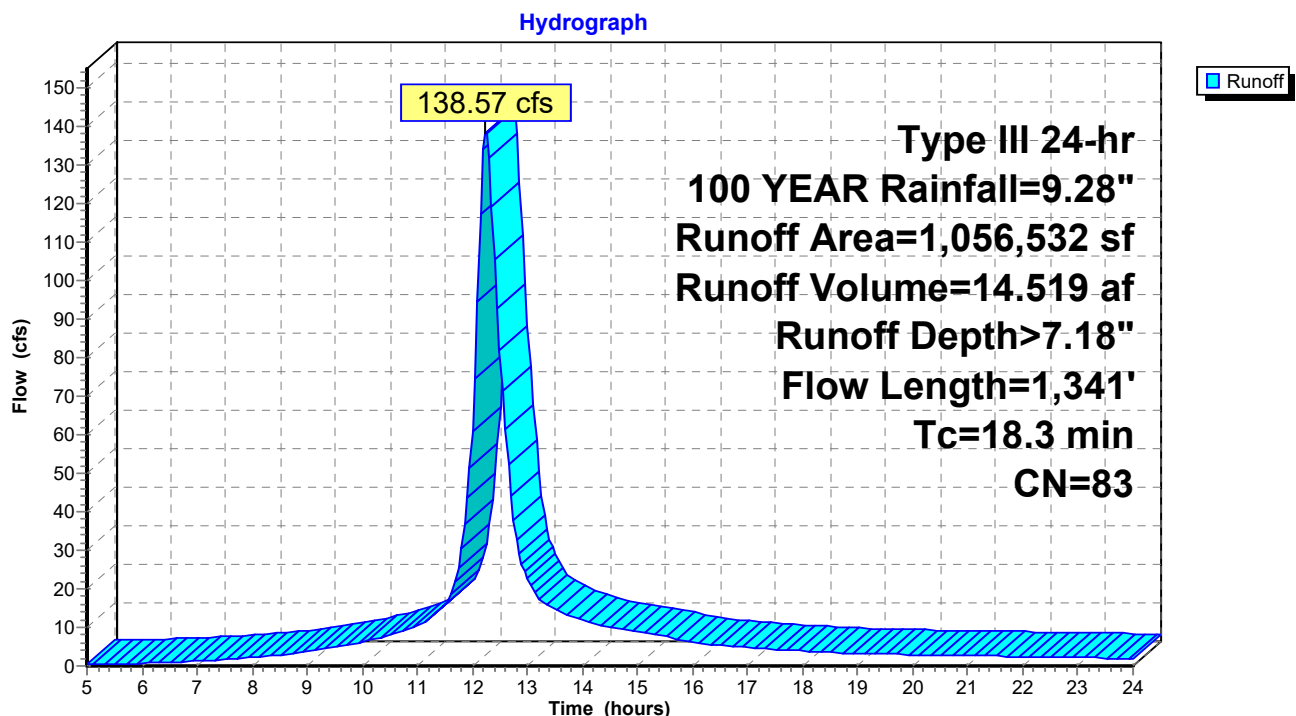
Runoff = 138.57 cfs @ 12.25 hrs, Volume= 14.519 af, Depth> 7.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=9.28"

	Area (sf)	CN	Description
*	195,831	98	Paved parking & roofs
*	6,925	98	Water Course
	853,776	79	Woods, Fair, HSG D
	1,056,532	83	Weighted Average
	853,776		80.81% Pervious Area
	202,756		19.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		Sheet Flow, 1 to 2 Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	1,241	0.0970	5.01		Shallow Concentrated Flow, 2 to 3 Unpaved Kv= 16.1 fps
18.3	1,341	Total			

Subcatchment 2: Drainage Area - 2



Hydrograph for Subcatchment 2: Drainage Area - 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.53	0.01	0.23	18.00	8.61	6.56	3.79
5.25	0.56	0.01	0.33	18.25	8.65	6.60	3.55
5.50	0.60	0.02	0.43	18.50	8.68	6.63	3.42
5.75	0.63	0.02	0.54	18.75	8.72	6.67	3.34
6.00	0.67	0.03	0.65	19.00	8.75	6.70	3.25
6.25	0.71	0.04	0.76	19.25	8.79	6.73	3.17
6.50	0.75	0.05	0.91	19.50	8.82	6.76	3.09
6.75	0.79	0.06	1.09	19.75	8.85	6.79	3.01
7.00	0.84	0.07	1.28	20.00	8.88	6.82	2.93
7.25	0.89	0.09	1.48	20.25	8.91	6.85	2.85
7.50	0.94	0.11	1.71	20.50	8.94	6.88	2.79
7.75	1.00	0.13	1.95	20.75	8.97	6.91	2.73
8.00	1.06	0.16	2.20	21.00	9.00	6.93	2.66
8.25	1.12	0.18	2.48	21.25	9.02	6.96	2.60
8.50	1.19	0.22	2.89	21.50	9.05	6.98	2.54
8.75	1.27	0.25	3.37	21.75	9.08	7.01	2.48
9.00	1.35	0.30	3.89	22.00	9.10	7.03	2.42
9.25	1.44	0.35	4.45	22.25	9.13	7.06	2.36
9.50	1.54	0.40	5.04	22.50	9.15	7.08	2.30
9.75	1.64	0.46	5.66	22.75	9.17	7.10	2.24
10.00	1.75	0.53	6.31	23.00	9.20	7.13	2.18
10.25	1.87	0.61	7.04	23.25	9.22	7.15	2.11
10.50	2.01	0.70	8.11	23.50	9.24	7.17	2.05
10.75	2.16	0.80	9.32	23.75	9.26	7.19	1.99
11.00	2.32	0.92	10.61	24.00	9.28	7.21	1.93
11.25	2.52	1.07	12.35				
11.50	2.77	1.26	16.04				
11.75	3.30	1.69	25.51				
12.00	4.64	2.85	60.97				
12.25	5.98	4.08	138.52				
12.50	6.51	4.57	81.85				
12.75	6.76	4.81	37.78				
13.00	6.96	4.99	22.61				
13.25	7.12	5.14	16.89				
13.50	7.27	5.28	14.66				
13.75	7.41	5.41	13.29				
14.00	7.53	5.53	12.01				
14.25	7.64	5.63	10.82				
14.50	7.74	5.73	10.06				
14.75	7.84	5.82	9.43				
15.00	7.93	5.91	8.82				
15.25	8.01	5.99	8.20				
15.50	8.09	6.06	7.59				
15.75	8.16	6.13	6.97				
16.00	8.22	6.19	6.35				
16.25	8.28	6.25	5.78				
16.50	8.34	6.30	5.42				
16.75	8.39	6.35	5.15				
17.00	8.44	6.40	4.88				
17.25	8.49	6.44	4.60				
17.50	8.53	6.49	4.33				
17.75	8.57	6.53	4.06				

Summary for Subcatchment 3: Drainage Area - 3

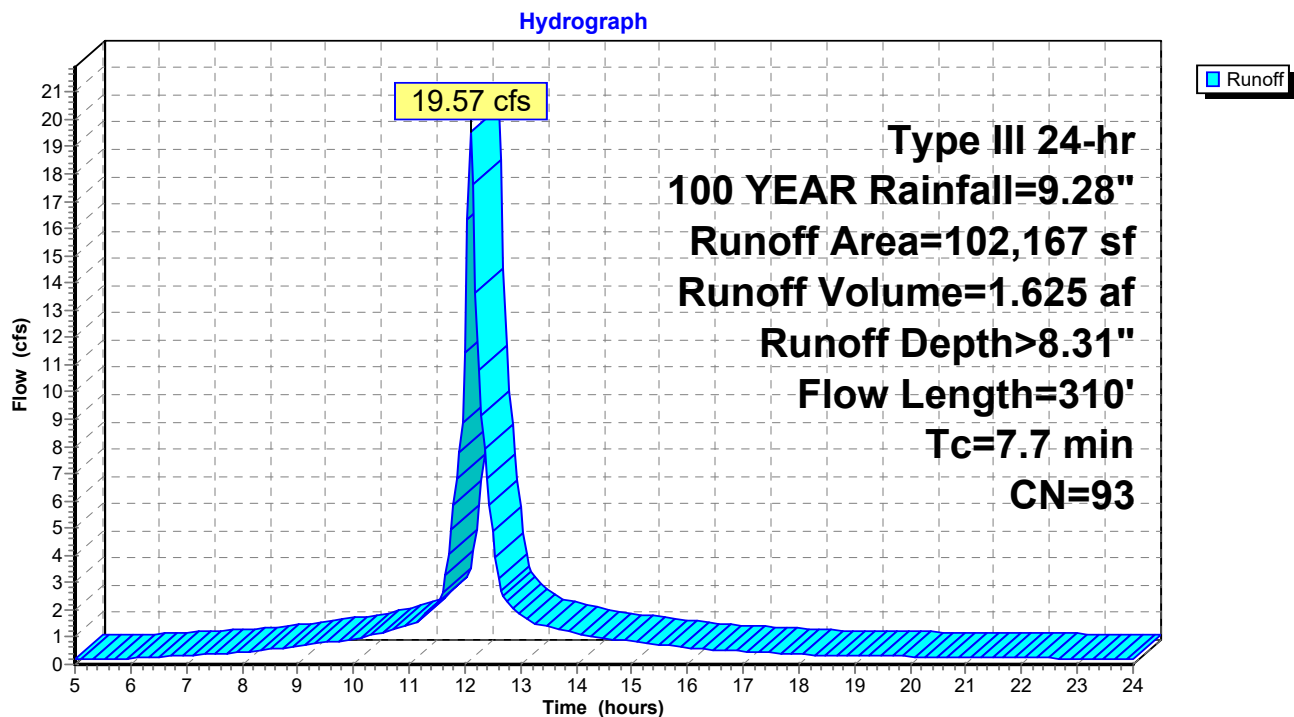
Runoff = 19.57 cfs @ 12.11 hrs, Volume= 1.625 af, Depth> 8.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=9.28"

	Area (sf)	CN	Description
*	74,229	98	Paved roads w/ curbs & sewers
	27,938	79	Woods, Fair, HSG D
	102,167	93	Weighted Average
	27,938		27.35% Pervious Area
	74,229		72.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.3000	0.24		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	210	0.0950	4.96		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
7.7	310	Total			

Subcatchment 3: Drainage Area - 3



Hydrograph for Subcatchment 3: Drainage Area - 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.53	0.13	0.17	18.00	8.61	7.77	0.36
5.25	0.56	0.14	0.18	18.25	8.65	7.81	0.34
5.50	0.60	0.17	0.20	18.50	8.68	7.84	0.34
5.75	0.63	0.19	0.21	18.75	8.72	7.88	0.33
6.00	0.67	0.21	0.22	19.00	8.75	7.91	0.32
6.25	0.71	0.24	0.24	19.25	8.79	7.94	0.31
6.50	0.75	0.26	0.27	19.50	8.82	7.98	0.30
6.75	0.79	0.30	0.29	19.75	8.85	8.01	0.30
7.00	0.84	0.33	0.32	20.00	8.88	8.04	0.29
7.25	0.89	0.37	0.35	20.25	8.91	8.07	0.28
7.50	0.94	0.41	0.38	20.50	8.94	8.10	0.27
7.75	1.00	0.45	0.41	20.75	8.97	8.12	0.27
8.00	1.06	0.50	0.44	21.00	9.00	8.15	0.26
8.25	1.12	0.55	0.48	21.25	9.02	8.18	0.26
8.50	1.19	0.60	0.54	21.50	9.05	8.21	0.25
8.75	1.27	0.67	0.61	21.75	9.08	8.23	0.24
9.00	1.35	0.74	0.67	22.00	9.10	8.26	0.24
9.25	1.44	0.82	0.74	22.25	9.13	8.28	0.23
9.50	1.54	0.90	0.80	22.50	9.15	8.30	0.23
9.75	1.64	0.99	0.87	22.75	9.17	8.33	0.22
10.00	1.75	1.09	0.93	23.00	9.20	8.35	0.21
10.25	1.87	1.20	1.03	23.25	9.22	8.37	0.21
10.50	2.01	1.32	1.16	23.50	9.24	8.39	0.20
10.75	2.16	1.46	1.30	23.75	9.26	8.41	0.19
11.00	2.32	1.61	1.43	24.00	9.28	8.43	0.19
11.25	2.52	1.79	1.75				
11.50	2.77	2.03	2.24				
11.75	3.30	2.54	4.94				
12.00	4.64	3.84	11.46				
12.25	5.98	5.17	10.80				
12.50	6.51	5.69	4.85				
12.75	6.76	5.94	2.35				
13.00	6.96	6.13	1.82				
13.25	7.12	6.29	1.52				
13.50	7.27	6.44	1.39				
13.75	7.41	6.57	1.26				
14.00	7.53	6.69	1.13				
14.25	7.64	6.80	1.03				
14.50	7.74	6.90	0.97				
14.75	7.84	7.00	0.91				
15.00	7.93	7.09	0.85				
15.25	8.01	7.17	0.78				
15.50	8.09	7.25	0.72				
15.75	8.16	7.32	0.66				
16.00	8.22	7.38	0.60				
16.25	8.28	7.44	0.55				
16.50	8.34	7.50	0.53				
16.75	8.39	7.55	0.50				
17.00	8.44	7.60	0.47				
17.25	8.49	7.65	0.44				
17.50	8.53	7.69	0.42				
17.75	8.57	7.73	0.39				

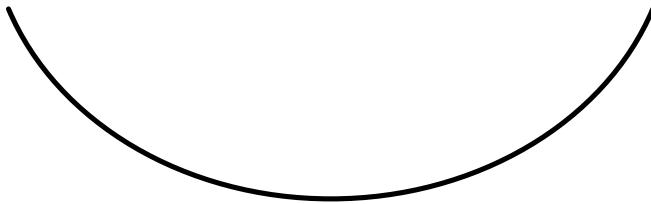
Summary for Reach 1R: Swale (Reach)

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth = 0.00" for 100 YEAR event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

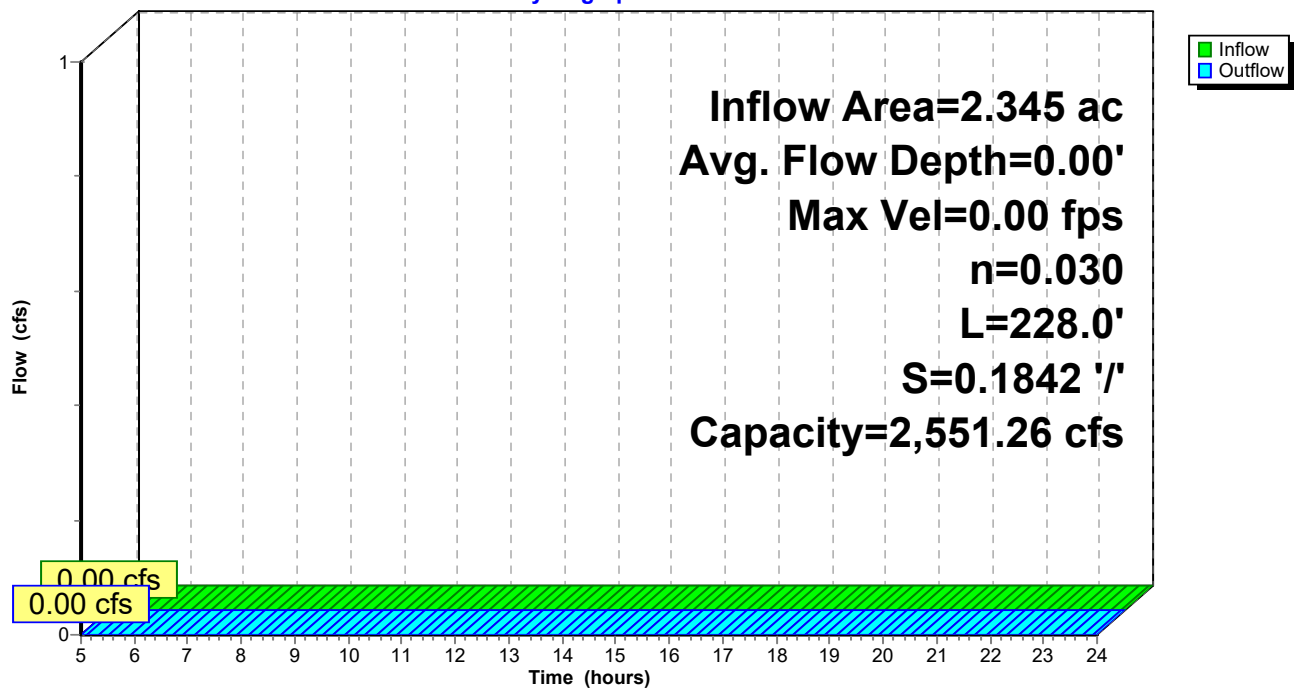
Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 5.00' Flow Area= 60.0 sf, Capacity= 2,551.26 cfs

18.00' x 5.00' deep Parabolic Channel, n= 0.030 Stream, clean & straight
Length= 228.0' Slope= 0.1842 '/'
Inlet Invert= 95.00', Outlet Invert= 53.00'



Reach 1R: Swale (Reach)

Hydrograph



Hydrograph for Reach 1R: Swale (Reach)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
5.00	0.00	95.00	0.00	18.00	0.00	95.00	0.00
5.25	0.00	95.00	0.00	18.25	0.00	95.00	0.00
5.50	0.00	95.00	0.00	18.50	0.00	95.00	0.00
5.75	0.00	95.00	0.00	18.75	0.00	95.00	0.00
6.00	0.00	95.00	0.00	19.00	0.00	95.00	0.00
6.25	0.00	95.00	0.00	19.25	0.00	95.00	0.00
6.50	0.00	95.00	0.00	19.50	0.00	95.00	0.00
6.75	0.00	95.00	0.00	19.75	0.00	95.00	0.00
7.00	0.00	95.00	0.00	20.00	0.00	95.00	0.00
7.25	0.00	95.00	0.00	20.25	0.00	95.00	0.00
7.50	0.00	95.00	0.00	20.50	0.00	95.00	0.00
7.75	0.00	95.00	0.00	20.75	0.00	95.00	0.00
8.00	0.00	95.00	0.00	21.00	0.00	95.00	0.00
8.25	0.00	95.00	0.00	21.25	0.00	95.00	0.00
8.50	0.00	95.00	0.00	21.50	0.00	95.00	0.00
8.75	0.00	95.00	0.00	21.75	0.00	95.00	0.00
9.00	0.00	95.00	0.00	22.00	0.00	95.00	0.00
9.25	0.00	95.00	0.00	22.25	0.00	95.00	0.00
9.50	0.00	95.00	0.00	22.50	0.00	95.00	0.00
9.75	0.00	95.00	0.00	22.75	0.00	95.00	0.00
10.00	0.00	95.00	0.00	23.00	0.00	95.00	0.00
10.25	0.00	95.00	0.00	23.25	0.00	95.00	0.00
10.50	0.00	95.00	0.00	23.50	0.00	95.00	0.00
10.75	0.00	95.00	0.00	23.75	0.00	95.00	0.00
11.00	0.00	95.00	0.00	24.00	0.00	95.00	0.00
11.25	0.00	95.00	0.00				
11.50	0.00	95.00	0.00				
11.75	0.00	95.00	0.00				
12.00	0.00	95.00	0.00				
12.25	0.00	95.00	0.00				
12.50	0.00	95.00	0.00				
12.75	0.00	95.00	0.00				
13.00	0.00	95.00	0.00				
13.25	0.00	95.00	0.00				
13.50	0.00	95.00	0.00				
13.75	0.00	95.00	0.00				
14.00	0.00	95.00	0.00				
14.25	0.00	95.00	0.00				
14.50	0.00	95.00	0.00				
14.75	0.00	95.00	0.00				
15.00	0.00	95.00	0.00				
15.25	0.00	95.00	0.00				
15.50	0.00	95.00	0.00				
15.75	0.00	95.00	0.00				
16.00	0.00	95.00	0.00				
16.25	0.00	95.00	0.00				
16.50	0.00	95.00	0.00				
16.75	0.00	95.00	0.00				
17.00	0.00	95.00	0.00				
17.25	0.00	95.00	0.00				
17.50	0.00	95.00	0.00				
17.75	0.00	95.00	0.00				

Stage-Discharge for Reach 1R: Swale (Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
95.00	0.00	0.00	97.60	28.81	648.28
95.05	2.20	0.13	97.65	29.15	674.88
95.10	3.49	0.59	97.70	29.49	702.02
95.15	4.56	1.42	97.75	29.82	729.73
95.20	5.52	2.65	97.80	30.15	757.98
95.25	6.40	4.29	97.85	30.47	786.79
95.30	7.21	6.36	97.90	30.79	816.15
95.35	7.98	8.87	97.95	31.12	846.06
95.40	8.71	11.83	98.00	31.43	876.53
95.45	9.41	15.25	98.05	31.75	907.56
95.50	10.09	19.14	98.10	32.06	939.14
95.55	10.73	23.49	98.15	32.37	971.27
95.60	11.36	28.33	98.20	32.68	1,003.96
95.65	11.97	33.65	98.25	32.99	1,037.20
95.70	12.56	39.46	98.30	33.29	1,071.00
95.75	13.13	45.77	98.35	33.59	1,105.36
95.80	13.69	52.57	98.40	33.89	1,140.27
95.85	14.24	59.88	98.45	34.19	1,175.74
95.90	14.77	67.69	98.50	34.48	1,211.76
95.95	15.30	76.01	98.55	34.78	1,248.34
96.00	15.81	84.83	98.60	35.07	1,285.48
96.05	16.31	94.18	98.65	35.36	1,323.17
96.10	16.80	104.04	98.70	35.64	1,361.42
96.15	17.29	114.42	98.75	35.93	1,400.23
96.20	17.76	125.32	98.80	36.21	1,439.59
96.25	18.23	136.74	98.85	36.49	1,479.51
96.30	18.69	148.69	98.90	36.77	1,519.98
96.35	19.15	161.17	98.95	37.05	1,561.02
96.40	19.59	174.17	99.00	37.33	1,602.61
96.45	20.03	187.71	99.05	37.60	1,644.75
96.50	20.47	201.78	99.10	37.88	1,687.45
96.55	20.89	216.38	99.15	38.15	1,730.71
96.60	21.32	231.52	99.20	38.42	1,774.53
96.65	21.73	247.20	99.25	38.68	1,818.90
96.70	22.14	263.41	99.30	38.95	1,863.83
96.75	22.55	280.16	99.35	39.21	1,909.32
96.80	22.95	297.45	99.40	39.48	1,955.36
96.85	23.35	315.28	99.45	39.74	2,001.96
96.90	23.74	333.66	99.50	40.00	2,049.12
96.95	24.13	352.58	99.55	40.26	2,096.83
97.00	24.51	372.04	99.60	40.51	2,145.10
97.05	24.89	392.05	99.65	40.77	2,193.92
97.10	25.26	412.60	99.70	41.02	2,243.30
97.15	25.64	433.70	99.75	41.28	2,293.24
97.20	26.00	455.34	99.80	41.53	2,343.73
97.25	26.37	477.54	99.85	41.78	2,394.78
97.30	26.73	500.28	99.90	42.03	2,446.39
97.35	27.08	523.57	99.95	42.27	2,498.55
97.40	27.43	547.41	100.00	42.52	2,551.26
97.45	27.78	571.80			
97.50	28.13	596.74			
97.55	28.47	622.24			

Summary for Reach 2R: Stream

Inflow Area = 26.600 ac, 23.90% Impervious, Inflow Depth > 6.55" for 100 YEAR event
 Inflow = 138.57 cfs @ 12.25 hrs, Volume= 14.519 af
 Outflow = 138.20 cfs @ 12.26 hrs, Volume= 14.506 af, Atten= 0%, Lag= 1.0 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 9.83 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 3.69 fps, Avg. Travel Time= 3.6 min

Peak Storage= 11,240 cf @ 12.26 hrs

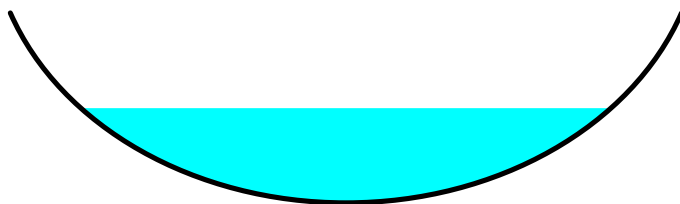
Average Depth at Peak Storage= 1.99'

Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 598.05 cfs

15.00' x 4.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

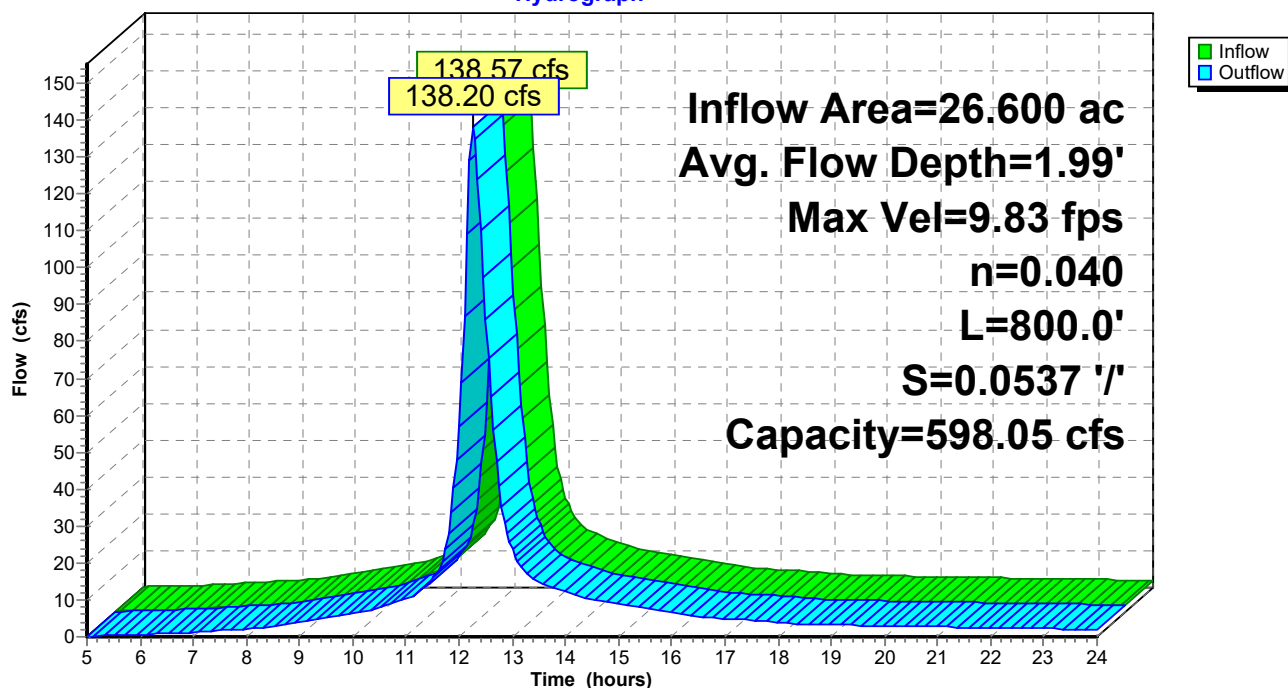
Length= 800.0' Slope= 0.0537 '/'

Inlet Invert= 53.00', Outlet Invert= 10.00'



Reach 2R: Stream

Hydrograph



Hydrograph for Reach 2R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.23	0	53.00	0.00
5.50	0.43	186	53.13	0.39
6.00	0.65	253	53.16	0.61
6.50	0.91	322	53.19	0.86
7.00	1.28	411	53.22	1.23
7.50	1.71	507	53.25	1.66
8.00	2.20	607	53.28	2.14
8.50	2.89	733	53.32	2.80
9.00	3.89	904	53.37	3.80
9.50	5.04	1,085	53.42	4.94
10.00	6.31	1,273	53.47	6.20
10.50	8.11	1,512	53.52	7.94
11.00	10.61	1,830	53.59	10.43
11.50	16.04	2,416	53.71	15.53
12.00	60.97	6,010	54.31	56.96
12.50	81.85	8,026	54.59	85.85
13.00	22.61	3,234	53.87	23.56
13.50	14.66	2,342	53.70	14.86
14.00	12.01	2,038	53.64	12.17
14.50	10.06	1,795	53.59	10.15
15.00	8.82	1,638	53.55	8.90
15.50	7.59	1,477	53.51	7.68
16.00	6.35	1,308	53.47	6.45
16.50	5.42	1,167	53.44	5.47
17.00	4.88	1,083	53.42	4.92
17.50	4.33	1,000	53.40	4.38
18.00	3.79	911	53.37	3.84
18.50	3.42	845	53.35	3.44
19.00	3.25	814	53.35	3.27
19.50	3.09	786	53.34	3.11
20.00	2.93	758	53.33	2.95
20.50	2.79	732	53.32	2.80
21.00	2.66	709	53.32	2.68
21.50	2.54	686	53.31	2.55
22.00	2.42	663	53.30	2.43
22.50	2.30	639	53.29	2.31
23.00	2.18	616	53.29	2.19
23.50	2.05	593	53.28	2.07
24.00	1.93	567	53.27	1.94

Stage-Discharge for Reach 2R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
53.00	0.00	0.00	55.60	11.58	242.67
53.05	0.88	0.06	55.65	11.71	252.61
53.10	1.41	0.23	55.70	11.84	262.74
53.15	1.84	0.55	55.75	11.98	273.07
53.20	2.23	1.00	55.80	12.11	283.60
53.25	2.59	1.63	55.85	12.24	294.36
53.30	2.92	2.41	55.90	12.36	305.31
53.35	3.23	3.35	55.95	12.49	316.46
53.40	3.52	4.46	56.00	12.62	327.80
53.45	3.81	5.76	56.05	12.74	339.38
53.50	4.08	7.22	56.10	12.87	351.15
53.55	4.34	8.86	56.15	12.99	363.12
53.60	4.59	10.67	56.20	13.11	375.29
53.65	4.84	12.68	56.25	13.23	387.68
53.70	5.07	14.87	56.30	13.35	400.28
53.75	5.30	17.24	56.35	13.47	413.07
53.80	5.53	19.78	56.40	13.59	426.05
53.85	5.75	22.54	56.45	13.71	439.27
53.90	5.96	25.48	56.50	13.83	452.68
53.95	6.17	28.60	56.55	13.94	466.29
54.00	6.38	31.90	56.60	14.06	480.10
54.05	6.58	35.42	56.65	14.17	494.14
54.10	6.78	39.13	56.70	14.29	508.37
54.15	6.97	43.02	56.75	14.40	522.81
54.20	7.17	47.10	56.80	14.51	537.43
54.25	7.35	51.39	56.85	14.62	552.29
54.30	7.54	55.88	56.90	14.73	567.35
54.35	7.72	60.55	56.95	14.84	582.60
54.40	7.90	65.42	57.00	14.95	598.05
54.45	8.07	70.50			
54.50	8.25	75.78			
54.55	8.42	81.24			
54.60	8.59	86.90			
54.65	8.75	92.78			
54.70	8.92	98.86			
54.75	9.08	105.12			
54.80	9.24	111.58			
54.85	9.40	118.27			
54.90	9.56	125.15			
54.95	9.71	132.22			
55.00	9.86	139.49			
55.05	10.01	146.98			
55.10	10.16	154.67			
55.15	10.31	162.55			
55.20	10.46	170.63			
55.25	10.60	178.93			
55.30	10.75	187.43			
55.35	10.89	196.13			
55.40	11.03	205.02			
55.45	11.17	214.14			
55.50	11.31	223.45			
55.55	11.44	232.97			

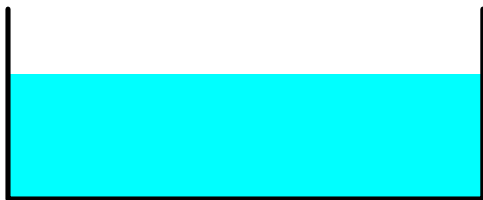
Summary for Reach 3R: Channel

Inflow Area = 26.600 ac, 23.90% Impervious, Inflow Depth > 6.54" for 100 YEAR event
Inflow = 138.20 cfs @ 12.26 hrs, Volume= 14.506 af
Outflow = 137.96 cfs @ 12.27 hrs, Volume= 14.493 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.24 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.65 fps, Avg. Travel Time= 3.1 min

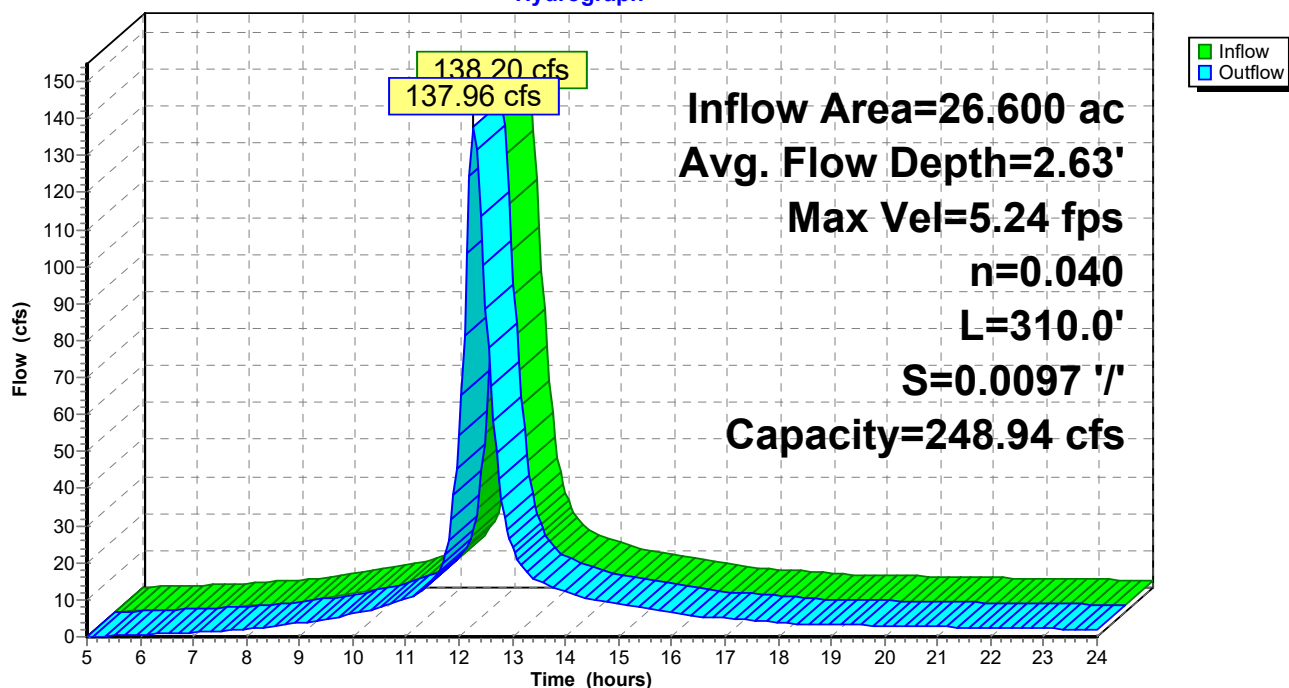
Peak Storage= 8,145 cf @ 12.27 hrs
Average Depth at Peak Storage= 2.63'
Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 248.94 cfs

10.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals
Length= 310.0' Slope= 0.0097 '/'
Inlet Invert= 6.00', Outlet Invert= 3.00'



Reach 3R: Channel

Hydrograph



Hydrograph for Reach 3R: Channel

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.00	0	6.00	0.00
5.50	0.39	179	6.06	0.33
6.00	0.61	257	6.08	0.58
6.50	0.86	317	6.10	0.82
7.00	1.23	398	6.13	1.18
7.50	1.66	480	6.15	1.61
8.00	2.14	563	6.18	2.09
8.50	2.80	664	6.21	2.73
9.00	3.80	801	6.26	3.72
9.50	4.94	945	6.30	4.86
10.00	6.20	1,090	6.35	6.12
10.50	7.94	1,267	6.41	7.81
11.00	10.43	1,504	6.49	10.30
11.50	15.53	1,915	6.62	15.16
12.00	56.96	4,337	7.40	54.25
12.50	85.85	6,015	7.94	88.66
13.00	23.56	2,579	6.83	24.28
13.50	14.86	1,903	6.61	15.01
14.00	12.17	1,679	6.54	12.29
14.50	10.15	1,497	6.48	10.22
15.00	8.90	1,380	6.45	8.97
15.50	7.68	1,260	6.41	7.74
16.00	6.45	1,133	6.37	6.52
16.50	5.47	1,022	6.33	5.51
17.00	4.92	957	6.31	4.96
17.50	4.38	892	6.29	4.42
18.00	3.84	823	6.27	3.88
18.50	3.44	767	6.25	3.46
19.00	3.27	744	6.24	3.28
19.50	3.11	720	6.23	3.12
20.00	2.95	697	6.22	2.96
20.50	2.80	675	6.22	2.81
21.00	2.68	657	6.21	2.69
21.50	2.55	639	6.21	2.56
22.00	2.43	621	6.20	2.44
22.50	2.31	601	6.19	2.32
23.00	2.19	581	6.19	2.20
23.50	2.07	561	6.18	2.08
24.00	1.94	541	6.17	1.96

Stage-Discharge for Reach 3R: Channel

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
6.00	0.00	0.00	8.60	5.23	135.90
6.05	0.49	0.26	8.65	5.27	139.68
6.10	0.77	0.79	8.70	5.31	143.47
6.15	1.01	1.53	8.75	5.36	147.29
6.20	1.22	2.44	8.80	5.40	151.13
6.25	1.40	3.52	8.85	5.44	154.99
6.30	1.57	4.74	8.90	5.48	158.88
6.35	1.73	6.08	8.95	5.52	162.78
6.40	1.88	7.54	9.00	5.56	166.71
6.45	2.03	9.12	9.05	5.60	170.66
6.50	2.16	10.81	9.10	5.63	174.62
6.55	2.29	12.59	9.15	5.67	178.61
6.60	2.41	14.46	9.20	5.71	182.61
6.65	2.53	16.44	9.25	5.74	186.63
6.70	2.64	18.49	9.30	5.78	190.67
6.75	2.75	20.62	9.35	5.81	194.73
6.80	2.85	22.82	9.40	5.85	198.81
6.85	2.95	25.11	9.45	5.88	202.90
6.90	3.05	27.46	9.50	5.91	207.01
6.95	3.14	29.88	9.55	5.95	211.13
7.00	3.24	32.36	9.60	5.98	215.27
7.05	3.32	34.91	9.65	6.01	219.43
7.10	3.41	37.52	9.70	6.04	223.60
7.15	3.49	40.19	9.75	6.07	227.79
7.20	3.58	42.91	9.80	6.11	231.99
7.25	3.65	45.69	9.85	6.14	236.21
7.30	3.73	48.51	9.90	6.16	240.44
7.35	3.81	51.39	9.95	6.19	244.68
7.40	3.88	54.31	10.00	6.22	248.94
7.45	3.95	57.29			
7.50	4.02	60.31			
7.55	4.09	63.37			
7.60	4.15	66.47			
7.65	4.22	69.62			
7.70	4.28	72.81			
7.75	4.34	76.04			
7.80	4.41	79.30			
7.85	4.46	82.60			
7.90	4.52	85.94			
7.95	4.58	89.31			
8.00	4.64	92.71			
8.05	4.69	96.15			
8.10	4.74	99.62			
8.15	4.80	103.12			
8.20	4.85	106.65			
8.25	4.90	110.21			
8.30	4.95	113.80			
8.35	5.00	117.42			
8.40	5.04	121.06			
8.45	5.09	124.74			
8.50	5.14	128.44			
8.55	5.18	132.16			

Summary for Reach 4R: Stream

Inflow Area = 33.005 ac, 23.45% Impervious, Inflow Depth > 6.69" for 100 YEAR event
 Inflow = 174.73 cfs @ 12.26 hrs, Volume= 18.394 af
 Outflow = 174.65 cfs @ 12.27 hrs, Volume= 18.387 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 6.53 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 2.50 fps, Avg. Travel Time= 1.5 min

Peak Storage= 5,882 cf @ 12.27 hrs

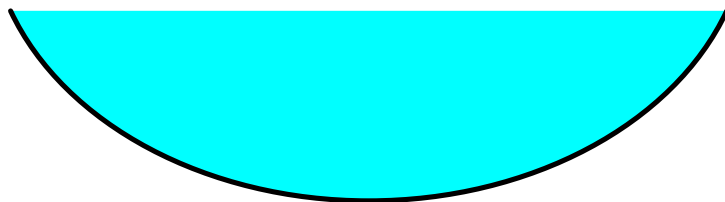
Average Depth at Peak Storage= 3.23'

Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 150.76 cfs

12.00' x 3.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

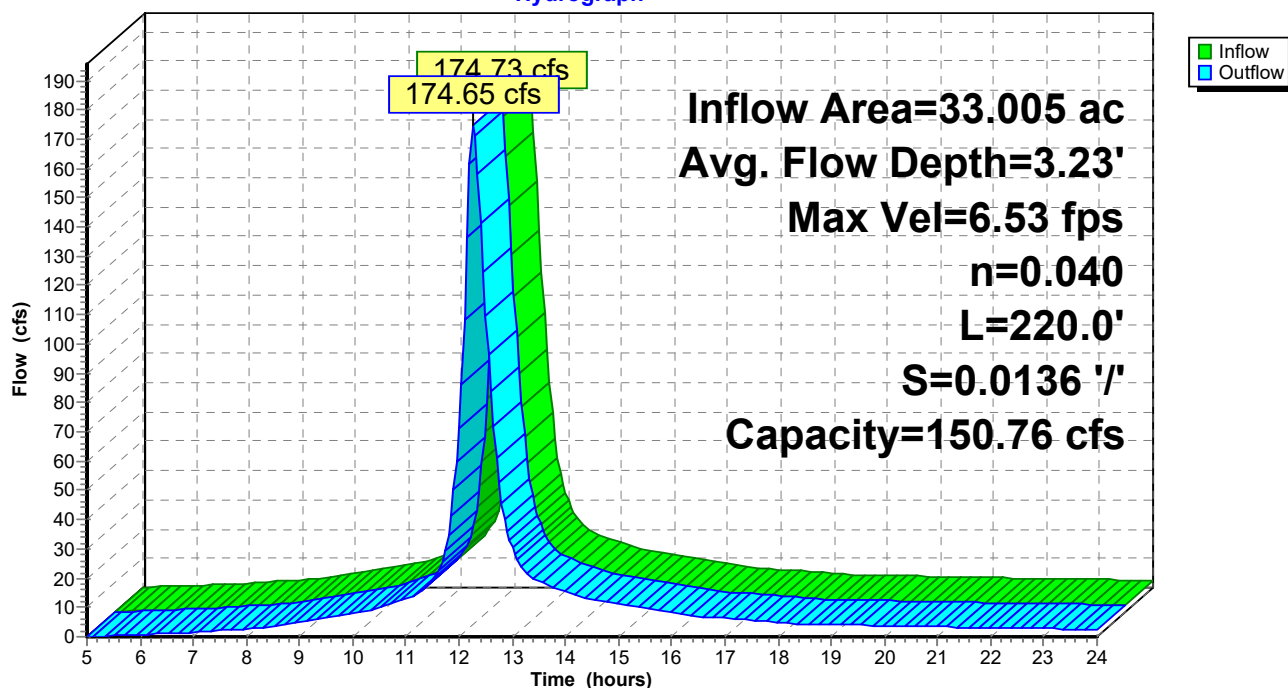
Length= 220.0' Slope= 0.0136 '/'

Inlet Invert= 3.00', Outlet Invert= 0.00'



Reach 4R: Stream

Hydrograph



Hydrograph for Reach 4R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.09	0	3.00	0.00
5.50	0.48	88	3.20	0.45
6.00	0.78	128	3.25	0.76
6.50	1.11	164	3.30	1.09
7.00	1.57	209	3.35	1.54
7.50	2.11	258	3.40	2.09
8.00	2.74	310	3.45	2.71
8.50	3.58	373	3.51	3.53
9.00	4.84	461	3.59	4.79
9.50	6.29	555	3.67	6.24
10.00	7.90	652	3.74	7.84
10.50	10.10	773	3.83	10.01
11.00	13.27	937	3.95	13.17
11.50	19.74	1,234	4.14	19.47
12.00	73.06	3,081	5.09	70.96
12.50	107.68	4,207	5.58	109.81
13.00	29.76	1,684	4.40	30.26
13.50	18.82	1,209	4.12	18.92
14.00	15.42	1,051	4.02	15.50
14.50	12.86	924	3.94	12.91
15.00	11.28	843	3.88	11.32
15.50	9.73	760	3.82	9.77
16.00	8.17	673	3.76	8.22
16.50	6.94	600	3.70	6.96
17.00	6.24	556	3.67	6.26
17.50	5.55	513	3.63	5.58
18.00	4.87	469	3.60	4.90
18.50	4.36	433	3.57	4.37
19.00	4.14	417	3.55	4.15
19.50	3.94	403	3.54	3.95
20.00	3.73	388	3.53	3.74
20.50	3.55	374	3.51	3.55
21.00	3.39	363	3.50	3.40
21.50	3.24	351	3.49	3.24
22.00	3.08	340	3.48	3.09
22.50	2.93	328	3.47	2.94
23.00	2.77	316	3.46	2.78
23.50	2.62	303	3.45	2.63
24.00	2.47	291	3.43	2.47

Stage-Discharge for Reach 4R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
3.00	0.00	0.00	4.04	3.28	16.07	5.08	5.04	69.90
3.02	0.21	0.01	4.06	3.32	16.73	5.10	5.07	71.32
3.04	0.38	0.02	4.08	3.36	17.41	5.12	5.10	72.76
3.06	0.51	0.03	4.10	3.40	18.11	5.14	5.13	74.22
3.08	0.61	0.07	4.12	3.44	18.82	5.16	5.16	75.68
3.10	0.71	0.11	4.14	3.47	19.54	5.18	5.19	77.17
3.12	0.80	0.15	4.16	3.51	20.28	5.20	5.22	78.67
3.14	0.89	0.22	4.18	3.55	21.03	5.22	5.25	80.18
3.16	0.97	0.29	4.20	3.59	21.79	5.24	5.28	81.71
3.18	1.05	0.37	4.22	3.63	22.57	5.26	5.30	83.25
3.20	1.12	0.47	4.24	3.66	23.37	5.28	5.33	84.80
3.22	1.20	0.57	4.26	3.70	24.18	5.30	5.36	86.38
3.24	1.27	0.69	4.28	3.74	25.00	5.32	5.39	87.97
3.26	1.34	0.82	4.30	3.77	25.84	5.34	5.42	89.57
3.28	1.40	0.96	4.32	3.81	26.69	5.36	5.45	91.19
3.30	1.47	1.11	4.34	3.85	27.56	5.38	5.47	92.82
3.32	1.53	1.28	4.36	3.88	28.44	5.40	5.50	94.46
3.34	1.59	1.46	4.38	3.92	29.33	5.42	5.53	96.13
3.36	1.65	1.65	4.40	3.95	30.25	5.44	5.56	97.80
3.38	1.71	1.86	4.42	3.99	31.17	5.46	5.58	99.49
3.40	1.77	2.07	4.44	4.02	32.11	5.48	5.61	101.20
3.42	1.83	2.30	4.46	4.06	33.07	5.50	5.64	102.92
3.44	1.89	2.54	4.48	4.09	34.03	5.52	5.66	104.65
3.46	1.94	2.80	4.50	4.13	35.01	5.54	5.69	106.40
3.48	2.00	3.06	4.52	4.16	36.01	5.56	5.72	108.17
3.50	2.05	3.35	4.54	4.19	37.03	5.58	5.74	109.95
3.52	2.10	3.64	4.56	4.23	38.05	5.60	5.77	111.74
3.54	2.15	3.95	4.58	4.26	39.09	5.62	5.80	113.55
3.56	2.20	4.27	4.60	4.29	40.15	5.64	5.82	115.38
3.58	2.26	4.61	4.62	4.33	41.22	5.66	5.85	117.22
3.60	2.31	4.95	4.64	4.36	42.31	5.68	5.88	119.07
3.62	2.35	5.31	4.66	4.39	43.41	5.70	5.90	120.94
3.64	2.40	5.69	4.68	4.43	44.52	5.72	5.93	122.83
3.66	2.45	6.07	4.70	4.46	45.65	5.74	5.95	124.73
3.68	2.50	6.48	4.72	4.49	46.79	5.76	5.98	126.64
3.70	2.55	6.89	4.74	4.52	47.95	5.78	6.01	128.57
3.72	2.59	7.32	4.76	4.55	49.13	5.80	6.03	130.51
3.74	2.64	7.76	4.78	4.59	50.31	5.82	6.06	132.47
3.76	2.68	8.22	4.80	4.62	51.51	5.84	6.08	134.44
3.78	2.73	8.69	4.82	4.65	52.73	5.86	6.11	136.43
3.80	2.77	9.17	4.84	4.68	53.97	5.88	6.13	138.43
3.82	2.82	9.67	4.86	4.71	55.21	5.90	6.16	140.45
3.84	2.86	10.18	4.88	4.74	56.47	5.92	6.18	142.49
3.86	2.91	10.71	4.90	4.77	57.75	5.94	6.21	144.53
3.88	2.95	11.25	4.92	4.80	59.04	5.96	6.23	146.60
3.90	2.99	11.80	4.94	4.84	60.35	5.98	6.26	148.67
3.92	3.03	12.37	4.96	4.87	61.67	6.00	6.28	150.76
3.94	3.08	12.95	4.98	4.90	63.00			
3.96	3.12	13.54	5.00	4.93	64.35			
3.98	3.16	14.15	5.02	4.96	65.72			
4.00	3.20	14.78	5.04	4.99	67.09			
4.02	3.24	15.41	5.06	5.02	68.49			

Summary for Pond EX-P: Existing Pond

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth > 8.31" for 100 YEAR event
 Inflow = 19.57 cfs @ 12.11 hrs, Volume= 1.625 af
 Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 91.41' @ 24.00 hrs Surf.Area= 16,887 sf Storage= 70,749 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

