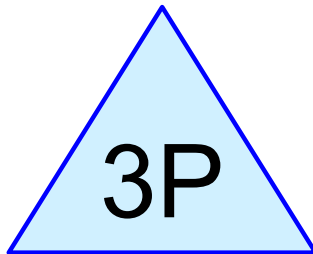
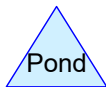
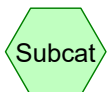


PostDevelopment



Wet Pond



**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
2.800	88	Post-Development 1-year (1P)
<b>2.800</b>	<b>88</b>	<b>TOTAL AREA</b>

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.800	Other	1P
<b>2.800</b>		<b>TOTAL AREA</b>

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	2.800	2.800	Post-Development 1-year	1P
<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>2.800</b>	<b>2.800</b>	<b>TOTAL AREA</b>	

Time span=0.00-100.00 hrs, dt=0.02 hrs, 5001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1P: PostDevelopment**

Runoff Area=2.800 ac 0.00% Impervious Runoff Depth=1.13"  
Tc=8.4 min CN=88 Runoff=5.15 cfs 0.263 af

**Pond 3P: Wet Pond**

Peak Elev=100.95' Storage=13,583 cf Inflow=5.15 cfs 0.263 af  
Outflow=0.12 cfs 0.263 af

**Total Runoff Area = 2.800 ac Runoff Volume = 0.263 af Average Runoff Depth = 1.13"**  
**100.00% Pervious = 2.800 ac 0.00% Impervious = 0.000 ac**

**Summary for Subcatchment 1P: PostDevelopment**

Runoff = 5.15 cfs @ 12.00 hrs, Volume= 0.263 af, Depth= 1.13"

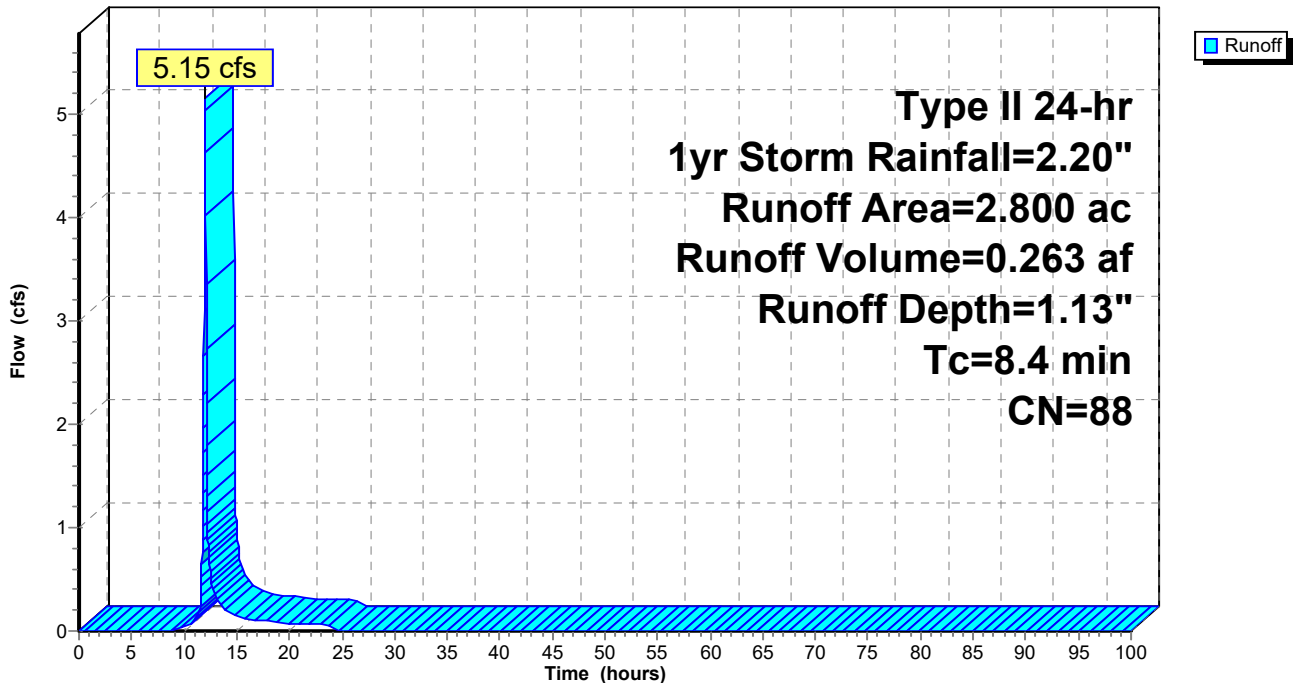
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-100.00 hrs, dt= 0.02 hrs  
 Type II 24-hr 1yr Storm Rainfall=2.20"

Area (ac)	CN	Description
* 2.800	88	Post-Development 1-year
2.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					Direct Entry, Watershed Lag

**Subcatchment 1P: PostDevelopment**

Hydrograph



**Summary for Pond 3P: Wet Pond**

Inflow Area = 2.800 ac, 0.00% Impervious, Inflow Depth = 1.13" for 1yr Storm event  
 Inflow = 5.15 cfs @ 12.00 hrs, Volume= 0.263 af  
 Outflow = 0.12 cfs @ 15.87 hrs, Volume= 0.263 af, Atten= 98%, Lag= 232.0 min  
 Primary = 0.12 cfs @ 15.87 hrs, Volume= 0.263 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.02 hrs  
 Starting Elev= 99.50' Surf.Area= 2,115 sf Storage= 6,245 cf  
 Peak Elev= 100.95' @ 15.87 hrs Surf.Area= 6,368 sf Storage= 13,583 cf (7,338 cf above start)  
 Flood Elev= 102.00' Surf.Area= 11,429 sf Storage= 23,381 cf (17,135 cf above start)

Plug-Flow detention time= 1,408.3 min calculated for 0.120 af (46% of inflow)  
 Center-of-Mass det. time= 748.6 min ( 1,579.1 - 830.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	93.50'	25,724 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
93.50	250	0	0
95.50	760	1,010	1,010
96.00	866	407	1,417
98.00	1,358	2,224	3,641
99.50	2,115	2,605	6,245
100.00	5,236	1,838	8,083
101.00	6,430	5,833	13,916
101.50	10,000	4,108	18,024
102.20	12,000	7,700	25,724

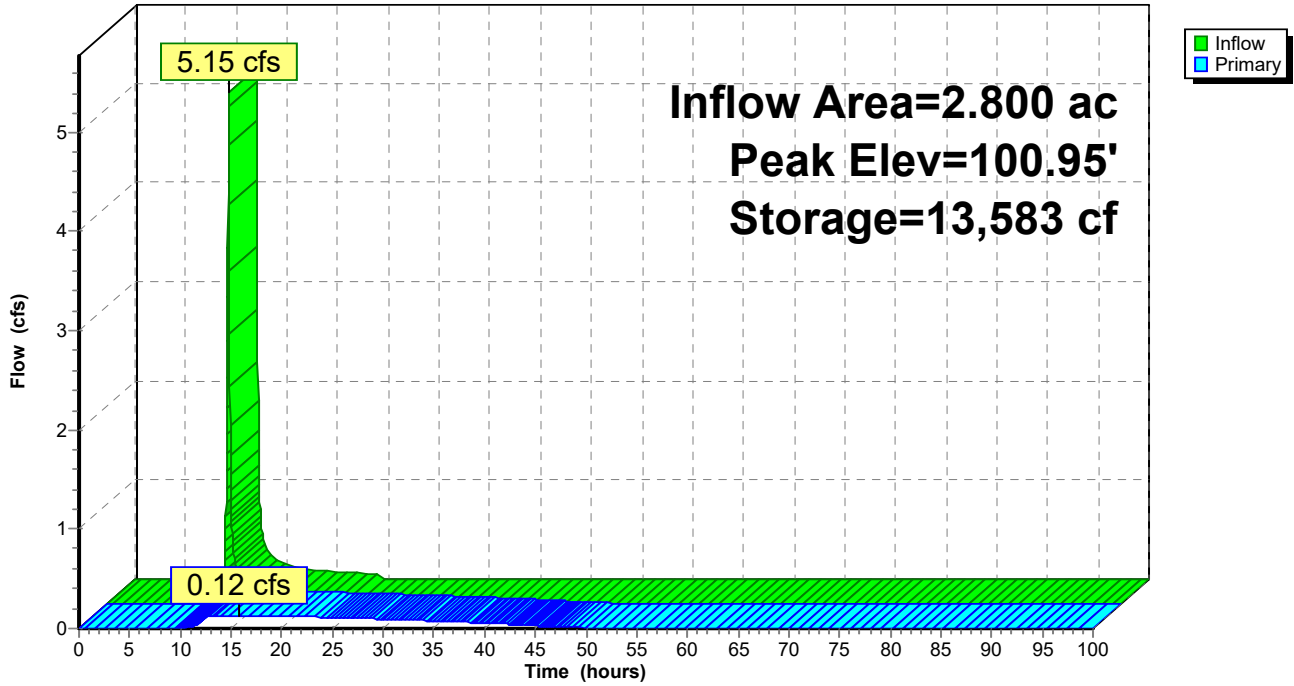
Device	Routing	Invert	Outlet Devices
#1	Primary	99.50'	<b>2.0" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	101.00'	<b>10.0' long x 6.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

