Texas Land Engineers, Inc.

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Drainage Summary

To:	Taco Bell – Pagosa Springs, CO.	**From:**	John D. Gerdes
Date:	June 29, 2020		
Re:	Taco Bell – Pagosa Springs Drainage Report	**File:**	712-01-25 / 3.0

Taco Bell – Pagosa Springs, CO., U.S. Hwy 160 & Aspen Village Drive

Introduction

The tract of land in reference that is being developed consists of 0.70 acres. The property is located within the Town of Pagosa Springs, Colorado and Archuleta County. The tract is located at the South-East Corner of U.S. Hwy 160 and Aspen Village Drive. **(Ref. Exhibit 1)**

This tract is apart of the overall development of Aspen Village. A Drainage Study was prepared for this development by Russell Engineering, Inc., stamped June 2004 and later revised September 2004. According to the study, this site falls within R-7 of the "Planned Unit Development". Detention is provided for this site as long as the flows can be directed to the detention facility. Due to elevations and existing roadway conditions, this development will not be able to take full advantage of the existing detention facilities. Therefore, detention will be provided on-site and the grading of the site is designed in such a manner to allow the future developments to direct their flows to those detention facilities.

For this development, detention is provided on-site and releases to the Public R-O-W at a rate less or at existing rates. Per the Drainage Report prepared by Texas Land Engineers, Inc., hydrographs were generated for the site using the HydroCAD software, a NRCS (SCS) Method. This program allows for high level of accuracy and complex release structures.

The Proposed Development will be raised in elevation to match the proposed contours outlined in the Drainage Report so that Future Developments can take advantage of the Regional Detention Facility.

Along with the proposed Detention Pond, detention will be provided in the storm pipes and within the depressed areas throughout the site. No detention will be provided within the paved areas.

Design Approach (Aspen Village Drive – P.O.E. #1)

This project will be built in one phase. The proposed site will capture 1.85 cfs (DA 1-4 + OS-4a) during the 100-YR event and direct it to the On-Site Detention Pond (DP1).

Approximately 0.11 AC of the proposed site drainage will be directed directly to Aspen Village Drive via existing curb & gutter. This consists of 0.39 cfs (DA 10-14 + OS-1).

All drainage flows through the existing gutters to P.O.E. #1. The Existing Flow at P.O.E. #1 for the 100-YR Events is 1.06 cfs. The Developed Flow (DP1 + DA 10-14 + OS-1) at P.O.E. #1 for the 100-YR Event is 0.42 cfs. Therefore, the Developed Flows are less than the Existing Flows for the 100-YR Event.

Design Approach (Cornerstone Drive – P.O.E. #2)

The proposed site includes a future shared access drive (OS-3). This is the only drainage area that releases to P.O.E. #2. This consists of approximately 0.06 AC and 0.19 cfs.

Per the Drainage Report, if storm water can be directed to Cornerstone Drive past the grade break, then detention has been provided for east of this location.

The Developed Flow at P.O.E. #2 will be directed to Cornerstone Drive and captured by the existing curb and gutter.

SUMMARY

The proposed detention and structures within this development will result in release rates less than allowable rates.

Attached for your review are the Existing Drainage Area Map & Developed Drainage Area Map.

Calculations are provided as well, see the attached HydroCad Report dated 06-29-2020.

Summary Table:

YEAR EVENT	Release Flow from DP-1 (cfs)	Existing Flow at P.O.E. #1 (cfs)	Developed Flow at P.O.E. #1 (cfs)	Developed Flow at P.O.E. #2 (cfs)
2 - Year	0.03	0.19	0.19	0.09
5 - Year	0.03	0.26	0.23	0.11
10 – Year	0.03	0.40	0.27	0.13
25 - Year	0.05	0.63	0.33	0.15
50 - Year	0.07	0.83	0.37	0.17
100 - Year	0.09	1.06	0.42	0.19

Please feel free to call if you have any questions or comments.

John D. Gerdes
President

STATE OF TEXAS
JOHN D. GERDES
88497
LICENSED
PROFESSIONAL ENGINEER

06-29-2020
REGISTRATION No. F-9553

Summary for Subcatchment EX SITE: EXIST FLOW (POE1)

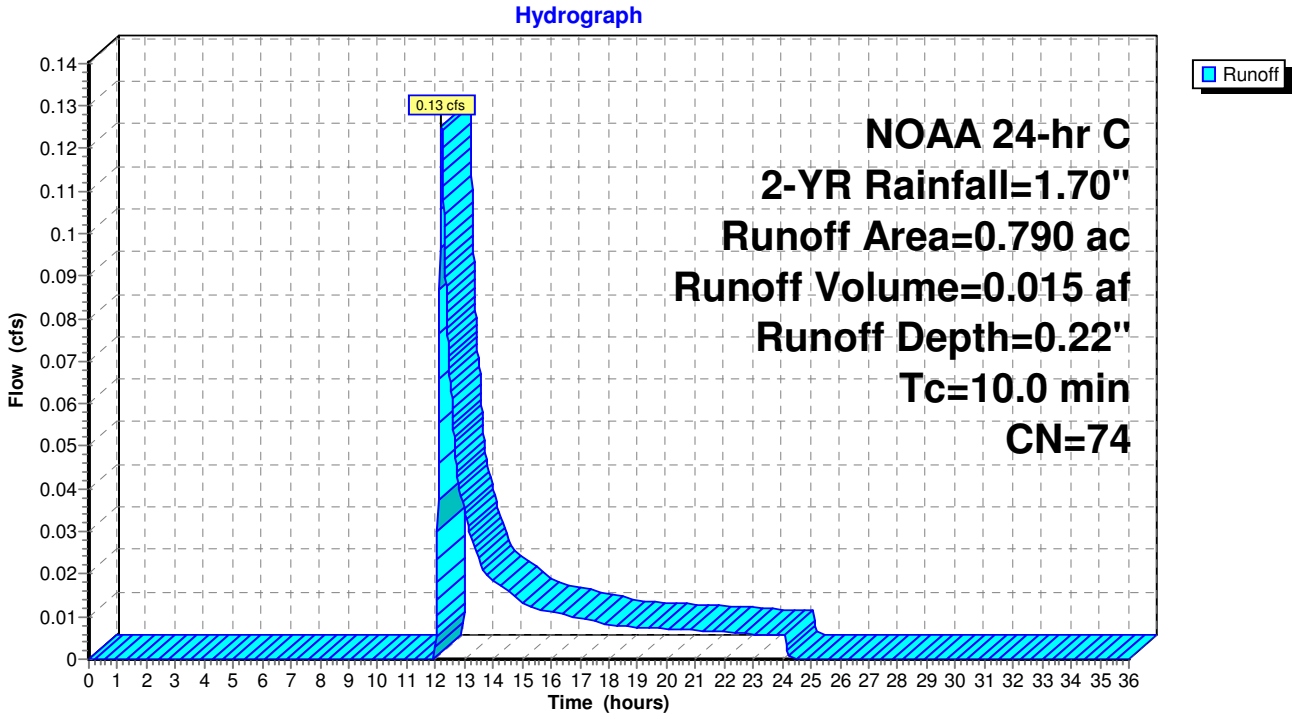
Runoff = 0.13 cfs @ 12.21 hrs, Volume= 0.015 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-YR Rainfall=1.70"

Area (ac)	CN	Description
0.790	74	>75% Grass cover, Good, HSG C
0.790		100.00% Pervious Area

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

Subcatchment EX SITE: EXIST FLOW (POE1)



Summary for Subcatchment EX SITE: EXIST FLOW (POE1)

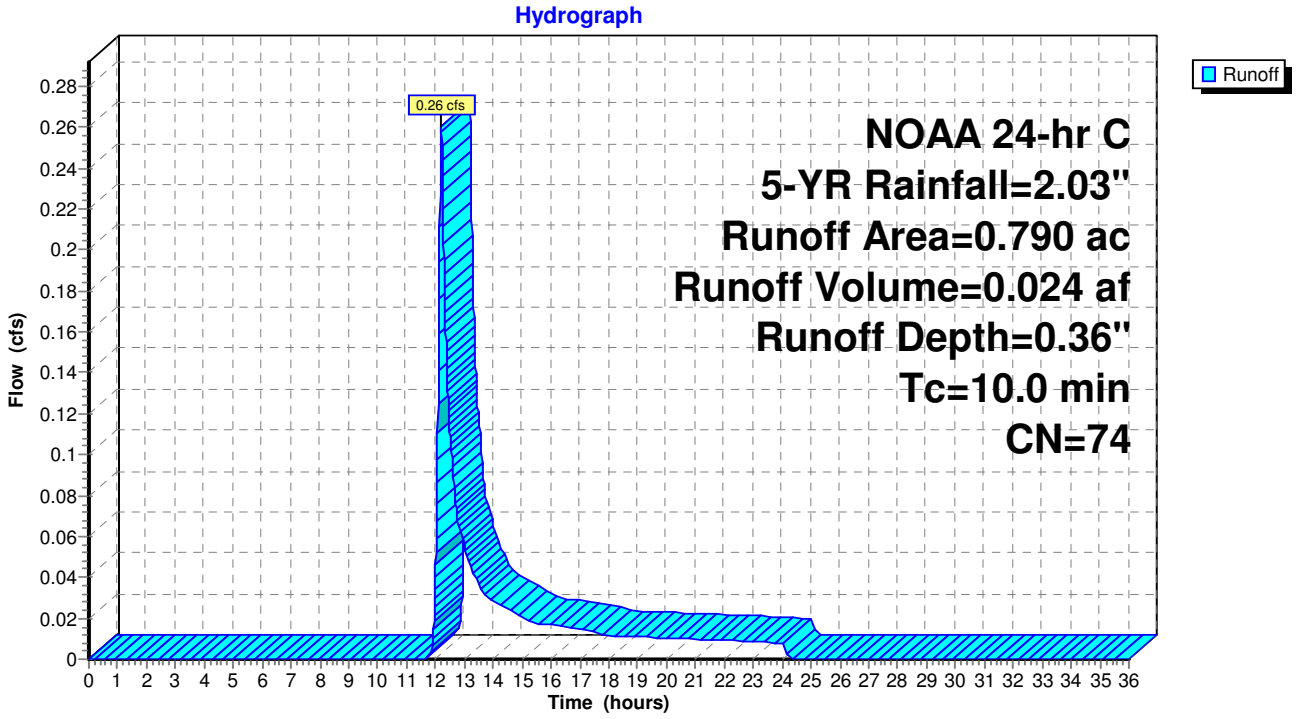
Runoff = 0.26 cfs @ 12.19 hrs, Volume= 0.024 af, Depth= 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 5-YR Rainfall=2.03"

Area (ac)	CN	Description
0.790	74	>75% Grass cover, Good, HSG C
0.790		100.00% Pervious Area

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

Subcatchment EX SITE: EXIST FLOW (POE1)



Summary for Subcatchment EX SITE: EXIST FLOW (POE1)

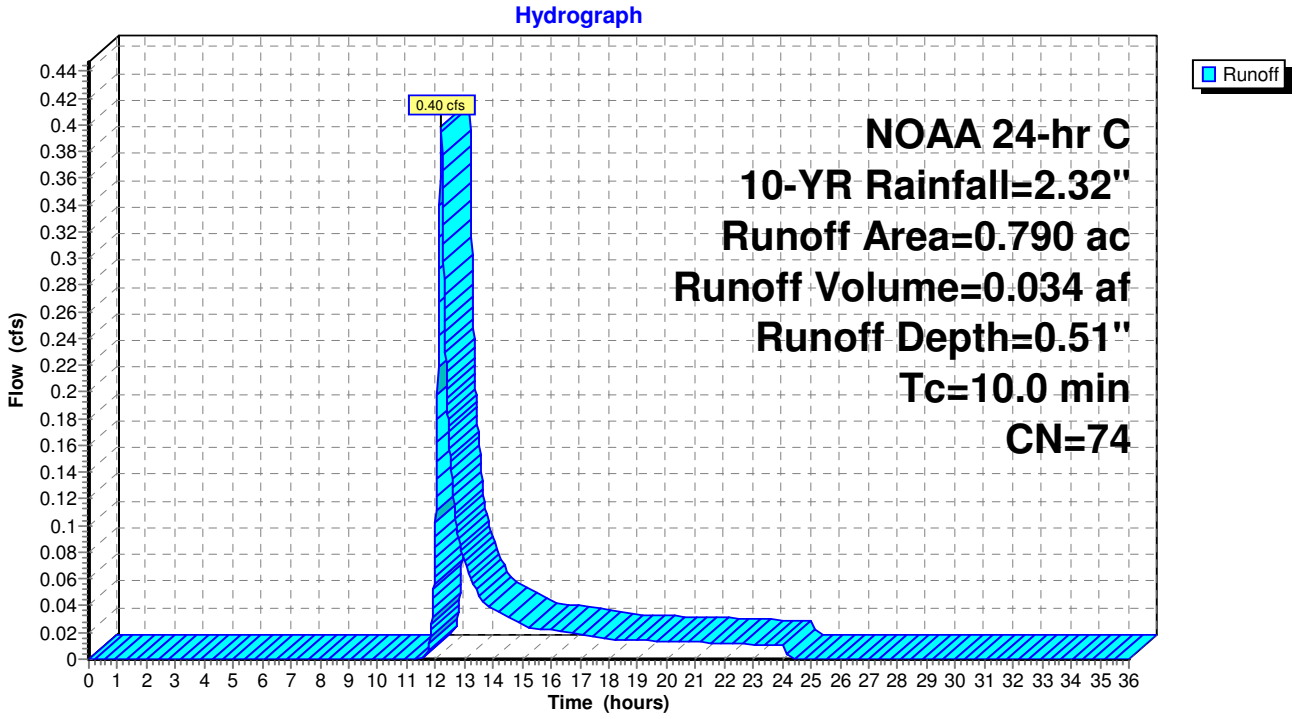
Runoff = 0.40 cfs @ 12.19 hrs, Volume= 0.034 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-YR Rainfall=2.32"

Area (ac)	CN	Description
0.790	74	>75% Grass cover, Good, HSG C
0.790		100.00% Pervious Area

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

Subcatchment EX SITE: EXIST FLOW (POE1)



Summary for Subcatchment EX SITE: EXIST FLOW (POE1)

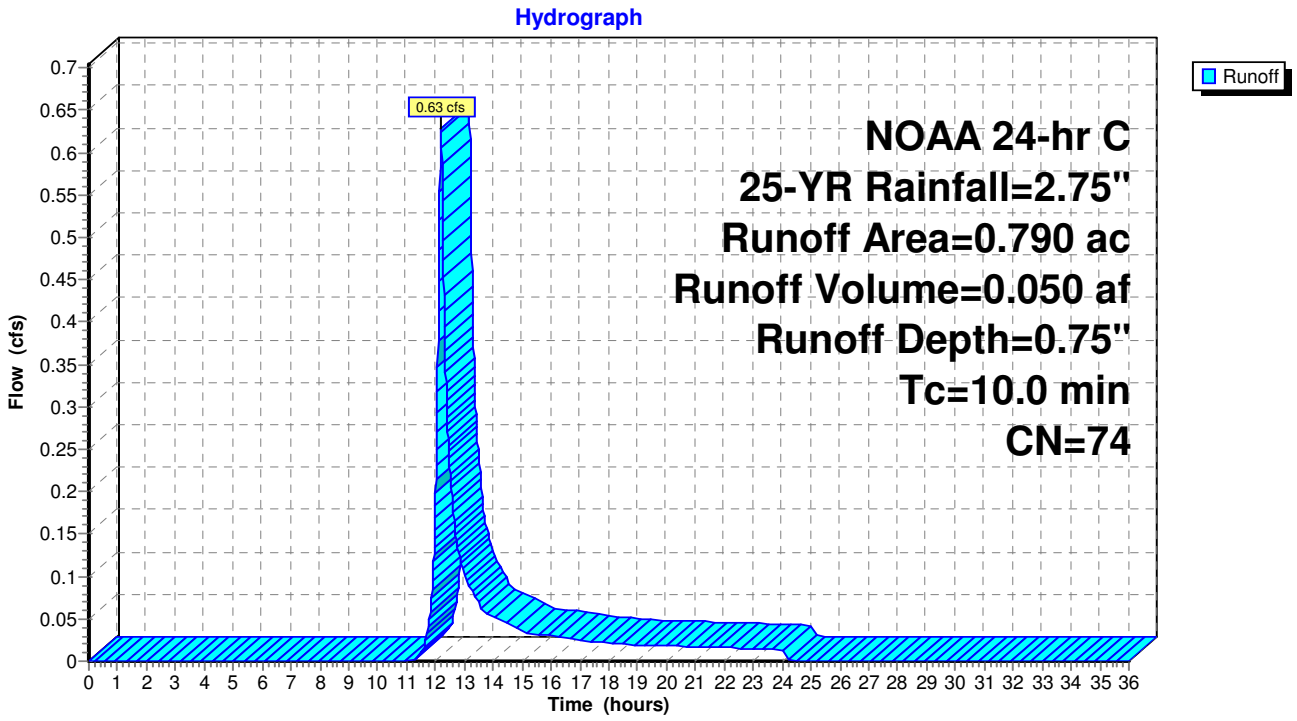
Runoff = 0.63 cfs @ 12.18 hrs, Volume= 0.050 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 25-YR Rainfall=2.75"

Area (ac)	CN	Description
0.790	74	>75% Grass cover, Good, HSG C
0.790		100.00% Pervious Area

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

Subcatchment EX SITE: EXIST FLOW (POE1)



Summary for Subcatchment EX SITE: EXIST FLOW (POE1)

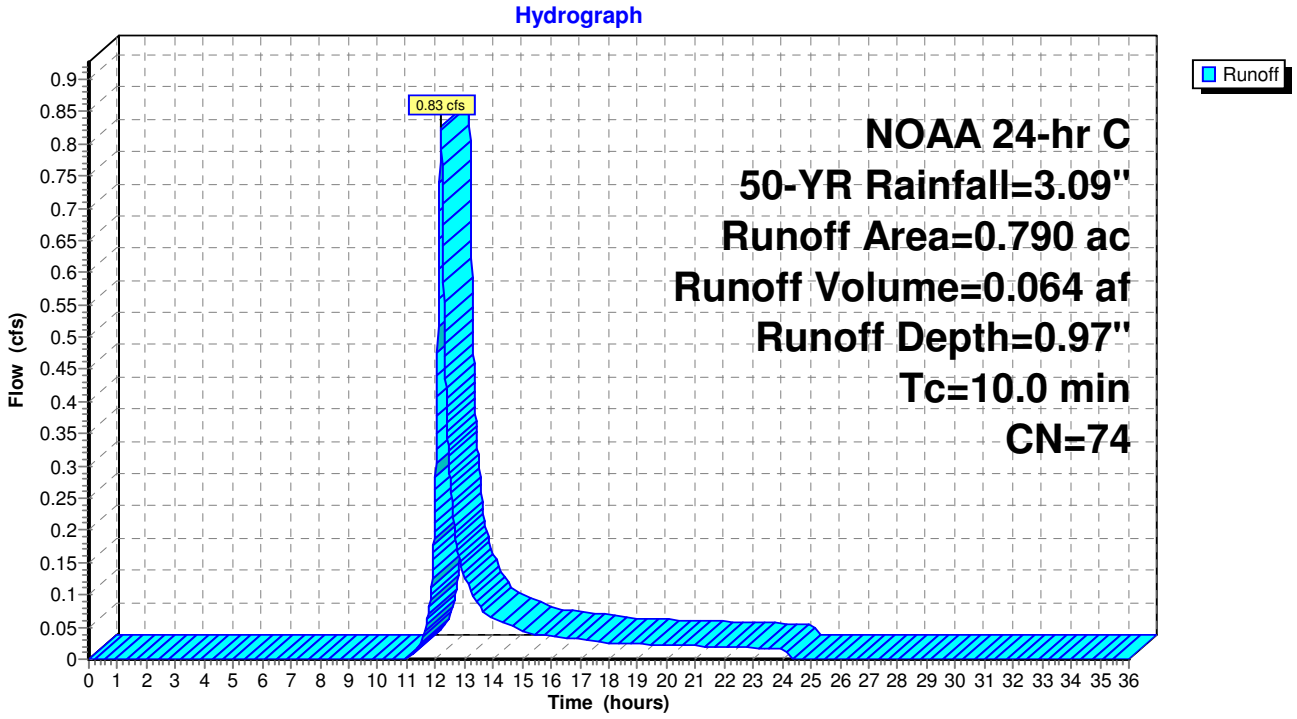
Runoff = 0.83 cfs @ 12.18 hrs, Volume= 0.064 af, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 50-YR Rainfall=3.09"

Area (ac)	CN	Description
0.790	74	>75% Grass cover, Good, HSG C
0.790		100.00% Pervious Area

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

Subcatchment EX SITE: EXIST FLOW (POE1)



Summary for Subcatchment EX SITE: EXIST FLOW (POE1)

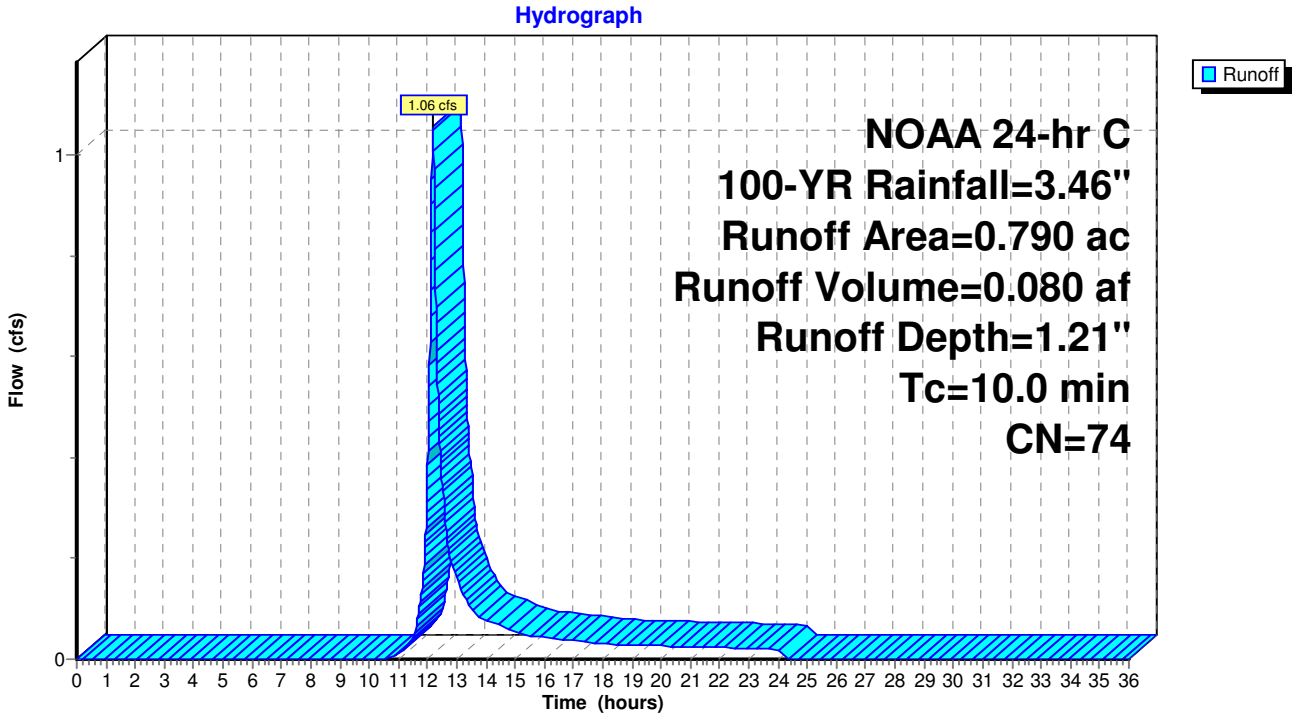
Runoff = 1.06 cfs @ 12.18 hrs, Volume= 0.080 af, Depth= 1.21"

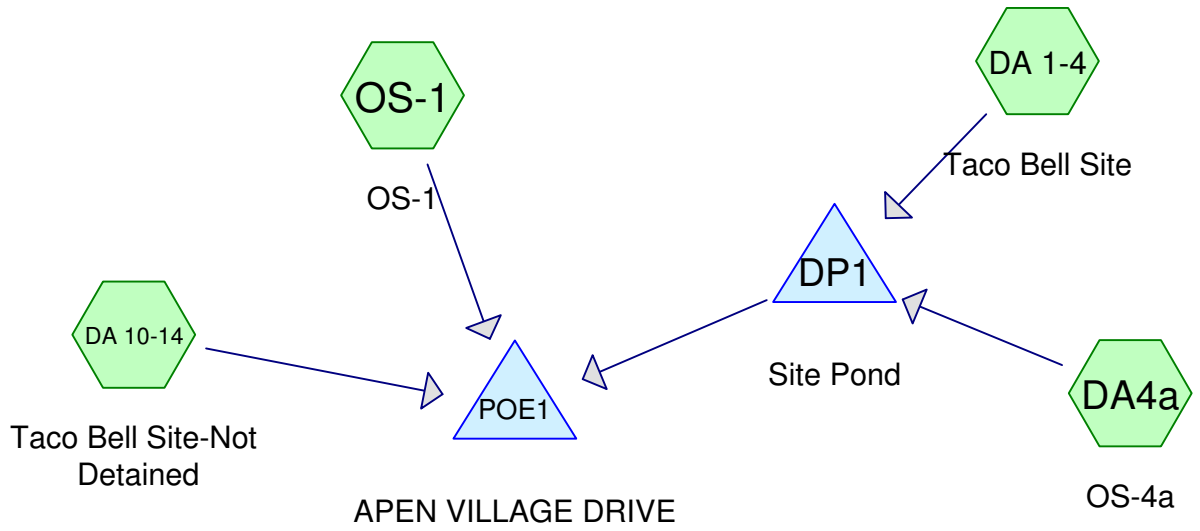
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-YR Rainfall=3.46"

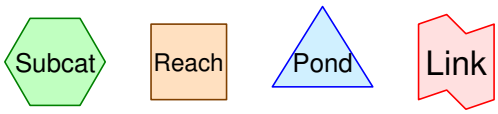
Area (ac)	CN	Description
0.790	74	>75% Grass cover, Good, HSG C
0.790		100.00% Pervious Area

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

Subcatchment EX SITE: EXIST FLOW (POE1)







Routing Diagram for Pagosa Springs - TB
Prepared by Texas Land Engineers, Printed 6/29/2020
HydroCAD® 10.00-25 s/n 04802 © 2019 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.070	98	DA 10 - Paved parking, HSG C (DA 10-14)
0.010	74	DA 11 - >75% Grass cover, Good, HSG C (DA 10-14)
0.010	98	DA 12 - Paved parking, HSG C (DA 10-14)
0.010	74	DA 13 - >75% Grass cover, Good, HSG C (DA 10-14)
0.010	98	DA 14 Paved parking, HSG C (DA 10-14)
0.040	98	Paved parking, HSG C (DA4a, OS-1)
0.600	94	Urban commercial, 85% imp, HSG C (DA 1-4)
0.750	**94**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.750	HSG C	DA 1-4, DA 10-14, DA4a, OS-1
0.000	HSG D	
0.000	Other	
0.750		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchme Numbers
0.000	0.000	0.070	0.000	0.000	0.070	DA 10 - Paved parking	
0.000	0.000	0.010	0.000	0.000	0.010	DA 11 - >75% Grass cover, Good	
0.000	0.000	0.010	0.000	0.000	0.010	DA 12 - Paved parking	
0.000	0.000	0.010	0.000	0.000	0.010	DA 13 - >75% Grass cover, Good	
0.000	0.000	0.010	0.000	0.000	0.010	DA 14 Paved parking	
0.000	0.000	0.040	0.000	0.000	0.040	Paved parking	
0.000	0.000	0.600	0.000	0.000	0.600	Urban commercial, 85% imp	
0.000	**0.000**	**0.750**	**0.000**	**0.000**	**0.750**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1-4: Taco Bell Site Runoff Area=0.600 ac 85.00% Impervious Runoff Depth=1.12"
Tc=10.0 min CN=94 Runoff=0.75 cfs 0.056 af

Subcatchment DA 10-14: Taco Bell Site-Not Runoff Area=0.110 ac 81.82% Impervious Runoff Depth=1.12"
Tc=10.0 min CN=94 Runoff=0.14 cfs 0.010 af

Subcatchment DA4a: OS-4a Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=1.48"
Tc=10.0 min CN=98 Runoff=0.03 cfs 0.002 af

Subcatchment OS-1: OS-1 Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=1.48"
Tc=10.0 min CN=98 Runoff=0.03 cfs 0.002 af

Pond DP1: Site Pond Peak Elev=30.89' Storage=1,681 cf Inflow=0.78 cfs 0.058 af
Outflow=0.03 cfs 0.047 af

Pond POE1: APEN VILLAGE DRIVE Inflow=0.19 cfs 0.059 af
Primary=0.19 cfs 0.059 af

Total Runoff Area = 0.750 ac Runoff Volume = 0.071 af Average Runoff Depth = 1.14"
14.67% Pervious = 0.110 ac 85.33% Impervious = 0.640 ac

Summary for Subcatchment DA 1-4: Taco Bell Site

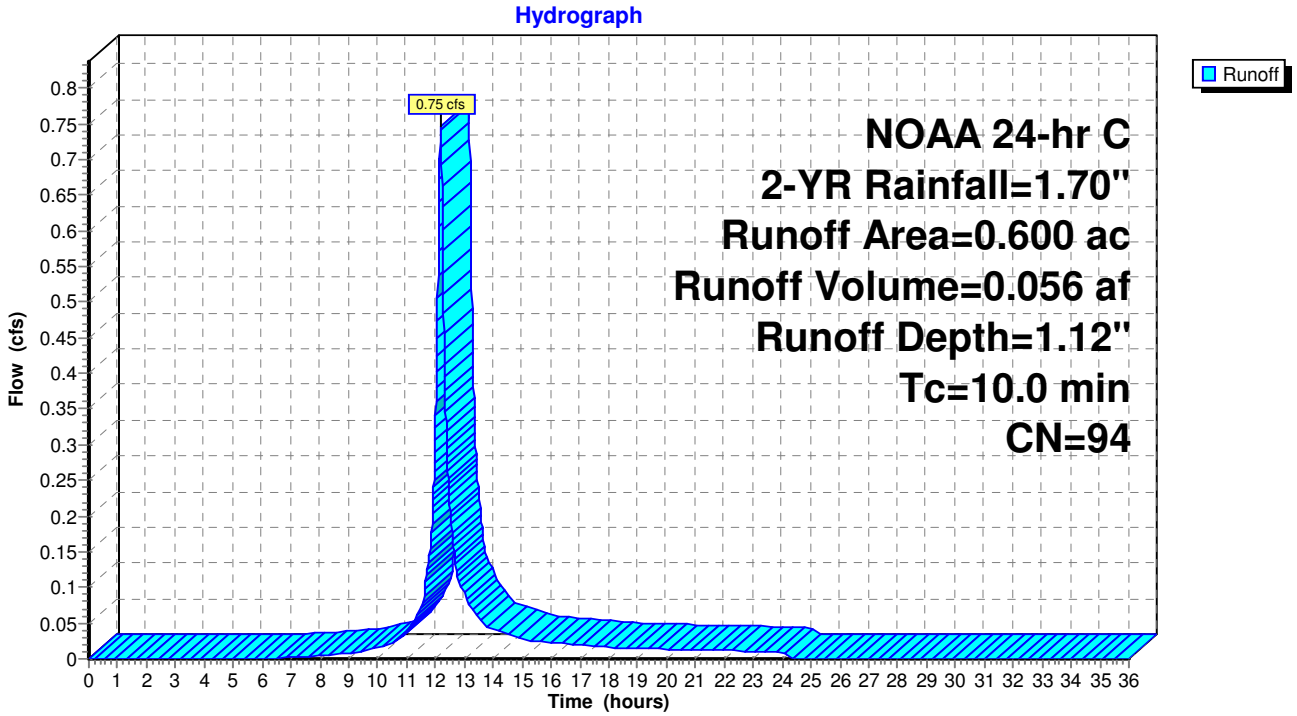
Runoff = 0.75 cfs @ 12.17 hrs, Volume= 0.056 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-YR Rainfall=1.70"

Area (ac)	CN	Description
0.600	94	Urban commercial, 85% imp, HSG C
0.090		15.00% Pervious Area
0.510		85.00% Impervious Area

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

Subcatchment DA 1-4: Taco Bell Site



Hydrograph for Subcatchment DA 1-4: Taco Bell Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.02	0.00	0.00
1.50	0.03	0.00	0.00
2.00	0.04	0.00	0.00
2.50	0.05	0.00	0.00
3.00	0.06	0.00	0.00
3.50	0.07	0.00	0.00
4.00	0.08	0.00	0.00
4.50	0.10	0.00	0.00
5.00	0.11	0.00	0.00
5.50	0.12	0.00	0.00
6.00	0.13	0.00	0.00
6.50	0.15	0.00	0.00
7.00	0.17	0.00	0.00
7.50	0.18	0.00	0.00
8.00	0.20	0.01	0.00
8.50	0.23	0.01	0.01
9.00	0.25	0.02	0.01
9.50	0.28	0.03	0.01
10.00	0.31	0.04	0.02
10.50	0.35	0.06	0.02
11.00	0.41	0.09	0.04
11.50	0.50	0.14	0.07
12.00	0.81	0.35	**0.32**
12.50	1.20	0.67	**0.21**
13.00	1.29	0.75	0.09
13.50	1.35	0.80	0.06
14.00	1.39	0.84	0.04
14.50	1.42	0.87	0.04
15.00	1.45	0.89	0.03
15.50	1.47	0.91	0.02
16.00	1.50	0.93	0.02
16.50	1.52	0.95	0.02
17.00	1.53	0.97	0.02
17.50	1.55	0.98	0.02
18.00	1.57	1.00	0.02
18.50	1.58	1.01	0.01
19.00	1.59	1.02	0.01
19.50	1.60	1.03	0.01
20.00	1.62	1.04	0.01
20.50	1.63	1.05	0.01
21.00	1.64	1.06	0.01
21.50	1.65	1.07	0.01
22.00	1.66	1.08	0.01
22.50	1.67	1.09	0.01
23.00	1.68	1.10	0.01
23.50	1.69	1.11	0.01
24.00	**1.70**	**1.12**	0.01
24.50	1.70	1.12	0.00
25.00	1.70	1.12	0.00
25.50	1.70	1.12	0.00
26.00	1.70	1.12	0.00
26.50	1.70	1.12	0.00
27.00	1.70	1.12	0.00
27.50	1.70	1.12	0.00
28.00	1.70	1.12	0.00
28.50	1.70	1.12	0.00
29.00	1.70	1.12	0.00
29.50	1.70	1.12	0.00
30.00	1.70	1.12	0.00
30.50	1.70	1.12	0.00
31.00	1.70	1.12	0.00
31.50	1.70	1.12	0.00
32.00	1.70	1.12	0.00
32.50	1.70	1.12	0.00
33.00	1.70	1.12	0.00
33.50	1.70	1.12	0.00
34.00	1.70	1.12	0.00
34.50	1.70	1.12	0.00
35.00	1.70	1.12	0.00
35.50	1.70	1.12	0.00
36.00	1.70	1.12	0.00

