Engineers, Surveyors, Planners, Scientists

MEMO

Date: February 12, 2015

To: City of Dublin

From: Alex McBride, PE, CFM AJM

Subject: Tuller Flats – Preliminary Stormwater Management Summary

Copies: Scott Shaffer, PE; Bethany Comfort, EI

1.0 INTRODUCTION

The following memo summarizes the preliminary stormwater management plan for the Tuller Flats development in Dublin, Ohio. The site is located southeast of the intersection of Tuller Road and Tuller Ridge Drive. The project involves the development of an existing agricultural and grassed area into a proposed multi-family residential area. The proposed development will utilize pervious pavement to address post-construction water quality requirements and will utilize a combination of pervious pavement (stone storage) and underground storm chambers to meet the City's stormwater detention requirements. The site is naturally tributary to the Scioto River which is located approximately 2,000 feet west of the project area. The following paragraphs provide the pre-developed and post-developed site details as well as all assumptions made to complete the preliminary stormwater analysis.

2.0 STORMWATER MANAGEMENT

The 8.89 acre proposed site, as seen in Exhibits 1 and 2, is located in Subareas 2030, 2140, 2150, and 2160 of the East Unconsolidated watershed as defined by the City of Dublin Stormwater Master Plan. Table 1 shows the allowable release rates to the Scioto River, which were established in the above-mentioned stormwater master plan. The pre-developed condition of the project area, represented by Pre-Developed 01, consists of predominantly agricultural land use and grassed areas in Type "C" Soils (Celina Silt Loam, Miamian Silt Loam, Kokomo Silty Clay Loam) which corresponds to a composite Runoff Curve Number of 77. Pre-Developed 01 has an area of 8.89 acres. The time of concentration for Pre-Developed 01 is 25.4 minutes.

In the post-developed condition, as shown in Exhibit 2 in Appendix D, the 8.89 acre development is distributed between nine development blocks as summarized in Table 2. Composite Runoff Curve Numbers were calculated assuming impervious areas at RCN=98 and pervious areas at RCN=74. The post-developed time of concentrations for the development blocks were conservatively assumed to be 5 minutes. The proposed site will be graded so that no offsite area is tributary to any of the development blocks. This analysis reflects the NRCS Type II distribution, 24-hr storm duration. Rainfall depths were obtained from the City of Dublin Stormwater

Management Design Manual. The peak flow rates were computed using the HydroCAD 10.0 Computer Program.

Table 1
Allowable Release Rates

Allowable Release Rates per Acre *East Unconsolidated*

Sub-Basin	1-year	2-year	5-year	10-year	25-year	50-year	100-year
2030	1.3	1.6	2.2	2.7	3.5	4.5	5.5
2140	0.5	0.6	0.8	0.9	1.1	1.4	1.7
2150	1.1	1.4	1.8	2.1	2.6	3.2	3.9
2160	1.2	1.5	1.9	2.2	2.7	3.4	4.1

Post-Developed Area per Sub-Basin

Sub-Basin	Area (Acres)
2030	0.48
2140	6.02
2150	2.38
2160	0.02

Allowable Release Rates per Acre *East Unconsolidated*

Sub-Basin	1-year	2-year	5-year	10-year	25-year	50-year	100-year
740	0.62	0.77	1.06	1.30	1.68	2.16	2.64
760	3.01	3.61	4.82	5.42	6.62	8.43	10.23
740	2.62	3.33	4.28	5.00	6.19	7.62	9.28
760	0.02	0.03	0.04	0.04	0.05	0.07	0.08
Total	6.28	7.74	10.19	11.76	14.54	18.27	22.24

Table 2
Post-developed Subarea Characteristics

Development Block	Tributary Area (acres)	Percent Impervious	Runoff Curve Number	Time of Concentration (minutes)
A	0.54	96.0%	97	5
B	0.53	94.6%	97	5
C	1.64	62.3%	89	5
E	1.85	88.2%	95	5
F	1.82	86.9%	95	5
G	0.72	92.4%	96	5
H	0.51	92.8%	96	5
I	0.61	90.6%	96	5
J	0.67	95.2%	97	5
Total	**8.89**	**85.3%**	**94**	**-**

There is a 183% increase in the 1-year runoff volumes from the pre-developed to post-developed condition, which yields a 25-year critical storm.

$$\% \text{ Increase} = [(1.174 - 0.415)/0.415] \times 100 = 183\%$$

25-Year Critical Storm

To meet the City's stormwater detention requirements, pervious pavement (gravel storage below the pavement) supplemented with a StormTech underground detention system will be utilized within each development block. For the preliminary stormwater analysis, the total allowable release rate from the 8.89 acre development was pro-rated for each development block so that each block would be designed to provide the correct proportion of detention storage volume based on the respective tributary area. The preliminary stormwater management calculations used "dummy" detention basins to calculate the required detention storage volume and all of the storage areas assume a relative bottom invert of elevation 100.00 for preliminary modeling purposes. The amount of the supplemental StormTech detention storage volume was calculated by subtracting the available storage volume within the pervious pavement stone storage (assumed 35% voids) from the calculated total required detention storage volume for each block. These calculations are summarized in Appendix A and the HydroCAD modeling output is included in Appendix C.

The outlet structure for each of the underground detention areas will utilize a multi-stage outlet that will in most cases consist of multiple orifices drilled into a riser pipe to control the water quality drawdown (described in Section 3.0) as well as meet allowable release rates. The outlet structure descriptions for each of the "dummy" detention basins are included in the HydroCAD output in Appendix C. The allowable and proposed release rates for the 8.89 acre development are summarized in Table 3.

Table 3
Proposed Release Rates

Storm Event (year)	Pre-Developed 01 Peak Flow Rates* (cfs)	Allowable Release Rates** (cfs)	Proposed Release Rates*** (cfs)	Detention Volume Utilized (acre-feet)
1	4.22	<6.28	2.36	-
2	6.57	<6.28	3.22	-
5	10.28	<6.28	4.17	-
10	13.57	<6.28	4.82	-
25	18.42	6.28	5.62	-
50	22.58	18.27	12.44	-
100	27.07	22.24	17.49	1.869

*Calculated by EMH&T and taken from the HydroCAD model.
**Allowable Release Rates values can be found in Table 1 with critical storm requirements applied.
***Proposed Release Rates values are equal to the combined discharges from Blocks A through J.

Total Detention Storage Volume Required: 1.869 acre-feet (100-year)
Total Detention Storage Volume Provided: 1.980 acre-feet

3.0 POST-CONSTRUCTION WATER QUALITY

The proposed development will utilize pervious pavement supplemented with additional below ground storage (StormTech chambers embedded in gravel storage) to meet post-construction water quality requirements. The Ohio EPA requires that the water quality volume be detained for a period of 24 hours while releasing less than half of that volume in the first 8 hours. The proposed pervious pavers within each development block will treat the water quality volume calculated for each respective development block. The water quality calculations and drawdown graphs are included in Appendix B. The proposed pervious paver areas will be designed to comply with the ODNR and Ohio EPA Pervious Pavement specification found in Section 2.11 of the ODNR Rainwater and Land Development Manual.

4.0 CONCLUSION

The above stormwater management plan was designed to meet both the requirements of the City of Dublin and the Ohio EPA. It should be noted that the proposed detention volume and release rates are based on preliminary engineering and are subject to change with final engineering.

APPENDIX A:

Required and Provided Detention Storage Summary

Required and Provided Detention Storage Summary

	Pervious Pavement Total Area (Acres)	Pervious Pavement Total Area (S.F.)	Total Volume (Assume 5' Depth) (C.F.)	Volume (35% Void Space) (C.F.)	Total Required Storage Volume (C.F.)	Storage Provided by Pervious Pavement (C.F.)	Remaining Storage Provided by StormTech (C.F.)	Required No. of SC-740 Chambers	Minimum SC-740 Footprint (Ft^2)
Block A	0.03	1306.8	6534	2286.9	5650	2286.9	3363.1	48	1623
Block B	0.03	1306.8	6534	2286.9	5500	2286.9	3213.1	45	1521
Block C	0.05	2178	10890	3811.5	13300	3811.5	9488.5	134	4530
Block D									
Block E	0.24	10454.4	52272	18295.2	18300	18295.2	4.8	None	None
Block F	0.18	7840.8	39204	13721.4	17800	13721.4	4078.6	58	1961
Block G	0.06	2613.6	13068	4573.8	7200	4573.8	2626.2	38	1285
Block H	0.03	1306.8	6534	2286.9	5300	2286.9	3013.1	44	1487
Block I	0.04	1742.4	8712	3049.2	6200	3049.2	3150.8	45	1521
Block J	0.05	2178	10890	3811.5	7000	3811.5	3188.5	45	1521

APPENDIX B:

Water Quality Calculations

Water Quality Volume Calculation Spreadsheet

Project Name: Tuller Flats

Block A

Area =		0.54 acres
% imp =		0.95
C =		0.80
WQv =		0.027 ac-ft
	or...	1175 ft^3

Block B

Area =		0.53 acres
% imp =		0.95
C =		0.80
WQv =		0.026 ac-ft
	or...	1153 ft^3

Block C

Area =		1.64 acres
% imp =		0.62
C =		0.43
WQv =		0.044 ac-ft
	or...	1906 ft^3

Block E

Area =		1.85 acres
% imp =		0.88
C =		0.70
WQv =		0.081 ac-ft
	or...	3549 ft^3

Block F

Area =		1.82 acres
% imp =		0.87
C =		0.69
WQv =		0.078 ac-ft
	or...	3402 ft^3

Block G

Area =		0.72 acres
% imp =		0.92
C =		0.77
WQv =		0.034 ac-ft
	or...	1502 ft^3

Block H

Area =		0.51 acres
% imp =		0.93
C =		0.77
WQv =		0.025 ac-ft
	or...	1072 ft^3

Block I

Area =		0.61 acres
% imp =		0.91
C =		0.74
WQv =		0.028 ac-ft
	or...	1227 ft^3

Block J

Area =		0.67 acres
% imp =		0.95
C =		0.80
WQv =		0.033 ac-ft
	or...	1457 ft^3

Water quality volume calculated using the Ohio EPA formula CPA/12

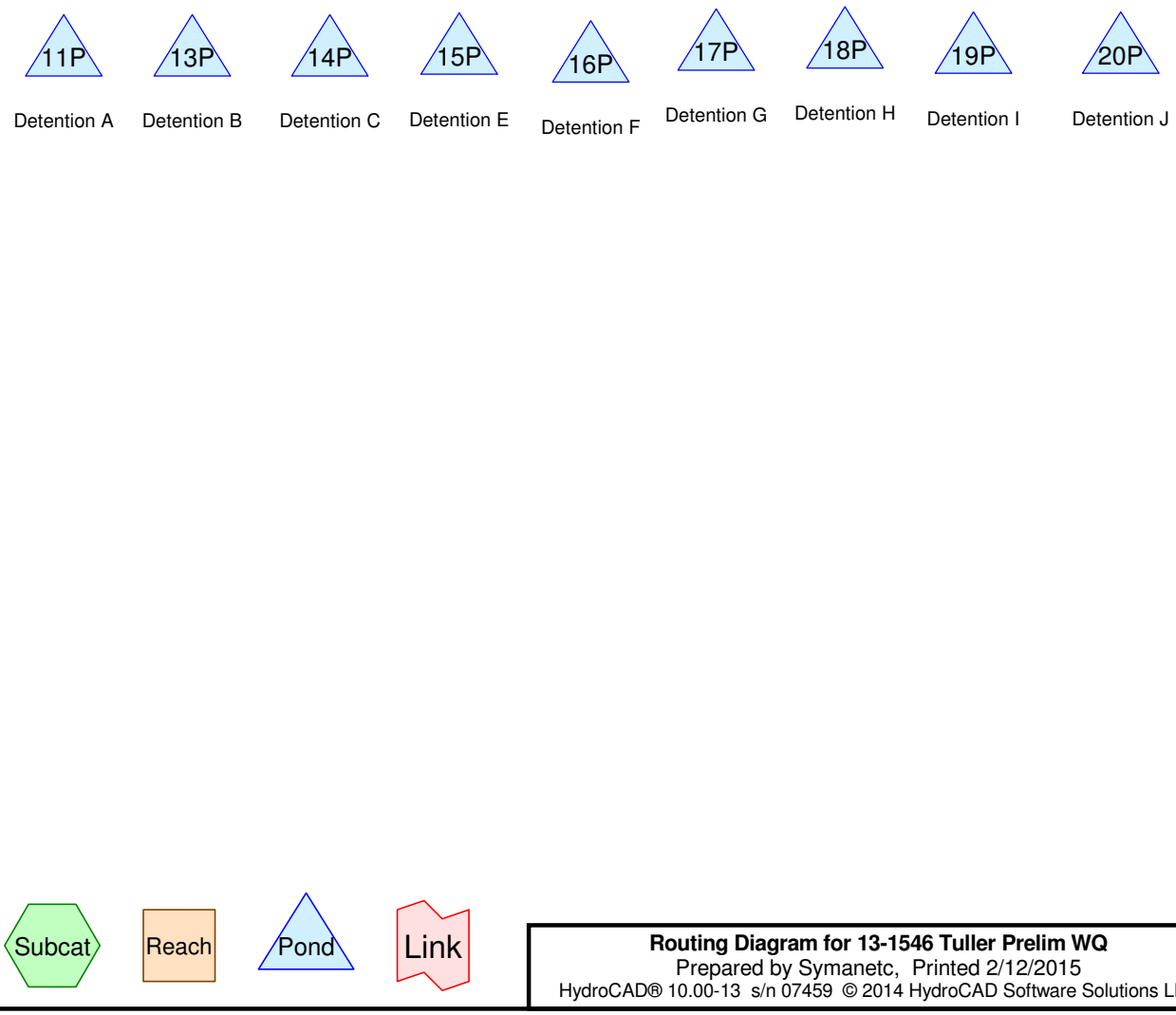
The "C" coefficient was calculated using the ASCE method

C= 0.858i^3 - 0.778i^2 + 0.774i + 0.04

Ohio EPA formula

WQv = CPA/12

A = area (acres)
P = 0.75"
C = (see above)



Routing Diagram for 13-1546 Tuller Prelim WQ
Prepared by Symanetc, Printed 2/12/2015
HydroCAD® 10.00-13 s/n 07459 © 2014 HydroCAD Software Solutions LLC

Summary for Pond 11P: Detention A

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.01 cfs @	0.00 hrs,	Volume=	0.027 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.01 cfs @	0.00 hrs,	Volume=	0.027 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.90' Surf.Area= 1,307 sf Storage= 1,176 cf
Peak Elev= 100.90' @ 0.00 hrs Surf.Area= 1,307 sf Storage= 1,176 cf

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

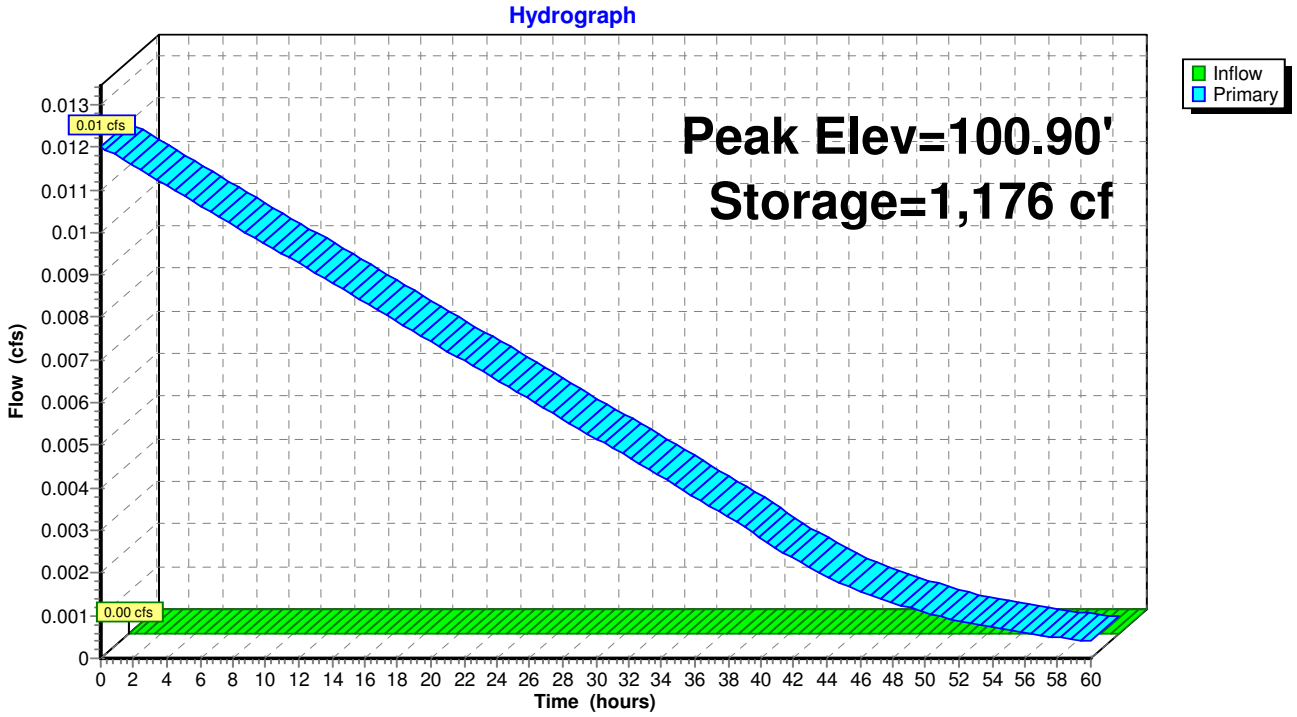
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.01 cfs @ 0.00 hrs HW=100.90' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.01 cfs @ 4.49 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 11P: Detention A



Hydrograph for Pond 11P: Detention A

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,176**	**100.90**	**0.01**
2.00	0.00	1,091	100.84	0.01
4.00	0.00	1,010	100.77	0.01
6.00	0.00	932	100.71	0.01
8.00	0.00	857	100.66	0.01
10.00	0.00	785	100.60	0.01
12.00	0.00	717	100.55	0.01
14.00	0.00	652	100.50	0.01
16.00	0.00	590	100.45	0.01
18.00	0.00	531	100.41	0.01
20.00	0.00	476	100.36	0.01
22.00	0.00	424	100.32	0.01
24.00	0.00	375	100.29	0.01
26.00	0.00	330	100.25	0.01
28.00	0.00	288	100.22	0.01
30.00	0.00	249	100.19	0.01
32.00	0.00	214	100.16	0.00
34.00	0.00	181	100.14	0.00
36.00	0.00	152	100.12	0.00
38.00	0.00	127	100.10	0.00
40.00	0.00	105	100.08	0.00
42.00	0.00	86	100.07	0.00
44.00	0.00	71	100.05	0.00
46.00	0.00	58	100.04	0.00
48.00	0.00	48	100.04	0.00
50.00	0.00	39	100.03	0.00
52.00	0.00	32	100.02	0.00
54.00	0.00	27	100.02	0.00
56.00	0.00	22	100.02	0.00
58.00	0.00	18	100.01	0.00
60.00	0.00	15	100.01	0.00

Summary for Pond 13P: Detention B

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.01 cfs @	0.00 hrs,	Volume=	0.026 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.01 cfs @	0.00 hrs,	Volume=	0.026 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.89' Surf.Area= 1,307 sf Storage= 1,163 cf
Peak Elev= 100.89' @ 0.00 hrs Surf.Area= 1,307 sf Storage= 1,163 cf

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

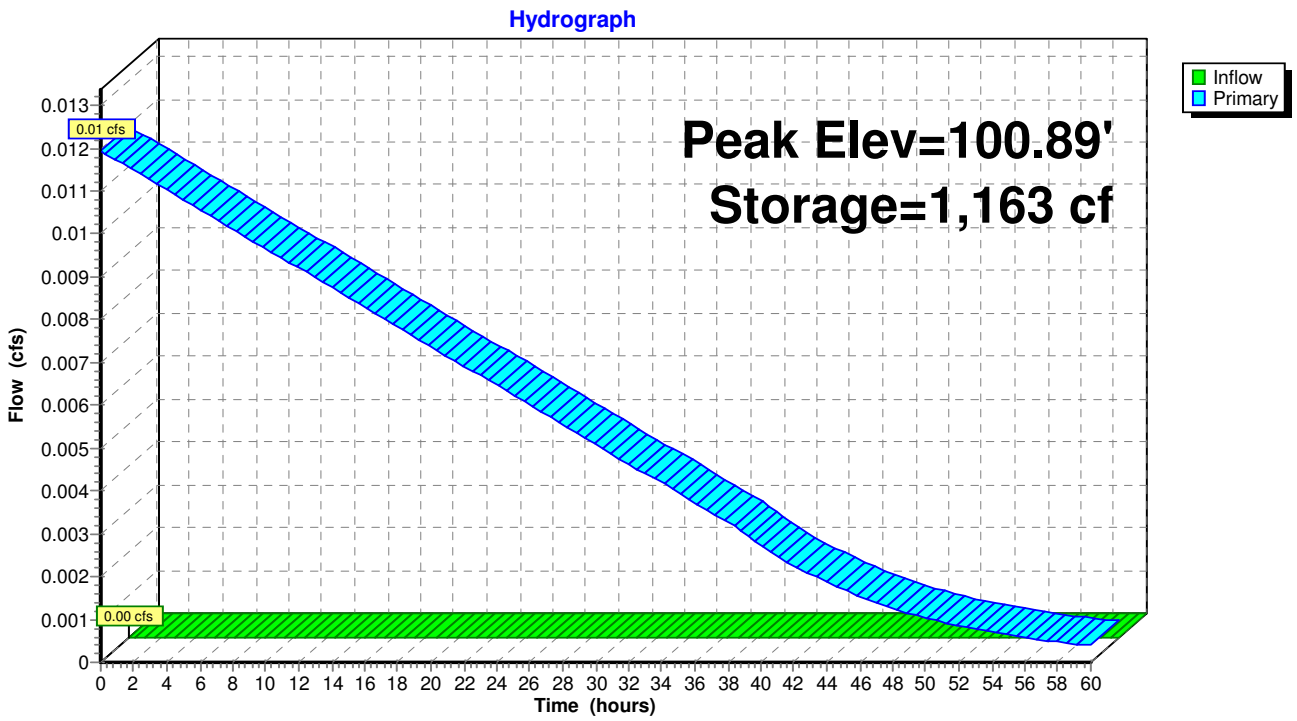
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.01 cfs @ 0.00 hrs HW=100.89' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.01 cfs @ 4.47 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 13P: Detention B



Hydrograph for Pond 13P: Detention B

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,163**	**100.89**	**0.01**
2.00	0.00	1,079	100.83	0.01
4.00	0.00	998	100.76	0.01
6.00	0.00	920	100.70	0.01
8.00	0.00	846	100.65	0.01
10.00	0.00	774	100.59	0.01
12.00	0.00	707	100.54	0.01
14.00	0.00	642	100.49	0.01
16.00	0.00	581	100.44	0.01
18.00	0.00	523	100.40	0.01
20.00	0.00	468	100.36	0.01
22.00	0.00	416	100.32	0.01
24.00	0.00	368	100.28	0.01
26.00	0.00	323	100.25	0.01
28.00	0.00	282	100.22	0.01
30.00	0.00	243	100.19	0.01
32.00	0.00	208	100.16	0.00
34.00	0.00	177	100.14	0.00
36.00	0.00	148	100.11	0.00
38.00	0.00	123	100.09	0.00
40.00	0.00	102	100.08	0.00
42.00	0.00	84	100.06	0.00
44.00	0.00	69	100.05	0.00
46.00	0.00	57	100.04	0.00
48.00	0.00	47	100.04	0.00
50.00	0.00	38	100.03	0.00
52.00	0.00	31	100.02	0.00
54.00	0.00	26	100.02	0.00
56.00	0.00	21	100.02	0.00
58.00	0.00	17	100.01	0.00
60.00	0.00	14	100.01	0.00

Summary for Pond 14P: Detention C

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.04 cfs @	0.00 hrs,	Volume=	0.043 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.04 cfs @	0.00 hrs,	Volume=	0.043 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.44' Surf.Area= 4,356 sf Storage= 1,917 cf
Peak Elev= 100.44' @ 0.00 hrs Surf.Area= 4,356 sf Storage= 1,917 cf

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

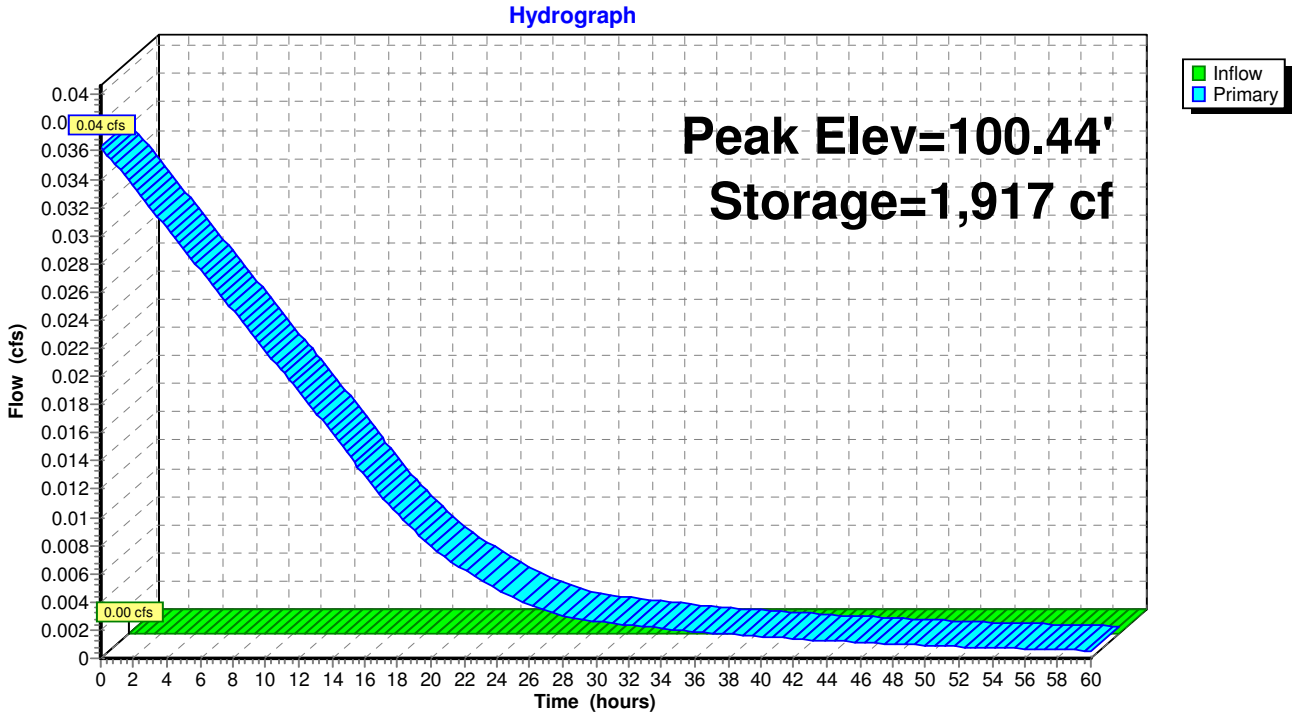
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	19,602 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,356	0	0
104.00	4,356	17,424	17,424
104.50	4,356	2,178	19,602

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.45'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.30'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 0.00 hrs HW=100.44' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 2.96 fps)
├─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 14P: Detention C



Hydrograph for Pond 14P: Detention C

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,917**	**100.44**	**0.04**
2.00	0.00	1,666	100.38	0.03
4.00	0.00	1,436	100.33	0.03
6.00	0.00	1,226	100.28	0.03
8.00	0.00	1,038	100.24	0.02
10.00	0.00	870	100.20	0.02
12.00	0.00	723	100.17	0.02
14.00	0.00	597	100.14	0.02
16.00	0.00	493	100.11	0.01
18.00	0.00	410	100.09	0.01
20.00	0.00	345	100.08	0.01
22.00	0.00	294	100.07	0.01
24.00	0.00	254	100.06	0.00
26.00	0.00	223	100.05	0.00
28.00	0.00	199	100.05	0.00
30.00	0.00	179	100.04	0.00
32.00	0.00	161	100.04	0.00
34.00	0.00	145	100.03	0.00
36.00	0.00	130	100.03	0.00
38.00	0.00	117	100.03	0.00
40.00	0.00	105	100.02	0.00
42.00	0.00	95	100.02	0.00
44.00	0.00	85	100.02	0.00
46.00	0.00	77	100.02	0.00
48.00	0.00	69	100.02	0.00
50.00	0.00	62	100.01	0.00
52.00	0.00	56	100.01	0.00
54.00	0.00	50	100.01	0.00
56.00	0.00	45	100.01	0.00
58.00	0.00	41	100.01	0.00
60.00	0.00	37	100.01	0.00

Summary for Pond 15P: Detention E

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.06 cfs @	0.00 hrs,	Volume=	0.080 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.06 cfs @	0.00 hrs,	Volume=	0.080 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.68' Surf.Area= 5,227 sf Storage= 3,554 cf
Peak Elev= 100.68' @ 0.00 hrs Surf.Area= 5,227 sf Storage= 3,554 cf

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

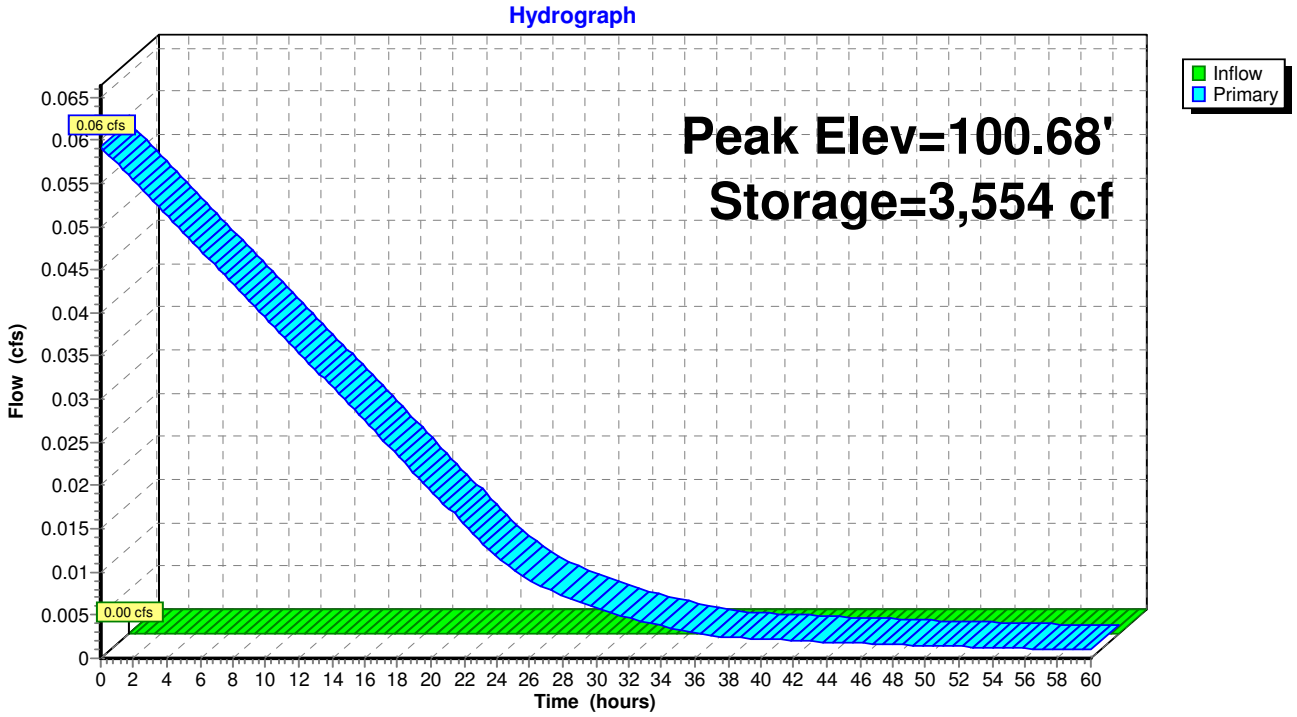
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	20,908 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	5,227	0	0
104.00	5,227	20,908	20,908

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.70'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.75'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.06 cfs @ 0.00 hrs HW=100.68' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 3.76 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 15P: Detention E



Hydrograph for Pond 15P: Detention E

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**3,554**	**100.68**	**0.06**
2.00	0.00	3,142	100.60	0.06
4.00	0.00	2,759	100.53	0.05
6.00	0.00	2,404	100.46	0.05
8.00	0.00	2,077	100.40	0.04
10.00	0.00	1,779	100.34	0.04
12.00	0.00	1,510	100.29	0.04
14.00	0.00	1,269	100.24	0.03
16.00	0.00	1,057	100.20	0.03
18.00	0.00	874	100.17	0.02
20.00	0.00	719	100.14	0.02
22.00	0.00	593	100.11	0.02
24.00	0.00	496	100.09	0.01
26.00	0.00	422	100.08	0.01
28.00	0.00	364	100.07	0.01
30.00	0.00	317	100.06	0.01
32.00	0.00	280	100.05	0.00
34.00	0.00	250	100.05	0.00
36.00	0.00	226	100.04	0.00
38.00	0.00	206	100.04	0.00
40.00	0.00	189	100.04	0.00
42.00	0.00	174	100.03	0.00
44.00	0.00	160	100.03	0.00
46.00	0.00	146	100.03	0.00
48.00	0.00	134	100.03	0.00
50.00	0.00	123	100.02	0.00
52.00	0.00	113	100.02	0.00
54.00	0.00	104	100.02	0.00
56.00	0.00	95	100.02	0.00
58.00	0.00	88	100.02	0.00
60.00	0.00	80	100.02	0.00

Summary for Pond 16P: Detention F

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.06 cfs @	0.00 hrs,	Volume=	0.077 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.06 cfs @	0.00 hrs,	Volume=	0.077 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.71' Surf.Area= 4,792 sf Storage= 3,402 cf
Peak Elev= 100.71' @ 0.00 hrs Surf.Area= 4,792 sf Storage= 3,402 cf

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

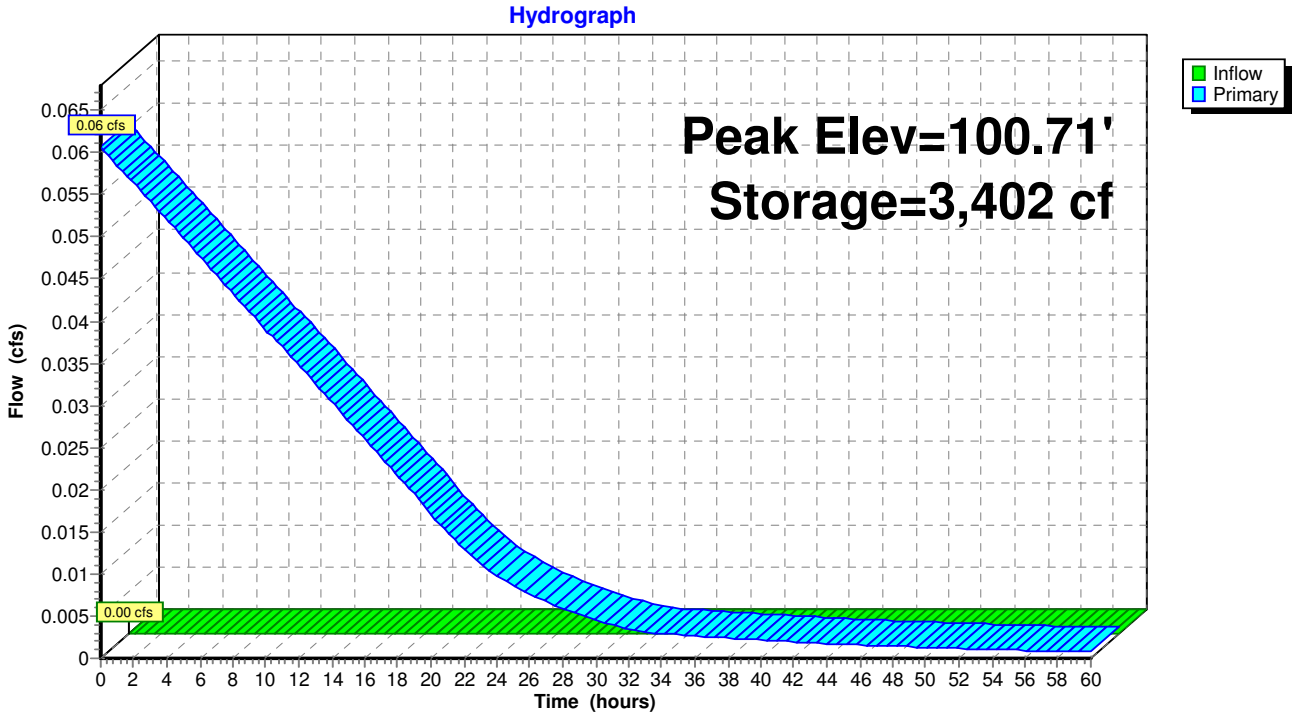
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	21,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,792	0	0
104.00	4,792	19,168	19,168
104.50	4,792	2,396	21,564

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.90'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.06 cfs @ 0.00 hrs HW=100.71' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 3.85 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Detention F



Hydrograph for Pond 16P: Detention F

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**3,402**	**100.71**	**0.06**
2.00	0.00	2,981	100.62	0.06
4.00	0.00	2,591	100.54	0.05
6.00	0.00	2,232	100.47	0.05
8.00	0.00	1,904	100.40	0.04
10.00	0.00	1,608	100.34	0.04
12.00	0.00	1,342	100.28	0.03
14.00	0.00	1,108	100.23	0.03
16.00	0.00	905	100.19	0.03
18.00	0.00	734	100.15	0.02
20.00	0.00	593	100.12	0.02
22.00	0.00	485	100.10	0.01
24.00	0.00	404	100.08	0.01
26.00	0.00	342	100.07	0.01
28.00	0.00	293	100.06	0.01
30.00	0.00	256	100.05	0.00
32.00	0.00	227	100.05	0.00
34.00	0.00	204	100.04	0.00
36.00	0.00	184	100.04	0.00
38.00	0.00	166	100.03	0.00
40.00	0.00	150	100.03	0.00
42.00	0.00	135	100.03	0.00
44.00	0.00	122	100.03	0.00
46.00	0.00	110	100.02	0.00
48.00	0.00	99	100.02	0.00
50.00	0.00	89	100.02	0.00
52.00	0.00	80	100.02	0.00
54.00	0.00	72	100.02	0.00
56.00	0.00	65	100.01	0.00
58.00	0.00	59	100.01	0.00
60.00	0.00	53	100.01	0.00

Summary for Pond 17P: Detention G

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.03 cfs @	0.00 hrs,	Volume=	0.035 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.03 cfs @	0.00 hrs,	Volume=	0.035 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.70' Surf.Area= 2,178 sf Storage= 1,525 cf
Peak Elev= 100.70' @ 0.00 hrs Surf.Area= 2,178 sf Storage= 1,525 cf

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

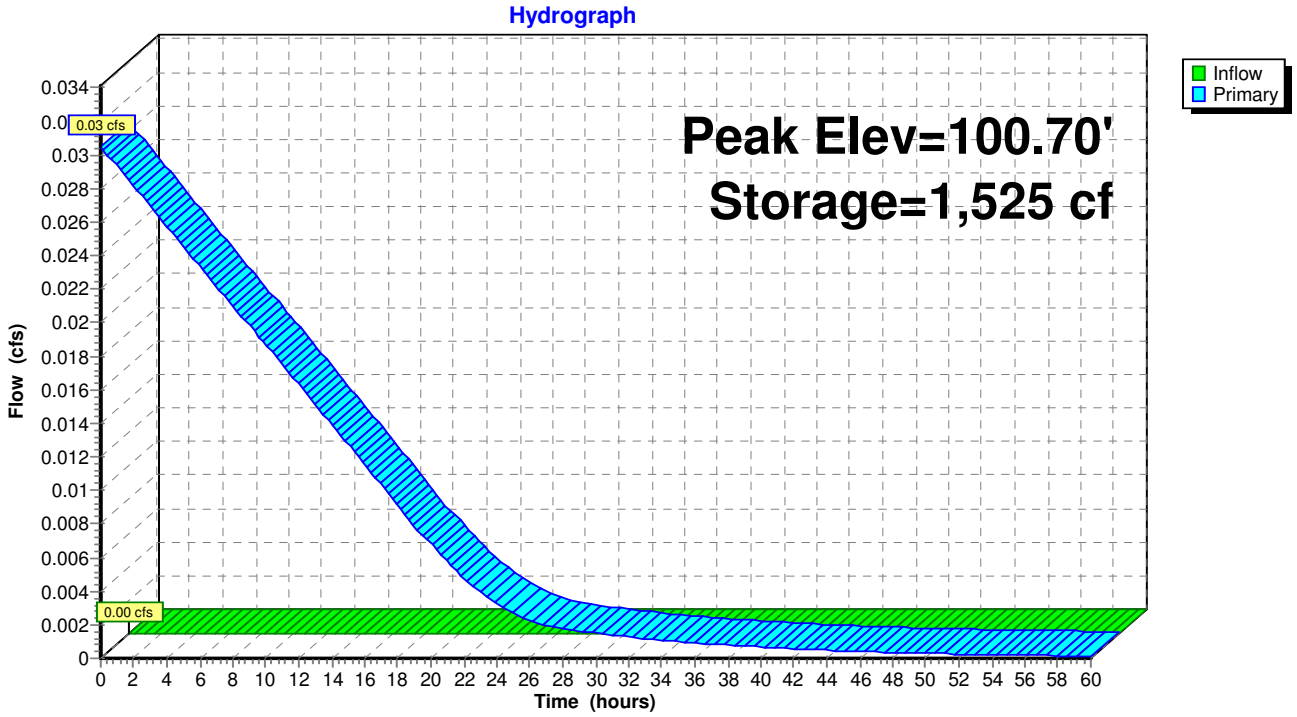
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	2,178	0	0
104.00	2,178	8,712	8,712

Device	Routing	Invert	Outlet Devices		
#1	Primary	100.00'	**1.2" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	100.70'	**3.5" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	102.60'	**8.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 0.00 hrs HW=100.70' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 3.88 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 17P: Detention G



Hydrograph for Pond 17P: Detention G

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,525**	**100.70**	**0.03**
2.00	0.00	1,314	100.60	0.03
4.00	0.00	1,120	100.51	0.03
6.00	0.00	943	100.43	0.02
8.00	0.00	783	100.36	0.02
10.00	0.00	640	100.29	0.02
12.00	0.00	514	100.24	0.02
14.00	0.00	405	100.19	0.01
16.00	0.00	314	100.14	0.01
18.00	0.00	239	100.11	0.01
20.00	0.00	182	100.08	0.01
22.00	0.00	141	100.06	0.00
24.00	0.00	112	100.05	0.00
26.00	0.00	92	100.04	0.00
28.00	0.00	78	100.04	0.00
30.00	0.00	66	100.03	0.00
32.00	0.00	56	100.03	0.00
34.00	0.00	48	100.02	0.00
36.00	0.00	40	100.02	0.00
38.00	0.00	34	100.02	0.00
40.00	0.00	29	100.01	0.00
42.00	0.00	25	100.01	0.00
44.00	0.00	21	100.01	0.00
46.00	0.00	18	100.01	0.00
48.00	0.00	15	100.01	0.00
50.00	0.00	13	100.01	0.00
52.00	0.00	11	100.00	0.00
54.00	0.00	9	100.00	0.00
56.00	0.00	8	100.00	0.00
58.00	0.00	7	100.00	0.00
60.00	0.00	6	100.00	0.00

Summary for Pond 18P: Detention H

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.01 cfs @	0.00 hrs,	Volume=	0.025 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.01 cfs @	0.00 hrs,	Volume=	0.025 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.83' Surf.Area= 1,307 sf Storage= 1,085 cf
Peak Elev= 100.83' @ 0.00 hrs Surf.Area= 1,307 sf Storage= 1,085 cf

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

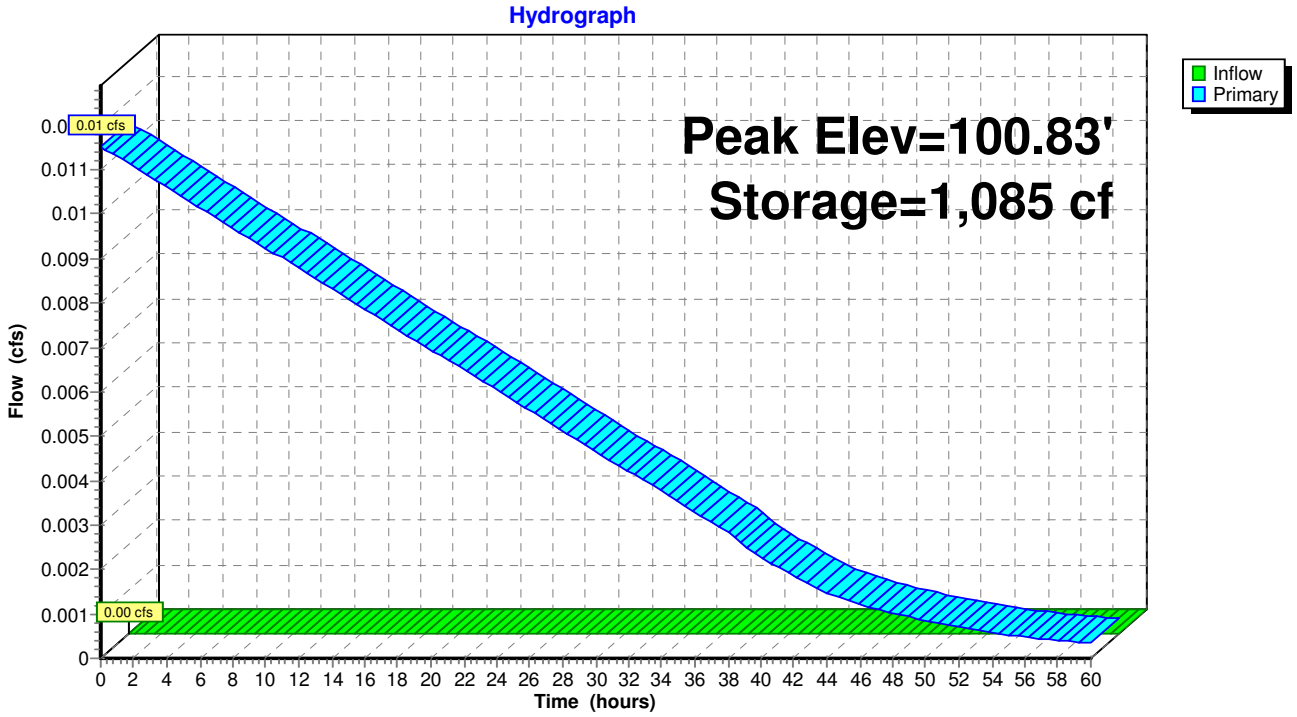
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,227	5,227

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.25'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.01 cfs @ 0.00 hrs HW=100.83' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.01 cfs @ 4.31 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 18P: Detention H



Hydrograph for Pond 18P: Detention H

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,085**	**100.83**	**0.01**
2.00	0.00	1,003	100.77	0.01
4.00	0.00	925	100.71	0.01
6.00	0.00	851	100.65	0.01
8.00	0.00	779	100.60	0.01
10.00	0.00	711	100.54	0.01
12.00	0.00	646	100.49	0.01
14.00	0.00	585	100.45	0.01
16.00	0.00	526	100.40	0.01
18.00	0.00	472	100.36	0.01
20.00	0.00	420	100.32	0.01
22.00	0.00	371	100.28	0.01
24.00	0.00	326	100.25	0.01
26.00	0.00	284	100.22	0.01
28.00	0.00	246	100.19	0.01
30.00	0.00	211	100.16	0.00
32.00	0.00	179	100.14	0.00
34.00	0.00	150	100.11	0.00
36.00	0.00	125	100.10	0.00
38.00	0.00	103	100.08	0.00
40.00	0.00	84	100.06	0.00
42.00	0.00	69	100.05	0.00
44.00	0.00	57	100.04	0.00
46.00	0.00	48	100.04	0.00
48.00	0.00	40	100.03	0.00
50.00	0.00	33	100.03	0.00
52.00	0.00	28	100.02	0.00
54.00	0.00	23	100.02	0.00
56.00	0.00	19	100.01	0.00
58.00	0.00	16	100.01	0.00
60.00	0.00	13	100.01	0.00

Summary for Pond 19P: Detention I

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.02 cfs @	0.00 hrs,	Volume=	0.028 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.02 cfs @	0.00 hrs,	Volume=	0.028 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.71' Surf.Area= 1,742 sf Storage= 1,237 cf
Peak Elev= 100.71' @ 0.00 hrs Surf.Area= 1,742 sf Storage= 1,237 cf

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

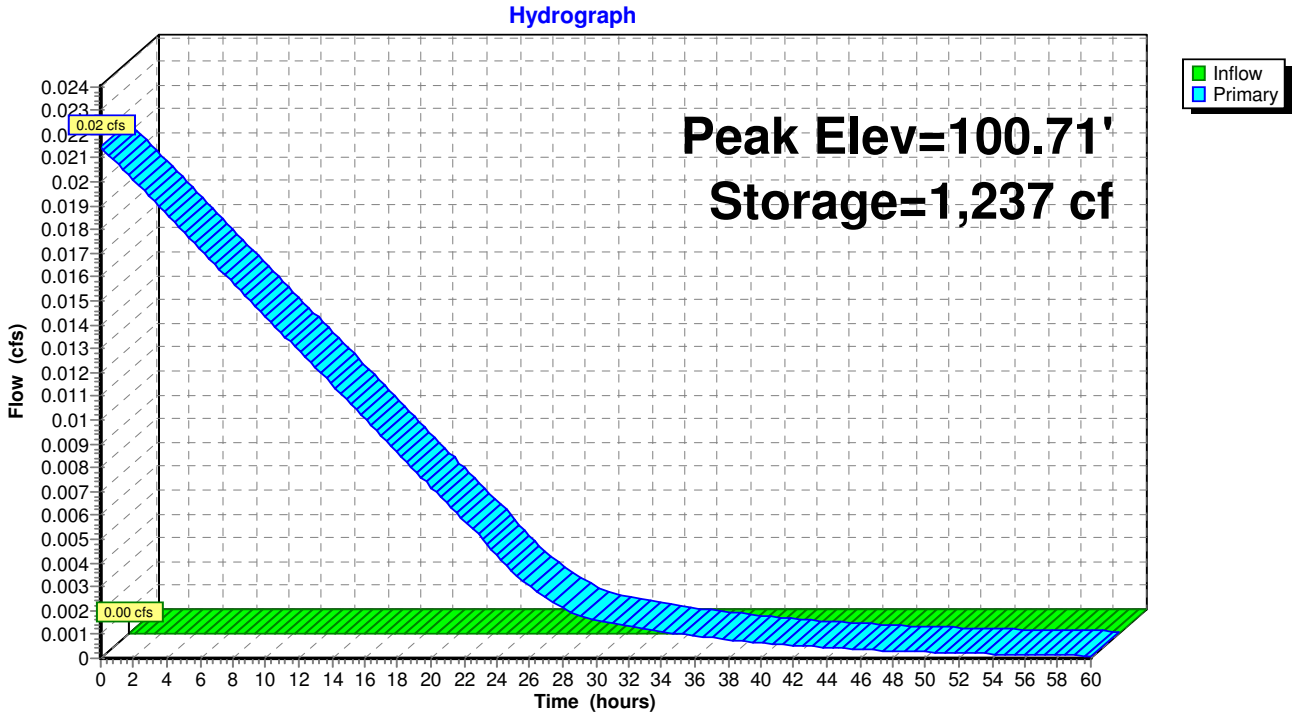
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.85'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.02 cfs @ 0.00 hrs HW=100.71' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 3.94 fps)
├─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 19P: Detention I



Hydrograph for Pond 19P: Detention I

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,237**	**100.71**	**0.02**
2.00	0.00	1,088	100.62	0.02
4.00	0.00	948	100.54	0.02
6.00	0.00	820	100.47	0.02
8.00	0.00	701	100.40	0.02
10.00	0.00	593	100.34	0.01
12.00	0.00	494	100.28	0.01
14.00	0.00	407	100.23	0.01
16.00	0.00	329	100.19	0.01
18.00	0.00	262	100.15	0.01
20.00	0.00	205	100.12	0.01
22.00	0.00	158	100.09	0.01
24.00	0.00	122	100.07	0.00
26.00	0.00	95	100.05	0.00
28.00	0.00	77	100.04	0.00
30.00	0.00	64	100.04	0.00
32.00	0.00	53	100.03	0.00
34.00	0.00	44	100.03	0.00
36.00	0.00	37	100.02	0.00
38.00	0.00	31	100.02	0.00
40.00	0.00	26	100.01	0.00
42.00	0.00	21	100.01	0.00
44.00	0.00	18	100.01	0.00
46.00	0.00	15	100.01	0.00
48.00	0.00	12	100.01	0.00
50.00	0.00	10	100.01	0.00
52.00	0.00	9	100.00	0.00
54.00	0.00	7	100.00	0.00
56.00	0.00	6	100.00	0.00
58.00	0.00	5	100.00	0.00
60.00	0.00	4	100.00	0.00

Summary for Pond 20P: Detention J

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0.000 af
Outflow	=	0.02 cfs @	0.00 hrs,	Volume=	0.033 af, Atten= 0%, Lag= 0.0 min
Primary	=	0.02 cfs @	0.00 hrs,	Volume=	0.033 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Starting Elev= 100.84' Surf.Area= 1,742 sf Storage= 1,464 cf
Peak Elev= 100.84' @ 0.00 hrs Surf.Area= 1,742 sf Storage= 1,464 cf

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

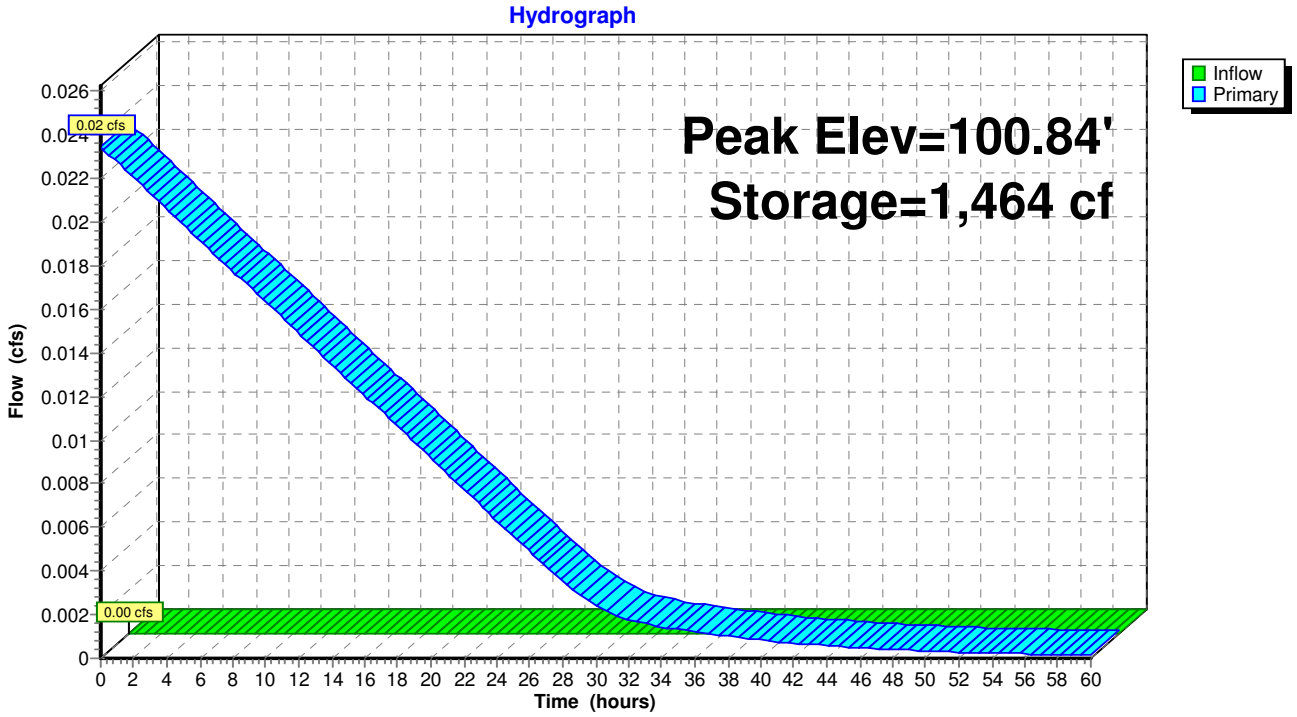
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices	
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate**	C= 0.600
#2	Primary	100.85'	**3.0" Vert. Orifice/Grate**	C= 0.600
#3	Primary	103.20'	**4.0" Vert. Orifice/Grate X 3.00**	C= 0.600

Primary OutFlow Max=0.02 cfs @ 0.00 hrs HW=100.84' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 4.30 fps)
├─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 20P: Detention J

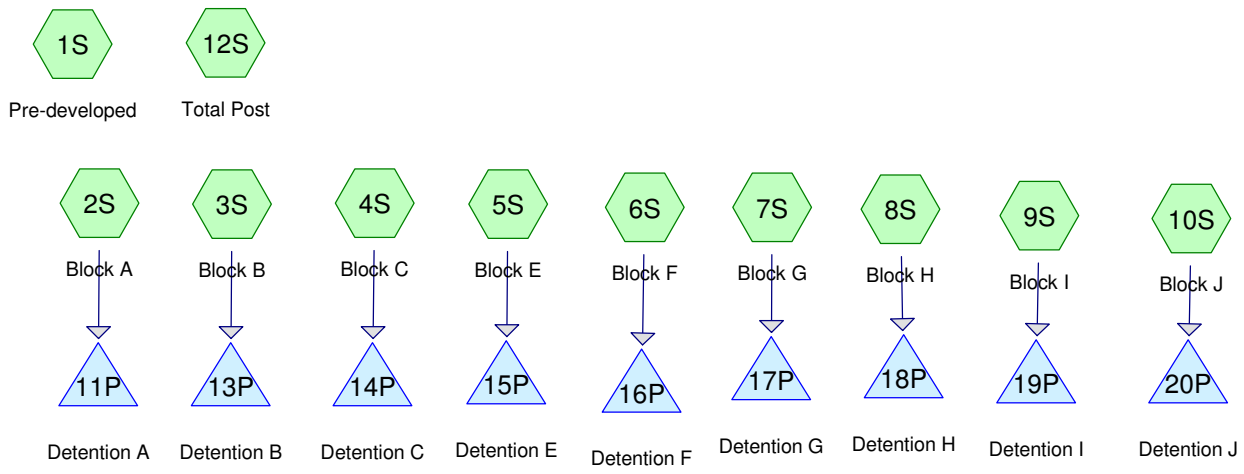


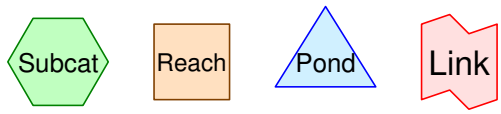
Hydrograph for Pond 20P: Detention J

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,464**	**100.84**	**0.02**
2.00	0.00	1,300	100.75	0.02
4.00	0.00	1,146	100.66	0.02
6.00	0.00	1,003	100.58	0.02
8.00	0.00	870	100.50	0.02
10.00	0.00	747	100.43	0.02
12.00	0.00	635	100.36	0.01
14.00	0.00	532	100.31	0.01
16.00	0.00	441	100.25	0.01
18.00	0.00	359	100.21	0.01
20.00	0.00	287	100.16	0.01
22.00	0.00	226	100.13	0.01
24.00	0.00	176	100.10	0.01
26.00	0.00	135	100.08	0.00
28.00	0.00	105	100.06	0.00
30.00	0.00	84	100.05	0.00
32.00	0.00	69	100.04	0.00
34.00	0.00	57	100.03	0.00
36.00	0.00	48	100.03	0.00
38.00	0.00	40	100.02	0.00
40.00	0.00	33	100.02	0.00
42.00	0.00	28	100.02	0.00
44.00	0.00	23	100.01	0.00
46.00	0.00	19	100.01	0.00
48.00	0.00	16	100.01	0.00
50.00	0.00	13	100.01	0.00
52.00	0.00	11	100.01	0.00
54.00	0.00	9	100.01	0.00
56.00	0.00	8	100.00	0.00
58.00	0.00	6	100.00	0.00
60.00	0.00	5	100.00	0.00

APPENDIX C:

HydroCAD Output





Routing Diagram for 13-1546 Tuller Prelim
Prepared by Symanetc, Printed 2/12/2015
HydroCAD® 10.00-13 s/n 07459 © 2014 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: Pre-developed

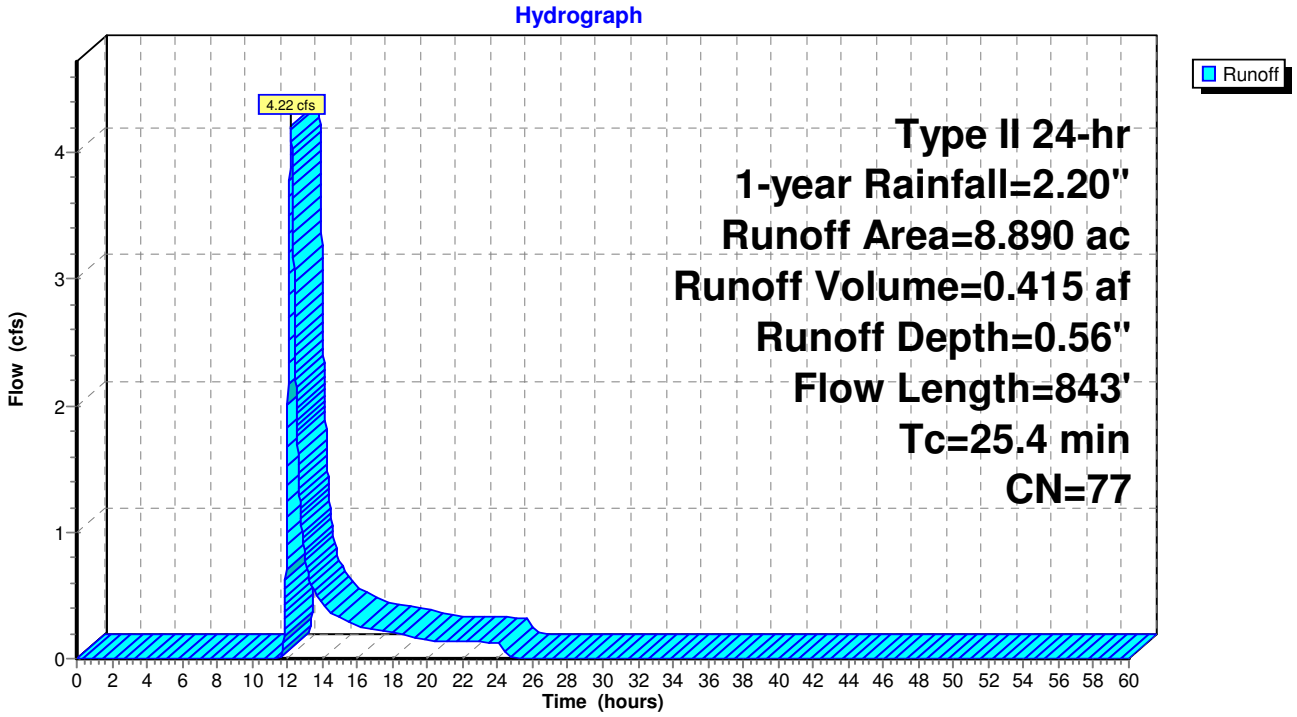
Runoff = 4.22 cfs @ 12.22 hrs, Volume= 0.415 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	0.990	74	Open Space/Grass
*	7.630	78	Agricultural
*	0.270	70	Woods
	8.890	77	Weighted Average
	8.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0100	0.11		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.63"
9.6	743	0.0206	1.29		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
25.4	843	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Block A

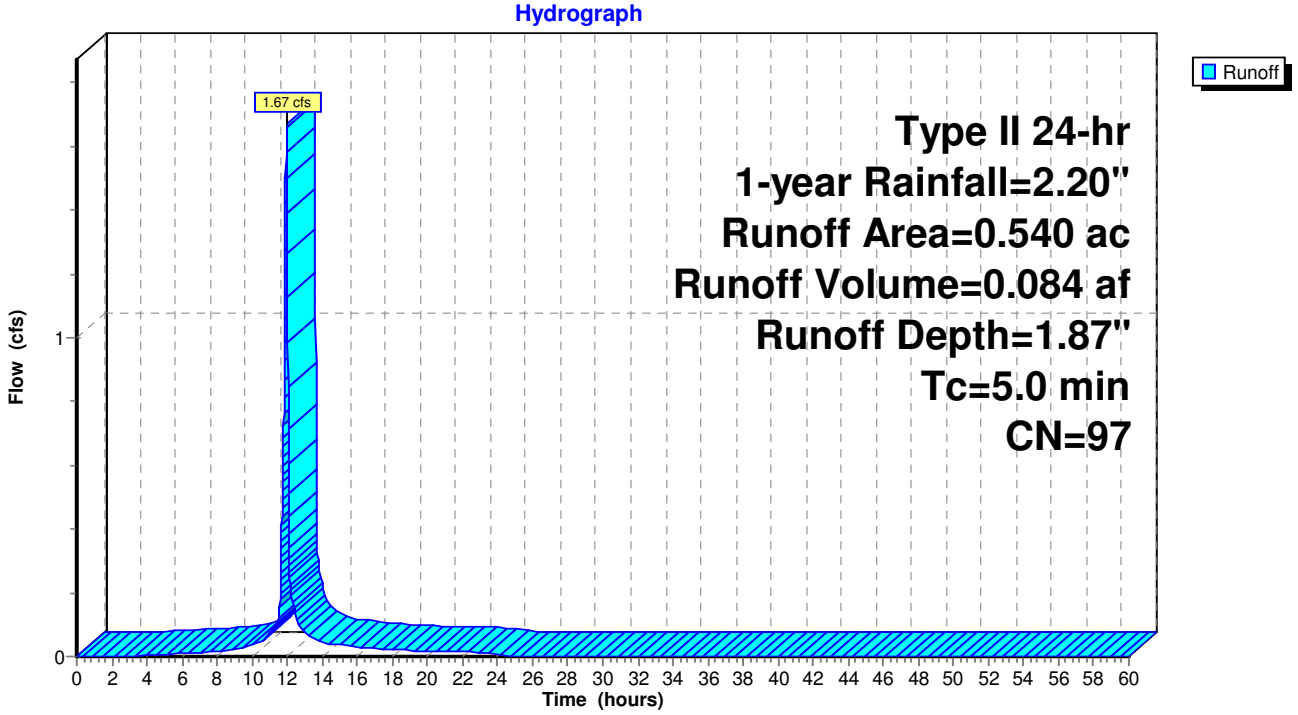
Runoff = 1.67 cfs @ 11.96 hrs, Volume= 0.084 af, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	0.520	98	
*	0.020	74	
	0.540	97	Weighted Average
	0.020		3.70% Pervious Area
	0.520		96.30% Impervious Area

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

Subcatchment 2S: Block A



Summary for Subcatchment 3S: Block B

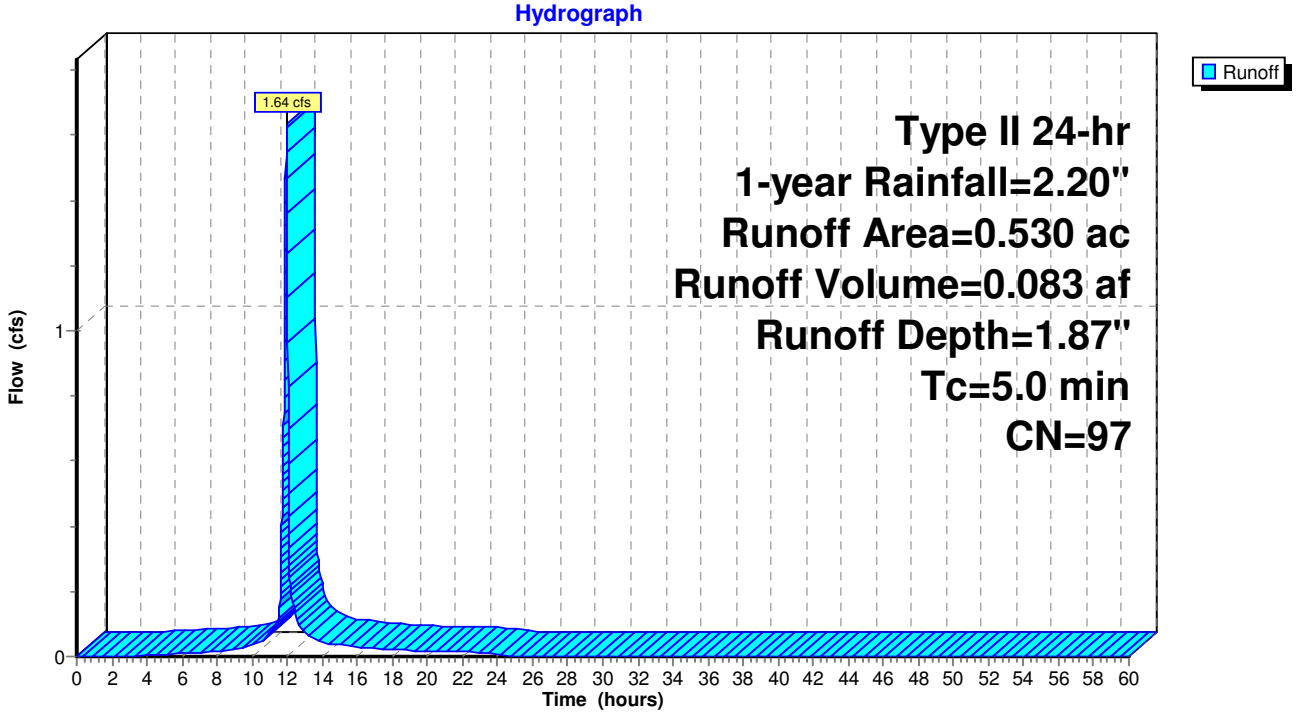
Runoff = 1.64 cfs @ 11.96 hrs, Volume= 0.083 af, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	0.500	98	
*	0.030	74	
	0.530	97	Weighted Average
	0.030		5.66% Pervious Area
	0.500		94.34% Impervious Area

