STORMWATER MANAGEMENT REPORT

For

Bay St. Louis Convenience Store

1083 Highway 90

Bay St. Louis, Mississippi

Revised July 3, 2025

Prepared by:

LIVE OAK
ENGINEERING

STORMWATER MANAGEMENT REPORT
Bay St Louis Convenience Store

PROJECT DESCRIPTION

The proposed project consists of the development of approximately 1.9 acres of previously undeveloped commercial land. The project is located at 1083 Highway 90 in Bay St. Louis, Mississippi.

REGULATORY REQUIREMENTS

An appropriate storm water drainage system has been design to convey storm water by means of overland sheet flow and underground piping to a detention basin design to meet the City of Bay St Louis Stormwater management Requirements. Rate control will consists of containing the on-site peak post-development discharge rates so they do not exceed the peak pre-development discharge rates for the 10-year, 25-year, and 100-year storm events.

PRE-DEVELOPMENT ANALYSIS

The drainage basin for this project is comprised of approximately 1.9 acres of previous undeveloped commercial land. The Pre-developed conditions are described below.

Pre-developed Conditions - South Area

Description	Area (ac)	Pre-developed "CN" Value
Fair Grass, Group C	0.14 ac	79
Total Area	0.14 ac	Weighted CN 79

Pre-developed Conditions - North Area

Description	Area (ac)		Pre-developed "CN" Value
Fair Grass, Group C	1.75 ac		79
Total Area	1.75 ac	Weighted CN	79

Pre-development run-off rates were calculated using the SCS methodologies and AutoDesk Storm and Sanitary Analysis modeling software. Pre-development analysis has been performed for the 10-year, 25-year, and 100-year storm event. The results are listed below and the hydraulic calculations for the Pre-development conditions can be found in attached Appendix.

Pre-developed Hydrological Results - South Area

Event (24 hour)	Area	Duration	24-hour Rainfall	Peak Run-Off
10-year	0.14 ac	5.0 min	8.70 in	1.00 cfs
25-year	0.14 ac	5.0 min	10.50 in	1.26 cfs
100-year	0.14 ac	5.0 min	12.50 in	1.56 cfs

Pre-developed Hydrological Results - North Area

Event (24 hour)	Area	Duration	24-hour Rainfall	Peak Run-Off
10-year	1.75 ac	8.2 min	8.70 in	11.39 cfs
25-year	1.75 ac	8.2 min	10.50 in	14.39 cfs
100-year	1.75 ac	8.2 min	12.50 in	17.72 cfs

POST-DEVELOPMENT ANALYSIS

The post-developed conditions include the developing of approximately 1.9 acres of land for the development of the new convenience store. The post-developed conditions are described below.

Post-developed Conditions – North Area

Description	Area (ac)	Post-developed "CN" Value
Pervious	0.130 ac	74
Impervious	0.200 ac	98
Total Area	0.330 ac	Weighted CN 89

Post-developed Conditions – South Area

Description	Area (sf)	Post-developed "CN" Value
Pervious	0.310 ac	74
Impervious	0.170 ac	98
Total Area	0.480 ac	Weighted CN 83

Post-developed Conditions – West Area

Description	Area (sf)	Post-developed "CN" Value
Pervious	0.250 ac	74
Impervious	0.450 ac	98
Total Area	0.700 ac	Weighted CN 89

Post-developed Conditions – Offsite

Description	Area (sf)	Post-developed "CN" Value
Pervious	0.380 ac	79
Total Area	0.380 ac	Weighted CN 79

The same method as the pre-development analysis was used to calculate the post-development analysis. The results are listed below and the hydraulic calculations for the post-development conditions can be found in attached Appendix.

Post-developed Hydrological Results – 10-year Storm Event

Drainage Area	Area	Duration	Peak Run-Off
North Area	0.330 ac	5 min	2.69 cfs
South Area	0.480 ac	5 min	3.64 cfs
West Area	0.700 ac	5 min	5.70 cfs
Offsite	0.380 ac	5 min	2.71 cfs

Post-developed Hydrological Results – 25-year Storm Event

Drainage Area	Area	Duration	Peak Run-Off
North Area	0.330 ac	5 min	3.29 cfs
South Area	0.480 ac	5 min	4.54 cfs
West Area	0.700 ac	5 min	6.99 cfs
Offsite	0.380 ac	5 min	3.43 cfs

Post-developed Hydrological Results – 100-year Storm Event

Drainage Area	Area	Duration	Peak Run-Off
North Area	0.330 ac	5 min	3.96 cfs
South Area	0.480 ac	5 min	5.53 cfs
West Area	0.700 ac	5 min	8.41 cfs
Offsite	0.380 ac	5 min	4.22 cfs

DETENTION BASIN AND OUTLET STRUCTURE DEVELOPMENT

Detention Basin and Outlet Structure Description

A detention system has been designed to provide the required storage volume to ensure that the peak post-developed run-off rates do not exceed the pre-developed run-off rates for the required storm events. The detention basins and routing information are listed below and detention routing calculations can be found in attached Appendix.

North Detention Basin and Outlet Structure Description

Top Bank Elevation	18.5 ft
Top Bank Area	2,225 sf
Bottom Elevation	16 ft
Bottom Area	1,430 sf
Total Pond Volume	4,686 cf
12” Outlet Pipe Elevation	15.75 ft

South Detention Basin and Outlet Structure Description

Top Bank Elevation	18.25 ft
Top Bank Area	3,560 sf
Bottom Elevation	15 ft
Bottom Area	1,015 sf
Total Pond Volume	7,100 cf
15” Outlet Pipe Elevation	14.75 ft

West Detention Basin and Outlet Structure Description

Top Bank Elevation	18.25 ft
Top Bank Area	4,340 sf
Bottom Elevation	16 ft
Bottom Area	285 sf
Total Pond Volume	4,155 cf
12” Outlet Pipe Elevation	15.50 ft

PRE-DEVELOPMENT vs POST-DEVELOPMENT ANALYSIS

Pre-development vs Post-developed Hydrological Results – 10-year Storm Event

Drainage Area	Pre Peak Run-off	Post Peak Run-off
Pre - North Area	11.39 cfs	
Pre - South Area	1.00 cfs	
Post – Thru Ponds		6.78 cfs
Post – Offsite		2.71 cfs
Totals	12.39 cfs	9.49 cfs

Pre-development vs Post-developed Hydrological Results – 25-year Storm Event

Drainage Area	Pre Peak Run-off	Post Peak Run-off
Pre - North Area	14.39 cfs	
Pre - South Area	1.26 cfs	
Post – Thru Ponds		7.80 cfs
Post – Offsite		3.43 cfs
Totals	15.65 cfs	11.23 cfs

Pre-development vs Post-developed Hydrological Results – 100-year Storm Event

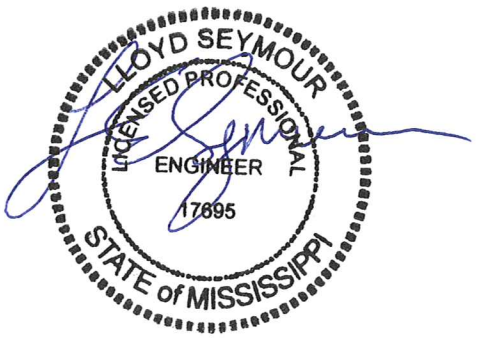
Drainage Area	Pre Peak Run-off	Post Peak Run-off
Pre - North Area	17.72 cfs	
Pre - South Area	1.56 cfs	
Post – Thru Ponds		8.52 cfs
Post – Offsite		4.22 cfs
Totals	19.28 cfs	12.74 cfs

ENGINEEER'S CERTIFICATION

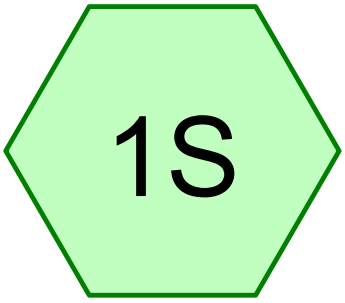
I, Lloyd (Les) Seymour, hereby certify that this Storm Water Management Plan dated July 3, 2025 has been developed in conformity with accepted engineering standards in hydrology and it was determined that the stormwater system meets the City of Bay St. Louis Stormwater Management Requirements.

Any individual or group who chooses to use this report for future projects shall assume all risk regarding their design.

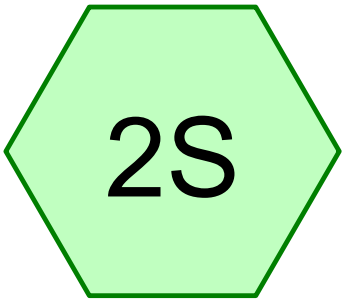
Lloyd (Les) Seymour, PE
Live Oak Engineering



Appendix-
Calculations



Pre - North



Pre - South

Subcat Reach Pond Link

Routing Diagram for Bay St. Louis Pre
Prepared by Live Oak Engineering, Printed 3/3/2025

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-Year	Type III 24-hr		Default	24.00	1	8.70	2
2	25-Year	Type III 24-hr		Default	24.00	1	10.50	2
3	100-Year	Type III 24-hr		Default	24.00	1	12.50	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.890	79	50-75% Grass cover, Fair, HSG C (1S, 2S)
1.890	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.890	HSG C	1S, 2S
0.000	HSG D	
0.000	Other	
1.890		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	1.890	0.000	0.000	1.890	50-75% Grass cover, Fair	1S, 2S
0.000	**0.000**	**1.890**	**0.000**	**0.000**	**1.890**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre - North Runoff Area=1.750 ac 0.00% Impervious Runoff Depth>5.80"
Flow Length=200' Tc=8.2 min CN=79 Runoff=11.39 cfs 0.846 af

Subcatchment2S: Pre - South Runoff Area=0.140 ac 0.00% Impervious Runoff Depth>5.81"
Tc=5.0 min CN=79 Runoff=1.00 cfs 0.068 af

Total Runoff Area = 1.890 ac Runoff Volume = 0.914 af Average Runoff Depth = 5.80"
100.00% Pervious = 1.890 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Pre - North

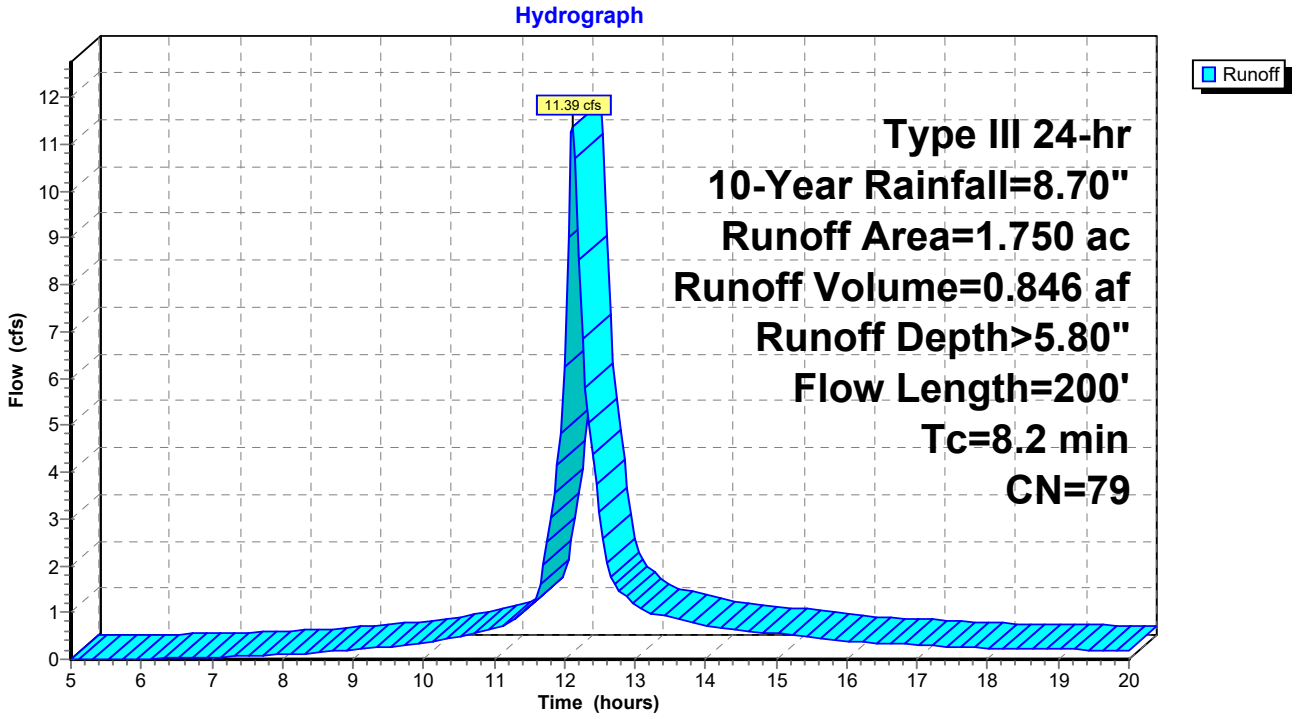
Runoff = 11.39 cfs @ 12.11 hrs, Volume= 0.846 af, Depth> 5.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=8.70"

Area (ac)	CN	Description
1.750	79	50-75% Grass cover, Fair, HSG C
1.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	75	0.0300	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 5.80"
1.0	125	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.2	200	Total			

Subcatchment 1S: Pre - North



Hydrograph for Subcatchment 1S: Pre - North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.49	0.00	0.00
5.25	0.53	0.00	0.00
5.50	0.56	0.00	0.00
5.75	0.59	0.00	0.01
6.00	0.63	0.00	0.01
6.25	0.66	0.01	0.02
6.50	0.70	0.01	0.03
6.75	0.74	0.02	0.04
7.00	0.79	0.02	0.05
7.25	0.83	0.03	0.06
7.50	0.88	0.04	0.07
7.75	0.94	0.05	0.09
8.00	0.99	0.07	0.10
8.25	1.05	0.09	0.12
8.50	1.12	0.11	0.15
8.75	1.19	0.13	0.17
9.00	1.27	0.16	0.21
9.25	1.35	0.19	0.24
9.50	1.44	0.23	0.28
9.75	1.54	0.28	0.32
10.00	1.64	0.33	0.36
10.25	1.76	0.39	0.41
10.50	1.88	0.46	0.49
10.75	2.02	0.54	0.56
11.00	2.18	0.63	0.65
11.25	2.36	0.74	0.82
11.50	2.59	0.90	1.10
11.75	3.09	1.26	2.50
12.00	4.35	2.25	**6.24**
12.25	5.61	3.33	**6.84**
12.50	6.11	3.78	3.15
12.75	6.34	3.99	1.51
13.00	6.52	4.15	1.17
13.25	6.68	4.29	0.98
13.50	6.82	4.42	0.89
13.75	6.94	4.53	0.81
14.00	7.06	4.64	0.73
14.25	7.16	4.73	0.67
14.50	7.26	4.82	0.63
14.75	7.35	4.90	0.59
15.00	7.43	4.98	0.55
15.25	7.51	5.05	0.51
15.50	7.58	5.12	0.47
15.75	7.65	5.18	0.43
16.00	7.71	5.24	0.39
16.25	7.76	5.29	0.36
16.50	7.82	5.34	0.34
16.75	7.87	5.38	0.33
17.00	7.91	5.43	0.31
17.25	7.96	5.47	0.29
17.50	8.00	5.51	0.27
17.75	8.04	5.54	0.26
18.00	8.07	5.58	0.24
18.25	8.11	5.61	0.23
18.50	8.14	5.64	0.22
18.75	8.17	5.67	0.22
19.00	8.21	5.70	0.21
19.25	8.24	5.73	0.21
19.50	8.27	5.76	0.20
19.75	8.30	5.79	0.19
20.00	**8.33**	**5.81**	0.19

Summary for Subcatchment 2S: Pre - South

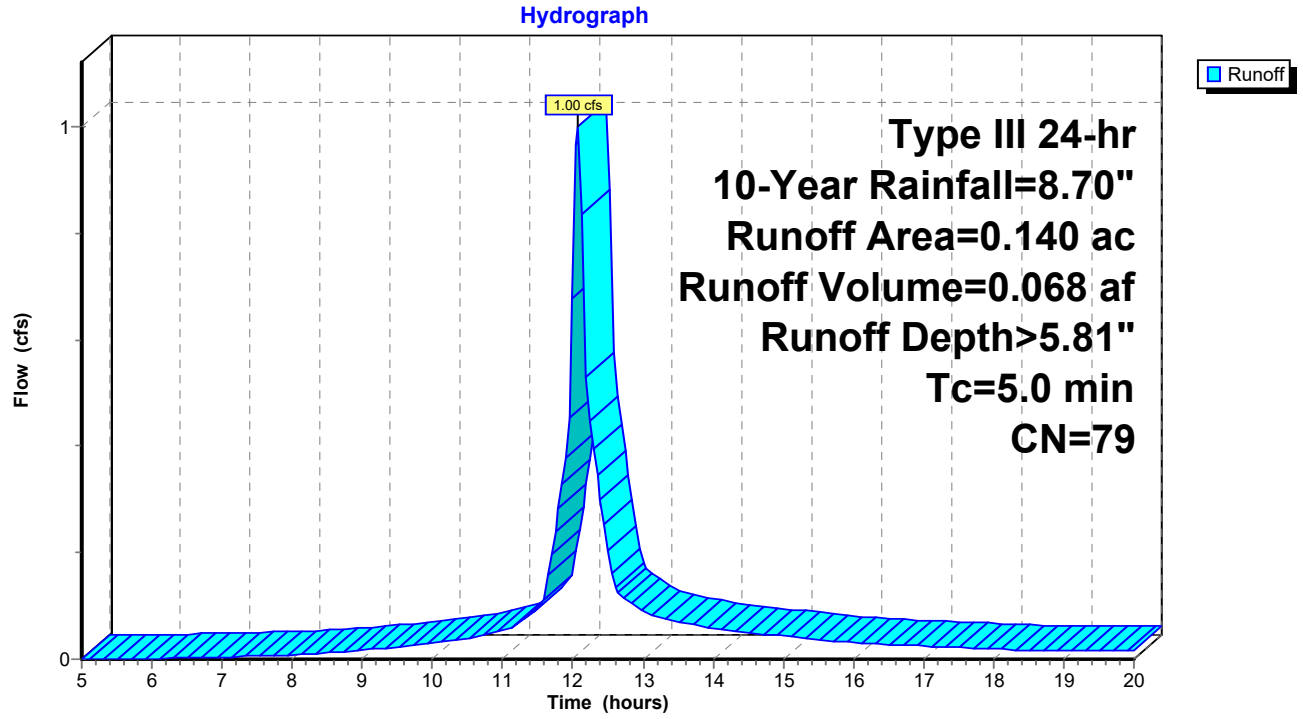
Runoff = 1.00 cfs @ 12.07 hrs, Volume= 0.068 af, Depth> 5.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=8.70"

Area (ac)	CN	Description
0.140	79	50-75% Grass cover, Fair, HSG C
0.140		100.00% Pervious Area

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

Subcatchment 2S: Pre - South



Hydrograph for Subcatchment 2S: Pre - South

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.49	0.00	0.00
5.25	0.53	0.00	0.00
5.50	0.56	0.00	0.00
5.75	0.59	0.00	0.00
6.00	0.63	0.00	0.00
6.25	0.66	0.01	0.00
6.50	0.70	0.01	0.00
6.75	0.74	0.02	0.00
7.00	0.79	0.02	0.00
7.25	0.83	0.03	0.00
7.50	0.88	0.04	0.01
7.75	0.94	0.05	0.01
8.00	0.99	0.07	0.01
8.25	1.05	0.09	0.01
8.50	1.12	0.11	0.01
8.75	1.19	0.13	0.01
9.00	1.27	0.16	0.02
9.25	1.35	0.19	0.02
9.50	1.44	0.23	0.02
9.75	1.54	0.28	0.03
10.00	1.64	0.33	0.03
10.25	1.76	0.39	0.03
10.50	1.88	0.46	0.04
10.75	2.02	0.54	0.05
11.00	2.18	0.63	0.05
11.25	2.36	0.74	0.07
11.50	2.59	0.90	0.09
11.75	3.09	1.26	0.24
12.00	4.35	2.25	**0.68**
12.25	5.61	3.33	**0.45**
12.50	6.11	3.78	0.21
12.75	6.34	3.99	0.11
13.00	6.52	4.15	0.09
13.25	6.68	4.29	0.08
13.50	6.82	4.42	0.07
13.75	6.94	4.53	0.06
14.00	7.06	4.64	0.06
14.25	7.16	4.73	0.05
14.50	7.26	4.82	0.05
14.75	7.35	4.90	0.05
15.00	7.43	4.98	0.04
15.25	7.51	5.05	0.04
15.50	7.58	5.12	0.04
15.75	7.65	5.18	0.03
16.00	7.71	5.24	0.03
16.25	7.76	5.29	0.03
16.50	7.82	5.34	0.03
16.75	7.87	5.38	0.03
17.00	7.91	5.43	0.02
17.25	7.96	5.47	0.02
17.50	8.00	5.51	0.02
17.75	8.04	5.54	0.02
18.00	8.07	5.58	0.02
18.25	8.11	5.61	0.02
18.50	8.14	5.64	0.02
18.75	8.17	5.67	0.02
19.00	8.21	5.70	0.02
19.25	8.24	5.73	0.02
19.50	8.27	5.76	0.02
19.75	8.30	5.79	0.02
20.00	**8.33**	**5.81**	0.02

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre - North Runoff Area=1.750 ac 0.00% Impervious Runoff Depth>7.43"
Flow Length=200' Tc=8.2 min CN=79 Runoff=14.39 cfs 1.083 af

Subcatchment2S: Pre - South Runoff Area=0.140 ac 0.00% Impervious Runoff Depth>7.43"
Tc=5.0 min CN=79 Runoff=1.26 cfs 0.087 af

Total Runoff Area = 1.890 ac Runoff Volume = 1.170 af Average Runoff Depth = 7.43"
100.00% Pervious = 1.890 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Pre - North

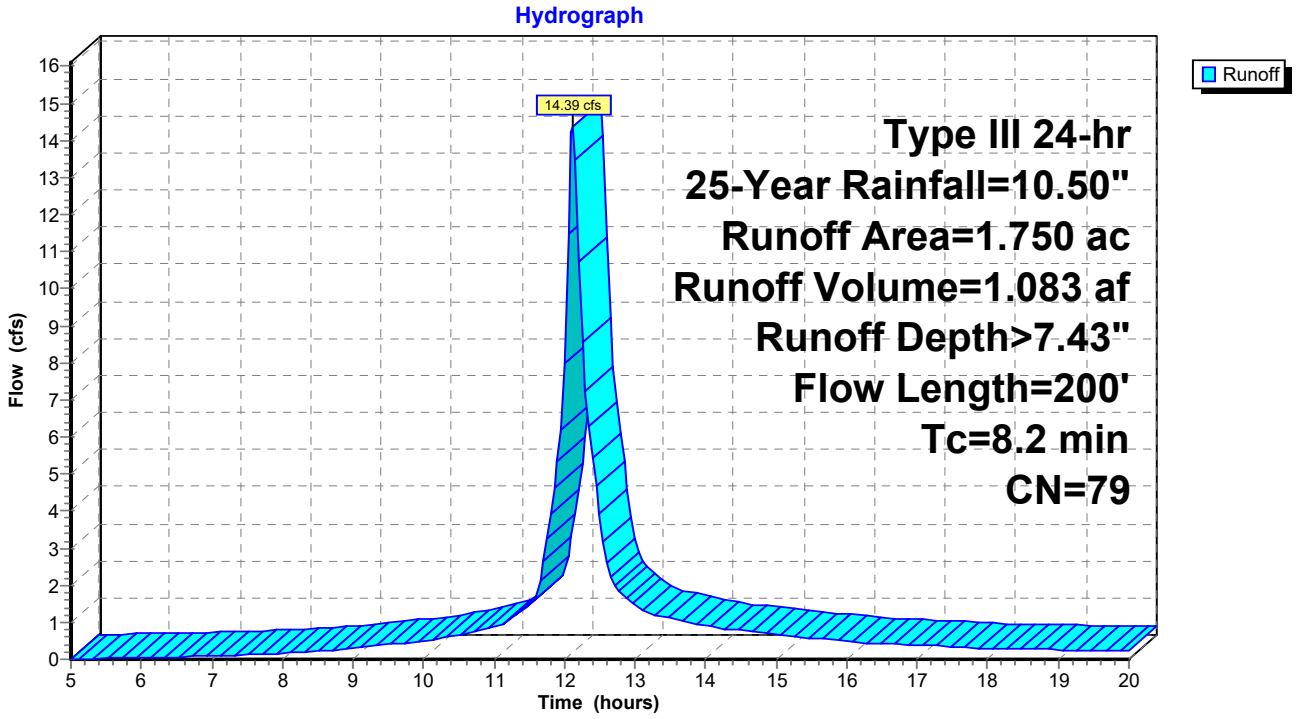
Runoff = 14.39 cfs @ 12.11 hrs, Volume= 1.083 af, Depth> 7.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=10.50"

Area (ac)	CN	Description
1.750	79	50-75% Grass cover, Fair, HSG C
1.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	75	0.0300	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 5.80"
1.0	125	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.2	200	Total			

Subcatchment 1S: Pre - North



Hydrograph for Subcatchment 1S: Pre - North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.60	0.00	0.01
5.25	0.63	0.00	0.02
5.50	0.67	0.01	0.02
5.75	0.71	0.01	0.03
6.00	0.76	0.02	0.04
6.25	0.80	0.02	0.05
6.50	0.85	0.03	0.06
6.75	0.90	0.04	0.08
7.00	0.95	0.06	0.09
7.25	1.01	0.07	0.11
7.50	1.07	0.09	0.12
7.75	1.13	0.11	0.14
8.00	1.20	0.13	0.16
8.25	1.27	0.16	0.19
8.50	1.35	0.19	0.23
8.75	1.44	0.23	0.26
9.00	1.53	0.27	0.31
9.25	1.63	0.32	0.35
9.50	1.74	0.38	0.40
9.75	1.86	0.44	0.45
10.00	1.98	0.51	0.50
10.25	2.12	0.59	0.57
10.50	2.27	0.69	0.67
10.75	2.44	0.80	0.77
11.00	2.63	0.92	0.87
11.25	2.85	1.08	1.10
11.50	3.13	1.28	1.45
11.75	3.73	1.75	3.26
12.00	5.25	3.02	**7.98**
12.25	6.77	4.37	**8.58**
12.50	7.37	4.93	3.92
12.75	7.65	5.19	1.87
13.00	7.87	5.39	1.46
13.25	8.06	5.56	1.21
13.50	8.23	5.72	1.11
13.75	8.38	5.86	1.01
14.00	8.52	5.99	0.90
14.25	8.64	6.11	0.83
14.50	8.76	6.22	0.78
14.75	8.87	6.32	0.73
15.00	8.97	6.42	0.68
15.25	9.06	6.51	0.63
15.50	9.15	6.59	0.58
15.75	9.23	6.66	0.53
16.00	9.30	6.73	0.48
16.25	9.37	6.79	0.45
16.50	9.43	6.85	0.42
16.75	9.49	6.91	0.40
17.00	9.55	6.97	0.38
17.25	9.60	7.02	0.36
17.50	9.65	7.06	0.34
17.75	9.70	7.11	0.31
18.00	9.74	7.15	0.29
18.25	9.79	7.19	0.28
18.50	9.83	7.23	0.27
18.75	9.87	7.26	0.27
19.00	9.90	7.30	0.26
19.25	9.94	7.34	0.25
19.50	9.98	7.37	0.25
19.75	10.01	7.41	0.24
20.00	**10.05**	**7.44**	0.23

Summary for Subcatchment 2S: Pre - South

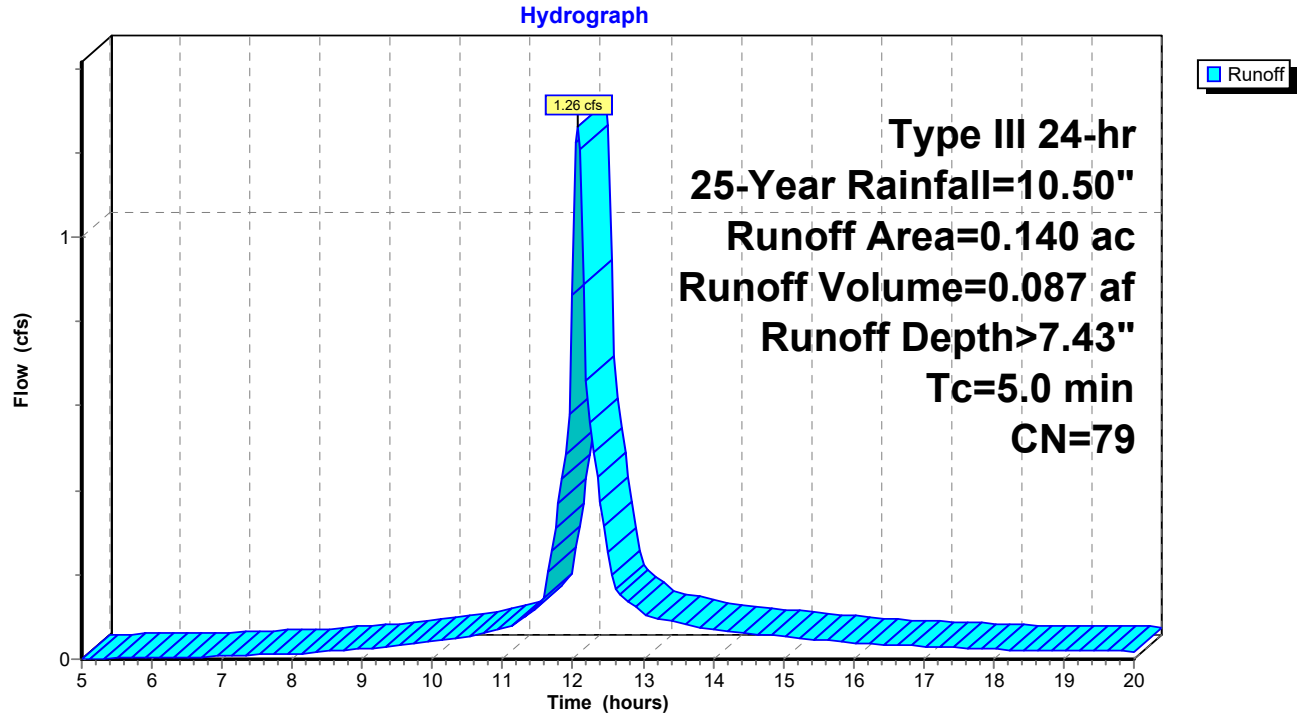
Runoff = 1.26 cfs @ 12.07 hrs, Volume= 0.087 af, Depth> 7.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=10.50"

Area (ac)	CN	Description
0.140	79	50-75% Grass cover, Fair, HSG C
0.140		100.00% Pervious Area

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

Subcatchment 2S: Pre - South



Hydrograph for Subcatchment 2S: Pre - South

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.60	0.00	0.00
5.25	0.63	0.00	0.00
5.50	0.67	0.01	0.00
5.75	0.71	0.01	0.00
6.00	0.76	0.02	0.00
6.25	0.80	0.02	0.00
6.50	0.85	0.03	0.01
6.75	0.90	0.04	0.01
7.00	0.95	0.06	0.01
7.25	1.01	0.07	0.01
7.50	1.07	0.09	0.01
7.75	1.13	0.11	0.01
8.00	1.20	0.13	0.01
8.25	1.27	0.16	0.02
8.50	1.35	0.19	0.02
8.75	1.44	0.23	0.02
9.00	1.53	0.27	0.03
9.25	1.63	0.32	0.03
9.50	1.74	0.38	0.03
9.75	1.86	0.44	0.04
10.00	1.98	0.51	0.04
10.25	2.12	0.59	0.05
10.50	2.27	0.69	0.05
10.75	2.44	0.80	0.06
11.00	2.63	0.92	0.07
11.25	2.85	1.08	0.09
11.50	3.13	1.28	0.12
11.75	3.73	1.75	0.31
12.00	5.25	3.02	**0.86**
12.25	6.77	4.37	**0.56**
12.50	7.37	4.93	0.25
12.75	7.65	5.19	0.14
13.00	7.87	5.39	0.11
13.25	8.06	5.56	0.10
13.50	8.23	5.72	0.09
13.75	8.38	5.86	0.08
14.00	8.52	5.99	0.07
14.25	8.64	6.11	0.07
14.50	8.76	6.22	0.06
14.75	8.87	6.32	0.06
15.00	8.97	6.42	0.05
15.25	9.06	6.51	0.05
15.50	9.15	6.59	0.05
15.75	9.23	6.66	0.04
16.00	9.30	6.73	0.04
16.25	9.37	6.79	0.04
16.50	9.43	6.85	0.03
16.75	9.49	6.91	0.03
17.00	9.55	6.97	0.03
17.25	9.60	7.02	0.03
17.50	9.65	7.06	0.03
17.75	9.70	7.11	0.02
18.00	9.74	7.15	0.02
18.25	9.79	7.19	0.02
18.50	9.83	7.23	0.02
18.75	9.87	7.26	0.02
19.00	9.90	7.30	0.02
19.25	9.94	7.34	0.02
19.50	9.98	7.37	0.02
19.75	10.01	7.41	0.02
20.00	**10.05**	**7.44**	0.02

