Memorandum

Date: May 10, 2024
To: City of Minnetonka Engineering Department
Copy to: File
From: Doug Foster, PE
RE: Minnetonka Les Schwab Tire Center

Remarks

To Whom it May Concern,

This Memorandum is intended to provide the site stormwater information for the proposed Minnetonka Les Schwab Tire Center located east of Highway 101 and south of Highway 7. The project will consist of a tire center store, underground utilities, parking lot, and landscaping.

The site is currently a paved asphalt parking lot and maintained landscaped area. Most stormwater runoff from the parking lot flows to an inlet and then is discharged to the nearby stream. Some stormwater flows easternly towards the natural area and to the creek. The proposed onsite Post Les Schwab Conditions will have an impervious area of 81.72% while the current impervious is 83.24%, referred to as Pre-Development Conditions.

Below is a summary of the Post Les Schwab Conditions drainage basins including areas to the south of the development that are included in the stormwater collection system. The Les Schwab site (disturbed area) is located in parts of P9 an P10.

POST LES SCHWAB CONDITIONS BASIN AREA SUMMARY

Sub-basin	Area (Acres)	% Impervious	Curve Number
P1	1.01	85.0	95
P2	0.92	98.7	98
P3	0.09	100.0	98
P4	0.54	100.0	98
P5	0.85	100.0	98
P6	0.81	100.0	98
P7	1.84	94.7	97
P8	2.20	100.0	98
P9	1.72	81.7	95
P10	2.11	28.7	85
TOTAL	12.09	82.86	94.8

The onsite stormwater collection system will split Sub-basin P9 flow. Approximately a third of the area will drain to a catch basin, while two-thirds flow into one of two catch basins. Both catch basins on-site are upstream from the Jellyfish filtration water quality equipment, before being discharged into the creek. Peak flow rates are lower than pre-development conditions for the 2-, 10-, and 100- year storm events due to the reduction of impervious area.

The table below summarizes the change in peak flows from the Pre-Developed Conditions to Post Les Schwab Conditions leaving the property.

ONSITE RUNOFF RATE SUMMARY – 24 HOUR EVENTS

Event	Runoff (cfs)	
	Pre-Developed Conditions*	Post Les Schwab Conditions
2-Year	15.69	15.42
10-Year	24.42	24.09
100-Year	43.53	43.04

* Maximum discharge allowed.

Riley Purgatory Bluff Creek Watershed District requires 75% TP and 90% TSS removal. A total of 1.34 acres will be disturbed but 1.71 acres of impervious area flows into the water quality improvement system. The water quality improvement system includes a vegetated swale and a Jellyfish. The system provides 83% TP and 90% TSS removal. Please see the MIDS calculations.

Abstraction

Riley Purgatory Bluff Creek Watershed requires abstraction of 1.1" of rainfall over impervious surface. Borings were conducted on 2/10/23 and show that the underlaying soils are clay and that the water table is five (5) feet below the ground surface, per Geotechnical Evaluation Report performed by Braun Intertec, dated April 6, 2023. The soils place this site in restricted category with the goal of abstraction of 0.55 inches over disturbed and new impervious surfaces.

Abstraction target: 43,206 sf of disturbed impervious surface * (0.55 in / 12 inch) = 1,980 cf

Clay soils on-site have an infiltration rate of 0.06 in/hr. Due to the relatively high groundwater and the lack of available ground, full attainment of 1,980 cf is not possible. However, a stormwater pond that drains within 48 hrs is shown on the grading plan with an approximately area of 1,500 sf that will retain 2.75" of runoff for abstraction of 344 cf.

Even though the full abstraction amount is not achieved, the project reduces the total imperious surface by 1,947 sf. Volume reduced from converting to vegetation is 1,947 sf impervious converted * 1.1 inches / 12 inches = 179 cf. A total of 523 cf of abstraction.

Rate and Water Quality

As indicated in the tables above, the site will discharge at lower peak runoff rates than the Pre-Development Conditions discharge rates for the 2-yr, 10-yr, and 100-yr and meet TSS and TP removal, thus the site is in compliance with City and watershed requirements.

Attached is Pre-Development Drainage (Exhibit 1), Post Developed Drainages (Exhibit 2), Utility Layout (C400), Grading Layout (C500), HydroCAD analysis for Pre-Development Conditions and Post Les Schwab Conditions, MIDS Calculations, and Jellyfish Specs.

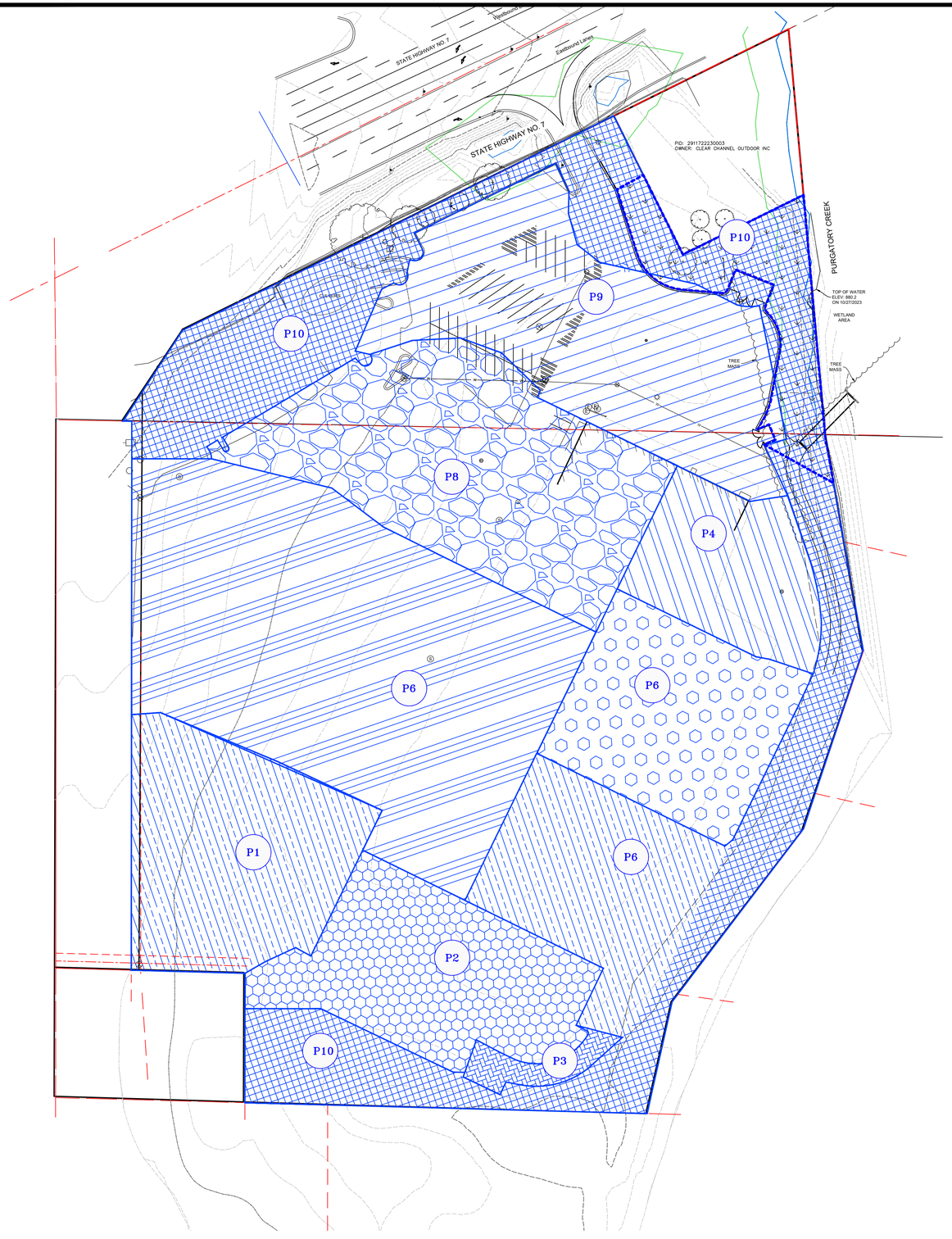
If there are any questions, please feel free to contact me at 651-726-5052.

Sincerely,
KLJ

Doug Foster

Dough Foster, PE
Project Engineer

Enclosure (s): Pre-Development Drainage (Exhibit 1), Post Developed Drainages (Exhibit 2), Utility Layout (C400), Grading Layout (C500), HydroCAD analysis for Pre-Development Conditions and Post Les Schwab Conditions, MIDS Calculations, and Jellyfish Specs.



LEGEND

- EXISITING SUB-BASIN BOUNDARY
- 1780 EXISTING MAJOR CONTOUR
- 1778 EXISTING MINOR CONTOUR
- E1 MASTER PLANNED BASIN LABEL
- UNDISTURBED AREA

BASIN	AREA (ACRES)	% IMPERVIOUS
E1	1.01	85.0
E2	0.92	98.7
E3	0.09	100
E4	0.54	100
E5	0.85	100
E6	0.81	100
E7	1.84	94.7
E8	2.20	100
E9	1.43	100
E10	2.4	27.2
TOTAL DISTURBED AREA	12.09	83.4

N

60 0 60 120
SCALE FEET

KLJ

REVISION | DATE | NO.

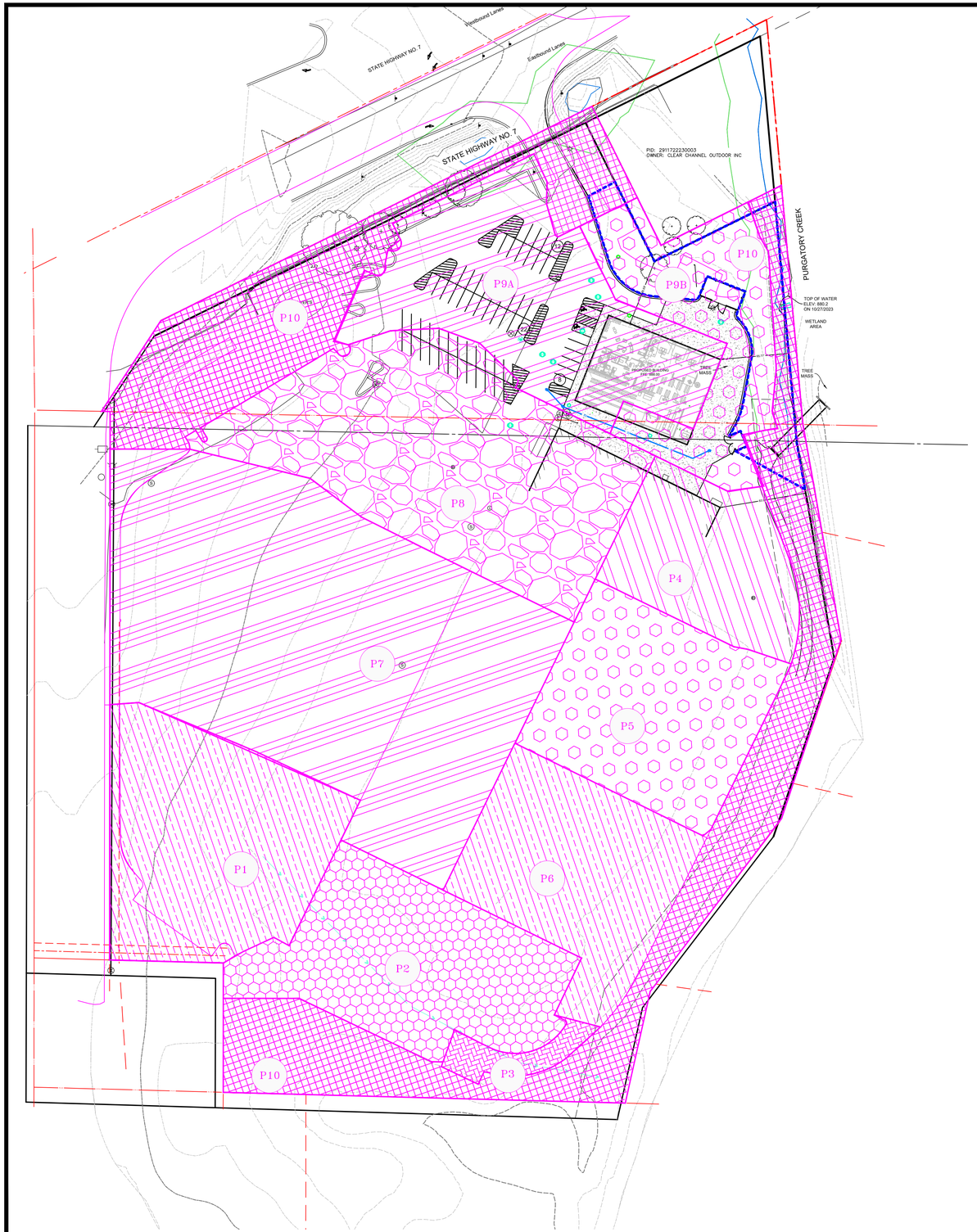
DRAFTED: DEF
REVIEWED: MRR
PROJECT NUMBER: 2314-00145.2
ISSUE DATE: 02/2024

LES SCHWAB
LES SCHWAB TIRE CENTER
MINNETONKA, MINNESOTA

Pre Development Drainage

SHEET
EXHIBIT1

PRELIMINARY - NOT FOR CONSTRUCTION



LEGEND

- PROPOSED SUB-BASIN BOUNDARY
- 1780 — EXISTING MAJOR CONTOUR
- 1778 — EXISTING MINOR CONTOUR
- ST MH CB — PROPOSED STORM SEWER MANHOLE / CATCH BASIN
- P1 — MASTER PLANNED BASIN LABEL

BASIN	AREA (ACRES)	% IMPERVIOUS
P1	1.01	85.0
P2	0.92	98.7
P3	0.09	100
P4	0.54	100
P5	0.85	100
P6	0.81	100
P7	1.84	94.7
P8	2.20	100
P9	1.72	81.7
P10	2.11	28.7
TOTAL DISTURBED AREA	12.09	82.8

N

1 0 1 2
SCALE FEET

KLJ

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LES SCHWAB
LES SCHWAB TIRE CENTER
MINNETONKA, MINNESOTA

Post Lest Schwab Development

SHEET
EXHIBIT2

PRELIMINARY - NOT FOR CONSTRUCTION

STATE HIGHWAY NO. 7

PURGATORY CREEK
100 YEAR FLOOD ELEVATION 885.6'

TOP OF WATER
ELEV: 880.2
ON 10/27/2023

WETLAND
AREA

WYE
6" INV IN 882.15 (E)
(CONTRACTOR TO FIELD VERIFY)

68 LF 6" PVC @ 0.52%

S CO-3
RIM 883.74
6" INV IN 882.50 (E)
6" INV OUT 882.50 (W)

CB-1
RIM 886.00
12" INV OUT 882.46 (W)

57 LF 6" PVC @ 0.52%

WYE
6" INV OUT 882.80 (W)

ST-2
RIM 888.01
12" INV IN 882.19 (E)
12" INV IN 882.19 (S)
12" INV OUT 882.19 (SW)

72 LF 12" HDPE @ 0.37%

3 LF 6" PVC @ 6.55%

S CO-2
RIM 880.88
6" INV OUT 879.64 (W)

5'X6' OUTLET
STRUCTUR

ST-5
RIM 887.94
24" INV IN 881.07 (SW)
24" INV OUT 881.06 (E)

50 LF 12" PVC @ 3.14%

121 LF 24" HDPE @ 0.85%

69 LF 6" PVC @ 0.52%

89 LF 12" HDPE @ 0.37%

CB-2
RIM 885.81
12" INV IN 881.86 (NE)
12" INV OUT 881.86 (SE)

76 LF 24" HDPE @ 0.86%

S CO-1
RIM 884.73
6" INV OUT 883.50 (E)

FES1
RIM 882.38
24" INV IN 879.81 (W)

60 LF 24" HDPE @ 0.37%

ST-4
RIM 887.28
12" INV IN 881.72 (NW)
20" INV IN 881.72 (SW)
24" INV OUT 881.72 (NE)

25 LF 12" HDPE @ 0.37%

66 LF 6" PVC @ 0.52%

ST-6
RIM 887.51
24" INV IN 880.03 (W)
24" INV OUT 880.03 (E)

ST-3
RIM 886.94
12" INV IN 881.77 (NW)
12" INV OUT 881.77 (SE)

72 LF 12" PCV @ 0.52%

PROPOSED BUILDING
FFE: 888.00

WYE
6" INV IN 883.16 (W)
6" INV OUT 883.16 (N)

13 LF 12" HDPE @ 0.37%

8" 45° BEND

BM 1

WYE
12" INV OUT 884.19 (W)

WYE
12" INV OUT 884.31 (W)

74 LF 20" HDPE @ 0.85%

WYE
12" INV OUT 884.06 (N)

WYE
12" INV OUT 884.48 (W)

1 LF 12" PVC @ 1.04%

ST-1
RIM 2524.58
20" INV OUT 882.35 (NE)

8" 45° BEND

ST CO-1
RIM 885.73
12" INV OUT 884.50 (W)

ST CO-2
RIM 885.31
12" INV OUT 884.08 (N)

24 LF 12" PVC @ 0.52%

8" 45° BEND

8" PVC C900

23 LF 12" PVC @ 0.52%

3 LF 12" PVC @ 0.52%

34 LF 12" PVC @ 0.52%

8" 45° BEND

2" WATERLINE

FINISHED FLOOR
ELEVATION AT
DOOR SILL - 888.60'

NORTHERN TOOL & EQUIPMENT
(EXISTING BUILDING)

FINISHED FLOOR
ELEVATION AT
DOOR SILL - 888.63'

R MANHOLE

WATER, SANITARY, & STORM SEWER:

1. ALL WORK WITHIN THE CITY ROW SHALL FOLLOW THE CITY OF HUITCHINSON STANDARD SPECIFICATIONS.
2. ALL PIPE DIMENSIONS ARE LISTED TO CENTER OF STRUCTURE.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PIPE MATERIALS, SIZES, AND LOCATIONS AT ALL LOCATIONS.
4. SITE UTILITY CONTRACTOR SHALL COORDINATE WITH BUILDING MECHANICAL CONTRACTOR FOR UTILITY CONNECTIONS, LOCATIONS, AND ELEVATIONS.
5. TRACER WIRE SHALL BE INSTALLED ON SANITARY SEWER SERVICES & WATER SERVICES.
6. SEE SHEETS C700-C701 FOR UTILITY DETAILS.

N

20 0 20 40
SCALE FEET

KLJ

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LES SCHWAB
LES SCHWAB TIRE CENTER
MINNETONKA, MINNESOTA

UTILITY LAYOUT

SHEET
C400

PRELIMINARY - NOT FOR CONSTRUCTION

STATE HIGHWAY NO. 7

PURGATORY CREEK
100 YEAR FLOOD ELEVATION 885.6'

WETLAND AREA

PROPOSED BUILDING
FFE: 888.00

WATER DETENTION AREA

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE SITE FROM EROSION ONTO ADJACENT STREETS / PROPERTIES AND INTO THE STORM SEWER SYSTEM.
2. EXISTING CONTOURS ARE SHOWN AT EXISTING GRADE.
3. PROPOSED CONTOURS ARE SHOWN AT FINISH GRADE.
4. CONTRACTOR SHALL REVIEW AND FOLLOW ALL REQUIREMENTS OF THE GEOTECHNICAL REPORT.
5. SUBGRADE SHALL BE COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.

ABBREVIATIONS:
FFE= FIRST FLOOR ELEVATION
FG = FINISHED GRADE
FL = FLOWLINE
GB = GRADE BREAK
ME = MATCH EXISTING
TBC= TOP BACK OF CURB
TC = TOP OF CONCRETE

LEGEND:

--------GB-------- GRADE BREAK

N

20 0 20 40
SCALE FEET

KLJ

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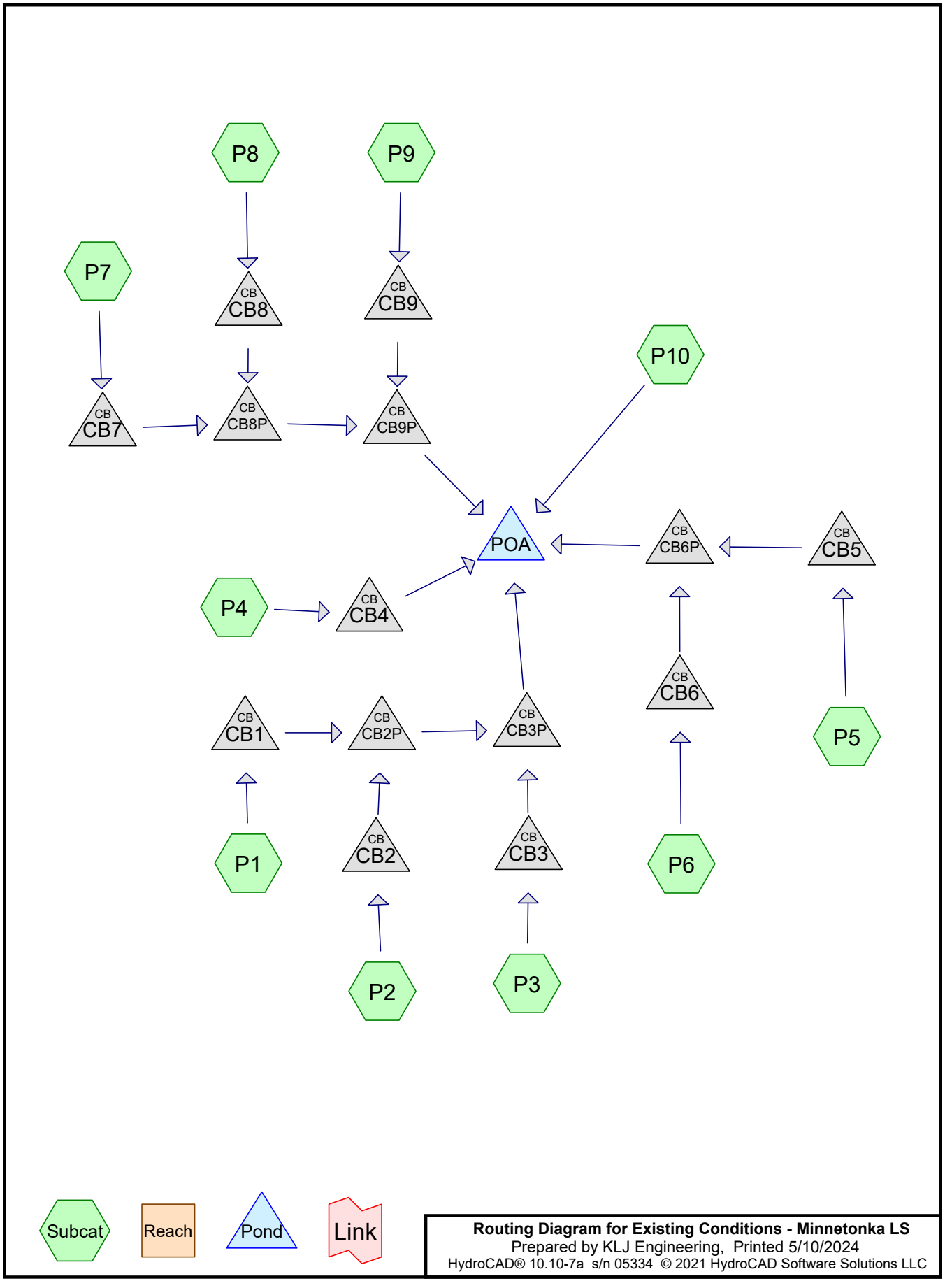
LES SCHWAB
LES SCHWAB TIRE CENTER
MINNETONKA, MINNESOTA
GRADING LAYOUT

SHEET
C500

PRELIMINARY - NOT FOR CONSTRUCTION



Routing Diagram for Existing Conditions - Minnetonka LS
Prepared by KLJ Engineering, Printed 5/10/2024

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	MSE 24-hr	3	Default	24.00	1	2.86	2
2	10-Year	MSE 24-hr	3	Default	24.00	1	4.26	2
3	100-Year	MSE 24-hr	3	Default	24.00	1	7.32	2

Time span=0.00-100.00 hrs, dt=1.00 hrs, 101 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP1: Runoff Area=44,079 sf 85.04% Impervious Runoff Depth=2.31"
Tc=0.0 min CN=95 Runoff=1.33 cfs 0.195 af

SubcatchmentP10: Runoff Area=104,558 sf 27.21% Impervious Runoff Depth=1.47"
Tc=0.0 min CN=85 Runoff=2.06 cfs 0.294 af

SubcatchmentP2: Runoff Area=40,059 sf 98.70% Impervious Runoff Depth=2.63"
Tc=0.0 min CN=98 Runoff=1.31 cfs 0.201 af

SubcatchmentP3: Runoff Area=3,951 sf 100.00% Impervious Runoff Depth=2.63"
Tc=5.0 min CN=98 Runoff=0.13 cfs 0.020 af

SubcatchmentP4: Runoff Area=23,824 sf 100.00% Impervious Runoff Depth=2.63"
Tc=0.0 min CN=98 Runoff=0.78 cfs 0.120 af

SubcatchmentP5: Runoff Area=36,989 sf 100.00% Impervious Runoff Depth=2.63"
Tc=0.0 min CN=98 Runoff=1.21 cfs 0.186 af

SubcatchmentP6: Runoff Area=35,429 sf 100.00% Impervious Runoff Depth=2.63"
Tc=0.0 min CN=98 Runoff=1.16 cfs 0.178 af

SubcatchmentP7: Runoff Area=80,125 sf 94.66% Impervious Runoff Depth=2.52"
Tc=0.0 min CN=97 Runoff=2.56 cfs 0.386 af

SubcatchmentP8: Runoff Area=95,776 sf 100.00% Impervious Runoff Depth=2.63"
Tc=0.0 min CN=98 Runoff=3.13 cfs 0.482 af

SubcatchmentP9: Runoff Area=62,224 sf 100.00% Impervious Runoff Depth=2.63"
Tc=0.0 min CN=98 Runoff=2.03 cfs 0.313 af

Pond CB1: Peak Elev=888.82' Inflow=1.33 cfs 0.195 af
Outflow=1.33 cfs 0.195 af

Pond CB2: Peak Elev=887.81' Inflow=1.31 cfs 0.201 af
Outflow=1.31 cfs 0.201 af

Pond CB2P: Peak Elev=885.52' Inflow=2.64 cfs 0.396 af
18.0" Round Culvert n=0.013 L=109.0' S=0.0024 '/' Outflow=2.64 cfs 0.396 af

Pond CB3: Peak Elev=887.24' Inflow=0.13 cfs 0.020 af
Outflow=0.13 cfs 0.020 af

Pond CB3P: Peak Elev=885.26' Inflow=2.77 cfs 0.416 af
18.0" Round Culvert n=0.013 L=101.0' S=0.0027 '/' Outflow=2.77 cfs 0.416 af

Pond CB4: Peak Elev=887.37' Inflow=0.78 cfs 0.120 af
Outflow=0.78 cfs 0.120 af

Pond CB5: Peak Elev=887.31' Inflow=1.21 cfs 0.186 af
Outflow=1.21 cfs 0.186 af

Pond CB6: Peak Elev=887.76' Inflow=1.16 cfs 0.178 af
Outflow=1.16 cfs 0.178 af

Pond CB6P: Peak Elev=884.98' Inflow=2.37 cfs 0.364 af
18.0" Round Culvert n=0.013 L=26.0' S=0.0038 '/' Outflow=2.37 cfs 0.364 af

Pond CB7: Peak Elev=889.20' Inflow=2.56 cfs 0.386 af
Outflow=2.56 cfs 0.386 af

Pond CB8: Peak Elev=888.37' Inflow=3.13 cfs 0.482 af
Outflow=3.13 cfs 0.482 af

Pond CB8P: Peak Elev=884.69' Inflow=5.69 cfs 0.868 af
21.0" Round Culvert n=0.013 L=197.9' S=0.0071 '/' Outflow=5.69 cfs 0.868 af

Pond CB9: Peak Elev=888.04' Inflow=2.03 cfs 0.313 af
Outflow=2.03 cfs 0.313 af

Pond CB9P: Peak Elev=883.44' Inflow=7.73 cfs 1.181 af
24.0" Round Culvert n=0.013 L=160.7' S=0.0072 '/' Outflow=7.73 cfs 1.181 af

Pond POA: Inflow=15.69 cfs 2.376 af
Primary=15.69 cfs 2.376 af

Total Runoff Area = 12.099 ac Runoff Volume = 2.376 af Average Runoff Depth = 2.36"
16.60% Pervious = 2.009 ac 83.40% Impervious = 10.090 ac

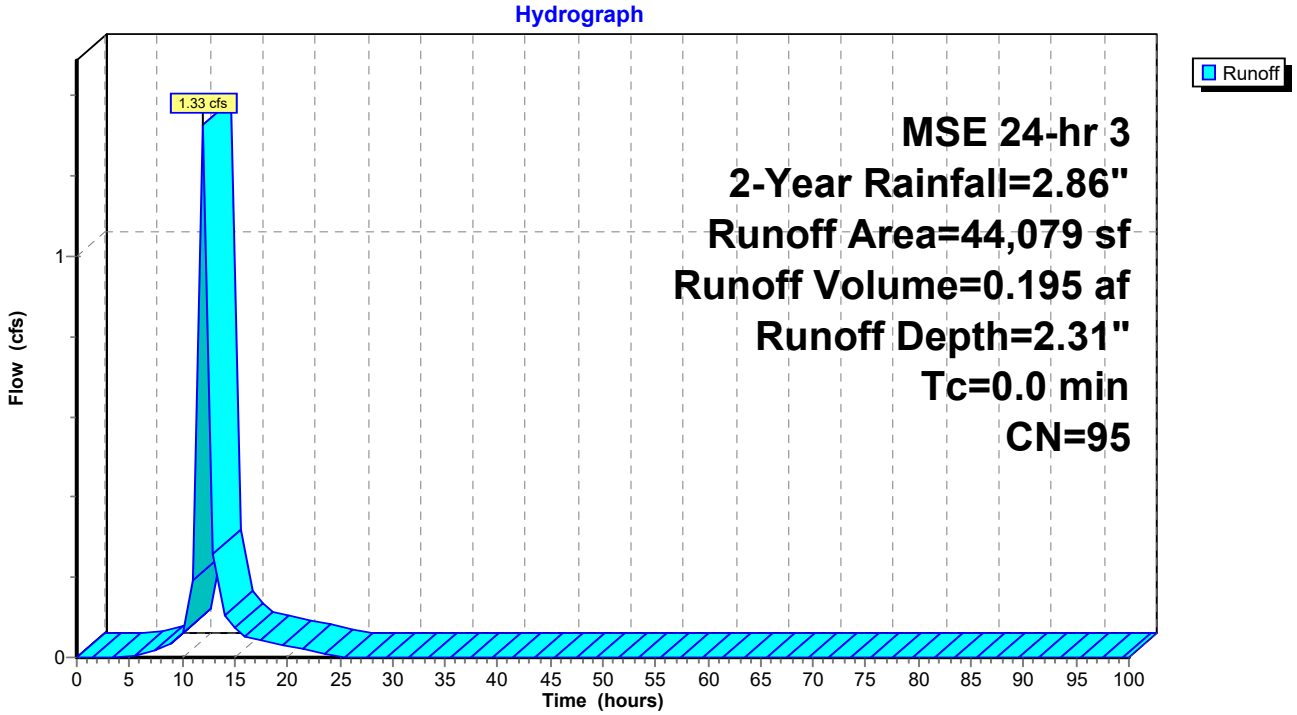
Summary for Subcatchment P1:

Runoff = 1.33 cfs @ 12.01 hrs, Volume= 0.195 af, Depth= 2.31"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
37,486	98	Paved parking, HSG D
6,593	80	>75% Grass cover, Good, HSG D
44,079	95	Weighted Average
6,593		14.96% Pervious Area
37,486		85.04% Impervious Area

Subcatchment P1:



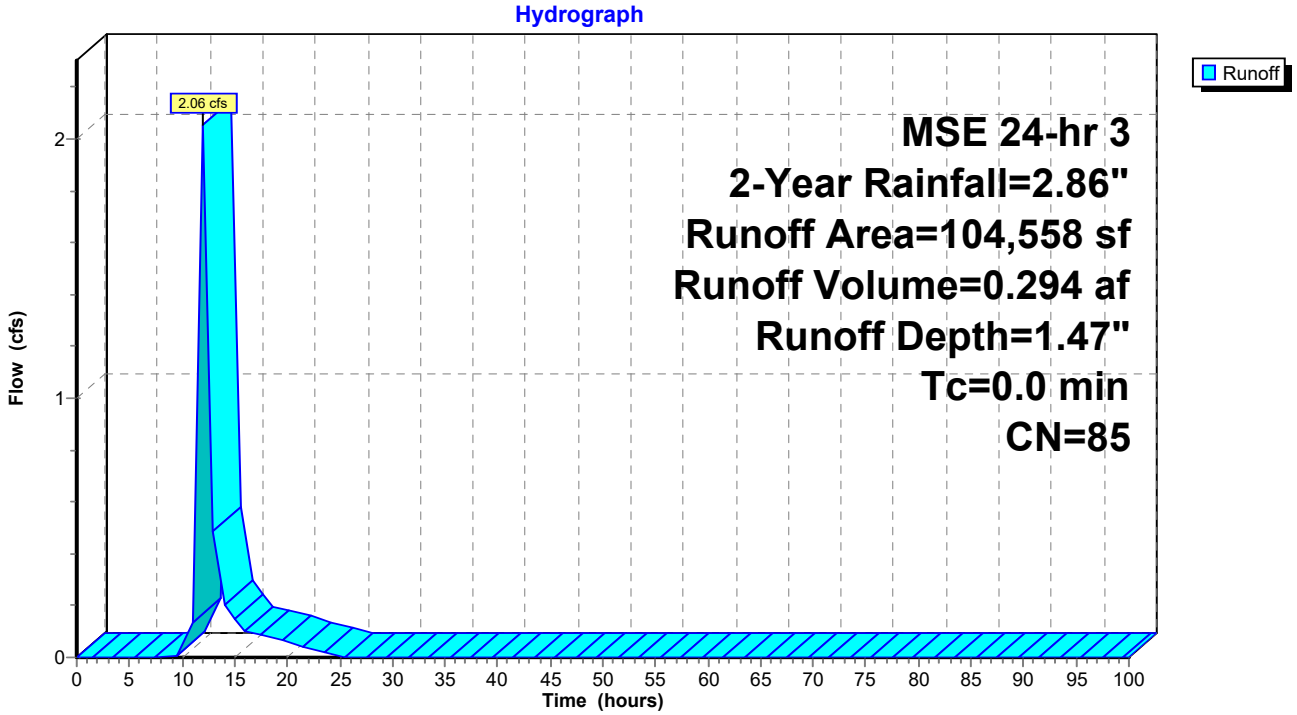
Summary for Subcatchment P10:

Runoff = 2.06 cfs @ 12.05 hrs, Volume= 0.294 af, Depth= 1.47"
Routed to Pond POA :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
28,454	98	Paved parking, HSG D
76,104	80	>75% Grass cover, Good, HSG D
104,558	85	Weighted Average
76,104		72.79% Pervious Area
28,454		27.21% Impervious Area

Subcatchment P10:



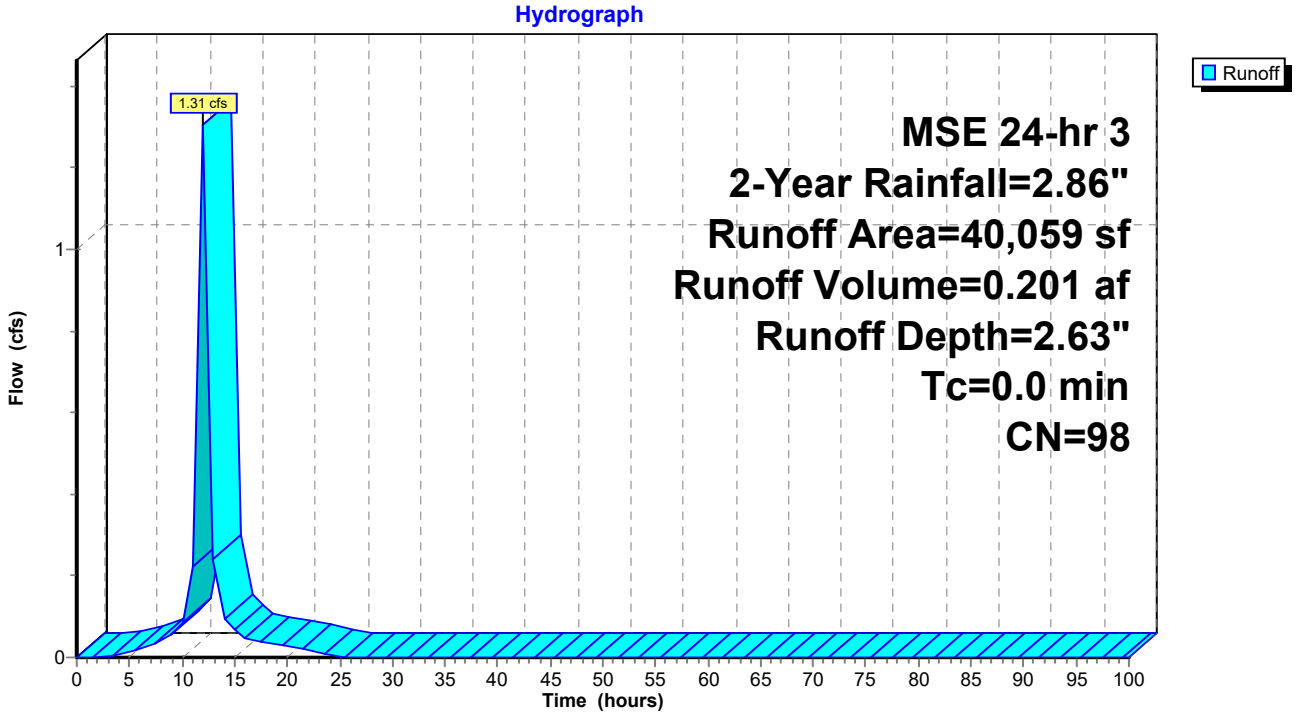
Summary for Subcatchment P2:

Runoff = 1.31 cfs @ 12.00 hrs, Volume= 0.201 af, Depth= 2.63"
Routed to Pond CB2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
39,537	98	Paved parking, HSG D
522	80	>75% Grass cover, Good, HSG D
40,059	98	Weighted Average
522		1.30% Pervious Area
39,537		98.70% Impervious Area

Subcatchment P2:



Summary for Subcatchment P3:

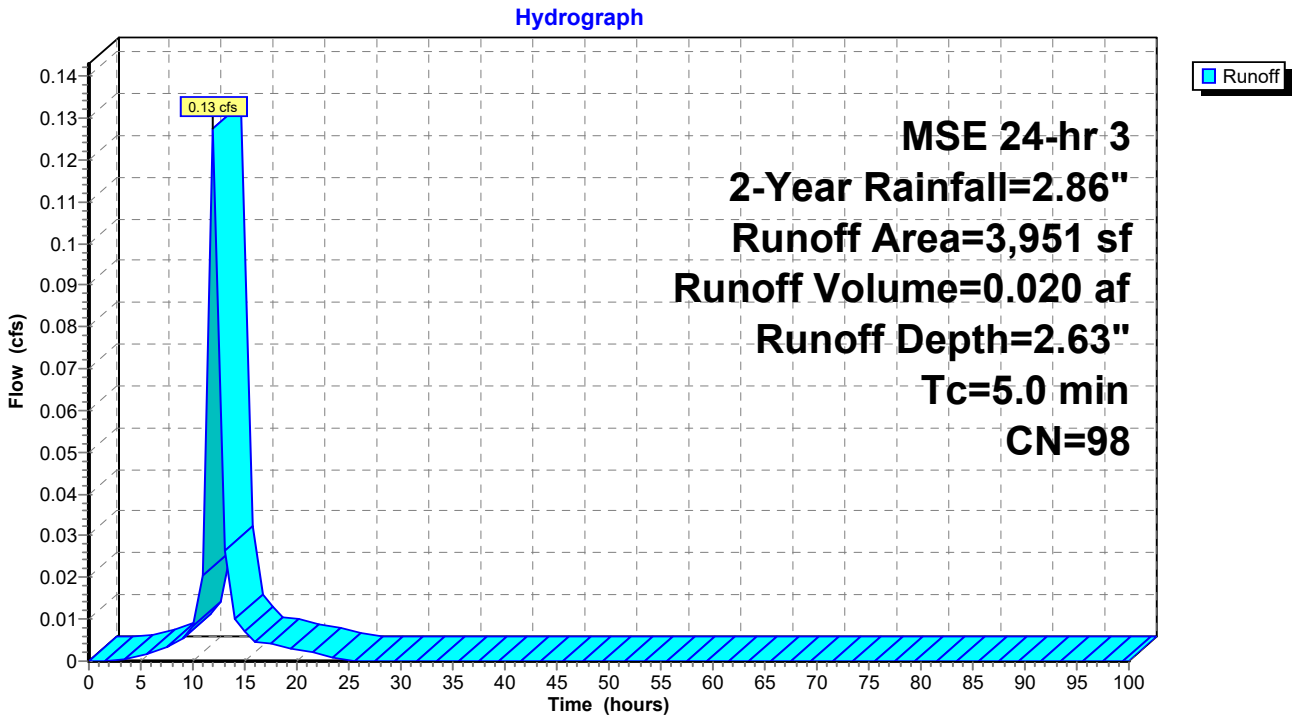
Runoff = 0.13 cfs @ 12.01 hrs, Volume= 0.020 af, Depth= 2.63"
Routed to Pond CB3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
3,951	98	Paved parking, HSG D
3,951		100.00% Impervious Area

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

Subcatchment P3:



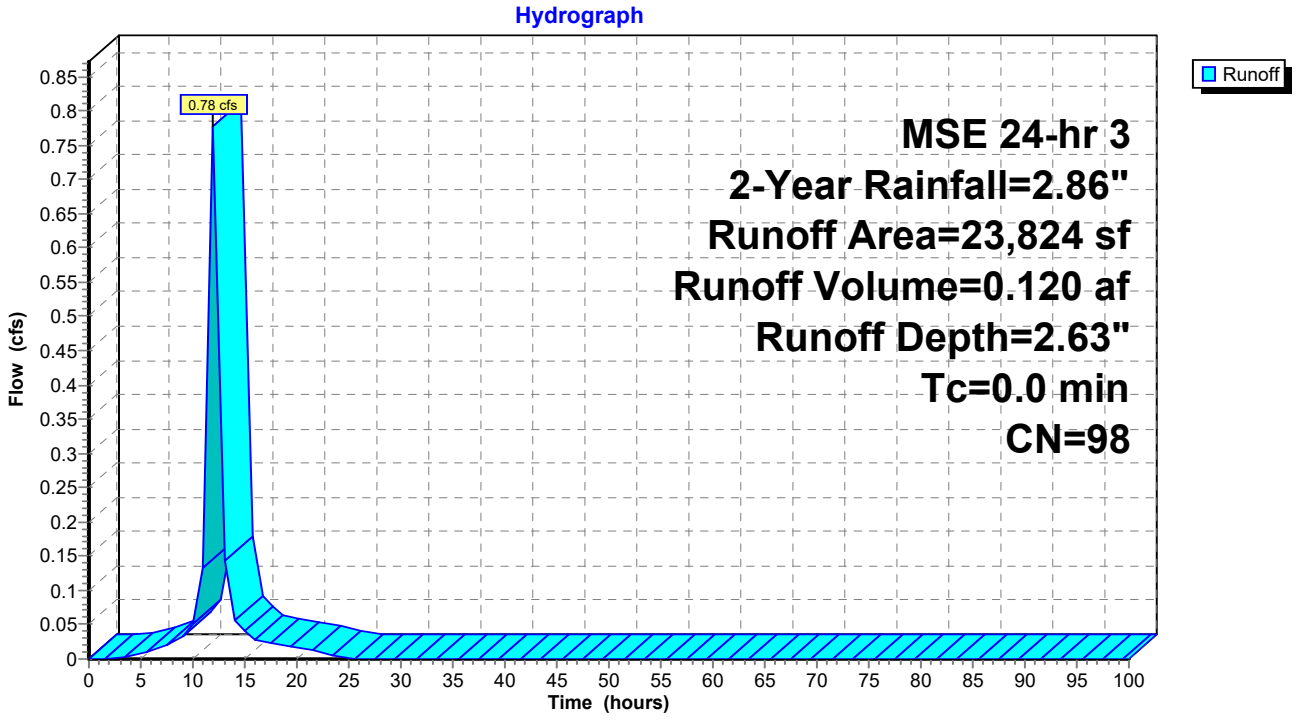
Summary for Subcatchment P4:

Runoff = 0.78 cfs @ 12.00 hrs, Volume= 0.120 af, Depth= 2.63"
Routed to Pond CB4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
23,824	98	Paved parking, HSG D
23,824		100.00% Impervious Area

Subcatchment P4:



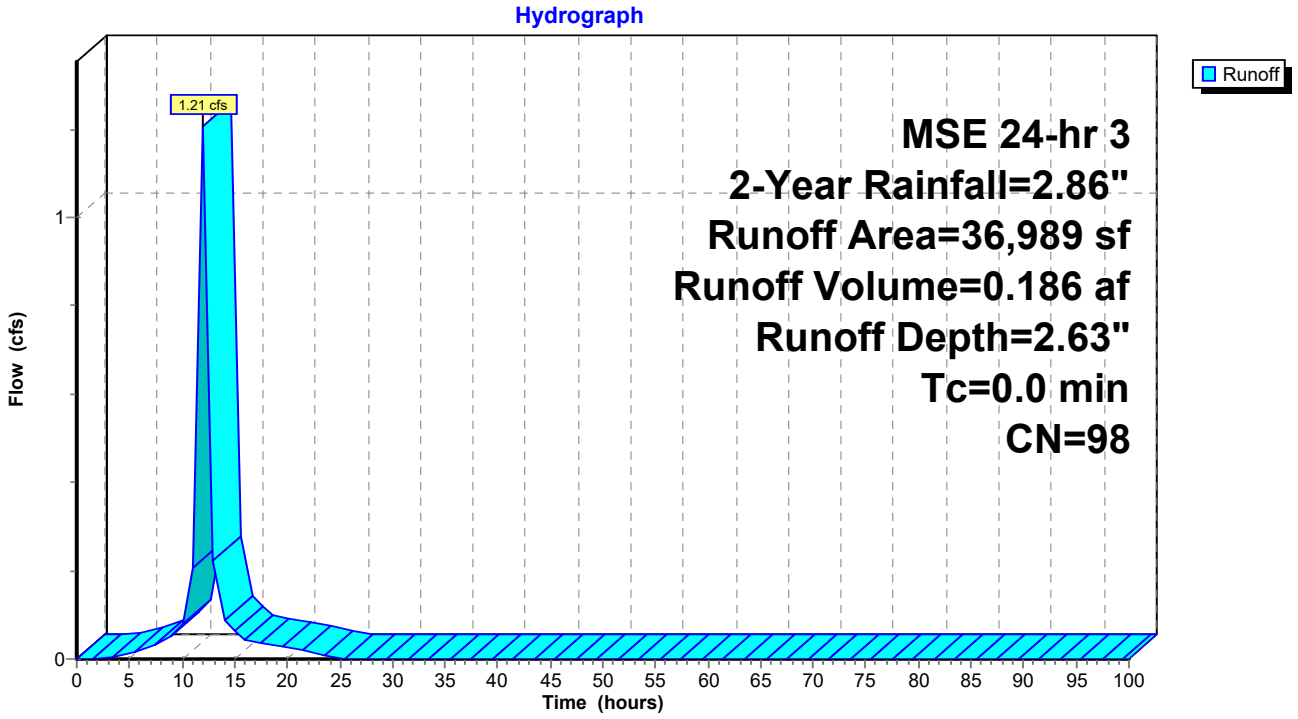
Summary for Subcatchment P5:

Runoff = 1.21 cfs @ 12.00 hrs, Volume= 0.186 af, Depth= 2.63"
Routed to Pond CB5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
36,989	98	Paved parking, HSG D
36,989		100.00% Impervious Area

Subcatchment P5:



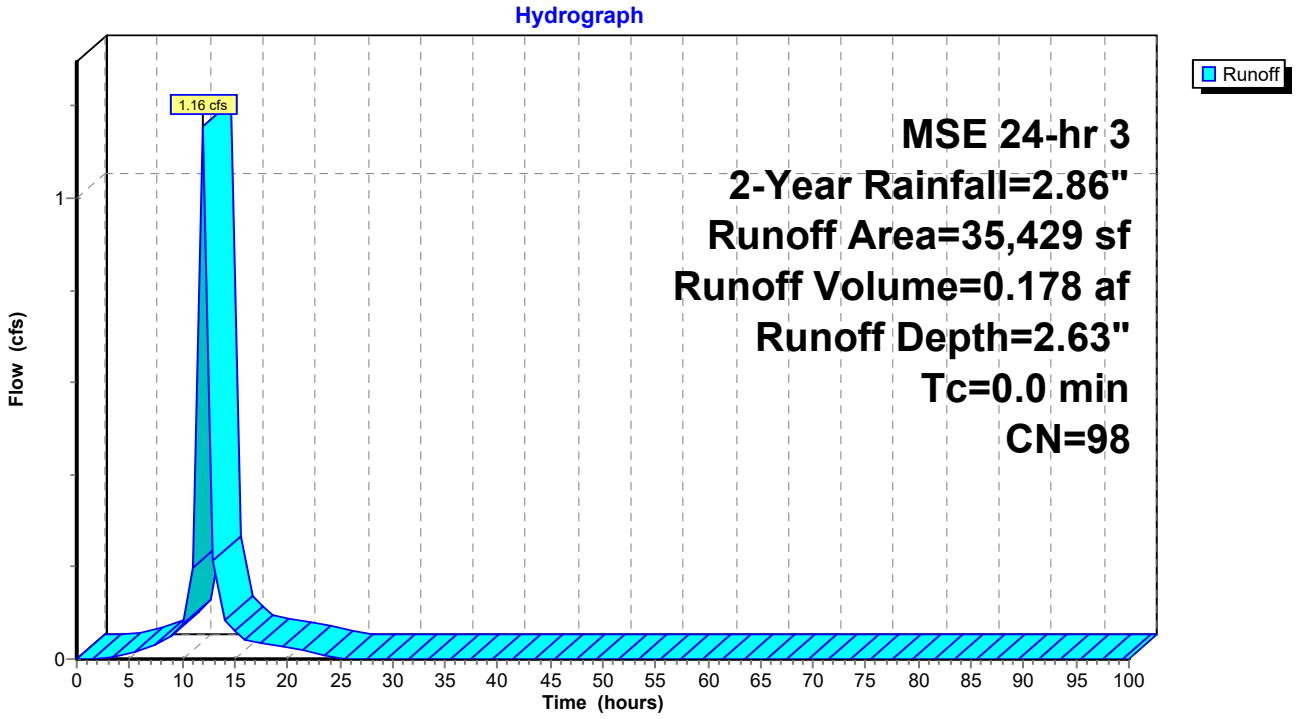
Summary for Subcatchment P6:

Runoff = 1.16 cfs @ 12.00 hrs, Volume= 0.178 af, Depth= 2.63"
Routed to Pond CB6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
35,429	98	Paved parking, HSG D
35,429		100.00% Impervious Area

Subcatchment P6:



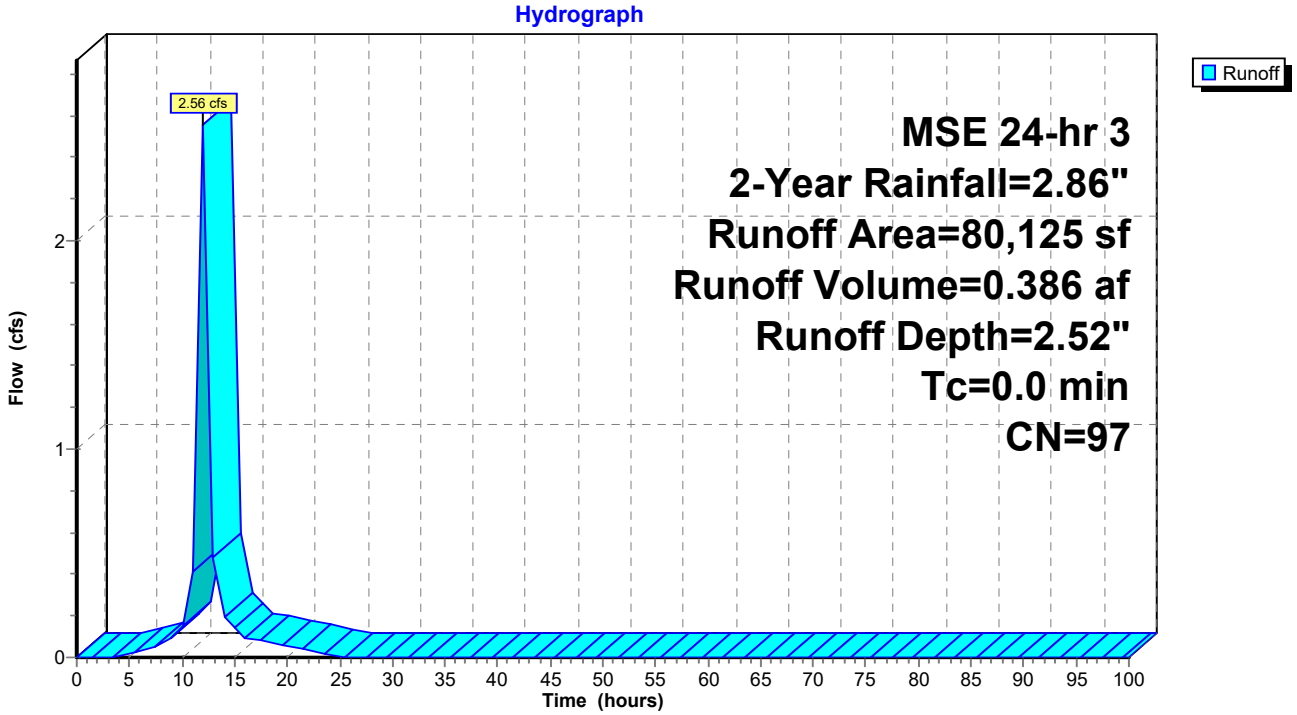
Summary for Subcatchment P7:

Runoff = 2.56 cfs @ 12.01 hrs, Volume= 0.386 af, Depth= 2.52"
Routed to Pond CB7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
75,849	98	Paved parking, HSG D
4,276	80	>75% Grass cover, Good, HSG D
80,125	97	Weighted Average
4,276		5.34% Pervious Area
75,849		94.66% Impervious Area

Subcatchment P7:



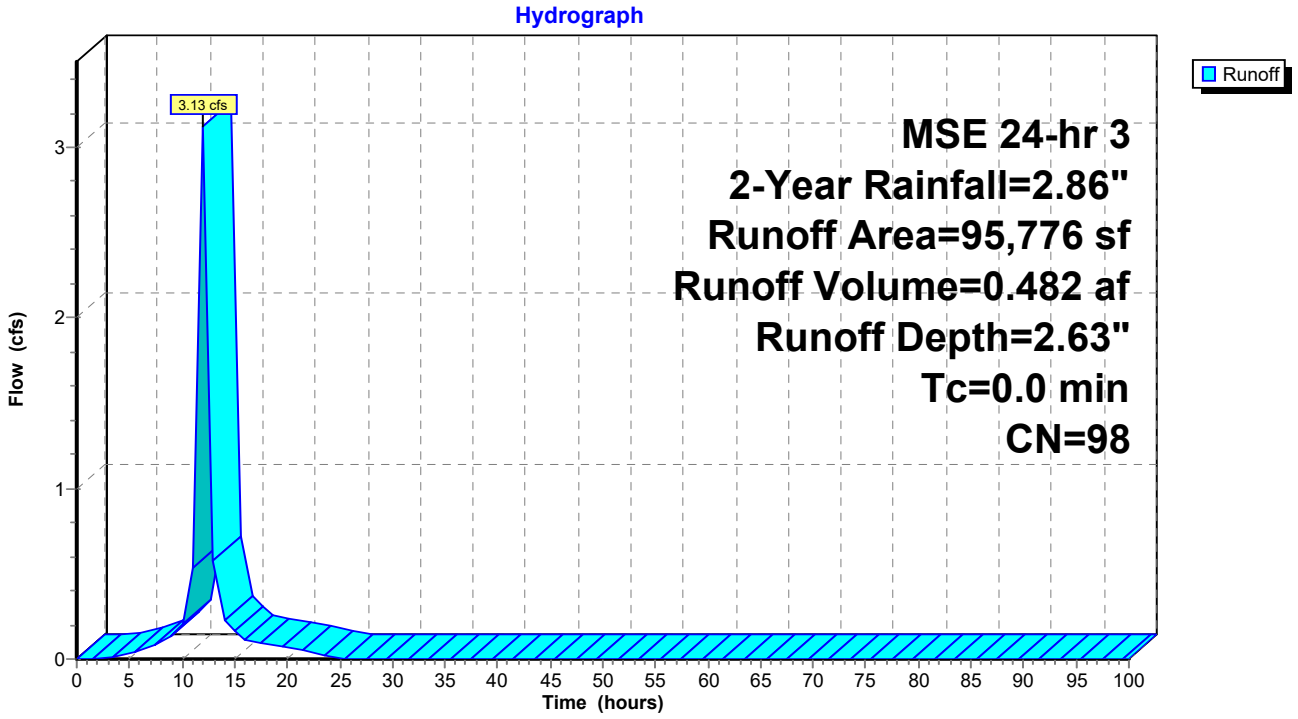
Summary for Subcatchment P8:

Runoff = 3.13 cfs @ 12.00 hrs, Volume= 0.482 af, Depth= 2.63"
Routed to Pond CB8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
95,776	98	Paved parking, HSG D
95,776		100.00% Impervious Area

Subcatchment P8:



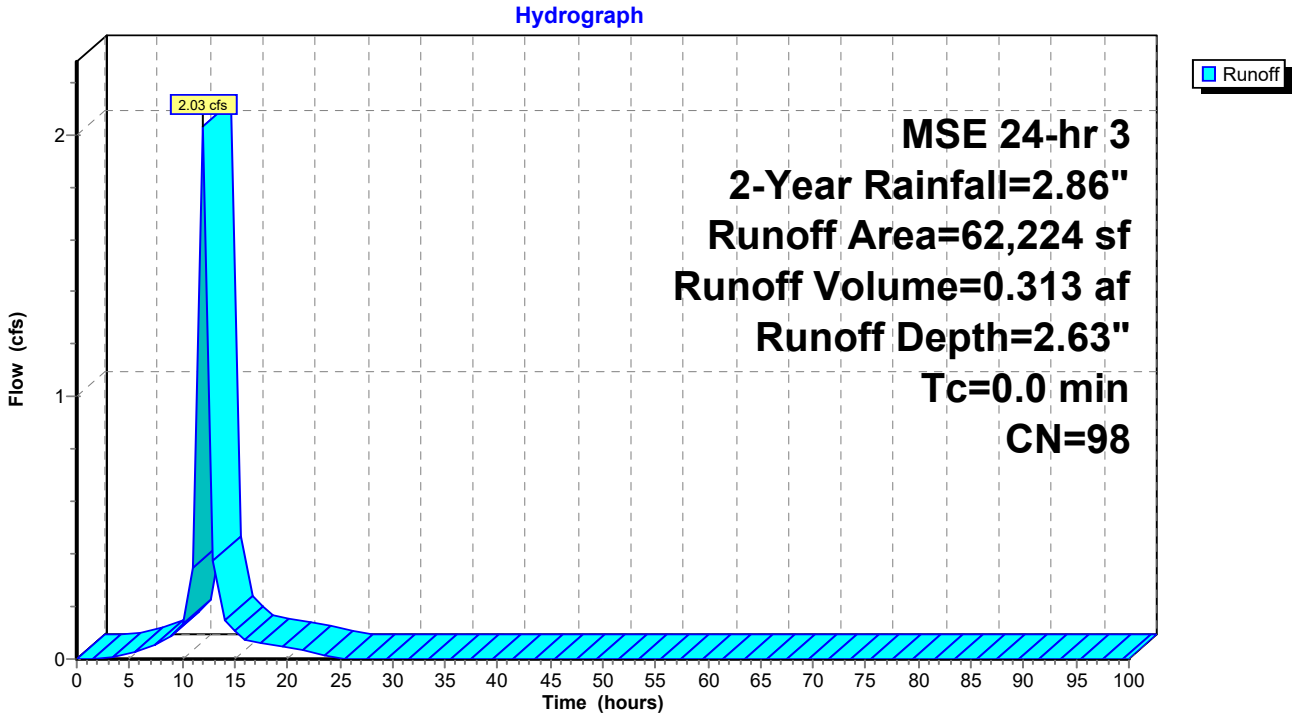
Summary for Subcatchment P9:

Runoff = 2.03 cfs @ 12.00 hrs, Volume= 0.313 af, Depth= 2.63"
Routed to Pond CB9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
62,224	98	Paved parking, HSG D
62,224		100.00% Impervious Area

Subcatchment P9:



Summary for Pond CB1:

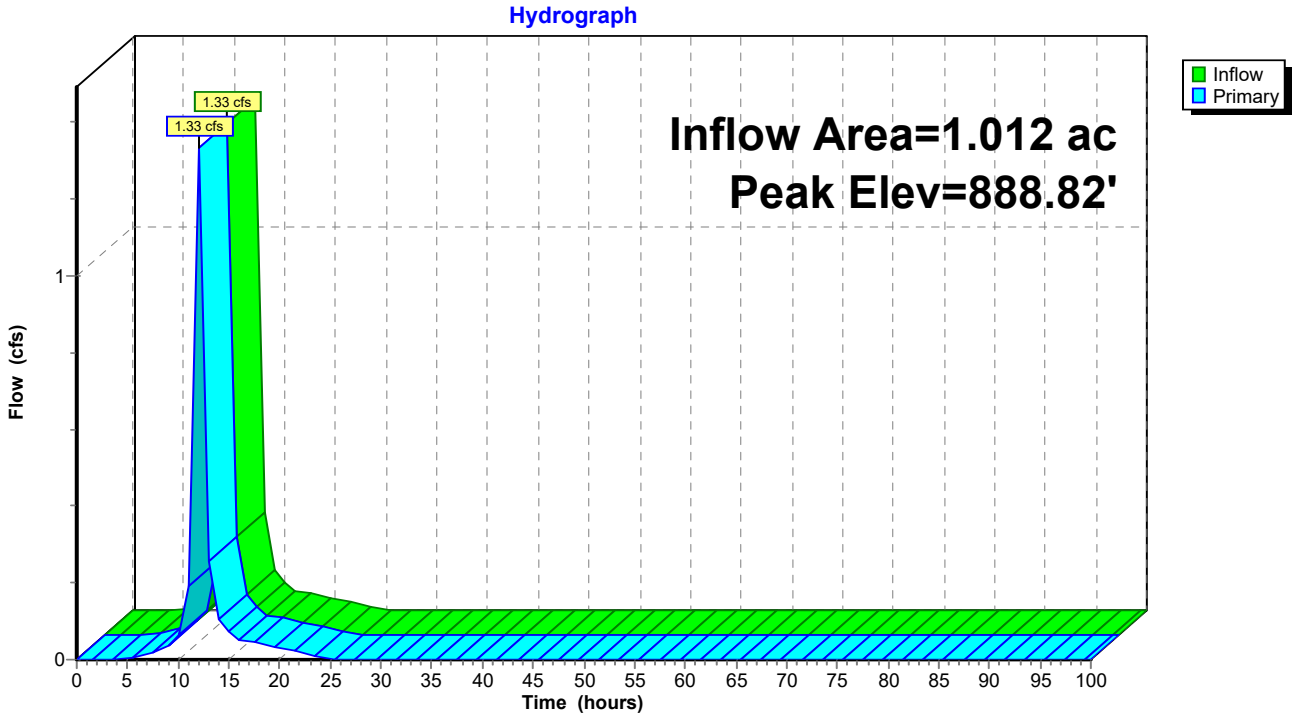
Inflow Area = 1.012 ac, 85.04% Impervious, Inflow Depth = 2.31" for 2-Year event
Inflow = 1.33 cfs @ 12.01 hrs, Volume= 0.195 af
Outflow = 1.33 cfs @ 12.01 hrs, Volume= 0.195 af, Atten= 0%, Lag= 0.0 min
Primary = 1.33 cfs @ 12.01 hrs, Volume= 0.195 af
Routed to Pond CB2P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.82' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**15.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.53' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.31 cfs @ 12.01 hrs HW=888.81' (Free Discharge)
└**1=Culvert** (Passes 1.31 cfs of 6.91 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 1.31 cfs @ 1.20 fps)

Pond CB1:



Summary for Pond CB2:

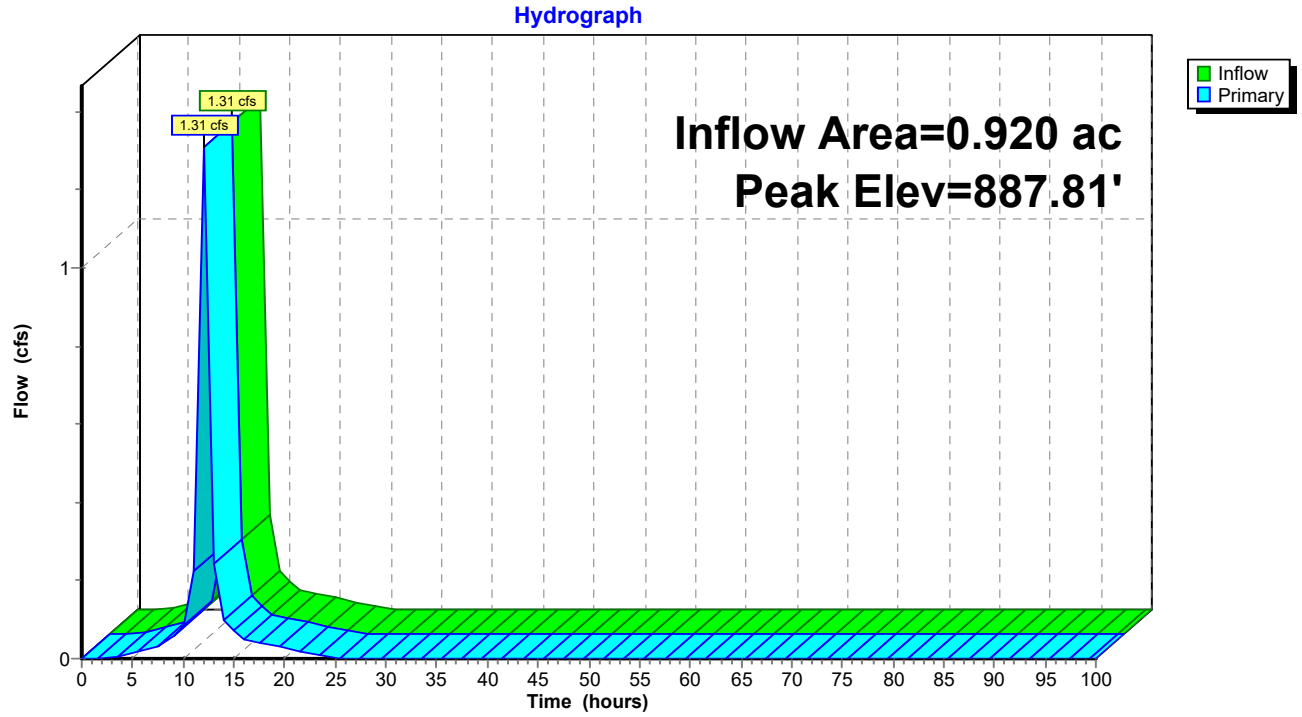
Inflow Area = 0.920 ac, 98.70% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 1.31 cfs @ 12.00 hrs, Volume= 0.201 af
Outflow = 1.31 cfs @ 12.00 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min
Primary = 1.31 cfs @ 12.00 hrs, Volume= 0.201 af
Routed to Pond CB2P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.81' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.30 cfs @ 12.00 hrs HW=887.81' (Free Discharge)
1=Orifice/Grate (Orifice Controls 1.30 cfs @ 1.20 fps)

Pond CB2:



Summary for Pond CB2P:

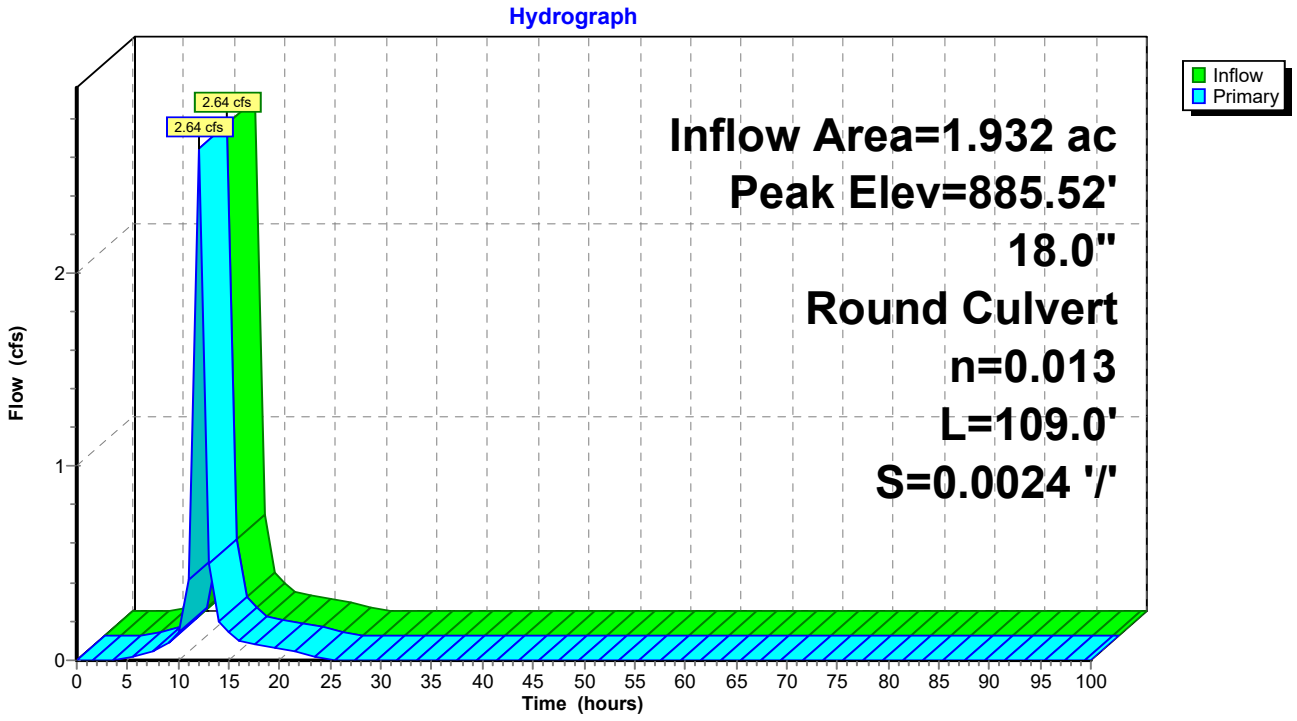
Inflow Area = 1.932 ac, 91.54% Impervious, Inflow Depth = 2.46" for 2-Year event
Inflow = 2.64 cfs @ 12.01 hrs, Volume= 0.396 af
Outflow = 2.64 cfs @ 12.01 hrs, Volume= 0.396 af, Atten= 0%, Lag= 0.0 min
Primary = 2.64 cfs @ 12.01 hrs, Volume= 0.396 af
Routed to Pond CB3P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.52' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.53'	**18.0" Round Culvert** L= 109.0' Ke= 0.500 Inlet / Outlet Invert= 884.53' / 884.27' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=2.61 cfs @ 12.01 hrs HW=885.51' (Free Discharge)
1=Culvert (Barrel Controls 2.61 cfs @ 3.04 fps)

Pond CB2P:



Summary for Pond CB3:

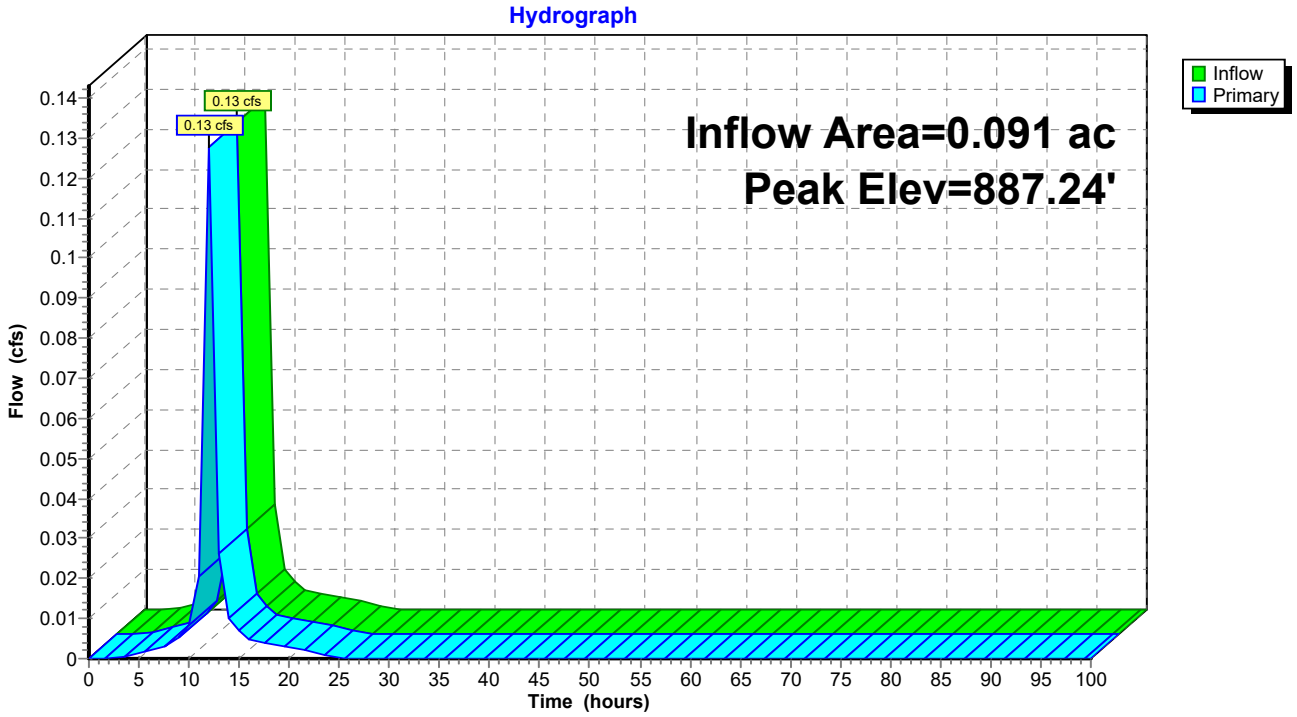
Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 0.13 cfs @ 12.01 hrs, Volume= 0.020 af
Outflow = 0.13 cfs @ 12.01 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.01 hrs, Volume= 0.020 af
Routed to Pond CB3P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.24' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 12.01 hrs HW=887.24' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.13 cfs @ 0.65 fps)

Pond CB3:



Summary for Pond CB3P:

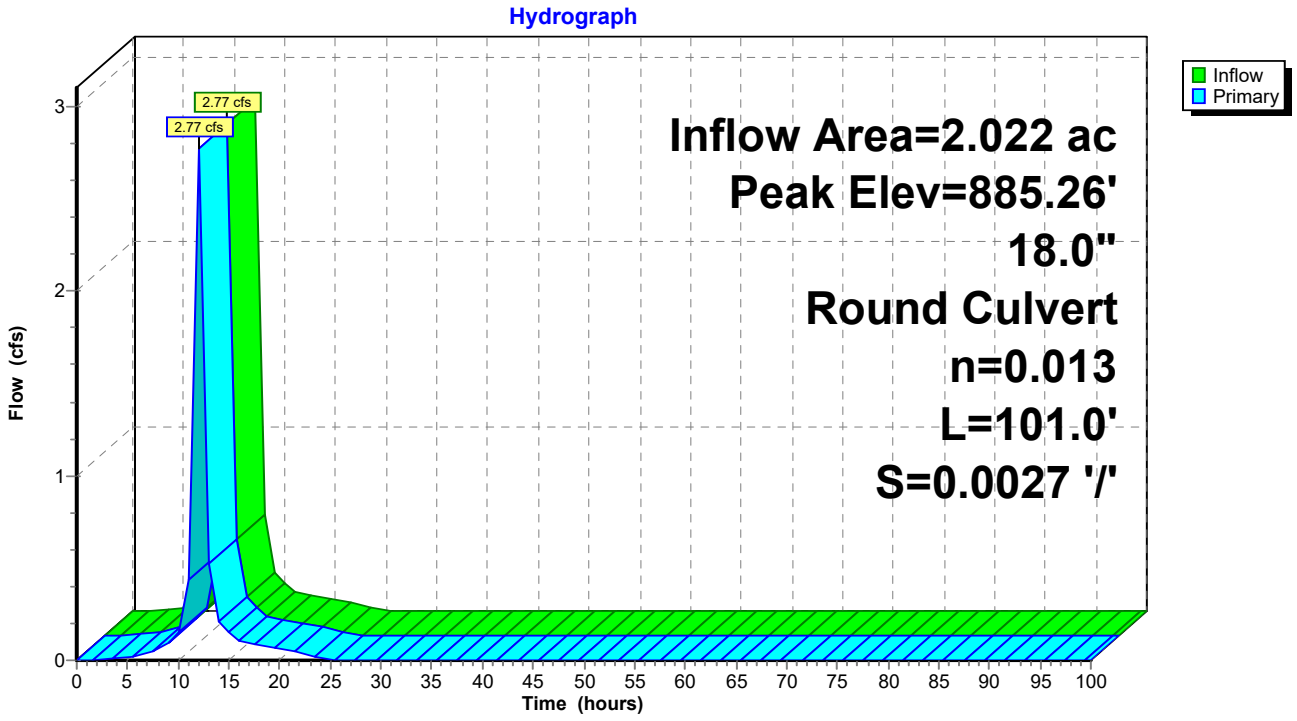
Inflow Area = 2.022 ac, 91.92% Impervious, Inflow Depth = 2.47" for 2-Year event
Inflow = 2.77 cfs @ 12.01 hrs, Volume= 0.416 af
Outflow = 2.77 cfs @ 12.01 hrs, Volume= 0.416 af, Atten= 0%, Lag= 0.0 min
Primary = 2.77 cfs @ 12.01 hrs, Volume= 0.416 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.26' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.27'	**18.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 884.27' / 884.00' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=2.74 cfs @ 12.01 hrs HW=885.26' (Free Discharge)
1=Culvert (Barrel Controls 2.74 cfs @ 3.15 fps)

Pond CB3P:



Summary for Pond CB4:

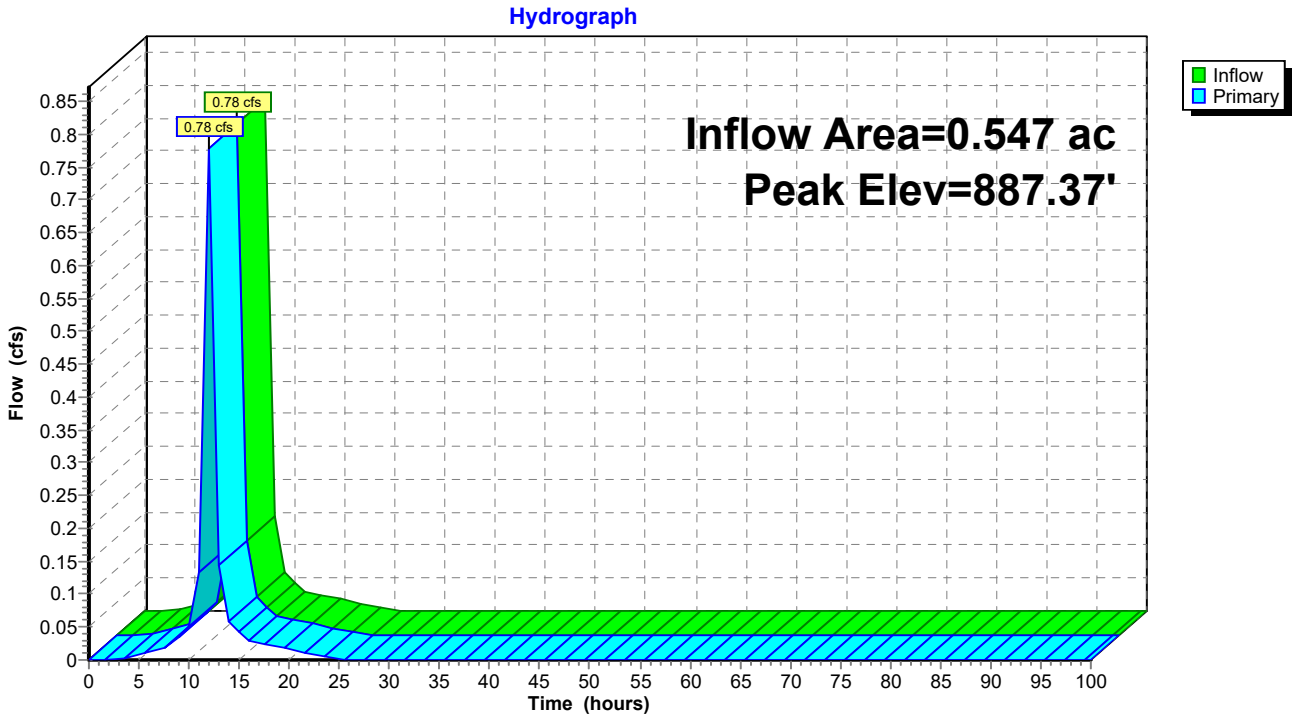
Inflow Area = 0.547 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 0.78 cfs @ 12.00 hrs, Volume= 0.120 af
Outflow = 0.78 cfs @ 12.00 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.00 hrs, Volume= 0.120 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.37' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.75'	**18.0" Round Culvert** L= 63.0' Ke= 0.500 Inlet / Outlet Invert= 882.75' / 800.67' S= 1.3029 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.77 cfs @ 12.00 hrs HW=887.37' (Free Discharge)
↑**1=Culvert** (Passes 0.77 cfs of 16.74 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.77 cfs @ 2.08 fps)

Pond CB4:



Summary for Pond CB5:

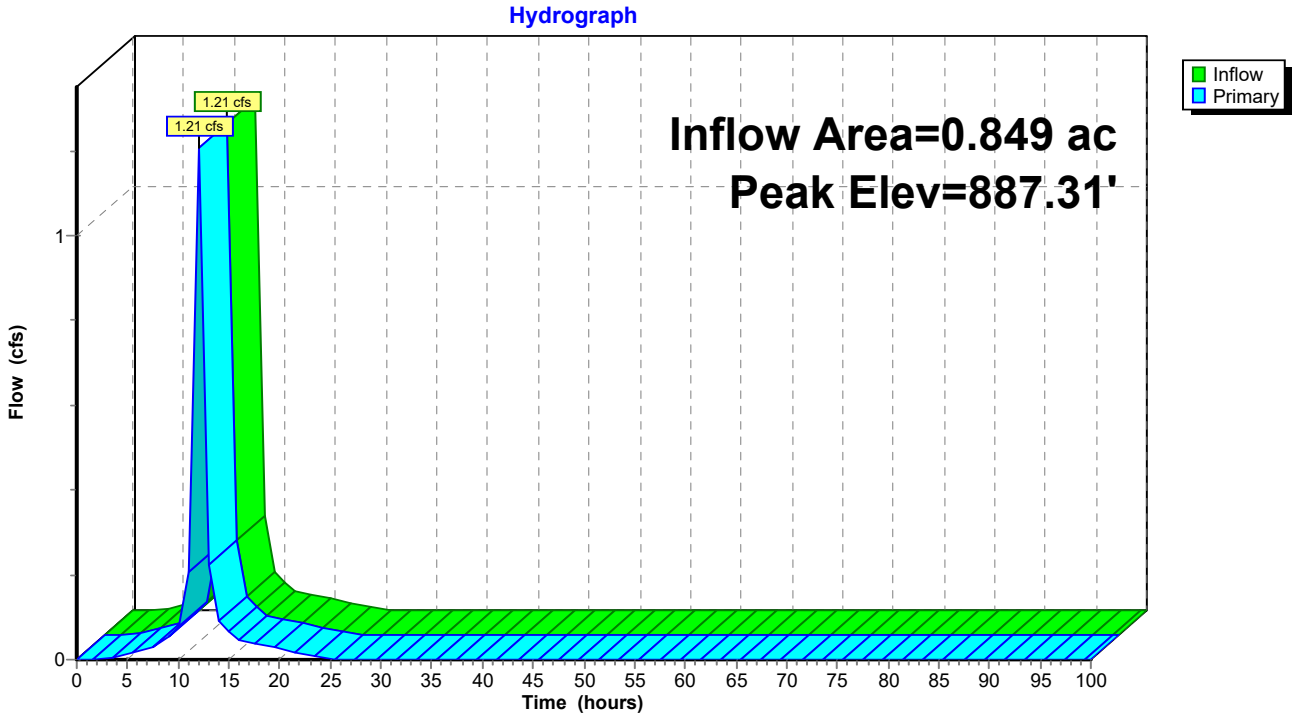
Inflow Area = 0.849 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 1.21 cfs @ 12.00 hrs, Volume= 0.186 af
Outflow = 1.21 cfs @ 12.00 hrs, Volume= 0.186 af, Atten= 0%, Lag= 0.0 min
Primary = 1.21 cfs @ 12.00 hrs, Volume= 0.186 af
Routed to Pond CB6P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.31' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 222.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.10' S= 0.0041 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Horiz. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.20 cfs @ 12.00 hrs HW=887.31' (Free Discharge)
└**1=Culvert** (Passes 1.20 cfs of 7.86 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 1.20 cfs @ 0.71 fps)