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

Subcatchment 3S: Block B



Summary for Subcatchment 4S: Block C

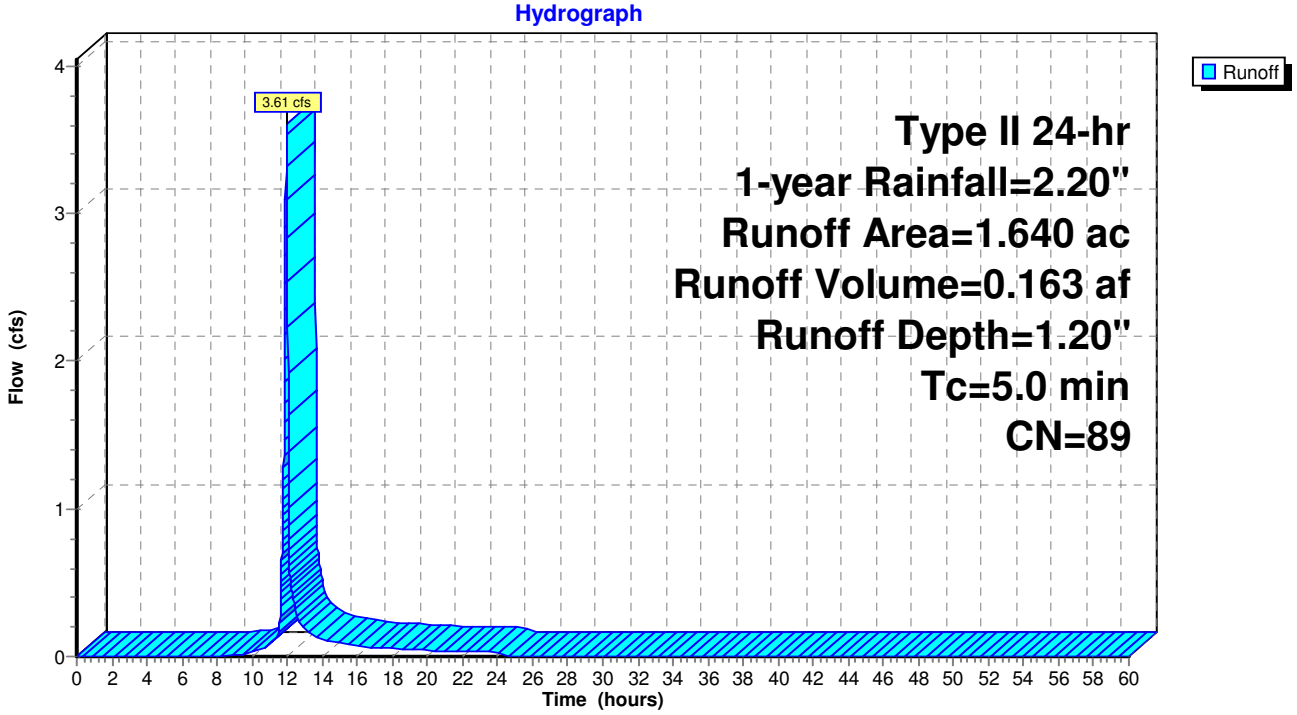
Runoff = 3.61 cfs @ 11.96 hrs, Volume= 0.163 af, Depth= 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	1.020	98	
*	0.620	74	
	1.640	89	Weighted Average
	0.620		37.80% Pervious Area
	1.020		62.20% Impervious Area

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

Subcatchment 4S: Block C



Summary for Subcatchment 5S: Block E

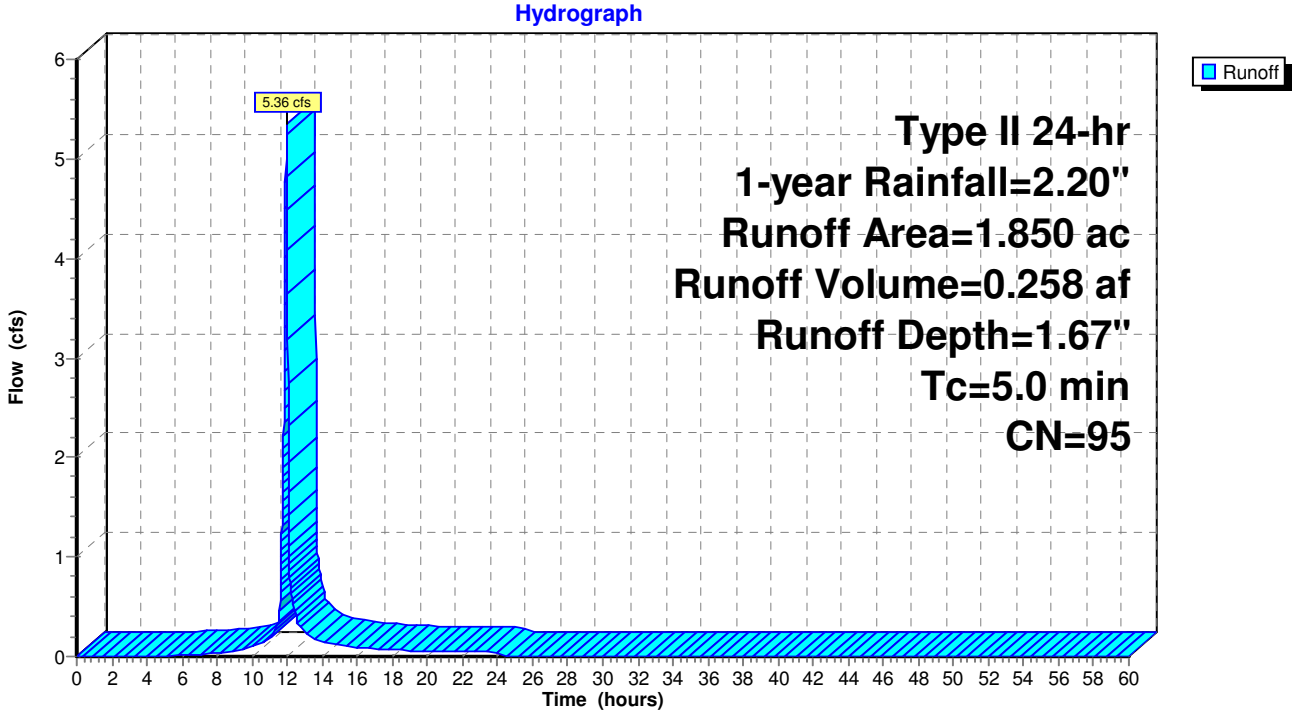
Runoff = 5.36 cfs @ 11.96 hrs, Volume= 0.258 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	1.630	98	
*	0.220	74	
	1.850	95	Weighted Average
	0.220		11.89% Pervious Area
	1.630		88.11% Impervious Area

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

Subcatchment 5S: Block E



Summary for Subcatchment 6S: Block F

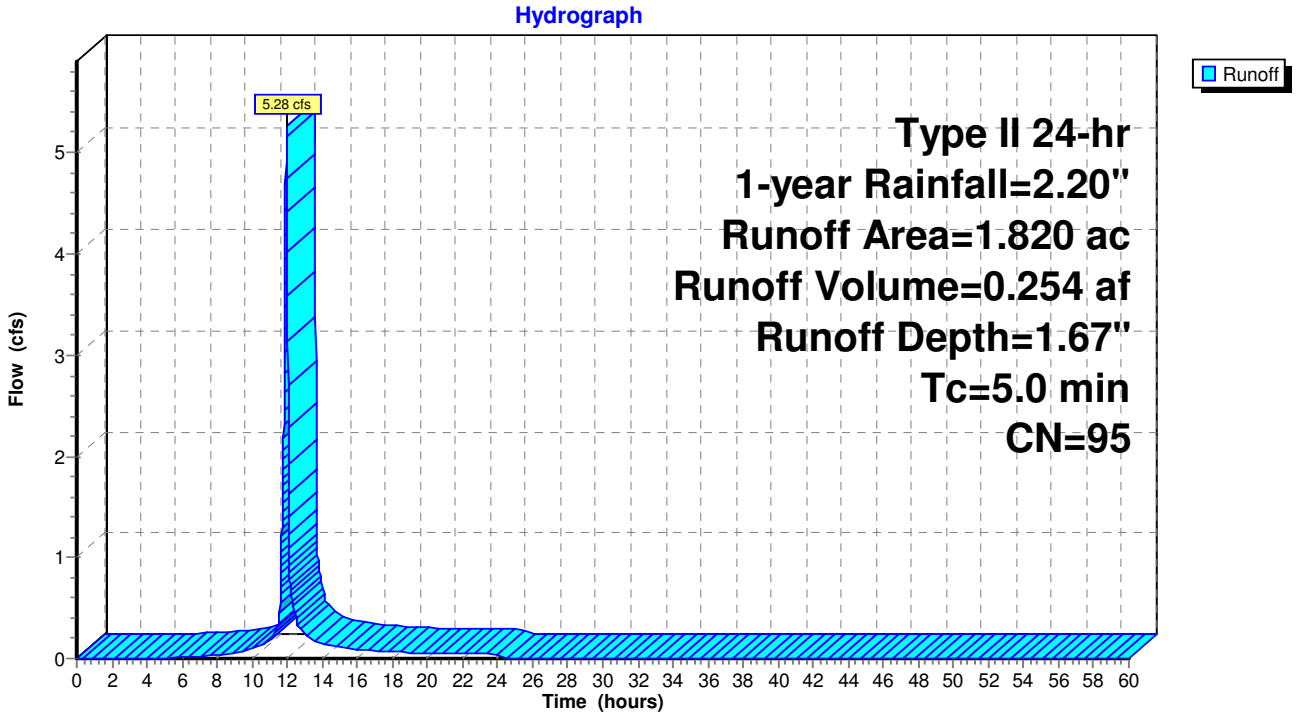
Runoff = 5.28 cfs @ 11.96 hrs, Volume= 0.254 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	1.580	98	
*	0.240	74	
	1.820	95	Weighted Average
	0.240		13.19% Pervious Area
	1.580		86.81% Impervious Area

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

Subcatchment 6S: Block F



Summary for Subcatchment 7S: Block G

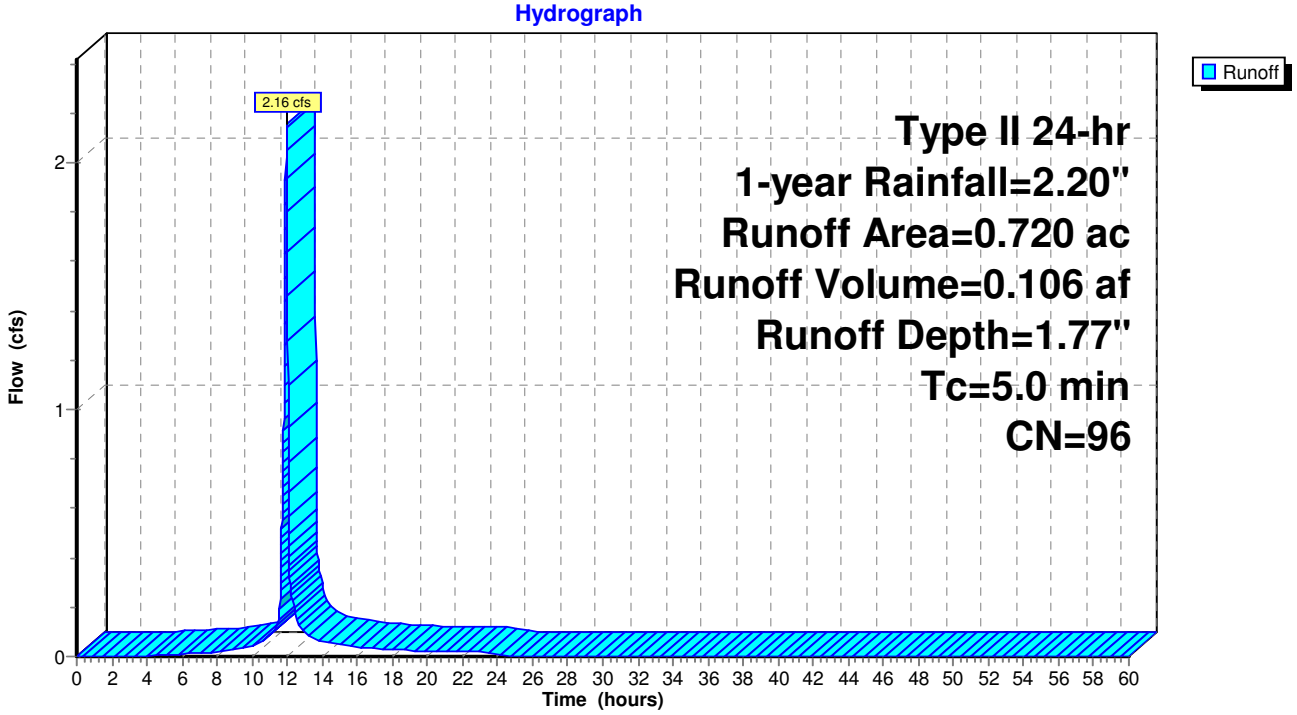
Runoff = 2.16 cfs @ 11.96 hrs, Volume= 0.106 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	0.670	98	
*	0.050	74	
	0.720	96	Weighted Average
	0.050		6.94% Pervious Area
	0.670		93.06% Impervious Area

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

Subcatchment 7S: Block G



Summary for Subcatchment 8S: Block H

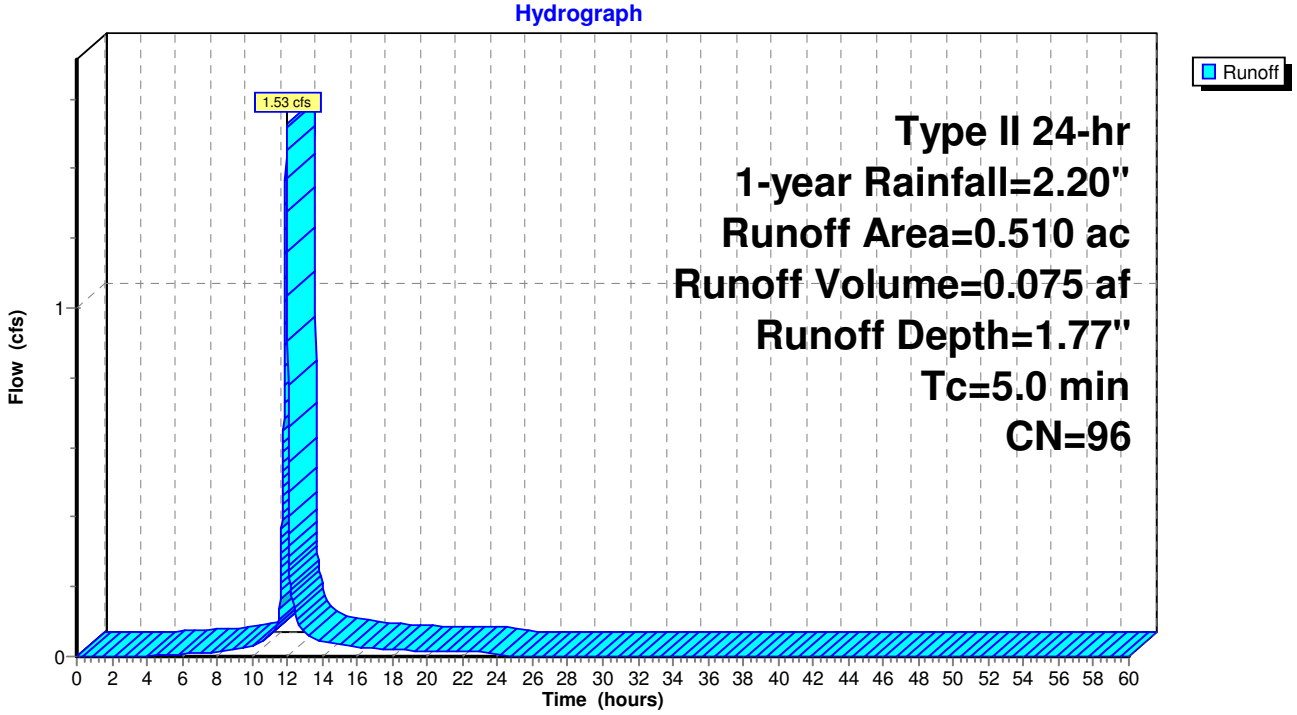
Runoff = 1.53 cfs @ 11.96 hrs, Volume= 0.075 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	0.470	98	
*	0.040	74	
	0.510	96	Weighted Average
	0.040		7.84% Pervious Area
	0.470		92.16% Impervious Area

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

Subcatchment 8S: Block H



Summary for Subcatchment 9S: Block I

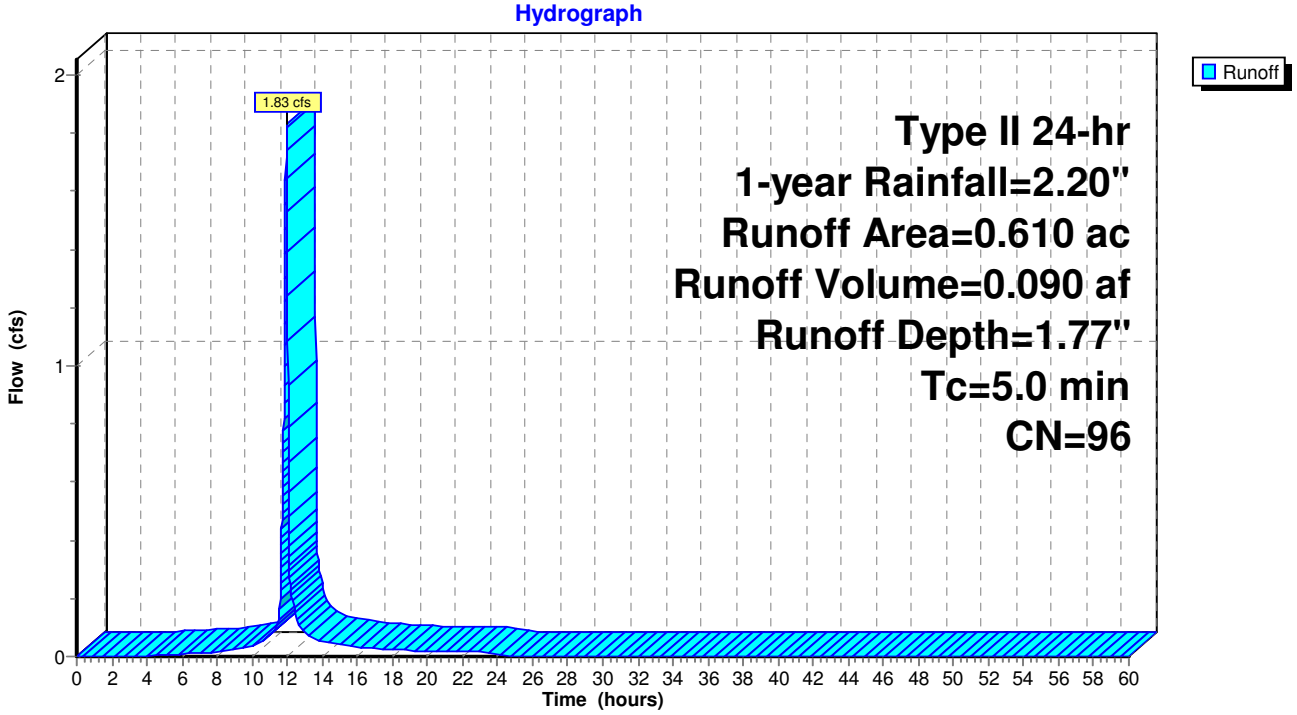
Runoff = 1.83 cfs @ 11.96 hrs, Volume= 0.090 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	0.550	98	
*	0.060	74	
	0.610	96	Weighted Average
	0.060		9.84% Pervious Area
	0.550		90.16% Impervious Area

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

Subcatchment 9S: Block I



Summary for Subcatchment 10S: Block J

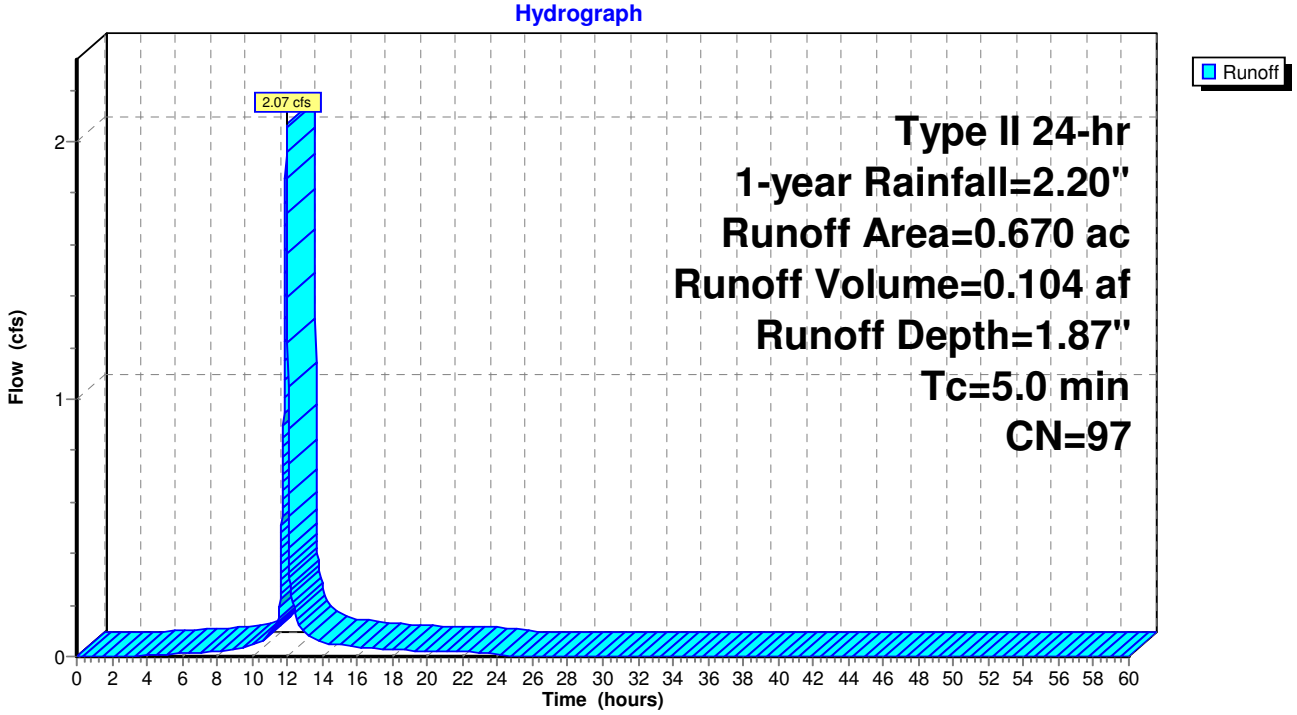
Runoff = 2.07 cfs @ 11.96 hrs, Volume= 0.104 af, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	0.640	98	
*	0.030	74	
	0.670	97	Weighted Average
	0.030		4.48% Pervious Area
	0.640		95.52% Impervious Area

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

Subcatchment 10S: Block J



Summary for Subcatchment 12S: Total Post

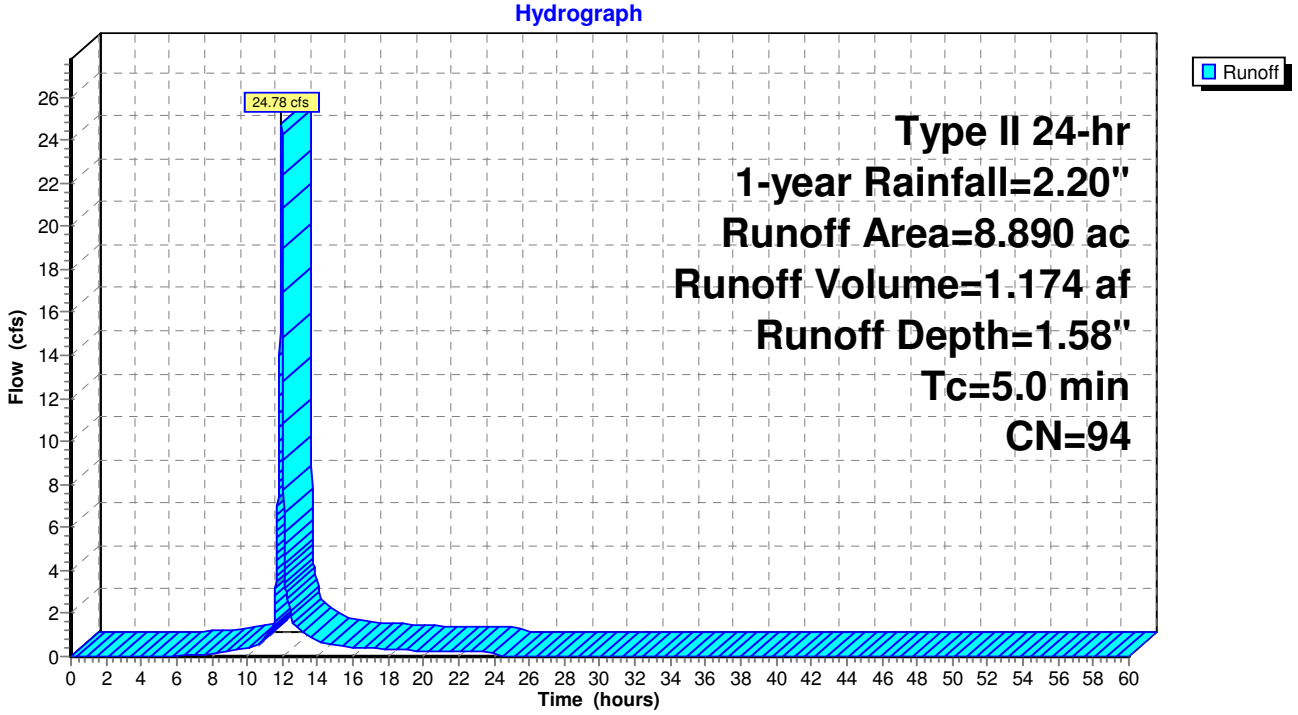
Runoff = 24.78 cfs @ 11.96 hrs, Volume= 1.174 af, Depth= 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-year Rainfall=2.20"

	Area (ac)	CN	Description
*	7.580	98	
*	1.310	74	
	8.890	94	Weighted Average
	1.310		14.74% Pervious Area
	7.580		85.26% Impervious Area

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

Subcatchment 12S: Total Post



Summary for Pond 11P: Detention A

Inflow Area = 0.540 ac, 96.30% Impervious, Inflow Depth = 1.87" for 1-year event
Inflow = 1.67 cfs @ 11.96 hrs, Volume= 0.084 af
Outflow = 0.15 cfs @ 12.41 hrs, Volume= 0.080 af, Atten= 91%, Lag= 27.2 min
Primary = 0.15 cfs @ 12.41 hrs, Volume= 0.080 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.63' @ 12.41 hrs Surf.Area= 1,307 sf Storage= 2,124 cf

Plug-Flow detention time= 592.6 min calculated for 0.080 af (95% of inflow)
Center-of-Mass det. time= 565.8 min (1,337.7 - 771.9)

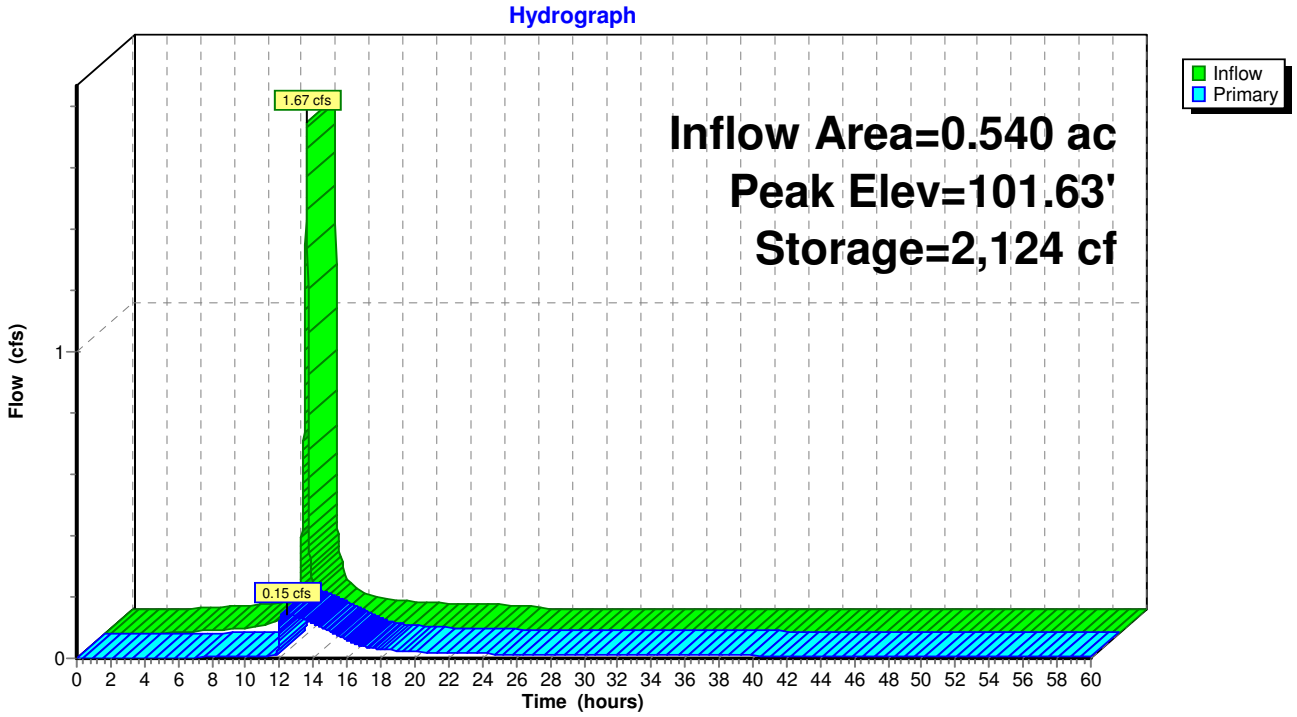
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.15 cfs @ 12.41 hrs HW=101.63' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 6.08 fps)
- **2=Orifice/Grate** (Orifice Controls 0.13 cfs @ 3.79 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 11P: Detention A



Summary for Pond 13P: Detention B

Inflow Area = 0.530 ac, 94.34% Impervious, Inflow Depth = 1.87" for 1-year event
Inflow = 1.64 cfs @ 11.96 hrs, Volume= 0.083 af
Outflow = 0.14 cfs @ 12.41 hrs, Volume= 0.079 af, Atten= 91%, Lag= 27.3 min
Primary = 0.14 cfs @ 12.41 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.60' @ 12.41 hrs Surf.Area= 1,307 sf Storage= 2,086 cf

Plug-Flow detention time= 601.2 min calculated for 0.079 af (95% of inflow)
Center-of-Mass det. time= 573.7 min (1,345.6 - 771.9)

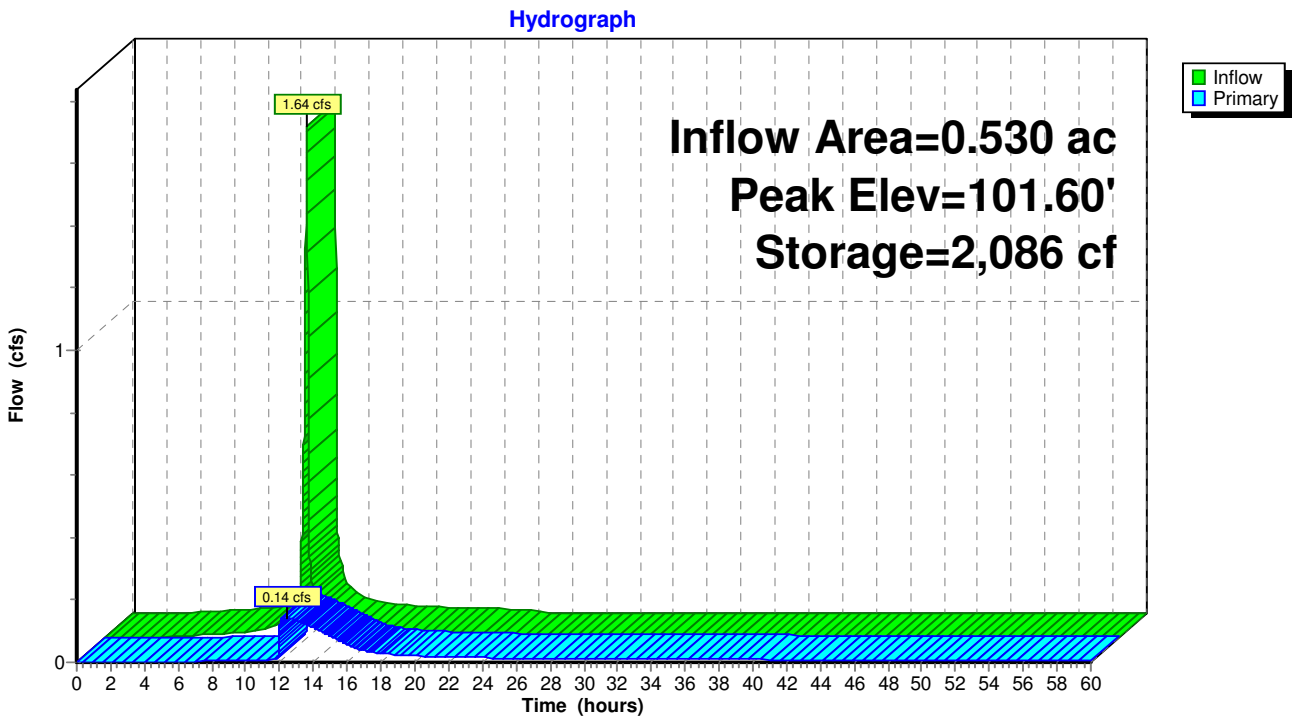
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.14 cfs @ 12.41 hrs HW=101.60' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 6.03 fps)
- **2=Orifice/Grate** (Orifice Controls 0.13 cfs @ 3.71 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 13P: Detention B



Summary for Pond 14P: Detention C

Inflow Area = 1.640 ac, 62.20% Impervious, Inflow Depth = 1.20" for 1-year event
Inflow = 3.61 cfs @ 11.96 hrs, Volume= 0.163 af
Outflow = 0.34 cfs @ 12.42 hrs, Volume= 0.160 af, Atten= 90%, Lag= 27.4 min
Primary = 0.34 cfs @ 12.42 hrs, Volume= 0.160 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 100.82' @ 12.42 hrs Surf.Area= 4,356 sf Storage= 3,565 cf

Plug-Flow detention time= 446.9 min calculated for 0.160 af (98% of inflow)
Center-of-Mass det. time= 435.1 min (1,257.9 - 822.9)

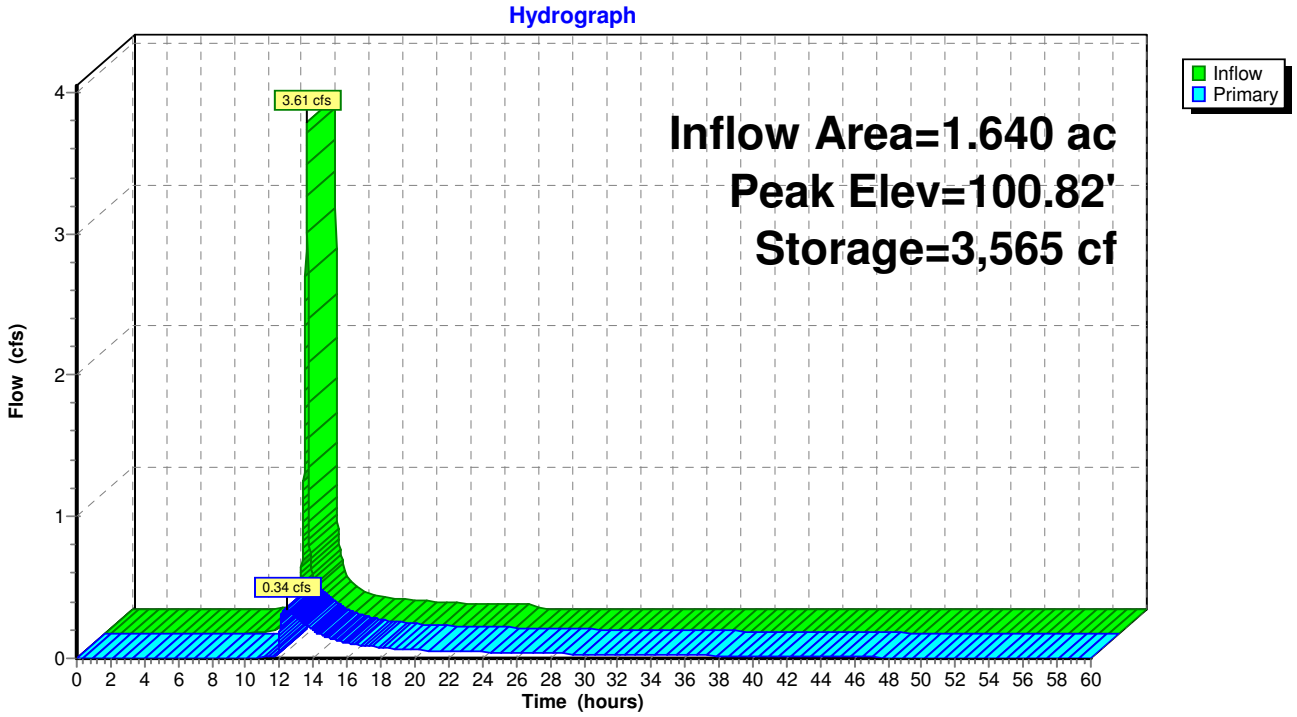
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	19,602 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,356	0	0
104.00	4,356	17,424	17,424
104.50	4,356	2,178	19,602

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.45'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.30'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.35 cfs @ 12.42 hrs HW=100.82' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 4.19 fps)
├─**2=Orifice/Grate** (Orifice Controls 0.29 cfs @ 2.07 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 14P: Detention C



Summary for Pond 15P: Detention E

Inflow Area = 1.850 ac, 88.11% Impervious, Inflow Depth = 1.67" for 1-year event
Inflow = 5.36 cfs @ 11.96 hrs, Volume= 0.258 af
Outflow = 0.49 cfs @ 12.39 hrs, Volume= 0.253 af, Atten= 91%, Lag= 26.0 min
Primary = 0.49 cfs @ 12.39 hrs, Volume= 0.253 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.20' @ 12.39 hrs Surf.Area= 5,227 sf Storage= 6,273 cf

Plug-Flow detention time= 527.1 min calculated for 0.253 af (98% of inflow)
Center-of-Mass det. time= 514.3 min (1,303.4 - 789.1)

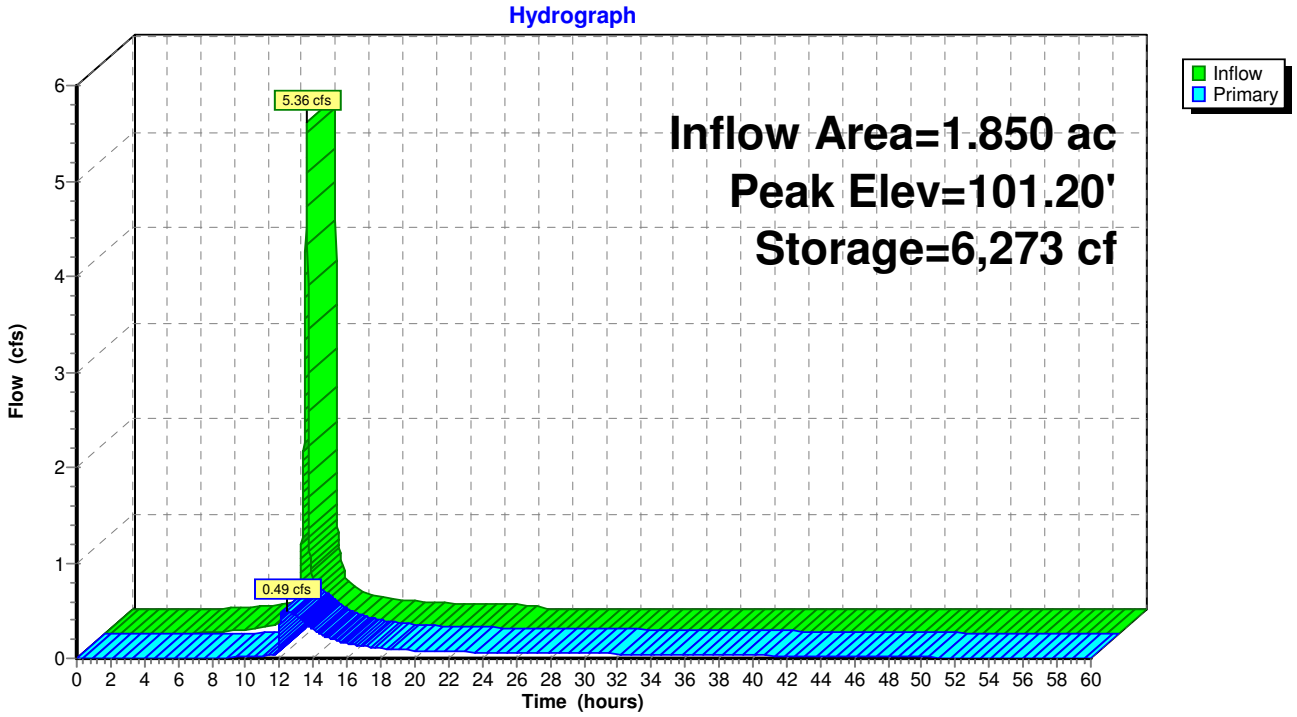
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	20,908 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	5,227	0	0
104.00	5,227	20,908	20,908

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.70'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.75'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.49 cfs @ 12.39 hrs HW=101.20' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.08 cfs @ 5.12 fps)
- **2=Orifice/Grate** (Orifice Controls 0.41 cfs @ 2.51 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 15P: Detention E



Summary for Pond 16P: Detention F

Inflow Area = 1.820 ac, 86.81% Impervious, Inflow Depth = 1.67" for 1-year event
Inflow = 5.28 cfs @ 11.96 hrs, Volume= 0.254 af
Outflow = 0.51 cfs @ 12.36 hrs, Volume= 0.249 af, Atten= 90%, Lag= 24.0 min
Primary = 0.51 cfs @ 12.36 hrs, Volume= 0.249 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.27' @ 12.36 hrs Surf.Area= 4,792 sf Storage= 6,104 cf

Plug-Flow detention time= 506.3 min calculated for 0.249 af (98% of inflow)
Center-of-Mass det. time= 495.3 min (1,284.4 - 789.1)

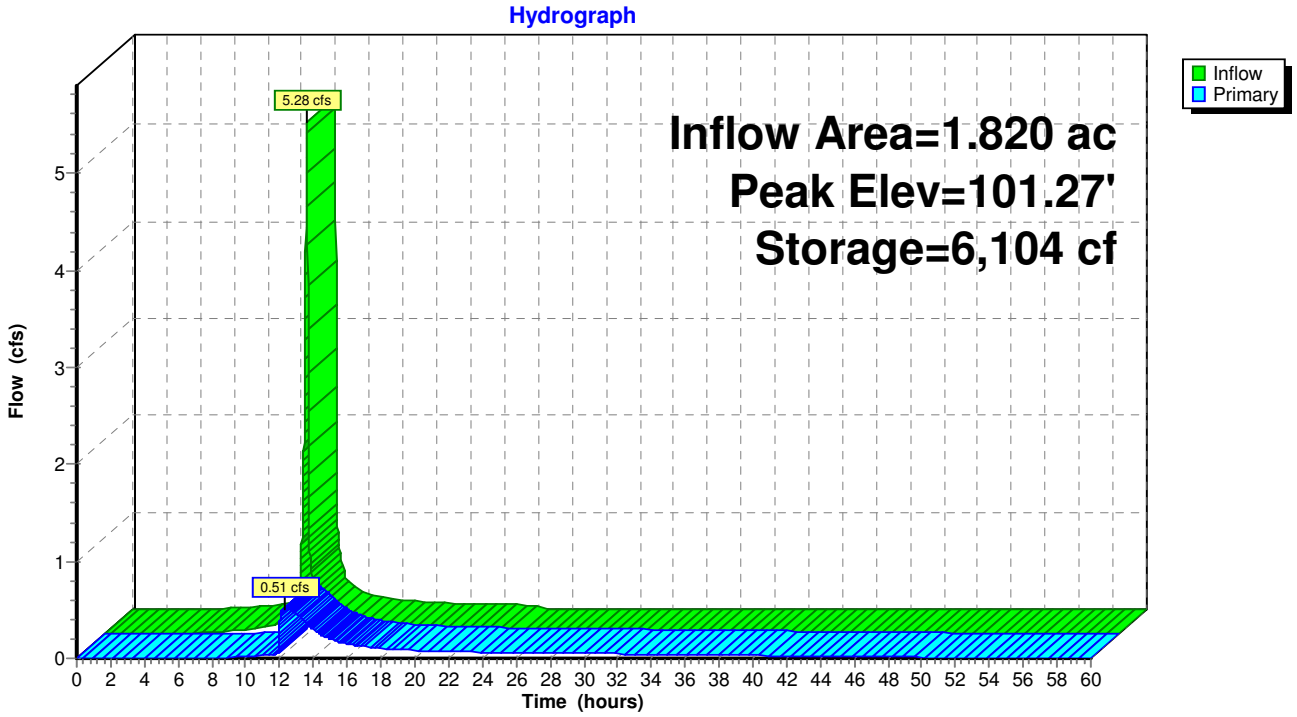
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	21,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,792	0	0
104.00	4,792	19,168	19,168
104.50	4,792	2,396	21,564

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.90'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.51 cfs @ 12.36 hrs HW=101.27' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.08 cfs @ 5.28 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.43 cfs @ 2.61 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Detention F



Summary for Pond 17P: Detention G

Inflow Area = 0.720 ac, 93.06% Impervious, Inflow Depth = 1.77" for 1-year event
Inflow = 2.16 cfs @ 11.96 hrs, Volume= 0.106 af
Outflow = 0.22 cfs @ 12.32 hrs, Volume= 0.105 af, Atten= 90%, Lag= 21.7 min
Primary = 0.22 cfs @ 12.32 hrs, Volume= 0.105 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.16' @ 12.32 hrs Surf.Area= 2,178 sf Storage= 2,537 cf

Plug-Flow detention time= 463.2 min calculated for 0.105 af (99% of inflow)
Center-of-Mass det. time= 458.0 min (1,239.2 - 781.2)

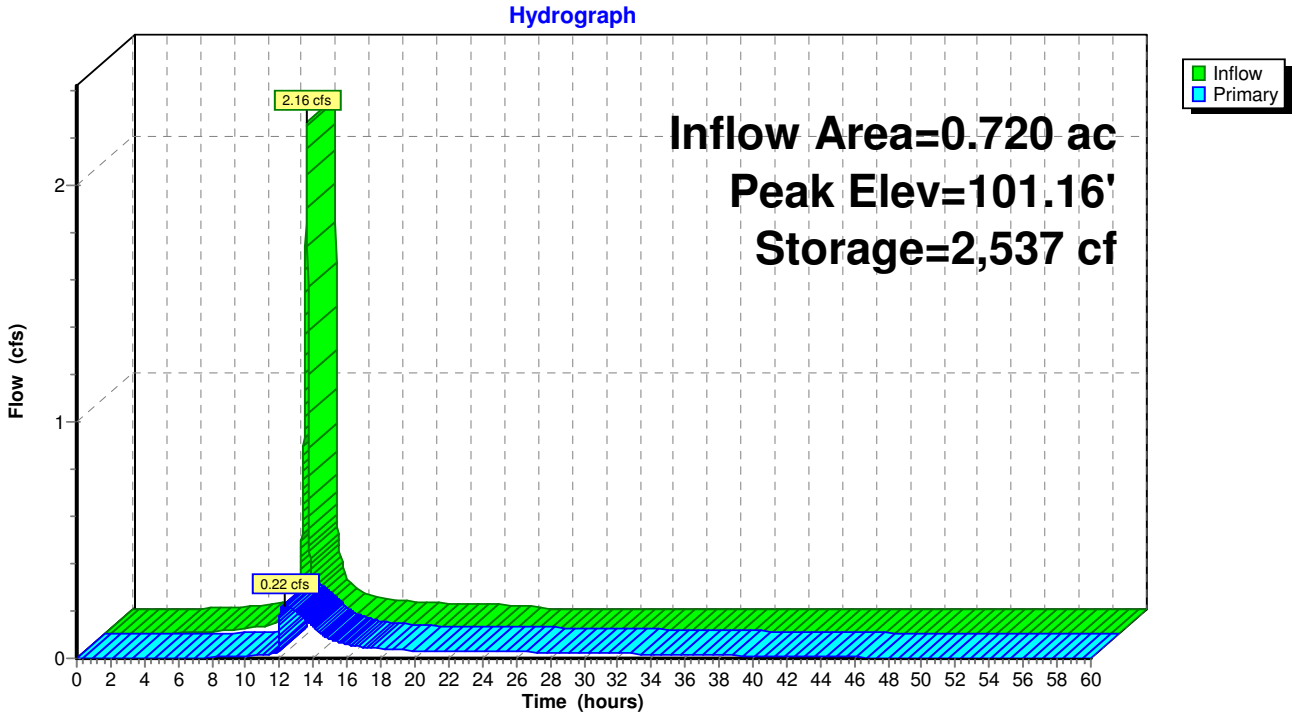
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	2,178	0	0
104.00	2,178	8,712	8,712

Device	Routing	Invert	Outlet Devices		
#1	Primary	100.00'	**1.2" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	100.70'	**3.5" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	102.60'	**8.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 12.32 hrs HW=101.16' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 5.08 fps)
- **2=Orifice/Grate** (Orifice Controls 0.18 cfs @ 2.72 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 17P: Detention G



Summary for Pond 18P: Detention H

Inflow Area = 0.510 ac, 92.16% Impervious, Inflow Depth = 1.77" for 1-year event
Inflow = 1.53 cfs @ 11.96 hrs, Volume= 0.075 af
Outflow = 0.13 cfs @ 12.43 hrs, Volume= 0.072 af, Atten= 92%, Lag= 28.5 min
Primary = 0.13 cfs @ 12.43 hrs, Volume= 0.072 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.44' @ 12.43 hrs Surf.Area= 1,307 sf Storage= 1,878 cf

Plug-Flow detention time= 612.9 min calculated for 0.072 af (96% of inflow)
Center-of-Mass det. time= 586.7 min (1,367.9 - 781.2)

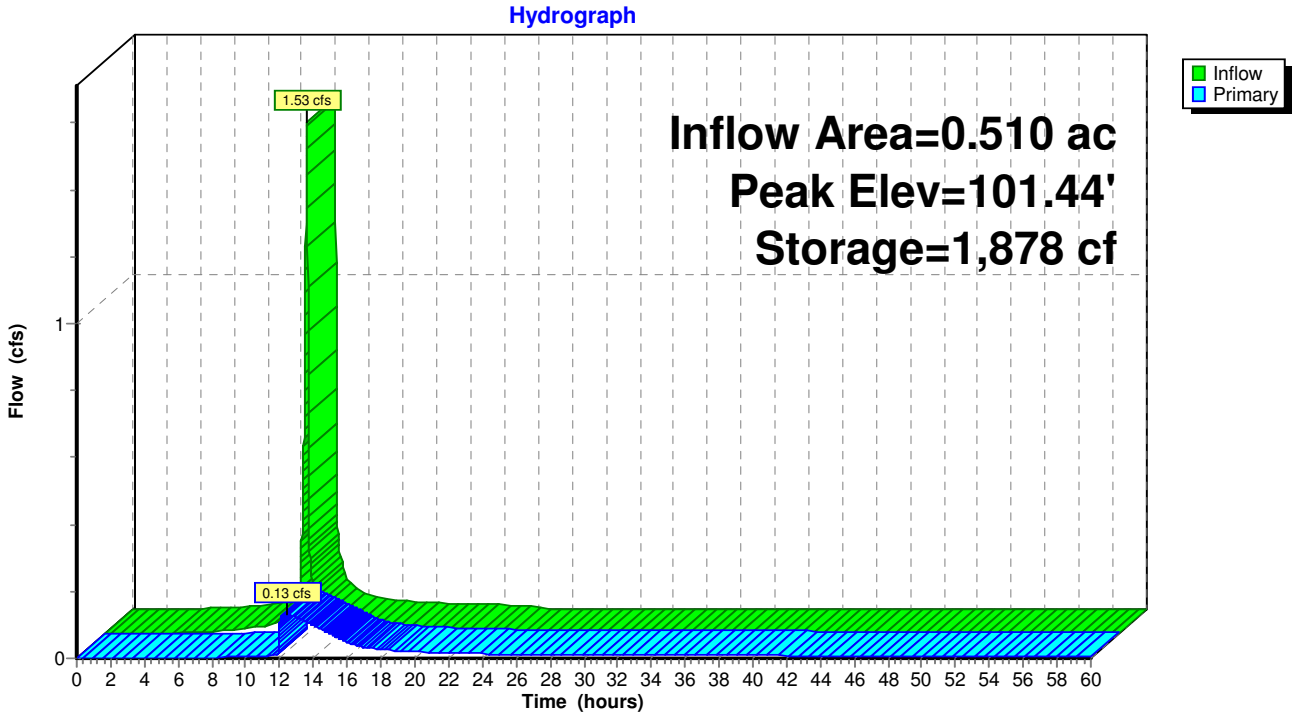
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,227	5,227

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.25'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.13 cfs @ 12.43 hrs HW=101.44' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 5.71 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.11 cfs @ 3.35 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 18P: Detention H



Summary for Pond 19P: Detention I

Inflow Area = 0.610 ac, 90.16% Impervious, Inflow Depth = 1.77" for 1-year event
Inflow = 1.83 cfs @ 11.96 hrs, Volume= 0.090 af
Outflow = 0.17 cfs @ 12.37 hrs, Volume= 0.089 af, Atten= 91%, Lag= 24.6 min
Primary = 0.17 cfs @ 12.37 hrs, Volume= 0.089 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.25' @ 12.37 hrs Surf.Area= 1,742 sf Storage= 2,179 cf

Plug-Flow detention time= 509.9 min calculated for 0.089 af (99% of inflow)
Center-of-Mass det. time= 503.6 min (1,284.8 - 781.2)

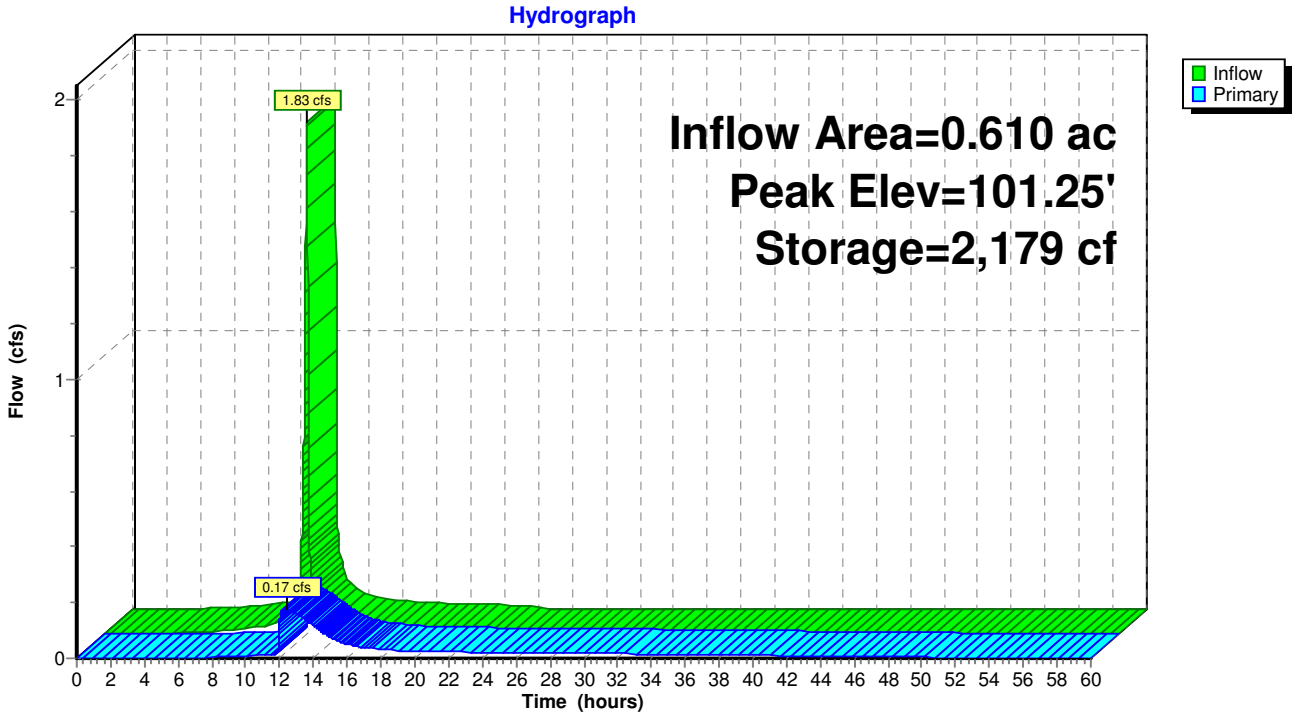
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.85'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.17 cfs @ 12.37 hrs HW=101.25' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 5.29 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.14 cfs @ 2.95 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 19P: Detention I



Summary for Pond 20P: Detention J

Inflow Area = 0.670 ac, 95.52% Impervious, Inflow Depth = 1.87" for 1-year event
Inflow = 2.07 cfs @ 11.96 hrs, Volume= 0.104 af
Outflow = 0.20 cfs @ 12.36 hrs, Volume= 0.103 af, Atten= 90%, Lag= 24.1 min
Primary = 0.20 cfs @ 12.36 hrs, Volume= 0.103 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.47' @ 12.36 hrs Surf.Area= 1,742 sf Storage= 2,561 cf

Plug-Flow detention time= 518.5 min calculated for 0.103 af (99% of inflow)
Center-of-Mass det. time= 511.7 min (1,283.6 - 771.9)

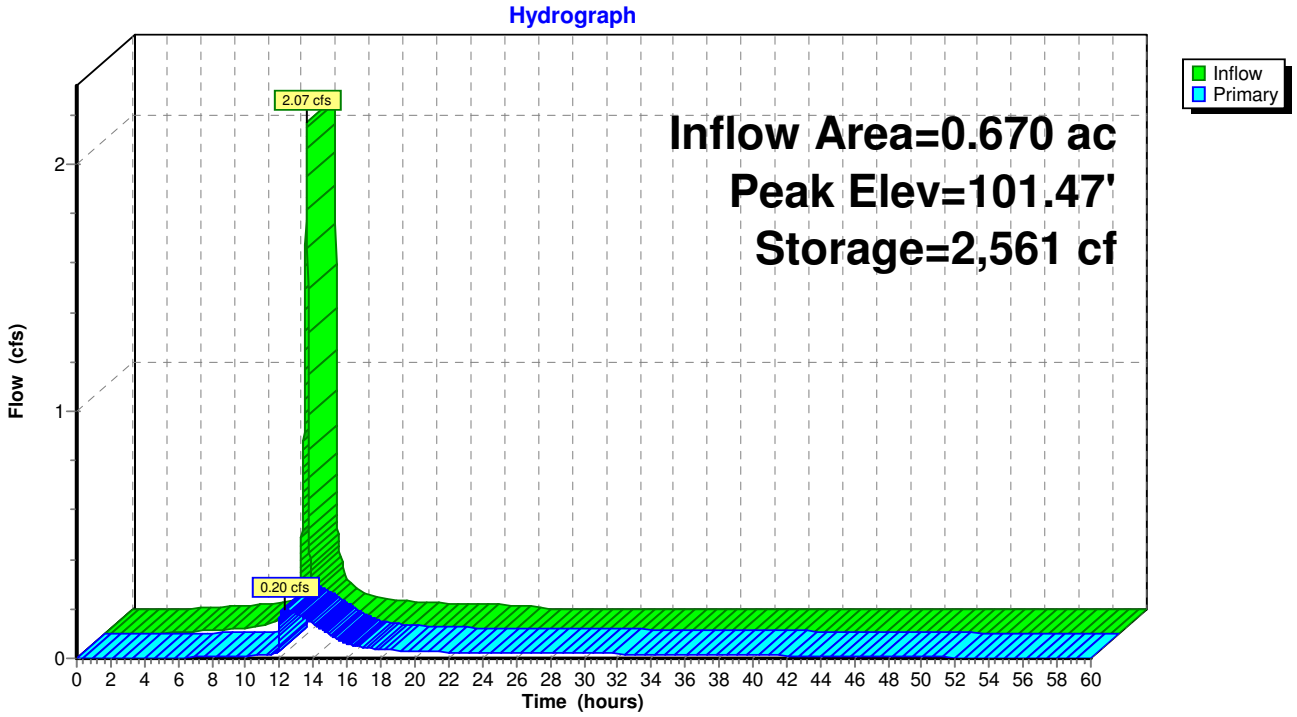
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.20'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.20 cfs @ 12.36 hrs HW=101.47' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 5.75 fps)
- **2=Orifice/Grate** (Orifice Controls 0.17 cfs @ 3.39 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 20P: Detention J



Summary for Subcatchment 1S: Pre-developed

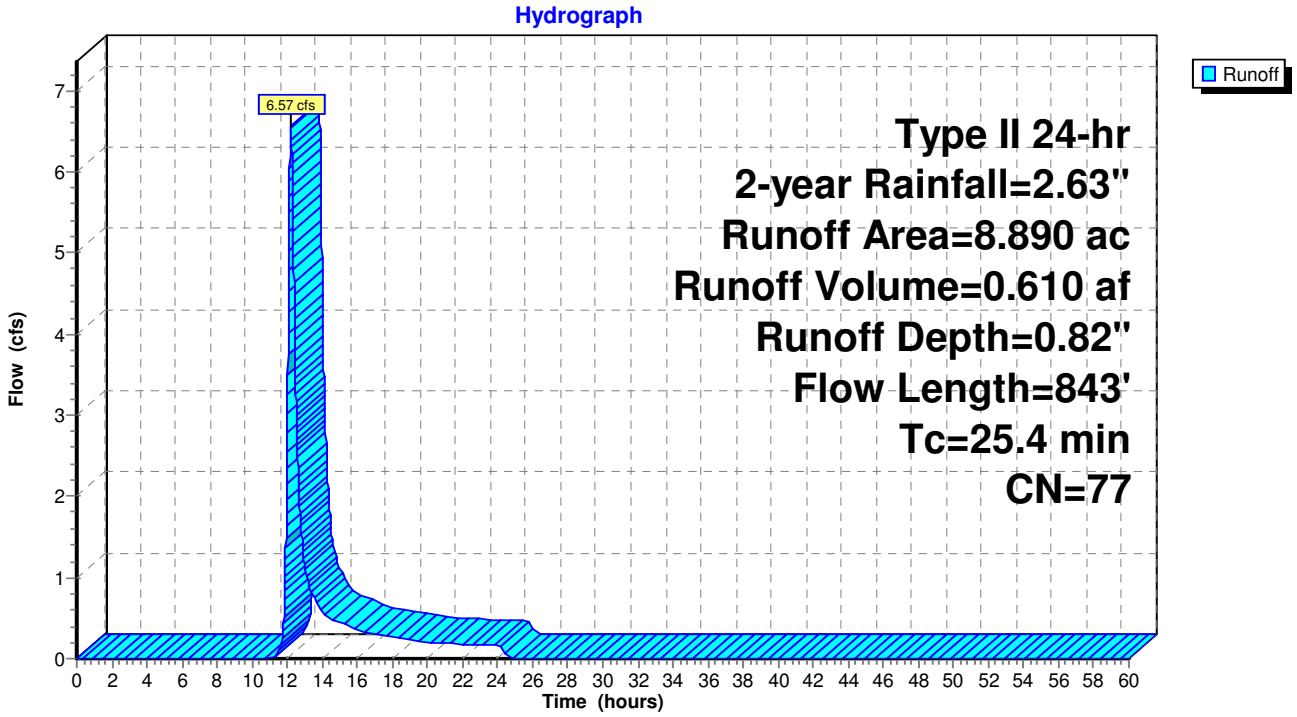
Runoff = 6.57 cfs @ 12.22 hrs, Volume= 0.610 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	0.990	74	Open Space/Grass
*	7.630	78	Agricultural
*	0.270	70	Woods
	8.890	77	Weighted Average
	8.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0100	0.11		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.63"
9.6	743	0.0206	1.29		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
25.4	843	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Block A

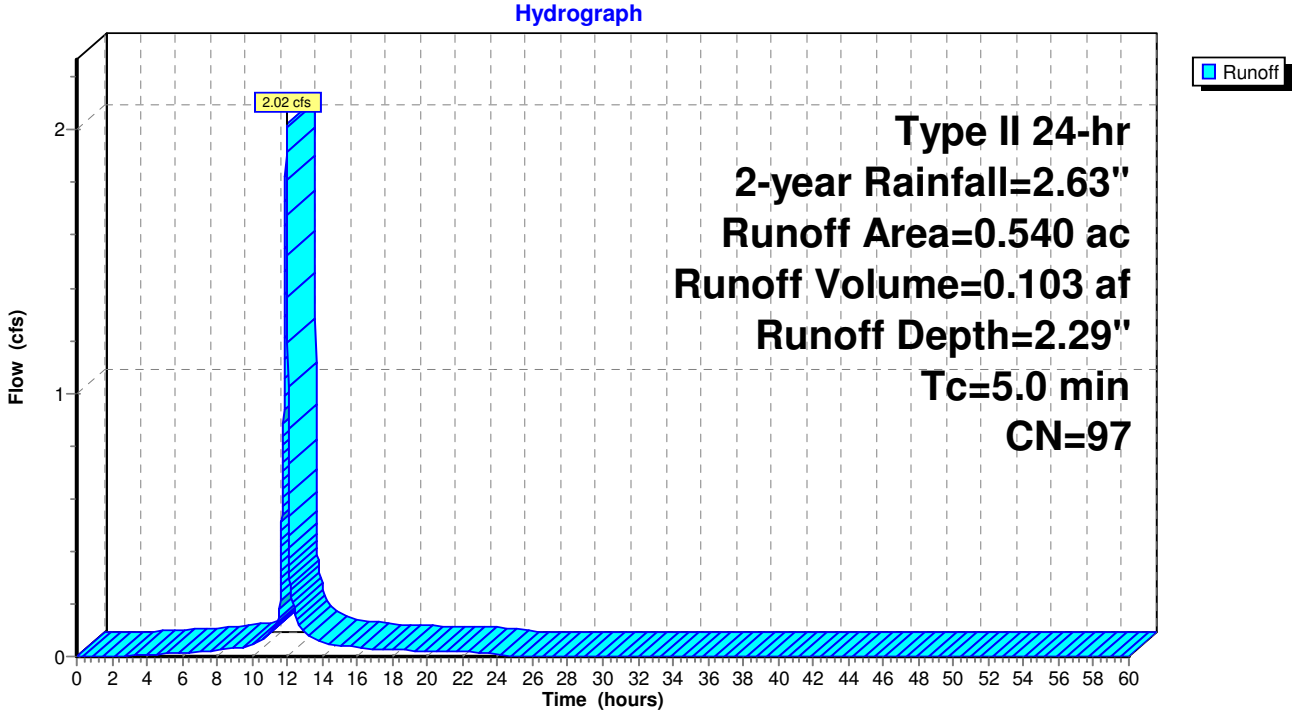
Runoff = 2.02 cfs @ 11.96 hrs, Volume= 0.103 af, Depth= 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	0.520	98	
*	0.020	74	
	0.540	97	Weighted Average
	0.020		3.70% Pervious Area
	0.520		96.30% Impervious Area

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

Subcatchment 2S: Block A



Summary for Subcatchment 3S: Block B

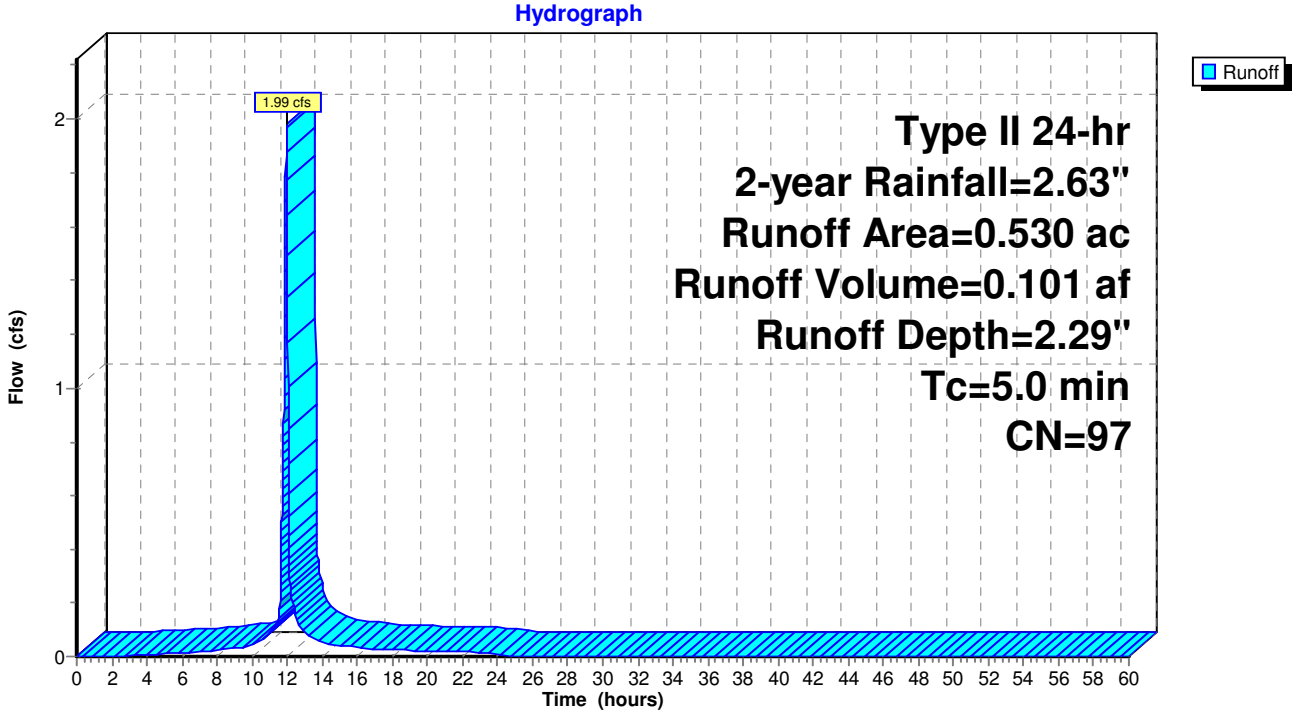
Runoff = 1.99 cfs @ 11.96 hrs, Volume= 0.101 af, Depth= 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	0.500	98	
*	0.030	74	
	0.530	97	Weighted Average
	0.030		5.66% Pervious Area
	0.500		94.34% Impervious Area