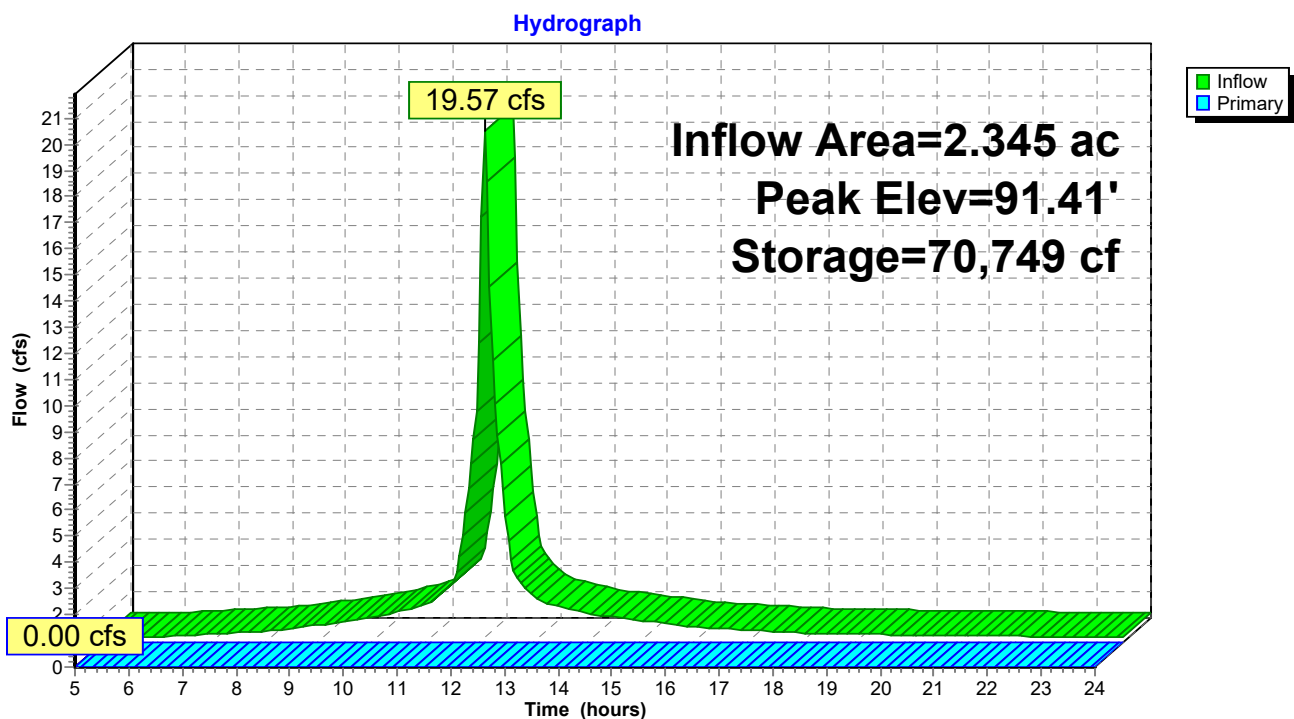
Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	277,808 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	635	0	0
90.00	14,042	36,693	36,693
100.00	34,181	241,115	277,808

Device	Routing	Invert	Outlet Devices
#1	Primary	95.00'	65.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=85.00' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond EX-P: Existing Pond



Hydrograph for Pond EX-P: Existing Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.17	15	85.00	0.00
5.50	0.20	346	85.05	0.00
6.00	0.22	722	85.10	0.00
6.50	0.27	1,158	85.16	0.00
7.00	0.32	1,688	85.23	0.00
7.50	0.38	2,319	85.32	0.00
8.00	0.44	3,055	85.42	0.00
8.50	0.54	3,931	85.54	0.00
9.00	0.67	5,024	85.68	0.00
9.50	0.80	6,347	85.86	0.00
10.00	0.93	7,907	86.08	0.00
10.50	1.16	9,776	86.33	0.00
11.00	1.43	12,112	86.65	0.00
11.50	2.24	15,311	87.09	0.00
12.00	11.46	24,930	88.40	0.00
12.50	4.85	45,749	90.38	0.00
13.00	1.82	50,483	90.57	0.00
13.50	1.39	53,264	90.69	0.00
14.00	1.13	55,529	90.78	0.00
14.50	0.97	57,398	90.86	0.00
15.00	0.85	59,034	90.93	0.00
15.50	0.72	60,445	90.99	0.00
16.00	0.60	61,630	91.03	0.00
16.50	0.53	62,629	91.08	0.00
17.00	0.47	63,525	91.11	0.00
17.50	0.42	64,323	91.15	0.00
18.00	0.36	65,023	91.17	0.00
18.50	0.34	65,646	91.20	0.00
19.00	0.32	66,237	91.23	0.00
19.50	0.30	66,798	91.25	0.00
20.00	0.29	67,330	91.27	0.00
20.50	0.27	67,835	91.29	0.00
21.00	0.26	68,318	91.31	0.00
21.50	0.25	68,778	91.33	0.00
22.00	0.24	69,217	91.35	0.00
22.50	0.23	69,633	91.37	0.00
23.00	0.21	70,027	91.38	0.00
23.50	0.20	70,399	91.40	0.00
24.00	0.19	70,749	91.41	0.00

Stage-Discharge for Pond EX-P: Existing Pond

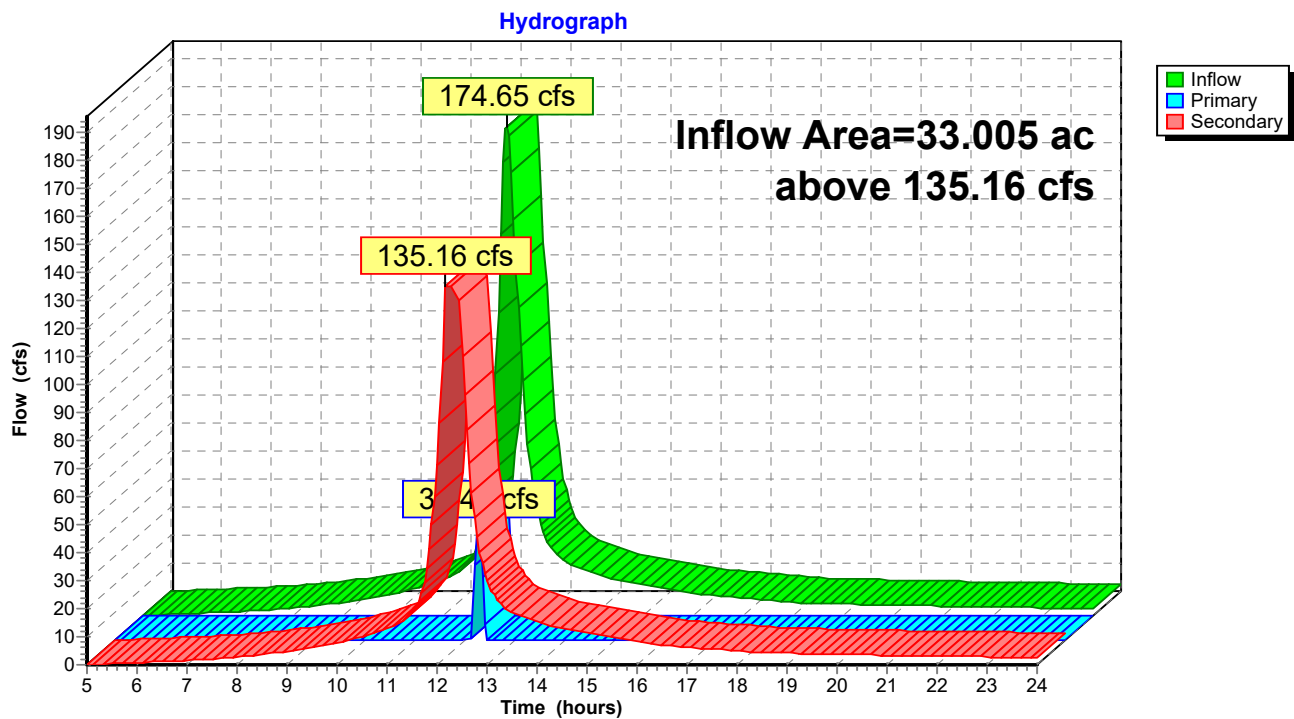
Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
85.00	0.00	92.80	0.00
85.15	0.00	92.95	0.00
85.30	0.00	93.10	0.00
85.45	0.00	93.25	0.00
85.60	0.00	93.40	0.00
85.75	0.00	93.55	0.00
85.90	0.00	93.70	0.00
86.05	0.00	93.85	0.00
86.20	0.00	94.00	0.00
86.35	0.00	94.15	0.00
86.50	0.00	94.30	0.00
86.65	0.00	94.45	0.00
86.80	0.00	94.60	0.00
86.95	0.00	94.75	0.00
87.10	0.00	94.90	0.00
87.25	0.00	95.05	1.70
87.40	0.00	95.20	13.60
87.55	0.00	95.35	33.11
87.70	0.00	95.50	59.75
87.85	0.00	95.65	91.80
88.00	0.00	95.80	124.65
88.15	0.00	95.95	161.30
88.30	0.00	96.10	200.22
88.45	0.00	96.25	241.41
88.60	0.00	96.40	285.33
88.75	0.00	96.55	332.40
88.90	0.00	96.70	381.80
89.05	0.00	96.85	433.43
89.20	0.00	97.00	487.20
89.35	0.00	97.15	544.25
89.50	0.00	97.30	603.55
89.65	0.00	97.45	665.04
89.80	0.00	97.60	727.04
89.95	0.00	97.75	789.97
90.10	0.00	97.90	854.51
90.25	0.00	98.05	921.66
90.40	0.00	98.20	992.71
90.55	0.00	98.35	1,065.72
90.70	0.00	98.50	1,140.64
90.85	0.00	98.65	1,217.47
91.00	0.00	98.80	1,296.18
91.15	0.00	98.95	1,376.74
91.30	0.00	99.10	1,461.29
91.45	0.00	99.25	1,549.05
91.60	0.00	99.40	1,638.98
91.75	0.00	99.55	1,731.70
91.90	0.00	99.70	1,827.97
92.05	0.00	99.85	1,926.59
92.20	0.00	100.00	2,027.55
92.35	0.00		
92.50	0.00		
92.65	0.00		

Summary for Link DP-5: Design Point #5

Inflow Area = 33.005 ac, 23.45% Impervious, Inflow Depth > 6.69" for 100 YEAR event
 Inflow = 174.65 cfs @ 12.27 hrs, Volume= 18.387 af
 Primary = 39.49 cfs @ 12.27 hrs, Volume= 0.542 af, Atten= 77%, Lag= 0.0 min
 Secondary = 135.16 cfs @ 12.15 hrs, Volume= 17.845 af

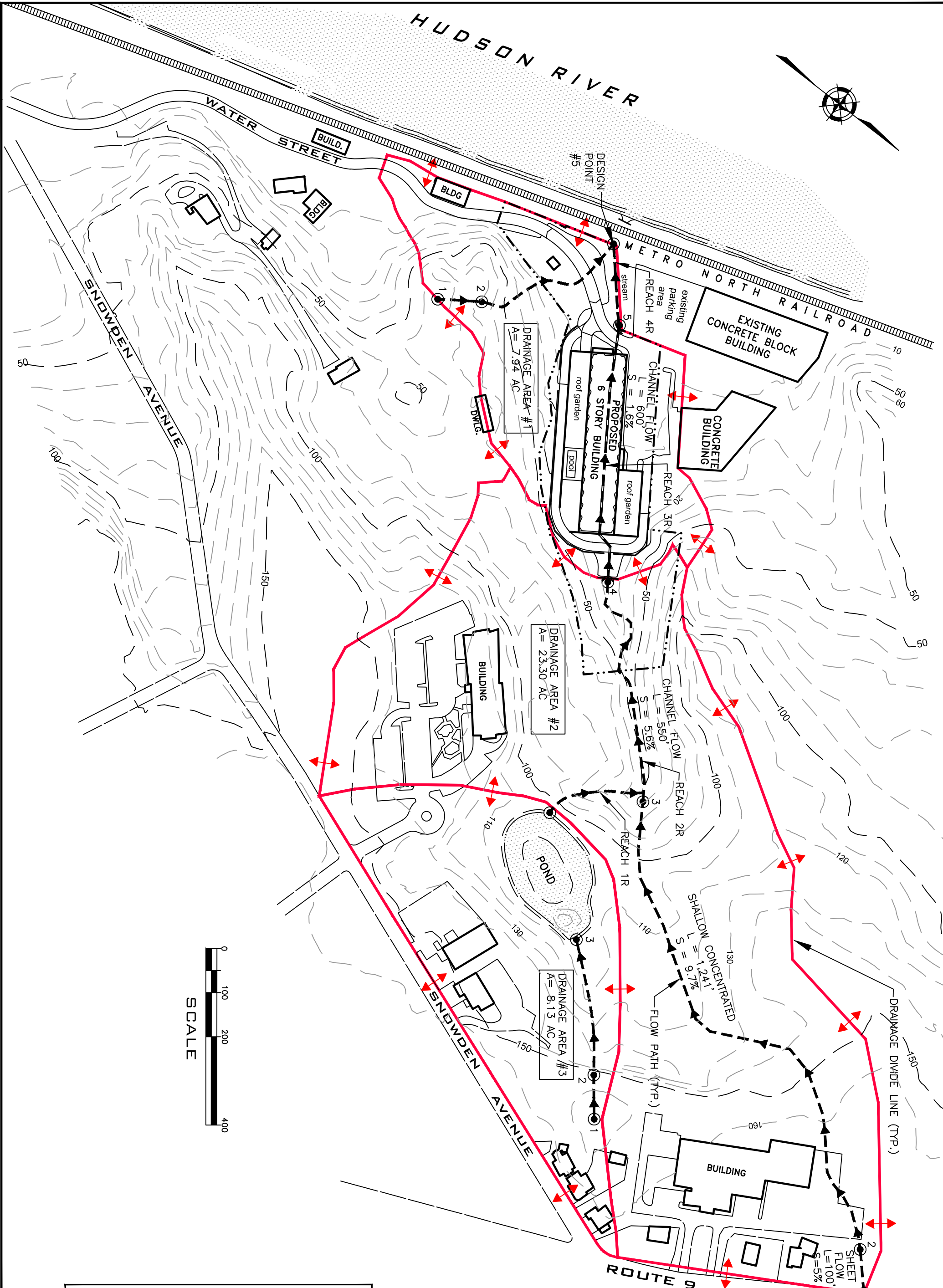
Primary outflow = Inflow above 135.16 cfs, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Link DP-5: Design Point #5

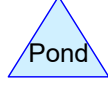
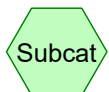
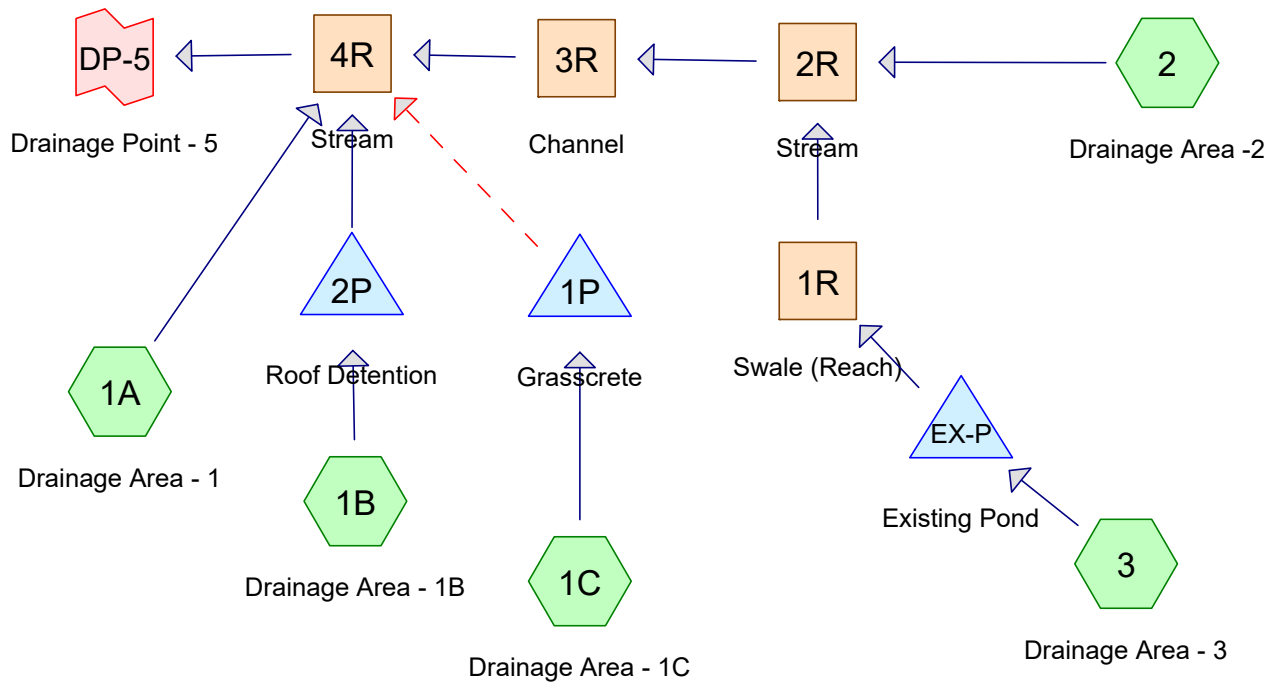


Hydrograph for Link DP-5: Design Point #5

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Secondary (cfs)
5.00	0.00	0.00	0.00	0.00
5.50	0.45	0.00	0.00	0.45
6.00	0.76	0.00	0.00	0.76
6.50	1.09	0.00	0.00	1.09
7.00	1.54	0.00	0.00	1.54
7.50	2.09	0.00	0.00	2.09
8.00	2.71	0.00	0.00	2.71
8.50	3.53	0.00	0.00	3.53
9.00	4.79	0.00	0.00	4.79
9.50	6.24	0.00	0.00	6.24
10.00	7.84	0.00	0.00	7.84
10.50	10.01	0.00	0.00	10.01
11.00	13.17	0.00	0.00	13.17
11.50	19.47	0.00	0.00	19.47
12.00	70.96	0.00	0.00	70.96
12.50	109.81	0.00	0.00	109.81
13.00	30.26	0.00	0.00	30.26
13.50	18.92	0.00	0.00	18.92
14.00	15.50	0.00	0.00	15.50
14.50	12.91	0.00	0.00	12.91
15.00	11.32	0.00	0.00	11.32
15.50	9.77	0.00	0.00	9.77
16.00	8.22	0.00	0.00	8.22
16.50	6.96	0.00	0.00	6.96
17.00	6.26	0.00	0.00	6.26
17.50	5.58	0.00	0.00	5.58
18.00	4.90	0.00	0.00	4.90
18.50	4.37	0.00	0.00	4.37
19.00	4.15	0.00	0.00	4.15
19.50	3.95	0.00	0.00	3.95
20.00	3.74	0.00	0.00	3.74
20.50	3.55	0.00	0.00	3.55
21.00	3.40	0.00	0.00	3.40
21.50	3.24	0.00	0.00	3.24
22.00	3.09	0.00	0.00	3.09
22.50	2.94	0.00	0.00	2.94
23.00	2.78	0.00	0.00	2.78
23.50	2.63	0.00	0.00	2.63
24.00	2.47	0.00	0.00	2.47



2 / 2		POST-DEVELOPMENT MAP			PETRUCCELLI ENGINEERING	600 NORTH BROADWAY WHITE PLAINS, N.Y. 10603 9 1 4 . 9 4 8 . 3 6 2 9 PAUL BERTÉ, P.E.	REVISIONS 07.03.13 02.28.17	JOB NO. 2001
		STORMWATER CAPACITY ANALYSIS						DATE: 02.28.17
SHEET NO.		HIDDEN COVE ON THE HUDSON 36 NORTH WATER STREET				PETRUCCELLI ENGINEERING	600 NORTH BROADWAY WHITE PLAINS, N.Y. 10603 9 1 4 . 9 4 8 . 3 6 2 9 PAUL BERTÉ, P.E.	SCALE: AS NOTED
		VILLAGE OF OSSINING NEW YORK						DRAWN BY: KMM



Routing Diagram for POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28_2017

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POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28_2017

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.047	79	50-75% Grass cover, Fair, HSG C (1A)
1.399	98	Building Roof (1B)
0.457	89	Dirt driveway, HSG D (1C)
4.496	98	Paved parking & roofs (2)
1.408	98	Paved road, parking & roofs (1A)
1.704	98	Paved roads w/curbs & sewers (3)
0.159	98	Water Course (2)
19.286	79	Woods, Fair, HSG D (2, 3)
4.630	82	Woods/grass comb., Fair, HSG D (1A)
33.585	85	TOTAL AREA

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Drainage Area - 1	Runoff Area=265,008 sf 23.14% Impervious Runoff Depth>1.49" Tc=0.0 min CN=86 Runoff=12.24 cfs 0.757 af
Subcatchment 1B: Drainage Area - 1B	Runoff Area=60,950 sf 100.00% Impervious Runoff Depth>2.57" Tc=0.0 min CN=98 Runoff=4.34 cfs 0.300 af
Subcatchment 1C: Drainage Area - 1C	Runoff Area=19,921 sf 0.00% Impervious Runoff Depth>1.72" Tc=0.0 min CN=89 Runoff=1.06 cfs 0.066 af
Subcatchment 2: Drainage Area - 2	Runoff Area=1,014,900 sf 19.98% Impervious Runoff Depth>1.28" Flow Length=1,341' Tc=18.3 min CN=83 Runoff=24.29 cfs 2.490 af
Subcatchment 3: Drainage Area - 3	Runoff Area=102,167 sf 72.65% Impervious Runoff Depth>2.06" Flow Length=310' Tc=7.7 min CN=93 Runoff=5.16 cfs 0.403 af
Reach 1R: Swale (Reach)	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af n=0.030 L=228.0' S=0.1842 '/' Capacity=2,551.26 cfs Outflow=0.00 cfs 0.000 af
Reach 2R: Stream	Avg. Flow Depth=0.88' Max Vel=5.82 fps Inflow=24.29 cfs 2.490 af n=0.040 L=550.0' S=0.0527 '/' Capacity=592.33 cfs Outflow=24.09 cfs 2.487 af
Reach 3R: Channel	Avg. Flow Depth=0.63' Max Vel=4.74 fps Inflow=24.09 cfs 2.487 af n=0.040 L=575.0' S=0.0365 '/' Capacity=360.64 cfs Outflow=23.98 cfs 2.481 af
Reach 4R: Stream	Avg. Flow Depth=1.34' Max Vel=4.13 fps Inflow=29.46 cfs 3.538 af n=0.040 L=190.0' S=0.0158 '/' Capacity=162.23 cfs Outflow=29.47 cfs 3.536 af
Pond 1P: Grasscrete	Peak Elev=25.30' Storage=57 cf Inflow=1.06 cfs 0.066 af Discarded=0.96 cfs 0.063 af Secondary=0.04 cfs 0.003 af Outflow=1.00 cfs 0.066 af
Pond 2P: Roof Detention	Peak Elev=82.05' Storage=2,960 cf Inflow=4.34 cfs 0.300 af Outflow=1.99 cfs 0.297 af
Pond EX-P: Existing Pond	Peak Elev=87.39' Storage=17,544 cf Inflow=5.16 cfs 0.403 af Outflow=0.00 cfs 0.000 af
Link DP-5: Drainage Point - 5	above 135.16 cfs Inflow=29.47 cfs 3.536 af Primary=0.00 cfs 0.000 af Secondary=29.47 cfs 3.536 af

Total Runoff Area = 33.585 ac Runoff Volume = 4.014 af Average Runoff Depth = 1.43"
72.71% Pervious = 24.419 ac 27.29% Impervious = 9.166 ac

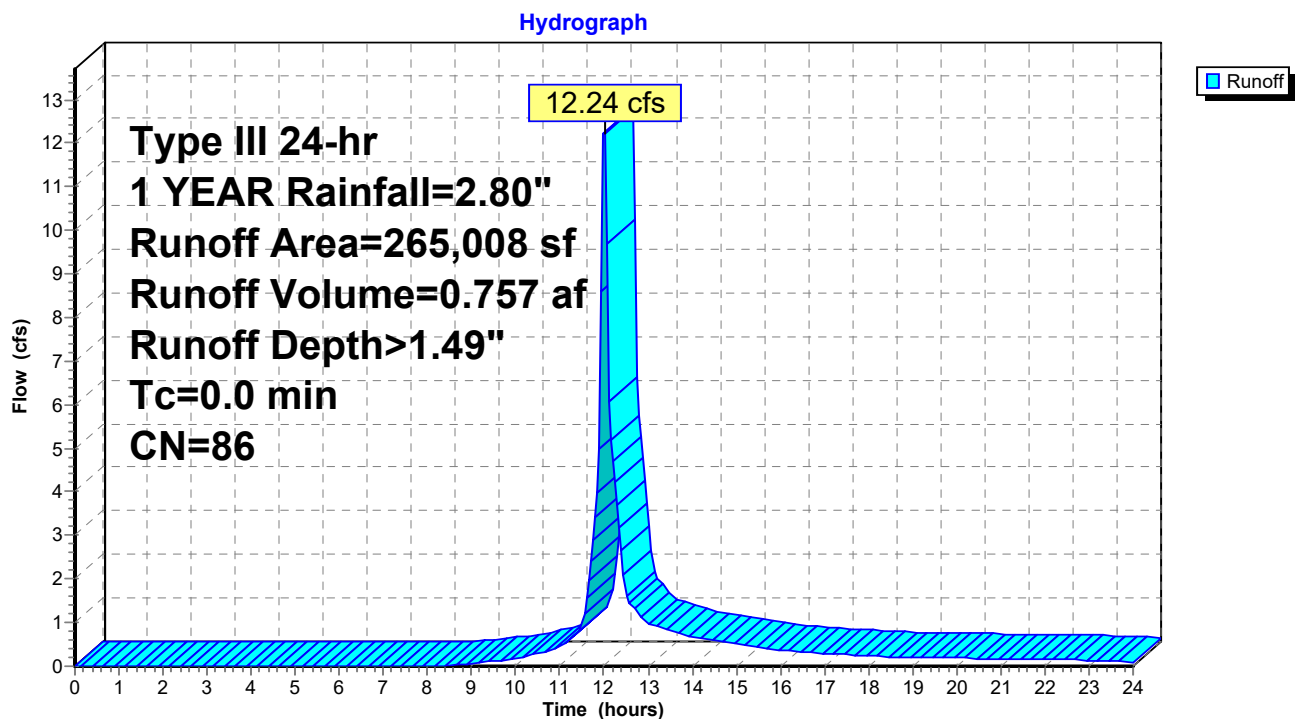
Summary for Subcatchment 1A: Drainage Area - 1

Runoff = 12.24 cfs @ 12.00 hrs, Volume= 0.757 af, Depth> 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YEAR Rainfall=2.80"

	Area (sf)	CN	Description
*	61,315	98	Paved road, parking & roofs
	2,030	79	50-75% Grass cover, Fair, HSG C
	201,663	82	Woods/grass comb., Fair, HSG D
	265,008	86	Weighted Average
	203,693		76.86% Pervious Area
	61,315		23.14% Impervious Area

Subcatchment 1A: Drainage Area - 1



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Subcatchment 1A: Drainage Area - 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	2.10	0.93	0.97
0.25	0.01	0.00	0.00	13.25	2.15	0.96	0.89
0.50	0.01	0.00	0.00	13.50	2.19	1.00	0.82
0.75	0.02	0.00	0.00	13.75	2.23	1.03	0.74
1.00	0.03	0.00	0.00	14.00	2.27	1.06	0.67
1.25	0.03	0.00	0.00	14.25	2.30	1.09	0.63
1.50	0.04	0.00	0.00	14.50	2.34	1.11	0.59
1.75	0.05	0.00	0.00	14.75	2.36	1.13	0.56
2.00	0.06	0.00	0.00	15.00	2.39	1.16	0.52
2.25	0.06	0.00	0.00	15.25	2.42	1.18	0.48
2.50	0.07	0.00	0.00	15.50	2.44	1.19	0.44
2.75	0.08	0.00	0.00	15.75	2.46	1.21	0.40
3.00	0.09	0.00	0.00	16.00	2.48	1.23	0.36
3.25	0.09	0.00	0.00	16.25	2.50	1.24	0.35
3.50	0.10	0.00	0.00	16.50	2.52	1.26	0.33
3.75	0.11	0.00	0.00	16.75	2.53	1.27	0.31
4.00	0.12	0.00	0.00	17.00	2.55	1.28	0.30
4.25	0.13	0.00	0.00	17.25	2.56	1.29	0.28
4.50	0.14	0.00	0.00	17.50	2.57	1.30	0.26
4.75	0.15	0.00	0.00	17.75	2.59	1.31	0.24
5.00	0.16	0.00	0.00	18.00	2.60	1.32	0.23
5.25	0.17	0.00	0.00	18.25	2.61	1.33	0.22
5.50	0.18	0.00	0.00	18.50	2.62	1.34	0.22
5.75	0.19	0.00	0.00	18.75	2.63	1.35	0.21
6.00	0.20	0.00	0.00	19.00	2.64	1.36	0.21
6.25	0.21	0.00	0.00	19.25	2.65	1.37	0.20
6.50	0.23	0.00	0.00	19.50	2.66	1.38	0.20
6.75	0.24	0.00	0.00	19.75	2.67	1.38	0.19
7.00	0.25	0.00	0.00	20.00	2.68	1.39	0.19
7.25	0.27	0.00	0.00	20.25	2.69	1.40	0.18
7.50	0.28	0.00	0.00	20.50	2.70	1.41	0.18
7.75	0.30	0.00	0.00	20.75	2.71	1.41	0.17
8.00	0.32	0.00	0.00	21.00	2.71	1.42	0.17
8.25	0.34	0.00	0.01	21.25	2.72	1.43	0.17
8.50	0.36	0.00	0.02	21.50	2.73	1.43	0.16
8.75	0.38	0.00	0.04	21.75	2.74	1.44	0.16
9.00	0.41	0.00	0.06	22.00	2.75	1.45	0.15
9.25	0.44	0.01	0.08	22.25	2.75	1.45	0.15
9.50	0.46	0.01	0.11	22.50	2.76	1.46	0.15
9.75	0.50	0.02	0.14	22.75	2.77	1.47	0.14
10.00	0.53	0.02	0.18	23.00	2.77	1.47	0.14
10.25	0.57	0.03	0.23	23.25	2.78	1.48	0.13
10.50	0.61	0.04	0.29	23.50	2.79	1.48	0.13
10.75	0.65	0.05	0.35	23.75	2.79	1.49	0.13
11.00	0.70	0.07	0.43	24.00	2.80	1.49	0.06
11.25	0.76	0.09	0.62				
11.50	0.83	0.12	0.89				
11.75	0.99	0.19	2.90				
12.00	1.40	0.43	12.21				
12.25	1.81	0.70	4.22				
12.50	1.97	0.82	1.60				
12.75	2.04	0.88	1.26				

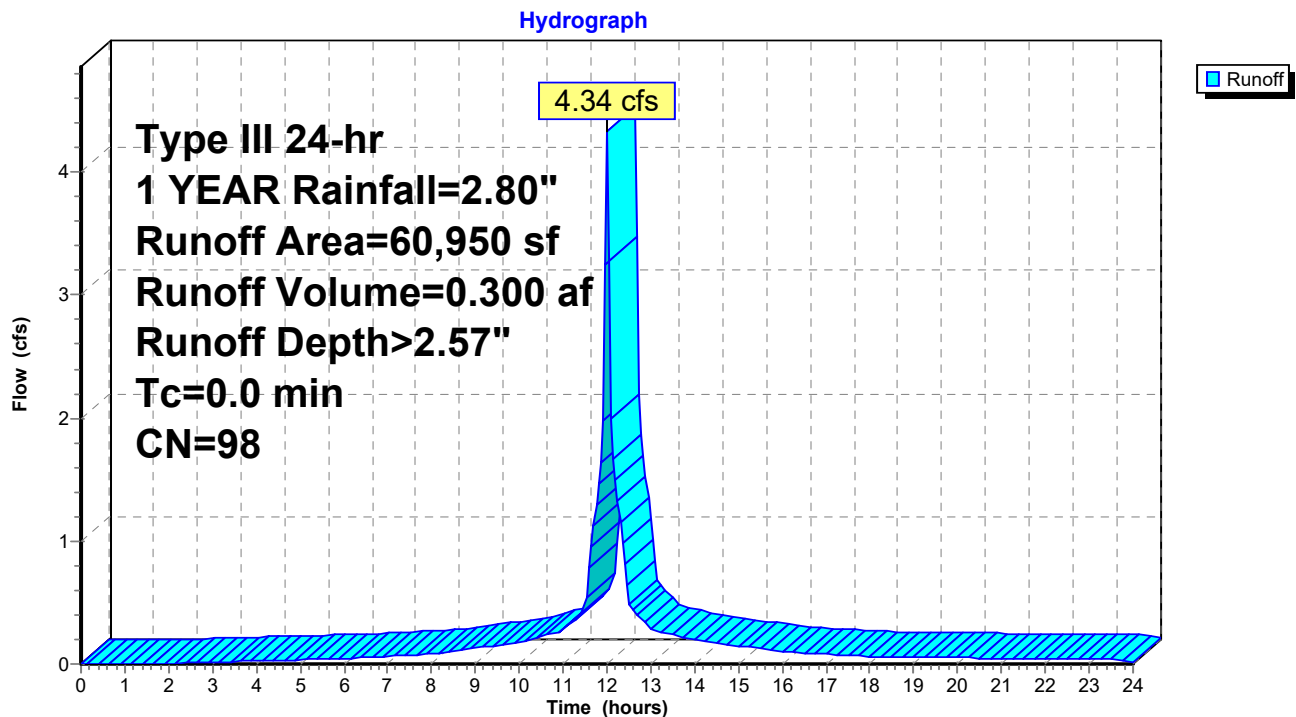
Summary for Subcatchment 1B: Drainage Area - 1B

Runoff = 4.34 cfs @ 12.00 hrs, Volume= 0.300 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YEAR Rainfall=2.80"

	Area (sf)	CN	Description
*	60,950	98	Building Roof
	60,950		100.00% Impervious Area

Subcatchment 1B: Drainage Area - 1B



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Subcatchment 1B: Drainage Area - 1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	2.10	1.87	0.29
0.25	0.01	0.00	0.00	13.25	2.15	1.92	0.26
0.50	0.01	0.00	0.00	13.50	2.19	1.97	0.24
0.75	0.02	0.00	0.00	13.75	2.23	2.01	0.22
1.00	0.03	0.00	0.00	14.00	2.27	2.04	0.19
1.25	0.03	0.00	0.00	14.25	2.30	2.08	0.18
1.50	0.04	0.00	0.00	14.50	2.34	2.11	0.17
1.75	0.05	0.00	0.00	14.75	2.36	2.14	0.16
2.00	0.06	0.00	0.01	15.00	2.39	2.16	0.15
2.25	0.06	0.00	0.01	15.25	2.42	2.19	0.14
2.50	0.07	0.00	0.01	15.50	2.44	2.21	0.12
2.75	0.08	0.01	0.01	15.75	2.46	2.23	0.11
3.00	0.09	0.01	0.02	16.00	2.48	2.25	0.10
3.25	0.09	0.01	0.02	16.25	2.50	2.27	0.10
3.50	0.10	0.01	0.02	16.50	2.52	2.29	0.09
3.75	0.11	0.02	0.02	16.75	2.53	2.30	0.09
4.00	0.12	0.02	0.02	17.00	2.55	2.32	0.08
4.25	0.13	0.03	0.03	17.25	2.56	2.33	0.08
4.50	0.14	0.03	0.03	17.50	2.57	2.34	0.07
4.75	0.15	0.04	0.03	17.75	2.59	2.36	0.07
5.00	0.16	0.04	0.03	18.00	2.60	2.37	0.06
5.25	0.17	0.05	0.04	18.25	2.61	2.38	0.06
5.50	0.18	0.06	0.04	18.50	2.62	2.39	0.06
5.75	0.19	0.06	0.04	18.75	2.63	2.40	0.06
6.00	0.20	0.07	0.04	19.00	2.64	2.41	0.06
6.25	0.21	0.08	0.05	19.25	2.65	2.42	0.06
6.50	0.23	0.09	0.05	19.50	2.66	2.43	0.05
6.75	0.24	0.10	0.06	19.75	2.67	2.44	0.05
7.00	0.25	0.11	0.06	20.00	2.68	2.45	0.05
7.25	0.27	0.12	0.07	20.25	2.69	2.46	0.05
7.50	0.28	0.13	0.07	20.50	2.70	2.47	0.05
7.75	0.30	0.15	0.08	20.75	2.71	2.48	0.05
8.00	0.32	0.16	0.08	21.00	2.71	2.48	0.05
8.25	0.34	0.18	0.10	21.25	2.72	2.49	0.05
8.50	0.36	0.19	0.11	21.50	2.73	2.50	0.04
8.75	0.38	0.21	0.12	21.75	2.74	2.51	0.04
9.00	0.41	0.24	0.13	22.00	2.75	2.52	0.04
9.25	0.44	0.26	0.14	22.25	2.75	2.52	0.04
9.50	0.46	0.29	0.15	22.50	2.76	2.53	0.04
9.75	0.50	0.31	0.16	22.75	2.77	2.54	0.04
10.00	0.53	0.34	0.18	23.00	2.77	2.54	0.04
10.25	0.57	0.38	0.20	23.25	2.78	2.55	0.04
10.50	0.61	0.42	0.22	23.50	2.79	2.56	0.04
10.75	0.65	0.46	0.25	23.75	2.79	2.56	0.03
11.00	0.70	0.50	0.27	24.00	2.80	2.57	0.02
11.25	0.76	0.56	0.36				
11.50	0.83	0.63	0.47				
11.75	0.99	0.79	1.30				
12.00	1.40	1.18	4.34				
12.25	1.81	1.58	1.32				
12.50	1.97	1.74	0.49				
12.75	2.04	1.81	0.38				

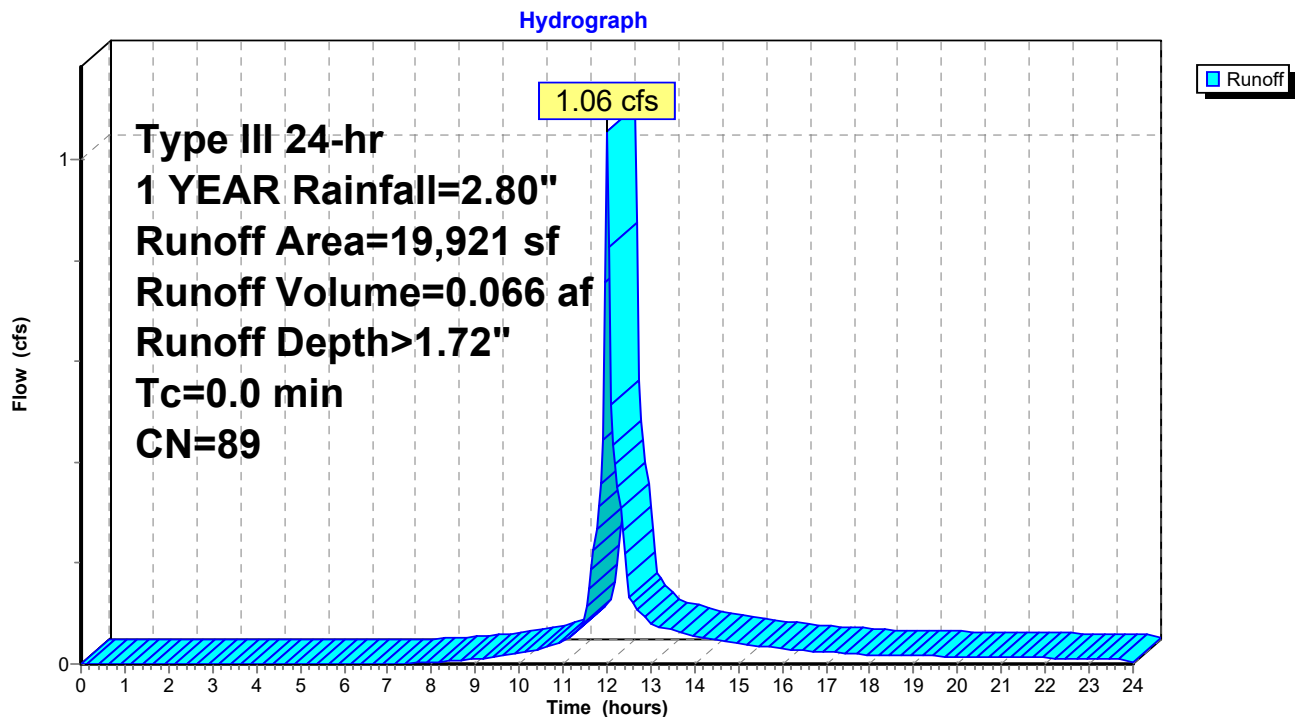
Summary for Subcatchment 1C: Drainage Area - 1C

Runoff = 1.06 cfs @ 12.00 hrs, Volume= 0.066 af, Depth> 1.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 1 YEAR Rainfall=2.80"

	Area (sf)	CN	Description
*	19,921	89	Dirt driveway, HSG D
	19,921		100.00% Pervious Area

Subcatchment 1C: Drainage Area - 1C



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Subcatchment 1C: Drainage Area - 1C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	2.10	1.11	0.08
0.25	0.01	0.00	0.00	13.25	2.15	1.15	0.07
0.50	0.01	0.00	0.00	13.50	2.19	1.19	0.07
0.75	0.02	0.00	0.00	13.75	2.23	1.23	0.06
1.00	0.03	0.00	0.00	14.00	2.27	1.26	0.05
1.25	0.03	0.00	0.00	14.25	2.30	1.28	0.05
1.50	0.04	0.00	0.00	14.50	2.34	1.31	0.05
1.75	0.05	0.00	0.00	14.75	2.36	1.34	0.05
2.00	0.06	0.00	0.00	15.00	2.39	1.36	0.04
2.25	0.06	0.00	0.00	15.25	2.42	1.38	0.04
2.50	0.07	0.00	0.00	15.50	2.44	1.40	0.04
2.75	0.08	0.00	0.00	15.75	2.46	1.42	0.03
3.00	0.09	0.00	0.00	16.00	2.48	1.44	0.03
3.25	0.09	0.00	0.00	16.25	2.50	1.45	0.03
3.50	0.10	0.00	0.00	16.50	2.52	1.47	0.03
3.75	0.11	0.00	0.00	16.75	2.53	1.48	0.03
4.00	0.12	0.00	0.00	17.00	2.55	1.50	0.02
4.25	0.13	0.00	0.00	17.25	2.56	1.51	0.02
4.50	0.14	0.00	0.00	17.50	2.57	1.52	0.02
4.75	0.15	0.00	0.00	17.75	2.59	1.53	0.02
5.00	0.16	0.00	0.00	18.00	2.60	1.54	0.02
5.25	0.17	0.00	0.00	18.25	2.61	1.55	0.02
5.50	0.18	0.00	0.00	18.50	2.62	1.56	0.02
5.75	0.19	0.00	0.00	18.75	2.63	1.57	0.02
6.00	0.20	0.00	0.00	19.00	2.64	1.58	0.02
6.25	0.21	0.00	0.00	19.25	2.65	1.59	0.02
6.50	0.23	0.00	0.00	19.50	2.66	1.60	0.02
6.75	0.24	0.00	0.00	19.75	2.67	1.60	0.02
7.00	0.25	0.00	0.00	20.00	2.68	1.61	0.01
7.25	0.27	0.00	0.00	20.25	2.69	1.62	0.01
7.50	0.28	0.00	0.00	20.50	2.70	1.63	0.01
7.75	0.30	0.00	0.00	20.75	2.71	1.64	0.01
8.00	0.32	0.00	0.00	21.00	2.71	1.64	0.01
8.25	0.34	0.01	0.00	21.25	2.72	1.65	0.01
8.50	0.36	0.01	0.01	21.50	2.73	1.66	0.01
8.75	0.38	0.01	0.01	21.75	2.74	1.67	0.01
9.00	0.41	0.02	0.01	22.00	2.75	1.67	0.01
9.25	0.44	0.02	0.01	22.25	2.75	1.68	0.01
9.50	0.46	0.03	0.02	22.50	2.76	1.69	0.01
9.75	0.50	0.04	0.02	22.75	2.77	1.69	0.01
10.00	0.53	0.05	0.02	23.00	2.77	1.70	0.01
10.25	0.57	0.07	0.03	23.25	2.78	1.70	0.01
10.50	0.61	0.08	0.03	23.50	2.79	1.71	0.01
10.75	0.65	0.10	0.04	23.75	2.79	1.71	0.01
11.00	0.70	0.12	0.04	24.00	2.80	1.72	0.00
11.25	0.76	0.15	0.06				
11.50	0.83	0.19	0.09				
11.75	0.99	0.28	0.27				
12.00	1.40	0.56	1.06				
12.25	1.81	0.87	0.35				
12.50	1.97	1.00	0.13				
12.75	2.04	1.06	0.10				

Summary for Subcatchment 2: Drainage Area -2

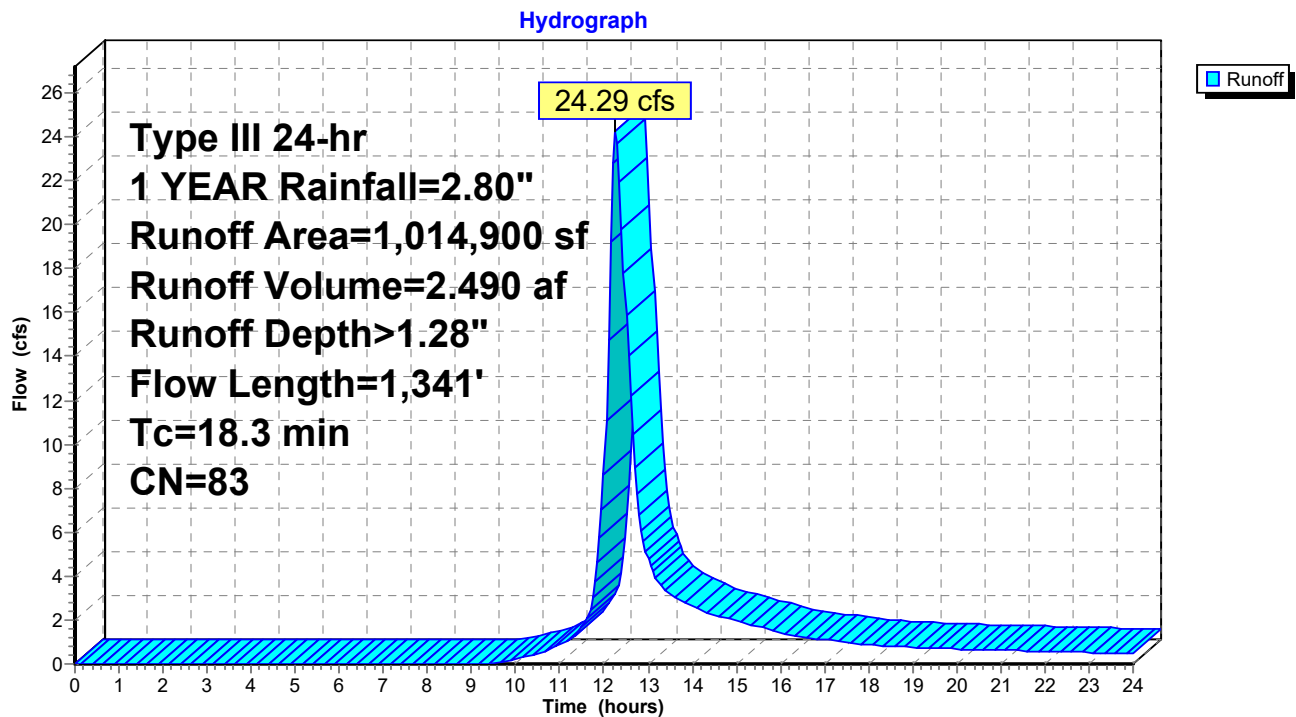
Runoff = 24.29 cfs @ 12.26 hrs, Volume= 2.490 af, Depth> 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YEAR Rainfall=2.80"

Area (sf)	CN	Description
* 195,831	98	Paved parking & roofs
* 6,925	98	Water Course
812,144	79	Woods, Fair, HSG D
1,014,900	83	Weighted Average
812,144		80.02% Pervious Area
202,756		19.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	1,241	0.0970	5.01		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
18.3	1,341	Total			