Pond CB5:



Summary for Pond CB6:

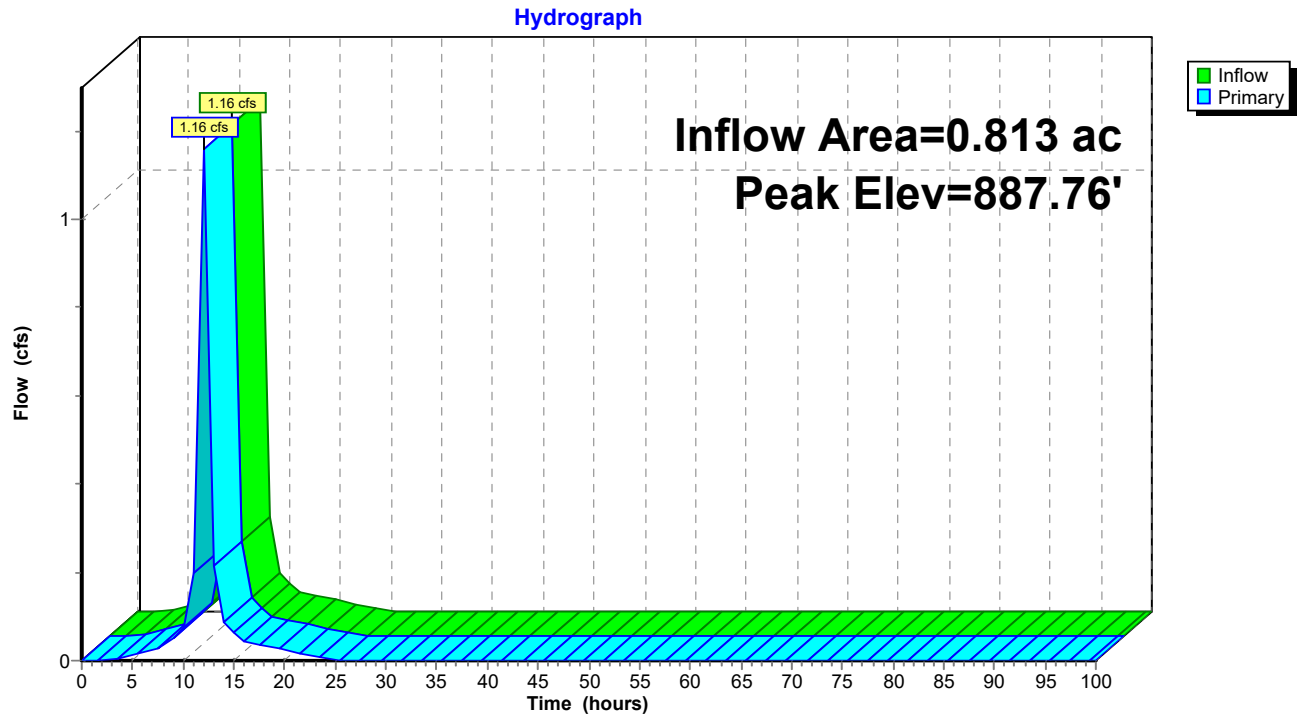
Inflow Area = 0.813 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 1.16 cfs @ 12.00 hrs, Volume= 0.178 af
Outflow = 1.16 cfs @ 12.00 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min
Primary = 1.16 cfs @ 12.00 hrs, Volume= 0.178 af
Routed to Pond CB6P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.76' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.15 cfs @ 12.00 hrs HW=887.76' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.15 cfs @ 1.16 fps)

Pond CB6:



Summary for Pond CB6P:

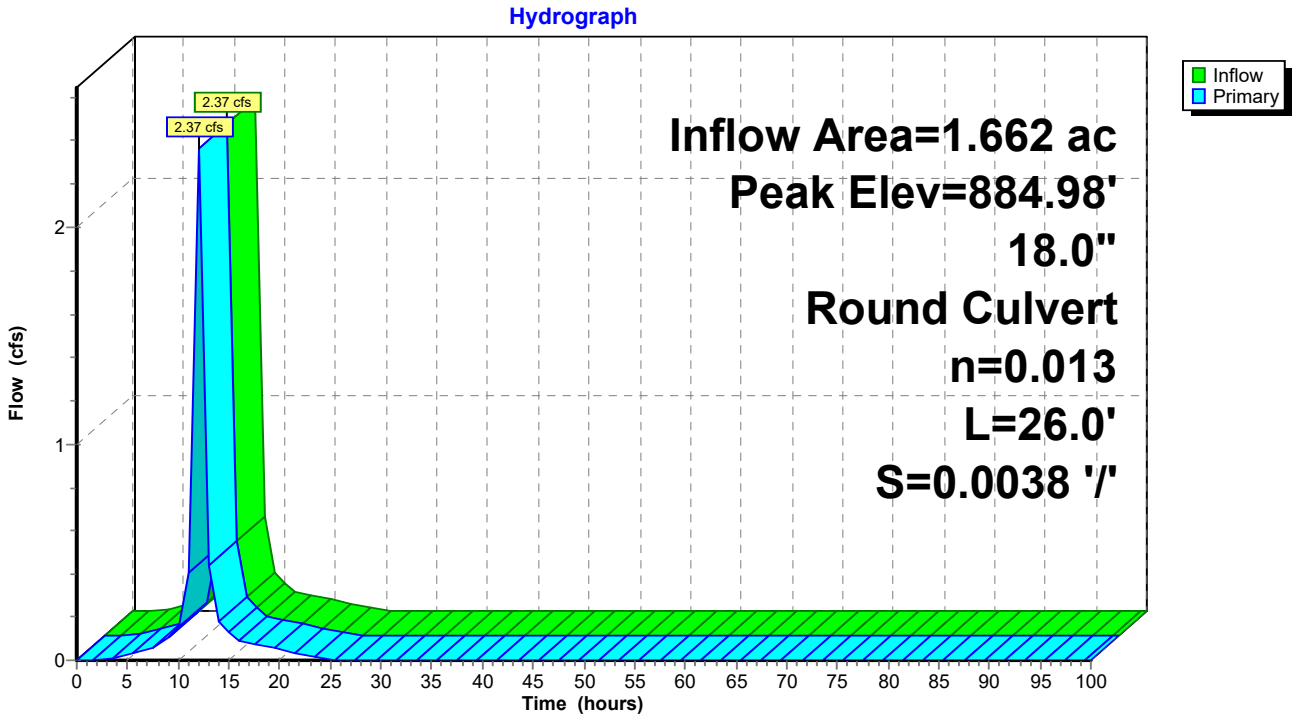
Inflow Area = 1.662 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 2.37 cfs @ 12.00 hrs, Volume= 0.364 af
Outflow = 2.37 cfs @ 12.00 hrs, Volume= 0.364 af, Atten= 0%, Lag= 0.0 min
Primary = 2.37 cfs @ 12.00 hrs, Volume= 0.364 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 884.98' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.10'	**18.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 884.10' / 884.00' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=2.36 cfs @ 12.00 hrs HW=884.97' (Free Discharge)
1=Culvert (Barrel Controls 2.36 cfs @ 3.17 fps)

Pond CB6P:



Summary for Pond CB7:

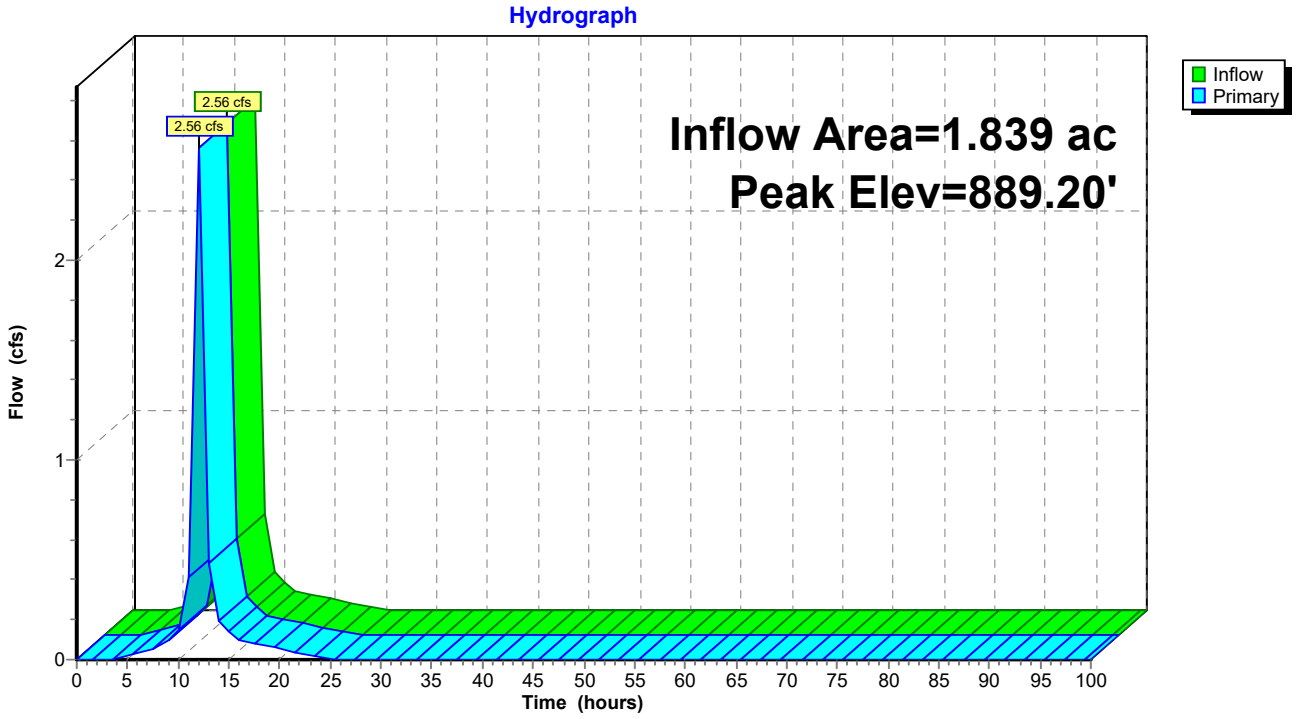
Inflow Area = 1.839 ac, 94.66% Impervious, Inflow Depth = 2.52" for 2-Year event
Inflow = 2.56 cfs @ 12.01 hrs, Volume= 0.386 af
Outflow = 2.56 cfs @ 12.01 hrs, Volume= 0.386 af, Atten= 0%, Lag= 0.0 min
Primary = 2.56 cfs @ 12.01 hrs, Volume= 0.386 af
Routed to Pond CB8P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 889.20' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 201.4' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 883.56' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.54 cfs @ 12.01 hrs HW=889.20' (Free Discharge)
└**1=Culvert** (Passes 2.54 cfs of 12.67 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 2.54 cfs @ 1.45 fps)

Pond CB7:



Summary for Pond CB8:

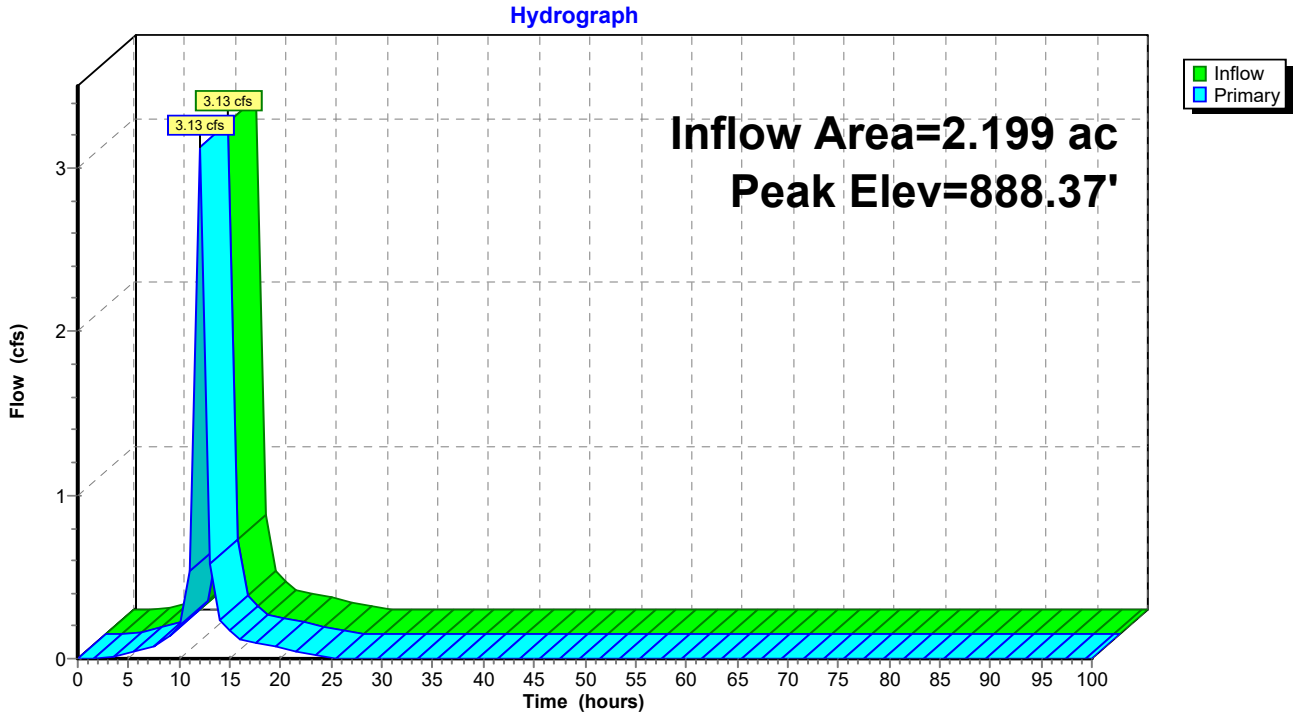
Inflow Area = 2.199 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 3.13 cfs @ 12.00 hrs, Volume= 0.482 af
Outflow = 3.13 cfs @ 12.00 hrs, Volume= 0.482 af, Atten= 0%, Lag= 0.0 min
Primary = 3.13 cfs @ 12.00 hrs, Volume= 0.482 af
Routed to Pond CB8P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.37' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.12 cfs @ 12.00 hrs HW=888.36' (Free Discharge)
1=Orifice/Grate (Orifice Controls 3.12 cfs @ 1.55 fps)

Pond CB8:



Summary for Pond CB8P:

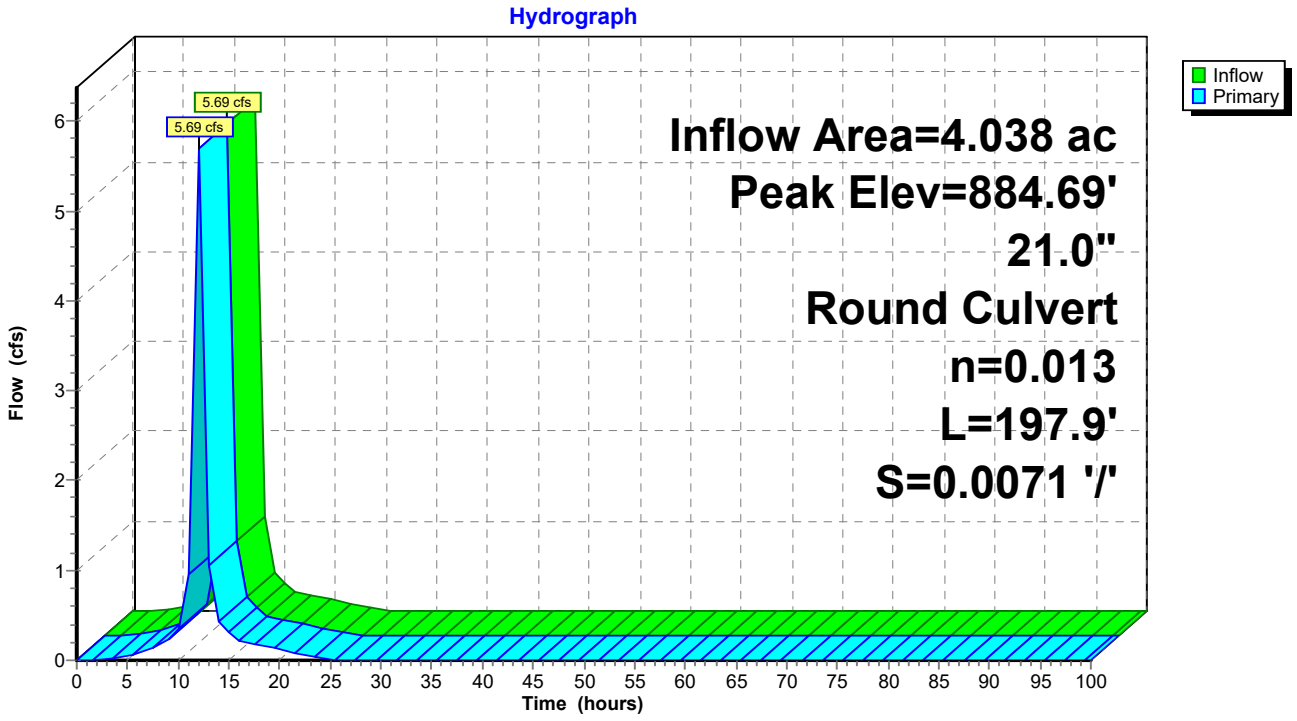
Inflow Area = 4.038 ac, 97.57% Impervious, Inflow Depth = 2.58" for 2-Year event
Inflow = 5.69 cfs @ 12.01 hrs, Volume= 0.868 af
Outflow = 5.69 cfs @ 12.01 hrs, Volume= 0.868 af, Atten= 0%, Lag= 0.0 min
Primary = 5.69 cfs @ 12.01 hrs, Volume= 0.868 af
Routed to Pond CB9P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 884.69' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	883.56'	**21.0" Round Culvert** L= 197.9' Ke= 0.500 Inlet / Outlet Invert= 883.56' / 882.15' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 2.41 sf

Primary OutFlow Max=5.66 cfs @ 12.01 hrs HW=884.69' (Free Discharge)
1=Culvert (Barrel Controls 5.66 cfs @ 4.91 fps)

Pond CB8P:



Summary for Pond CB9:

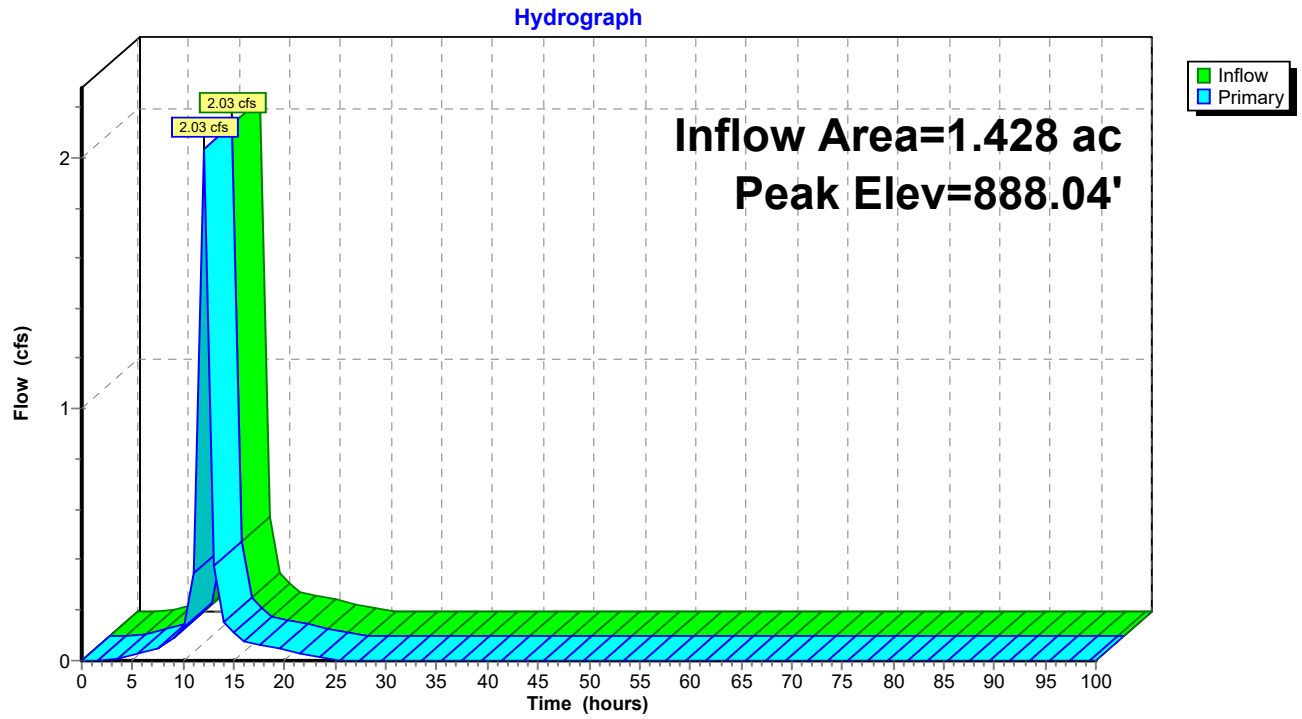
Inflow Area = 1.428 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 2.03 cfs @ 12.00 hrs, Volume= 0.313 af
Outflow = 2.03 cfs @ 12.00 hrs, Volume= 0.313 af, Atten= 0%, Lag= 0.0 min
Primary = 2.03 cfs @ 12.00 hrs, Volume= 0.313 af
Routed to Pond CB9P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.04' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.02 cfs @ 12.00 hrs HW=888.04' (Free Discharge)
1=Orifice/Grate (Orifice Controls 2.02 cfs @ 1.36 fps)

Pond CB9:



Summary for Pond CB9P:

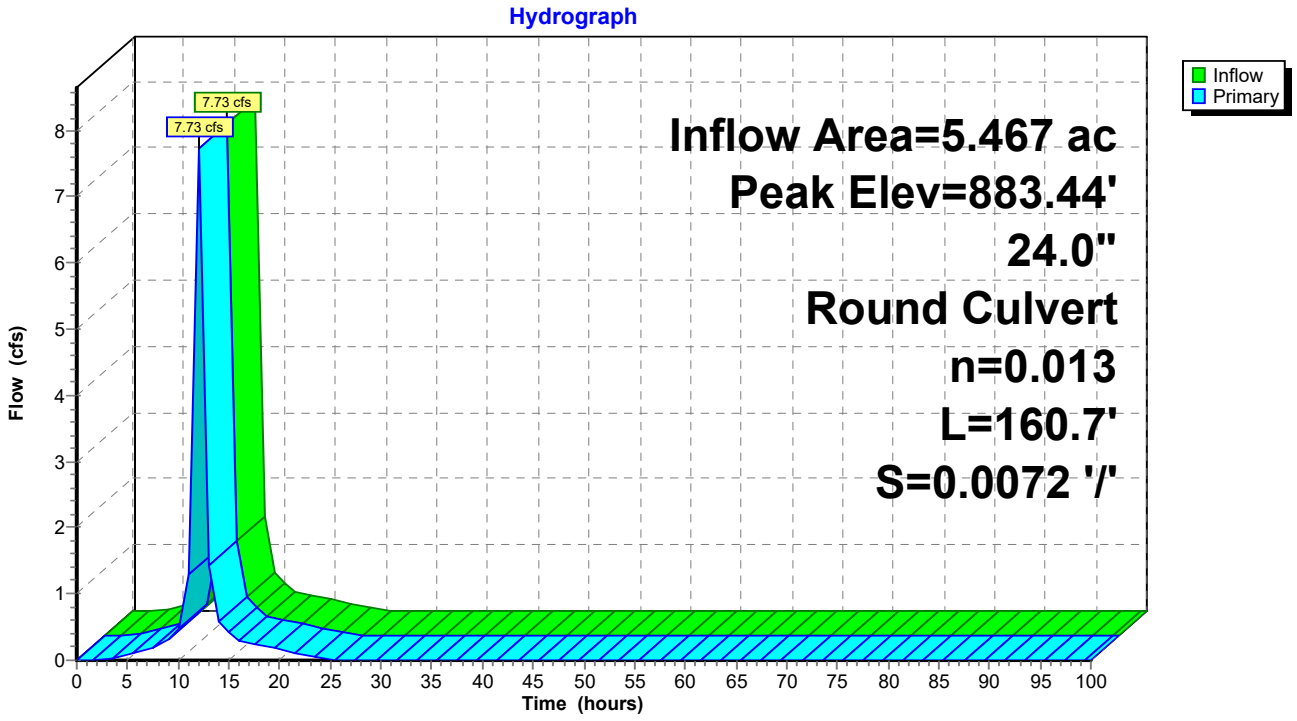
Inflow Area = 5.467 ac, 98.20% Impervious, Inflow Depth = 2.59" for 2-Year event
Inflow = 7.73 cfs @ 12.01 hrs, Volume= 1.181 af
Outflow = 7.73 cfs @ 12.01 hrs, Volume= 1.181 af, Atten= 0%, Lag= 0.0 min
Primary = 7.73 cfs @ 12.01 hrs, Volume= 1.181 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 883.44' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.15'	**24.0" Round Culvert** L= 160.7' Ke= 0.500 Inlet / Outlet Invert= 882.15' / 881.00' S= 0.0072 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.69 cfs @ 12.01 hrs HW=883.43' (Free Discharge)
1=Culvert (Barrel Controls 7.69 cfs @ 5.15 fps)

Pond CB9P:

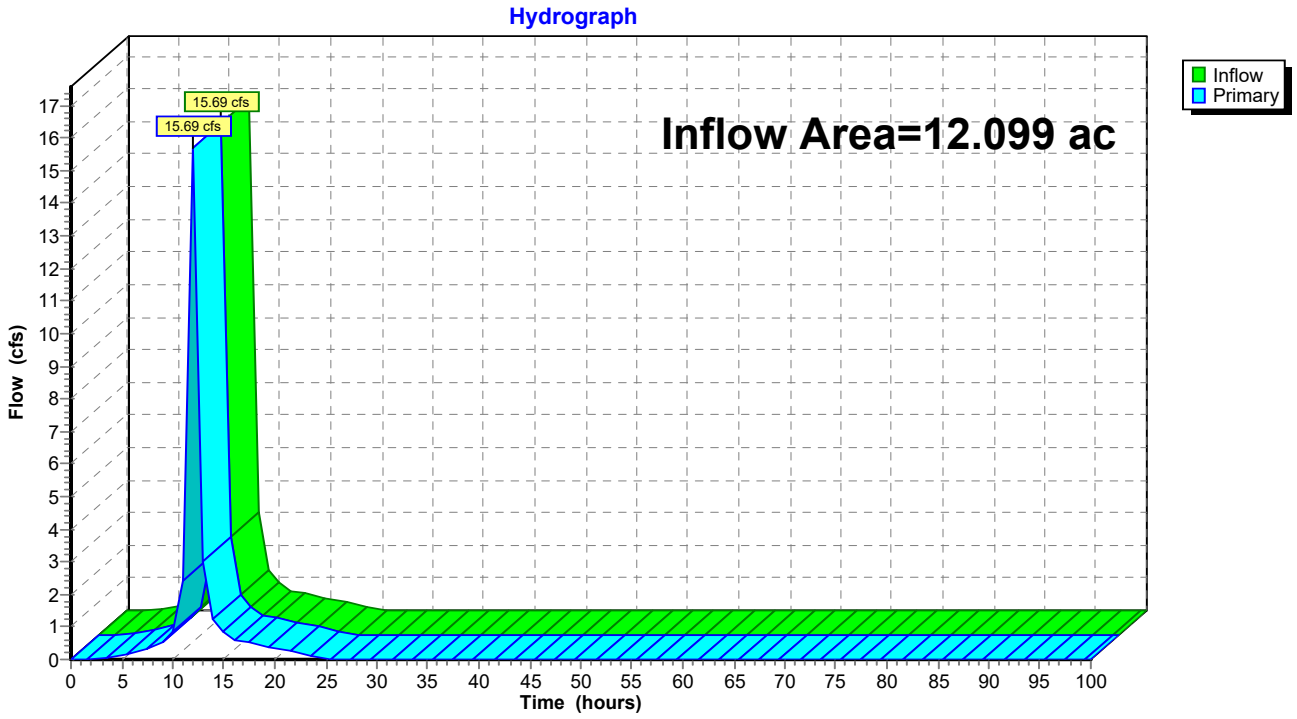


Summary for Pond POA:

Inflow Area = 12.099 ac, 83.40% Impervious, Inflow Depth = 2.36" for 2-Year event
Inflow = 15.69 cfs @ 12.01 hrs, Volume= 2.376 af
Primary = 15.69 cfs @ 12.01 hrs, Volume= 2.376 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs

Pond POA:



Time span=0.00-100.00 hrs, dt=1.00 hrs, 101 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP1: Runoff Area=44,079 sf 85.04% Impervious Runoff Depth=3.69"
Tc=0.0 min CN=95 Runoff=2.08 cfs 0.311 af

SubcatchmentP10: Runoff Area=104,558 sf 27.21% Impervious Runoff Depth=2.69"
Tc=0.0 min CN=85 Runoff=3.78 cfs 0.538 af

SubcatchmentP2: Runoff Area=40,059 sf 98.70% Impervious Runoff Depth=4.02"
Tc=0.0 min CN=98 Runoff=1.97 cfs 0.308 af

SubcatchmentP3: Runoff Area=3,951 sf 100.00% Impervious Runoff Depth=4.02"
Tc=5.0 min CN=98 Runoff=0.19 cfs 0.030 af

SubcatchmentP4: Runoff Area=23,824 sf 100.00% Impervious Runoff Depth=4.02"
Tc=0.0 min CN=98 Runoff=1.17 cfs 0.183 af

SubcatchmentP5: Runoff Area=36,989 sf 100.00% Impervious Runoff Depth=4.02"
Tc=0.0 min CN=98 Runoff=1.82 cfs 0.285 af

SubcatchmentP6: Runoff Area=35,429 sf 100.00% Impervious Runoff Depth=4.02"
Tc=0.0 min CN=98 Runoff=1.74 cfs 0.273 af

SubcatchmentP7: Runoff Area=80,125 sf 94.66% Impervious Runoff Depth=3.91"
Tc=0.0 min CN=97 Runoff=3.90 cfs 0.599 af

SubcatchmentP8: Runoff Area=95,776 sf 100.00% Impervious Runoff Depth=4.02"
Tc=0.0 min CN=98 Runoff=4.71 cfs 0.737 af

SubcatchmentP9: Runoff Area=62,224 sf 100.00% Impervious Runoff Depth=4.02"
Tc=0.0 min CN=98 Runoff=3.06 cfs 0.479 af

Pond CB1: Peak Elev=889.06' Inflow=2.08 cfs 0.311 af
Outflow=2.08 cfs 0.311 af

Pond CB2: Peak Elev=888.03' Inflow=1.97 cfs 0.308 af
Outflow=1.97 cfs 0.308 af

Pond CB2P: Peak Elev=885.80' Inflow=4.05 cfs 0.619 af
18.0" Round Culvert n=0.013 L=109.0' S=0.0024 '/' Outflow=4.05 cfs 0.619 af

Pond CB3: Peak Elev=887.29' Inflow=0.19 cfs 0.030 af
Outflow=0.19 cfs 0.030 af

Pond CB3P: Peak Elev=885.55' Inflow=4.24 cfs 0.650 af
18.0" Round Culvert n=0.013 L=101.0' S=0.0027 '/' Outflow=4.24 cfs 0.650 af

Pond CB4: Peak Elev=887.46' Inflow=1.17 cfs 0.183 af
Outflow=1.17 cfs 0.183 af

Pond CB5: Peak Elev=887.41' Inflow=1.82 cfs 0.285 af
Outflow=1.82 cfs 0.285 af

Pond CB6: Peak Elev=887.96' Inflow=1.74 cfs 0.273 af
Outflow=1.74 cfs 0.273 af

Pond CB6P: Peak Elev=885.21' Inflow=3.56 cfs 0.558 af
18.0" Round Culvert n=0.013 L=26.0' S=0.0038 '/' Outflow=3.56 cfs 0.558 af

Pond CB7: Peak Elev=889.61' Inflow=3.90 cfs 0.599 af
Outflow=3.90 cfs 0.599 af

Pond CB8: Peak Elev=888.96' Inflow=4.71 cfs 0.737 af
Outflow=4.71 cfs 0.737 af

Pond CB8P: Peak Elev=885.04' Inflow=8.61 cfs 1.337 af
21.0" Round Culvert n=0.013 L=197.9' S=0.0071 '/' Outflow=8.61 cfs 1.337 af

Pond CB9: Peak Elev=888.35' Inflow=3.06 cfs 0.479 af
Outflow=3.06 cfs 0.479 af

Pond CB9P: Peak Elev=883.82' Inflow=11.67 cfs 1.816 af
24.0" Round Culvert n=0.013 L=160.7' S=0.0072 '/' Outflow=11.67 cfs 1.816 af

Pond POA: Inflow=24.42 cfs 3.745 af
Primary=24.42 cfs 3.745 af

Total Runoff Area = 12.099 ac Runoff Volume = 3.745 af Average Runoff Depth = 3.71"
16.60% Pervious = 2.009 ac 83.40% Impervious = 10.090 ac

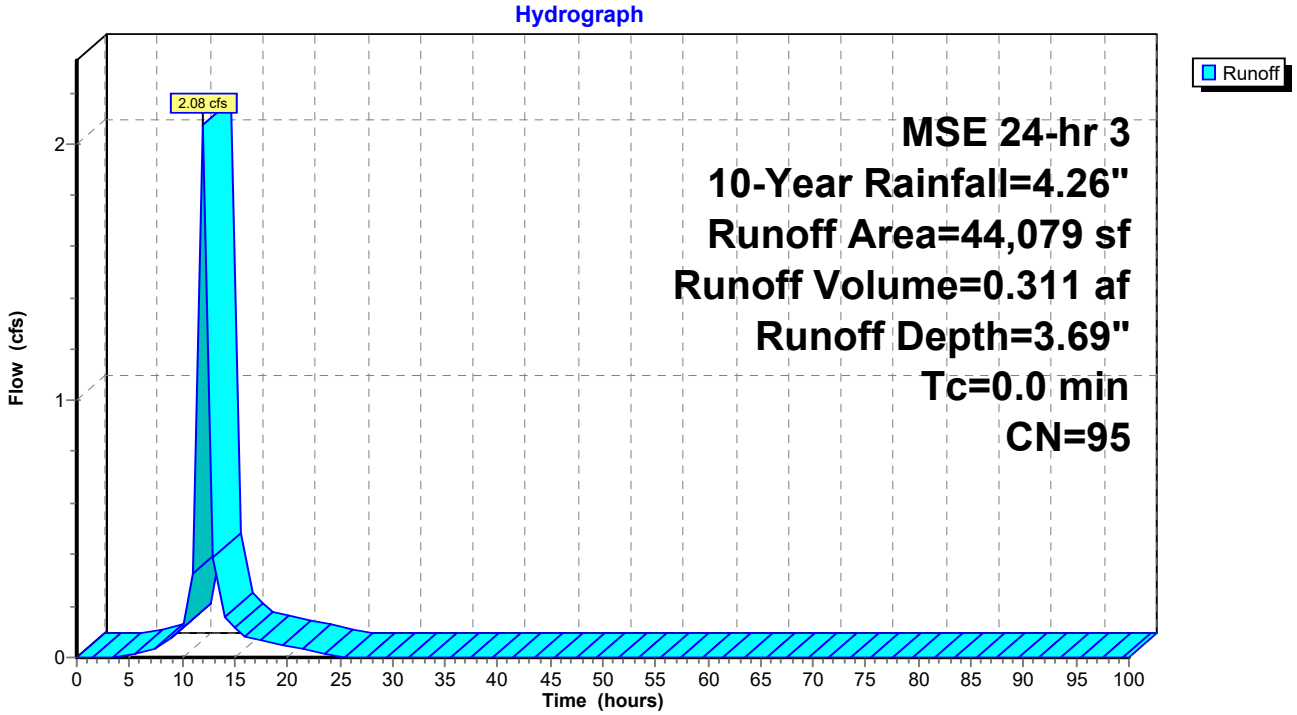
Summary for Subcatchment P1:

Runoff = 2.08 cfs @ 12.01 hrs, Volume= 0.311 af, Depth= 3.69"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
37,486	98	Paved parking, HSG D
6,593	80	>75% Grass cover, Good, HSG D
44,079	95	Weighted Average
6,593		14.96% Pervious Area
37,486		85.04% Impervious Area

Subcatchment P1:



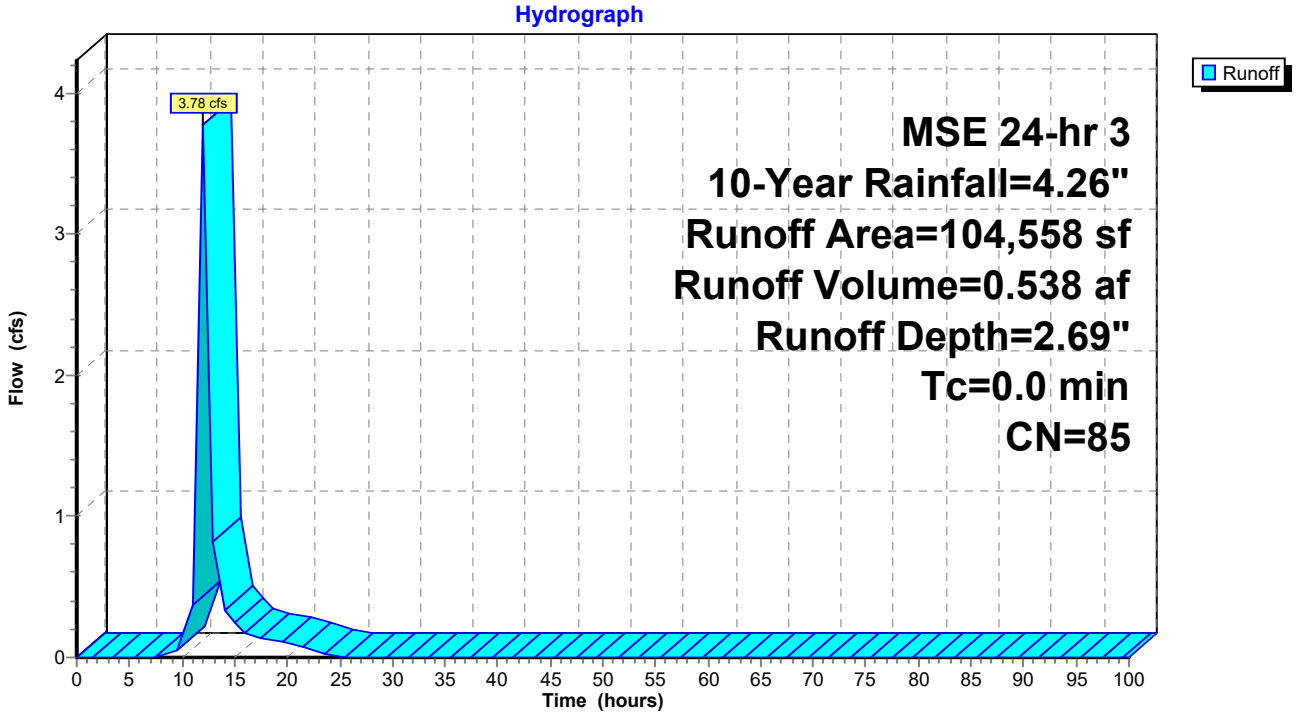
Summary for Subcatchment P10:

Runoff = 3.78 cfs @ 12.04 hrs, Volume= 0.538 af, Depth= 2.69"
Routed to Pond POA :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
28,454	98	Paved parking, HSG D
76,104	80	>75% Grass cover, Good, HSG D
104,558	85	Weighted Average
76,104		72.79% Pervious Area
28,454		27.21% Impervious Area

Subcatchment P10:



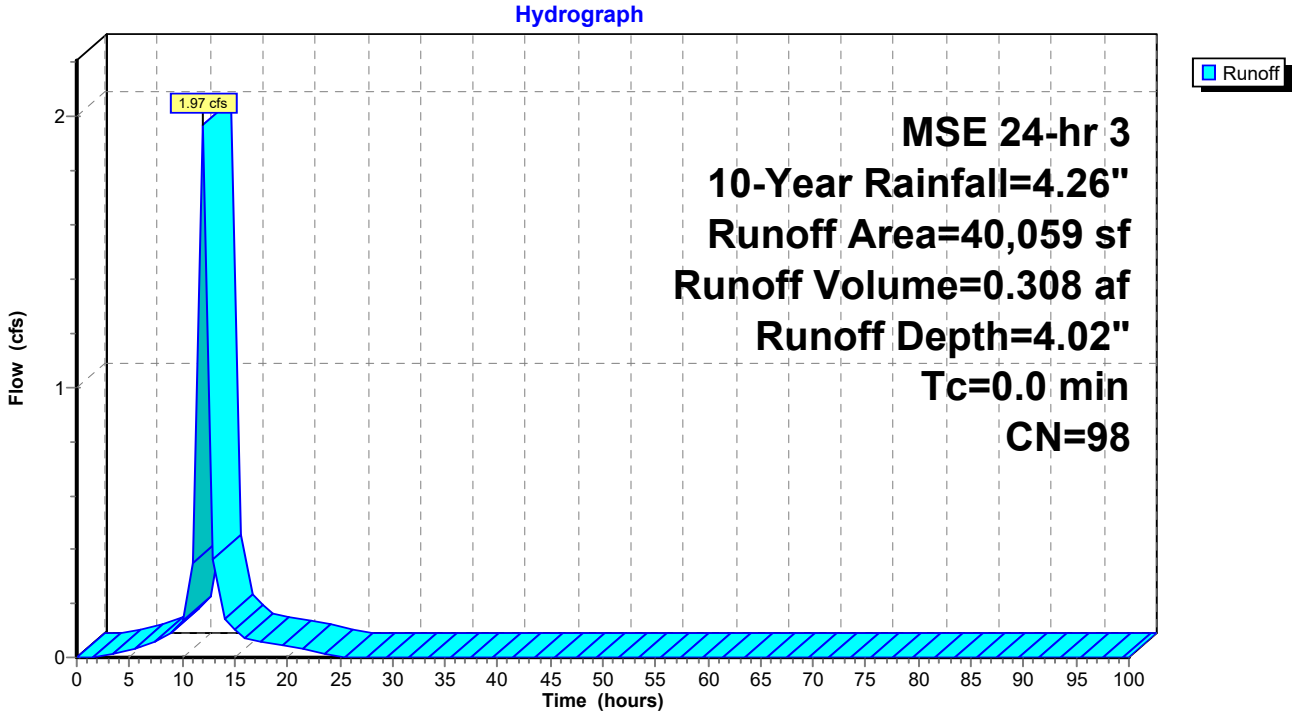
Summary for Subcatchment P2:

Runoff = 1.97 cfs @ 12.00 hrs, Volume= 0.308 af, Depth= 4.02"
Routed to Pond CB2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
39,537	98	Paved parking, HSG D
522	80	>75% Grass cover, Good, HSG D
40,059	98	Weighted Average
522		1.30% Pervious Area
39,537		98.70% Impervious Area

Subcatchment P2:



Summary for Subcatchment P3:

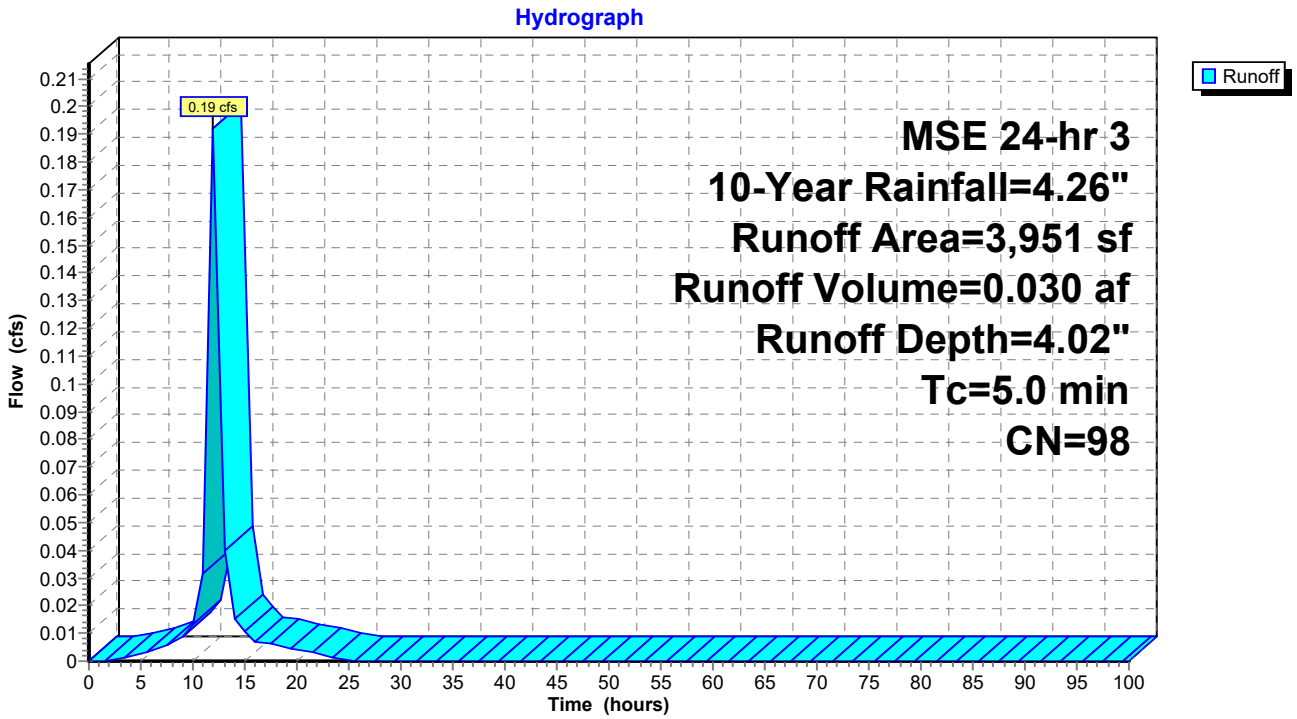
Runoff = 0.19 cfs @ 12.01 hrs, Volume= 0.030 af, Depth= 4.02"
Routed to Pond CB3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
3,951	98	Paved parking, HSG D
3,951		100.00% Impervious Area

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

Subcatchment P3:



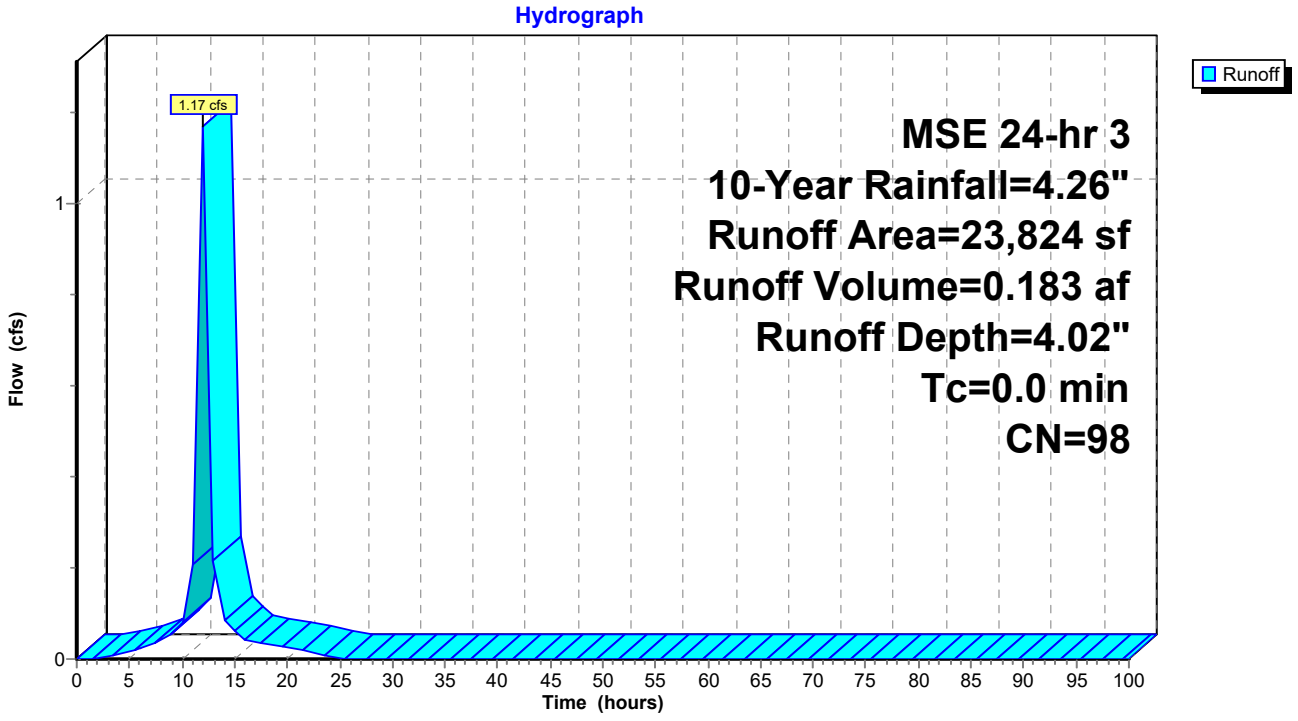
Summary for Subcatchment P4:

Runoff = 1.17 cfs @ 12.00 hrs, Volume= 0.183 af, Depth= 4.02"
Routed to Pond CB4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
23,824	98	Paved parking, HSG D
23,824		100.00% Impervious Area

Subcatchment P4:



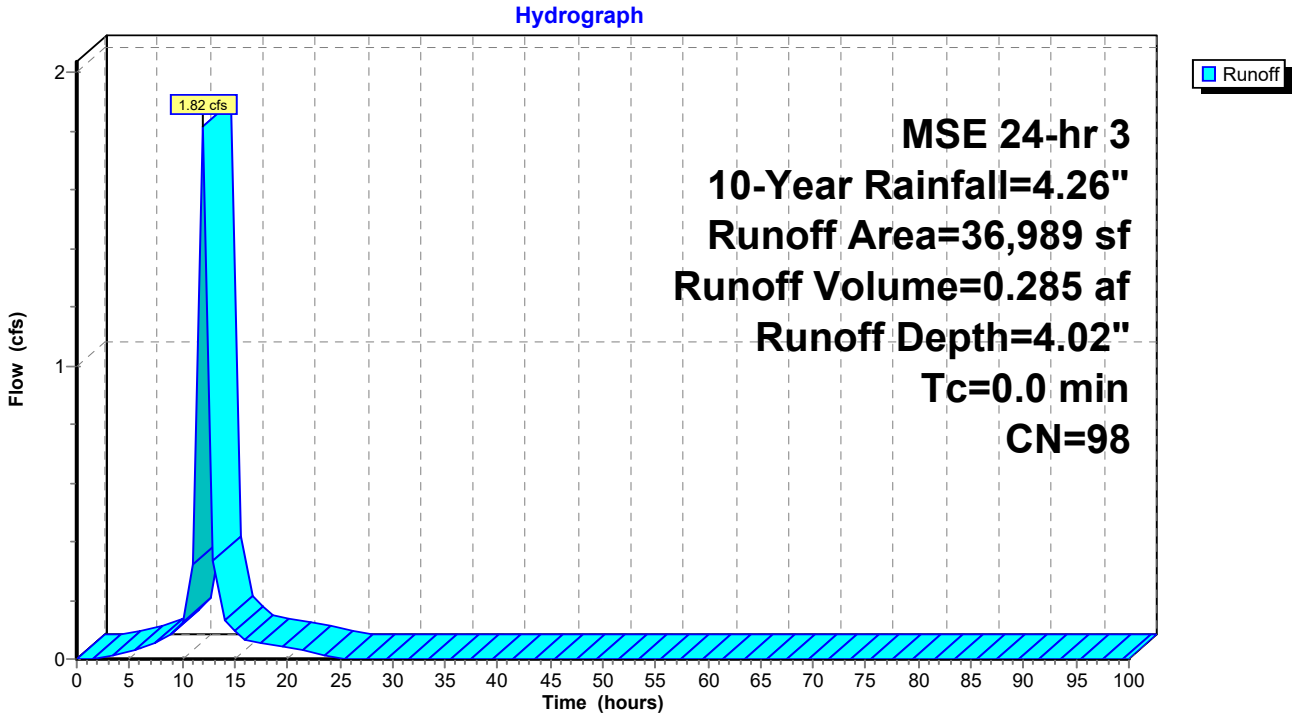
Summary for Subcatchment P5:

Runoff = 1.82 cfs @ 12.00 hrs, Volume= 0.285 af, Depth= 4.02"
Routed to Pond CB5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
36,989	98	Paved parking, HSG D
36,989		100.00% Impervious Area

Subcatchment P5:



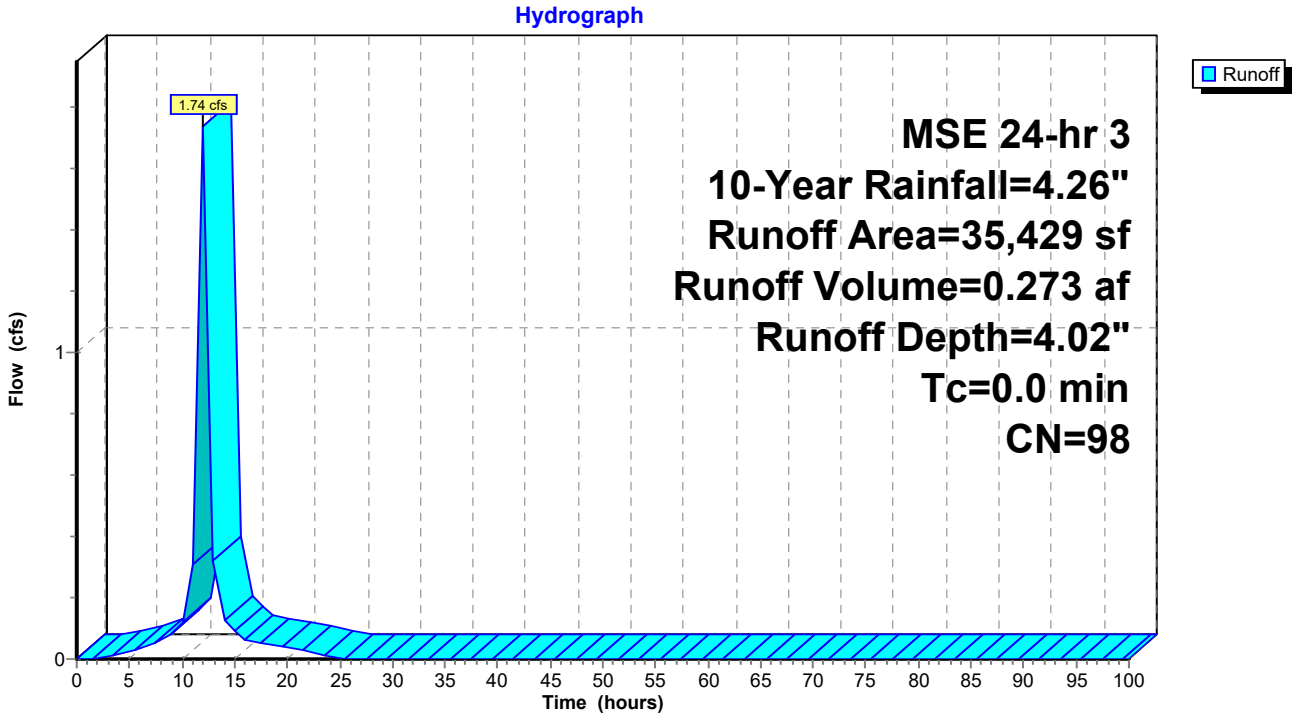
Summary for Subcatchment P6:

Runoff = 1.74 cfs @ 12.00 hrs, Volume= 0.273 af, Depth= 4.02"
Routed to Pond CB6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
35,429	98	Paved parking, HSG D
35,429		100.00% Impervious Area

Subcatchment P6:



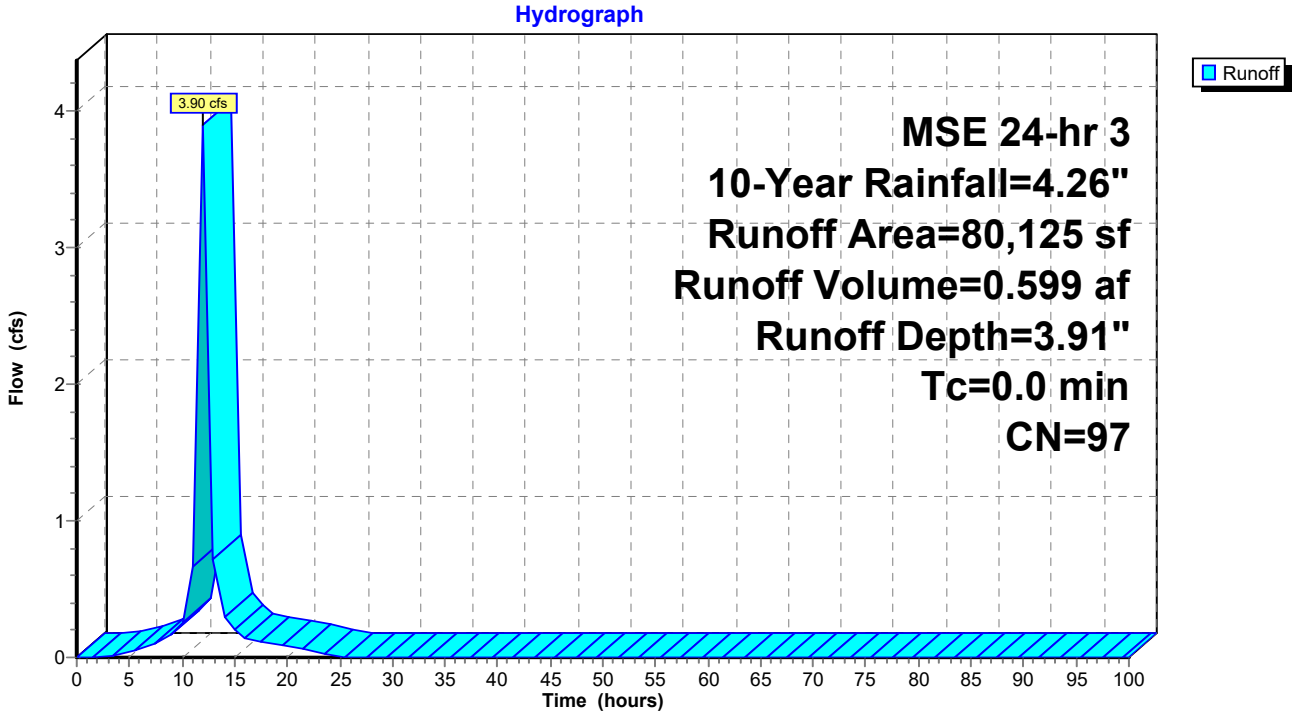
Summary for Subcatchment P7:

Runoff = 3.90 cfs @ 12.00 hrs, Volume= 0.599 af, Depth= 3.91"
Routed to Pond CB7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
75,849	98	Paved parking, HSG D
4,276	80	>75% Grass cover, Good, HSG D
80,125	97	Weighted Average
4,276		5.34% Pervious Area
75,849		94.66% Impervious Area

Subcatchment P7:



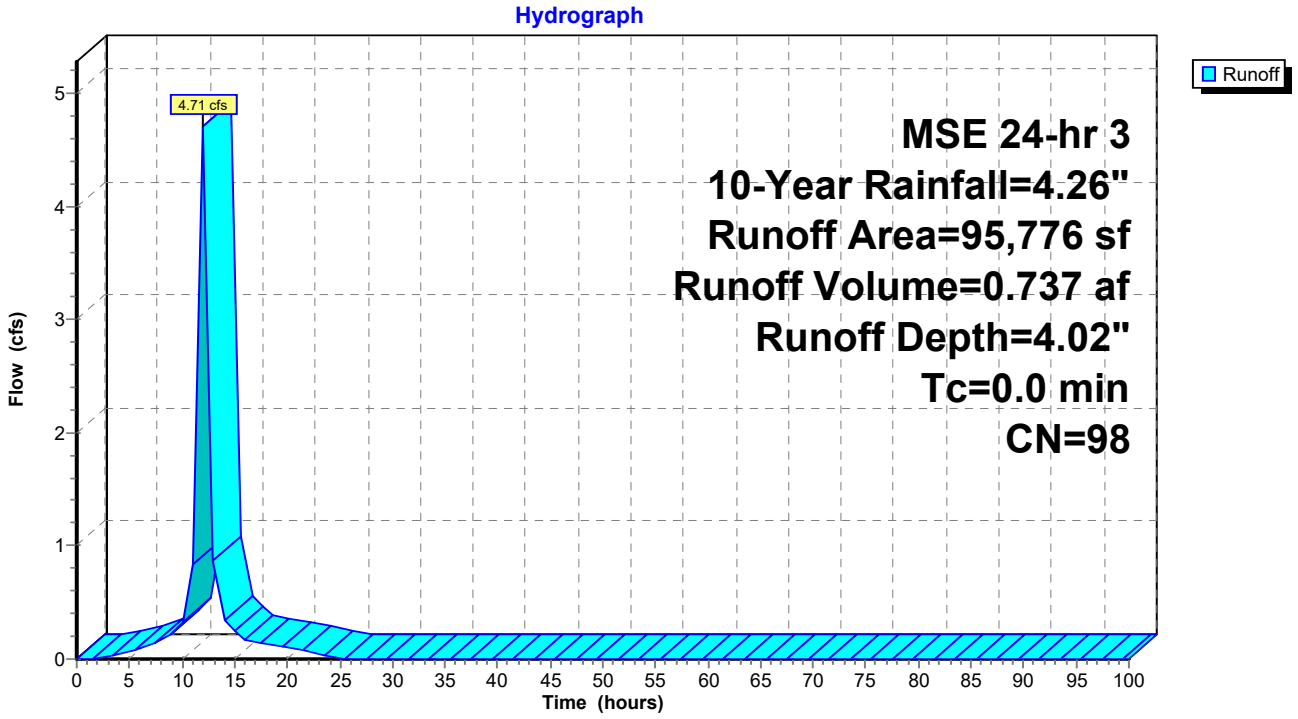
Summary for Subcatchment P8:

Runoff = 4.71 cfs @ 12.00 hrs, Volume= 0.737 af, Depth= 4.02"
Routed to Pond CB8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
95,776	98	Paved parking, HSG D
95,776		100.00% Impervious Area

Subcatchment P8:



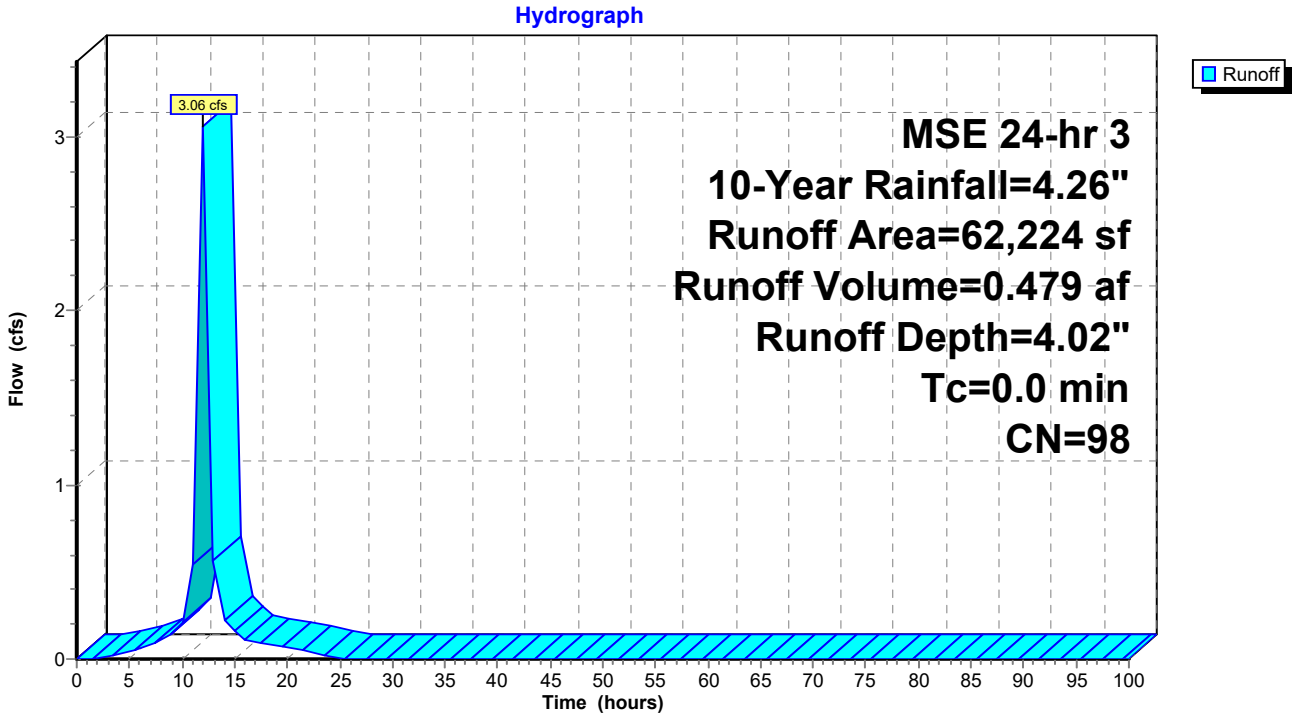
Summary for Subcatchment P9:

Runoff = 3.06 cfs @ 12.00 hrs, Volume= 0.479 af, Depth= 4.02"
Routed to Pond CB9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
62,224	98	Paved parking, HSG D
62,224		100.00% Impervious Area

Subcatchment P9:



Summary for Pond CB1:

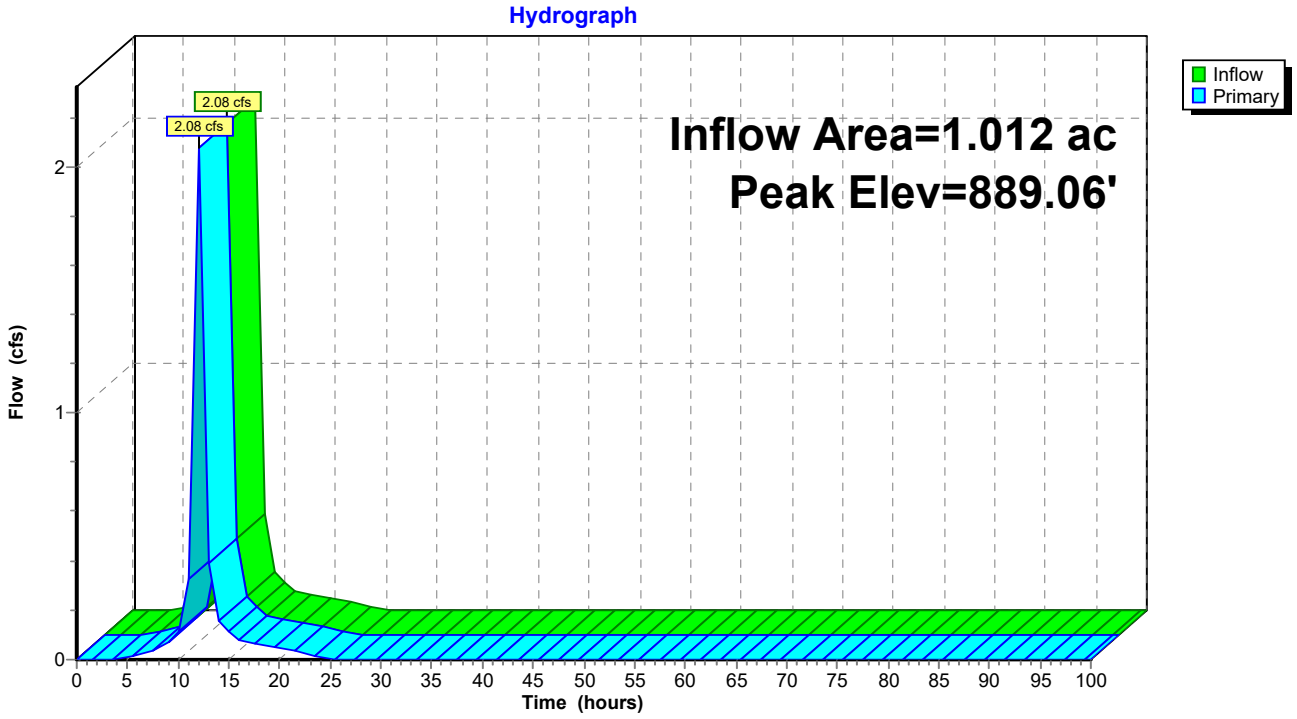
Inflow Area = 1.012 ac, 85.04% Impervious, Inflow Depth = 3.69" for 10-Year event
Inflow = 2.08 cfs @ 12.01 hrs, Volume= 0.311 af
Outflow = 2.08 cfs @ 12.01 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min
Primary = 2.08 cfs @ 12.01 hrs, Volume= 0.311 af
Routed to Pond CB2P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 889.06' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**15.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.53' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.06 cfs @ 12.01 hrs HW=889.05' (Free Discharge)
└**1=Culvert** (Passes 2.06 cfs of 7.18 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 2.06 cfs @ 1.36 fps)

Pond CB1:



Summary for Pond CB2:

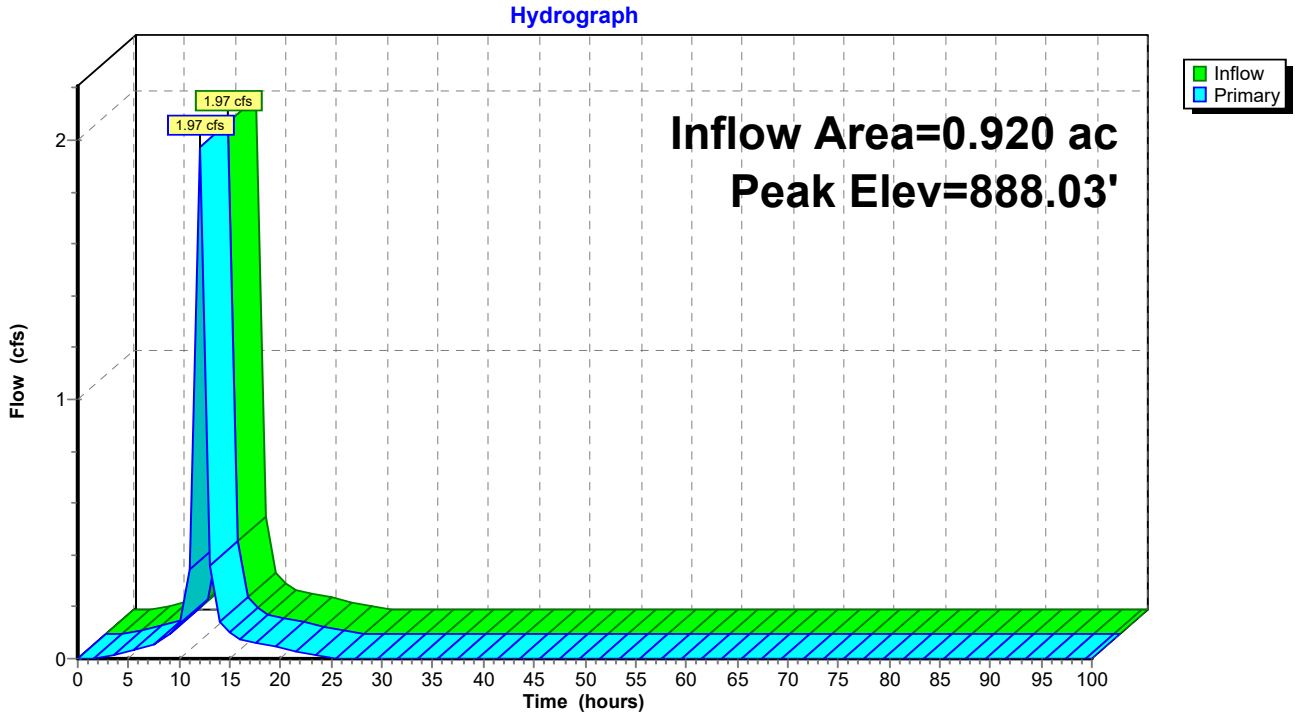
Inflow Area = 0.920 ac, 98.70% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 1.97 cfs @ 12.00 hrs, Volume= 0.308 af
Outflow = 1.97 cfs @ 12.00 hrs, Volume= 0.308 af, Atten= 0%, Lag= 0.0 min
Primary = 1.97 cfs @ 12.00 hrs, Volume= 0.308 af
Routed to Pond CB2P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.03' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.97 cfs @ 12.00 hrs HW=888.02' (Free Discharge)
1=Orifice/Grate (Orifice Controls 1.97 cfs @ 1.34 fps)

Pond CB2:



Summary for Pond CB2P:

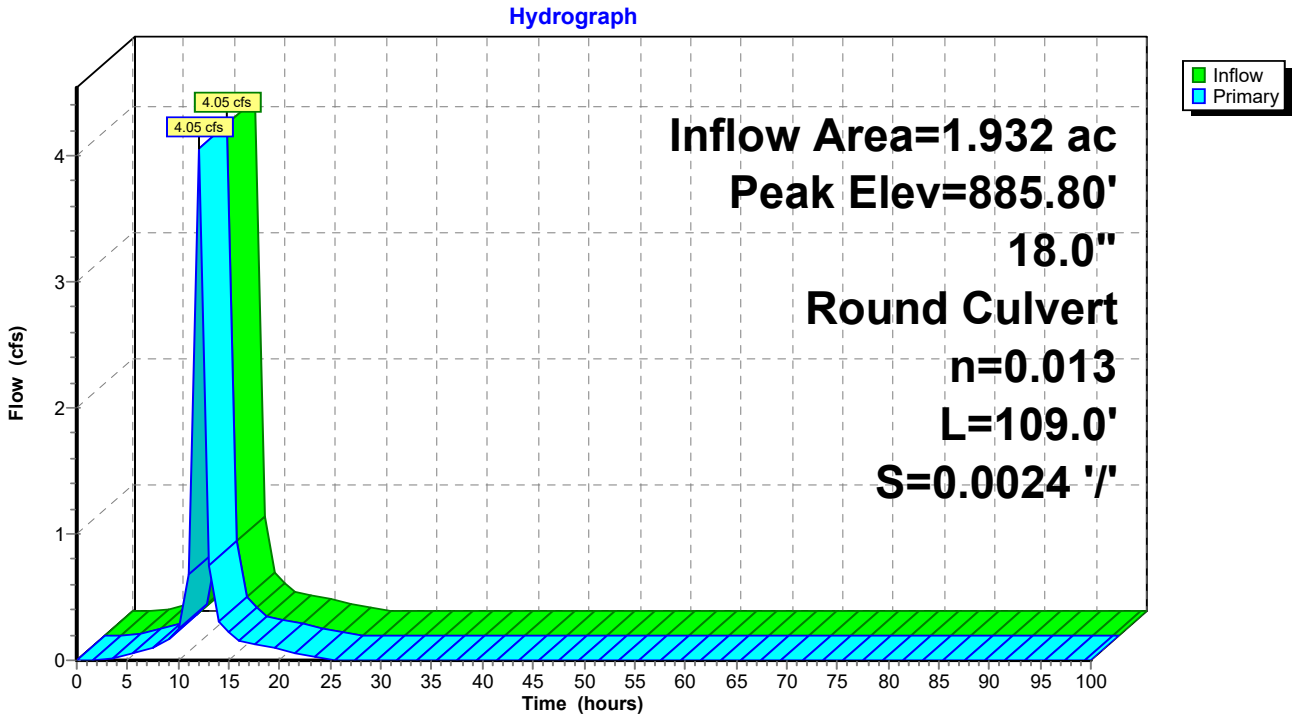
Inflow Area = 1.932 ac, 91.54% Impervious, Inflow Depth = 3.85" for 10-Year event
Inflow = 4.05 cfs @ 12.01 hrs, Volume= 0.619 af
Outflow = 4.05 cfs @ 12.01 hrs, Volume= 0.619 af, Atten= 0%, Lag= 0.0 min
Primary = 4.05 cfs @ 12.01 hrs, Volume= 0.619 af
Routed to Pond CB3P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.80' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.53'	**18.0" Round Culvert** L= 109.0' Ke= 0.500 Inlet / Outlet Invert= 884.53' / 884.27' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=4.03 cfs @ 12.01 hrs HW=885.79' (Free Discharge)
1=Culvert (Barrel Controls 4.03 cfs @ 3.42 fps)

Pond CB2P:



Summary for Pond CB3:

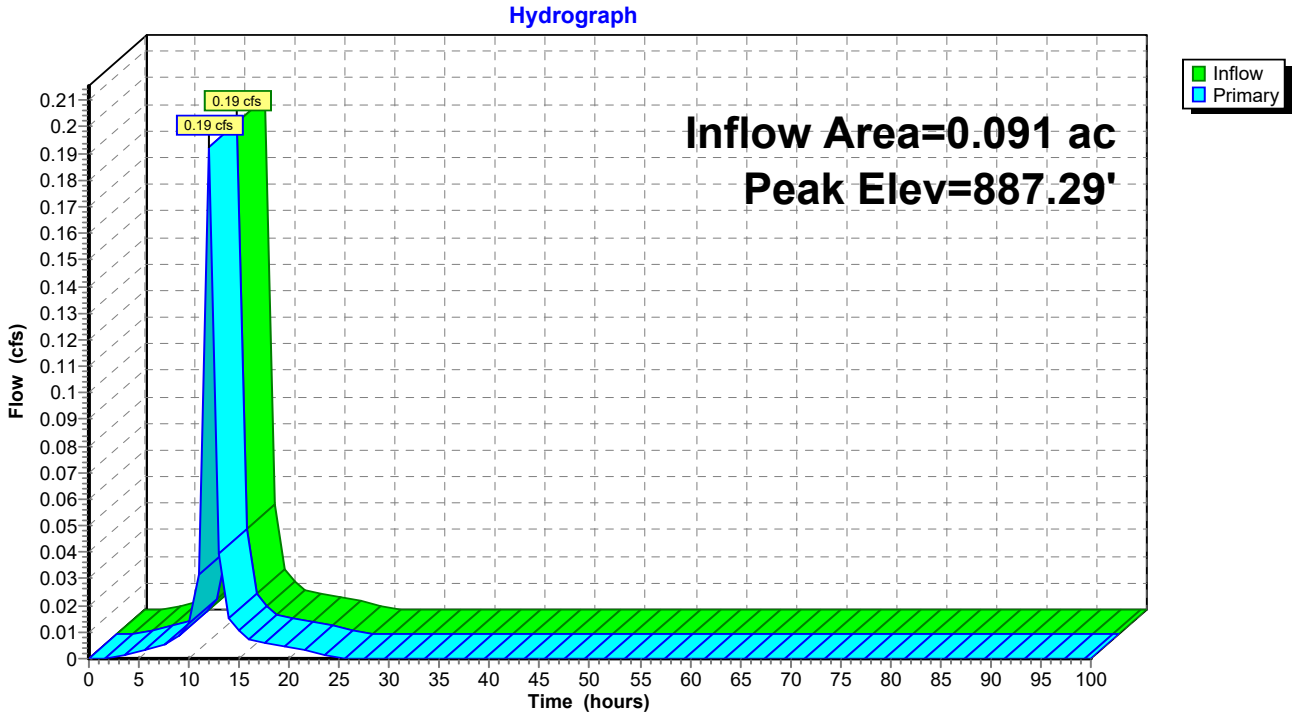
Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 0.19 cfs @ 12.01 hrs, Volume= 0.030 af
Outflow = 0.19 cfs @ 12.01 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.19 cfs @ 12.01 hrs, Volume= 0.030 af
Routed to Pond CB3P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.29' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 12.01 hrs HW=887.29' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.19 cfs @ 0.72 fps)

Pond CB3:



Summary for Pond CB3P:

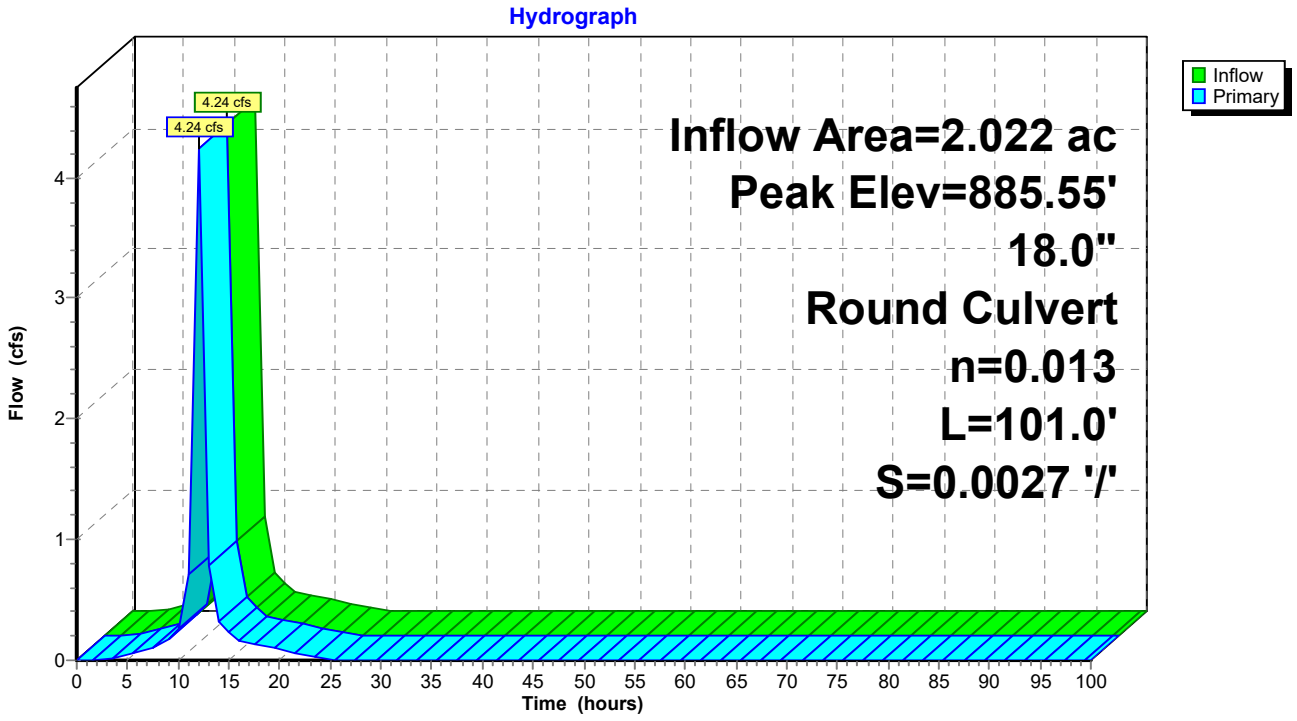
Inflow Area = 2.022 ac, 91.92% Impervious, Inflow Depth = 3.86" for 10-Year event
Inflow = 4.24 cfs @ 12.01 hrs, Volume= 0.650 af
Outflow = 4.24 cfs @ 12.01 hrs, Volume= 0.650 af, Atten= 0%, Lag= 0.0 min
Primary = 4.24 cfs @ 12.01 hrs, Volume= 0.650 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.55' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.27'	**18.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 884.27' / 884.00' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=4.22 cfs @ 12.01 hrs HW=885.55' (Free Discharge)
1=Culvert (Barrel Controls 4.22 cfs @ 3.53 fps)