Summary for Subcatchment DA 10-14: Taco Bell Site-Not Detained

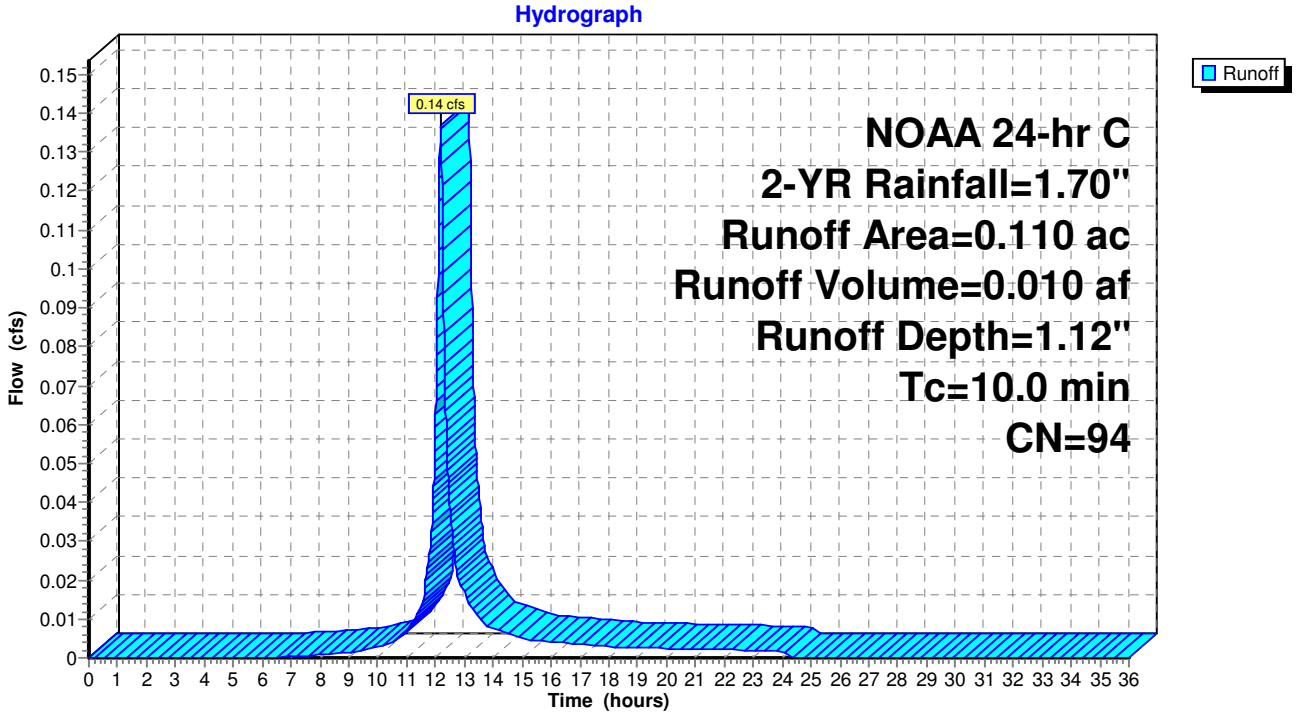
Runoff = 0.14 cfs @ 12.17 hrs, Volume= 0.010 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-YR Rainfall=1.70"

	Area (ac)	CN	Description
*	0.070	98	DA 10 - Paved parking, HSG C
*	0.010	74	DA 11 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 12 - Paved parking, HSG C
*	0.010	74	DA 13 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 14 Paved parking, HSG C
	0.110	94	Weighted Average
	0.020		18.18% Pervious Area
	0.090		81.82% Impervious Area

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

Subcatchment DA 10-14: Taco Bell Site-Not Detained



Hydrograph for Subcatchment DA 10-14: Taco Bell Site-Not Detained

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.02	0.00	0.00
1.50	0.03	0.00	0.00
2.00	0.04	0.00	0.00
2.50	0.05	0.00	0.00
3.00	0.06	0.00	0.00
3.50	0.07	0.00	0.00
4.00	0.08	0.00	0.00
4.50	0.10	0.00	0.00
5.00	0.11	0.00	0.00
5.50	0.12	0.00	0.00
6.00	0.13	0.00	0.00
6.50	0.15	0.00	0.00
7.00	0.17	0.00	0.00
7.50	0.18	0.00	0.00
8.00	0.20	0.01	0.00
8.50	0.23	0.01	0.00
9.00	0.25	0.02	0.00
9.50	0.28	0.03	0.00
10.00	0.31	0.04	0.00
10.50	0.35	0.06	0.00
11.00	0.41	0.09	0.01
11.50	0.50	0.14	0.01
12.00	0.81	0.35	**0.06**
12.50	1.20	0.67	**0.04**
13.00	1.29	0.75	0.02
13.50	1.35	0.80	0.01
14.00	1.39	0.84	0.01
14.50	1.42	0.87	0.01
15.00	1.45	0.89	0.01
15.50	1.47	0.91	0.00
16.00	1.50	0.93	0.00
16.50	1.52	0.95	0.00
17.00	1.53	0.97	0.00
17.50	1.55	0.98	0.00
18.00	1.57	1.00	0.00
18.50	1.58	1.01	0.00
19.00	1.59	1.02	0.00
19.50	1.60	1.03	0.00
20.00	1.62	1.04	0.00
20.50	1.63	1.05	0.00
21.00	1.64	1.06	0.00
21.50	1.65	1.07	0.00
22.00	1.66	1.08	0.00
22.50	1.67	1.09	0.00
23.00	1.68	1.10	0.00
23.50	1.69	1.11	0.00
24.00	**1.70**	**1.12**	0.00
24.50	1.70	1.12	0.00
25.00	1.70	1.12	0.00
25.50	1.70	1.12	0.00
26.00	1.70	1.12	0.00
26.50	1.70	1.12	0.00
27.00	1.70	1.12	0.00
27.50	1.70	1.12	0.00
28.00	1.70	1.12	0.00
28.50	1.70	1.12	0.00
29.00	1.70	1.12	0.00
29.50	1.70	1.12	0.00
30.00	1.70	1.12	0.00
30.50	1.70	1.12	0.00
31.00	1.70	1.12	0.00
31.50	1.70	1.12	0.00
32.00	1.70	1.12	0.00
32.50	1.70	1.12	0.00
33.00	1.70	1.12	0.00
33.50	1.70	1.12	0.00
34.00	1.70	1.12	0.00
34.50	1.70	1.12	0.00
35.00	1.70	1.12	0.00
35.50	1.70	1.12	0.00
36.00	1.70	1.12	0.00

Summary for Subcatchment DA4a: OS-4a

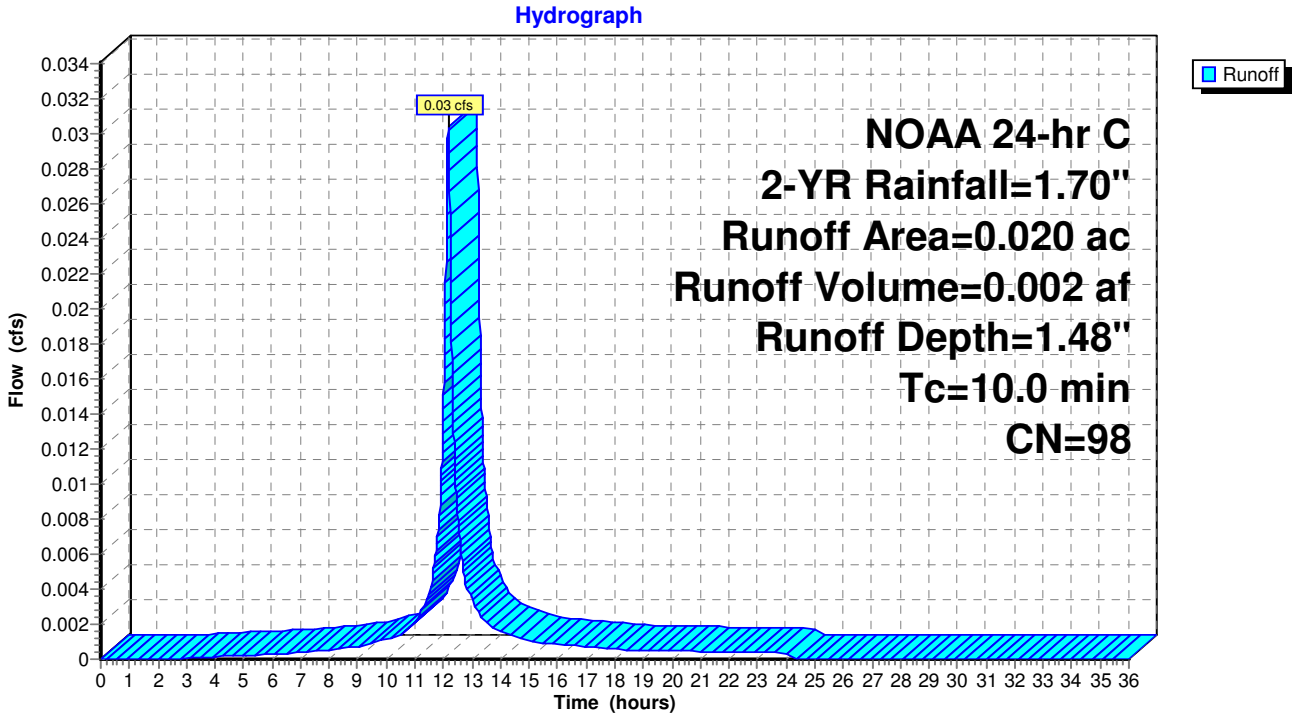
Runoff = 0.03 cfs @ 12.17 hrs, Volume= 0.002 af, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-YR Rainfall=1.70"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment DA4a: OS-4a



Hydrograph for Subcatchment DA4a: OS-4a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.02	0.00	0.00
1.50	0.03	0.00	0.00
2.00	0.04	0.00	0.00
2.50	0.05	0.00	0.00
3.00	0.06	0.00	0.00
3.50	0.07	0.00	0.00
4.00	0.08	0.01	0.00
4.50	0.10	0.01	0.00
5.00	0.11	0.02	0.00
5.50	0.12	0.02	0.00
6.00	0.13	0.03	0.00
6.50	0.15	0.04	0.00
7.00	0.17	0.05	0.00
7.50	0.18	0.06	0.00
8.00	0.20	0.07	0.00
8.50	0.23	0.09	0.00
9.00	0.25	0.10	0.00
9.50	0.28	0.13	0.00
10.00	0.31	0.15	0.00
10.50	0.35	0.19	0.00
11.00	0.41	0.24	0.00
11.50	0.50	0.32	0.00
12.00	0.81	0.61	**0.01**
12.50	1.20	0.98	**0.01**
13.00	1.29	1.08	0.00
13.50	1.35	1.13	0.00
14.00	1.39	1.17	0.00
14.50	1.42	1.21	0.00
15.00	1.45	1.23	0.00
15.50	1.47	1.26	0.00
16.00	1.50	1.28	0.00
16.50	1.52	1.30	0.00
17.00	1.53	1.31	0.00
17.50	1.55	1.33	0.00
18.00	1.57	1.34	0.00
18.50	1.58	1.36	0.00
19.00	1.59	1.37	0.00
19.50	1.60	1.38	0.00
20.00	1.62	1.40	0.00
20.50	1.63	1.41	0.00
21.00	1.64	1.42	0.00
21.50	1.65	1.43	0.00
22.00	1.66	1.44	0.00
22.50	1.67	1.45	0.00
23.00	1.68	1.46	0.00
23.50	1.69	1.47	0.00
24.00	**1.70**	**1.48**	0.00
24.50	1.70	1.48	0.00
25.00	1.70	1.48	0.00
25.50	1.70	1.48	0.00
26.00	1.70	1.48	0.00
26.50	1.70	1.48	0.00
27.00	1.70	1.48	0.00
27.50	1.70	1.48	0.00
28.00	1.70	1.48	0.00
28.50	1.70	1.48	0.00
29.00	1.70	1.48	0.00
29.50	1.70	1.48	0.00
30.00	1.70	1.48	0.00
30.50	1.70	1.48	0.00
31.00	1.70	1.48	0.00
31.50	1.70	1.48	0.00
32.00	1.70	1.48	0.00
32.50	1.70	1.48	0.00
33.00	1.70	1.48	0.00
33.50	1.70	1.48	0.00
34.00	1.70	1.48	0.00
34.50	1.70	1.48	0.00
35.00	1.70	1.48	0.00
35.50	1.70	1.48	0.00
36.00	1.70	1.48	0.00

Summary for Subcatchment OS-1: OS-1

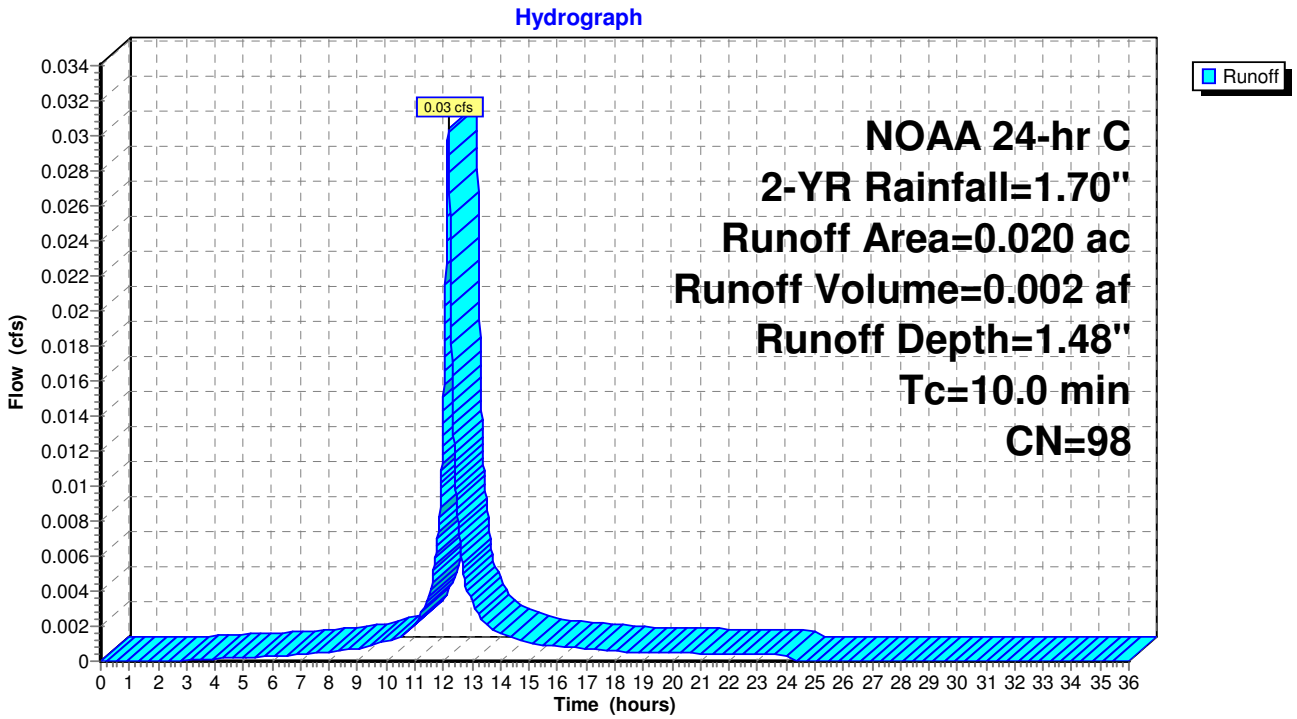
Runoff = 0.03 cfs @ 12.17 hrs, Volume= 0.002 af, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-YR Rainfall=1.70"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment OS-1: OS-1



Hydrograph for Subcatchment OS-1: OS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.02	0.00	0.00
1.50	0.03	0.00	0.00
2.00	0.04	0.00	0.00
2.50	0.05	0.00	0.00
3.00	0.06	0.00	0.00
3.50	0.07	0.00	0.00
4.00	0.08	0.01	0.00
4.50	0.10	0.01	0.00
5.00	0.11	0.02	0.00
5.50	0.12	0.02	0.00
6.00	0.13	0.03	0.00
6.50	0.15	0.04	0.00
7.00	0.17	0.05	0.00
7.50	0.18	0.06	0.00
8.00	0.20	0.07	0.00
8.50	0.23	0.09	0.00
9.00	0.25	0.10	0.00
9.50	0.28	0.13	0.00
10.00	0.31	0.15	0.00
10.50	0.35	0.19	0.00
11.00	0.41	0.24	0.00
11.50	0.50	0.32	0.00
12.00	0.81	0.61	**0.01**
12.50	1.20	0.98	**0.01**
13.00	1.29	1.08	0.00
13.50	1.35	1.13	0.00
14.00	1.39	1.17	0.00
14.50	1.42	1.21	0.00
15.00	1.45	1.23	0.00
15.50	1.47	1.26	0.00
16.00	1.50	1.28	0.00
16.50	1.52	1.30	0.00
17.00	1.53	1.31	0.00
17.50	1.55	1.33	0.00
18.00	1.57	1.34	0.00
18.50	1.58	1.36	0.00
19.00	1.59	1.37	0.00
19.50	1.60	1.38	0.00
20.00	1.62	1.40	0.00
20.50	1.63	1.41	0.00
21.00	1.64	1.42	0.00
21.50	1.65	1.43	0.00
22.00	1.66	1.44	0.00
22.50	1.67	1.45	0.00
23.00	1.68	1.46	0.00
23.50	1.69	1.47	0.00
24.00	**1.70**	**1.48**	0.00
24.50	1.70	1.48	0.00
25.00	1.70	1.48	0.00
25.50	1.70	1.48	0.00
26.00	1.70	1.48	0.00
26.50	1.70	1.48	0.00
27.00	1.70	1.48	0.00
27.50	1.70	1.48	0.00
28.00	1.70	1.48	0.00
28.50	1.70	1.48	0.00
29.00	1.70	1.48	0.00
29.50	1.70	1.48	0.00
30.00	1.70	1.48	0.00
30.50	1.70	1.48	0.00
31.00	1.70	1.48	0.00
31.50	1.70	1.48	0.00
32.00	1.70	1.48	0.00
32.50	1.70	1.48	0.00
33.00	1.70	1.48	0.00
33.50	1.70	1.48	0.00
34.00	1.70	1.48	0.00
34.50	1.70	1.48	0.00
35.00	1.70	1.48	0.00
35.50	1.70	1.48	0.00
36.00	1.70	1.48	0.00

Summary for Pond DP1: Site Pond

Allowable Discharge Rate =
10YR - .30 cfs per acre = .21 cfs
100YR - 1.00 cfs per acre = .70 cfs

Inflow Area = 0.620 ac, 85.48% Impervious, Inflow Depth = 1.13" for 2-YR event
Inflow = 0.78 cfs @ 12.17 hrs, Volume= 0.058 af
Outflow = 0.03 cfs @ 15.16 hrs, Volume= 0.047 af, Atten= 96%, Lag= 179.0 min
Primary = 0.03 cfs @ 15.16 hrs, Volume= 0.047 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 30.89' @ 15.16 hrs Surf.Area= 0 sf Storage= 1,681 cf

Plug-Flow detention time= 617.0 min calculated for 0.047 af (80% of inflow)
Center-of-Mass det. time= 536.9 min (1,351.9 - 815.0)

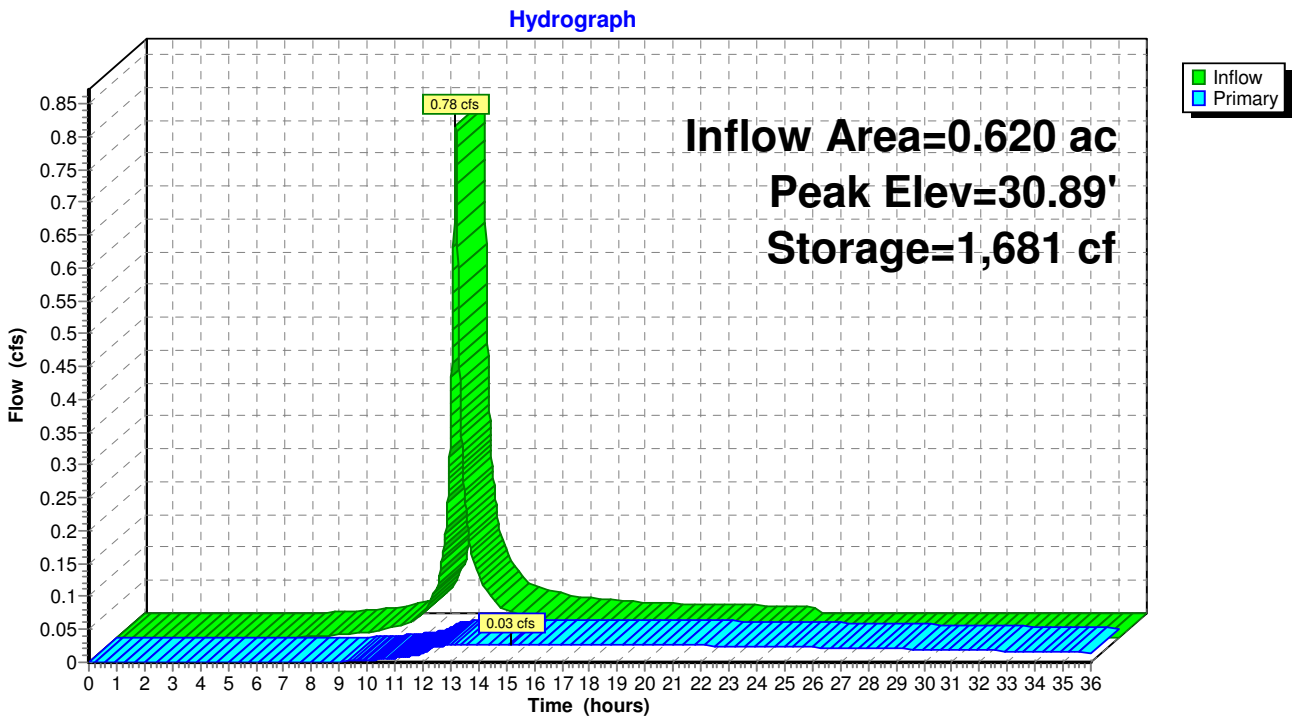
Volume	Invert	Avail.Storage	Storage Description
#1	29.75'	10,624 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
29.75	0
31.00	1,850
32.00	6,350
33.00	10,624

Device	Routing	Invert	Outlet Devices		
#1	Primary	29.75'	**1.0" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	31.20'	**2.0" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	32.52'	**4.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 15.16 hrs HW=30.89' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 5.04 fps)
├─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond DP1: Site Pond



Hydrograph for Pond DP1: Site Pond

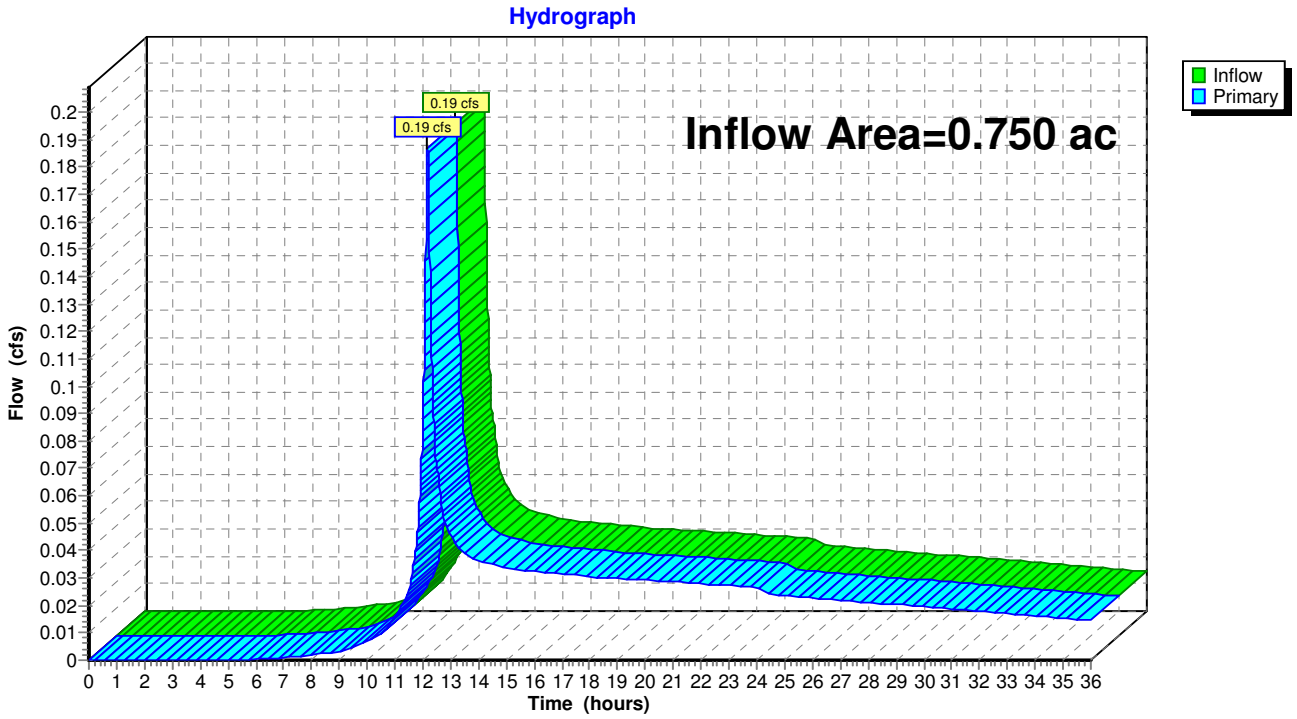
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	29.75	0.00
1.00	0.00	0	29.75	0.00
2.00	0.00	0	29.75	0.00
3.00	0.00	0	29.75	0.00
4.00	0.00	0	29.75	0.00
5.00	0.00	1	29.75	0.00
6.00	0.00	2	29.75	0.00
7.00	0.00	6	29.75	0.00
8.00	0.01	18	29.76	0.00
9.00	0.01	40	29.78	0.00
10.00	0.02	79	29.80	0.00
11.00	0.04	153	29.85	0.01
12.00	**0.34**	501	30.09	0.01
13.00	**0.09**	1,523	30.78	0.03
14.00	0.04	1,648	30.86	0.03
15.00	0.03	**1,681**	**30.89**	**0.03**
16.00	0.02	**1,675**	**30.88**	**0.03**
17.00	0.02	1,656	30.87	0.03
18.00	0.02	1,624	30.85	0.03
19.00	0.01	1,582	30.82	0.03
20.00	0.01	1,539	30.79	0.03
21.00	0.01	1,493	30.76	0.03
22.00	0.01	1,446	30.73	0.03
23.00	0.01	1,397	30.69	0.02
24.00	0.01	1,346	30.66	0.02
25.00	0.00	1,266	30.61	0.02
26.00	0.00	1,182	30.55	0.02
27.00	0.00	1,101	30.49	0.02
28.00	0.00	1,024	30.44	0.02
29.00	0.00	949	30.39	0.02
30.00	0.00	877	30.34	0.02
31.00	0.00	809	30.30	0.02
32.00	0.00	743	30.25	0.02
33.00	0.00	680	30.21	0.02
34.00	0.00	621	30.17	0.02
35.00	0.00	564	30.13	0.02
36.00	0.00	511	30.09	0.01

Summary for Pond POE1: APEN VILLAGE DRIVE

Inflow Area = 0.750 ac, 85.33% Impervious, Inflow Depth > 0.95" for 2-YR event
Inflow = 0.19 cfs @ 12.17 hrs, Volume= 0.059 af
Primary = 0.19 cfs @ 12.17 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Pond POE1: APEN VILLAGE DRIVE



Hydrograph for Pond POE1: APEN VILLAGE DRIVE

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.50	0.00		0.00
1.00	0.00		0.00
1.50	0.00		0.00
2.00	0.00		0.00
2.50	0.00		0.00
3.00	0.00		0.00
3.50	0.00		0.00
4.00	0.00		0.00
4.50	0.00		0.00
5.00	0.00		0.00
5.50	0.00		0.00
6.00	0.00		0.00
6.50	0.00		0.00
7.00	0.00		0.00
7.50	0.00		0.00
8.00	0.00		0.00
8.50	0.00		0.00
9.00	0.00		0.00
9.50	0.00		0.00
10.00	0.01		0.01
10.50	0.01		0.01
11.00	0.02		0.02
11.50	0.03		0.03
12.00	**0.09**		**0.09**
12.50	**0.07**		**0.07**
13.00	0.05		0.05
13.50	0.04		0.04
14.00	0.04		0.04
14.50	0.04		0.04
15.00	0.03		0.03
15.50	0.03		0.03
16.00	0.03		0.03
16.50	0.03		0.03
17.00	0.03		0.03
17.50	0.03		0.03
18.00	0.03		0.03
18.50	0.03		0.03
19.00	0.03		0.03
19.50	0.03		0.03
20.00	0.03		0.03
20.50	0.03		0.03
21.00	0.03		0.03
21.50	0.03		0.03
22.00	0.03		0.03
22.50	0.03		0.03
23.00	0.03		0.03
23.50	0.03		0.03
24.00	0.03		0.03
24.50	0.02		0.02
25.00	0.02		0.02
25.50	0.02		0.02
26.00	0.02		0.02
26.50	0.02		0.02
27.00	0.02		0.02
27.50	0.02		0.02
28.00	0.02		0.02
28.50	0.02		0.02
29.00	0.02		0.02
29.50	0.02		0.02
30.00	0.02		0.02
30.50	0.02		0.02
31.00	0.02		0.02
31.50	0.02		0.02
32.00	0.02		0.02
32.50	0.02		0.02
33.00	0.02		0.02
33.50	0.02		0.02
34.00	0.02		0.02
34.50	0.02		0.02
35.00	0.02		0.02
35.50	0.01		0.01
36.00	0.01		0.01

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1-4: Taco Bell Site Runoff Area=0.600 ac 85.00% Impervious Runoff Depth=1.42"
Tc=10.0 min CN=94 Runoff=0.94 cfs 0.071 af

Subcatchment DA 10-14: Taco Bell Site-Not Runoff Area=0.110 ac 81.82% Impervious Runoff Depth=1.42"
Tc=10.0 min CN=94 Runoff=0.17 cfs 0.013 af

Subcatchment DA4a: OS-4a Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=1.80"
Tc=10.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment OS-1: OS-1 Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=1.80"
Tc=10.0 min CN=98 Runoff=0.04 cfs 0.003 af

Pond DP1: Site Pond Peak Elev=31.08' Storage=2,202 cf Inflow=0.98 cfs 0.074 af
Outflow=0.03 cfs 0.055 af

Pond POE1: APEN VILLAGE DRIVE Inflow=0.23 cfs 0.071 af
Primary=0.23 cfs 0.071 af

Total Runoff Area = 0.750 ac Runoff Volume = 0.090 af Average Runoff Depth = 1.44"
14.67% Pervious = 0.110 ac 85.33% Impervious = 0.640 ac

Summary for Subcatchment DA 1-4: Taco Bell Site

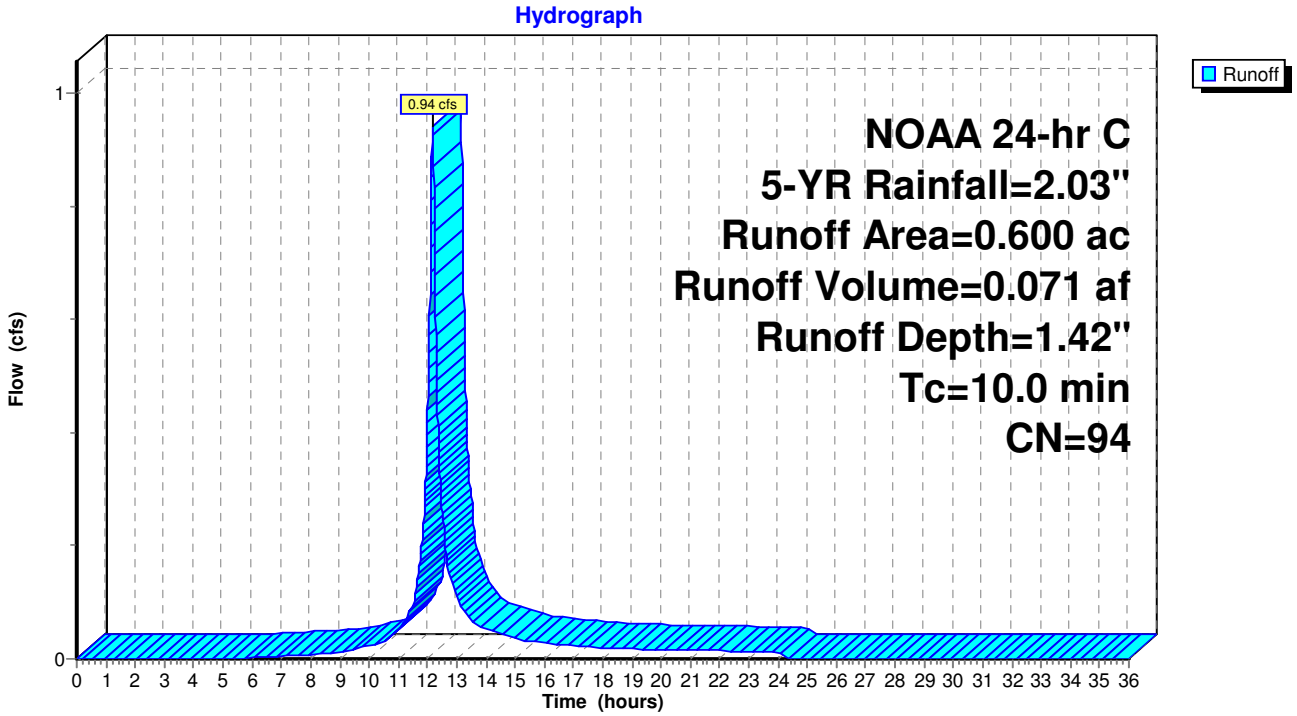
Runoff = 0.94 cfs @ 12.17 hrs, Volume= 0.071 af, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 5-YR Rainfall=2.03"

Area (ac)	CN	Description
0.600	94	Urban commercial, 85% imp, HSG C
0.090		15.00% Pervious Area
0.510		85.00% Impervious Area

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

Subcatchment DA 1-4: Taco Bell Site



Hydrograph for Subcatchment DA 1-4: Taco Bell Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.02	0.00	0.00
1.50	0.03	0.00	0.00
2.00	0.05	0.00	0.00
2.50	0.06	0.00	0.00
3.00	0.07	0.00	0.00
3.50	0.09	0.00	0.00
4.00	0.10	0.00	0.00
4.50	0.11	0.00	0.00
5.00	0.13	0.00	0.00
5.50	0.14	0.00	0.00
6.00	0.16	0.00	0.00
6.50	0.18	0.00	0.00
7.00	0.20	0.01	0.00
7.50	0.22	0.01	0.01
8.00	0.24	0.02	0.01
8.50	0.27	0.03	0.01
9.00	0.30	0.04	0.01
9.50	0.33	0.05	0.02
10.00	0.37	0.07	0.02
10.50	0.42	0.09	0.03
11.00	0.49	0.13	0.05
11.50	0.60	0.20	0.10
12.00	0.97	0.48	**0.42**
12.50	1.43	0.87	**0.26**
13.00	1.54	0.98	0.11
13.50	1.61	1.04	0.07
14.00	1.66	1.08	0.05
14.50	1.70	1.12	0.04
15.00	1.73	1.15	0.04
15.50	1.76	1.17	0.03
16.00	1.79	1.20	0.03
16.50	1.81	1.22	0.03
17.00	1.83	1.24	0.02
17.50	1.85	1.26	0.02
18.00	1.87	1.27	0.02
18.50	1.89	1.29	0.02
19.00	1.90	1.30	0.02
19.50	1.92	1.32	0.02
20.00	1.93	1.33	0.02
20.50	1.94	1.34	0.02
21.00	1.96	1.36	0.02
21.50	1.97	1.37	0.01
22.00	1.98	1.38	0.01
22.50	2.00	1.39	0.01
23.00	2.01	1.40	0.01
23.50	2.02	1.41	0.01
24.00	**2.03**	**1.42**	0.01
24.50	2.03	1.42	0.00
25.00	2.03	1.42	0.00
25.50	2.03	1.42	0.00
26.00	2.03	1.42	0.00
26.50	2.03	1.42	0.00
27.00	2.03	1.42	0.00
27.50	2.03	1.42	0.00
28.00	2.03	1.42	0.00
28.50	2.03	1.42	0.00
29.00	2.03	1.42	0.00
29.50	2.03	1.42	0.00
30.00	2.03	1.42	0.00
30.50	2.03	1.42	0.00
31.00	2.03	1.42	0.00
31.50	2.03	1.42	0.00
32.00	2.03	1.42	0.00
32.50	2.03	1.42	0.00
33.00	2.03	1.42	0.00
33.50	2.03	1.42	0.00
34.00	2.03	1.42	0.00
34.50	2.03	1.42	0.00
35.00	2.03	1.42	0.00
35.50	2.03	1.42	0.00
36.00	2.03	1.42	0.00