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre - North Runoff Area=1.750 ac 0.00% Impervious Runoff Depth>9.25"
Flow Length=200' Tc=8.2 min CN=79 Runoff=17.72 cfs 1.349 af

Subcatchment2S: Pre - South Runoff Area=0.140 ac 0.00% Impervious Runoff Depth>9.26"
Tc=5.0 min CN=79 Runoff=1.56 cfs 0.108 af

Total Runoff Area = 1.890 ac Runoff Volume = 1.457 af Average Runoff Depth = 9.25"
100.00% Pervious = 1.890 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Pre - North

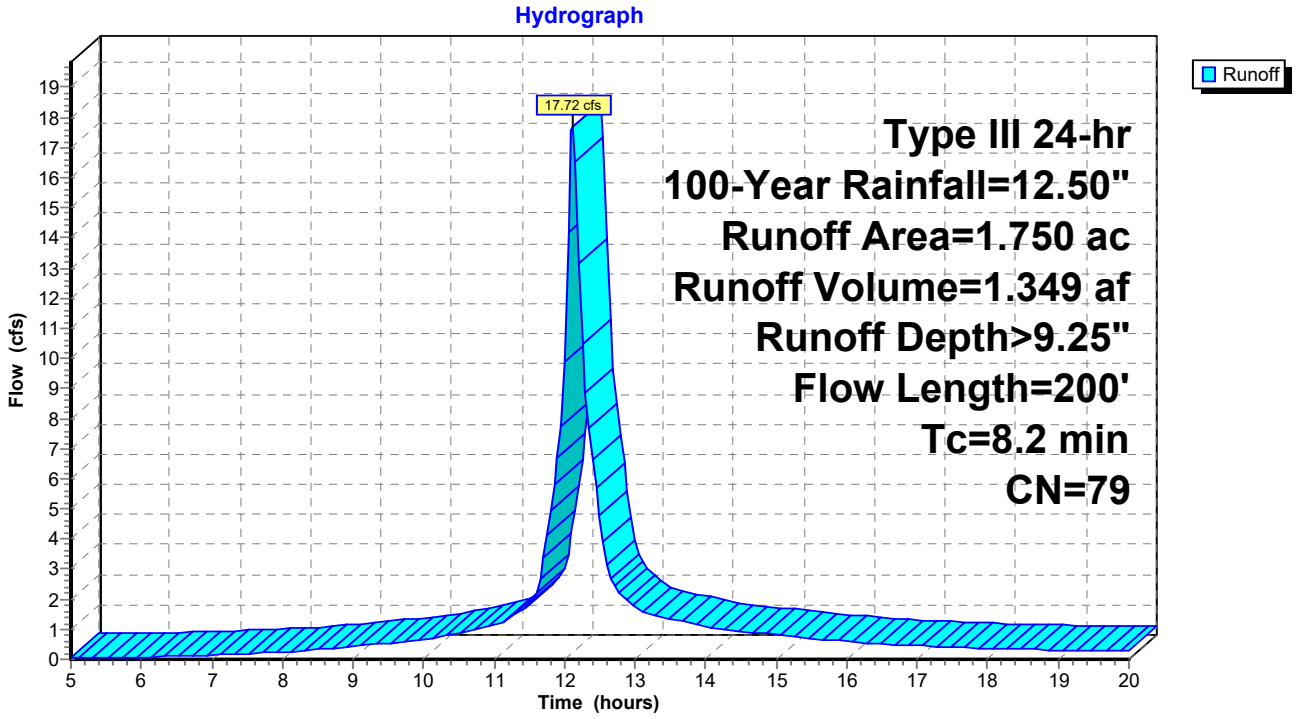
Runoff = 17.72 cfs @ 12.11 hrs, Volume= 1.349 af, Depth> 9.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=12.50"

Area (ac)	CN	Description
1.750	79	50-75% Grass cover, Fair, HSG C
1.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	75	0.0300	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 5.80"
1.0	125	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.2	200	Total			

Subcatchment 1S: Pre - North



Hydrograph for Subcatchment 1S: Pre - North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.71	0.01	0.03
5.25	0.76	0.02	0.04
5.50	0.80	0.03	0.05
5.75	0.85	0.03	0.06
6.00	0.90	0.04	0.08
6.25	0.95	0.06	0.09
6.50	1.01	0.07	0.11
6.75	1.07	0.09	0.12
7.00	1.13	0.11	0.14
7.25	1.20	0.13	0.17
7.50	1.27	0.16	0.19
7.75	1.35	0.19	0.21
8.00	1.43	0.22	0.24
8.25	1.51	0.26	0.27
8.50	1.61	0.31	0.32
8.75	1.71	0.36	0.37
9.00	1.82	0.42	0.42
9.25	1.94	0.49	0.48
9.50	2.07	0.57	0.54
9.75	2.21	0.65	0.60
10.00	2.36	0.75	0.67
10.25	2.53	0.85	0.76
10.50	2.71	0.98	0.88
10.75	2.91	1.12	1.00
11.00	3.13	1.28	1.13
11.25	3.39	1.48	1.41
11.50	3.73	1.74	1.85
11.75	4.44	2.33	4.12
12.00	6.25	3.90	**9.92**
12.25	8.06	5.56	**10.49**
12.50	8.77	6.23	4.77
12.75	9.11	6.55	2.28
13.00	9.37	6.80	1.77
13.25	9.59	7.01	1.47
13.50	9.79	7.20	1.34
13.75	9.98	7.37	1.22
14.00	10.14	7.52	1.09
14.25	10.29	7.67	1.00
14.50	10.43	7.80	0.94
14.75	10.56	7.92	0.88
15.00	10.68	8.04	0.82
15.25	10.79	8.15	0.76
15.50	10.89	8.25	0.70
15.75	10.99	8.34	0.64
16.00	11.07	8.42	0.58
16.25	11.15	8.50	0.54
16.50	11.23	8.57	0.51
16.75	11.30	8.64	0.48
17.00	11.37	8.70	0.46
17.25	11.43	8.76	0.43
17.50	11.49	8.82	0.41
17.75	11.55	8.87	0.38
18.00	11.60	8.92	0.35
18.25	11.65	8.97	0.34
18.50	11.70	9.02	0.33
18.75	11.74	9.06	0.32
19.00	11.79	9.11	0.31
19.25	11.84	9.15	0.30
19.50	11.88	9.19	0.30
19.75	11.92	9.23	0.29
20.00	**11.96**	**9.27**	0.28

Summary for Subcatchment 2S: Pre - South

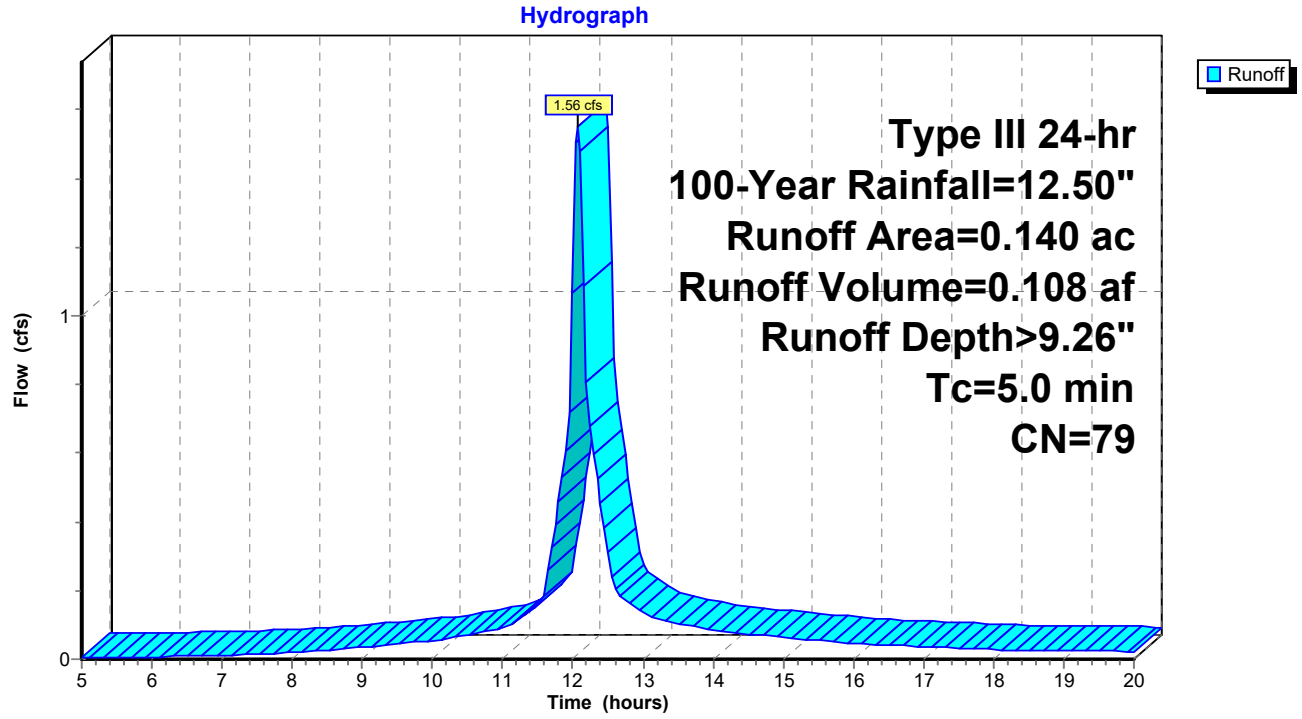
Runoff = 1.56 cfs @ 12.07 hrs, Volume= 0.108 af, Depth> 9.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=12.50"

Area (ac)	CN	Description
0.140	79	50-75% Grass cover, Fair, HSG C
0.140		100.00% Pervious Area

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

Subcatchment 2S: Pre - South



Hydrograph for Subcatchment 2S: Pre - South

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.71	0.01	0.00
5.25	0.76	0.02	0.00
5.50	0.80	0.03	0.00
5.75	0.85	0.03	0.01
6.00	0.90	0.04	0.01
6.25	0.95	0.06	0.01
6.50	1.01	0.07	0.01
6.75	1.07	0.09	0.01
7.00	1.13	0.11	0.01
7.25	1.20	0.13	0.01
7.50	1.27	0.16	0.02
7.75	1.35	0.19	0.02
8.00	1.43	0.22	0.02
8.25	1.51	0.26	0.02
8.50	1.61	0.31	0.03
8.75	1.71	0.36	0.03
9.00	1.82	0.42	0.03
9.25	1.94	0.49	0.04
9.50	2.07	0.57	0.04
9.75	2.21	0.65	0.05
10.00	2.36	0.75	0.05
10.25	2.53	0.85	0.06
10.50	2.71	0.98	0.07
10.75	2.91	1.12	0.08
11.00	3.13	1.28	0.09
11.25	3.39	1.48	0.12
11.50	3.73	1.74	0.16
11.75	4.44	2.33	0.39
12.00	6.25	3.90	**1.07**
12.25	8.06	5.56	**0.68**
12.50	8.77	6.23	0.31
12.75	9.11	6.55	0.17
13.00	9.37	6.80	0.13
13.25	9.59	7.01	0.12
13.50	9.79	7.20	0.11
13.75	9.98	7.37	0.10
14.00	10.14	7.52	0.09
14.25	10.29	7.67	0.08
14.50	10.43	7.80	0.07
14.75	10.56	7.92	0.07
15.00	10.68	8.04	0.06
15.25	10.79	8.15	0.06
15.50	10.89	8.25	0.06
15.75	10.99	8.34	0.05
16.00	11.07	8.42	0.05
16.25	11.15	8.50	0.04
16.50	11.23	8.57	0.04
16.75	11.30	8.64	0.04
17.00	11.37	8.70	0.04
17.25	11.43	8.76	0.03
17.50	11.49	8.82	0.03
17.75	11.55	8.87	0.03
18.00	11.60	8.92	0.03
18.25	11.65	8.97	0.03
18.50	11.70	9.02	0.03
18.75	11.74	9.06	0.03
19.00	11.79	9.11	0.02
19.25	11.84	9.15	0.02
19.50	11.88	9.19	0.02
19.75	11.92	9.23	0.02
20.00	**11.96**	**9.27**	0.02

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.380	79	50-75% Grass cover, Fair, HSG C (3S)
0.690	74	>75% Grass cover, Good, HSG C (1S, 2S, 10S)
0.820	98	Paved parking, HSG C (1S, 2S, 10S)

Summary for Subcatchment 1S: Post - North

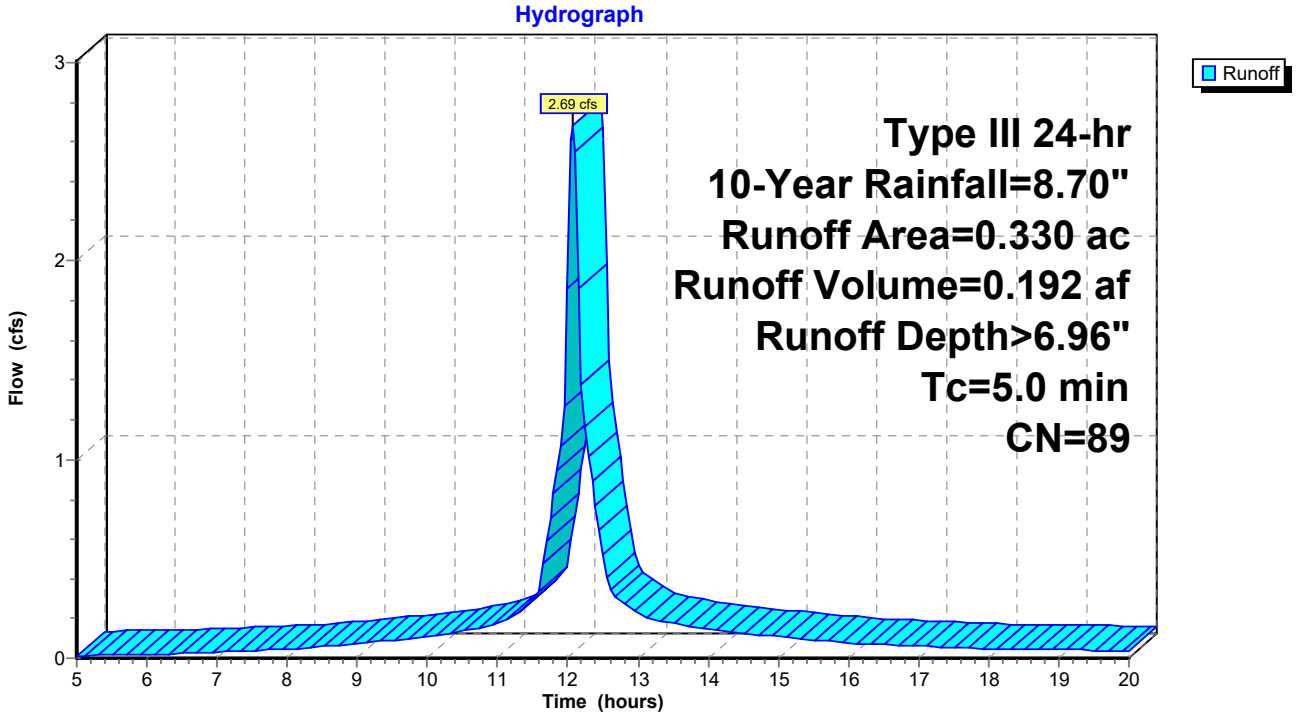
Runoff = 2.69 cfs @ 12.07 hrs, Volume= 0.192 af, Depth> 6.96"
Routed to Pond 4P : North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=8.70"

Area (ac)	CN	Description
0.130	74	>75% Grass cover, Good, HSG C
0.200	98	Paved parking, HSG C
0.330	89	Weighted Average
0.130		39.39% Pervious Area
0.200		60.61% Impervious Area

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

Subcatchment 1S: Post - North



Hydrograph for Subcatchment 1S: Post - North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.49	0.04	0.01
5.25	0.53	0.05	0.01
5.50	0.56	0.06	0.02
5.75	0.59	0.08	0.02
6.00	0.63	0.09	0.02
6.25	0.66	0.10	0.02
6.50	0.70	0.12	0.02
6.75	0.74	0.14	0.03
7.00	0.79	0.16	0.03
7.25	0.83	0.19	0.03
7.50	0.88	0.22	0.04
7.75	0.94	0.25	0.04
8.00	0.99	0.28	0.04
8.25	1.05	0.32	0.05
8.50	1.12	0.36	0.06
8.75	1.19	0.41	0.07
9.00	1.27	0.46	0.07
9.25	1.35	0.52	0.08
9.50	1.44	0.59	0.09
9.75	1.54	0.66	0.10
10.00	1.64	0.74	0.11
10.25	1.76	0.83	0.12
10.50	1.88	0.93	0.14
10.75	2.02	1.05	0.16
11.00	2.17	1.17	0.17
11.25	2.36	1.33	0.22
11.50	2.59	1.54	0.28
11.75	3.09	1.98	0.71
12.00	4.35	3.15	**1.86**
12.25	5.61	4.36	**1.16**
12.50	6.11	4.84	0.52
12.75	6.34	5.07	0.29
13.00	6.52	5.25	0.23
13.25	6.68	5.39	0.19
13.50	6.82	5.53	0.18
13.75	6.94	5.65	0.16
14.00	7.06	5.76	0.14
14.25	7.16	5.86	0.13
14.50	7.26	5.96	0.12
14.75	7.35	6.05	0.12
15.00	7.43	6.13	0.11
15.25	7.51	6.21	0.10
15.50	7.58	6.28	0.09
15.75	7.65	6.34	0.08
16.00	7.71	6.40	0.08
16.25	7.76	6.45	0.07
16.50	7.82	6.51	0.07
16.75	7.87	6.55	0.06
17.00	7.91	6.60	0.06
17.25	7.96	6.64	0.06
17.50	8.00	6.69	0.05
17.75	8.04	6.72	0.05
18.00	8.07	6.76	0.05
18.25	8.11	6.79	0.04
18.50	8.14	6.83	0.04
18.75	8.17	6.86	0.04
19.00	8.21	6.89	0.04
19.25	8.24	6.92	0.04
19.50	8.27	6.95	0.04
19.75	8.30	6.98	0.04
20.00	**8.33**	**7.01**	0.04

Summary for Subcatchment 2S: Post - South

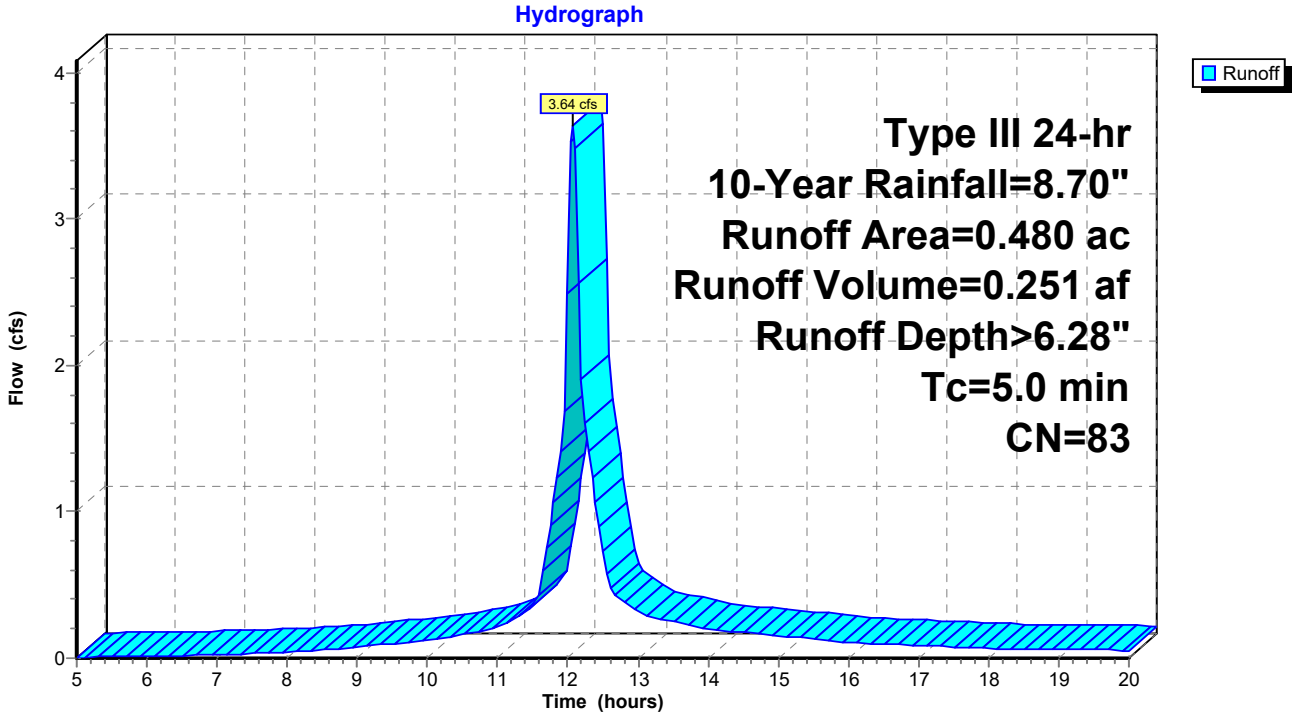
Runoff = 3.64 cfs @ 12.07 hrs, Volume= 0.251 af, Depth> 6.28"
Routed to Pond 6P : South - Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=8.70"

Area (ac)	CN	Description
0.170	98	Paved parking, HSG C
0.310	74	>75% Grass cover, Good, HSG C
0.480	83	Weighted Average
0.310		64.58% Pervious Area
0.170		35.42% Impervious Area

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

Subcatchment 2S: Post - South



Hydrograph for Subcatchment 2S: Post - South

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.49	0.00	0.00
5.25	0.53	0.01	0.01
5.50	0.56	0.01	0.01
5.75	0.59	0.01	0.01
6.00	0.63	0.02	0.01
6.25	0.66	0.03	0.01
6.50	0.70	0.04	0.02
6.75	0.74	0.05	0.02
7.00	0.79	0.06	0.02
7.25	0.83	0.07	0.03
7.50	0.88	0.09	0.03
7.75	0.94	0.11	0.04
8.00	0.99	0.13	0.04
8.25	1.05	0.15	0.05
8.50	1.12	0.18	0.06
8.75	1.19	0.22	0.07
9.00	1.27	0.25	0.08
9.25	1.35	0.30	0.09
9.50	1.44	0.35	0.10
9.75	1.54	0.40	0.11
10.00	1.64	0.46	0.12
10.25	1.76	0.53	0.14
10.50	1.88	0.62	0.16
10.75	2.02	0.71	0.19
11.00	2.17	0.82	0.21
11.25	2.36	0.95	0.27
11.50	2.59	1.13	0.36
11.75	3.09	1.52	0.91
12.00	4.35	2.59	**2.49**
12.25	5.61	3.73	**1.60**
12.50	6.11	4.19	0.73
12.75	6.34	4.41	0.41
13.00	6.52	4.58	0.32
13.25	6.68	4.72	0.27
13.50	6.82	4.85	0.25
13.75	6.94	4.97	0.23
14.00	7.06	5.08	0.20
14.25	7.16	5.18	0.19
14.50	7.26	5.27	0.18
14.75	7.35	5.36	0.16
15.00	7.43	5.44	0.15
15.25	7.51	5.51	0.14
15.50	7.58	5.58	0.13
15.75	7.65	5.64	0.12
16.00	7.71	5.70	0.11
16.25	7.76	5.75	0.10
16.50	7.82	5.80	0.10
16.75	7.87	5.85	0.09
17.00	7.91	5.89	0.09
17.25	7.96	5.94	0.08
17.50	8.00	5.98	0.08
17.75	8.04	6.01	0.07
18.00	8.07	6.05	0.07
18.25	8.11	6.08	0.06
18.50	8.14	6.11	0.06
18.75	8.17	6.14	0.06
19.00	8.21	6.17	0.06
19.25	8.24	6.20	0.06
19.50	8.27	6.23	0.06
19.75	8.30	6.26	0.05
20.00	**8.33**	**6.29**	0.05

Summary for Subcatchment 3S: Post - Offsite

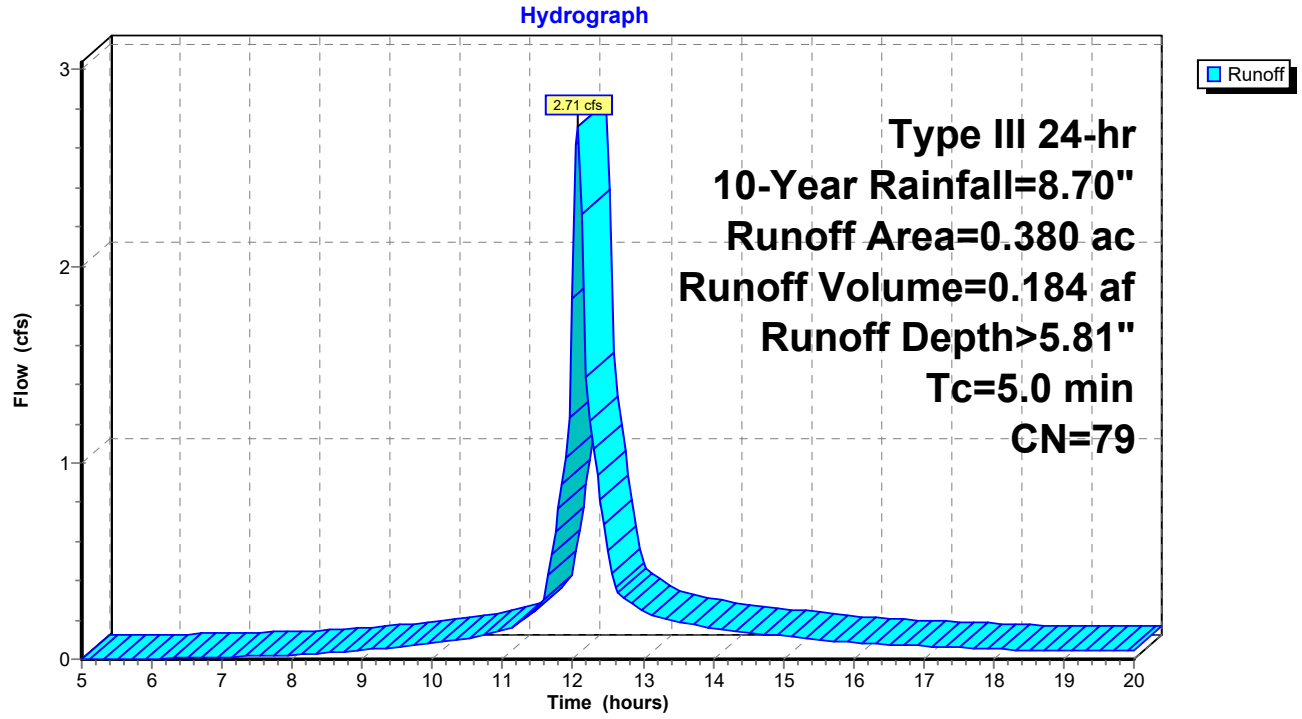
Runoff = 2.71 cfs @ 12.07 hrs, Volume= 0.184 af, Depth> 5.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=8.70"

Area (ac)	CN	Description
0.380	79	50-75% Grass cover, Fair, HSG C
0.380		100.00% Pervious Area

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

Subcatchment 3S: Post - Offsite



Hydrograph for Subcatchment 3S: Post - Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.49	0.00	0.00
5.25	0.53	0.00	0.00
5.50	0.56	0.00	0.00
5.75	0.59	0.00	0.00
6.00	0.63	0.00	0.00
6.25	0.66	0.01	0.00
6.50	0.70	0.01	0.01
6.75	0.74	0.02	0.01
7.00	0.79	0.02	0.01
7.25	0.83	0.03	0.01
7.50	0.88	0.04	0.02
7.75	0.94	0.05	0.02
8.00	0.99	0.07	0.02
8.25	1.05	0.09	0.03
8.50	1.12	0.11	0.03
8.75	1.19	0.13	0.04
9.00	1.27	0.16	0.05
9.25	1.35	0.19	0.05
9.50	1.44	0.23	0.06
9.75	1.54	0.28	0.07
10.00	1.64	0.33	0.08
10.25	1.76	0.39	0.09
10.50	1.88	0.46	0.11
10.75	2.02	0.54	0.13
11.00	2.17	0.63	0.14
11.25	2.36	0.74	0.19
11.50	2.59	0.90	0.25
11.75	3.09	1.26	0.65
12.00	4.35	2.25	**1.84**
12.25	5.61	3.33	**1.21**
12.50	6.11	3.78	0.56
12.75	6.34	3.99	0.31
13.00	6.52	4.15	0.24
13.25	6.68	4.29	0.21
13.50	6.82	4.42	0.19
13.75	6.94	4.53	0.17
14.00	7.06	4.64	0.16
14.25	7.16	4.73	0.14
14.50	7.26	4.82	0.14
14.75	7.35	4.90	0.13
15.00	7.43	4.98	0.12
15.25	7.51	5.05	0.11
15.50	7.58	5.12	0.10
15.75	7.65	5.18	0.09
16.00	7.71	5.24	0.08
16.25	7.76	5.29	0.08
16.50	7.82	5.34	0.07
16.75	7.87	5.38	0.07
17.00	7.91	5.43	0.07
17.25	7.96	5.47	0.06
17.50	8.00	5.51	0.06
17.75	8.04	5.54	0.05
18.00	8.07	5.58	0.05
18.25	8.11	5.61	0.05
18.50	8.14	5.64	0.05
18.75	8.17	5.67	0.05
19.00	8.21	5.70	0.05
19.25	8.24	5.73	0.04
19.50	8.27	5.76	0.04
19.75	8.30	5.79	0.04
20.00	**8.33**	**5.81**	0.04

Summary for Pond 4P: North

Inflow Area = 0.330 ac, 60.61% Impervious, Inflow Depth > 6.96" for 10-Year event
Inflow = 2.69 cfs @ 12.07 hrs, Volume= 0.192 af
Outflow = 1.73 cfs @ 12.17 hrs, Volume= 0.191 af, Atten= 36%, Lag= 5.8 min
Primary = 1.73 cfs @ 12.17 hrs, Volume= 0.191 af
Routed to Pond 6P : South - Outfall

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 16.77' @ 12.17 hrs Surf.Area= 1,664 sf Storage= 1,309 cf

Plug-Flow detention time= 13.8 min calculated for 0.191 af (100% of inflow)
Center-of-Mass det. time= 12.6 min (762.1 - 749.5)

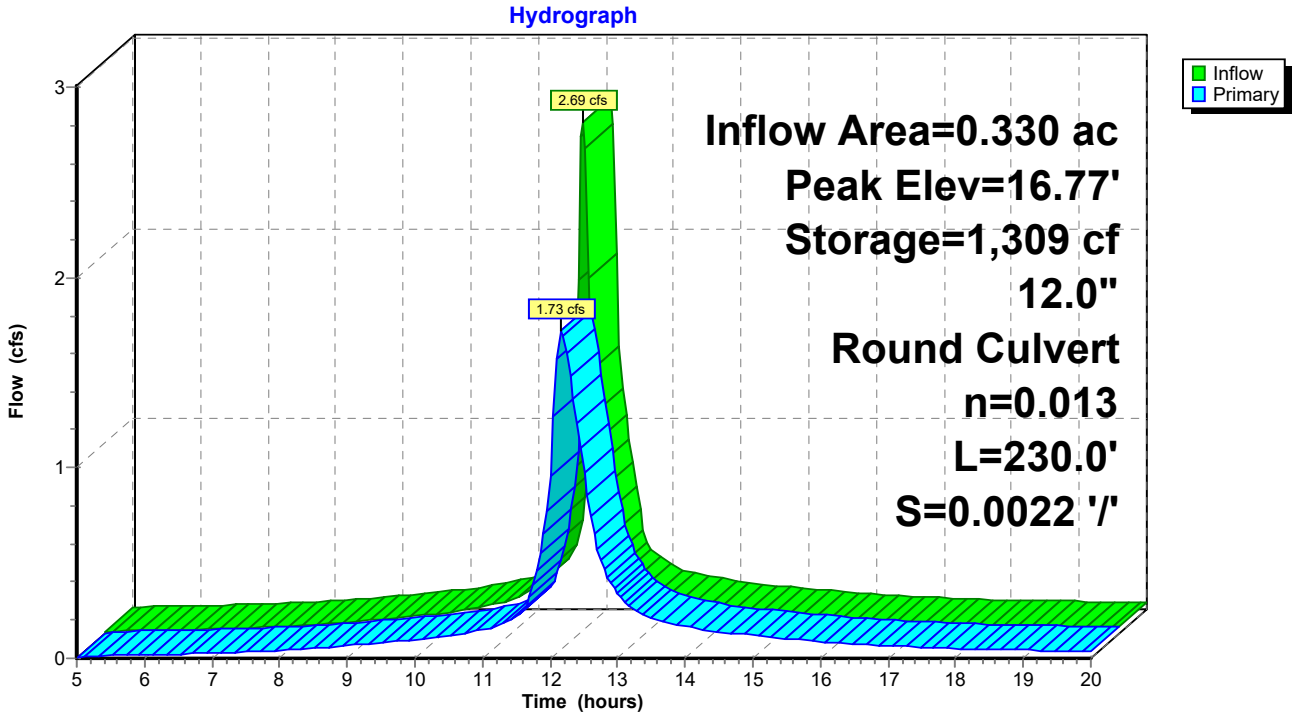
Volume	Invert	Avail.Storage	Storage Description
#1	15.75'	4,686 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.75	0	0.0	0	0	0
16.00	1,430	180.0	119	119	2,578
18.50	2,255	233.0	4,567	4,686	4,395

