
Appendix D-3
Hydrology and Hydraulic Report



HONOR RANCHO COMPRESSOR MODERNIZATION

GULF PROJECT NO: 2045

REPORT

HYDROLOGY AND HYDRAULIC REPORT

PREPARED FOR:



Gulf Document No.: E17031-000-B-RP-002

Rev. No.	Date	Revision Description	Preparer	Reviewing Engineer	Project Manager
A	03/28/2024	Issued for Internal Review	Raana Koushki		K. Swanson





REVISION LOG					

PROJECT:	Honor Rancho Compressor Modernization		
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Provide a brief description of changes for all revisions following Rev. 0

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1.0 PROJECT DESCRIPTION

The Honor Rancho Natural Gas Compressor Station (CS) Facility (Site) is located at 25205 West Rye Canyon Road in Valencia, Los Angeles County, California (See Figure 1, Appendix A). The Facility is an approximately 743-acre transmission natural gas storage Facility. The new developing area, subject to this report, is approximately 16 acres.

The new development project includes construction and installing a new compressor and a substation in the Site. The Site consists of clearing, installation of temporary and permanent erosion and sediment control devices, trenching, pipe installation, and restoration. Refer to the Erosion and Sediment Control Plan, provided under a separate cover, for approximate location of the proposed Site and extent of site activities.

This design report (Report) summarizes the calculations and engineering approach utilized for hydrologic analysis for the Honor Rancho Natural Gas Compressor Station (CS) Project (Site) located in Los Angeles County, California. The Site consists of grading, clearing, installation of temporary and permanent erosion and sediment control devices, trenching, pipe installation, and restoration. Refer to the Erosion and Sediment Control Plan, provided under a separate cover, for approximate location of the proposed Site and extent of site activities.

The hydrology engineering analysis and hydraulic features of the Site are described herein. In summary, hydrologic analysis and hydraulic calculations included:

- Hydrological calculations:
 - Delineation of drainage areas for Site conveyance features;
 - Estimating the runoff coefficient (C);
 - Modelling of representative storm event to estimate pre- and post-runoff volumes;
- Hydraulic calculations:

2.0 BASIS FOR INPUT DATA

2.1 Land Cover

The baseline land cover data were compiled as a land cover product in a raster or vector data format from the publicly available mapping and imaging. A combination of images from Google Earth dated June 2023 and Maxar high resolution satellite imagery from 2024 were compiled to create a comprehensive understanding of the existing land cover. The data set was incorporated into ArcMap to create a visual representation of land cover data. Land cover information is shown in **Appendix A**.

2.2 SOILS

Hydrologic soil groups (HSG) were identified based on the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) USDA Soil Survey Geographic Database (SSURGO) and incorporated into the CN data set. Soils present at the Site consist of HSG C and B soils. This data was sourced from the following: <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/geo/?cid=nrcseprd1464625>.

2.3 TOPOGRAPHY

Stormwater runoff analyses and basin delineation used the topographic map provided by Gulf Interstate Engineering (GIE) for the Site.

2.4 STORM EVENTS AND PRECIPITATION DEPTHS

The design storm, from which the Stormwater Quality Design Volume (SWQDV) is calculated, is defined as the greater of:

- The 0.75-inch, 24-hour rain event; or
- The 85th percentile, 24-hour rain event as determined from the Los Angeles County 85th percentile precipitation isohyetal map¹.

The storm event runoff volumes were calculated using rational methods based on the rainfall depth, drainage areas acreage, and Runoff coefficient (C) of basins delineated as explained in Los Angeles County Hydrological Manual 2006.

The 85th percentile, 24-hour rain event as determined from the Los Angeles County 85th percentile precipitation isohyetal map was estimated at 0.95 (in) for the project Site and applied to runoff estimations.

Projects required to analyze for hydromodification impacts must conduct hydrology and hydraulic frequency analyses for Low Impact Development (LID), 2-, 5-, 10-, 25-, and 50-year storm events.

3.0 RATIONAL METHOD

Rational method assumes that a steady, uniform rainfall rate will produce maximum runoff when all parts of the drainage watershed are contributing to outflow. This occurs when the storm event lasts longer than the time of concentration. The method assumes that the runoff coefficient remains constant during a storm. The rational method formula is $Q = CIA$, as explained in section 6. The direct runoff volume from storm event is calculated using the following equation:

$$V = C \times \left(\frac{P}{12} \right) \times A$$

Where:

V = Runoff Volume (ac-ft)

C = Runoff coefficient, proportion of rainfall that runs off the surface

P = Rainfall depth (in)

A = Drainage area (acres)

4.0 DRAINAGE AREA ANALYSIS INPUTS

The evaluation of post-construction site conditions was based on construction plans and available topographic data provided by GIE, as well as grading results, soil types, and rainfall. Inputs and outputs associated with the calculations for the following subsections are provided in **Appendix B**.

4.1 Delineation of Drainage Areas

Drainage areas were delineated using topographic data provided by GIE. Supplementary topographic data were layered onto GIE design drawings. Delineated drainage areas and land cover maps are shown in **Appendix A**. The pre-construction drainage area is estimated at approximately 15.1 acres. However, the post-construction drainage area is predicted to be approximately 16.2 acres.

4.2 Computation of Pre-Development and Post-Development Runoff Coefficient

¹ County of Los Angeles Department of Public Works. Analysis of 85th Percentile 24-hour Rainfall Depth Analysis within the County of Los Angeles (February 2004) (<http://ladpw.org/wrd/publications>). A map of the 85th percentile 24-hour rainfall depth can be found at <http://dpw.lacounty.gov/wrd/hydrologygis/>.

The coefficient C represents the integrated effect of the catchment losses and hence depends upon the nature of the surface, surface slope and rainfall intensity. The effect of rainfall intensity is not considered in the available tables of values of C. Rational method equation assumes a homogeneous catchment surface. Wherever the catchment is non-homogeneous a weighted equivalent runoff coefficient C could be estimated as below.

$$C = \frac{\sum_1^N C_i A_i}{A}$$

Where:

C = Average runoff coefficient for the drainage area

C_i = Runoff coefficient for sub-drainage area I

A_i = Sub-drainage area I (acres)

A = Total drainage area (acres)

The C_i for each sub-drainage area was estimated based on the portion of pervious and impervious area. The C of 0.6 and 0.9 were applied to pervious and impervious areas, respectively² to calculate the pre- and post-construction C for each drainage area(**Appendix B**).

4.3 Storm Event

The 85th percentile, 24-hour rain event, from the Los Angeles County 85th percentile is approximately 0.95 (in) for the Site area. The 2-, 5-, 10-, 25-, and 50-year storm events were obtained from the Atlas 14, National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (Valencia, California, USA precipitation station). The 24-hour, 2-, 5-, 10-, 25-, and 50-year storm event depths from NOAA are 2.68, 3.6, 4.35, 5.40 and 6.23 (in).

5.0 STORMWATER ANALYSIS RESULTS

The results of the pre-and post-development stormwater analysis conditions using rational method and the associated changes in impervious areas are provided in **Appendix B**.

6.0 HYDRAULIC DESIGN

6.1 Hydraulic Features

The runoff for the site will be captured and conveyed through a series of proposed concrete channels and concrete culverts which will ultimately convey stormwater to various sediment basins on site. Some of these proposed features will be tying into existing concrete channels and others tying into existing underground stormwater systems via catch basins.

6.2 Hydraulic Calculations

Runoff for each of hydraulic features was calculated by drawing drainage areas using existing and proposed topography for the site and using ArcGIS to intersect those drainage areas with landcover, which was based upon line work from survey of the site and aerial imagery, and hydrologic soil groups, which was obtained from United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Web Soil Survey Website. Using this information a cumulative curve number was able to be generated for each drainage area which was then input into HydroCAD to calculate peak flow runoff and runoff volume. In HydroCAD, the storm events utilized to run calculations were the 24-hour, 2-, 5-, 10-, 25-, and 50-year storms based on rainfall data pulled from NOAA for the area and was run using the storm type of LA County DPW 24 hour which is based off data from LA County DPW manual from 2006. All drainage areas were assumed to have a minimum time of contraction of 6 minutes or 0.1 hours. All proposed channels and culverts were designed to handle to 24-hour, 25-year storm event with

² Hill, Joe, Updated 2002, EVALUATION OF RATIONAL METHOD "C" VALUES, Accessed on 03/28/2024, at https://www.sandiegocounty.gov/content/dam/sdc/dpw/FLOOD_CONTROL/floodcontroldocuments/hydro-evalcvalues.pdf

channels having a minimum of 6 inches of freeboard above the 25-year depth. The Results are represented in **Appendix C**.

Breakdown of drainage areas (showing in HydroCAD Model) and associated larger drainage areas some of which aren't represented in proposed features, but are part of existing features:

DA-6:

- Contains flow from DA-17 and proposed CH-8

DA-18:

- Contains flow from DA-16 and proposed CH-17.
- Contains flow from DA-22 and existing channel.
- Contains flow from DA-23 and existing channel.
- Contains flow from DA-21 and existing channel.
- Contains flow from DA-20 and existing channel.

DA-24:

- Contains flow from DA-11 and proposed channels CH-10A and CH-10B.
- Contains flow from DA-12 and proposed channels CH-11A and CH-11B.
- Contains flow from DA-13 and proposed channel CH-12.
- Contains flow from DA-14 and proposed channel CH-13.
- Contains flow from DA-15 and proposed channels CH-15A and CH-15B.
- Contains flow from DA-10 and proposed channel CH-14
- Contains flow from DA-5 and proposed channel CH-16.

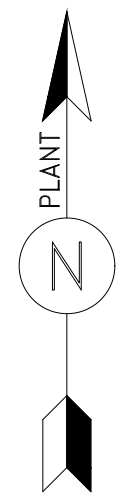
DA-25:

- Contains flow from DA-4 and proposed channel CH-1.
- Contains flow from DA-3 and proposed channel CH-2.
- Contains flow from DA-9 and proposed channel CH-3.
- Contains flow from DA-8 and proposed channel CH-4
- Contains flow from DA-1 and proposed channel CH-6.

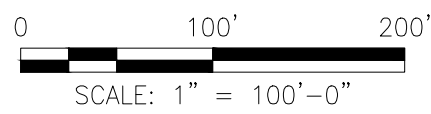
DA-2:

- Contains flow from DA-19 and proposed channel CH-21.
- Contains flow from DA-27 and proposed channel CH-22.
- Contains flow from DA-26 and proposed channel CH-23.
- Contains flow from DA-29 and existing channel.
- Contains flow from DA-28 and proposed bioretention swale (still being designed).

**APPENDIX A PRE- AND POST-CONSTRUCTION LAND COVER AND DRAINAGE
AREA MAPS**



LEGEND	IMPERVIOUS
	HERBACEOUS
	COMPACT DIRT

[illegible]



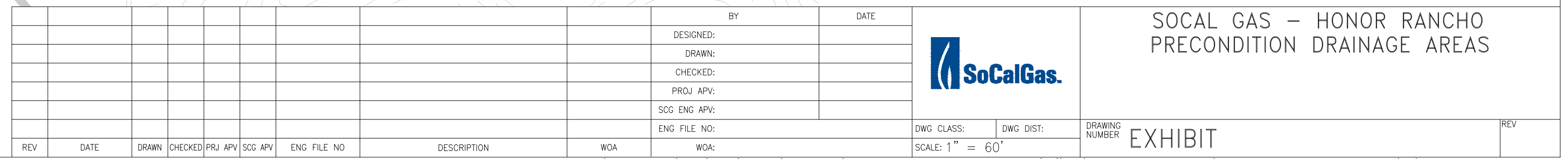
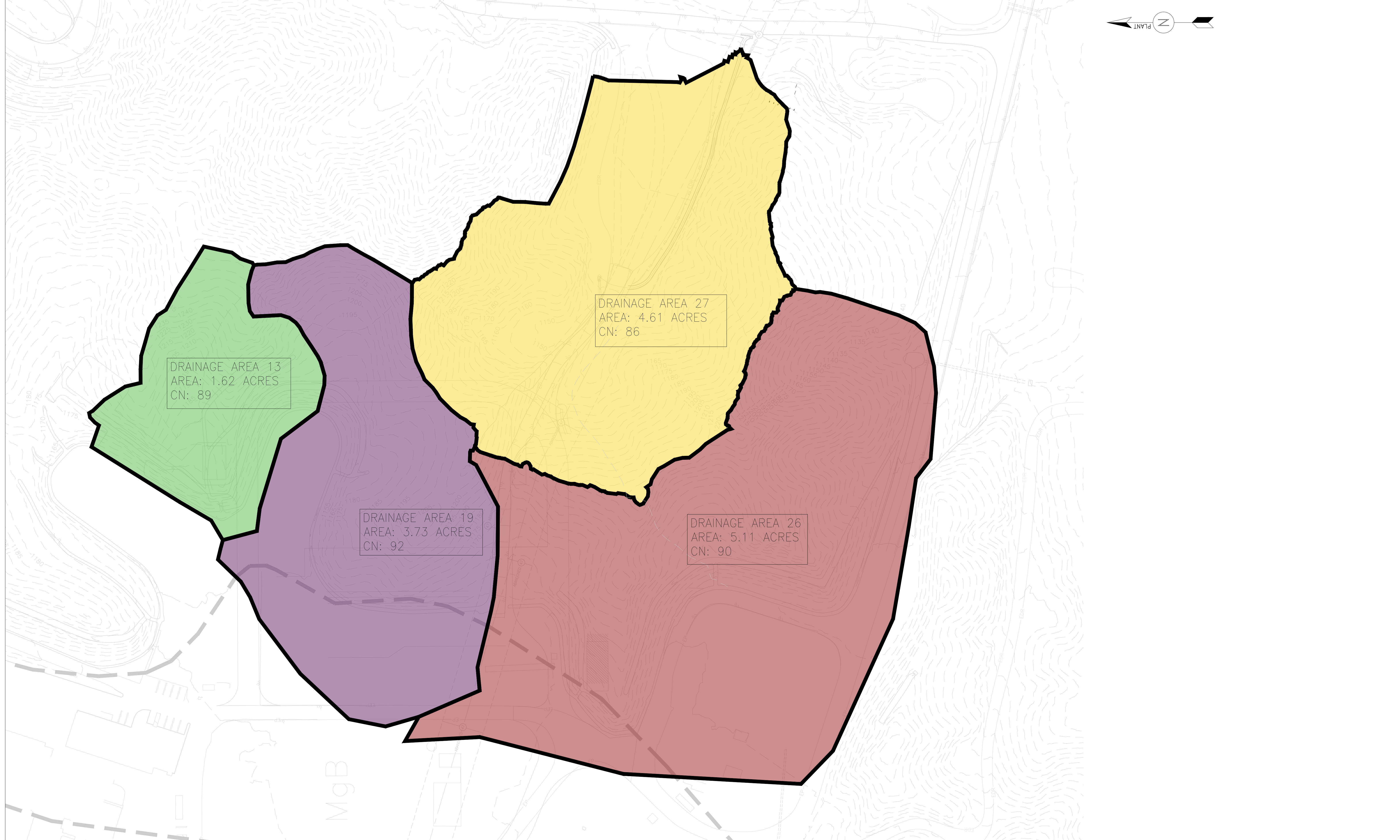
LEGEND	
	IMPERVIOUS
	OPEN SPACE
	COMPACT DIRT

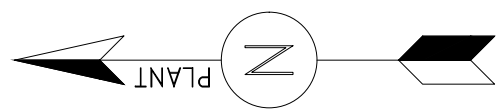
0 60' 120'
SCALE: 1" = 60'-0"

										BY		DATE				SOCAL GAS — HONOR RANCHO POSTCONDITION LAND COVER			
										DESIGNED:									
										DRAWN:									
										CHECKED:									
										PROJ APV:									
										SCG ENG APV:									
										ENG FILE NO:									
										WOA:									
REV	DATE	DRAWN	CHECKED	PRJ APV	SCG APV	ENG FILE NO	DESCRIPTION	WOA			DWG CLASS:	DWG DIST:	DRAWING NUMBER	EXHIBIT		REV			
												SCALE: 1" = 60'							



SOCAL GAS – HONOR RANCHO
POSTCONDITION LAND COVER





DRAINAGE AREA 25
AREA: 0.82 ACRES
CN: 91

DRAINAGE AREA 24
AREA: 0.93 ACRES
CN: 89

DRAINAGE AREA 2
AREA: 4.64 ACRES
CN: 72

DRAINAGE AREA 18
AREA: 6.69 ACRES
CN: 78

DRAINAGE AREA 7
AREA: 0.45 ACRES
CN: 68

DRAINAGE AREA 6
AREA: 2.66 ACRES
CN: 98

MgB

0 60' 120'
SCALE: 1" = 60'-0"

										BY		DATE		SOCAL GAS – HONOR RANCHO POSTCONDITION DRAINAGE AREAS			
										DESIGNED:							
										DRAWN:							
										CHECKED:							
										PROJ APV:							
										SCG ENG APV:							
										ENG FILE NO:							
										WOA:			DWG CLASS:	DWG DIST:	DRAWING NUMBER	EXHIBIT	REV
												SCALE: 1" = 60'					
REV	DATE	DRAWN	CHECKED	PRJ APV	SCG APV	ENG FILE NO	DESCRIPTION	WOA									



SOCAL GAS – HONOR RANCHO
POSTCONDITION DRAINAGE AREAS

APPENDIX B STORMWATER CALCULATIONS

DRAFT

The total pre-construction drainage area is approximately 15.77 acres and includes 4 sub-drainage areas as represented in Table 1.

Table 1: Pre-Construction drainage areas

Drainage Area Code	Pervious Area		Impervious Area		Total Area	Weighted C Value
	(ac)	(%)	(ac)	(%)	(ac)	
13	1.27	0.78	0.36	0.22	1.62	0.67
19	2.14	0.57	1.60	0.43	3.74	0.73
26	3.79	0.65	2.01	0.35	5.81	0.70
27	4.37	0.95	0.24	0.05	4.61	0.62
Total Area / Average C	11.57	73%	4.21	27%	15.77	0.68

The total post-construction drainage area is approximately 16.19 acres and includes 4 sub-drainage areas as represented in Table 2.

Table 2: Post-Construction drainage areas

Drainage Area Code	Pervious Area		Impervious Area		Total Area	Weighted C Value (ac)
	(ac)	(%)	(ac)	(%)	(ac)	
2	3.77	81%	0.87	19%	4.64	0.66
6	0.06	2%	2.60	98%	2.66	0.89
7	0.36	79%	0.09	21%	0.45	0.66
18	3.31	49%	3.38	51%	6.69	0.75
24	0.70	75%	0.23	25%	0.93	0.68
25	0.62	76%	0.20	24%	0.82	0.67
Total Area / Average C	8.81	54%	7.38	46%	16.19	0.74

Rational Method Results:

$$V = C \times \left(\frac{P}{12} \right) \times A$$

Table 3: Pre-Construction 85th Percentile Runoff Volume Using Rational Method (acre-feet)

Drainage Area Code	85 th Percentile Rainfall (in)	Drainage Area Acreage (ac)	C Coefficient	Gross Runoff Volume (acre-ft)
13	0.95	1.6	0.67	0.09
19	0.95	3.7	0.73	0.22
26	0.95	5.1	0.70	0.32
27	0.95	4.6	0.62	0.22
Total Pre-Construction 85th Percentile Runoff (acre-ft)				0.85

Table 4: Post-Construction 85th Percentile Runoff Volume Using Rational Method (acre-feet)

Drainage Area Code	85 th Percentile Rainfall (in)	Drainage Area Acreage (ac)	C Coefficient	Gross Runoff volume (acre-ft)
2	0.95	4.6	0.66	0.24
6	0.95	2.7	0.89	0.19
7	0.95	0.5	0.66	0.02
18	0.95	6.7	0.75	0.40
24	0.95	0.9	0.68	0.05
25	0.95	0.8	0.67	0.04
Total Post-Construction Runoff (acre-ft)				0.94

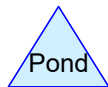
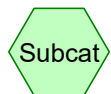
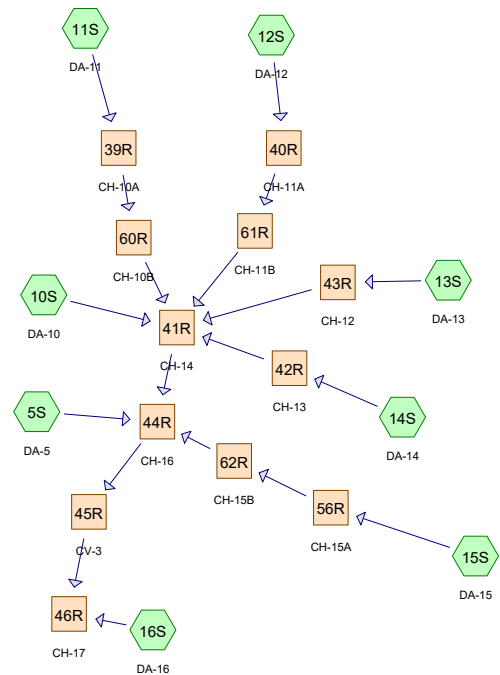
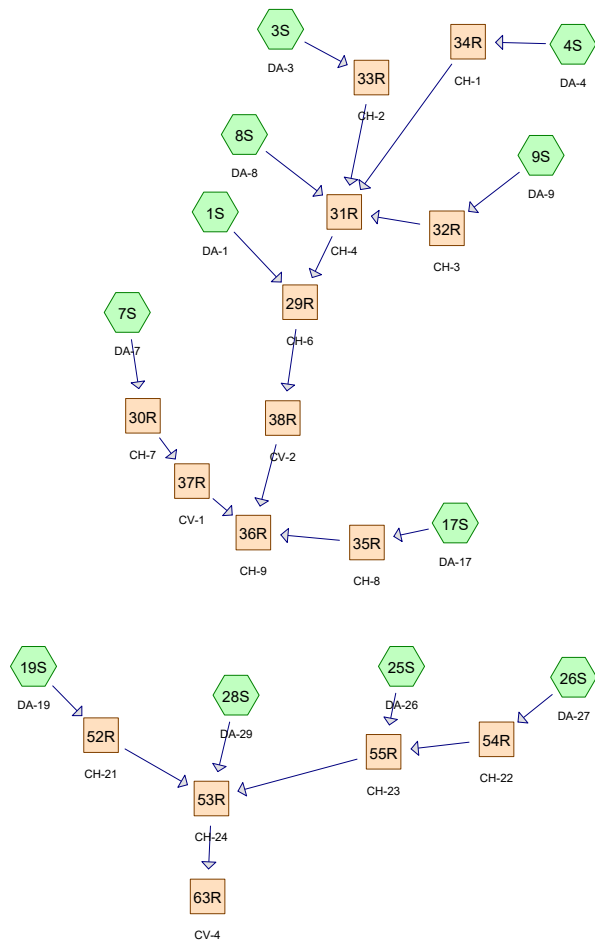
Table 5: Pre-Construction Runoff Volume for Various Storm Events Using Rational Method (acre-feet)