Pond CB3P:



Summary for Pond CB4:

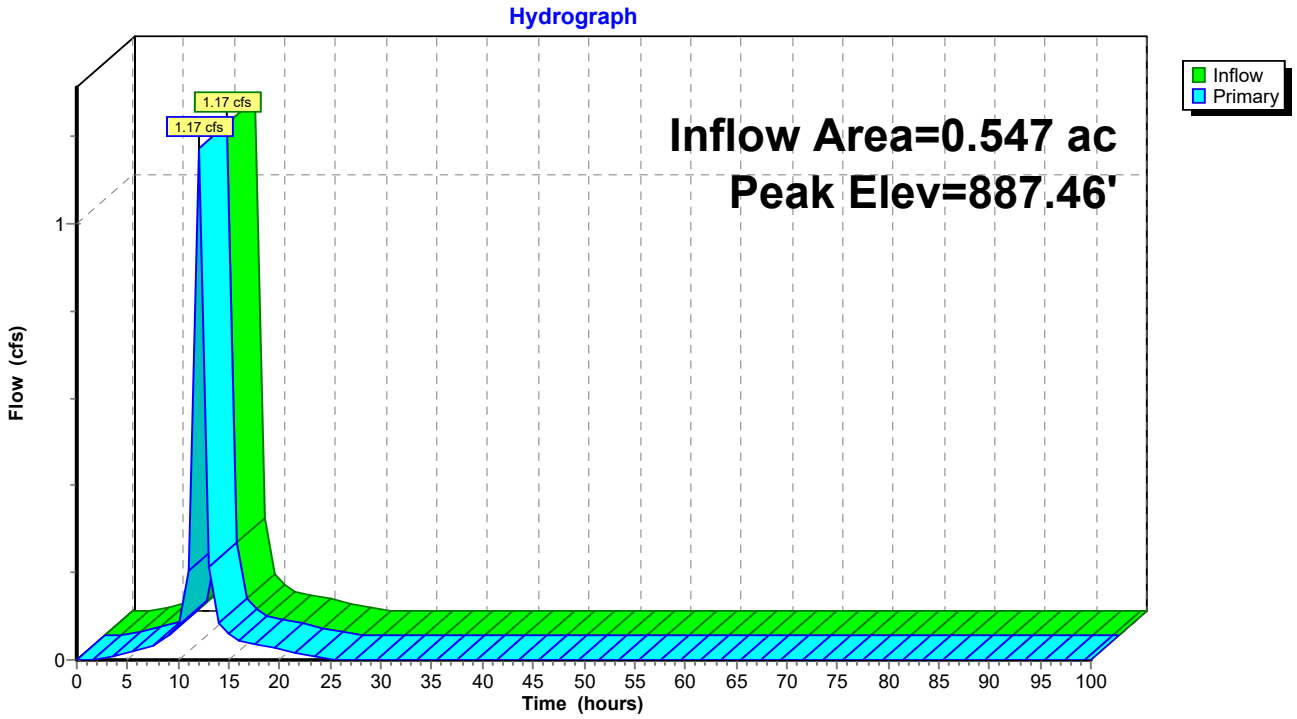
Inflow Area = 0.547 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 1.17 cfs @ 12.00 hrs, Volume= 0.183 af
Outflow = 1.17 cfs @ 12.00 hrs, Volume= 0.183 af, Atten= 0%, Lag= 0.0 min
Primary = 1.17 cfs @ 12.00 hrs, Volume= 0.183 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.46' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.75'	**18.0" Round Culvert** L= 63.0' Ke= 0.500 Inlet / Outlet Invert= 882.75' / 800.67' S= 1.3029 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.17 cfs @ 12.00 hrs HW=887.46' (Free Discharge)
└**1=Culvert** (Passes 1.17 cfs of 16.93 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 1.17 cfs @ 2.31 fps)

Pond CB4:



Summary for Pond CB5:

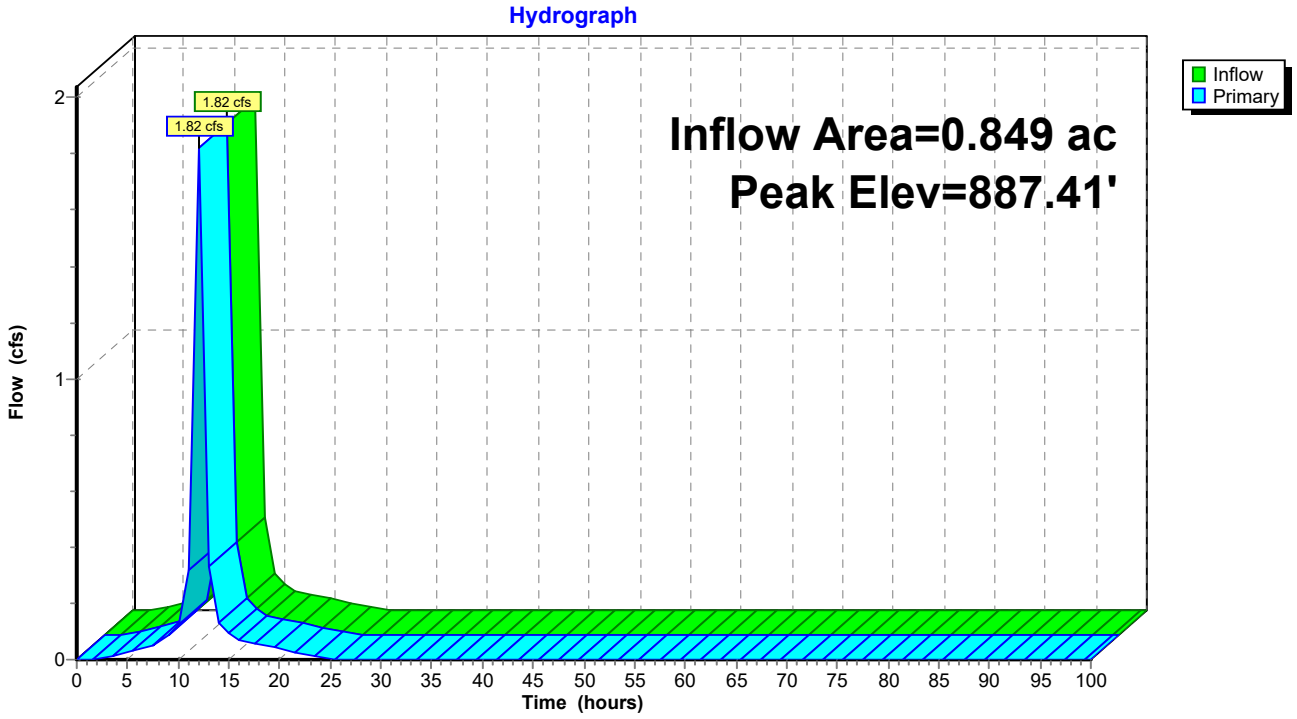
Inflow Area = 0.849 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 1.82 cfs @ 12.00 hrs, Volume= 0.285 af
Outflow = 1.82 cfs @ 12.00 hrs, Volume= 0.285 af, Atten= 0%, Lag= 0.0 min
Primary = 1.82 cfs @ 12.00 hrs, Volume= 0.285 af
Routed to Pond CB6P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.41' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 222.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.10' S= 0.0041 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Horiz. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.82 cfs @ 12.00 hrs HW=887.41' (Free Discharge)
└**1=Culvert** (Passes 1.82 cfs of 8.08 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 1.82 cfs @ 0.81 fps)

Pond CB5:



Summary for Pond CB6:

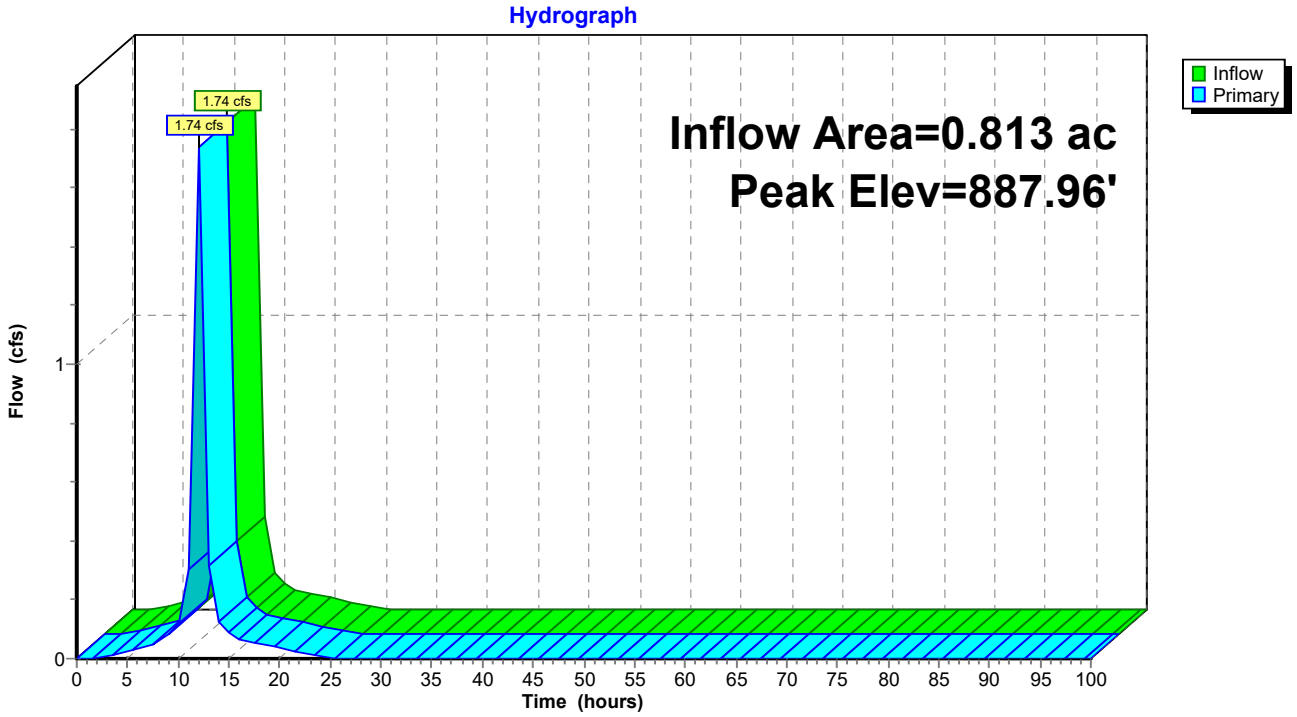
Inflow Area = 0.813 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 1.74 cfs @ 12.00 hrs, Volume= 0.273 af
Outflow = 1.74 cfs @ 12.00 hrs, Volume= 0.273 af, Atten= 0%, Lag= 0.0 min
Primary = 1.74 cfs @ 12.00 hrs, Volume= 0.273 af
Routed to Pond CB6P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.96' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.74 cfs @ 12.00 hrs HW=887.95' (Free Discharge)
1=Orifice/Grate (Orifice Controls 1.74 cfs @ 1.30 fps)

Pond CB6:



Summary for Pond CB6P:

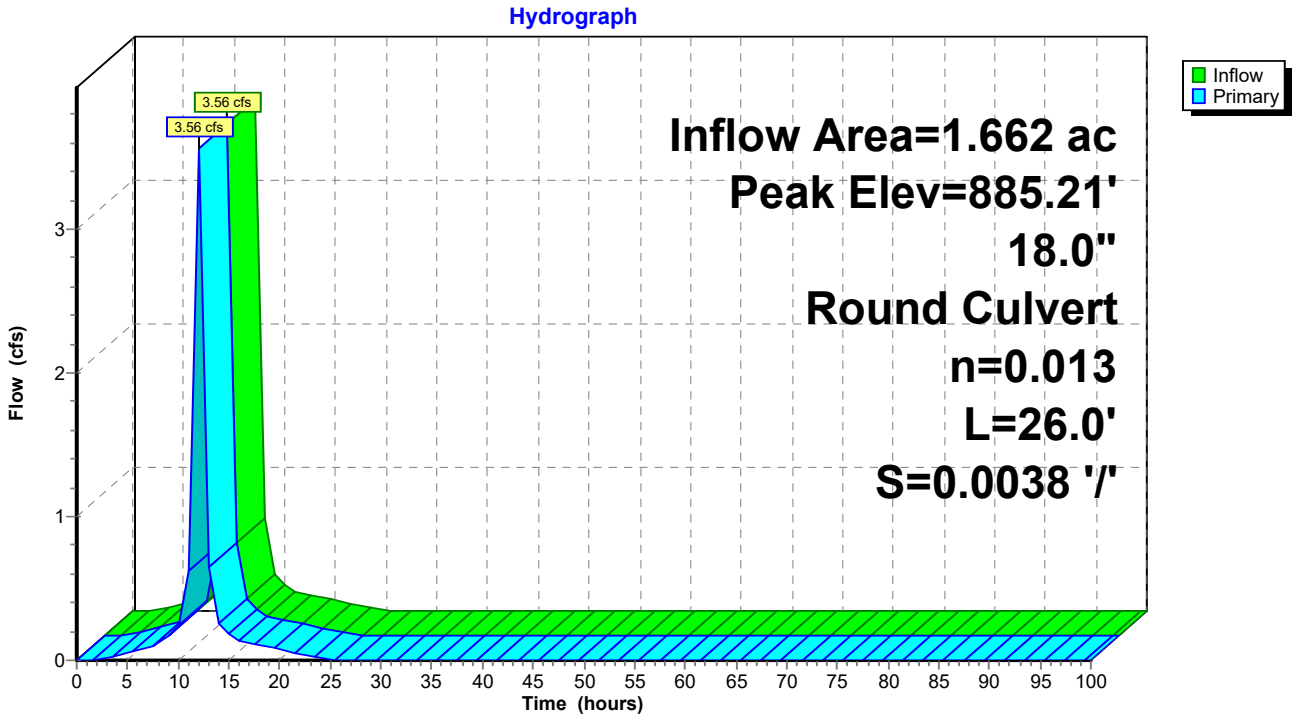
Inflow Area = 1.662 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 3.56 cfs @ 12.00 hrs, Volume= 0.558 af
Outflow = 3.56 cfs @ 12.00 hrs, Volume= 0.558 af, Atten= 0%, Lag= 0.0 min
Primary = 3.56 cfs @ 12.00 hrs, Volume= 0.558 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.21' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.10'	**18.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 884.10' / 884.00' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=3.55 cfs @ 12.00 hrs HW=885.21' (Free Discharge)
1=Culvert (Barrel Controls 3.55 cfs @ 3.54 fps)

Pond CB6P:



Summary for Pond CB7:

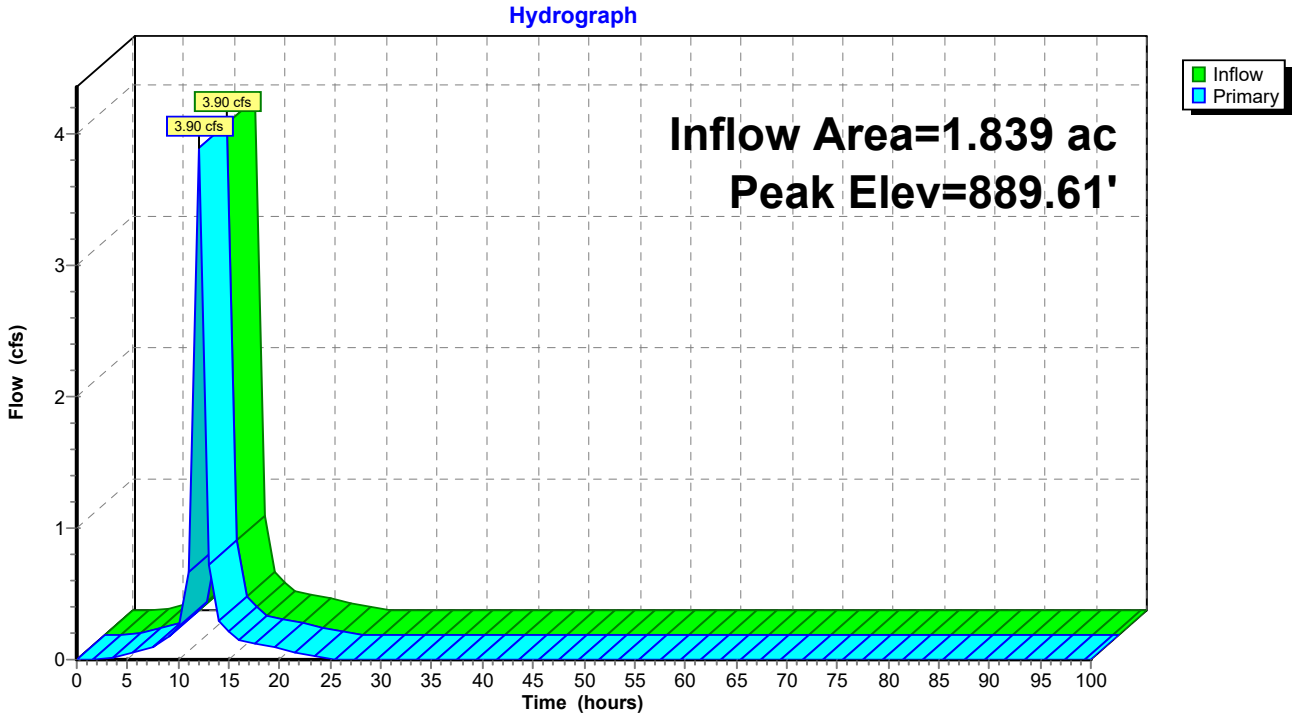
Inflow Area = 1.839 ac, 94.66% Impervious, Inflow Depth = 3.91" for 10-Year event
Inflow = 3.90 cfs @ 12.00 hrs, Volume= 0.599 af
Outflow = 3.90 cfs @ 12.00 hrs, Volume= 0.599 af, Atten= 0%, Lag= 0.0 min
Primary = 3.90 cfs @ 12.00 hrs, Volume= 0.599 af
Routed to Pond CB8P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 889.61' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 201.4' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 883.56' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.89 cfs @ 12.00 hrs HW=889.60' (Free Discharge)
└**1=Culvert** (Passes 3.89 cfs of 13.28 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 3.89 cfs @ 1.68 fps)

Pond CB7:



Summary for Pond CB8:

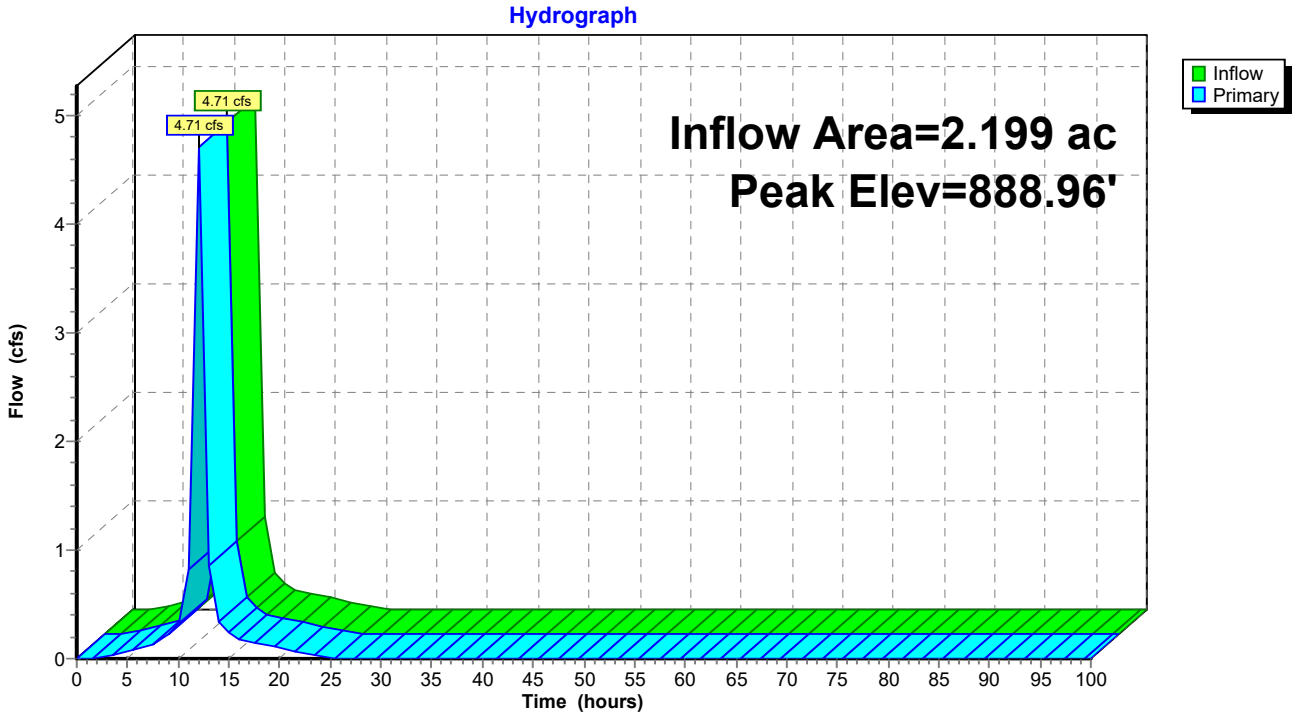
Inflow Area = 2.199 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 4.71 cfs @ 12.00 hrs, Volume= 0.737 af
Outflow = 4.71 cfs @ 12.00 hrs, Volume= 0.737 af, Atten= 0%, Lag= 0.0 min
Primary = 4.71 cfs @ 12.00 hrs, Volume= 0.737 af
Routed to Pond CB8P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.96' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.71 cfs @ 12.00 hrs HW=888.96' (Free Discharge)
1=Orifice/Grate (Orifice Controls 4.71 cfs @ 1.96 fps)

Pond CB8:



Summary for Pond CB8P:

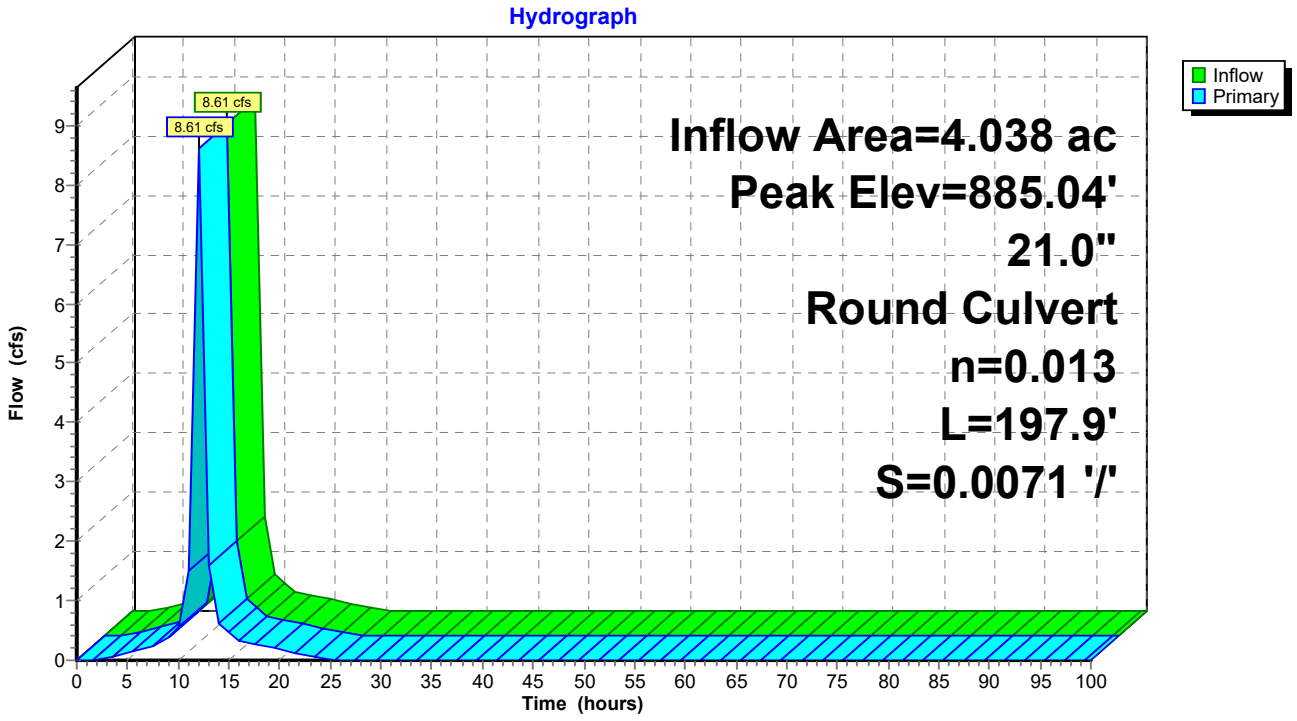
Inflow Area = 4.038 ac, 97.57% Impervious, Inflow Depth = 3.97" for 10-Year event
Inflow = 8.61 cfs @ 12.00 hrs, Volume= 1.337 af
Outflow = 8.61 cfs @ 12.00 hrs, Volume= 1.337 af, Atten= 0%, Lag= 0.0 min
Primary = 8.61 cfs @ 12.00 hrs, Volume= 1.337 af
Routed to Pond CB9P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.04' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	883.56'	**21.0" Round Culvert** L= 197.9' Ke= 0.500 Inlet / Outlet Invert= 883.56' / 882.15' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 2.41 sf

Primary OutFlow Max=8.59 cfs @ 12.00 hrs HW=885.03' (Free Discharge)
1=Culvert (Barrel Controls 8.59 cfs @ 5.36 fps)

Pond CB8P:



Summary for Pond CB9:

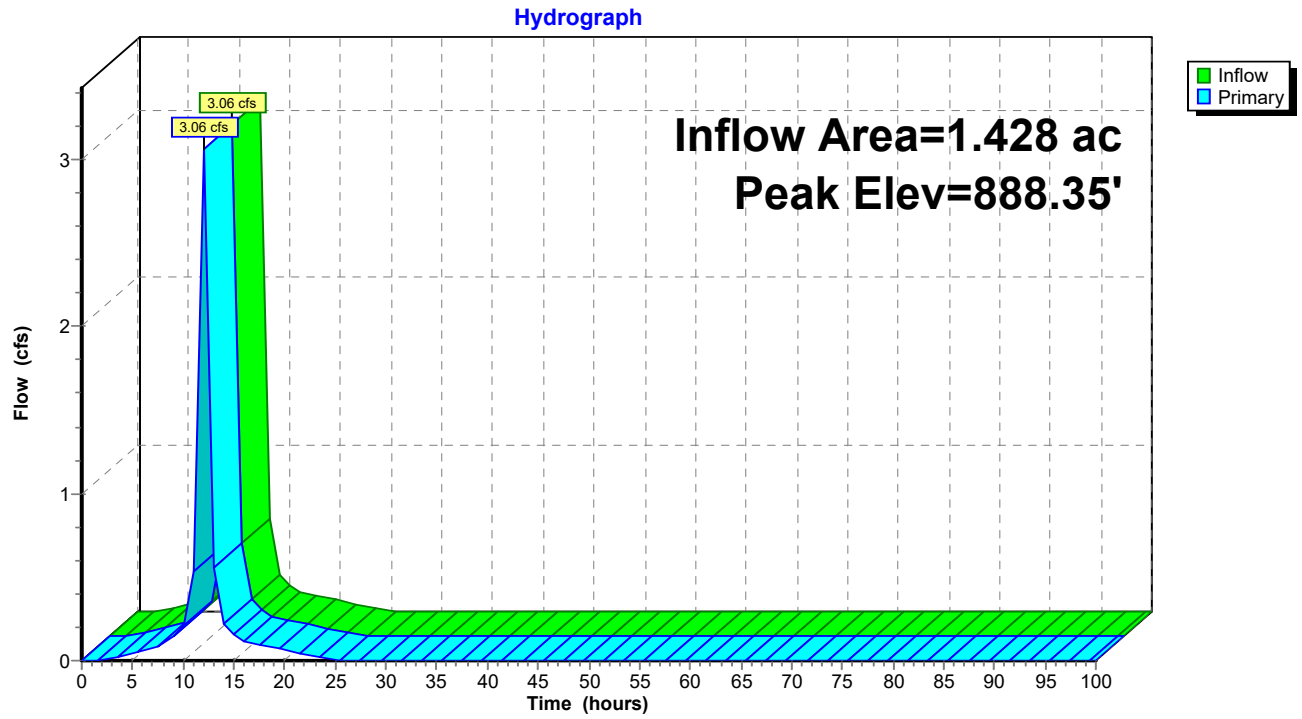
Inflow Area = 1.428 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 3.06 cfs @ 12.00 hrs, Volume= 0.479 af
Outflow = 3.06 cfs @ 12.00 hrs, Volume= 0.479 af, Atten= 0%, Lag= 0.0 min
Primary = 3.06 cfs @ 12.00 hrs, Volume= 0.479 af
Routed to Pond CB9P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.35' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.06 cfs @ 12.00 hrs HW=888.35' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 3.06 cfs @ 1.54 fps)

Pond CB9:



Summary for Pond CB9P:

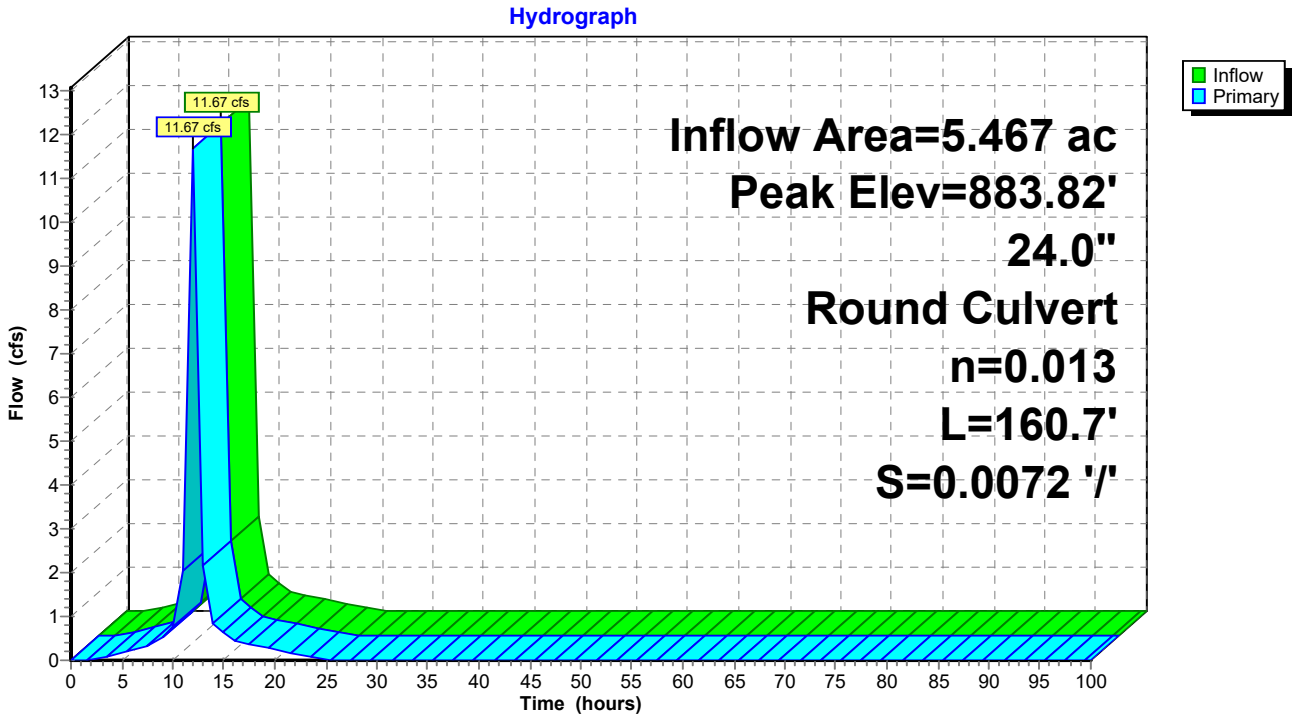
Inflow Area = 5.467 ac, 98.20% Impervious, Inflow Depth = 3.99" for 10-Year event
Inflow = 11.67 cfs @ 12.00 hrs, Volume= 1.816 af
Outflow = 11.67 cfs @ 12.00 hrs, Volume= 1.816 af, Atten= 0%, Lag= 0.0 min
Primary = 11.67 cfs @ 12.00 hrs, Volume= 1.816 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 883.82' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.15'	**24.0" Round Culvert** L= 160.7' Ke= 0.500 Inlet / Outlet Invert= 882.15' / 881.00' S= 0.0072 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=11.64 cfs @ 12.00 hrs HW=883.82' (Free Discharge)
1=Culvert (Barrel Controls 11.64 cfs @ 5.62 fps)

Pond CB9P:

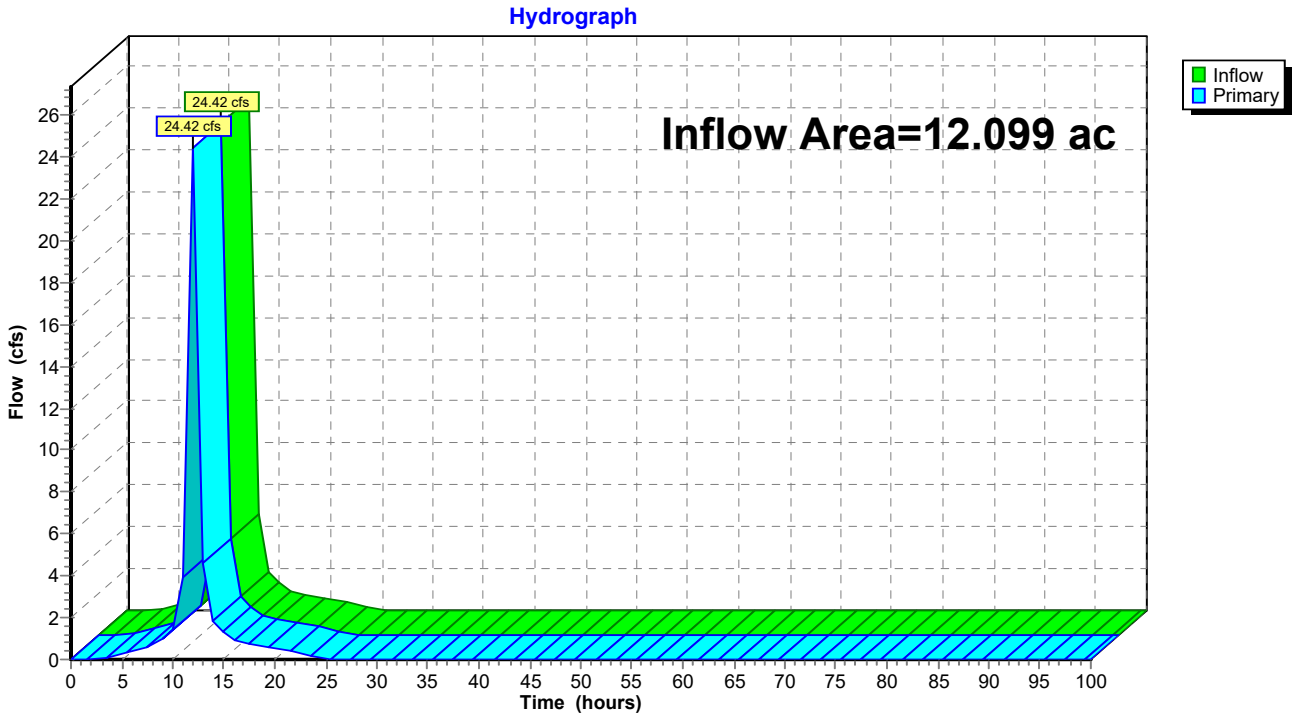


Summary for Pond POA:

Inflow Area = 12.099 ac, 83.40% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 24.42 cfs @ 12.01 hrs, Volume= 3.745 af
Primary = 24.42 cfs @ 12.01 hrs, Volume= 3.745 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs

Pond POA:



Time span=0.00-100.00 hrs, dt=1.00 hrs, 101 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP1: Runoff Area=44,079 sf 85.04% Impervious Runoff Depth=6.72"
Tc=0.0 min CN=95 Runoff=3.69 cfs 0.567 af

SubcatchmentP10: Runoff Area=104,558 sf 27.21% Impervious Runoff Depth=5.56"
Tc=0.0 min CN=85 Runoff=7.69 cfs 1.112 af

SubcatchmentP2: Runoff Area=40,059 sf 98.70% Impervious Runoff Depth=7.08"
Tc=0.0 min CN=98 Runoff=3.41 cfs 0.543 af

SubcatchmentP3: Runoff Area=3,951 sf 100.00% Impervious Runoff Depth=7.08"
Tc=5.0 min CN=98 Runoff=0.33 cfs 0.054 af

SubcatchmentP4: Runoff Area=23,824 sf 100.00% Impervious Runoff Depth=7.08"
Tc=0.0 min CN=98 Runoff=2.03 cfs 0.323 af

SubcatchmentP5: Runoff Area=36,989 sf 100.00% Impervious Runoff Depth=7.08"
Tc=0.0 min CN=98 Runoff=3.15 cfs 0.501 af

SubcatchmentP6: Runoff Area=35,429 sf 100.00% Impervious Runoff Depth=7.08"
Tc=0.0 min CN=98 Runoff=3.01 cfs 0.480 af

SubcatchmentP7: Runoff Area=80,125 sf 94.66% Impervious Runoff Depth=6.96"
Tc=0.0 min CN=97 Runoff=6.79 cfs 1.067 af

SubcatchmentP8: Runoff Area=95,776 sf 100.00% Impervious Runoff Depth=7.08"
Tc=0.0 min CN=98 Runoff=8.15 cfs 1.297 af

SubcatchmentP9: Runoff Area=62,224 sf 100.00% Impervious Runoff Depth=7.08"
Tc=0.0 min CN=98 Runoff=5.29 cfs 0.843 af

Pond CB1: Peak Elev=889.54' Inflow=3.69 cfs 0.567 af
Outflow=3.69 cfs 0.567 af

Pond CB2: Peak Elev=888.45' Inflow=3.41 cfs 0.543 af
Outflow=3.41 cfs 0.543 af

Pond CB2P: Peak Elev=886.64' Inflow=7.09 cfs 1.110 af
18.0" Round Culvert n=0.013 L=109.0' S=0.0024 '/' Outflow=7.09 cfs 1.110 af

Pond CB3: Peak Elev=887.39' Inflow=0.33 cfs 0.054 af
Outflow=0.33 cfs 0.054 af

Pond CB3P: Peak Elev=886.42' Inflow=7.43 cfs 1.163 af
18.0" Round Culvert n=0.013 L=101.0' S=0.0027 '/' Outflow=7.43 cfs 1.163 af

Pond CB4: Peak Elev=887.62' Inflow=2.03 cfs 0.323 af
Outflow=2.03 cfs 0.323 af

Pond CB5: Peak Elev=887.59' Inflow=3.15 cfs 0.501 af
Outflow=3.15 cfs 0.501 af

Pond CB6: Peak Elev=888.33' Inflow=3.01 cfs 0.480 af
Outflow=3.01 cfs 0.480 af

Pond CB6P: Peak Elev=885.68' Inflow=6.16 cfs 0.981 af
18.0" Round Culvert n=0.013 L=26.0' S=0.0038 '/' Outflow=6.16 cfs 0.981 af

Pond CB7: Peak Elev=891.13' Inflow=6.79 cfs 1.067 af
Outflow=6.79 cfs 1.067 af

Pond CB8: Peak Elev=891.13' Inflow=8.15 cfs 1.297 af
Outflow=8.15 cfs 1.297 af

Pond CB8P: Peak Elev=886.56' Inflow=14.94 cfs 2.364 af
21.0" Round Culvert n=0.013 L=197.9' S=0.0071 '/' Outflow=14.94 cfs 2.364 af

Pond CB9: Peak Elev=889.25' Inflow=5.29 cfs 0.843 af
Outflow=5.29 cfs 0.843 af

Pond CB9P: Peak Elev=885.26' Inflow=20.23 cfs 3.207 af
24.0" Round Culvert n=0.013 L=160.7' S=0.0072 '/' Outflow=20.23 cfs 3.207 af

Pond POA: Inflow=43.53 cfs 6.786 af
Primary=43.53 cfs 6.786 af

Total Runoff Area = 12.099 ac Runoff Volume = 6.786 af Average Runoff Depth = 6.73"
16.60% Pervious = 2.009 ac 83.40% Impervious = 10.090 ac

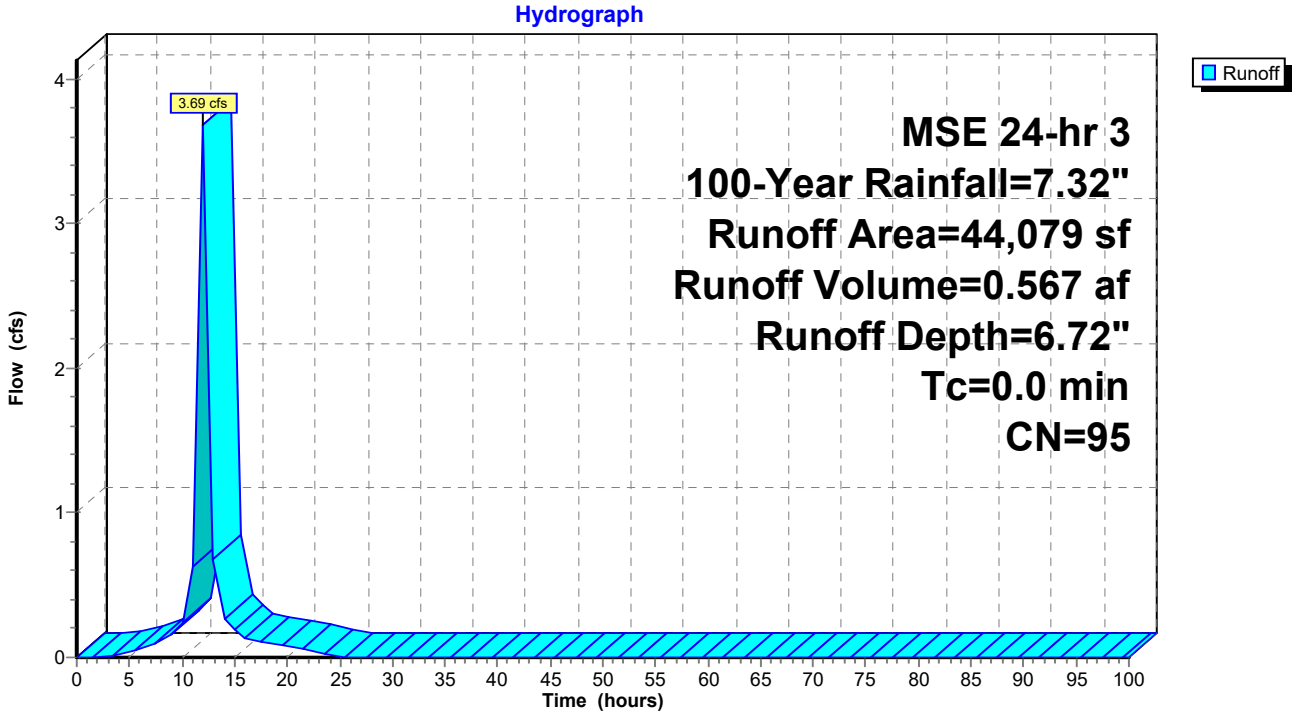
Summary for Subcatchment P1:

Runoff = 3.69 cfs @ 12.00 hrs, Volume= 0.567 af, Depth= 6.72"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
37,486	98	Paved parking, HSG D
6,593	80	>75% Grass cover, Good, HSG D
44,079	95	Weighted Average
6,593		14.96% Pervious Area
37,486		85.04% Impervious Area

Subcatchment P1:



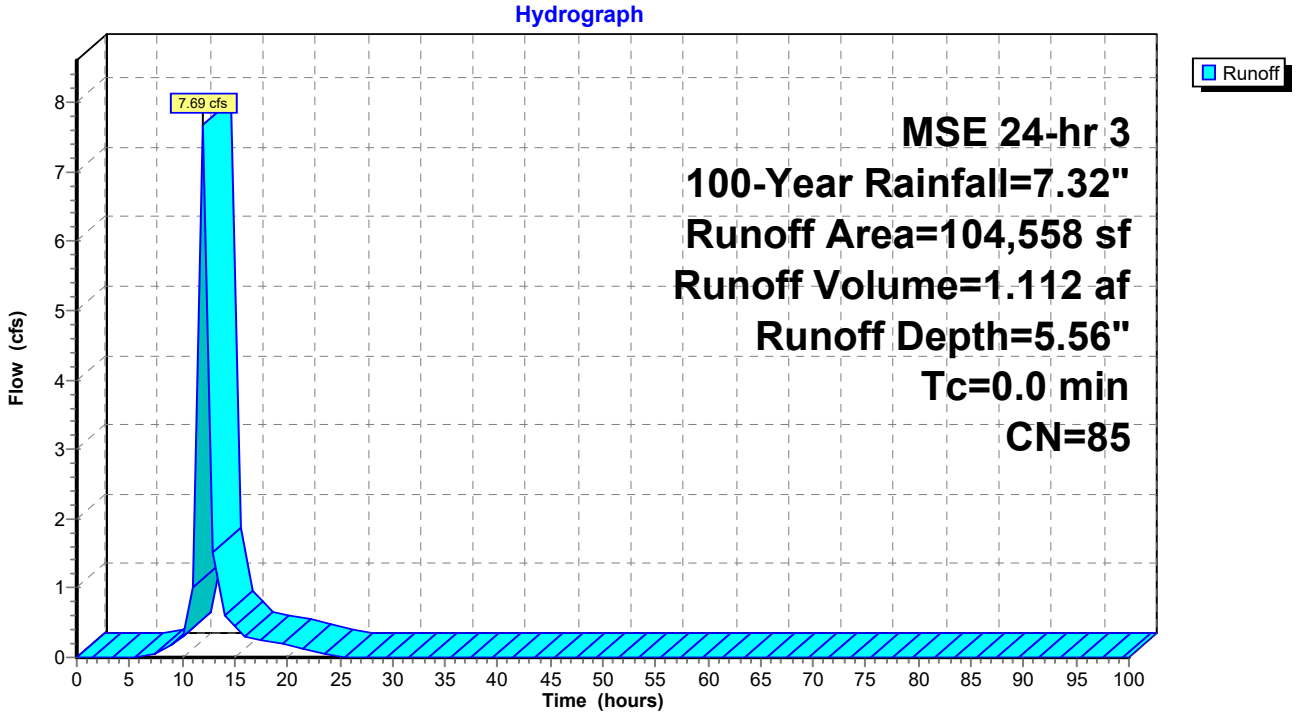
Summary for Subcatchment P10:

Runoff = 7.69 cfs @ 12.02 hrs, Volume= 1.112 af, Depth= 5.56"
Routed to Pond POA :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
28,454	98	Paved parking, HSG D
76,104	80	>75% Grass cover, Good, HSG D
104,558	85	Weighted Average
76,104		72.79% Pervious Area
28,454		27.21% Impervious Area

Subcatchment P10:



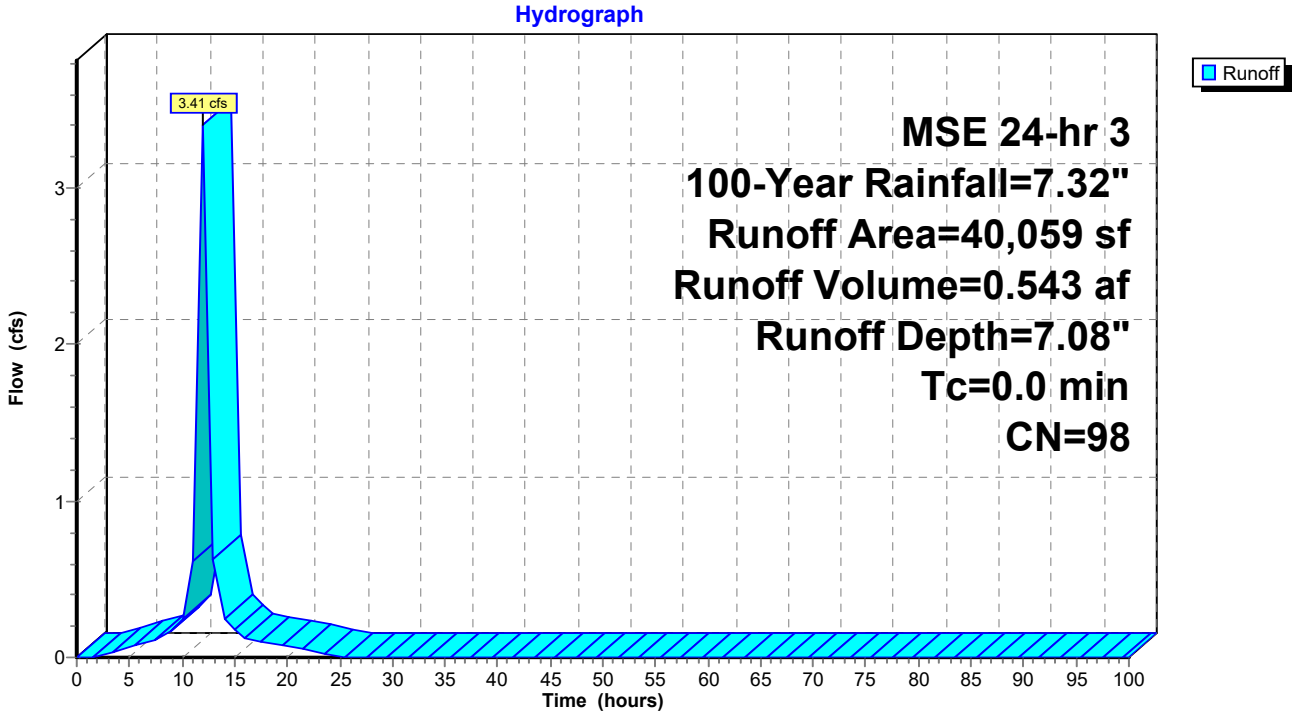
Summary for Subcatchment P2:

Runoff = 3.41 cfs @ 12.00 hrs, Volume= 0.543 af, Depth= 7.08"
Routed to Pond CB2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
39,537	98	Paved parking, HSG D
522	80	>75% Grass cover, Good, HSG D
40,059	98	Weighted Average
522		1.30% Pervious Area
39,537		98.70% Impervious Area

Subcatchment P2:



Summary for Subcatchment P3:

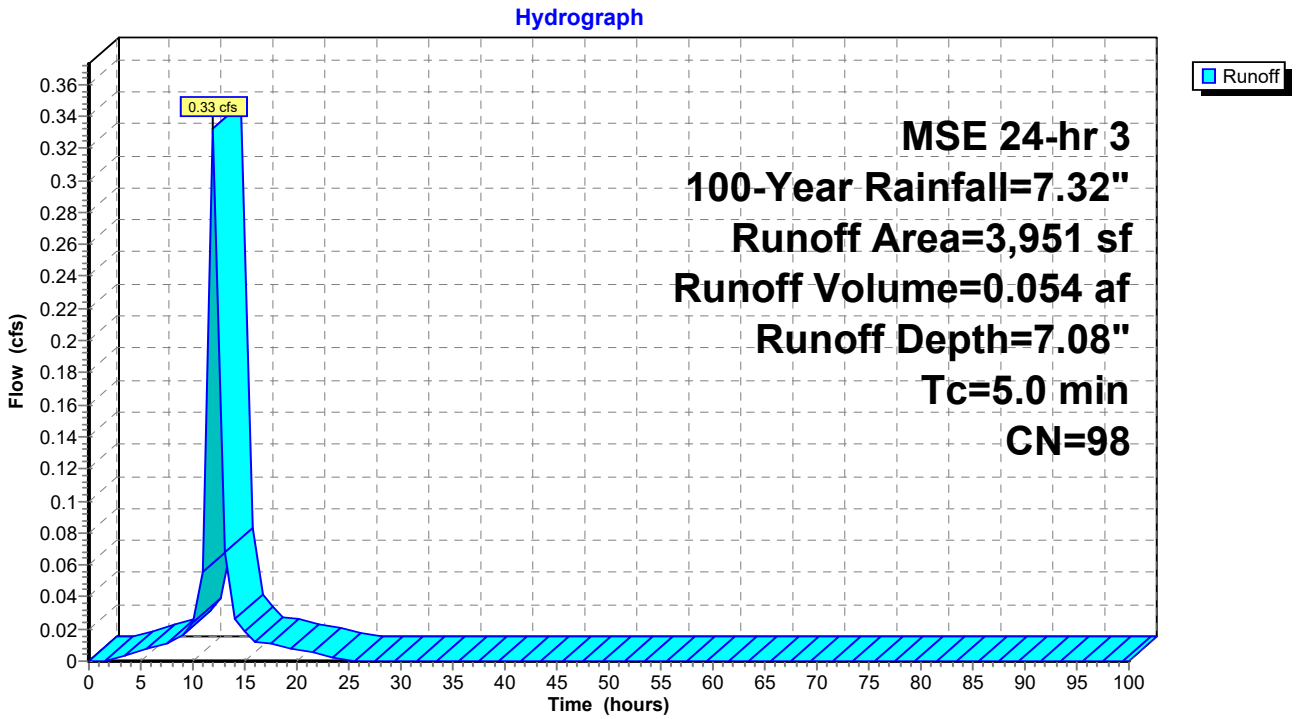
Runoff = 0.33 cfs @ 12.01 hrs, Volume= 0.054 af, Depth= 7.08"
Routed to Pond CB3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
3,951	98	Paved parking, HSG D
3,951		100.00% Impervious Area

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

Subcatchment P3:



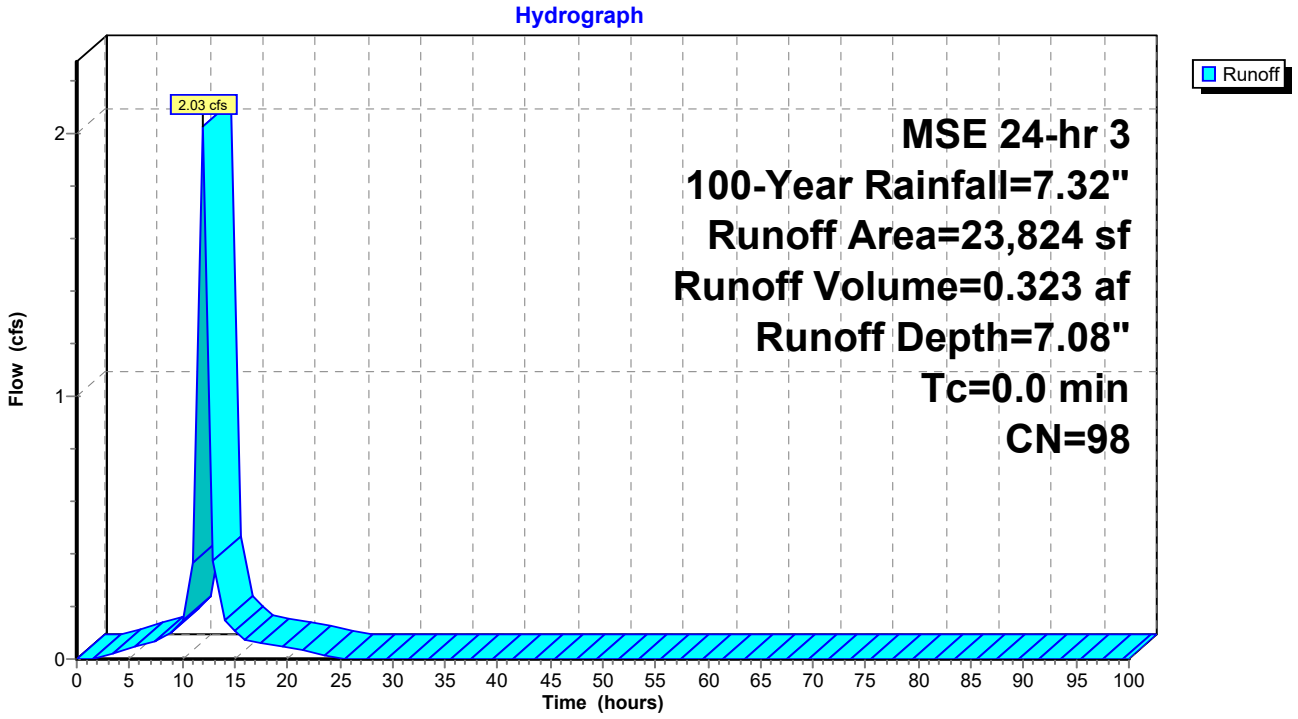
Summary for Subcatchment P4:

Runoff = 2.03 cfs @ 12.00 hrs, Volume= 0.323 af, Depth= 7.08"
Routed to Pond CB4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
23,824	98	Paved parking, HSG D
23,824		100.00% Impervious Area

Subcatchment P4:



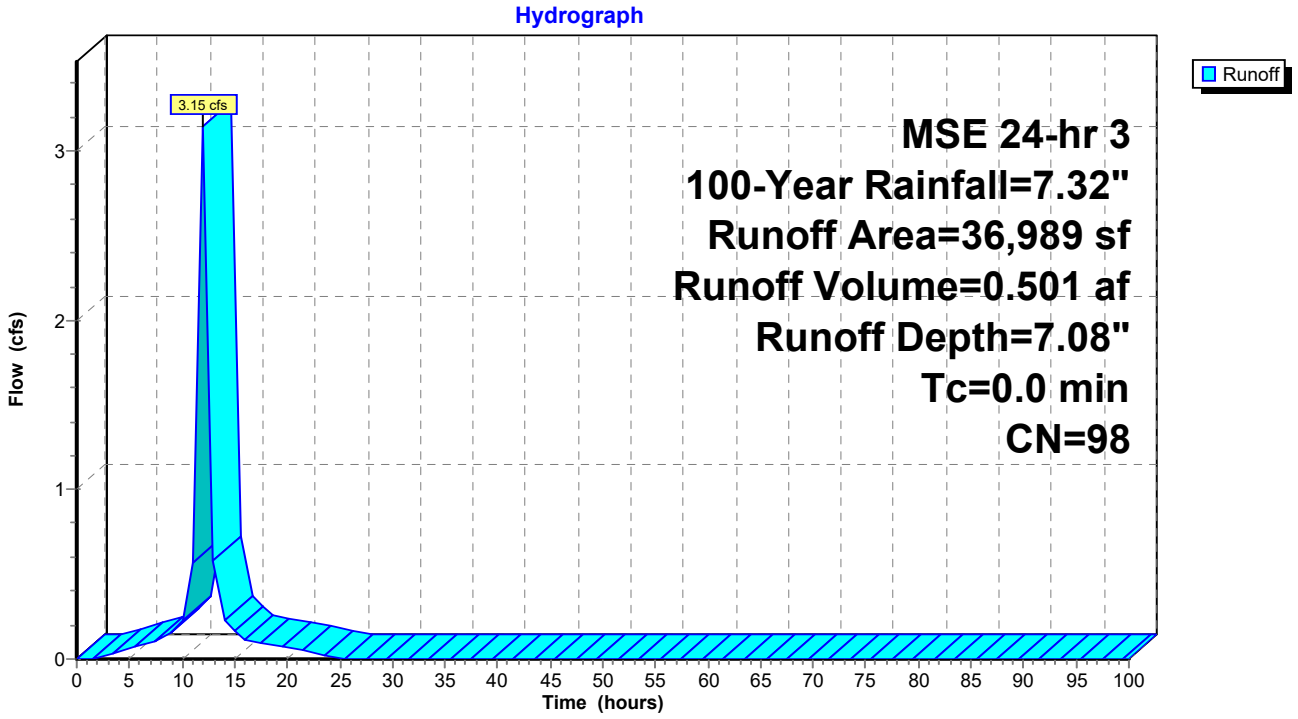
Summary for Subcatchment P5:

Runoff = 3.15 cfs @ 12.00 hrs, Volume= 0.501 af, Depth= 7.08"
Routed to Pond CB5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
36,989	98	Paved parking, HSG D
36,989		100.00% Impervious Area

Subcatchment P5:



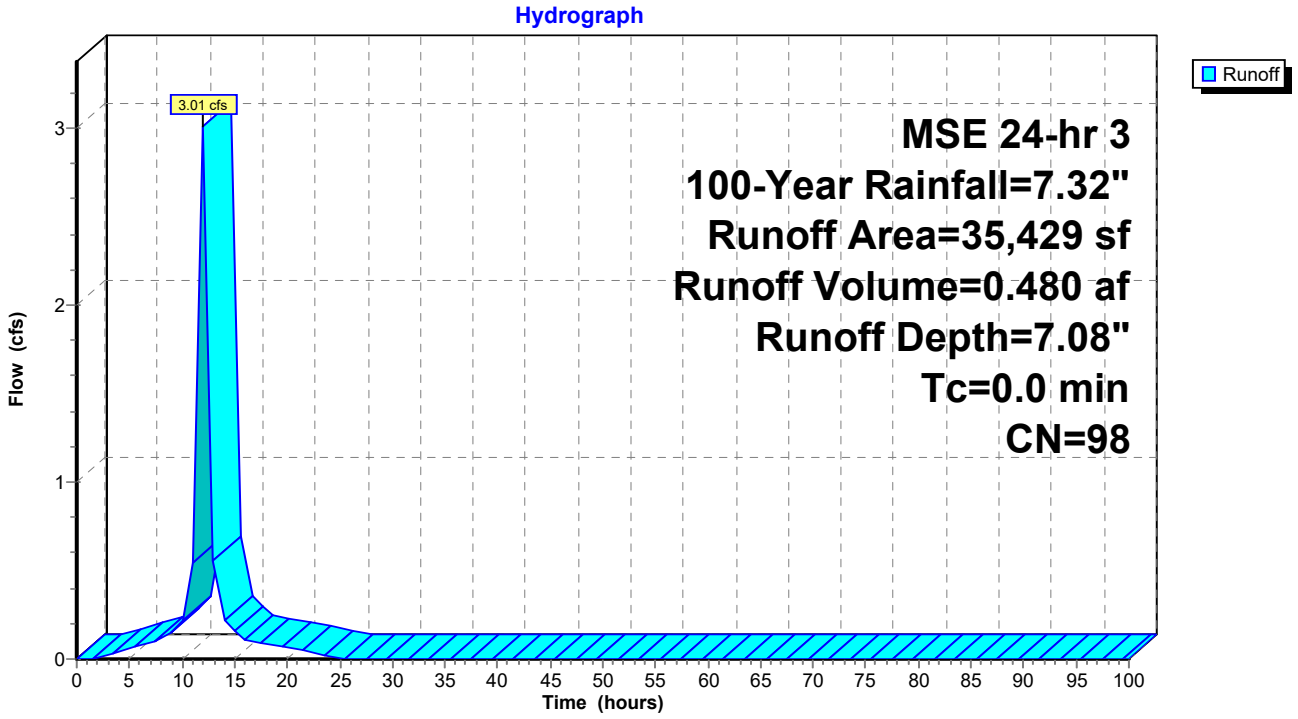
Summary for Subcatchment P6:

Runoff = 3.01 cfs @ 12.00 hrs, Volume= 0.480 af, Depth= 7.08"
Routed to Pond CB6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
35,429	98	Paved parking, HSG D
35,429		100.00% Impervious Area

Subcatchment P6:



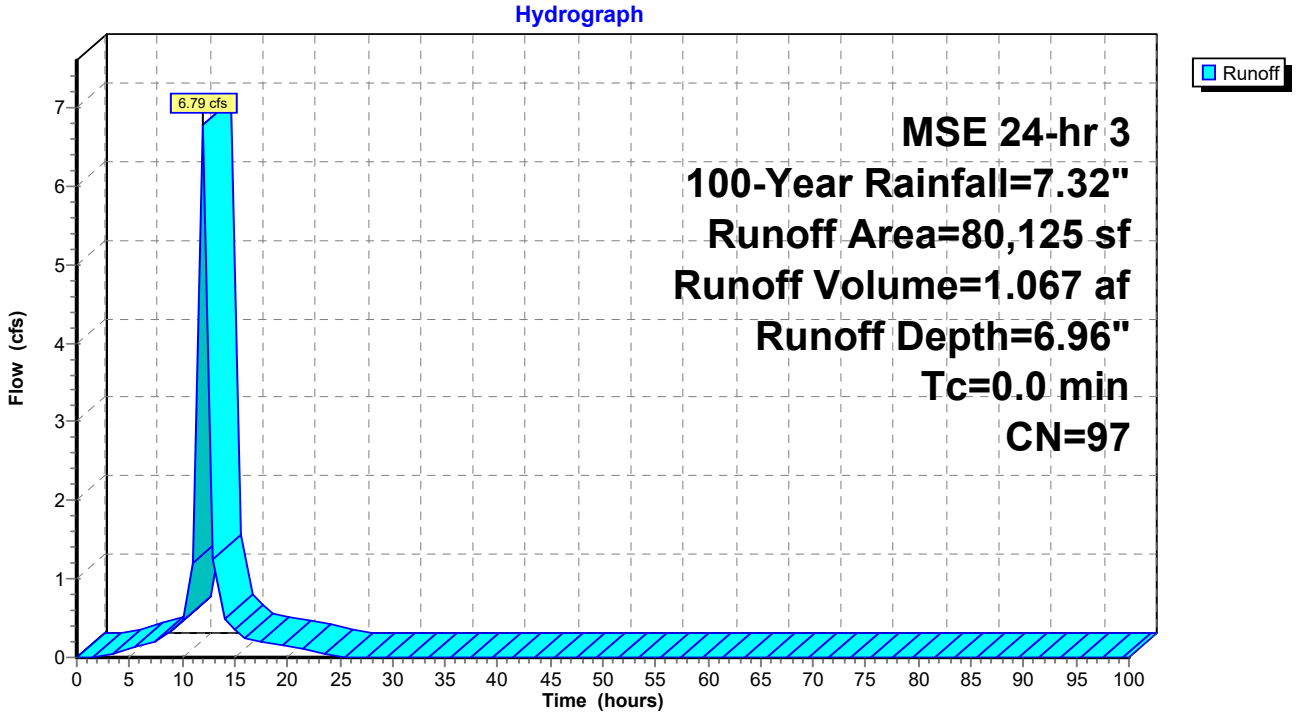
Summary for Subcatchment P7:

Runoff = 6.79 cfs @ 12.00 hrs, Volume= 1.067 af, Depth= 6.96"
Routed to Pond CB7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
75,849	98	Paved parking, HSG D
4,276	80	>75% Grass cover, Good, HSG D
80,125	97	Weighted Average
4,276		5.34% Pervious Area
75,849		94.66% Impervious Area

Subcatchment P7:



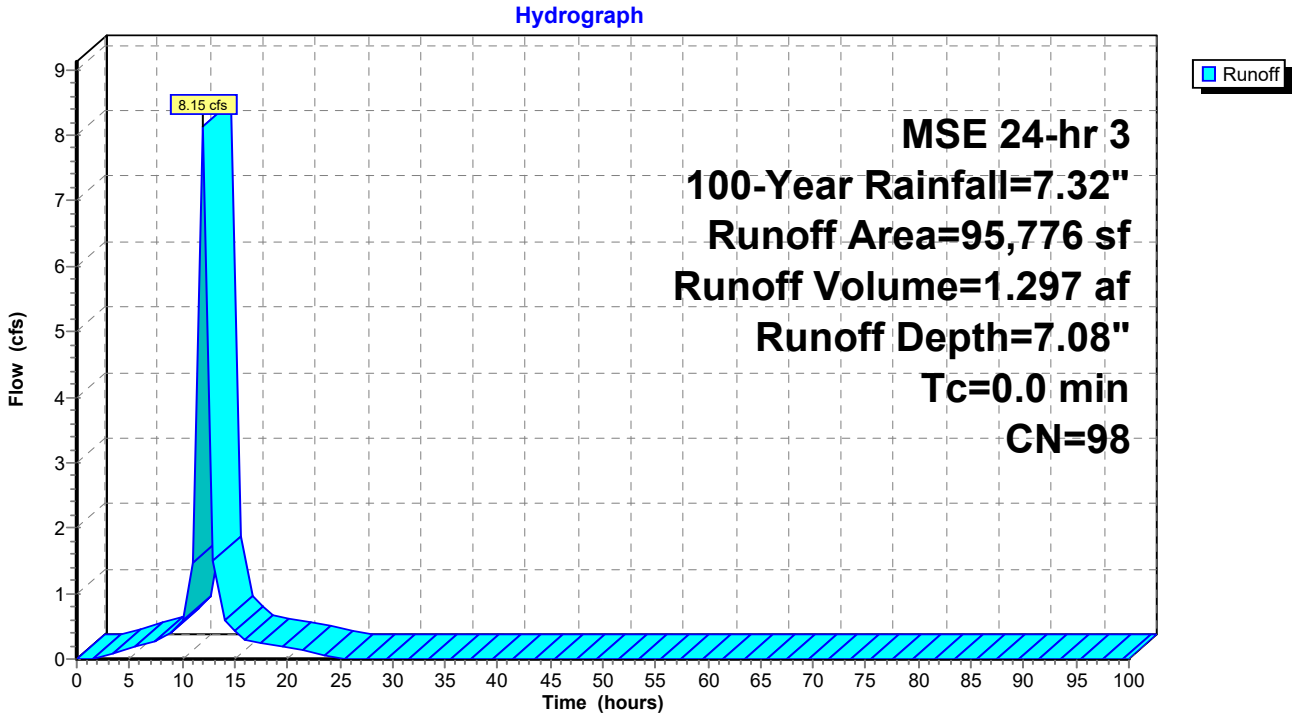
Summary for Subcatchment P8:

Runoff = 8.15 cfs @ 12.00 hrs, Volume= 1.297 af, Depth= 7.08"
Routed to Pond CB8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
95,776	98	Paved parking, HSG D
95,776		100.00% Impervious Area

Subcatchment P8:



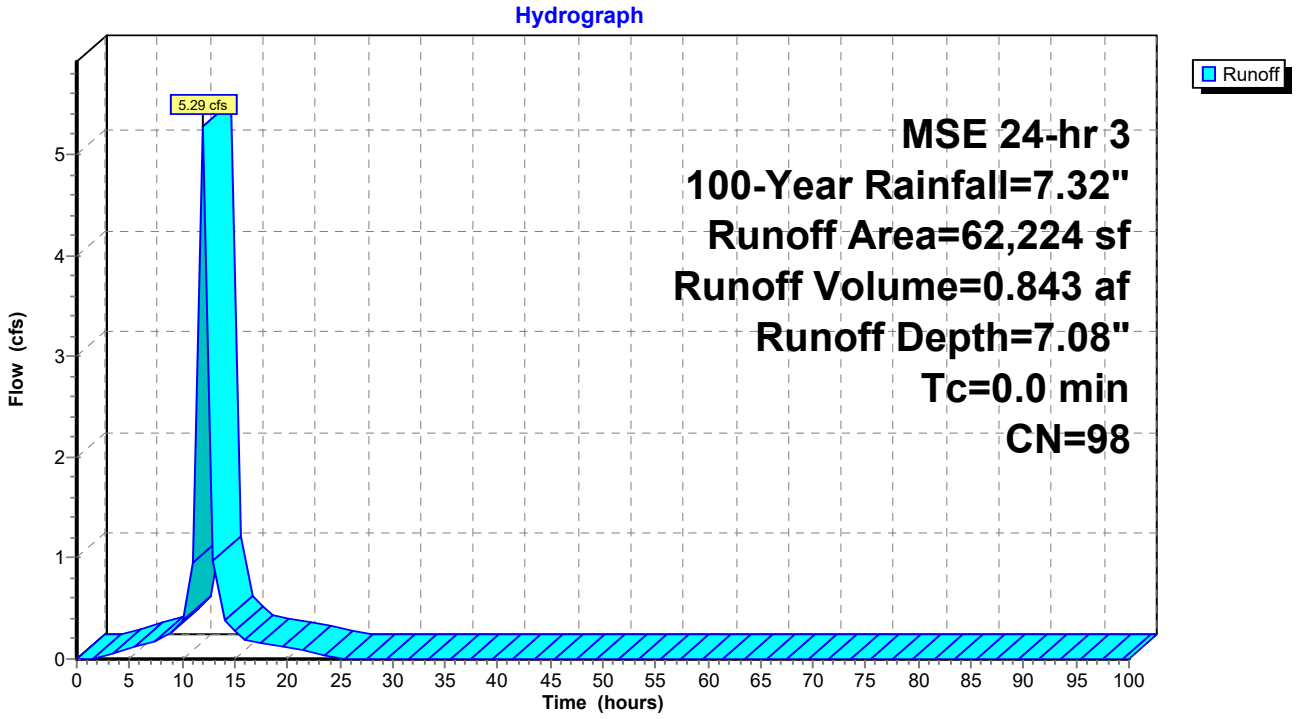
Summary for Subcatchment P9:

Runoff = 5.29 cfs @ 12.00 hrs, Volume= 0.843 af, Depth= 7.08"
Routed to Pond CB9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
62,224	98	Paved parking, HSG D
62,224		100.00% Impervious Area

Subcatchment P9:



Summary for Pond CB1:

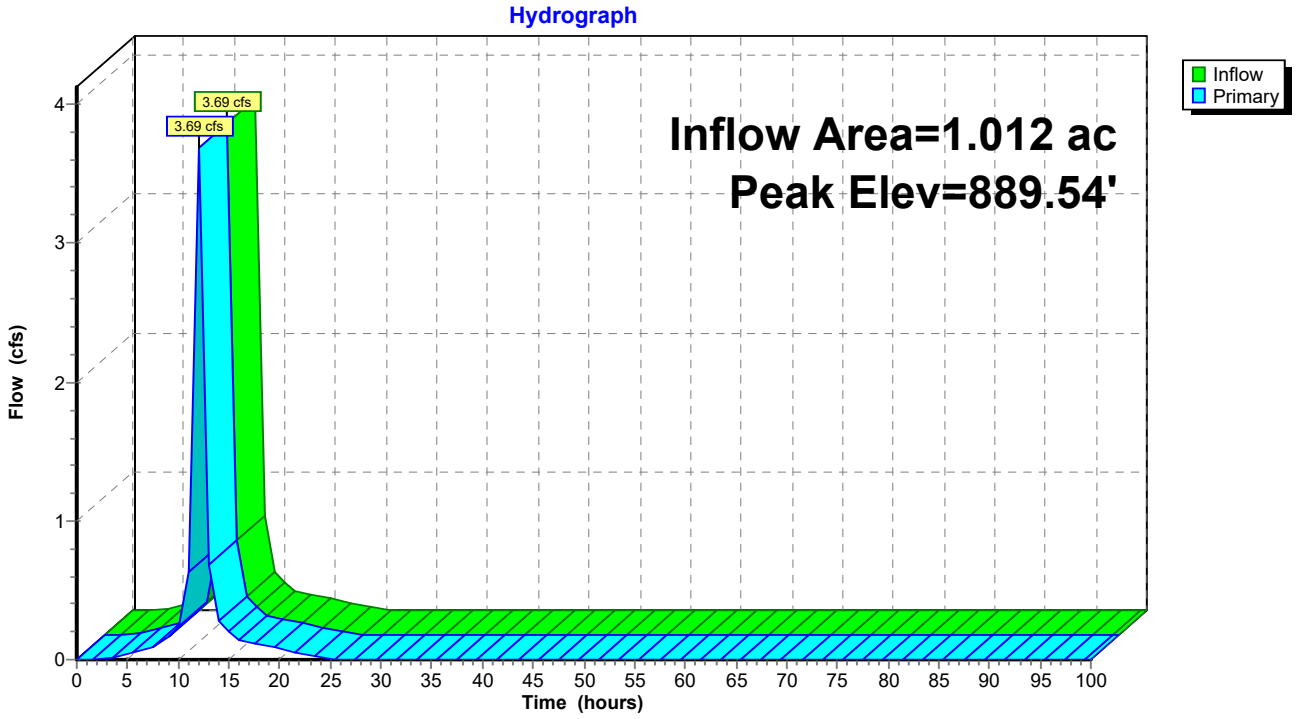
Inflow Area = 1.012 ac, 85.04% Impervious, Inflow Depth = 6.72" for 100-Year event
Inflow = 3.69 cfs @ 12.00 hrs, Volume= 0.567 af
Outflow = 3.69 cfs @ 12.00 hrs, Volume= 0.567 af, Atten= 0%, Lag= 0.0 min
Primary = 3.69 cfs @ 12.00 hrs, Volume= 0.567 af
Routed to Pond CB2P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 889.54' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**15.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.53' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.67 cfs @ 12.00 hrs HW=889.53' (Free Discharge)
└**1=Culvert** (Passes 3.67 cfs of 7.69 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 3.67 cfs @ 1.64 fps)

Pond CB1:



Summary for Pond CB2:

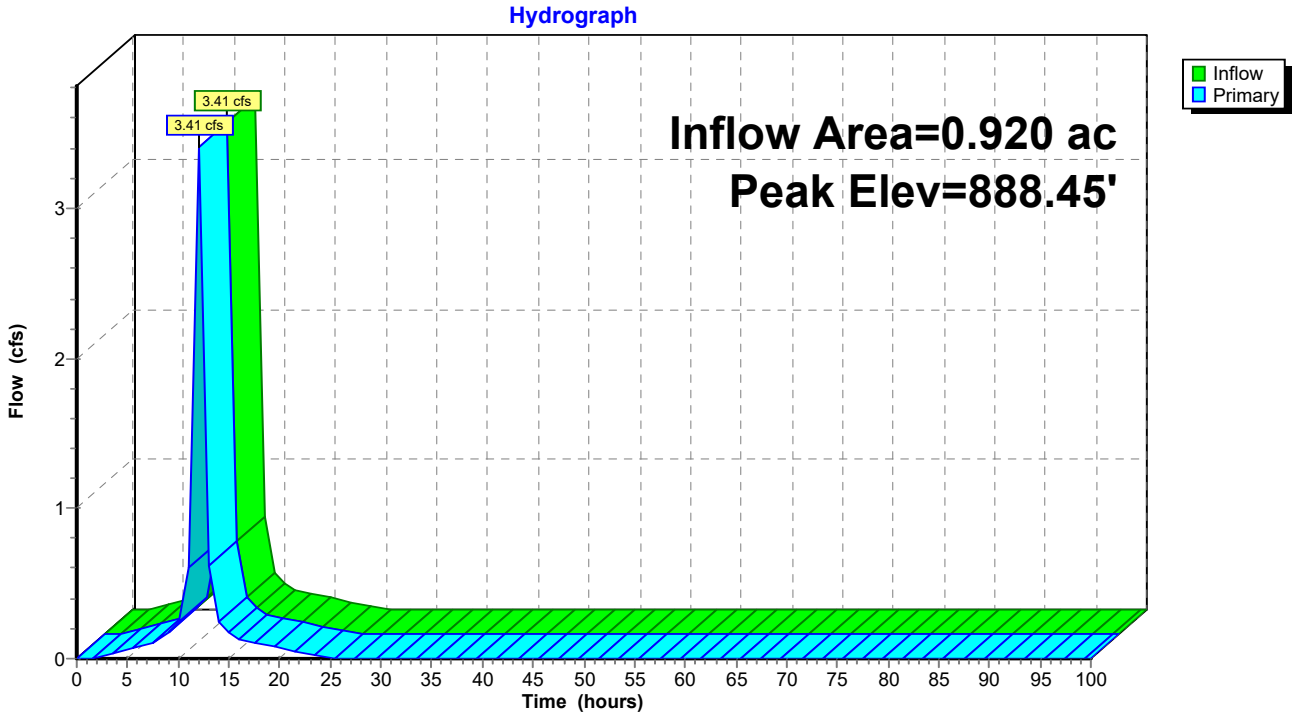
Inflow Area = 0.920 ac, 98.70% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 3.41 cfs @ 12.00 hrs, Volume= 0.543 af
Outflow = 3.41 cfs @ 12.00 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.0 min
Primary = 3.41 cfs @ 12.00 hrs, Volume= 0.543 af
Routed to Pond CB2P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.45' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.41 cfs @ 12.00 hrs HW=888.45' (Free Discharge)
1=Orifice/Grate (Orifice Controls 3.41 cfs @ 1.60 fps)

Pond CB2:



Summary for Pond CB2P:

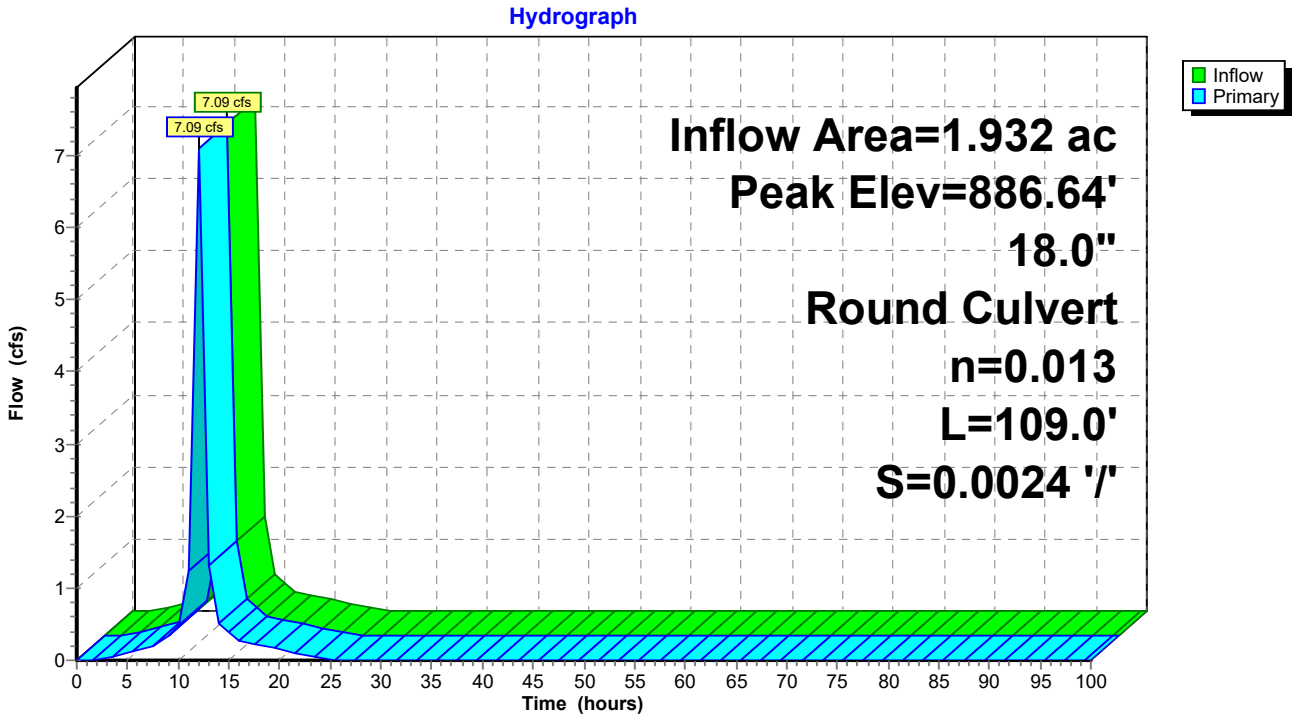
Inflow Area = 1.932 ac, 91.54% Impervious, Inflow Depth = 6.89" for 100-Year event
Inflow = 7.09 cfs @ 12.00 hrs, Volume= 1.110 af
Outflow = 7.09 cfs @ 12.00 hrs, Volume= 1.110 af, Atten= 0%, Lag= 0.0 min
Primary = 7.09 cfs @ 12.00 hrs, Volume= 1.110 af
Routed to Pond CB3P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.64' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.53'	**18.0" Round Culvert** L= 109.0' Ke= 0.500 Inlet / Outlet Invert= 884.53' / 884.27' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=7.08 cfs @ 12.00 hrs HW=886.64' (Free Discharge)
1=Culvert (Barrel Controls 7.08 cfs @ 4.01 fps)