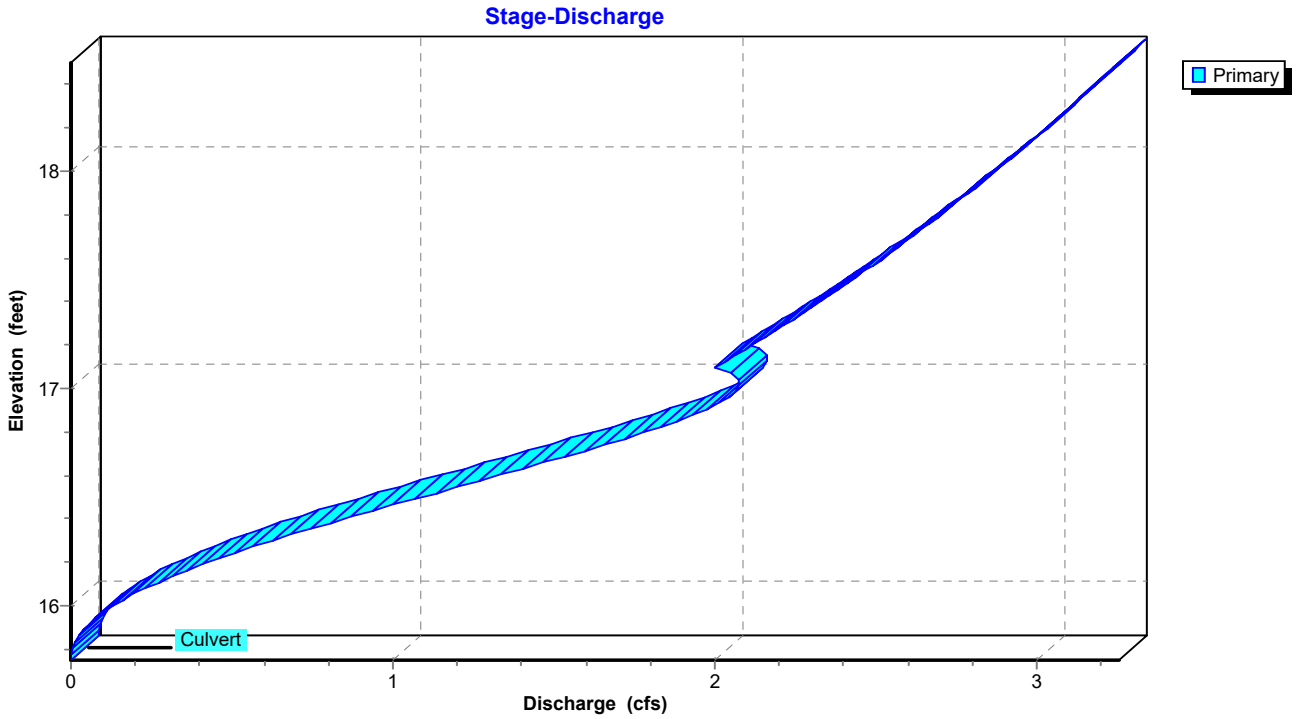
Device	Routing	Invert	Outlet Devices
#1	Primary	15.75'	**12.0" Round Culvert** L= 230.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 15.75' / 15.25' S= 0.0022 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.71 cfs @ 12.17 hrs HW=16.76' (Free Discharge)
1=Culvert (Barrel Controls 1.71 cfs @ 2.67 fps)

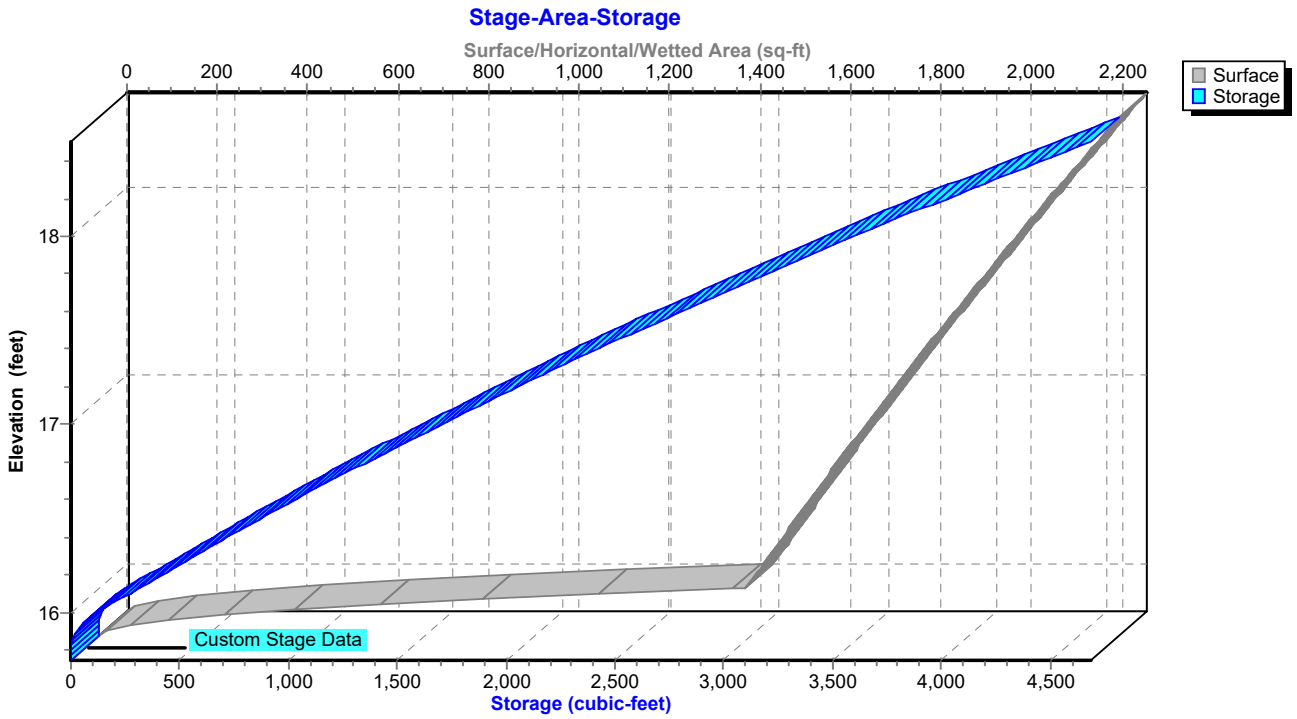
Pond 4P: North



Pond 4P: North



Pond 4P: North



Hydrograph for Pond 4P: North

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.01	1	15.79	0.00
5.50	0.02	5	15.84	0.01
6.00	0.02	7	15.85	0.02
6.50	0.02	10	15.86	0.02
7.00	0.03	13	15.87	0.03
7.50	0.04	18	15.88	0.03
8.00	0.04	23	15.89	0.04
8.50	0.06	31	15.91	0.05
9.00	0.07	44	15.93	0.07
9.50	0.09	59	15.95	0.08
10.00	0.11	77	15.97	0.10
10.50	0.14	104	15.99	0.12
11.00	0.17	143	16.02	0.15
11.50	0.28	223	16.07	0.22
12.00	**1.86**	**788**	**16.45**	**0.96**
12.50	**0.52**	**802**	**16.46**	**0.98**
13.00	0.23	338	16.15	0.34
13.50	0.18	216	16.07	0.21
14.00	0.14	165	16.03	0.17
14.50	0.12	130	16.01	0.14
15.00	0.11	106	15.99	0.12
15.50	0.09	85	15.97	0.10
16.00	0.08	65	15.95	0.09
16.50	0.07	51	15.94	0.07
17.00	0.06	43	15.93	0.06
17.50	0.05	36	15.92	0.06
18.00	0.05	30	15.91	0.05
18.50	0.04	26	15.90	0.04
19.00	0.04	24	15.90	0.04
19.50	0.04	22	15.89	0.04
20.00	0.04	20	15.89	0.04

Stage-Discharge for Pond 4P: North

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
15.75	0.00	16.79	1.77	17.83	2.73
15.77	0.00	16.81	1.81	17.85	2.75
15.79	0.00	16.83	1.85	17.87	2.76
15.81	0.01	16.85	1.88	17.89	2.78
15.83	0.01	16.87	1.92	17.91	2.80
15.85	0.02	16.89	1.95	17.93	2.82
15.87	0.03	16.91	1.98	17.95	2.83
15.89	0.04	16.93	2.01	17.97	2.85
15.91	0.05	16.95	2.03	17.99	2.86
15.93	0.07	16.97	2.05	18.01	2.88
15.95	0.08	16.99	2.07	18.03	2.90
15.97	0.10	17.01	2.08	18.05	2.91
15.99	0.12	17.03	2.08	18.07	2.93
16.01	0.14	17.05	2.07	18.09	2.95
16.03	0.17	17.07	2.05	18.11	2.96
16.05	0.19	17.09	1.99	18.13	2.98
16.07	0.22	17.11	2.01	18.15	2.99
16.09	0.25	17.13	2.04	18.17	3.01
16.11	0.28	17.15	2.06	18.19	3.03
16.13	0.31	17.17	2.08	18.21	3.04
16.15	0.34	17.19	2.11	18.23	3.06
16.17	0.37	17.21	2.13	18.25	3.07
16.19	0.41	17.23	2.15	18.27	3.09
16.21	0.45	17.25	2.17	18.29	3.10
16.23	0.48	17.27	2.19	18.31	3.12
16.25	0.52	17.29	2.21	18.33	3.13
16.27	0.56	17.31	2.24	18.35	3.15
16.29	0.60	17.33	2.26	18.37	3.16
16.31	0.65	17.35	2.28	18.39	3.18
16.33	0.69	17.37	2.30	18.41	3.19
16.35	0.73	17.39	2.32	18.43	3.21
16.37	0.78	17.41	2.34	18.45	3.22
16.39	0.82	17.43	2.36	18.47	3.24
16.41	0.87	17.45	2.38	18.49	**3.25**
16.43	0.92	17.47	2.40		
16.45	0.97	17.49	2.42		
16.47	1.01	17.51	2.44		
16.49	1.06	17.53	2.46		
16.51	1.11	17.55	2.48		
16.53	1.16	17.57	2.50		
16.55	1.21	17.59	2.51		
16.57	1.26	17.61	2.53		
16.59	1.31	17.63	2.55		
16.61	1.35	17.65	2.57		
16.63	1.40	17.67	2.59		
16.65	1.45	17.69	2.61		
16.67	1.50	17.71	2.62		
16.69	1.55	17.73	2.64		
16.71	1.59	17.75	2.66		
16.73	1.64	17.77	2.68		
16.75	1.68	17.79	2.70		
16.77	1.72	17.81	2.71		

Stage-Area-Storage for Pond 4P: North

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
15.75	0	0
15.80	57	1
15.85	229	8
15.90	515	26
15.95	915	61
16.00	1,430	119
16.05	1,445	191
16.10	1,459	264
16.15	1,474	337
16.20	1,489	411
16.25	1,504	486
16.30	1,519	561
16.35	1,534	638
16.40	1,549	715
16.45	1,565	793
16.50	1,580	871
16.55	1,595	951
16.60	1,611	1,031
16.65	1,627	1,112
16.70	1,642	1,194
16.75	1,658	1,276
16.80	1,674	1,359
16.85	1,690	1,443
16.90	1,705	1,528
16.95	1,721	1,614
17.00	1,738	1,700
17.05	1,754	1,788
17.10	1,770	1,876
17.15	1,786	1,965
17.20	1,803	2,054
17.25	1,819	2,145
17.30	1,836	2,236
17.35	1,852	2,329
17.40	1,869	2,422
17.45	1,886	2,515
17.50	1,903	2,610
17.55	1,919	2,706
17.60	1,936	2,802
17.65	1,954	2,899
17.70	1,971	2,997
17.75	1,988	3,096
17.80	2,005	3,196
17.85	2,023	3,297
17.90	2,040	3,398
17.95	2,057	3,501
18.00	2,075	3,604
18.05	2,093	3,708
18.10	2,110	3,814
18.15	2,128	3,919
18.20	2,146	4,026
18.25	2,164	4,134
18.30	2,182	4,243
18.35	2,200	4,352
18.40	2,218	4,463
18.45	2,237	4,574
18.50	**2,255**	**4,686**

Summary for Pond 6P: South - Outfall

Inflow Area = 1.510 ac, 54.30% Impervious, Inflow Depth > 6.74" for 10-Year event
Inflow = 8.42 cfs @ 12.10 hrs, Volume= 0.848 af
Outflow = 6.78 cfs @ 12.24 hrs, Volume= 0.847 af, Atten= 20%, Lag= 8.2 min
Primary = 6.78 cfs @ 12.24 hrs, Volume= 0.847 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 16.84' @ 12.24 hrs Surf.Area= 2,266 sf Storage= 3,028 cf

Plug-Flow detention time= 7.2 min calculated for 0.847 af (100% of inflow)
Center-of-Mass det. time= 6.4 min (763.5 - 757.1)

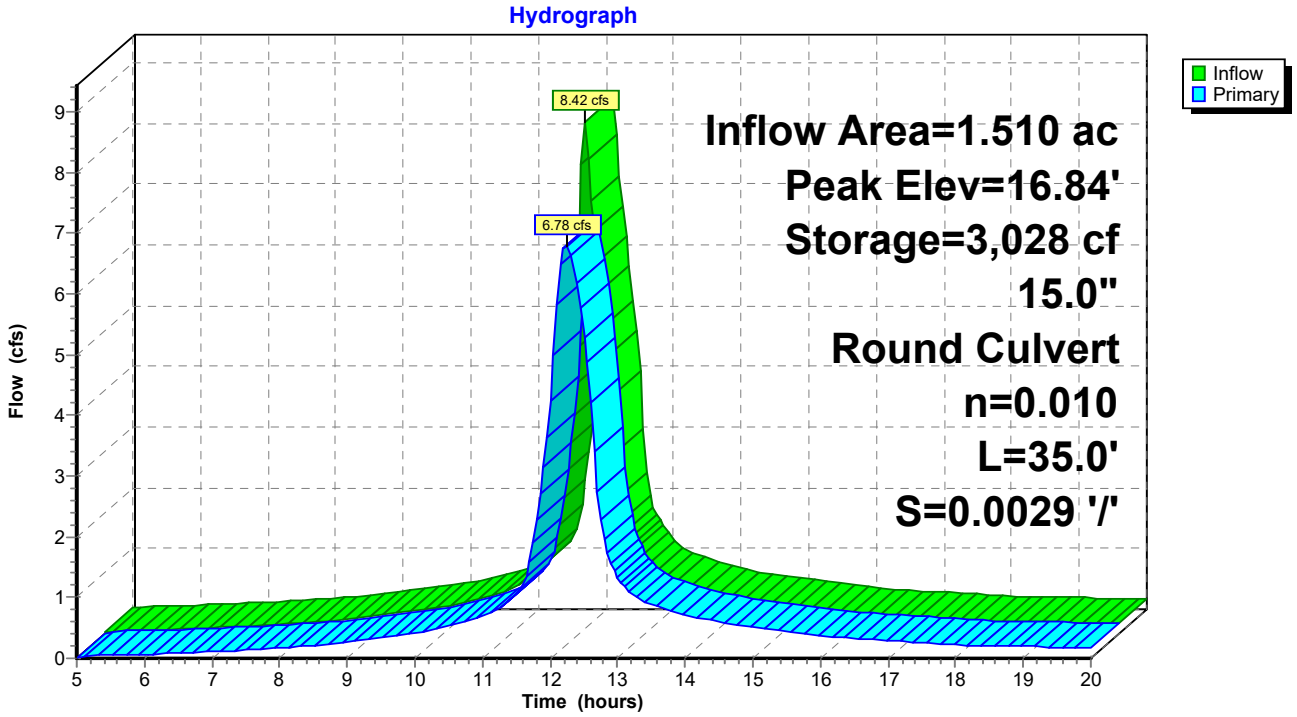
Volume	Invert	Avail.Storage	Storage Description
#1	14.75'	7,100 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
14.75	0	0.0	0	0	0
15.00	1,015	165.0	85	85	2,167
18.25	3,560	325.0	7,016	7,100	8,456

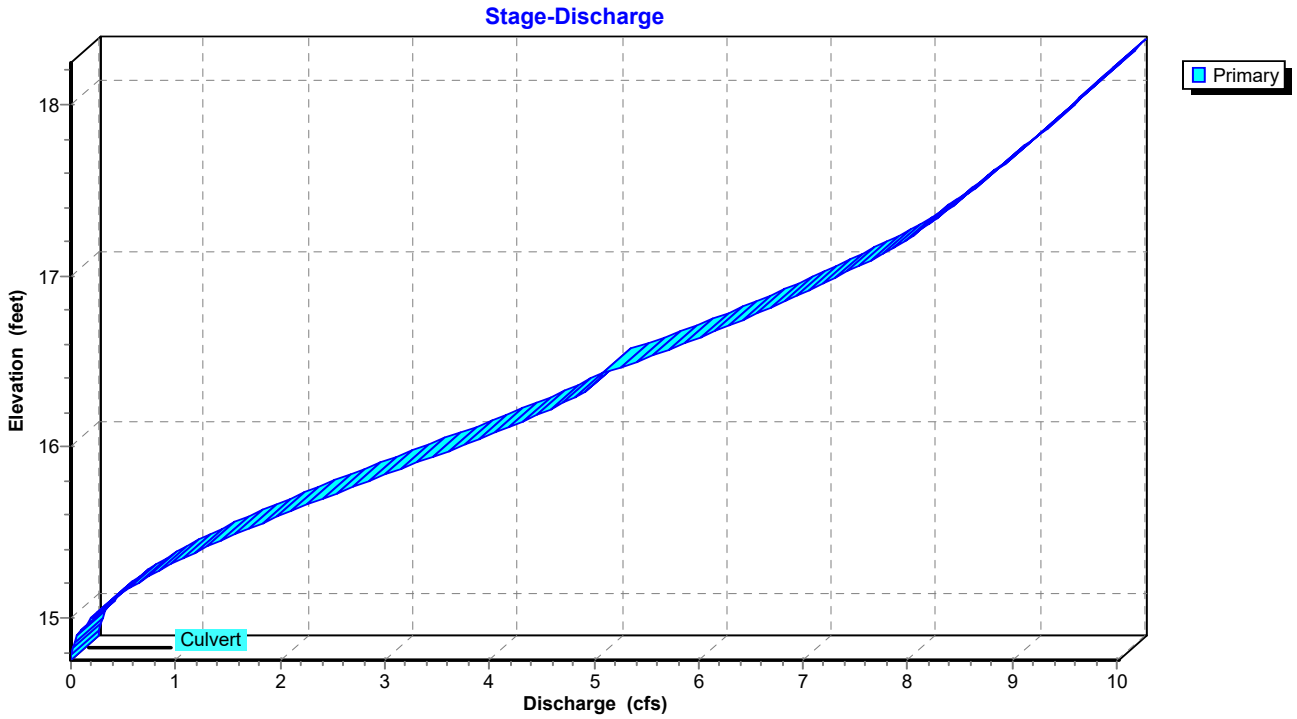
Device	Routing	Invert	Outlet Devices
#1	Primary	14.75'	**15.0" Round Culvert** L= 35.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.75' / 14.65' S= 0.0029 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=6.77 cfs @ 12.24 hrs HW=16.84' (Free Discharge)
1=Culvert (Barrel Controls 6.77 cfs @ 5.52 fps)

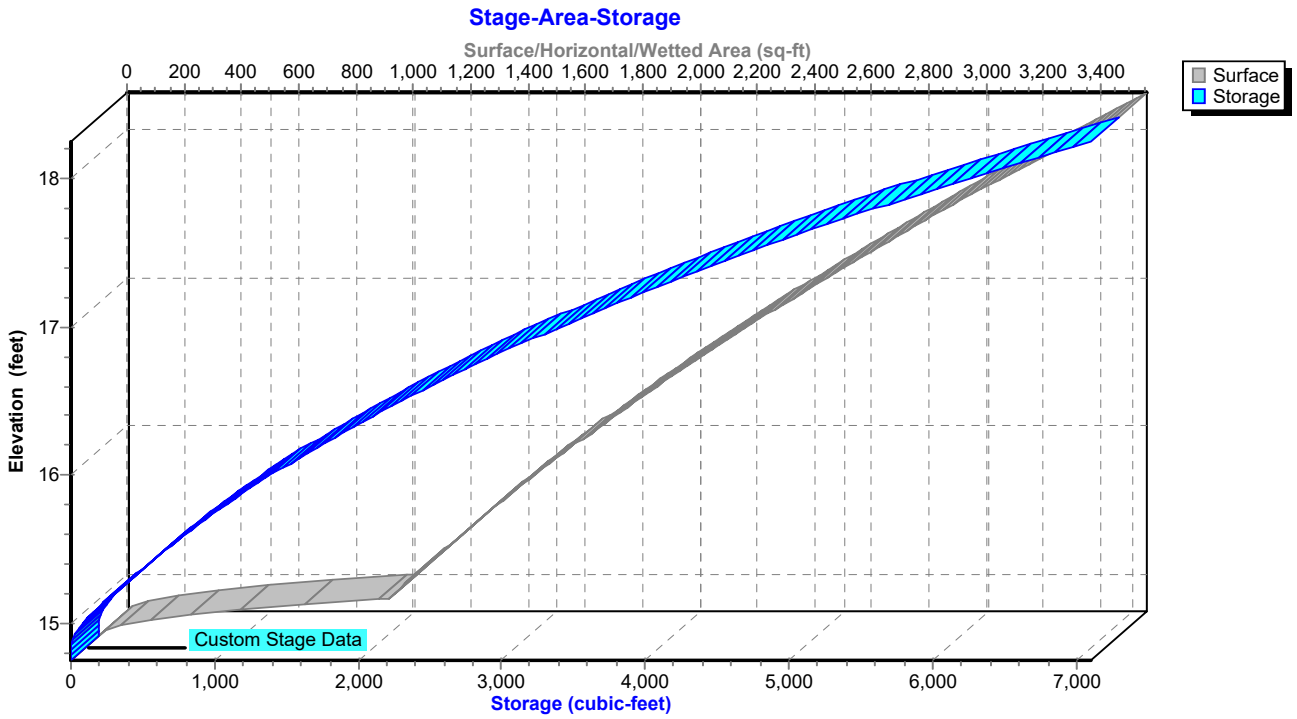
Pond 6P: South - Outfall



Pond 6P: South - Outfall



Pond 6P: South - Outfall



Hydrograph for Pond 6P: South - Outfall

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.03	2	14.81	0.01
5.50	0.05	12	14.88	0.05
6.00	0.07	16	14.89	0.07
6.50	0.09	23	14.91	0.09
7.00	0.12	33	14.93	0.11
7.50	0.15	47	14.95	0.14
8.00	0.18	63	14.98	0.17
8.50	0.23	89	15.00	0.21
9.00	0.30	126	15.04	0.28
9.50	0.37	164	15.08	0.35
10.00	0.45	203	15.11	0.43
10.50	0.57	255	15.16	0.54
11.00	0.73	320	15.22	0.69
11.50	1.16	462	15.34	1.05
12.00	**6.01**	**1,615**	**16.13**	**4.25**
12.50	**3.91**	**2,239**	**16.47**	**5.27**
13.00	1.15	565	15.42	1.34
13.50	0.84	399	15.29	0.89
14.00	0.68	330	15.23	0.71
14.50	0.58	283	15.19	0.60
15.00	0.51	249	15.16	0.52
15.50	0.43	215	15.12	0.45
16.00	0.36	180	15.09	0.38
16.50	0.31	152	15.07	0.32
17.00	0.28	134	15.05	0.29
17.50	0.25	116	15.03	0.26
18.00	0.21	97	15.01	0.23
18.50	0.20	84	15.00	0.20
19.00	0.19	77	14.99	0.19
19.50	0.18	72	14.99	0.18
20.00	0.17	66	14.98	0.17

Stage-Discharge for Pond 6P: South - Outfall

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
14.75	0.00	15.79	2.81	16.83	6.74	17.87	9.33
14.77	0.00	15.81	2.89	16.85	6.82	17.89	9.37
14.79	0.00	15.83	2.98	16.87	6.89	17.91	9.41
14.81	0.01	15.85	3.07	16.89	6.96	17.93	9.44
14.83	0.02	15.87	3.15	16.91	7.03	17.95	9.48
14.85	0.03	15.89	3.24	16.93	7.10	17.97	9.52
14.87	0.05	15.91	3.33	16.95	7.17	17.99	9.56
14.89	0.06	15.93	3.41	16.97	7.23	18.01	9.59
14.91	0.08	15.95	3.50	16.99	7.30	18.03	9.63
14.93	0.11	15.97	3.59	17.01	7.37	18.05	9.66
14.95	0.13	15.99	3.67	17.03	7.43	18.07	9.70
14.97	0.16	16.01	3.76	17.05	7.50	18.09	9.74
14.99	0.19	16.03	3.84	17.07	7.56	18.11	9.77
15.01	0.22	16.05	3.93	17.09	7.63	18.13	9.81
15.03	0.26	16.07	4.01	17.11	7.69	18.15	9.84
15.05	0.29	16.09	4.09	17.13	7.76	18.17	9.88
15.07	0.33	16.11	4.17	17.15	7.82	18.19	9.91
15.09	0.37	16.13	4.25	17.17	7.88	18.21	9.95
15.11	0.42	16.15	4.33	17.19	7.94	18.23	9.98
15.13	0.46	16.17	4.41	17.21	8.00	18.25	**10.02**
15.15	0.51	16.19	4.48	17.23	8.05		
15.17	0.56	16.21	4.55	17.25	8.09		
15.19	0.61	16.23	4.62	17.27	8.13		
15.21	0.67	16.25	4.69	17.29	8.18		
15.23	0.72	16.27	4.75	17.31	8.22		
15.25	0.78	16.29	4.82	17.33	8.26		
15.27	0.84	16.31	4.87	17.35	8.30		
15.29	0.90	16.33	4.92	17.37	8.35		
15.31	0.96	16.35	4.97	17.39	8.39		
15.33	1.02	16.37	5.01	17.41	8.43		
15.35	1.09	16.39	5.04	17.43	8.47		
15.37	1.15	16.41	5.05	17.45	8.51		
15.39	1.22	16.43	5.09	17.47	8.55		
15.41	1.29	16.45	5.19	17.49	8.59		
15.43	1.36	16.47	5.28	17.51	8.63		
15.45	1.43	16.49	5.37	17.53	8.67		
15.47	1.51	16.51	5.46	17.55	8.71		
15.49	1.58	16.53	5.55	17.57	8.75		
15.51	1.66	16.55	5.64	17.59	8.79		
15.53	1.73	16.57	5.72	17.61	8.83		
15.55	1.81	16.59	5.81	17.63	8.87		
15.57	1.89	16.61	5.89	17.65	8.91		
15.59	1.97	16.63	5.98	17.67	8.95		
15.61	2.05	16.65	6.06	17.69	8.99		
15.63	2.13	16.67	6.14	17.71	9.03		
15.65	2.21	16.69	6.22	17.73	9.07		
15.67	2.30	16.71	6.29	17.75	9.11		
15.69	2.38	16.73	6.37	17.77	9.14		
15.71	2.46	16.75	6.45	17.79	9.18		
15.73	2.55	16.77	6.52	17.81	9.22		
15.75	2.63	16.79	6.60	17.83	9.26		
15.77	2.72	16.81	6.67	17.85	9.30		

Stage-Area-Storage for Pond 6P: South - Outfall

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
14.75	0	0
14.80	41	1
14.85	162	5
14.90	365	18
14.95	650	43
15.00	1,015	85
15.05	1,042	136
15.10	1,070	189
15.15	1,098	243
15.20	1,127	299
15.25	1,156	356
15.30	1,185	414
15.35	1,215	474
15.40	1,245	536
15.45	1,275	599
15.50	1,306	663
15.55	1,337	729
15.60	1,368	797
15.65	1,400	866
15.70	1,432	937
15.75	1,465	1,009
15.80	1,498	1,084
15.85	1,531	1,159
15.90	1,565	1,237
15.95	1,599	1,316
16.00	1,633	1,397
16.05	1,668	1,479
16.10	1,703	1,563
16.15	1,739	1,649
16.20	1,775	1,737
16.25	1,811	1,827
16.30	1,847	1,918
16.35	1,884	2,012
16.40	1,922	2,107
16.45	1,959	2,204
16.50	1,997	2,303
16.55	2,036	2,404
16.60	2,075	2,506
16.65	2,114	2,611
16.70	2,153	2,718
16.75	2,193	2,826
16.80	2,233	2,937
16.85	2,274	3,050
16.90	2,315	3,164
16.95	2,356	3,281
17.00	2,398	3,400
17.05	2,440	3,521
17.10	2,483	3,644
17.15	2,525	3,769
17.20	2,569	3,897
17.25	2,612	4,026
17.30	2,656	4,158
17.35	2,700	4,292
17.40	2,745	4,428
17.45	2,790	4,566
17.50	2,835	4,707
17.55	2,881	4,850
17.60	2,927	4,995
17.65	2,974	5,143
17.70	3,021	5,293
17.75	3,068	5,445
17.80	3,115	5,599
17.85	3,163	5,756
17.90	3,212	5,916
17.95	3,260	6,077
18.00	3,309	6,242
18.05	3,359	6,408
18.10	3,408	6,578
18.15	3,459	6,749
18.20	3,509	6,923
18.25	**3,560**	**7,100**

Summary for Pond 7P: West

Inflow Area = 0.700 ac, 64.29% Impervious, Inflow Depth > 6.96" for 10-Year event
Inflow = 5.70 cfs @ 12.07 hrs, Volume= 0.406 af
Outflow = 3.55 cfs @ 12.17 hrs, Volume= 0.406 af, Atten= 38%, Lag= 6.0 min
Primary = 3.55 cfs @ 12.17 hrs, Volume= 0.406 af
Routed to Pond 6P : South - Outfall

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.43' @ 12.17 hrs Surf.Area= 2,171 sf Storage= 1,537 cf

Plug-Flow detention time= 2.6 min calculated for 0.406 af (100% of inflow)
Center-of-Mass det. time= 2.5 min (752.0 - 749.5)