**Primary OutFlow** Max=0.12 cfs @ 15.87 hrs HW=100.95' (Free Discharge)

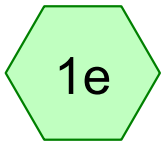
- 1=Orifice/Grate (Orifice Controls 0.12 cfs @ 5.62 fps)
- 2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond 3P: Wet Pond

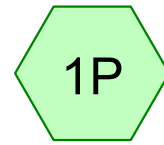
Hydrograph



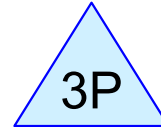




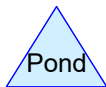
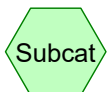
PreDevelopment



PostDevelopment



Wet Pond



**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
2.800	87	10-Year Post Development (1P)
2.800	80	10-Year Pre Development (1e)
<b>5.600</b>	<b>84</b>	<b>TOTAL AREA</b>

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
5.600	Other	1e, 1P
<b>5.600</b>		<b>TOTAL AREA</b>

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	2.800	2.800	10-Year Post Development	1P
0.000	0.000	0.000	0.000	2.800	2.800	10-Year Pre Development	1e
<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>5.600</b>	<b>5.600</b>	<b>TOTAL AREA</b>	

Time span=0.00-100.00 hrs, dt=0.02 hrs, 5001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1e: PreDevelopment**

Runoff Area=2.800 ac 0.00% Impervious Runoff Depth=2.03"  
Tc=12.0 min CN=80 Runoff=8.17 cfs 0.474 af

**Subcatchment 1P: PostDevelopment**

Runoff Area=2.800 ac 0.00% Impervious Runoff Depth=2.63"  
Tc=8.4 min CN=87 Runoff=11.72 cfs 0.613 af

**Pond 3P: Wet Pond**

Peak Elev=101.40' Storage=17,023 cf Inflow=11.72 cfs 0.613 af  
Outflow=6.43 cfs 0.613 af

**Total Runoff Area = 5.600 ac Runoff Volume = 1.088 af Average Runoff Depth = 2.33"**  
**100.00% Pervious = 5.600 ac 0.00% Impervious = 0.000 ac**

### Summary for Subcatchment 1e: PreDevelopment

Runoff = 8.17 cfs @ 12.04 hrs, Volume= 0.474 af, Depth= 2.03"

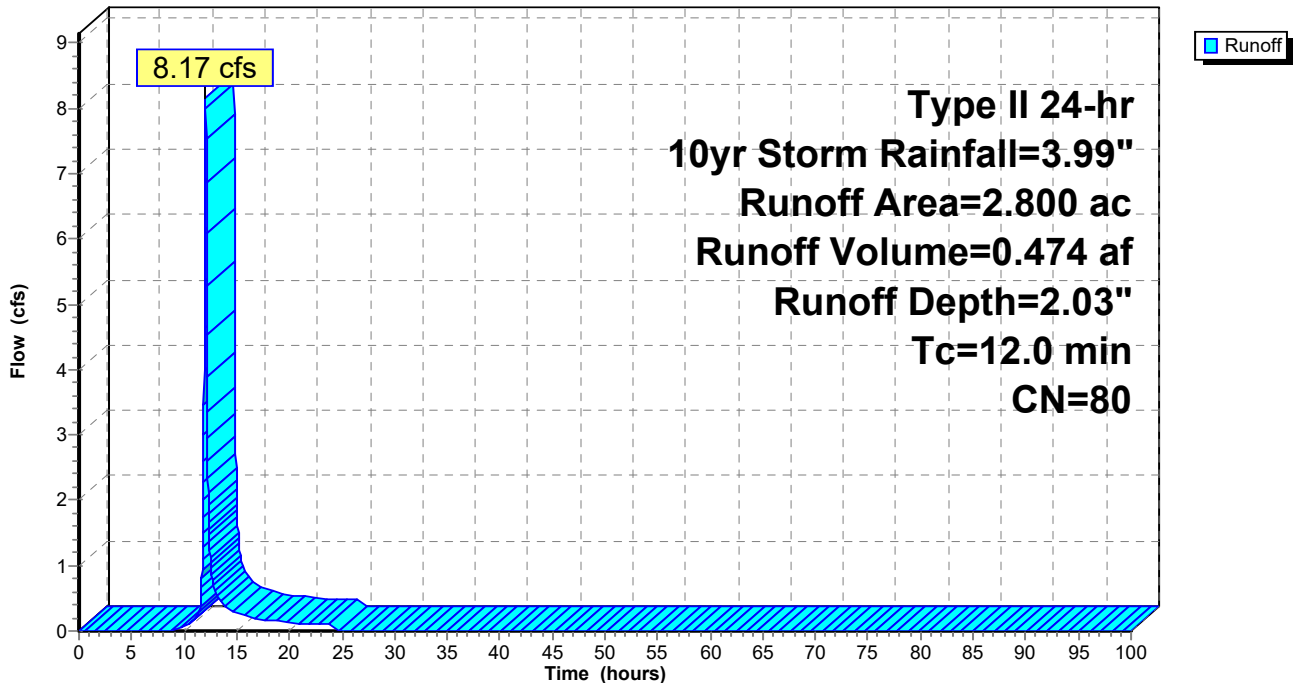
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-100.00 hrs, dt= 0.02 hrs  
 Type II 24-hr 10yr Storm Rainfall=3.99"

Area (ac)	CN	Description
* 2.800	80	10-Year Pre Development
2.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0					Direct Entry, Watershed Lag

### Subcatchment 1e: PreDevelopment

Hydrograph



### Summary for Subcatchment 1P: PostDevelopment

Runoff = 11.72 cfs @ 12.00 hrs, Volume= 0.613 af, Depth= 2.63"