Summary for Subcatchment DA 10-14: Taco Bell Site-Not Detained

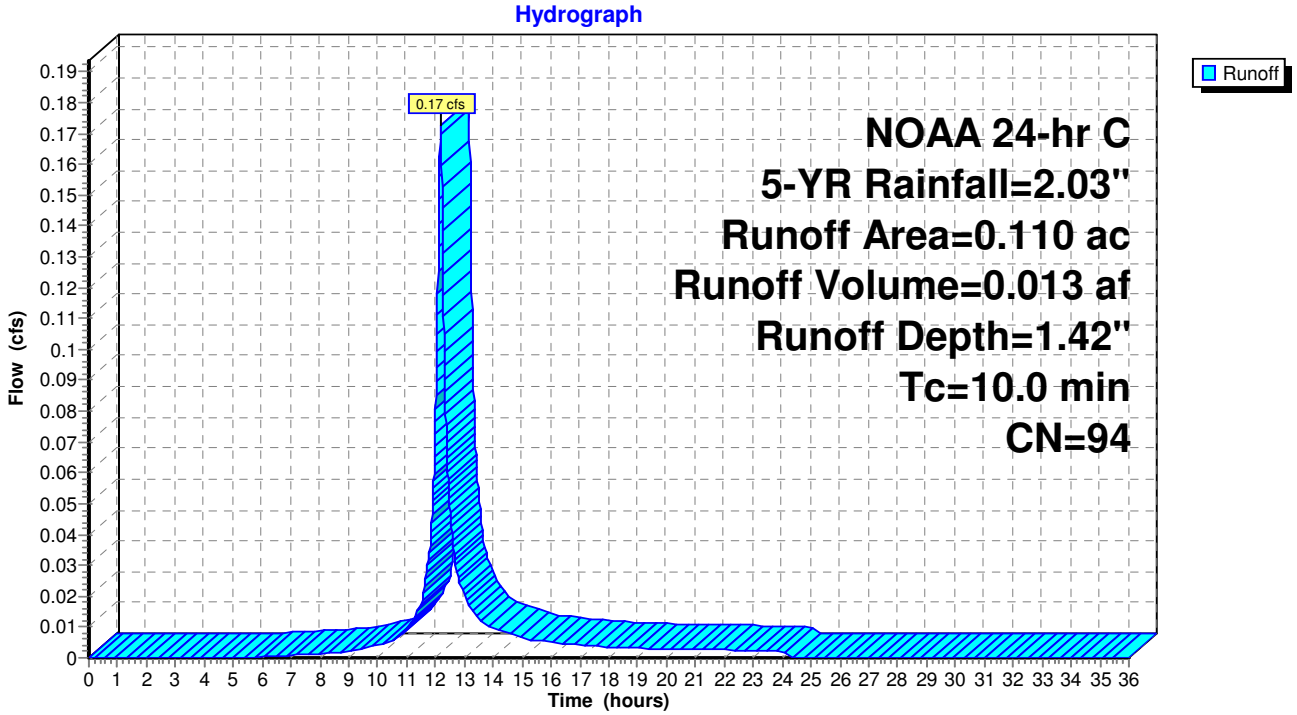
Runoff = 0.17 cfs @ 12.17 hrs, Volume= 0.013 af, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 5-YR Rainfall=2.03"

	Area (ac)	CN	Description
*	0.070	98	DA 10 - Paved parking, HSG C
*	0.010	74	DA 11 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 12 - Paved parking, HSG C
*	0.010	74	DA 13 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 14 Paved parking, HSG C
	0.110	94	Weighted Average
	0.020		18.18% Pervious Area
	0.090		81.82% Impervious Area

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

Subcatchment DA 10-14: Taco Bell Site-Not Detained



Hydrograph for Subcatchment DA 10-14: Taco Bell Site-Not Detained

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.02	0.00	0.00
1.50	0.03	0.00	0.00
2.00	0.05	0.00	0.00
2.50	0.06	0.00	0.00
3.00	0.07	0.00	0.00
3.50	0.09	0.00	0.00
4.00	0.10	0.00	0.00
4.50	0.11	0.00	0.00
5.00	0.13	0.00	0.00
5.50	0.14	0.00	0.00
6.00	0.16	0.00	0.00
6.50	0.18	0.00	0.00
7.00	0.20	0.01	0.00
7.50	0.22	0.01	0.00
8.00	0.24	0.02	0.00
8.50	0.27	0.03	0.00
9.00	0.30	0.04	0.00
9.50	0.33	0.05	0.00
10.00	0.37	0.07	0.00
10.50	0.42	0.09	0.01
11.00	0.49	0.13	0.01
11.50	0.60	0.20	0.02
12.00	0.97	0.48	**0.08**
12.50	1.43	0.87	**0.05**
13.00	1.54	0.98	0.02
13.50	1.61	1.04	0.01
14.00	1.66	1.08	0.01
14.50	1.70	1.12	0.01
15.00	1.73	1.15	0.01
15.50	1.76	1.17	0.01
16.00	1.79	1.20	0.01
16.50	1.81	1.22	0.00
17.00	1.83	1.24	0.00
17.50	1.85	1.26	0.00
18.00	1.87	1.27	0.00
18.50	1.89	1.29	0.00
19.00	1.90	1.30	0.00
19.50	1.92	1.32	0.00
20.00	1.93	1.33	0.00
20.50	1.94	1.34	0.00
21.00	1.96	1.36	0.00
21.50	1.97	1.37	0.00
22.00	1.98	1.38	0.00
22.50	2.00	1.39	0.00
23.00	2.01	1.40	0.00
23.50	2.02	1.41	0.00
24.00	**2.03**	**1.42**	0.00
24.50	2.03	1.42	0.00
25.00	2.03	1.42	0.00
25.50	2.03	1.42	0.00
26.00	2.03	1.42	0.00
26.50	2.03	1.42	0.00
27.00	2.03	1.42	0.00
27.50	2.03	1.42	0.00
28.00	2.03	1.42	0.00
28.50	2.03	1.42	0.00
29.00	2.03	1.42	0.00
29.50	2.03	1.42	0.00
30.00	2.03	1.42	0.00
30.50	2.03	1.42	0.00
31.00	2.03	1.42	0.00
31.50	2.03	1.42	0.00
32.00	2.03	1.42	0.00
32.50	2.03	1.42	0.00
33.00	2.03	1.42	0.00
33.50	2.03	1.42	0.00
34.00	2.03	1.42	0.00
34.50	2.03	1.42	0.00
35.00	2.03	1.42	0.00
35.50	2.03	1.42	0.00
36.00	2.03	1.42	0.00

Summary for Subcatchment DA4a: OS-4a

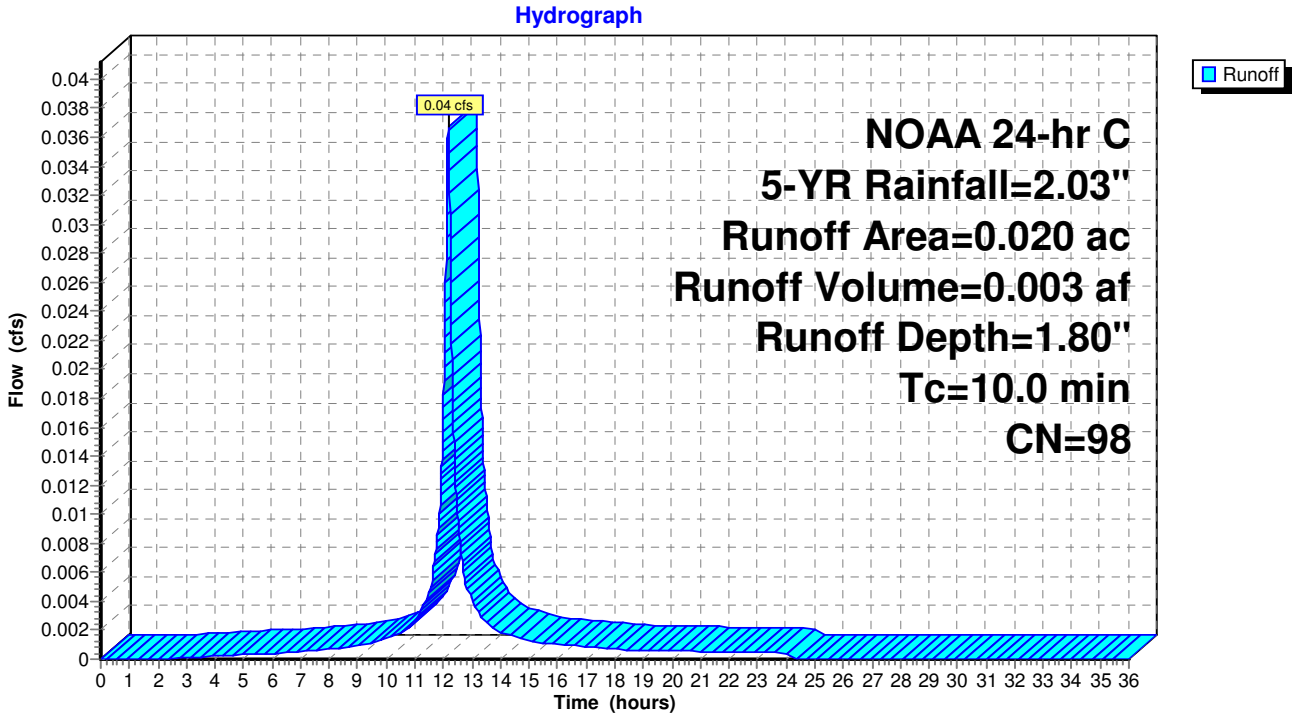
Runoff = 0.04 cfs @ 12.17 hrs, Volume= 0.003 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 5-YR Rainfall=2.03"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment DA4a: OS-4a



Hydrograph for Subcatchment DA4a: OS-4a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.02	0.00	0.00
1.50	0.03	0.00	0.00
2.00	0.05	0.00	0.00
2.50	0.06	0.00	0.00
3.00	0.07	0.00	0.00
3.50	0.09	0.01	0.00
4.00	0.10	0.01	0.00
4.50	0.11	0.02	0.00
5.00	0.13	0.03	0.00
5.50	0.14	0.04	0.00
6.00	0.16	0.04	0.00
6.50	0.18	0.06	0.00
7.00	0.20	0.07	0.00
7.50	0.22	0.08	0.00
8.00	0.24	0.10	0.00
8.50	0.27	0.12	0.00
9.00	0.30	0.14	0.00
9.50	0.33	0.17	0.00
10.00	0.37	0.20	0.00
10.50	0.42	0.25	0.00
11.00	0.49	0.31	0.00
11.50	0.60	0.41	0.00
12.00	0.97	0.76	**0.02**
12.50	1.43	1.21	**0.01**
13.00	1.54	1.32	0.00
13.50	1.61	1.39	0.00
14.00	1.66	1.44	0.00
14.50	1.70	1.48	0.00
15.00	1.73	1.51	0.00
15.50	1.76	1.54	0.00
16.00	1.79	1.56	0.00
16.50	1.81	1.59	0.00
17.00	1.83	1.61	0.00
17.50	1.85	1.63	0.00
18.00	1.87	1.64	0.00
18.50	1.89	1.66	0.00
19.00	1.90	1.68	0.00
19.50	1.92	1.69	0.00
20.00	1.93	1.71	0.00
20.50	1.94	1.72	0.00
21.00	1.96	1.73	0.00
21.50	1.97	1.75	0.00
22.00	1.98	1.76	0.00
22.50	2.00	1.77	0.00
23.00	2.01	1.78	0.00
23.50	2.02	1.79	0.00
24.00	**2.03**	**1.80**	0.00
24.50	2.03	1.80	0.00
25.00	2.03	1.80	0.00
25.50	2.03	1.80	0.00
26.00	2.03	1.80	0.00
26.50	2.03	1.80	0.00
27.00	2.03	1.80	0.00
27.50	2.03	1.80	0.00
28.00	2.03	1.80	0.00
28.50	2.03	1.80	0.00
29.00	2.03	1.80	0.00
29.50	2.03	1.80	0.00
30.00	2.03	1.80	0.00
30.50	2.03	1.80	0.00
31.00	2.03	1.80	0.00
31.50	2.03	1.80	0.00
32.00	2.03	1.80	0.00
32.50	2.03	1.80	0.00
33.00	2.03	1.80	0.00
33.50	2.03	1.80	0.00
34.00	2.03	1.80	0.00
34.50	2.03	1.80	0.00
35.00	2.03	1.80	0.00
35.50	2.03	1.80	0.00
36.00	2.03	1.80	0.00

Summary for Subcatchment OS-1: OS-1

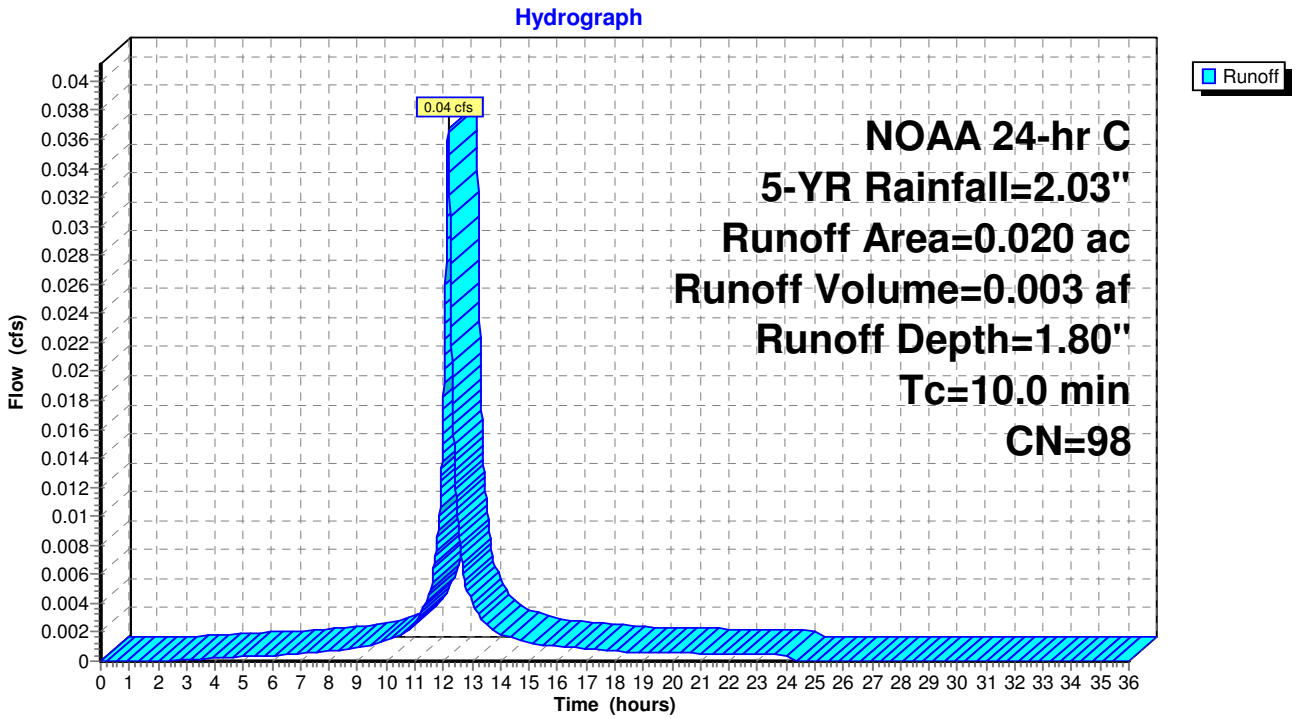
Runoff = 0.04 cfs @ 12.17 hrs, Volume= 0.003 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 5-YR Rainfall=2.03"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment OS-1: OS-1



Hydrograph for Subcatchment OS-1: OS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.02	0.00	0.00
1.50	0.03	0.00	0.00
2.00	0.05	0.00	0.00
2.50	0.06	0.00	0.00
3.00	0.07	0.00	0.00
3.50	0.09	0.01	0.00
4.00	0.10	0.01	0.00
4.50	0.11	0.02	0.00
5.00	0.13	0.03	0.00
5.50	0.14	0.04	0.00
6.00	0.16	0.04	0.00
6.50	0.18	0.06	0.00
7.00	0.20	0.07	0.00
7.50	0.22	0.08	0.00
8.00	0.24	0.10	0.00
8.50	0.27	0.12	0.00
9.00	0.30	0.14	0.00
9.50	0.33	0.17	0.00
10.00	0.37	0.20	0.00
10.50	0.42	0.25	0.00
11.00	0.49	0.31	0.00
11.50	0.60	0.41	0.00
12.00	0.97	0.76	**0.02**
12.50	1.43	1.21	**0.01**
13.00	1.54	1.32	0.00
13.50	1.61	1.39	0.00
14.00	1.66	1.44	0.00
14.50	1.70	1.48	0.00
15.00	1.73	1.51	0.00
15.50	1.76	1.54	0.00
16.00	1.79	1.56	0.00
16.50	1.81	1.59	0.00
17.00	1.83	1.61	0.00
17.50	1.85	1.63	0.00
18.00	1.87	1.64	0.00
18.50	1.89	1.66	0.00
19.00	1.90	1.68	0.00
19.50	1.92	1.69	0.00
20.00	1.93	1.71	0.00
20.50	1.94	1.72	0.00
21.00	1.96	1.73	0.00
21.50	1.97	1.75	0.00
22.00	1.98	1.76	0.00
22.50	2.00	1.77	0.00
23.00	2.01	1.78	0.00
23.50	2.02	1.79	0.00
24.00	**2.03**	**1.80**	0.00
24.50	2.03	1.80	0.00
25.00	2.03	1.80	0.00
25.50	2.03	1.80	0.00
26.00	2.03	1.80	0.00
26.50	2.03	1.80	0.00
27.00	2.03	1.80	0.00
27.50	2.03	1.80	0.00
28.00	2.03	1.80	0.00
28.50	2.03	1.80	0.00
29.00	2.03	1.80	0.00
29.50	2.03	1.80	0.00
30.00	2.03	1.80	0.00
30.50	2.03	1.80	0.00
31.00	2.03	1.80	0.00
31.50	2.03	1.80	0.00
32.00	2.03	1.80	0.00
32.50	2.03	1.80	0.00
33.00	2.03	1.80	0.00
33.50	2.03	1.80	0.00
34.00	2.03	1.80	0.00
34.50	2.03	1.80	0.00
35.00	2.03	1.80	0.00
35.50	2.03	1.80	0.00
36.00	2.03	1.80	0.00

Summary for Pond DP1: Site Pond

Allowable Discharge Rate =
10YR - .30 cfs per acre = .21 cfs
100YR - 1.00 cfs per acre = .70 cfs

Inflow Area = 0.620 ac, 85.48% Impervious, Inflow Depth = 1.44" for 5-YR event
Inflow = 0.98 cfs @ 12.17 hrs, Volume= 0.074 af
Outflow = 0.03 cfs @ 15.86 hrs, Volume= 0.055 af, Atten= 97%, Lag= 221.1 min
Primary = 0.03 cfs @ 15.86 hrs, Volume= 0.055 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 31.08' @ 15.86 hrs Surf.Area= 0 sf Storage= 2,202 cf

Plug-Flow detention time= 648.5 min calculated for 0.055 af (74% of inflow)
Center-of-Mass det. time= 558.4 min (1,366.6 - 808.1)

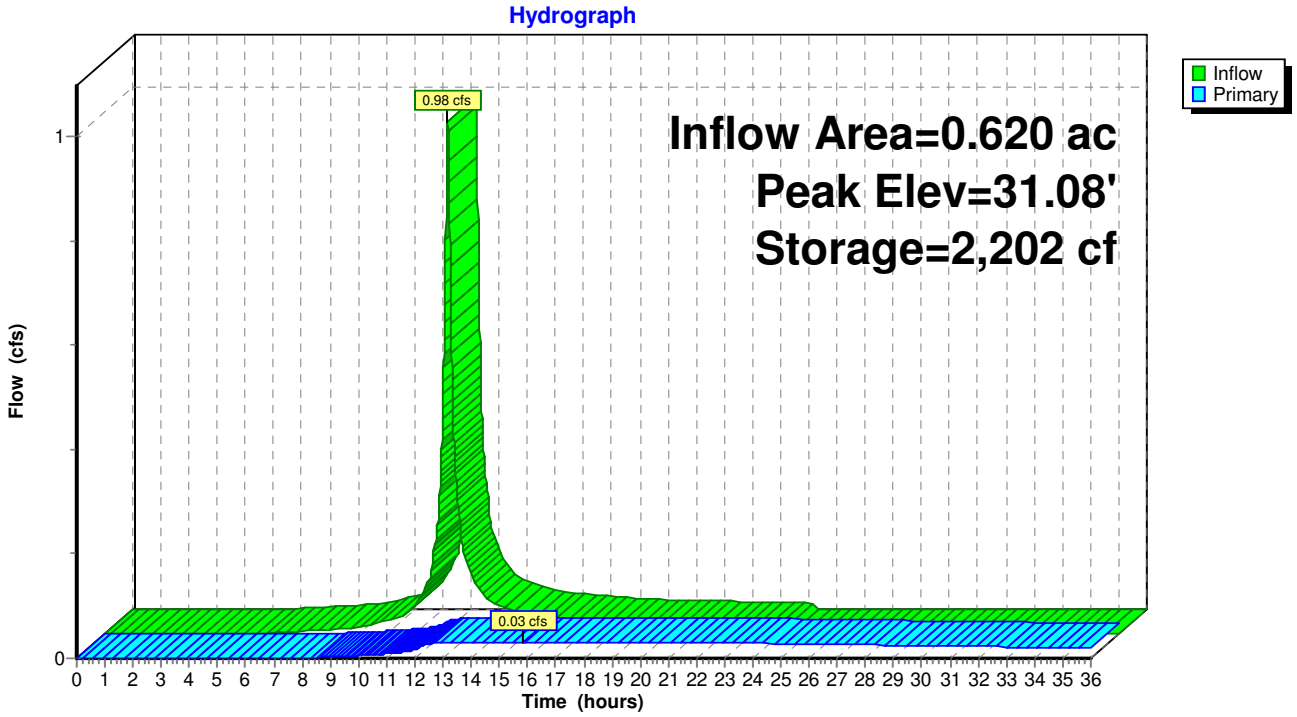
Volume	Invert	Avail.Storage	Storage Description
#1	29.75'	10,624 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
29.75	0
31.00	1,850
32.00	6,350
33.00	10,624

Device	Routing	Invert	Outlet Devices		
#1	Primary	29.75'	**1.0" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	31.20'	**2.0" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	32.52'	**4.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 15.86 hrs HW=31.08' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 5.46 fps)
├─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond DP1: Site Pond



Hydrograph for Pond DP1: Site Pond

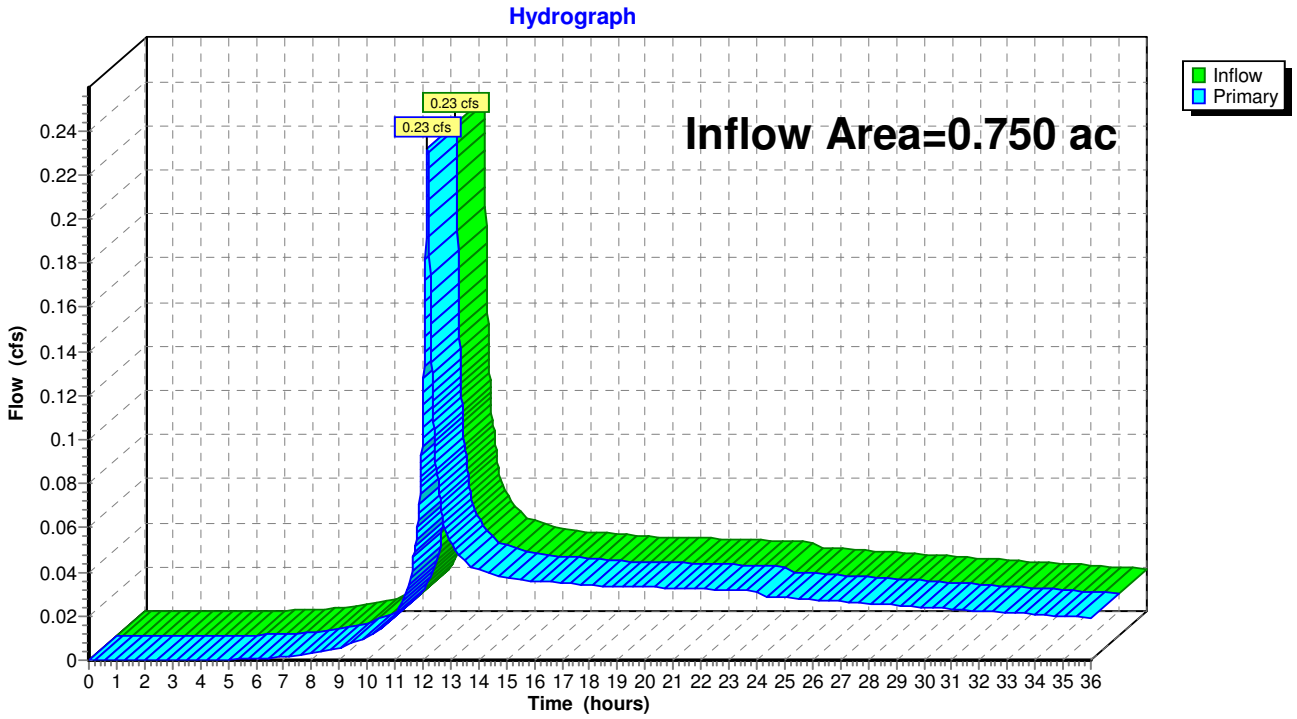
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	29.75	0.00
1.00	0.00	0	29.75	0.00
2.00	0.00	0	29.75	0.00
3.00	0.00	0	29.75	0.00
4.00	0.00	1	29.75	0.00
5.00	0.00	2	29.75	0.00
6.00	0.00	5	29.75	0.00
7.00	0.00	16	29.76	0.00
8.00	0.01	37	29.78	0.00
9.00	0.01	71	29.80	0.00
10.00	0.02	123	29.83	0.01
11.00	0.05	225	29.90	0.01
12.00	**0.43**	685	30.21	0.02
13.00	**0.12**	1,975	31.03	0.03
14.00	0.05	2,140	31.06	0.03
15.00	0.04	**2,195**	**31.08**	**0.03**
16.00	0.03	**2,202**	**31.08**	**0.03**
17.00	0.02	2,192	31.08	0.03
18.00	0.02	2,165	31.07	0.03
19.00	0.02	2,126	31.06	0.03
20.00	0.02	2,083	31.05	0.03
21.00	0.02	2,036	31.04	0.03
22.00	0.01	1,985	31.03	0.03
23.00	0.01	1,931	31.02	0.03
24.00	0.01	1,873	31.01	0.03
25.00	0.00	1,777	30.95	0.03
26.00	0.00	1,677	30.88	0.03
27.00	0.00	1,580	30.82	0.03
28.00	0.00	1,486	30.75	0.03
29.00	0.00	1,394	30.69	0.02
30.00	0.00	1,306	30.63	0.02
31.00	0.00	1,221	30.57	0.02
32.00	0.00	1,139	30.52	0.02
33.00	0.00	1,060	30.47	0.02
34.00	0.00	984	30.41	0.02
35.00	0.00	910	30.37	0.02
36.00	0.00	840	30.32	0.02

Summary for Pond POE1: APEN VILLAGE DRIVE

Inflow Area = 0.750 ac, 85.33% Impervious, Inflow Depth > 1.14" for 5-YR event
Inflow = 0.23 cfs @ 12.17 hrs, Volume= 0.071 af
Primary = 0.23 cfs @ 12.17 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Pond POE1: APEN VILLAGE DRIVE



Hydrograph for Pond POE1: APEN VILLAGE DRIVE

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.50	0.00		0.00
1.00	0.00		0.00
1.50	0.00		0.00
2.00	0.00		0.00
2.50	0.00		0.00
3.00	0.00		0.00
3.50	0.00		0.00
4.00	0.00		0.00
4.50	0.00		0.00
5.00	0.00		0.00
5.50	0.00		0.00
6.00	0.00		0.00
6.50	0.00		0.00
7.00	0.00		0.00
7.50	0.00		0.00
8.00	0.00		0.00
8.50	0.00		0.00
9.00	0.01		0.01
9.50	0.01		0.01
10.00	0.01		0.01
10.50	0.01		0.01
11.00	0.02		0.02
11.50	0.03		0.03
12.00	**0.11**		**0.11**
12.50	**0.09**		**0.09**
13.00	0.05		0.05
13.50	0.04		0.04
14.00	0.04		0.04
14.50	0.04		0.04
15.00	0.04		0.04
15.50	0.04		0.04
16.00	0.04		0.04
16.50	0.04		0.04
17.00	0.03		0.03
17.50	0.03		0.03
18.00	0.03		0.03
18.50	0.03		0.03
19.00	0.03		0.03
19.50	0.03		0.03
20.00	0.03		0.03
20.50	0.03		0.03
21.00	0.03		0.03
21.50	0.03		0.03
22.00	0.03		0.03
22.50	0.03		0.03
23.00	0.03		0.03
23.50	0.03		0.03
24.00	0.03		0.03
24.50	0.03		0.03
25.00	0.03		0.03
25.50	0.03		0.03
26.00	0.03		0.03
26.50	0.03		0.03
27.00	0.03		0.03
27.50	0.03		0.03
28.00	0.03		0.03
28.50	0.03		0.03
29.00	0.02		0.02
29.50	0.02		0.02
30.00	0.02		0.02
30.50	0.02		0.02
31.00	0.02		0.02
31.50	0.02		0.02
32.00	0.02		0.02
32.50	0.02		0.02
33.00	0.02		0.02
33.50	0.02		0.02
34.00	0.02		0.02
34.50	0.02		0.02
35.00	0.02		0.02
35.50	0.02		0.02
36.00	0.02		0.02

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1-4: Taco Bell Site Runoff Area=0.600 ac 85.00% Impervious Runoff Depth=1.70"
Tc=10.0 min CN=94 Runoff=1.11 cfs 0.085 af

Subcatchment DA 10-14: Taco Bell Site-Not Runoff Area=0.110 ac 81.82% Impervious Runoff Depth=1.70"
Tc=10.0 min CN=94 Runoff=0.20 cfs 0.016 af

Subcatchment DA4a: OS-4a Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=2.09"
Tc=10.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment OS-1: OS-1 Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=2.09"
Tc=10.0 min CN=98 Runoff=0.04 cfs 0.003 af

Pond DP1: Site Pond Peak Elev=31.19' Storage=2,692 cf Inflow=1.16 cfs 0.088 af
Outflow=0.03 cfs 0.060 af

Pond POE1: APEN VILLAGE DRIVE Inflow=0.27 cfs 0.079 af
Primary=0.27 cfs 0.079 af

Total Runoff Area = 0.750 ac Runoff Volume = 0.107 af Average Runoff Depth = 1.72"
14.67% Pervious = 0.110 ac 85.33% Impervious = 0.640 ac

Summary for Subcatchment DA 1-4: Taco Bell Site

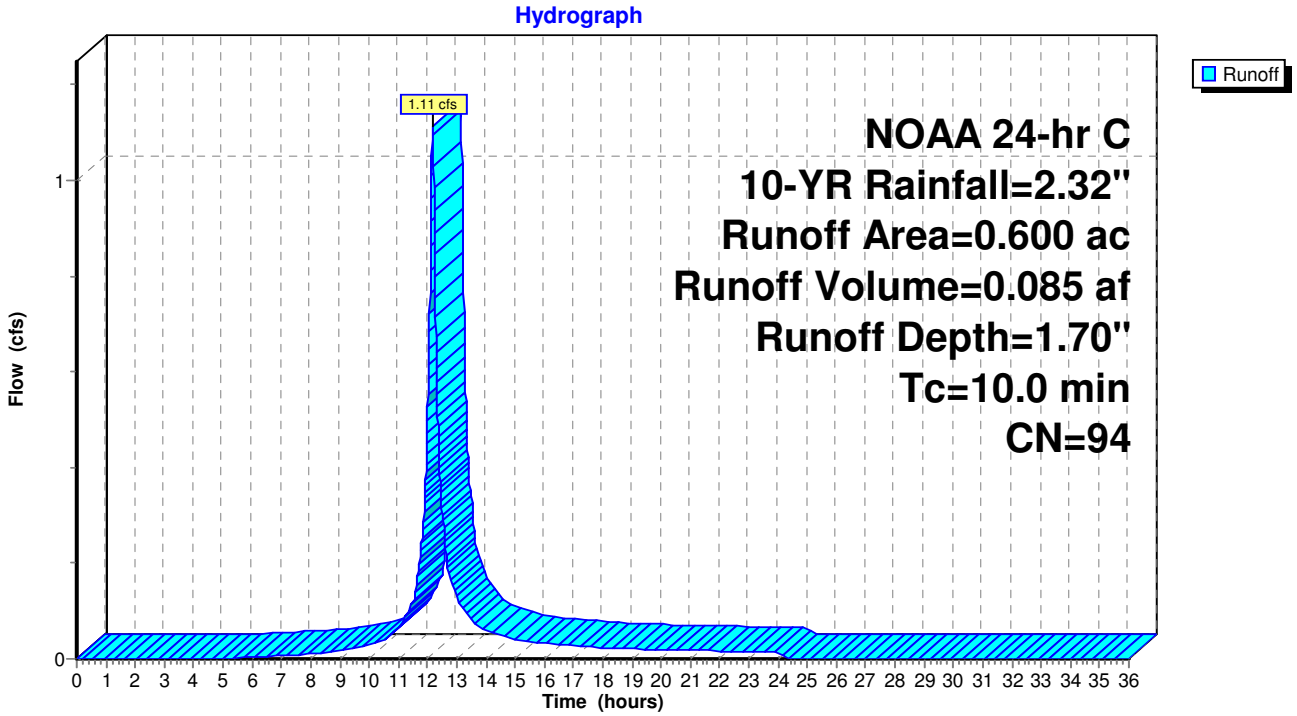
Runoff = 1.11 cfs @ 12.17 hrs, Volume= 0.085 af, Depth= 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-YR Rainfall=2.32"

Area (ac)	CN	Description
0.600	94	Urban commercial, 85% imp, HSG C
0.090		15.00% Pervious Area
0.510		85.00% Impervious Area

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

Subcatchment DA 1-4: Taco Bell Site



Hydrograph for Subcatchment DA 1-4: Taco Bell Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.04	0.00	0.00
2.00	0.05	0.00	0.00
2.50	0.07	0.00	0.00
3.00	0.08	0.00	0.00
3.50	0.10	0.00	0.00
4.00	0.11	0.00	0.00
4.50	0.13	0.00	0.00
5.00	0.15	0.00	0.00
5.50	0.17	0.00	0.00
6.00	0.18	0.00	0.00
6.50	0.20	0.01	0.00
7.00	0.23	0.01	0.01
7.50	0.25	0.02	0.01
8.00	0.28	0.03	0.01
8.50	0.31	0.04	0.01
9.00	0.34	0.05	0.02
9.50	0.38	0.07	0.02
10.00	0.42	0.09	0.03
10.50	0.48	0.12	0.04
11.00	0.56	0.17	0.06
11.50	0.69	0.26	0.12
12.00	1.11	0.59	**0.50**
12.50	1.63	1.06	**0.30**
13.00	1.76	1.18	0.13
13.50	1.84	1.25	0.08
14.00	1.90	1.30	0.06
14.50	1.94	1.34	0.05
15.00	1.98	1.38	0.04
15.50	2.01	1.41	0.04
16.00	2.04	1.44	0.03
16.50	2.07	1.46	0.03
17.00	2.09	1.48	0.03
17.50	2.12	1.51	0.02
18.00	2.14	1.52	0.02
18.50	2.15	1.54	0.02
19.00	2.17	1.56	0.02
19.50	2.19	1.57	0.02
20.00	2.21	1.59	0.02
20.50	2.22	1.61	0.02
21.00	2.24	1.62	0.02
21.50	2.25	1.63	0.02
22.00	2.27	1.65	0.02
22.50	2.28	1.66	0.02
23.00	2.29	1.67	0.02
23.50	2.31	1.69	0.01
24.00	**2.32**	**1.70**	0.01
24.50	2.32	1.70	0.00
25.00	2.32	1.70	0.00
25.50	2.32	1.70	0.00
26.00	2.32	1.70	0.00
26.50	2.32	1.70	0.00
27.00	2.32	1.70	0.00
27.50	2.32	1.70	0.00
28.00	2.32	1.70	0.00
28.50	2.32	1.70	0.00
29.00	2.32	1.70	0.00
29.50	2.32	1.70	0.00
30.00	2.32	1.70	0.00
30.50	2.32	1.70	0.00
31.00	2.32	1.70	0.00
31.50	2.32	1.70	0.00
32.00	2.32	1.70	0.00
32.50	2.32	1.70	0.00
33.00	2.32	1.70	0.00
33.50	2.32	1.70	0.00
34.00	2.32	1.70	0.00
34.50	2.32	1.70	0.00
35.00	2.32	1.70	0.00
35.50	2.32	1.70	0.00
36.00	2.32	1.70	0.00