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

Subcatchment 3S: Block B



Summary for Subcatchment 4S: Block C

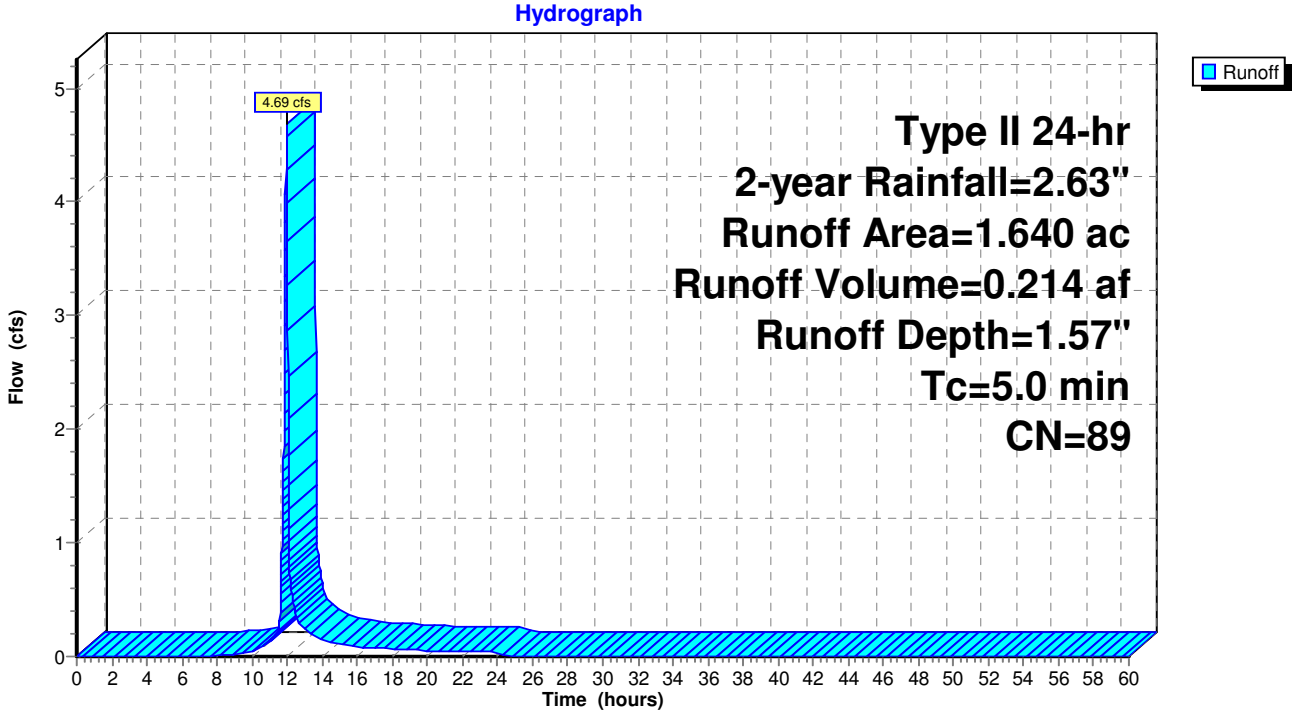
Runoff = 4.69 cfs @ 11.96 hrs, Volume= 0.214 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	1.020	98	
*	0.620	74	
	1.640	89	Weighted Average
	0.620		37.80% Pervious Area
	1.020		62.20% Impervious Area

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

Subcatchment 4S: Block C



Summary for Subcatchment 5S: Block E

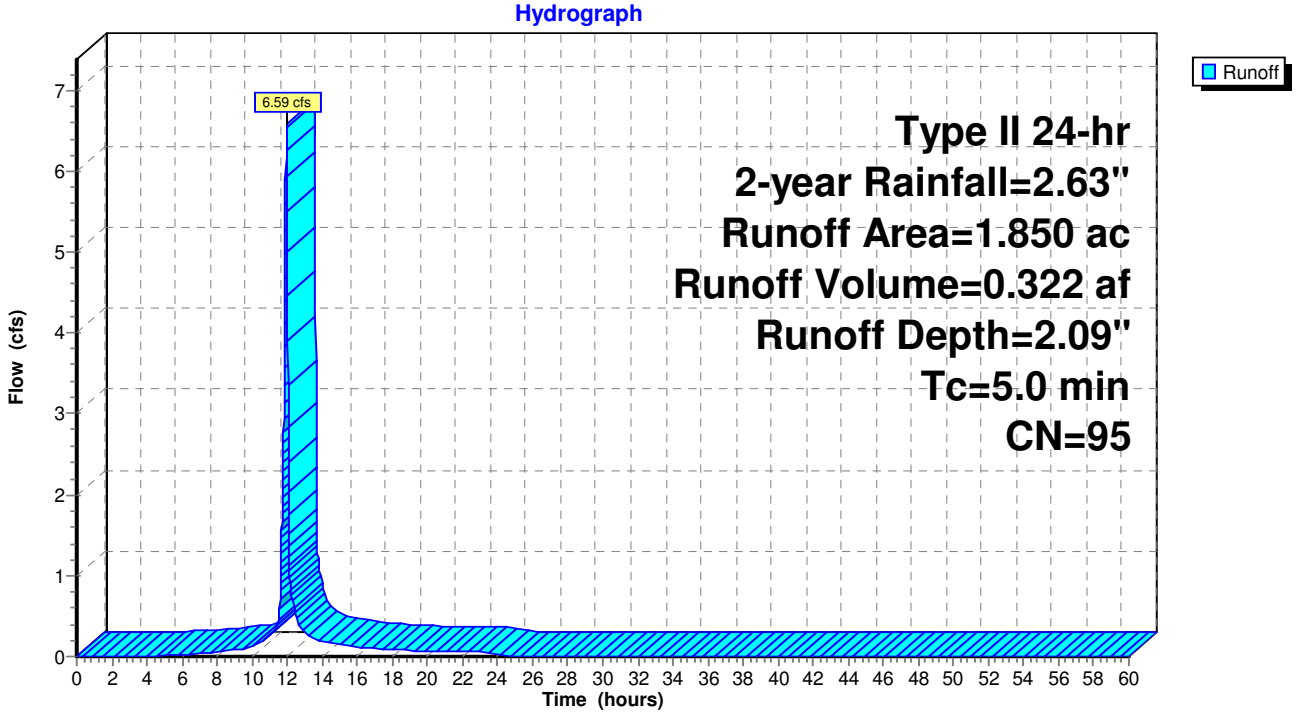
Runoff = 6.59 cfs @ 11.96 hrs, Volume= 0.322 af, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	1.630	98	
*	0.220	74	
	1.850	95	Weighted Average
	0.220		11.89% Pervious Area
	1.630		88.11% Impervious Area

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

Subcatchment 5S: Block E



Summary for Subcatchment 6S: Block F

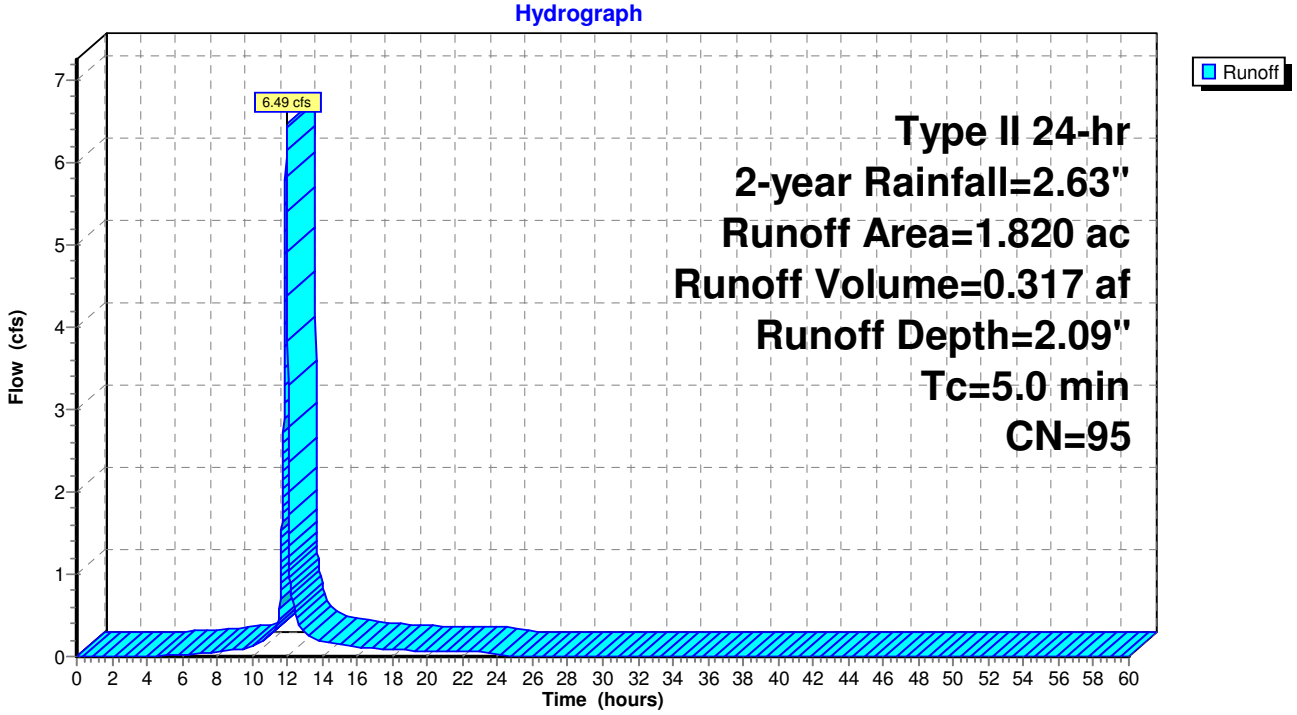
Runoff = 6.49 cfs @ 11.96 hrs, Volume= 0.317 af, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	1.580	98	
*	0.240	74	
	1.820	95	Weighted Average
	0.240		13.19% Pervious Area
	1.580		86.81% Impervious Area

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

Subcatchment 6S: Block F



Summary for Subcatchment 7S: Block G

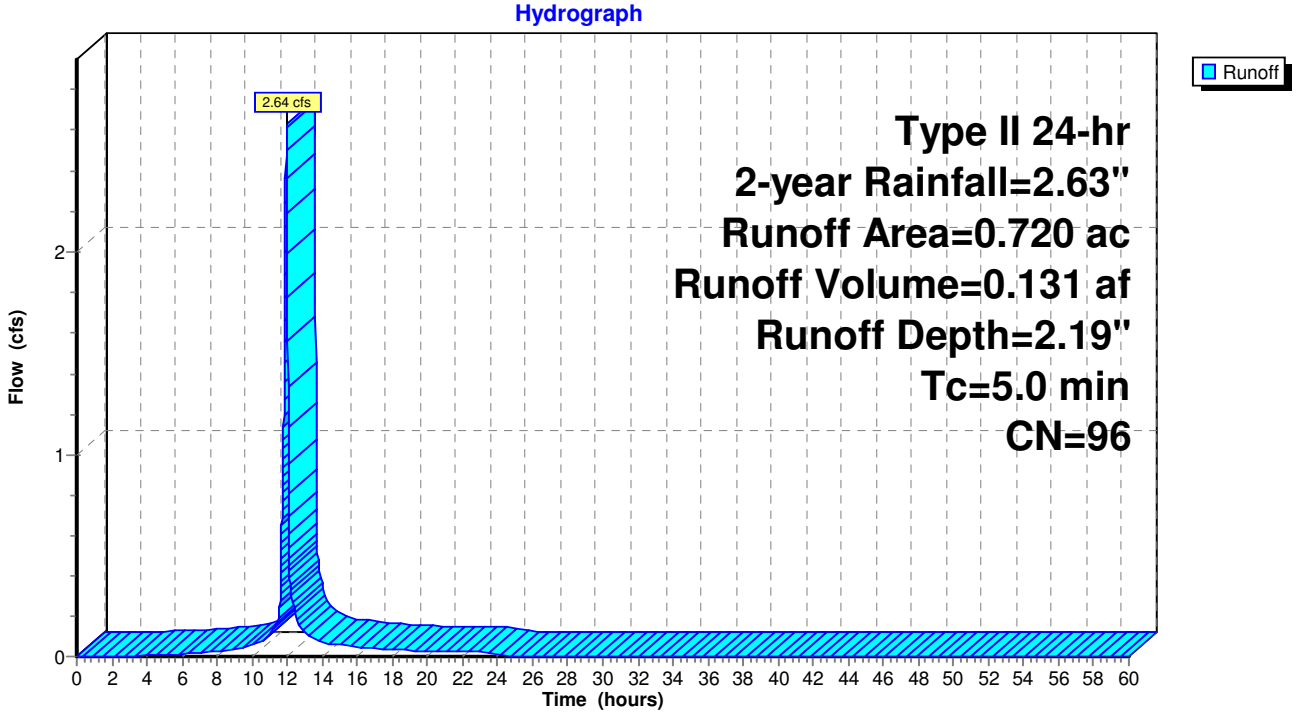
Runoff = 2.64 cfs @ 11.96 hrs, Volume= 0.131 af, Depth= 2.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	0.670	98	
*	0.050	74	
	0.720	96	Weighted Average
	0.050		6.94% Pervious Area
	0.670		93.06% Impervious Area

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

Subcatchment 7S: Block G



Summary for Subcatchment 8S: Block H

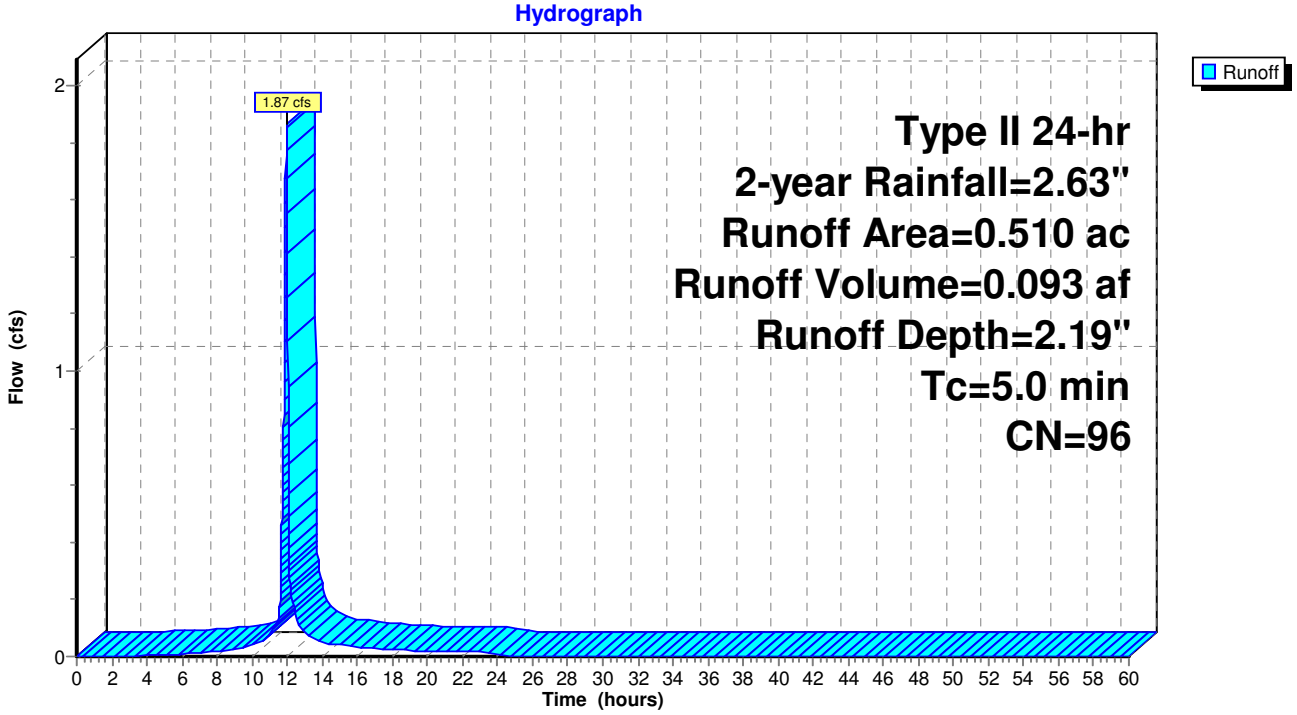
Runoff = 1.87 cfs @ 11.96 hrs, Volume= 0.093 af, Depth= 2.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	0.470	98	
*	0.040	74	
	0.510	96	Weighted Average
	0.040		7.84% Pervious Area
	0.470		92.16% Impervious Area

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

Subcatchment 8S: Block H



Summary for Subcatchment 9S: Block I

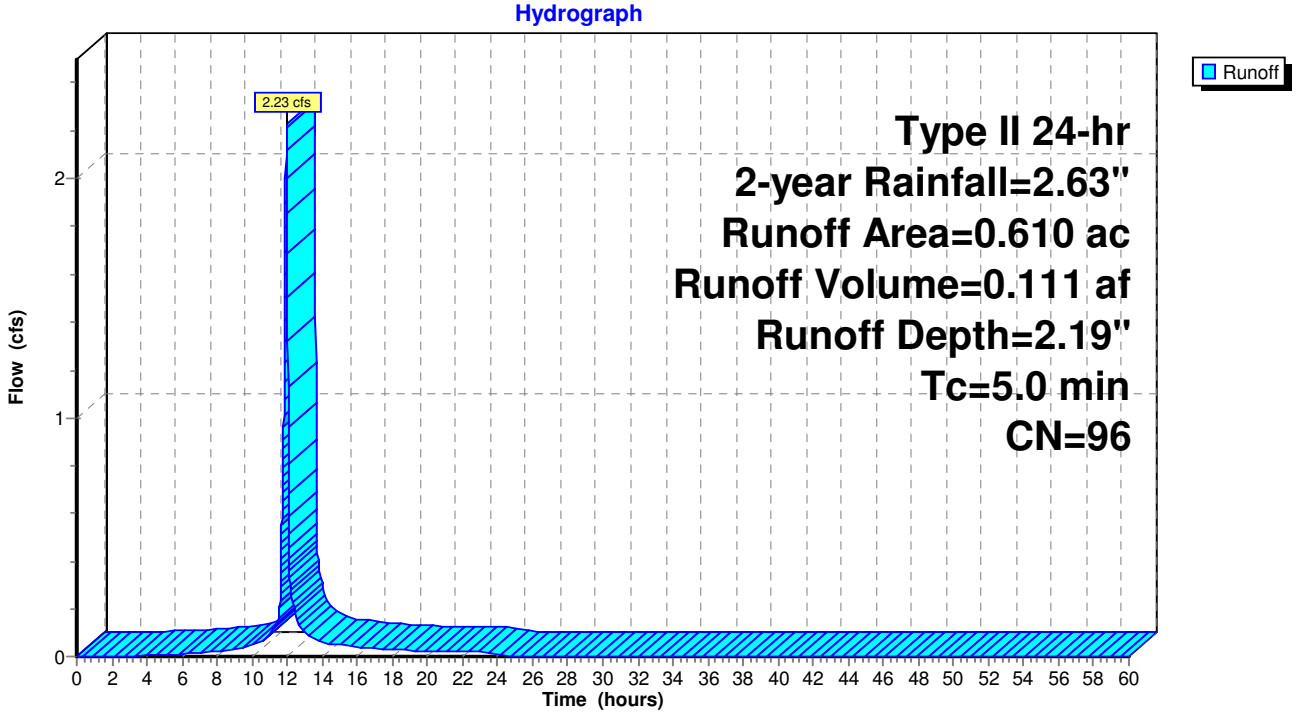
Runoff = 2.23 cfs @ 11.96 hrs, Volume= 0.111 af, Depth= 2.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	0.550	98	
*	0.060	74	
	0.610	96	Weighted Average
	0.060		9.84% Pervious Area
	0.550		90.16% Impervious Area

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

Subcatchment 9S: Block I



Summary for Subcatchment 10S: Block J

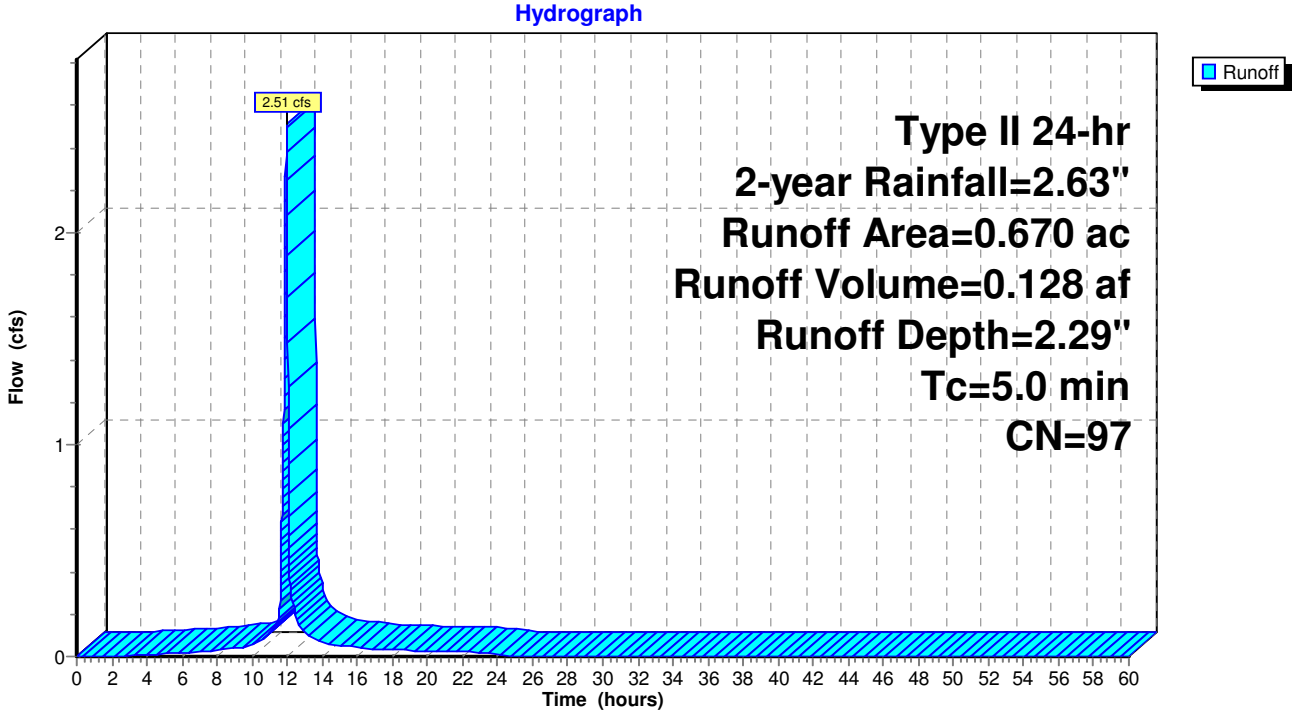
Runoff = 2.51 cfs @ 11.96 hrs, Volume= 0.128 af, Depth= 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	0.640	98	
*	0.030	74	
	0.670	97	Weighted Average
	0.030		4.48% Pervious Area
	0.640		95.52% Impervious Area

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

Subcatchment 10S: Block J



Summary for Subcatchment 12S: Total Post

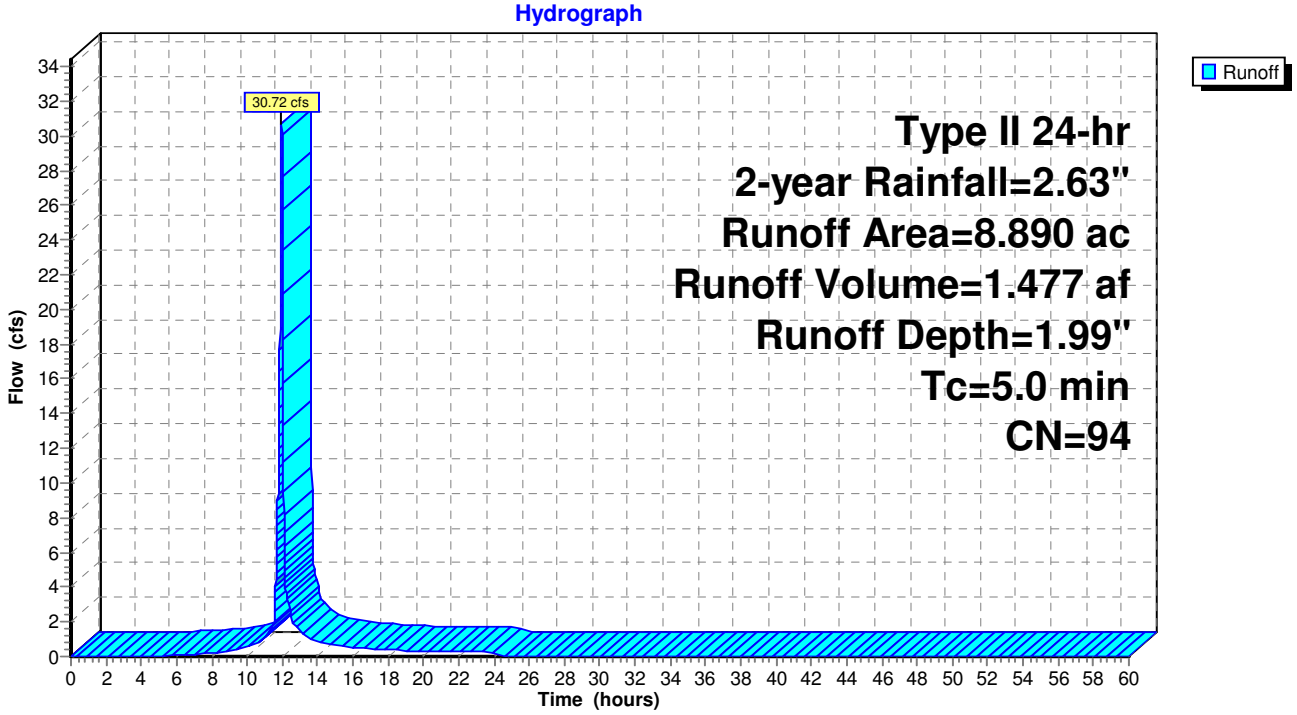
Runoff = 30.72 cfs @ 11.96 hrs, Volume= 1.477 af, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-year Rainfall=2.63"

	Area (ac)	CN	Description
*	7.580	98	
*	1.310	74	
	8.890	94	Weighted Average
	1.310		14.74% Pervious Area
	7.580		85.26% Impervious Area

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

Subcatchment 12S: Total Post



Summary for Pond 11P: Detention A

Inflow Area = 0.540 ac, 96.30% Impervious, Inflow Depth = 2.29" for 2-year event
Inflow = 2.02 cfs @ 11.96 hrs, Volume= 0.103 af
Outflow = 0.18 cfs @ 12.39 hrs, Volume= 0.099 af, Atten= 91%, Lag= 26.1 min
Primary = 0.18 cfs @ 12.39 hrs, Volume= 0.099 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.99' @ 12.39 hrs Surf.Area= 1,307 sf Storage= 2,604 cf

Plug-Flow detention time= 515.6 min calculated for 0.099 af (96% of inflow)
Center-of-Mass det. time= 492.2 min (1,258.9 - 766.7)

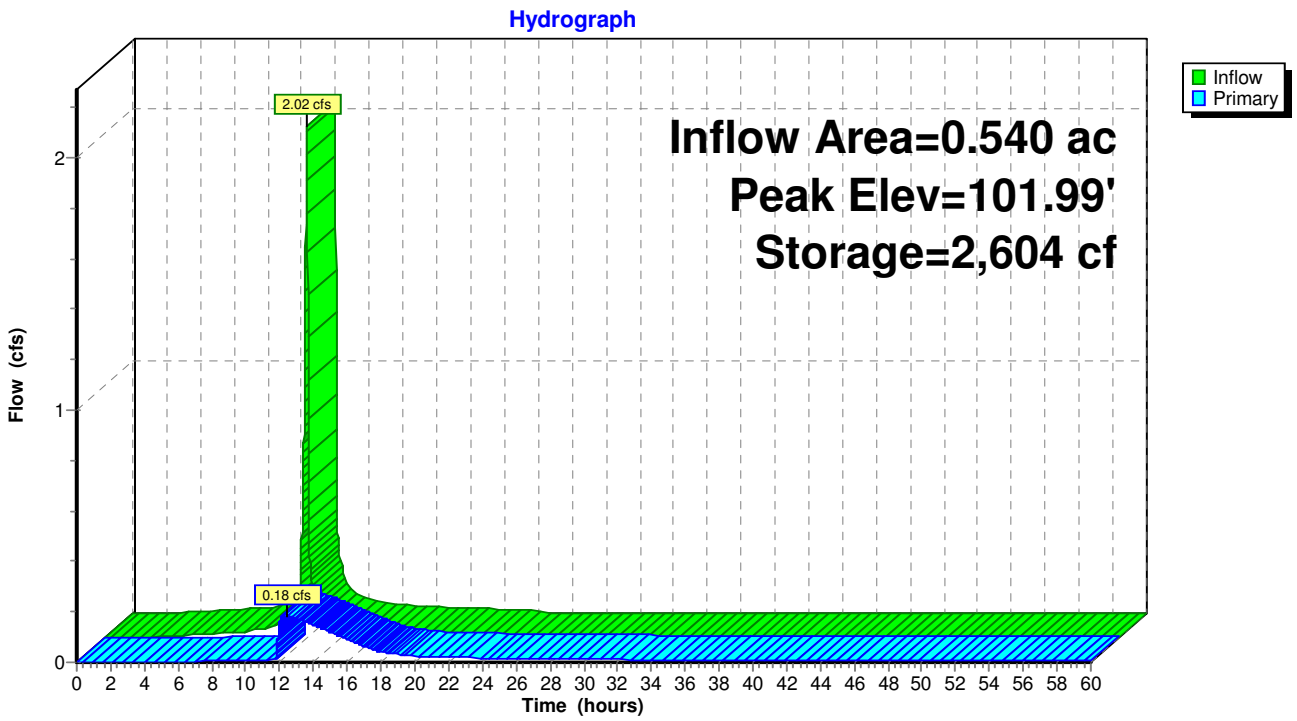
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.18 cfs @ 12.39 hrs HW=101.99' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 6.75 fps)
- **2=Orifice/Grate** (Orifice Controls 0.16 cfs @ 4.79 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 11P: Detention A



Summary for Pond 13P: Detention B

Inflow Area = 0.530 ac, 94.34% Impervious, Inflow Depth = 2.29" for 2-year event
Inflow = 1.99 cfs @ 11.96 hrs, Volume= 0.101 af
Outflow = 0.18 cfs @ 12.39 hrs, Volume= 0.097 af, Atten= 91%, Lag= 26.1 min
Primary = 0.18 cfs @ 12.39 hrs, Volume= 0.097 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.96' @ 12.39 hrs Surf.Area= 1,307 sf Storage= 2,557 cf

Plug-Flow detention time= 522.1 min calculated for 0.097 af (96% of inflow)
Center-of-Mass det. time= 498.4 min (1,265.1 - 766.7)

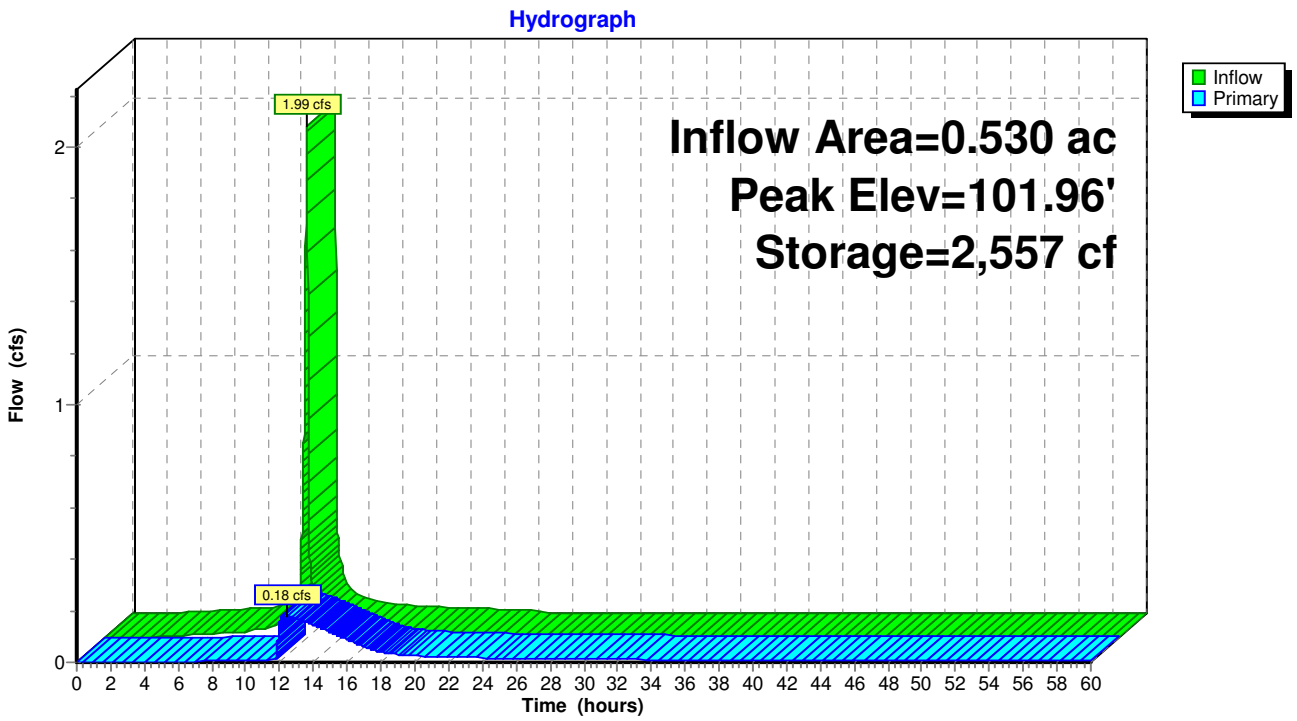
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.18 cfs @ 12.39 hrs HW=101.96' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 6.68 fps)
- **2=Orifice/Grate** (Orifice Controls 0.16 cfs @ 4.70 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 13P: Detention B



Summary for Pond 14P: Detention C

Inflow Area = 1.640 ac, 62.20% Impervious, Inflow Depth = 1.57" for 2-year event
Inflow = 4.69 cfs @ 11.96 hrs, Volume= 0.214 af
Outflow = 0.55 cfs @ 12.27 hrs, Volume= 0.211 af, Atten= 88%, Lag= 18.9 min
Primary = 0.55 cfs @ 12.27 hrs, Volume= 0.211 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.06' @ 12.27 hrs Surf.Area= 4,356 sf Storage= 4,612 cf

Plug-Flow detention time= 367.6 min calculated for 0.211 af (98% of inflow)
Center-of-Mass det. time= 358.4 min (1,173.6 - 815.1)

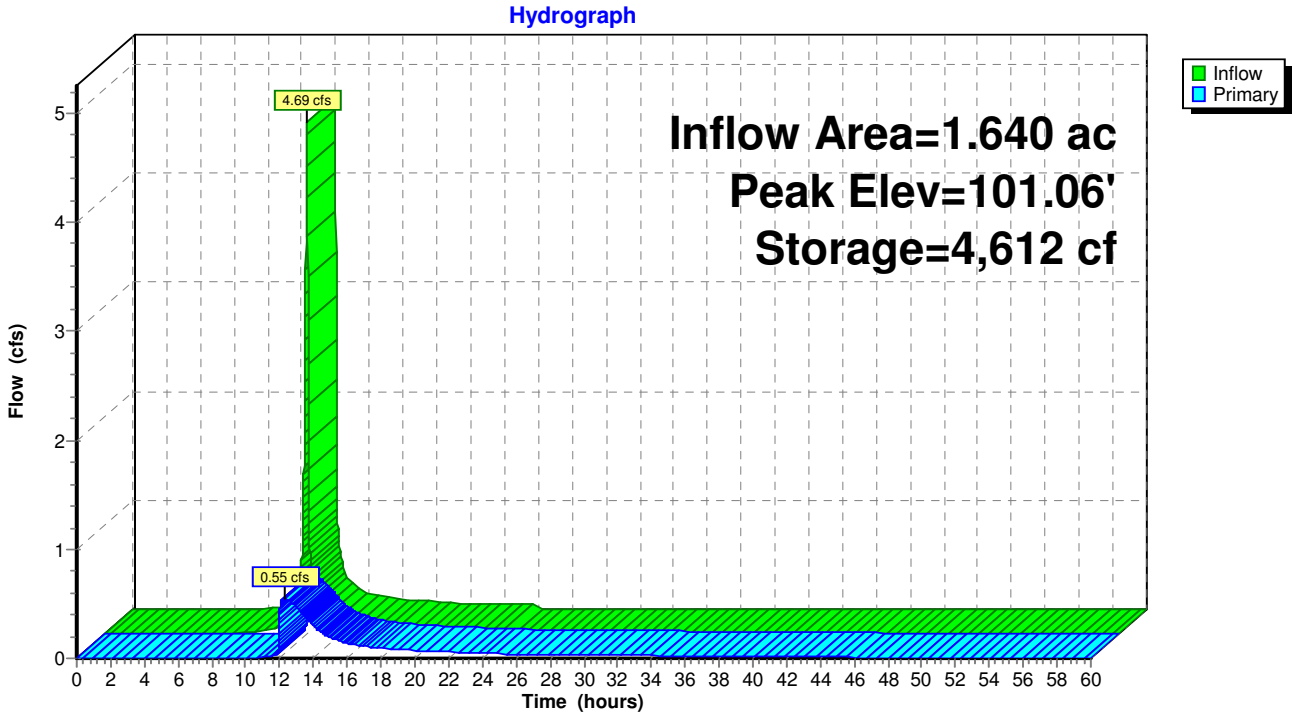
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	19,602 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,356	0	0
104.00	4,356	17,424	17,424
104.50	4,356	2,178	19,602

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.45'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.30'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.55 cfs @ 12.27 hrs HW=101.06' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 4.81 fps)
- **2=Orifice/Grate** (Orifice Controls 0.49 cfs @ 2.97 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 14P: Detention C



Summary for Pond 15P: Detention E

Inflow Area = 1.850 ac, 88.11% Impervious, Inflow Depth = 2.09" for 2-year event
Inflow = 6.59 cfs @ 11.96 hrs, Volume= 0.322 af
Outflow = 0.68 cfs @ 12.32 hrs, Volume= 0.316 af, Atten= 90%, Lag= 21.5 min
Primary = 0.68 cfs @ 12.32 hrs, Volume= 0.316 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.48' @ 12.32 hrs Surf.Area= 5,227 sf Storage= 7,746 cf

Plug-Flow detention time= 455.6 min calculated for 0.316 af (98% of inflow)
Center-of-Mass det. time= 444.6 min (1,227.6 - 783.0)

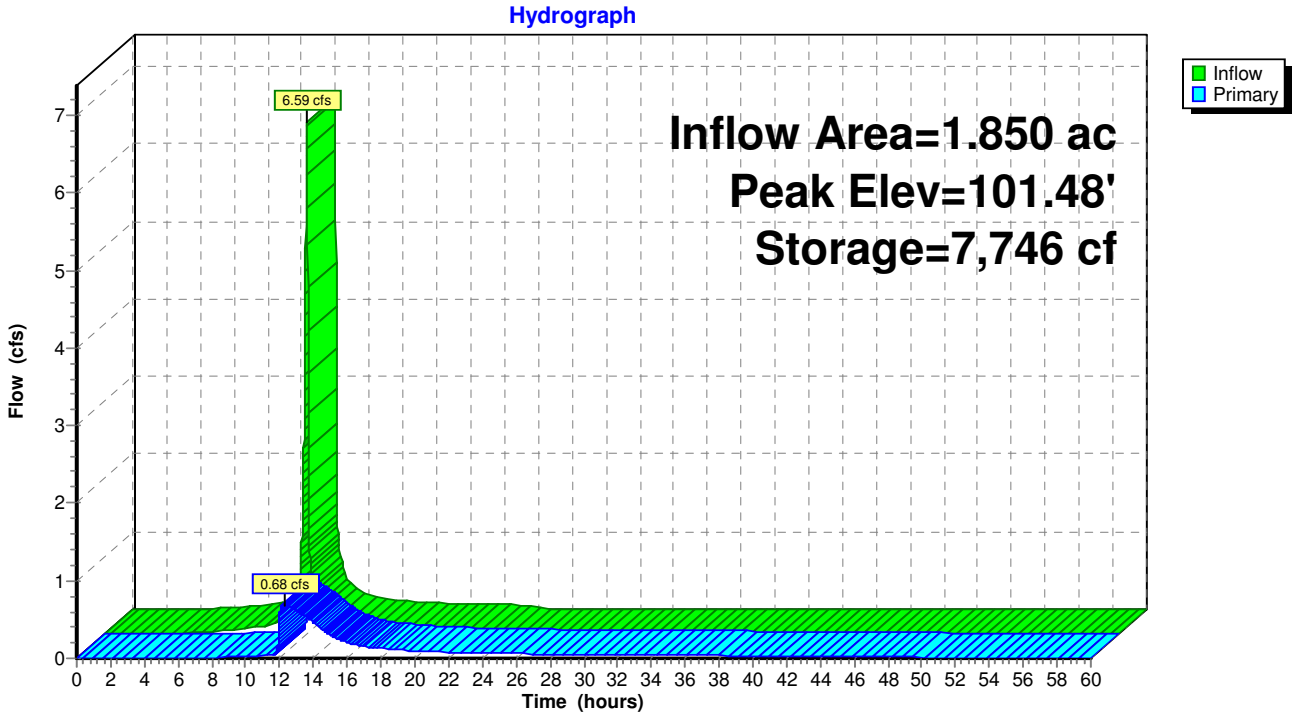
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	20,908 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	5,227	0	0
104.00	5,227	20,908	20,908

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.70'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.75'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 12.32 hrs HW=101.48' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.09 cfs @ 5.72 fps)
- **2=Orifice/Grate** (Orifice Controls 0.59 cfs @ 3.58 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 15P: Detention E



Summary for Pond 16P: Detention F

Inflow Area = 1.820 ac, 86.81% Impervious, Inflow Depth = 2.09" for 2-year event
Inflow = 6.49 cfs @ 11.96 hrs, Volume= 0.317 af
Outflow = 0.71 cfs @ 12.28 hrs, Volume= 0.312 af, Atten= 89%, Lag= 19.4 min
Primary = 0.71 cfs @ 12.28 hrs, Volume= 0.312 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.57' @ 12.28 hrs Surf.Area= 4,792 sf Storage= 7,542 cf

Plug-Flow detention time= 437.8 min calculated for 0.312 af (99% of inflow)
Center-of-Mass det. time= 428.8 min (1,211.9 - 783.0)

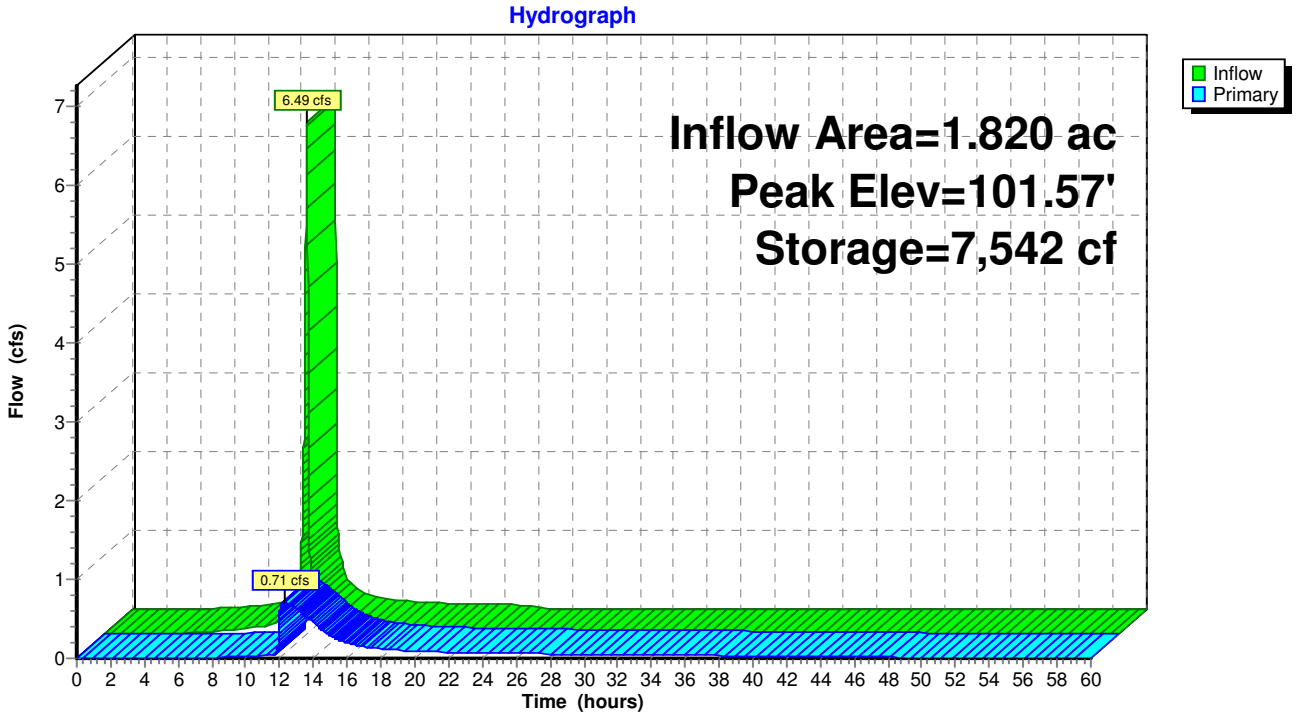
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	21,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,792	0	0
104.00	4,792	19,168	19,168
104.50	4,792	2,396	21,564

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.90'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.71 cfs @ 12.28 hrs HW=101.57' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.09 cfs @ 5.90 fps)
- **2=Orifice/Grate** (Orifice Controls 0.61 cfs @ 3.71 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Detention F



Summary for Pond 17P: Detention G

Inflow Area = 0.720 ac, 93.06% Impervious, Inflow Depth = 2.19" for 2-year event
Inflow = 2.64 cfs @ 11.96 hrs, Volume= 0.131 af
Outflow = 0.29 cfs @ 12.27 hrs, Volume= 0.130 af, Atten= 89%, Lag= 18.5 min
Primary = 0.29 cfs @ 12.27 hrs, Volume= 0.130 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.43' @ 12.27 hrs Surf.Area= 2,178 sf Storage= 3,118 cf

Plug-Flow detention time= 409.4 min calculated for 0.130 af (99% of inflow)
Center-of-Mass det. time= 404.9 min (1,180.4 - 775.5)

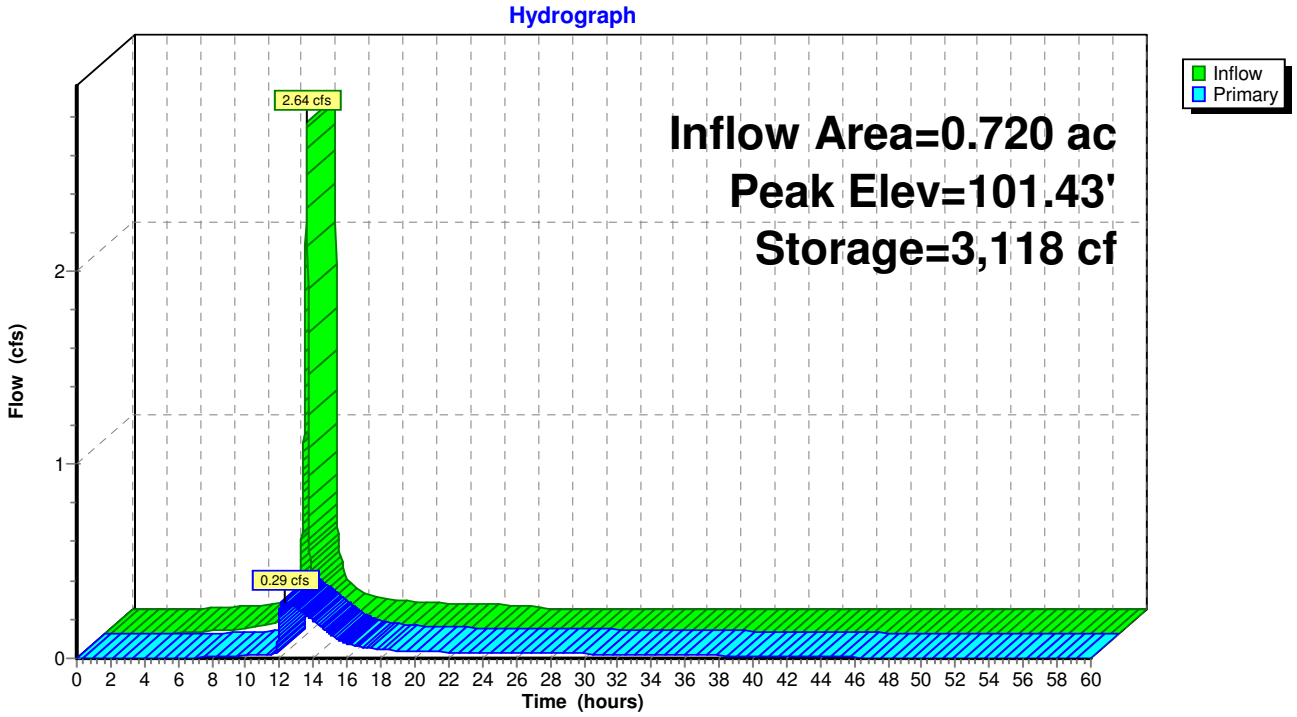
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	2,178	0	0
104.00	2,178	8,712	8,712

Device	Routing	Invert	Outlet Devices		
#1	Primary	100.00'	**1.2" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	100.70'	**3.5" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	102.60'	**8.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 12.27 hrs HW=101.43' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 5.66 fps)
- **2=Orifice/Grate** (Orifice Controls 0.25 cfs @ 3.68 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 17P: Detention G



Summary for Pond 18P: Detention H

Inflow Area = 0.510 ac, 92.16% Impervious, Inflow Depth = 2.19" for 2-year event
Inflow = 1.87 cfs @ 11.96 hrs, Volume= 0.093 af
Outflow = 0.17 cfs @ 12.40 hrs, Volume= 0.090 af, Atten= 91%, Lag= 26.7 min
Primary = 0.17 cfs @ 12.40 hrs, Volume= 0.090 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.78' @ 12.40 hrs Surf.Area= 1,307 sf Storage= 2,321 cf

Plug-Flow detention time= 525.8 min calculated for 0.090 af (96% of inflow)
Center-of-Mass det. time= 503.7 min (1,279.2 - 775.5)

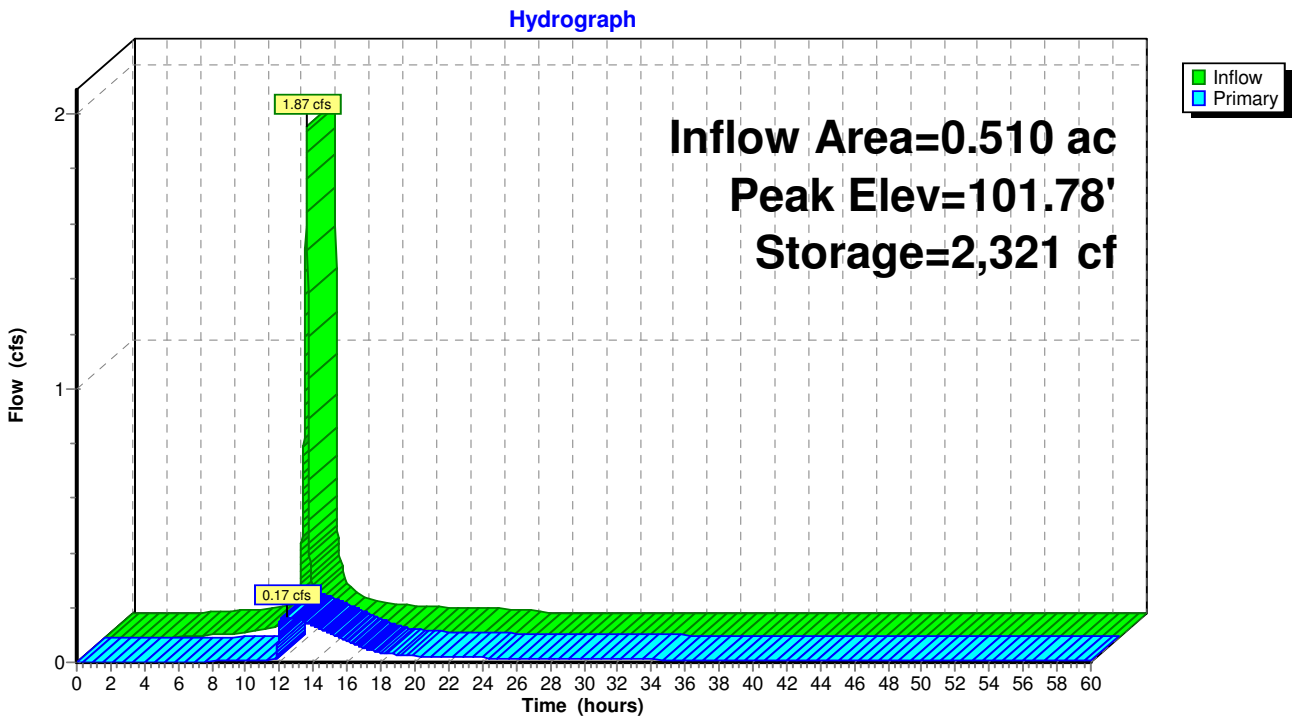
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,227	5,227

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.25'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.17 cfs @ 12.40 hrs HW=101.78' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 6.36 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.15 cfs @ 4.37 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 18P: Detention H



Summary for Pond 19P: Detention I

Inflow Area = 0.610 ac, 90.16% Impervious, Inflow Depth = 2.19" for 2-year event
Inflow = 2.23 cfs @ 11.96 hrs, Volume= 0.111 af
Outflow = 0.23 cfs @ 12.33 hrs, Volume= 0.110 af, Atten= 90%, Lag= 22.1 min
Primary = 0.23 cfs @ 12.33 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.54' @ 12.33 hrs Surf.Area= 1,742 sf Storage= 2,685 cf

Plug-Flow detention time= 447.3 min calculated for 0.110 af (99% of inflow)
Center-of-Mass det. time= 442.0 min (1,217.5 - 775.5)

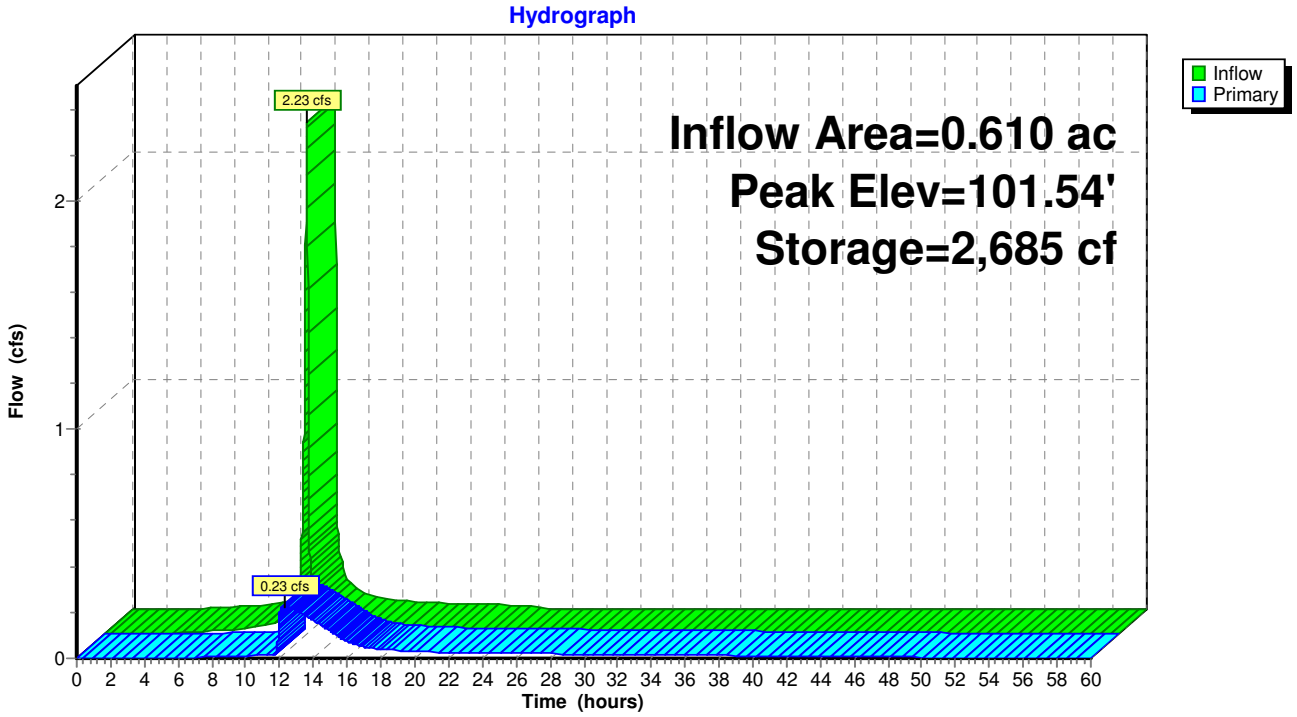
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.85'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.23 cfs @ 12.33 hrs HW=101.54' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 5.90 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.19 cfs @ 3.93 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 19P: Detention I



Summary for Pond 20P: Detention J

Inflow Area = 0.670 ac, 95.52% Impervious, Inflow Depth = 2.29" for 2-year event
Inflow = 2.51 cfs @ 11.96 hrs, Volume= 0.128 af
Outflow = 0.25 cfs @ 12.33 hrs, Volume= 0.127 af, Atten= 90%, Lag= 22.4 min
Primary = 0.25 cfs @ 12.33 hrs, Volume= 0.127 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.80' @ 12.33 hrs Surf.Area= 1,742 sf Storage= 3,132 cf

Plug-Flow detention time= 458.3 min calculated for 0.127 af (99% of inflow)
Center-of-Mass det. time= 452.7 min (1,219.4 - 766.7)

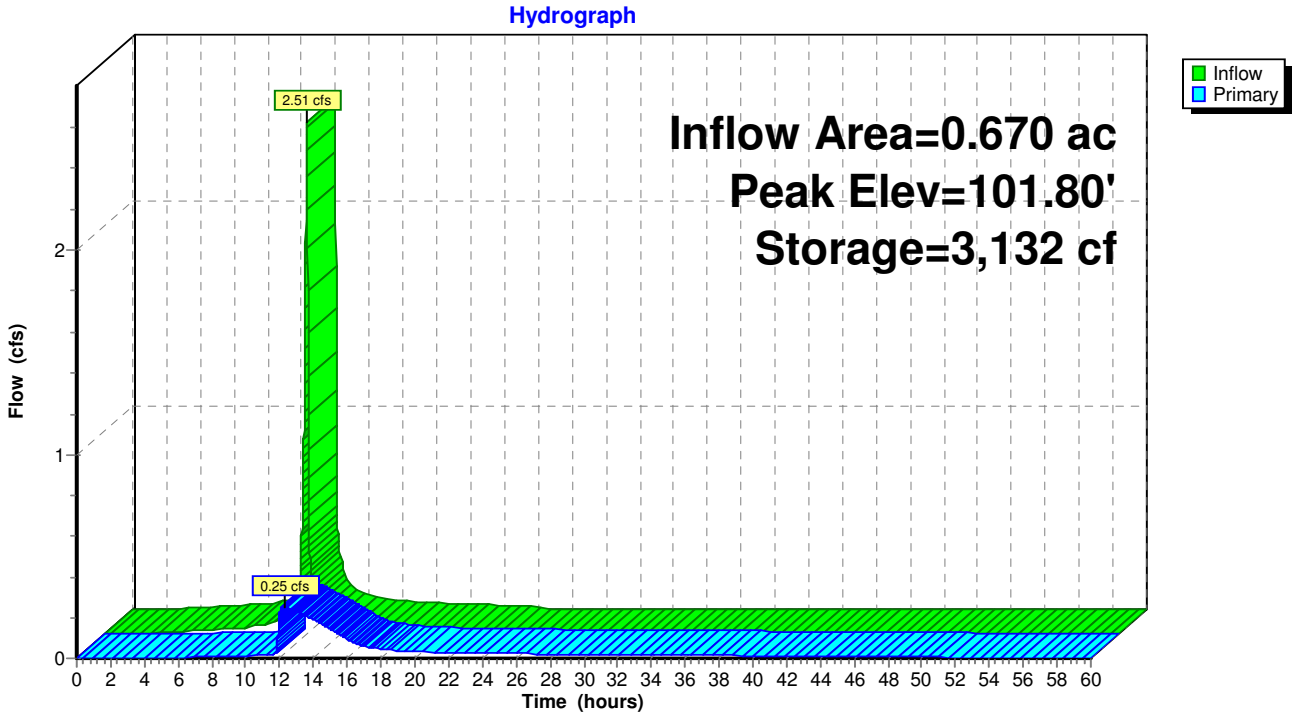
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.20'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.25 cfs @ 12.33 hrs HW=101.80' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 6.38 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.21 cfs @ 4.37 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 20P: Detention J



Summary for Subcatchment 1S: Pre-developed

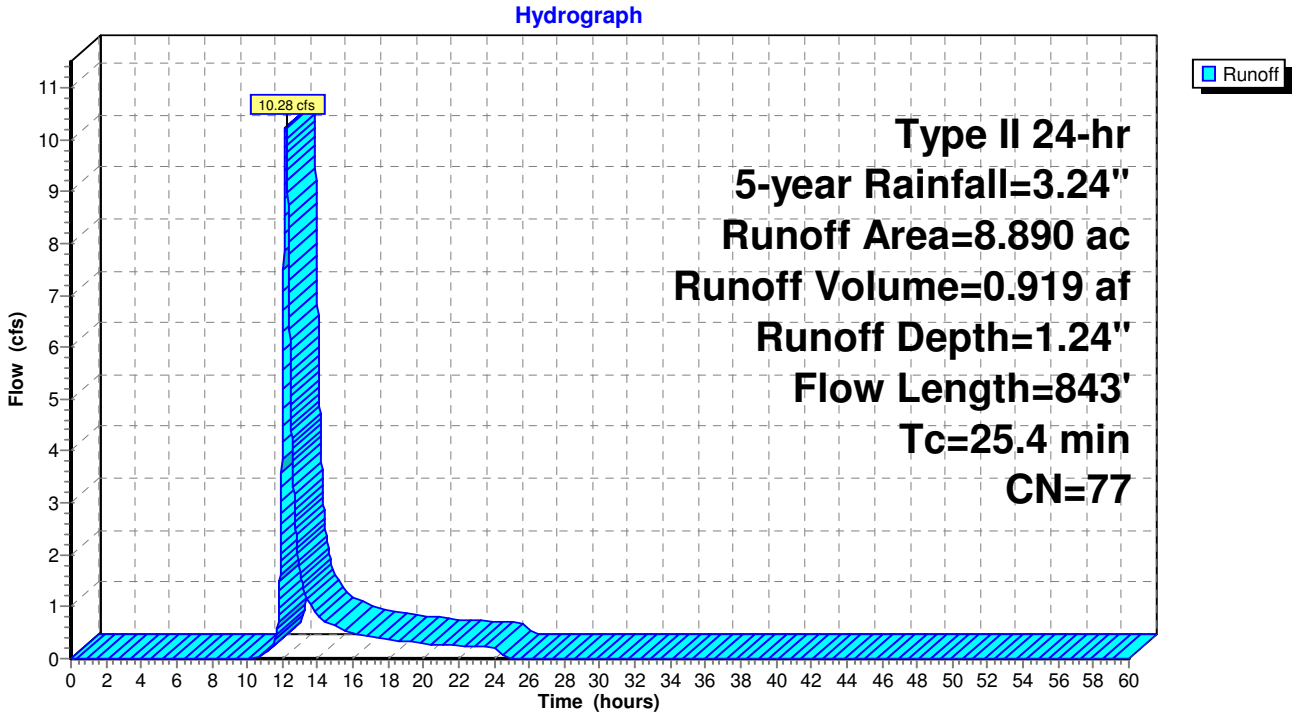
Runoff = 10.28 cfs @ 12.20 hrs, Volume= 0.919 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	0.990	74	Open Space/Grass
*	7.630	78	Agricultural
*	0.270	70	Woods
	8.890	77	Weighted Average
	8.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0100	0.11		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.63"
9.6	743	0.0206	1.29		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
25.4	843	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Block A

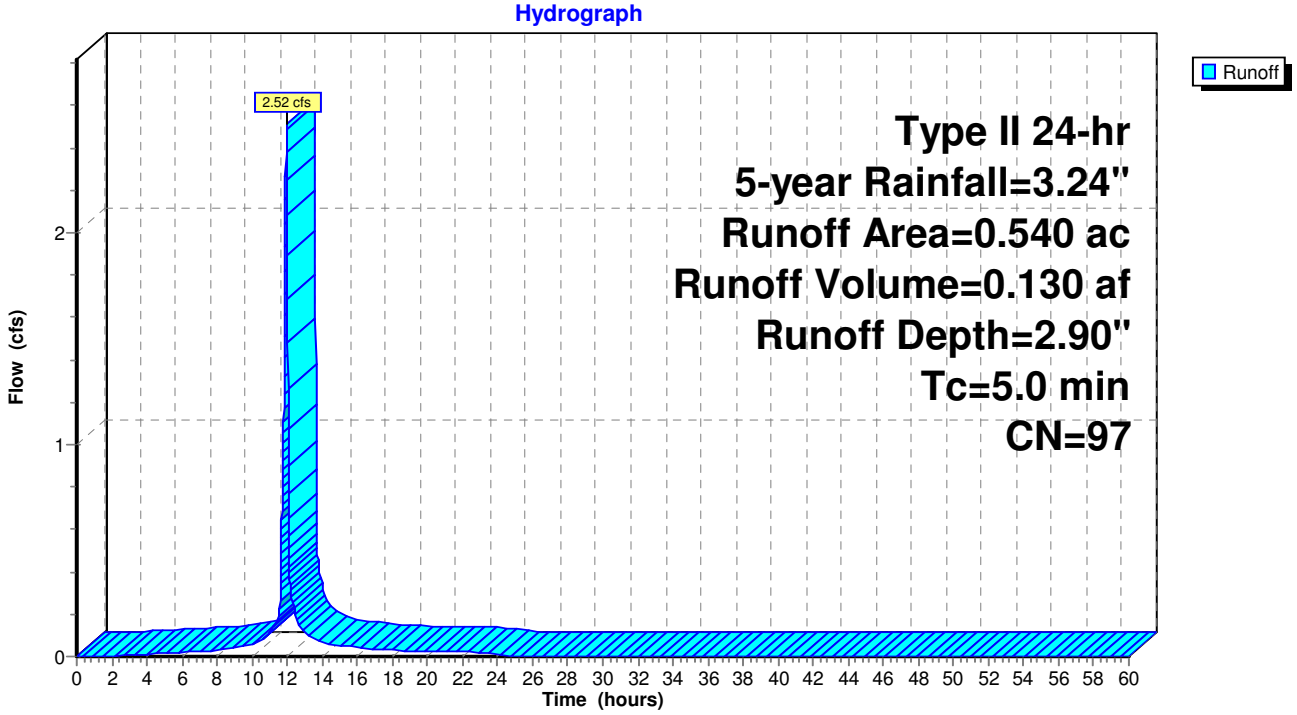
Runoff = 2.52 cfs @ 11.96 hrs, Volume= 0.130 af, Depth= 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	0.520	98	
*	0.020	74	
	0.540	97	Weighted Average
	0.020		3.70% Pervious Area
	0.520		96.30% Impervious Area

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

Subcatchment 2S: Block A



Summary for Subcatchment 3S: Block B

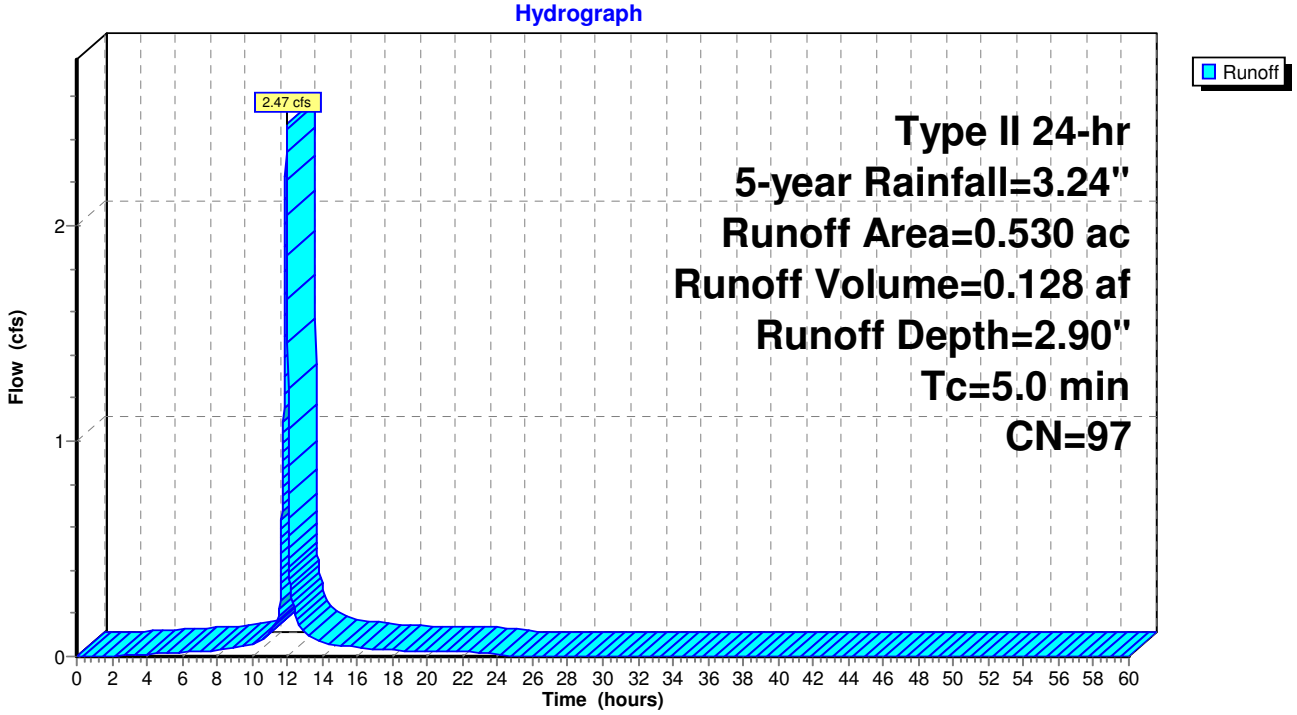
Runoff = 2.47 cfs @ 11.96 hrs, Volume= 0.128 af, Depth= 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	0.500	98	
*	0.030	74	
	0.530	97	Weighted Average
	0.030		5.66% Pervious Area
	0.500		94.34% Impervious Area

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

Subcatchment 3S: Block B



Summary for Subcatchment 4S: Block C

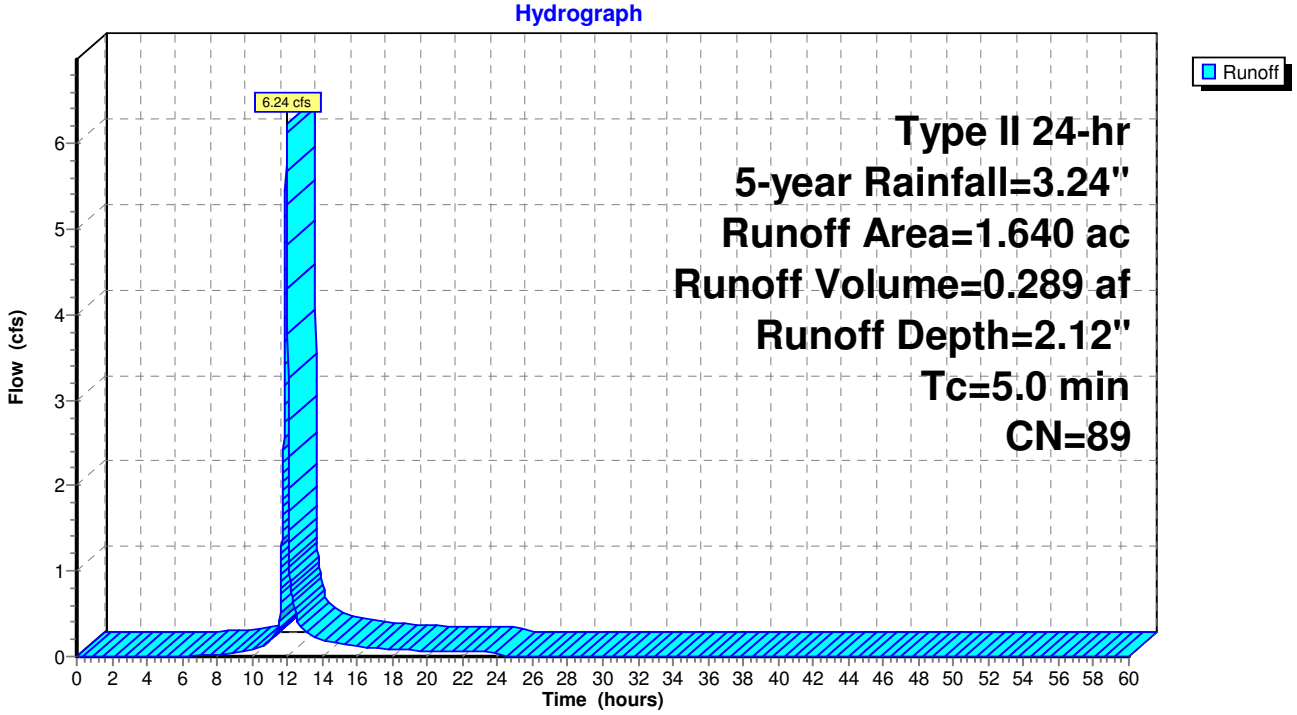
Runoff = 6.24 cfs @ 11.96 hrs, Volume= 0.289 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	1.020	98	
*	0.620	74	
	1.640	89	Weighted Average
	0.620		37.80% Pervious Area
	1.020		62.20% Impervious Area