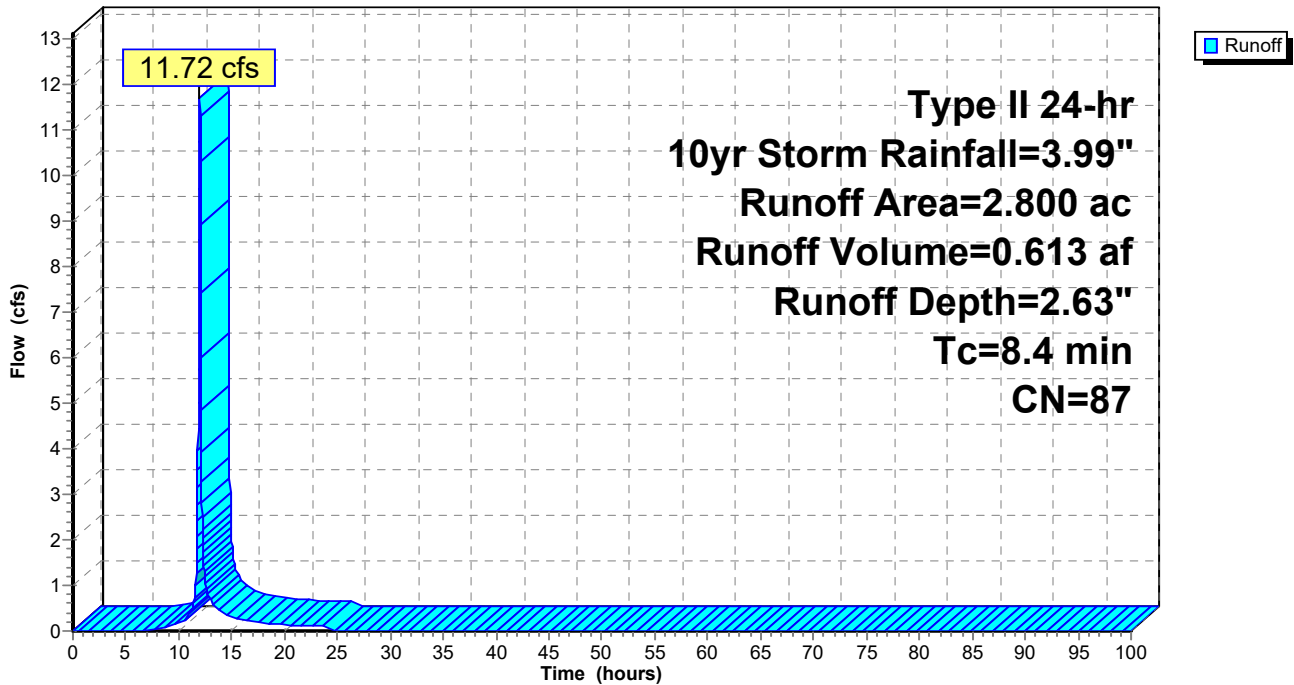
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-100.00 hrs, dt= 0.02 hrs  
 Type II 24-hr 10yr Storm Rainfall=3.99"

Area (ac)	CN	Description
* 2.800	87	10-Year Post Development
2.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					Direct Entry, Watershed Lag

### Subcatchment 1P: PostDevelopment

Hydrograph



**Summary for Pond 3P: Wet Pond**

Inflow Area = 2.800 ac, 0.00% Impervious, Inflow Depth = 2.63" for 10yr Storm event  
 Inflow = 11.72 cfs @ 12.00 hrs, Volume= 0.613 af  
 Outflow = 6.43 cfs @ 12.10 hrs, Volume= 0.613 af, Atten= 45%, Lag= 5.9 min  
 Primary = 6.43 cfs @ 12.10 hrs, Volume= 0.613 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.02 hrs  
 Starting Elev= 99.50' Surf.Area= 2,115 sf Storage= 6,245 cf  
 Peak Elev= 101.40' @ 12.10 hrs Surf.Area= 9,258 sf Storage= 17,023 cf (10,778 cf above start)  
 Flood Elev= 102.00' Surf.Area= 11,429 sf Storage= 23,381 cf (17,135 cf above start)

Plug-Flow detention time= 655.4 min calculated for 0.469 af (77% of inflow)  
 Center-of-Mass det. time= 413.4 min ( 1,222.4 - 809.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	93.50'	25,724 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
93.50	250	0	0
95.50	760	1,010	1,010
96.00	866	407	1,417
98.00	1,358	2,224	3,641
99.50	2,115	2,605	6,245
100.00	5,236	1,838	8,083
101.00	6,430	5,833	13,916
101.50	10,000	4,108	18,024
102.20	12,000	7,700	25,724

Device	Routing	Invert	Outlet Devices
#1	Primary	99.50'	<b>2.0" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	101.00'	<b>10.0' long x 6.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

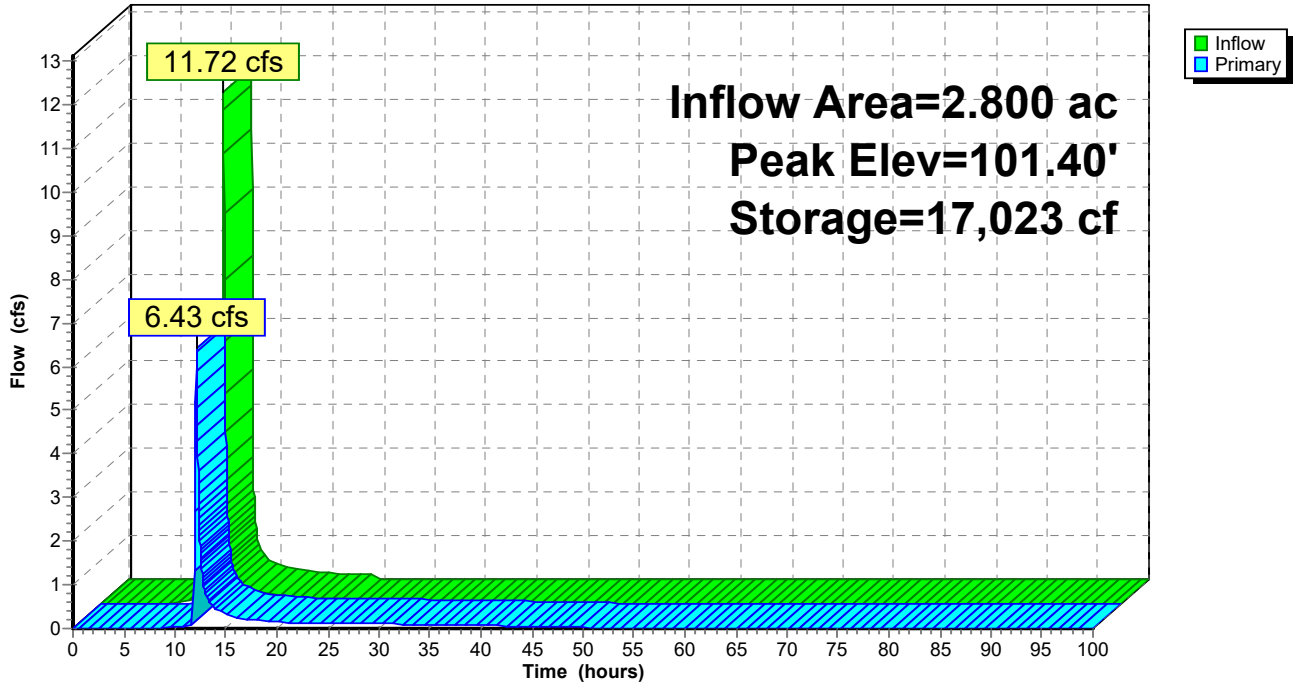
**Primary OutFlow** Max=6.37 cfs @ 12.10 hrs HW=101.40' (Free Discharge)

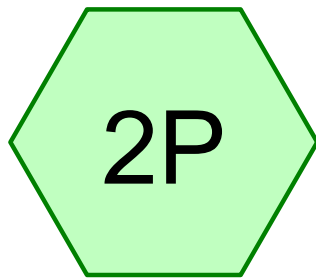
- 1=Orifice/Grate (Orifice Controls 0.14 cfs @ 6.48 fps)
- 2=Broad-Crested Rectangular Weir (Weir Controls 6.23 cfs @ 1.58 fps)