Subcatchment 2: Drainage Area -2



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Subcatchment 2: Drainage Area -2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	2.10	0.76	4.77
0.25	0.01	0.00	0.00	13.25	2.15	0.80	3.62
0.50	0.01	0.00	0.00	13.50	2.19	0.83	3.18
0.75	0.02	0.00	0.00	13.75	2.23	0.86	2.90
1.00	0.03	0.00	0.00	14.00	2.27	0.89	2.64
1.25	0.03	0.00	0.00	14.25	2.30	0.91	2.39
1.50	0.04	0.00	0.00	14.50	2.34	0.93	2.24
1.75	0.05	0.00	0.00	14.75	2.36	0.95	2.11
2.00	0.06	0.00	0.00	15.00	2.39	0.97	1.98
2.25	0.06	0.00	0.00	15.25	2.42	0.99	1.85
2.50	0.07	0.00	0.00	15.50	2.44	1.01	1.71
2.75	0.08	0.00	0.00	15.75	2.46	1.03	1.58
3.00	0.09	0.00	0.00	16.00	2.48	1.04	1.44
3.25	0.09	0.00	0.00	16.25	2.50	1.05	1.32
3.50	0.10	0.00	0.00	16.50	2.52	1.07	1.24
3.75	0.11	0.00	0.00	16.75	2.53	1.08	1.18
4.00	0.12	0.00	0.00	17.00	2.55	1.09	1.12
4.25	0.13	0.00	0.00	17.25	2.56	1.10	1.06
4.50	0.14	0.00	0.00	17.50	2.57	1.11	1.00
4.75	0.15	0.00	0.00	17.75	2.59	1.12	0.94
5.00	0.16	0.00	0.00	18.00	2.60	1.13	0.88
5.25	0.17	0.00	0.00	18.25	2.61	1.14	0.82
5.50	0.18	0.00	0.00	18.50	2.62	1.15	0.79
5.75	0.19	0.00	0.00	18.75	2.63	1.16	0.77
6.00	0.20	0.00	0.00	19.00	2.64	1.16	0.76
6.25	0.21	0.00	0.00	19.25	2.65	1.17	0.74
6.50	0.23	0.00	0.00	19.50	2.66	1.18	0.72
6.75	0.24	0.00	0.00	19.75	2.67	1.19	0.70
7.00	0.25	0.00	0.00	20.00	2.68	1.19	0.68
7.25	0.27	0.00	0.00	20.25	2.69	1.20	0.67
7.50	0.28	0.00	0.00	20.50	2.70	1.21	0.65
7.75	0.30	0.00	0.00	20.75	2.71	1.21	0.64
8.00	0.32	0.00	0.00	21.00	2.71	1.22	0.62
8.25	0.34	0.00	0.00	21.25	2.72	1.23	0.61
8.50	0.36	0.00	0.00	21.50	2.73	1.23	0.60
8.75	0.38	0.00	0.00	21.75	2.74	1.24	0.58
9.00	0.41	0.00	0.00	22.00	2.75	1.25	0.57
9.25	0.44	0.00	0.01	22.25	2.75	1.25	0.55
9.50	0.46	0.00	0.06	22.50	2.76	1.26	0.54
9.75	0.50	0.00	0.14	22.75	2.77	1.26	0.53
10.00	0.53	0.01	0.23	23.00	2.77	1.27	0.51
10.25	0.57	0.01	0.34	23.25	2.78	1.27	0.50
10.50	0.61	0.02	0.48	23.50	2.79	1.28	0.48
10.75	0.65	0.03	0.65	23.75	2.79	1.28	0.47
11.00	0.70	0.04	0.86	24.00	2.80	1.29	0.46
11.25	0.76	0.05	1.13				
11.50	0.83	0.07	1.65				
11.75	0.99	0.13	3.00				
12.00	1.40	0.32	8.61				
12.25	1.81	0.57	24.24				
12.50	1.97	0.67	15.88				
12.75	2.04	0.72	7.73				

Summary for Subcatchment 3: Drainage Area - 3

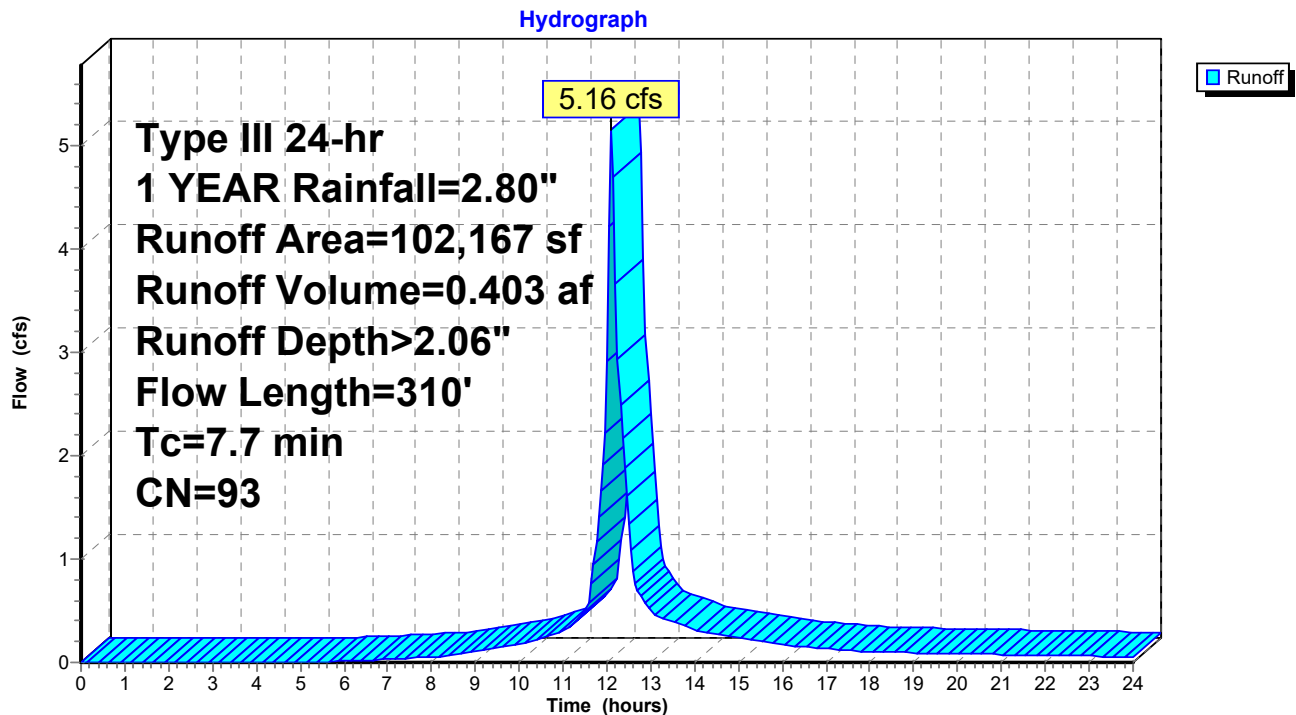
Runoff = 5.16 cfs @ 12.11 hrs, Volume= 0.403 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YEAR Rainfall=2.80"

	Area (sf)	CN	Description
*	74,229	98	Paved roads w/curbs & sewers
	27,938	79	Woods, Fair, HSG D
	102,167	93	Weighted Average
	27,938		27.35% Pervious Area
	74,229		72.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.3000	0.24		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	210	0.0950	4.96		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
7.7	310	Total			

Subcatchment 3: Drainage Area - 3



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Subcatchment 3: Drainage Area - 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	2.10	1.41	0.51
0.25	0.01	0.00	0.00	13.25	2.15	1.45	0.43
0.50	0.01	0.00	0.00	13.50	2.19	1.49	0.39
0.75	0.02	0.00	0.00	13.75	2.23	1.53	0.36
1.00	0.03	0.00	0.00	14.00	2.27	1.56	0.32
1.25	0.03	0.00	0.00	14.25	2.30	1.60	0.29
1.50	0.04	0.00	0.00	14.50	2.34	1.63	0.28
1.75	0.05	0.00	0.00	14.75	2.36	1.65	0.26
2.00	0.06	0.00	0.00	15.00	2.39	1.68	0.24
2.25	0.06	0.00	0.00	15.25	2.42	1.70	0.22
2.50	0.07	0.00	0.00	15.50	2.44	1.72	0.21
2.75	0.08	0.00	0.00	15.75	2.46	1.74	0.19
3.00	0.09	0.00	0.00	16.00	2.48	1.76	0.17
3.25	0.09	0.00	0.00	16.25	2.50	1.78	0.16
3.50	0.10	0.00	0.00	16.50	2.52	1.79	0.15
3.75	0.11	0.00	0.00	16.75	2.53	1.81	0.14
4.00	0.12	0.00	0.00	17.00	2.55	1.82	0.13
4.25	0.13	0.00	0.00	17.25	2.56	1.84	0.13
4.50	0.14	0.00	0.00	17.50	2.57	1.85	0.12
4.75	0.15	0.00	0.00	17.75	2.59	1.86	0.11
5.00	0.16	0.00	0.00	18.00	2.60	1.87	0.10
5.25	0.17	0.00	0.00	18.25	2.61	1.88	0.10
5.50	0.18	0.00	0.01	18.50	2.62	1.89	0.10
5.75	0.19	0.00	0.01	18.75	2.63	1.90	0.09
6.00	0.20	0.00	0.01	19.00	2.64	1.91	0.09
6.25	0.21	0.00	0.02	19.25	2.65	1.92	0.09
6.50	0.23	0.01	0.02	19.50	2.66	1.93	0.09
6.75	0.24	0.01	0.02	19.75	2.67	1.94	0.08
7.00	0.25	0.01	0.03	20.00	2.68	1.95	0.08
7.25	0.27	0.02	0.03	20.25	2.69	1.96	0.08
7.50	0.28	0.02	0.04	20.50	2.70	1.97	0.08
7.75	0.30	0.03	0.05	20.75	2.71	1.97	0.08
8.00	0.32	0.03	0.05	21.00	2.71	1.98	0.08
8.25	0.34	0.04	0.06	21.25	2.72	1.99	0.07
8.50	0.36	0.05	0.08	21.50	2.73	2.00	0.07
8.75	0.38	0.05	0.09	21.75	2.74	2.00	0.07
9.00	0.41	0.07	0.10	22.00	2.75	2.01	0.07
9.25	0.44	0.08	0.12	22.25	2.75	2.02	0.07
9.50	0.46	0.09	0.14	22.50	2.76	2.03	0.06
9.75	0.50	0.11	0.15	22.75	2.77	2.03	0.06
10.00	0.53	0.13	0.17	23.00	2.77	2.04	0.06
10.25	0.57	0.15	0.20	23.25	2.78	2.05	0.06
10.50	0.61	0.17	0.23	23.50	2.79	2.05	0.06
10.75	0.65	0.20	0.27	23.75	2.79	2.06	0.06
11.00	0.70	0.23	0.30	24.00	2.80	2.06	0.05
11.25	0.76	0.27	0.38				
11.50	0.83	0.33	0.51				
11.75	0.99	0.45	1.17				
12.00	1.40	0.78	2.91				
12.25	1.81	1.14	2.93				
12.50	1.97	1.28	1.35				
12.75	2.04	1.35	0.66				

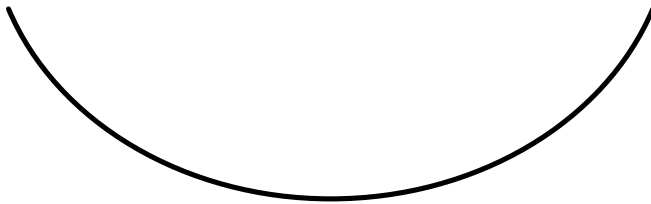
Summary for Reach 1R: Swale (Reach)

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth = 0.00" for 1 YEAR event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

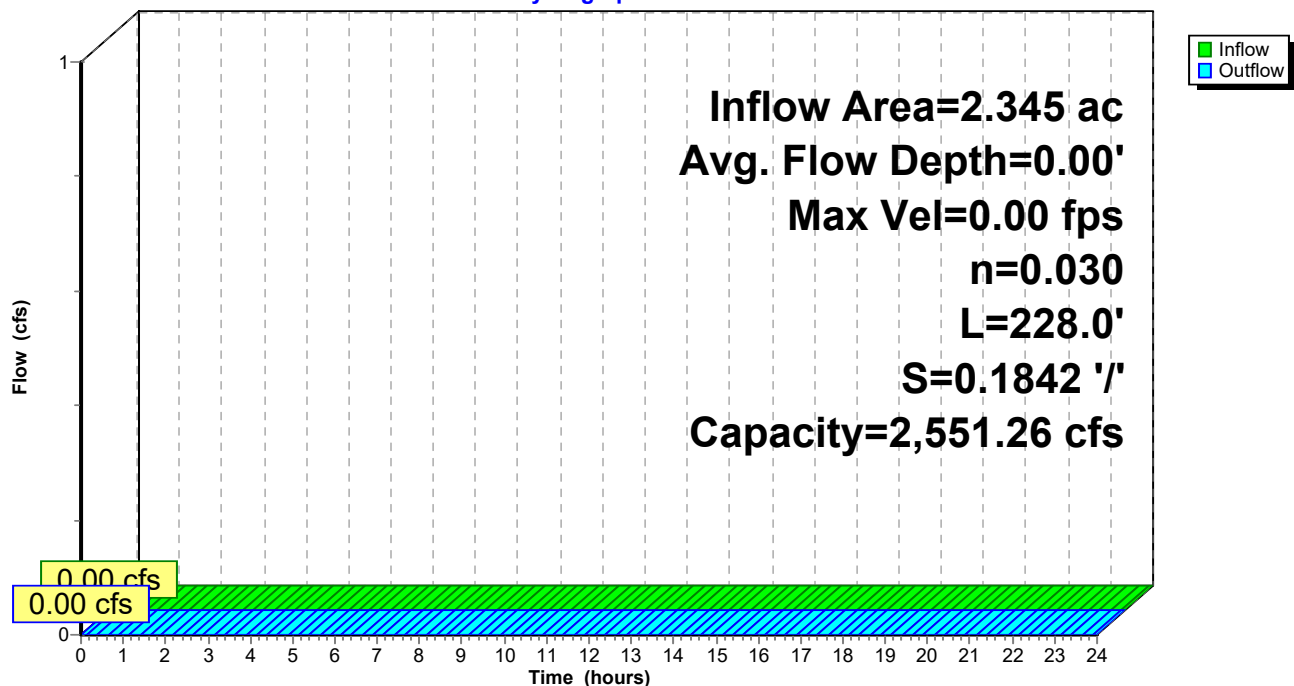
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 5.00' Flow Area= 60.0 sf, Capacity= 2,551.26 cfs

18.00' x 5.00' deep Parabolic Channel, n= 0.030 Stream, clean & straight
 Length= 228.0' Slope= 0.1842 '/'
 Inlet Invert= 95.00', Outlet Invert= 53.00'



Reach 1R: Swale (Reach)

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Reach 1R: Swale (Reach)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00	95.00	0.00	13.00	0.00	95.00	0.00
0.25	0.00	95.00	0.00	13.25	0.00	95.00	0.00
0.50	0.00	95.00	0.00	13.50	0.00	95.00	0.00
0.75	0.00	95.00	0.00	13.75	0.00	95.00	0.00
1.00	0.00	95.00	0.00	14.00	0.00	95.00	0.00
1.25	0.00	95.00	0.00	14.25	0.00	95.00	0.00
1.50	0.00	95.00	0.00	14.50	0.00	95.00	0.00
1.75	0.00	95.00	0.00	14.75	0.00	95.00	0.00
2.00	0.00	95.00	0.00	15.00	0.00	95.00	0.00
2.25	0.00	95.00	0.00	15.25	0.00	95.00	0.00
2.50	0.00	95.00	0.00	15.50	0.00	95.00	0.00
2.75	0.00	95.00	0.00	15.75	0.00	95.00	0.00
3.00	0.00	95.00	0.00	16.00	0.00	95.00	0.00
3.25	0.00	95.00	0.00	16.25	0.00	95.00	0.00
3.50	0.00	95.00	0.00	16.50	0.00	95.00	0.00
3.75	0.00	95.00	0.00	16.75	0.00	95.00	0.00
4.00	0.00	95.00	0.00	17.00	0.00	95.00	0.00
4.25	0.00	95.00	0.00	17.25	0.00	95.00	0.00
4.50	0.00	95.00	0.00	17.50	0.00	95.00	0.00
4.75	0.00	95.00	0.00	17.75	0.00	95.00	0.00
5.00	0.00	95.00	0.00	18.00	0.00	95.00	0.00
5.25	0.00	95.00	0.00	18.25	0.00	95.00	0.00
5.50	0.00	95.00	0.00	18.50	0.00	95.00	0.00
5.75	0.00	95.00	0.00	18.75	0.00	95.00	0.00
6.00	0.00	95.00	0.00	19.00	0.00	95.00	0.00
6.25	0.00	95.00	0.00	19.25	0.00	95.00	0.00
6.50	0.00	95.00	0.00	19.50	0.00	95.00	0.00
6.75	0.00	95.00	0.00	19.75	0.00	95.00	0.00
7.00	0.00	95.00	0.00	20.00	0.00	95.00	0.00
7.25	0.00	95.00	0.00	20.25	0.00	95.00	0.00
7.50	0.00	95.00	0.00	20.50	0.00	95.00	0.00
7.75	0.00	95.00	0.00	20.75	0.00	95.00	0.00
8.00	0.00	95.00	0.00	21.00	0.00	95.00	0.00
8.25	0.00	95.00	0.00	21.25	0.00	95.00	0.00
8.50	0.00	95.00	0.00	21.50	0.00	95.00	0.00
8.75	0.00	95.00	0.00	21.75	0.00	95.00	0.00
9.00	0.00	95.00	0.00	22.00	0.00	95.00	0.00
9.25	0.00	95.00	0.00	22.25	0.00	95.00	0.00
9.50	0.00	95.00	0.00	22.50	0.00	95.00	0.00
9.75	0.00	95.00	0.00	22.75	0.00	95.00	0.00
10.00	0.00	95.00	0.00	23.00	0.00	95.00	0.00
10.25	0.00	95.00	0.00	23.25	0.00	95.00	0.00
10.50	0.00	95.00	0.00	23.50	0.00	95.00	0.00
10.75	0.00	95.00	0.00	23.75	0.00	95.00	0.00
11.00	0.00	95.00	0.00	24.00	0.00	95.00	0.00
11.25	0.00	95.00	0.00				
11.50	0.00	95.00	0.00				
11.75	0.00	95.00	0.00				
12.00	0.00	95.00	0.00				
12.25	0.00	95.00	0.00				
12.50	0.00	95.00	0.00				
12.75	0.00	95.00	0.00				

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Stage-Discharge for Reach 1R: Swale (Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
95.00	0.00	0.00	97.60	28.81	648.28
95.05	2.20	0.13	97.65	29.15	674.88
95.10	3.49	0.59	97.70	29.49	702.02
95.15	4.56	1.42	97.75	29.82	729.73
95.20	5.52	2.65	97.80	30.15	757.98
95.25	6.40	4.29	97.85	30.47	786.79
95.30	7.21	6.36	97.90	30.79	816.15
95.35	7.98	8.87	97.95	31.12	846.06
95.40	8.71	11.83	98.00	31.43	876.53
95.45	9.41	15.25	98.05	31.75	907.56
95.50	10.09	19.14	98.10	32.06	939.14
95.55	10.73	23.49	98.15	32.37	971.27
95.60	11.36	28.33	98.20	32.68	1,003.96
95.65	11.97	33.65	98.25	32.99	1,037.20
95.70	12.56	39.46	98.30	33.29	1,071.00
95.75	13.13	45.77	98.35	33.59	1,105.36
95.80	13.69	52.57	98.40	33.89	1,140.27
95.85	14.24	59.88	98.45	34.19	1,175.74
95.90	14.77	67.69	98.50	34.48	1,211.76
95.95	15.30	76.01	98.55	34.78	1,248.34
96.00	15.81	84.83	98.60	35.07	1,285.48
96.05	16.31	94.18	98.65	35.36	1,323.17
96.10	16.80	104.04	98.70	35.64	1,361.42
96.15	17.29	114.42	98.75	35.93	1,400.23
96.20	17.76	125.32	98.80	36.21	1,439.59
96.25	18.23	136.74	98.85	36.49	1,479.51
96.30	18.69	148.69	98.90	36.77	1,519.98
96.35	19.15	161.17	98.95	37.05	1,561.02
96.40	19.59	174.17	99.00	37.33	1,602.61
96.45	20.03	187.71	99.05	37.60	1,644.75
96.50	20.47	201.78	99.10	37.88	1,687.45
96.55	20.89	216.38	99.15	38.15	1,730.71
96.60	21.32	231.52	99.20	38.42	1,774.53
96.65	21.73	247.20	99.25	38.68	1,818.90
96.70	22.14	263.41	99.30	38.95	1,863.83
96.75	22.55	280.16	99.35	39.21	1,909.32
96.80	22.95	297.45	99.40	39.48	1,955.36
96.85	23.35	315.28	99.45	39.74	2,001.96
96.90	23.74	333.66	99.50	40.00	2,049.12
96.95	24.13	352.58	99.55	40.26	2,096.83
97.00	24.51	372.04	99.60	40.51	2,145.10
97.05	24.89	392.05	99.65	40.77	2,193.92
97.10	25.26	412.60	99.70	41.02	2,243.30
97.15	25.64	433.70	99.75	41.28	2,293.24
97.20	26.00	455.34	99.80	41.53	2,343.73
97.25	26.37	477.54	99.85	41.78	2,394.78
97.30	26.73	500.28	99.90	42.03	2,446.39
97.35	27.08	523.57	99.95	42.27	2,498.55
97.40	27.43	547.41	100.00	42.52	2,551.26
97.45	27.78	571.80			
97.50	28.13	596.74			
97.55	28.47	622.24			

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Summary for Reach 2R: Stream

Inflow Area = 25.644 ac, 24.80% Impervious, Inflow Depth > 1.17" for 1 YEAR event
 Inflow = 24.29 cfs @ 12.26 hrs, Volume= 2.490 af
 Outflow = 24.09 cfs @ 12.28 hrs, Volume= 2.487 af, Atten= 1%, Lag= 1.2 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.82 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 2.36 fps, Avg. Travel Time= 3.9 min

Peak Storage= 2,274 cf @ 12.28 hrs

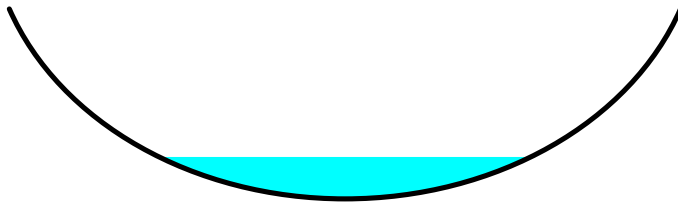
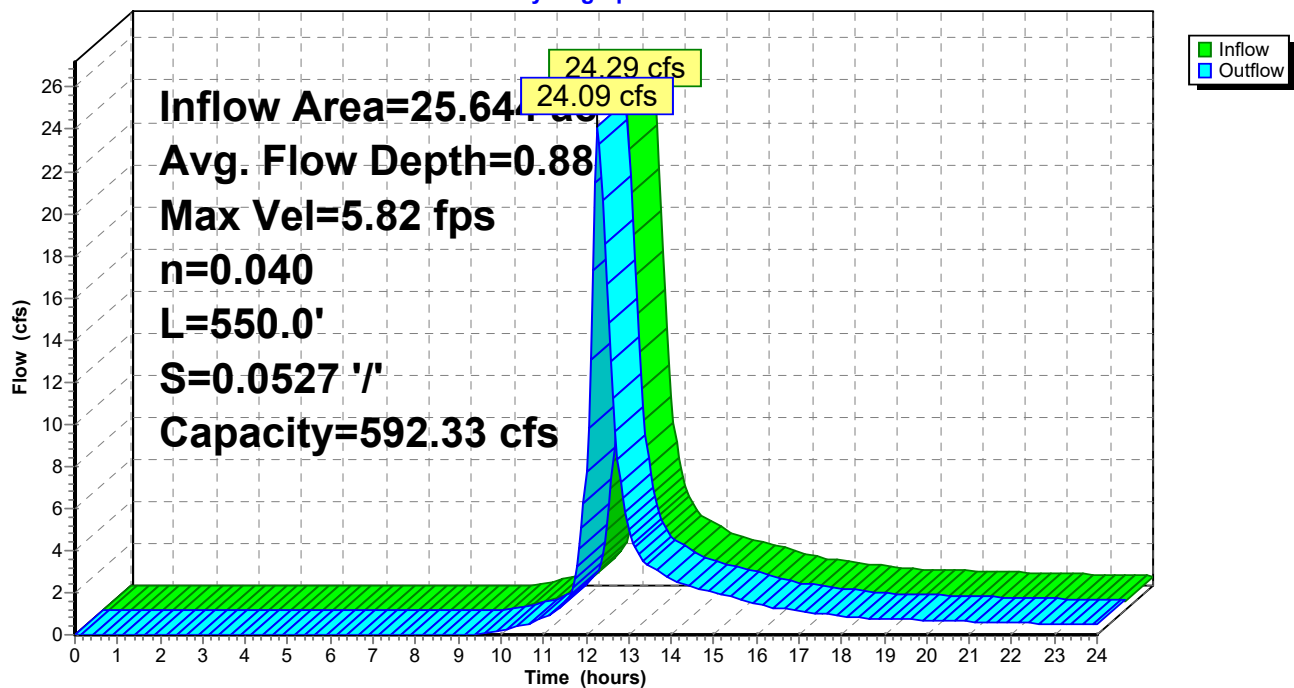
Average Depth at Peak Storage= 0.88'

Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 592.33 cfs

15.00' x 4.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

Length= 550.0' Slope= 0.0527 '/'

Inlet Invert= 53.00', Outlet Invert= 24.00'

**Reach 2R: Stream****Hydrograph**

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Reach 2R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	53.00	0.00
0.50	0.00	0	53.00	0.00
1.00	0.00	0	53.00	0.00
1.50	0.00	0	53.00	0.00
2.00	0.00	0	53.00	0.00
2.50	0.00	0	53.00	0.00
3.00	0.00	0	53.00	0.00
3.50	0.00	0	53.00	0.00
4.00	0.00	0	53.00	0.00
4.50	0.00	0	53.00	0.00
5.00	0.00	0	53.00	0.00
5.50	0.00	0	53.00	0.00
6.00	0.00	0	53.00	0.00
6.50	0.00	0	53.00	0.00
7.00	0.00	0	53.00	0.00
7.50	0.00	0	53.00	0.00
8.00	0.00	0	53.00	0.00
8.50	0.00	0	53.00	0.00
9.00	0.00	0	53.00	0.00
9.50	0.06	19	53.03	0.03
10.00	0.23	79	53.09	0.20
10.50	0.48	139	53.14	0.44
11.00	0.86	213	53.18	0.81
11.50	1.65	335	53.25	1.55
12.00	8.61	1,029	53.52	7.75
12.50	15.88	1,755	53.74	16.64
13.00	4.77	756	53.42	4.98
13.50	3.18	558	53.34	3.22
14.00	2.64	491	53.32	2.68
14.50	2.24	435	53.29	2.26
15.00	1.98	400	53.28	2.00
15.50	1.71	362	53.26	1.74
16.00	1.44	323	53.24	1.47
16.50	1.24	288	53.22	1.25
17.00	1.12	269	53.21	1.13
17.50	1.00	249	53.20	1.01
18.00	0.88	227	53.19	0.89
18.50	0.79	210	53.18	0.80
19.00	0.76	203	53.18	0.76
19.50	0.72	197	53.17	0.72
20.00	0.68	190	53.17	0.69
20.50	0.65	184	53.16	0.65
21.00	0.62	179	53.16	0.63
21.50	0.60	174	53.16	0.60
22.00	0.57	168	53.15	0.57
22.50	0.54	161	53.15	0.54
23.00	0.51	155	53.15	0.52
23.50	0.48	149	53.14	0.49
24.00	0.46	143	53.14	0.46

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Stage-Discharge for Reach 2R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
53.00	0.00	0.00	55.60	11.47	240.35
53.05	0.87	0.06	55.65	11.60	250.20
53.10	1.39	0.23	55.70	11.73	260.23
53.15	1.83	0.54	55.75	11.86	270.46
53.20	2.21	0.99	55.80	11.99	280.89
53.25	2.56	1.61	55.85	12.12	291.54
53.30	2.89	2.39	55.90	12.25	302.39
53.35	3.20	3.32	55.95	12.37	313.43
53.40	3.49	4.42	56.00	12.50	324.67
53.45	3.77	5.70	56.05	12.62	336.13
53.50	4.04	7.15	56.10	12.74	347.79
53.55	4.30	8.77	56.15	12.87	359.65
53.60	4.55	10.57	56.20	12.99	371.70
53.65	4.79	12.56	56.25	13.11	383.98
53.70	5.02	14.73	56.30	13.23	396.45
53.75	5.25	17.07	56.35	13.34	409.12
53.80	5.48	19.59	56.40	13.46	421.98
53.85	5.69	22.32	56.45	13.58	435.07
53.90	5.91	25.23	56.50	13.69	448.36
53.95	6.12	28.32	56.55	13.81	461.84
54.00	6.32	31.60	56.60	13.92	475.51
54.05	6.52	35.08	56.65	14.04	489.42
54.10	6.72	38.75	56.70	14.15	503.51
54.15	6.91	42.61	56.75	14.26	517.81
54.20	7.10	46.65	56.80	14.37	532.30
54.25	7.28	50.90	56.85	14.48	547.01
54.30	7.47	55.34	56.90	14.59	561.93
54.35	7.65	59.97	56.95	14.70	577.03
54.40	7.82	64.79	57.00	14.81	592.33
54.45	8.00	69.83			
54.50	8.17	75.05			
54.55	8.34	80.47			
54.60	8.51	86.07			
54.65	8.67	91.90			
54.70	8.83	97.91			
54.75	8.99	104.12			
54.80	9.15	110.52			
54.85	9.31	117.14			
54.90	9.46	123.95			
54.95	9.62	130.96			
55.00	9.77	138.15			
55.05	9.92	145.57			
55.10	10.07	153.19			
55.15	10.21	161.00			
55.20	10.36	169.00			
55.25	10.50	177.22			
55.30	10.64	185.64			
55.35	10.78	194.25			
55.40	10.92	203.06			
55.45	11.06	212.09			
55.50	11.20	221.32			
55.55	11.33	230.74			

Summary for Reach 3R: Channel

Inflow Area = 25.644 ac, 24.80% Impervious, Inflow Depth > 1.16" for 1 YEAR event
 Inflow = 24.09 cfs @ 12.28 hrs, Volume= 2.487 af
 Outflow = 23.98 cfs @ 12.31 hrs, Volume= 2.481 af, Atten= 0%, Lag= 1.5 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.74 fps, Min. Travel Time= 2.0 min
 Avg. Velocity = 1.57 fps, Avg. Travel Time= 6.1 min

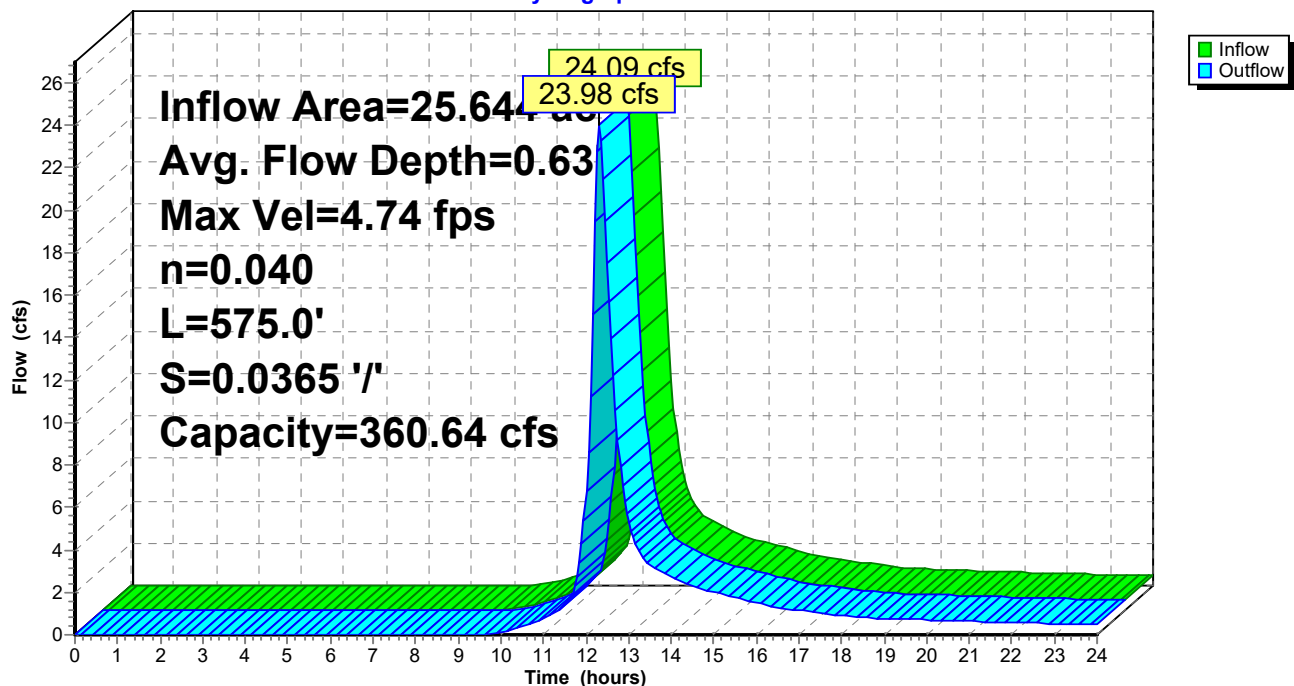
Peak Storage= 2,908 cf @ 12.31 hrs
 Average Depth at Peak Storage= 0.63'
 Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 360.64 cfs

8.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals
 Length= 575.0' Slope= 0.0365 '/'
 Inlet Invert= 24.00', Outlet Invert= 3.00'



Reach 3R: Channel

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Reach 3R: Channel

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	24.00	0.00
0.50	0.00	0	24.00	0.00
1.00	0.00	0	24.00	0.00
1.50	0.00	0	24.00	0.00
2.00	0.00	0	24.00	0.00
2.50	0.00	0	24.00	0.00
3.00	0.00	0	24.00	0.00
3.50	0.00	0	24.00	0.00
4.00	0.00	0	24.00	0.00
4.50	0.00	0	24.00	0.00
5.00	0.00	0	24.00	0.00
5.50	0.00	0	24.00	0.00
6.00	0.00	0	24.00	0.00
6.50	0.00	0	24.00	0.00
7.00	0.00	0	24.00	0.00
7.50	0.00	0	24.00	0.00
8.00	0.00	0	24.00	0.00
8.50	0.00	0	24.00	0.00
9.00	0.00	0	24.00	0.00
9.50	0.03	7	24.00	0.01
10.00	0.20	91	24.02	0.13
10.50	0.44	222	24.05	0.38
11.00	0.81	337	24.07	0.74
11.50	1.55	501	24.11	1.41
12.00	7.75	1,315	24.29	6.74
12.50	16.64	2,385	24.52	17.53
13.00	4.98	1,130	24.25	5.27
13.50	3.22	844	24.18	3.28
14.00	2.68	754	24.16	2.72
14.50	2.26	676	24.15	2.29
15.00	2.00	627	24.14	2.02
15.50	1.74	578	24.13	1.76
16.00	1.47	523	24.11	1.50
16.50	1.25	470	24.10	1.27
17.00	1.13	440	24.10	1.14
17.50	1.01	413	24.09	1.02
18.00	0.89	385	24.08	0.90
18.50	0.80	360	24.08	0.81
19.00	0.76	346	24.08	0.77
19.50	0.72	335	24.07	0.73
20.00	0.69	323	24.07	0.69
20.50	0.65	312	24.07	0.66
21.00	0.63	303	24.07	0.63
21.50	0.60	294	24.06	0.60
22.00	0.57	285	24.06	0.58
22.50	0.54	276	24.06	0.55
23.00	0.52	267	24.06	0.52
23.50	0.49	258	24.06	0.49
24.00	0.46	249	24.05	0.46

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Stage-Discharge for Reach 3R: Channel

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
24.00	0.00	0.00	26.60	9.61	199.97
24.05	0.94	0.41	26.65	9.69	205.38
24.10	1.50	1.23	26.70	9.76	210.83
24.15	1.95	2.36	26.75	9.83	216.30
24.20	2.35	3.76	26.80	9.90	221.80
24.25	2.70	5.42	26.85	9.97	227.33
24.30	3.03	7.29	26.90	10.04	232.88
24.35	3.33	9.35	26.95	10.10	238.46
24.40	3.62	11.57	27.00	10.17	244.06
24.45	3.88	13.99	27.05	10.23	249.69
24.50	4.13	16.55	27.10	10.30	255.35
24.55	4.37	19.25	27.15	10.36	261.02
24.60	4.60	22.09	27.20	10.42	266.72
24.65	4.82	25.06	27.25	10.48	272.45
24.70	5.03	28.16	27.30	10.54	278.19
24.75	5.23	31.36	27.35	10.60	283.96
24.80	5.42	34.68	27.40	10.65	289.74
24.85	5.60	38.10	27.45	10.71	295.55
24.90	5.78	41.63	27.50	10.76	301.37
24.95	5.95	45.24	27.55	10.82	307.22
25.00	6.12	48.95	27.60	10.87	313.08
25.05	6.28	52.75	27.65	10.92	318.97
25.10	6.43	56.63	27.70	10.98	324.87
25.15	6.58	60.58	27.75	11.03	330.79
25.20	6.73	64.61	27.80	11.08	336.72
25.25	6.87	68.73	27.85	11.13	342.68
25.30	7.01	72.91	27.90	11.17	348.65
25.35	7.14	77.16	27.95	11.22	354.64
25.40	7.27	81.47	28.00	11.27	360.64
25.45	7.40	85.85			
25.50	7.52	90.29			
25.55	7.64	94.78			
25.60	7.76	99.34			
25.65	7.87	103.95			
25.70	7.99	108.61			
25.75	8.09	113.33			
25.80	8.20	118.09			
25.85	8.30	122.90			
25.90	8.40	127.76			
25.95	8.50	132.66			
26.00	8.60	137.61			
26.05	8.69	142.60			
26.10	8.79	147.63			
26.15	8.88	152.70			
26.20	8.97	157.81			
26.25	9.05	162.96			
26.30	9.14	168.15			
26.35	9.22	173.37			
26.40	9.30	178.62			
26.45	9.38	183.91			
26.50	9.46	189.23			
26.55	9.54	194.58			

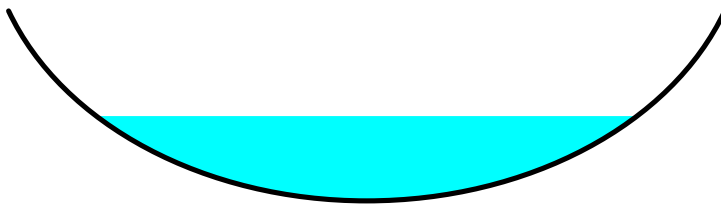
Summary for Reach 4R: Stream

Inflow Area = 33.127 ac, 27.67% Impervious, Inflow Depth > 1.28" for 1 YEAR event
 Inflow = 29.46 cfs @ 12.29 hrs, Volume= 3.538 af
 Outflow = 29.47 cfs @ 12.30 hrs, Volume= 3.536 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.13 fps, Min. Travel Time= 0.8 min
 Avg. Velocity = 1.36 fps, Avg. Travel Time= 2.3 min

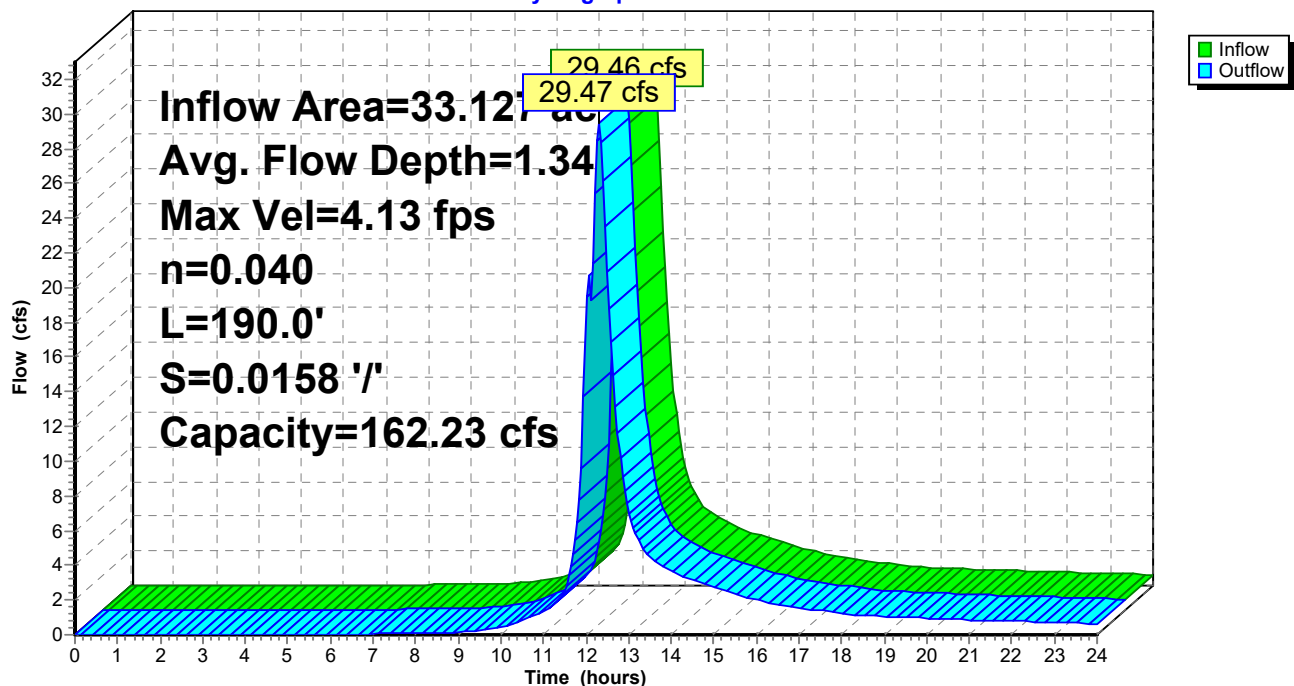
Peak Storage= 1,355 cf @ 12.30 hrs
 Average Depth at Peak Storage= 1.34'
 Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 162.23 cfs

12.00' x 3.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
 Length= 190.0' Slope= 0.0158 '/'
 Inlet Invert= 3.00', Outlet Invert= 0.00'



Reach 4R: Stream

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Reach 4R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	3.00	0.00
0.50	0.00	0	3.00	0.00
1.00	0.00	0	3.00	0.00
1.50	0.00	0	3.00	0.00
2.00	0.00	1	3.00	0.00
2.50	0.00	2	3.01	0.00
3.00	0.01	4	3.03	0.01
3.50	0.01	6	3.03	0.01
4.00	0.02	7	3.04	0.02
4.50	0.02	8	3.04	0.02
5.00	0.03	10	3.05	0.03
5.50	0.03	11	3.05	0.03
6.00	0.04	13	3.06	0.04
6.50	0.04	14	3.06	0.04
7.00	0.05	15	3.07	0.05
7.50	0.06	17	3.07	0.06
8.00	0.07	19	3.08	0.07
8.50	0.10	26	3.09	0.10
9.00	0.16	35	3.12	0.16
9.50	0.24	46	3.14	0.23
10.00	0.45	71	3.19	0.43
10.50	0.84	110	3.25	0.82
11.00	1.38	156	3.32	1.35
11.50	2.59	241	3.42	2.51
12.00	20.49	1,011	4.10	19.45
12.50	20.41	1,064	4.14	20.91
13.00	6.85	493	3.68	6.99
13.50	4.47	363	3.55	4.50
14.00	3.68	316	3.51	3.70
14.50	3.12	281	3.47	3.13
15.00	2.74	257	3.44	2.75
15.50	2.37	233	3.41	2.39
16.00	2.01	207	3.38	2.02
16.50	1.72	186	3.36	1.73
17.00	1.54	172	3.34	1.55
17.50	1.38	159	3.32	1.39
18.00	1.21	146	3.30	1.22
18.50	1.10	136	3.29	1.10
19.00	1.04	130	3.28	1.04
19.50	0.99	126	3.27	0.99
20.00	0.94	122	3.27	0.94
20.50	0.89	117	3.26	0.89
21.00	0.85	114	3.26	0.85
21.50	0.82	110	3.25	0.82
22.00	0.78	107	3.25	0.78
22.50	0.74	103	3.24	0.74
23.00	0.70	99	3.23	0.70
23.50	0.66	96	3.23	0.67
24.00	0.56	89	3.22	0.60

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Stage-Discharge for Reach 4R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
3.00	0.00	0.00	4.04	3.53	17.29	5.08	5.43	75.22
3.02	0.23	0.01	4.06	3.57	18.01	5.10	5.46	76.75
3.04	0.41	0.02	4.08	3.61	18.73	5.12	5.49	78.30
3.06	0.54	0.04	4.10	3.66	19.48	5.14	5.52	79.86
3.08	0.66	0.07	4.12	3.70	20.25	5.16	5.55	81.44
3.10	0.76	0.11	4.14	3.74	21.02	5.18	5.59	83.04
3.12	0.86	0.17	4.16	3.78	21.82	5.20	5.62	84.65
3.14	0.95	0.23	4.18	3.82	22.63	5.22	5.65	86.27
3.16	1.04	0.31	4.20	3.86	23.45	5.24	5.68	87.92
3.18	1.13	0.40	4.22	3.90	24.29	5.26	5.71	89.58
3.20	1.21	0.50	4.24	3.94	25.15	5.28	5.74	91.25
3.22	1.29	0.62	4.26	3.98	26.01	5.30	5.77	92.95
3.24	1.36	0.74	4.28	4.02	26.90	5.32	5.80	94.66
3.26	1.44	0.88	4.30	4.06	27.81	5.34	5.83	96.38
3.28	1.51	1.04	4.32	4.10	28.72	5.36	5.86	98.12
3.30	1.58	1.20	4.34	4.14	29.66	5.38	5.89	99.88
3.32	1.65	1.38	4.36	4.18	30.60	5.40	5.92	101.64
3.34	1.71	1.57	4.38	4.22	31.56	5.42	5.95	103.44
3.36	1.78	1.78	4.40	4.25	32.55	5.44	5.98	105.24
3.38	1.84	2.00	4.42	4.29	33.54	5.46	6.01	107.05
3.40	1.91	2.23	4.44	4.33	34.55	5.48	6.04	108.89
3.42	1.97	2.47	4.46	4.37	35.58	5.50	6.07	110.75
3.44	2.03	2.74	4.48	4.40	36.62	5.52	6.09	112.61
3.46	2.09	3.01	4.50	4.44	37.68	5.54	6.12	114.50
3.48	2.15	3.30	4.52	4.48	38.75	5.56	6.15	116.40
3.50	2.20	3.60	4.54	4.51	39.84	5.58	6.18	118.31
3.52	2.26	3.92	4.56	4.55	40.94	5.60	6.21	120.24
3.54	2.32	4.25	4.58	4.59	42.07	5.62	6.24	122.19
3.56	2.37	4.60	4.60	4.62	43.20	5.64	6.27	124.15
3.58	2.43	4.96	4.62	4.66	44.35	5.66	6.29	126.13
3.60	2.48	5.33	4.64	4.69	45.52	5.68	6.32	128.13
3.62	2.53	5.72	4.66	4.73	46.71	5.70	6.35	130.14
3.64	2.59	6.12	4.68	4.76	47.90	5.72	6.38	132.17
3.66	2.64	6.53	4.70	4.80	49.12	5.74	6.41	134.21
3.68	2.69	6.97	4.72	4.83	50.35	5.76	6.43	136.27
3.70	2.74	7.42	4.74	4.87	51.60	5.78	6.46	138.35
3.72	2.79	7.87	4.76	4.90	52.86	5.80	6.49	140.44
3.74	2.84	8.35	4.78	4.94	54.14	5.82	6.52	142.54
3.76	2.89	8.84	4.80	4.97	55.43	5.84	6.54	144.67
3.78	2.94	9.35	4.82	5.00	56.74	5.86	6.57	146.81
3.80	2.99	9.87	4.84	5.04	58.07	5.88	6.60	148.96
3.82	3.03	10.41	4.86	5.07	59.41	5.90	6.63	151.14
3.84	3.08	10.95	4.88	5.10	60.77	5.92	6.65	153.32
3.86	3.13	11.52	4.90	5.14	62.14	5.94	6.68	155.52
3.88	3.17	12.10	4.92	5.17	63.53	5.96	6.71	157.75
3.90	3.22	12.69	4.94	5.20	64.94	5.98	6.73	159.98
3.92	3.26	13.31	4.96	5.24	66.36	6.00	6.76	162.23
3.94	3.31	13.93	4.98	5.27	67.79			
3.96	3.35	14.57	5.00	5.30	69.25			
3.98	3.40	15.23	5.02	5.33	70.72			
4.00	3.44	15.90	5.04	5.36	72.20			
4.02	3.49	16.58	5.06	5.40	73.70			

Summary for Pond 1P: Grasscrete

Inflow Area = 0.457 ac, 0.00% Impervious, Inflow Depth > 1.72" for 1 YEAR event
 Inflow = 1.06 cfs @ 12.00 hrs, Volume= 0.066 af
 Outflow = 1.00 cfs @ 12.02 hrs, Volume= 0.066 af, Atten= 6%, Lag= 1.0 min
 Discarded = 0.96 cfs @ 12.02 hrs, Volume= 0.063 af
 Secondary = 0.04 cfs @ 12.02 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 25.30' @ 12.02 hrs Surf.Area= 19,920 sf Storage= 57 cf

Plug-Flow detention time= 1.0 min calculated for 0.065 af (100% of inflow)
 Center-of-Mass det. time= 0.9 min (811.9 - 810.9)

Volume	Invert	Avail.Storage	Storage Description
#1	25.30'	11,952 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

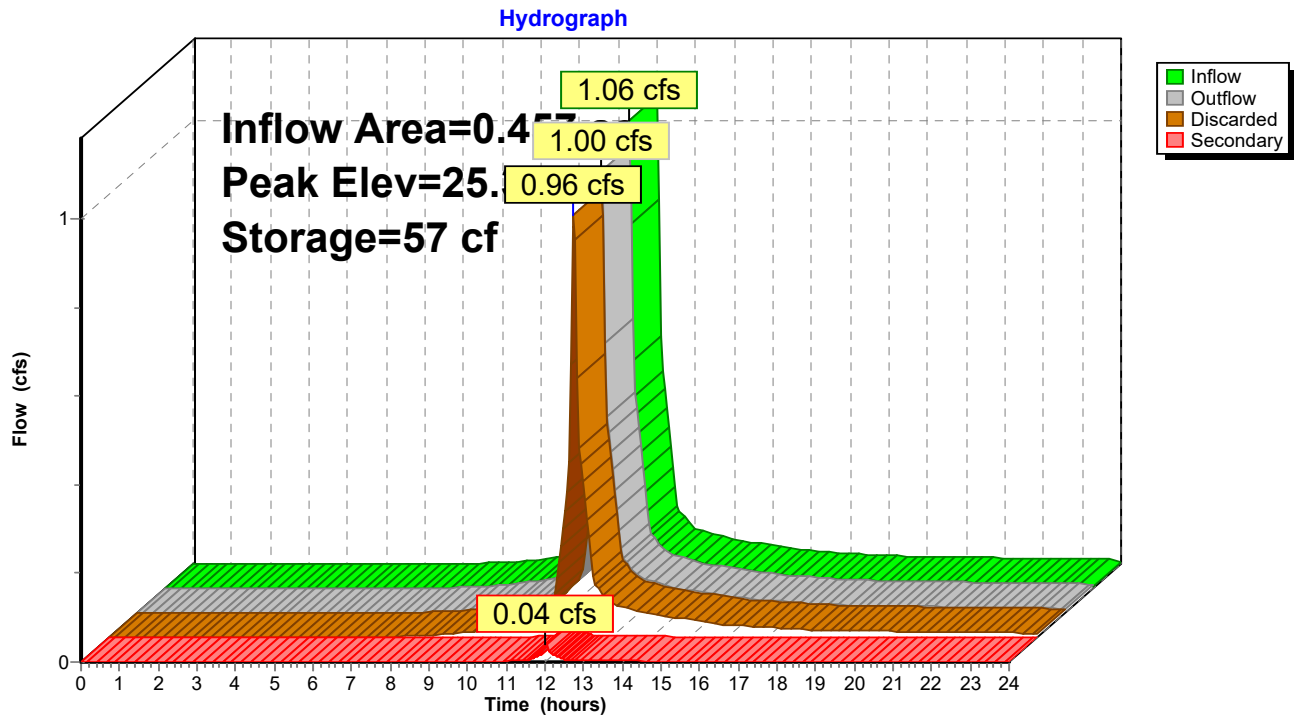
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
25.30	19,920	0	0
25.90	19,920	11,952	11,952