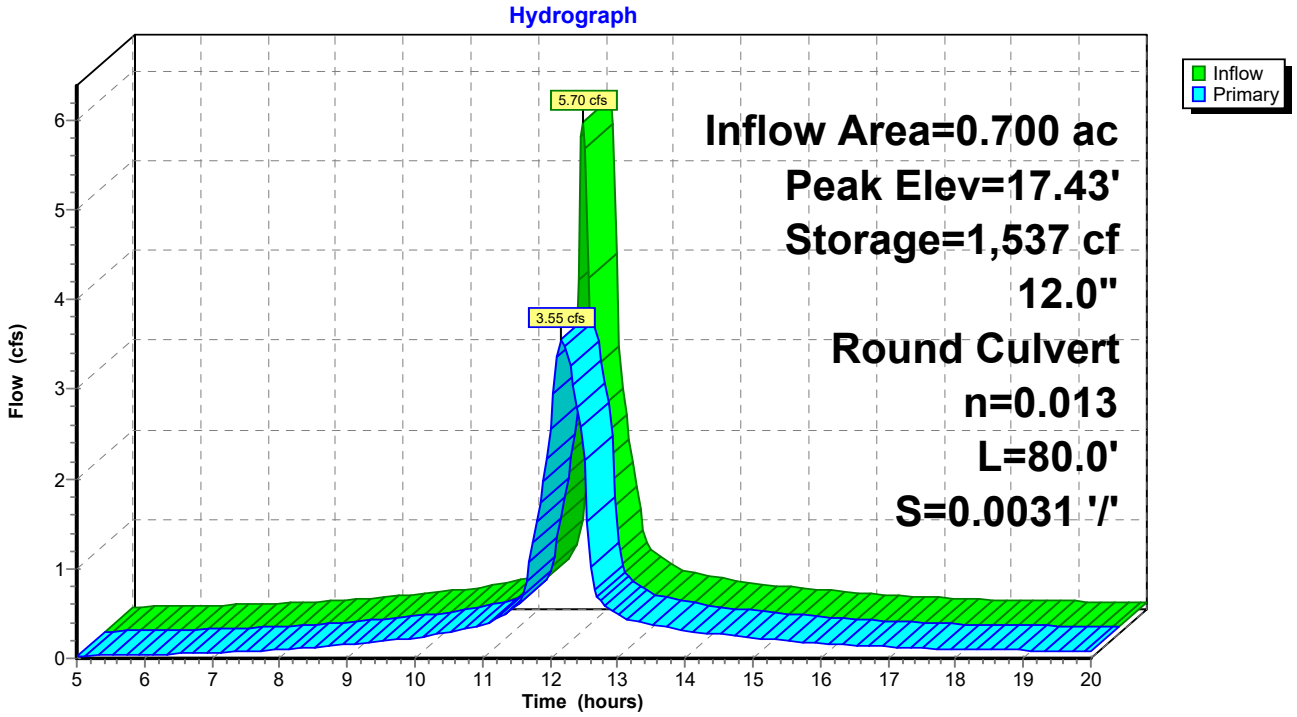
Volume	Invert	Avail.Storage	Storage Description
#1	15.50'	4,155 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.50	0	0.0	0	0	0
16.00	285	105.0	48	48	878
17.00	1,330	260.0	744	791	5,384
18.25	4,340	440.0	3,364	4,155	15,420

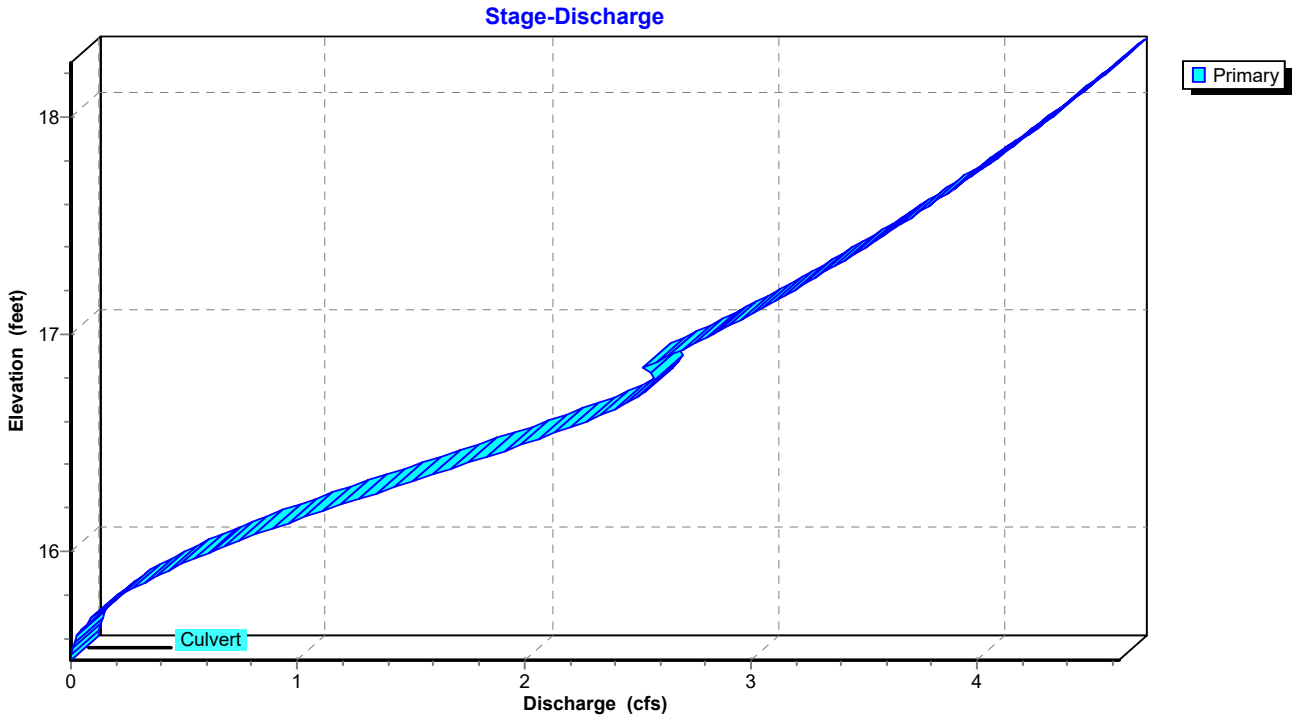
Device	Routing	Invert	Outlet Devices
#1	Primary	15.50'	**12.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 15.50' / 15.25' S= 0.0031 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.53 cfs @ 12.17 hrs HW=17.42' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 3.53 cfs @ 4.50 fps)

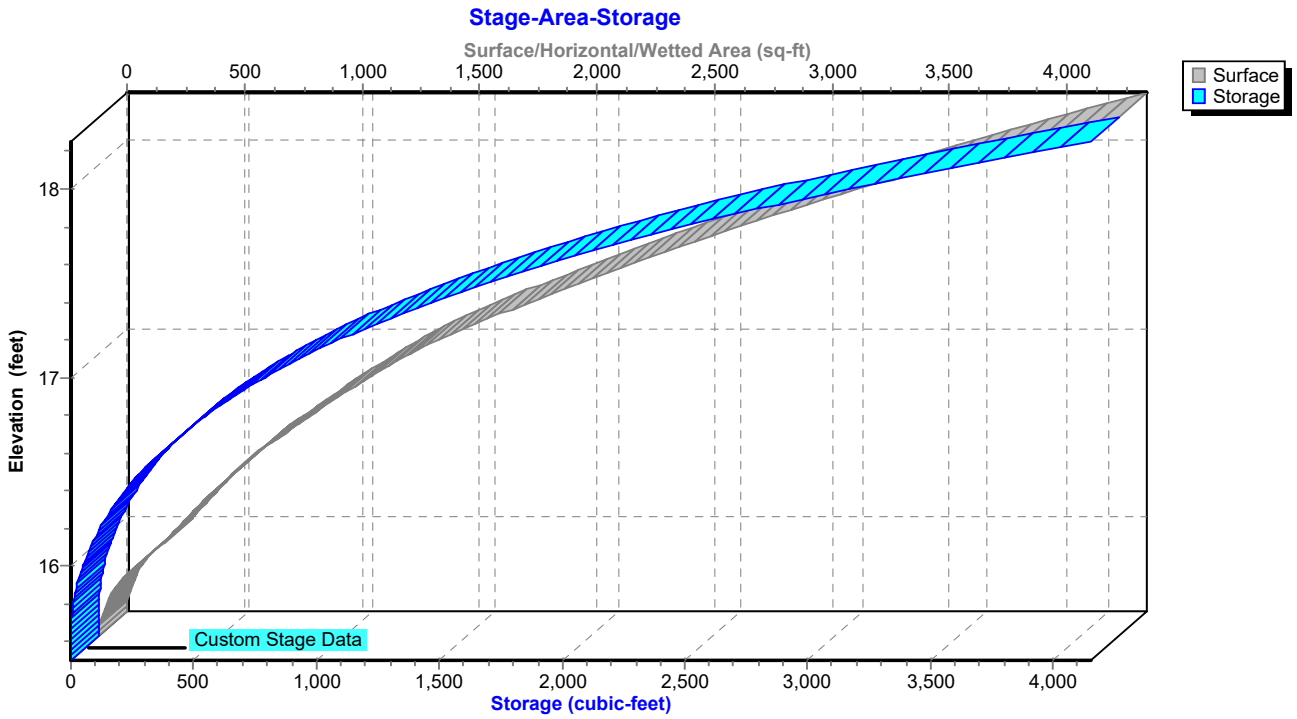
Pond 7P: West



Pond 7P: West



Pond 7P: West


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Surface
Storage
18
17
16
Elevation (feet)
Custom Stage Data
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Storage (cubic-feet)

Hydrograph for Pond 7P: West

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.03	0	15.60	0.02
5.50	0.03	1	15.62	0.03
6.00	0.04	1	15.63	0.04
6.50	0.05	1	15.64	0.05
7.00	0.06	2	15.66	0.06
7.50	0.08	2	15.68	0.08
8.00	0.09	3	15.69	0.09
8.50	0.12	4	15.72	0.12
9.00	0.16	6	15.75	0.15
9.50	0.19	8	15.77	0.19
10.00	0.23	10	15.80	0.23
10.50	0.29	15	15.84	0.29
11.00	0.37	21	15.88	0.36
11.50	0.60	43	15.98	0.58
12.00	**3.95**	**513**	**16.76**	**2.56**
12.50	**1.11**	**341**	**16.57**	**2.20**
13.00	0.48	33	15.94	0.49
13.50	0.38	22	15.89	0.38
14.00	0.30	16	15.85	0.31
14.50	0.26	13	15.82	0.27
15.00	0.23	10	15.80	0.23
15.50	0.20	8	15.78	0.20
16.00	0.16	6	15.75	0.16
16.50	0.14	5	15.74	0.14
17.00	0.13	4	15.73	0.13
17.50	0.11	4	15.71	0.11
18.00	0.10	3	15.70	0.10
18.50	0.09	3	15.69	0.09
19.00	0.09	3	15.69	0.09
19.50	0.08	2	15.68	0.08
20.00	0.08	2	15.68	0.08

Stage-Discharge for Pond 7P: West

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
15.50	0.00	16.54	2.13	17.58	3.77
15.52	0.00	16.56	2.18	17.60	3.80
15.54	0.00	16.58	2.23	17.62	3.83
15.56	0.01	16.60	2.28	17.64	3.86
15.58	0.01	16.62	2.32	17.66	3.88
15.60	0.02	16.64	2.37	17.68	3.91
15.62	0.03	16.66	2.41	17.70	3.94
15.64	0.05	16.68	2.45	17.72	3.97
15.66	0.06	16.70	2.48	17.74	3.99
15.68	0.08	16.72	2.51	17.76	4.02
15.70	0.10	16.74	2.54	17.78	4.05
15.72	0.12	16.76	2.56	17.80	4.07
15.74	0.15	16.78	2.57	17.82	4.10
15.76	0.17	16.80	2.58	17.84	4.13
15.78	0.20	16.82	2.56	17.86	4.15
15.80	0.23	16.84	2.51	17.88	4.18
15.82	0.26	16.86	2.56	17.90	4.20
15.84	0.29	16.88	2.60	17.92	4.23
15.86	0.33	16.90	2.64	17.94	4.25
15.88	0.37	16.92	2.68	17.96	4.28
15.90	0.41	16.94	2.72	17.98	4.30
15.92	0.45	16.96	2.76	18.00	4.33
15.94	0.49	16.98	2.80	18.02	4.35
15.96	0.53	17.00	2.83	18.04	4.38
15.98	0.58	17.02	2.87	18.06	4.40
16.00	0.62	17.04	2.91	18.08	4.43
16.02	0.67	17.06	2.94	18.10	4.45
16.04	0.72	17.08	2.98	18.12	4.47
16.06	0.77	17.10	3.02	18.14	4.50
16.08	0.82	17.12	3.05	18.16	4.52
16.10	0.87	17.14	3.09	18.18	4.54
16.12	0.93	17.16	3.12	18.20	4.57
16.14	0.98	17.18	3.15	18.22	4.59
16.16	1.04	17.20	3.19	18.24	**4.61**
16.18	1.09	17.22	3.22		
16.20	1.15	17.24	3.26		
16.22	1.21	17.26	3.29		
16.24	1.26	17.28	3.32		
16.26	1.32	17.30	3.35		
16.28	1.38	17.32	3.38		
16.30	1.44	17.34	3.42		
16.32	1.50	17.36	3.45		
16.34	1.56	17.38	3.48		
16.36	1.62	17.40	3.51		
16.38	1.68	17.42	3.54		
16.40	1.73	17.44	3.57		
16.42	1.79	17.46	3.60		
16.44	1.85	17.48	3.63		
16.46	1.91	17.50	3.66		
16.48	1.96	17.52	3.69		
16.50	2.02	17.54	3.72		
16.52	2.07	17.56	3.74		

Stage-Area-Storage for Pond 7P: West

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
15.50	0	0
15.55	3	0
15.60	11	0
15.65	26	1
15.70	46	3
15.75	71	6
15.80	103	10
15.85	140	16
15.90	182	24
15.95	231	35
16.00	285	48
16.05	319	63
16.10	355	79
16.15	393	98
16.20	433	119
16.25	474	141
16.30	518	166
16.35	563	193
16.40	611	223
16.45	660	254
16.50	712	289
16.55	765	326
16.60	820	365
16.65	877	408
16.70	936	453
16.75	997	501
16.80	1,060	553
16.85	1,124	607
16.90	1,191	665
16.95	1,260	726
17.00	1,330	791
17.05	1,417	860
17.10	1,507	933
17.15	1,600	1,010
17.20	1,695	1,093
17.25	1,794	1,180
17.30	1,895	1,272
17.35	1,998	1,370
17.40	2,105	1,472
17.45	2,214	1,580
17.50	2,326	1,694
17.55	2,441	1,813
17.60	2,559	1,938
17.65	2,679	2,069
17.70	2,802	2,206
17.75	2,928	2,349
17.80	3,057	2,499
17.85	3,189	2,655
17.90	3,323	2,818
17.95	3,460	2,987
18.00	3,600	3,164
18.05	3,742	3,347
18.10	3,887	3,538
18.15	4,036	3,736
18.20	4,186	3,941
18.25	**4,340**	**4,155**

Summary for Subcatchment 10S: Post - West

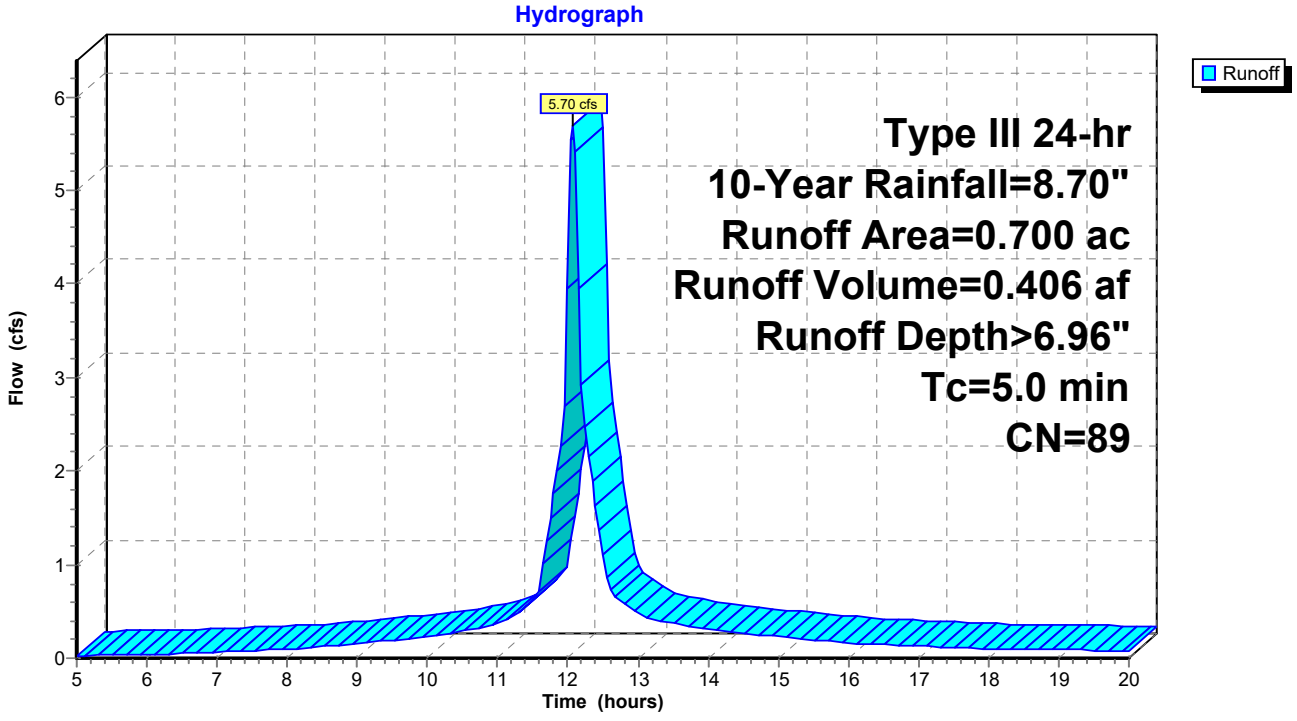
Runoff = 5.70 cfs @ 12.07 hrs, Volume= 0.406 af, Depth> 6.96"
Routed to Pond 7P : West

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=8.70"

Area (ac)	CN	Description
0.450	98	Paved parking, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.700	89	Weighted Average
0.250		35.71% Pervious Area
0.450		64.29% Impervious Area

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

Subcatchment 10S: Post - West



Hydrograph for Subcatchment 10S: Post - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.49	0.04	0.03
5.25	0.53	0.05	0.03
5.50	0.56	0.06	0.03
5.75	0.59	0.08	0.04
6.00	0.63	0.09	0.04
6.25	0.66	0.10	0.04
6.50	0.70	0.12	0.05
6.75	0.74	0.14	0.06
7.00	0.79	0.16	0.06
7.25	0.83	0.19	0.07
7.50	0.88	0.22	0.08
7.75	0.94	0.25	0.09
8.00	0.99	0.28	0.09
8.25	1.05	0.32	0.11
8.50	1.12	0.36	0.12
8.75	1.19	0.41	0.14
9.00	1.27	0.46	0.16
9.25	1.35	0.52	0.17
9.50	1.44	0.59	0.19
9.75	1.54	0.66	0.21
10.00	1.64	0.74	0.23
10.25	1.76	0.83	0.26
10.50	1.88	0.93	0.29
10.75	2.02	1.05	0.33
11.00	2.17	1.17	0.37
11.25	2.36	1.33	0.47
11.50	2.59	1.54	0.60
11.75	3.09	1.98	1.50
12.00	4.35	3.15	**3.95**
12.25	5.61	4.36	**2.46**
12.50	6.11	4.84	1.11
12.75	6.34	5.07	0.61
13.00	6.52	5.25	0.48
13.25	6.68	5.39	0.41
13.50	6.82	5.53	0.38
13.75	6.94	5.65	0.34
14.00	7.06	5.76	0.30
14.25	7.16	5.86	0.28
14.50	7.26	5.96	0.26
14.75	7.35	6.05	0.25
15.00	7.43	6.13	0.23
15.25	7.51	6.21	0.21
15.50	7.58	6.28	0.20
15.75	7.65	6.34	0.18
16.00	7.71	6.40	0.16
16.25	7.76	6.45	0.15
16.50	7.82	6.51	0.14
16.75	7.87	6.55	0.14
17.00	7.91	6.60	0.13
17.25	7.96	6.64	0.12
17.50	8.00	6.69	0.11
17.75	8.04	6.72	0.11
18.00	8.07	6.76	0.10
18.25	8.11	6.79	0.09
18.50	8.14	6.83	0.09
18.75	8.17	6.86	0.09
19.00	8.21	6.89	0.09
19.25	8.24	6.92	0.09
19.50	8.27	6.95	0.08
19.75	8.30	6.98	0.08
20.00	**8.33**	**7.01**	0.08

Summary for Subcatchment 1S: Post - North

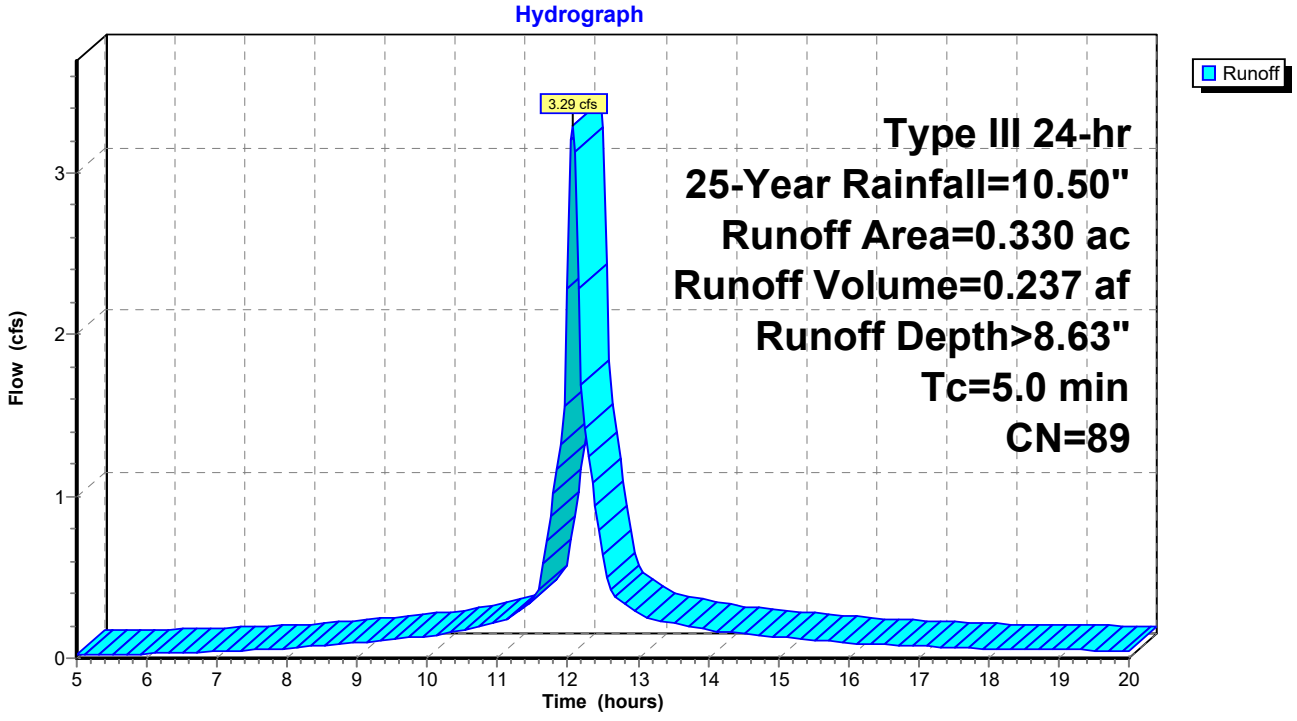
Runoff = 3.29 cfs @ 12.07 hrs, Volume= 0.237 af, Depth> 8.63"
Routed to Pond 4P : North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=10.50"

Area (ac)	CN	Description
0.130	74	>75% Grass cover, Good, HSG C
0.200	98	Paved parking, HSG C
0.330	89	Weighted Average
0.130		39.39% Pervious Area
0.200		60.61% Impervious Area

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

Subcatchment 1S: Post - North



Hydrograph for Subcatchment 1S: Post - North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.60	0.08	0.02
5.25	0.63	0.09	0.02
5.50	0.67	0.11	0.02
5.75	0.71	0.13	0.03
6.00	0.76	0.15	0.03
6.25	0.80	0.17	0.03
6.50	0.85	0.20	0.03
6.75	0.90	0.22	0.04
7.00	0.95	0.25	0.04
7.25	1.01	0.29	0.05
7.50	1.07	0.33	0.05
7.75	1.13	0.37	0.06
8.00	1.20	0.41	0.06
8.25	1.27	0.46	0.07
8.50	1.35	0.52	0.08
8.75	1.44	0.58	0.09
9.00	1.53	0.65	0.10
9.25	1.63	0.73	0.11
9.50	1.74	0.82	0.12
9.75	1.86	0.91	0.13
10.00	1.98	1.02	0.14
10.25	2.12	1.13	0.16
10.50	2.27	1.26	0.18
10.75	2.44	1.40	0.20
11.00	2.63	1.56	0.22
11.25	2.85	1.76	0.28
11.50	3.13	2.02	0.35
11.75	3.73	2.57	0.88
12.00	5.25	4.01	**2.29**
12.25	6.77	5.48	**1.42**
12.50	7.37	6.07	0.64
12.75	7.65	6.35	0.35
13.00	7.87	6.56	0.27
13.25	8.06	6.74	0.24
13.50	8.23	6.91	0.22
13.75	8.38	7.06	0.20
14.00	8.52	7.19	0.17
14.25	8.64	7.32	0.16
14.50	8.76	7.43	0.15
14.75	8.87	7.54	0.14
15.00	8.97	7.64	0.13
15.25	9.06	7.73	0.12
15.50	9.15	7.82	0.11
15.75	9.23	7.90	0.10
16.00	9.30	7.97	0.09
16.25	9.37	8.03	0.09
16.50	9.43	8.10	0.08
16.75	9.49	8.16	0.08
17.00	9.55	8.21	0.07
17.25	9.60	8.26	0.07
17.50	9.65	8.31	0.07
17.75	9.70	8.36	0.06
18.00	9.74	8.40	0.06
18.25	9.79	8.44	0.05
18.50	9.83	8.48	0.05
18.75	9.87	8.52	0.05
19.00	9.90	8.56	0.05
19.25	9.94	8.60	0.05
19.50	9.98	8.63	0.05
19.75	10.01	8.67	0.05
20.00	**10.05**	**8.70**	0.05

Summary for Subcatchment 2S: Post - South

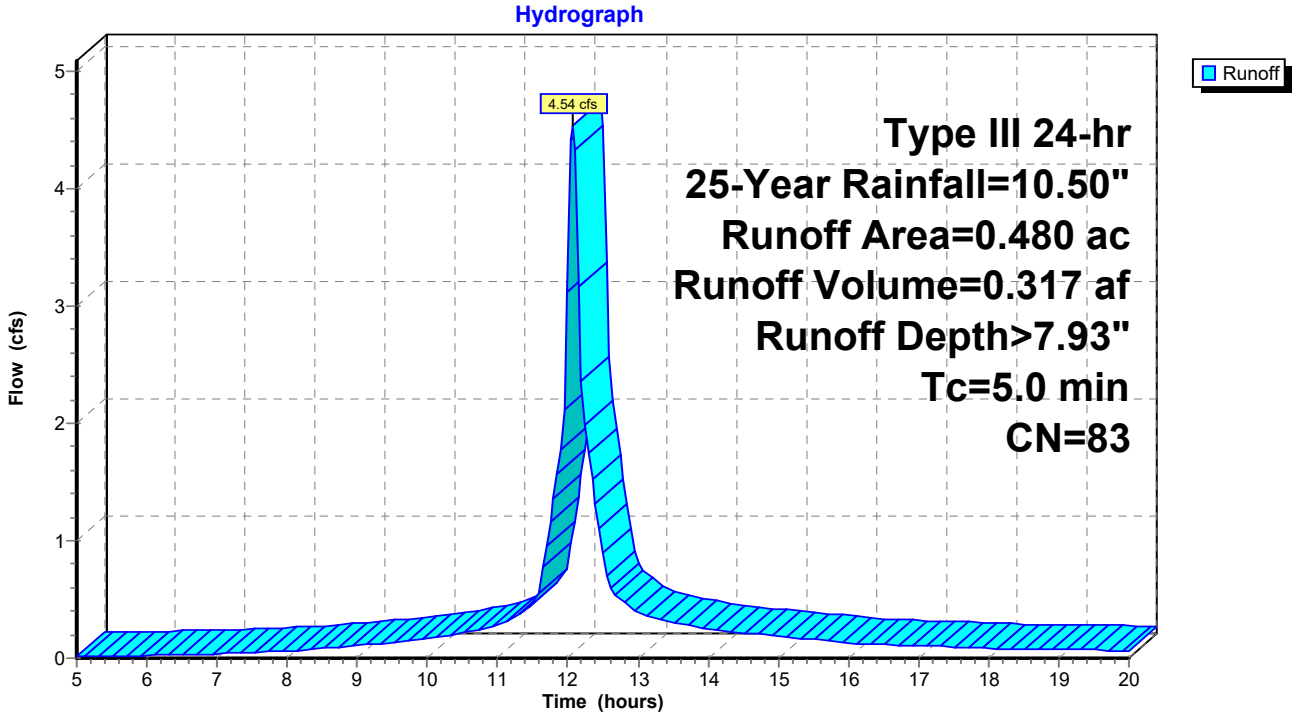
Runoff = 4.54 cfs @ 12.07 hrs, Volume= 0.317 af, Depth> 7.93"
Routed to Pond 6P : South - Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=10.50"

Area (ac)	CN	Description
0.170	98	Paved parking, HSG C
0.310	74	>75% Grass cover, Good, HSG C
0.480	83	Weighted Average
0.310		64.58% Pervious Area
0.170		35.42% Impervious Area

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

Subcatchment 2S: Post - South



Hydrograph for Subcatchment 2S: Post - South

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.60	0.02	0.01
5.25	0.63	0.02	0.01
5.50	0.67	0.03	0.02
5.75	0.71	0.04	0.02
6.00	0.76	0.05	0.02
6.25	0.80	0.06	0.02
6.50	0.85	0.08	0.03
6.75	0.90	0.09	0.03
7.00	0.95	0.11	0.04
7.25	1.01	0.13	0.04
7.50	1.07	0.16	0.05
7.75	1.13	0.19	0.06
8.00	1.20	0.22	0.06
8.25	1.27	0.25	0.07
8.50	1.35	0.30	0.08
8.75	1.44	0.34	0.09
9.00	1.53	0.40	0.11
9.25	1.63	0.46	0.12
9.50	1.74	0.53	0.13
9.75	1.86	0.60	0.15
10.00	1.98	0.68	0.16
10.25	2.12	0.78	0.19
10.50	2.27	0.89	0.22
10.75	2.44	1.01	0.25
11.00	2.63	1.15	0.28
11.25	2.85	1.32	0.35
11.50	3.13	1.55	0.46
11.75	3.73	2.05	1.16
12.00	5.25	3.40	**3.12**
12.25	6.77	4.81	**1.98**
12.50	7.37	5.38	0.90
12.75	7.65	5.65	0.50
13.00	7.87	5.86	0.39
13.25	8.06	6.03	0.33
13.50	8.23	6.19	0.31
13.75	8.38	6.34	0.28
14.00	8.52	6.47	0.25
14.25	8.64	6.59	0.23
14.50	8.76	6.70	0.22
14.75	8.87	6.81	0.20
15.00	8.97	6.91	0.19
15.25	9.06	7.00	0.17
15.50	9.15	7.08	0.16
15.75	9.23	7.16	0.15
16.00	9.30	7.23	0.13
16.25	9.37	7.29	0.12
16.50	9.43	7.35	0.12
16.75	9.49	7.41	0.11
17.00	9.55	7.47	0.11
17.25	9.60	7.52	0.10
17.50	9.65	7.57	0.09
17.75	9.70	7.61	0.09
18.00	9.74	7.65	0.08
18.25	9.79	7.69	0.08
18.50	9.83	7.73	0.08
18.75	9.87	7.77	0.07
19.00	9.90	7.81	0.07
19.25	9.94	7.85	0.07
19.50	9.98	7.88	0.07
19.75	10.01	7.92	0.07
20.00	**10.05**	**7.95**	0.06

Summary for Subcatchment 3S: Post - Offsite

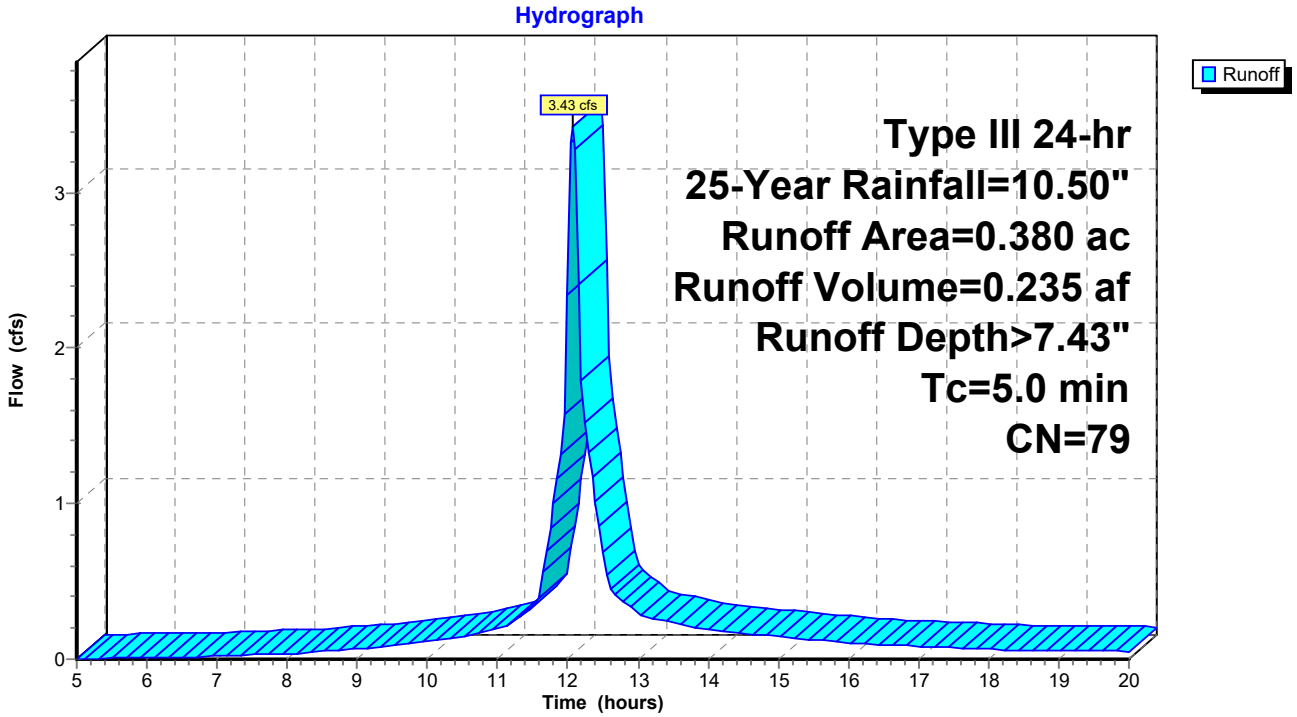
Runoff = 3.43 cfs @ 12.07 hrs, Volume= 0.235 af, Depth> 7.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=10.50"