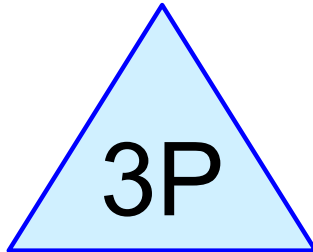
### Pond 3P: Wet Pond

Hydrograph

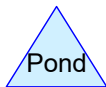
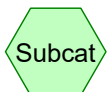




PostDevelopment



Dry Pond (5.1)



**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
2.440	77	CN adj using Section 2.2.5.3 (2P)
<b>2.440</b>	<b>77</b>	<b>TOTAL AREA</b>

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.440	Other	2P
<b>2.440</b>		<b>TOTAL AREA</b>

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	2.440	2.440	CN adj using Section 2.2.5.3	2P
<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>2.440</b>	<b>2.440</b>	<b>TOTAL AREA</b>	

Time span=1.00-80.00 hrs, dt=0.01 hrs, 7901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 2P: PostDevelopment**

Runoff Area=2.440 ac 0.00% Impervious Runoff Depth=0.56"  
Tc=10.6 min CN=77 Runoff=1.93 cfs 0.114 af

**Pond 3P: Dry Pond (5.1)**

Peak Elev=95.94' Storage=2,980 cf Inflow=1.93 cfs 0.114 af  
Outflow=0.05 cfs 0.114 af

**Total Runoff Area = 2.440 ac Runoff Volume = 0.114 af Average Runoff Depth = 0.56"**  
**100.00% Pervious = 2.440 ac 0.00% Impervious = 0.000 ac**

### Summary for Subcatchment 2P: PostDevelopment

Runoff = 1.93 cfs @ 12.04 hrs, Volume= 0.114 af, Depth= 0.56"

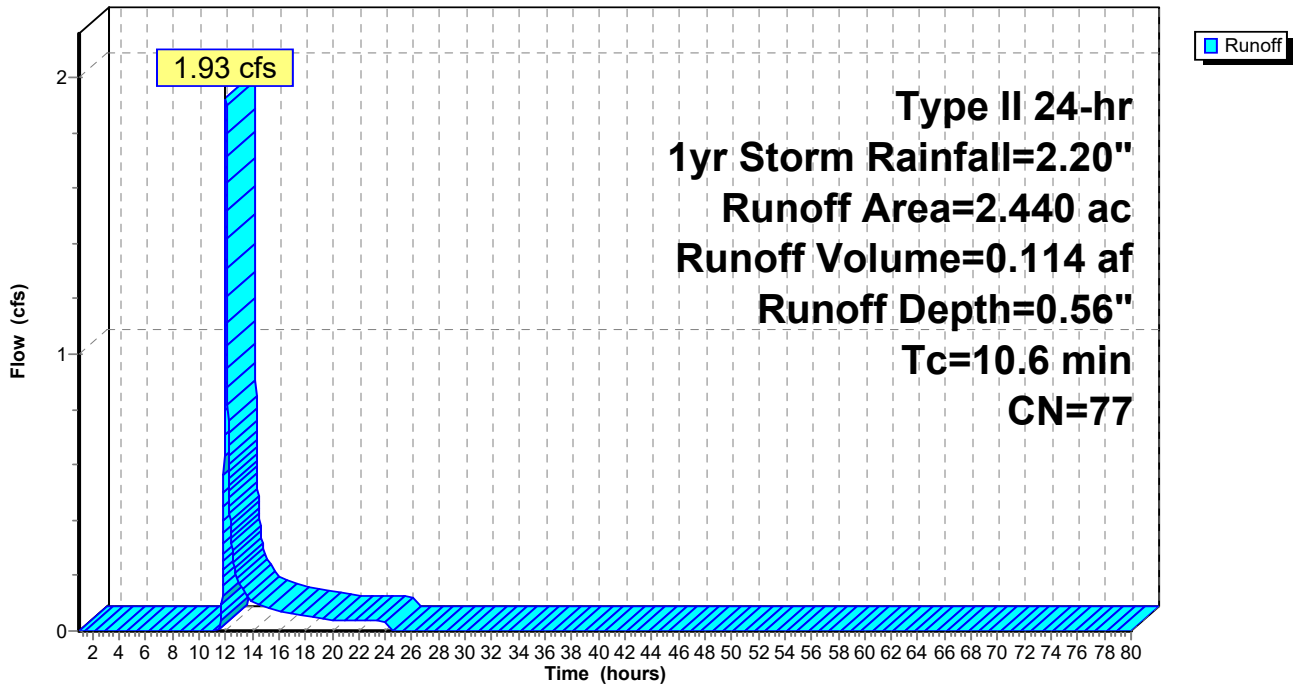
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 1.00-80.00 hrs, dt= 0.01 hrs  
Type II 24-hr 1yr Storm Rainfall=2.20"

Area (ac)	CN	Description
* 2.440	77	CN adj using Section 2.2.5.3
2.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6					Direct Entry, Watershed Lag

### Subcatchment 2P: PostDevelopment

Hydrograph



**Summary for Pond 3P: Dry Pond (5.1)**

Inflow Area = 2.440 ac, 0.00% Impervious, Inflow Depth = 0.56" for 1yr Storm event  
 Inflow = 1.93 cfs @ 12.04 hrs, Volume= 0.114 af  
 Outflow = 0.05 cfs @ 18.29 hrs, Volume= 0.114 af, Atten= 97%, Lag= 375.3 min  
 Primary = 0.05 cfs @ 18.29 hrs, Volume= 0.114 af

Routing by Stor-Ind method, Time Span= 1.00-80.00 hrs, dt= 0.01 hrs  
 Peak Elev= 95.94' @ 18.29 hrs Surf.Area= 2,108 sf Storage= 2,980 cf  
 Flood Elev= 102.00' Surf.Area= 2,867 sf Storage= 5,610 cf

Plug-Flow detention time= 729.1 min calculated for 0.114 af (100% of inflow)  
 Center-of-Mass det. time= 729.1 min ( 1,607.0 - 877.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	5,610 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	1,012	0	0
95.00	1,526	1,269	1,269
96.00	2,144	1,835	3,104
97.00	2,867	2,506	5,610

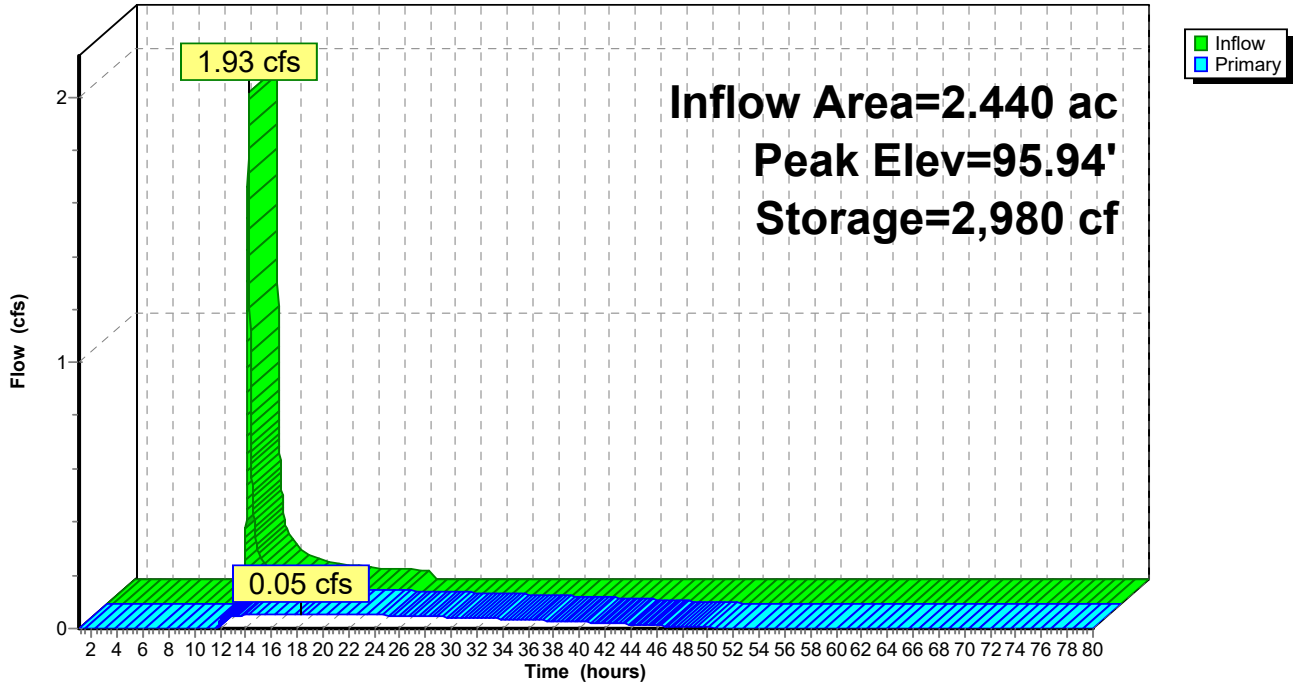
Device	Routing	Invert	Outlet Devices
#1	Primary	94.00'	<b>1.2" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	96.00'	<b>12.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.05 cfs @ 18.29 hrs HW=95.94' (Free Discharge)  
 1=Orifice/Grate (Orifice Controls 0.05 cfs @ 6.62 fps)  
 2=Orifice/Grate ( Controls 0.00 cfs)