Pond CB2P:



Summary for Pond CB3:

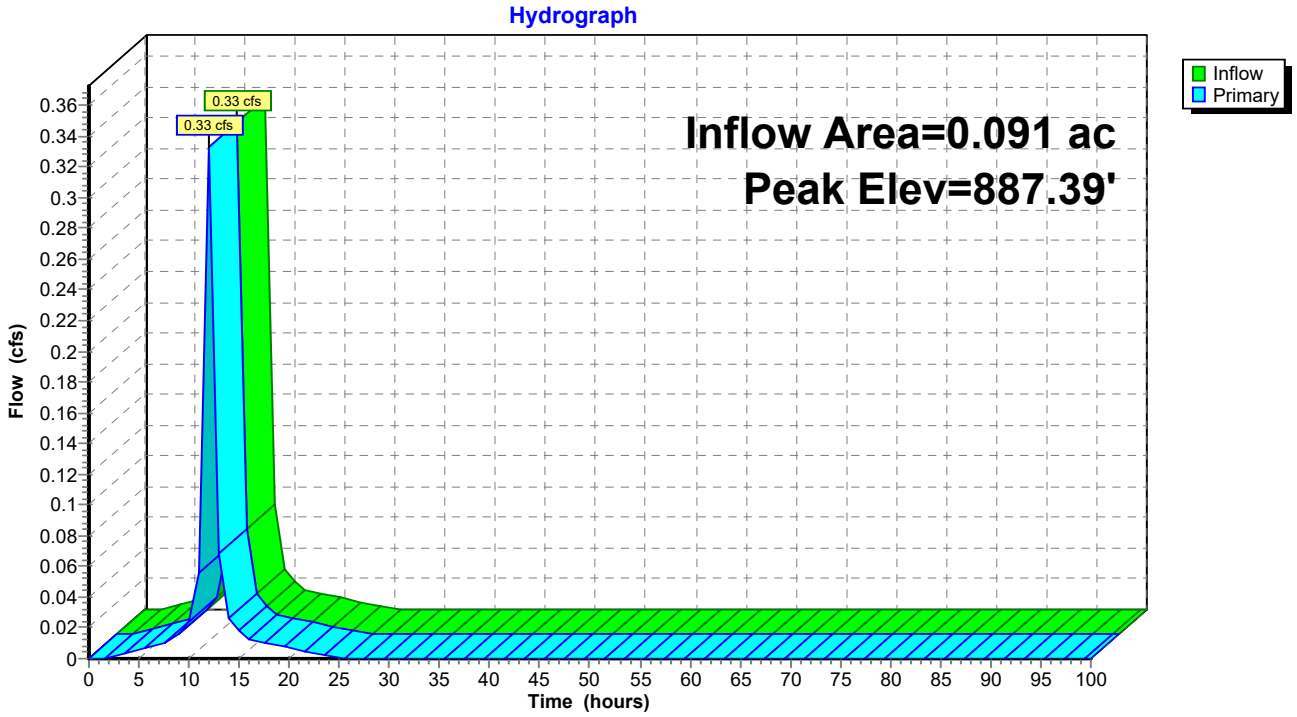
Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 0.33 cfs @ 12.01 hrs, Volume= 0.054 af
Outflow = 0.33 cfs @ 12.01 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 12.01 hrs, Volume= 0.054 af
Routed to Pond CB3P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.39' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.33 cfs @ 12.01 hrs HW=887.39' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.33 cfs @ 0.83 fps)

Pond CB3:



Summary for Pond CB3P:

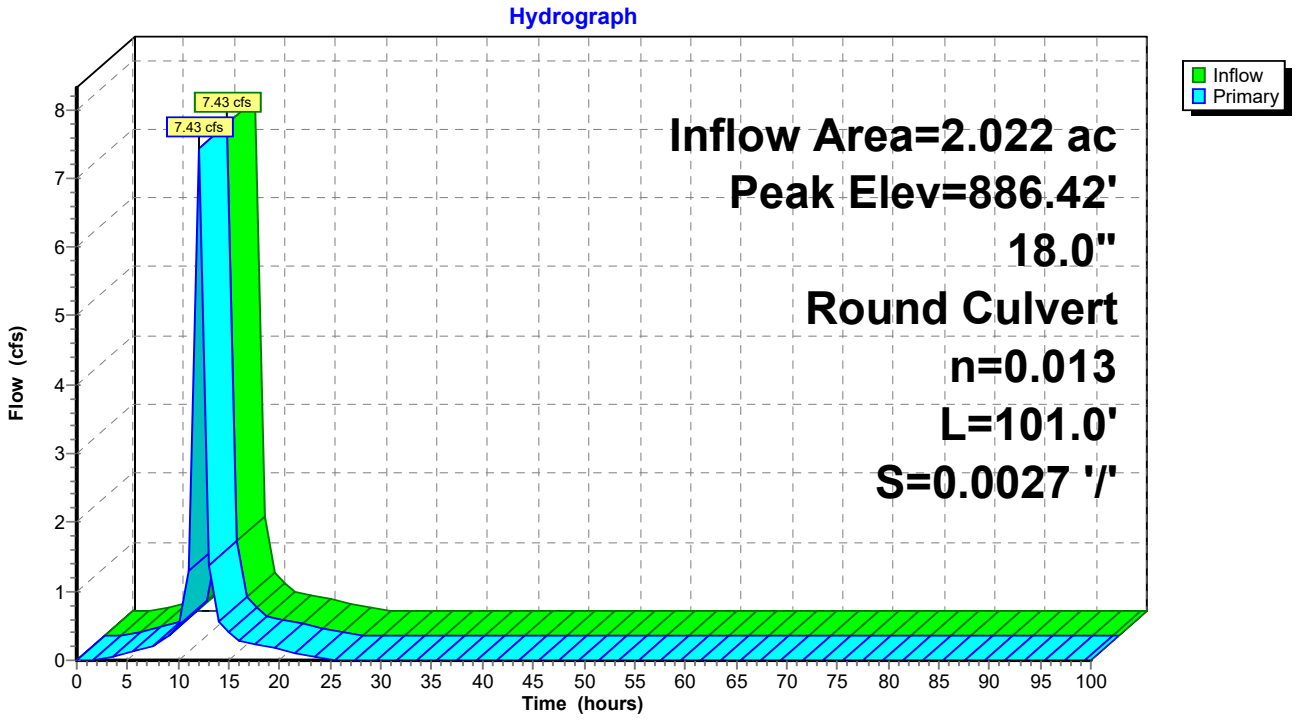
Inflow Area = 2.022 ac, 91.92% Impervious, Inflow Depth = 6.90" for 100-Year event
Inflow = 7.43 cfs @ 12.00 hrs, Volume= 1.163 af
Outflow = 7.43 cfs @ 12.00 hrs, Volume= 1.163 af, Atten= 0%, Lag= 0.0 min
Primary = 7.43 cfs @ 12.00 hrs, Volume= 1.163 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.42' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.27'	**18.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 884.27' / 884.00' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=7.41 cfs @ 12.00 hrs HW=886.41' (Free Discharge)
1=Culvert (Barrel Controls 7.41 cfs @ 4.19 fps)

Pond CB3P:



Summary for Pond CB4:

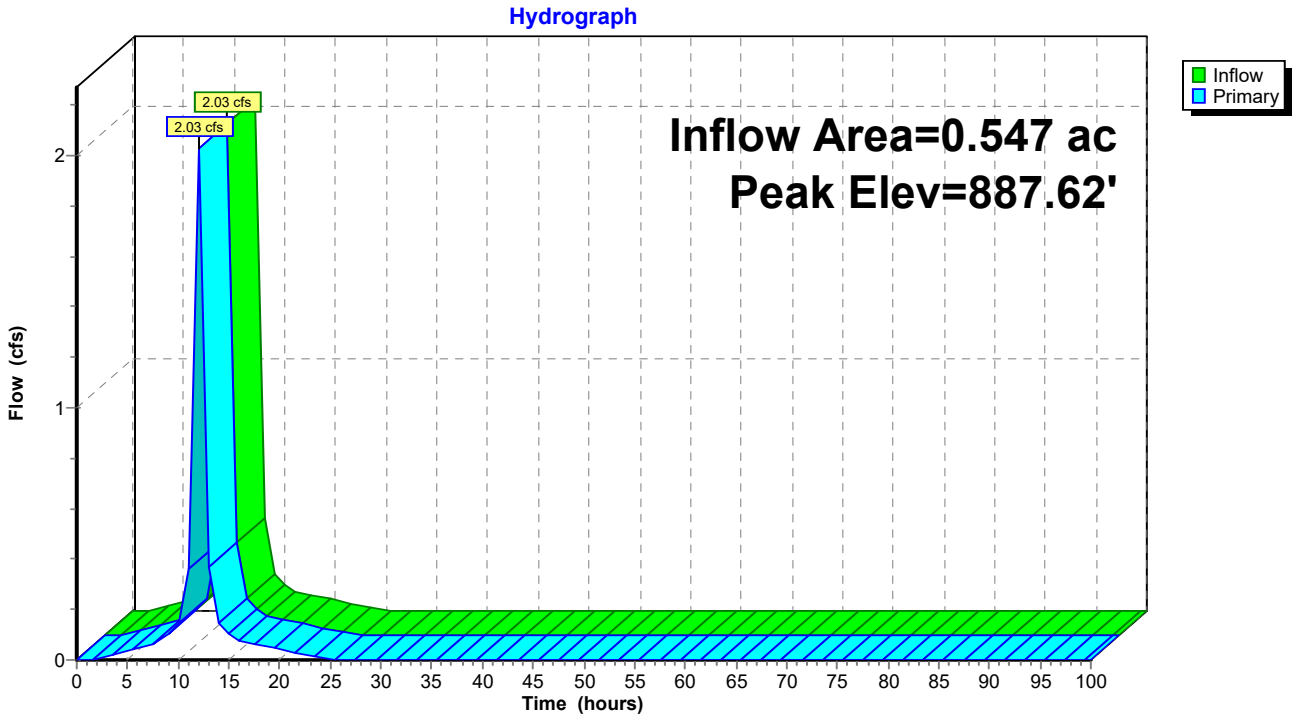
Inflow Area = 0.547 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 2.03 cfs @ 12.00 hrs, Volume= 0.323 af
Outflow = 2.03 cfs @ 12.00 hrs, Volume= 0.323 af, Atten= 0%, Lag= 0.0 min
Primary = 2.03 cfs @ 12.00 hrs, Volume= 0.323 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.62' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.75'	**18.0" Round Culvert** L= 63.0' Ke= 0.500 Inlet / Outlet Invert= 882.75' / 800.67' S= 1.3029 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.02 cfs @ 12.00 hrs HW=887.62' (Free Discharge)
└**1=Culvert** (Passes 2.02 cfs of 17.26 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 2.02 cfs @ 2.67 fps)

Pond CB4:



Summary for Pond CB5:

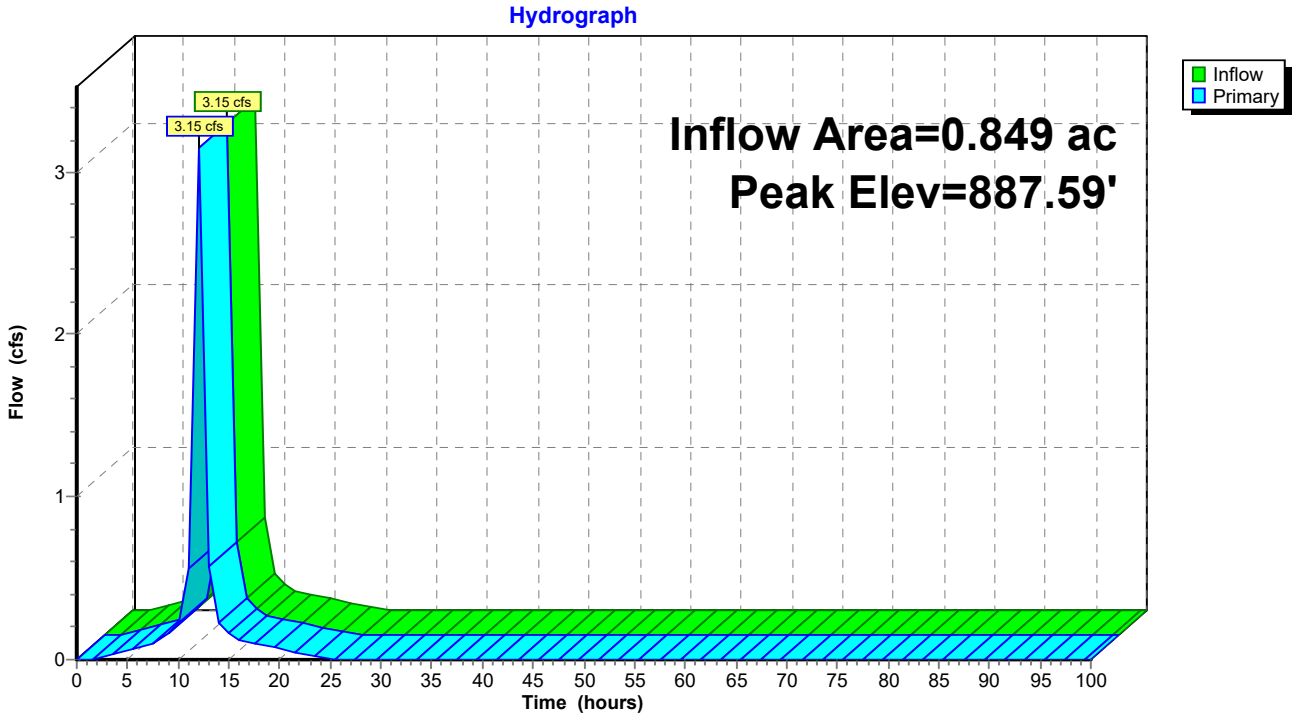
Inflow Area = 0.849 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 3.15 cfs @ 12.00 hrs, Volume= 0.501 af
Outflow = 3.15 cfs @ 12.00 hrs, Volume= 0.501 af, Atten= 0%, Lag= 0.0 min
Primary = 3.15 cfs @ 12.00 hrs, Volume= 0.501 af
Routed to Pond CB6P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.59' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 222.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.10' S= 0.0041 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Horiz. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.14 cfs @ 12.00 hrs HW=887.59' (Free Discharge)
└**1=Culvert** (Passes 3.14 cfs of 8.48 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 3.14 cfs @ 0.98 fps)

Pond CB5:



Summary for Pond CB6:

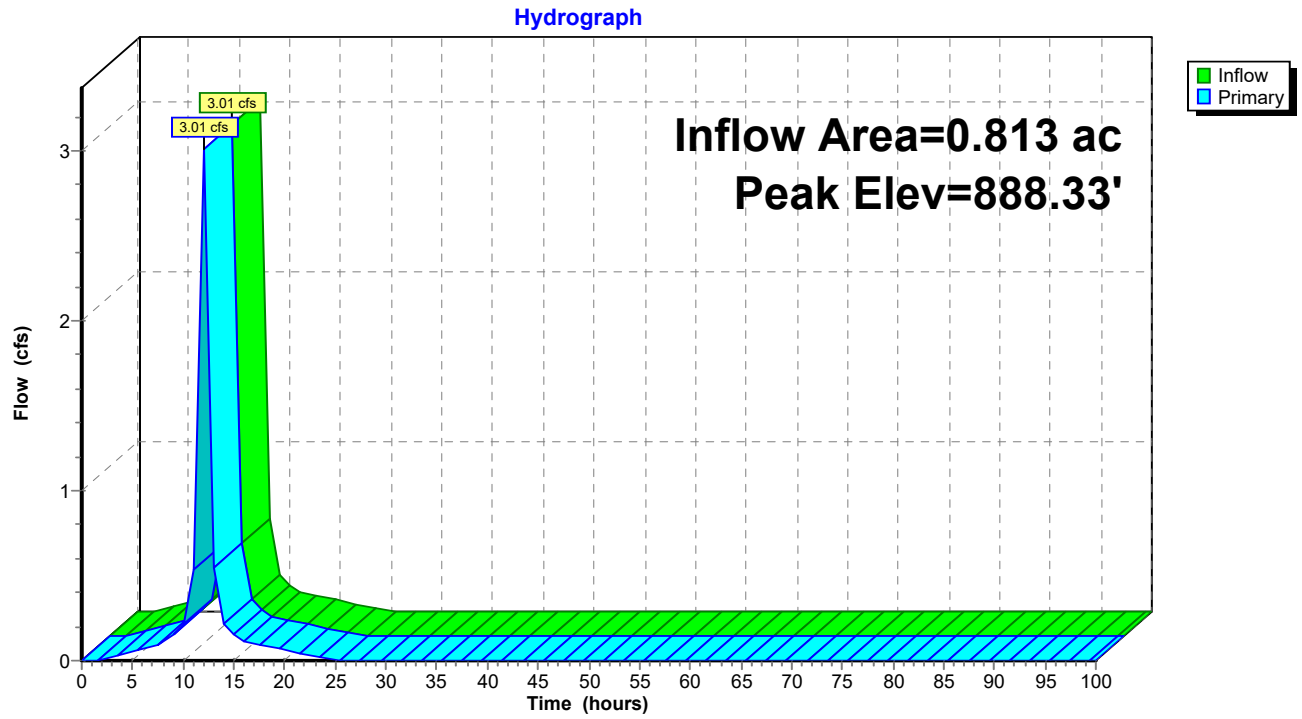
Inflow Area = 0.813 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 3.01 cfs @ 12.00 hrs, Volume= 0.480 af
Outflow = 3.01 cfs @ 12.00 hrs, Volume= 0.480 af, Atten= 0%, Lag= 0.0 min
Primary = 3.01 cfs @ 12.00 hrs, Volume= 0.480 af
Routed to Pond CB6P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.33' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.01 cfs @ 12.00 hrs HW=888.33' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 3.01 cfs @ 1.53 fps)

Pond CB6:



Summary for Pond CB6P:

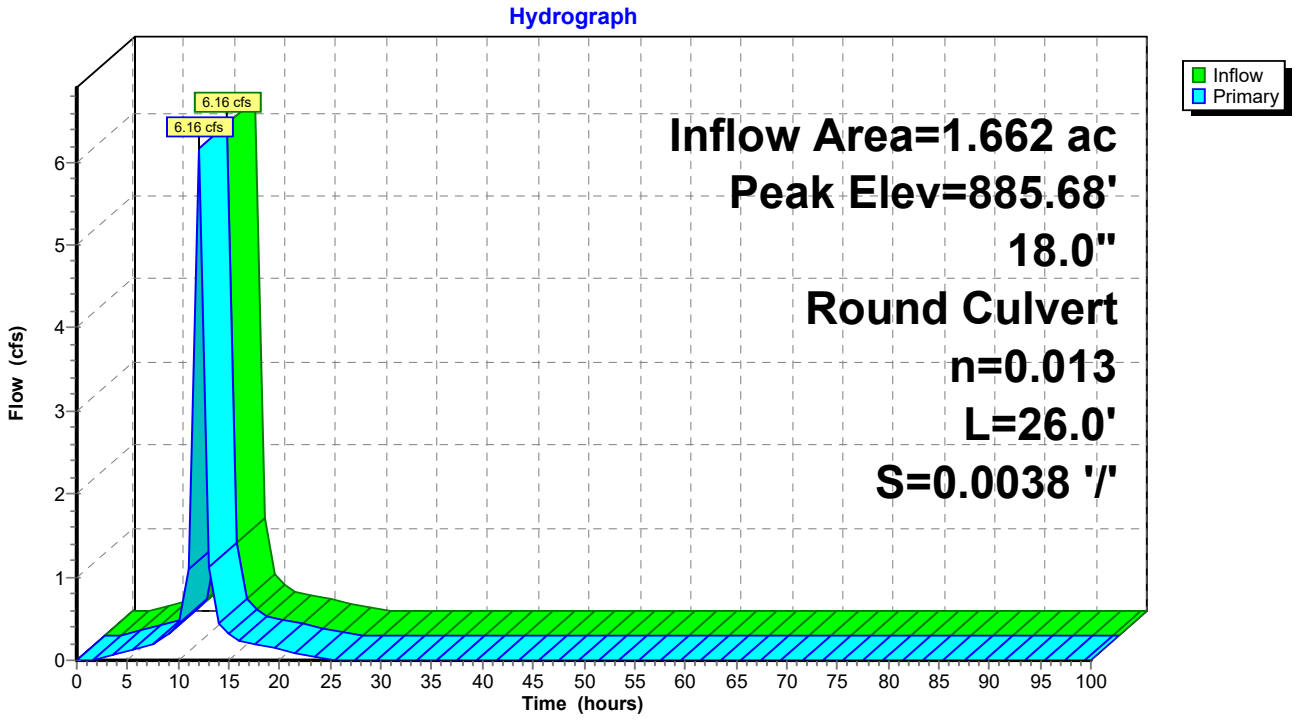
Inflow Area = 1.662 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 6.16 cfs @ 12.00 hrs, Volume= 0.981 af
Outflow = 6.16 cfs @ 12.00 hrs, Volume= 0.981 af, Atten= 0%, Lag= 0.0 min
Primary = 6.16 cfs @ 12.00 hrs, Volume= 0.981 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.68' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.10'	**18.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 884.10' / 884.00' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=6.16 cfs @ 12.00 hrs HW=885.67' (Free Discharge)
1=Culvert (Barrel Controls 6.16 cfs @ 4.13 fps)

Pond CB6P:



Summary for Pond CB7:

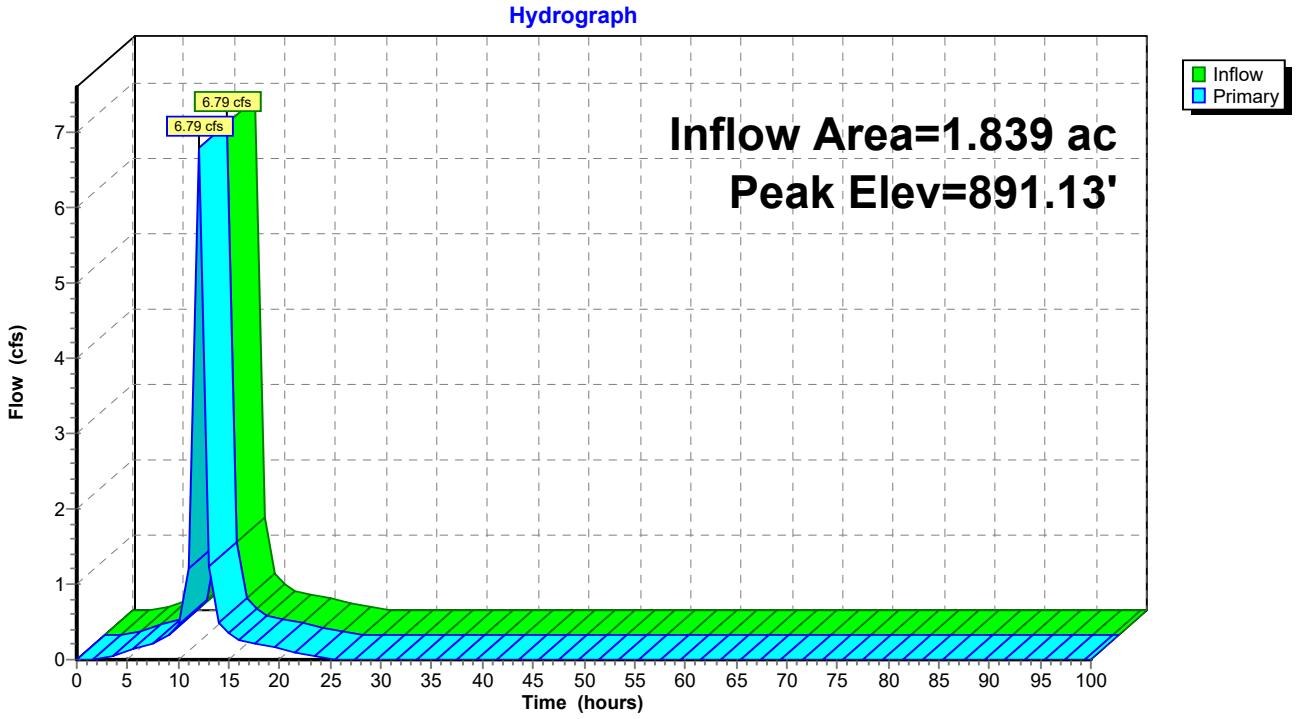
Inflow Area = 1.839 ac, 94.66% Impervious, Inflow Depth = 6.96" for 100-Year event
Inflow = 6.79 cfs @ 12.00 hrs, Volume= 1.067 af
Outflow = 6.79 cfs @ 12.00 hrs, Volume= 1.067 af, Atten= 0%, Lag= 0.0 min
Primary = 6.79 cfs @ 12.00 hrs, Volume= 1.067 af
Routed to Pond CB8P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 891.13' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 201.4' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 883.56' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.78 cfs @ 12.00 hrs HW=891.13' (Free Discharge)
└**1=Culvert** (Passes 6.78 cfs of 15.35 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 6.78 cfs @ 2.82 fps)

Pond CB7:



Summary for Pond CB8:

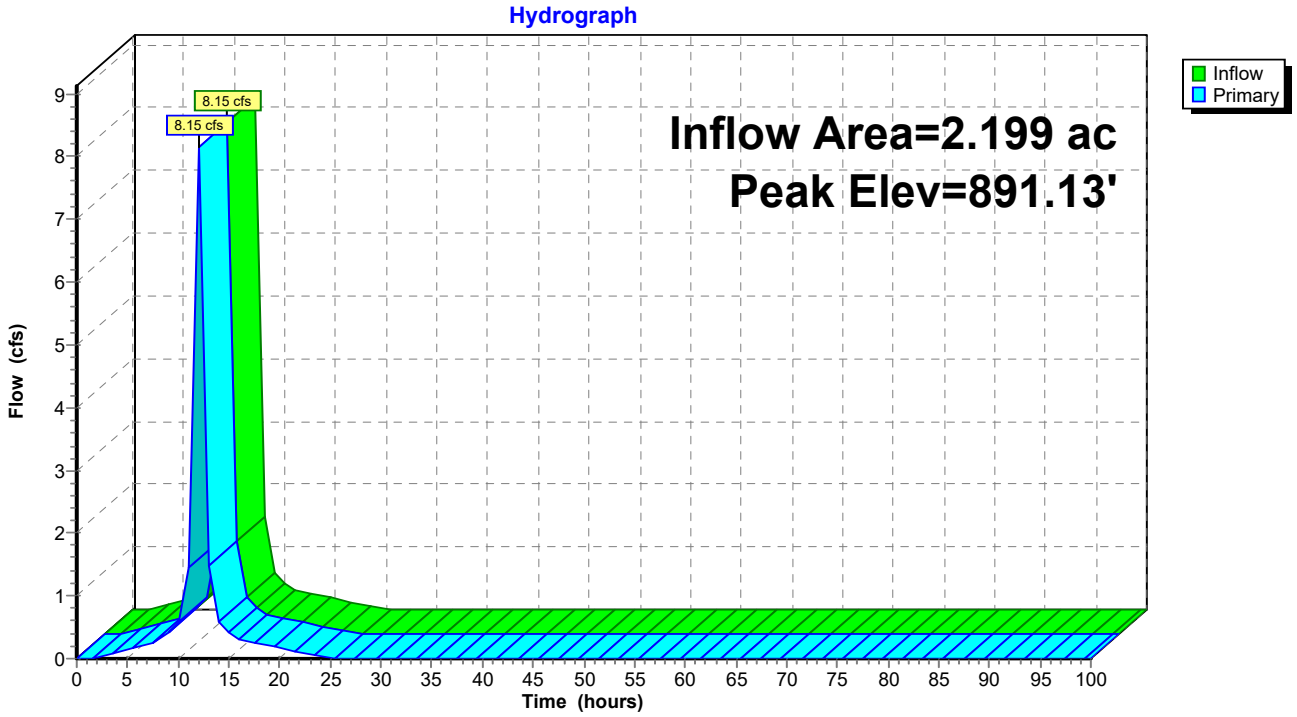
Inflow Area = 2.199 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 8.15 cfs @ 12.00 hrs, Volume= 1.297 af
Outflow = 8.15 cfs @ 12.00 hrs, Volume= 1.297 af, Atten= 0%, Lag= 0.0 min
Primary = 8.15 cfs @ 12.00 hrs, Volume= 1.297 af
Routed to Pond CB8P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 891.13' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.15 cfs @ 12.00 hrs HW=891.13' (Free Discharge)
1=Orifice/Grate (Orifice Controls 8.15 cfs @ 3.39 fps)

Pond CB8:



Summary for Pond CB8P:

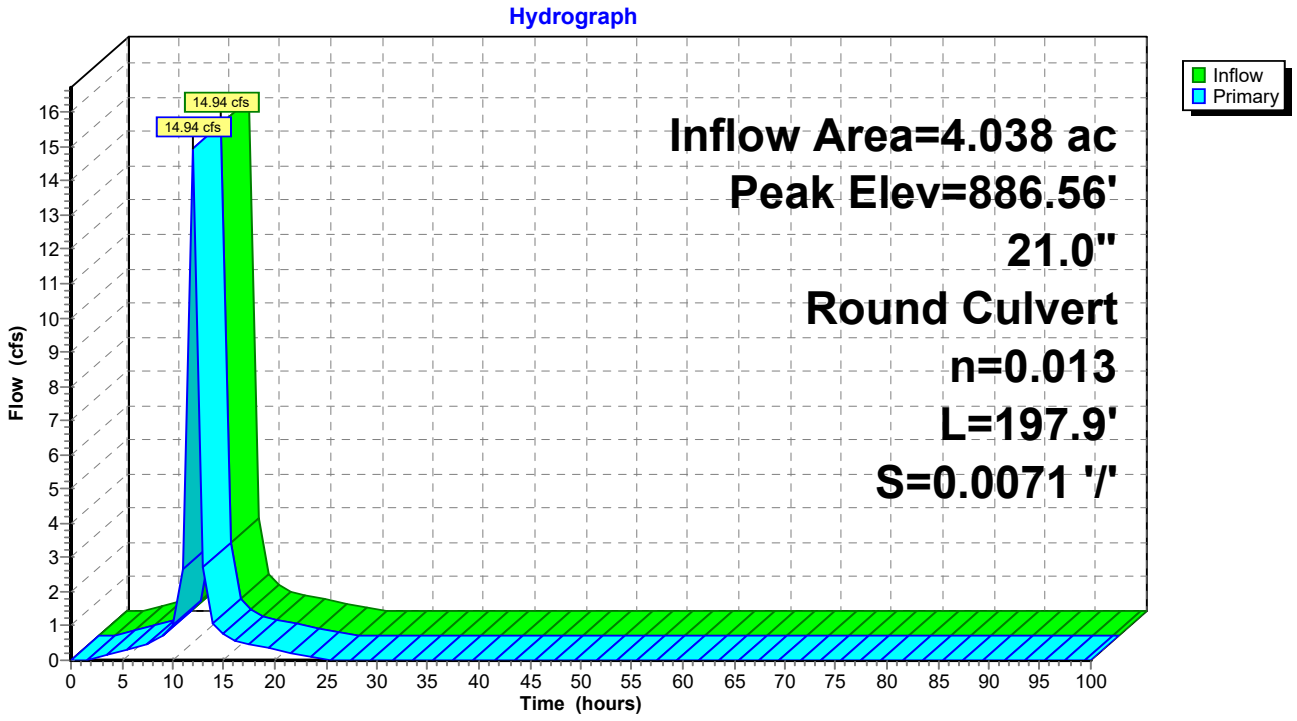
Inflow Area = 4.038 ac, 97.57% Impervious, Inflow Depth = 7.03" for 100-Year event
Inflow = 14.94 cfs @ 12.00 hrs, Volume= 2.364 af
Outflow = 14.94 cfs @ 12.00 hrs, Volume= 2.364 af, Atten= 0%, Lag= 0.0 min
Primary = 14.94 cfs @ 12.00 hrs, Volume= 2.364 af
Routed to Pond CB9P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.56' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	883.56'	**21.0" Round Culvert** L= 197.9' Ke= 0.500 Inlet / Outlet Invert= 883.56' / 882.15' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 2.41 sf

Primary OutFlow Max=14.93 cfs @ 12.00 hrs HW=886.56' (Free Discharge)
1=Culvert (Barrel Controls 14.93 cfs @ 6.21 fps)

Pond CB8P:



Summary for Pond CB9:

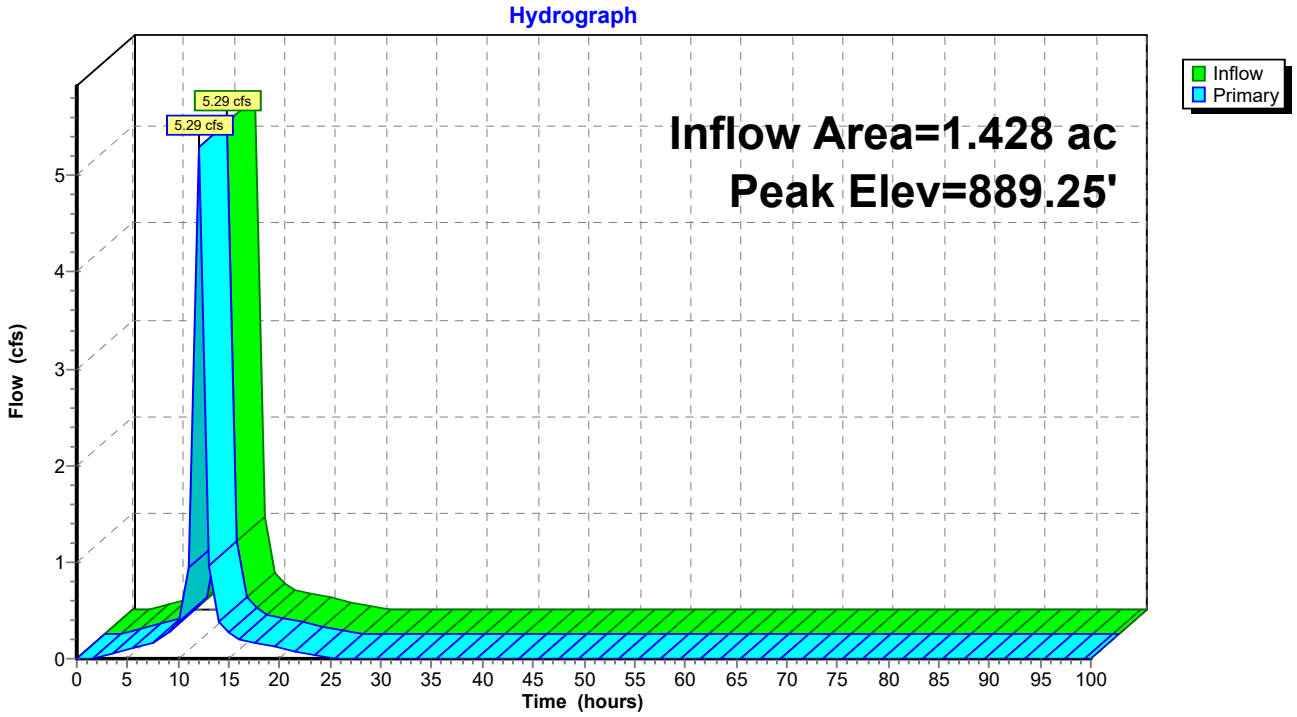
Inflow Area = 1.428 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 5.29 cfs @ 12.00 hrs, Volume= 0.843 af
Outflow = 5.29 cfs @ 12.00 hrs, Volume= 0.843 af, Atten= 0%, Lag= 0.0 min
Primary = 5.29 cfs @ 12.00 hrs, Volume= 0.843 af
Routed to Pond CB9P :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 889.25' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.29 cfs @ 12.00 hrs HW=889.25' (Free Discharge)
1=Orifice/Grate (Orifice Controls 5.29 cfs @ 2.20 fps)

Pond CB9:



Summary for Pond CB9P:

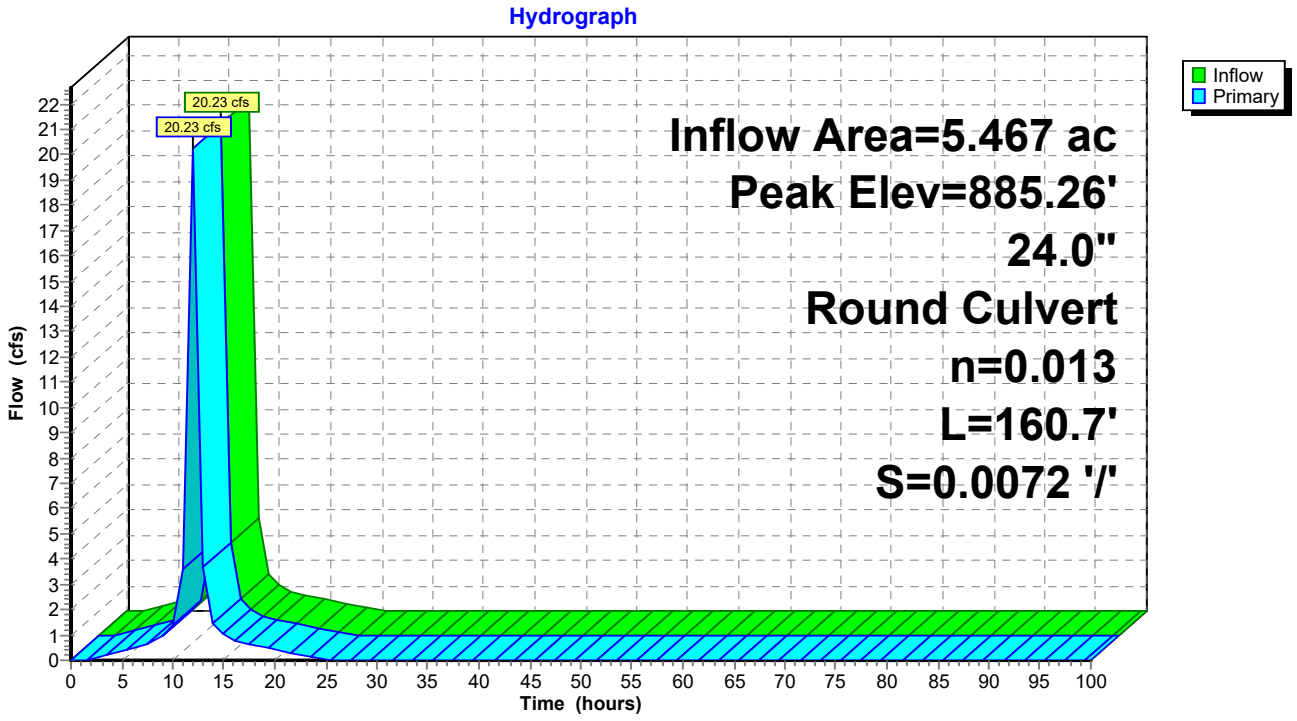
Inflow Area = 5.467 ac, 98.20% Impervious, Inflow Depth = 7.04" for 100-Year event
Inflow = 20.23 cfs @ 12.00 hrs, Volume= 3.207 af
Outflow = 20.23 cfs @ 12.00 hrs, Volume= 3.207 af, Atten= 0%, Lag= 0.0 min
Primary = 20.23 cfs @ 12.00 hrs, Volume= 3.207 af
Routed to Pond POA :

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.26' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.15'	**24.0" Round Culvert** L= 160.7' Ke= 0.500 Inlet / Outlet Invert= 882.15' / 881.00' S= 0.0072 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=20.22 cfs @ 12.00 hrs HW=885.25' (Free Discharge)
1=Culvert (Barrel Controls 20.22 cfs @ 6.44 fps)

Pond CB9P:

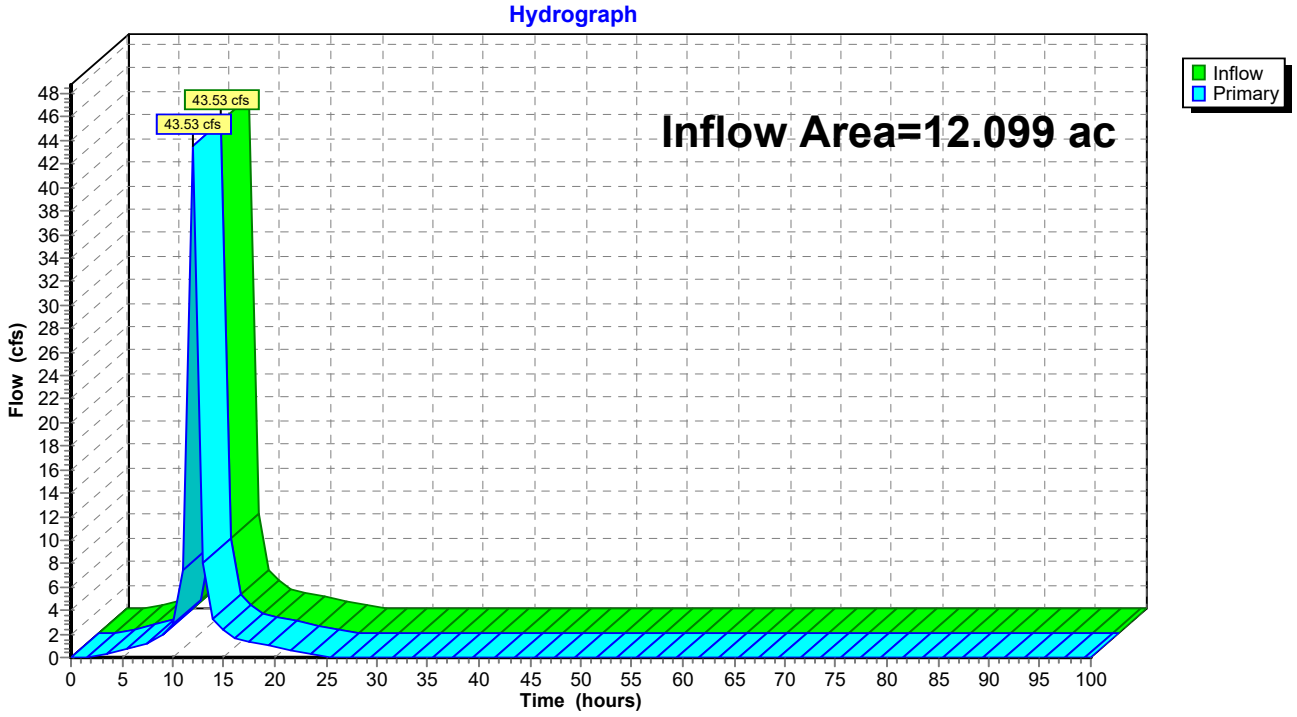


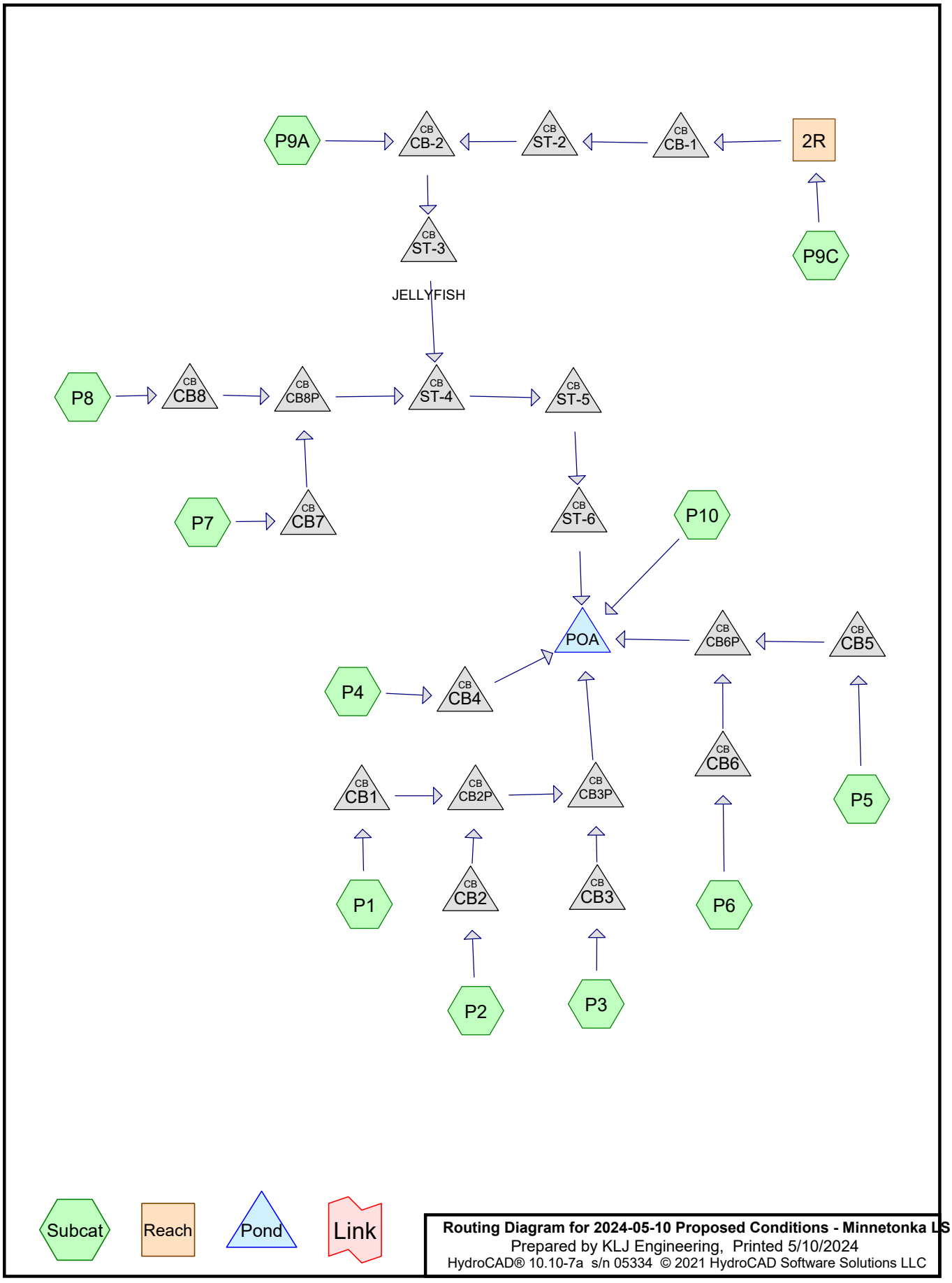
Summary for Pond POA:

Inflow Area = 12.099 ac, 83.40% Impervious, Inflow Depth = 6.73" for 100-Year event
Inflow = 43.53 cfs @ 12.00 hrs, Volume= 6.786 af
Primary = 43.53 cfs @ 12.00 hrs, Volume= 6.786 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs

Pond POA:





Routing Diagram for 2024-05-10 Proposed Conditions - Minnetonka LS
Prepared by KLJ Engineering, Printed 5/10/2024

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	MSE 24-hr	3	Default	24.00	1	2.86	2
2	10-Year	MSE 24-hr	3	Default	24.00	1	4.26	2
3	100-Year	MSE 24-hr	3	Default	24.00	1	7.32	2

Time span=0.00-100.00 hrs, dt=1.00 hrs, 101 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentP1: Runoff Area=44,079 sf 85.04% Impervious Runoff Depth=2.31"
Tc=5.0 min CN=95 Runoff=1.31 cfs 0.195 af

SubcatchmentP10: Runoff Area=92,026 sf 28.74% Impervious Runoff Depth=1.47"
Tc=5.0 min CN=85 Runoff=1.76 cfs 0.259 af

SubcatchmentP2: Runoff Area=40,059 sf 98.70% Impervious Runoff Depth=2.63"
Tc=5.0 min CN=98 Runoff=1.30 cfs 0.201 af

SubcatchmentP3: Runoff Area=3,951 sf 100.00% Impervious Runoff Depth=2.63"
Tc=5.0 min CN=98 Runoff=0.13 cfs 0.020 af

SubcatchmentP4: Runoff Area=23,824 sf 100.00% Impervious Runoff Depth=2.63"
Tc=0.0 min CN=98 Runoff=0.78 cfs 0.120 af

SubcatchmentP5: Runoff Area=36,989 sf 100.00% Impervious Runoff Depth=2.63"
Tc=5.0 min CN=98 Runoff=1.20 cfs 0.186 af

SubcatchmentP6: Runoff Area=35,429 sf 100.00% Impervious Runoff Depth=2.63"
Tc=5.0 min CN=98 Runoff=1.15 cfs 0.178 af

SubcatchmentP7: Runoff Area=80,125 sf 94.66% Impervious Runoff Depth=2.52"
Tc=5.0 min CN=97 Runoff=2.53 cfs 0.386 af

SubcatchmentP8: Runoff Area=95,776 sf 100.00% Impervious Runoff Depth=2.63"
Tc=5.0 min CN=98 Runoff=3.10 cfs 0.482 af

SubcatchmentP9A: Runoff Area=45,237 sf 100.00% Impervious Runoff Depth=2.63"
Tc=0.0 min CN=98 Runoff=1.48 cfs 0.228 af

SubcatchmentP9C: Runoff Area=29,517 sf 53.71% Impervious Runoff Depth=1.86"
Tc=0.0 min CN=90 Runoff=0.74 cfs 0.105 af

Reach 2R: Avg. Flow Depth=0.25' Max Vel=1.96 fps Inflow=0.74 cfs 0.105 af
n=0.013 L=247.0' S=0.0050 '/' Capacity=4.76 cfs Outflow=0.70 cfs 0.105 af

Pond CB-1: Peak Elev=886.84' Inflow=0.70 cfs 0.105 af
Outflow=0.70 cfs 0.105 af

Pond CB-2: Peak Elev=886.84' Inflow=2.18 cfs 0.332 af
Outflow=2.18 cfs 0.332 af

Pond CB1: Peak Elev=888.81' Inflow=1.31 cfs 0.195 af
Outflow=1.31 cfs 0.195 af

Pond CB2: Peak Elev=887.81' Inflow=1.30 cfs 0.201 af
Outflow=1.30 cfs 0.201 af

Pond CB2P: Peak Elev=885.53' Inflow=2.61 cfs 0.396 af
18.0" Round Culvert n=0.013 L=109.0' S=0.0024 '/' Outflow=2.61 cfs 0.396 af

Pond CB3: Peak Elev=887.24' Inflow=0.13 cfs 0.020 af
Outflow=0.13 cfs 0.020 af

Pond CB3P: Peak Elev=885.26' Inflow=2.74 cfs 0.416 af
18.0" Round Culvert n=0.013 L=101.0' S=0.0027 '/' Outflow=2.74 cfs 0.416 af

Pond CB4: Peak Elev=887.37' Inflow=0.78 cfs 0.120 af
Outflow=0.78 cfs 0.120 af

Pond CB5: Peak Elev=887.31' Inflow=1.20 cfs 0.186 af
Outflow=1.20 cfs 0.186 af

Pond CB6: Peak Elev=887.75' Inflow=1.15 cfs 0.178 af
Outflow=1.15 cfs 0.178 af

Pond CB6P: Peak Elev=884.97' Inflow=2.34 cfs 0.364 af
18.0" Round Culvert n=0.013 L=26.0' S=0.0038 '/' Outflow=2.34 cfs 0.364 af

Pond CB7: Peak Elev=885.76' Inflow=2.53 cfs 0.386 af
Primary=2.53 cfs 0.386 af Secondary=0.00 cfs 0.000 af Outflow=2.53 cfs 0.386 af

Pond CB8: Peak Elev=887.78' Inflow=3.10 cfs 0.482 af
Outflow=3.10 cfs 0.482 af

Pond CB8P: Peak Elev=884.69' Inflow=5.63 cfs 0.868 af
21.0" Round Culvert n=0.013 L=197.9' S=0.0071 '/' Outflow=5.63 cfs 0.868 af

Pond POA: Inflow=15.42 cfs 2.360 af
Primary=15.42 cfs 2.360 af

Pond ST-2: Peak Elev=886.84' Inflow=0.70 cfs 0.105 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0037 '/' Outflow=0.70 cfs 0.105 af

Pond ST-3: JELLYFISH Peak Elev=883.06' Inflow=2.18 cfs 0.332 af
12.0" Round Culvert n=0.013 L=13.0' S=0.0038 '/' Outflow=2.18 cfs 0.332 af

Pond ST-4: Peak Elev=883.05' Inflow=7.81 cfs 1.200 af
24.0" Round Culvert n=0.013 L=76.0' S=0.0086 '/' Outflow=7.81 cfs 1.200 af

Pond ST-5: Peak Elev=882.34' Inflow=7.81 cfs 1.200 af
24.0" Round Culvert n=0.013 L=121.0' S=0.0085 '/' Outflow=7.81 cfs 1.200 af

Pond ST-6: Peak Elev=881.55' Inflow=7.81 cfs 1.200 af
24.0" Round Culvert n=0.013 L=60.0' S=0.0037 '/' Outflow=7.81 cfs 1.200 af

Total Runoff Area = 12.099 ac Runoff Volume = 2.360 af Average Runoff Depth = 2.34"
17.20% Pervious = 2.081 ac 82.80% Impervious = 10.018 ac

Summary for Subcatchment P1:

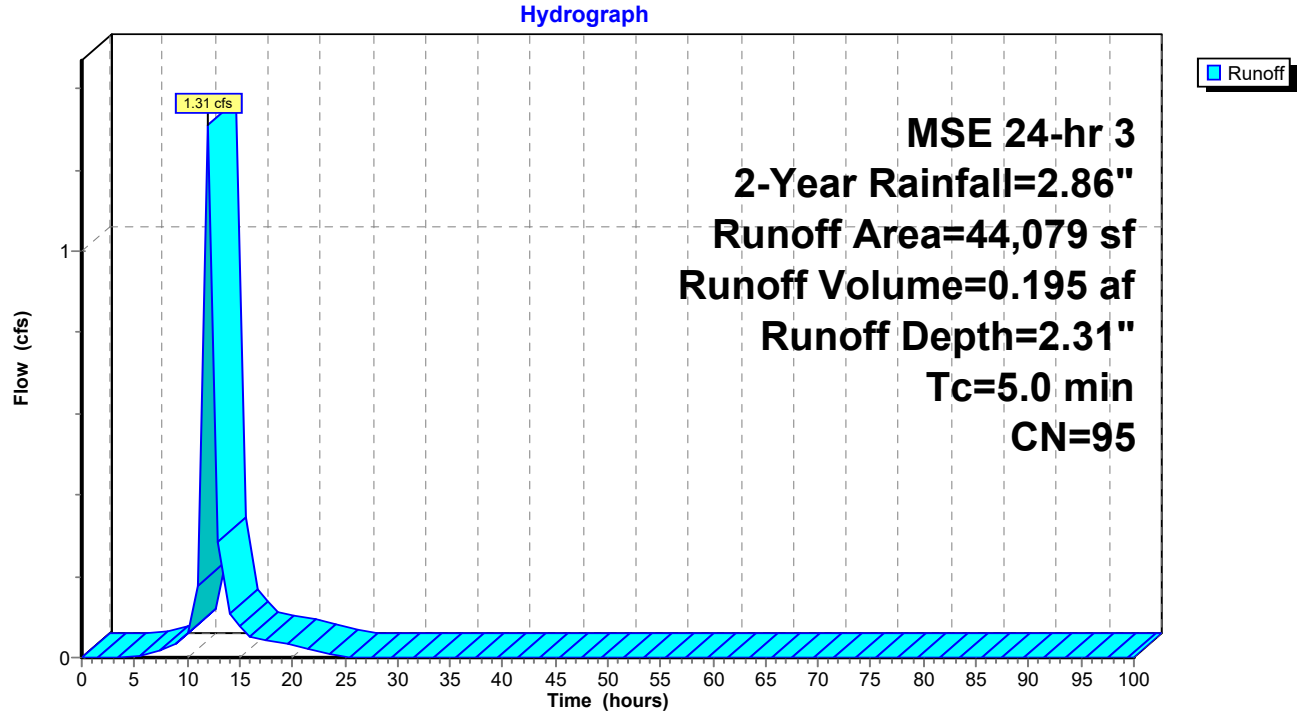
Runoff = 1.31 cfs @ 12.03 hrs, Volume= 0.195 af, Depth= 2.31"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
37,486	98	Paved parking, HSG D
6,593	80	>75% Grass cover, Good, HSG D
44,079	95	Weighted Average
6,593		14.96% Pervious Area
37,486		85.04% Impervious Area

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

Subcatchment P1:



Summary for Subcatchment P10:

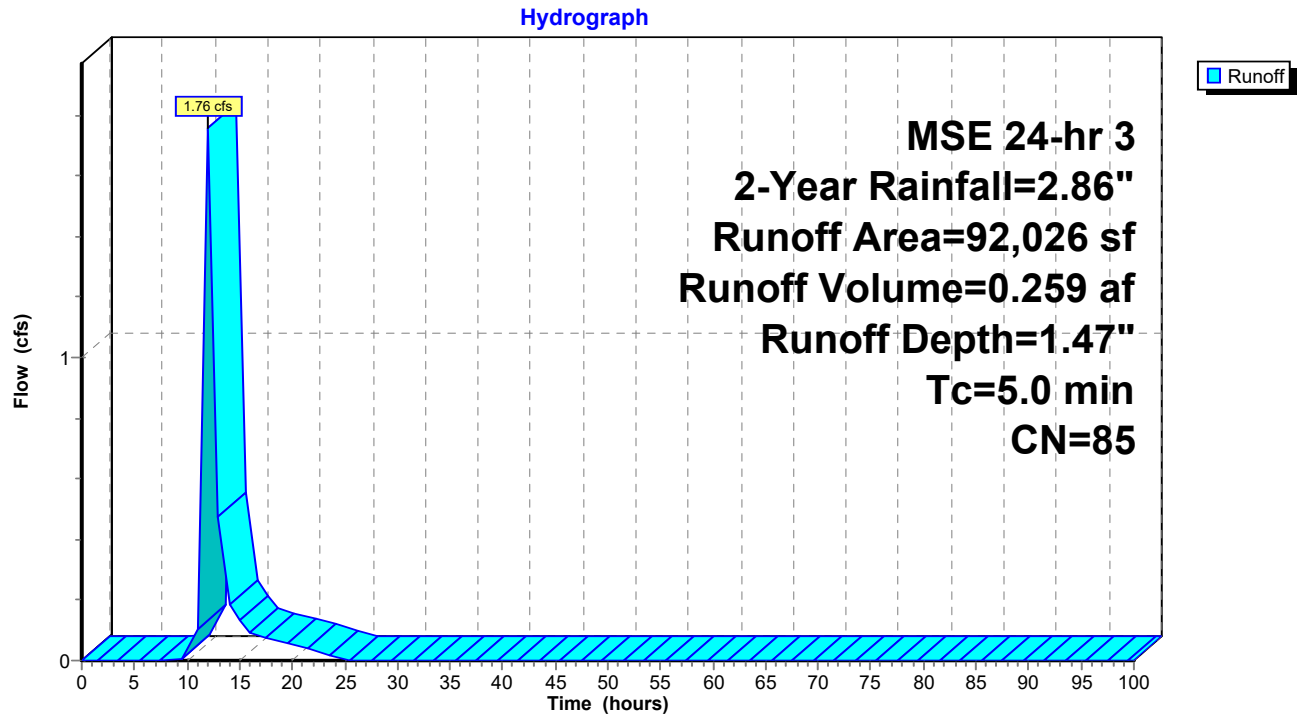
Runoff = 1.76 cfs @ 12.06 hrs, Volume= 0.259 af, Depth= 1.47"
Routed to Pond POA :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
26,450	98	Paved parking, HSG D
65,576	80	>75% Grass cover, Good, HSG D
92,026	85	Weighted Average
65,576		71.26% Pervious Area
26,450		28.74% Impervious Area

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

Subcatchment P10:



Summary for Subcatchment P2:

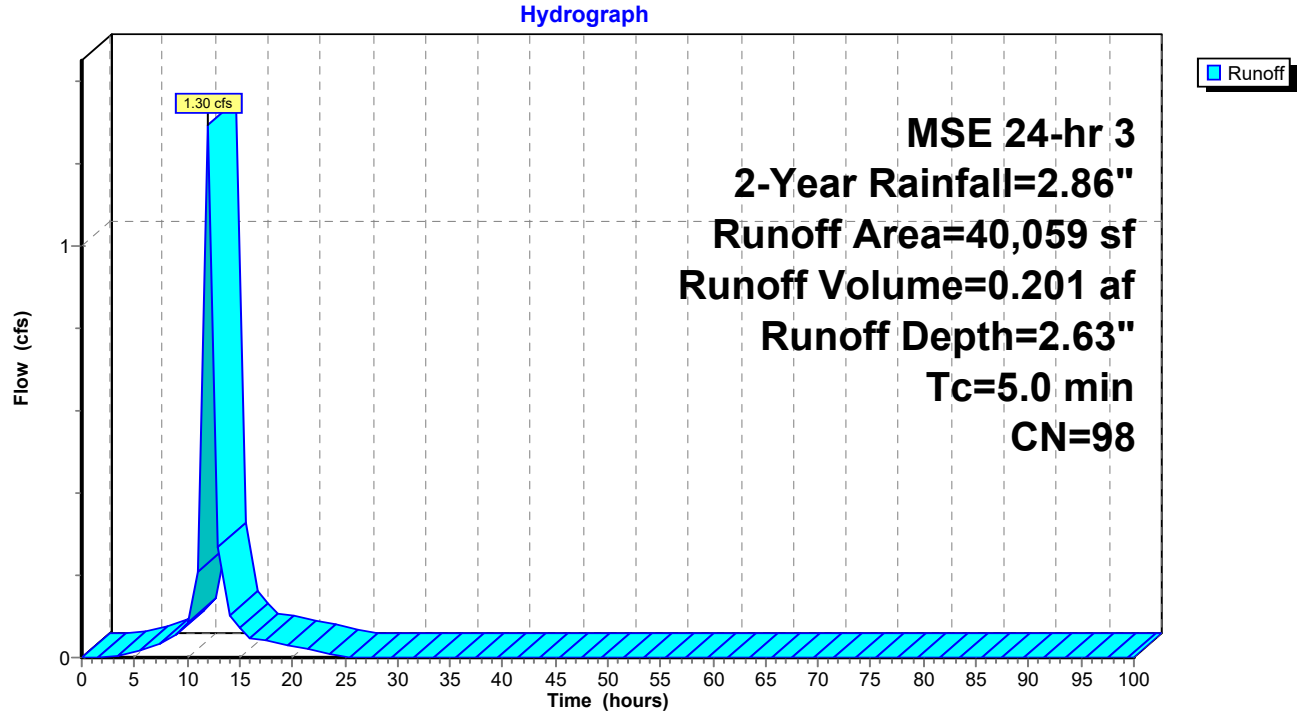
Runoff = 1.30 cfs @ 12.01 hrs, Volume= 0.201 af, Depth= 2.63"
Routed to Pond CB2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
39,537	98	Paved parking, HSG D
522	80	>75% Grass cover, Good, HSG D
40,059	98	Weighted Average
522		1.30% Pervious Area
39,537		98.70% Impervious Area

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

Subcatchment P2:



Summary for Subcatchment P3:

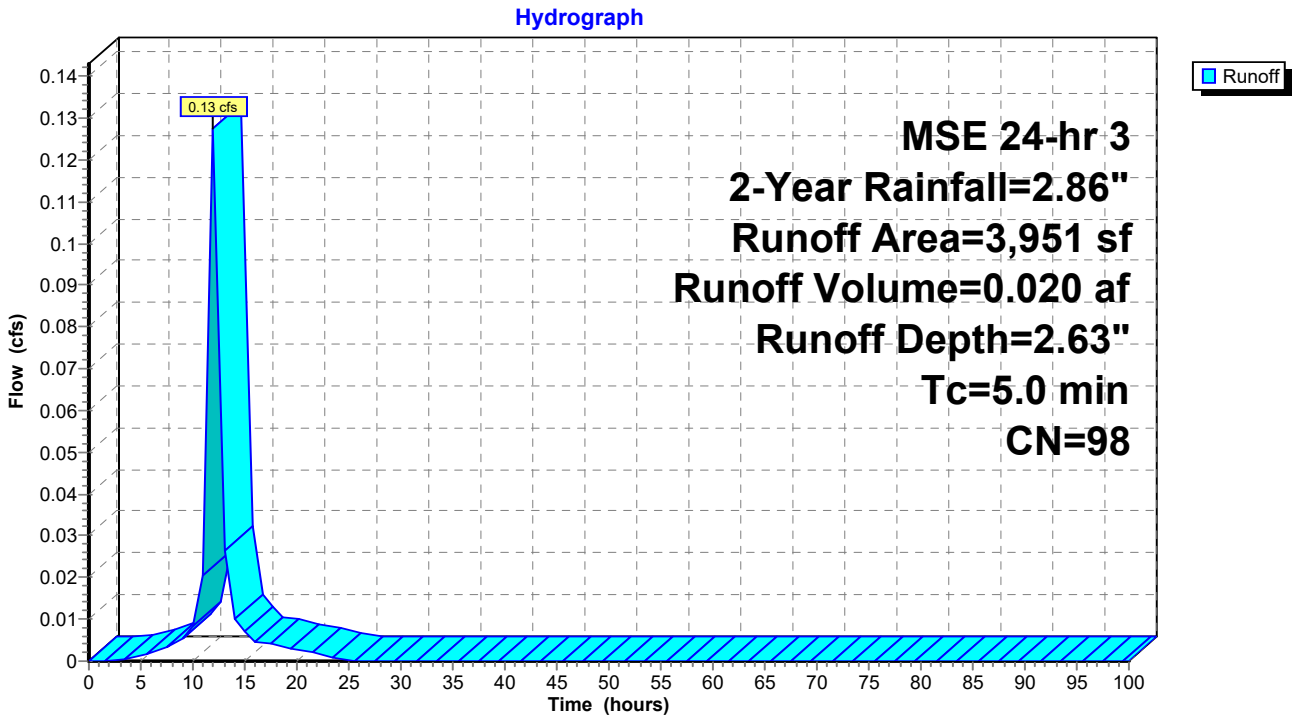
Runoff = 0.13 cfs @ 12.01 hrs, Volume= 0.020 af, Depth= 2.63"
Routed to Pond CB3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
3,951	98	Paved parking, HSG D
3,951		100.00% Impervious Area

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

Subcatchment P3:



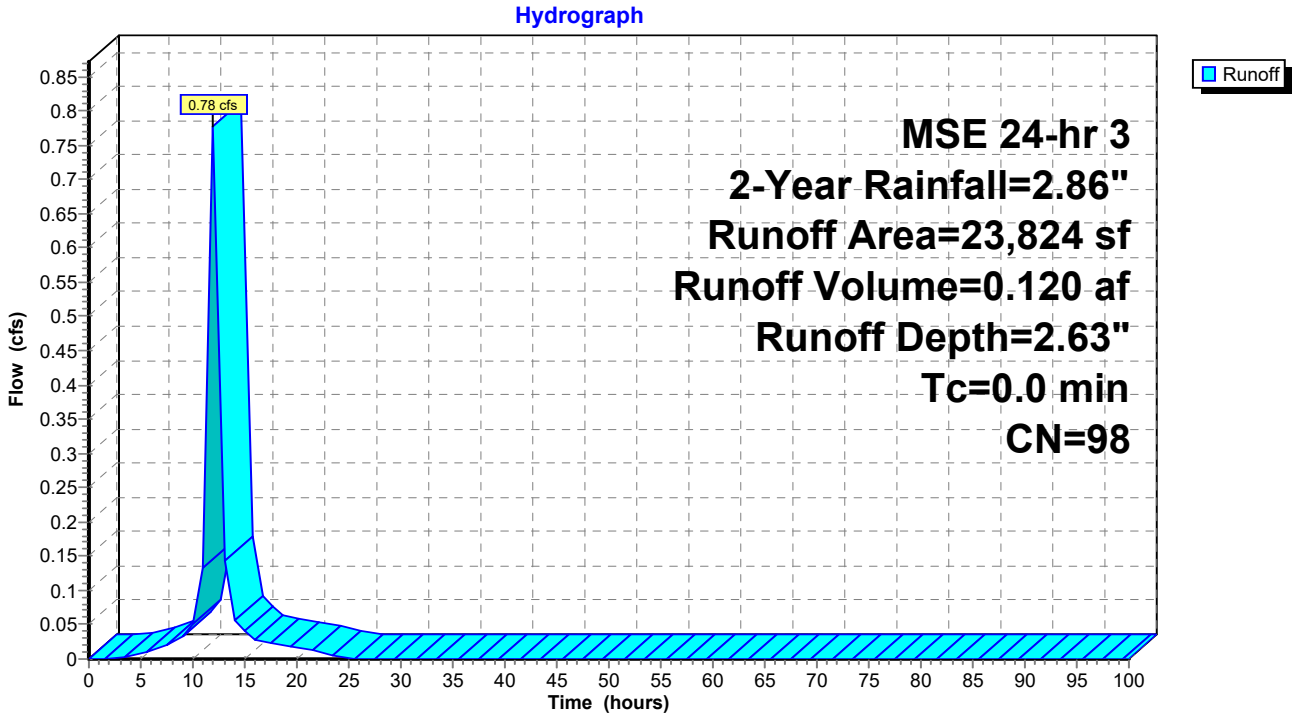
Summary for Subcatchment P4:

Runoff = 0.78 cfs @ 12.00 hrs, Volume= 0.120 af, Depth= 2.63"
Routed to Pond CB4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
23,824	98	Paved parking, HSG D
23,824		100.00% Impervious Area

Subcatchment P4:



Summary for Subcatchment P5:

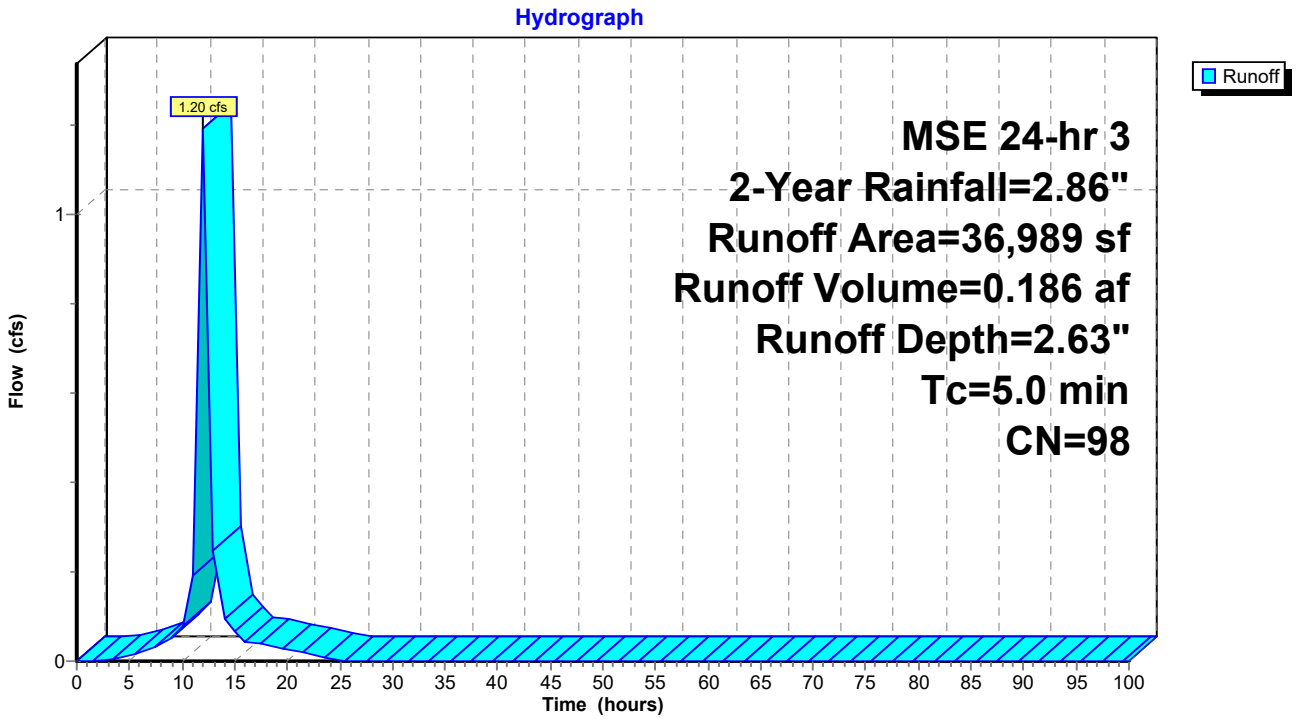
Runoff = 1.20 cfs @ 12.01 hrs, Volume= 0.186 af, Depth= 2.63"
Routed to Pond CB5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
36,989	98	Paved parking, HSG D
36,989		100.00% Impervious Area

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

Subcatchment P5:



Summary for Subcatchment P6:

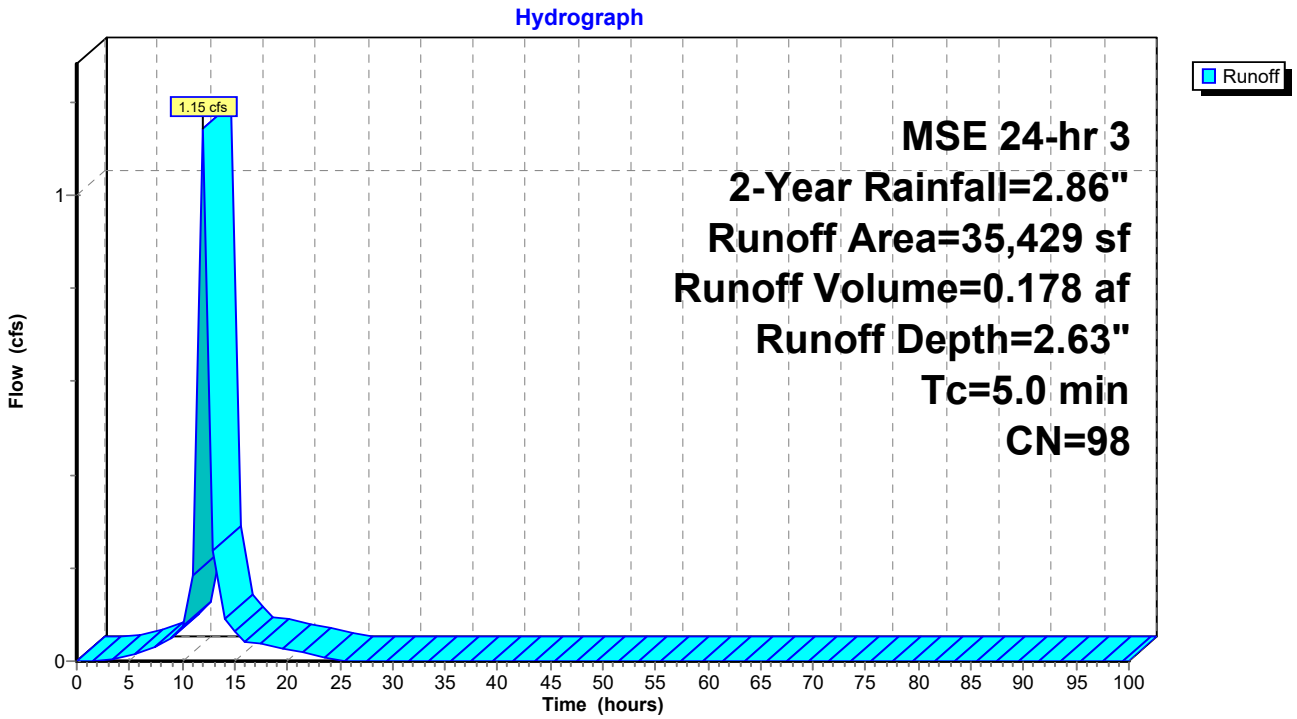
Runoff = 1.15 cfs @ 12.01 hrs, Volume= 0.178 af, Depth= 2.63"
Routed to Pond CB6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
35,429	98	Paved parking, HSG D
35,429		100.00% Impervious Area

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

Subcatchment P6:



Summary for Subcatchment P7:

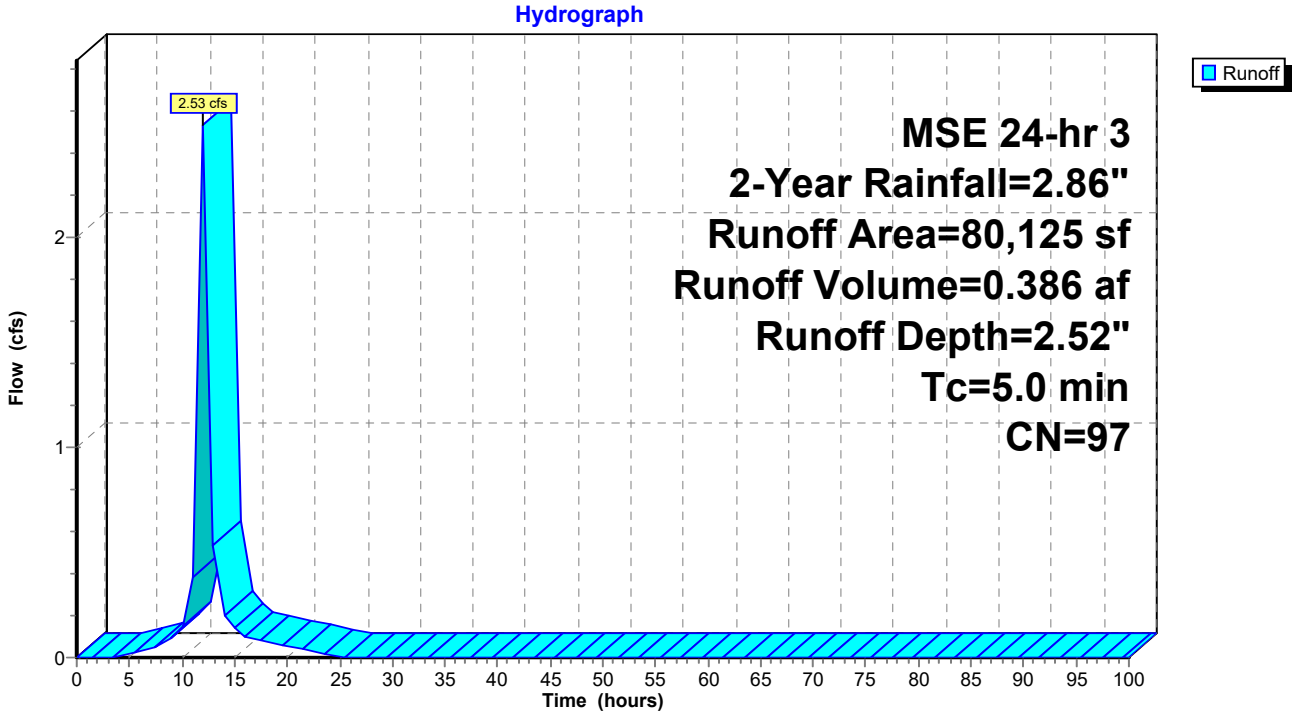
Runoff = 2.53 cfs @ 12.02 hrs, Volume= 0.386 af, Depth= 2.52"
Routed to Pond CB7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
75,849	98	Paved parking, HSG D
4,276	80	>75% Grass cover, Good, HSG D
80,125	97	Weighted Average
4,276		5.34% Pervious Area
75,849		94.66% Impervious Area

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

Subcatchment P7:



Summary for Subcatchment P8:

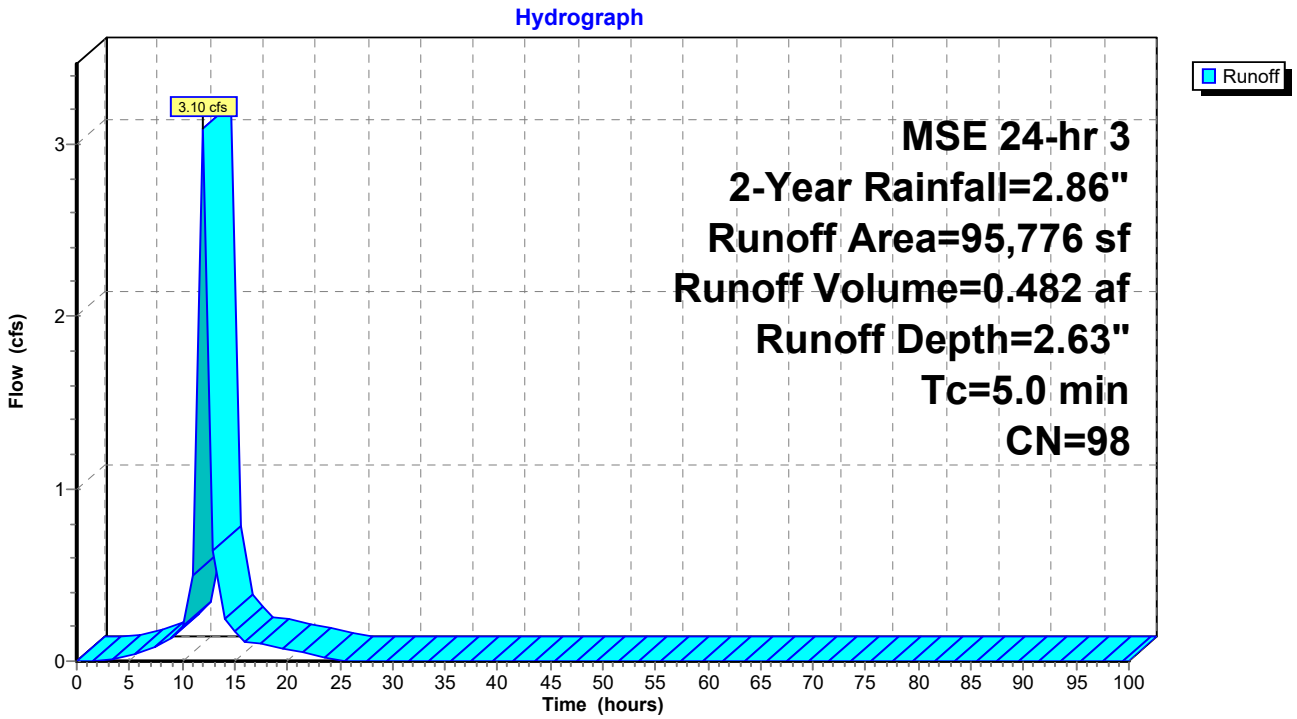
Runoff = 3.10 cfs @ 12.01 hrs, Volume= 0.482 af, Depth= 2.63"
Routed to Pond CB8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
95,776	98	Paved parking, HSG D
95,776		100.00% Impervious Area

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

Subcatchment P8:



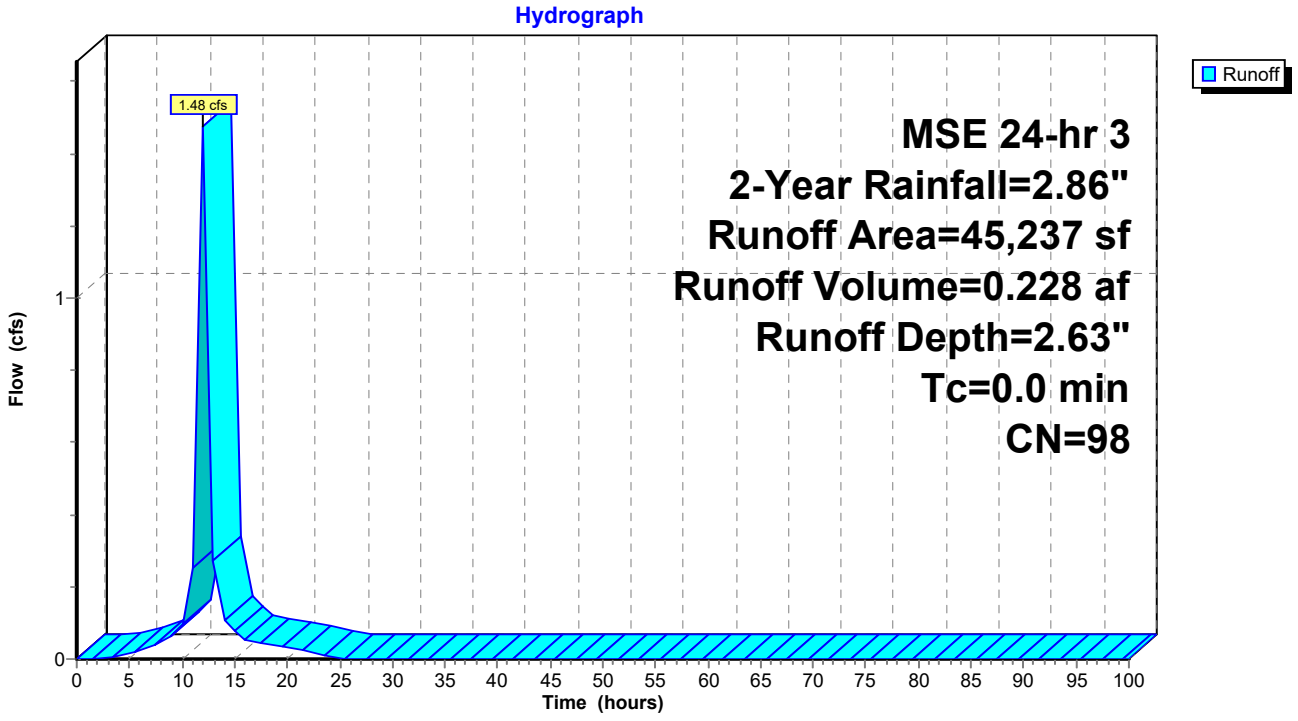
Summary for Subcatchment P9A:

Runoff = 1.48 cfs @ 12.00 hrs, Volume= 0.228 af, Depth= 2.63"
Routed to Pond CB-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
45,237	98	Paved parking, HSG D
45,237		100.00% Impervious Area

Subcatchment P9A:



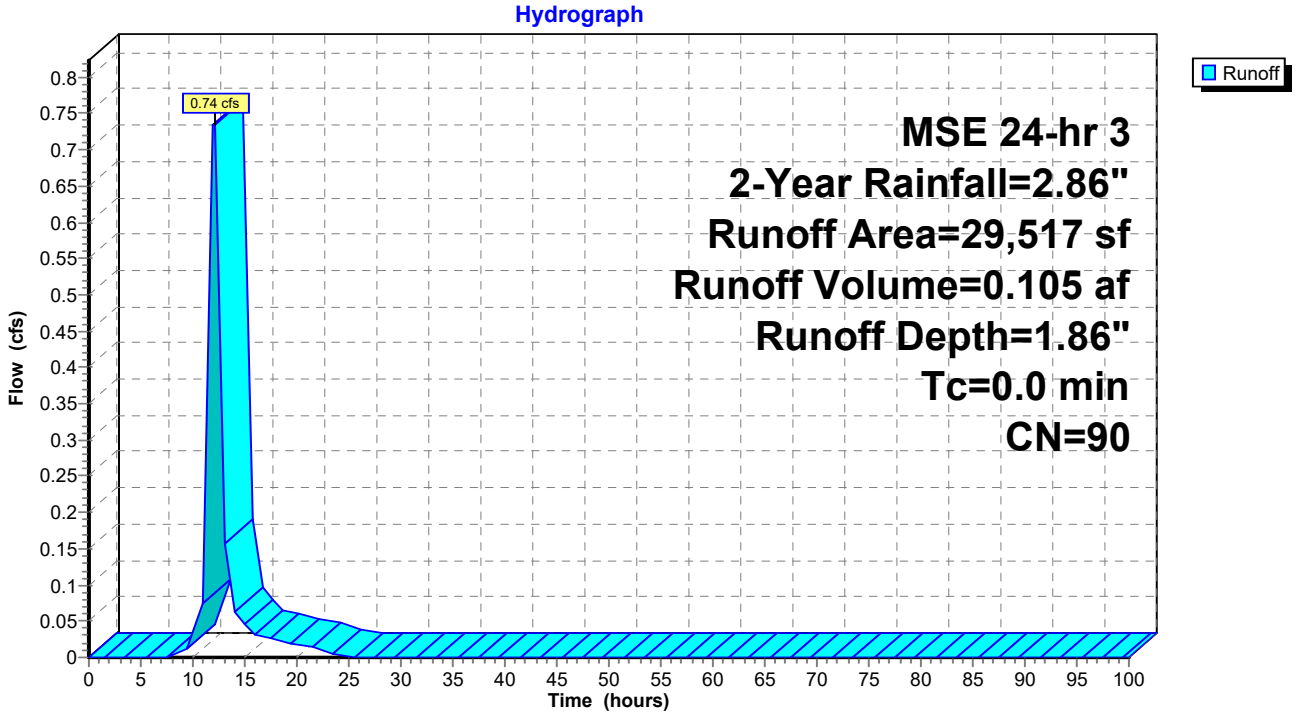
Summary for Subcatchment P9C:

Runoff = 0.74 cfs @ 12.03 hrs, Volume= 0.105 af, Depth= 1.86"
Routed to Reach 2R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 2-Year Rainfall=2.86"

Area (sf)	CN	Description
15,855	98	Paved parking, HSG D
13,662	80	>75% Grass cover, Good, HSG D
29,517	90	Weighted Average
13,662		46.29% Pervious Area
15,855		53.71% Impervious Area

Subcatchment P9C:



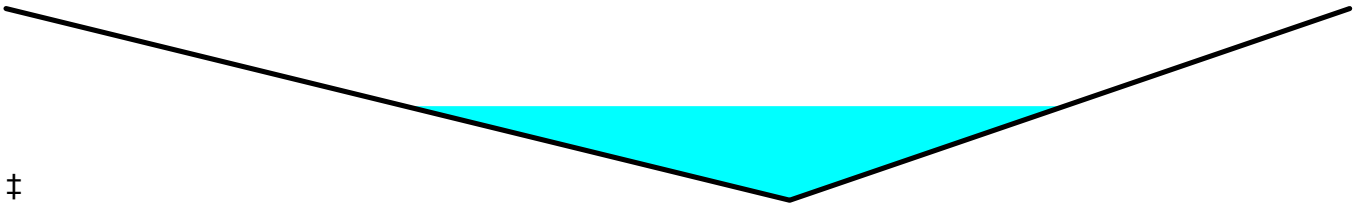
Summary for Reach 2R:

Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 1.86" for 2-Year event
Inflow = 0.74 cfs @ 12.03 hrs, Volume= 0.105 af
Outflow = 0.70 cfs @ 12.07 hrs, Volume= 0.105 af, Atten= 5%, Lag= 2.1 min
Routed to Pond CB-1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Max. Velocity= 1.96 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.82 fps, Avg. Travel Time= 5.0 min

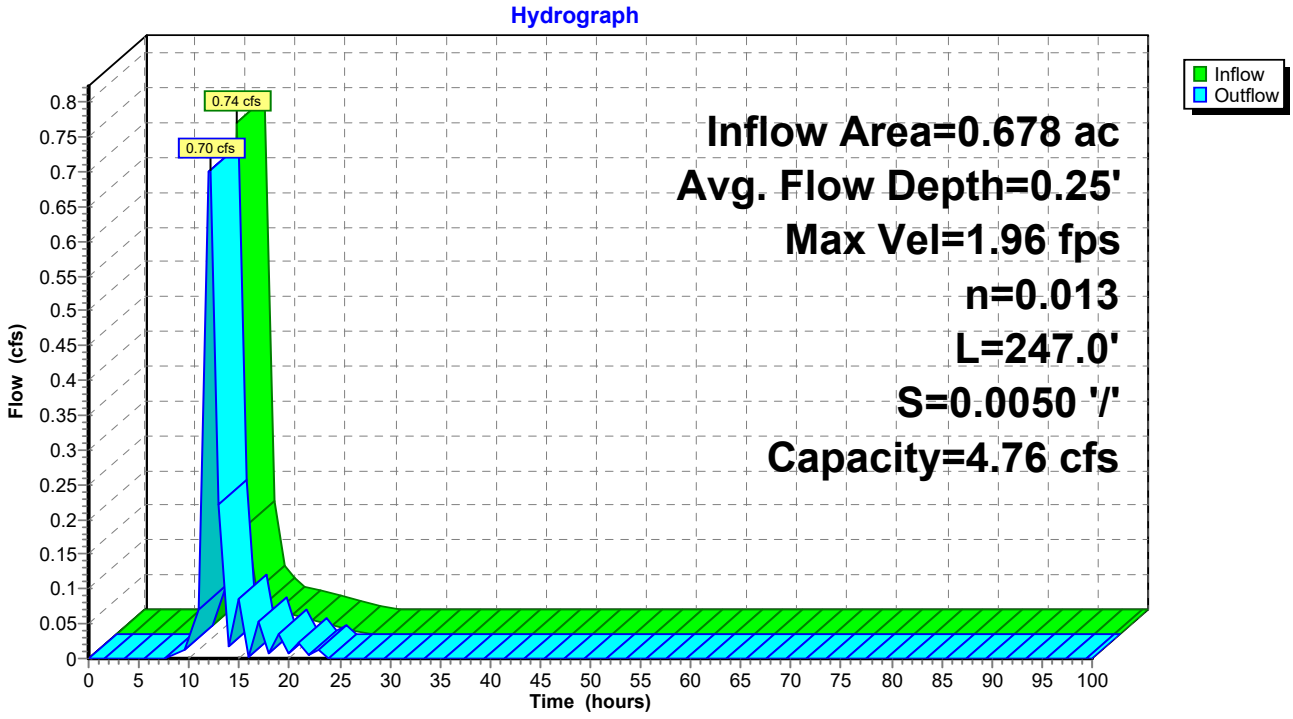
Peak Storage= 88 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.25' , Surface Width= 2.94'
Bank-Full Depth= 0.50' Flow Area= 1.5 sf, Capacity= 4.76 cfs

0.00' x 0.50' deep channel, n= 0.013
Side Slope Z-value= 7.0 5.0 '/' Top Width= 6.00'
Length= 247.0' Slope= 0.0050 '/'
Inlet Invert= 886.99', Outlet Invert= 885.76'



‡

Reach 2R:



Summary for Pond CB-1:

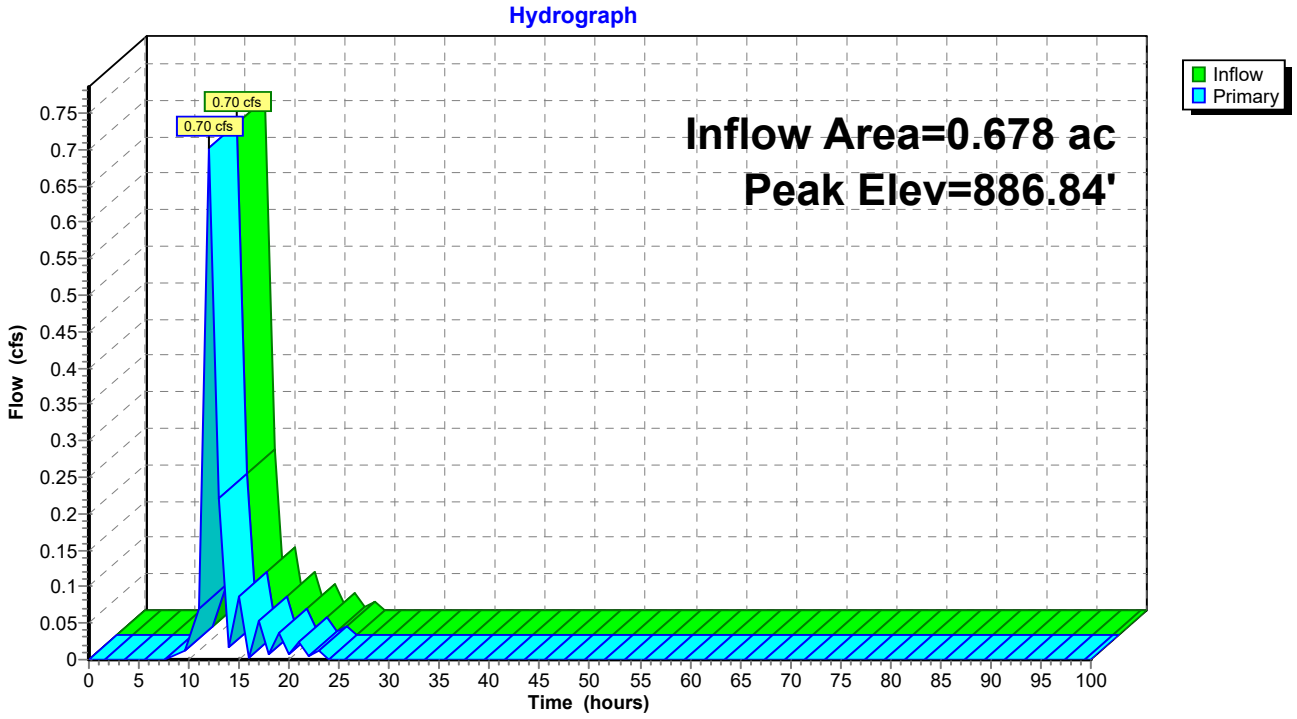
Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 1.86" for 2-Year event
Inflow = 0.70 cfs @ 12.07 hrs, Volume= 0.105 af
Outflow = 0.70 cfs @ 12.07 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.07 hrs, Volume= 0.105 af
Routed to Pond ST-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.84' @ 14.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.46'	**12.0" Round Culvert** L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 882.46' / 882.19' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	885.41'	**24.0" Horiz. CATCH BASIN X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=886.08' TW=886.27' (Dynamic Tailwater)
↑**1=Culvert** (Controls 0.00 cfs)
↑**2=CATCH BASIN** (Controls 0.00 cfs)

Pond CB-1:



Summary for Pond CB-2:

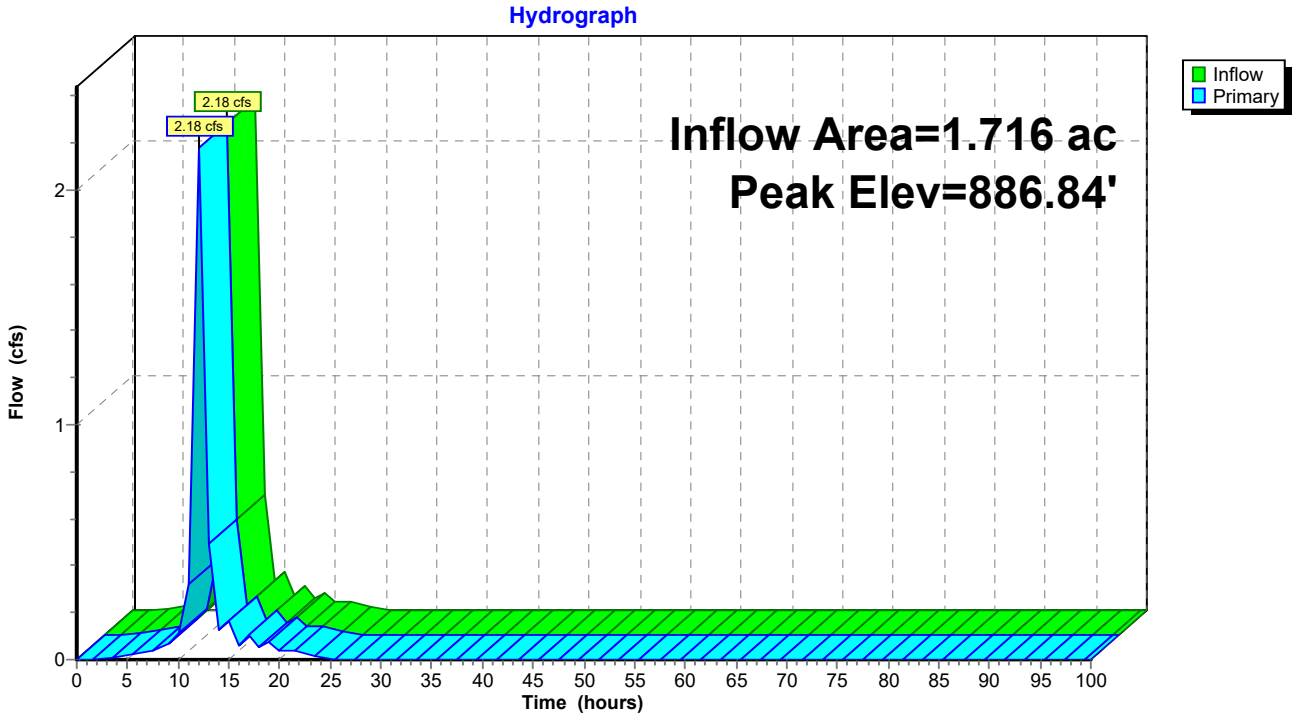
Inflow Area = 1.716 ac, 81.72% Impervious, Inflow Depth = 2.32" for 2-Year event
Inflow = 2.18 cfs @ 12.02 hrs, Volume= 0.332 af
Outflow = 2.18 cfs @ 12.02 hrs, Volume= 0.332 af, Atten= 0%, Lag= 0.0 min
Primary = 2.18 cfs @ 12.02 hrs, Volume= 0.332 af
Routed to Pond ST-3 : JELLYFISH

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.84' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.86'	**12.0" Round Culvert** L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 881.86' / 881.77' S= 0.0036 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	885.81'	**24.0" Vert. CATCH BASIN X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.13 cfs @ 12.02 hrs HW=886.82' TW=882.82' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.13 cfs of 7.57 cfs potential flow)
↑**2=CATCH BASIN** (Orifice Controls 2.13 cfs @ 1.34 fps)

Pond CB-2:



Summary for Pond CB1:

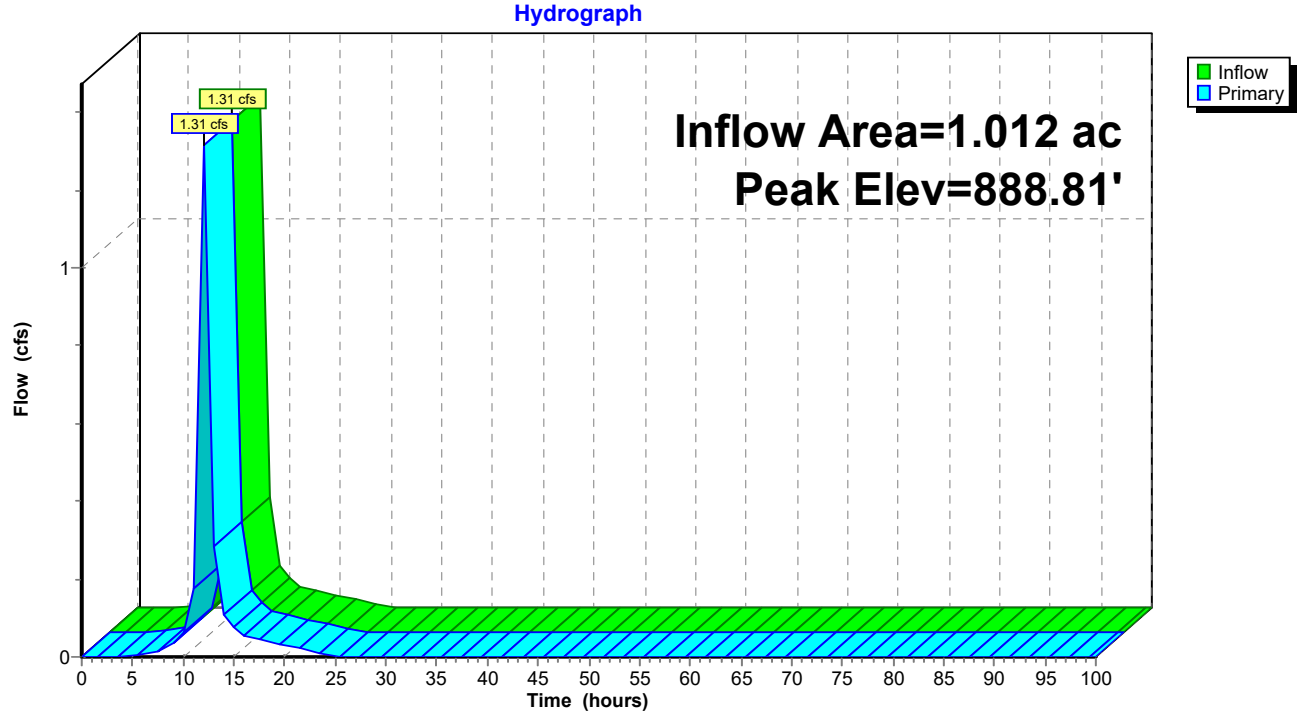
Inflow Area = 1.012 ac, 85.04% Impervious, Inflow Depth = 2.31" for 2-Year event
Inflow = 1.31 cfs @ 12.03 hrs, Volume= 0.195 af
Outflow = 1.31 cfs @ 12.03 hrs, Volume= 0.195 af, Atten= 0%, Lag= 0.0 min
Primary = 1.31 cfs @ 12.03 hrs, Volume= 0.195 af
Routed to Pond CB2P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.81' @ 12.04 hrs
Flood Elev= 888.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**15.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.53' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.28 cfs @ 12.03 hrs HW=888.80' TW=885.50' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.28 cfs of 6.90 cfs potential flow)
└─**2=Orifice/Grate** (Orifice Controls 1.28 cfs @ 1.19 fps)

Pond CB1:



Summary for Pond CB2:

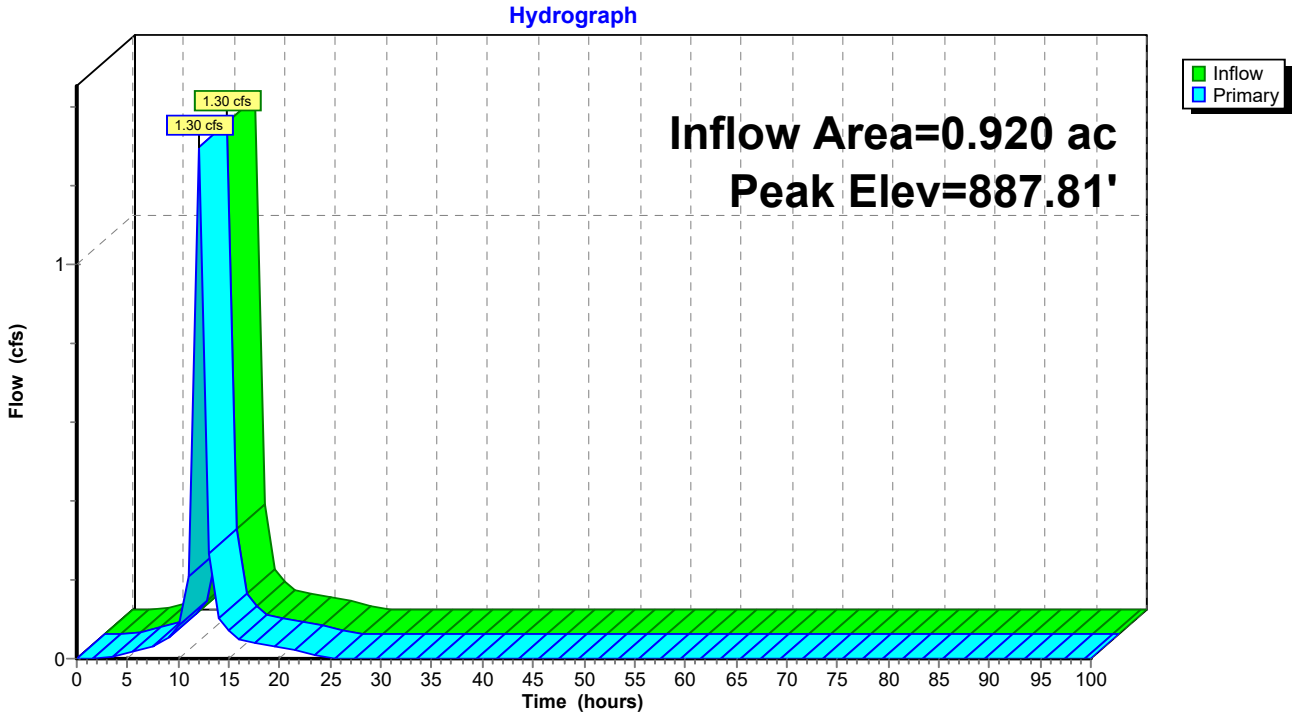
Inflow Area = 0.920 ac, 98.70% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 1.30 cfs @ 12.01 hrs, Volume= 0.201 af
Outflow = 1.30 cfs @ 12.01 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 12.01 hrs, Volume= 0.201 af
Routed to Pond CB2P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.81' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.28 cfs @ 12.01 hrs HW=887.80' TW=885.51' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 1.28 cfs @ 1.19 fps)

Pond CB2:



Summary for Pond CB2P:

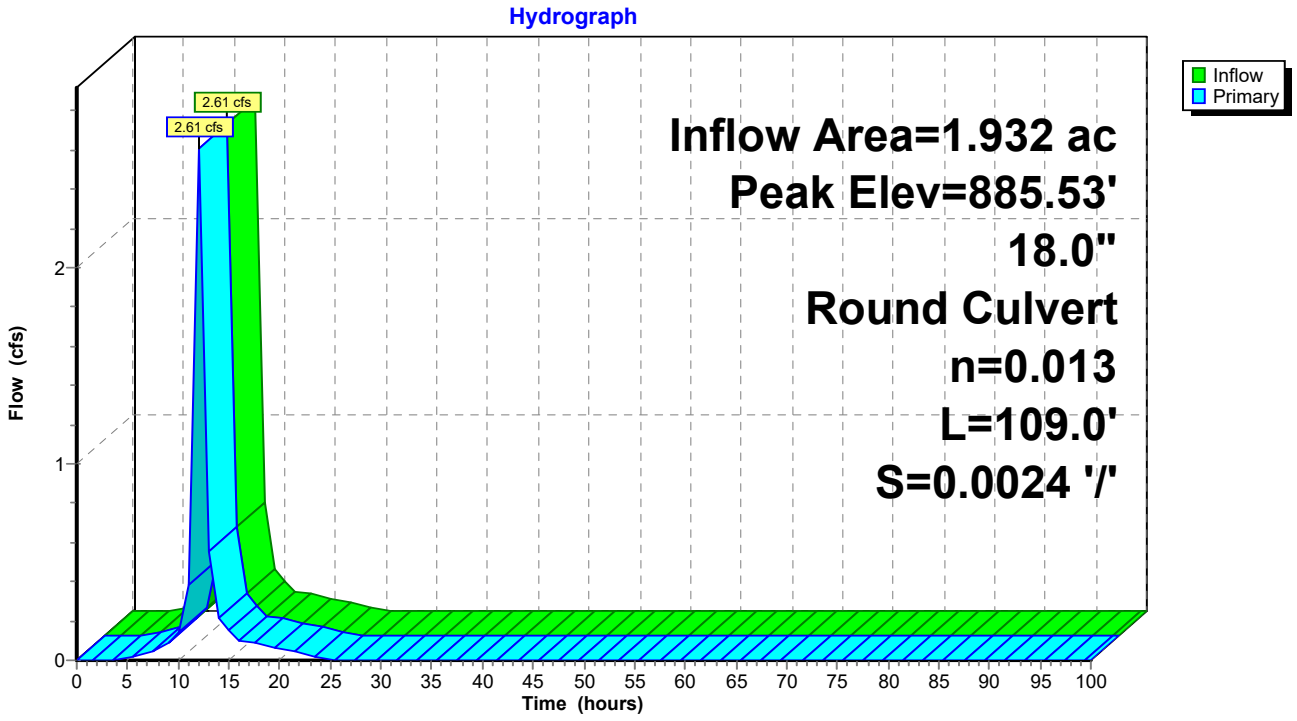
Inflow Area = 1.932 ac, 91.54% Impervious, Inflow Depth = 2.46" for 2-Year event
Inflow = 2.61 cfs @ 12.02 hrs, Volume= 0.396 af
Outflow = 2.61 cfs @ 12.02 hrs, Volume= 0.396 af, Atten= 0%, Lag= 0.0 min
Primary = 2.61 cfs @ 12.02 hrs, Volume= 0.396 af
Routed to Pond CB3P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.53' @ 12.25 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.53'	**18.0" Round Culvert** L= 109.0' Ke= 0.500 Inlet / Outlet Invert= 884.53' / 884.27' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=1.85 cfs @ 12.02 hrs HW=885.50' TW=885.25' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.85 cfs @ 2.17 fps)

Pond CB2P:



Summary for Pond CB3:

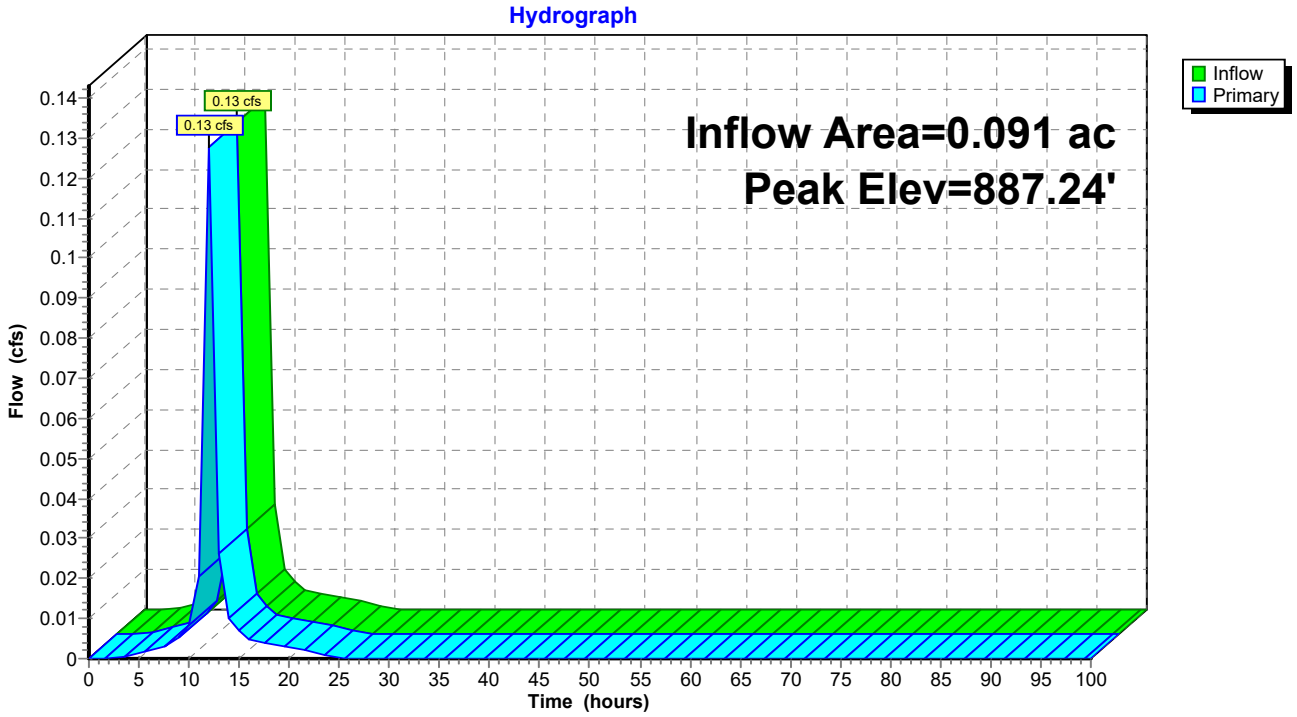
Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 0.13 cfs @ 12.01 hrs, Volume= 0.020 af
Outflow = 0.13 cfs @ 12.01 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.01 hrs, Volume= 0.020 af
Routed to Pond CB3P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.24' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 12.01 hrs HW=887.24' TW=885.25' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.13 cfs @ 0.65 fps)

Pond CB3:



Summary for Pond CB3P:

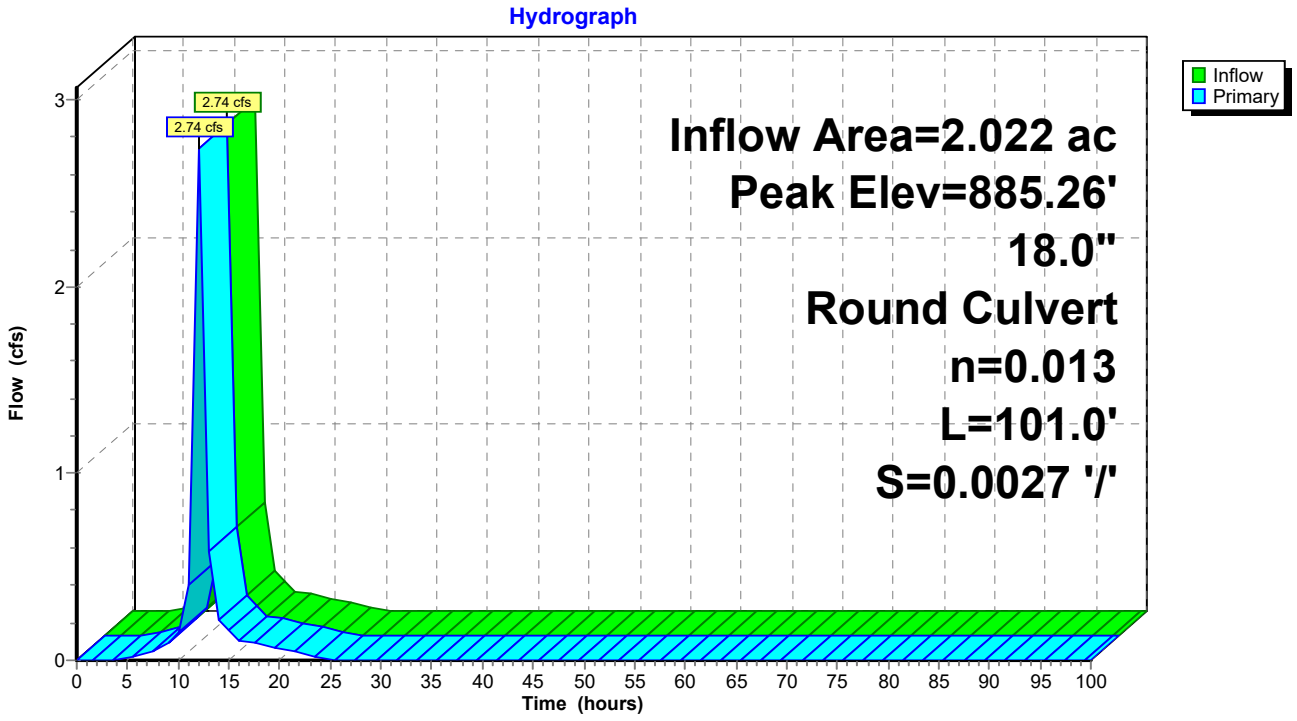
Inflow Area = 2.022 ac, 91.92% Impervious, Inflow Depth = 2.47" for 2-Year event
Inflow = 2.74 cfs @ 12.02 hrs, Volume= 0.416 af
Outflow = 2.74 cfs @ 12.02 hrs, Volume= 0.416 af, Atten= 0%, Lag= 0.0 min
Primary = 2.74 cfs @ 12.02 hrs, Volume= 0.416 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.26' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.27'	**18.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 884.27' / 884.00' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=2.68 cfs @ 12.02 hrs HW=885.25' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.68 cfs @ 3.13 fps)

Pond CB3P:



Summary for Pond CB4:

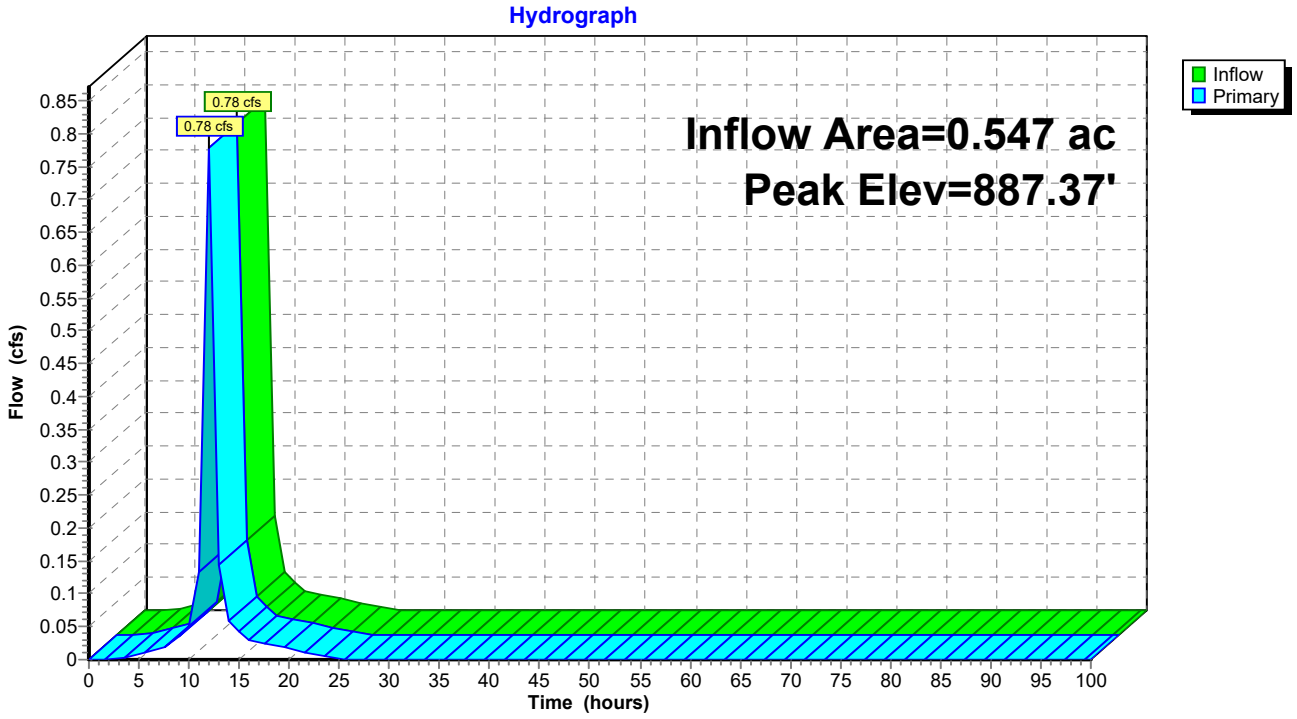
Inflow Area = 0.547 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 0.78 cfs @ 12.00 hrs, Volume= 0.120 af
Outflow = 0.78 cfs @ 12.00 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.00 hrs, Volume= 0.120 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.37' @ 12.01 hrs
Flood Elev= 887.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	882.75'	**18.0" Round Culvert** L= 63.0' Ke= 0.500 Inlet / Outlet Invert= 882.75' / 800.67' S= 1.3029 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.78 cfs @ 12.00 hrs HW=887.37' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.78 cfs of 16.74 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.78 cfs @ 2.08 fps)

Pond CB4:



Summary for Pond CB5:

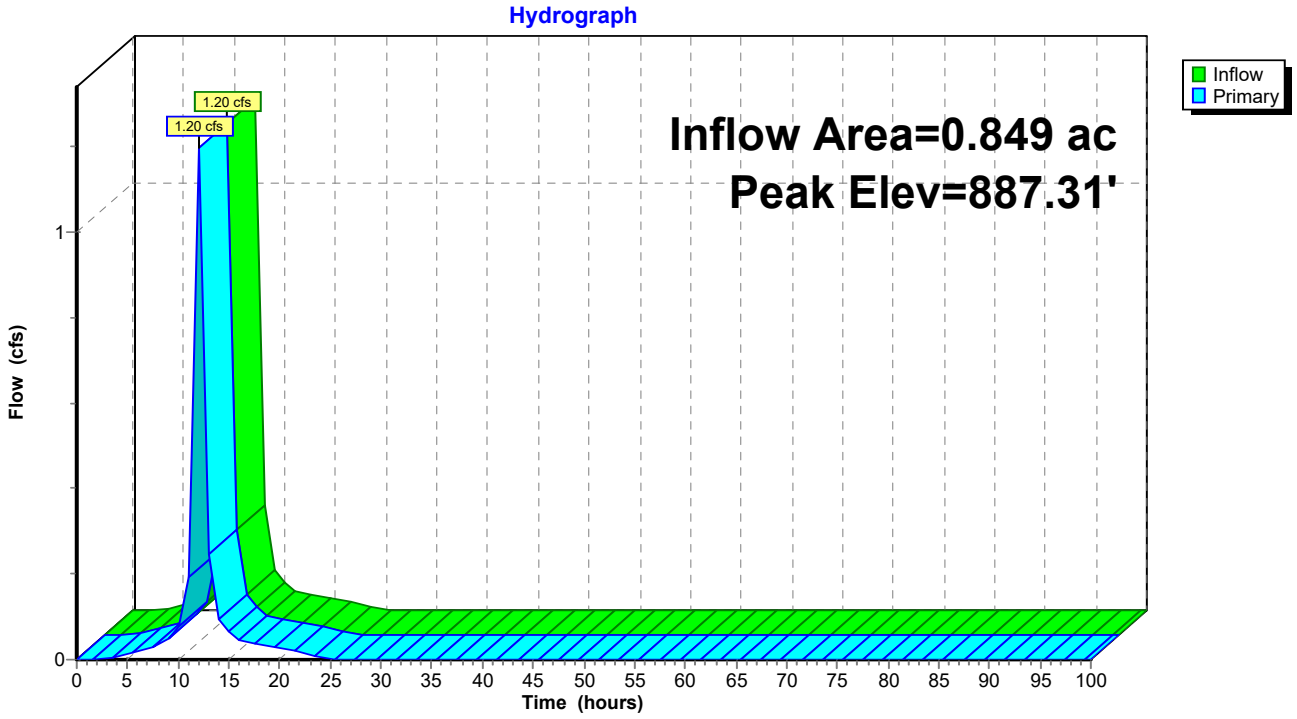
Inflow Area = 0.849 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 1.20 cfs @ 12.01 hrs, Volume= 0.186 af
Outflow = 1.20 cfs @ 12.01 hrs, Volume= 0.186 af, Atten= 0%, Lag= 0.0 min
Primary = 1.20 cfs @ 12.01 hrs, Volume= 0.186 af
Routed to Pond CB6P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.31' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 222.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.10' S= 0.0041 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Horiz. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.18 cfs @ 12.01 hrs HW=887.30' TW=884.96' (Dynamic Tailwater)
↑**1=Culvert** (Passes 1.18 cfs of 7.85 cfs potential flow)
↑**2=Orifice/Grate** (Weir Controls 1.18 cfs @ 0.70 fps)

Pond CB5:



Summary for Pond CB6:

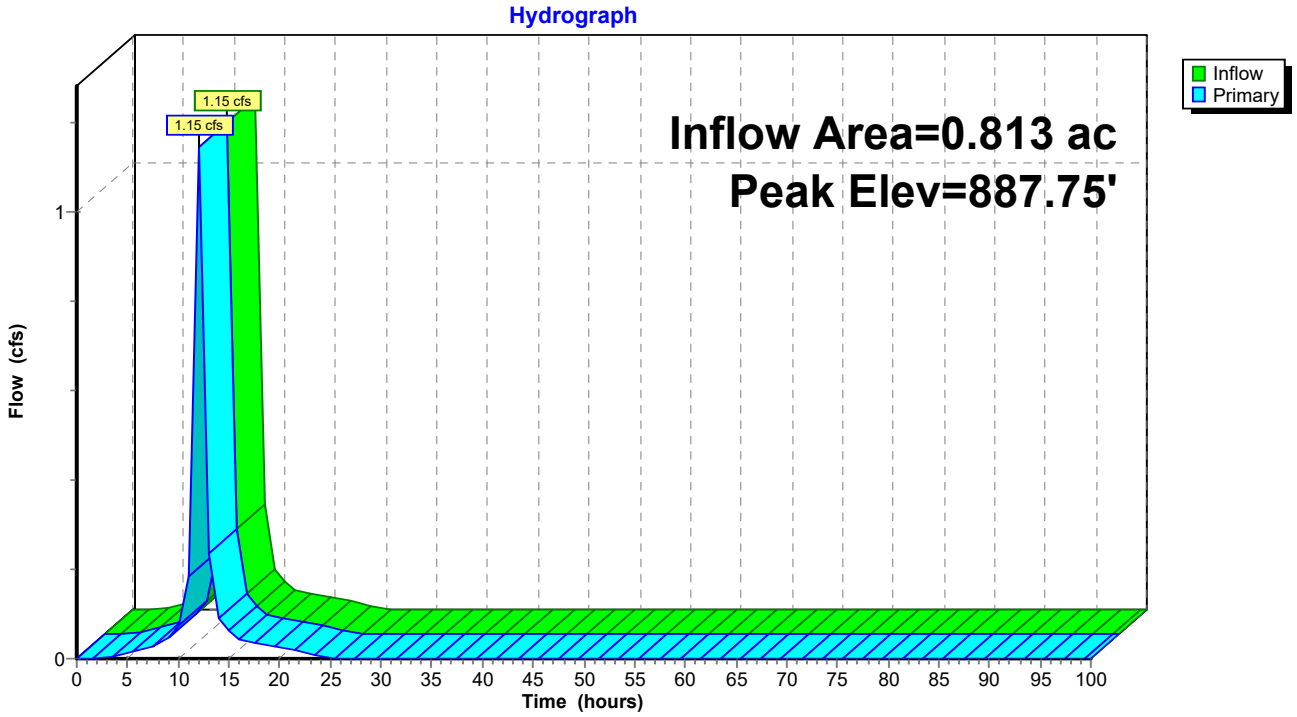
Inflow Area = 0.813 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 1.15 cfs @ 12.01 hrs, Volume= 0.178 af
Outflow = 1.15 cfs @ 12.01 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min
Primary = 1.15 cfs @ 12.01 hrs, Volume= 0.178 af
Routed to Pond CB6P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.75' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.13 cfs @ 12.01 hrs HW=887.75' TW=884.96' (Dynamic Tailwater)
↑**1=Orifice/Grate** (Orifice Controls 1.13 cfs @ 1.15 fps)

Pond CB6:



Summary for Pond CB6P:

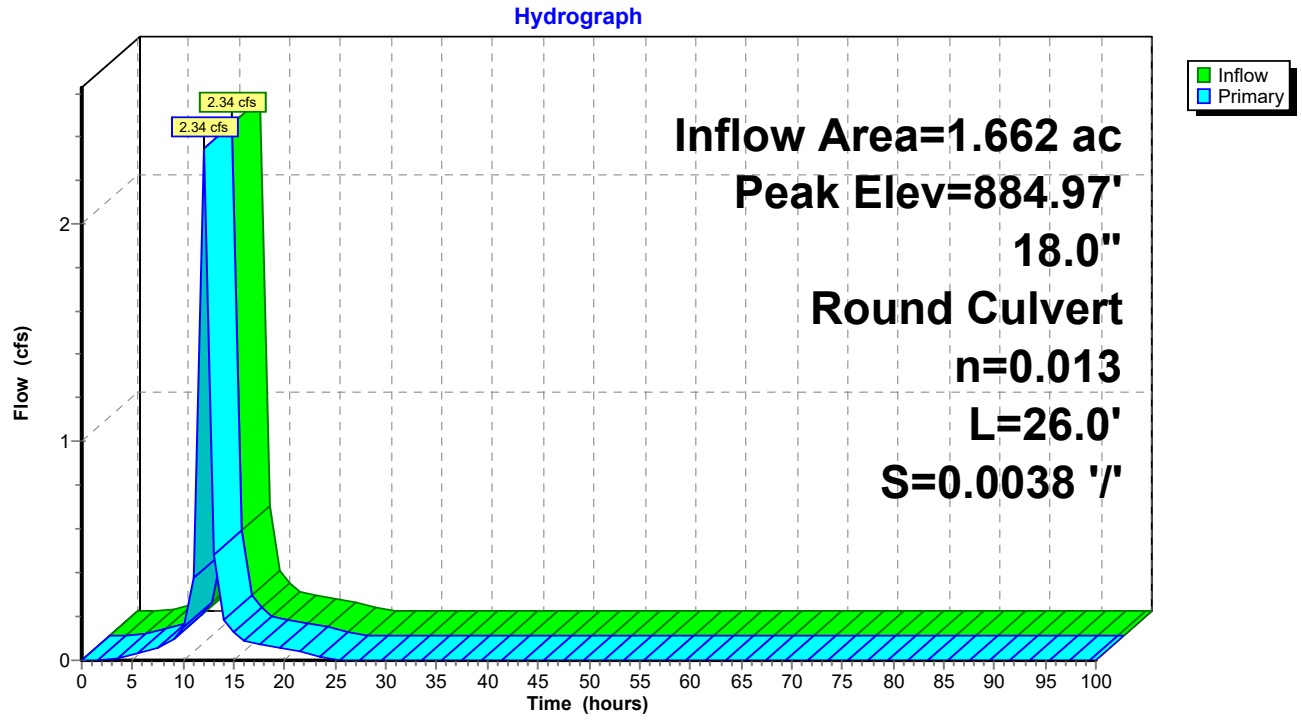
Inflow Area = 1.662 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 2.34 cfs @ 12.01 hrs, Volume= 0.364 af
Outflow = 2.34 cfs @ 12.01 hrs, Volume= 0.364 af, Atten= 0%, Lag= 0.0 min
Primary = 2.34 cfs @ 12.01 hrs, Volume= 0.364 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 884.97' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.10'	**18.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 884.10' / 884.00' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=2.31 cfs @ 12.01 hrs HW=884.96' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.31 cfs @ 3.16 fps)

Pond CB6P:



Summary for Pond CB7:

Inflow Area = 1.839 ac, 94.66% Impervious, Inflow Depth = 2.52" for 2-Year event
Inflow = 2.53 cfs @ 12.02 hrs, Volume= 0.386 af
Outflow = 2.53 cfs @ 12.02 hrs, Volume= 0.386 af, Atten= 0%, Lag= 0.0 min
Primary = 2.53 cfs @ 12.02 hrs, Volume= 0.386 af
Routed to Pond CB8P :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

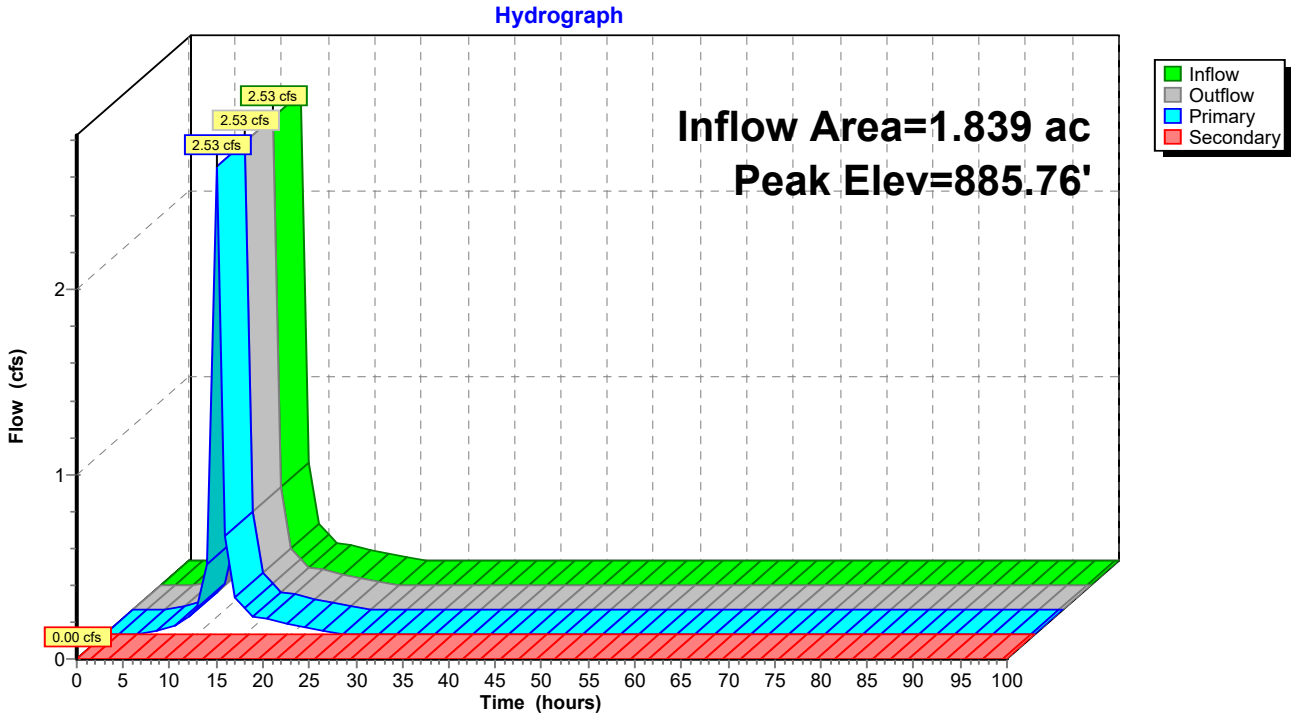
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.76' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 201.4' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 883.56' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Secondary	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.03 cfs @ 12.02 hrs HW=885.76' TW=884.67' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.03 cfs @ 3.32 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=885.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond CB7:



Summary for Pond CB8:

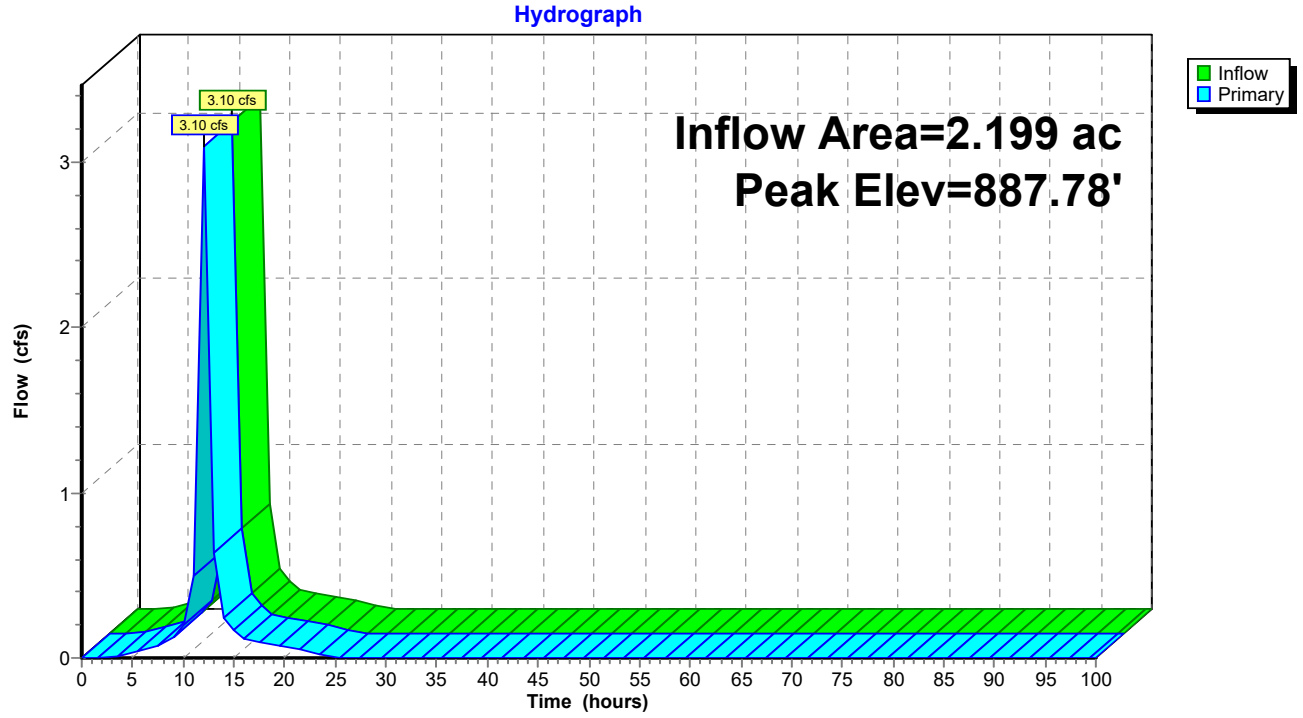
Inflow Area = 2.199 ac,100.00% Impervious, Inflow Depth = 2.63" for 2-Year event
Inflow = 3.10 cfs @ 12.01 hrs, Volume= 0.482 af
Outflow = 3.10 cfs @ 12.01 hrs, Volume= 0.482 af, Atten= 0%, Lag= 0.0 min
Primary = 3.10 cfs @ 12.01 hrs, Volume= 0.482 af
Routed to Pond CB8P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.78' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.05 cfs @ 12.01 hrs HW=887.77' TW=884.68' (Dynamic Tailwater)
↳**1=Orifice/Grate** (Orifice Controls 3.05 cfs @ 2.99 fps)

Pond CB8:



Summary for Pond CB8P:

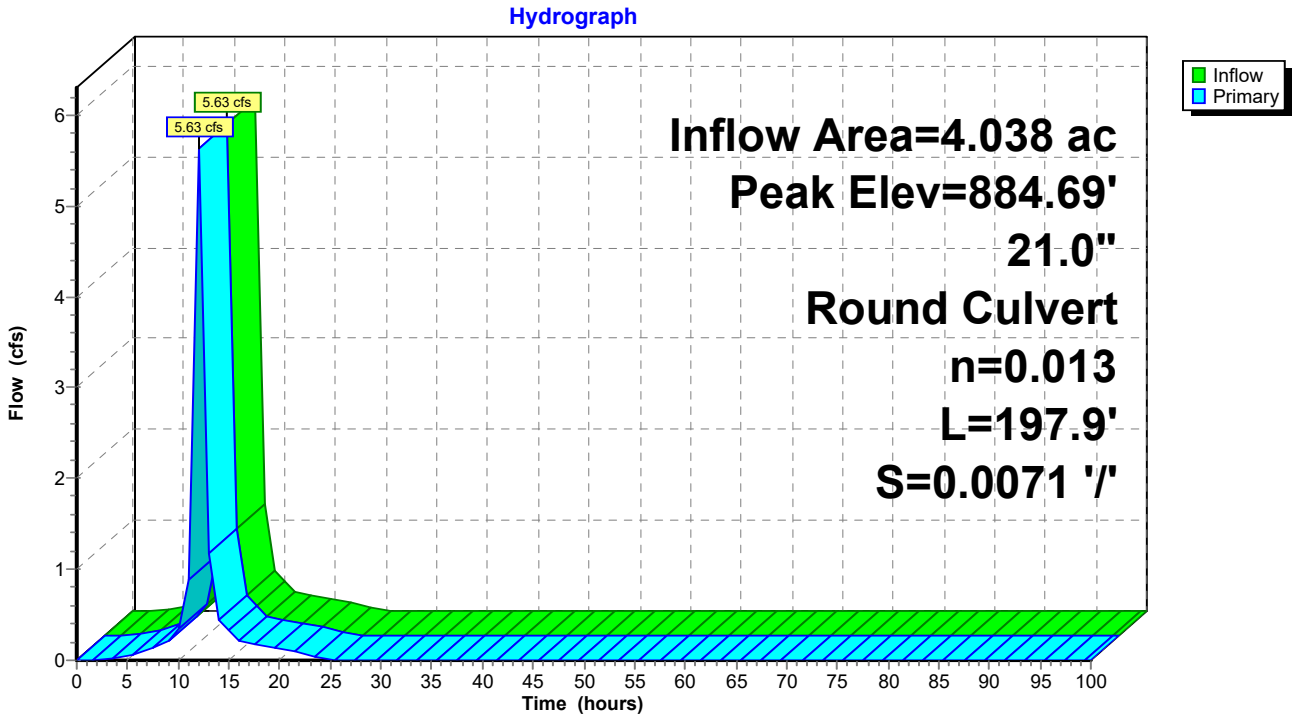
Inflow Area = 4.038 ac, 97.57% Impervious, Inflow Depth = 2.58" for 2-Year event
Inflow = 5.63 cfs @ 12.02 hrs, Volume= 0.868 af
Outflow = 5.63 cfs @ 12.02 hrs, Volume= 0.868 af, Atten= 0%, Lag= 0.0 min
Primary = 5.63 cfs @ 12.02 hrs, Volume= 0.868 af
Routed to Pond ST-4 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 884.69' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	883.56'	**21.0" Round Culvert** L= 197.9' Ke= 0.500 Inlet / Outlet Invert= 883.56' / 882.15' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 2.41 sf

Primary OutFlow Max=5.48 cfs @ 12.02 hrs HW=884.68' TW=883.03' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.48 cfs @ 4.83 fps)

Pond CB8P:

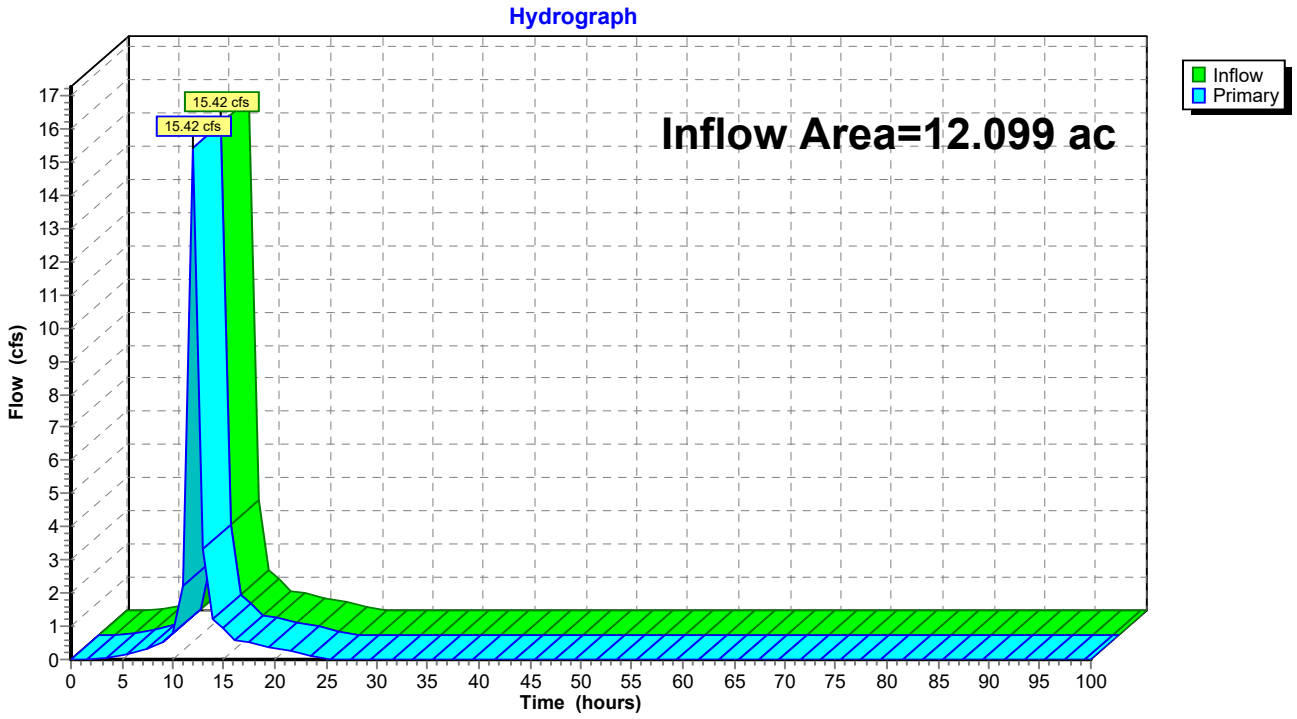


Summary for Pond POA:

Inflow Area = 12.099 ac, 82.80% Impervious, Inflow Depth = 2.34" for 2-Year event
Inflow = 15.42 cfs @ 12.02 hrs, Volume= 2.360 af
Primary = 15.42 cfs @ 12.02 hrs, Volume= 2.360 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs

Pond POA:



Summary for Pond ST-2:

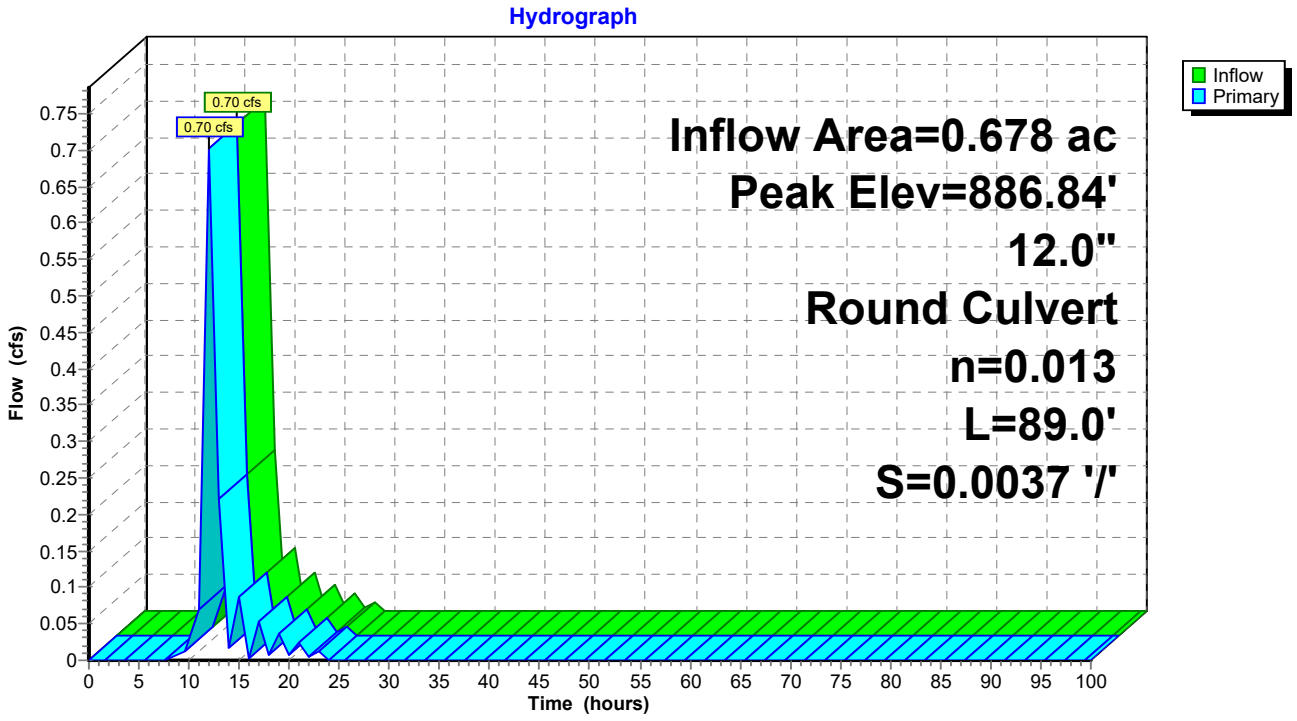
Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 1.86" for 2-Year event
Inflow = 0.70 cfs @ 12.07 hrs, Volume= 0.105 af
Outflow = 0.70 cfs @ 12.07 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.07 hrs, Volume= 0.105 af
Routed to Pond CB-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.84' @ 13.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.19'	**12.0" Round Culvert** L= 89.0' Ke= 0.500 Inlet / Outlet Invert= 882.19' / 881.86' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=886.27' TW=886.80' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Pond ST-2:



Summary for Pond ST-3: JELLYFISH

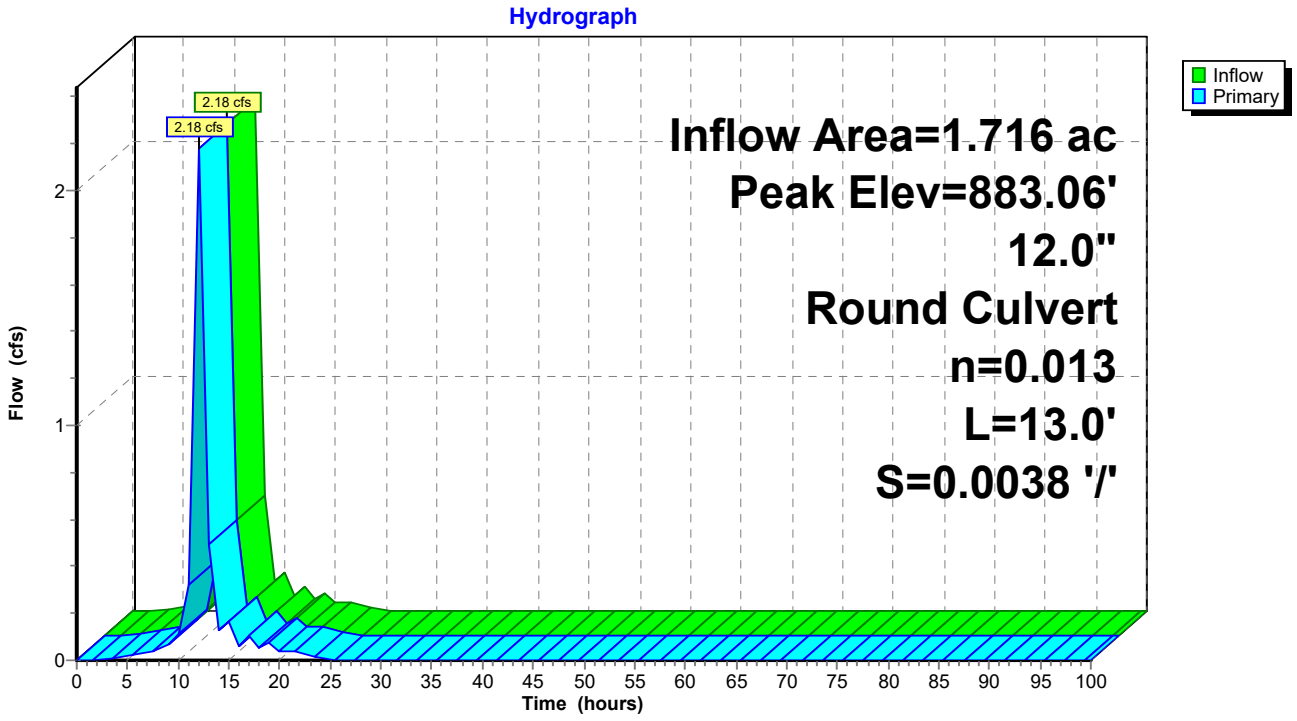
Inflow Area = 1.716 ac, 81.72% Impervious, Inflow Depth = 2.32" for 2-Year event
Inflow = 2.18 cfs @ 12.02 hrs, Volume= 0.332 af
Outflow = 2.18 cfs @ 12.02 hrs, Volume= 0.332 af, Atten= 0%, Lag= 0.0 min
Primary = 2.18 cfs @ 12.02 hrs, Volume= 0.332 af
Routed to Pond ST-4 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 883.06' @ 12.82 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.77'	**12.0" Round Culvert** L= 13.0' Ke= 0.500 Inlet / Outlet Invert= 881.77' / 881.72' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.02 hrs HW=882.82' TW=883.02' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Pond ST-3: JELLYFISH



Summary for Pond ST-4:

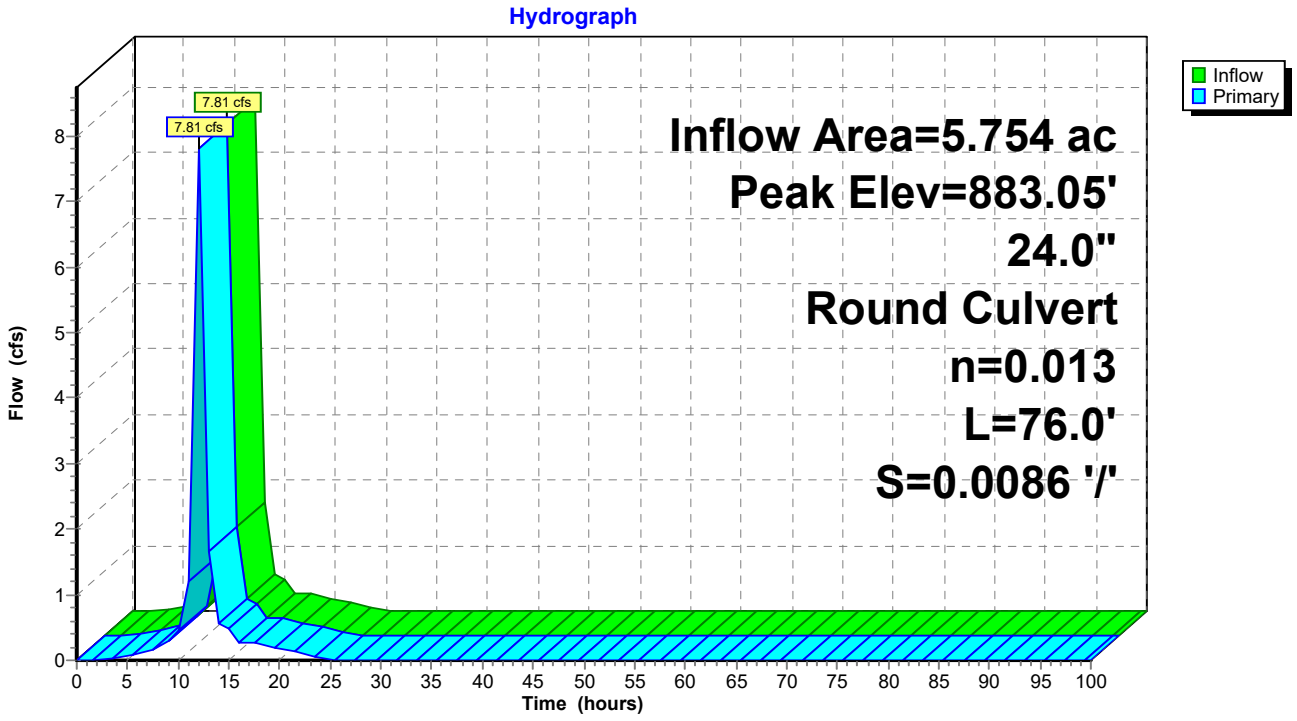
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 2.50" for 2-Year event
Inflow = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af
Outflow = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af, Atten= 0%, Lag= 0.0 min
Primary = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af
Routed to Pond ST-5 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 883.05' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.72'	**24.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 881.72' / 881.07' S= 0.0086 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=6.57 cfs @ 12.02 hrs HW=883.02' TW=882.32' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.57 cfs @ 4.30 fps)

Pond ST-4:



Summary for Pond ST-5:

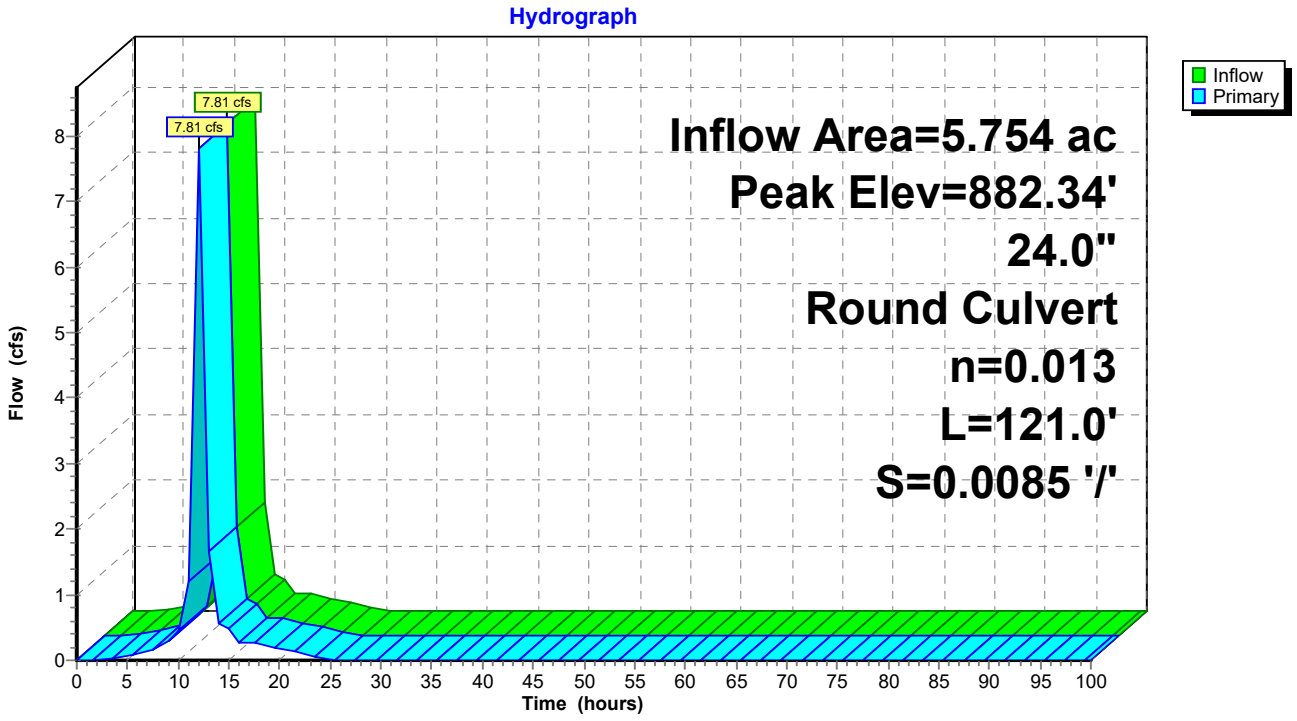
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 2.50" for 2-Year event
Inflow = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af
Outflow = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af, Atten= 0%, Lag= 0.0 min
Primary = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af
Routed to Pond ST-6 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 882.34' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.06'	**24.0" Round Culvert** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 881.06' / 880.03' S= 0.0085 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.89 cfs @ 12.02 hrs HW=882.32' TW=881.53' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.89 cfs @ 4.04 fps)

Pond ST-5:



Summary for Pond ST-6:

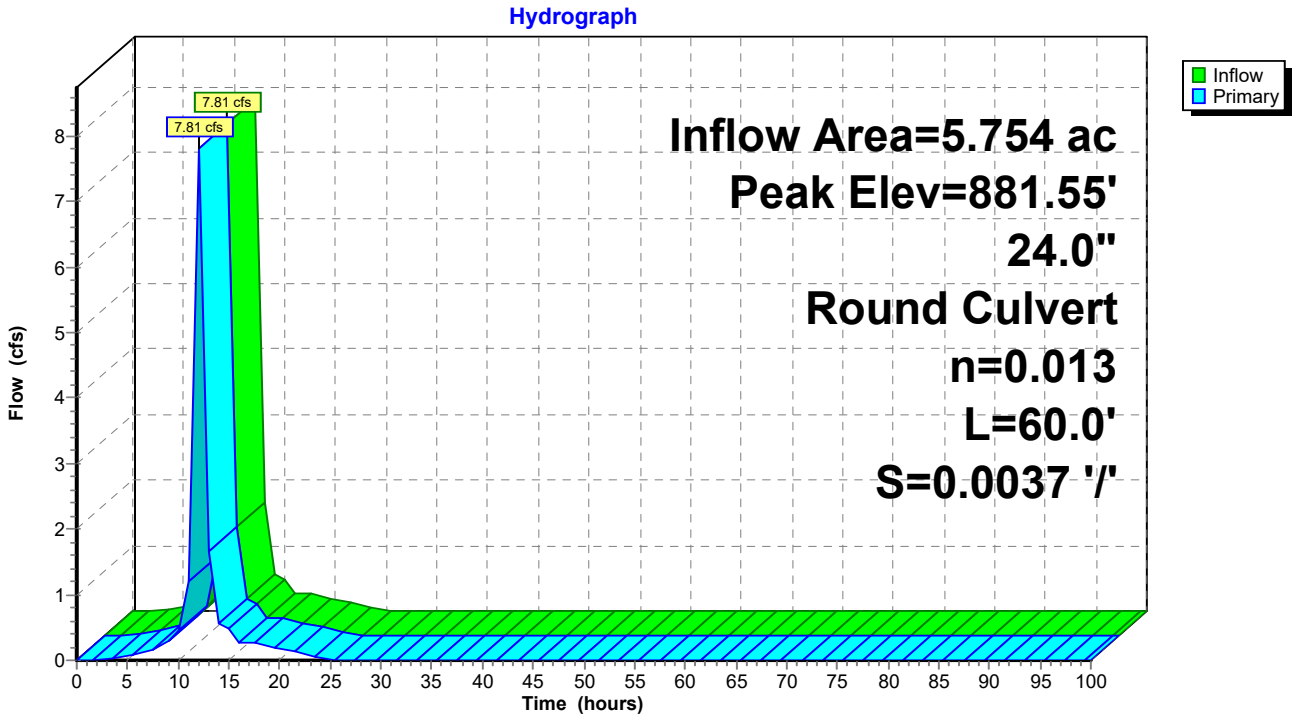
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 2.50" for 2-Year event
Inflow = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af
Outflow = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af, Atten= 0%, Lag= 0.0 min
Primary = 7.81 cfs @ 12.02 hrs, Volume= 1.200 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 881.55' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	880.03'	**24.0" Round Culvert** L= 60.0' Ke= 0.500 Inlet / Outlet Invert= 880.03' / 879.81' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.67 cfs @ 12.02 hrs HW=881.53' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 7.67 cfs @ 4.20 fps)

Pond ST-6:



Time span=0.00-100.00 hrs, dt=1.00 hrs, 101 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentP1: Runoff Area=44,079 sf 85.04% Impervious Runoff Depth=3.69"
Tc=5.0 min CN=95 Runoff=2.05 cfs 0.311 af

SubcatchmentP10: Runoff Area=92,026 sf 28.74% Impervious Runoff Depth=2.69"
Tc=5.0 min CN=85 Runoff=3.26 cfs 0.474 af

SubcatchmentP2: Runoff Area=40,059 sf 98.70% Impervious Runoff Depth=4.02"
Tc=5.0 min CN=98 Runoff=1.95 cfs 0.308 af

SubcatchmentP3: Runoff Area=3,951 sf 100.00% Impervious Runoff Depth=4.02"
Tc=5.0 min CN=98 Runoff=0.19 cfs 0.030 af

SubcatchmentP4: Runoff Area=23,824 sf 100.00% Impervious Runoff Depth=4.02"
Tc=0.0 min CN=98 Runoff=1.17 cfs 0.183 af

SubcatchmentP5: Runoff Area=36,989 sf 100.00% Impervious Runoff Depth=4.02"
Tc=5.0 min CN=98 Runoff=1.80 cfs 0.285 af

SubcatchmentP6: Runoff Area=35,429 sf 100.00% Impervious Runoff Depth=4.02"
Tc=5.0 min CN=98 Runoff=1.73 cfs 0.273 af

SubcatchmentP7: Runoff Area=80,125 sf 94.66% Impervious Runoff Depth=3.91"
Tc=5.0 min CN=97 Runoff=3.86 cfs 0.599 af

SubcatchmentP8: Runoff Area=95,776 sf 100.00% Impervious Runoff Depth=4.02"
Tc=5.0 min CN=98 Runoff=4.66 cfs 0.737 af

SubcatchmentP9A: Runoff Area=45,237 sf 100.00% Impervious Runoff Depth=4.02"
Tc=0.0 min CN=98 Runoff=2.23 cfs 0.348 af

SubcatchmentP9C: Runoff Area=29,517 sf 53.71% Impervious Runoff Depth=3.17"
Tc=0.0 min CN=90 Runoff=1.24 cfs 0.179 af

Reach 2R: Avg. Flow Depth=0.30' Max Vel=2.24 fps Inflow=1.24 cfs 0.179 af
n=0.013 L=247.0' S=0.0050 '/' Capacity=4.76 cfs Outflow=1.19 cfs 0.179 af

Pond CB-1: Peak Elev=887.16' Inflow=1.19 cfs 0.179 af
Outflow=1.19 cfs 0.179 af

Pond CB-2: Peak Elev=887.14' Inflow=3.42 cfs 0.527 af
Outflow=3.42 cfs 0.527 af

Pond CB1: Peak Elev=889.05' Inflow=2.05 cfs 0.311 af
Outflow=2.05 cfs 0.311 af

Pond CB2: Peak Elev=888.02' Inflow=1.95 cfs 0.308 af
Outflow=1.95 cfs 0.308 af

Pond CB2P: Peak Elev=885.83' Inflow=4.00 cfs 0.619 af
18.0" Round Culvert n=0.013 L=109.0' S=0.0024 '/' Outflow=4.00 cfs 0.619 af

Pond CB3: Peak Elev=887.29' Inflow=0.19 cfs 0.030 af
Outflow=0.19 cfs 0.030 af

Pond CB3P: Peak Elev=885.55' Inflow=4.20 cfs 0.650 af
18.0" Round Culvert n=0.013 L=101.0' S=0.0027 '/' Outflow=4.20 cfs 0.650 af

Pond CB4: Peak Elev=887.46' Inflow=1.17 cfs 0.183 af
Outflow=1.17 cfs 0.183 af

Pond CB5: Peak Elev=887.40' Inflow=1.80 cfs 0.285 af
Outflow=1.80 cfs 0.285 af

Pond CB6: Peak Elev=887.95' Inflow=1.73 cfs 0.273 af
Outflow=1.73 cfs 0.273 af

Pond CB6P: Peak Elev=885.20' Inflow=3.53 cfs 0.558 af
18.0" Round Culvert n=0.013 L=26.0' S=0.0038 '/' Outflow=3.53 cfs 0.558 af