Area (ac)	CN	Description
0.380	79	50-75% Grass cover, Fair, HSG C
0.380		100.00% Pervious Area

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

Subcatchment 3S: Post - Offsite



Hydrograph for Subcatchment 3S: Post - Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.60	0.00	0.00
5.25	0.63	0.00	0.00
5.50	0.67	0.01	0.01
5.75	0.71	0.01	0.01
6.00	0.76	0.02	0.01
6.25	0.80	0.02	0.01
6.50	0.85	0.03	0.01
6.75	0.90	0.04	0.02
7.00	0.95	0.06	0.02
7.25	1.01	0.07	0.02
7.50	1.07	0.09	0.03
7.75	1.13	0.11	0.03
8.00	1.20	0.13	0.04
8.25	1.27	0.16	0.04
8.50	1.35	0.19	0.05
8.75	1.44	0.23	0.06
9.00	1.53	0.27	0.07
9.25	1.63	0.32	0.08
9.50	1.74	0.38	0.09
9.75	1.86	0.44	0.10
10.00	1.98	0.51	0.11
10.25	2.12	0.59	0.13
10.50	2.27	0.69	0.15
10.75	2.44	0.80	0.17
11.00	2.63	0.92	0.19
11.25	2.85	1.08	0.25
11.50	3.13	1.28	0.33
11.75	3.73	1.75	0.85
12.00	5.25	3.02	**2.34**
12.25	6.77	4.37	**1.52**
12.50	7.37	4.93	0.69
12.75	7.65	5.19	0.38
13.00	7.87	5.39	0.30
13.25	8.06	5.56	0.26
13.50	8.23	5.72	0.24
13.75	8.38	5.86	0.21
14.00	8.52	5.99	0.19
14.25	8.64	6.11	0.18
14.50	8.76	6.22	0.17
14.75	8.87	6.32	0.16
15.00	8.97	6.42	0.15
15.25	9.06	6.51	0.13
15.50	9.15	6.59	0.12
15.75	9.23	6.66	0.11
16.00	9.30	6.73	0.10
16.25	9.37	6.79	0.10
16.50	9.43	6.85	0.09
16.75	9.49	6.91	0.09
17.00	9.55	6.97	0.08
17.25	9.60	7.02	0.08
17.50	9.65	7.06	0.07
17.75	9.70	7.11	0.07
18.00	9.74	7.15	0.06
18.25	9.79	7.19	0.06
18.50	9.83	7.23	0.06
18.75	9.87	7.26	0.06
19.00	9.90	7.30	0.06
19.25	9.94	7.34	0.05
19.50	9.98	7.37	0.05
19.75	10.01	7.41	0.05
20.00	**10.05**	**7.44**	0.05

Summary for Pond 4P: North

Inflow Area = 0.330 ac, 60.61% Impervious, Inflow Depth > 8.63" for 25-Year event
Inflow = 3.29 cfs @ 12.07 hrs, Volume= 0.237 af
Outflow = 2.03 cfs @ 12.17 hrs, Volume= 0.237 af, Atten= 38%, Lag= 6.1 min
Primary = 2.03 cfs @ 12.17 hrs, Volume= 0.237 af
Routed to Pond 6P : South - Outfall

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 16.94' @ 12.17 hrs Surf.Area= 1,719 sf Storage= 1,603 cf

Plug-Flow detention time= 14.1 min calculated for 0.237 af (100% of inflow)
Center-of-Mass det. time= 12.8 min (758.8 - 746.0)

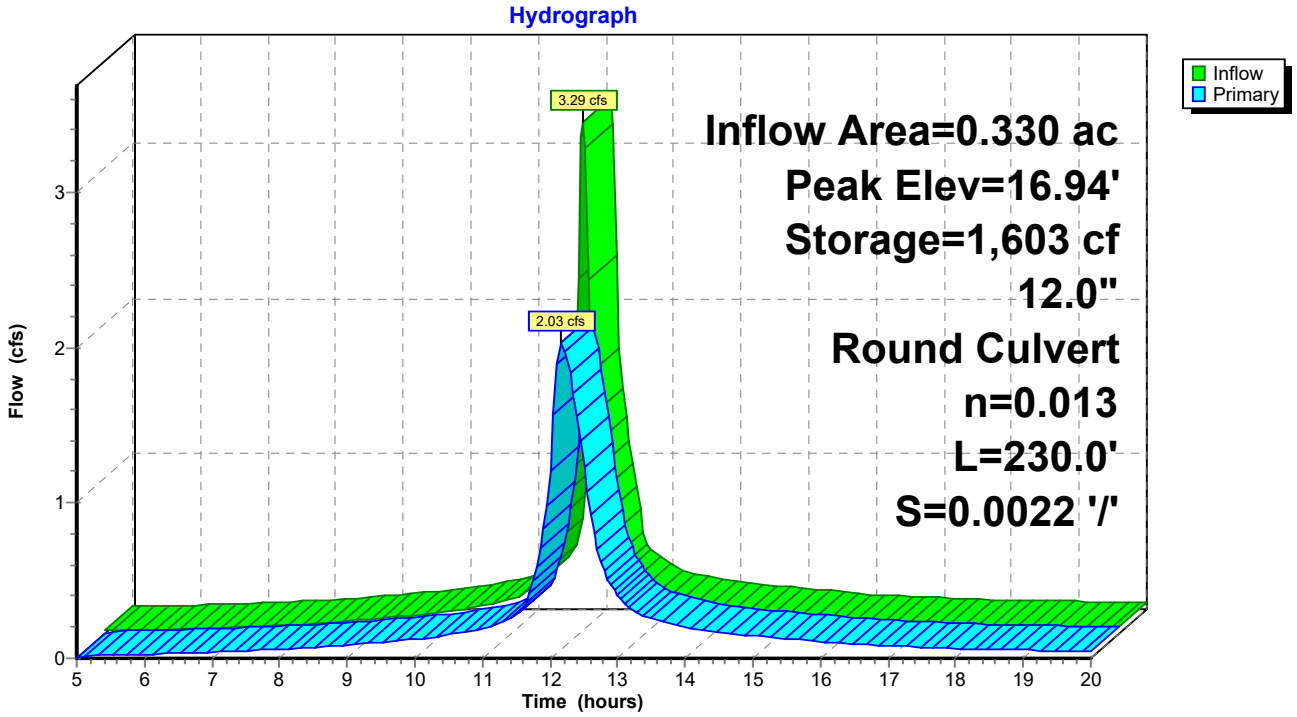
Volume	Invert	Avail.Storage	Storage Description
#1	15.75'	4,686 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.75	0	0.0	0	0	0
16.00	1,430	180.0	119	119	2,578
18.50	2,255	233.0	4,567	4,686	4,395

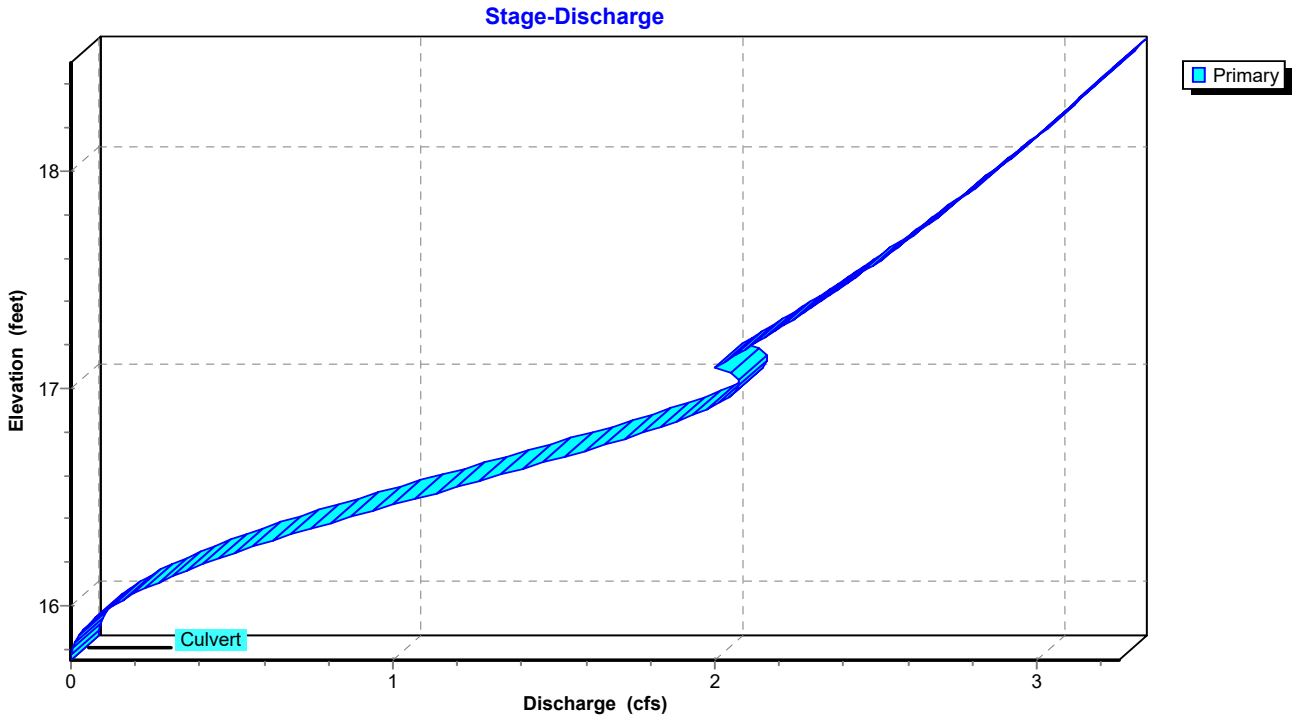
Device	Routing	Invert	Outlet Devices
#1	Primary	15.75'	**12.0" Round Culvert** L= 230.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 15.75' / 15.25' S= 0.0022 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.01 cfs @ 12.17 hrs HW=16.93' (Free Discharge)
1=Culvert (Barrel Controls 2.01 cfs @ 2.73 fps)

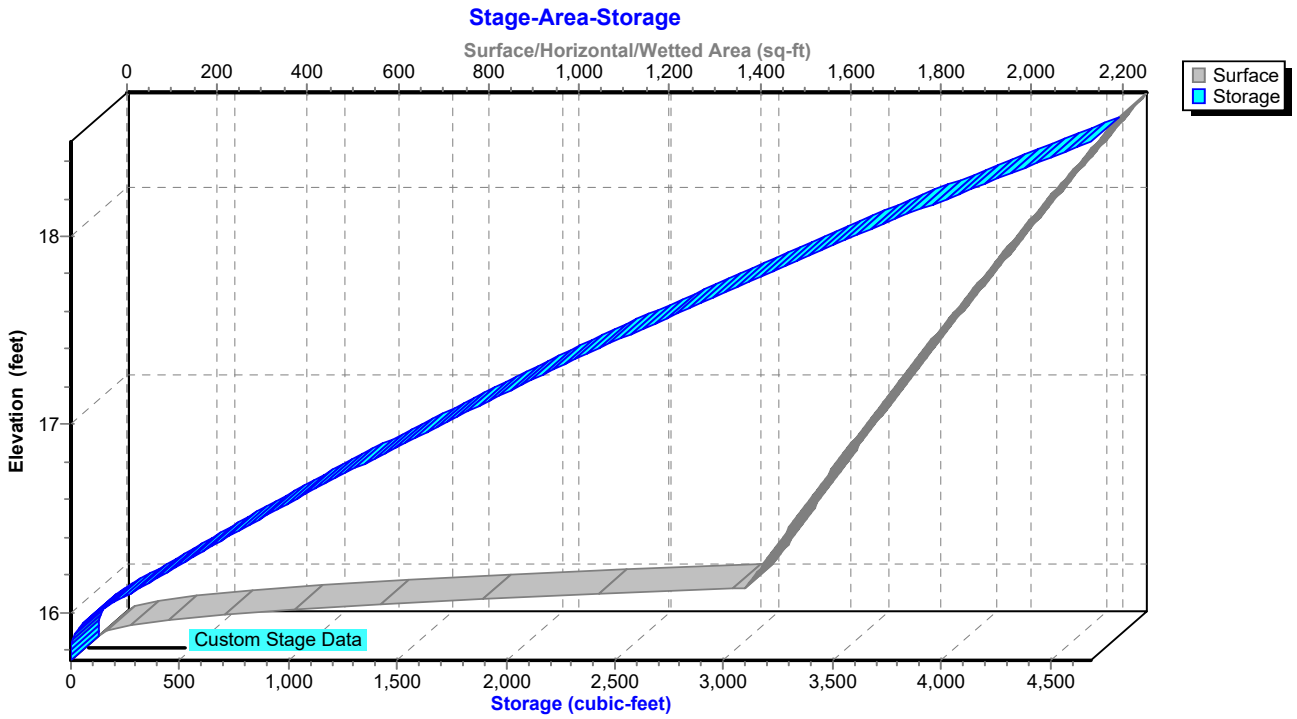
Pond 4P: North



Pond 4P: North



Pond 4P: North



Hydrograph for Pond 4P: North

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.02	1	15.80	0.01
5.50	0.02	9	15.86	0.02
6.00	0.03	12	15.86	0.03
6.50	0.03	16	15.88	0.03
7.00	0.04	21	15.89	0.04
7.50	0.05	28	15.90	0.05
8.00	0.06	35	15.92	0.06
8.50	0.08	47	15.93	0.07
9.00	0.10	64	15.95	0.09
9.50	0.12	85	15.97	0.10
10.00	0.14	110	15.99	0.12
10.50	0.18	145	16.02	0.15
11.00	0.22	192	16.05	0.19
11.50	0.35	284	16.11	0.28
12.00	**2.29**	**951**	**16.55**	**1.21**
12.50	**0.64**	**966**	**16.56**	**1.23**
13.00	0.27	393	16.19	0.41
13.50	0.22	259	16.10	0.26
14.00	0.17	203	16.06	0.20
14.50	0.15	165	16.03	0.17
15.00	0.13	138	16.01	0.15
15.50	0.11	113	16.00	0.13
16.00	0.09	88	15.98	0.11
16.50	0.08	69	15.96	0.09
17.00	0.07	58	15.95	0.08
17.50	0.07	48	15.93	0.07
18.00	0.06	40	15.92	0.06
18.50	0.05	34	15.91	0.05
19.00	0.05	31	15.91	0.05
19.50	0.05	29	15.91	0.05
20.00	0.05	27	15.90	0.05

Stage-Discharge for Pond 4P: North

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
15.75	0.00	16.79	1.77	17.83	2.73
15.77	0.00	16.81	1.81	17.85	2.75
15.79	0.00	16.83	1.85	17.87	2.76
15.81	0.01	16.85	1.88	17.89	2.78
15.83	0.01	16.87	1.92	17.91	2.80
15.85	0.02	16.89	1.95	17.93	2.82
15.87	0.03	16.91	1.98	17.95	2.83
15.89	0.04	16.93	2.01	17.97	2.85
15.91	0.05	16.95	2.03	17.99	2.86
15.93	0.07	16.97	2.05	18.01	2.88
15.95	0.08	16.99	2.07	18.03	2.90
15.97	0.10	17.01	2.08	18.05	2.91
15.99	0.12	17.03	2.08	18.07	2.93
16.01	0.14	17.05	2.07	18.09	2.95
16.03	0.17	17.07	2.05	18.11	2.96
16.05	0.19	17.09	1.99	18.13	2.98
16.07	0.22	17.11	2.01	18.15	2.99
16.09	0.25	17.13	2.04	18.17	3.01
16.11	0.28	17.15	2.06	18.19	3.03
16.13	0.31	17.17	2.08	18.21	3.04
16.15	0.34	17.19	2.11	18.23	3.06
16.17	0.37	17.21	2.13	18.25	3.07
16.19	0.41	17.23	2.15	18.27	3.09
16.21	0.45	17.25	2.17	18.29	3.10
16.23	0.48	17.27	2.19	18.31	3.12
16.25	0.52	17.29	2.21	18.33	3.13
16.27	0.56	17.31	2.24	18.35	3.15
16.29	0.60	17.33	2.26	18.37	3.16
16.31	0.65	17.35	2.28	18.39	3.18
16.33	0.69	17.37	2.30	18.41	3.19
16.35	0.73	17.39	2.32	18.43	3.21
16.37	0.78	17.41	2.34	18.45	3.22
16.39	0.82	17.43	2.36	18.47	3.24
16.41	0.87	17.45	2.38	18.49	**3.25**
16.43	0.92	17.47	2.40		
16.45	0.97	17.49	2.42		
16.47	1.01	17.51	2.44		
16.49	1.06	17.53	2.46		
16.51	1.11	17.55	2.48		
16.53	1.16	17.57	2.50		
16.55	1.21	17.59	2.51		
16.57	1.26	17.61	2.53		
16.59	1.31	17.63	2.55		
16.61	1.35	17.65	2.57		
16.63	1.40	17.67	2.59		
16.65	1.45	17.69	2.61		
16.67	1.50	17.71	2.62		
16.69	1.55	17.73	2.64		
16.71	1.59	17.75	2.66		
16.73	1.64	17.77	2.68		
16.75	1.68	17.79	2.70		
16.77	1.72	17.81	2.71		

Stage-Area-Storage for Pond 4P: North

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
15.75	0	0
15.80	57	1
15.85	229	8
15.90	515	26
15.95	915	61
16.00	1,430	119
16.05	1,445	191
16.10	1,459	264
16.15	1,474	337
16.20	1,489	411
16.25	1,504	486
16.30	1,519	561
16.35	1,534	638
16.40	1,549	715
16.45	1,565	793
16.50	1,580	871
16.55	1,595	951
16.60	1,611	1,031
16.65	1,627	1,112
16.70	1,642	1,194
16.75	1,658	1,276
16.80	1,674	1,359
16.85	1,690	1,443
16.90	1,705	1,528
16.95	1,721	1,614
17.00	1,738	1,700
17.05	1,754	1,788
17.10	1,770	1,876
17.15	1,786	1,965
17.20	1,803	2,054
17.25	1,819	2,145
17.30	1,836	2,236
17.35	1,852	2,329
17.40	1,869	2,422
17.45	1,886	2,515
17.50	1,903	2,610
17.55	1,919	2,706
17.60	1,936	2,802
17.65	1,954	2,899
17.70	1,971	2,997
17.75	1,988	3,096
17.80	2,005	3,196
17.85	2,023	3,297
17.90	2,040	3,398
17.95	2,057	3,501
18.00	2,075	3,604
18.05	2,093	3,708
18.10	2,110	3,814
18.15	2,128	3,919
18.20	2,146	4,026
18.25	2,164	4,134
18.30	2,182	4,243
18.35	2,200	4,352
18.40	2,218	4,463
18.45	2,237	4,574
18.50	**2,255**	**4,686**

Summary for Pond 6P: South - Outfall

Inflow Area = 1.510 ac, 54.30% Impervious, Inflow Depth > 8.40" for 25-Year event
Inflow = 9.96 cfs @ 12.10 hrs, Volume= 1.057 af
Outflow = 7.80 cfs @ 12.26 hrs, Volume= 1.055 af, Atten= 22%, Lag= 9.5 min
Primary = 7.80 cfs @ 12.26 hrs, Volume= 1.055 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.15' @ 12.26 hrs Surf.Area= 2,521 sf Storage= 3,757 cf

Plug-Flow detention time= 7.4 min calculated for 1.051 af (99% of inflow)
Center-of-Mass det. time= 6.5 min (760.0 - 753.6)

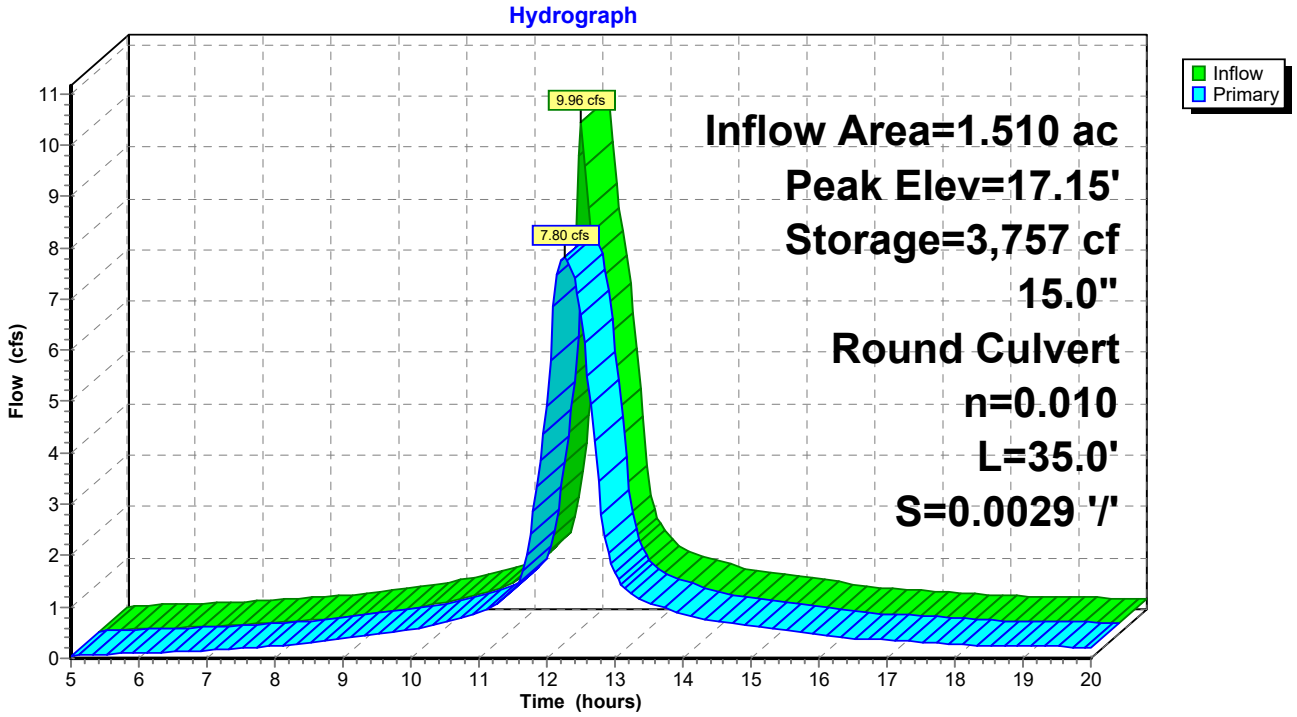
Volume	Invert	Avail.Storage	Storage Description
#1	14.75'	7,100 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
14.75	0	0.0	0	0	0
15.00	1,015	165.0	85	85	2,167
18.25	3,560	325.0	7,016	7,100	8,456

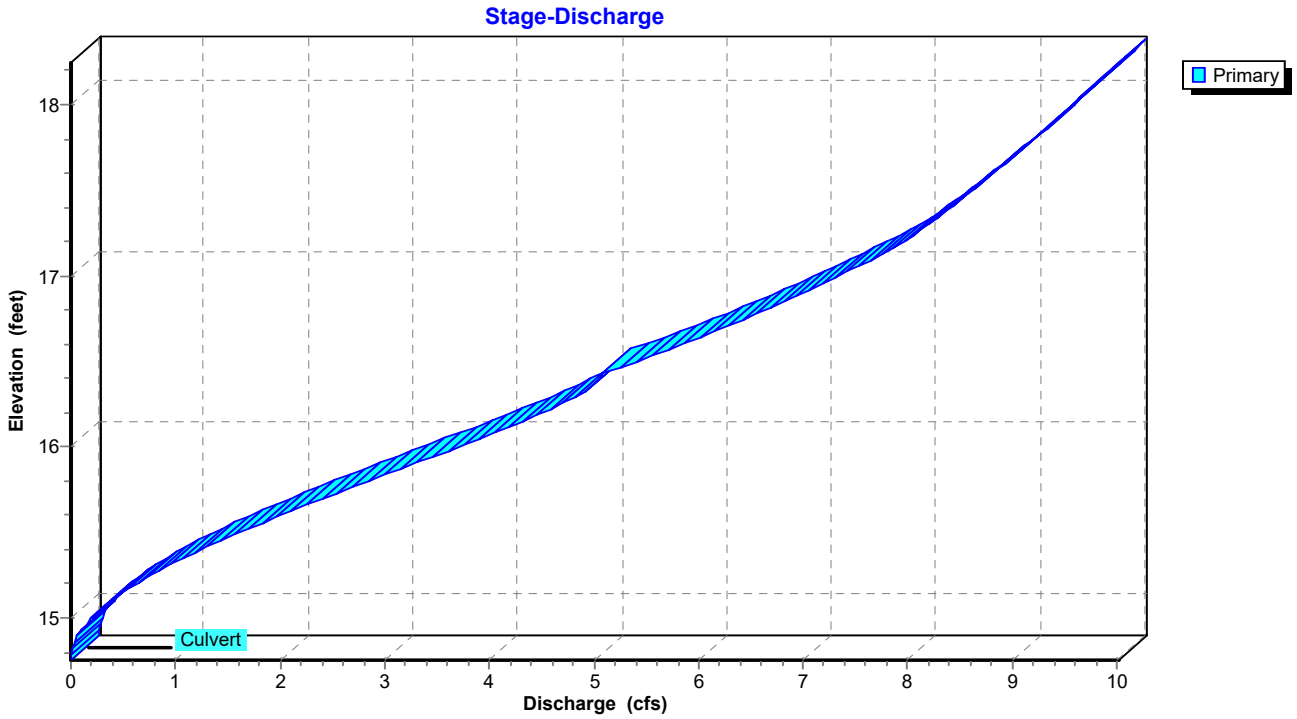
Device	Routing	Invert	Outlet Devices
#1	Primary	14.75'	**15.0" Round Culvert** L= 35.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.75' / 14.65' S= 0.0029 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=7.80 cfs @ 12.26 hrs HW=17.14' (Free Discharge)
↑**1=Culvert** (Barrel Controls 7.80 cfs @ 6.35 fps)

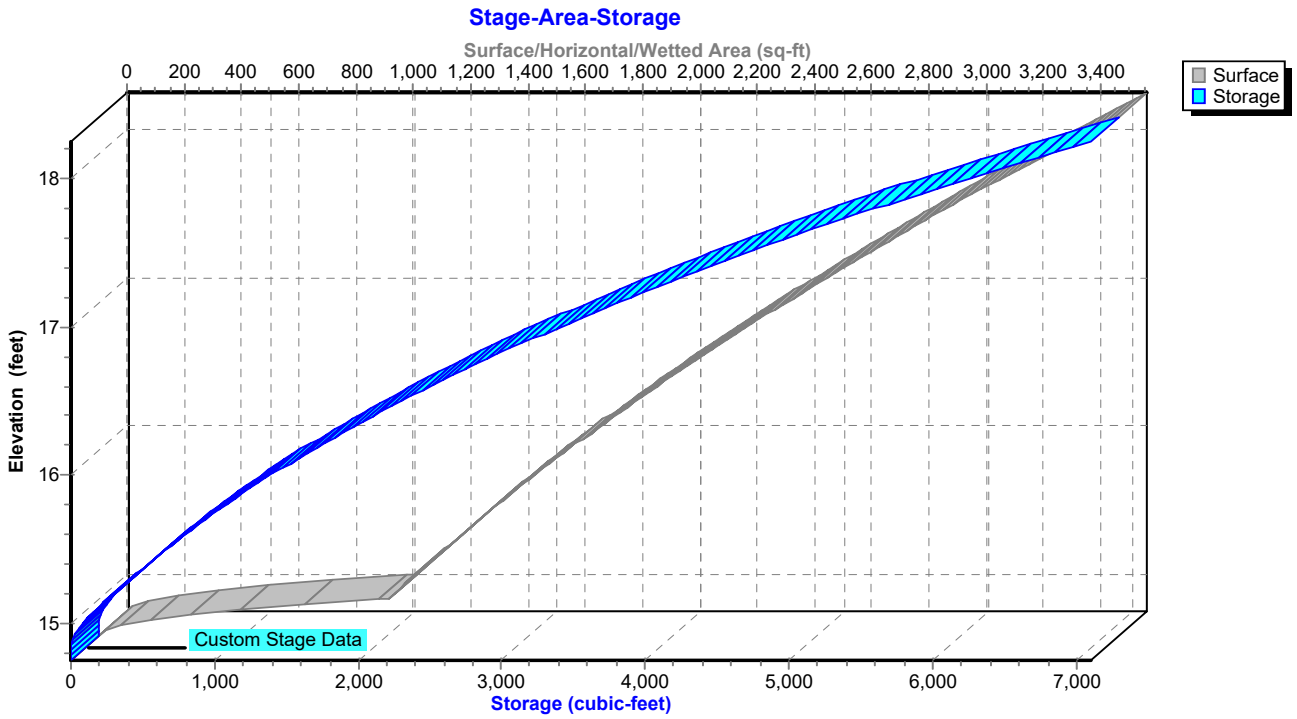
Pond 6P: South - Outfall



Pond 6P: South - Outfall



Pond 6P: South - Outfall



Hydrograph for Pond 6P: South - Outfall

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.05	3	14.83	0.02
5.50	0.09	22	14.91	0.08
6.00	0.10	29	14.93	0.10
6.50	0.13	40	14.94	0.12
7.00	0.17	56	14.97	0.16
7.50	0.20	77	14.99	0.19
8.00	0.24	100	15.02	0.23
8.50	0.31	133	15.05	0.29
9.00	0.40	176	15.09	0.37
9.50	0.49	220	15.13	0.46
10.00	0.58	263	15.17	0.56
10.50	0.74	323	15.22	0.70
11.00	0.93	398	15.29	0.88
11.50	1.47	566	15.42	1.34
12.00	**7.11**	**1,978**	**16.33**	**4.93**
12.50	**5.08**	**2,975**	**16.82**	**6.70**
13.00	1.40	681	15.51	1.67
13.50	1.02	470	15.35	1.07
14.00	0.82	391	15.28	0.87
14.50	0.71	337	15.23	0.73
15.00	0.62	298	15.20	0.64
15.50	0.53	260	15.16	0.55
16.00	0.44	219	15.13	0.46
16.50	0.38	188	15.10	0.39
17.00	0.34	167	15.08	0.35
17.50	0.30	146	15.06	0.31
18.00	0.26	125	15.04	0.27
18.50	0.24	110	15.03	0.25
19.00	0.23	102	15.02	0.23
19.50	0.22	95	15.01	0.22
20.00	0.21	88	15.00	0.21