### Pond 3P: Dry Pond (5.1)

Hydrograph

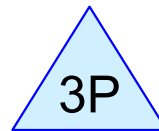




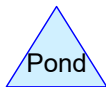
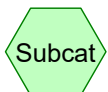
PreDevelopment



PostDevelopment



Dry Pond (5.1)



**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
2.440	77	CN adj usign Section 2.2.5.3 (2P)
1.640	70	Woods, Good, HSG C (2e)
0.800	77	Woods, Good, HSG D (2e)
<b>4.880</b>	<b>75</b>	<b>TOTAL AREA</b>

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.640	HSG C	2e
0.800	HSG D	2e
2.440	Other	2P
<b>4.880</b>		<b>TOTAL AREA</b>

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	2.440	2.440	CN adj usign Section 2.2.5.3	2P
0.000	0.000	1.640	0.800	0.000	2.440	Woods, Good	2e
<b>0.000</b>	<b>0.000</b>	<b>1.640</b>	<b>0.800</b>	<b>2.440</b>	<b>4.880</b>	<b>TOTAL AREA</b>	

Time span=1.00-90.00 hrs, dt=0.01 hrs, 8901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 2e: PreDevelopment** Runoff Area=2.440 ac 0.00% Impervious Runoff Depth=1.48"  
Tc=11.9 min CN=WQ Runoff=5.12 cfs 0.301 af

**Subcatchment 2P: PostDevelopment** Runoff Area=2.440 ac 0.00% Impervious Runoff Depth=1.80"  
Tc=10.6 min CN=77 Runoff=6.64 cfs 0.367 af

**Pond 3P: Dry Pond (5.1)** Peak Elev=96.43' Storage=4,085 cf Inflow=6.64 cfs 0.367 af  
Outflow=5.81 cfs 0.367 af

**Total Runoff Area = 4.880 ac Runoff Volume = 0.668 af Average Runoff Depth = 1.64"**  
**100.00% Pervious = 4.880 ac 0.00% Impervious = 0.000 ac**

### Summary for Subcatchment 2e: PreDevelopment

Runoff = 5.12 cfs @ 12.04 hrs, Volume= 0.301 af, Depth= 1.48"

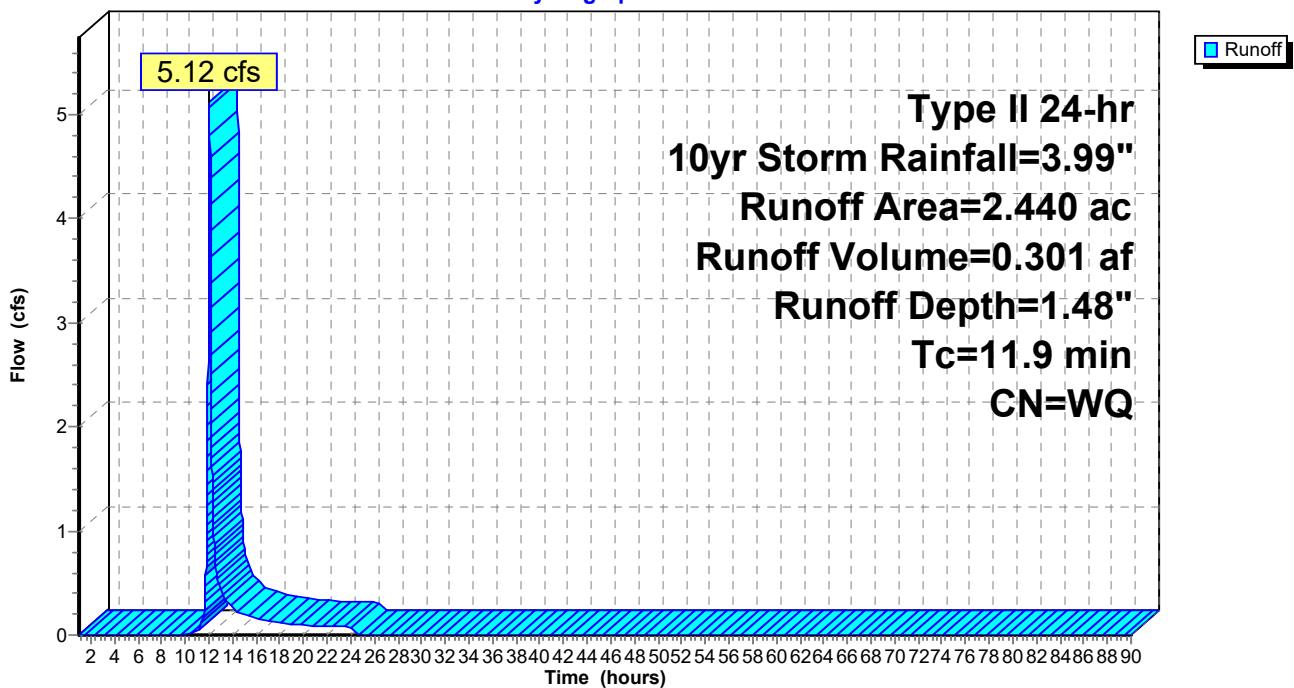
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 1.00-90.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 10yr Storm Rainfall=3.99"

Area (ac)	CN	Description
0.800	77	Woods, Good, HSG D
1.640	70	Woods, Good, HSG C
2.440		Weighted Average
2.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9					Direct Entry, Watershed Lag

### Subcatchment 2e: PreDevelopment

Hydrograph



**Summary for Subcatchment 2P: PostDevelopment**

Runoff = 6.64 cfs @ 12.03 hrs, Volume= 0.367 af, Depth= 1.80"