Device	Routing	Invert	Outlet Devices
#1	Secondary	25.30'	65.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	25.30'	2.00 cfs Exfiltration at all elevations

Discarded OutFlow Max=2.00 cfs @ 12.02 hrs HW=25.30' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 2.00 cfs)

Secondary OutFlow Max=0.03 cfs @ 12.02 hrs HW=25.30' (Free Discharge)
 ↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 0.03 cfs @ 0.15 fps)

Pond 1P: Grasscrete



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Pond 1P: Grasscrete

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Secondary (cfs)
0.00	0.00	0	25.30	0.00	0.00	0.00
0.50	0.00	0	25.30	0.00	0.00	0.00
1.00	0.00	0	25.30	0.00	0.00	0.00
1.50	0.00	0	25.30	0.00	0.00	0.00
2.00	0.00	0	25.30	0.00	0.00	0.00
2.50	0.00	0	25.30	0.00	0.00	0.00
3.00	0.00	0	25.30	0.00	0.00	0.00
3.50	0.00	0	25.30	0.00	0.00	0.00
4.00	0.00	0	25.30	0.00	0.00	0.00
4.50	0.00	0	25.30	0.00	0.00	0.00
5.00	0.00	0	25.30	0.00	0.00	0.00
5.50	0.00	0	25.30	0.00	0.00	0.00
6.00	0.00	0	25.30	0.00	0.00	0.00
6.50	0.00	0	25.30	0.00	0.00	0.00
7.00	0.00	0	25.30	0.00	0.00	0.00
7.50	0.00	0	25.30	0.00	0.00	0.00
8.00	0.00	0	25.30	0.00	0.00	0.00
8.50	0.01	0	25.30	0.01	0.01	0.00
9.00	0.01	1	25.30	0.01	0.01	0.00
9.50	0.02	1	25.30	0.02	0.01	0.00
10.00	0.02	1	25.30	0.02	0.02	0.00
10.50	0.03	2	25.30	0.03	0.03	0.00
11.00	0.04	2	25.30	0.04	0.04	0.00
11.50	0.09	5	25.30	0.08	0.08	0.00
12.00	1.06	55	25.30	0.97	0.93	0.04
12.50	0.13	8	25.30	0.14	0.14	0.01
13.00	0.08	5	25.30	0.08	0.08	0.00
13.50	0.07	4	25.30	0.07	0.06	0.00
14.00	0.05	3	25.30	0.05	0.05	0.00
14.50	0.05	3	25.30	0.05	0.05	0.00
15.00	0.04	2	25.30	0.04	0.04	0.00
15.50	0.04	2	25.30	0.04	0.03	0.00
16.00	0.03	2	25.30	0.03	0.03	0.00
16.50	0.03	2	25.30	0.03	0.03	0.00
17.00	0.02	1	25.30	0.02	0.02	0.00
17.50	0.02	1	25.30	0.02	0.02	0.00
18.00	0.02	1	25.30	0.02	0.02	0.00
18.50	0.02	1	25.30	0.02	0.02	0.00
19.00	0.02	1	25.30	0.02	0.02	0.00
19.50	0.02	1	25.30	0.02	0.02	0.00
20.00	0.01	1	25.30	0.01	0.01	0.00
20.50	0.01	1	25.30	0.01	0.01	0.00
21.00	0.01	1	25.30	0.01	0.01	0.00
21.50	0.01	1	25.30	0.01	0.01	0.00
22.00	0.01	1	25.30	0.01	0.01	0.00
22.50	0.01	1	25.30	0.01	0.01	0.00
23.00	0.01	1	25.30	0.01	0.01	0.00
23.50	0.01	1	25.30	0.01	0.01	0.00
24.00	0.00	0	25.30	0.01	0.01	0.00

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Stage-Discharge for Pond 1P: Grasscrete

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Secondary (cfs)
25.30	0.00	0.00	0.00	25.82	75.51	2.00	73.51
25.31	2.18	2.00	0.18	25.83	77.84	2.00	75.84
25.32	2.51	2.00	0.51	25.84	80.20	2.00	78.20
25.33	2.95	2.00	0.95	25.85	82.60	2.00	80.60
25.34	3.46	2.00	1.46	25.86	85.03	2.00	83.03
25.35	4.03	2.00	2.03	25.87	87.48	2.00	85.48
25.36	4.67	2.00	2.67	25.88	89.97	2.00	87.97
25.37	5.37	2.00	3.37	25.89	92.49	2.00	90.49
25.38	6.12	2.00	4.12	25.90	95.04	2.00	93.04
25.39	6.91	2.00	4.91				
25.40	7.76	2.00	5.76				
25.41	8.64	2.00	6.64				
25.42	9.57	2.00	7.57				
25.43	10.53	2.00	8.53				
25.44	11.53	2.00	9.53				
25.45	12.57	2.00	10.57				
25.46	13.65	2.00	11.65				
25.47	14.76	2.00	12.76				
25.48	15.90	2.00	13.90				
25.49	17.07	2.00	15.07				
25.50	18.28	2.00	16.28				
25.51	19.55	2.00	17.55				
25.52	20.86	2.00	18.86				
25.53	22.20	2.00	20.20				
25.54	23.58	2.00	21.58				
25.55	24.99	2.00	22.99				
25.56	26.44	2.00	24.44				
25.57	27.92	2.00	25.92				
25.58	29.43	2.00	27.43				
25.59	30.97	2.00	28.97				
25.60	32.55	2.00	30.55				
25.61	34.15	2.00	32.15				
25.62	35.79	2.00	33.79				
25.63	37.46	2.00	35.46				
25.64	39.16	2.00	37.16				
25.65	40.90	2.00	38.90				
25.66	42.66	2.00	40.66				
25.67	44.45	2.00	42.45				
25.68	46.28	2.00	44.28				
25.69	48.13	2.00	46.13				
25.70	50.02	2.00	48.02				
25.71	51.96	2.00	49.96				
25.72	53.94	2.00	51.94				
25.73	55.96	2.00	53.96				
25.74	58.00	2.00	56.00				
25.75	60.08	2.00	58.08				
25.76	62.19	2.00	60.19				
25.77	64.33	2.00	62.33				
25.78	66.50	2.00	64.50				
25.79	68.71	2.00	66.71				
25.80	70.94	2.00	68.94				
25.81	73.21	2.00	71.21				

Summary for Pond 2P: Roof Detention

Inflow Area = 1.399 ac, 100.00% Impervious, Inflow Depth > 2.57" for 1 YEAR event
 Inflow = 4.34 cfs @ 12.00 hrs, Volume= 0.300 af
 Outflow = 1.99 cfs @ 12.12 hrs, Volume= 0.297 af, Atten= 54%, Lag= 7.0 min
 Primary = 1.99 cfs @ 12.12 hrs, Volume= 0.297 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.05' @ 12.12 hrs Surf.Area= 60,902 sf Storage= 2,960 cf

Plug-Flow detention time= 37.4 min calculated for 0.297 af (99% of inflow)
 Center-of-Mass det. time= 32.5 min (786.3 - 753.7)

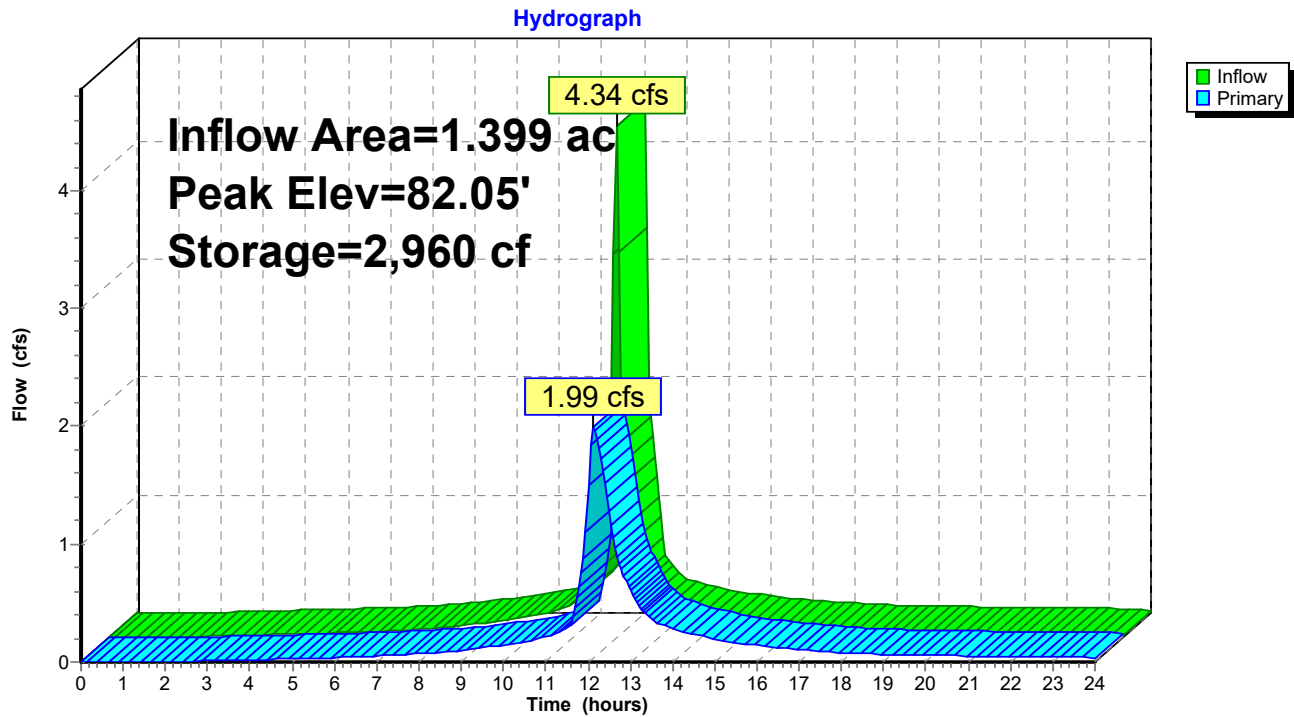
Volume	Invert	Avail.Storage	Storage Description
#1	82.00'	91,388 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
82.00	60,900	0	0
83.50	60,950	91,388	91,388

Device	Routing	Invert	Outlet Devices
#1	Primary	82.00'	66.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.96 cfs @ 12.12 hrs HW=82.05' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Weir Controls 1.96 cfs @ 0.62 fps)

Pond 2P: Roof Detention



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Pond 2P: Roof Detention

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	82.00	0.00
0.50	0.00	0	82.00	0.00
1.00	0.00	0	82.00	0.00
1.50	0.00	0	82.00	0.00
2.00	0.01	4	82.00	0.00
2.50	0.01	13	82.00	0.00
3.00	0.02	23	82.00	0.01
3.50	0.02	35	82.00	0.01
4.00	0.02	48	82.00	0.02
4.50	0.03	60	82.00	0.02
5.00	0.03	73	82.00	0.03
5.50	0.04	86	82.00	0.03
6.00	0.04	98	82.00	0.04
6.50	0.05	114	82.00	0.04
7.00	0.06	135	82.00	0.05
7.50	0.07	160	82.00	0.06
8.00	0.08	186	82.00	0.07
8.50	0.11	222	82.00	0.08
9.00	0.13	270	82.00	0.10
9.50	0.15	325	82.01	0.12
10.00	0.18	384	82.01	0.14
10.50	0.22	463	82.01	0.17
11.00	0.27	567	82.01	0.21
11.50	0.47	778	82.01	0.29
12.00	4.34	2,438	82.04	1.50
12.50	0.49	2,188	82.04	1.28
13.00	0.29	1,302	82.02	0.60
13.50	0.24	943	82.02	0.36
14.00	0.19	762	82.01	0.28
14.50	0.17	626	82.01	0.23
15.00	0.15	527	82.01	0.20
15.50	0.12	447	82.01	0.17
16.00	0.10	376	82.01	0.14
16.50	0.09	319	82.01	0.12
17.00	0.08	278	82.00	0.10
17.50	0.07	243	82.00	0.09
18.00	0.06	213	82.00	0.08
18.50	0.06	189	82.00	0.07
19.00	0.06	174	82.00	0.06
19.50	0.05	162	82.00	0.06
20.00	0.05	152	82.00	0.06
20.50	0.05	143	82.00	0.05
21.00	0.05	136	82.00	0.05
21.50	0.04	129	82.00	0.05
22.00	0.04	123	82.00	0.05
22.50	0.04	117	82.00	0.04
23.00	0.04	111	82.00	0.04
23.50	0.04	105	82.00	0.04
24.00	0.02	97	82.00	0.04

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Stage-Discharge for Pond 2P: Roof Detention

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
82.00	0.00	82.52	74.64	83.04	232.40
82.01	0.18	82.53	77.01	83.05	235.76
82.02	0.52	82.54	79.41	83.06	239.13
82.03	0.96	82.55	81.84	83.07	242.53
82.04	1.48	82.56	84.30	83.08	245.93
82.05	2.07	82.57	86.80	83.09	249.36
82.06	2.72	82.58	89.33	83.10	252.80
82.07	3.42	82.59	91.88	83.11	256.25
82.08	4.18	82.60	94.48	83.12	259.72
82.09	4.99	82.61	97.19	83.13	263.21
82.10	5.84	82.62	99.95	83.14	266.71
82.11	6.74	82.63	102.74	83.15	270.23
82.12	7.68	82.64	105.57	83.16	273.76
82.13	8.66	82.65	108.43	83.17	277.31
82.14	9.68	82.66	111.33	83.18	280.87
82.15	10.74	82.67	114.27	83.19	284.45
82.16	11.83	82.68	117.24	83.20	288.04
82.17	12.95	82.69	120.26	83.21	291.65
82.18	14.11	82.70	123.31	83.22	295.27
82.19	15.30	82.71	126.39	83.23	298.91
82.20	16.53	82.72	129.51	83.24	302.56
82.21	17.82	82.73	132.67	83.25	306.23
82.22	19.15	82.74	135.87	83.26	309.91
82.23	20.52	82.75	139.11	83.27	313.61
82.24	21.91	82.76	142.38	83.28	317.32
82.25	23.35	82.77	145.69	83.29	321.05
82.26	24.81	82.78	149.04	83.30	324.79
82.27	26.32	82.79	152.42	83.31	328.54
82.28	27.85	82.80	155.84	83.32	332.31
82.29	29.42	82.81	158.82	83.33	336.09
82.30	31.02	82.82	161.82	83.34	339.89
82.31	32.65	82.83	164.84	83.35	343.70
82.32	34.31	82.84	167.88	83.36	347.53
82.33	36.01	82.85	170.94	83.37	351.37
82.34	37.74	82.86	174.02	83.38	355.22
82.35	39.50	82.87	177.12	83.39	359.09
82.36	41.29	82.88	180.23	83.40	362.97
82.37	43.11	82.89	183.37	83.41	366.87
82.38	44.96	82.90	186.52	83.42	370.78
82.39	46.84	82.91	189.70	83.43	374.70
82.40	48.75	82.92	192.89	83.44	378.64
82.41	50.73	82.93	196.11	83.45	382.59
82.42	52.74	82.94	199.34	83.46	386.56
82.43	54.79	82.95	202.59	83.47	390.53
82.44	56.86	82.96	205.86	83.48	394.53
82.45	58.97	82.97	209.14	83.49	398.53
82.46	61.11	82.98	212.45	83.50	402.55
82.47	63.29	82.99	215.78		
82.48	65.49	83.00	219.12		
82.49	67.73	83.01	222.42		
82.50	70.00	83.02	225.73		
82.51	72.31	83.03	229.05		

Summary for Pond EX-P: Existing Pond

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth > 2.06" for 1 YEAR event
 Inflow = 5.16 cfs @ 12.11 hrs, Volume= 0.403 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 87.39' @ 24.00 hrs Surf.Area= 3,840 sf Storage= 17,544 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

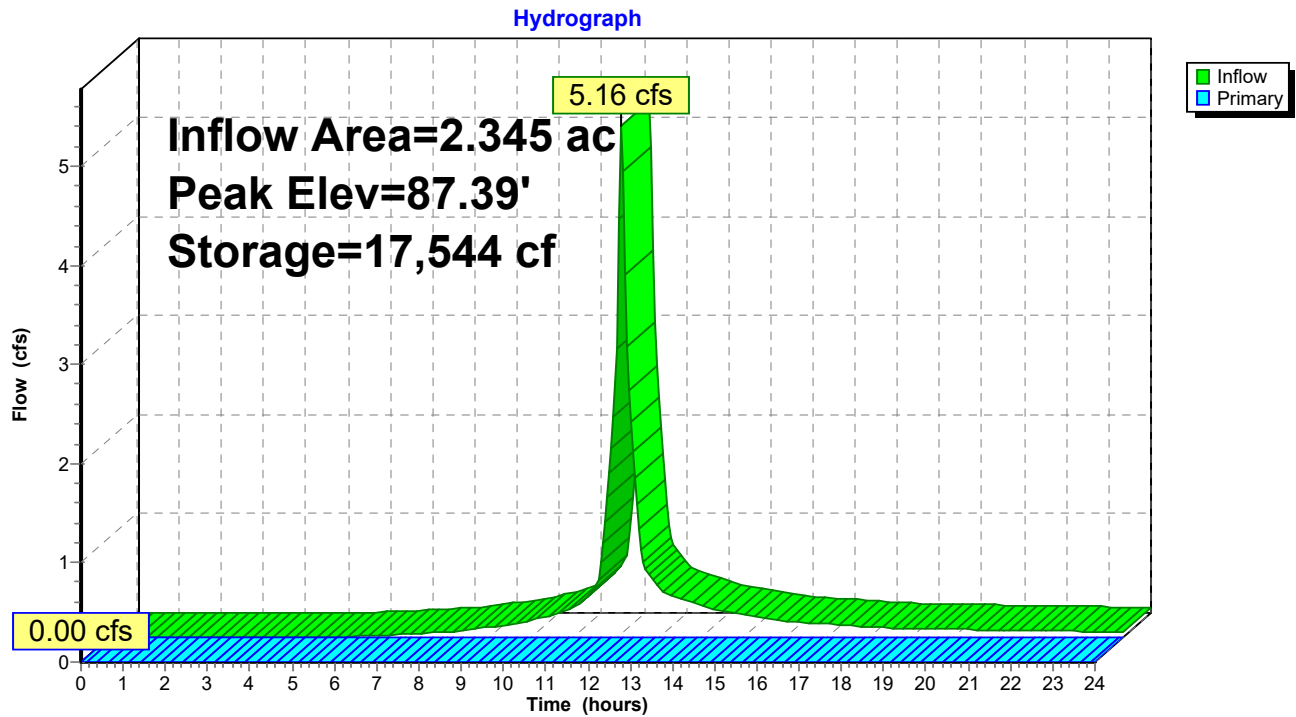
Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	193,943 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	635	0	0
95.00	14,042	73,385	73,385
100.00	34,181	120,558	193,943

Device	Routing	Invert	Outlet Devices
#1	Primary	95.00'	65.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=85.00' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond EX-P: Existing Pond



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Hydrograph for Pond EX-P: Existing Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	85.00	0.00
0.50	0.00	0	85.00	0.00
1.00	0.00	0	85.00	0.00
1.50	0.00	0	85.00	0.00
2.00	0.00	0	85.00	0.00
2.50	0.00	0	85.00	0.00
3.00	0.00	0	85.00	0.00
3.50	0.00	0	85.00	0.00
4.00	0.00	0	85.00	0.00
4.50	0.00	0	85.00	0.00
5.00	0.00	0	85.00	0.00
5.50	0.01	6	85.00	0.00
6.00	0.01	22	85.00	0.00
6.50	0.02	50	85.01	0.00
7.00	0.03	93	85.01	0.00
7.50	0.04	155	85.02	0.00
8.00	0.05	239	85.03	0.00
8.50	0.08	354	85.05	0.00
9.00	0.10	514	85.07	0.00
9.50	0.14	728	85.10	0.00
10.00	0.17	1,004	85.14	0.00
10.50	0.23	1,362	85.19	0.00
11.00	0.30	1,841	85.25	0.00
11.50	0.51	2,544	85.35	0.00
12.00	2.91	4,873	85.66	0.00
12.50	1.35	10,444	86.42	0.00
13.00	0.51	11,765	86.60	0.00
13.50	0.39	12,548	86.71	0.00
14.00	0.32	13,188	86.80	0.00
14.50	0.28	13,718	86.87	0.00
15.00	0.24	14,184	86.93	0.00
15.50	0.21	14,586	86.99	0.00
16.00	0.17	14,924	87.03	0.00
16.50	0.15	15,210	87.07	0.00
17.00	0.13	15,466	87.11	0.00
17.50	0.12	15,695	87.14	0.00
18.00	0.10	15,896	87.17	0.00
18.50	0.10	16,074	87.19	0.00
19.00	0.09	16,244	87.21	0.00
19.50	0.09	16,405	87.24	0.00
20.00	0.08	16,558	87.26	0.00
20.50	0.08	16,704	87.28	0.00
21.00	0.08	16,843	87.30	0.00
21.50	0.07	16,975	87.31	0.00
22.00	0.07	17,101	87.33	0.00
22.50	0.06	17,221	87.35	0.00
23.00	0.06	17,335	87.36	0.00
23.50	0.06	17,443	87.38	0.00
24.00	0.05	17,544	87.39	0.00

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 28 Type III 24-hr 1 YEAR Rainfall=2.80"

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Stage-Discharge for Pond EX-P: Existing Pond

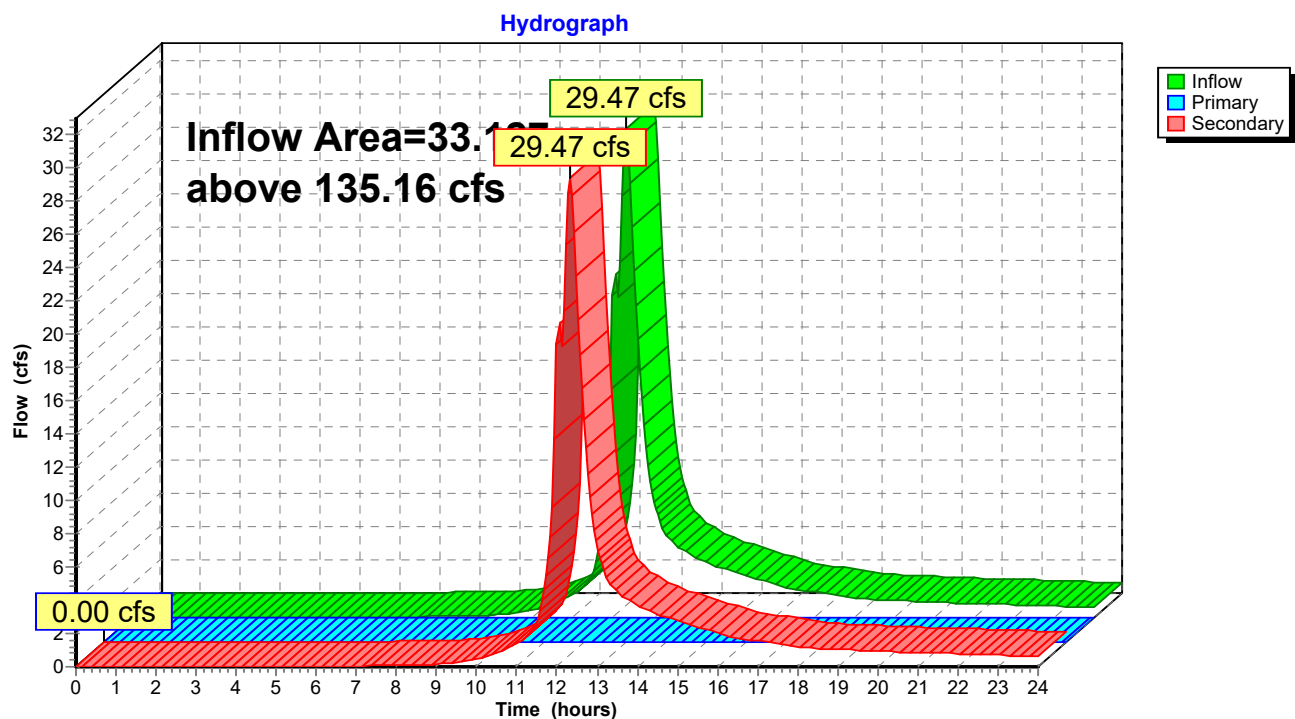
Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
85.00	0.00	92.80	0.00
85.15	0.00	92.95	0.00
85.30	0.00	93.10	0.00
85.45	0.00	93.25	0.00
85.60	0.00	93.40	0.00
85.75	0.00	93.55	0.00
85.90	0.00	93.70	0.00
86.05	0.00	93.85	0.00
86.20	0.00	94.00	0.00
86.35	0.00	94.15	0.00
86.50	0.00	94.30	0.00
86.65	0.00	94.45	0.00
86.80	0.00	94.60	0.00
86.95	0.00	94.75	0.00
87.10	0.00	94.90	0.00
87.25	0.00	95.05	1.70
87.40	0.00	95.20	13.60
87.55	0.00	95.35	33.11
87.70	0.00	95.50	59.75
87.85	0.00	95.65	91.80
88.00	0.00	95.80	124.65
88.15	0.00	95.95	161.30
88.30	0.00	96.10	200.22
88.45	0.00	96.25	241.41
88.60	0.00	96.40	285.33
88.75	0.00	96.55	332.40
88.90	0.00	96.70	381.80
89.05	0.00	96.85	433.43
89.20	0.00	97.00	487.20
89.35	0.00	97.15	544.25
89.50	0.00	97.30	603.55
89.65	0.00	97.45	665.04
89.80	0.00	97.60	727.04
89.95	0.00	97.75	789.97
90.10	0.00	97.90	854.51
90.25	0.00	98.05	921.66
90.40	0.00	98.20	992.71
90.55	0.00	98.35	1,065.72
90.70	0.00	98.50	1,140.64
90.85	0.00	98.65	1,217.47
91.00	0.00	98.80	1,296.18
91.15	0.00	98.95	1,376.74
91.30	0.00	99.10	1,461.29
91.45	0.00	99.25	1,549.05
91.60	0.00	99.40	1,638.98
91.75	0.00	99.55	1,731.70
91.90	0.00	99.70	1,827.97
92.05	0.00	99.85	1,926.59
92.20	0.00	100.00	2,027.55
92.35	0.00		
92.50	0.00		
92.65	0.00		

Summary for Link DP-5: Drainage Point - 5

Inflow Area = 33.127 ac, 27.67% Impervious, Inflow Depth > 1.28" for 1 YEAR event
 Inflow = 29.47 cfs @ 12.30 hrs, Volume= 3.536 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Secondary = 29.47 cfs @ 12.30 hrs, Volume= 3.536 af

Primary outflow = Inflow above 135.16 cfs, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-5: Drainage Point - 5



Hydrograph for Link DP-5: Drainage Point - 5

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0.00	0.00	0.00
0.50	0.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	0.00
1.50	0.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	0.00
3.00	0.01	0.00	0.00	0.01
3.50	0.01	0.00	0.00	0.01
4.00	0.02	0.00	0.00	0.02
4.50	0.02	0.00	0.00	0.02
5.00	0.03	0.00	0.00	0.03
5.50	0.03	0.00	0.00	0.03
6.00	0.04	0.00	0.00	0.04
6.50	0.04	0.00	0.00	0.04
7.00	0.05	0.00	0.00	0.05
7.50	0.06	0.00	0.00	0.06
8.00	0.07	0.00	0.00	0.07
8.50	0.10	0.00	0.00	0.10
9.00	0.16	0.00	0.00	0.16
9.50	0.23	0.00	0.00	0.23
10.00	0.43	0.00	0.00	0.43
10.50	0.82	0.00	0.00	0.82
11.00	1.35	0.00	0.00	1.35
11.50	2.51	0.00	0.00	2.51
12.00	19.45	0.00	0.00	19.45
12.50	20.91	0.00	0.00	20.91
13.00	6.99	0.00	0.00	6.99
13.50	4.50	0.00	0.00	4.50
14.00	3.70	0.00	0.00	3.70
14.50	3.13	0.00	0.00	3.13
15.00	2.75	0.00	0.00	2.75
15.50	2.39	0.00	0.00	2.39
16.00	2.02	0.00	0.00	2.02
16.50	1.73	0.00	0.00	1.73
17.00	1.55	0.00	0.00	1.55
17.50	1.39	0.00	0.00	1.39
18.00	1.22	0.00	0.00	1.22
18.50	1.10	0.00	0.00	1.10
19.00	1.04	0.00	0.00	1.04
19.50	0.99	0.00	0.00	0.99
20.00	0.94	0.00	0.00	0.94
20.50	0.89	0.00	0.00	0.89
21.00	0.85	0.00	0.00	0.85
21.50	0.82	0.00	0.00	0.82
22.00	0.78	0.00	0.00	0.78
22.50	0.74	0.00	0.00	0.74
23.00	0.70	0.00	0.00	0.70
23.50	0.67	0.00	0.00	0.67
24.00	0.60	0.00	0.00	0.60

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Drainage Area - 1	Runoff Area=265,008 sf 23.14% Impervious Runoff Depth>3.47" Tc=0.0 min CN=86 Runoff=27.98 cfs 1.758 af
Subcatchment 1B: Drainage Area - 1B	Runoff Area=60,950 sf 100.00% Impervious Runoff Depth>4.76" Tc=0.0 min CN=98 Runoff=7.83 cfs 0.555 af
Subcatchment 1C: Drainage Area - 1C	Runoff Area=19,921 sf 0.00% Impervious Runoff Depth>3.77" Tc=0.0 min CN=89 Runoff=2.25 cfs 0.144 af
Subcatchment 2: Drainage Area - 2	Runoff Area=1,014,900 sf 19.98% Impervious Runoff Depth>3.16" Flow Length=1,341' Tc=18.3 min CN=83 Runoff=60.28 cfs 6.143 af
Subcatchment 3: Drainage Area - 3	Runoff Area=102,167 sf 72.65% Impervious Runoff Depth>4.19" Flow Length=310' Tc=7.7 min CN=93 Runoff=10.12 cfs 0.820 af
Reach 1R: Swale (Reach)	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af n=0.030 L=228.0' S=0.1842 '/' Capacity=2,551.26 cfs Outflow=0.00 cfs 0.000 af
Reach 2R: Stream	Avg. Flow Depth=1.35' Max Vel=7.64 fps Inflow=60.28 cfs 6.143 af n=0.040 L=550.0' S=0.0527 '/' Capacity=592.33 cfs Outflow=60.17 cfs 6.138 af
Reach 3R: Channel	Avg. Flow Depth=1.14' Max Vel=6.55 fps Inflow=60.17 cfs 6.138 af n=0.040 L=575.0' S=0.0365 '/' Capacity=360.64 cfs Outflow=59.77 cfs 6.129 af
Reach 4R: Stream	Avg. Flow Depth=2.03' Max Vel=5.34 fps Inflow=71.79 cfs 8.444 af n=0.040 L=190.0' S=0.0158 '/' Capacity=162.23 cfs Outflow=71.61 cfs 8.440 af
Pond 1P: Grasscrete	Peak Elev=25.31' Storage=122 cf Inflow=2.25 cfs 0.144 af Discarded=2.04 cfs 0.138 af Secondary=0.09 cfs 0.006 af Outflow=2.12 cfs 0.144 af
Pond 2P: Roof Detention	Peak Elev=82.08' Storage=4,763 cf Inflow=7.83 cfs 0.555 af Outflow=4.05 cfs 0.551 af
Pond EX-P: Existing Pond	Peak Elev=89.86' Storage=35,698 cf Inflow=10.12 cfs 0.820 af Outflow=0.00 cfs 0.000 af
Link DP-5: Drainage Point - 5	above 135.16 cfs Inflow=71.61 cfs 8.440 af Primary=0.00 cfs 0.000 af Secondary=71.61 cfs 8.440 af

Total Runoff Area = 33.585 ac Runoff Volume = 9.420 af Average Runoff Depth = 3.37"
72.71% Pervious = 24.419 ac 27.29% Impervious = 9.166 ac

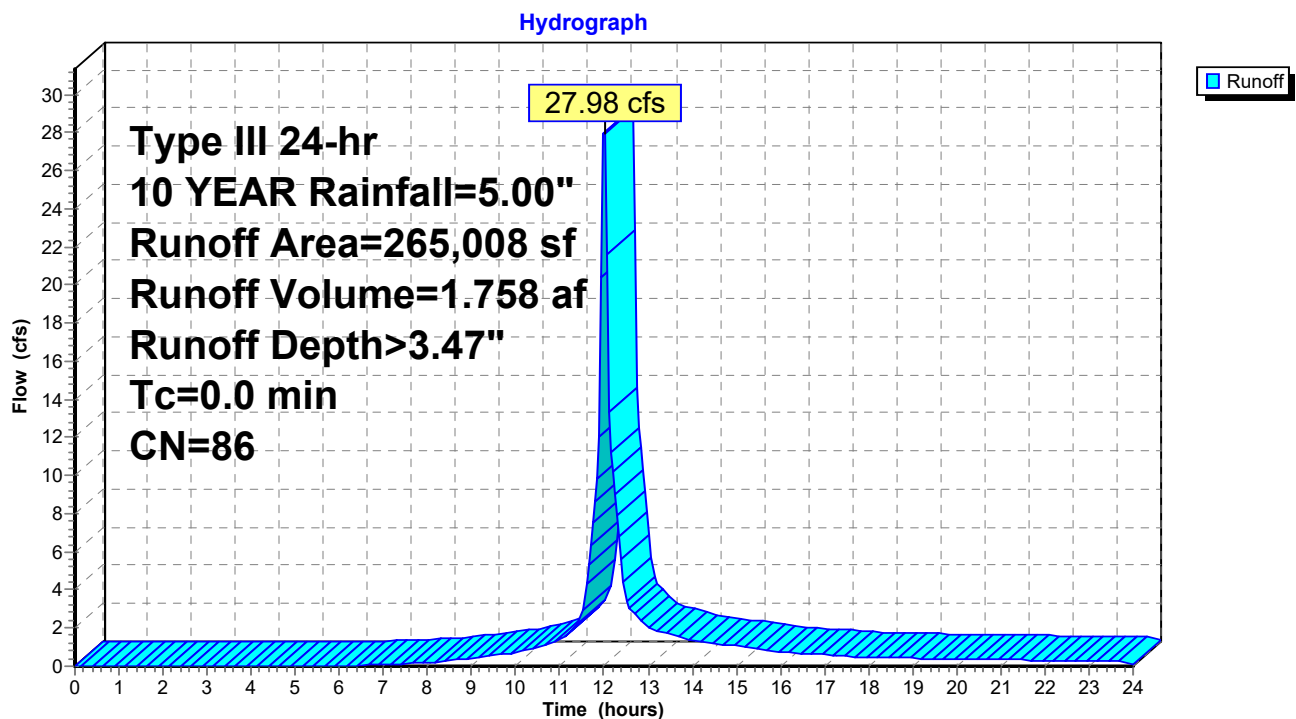
Summary for Subcatchment 1A: Drainage Area - 1

Runoff = 27.98 cfs @ 12.00 hrs, Volume= 1.758 af, Depth> 3.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=5.00"

	Area (sf)	CN	Description
*	61,315	98	Paved road, parking & roofs
	2,030	79	50-75% Grass cover, Fair, HSG C
	201,663	82	Woods/grass comb., Fair, HSG D
	265,008	86	Weighted Average
	203,693		76.86% Pervious Area
	61,315		23.14% Impervious Area

Subcatchment 1A: Drainage Area - 1



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Subcatchment 1A: Drainage Area - 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	2.32	2.02
0.25	0.01	0.00	0.00	13.25	3.84	2.40	1.85
0.50	0.03	0.00	0.00	13.50	3.92	2.47	1.69
0.75	0.04	0.00	0.00	13.75	3.99	2.54	1.53
1.00	0.05	0.00	0.00	14.00	4.06	2.60	1.37
1.25	0.06	0.00	0.00	14.25	4.11	2.65	1.29
1.50	0.08	0.00	0.00	14.50	4.17	2.70	1.21
1.75	0.09	0.00	0.00	14.75	4.22	2.75	1.13
2.00	0.10	0.00	0.00	15.00	4.27	2.79	1.05
2.25	0.11	0.00	0.00	15.25	4.32	2.83	0.97
2.50	0.13	0.00	0.00	15.50	4.36	2.87	0.89
2.75	0.14	0.00	0.00	15.75	4.40	2.91	0.81
3.00	0.15	0.00	0.00	16.00	4.43	2.94	0.73
3.25	0.17	0.00	0.00	16.25	4.46	2.97	0.70
3.50	0.18	0.00	0.00	16.50	4.49	3.00	0.66
3.75	0.20	0.00	0.00	16.75	4.52	3.02	0.63
4.00	0.22	0.00	0.00	17.00	4.55	3.05	0.59
4.25	0.23	0.00	0.00	17.25	4.57	3.07	0.56
4.50	0.25	0.00	0.00	17.50	4.60	3.09	0.52
4.75	0.27	0.00	0.00	17.75	4.62	3.11	0.49
5.00	0.28	0.00	0.00	18.00	4.64	3.13	0.45
5.25	0.30	0.00	0.00	18.25	4.66	3.15	0.44
5.50	0.32	0.00	0.00	18.50	4.68	3.17	0.43
5.75	0.34	0.00	0.01	18.75	4.70	3.19	0.42
6.00	0.36	0.00	0.02	19.00	4.72	3.20	0.41
6.25	0.38	0.00	0.03	19.25	4.73	3.22	0.40
6.50	0.40	0.00	0.05	19.50	4.75	3.24	0.39
6.75	0.43	0.01	0.07	19.75	4.77	3.25	0.38
7.00	0.45	0.01	0.09	20.00	4.79	3.27	0.37
7.25	0.48	0.01	0.11	20.25	4.80	3.28	0.36
7.50	0.51	0.02	0.14	20.50	4.82	3.30	0.35
7.75	0.54	0.02	0.17	20.75	4.83	3.31	0.35
8.00	0.57	0.03	0.19	21.00	4.85	3.32	0.34
8.25	0.60	0.04	0.24	21.25	4.86	3.34	0.33
8.50	0.64	0.05	0.29	21.50	4.88	3.35	0.32
8.75	0.68	0.06	0.35	21.75	4.89	3.36	0.31
9.00	0.73	0.08	0.41	22.00	4.90	3.38	0.31
9.25	0.78	0.10	0.48	22.25	4.92	3.39	0.30
9.50	0.83	0.12	0.55	22.50	4.93	3.40	0.29
9.75	0.89	0.14	0.63	22.75	4.94	3.41	0.28
10.00	0.95	0.17	0.72	23.00	4.95	3.42	0.28
10.25	1.01	0.20	0.85	23.25	4.97	3.44	0.27
10.50	1.08	0.24	1.00	23.50	4.98	3.45	0.26
10.75	1.16	0.28	1.16	23.75	4.99	3.46	0.25
11.00	1.25	0.33	1.34	24.00	5.00	3.47	0.12
11.25	1.36	0.40	1.84				
11.50	1.49	0.49	2.51				
11.75	1.78	0.68	7.49				
12.00	2.50	1.24	27.97				
12.25	3.22	1.86	9.05				
12.50	3.51	2.11	3.37				
12.75	3.64	2.23	2.63				

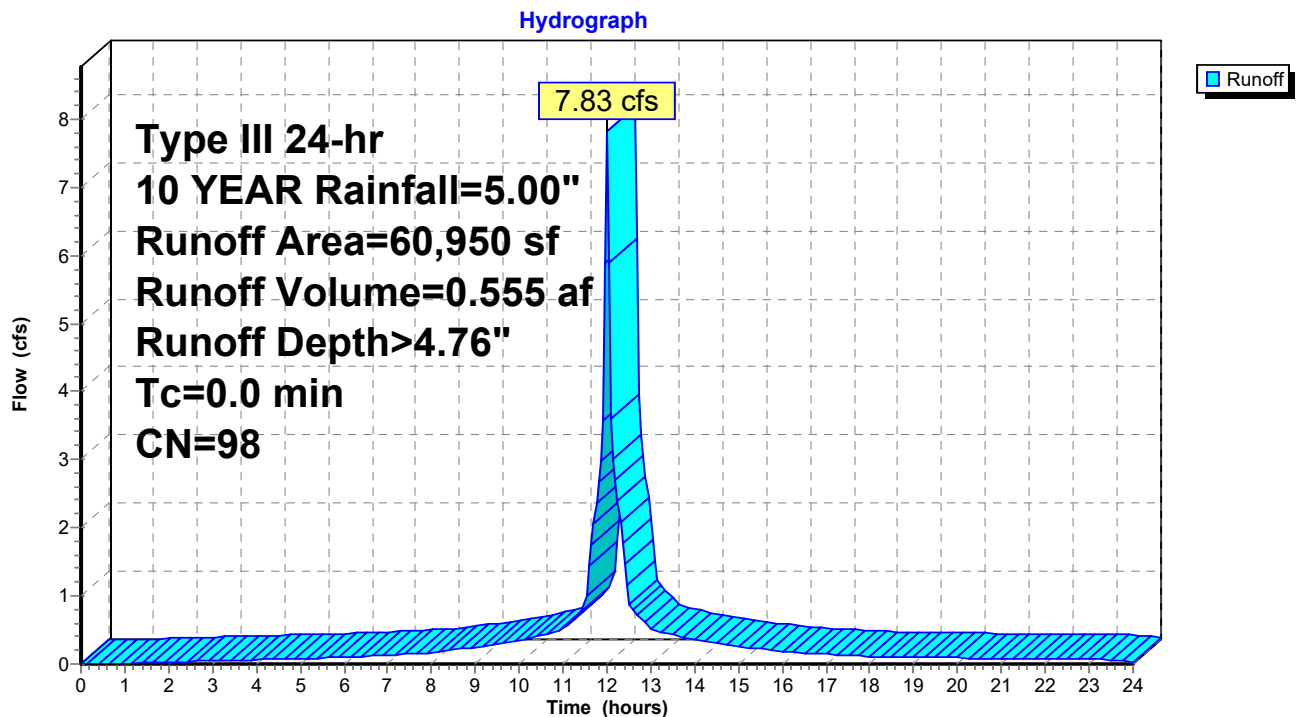
Summary for Subcatchment 1B: Drainage Area - 1B

Runoff = 7.83 cfs @ 12.00 hrs, Volume= 0.555 af, Depth> 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=5.00"

	Area (sf)	CN	Description
*	60,950	98	Building Roof
	60,950		100.00% Impervious Area

Subcatchment 1B: Drainage Area - 1B



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Subcatchment 1B: Drainage Area - 1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	3.52	0.52
0.25	0.01	0.00	0.00	13.25	3.84	3.60	0.47
0.50	0.03	0.00	0.00	13.50	3.92	3.68	0.43
0.75	0.04	0.00	0.00	13.75	3.99	3.76	0.39
1.00	0.05	0.00	0.01	14.00	4.06	3.82	0.35
1.25	0.06	0.00	0.01	14.25	4.11	3.88	0.32
1.50	0.08	0.00	0.02	14.50	4.17	3.94	0.30
1.75	0.09	0.01	0.02	14.75	4.22	3.99	0.28
2.00	0.10	0.01	0.03	15.00	4.27	4.04	0.26
2.25	0.11	0.02	0.03	15.25	4.32	4.08	0.24
2.50	0.13	0.03	0.04	15.50	4.36	4.12	0.22
2.75	0.14	0.03	0.04	15.75	4.40	4.16	0.20
3.00	0.15	0.04	0.05	16.00	4.43	4.19	0.18
3.25	0.17	0.05	0.05	16.25	4.46	4.23	0.17
3.50	0.18	0.06	0.06	16.50	4.49	4.26	0.17
3.75	0.20	0.07	0.06	16.75	4.52	4.28	0.16
4.00	0.22	0.08	0.07	17.00	4.55	4.31	0.15
4.25	0.23	0.09	0.07	17.25	4.57	4.34	0.14
4.50	0.25	0.10	0.07	17.50	4.60	4.36	0.13
4.75	0.27	0.12	0.08	17.75	4.62	4.38	0.12
5.00	0.28	0.13	0.08	18.00	4.64	4.40	0.11
5.25	0.30	0.15	0.08	18.25	4.66	4.42	0.11
5.50	0.32	0.16	0.09	18.50	4.68	4.44	0.11
5.75	0.34	0.18	0.09	18.75	4.70	4.46	0.10
6.00	0.36	0.19	0.10	19.00	4.72	4.48	0.10
6.25	0.38	0.21	0.10	19.25	4.73	4.50	0.10
6.50	0.40	0.23	0.11	19.50	4.75	4.52	0.10
6.75	0.43	0.25	0.12	19.75	4.77	4.53	0.09
7.00	0.45	0.28	0.13	20.00	4.79	4.55	0.09
7.25	0.48	0.30	0.14	20.25	4.80	4.56	0.09
7.50	0.51	0.33	0.15	20.50	4.82	4.58	0.09
7.75	0.54	0.35	0.16	20.75	4.83	4.60	0.09
8.00	0.57	0.38	0.17	21.00	4.85	4.61	0.08
8.25	0.60	0.41	0.19	21.25	4.86	4.63	0.08
8.50	0.64	0.45	0.21	21.50	4.88	4.64	0.08
8.75	0.68	0.49	0.23	21.75	4.89	4.65	0.08
9.00	0.73	0.53	0.25	22.00	4.90	4.67	0.08
9.25	0.78	0.58	0.27	22.25	4.92	4.68	0.07
9.50	0.83	0.63	0.29	22.50	4.93	4.69	0.07
9.75	0.89	0.68	0.31	22.75	4.94	4.71	0.07
10.00	0.95	0.74	0.33	23.00	4.95	4.72	0.07
10.25	1.01	0.80	0.38	23.25	4.97	4.73	0.07
10.50	1.08	0.87	0.42	23.50	4.98	4.74	0.06
10.75	1.16	0.95	0.46	23.75	4.99	4.75	0.06
11.00	1.25	1.03	0.51	24.00	5.00	4.76	0.03
11.25	1.36	1.14	0.66				
11.50	1.49	1.27	0.86				
11.75	1.78	1.55	2.36				
12.00	2.50	2.27	7.83				
12.25	3.22	2.99	2.38				
12.50	3.51	3.28	0.87				
12.75	3.64	3.41	0.68				

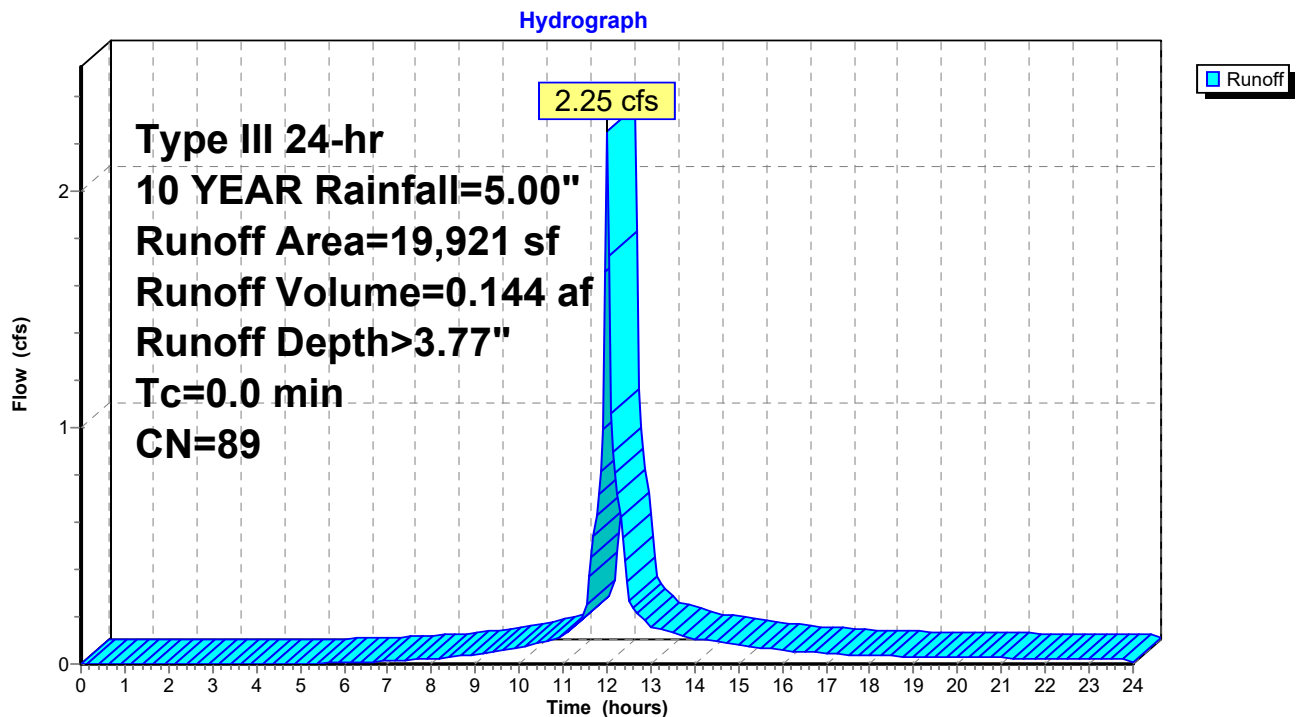
Summary for Subcatchment 1C: Drainage Area - 1C