Stage-Discharge for Pond 6P: South - Outfall

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
14.75	0.00	15.79	2.81	16.83	6.74	17.87	9.33
14.77	0.00	15.81	2.89	16.85	6.82	17.89	9.37
14.79	0.00	15.83	2.98	16.87	6.89	17.91	9.41
14.81	0.01	15.85	3.07	16.89	6.96	17.93	9.44
14.83	0.02	15.87	3.15	16.91	7.03	17.95	9.48
14.85	0.03	15.89	3.24	16.93	7.10	17.97	9.52
14.87	0.05	15.91	3.33	16.95	7.17	17.99	9.56
14.89	0.06	15.93	3.41	16.97	7.23	18.01	9.59
14.91	0.08	15.95	3.50	16.99	7.30	18.03	9.63
14.93	0.11	15.97	3.59	17.01	7.37	18.05	9.66
14.95	0.13	15.99	3.67	17.03	7.43	18.07	9.70
14.97	0.16	16.01	3.76	17.05	7.50	18.09	9.74
14.99	0.19	16.03	3.84	17.07	7.56	18.11	9.77
15.01	0.22	16.05	3.93	17.09	7.63	18.13	9.81
15.03	0.26	16.07	4.01	17.11	7.69	18.15	9.84
15.05	0.29	16.09	4.09	17.13	7.76	18.17	9.88
15.07	0.33	16.11	4.17	17.15	7.82	18.19	9.91
15.09	0.37	16.13	4.25	17.17	7.88	18.21	9.95
15.11	0.42	16.15	4.33	17.19	7.94	18.23	9.98
15.13	0.46	16.17	4.41	17.21	8.00	18.25	**10.02**
15.15	0.51	16.19	4.48	17.23	8.05		
15.17	0.56	16.21	4.55	17.25	8.09		
15.19	0.61	16.23	4.62	17.27	8.13		
15.21	0.67	16.25	4.69	17.29	8.18		
15.23	0.72	16.27	4.75	17.31	8.22		
15.25	0.78	16.29	4.82	17.33	8.26		
15.27	0.84	16.31	4.87	17.35	8.30		
15.29	0.90	16.33	4.92	17.37	8.35		
15.31	0.96	16.35	4.97	17.39	8.39		
15.33	1.02	16.37	5.01	17.41	8.43		
15.35	1.09	16.39	5.04	17.43	8.47		
15.37	1.15	16.41	5.05	17.45	8.51		
15.39	1.22	16.43	5.09	17.47	8.55		
15.41	1.29	16.45	5.19	17.49	8.59		
15.43	1.36	16.47	5.28	17.51	8.63		
15.45	1.43	16.49	5.37	17.53	8.67		
15.47	1.51	16.51	5.46	17.55	8.71		
15.49	1.58	16.53	5.55	17.57	8.75		
15.51	1.66	16.55	5.64	17.59	8.79		
15.53	1.73	16.57	5.72	17.61	8.83		
15.55	1.81	16.59	5.81	17.63	8.87		
15.57	1.89	16.61	5.89	17.65	8.91		
15.59	1.97	16.63	5.98	17.67	8.95		
15.61	2.05	16.65	6.06	17.69	8.99		
15.63	2.13	16.67	6.14	17.71	9.03		
15.65	2.21	16.69	6.22	17.73	9.07		
15.67	2.30	16.71	6.29	17.75	9.11		
15.69	2.38	16.73	6.37	17.77	9.14		
15.71	2.46	16.75	6.45	17.79	9.18		
15.73	2.55	16.77	6.52	17.81	9.22		
15.75	2.63	16.79	6.60	17.83	9.26		
15.77	2.72	16.81	6.67	17.85	9.30		

Stage-Area-Storage for Pond 6P: South - Outfall

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
14.75	0	0
14.80	41	1
14.85	162	5
14.90	365	18
14.95	650	43
15.00	1,015	85
15.05	1,042	136
15.10	1,070	189
15.15	1,098	243
15.20	1,127	299
15.25	1,156	356
15.30	1,185	414
15.35	1,215	474
15.40	1,245	536
15.45	1,275	599
15.50	1,306	663
15.55	1,337	729
15.60	1,368	797
15.65	1,400	866
15.70	1,432	937
15.75	1,465	1,009
15.80	1,498	1,084
15.85	1,531	1,159
15.90	1,565	1,237
15.95	1,599	1,316
16.00	1,633	1,397
16.05	1,668	1,479
16.10	1,703	1,563
16.15	1,739	1,649
16.20	1,775	1,737
16.25	1,811	1,827
16.30	1,847	1,918
16.35	1,884	2,012
16.40	1,922	2,107
16.45	1,959	2,204
16.50	1,997	2,303
16.55	2,036	2,404
16.60	2,075	2,506
16.65	2,114	2,611
16.70	2,153	2,718
16.75	2,193	2,826
16.80	2,233	2,937
16.85	2,274	3,050
16.90	2,315	3,164
16.95	2,356	3,281
17.00	2,398	3,400
17.05	2,440	3,521
17.10	2,483	3,644
17.15	2,525	3,769
17.20	2,569	3,897
17.25	2,612	4,026
17.30	2,656	4,158
17.35	2,700	4,292
17.40	2,745	4,428
17.45	2,790	4,566
17.50	2,835	4,707
17.55	2,881	4,850
17.60	2,927	4,995
17.65	2,974	5,143
17.70	3,021	5,293
17.75	3,068	5,445
17.80	3,115	5,599
17.85	3,163	5,756
17.90	3,212	5,916
17.95	3,260	6,077
18.00	3,309	6,242
18.05	3,359	6,408
18.10	3,408	6,578
18.15	3,459	6,749
18.20	3,509	6,923
18.25	**3,560**	**7,100**

Summary for Pond 7P: West

Inflow Area = 0.700 ac, 64.29% Impervious, Inflow Depth > 8.63" for 25-Year event
Inflow = 6.99 cfs @ 12.07 hrs, Volume= 0.503 af
Outflow = 3.95 cfs @ 12.19 hrs, Volume= 0.503 af, Atten= 44%, Lag= 7.1 min
Primary = 3.95 cfs @ 12.19 hrs, Volume= 0.503 af
Routed to Pond 6P : South - Outfall

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.71' @ 12.19 hrs Surf.Area= 2,815 sf Storage= 2,220 cf

Plug-Flow detention time= 3.3 min calculated for 0.503 af (100% of inflow)
Center-of-Mass det. time= 3.2 min (749.2 - 746.0)

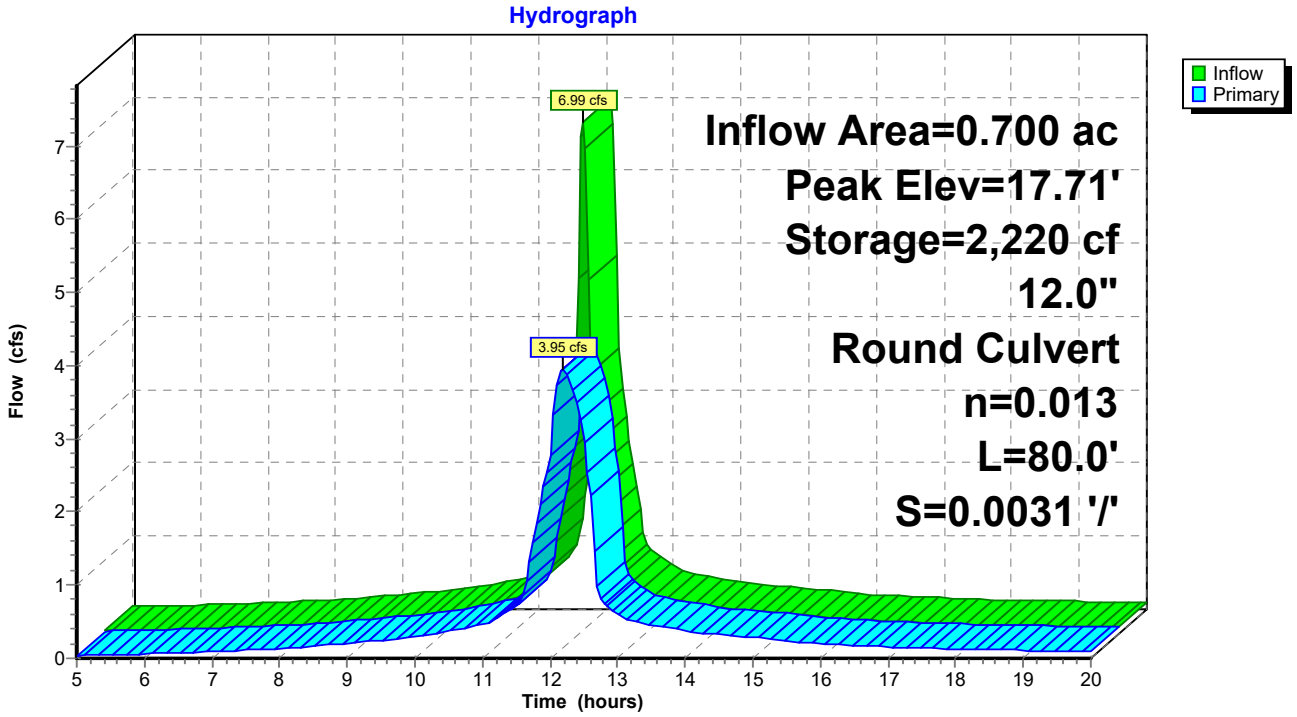
Volume	Invert	Avail.Storage	Storage Description
#1	15.50'	4,155 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.50	0	0.0	0	0	0
16.00	285	105.0	48	48	878
17.00	1,330	260.0	744	791	5,384
18.25	4,340	440.0	3,364	4,155	15,420

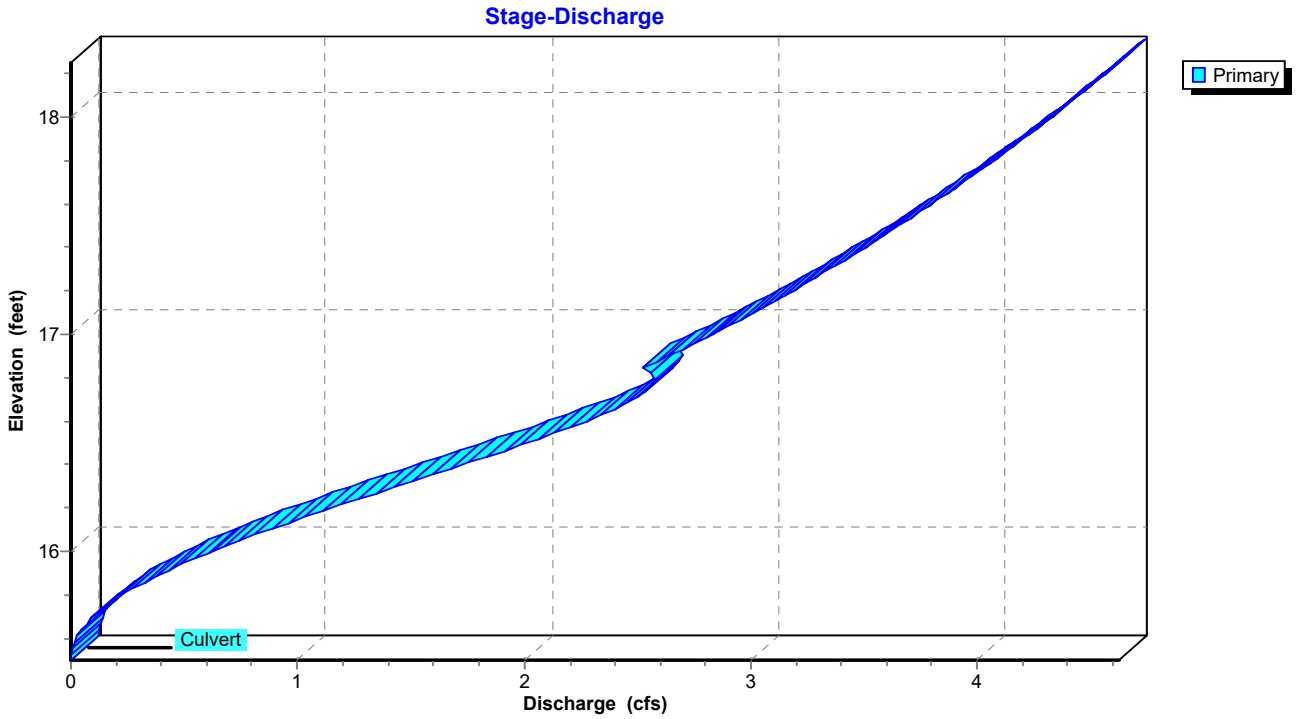
Device	Routing	Invert	Outlet Devices
#1	Primary	15.50'	**12.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 15.50' / 15.25' S= 0.0031 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.94 cfs @ 12.19 hrs HW=17.70' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 3.94 cfs @ 5.02 fps)

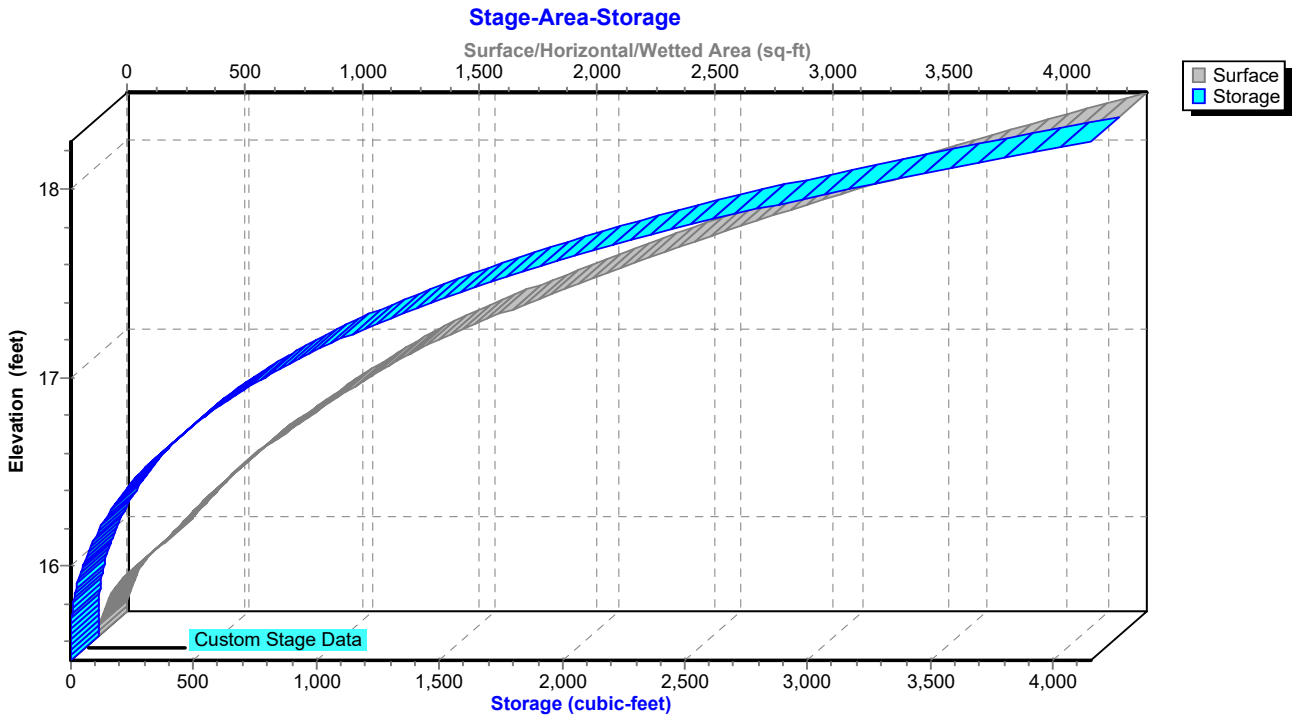
Pond 7P: West



Pond 7P: West



Pond 7P: West


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Surface
Storage
18
17
16
Elevation (feet)
Custom Stage Data
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Storage (cubic-feet)

Hydrograph for Pond 7P: West

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.04	1	15.62	0.03
5.50	0.05	1	15.64	0.05
6.00	0.06	1	15.65	0.06
6.50	0.07	2	15.67	0.07
7.00	0.09	3	15.69	0.09
7.50	0.11	3	15.71	0.11
8.00	0.13	4	15.72	0.13
8.50	0.16	6	15.75	0.16
9.00	0.20	9	15.78	0.20
9.50	0.25	11	15.81	0.25
10.00	0.29	15	15.84	0.29
10.50	0.37	21	15.88	0.37
11.00	0.46	29	15.93	0.46
11.50	0.75	60	16.04	0.73
12.00	**4.85**	**755**	**16.97**	**2.78**
12.50	**1.35**	**876**	**17.06**	**2.95**
13.00	0.58	45	15.99	0.60
13.50	0.46	30	15.93	0.46
14.00	0.37	22	15.88	0.37
14.50	0.32	17	15.86	0.32
15.00	0.28	14	15.83	0.28
15.50	0.24	11	15.81	0.24
16.00	0.20	8	15.78	0.20
16.50	0.17	7	15.76	0.18
17.00	0.16	6	15.75	0.16
17.50	0.14	5	15.73	0.14
18.00	0.12	4	15.72	0.12
18.50	0.11	4	15.71	0.11
19.00	0.11	3	15.71	0.11
19.50	0.10	3	15.70	0.10
20.00	0.10	3	15.70	0.10

Stage-Discharge for Pond 7P: West

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
15.50	0.00	16.54	2.13	17.58	3.77
15.52	0.00	16.56	2.18	17.60	3.80
15.54	0.00	16.58	2.23	17.62	3.83
15.56	0.01	16.60	2.28	17.64	3.86
15.58	0.01	16.62	2.32	17.66	3.88
15.60	0.02	16.64	2.37	17.68	3.91
15.62	0.03	16.66	2.41	17.70	3.94
15.64	0.05	16.68	2.45	17.72	3.97
15.66	0.06	16.70	2.48	17.74	3.99
15.68	0.08	16.72	2.51	17.76	4.02
15.70	0.10	16.74	2.54	17.78	4.05
15.72	0.12	16.76	2.56	17.80	4.07
15.74	0.15	16.78	2.57	17.82	4.10
15.76	0.17	16.80	2.58	17.84	4.13
15.78	0.20	16.82	2.56	17.86	4.15
15.80	0.23	16.84	2.51	17.88	4.18
15.82	0.26	16.86	2.56	17.90	4.20
15.84	0.29	16.88	2.60	17.92	4.23
15.86	0.33	16.90	2.64	17.94	4.25
15.88	0.37	16.92	2.68	17.96	4.28
15.90	0.41	16.94	2.72	17.98	4.30
15.92	0.45	16.96	2.76	18.00	4.33
15.94	0.49	16.98	2.80	18.02	4.35
15.96	0.53	17.00	2.83	18.04	4.38
15.98	0.58	17.02	2.87	18.06	4.40
16.00	0.62	17.04	2.91	18.08	4.43
16.02	0.67	17.06	2.94	18.10	4.45
16.04	0.72	17.08	2.98	18.12	4.47
16.06	0.77	17.10	3.02	18.14	4.50
16.08	0.82	17.12	3.05	18.16	4.52
16.10	0.87	17.14	3.09	18.18	4.54
16.12	0.93	17.16	3.12	18.20	4.57
16.14	0.98	17.18	3.15	18.22	4.59
16.16	1.04	17.20	3.19	18.24	**4.61**
16.18	1.09	17.22	3.22		
16.20	1.15	17.24	3.26		
16.22	1.21	17.26	3.29		
16.24	1.26	17.28	3.32		
16.26	1.32	17.30	3.35		
16.28	1.38	17.32	3.38		
16.30	1.44	17.34	3.42		
16.32	1.50	17.36	3.45		
16.34	1.56	17.38	3.48		
16.36	1.62	17.40	3.51		
16.38	1.68	17.42	3.54		
16.40	1.73	17.44	3.57		
16.42	1.79	17.46	3.60		
16.44	1.85	17.48	3.63		
16.46	1.91	17.50	3.66		
16.48	1.96	17.52	3.69		
16.50	2.02	17.54	3.72		
16.52	2.07	17.56	3.74		

Stage-Area-Storage for Pond 7P: West

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
15.50	0	0
15.55	3	0
15.60	11	0
15.65	26	1
15.70	46	3
15.75	71	6
15.80	103	10
15.85	140	16
15.90	182	24
15.95	231	35
16.00	285	48
16.05	319	63
16.10	355	79
16.15	393	98
16.20	433	119
16.25	474	141
16.30	518	166
16.35	563	193
16.40	611	223
16.45	660	254
16.50	712	289
16.55	765	326
16.60	820	365
16.65	877	408
16.70	936	453
16.75	997	501
16.80	1,060	553
16.85	1,124	607
16.90	1,191	665
16.95	1,260	726
17.00	1,330	791
17.05	1,417	860
17.10	1,507	933
17.15	1,600	1,010
17.20	1,695	1,093
17.25	1,794	1,180
17.30	1,895	1,272
17.35	1,998	1,370
17.40	2,105	1,472
17.45	2,214	1,580
17.50	2,326	1,694
17.55	2,441	1,813
17.60	2,559	1,938
17.65	2,679	2,069
17.70	2,802	2,206
17.75	2,928	2,349
17.80	3,057	2,499
17.85	3,189	2,655
17.90	3,323	2,818
17.95	3,460	2,987
18.00	3,600	3,164
18.05	3,742	3,347
18.10	3,887	3,538
18.15	4,036	3,736
18.20	4,186	3,941
18.25	**4,340**	**4,155**

Summary for Subcatchment 10S: Post - West

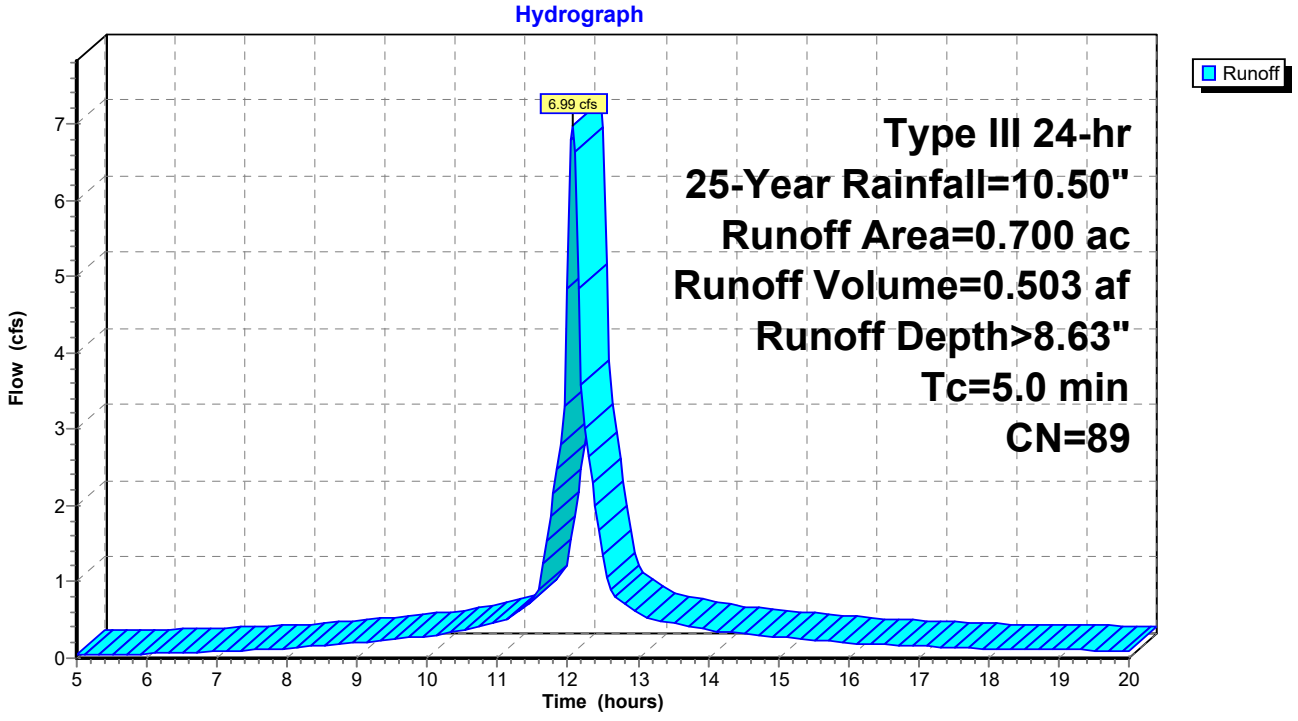
Runoff = 6.99 cfs @ 12.07 hrs, Volume= 0.503 af, Depth> 8.63"
Routed to Pond 7P : West

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=10.50"

Area (ac)	CN	Description
0.450	98	Paved parking, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.700	89	Weighted Average
0.250		35.71% Pervious Area
0.450		64.29% Impervious Area

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

Subcatchment 10S: Post - West



Hydrograph for Subcatchment 10S: Post - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.60	0.08	0.04
5.25	0.63	0.09	0.05
5.50	0.67	0.11	0.05
5.75	0.71	0.13	0.05
6.00	0.76	0.15	0.06
6.25	0.80	0.17	0.06
6.50	0.85	0.20	0.07
6.75	0.90	0.22	0.08
7.00	0.95	0.25	0.09
7.25	1.01	0.29	0.10
7.50	1.07	0.33	0.11
7.75	1.13	0.37	0.12
8.00	1.20	0.41	0.13
8.25	1.27	0.46	0.14
8.50	1.35	0.52	0.16
8.75	1.44	0.58	0.18
9.00	1.53	0.65	0.20
9.25	1.63	0.73	0.23
9.50	1.74	0.82	0.25
9.75	1.86	0.91	0.27
10.00	1.98	1.02	0.29
10.25	2.12	1.13	0.33
10.50	2.27	1.26	0.37
10.75	2.44	1.40	0.42
11.00	2.63	1.56	0.46
11.25	2.85	1.76	0.59
11.50	3.13	2.02	0.75
11.75	3.73	2.57	1.86
12.00	5.25	4.01	**4.85**
12.25	6.77	5.48	**3.01**
12.50	7.37	6.07	1.35
12.75	7.65	6.35	0.75
13.00	7.87	6.56	0.58
13.25	8.06	6.74	0.50
13.50	8.23	6.91	0.46
13.75	8.38	7.06	0.41
14.00	8.52	7.19	0.37
14.25	8.64	7.32	0.34
14.50	8.76	7.43	0.32
14.75	8.87	7.54	0.30
15.00	8.97	7.64	0.28
15.25	9.06	7.73	0.26
15.50	9.15	7.82	0.24
15.75	9.23	7.90	0.22
16.00	9.30	7.97	0.20
16.25	9.37	8.03	0.18
16.50	9.43	8.10	0.17
16.75	9.49	8.16	0.17
17.00	9.55	8.21	0.16
17.25	9.60	8.26	0.15
17.50	9.65	8.31	0.14
17.75	9.70	8.36	0.13
18.00	9.74	8.40	0.12
18.25	9.79	8.44	0.12
18.50	9.83	8.48	0.11
18.75	9.87	8.52	0.11
19.00	9.90	8.56	0.11
19.25	9.94	8.60	0.10
19.50	9.98	8.63	0.10
19.75	10.01	8.67	0.10
20.00	**10.05**	**8.70**	0.10

Summary for Subcatchment 1S: Post - North

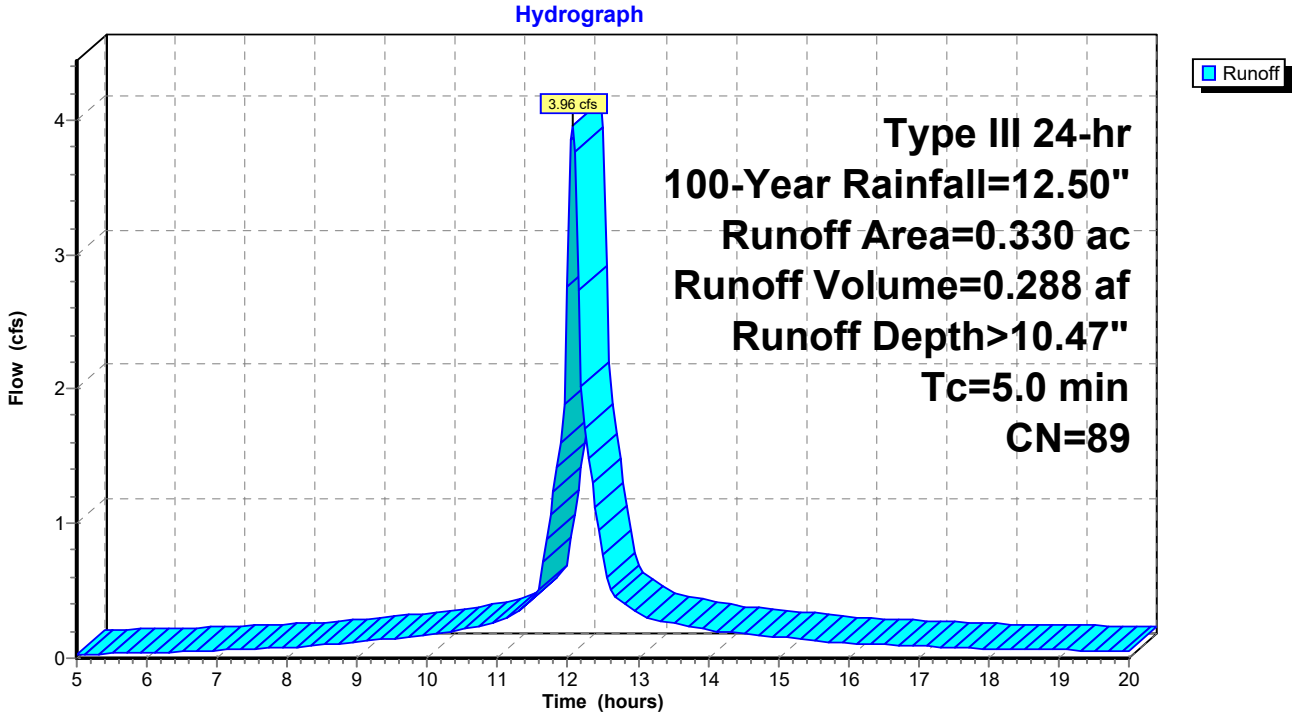
Runoff = 3.96 cfs @ 12.07 hrs, Volume= 0.288 af, Depth>10.47"
Routed to Pond 4P : North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=12.50"

Area (ac)	CN	Description
0.130	74	>75% Grass cover, Good, HSG C
0.200	98	Paved parking, HSG C
0.330	89	Weighted Average
0.130		39.39% Pervious Area
0.200		60.61% Impervious Area

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

Subcatchment 1S: Post - North



Hydrograph for Subcatchment 1S: Post - North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.71	0.13	0.03
5.25	0.76	0.15	0.03
5.50	0.80	0.17	0.03
5.75	0.85	0.20	0.03
6.00	0.90	0.23	0.04
6.25	0.95	0.26	0.04
6.50	1.01	0.29	0.05
6.75	1.07	0.33	0.05
7.00	1.13	0.37	0.06
7.25	1.20	0.41	0.06
7.50	1.27	0.46	0.07
7.75	1.35	0.52	0.07
8.00	1.43	0.57	0.08
8.25	1.51	0.64	0.09
8.50	1.61	0.71	0.10
8.75	1.71	0.79	0.11
9.00	1.82	0.88	0.12
9.25	1.94	0.98	0.13
9.50	2.07	1.09	0.15
9.75	2.21	1.21	0.16
10.00	2.36	1.34	0.17
10.25	2.53	1.48	0.19
10.50	2.71	1.64	0.22
10.75	2.91	1.82	0.24
11.00	3.13	2.01	0.27
11.25	3.39	2.25	0.34
11.50	3.73	2.57	0.43
11.75	4.44	3.24	1.06
12.00	6.25	4.98	**2.76**
12.25	8.06	6.75	**1.70**
12.50	8.78	7.45	0.76
12.75	9.11	7.78	0.42
13.00	9.38	8.04	0.33
13.25	9.59	8.25	0.28
13.50	9.79	8.45	0.26
13.75	9.98	8.63	0.23
14.00	10.14	8.79	0.21
14.25	10.29	8.94	0.19
14.50	10.43	9.08	0.18
14.75	10.56	9.21	0.17
15.00	10.68	9.33	0.16
15.25	10.79	9.44	0.15
15.50	10.89	9.54	0.13
15.75	10.99	9.63	0.12
16.00	11.08	9.72	0.11
16.25	11.15	9.80	0.10
16.50	11.23	9.87	0.10
16.75	11.30	9.94	0.09
17.00	11.37	10.01	0.09
17.25	11.43	10.07	0.08
17.50	11.49	10.13	0.08
17.75	11.55	10.19	0.07
18.00	11.60	10.24	0.07
18.25	11.65	10.29	0.06
18.50	11.70	10.33	0.06
18.75	11.74	10.38	0.06
19.00	11.79	10.43	0.06
19.25	11.84	10.47	0.06
19.50	11.88	10.51	0.06
19.75	11.92	10.56	0.06
20.00	**11.96**	**10.60**	0.05