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

Subcatchment 4S: Block C



Summary for Subcatchment 5S: Block E

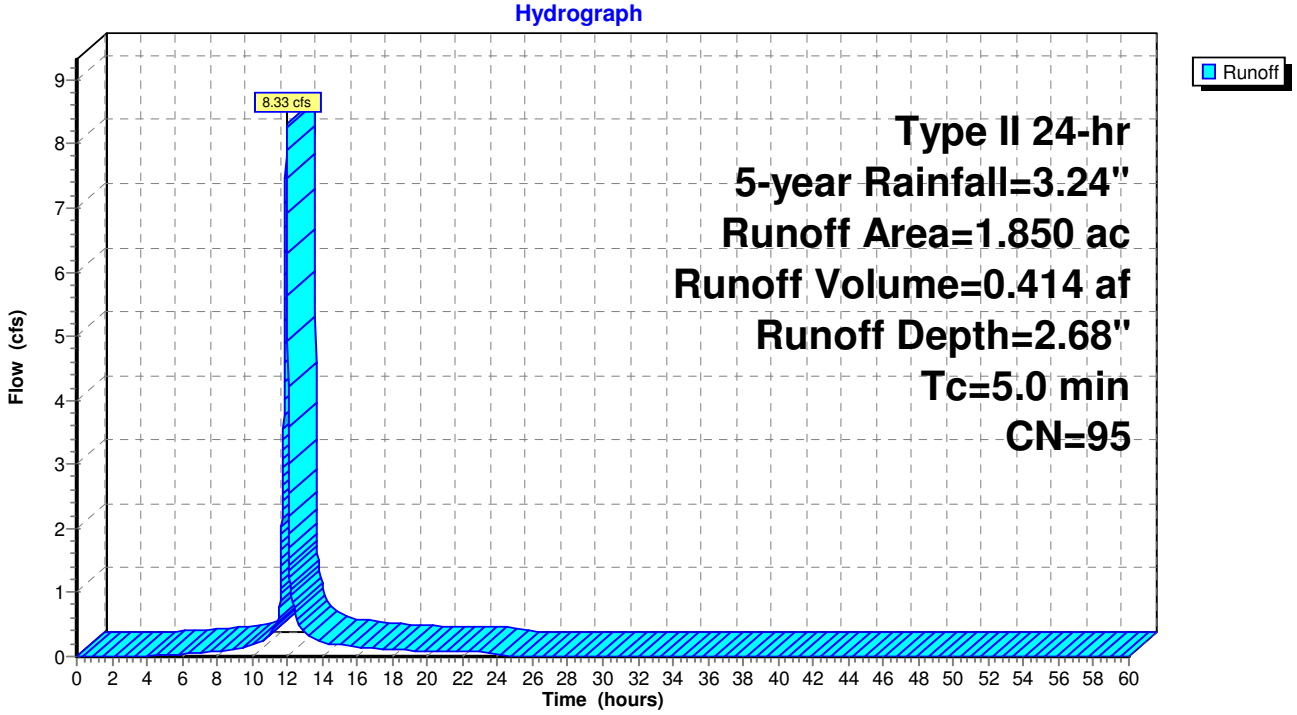
Runoff = 8.33 cfs @ 11.96 hrs, Volume= 0.414 af, Depth= 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	1.630	98	
*	0.220	74	
	1.850	95	Weighted Average
	0.220		11.89% Pervious Area
	1.630		88.11% Impervious Area

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

Subcatchment 5S: Block E



Summary for Subcatchment 6S: Block F

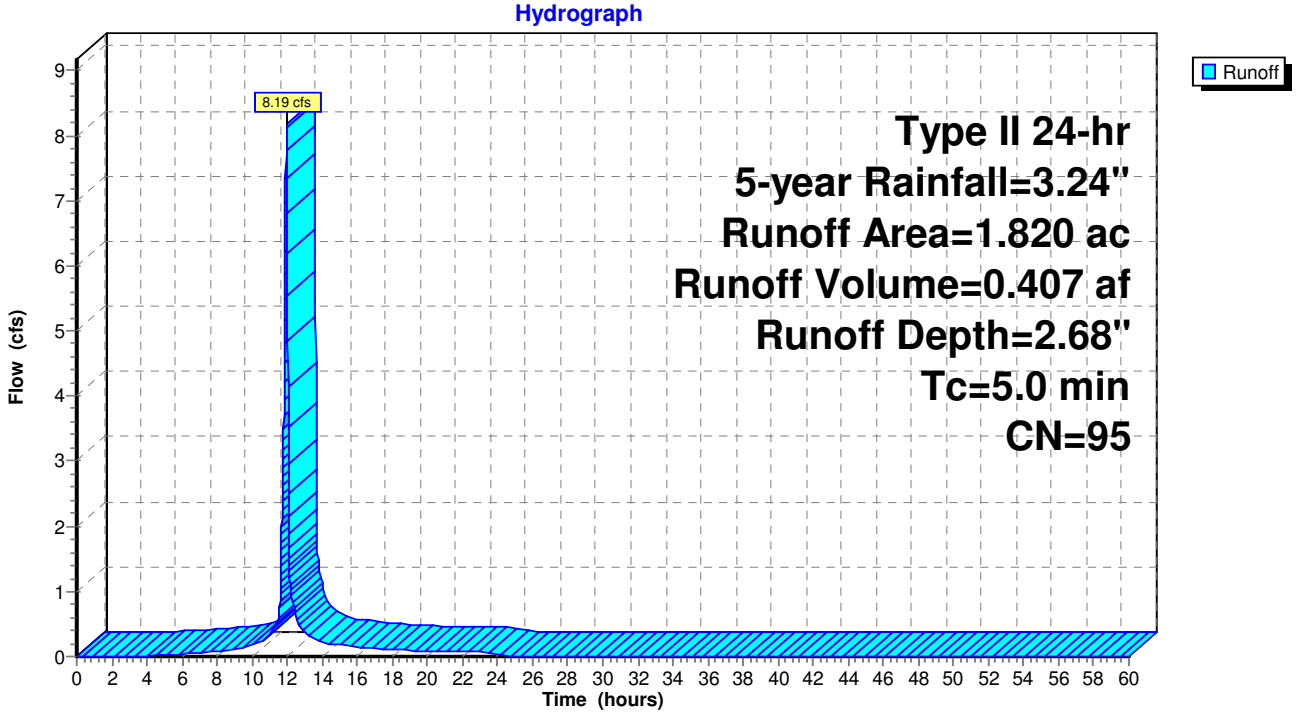
Runoff = 8.19 cfs @ 11.96 hrs, Volume= 0.407 af, Depth= 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	1.580	98	
*	0.240	74	
	1.820	95	Weighted Average
	0.240		13.19% Pervious Area
	1.580		86.81% Impervious Area

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

Subcatchment 6S: Block F



Summary for Subcatchment 7S: Block G

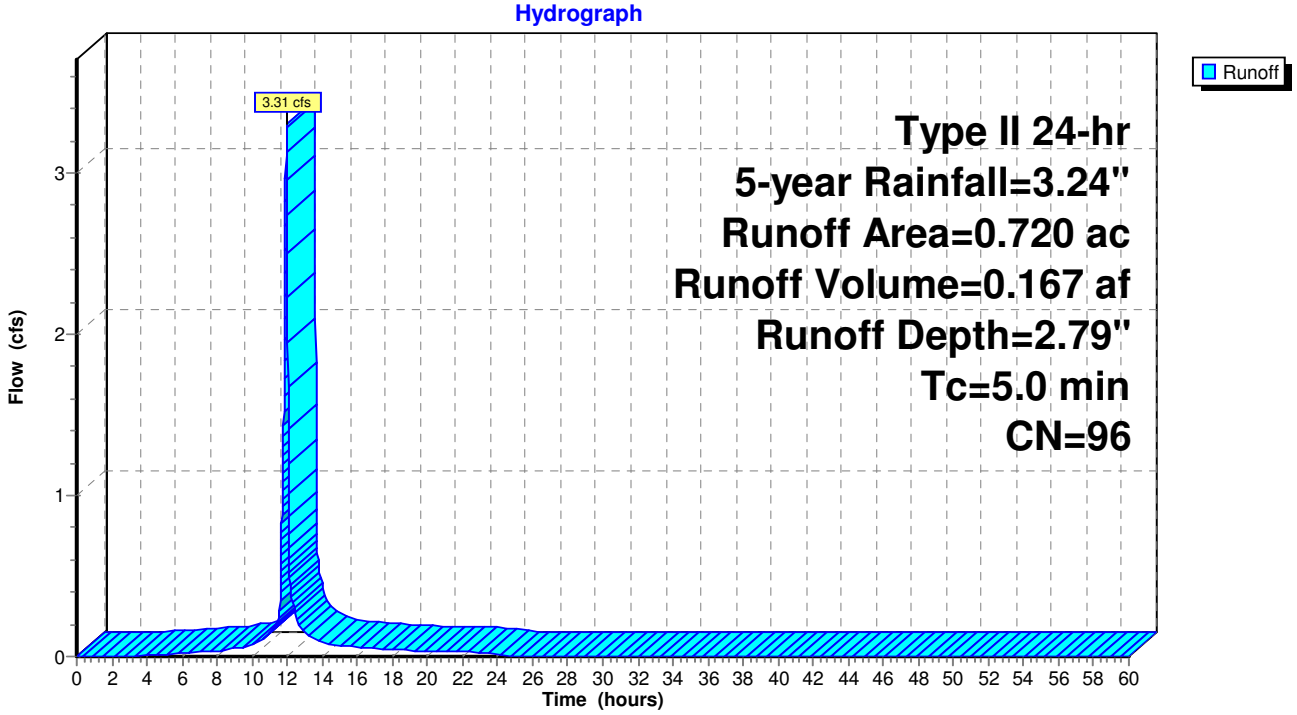
Runoff = 3.31 cfs @ 11.96 hrs, Volume= 0.167 af, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	0.670	98	
*	0.050	74	
	0.720	96	Weighted Average
	0.050		6.94% Pervious Area
	0.670		93.06% Impervious Area

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

Subcatchment 7S: Block G



Summary for Subcatchment 8S: Block H

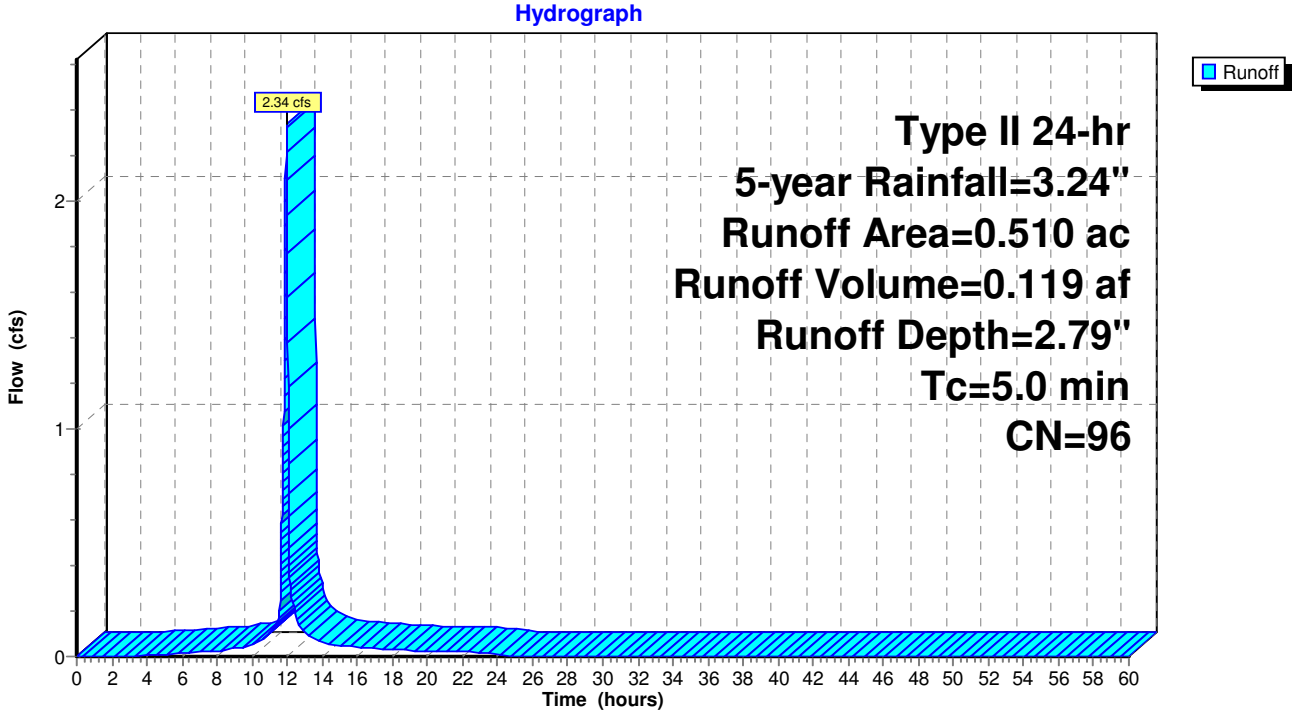
Runoff = 2.34 cfs @ 11.96 hrs, Volume= 0.119 af, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	0.470	98	
*	0.040	74	
	0.510	96	Weighted Average
	0.040		7.84% Pervious Area
	0.470		92.16% Impervious Area

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

Subcatchment 8S: Block H



Summary for Subcatchment 9S: Block I

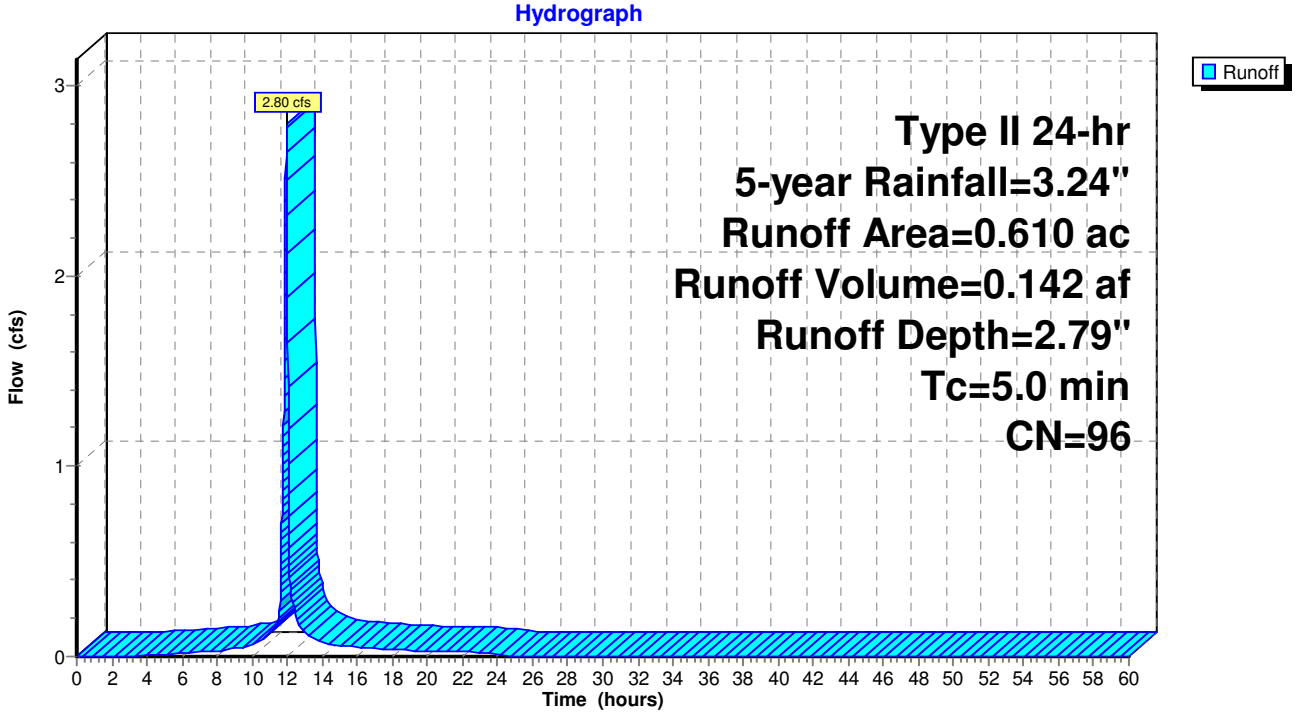
Runoff = 2.80 cfs @ 11.96 hrs, Volume= 0.142 af, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	0.550	98	
*	0.060	74	
	0.610	96	Weighted Average
	0.060		9.84% Pervious Area
	0.550		90.16% Impervious Area

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

Subcatchment 9S: Block I



Summary for Subcatchment 10S: Block J

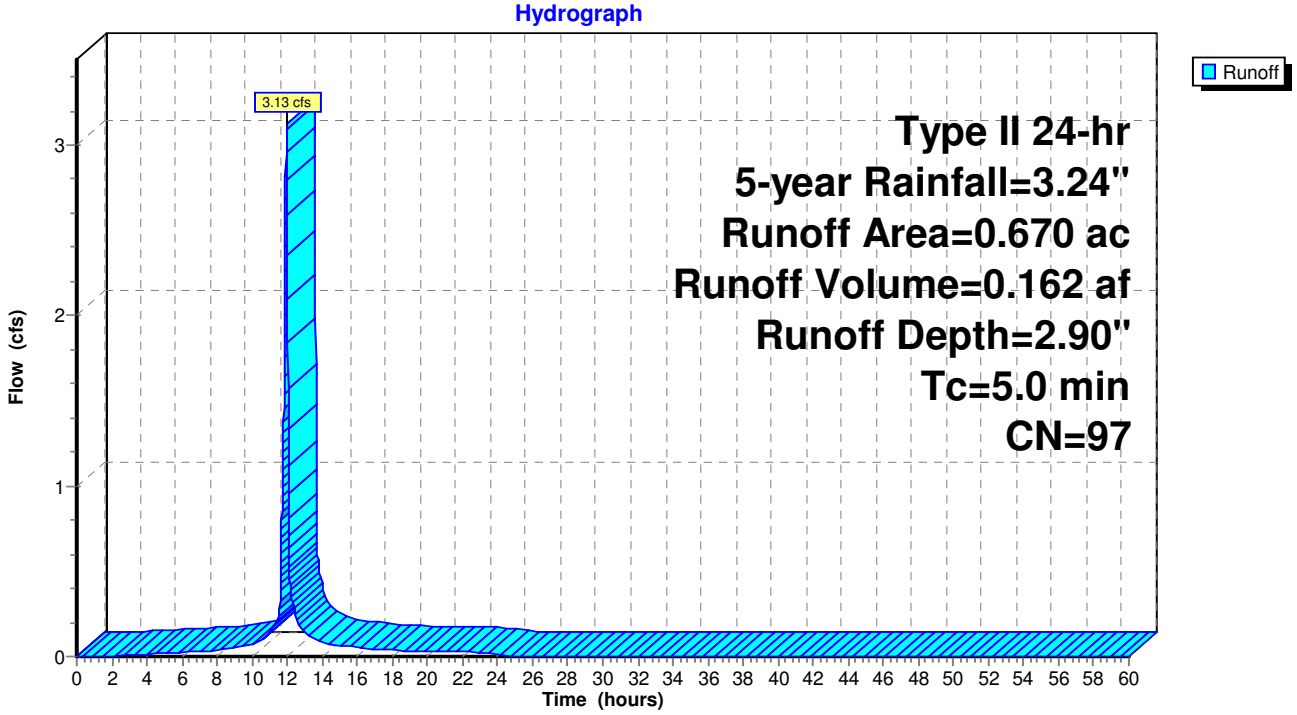
Runoff = 3.13 cfs @ 11.96 hrs, Volume= 0.162 af, Depth= 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	0.640	98	
*	0.030	74	
	0.670	97	Weighted Average
	0.030		4.48% Pervious Area
	0.640		95.52% Impervious Area

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

Subcatchment 10S: Block J



Summary for Subcatchment 12S: Total Post

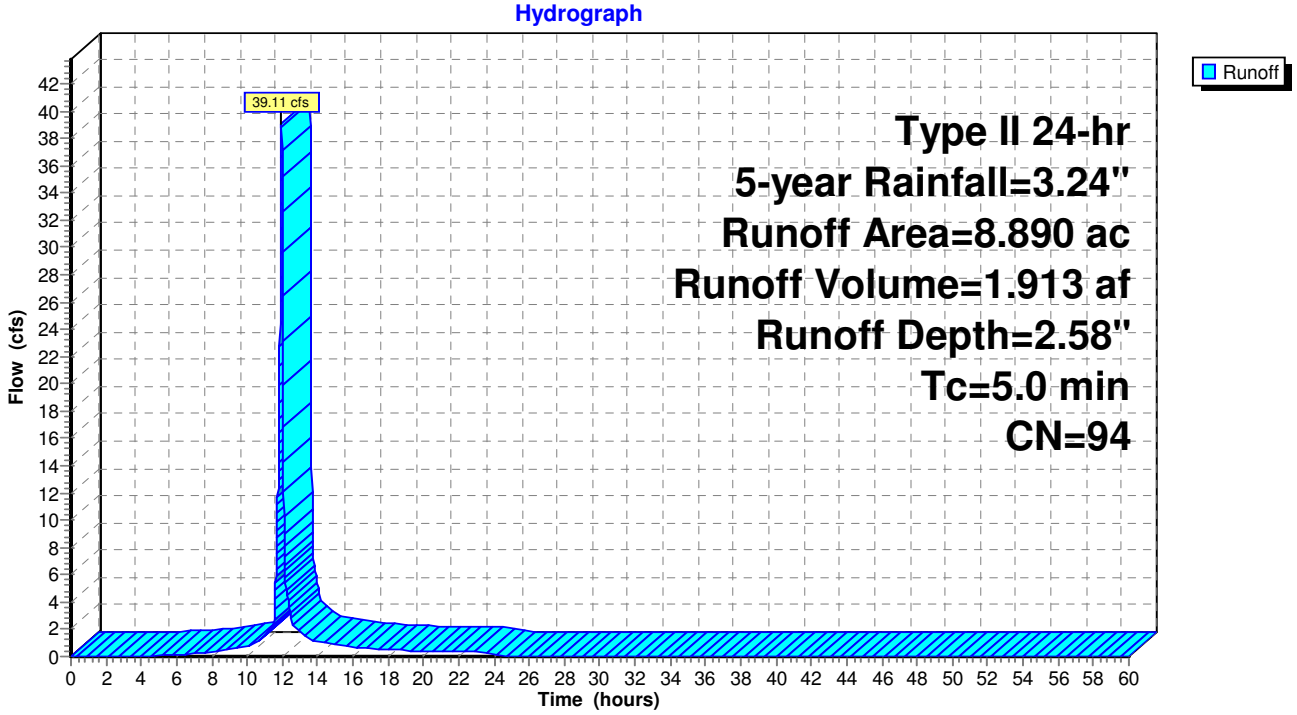
Runoff = 39.11 cfs @ 11.96 hrs, Volume= 1.913 af, Depth= 2.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-year Rainfall=3.24"

	Area (ac)	CN	Description
*	7.580	98	
*	1.310	74	
	8.890	94	Weighted Average
	1.310		14.74% Pervious Area
	7.580		85.26% Impervious Area

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

Subcatchment 12S: Total Post



Summary for Pond 11P: Detention A

Inflow Area = 0.540 ac, 96.30% Impervious, Inflow Depth = 2.90" for 5-year event
Inflow = 2.52 cfs @ 11.96 hrs, Volume= 0.130 af
Outflow = 0.22 cfs @ 12.40 hrs, Volume= 0.126 af, Atten= 91%, Lag= 26.5 min
Primary = 0.22 cfs @ 12.40 hrs, Volume= 0.126 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.52' @ 12.40 hrs Surf.Area= 1,307 sf Storage= 3,297 cf

Plug-Flow detention time= 450.1 min calculated for 0.126 af (97% of inflow)
Center-of-Mass det. time= 430.6 min (1,191.7 - 761.1)

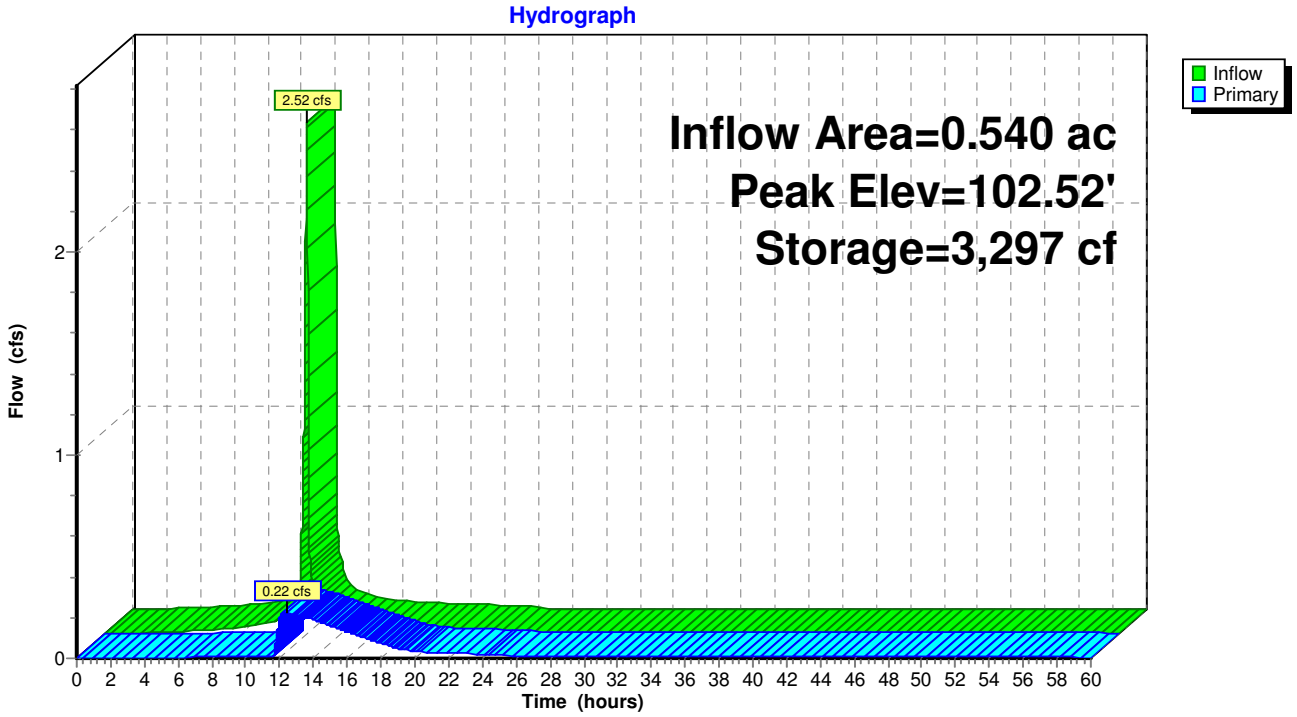
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.22 cfs @ 12.40 hrs HW=102.52' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 7.60 fps)
- **2=Orifice/Grate** (Orifice Controls 0.20 cfs @ 5.93 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 11P: Detention A



Summary for Pond 13P: Detention B

Inflow Area = 0.530 ac, 94.34% Impervious, Inflow Depth = 2.90" for 5-year event
Inflow = 2.47 cfs @ 11.96 hrs, Volume= 0.128 af
Outflow = 0.22 cfs @ 12.40 hrs, Volume= 0.124 af, Atten= 91%, Lag= 26.3 min
Primary = 0.22 cfs @ 12.40 hrs, Volume= 0.124 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.48' @ 12.40 hrs Surf.Area= 1,307 sf Storage= 3,236 cf

Plug-Flow detention time= 454.7 min calculated for 0.124 af (97% of inflow)
Center-of-Mass det. time= 435.0 min (1,196.1 - 761.1)

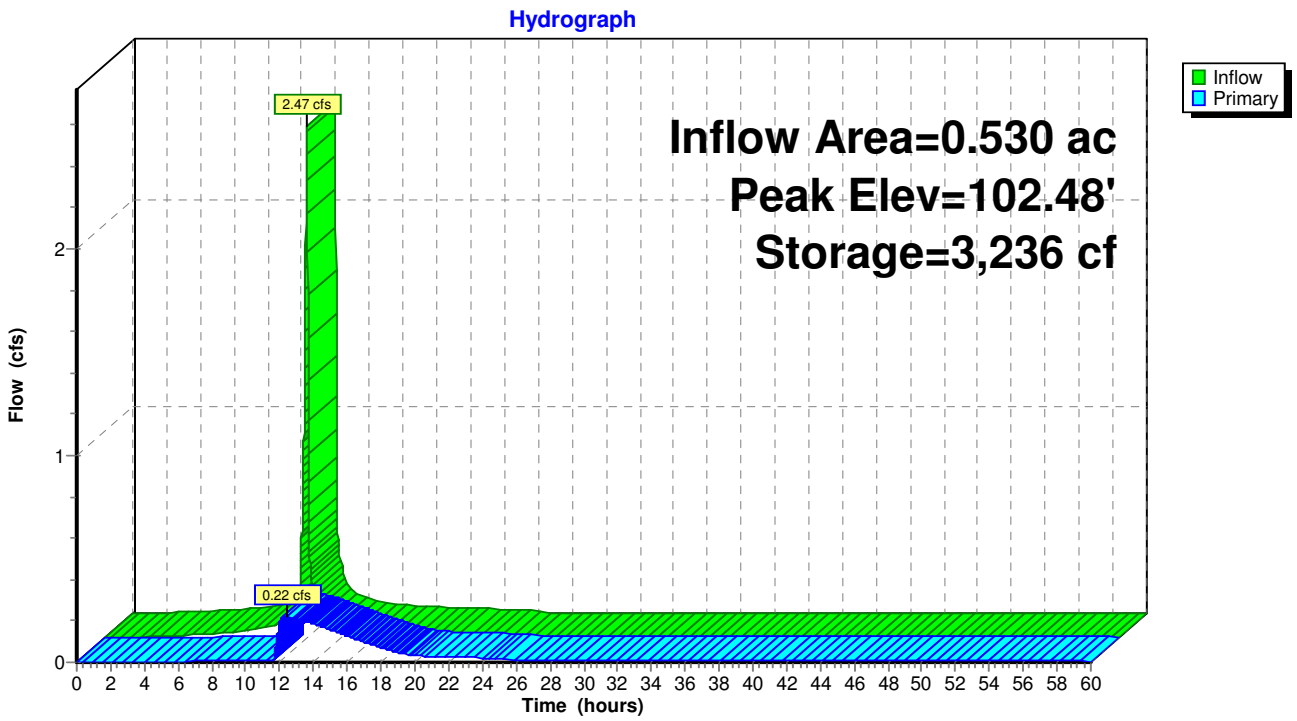
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.22 cfs @ 12.40 hrs HW=102.48' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 7.53 fps)
- **2=Orifice/Grate** (Orifice Controls 0.20 cfs @ 5.84 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 13P: Detention B



Summary for Pond 14P: Detention C

Inflow Area = 1.640 ac, 62.20% Impervious, Inflow Depth = 2.12" for 5-year event
Inflow = 6.24 cfs @ 11.96 hrs, Volume= 0.289 af
Outflow = 0.76 cfs @ 12.23 hrs, Volume= 0.286 af, Atten= 88%, Lag= 16.2 min
Primary = 0.76 cfs @ 12.23 hrs, Volume= 0.286 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.44' @ 12.23 hrs Surf.Area= 4,356 sf Storage= 6,294 cf

Plug-Flow detention time= 304.1 min calculated for 0.286 af (99% of inflow)
Center-of-Mass det. time= 297.1 min (1,103.7 - 806.6)

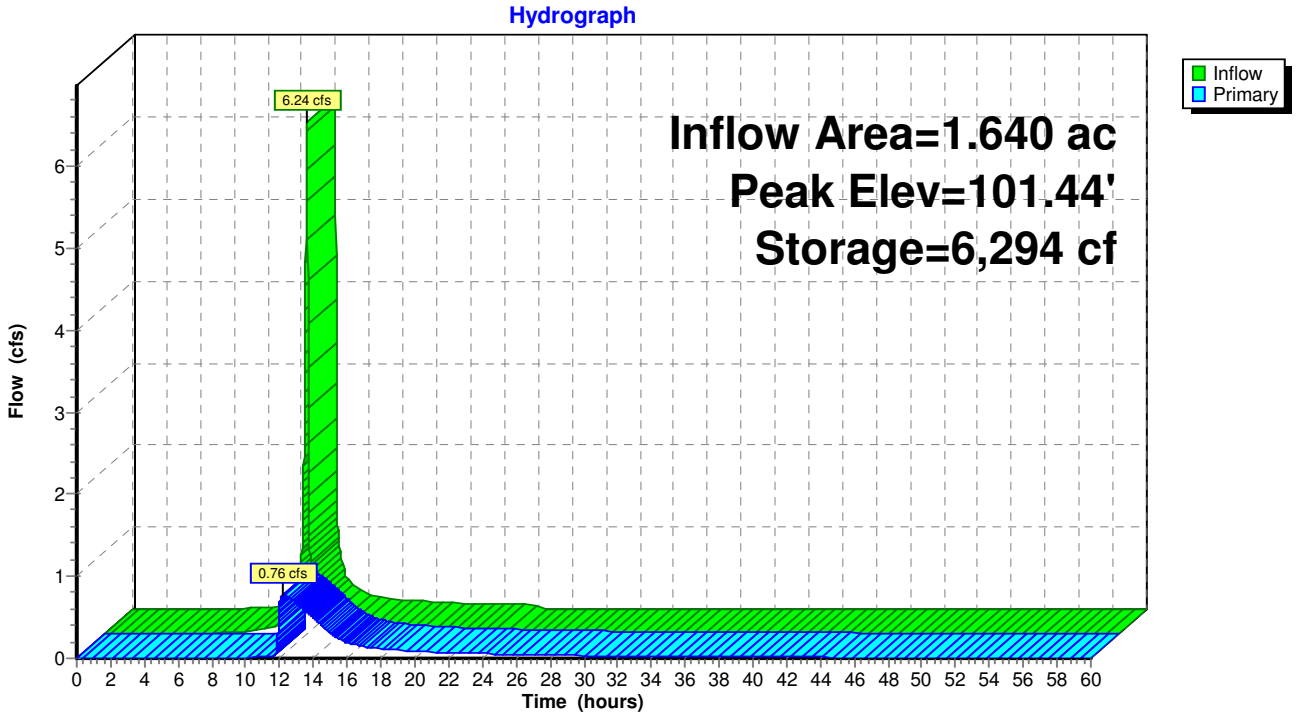
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	19,602 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,356	0	0
104.00	4,356	17,424	17,424
104.50	4,356	2,178	19,602

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.45'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.30'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.76 cfs @ 12.23 hrs HW=101.44' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.07 cfs @ 5.66 fps)
├─**2=Orifice/Grate** (Orifice Controls 0.70 cfs @ 4.21 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 14P: Detention C



Summary for Pond 15P: Detention E

Inflow Area = 1.850 ac, 88.11% Impervious, Inflow Depth = 2.68" for 5-year event
Inflow = 8.33 cfs @ 11.96 hrs, Volume= 0.414 af
Outflow = 0.89 cfs @ 12.29 hrs, Volume= 0.408 af, Atten= 89%, Lag= 20.0 min
Primary = 0.89 cfs @ 12.29 hrs, Volume= 0.408 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.90' @ 12.29 hrs Surf.Area= 5,227 sf Storage= 9,938 cf

Plug-Flow detention time= 392.3 min calculated for 0.408 af (99% of inflow)
Center-of-Mass det. time= 383.6 min (1,159.9 - 776.3)

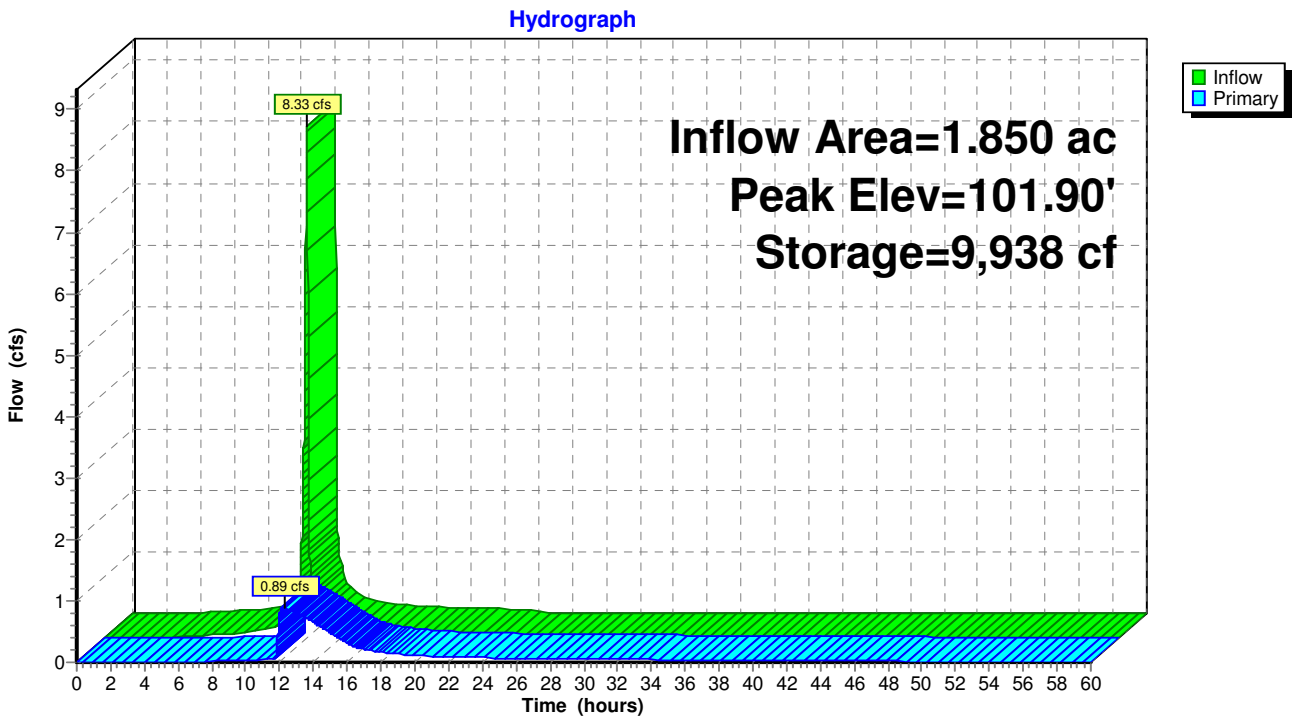
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	20,908 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	5,227	0	0
104.00	5,227	20,908	20,908

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.70'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.75'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.89 cfs @ 12.29 hrs HW=101.90' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.10 cfs @ 6.51 fps)
- **2=Orifice/Grate** (Orifice Controls 0.78 cfs @ 4.75 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 15P: Detention E



Summary for Pond 16P: Detention F

Inflow Area = 1.820 ac, 86.81% Impervious, Inflow Depth = 2.68" for 5-year event
Inflow = 8.19 cfs @ 11.96 hrs, Volume= 0.407 af
Outflow = 0.92 cfs @ 12.26 hrs, Volume= 0.402 af, Atten= 89%, Lag= 18.0 min
Primary = 0.92 cfs @ 12.26 hrs, Volume= 0.402 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.02' @ 12.26 hrs Surf.Area= 4,792 sf Storage= 9,677 cf

Plug-Flow detention time= 377.6 min calculated for 0.402 af (99% of inflow)
Center-of-Mass det. time= 370.3 min (1,146.6 - 776.3)

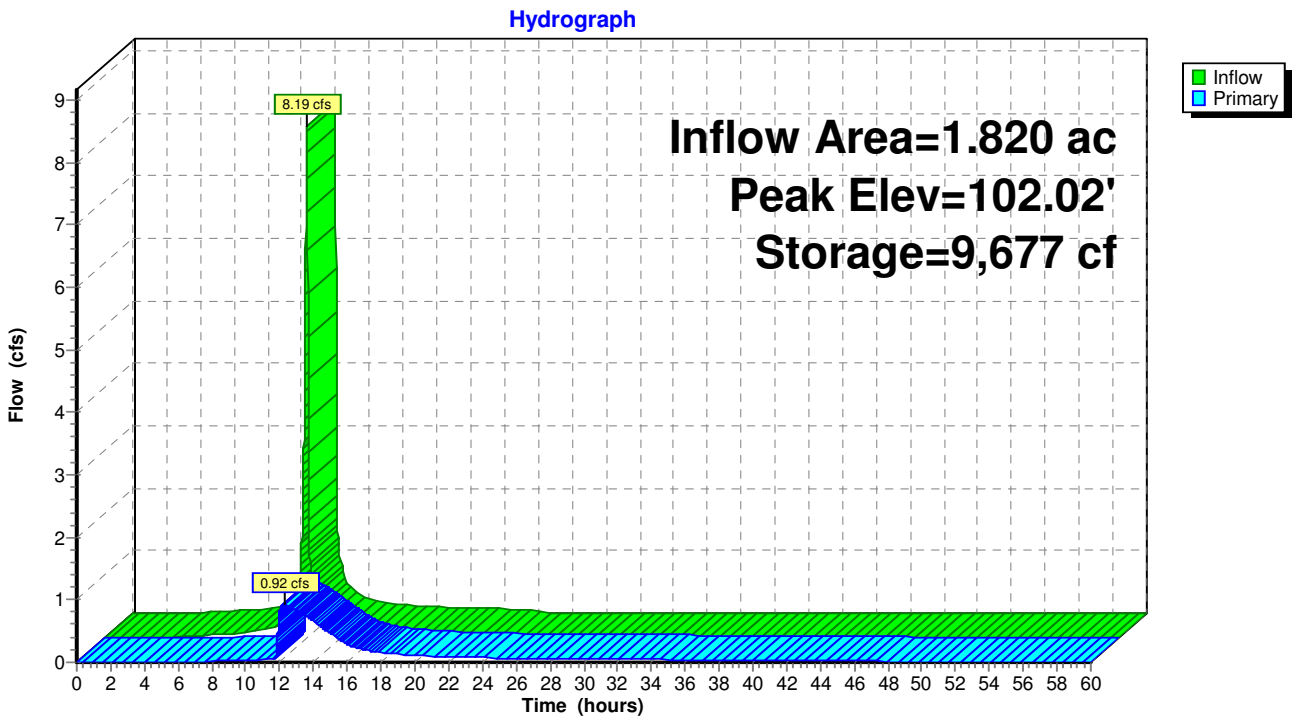
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	21,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,792	0	0
104.00	4,792	19,168	19,168
104.50	4,792	2,396	21,564

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.90'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.92 cfs @ 12.26 hrs HW=102.02' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.11 cfs @ 6.72 fps)
- **2=Orifice/Grate** (Orifice Controls 0.81 cfs @ 4.91 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Detention F



Summary for Pond 17P: Detention G

Inflow Area = 0.720 ac, 93.06% Impervious, Inflow Depth = 2.79" for 5-year event
Inflow = 3.31 cfs @ 11.96 hrs, Volume= 0.167 af
Outflow = 0.37 cfs @ 12.25 hrs, Volume= 0.166 af, Atten= 89%, Lag= 17.9 min
Primary = 0.37 cfs @ 12.25 hrs, Volume= 0.166 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.82' @ 12.25 hrs Surf.Area= 2,178 sf Storage= 3,967 cf

Plug-Flow detention time= 359.8 min calculated for 0.166 af (99% of inflow)
Center-of-Mass det. time= 356.3 min (1,125.6 - 769.3)

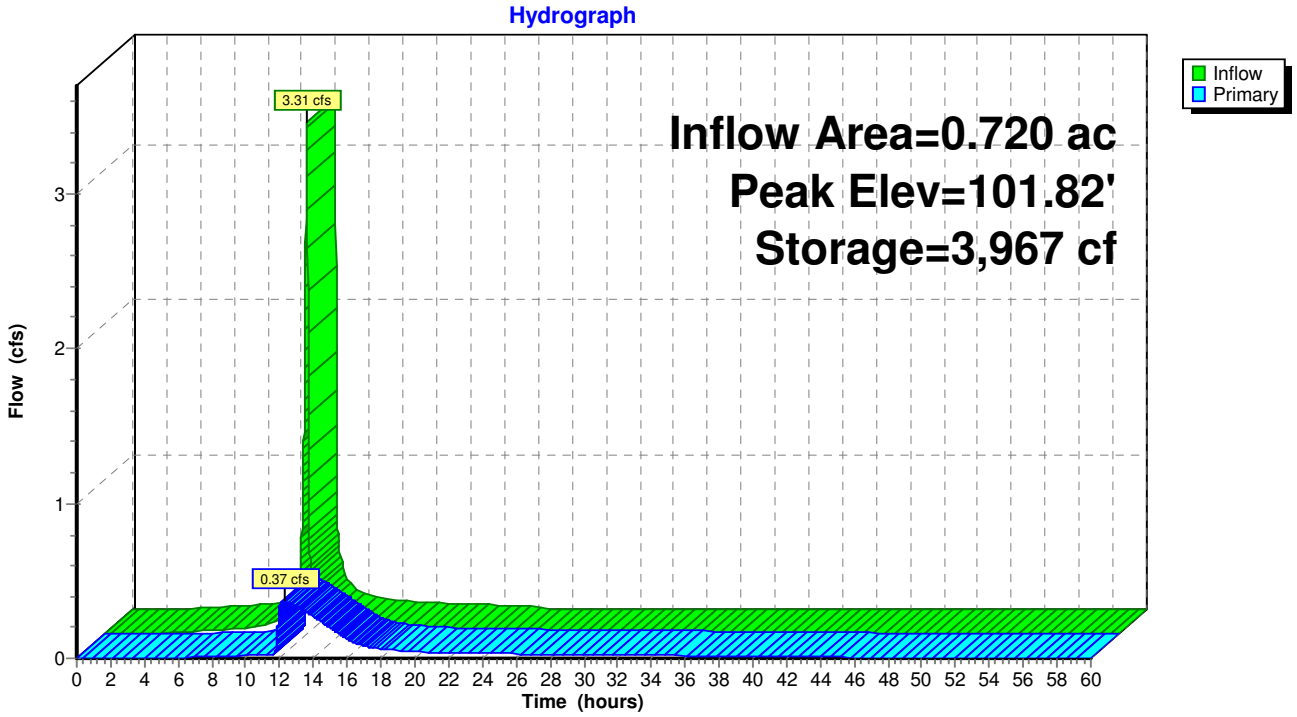
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	2,178	0	0
104.00	2,178	8,712	8,712

Device	Routing	Invert	Outlet Devices		
#1	Primary	100.00'	**1.2" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	100.70'	**3.5" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	102.60'	**8.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.37 cfs @ 12.25 hrs HW=101.82' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 6.41 fps)
- **2=Orifice/Grate** (Orifice Controls 0.32 cfs @ 4.76 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 17P: Detention G



Summary for Pond 18P: Detention H

Inflow Area = 0.510 ac, 92.16% Impervious, Inflow Depth = 2.79" for 5-year event
Inflow = 2.34 cfs @ 11.96 hrs, Volume= 0.119 af
Outflow = 0.21 cfs @ 12.40 hrs, Volume= 0.115 af, Atten= 91%, Lag= 26.5 min
Primary = 0.21 cfs @ 12.40 hrs, Volume= 0.115 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.27' @ 12.40 hrs Surf.Area= 1,307 sf Storage= 2,967 cf

Plug-Flow detention time= 453.4 min calculated for 0.115 af (97% of inflow)
Center-of-Mass det. time= 435.1 min (1,204.3 - 769.3)

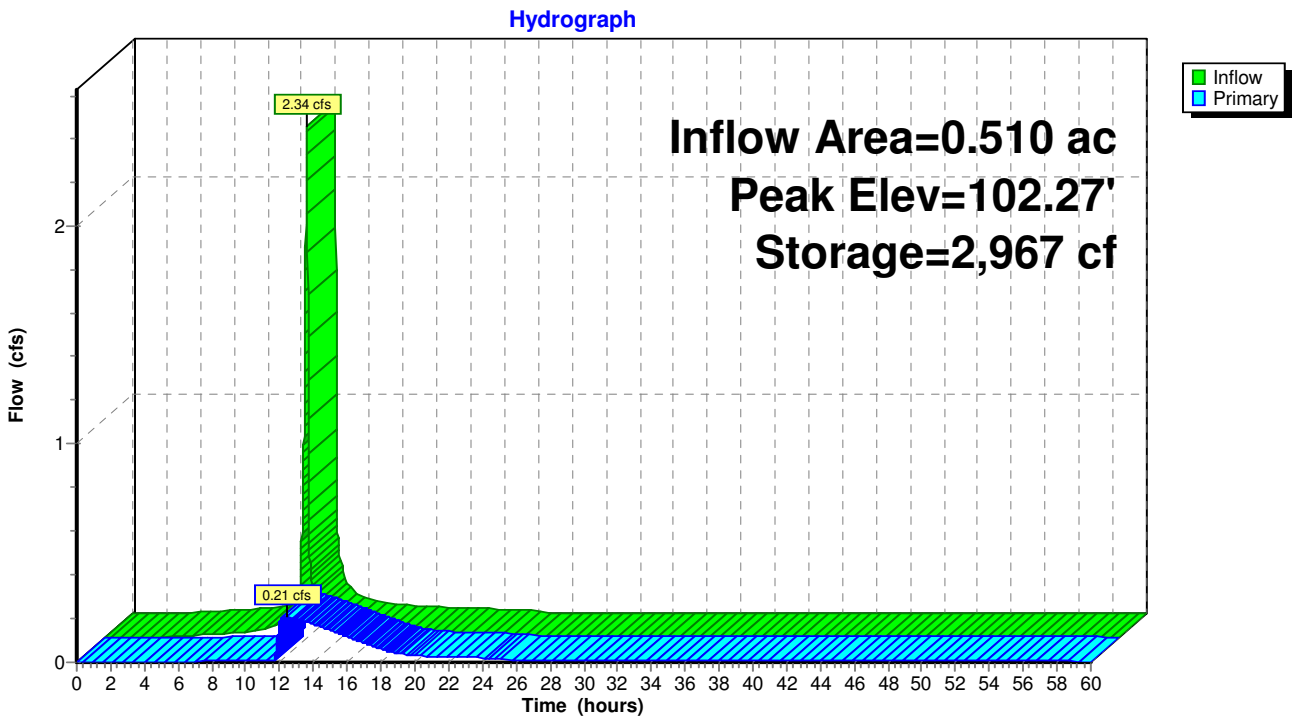
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,227	5,227

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.25'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.21 cfs @ 12.40 hrs HW=102.27' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 7.21 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.19 cfs @ 5.52 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 18P: Detention H



Summary for Pond 19P: Detention I

Inflow Area = 0.610 ac, 90.16% Impervious, Inflow Depth = 2.79" for 5-year event
Inflow = 2.80 cfs @ 11.96 hrs, Volume= 0.142 af
Outflow = 0.28 cfs @ 12.32 hrs, Volume= 0.141 af, Atten= 90%, Lag= 21.8 min
Primary = 0.28 cfs @ 12.32 hrs, Volume= 0.141 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.97' @ 12.32 hrs Surf.Area= 1,742 sf Storage= 3,425 cf

Plug-Flow detention time= 391.4 min calculated for 0.141 af (99% of inflow)
Center-of-Mass det. time= 386.8 min (1,156.0 - 769.3)

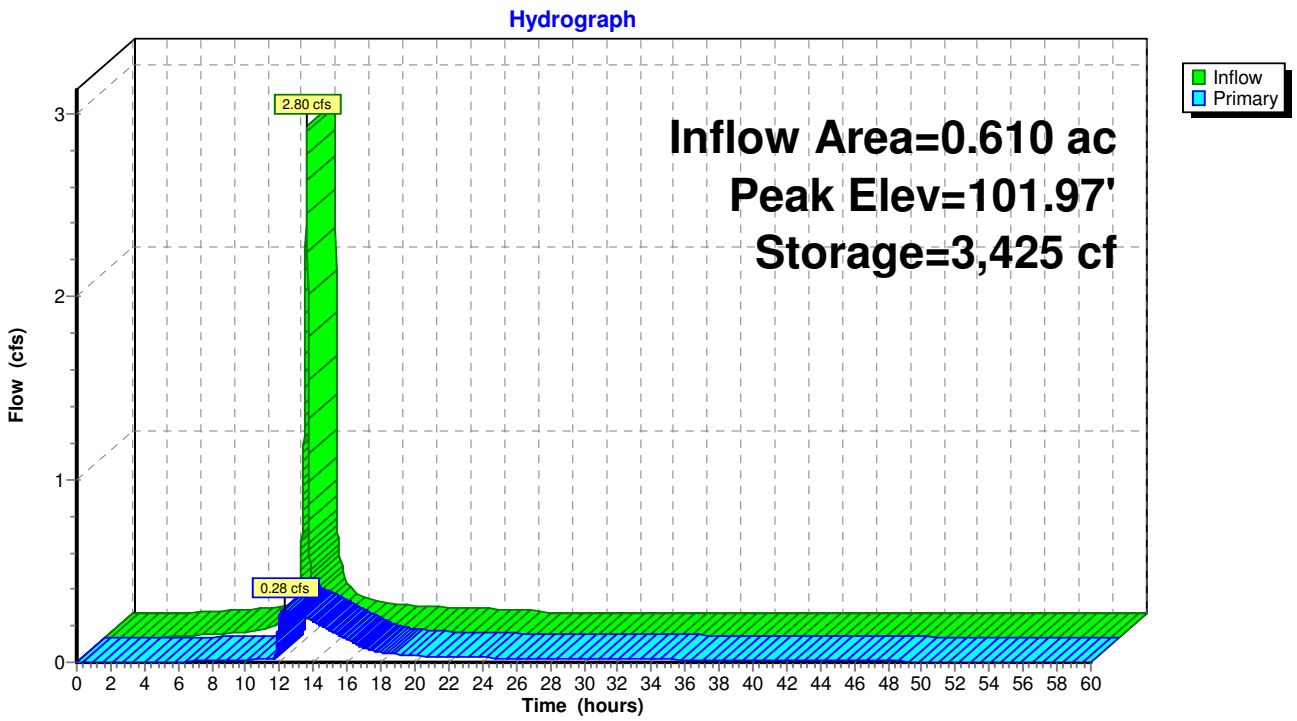
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.85'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.28 cfs @ 12.32 hrs HW=101.97' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 6.68 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.25 cfs @ 5.03 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 19P: Detention I



Summary for Pond 20P: Detention J

Inflow Area = 0.670 ac, 95.52% Impervious, Inflow Depth = 2.90" for 5-year event
Inflow = 3.13 cfs @ 11.96 hrs, Volume= 0.162 af
Outflow = 0.31 cfs @ 12.33 hrs, Volume= 0.161 af, Atten= 90%, Lag= 22.5 min
Primary = 0.31 cfs @ 12.33 hrs, Volume= 0.161 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.27' @ 12.33 hrs Surf.Area= 1,742 sf Storage= 3,959 cf

Plug-Flow detention time= 404.1 min calculated for 0.161 af (99% of inflow)
Center-of-Mass det. time= 399.2 min (1,160.3 - 761.1)

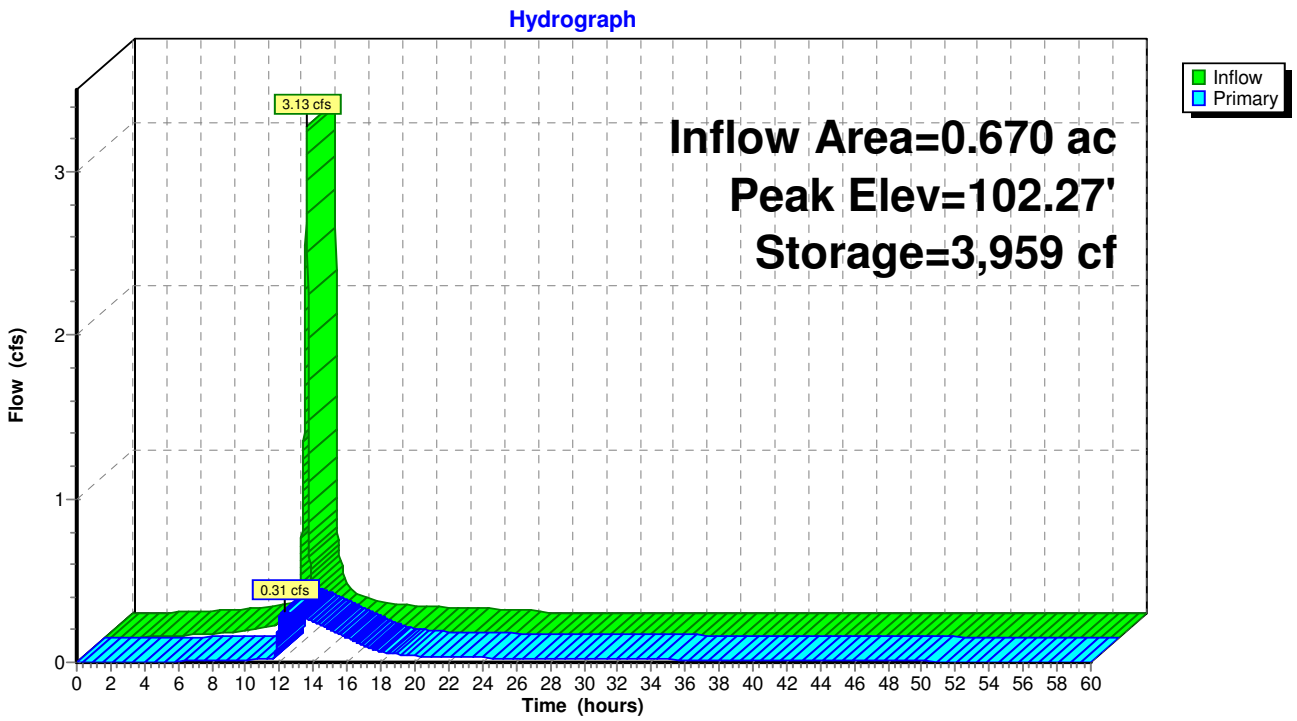
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.20'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.31 cfs @ 12.33 hrs HW=102.27' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 7.19 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.27 cfs @ 5.48 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 20P: Detention J



Summary for Subcatchment 1S: Pre-developed

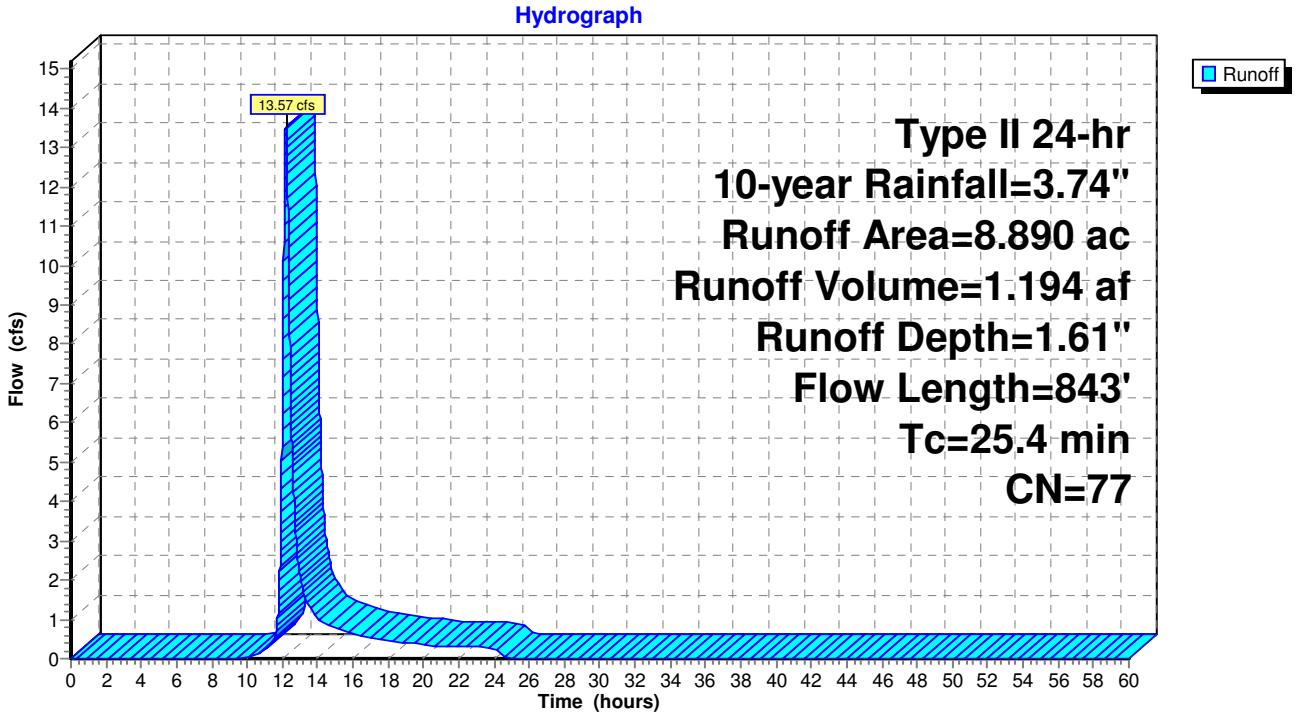
Runoff = 13.57 cfs @ 12.19 hrs, Volume= 1.194 af, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	0.990	74	Open Space/Grass
*	7.630	78	Agricultural
*	0.270	70	Woods
	8.890	77	Weighted Average
	8.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0100	0.11		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.63"
9.6	743	0.0206	1.29		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
25.4	843	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Block A

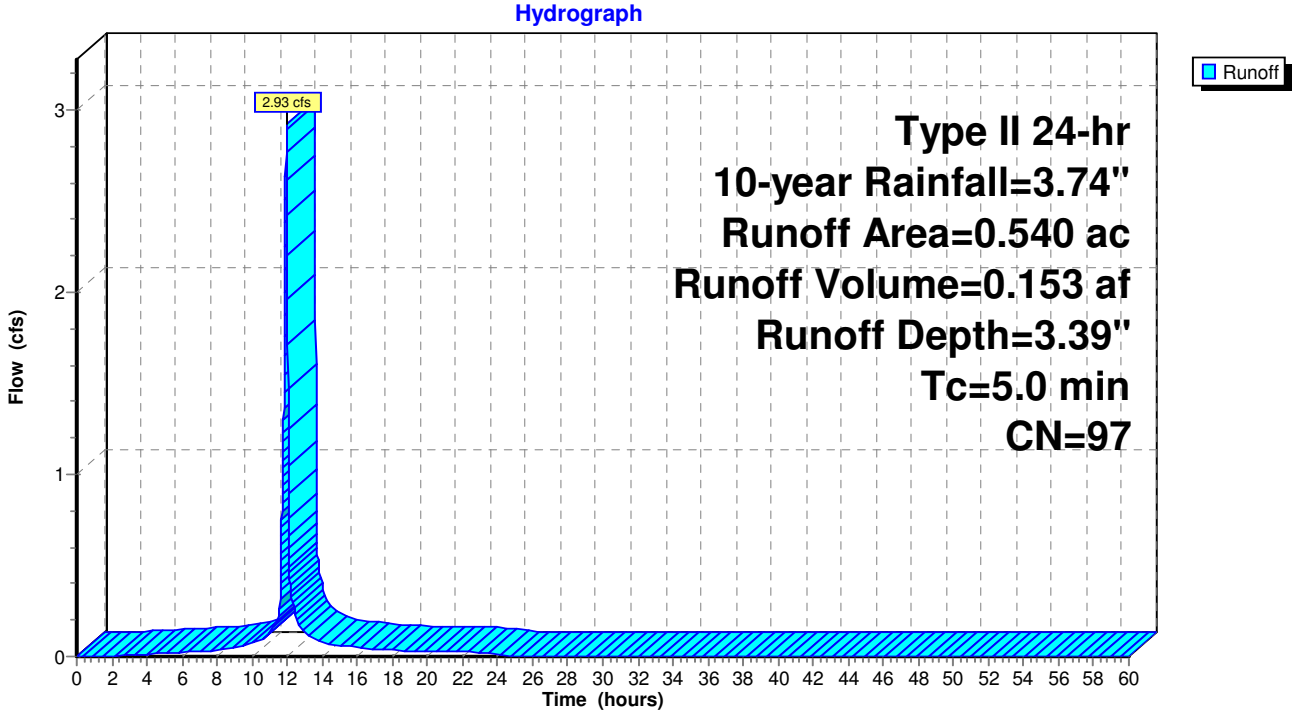
Runoff = 2.93 cfs @ 11.96 hrs, Volume= 0.153 af, Depth= 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	0.520	98	
*	0.020	74	
	0.540	97	Weighted Average
	0.020		3.70% Pervious Area
	0.520		96.30% Impervious Area

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

Subcatchment 2S: Block A



Summary for Subcatchment 3S: Block B

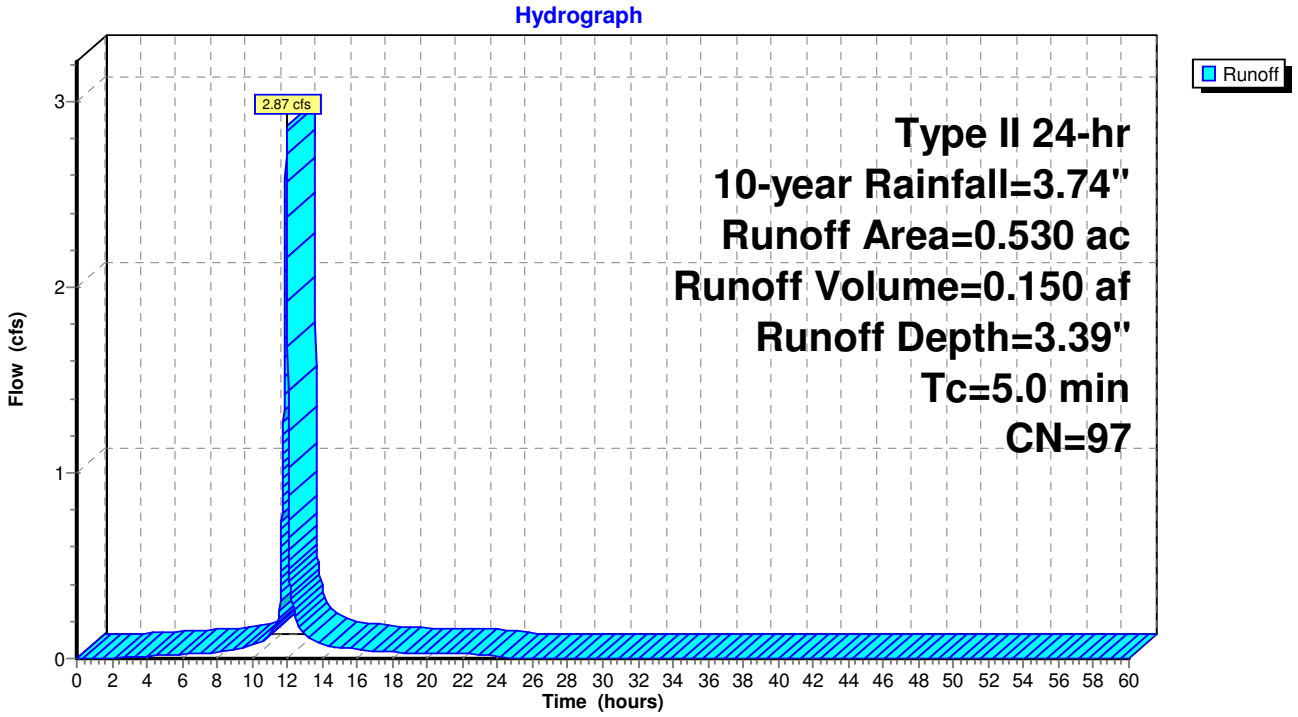
Runoff = 2.87 cfs @ 11.96 hrs, Volume= 0.150 af, Depth= 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	0.500	98	
*	0.030	74	
	0.530	97	Weighted Average
	0.030		5.66% Pervious Area
	0.500		94.34% Impervious Area

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

Subcatchment 3S: Block B



Summary for Subcatchment 4S: Block C

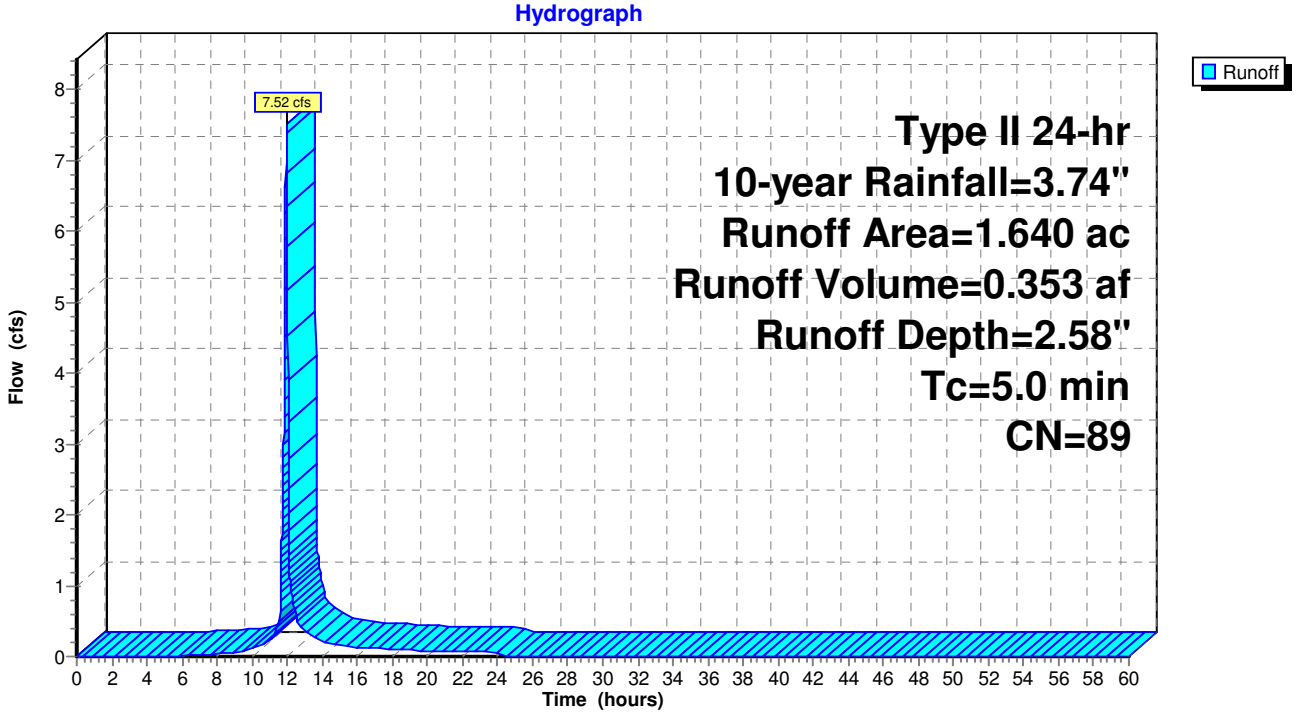
Runoff = 7.52 cfs @ 11.96 hrs, Volume= 0.353 af, Depth= 2.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	1.020	98	
*	0.620	74	
	1.640	89	Weighted Average
	0.620		37.80% Pervious Area
	1.020		62.20% Impervious Area