Runoff = 2.25 cfs @ 12.00 hrs, Volume= 0.144 af, Depth> 3.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=5.00"

	Area (sf)	CN	Description
*	19,921	89	Dirt driveway, HSG D
	19,921		100.00% Pervious Area

Subcatchment 1C: Drainage Area - 1C



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Subcatchment 1C: Drainage Area - 1C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	2.59	0.16
0.25	0.01	0.00	0.00	13.25	3.84	2.67	0.14
0.50	0.03	0.00	0.00	13.50	3.92	2.75	0.13
0.75	0.04	0.00	0.00	13.75	3.99	2.81	0.12
1.00	0.05	0.00	0.00	14.00	4.06	2.87	0.11
1.25	0.06	0.00	0.00	14.25	4.11	2.93	0.10
1.50	0.08	0.00	0.00	14.50	4.17	2.98	0.09
1.75	0.09	0.00	0.00	14.75	4.22	3.03	0.09
2.00	0.10	0.00	0.00	15.00	4.27	3.08	0.08
2.25	0.11	0.00	0.00	15.25	4.32	3.12	0.08
2.50	0.13	0.00	0.00	15.50	4.36	3.16	0.07
2.75	0.14	0.00	0.00	15.75	4.40	3.20	0.06
3.00	0.15	0.00	0.00	16.00	4.43	3.23	0.06
3.25	0.17	0.00	0.00	16.25	4.46	3.26	0.05
3.50	0.18	0.00	0.00	16.50	4.49	3.29	0.05
3.75	0.20	0.00	0.00	16.75	4.52	3.31	0.05
4.00	0.22	0.00	0.00	17.00	4.55	3.34	0.05
4.25	0.23	0.00	0.00	17.25	4.57	3.36	0.04
4.50	0.25	0.00	0.00	17.50	4.60	3.39	0.04
4.75	0.27	0.00	0.00	17.75	4.62	3.41	0.04
5.00	0.28	0.00	0.00	18.00	4.64	3.43	0.04
5.25	0.30	0.00	0.00	18.25	4.66	3.45	0.03
5.50	0.32	0.00	0.00	18.50	4.68	3.47	0.03
5.75	0.34	0.01	0.00	18.75	4.70	3.48	0.03
6.00	0.36	0.01	0.01	19.00	4.72	3.50	0.03
6.25	0.38	0.01	0.01	19.25	4.73	3.52	0.03
6.50	0.40	0.02	0.01	19.50	4.75	3.53	0.03
6.75	0.43	0.02	0.01	19.75	4.77	3.55	0.03
7.00	0.45	0.03	0.01	20.00	4.79	3.57	0.03
7.25	0.48	0.04	0.01	20.25	4.80	3.58	0.03
7.50	0.51	0.05	0.02	20.50	4.82	3.60	0.03
7.75	0.54	0.06	0.02	20.75	4.83	3.61	0.03
8.00	0.57	0.07	0.02	21.00	4.85	3.63	0.03
8.25	0.60	0.08	0.03	21.25	4.86	3.64	0.03
8.50	0.64	0.10	0.03	21.50	4.88	3.65	0.02
8.75	0.68	0.11	0.04	21.75	4.89	3.67	0.02
9.00	0.73	0.14	0.04	22.00	4.90	3.68	0.02
9.25	0.78	0.16	0.05	22.25	4.92	3.69	0.02
9.50	0.83	0.19	0.05	22.50	4.93	3.70	0.02
9.75	0.89	0.22	0.06	22.75	4.94	3.72	0.02
10.00	0.95	0.25	0.07	23.00	4.95	3.73	0.02
10.25	1.01	0.29	0.08	23.25	4.97	3.74	0.02
10.50	1.08	0.34	0.09	23.50	4.98	3.75	0.02
10.75	1.16	0.39	0.10	23.75	4.99	3.76	0.02
11.00	1.25	0.45	0.12	24.00	5.00	3.77	0.01
11.25	1.36	0.52	0.16				
11.50	1.49	0.62	0.21				
11.75	1.78	0.85	0.63				
12.00	2.50	1.45	2.25				
12.25	3.22	2.10	0.71				
12.50	3.51	2.37	0.26				
12.75	3.64	2.49	0.21				

Summary for Subcatchment 2: Drainage Area -2

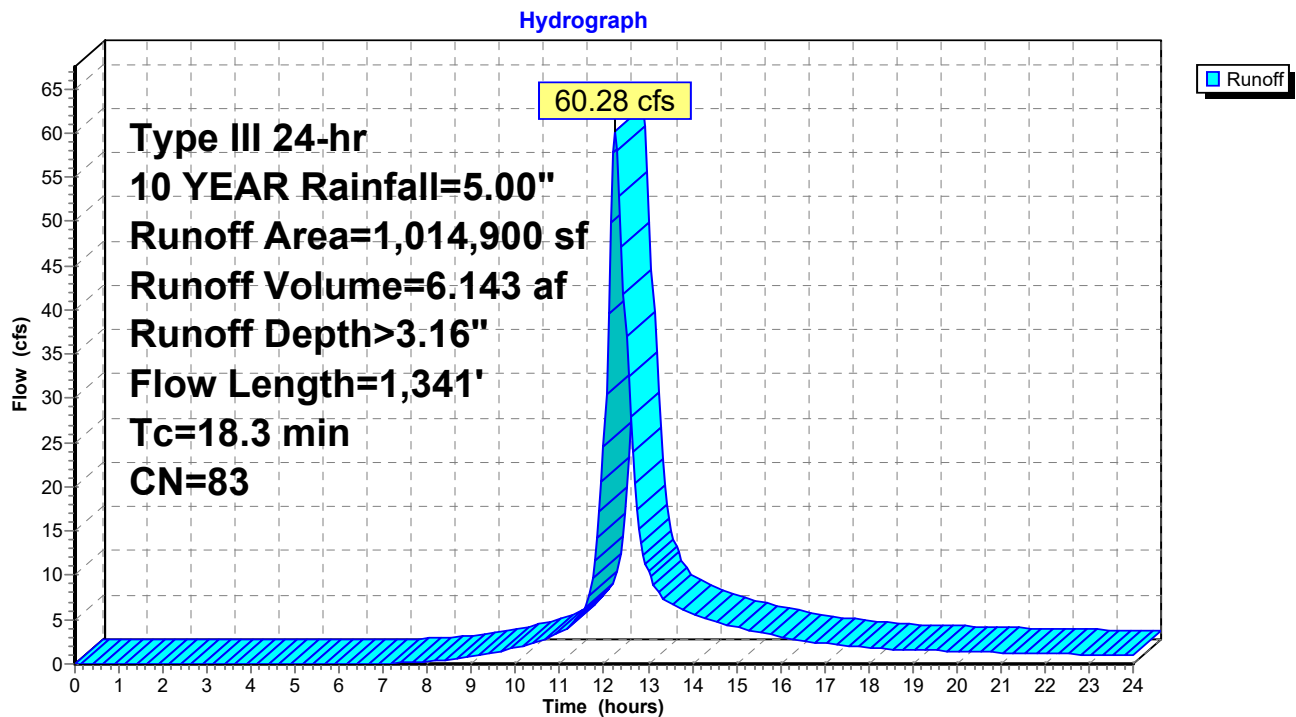
Runoff = 60.28 cfs @ 12.25 hrs, Volume= 6.143 af, Depth> 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=5.00"

Area (sf)	CN	Description
* 195,831	98	Paved parking & roofs
* 6,925	98	Water Course
812,144	79	Woods, Fair, HSG D
1,014,900	83	Weighted Average
812,144		80.02% Pervious Area
202,756		19.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	1,241	0.0970	5.01		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
18.3	1,341	Total			

Subcatchment 2: Drainage Area -2



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Subcatchment 2: Drainage Area -2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	2.07	10.54
0.25	0.01	0.00	0.00	13.25	3.84	2.15	7.92
0.50	0.03	0.00	0.00	13.50	3.92	2.21	6.90
0.75	0.04	0.00	0.00	13.75	3.99	2.28	6.27
1.00	0.05	0.00	0.00	14.00	4.06	2.33	5.68
1.25	0.06	0.00	0.00	14.25	4.11	2.39	5.13
1.50	0.08	0.00	0.00	14.50	4.17	2.43	4.78
1.75	0.09	0.00	0.00	14.75	4.22	2.48	4.49
2.00	0.10	0.00	0.00	15.00	4.27	2.52	4.20
2.25	0.11	0.00	0.00	15.25	4.32	2.56	3.91
2.50	0.13	0.00	0.00	15.50	4.36	2.60	3.62
2.75	0.14	0.00	0.00	15.75	4.40	2.63	3.33
3.00	0.15	0.00	0.00	16.00	4.43	2.66	3.04
3.25	0.17	0.00	0.00	16.25	4.46	2.69	2.77
3.50	0.18	0.00	0.00	16.50	4.49	2.72	2.60
3.75	0.20	0.00	0.00	16.75	4.52	2.74	2.47
4.00	0.22	0.00	0.00	17.00	4.55	2.77	2.34
4.25	0.23	0.00	0.00	17.25	4.57	2.79	2.21
4.50	0.25	0.00	0.00	17.50	4.60	2.81	2.08
4.75	0.27	0.00	0.00	17.75	4.62	2.83	1.96
5.00	0.28	0.00	0.00	18.00	4.64	2.85	1.83
5.25	0.30	0.00	0.00	18.25	4.66	2.87	1.71
5.50	0.32	0.00	0.00	18.50	4.68	2.89	1.65
5.75	0.34	0.00	0.00	18.75	4.70	2.90	1.61
6.00	0.36	0.00	0.00	19.00	4.72	2.92	1.57
6.25	0.38	0.00	0.00	19.25	4.73	2.93	1.53
6.50	0.40	0.00	0.00	19.50	4.75	2.95	1.49
6.75	0.43	0.00	0.00	19.75	4.77	2.97	1.45
7.00	0.45	0.00	0.04	20.00	4.79	2.98	1.42
7.25	0.48	0.00	0.09	20.25	4.80	2.99	1.38
7.50	0.51	0.00	0.16	20.50	4.82	3.01	1.35
7.75	0.54	0.01	0.24	20.75	4.83	3.02	1.32
8.00	0.57	0.01	0.32	21.00	4.85	3.04	1.29
8.25	0.60	0.02	0.42	21.25	4.86	3.05	1.26
8.50	0.64	0.02	0.55	21.50	4.88	3.06	1.23
8.75	0.68	0.03	0.70	21.75	4.89	3.07	1.20
9.00	0.73	0.04	0.88	22.00	4.90	3.09	1.17
9.25	0.78	0.06	1.08	22.25	4.92	3.10	1.14
9.50	0.83	0.07	1.31	22.50	4.93	3.11	1.11
9.75	0.89	0.09	1.55	22.75	4.94	3.12	1.08
10.00	0.95	0.11	1.82	23.00	4.95	3.13	1.05
10.25	1.01	0.14	2.12	23.25	4.97	3.14	1.03
10.50	1.08	0.17	2.55	23.50	4.98	3.15	1.00
10.75	1.16	0.20	3.04	23.75	4.99	3.16	0.97
11.00	1.25	0.24	3.59	24.00	5.00	3.17	0.94
11.25	1.36	0.30	4.33				
11.50	1.49	0.37	5.83				
11.75	1.78	0.55	9.66				
12.00	2.50	1.06	24.57				
12.25	3.22	1.63	60.28				
12.50	3.51	1.87	37.00				
12.75	3.64	1.98	17.41				

Summary for Subcatchment 3: Drainage Area - 3

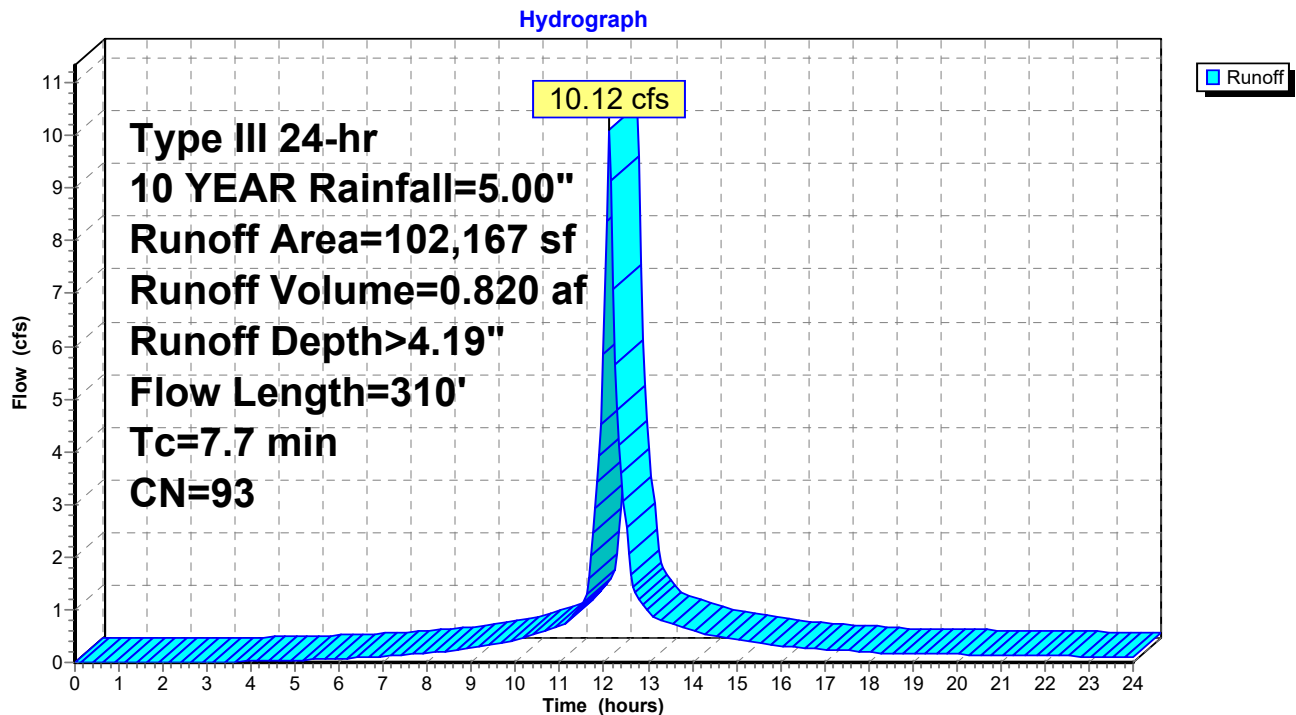
Runoff = 10.12 cfs @ 12.11 hrs, Volume= 0.820 af, Depth> 4.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=5.00"

	Area (sf)	CN	Description
*	74,229	98	Paved roads w/curbs & sewers
	27,938	79	Woods, Fair, HSG D
	102,167	93	Weighted Average
	27,938		27.35% Pervious Area
	74,229		72.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.3000	0.24		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	210	0.0950	4.96		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
7.7	310	Total			

Subcatchment 3: Drainage Area - 3



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Subcatchment 3: Drainage Area - 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	2.98	0.96
0.25	0.01	0.00	0.00	13.25	3.84	3.06	0.80
0.50	0.03	0.00	0.00	13.50	3.92	3.14	0.73
0.75	0.04	0.00	0.00	13.75	3.99	3.21	0.67
1.00	0.05	0.00	0.00	14.00	4.06	3.27	0.60
1.25	0.06	0.00	0.00	14.25	4.11	3.33	0.55
1.50	0.08	0.00	0.00	14.50	4.17	3.39	0.51
1.75	0.09	0.00	0.00	14.75	4.22	3.44	0.48
2.00	0.10	0.00	0.00	15.00	4.27	3.48	0.45
2.25	0.11	0.00	0.00	15.25	4.32	3.53	0.42
2.50	0.13	0.00	0.00	15.50	4.36	3.57	0.38
2.75	0.14	0.00	0.00	15.75	4.40	3.61	0.35
3.00	0.15	0.00	0.00	16.00	4.43	3.64	0.32
3.25	0.17	0.00	0.00	16.25	4.46	3.67	0.29
3.50	0.18	0.00	0.01	16.50	4.49	3.70	0.28
3.75	0.20	0.00	0.01	16.75	4.52	3.73	0.26
4.00	0.22	0.01	0.02	17.00	4.55	3.75	0.25
4.25	0.23	0.01	0.03	17.25	4.57	3.78	0.24
4.50	0.25	0.01	0.03	17.50	4.60	3.80	0.22
4.75	0.27	0.02	0.04	17.75	4.62	3.82	0.21
5.00	0.28	0.02	0.04	18.00	4.64	3.84	0.19
5.25	0.30	0.03	0.05	18.25	4.66	3.86	0.18
5.50	0.32	0.03	0.06	18.50	4.68	3.88	0.18
5.75	0.34	0.04	0.06	18.75	4.70	3.90	0.17
6.00	0.36	0.05	0.07	19.00	4.72	3.92	0.17
6.25	0.38	0.05	0.08	19.25	4.73	3.94	0.17
6.50	0.40	0.06	0.09	19.50	4.75	3.95	0.16
6.75	0.43	0.07	0.10	19.75	4.77	3.97	0.16
7.00	0.45	0.09	0.12	20.00	4.79	3.99	0.15
7.25	0.48	0.10	0.13	20.25	4.80	4.00	0.15
7.50	0.51	0.12	0.14	20.50	4.82	4.02	0.15
7.75	0.54	0.13	0.16	20.75	4.83	4.03	0.14
8.00	0.57	0.15	0.17	21.00	4.85	4.05	0.14
8.25	0.60	0.17	0.20	21.25	4.86	4.06	0.14
8.50	0.64	0.19	0.22	21.50	4.88	4.08	0.13
8.75	0.68	0.22	0.25	21.75	4.89	4.09	0.13
9.00	0.73	0.25	0.29	22.00	4.90	4.10	0.13
9.25	0.78	0.28	0.32	22.25	4.92	4.12	0.12
9.50	0.83	0.32	0.35	22.50	4.93	4.13	0.12
9.75	0.89	0.36	0.39	22.75	4.94	4.14	0.12
10.00	0.95	0.41	0.42	23.00	4.95	4.15	0.11
10.25	1.01	0.46	0.48	23.25	4.97	4.17	0.11
10.50	1.08	0.52	0.54	23.50	4.98	4.18	0.11
10.75	1.16	0.58	0.61	23.75	4.99	4.19	0.10
11.00	1.25	0.65	0.69	24.00	5.00	4.20	0.10
11.25	1.36	0.74	0.85				
11.50	1.49	0.86	1.10				
11.75	1.78	1.11	2.47				
12.00	2.50	1.78	5.85				
12.25	3.22	2.47	5.64				
12.50	3.51	2.74	2.55				
12.75	3.64	2.87	1.24				

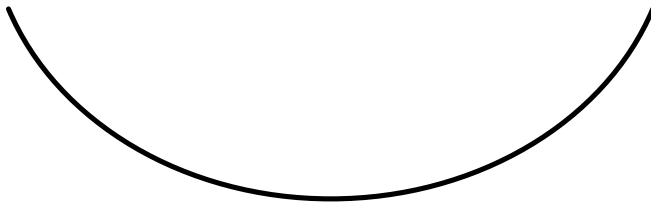
Summary for Reach 1R: Swale (Reach)

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth = 0.00" for 10 YEAR event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

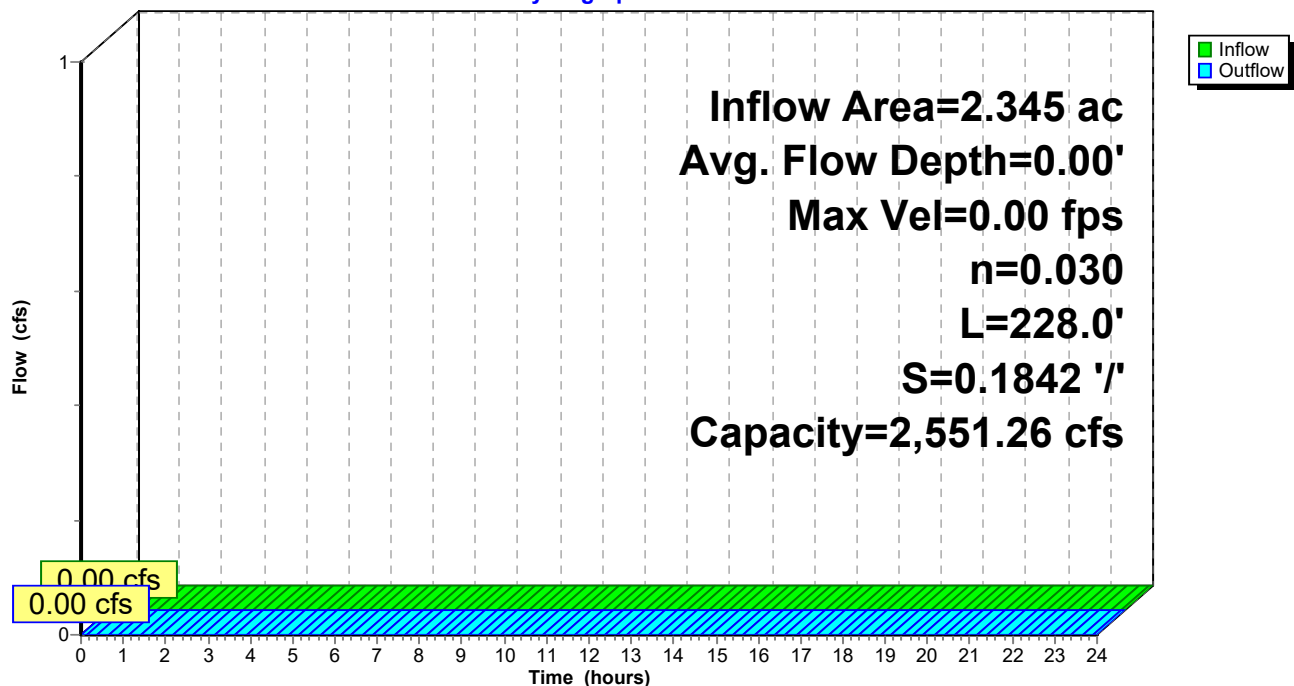
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 5.00' Flow Area= 60.0 sf, Capacity= 2,551.26 cfs

18.00' x 5.00' deep Parabolic Channel, n= 0.030 Stream, clean & straight
 Length= 228.0' Slope= 0.1842 '/'
 Inlet Invert= 95.00', Outlet Invert= 53.00'



Reach 1R: Swale (Reach)

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Reach 1R: Swale (Reach)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00	95.00	0.00	13.00	0.00	95.00	0.00
0.25	0.00	95.00	0.00	13.25	0.00	95.00	0.00
0.50	0.00	95.00	0.00	13.50	0.00	95.00	0.00
0.75	0.00	95.00	0.00	13.75	0.00	95.00	0.00
1.00	0.00	95.00	0.00	14.00	0.00	95.00	0.00
1.25	0.00	95.00	0.00	14.25	0.00	95.00	0.00
1.50	0.00	95.00	0.00	14.50	0.00	95.00	0.00
1.75	0.00	95.00	0.00	14.75	0.00	95.00	0.00
2.00	0.00	95.00	0.00	15.00	0.00	95.00	0.00
2.25	0.00	95.00	0.00	15.25	0.00	95.00	0.00
2.50	0.00	95.00	0.00	15.50	0.00	95.00	0.00
2.75	0.00	95.00	0.00	15.75	0.00	95.00	0.00
3.00	0.00	95.00	0.00	16.00	0.00	95.00	0.00
3.25	0.00	95.00	0.00	16.25	0.00	95.00	0.00
3.50	0.00	95.00	0.00	16.50	0.00	95.00	0.00
3.75	0.00	95.00	0.00	16.75	0.00	95.00	0.00
4.00	0.00	95.00	0.00	17.00	0.00	95.00	0.00
4.25	0.00	95.00	0.00	17.25	0.00	95.00	0.00
4.50	0.00	95.00	0.00	17.50	0.00	95.00	0.00
4.75	0.00	95.00	0.00	17.75	0.00	95.00	0.00
5.00	0.00	95.00	0.00	18.00	0.00	95.00	0.00
5.25	0.00	95.00	0.00	18.25	0.00	95.00	0.00
5.50	0.00	95.00	0.00	18.50	0.00	95.00	0.00
5.75	0.00	95.00	0.00	18.75	0.00	95.00	0.00
6.00	0.00	95.00	0.00	19.00	0.00	95.00	0.00
6.25	0.00	95.00	0.00	19.25	0.00	95.00	0.00
6.50	0.00	95.00	0.00	19.50	0.00	95.00	0.00
6.75	0.00	95.00	0.00	19.75	0.00	95.00	0.00
7.00	0.00	95.00	0.00	20.00	0.00	95.00	0.00
7.25	0.00	95.00	0.00	20.25	0.00	95.00	0.00
7.50	0.00	95.00	0.00	20.50	0.00	95.00	0.00
7.75	0.00	95.00	0.00	20.75	0.00	95.00	0.00
8.00	0.00	95.00	0.00	21.00	0.00	95.00	0.00
8.25	0.00	95.00	0.00	21.25	0.00	95.00	0.00
8.50	0.00	95.00	0.00	21.50	0.00	95.00	0.00
8.75	0.00	95.00	0.00	21.75	0.00	95.00	0.00
9.00	0.00	95.00	0.00	22.00	0.00	95.00	0.00
9.25	0.00	95.00	0.00	22.25	0.00	95.00	0.00
9.50	0.00	95.00	0.00	22.50	0.00	95.00	0.00
9.75	0.00	95.00	0.00	22.75	0.00	95.00	0.00
10.00	0.00	95.00	0.00	23.00	0.00	95.00	0.00
10.25	0.00	95.00	0.00	23.25	0.00	95.00	0.00
10.50	0.00	95.00	0.00	23.50	0.00	95.00	0.00
10.75	0.00	95.00	0.00	23.75	0.00	95.00	0.00
11.00	0.00	95.00	0.00	24.00	0.00	95.00	0.00
11.25	0.00	95.00	0.00				
11.50	0.00	95.00	0.00				
11.75	0.00	95.00	0.00				
12.00	0.00	95.00	0.00				
12.25	0.00	95.00	0.00				
12.50	0.00	95.00	0.00				
12.75	0.00	95.00	0.00				

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Stage-Discharge for Reach 1R: Swale (Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
95.00	0.00	0.00	97.60	28.81	648.28
95.05	2.20	0.13	97.65	29.15	674.88
95.10	3.49	0.59	97.70	29.49	702.02
95.15	4.56	1.42	97.75	29.82	729.73
95.20	5.52	2.65	97.80	30.15	757.98
95.25	6.40	4.29	97.85	30.47	786.79
95.30	7.21	6.36	97.90	30.79	816.15
95.35	7.98	8.87	97.95	31.12	846.06
95.40	8.71	11.83	98.00	31.43	876.53
95.45	9.41	15.25	98.05	31.75	907.56
95.50	10.09	19.14	98.10	32.06	939.14
95.55	10.73	23.49	98.15	32.37	971.27
95.60	11.36	28.33	98.20	32.68	1,003.96
95.65	11.97	33.65	98.25	32.99	1,037.20
95.70	12.56	39.46	98.30	33.29	1,071.00
95.75	13.13	45.77	98.35	33.59	1,105.36
95.80	13.69	52.57	98.40	33.89	1,140.27
95.85	14.24	59.88	98.45	34.19	1,175.74
95.90	14.77	67.69	98.50	34.48	1,211.76
95.95	15.30	76.01	98.55	34.78	1,248.34
96.00	15.81	84.83	98.60	35.07	1,285.48
96.05	16.31	94.18	98.65	35.36	1,323.17
96.10	16.80	104.04	98.70	35.64	1,361.42
96.15	17.29	114.42	98.75	35.93	1,400.23
96.20	17.76	125.32	98.80	36.21	1,439.59
96.25	18.23	136.74	98.85	36.49	1,479.51
96.30	18.69	148.69	98.90	36.77	1,519.98
96.35	19.15	161.17	98.95	37.05	1,561.02
96.40	19.59	174.17	99.00	37.33	1,602.61
96.45	20.03	187.71	99.05	37.60	1,644.75
96.50	20.47	201.78	99.10	37.88	1,687.45
96.55	20.89	216.38	99.15	38.15	1,730.71
96.60	21.32	231.52	99.20	38.42	1,774.53
96.65	21.73	247.20	99.25	38.68	1,818.90
96.70	22.14	263.41	99.30	38.95	1,863.83
96.75	22.55	280.16	99.35	39.21	1,909.32
96.80	22.95	297.45	99.40	39.48	1,955.36
96.85	23.35	315.28	99.45	39.74	2,001.96
96.90	23.74	333.66	99.50	40.00	2,049.12
96.95	24.13	352.58	99.55	40.26	2,096.83
97.00	24.51	372.04	99.60	40.51	2,145.10
97.05	24.89	392.05	99.65	40.77	2,193.92
97.10	25.26	412.60	99.70	41.02	2,243.30
97.15	25.64	433.70	99.75	41.28	2,293.24
97.20	26.00	455.34	99.80	41.53	2,343.73
97.25	26.37	477.54	99.85	41.78	2,394.78
97.30	26.73	500.28	99.90	42.03	2,446.39
97.35	27.08	523.57	99.95	42.27	2,498.55
97.40	27.43	547.41	100.00	42.52	2,551.26
97.45	27.78	571.80			
97.50	28.13	596.74			
97.55	28.47	622.24			

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Summary for Reach 2R: Stream

Inflow Area = 25.644 ac, 24.80% Impervious, Inflow Depth > 2.87" for 10 YEAR event
 Inflow = 60.28 cfs @ 12.25 hrs, Volume= 6.143 af
 Outflow = 60.17 cfs @ 12.27 hrs, Volume= 6.138 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 7.64 fps, Min. Travel Time= 1.2 min

Avg. Velocity = 2.89 fps, Avg. Travel Time= 3.2 min

Peak Storage= 4,324 cf @ 12.27 hrs

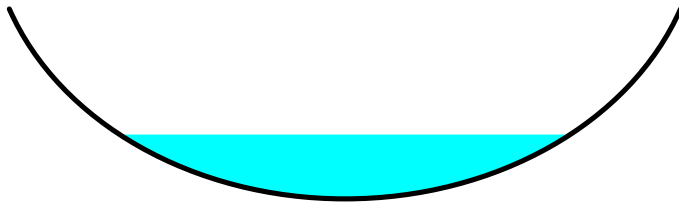
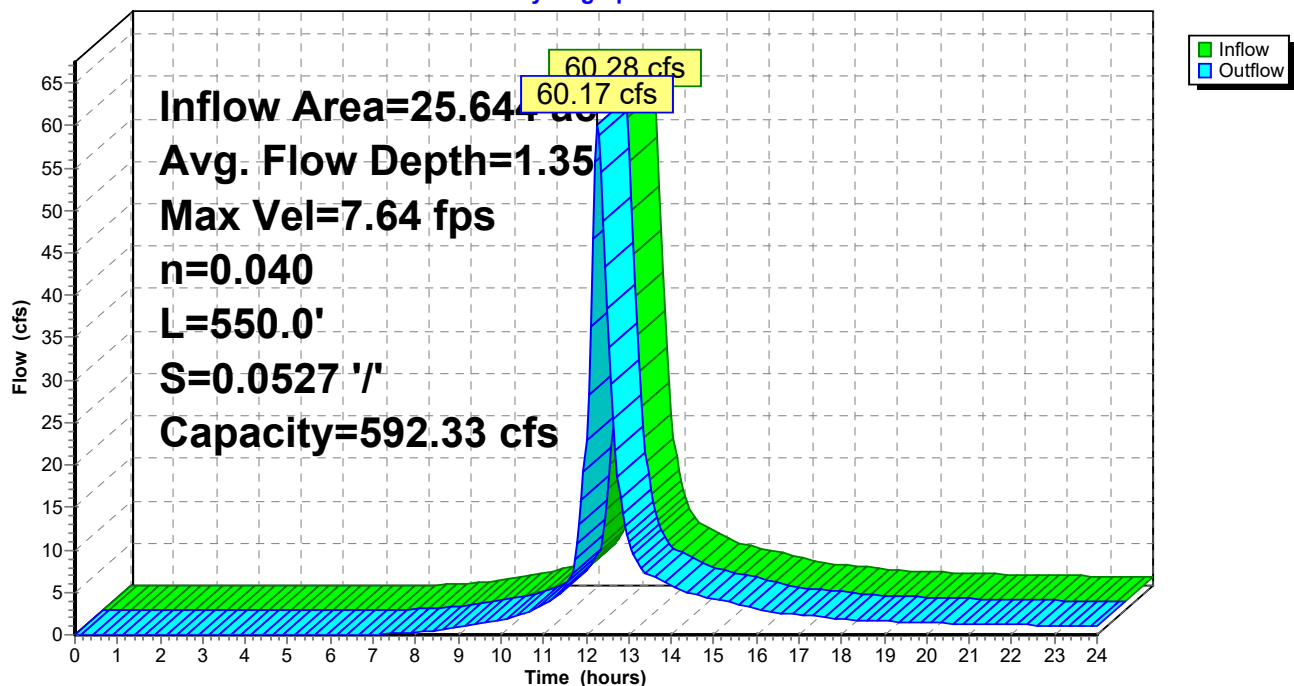
Average Depth at Peak Storage= 1.35'

Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 592.33 cfs

15.00' x 4.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

Length= 550.0' Slope= 0.0527 '/'

Inlet Invert= 53.00', Outlet Invert= 24.00'

**Reach 2R: Stream****Hydrograph**

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Reach 2R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	53.00	0.00
0.50	0.00	0	53.00	0.00
1.00	0.00	0	53.00	0.00
1.50	0.00	0	53.00	0.00
2.00	0.00	0	53.00	0.00
2.50	0.00	0	53.00	0.00
3.00	0.00	0	53.00	0.00
3.50	0.00	0	53.00	0.00
4.00	0.00	0	53.00	0.00
4.50	0.00	0	53.00	0.00
5.00	0.00	0	53.00	0.00
5.50	0.00	0	53.00	0.00
6.00	0.00	0	53.00	0.00
6.50	0.00	0	53.00	0.00
7.00	0.04	10	53.02	0.01
7.50	0.16	61	53.08	0.13
8.00	0.32	106	53.11	0.30
8.50	0.55	155	53.15	0.52
9.00	0.88	219	53.18	0.84
9.50	1.31	291	53.22	1.26
10.00	1.82	368	53.26	1.77
10.50	2.55	465	53.31	2.48
11.00	3.59	594	53.36	3.52
11.50	5.83	823	53.45	5.63
12.00	24.57	2,200	53.86	22.99
12.50	37.00	3,159	54.10	38.50
13.00	10.54	1,307	53.61	10.92
13.50	6.90	956	53.49	6.98
14.00	5.68	835	53.45	5.75
14.50	4.78	738	53.42	4.81
15.00	4.20	675	53.39	4.24
15.50	3.62	610	53.37	3.66
16.00	3.04	540	53.34	3.08
16.50	2.60	484	53.31	2.62
17.00	2.34	449	53.30	2.36
17.50	2.08	415	53.28	2.10
18.00	1.83	379	53.27	1.85
18.50	1.65	351	53.25	1.66
19.00	1.57	339	53.25	1.58
19.50	1.49	328	53.24	1.50
20.00	1.42	316	53.24	1.42
20.50	1.35	305	53.23	1.35
21.00	1.29	295	53.23	1.29
21.50	1.23	286	53.22	1.24
22.00	1.17	276	53.22	1.18
22.50	1.11	267	53.21	1.12
23.00	1.05	257	53.21	1.06
23.50	1.00	248	53.20	1.00
24.00	0.94	237	53.20	0.94

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Stage-Discharge for Reach 2R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
53.00	0.00	0.00	55.60	11.47	240.35
53.05	0.87	0.06	55.65	11.60	250.20
53.10	1.39	0.23	55.70	11.73	260.23
53.15	1.83	0.54	55.75	11.86	270.46
53.20	2.21	0.99	55.80	11.99	280.89
53.25	2.56	1.61	55.85	12.12	291.54
53.30	2.89	2.39	55.90	12.25	302.39
53.35	3.20	3.32	55.95	12.37	313.43
53.40	3.49	4.42	56.00	12.50	324.67
53.45	3.77	5.70	56.05	12.62	336.13
53.50	4.04	7.15	56.10	12.74	347.79
53.55	4.30	8.77	56.15	12.87	359.65
53.60	4.55	10.57	56.20	12.99	371.70
53.65	4.79	12.56	56.25	13.11	383.98
53.70	5.02	14.73	56.30	13.23	396.45
53.75	5.25	17.07	56.35	13.34	409.12
53.80	5.48	19.59	56.40	13.46	421.98
53.85	5.69	22.32	56.45	13.58	435.07
53.90	5.91	25.23	56.50	13.69	448.36
53.95	6.12	28.32	56.55	13.81	461.84
54.00	6.32	31.60	56.60	13.92	475.51
54.05	6.52	35.08	56.65	14.04	489.42
54.10	6.72	38.75	56.70	14.15	503.51
54.15	6.91	42.61	56.75	14.26	517.81
54.20	7.10	46.65	56.80	14.37	532.30
54.25	7.28	50.90	56.85	14.48	547.01
54.30	7.47	55.34	56.90	14.59	561.93
54.35	7.65	59.97	56.95	14.70	577.03
54.40	7.82	64.79	57.00	14.81	592.33
54.45	8.00	69.83			
54.50	8.17	75.05			
54.55	8.34	80.47			
54.60	8.51	86.07			
54.65	8.67	91.90			
54.70	8.83	97.91			
54.75	8.99	104.12			
54.80	9.15	110.52			
54.85	9.31	117.14			
54.90	9.46	123.95			
54.95	9.62	130.96			
55.00	9.77	138.15			
55.05	9.92	145.57			
55.10	10.07	153.19			
55.15	10.21	161.00			
55.20	10.36	169.00			
55.25	10.50	177.22			
55.30	10.64	185.64			
55.35	10.78	194.25			
55.40	10.92	203.06			
55.45	11.06	212.09			
55.50	11.20	221.32			
55.55	11.33	230.74			

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Summary for Reach 3R: Channel

Inflow Area = 25.644 ac, 24.80% Impervious, Inflow Depth > 2.87" for 10 YEAR event
 Inflow = 60.17 cfs @ 12.27 hrs, Volume= 6.138 af
 Outflow = 59.77 cfs @ 12.28 hrs, Volume= 6.129 af, Atten= 1%, Lag= 1.1 min

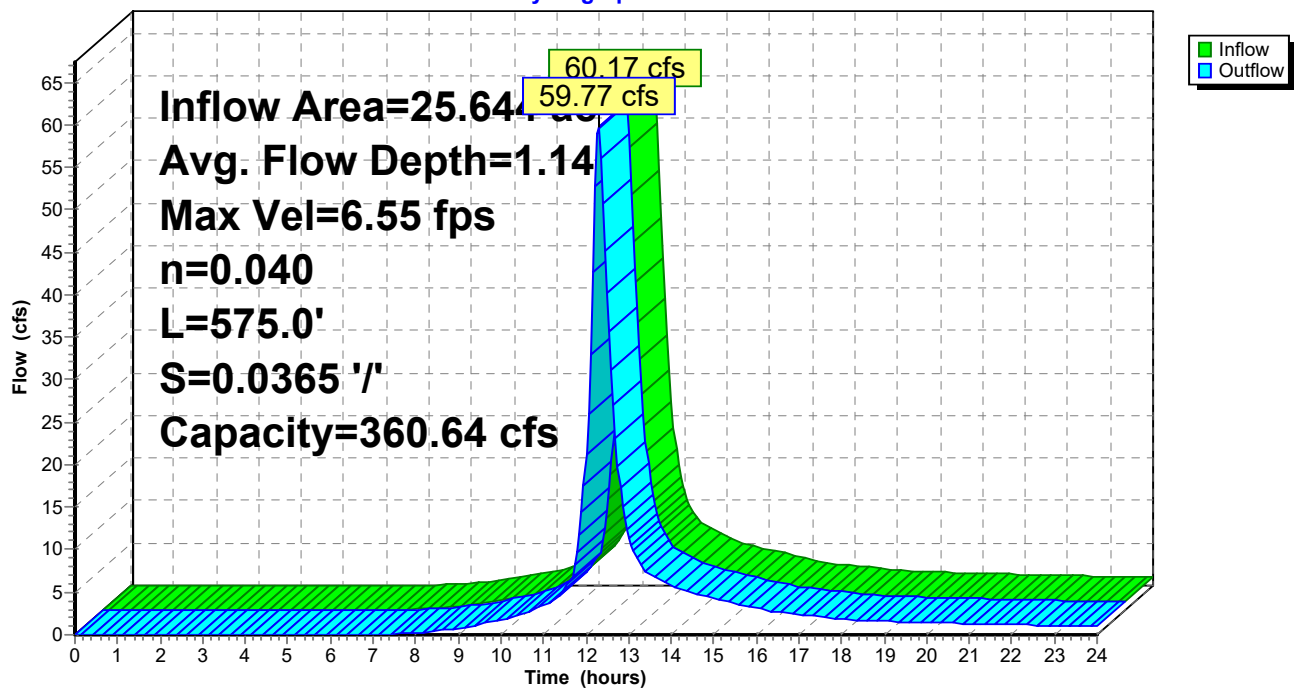
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 6.55 fps, Min. Travel Time= 1.5 min
 Avg. Velocity= 2.04 fps, Avg. Travel Time= 4.7 min

Peak Storage= 5,243 cf @ 12.28 hrs
 Average Depth at Peak Storage= 1.14'
 Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 360.64 cfs

8.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals
 Length= 575.0' Slope= 0.0365 '/'
 Inlet Invert= 24.00', Outlet Invert= 3.00'

**Reach 3R: Channel**

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Reach 3R: Channel

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	24.00	0.00
0.50	0.00	0	24.00	0.00
1.00	0.00	0	24.00	0.00
1.50	0.00	0	24.00	0.00
2.00	0.00	0	24.00	0.00
2.50	0.00	0	24.00	0.00
3.00	0.00	0	24.00	0.00
3.50	0.00	0	24.00	0.00
4.00	0.00	0	24.00	0.00
4.50	0.00	0	24.00	0.00
5.00	0.00	0	24.00	0.00
5.50	0.00	0	24.00	0.00
6.00	0.00	0	24.00	0.00
6.50	0.00	0	24.00	0.00
7.00	0.01	3	24.00	0.00
7.50	0.13	59	24.01	0.08
8.00	0.30	163	24.04	0.23
8.50	0.52	251	24.05	0.47
9.00	0.84	351	24.08	0.78
9.50	1.26	455	24.10	1.21
10.00	1.77	569	24.12	1.71
10.50	2.48	694	24.15	2.39
11.00	3.52	865	24.19	3.42
11.50	5.63	1,145	24.25	5.39
12.00	22.99	2,690	24.58	21.22
12.50	38.50	4,049	24.88	40.21
13.00	10.92	1,822	24.40	11.40
13.50	6.98	1,355	24.29	7.08
14.00	5.75	1,202	24.26	5.83
14.50	4.81	1,076	24.23	4.87
15.00	4.24	994	24.22	4.28
15.50	3.66	912	24.20	3.71
16.00	3.08	819	24.18	3.13
16.50	2.62	742	24.16	2.65
17.00	2.36	694	24.15	2.39
17.50	2.10	646	24.14	2.13
18.00	1.85	598	24.13	1.87
18.50	1.66	560	24.12	1.67
19.00	1.58	543	24.12	1.59
19.50	1.50	525	24.11	1.51
20.00	1.42	507	24.11	1.43
20.50	1.35	490	24.11	1.36
21.00	1.29	477	24.10	1.30
21.50	1.24	463	24.10	1.24
22.00	1.18	450	24.10	1.18
22.50	1.12	436	24.09	1.13
23.00	1.06	423	24.09	1.07
23.50	1.00	409	24.09	1.01
24.00	0.94	395	24.09	0.95

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Stage-Discharge for Reach 3R: Channel

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
24.00	0.00	0.00	26.60	9.61	199.97
24.05	0.94	0.41	26.65	9.69	205.38
24.10	1.50	1.23	26.70	9.76	210.83
24.15	1.95	2.36	26.75	9.83	216.30
24.20	2.35	3.76	26.80	9.90	221.80
24.25	2.70	5.42	26.85	9.97	227.33
24.30	3.03	7.29	26.90	10.04	232.88
24.35	3.33	9.35	26.95	10.10	238.46
24.40	3.62	11.57	27.00	10.17	244.06
24.45	3.88	13.99	27.05	10.23	249.69
24.50	4.13	16.55	27.10	10.30	255.35
24.55	4.37	19.25	27.15	10.36	261.02
24.60	4.60	22.09	27.20	10.42	266.72
24.65	4.82	25.06	27.25	10.48	272.45
24.70	5.03	28.16	27.30	10.54	278.19
24.75	5.23	31.36	27.35	10.60	283.96
24.80	5.42	34.68	27.40	10.65	289.74
24.85	5.60	38.10	27.45	10.71	295.55
24.90	5.78	41.63	27.50	10.76	301.37
24.95	5.95	45.24	27.55	10.82	307.22
25.00	6.12	48.95	27.60	10.87	313.08
25.05	6.28	52.75	27.65	10.92	318.97
25.10	6.43	56.63	27.70	10.98	324.87
25.15	6.58	60.58	27.75	11.03	330.79
25.20	6.73	64.61	27.80	11.08	336.72
25.25	6.87	68.73	27.85	11.13	342.68
25.30	7.01	72.91	27.90	11.17	348.65
25.35	7.14	77.16	27.95	11.22	354.64
25.40	7.27	81.47	28.00	11.27	360.64
25.45	7.40	85.85			
25.50	7.52	90.29			
25.55	7.64	94.78			
25.60	7.76	99.34			
25.65	7.87	103.95			
25.70	7.99	108.61			
25.75	8.09	113.33			
25.80	8.20	118.09			
25.85	8.30	122.90			
25.90	8.40	127.76			
25.95	8.50	132.66			
26.00	8.60	137.61			
26.05	8.69	142.60			
26.10	8.79	147.63			
26.15	8.88	152.70			
26.20	8.97	157.81			
26.25	9.05	162.96			
26.30	9.14	168.15			
26.35	9.22	173.37			
26.40	9.30	178.62			
26.45	9.38	183.91			
26.50	9.46	189.23			
26.55	9.54	194.58			

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Summary for Reach 4R: Stream

Inflow Area = 33.127 ac, 27.67% Impervious, Inflow Depth > 3.06" for 10 YEAR event
 Inflow = 71.79 cfs @ 12.27 hrs, Volume= 8.444 af
 Outflow = 71.61 cfs @ 12.28 hrs, Volume= 8.440 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.34 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 1.76 fps, Avg. Travel Time= 1.8 min

Peak Storage= 2,542 cf @ 12.28 hrs

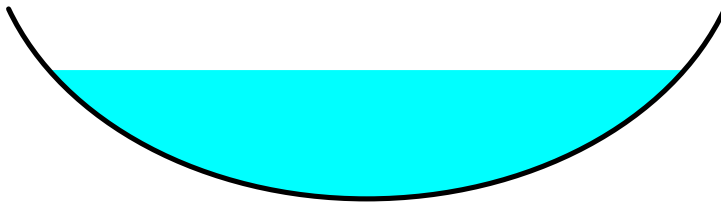
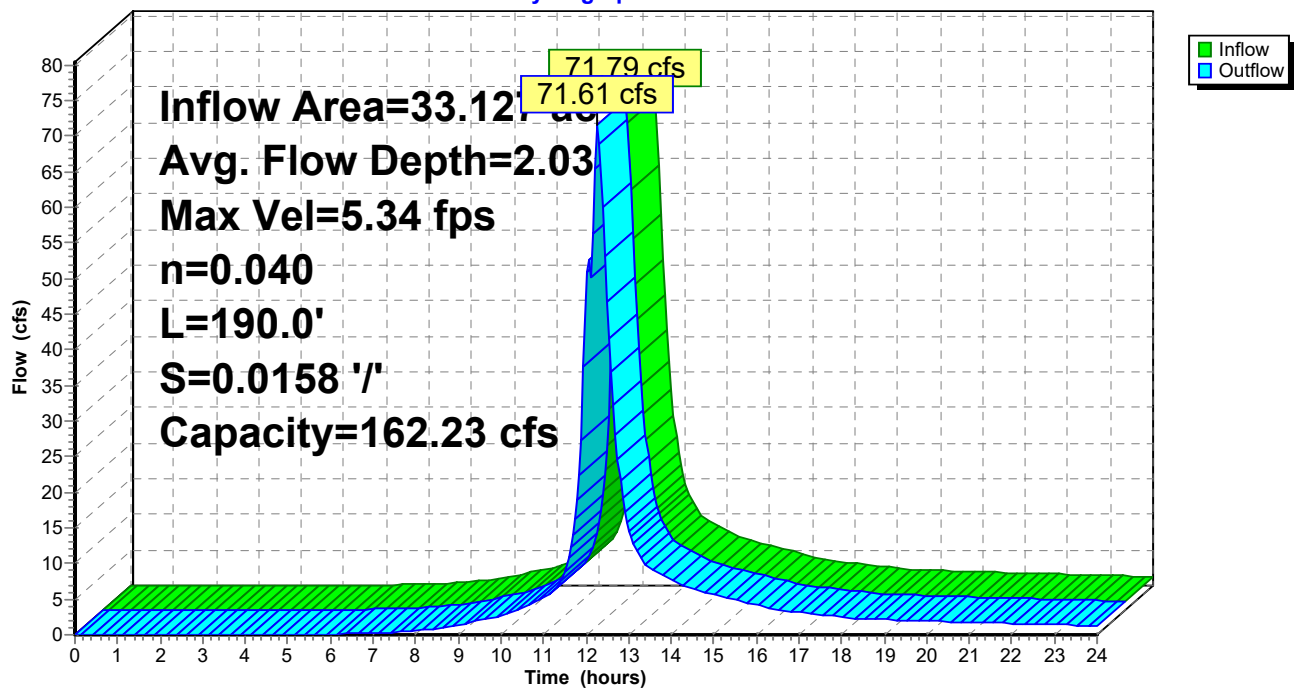
Average Depth at Peak Storage= 2.03'

Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 162.23 cfs

12.00' x 3.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

Length= 190.0' Slope= 0.0158 1'

Inlet Invert= 3.00', Outlet Invert= 0.00'

**Reach 4R: Stream****Hydrograph**

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Reach 4R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	3.00	0.00
0.50	0.00	0	3.00	0.00
1.00	0.00	0	3.00	0.00
1.50	0.01	3	3.02	0.00
2.00	0.02	6	3.04	0.01
2.50	0.02	9	3.05	0.02
3.00	0.03	11	3.05	0.03
3.50	0.04	14	3.06	0.04
4.00	0.05	16	3.07	0.05
4.50	0.06	18	3.07	0.06
5.00	0.07	19	3.08	0.07
5.50	0.08	21	3.08	0.08
6.00	0.10	26	3.10	0.10
6.50	0.15	32	3.11	0.14
7.00	0.20	41	3.13	0.20
7.50	0.35	59	3.17	0.34
8.00	0.57	85	3.21	0.56
8.50	0.93	119	3.26	0.91
9.00	1.39	158	3.32	1.37
9.50	2.00	204	3.38	1.97
10.00	2.71	252	3.44	2.68
10.50	3.72	315	3.50	3.67
11.00	5.18	397	3.59	5.13
11.50	8.52	559	3.74	8.36
12.00	52.41	1,992	4.73	50.79
12.50	45.81	1,879	4.66	46.77
13.00	14.37	827	3.96	14.61
13.50	9.38	608	3.78	9.43
14.00	7.65	527	3.71	7.69
14.50	6.44	467	3.66	6.46
15.00	5.65	426	3.62	5.68
15.50	4.89	385	3.58	4.91
16.00	4.11	342	3.53	4.13
16.50	3.52	306	3.50	3.54
17.00	3.17	284	3.47	3.18
17.50	2.82	262	3.45	2.83
18.00	2.47	239	3.42	2.48
18.50	2.23	222	3.40	2.23
19.00	2.11	214	3.39	2.12
19.50	2.01	207	3.38	2.01
20.00	1.90	199	3.37	1.91
20.50	1.81	192	3.36	1.81
21.00	1.73	186	3.36	1.73
21.50	1.65	180	3.35	1.66
22.00	1.57	174	3.34	1.58
22.50	1.50	168	3.33	1.50
23.00	1.42	162	3.32	1.42
23.50	1.34	156	3.32	1.34
24.00	1.14	144	3.30	1.20

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Stage-Discharge for Reach 4R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
3.00	0.00	0.00	4.04	3.53	17.29	5.08	5.43	75.22
3.02	0.23	0.01	4.06	3.57	18.01	5.10	5.46	76.75
3.04	0.41	0.02	4.08	3.61	18.73	5.12	5.49	78.30
3.06	0.54	0.04	4.10	3.66	19.48	5.14	5.52	79.86
3.08	0.66	0.07	4.12	3.70	20.25	5.16	5.55	81.44
3.10	0.76	0.11	4.14	3.74	21.02	5.18	5.59	83.04
3.12	0.86	0.17	4.16	3.78	21.82	5.20	5.62	84.65
3.14	0.95	0.23	4.18	3.82	22.63	5.22	5.65	86.27
3.16	1.04	0.31	4.20	3.86	23.45	5.24	5.68	87.92
3.18	1.13	0.40	4.22	3.90	24.29	5.26	5.71	89.58
3.20	1.21	0.50	4.24	3.94	25.15	5.28	5.74	91.25
3.22	1.29	0.62	4.26	3.98	26.01	5.30	5.77	92.95
3.24	1.36	0.74	4.28	4.02	26.90	5.32	5.80	94.66
3.26	1.44	0.88	4.30	4.06	27.81	5.34	5.83	96.38
3.28	1.51	1.04	4.32	4.10	28.72	5.36	5.86	98.12
3.30	1.58	1.20	4.34	4.14	29.66	5.38	5.89	99.88
3.32	1.65	1.38	4.36	4.18	30.60	5.40	5.92	101.64
3.34	1.71	1.57	4.38	4.22	31.56	5.42	5.95	103.44
3.36	1.78	1.78	4.40	4.25	32.55	5.44	5.98	105.24
3.38	1.84	2.00	4.42	4.29	33.54	5.46	6.01	107.05
3.40	1.91	2.23	4.44	4.33	34.55	5.48	6.04	108.89
3.42	1.97	2.47	4.46	4.37	35.58	5.50	6.07	110.75
3.44	2.03	2.74	4.48	4.40	36.62	5.52	6.09	112.61
3.46	2.09	3.01	4.50	4.44	37.68	5.54	6.12	114.50
3.48	2.15	3.30	4.52	4.48	38.75	5.56	6.15	116.40
3.50	2.20	3.60	4.54	4.51	39.84	5.58	6.18	118.31
3.52	2.26	3.92	4.56	4.55	40.94	5.60	6.21	120.24
3.54	2.32	4.25	4.58	4.59	42.07	5.62	6.24	122.19
3.56	2.37	4.60	4.60	4.62	43.20	5.64	6.27	124.15
3.58	2.43	4.96	4.62	4.66	44.35	5.66	6.29	126.13
3.60	2.48	5.33	4.64	4.69	45.52	5.68	6.32	128.13
3.62	2.53	5.72	4.66	4.73	46.71	5.70	6.35	130.14
3.64	2.59	6.12	4.68	4.76	47.90	5.72	6.38	132.17
3.66	2.64	6.53	4.70	4.80	49.12	5.74	6.41	134.21
3.68	2.69	6.97	4.72	4.83	50.35	5.76	6.43	136.27
3.70	2.74	7.42	4.74	4.87	51.60	5.78	6.46	138.35
3.72	2.79	7.87	4.76	4.90	52.86	5.80	6.49	140.44
3.74	2.84	8.35	4.78	4.94	54.14	5.82	6.52	142.54
3.76	2.89	8.84	4.80	4.97	55.43	5.84	6.54	144.67
3.78	2.94	9.35	4.82	5.00	56.74	5.86	6.57	146.81
3.80	2.99	9.87	4.84	5.04	58.07	5.88	6.60	148.96
3.82	3.03	10.41	4.86	5.07	59.41	5.90	6.63	151.14
3.84	3.08	10.95	4.88	5.10	60.77	5.92	6.65	153.32
3.86	3.13	11.52	4.90	5.14	62.14	5.94	6.68	155.52
3.88	3.17	12.10	4.92	5.17	63.53	5.96	6.71	157.75
3.90	3.22	12.69	4.94	5.20	64.94	5.98	6.73	159.98
3.92	3.26	13.31	4.96	5.24	66.36	6.00	6.76	162.23
3.94	3.31	13.93	4.98	5.27	67.79			
3.96	3.35	14.57	5.00	5.30	69.25			
3.98	3.40	15.23	5.02	5.33	70.72			
4.00	3.44	15.90	5.04	5.36	72.20			
4.02	3.49	16.58	5.06	5.40	73.70			

Summary for Pond 1P: Grasscrete

Inflow Area = 0.457 ac, 0.00% Impervious, Inflow Depth > 3.77" for 10 YEAR event
 Inflow = 2.25 cfs @ 12.00 hrs, Volume= 0.144 af
 Outflow = 2.12 cfs @ 12.02 hrs, Volume= 0.144 af, Atten= 6%, Lag= 1.0 min
 Discarded = 2.04 cfs @ 12.02 hrs, Volume= 0.138 af
 Secondary = 0.09 cfs @ 12.02 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 25.31' @ 12.02 hrs Surf.Area= 19,920 sf Storage= 122 cf

Plug-Flow detention time= 1.0 min calculated for 0.144 af (100% of inflow)
 Center-of-Mass det. time= 0.9 min (789.7 - 788.8)

Volume	Invert	Avail.Storage	Storage Description
#1	25.30'	11,952 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

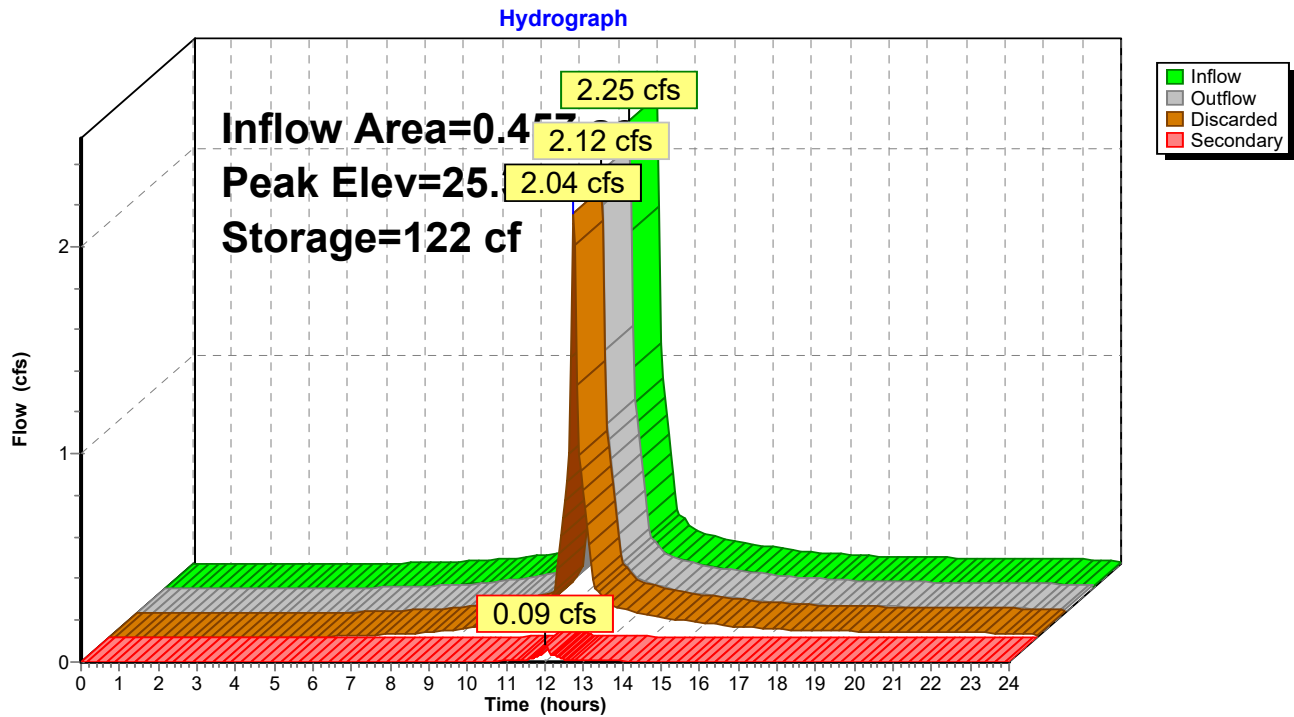
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
25.30	19,920	0	0
25.90	19,920	11,952	11,952

Device	Routing	Invert	Outlet Devices
#1	Secondary	25.30'	65.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	25.30'	2.00 cfs Exfiltration at all elevations

Discarded OutFlow Max=2.00 cfs @ 12.02 hrs HW=25.31' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 2.00 cfs)

Secondary OutFlow Max=0.08 cfs @ 12.02 hrs HW=25.31' (Free Discharge)
 ↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 0.08 cfs @ 0.21 fps)

Pond 1P: Grasscrete



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Pond 1P: Grasscrete

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Secondary (cfs)
0.00	0.00	0	25.30	0.00	0.00	0.00
0.50	0.00	0	25.30	0.00	0.00	0.00
1.00	0.00	0	25.30	0.00	0.00	0.00
1.50	0.00	0	25.30	0.00	0.00	0.00
2.00	0.00	0	25.30	0.00	0.00	0.00
2.50	0.00	0	25.30	0.00	0.00	0.00
3.00	0.00	0	25.30	0.00	0.00	0.00
3.50	0.00	0	25.30	0.00	0.00	0.00
4.00	0.00	0	25.30	0.00	0.00	0.00
4.50	0.00	0	25.30	0.00	0.00	0.00
5.00	0.00	0	25.30	0.00	0.00	0.00
5.50	0.00	0	25.30	0.00	0.00	0.00
6.00	0.01	0	25.30	0.01	0.01	0.00
6.50	0.01	1	25.30	0.01	0.01	0.00
7.00	0.01	1	25.30	0.01	0.01	0.00
7.50	0.02	1	25.30	0.02	0.02	0.00
8.00	0.02	1	25.30	0.02	0.02	0.00
8.50	0.03	2	25.30	0.03	0.03	0.00
9.00	0.04	2	25.30	0.04	0.04	0.00
9.50	0.05	3	25.30	0.05	0.05	0.00
10.00	0.07	4	25.30	0.07	0.06	0.00
10.50	0.09	5	25.30	0.09	0.09	0.00
11.00	0.12	7	25.30	0.12	0.11	0.00
11.50	0.21	12	25.30	0.21	0.20	0.01
12.00	2.25	119	25.31	2.07	1.99	0.08
12.50	0.26	17	25.30	0.29	0.28	0.01
13.00	0.16	9	25.30	0.16	0.15	0.01
13.50	0.13	8	25.30	0.13	0.13	0.01
14.00	0.11	6	25.30	0.11	0.10	0.00
14.50	0.09	5	25.30	0.09	0.09	0.00
15.00	0.08	5	25.30	0.08	0.08	0.00
15.50	0.07	4	25.30	0.07	0.07	0.00
16.00	0.06	3	25.30	0.06	0.05	0.00
16.50	0.05	3	25.30	0.05	0.05	0.00
17.00	0.05	3	25.30	0.05	0.04	0.00
17.50	0.04	2	25.30	0.04	0.04	0.00
18.00	0.04	2	25.30	0.04	0.03	0.00
18.50	0.03	2	25.30	0.03	0.03	0.00
19.00	0.03	2	25.30	0.03	0.03	0.00
19.50	0.03	2	25.30	0.03	0.03	0.00
20.00	0.03	2	25.30	0.03	0.03	0.00
20.50	0.03	2	25.30	0.03	0.03	0.00
21.00	0.03	2	25.30	0.03	0.03	0.00
21.50	0.02	1	25.30	0.02	0.02	0.00
22.00	0.02	1	25.30	0.02	0.02	0.00
22.50	0.02	1	25.30	0.02	0.02	0.00
23.00	0.02	1	25.30	0.02	0.02	0.00
23.50	0.02	1	25.30	0.02	0.02	0.00
24.00	0.01	1	25.30	0.01	0.01	0.00

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Stage-Discharge for Pond 1P: Grasscrete

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Secondary (cfs)
25.30	0.00	0.00	0.00	25.82	75.51	2.00	73.51
25.31	2.18	2.00	0.18	25.83	77.84	2.00	75.84
25.32	2.51	2.00	0.51	25.84	80.20	2.00	78.20
25.33	2.95	2.00	0.95	25.85	82.60	2.00	80.60
25.34	3.46	2.00	1.46	25.86	85.03	2.00	83.03
25.35	4.03	2.00	2.03	25.87	87.48	2.00	85.48
25.36	4.67	2.00	2.67	25.88	89.97	2.00	87.97
25.37	5.37	2.00	3.37	25.89	92.49	2.00	90.49
25.38	6.12	2.00	4.12	25.90	95.04	2.00	93.04
25.39	6.91	2.00	4.91				
25.40	7.76	2.00	5.76				
25.41	8.64	2.00	6.64				
25.42	9.57	2.00	7.57				
25.43	10.53	2.00	8.53				
25.44	11.53	2.00	9.53				
25.45	12.57	2.00	10.57				
25.46	13.65	2.00	11.65				
25.47	14.76	2.00	12.76				
25.48	15.90	2.00	13.90				
25.49	17.07	2.00	15.07				
25.50	18.28	2.00	16.28				
25.51	19.55	2.00	17.55				
25.52	20.86	2.00	18.86				
25.53	22.20	2.00	20.20				
25.54	23.58	2.00	21.58				
25.55	24.99	2.00	22.99				
25.56	26.44	2.00	24.44				
25.57	27.92	2.00	25.92				
25.58	29.43	2.00	27.43				
25.59	30.97	2.00	28.97				
25.60	32.55	2.00	30.55				
25.61	34.15	2.00	32.15				
25.62	35.79	2.00	33.79				
25.63	37.46	2.00	35.46				
25.64	39.16	2.00	37.16				
25.65	40.90	2.00	38.90				
25.66	42.66	2.00	40.66				
25.67	44.45	2.00	42.45				
25.68	46.28	2.00	44.28				
25.69	48.13	2.00	46.13				
25.70	50.02	2.00	48.02				
25.71	51.96	2.00	49.96				
25.72	53.94	2.00	51.94				
25.73	55.96	2.00	53.96				
25.74	58.00	2.00	56.00				
25.75	60.08	2.00	58.08				
25.76	62.19	2.00	60.19				
25.77	64.33	2.00	62.33				
25.78	66.50	2.00	64.50				
25.79	68.71	2.00	66.71				
25.80	70.94	2.00	68.94				
25.81	73.21	2.00	71.21				

Summary for Pond 2P: Roof Detention

Inflow Area = 1.399 ac, 100.00% Impervious, Inflow Depth > 4.76" for 10 YEAR event
 Inflow = 7.83 cfs @ 12.00 hrs, Volume= 0.555 af
 Outflow = 4.05 cfs @ 12.10 hrs, Volume= 0.551 af, Atten= 48%, Lag= 6.1 min
 Primary = 4.05 cfs @ 12.10 hrs, Volume= 0.551 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.08' @ 12.10 hrs Surf.Area= 60,903 sf Storage= 4,763 cf

Plug-Flow detention time= 33.8 min calculated for 0.551 af (99% of inflow)
 Center-of-Mass det. time= 29.0 min (771.5 - 742.5)

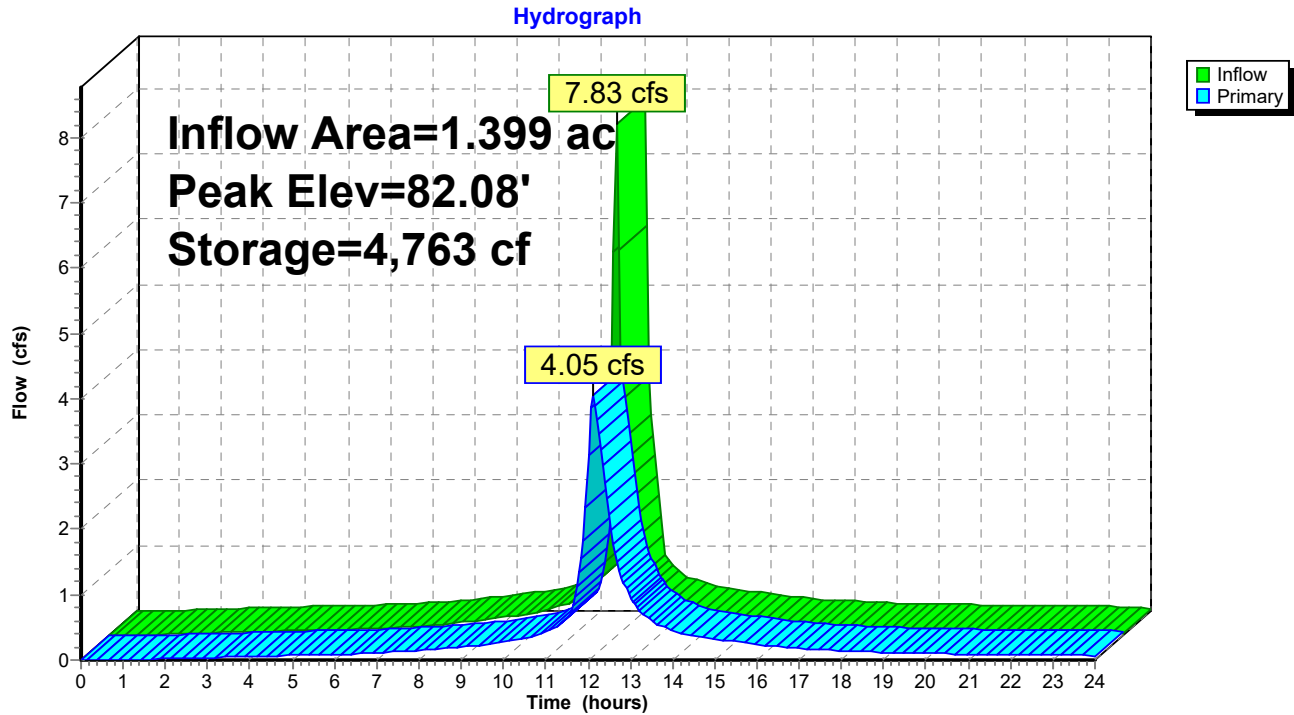
Volume	Invert	Avail.Storage	Storage Description
#1	82.00'	91,388 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
82.00	60,900	0	0
83.50	60,950	91,388	91,388

Device	Routing	Invert	Outlet Devices
#1	Primary	82.00'	66.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=4.04 cfs @ 12.10 hrs HW=82.08' (Free Discharge)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 4.04 cfs @ 0.78 fps)

Pond 2P: Roof Detention



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Pond 2P: Roof Detention

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	82.00	0.00
0.50	0.00	0	82.00	0.00
1.00	0.01	2	82.00	0.00
1.50	0.02	19	82.00	0.01
2.00	0.03	41	82.00	0.02
2.50	0.04	65	82.00	0.02
3.00	0.05	90	82.00	0.03
3.50	0.06	115	82.00	0.04
4.00	0.07	139	82.00	0.05
4.50	0.07	163	82.00	0.06
5.00	0.08	185	82.00	0.07
5.50	0.09	207	82.00	0.08
6.00	0.10	227	82.00	0.08
6.50	0.11	255	82.00	0.09
7.00	0.13	293	82.00	0.11
7.50	0.15	337	82.01	0.13
8.00	0.17	384	82.01	0.14
8.50	0.21	448	82.01	0.17
9.00	0.25	534	82.01	0.20
9.50	0.29	633	82.01	0.24
10.00	0.33	738	82.01	0.27
10.50	0.42	878	82.01	0.33
11.00	0.51	1,038	82.02	0.42
11.50	0.86	1,325	82.02	0.62
12.00	7.83	4,017	82.07	3.14
12.50	0.87	3,178	82.05	2.22
13.00	0.52	1,806	82.03	0.95
13.50	0.43	1,304	82.02	0.61
14.00	0.35	1,069	82.02	0.45
14.50	0.30	940	82.02	0.36
15.00	0.26	850	82.01	0.32
15.50	0.22	753	82.01	0.28
16.00	0.18	649	82.01	0.24
16.50	0.17	560	82.01	0.21
17.00	0.15	491	82.01	0.18
17.50	0.13	433	82.01	0.16
18.00	0.11	380	82.01	0.14
18.50	0.11	339	82.01	0.13
19.00	0.10	311	82.01	0.12
19.50	0.10	289	82.00	0.11
20.00	0.09	271	82.00	0.10
20.50	0.09	256	82.00	0.10
21.00	0.08	243	82.00	0.09
21.50	0.08	232	82.00	0.09
22.00	0.08	220	82.00	0.08
22.50	0.07	209	82.00	0.08
23.00	0.07	199	82.00	0.07
23.50	0.06	188	82.00	0.07
24.00	0.03	174	82.00	0.06

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Stage-Discharge for Pond 2P: Roof Detention

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
82.00	0.00	82.52	74.64	83.04	232.40
82.01	0.18	82.53	77.01	83.05	235.76
82.02	0.52	82.54	79.41	83.06	239.13
82.03	0.96	82.55	81.84	83.07	242.53
82.04	1.48	82.56	84.30	83.08	245.93
82.05	2.07	82.57	86.80	83.09	249.36
82.06	2.72	82.58	89.33	83.10	252.80
82.07	3.42	82.59	91.88	83.11	256.25
82.08	4.18	82.60	94.48	83.12	259.72
82.09	4.99	82.61	97.19	83.13	263.21
82.10	5.84	82.62	99.95	83.14	266.71
82.11	6.74	82.63	102.74	83.15	270.23
82.12	7.68	82.64	105.57	83.16	273.76
82.13	8.66	82.65	108.43	83.17	277.31
82.14	9.68	82.66	111.33	83.18	280.87
82.15	10.74	82.67	114.27	83.19	284.45
82.16	11.83	82.68	117.24	83.20	288.04
82.17	12.95	82.69	120.26	83.21	291.65
82.18	14.11	82.70	123.31	83.22	295.27
82.19	15.30	82.71	126.39	83.23	298.91
82.20	16.53	82.72	129.51	83.24	302.56
82.21	17.82	82.73	132.67	83.25	306.23
82.22	19.15	82.74	135.87	83.26	309.91
82.23	20.52	82.75	139.11	83.27	313.61
82.24	21.91	82.76	142.38	83.28	317.32
82.25	23.35	82.77	145.69	83.29	321.05
82.26	24.81	82.78	149.04	83.30	324.79
82.27	26.32	82.79	152.42	83.31	328.54
82.28	27.85	82.80	155.84	83.32	332.31
82.29	29.42	82.81	158.82	83.33	336.09
82.30	31.02	82.82	161.82	83.34	339.89
82.31	32.65	82.83	164.84	83.35	343.70
82.32	34.31	82.84	167.88	83.36	347.53
82.33	36.01	82.85	170.94	83.37	351.37
82.34	37.74	82.86	174.02	83.38	355.22
82.35	39.50	82.87	177.12	83.39	359.09
82.36	41.29	82.88	180.23	83.40	362.97
82.37	43.11	82.89	183.37	83.41	366.87
82.38	44.96	82.90	186.52	83.42	370.78
82.39	46.84	82.91	189.70	83.43	374.70
82.40	48.75	82.92	192.89	83.44	378.64
82.41	50.73	82.93	196.11	83.45	382.59
82.42	52.74	82.94	199.34	83.46	386.56
82.43	54.79	82.95	202.59	83.47	390.53
82.44	56.86	82.96	205.86	83.48	394.53
82.45	58.97	82.97	209.14	83.49	398.53
82.46	61.11	82.98	212.45	83.50	402.55
82.47	63.29	82.99	215.78		
82.48	65.49	83.00	219.12		
82.49	67.73	83.01	222.42		
82.50	70.00	83.02	225.73		
82.51	72.31	83.03	229.05		

Summary for Pond EX-P: Existing Pond

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth > 4.19" for 10 YEAR event
 Inflow = 10.12 cfs @ 12.11 hrs, Volume= 0.820 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 89.86' @ 24.00 hrs Surf.Area= 7,157 sf Storage= 35,698 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

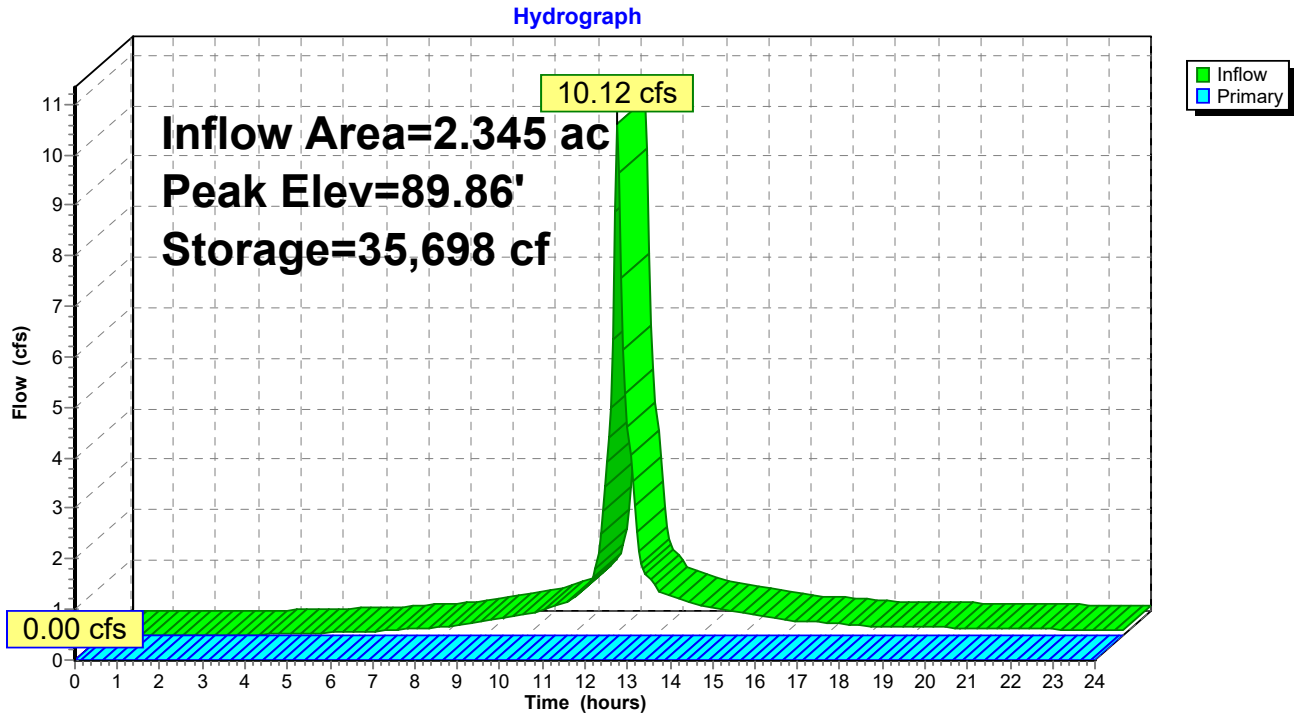
Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	193,943 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	635	0	0
95.00	14,042	73,385	73,385
100.00	34,181	120,558	193,943

Device	Routing	Invert	Outlet Devices
#1	Primary	95.00'	65.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=85.00' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond EX-P: Existing Pond



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Pond EX-P: Existing Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	85.00	0.00
0.50	0.00	0	85.00	0.00
1.00	0.00	0	85.00	0.00
1.50	0.00	0	85.00	0.00
2.00	0.00	0	85.00	0.00
2.50	0.00	0	85.00	0.00
3.00	0.00	0	85.00	0.00
3.50	0.01	7	85.00	0.00
4.00	0.02	34	85.00	0.00
4.50	0.03	82	85.01	0.00
5.00	0.04	151	85.02	0.00
5.50	0.06	243	85.03	0.00
6.00	0.07	358	85.05	0.00
6.50	0.09	501	85.07	0.00
7.00	0.12	686	85.09	0.00
7.50	0.14	918	85.13	0.00
8.00	0.17	1,203	85.16	0.00
8.50	0.22	1,556	85.21	0.00
9.00	0.29	2,014	85.27	0.00
9.50	0.35	2,589	85.35	0.00
10.00	0.42	3,289	85.45	0.00
10.50	0.54	4,151	85.57	0.00
11.00	0.69	5,257	85.72	0.00
11.50	1.10	6,810	85.93	0.00
12.00	5.85	11,642	86.59	0.00
12.50	2.55	22,459	88.06	0.00
13.00	0.96	24,953	88.40	0.00
13.50	0.73	26,421	88.60	0.00
14.00	0.60	27,619	88.76	0.00
14.50	0.51	28,608	88.90	0.00
15.00	0.45	29,475	89.02	0.00
15.50	0.38	30,223	89.12	0.00
16.00	0.32	30,852	89.20	0.00
16.50	0.28	31,382	89.28	0.00
17.00	0.25	31,858	89.34	0.00
17.50	0.22	32,282	89.40	0.00
18.00	0.19	32,653	89.45	0.00
18.50	0.18	32,984	89.49	0.00
19.00	0.17	33,298	89.54	0.00
19.50	0.16	33,597	89.58	0.00
20.00	0.15	33,879	89.62	0.00
20.50	0.15	34,148	89.65	0.00
21.00	0.14	34,404	89.69	0.00
21.50	0.13	34,649	89.72	0.00
22.00	0.13	34,882	89.75	0.00
22.50	0.12	35,104	89.78	0.00
23.00	0.11	35,314	89.81	0.00
23.50	0.11	35,512	89.84	0.00
24.00	0.10	35,698	89.86	0.00

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Stage-Discharge for Pond EX-P: Existing Pond

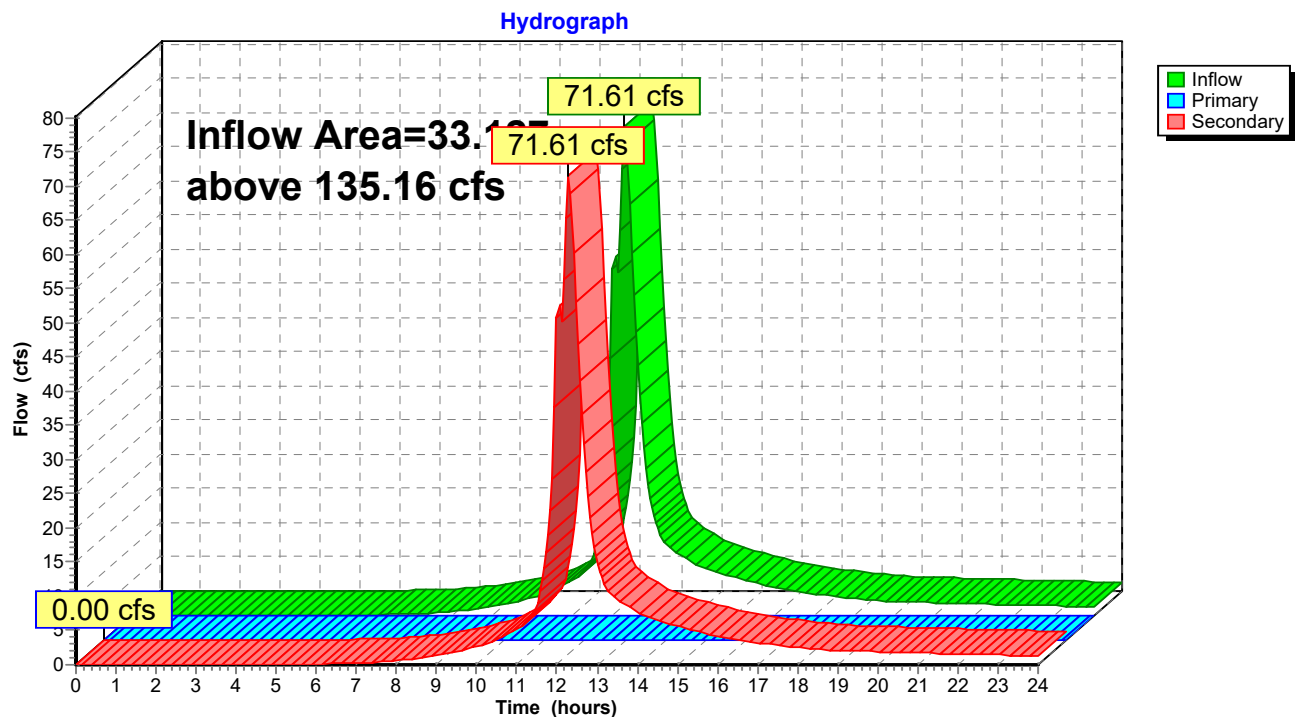
Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
85.00	0.00	92.80	0.00
85.15	0.00	92.95	0.00
85.30	0.00	93.10	0.00
85.45	0.00	93.25	0.00
85.60	0.00	93.40	0.00
85.75	0.00	93.55	0.00
85.90	0.00	93.70	0.00
86.05	0.00	93.85	0.00
86.20	0.00	94.00	0.00
86.35	0.00	94.15	0.00
86.50	0.00	94.30	0.00
86.65	0.00	94.45	0.00
86.80	0.00	94.60	0.00
86.95	0.00	94.75	0.00
87.10	0.00	94.90	0.00
87.25	0.00	95.05	1.70
87.40	0.00	95.20	13.60
87.55	0.00	95.35	33.11
87.70	0.00	95.50	59.75
87.85	0.00	95.65	91.80
88.00	0.00	95.80	124.65
88.15	0.00	95.95	161.30
88.30	0.00	96.10	200.22
88.45	0.00	96.25	241.41
88.60	0.00	96.40	285.33
88.75	0.00	96.55	332.40
88.90	0.00	96.70	381.80
89.05	0.00	96.85	433.43
89.20	0.00	97.00	487.20
89.35	0.00	97.15	544.25
89.50	0.00	97.30	603.55
89.65	0.00	97.45	665.04
89.80	0.00	97.60	727.04
89.95	0.00	97.75	789.97
90.10	0.00	97.90	854.51
90.25	0.00	98.05	921.66
90.40	0.00	98.20	992.71
90.55	0.00	98.35	1,065.72
90.70	0.00	98.50	1,140.64
90.85	0.00	98.65	1,217.47
91.00	0.00	98.80	1,296.18
91.15	0.00	98.95	1,376.74
91.30	0.00	99.10	1,461.29
91.45	0.00	99.25	1,549.05
91.60	0.00	99.40	1,638.98
91.75	0.00	99.55	1,731.70
91.90	0.00	99.70	1,827.97
92.05	0.00	99.85	1,926.59
92.20	0.00	100.00	2,027.55
92.35	0.00		
92.50	0.00		
92.65	0.00		

Summary for Link DP-5: Drainage Point - 5

Inflow Area = 33.127 ac, 27.67% Impervious, Inflow Depth > 3.06" for 10 YEAR event
 Inflow = 71.61 cfs @ 12.28 hrs, Volume= 8.440 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Secondary = 71.61 cfs @ 12.28 hrs, Volume= 8.440 af

Primary outflow = Inflow above 135.16 cfs, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-5: Drainage Point - 5



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb 2 Type III 24-hr 10 YEAR Rainfall=5.00"

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Hydrograph for Link DP-5: Drainage Point - 5

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0.00	0.00	0.00
0.50	0.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	0.00
1.50	0.00	0.00	0.00	0.00
2.00	0.01	0.00	0.00	0.01
2.50	0.02	0.00	0.00	0.02
3.00	0.03	0.00	0.00	0.03
3.50	0.04	0.00	0.00	0.04
4.00	0.05	0.00	0.00	0.05
4.50	0.06	0.00	0.00	0.06
5.00	0.07	0.00	0.00	0.07
5.50	0.08	0.00	0.00	0.08
6.00	0.10	0.00	0.00	0.10
6.50	0.14	0.00	0.00	0.14
7.00	0.20	0.00	0.00	0.20
7.50	0.34	0.00	0.00	0.34
8.00	0.56	0.00	0.00	0.56
8.50	0.91	0.00	0.00	0.91
9.00	1.37	0.00	0.00	1.37
9.50	1.97	0.00	0.00	1.97
10.00	2.68	0.00	0.00	2.68
10.50	3.67	0.00	0.00	3.67
11.00	5.13	0.00	0.00	5.13
11.50	8.36	0.00	0.00	8.36
12.00	50.79	0.00	0.00	50.79
12.50	46.77	0.00	0.00	46.77
13.00	14.61	0.00	0.00	14.61
13.50	9.43	0.00	0.00	9.43
14.00	7.69	0.00	0.00	7.69
14.50	6.46	0.00	0.00	6.46
15.00	5.68	0.00	0.00	5.68
15.50	4.91	0.00	0.00	4.91
16.00	4.13	0.00	0.00	4.13
16.50	3.54	0.00	0.00	3.54
17.00	3.18	0.00	0.00	3.18
17.50	2.83	0.00	0.00	2.83
18.00	2.48	0.00	0.00	2.48
18.50	2.23	0.00	0.00	2.23
19.00	2.12	0.00	0.00	2.12
19.50	2.01	0.00	0.00	2.01
20.00	1.91	0.00	0.00	1.91
20.50	1.81	0.00	0.00	1.81
21.00	1.73	0.00	0.00	1.73
21.50	1.66	0.00	0.00	1.66
22.00	1.58	0.00	0.00	1.58
22.50	1.50	0.00	0.00	1.50
23.00	1.42	0.00	0.00	1.42
23.50	1.34	0.00	0.00	1.34
24.00	1.20	0.00	0.00	1.20

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Drainage Area - 1	Runoff Area=265,008 sf 23.14% Impervious Runoff Depth>5.85" Tc=0.0 min CN=86 Runoff=46.04 cfs 2.965 af
Subcatchment 1B: Drainage Area - 1B	Runoff Area=60,950 sf 100.00% Impervious Runoff Depth>7.26" Tc=0.0 min CN=98 Runoff=11.78 cfs 0.847 af
Subcatchment 1C: Drainage Area - 1C	Runoff Area=19,921 sf 0.00% Impervious Runoff Depth>6.20" Tc=0.0 min CN=89 Runoff=3.60 cfs 0.236 af
Subcatchment 2: Drainage Area - 2	Runoff Area=1,014,900 sf 19.98% Impervious Runoff Depth>5.49" Flow Length=1,341' Tc=18.3 min CN=83 Runoff=102.82 cfs 10.650 af
Subcatchment 3: Drainage Area - 3	Runoff Area=102,167 sf 72.65% Impervious Runoff Depth>6.66" Flow Length=310' Tc=7.7 min CN=93 Runoff=15.66 cfs 1.302 af
Reach 1R: Swale (Reach)	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af n=0.030 L=228.0' S=0.1842 ' Capacity=2,551.26 cfs Outflow=0.00 cfs 0.000 af
Reach 2R: Stream	Avg. Flow Depth=1.74' Max Vel=8.96 fps Inflow=102.82 cfs 10.650 af n=0.040 L=550.0' S=0.0527 ' Capacity=592.33 cfs Outflow=102.72 cfs 10.643 af
Reach 3R: Channel	Avg. Flow Depth=1.63' Max Vel=7.81 fps Inflow=102.72 cfs 10.643 af n=0.040 L=575.0' S=0.0365 ' Capacity=360.64 cfs Outflow=102.46 cfs 10.631 af
Reach 4R: Stream	Avg. Flow Depth=2.61' Max Vel=6.22 fps Inflow=121.54 cfs 14.451 af n=0.040 L=190.0' S=0.0158 ' Capacity=162.23 cfs Outflow=121.42 cfs 14.446 af
Pond 1P: Grasscrete	Peak Elev=25.32' Storage=436 cf Inflow=3.60 cfs 0.236 af Discarded=2.00 cfs 0.221 af Secondary=0.59 cfs 0.015 af Outflow=2.59 cfs 0.236 af
Pond 2P: Roof Detention	Peak Elev=82.11' Storage=6,557 cf Inflow=11.78 cfs 0.847 af Outflow=6.54 cfs 0.841 af
Pond EX-P: Existing Pond	Peak Elev=92.73' Storage=56,695 cf Inflow=15.66 cfs 1.302 af Outflow=0.00 cfs 0.000 af
Link DP-5: Drainage Point - 5	above 135.16 cfs Inflow=121.42 cfs 14.446 af Primary=0.00 cfs 0.000 af Secondary=121.42 cfs 14.446 af

Total Runoff Area = 33.585 ac Runoff Volume = 15.999 af Average Runoff Depth = 5.72"
72.71% Pervious = 24.419 ac 27.29% Impervious = 9.166 ac

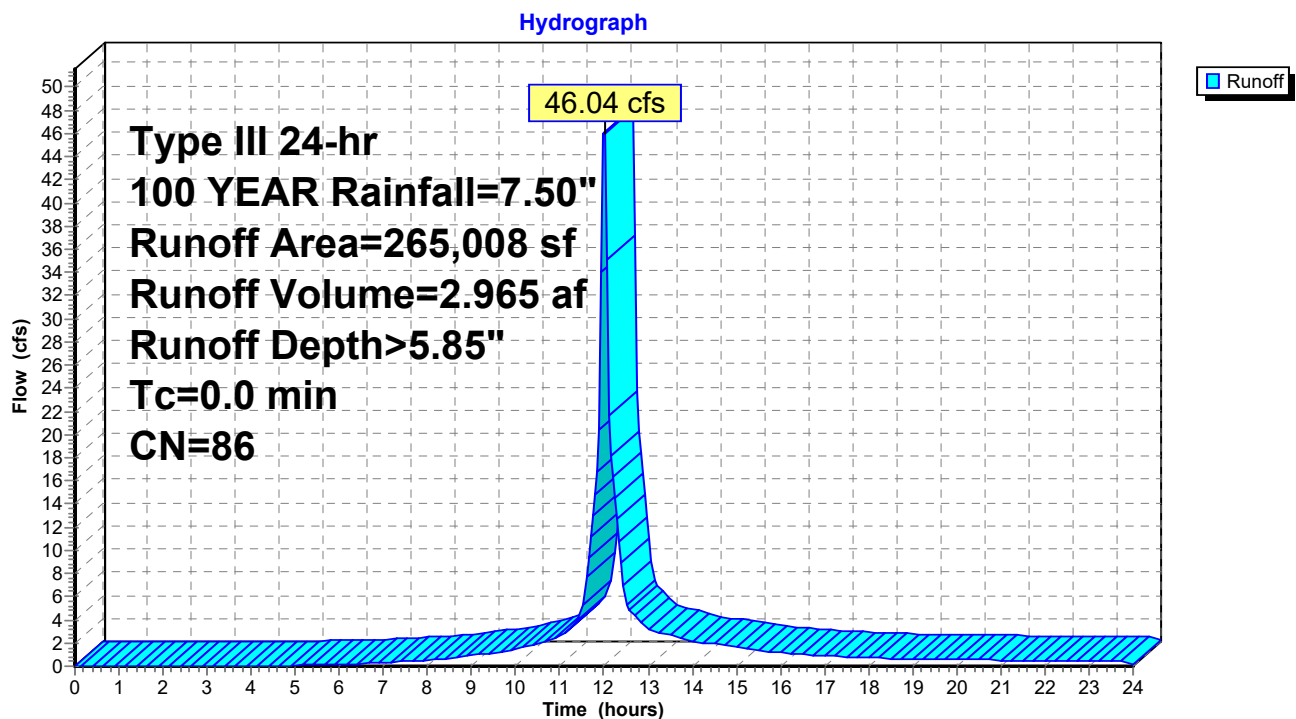
Summary for Subcatchment 1A: Drainage Area - 1

Runoff = 46.04 cfs @ 12.00 hrs, Volume= 2.965 af, Depth> 5.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.50"

	Area (sf)	CN	Description
*	61,315	98	Paved road, parking & roofs
	2,030	79	50-75% Grass cover, Fair, HSG C
	201,663	82	Woods/grass comb., Fair, HSG D
	265,008	86	Weighted Average
	203,693		76.86% Pervious Area
	61,315		23.14% Impervious Area

Subcatchment 1A: Drainage Area - 1



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Subcatchment 1A: Drainage Area - 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	5.62	4.05	3.19
0.25	0.02	0.00	0.00	13.25	5.76	4.18	2.92
0.50	0.04	0.00	0.00	13.50	5.88	4.29	2.66
0.75	0.06	0.00	0.00	13.75	5.99	4.40	2.40
1.00	0.08	0.00	0.00	14.00	6.08	4.49	2.15
1.25	0.09	0.00	0.00	14.25	6.17	4.57	2.02
1.50	0.11	0.00	0.00	14.50	6.26	4.65	1.90
1.75	0.13	0.00	0.00	14.75	6.33	4.73	1.77
2.00	0.15	0.00	0.00	15.00	6.41	4.80	1.65
2.25	0.17	0.00	0.00	15.25	6.47	4.86	1.52
2.50	0.19	0.00	0.00	15.50	6.54	4.92	1.40
2.75	0.21	0.00	0.00	15.75	6.59	4.98	1.27
3.00	0.23	0.00	0.00	16.00	6.64	5.02	1.15
3.25	0.25	0.00	0.00	16.25	6.69	5.07	1.09
3.50	0.28	0.00	0.00	16.50	6.74	5.11	1.04
3.75	0.30	0.00	0.00	16.75	6.78	5.16	0.98
4.00	0.32	0.00	0.00	17.00	6.82	5.19	0.93
4.25	0.35	0.00	0.02	17.25	6.86	5.23	0.87
4.50	0.37	0.00	0.04	17.50	6.90	5.27	0.82
4.75	0.40	0.00	0.05	17.75	6.93	5.30	0.76
5.00	0.43	0.01	0.08	18.00	6.96	5.33	0.71
5.25	0.45	0.01	0.10	18.25	6.99	5.36	0.69
5.50	0.48	0.01	0.12	18.50	7.02	5.38	0.67
5.75	0.51	0.02	0.14	18.75	7.05	5.41	0.66
6.00	0.54	0.02	0.16	19.00	7.07	5.44	0.64
6.25	0.57	0.03	0.19	19.25	7.10	5.46	0.63
6.50	0.60	0.04	0.23	19.50	7.13	5.49	0.61
6.75	0.64	0.05	0.27	19.75	7.15	5.51	0.59
7.00	0.68	0.06	0.31	20.00	7.18	5.54	0.58
7.25	0.72	0.08	0.36	20.25	7.20	5.56	0.56
7.50	0.76	0.09	0.41	20.50	7.23	5.58	0.55
7.75	0.81	0.11	0.46	20.75	7.25	5.60	0.54
8.00	0.86	0.13	0.52	21.00	7.27	5.63	0.53
8.25	0.91	0.15	0.61	21.25	7.29	5.65	0.51
8.50	0.96	0.18	0.71	21.50	7.31	5.67	0.50
8.75	1.03	0.21	0.81	21.75	7.34	5.69	0.49
9.00	1.09	0.25	0.93	22.00	7.36	5.71	0.48
9.25	1.17	0.29	1.05	22.25	7.38	5.73	0.46
9.50	1.24	0.33	1.18	22.50	7.39	5.75	0.45
9.75	1.33	0.38	1.31	22.75	7.41	5.76	0.44
10.00	1.42	0.44	1.45	23.00	7.43	5.78	0.43
10.25	1.52	0.50	1.69	23.25	7.45	5.80	0.42
10.50	1.62	0.58	1.94	23.50	7.47	5.82	0.40
10.75	1.74	0.66	2.20	23.75	7.48	5.83	0.39
11.00	1.88	0.76	2.49	24.00	7.50	5.85	0.19
11.25	2.03	0.87	3.37				
11.50	2.24	1.03	4.49				
11.75	2.66	1.38	12.97				
12.00	3.75	2.32	46.04				
12.25	4.84	3.31	14.50				
12.50	5.26	3.72	5.35				
12.75	5.47	3.90	4.16				