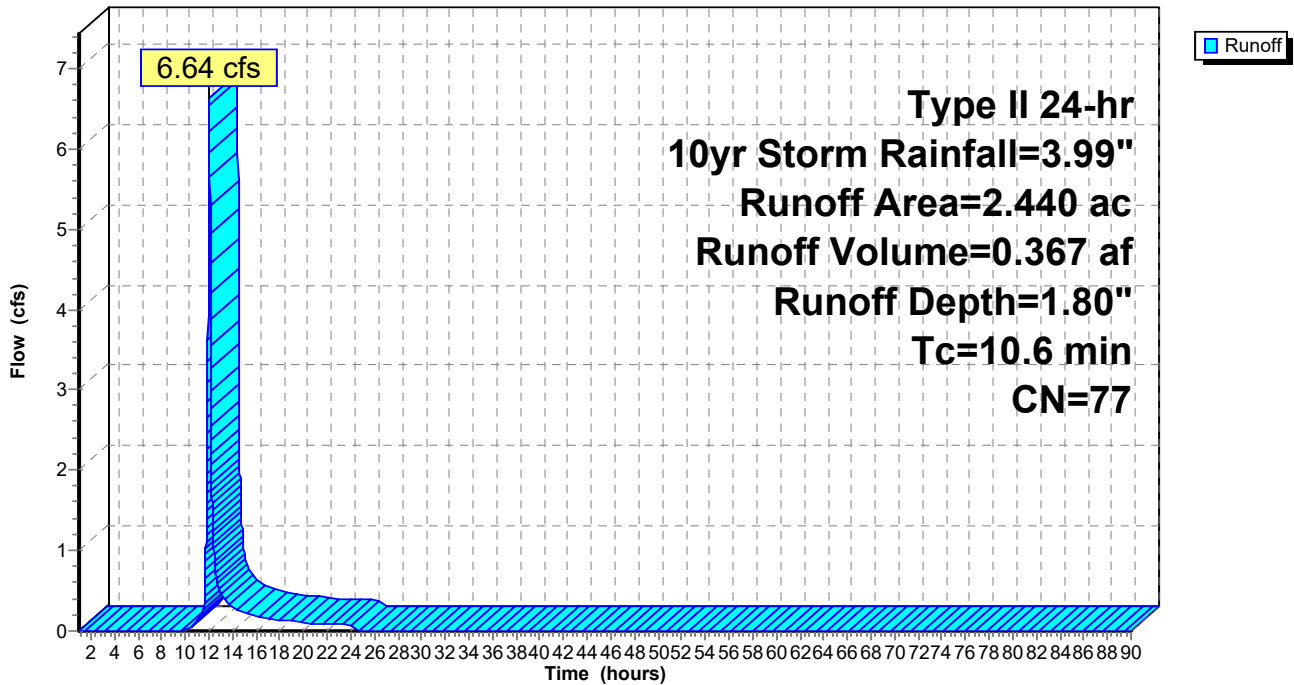
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 1.00-90.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 10yr Storm Rainfall=3.99"

Area (ac)	CN	Description
* 2.440	77	CN adj usign Section 2.2.5.3
2.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6					Direct Entry, Watershed Lag

**Subcatchment 2P: PostDevelopment**

Hydrograph





**Summary for Pond 3P: Dry Pond (5.1)**

Inflow Area = 2.440 ac, 0.00% Impervious, Inflow Depth = 1.80" for 10yr Storm event  
 Inflow = 6.64 cfs @ 12.03 hrs, Volume= 0.367 af  
 Outflow = 5.81 cfs @ 12.08 hrs, Volume= 0.367 af, Atten= 13%, Lag= 2.9 min  
 Primary = 5.81 cfs @ 12.08 hrs, Volume= 0.367 af

Routing by Stor-Ind method, Time Span= 1.00-90.00 hrs, dt= 0.01 hrs  
 Peak Elev= 96.43' @ 12.08 hrs Surf.Area= 2,453 sf Storage= 4,085 cf  
 Flood Elev= 102.00' Surf.Area= 2,867 sf Storage= 5,610 cf

Plug-Flow detention time= 269.8 min calculated for 0.367 af (100% of inflow)  
 Center-of-Mass det. time= 270.0 min ( 1,111.6 - 841.6 )

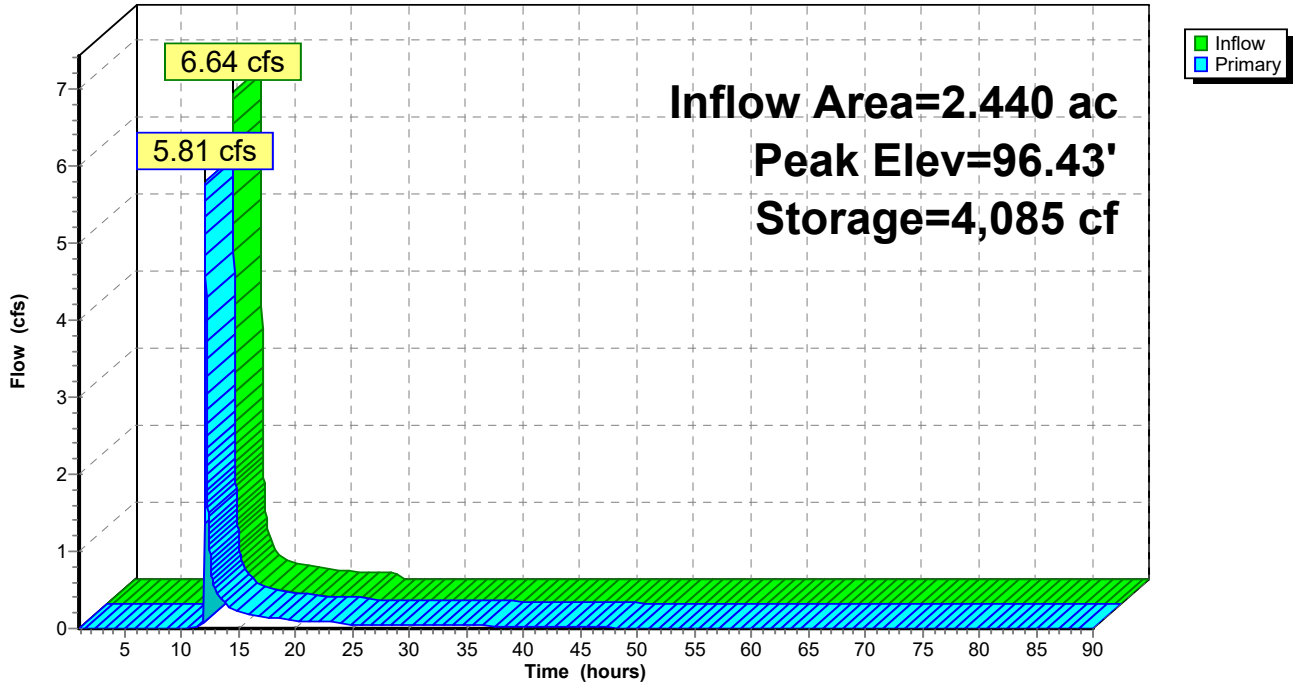
Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	5,610 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	1,012	0	0
95.00	1,526	1,269	1,269
96.00	2,144	1,835	3,104
97.00	2,867	2,506	5,610

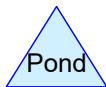
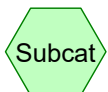
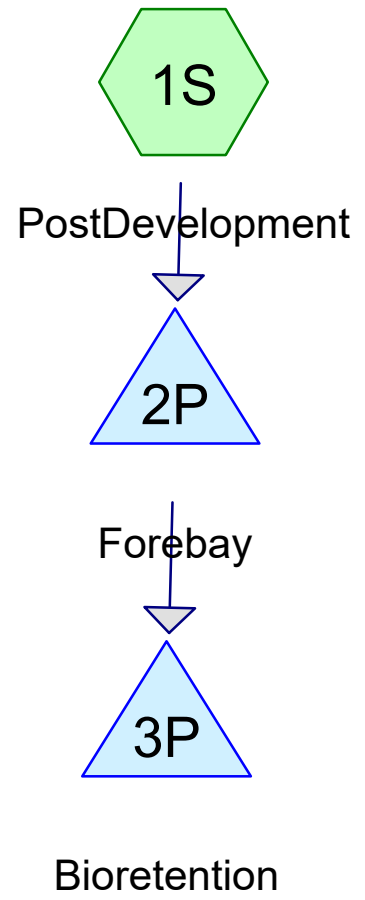
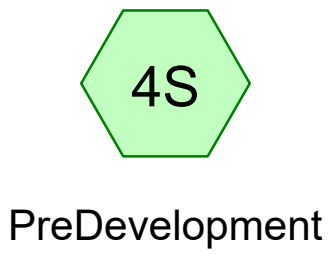
Device	Routing	Invert	Outlet Devices
#1	Primary	94.00'	<b>1.2" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	96.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=5.78 cfs @ 12.08 hrs HW=96.43' (Free Discharge)  
 1=Orifice/Grate (Orifice Controls 0.06 cfs @ 7.42 fps)  
 2=Orifice/Grate (Weir Controls 5.72 cfs @ 2.14 fps)