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

Subcatchment 4S: Block C



Summary for Subcatchment 5S: Block E

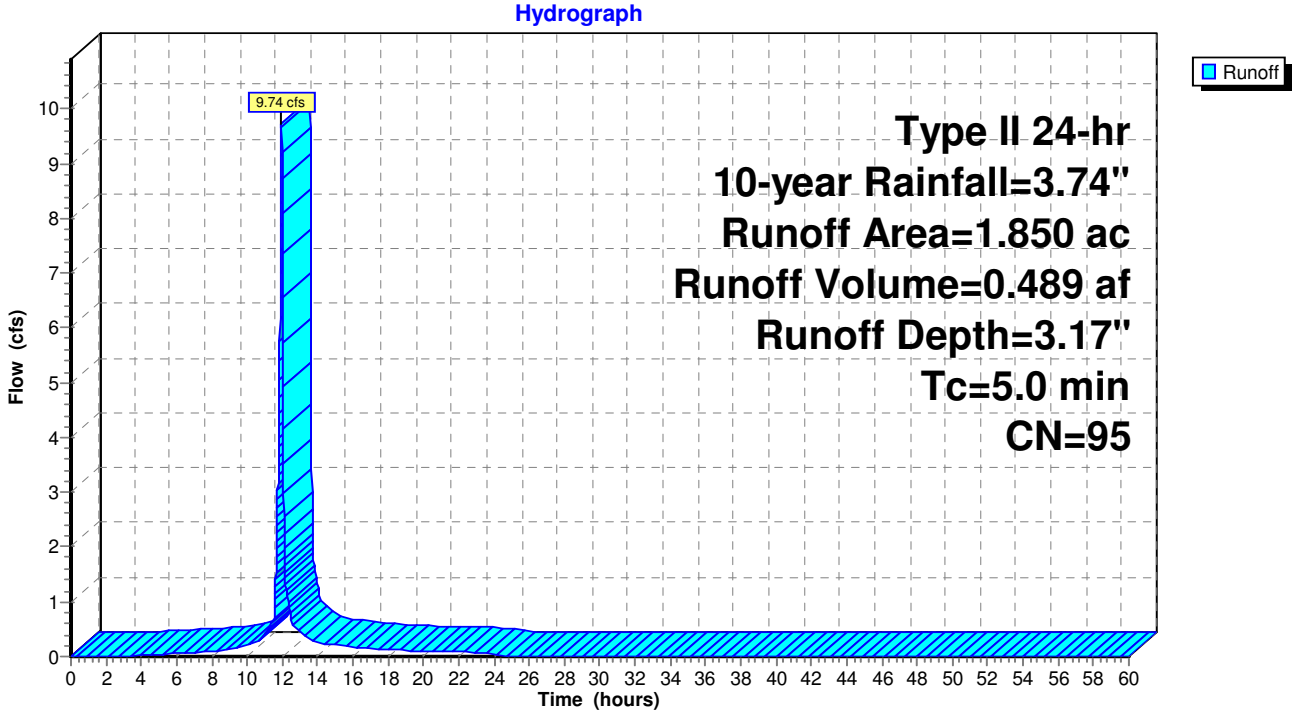
Runoff = 9.74 cfs @ 11.96 hrs, Volume= 0.489 af, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	1.630	98	
*	0.220	74	
	1.850	95	Weighted Average
	0.220		11.89% Pervious Area
	1.630		88.11% Impervious Area

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

Subcatchment 5S: Block E



Summary for Subcatchment 6S: Block F

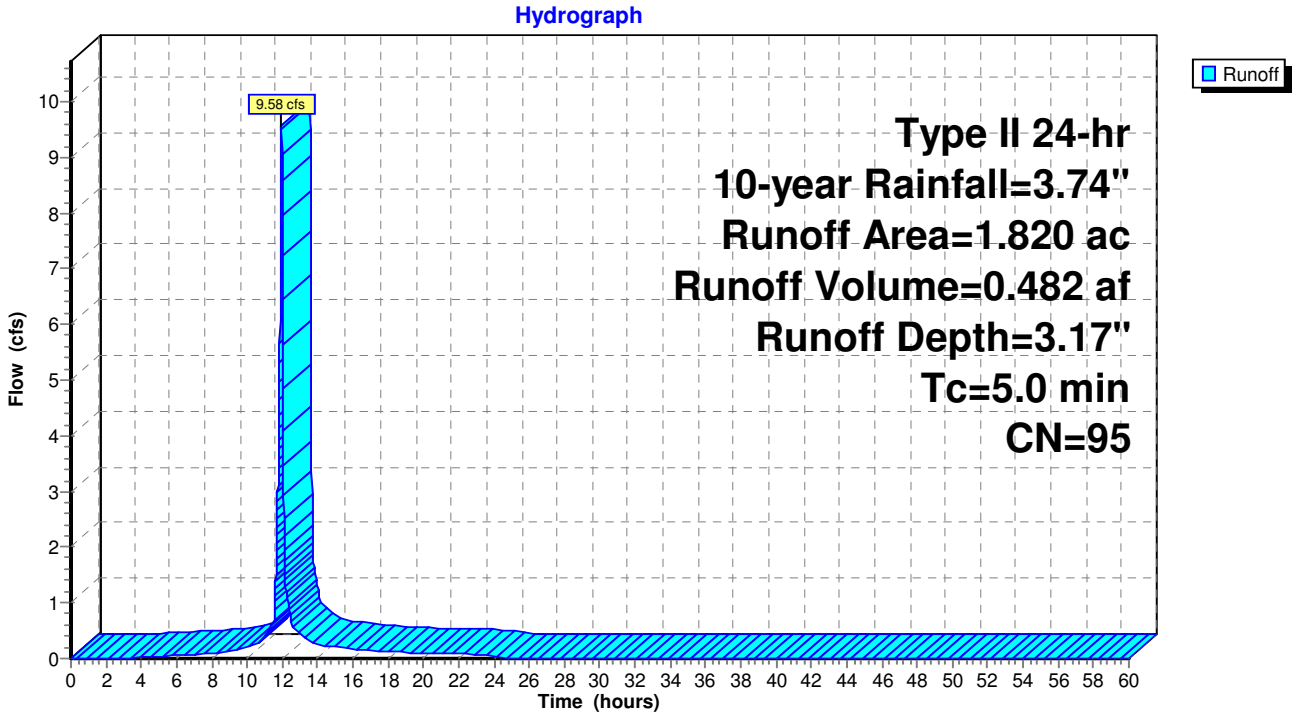
Runoff = 9.58 cfs @ 11.96 hrs, Volume= 0.482 af, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	1.580	98	
*	0.240	74	
	1.820	95	Weighted Average
	0.240		13.19% Pervious Area
	1.580		86.81% Impervious Area

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

Subcatchment 6S: Block F



Summary for Subcatchment 7S: Block G

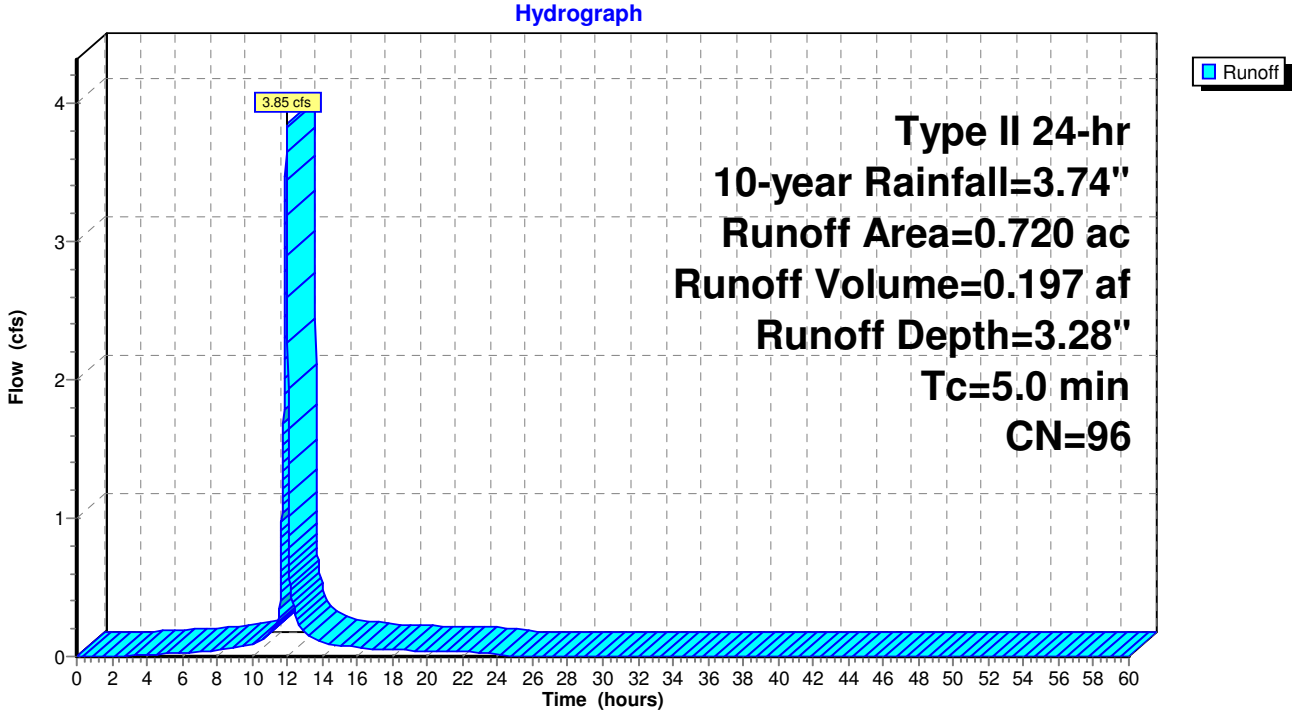
Runoff = 3.85 cfs @ 11.96 hrs, Volume= 0.197 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	0.670	98	
*	0.050	74	
	0.720	96	Weighted Average
	0.050		6.94% Pervious Area
	0.670		93.06% Impervious Area

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

Subcatchment 7S: Block G



Summary for Subcatchment 8S: Block H

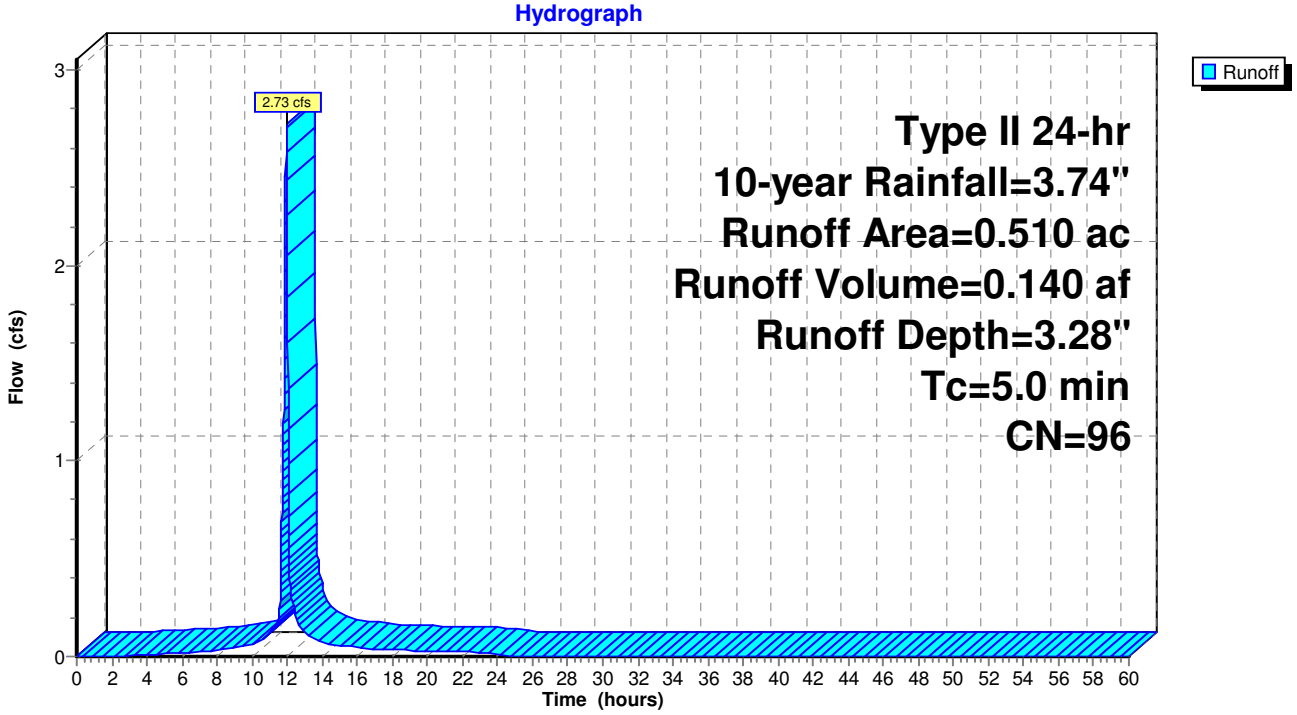
Runoff = 2.73 cfs @ 11.96 hrs, Volume= 0.140 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	0.470	98	
*	0.040	74	
	0.510	96	Weighted Average
	0.040		7.84% Pervious Area
	0.470		92.16% Impervious Area

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

Subcatchment 8S: Block H



Summary for Subcatchment 9S: Block I

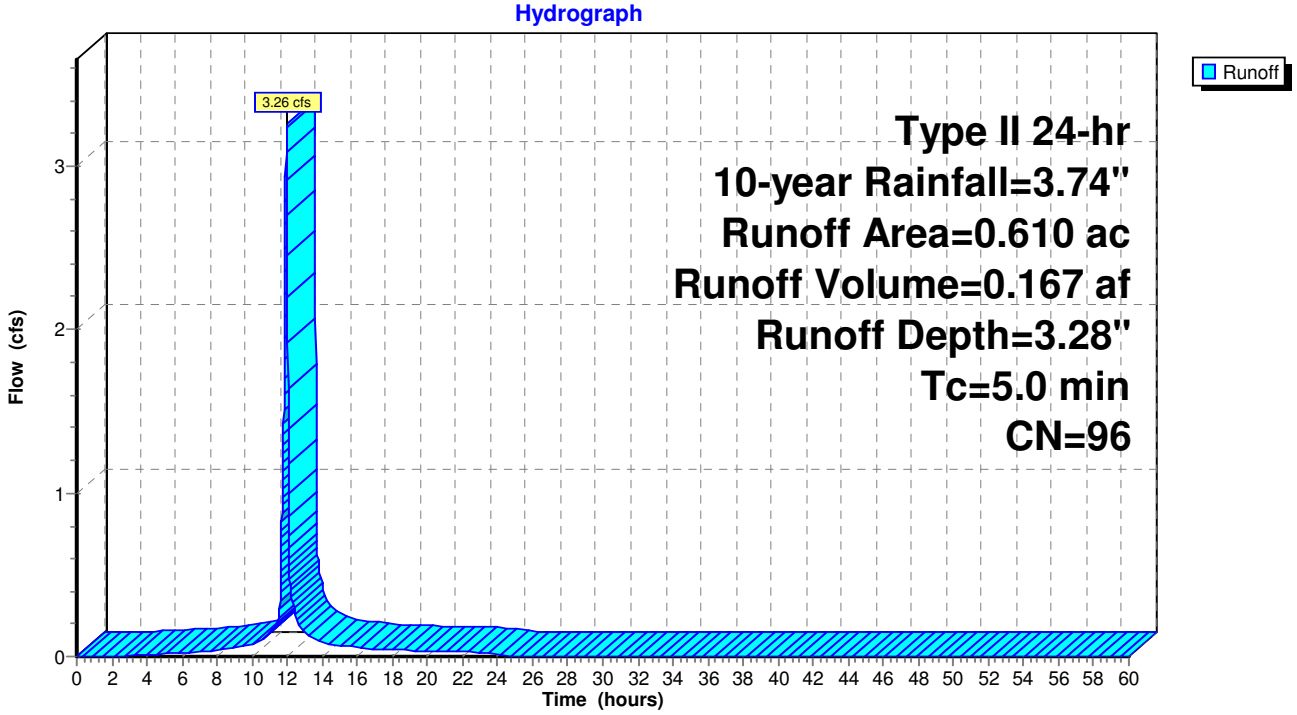
Runoff = 3.26 cfs @ 11.96 hrs, Volume= 0.167 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	0.550	98	
*	0.060	74	
	0.610	96	Weighted Average
	0.060		9.84% Pervious Area
	0.550		90.16% Impervious Area

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

Subcatchment 9S: Block I



Summary for Subcatchment 10S: Block J

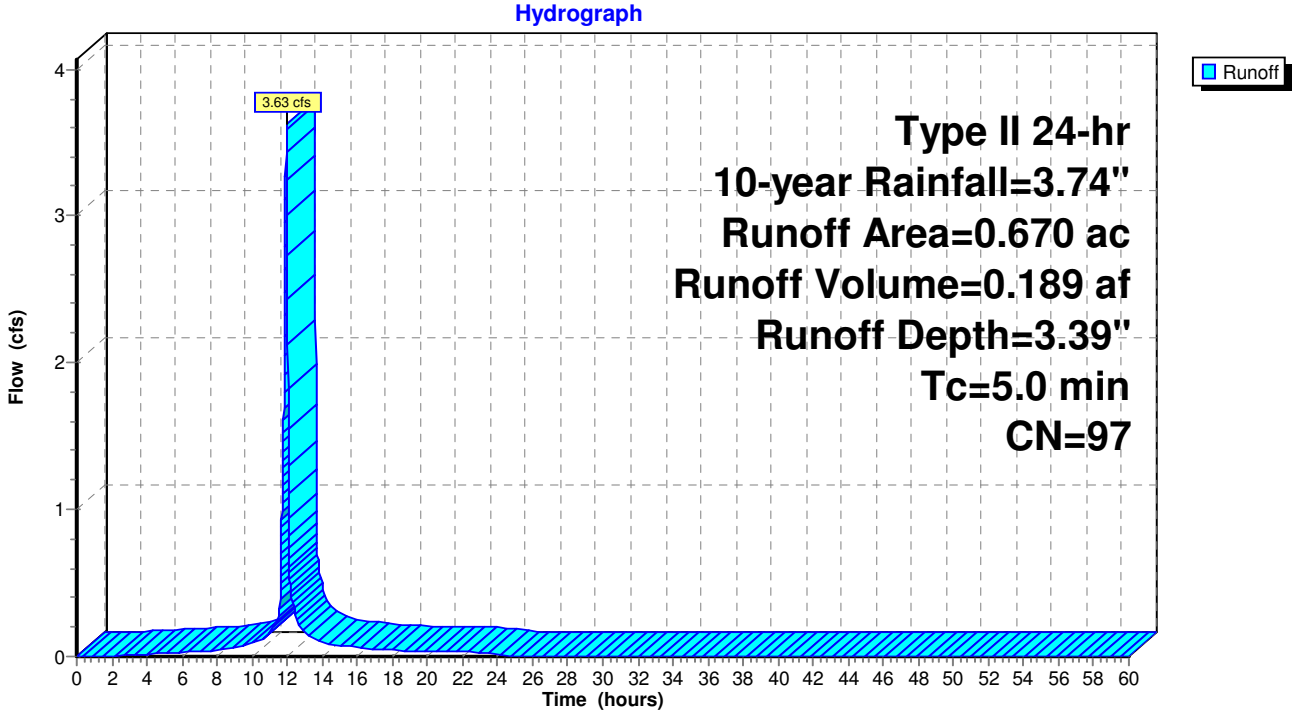
Runoff = 3.63 cfs @ 11.96 hrs, Volume= 0.189 af, Depth= 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	0.640	98	
*	0.030	74	
	0.670	97	Weighted Average
	0.030		4.48% Pervious Area
	0.640		95.52% Impervious Area

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

Subcatchment 10S: Block J



Summary for Subcatchment 12S: Total Post

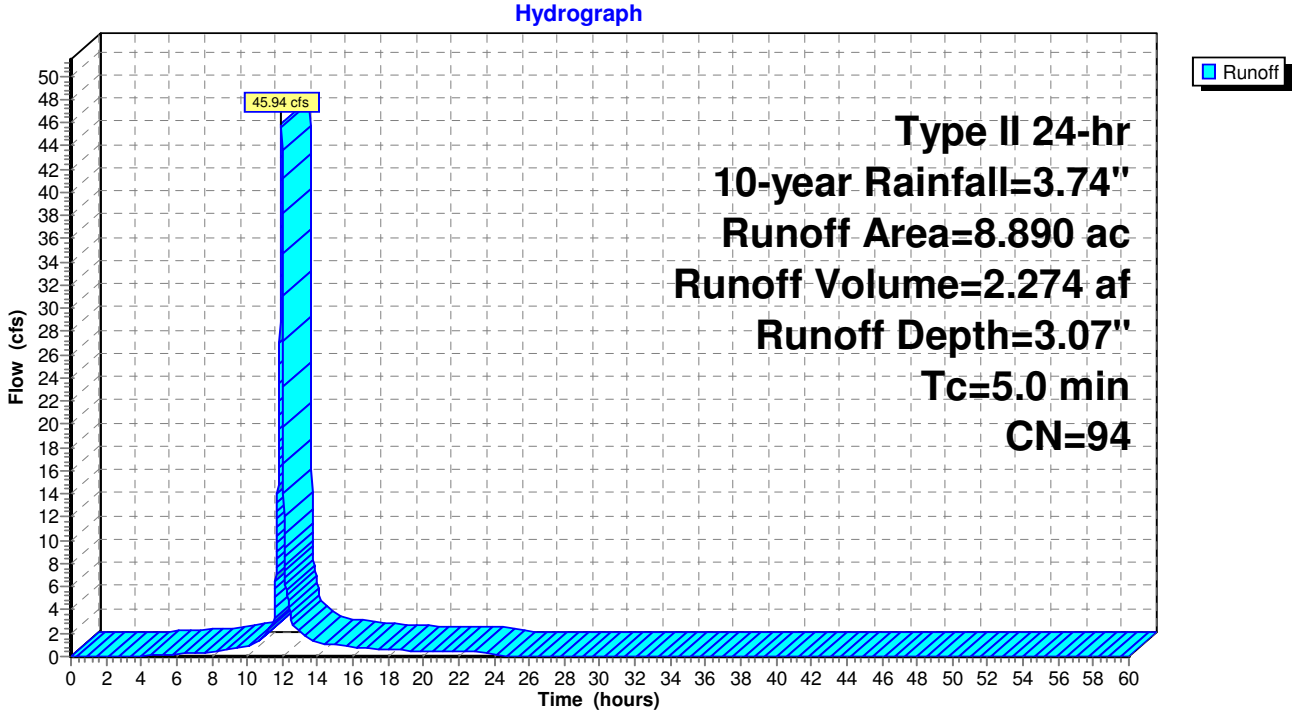
Runoff = 45.94 cfs @ 11.96 hrs, Volume= 2.274 af, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=3.74"

	Area (ac)	CN	Description
*	7.580	98	
*	1.310	74	
	8.890	94	Weighted Average
	1.310		14.74% Pervious Area
	7.580		85.26% Impervious Area

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

Subcatchment 12S: Total Post



Summary for Pond 11P: Detention A

Inflow Area = 0.540 ac, 96.30% Impervious, Inflow Depth = 3.39" for 10-year event
Inflow = 2.93 cfs @ 11.96 hrs, Volume= 0.153 af
Outflow = 0.25 cfs @ 12.41 hrs, Volume= 0.149 af, Atten= 91%, Lag= 27.3 min
Primary = 0.25 cfs @ 12.41 hrs, Volume= 0.149 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.96' @ 12.41 hrs Surf.Area= 1,307 sf Storage= 3,864 cf

Plug-Flow detention time= 417.0 min calculated for 0.149 af (97% of inflow)
Center-of-Mass det. time= 400.1 min (1,157.6 - 757.5)

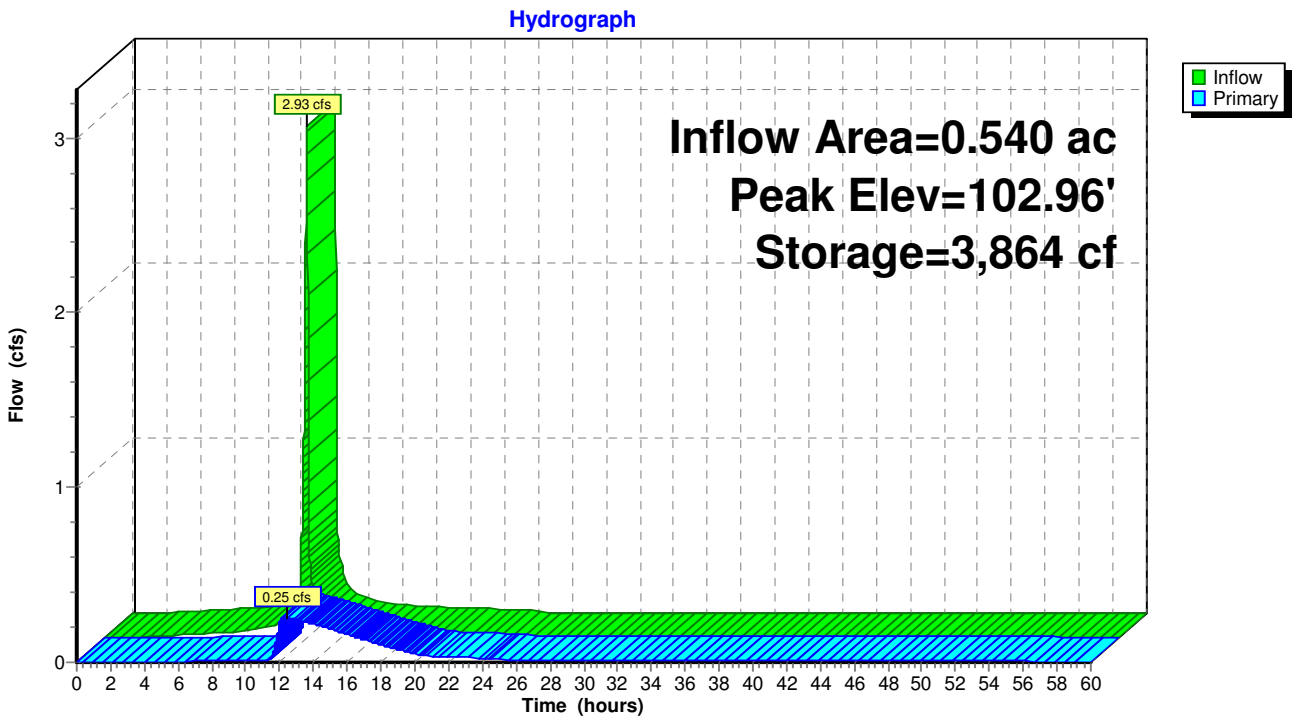
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.25 cfs @ 12.41 hrs HW=102.96' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 8.24 fps)
- **2=Orifice/Grate** (Orifice Controls 0.23 cfs @ 6.73 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 11P: Detention A



Summary for Pond 13P: Detention B

Inflow Area = 0.530 ac, 94.34% Impervious, Inflow Depth = 3.39" for 10-year event
Inflow = 2.87 cfs @ 11.96 hrs, Volume= 0.150 af
Outflow = 0.25 cfs @ 12.41 hrs, Volume= 0.146 af, Atten= 91%, Lag= 27.1 min
Primary = 0.25 cfs @ 12.41 hrs, Volume= 0.146 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.90' @ 12.41 hrs Surf.Area= 1,307 sf Storage= 3,793 cf

Plug-Flow detention time= 420.7 min calculated for 0.146 af (97% of inflow)
Center-of-Mass det. time= 403.5 min (1,161.1 - 757.5)

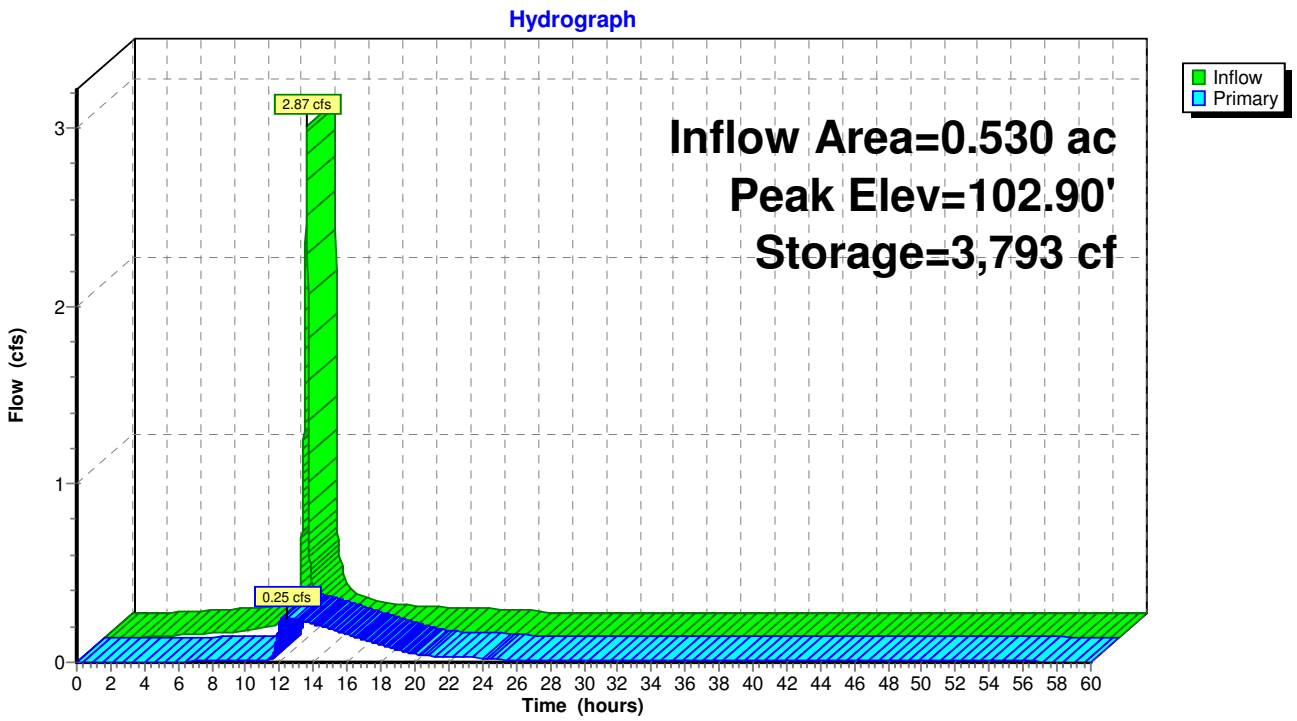
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.25 cfs @ 12.41 hrs HW=102.90' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 8.16 fps)
- **2=Orifice/Grate** (Orifice Controls 0.23 cfs @ 6.63 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 13P: Detention B



Summary for Pond 14P: Detention C

Inflow Area = 1.640 ac, 62.20% Impervious, Inflow Depth = 2.58" for 10-year event
Inflow = 7.52 cfs @ 11.96 hrs, Volume= 0.353 af
Outflow = 0.91 cfs @ 12.23 hrs, Volume= 0.349 af, Atten= 88%, Lag= 16.3 min
Primary = 0.91 cfs @ 12.23 hrs, Volume= 0.349 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 101.78' @ 12.23 hrs Surf.Area= 4,356 sf Storage= 7,744 cf

Plug-Flow detention time= 273.6 min calculated for 0.349 af (99% of inflow)
Center-of-Mass det. time= 267.4 min (1,068.4 - 801.0)

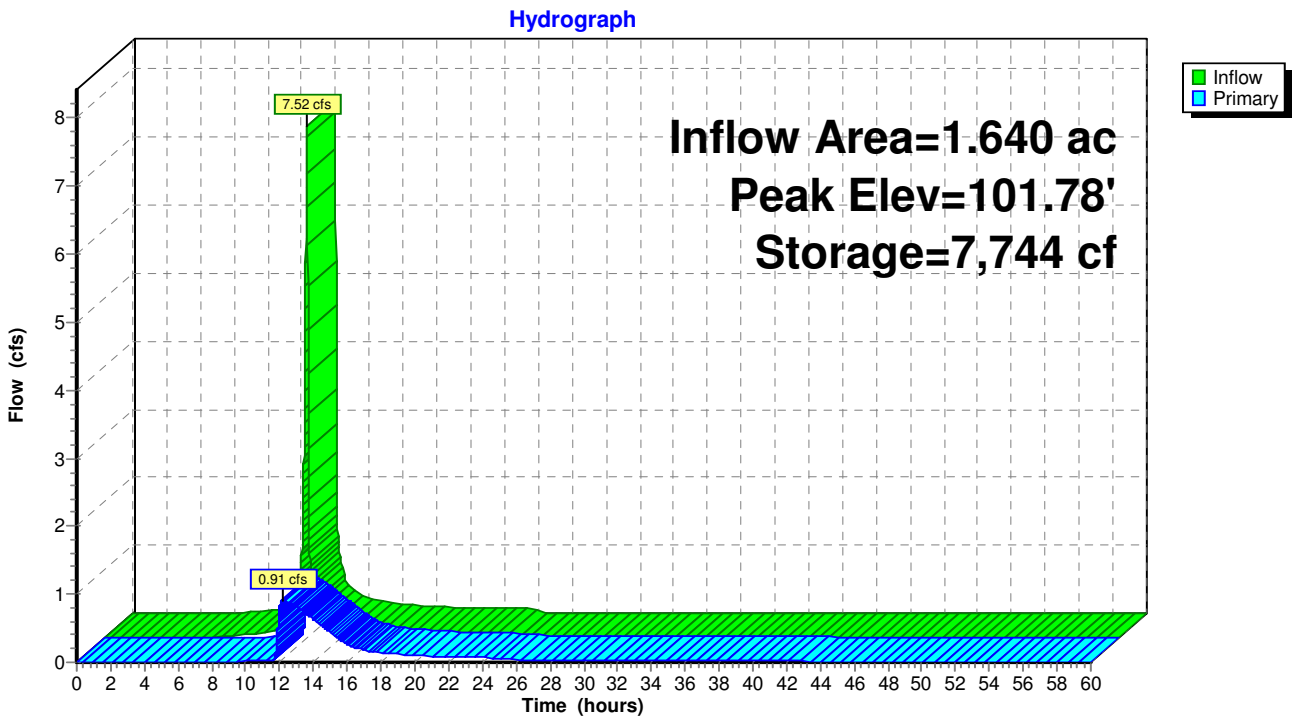
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	19,602 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,356	0	0
104.00	4,356	17,424	17,424
104.50	4,356	2,178	19,602

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.45'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.30'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.91 cfs @ 12.23 hrs HW=101.78' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.08 cfs @ 6.31 fps)
- **2=Orifice/Grate** (Orifice Controls 0.83 cfs @ 5.05 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 14P: Detention C



Summary for Pond 15P: Detention E

Inflow Area = 1.850 ac, 88.11% Impervious, Inflow Depth = 3.17" for 10-year event
Inflow = 9.74 cfs @ 11.96 hrs, Volume= 0.489 af
Outflow = 1.03 cfs @ 12.29 hrs, Volume= 0.484 af, Atten= 89%, Lag= 20.2 min
Primary = 1.03 cfs @ 12.29 hrs, Volume= 0.484 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.25' @ 12.29 hrs Surf.Area= 5,227 sf Storage= 11,769 cf

Plug-Flow detention time= 359.7 min calculated for 0.484 af (99% of inflow)
Center-of-Mass det. time= 352.2 min (1,124.1 - 771.9)

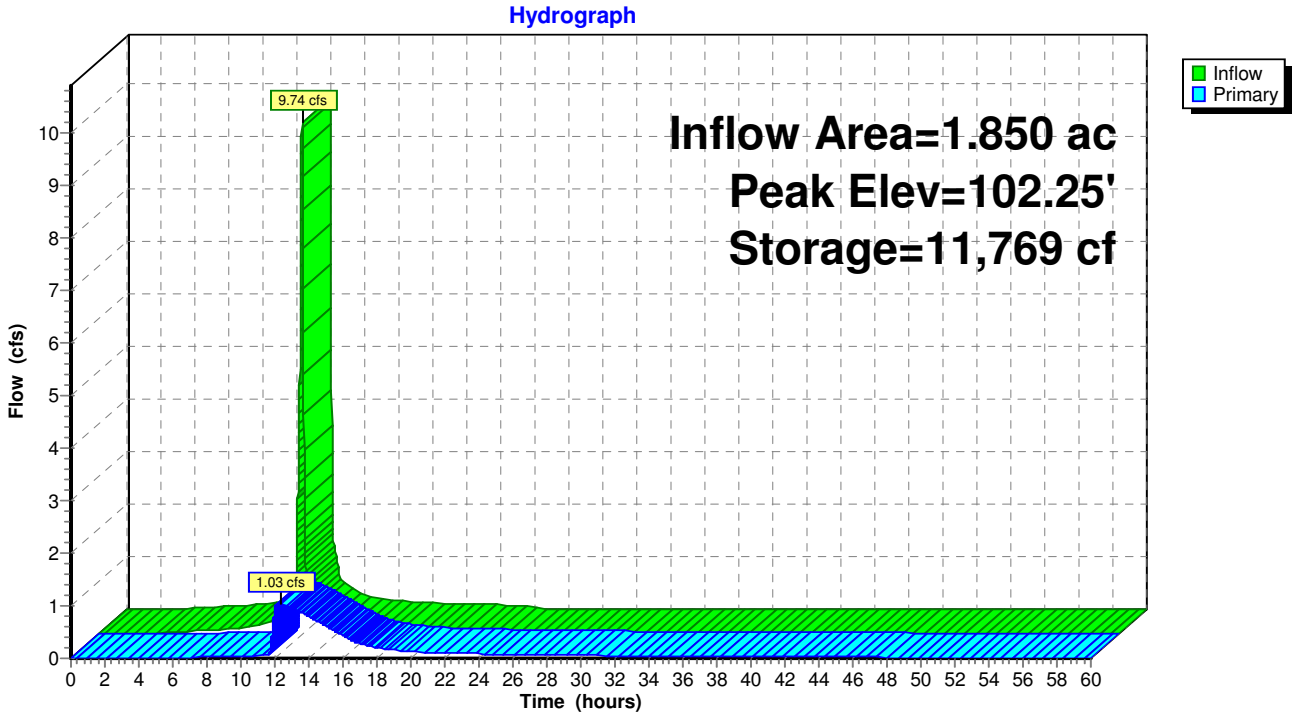
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	20,908 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	5,227	0	0
104.00	5,227	20,908	20,908

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.70'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.75'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.03 cfs @ 12.29 hrs HW=102.25' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.11 cfs @ 7.11 fps)
- **2=Orifice/Grate** (Orifice Controls 0.91 cfs @ 5.54 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 15P: Detention E



Summary for Pond 16P: Detention F

Inflow Area = 1.820 ac, 86.81% Impervious, Inflow Depth = 3.17" for 10-year event
Inflow = 9.58 cfs @ 11.96 hrs, Volume= 0.482 af
Outflow = 1.06 cfs @ 12.26 hrs, Volume= 0.477 af, Atten= 89%, Lag= 18.3 min
Primary = 1.06 cfs @ 12.26 hrs, Volume= 0.477 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.39' @ 12.26 hrs Surf.Area= 4,792 sf Storage= 11,456 cf

Plug-Flow detention time= 346.3 min calculated for 0.477 af (99% of inflow)
Center-of-Mass det. time= 339.8 min (1,111.7 - 771.9)

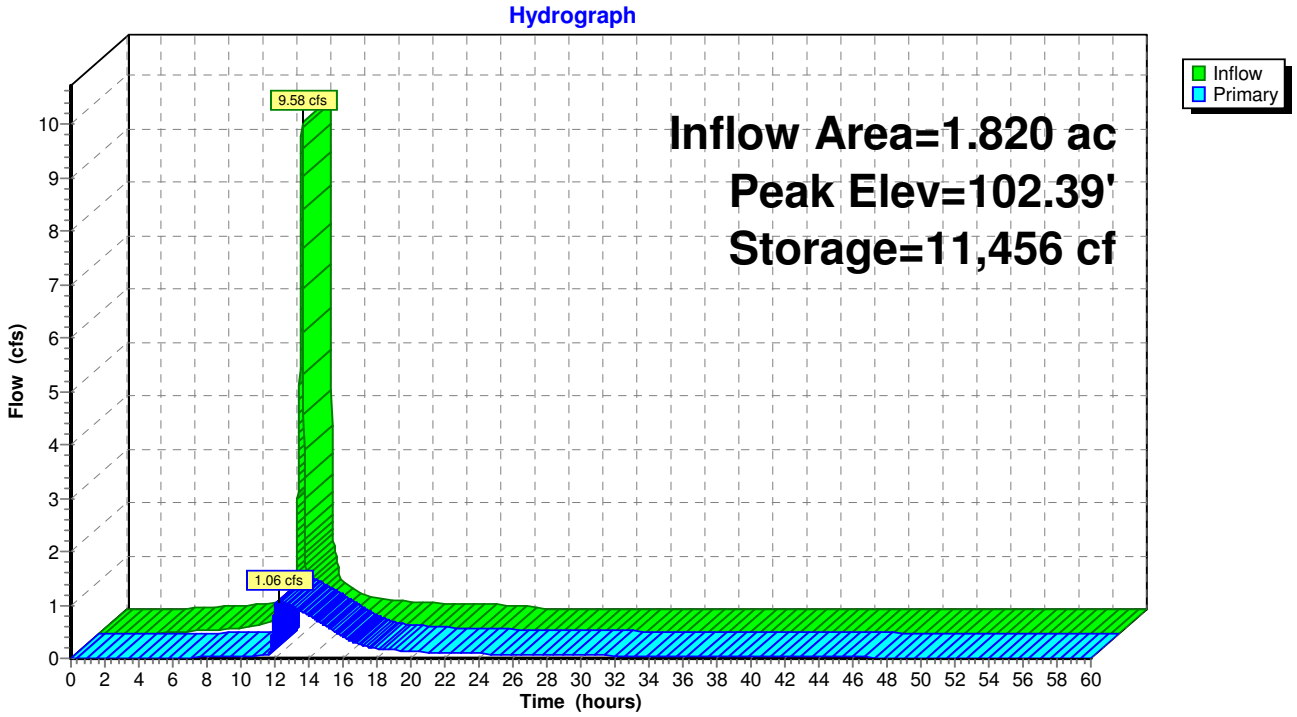
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	21,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,792	0	0
104.00	4,792	19,168	19,168
104.50	4,792	2,396	21,564

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.90'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.06 cfs @ 12.26 hrs HW=102.39' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.12 cfs @ 7.33 fps)
- **2=Orifice/Grate** (Orifice Controls 0.94 cfs @ 5.72 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Detention F



Summary for Pond 17P: Detention G

Inflow Area = 0.720 ac, 93.06% Impervious, Inflow Depth = 3.28" for 10-year event
Inflow = 3.85 cfs @ 11.96 hrs, Volume= 0.197 af
Outflow = 0.42 cfs @ 12.26 hrs, Volume= 0.196 af, Atten= 89%, Lag= 18.5 min
Primary = 0.42 cfs @ 12.26 hrs, Volume= 0.196 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.15' @ 12.26 hrs Surf.Area= 2,178 sf Storage= 4,673 cf

Plug-Flow detention time= 333.3 min calculated for 0.196 af (100% of inflow)
Center-of-Mass det. time= 330.0 min (1,095.2 - 765.2)

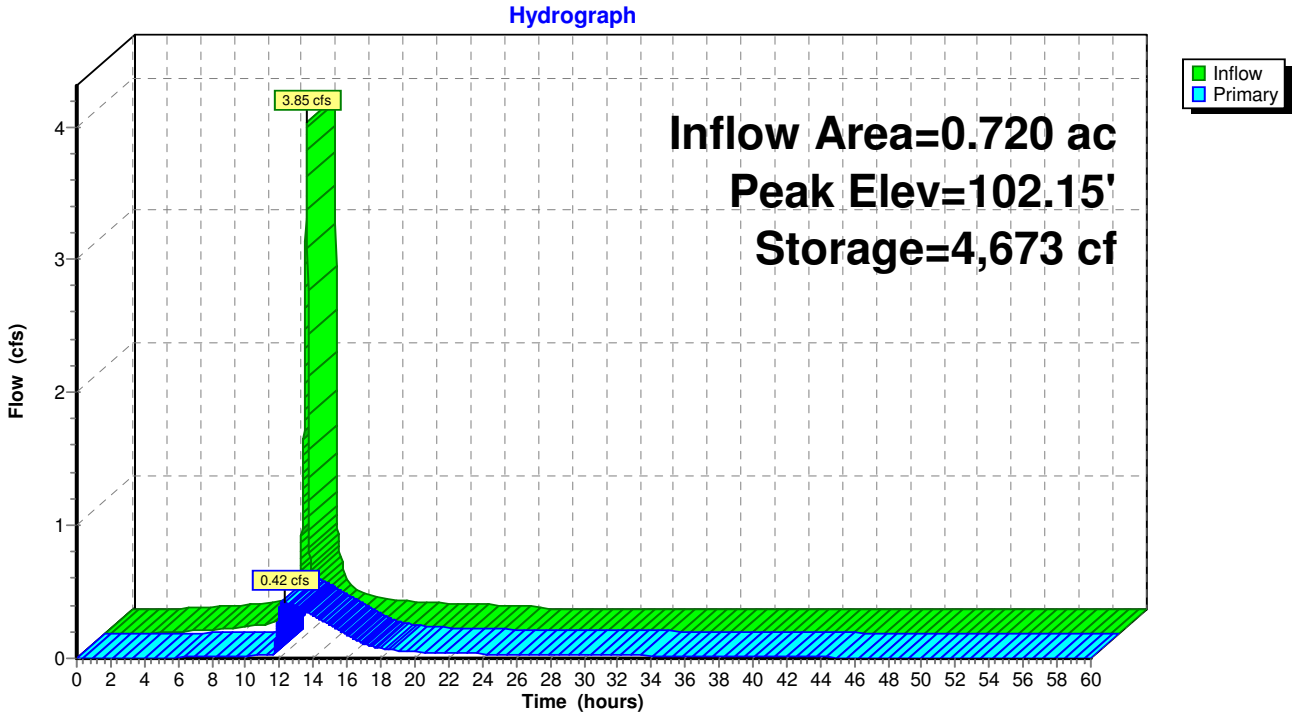
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	2,178	0	0
104.00	2,178	8,712	8,712

Device	Routing	Invert	Outlet Devices		
#1	Primary	100.00'	**1.2" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	100.70'	**3.5" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	102.60'	**8.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.42 cfs @ 12.26 hrs HW=102.15' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 6.97 fps)
- **2=Orifice/Grate** (Orifice Controls 0.37 cfs @ 5.49 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 17P: Detention G



Summary for Pond 18P: Detention H

Inflow Area = 0.510 ac, 92.16% Impervious, Inflow Depth = 3.28" for 10-year event
Inflow = 2.73 cfs @ 11.96 hrs, Volume= 0.140 af
Outflow = 0.24 cfs @ 12.41 hrs, Volume= 0.136 af, Atten= 91%, Lag= 27.1 min
Primary = 0.24 cfs @ 12.41 hrs, Volume= 0.136 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.68' @ 12.41 hrs Surf.Area= 1,307 sf Storage= 3,503 cf

Plug-Flow detention time= 417.2 min calculated for 0.136 af (97% of inflow)
Center-of-Mass det. time= 401.2 min (1,166.4 - 765.2)

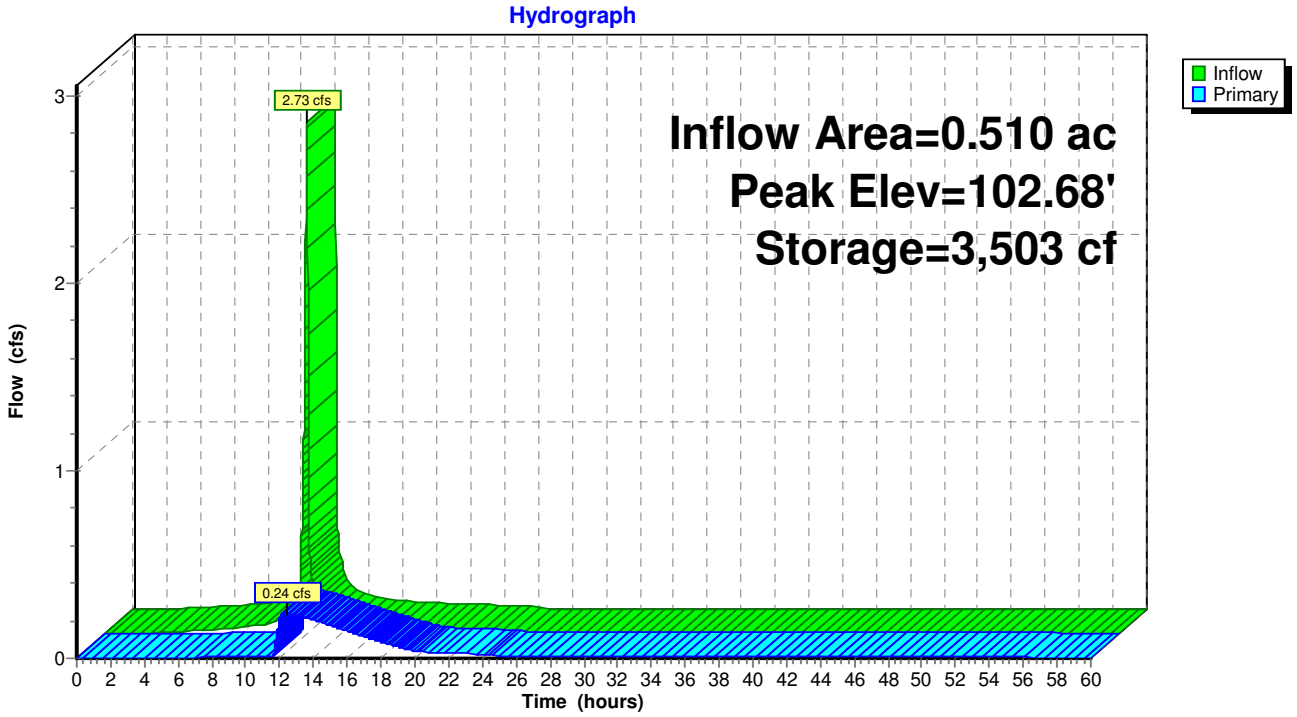
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,227	5,227

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.25'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.24 cfs @ 12.41 hrs HW=102.68' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 7.84 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.22 cfs @ 6.33 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 18P: Detention H



Summary for Pond 19P: Detention I

Inflow Area = 0.610 ac, 90.16% Impervious, Inflow Depth = 3.28" for 10-year event
Inflow = 3.26 cfs @ 11.96 hrs, Volume= 0.167 af
Outflow = 0.32 cfs @ 12.33 hrs, Volume= 0.166 af, Atten= 90%, Lag= 22.4 min
Primary = 0.32 cfs @ 12.33 hrs, Volume= 0.166 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.32' @ 12.33 hrs Surf.Area= 1,742 sf Storage= 4,039 cf

Plug-Flow detention time= 362.1 min calculated for 0.166 af (99% of inflow)
Center-of-Mass det. time= 358.0 min (1,123.3 - 765.2)

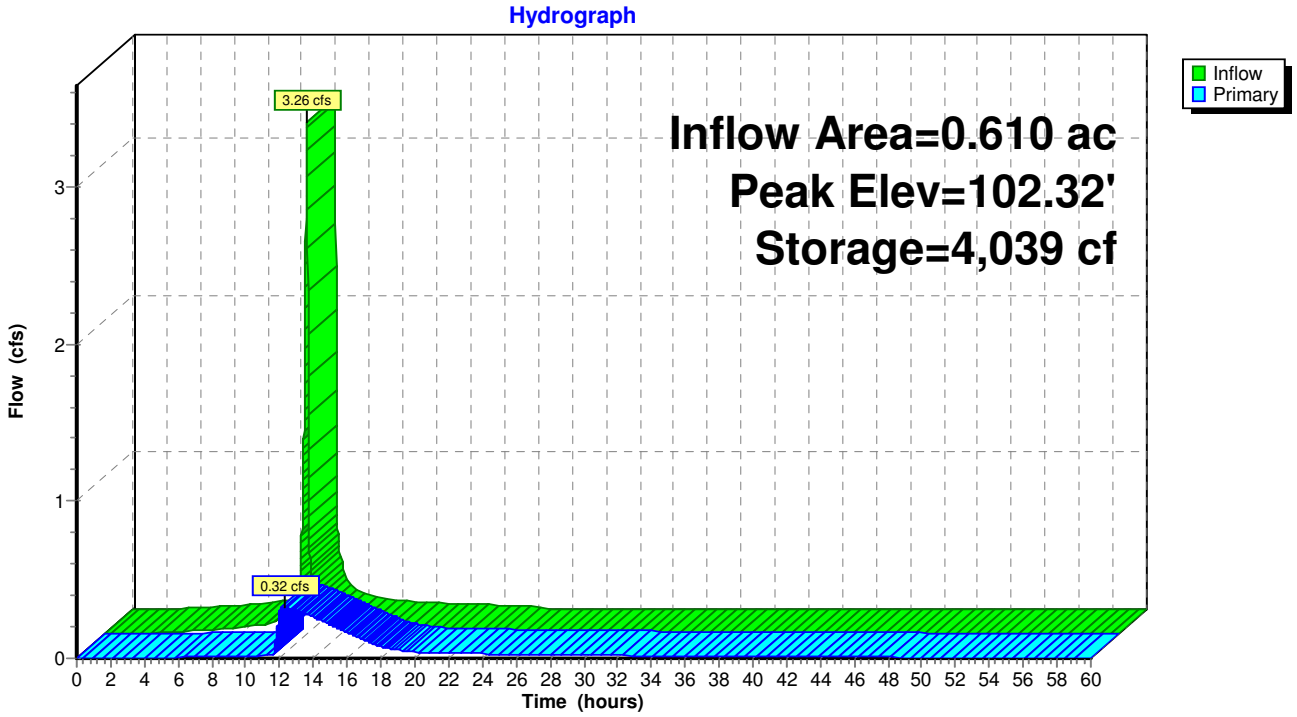
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.85'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.32 cfs @ 12.33 hrs HW=102.32' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 7.26 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.28 cfs @ 5.78 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 19P: Detention I



Summary for Pond 20P: Detention J

Inflow Area = 0.670 ac, 95.52% Impervious, Inflow Depth = 3.39" for 10-year event
Inflow = 3.63 cfs @ 11.96 hrs, Volume= 0.189 af
Outflow = 0.35 cfs @ 12.34 hrs, Volume= 0.188 af, Atten= 90%, Lag= 23.3 min
Primary = 0.35 cfs @ 12.34 hrs, Volume= 0.188 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.66' @ 12.34 hrs Surf.Area= 1,742 sf Storage= 4,642 cf

Plug-Flow detention time= 375.6 min calculated for 0.188 af (99% of inflow)
Center-of-Mass det. time= 371.2 min (1,128.7 - 757.5)

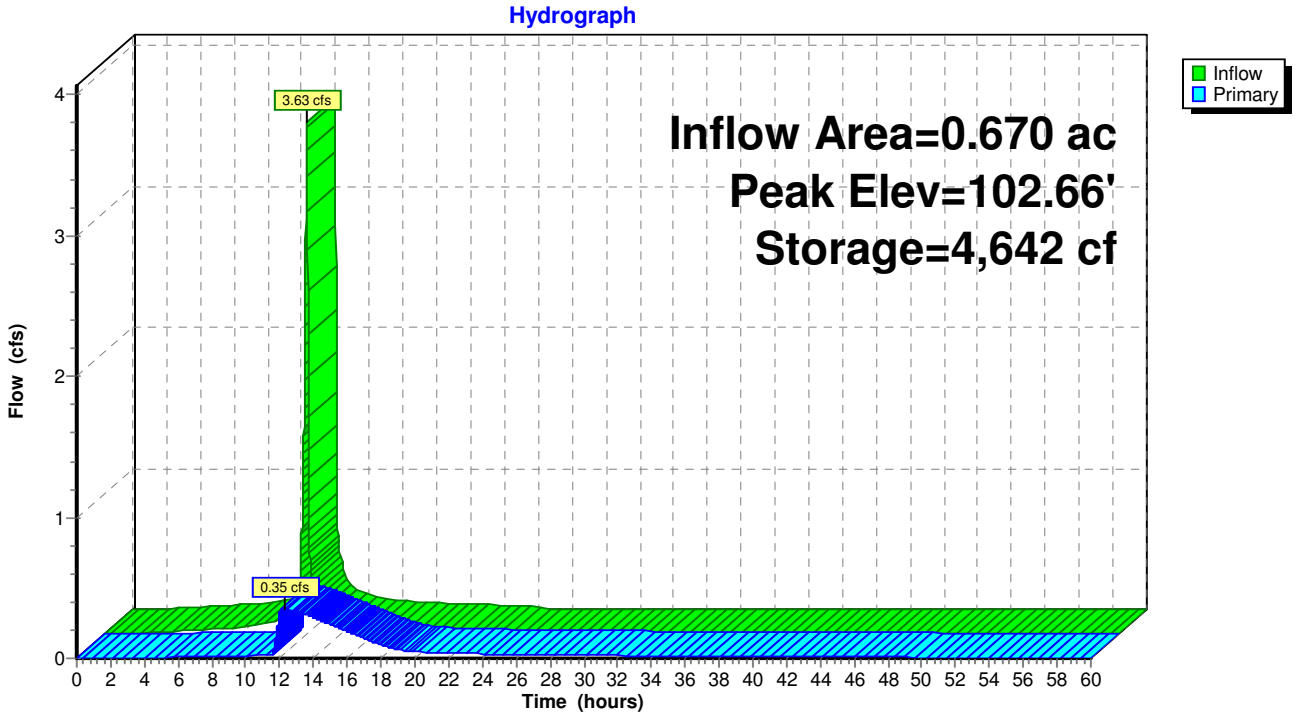
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.20'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.35 cfs @ 12.34 hrs HW=102.66' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 7.80 fps)
- **2=Orifice/Grate** (Orifice Controls 0.31 cfs @ 6.26 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 20P: Detention J



Summary for Subcatchment 1S: Pre-developed

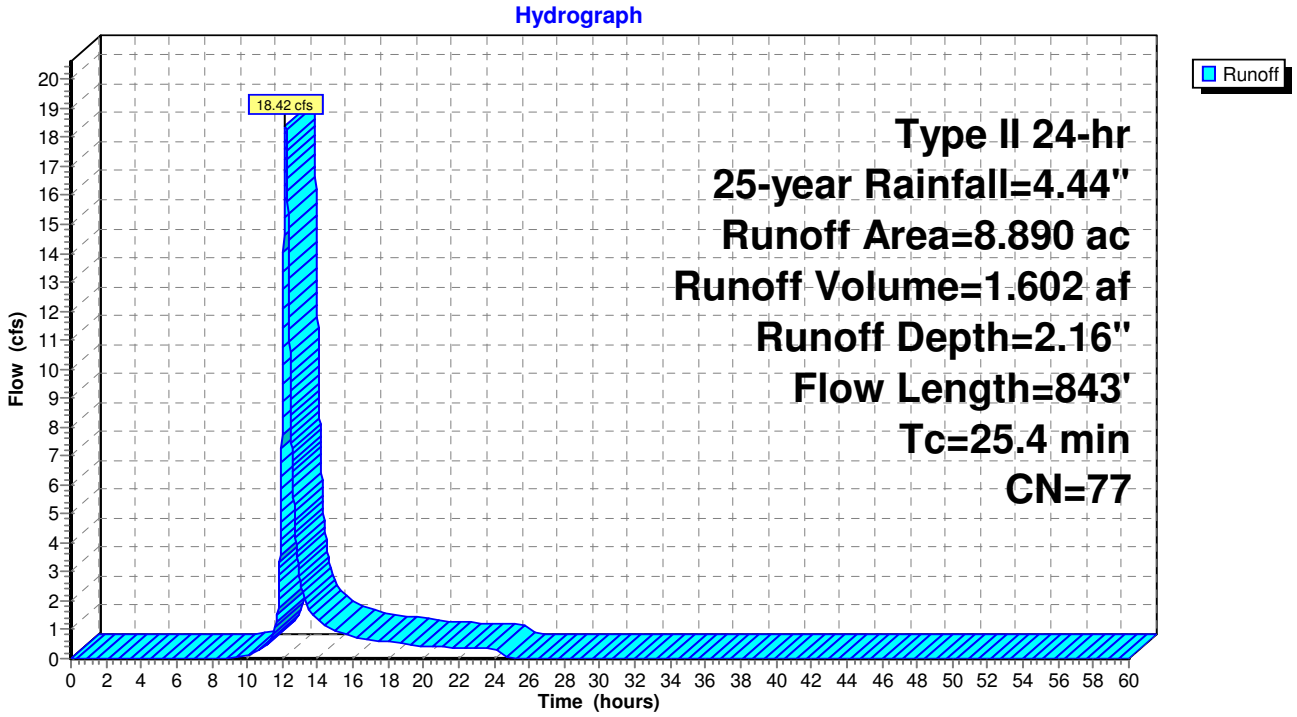
Runoff = 18.42 cfs @ 12.19 hrs, Volume= 1.602 af, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	0.990	74	Open Space/Grass
*	7.630	78	Agricultural
*	0.270	70	Woods
	8.890	77	Weighted Average
	8.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0100	0.11		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.63"
9.6	743	0.0206	1.29		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
25.4	843	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Block A

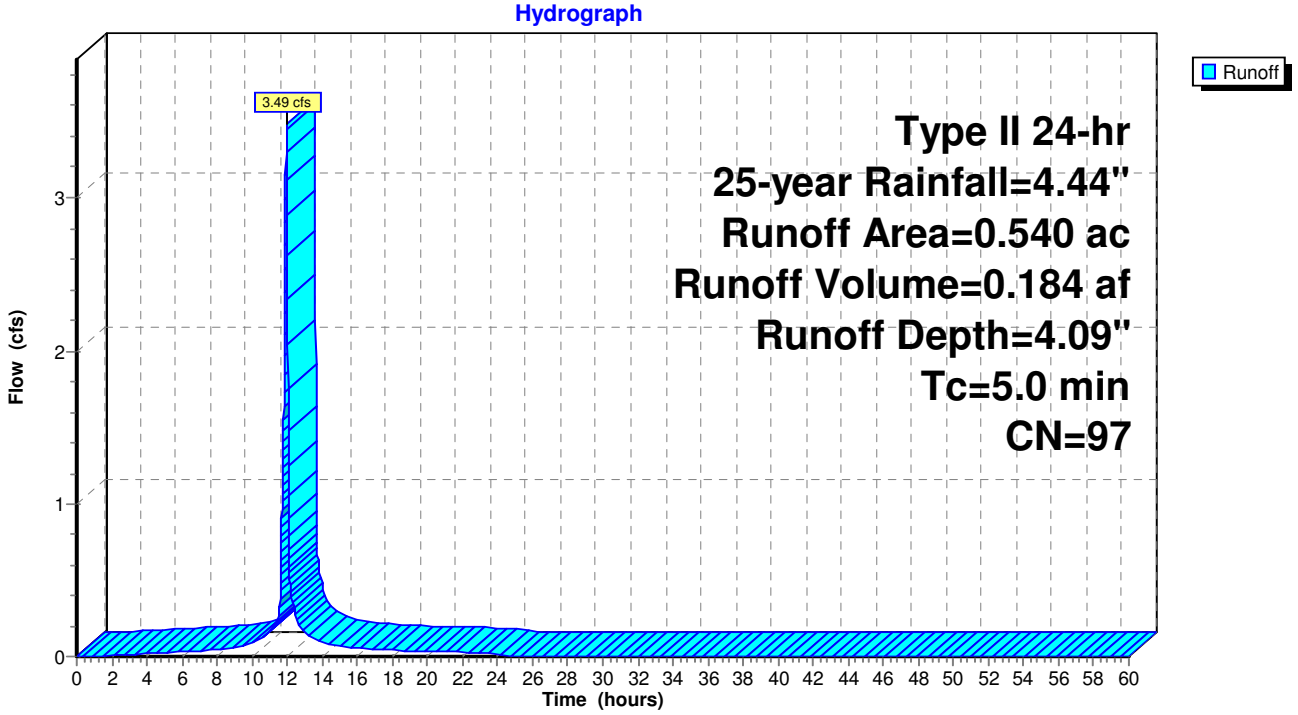
Runoff = 3.49 cfs @ 11.96 hrs, Volume= 0.184 af, Depth= 4.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	0.520	98	
*	0.020	74	
	0.540	97	Weighted Average
	0.020		3.70% Pervious Area
	0.520		96.30% Impervious Area

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

Subcatchment 2S: Block A



Summary for Subcatchment 3S: Block B

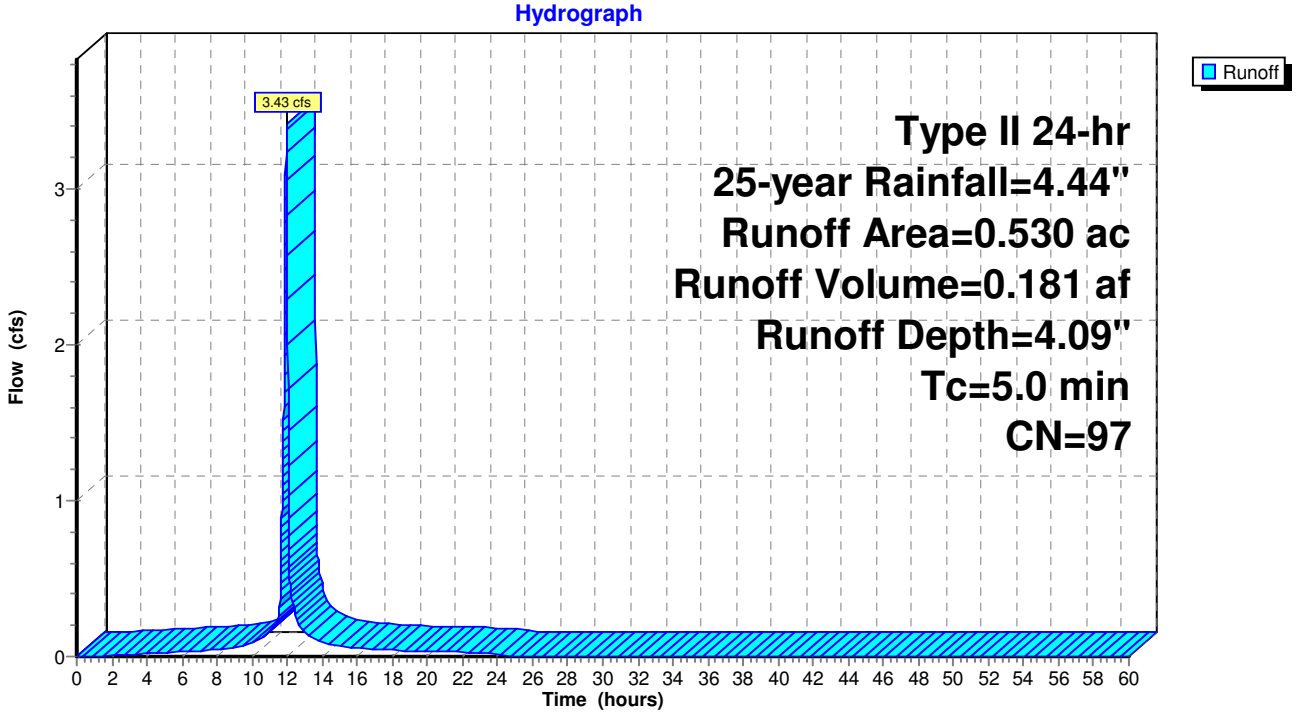
Runoff = 3.43 cfs @ 11.96 hrs, Volume= 0.181 af, Depth= 4.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	0.500	98	
*	0.030	74	
	0.530	97	Weighted Average
	0.030		5.66% Pervious Area
	0.500		94.34% Impervious Area

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

Subcatchment 3S: Block B



Summary for Subcatchment 4S: Block C

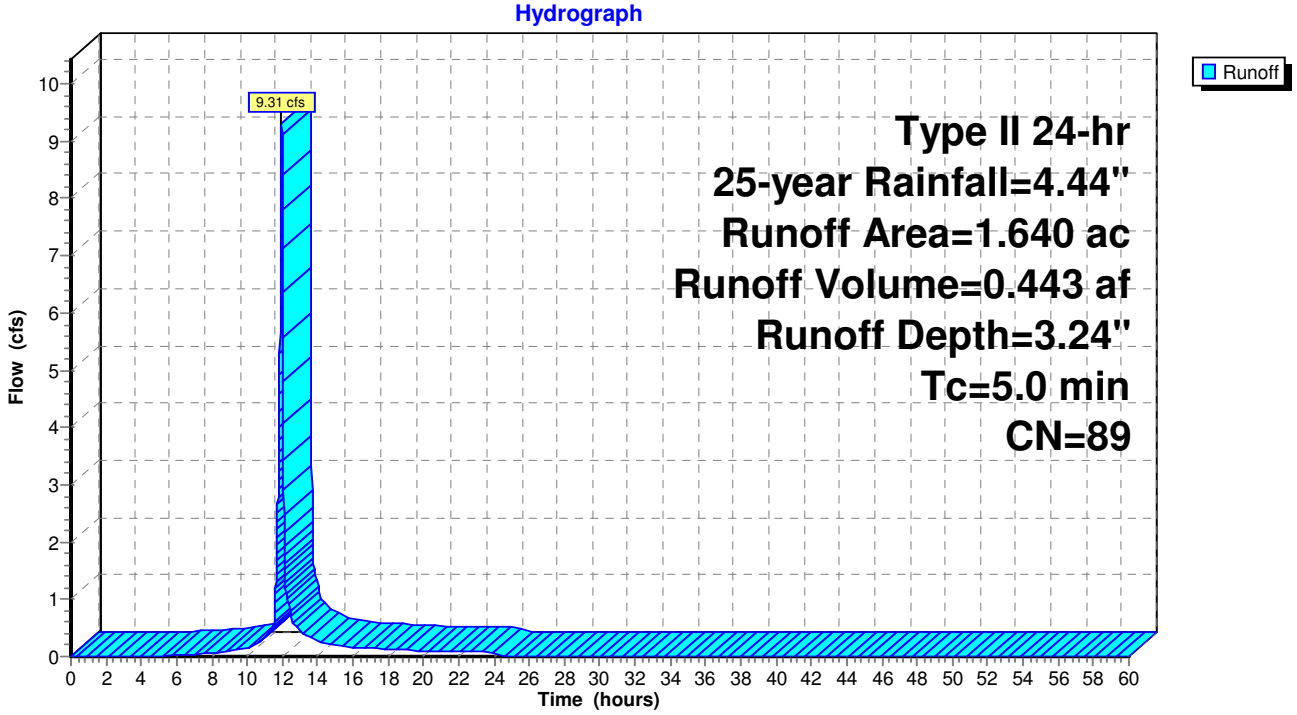
Runoff = 9.31 cfs @ 11.96 hrs, Volume= 0.443 af, Depth= 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	1.020	98	
*	0.620	74	
	1.640	89	Weighted Average
	0.620		37.80% Pervious Area
	1.020		62.20% Impervious Area