Rainfall Events		Return Period	2-year	5-year	10-year	25-year	50-year
		(inches)	2.68	3.6	4.35	5.4	6.23
Drainage Area Code	Drainage Area (acre)	C Coefficient	Runoff (acre-ft)				
13	1.6	0.67	0.24	0.32	0.39	0.49	0.56
19	3.7	0.73	0.61	0.82	0.99	1.22	1.41
26	5.8	0.70	0.91	1.23	1.48	1.84	2.12
27	4.6	0.62	0.63	0.85	1.03	1.28	1.47
Total Pre-Construction Runoff	16.2	0.68	2.40	3.22	3.89	4.83	5.57

Table 6: Post-Construction Runoff Volume for Various Storm Events Using Rational Method (acre-feet)

Rainfall Events		Return Period	2-year	5-year	10-year	25-year	50-year
		(inches)	2.68	3.6	4.35	5.4	6.23
Drainage Area Code	Drainage Area (acre)	C Coefficient	Runoff (acre-ft)				
2	4.6	0.66	0.68	0.91	1.10	1.37	1.58
6	2.7	0.89	0.53	0.71	0.86	1.07	1.24
7	0.5	0.66	0.07	0.09	0.11	0.13	0.16
18	6.7	0.75	1.12	1.51	1.82	2.26	2.61
24	0.9	0.68	0.14	0.19	0.23	0.28	0.33
25	0.8	0.67	0.12	0.16	0.20	0.25	0.28
Total Post-Construction Runoff	16.2	0.74	2.66	3.58	4.32	5.37	6.19

APPENDIX C HYDRAULIC CALCULATION AND RESULTS



Routing Diagram for SoCal Stormwater

Prepared by ERM, Printed 3/28/2024

HydroCAD® 10.10-4a s/n 09594 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: DA-1

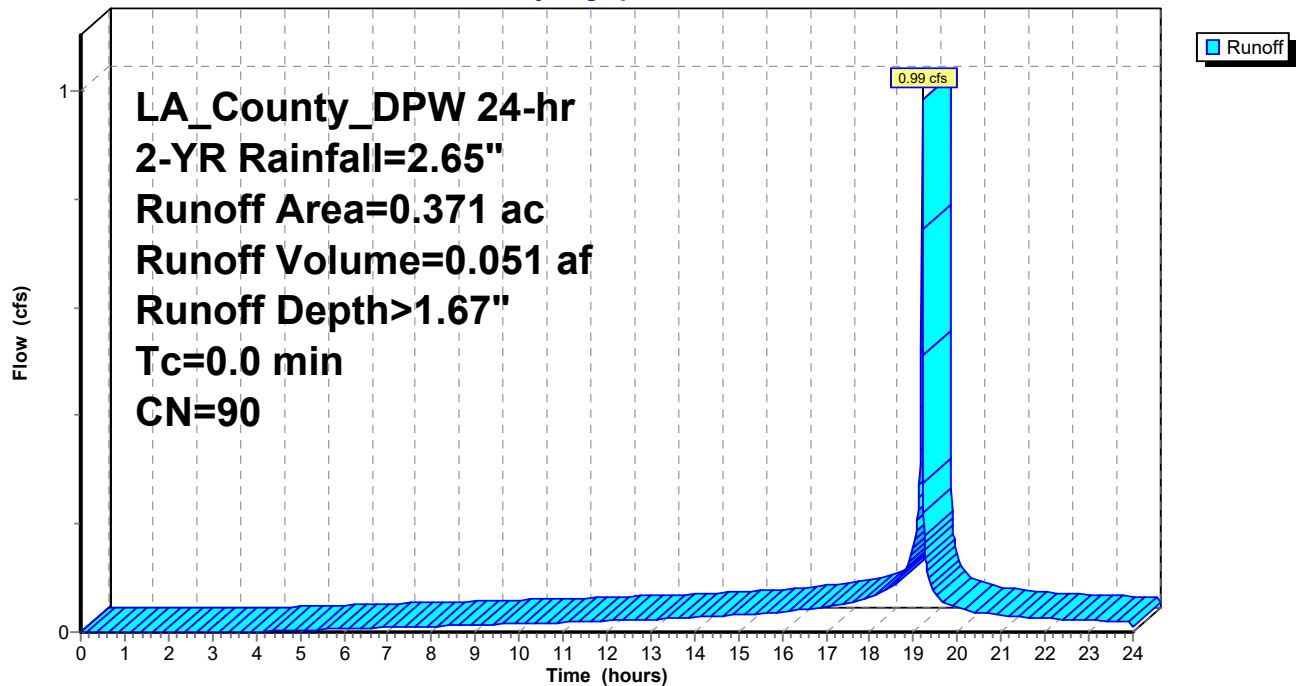
Runoff = 0.99 cfs @ 19.19 hrs, Volume= 0.051 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.371	90	
	0.371		100.00% Pervious Area

Subcatchment 1S: DA-1

Hydrograph



Summary for Subcatchment 3S: DA-3

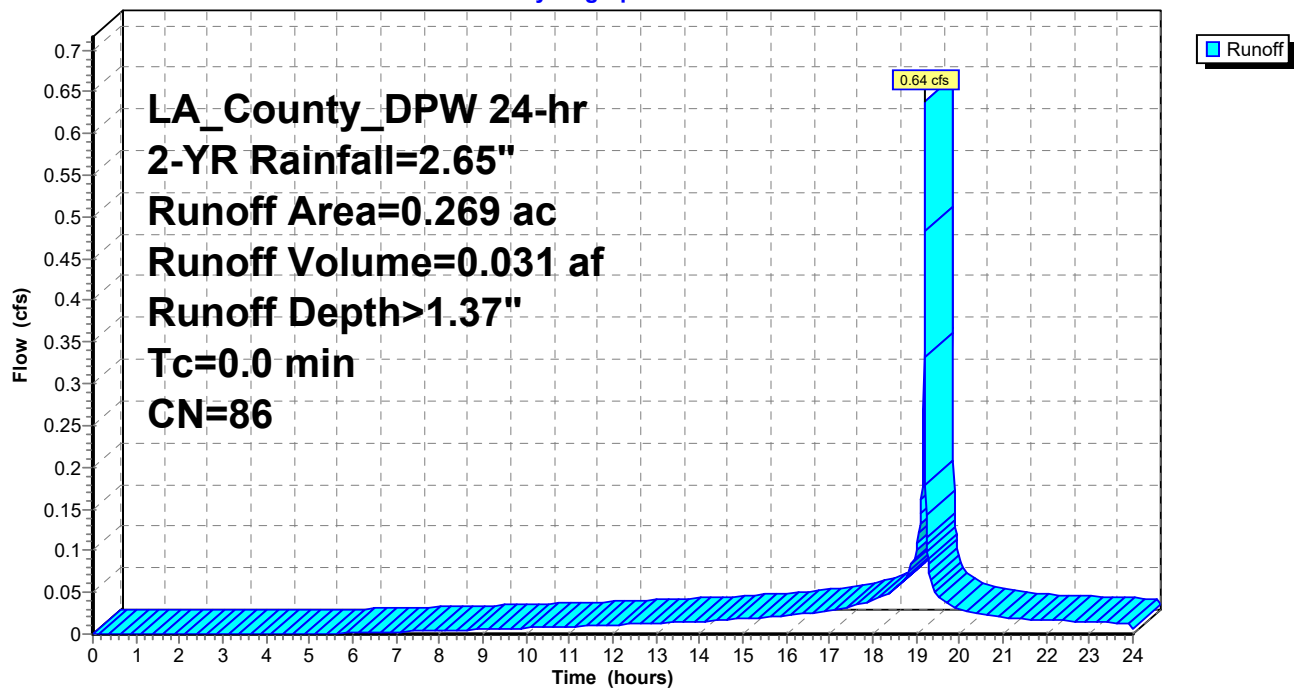
Runoff = 0.64 cfs @ 19.19 hrs, Volume= 0.031 af, Depth> 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.269	86	
	0.269		100.00% Pervious Area

Subcatchment 3S: DA-3

Hydrograph



Summary for Subcatchment 4S: DA-4

Runoff = 0.09 cfs @ 19.26 hrs, Volume= 0.010 af, Depth> 1.66"

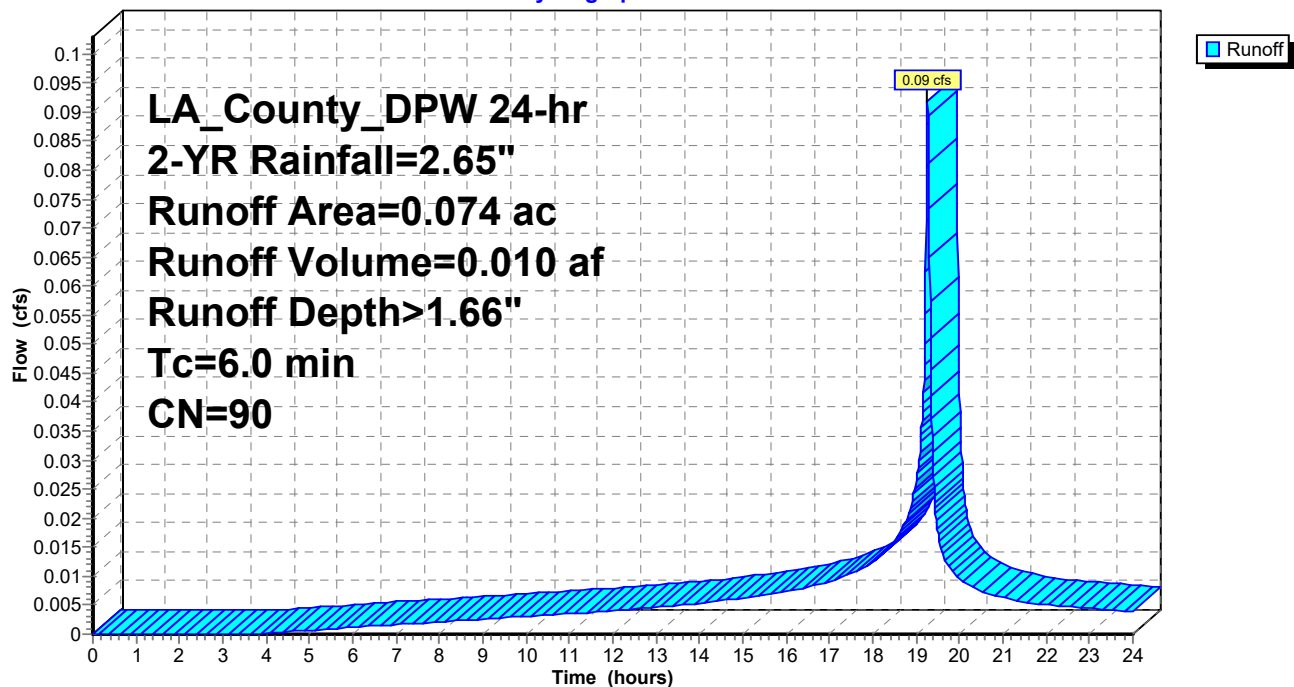
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

Area (ac)	CN	Description
* 0.074	90	
0.074		100.00% Pervious Area

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

Subcatchment 4S: DA-4

Hydrograph



Summary for Subcatchment 5S: DA-5

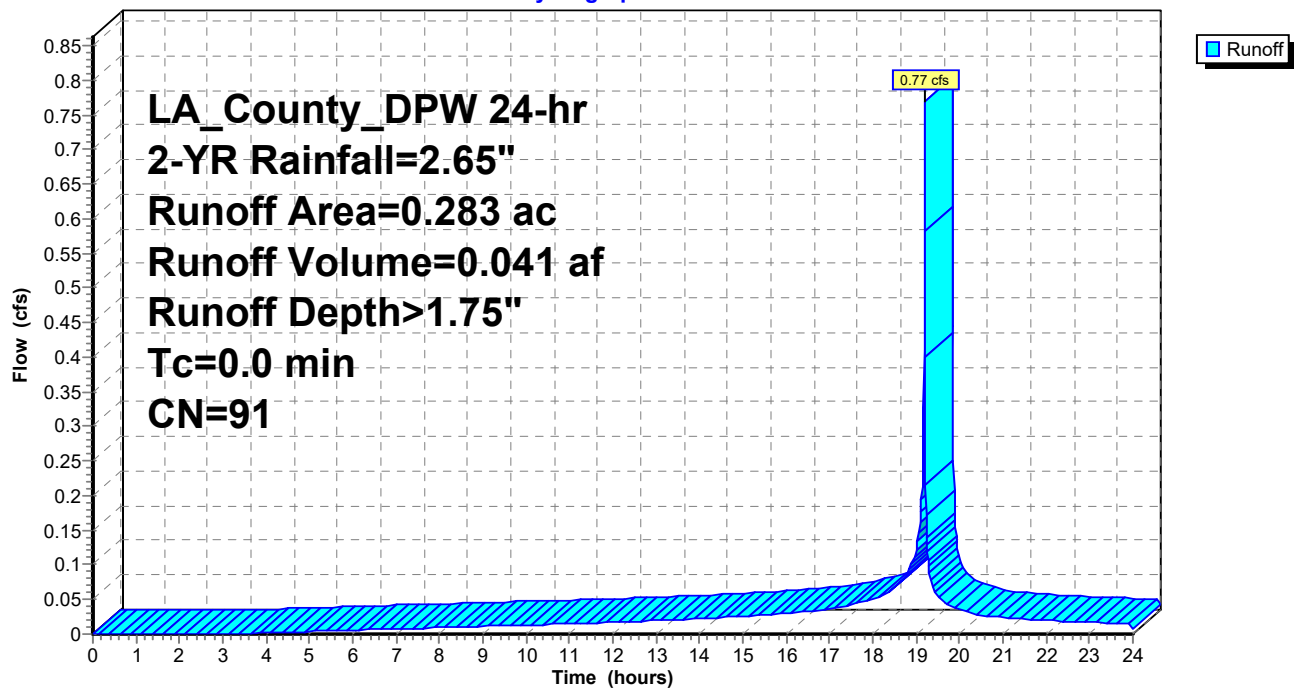
Runoff = 0.77 cfs @ 19.19 hrs, Volume= 0.041 af, Depth> 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.283	91	
	0.283		100.00% Pervious Area

Subcatchment 5S: DA-5

Hydrograph



Summary for Subcatchment 7S: DA-7

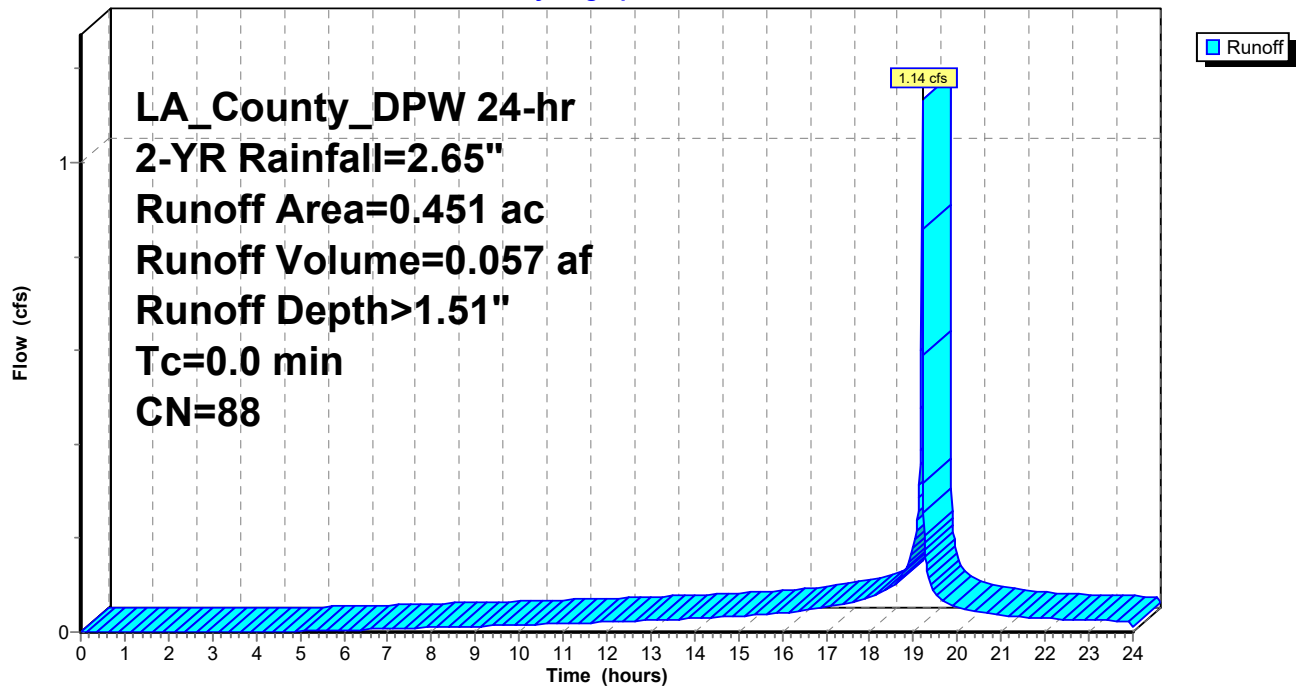
Runoff = 1.14 cfs @ 19.19 hrs, Volume= 0.057 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.451	88	
	0.451		100.00% Pervious Area

Subcatchment 7S: DA-7

Hydrograph



Summary for Subcatchment 8S: DA-8

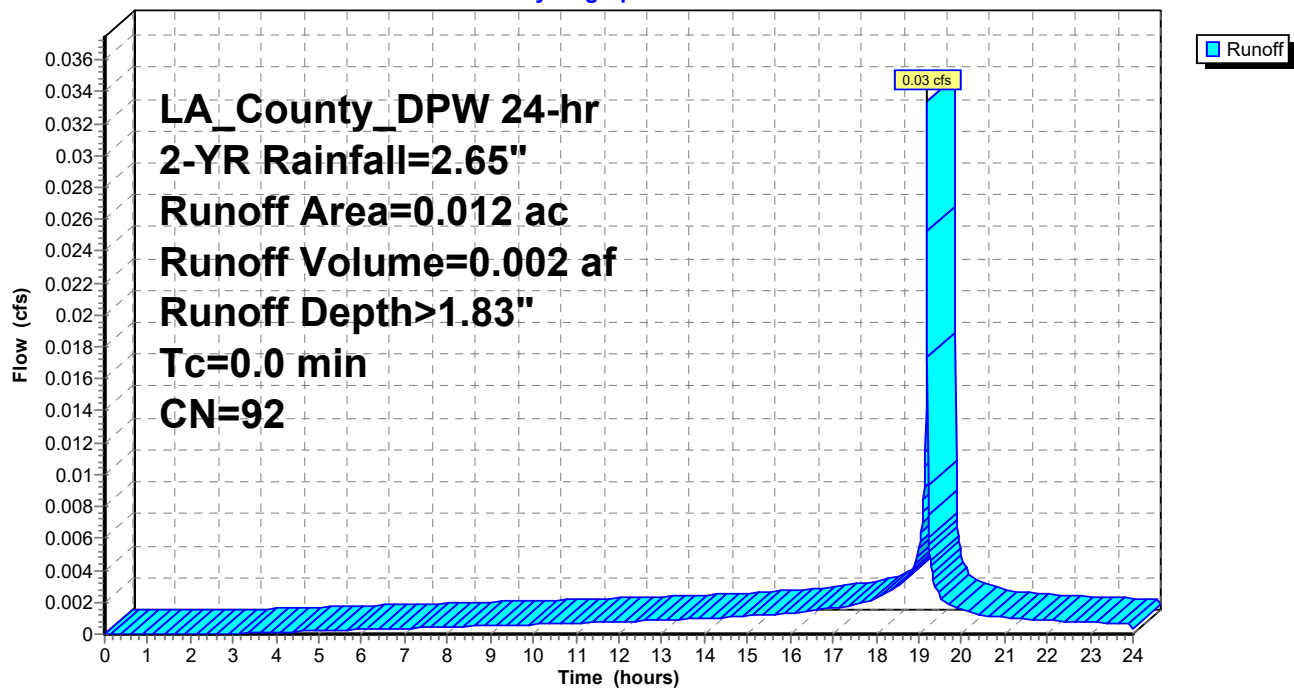
Runoff = 0.03 cfs @ 19.19 hrs, Volume= 0.002 af, Depth> 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.012	92	
	0.012		100.00% Pervious Area