Summary for Subcatchment DA 10-14: Taco Bell Site-Not Detained

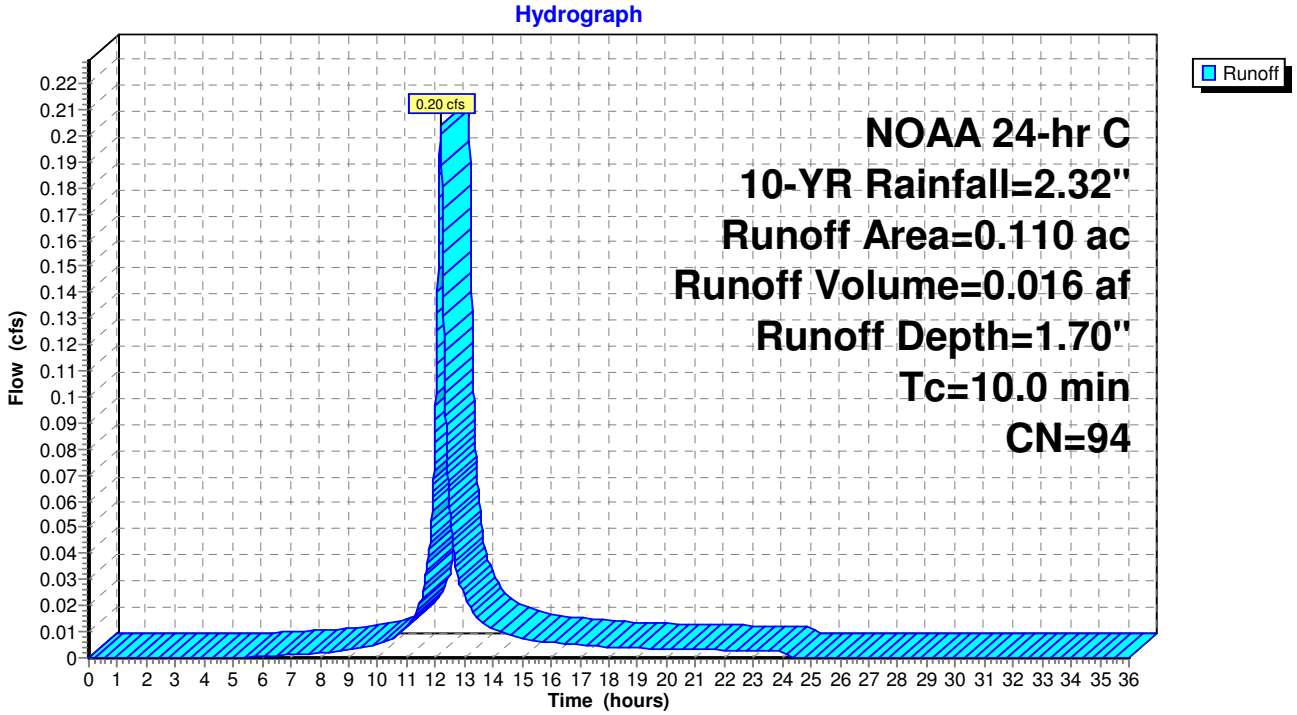
Runoff = 0.20 cfs @ 12.17 hrs, Volume= 0.016 af, Depth= 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-YR Rainfall=2.32"

	Area (ac)	CN	Description
*	0.070	98	DA 10 - Paved parking, HSG C
*	0.010	74	DA 11 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 12 - Paved parking, HSG C
*	0.010	74	DA 13 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 14 Paved parking, HSG C
	0.110	94	Weighted Average
	0.020		18.18% Pervious Area
	0.090		81.82% Impervious Area

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

Subcatchment DA 10-14: Taco Bell Site-Not Detained



Hydrograph for Subcatchment DA 10-14: Taco Bell Site-Not Detained

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.04	0.00	0.00
2.00	0.05	0.00	0.00
2.50	0.07	0.00	0.00
3.00	0.08	0.00	0.00
3.50	0.10	0.00	0.00
4.00	0.11	0.00	0.00
4.50	0.13	0.00	0.00
5.00	0.15	0.00	0.00
5.50	0.17	0.00	0.00
6.00	0.18	0.00	0.00
6.50	0.20	0.01	0.00
7.00	0.23	0.01	0.00
7.50	0.25	0.02	0.00
8.00	0.28	0.03	0.00
8.50	0.31	0.04	0.00
9.00	0.34	0.05	0.00
9.50	0.38	0.07	0.00
10.00	0.42	0.09	0.01
10.50	0.48	0.12	0.01
11.00	0.56	0.17	0.01
11.50	0.69	0.26	0.02
12.00	1.11	0.59	**0.09**
12.50	1.63	1.06	**0.06**
13.00	1.76	1.18	0.02
13.50	1.84	1.25	0.01
14.00	1.90	1.30	0.01
14.50	1.94	1.34	0.01
15.00	1.98	1.38	0.01
15.50	2.01	1.41	0.01
16.00	2.04	1.44	0.01
16.50	2.07	1.46	0.01
17.00	2.09	1.48	0.01
17.50	2.12	1.51	0.00
18.00	2.14	1.52	0.00
18.50	2.15	1.54	0.00
19.00	2.17	1.56	0.00
19.50	2.19	1.57	0.00
20.00	2.21	1.59	0.00
20.50	2.22	1.61	0.00
21.00	2.24	1.62	0.00
21.50	2.25	1.63	0.00
22.00	2.27	1.65	0.00
22.50	2.28	1.66	0.00
23.00	2.29	1.67	0.00
23.50	2.31	1.69	0.00
24.00	**2.32**	**1.70**	0.00
24.50	2.32	1.70	0.00
25.00	2.32	1.70	0.00
25.50	2.32	1.70	0.00
26.00	2.32	1.70	0.00
26.50	2.32	1.70	0.00
27.00	2.32	1.70	0.00
27.50	2.32	1.70	0.00
28.00	2.32	1.70	0.00
28.50	2.32	1.70	0.00
29.00	2.32	1.70	0.00
29.50	2.32	1.70	0.00
30.00	2.32	1.70	0.00
30.50	2.32	1.70	0.00
31.00	2.32	1.70	0.00
31.50	2.32	1.70	0.00
32.00	2.32	1.70	0.00
32.50	2.32	1.70	0.00
33.00	2.32	1.70	0.00
33.50	2.32	1.70	0.00
34.00	2.32	1.70	0.00
34.50	2.32	1.70	0.00
35.00	2.32	1.70	0.00
35.50	2.32	1.70	0.00
36.00	2.32	1.70	0.00

Summary for Subcatchment DA4a: OS-4a

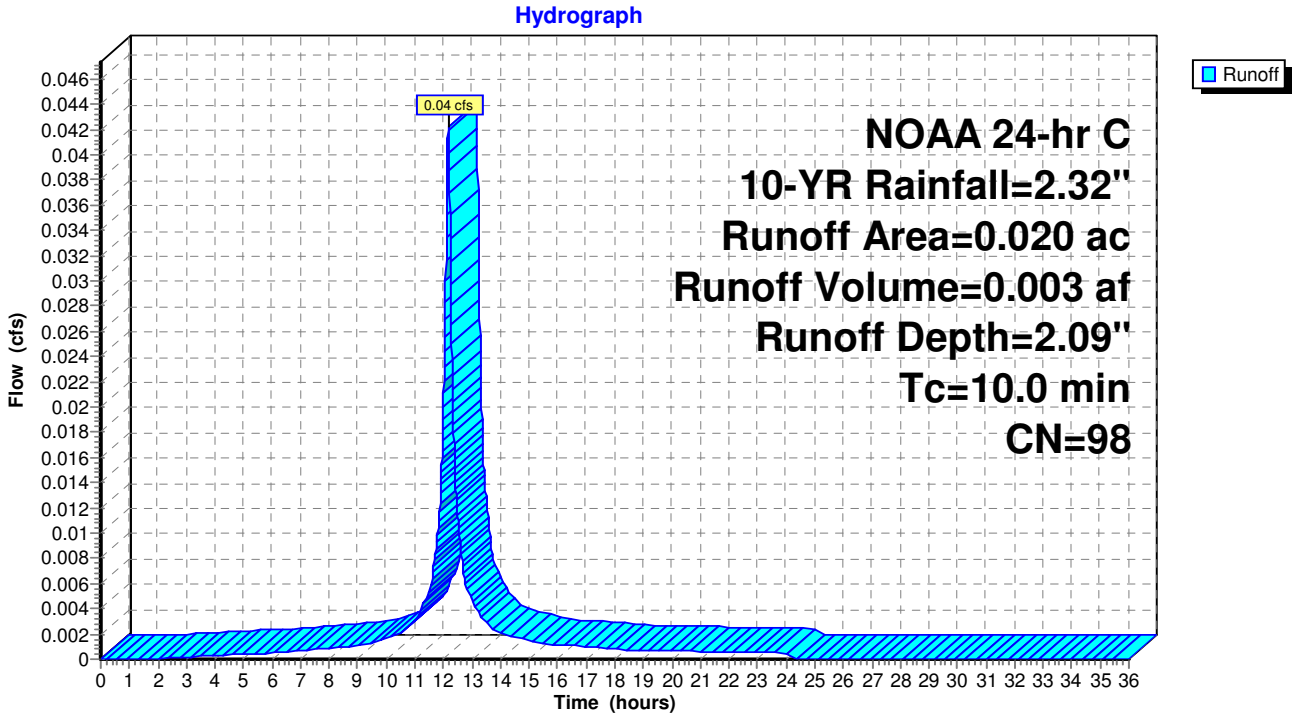
Runoff = 0.04 cfs @ 12.17 hrs, Volume= 0.003 af, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-YR Rainfall=2.32"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment DA4a: OS-4a



Hydrograph for Subcatchment DA4a: OS-4a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.04	0.00	0.00
2.00	0.05	0.00	0.00
2.50	0.07	0.00	0.00
3.00	0.08	0.01	0.00
3.50	0.10	0.01	0.00
4.00	0.11	0.02	0.00
4.50	0.13	0.03	0.00
5.00	0.15	0.04	0.00
5.50	0.17	0.05	0.00
6.00	0.18	0.06	0.00
6.50	0.20	0.07	0.00
7.00	0.23	0.09	0.00
7.50	0.25	0.11	0.00
8.00	0.28	0.13	0.00
8.50	0.31	0.15	0.00
9.00	0.34	0.18	0.00
9.50	0.38	0.21	0.00
10.00	0.42	0.25	0.00
10.50	0.48	0.30	0.00
11.00	0.56	0.37	0.00
11.50	0.69	0.49	0.01
12.00	1.11	0.89	**0.02**
12.50	1.63	1.41	**0.01**
13.00	1.76	1.54	0.00
13.50	1.84	1.62	0.00
14.00	1.90	1.67	0.00
14.50	1.94	1.72	0.00
15.00	1.98	1.76	0.00
15.50	2.01	1.79	0.00
16.00	2.04	1.82	0.00
16.50	2.07	1.84	0.00
17.00	2.09	1.87	0.00
17.50	2.12	1.89	0.00
18.00	2.14	1.91	0.00
18.50	2.15	1.93	0.00
19.00	2.17	1.95	0.00
19.50	2.19	1.96	0.00
20.00	2.21	1.98	0.00
20.50	2.22	2.00	0.00
21.00	2.24	2.01	0.00
21.50	2.25	2.03	0.00
22.00	2.27	2.04	0.00
22.50	2.28	2.05	0.00
23.00	2.29	2.07	0.00
23.50	2.31	2.08	0.00
24.00	**2.32**	**2.09**	0.00
24.50	2.32	2.09	0.00
25.00	2.32	2.09	0.00
25.50	2.32	2.09	0.00
26.00	2.32	2.09	0.00
26.50	2.32	2.09	0.00
27.00	2.32	2.09	0.00
27.50	2.32	2.09	0.00
28.00	2.32	2.09	0.00
28.50	2.32	2.09	0.00
29.00	2.32	2.09	0.00
29.50	2.32	2.09	0.00
30.00	2.32	2.09	0.00
30.50	2.32	2.09	0.00
31.00	2.32	2.09	0.00
31.50	2.32	2.09	0.00
32.00	2.32	2.09	0.00
32.50	2.32	2.09	0.00
33.00	2.32	2.09	0.00
33.50	2.32	2.09	0.00
34.00	2.32	2.09	0.00
34.50	2.32	2.09	0.00
35.00	2.32	2.09	0.00
35.50	2.32	2.09	0.00
36.00	2.32	2.09	0.00

Summary for Subcatchment OS-1: OS-1

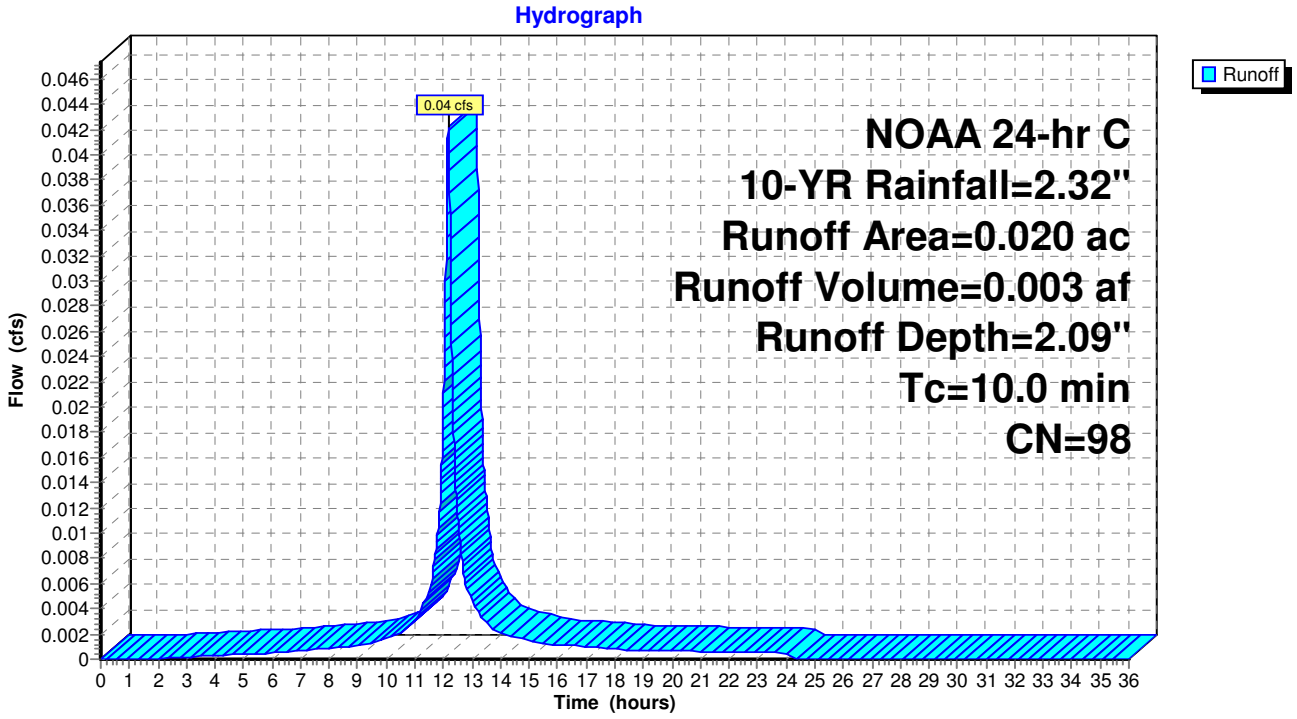
Runoff = 0.04 cfs @ 12.17 hrs, Volume= 0.003 af, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-YR Rainfall=2.32"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment OS-1: OS-1



Hydrograph for Subcatchment OS-1: OS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.04	0.00	0.00
2.00	0.05	0.00	0.00
2.50	0.07	0.00	0.00
3.00	0.08	0.01	0.00
3.50	0.10	0.01	0.00
4.00	0.11	0.02	0.00
4.50	0.13	0.03	0.00
5.00	0.15	0.04	0.00
5.50	0.17	0.05	0.00
6.00	0.18	0.06	0.00
6.50	0.20	0.07	0.00
7.00	0.23	0.09	0.00
7.50	0.25	0.11	0.00
8.00	0.28	0.13	0.00
8.50	0.31	0.15	0.00
9.00	0.34	0.18	0.00
9.50	0.38	0.21	0.00
10.00	0.42	0.25	0.00
10.50	0.48	0.30	0.00
11.00	0.56	0.37	0.00
11.50	0.69	0.49	0.01
12.00	1.11	0.89	**0.02**
12.50	1.63	1.41	**0.01**
13.00	1.76	1.54	0.00
13.50	1.84	1.62	0.00
14.00	1.90	1.67	0.00
14.50	1.94	1.72	0.00
15.00	1.98	1.76	0.00
15.50	2.01	1.79	0.00
16.00	2.04	1.82	0.00
16.50	2.07	1.84	0.00
17.00	2.09	1.87	0.00
17.50	2.12	1.89	0.00
18.00	2.14	1.91	0.00
18.50	2.15	1.93	0.00
19.00	2.17	1.95	0.00
19.50	2.19	1.96	0.00
20.00	2.21	1.98	0.00
20.50	2.22	2.00	0.00
21.00	2.24	2.01	0.00
21.50	2.25	2.03	0.00
22.00	2.27	2.04	0.00
22.50	2.28	2.05	0.00
23.00	2.29	2.07	0.00
23.50	2.31	2.08	0.00
24.00	**2.32**	**2.09**	0.00
24.50	2.32	2.09	0.00
25.00	2.32	2.09	0.00
25.50	2.32	2.09	0.00
26.00	2.32	2.09	0.00
26.50	2.32	2.09	0.00
27.00	2.32	2.09	0.00
27.50	2.32	2.09	0.00
28.00	2.32	2.09	0.00
28.50	2.32	2.09	0.00
29.00	2.32	2.09	0.00
29.50	2.32	2.09	0.00
30.00	2.32	2.09	0.00
30.50	2.32	2.09	0.00
31.00	2.32	2.09	0.00
31.50	2.32	2.09	0.00
32.00	2.32	2.09	0.00
32.50	2.32	2.09	0.00
33.00	2.32	2.09	0.00
33.50	2.32	2.09	0.00
34.00	2.32	2.09	0.00
34.50	2.32	2.09	0.00
35.00	2.32	2.09	0.00
35.50	2.32	2.09	0.00
36.00	2.32	2.09	0.00

Summary for Pond DP1: Site Pond

Allowable Discharge Rate =
10YR - .30 cfs per acre = .21 cfs
100YR - 1.00 cfs per acre = .70 cfs

Inflow Area = 0.620 ac, 85.48% Impervious, Inflow Depth = 1.71" for 10-YR event
Inflow = 1.16 cfs @ 12.17 hrs, Volume= 0.088 af
Outflow = 0.03 cfs @ 16.53 hrs, Volume= 0.060 af, Atten= 97%, Lag= 261.4 min
Primary = 0.03 cfs @ 16.53 hrs, Volume= 0.060 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 31.19' @ 16.53 hrs Surf.Area= 0 sf Storage= 2,692 cf

Plug-Flow detention time= 674.0 min calculated for 0.060 af (68% of inflow)
Center-of-Mass det. time= 577.2 min (1,380.3 - 803.2)

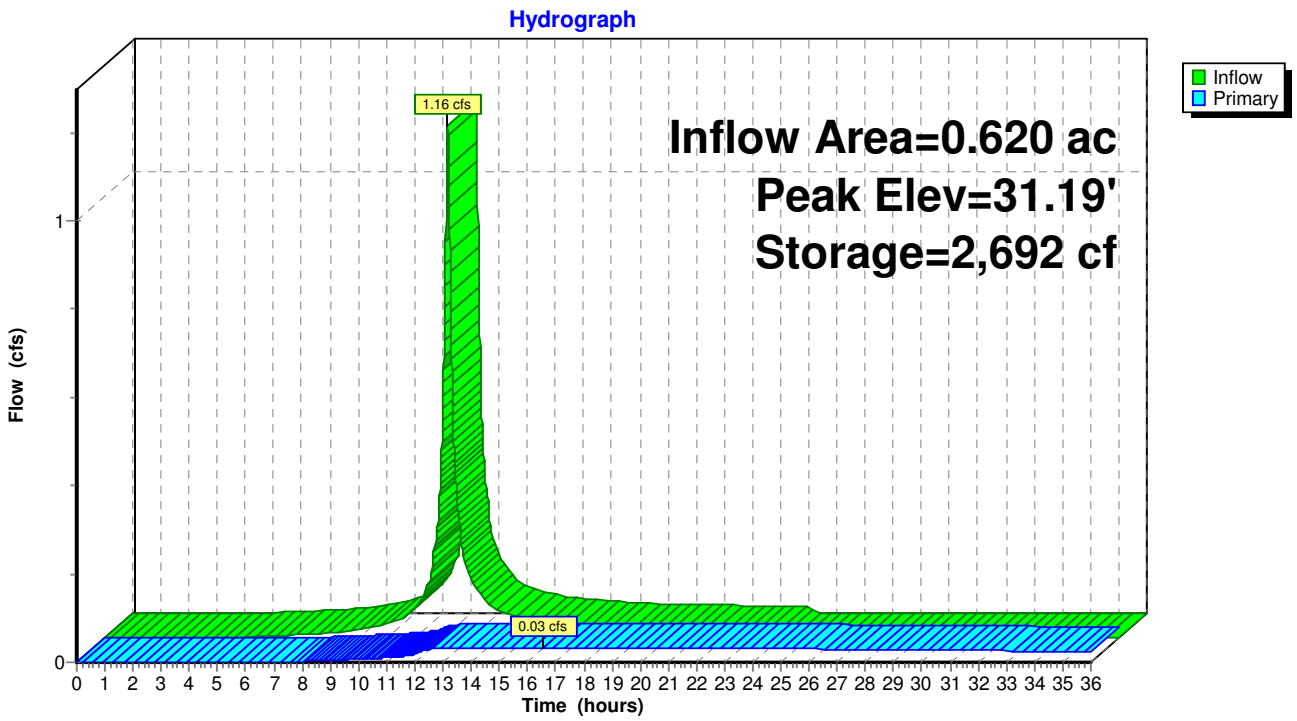
Volume	Invert	Avail.Storage	Storage Description
#1	29.75'	10,624 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
29.75	0
31.00	1,850
32.00	6,350
33.00	10,624

Device	Routing	Invert	Outlet Devices		
#1	Primary	29.75'	**1.0" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	31.20'	**2.0" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	32.52'	**4.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 16.53 hrs HW=31.19' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 5.69 fps)
├─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond DP1: Site Pond



Hydrograph for Pond DP1: Site Pond

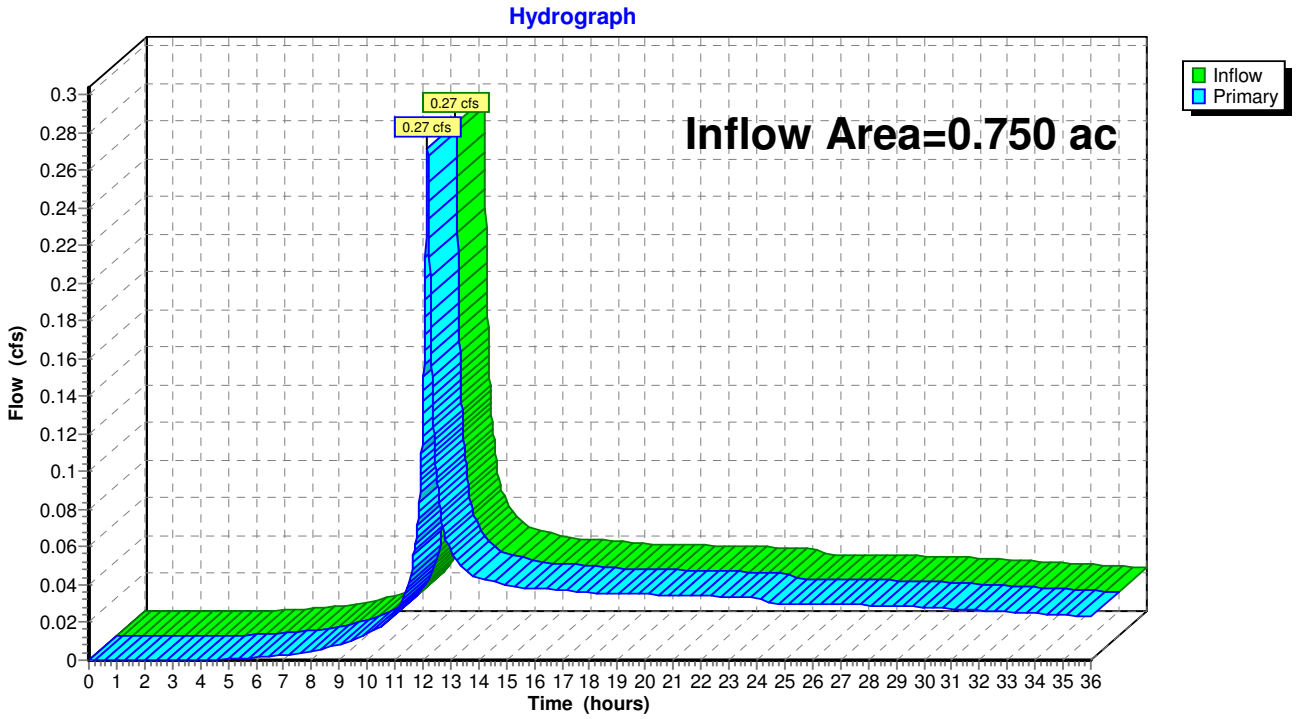
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	29.75	0.00
1.00	0.00	0	29.75	0.00
2.00	0.00	0	29.75	0.00
3.00	0.00	0	29.75	0.00
4.00	0.00	1	29.75	0.00
5.00	0.00	3	29.75	0.00
6.00	0.00	11	29.76	0.00
7.00	0.01	29	29.77	0.00
8.00	0.01	58	29.79	0.00
9.00	0.02	100	29.82	0.00
10.00	0.03	166	29.86	0.01
11.00	0.07	295	29.95	0.01
12.00	**0.52**	857	30.33	0.02
13.00	**0.14**	2,385	31.12	0.03
14.00	0.06	2,592	31.16	0.03
15.00	0.04	2,668	31.18	0.03
16.00	0.03	**2,690**	**31.19**	**0.03**
17.00	0.03	**2,690**	**31.19**	**0.03**
18.00	0.02	2,672	31.18	0.03
19.00	0.02	2,638	31.18	0.03
20.00	0.02	2,601	31.17	0.03
21.00	0.02	2,558	31.16	0.03
22.00	0.02	2,511	31.15	0.03
23.00	0.02	2,460	31.14	0.03
24.00	0.02	2,405	31.12	0.03
25.00	0.00	2,305	31.10	0.03
26.00	0.00	2,197	31.08	0.03
27.00	0.00	2,091	31.05	0.03
28.00	0.00	1,985	31.03	0.03
29.00	0.00	1,880	31.01	0.03
30.00	0.00	1,777	30.95	0.03
31.00	0.00	1,677	30.88	0.03
32.00	0.00	1,579	30.82	0.03
33.00	0.00	1,485	30.75	0.03
34.00	0.00	1,394	30.69	0.02
35.00	0.00	1,306	30.63	0.02
36.00	0.00	1,221	30.57	0.02

Summary for Pond POE1: APEN VILLAGE DRIVE

Inflow Area = 0.750 ac, 85.33% Impervious, Inflow Depth > 1.27" for 10-YR event
Inflow = 0.27 cfs @ 12.17 hrs, Volume= 0.079 af
Primary = 0.27 cfs @ 12.17 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Pond POE1: APEN VILLAGE DRIVE



Hydrograph for Pond POE1: APEN VILLAGE DRIVE

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.50	0.00		0.00
1.00	0.00		0.00
1.50	0.00		0.00
2.00	0.00		0.00
2.50	0.00		0.00
3.00	0.00		0.00
3.50	0.00		0.00
4.00	0.00		0.00
4.50	0.00		0.00
5.00	0.00		0.00
5.50	0.00		0.00
6.00	0.00		0.00
6.50	0.00		0.00
7.00	0.00		0.00
7.50	0.00		0.00
8.00	0.00		0.00
8.50	0.01		0.01
9.00	0.01		0.01
9.50	0.01		0.01
10.00	0.01		0.01
10.50	0.02		0.02
11.00	0.03		0.03
11.50	0.04		0.04
12.00	**0.13**		**0.13**
12.50	**0.10**		**0.10**
13.00	0.06		0.06
13.50	0.05		0.05
14.00	0.04		0.04
14.50	0.04		0.04
15.00	0.04		0.04
15.50	0.04		0.04
16.00	0.04		0.04
16.50	0.04		0.04
17.00	0.04		0.04
17.50	0.04		0.04
18.00	0.04		0.04
18.50	0.04		0.04
19.00	0.04		0.04
19.50	0.04		0.04
20.00	0.03		0.03
20.50	0.03		0.03
21.00	0.03		0.03
21.50	0.03		0.03
22.00	0.03		0.03
22.50	0.03		0.03
23.00	0.03		0.03
23.50	0.03		0.03
24.00	0.03		0.03
24.50	0.03		0.03
25.00	0.03		0.03
25.50	0.03		0.03
26.00	0.03		0.03
26.50	0.03		0.03
27.00	0.03		0.03
27.50	0.03		0.03
28.00	0.03		0.03
28.50	0.03		0.03
29.00	0.03		0.03
29.50	0.03		0.03
30.00	0.03		0.03
30.50	0.03		0.03
31.00	0.03		0.03
31.50	0.03		0.03
32.00	0.03		0.03
32.50	0.03		0.03
33.00	0.03		0.03
33.50	0.03		0.03
34.00	0.02		0.02
34.50	0.02		0.02
35.00	0.02		0.02
35.50	0.02		0.02
36.00	0.02		0.02

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1-4: Taco Bell Site Runoff Area=0.600 ac 85.00% Impervious Runoff Depth=2.11"
Tc=10.0 min CN=94 Runoff=1.37 cfs 0.105 af

Subcatchment DA 10-14: Taco Bell Site-Not Runoff Area=0.110 ac 81.82% Impervious Runoff Depth=2.11"
Tc=10.0 min CN=94 Runoff=0.25 cfs 0.019 af

Subcatchment DA4a: OS-4a Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=2.52"
Tc=10.0 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment OS-1: OS-1 Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=2.52"
Tc=10.0 min CN=98 Runoff=0.05 cfs 0.004 af

Pond DP1: Site Pond Peak Elev=31.32' Storage=3,274 cf Inflow=1.42 cfs 0.110 af
Outflow=0.05 cfs 0.074 af

Pond POE1: APEN VILLAGE DRIVE Inflow=0.33 cfs 0.097 af
Primary=0.33 cfs 0.097 af

Total Runoff Area = 0.750 ac Runoff Volume = 0.133 af Average Runoff Depth = 2.13"
14.67% Pervious = 0.110 ac 85.33% Impervious = 0.640 ac

Summary for Subcatchment DA 1-4: Taco Bell Site

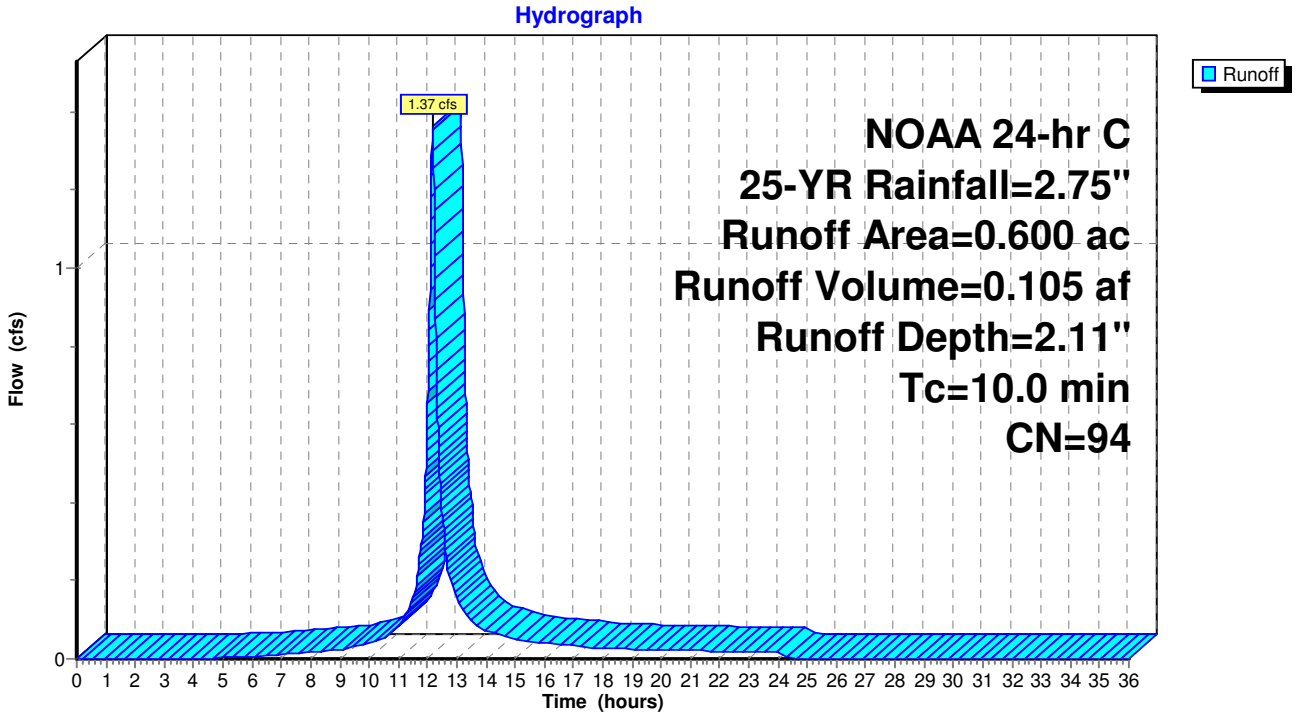
Runoff = 1.37 cfs @ 12.17 hrs, Volume= 0.105 af, Depth= 2.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 25-YR Rainfall=2.75"

Area (ac)	CN	Description
0.600	94	Urban commercial, 85% imp, HSG C
0.090		15.00% Pervious Area
0.510		85.00% Impervious Area

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

Subcatchment DA 1-4: Taco Bell Site



Hydrograph for Subcatchment DA 1-4: Taco Bell Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.06	0.00	0.00
2.50	0.08	0.00	0.00
3.00	0.10	0.00	0.00
3.50	0.12	0.00	0.00
4.00	0.13	0.00	0.00
4.50	0.15	0.00	0.00
5.00	0.17	0.00	0.00
5.50	0.20	0.01	0.00
6.00	0.22	0.01	0.01
6.50	0.24	0.02	0.01
7.00	0.27	0.03	0.01
7.50	0.30	0.04	0.01
8.00	0.33	0.05	0.02
8.50	0.36	0.06	0.02
9.00	0.40	0.08	0.02
9.50	0.45	0.11	0.03
10.00	0.50	0.14	0.04
10.50	0.57	0.18	0.05
11.00	0.66	0.24	0.08
11.50	0.81	0.35	0.15
12.00	1.31	0.77	**0.62**
12.50	1.94	1.34	**0.37**
13.00	2.09	1.48	0.16
13.50	2.18	1.57	0.10
14.00	2.25	1.63	0.07
14.50	2.30	1.68	0.06
15.00	2.35	1.72	0.05
15.50	2.39	1.76	0.04
16.00	2.42	1.79	0.04
16.50	2.45	1.82	0.04
17.00	2.48	1.85	0.03
17.50	2.51	1.88	0.03
18.00	2.53	1.90	0.03
18.50	2.55	1.92	0.03
19.00	2.58	1.94	0.02
19.50	2.60	1.96	0.02
20.00	2.62	1.98	0.02
20.50	2.63	2.00	0.02
21.00	2.65	2.02	0.02
21.50	2.67	2.03	0.02
22.00	2.69	2.05	0.02
22.50	2.70	2.06	0.02
23.00	2.72	2.08	0.02
23.50	2.73	2.09	0.02
24.00	**2.75**	**2.11**	0.02
24.50	2.75	2.11	0.00
25.00	2.75	2.11	0.00
25.50	2.75	2.11	0.00
26.00	2.75	2.11	0.00
26.50	2.75	2.11	0.00
27.00	2.75	2.11	0.00
27.50	2.75	2.11	0.00
28.00	2.75	2.11	0.00
28.50	2.75	2.11	0.00
29.00	2.75	2.11	0.00
29.50	2.75	2.11	0.00
30.00	2.75	2.11	0.00
30.50	2.75	2.11	0.00
31.00	2.75	2.11	0.00
31.50	2.75	2.11	0.00
32.00	2.75	2.11	0.00
32.50	2.75	2.11	0.00
33.00	2.75	2.11	0.00
33.50	2.75	2.11	0.00
34.00	2.75	2.11	0.00
34.50	2.75	2.11	0.00
35.00	2.75	2.11	0.00
35.50	2.75	2.11	0.00
36.00	2.75	2.11	0.00