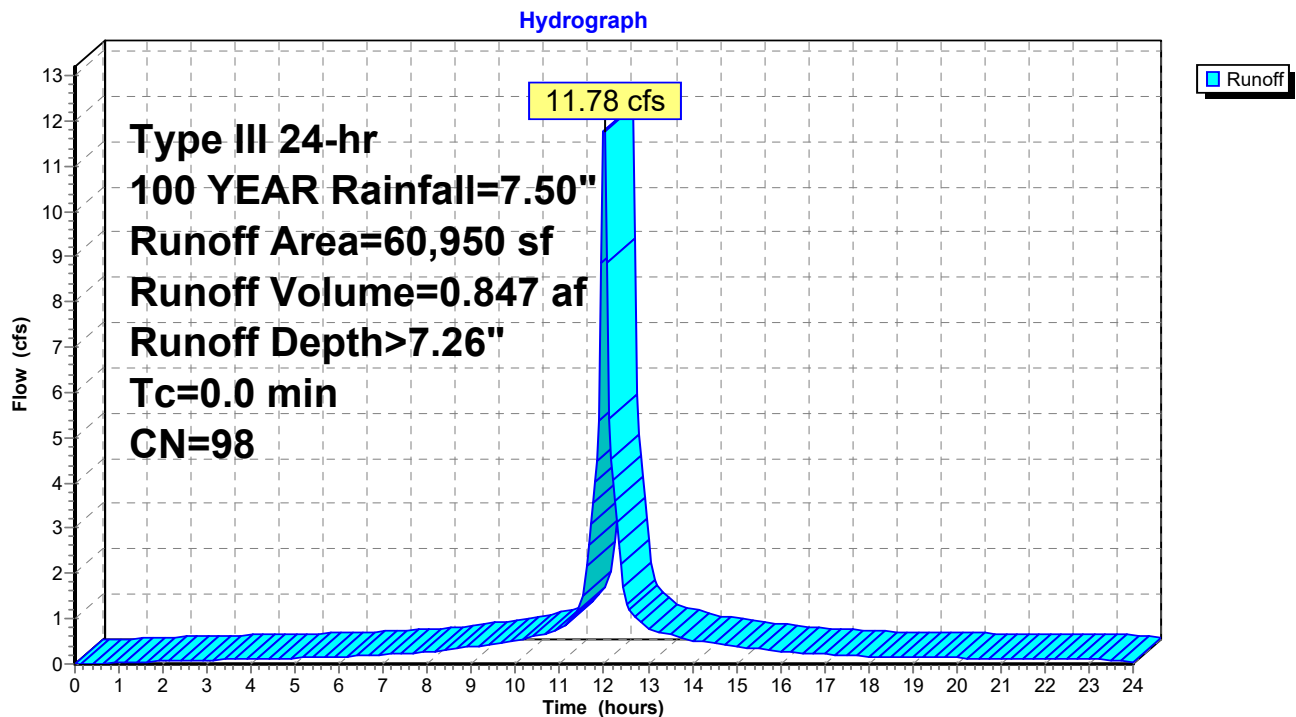
Summary for Subcatchment 1B: Drainage Area - 1B

Runoff = 11.78 cfs @ 12.00 hrs, Volume= 0.847 af, Depth> 7.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.50"

	Area (sf)	CN	Description
*	60,950	98	Building Roof
	60,950		100.00% Impervious Area

Subcatchment 1B: Drainage Area - 1B



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Subcatchment 1B: Drainage Area - 1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	5.62	5.39	0.78
0.25	0.02	0.00	0.00	13.25	5.76	5.52	0.71
0.50	0.04	0.00	0.00	13.50	5.88	5.64	0.64
0.75	0.06	0.00	0.01	13.75	5.99	5.75	0.58
1.00	0.08	0.00	0.03	14.00	6.08	5.84	0.52
1.25	0.09	0.01	0.04	14.25	6.17	5.93	0.49
1.50	0.11	0.02	0.05	14.50	6.26	6.02	0.46
1.75	0.13	0.03	0.06	14.75	6.33	6.10	0.43
2.00	0.15	0.04	0.06	15.00	6.41	6.17	0.40
2.25	0.17	0.05	0.07	15.25	6.47	6.24	0.37
2.50	0.19	0.06	0.08	15.50	6.54	6.30	0.34
2.75	0.21	0.08	0.08	15.75	6.59	6.35	0.31
3.00	0.23	0.09	0.09	16.00	6.64	6.41	0.28
3.25	0.25	0.11	0.10	16.25	6.69	6.45	0.26
3.50	0.28	0.13	0.10	16.50	6.74	6.50	0.25
3.75	0.30	0.14	0.11	16.75	6.78	6.54	0.24
4.00	0.32	0.16	0.11	17.00	6.82	6.58	0.22
4.25	0.35	0.18	0.12	17.25	6.86	6.62	0.21
4.50	0.37	0.21	0.12	17.50	6.90	6.66	0.20
4.75	0.40	0.23	0.13	17.75	6.93	6.69	0.18
5.00	0.43	0.25	0.14	18.00	6.96	6.72	0.17
5.25	0.45	0.28	0.14	18.25	6.99	6.75	0.17
5.50	0.48	0.30	0.15	18.50	7.02	6.78	0.16
5.75	0.51	0.33	0.15	18.75	7.05	6.81	0.16
6.00	0.54	0.35	0.16	19.00	7.07	6.84	0.15
6.25	0.57	0.38	0.17	19.25	7.10	6.86	0.15
6.50	0.60	0.41	0.18	19.50	7.13	6.89	0.15
6.75	0.64	0.45	0.20	19.75	7.15	6.91	0.14
7.00	0.68	0.48	0.21	20.00	7.18	6.94	0.14
7.25	0.72	0.52	0.22	20.25	7.20	6.96	0.13
7.50	0.76	0.56	0.24	20.50	7.23	6.99	0.13
7.75	0.81	0.61	0.25	20.75	7.25	7.01	0.13
8.00	0.86	0.65	0.26	21.00	7.27	7.03	0.13
8.25	0.91	0.70	0.29	21.25	7.29	7.05	0.12
8.50	0.96	0.76	0.32	21.50	7.31	7.07	0.12
8.75	1.03	0.82	0.36	21.75	7.34	7.10	0.12
9.00	1.09	0.88	0.39	22.00	7.36	7.12	0.11
9.25	1.17	0.95	0.42	22.25	7.38	7.14	0.11
9.50	1.24	1.03	0.45	22.50	7.39	7.16	0.11
9.75	1.33	1.11	0.48	22.75	7.41	7.17	0.10
10.00	1.42	1.20	0.51	23.00	7.43	7.19	0.10
10.25	1.52	1.29	0.57	23.25	7.45	7.21	0.10
10.50	1.62	1.40	0.64	23.50	7.47	7.23	0.10
10.75	1.74	1.52	0.70	23.75	7.48	7.24	0.09
11.00	1.88	1.65	0.77	24.00	7.50	7.26	0.05
11.25	2.03	1.81	1.01				
11.50	2.24	2.01	1.30				
11.75	2.66	2.43	3.57				
12.00	3.75	3.52	11.78				
12.25	4.84	4.60	3.58				
12.50	5.26	5.03	1.31				
12.75	5.47	5.23	1.01				

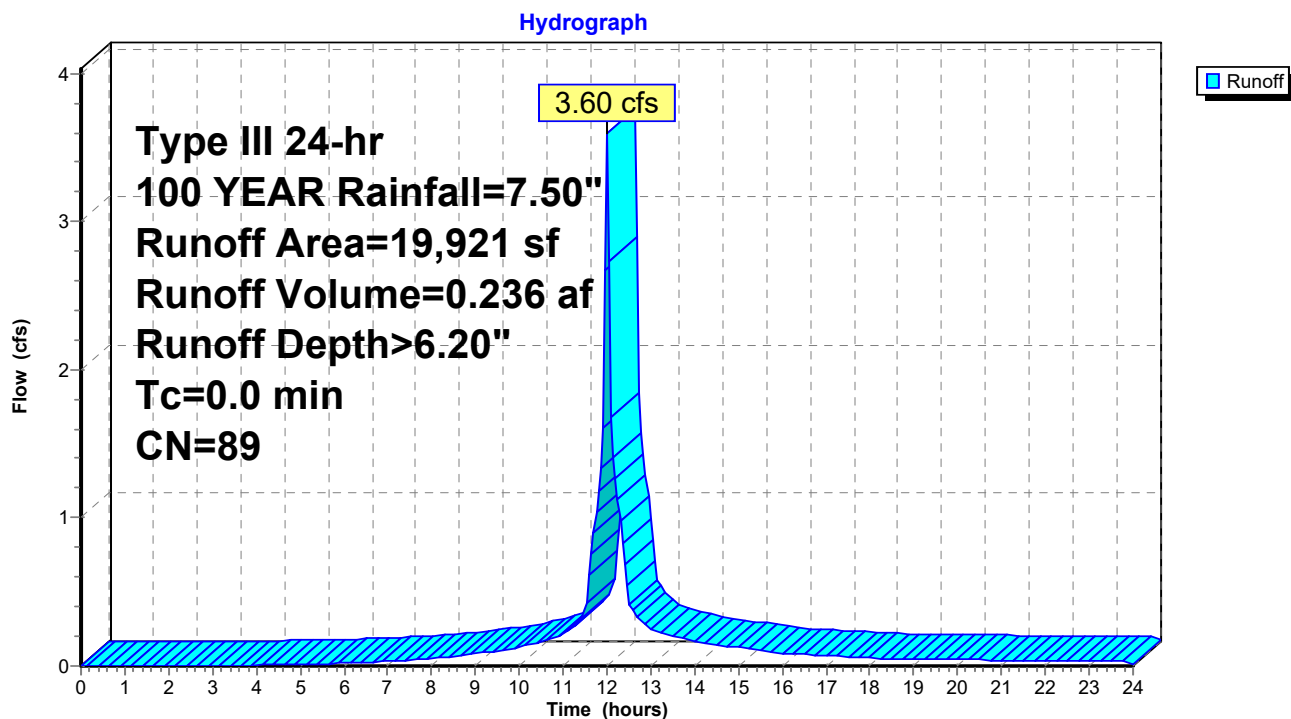
Summary for Subcatchment 1C: Drainage Area - 1C

Runoff = 3.60 cfs @ 12.00 hrs, Volume= 0.236 af, Depth> 6.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.50"

	Area (sf)	CN	Description
*	19,921	89	Dirt driveway, HSG D
	19,921		100.00% Pervious Area

Subcatchment 1C: Drainage Area - 1C



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Subcatchment 1C: Drainage Area - 1C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	5.62	4.37	0.25
0.25	0.02	0.00	0.00	13.25	5.76	4.50	0.22
0.50	0.04	0.00	0.00	13.50	5.88	4.62	0.20
0.75	0.06	0.00	0.00	13.75	5.99	4.72	0.18
1.00	0.08	0.00	0.00	14.00	6.08	4.82	0.16
1.25	0.09	0.00	0.00	14.25	6.17	4.90	0.15
1.50	0.11	0.00	0.00	14.50	6.26	4.98	0.15
1.75	0.13	0.00	0.00	14.75	6.33	5.06	0.14
2.00	0.15	0.00	0.00	15.00	6.41	5.13	0.13
2.25	0.17	0.00	0.00	15.25	6.47	5.20	0.12
2.50	0.19	0.00	0.00	15.50	6.54	5.26	0.11
2.75	0.21	0.00	0.00	15.75	6.59	5.31	0.10
3.00	0.23	0.00	0.00	16.00	6.64	5.36	0.09
3.25	0.25	0.00	0.00	16.25	6.69	5.41	0.08
3.50	0.28	0.00	0.00	16.50	6.74	5.45	0.08
3.75	0.30	0.00	0.00	16.75	6.78	5.49	0.08
4.00	0.32	0.00	0.01	17.00	6.82	5.53	0.07
4.25	0.35	0.01	0.01	17.25	6.86	5.57	0.07
4.50	0.37	0.01	0.01	17.50	6.90	5.61	0.06
4.75	0.40	0.02	0.01	17.75	6.93	5.64	0.06
5.00	0.43	0.02	0.01	18.00	6.96	5.67	0.05
5.25	0.45	0.03	0.01	18.25	6.99	5.70	0.05
5.50	0.48	0.04	0.02	18.50	7.02	5.73	0.05
5.75	0.51	0.05	0.02	18.75	7.05	5.75	0.05
6.00	0.54	0.06	0.02	19.00	7.07	5.78	0.05
6.25	0.57	0.07	0.02	19.25	7.10	5.81	0.05
6.50	0.60	0.08	0.03	19.50	7.13	5.83	0.05
6.75	0.64	0.09	0.03	19.75	7.15	5.86	0.05
7.00	0.68	0.11	0.03	20.00	7.18	5.88	0.04
7.25	0.72	0.13	0.04	20.25	7.20	5.90	0.04
7.50	0.76	0.15	0.04	20.50	7.23	5.93	0.04
7.75	0.81	0.17	0.05	20.75	7.25	5.95	0.04
8.00	0.86	0.20	0.05	21.00	7.27	5.97	0.04
8.25	0.91	0.23	0.06	21.25	7.29	5.99	0.04
8.50	0.96	0.26	0.07	21.50	7.31	6.02	0.04
8.75	1.03	0.30	0.07	21.75	7.34	6.04	0.04
9.00	1.09	0.34	0.08	22.00	7.36	6.06	0.04
9.25	1.17	0.39	0.09	22.25	7.38	6.08	0.04
9.50	1.24	0.45	0.10	22.50	7.39	6.09	0.03
9.75	1.33	0.50	0.11	22.75	7.41	6.11	0.03
10.00	1.42	0.57	0.12	23.00	7.43	6.13	0.03
10.25	1.52	0.64	0.14	23.25	7.45	6.15	0.03
10.50	1.62	0.73	0.16	23.50	7.47	6.16	0.03
10.75	1.74	0.82	0.18	23.75	7.48	6.18	0.03
11.00	1.88	0.93	0.21	24.00	7.50	6.20	0.01
11.25	2.03	1.06	0.28				
11.50	2.24	1.23	0.37				
11.75	2.66	1.60	1.04				
12.00	3.75	2.59	3.60				
12.25	4.84	3.61	1.12				
12.50	5.26	4.03	0.41				
12.75	5.47	4.22	0.32				

Summary for Subcatchment 2: Drainage Area -2

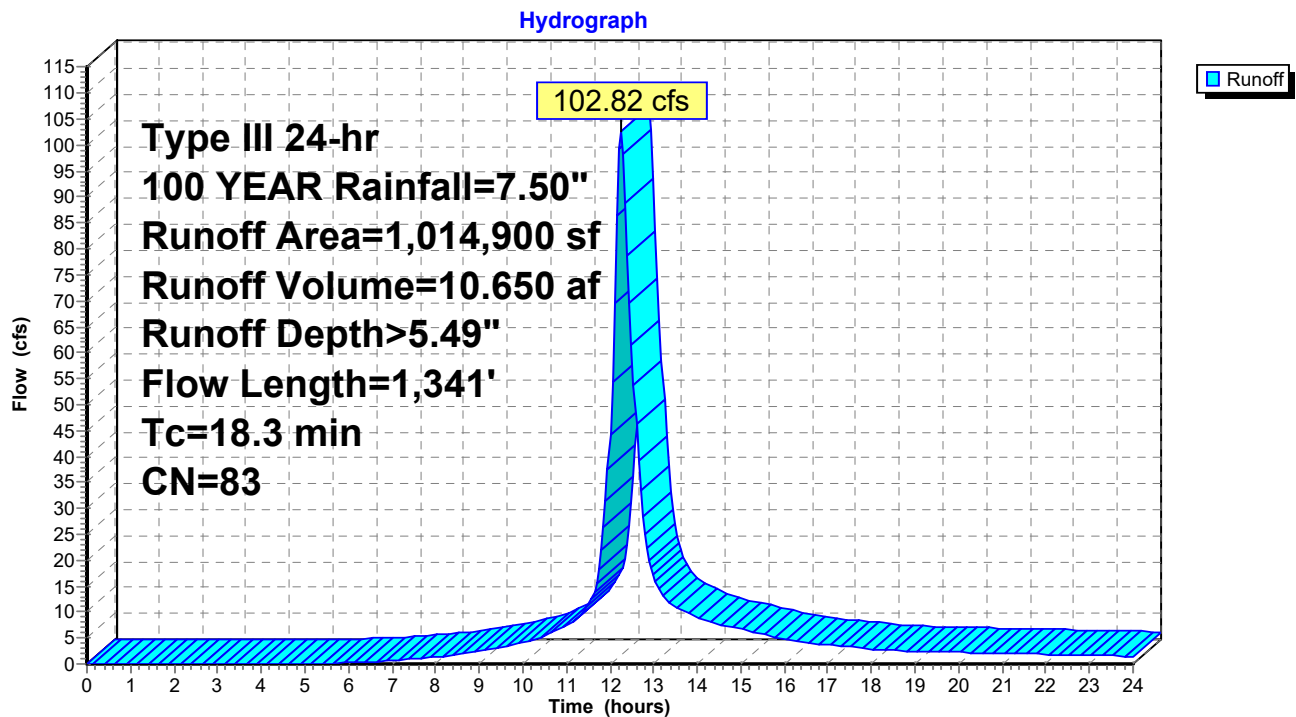
Runoff = 102.82 cfs @ 12.25 hrs, Volume= 10.650 af, Depth> 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.50"

Area (sf)	CN	Description
* 195,831	98	Paved parking & roofs
* 6,925	98	Water Course
812,144	79	Woods, Fair, HSG D
1,014,900	83	Weighted Average
812,144		80.02% Pervious Area
202,756		19.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	1,241	0.0970	5.01		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
18.3	1,341	Total			

Subcatchment 2: Drainage Area -2



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Subcatchment 2: Drainage Area -2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	5.62	3.74	17.10
0.25	0.02	0.00	0.00	13.25	5.76	3.87	12.79
0.50	0.04	0.00	0.00	13.50	5.88	3.98	11.12
0.75	0.06	0.00	0.00	13.75	5.99	4.08	10.08
1.00	0.08	0.00	0.00	14.00	6.08	4.17	9.12
1.25	0.09	0.00	0.00	14.25	6.17	4.25	8.22
1.50	0.11	0.00	0.00	14.50	6.26	4.33	7.64
1.75	0.13	0.00	0.00	14.75	6.33	4.40	7.17
2.00	0.15	0.00	0.00	15.00	6.41	4.47	6.71
2.25	0.17	0.00	0.00	15.25	6.47	4.53	6.24
2.50	0.19	0.00	0.00	15.50	6.54	4.59	5.77
2.75	0.21	0.00	0.00	15.75	6.59	4.65	5.30
3.00	0.23	0.00	0.00	16.00	6.64	4.69	4.83
3.25	0.25	0.00	0.00	16.25	6.69	4.74	4.40
3.50	0.28	0.00	0.00	16.50	6.74	4.78	4.13
3.75	0.30	0.00	0.00	16.75	6.78	4.82	3.92
4.00	0.32	0.00	0.00	17.00	6.82	4.86	3.72
4.25	0.35	0.00	0.00	17.25	6.86	4.90	3.51
4.50	0.37	0.00	0.00	17.50	6.90	4.93	3.30
4.75	0.40	0.00	0.00	17.75	6.93	4.96	3.10
5.00	0.43	0.00	0.00	18.00	6.96	4.99	2.89
5.25	0.45	0.00	0.04	18.25	6.99	5.02	2.71
5.50	0.48	0.00	0.10	18.50	7.02	5.05	2.61
5.75	0.51	0.00	0.17	18.75	7.05	5.07	2.55
6.00	0.54	0.01	0.24	19.00	7.07	5.10	2.48
6.25	0.57	0.01	0.32	19.25	7.10	5.12	2.42
6.50	0.60	0.02	0.42	19.50	7.13	5.15	2.36
6.75	0.64	0.02	0.53	19.75	7.15	5.17	2.30
7.00	0.68	0.03	0.65	20.00	7.18	5.20	2.24
7.25	0.72	0.04	0.79	20.25	7.20	5.22	2.18
7.50	0.76	0.05	0.94	20.50	7.23	5.24	2.13
7.75	0.81	0.06	1.11	20.75	7.25	5.26	2.08
8.00	0.86	0.08	1.28	21.00	7.27	5.28	2.03
8.25	0.91	0.10	1.48	21.25	7.29	5.30	1.99
8.50	0.96	0.12	1.76	21.50	7.31	5.33	1.94
8.75	1.03	0.14	2.09	21.75	7.34	5.34	1.90
9.00	1.09	0.17	2.45	22.00	7.36	5.36	1.85
9.25	1.17	0.20	2.84	22.25	7.38	5.38	1.80
9.50	1.24	0.24	3.27	22.50	7.39	5.40	1.76
9.75	1.33	0.28	3.72	22.75	7.41	5.42	1.71
10.00	1.42	0.33	4.19	23.00	7.43	5.44	1.66
10.25	1.52	0.39	4.73	23.25	7.45	5.45	1.62
10.50	1.62	0.45	5.51	23.50	7.47	5.47	1.57
10.75	1.74	0.53	6.40	23.75	7.48	5.49	1.52
11.00	1.88	0.61	7.35	24.00	7.50	5.50	1.48
11.25	2.03	0.72	8.64				
11.50	2.24	0.86	11.33				
11.75	2.66	1.18	18.22				
12.00	3.75	2.07	44.30				
12.25	4.84	3.03	102.80				
12.50	5.26	3.41	61.38				
12.75	5.47	3.60	28.48				

Summary for Subcatchment 3: Drainage Area - 3

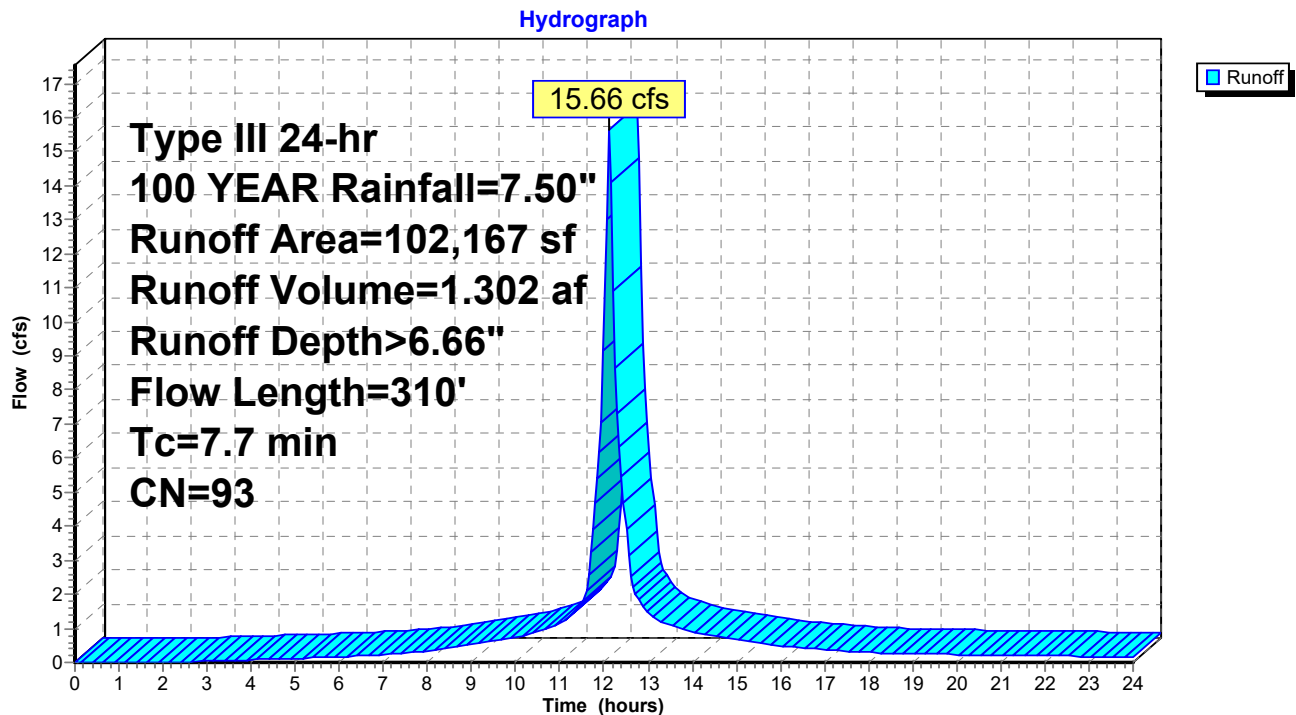
Runoff = 15.66 cfs @ 12.11 hrs, Volume= 1.302 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=7.50"

	Area (sf)	CN	Description
*	74,229	98	Paved roads w/curbs & sewers
	27,938	79	Woods, Fair, HSG D
	102,167	93	Weighted Average
	27,938		27.35% Pervious Area
	74,229		72.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.3000	0.24		Sheet Flow, 1 to 2
					Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	210	0.0950	4.96		Shallow Concentrated Flow, 2 to 3
					Unpaved Kv= 16.1 fps
7.7	310	Total			

Subcatchment 3: Drainage Area - 3



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Subcatchment 3: Drainage Area - 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	5.62	4.81	1.47
0.25	0.02	0.00	0.00	13.25	5.76	4.94	1.22
0.50	0.04	0.00	0.00	13.50	5.88	5.06	1.12
0.75	0.06	0.00	0.00	13.75	5.99	5.17	1.01
1.00	0.08	0.00	0.00	14.00	6.08	5.26	0.91
1.25	0.09	0.00	0.00	14.25	6.17	5.35	0.83
1.50	0.11	0.00	0.00	14.50	6.26	5.43	0.78
1.75	0.13	0.00	0.00	14.75	6.33	5.51	0.73
2.00	0.15	0.00	0.00	15.00	6.41	5.58	0.68
2.25	0.17	0.00	0.00	15.25	6.47	5.65	0.63
2.50	0.19	0.00	0.01	15.50	6.54	5.71	0.58
2.75	0.21	0.00	0.02	15.75	6.59	5.77	0.53
3.00	0.23	0.01	0.03	16.00	6.64	5.82	0.48
3.25	0.25	0.01	0.04	16.25	6.69	5.87	0.44
3.50	0.28	0.02	0.05	16.50	6.74	5.91	0.42
3.75	0.30	0.02	0.06	16.75	6.78	5.95	0.40
4.00	0.32	0.03	0.07	17.00	6.82	5.99	0.38
4.25	0.35	0.04	0.08	17.25	6.86	6.03	0.36
4.50	0.37	0.05	0.09	17.50	6.90	6.07	0.34
4.75	0.40	0.06	0.10	17.75	6.93	6.10	0.31
5.00	0.43	0.07	0.11	18.00	6.96	6.13	0.29
5.25	0.45	0.09	0.12	18.25	6.99	6.16	0.28
5.50	0.48	0.10	0.14	18.50	7.02	6.19	0.27
5.75	0.51	0.12	0.15	18.75	7.05	6.22	0.26
6.00	0.54	0.13	0.16	19.00	7.07	6.24	0.26
6.25	0.57	0.15	0.17	19.25	7.10	6.27	0.25
6.50	0.60	0.17	0.19	19.50	7.13	6.30	0.24
6.75	0.64	0.19	0.21	19.75	7.15	6.32	0.24
7.00	0.68	0.22	0.23	20.00	7.18	6.35	0.23
7.25	0.72	0.24	0.26	20.25	7.20	6.37	0.23
7.50	0.76	0.27	0.28	20.50	7.23	6.39	0.22
7.75	0.81	0.31	0.30	20.75	7.25	6.42	0.22
8.00	0.86	0.34	0.33	21.00	7.27	6.44	0.21
8.25	0.91	0.38	0.36	21.25	7.29	6.46	0.21
8.50	0.96	0.42	0.41	21.50	7.31	6.48	0.20
8.75	1.03	0.47	0.46	21.75	7.34	6.50	0.20
9.00	1.09	0.52	0.51	22.00	7.36	6.52	0.19
9.25	1.17	0.58	0.56	22.25	7.38	6.54	0.19
9.50	1.24	0.65	0.61	22.50	7.39	6.56	0.18
9.75	1.33	0.72	0.67	22.75	7.41	6.58	0.18
10.00	1.42	0.79	0.72	23.00	7.43	6.60	0.17
10.25	1.52	0.88	0.80	23.25	7.45	6.62	0.17
10.50	1.62	0.98	0.91	23.50	7.47	6.63	0.16
10.75	1.74	1.08	1.01	23.75	7.48	6.65	0.16
11.00	1.88	1.20	1.12	24.00	7.50	6.67	0.15
11.25	2.03	1.35	1.38				
11.50	2.24	1.53	1.77				
11.75	2.66	1.93	3.92				
12.00	3.75	2.98	9.14				
12.25	4.84	4.04	8.67				
12.50	5.26	4.46	3.90				
12.75	5.47	4.66	1.89				

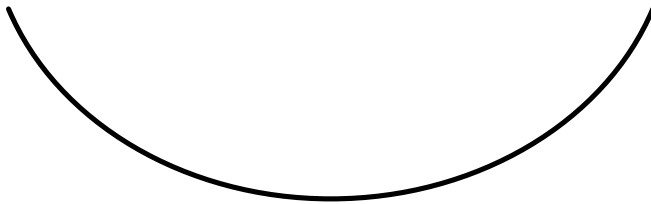
Summary for Reach 1R: Swale (Reach)

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth = 0.00" for 100 YEAR event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

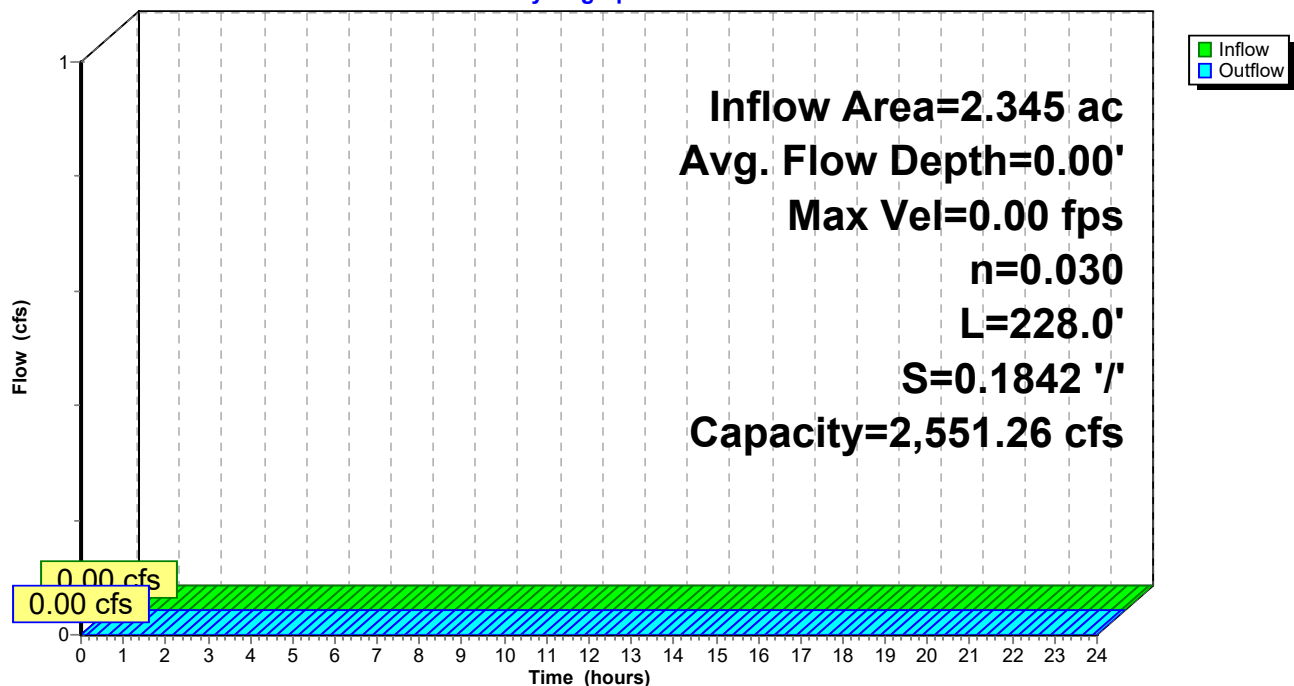
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 5.00' Flow Area= 60.0 sf, Capacity= 2,551.26 cfs

18.00' x 5.00' deep Parabolic Channel, n= 0.030 Stream, clean & straight
 Length= 228.0' Slope= 0.1842 '/'
 Inlet Invert= 95.00', Outlet Invert= 53.00'



Reach 1R: Swale (Reach)

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Reach 1R: Swale (Reach)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00	95.00	0.00	13.00	0.00	95.00	0.00
0.25	0.00	95.00	0.00	13.25	0.00	95.00	0.00
0.50	0.00	95.00	0.00	13.50	0.00	95.00	0.00
0.75	0.00	95.00	0.00	13.75	0.00	95.00	0.00
1.00	0.00	95.00	0.00	14.00	0.00	95.00	0.00
1.25	0.00	95.00	0.00	14.25	0.00	95.00	0.00
1.50	0.00	95.00	0.00	14.50	0.00	95.00	0.00
1.75	0.00	95.00	0.00	14.75	0.00	95.00	0.00
2.00	0.00	95.00	0.00	15.00	0.00	95.00	0.00
2.25	0.00	95.00	0.00	15.25	0.00	95.00	0.00
2.50	0.00	95.00	0.00	15.50	0.00	95.00	0.00
2.75	0.00	95.00	0.00	15.75	0.00	95.00	0.00
3.00	0.00	95.00	0.00	16.00	0.00	95.00	0.00
3.25	0.00	95.00	0.00	16.25	0.00	95.00	0.00
3.50	0.00	95.00	0.00	16.50	0.00	95.00	0.00
3.75	0.00	95.00	0.00	16.75	0.00	95.00	0.00
4.00	0.00	95.00	0.00	17.00	0.00	95.00	0.00
4.25	0.00	95.00	0.00	17.25	0.00	95.00	0.00
4.50	0.00	95.00	0.00	17.50	0.00	95.00	0.00
4.75	0.00	95.00	0.00	17.75	0.00	95.00	0.00
5.00	0.00	95.00	0.00	18.00	0.00	95.00	0.00
5.25	0.00	95.00	0.00	18.25	0.00	95.00	0.00
5.50	0.00	95.00	0.00	18.50	0.00	95.00	0.00
5.75	0.00	95.00	0.00	18.75	0.00	95.00	0.00
6.00	0.00	95.00	0.00	19.00	0.00	95.00	0.00
6.25	0.00	95.00	0.00	19.25	0.00	95.00	0.00
6.50	0.00	95.00	0.00	19.50	0.00	95.00	0.00
6.75	0.00	95.00	0.00	19.75	0.00	95.00	0.00
7.00	0.00	95.00	0.00	20.00	0.00	95.00	0.00
7.25	0.00	95.00	0.00	20.25	0.00	95.00	0.00
7.50	0.00	95.00	0.00	20.50	0.00	95.00	0.00
7.75	0.00	95.00	0.00	20.75	0.00	95.00	0.00
8.00	0.00	95.00	0.00	21.00	0.00	95.00	0.00
8.25	0.00	95.00	0.00	21.25	0.00	95.00	0.00
8.50	0.00	95.00	0.00	21.50	0.00	95.00	0.00
8.75	0.00	95.00	0.00	21.75	0.00	95.00	0.00
9.00	0.00	95.00	0.00	22.00	0.00	95.00	0.00
9.25	0.00	95.00	0.00	22.25	0.00	95.00	0.00
9.50	0.00	95.00	0.00	22.50	0.00	95.00	0.00
9.75	0.00	95.00	0.00	22.75	0.00	95.00	0.00
10.00	0.00	95.00	0.00	23.00	0.00	95.00	0.00
10.25	0.00	95.00	0.00	23.25	0.00	95.00	0.00
10.50	0.00	95.00	0.00	23.50	0.00	95.00	0.00
10.75	0.00	95.00	0.00	23.75	0.00	95.00	0.00
11.00	0.00	95.00	0.00	24.00	0.00	95.00	0.00
11.25	0.00	95.00	0.00				
11.50	0.00	95.00	0.00				
11.75	0.00	95.00	0.00				
12.00	0.00	95.00	0.00				
12.25	0.00	95.00	0.00				
12.50	0.00	95.00	0.00				
12.75	0.00	95.00	0.00				

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Stage-Discharge for Reach 1R: Swale (Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
95.00	0.00	0.00	97.60	28.81	648.28
95.05	2.20	0.13	97.65	29.15	674.88
95.10	3.49	0.59	97.70	29.49	702.02
95.15	4.56	1.42	97.75	29.82	729.73
95.20	5.52	2.65	97.80	30.15	757.98
95.25	6.40	4.29	97.85	30.47	786.79
95.30	7.21	6.36	97.90	30.79	816.15
95.35	7.98	8.87	97.95	31.12	846.06
95.40	8.71	11.83	98.00	31.43	876.53
95.45	9.41	15.25	98.05	31.75	907.56
95.50	10.09	19.14	98.10	32.06	939.14
95.55	10.73	23.49	98.15	32.37	971.27
95.60	11.36	28.33	98.20	32.68	1,003.96
95.65	11.97	33.65	98.25	32.99	1,037.20
95.70	12.56	39.46	98.30	33.29	1,071.00
95.75	13.13	45.77	98.35	33.59	1,105.36
95.80	13.69	52.57	98.40	33.89	1,140.27
95.85	14.24	59.88	98.45	34.19	1,175.74
95.90	14.77	67.69	98.50	34.48	1,211.76
95.95	15.30	76.01	98.55	34.78	1,248.34
96.00	15.81	84.83	98.60	35.07	1,285.48
96.05	16.31	94.18	98.65	35.36	1,323.17
96.10	16.80	104.04	98.70	35.64	1,361.42
96.15	17.29	114.42	98.75	35.93	1,400.23
96.20	17.76	125.32	98.80	36.21	1,439.59
96.25	18.23	136.74	98.85	36.49	1,479.51
96.30	18.69	148.69	98.90	36.77	1,519.98
96.35	19.15	161.17	98.95	37.05	1,561.02
96.40	19.59	174.17	99.00	37.33	1,602.61
96.45	20.03	187.71	99.05	37.60	1,644.75
96.50	20.47	201.78	99.10	37.88	1,687.45
96.55	20.89	216.38	99.15	38.15	1,730.71
96.60	21.32	231.52	99.20	38.42	1,774.53
96.65	21.73	247.20	99.25	38.68	1,818.90
96.70	22.14	263.41	99.30	38.95	1,863.83
96.75	22.55	280.16	99.35	39.21	1,909.32
96.80	22.95	297.45	99.40	39.48	1,955.36
96.85	23.35	315.28	99.45	39.74	2,001.96
96.90	23.74	333.66	99.50	40.00	2,049.12
96.95	24.13	352.58	99.55	40.26	2,096.83
97.00	24.51	372.04	99.60	40.51	2,145.10
97.05	24.89	392.05	99.65	40.77	2,193.92
97.10	25.26	412.60	99.70	41.02	2,243.30
97.15	25.64	433.70	99.75	41.28	2,293.24
97.20	26.00	455.34	99.80	41.53	2,343.73
97.25	26.37	477.54	99.85	41.78	2,394.78
97.30	26.73	500.28	99.90	42.03	2,446.39
97.35	27.08	523.57	99.95	42.27	2,498.55
97.40	27.43	547.41	100.00	42.52	2,551.26
97.45	27.78	571.80			
97.50	28.13	596.74			
97.55	28.47	622.24			

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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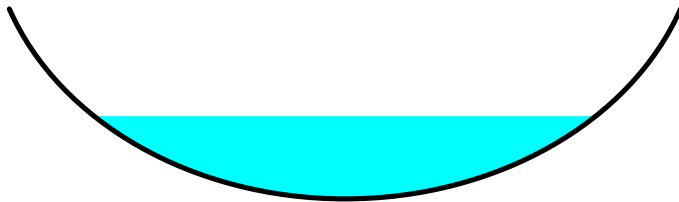
Summary for Reach 2R: Stream

Inflow Area = 25.644 ac, 24.80% Impervious, Inflow Depth > 4.98" for 100 YEAR event
 Inflow = 102.82 cfs @ 12.25 hrs, Volume= 10.650 af
 Outflow = 102.72 cfs @ 12.26 hrs, Volume= 10.643 af, Atten= 0%, Lag= 0.7 min

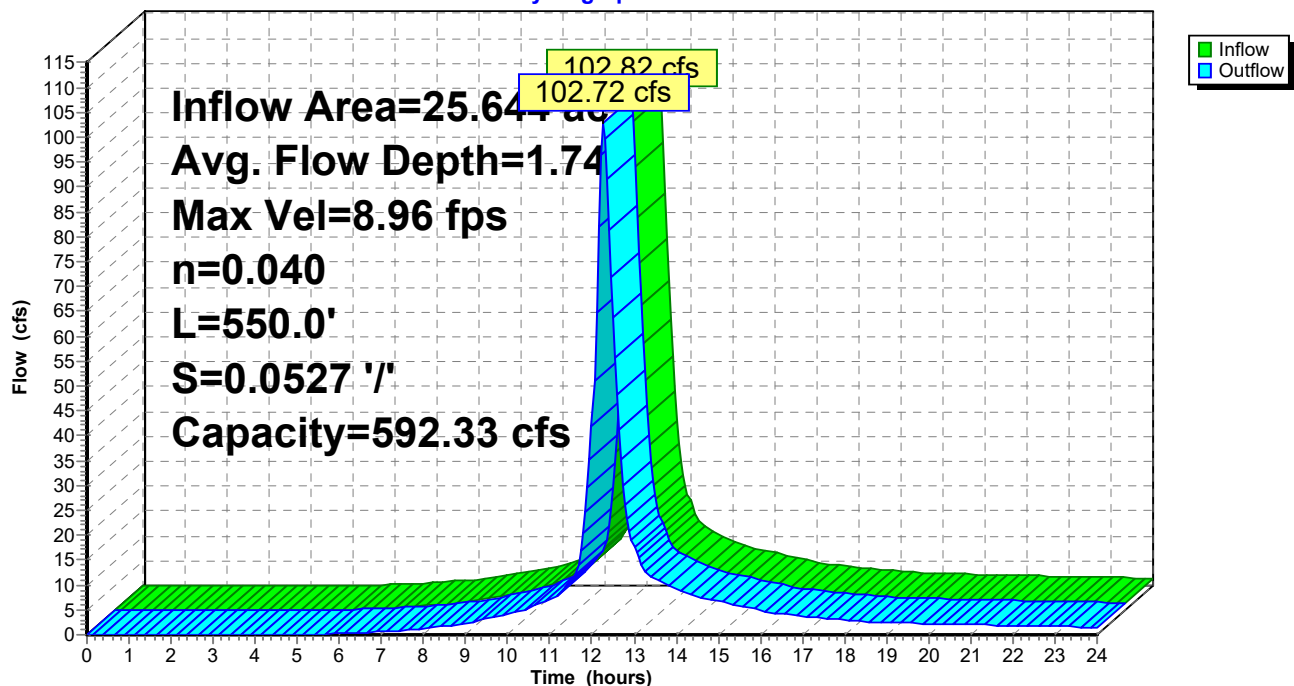
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 8.96 fps, Min. Travel Time= 1.0 min
 Avg. Velocity = 3.28 fps, Avg. Travel Time= 2.8 min

Peak Storage= 6,306 cf @ 12.26 hrs
 Average Depth at Peak Storage= 1.74'
 Bank-Full Depth= 4.00' Flow Area= 40.0 sf, Capacity= 592.33 cfs

15.00' x 4.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
 Length= 550.0' Slope= 0.0527 '/'
 Inlet Invert= 53.00', Outlet Invert= 24.00'

**Reach 2R: Stream**

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Reach 2R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	53.00	0.00
0.50	0.00	0	53.00	0.00
1.00	0.00	0	53.00	0.00
1.50	0.00	0	53.00	0.00
2.00	0.00	0	53.00	0.00
2.50	0.00	0	53.00	0.00
3.00	0.00	0	53.00	0.00
3.50	0.00	0	53.00	0.00
4.00	0.00	0	53.00	0.00
4.50	0.00	0	53.00	0.00
5.00	0.00	0	53.00	0.00
5.50	0.10	37	53.05	0.07
6.00	0.24	85	53.10	0.22
6.50	0.42	128	53.13	0.39
7.00	0.65	178	53.16	0.62
7.50	0.94	232	53.19	0.91
8.00	1.28	288	53.22	1.25
8.50	1.76	359	53.26	1.71
9.00	2.45	454	53.30	2.39
9.50	3.27	556	53.34	3.21
10.00	4.19	664	53.39	4.13
10.50	5.51	801	53.44	5.41
11.00	7.35	982	53.50	7.25
11.50	11.33	1,317	53.61	11.04
12.00	44.30	3,359	54.14	42.02
12.50	61.38	4,496	54.39	63.60
13.00	17.10	1,827	53.76	17.63
13.50	11.12	1,332	53.62	11.23
14.00	9.12	1,161	53.56	9.21
14.50	7.64	1,024	53.52	7.70
15.00	6.71	935	53.49	6.75
15.50	5.77	843	53.45	5.83
16.00	4.83	746	53.42	4.89
16.50	4.13	667	53.39	4.16
17.00	3.72	619	53.37	3.74
17.50	3.30	571	53.35	3.33
18.00	2.89	521	53.33	2.92
18.50	2.61	484	53.31	2.62
19.00	2.48	466	53.31	2.49
19.50	2.36	450	53.30	2.37
20.00	2.24	434	53.29	2.25
20.50	2.13	419	53.29	2.13
21.00	2.03	407	53.28	2.04
21.50	1.94	393	53.27	1.95
22.00	1.85	380	53.27	1.86
22.50	1.76	366	53.26	1.76
23.00	1.66	353	53.25	1.67
23.50	1.57	339	53.25	1.58
24.00	1.48	326	53.24	1.48

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Stage-Discharge for Reach 2R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
53.00	0.00	0.00	55.60	11.47	240.35
53.05	0.87	0.06	55.65	11.60	250.20
53.10	1.39	0.23	55.70	11.73	260.23
53.15	1.83	0.54	55.75	11.86	270.46
53.20	2.21	0.99	55.80	11.99	280.89
53.25	2.56	1.61	55.85	12.12	291.54
53.30	2.89	2.39	55.90	12.25	302.39
53.35	3.20	3.32	55.95	12.37	313.43
53.40	3.49	4.42	56.00	12.50	324.67
53.45	3.77	5.70	56.05	12.62	336.13
53.50	4.04	7.15	56.10	12.74	347.79
53.55	4.30	8.77	56.15	12.87	359.65
53.60	4.55	10.57	56.20	12.99	371.70
53.65	4.79	12.56	56.25	13.11	383.98
53.70	5.02	14.73	56.30	13.23	396.45
53.75	5.25	17.07	56.35	13.34	409.12
53.80	5.48	19.59	56.40	13.46	421.98
53.85	5.69	22.32	56.45	13.58	435.07
53.90	5.91	25.23	56.50	13.69	448.36
53.95	6.12	28.32	56.55	13.81	461.84
54.00	6.32	31.60	56.60	13.92	475.51
54.05	6.52	35.08	56.65	14.04	489.42
54.10	6.72	38.75	56.70	14.15	503.51
54.15	6.91	42.61	56.75	14.26	517.81
54.20	7.10	46.65	56.80	14.37	532.30
54.25	7.28	50.90	56.85	14.48	547.01
54.30	7.47	55.34	56.90	14.59	561.93
54.35	7.65	59.97	56.95	14.70	577.03
54.40	7.82	64.79	57.00	14.81	592.33
54.45	8.00	69.83			
54.50	8.17	75.05			
54.55	8.34	80.47			
54.60	8.51	86.07			
54.65	8.67	91.90			
54.70	8.83	97.91			
54.75	8.99	104.12			
54.80	9.15	110.52			
54.85	9.31	117.14			
54.90	9.46	123.95			
54.95	9.62	130.96			
55.00	9.77	138.15			
55.05	9.92	145.57			
55.10	10.07	153.19			
55.15	10.21	161.00			
55.20	10.36	169.00			
55.25	10.50	177.22			
55.30	10.64	185.64			
55.35	10.78	194.25			
55.40	10.92	203.06			
55.45	11.06	212.09			
55.50	11.20	221.32			
55.55	11.33	230.74			

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Summary for Reach 3R: Channel

Inflow Area = 25.644 ac, 24.80% Impervious, Inflow Depth > 4.98" for 100 YEAR event
 Inflow = 102.72 cfs @ 12.26 hrs, Volume= 10.643 af
 Outflow = 102.46 cfs @ 12.27 hrs, Volume= 10.631 af, Atten= 0%, Lag= 0.8 min

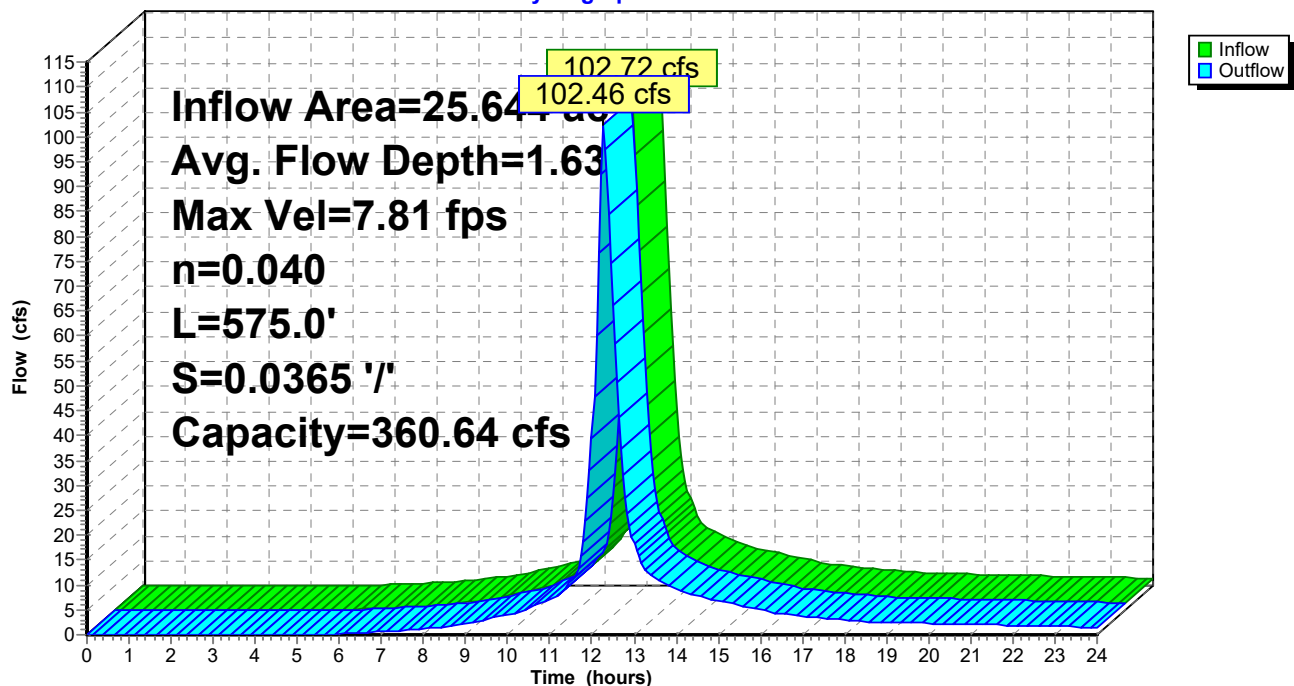
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Max. Velocity= 7.81 fps, Min. Travel Time= 1.2 min
 Avg. Velocity= 2.38 fps, Avg. Travel Time= 4.0 min