Subcatchment 8S: DA-8

Hydrograph



Summary for Subcatchment 9S: DA-9

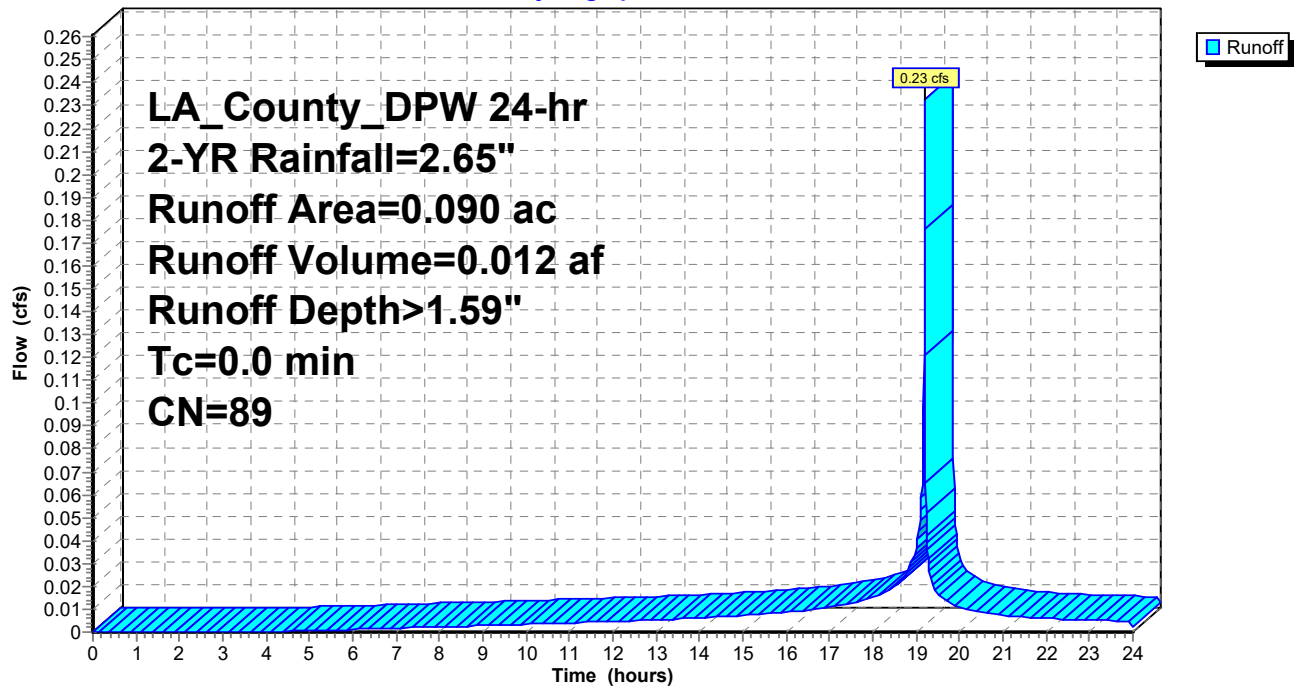
Runoff = 0.23 cfs @ 19.19 hrs, Volume= 0.012 af, Depth> 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.090	89	
	0.090		100.00% Pervious Area

Subcatchment 9S: DA-9

Hydrograph



Summary for Subcatchment 10S: DA-10

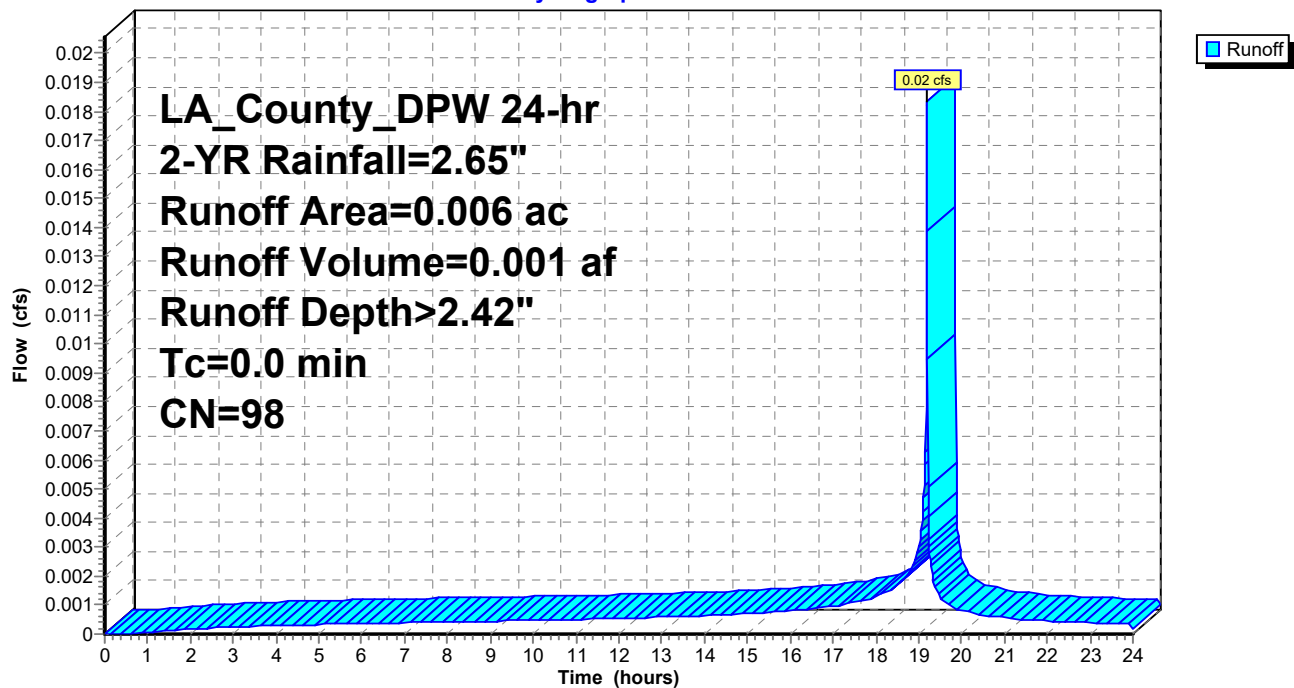
Runoff = 0.02 cfs @ 19.19 hrs, Volume= 0.001 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.006	98	
	0.006		100.00% Impervious Area

Subcatchment 10S: DA-10

Hydrograph



Summary for Subcatchment 11S: DA-11

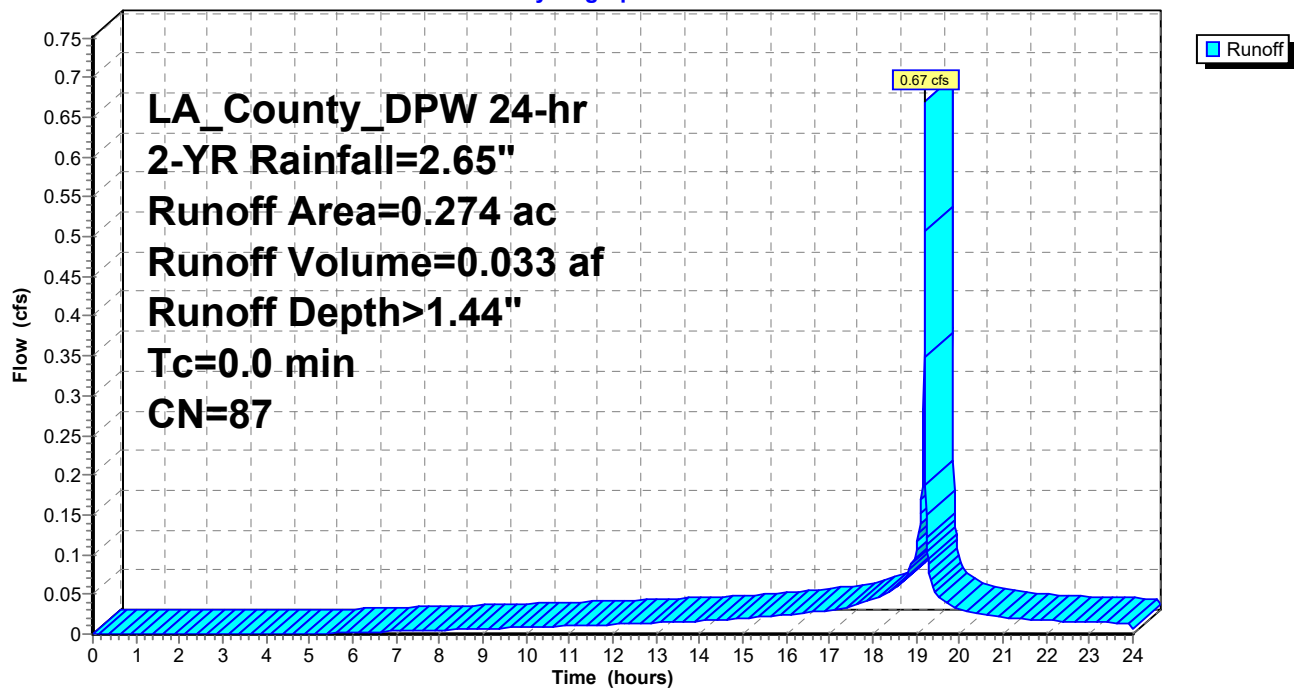
Runoff = 0.67 cfs @ 19.19 hrs, Volume= 0.033 af, Depth> 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.274	87	
	0.274		100.00% Pervious Area

Subcatchment 11S: DA-11

Hydrograph



Summary for Subcatchment 12S: DA-12

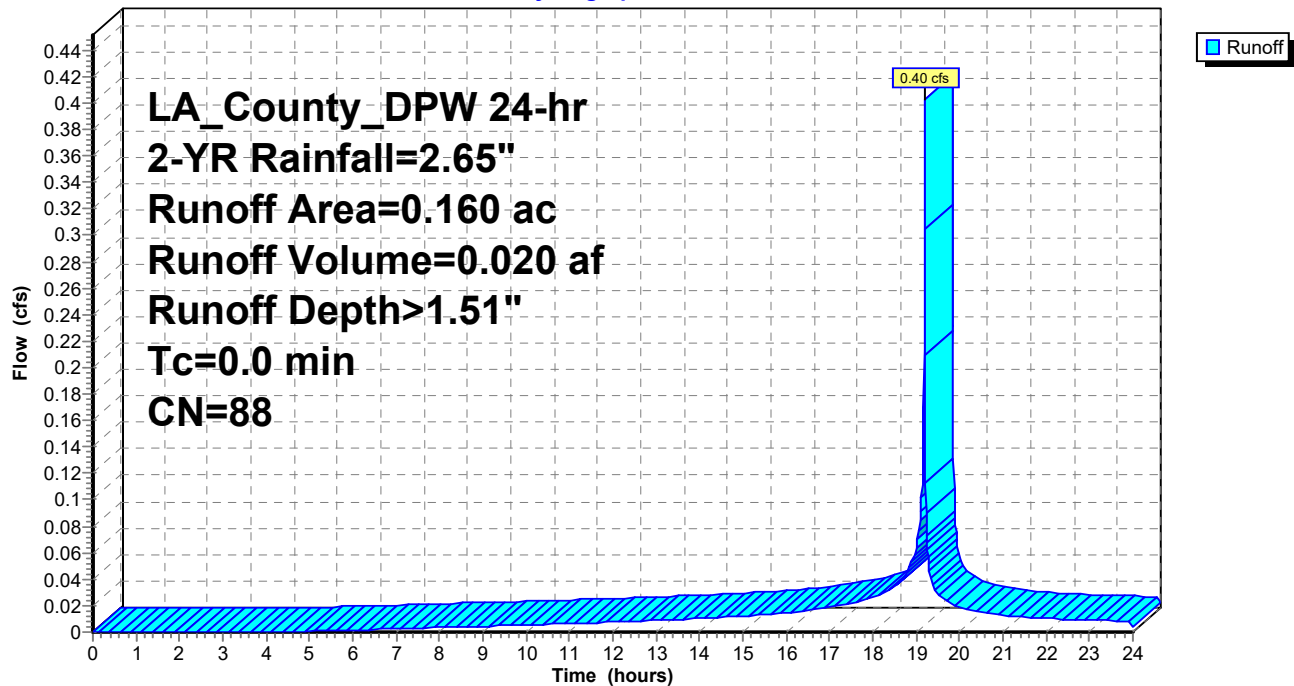
Runoff = 0.40 cfs @ 19.19 hrs, Volume= 0.020 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.160	88	
	0.160		100.00% Pervious Area

Subcatchment 12S: DA-12

Hydrograph

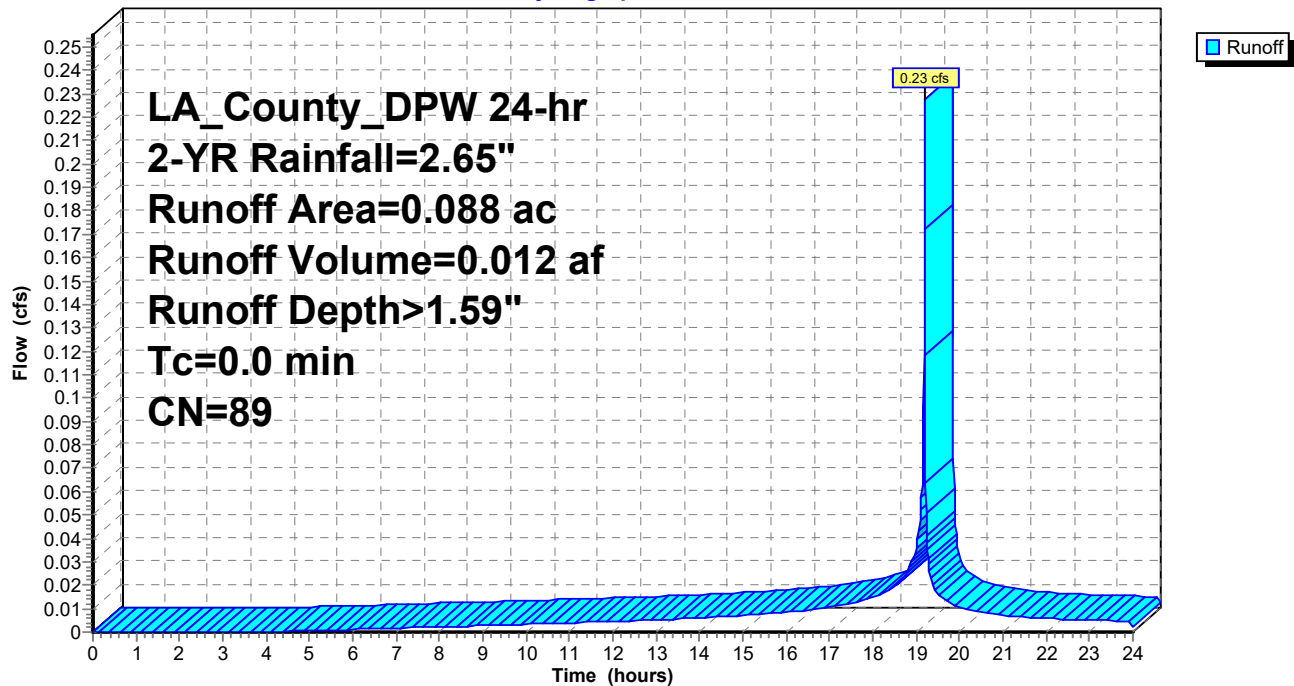


Summary for Subcatchment 13S: DA-13

Runoff = 0.23 cfs @ 19.19 hrs, Volume= 0.012 af, Depth> 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.088	89	
	0.088		100.00% Pervious Area

Subcatchment 13S: DA-13**Hydrograph**

Summary for Subcatchment 14S: DA-14

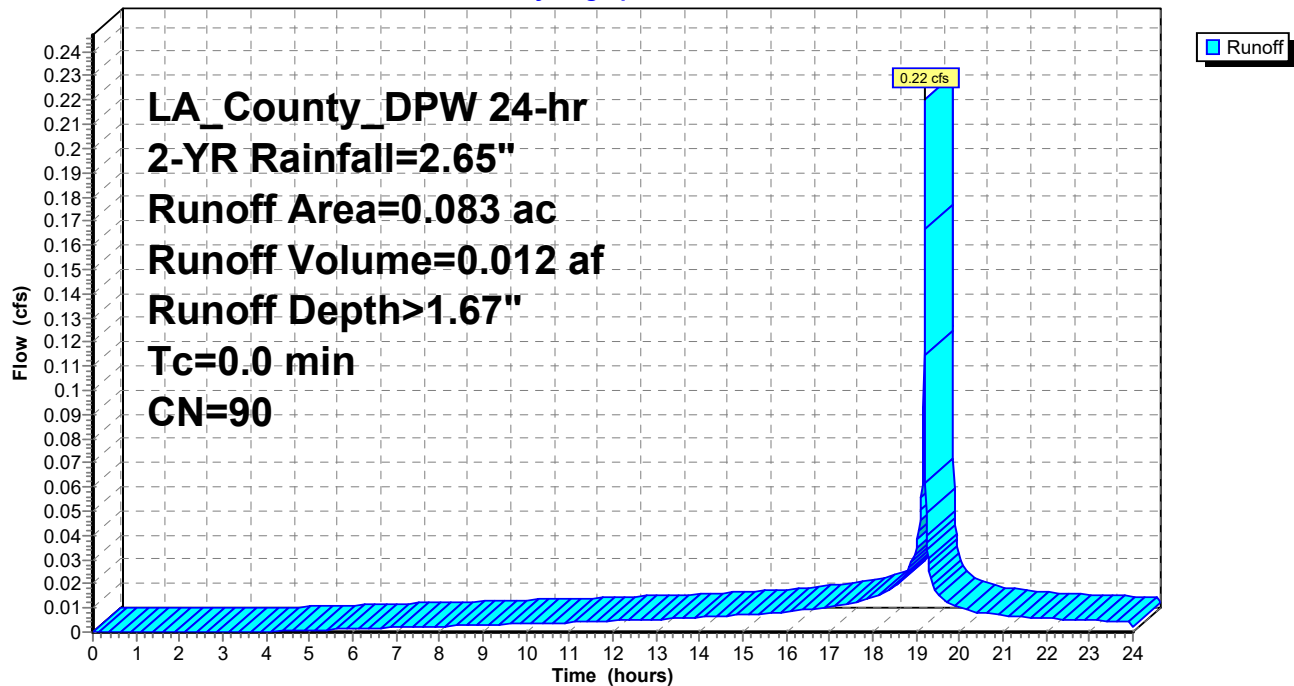
Runoff = 0.22 cfs @ 19.19 hrs, Volume= 0.012 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.083	90	
	0.083		100.00% Pervious Area

Subcatchment 14S: DA-14

Hydrograph



Summary for Subcatchment 15S: DA-15

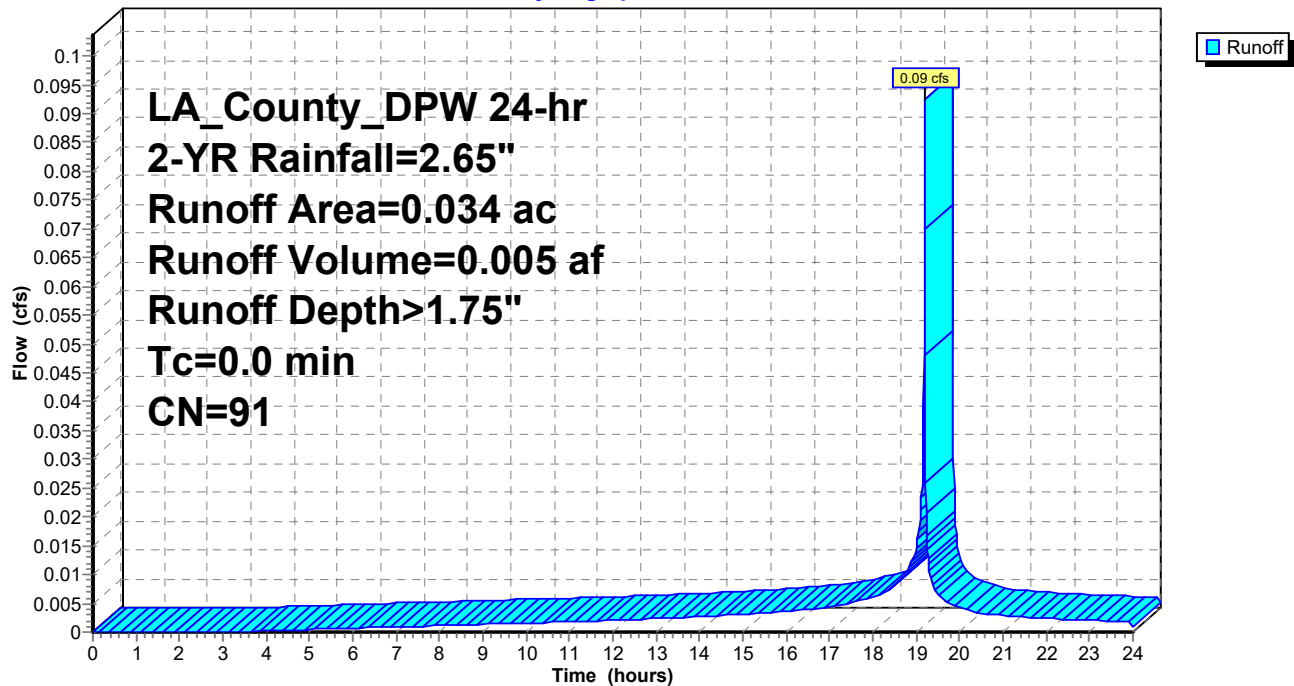
Runoff = 0.09 cfs @ 19.19 hrs, Volume= 0.005 af, Depth> 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.034	91	
	0.034		100.00% Pervious Area