Summary for Subcatchment DA 10-14: Taco Bell Site-Not Detained

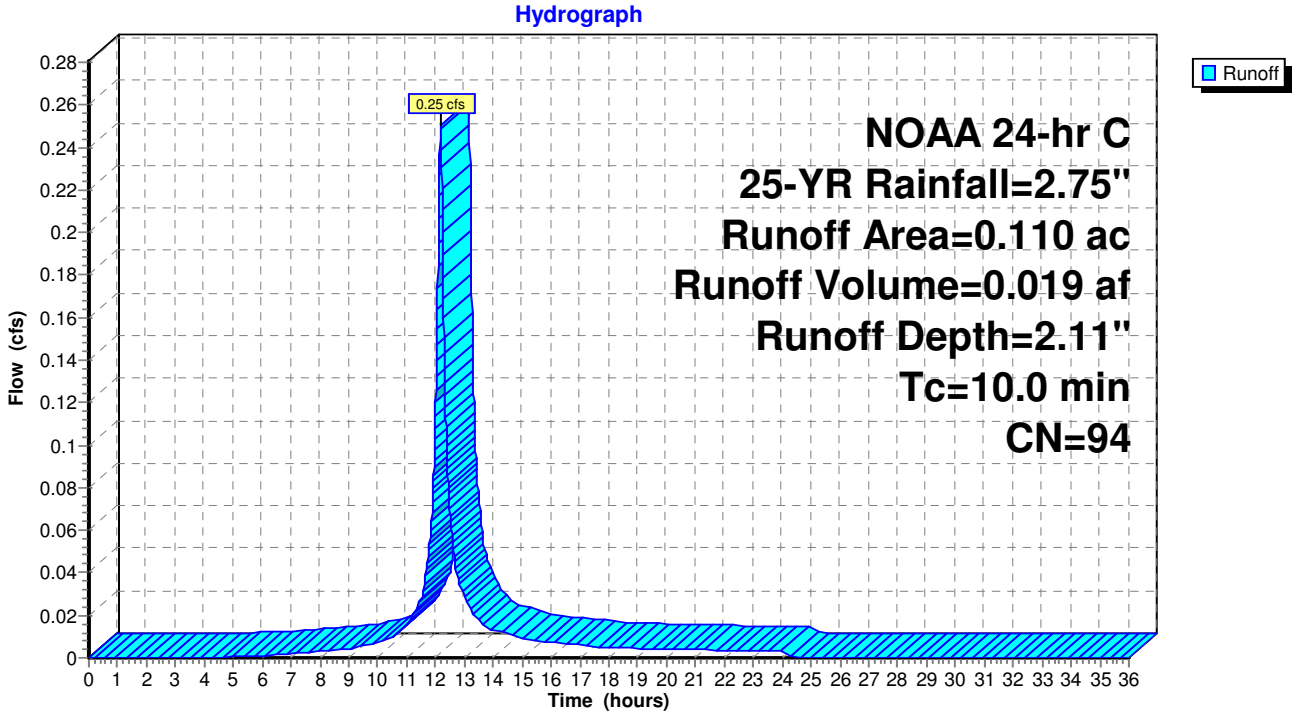
Runoff = 0.25 cfs @ 12.17 hrs, Volume= 0.019 af, Depth= 2.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 25-YR Rainfall=2.75"

	Area (ac)	CN	Description
*	0.070	98	DA 10 - Paved parking, HSG C
*	0.010	74	DA 11 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 12 - Paved parking, HSG C
*	0.010	74	DA 13 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 14 Paved parking, HSG C
	0.110	94	Weighted Average
	0.020		18.18% Pervious Area
	0.090		81.82% Impervious Area

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

Subcatchment DA 10-14: Taco Bell Site-Not Detained



Hydrograph for Subcatchment DA 10-14: Taco Bell Site-Not Detained

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.06	0.00	0.00
2.50	0.08	0.00	0.00
3.00	0.10	0.00	0.00
3.50	0.12	0.00	0.00
4.00	0.13	0.00	0.00
4.50	0.15	0.00	0.00
5.00	0.17	0.00	0.00
5.50	0.20	0.01	0.00
6.00	0.22	0.01	0.00
6.50	0.24	0.02	0.00
7.00	0.27	0.03	0.00
7.50	0.30	0.04	0.00
8.00	0.33	0.05	0.00
8.50	0.36	0.06	0.00
9.00	0.40	0.08	0.00
9.50	0.45	0.11	0.01
10.00	0.50	0.14	0.01
10.50	0.57	0.18	0.01
11.00	0.66	0.24	0.02
11.50	0.81	0.35	0.03
12.00	1.31	0.77	**0.11**
12.50	1.94	1.34	**0.07**
13.00	2.09	1.48	0.03
13.50	2.18	1.57	0.02
14.00	2.25	1.63	0.01
14.50	2.30	1.68	0.01
15.00	2.35	1.72	0.01
15.50	2.39	1.76	0.01
16.00	2.42	1.79	0.01
16.50	2.45	1.82	0.01
17.00	2.48	1.85	0.01
17.50	2.51	1.88	0.01
18.00	2.53	1.90	0.00
18.50	2.55	1.92	0.00
19.00	2.58	1.94	0.00
19.50	2.60	1.96	0.00
20.00	2.62	1.98	0.00
20.50	2.63	2.00	0.00
21.00	2.65	2.02	0.00
21.50	2.67	2.03	0.00
22.00	2.69	2.05	0.00
22.50	2.70	2.06	0.00
23.00	2.72	2.08	0.00
23.50	2.73	2.09	0.00
24.00	**2.75**	**2.11**	0.00
24.50	2.75	2.11	0.00
25.00	2.75	2.11	0.00
25.50	2.75	2.11	0.00
26.00	2.75	2.11	0.00
26.50	2.75	2.11	0.00
27.00	2.75	2.11	0.00
27.50	2.75	2.11	0.00
28.00	2.75	2.11	0.00
28.50	2.75	2.11	0.00
29.00	2.75	2.11	0.00
29.50	2.75	2.11	0.00
30.00	2.75	2.11	0.00
30.50	2.75	2.11	0.00
31.00	2.75	2.11	0.00
31.50	2.75	2.11	0.00
32.00	2.75	2.11	0.00
32.50	2.75	2.11	0.00
33.00	2.75	2.11	0.00
33.50	2.75	2.11	0.00
34.00	2.75	2.11	0.00
34.50	2.75	2.11	0.00
35.00	2.75	2.11	0.00
35.50	2.75	2.11	0.00
36.00	2.75	2.11	0.00

Summary for Subcatchment DA4a: OS-4a

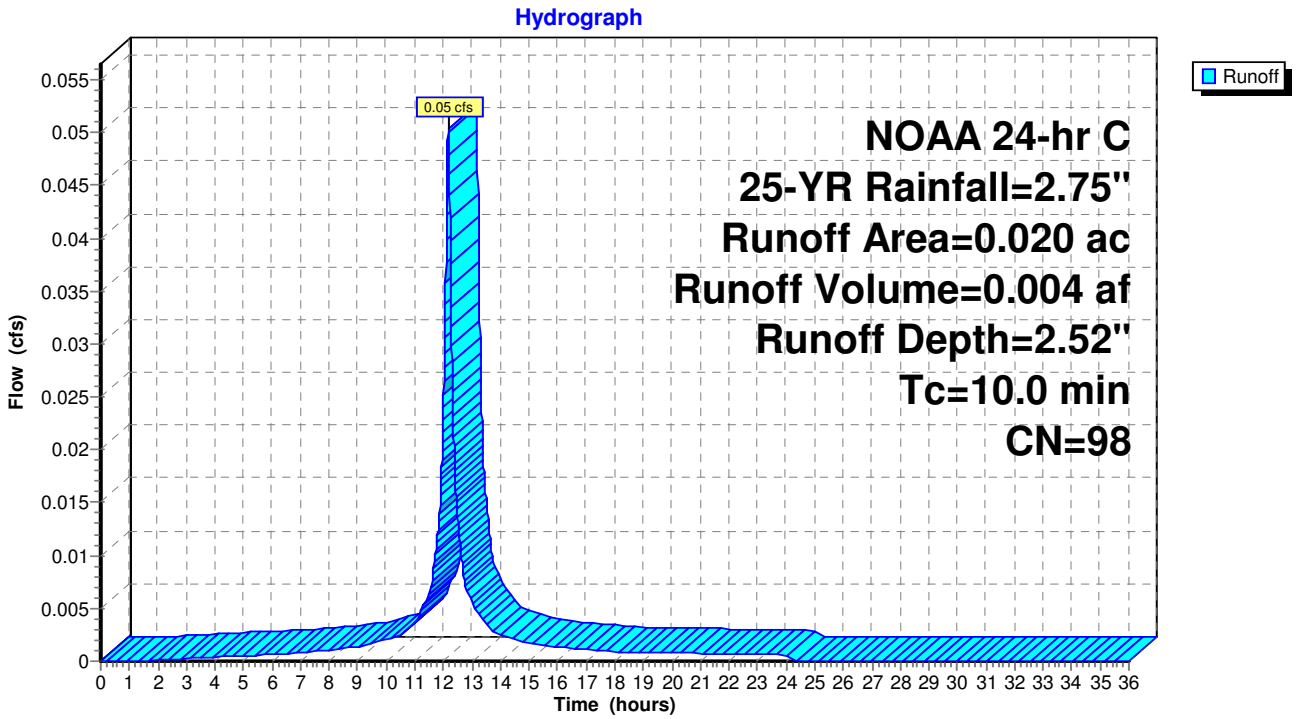
Runoff = 0.05 cfs @ 12.17 hrs, Volume= 0.004 af, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 25-YR Rainfall=2.75"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment DA4a: OS-4a



Hydrograph for Subcatchment DA4a: OS-4a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.06	0.00	0.00
2.50	0.08	0.01	0.00
3.00	0.10	0.01	0.00
3.50	0.12	0.02	0.00
4.00	0.13	0.03	0.00
4.50	0.15	0.04	0.00
5.00	0.17	0.05	0.00
5.50	0.20	0.07	0.00
6.00	0.22	0.08	0.00
6.50	0.24	0.10	0.00
7.00	0.27	0.12	0.00
7.50	0.30	0.14	0.00
8.00	0.33	0.17	0.00
8.50	0.36	0.20	0.00
9.00	0.40	0.23	0.00
9.50	0.45	0.27	0.00
10.00	0.50	0.32	0.00
10.50	0.57	0.38	0.00
11.00	0.66	0.47	0.00
11.50	0.81	0.61	0.01
12.00	1.31	1.09	**0.02**
12.50	1.94	1.71	**0.01**
13.00	2.09	1.86	0.01
13.50	2.18	1.96	0.00
14.00	2.25	2.02	0.00
14.50	2.30	2.08	0.00
15.00	2.35	2.12	0.00
15.50	2.39	2.16	0.00
16.00	2.42	2.19	0.00
16.50	2.45	2.22	0.00
17.00	2.48	2.25	0.00
17.50	2.51	2.28	0.00
18.00	2.53	2.30	0.00
18.50	2.55	2.32	0.00
19.00	2.58	2.35	0.00
19.50	2.60	2.37	0.00
20.00	2.62	2.39	0.00
20.50	2.63	2.40	0.00
21.00	2.65	2.42	0.00
21.50	2.67	2.44	0.00
22.00	2.69	2.46	0.00
22.50	2.70	2.47	0.00
23.00	2.72	2.49	0.00
23.50	2.73	2.50	0.00
24.00	**2.75**	**2.52**	0.00
24.50	2.75	2.52	0.00
25.00	2.75	2.52	0.00
25.50	2.75	2.52	0.00
26.00	2.75	2.52	0.00
26.50	2.75	2.52	0.00
27.00	2.75	2.52	0.00
27.50	2.75	2.52	0.00
28.00	2.75	2.52	0.00
28.50	2.75	2.52	0.00
29.00	2.75	2.52	0.00
29.50	2.75	2.52	0.00
30.00	2.75	2.52	0.00
30.50	2.75	2.52	0.00
31.00	2.75	2.52	0.00
31.50	2.75	2.52	0.00
32.00	2.75	2.52	0.00
32.50	2.75	2.52	0.00
33.00	2.75	2.52	0.00
33.50	2.75	2.52	0.00
34.00	2.75	2.52	0.00
34.50	2.75	2.52	0.00
35.00	2.75	2.52	0.00
35.50	2.75	2.52	0.00
36.00	2.75	2.52	0.00

Summary for Subcatchment OS-1: OS-1

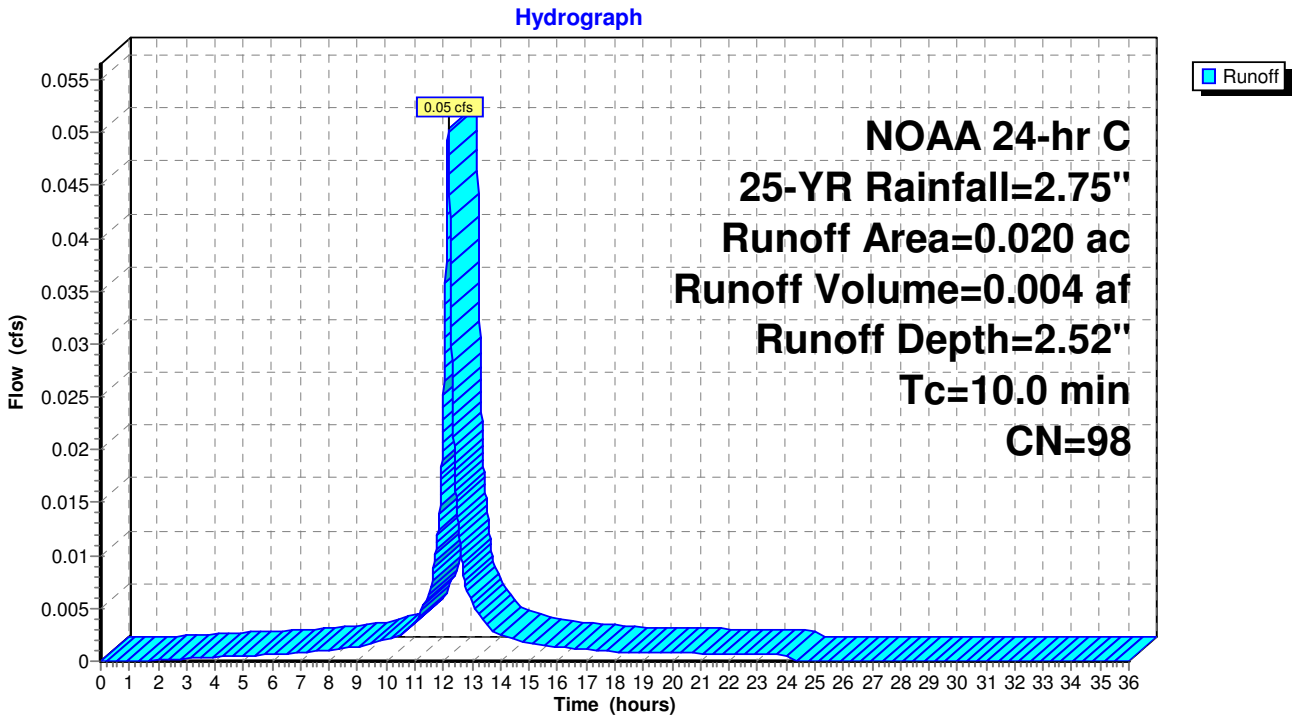
Runoff = 0.05 cfs @ 12.17 hrs, Volume= 0.004 af, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 25-YR Rainfall=2.75"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment OS-1: OS-1



Hydrograph for Subcatchment OS-1: OS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.06	0.00	0.00
2.50	0.08	0.01	0.00
3.00	0.10	0.01	0.00
3.50	0.12	0.02	0.00
4.00	0.13	0.03	0.00
4.50	0.15	0.04	0.00
5.00	0.17	0.05	0.00
5.50	0.20	0.07	0.00
6.00	0.22	0.08	0.00
6.50	0.24	0.10	0.00
7.00	0.27	0.12	0.00
7.50	0.30	0.14	0.00
8.00	0.33	0.17	0.00
8.50	0.36	0.20	0.00
9.00	0.40	0.23	0.00
9.50	0.45	0.27	0.00
10.00	0.50	0.32	0.00
10.50	0.57	0.38	0.00
11.00	0.66	0.47	0.00
11.50	0.81	0.61	0.01
12.00	1.31	1.09	**0.02**
12.50	1.94	1.71	**0.01**
13.00	2.09	1.86	0.01
13.50	2.18	1.96	0.00
14.00	2.25	2.02	0.00
14.50	2.30	2.08	0.00
15.00	2.35	2.12	0.00
15.50	2.39	2.16	0.00
16.00	2.42	2.19	0.00
16.50	2.45	2.22	0.00
17.00	2.48	2.25	0.00
17.50	2.51	2.28	0.00
18.00	2.53	2.30	0.00
18.50	2.55	2.32	0.00
19.00	2.58	2.35	0.00
19.50	2.60	2.37	0.00
20.00	2.62	2.39	0.00
20.50	2.63	2.40	0.00
21.00	2.65	2.42	0.00
21.50	2.67	2.44	0.00
22.00	2.69	2.46	0.00
22.50	2.70	2.47	0.00
23.00	2.72	2.49	0.00
23.50	2.73	2.50	0.00
24.00	**2.75**	**2.52**	0.00
24.50	2.75	2.52	0.00
25.00	2.75	2.52	0.00
25.50	2.75	2.52	0.00
26.00	2.75	2.52	0.00
26.50	2.75	2.52	0.00
27.00	2.75	2.52	0.00
27.50	2.75	2.52	0.00
28.00	2.75	2.52	0.00
28.50	2.75	2.52	0.00
29.00	2.75	2.52	0.00
29.50	2.75	2.52	0.00
30.00	2.75	2.52	0.00
30.50	2.75	2.52	0.00
31.00	2.75	2.52	0.00
31.50	2.75	2.52	0.00
32.00	2.75	2.52	0.00
32.50	2.75	2.52	0.00
33.00	2.75	2.52	0.00
33.50	2.75	2.52	0.00
34.00	2.75	2.52	0.00
34.50	2.75	2.52	0.00
35.00	2.75	2.52	0.00
35.50	2.75	2.52	0.00
36.00	2.75	2.52	0.00

Summary for Pond DP1: Site Pond

Allowable Discharge Rate =
10YR - .30 cfs per acre = .21 cfs
100YR - 1.00 cfs per acre = .70 cfs

Inflow Area = 0.620 ac, 85.48% Impervious, Inflow Depth = 2.12" for 25-YR event
Inflow = 1.42 cfs @ 12.17 hrs, Volume= 0.110 af
Outflow = 0.05 cfs @ 14.98 hrs, Volume= 0.074 af, Atten= 96%, Lag= 168.6 min
Primary = 0.05 cfs @ 14.98 hrs, Volume= 0.074 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 31.32' @ 14.98 hrs Surf.Area= 0 sf Storage= 3,274 cf

Plug-Flow detention time= 631.1 min calculated for 0.074 af (67% of inflow)
Center-of-Mass det. time= 533.4 min (1,330.5 - 797.1)

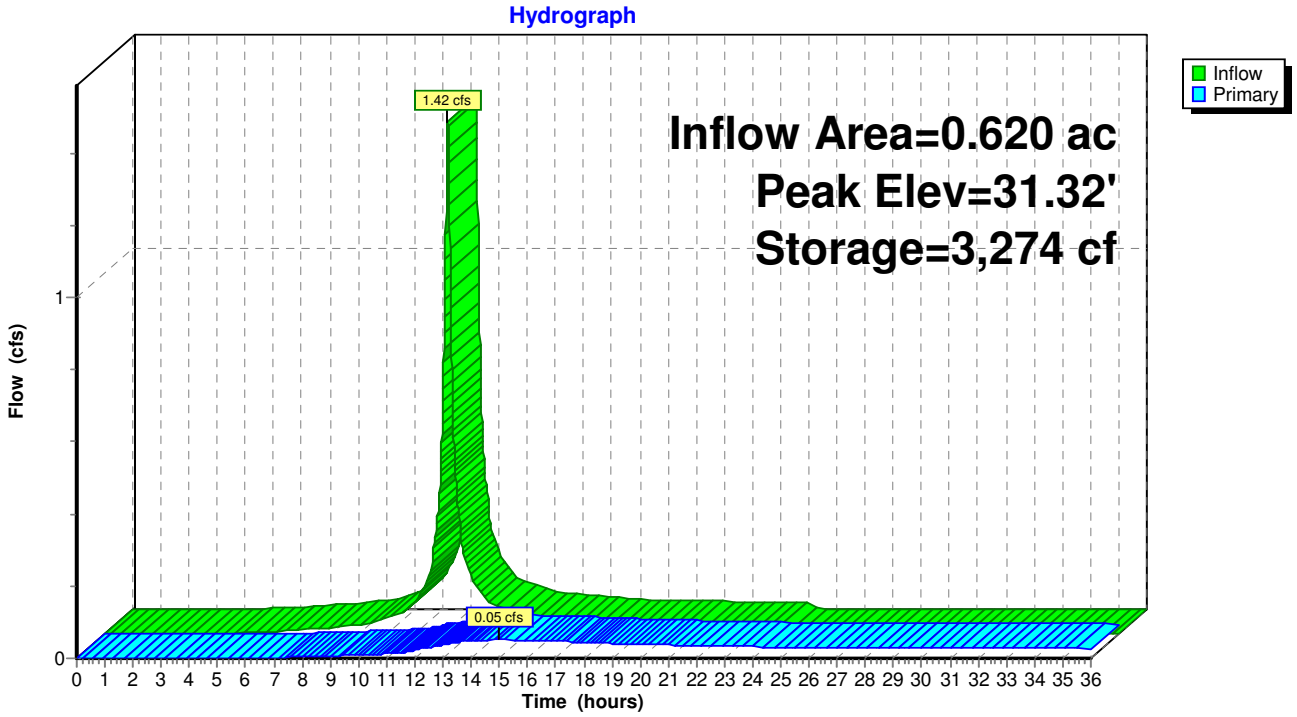
Volume	Invert	Avail.Storage	Storage Description
#1	29.75'	10,624 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
29.75	0
31.00	1,850
32.00	6,350
33.00	10,624

Device	Routing	Invert	Outlet Devices		
#1	Primary	29.75'	**1.0" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	31.20'	**2.0" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	32.52'	**4.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.05 cfs @ 14.98 hrs HW=31.32' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 5.95 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 1.16 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond DP1: Site Pond



Hydrograph for Pond DP1: Site Pond

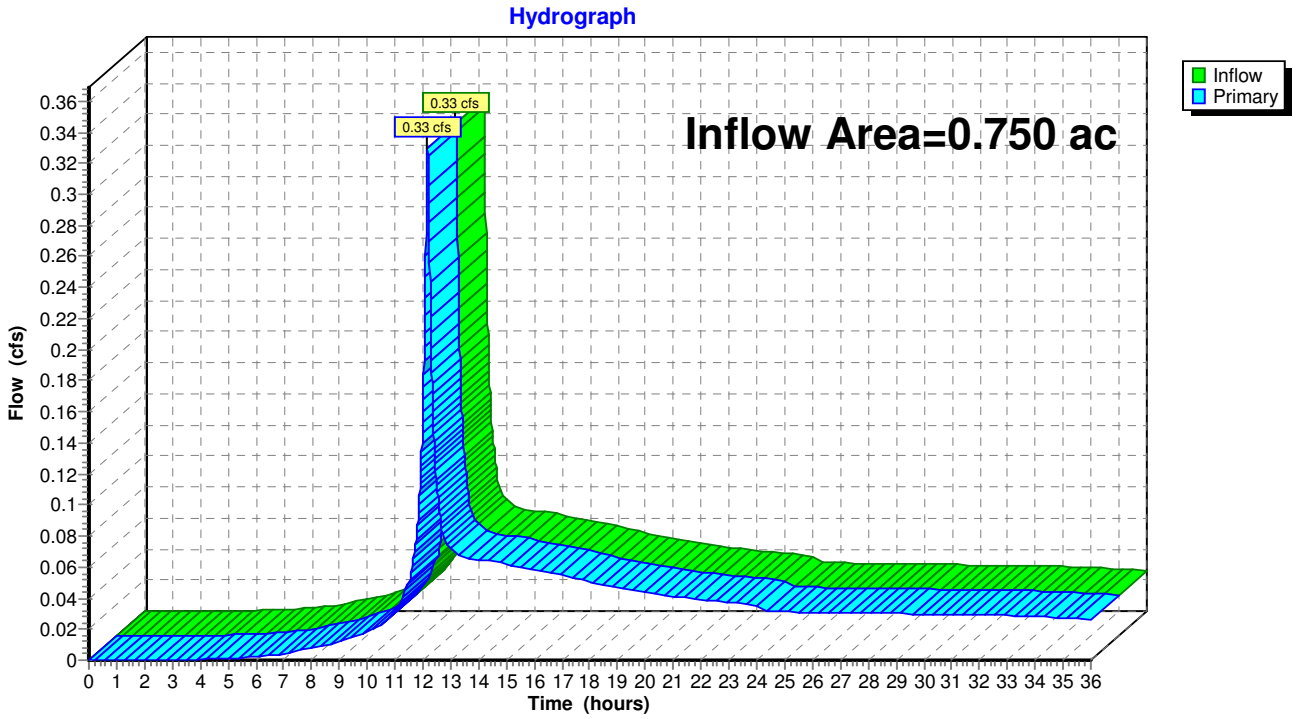
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	29.75	0.00
1.00	0.00	0	29.75	0.00
2.00	0.00	0	29.75	0.00
3.00	0.00	1	29.75	0.00
4.00	0.00	2	29.75	0.00
5.00	0.00	8	29.76	0.00
6.00	0.01	25	29.77	0.00
7.00	0.01	52	29.79	0.00
8.00	0.02	94	29.81	0.00
9.00	0.02	149	29.85	0.01
10.00	0.04	239	29.91	0.01
11.00	0.09	411	30.03	0.01
12.00	**0.65**	1,125	30.51	0.02
13.00	**0.16**	3,006	31.26	0.04
14.00	0.08	**3,228**	**31.31**	**0.05**
15.00	0.05	**3,274**	**31.32**	**0.05**
16.00	0.04	3,251	31.31	0.05
17.00	0.03	3,210	31.30	0.05
18.00	0.03	3,156	31.29	0.04
19.00	0.03	3,095	31.28	0.04
20.00	0.02	3,039	31.26	0.04
21.00	0.02	2,985	31.25	0.04
22.00	0.02	2,934	31.24	0.03
23.00	0.02	2,882	31.23	0.03
24.00	0.02	2,829	31.22	0.03
25.00	0.00	2,726	31.19	0.03
26.00	0.00	2,615	31.17	0.03
27.00	0.00	2,504	31.15	0.03
28.00	0.00	2,395	31.12	0.03
29.00	0.00	2,286	31.10	0.03
30.00	0.00	2,179	31.07	0.03
31.00	0.00	2,072	31.05	0.03
32.00	0.00	1,967	31.03	0.03
33.00	0.00	1,862	31.00	0.03
34.00	0.00	1,759	30.94	0.03
35.00	0.00	1,660	30.87	0.03
36.00	0.00	1,563	30.81	0.03

Summary for Pond POE1: APEN VILLAGE DRIVE

Inflow Area = 0.750 ac, 85.33% Impervious, Inflow Depth > 1.56" for 25-YR event
Inflow = 0.33 cfs @ 12.17 hrs, Volume= 0.097 af
Primary = 0.33 cfs @ 12.17 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Pond POE1: APEN VILLAGE DRIVE



Hydrograph for Pond POE1: APEN VILLAGE DRIVE

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.50	0.00		0.00
1.00	0.00		0.00
1.50	0.00		0.00
2.00	0.00		0.00
2.50	0.00		0.00
3.00	0.00		0.00
3.50	0.00		0.00
4.00	0.00		0.00
4.50	0.00		0.00
5.00	0.00		0.00
5.50	0.00		0.00
6.00	0.00		0.00
6.50	0.00		0.00
7.00	0.00		0.00
7.50	0.01		0.01
8.00	0.01		0.01
8.50	0.01		0.01
9.00	0.01		0.01
9.50	0.01		0.01
10.00	0.02		0.02
10.50	0.02		0.02
11.00	0.03		0.03
11.50	0.05		0.05
12.00	**0.16**		**0.16**
12.50	**0.11**		**0.11**
13.00	0.07		0.07
13.50	0.07		0.07
14.00	0.06		0.06
14.50	0.06		0.06
15.00	0.06		0.06
15.50	0.06		0.06
16.00	0.06		0.06
16.50	0.06		0.06
17.00	0.05		0.05
17.50	0.05		0.05
18.00	0.05		0.05
18.50	0.05		0.05
19.00	0.05		0.05
19.50	0.05		0.05
20.00	0.04		0.04
20.50	0.04		0.04
21.00	0.04		0.04
21.50	0.04		0.04
22.00	0.04		0.04
22.50	0.04		0.04
23.00	0.04		0.04
23.50	0.04		0.04
24.00	0.04		0.04
24.50	0.03		0.03
25.00	0.03		0.03
25.50	0.03		0.03
26.00	0.03		0.03
26.50	0.03		0.03
27.00	0.03		0.03
27.50	0.03		0.03
28.00	0.03		0.03
28.50	0.03		0.03
29.00	0.03		0.03
29.50	0.03		0.03
30.00	0.03		0.03
30.50	0.03		0.03
31.00	0.03		0.03
31.50	0.03		0.03
32.00	0.03		0.03
32.50	0.03		0.03
33.00	0.03		0.03
33.50	0.03		0.03
34.00	0.03		0.03
34.50	0.03		0.03
35.00	0.03		0.03
35.50	0.03		0.03
36.00	0.03		0.03

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1-4: Taco Bell Site Runoff Area=0.600 ac 85.00% Impervious Runoff Depth=2.44"
Tc=10.0 min CN=94 Runoff=1.57 cfs 0.122 af

Subcatchment DA 10-14: Taco Bell Site-Not Runoff Area=0.110 ac 81.82% Impervious Runoff Depth=2.44"
Tc=10.0 min CN=94 Runoff=0.29 cfs 0.022 af

Subcatchment DA4a: OS-4a Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=2.86"
Tc=10.0 min CN=98 Runoff=0.06 cfs 0.005 af

Subcatchment OS-1: OS-1 Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=2.86"
Tc=10.0 min CN=98 Runoff=0.06 cfs 0.005 af

Pond DP1: Site Pond Peak Elev=31.41' Storage=3,678 cf Inflow=1.62 cfs 0.127 af
Outflow=0.07 cfs 0.088 af

Pond POE1: APEN VILLAGE DRIVE Inflow=0.37 cfs 0.115 af
Primary=0.37 cfs 0.115 af

Total Runoff Area = 0.750 ac Runoff Volume = 0.154 af Average Runoff Depth = 2.46"
14.67% Pervious = 0.110 ac 85.33% Impervious = 0.640 ac

Summary for Subcatchment DA 1-4: Taco Bell Site

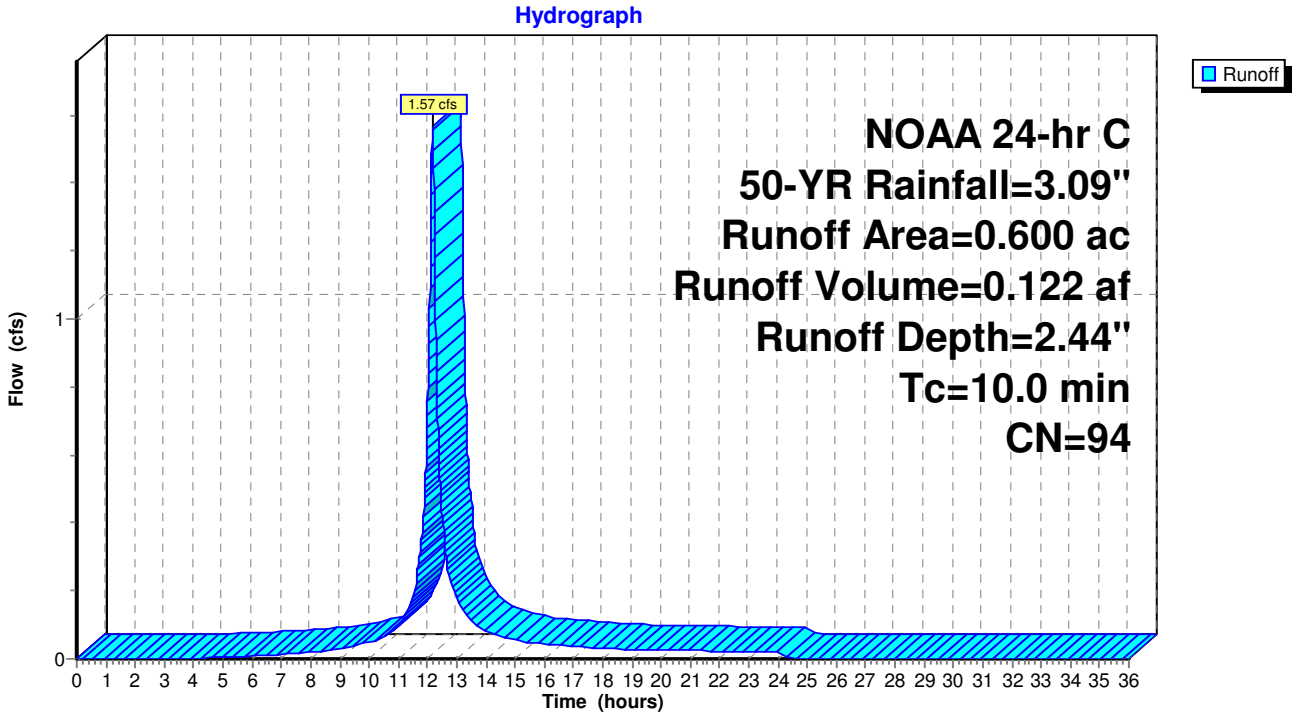
Runoff = 1.57 cfs @ 12.17 hrs, Volume= 0.122 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 50-YR Rainfall=3.09"

Area (ac)	CN	Description
0.600	94	Urban commercial, 85% imp, HSG C
0.090		15.00% Pervious Area
0.510		85.00% Impervious Area

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

Subcatchment DA 1-4: Taco Bell Site



Hydrograph for Subcatchment DA 1-4: Taco Bell Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.11	0.00	0.00
3.50	0.13	0.00	0.00
4.00	0.15	0.00	0.00
4.50	0.17	0.00	0.00
5.00	0.20	0.01	0.00
5.50	0.22	0.01	0.01
6.00	0.24	0.02	0.01
6.50	0.27	0.03	0.01
7.00	0.30	0.04	0.01
7.50	0.33	0.05	0.02
8.00	0.37	0.07	0.02
8.50	0.41	0.09	0.02
9.00	0.45	0.11	0.03
9.50	0.50	0.14	0.04
10.00	0.56	0.18	0.05
10.50	0.64	0.23	0.06
11.00	0.74	0.30	0.10
11.50	0.91	0.43	0.18
12.00	1.47	0.91	**0.72**
12.50	2.18	1.56	**0.42**
13.00	2.35	1.72	0.18
13.50	2.45	1.82	0.11
14.00	2.53	1.89	0.08
14.50	2.59	1.95	0.07
15.00	2.64	2.00	0.06
15.50	2.68	2.04	0.05
16.00	2.72	2.08	0.04
16.50	2.76	2.11	0.04
17.00	2.79	2.15	0.04
17.50	2.82	2.17	0.03
18.00	2.85	2.20	0.03
18.50	2.87	2.22	0.03
19.00	2.89	2.25	0.03
19.50	2.92	2.27	0.03
20.00	2.94	2.29	0.03
20.50	2.96	2.31	0.02
21.00	2.98	2.33	0.02
21.50	3.00	2.35	0.02
22.00	3.02	2.37	0.02
22.50	3.04	2.39	0.02
23.00	3.06	2.40	0.02
23.50	3.07	2.42	0.02
24.00	**3.09**	**2.44**	0.02
24.50	3.09	2.44	0.00
25.00	3.09	2.44	0.00
25.50	3.09	2.44	0.00
26.00	3.09	2.44	0.00
26.50	3.09	2.44	0.00
27.00	3.09	2.44	0.00
27.50	3.09	2.44	0.00
28.00	3.09	2.44	0.00
28.50	3.09	2.44	0.00
29.00	3.09	2.44	0.00
29.50	3.09	2.44	0.00
30.00	3.09	2.44	0.00
30.50	3.09	2.44	0.00
31.00	3.09	2.44	0.00
31.50	3.09	2.44	0.00
32.00	3.09	2.44	0.00
32.50	3.09	2.44	0.00
33.00	3.09	2.44	0.00
33.50	3.09	2.44	0.00
34.00	3.09	2.44	0.00
34.50	3.09	2.44	0.00
35.00	3.09	2.44	0.00
35.50	3.09	2.44	0.00
36.00	3.09	2.44	0.00