Summary for Subcatchment 2S: Post - South

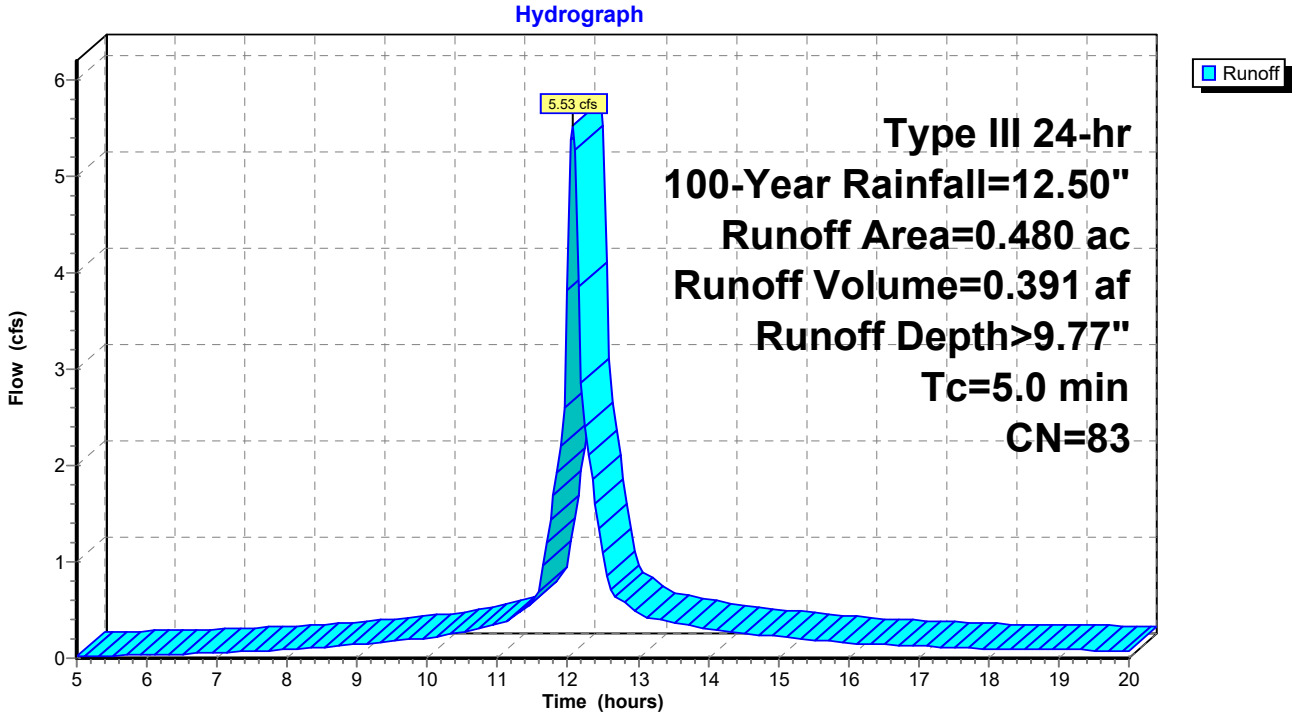
Runoff = 5.53 cfs @ 12.07 hrs, Volume= 0.391 af, Depth> 9.77"
Routed to Pond 6P : South - Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=12.50"

Area (ac)	CN	Description
0.170	98	Paved parking, HSG C
0.310	74	>75% Grass cover, Good, HSG C
0.480	83	Weighted Average
0.310		64.58% Pervious Area
0.170		35.42% Impervious Area

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

Subcatchment 2S: Post - South



Hydrograph for Subcatchment 2S: Post - South

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.71	0.04	0.02
5.25	0.76	0.05	0.02
5.50	0.80	0.06	0.03
5.75	0.85	0.08	0.03
6.00	0.90	0.09	0.03
6.25	0.95	0.11	0.04
6.50	1.01	0.14	0.04
6.75	1.07	0.16	0.05
7.00	1.13	0.19	0.06
7.25	1.20	0.22	0.06
7.50	1.27	0.25	0.07
7.75	1.35	0.29	0.08
8.00	1.43	0.34	0.08
8.25	1.51	0.38	0.10
8.50	1.61	0.44	0.11
8.75	1.71	0.50	0.13
9.00	1.82	0.58	0.14
9.25	1.94	0.66	0.16
9.50	2.07	0.75	0.18
9.75	2.21	0.84	0.19
10.00	2.36	0.95	0.21
10.25	2.53	1.07	0.24
10.50	2.71	1.21	0.28
10.75	2.91	1.37	0.31
11.00	3.13	1.55	0.35
11.25	3.39	1.77	0.45
11.50	3.73	2.05	0.57
11.75	4.44	2.67	1.44
12.00	6.25	4.32	**3.82**
12.25	8.06	6.03	**2.40**
12.50	8.78	6.72	1.09
12.75	9.11	7.04	0.60
13.00	9.38	7.30	0.47
13.25	9.59	7.51	0.40
13.50	9.79	7.70	0.37
13.75	9.98	7.88	0.33
14.00	10.14	8.04	0.30
14.25	10.29	8.18	0.28
14.50	10.43	8.32	0.26
14.75	10.56	8.44	0.24
15.00	10.68	8.56	0.23
15.25	10.79	8.67	0.21
15.50	10.89	8.77	0.19
15.75	10.99	8.86	0.18
16.00	11.08	8.95	0.16
16.25	11.15	9.02	0.15
16.50	11.23	9.10	0.14
16.75	11.30	9.17	0.13
17.00	11.37	9.23	0.13
17.25	11.43	9.30	0.12
17.50	11.49	9.35	0.11
17.75	11.55	9.41	0.10
18.00	11.60	9.46	0.10
18.25	11.65	9.51	0.09
18.50	11.70	9.55	0.09
18.75	11.74	9.60	0.09
19.00	11.79	9.65	0.09
19.25	11.84	9.69	0.08
19.50	11.88	9.73	0.08
19.75	11.92	9.77	0.08
20.00	**11.96**	**9.81**	0.08

Summary for Subcatchment 3S: Post - Offsite

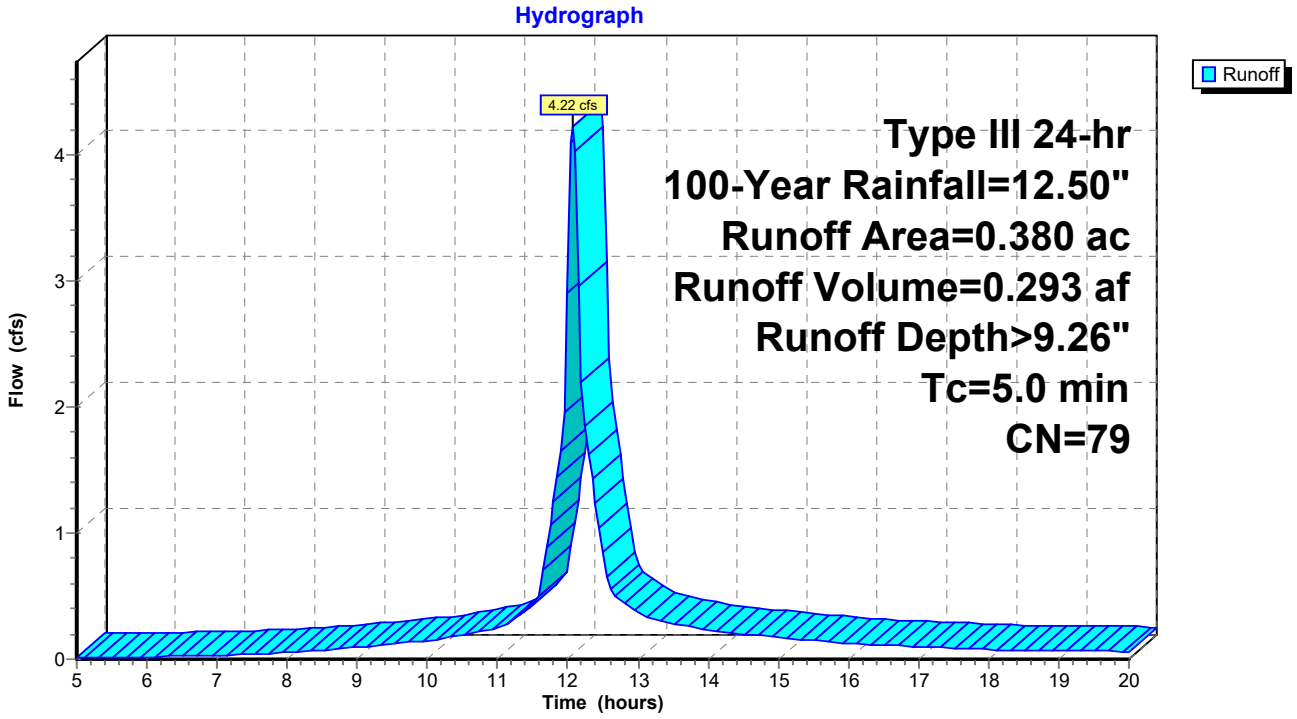
Runoff = 4.22 cfs @ 12.07 hrs, Volume= 0.293 af, Depth> 9.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=12.50"

Area (ac)	CN	Description
0.380	79	50-75% Grass cover, Fair, HSG C
0.380		100.00% Pervious Area

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

Subcatchment 3S: Post - Offsite



Hydrograph for Subcatchment 3S: Post - Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.71	0.01	0.01
5.25	0.76	0.02	0.01
5.50	0.80	0.03	0.01
5.75	0.85	0.03	0.01
6.00	0.90	0.04	0.02
6.25	0.95	0.06	0.02
6.50	1.01	0.07	0.02
6.75	1.07	0.09	0.03
7.00	1.13	0.11	0.03
7.25	1.20	0.13	0.04
7.50	1.27	0.16	0.04
7.75	1.35	0.19	0.05
8.00	1.43	0.22	0.05
8.25	1.51	0.26	0.06
8.50	1.61	0.31	0.07
8.75	1.71	0.36	0.08
9.00	1.82	0.42	0.09
9.25	1.94	0.49	0.11
9.50	2.07	0.57	0.12
9.75	2.21	0.65	0.13
10.00	2.36	0.75	0.15
10.25	2.53	0.85	0.17
10.50	2.71	0.98	0.20
10.75	2.91	1.12	0.22
11.00	3.13	1.28	0.25
11.25	3.39	1.48	0.32
11.50	3.73	1.74	0.42
11.75	4.44	2.33	1.07
12.00	6.25	3.90	**2.90**
12.25	8.06	5.56	**1.85**
12.50	8.78	6.23	0.84
12.75	9.11	6.55	0.47
13.00	9.38	6.80	0.36
13.25	9.59	7.01	0.31
13.50	9.79	7.20	0.29
13.75	9.98	7.37	0.26
14.00	10.14	7.52	0.23
14.25	10.29	7.67	0.21
14.50	10.43	7.80	0.20
14.75	10.56	7.92	0.19
15.00	10.68	8.04	0.18
15.25	10.79	8.15	0.16
15.50	10.89	8.25	0.15
15.75	10.99	8.34	0.14
16.00	11.08	8.42	0.12
16.25	11.15	8.50	0.12
16.50	11.23	8.57	0.11
16.75	11.30	8.64	0.10
17.00	11.37	8.70	0.10
17.25	11.43	8.76	0.09
17.50	11.49	8.82	0.09
17.75	11.55	8.87	0.08
18.00	11.60	8.92	0.08
18.25	11.65	8.97	0.07
18.50	11.70	9.02	0.07
18.75	11.74	9.06	0.07
19.00	11.79	9.11	0.07
19.25	11.84	9.15	0.07
19.50	11.88	9.19	0.06
19.75	11.92	9.23	0.06
20.00	**11.96**	**9.27**	0.06

Summary for Pond 4P: North

Inflow Area = 0.330 ac, 60.61% Impervious, Inflow Depth > 10.47" for 100-Year event
Inflow = 3.96 cfs @ 12.07 hrs, Volume= 0.288 af
Outflow = 2.10 cfs @ 12.20 hrs, Volume= 0.287 af, Atten= 47%, Lag= 8.0 min
Primary = 2.10 cfs @ 12.20 hrs, Volume= 0.287 af
Routed to Pond 6P : South - Outfall

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.18' @ 12.20 hrs Surf.Area= 1,796 sf Storage= 2,020 cf

Plug-Flow detention time= 14.7 min calculated for 0.287 af (100% of inflow)
Center-of-Mass det. time= 13.3 min (756.5 - 743.2)

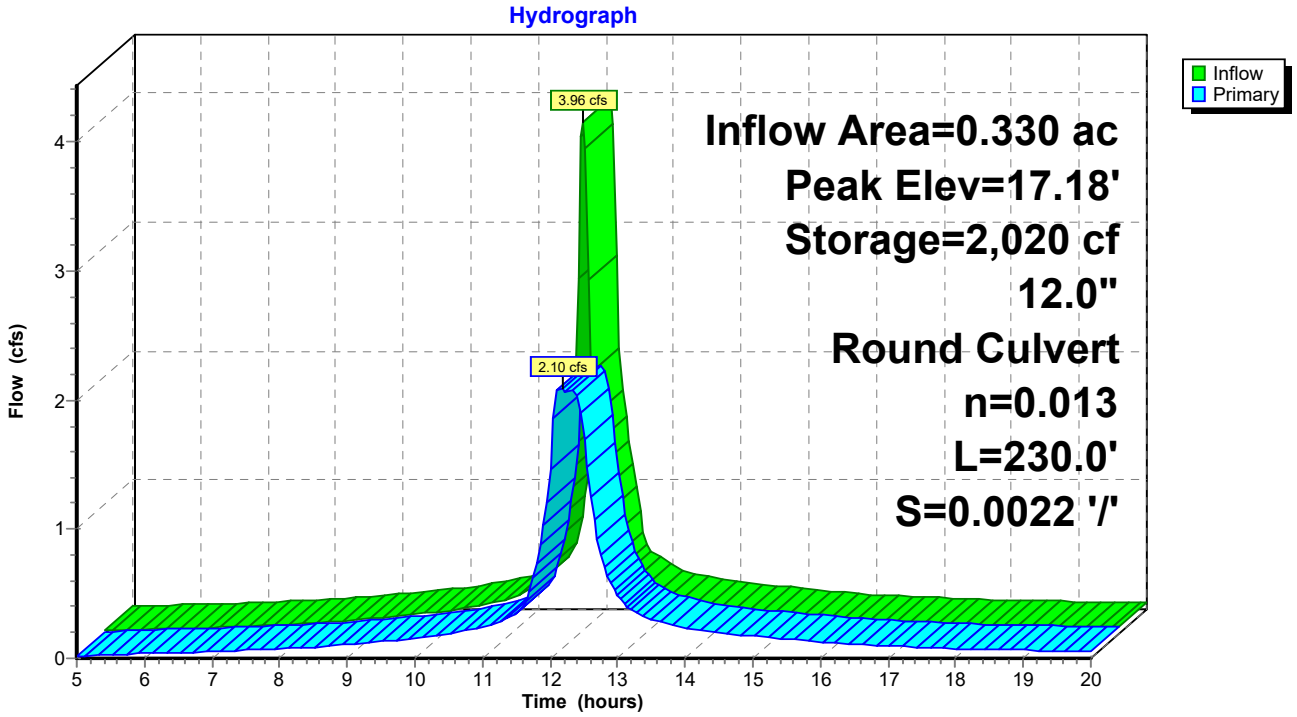
Volume	Invert	Avail.Storage	Storage Description
#1	15.75'	4,686 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.75	0	0.0	0	0	0
16.00	1,430	180.0	119	119	2,578
18.50	2,255	233.0	4,567	4,686	4,395

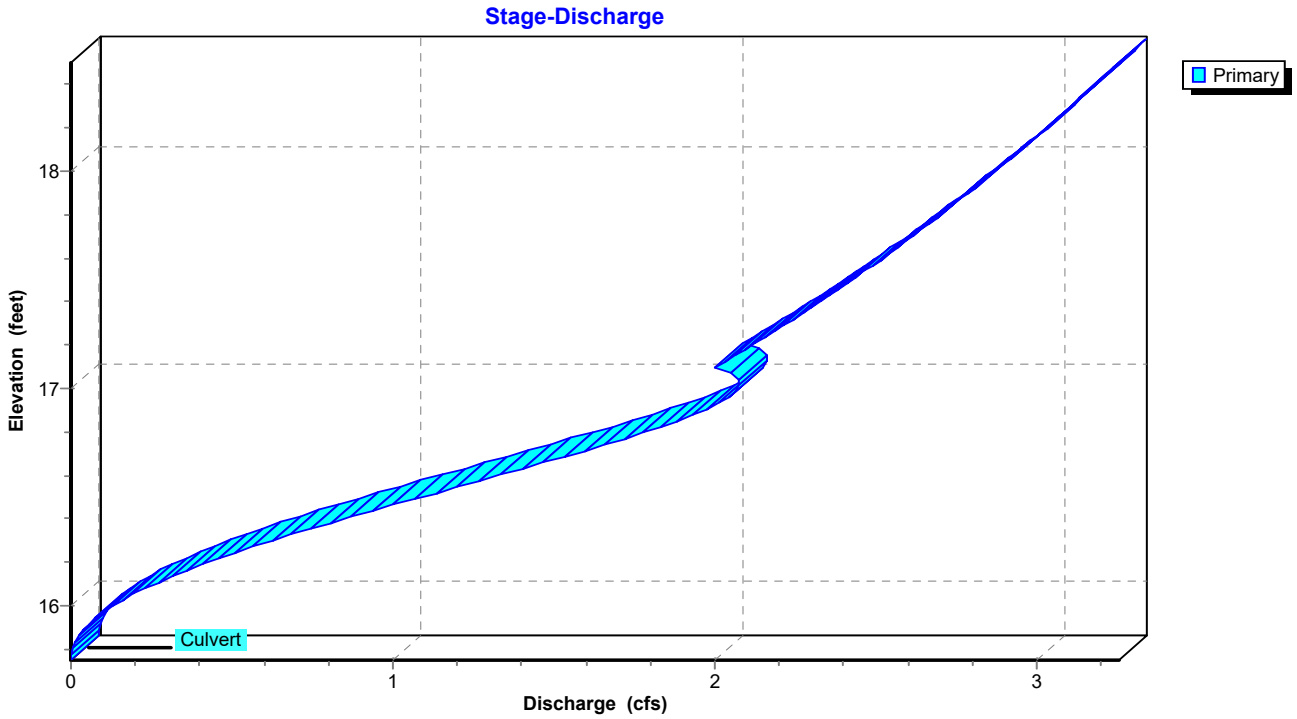
Device	Routing	Invert	Outlet Devices
#1	Primary	15.75'	**12.0" Round Culvert** L= 230.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 15.75' / 15.25' S= 0.0022 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.09 cfs @ 12.20 hrs HW=17.18' (Free Discharge)
1=Culvert (Barrel Controls 2.09 cfs @ 2.67 fps)

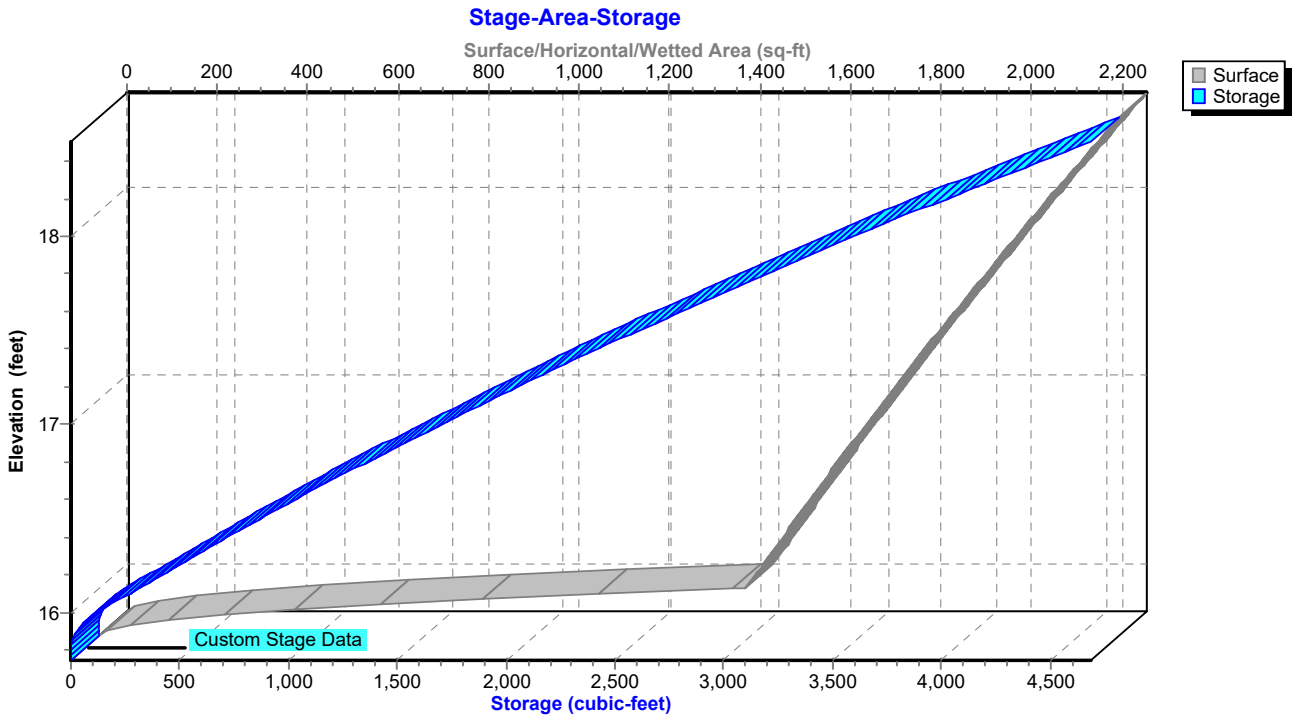
Pond 4P: North



Pond 4P: North



Pond 4P: North



Hydrograph for Pond 4P: North

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.03	2	15.81	0.01
5.50	0.03	14	15.87	0.03
6.00	0.04	18	15.88	0.04
6.50	0.05	23	15.89	0.04
7.00	0.06	31	15.91	0.05
7.50	0.07	40	15.92	0.06
8.00	0.08	50	15.94	0.07
8.50	0.10	66	15.95	0.09
9.00	0.12	89	15.98	0.11
9.50	0.15	118	16.00	0.13
10.00	0.17	148	16.02	0.15
10.50	0.22	190	16.05	0.19
11.00	0.27	242	16.09	0.24
11.50	0.43	346	16.16	0.35
12.00	**2.76**	**1,125**	**16.66**	**1.47**
12.50	**0.76**	**1,291**	**16.76**	**1.70**
13.00	0.33	462	16.23	0.49
13.50	0.26	303	16.13	0.30
14.00	0.21	242	16.08	0.24
14.50	0.18	200	16.06	0.20
15.00	0.16	171	16.04	0.17
15.50	0.13	143	16.02	0.15
16.00	0.11	114	16.00	0.13
16.50	0.10	90	15.98	0.11
17.00	0.09	75	15.96	0.10
17.50	0.08	63	15.95	0.08
18.00	0.07	52	15.94	0.07
18.50	0.06	44	15.93	0.07
19.00	0.06	41	15.92	0.06
19.50	0.06	38	15.92	0.06
20.00	0.05	35	15.92	0.06

Stage-Discharge for Pond 4P: North

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
15.75	0.00	16.79	1.77	17.83	2.73
15.77	0.00	16.81	1.81	17.85	2.75
15.79	0.00	16.83	1.85	17.87	2.76
15.81	0.01	16.85	1.88	17.89	2.78
15.83	0.01	16.87	1.92	17.91	2.80
15.85	0.02	16.89	1.95	17.93	2.82
15.87	0.03	16.91	1.98	17.95	2.83
15.89	0.04	16.93	2.01	17.97	2.85
15.91	0.05	16.95	2.03	17.99	2.86
15.93	0.07	16.97	2.05	18.01	2.88
15.95	0.08	16.99	2.07	18.03	2.90
15.97	0.10	17.01	2.08	18.05	2.91
15.99	0.12	17.03	2.08	18.07	2.93
16.01	0.14	17.05	2.07	18.09	2.95
16.03	0.17	17.07	2.05	18.11	2.96
16.05	0.19	17.09	1.99	18.13	2.98
16.07	0.22	17.11	2.01	18.15	2.99
16.09	0.25	17.13	2.04	18.17	3.01
16.11	0.28	17.15	2.06	18.19	3.03
16.13	0.31	17.17	2.08	18.21	3.04
16.15	0.34	17.19	2.11	18.23	3.06
16.17	0.37	17.21	2.13	18.25	3.07
16.19	0.41	17.23	2.15	18.27	3.09
16.21	0.45	17.25	2.17	18.29	3.10
16.23	0.48	17.27	2.19	18.31	3.12
16.25	0.52	17.29	2.21	18.33	3.13
16.27	0.56	17.31	2.24	18.35	3.15
16.29	0.60	17.33	2.26	18.37	3.16
16.31	0.65	17.35	2.28	18.39	3.18
16.33	0.69	17.37	2.30	18.41	3.19
16.35	0.73	17.39	2.32	18.43	3.21
16.37	0.78	17.41	2.34	18.45	3.22
16.39	0.82	17.43	2.36	18.47	3.24
16.41	0.87	17.45	2.38	18.49	**3.25**
16.43	0.92	17.47	2.40		
16.45	0.97	17.49	2.42		
16.47	1.01	17.51	2.44		
16.49	1.06	17.53	2.46		
16.51	1.11	17.55	2.48		
16.53	1.16	17.57	2.50		
16.55	1.21	17.59	2.51		
16.57	1.26	17.61	2.53		
16.59	1.31	17.63	2.55		
16.61	1.35	17.65	2.57		
16.63	1.40	17.67	2.59		
16.65	1.45	17.69	2.61		
16.67	1.50	17.71	2.62		
16.69	1.55	17.73	2.64		
16.71	1.59	17.75	2.66		
16.73	1.64	17.77	2.68		
16.75	1.68	17.79	2.70		
16.77	1.72	17.81	2.71		

Stage-Area-Storage for Pond 4P: North

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
15.75	0	0
15.80	57	1
15.85	229	8
15.90	515	26
15.95	915	61
16.00	1,430	119
16.05	1,445	191
16.10	1,459	264
16.15	1,474	337
16.20	1,489	411
16.25	1,504	486
16.30	1,519	561
16.35	1,534	638
16.40	1,549	715
16.45	1,565	793
16.50	1,580	871
16.55	1,595	951
16.60	1,611	1,031
16.65	1,627	1,112
16.70	1,642	1,194
16.75	1,658	1,276
16.80	1,674	1,359
16.85	1,690	1,443
16.90	1,705	1,528
16.95	1,721	1,614
17.00	1,738	1,700
17.05	1,754	1,788
17.10	1,770	1,876
17.15	1,786	1,965
17.20	1,803	2,054
17.25	1,819	2,145
17.30	1,836	2,236
17.35	1,852	2,329
17.40	1,869	2,422
17.45	1,886	2,515
17.50	1,903	2,610
17.55	1,919	2,706
17.60	1,936	2,802
17.65	1,954	2,899
17.70	1,971	2,997
17.75	1,988	3,096
17.80	2,005	3,196
17.85	2,023	3,297
17.90	2,040	3,398
17.95	2,057	3,501
18.00	2,075	3,604
18.05	2,093	3,708
18.10	2,110	3,814
18.15	2,128	3,919
18.20	2,146	4,026
18.25	2,164	4,134
18.30	2,182	4,243
18.35	2,200	4,352
18.40	2,218	4,463
18.45	2,237	4,574
18.50	**2,255**	**4,686**

Summary for Pond 6P: South - Outfall

Inflow Area = 1.510 ac, 54.30% Impervious, Inflow Depth > 10.24" for 100-Year event
Inflow = 11.45 cfs @ 12.09 hrs, Volume= 1.289 af
Outflow = 8.52 cfs @ 12.28 hrs, Volume= 1.286 af, Atten= 26%, Lag= 11.5 min
Primary = 8.52 cfs @ 12.28 hrs, Volume= 1.286 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.46' @ 12.28 hrs Surf.Area= 2,795 sf Storage= 4,582 cf

Plug-Flow detention time= 7.6 min calculated for 1.286 af (100% of inflow)
Center-of-Mass det. time= 6.7 min (757.6 - 750.9)

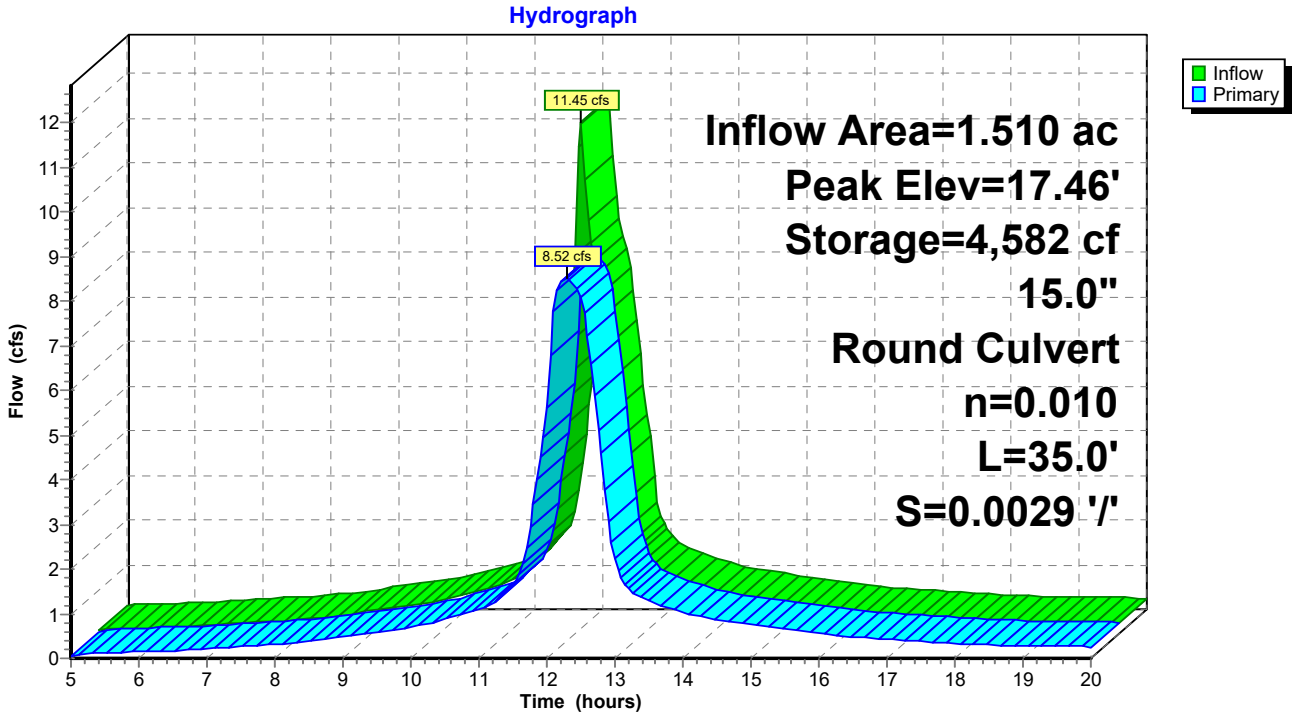
Volume	Invert	Avail.Storage	Storage Description
#1	14.75'	7,100 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
14.75	0	0.0	0	0	0
15.00	1,015	165.0	85	85	2,167
18.25	3,560	325.0	7,016	7,100	8,456

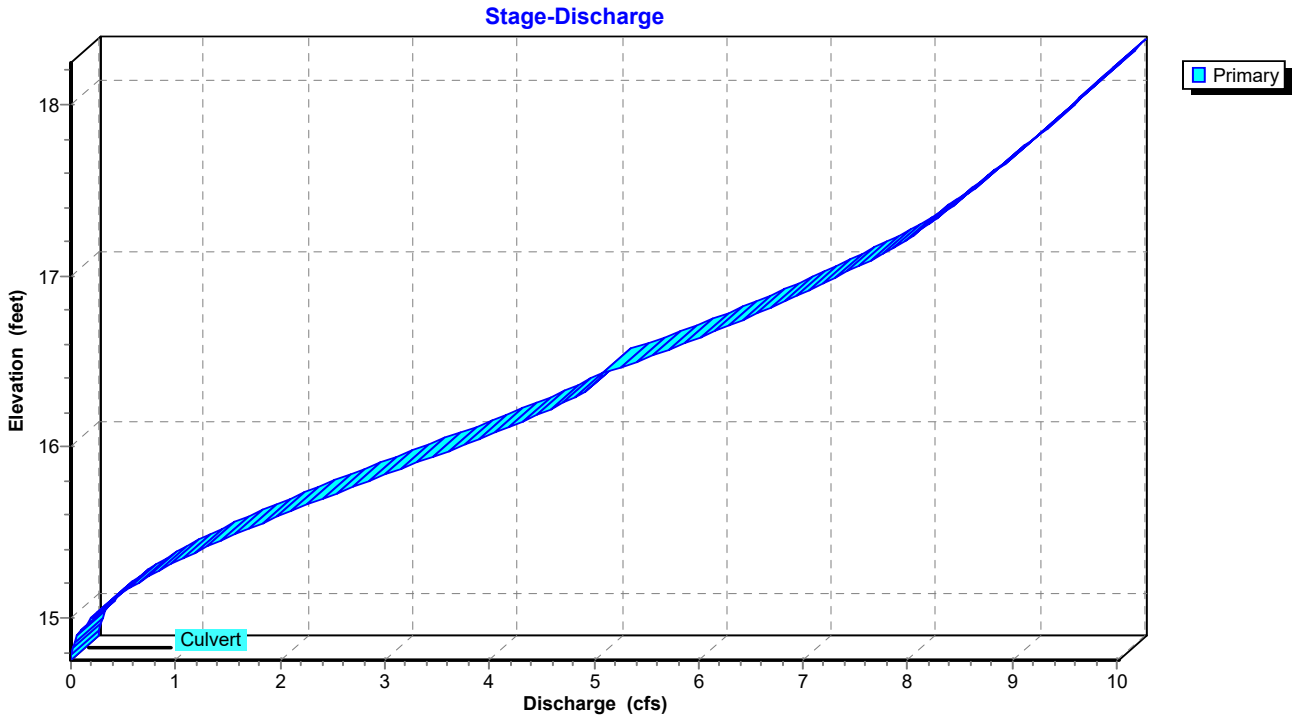
Device	Routing	Invert	Outlet Devices
#1	Primary	14.75'	**15.0" Round Culvert** L= 35.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.75' / 14.65' S= 0.0029 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=8.52 cfs @ 12.28 hrs HW=17.45' (Free Discharge)
↑**1=Culvert** (Inlet Controls 8.52 cfs @ 6.94 fps)