Subcatchment 15S: DA-15

Hydrograph



Summary for Subcatchment 16S: DA-16

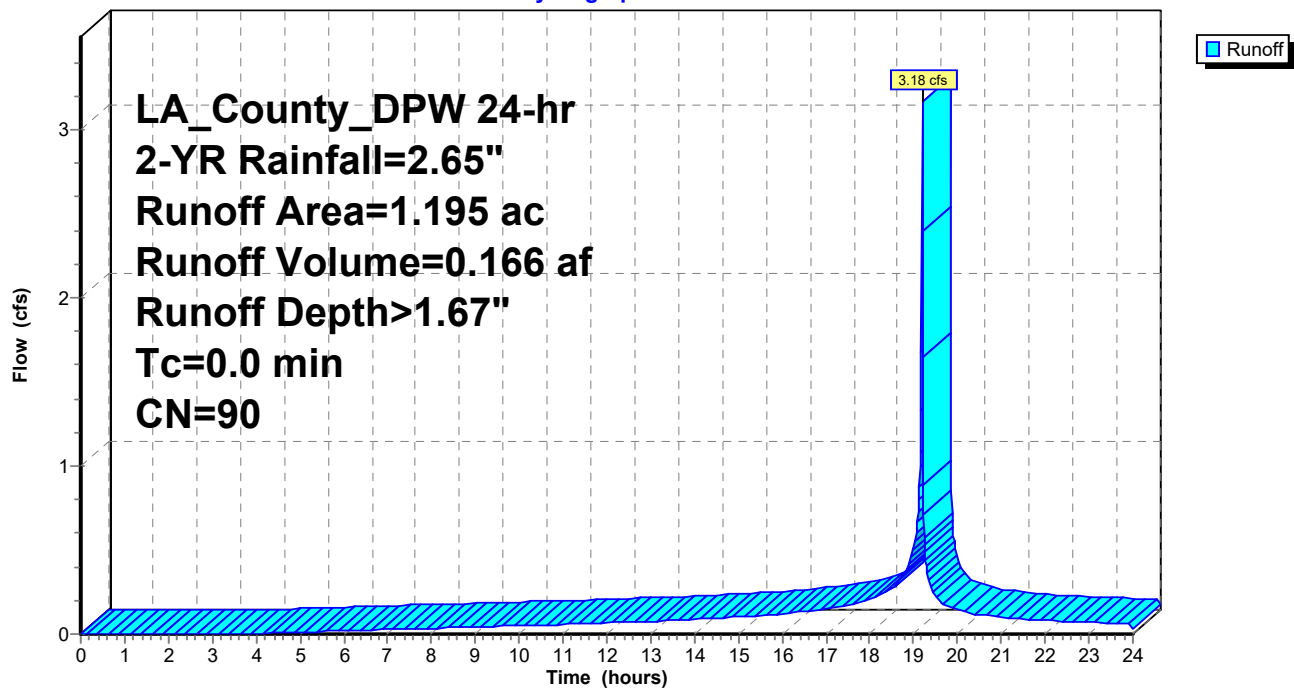
Runoff = 3.18 cfs @ 19.19 hrs, Volume= 0.166 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	1.195	90	
	1.195		100.00% Pervious Area

Subcatchment 16S: DA-16

Hydrograph



Summary for Subcatchment 17S: DA-17

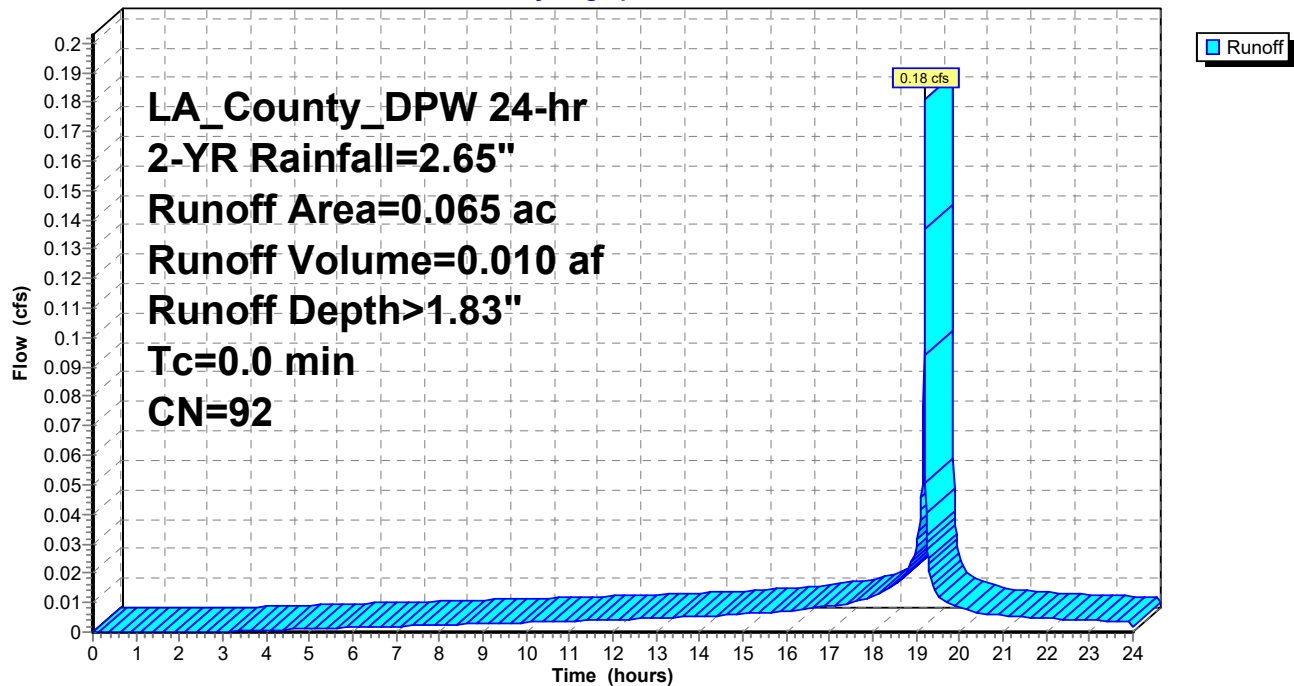
Runoff = 0.18 cfs @ 19.19 hrs, Volume= 0.010 af, Depth> 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.065	92	
	0.065		100.00% Pervious Area

Subcatchment 17S: DA-17

Hydrograph



Summary for Subcatchment 19S: DA-19

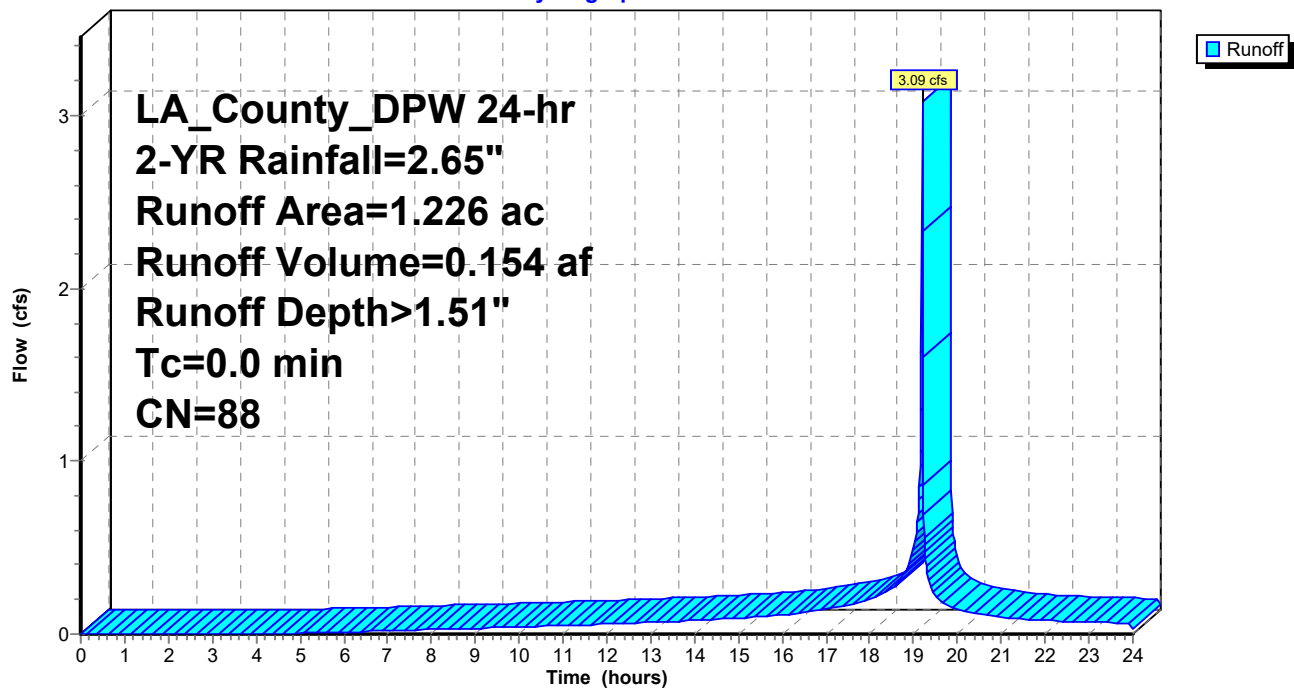
Runoff = 3.09 cfs @ 19.19 hrs, Volume= 0.154 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	1.226	88	
	1.226		100.00% Pervious Area

Subcatchment 19S: DA-19

Hydrograph



Summary for Subcatchment 25S: DA-26

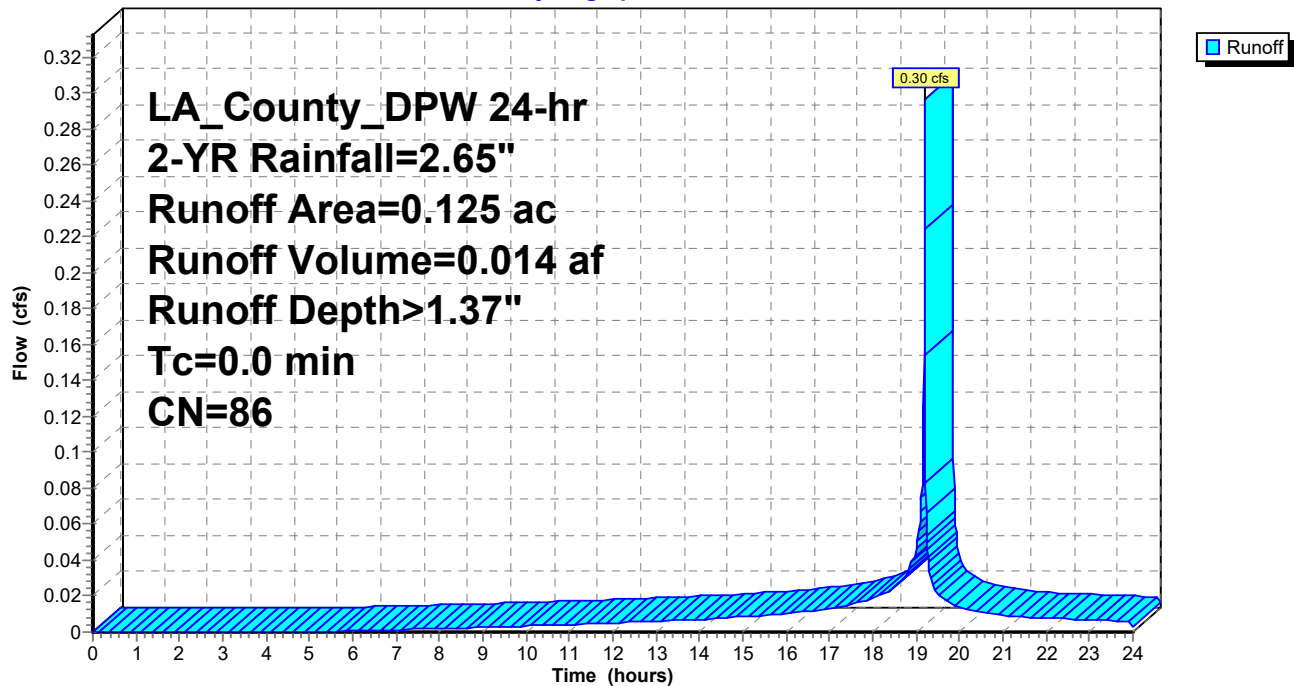
Runoff = 0.30 cfs @ 19.19 hrs, Volume= 0.014 af, Depth> 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.125	86	
	0.125		100.00% Pervious Area

Subcatchment 25S: DA-26

Hydrograph



Summary for Subcatchment 26S: DA-27

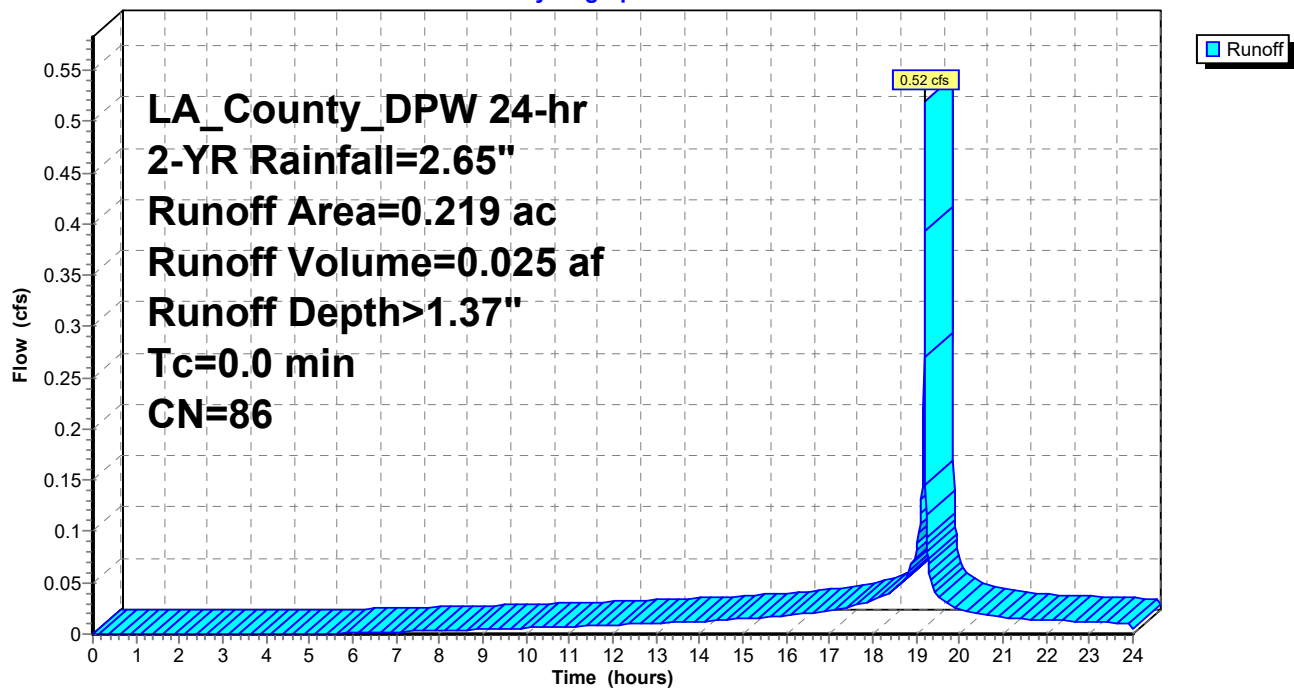
Runoff = 0.52 cfs @ 19.19 hrs, Volume= 0.025 af, Depth> 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.219	86	
	0.219		100.00% Pervious Area

Subcatchment 26S: DA-27

Hydrograph



Summary for Subcatchment 28S: DA-29

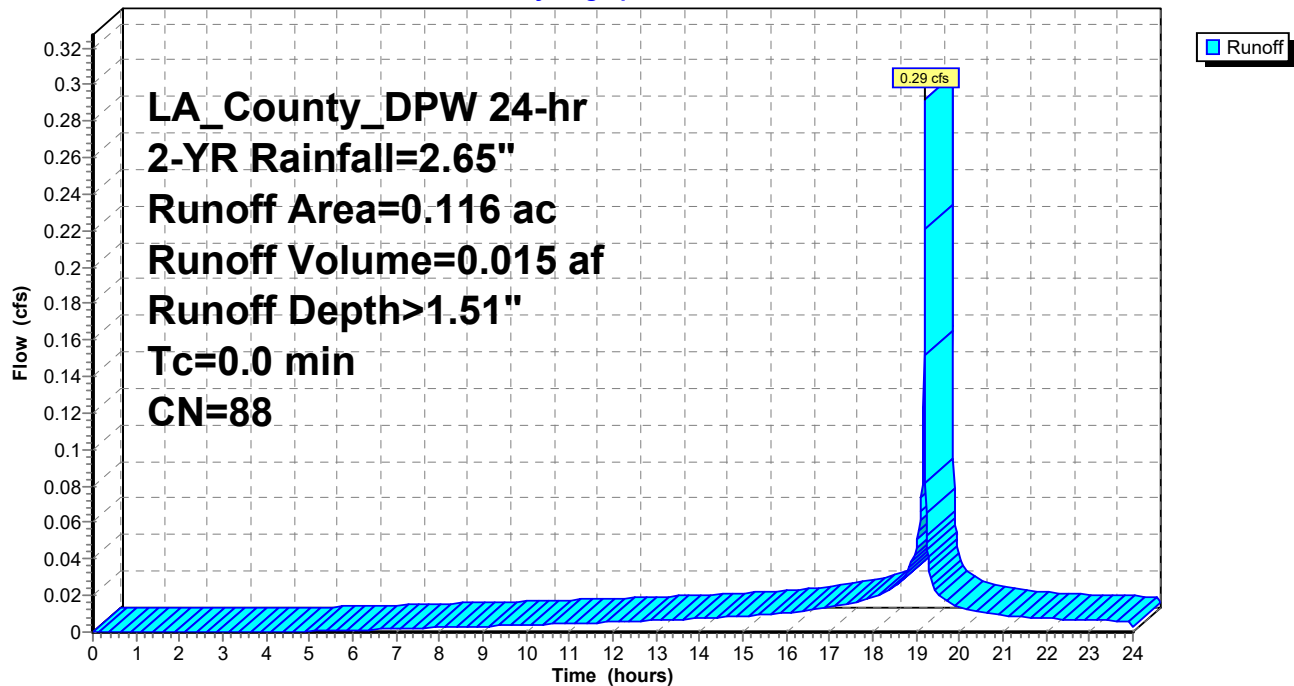
Runoff = 0.29 cfs @ 19.19 hrs, Volume= 0.015 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 2-YR Rainfall=2.65"

	Area (ac)	CN	Description
*	0.116	88	
	0.116		100.00% Pervious Area

Subcatchment 28S: DA-29

Hydrograph



Summary for Reach 29R: CH-6

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 1.56" for 2-YR event
 Inflow = 1.65 cfs @ 19.19 hrs, Volume= 0.106 af
 Outflow = 1.23 cfs @ 19.24 hrs, Volume= 0.106 af, Atten= 25%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.03 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 0.65 fps, Avg. Travel Time= 5.1 min

Peak Storage= 124 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 4.88'

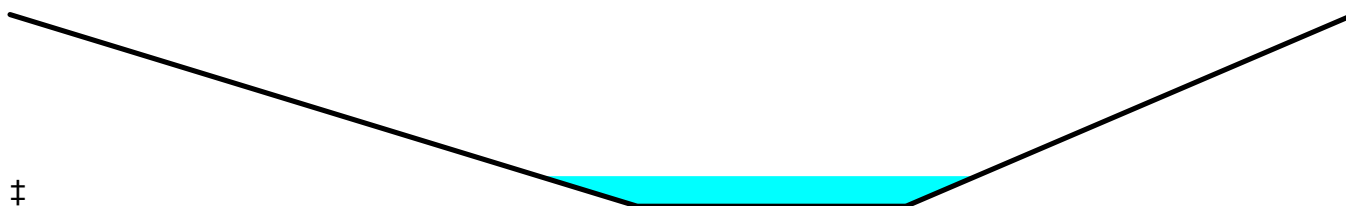
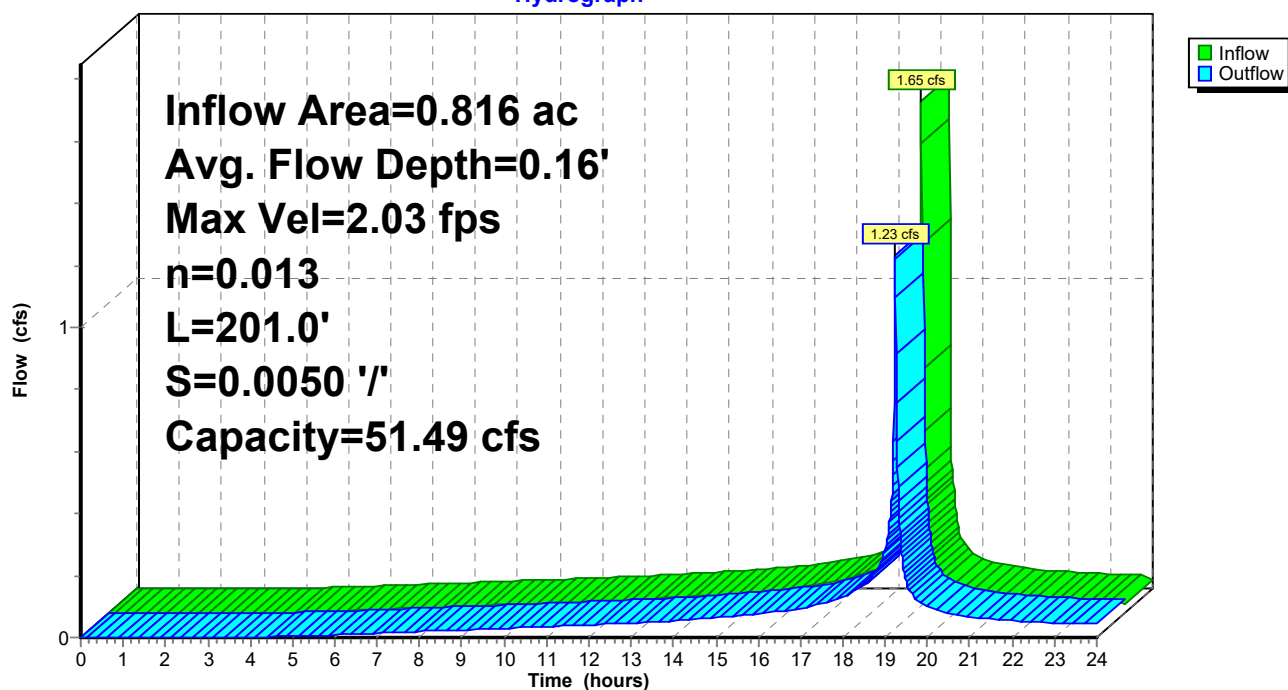
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 51.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 ' / ' Top Width= 15.00'