Summary for Subcatchment DA 10-14: Taco Bell Site-Not Detained

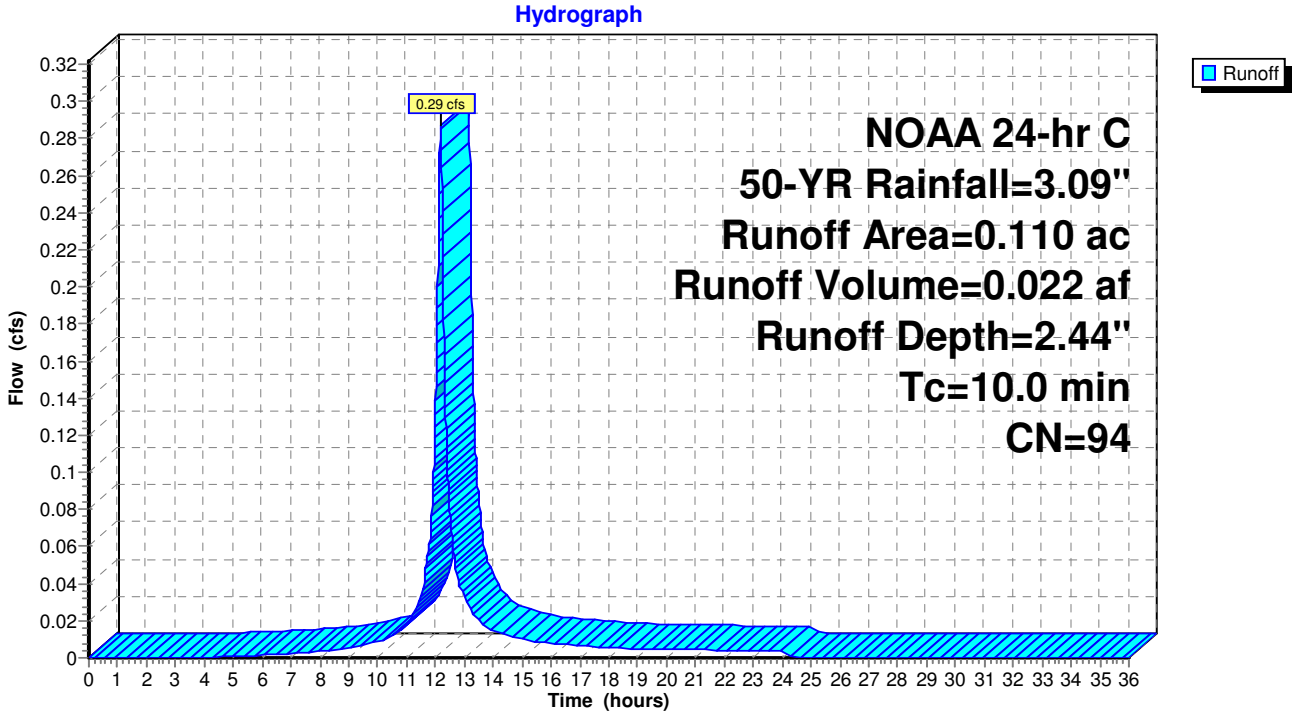
Runoff = 0.29 cfs @ 12.17 hrs, Volume= 0.022 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 50-YR Rainfall=3.09"

	Area (ac)	CN	Description
*	0.070	98	DA 10 - Paved parking, HSG C
*	0.010	74	DA 11 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 12 - Paved parking, HSG C
*	0.010	74	DA 13 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 14 Paved parking, HSG C
	0.110	94	Weighted Average
	0.020		18.18% Pervious Area
	0.090		81.82% Impervious Area

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

Subcatchment DA 10-14: Taco Bell Site-Not Detained



Hydrograph for Subcatchment DA 10-14: Taco Bell Site-Not Detained

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.11	0.00	0.00
3.50	0.13	0.00	0.00
4.00	0.15	0.00	0.00
4.50	0.17	0.00	0.00
5.00	0.20	0.01	0.00
5.50	0.22	0.01	0.00
6.00	0.24	0.02	0.00
6.50	0.27	0.03	0.00
7.00	0.30	0.04	0.00
7.50	0.33	0.05	0.00
8.00	0.37	0.07	0.00
8.50	0.41	0.09	0.00
9.00	0.45	0.11	0.01
9.50	0.50	0.14	0.01
10.00	0.56	0.18	0.01
10.50	0.64	0.23	0.01
11.00	0.74	0.30	0.02
11.50	0.91	0.43	0.03
12.00	1.47	0.91	**0.13**
12.50	2.18	1.56	**0.08**
13.00	2.35	1.72	0.03
13.50	2.45	1.82	0.02
14.00	2.53	1.89	0.02
14.50	2.59	1.95	0.01
15.00	2.64	2.00	0.01
15.50	2.68	2.04	0.01
16.00	2.72	2.08	0.01
16.50	2.76	2.11	0.01
17.00	2.79	2.15	0.01
17.50	2.82	2.17	0.01
18.00	2.85	2.20	0.01
18.50	2.87	2.22	0.01
19.00	2.89	2.25	0.01
19.50	2.92	2.27	0.00
20.00	2.94	2.29	0.00
20.50	2.96	2.31	0.00
21.00	2.98	2.33	0.00
21.50	3.00	2.35	0.00
22.00	3.02	2.37	0.00
22.50	3.04	2.39	0.00
23.00	3.06	2.40	0.00
23.50	3.07	2.42	0.00
24.00	**3.09**	**2.44**	0.00
24.50	3.09	2.44	0.00
25.00	3.09	2.44	0.00
25.50	3.09	2.44	0.00
26.00	3.09	2.44	0.00
26.50	3.09	2.44	0.00
27.00	3.09	2.44	0.00
27.50	3.09	2.44	0.00
28.00	3.09	2.44	0.00
28.50	3.09	2.44	0.00
29.00	3.09	2.44	0.00
29.50	3.09	2.44	0.00
30.00	3.09	2.44	0.00
30.50	3.09	2.44	0.00
31.00	3.09	2.44	0.00
31.50	3.09	2.44	0.00
32.00	3.09	2.44	0.00
32.50	3.09	2.44	0.00
33.00	3.09	2.44	0.00
33.50	3.09	2.44	0.00
34.00	3.09	2.44	0.00
34.50	3.09	2.44	0.00
35.00	3.09	2.44	0.00
35.50	3.09	2.44	0.00
36.00	3.09	2.44	0.00

Summary for Subcatchment DA4a: OS-4a

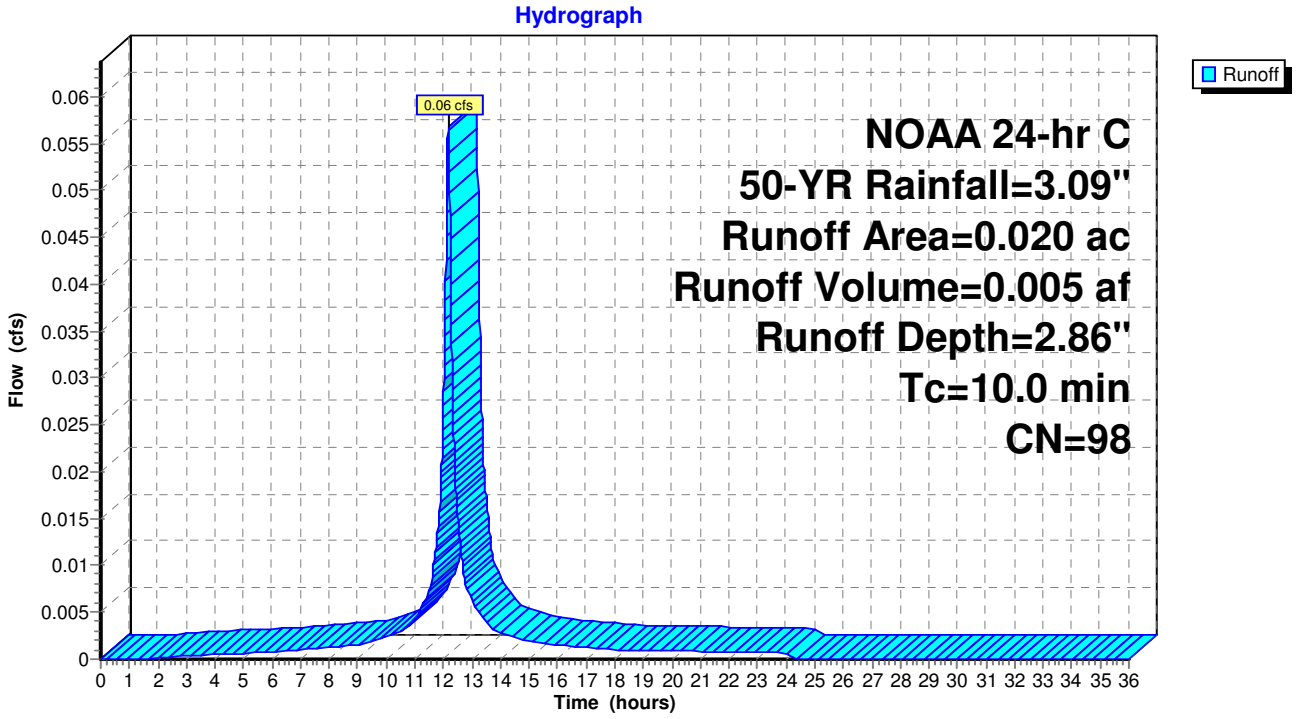
Runoff = 0.06 cfs @ 12.17 hrs, Volume= 0.005 af, Depth= 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 50-YR Rainfall=3.09"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment DA4a: OS-4a



Hydrograph for Subcatchment DA4a: OS-4a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.01	0.00
3.00	0.11	0.02	0.00
3.50	0.13	0.03	0.00
4.00	0.15	0.04	0.00
4.50	0.17	0.05	0.00
5.00	0.20	0.07	0.00
5.50	0.22	0.08	0.00
6.00	0.24	0.10	0.00
6.50	0.27	0.12	0.00
7.00	0.30	0.15	0.00
7.50	0.33	0.17	0.00
8.00	0.37	0.20	0.00
8.50	0.41	0.24	0.00
9.00	0.45	0.27	0.00
9.50	0.50	0.32	0.00
10.00	0.56	0.38	0.00
10.50	0.64	0.44	0.00
11.00	0.74	0.54	0.00
11.50	0.91	0.71	0.01
12.00	1.47	1.25	**0.03**
12.50	2.18	1.95	**0.01**
13.00	2.35	2.12	0.01
13.50	2.45	2.22	0.00
14.00	2.53	2.30	0.00
14.50	2.59	2.36	0.00
15.00	2.64	2.41	0.00
15.50	2.68	2.45	0.00
16.00	2.72	2.49	0.00
16.50	2.76	2.53	0.00
17.00	2.79	2.56	0.00
17.50	2.82	2.59	0.00
18.00	2.85	2.61	0.00
18.50	2.87	2.64	0.00
19.00	2.89	2.66	0.00
19.50	2.92	2.69	0.00
20.00	2.94	2.71	0.00
20.50	2.96	2.73	0.00
21.00	2.98	2.75	0.00
21.50	3.00	2.77	0.00
22.00	3.02	2.79	0.00
22.50	3.04	2.81	0.00
23.00	3.06	2.82	0.00
23.50	3.07	2.84	0.00
24.00	**3.09**	**2.86**	0.00
24.50	3.09	2.86	0.00
25.00	3.09	2.86	0.00
25.50	3.09	2.86	0.00
26.00	3.09	2.86	0.00
26.50	3.09	2.86	0.00
27.00	3.09	2.86	0.00
27.50	3.09	2.86	0.00
28.00	3.09	2.86	0.00
28.50	3.09	2.86	0.00
29.00	3.09	2.86	0.00
29.50	3.09	2.86	0.00
30.00	3.09	2.86	0.00
30.50	3.09	2.86	0.00
31.00	3.09	2.86	0.00
31.50	3.09	2.86	0.00
32.00	3.09	2.86	0.00
32.50	3.09	2.86	0.00
33.00	3.09	2.86	0.00
33.50	3.09	2.86	0.00
34.00	3.09	2.86	0.00
34.50	3.09	2.86	0.00
35.00	3.09	2.86	0.00
35.50	3.09	2.86	0.00
36.00	3.09	2.86	0.00

Summary for Subcatchment OS-1: OS-1

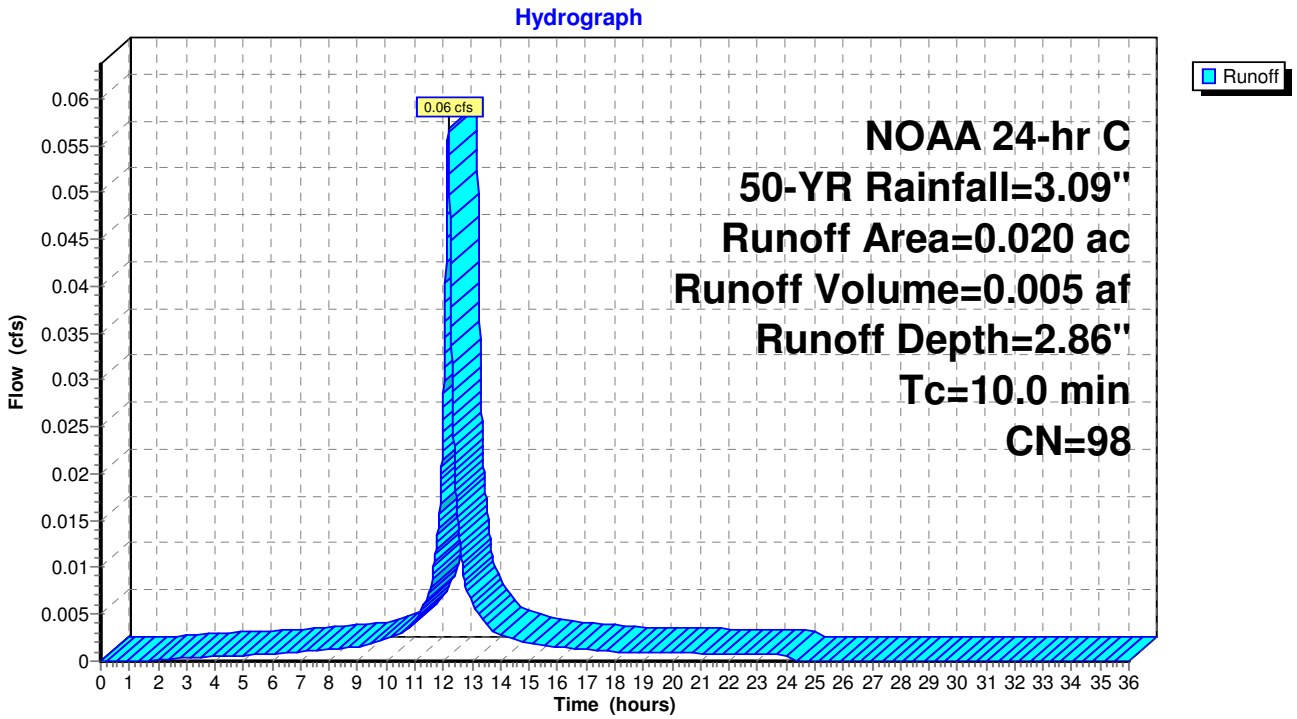
Runoff = 0.06 cfs @ 12.17 hrs, Volume= 0.005 af, Depth= 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 50-YR Rainfall=3.09"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment OS-1: OS-1



Hydrograph for Subcatchment OS-1: OS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.03	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.01	0.00
3.00	0.11	0.02	0.00
3.50	0.13	0.03	0.00
4.00	0.15	0.04	0.00
4.50	0.17	0.05	0.00
5.00	0.20	0.07	0.00
5.50	0.22	0.08	0.00
6.00	0.24	0.10	0.00
6.50	0.27	0.12	0.00
7.00	0.30	0.15	0.00
7.50	0.33	0.17	0.00
8.00	0.37	0.20	0.00
8.50	0.41	0.24	0.00
9.00	0.45	0.27	0.00
9.50	0.50	0.32	0.00
10.00	0.56	0.38	0.00
10.50	0.64	0.44	0.00
11.00	0.74	0.54	0.00
11.50	0.91	0.71	0.01
12.00	1.47	1.25	**0.03**
12.50	2.18	1.95	**0.01**
13.00	2.35	2.12	0.01
13.50	2.45	2.22	0.00
14.00	2.53	2.30	0.00
14.50	2.59	2.36	0.00
15.00	2.64	2.41	0.00
15.50	2.68	2.45	0.00
16.00	2.72	2.49	0.00
16.50	2.76	2.53	0.00
17.00	2.79	2.56	0.00
17.50	2.82	2.59	0.00
18.00	2.85	2.61	0.00
18.50	2.87	2.64	0.00
19.00	2.89	2.66	0.00
19.50	2.92	2.69	0.00
20.00	2.94	2.71	0.00
20.50	2.96	2.73	0.00
21.00	2.98	2.75	0.00
21.50	3.00	2.77	0.00
22.00	3.02	2.79	0.00
22.50	3.04	2.81	0.00
23.00	3.06	2.82	0.00
23.50	3.07	2.84	0.00
24.00	**3.09**	**2.86**	0.00
24.50	3.09	2.86	0.00
25.00	3.09	2.86	0.00
25.50	3.09	2.86	0.00
26.00	3.09	2.86	0.00
26.50	3.09	2.86	0.00
27.00	3.09	2.86	0.00
27.50	3.09	2.86	0.00
28.00	3.09	2.86	0.00
28.50	3.09	2.86	0.00
29.00	3.09	2.86	0.00
29.50	3.09	2.86	0.00
30.00	3.09	2.86	0.00
30.50	3.09	2.86	0.00
31.00	3.09	2.86	0.00
31.50	3.09	2.86	0.00
32.00	3.09	2.86	0.00
32.50	3.09	2.86	0.00
33.00	3.09	2.86	0.00
33.50	3.09	2.86	0.00
34.00	3.09	2.86	0.00
34.50	3.09	2.86	0.00
35.00	3.09	2.86	0.00
35.50	3.09	2.86	0.00
36.00	3.09	2.86	0.00

Summary for Pond DP1: Site Pond

Allowable Discharge Rate =
10YR - .30 cfs per acre = .21 cfs
100YR - 1.00 cfs per acre = .70 cfs

Inflow Area = 0.620 ac, 85.48% Impervious, Inflow Depth = 2.45" for 50-YR event
Inflow = 1.62 cfs @ 12.17 hrs, Volume= 0.127 af
Outflow = 0.07 cfs @ 14.55 hrs, Volume= 0.088 af, Atten= 96%, Lag= 142.6 min
Primary = 0.07 cfs @ 14.55 hrs, Volume= 0.088 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 31.41' @ 14.55 hrs Surf.Area= 0 sf Storage= 3,678 cf

Plug-Flow detention time= 581.1 min calculated for 0.088 af (70% of inflow)
Center-of-Mass det. time= 486.5 min (1,279.7 - 793.1)

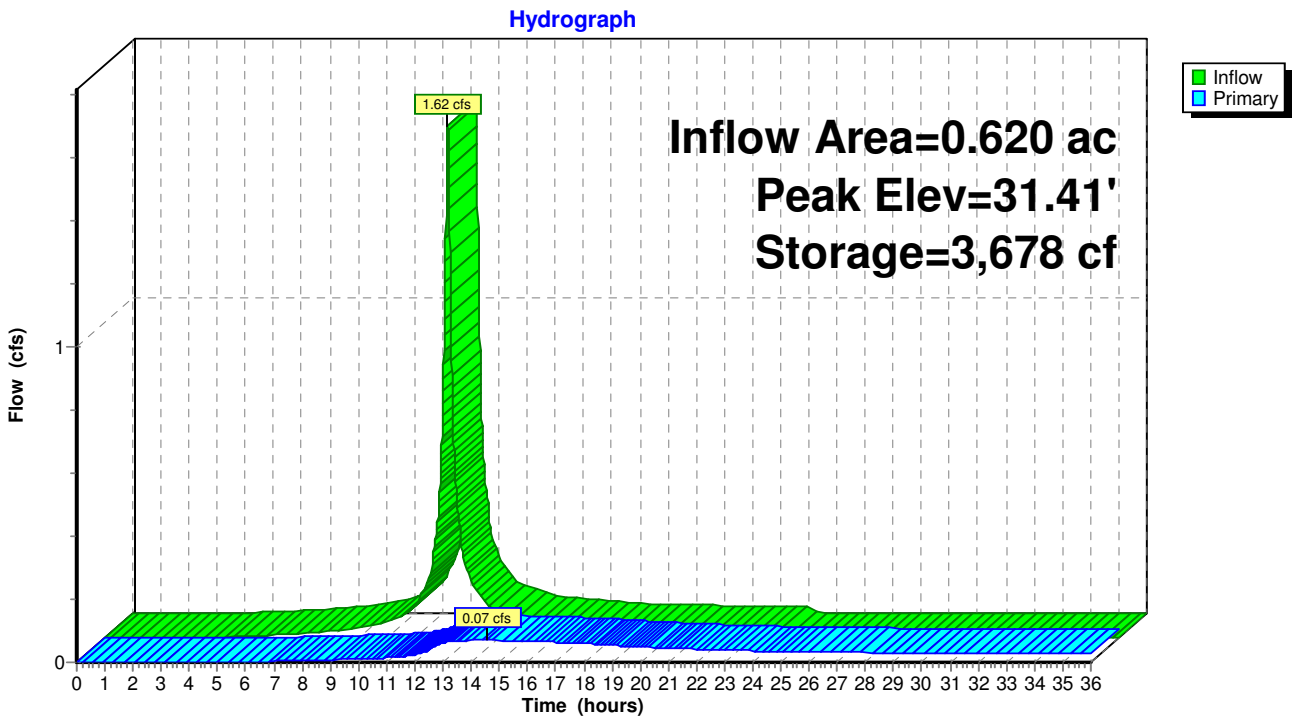
Volume	Invert	Avail.Storage	Storage Description
#1	29.75'	10,624 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
29.75	0
31.00	1,850
32.00	6,350
33.00	10,624

Device	Routing	Invert	Outlet Devices		
#1	Primary	29.75'	**1.0" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	31.20'	**2.0" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	32.52'	**4.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.07 cfs @ 14.55 hrs HW=31.41' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 6.12 fps)
├─**2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 1.69 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond DP1: Site Pond



Hydrograph for Pond DP1: Site Pond

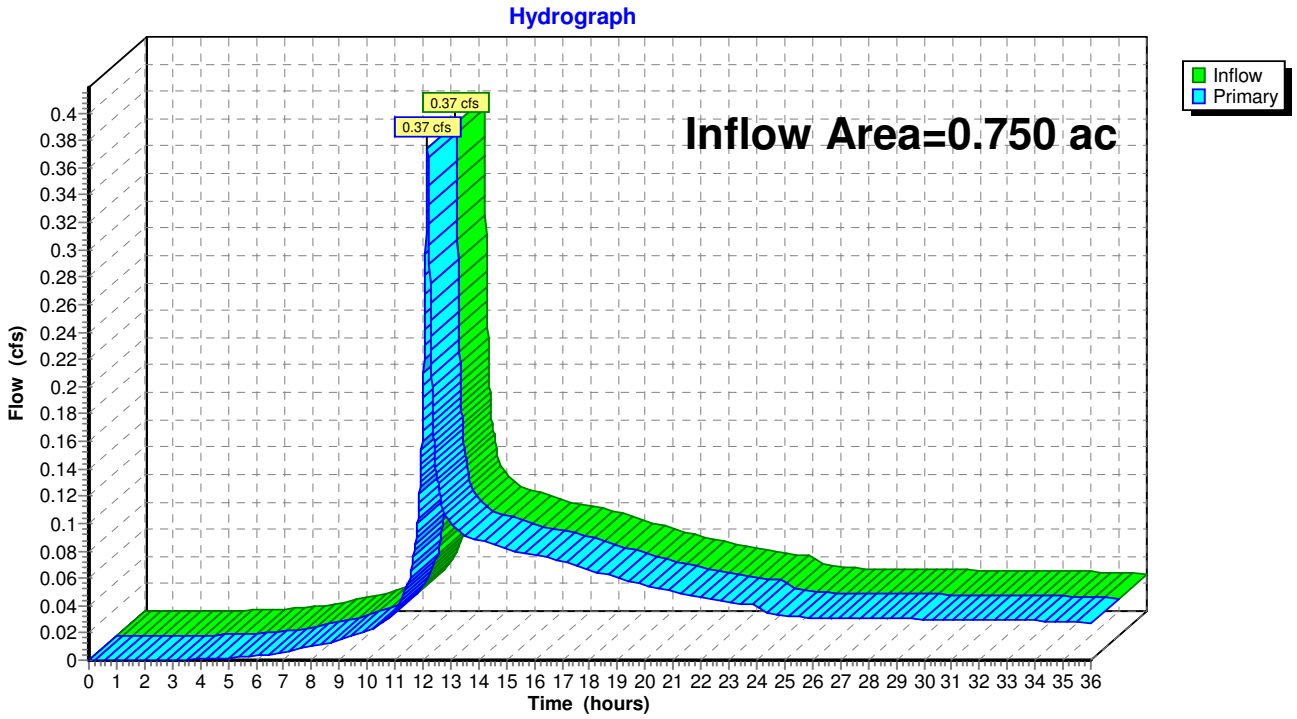
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	29.75	0.00
1.00	0.00	0	29.75	0.00
2.00	0.00	0	29.75	0.00
3.00	0.00	1	29.75	0.00
4.00	0.00	3	29.75	0.00
5.00	0.01	15	29.76	0.00
6.00	0.01	39	29.78	0.00
7.00	0.01	74	29.80	0.00
8.00	0.02	124	29.83	0.01
9.00	0.03	193	29.88	0.01
10.00	0.05	303	29.95	0.01
11.00	0.10	510	30.09	0.01
12.00	**0.75**	1,346	30.66	0.02
13.00	**0.19**	3,471	31.36	0.06
14.00	0.09	**3,663**	**31.40**	**0.07**
15.00	0.06	**3,668**	**31.40**	**0.07**
16.00	0.05	3,602	31.39	0.07
17.00	0.04	3,519	31.37	0.06
18.00	0.03	3,423	31.35	0.06
19.00	0.03	3,324	31.33	0.05
20.00	0.03	3,237	31.31	0.05
21.00	0.02	3,161	31.29	0.04
22.00	0.02	3,093	31.28	0.04
23.00	0.02	3,029	31.26	0.04
24.00	0.02	2,969	31.25	0.04
25.00	0.00	2,858	31.22	0.03
26.00	0.00	2,743	31.20	0.03
27.00	0.00	2,632	31.17	0.03
28.00	0.00	2,521	31.15	0.03
29.00	0.00	2,411	31.12	0.03
30.00	0.00	2,303	31.10	0.03
31.00	0.00	2,195	31.08	0.03
32.00	0.00	2,088	31.05	0.03
33.00	0.00	1,983	31.03	0.03
34.00	0.00	1,878	31.01	0.03
35.00	0.00	1,775	30.95	0.03
36.00	0.00	1,675	30.88	0.03

Summary for Pond POE1: APEN VILLAGE DRIVE

Inflow Area = 0.750 ac, 85.33% Impervious, Inflow Depth > 1.84" for 50-YR event
Inflow = 0.37 cfs @ 12.17 hrs, Volume= 0.115 af
Primary = 0.37 cfs @ 12.17 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Pond POE1: APEN VILLAGE DRIVE



Hydrograph for Pond POE1: APEN VILLAGE DRIVE

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.50	0.00		0.00
1.00	0.00		0.00
1.50	0.00		0.00
2.00	0.00		0.00
2.50	0.00		0.00
3.00	0.00		0.00
3.50	0.00		0.00
4.00	0.00		0.00
4.50	0.00		0.00
5.00	0.00		0.00
5.50	0.00		0.00
6.00	0.00		0.00
6.50	0.00		0.00
7.00	0.01		0.01
7.50	0.01		0.01
8.00	0.01		0.01
8.50	0.01		0.01
9.00	0.01		0.01
9.50	0.02		0.02
10.00	0.02		0.02
10.50	0.03		0.03
11.00	0.04		0.04
11.50	0.06		0.06
12.00	**0.18**		**0.18**
12.50	**0.13**		**0.13**
13.00	0.10		0.10
13.50	0.09		0.09
14.00	0.09		0.09
14.50	0.09		0.09
15.00	0.08		0.08
15.50	0.08		0.08
16.00	0.08		0.08
16.50	0.07		0.07
17.00	0.07		0.07
17.50	0.07		0.07
18.00	0.07		0.07
18.50	0.06		0.06
19.00	0.06		0.06
19.50	0.06		0.06
20.00	0.05		0.05
20.50	0.05		0.05
21.00	0.05		0.05
21.50	0.05		0.05
22.00	0.05		0.05
22.50	0.04		0.04
23.00	0.04		0.04
23.50	0.04		0.04
24.00	0.04		0.04
24.50	0.03		0.03
25.00	0.03		0.03
25.50	0.03		0.03
26.00	0.03		0.03
26.50	0.03		0.03
27.00	0.03		0.03
27.50	0.03		0.03
28.00	0.03		0.03
28.50	0.03		0.03
29.00	0.03		0.03
29.50	0.03		0.03
30.00	0.03		0.03
30.50	0.03		0.03
31.00	0.03		0.03
31.50	0.03		0.03
32.00	0.03		0.03
32.50	0.03		0.03
33.00	0.03		0.03
33.50	0.03		0.03
34.00	0.03		0.03
34.50	0.03		0.03
35.00	0.03		0.03
35.50	0.03		0.03
36.00	0.03		0.03

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1-4: Taco Bell Site Runoff Area=0.600 ac 85.00% Impervious Runoff Depth=2.80"
Tc=10.0 min CN=94 Runoff=1.78 cfs 0.140 af

Subcatchment DA 10-14: Taco Bell Site-Not Runoff Area=0.110 ac 81.82% Impervious Runoff Depth=2.80"
Tc=10.0 min CN=94 Runoff=0.33 cfs 0.026 af

Subcatchment DA4a: OS-4a Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=3.23"
Tc=10.0 min CN=98 Runoff=0.06 cfs 0.005 af

Subcatchment OS-1: OS-1 Runoff Area=0.020 ac 100.00% Impervious Runoff Depth=3.23"
Tc=10.0 min CN=98 Runoff=0.06 cfs 0.005 af

Pond DP1: Site Pond Peak Elev=31.52' Storage=4,171 cf Inflow=1.85 cfs 0.145 af
Outflow=0.09 cfs 0.104 af

Pond POE1: APEN VILLAGE DRIVE Inflow=0.42 cfs 0.135 af
Primary=0.42 cfs 0.135 af

Total Runoff Area = 0.750 ac Runoff Volume = 0.176 af Average Runoff Depth = 2.82"
14.67% Pervious = 0.110 ac 85.33% Impervious = 0.640 ac

Summary for Subcatchment DA 1-4: Taco Bell Site

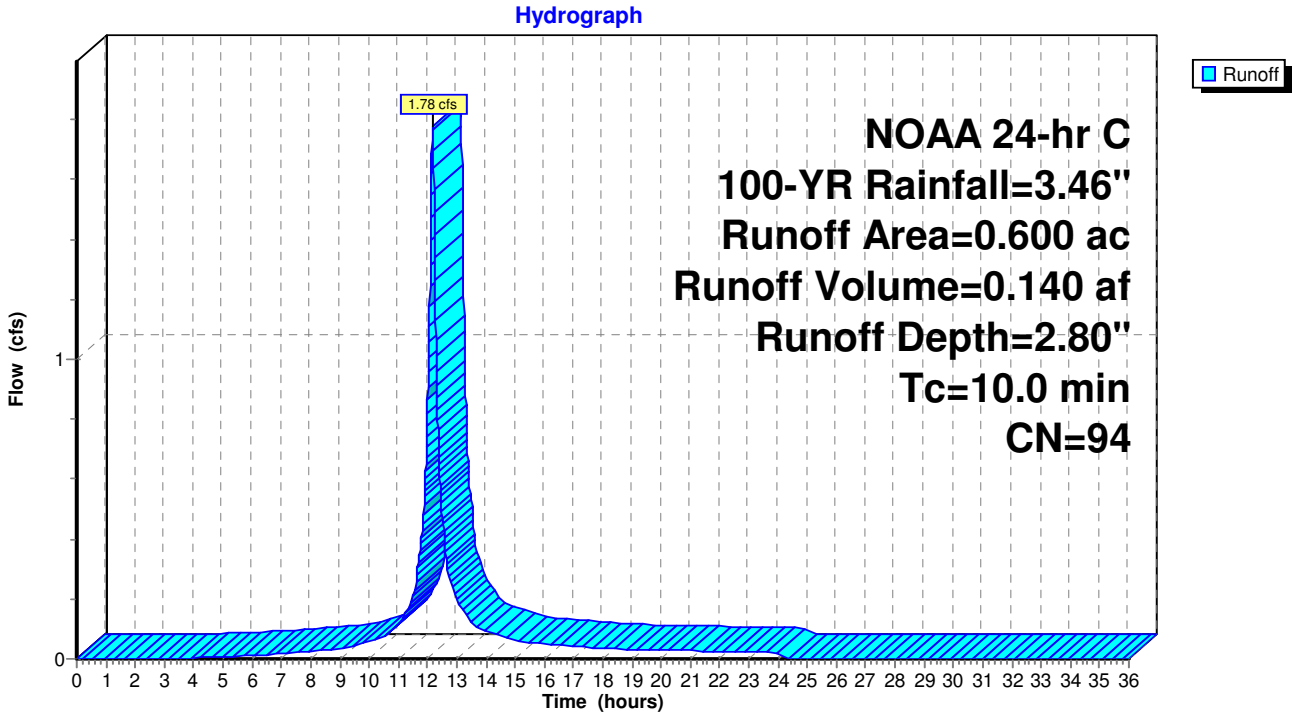
Runoff = 1.78 cfs @ 12.17 hrs, Volume= 0.140 af, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-YR Rainfall=3.46"

Area (ac)	CN	Description
0.600	94	Urban commercial, 85% imp, HSG C
0.090		15.00% Pervious Area
0.510		85.00% Impervious Area

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

Subcatchment DA 1-4: Taco Bell Site



Hydrograph for Subcatchment DA 1-4: Taco Bell Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.06	0.00	0.00
2.00	0.08	0.00	0.00
2.50	0.10	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.15	0.00	0.00
4.00	0.17	0.00	0.00
4.50	0.19	0.01	0.00
5.00	0.22	0.01	0.01
5.50	0.25	0.02	0.01
6.00	0.27	0.03	0.01
6.50	0.30	0.04	0.01
7.00	0.34	0.05	0.02
7.50	0.37	0.07	0.02
8.00	0.41	0.09	0.03
8.50	0.46	0.11	0.03
9.00	0.51	0.14	0.03
9.50	0.56	0.18	0.05
10.00	0.63	0.22	0.06
10.50	0.71	0.28	0.07
11.00	0.83	0.37	0.12
11.50	1.02	0.52	0.21
12.00	1.65	1.07	**0.82**
12.50	2.44	1.81	**0.48**
13.00	2.63	1.99	0.20
13.50	2.75	2.11	0.13
14.00	2.83	2.19	0.09
14.50	2.90	2.25	0.08
15.00	2.95	2.31	0.06
15.50	3.00	2.35	0.05
16.00	3.05	2.39	0.05
16.50	3.09	2.43	0.05
17.00	3.12	2.47	0.04
17.50	3.16	2.50	0.04
18.00	3.19	2.53	0.03
18.50	3.21	2.56	0.03
19.00	3.24	2.58	0.03
19.50	3.27	2.61	0.03
20.00	3.29	2.63	0.03
20.50	3.31	2.66	0.03
21.00	3.34	2.68	0.03
21.50	3.36	2.70	0.03
22.00	3.38	2.72	0.03
22.50	3.40	2.74	0.02
23.00	3.42	2.76	0.02
23.50	3.44	2.78	0.02
24.00	**3.46**	**2.80**	0.02
24.50	3.46	2.80	0.00
25.00	3.46	2.80	0.00
25.50	3.46	2.80	0.00
26.00	3.46	2.80	0.00
26.50	3.46	2.80	0.00
27.00	3.46	2.80	0.00
27.50	3.46	2.80	0.00
28.00	3.46	2.80	0.00
28.50	3.46	2.80	0.00
29.00	3.46	2.80	0.00
29.50	3.46	2.80	0.00
30.00	3.46	2.80	0.00
30.50	3.46	2.80	0.00
31.00	3.46	2.80	0.00
31.50	3.46	2.80	0.00
32.00	3.46	2.80	0.00
32.50	3.46	2.80	0.00
33.00	3.46	2.80	0.00
33.50	3.46	2.80	0.00
34.00	3.46	2.80	0.00
34.50	3.46	2.80	0.00
35.00	3.46	2.80	0.00
35.50	3.46	2.80	0.00
36.00	3.46	2.80	0.00