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

Subcatchment 4S: Block C



Summary for Subcatchment 5S: Block E

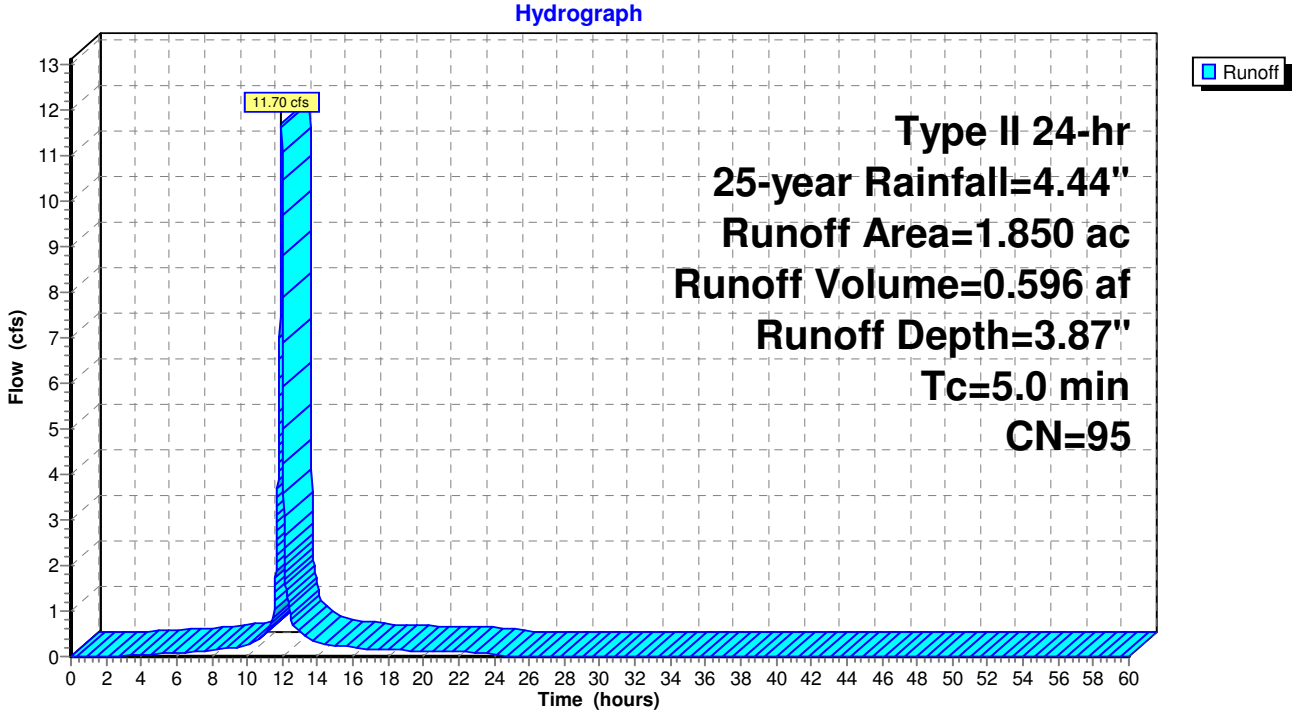
Runoff = 11.70 cfs @ 11.96 hrs, Volume= 0.596 af, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	1.630	98	
*	0.220	74	
	1.850	95	Weighted Average
	0.220		11.89% Pervious Area
	1.630		88.11% Impervious Area

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

Subcatchment 5S: Block E



Summary for Subcatchment 6S: Block F

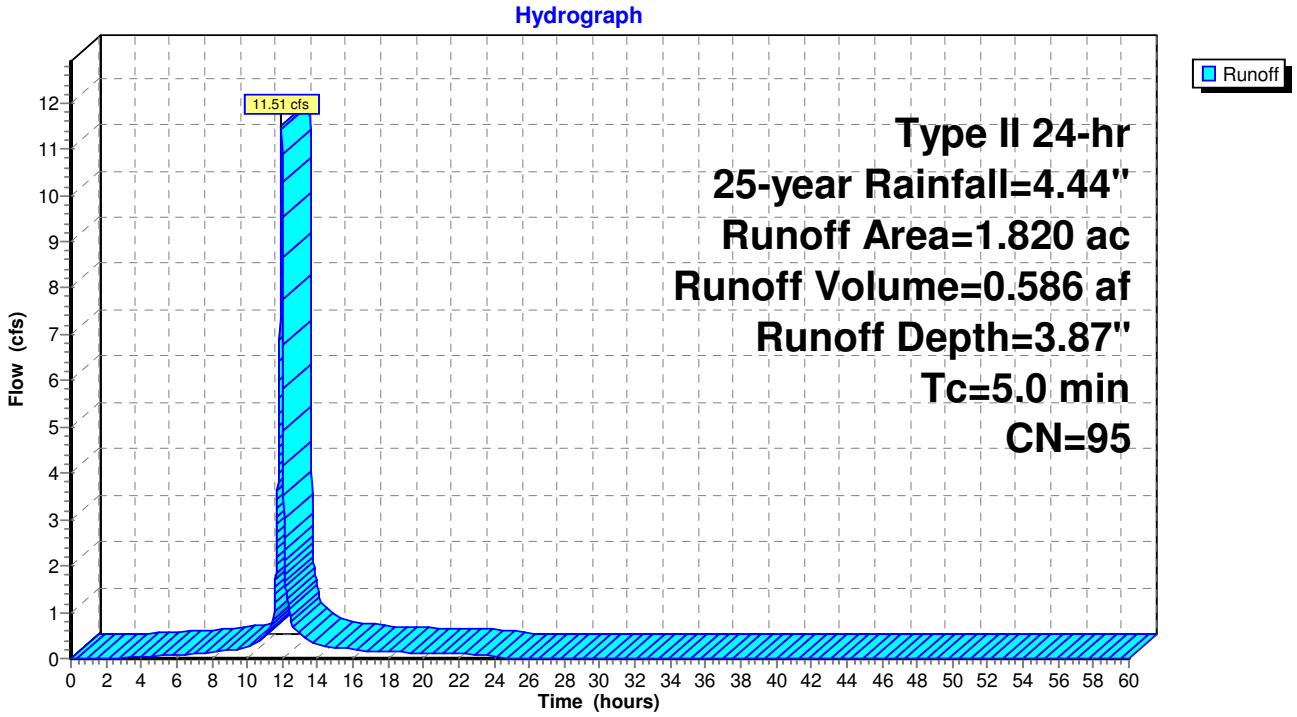
Runoff = 11.51 cfs @ 11.96 hrs, Volume= 0.586 af, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	1.580	98	
*	0.240	74	
	1.820	95	Weighted Average
	0.240		13.19% Pervious Area
	1.580		86.81% Impervious Area

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

Subcatchment 6S: Block F



Summary for Subcatchment 7S: Block G

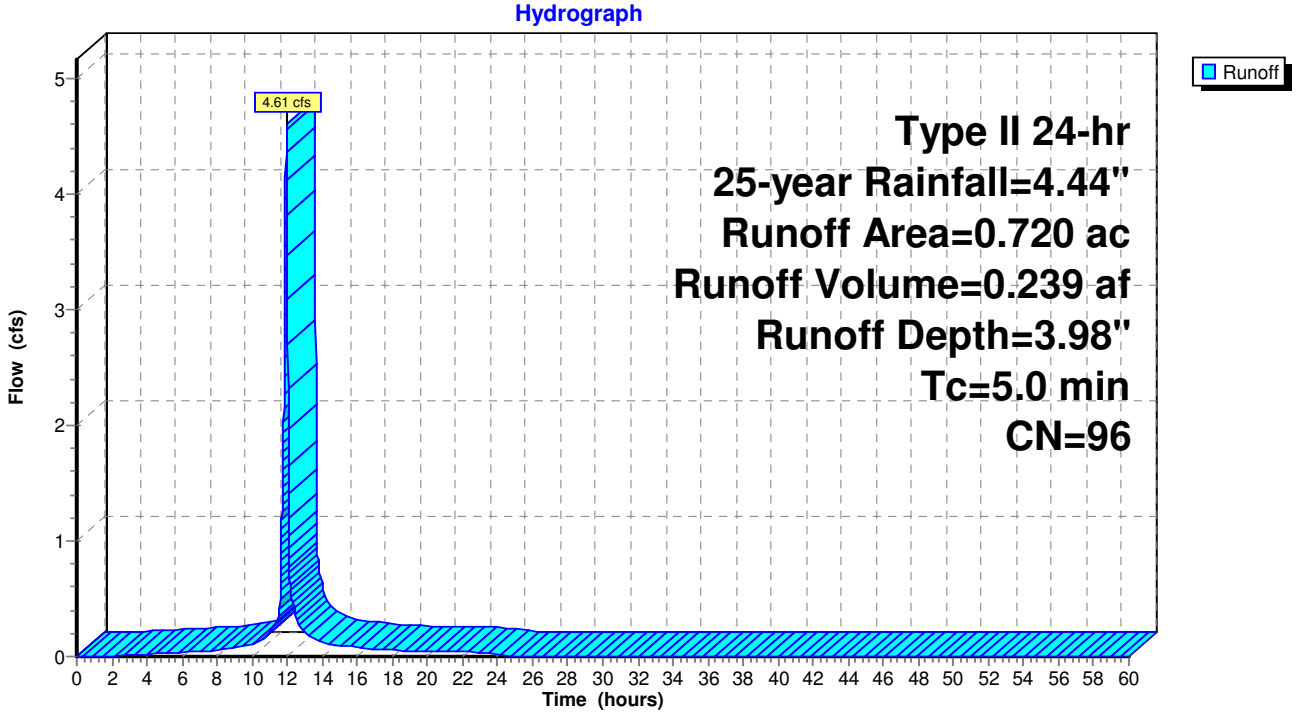
Runoff = 4.61 cfs @ 11.96 hrs, Volume= 0.239 af, Depth= 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	0.670	98	
*	0.050	74	
	0.720	96	Weighted Average
	0.050		6.94% Pervious Area
	0.670		93.06% Impervious Area

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

Subcatchment 7S: Block G



Summary for Subcatchment 8S: Block H

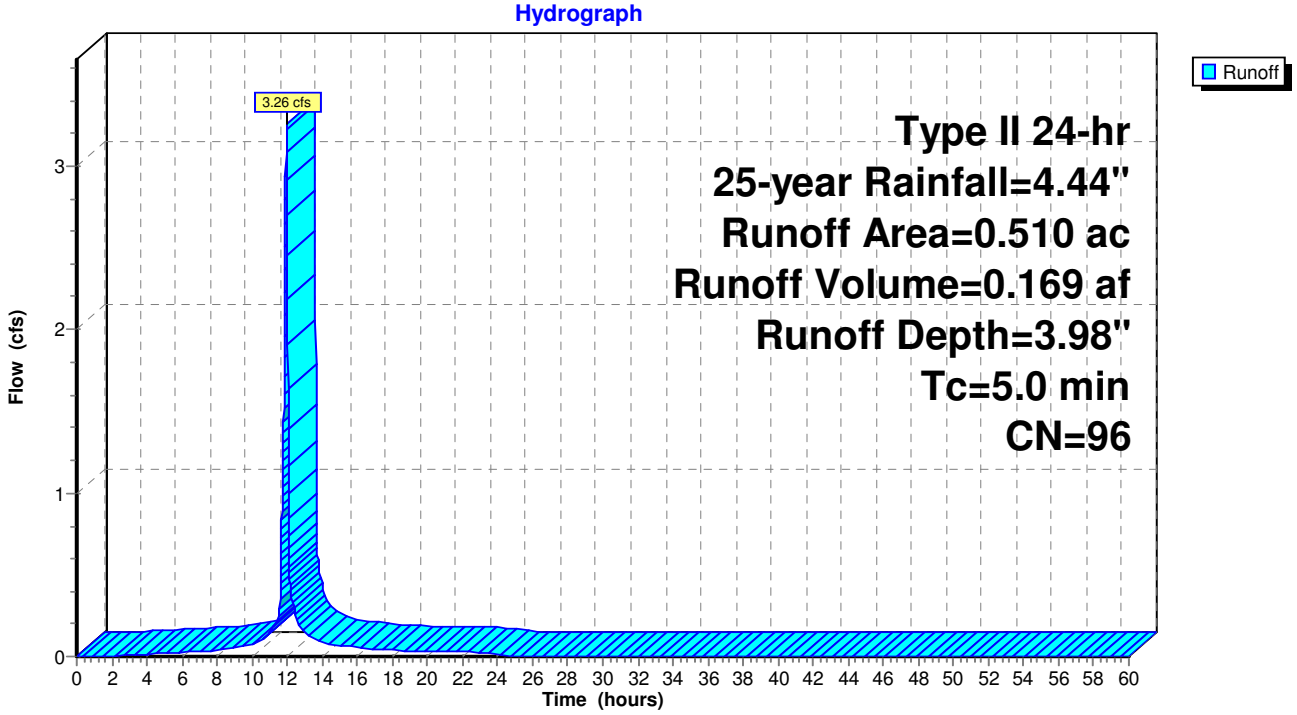
Runoff = 3.26 cfs @ 11.96 hrs, Volume= 0.169 af, Depth= 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	0.470	98	
*	0.040	74	
	0.510	96	Weighted Average
	0.040		7.84% Pervious Area
	0.470		92.16% Impervious Area

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

Subcatchment 8S: Block H



Summary for Subcatchment 9S: Block I

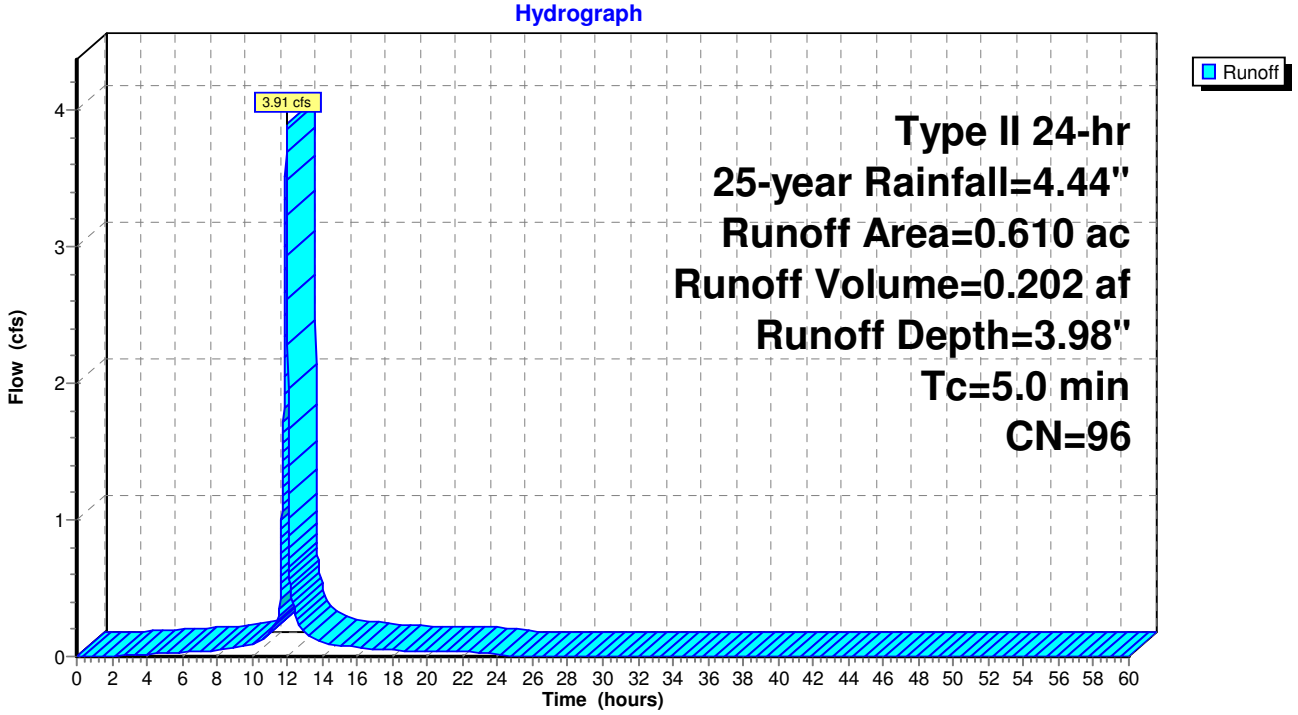
Runoff = 3.91 cfs @ 11.96 hrs, Volume= 0.202 af, Depth= 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	0.550	98	
*	0.060	74	
	0.610	96	Weighted Average
	0.060		9.84% Pervious Area
	0.550		90.16% Impervious Area

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

Subcatchment 9S: Block I



Summary for Subcatchment 10S: Block J

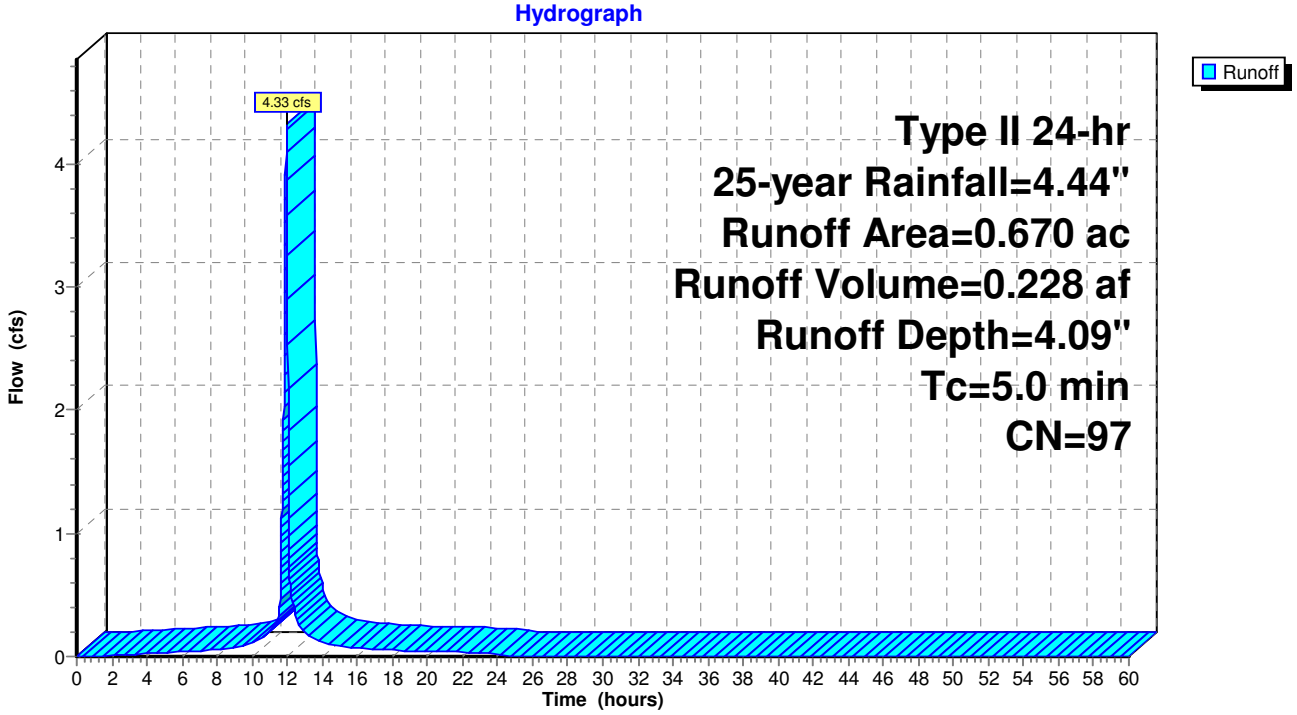
Runoff = 4.33 cfs @ 11.96 hrs, Volume= 0.228 af, Depth= 4.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	0.640	98	
*	0.030	74	
	0.670	97	Weighted Average
	0.030		4.48% Pervious Area
	0.640		95.52% Impervious Area

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

Subcatchment 10S: Block J



Summary for Subcatchment 12S: Total Post

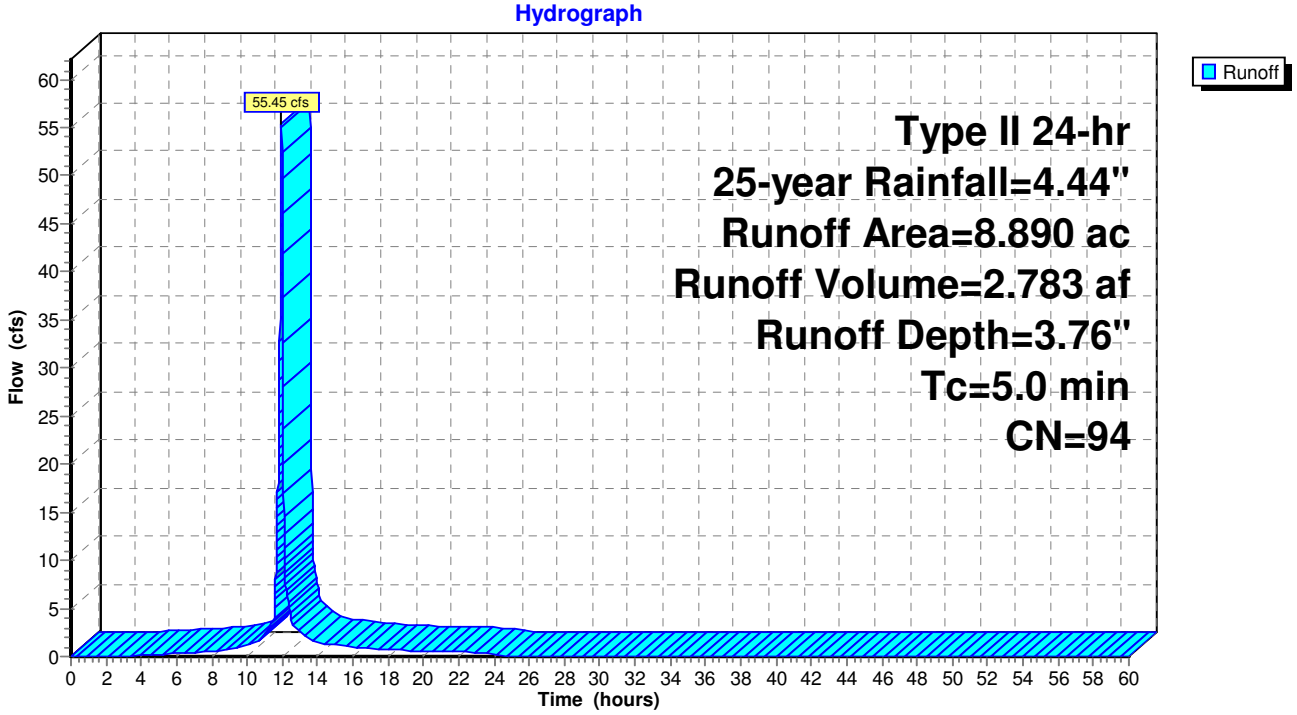
Runoff = 55.45 cfs @ 11.96 hrs, Volume= 2.783 af, Depth= 3.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=4.44"

	Area (ac)	CN	Description
*	7.580	98	
*	1.310	74	
	8.890	94	Weighted Average
	1.310		14.74% Pervious Area
	7.580		85.26% Impervious Area

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

Subcatchment 12S: Total Post



Summary for Pond 11P: Detention A

Inflow Area = 0.540 ac, 96.30% Impervious, Inflow Depth = 4.09" for 25-year event
Inflow = 3.49 cfs @ 11.96 hrs, Volume= 0.184 af
Outflow = 0.30 cfs @ 12.41 hrs, Volume= 0.180 af, Atten= 91%, Lag= 27.5 min
Primary = 0.30 cfs @ 12.41 hrs, Volume= 0.180 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.53' @ 12.41 hrs Surf.Area= 1,307 sf Storage= 4,620 cf

Plug-Flow detention time= 386.6 min calculated for 0.180 af (98% of inflow)
Center-of-Mass det. time= 372.1 min (1,125.6 - 753.5)

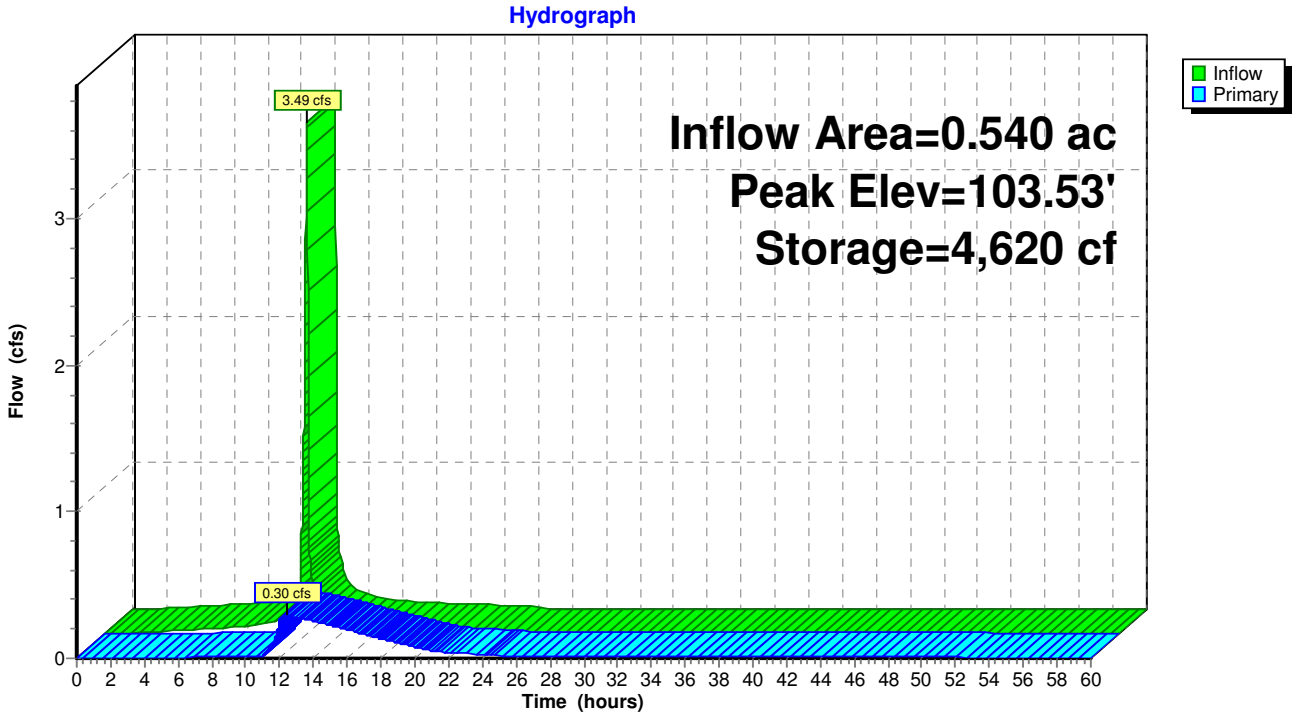
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.29 cfs @ 12.41 hrs HW=103.53' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 9.02 fps)
- **2=Orifice/Grate** (Orifice Controls 0.26 cfs @ 7.66 fps)
- **3=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.63 fps)

Pond 11P: Detention A



Summary for Pond 13P: Detention B

Inflow Area = 0.530 ac, 94.34% Impervious, Inflow Depth = 4.09" for 25-year event
Inflow = 3.43 cfs @ 11.96 hrs, Volume= 0.181 af
Outflow = 0.28 cfs @ 12.43 hrs, Volume= 0.176 af, Atten= 92%, Lag= 28.6 min
Primary = 0.28 cfs @ 12.43 hrs, Volume= 0.176 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.48' @ 12.43 hrs Surf.Area= 1,307 sf Storage= 4,544 cf

Plug-Flow detention time= 389.7 min calculated for 0.176 af (98% of inflow)
Center-of-Mass det. time= 375.0 min (1,128.5 - 753.5)

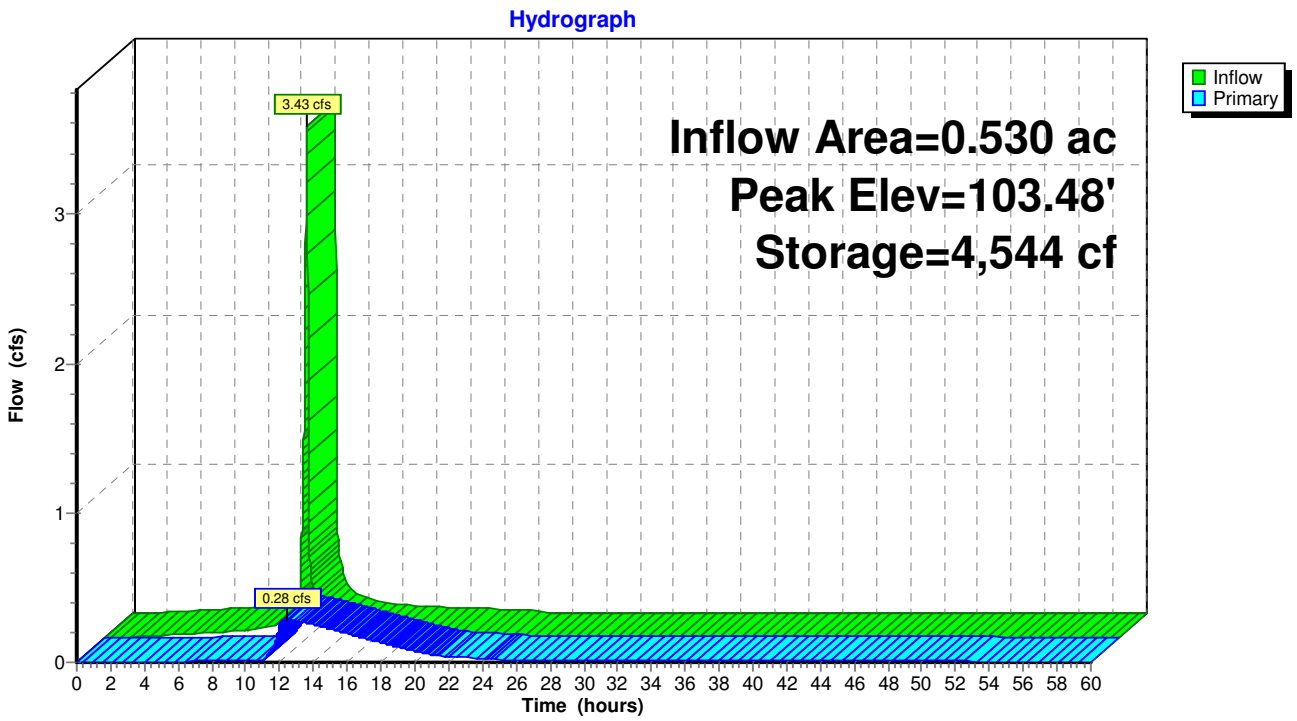
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.28 cfs @ 12.43 hrs HW=103.48' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 8.94 fps)
- **2=Orifice/Grate** (Orifice Controls 0.26 cfs @ 7.57 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 13P: Detention B



Summary for Pond 14P: Detention C

Inflow Area = 1.640 ac, 62.20% Impervious, Inflow Depth = 3.24" for 25-year event
Inflow = 9.31 cfs @ 11.96 hrs, Volume= 0.443 af
Outflow = 1.09 cfs @ 12.25 hrs, Volume= 0.439 af, Atten= 88%, Lag= 17.3 min
Primary = 1.09 cfs @ 12.25 hrs, Volume= 0.439 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.26' @ 12.25 hrs Surf.Area= 4,356 sf Storage= 9,827 cf

Plug-Flow detention time= 247.1 min calculated for 0.439 af (99% of inflow)
Center-of-Mass det. time= 242.3 min (1,036.8 - 794.6)

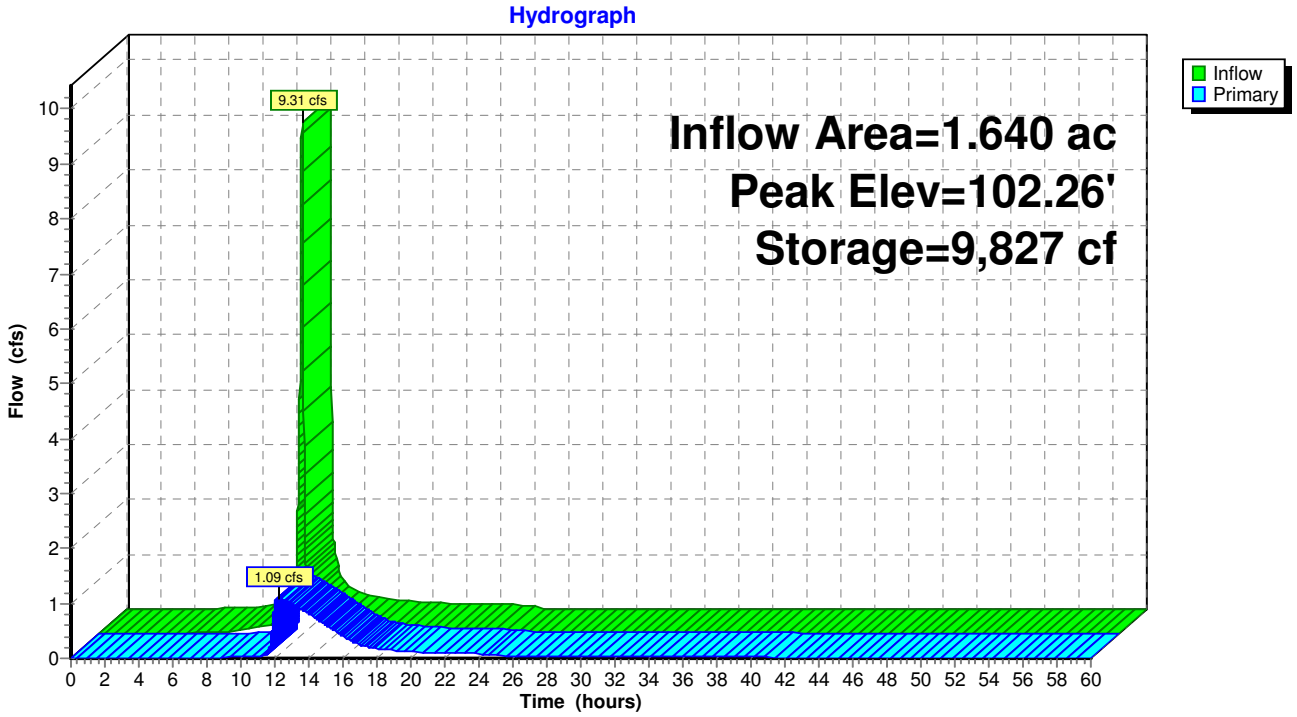
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	19,602 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,356	0	0
104.00	4,356	17,424	17,424
104.50	4,356	2,178	19,602

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.45'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.30'	**10.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=1.09 cfs @ 12.25 hrs HW=102.26' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.09 cfs @ 7.13 fps)
- **2=Orifice/Grate** (Orifice Controls 1.00 cfs @ 6.05 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 14P: Detention C



Summary for Pond 15P: Detention E

Inflow Area = 1.850 ac, 88.11% Impervious, Inflow Depth = 3.87" for 25-year event
Inflow = 11.70 cfs @ 11.96 hrs, Volume= 0.596 af
Outflow = 1.19 cfs @ 12.31 hrs, Volume= 0.590 af, Atten= 90%, Lag= 21.4 min
Primary = 1.19 cfs @ 12.31 hrs, Volume= 0.590 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.74' @ 12.31 hrs Surf.Area= 5,227 sf Storage= 14,332 cf

Plug-Flow detention time= 330.1 min calculated for 0.590 af (99% of inflow)
Center-of-Mass det. time= 323.4 min (1,090.4 - 766.9)

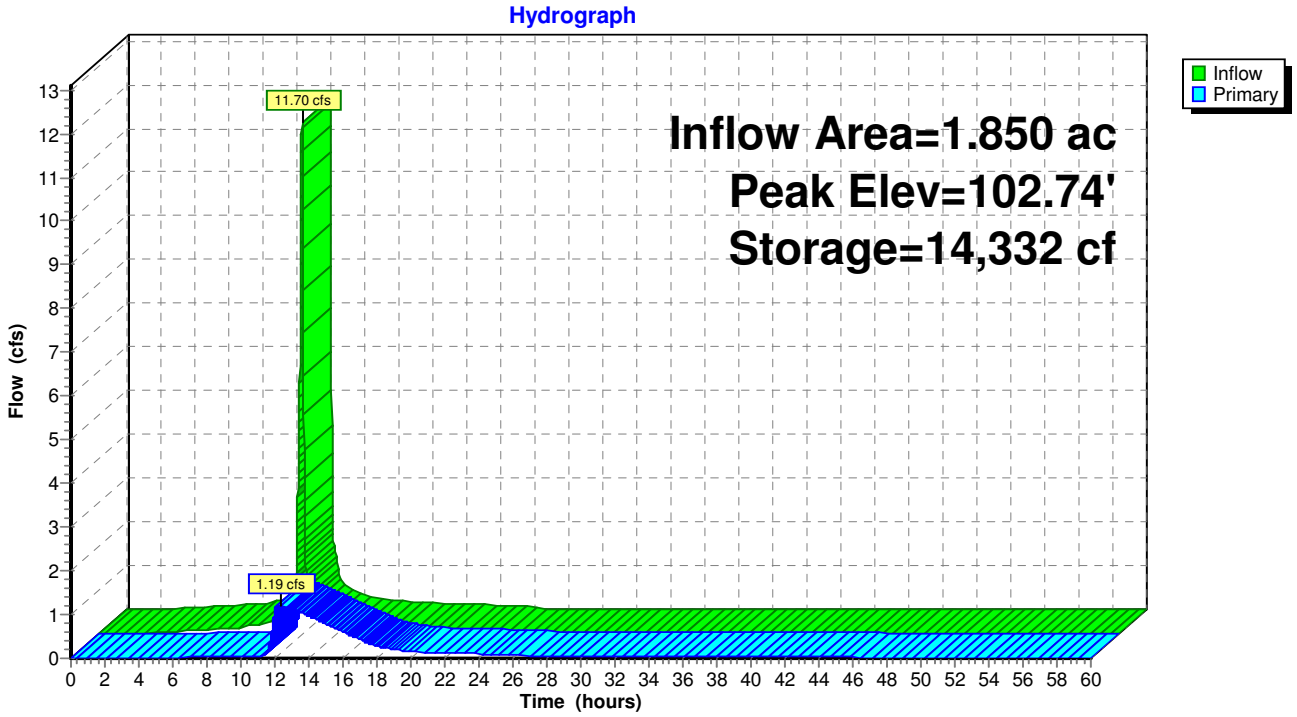
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	20,908 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	5,227	0	0
104.00	5,227	20,908	20,908

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.70'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.75'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.19 cfs @ 12.31 hrs HW=102.74' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.12 cfs @ 7.87 fps)
- **2=Orifice/Grate** (Orifice Controls 1.07 cfs @ 6.48 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 15P: Detention E



Summary for Pond 16P: Detention F

Inflow Area = 1.820 ac, 86.81% Impervious, Inflow Depth = 3.87" for 25-year event
Inflow = 11.51 cfs @ 11.96 hrs, Volume= 0.586 af
Outflow = 1.24 cfs @ 12.27 hrs, Volume= 0.581 af, Atten= 89%, Lag= 19.1 min
Primary = 1.24 cfs @ 12.27 hrs, Volume= 0.581 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.91' @ 12.27 hrs Surf.Area= 4,792 sf Storage= 13,941 cf

Plug-Flow detention time= 316.9 min calculated for 0.581 af (99% of inflow)
Center-of-Mass det. time= 311.6 min (1,078.6 - 766.9)

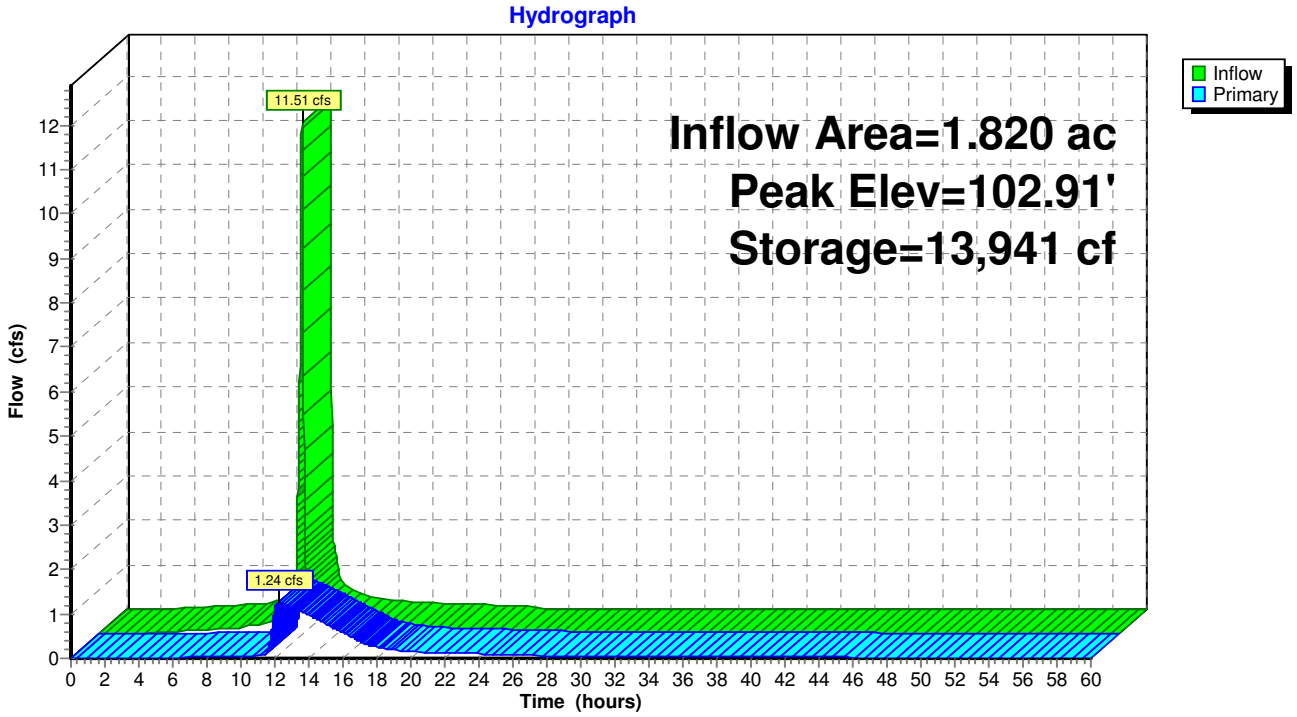
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	21,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,792	0	0
104.00	4,792	19,168	19,168
104.50	4,792	2,396	21,564

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.90'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.24 cfs @ 12.27 hrs HW=102.91' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.13 cfs @ 8.11 fps)
- **2=Orifice/Grate** (Orifice Controls 1.10 cfs @ 6.69 fps)
- **3=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.31 fps)

Pond 16P: Detention F



Summary for Pond 17P: Detention G

Inflow Area = 0.720 ac, 93.06% Impervious, Inflow Depth = 3.98" for 25-year event
Inflow = 4.61 cfs @ 11.96 hrs, Volume= 0.239 af
Outflow = 0.49 cfs @ 12.29 hrs, Volume= 0.238 af, Atten= 89%, Lag= 19.9 min
Primary = 0.49 cfs @ 12.29 hrs, Volume= 0.238 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.60' @ 12.29 hrs Surf.Area= 2,178 sf Storage= 5,655 cf

Plug-Flow detention time= 308.1 min calculated for 0.238 af (100% of inflow)
Center-of-Mass det. time= 305.5 min (1,066.2 - 760.7)

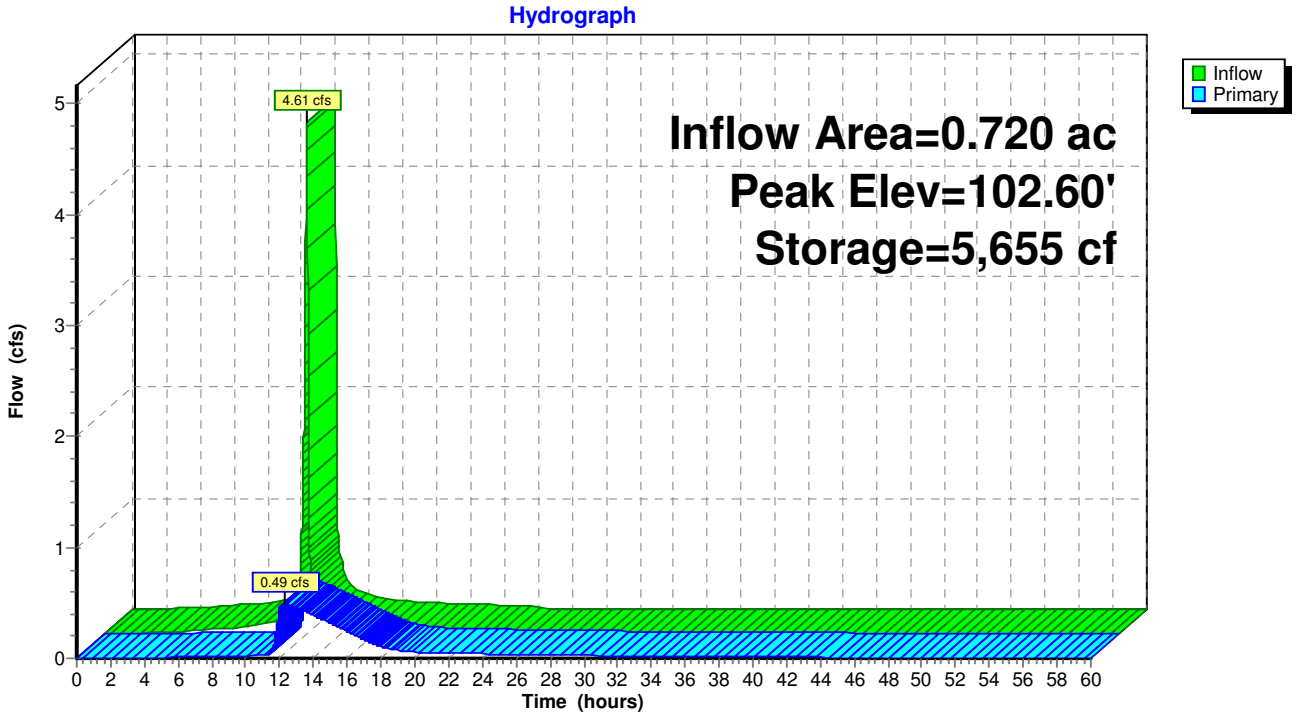
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	2,178	0	0
104.00	2,178	8,712	8,712

Device	Routing	Invert	Outlet Devices		
#1	Primary	100.00'	**1.2" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	100.70'	**3.5" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	102.60'	**8.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.49 cfs @ 12.29 hrs HW=102.60' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 7.68 fps)
- **2=Orifice/Grate** (Orifice Controls 0.43 cfs @ 6.37 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 17P: Detention G



Summary for Pond 18P: Detention H

Inflow Area = 0.510 ac, 92.16% Impervious, Inflow Depth = 3.98" for 25-year event
Inflow = 3.26 cfs @ 11.96 hrs, Volume= 0.169 af
Outflow = 0.27 cfs @ 12.43 hrs, Volume= 0.165 af, Atten= 92%, Lag= 28.4 min
Primary = 0.27 cfs @ 12.43 hrs, Volume= 0.165 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.24' @ 12.43 hrs Surf.Area= 1,307 sf Storage= 4,237 cf

Plug-Flow detention time= 384.9 min calculated for 0.165 af (98% of inflow)
Center-of-Mass det. time= 371.2 min (1,131.9 - 760.7)

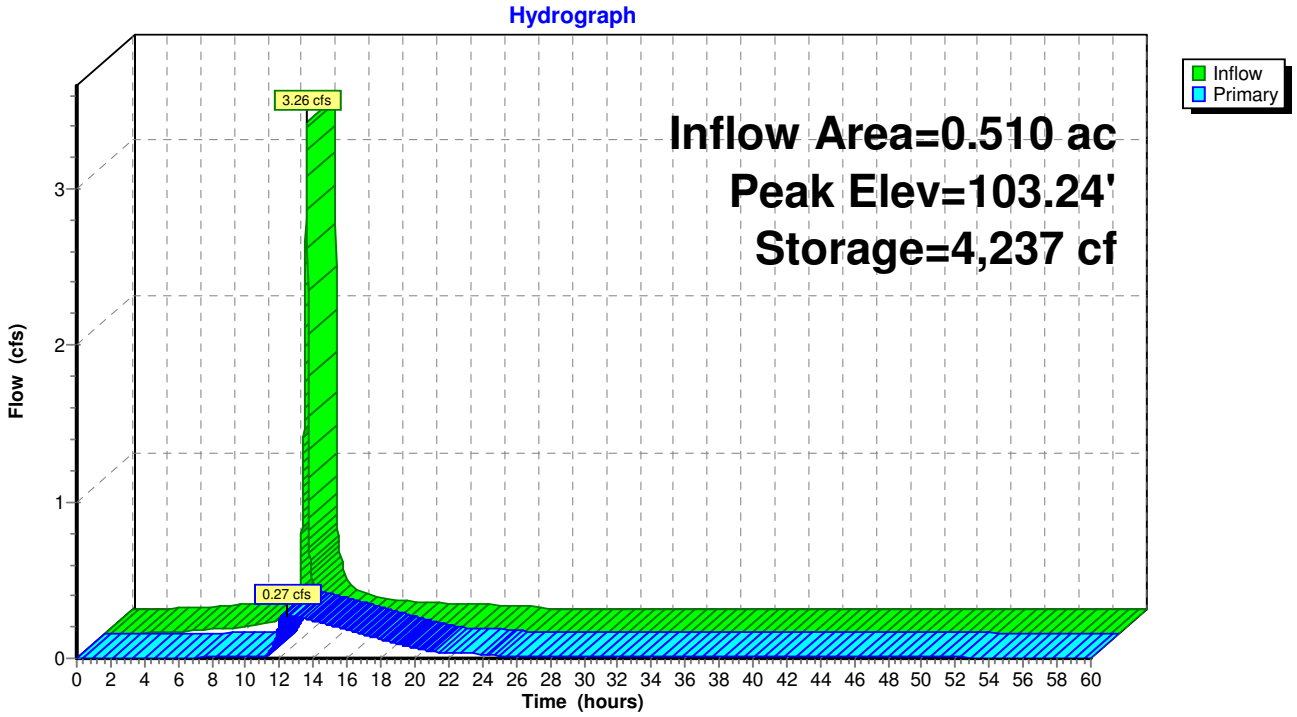
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,227	5,227

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.25'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.27 cfs @ 12.43 hrs HW=103.24' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 8.63 fps)
- **2=Orifice/Grate** (Orifice Controls 0.25 cfs @ 7.28 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 18P: Detention H



Summary for Pond 19P: Detention I

Inflow Area = 0.610 ac, 90.16% Impervious, Inflow Depth = 3.98" for 25-year event
Inflow = 3.91 cfs @ 11.96 hrs, Volume= 0.202 af
Outflow = 0.37 cfs @ 12.35 hrs, Volume= 0.201 af, Atten= 90%, Lag= 23.8 min
Primary = 0.37 cfs @ 12.35 hrs, Volume= 0.201 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.81' @ 12.35 hrs Surf.Area= 1,742 sf Storage= 4,892 cf

Plug-Flow detention time= 335.0 min calculated for 0.201 af (99% of inflow)
Center-of-Mass det. time= 331.5 min (1,092.2 - 760.7)

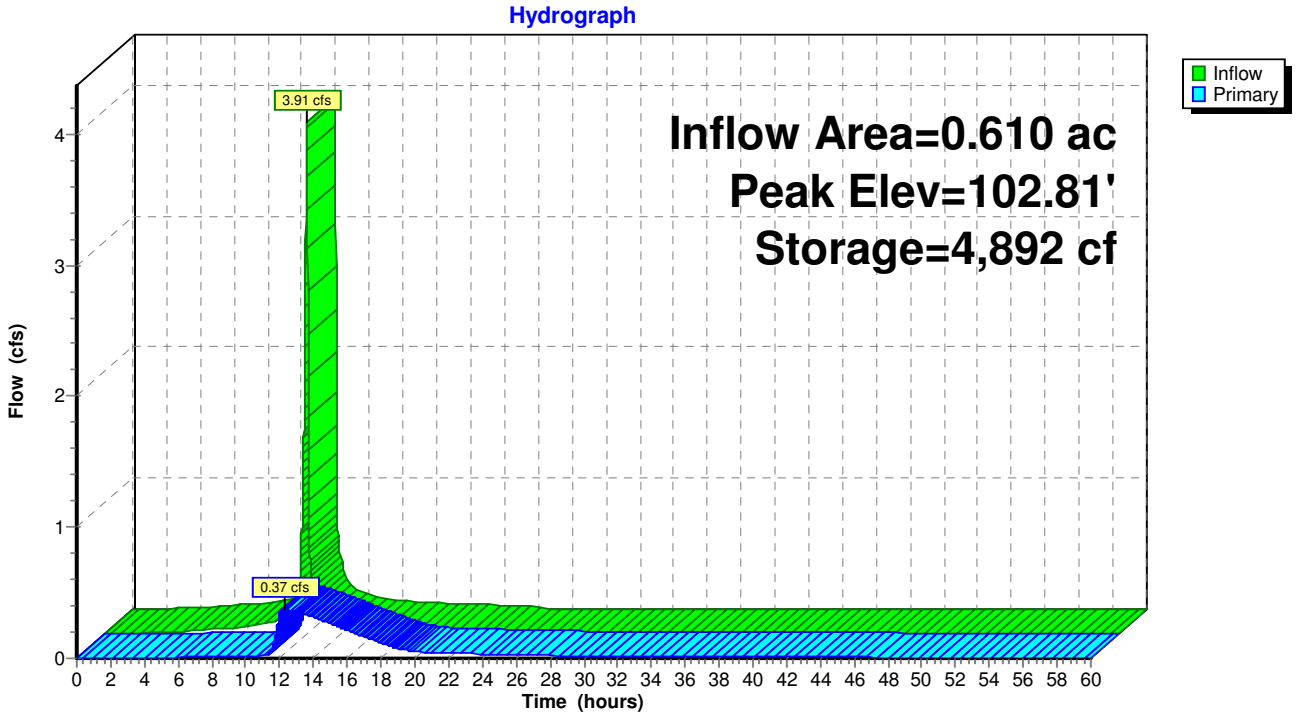
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.85'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.37 cfs @ 12.35 hrs HW=102.81' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 8.01 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.33 cfs @ 6.69 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 19P: Detention I



Summary for Pond 20P: Detention J

Inflow Area = 0.670 ac, 95.52% Impervious, Inflow Depth = 4.09" for 25-year event
Inflow = 4.33 cfs @ 11.96 hrs, Volume= 0.228 af
Outflow = 0.40 cfs @ 12.37 hrs, Volume= 0.227 af, Atten= 91%, Lag= 24.9 min
Primary = 0.40 cfs @ 12.37 hrs, Volume= 0.227 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.20' @ 12.37 hrs Surf.Area= 1,742 sf Storage= 5,574 cf

Plug-Flow detention time= 348.5 min calculated for 0.227 af (99% of inflow)
Center-of-Mass det. time= 345.1 min (1,098.6 - 753.5)

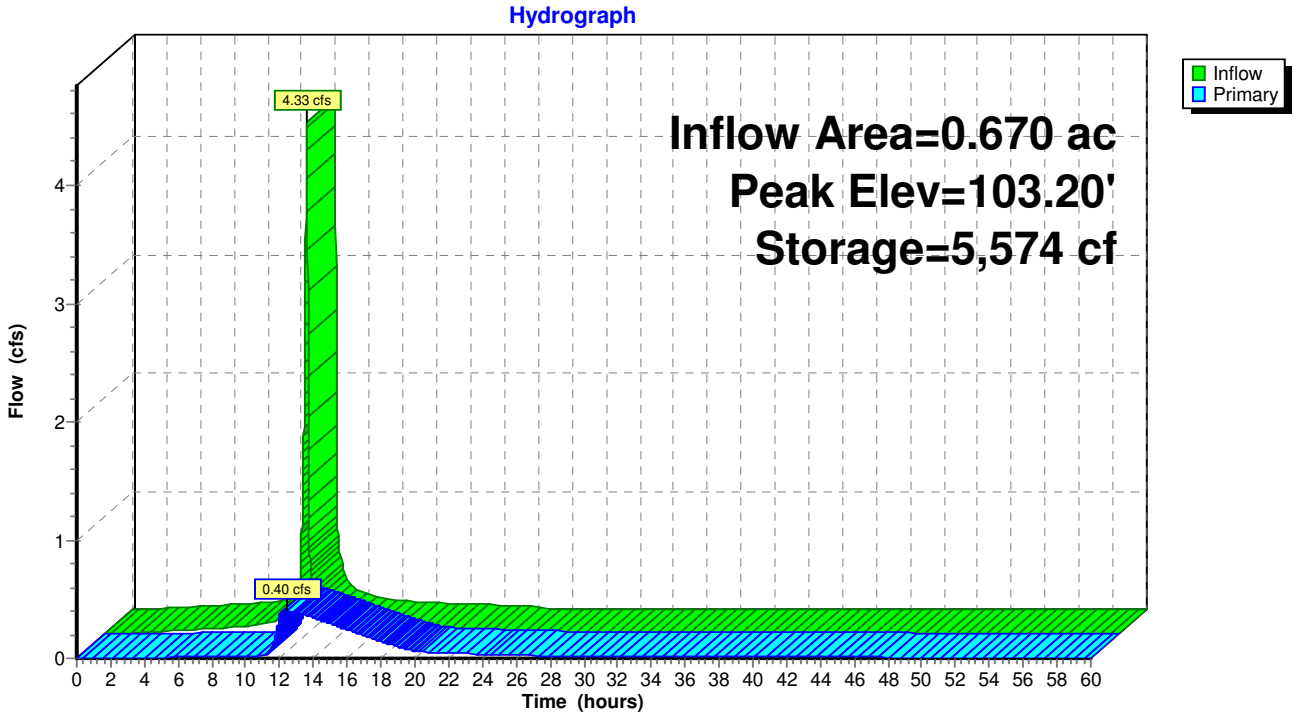
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.20'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.40 cfs @ 12.37 hrs HW=103.20' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 8.56 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.35 cfs @ 7.18 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 20P: Detention J



Summary for Subcatchment 1S: Pre-developed

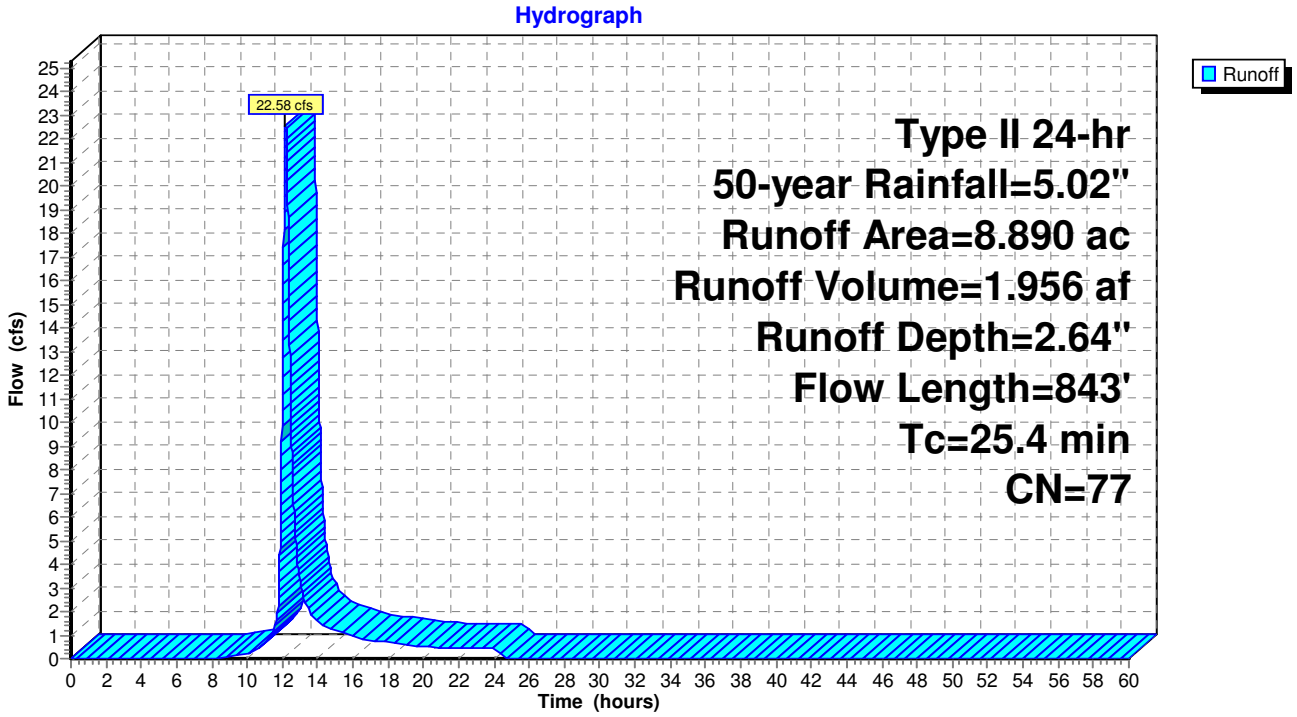
Runoff = 22.58 cfs @ 12.19 hrs, Volume= 1.956 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	0.990	74	Open Space/Grass
*	7.630	78	Agricultural
*	0.270	70	Woods
	8.890	77	Weighted Average
	8.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0100	0.11		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.63"
9.6	743	0.0206	1.29		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
25.4	843	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Block A

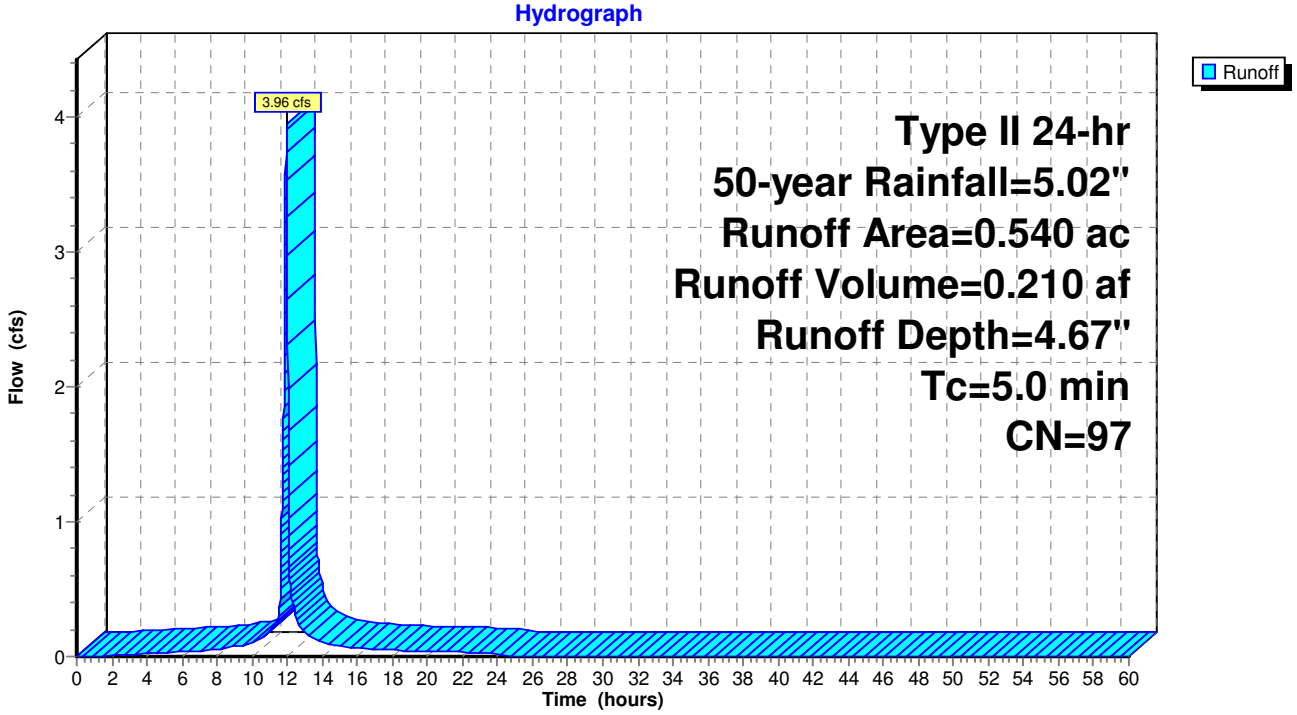
Runoff = 3.96 cfs @ 11.96 hrs, Volume= 0.210 af, Depth= 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	0.520	98	
*	0.020	74	
	0.540	97	Weighted Average
	0.020		3.70% Pervious Area
	0.520		96.30% Impervious Area

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

Subcatchment 2S: Block A



Summary for Subcatchment 3S: Block B

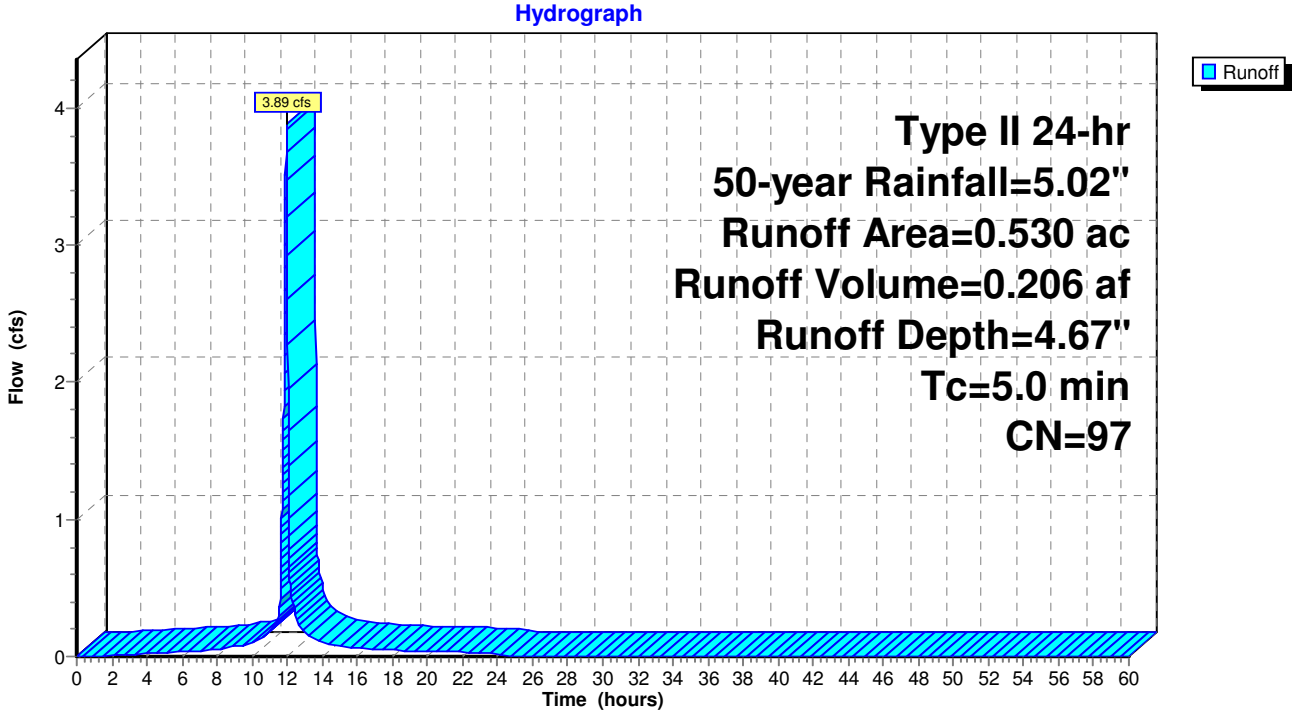
Runoff = 3.89 cfs @ 11.96 hrs, Volume= 0.206 af, Depth= 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	0.500	98	
*	0.030	74	
	0.530	97	Weighted Average
	0.030		5.66% Pervious Area
	0.500		94.34% Impervious Area

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

Subcatchment 3S: Block B



Summary for Subcatchment 4S: Block C

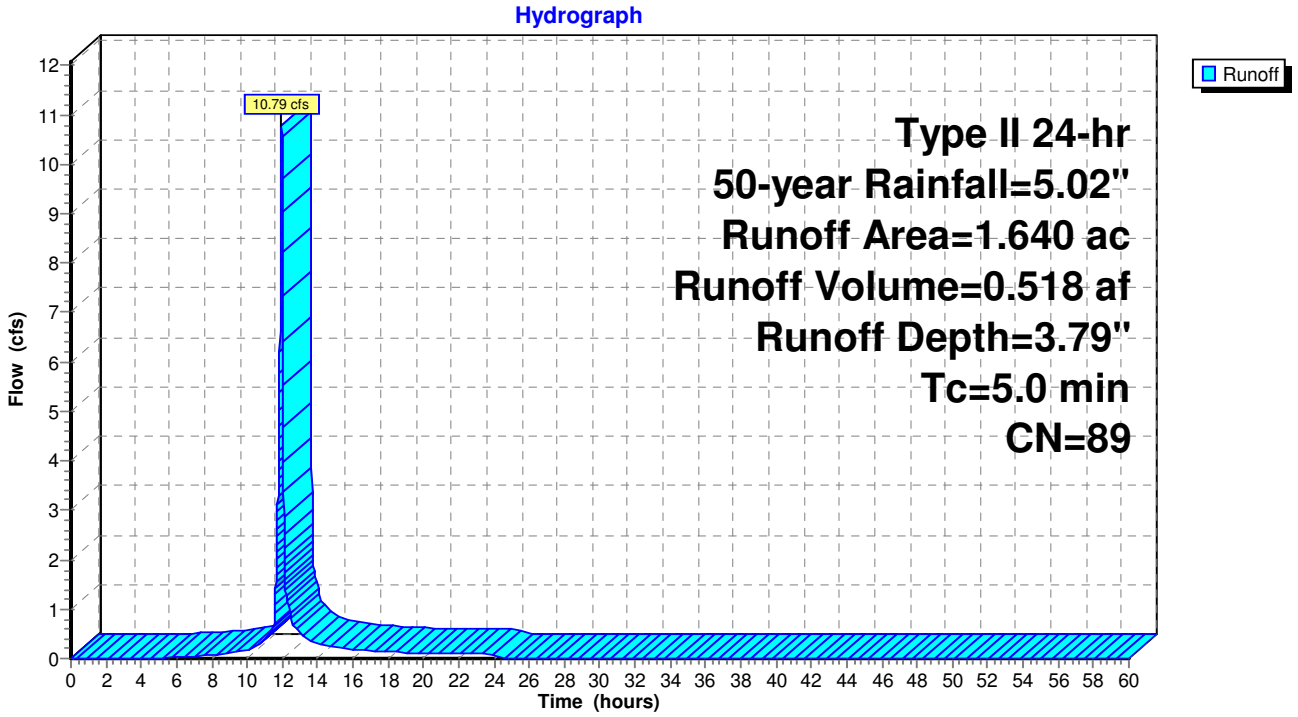
Runoff = 10.79 cfs @ 11.96 hrs, Volume= 0.518 af, Depth= 3.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	1.020	98	
*	0.620	74	
	1.640	89	Weighted Average
	0.620		37.80% Pervious Area
	1.020		62.20% Impervious Area