Length= 201.0' Slope= 0.0050 ' / '

Inlet Invert= 1,148.00', Outlet Invert= 1,146.99'

**Reach 29R: CH-6****Hydrograph**

Summary for Reach 30R: CH-7

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 1.51" for 2-YR event
 Inflow = 1.14 cfs @ 19.19 hrs, Volume= 0.057 af
 Outflow = 0.96 cfs @ 19.21 hrs, Volume= 0.057 af, Atten= 15%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.43 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 1.97 fps, Avg. Travel Time= 1.8 min

Peak Storage= 32 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.07' , Surface Width= 2.28'

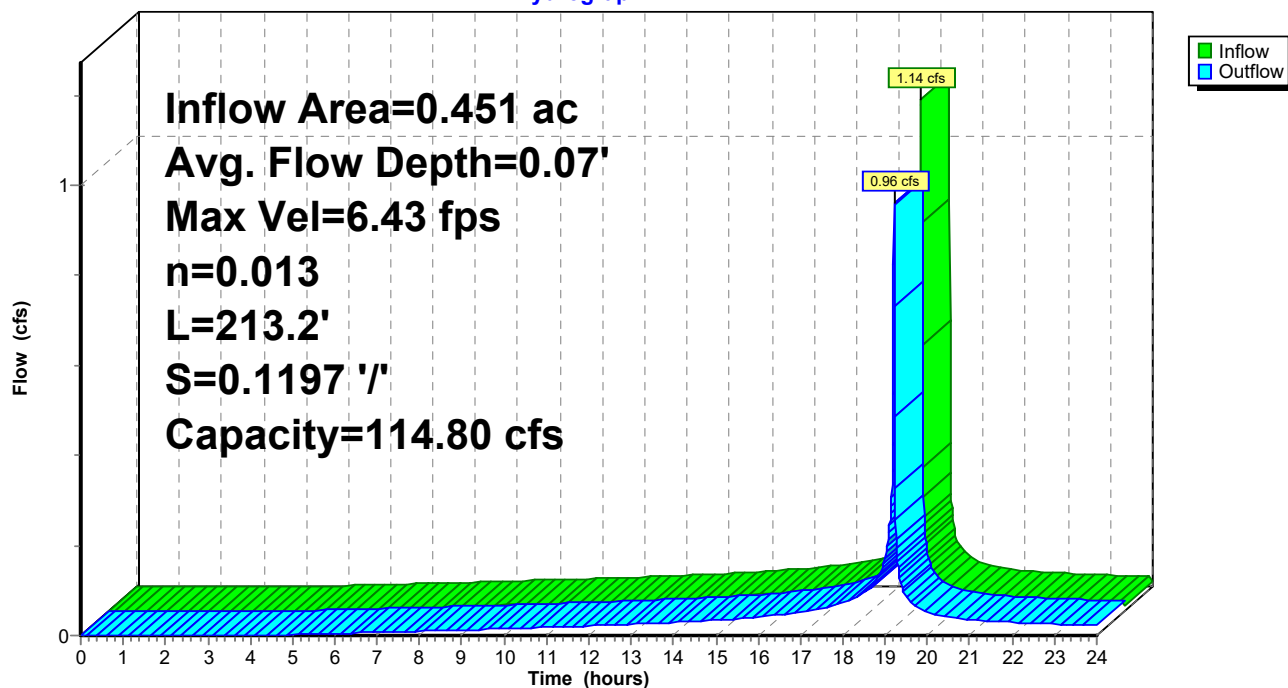
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 114.80 cfs

2.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 6.00'

Length= 213.2' Slope= 0.1197 '/'

Inlet Invert= 1,174.38', Outlet Invert= 1,148.85'

**Reach 30R: CH-7****Hydrograph**

Summary for Reach 31R: CH-4

Inflow Area = 0.445 ac, 0.00% Impervious, Inflow Depth > 1.47" for 2-YR event
 Inflow = 0.82 cfs @ 19.19 hrs, Volume= 0.055 af
 Outflow = 0.77 cfs @ 19.20 hrs, Volume= 0.055 af, Atten= 5%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.71 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 4.40 fps, Avg. Travel Time= 0.4 min

Peak Storage= 9 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 0.95'

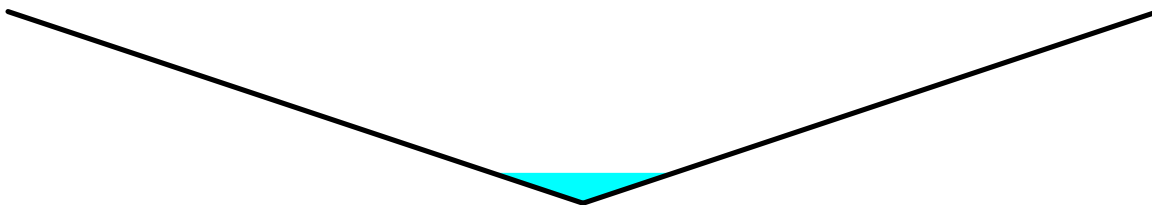
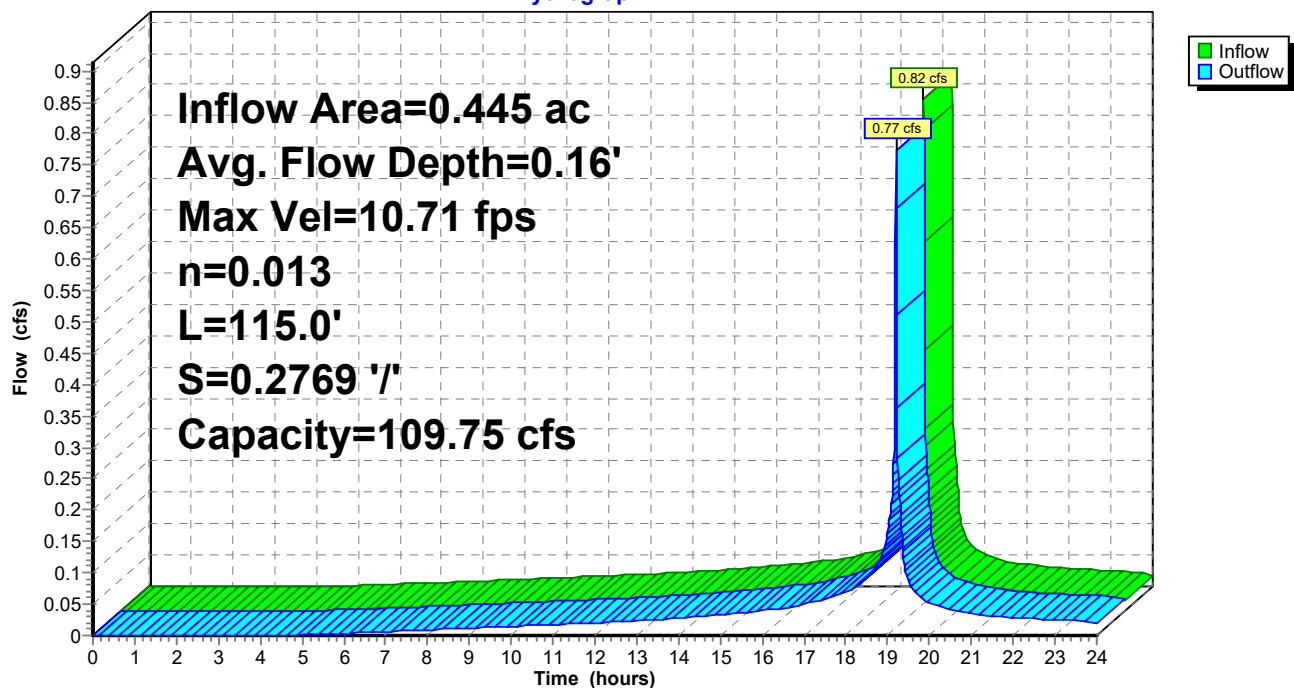
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 109.75 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 115.0' Slope= 0.2769 ' / '

Inlet Invert= 1,179.25', Outlet Invert= 1,147.41'

**Reach 31R: CH-4****Hydrograph**

Summary for Reach 32R: CH-3

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 1.59" for 2-YR event
 Inflow = 0.23 cfs @ 19.19 hrs, Volume= 0.012 af
 Outflow = 0.19 cfs @ 19.21 hrs, Volume= 0.012 af, Atten= 17%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.99 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 1.63 fps, Avg. Travel Time= 1.2 min

Peak Storage= 6 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.12' , Surface Width= 0.84'

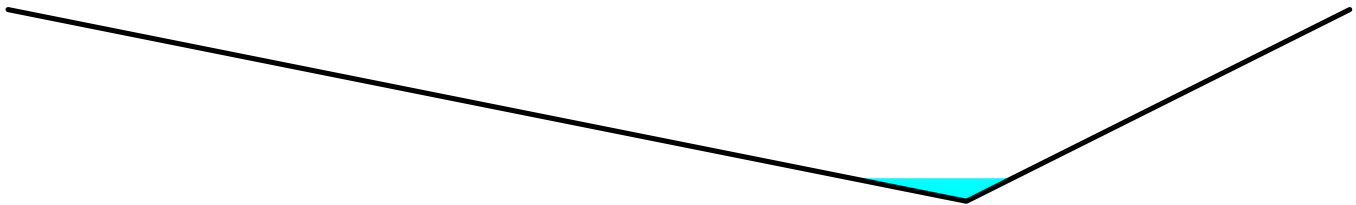
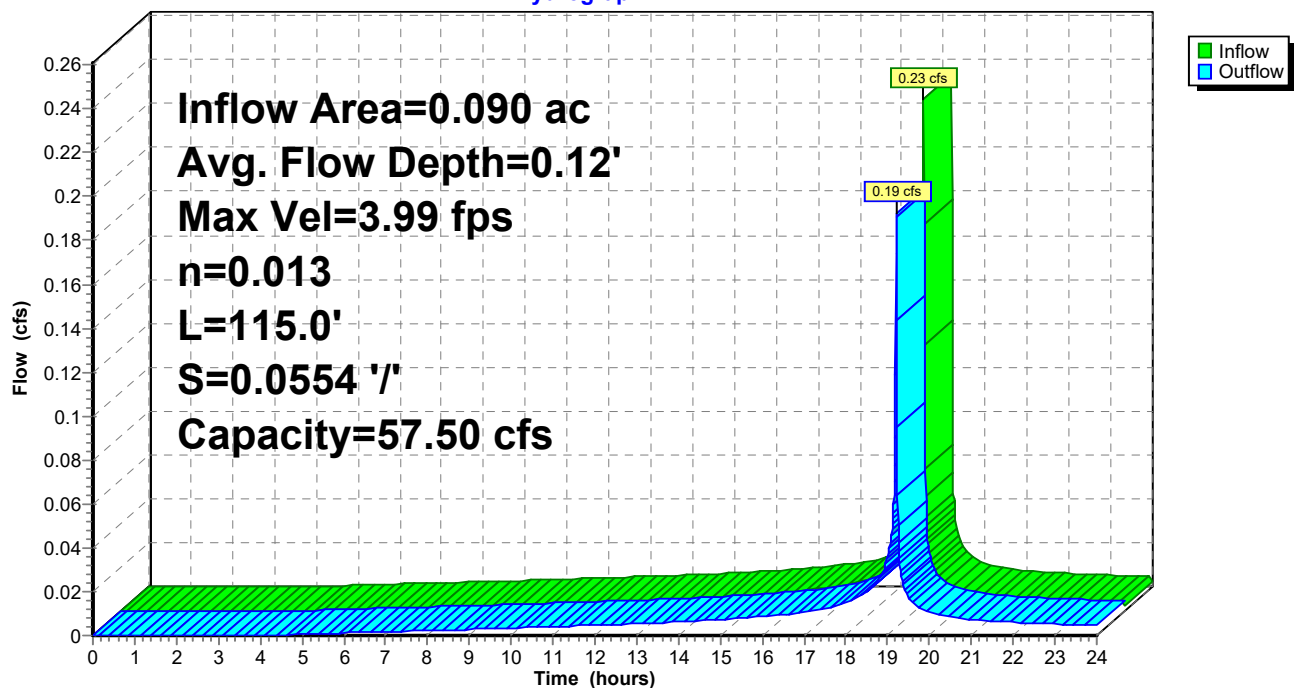
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 57.50 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' Top Width= 7.00'

Length= 115.0' Slope= 0.0554 '/'

Inlet Invert= 1,178.00', Outlet Invert= 1,171.63'

**Reach 32R: CH-3****Hydrograph**

Summary for Reach 33R: CH-2

Inflow Area = 0.269 ac, 0.00% Impervious, Inflow Depth > 1.37" for 2-YR event
 Inflow = 0.64 cfs @ 19.19 hrs, Volume= 0.031 af
 Outflow = 0.60 cfs @ 19.19 hrs, Volume= 0.031 af, Atten= 6%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.12 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 3.59 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 19.19 hrs

Average Depth at Peak Storage= 0.14' , Surface Width= 0.98'

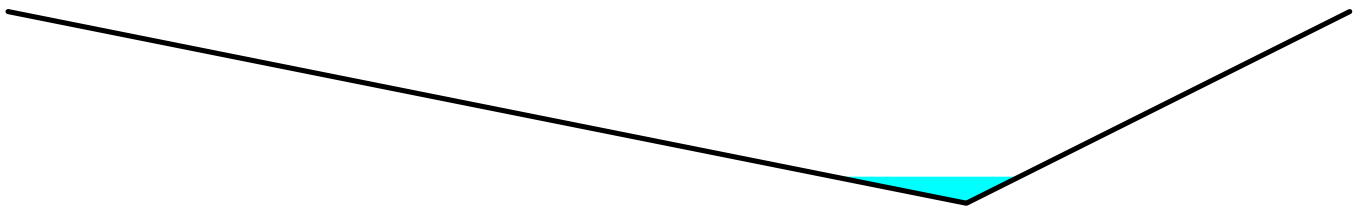
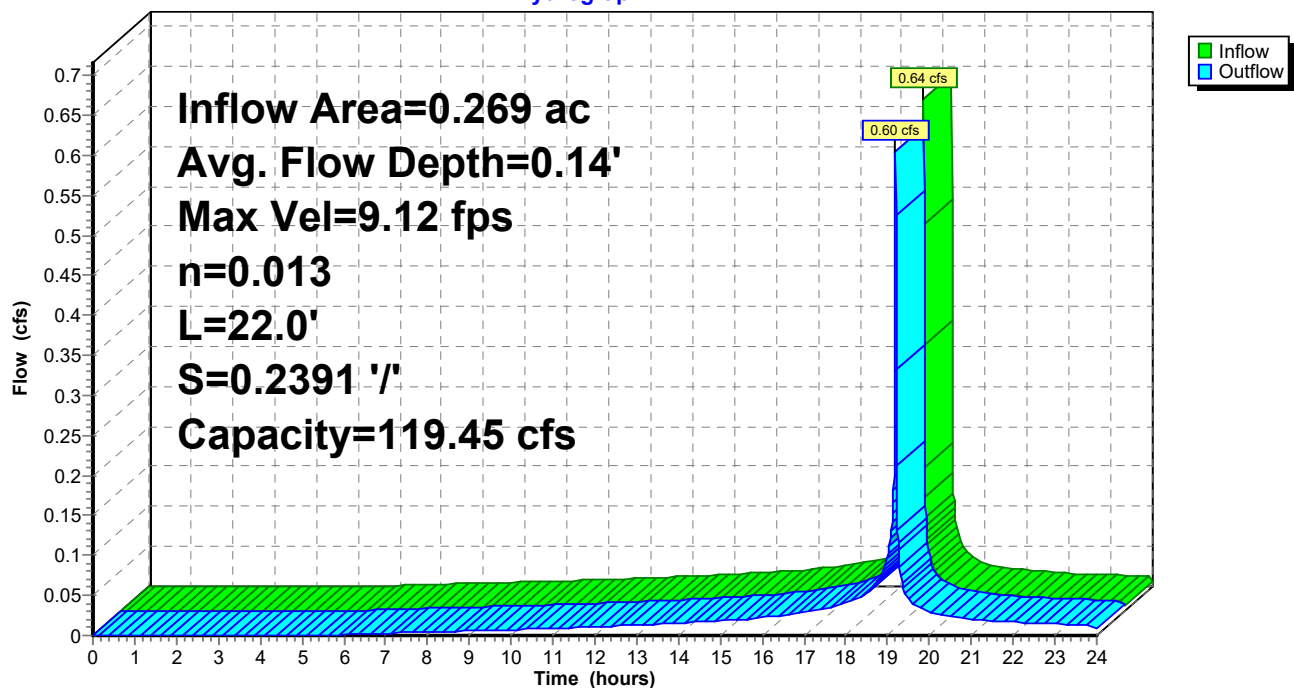
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 119.45 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' / Top Width= 7.00'

Length= 22.0' Slope= 0.2391 ' /

Inlet Invert= 1,176.89', Outlet Invert= 1,171.63'

**Reach 33R: CH-2****Hydrograph**

Summary for Reach 34R: CH-1

Inflow Area = 0.074 ac, 0.00% Impervious, Inflow Depth > 1.66" for 2-YR event
 Inflow = 0.09 cfs @ 19.26 hrs, Volume= 0.010 af
 Outflow = 0.09 cfs @ 19.28 hrs, Volume= 0.010 af, Atten= 2%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.07 fps, Min. Travel Time= 0.7 min

Avg. Velocity = 1.47 fps, Avg. Travel Time= 1.4 min

Peak Storage= 4 cf @ 19.27 hrs

Average Depth at Peak Storage= 0.09' , Surface Width= 0.64'

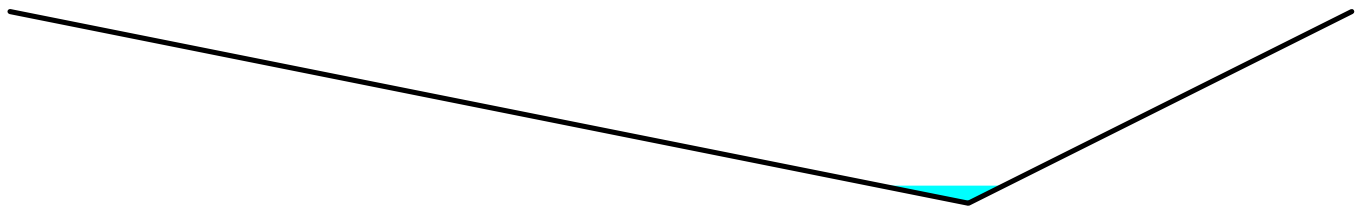
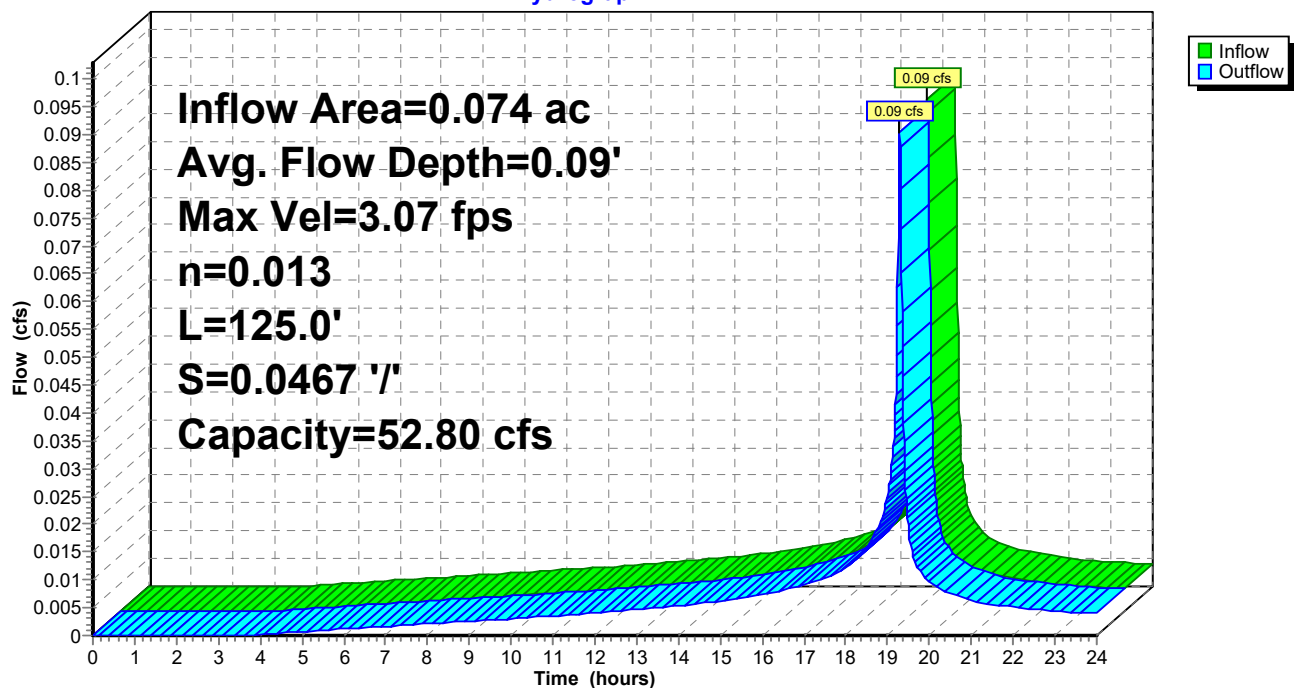
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 52.80 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' Top Width= 7.00'

Length= 125.0' Slope= 0.0467 ' / '

Inlet Invert= 1,206.17', Outlet Invert= 1,200.33'