Pond CB7: Peak Elev=885.97' Inflow=3.86 cfs 0.599 af
Primary=3.86 cfs 0.599 af Secondary=0.00 cfs 0.000 af Outflow=3.86 cfs 0.599 af

Pond CB8: Peak Elev=887.98' Inflow=4.66 cfs 0.737 af
Outflow=4.66 cfs 0.737 af

Pond CB8P: Peak Elev=885.03' Inflow=8.52 cfs 1.337 af
21.0" Round Culvert n=0.013 L=197.9' S=0.0071 '/' Outflow=8.52 cfs 1.337 af

Pond POA: Inflow=24.09 cfs 3.729 af
Primary=24.09 cfs 3.729 af

Pond ST-2: Peak Elev=887.16' Inflow=1.19 cfs 0.179 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0037 '/' Outflow=1.19 cfs 0.179 af

Pond ST-3: JELLYFISH Peak Elev=883.52' Inflow=3.42 cfs 0.527 af
12.0" Round Culvert n=0.013 L=13.0' S=0.0038 '/' Outflow=3.42 cfs 0.527 af

Pond ST-4: Peak Elev=883.47' Inflow=11.94 cfs 1.864 af
24.0" Round Culvert n=0.013 L=76.0' S=0.0086 '/' Outflow=11.94 cfs 1.864 af

Pond ST-5: Peak Elev=882.75' Inflow=11.94 cfs 1.864 af
24.0" Round Culvert n=0.013 L=121.0' S=0.0085 '/' Outflow=11.94 cfs 1.864 af

Pond ST-6: Peak Elev=882.03' Inflow=11.94 cfs 1.864 af
24.0" Round Culvert n=0.013 L=60.0' S=0.0037 '/' Outflow=11.94 cfs 1.864 af

Total Runoff Area = 12.099 ac Runoff Volume = 3.728 af Average Runoff Depth = 3.70"
17.20% Pervious = 2.081 ac 82.80% Impervious = 10.018 ac

Summary for Subcatchment P1:

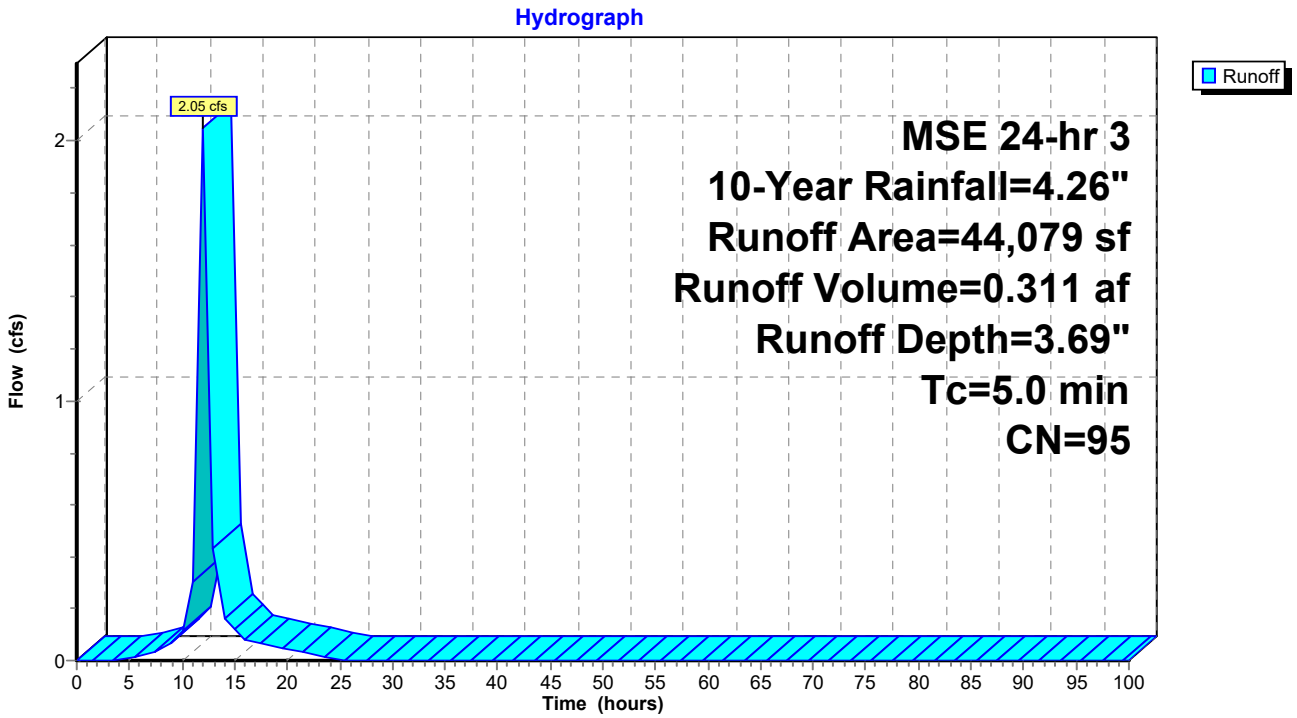
Runoff = 2.05 cfs @ 12.02 hrs, Volume= 0.311 af, Depth= 3.69"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
37,486	98	Paved parking, HSG D
6,593	80	>75% Grass cover, Good, HSG D
44,079	95	Weighted Average
6,593		14.96% Pervious Area
37,486		85.04% Impervious Area

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

Subcatchment P1:



Summary for Subcatchment P10:

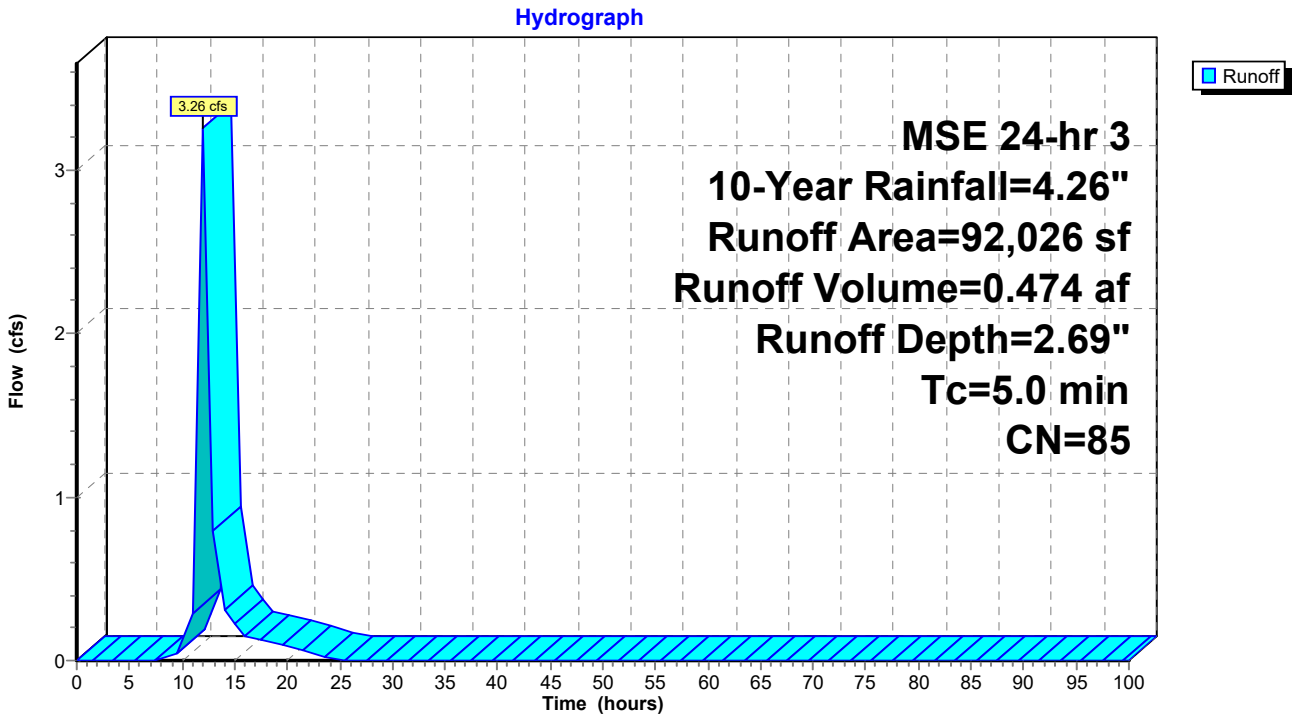
Runoff = 3.26 cfs @ 12.05 hrs, Volume= 0.474 af, Depth= 2.69"
Routed to Pond POA :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
26,450	98	Paved parking, HSG D
65,576	80	>75% Grass cover, Good, HSG D
92,026	85	Weighted Average
65,576		71.26% Pervious Area
26,450		28.74% Impervious Area

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

Subcatchment P10:



Summary for Subcatchment P2:

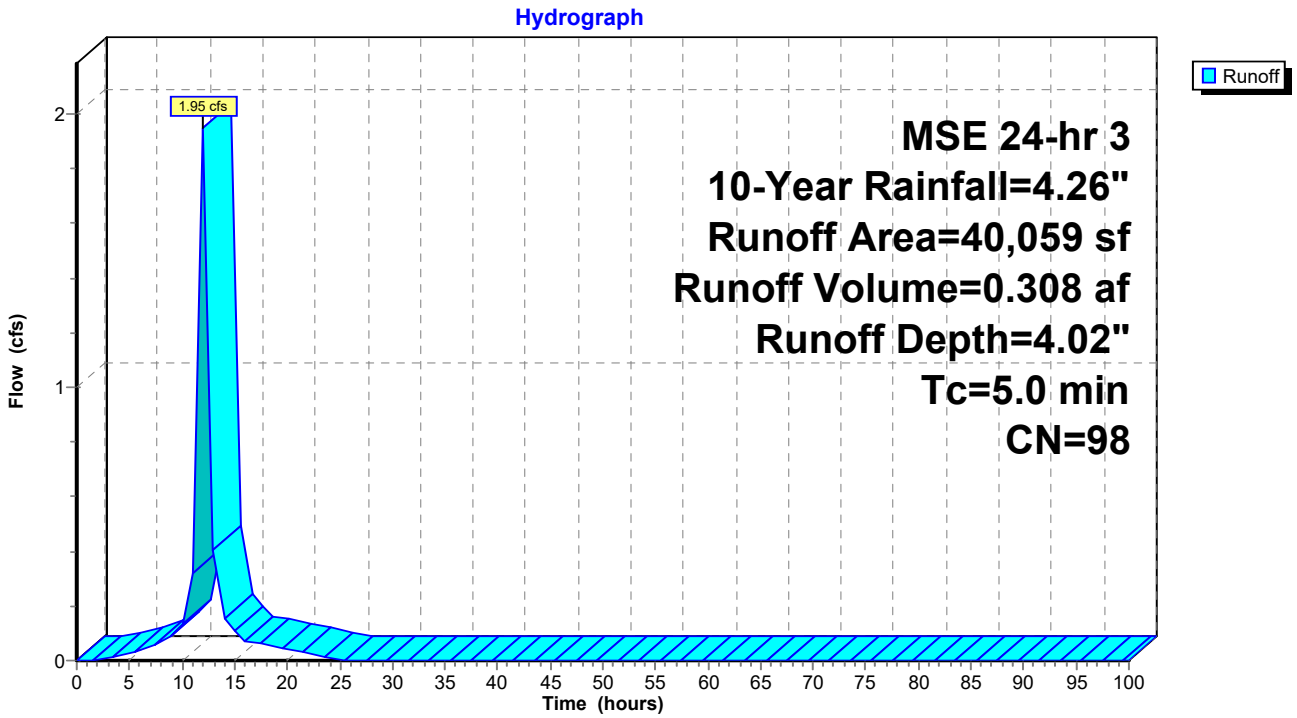
Runoff = 1.95 cfs @ 12.01 hrs, Volume= 0.308 af, Depth= 4.02"
Routed to Pond CB2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
39,537	98	Paved parking, HSG D
522	80	>75% Grass cover, Good, HSG D
40,059	98	Weighted Average
522		1.30% Pervious Area
39,537		98.70% Impervious Area

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

Subcatchment P2:



Summary for Subcatchment P3:

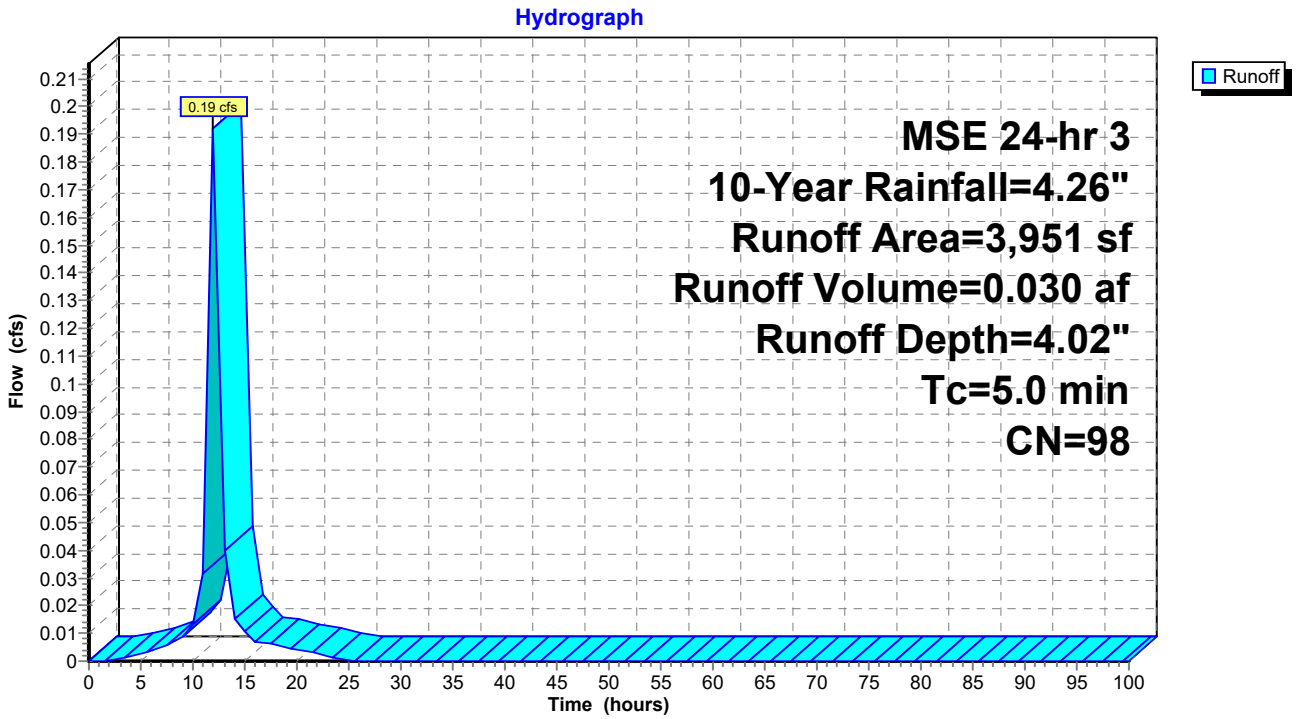
Runoff = 0.19 cfs @ 12.01 hrs, Volume= 0.030 af, Depth= 4.02"
Routed to Pond CB3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
3,951	98	Paved parking, HSG D
3,951		100.00% Impervious Area

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

Subcatchment P3:



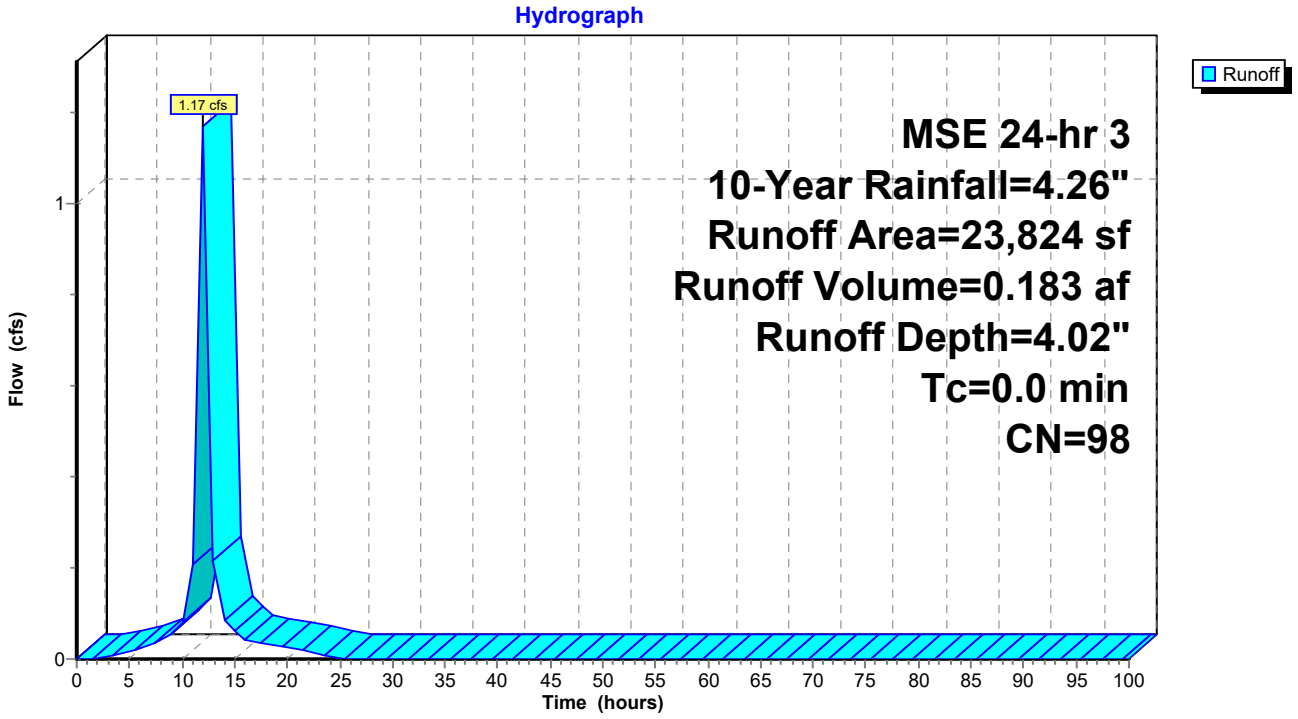
Summary for Subcatchment P4:

Runoff = 1.17 cfs @ 12.00 hrs, Volume= 0.183 af, Depth= 4.02"
Routed to Pond CB4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
23,824	98	Paved parking, HSG D
23,824		100.00% Impervious Area

Subcatchment P4:



Summary for Subcatchment P5:

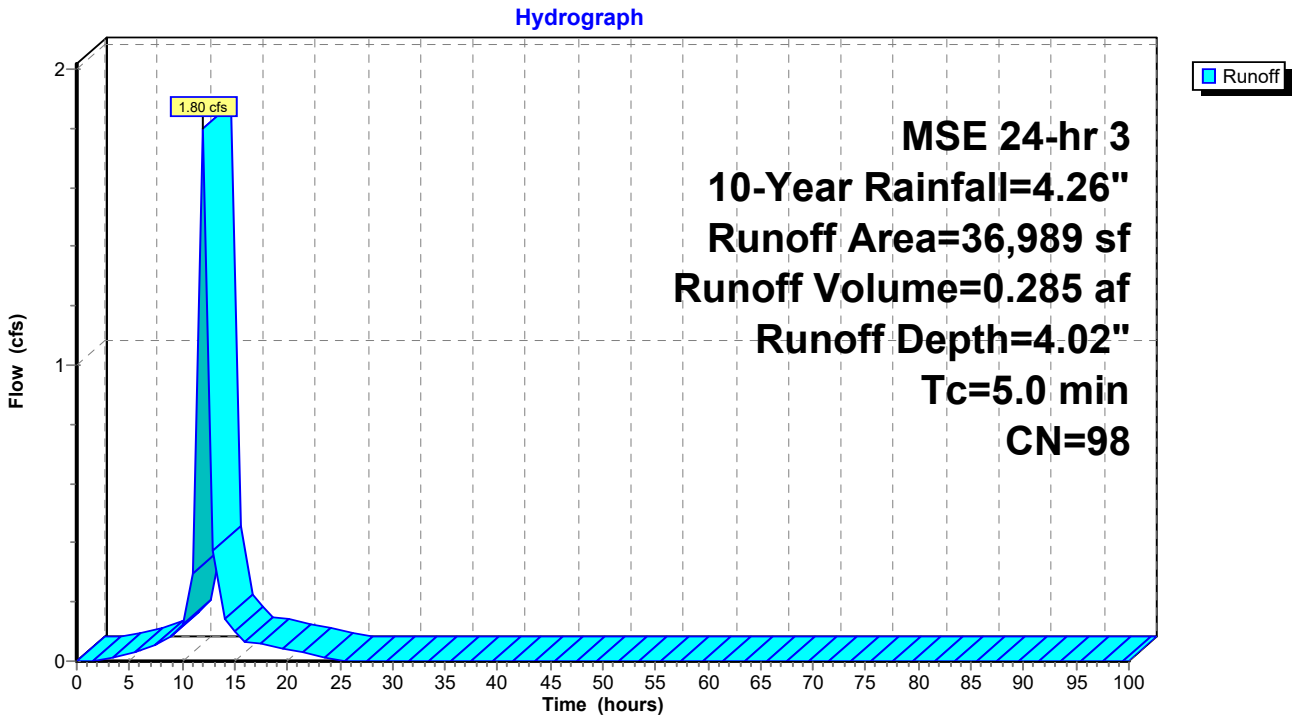
Runoff = 1.80 cfs @ 12.01 hrs, Volume= 0.285 af, Depth= 4.02"
Routed to Pond CB5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
36,989	98	Paved parking, HSG D
36,989		100.00% Impervious Area

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

Subcatchment P5:



Summary for Subcatchment P6:

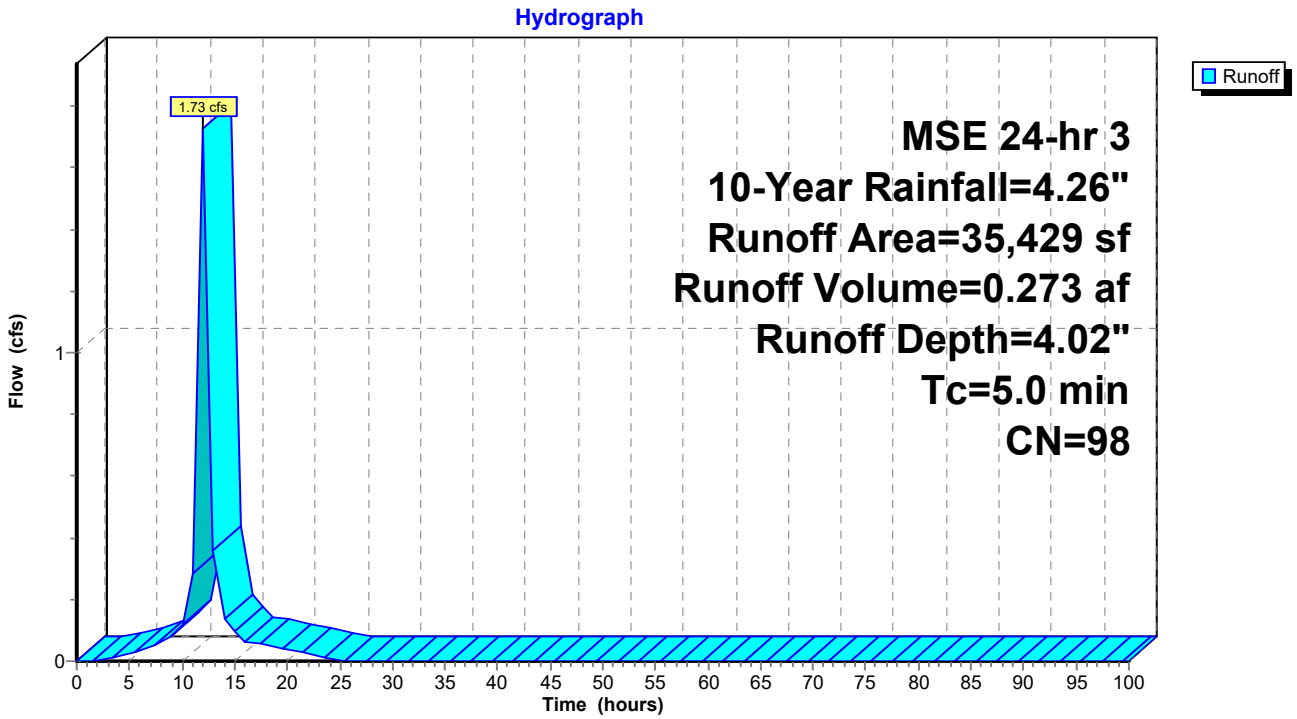
Runoff = 1.73 cfs @ 12.01 hrs, Volume= 0.273 af, Depth= 4.02"
Routed to Pond CB6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
35,429	98	Paved parking, HSG D
35,429		100.00% Impervious Area

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

Subcatchment P6:



Summary for Subcatchment P7:

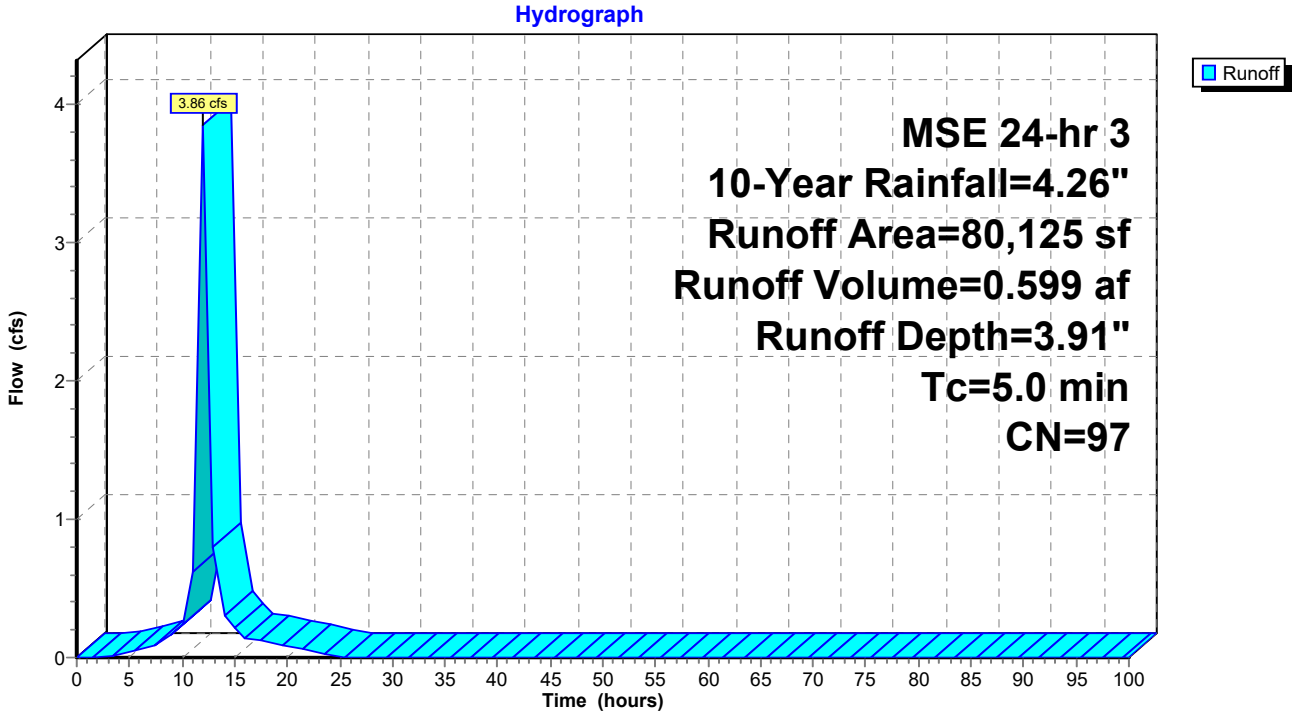
Runoff = 3.86 cfs @ 12.01 hrs, Volume= 0.599 af, Depth= 3.91"
Routed to Pond CB7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
75,849	98	Paved parking, HSG D
4,276	80	>75% Grass cover, Good, HSG D
80,125	97	Weighted Average
4,276		5.34% Pervious Area
75,849		94.66% Impervious Area

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

Subcatchment P7:



Summary for Subcatchment P8:

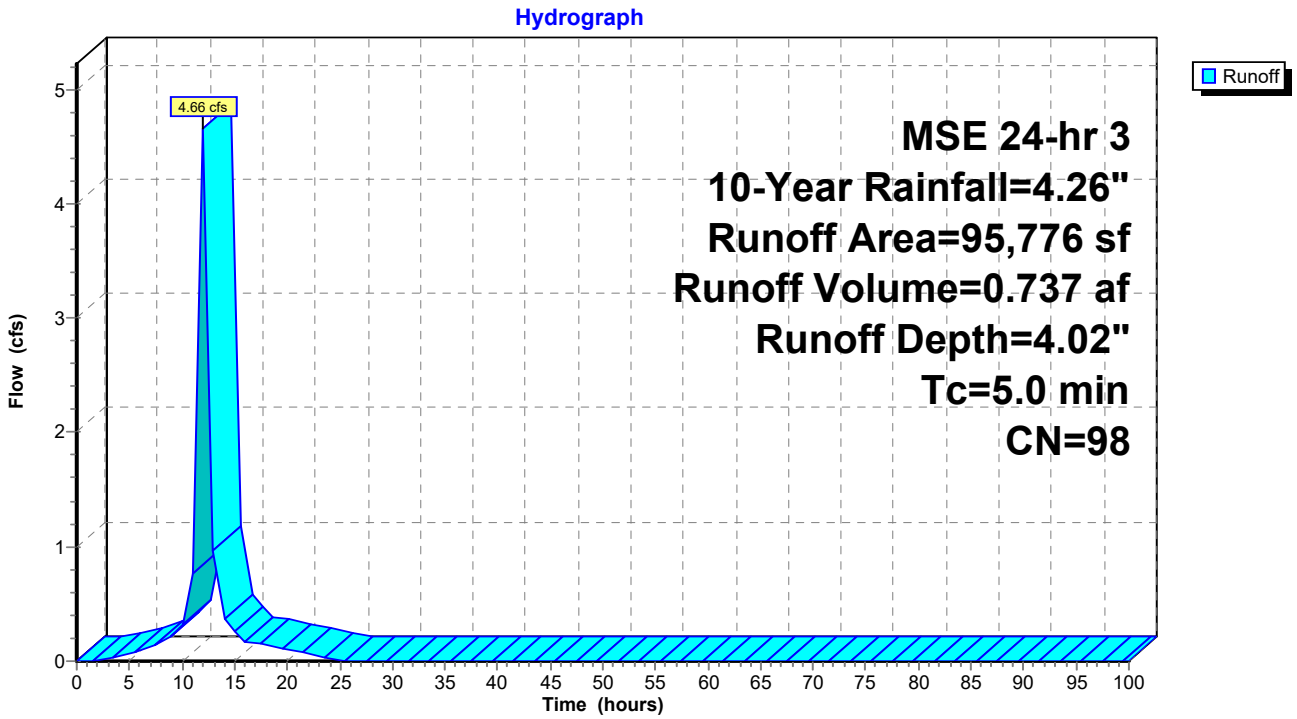
Runoff = 4.66 cfs @ 12.01 hrs, Volume= 0.737 af, Depth= 4.02"
Routed to Pond CB8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
95,776	98	Paved parking, HSG D
95,776		100.00% Impervious Area

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

Subcatchment P8:



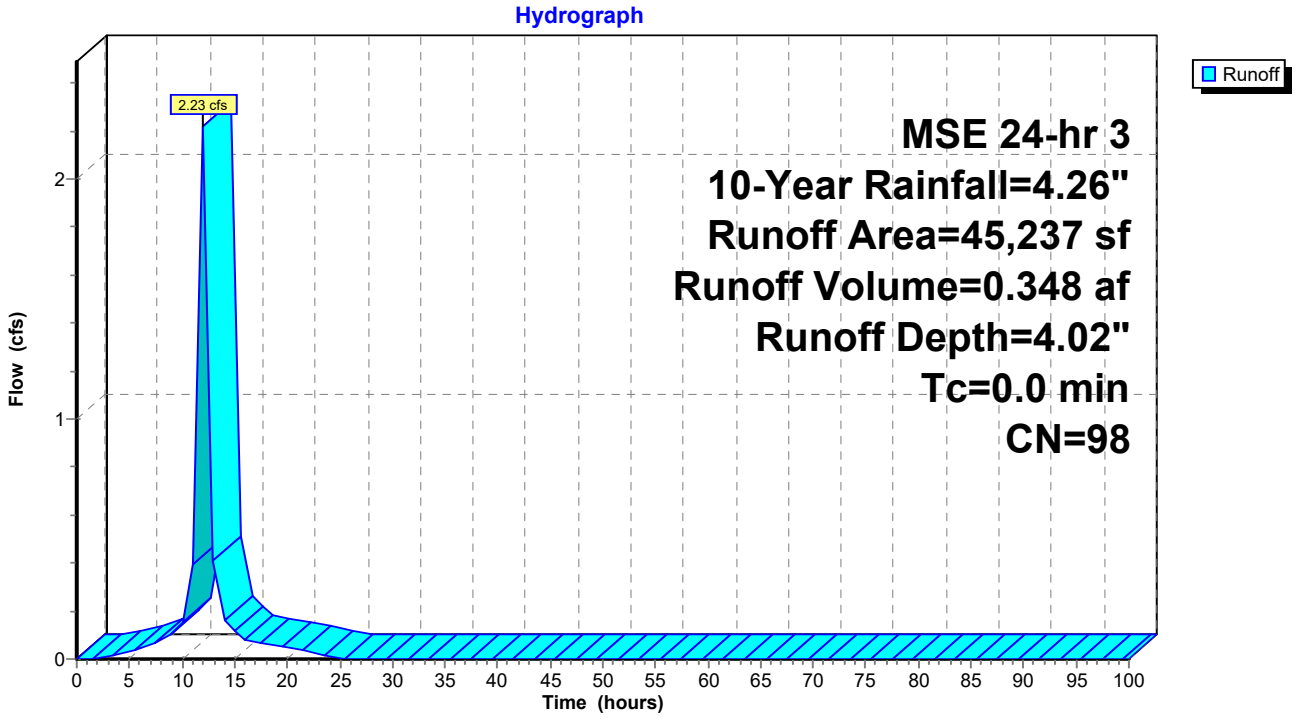
Summary for Subcatchment P9A:

Runoff = 2.23 cfs @ 12.00 hrs, Volume= 0.348 af, Depth= 4.02"
Routed to Pond CB-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
45,237	98	Paved parking, HSG D
45,237		100.00% Impervious Area

Subcatchment P9A:



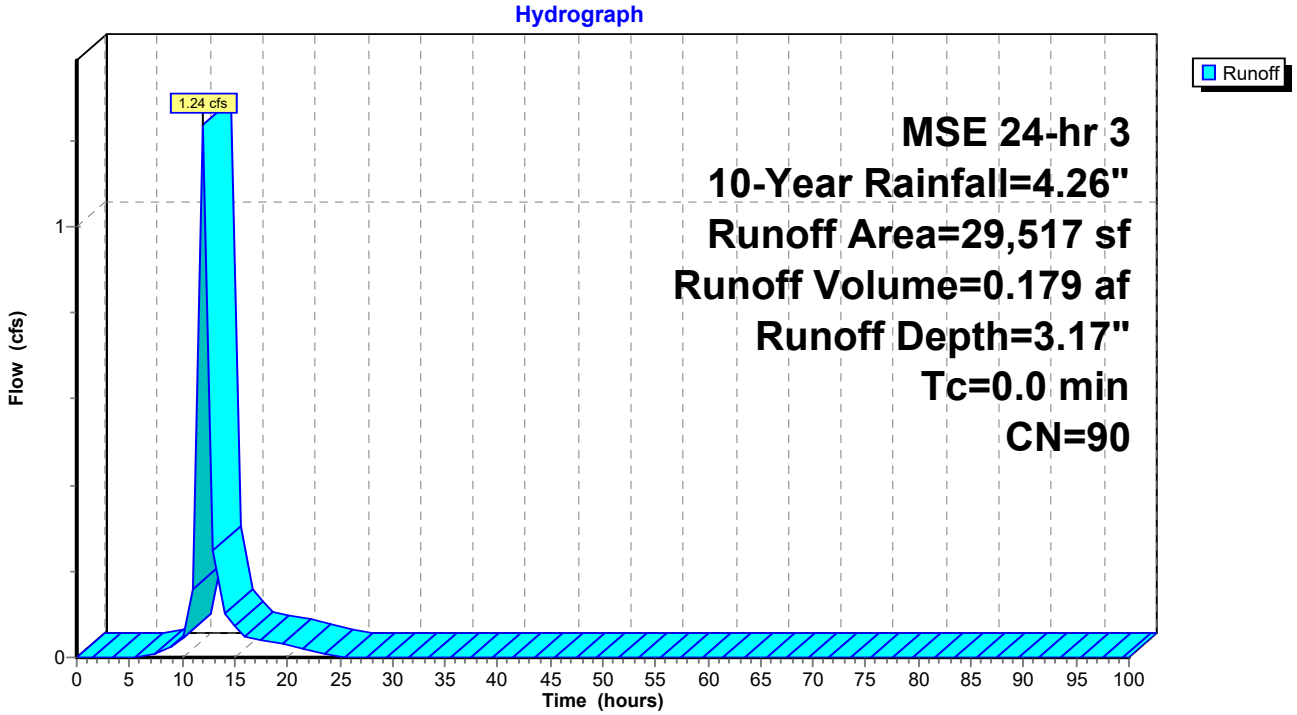
Summary for Subcatchment P9C:

Runoff = 1.24 cfs @ 12.02 hrs, Volume= 0.179 af, Depth= 3.17"
Routed to Reach 2R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
15,855	98	Paved parking, HSG D
13,662	80	>75% Grass cover, Good, HSG D
29,517	90	Weighted Average
13,662		46.29% Pervious Area
15,855		53.71% Impervious Area

Subcatchment P9C:



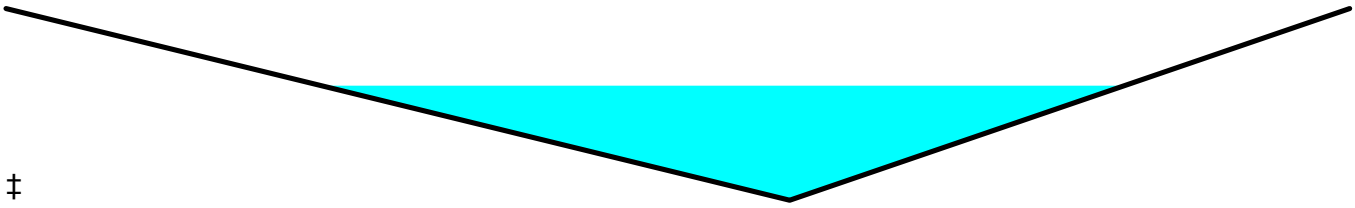
Summary for Reach 2R:

Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 3.17" for 10-Year event
Inflow = 1.24 cfs @ 12.02 hrs, Volume= 0.179 af
Outflow = 1.19 cfs @ 12.05 hrs, Volume= 0.179 af, Atten= 4%, Lag= 1.7 min
Routed to Pond CB-1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Max. Velocity= 2.24 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 4.4 min

Peak Storage= 131 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.30' , Surface Width= 3.58'
Bank-Full Depth= 0.50' Flow Area= 1.5 sf, Capacity= 4.76 cfs

0.00' x 0.50' deep channel, n= 0.013
Side Slope Z-value= 7.0 5.0 '/' Top Width= 6.00'
Length= 247.0' Slope= 0.0050 '/'
Inlet Invert= 886.99', Outlet Invert= 885.76'



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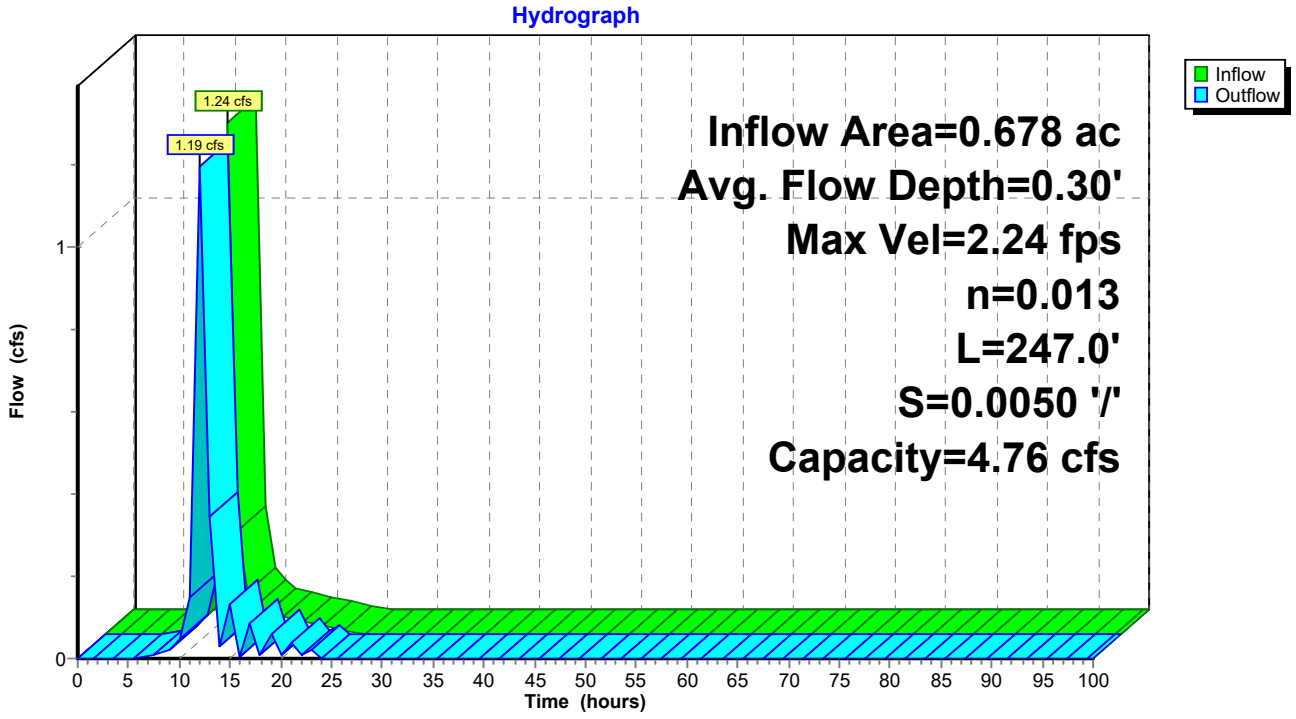
Reach 2R:



Summary for Pond CB-1:

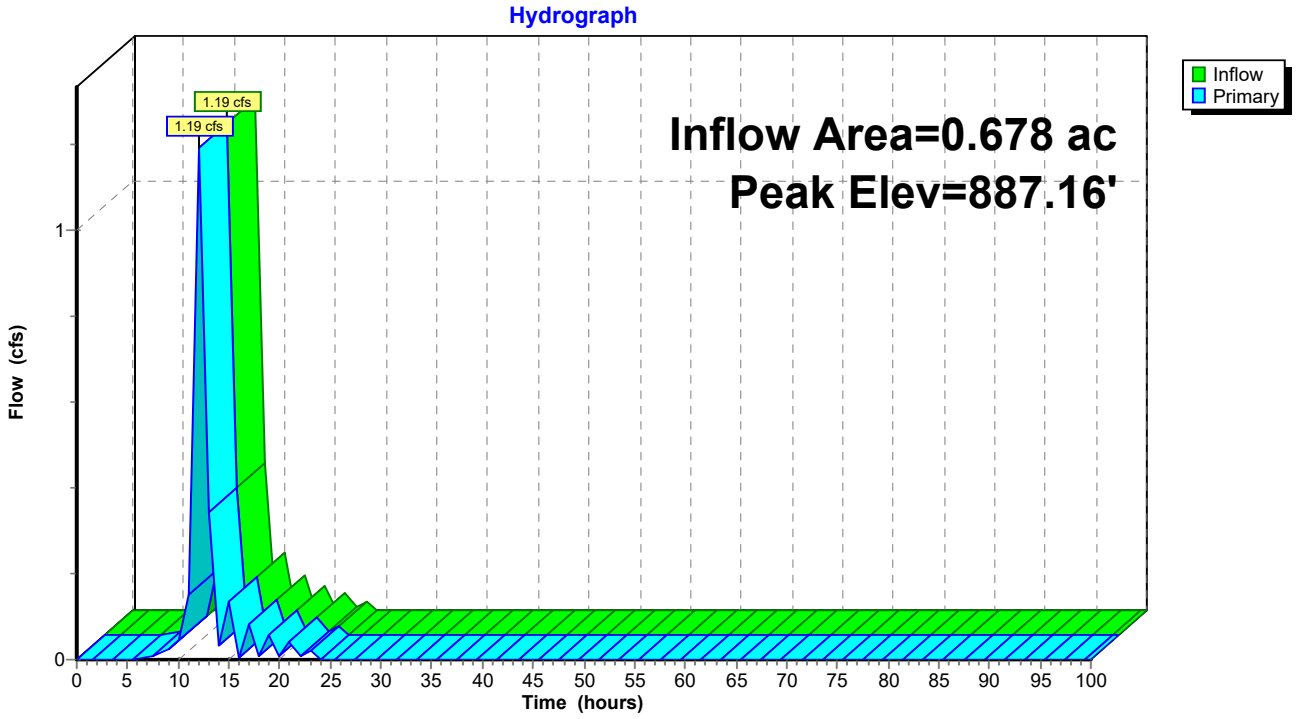
Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 3.17" for 10-Year event
Inflow = 1.19 cfs @ 12.05 hrs, Volume= 0.179 af
Outflow = 1.19 cfs @ 12.05 hrs, Volume= 0.179 af, Atten= 0%, Lag= 0.0 min
Primary = 1.19 cfs @ 12.05 hrs, Volume= 0.179 af
Routed to Pond ST-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.16' @ 13.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.46'	**12.0" Round Culvert** L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 882.46' / 882.19' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	885.41'	**24.0" Horiz. CATCH BASIN X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 12.05 hrs HW=886.24' TW=886.48' (Dynamic Tailwater)
↑**1=Culvert** (Controls 0.00 cfs)
↑**2=CATCH BASIN** (Controls 0.00 cfs)

Pond CB-1:



Summary for Pond CB-2:

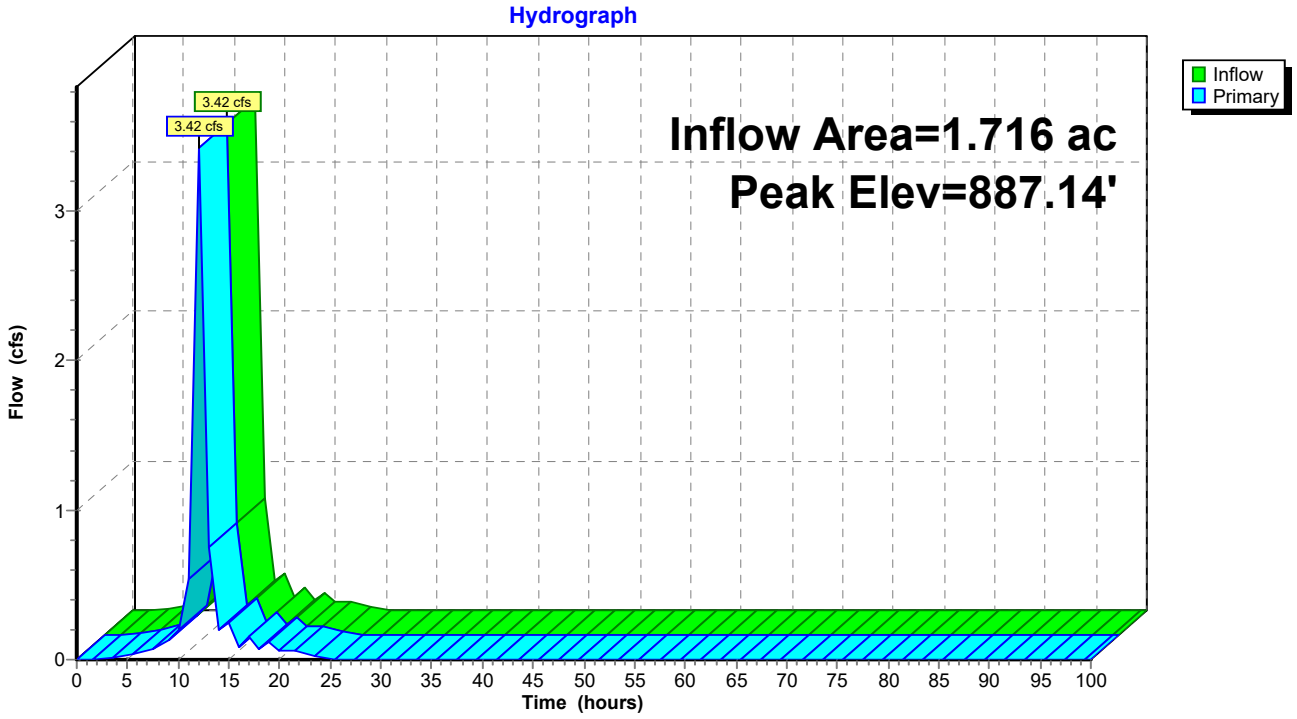
Inflow Area = 1.716 ac, 81.72% Impervious, Inflow Depth = 3.69" for 10-Year event
Inflow = 3.42 cfs @ 12.02 hrs, Volume= 0.527 af
Outflow = 3.42 cfs @ 12.02 hrs, Volume= 0.527 af, Atten= 0%, Lag= 0.0 min
Primary = 3.42 cfs @ 12.02 hrs, Volume= 0.527 af
Routed to Pond ST-3 : JELLYFISH

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.14' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.86'	**12.0" Round Culvert** L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 881.86' / 881.77' S= 0.0036 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	885.81'	**24.0" Vert. CATCH BASIN X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.36 cfs @ 12.02 hrs HW=887.13' TW=883.28' (Dynamic Tailwater)
↑**1=Culvert** (Passes 3.36 cfs of 7.42 cfs potential flow)
↑**2=CATCH BASIN** (Orifice Controls 3.36 cfs @ 1.53 fps)

Pond CB-2:



Summary for Pond CB1:

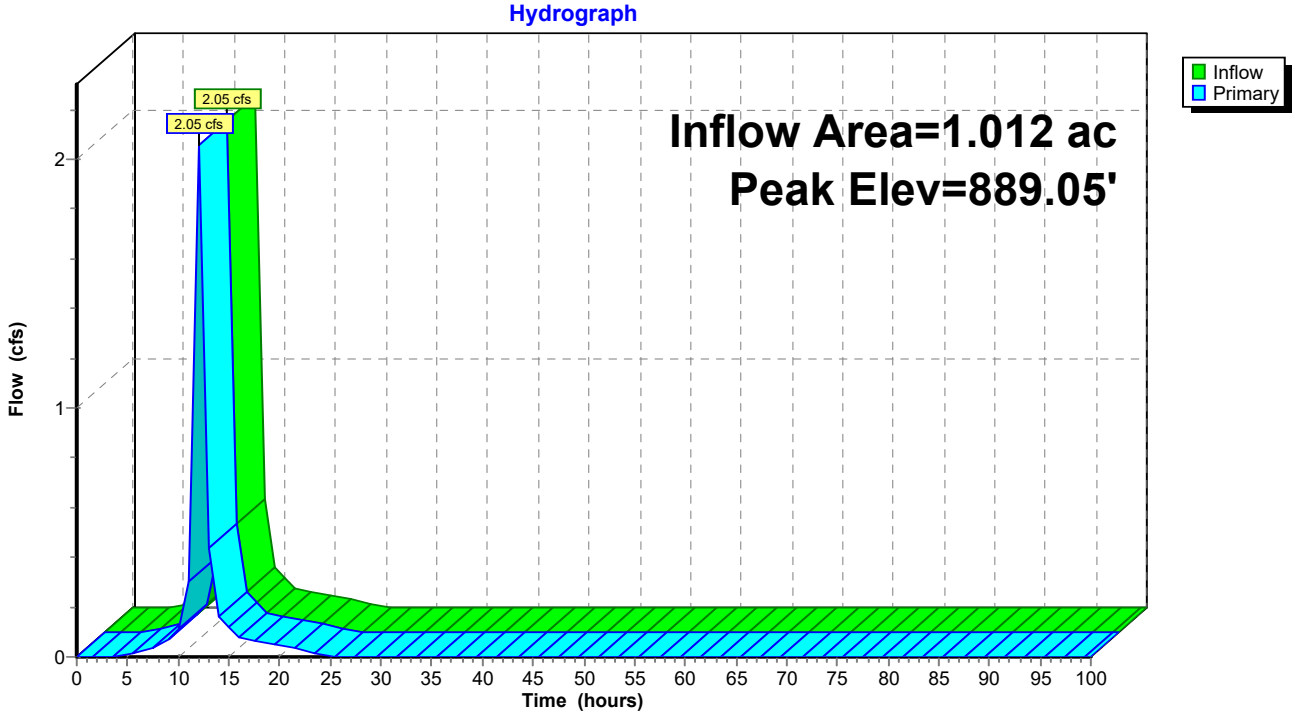
Inflow Area = 1.012 ac, 85.04% Impervious, Inflow Depth = 3.69" for 10-Year event
Inflow = 2.05 cfs @ 12.02 hrs, Volume= 0.311 af
Outflow = 2.05 cfs @ 12.02 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min
Primary = 2.05 cfs @ 12.02 hrs, Volume= 0.311 af
Routed to Pond CB2P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 889.05' @ 12.03 hrs
Flood Elev= 888.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**15.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.53' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.01 cfs @ 12.02 hrs HW=889.04' TW=885.79' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.01 cfs of 7.15 cfs potential flow)
└─**2=Orifice/Grate** (Orifice Controls 2.01 cfs @ 1.35 fps)

Pond CB1:



Summary for Pond CB2:

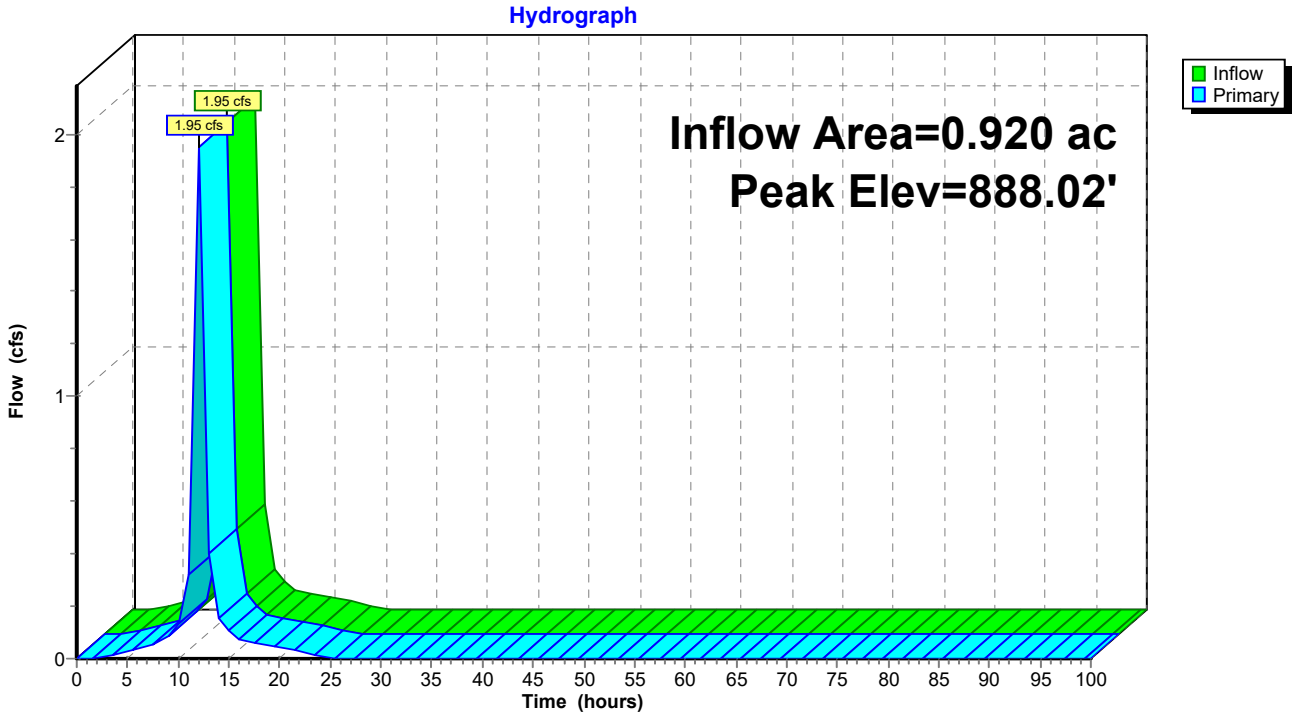
Inflow Area = 0.920 ac, 98.70% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 1.95 cfs @ 12.01 hrs, Volume= 0.308 af
Outflow = 1.95 cfs @ 12.01 hrs, Volume= 0.308 af, Atten= 0%, Lag= 0.0 min
Primary = 1.95 cfs @ 12.01 hrs, Volume= 0.308 af
Routed to Pond CB2P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.02' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.93 cfs @ 12.01 hrs HW=888.01' TW=885.79' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 1.93 cfs @ 1.34 fps)

Pond CB2:



Summary for Pond CB2P:

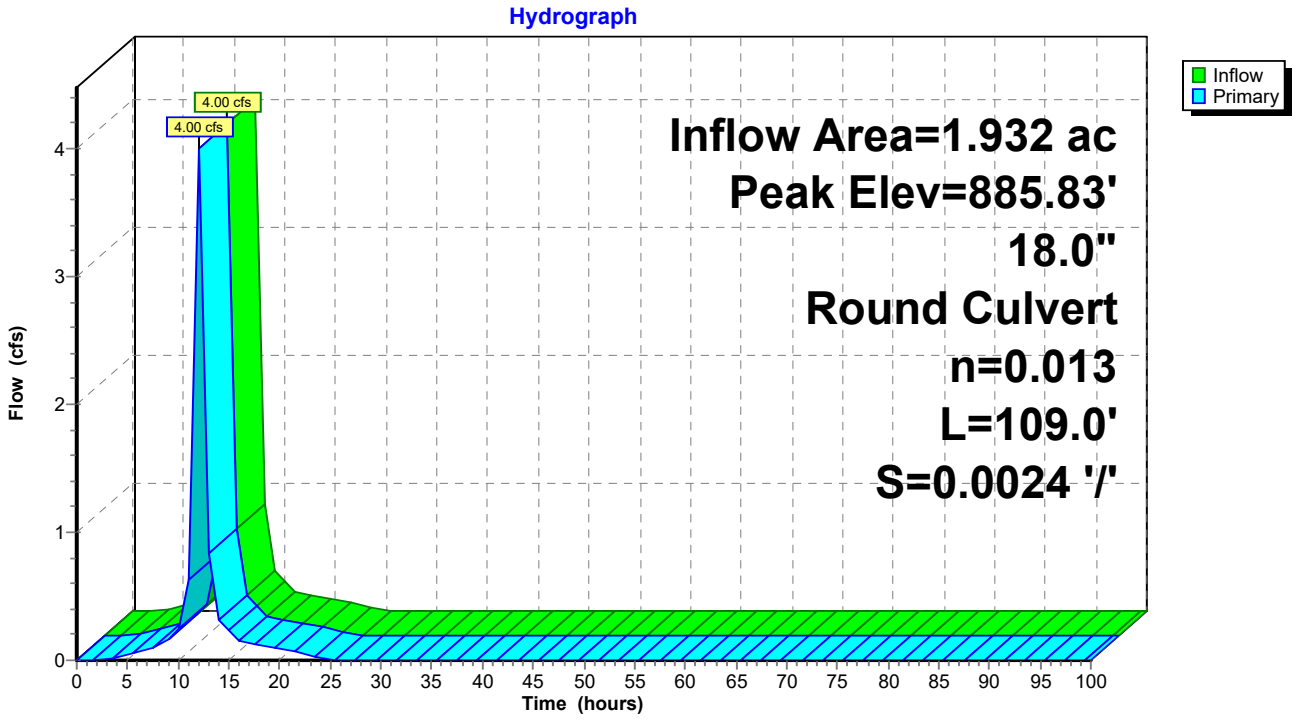
Inflow Area = 1.932 ac, 91.54% Impervious, Inflow Depth = 3.85" for 10-Year event
Inflow = 4.00 cfs @ 12.02 hrs, Volume= 0.619 af
Outflow = 4.00 cfs @ 12.02 hrs, Volume= 0.619 af, Atten= 0%, Lag= 0.0 min
Primary = 4.00 cfs @ 12.02 hrs, Volume= 0.619 af
Routed to Pond CB3P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.83' @ 12.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.53'	**18.0" Round Culvert** L= 109.0' Ke= 0.500 Inlet / Outlet Invert= 884.53' / 884.27' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=2.65 cfs @ 12.02 hrs HW=885.79' TW=885.53' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.65 cfs @ 2.27 fps)

Pond CB2P:



Summary for Pond CB3:

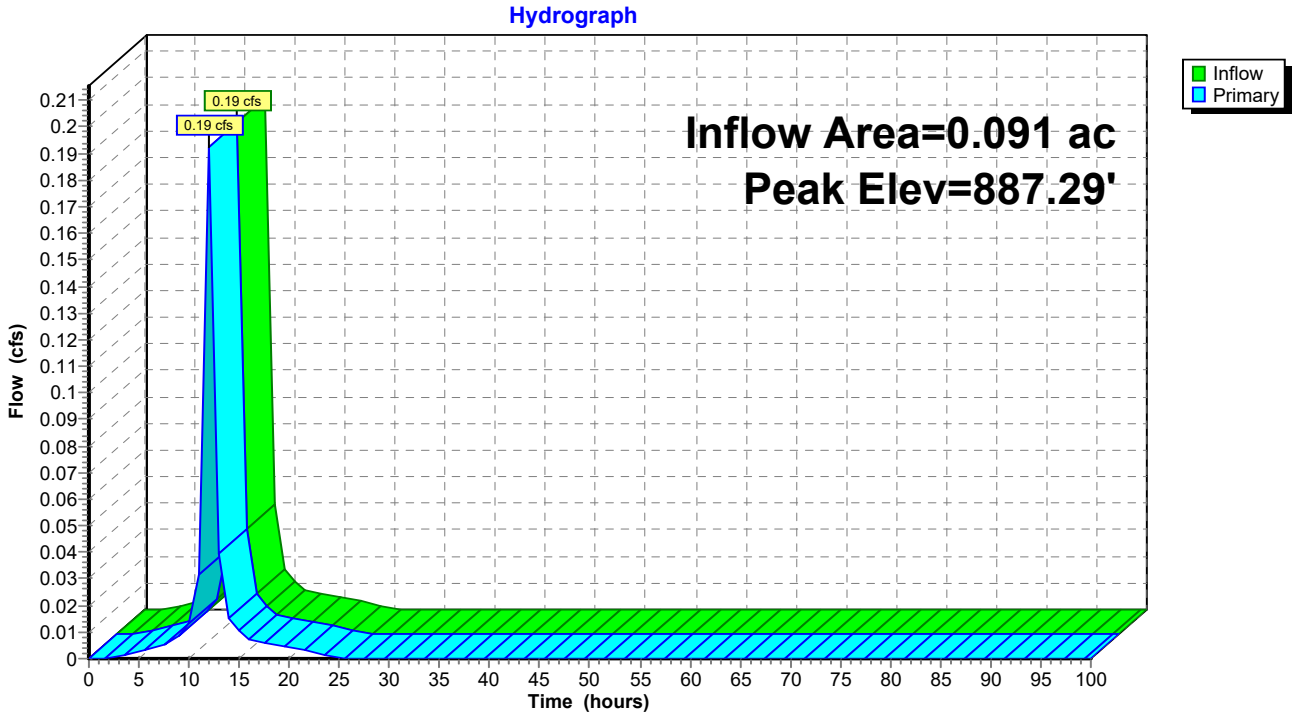
Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 0.19 cfs @ 12.01 hrs, Volume= 0.030 af
Outflow = 0.19 cfs @ 12.01 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.19 cfs @ 12.01 hrs, Volume= 0.030 af
Routed to Pond CB3P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.29' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 12.01 hrs HW=887.29' TW=885.54' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.19 cfs @ 0.72 fps)

Pond CB3:



Summary for Pond CB3P:

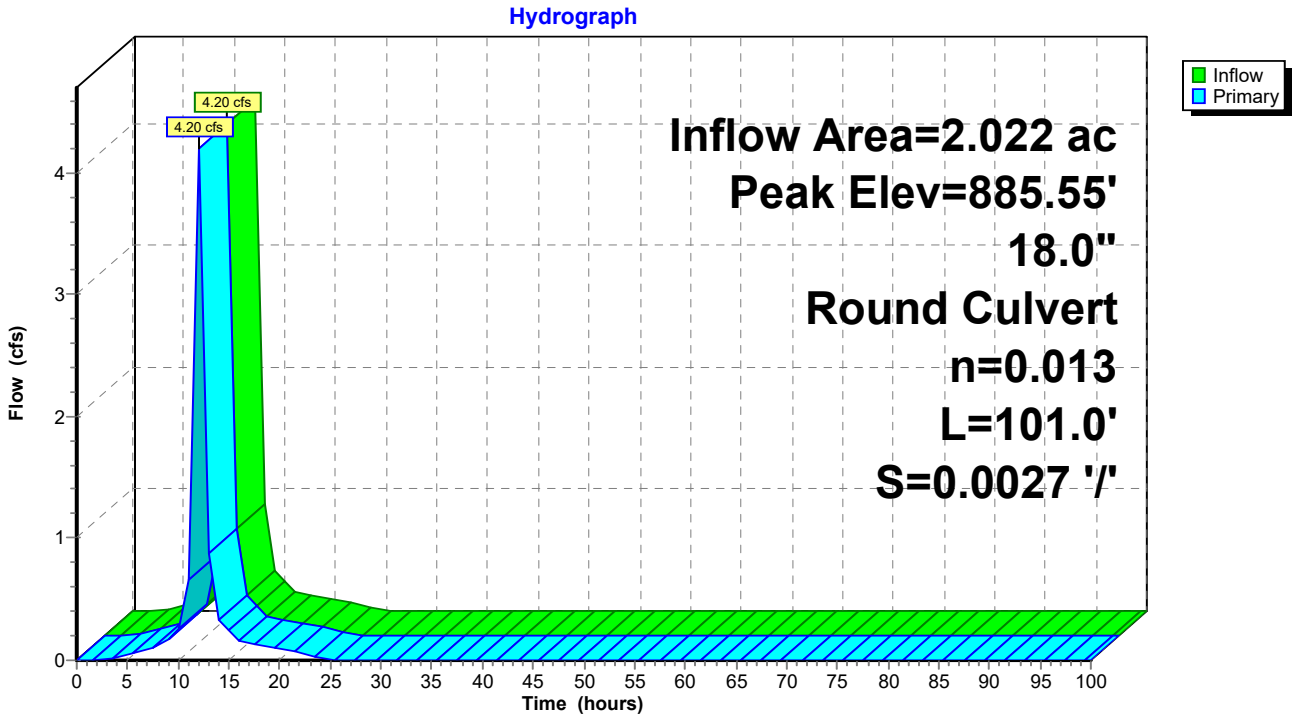
Inflow Area = 2.022 ac, 91.92% Impervious, Inflow Depth = 3.86" for 10-Year event
Inflow = 4.20 cfs @ 12.02 hrs, Volume= 0.650 af
Outflow = 4.20 cfs @ 12.02 hrs, Volume= 0.650 af, Atten= 0%, Lag= 0.0 min
Primary = 4.20 cfs @ 12.02 hrs, Volume= 0.650 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.55' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.27'	**18.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 884.27' / 884.00' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=4.13 cfs @ 12.02 hrs HW=885.53' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.13 cfs @ 3.51 fps)

Pond CB3P:



Summary for Pond CB4:

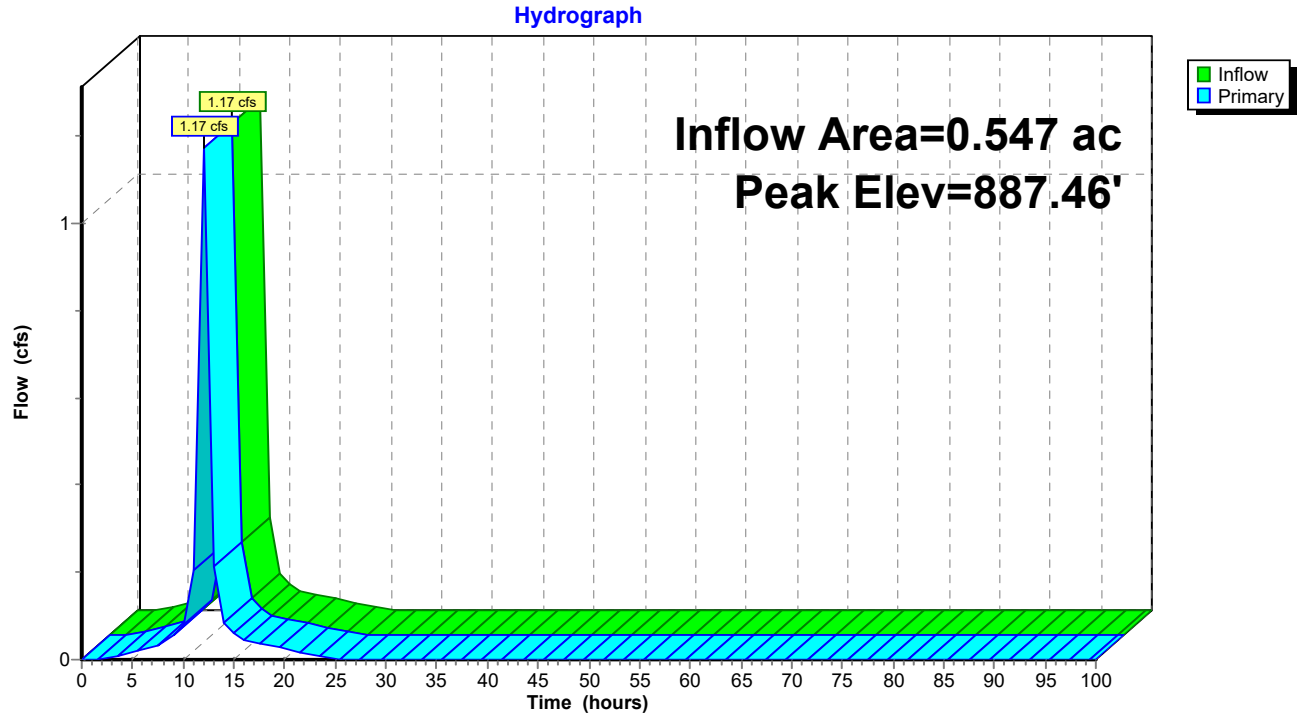
Inflow Area = 0.547 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 1.17 cfs @ 12.00 hrs, Volume= 0.183 af
Outflow = 1.17 cfs @ 12.00 hrs, Volume= 0.183 af, Atten= 0%, Lag= 0.0 min
Primary = 1.17 cfs @ 12.00 hrs, Volume= 0.183 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.46' @ 12.00 hrs
Flood Elev= 887.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	882.75'	**18.0" Round Culvert** L= 63.0' Ke= 0.500 Inlet / Outlet Invert= 882.75' / 800.67' S= 1.3029 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.17 cfs @ 12.00 hrs HW=887.46' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 1.17 cfs of 16.93 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 1.17 cfs @ 2.31 fps)

Pond CB4:



Summary for Pond CB5:

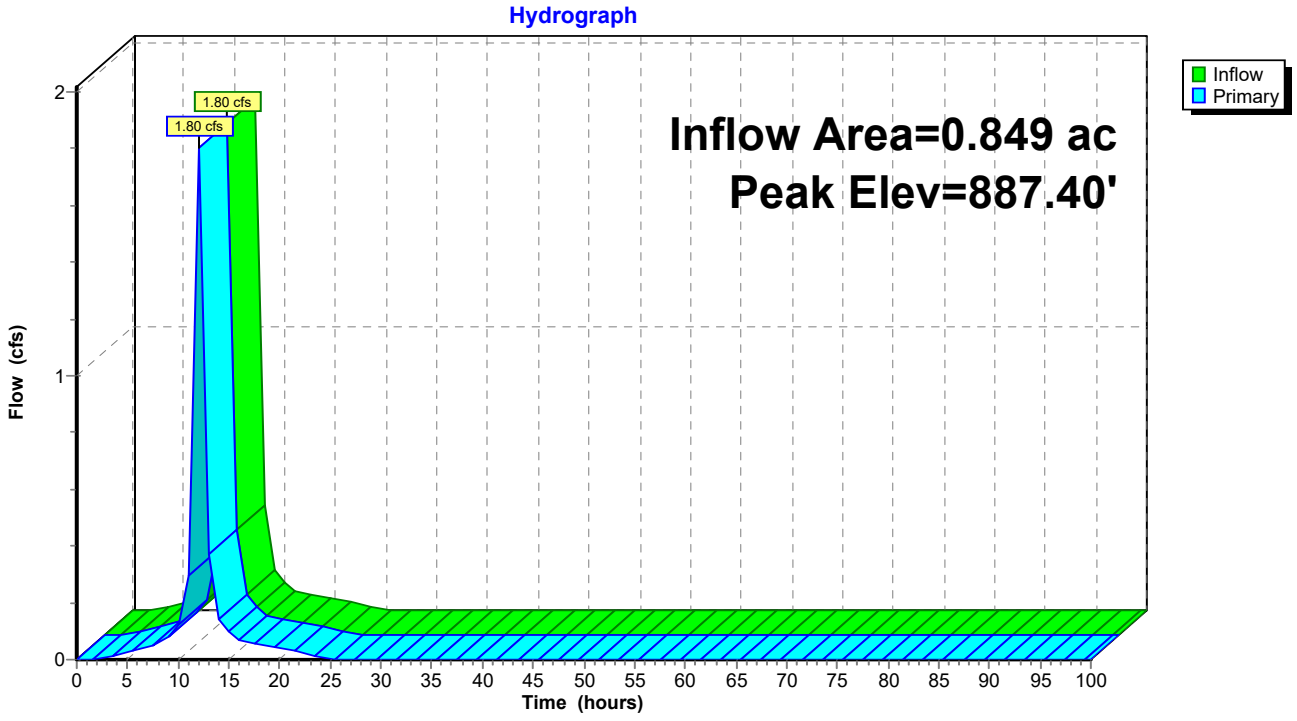
Inflow Area = 0.849 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 1.80 cfs @ 12.01 hrs, Volume= 0.285 af
Outflow = 1.80 cfs @ 12.01 hrs, Volume= 0.285 af, Atten= 0%, Lag= 0.0 min
Primary = 1.80 cfs @ 12.01 hrs, Volume= 0.285 af
Routed to Pond CB6P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.40' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 222.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.10' S= 0.0041 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Horiz. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.78 cfs @ 12.01 hrs HW=887.40' TW=885.19' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.78 cfs of 8.07 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 1.78 cfs @ 0.81 fps)

Pond CB5:



Summary for Pond CB6:

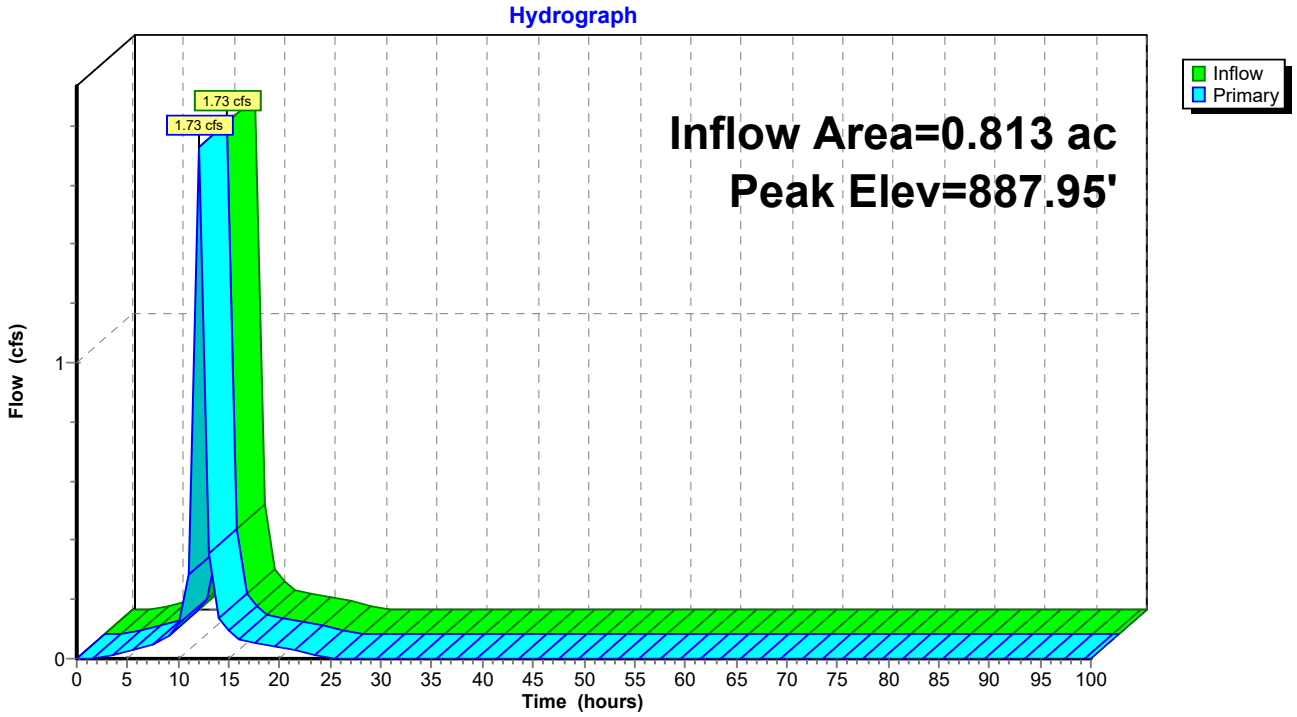
Inflow Area = 0.813 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 1.73 cfs @ 12.01 hrs, Volume= 0.273 af
Outflow = 1.73 cfs @ 12.01 hrs, Volume= 0.273 af, Atten= 0%, Lag= 0.0 min
Primary = 1.73 cfs @ 12.01 hrs, Volume= 0.273 af
Routed to Pond CB6P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.95' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.70 cfs @ 12.01 hrs HW=887.94' TW=885.19' (Dynamic Tailwater)
↳**1=Orifice/Grate** (Orifice Controls 1.70 cfs @ 1.29 fps)

Pond CB6:



Summary for Pond CB6P:

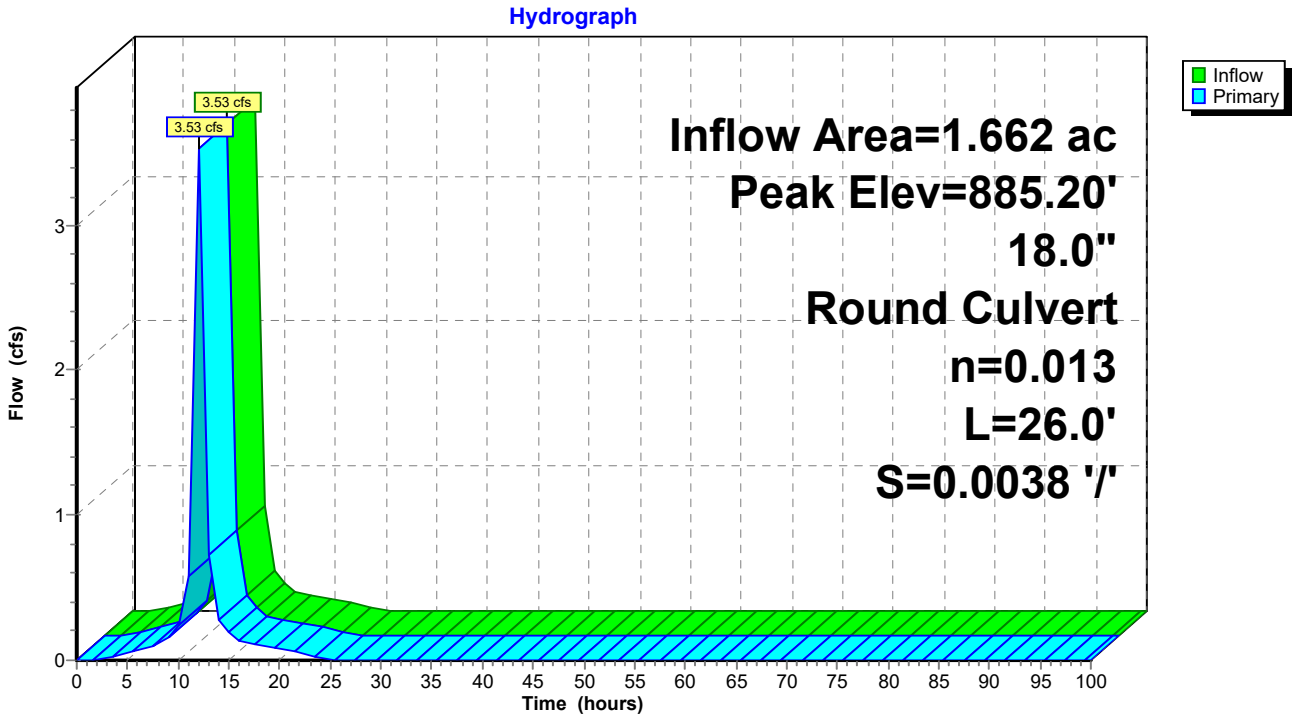
Inflow Area = 1.662 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 3.53 cfs @ 12.01 hrs, Volume= 0.558 af
Outflow = 3.53 cfs @ 12.01 hrs, Volume= 0.558 af, Atten= 0%, Lag= 0.0 min
Primary = 3.53 cfs @ 12.01 hrs, Volume= 0.558 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.20' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.10'	**18.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 884.10' / 884.00' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=3.48 cfs @ 12.01 hrs HW=885.19' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.48 cfs @ 3.52 fps)

Pond CB6P:



Summary for Pond CB7:

Inflow Area = 1.839 ac, 94.66% Impervious, Inflow Depth = 3.91" for 10-Year event
Inflow = 3.86 cfs @ 12.01 hrs, Volume= 0.599 af
Outflow = 3.86 cfs @ 12.01 hrs, Volume= 0.599 af, Atten= 0%, Lag= 0.0 min
Primary = 3.86 cfs @ 12.01 hrs, Volume= 0.599 af
Routed to Pond CB8P :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