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

Subcatchment 4S: Block C



Summary for Subcatchment 5S: Block E

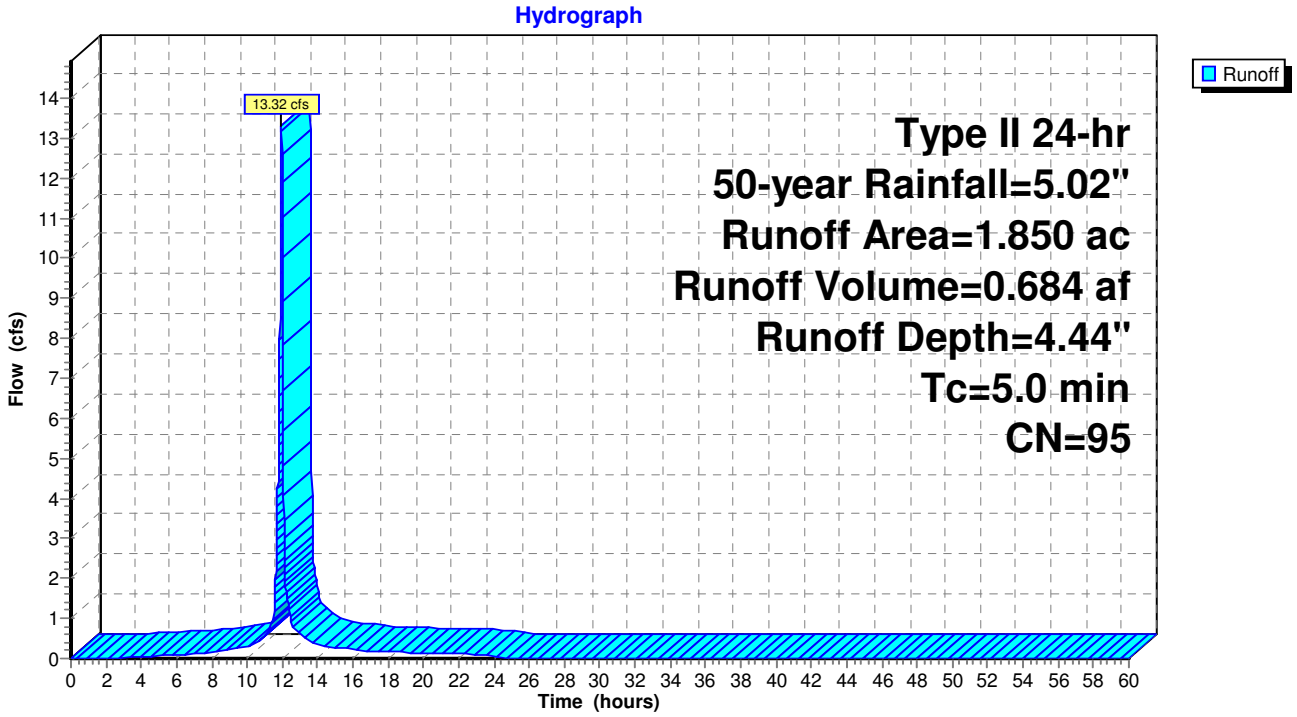
Runoff = 13.32 cfs @ 11.96 hrs, Volume= 0.684 af, Depth= 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	1.630	98	
*	0.220	74	
	1.850	95	Weighted Average
	0.220		11.89% Pervious Area
	1.630		88.11% Impervious Area

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

Subcatchment 5S: Block E



Summary for Subcatchment 6S: Block F

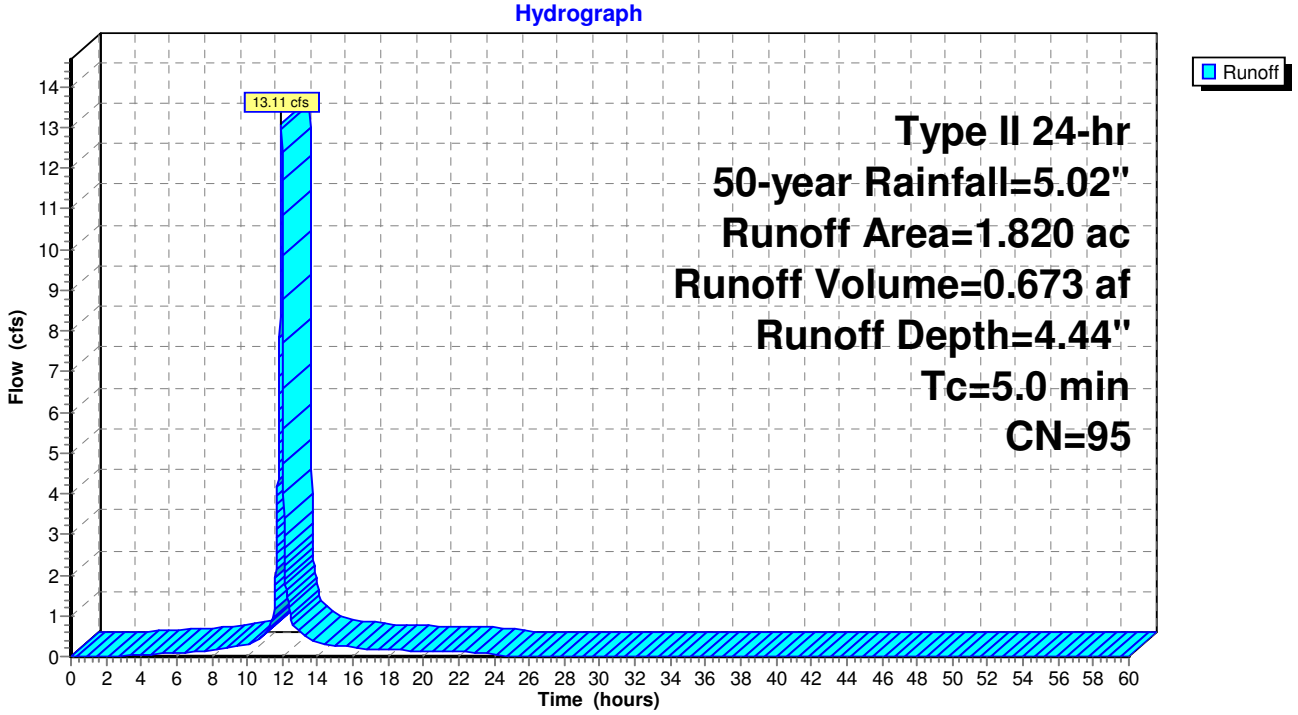
Runoff = 13.11 cfs @ 11.96 hrs, Volume= 0.673 af, Depth= 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	1.580	98	
*	0.240	74	
	1.820	95	Weighted Average
	0.240		13.19% Pervious Area
	1.580		86.81% Impervious Area

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

Subcatchment 6S: Block F



Summary for Subcatchment 7S: Block G

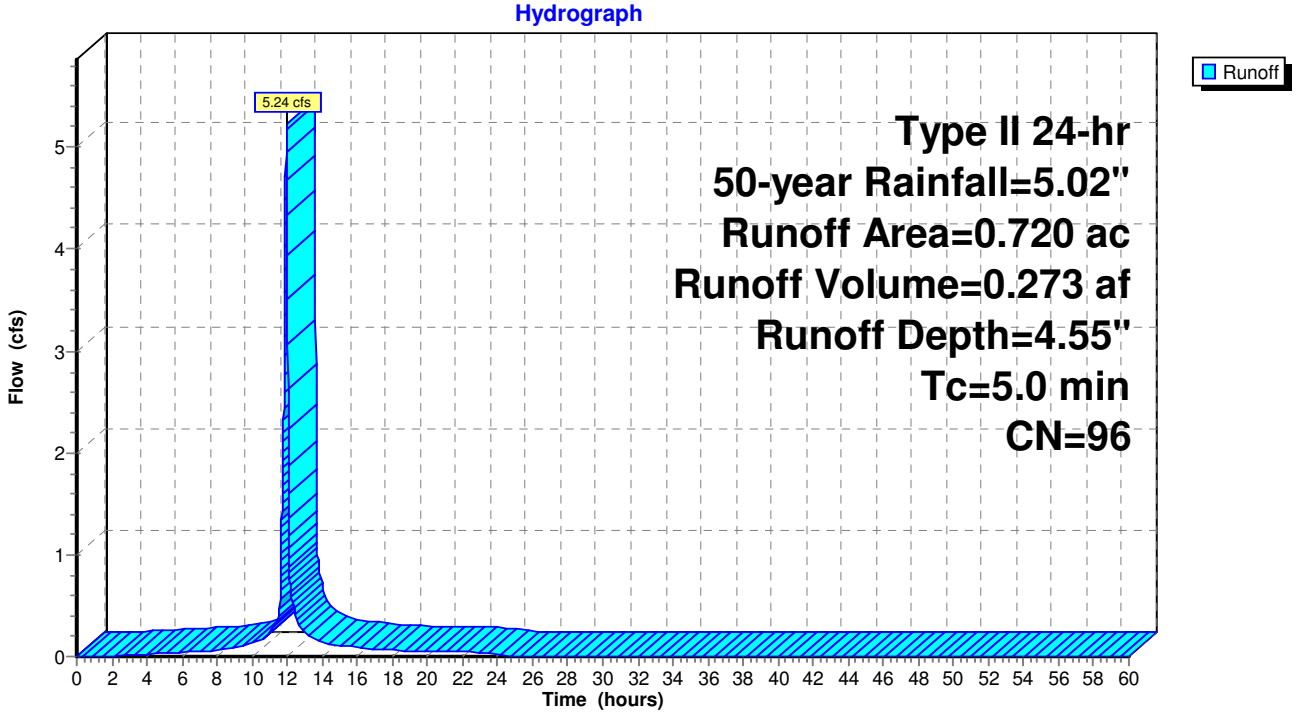
Runoff = 5.24 cfs @ 11.96 hrs, Volume= 0.273 af, Depth= 4.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	0.670	98	
*	0.050	74	
	0.720	96	Weighted Average
	0.050		6.94% Pervious Area
	0.670		93.06% Impervious Area

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

Subcatchment 7S: Block G



Summary for Subcatchment 8S: Block H

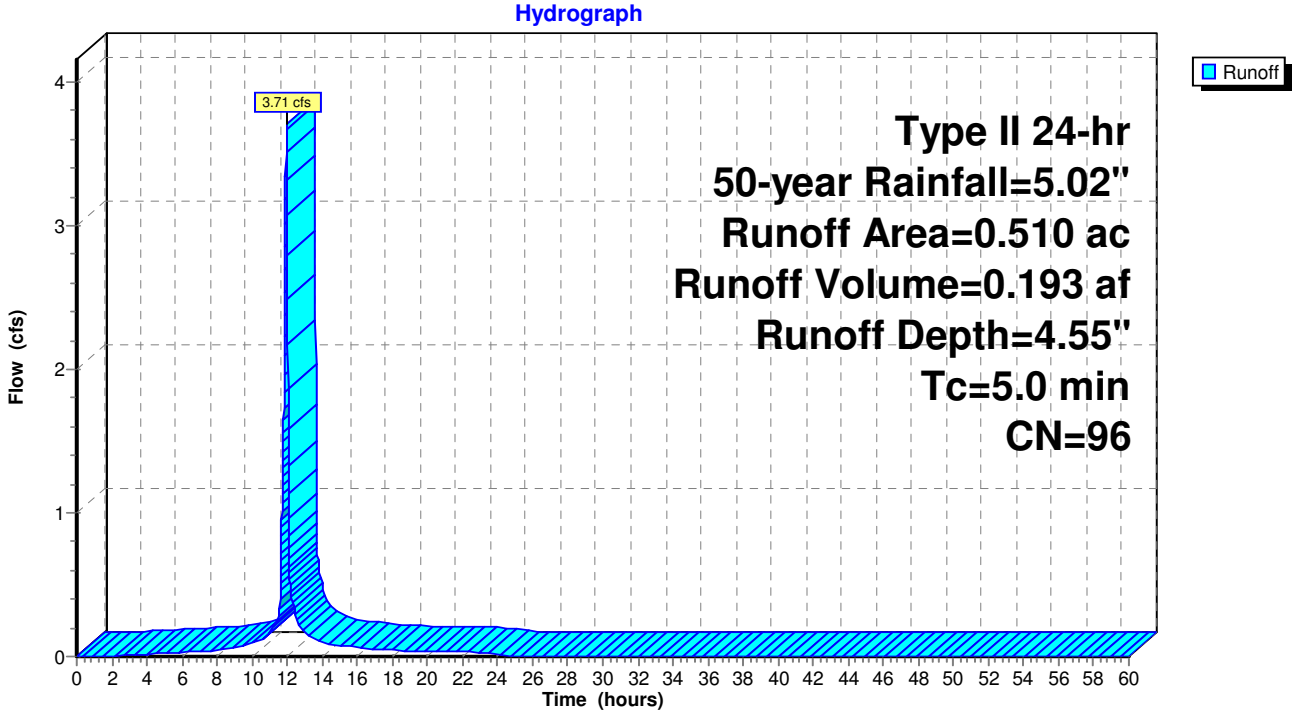
Runoff = 3.71 cfs @ 11.96 hrs, Volume= 0.193 af, Depth= 4.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	0.470	98	
*	0.040	74	
	0.510	96	Weighted Average
	0.040		7.84% Pervious Area
	0.470		92.16% Impervious Area

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

Subcatchment 8S: Block H



Summary for Subcatchment 9S: Block I

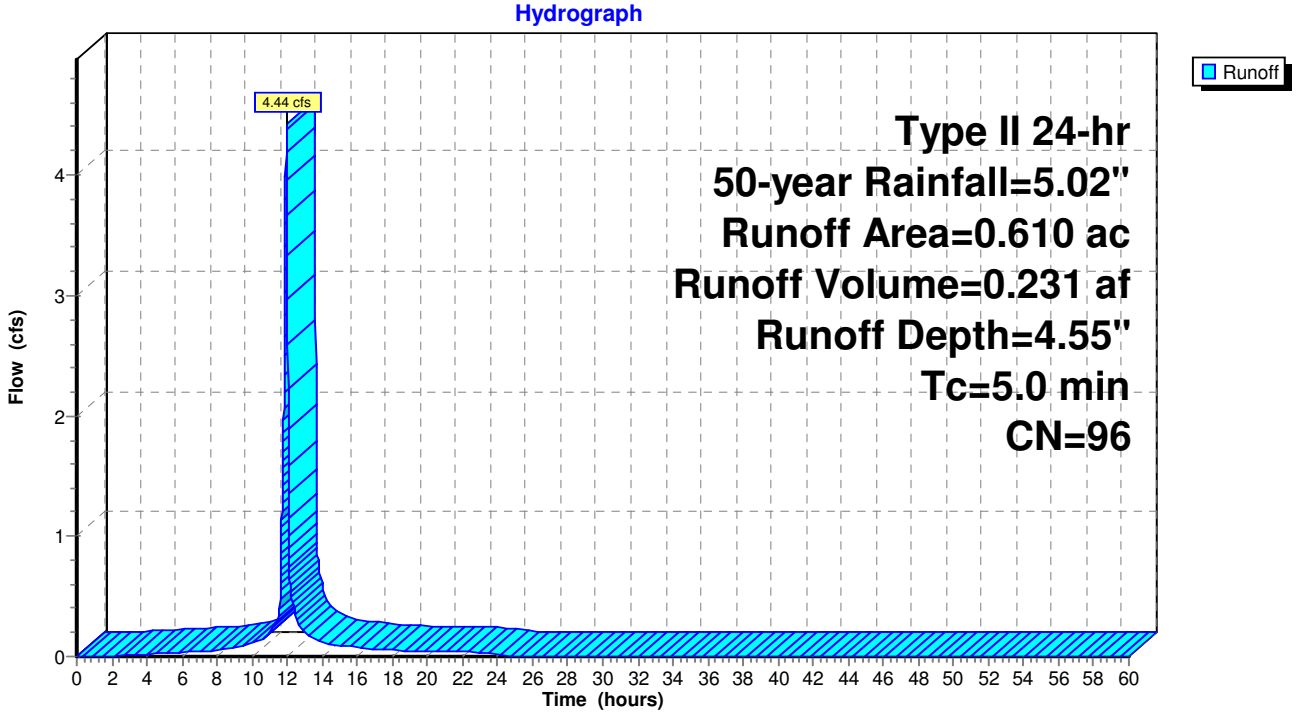
Runoff = 4.44 cfs @ 11.96 hrs, Volume= 0.231 af, Depth= 4.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	0.550	98	
*	0.060	74	
	0.610	96	Weighted Average
	0.060		9.84% Pervious Area
	0.550		90.16% Impervious Area

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

Subcatchment 9S: Block I



Summary for Subcatchment 10S: Block J

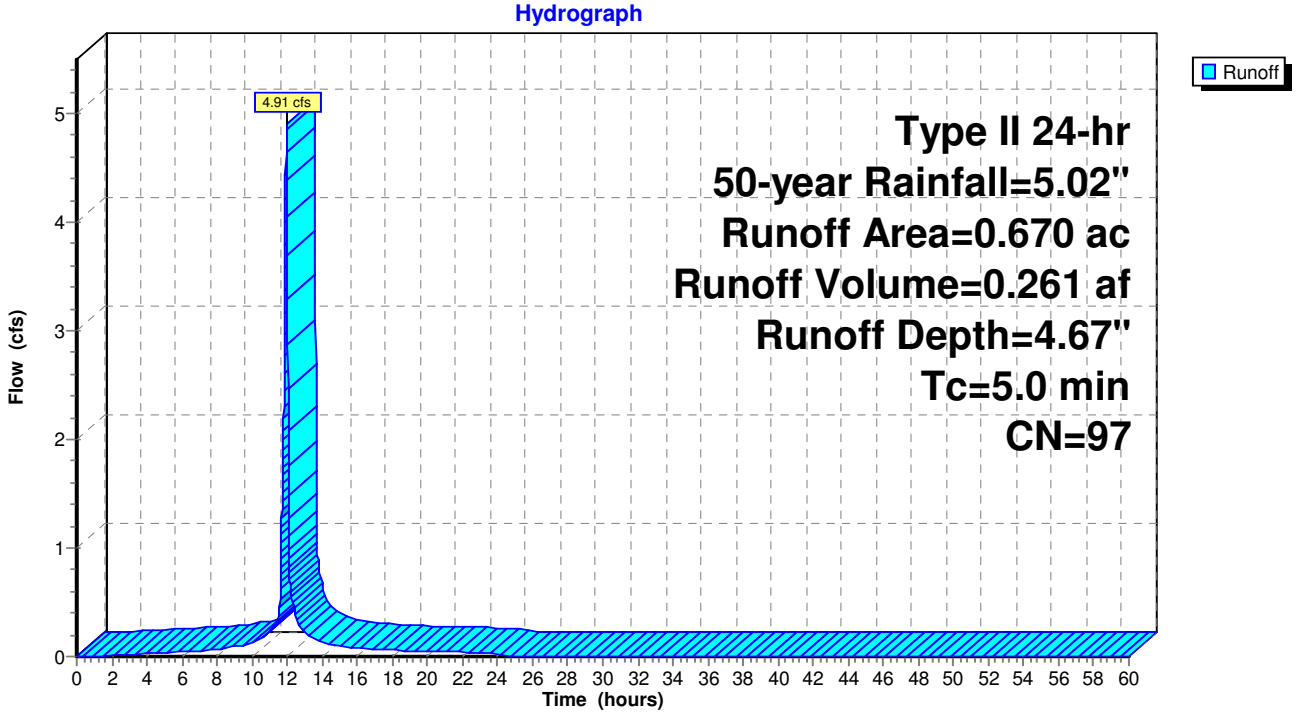
Runoff = 4.91 cfs @ 11.96 hrs, Volume= 0.261 af, Depth= 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	0.640	98	
*	0.030	74	
	0.670	97	Weighted Average
	0.030		4.48% Pervious Area
	0.640		95.52% Impervious Area

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

Subcatchment 10S: Block J



Summary for Subcatchment 12S: Total Post

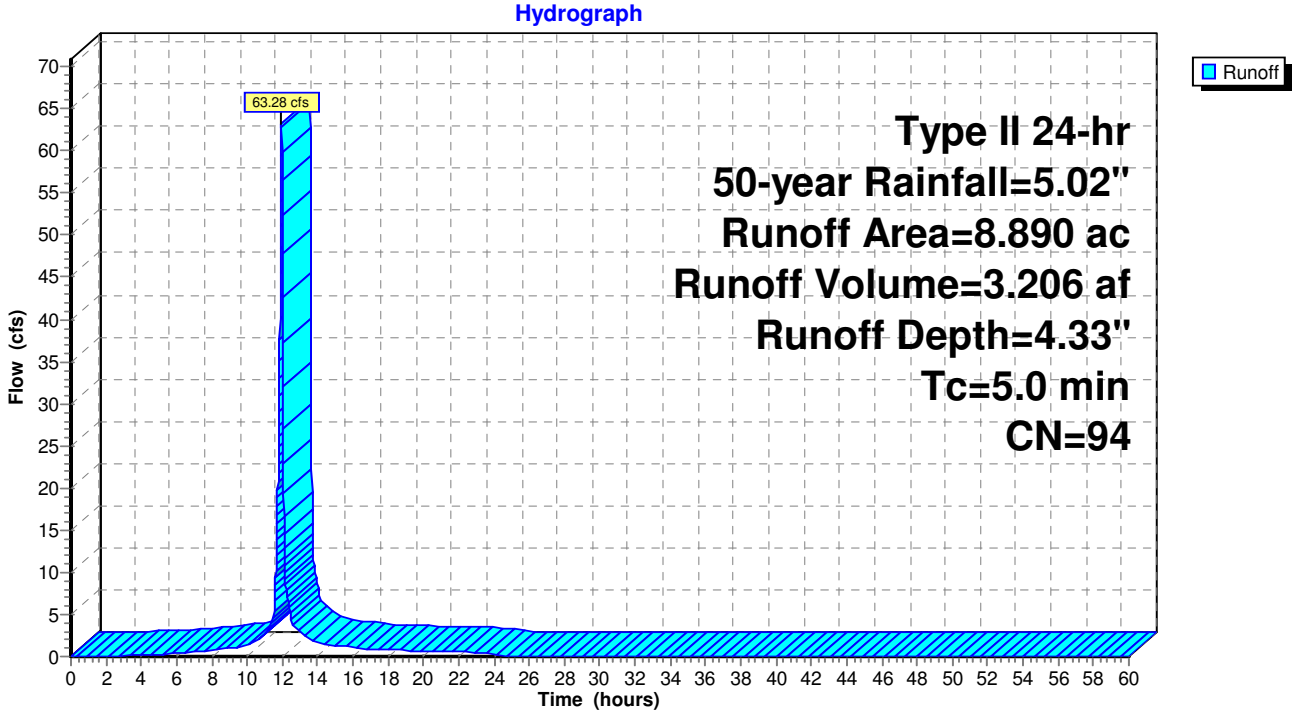
Runoff = 63.28 cfs @ 11.96 hrs, Volume= 3.206 af, Depth= 4.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-year Rainfall=5.02"

	Area (ac)	CN	Description
*	7.580	98	
*	1.310	74	
	8.890	94	Weighted Average
	1.310		14.74% Pervious Area
	7.580		85.26% Impervious Area

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

Subcatchment 12S: Total Post



Summary for Pond 11P: Detention A

Inflow Area = 0.540 ac, 96.30% Impervious, Inflow Depth = 4.67" for 50-year event
Inflow = 3.96 cfs @ 11.96 hrs, Volume= 0.210 af
Outflow = 0.76 cfs @ 12.11 hrs, Volume= 0.206 af, Atten= 81%, Lag= 9.0 min
Primary = 0.76 cfs @ 12.11 hrs, Volume= 0.206 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.80' @ 12.11 hrs Surf.Area= 1,307 sf Storage= 4,964 cf

Plug-Flow detention time= 353.5 min calculated for 0.206 af (98% of inflow)
Center-of-Mass det. time= 340.6 min (1,091.4 - 750.8)

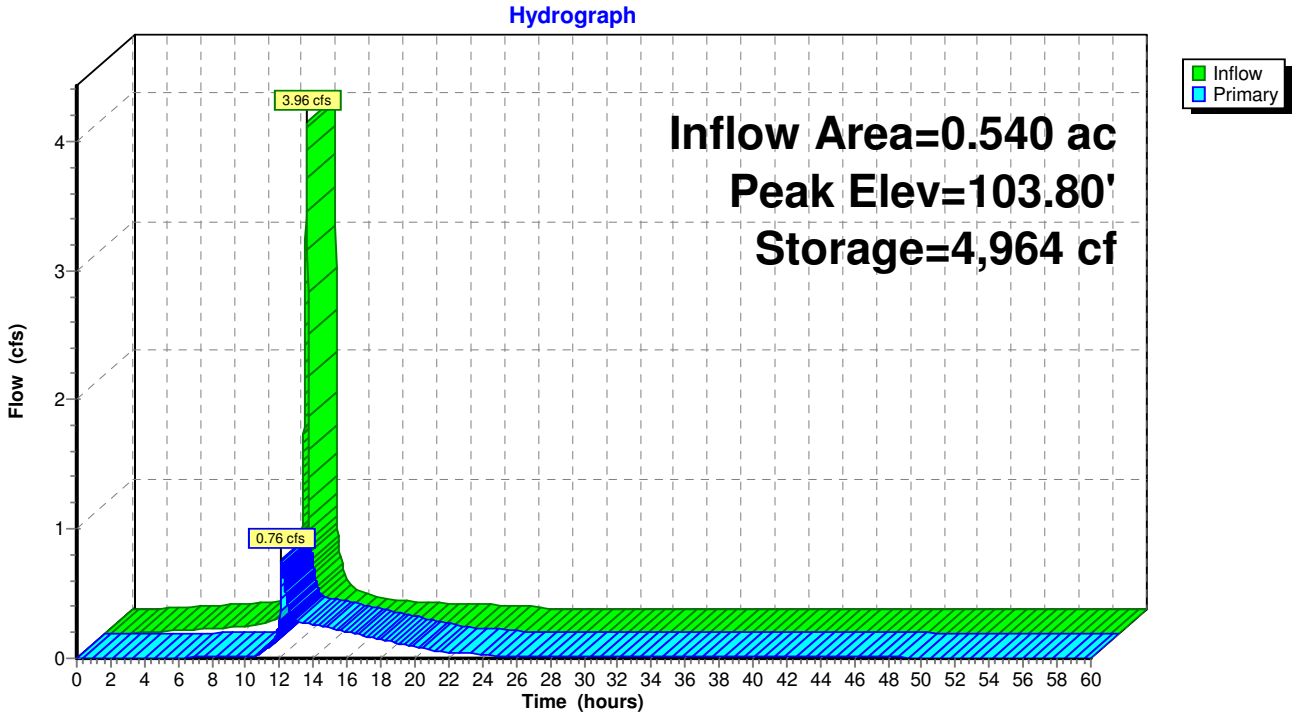
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.76 cfs @ 12.11 hrs HW=103.80' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 9.35 fps)
- **2=Orifice/Grate** (Orifice Controls 0.27 cfs @ 8.05 fps)
- **3=Orifice/Grate** (Orifice Controls 0.46 cfs @ 1.86 fps)

Pond 11P: Detention A



Summary for Pond 13P: Detention B

Inflow Area = 0.530 ac, 94.34% Impervious, Inflow Depth = 4.67" for 50-year event
Inflow = 3.89 cfs @ 11.96 hrs, Volume= 0.206 af
Outflow = 0.67 cfs @ 12.12 hrs, Volume= 0.202 af, Atten= 83%, Lag= 9.7 min
Primary = 0.67 cfs @ 12.12 hrs, Volume= 0.202 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.76' @ 12.12 hrs Surf.Area= 1,307 sf Storage= 4,911 cf

Plug-Flow detention time= 358.7 min calculated for 0.202 af (98% of inflow)
Center-of-Mass det. time= 345.2 min (1,096.1 - 750.8)

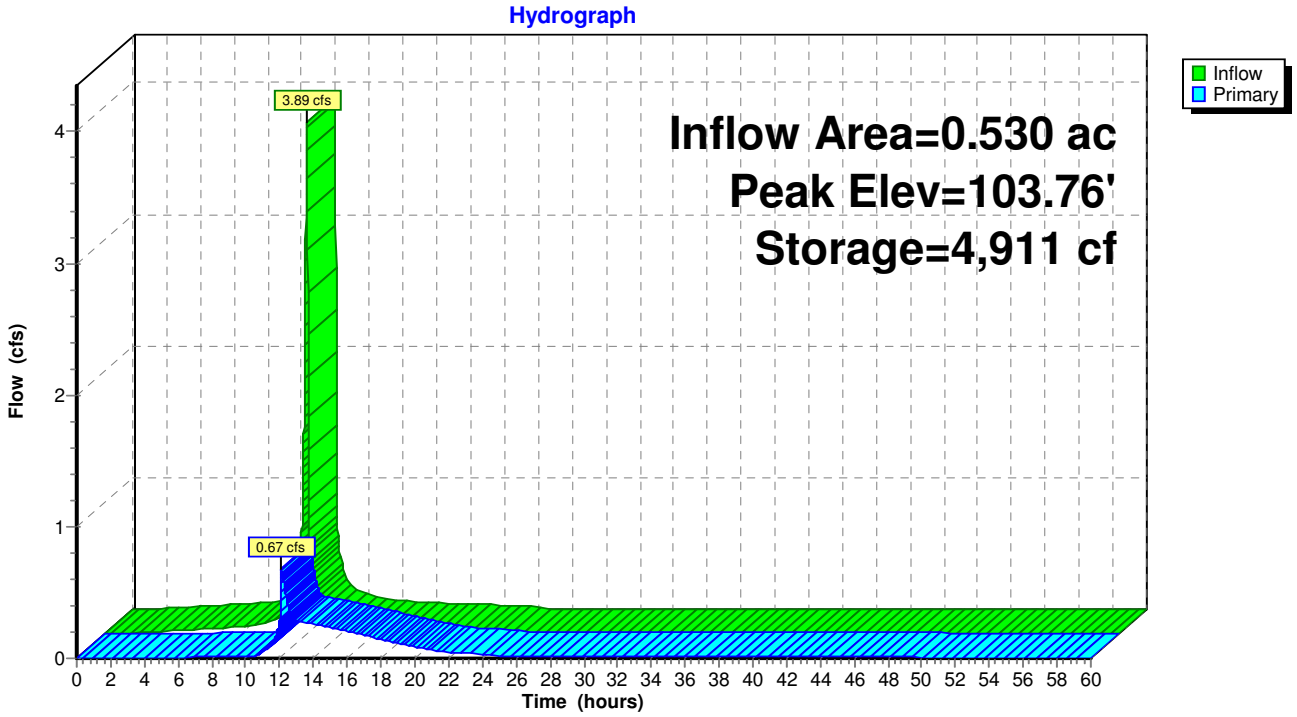
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.67 cfs @ 12.12 hrs HW=103.76' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 9.30 fps)
- **2=Orifice/Grate** (Orifice Controls 0.27 cfs @ 7.99 fps)
- **3=Orifice/Grate** (Orifice Controls 0.38 cfs @ 1.73 fps)

Pond 13P: Detention B



Summary for Pond 14P: Detention C

Inflow Area = 1.640 ac, 62.20% Impervious, Inflow Depth = 3.79" for 50-year event
Inflow = 10.79 cfs @ 11.96 hrs, Volume= 0.518 af
Outflow = 2.28 cfs @ 12.10 hrs, Volume= 0.515 af, Atten= 79%, Lag= 8.5 min
Primary = 2.28 cfs @ 12.10 hrs, Volume= 0.515 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.55' @ 12.10 hrs Surf.Area= 4,356 sf Storage= 11,126 cf

Plug-Flow detention time= 225.5 min calculated for 0.514 af (99% of inflow)
Center-of-Mass det. time= 221.4 min (1,011.6 - 790.1)

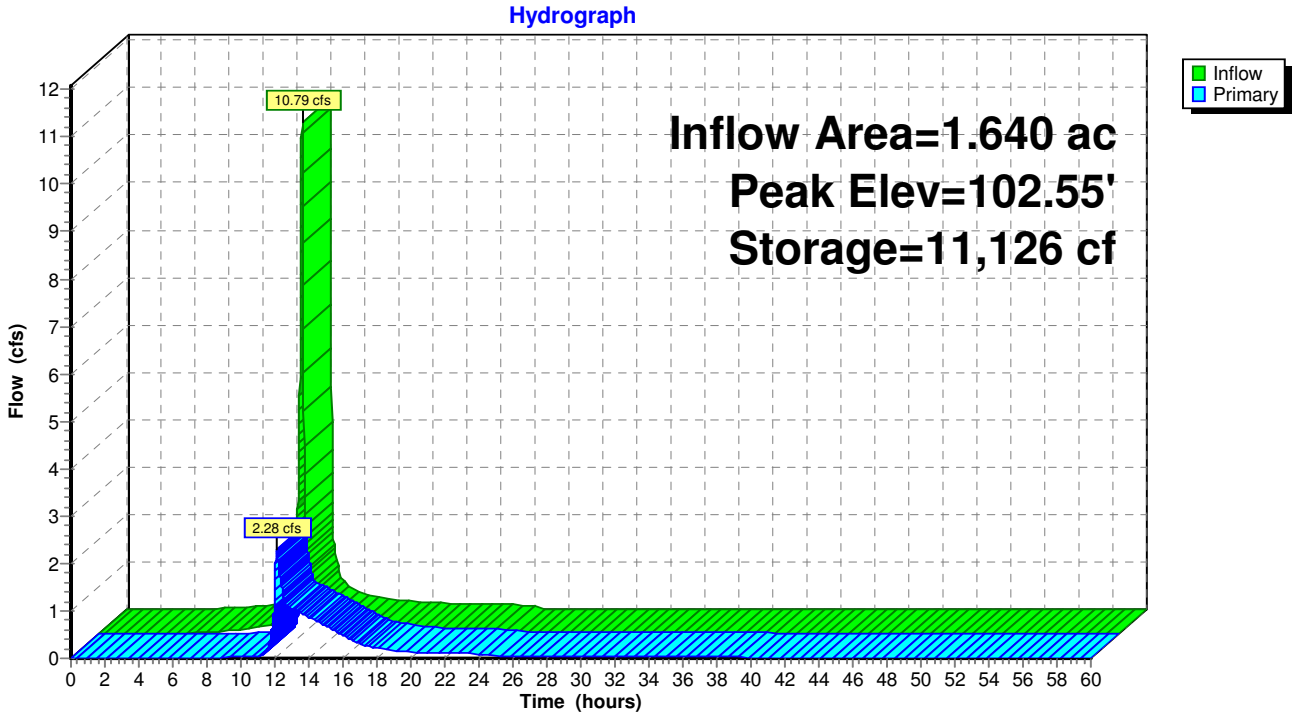
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	19,602 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,356	0	0
104.00	4,356	17,424	17,424
104.50	4,356	2,178	19,602

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.45'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.30'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.28 cfs @ 12.10 hrs HW=102.55' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.09 cfs @ 7.60 fps)
- **2=Orifice/Grate** (Orifice Controls 1.09 cfs @ 6.59 fps)
- **3=Orifice/Grate** (Weir Controls 1.10 cfs @ 1.65 fps)

Pond 14P: Detention C



Summary for Pond 15P: Detention E

Inflow Area = 1.850 ac, 88.11% Impervious, Inflow Depth = 4.44" for 50-year event
Inflow = 13.32 cfs @ 11.96 hrs, Volume= 0.684 af
Outflow = 2.52 cfs @ 12.11 hrs, Volume= 0.678 af, Atten= 81%, Lag= 9.1 min
Primary = 2.52 cfs @ 12.11 hrs, Volume= 0.678 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.03' @ 12.11 hrs Surf.Area= 5,227 sf Storage= 15,815 cf

Plug-Flow detention time= 303.5 min calculated for 0.678 af (99% of inflow)
Center-of-Mass det. time= 297.6 min (1,061.1 - 763.6)

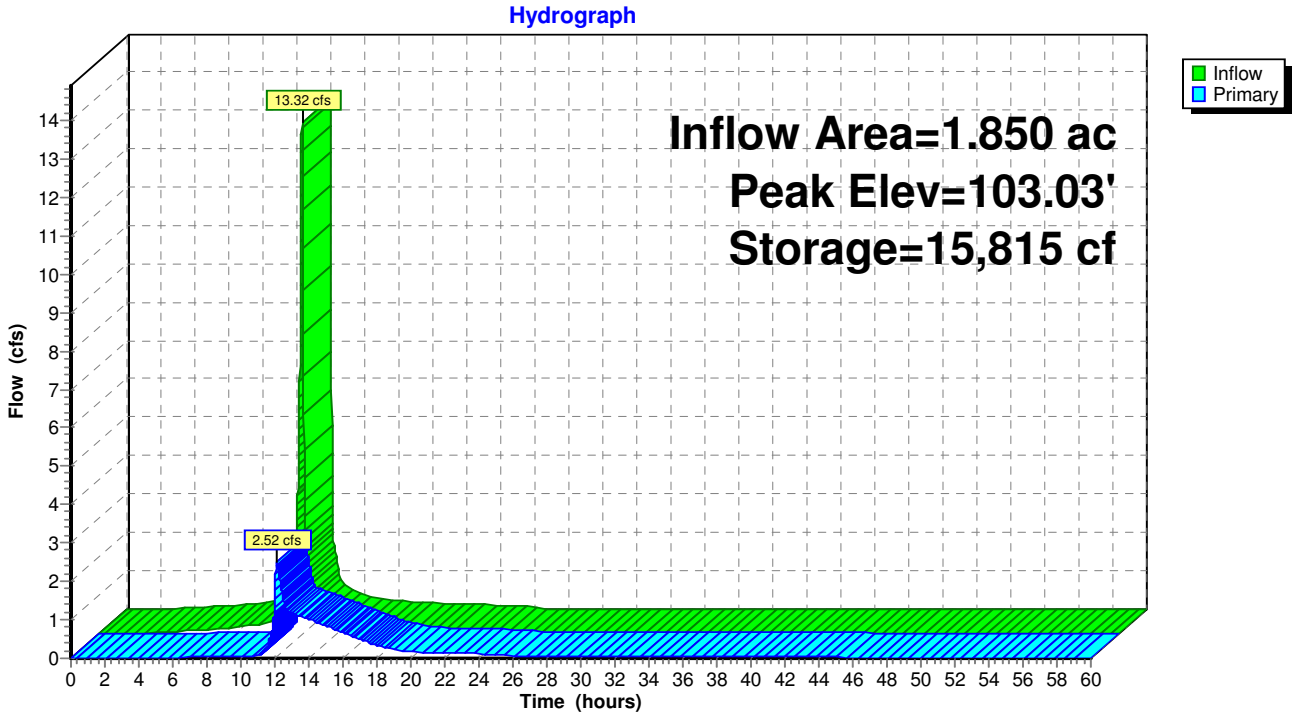
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	20,908 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	5,227	0	0
104.00	5,227	20,908	20,908

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.70'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.75'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.52 cfs @ 12.11 hrs HW=103.03' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.13 cfs @ 8.28 fps)
- **2=Orifice/Grate** (Orifice Controls 1.15 cfs @ 6.97 fps)
- **3=Orifice/Grate** (Weir Controls 1.24 cfs @ 1.72 fps)

Pond 15P: Detention E



Summary for Pond 16P: Detention F

Inflow Area = 1.820 ac, 86.81% Impervious, Inflow Depth = 4.44" for 50-year event
Inflow = 13.11 cfs @ 11.96 hrs, Volume= 0.673 af
Outflow = 2.72 cfs @ 12.10 hrs, Volume= 0.668 af, Atten= 79%, Lag= 8.5 min
Primary = 2.72 cfs @ 12.10 hrs, Volume= 0.668 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.20' @ 12.10 hrs Surf.Area= 4,792 sf Storage= 15,350 cf

Plug-Flow detention time= 291.0 min calculated for 0.668 af (99% of inflow)
Center-of-Mass det. time= 286.1 min (1,049.6 - 763.6)

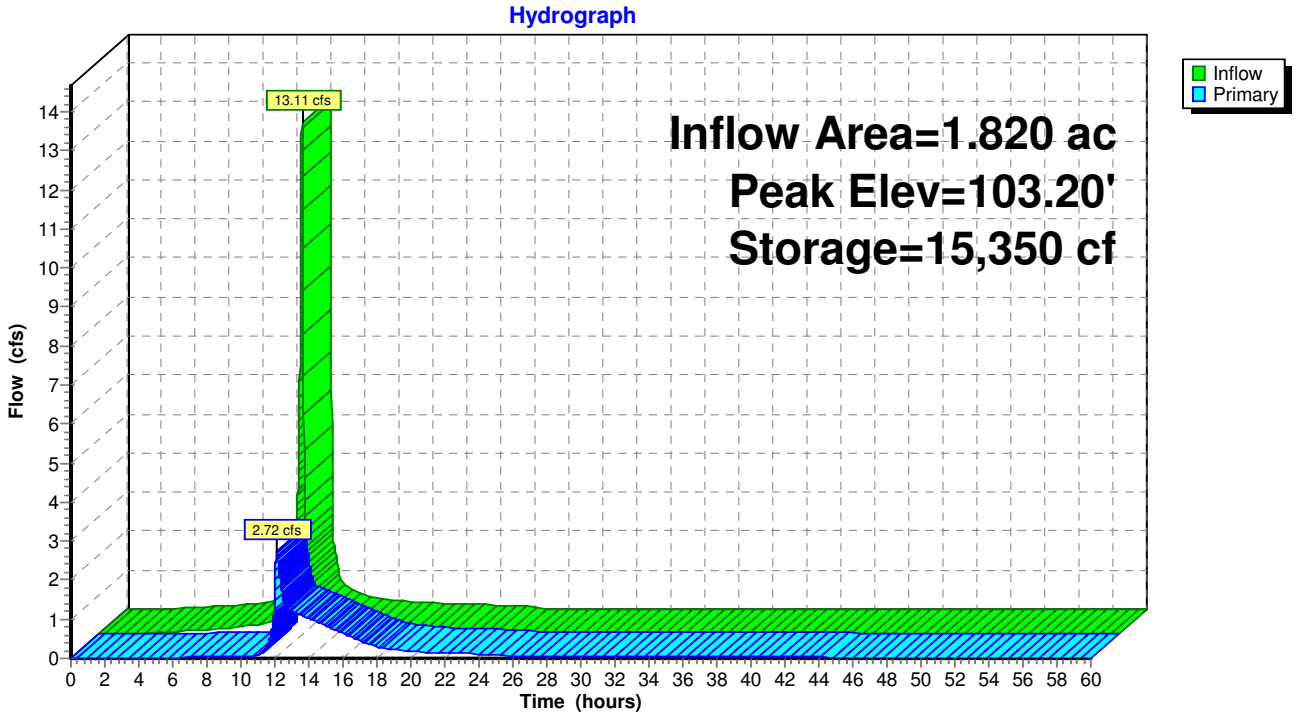
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	21,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,792	0	0
104.00	4,792	19,168	19,168
104.50	4,792	2,396	21,564

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.90'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.75 cfs @ 12.10 hrs HW=103.20' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.13 cfs @ 8.52 fps)
- **2=Orifice/Grate** (Orifice Controls 1.18 cfs @ 7.18 fps)
- **3=Orifice/Grate** (Weir Controls 1.43 cfs @ 1.80 fps)

Pond 16P: Detention F



Summary for Pond 17P: Detention G

Inflow Area = 0.720 ac, 93.06% Impervious, Inflow Depth = 4.55" for 50-year event
Inflow = 5.24 cfs @ 11.96 hrs, Volume= 0.273 af
Outflow = 1.26 cfs @ 12.09 hrs, Volume= 0.272 af, Atten= 76%, Lag= 7.8 min
Primary = 1.26 cfs @ 12.09 hrs, Volume= 0.272 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.83' @ 12.09 hrs Surf.Area= 2,178 sf Storage= 6,157 cf

Plug-Flow detention time= 283.0 min calculated for 0.272 af (100% of inflow)
Center-of-Mass det. time= 280.8 min (1,038.4 - 757.6)

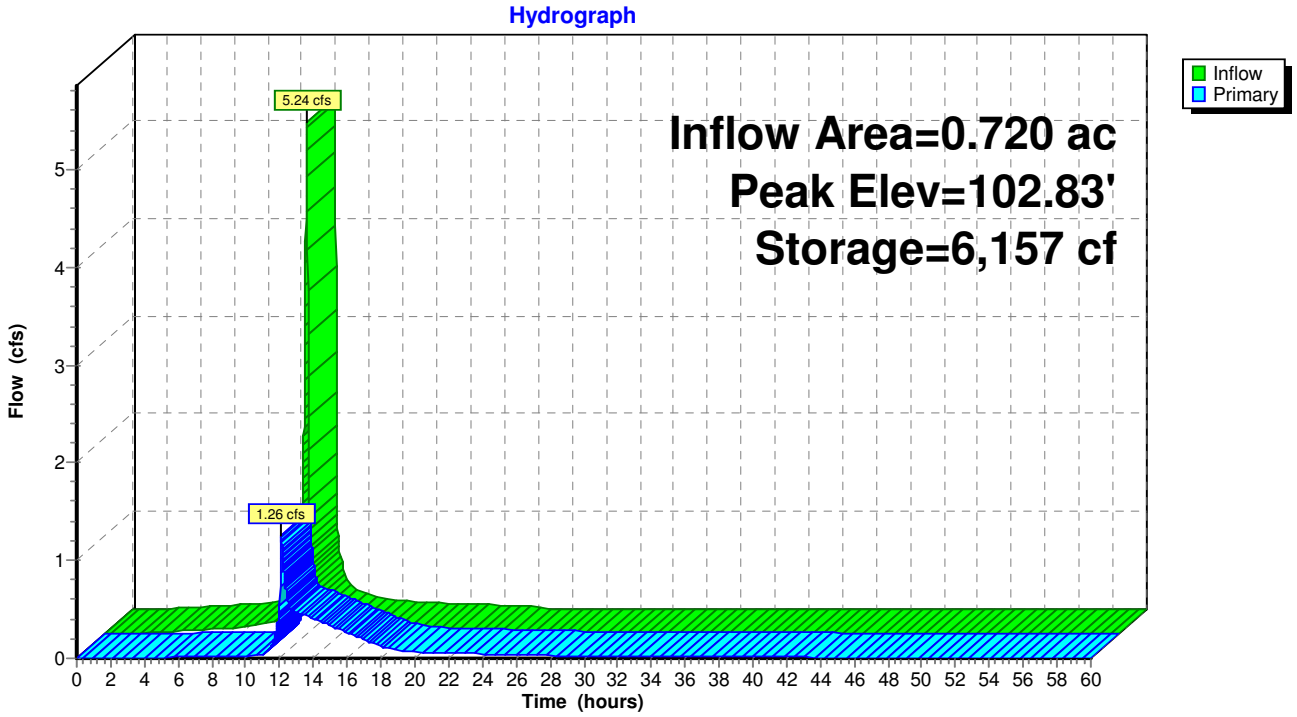
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	2,178	0	0
104.00	2,178	8,712	8,712

Device	Routing	Invert	Outlet Devices		
#1	Primary	100.00'	**1.2" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	100.70'	**3.5" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	102.60'	**8.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=1.25 cfs @ 12.09 hrs HW=102.83' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 8.02 fps)
- **2=Orifice/Grate** (Orifice Controls 0.45 cfs @ 6.78 fps)
- **3=Orifice/Grate** (Weir Controls 0.74 cfs @ 1.56 fps)

Pond 17P: Detention G



Summary for Pond 18P: Detention H

Inflow Area = 0.510 ac, 92.16% Impervious, Inflow Depth = 4.55" for 50-year event
Inflow = 3.71 cfs @ 11.96 hrs, Volume= 0.193 af
Outflow = 0.67 cfs @ 12.11 hrs, Volume= 0.190 af, Atten= 82%, Lag= 9.3 min
Primary = 0.67 cfs @ 12.11 hrs, Volume= 0.190 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.51' @ 12.11 hrs Surf.Area= 1,307 sf Storage= 4,590 cf

Plug-Flow detention time= 352.8 min calculated for 0.190 af (98% of inflow)
Center-of-Mass det. time= 340.2 min (1,097.8 - 757.6)

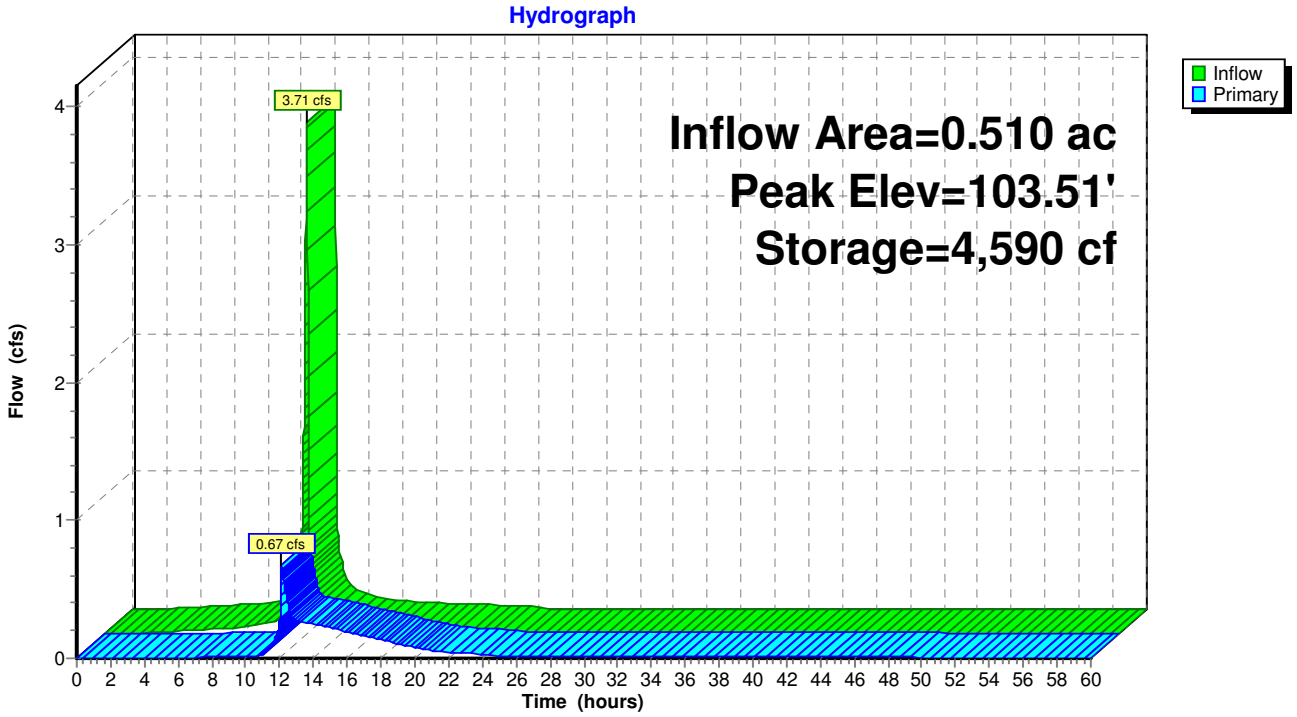
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,227	5,227

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.25'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.67 cfs @ 12.11 hrs HW=103.51' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 8.99 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.26 cfs @ 7.70 fps)
└─**3=Orifice/Grate** (Orifice Controls 0.39 cfs @ 1.74 fps)

Pond 18P: Detention H



Summary for Pond 19P: Detention I

Inflow Area = 0.610 ac, 90.16% Impervious, Inflow Depth = 4.55" for 50-year event
Inflow = 4.44 cfs @ 11.96 hrs, Volume= 0.231 af
Outflow = 0.74 cfs @ 12.12 hrs, Volume= 0.230 af, Atten= 83%, Lag= 10.0 min
Primary = 0.74 cfs @ 12.12 hrs, Volume= 0.230 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.09' @ 12.12 hrs Surf.Area= 1,742 sf Storage= 5,386 cf

Plug-Flow detention time= 310.5 min calculated for 0.230 af (100% of inflow)
Center-of-Mass det. time= 307.4 min (1,065.0 - 757.6)

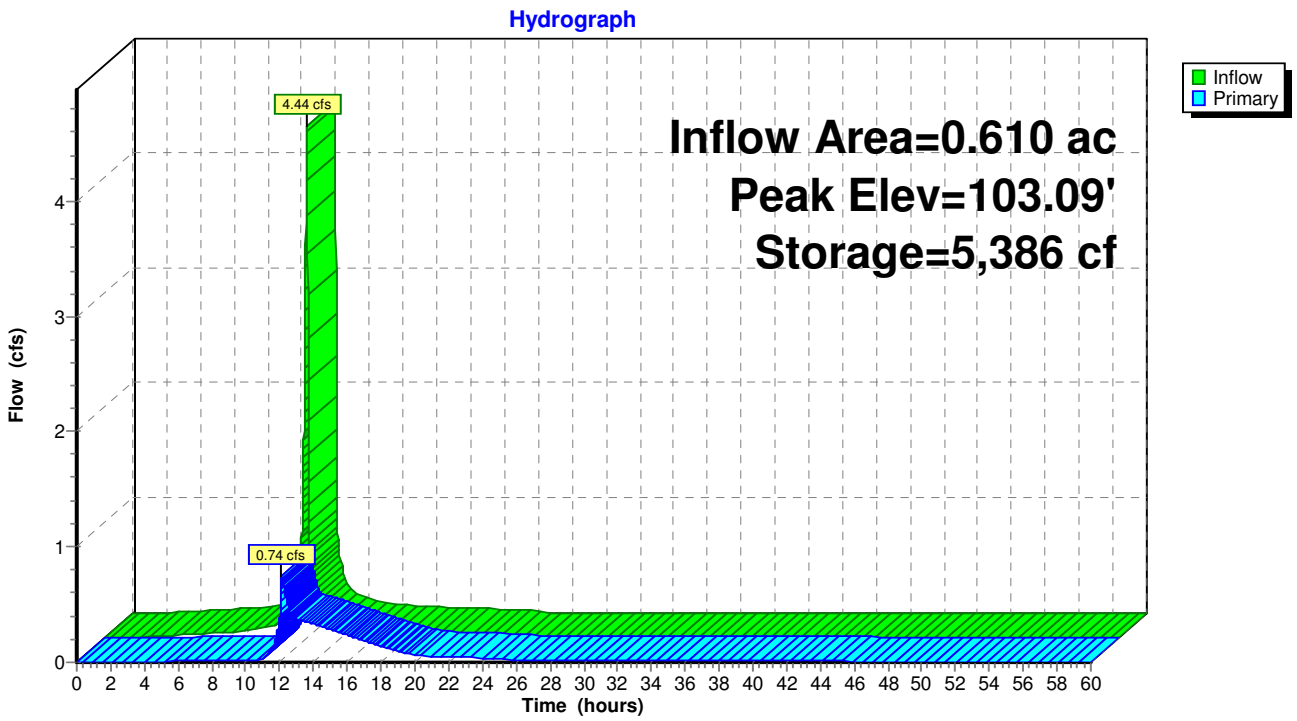
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.85'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.74 cfs @ 12.12 hrs HW=103.09' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 8.41 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.35 cfs @ 7.17 fps)
└─**3=Orifice/Grate** (Orifice Controls 0.34 cfs @ 1.67 fps)

Pond 19P: Detention I



Summary for Pond 20P: Detention J

Inflow Area = 0.670 ac, 95.52% Impervious, Inflow Depth = 4.67" for 50-year event
Inflow = 4.91 cfs @ 11.96 hrs, Volume= 0.261 af
Outflow = 0.86 cfs @ 12.12 hrs, Volume= 0.259 af, Atten= 83%, Lag= 9.6 min
Primary = 0.86 cfs @ 12.12 hrs, Volume= 0.259 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.49' @ 12.12 hrs Surf.Area= 1,742 sf Storage= 6,074 cf

Plug-Flow detention time= 322.2 min calculated for 0.259 af (100% of inflow)
Center-of-Mass det. time= 318.8 min (1,069.7 - 750.8)

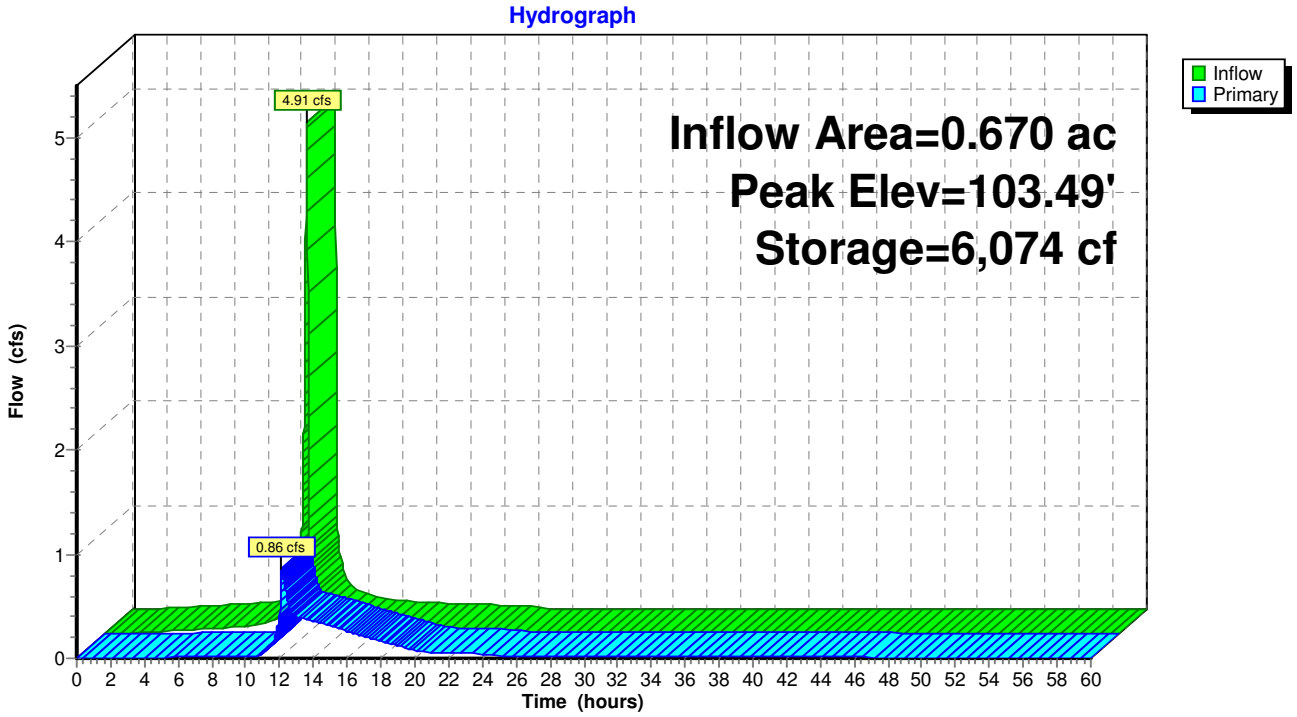
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.20'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.86 cfs @ 12.12 hrs HW=103.49' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 8.94 fps)
- **2=Orifice/Grate** (Orifice Controls 0.37 cfs @ 7.63 fps)
- **3=Orifice/Grate** (Orifice Controls 0.43 cfs @ 1.82 fps)

Pond 20P: Detention J



Summary for Subcatchment 1S: Pre-developed

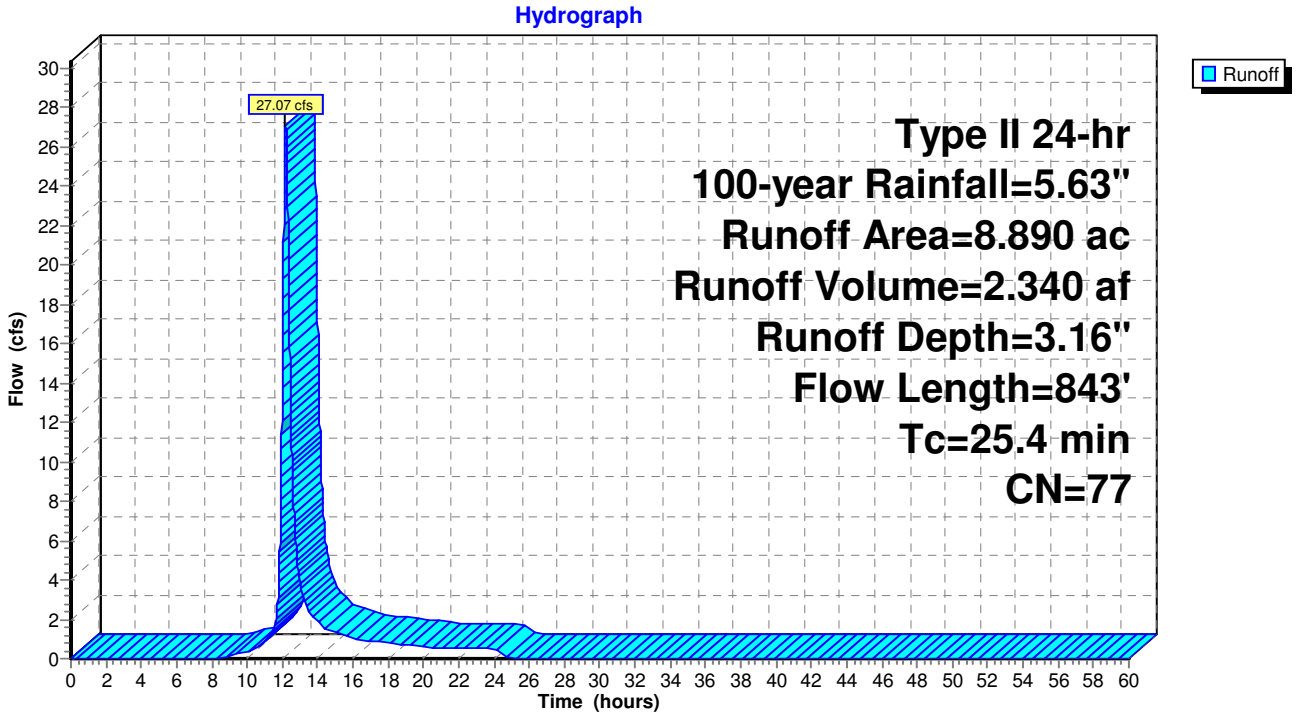
Runoff = 27.07 cfs @ 12.19 hrs, Volume= 2.340 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	0.990	74	Open Space/Grass
*	7.630	78	Agricultural
*	0.270	70	Woods
	8.890	77	Weighted Average
	8.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0100	0.11		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.63"
9.6	743	0.0206	1.29		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
25.4	843	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Block A

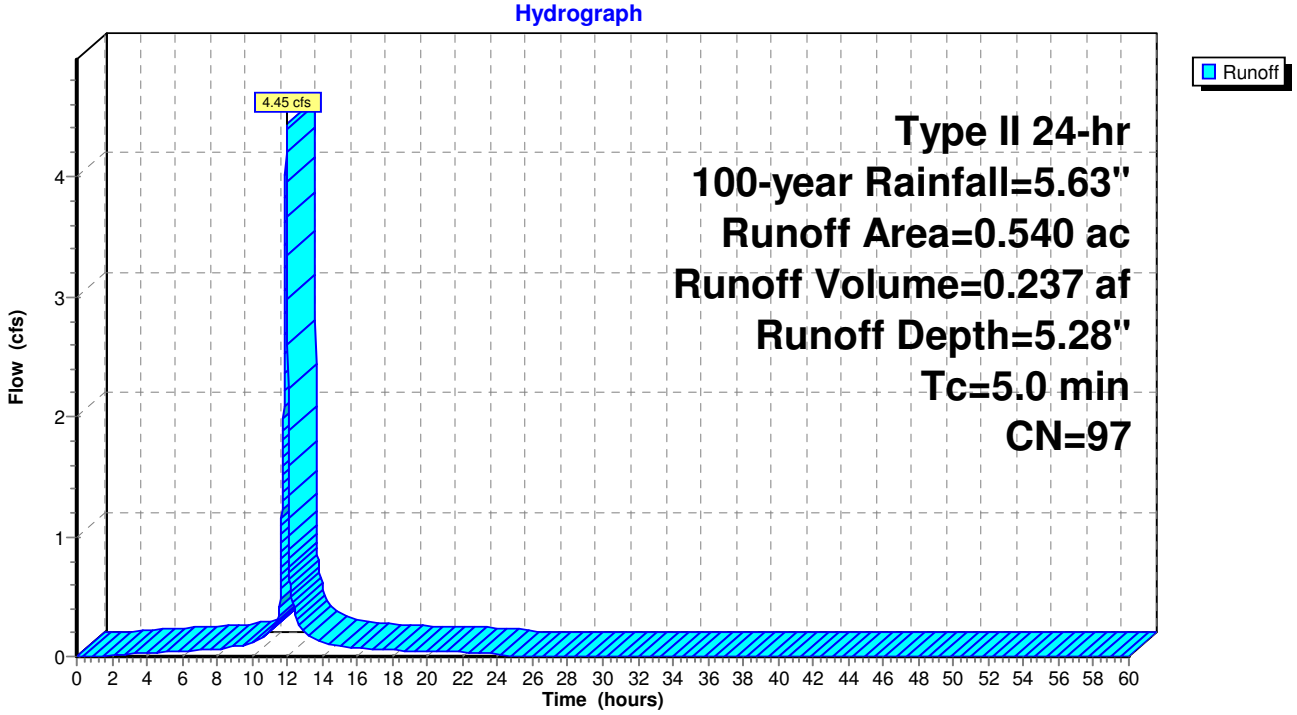
Runoff = 4.45 cfs @ 11.96 hrs, Volume= 0.237 af, Depth= 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	0.520	98	
*	0.020	74	
	0.540	97	Weighted Average
	0.020		3.70% Pervious Area
	0.520		96.30% Impervious Area

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

Subcatchment 2S: Block A



Summary for Subcatchment 3S: Block B

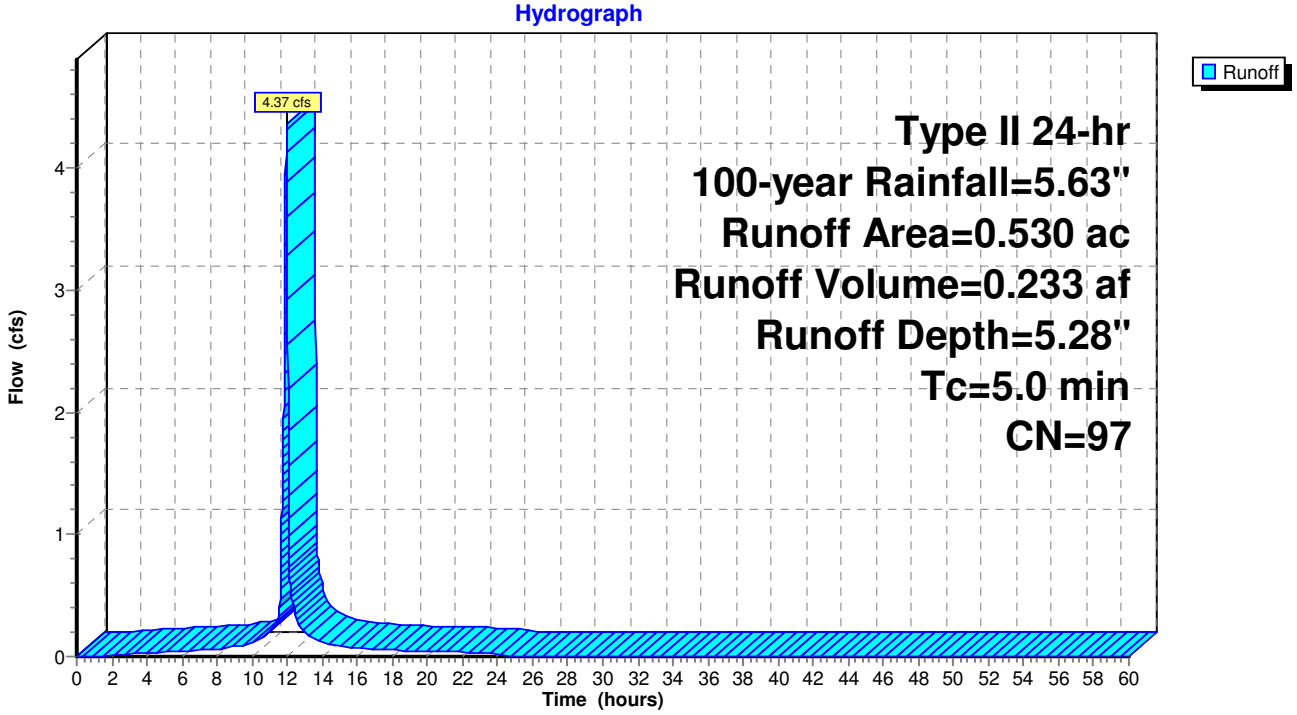
Runoff = 4.37 cfs @ 11.96 hrs, Volume= 0.233 af, Depth= 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	0.500	98	
*	0.030	74	
	0.530	97	Weighted Average
	0.030		5.66% Pervious Area
	0.500		94.34% Impervious Area