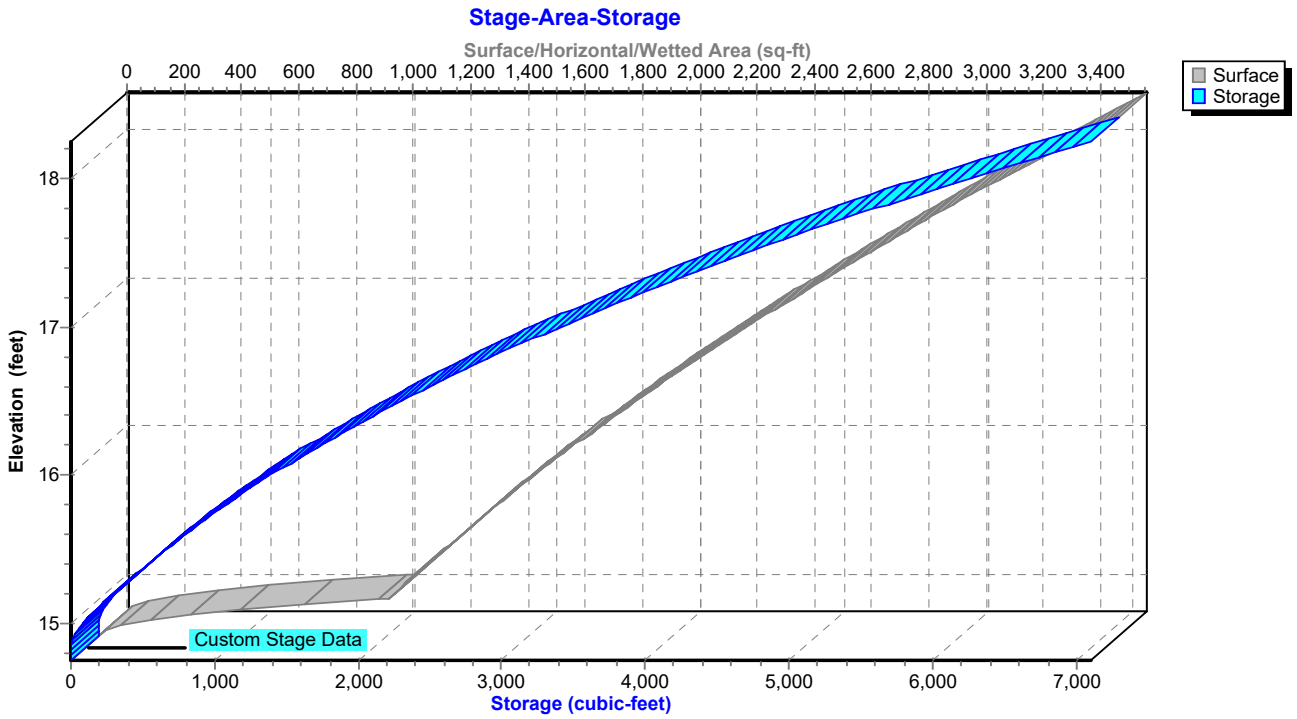
Pond 6P: South - Outfall



Pond 6P: South - Outfall



Pond 6P: South - Outfall



Hydrograph for Pond 6P: South - Outfall

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.07	4	14.84	0.03
5.50	0.12	37	14.94	0.12
6.00	0.15	48	14.96	0.14
6.50	0.18	64	14.98	0.17
7.00	0.23	88	15.00	0.21
7.50	0.27	115	15.03	0.26
8.00	0.32	142	15.06	0.31
8.50	0.41	180	15.09	0.38
9.00	0.51	229	15.14	0.48
9.50	0.62	277	15.18	0.59
10.00	0.73	326	15.22	0.70
10.50	0.92	395	15.28	0.88
11.00	1.15	480	15.35	1.10
11.50	1.81	677	15.51	1.66
12.00	**8.48**	**2,399**	**16.55**	**5.63**
12.50	**6.47**	**4,004**	**17.24**	**8.07**
13.00	1.68	870	15.65	2.22
13.50	1.22	546	15.41	1.28
14.00	0.99	455	15.33	1.03
14.50	0.85	393	15.28	0.87
15.00	0.74	349	15.24	0.76
15.50	0.63	305	15.21	0.65
16.00	0.52	260	15.17	0.55
16.50	0.46	225	15.13	0.47
17.00	0.41	201	15.11	0.42
17.50	0.36	178	15.09	0.37
18.00	0.31	154	15.07	0.33
18.50	0.29	137	15.05	0.30
19.00	0.28	129	15.04	0.28
19.50	0.26	121	15.04	0.27
20.00	0.25	113	15.03	0.25

Stage-Discharge for Pond 6P: South - Outfall

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
14.75	0.00	15.79	2.81	16.83	6.74	17.87	9.33
14.77	0.00	15.81	2.89	16.85	6.82	17.89	9.37
14.79	0.00	15.83	2.98	16.87	6.89	17.91	9.41
14.81	0.01	15.85	3.07	16.89	6.96	17.93	9.44
14.83	0.02	15.87	3.15	16.91	7.03	17.95	9.48
14.85	0.03	15.89	3.24	16.93	7.10	17.97	9.52
14.87	0.05	15.91	3.33	16.95	7.17	17.99	9.56
14.89	0.06	15.93	3.41	16.97	7.23	18.01	9.59
14.91	0.08	15.95	3.50	16.99	7.30	18.03	9.63
14.93	0.11	15.97	3.59	17.01	7.37	18.05	9.66
14.95	0.13	15.99	3.67	17.03	7.43	18.07	9.70
14.97	0.16	16.01	3.76	17.05	7.50	18.09	9.74
14.99	0.19	16.03	3.84	17.07	7.56	18.11	9.77
15.01	0.22	16.05	3.93	17.09	7.63	18.13	9.81
15.03	0.26	16.07	4.01	17.11	7.69	18.15	9.84
15.05	0.29	16.09	4.09	17.13	7.76	18.17	9.88
15.07	0.33	16.11	4.17	17.15	7.82	18.19	9.91
15.09	0.37	16.13	4.25	17.17	7.88	18.21	9.95
15.11	0.42	16.15	4.33	17.19	7.94	18.23	9.98
15.13	0.46	16.17	4.41	17.21	8.00	18.25	**10.02**
15.15	0.51	16.19	4.48	17.23	8.05		
15.17	0.56	16.21	4.55	17.25	8.09		
15.19	0.61	16.23	4.62	17.27	8.13		
15.21	0.67	16.25	4.69	17.29	8.18		
15.23	0.72	16.27	4.75	17.31	8.22		
15.25	0.78	16.29	4.82	17.33	8.26		
15.27	0.84	16.31	4.87	17.35	8.30		
15.29	0.90	16.33	4.92	17.37	8.35		
15.31	0.96	16.35	4.97	17.39	8.39		
15.33	1.02	16.37	5.01	17.41	8.43		
15.35	1.09	16.39	5.04	17.43	8.47		
15.37	1.15	16.41	5.05	17.45	8.51		
15.39	1.22	16.43	5.09	17.47	8.55		
15.41	1.29	16.45	5.19	17.49	8.59		
15.43	1.36	16.47	5.28	17.51	8.63		
15.45	1.43	16.49	5.37	17.53	8.67		
15.47	1.51	16.51	5.46	17.55	8.71		
15.49	1.58	16.53	5.55	17.57	8.75		
15.51	1.66	16.55	5.64	17.59	8.79		
15.53	1.73	16.57	5.72	17.61	8.83		
15.55	1.81	16.59	5.81	17.63	8.87		
15.57	1.89	16.61	5.89	17.65	8.91		
15.59	1.97	16.63	5.98	17.67	8.95		
15.61	2.05	16.65	6.06	17.69	8.99		
15.63	2.13	16.67	6.14	17.71	9.03		
15.65	2.21	16.69	6.22	17.73	9.07		
15.67	2.30	16.71	6.29	17.75	9.11		
15.69	2.38	16.73	6.37	17.77	9.14		
15.71	2.46	16.75	6.45	17.79	9.18		
15.73	2.55	16.77	6.52	17.81	9.22		
15.75	2.63	16.79	6.60	17.83	9.26		
15.77	2.72	16.81	6.67	17.85	9.30		

Stage-Area-Storage for Pond 6P: South - Outfall

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
14.75	0	0
14.80	41	1
14.85	162	5
14.90	365	18
14.95	650	43
15.00	1,015	85
15.05	1,042	136
15.10	1,070	189
15.15	1,098	243
15.20	1,127	299
15.25	1,156	356
15.30	1,185	414
15.35	1,215	474
15.40	1,245	536
15.45	1,275	599
15.50	1,306	663
15.55	1,337	729
15.60	1,368	797
15.65	1,400	866
15.70	1,432	937
15.75	1,465	1,009
15.80	1,498	1,084
15.85	1,531	1,159
15.90	1,565	1,237
15.95	1,599	1,316
16.00	1,633	1,397
16.05	1,668	1,479
16.10	1,703	1,563
16.15	1,739	1,649
16.20	1,775	1,737
16.25	1,811	1,827
16.30	1,847	1,918
16.35	1,884	2,012
16.40	1,922	2,107
16.45	1,959	2,204
16.50	1,997	2,303
16.55	2,036	2,404
16.60	2,075	2,506
16.65	2,114	2,611
16.70	2,153	2,718
16.75	2,193	2,826
16.80	2,233	2,937
16.85	2,274	3,050
16.90	2,315	3,164
16.95	2,356	3,281
17.00	2,398	3,400
17.05	2,440	3,521
17.10	2,483	3,644
17.15	2,525	3,769
17.20	2,569	3,897
17.25	2,612	4,026
17.30	2,656	4,158
17.35	2,700	4,292
17.40	2,745	4,428
17.45	2,790	4,566
17.50	2,835	4,707
17.55	2,881	4,850
17.60	2,927	4,995
17.65	2,974	5,143
17.70	3,021	5,293
17.75	3,068	5,445
17.80	3,115	5,599
17.85	3,163	5,756
17.90	3,212	5,916
17.95	3,260	6,077
18.00	3,309	6,242
18.05	3,359	6,408
18.10	3,408	6,578
18.15	3,459	6,749
18.20	3,509	6,923
18.25	**3,560**	**7,100**

Summary for Pond 7P: West

Inflow Area = 0.700 ac, 64.29% Impervious, Inflow Depth > 10.47" for 100-Year event
Inflow = 8.41 cfs @ 12.07 hrs, Volume= 0.611 af
Outflow = 4.31 cfs @ 12.21 hrs, Volume= 0.611 af, Atten= 49%, Lag= 8.3 min
Primary = 4.31 cfs @ 12.21 hrs, Volume= 0.611 af
Routed to Pond 6P : South - Outfall

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.99' @ 12.21 hrs Surf.Area= 3,567 sf Storage= 3,122 cf

Plug-Flow detention time= 4.2 min calculated for 0.609 af (100% of inflow)
Center-of-Mass det. time= 4.1 min (747.3 - 743.2)

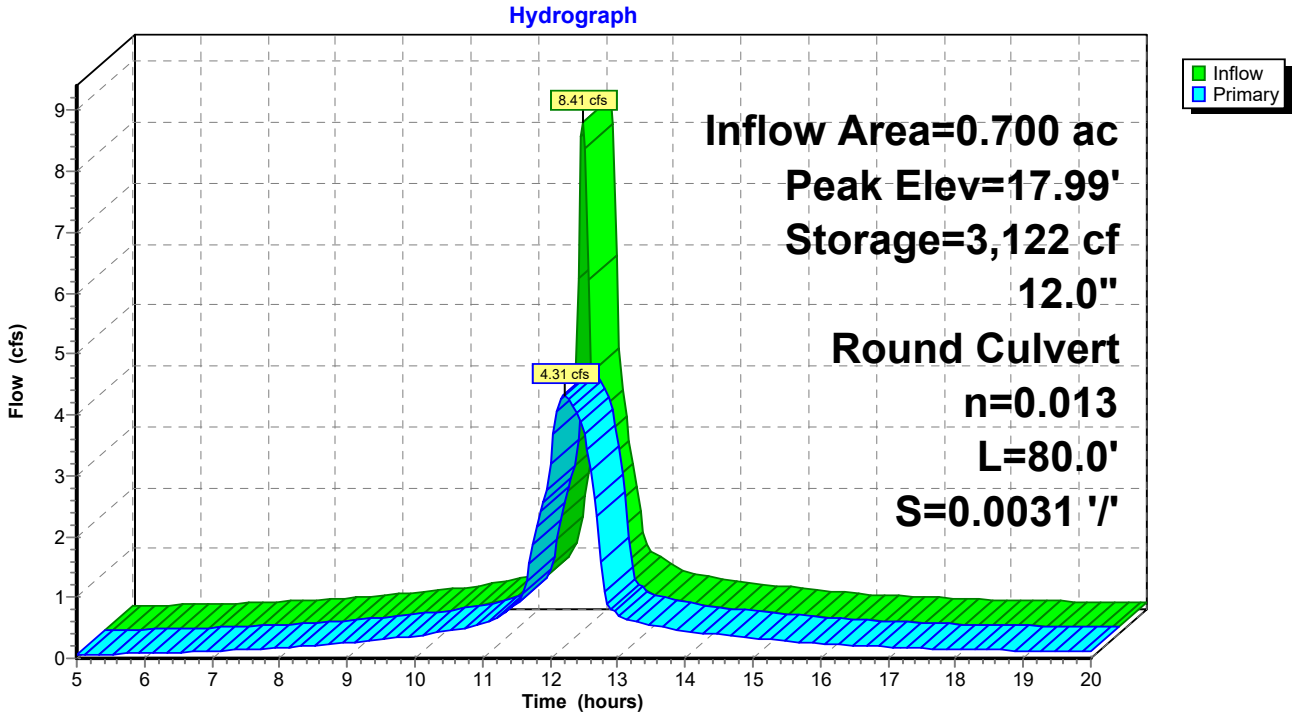
Volume	Invert	Avail.Storage	Storage Description
#1	15.50'	4,155 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.50	0	0.0	0	0	0
16.00	285	105.0	48	48	878
17.00	1,330	260.0	744	791	5,384
18.25	4,340	440.0	3,364	4,155	15,420

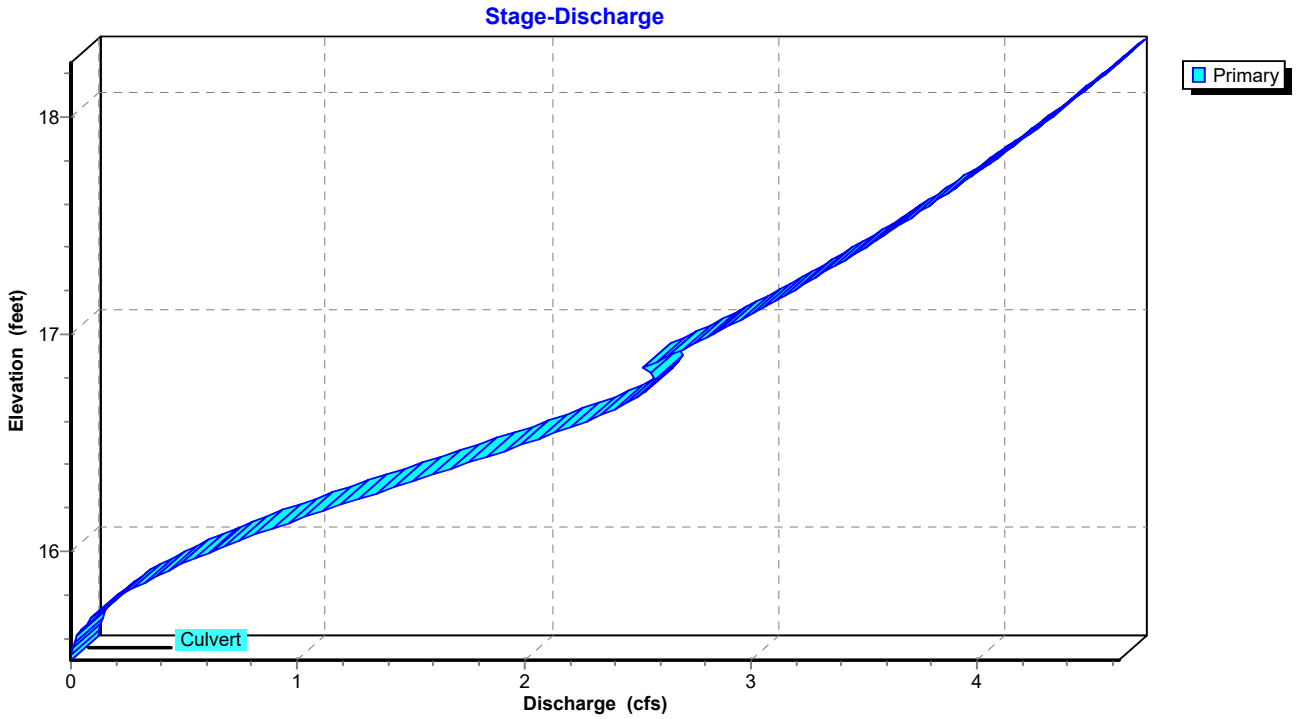
Device	Routing	Invert	Outlet Devices
#1	Primary	15.50'	**12.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 15.50' / 15.25' S= 0.0031 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.31 cfs @ 12.21 hrs HW=17.98' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 4.31 cfs @ 5.49 fps)

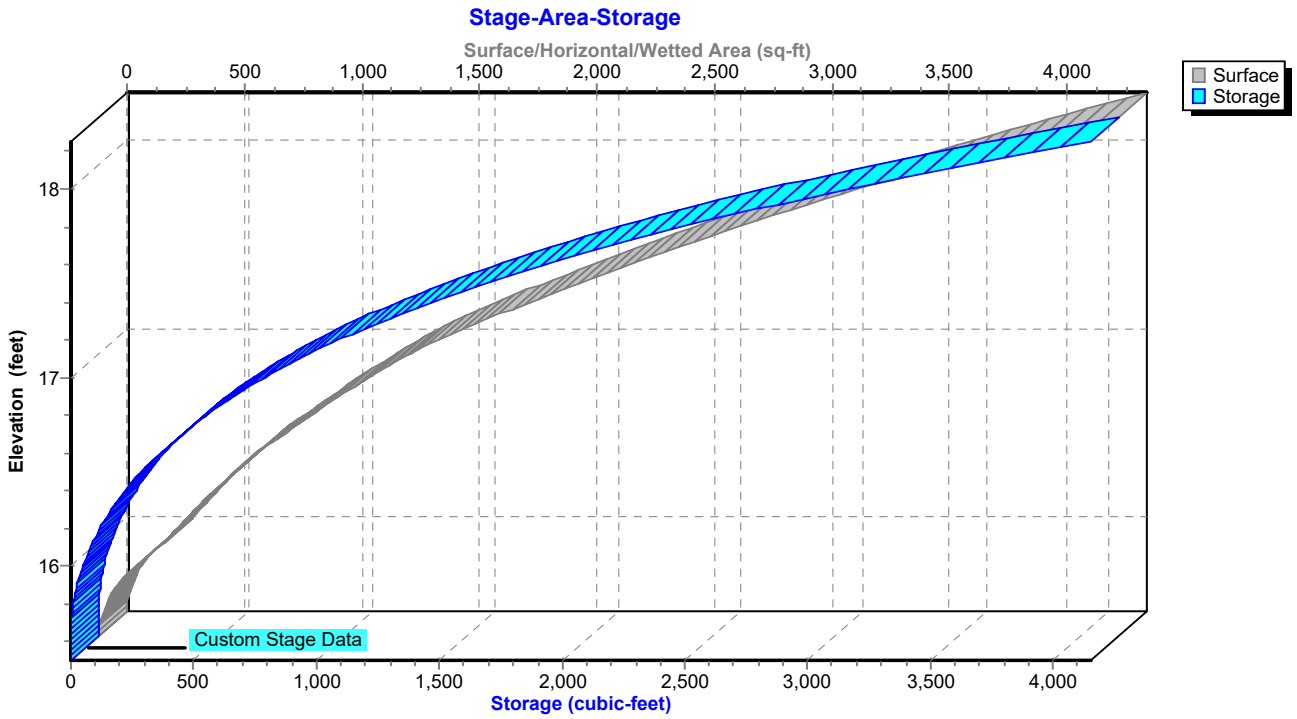
Pond 7P: West



Pond 7P: West



Pond 7P: West


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Surface
Storage
18
17
16
Elevation (feet)
Custom Stage Data
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Storage (cubic-feet)

Hydrograph for Pond 7P: West

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
5.00	0.06	1	15.64	0.05
5.50	0.07	2	15.67	0.07
6.00	0.08	2	15.68	0.08
6.50	0.10	3	15.70	0.10
7.00	0.12	4	15.72	0.12
7.50	0.14	5	15.74	0.14
8.00	0.17	6	15.75	0.16
8.50	0.21	9	15.79	0.21
9.00	0.26	12	15.82	0.26
9.50	0.31	16	15.85	0.31
10.00	0.37	20	15.88	0.36
10.50	0.46	29	15.92	0.46
11.00	0.57	40	15.97	0.56
11.50	0.92	81	16.10	0.89
12.00	**5.85**	**1,090**	**17.20**	**3.19**
12.50	**1.62**	**1,732**	**17.52**	**3.68**
13.00	0.70	60	16.04	0.73
13.50	0.55	39	15.97	0.55
14.00	0.44	28	15.92	0.45
14.50	0.38	23	15.89	0.39
15.00	0.33	18	15.86	0.34
15.50	0.28	14	15.84	0.29
16.00	0.23	11	15.80	0.24
16.50	0.21	9	15.79	0.21
17.00	0.19	8	15.77	0.19
17.50	0.16	6	15.76	0.17
18.00	0.14	5	15.74	0.14
18.50	0.13	5	15.73	0.13
19.00	0.13	4	15.73	0.13
19.50	0.12	4	15.72	0.12
20.00	0.11	4	15.71	0.11

Stage-Discharge for Pond 7P: West

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
15.50	0.00	16.54	2.13	17.58	3.77
15.52	0.00	16.56	2.18	17.60	3.80
15.54	0.00	16.58	2.23	17.62	3.83
15.56	0.01	16.60	2.28	17.64	3.86
15.58	0.01	16.62	2.32	17.66	3.88
15.60	0.02	16.64	2.37	17.68	3.91
15.62	0.03	16.66	2.41	17.70	3.94
15.64	0.05	16.68	2.45	17.72	3.97
15.66	0.06	16.70	2.48	17.74	3.99
15.68	0.08	16.72	2.51	17.76	4.02
15.70	0.10	16.74	2.54	17.78	4.05
15.72	0.12	16.76	2.56	17.80	4.07
15.74	0.15	16.78	2.57	17.82	4.10
15.76	0.17	16.80	2.58	17.84	4.13
15.78	0.20	16.82	2.56	17.86	4.15
15.80	0.23	16.84	2.51	17.88	4.18
15.82	0.26	16.86	2.56	17.90	4.20
15.84	0.29	16.88	2.60	17.92	4.23
15.86	0.33	16.90	2.64	17.94	4.25
15.88	0.37	16.92	2.68	17.96	4.28
15.90	0.41	16.94	2.72	17.98	4.30
15.92	0.45	16.96	2.76	18.00	4.33
15.94	0.49	16.98	2.80	18.02	4.35
15.96	0.53	17.00	2.83	18.04	4.38
15.98	0.58	17.02	2.87	18.06	4.40
16.00	0.62	17.04	2.91	18.08	4.43
16.02	0.67	17.06	2.94	18.10	4.45
16.04	0.72	17.08	2.98	18.12	4.47
16.06	0.77	17.10	3.02	18.14	4.50
16.08	0.82	17.12	3.05	18.16	4.52
16.10	0.87	17.14	3.09	18.18	4.54
16.12	0.93	17.16	3.12	18.20	4.57
16.14	0.98	17.18	3.15	18.22	4.59
16.16	1.04	17.20	3.19	18.24	**4.61**
16.18	1.09	17.22	3.22		
16.20	1.15	17.24	3.26		
16.22	1.21	17.26	3.29		
16.24	1.26	17.28	3.32		
16.26	1.32	17.30	3.35		
16.28	1.38	17.32	3.38		
16.30	1.44	17.34	3.42		
16.32	1.50	17.36	3.45		
16.34	1.56	17.38	3.48		
16.36	1.62	17.40	3.51		
16.38	1.68	17.42	3.54		
16.40	1.73	17.44	3.57		
16.42	1.79	17.46	3.60		
16.44	1.85	17.48	3.63		
16.46	1.91	17.50	3.66		
16.48	1.96	17.52	3.69		
16.50	2.02	17.54	3.72		
16.52	2.07	17.56	3.74		

Stage-Area-Storage for Pond 7P: West

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
15.50	0	0
15.55	3	0
15.60	11	0
15.65	26	1
15.70	46	3
15.75	71	6
15.80	103	10
15.85	140	16
15.90	182	24
15.95	231	35
16.00	285	48
16.05	319	63
16.10	355	79
16.15	393	98
16.20	433	119
16.25	474	141
16.30	518	166
16.35	563	193
16.40	611	223
16.45	660	254
16.50	712	289
16.55	765	326
16.60	820	365
16.65	877	408
16.70	936	453
16.75	997	501
16.80	1,060	553
16.85	1,124	607
16.90	1,191	665
16.95	1,260	726
17.00	1,330	791
17.05	1,417	860
17.10	1,507	933
17.15	1,600	1,010
17.20	1,695	1,093
17.25	1,794	1,180
17.30	1,895	1,272
17.35	1,998	1,370
17.40	2,105	1,472
17.45	2,214	1,580
17.50	2,326	1,694
17.55	2,441	1,813
17.60	2,559	1,938
17.65	2,679	2,069
17.70	2,802	2,206
17.75	2,928	2,349
17.80	3,057	2,499
17.85	3,189	2,655
17.90	3,323	2,818
17.95	3,460	2,987
18.00	3,600	3,164
18.05	3,742	3,347
18.10	3,887	3,538
18.15	4,036	3,736
18.20	4,186	3,941
18.25	**4,340**	**4,155**

Summary for Subcatchment 10S: Post - West

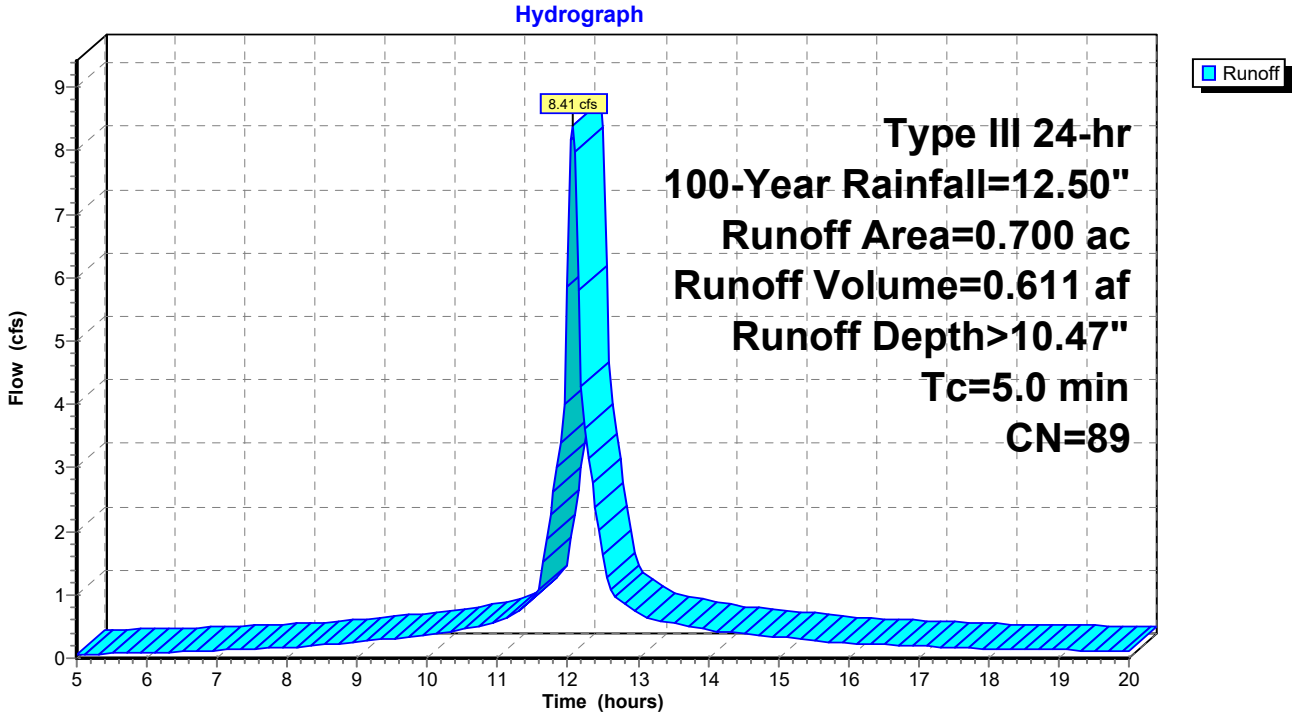
Runoff = 8.41 cfs @ 12.07 hrs, Volume= 0.611 af, Depth>10.47"
Routed to Pond 7P : West

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=12.50"

Area (ac)	CN	Description
0.450	98	Paved parking, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.700	89	Weighted Average
0.250		35.71% Pervious Area
0.450		64.29% Impervious Area

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

Subcatchment 10S: Post - West



Hydrograph for Subcatchment 10S: Post - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.71	0.13	0.06
5.25	0.76	0.15	0.06
5.50	0.80	0.17	0.07
5.75	0.85	0.20	0.07
6.00	0.90	0.23	0.08
6.25	0.95	0.26	0.09
6.50	1.01	0.29	0.10
6.75	1.07	0.33	0.11
7.00	1.13	0.37	0.12
7.25	1.20	0.41	0.13
7.50	1.27	0.46	0.14
7.75	1.35	0.52	0.15
8.00	1.43	0.57	0.17
8.25	1.51	0.64	0.19
8.50	1.61	0.71	0.21
8.75	1.71	0.79	0.23
9.00	1.82	0.88	0.26
9.25	1.94	0.98	0.28
9.50	2.07	1.09	0.31
9.75	2.21	1.21	0.34
10.00	2.36	1.34	0.37
10.25	2.53	1.48	0.41
10.50	2.71	1.64	0.46
10.75	2.91	1.82	0.51
11.00	3.13	2.01	0.57
11.25	3.39	2.25	0.72
11.50	3.73	2.57	0.92
11.75	4.44	3.24	2.25
12.00	6.25	4.98	**5.85**
12.25	8.06	6.75	**3.61**
12.50	8.78	7.45	1.62
12.75	9.11	7.78	0.90
13.00	9.38	8.04	0.70
13.25	9.59	8.25	0.60
13.50	9.79	8.45	0.55
13.75	9.98	8.63	0.50
14.00	10.14	8.79	0.44
14.25	10.29	8.94	0.41
14.50	10.43	9.08	0.38
14.75	10.56	9.21	0.36
15.00	10.68	9.33	0.33
15.25	10.79	9.44	0.31
15.50	10.89	9.54	0.28
15.75	10.99	9.63	0.26
16.00	11.08	9.72	0.23
16.25	11.15	9.80	0.22
16.50	11.23	9.87	0.21
16.75	11.30	9.94	0.20
17.00	11.37	10.01	0.19
17.25	11.43	10.07	0.18
17.50	11.49	10.13	0.16
17.75	11.55	10.19	0.15
18.00	11.60	10.24	0.14
18.25	11.65	10.29	0.14
18.50	11.70	10.33	0.13
18.75	11.74	10.38	0.13
19.00	11.79	10.43	0.13
19.25	11.84	10.47	0.12
19.50	11.88	10.51	0.12
19.75	11.92	10.56	0.12
20.00	**11.96**	**10.60**	0.11