### Pond 3P: Dry Pond (5.1)

Hydrograph





**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
6.440	80	(4S)
6.440	87	CNadj per 2.2.5.3 (1S)
<b>12.880</b>	<b>84</b>	<b>TOTAL AREA</b>

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
12.880	Other	1S, 4S
<b>12.880</b>		<b>TOTAL AREA</b>

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	6.440	6.440		4S
0.000	0.000	0.000	0.000	6.440	6.440	CNadj per 2.2.5.3	1S
<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>12.880</b>	<b>12.880</b>	<b>TOTAL AREA</b>	

**Pipe Listing (all nodes)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	3P	94.00	93.50	50.0	0.0100	0.013	12.0	0.0	0.0

Time span=5.00-60.00 hrs, dt=0.05 hrs, 1101 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: PostDevelopment** Runoff Area=6.440 ac 0.00% Impervious Runoff Depth=1.06"  
Tc=16.1 min CN=87 Runoff=8.49 cfs 0.571 af

**Subcatchment 4S: PreDevelopment** Runoff Area=6.440 ac 0.00% Impervious Runoff Depth=0.69"  
Tc=18.3 min CN=80 Runoff=4.87 cfs 0.369 af

**Pond 2P: Forebay** Peak Elev=97.57' Storage=3,552 cf Inflow=8.49 cfs 0.571 af  
Outflow=8.44 cfs 0.568 af

**Pond 3P: Bioretention** Peak Elev=94.96' Storage=9,774 cf Inflow=8.44 cfs 0.568 af  
Discarded=0.20 cfs 0.302 af Primary=2.29 cfs 0.266 af Outflow=2.49 cfs 0.568 af

**Total Runoff Area = 12.880 ac Runoff Volume = 0.941 af Average Runoff Depth = 0.88"**  
**100.00% Pervious = 12.880 ac 0.00% Impervious = 0.000 ac**



### Summary for Subcatchment 1S: PostDevelopment

Runoff = 8.49 cfs @ 12.09 hrs, Volume= 0.571 af, Depth= 1.06"

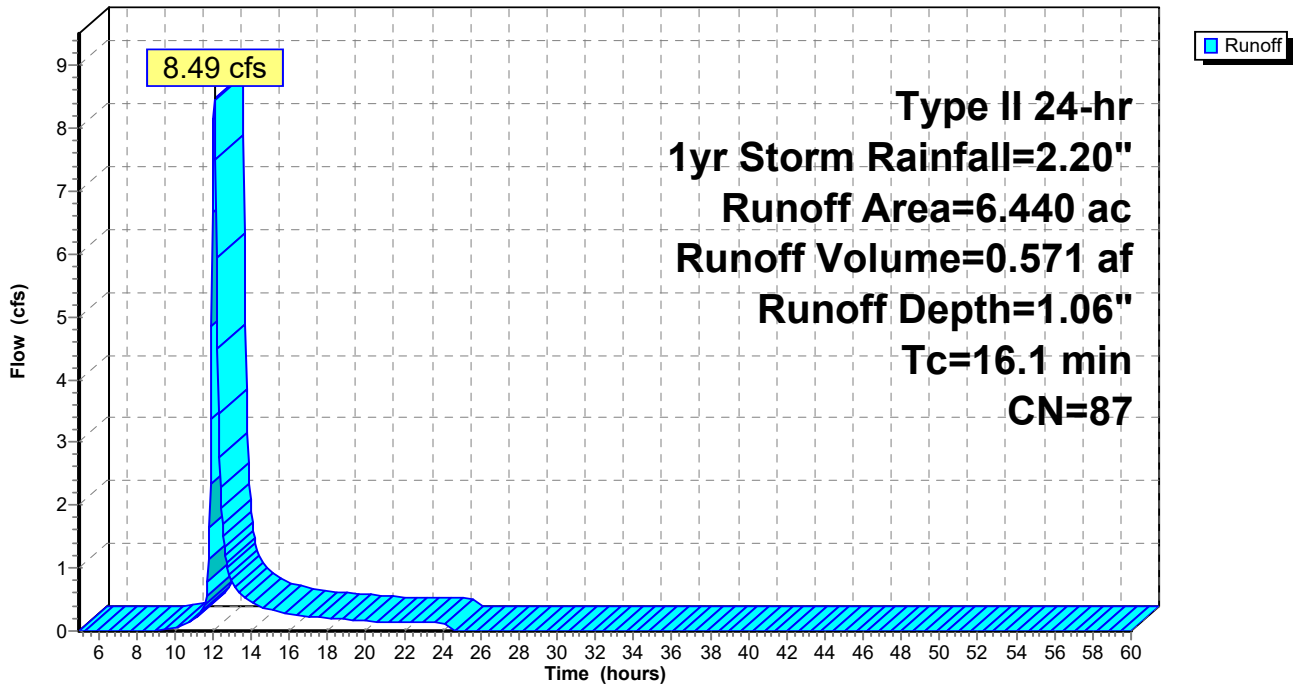
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1yr Storm Rainfall=2.20"

Area (ac)	CN	Description
* 6.440	87	CNadj per 2.2.5.3
6.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1					Direct Entry, watershed lag

### Subcatchment 1S: PostDevelopment

Hydrograph



### Summary for Subcatchment 4S: PreDevelopment

Runoff = 4.87 cfs @ 12.12 hrs, Volume= 0.369 af, Depth= 0.69"

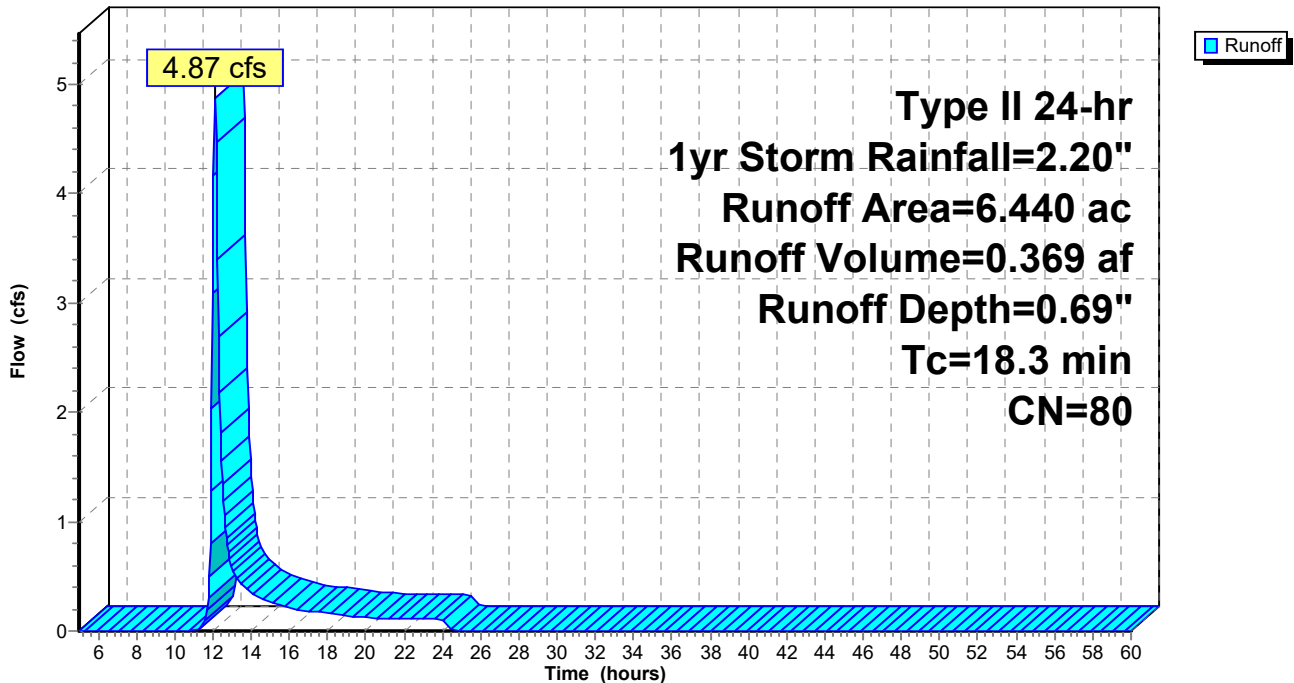
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 1yr Storm Rainfall=2.20"