**Reach 34R: CH-1****Hydrograph**

Summary for Reach 35R: CH-8

Inflow Area = 0.065 ac, 0.00% Impervious, Inflow Depth > 1.83" for 2-YR event
 Inflow = 0.18 cfs @ 19.19 hrs, Volume= 0.010 af
 Outflow = 0.13 cfs @ 19.22 hrs, Volume= 0.010 af, Atten= 27%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.03 fps, Min. Travel Time= 0.9 min

Avg. Velocity = 2.14 fps, Avg. Travel Time= 2.2 min

Peak Storage= 8 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.12' , Surface Width= 0.47'

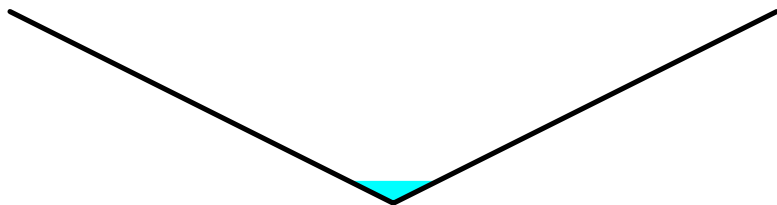
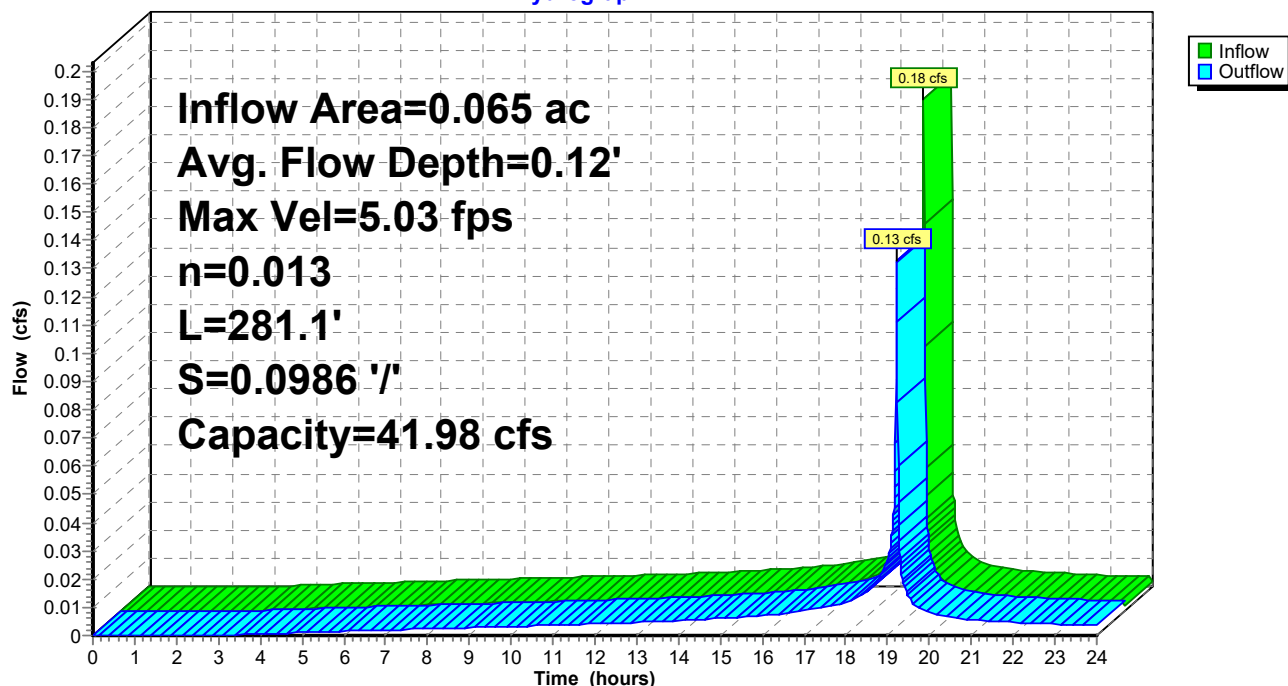
Bank-Full Depth= 1.00' Flow Area= 2.0 sf, Capacity= 41.98 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 ' / ' Top Width= 4.00'

Length= 281.1' Slope= 0.0986 ' / '

Inlet Invert= 1,174.52', Outlet Invert= 1,146.81'

**Reach 35R: CH-8****Hydrograph**

Summary for Reach 36R: CH-9

Inflow Area = 1.332 ac, 0.00% Impervious, Inflow Depth > 1.55" for 2-YR event
 Inflow = 1.87 cfs @ 19.23 hrs, Volume= 0.172 af
 Outflow = 1.87 cfs @ 19.23 hrs, Volume= 0.172 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.41 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 1.04 fps, Avg. Travel Time= 0.3 min

Peak Storage= 11 cf @ 19.23 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 4.64'

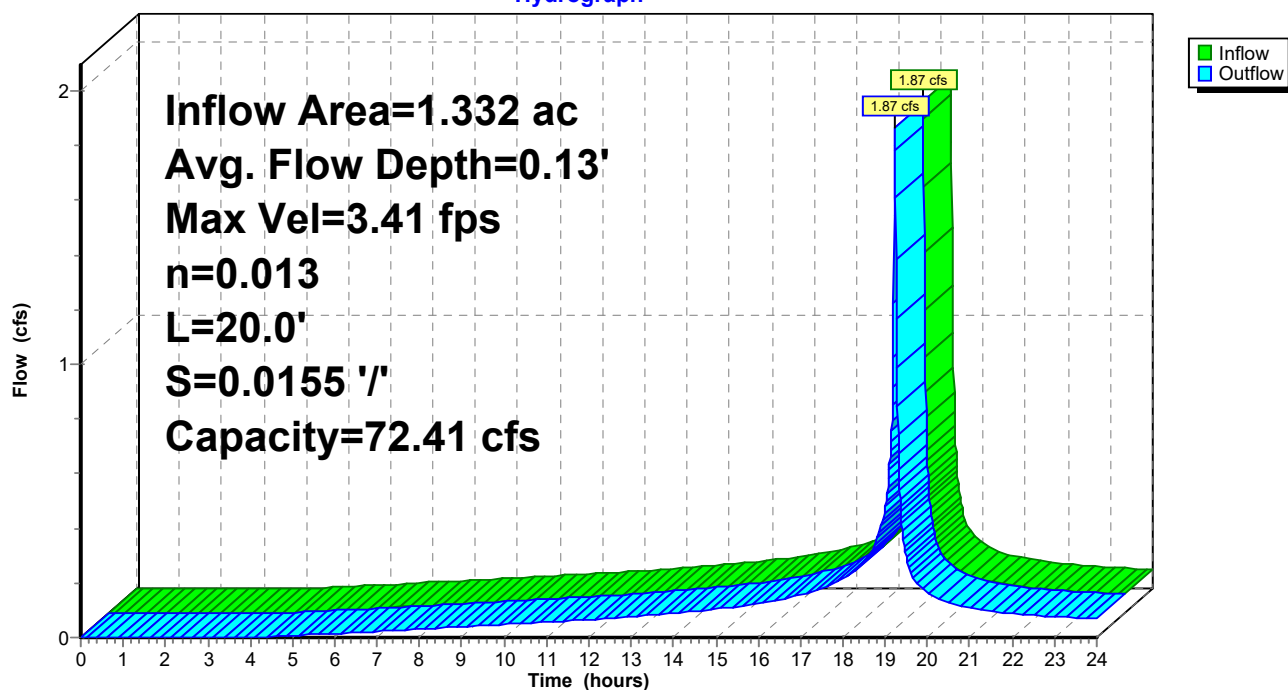
Bank-Full Depth= 1.00' Flow Area= 6.5 sf, Capacity= 72.41 cfs

4.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.5 '/' Top Width= 9.00'

Length= 20.0' Slope= 0.0155 '/'

Inlet Invert= 1,146.81', Outlet Invert= 1,146.50'

**Reach 36R: CH-9****Hydrograph**

Summary for Reach 37R: CV-1

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 1.51" for 2-YR event
 Inflow = 0.96 cfs @ 19.21 hrs, Volume= 0.057 af
 Outflow = 0.88 cfs @ 19.22 hrs, Volume= 0.057 af, Atten= 8%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.22 fps, Min. Travel Time= 0.3 min

Avg. Velocity= 1.45 fps, Avg. Travel Time= 0.8 min

Peak Storage= 15 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.32' , Surface Width= 0.94'

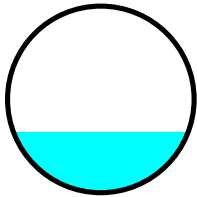
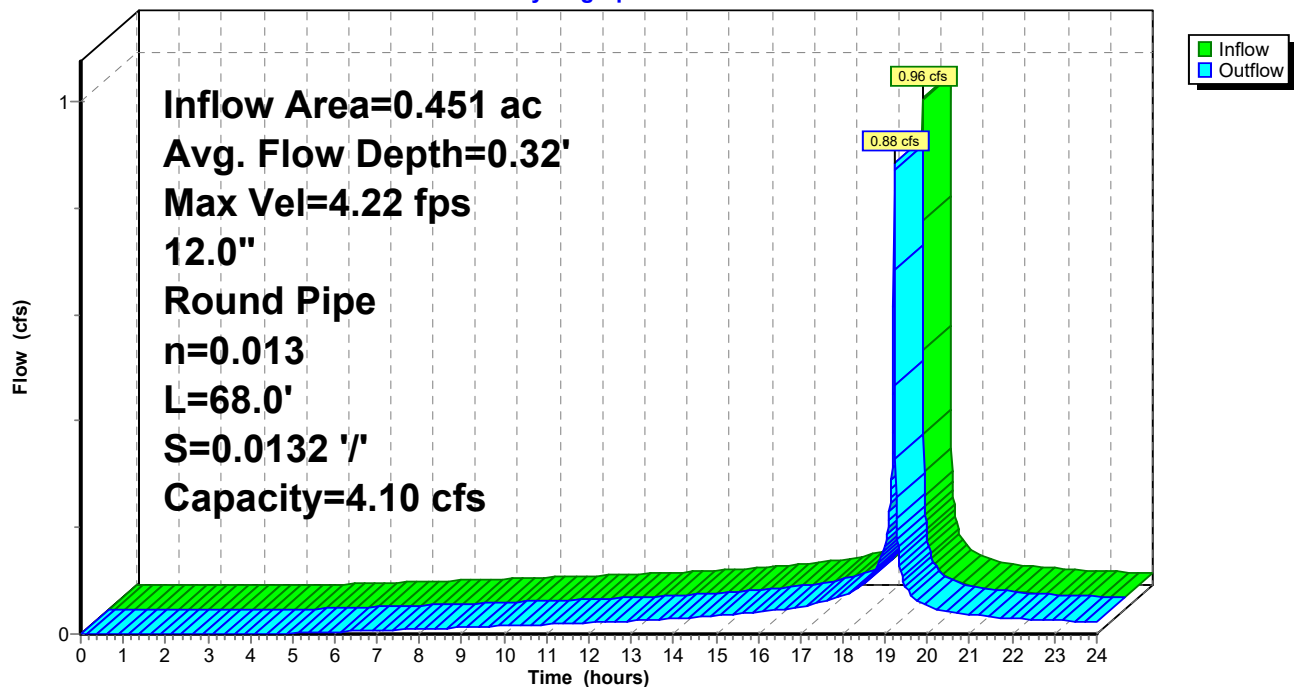
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.10 cfs

12.0" Round Pipe

n= 0.013

Length= 68.0' Slope= 0.0132 '/'

Inlet Invert= 1,148.90', Outlet Invert= 1,148.00'

**Reach 37R: CV-1****Hydrograph**

Summary for Reach 38R: CV-2

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 1.55" for 2-YR event
 Inflow = 1.23 cfs @ 19.24 hrs, Volume= 0.106 af
 Outflow = 1.21 cfs @ 19.24 hrs, Volume= 0.106 af, Atten= 2%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.11 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.15 fps, Avg. Travel Time= 0.6 min

Peak Storage= 15 cf @ 19.24 hrs

Average Depth at Peak Storage= 0.41' , Surface Width= 1.34'

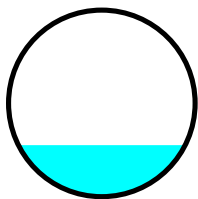
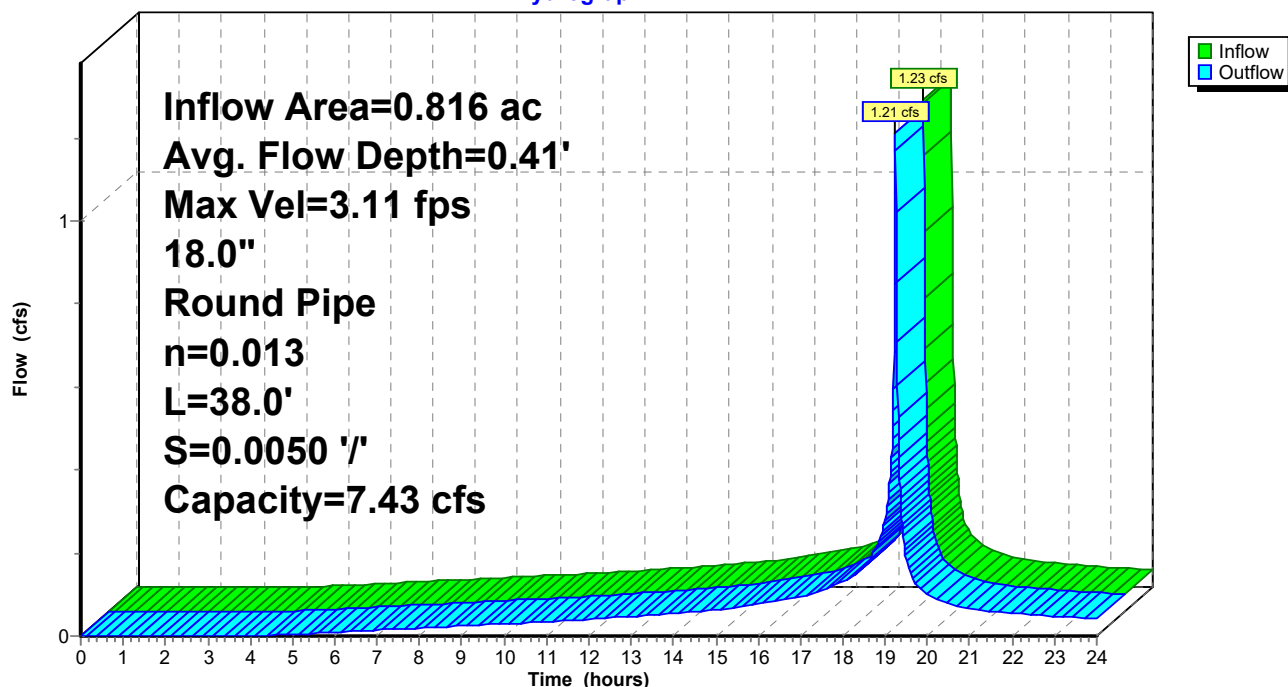
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe

n= 0.013

Length= 38.0' Slope= 0.0050 '/'

Inlet Invert= 1,146.99', Outlet Invert= 1,146.80'

**Reach 38R: CV-2****Hydrograph**

Summary for Reach 39R: CH-10A

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 1.44" for 2-YR event
 Inflow = 0.67 cfs @ 19.19 hrs, Volume= 0.033 af
 Outflow = 0.57 cfs @ 19.20 hrs, Volume= 0.033 af, Atten= 15%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.02 fps, Min. Travel Time= 0.3 min

Avg. Velocity = 2.00 fps, Avg. Travel Time= 0.7 min

Peak Storage= 10 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.19' , Surface Width= 1.30'

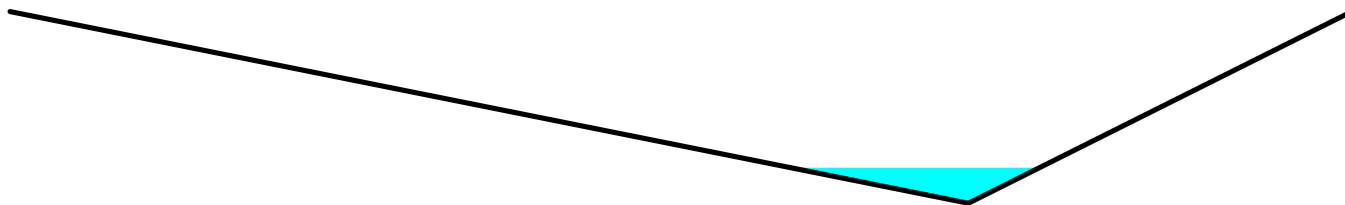
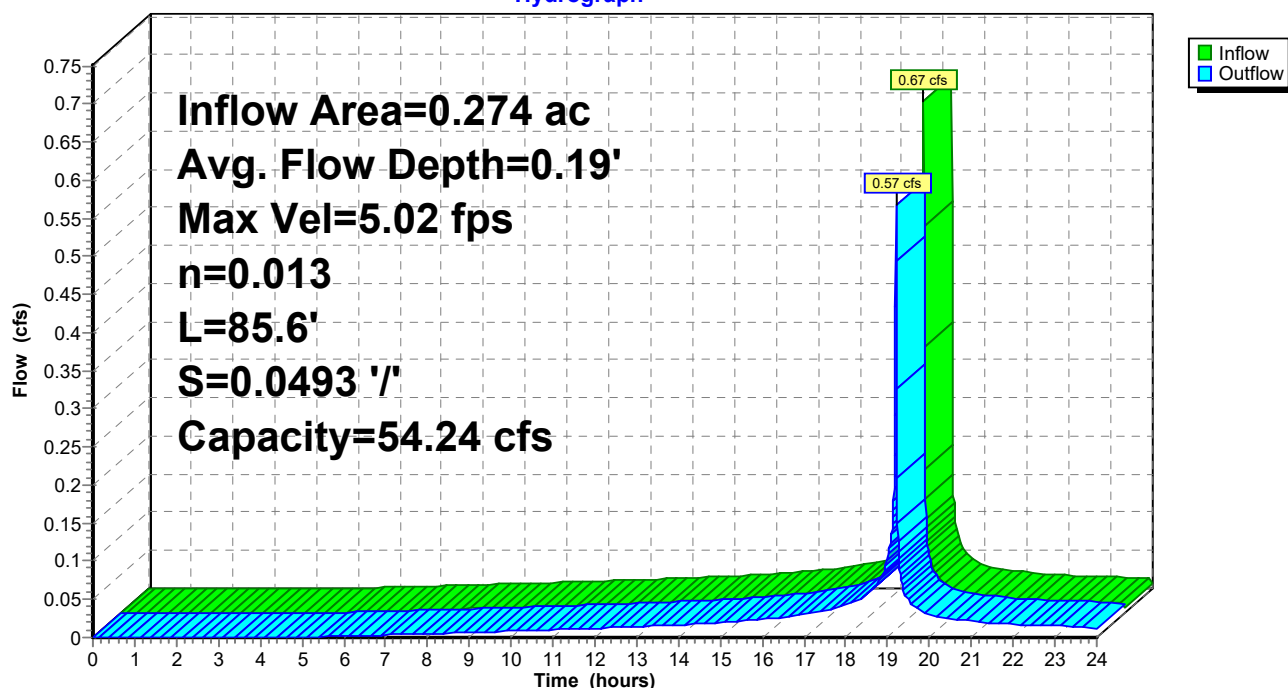
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 54.24 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 85.6' Slope= 0.0493 ' / '

Inlet Invert= 1,198.00', Outlet Invert= 1,193.78'

**Reach 39R: CH-10A****Hydrograph**

Summary for Reach 40R: CH-11A

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 1.51" for 2-YR event
 Inflow = 0.40 cfs @ 19.19 hrs, Volume= 0.020 af
 Outflow = 0.35 cfs @ 19.20 hrs, Volume= 0.020 af, Atten= 13%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.22 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 1.69 fps, Avg. Travel Time= 0.5 min

Peak Storage= 4 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 1.10'

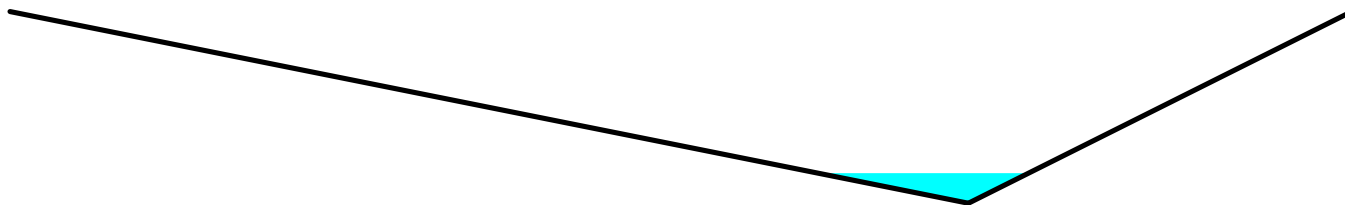
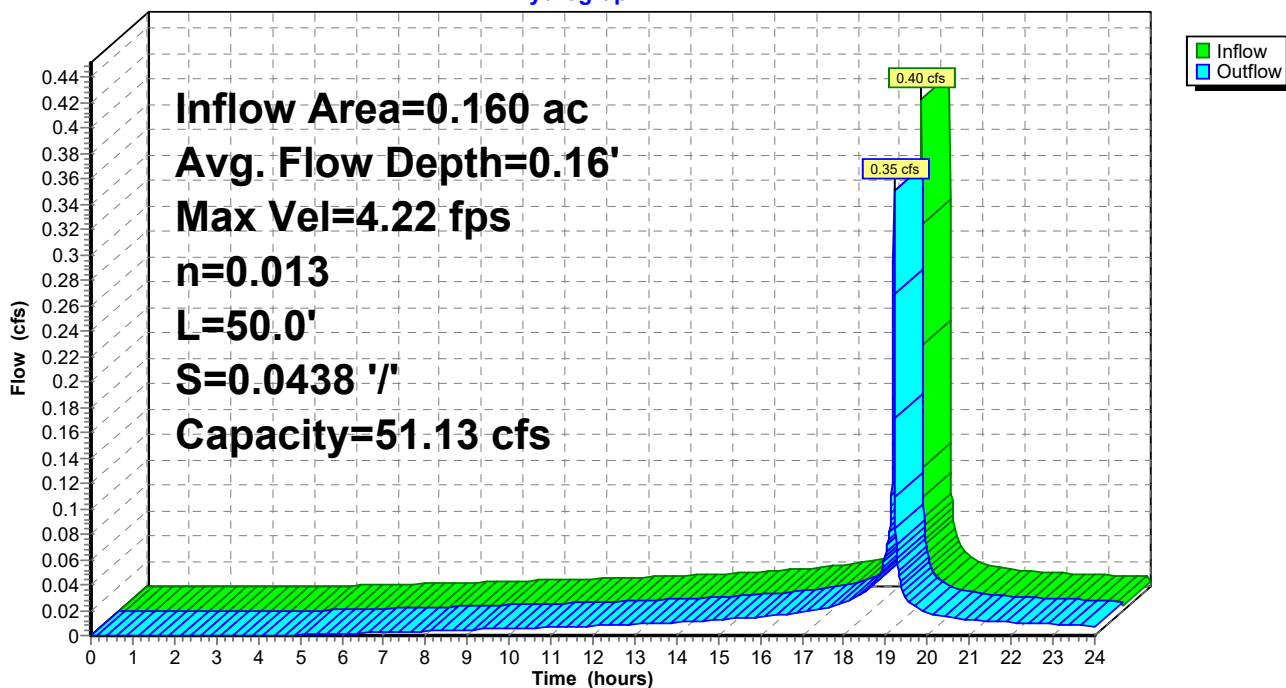
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 51.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 50.0' Slope= 0.0438 ' / '