Peak Storage= 7,517 cf @ 12.27 hrs
 Average Depth at Peak Storage= 1.63'
 Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 360.64 cfs

8.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals
 Length= 575.0' Slope= 0.0365 '/'
 Inlet Invert= 24.00', Outlet Invert= 3.00'

**Reach 3R: Channel**

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Reach 3R: Channel

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	24.00	0.00
0.50	0.00	0	24.00	0.00
1.00	0.00	0	24.00	0.00
1.50	0.00	0	24.00	0.00
2.00	0.00	0	24.00	0.00
2.50	0.00	0	24.00	0.00
3.00	0.00	0	24.00	0.00
3.50	0.00	0	24.00	0.00
4.00	0.00	0	24.00	0.00
4.50	0.00	0	24.00	0.00
5.00	0.00	0	24.00	0.00
5.50	0.07	22	24.00	0.03
6.00	0.22	113	24.02	0.16
6.50	0.39	212	24.05	0.35
7.00	0.62	286	24.06	0.58
7.50	0.91	375	24.08	0.86
8.00	1.25	454	24.10	1.20
8.50	1.71	554	24.12	1.64
9.00	2.39	682	24.15	2.32
9.50	3.21	819	24.18	3.13
10.00	4.13	962	24.21	4.06
10.50	5.41	1,133	24.25	5.29
11.00	7.25	1,360	24.30	7.12
11.50	11.04	1,750	24.38	10.70
12.00	42.02	4,002	24.87	39.50
12.50	63.60	5,606	25.22	66.14
13.00	17.63	2,450	24.53	18.29
13.50	11.23	1,819	24.40	11.37
14.00	9.21	1,608	24.35	9.33
14.50	7.70	1,435	24.31	7.76
15.00	6.75	1,324	24.29	6.81
15.50	5.83	1,210	24.26	5.89
16.00	4.89	1,090	24.24	4.96
16.50	4.16	982	24.21	4.20
17.00	3.74	922	24.20	3.77
17.50	3.33	857	24.19	3.37
18.00	2.92	792	24.17	2.96
18.50	2.62	740	24.16	2.64
19.00	2.49	717	24.16	2.51
19.50	2.37	694	24.15	2.38
20.00	2.25	670	24.15	2.26
20.50	2.13	649	24.14	2.14
21.00	2.04	632	24.14	2.05
21.50	1.95	614	24.13	1.96
22.00	1.86	597	24.13	1.87
22.50	1.76	579	24.13	1.77
23.00	1.67	562	24.12	1.68
23.50	1.58	543	24.12	1.59
24.00	1.48	522	24.11	1.49

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Stage-Discharge for Reach 3R: Channel

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
24.00	0.00	0.00	26.60	9.61	199.97
24.05	0.94	0.41	26.65	9.69	205.38
24.10	1.50	1.23	26.70	9.76	210.83
24.15	1.95	2.36	26.75	9.83	216.30
24.20	2.35	3.76	26.80	9.90	221.80
24.25	2.70	5.42	26.85	9.97	227.33
24.30	3.03	7.29	26.90	10.04	232.88
24.35	3.33	9.35	26.95	10.10	238.46
24.40	3.62	11.57	27.00	10.17	244.06
24.45	3.88	13.99	27.05	10.23	249.69
24.50	4.13	16.55	27.10	10.30	255.35
24.55	4.37	19.25	27.15	10.36	261.02
24.60	4.60	22.09	27.20	10.42	266.72
24.65	4.82	25.06	27.25	10.48	272.45
24.70	5.03	28.16	27.30	10.54	278.19
24.75	5.23	31.36	27.35	10.60	283.96
24.80	5.42	34.68	27.40	10.65	289.74
24.85	5.60	38.10	27.45	10.71	295.55
24.90	5.78	41.63	27.50	10.76	301.37
24.95	5.95	45.24	27.55	10.82	307.22
25.00	6.12	48.95	27.60	10.87	313.08
25.05	6.28	52.75	27.65	10.92	318.97
25.10	6.43	56.63	27.70	10.98	324.87
25.15	6.58	60.58	27.75	11.03	330.79
25.20	6.73	64.61	27.80	11.08	336.72
25.25	6.87	68.73	27.85	11.13	342.68
25.30	7.01	72.91	27.90	11.17	348.65
25.35	7.14	77.16	27.95	11.22	354.64
25.40	7.27	81.47	28.00	11.27	360.64
25.45	7.40	85.85			
25.50	7.52	90.29			
25.55	7.64	94.78			
25.60	7.76	99.34			
25.65	7.87	103.95			
25.70	7.99	108.61			
25.75	8.09	113.33			
25.80	8.20	118.09			
25.85	8.30	122.90			
25.90	8.40	127.76			
25.95	8.50	132.66			
26.00	8.60	137.61			
26.05	8.69	142.60			
26.10	8.79	147.63			
26.15	8.88	152.70			
26.20	8.97	157.81			
26.25	9.05	162.96			
26.30	9.14	168.15			
26.35	9.22	173.37			
26.40	9.30	178.62			
26.45	9.38	183.91			
26.50	9.46	189.23			
26.55	9.54	194.58			

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Summary for Reach 4R: Stream

Inflow Area = 33.127 ac, 27.67% Impervious, Inflow Depth > 5.23" for 100 YEAR event
 Inflow = 121.54 cfs @ 12.26 hrs, Volume= 14.451 af
 Outflow = 121.42 cfs @ 12.27 hrs, Volume= 14.446 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 6.22 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 2.10 fps, Avg. Travel Time= 1.5 min

Peak Storage= 3,705 cf @ 12.27 hrs

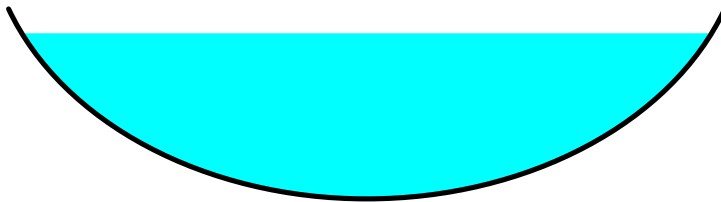
Average Depth at Peak Storage= 2.61'

Bank-Full Depth= 3.00' Flow Area= 24.0 sf, Capacity= 162.23 cfs

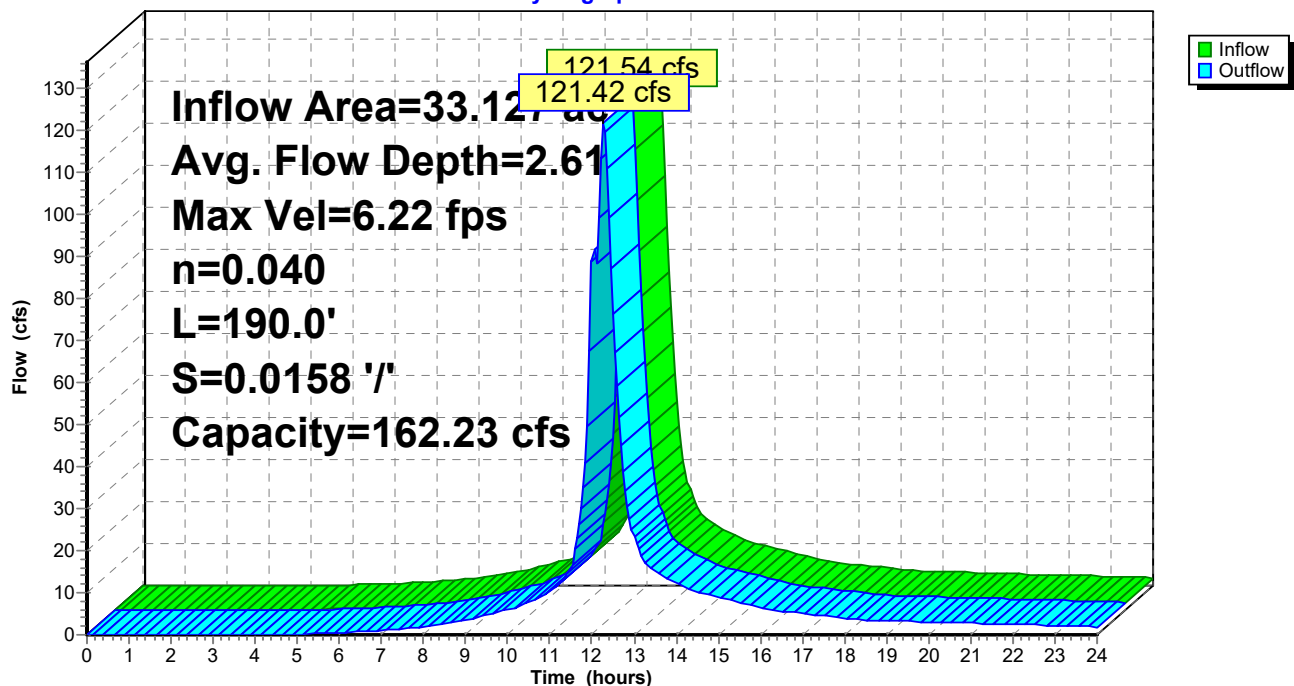
12.00' x 3.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals

Length= 190.0' Slope= 0.0158 '/'

Inlet Invert= 3.00', Outlet Invert= 0.00'

**Reach 4R: Stream**

Hydrograph



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Reach 4R: Stream

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	3.00	0.00
0.50	0.00	0	3.00	0.00
1.00	0.01	2	3.02	0.00
1.50	0.02	8	3.04	0.02
2.00	0.04	13	3.06	0.04
2.50	0.05	16	3.07	0.05
3.00	0.07	19	3.08	0.07
3.50	0.08	22	3.08	0.08
4.00	0.09	24	3.09	0.09
4.50	0.14	32	3.11	0.14
5.00	0.19	40	3.13	0.19
5.50	0.28	51	3.15	0.27
6.00	0.46	73	3.19	0.45
6.50	0.74	101	3.24	0.72
7.00	1.07	131	3.28	1.05
7.50	1.47	165	3.33	1.45
8.00	1.95	200	3.37	1.93
8.50	2.61	246	3.43	2.58
9.00	3.56	306	3.49	3.52
9.50	4.69	371	3.56	4.65
10.00	5.96	439	3.63	5.92
10.50	7.78	529	3.71	7.72
11.00	10.29	644	3.81	10.22
11.50	16.15	878	4.00	15.91
12.00	91.05	2,964	5.25	88.86
12.50	74.71	2,655	5.09	76.12
13.00	22.83	1,143	4.19	23.16
13.50	14.89	841	3.97	14.96
14.00	12.13	728	3.88	12.19
14.50	10.20	644	3.81	10.23
15.00	8.92	586	3.76	8.95
15.50	7.68	528	3.71	7.71
16.00	6.45	468	3.66	6.48
16.50	5.54	420	3.61	5.55
17.00	4.97	389	3.58	4.99
17.50	4.43	359	3.55	4.44
18.00	3.88	328	3.52	3.90
18.50	3.50	305	3.49	3.51
19.00	3.32	294	3.48	3.33
19.50	3.15	283	3.47	3.16
20.00	2.99	273	3.46	2.99
20.50	2.84	263	3.45	2.85
21.00	2.71	255	3.44	2.72
21.50	2.59	247	3.43	2.60
22.00	2.47	239	3.42	2.47
22.50	2.34	230	3.41	2.35
23.00	2.22	222	3.40	2.22
23.50	2.10	213	3.39	2.10
24.00	1.78	197	3.37	1.87

Stage-Discharge for Reach 4R: Stream

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
3.00	0.00	0.00	4.04	3.53	17.29	5.08	5.43	75.22
3.02	0.23	0.01	4.06	3.57	18.01	5.10	5.46	76.75
3.04	0.41	0.02	4.08	3.61	18.73	5.12	5.49	78.30
3.06	0.54	0.04	4.10	3.66	19.48	5.14	5.52	79.86
3.08	0.66	0.07	4.12	3.70	20.25	5.16	5.55	81.44
3.10	0.76	0.11	4.14	3.74	21.02	5.18	5.59	83.04
3.12	0.86	0.17	4.16	3.78	21.82	5.20	5.62	84.65
3.14	0.95	0.23	4.18	3.82	22.63	5.22	5.65	86.27
3.16	1.04	0.31	4.20	3.86	23.45	5.24	5.68	87.92
3.18	1.13	0.40	4.22	3.90	24.29	5.26	5.71	89.58
3.20	1.21	0.50	4.24	3.94	25.15	5.28	5.74	91.25
3.22	1.29	0.62	4.26	3.98	26.01	5.30	5.77	92.95
3.24	1.36	0.74	4.28	4.02	26.90	5.32	5.80	94.66
3.26	1.44	0.88	4.30	4.06	27.81	5.34	5.83	96.38
3.28	1.51	1.04	4.32	4.10	28.72	5.36	5.86	98.12
3.30	1.58	1.20	4.34	4.14	29.66	5.38	5.89	99.88
3.32	1.65	1.38	4.36	4.18	30.60	5.40	5.92	101.64
3.34	1.71	1.57	4.38	4.22	31.56	5.42	5.95	103.44
3.36	1.78	1.78	4.40	4.25	32.55	5.44	5.98	105.24
3.38	1.84	2.00	4.42	4.29	33.54	5.46	6.01	107.05
3.40	1.91	2.23	4.44	4.33	34.55	5.48	6.04	108.89
3.42	1.97	2.47	4.46	4.37	35.58	5.50	6.07	110.75
3.44	2.03	2.74	4.48	4.40	36.62	5.52	6.09	112.61
3.46	2.09	3.01	4.50	4.44	37.68	5.54	6.12	114.50
3.48	2.15	3.30	4.52	4.48	38.75	5.56	6.15	116.40
3.50	2.20	3.60	4.54	4.51	39.84	5.58	6.18	118.31
3.52	2.26	3.92	4.56	4.55	40.94	5.60	6.21	120.24
3.54	2.32	4.25	4.58	4.59	42.07	5.62	6.24	122.19
3.56	2.37	4.60	4.60	4.62	43.20	5.64	6.27	124.15
3.58	2.43	4.96	4.62	4.66	44.35	5.66	6.29	126.13
3.60	2.48	5.33	4.64	4.69	45.52	5.68	6.32	128.13
3.62	2.53	5.72	4.66	4.73	46.71	5.70	6.35	130.14
3.64	2.59	6.12	4.68	4.76	47.90	5.72	6.38	132.17
3.66	2.64	6.53	4.70	4.80	49.12	5.74	6.41	134.21
3.68	2.69	6.97	4.72	4.83	50.35	5.76	6.43	136.27
3.70	2.74	7.42	4.74	4.87	51.60	5.78	6.46	138.35
3.72	2.79	7.87	4.76	4.90	52.86	5.80	6.49	140.44
3.74	2.84	8.35	4.78	4.94	54.14	5.82	6.52	142.54
3.76	2.89	8.84	4.80	4.97	55.43	5.84	6.54	144.67
3.78	2.94	9.35	4.82	5.00	56.74	5.86	6.57	146.81
3.80	2.99	9.87	4.84	5.04	58.07	5.88	6.60	148.96
3.82	3.03	10.41	4.86	5.07	59.41	5.90	6.63	151.14
3.84	3.08	10.95	4.88	5.10	60.77	5.92	6.65	153.32
3.86	3.13	11.52	4.90	5.14	62.14	5.94	6.68	155.52
3.88	3.17	12.10	4.92	5.17	63.53	5.96	6.71	157.75
3.90	3.22	12.69	4.94	5.20	64.94	5.98	6.73	159.98
3.92	3.26	13.31	4.96	5.24	66.36	6.00	6.76	162.23
3.94	3.31	13.93	4.98	5.27	67.79			
3.96	3.35	14.57	5.00	5.30	69.25			
3.98	3.40	15.23	5.02	5.33	70.72			
4.00	3.44	15.90	5.04	5.36	72.20			
4.02	3.49	16.58	5.06	5.40	73.70			

Summary for Pond 1P: Grasscrete

Inflow Area = 0.457 ac, 0.00% Impervious, Inflow Depth > 6.20" for 100 YEAR event
 Inflow = 3.60 cfs @ 12.00 hrs, Volume= 0.236 af
 Outflow = 2.59 cfs @ 12.06 hrs, Volume= 0.236 af, Atten= 28%, Lag= 3.5 min
 Discarded = 2.00 cfs @ 11.95 hrs, Volume= 0.221 af
 Secondary = 0.59 cfs @ 12.06 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 25.32' @ 12.06 hrs Surf.Area= 19,920 sf Storage= 436 cf

Plug-Flow detention time= 1.2 min calculated for 0.236 af (100% of inflow)
 Center-of-Mass det. time= 1.2 min (776.6 - 775.5)

Volume	Invert	Avail.Storage	Storage Description
#1	25.30'	11,952 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

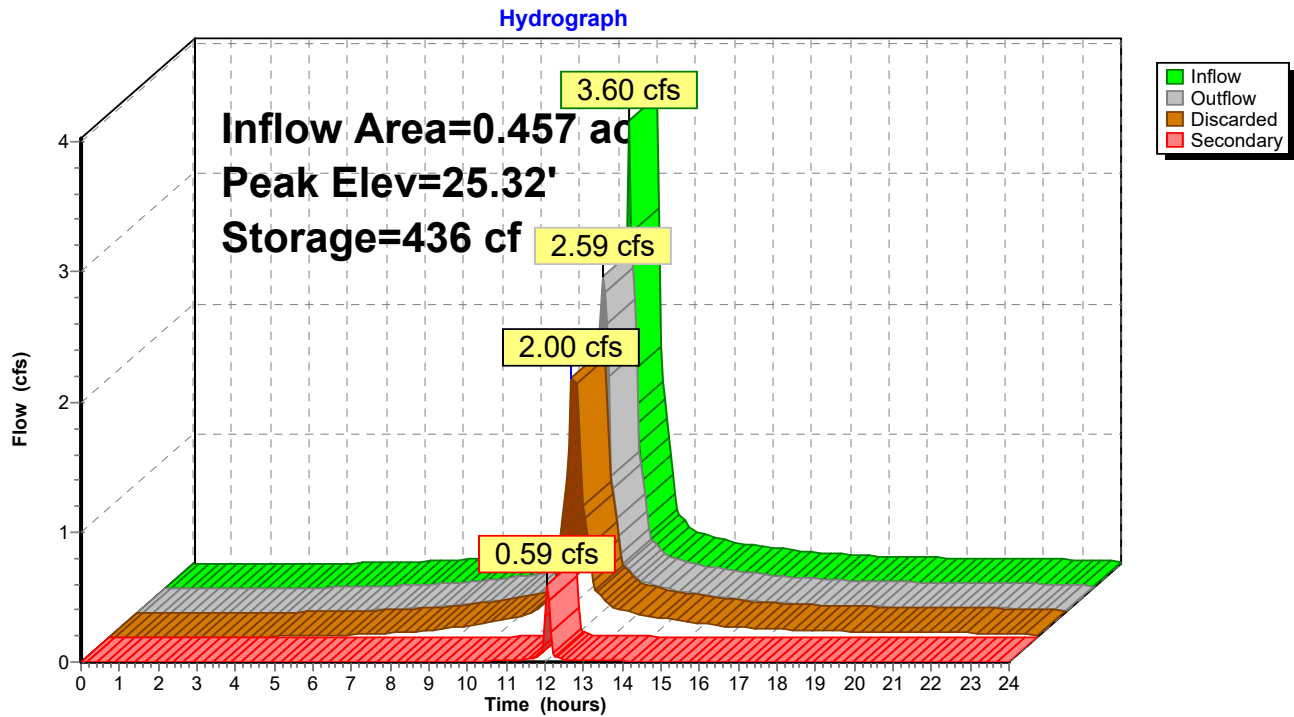
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
25.30	19,920	0	0
25.90	19,920	11,952	11,952

Device	Routing	Invert	Outlet Devices
#1	Secondary	25.30'	65.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	25.30'	2.00 cfs Exfiltration at all elevations

Discarded OutFlow Max=2.00 cfs @ 11.95 hrs HW=25.31' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 2.00 cfs)

Secondary OutFlow Max=0.56 cfs @ 12.06 hrs HW=25.32' (Free Discharge)
 ↑**1=Broad-Crested Rectangular Weir** (Weir Controls 0.56 cfs @ 0.41 fps)

Pond 1P: Grasscrete



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Pond 1P: Grasscrete

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Secondary (cfs)
0.00	0.00	0	25.30	0.00	0.00	0.00
0.50	0.00	0	25.30	0.00	0.00	0.00
1.00	0.00	0	25.30	0.00	0.00	0.00
1.50	0.00	0	25.30	0.00	0.00	0.00
2.00	0.00	0	25.30	0.00	0.00	0.00
2.50	0.00	0	25.30	0.00	0.00	0.00
3.00	0.00	0	25.30	0.00	0.00	0.00
3.50	0.00	0	25.30	0.00	0.00	0.00
4.00	0.01	0	25.30	0.00	0.00	0.00
4.50	0.01	0	25.30	0.01	0.01	0.00
5.00	0.01	1	25.30	0.01	0.01	0.00
5.50	0.02	1	25.30	0.02	0.01	0.00
6.00	0.02	1	25.30	0.02	0.02	0.00
6.50	0.03	1	25.30	0.03	0.02	0.00
7.00	0.03	2	25.30	0.03	0.03	0.00
7.50	0.04	2	25.30	0.04	0.04	0.00
8.00	0.05	3	25.30	0.05	0.05	0.00
8.50	0.07	4	25.30	0.07	0.06	0.00
9.00	0.08	5	25.30	0.08	0.08	0.00
9.50	0.10	6	25.30	0.10	0.10	0.00
10.00	0.12	7	25.30	0.12	0.12	0.01
10.50	0.16	9	25.30	0.16	0.16	0.01
11.00	0.21	12	25.30	0.20	0.20	0.01
11.50	0.37	20	25.30	0.36	0.34	0.01
12.00	3.60	307	25.32	2.35	2.00	0.35
12.50	0.41	26	25.30	0.45	0.43	0.02
13.00	0.25	14	25.30	0.25	0.24	0.01
13.50	0.20	12	25.30	0.21	0.20	0.01
14.00	0.16	10	25.30	0.17	0.16	0.01
14.50	0.15	8	25.30	0.15	0.14	0.01
15.00	0.13	7	25.30	0.13	0.12	0.01
15.50	0.11	6	25.30	0.11	0.10	0.00
16.00	0.09	5	25.30	0.09	0.08	0.00
16.50	0.08	5	25.30	0.08	0.08	0.00
17.00	0.07	4	25.30	0.07	0.07	0.00
17.50	0.06	4	25.30	0.06	0.06	0.00
18.00	0.05	3	25.30	0.05	0.05	0.00
18.50	0.05	3	25.30	0.05	0.05	0.00
19.00	0.05	3	25.30	0.05	0.05	0.00
19.50	0.05	3	25.30	0.05	0.04	0.00
20.00	0.04	3	25.30	0.04	0.04	0.00
20.50	0.04	2	25.30	0.04	0.04	0.00
21.00	0.04	2	25.30	0.04	0.04	0.00
21.50	0.04	2	25.30	0.04	0.04	0.00
22.00	0.04	2	25.30	0.04	0.03	0.00
22.50	0.03	2	25.30	0.03	0.03	0.00
23.00	0.03	2	25.30	0.03	0.03	0.00
23.50	0.03	2	25.30	0.03	0.03	0.00
24.00	0.01	1	25.30	0.02	0.02	0.00

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Stage-Discharge for Pond 1P: Grasscrete

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Secondary (cfs)
25.30	0.00	0.00	0.00	25.82	75.51	2.00	73.51
25.31	2.18	2.00	0.18	25.83	77.84	2.00	75.84
25.32	2.51	2.00	0.51	25.84	80.20	2.00	78.20
25.33	2.95	2.00	0.95	25.85	82.60	2.00	80.60
25.34	3.46	2.00	1.46	25.86	85.03	2.00	83.03
25.35	4.03	2.00	2.03	25.87	87.48	2.00	85.48
25.36	4.67	2.00	2.67	25.88	89.97	2.00	87.97
25.37	5.37	2.00	3.37	25.89	92.49	2.00	90.49
25.38	6.12	2.00	4.12	25.90	95.04	2.00	93.04
25.39	6.91	2.00	4.91				
25.40	7.76	2.00	5.76				
25.41	8.64	2.00	6.64				
25.42	9.57	2.00	7.57				
25.43	10.53	2.00	8.53				
25.44	11.53	2.00	9.53				
25.45	12.57	2.00	10.57				
25.46	13.65	2.00	11.65				
25.47	14.76	2.00	12.76				
25.48	15.90	2.00	13.90				
25.49	17.07	2.00	15.07				
25.50	18.28	2.00	16.28				
25.51	19.55	2.00	17.55				
25.52	20.86	2.00	18.86				
25.53	22.20	2.00	20.20				
25.54	23.58	2.00	21.58				
25.55	24.99	2.00	22.99				
25.56	26.44	2.00	24.44				
25.57	27.92	2.00	25.92				
25.58	29.43	2.00	27.43				
25.59	30.97	2.00	28.97				
25.60	32.55	2.00	30.55				
25.61	34.15	2.00	32.15				
25.62	35.79	2.00	33.79				
25.63	37.46	2.00	35.46				
25.64	39.16	2.00	37.16				
25.65	40.90	2.00	38.90				
25.66	42.66	2.00	40.66				
25.67	44.45	2.00	42.45				
25.68	46.28	2.00	44.28				
25.69	48.13	2.00	46.13				
25.70	50.02	2.00	48.02				
25.71	51.96	2.00	49.96				
25.72	53.94	2.00	51.94				
25.73	55.96	2.00	53.96				
25.74	58.00	2.00	56.00				
25.75	60.08	2.00	58.08				
25.76	62.19	2.00	60.19				
25.77	64.33	2.00	62.33				
25.78	66.50	2.00	64.50				
25.79	68.71	2.00	66.71				
25.80	70.94	2.00	68.94				
25.81	73.21	2.00	71.21				

Summary for Pond 2P: Roof Detention

Inflow Area = 1.399 ac, 100.00% Impervious, Inflow Depth > 7.26" for 100 YEAR event
 Inflow = 11.78 cfs @ 12.00 hrs, Volume= 0.847 af
 Outflow = 6.54 cfs @ 12.09 hrs, Volume= 0.841 af, Atten= 45%, Lag= 5.5 min
 Primary = 6.54 cfs @ 12.09 hrs, Volume= 0.841 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.11' @ 12.09 hrs Surf.Area= 60,904 sf Storage= 6,557 cf

Plug-Flow detention time= 31.1 min calculated for 0.841 af (99% of inflow)
 Center-of-Mass det. time= 26.3 min (762.8 - 736.5)

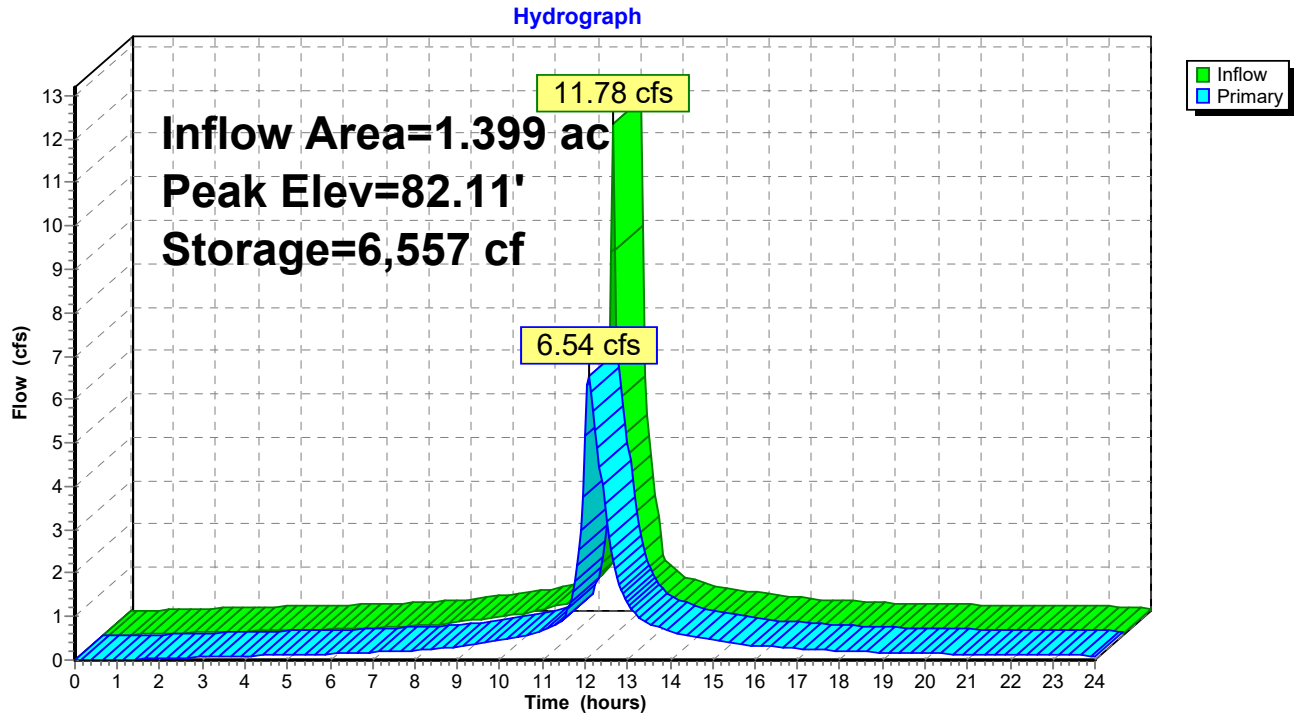
Volume	Invert	Avail.Storage	Storage Description
#1	82.00'	91,388 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
82.00	60,900	0	0
83.50	60,950	91,388	91,388

Device	Routing	Invert	Outlet Devices
#1	Primary	82.00'	66.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=6.49 cfs @ 12.09 hrs HW=82.11' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Weir Controls 6.49 cfs @ 0.92 fps)

Pond 2P: Roof Detention



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Pond 2P: Roof Detention

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	82.00	0.00
0.50	0.00	0	82.00	0.00
1.00	0.03	20	82.00	0.01
1.50	0.05	63	82.00	0.02
2.00	0.06	105	82.00	0.04
2.50	0.08	145	82.00	0.05
3.00	0.09	183	82.00	0.07
3.50	0.10	220	82.00	0.08
4.00	0.11	255	82.00	0.09
4.50	0.12	287	82.00	0.11
5.00	0.14	318	82.01	0.12
5.50	0.15	348	82.01	0.13
6.00	0.16	376	82.01	0.14
6.50	0.18	416	82.01	0.15
7.00	0.21	471	82.01	0.18
7.50	0.24	536	82.01	0.20
8.00	0.26	605	82.01	0.22
8.50	0.32	701	82.01	0.26
9.00	0.39	830	82.01	0.31
9.50	0.45	971	82.02	0.38
10.00	0.51	1,082	82.02	0.45
10.50	0.64	1,219	82.02	0.55
11.00	0.77	1,392	82.02	0.66
11.50	1.30	1,802	82.03	0.94
12.00	11.78	5,602	82.09	5.16
12.50	1.31	4,066	82.07	3.20
13.00	0.78	2,251	82.04	1.33
13.50	0.64	1,661	82.03	0.85
14.00	0.52	1,372	82.02	0.65
14.50	0.46	1,196	82.02	0.53
15.00	0.40	1,081	82.02	0.45
15.50	0.34	984	82.02	0.39
16.00	0.28	891	82.01	0.33
16.50	0.25	798	82.01	0.30
17.00	0.22	716	82.01	0.27
17.50	0.20	639	82.01	0.24
18.00	0.17	565	82.01	0.21
18.50	0.16	505	82.01	0.19
19.00	0.15	465	82.01	0.17
19.50	0.15	433	82.01	0.16
20.00	0.14	407	82.01	0.15
20.50	0.13	385	82.01	0.14
21.00	0.13	365	82.01	0.14
21.50	0.12	348	82.01	0.13
22.00	0.11	331	82.01	0.12
22.50	0.11	314	82.01	0.12
23.00	0.10	298	82.00	0.11
23.50	0.10	282	82.00	0.10
24.00	0.05	262	82.00	0.10

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Stage-Discharge for Pond 2P: Roof Detention

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
82.00	0.00	82.52	74.64	83.04	232.40
82.01	0.18	82.53	77.01	83.05	235.76
82.02	0.52	82.54	79.41	83.06	239.13
82.03	0.96	82.55	81.84	83.07	242.53
82.04	1.48	82.56	84.30	83.08	245.93
82.05	2.07	82.57	86.80	83.09	249.36
82.06	2.72	82.58	89.33	83.10	252.80
82.07	3.42	82.59	91.88	83.11	256.25
82.08	4.18	82.60	94.48	83.12	259.72
82.09	4.99	82.61	97.19	83.13	263.21
82.10	5.84	82.62	99.95	83.14	266.71
82.11	6.74	82.63	102.74	83.15	270.23
82.12	7.68	82.64	105.57	83.16	273.76
82.13	8.66	82.65	108.43	83.17	277.31
82.14	9.68	82.66	111.33	83.18	280.87
82.15	10.74	82.67	114.27	83.19	284.45
82.16	11.83	82.68	117.24	83.20	288.04
82.17	12.95	82.69	120.26	83.21	291.65
82.18	14.11	82.70	123.31	83.22	295.27
82.19	15.30	82.71	126.39	83.23	298.91
82.20	16.53	82.72	129.51	83.24	302.56
82.21	17.82	82.73	132.67	83.25	306.23
82.22	19.15	82.74	135.87	83.26	309.91
82.23	20.52	82.75	139.11	83.27	313.61
82.24	21.91	82.76	142.38	83.28	317.32
82.25	23.35	82.77	145.69	83.29	321.05
82.26	24.81	82.78	149.04	83.30	324.79
82.27	26.32	82.79	152.42	83.31	328.54
82.28	27.85	82.80	155.84	83.32	332.31
82.29	29.42	82.81	158.82	83.33	336.09
82.30	31.02	82.82	161.82	83.34	339.89
82.31	32.65	82.83	164.84	83.35	343.70
82.32	34.31	82.84	167.88	83.36	347.53
82.33	36.01	82.85	170.94	83.37	351.37
82.34	37.74	82.86	174.02	83.38	355.22
82.35	39.50	82.87	177.12	83.39	359.09
82.36	41.29	82.88	180.23	83.40	362.97
82.37	43.11	82.89	183.37	83.41	366.87
82.38	44.96	82.90	186.52	83.42	370.78
82.39	46.84	82.91	189.70	83.43	374.70
82.40	48.75	82.92	192.89	83.44	378.64
82.41	50.73	82.93	196.11	83.45	382.59
82.42	52.74	82.94	199.34	83.46	386.56
82.43	54.79	82.95	202.59	83.47	390.53
82.44	56.86	82.96	205.86	83.48	394.53
82.45	58.97	82.97	209.14	83.49	398.53
82.46	61.11	82.98	212.45	83.50	402.55
82.47	63.29	82.99	215.78		
82.48	65.49	83.00	219.12		
82.49	67.73	83.01	222.42		
82.50	70.00	83.02	225.73		
82.51	72.31	83.03	229.05		

Summary for Pond EX-P: Existing Pond

Inflow Area = 2.345 ac, 72.65% Impervious, Inflow Depth > 6.66" for 100 YEAR event
 Inflow = 15.66 cfs @ 12.11 hrs, Volume= 1.302 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 92.73' @ 24.00 hrs Surf.Area= 10,993 sf Storage= 56,695 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

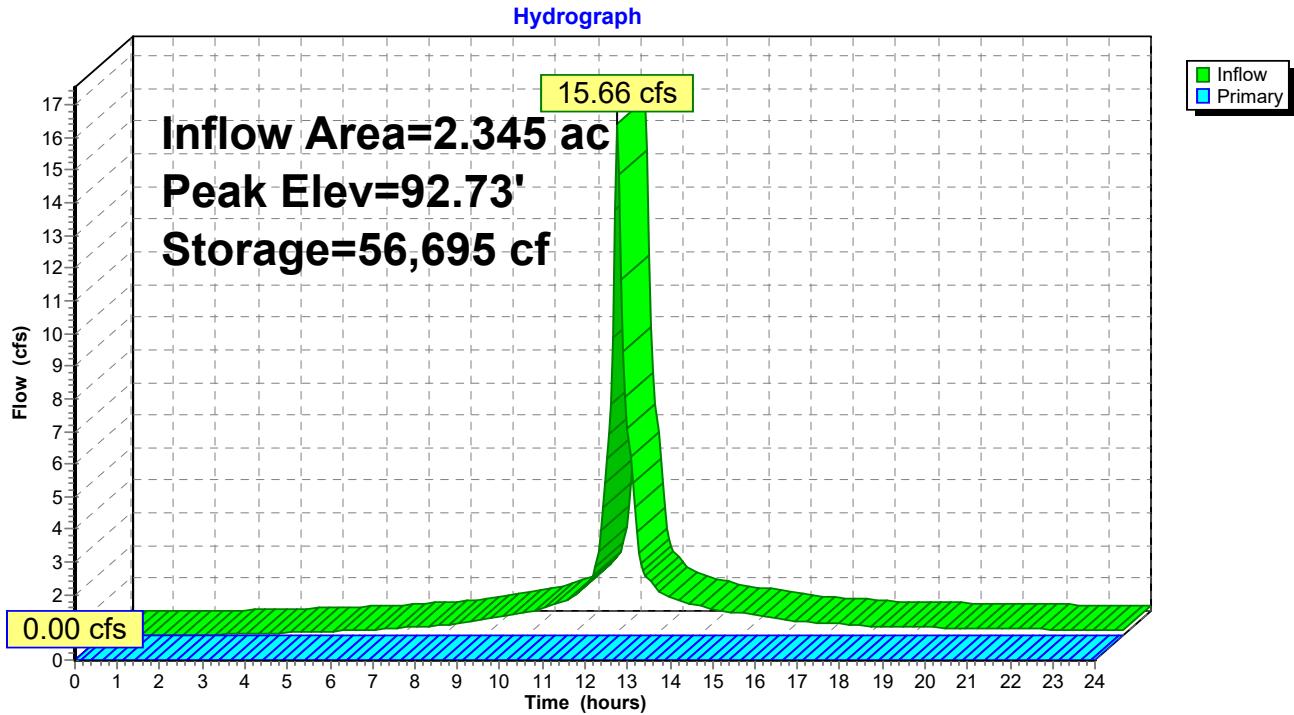
Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	193,943 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	635	0	0
95.00	14,042	73,385	73,385
100.00	34,181	120,558	193,943

Device	Routing	Invert	Outlet Devices
#1	Primary	95.00'	65.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=85.00' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond EX-P: Existing Pond



POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Pond EX-P: Existing Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	85.00	0.00
0.50	0.00	0	85.00	0.00
1.00	0.00	0	85.00	0.00
1.50	0.00	0	85.00	0.00
2.00	0.00	0	85.00	0.00
2.50	0.01	9	85.00	0.00
3.00	0.03	51	85.01	0.00
3.50	0.05	127	85.02	0.00
4.00	0.07	240	85.03	0.00
4.50	0.09	390	85.05	0.00
5.00	0.11	577	85.08	0.00
5.50	0.14	802	85.11	0.00
6.00	0.16	1,063	85.14	0.00
6.50	0.19	1,372	85.19	0.00
7.00	0.23	1,753	85.24	0.00
7.50	0.28	2,213	85.30	0.00
8.00	0.33	2,758	85.38	0.00
8.50	0.41	3,413	85.47	0.00
9.00	0.51	4,240	85.58	0.00
9.50	0.61	5,251	85.72	0.00
10.00	0.72	6,453	85.88	0.00
10.50	0.91	7,905	86.08	0.00
11.00	1.12	9,731	86.33	0.00
11.50	1.77	12,250	86.67	0.00
12.00	9.14	19,891	87.71	0.00
12.50	3.90	36,571	89.98	0.00
13.00	1.47	40,377	90.50	0.00
13.50	1.12	42,614	90.81	0.00
14.00	0.91	44,436	91.06	0.00
14.50	0.78	45,941	91.26	0.00
15.00	0.68	47,258	91.44	0.00
15.50	0.58	48,394	91.59	0.00
16.00	0.48	49,349	91.72	0.00
16.50	0.42	50,153	91.83	0.00
17.00	0.38	50,875	91.93	0.00
17.50	0.34	51,517	92.02	0.00
18.00	0.29	52,081	92.10	0.00
18.50	0.27	52,583	92.17	0.00
19.00	0.26	53,059	92.23	0.00
19.50	0.24	53,511	92.29	0.00
20.00	0.23	53,940	92.35	0.00
20.50	0.22	54,347	92.41	0.00
21.00	0.21	54,735	92.46	0.00
21.50	0.20	55,106	92.51	0.00
22.00	0.19	55,460	92.56	0.00
22.50	0.18	55,795	92.60	0.00
23.00	0.17	56,113	92.65	0.00
23.50	0.16	56,413	92.69	0.00
24.00	0.15	56,695	92.73	0.00

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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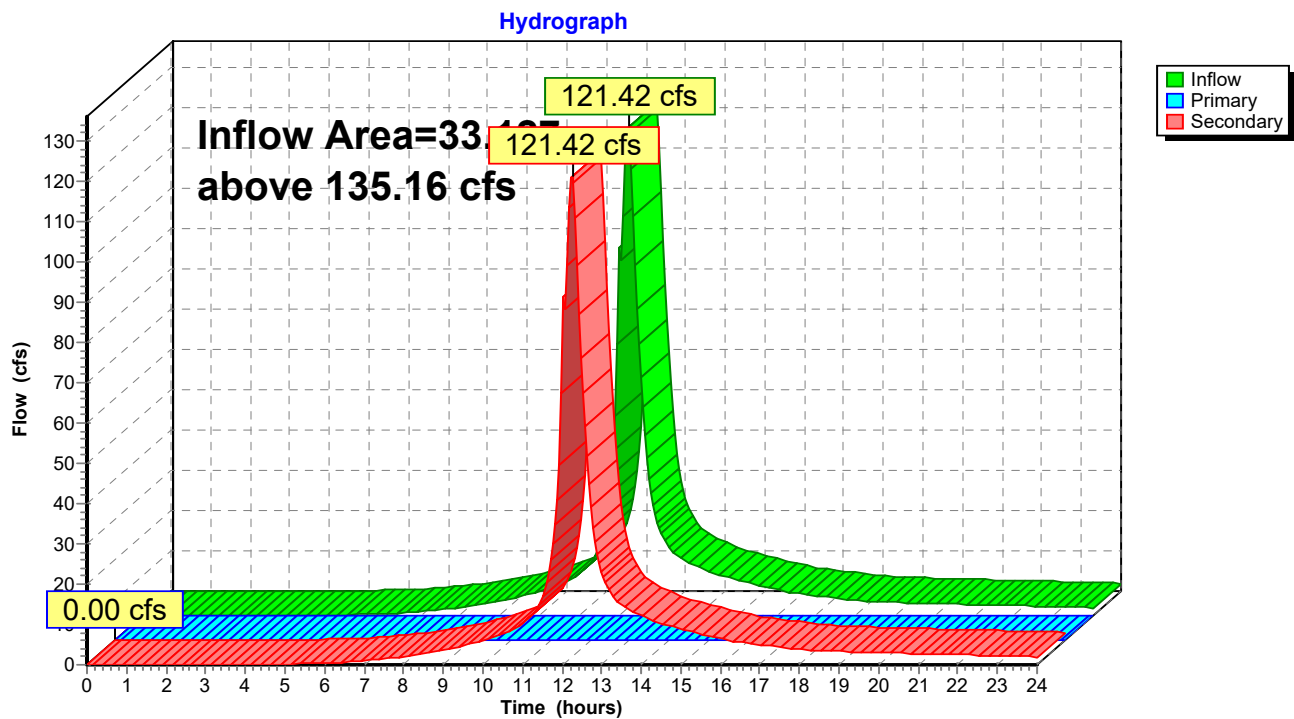
Stage-Discharge for Pond EX-P: Existing Pond

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
85.00	0.00	92.80	0.00
85.15	0.00	92.95	0.00
85.30	0.00	93.10	0.00
85.45	0.00	93.25	0.00
85.60	0.00	93.40	0.00
85.75	0.00	93.55	0.00
85.90	0.00	93.70	0.00
86.05	0.00	93.85	0.00
86.20	0.00	94.00	0.00
86.35	0.00	94.15	0.00
86.50	0.00	94.30	0.00
86.65	0.00	94.45	0.00
86.80	0.00	94.60	0.00
86.95	0.00	94.75	0.00
87.10	0.00	94.90	0.00
87.25	0.00	95.05	1.70
87.40	0.00	95.20	13.60
87.55	0.00	95.35	33.11
87.70	0.00	95.50	59.75
87.85	0.00	95.65	91.80
88.00	0.00	95.80	124.65
88.15	0.00	95.95	161.30
88.30	0.00	96.10	200.22
88.45	0.00	96.25	241.41
88.60	0.00	96.40	285.33
88.75	0.00	96.55	332.40
88.90	0.00	96.70	381.80
89.05	0.00	96.85	433.43
89.20	0.00	97.00	487.20
89.35	0.00	97.15	544.25
89.50	0.00	97.30	603.55
89.65	0.00	97.45	665.04
89.80	0.00	97.60	727.04
89.95	0.00	97.75	789.97
90.10	0.00	97.90	854.51
90.25	0.00	98.05	921.66
90.40	0.00	98.20	992.71
90.55	0.00	98.35	1,065.72
90.70	0.00	98.50	1,140.64
90.85	0.00	98.65	1,217.47
91.00	0.00	98.80	1,296.18
91.15	0.00	98.95	1,376.74
91.30	0.00	99.10	1,461.29
91.45	0.00	99.25	1,549.05
91.60	0.00	99.40	1,638.98
91.75	0.00	99.55	1,731.70
91.90	0.00	99.70	1,827.97
92.05	0.00	99.85	1,926.59
92.20	0.00	100.00	2,027.55
92.35	0.00		
92.50	0.00		
92.65	0.00		

Summary for Link DP-5: Drainage Point - 5

Inflow Area = 33.127 ac, 27.67% Impervious, Inflow Depth > 5.23" for 100 YEAR event
 Inflow = 121.42 cfs @ 12.27 hrs, Volume= 14.446 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Secondary = 121.42 cfs @ 12.27 hrs, Volume= 14.446 af

Primary outflow = Inflow above 135.16 cfs, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-5: Drainage Point - 5

POST_DEV (8'x4' Concrete Box Culvert) Rev_Feb Type III 24-hr 100 YEAR Rainfall=7.50"

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Hydrograph for Link DP-5: Drainage Point - 5

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0.00	0.00	0.00
0.50	0.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	0.00
1.50	0.02	0.00	0.00	0.02
2.00	0.04	0.00	0.00	0.04
2.50	0.05	0.00	0.00	0.05
3.00	0.07	0.00	0.00	0.07
3.50	0.08	0.00	0.00	0.08
4.00	0.09	0.00	0.00	0.09
4.50	0.14	0.00	0.00	0.14
5.00	0.19	0.00	0.00	0.19
5.50	0.27	0.00	0.00	0.27
6.00	0.45	0.00	0.00	0.45
6.50	0.72	0.00	0.00	0.72
7.00	1.05	0.00	0.00	1.05
7.50	1.45	0.00	0.00	1.45
8.00	1.93	0.00	0.00	1.93
8.50	2.58	0.00	0.00	2.58
9.00	3.52	0.00	0.00	3.52
9.50	4.65	0.00	0.00	4.65
10.00	5.92	0.00	0.00	5.92
10.50	7.72	0.00	0.00	7.72
11.00	10.22	0.00	0.00	10.22
11.50	15.91	0.00	0.00	15.91
12.00	88.86	0.00	0.00	88.86
12.50	76.12	0.00	0.00	76.12
13.00	23.16	0.00	0.00	23.16
13.50	14.96	0.00	0.00	14.96
14.00	12.19	0.00	0.00	12.19
14.50	10.23	0.00	0.00	10.23
15.00	8.95	0.00	0.00	8.95
15.50	7.71	0.00	0.00	7.71
16.00	6.48	0.00	0.00	6.48
16.50	5.55	0.00	0.00	5.55
17.00	4.99	0.00	0.00	4.99
17.50	4.44	0.00	0.00	4.44
18.00	3.90	0.00	0.00	3.90
18.50	3.51	0.00	0.00	3.51
19.00	3.33	0.00	0.00	3.33
19.50	3.16	0.00	0.00	3.16
20.00	2.99	0.00	0.00	2.99
20.50	2.85	0.00	0.00	2.85
21.00	2.72	0.00	0.00	2.72
21.50	2.60	0.00	0.00	2.60
22.00	2.47	0.00	0.00	2.47
22.50	2.35	0.00	0.00	2.35
23.00	2.22	0.00	0.00	2.22
23.50	2.10	0.00	0.00	2.10
24.00	1.87	0.00	0.00	1.87