Summary for Subcatchment DA 10-14: Taco Bell Site-Not Detained

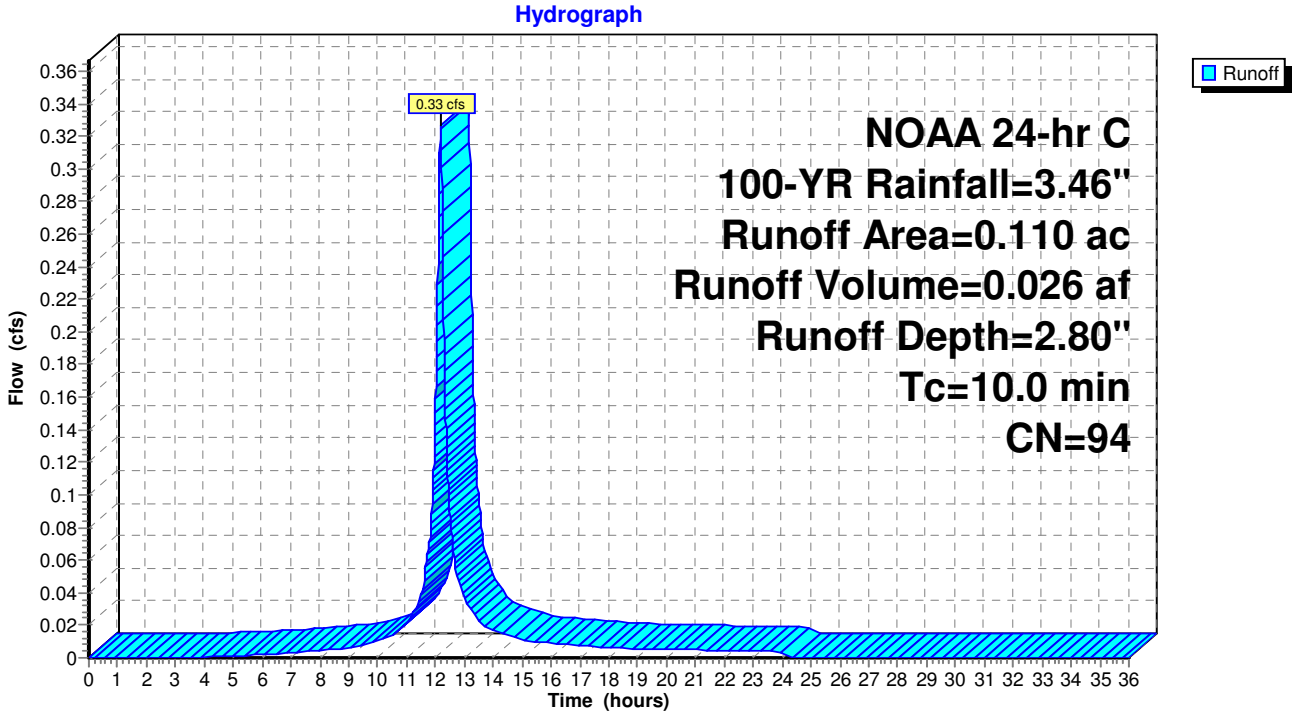
Runoff = 0.33 cfs @ 12.17 hrs, Volume= 0.026 af, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-YR Rainfall=3.46"

	Area (ac)	CN	Description
*	0.070	98	DA 10 - Paved parking, HSG C
*	0.010	74	DA 11 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 12 - Paved parking, HSG C
*	0.010	74	DA 13 - >75% Grass cover, Good, HSG C
*	0.010	98	DA 14 Paved parking, HSG C
	0.110	94	Weighted Average
	0.020		18.18% Pervious Area
	0.090		81.82% Impervious Area

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

Subcatchment DA 10-14: Taco Bell Site-Not Detained



Hydrograph for Subcatchment DA 10-14: Taco Bell Site-Not Detained

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.06	0.00	0.00
2.00	0.08	0.00	0.00
2.50	0.10	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.15	0.00	0.00
4.00	0.17	0.00	0.00
4.50	0.19	0.01	0.00
5.00	0.22	0.01	0.00
5.50	0.25	0.02	0.00
6.00	0.27	0.03	0.00
6.50	0.30	0.04	0.00
7.00	0.34	0.05	0.00
7.50	0.37	0.07	0.00
8.00	0.41	0.09	0.00
8.50	0.46	0.11	0.01
9.00	0.51	0.14	0.01
9.50	0.56	0.18	0.01
10.00	0.63	0.22	0.01
10.50	0.71	0.28	0.01
11.00	0.83	0.37	0.02
11.50	1.02	0.52	0.04
12.00	1.65	1.07	**0.15**
12.50	2.44	1.81	**0.09**
13.00	2.63	1.99	0.04
13.50	2.75	2.11	0.02
14.00	2.83	2.19	0.02
14.50	2.90	2.25	0.01
15.00	2.95	2.31	0.01
15.50	3.00	2.35	0.01
16.00	3.05	2.39	0.01
16.50	3.09	2.43	0.01
17.00	3.12	2.47	0.01
17.50	3.16	2.50	0.01
18.00	3.19	2.53	0.01
18.50	3.21	2.56	0.01
19.00	3.24	2.58	0.01
19.50	3.27	2.61	0.01
20.00	3.29	2.63	0.01
20.50	3.31	2.66	0.01
21.00	3.34	2.68	0.00
21.50	3.36	2.70	0.00
22.00	3.38	2.72	0.00
22.50	3.40	2.74	0.00
23.00	3.42	2.76	0.00
23.50	3.44	2.78	0.00
24.00	**3.46**	**2.80**	0.00
24.50	3.46	2.80	0.00
25.00	3.46	2.80	0.00
25.50	3.46	2.80	0.00
26.00	3.46	2.80	0.00
26.50	3.46	2.80	0.00
27.00	3.46	2.80	0.00
27.50	3.46	2.80	0.00
28.00	3.46	2.80	0.00
28.50	3.46	2.80	0.00
29.00	3.46	2.80	0.00
29.50	3.46	2.80	0.00
30.00	3.46	2.80	0.00
30.50	3.46	2.80	0.00
31.00	3.46	2.80	0.00
31.50	3.46	2.80	0.00
32.00	3.46	2.80	0.00
32.50	3.46	2.80	0.00
33.00	3.46	2.80	0.00
33.50	3.46	2.80	0.00
34.00	3.46	2.80	0.00
34.50	3.46	2.80	0.00
35.00	3.46	2.80	0.00
35.50	3.46	2.80	0.00
36.00	3.46	2.80	0.00

Summary for Subcatchment DA4a: OS-4a

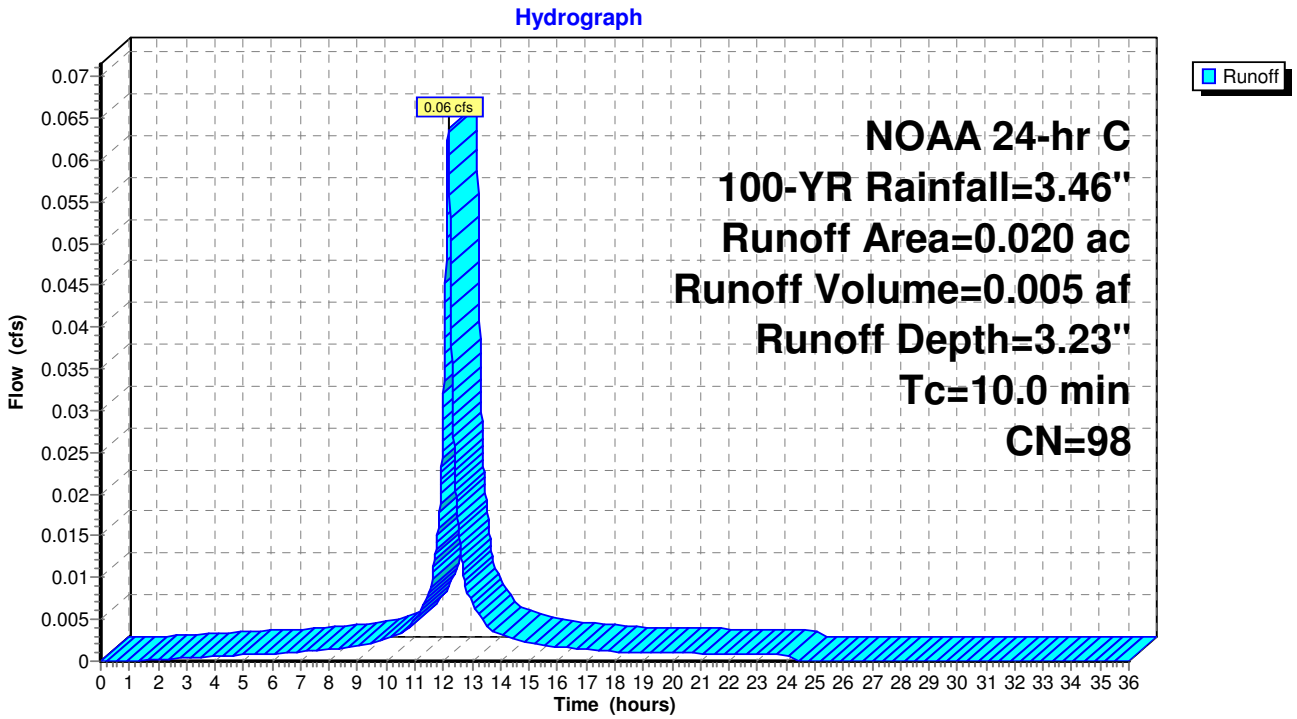
Runoff = 0.06 cfs @ 12.17 hrs, Volume= 0.005 af, Depth= 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-YR Rainfall=3.46"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment DA4a: OS-4a



Hydrograph for Subcatchment DA4a: OS-4a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.06	0.00	0.00
2.00	0.08	0.01	0.00
2.50	0.10	0.01	0.00
3.00	0.12	0.02	0.00
3.50	0.15	0.04	0.00
4.00	0.17	0.05	0.00
4.50	0.19	0.07	0.00
5.00	0.22	0.08	0.00
5.50	0.25	0.10	0.00
6.00	0.27	0.12	0.00
6.50	0.30	0.15	0.00
7.00	0.34	0.18	0.00
7.50	0.37	0.21	0.00
8.00	0.41	0.24	0.00
8.50	0.46	0.28	0.00
9.00	0.51	0.32	0.00
9.50	0.56	0.37	0.00
10.00	0.63	0.44	0.00
10.50	0.71	0.52	0.00
11.00	0.83	0.63	0.00
11.50	1.02	0.81	0.01
12.00	1.65	1.43	**0.03**
12.50	2.44	2.21	**0.02**
13.00	2.63	2.40	0.01
13.50	2.75	2.52	0.00
14.00	2.83	2.60	0.00
14.50	2.90	2.67	0.00
15.00	2.95	2.72	0.00
15.50	3.00	2.77	0.00
16.00	3.05	2.81	0.00
16.50	3.09	2.85	0.00
17.00	3.12	2.89	0.00
17.50	3.16	2.92	0.00
18.00	3.19	2.95	0.00
18.50	3.21	2.98	0.00
19.00	3.24	3.01	0.00
19.50	3.27	3.03	0.00
20.00	3.29	3.06	0.00
20.50	3.31	3.08	0.00
21.00	3.34	3.10	0.00
21.50	3.36	3.13	0.00
22.00	3.38	3.15	0.00
22.50	3.40	3.17	0.00
23.00	3.42	3.19	0.00
23.50	3.44	3.21	0.00
24.00	**3.46**	**3.23**	0.00
24.50	3.46	3.23	0.00
25.00	3.46	3.23	0.00
25.50	3.46	3.23	0.00
26.00	3.46	3.23	0.00
26.50	3.46	3.23	0.00
27.00	3.46	3.23	0.00
27.50	3.46	3.23	0.00
28.00	3.46	3.23	0.00
28.50	3.46	3.23	0.00
29.00	3.46	3.23	0.00
29.50	3.46	3.23	0.00
30.00	3.46	3.23	0.00
30.50	3.46	3.23	0.00
31.00	3.46	3.23	0.00
31.50	3.46	3.23	0.00
32.00	3.46	3.23	0.00
32.50	3.46	3.23	0.00
33.00	3.46	3.23	0.00
33.50	3.46	3.23	0.00
34.00	3.46	3.23	0.00
34.50	3.46	3.23	0.00
35.00	3.46	3.23	0.00
35.50	3.46	3.23	0.00
36.00	3.46	3.23	0.00

Summary for Subcatchment OS-1: OS-1

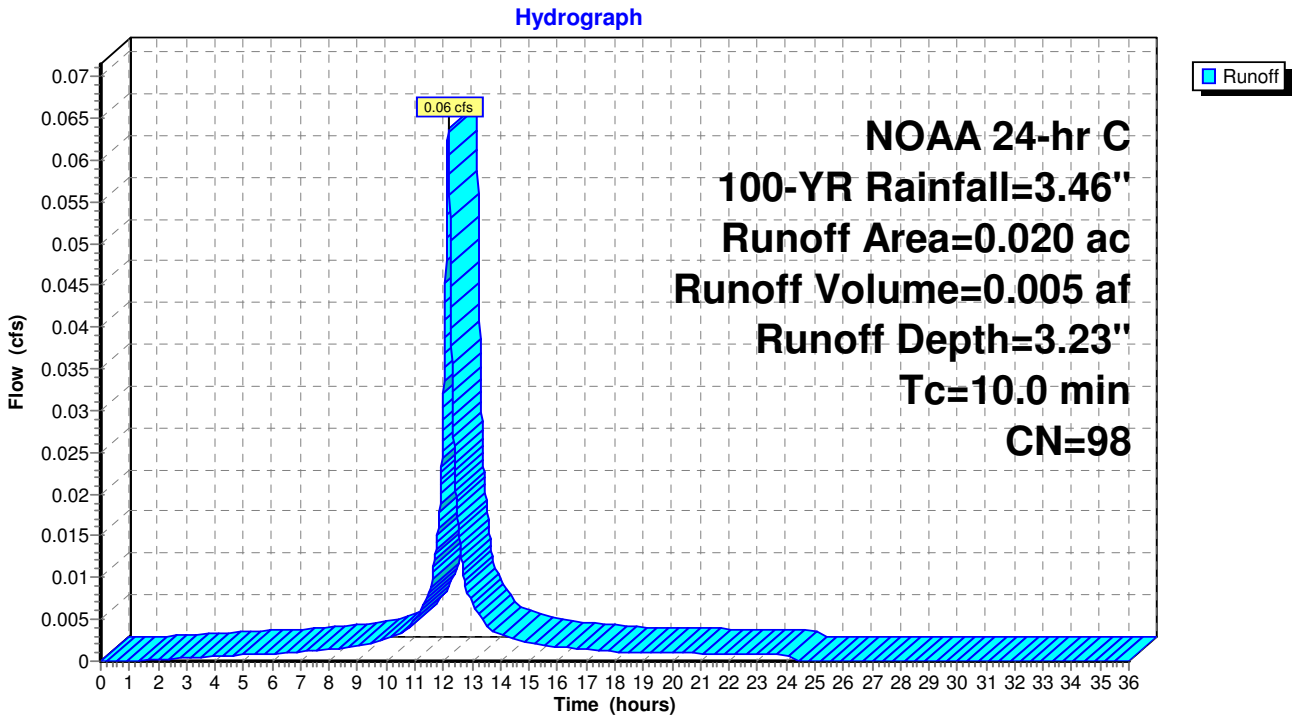
Runoff = 0.06 cfs @ 12.17 hrs, Volume= 0.005 af, Depth= 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-YR Rainfall=3.46"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG C
0.020		100.00% Impervious Area

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

Subcatchment OS-1: OS-1



Hydrograph for Subcatchment OS-1: OS-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.06	0.00	0.00
2.00	0.08	0.01	0.00
2.50	0.10	0.01	0.00
3.00	0.12	0.02	0.00
3.50	0.15	0.04	0.00
4.00	0.17	0.05	0.00
4.50	0.19	0.07	0.00
5.00	0.22	0.08	0.00
5.50	0.25	0.10	0.00
6.00	0.27	0.12	0.00
6.50	0.30	0.15	0.00
7.00	0.34	0.18	0.00
7.50	0.37	0.21	0.00
8.00	0.41	0.24	0.00
8.50	0.46	0.28	0.00
9.00	0.51	0.32	0.00
9.50	0.56	0.37	0.00
10.00	0.63	0.44	0.00
10.50	0.71	0.52	0.00
11.00	0.83	0.63	0.00
11.50	1.02	0.81	0.01
12.00	1.65	1.43	**0.03**
12.50	2.44	2.21	**0.02**
13.00	2.63	2.40	0.01
13.50	2.75	2.52	0.00
14.00	2.83	2.60	0.00
14.50	2.90	2.67	0.00
15.00	2.95	2.72	0.00
15.50	3.00	2.77	0.00
16.00	3.05	2.81	0.00
16.50	3.09	2.85	0.00
17.00	3.12	2.89	0.00
17.50	3.16	2.92	0.00
18.00	3.19	2.95	0.00
18.50	3.21	2.98	0.00
19.00	3.24	3.01	0.00
19.50	3.27	3.03	0.00
20.00	3.29	3.06	0.00
20.50	3.31	3.08	0.00
21.00	3.34	3.10	0.00
21.50	3.36	3.13	0.00
22.00	3.38	3.15	0.00
22.50	3.40	3.17	0.00
23.00	3.42	3.19	0.00
23.50	3.44	3.21	0.00
24.00	**3.46**	**3.23**	0.00
24.50	3.46	3.23	0.00
25.00	3.46	3.23	0.00
25.50	3.46	3.23	0.00
26.00	3.46	3.23	0.00
26.50	3.46	3.23	0.00
27.00	3.46	3.23	0.00
27.50	3.46	3.23	0.00
28.00	3.46	3.23	0.00
28.50	3.46	3.23	0.00
29.00	3.46	3.23	0.00
29.50	3.46	3.23	0.00
30.00	3.46	3.23	0.00
30.50	3.46	3.23	0.00
31.00	3.46	3.23	0.00
31.50	3.46	3.23	0.00
32.00	3.46	3.23	0.00
32.50	3.46	3.23	0.00
33.00	3.46	3.23	0.00
33.50	3.46	3.23	0.00
34.00	3.46	3.23	0.00
34.50	3.46	3.23	0.00
35.00	3.46	3.23	0.00
35.50	3.46	3.23	0.00
36.00	3.46	3.23	0.00

Summary for Pond DP1: Site Pond

Allowable Discharge Rate =
10YR - .30 cfs per acre = .21 cfs
100YR - 1.00 cfs per acre = .70 cfs

Inflow Area = 0.620 ac, 85.48% Impervious, Inflow Depth = 2.81" for 100-YR event
Inflow = 1.85 cfs @ 12.17 hrs, Volume= 0.145 af
Outflow = 0.09 cfs @ 14.36 hrs, Volume= 0.104 af, Atten= 95%, Lag= 131.1 min
Primary = 0.09 cfs @ 14.36 hrs, Volume= 0.104 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 31.52' @ 14.36 hrs Surf.Area= 0 sf Storage= 4,171 cf

Plug-Flow detention time= 550.7 min calculated for 0.104 af (72% of inflow)
Center-of-Mass det. time= 458.6 min (1,248.0 - 789.4)

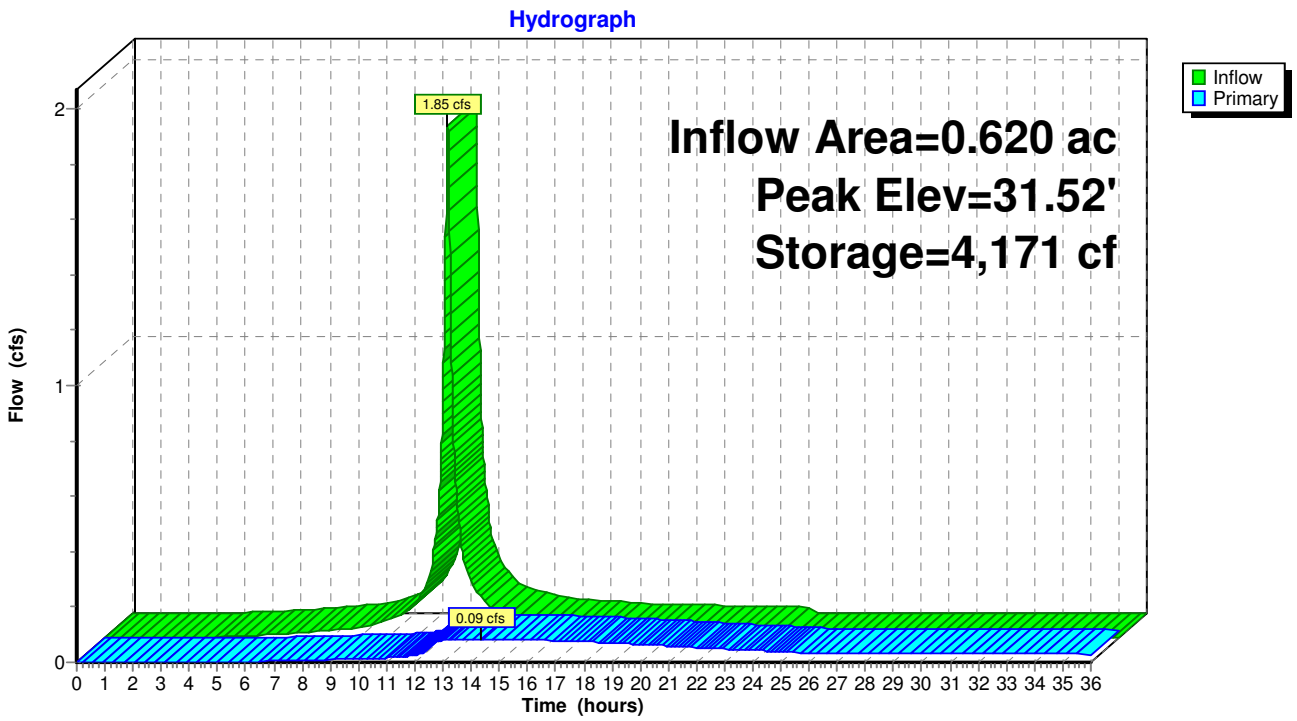
Volume	Invert	Avail.Storage	Storage Description
#1	29.75'	10,624 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
29.75	0
31.00	1,850
32.00	6,350
33.00	10,624

Device	Routing	Invert	Outlet Devices		
#1	Primary	29.75'	**1.0" Vert. Orifice/Grate**	C= 0.600	
#2	Primary	31.20'	**2.0" Vert. Orifice/Grate**	C= 0.600	
#3	Primary	32.52'	**4.0" Horiz. Orifice/Grate**	C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 14.36 hrs HW=31.52' (Free Discharge)
└─**1=Orifice/Grate** (Orifice Controls 0.03 cfs @ 6.32 fps)
├─**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 2.32 fps)
└─**3=Orifice/Grate** (Controls 0.00 cfs)

Pond DP1: Site Pond



Hydrograph for Pond DP1: Site Pond

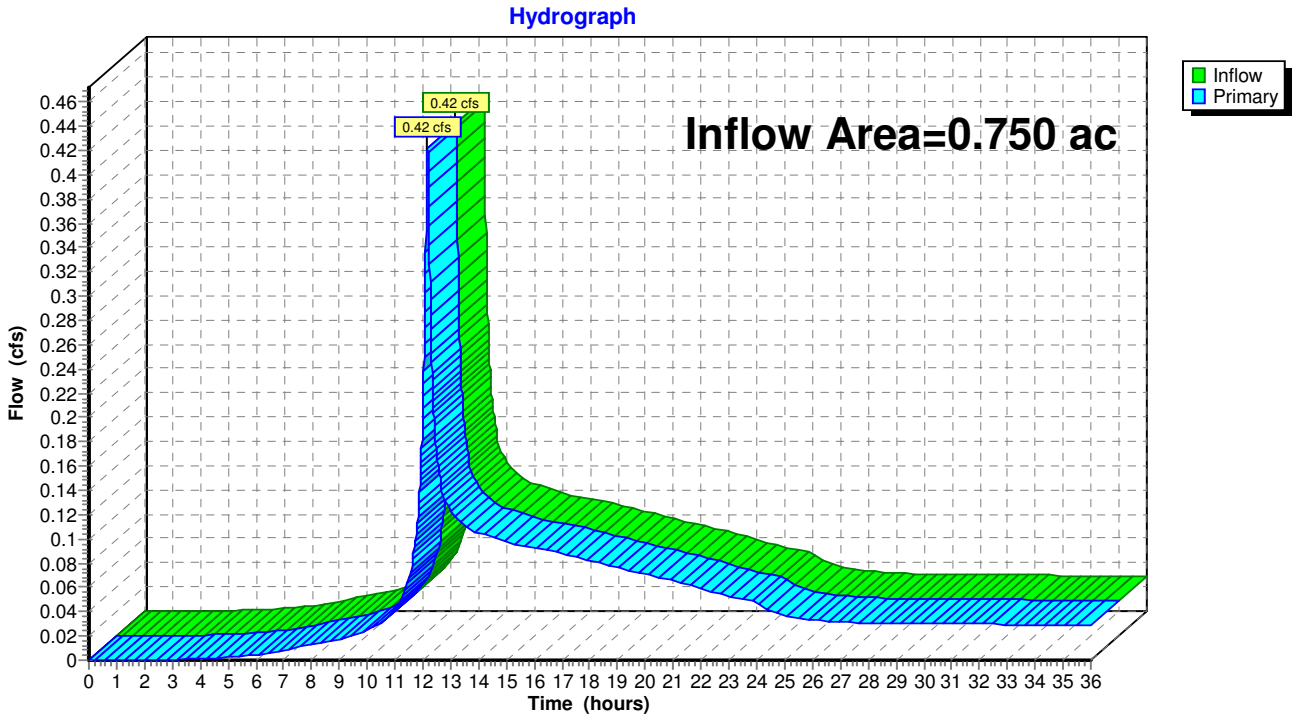
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	29.75	0.00
1.00	0.00	0	29.75	0.00
2.00	0.00	0	29.75	0.00
3.00	0.00	1	29.75	0.00
4.00	0.00	7	29.75	0.00
5.00	0.01	25	29.77	0.00
6.00	0.01	57	29.79	0.00
7.00	0.02	100	29.82	0.00
8.00	0.03	161	29.86	0.01
9.00	0.04	245	29.92	0.01
10.00	0.06	378	30.01	0.01
11.00	0.12	624	30.17	0.02
12.00	**0.85**	1,594	30.83	0.03
13.00	**0.21**	3,973	31.47	0.08
14.00	0.10	**4,163**	**31.51**	**0.08**
15.00	0.06	**4,148**	**31.51**	**0.08**
16.00	0.05	4,052	31.49	0.08
17.00	0.04	3,936	31.46	0.08
18.00	0.04	3,803	31.43	0.07
19.00	0.03	3,664	31.40	0.07
20.00	0.03	3,534	31.37	0.06
21.00	0.03	3,416	31.35	0.06
22.00	0.03	3,310	31.32	0.05
23.00	0.02	3,217	31.30	0.05
24.00	0.02	3,135	31.29	0.04
25.00	0.00	3,003	31.26	0.04
26.00	0.00	2,878	31.23	0.03
27.00	0.00	2,762	31.20	0.03
28.00	0.00	2,650	31.18	0.03
29.00	0.00	2,540	31.15	0.03
30.00	0.00	2,430	31.13	0.03
31.00	0.00	2,321	31.10	0.03
32.00	0.00	2,213	31.08	0.03
33.00	0.00	2,106	31.06	0.03
34.00	0.00	2,000	31.03	0.03
35.00	0.00	1,896	31.01	0.03
36.00	0.00	1,792	30.96	0.03

Summary for Pond POE1: APEN VILLAGE DRIVE

Inflow Area = 0.750 ac, 85.33% Impervious, Inflow Depth > 2.16" for 100-YR event
Inflow = 0.42 cfs @ 12.17 hrs, Volume= 0.135 af
Primary = 0.42 cfs @ 12.17 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

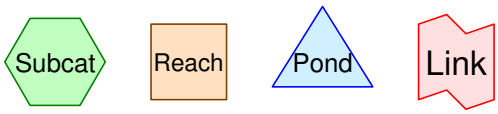
Pond POE1: APEN VILLAGE DRIVE



Hydrograph for Pond POE1: APEN VILLAGE DRIVE

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.50	0.00		0.00
1.00	0.00		0.00
1.50	0.00		0.00
2.00	0.00		0.00
2.50	0.00		0.00
3.00	0.00		0.00
3.50	0.00		0.00
4.00	0.00		0.00
4.50	0.00		0.00
5.00	0.00		0.00
5.50	0.00		0.00
6.00	0.00		0.00
6.50	0.01		0.01
7.00	0.01		0.01
7.50	0.01		0.01
8.00	0.01		0.01
8.50	0.02		0.02
9.00	0.02		0.02
9.50	0.02		0.02
10.00	0.03		0.03
10.50	0.03		0.03
11.00	0.04		0.04
11.50	0.07		0.07
12.00	**0.21**		**0.21**
12.50	**0.17**		**0.17**
13.00	0.12		0.12
13.50	0.11		0.11
14.00	0.11		0.11
14.50	0.10		0.10
15.00	0.10		0.10
15.50	0.10		0.10
16.00	0.09		0.09
16.50	0.09		0.09
17.00	0.09		0.09
17.50	0.08		0.08
18.00	0.08		0.08
18.50	0.08		0.08
19.00	0.08		0.08
19.50	0.07		0.07
20.00	0.07		0.07
20.50	0.07		0.07
21.00	0.07		0.07
21.50	0.06		0.06
22.00	0.06		0.06
22.50	0.06		0.06
23.00	0.05		0.05
23.50	0.05		0.05
24.00	0.05		0.05
24.50	0.04		0.04
25.00	0.04		0.04
25.50	0.03		0.03
26.00	0.03		0.03
26.50	0.03		0.03
27.00	0.03		0.03
27.50	0.03		0.03
28.00	0.03		0.03
28.50	0.03		0.03
29.00	0.03		0.03
29.50	0.03		0.03
30.00	0.03		0.03
30.50	0.03		0.03
31.00	0.03		0.03
31.50	0.03		0.03
32.00	0.03		0.03
32.50	0.03		0.03
33.00	0.03		0.03
33.50	0.03		0.03
34.00	0.03		0.03
34.50	0.03		0.03
35.00	0.03		0.03
35.50	0.03		0.03
36.00	0.03		0.03

OS-3 to Cornerstone Dr



Routing Diagram for Pagosa Springs OS - TB
Prepared by Texas Land Engineers, Printed 6/29/2020
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.060	98	Paved roads w/curbs & sewers, HSG C (OS-3)
0.060	**98**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.060	HSG C	OS-3
0.000	HSG D	
0.000	Other	
0.060		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.060	0.000	0.000	0.060	Paved roads w/curbs & sewers	OS -3
0.000	**0.000**	**0.060**	**0.000**	**0.000**	**0.060**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OS-3: OS-3 to Cornerstone Runoff Area=0.060 ac 100.00% Impervious Runoff Depth=1.48"
Tc=10.0 min CN=98 Runoff=0.09 cfs 0.007 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.007 af Average Runoff Depth = 1.48"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.060 ac

Summary for Subcatchment OS-3: OS-3 to Cornerstone Dr

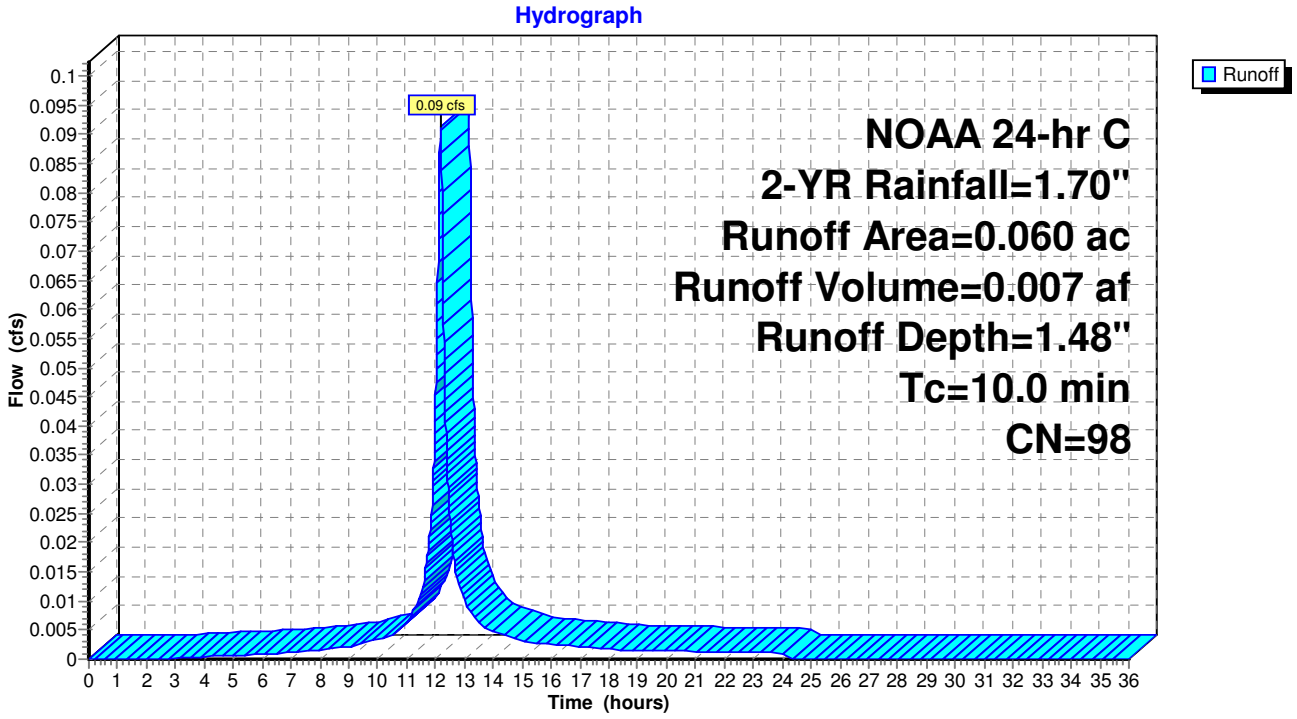
Runoff = 0.09 cfs @ 12.17 hrs, Volume= 0.007 af, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-YR Rainfall=1.70"

Area (ac)	CN	Description
0.060	98	Paved roads w/curbs & sewers, HSG C
0.060		100.00% Impervious Area

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

Subcatchment OS-3: OS-3 to Cornerstone Dr



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OS-3: OS-3 to Cornerstone Runoff Area=0.060 ac 100.00% Impervious Runoff Depth=1.80"
Tc=10.0 min CN=98 Runoff=0.11 cfs 0.009 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.009 af Average Runoff Depth = 1.80"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.060 ac

Summary for Subcatchment OS-3: OS-3 to Cornerstone Dr

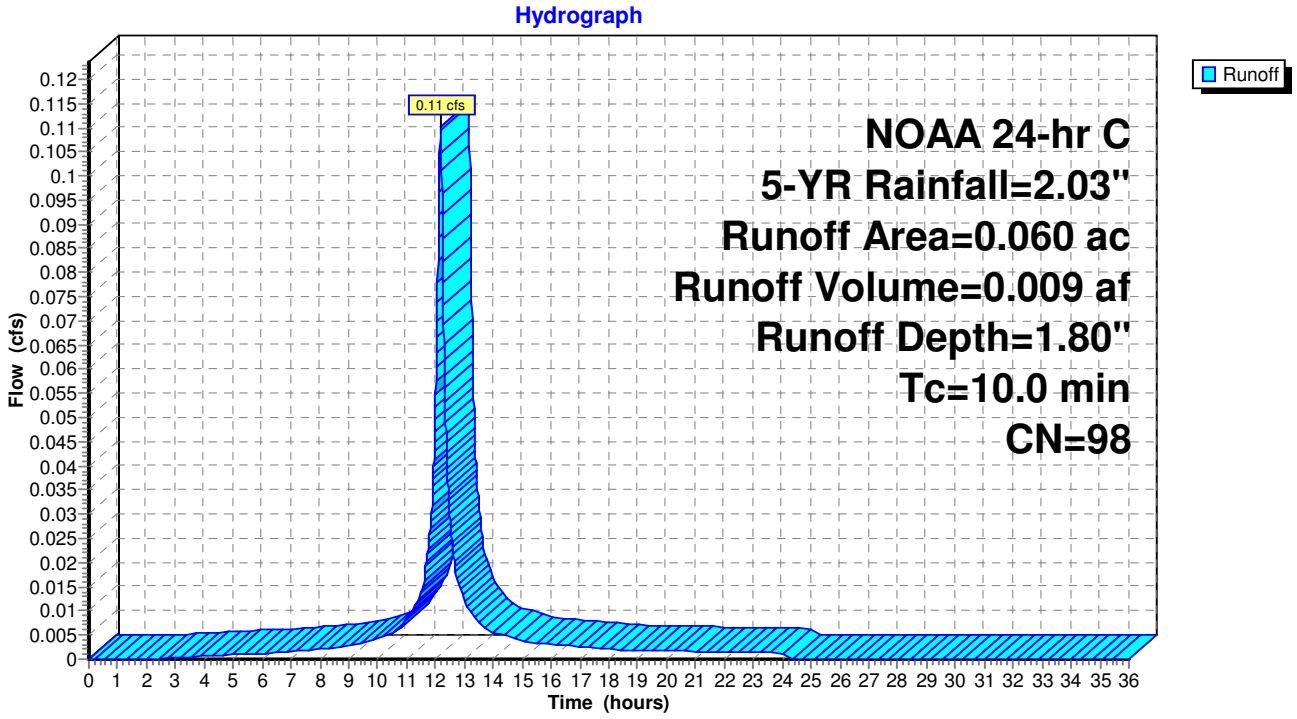
Runoff = 0.11 cfs @ 12.17 hrs, Volume= 0.009 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 5-YR Rainfall=2.03"