Inlet Invert= 1,207.00', Outlet Invert= 1,204.81'

**Reach 40R: CH-11A****Hydrograph**

Summary for Reach 41R: CH-14

Inflow Area = 0.611 ac, 0.98% Impervious, Inflow Depth > 1.52" for 2-YR event
 Inflow = 1.24 cfs @ 19.21 hrs, Volume= 0.077 af
 Outflow = 1.23 cfs @ 19.21 hrs, Volume= 0.077 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 16.56 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 6.59 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 0.95'

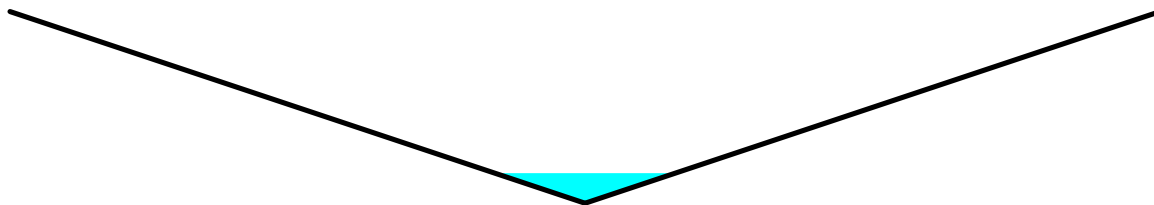
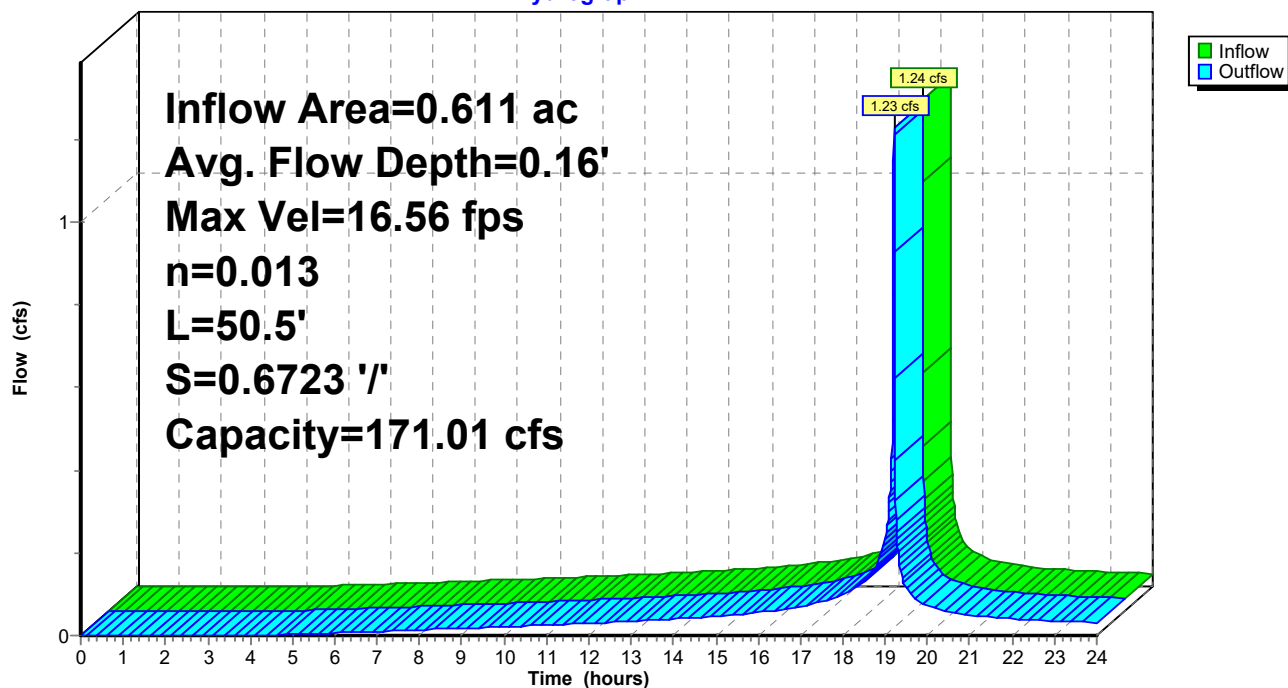
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 171.01 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 50.5' Slope= 0.6723 ' / '

Inlet Invert= 1,181.63', Outlet Invert= 1,147.68'

**Reach 41R: CH-14****Hydrograph**

Summary for Reach 42R: CH-13

Inflow Area = 0.083 ac, 0.00% Impervious, Inflow Depth > 1.67" for 2-YR event
 Inflow = 0.22 cfs @ 19.19 hrs, Volume= 0.012 af
 Outflow = 0.18 cfs @ 19.21 hrs, Volume= 0.012 af, Atten= 18%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.61 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 1.49 fps, Avg. Travel Time= 1.5 min

Peak Storage= 7 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.11', Surface Width= 0.95'

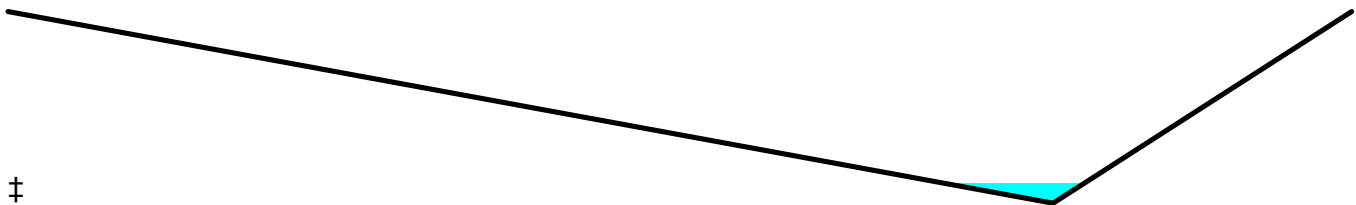
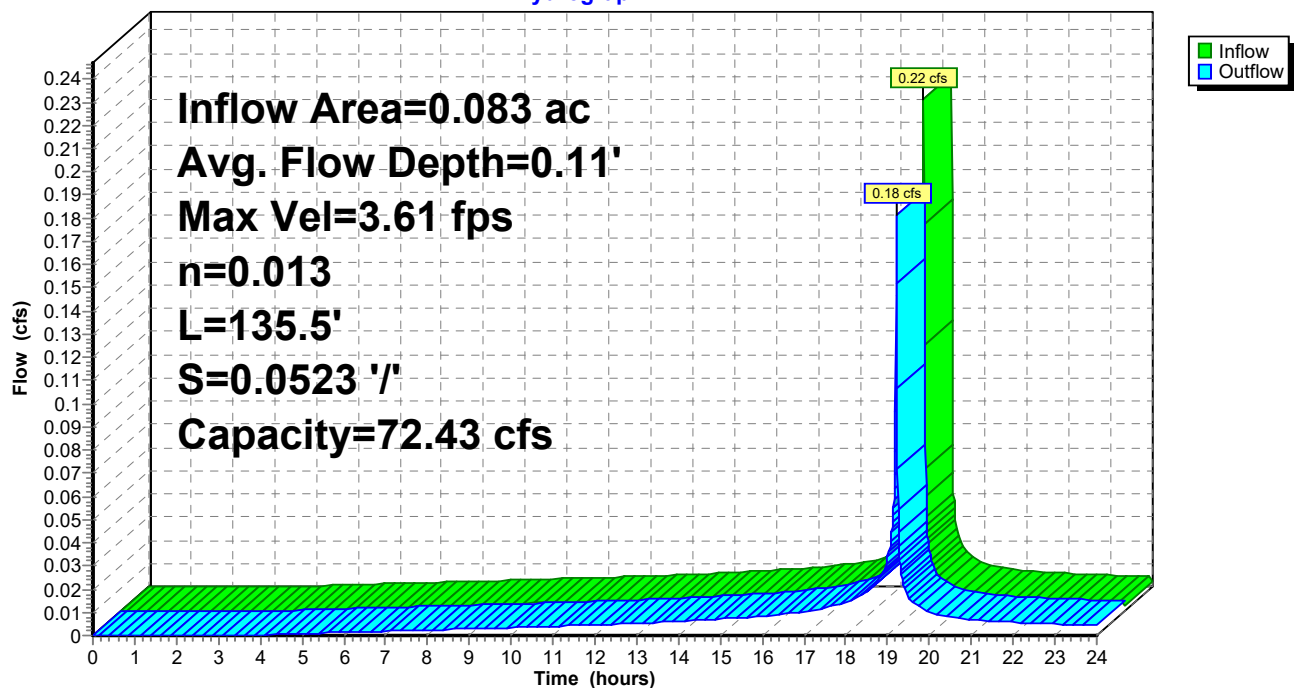
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 72.43 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 2.0 '/' Top Width= 9.00'

Length= 135.5' Slope= 0.0523 '/'

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 42R: CH-13****Hydrograph**

Summary for Reach 43R: CH-12

Inflow Area = 0.088 ac, 0.00% Impervious, Inflow Depth > 1.59" for 2-YR event
 Inflow = 0.23 cfs @ 19.19 hrs, Volume= 0.012 af
 Outflow = 0.19 cfs @ 19.21 hrs, Volume= 0.012 af, Atten= 18%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.17 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 1.70 fps, Avg. Travel Time= 1.1 min

Peak Storage= 5 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.12' , Surface Width= 0.81'

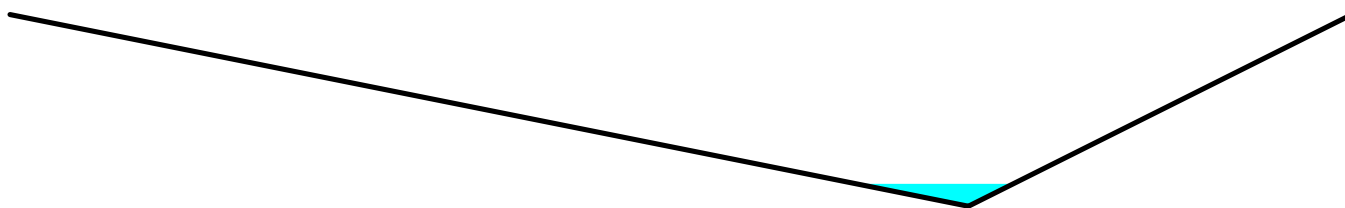
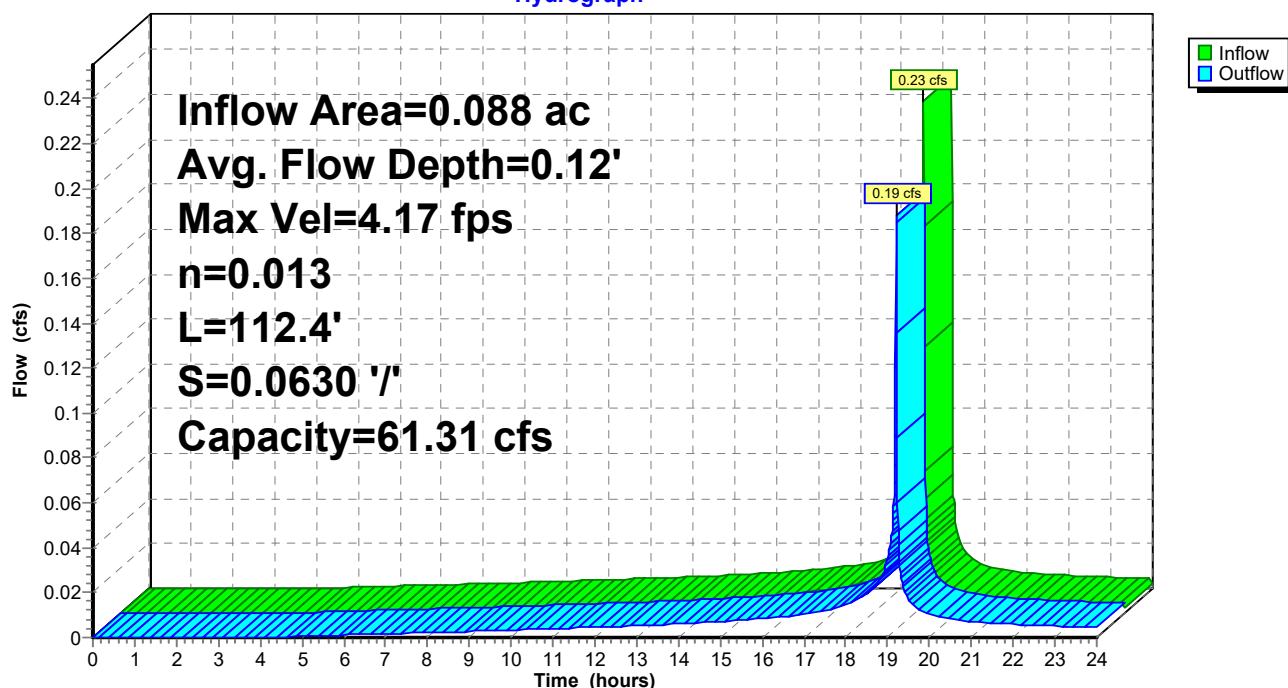
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 61.31 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 '/' Top Width= 7.00'

Length= 112.4' Slope= 0.0630 '/'

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 43R: CH-12****Hydrograph**

Summary for Reach 44R: CH-16

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 1.60" for 2-YR event
 Inflow = 1.81 cfs @ 19.20 hrs, Volume= 0.123 af
 Outflow = 1.37 cfs @ 19.25 hrs, Volume= 0.123 af, Atten= 24%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.29 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 0.72 fps, Avg. Travel Time= 7.3 min

Peak Storage= 189 cf @ 19.22 hrs

Average Depth at Peak Storage= 0.15' , Surface Width= 4.85'

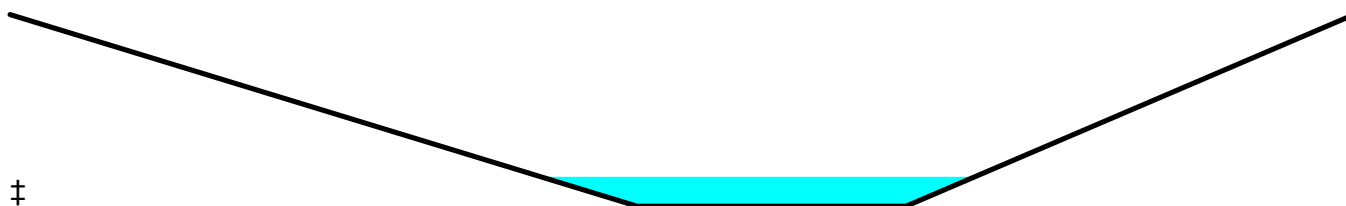
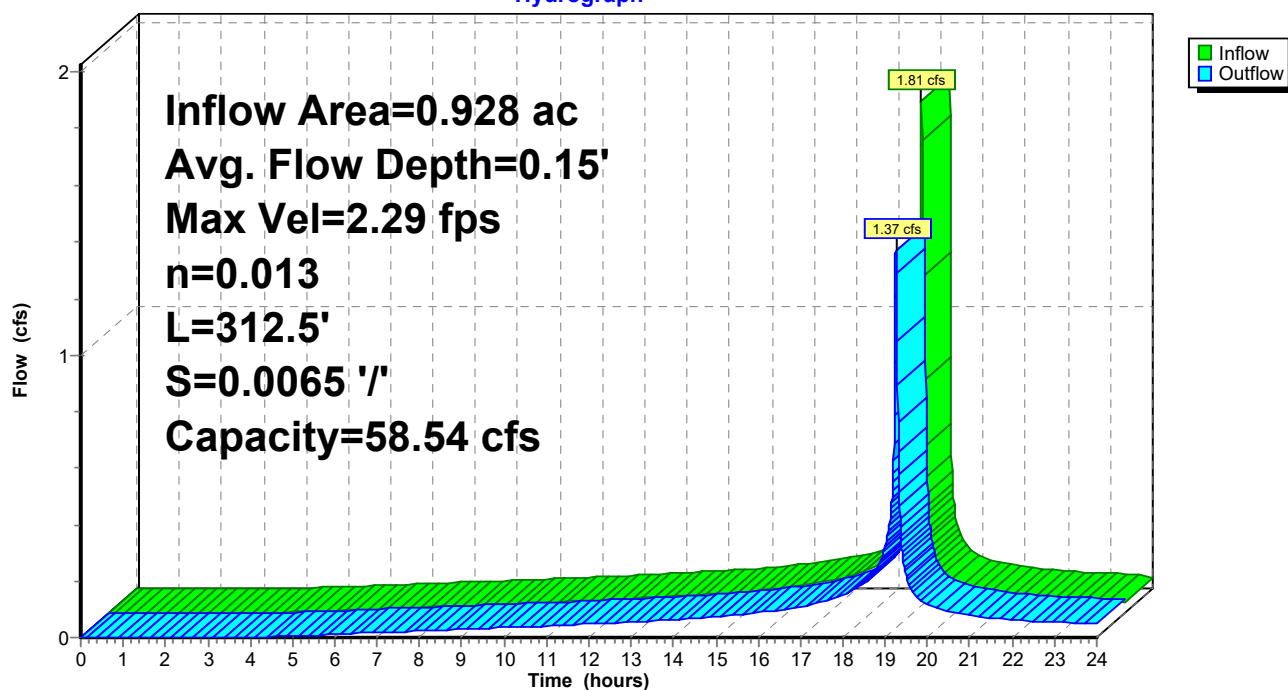
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 58.54 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 ' / ' Top Width= 15.00'

Length= 312.5' Slope= 0.0065 ' / '

Inlet Invert= 1,148.00', Outlet Invert= 1,145.97'

**Reach 44R: CH-16****Hydrograph**

Summary for Reach 45R: CV-3

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 1.59" for 2-YR event
 Inflow = 1.37 cfs @ 19.25 hrs, Volume= 0.123 af
 Outflow = 1.34 cfs @ 19.26 hrs, Volume= 0.123 af, Atten= 2%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.64 fps, Min. Travel Time= 0.3 min

Avg. Velocity= 1.28 fps, Avg. Travel Time= 0.9 min

Peak Storage= 26 cf @ 19.26 hrs

Average Depth at Peak Storage= 0.40' , Surface Width= 1.32'

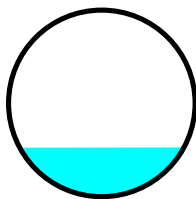
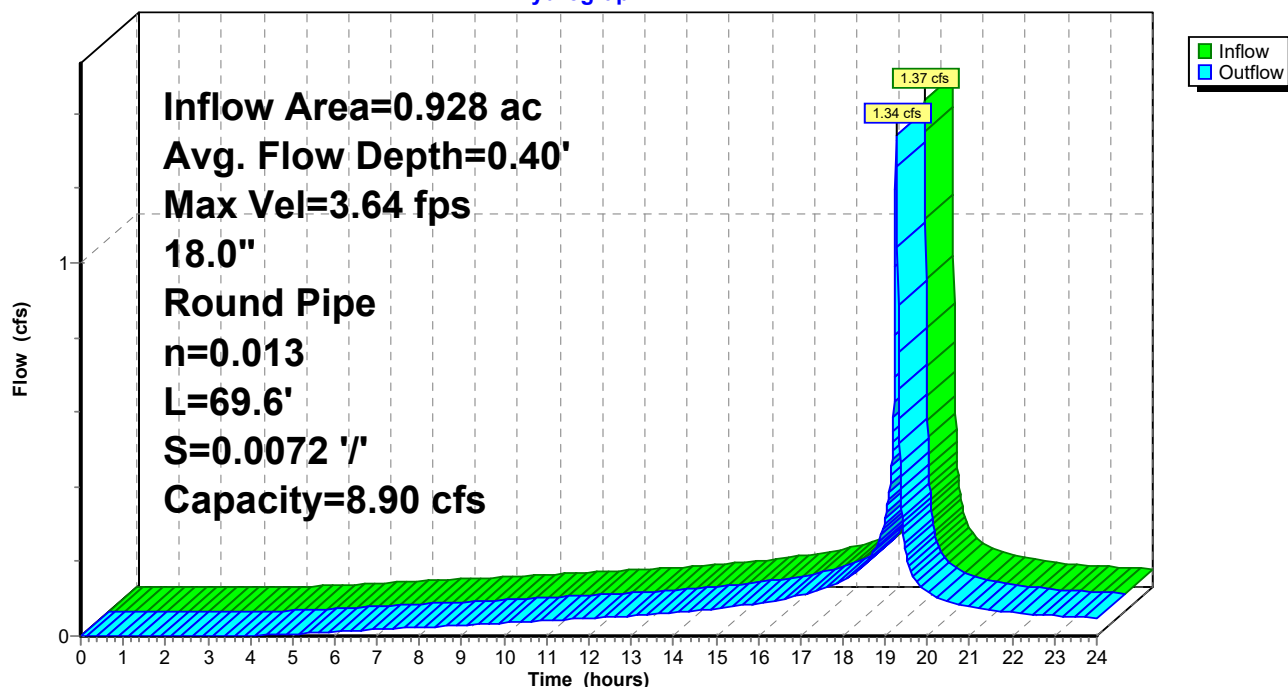
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.90 cfs