Area (ac)	CN	Description
* 6.440	80	
6.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.3					Direct Entry, Watershed Lag per 2.2.4.3

### Subcatchment 4S: PreDevelopment

Hydrograph



**Summary for Pond 2P: Forebay**

Inflow Area = 6.440 ac, 0.00% Impervious, Inflow Depth = 1.06" for 1yr Storm event  
 Inflow = 8.49 cfs @ 12.09 hrs, Volume= 0.571 af  
 Outflow = 8.44 cfs @ 12.10 hrs, Volume= 0.568 af, Atten= 1%, Lag= 1.0 min  
 Primary = 8.44 cfs @ 12.10 hrs, Volume= 0.568 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs  
 Starting Elev= 97.00' Surf.Area= 1,455 sf Storage= 2,638 cf  
 Peak Elev= 97.57' @ 12.10 hrs Surf.Area= 1,726 sf Storage= 3,552 cf (915 cf above start)

Plug-Flow detention time= 78.3 min calculated for 0.507 af (89% of inflow)  
 Center-of-Mass det. time= 4.7 min ( 846.6 - 841.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	94.00'	4,329 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

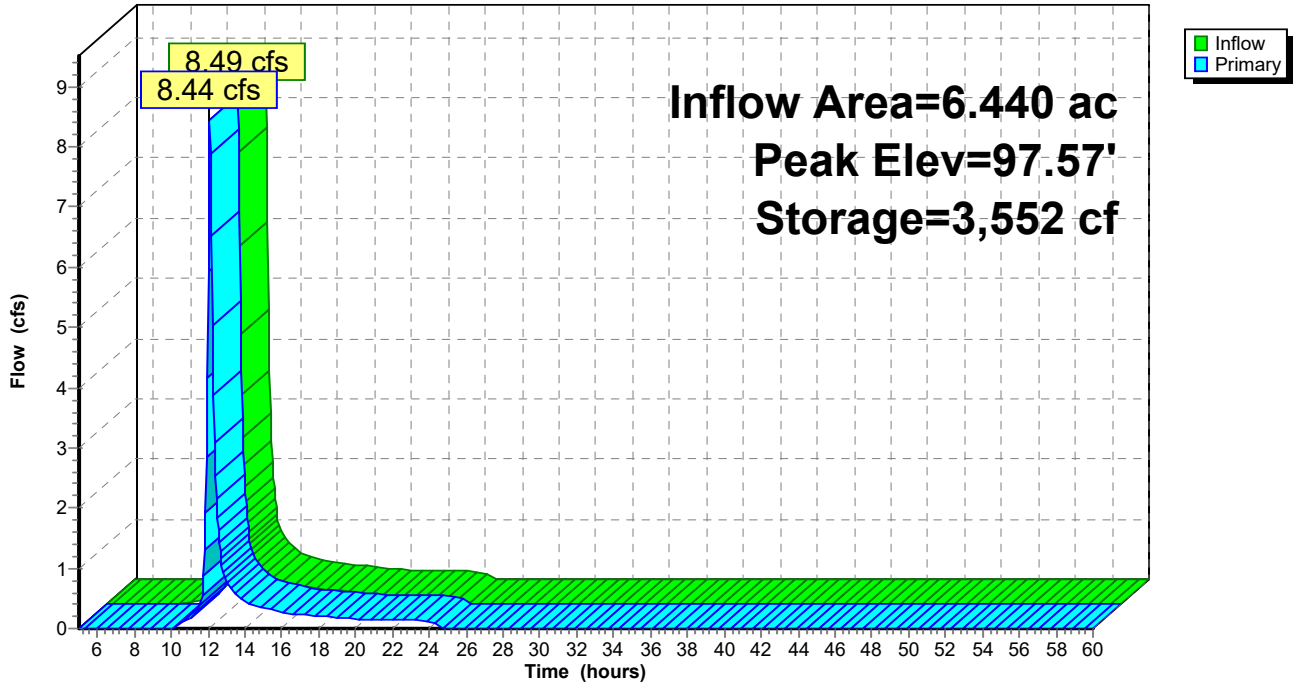
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.00	380	0	0
95.00	680	530	530
96.00	1,040	860	1,390
97.00	1,455	1,248	2,638
98.00	1,927	1,691	4,329

Device	Routing	Invert	Outlet Devices
#1	Primary	97.10'	<b>10.0' long x 5.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

**Primary OutFlow** Max=8.38 cfs @ 12.10 hrs HW=97.57' (Free Discharge)  
 ↑1=**Broad-Crested Rectangular Weir** (Weir Controls 8.38 cfs @ 1.77 fps)

### Pond 2P: Forebay

#### Hydrograph



**Summary for Pond 3P: Bioretention**

Inflow Area = 6.440 ac, 0.00% Impervious, Inflow Depth = 1.06" for 1yr Storm event  
 Inflow = 8.44 cfs @ 12.10 hrs, Volume= 0.568 af  
 Outflow = 2.49 cfs @ 12.41 hrs, Volume= 0.568 af, Atten= 70%, Lag= 18.4 min  
 Discarded = 0.20 cfs @ 12.41 hrs, Volume= 0.302 af  
 Primary = 2.29 cfs @ 12.41 hrs, Volume= 0.266 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs  
 Peak Elev= 94.96' @ 12.41 hrs Surf.Area= 4,750 sf Storage= 9,774 cf  
 Flood Elev= 96.00' Surf.Area= 5,690 sf Storage= 15,182 cf

Plug-Flow detention time= 276.0 min calculated for 0.567 af (100% of inflow)  
 Center-of-Mass det. time= 276.7 min ( 1,123.3 - 846.6 )

Volume	Invert	Avail.Storage	Storage Description			
#1	91.00'	21,516 cf	<b>Custom Stage Data (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
91.00	3,140	255.0	0.0	0	0	3,140
93.00	3,140	255.0	33.0	2,072	2,072	3,650
94.00	3,933	274.0	100.0	3,529	5,601	4,492
95.00	4,783	293.0	100.0	4,351	9,953	5,395
96.00	5,690	311.0	100.0	5,230	15,182	6,312
97.00	7,000	327.0	100.0	6,334	21,516	7,184

Device	Routing	Invert	Outlet Devices
#1	Discarded	91.00'	<b>0.500 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 90.00'
#2	Primary	95.50'	<b>10.0' long x 5.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Primary	94.00'	<b>12.0" Round Culvert</b> L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 94.00' / 93.50' S= 0.0100 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Discarded OutFlow** Max=0.20 cfs @ 12.41 hrs HW=94.96' (Free Discharge)  
 1=Exfiltration ( Controls 0.20 cfs)

**Primary OutFlow** Max=2.28 cfs @ 12.41 hrs HW=94.96' (Free Discharge)  
 2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)  
 3=Culvert (Inlet Controls 2.28 cfs @ 2.95 fps)

### Pond 3P: Bioretention

Hydrograph