Area (ac)	CN	Description
0.060	98	Paved roads w/curbs & sewers, HSG C
0.060		100.00% Impervious Area

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

Subcatchment OS-3: OS-3 to Cornerstone Dr



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OS-3: OS-3 to Cornerstone Runoff Area=0.060 ac 100.00% Impervious Runoff Depth=2.09"
Tc=10.0 min CN=98 Runoff=0.13 cfs 0.010 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.010 af Average Runoff Depth = 2.09"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.060 ac

Summary for Subcatchment OS-3: OS-3 to Cornerstone Dr

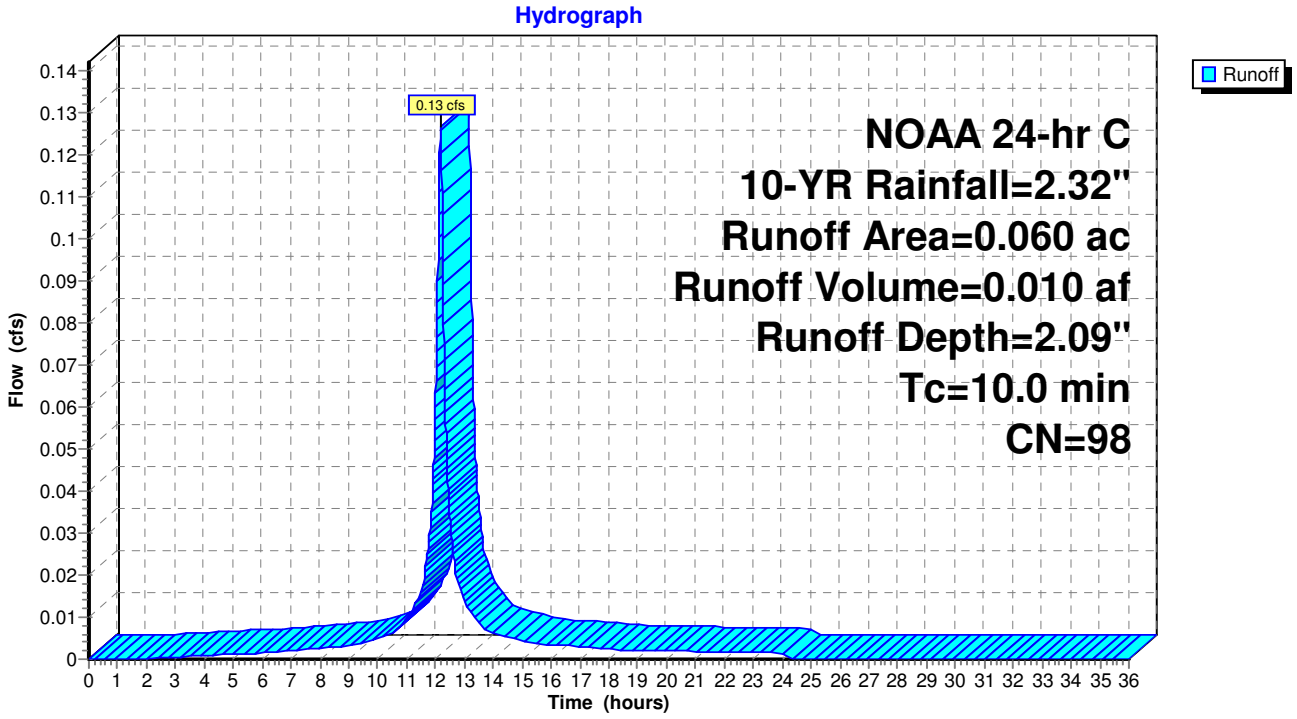
Runoff = 0.13 cfs @ 12.17 hrs, Volume= 0.010 af, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-YR Rainfall=2.32"

Area (ac)	CN	Description
0.060	98	Paved roads w/curbs & sewers, HSG C
0.060		100.00% Impervious Area

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

Subcatchment OS-3: OS-3 to Cornerstone Dr



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OS-3: OS-3 to Cornerstone Runoff Area=0.060 ac 100.00% Impervious Runoff Depth=2.52"
Tc=10.0 min CN=98 Runoff=0.15 cfs 0.013 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.013 af Average Runoff Depth = 2.52"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.060 ac

Summary for Subcatchment OS-3: OS-3 to Cornerstone Dr

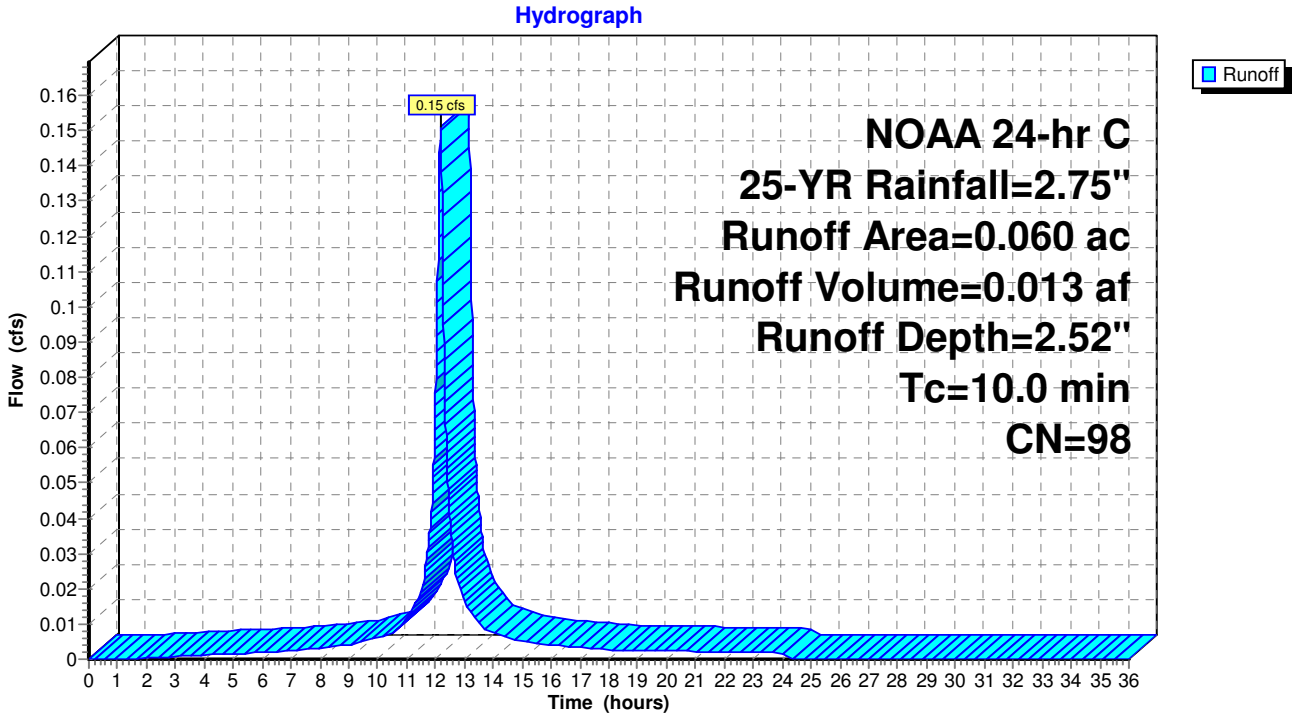
Runoff = 0.15 cfs @ 12.17 hrs, Volume= 0.013 af, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 25-YR Rainfall=2.75"

Area (ac)	CN	Description
0.060	98	Paved roads w/curbs & sewers, HSG C
0.060		100.00% Impervious Area

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

Subcatchment OS-3: OS-3 to Cornerstone Dr



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OS-3: OS-3 to Cornerstone Runoff Area=0.060 ac 100.00% Impervious Runoff Depth=2.86"
Tc=10.0 min CN=98 Runoff=0.17 cfs 0.014 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.014 af Average Runoff Depth = 2.86"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.060 ac

Summary for Subcatchment OS-3: OS-3 to Cornerstone Dr

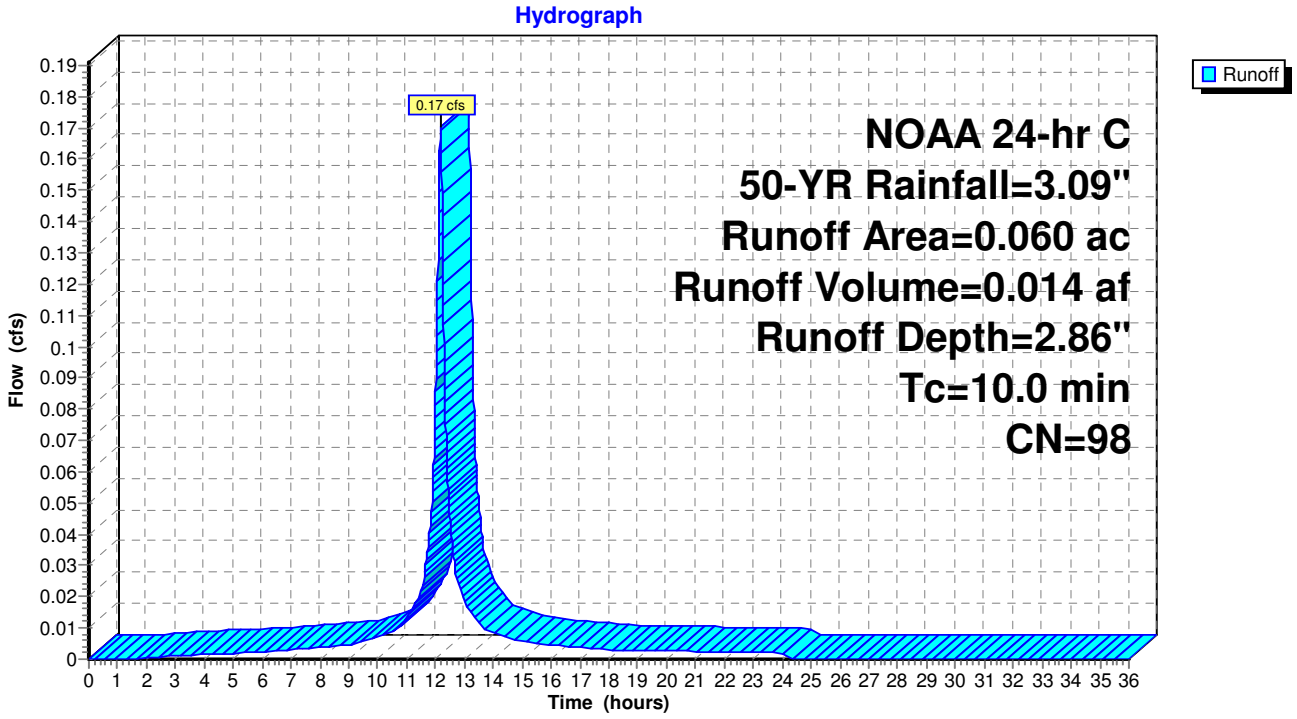
Runoff = 0.17 cfs @ 12.17 hrs, Volume= 0.014 af, Depth= 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 50-YR Rainfall=3.09"

Area (ac)	CN	Description
0.060	98	Paved roads w/curbs & sewers, HSG C
0.060		100.00% Impervious Area

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

Subcatchment OS-3: OS-3 to Cornerstone Dr



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OS-3: OS-3 to Cornerstone Runoff Area=0.060 ac 100.00% Impervious Runoff Depth=3.23"
Tc=10.0 min CN=98 Runoff=0.19 cfs 0.016 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.016 af Average Runoff Depth = 3.23"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.060 ac

Summary for Subcatchment OS-3: OS-3 to Cornerstone Dr

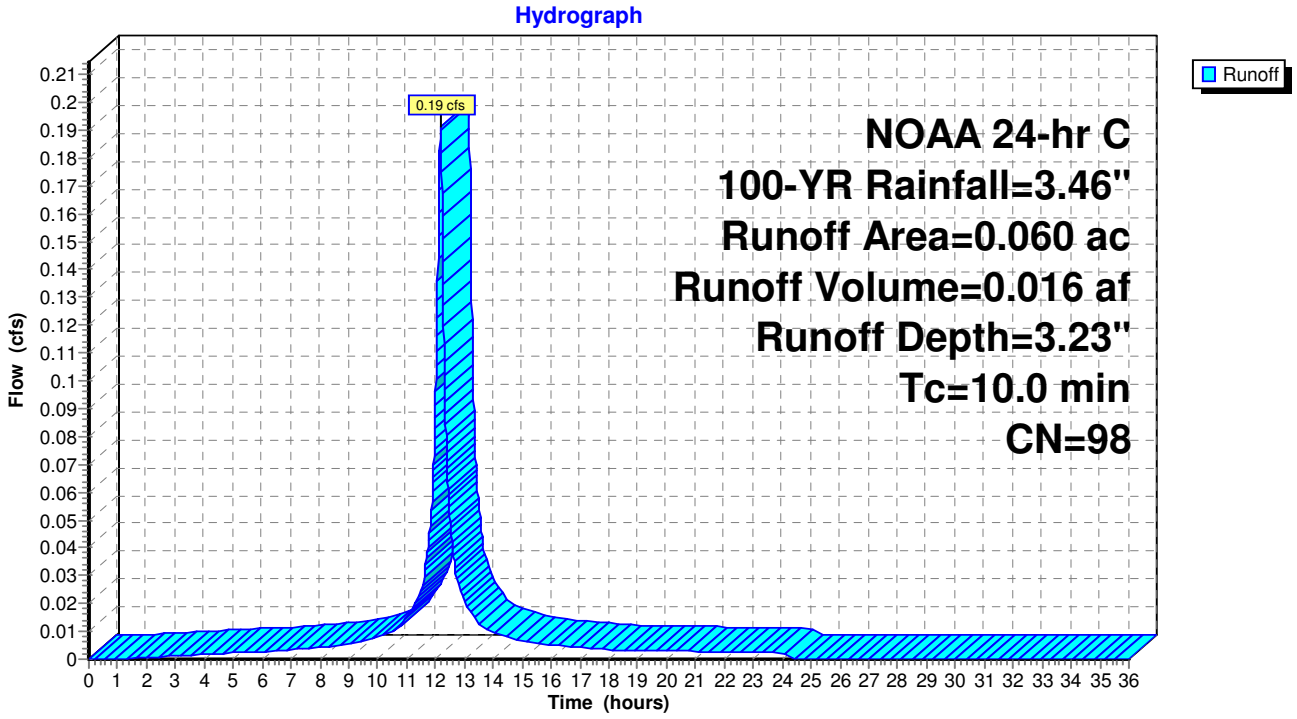
Runoff = 0.19 cfs @ 12.17 hrs, Volume= 0.016 af, Depth= 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-YR Rainfall=3.46"

Area (ac)	CN	Description
0.060	98	Paved roads w/curbs & sewers, HSG C
0.060		100.00% Impervious Area

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

Subcatchment OS-3: OS-3 to Cornerstone Dr



NOAA Atlas 14, Volume 8, Version 2
Location name: Pagosa Springs, Colorado, USA*
Latitude: 37.2628°, Longitude: -107.0608°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.216** (0.169-0.277)	**0.252** (0.197-0.323)	**0.328** (0.256-0.421)	**0.406** (0.315-0.524)	**0.538** (0.416-0.740)	**0.658** (0.492-0.903)	**0.794** (0.573-1.11)	**0.949** (0.657-1.34)	**1.18** (0.785-1.70)	**1.37** (0.881-1.96)
10-min	**0.317** (0.248-0.406)	**0.369** (0.289-0.474)	**0.480** (0.374-0.617)	**0.595** (0.461-0.767)	**0.788** (0.609-1.08)	**0.963** (0.720-1.32)	**1.16** (0.839-1.62)	**1.39** (0.962-1.97)	**1.73** (1.15-2.49)	**2.01** (1.29-2.88)
15-min	**0.386** (0.303-0.495)	**0.450** (0.352-0.578)	**0.585** (0.456-0.752)	**0.725** (0.563-0.935)	**0.961** (0.742-1.32)	**1.18** (0.878-1.61)	**1.42** (1.02-1.98)	**1.70** (1.17-2.40)	**2.11** (1.40-3.03)	**2.45** (1.57-3.51)
30-min	**0.488** (0.383-0.626)	**0.566** (0.443-0.726)	**0.733** (0.572-0.942)	**0.909** (0.705-1.17)	**1.21** (0.934-1.66)	**1.48** (1.11-2.03)	**1.79** (1.29-2.50)	**2.14** (1.49-3.04)	**2.67** (1.78-3.85)	**3.12** (2.00-4.46)
60-min	**0.578** (0.453-0.740)	**0.678** (0.531-0.870)	**0.885** (0.691-1.14)	**1.10** (0.852-1.42)	**1.45** (1.12-1.99)	**1.77** (1.32-2.42)	**2.13** (1.54-2.96)	**2.54** (1.76-3.59)	**3.14** (2.09-4.51)	**3.65** (2.34-5.22)
2-hr	**0.667** (0.529-0.842)	**0.790** (0.626-0.998)	**1.04** (0.820-1.31)	**1.29** (1.01-1.63)	**1.69** (1.32-2.28)	**2.06** (1.56-2.77)	**2.47** (1.80-3.37)	**2.93** (2.05-4.07)	**3.61** (2.43-5.10)	**4.17** (2.72-5.88)
3-hr	**0.724** (0.578-0.905)	**0.872** (0.696-1.09)	**1.15** (0.918-1.45)	**1.42** (1.13-1.79)	**1.85** (1.45-2.45)	**2.22** (1.69-2.95)	**2.63** (1.93-3.54)	**3.08** (2.17-4.23)	**3.74** (2.54-5.22)	**4.28** (2.81-5.97)
6-hr	**0.893** (0.723-1.10)	**1.07** (0.865-1.32)	**1.39** (1.12-1.71)	**1.68** (1.35-2.08)	**2.12** (1.66-2.73)	**2.48** (1.90-3.22)	**2.88** (2.14-3.80)	**3.31** (2.36-4.44)	**3.92** (2.69-5.36)	**4.41** (2.95-6.05)
12-hr	**1.18** (0.963-1.43)	**1.36** (1.11-1.65)	**1.68** (1.37-2.04)	**1.97** (1.60-2.40)	**2.39** (1.90-3.02)	**2.75** (2.13-3.49)	**3.12** (2.35-4.04)	**3.53** (2.55-4.64)	**4.09** (2.86-5.50)	**4.55** (3.09-6.14)
24-hr	**1.50** (1.25-1.79)	**1.70** (1.41-2.03)	**2.03** (1.68-2.43)	**2.32** (1.91-2.79)	**2.75** (2.21-3.40)	**3.09** (2.43-3.85)	**3.46** (2.63-4.38)	**3.84** (2.81-4.96)	**4.37** (3.09-5.75)	**4.79** (3.30-6.36)
2-day	**1.83** (1.54-2.14)	**2.06** (1.73-2.42)	**2.46** (2.06-2.89)	**2.79** (2.33-3.30)	**3.26** (2.65-3.94)	**3.63** (2.89-4.43)	**4.01** (3.09-4.98)	**4.40** (3.27-5.58)	**4.93** (3.54-6.37)	**5.34** (3.74-6.97)
3-day	**2.06** (1.75-2.39)	**2.33** (1.98-2.71)	**2.78** (2.35-3.24)	**3.16** (2.66-3.69)	**3.69** (3.01-4.41)	**4.10** (3.28-4.95)	**4.51** (3.51-5.55)	**4.94** (3.71-6.19)	**5.52** (4.00-7.05)	**5.96** (4.22-7.70)
4-day	**2.25** (1.92-2.60)	**2.55** (2.17-2.95)	**3.05** (2.59-3.53)	**3.47** (2.93-4.03)	**4.05** (3.33-4.81)	**4.51** (3.63-5.41)	**4.97** (3.89-6.07)	**5.45** (4.11-6.78)	**6.08** (4.44-7.72)	**6.57** (4.69-8.44)
7-day	**2.69**	**3.05**	**3.66**	**4.18**	**4.91**	**5.48**	**6.07**	**6.68**	**7.50**	**8.13**

	(2.32-3.06)	(2.63-3.48)	(3.15-4.18)	(3.57-4.79)	(4.09-5.76)	(4.47-6.49)	(4.81-7.31)	(5.11-8.20)	(5.55-9.39)	(5.88-10.3)
10-day	**3.07** (2.66-3.47)	**3.47** (3.01-3.93)	**4.15** (3.59-4.70)	**4.72** (4.07-5.36)	**5.54** (4.64-6.44)	**6.18** (5.08-7.26)	**6.84** (5.47-8.17)	**7.52** (5.81-9.16)	**8.45** (6.31-10.5)	**9.17** (6.69-11.5)
20-day	**4.17** (3.67-4.63)	**4.65** (4.09-5.17)	**5.44** (4.77-6.06)	**6.11** (5.33-6.82)	**7.04** (5.99-8.04)	**7.78** (6.49-8.96)	**8.52** (6.91-9.99)	**9.29** (7.28-11.1)	**10.3** (7.83-12.6)	**11.1** (8.24-13.7)
30-day	**5.04** (4.48-5.54)	**5.61** (4.97-6.17)	**6.53** (5.78-7.20)	**7.30** (6.43-8.07)	**8.36** (7.16-9.42)	**9.17** (7.71-10.4)	**9.98** (8.16-11.6)	**10.8** (8.54-12.8)	**11.9** (9.11-14.3)	**12.7** (9.53-15.5)
45-day	**6.08** (5.45-6.62)	**6.81** (6.09-7.42)	**7.98** (7.12-8.70)	**8.93** (7.93-9.76)	**10.2** (8.80-11.4)	**11.2** (9.46-12.6)	**12.1** (9.98-13.8)	**13.0** (10.4-15.2)	**14.2** (11.0-16.9)	**15.1** (11.5-18.2)
60-day	**6.93** (6.24-7.48)	**7.83** (7.04-8.46)	**9.26** (8.31-10.0)	**10.4** (9.30-11.3)	**11.9** (10.3-13.2)	**13.1** (11.1-14.6)	**14.2** (11.7-16.0)	**15.2** (12.2-17.6)	**16.6** (12.9-19.5)	**17.5** (13.4-21.0)

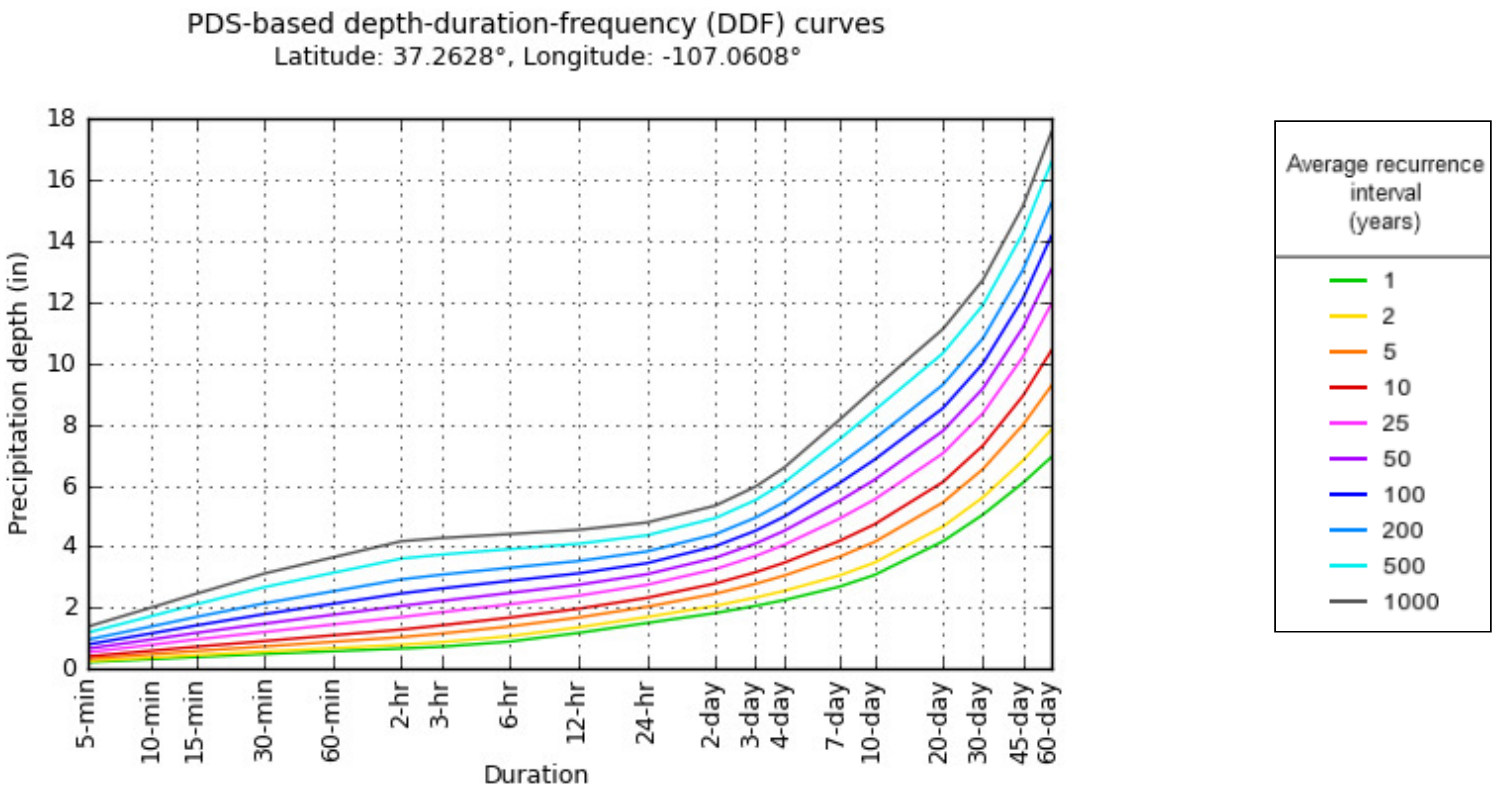
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

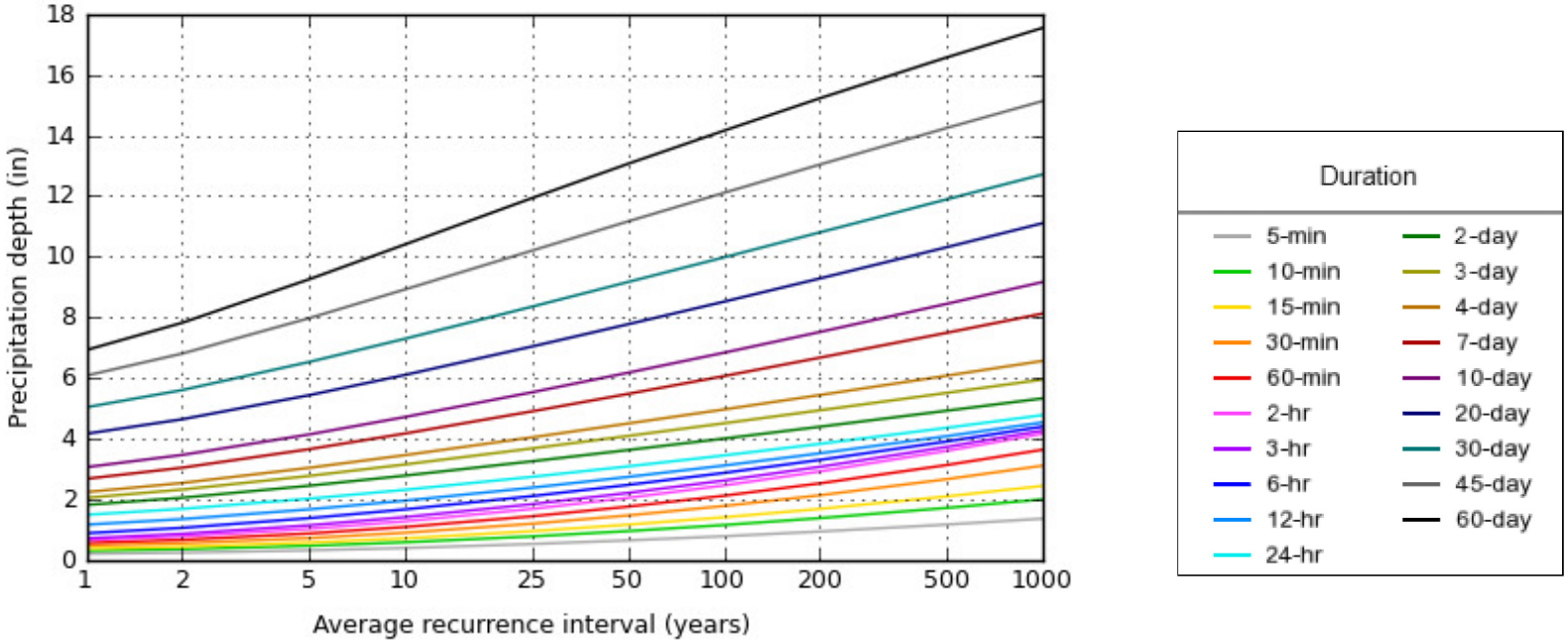
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical





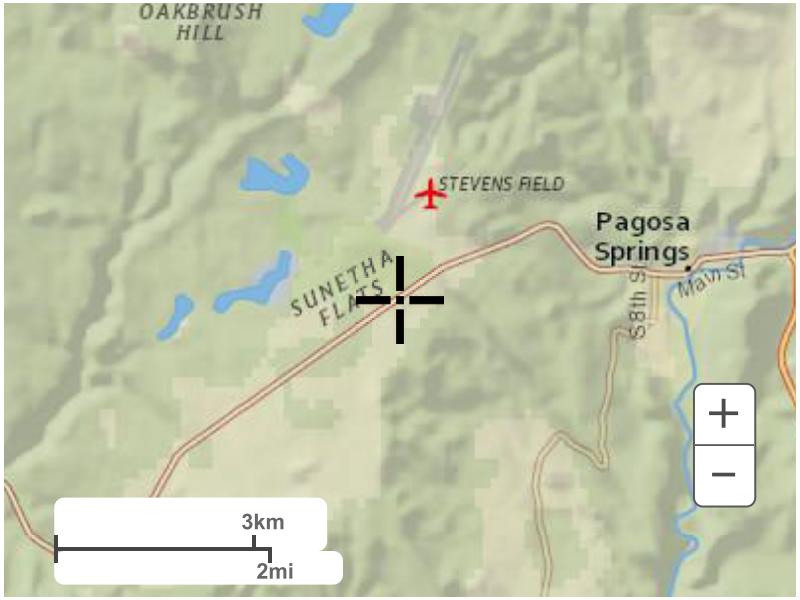
NOAA Atlas 14, Volume 8, Version 2

Created (GMT): Wed Jun 24 20:53:38 2020

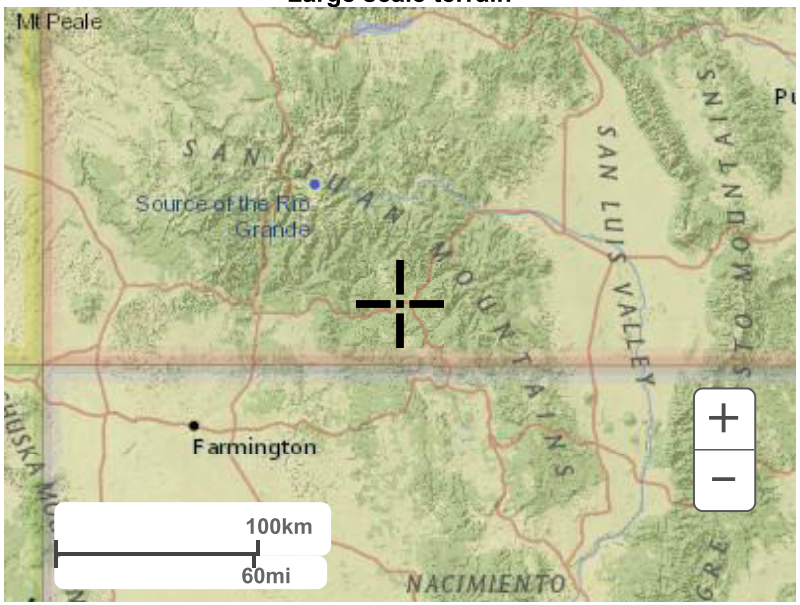
Back to Top

Maps & aerials

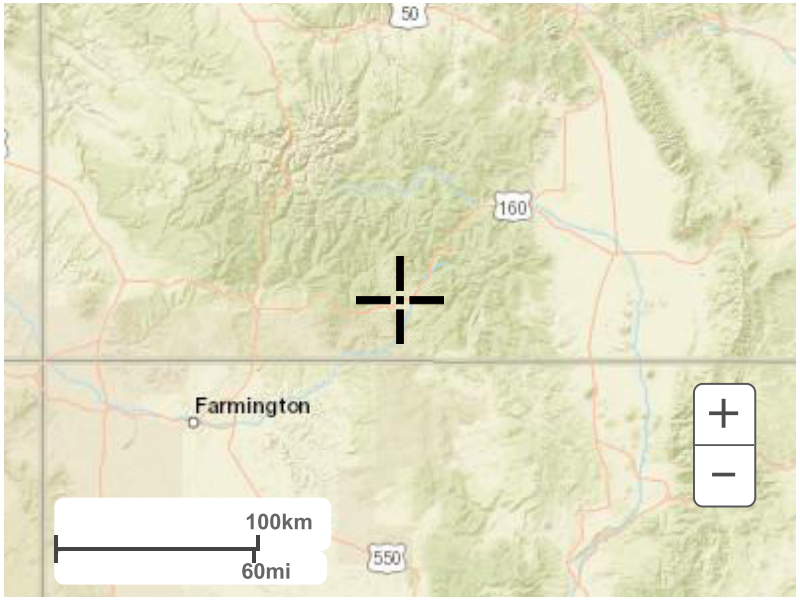
Small scale terrain



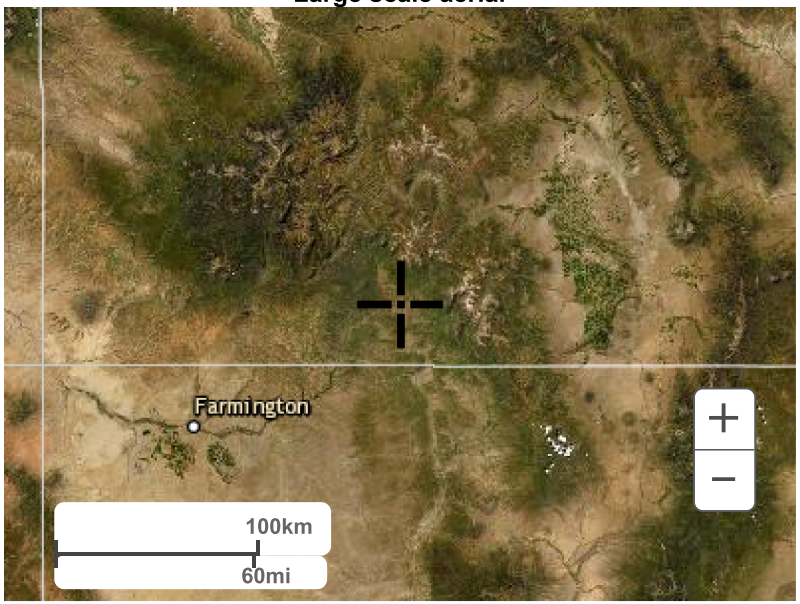
Large scale terrain



Large scale map



Large scale aerial



Back to Top

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