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

Subcatchment 3S: Block B



Summary for Subcatchment 4S: Block C

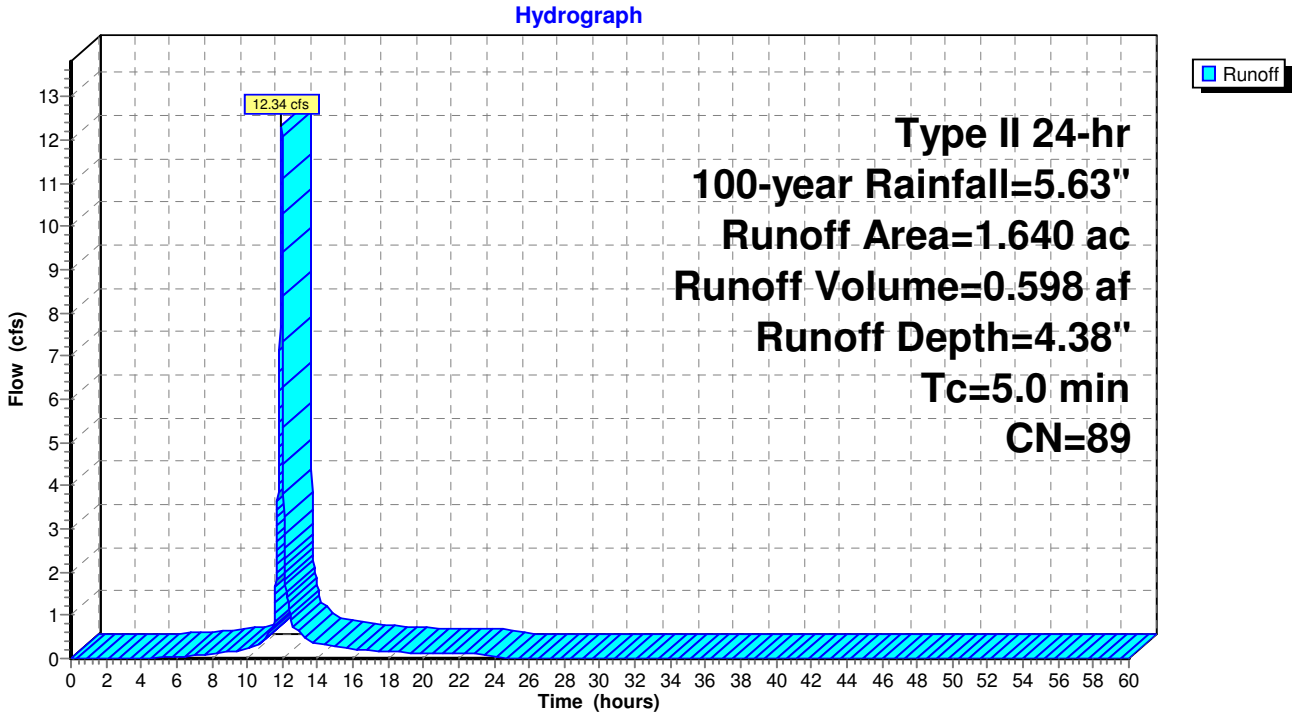
Runoff = 12.34 cfs @ 11.96 hrs, Volume= 0.598 af, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	1.020	98	
*	0.620	74	
	1.640	89	Weighted Average
	0.620		37.80% Pervious Area
	1.020		62.20% Impervious Area

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

Subcatchment 4S: Block C



Summary for Subcatchment 5S: Block E

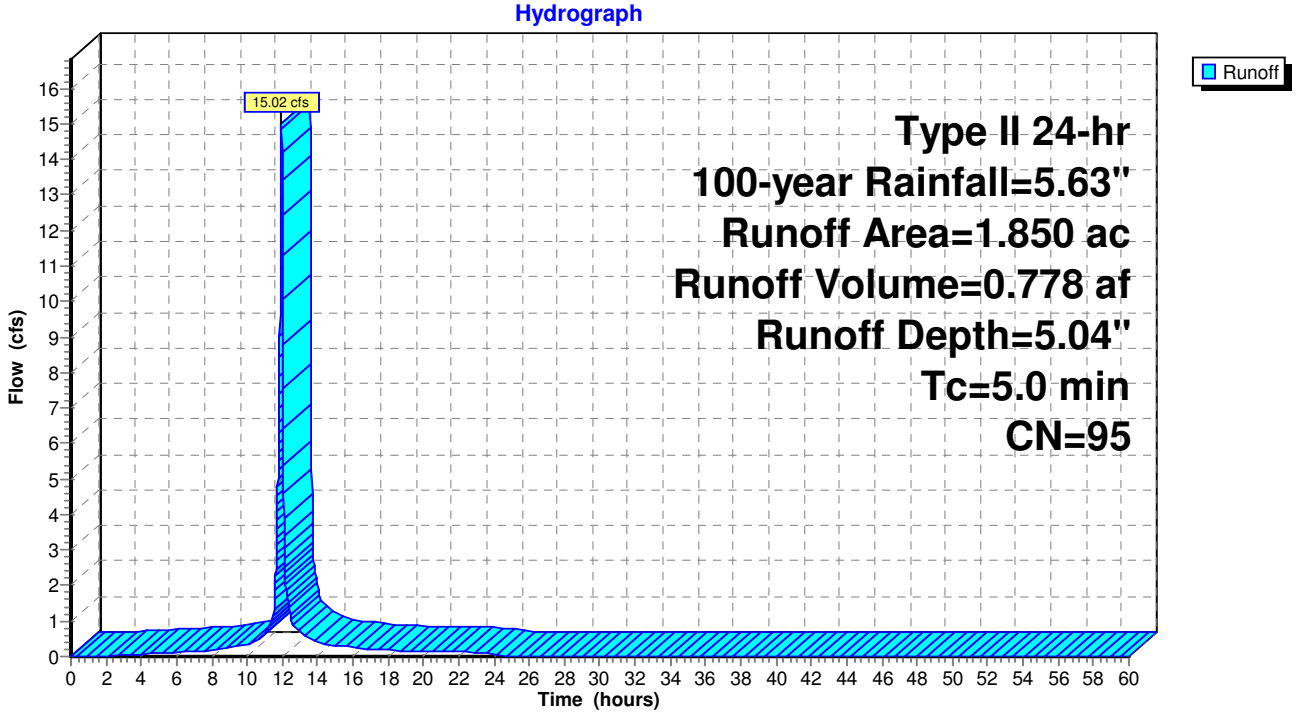
Runoff = 15.02 cfs @ 11.96 hrs, Volume= 0.778 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	1.630	98	
*	0.220	74	
	1.850	95	Weighted Average
	0.220		11.89% Pervious Area
	1.630		88.11% Impervious Area

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

Subcatchment 5S: Block E



Summary for Subcatchment 6S: Block F

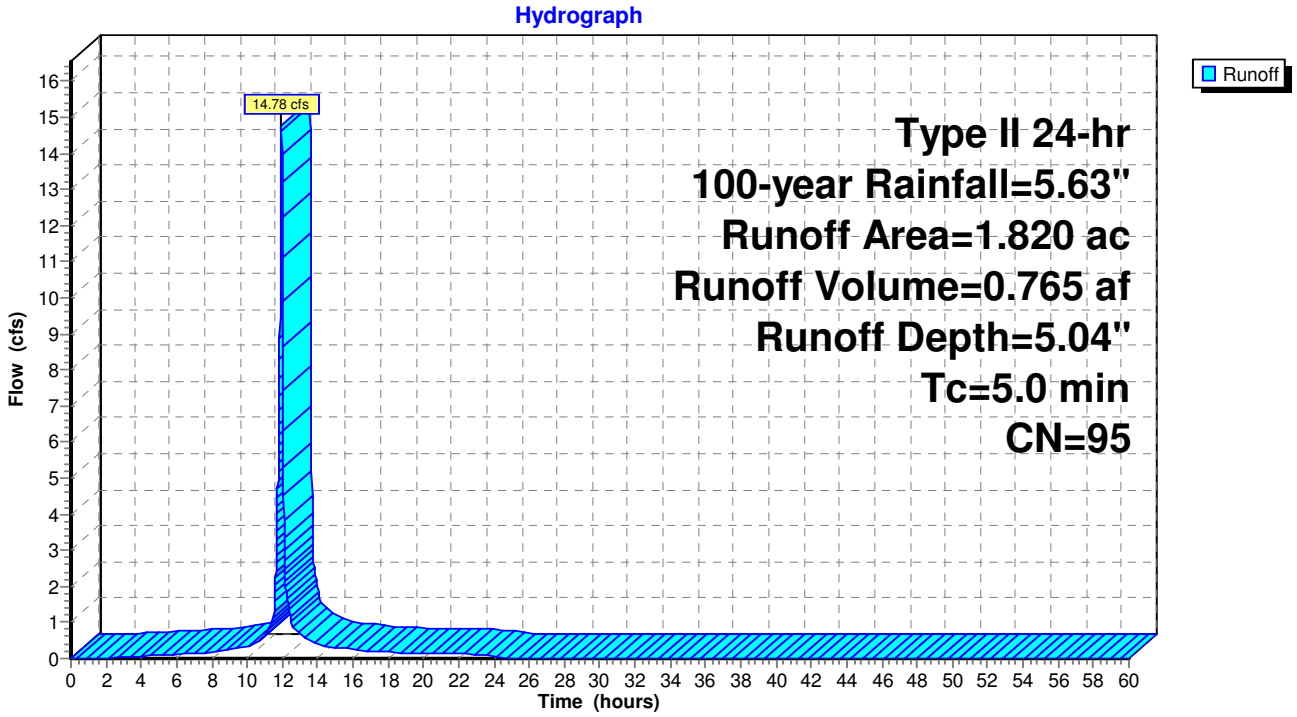
Runoff = 14.78 cfs @ 11.96 hrs, Volume= 0.765 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	1.580	98	
*	0.240	74	
	1.820	95	Weighted Average
	0.240		13.19% Pervious Area
	1.580		86.81% Impervious Area

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

Subcatchment 6S: Block F



Summary for Subcatchment 7S: Block G

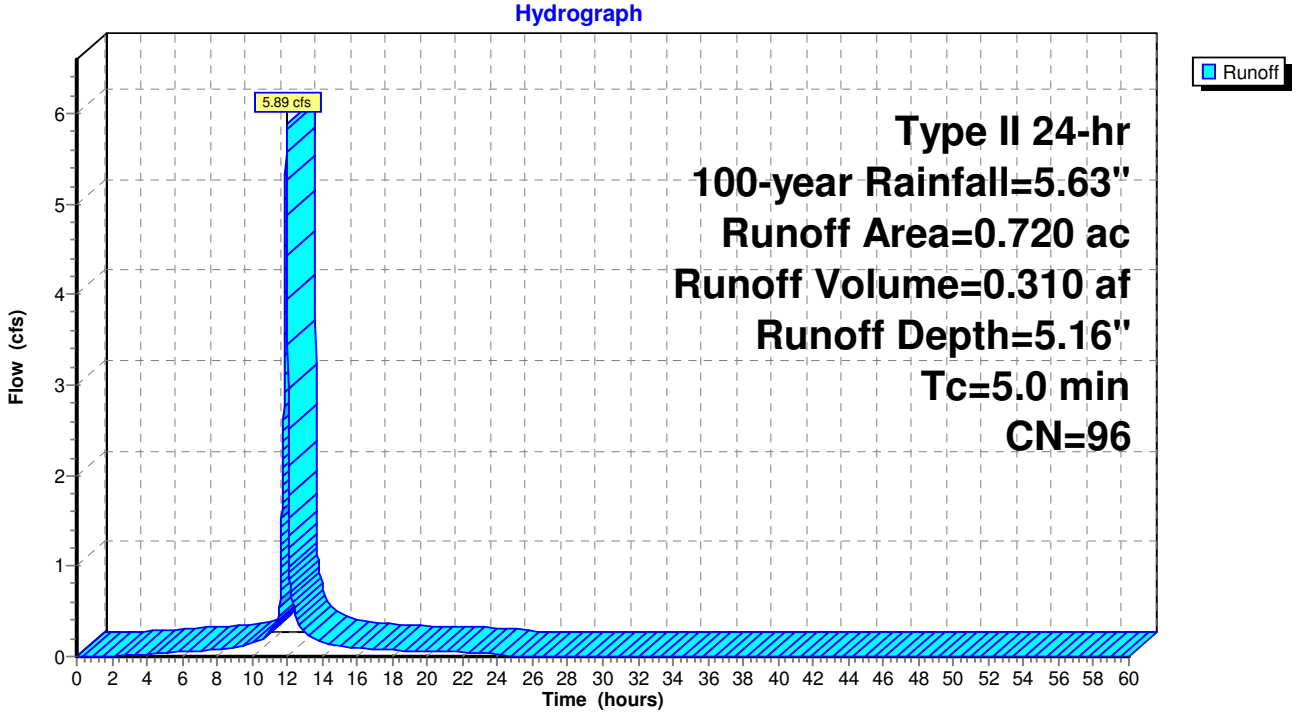
Runoff = 5.89 cfs @ 11.96 hrs, Volume= 0.310 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	0.670	98	
*	0.050	74	
	0.720	96	Weighted Average
	0.050		6.94% Pervious Area
	0.670		93.06% Impervious Area

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

Subcatchment 7S: Block G



Summary for Subcatchment 8S: Block H

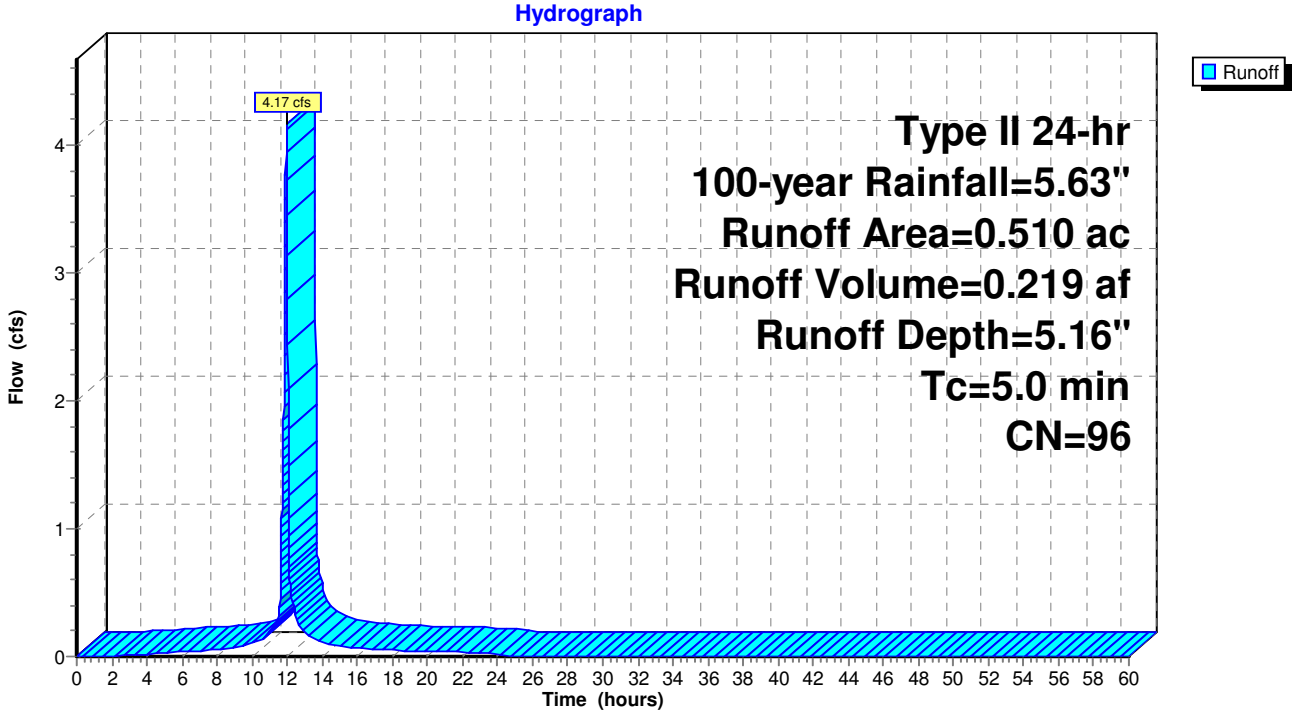
Runoff = 4.17 cfs @ 11.96 hrs, Volume= 0.219 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	0.470	98	
*	0.040	74	
	0.510	96	Weighted Average
	0.040		7.84% Pervious Area
	0.470		92.16% Impervious Area

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

Subcatchment 8S: Block H



Summary for Subcatchment 9S: Block I

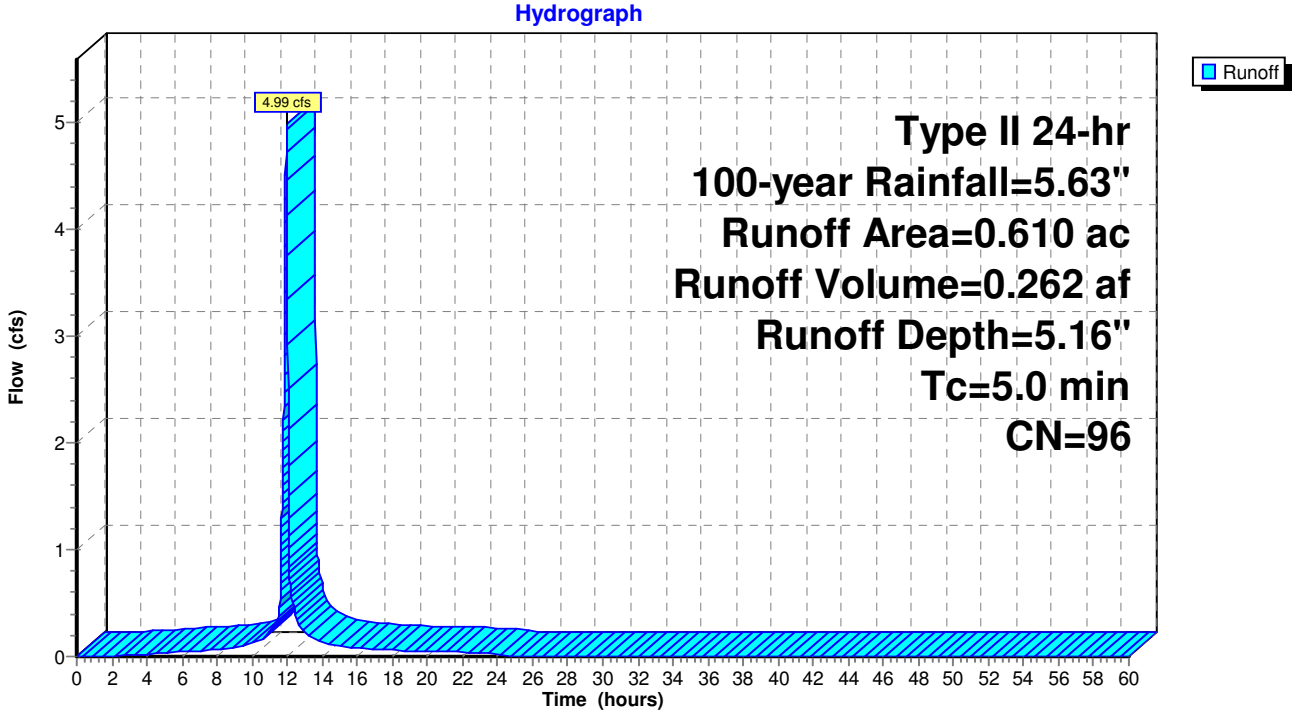
Runoff = 4.99 cfs @ 11.96 hrs, Volume= 0.262 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	0.550	98	
*	0.060	74	
	0.610	96	Weighted Average
	0.060		9.84% Pervious Area
	0.550		90.16% Impervious Area

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

Subcatchment 9S: Block I



Summary for Subcatchment 10S: Block J

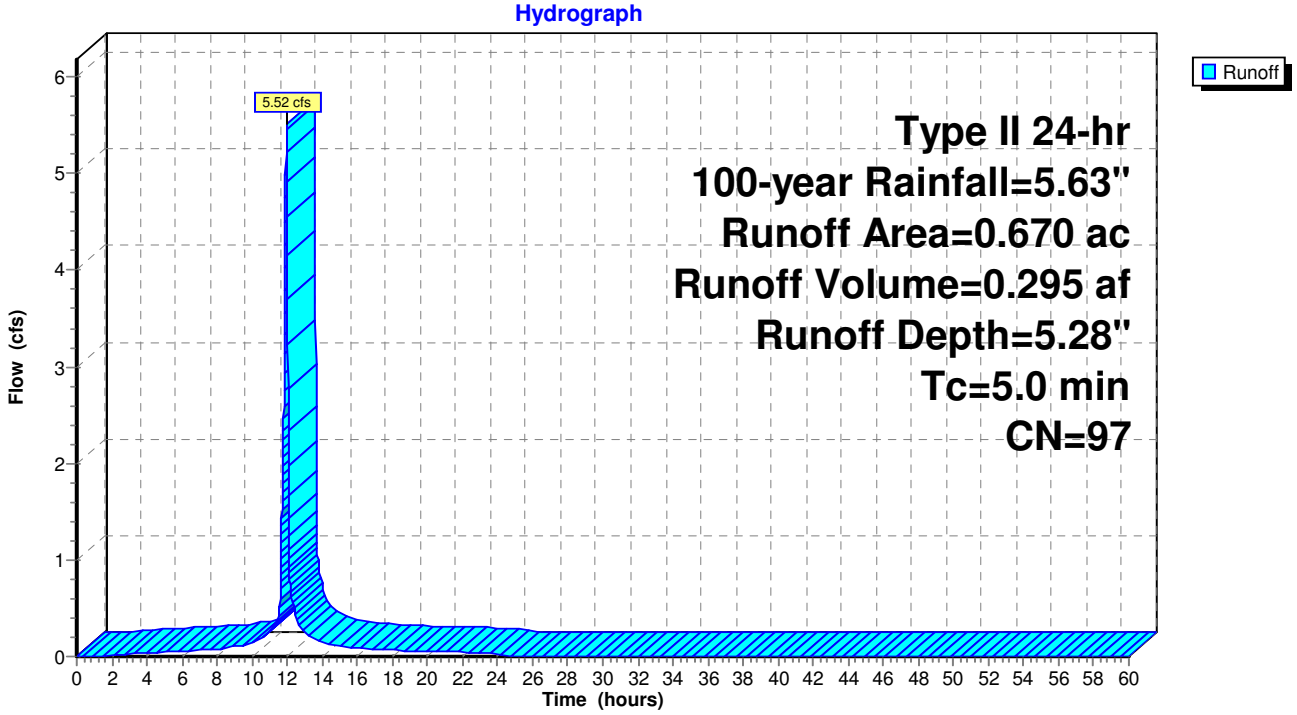
Runoff = 5.52 cfs @ 11.96 hrs, Volume= 0.295 af, Depth= 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	0.640	98	
*	0.030	74	
	0.670	97	Weighted Average
	0.030		4.48% Pervious Area
	0.640		95.52% Impervious Area

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

Subcatchment 10S: Block J



Summary for Subcatchment 12S: Total Post

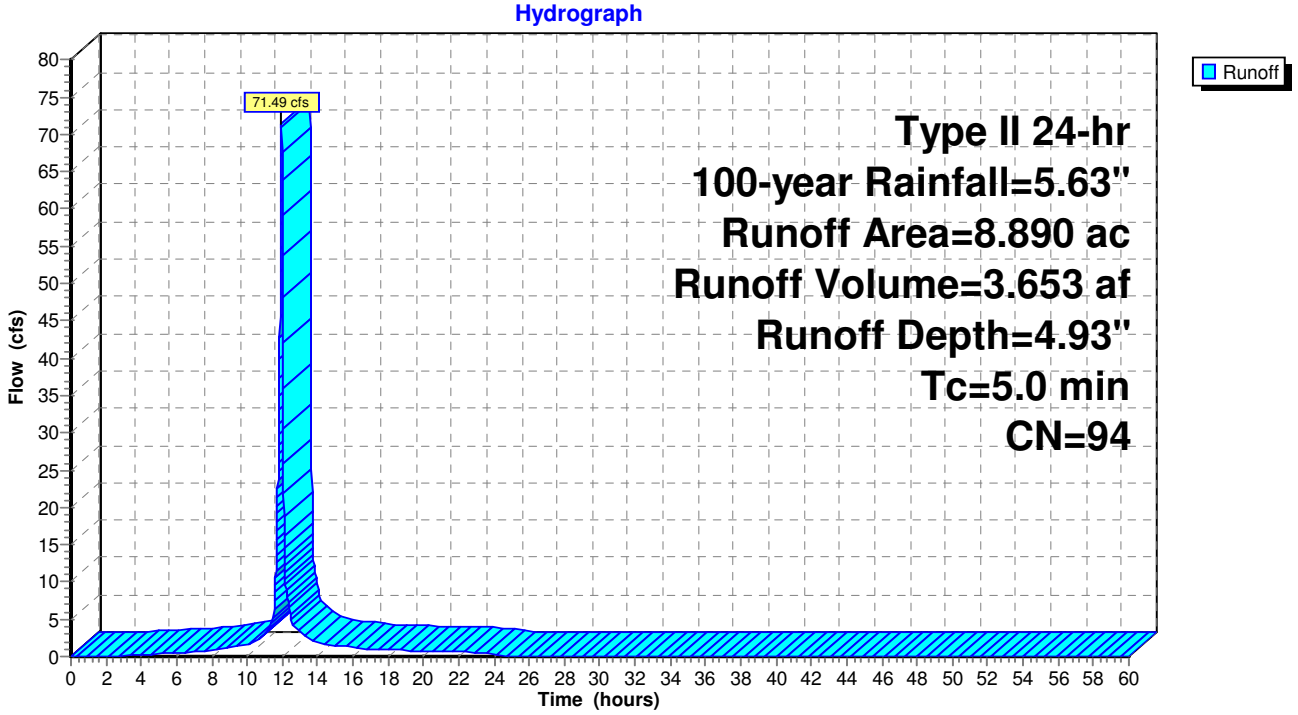
Runoff = 71.49 cfs @ 11.96 hrs, Volume= 3.653 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-year Rainfall=5.63"

	Area (ac)	CN	Description
*	7.580	98	
*	1.310	74	
	8.890	94	Weighted Average
	1.310		14.74% Pervious Area
	7.580		85.26% Impervious Area

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

Subcatchment 12S: Total Post



Summary for Pond 11P: Detention A

Inflow Area = 0.540 ac, 96.30% Impervious, Inflow Depth = 5.28" for 100-year event
Inflow = 4.45 cfs @ 11.96 hrs, Volume= 0.237 af
Outflow = 1.15 cfs @ 12.08 hrs, Volume= 0.233 af, Atten= 74%, Lag= 7.5 min
Primary = 1.15 cfs @ 12.08 hrs, Volume= 0.233 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 104.11' @ 12.08 hrs Surf.Area= 1,307 sf Storage= 5,366 cf

Plug-Flow detention time= 324.6 min calculated for 0.233 af (98% of inflow)
Center-of-Mass det. time= 312.9 min (1,061.4 - 748.5)

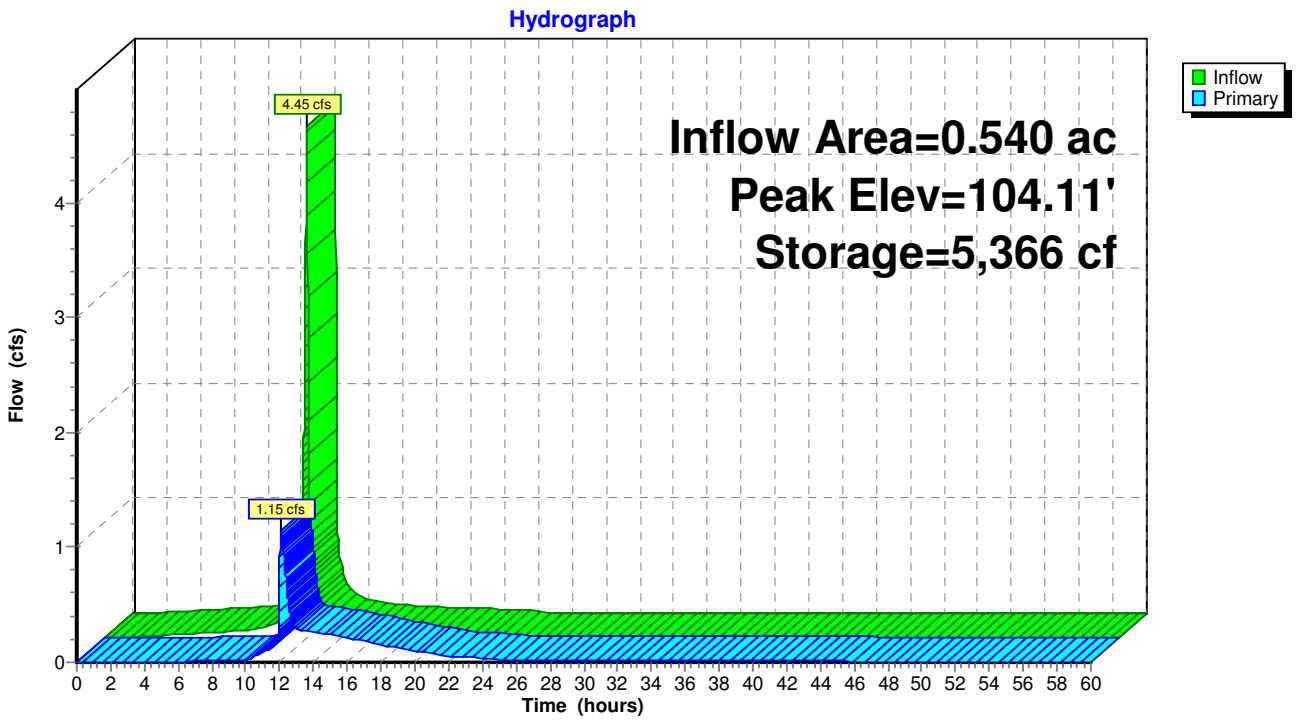
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=1.15 cfs @ 12.08 hrs HW=104.11' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 9.72 fps)
- **2=Orifice/Grate** (Orifice Controls 0.29 cfs @ 8.48 fps)
- **3=Orifice/Grate** (Orifice Controls 0.84 cfs @ 3.19 fps)

Pond 11P: Detention A



Summary for Pond 13P: Detention B

Inflow Area = 0.530 ac, 94.34% Impervious, Inflow Depth = 5.28" for 100-year event
Inflow = 4.37 cfs @ 11.96 hrs, Volume= 0.233 af
Outflow = 1.10 cfs @ 12.08 hrs, Volume= 0.229 af, Atten= 75%, Lag= 7.6 min
Primary = 1.10 cfs @ 12.08 hrs, Volume= 0.229 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 104.05' @ 12.08 hrs Surf.Area= 1,307 sf Storage= 5,300 cf

Plug-Flow detention time= 329.3 min calculated for 0.229 af (98% of inflow)
Center-of-Mass det. time= 317.1 min (1,065.6 - 748.5)

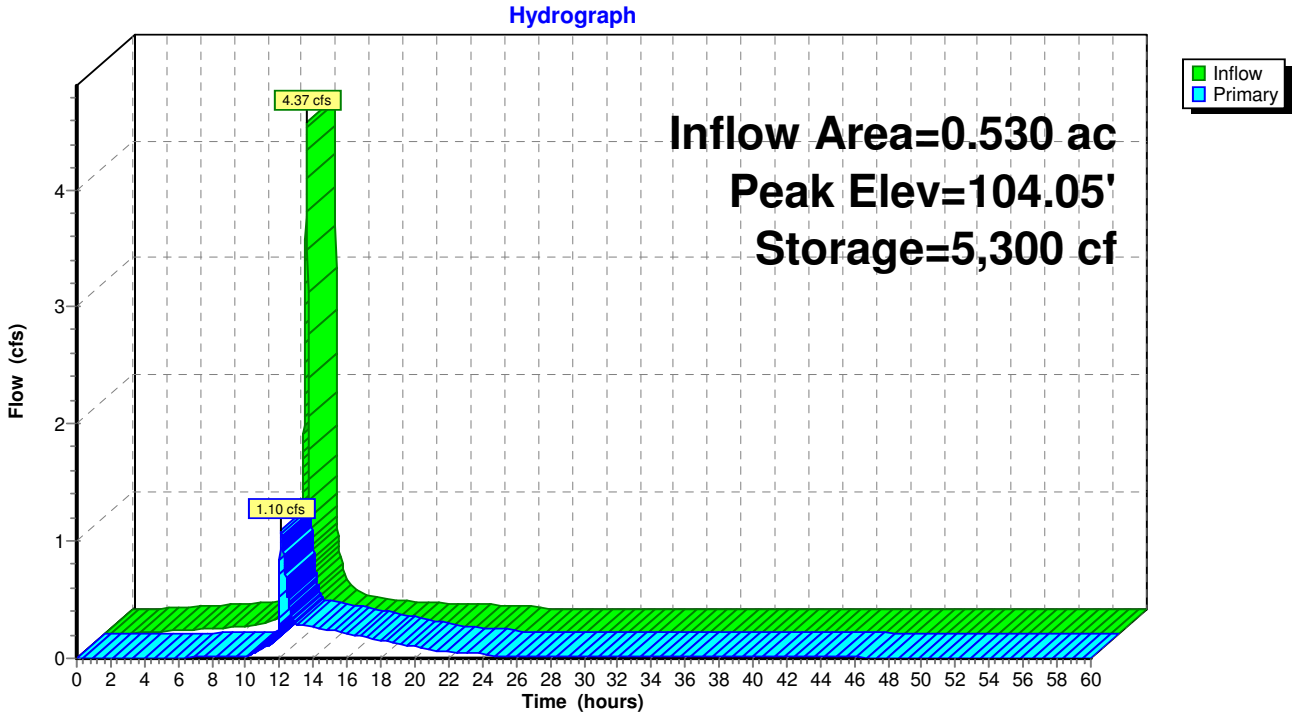
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,882 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,228	5,228
104.50	1,307	654	5,882

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.50'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=1.10 cfs @ 12.08 hrs HW=104.05' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 9.66 fps)
- **2=Orifice/Grate** (Orifice Controls 0.29 cfs @ 8.41 fps)
- **3=Orifice/Grate** (Orifice Controls 0.78 cfs @ 3.00 fps)

Pond 13P: Detention B



Summary for Pond 14P: Detention C

Inflow Area = 1.640 ac, 62.20% Impervious, Inflow Depth = 4.38" for 100-year event
Inflow = 12.34 cfs @ 11.96 hrs, Volume= 0.598 af
Outflow = 3.21 cfs @ 12.08 hrs, Volume= 0.595 af, Atten= 74%, Lag= 7.5 min
Primary = 3.21 cfs @ 12.08 hrs, Volume= 0.595 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 102.84' @ 12.08 hrs Surf.Area= 4,356 sf Storage= 12,391 cf

Plug-Flow detention time= 205.6 min calculated for 0.595 af (99% of inflow)
Center-of-Mass det. time= 202.0 min (988.2 - 786.1)

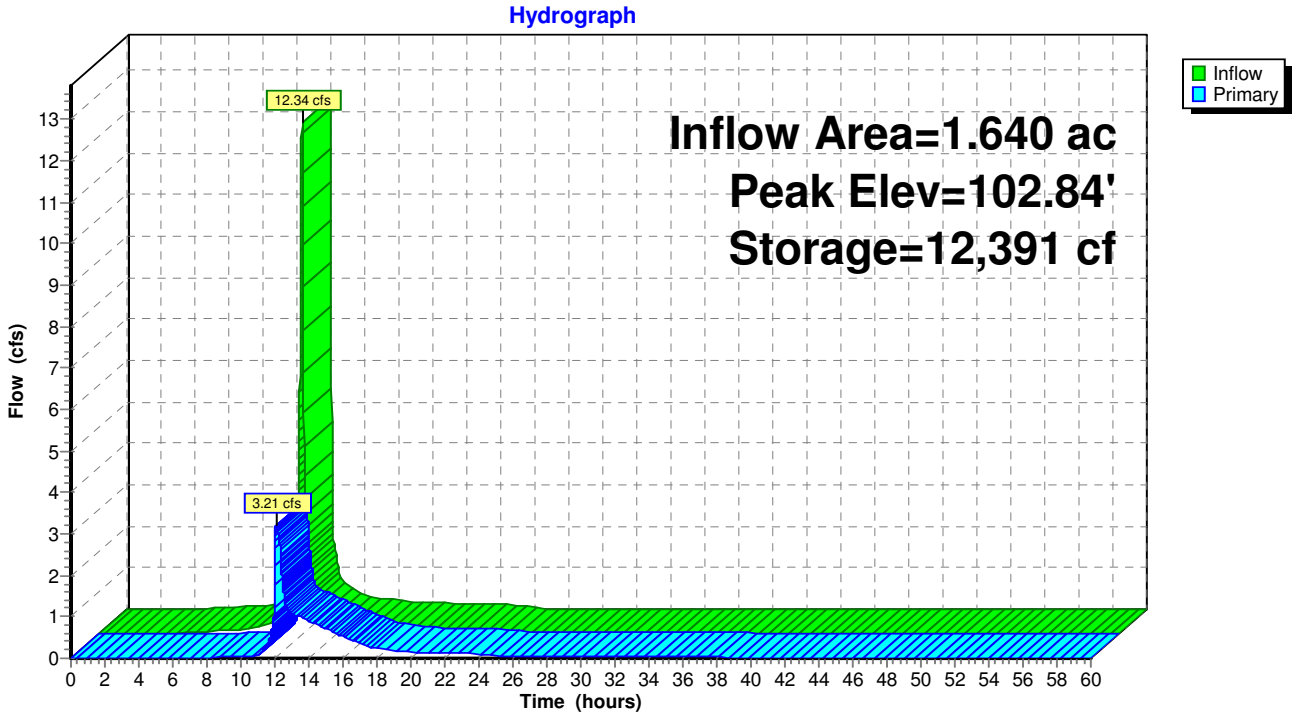
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	19,602 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,356	0	0
104.00	4,356	17,424	17,424
104.50	4,356	2,178	19,602

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.45'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.30'	**10.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=3.21 cfs @ 12.08 hrs HW=102.84' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.10 cfs @ 8.03 fps)
- **2=Orifice/Grate** (Orifice Controls 1.17 cfs @ 7.09 fps)
- **3=Orifice/Grate** (Orifice Controls 1.94 cfs @ 3.55 fps)

Pond 14P: Detention C



Summary for Pond 15P: Detention E

Inflow Area = 1.850 ac, 88.11% Impervious, Inflow Depth = 5.04" for 100-year event
Inflow = 15.02 cfs @ 11.96 hrs, Volume= 0.778 af
Outflow = 3.36 cfs @ 12.09 hrs, Volume= 0.772 af, Atten= 78%, Lag= 8.1 min
Primary = 3.36 cfs @ 12.09 hrs, Volume= 0.772 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.32' @ 12.09 hrs Surf.Area= 5,227 sf Storage= 17,379 cf

Plug-Flow detention time= 279.1 min calculated for 0.771 af (99% of inflow)
Center-of-Mass det. time= 274.2 min (1,034.7 - 760.6)

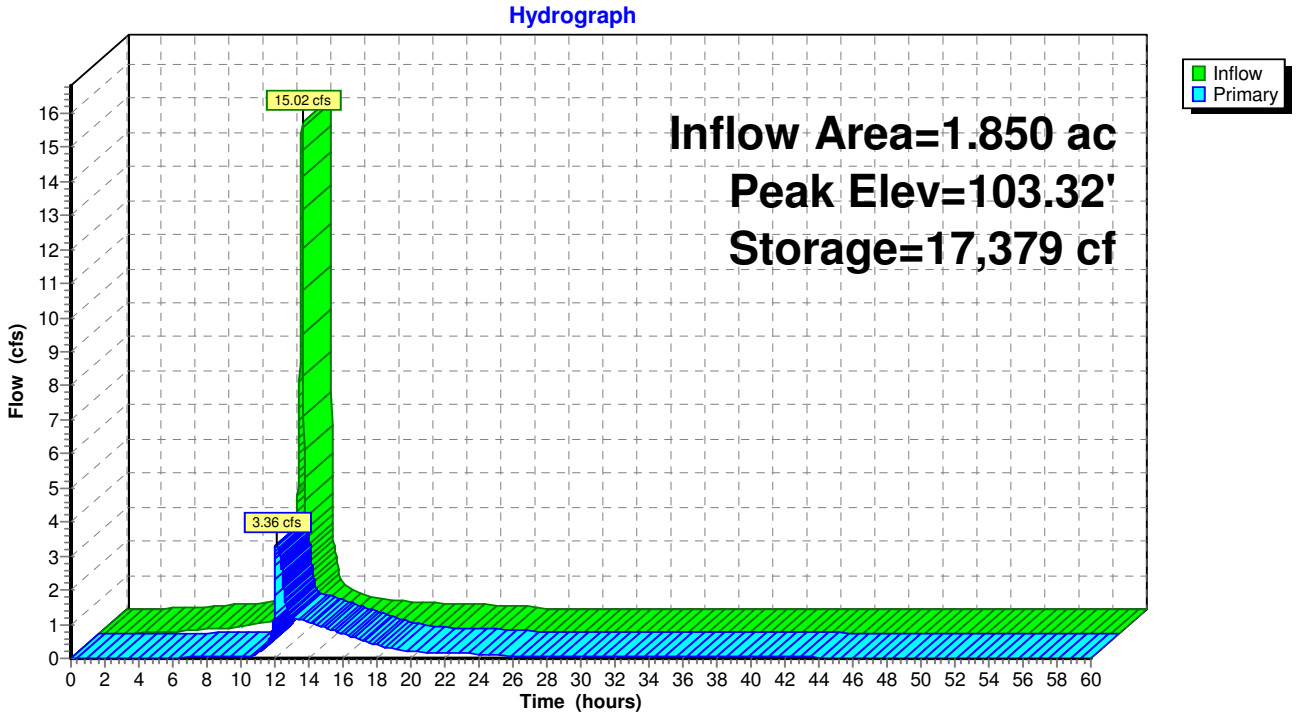
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	20,908 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	5,227	0	0
104.00	5,227	20,908	20,908

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.70'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.75'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.36 cfs @ 12.09 hrs HW=103.32' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.14 cfs @ 8.69 fps)
- **2=Orifice/Grate** (Orifice Controls 1.23 cfs @ 7.45 fps)
- **3=Orifice/Grate** (Orifice Controls 1.99 cfs @ 3.65 fps)

Pond 15P: Detention E



Summary for Pond 16P: Detention F

Inflow Area = 1.820 ac, 86.81% Impervious, Inflow Depth = 5.04" for 100-year event
Inflow = 14.78 cfs @ 11.96 hrs, Volume= 0.765 af
Outflow = 3.48 cfs @ 12.09 hrs, Volume= 0.760 af, Atten= 76%, Lag= 7.9 min
Primary = 3.48 cfs @ 12.09 hrs, Volume= 0.760 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.52' @ 12.09 hrs Surf.Area= 4,792 sf Storage= 16,872 cf

Plug-Flow detention time= 267.8 min calculated for 0.760 af (99% of inflow)
Center-of-Mass det. time= 263.7 min (1,024.3 - 760.6)

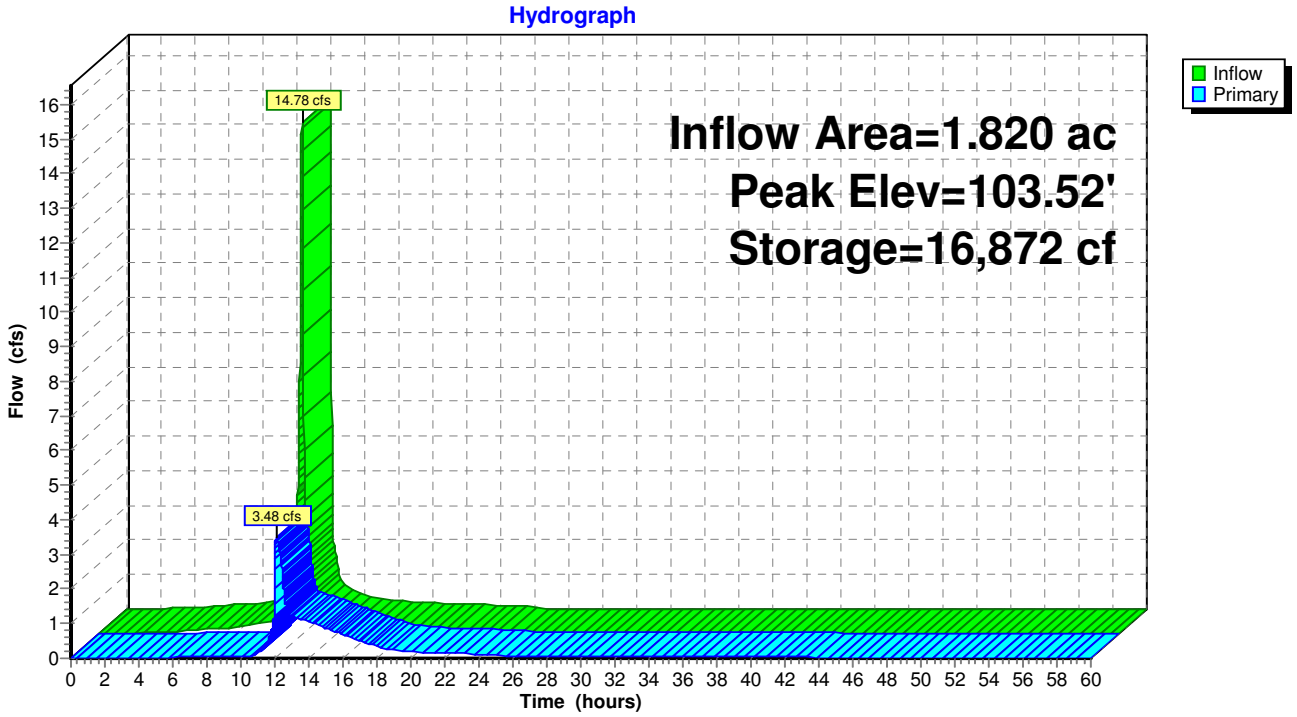
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	21,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	4,792	0	0
104.00	4,792	19,168	19,168
104.50	4,792	2,396	21,564

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.90'	**10.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=3.48 cfs @ 12.09 hrs HW=103.52' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.14 cfs @ 8.94 fps)
- **2=Orifice/Grate** (Orifice Controls 1.27 cfs @ 7.68 fps)
- **3=Orifice/Grate** (Orifice Controls 2.07 cfs @ 3.79 fps)

Pond 16P: Detention F



Summary for Pond 17P: Detention G

Inflow Area = 0.720 ac, 93.06% Impervious, Inflow Depth = 5.16" for 100-year event
Inflow = 5.89 cfs @ 11.96 hrs, Volume= 0.310 af
Outflow = 1.70 cfs @ 12.07 hrs, Volume= 0.309 af, Atten= 71%, Lag= 7.1 min
Primary = 1.70 cfs @ 12.07 hrs, Volume= 0.309 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.07' @ 12.07 hrs Surf.Area= 2,178 sf Storage= 6,685 cf

Plug-Flow detention time= 261.2 min calculated for 0.309 af (100% of inflow)
Center-of-Mass det. time= 258.9 min (1,013.8 - 754.9)

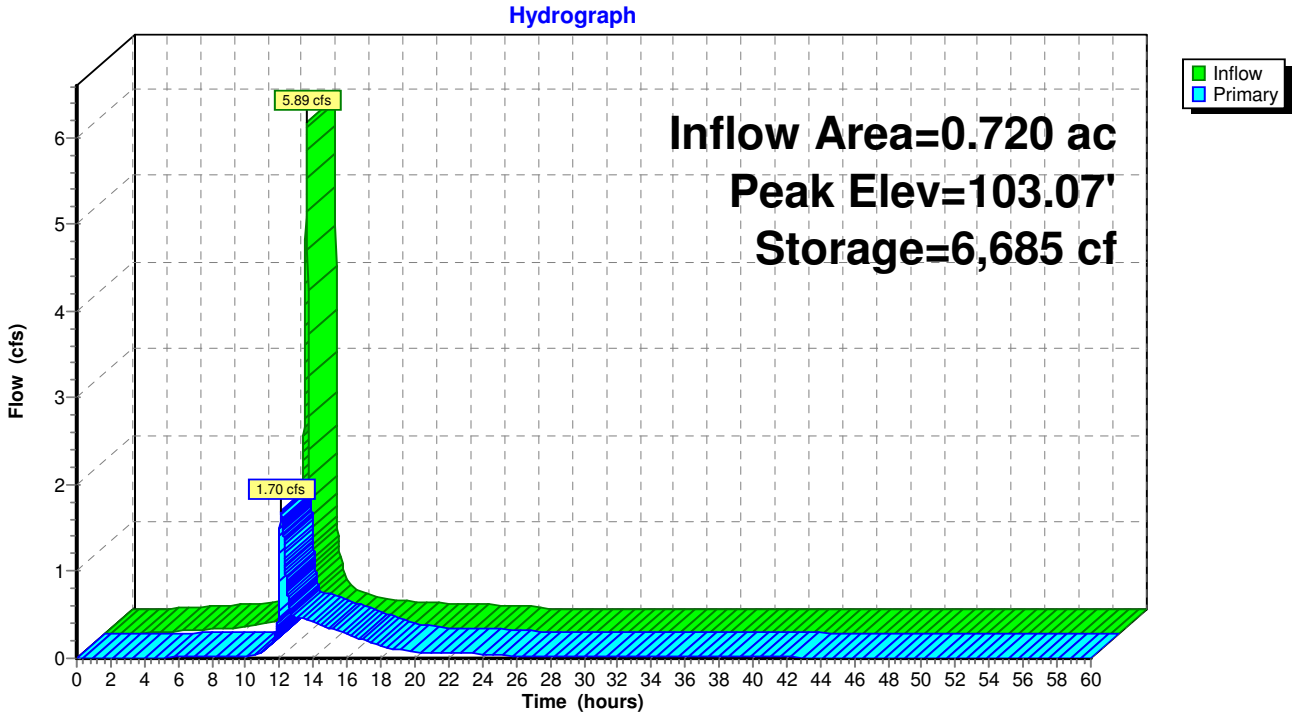
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	8,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	2,178	0	0
104.00	2,178	8,712	8,712

Device	Routing	Invert	Outlet Devices		
#1	Primary	100.00'	**1.2" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	100.70'	**3.5" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	102.60'	**8.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=1.70 cfs @ 12.07 hrs HW=103.07' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.07 cfs @ 8.37 fps)
- **2=Orifice/Grate** (Orifice Controls 0.48 cfs @ 7.18 fps)
- **3=Orifice/Grate** (Orifice Controls 1.15 cfs @ 3.30 fps)

Pond 17P: Detention G



Summary for Pond 18P: Detention H

Inflow Area = 0.510 ac, 92.16% Impervious, Inflow Depth = 5.16" for 100-year event
Inflow = 4.17 cfs @ 11.96 hrs, Volume= 0.219 af
Outflow = 1.08 cfs @ 12.08 hrs, Volume= 0.215 af, Atten= 74%, Lag= 7.5 min
Primary = 1.08 cfs @ 12.08 hrs, Volume= 0.215 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.80' @ 12.08 hrs Surf.Area= 1,307 sf Storage= 4,968 cf

Plug-Flow detention time= 323.0 min calculated for 0.215 af (98% of inflow)
Center-of-Mass det. time= 311.7 min (1,066.6 - 754.9)

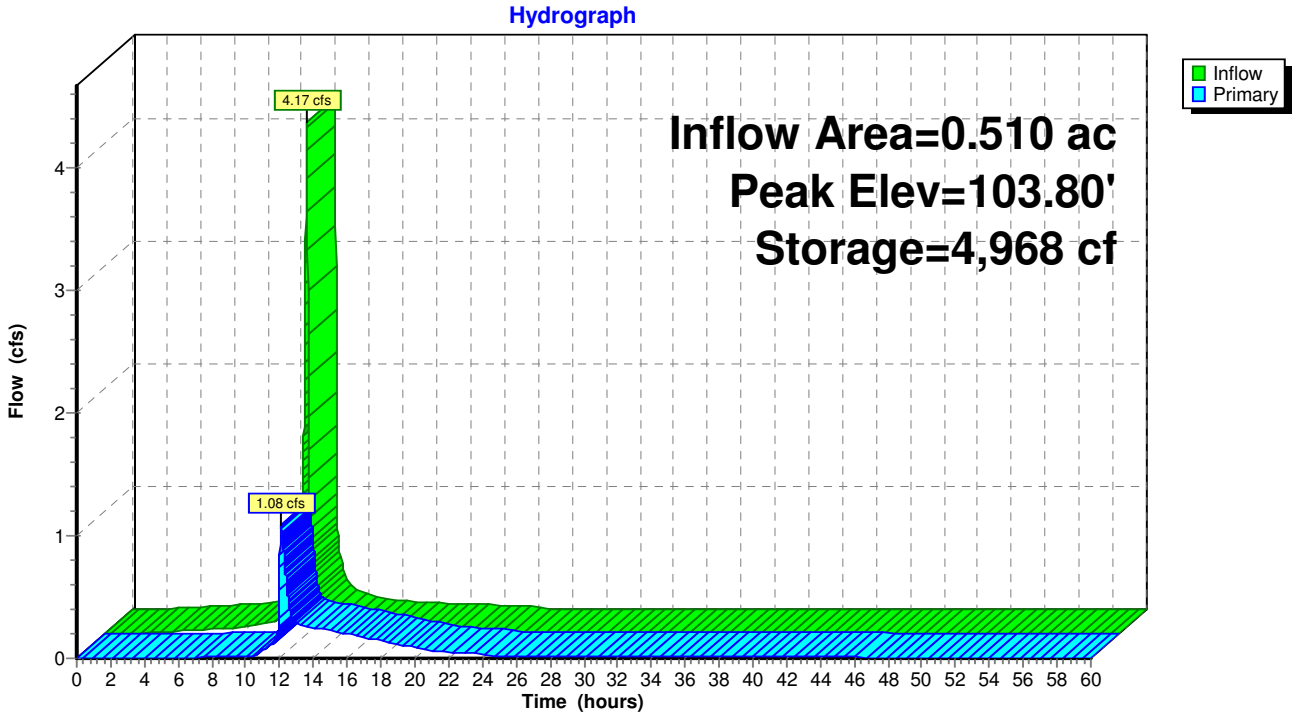
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	5,227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,307	0	0
104.00	1,307	5,227	5,227

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**0.7" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**2.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.25'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=1.08 cfs @ 12.08 hrs HW=103.80' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.02 cfs @ 9.35 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.28 cfs @ 8.12 fps)
└─**3=Orifice/Grate** (Orifice Controls 0.78 cfs @ 2.99 fps)

Pond 18P: Detention H



Summary for Pond 19P: Detention I

Inflow Area = 0.610 ac, 90.16% Impervious, Inflow Depth = 5.16" for 100-year event
Inflow = 4.99 cfs @ 11.96 hrs, Volume= 0.262 af
Outflow = 1.16 cfs @ 12.09 hrs, Volume= 0.261 af, Atten= 77%, Lag= 8.0 min
Primary = 1.16 cfs @ 12.09 hrs, Volume= 0.261 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.36' @ 12.09 hrs Surf.Area= 1,742 sf Storage= 5,860 cf

Plug-Flow detention time= 285.8 min calculated for 0.261 af (100% of inflow)
Center-of-Mass det. time= 283.3 min (1,038.2 - 754.9)

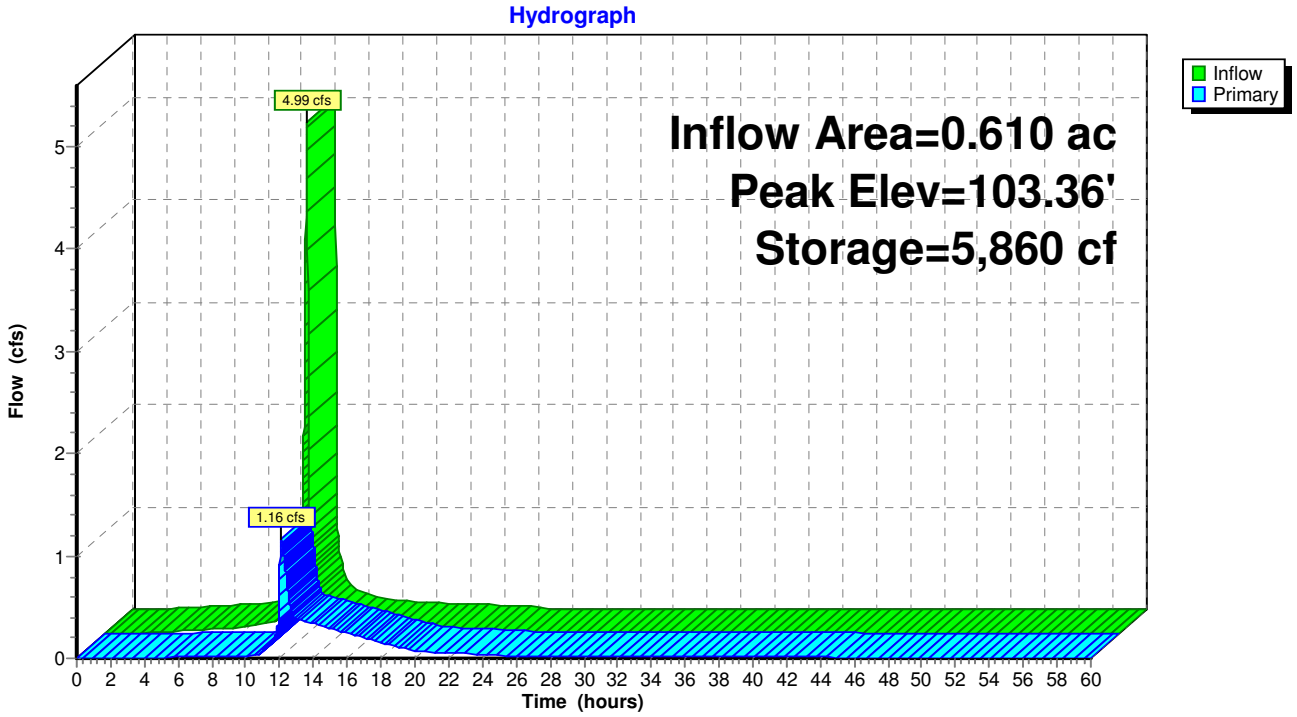
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.75'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	102.85'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=1.16 cfs @ 12.09 hrs HW=103.36' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 8.78 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.37 cfs @ 7.59 fps)
└─**3=Orifice/Grate** (Orifice Controls 0.74 cfs @ 2.83 fps)

Pond 19P: Detention I



Summary for Pond 20P: Detention J

Inflow Area = 0.670 ac, 95.52% Impervious, Inflow Depth = 5.28" for 100-year event
Inflow = 5.52 cfs @ 11.96 hrs, Volume= 0.295 af
Outflow = 1.27 cfs @ 12.09 hrs, Volume= 0.293 af, Atten= 77%, Lag= 8.0 min
Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.293 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 103.79' @ 12.09 hrs Surf.Area= 1,742 sf Storage= 6,602 cf

Plug-Flow detention time= 297.4 min calculated for 0.293 af (100% of inflow)
Center-of-Mass det. time= 294.4 min (1,042.9 - 748.5)

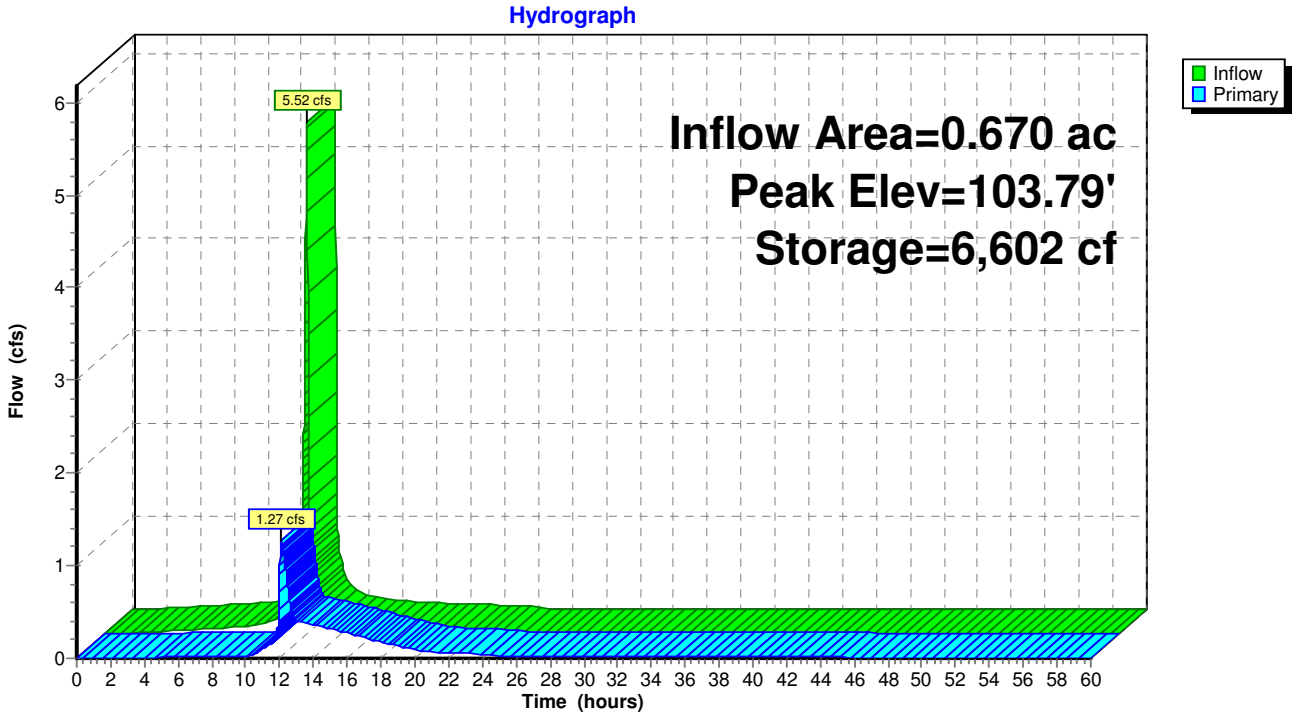
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	6,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	1,742	0	0
104.00	1,742	6,970	6,970

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	100.85'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	103.20'	**4.0" Vert. Orifice/Grate X 3.00** C= 0.600

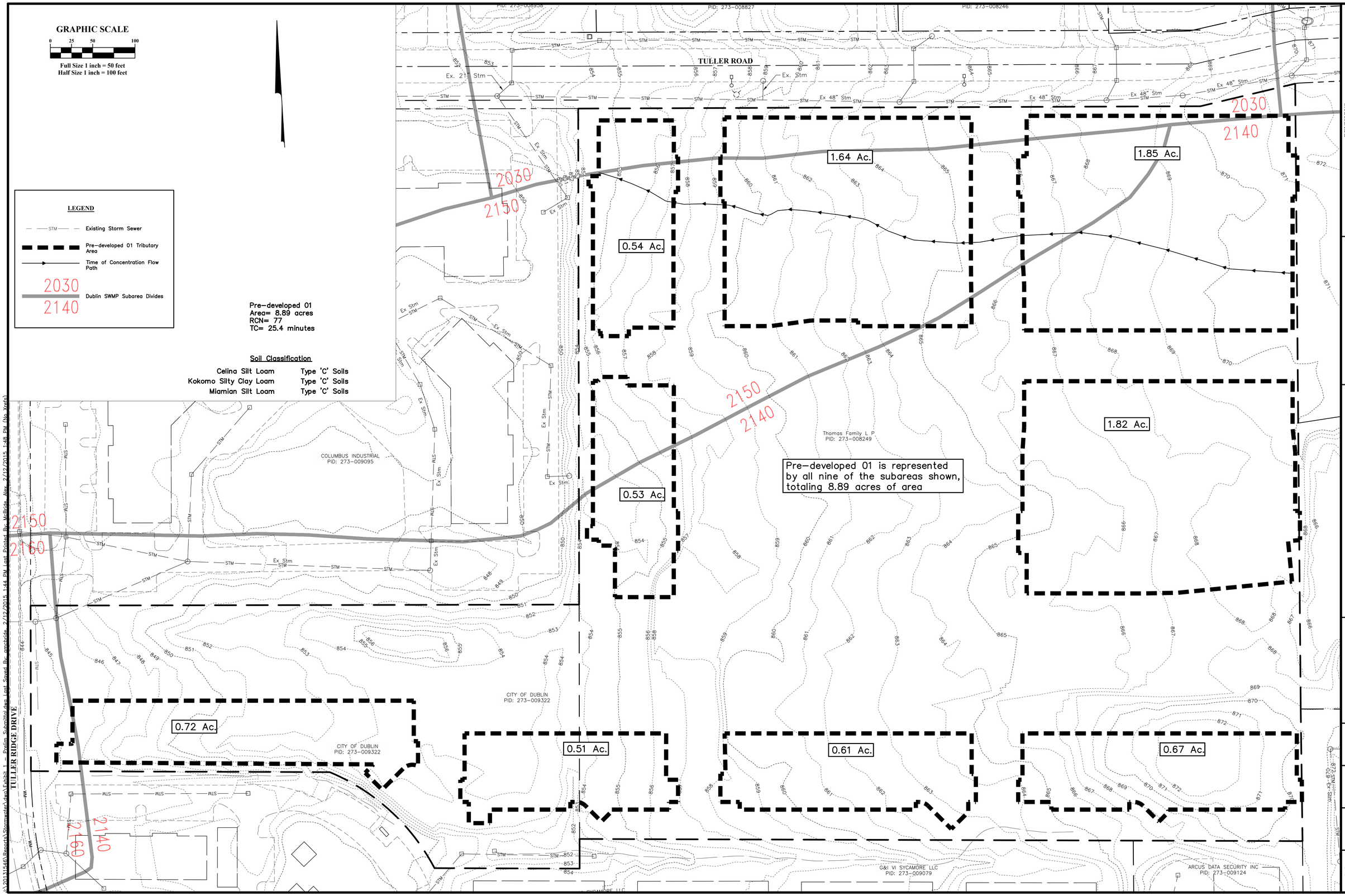
Primary OutFlow Max=1.27 cfs @ 12.09 hrs HW=103.79' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.32 fps)
- **2=Orifice/Grate** (Orifice Controls 0.40 cfs @ 8.08 fps)
- **3=Orifice/Grate** (Orifice Controls 0.82 cfs @ 3.13 fps)

Pond 20P: Detention J



APPENDIX D:

Exhibits



REVISIONS

MARK	DATE	DESCRIPTION

CASTO

CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
STORMWATER MANAGEMENT PLAN
FOR
TULLER FLATS
PRE-DEVELOPED
TRIBUTARY WORKMAP

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
February 12, 2015

SCALE
Full Size: 1" = 50'
Half Size: 1" = 100'

JOB NO.
2013-1546

SHEET
EXHIBIT 1

J:\2013\1546\Reports\Stormwater\dwg\Exhibit 1 - Prelim Submittal.dwg Last Saved By: mmcbride 2/12/2015 1:44 PM Last Printed By: McBride, Alex 2/12/2015 1:48 PM (No Xref)

GRAPHIC SCALE

0 25 50 100

Full Size 1 inch = 50 feet
Half Size 1 inch = 100 feet

LEGEND

- Existing Storm Sewer
- Proposed Storm Sewer
- Proposed Roof Drain/Underdrain
- StormTech Chamber
- Proposed Tributary Area for individual pervious paver and detention systems.
- 800 Prop. Spot Elevation
- Pervious Pavers
- Streets by City of Dublin
- 2030 / 2140 Dublin SWMP Subarea Divides

NOTE:
All Information regarding John Shields Parkway and Graham Street is shown for reference only. Final design to be coordinated with City of Dublin.

Block A
Area= 0.54 acres
RCN= 97
TC= 5 minutes

Block B
Area= 0.53 acres
RCN= 97
TC= 5 minutes

Block C
Area= 1.64 acres
RCN= 89
TC= 5 minutes

Block E
Area= 1.85 acres
RCN= 95
TC= 5 minutes

Block F
Area= 1.82 acres
RCN= 95
TC= 5 minutes

Block G
Area= 0.72 acres
RCN= 96
TC= 5 minutes

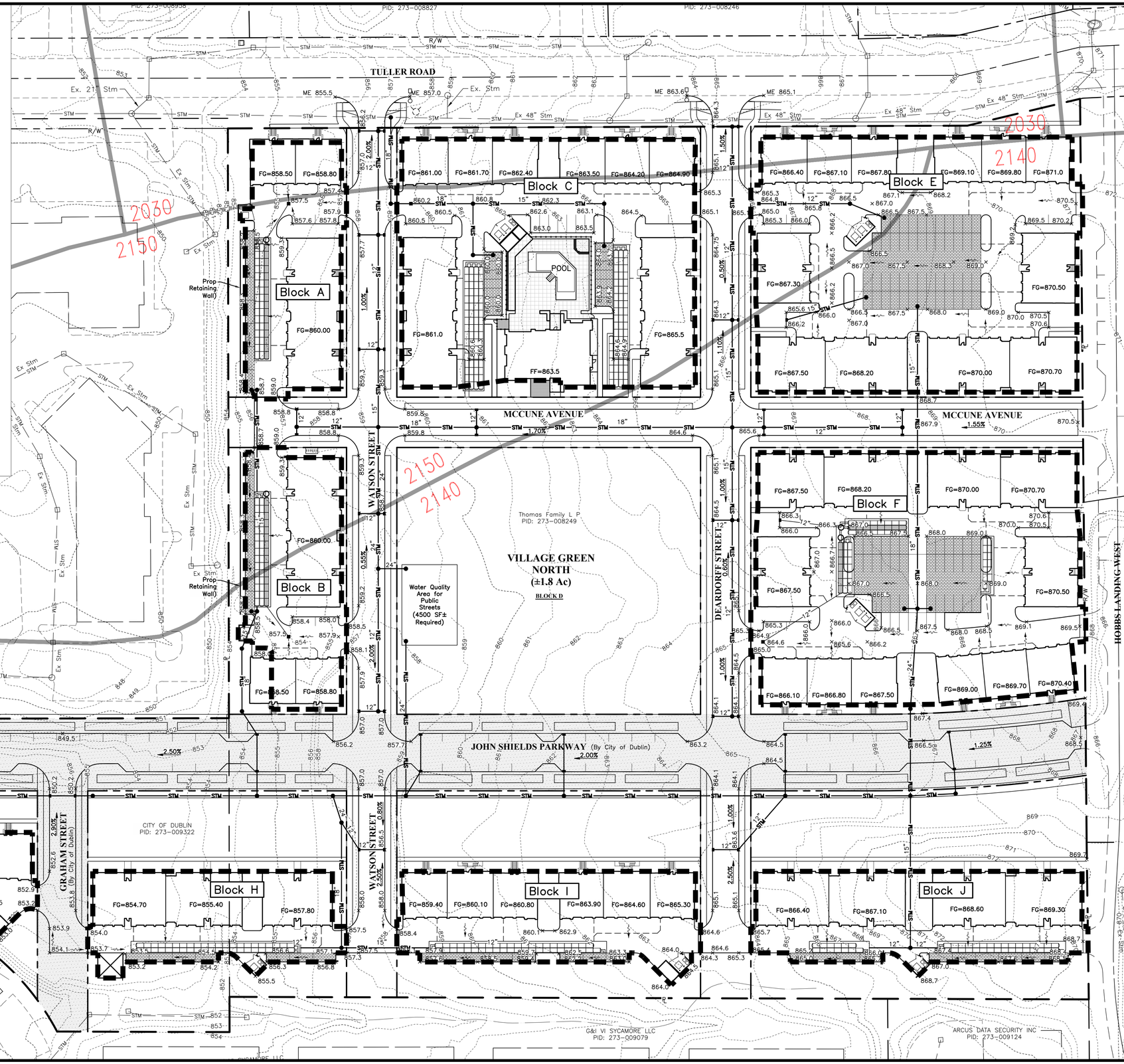
Block H
Area= 0.51 acres
RCN= 96
TC= 5 minutes

Block I
Area= 0.61 acres
RCN= 96
TC= 5 minutes

Block J
Area= 0.67 acres
RCN= 97
TC= 5 minutes

Soil Classification

Celina Silt Loam	Type 'C' Soils
Kokomo Silty Clay Loam	Type 'C' Soils
Miamian Silt Loam	Type 'C' Soils



REVISIONS

MARK	DATE	DESCRIPTION

CASTO

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2013-1546

SHEET
EXHIBIT 2

J:\2013\1546\Reports\Stormwater\dwg\Exhibit 2 - Proline_Submittal.dwg Last Saved By: mmcbride 2/12/2015 1:31 PM Last Printed By: McBride, Alex 2/12/2015 1:32 PM (No Xrefs)