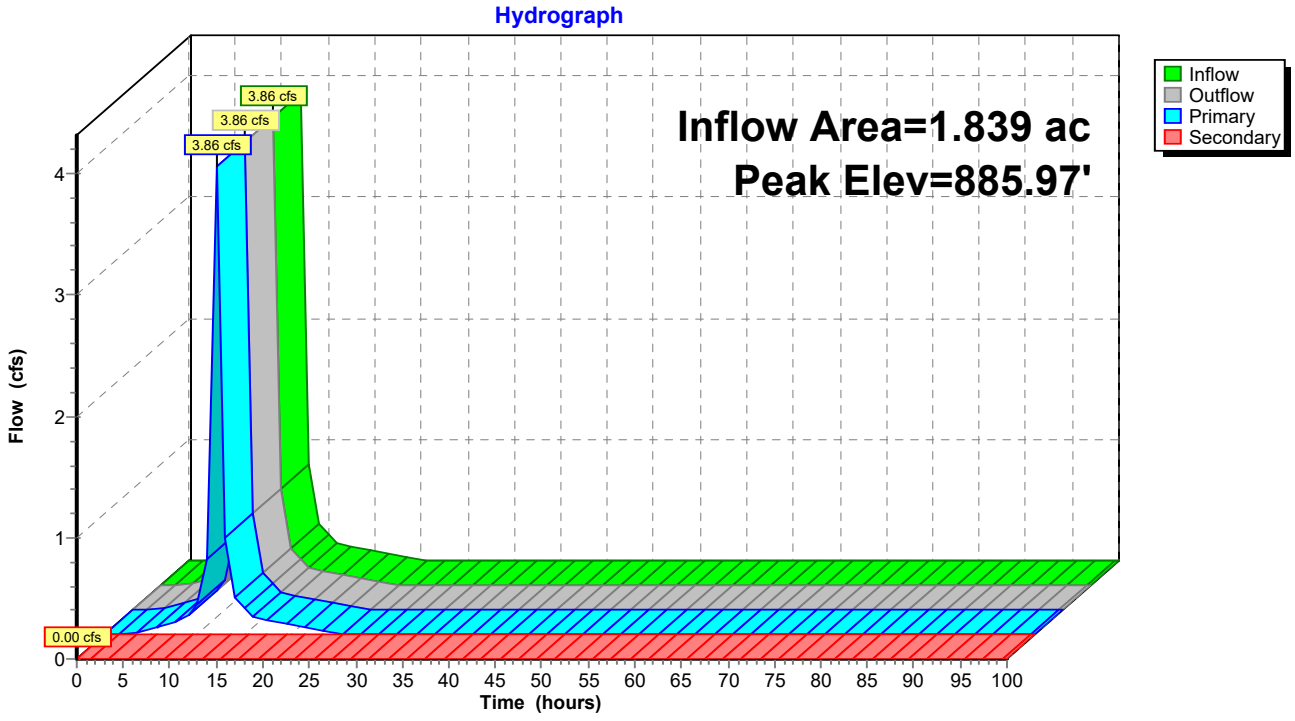
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.97' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 201.4' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 883.56' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Secondary	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.87 cfs @ 12.01 hrs HW=885.96' TW=885.01' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.87 cfs @ 3.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=885.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond CB7:



Summary for Pond CB8:

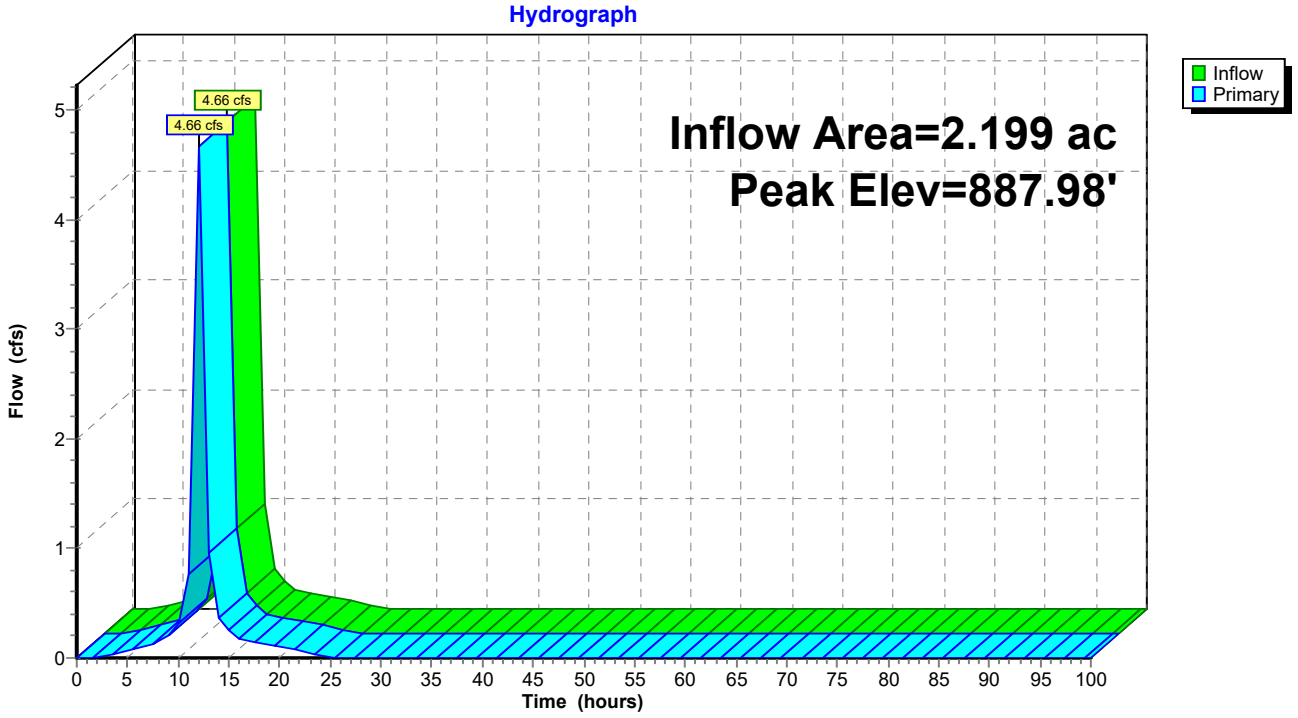
Inflow Area = 2.199 ac,100.00% Impervious, Inflow Depth = 4.02" for 10-Year event
Inflow = 4.66 cfs @ 12.01 hrs, Volume= 0.737 af
Outflow = 4.66 cfs @ 12.01 hrs, Volume= 0.737 af, Atten= 0%, Lag= 0.0 min
Primary = 4.66 cfs @ 12.01 hrs, Volume= 0.737 af
Routed to Pond CB8P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.98' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.61 cfs @ 12.01 hrs HW=887.97' TW=885.02' (Dynamic Tailwater)
↳**1=Orifice/Grate** (Orifice Controls 4.61 cfs @ 3.36 fps)

Pond CB8:



Summary for Pond CB8P:

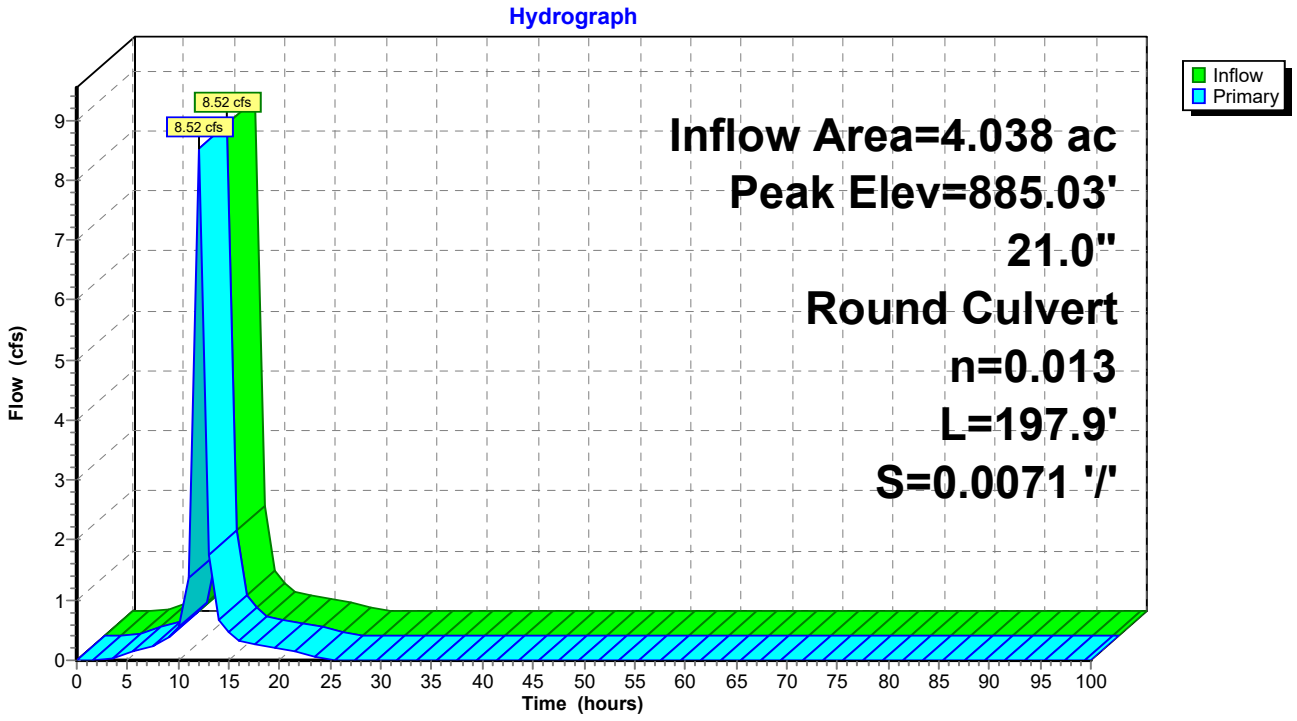
Inflow Area = 4.038 ac, 97.57% Impervious, Inflow Depth = 3.97" for 10-Year event
Inflow = 8.52 cfs @ 12.01 hrs, Volume= 1.337 af
Outflow = 8.52 cfs @ 12.01 hrs, Volume= 1.337 af, Atten= 0%, Lag= 0.0 min
Primary = 8.52 cfs @ 12.01 hrs, Volume= 1.337 af
Routed to Pond ST-4 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.03' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	883.56'	**21.0" Round Culvert** L= 197.9' Ke= 0.500 Inlet / Outlet Invert= 883.56' / 882.15' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 2.41 sf

Primary OutFlow Max=7.94 cfs @ 12.01 hrs HW=885.02' TW=883.44' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.94 cfs @ 5.03 fps)

Pond CB8P:

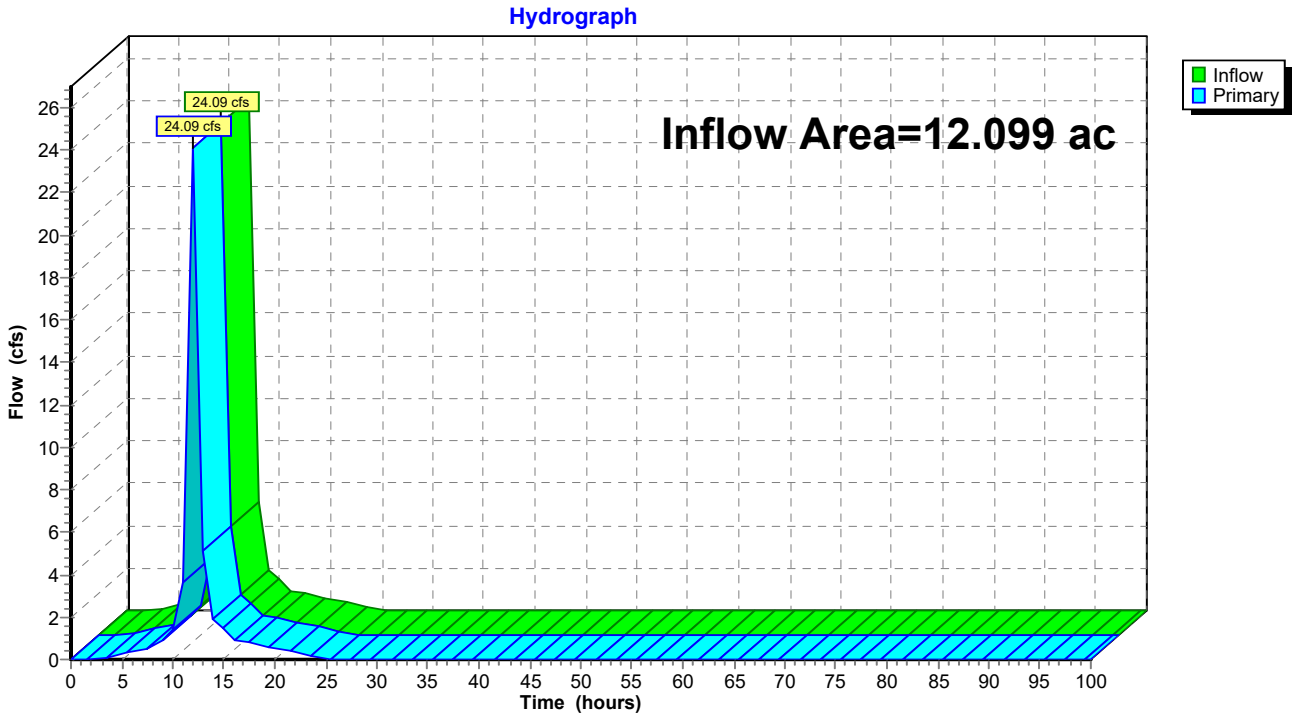


Summary for Pond POA:

Inflow Area = 12.099 ac, 82.80% Impervious, Inflow Depth = 3.70" for 10-Year event
Inflow = 24.09 cfs @ 12.02 hrs, Volume= 3.729 af
Primary = 24.09 cfs @ 12.02 hrs, Volume= 3.729 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs

Pond POA:



Summary for Pond ST-2:

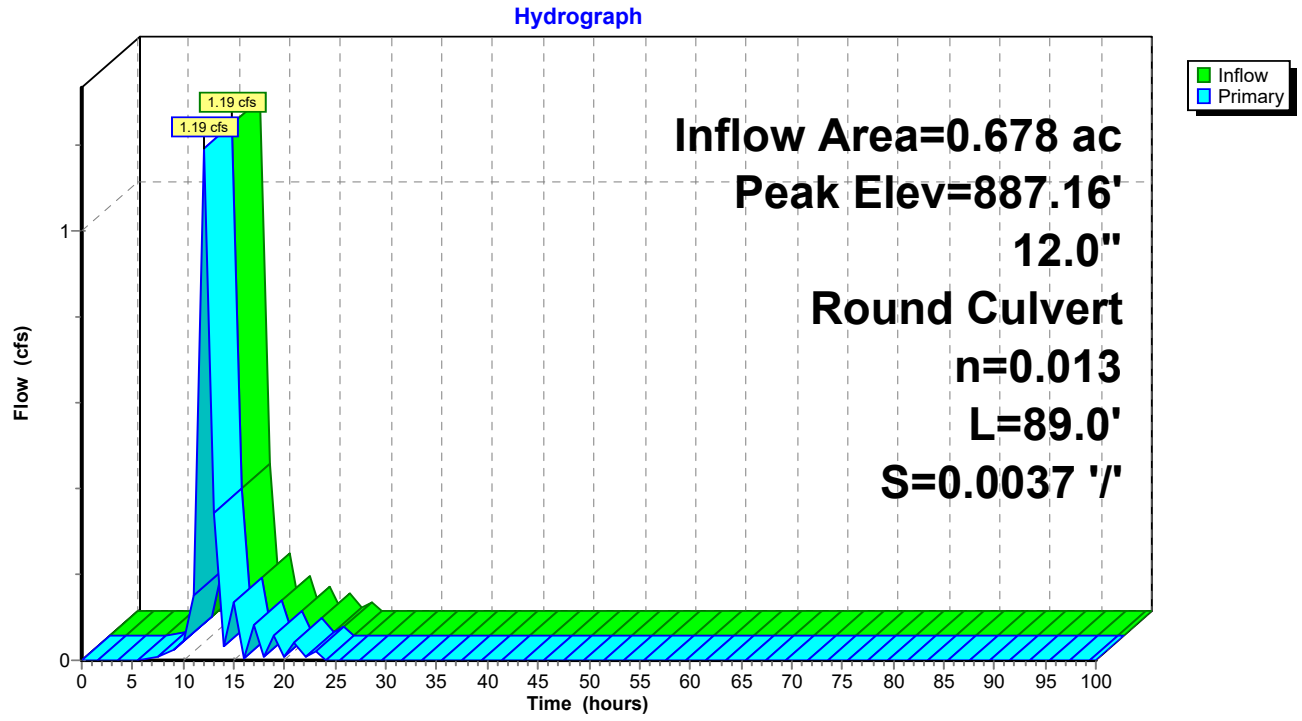
Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 3.17" for 10-Year event
Inflow = 1.19 cfs @ 12.05 hrs, Volume= 0.179 af
Outflow = 1.19 cfs @ 12.05 hrs, Volume= 0.179 af, Atten= 0%, Lag= 0.0 min
Primary = 1.19 cfs @ 12.05 hrs, Volume= 0.179 af
Routed to Pond CB-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.16' @ 12.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.19'	**12.0" Round Culvert** L= 89.0' Ke= 0.500 Inlet / Outlet Invert= 882.19' / 881.86' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.05 hrs HW=886.48' TW=887.11' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Pond ST-2:



Summary for Pond ST-3: JELLYFISH

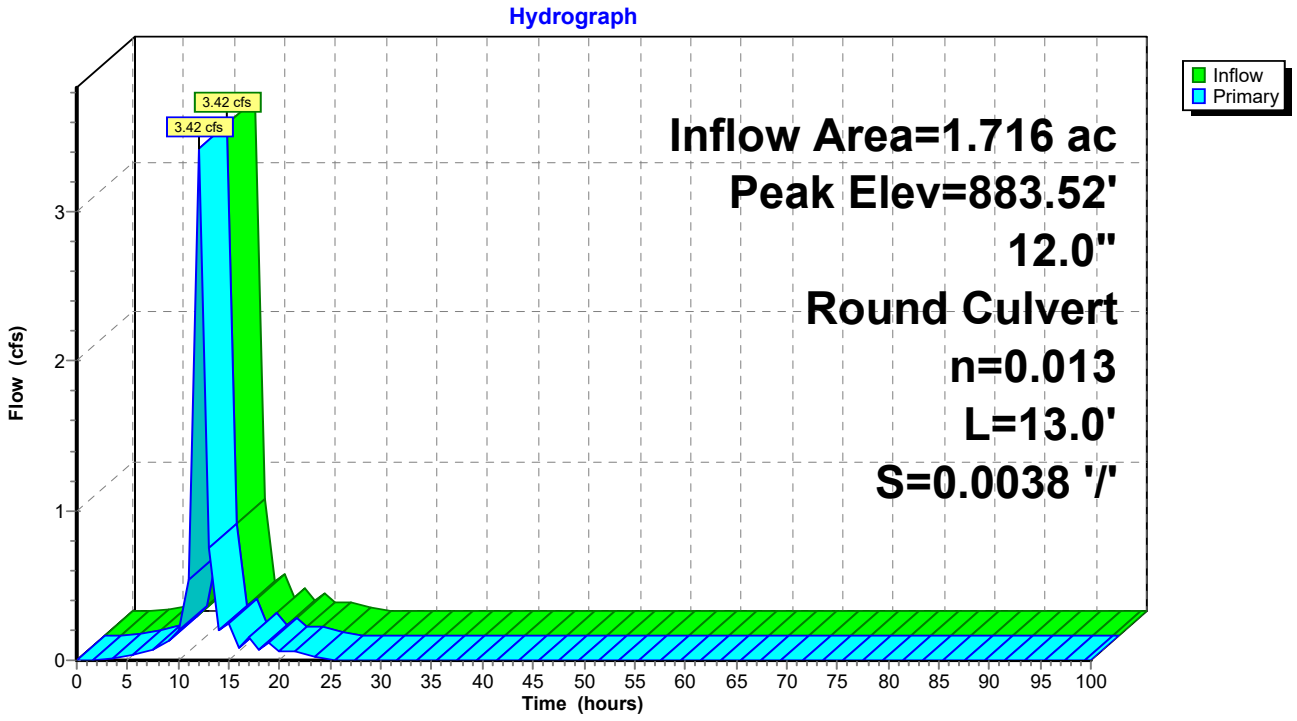
Inflow Area = 1.716 ac, 81.72% Impervious, Inflow Depth = 3.69" for 10-Year event
Inflow = 3.42 cfs @ 12.02 hrs, Volume= 0.527 af
Outflow = 3.42 cfs @ 12.02 hrs, Volume= 0.527 af, Atten= 0%, Lag= 0.0 min
Primary = 3.42 cfs @ 12.02 hrs, Volume= 0.527 af
Routed to Pond ST-4 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 883.52' @ 12.76 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.77'	**12.0" Round Culvert** L= 13.0' Ke= 0.500 Inlet / Outlet Invert= 881.77' / 881.72' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.02 hrs HW=883.28' TW=883.44' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Pond ST-3: JELLYFISH



Summary for Pond ST-4:

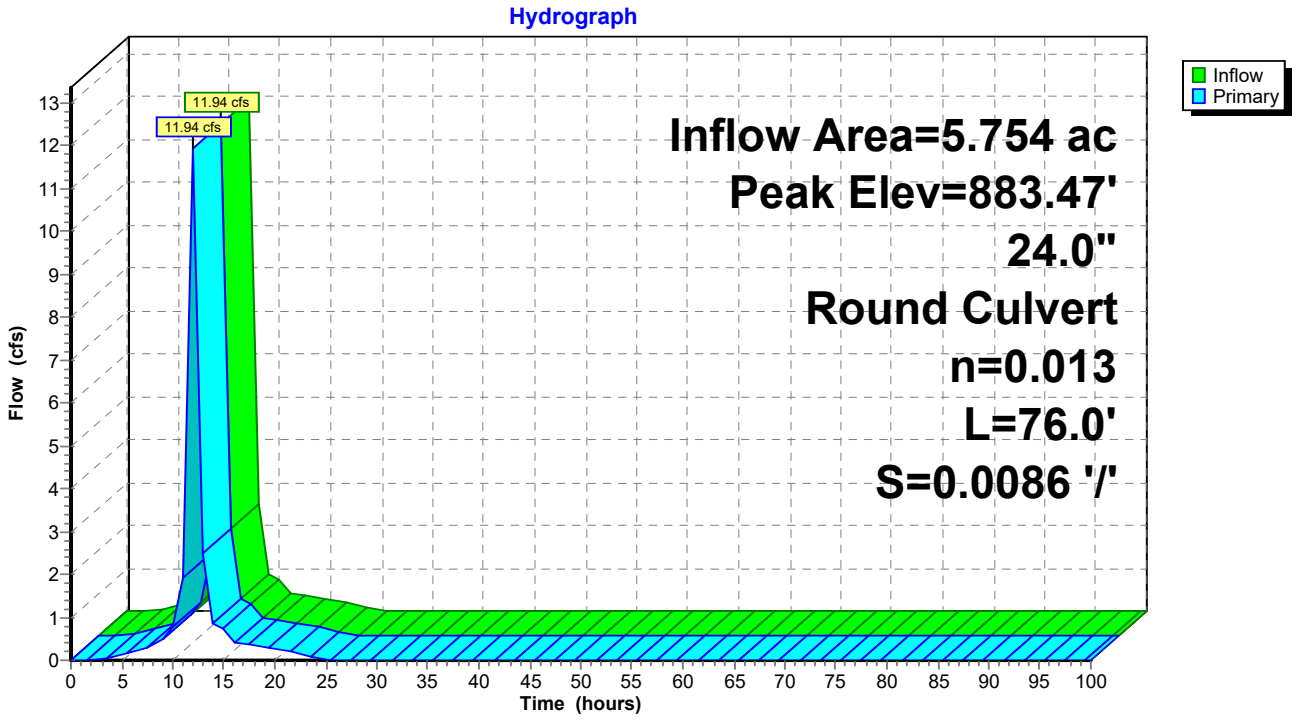
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 3.89" for 10-Year event
Inflow = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af
Outflow = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af, Atten= 0%, Lag= 0.0 min
Primary = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af
Routed to Pond ST-5 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 883.47' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.72'	**24.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 881.72' / 881.07' S= 0.0086 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=9.72 cfs @ 12.01 hrs HW=883.44' TW=882.72' (Dynamic Tailwater)
1=Culvert (Outlet Controls 9.72 cfs @ 4.53 fps)

Pond ST-4:



Summary for Pond ST-5:

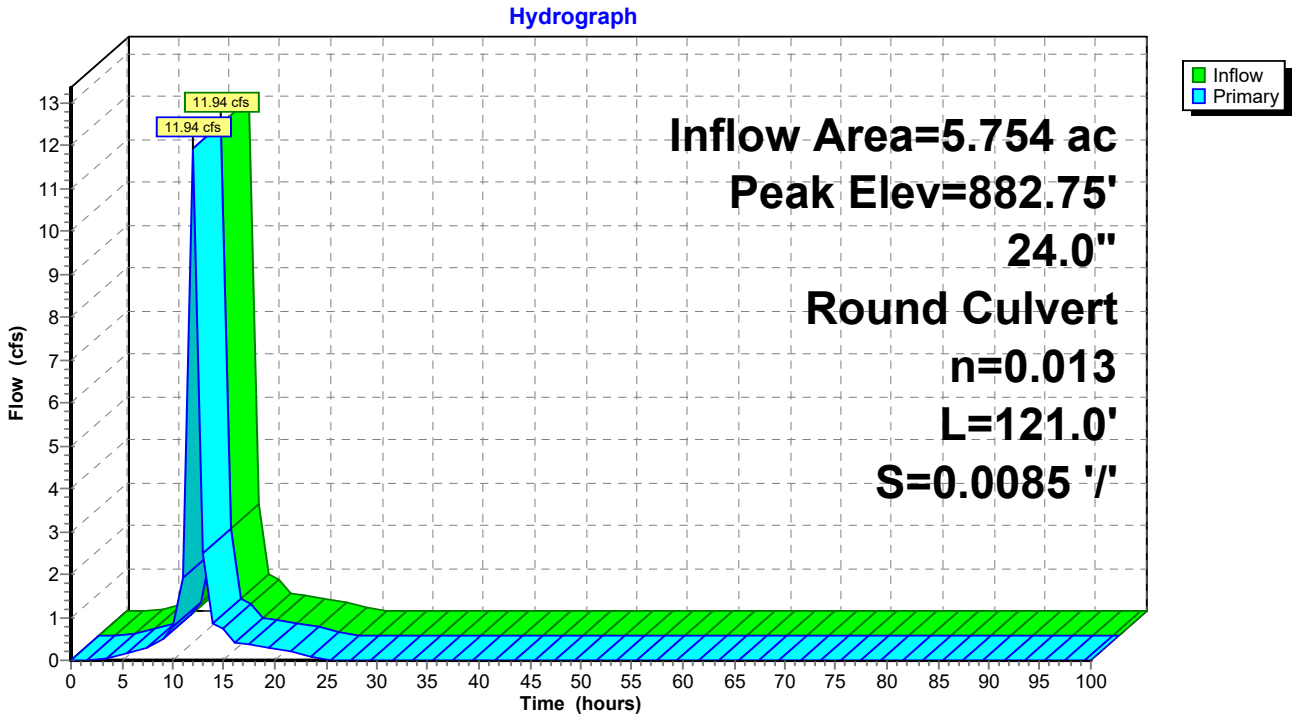
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 3.89" for 10-Year event
Inflow = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af
Outflow = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af, Atten= 0%, Lag= 0.0 min
Primary = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af
Routed to Pond ST-6 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 882.75' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.06'	**24.0" Round Culvert** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 881.06' / 880.03' S= 0.0085 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=8.27 cfs @ 12.01 hrs HW=882.72' TW=882.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.27 cfs @ 4.03 fps)

Pond ST-5:



Summary for Pond ST-6:

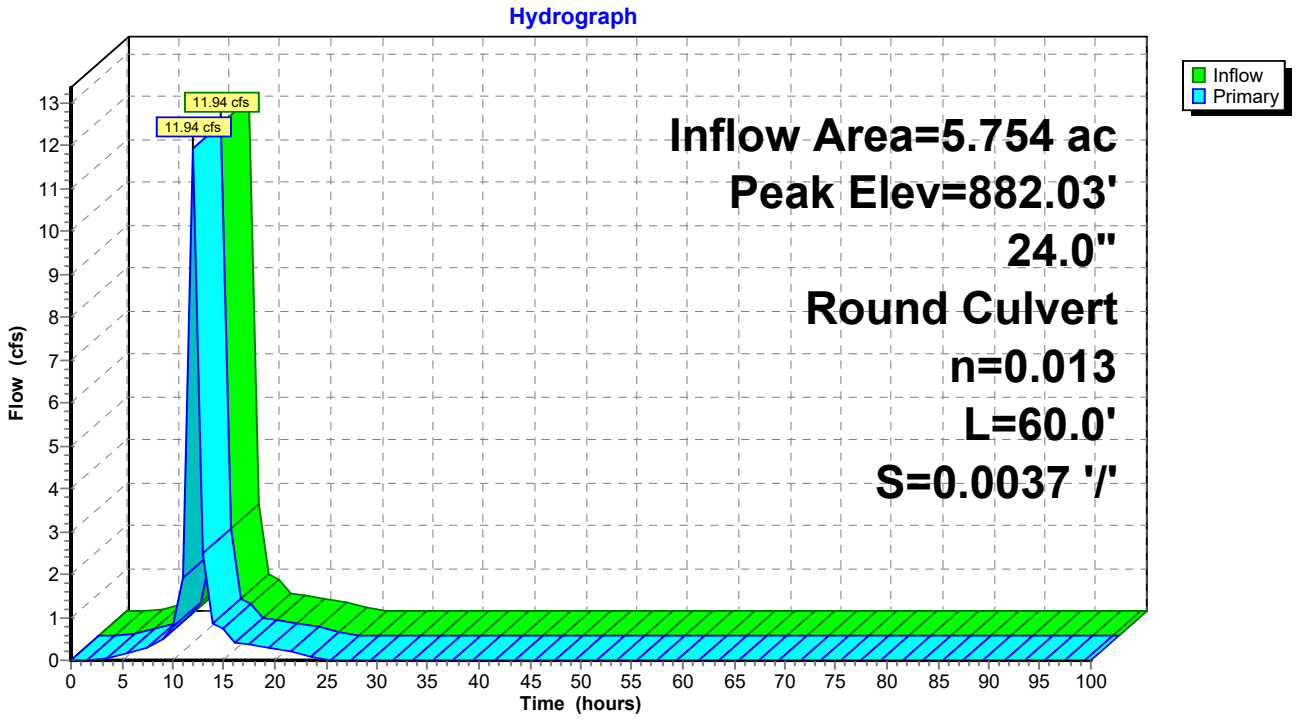
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 3.89" for 10-Year event
Inflow = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af
Outflow = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af, Atten= 0%, Lag= 0.0 min
Primary = 11.94 cfs @ 12.01 hrs, Volume= 1.864 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 882.03' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	880.03'	**24.0" Round Culvert** L= 60.0' Ke= 0.500 Inlet / Outlet Invert= 880.03' / 879.81' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=11.78 cfs @ 12.01 hrs HW=882.01' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 11.78 cfs @ 4.70 fps)

Pond ST-6:



Time span=0.00-100.00 hrs, dt=1.00 hrs, 101 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentP1: Runoff Area=44,079 sf 85.04% Impervious Runoff Depth=6.72"
Tc=5.0 min CN=95 Runoff=3.65 cfs 0.567 af

SubcatchmentP10: Runoff Area=92,026 sf 28.74% Impervious Runoff Depth=5.56"
Tc=5.0 min CN=85 Runoff=6.66 cfs 0.979 af

SubcatchmentP2: Runoff Area=40,059 sf 98.70% Impervious Runoff Depth=7.08"
Tc=5.0 min CN=98 Runoff=3.37 cfs 0.543 af

SubcatchmentP3: Runoff Area=3,951 sf 100.00% Impervious Runoff Depth=7.08"
Tc=5.0 min CN=98 Runoff=0.33 cfs 0.054 af

SubcatchmentP4: Runoff Area=23,824 sf 100.00% Impervious Runoff Depth=7.08"
Tc=0.0 min CN=98 Runoff=2.03 cfs 0.323 af

SubcatchmentP5: Runoff Area=36,989 sf 100.00% Impervious Runoff Depth=7.08"
Tc=5.0 min CN=98 Runoff=3.12 cfs 0.501 af

SubcatchmentP6: Runoff Area=35,429 sf 100.00% Impervious Runoff Depth=7.08"
Tc=5.0 min CN=98 Runoff=2.98 cfs 0.480 af

SubcatchmentP7: Runoff Area=80,125 sf 94.66% Impervious Runoff Depth=6.96"
Tc=5.0 min CN=97 Runoff=6.72 cfs 1.067 af

SubcatchmentP8: Runoff Area=95,776 sf 100.00% Impervious Runoff Depth=7.08"
Tc=5.0 min CN=98 Runoff=8.07 cfs 1.297 af

SubcatchmentP9A: Runoff Area=45,237 sf 100.00% Impervious Runoff Depth=7.08"
Tc=0.0 min CN=98 Runoff=3.85 cfs 0.613 af

SubcatchmentP9C: Runoff Area=29,517 sf 53.71% Impervious Runoff Depth=6.14"
Tc=0.0 min CN=90 Runoff=2.34 cfs 0.347 af

Reach 2R: Avg. Flow Depth=0.38' Max Vel=2.63 fps Inflow=2.34 cfs 0.347 af
n=0.013 L=247.0' S=0.0050 '/' Capacity=4.76 cfs Outflow=2.27 cfs 0.347 af

Pond CB-1: Peak Elev=887.94' Inflow=2.27 cfs 0.347 af
Outflow=2.27 cfs 0.347 af

Pond CB-2: Peak Elev=887.88' Inflow=6.11 cfs 0.960 af
Outflow=6.11 cfs 0.960 af

Pond CB1: Peak Elev=889.52' Inflow=3.65 cfs 0.567 af
Outflow=3.65 cfs 0.567 af

Pond CB2: Peak Elev=888.44' Inflow=3.37 cfs 0.543 af
Outflow=3.37 cfs 0.543 af

Pond CB2P: Peak Elev=886.75' Inflow=7.02 cfs 1.110 af
18.0" Round Culvert n=0.013 L=109.0' S=0.0024 '/' Outflow=7.02 cfs 1.110 af

Pond CB3: Peak Elev=887.39' Inflow=0.33 cfs 0.054 af
Outflow=0.33 cfs 0.054 af

Pond CB3P: Peak Elev=886.40' Inflow=7.35 cfs 1.163 af
18.0" Round Culvert n=0.013 L=101.0' S=0.0027 '/' Outflow=7.35 cfs 1.163 af

Pond CB4: Peak Elev=887.62' Inflow=2.03 cfs 0.323 af
Outflow=2.03 cfs 0.323 af

Pond CB5: Peak Elev=887.58' Inflow=3.12 cfs 0.501 af
Outflow=3.12 cfs 0.501 af

Pond CB6: Peak Elev=888.32' Inflow=2.98 cfs 0.480 af
Outflow=2.98 cfs 0.480 af

Pond CB6P: Peak Elev=885.66' Inflow=6.10 cfs 0.981 af
18.0" Round Culvert n=0.013 L=26.0' S=0.0038 '/' Outflow=6.10 cfs 0.981 af

Pond CB7: Peak Elev=886.65' Inflow=6.72 cfs 1.067 af
Primary=6.72 cfs 1.067 af Secondary=0.00 cfs 0.000 af Outflow=6.72 cfs 1.067 af

Pond CB8: Peak Elev=888.37' Inflow=8.07 cfs 1.297 af
Outflow=8.07 cfs 1.297 af

Pond CB8P: Peak Elev=886.53' Inflow=14.79 cfs 2.364 af
21.0" Round Culvert n=0.013 L=197.9' S=0.0071 '/' Outflow=14.79 cfs 2.364 af

Pond POA: Inflow=43.04 cfs 6.770 af
Primary=43.04 cfs 6.770 af

Pond ST-2: Peak Elev=887.93' Inflow=2.27 cfs 0.347 af
12.0" Round Culvert n=0.013 L=89.0' S=0.0037 '/' Outflow=2.27 cfs 0.347 af

Pond ST-3: JELLYFISH Peak Elev=885.40' Inflow=6.11 cfs 0.960 af
12.0" Round Culvert n=0.013 L=13.0' S=0.0038 '/' Outflow=6.11 cfs 0.960 af

Pond ST-4: Peak Elev=884.87' Inflow=20.90 cfs 3.324 af
24.0" Round Culvert n=0.013 L=76.0' S=0.0086 '/' Outflow=20.90 cfs 3.324 af

Pond ST-5: Peak Elev=884.21' Inflow=20.90 cfs 3.324 af
24.0" Round Culvert n=0.013 L=121.0' S=0.0085 '/' Outflow=20.90 cfs 3.324 af

Pond ST-6: Peak Elev=883.36' Inflow=20.90 cfs 3.324 af
24.0" Round Culvert n=0.013 L=60.0' S=0.0037 '/' Outflow=20.90 cfs 3.324 af

Total Runoff Area = 12.099 ac Runoff Volume = 6.769 af Average Runoff Depth = 6.71"
17.20% Pervious = 2.081 ac 82.80% Impervious = 10.018 ac

Summary for Subcatchment P1:

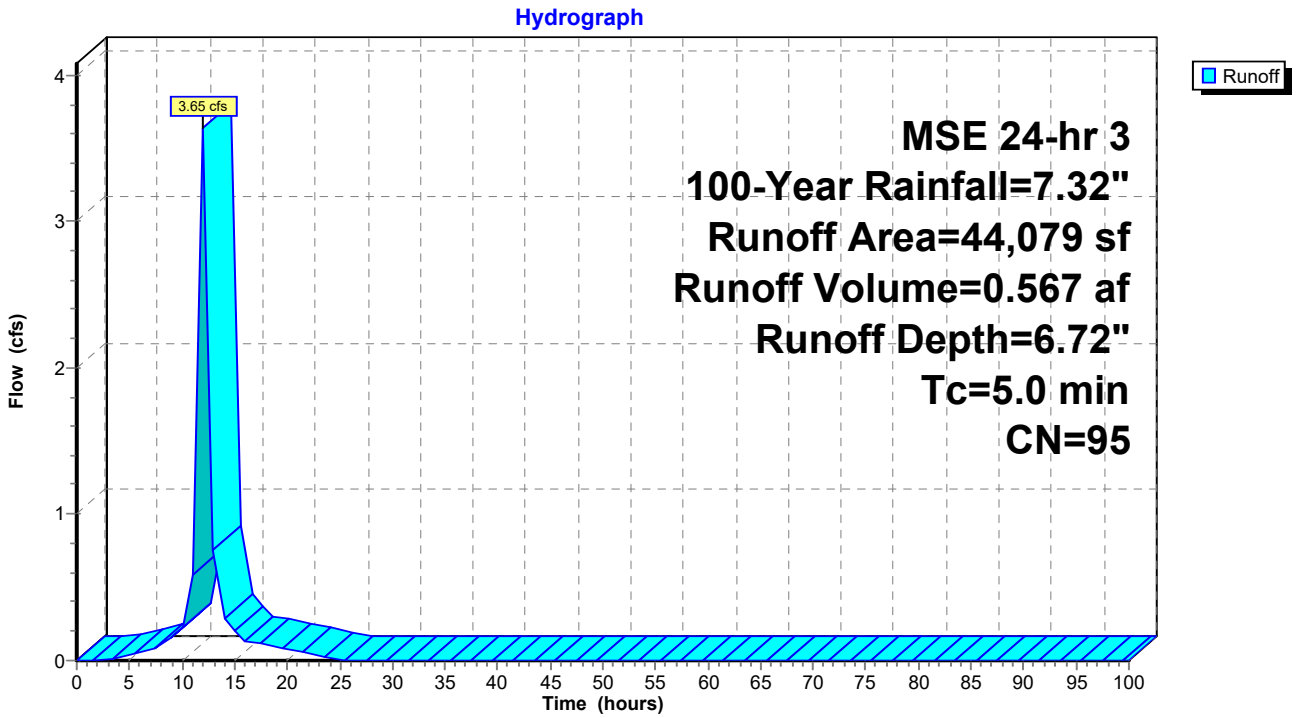
Runoff = 3.65 cfs @ 12.01 hrs, Volume= 0.567 af, Depth= 6.72"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
37,486	98	Paved parking, HSG D
6,593	80	>75% Grass cover, Good, HSG D
44,079	95	Weighted Average
6,593		14.96% Pervious Area
37,486		85.04% Impervious Area

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

Subcatchment P1:



Summary for Subcatchment P10:

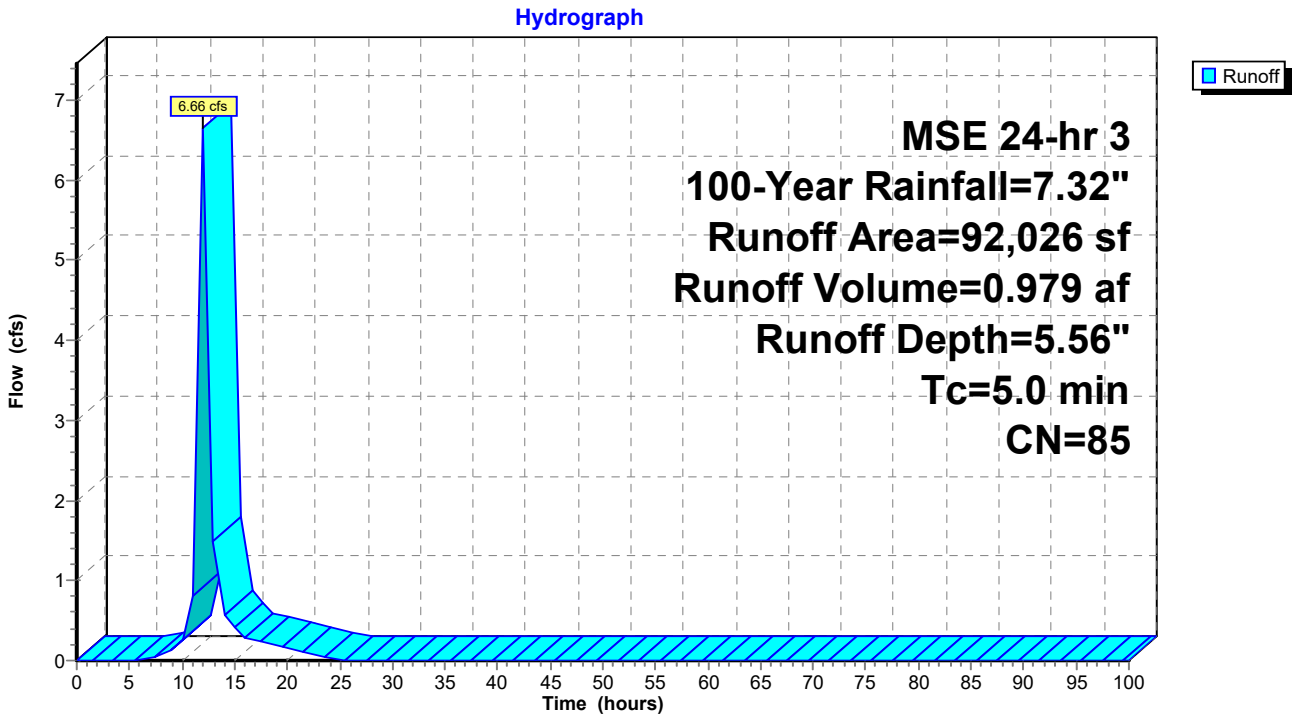
Runoff = 6.66 cfs @ 12.03 hrs, Volume= 0.979 af, Depth= 5.56"
Routed to Pond POA :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
26,450	98	Paved parking, HSG D
65,576	80	>75% Grass cover, Good, HSG D
92,026	85	Weighted Average
65,576		71.26% Pervious Area
26,450		28.74% Impervious Area

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

Subcatchment P10:



Summary for Subcatchment P2:

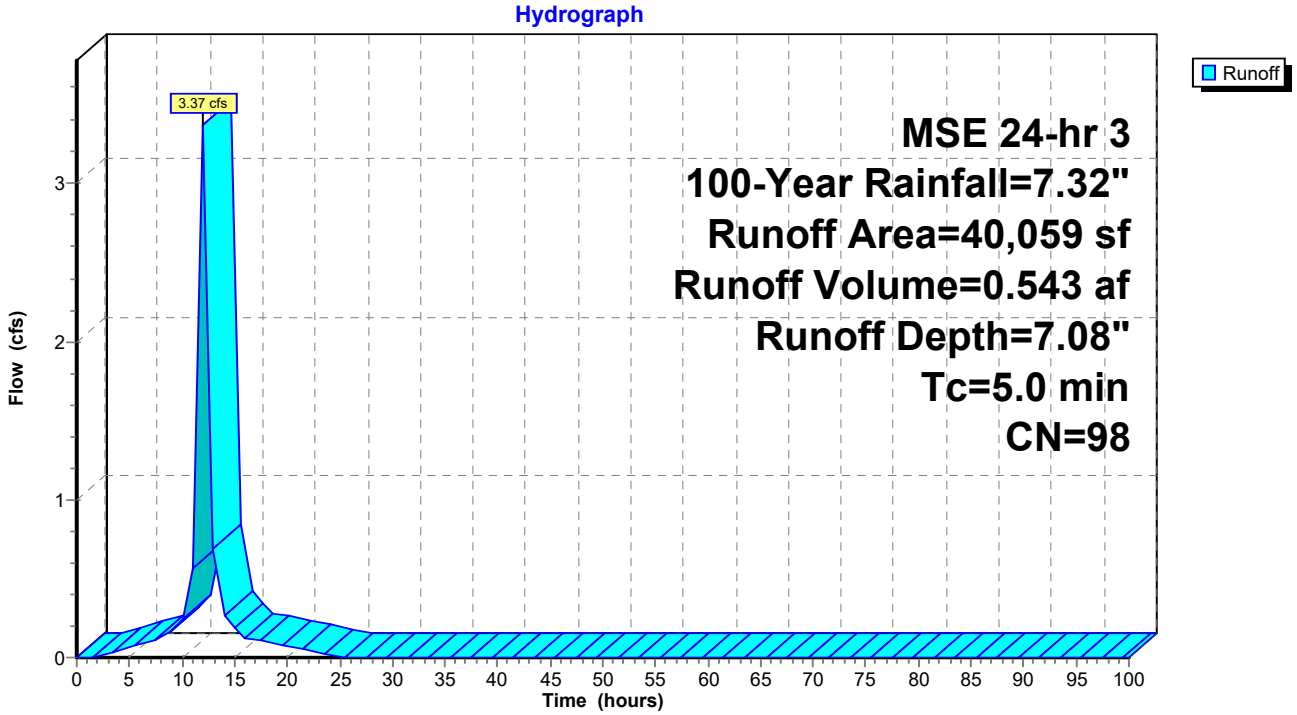
Runoff = 3.37 cfs @ 12.01 hrs, Volume= 0.543 af, Depth= 7.08"
Routed to Pond CB2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
39,537	98	Paved parking, HSG D
522	80	>75% Grass cover, Good, HSG D
40,059	98	Weighted Average
522		1.30% Pervious Area
39,537		98.70% Impervious Area

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

Subcatchment P2:



Summary for Subcatchment P3:

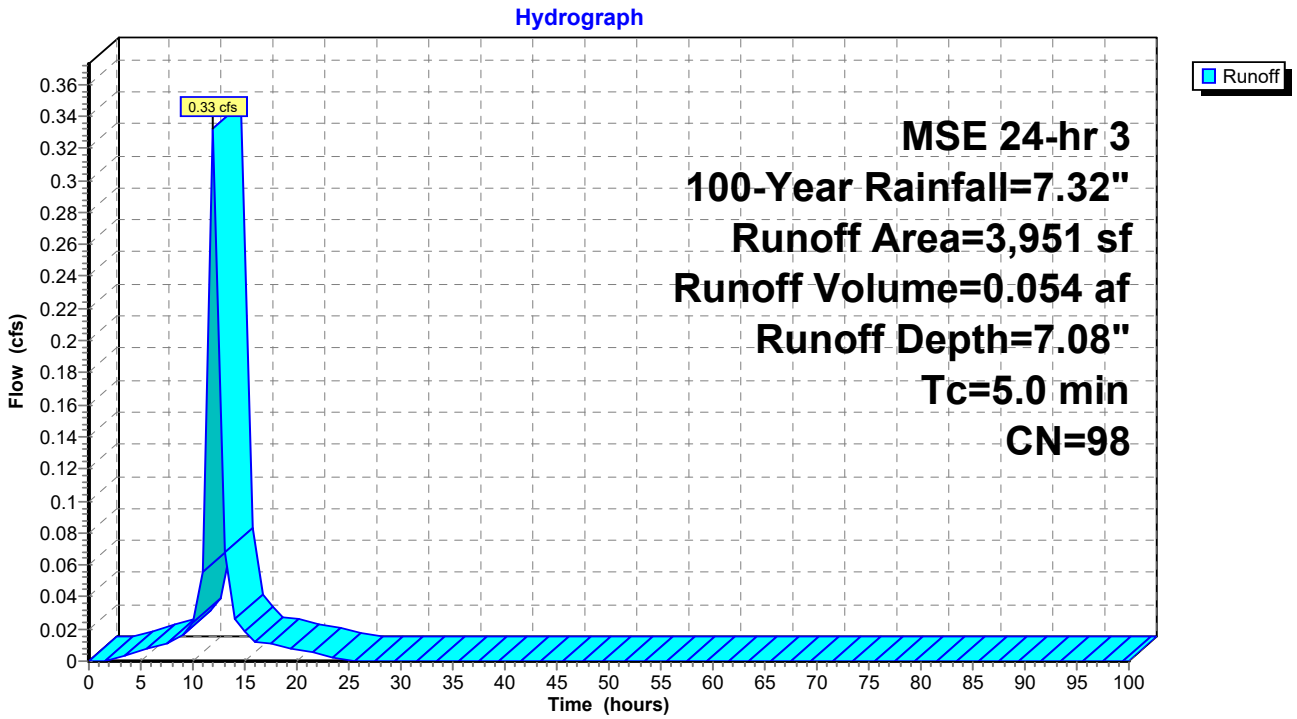
Runoff = 0.33 cfs @ 12.01 hrs, Volume= 0.054 af, Depth= 7.08"
Routed to Pond CB3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
3,951	98	Paved parking, HSG D
3,951		100.00% Impervious Area

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

Subcatchment P3:



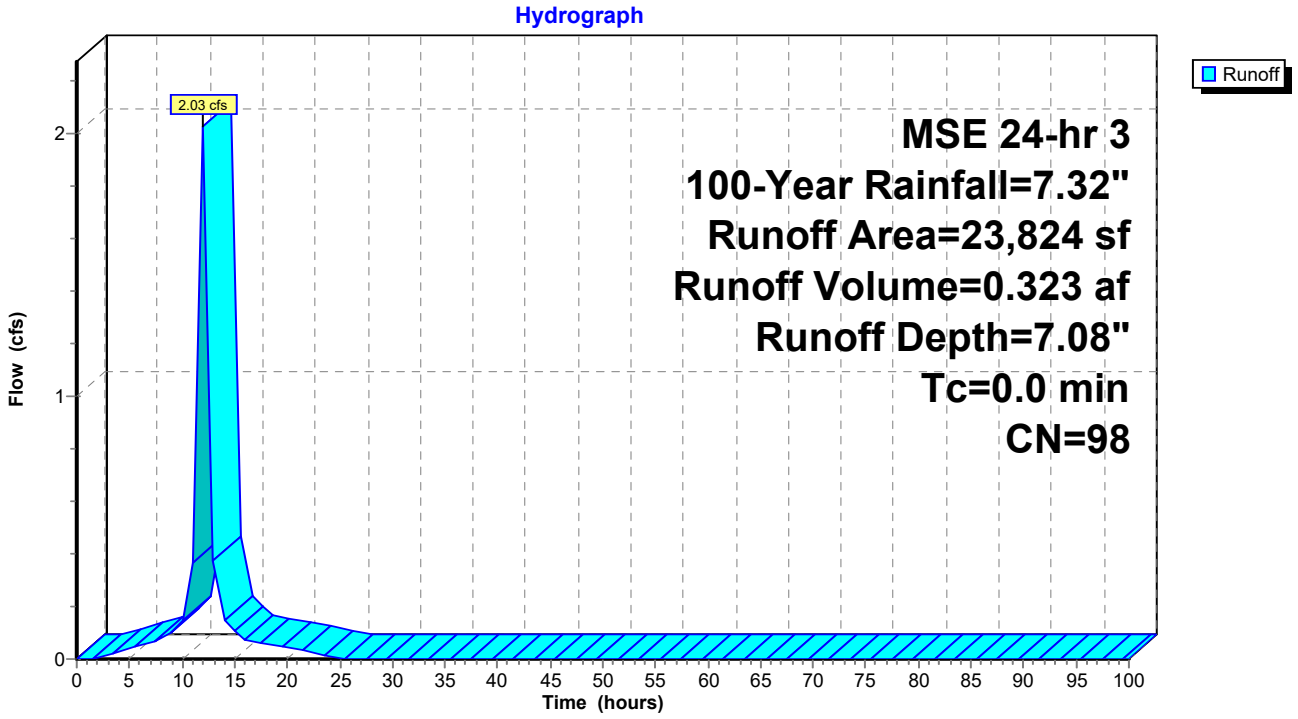
Summary for Subcatchment P4:

Runoff = 2.03 cfs @ 12.00 hrs, Volume= 0.323 af, Depth= 7.08"
Routed to Pond CB4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
23,824	98	Paved parking, HSG D
23,824		100.00% Impervious Area

Subcatchment P4:



Summary for Subcatchment P5:

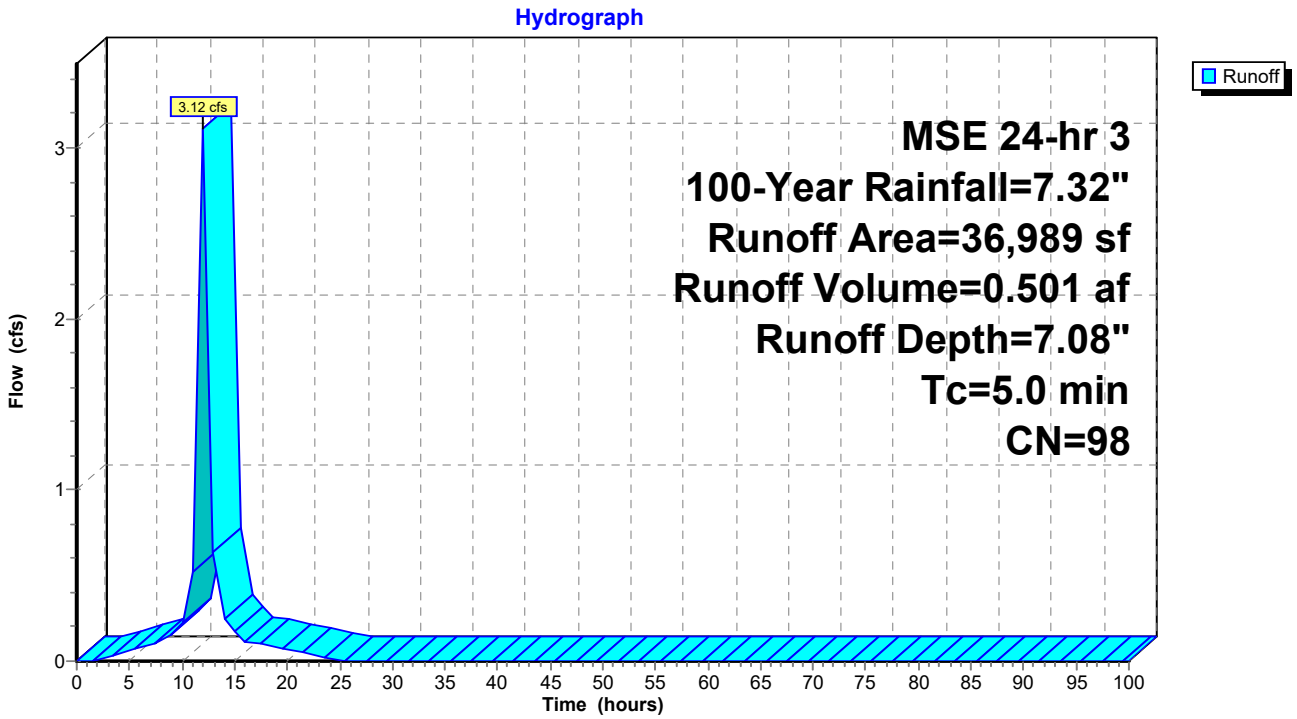
Runoff = 3.12 cfs @ 12.01 hrs, Volume= 0.501 af, Depth= 7.08"
Routed to Pond CB5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
36,989	98	Paved parking, HSG D
36,989		100.00% Impervious Area

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

Subcatchment P5:



Summary for Subcatchment P6:

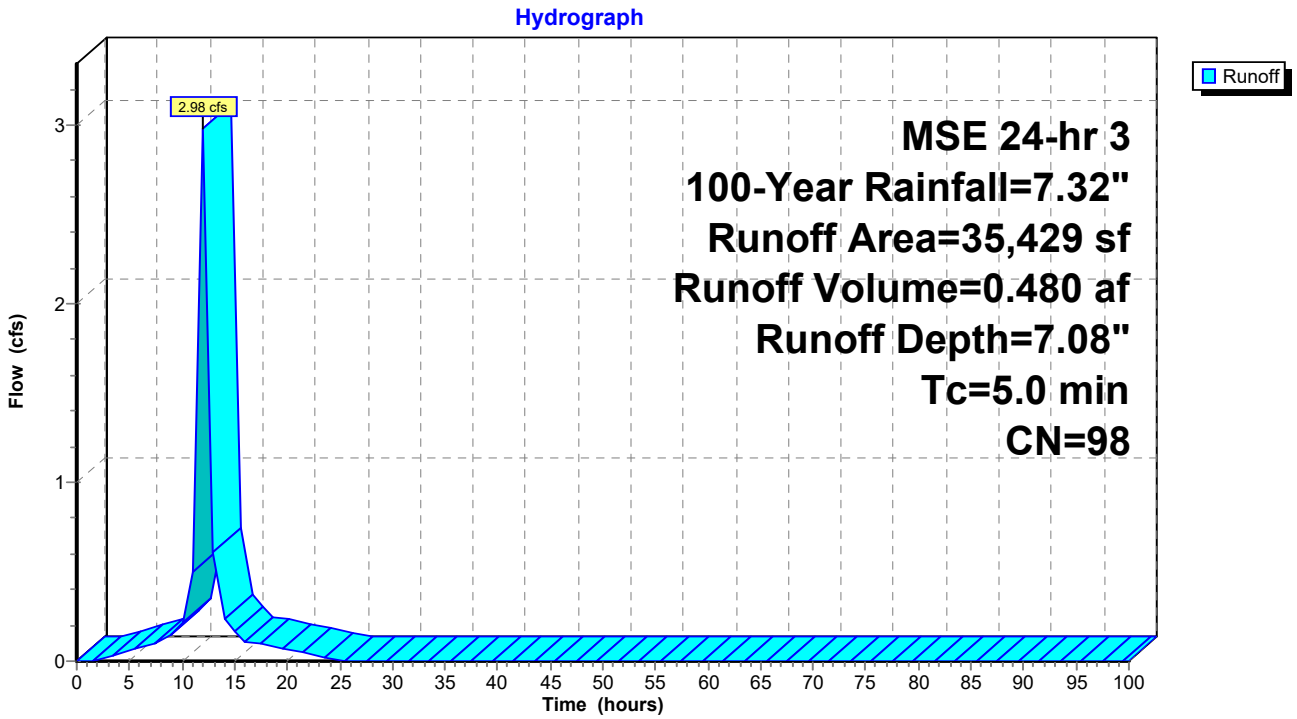
Runoff = 2.98 cfs @ 12.01 hrs, Volume= 0.480 af, Depth= 7.08"
Routed to Pond CB6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
35,429	98	Paved parking, HSG D
35,429		100.00% Impervious Area

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

Subcatchment P6:



Summary for Subcatchment P7:

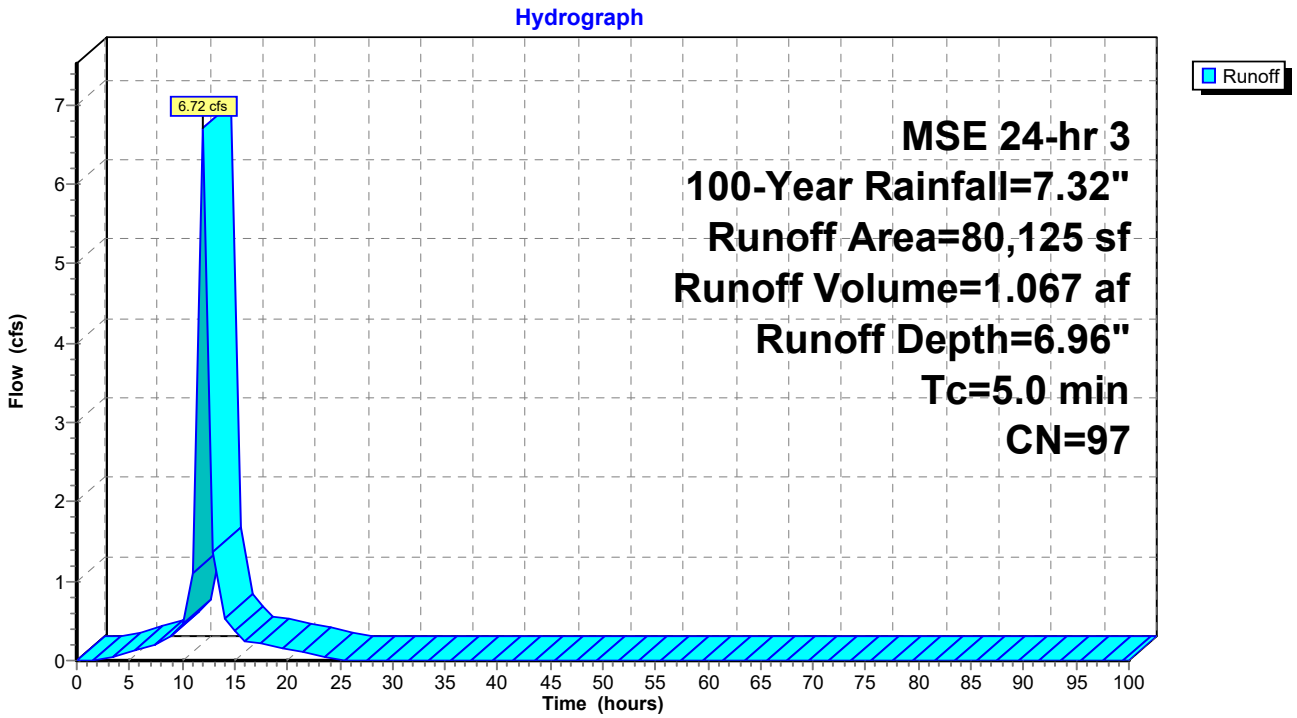
Runoff = 6.72 cfs @ 12.01 hrs, Volume= 1.067 af, Depth= 6.96"
Routed to Pond CB7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
75,849	98	Paved parking, HSG D
4,276	80	>75% Grass cover, Good, HSG D
80,125	97	Weighted Average
4,276		5.34% Pervious Area
75,849		94.66% Impervious Area

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

Subcatchment P7:



Summary for Subcatchment P8:

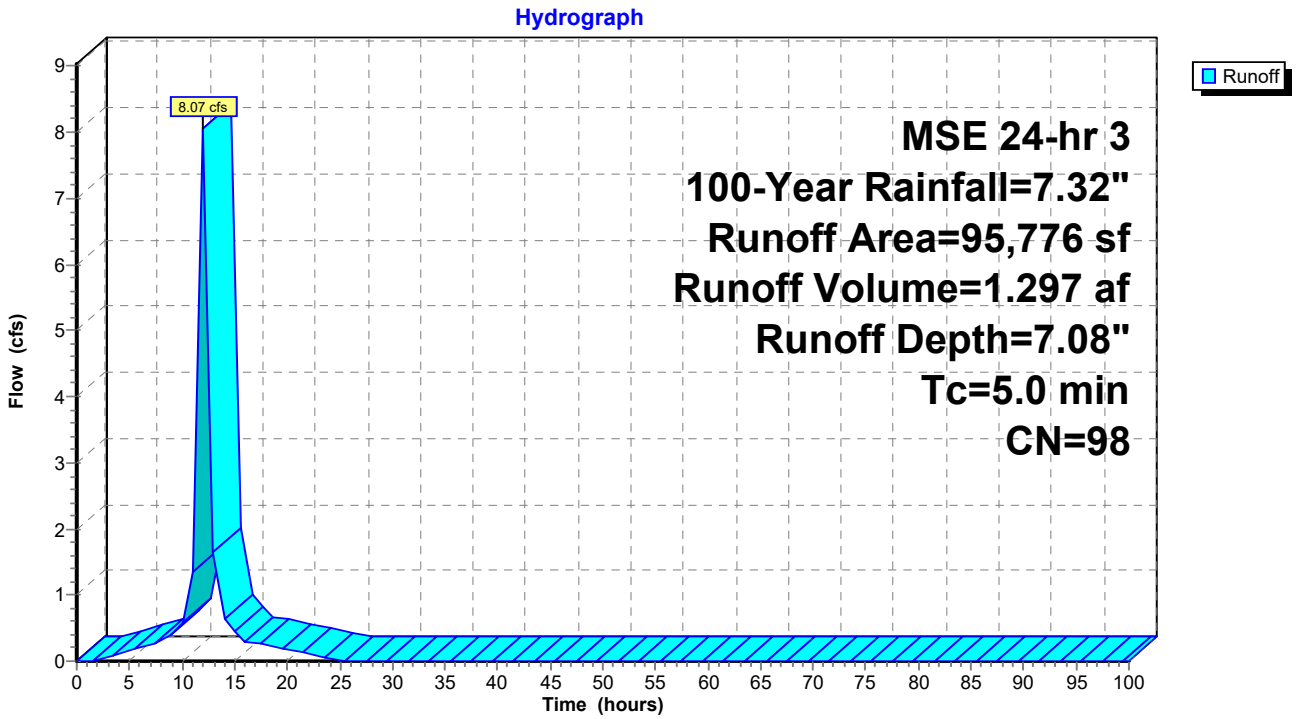
Runoff = 8.07 cfs @ 12.01 hrs, Volume= 1.297 af, Depth= 7.08"
Routed to Pond CB8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
95,776	98	Paved parking, HSG D
95,776		100.00% Impervious Area

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

Subcatchment P8:



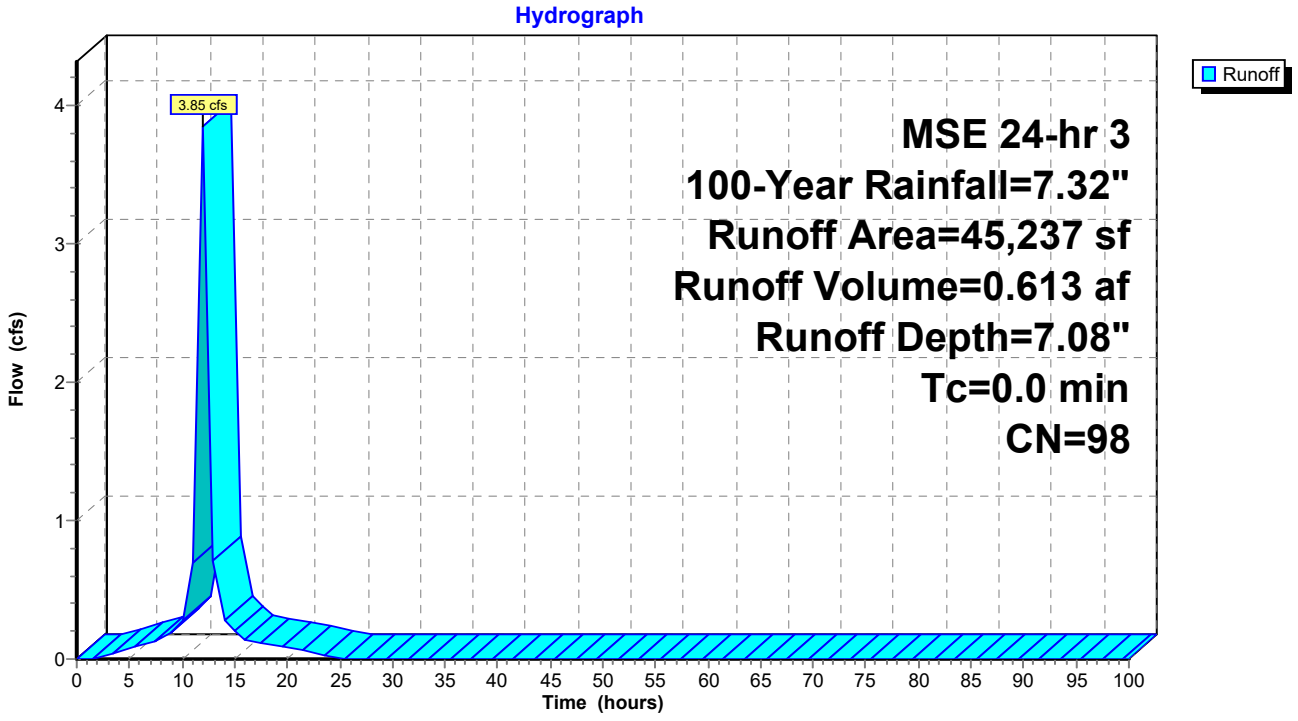
Summary for Subcatchment P9A:

Runoff = 3.85 cfs @ 12.00 hrs, Volume= 0.613 af, Depth= 7.08"
Routed to Pond CB-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
45,237	98	Paved parking, HSG D
45,237		100.00% Impervious Area

Subcatchment P9A:



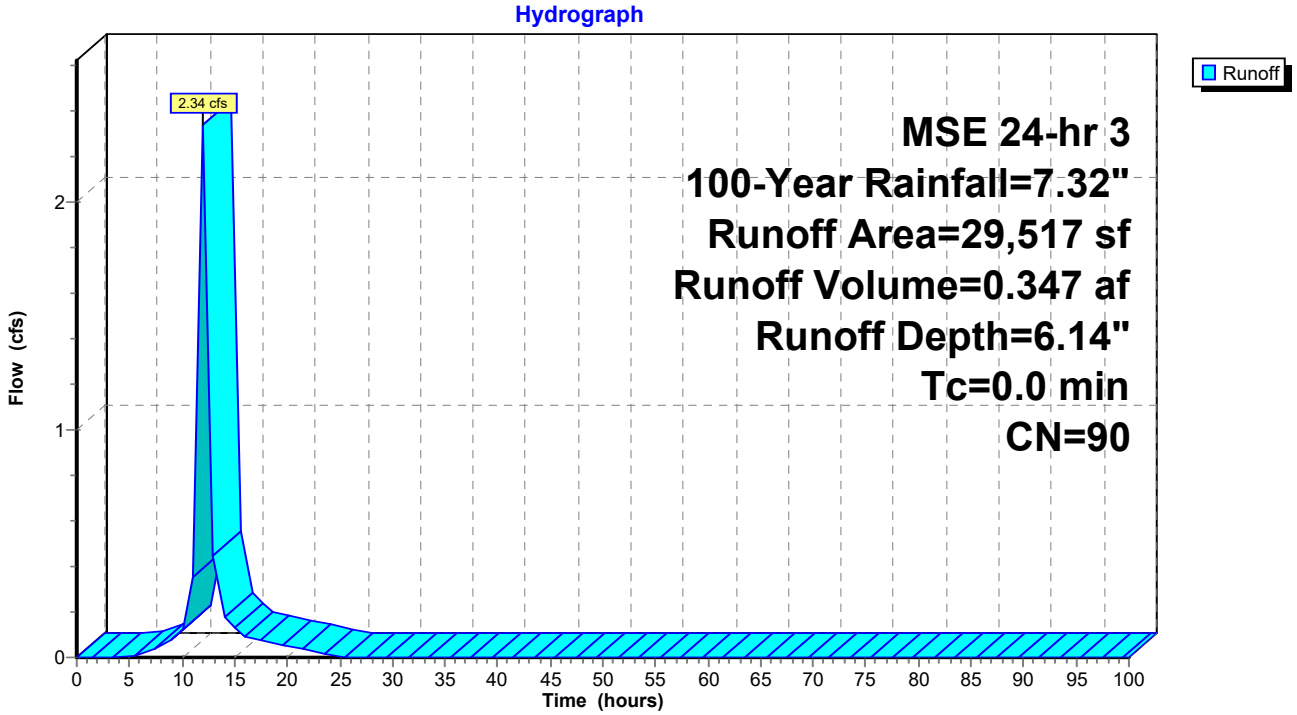
Summary for Subcatchment P9C:

Runoff = 2.34 cfs @ 12.01 hrs, Volume= 0.347 af, Depth= 6.14"
Routed to Reach 2R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
15,855	98	Paved parking, HSG D
13,662	80	>75% Grass cover, Good, HSG D
29,517	90	Weighted Average
13,662		46.29% Pervious Area
15,855		53.71% Impervious Area

Subcatchment P9C:



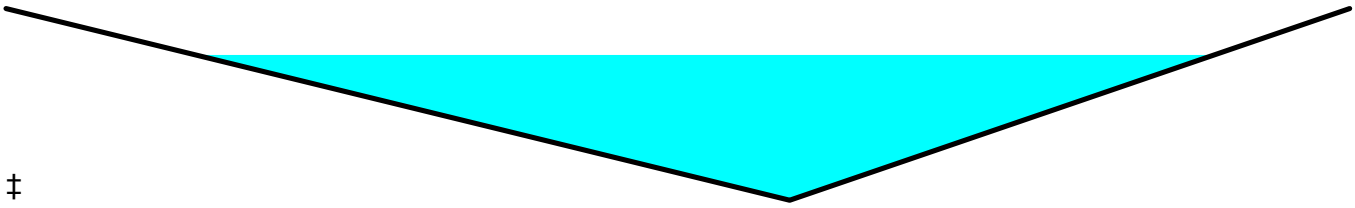
Summary for Reach 2R:

Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 6.14" for 100-Year event
Inflow = 2.34 cfs @ 12.01 hrs, Volume= 0.347 af
Outflow = 2.27 cfs @ 12.04 hrs, Volume= 0.347 af, Atten= 3%, Lag= 1.4 min
Routed to Pond CB-1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Max. Velocity= 2.63 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 1.07 fps, Avg. Travel Time= 3.9 min

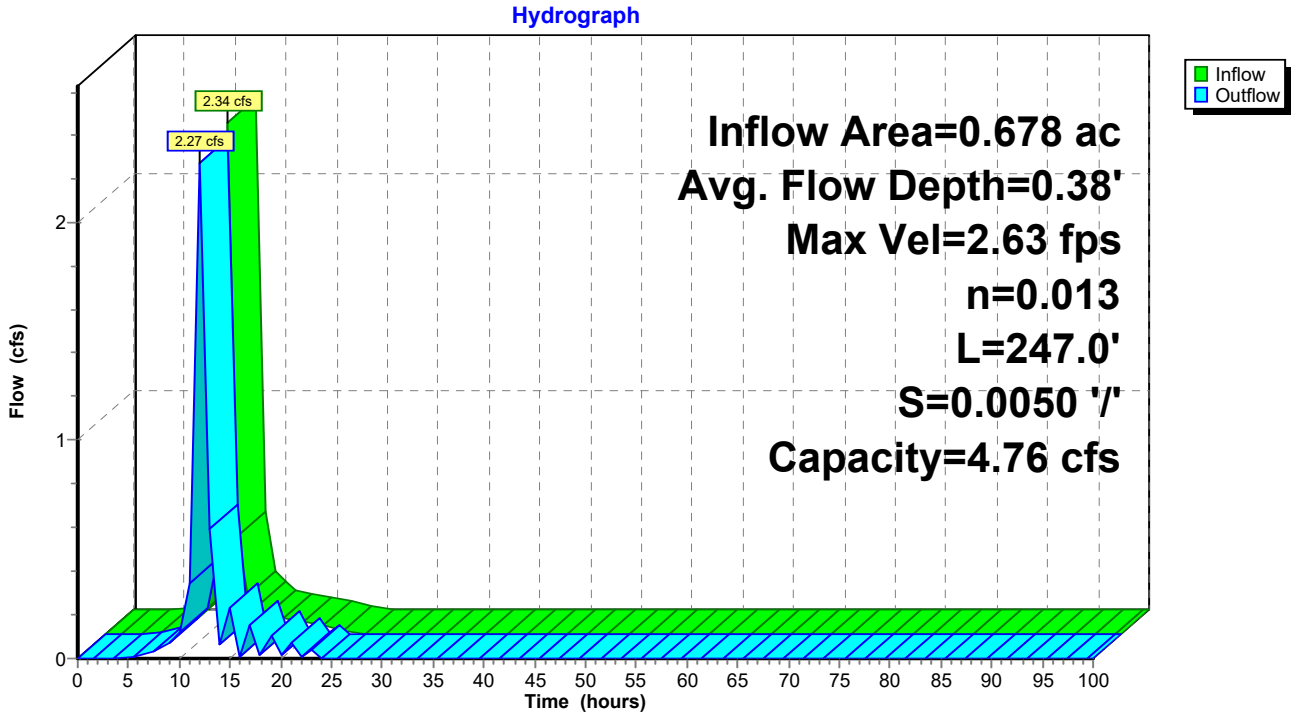
Peak Storage= 213 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.38' , Surface Width= 4.55'
Bank-Full Depth= 0.50' Flow Area= 1.5 sf, Capacity= 4.76 cfs

0.00' x 0.50' deep channel, n= 0.013
Side Slope Z-value= 7.0 5.0 '/' Top Width= 6.00'
Length= 247.0' Slope= 0.0050 '/'
Inlet Invert= 886.99', Outlet Invert= 885.76'



‡

Reach 2R:



Summary for Pond CB-1:

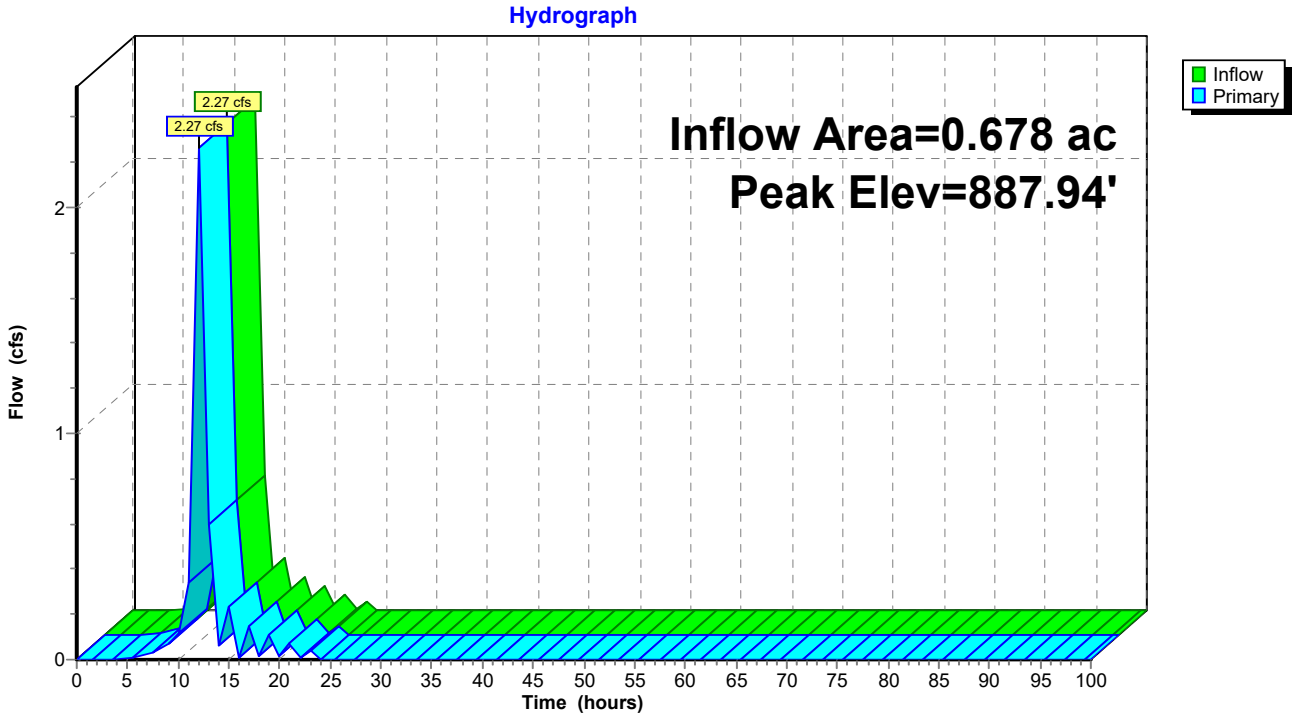
Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 6.15" for 100-Year event
Inflow = 2.27 cfs @ 12.04 hrs, Volume= 0.347 af
Outflow = 2.27 cfs @ 12.04 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min
Primary = 2.27 cfs @ 12.04 hrs, Volume= 0.347 af
Routed to Pond ST-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.94' @ 13.89 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.46'	**12.0" Round Culvert** L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 882.46' / 882.19' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	885.41'	**24.0" Horiz. CATCH BASIN X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 12.04 hrs HW=886.73' TW=887.08' (Dynamic Tailwater)
↑**1=Culvert** (Controls 0.00 cfs)
↑**2=CATCH BASIN** (Controls 0.00 cfs)

Pond CB-1:



Summary for Pond CB-2:

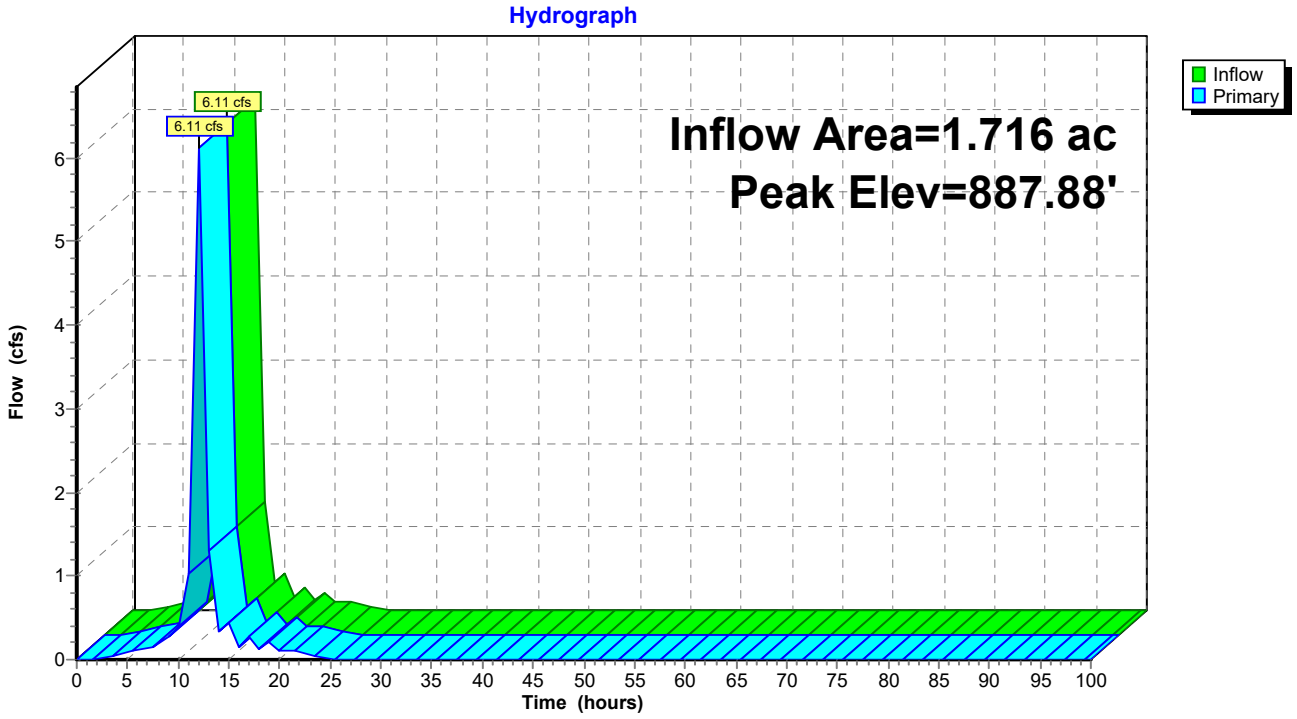
Inflow Area = 1.716 ac, 81.72% Impervious, Inflow Depth = 6.71" for 100-Year event
Inflow = 6.11 cfs @ 12.01 hrs, Volume= 0.960 af
Outflow = 6.11 cfs @ 12.01 hrs, Volume= 0.960 af, Atten= 0%, Lag= 0.0 min
Primary = 6.11 cfs @ 12.01 hrs, Volume= 0.960 af
Routed to Pond ST-3 : JELLYFISH

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.88' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.86'	**12.0" Round Culvert** L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 881.86' / 881.77' S= 0.0036 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	885.81'	**24.0" Vert. CATCH BASIN X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.06 cfs @ 12.01 hrs HW=887.87' TW=885.15' (Dynamic Tailwater)
↑**1=Culvert** (Passes 6.06 cfs of 6.23 cfs potential flow)
↑**2=CATCH BASIN** (Orifice Controls 6.06 cfs @ 1.93 fps)

Pond CB-2:



Summary for Pond CB1:

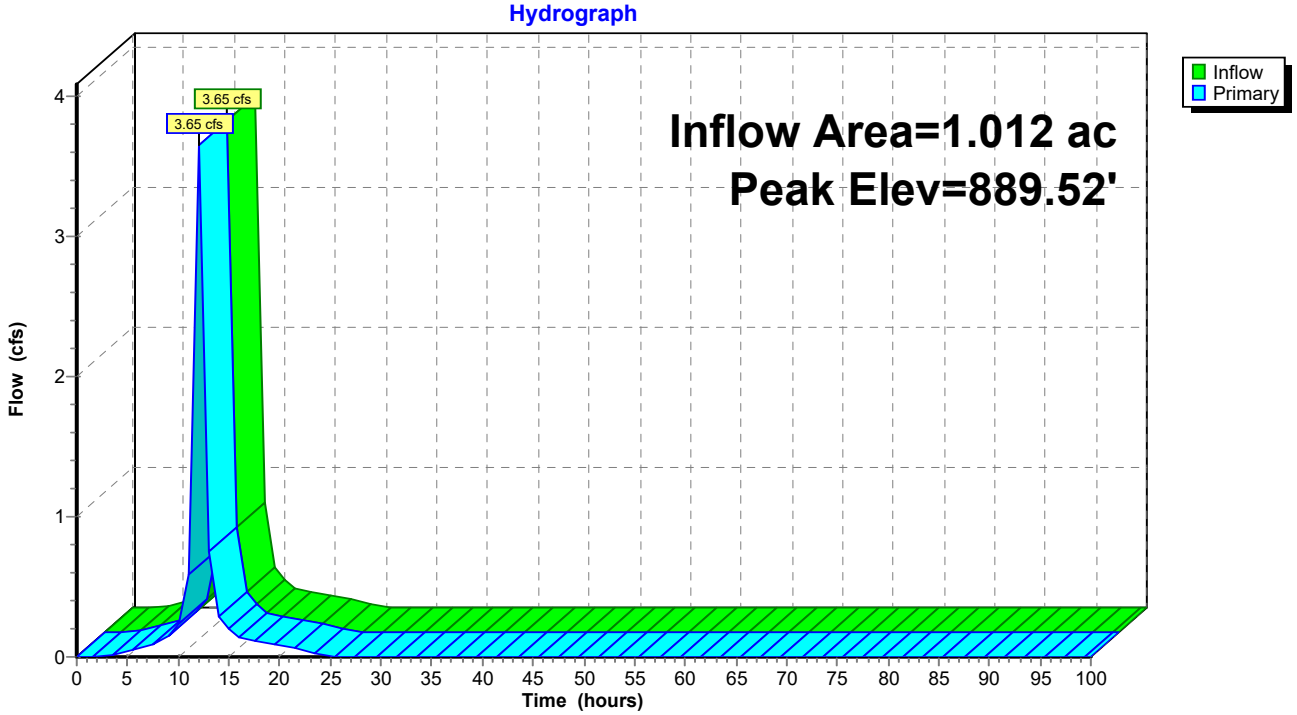
Inflow Area = 1.012 ac, 85.04% Impervious, Inflow Depth = 6.72" for 100-Year event
Inflow = 3.65 cfs @ 12.01 hrs, Volume= 0.567 af
Outflow = 3.65 cfs @ 12.01 hrs, Volume= 0.567 af, Atten= 0%, Lag= 0.0 min
Primary = 3.65 cfs @ 12.01 hrs, Volume= 0.567 af
Routed to Pond CB2P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 889.52' @ 12.02 hrs
Flood Elev= 888.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**15.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.53' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.60 cfs @ 12.01 hrs HW=889.51' TW=886.62' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.60 cfs of 6.74 cfs potential flow)
└─**2=Orifice/Grate** (Orifice Controls 3.60 cfs @ 1.63 fps)

Pond CB1:



Summary for Pond CB2:

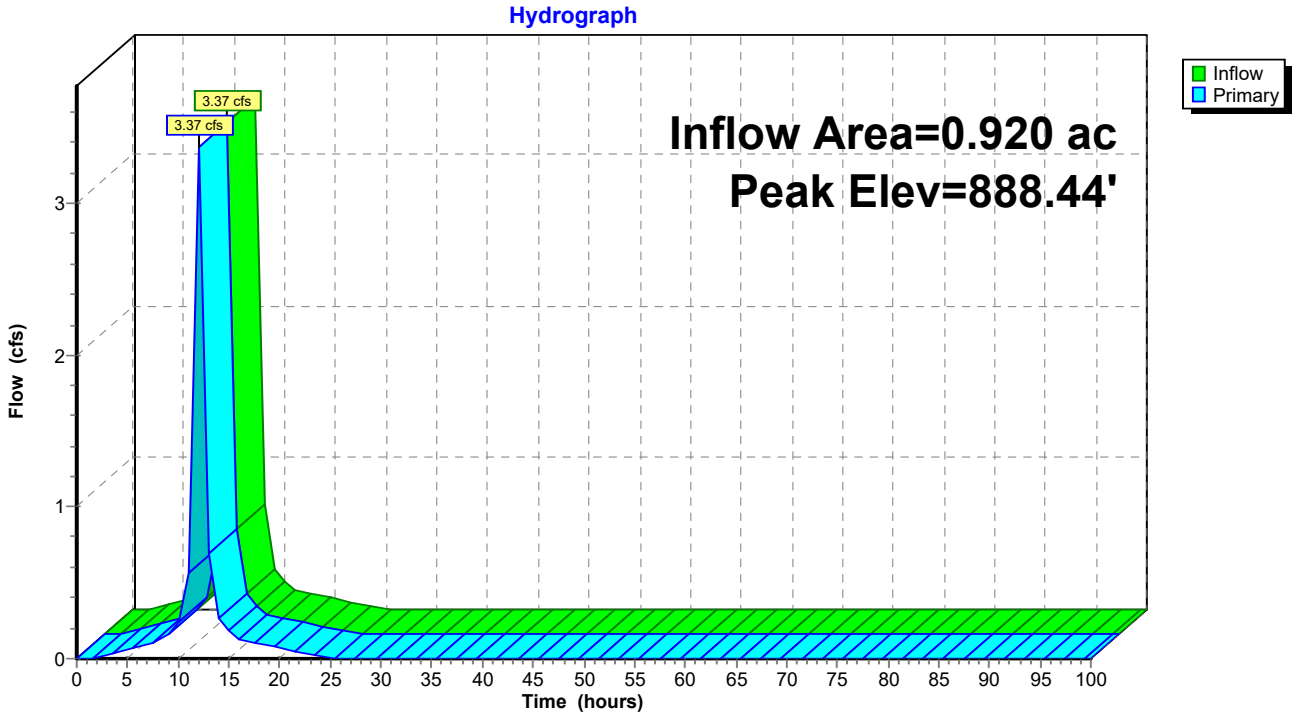
Inflow Area = 0.920 ac, 98.70% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 3.37 cfs @ 12.01 hrs, Volume= 0.543 af
Outflow = 3.37 cfs @ 12.01 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.0 min
Primary = 3.37 cfs @ 12.01 hrs, Volume= 0.543 af
Routed to Pond CB2P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.44' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.34 cfs @ 12.01 hrs HW=888.43' TW=886.62' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 3.34 cfs @ 1.59 fps)

Pond CB2:



Summary for Pond CB2P:

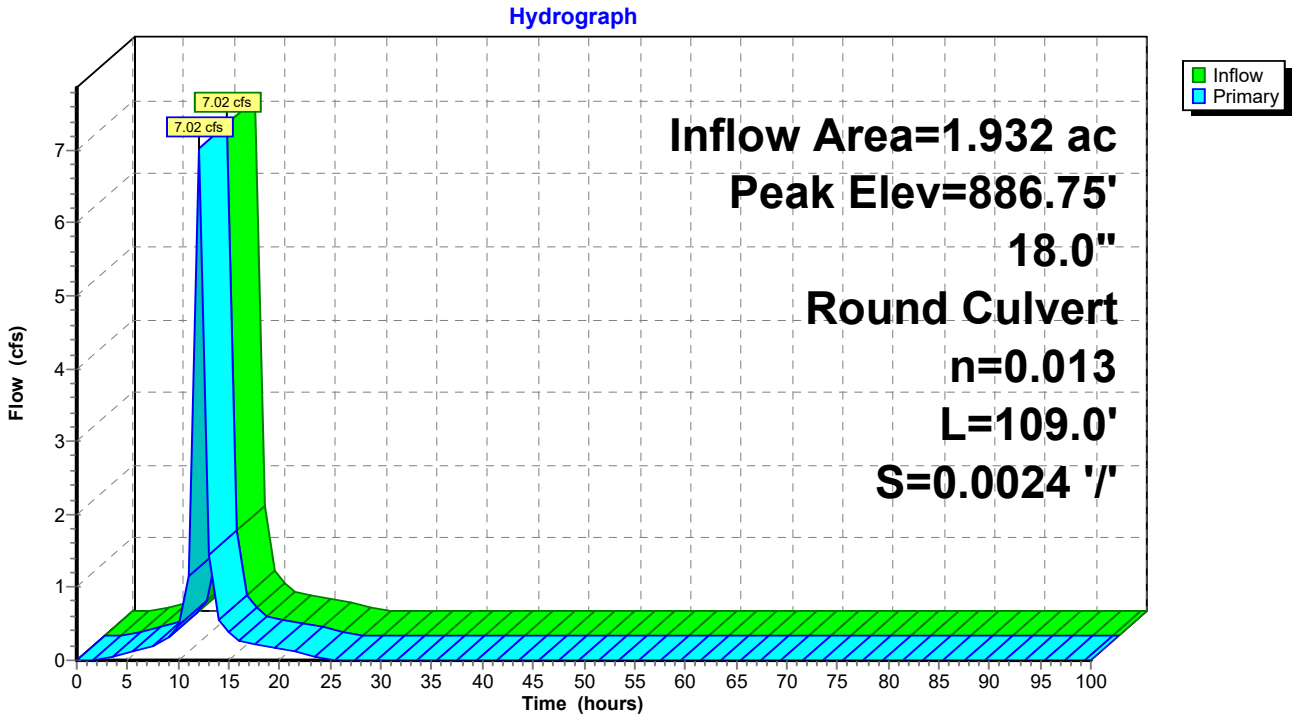
Inflow Area = 1.932 ac, 91.54% Impervious, Inflow Depth = 6.89" for 100-Year event
Inflow = 7.02 cfs @ 12.01 hrs, Volume= 1.110 af
Outflow = 7.02 cfs @ 12.01 hrs, Volume= 1.110 af, Atten= 0%, Lag= 0.0 min
Primary = 7.02 cfs @ 12.01 hrs, Volume= 1.110 af
Routed to Pond CB3P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.75' @ 12.38 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.53'	**18.0" Round Culvert** L= 109.0' Ke= 0.500 Inlet / Outlet Invert= 884.53' / 884.27' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=3.73 cfs @ 12.01 hrs HW=886.62' TW=886.38' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.73 cfs @ 2.11 fps)

Pond CB2P:



Summary for Pond CB3:

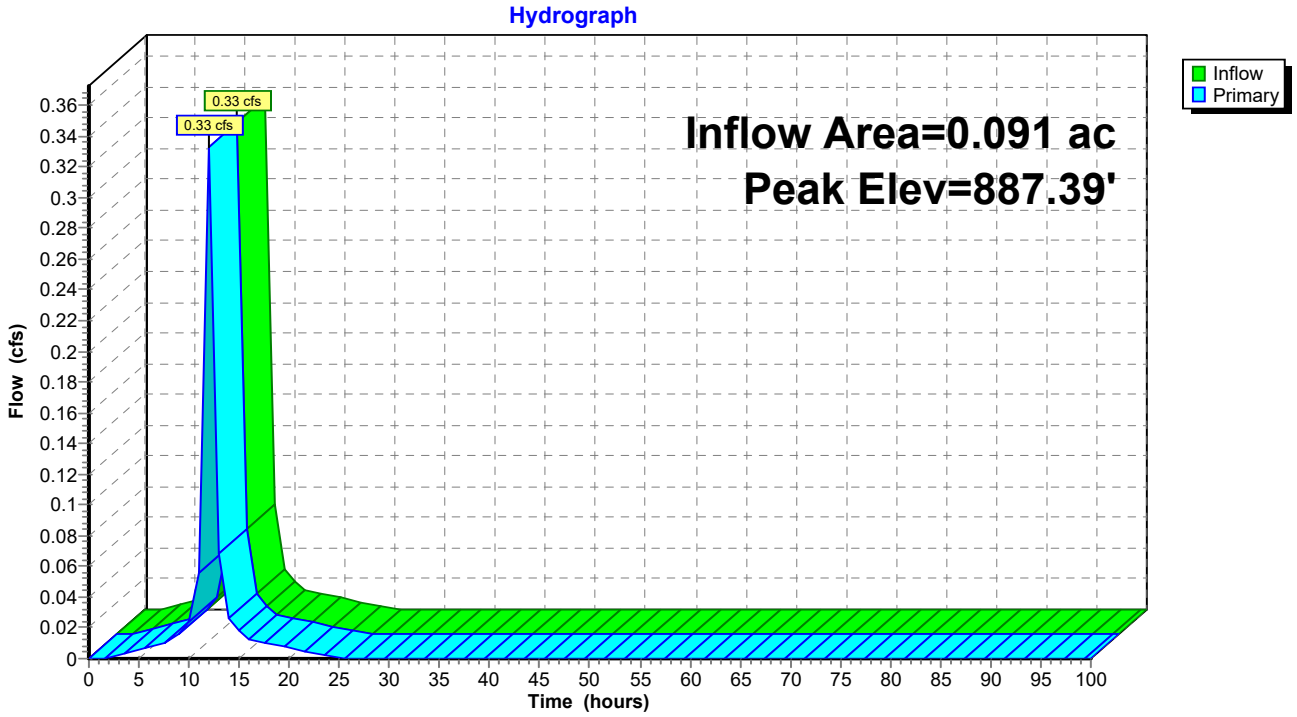
Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 0.33 cfs @ 12.01 hrs, Volume= 0.054 af
Outflow = 0.33 cfs @ 12.01 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 12.01 hrs, Volume= 0.054 af
Routed to Pond CB3P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.39' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.33 cfs @ 12.01 hrs HW=887.39' TW=886.38' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.33 cfs @ 0.83 fps)

Pond CB3:



Summary for Pond CB3P:

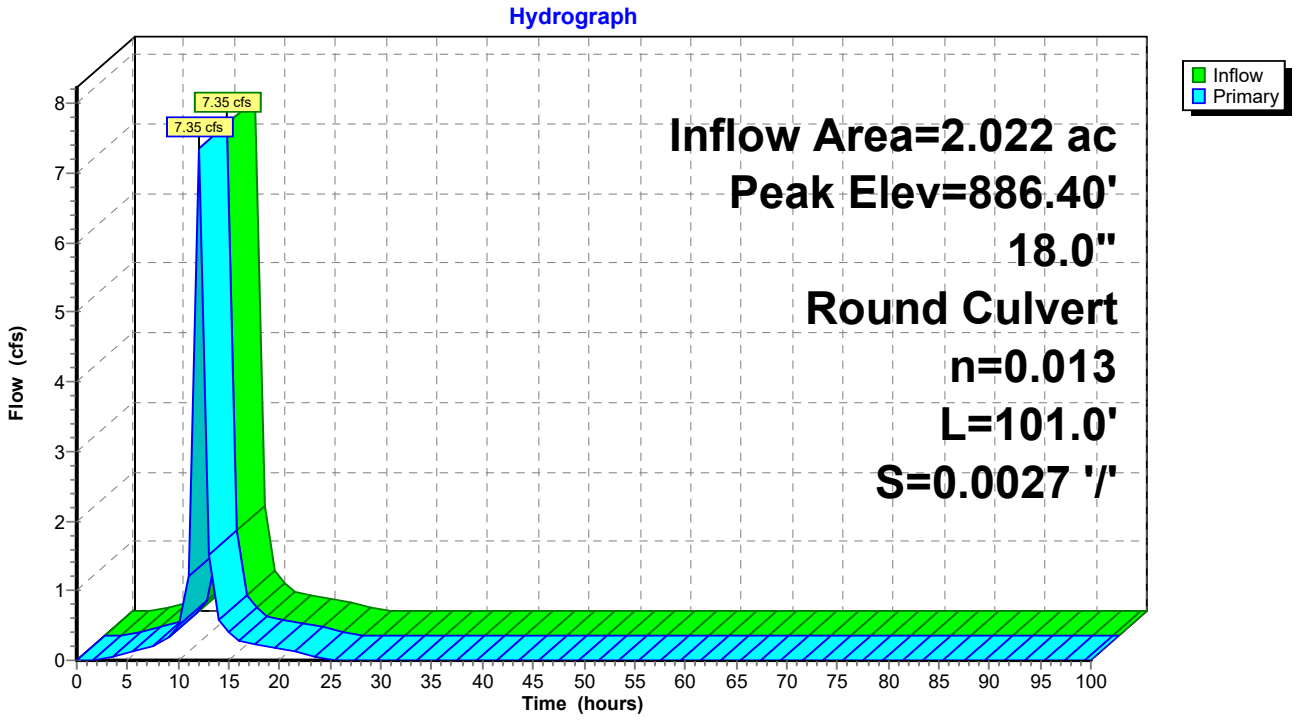
Inflow Area = 2.022 ac, 91.92% Impervious, Inflow Depth = 6.90" for 100-Year event
Inflow = 7.35 cfs @ 12.01 hrs, Volume= 1.163 af
Outflow = 7.35 cfs @ 12.01 hrs, Volume= 1.163 af, Atten= 0%, Lag= 0.0 min
Primary = 7.35 cfs @ 12.01 hrs, Volume= 1.163 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.40' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.27'	**18.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 884.27' / 884.00' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=7.28 cfs @ 12.01 hrs HW=886.38' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 7.28 cfs @ 4.12 fps)

Pond CB3P:



Summary for Pond CB4:

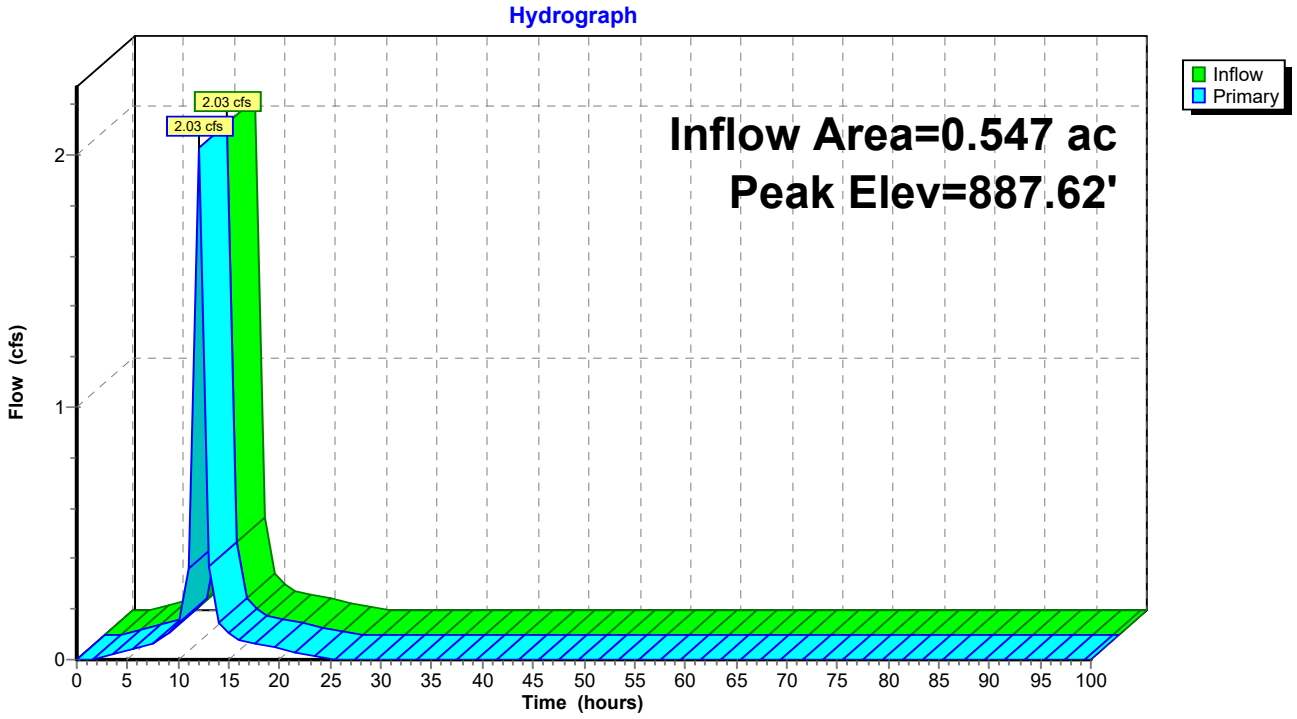
Inflow Area = 0.547 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 2.03 cfs @ 12.00 hrs, Volume= 0.323 af
Outflow = 2.03 cfs @ 12.00 hrs, Volume= 0.323 af, Atten= 0%, Lag= 0.0 min
Primary = 2.03 cfs @ 12.00 hrs, Volume= 0.323 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.62' @ 12.00 hrs
Flood Elev= 887.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	882.75'	**18.0" Round Culvert** L= 63.0' Ke= 0.500 Inlet / Outlet Invert= 882.75' / 800.67' S= 1.3029 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.03 cfs @ 12.00 hrs HW=887.62' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.03 cfs of 17.26 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 2.03 cfs @ 2.67 fps)

Pond CB4:



Summary for Pond CB5:

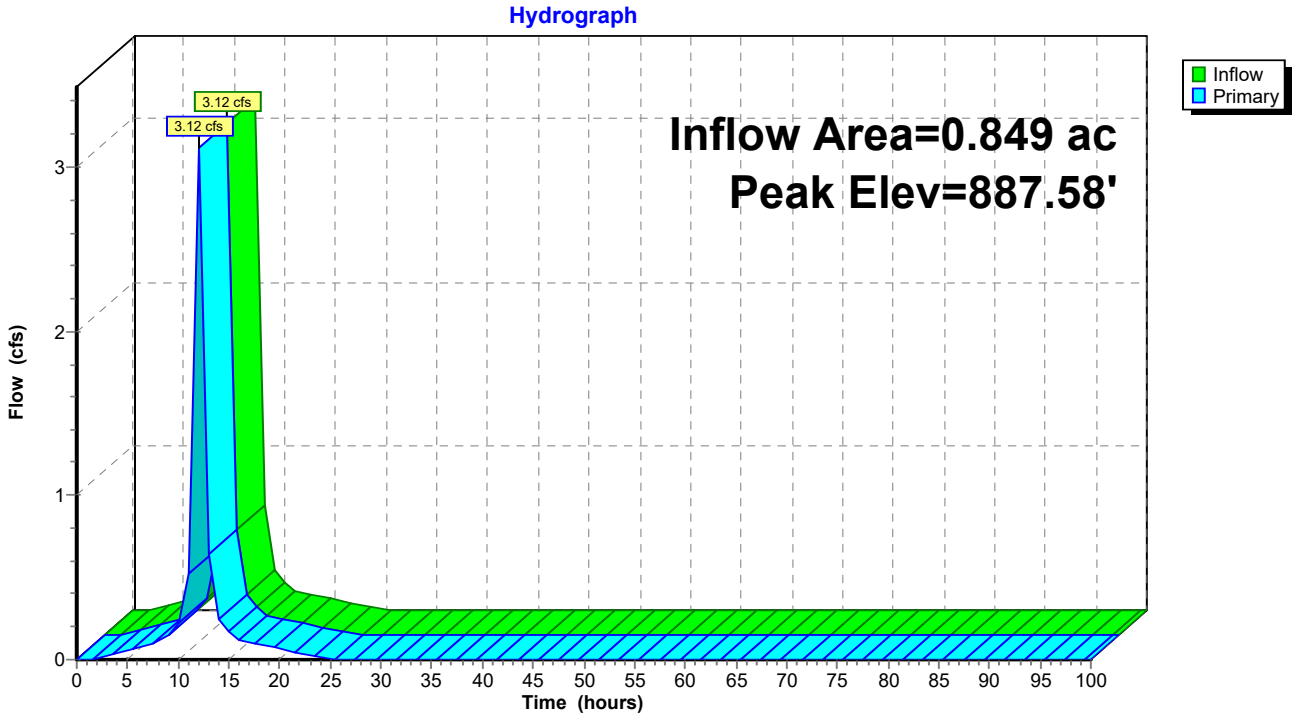
Inflow Area = 0.849 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 3.12 cfs @ 12.01 hrs, Volume= 0.501 af
Outflow = 3.12 cfs @ 12.01 hrs, Volume= 0.501 af, Atten= 0%, Lag= 0.0 min
Primary = 3.12 cfs @ 12.01 hrs, Volume= 0.501 af
Routed to Pond CB6P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.58' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 222.0' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 884.10' S= 0.0041 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	887.00'	**21.0" Horiz. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.08 cfs @ 12.01 hrs HW=887.58' TW=885.65' (Dynamic Tailwater)
↑**1=Culvert** (Passes 3.08 cfs of 8.34 cfs potential flow)
↑**2=Orifice/Grate** (Weir Controls 3.08 cfs @ 0.97 fps)

Pond CB5:



Summary for Pond CB6:

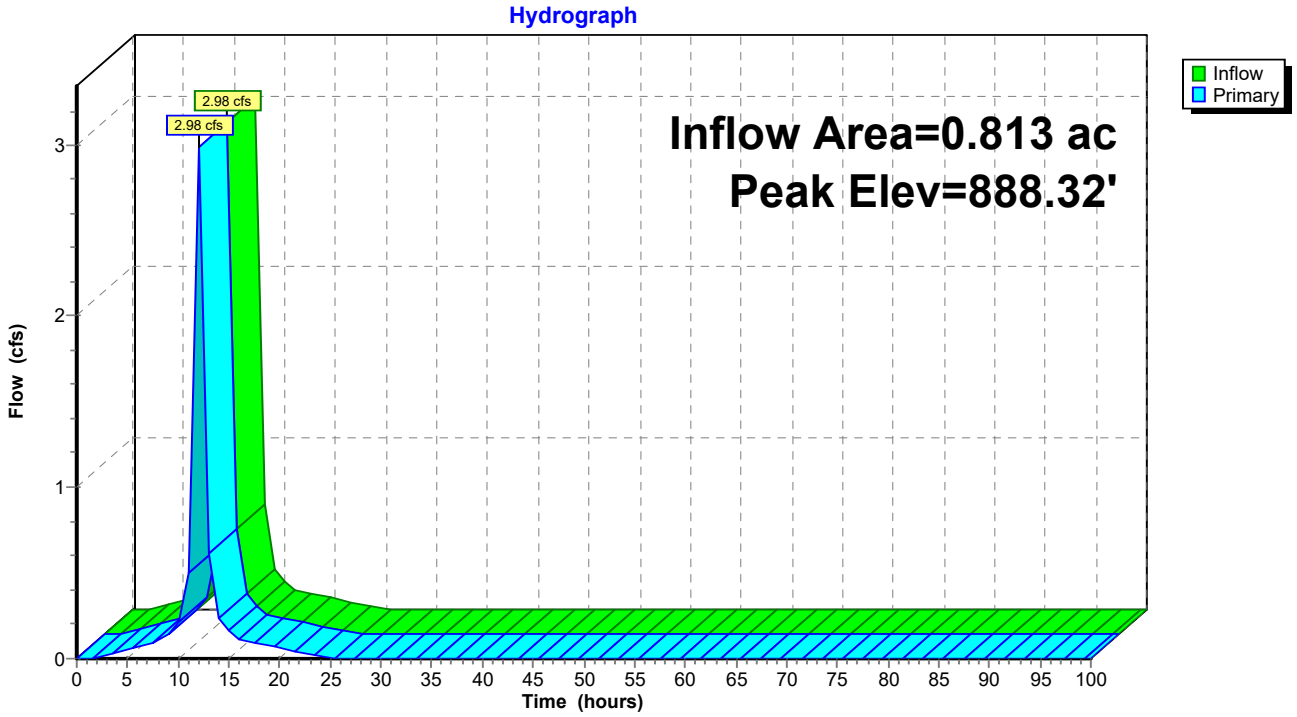
Inflow Area = 0.813 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 2.98 cfs @ 12.01 hrs, Volume= 0.480 af
Outflow = 2.98 cfs @ 12.01 hrs, Volume= 0.480 af, Atten= 0%, Lag= 0.0 min
Primary = 2.98 cfs @ 12.01 hrs, Volume= 0.480 af
Routed to Pond CB6P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.32' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.95 cfs @ 12.01 hrs HW=888.32' TW=885.65' (Dynamic Tailwater)
↑**1=Orifice/Grate** (Orifice Controls 2.95 cfs @ 1.52 fps)

Pond CB6:



Summary for Pond CB6P:

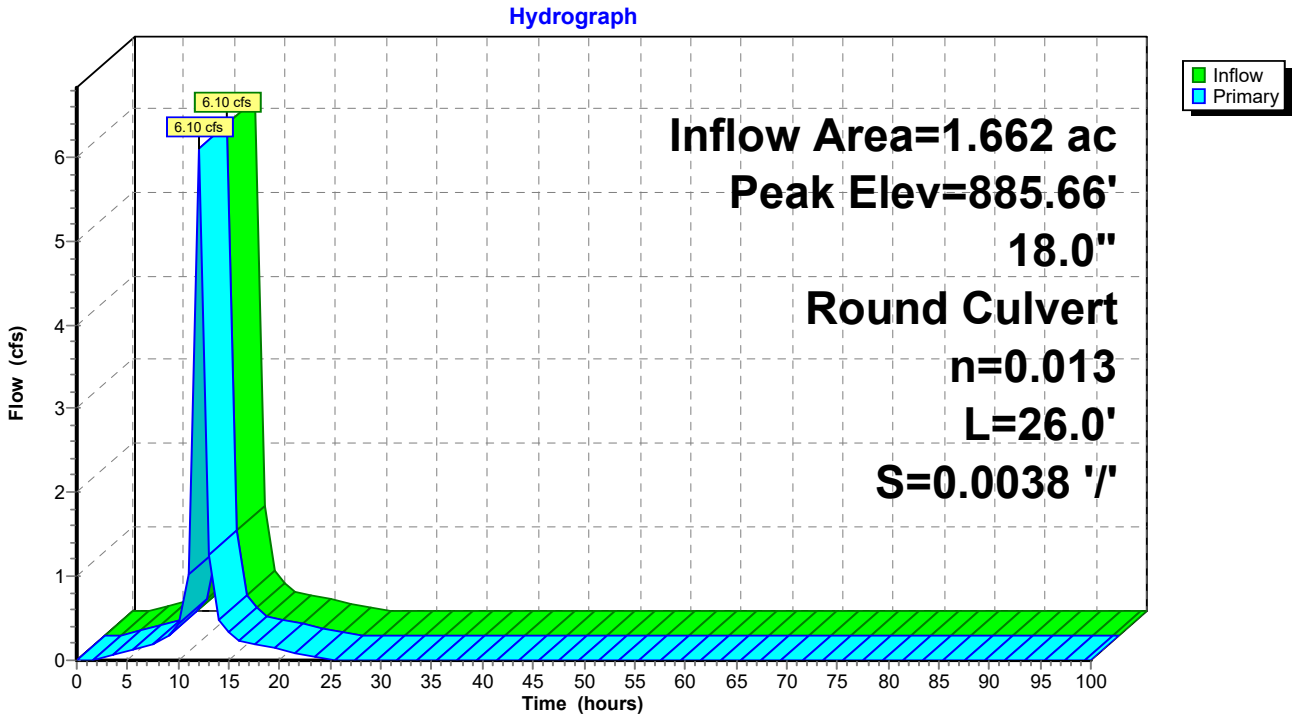
Inflow Area = 1.662 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 6.10 cfs @ 12.01 hrs, Volume= 0.981 af
Outflow = 6.10 cfs @ 12.01 hrs, Volume= 0.981 af, Atten= 0%, Lag= 0.0 min
Primary = 6.10 cfs @ 12.01 hrs, Volume= 0.981 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.66' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	884.10'	**18.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 884.10' / 884.00' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=6.04 cfs @ 12.01 hrs HW=885.65' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 6.04 cfs @ 4.10 fps)

Pond CB6P:



Summary for Pond CB7:

Inflow Area = 1.839 ac, 94.66% Impervious, Inflow Depth = 6.96" for 100-Year event
Inflow = 6.72 cfs @ 12.01 hrs, Volume= 1.067 af
Outflow = 6.72 cfs @ 12.01 hrs, Volume= 1.067 af, Atten= 0%, Lag= 0.0 min
Primary = 6.72 cfs @ 12.01 hrs, Volume= 1.067 af
Routed to Pond CB8P :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

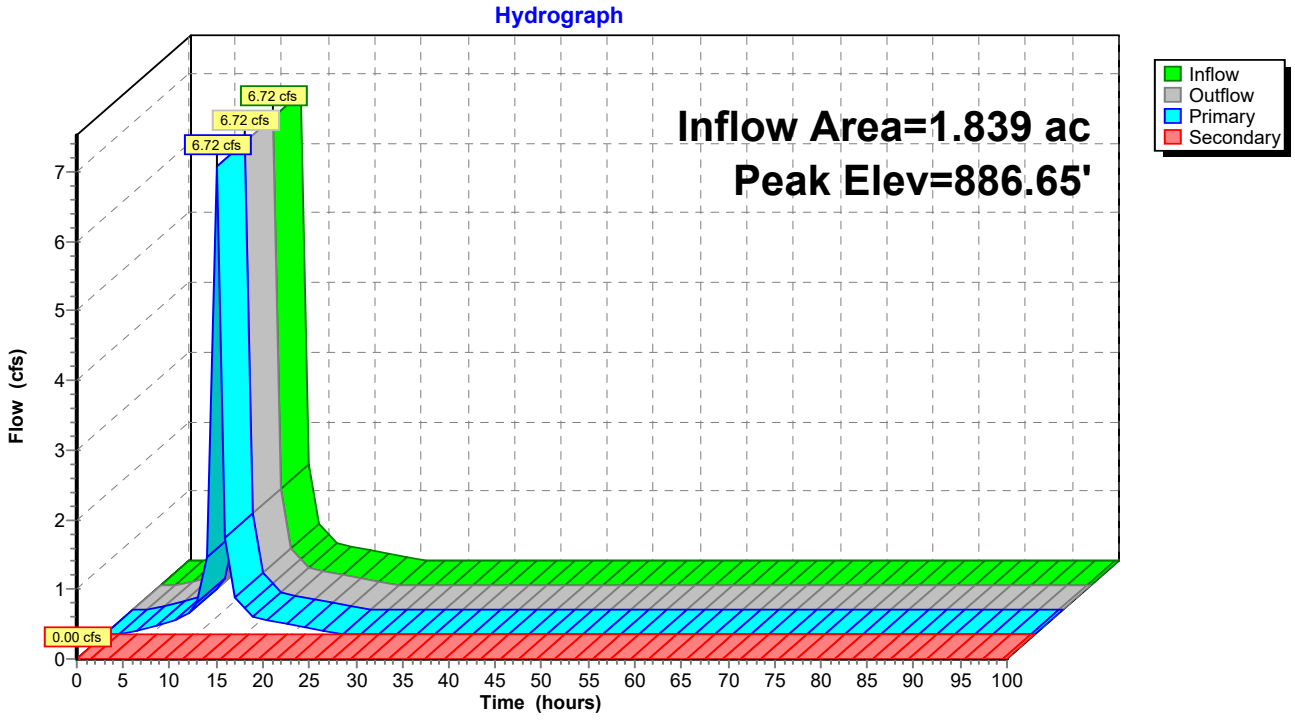
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.65' @ 12.63 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	885.00'	**18.0" Round Culvert** L= 201.4' Ke= 0.500 Inlet / Outlet Invert= 885.00' / 883.56' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Secondary	888.00'	**21.0" Vert. Orifice/Grate X 0.39** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 12.01 hrs HW=886.40' TW=886.49' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=885.00' (Free Discharge)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond CB7:



Summary for Pond CB8:

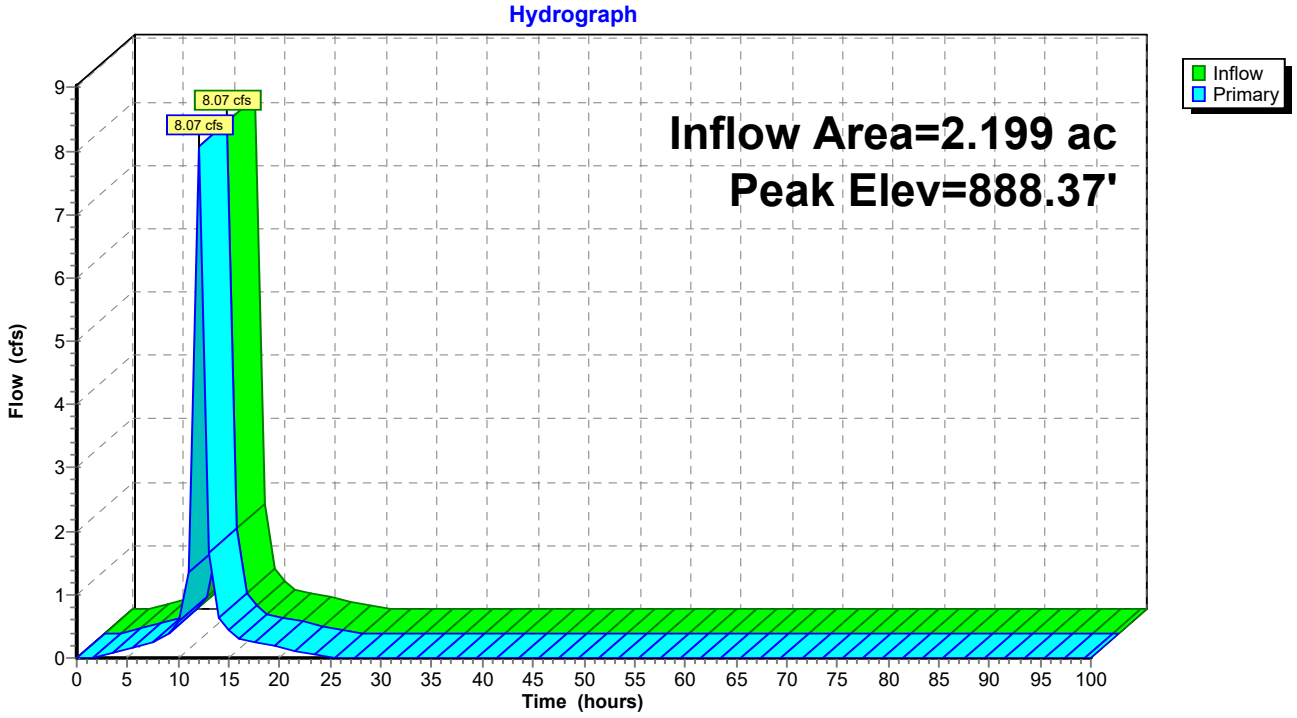
Inflow Area = 2.199 ac,100.00% Impervious, Inflow Depth = 7.08" for 100-Year event
Inflow = 8.07 cfs @ 12.01 hrs, Volume= 1.297 af
Outflow = 8.07 cfs @ 12.01 hrs, Volume= 1.297 af, Atten= 0%, Lag= 0.0 min
Primary = 8.07 cfs @ 12.01 hrs, Volume= 1.297 af
Routed to Pond CB8P :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 888.37' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	887.00'	**21.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.99 cfs @ 12.01 hrs HW=888.36' TW=886.49' (Dynamic Tailwater)
↳**1=Orifice/Grate** (Orifice Controls 7.99 cfs @ 3.97 fps)

Pond CB8:



Summary for Pond CB8P:

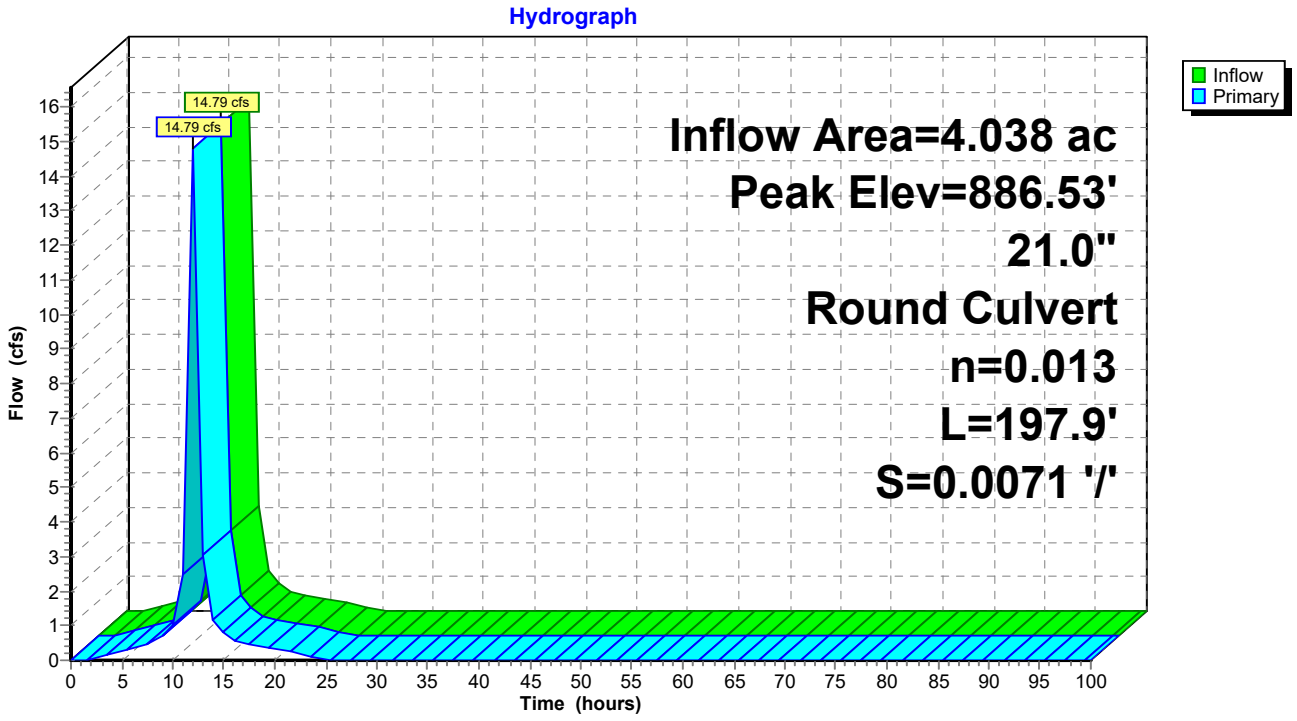
Inflow Area = 4.038 ac, 97.57% Impervious, Inflow Depth = 7.03" for 100-Year event
Inflow = 14.79 cfs @ 12.01 hrs, Volume= 2.364 af
Outflow = 14.79 cfs @ 12.01 hrs, Volume= 2.364 af, Atten= 0%, Lag= 0.0 min
Primary = 14.79 cfs @ 12.01 hrs, Volume= 2.364 af
Routed to Pond ST-4 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 886.53' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	883.56'	**21.0" Round Culvert** L= 197.9' Ke= 0.500 Inlet / Outlet Invert= 883.56' / 882.15' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 2.41 sf

Primary OutFlow Max=12.10 cfs @ 12.01 hrs HW=886.49' TW=884.75' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.10 cfs @ 5.03 fps)

Pond CB8P:

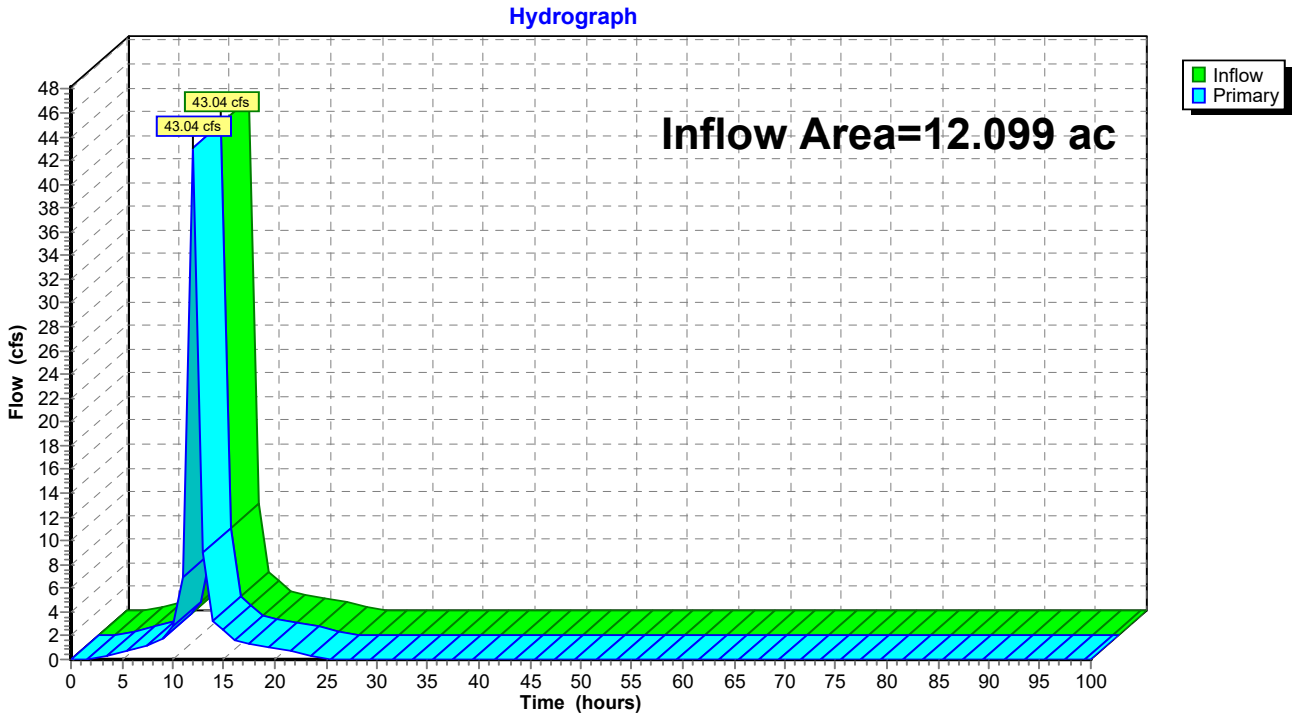


Summary for Pond POA:

Inflow Area = 12.099 ac, 82.80% Impervious, Inflow Depth = 6.71" for 100-Year event
Inflow = 43.04 cfs @ 12.01 hrs, Volume= 6.770 af
Primary = 43.04 cfs @ 12.01 hrs, Volume= 6.770 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs

Pond POA:



Summary for Pond ST-2:

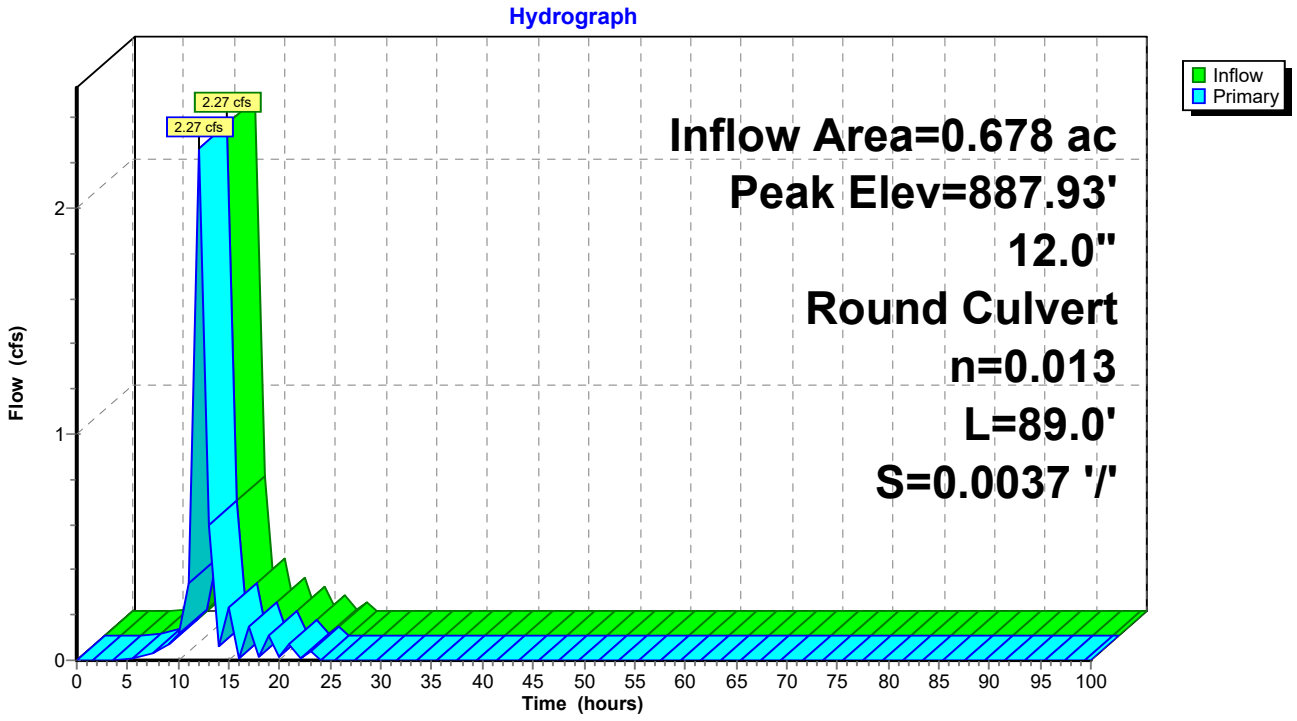
Inflow Area = 0.678 ac, 53.71% Impervious, Inflow Depth = 6.15" for 100-Year event
Inflow = 2.27 cfs @ 12.04 hrs, Volume= 0.347 af
Outflow = 2.27 cfs @ 12.04 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min
Primary = 2.27 cfs @ 12.04 hrs, Volume= 0.347 af
Routed to Pond CB-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 887.93' @ 12.90 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	882.19'	**12.0" Round Culvert** L= 89.0' Ke= 0.500 Inlet / Outlet Invert= 882.19' / 881.86' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.04 hrs HW=887.08' TW=887.84' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Pond ST-2:



Summary for Pond ST-3: JELLYFISH

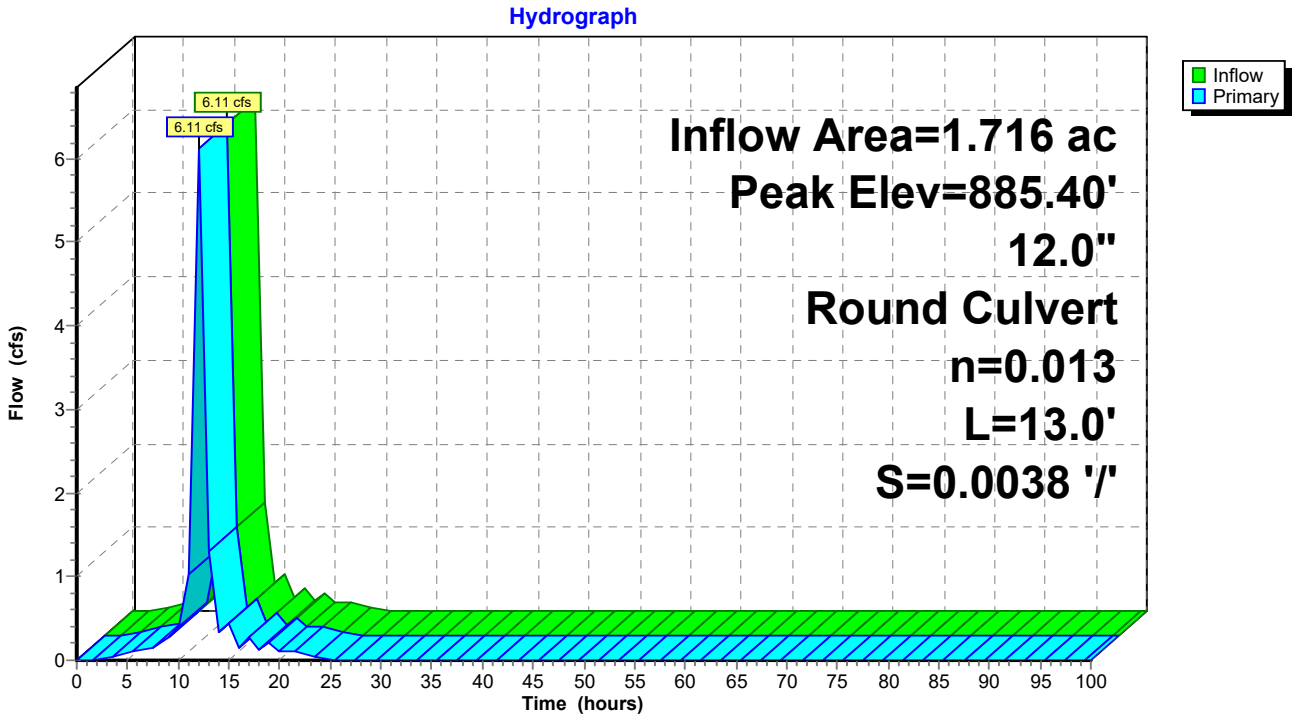
Inflow Area = 1.716 ac, 81.72% Impervious, Inflow Depth = 6.71" for 100-Year event
Inflow = 6.11 cfs @ 12.01 hrs, Volume= 0.960 af
Outflow = 6.11 cfs @ 12.01 hrs, Volume= 0.960 af, Atten= 0%, Lag= 0.0 min
Primary = 6.11 cfs @ 12.01 hrs, Volume= 0.960 af
Routed to Pond ST-4 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 885.40' @ 12.41 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.77'	**12.0" Round Culvert** L= 13.0' Ke= 0.500 Inlet / Outlet Invert= 881.77' / 881.72' S= 0.0038 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.41 cfs @ 12.01 hrs HW=885.15' TW=884.74' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.41 cfs @ 3.07 fps)

Pond ST-3: JELLYFISH



Summary for Pond ST-4:

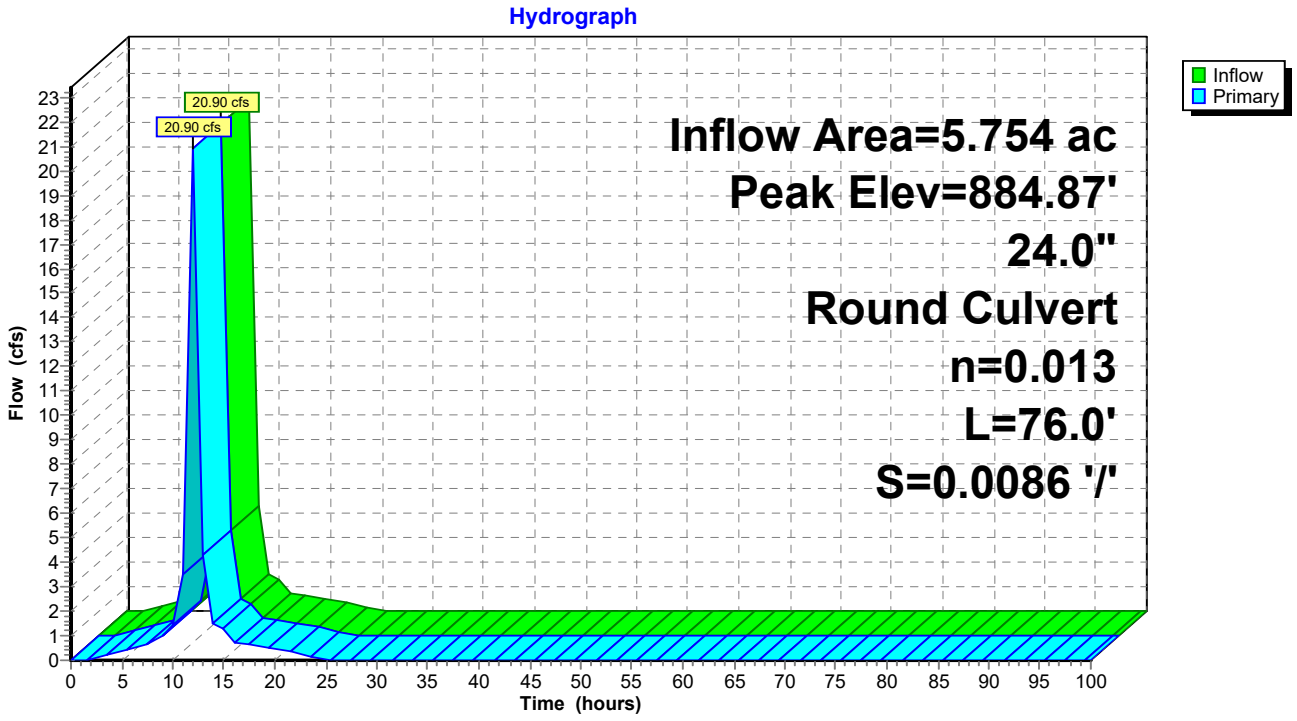
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 6.93" for 100-Year event
Inflow = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af
Outflow = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af, Atten= 0%, Lag= 0.0 min
Primary = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af
Routed to Pond ST-5 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 884.87' @ 12.29 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.72'	**24.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 881.72' / 881.07' S= 0.0086 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.25 cfs @ 12.01 hrs HW=884.74' TW=884.09' (Dynamic Tailwater)
1=Culvert (Inlet Controls 12.25 cfs @ 3.90 fps)

Pond ST-4:



Summary for Pond ST-5:

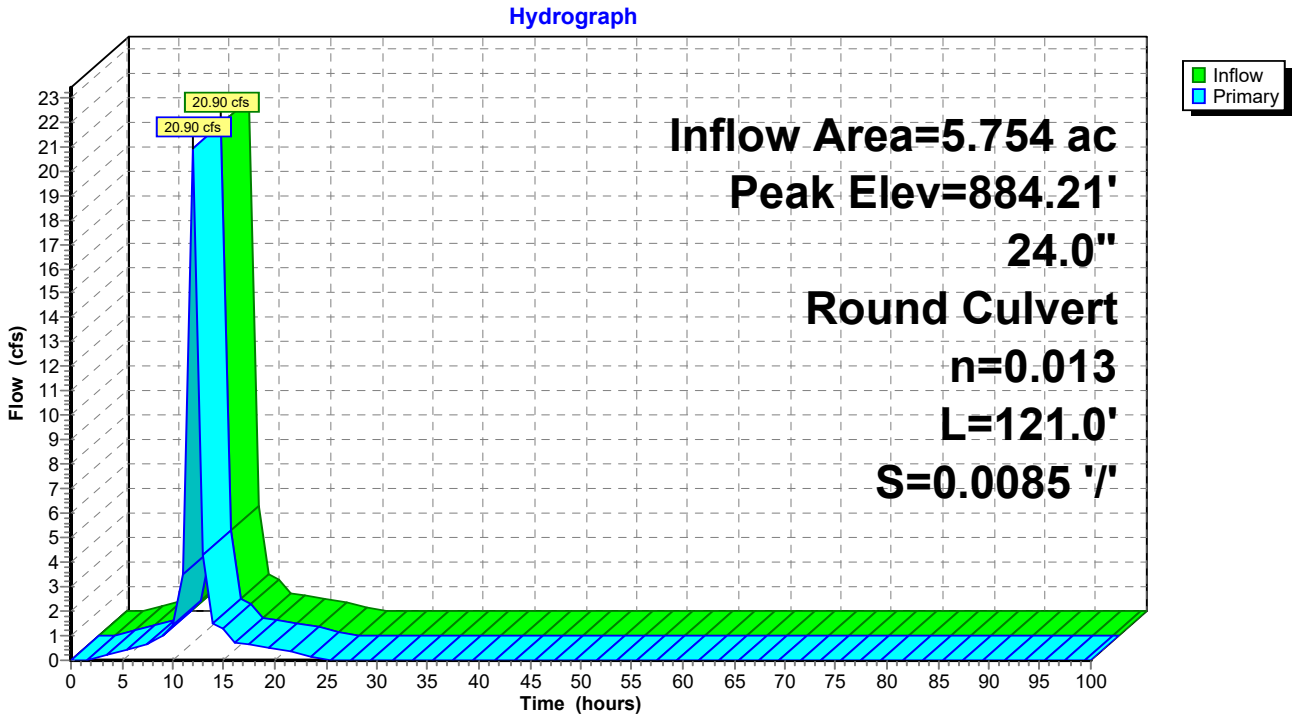
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 6.93" for 100-Year event
Inflow = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af
Outflow = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af, Atten= 0%, Lag= 0.0 min
Primary = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af
Routed to Pond ST-6 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 884.21' @ 12.27 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	881.06'	**24.0" Round Culvert** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 881.06' / 880.03' S= 0.0085 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.69 cfs @ 12.01 hrs HW=884.09' TW=883.33' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.69 cfs @ 4.04 fps)

Pond ST-5:



Summary for Pond ST-6:

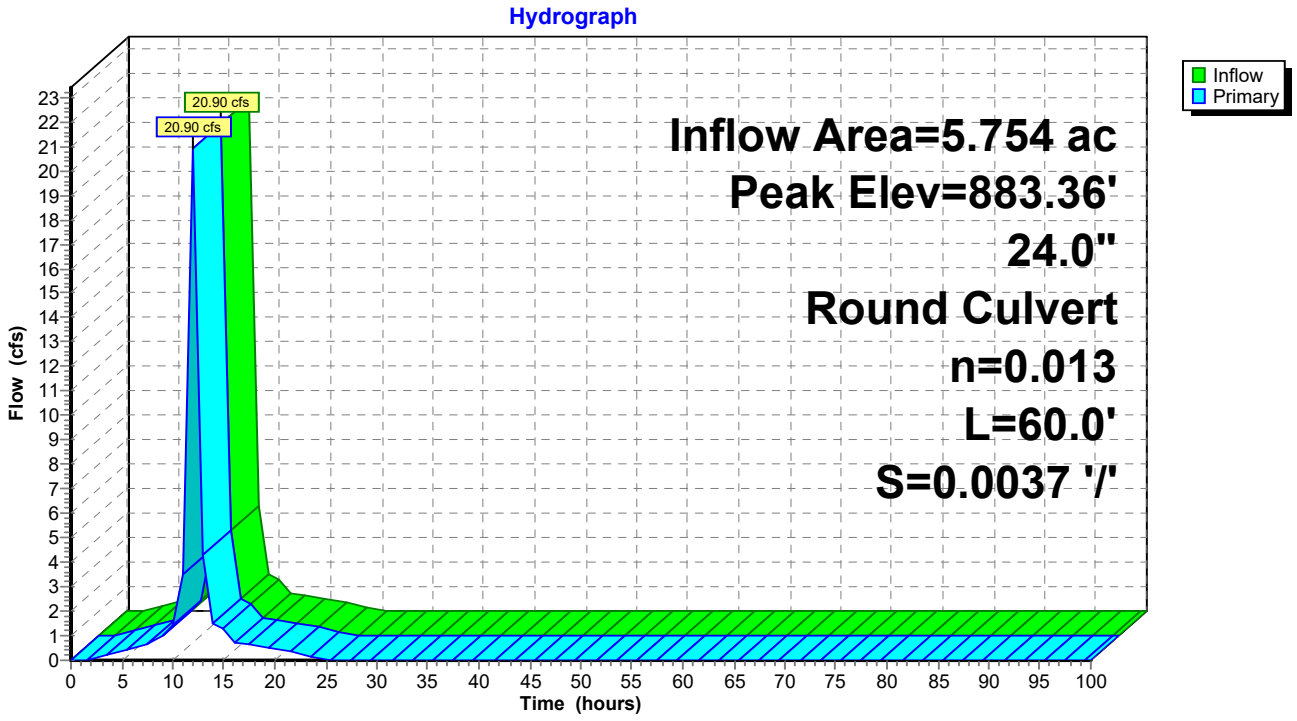
Inflow Area = 5.754 ac, 92.84% Impervious, Inflow Depth = 6.93" for 100-Year event
Inflow = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af
Outflow = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af, Atten= 0%, Lag= 0.0 min
Primary = 20.90 cfs @ 12.01 hrs, Volume= 3.324 af
Routed to Pond POA :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 1.00 hrs
Peak Elev= 883.36' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	880.03'	**24.0" Round Culvert** L= 60.0' Ke= 0.500 Inlet / Outlet Invert= 880.03' / 879.81' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=20.72 cfs @ 12.01 hrs HW=883.33' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 20.72 cfs @ 6.59 fps)

Pond ST-6:



Project Information

Calculator Version:	Version 4: July 2020
Project Name:	Les Schwab
User Name / Company Name:	KLJ
Date:	12-11-23
Project Description:	les Schwab
Construction Permit?:	No

Site Information

Retention Requirement (inches):	1.1
Site's Zip Code:	55354
Annual Rainfall (inches):	28.9
Phosphorus EMC (mg/l):	0.3
TSS EMC (mg/l):	54.5

Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed				0.313	0.313
				Impervious Area (acres)	1.402
				Total Area (acres)	1.715

Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed				0.313	0.313
				Impervious Area (acres)	1.402
				Total Area (acres)	1.715

Summary Information

Performance Goal Requirement

Performance goal volume retention requirement:	5598	ft3
Volume removed by BMPs towards performance goal:	1453	ft^3
Percent volume removed towards performance goal	**26**	**%**

Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	3.0565	acre-ft
Annual runoff volume removed by BMPs:	0.9175	acre-ft
Percent annual runoff volume removed:	**30**	**%**
Post development annual particulate P load:	1.3718	lbs
Annual particulate P removed by BMPs:	1.132	lbs
Post development annual dissolved P load:	1.122	lbs
Annual dissolved P removed by BMPs:	0.926	lbs
Total P removed by BMPs	2.058	lbs
Percent annual total phosphorus removed:	**83**	**%**
Post development annual TSS load:	453.1	lbs
Annual TSS removed by BMPs:	405.5	lbs
Percent annual TSS removed:	**90**	**%**

BMP Summary

Performance Goal Summary

BMP Name	BMP Volume Capacity (ft3)	Volume Recieved (ft3)	Volume Retained (ft3)	Volume Outflow (ft3)	Percent Retained (%)
1 - Tree trench system/Box (w/o underdrai	5213	1453	1453	0	100
1 - Other (User Defined Reductions)	0	4145	0	4145	0

Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
1 - Tree trench system/Box (w/o underdrai	0.9191	0	0.9174	0.0017000000	100
1 - Other (User Defined Reductions)	2.1374	0.0017	0	2.1391	0

Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Tree trench system/Box (w/o underdrai	0.4125	0	0.4118	0.0007	100
1 - Other (User Defined Reductions)	0.9593	0.0007	0.72	0.24	75

Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Tree trench system/Box (w/o underdrai	0.3375	0	0.3369	0.0006	100
1 - Other (User Defined Reductions)	0.7848	0.0006	0.5891	0.1963	75

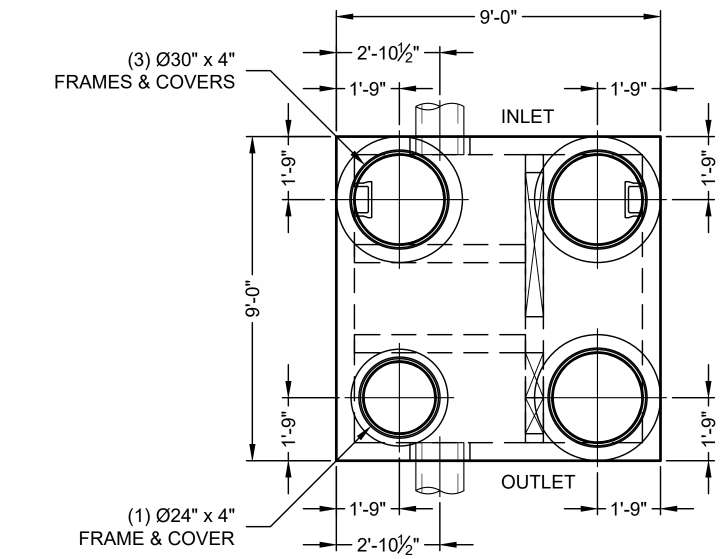
Total Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Tree trench system/Box (w/o underdrai	0.75	0	0.7487	0.0013	100
1 - Other (User Defined Reductions)	1.7441	0.0013	1.3091	0.4363	75

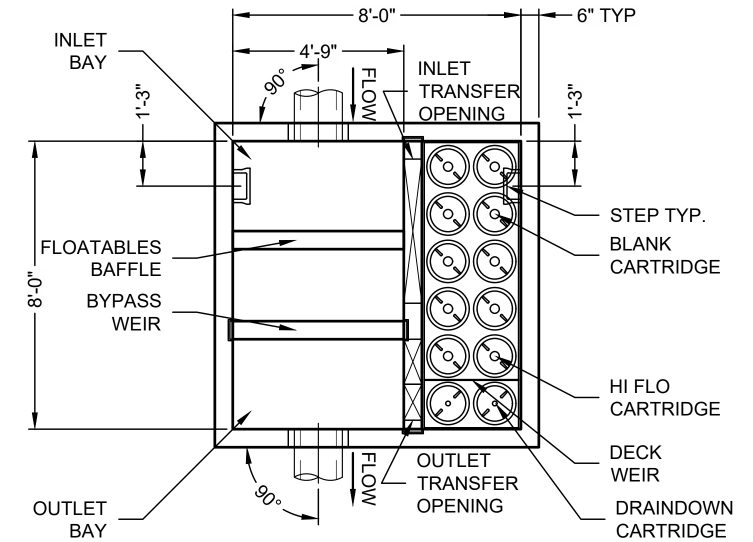
TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Tree trench system/Box (w/o underdrai	136.25	0	136	0.25	100
1 - Other (User Defined Reductions)	316.84	0.25	269.53	47.56	85

BMP Schematic



PLAN VIEW



PLAN VIEW

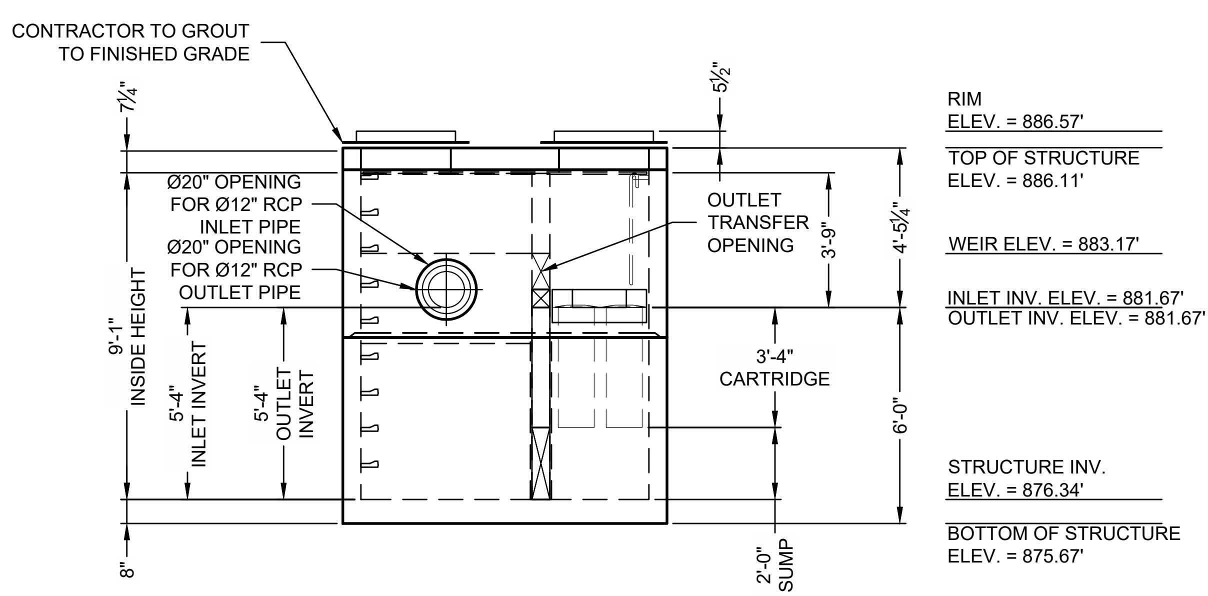
(TOP SLAB NOT SHOWN FOR CLARITY)

MATERIAL LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
10	54" HI-FLO CARTRIDGE (70 mm ORIFICE)	CONTECH
2	54" DRAINDOWN CARTRIDGE (35 mm ORIFICE)	CONTECH
1	JELLYFISH VAULT 12-CARTRIDGE DECK, STANDARD	CONTECH
1	JOINT SEALANT (BY PRECASTER)	CONTRACTOR
3	Ø30" X 4" FRAME & COVER, EJ #41600483	CONTRACTOR
1	Ø24" X 4" FRAME & COVER, EJ #41600389	CONTRACTOR
12	STEPS	CONTECH
1	STEP, LANE P-14850 (FOR LADDER ATTACHMENT)	CONTECH
1	REMOVABLE, LANE 3-STEP POLY LADDER	CONTECH

SITE DESIGN DATA

WATER QUALITY FLOW RATE	2.13 CFS
PEAK FLOW RATE	4.35 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS



ELEVATION VIEW

GENERAL NOTES:

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. WWW.ContechES.COM
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20, ASSUMING EARTH COVER OF 0' - 0', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. WHEN ACTIVATED PRIOR TO SITE STABILIZATION, CONTRACTOR TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ACCORDING TO THE PROVISIONS IN THE ACTIVATION CHECKLIST AND THE QUOTED SCOPE OF WORK. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (800) 338-1122.

STRUCTURE WEIGHT

APPROXIMATE HEAVIEST PICK OF (3) PIECES = 23,500 LBS.

CONTECH
PROPOSAL
DRAWING

WIES-MR
5883 / 454041
LAYOUT 7
CLASS 600

I:\MERLIN\PROJECT\ACTIVE\785000\785031\785031-10-JELLYFISH\DRAWINGS\785031-10 JFPD0808-CONFAB.DWG 1/5/2024 2:43 PM

MARK	DATE	REVISION DESCRIPTION	BY

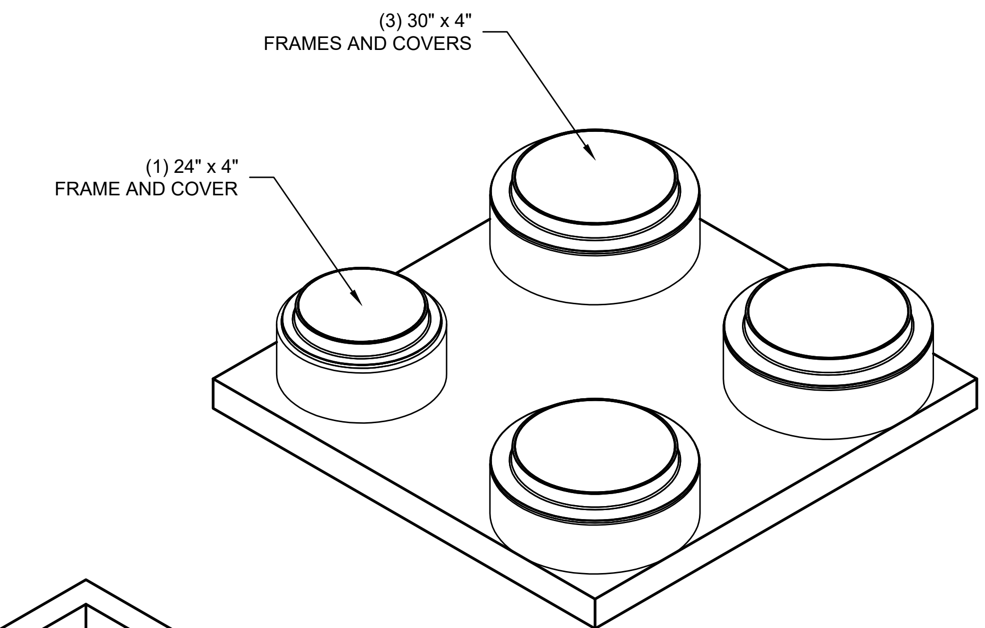
8' X 8' JELLYFISH - 785031-010
NORTHERN HYDRAULICS TIRE CENTER
MINNETONKA, MN
SITE DESIGNATION: ST-3

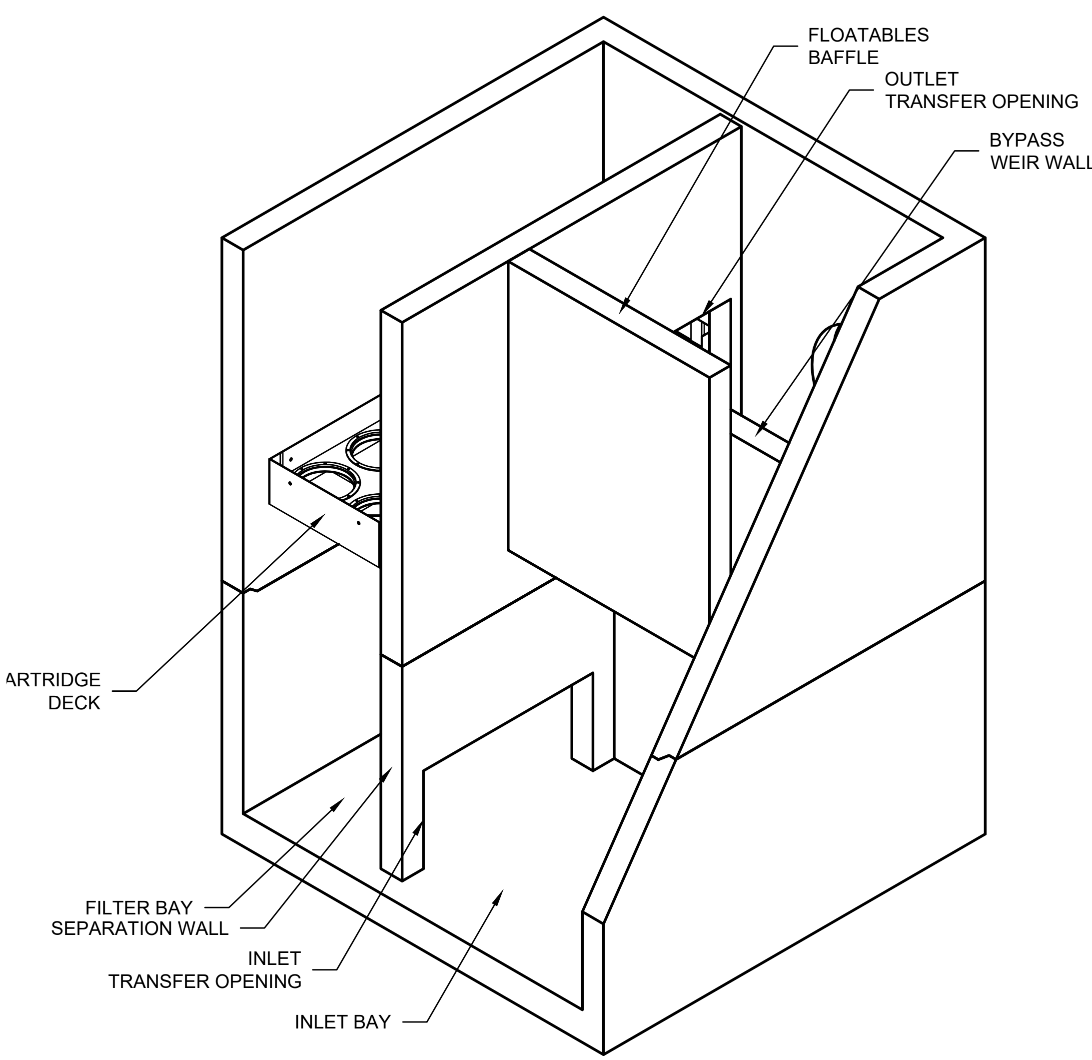
CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

Jellyfish® Filter

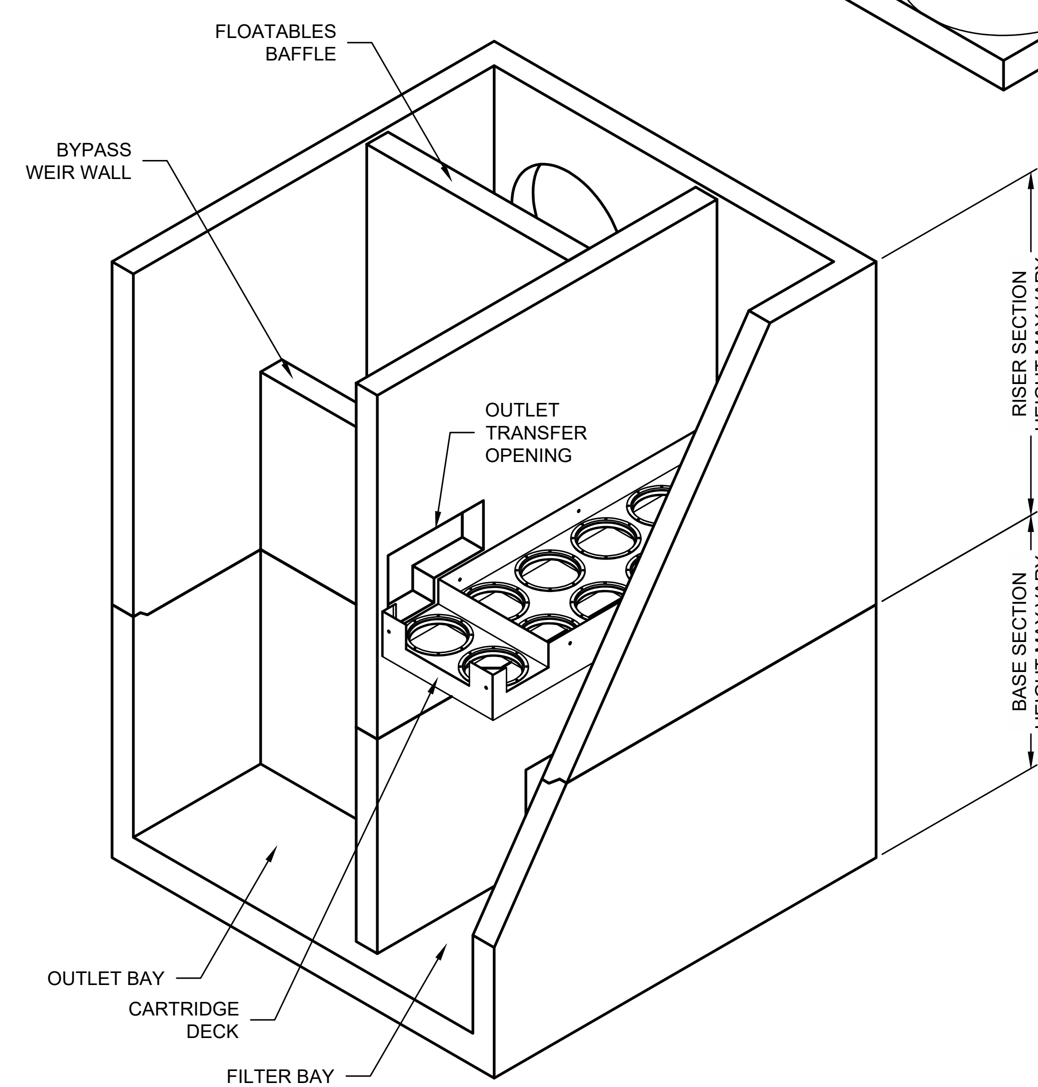
DATE: 1/5/2024	
DESIGNED: WPC	DRAWN: MAA
CHECKED: WPC	APPROVED: WPC
PROJECT No.: 785031	SEQUENCE No.: 010
SHEET: 1 OF 2	

ISOMETRIC VIEWS ARE REPRESENTATIONAL. SEE DETAILED FABRICATION DRAWING FOR SITE SPECIFIC DIMENSIONS





NW ISOMETRIC VIEW



SE ISOMETRIC VIEW

CONTECH
CONTRACT
DRAWING

MARK	DATE	REVISION DESCRIPTION	BY

8' X 8' JELLYFISH - 785031-010
NORTHERN HYDRAULICS TIRE CENTER
MINNETONKA, MN
SITE DESIGNATION: ST-3

CONTECH®
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

Jellyfish® Filter

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

DATE: 1/5/2024	
DESIGNED: WPC	DRAWN: MAA
CHECKED: WPC	APPROVED: WPC
PROJECT No.: 785031	SEQUENCE No.: 010
SHEET: 2 OF 2	

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