18.0" Round Pipe

n= 0.013

Length= 69.6' Slope= 0.0072 '/'

Inlet Invert= 1,146.00', Outlet Invert= 1,145.50'

**Reach 45R: CV-3****Hydrograph**

Summary for Reach 46R: CH-17

Inflow Area = 2.123 ac, 0.28% Impervious, Inflow Depth > 1.63" for 2-YR event
 Inflow = 3.73 cfs @ 19.19 hrs, Volume= 0.289 af
 Outflow = 2.77 cfs @ 19.23 hrs, Volume= 0.288 af, Atten= 26%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.91 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 1.48 fps, Avg. Travel Time= 4.5 min

Peak Storage= 233 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.18' , Surface Width= 3.53'

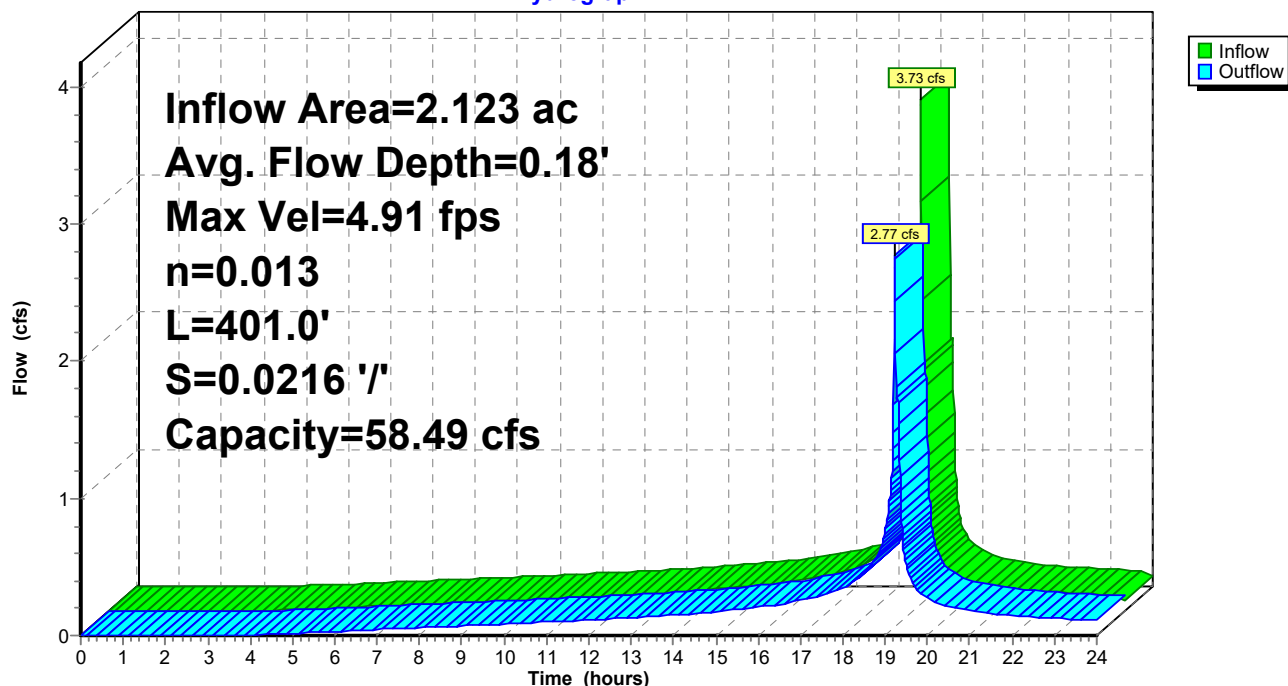
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 58.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 1.5 '/' Top Width= 6.00'

Length= 401.0' Slope= 0.0216 '/'

Inlet Invert= 1,145.50', Outlet Invert= 1,136.85'

**Reach 46R: CH-17****Hydrograph**

Summary for Reach 52R: CH-21

Inflow Area = 1.226 ac, 0.00% Impervious, Inflow Depth > 1.51" for 2-YR event
 Inflow = 3.09 cfs @ 19.19 hrs, Volume= 0.154 af
 Outflow = 2.59 cfs @ 19.21 hrs, Volume= 0.154 af, Atten= 16%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 7.14 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 1.93 fps, Avg. Travel Time= 1.8 min

Peak Storage= 80 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.12' , Surface Width= 3.47'

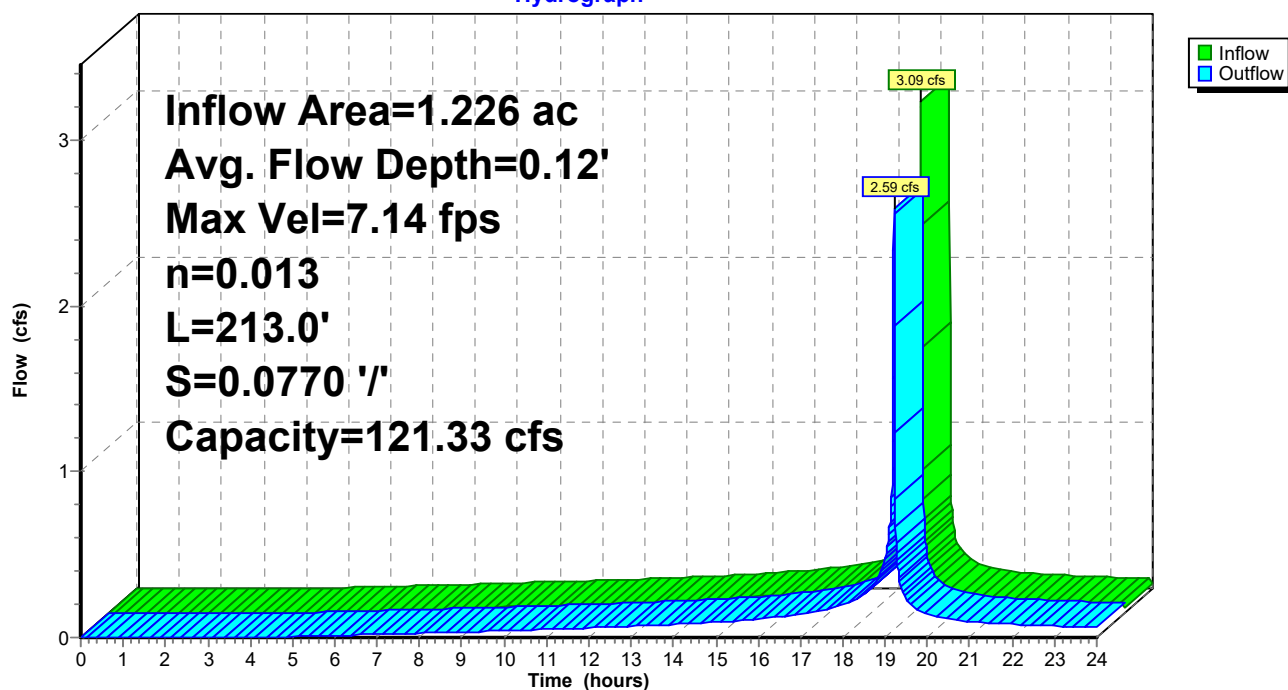
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 121.33 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 7.00'

Length= 213.0' Slope= 0.0770 '/'

Inlet Invert= 1,142.14', Outlet Invert= 1,125.74'

**Reach 52R: CH-21****Hydrograph**

Summary for Reach 53R: CH-24

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 1.48" for 2-YR event
 Inflow = 3.14 cfs @ 19.21 hrs, Volume= 0.208 af
 Outflow = 2.80 cfs @ 19.23 hrs, Volume= 0.207 af, Atten= 11%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.89 fps, Min. Travel Time= 0.8 min

Avg. Velocity= 1.10 fps, Avg. Travel Time= 2.8 min

Peak Storage= 136 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 4.94'

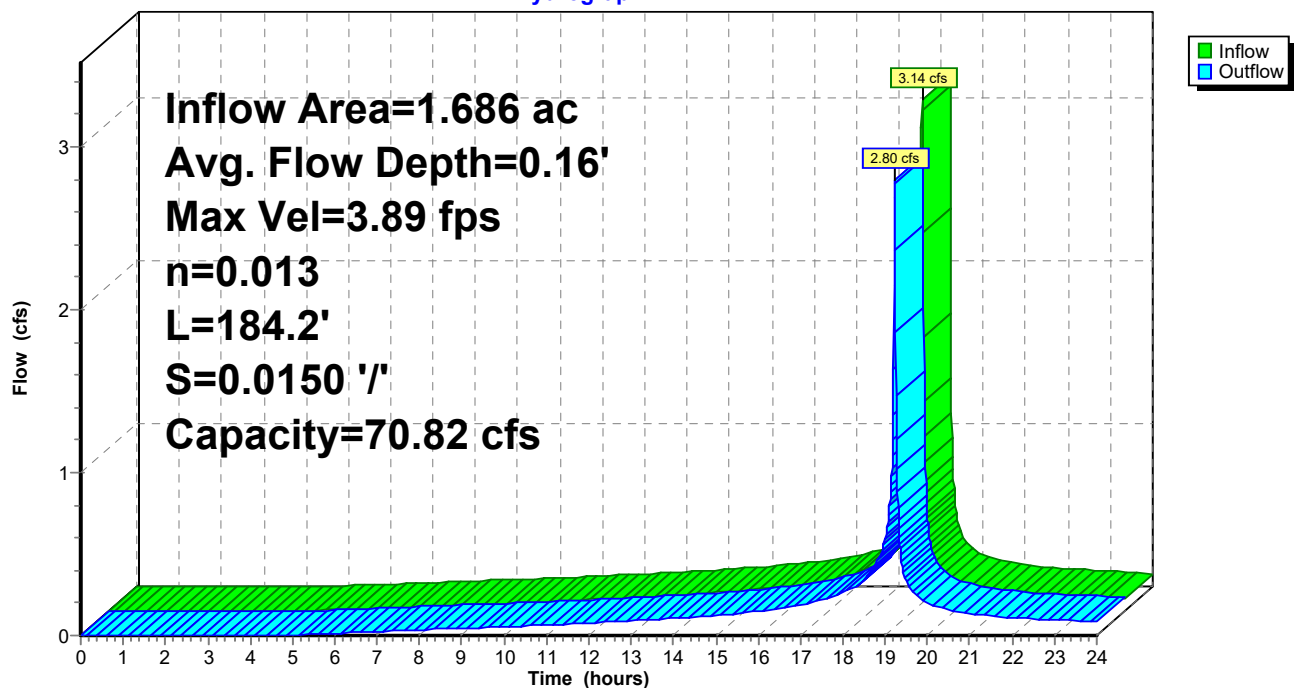
Bank-Full Depth= 1.00' Flow Area= 6.3 sf, Capacity= 70.82 cfs

4.30' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 8.30'

Length= 184.2' Slope= 0.0150 '/'

Inlet Invert= 1,125.74', Outlet Invert= 1,122.97'

**Reach 53R: CH-24****Hydrograph**

Summary for Reach 54R: CH-22

Inflow Area = 0.219 ac, 0.00% Impervious, Inflow Depth > 1.37" for 2-YR event
 Inflow = 0.52 cfs @ 19.19 hrs, Volume= 0.025 af
 Outflow = 0.34 cfs @ 19.23 hrs, Volume= 0.025 af, Atten= 35%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.91 fps, Min. Travel Time= 1.7 min

Avg. Velocity = 0.82 fps, Avg. Travel Time= 4.1 min

Peak Storage= 35 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.24' , Surface Width= 1.46'

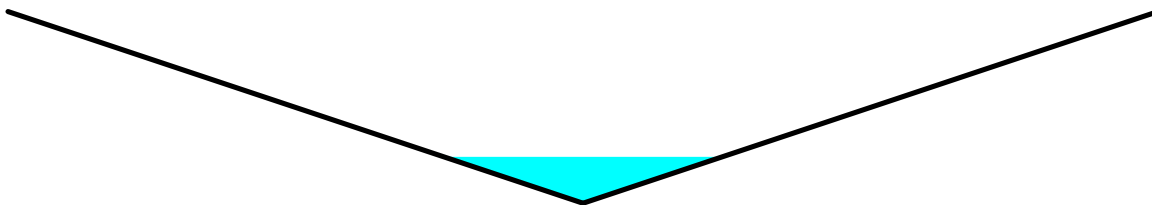
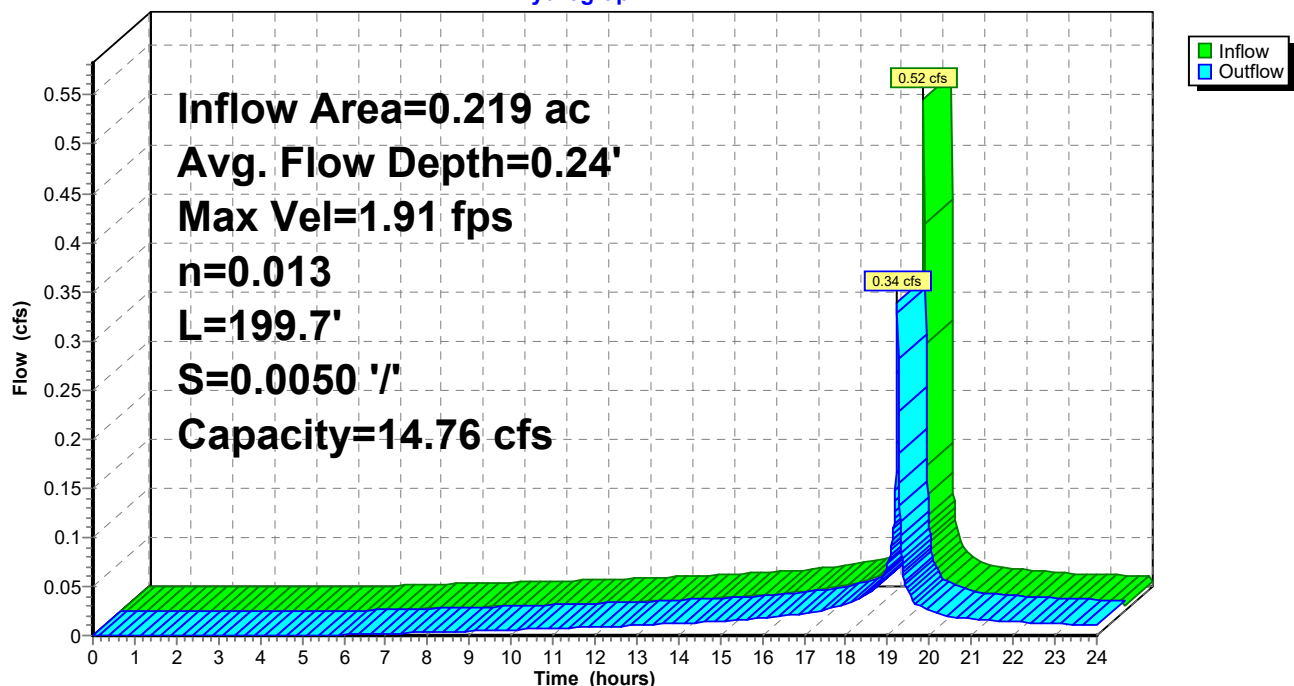
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 14.76 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 199.7' Slope= 0.0050 ' / '

Inlet Invert= 1,163.81', Outlet Invert= 1,162.81'

**Reach 54R: CH-22****Hydrograph**

Summary for Reach 55R: CH-23

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 1.36" for 2-YR event
 Inflow = 0.45 cfs @ 19.19 hrs, Volume= 0.039 af
 Outflow = 0.42 cfs @ 19.20 hrs, Volume= 0.039 af, Atten= 7%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.59 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.86 fps, Avg. Travel Time= 0.3 min

Peak Storage= 4 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.12' , Surface Width= 0.69'

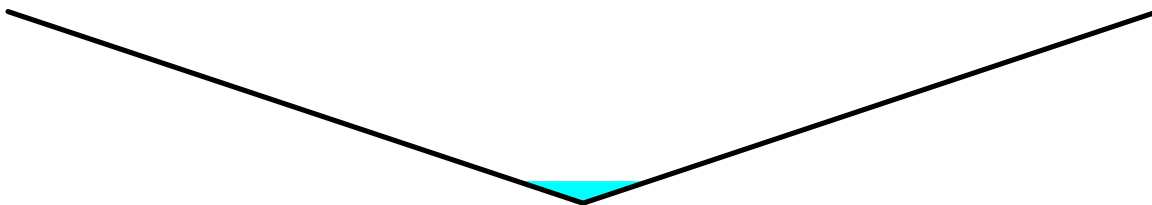
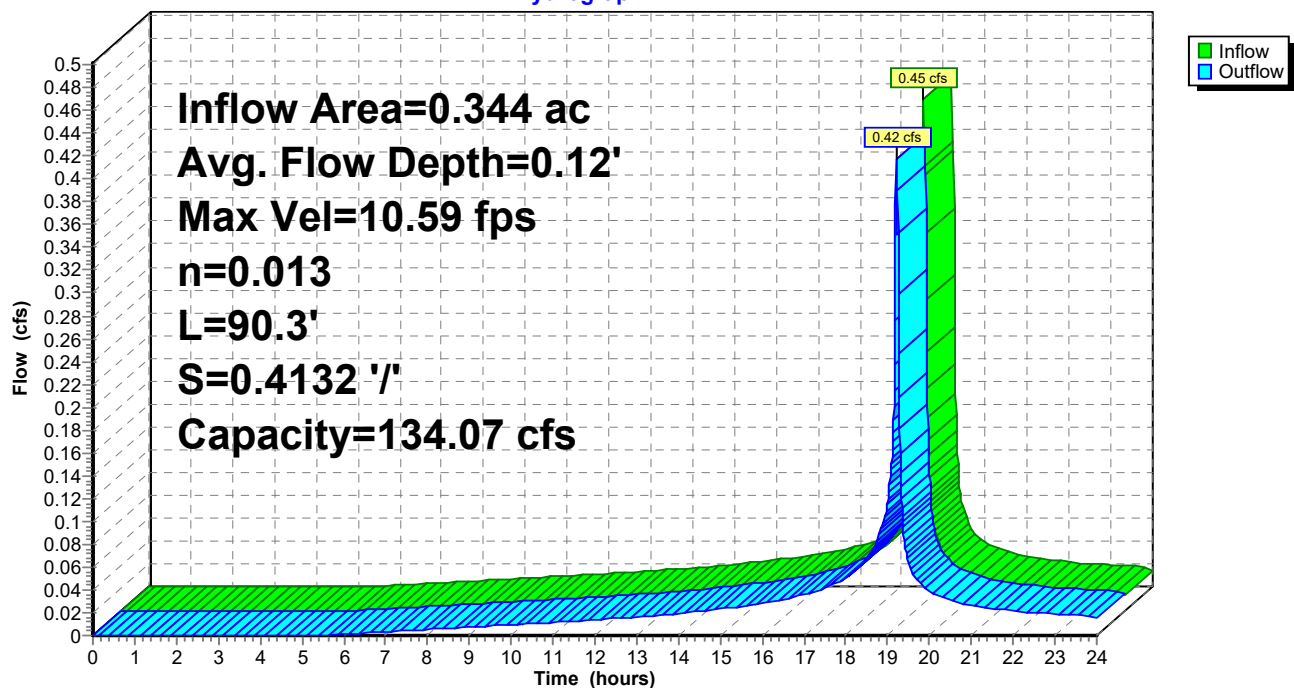
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 134.07 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 90.3' Slope= 0.4132 ' / '

Inlet Invert= 1,162.81', Outlet Invert= 1,125.50'

**Reach 55R: CH-23****Hydrograph**

Summary for Reach 56R: CH-15A

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 1.75" for 2-YR event
 Inflow = 0.09 cfs @ 19.19 hrs, Volume= 0.005 af
 Outflow = 0.08 cfs @ 19.20 hrs, Volume= 0.005 af, Atten= 13%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.17 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.18 fps, Avg. Travel Time= 0.5 min

Peak Storage= 1 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.07' , Surface Width= 0.48'

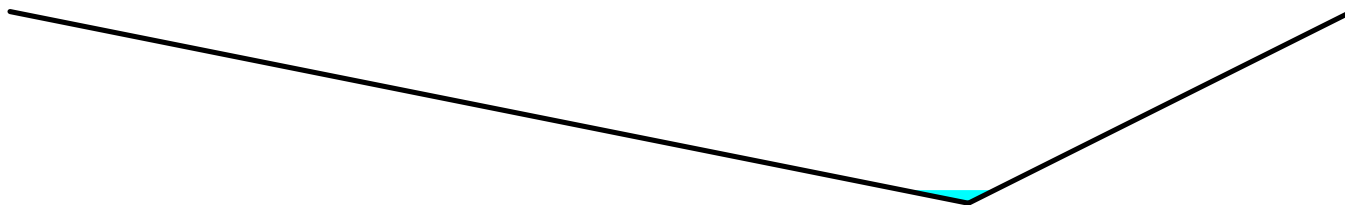
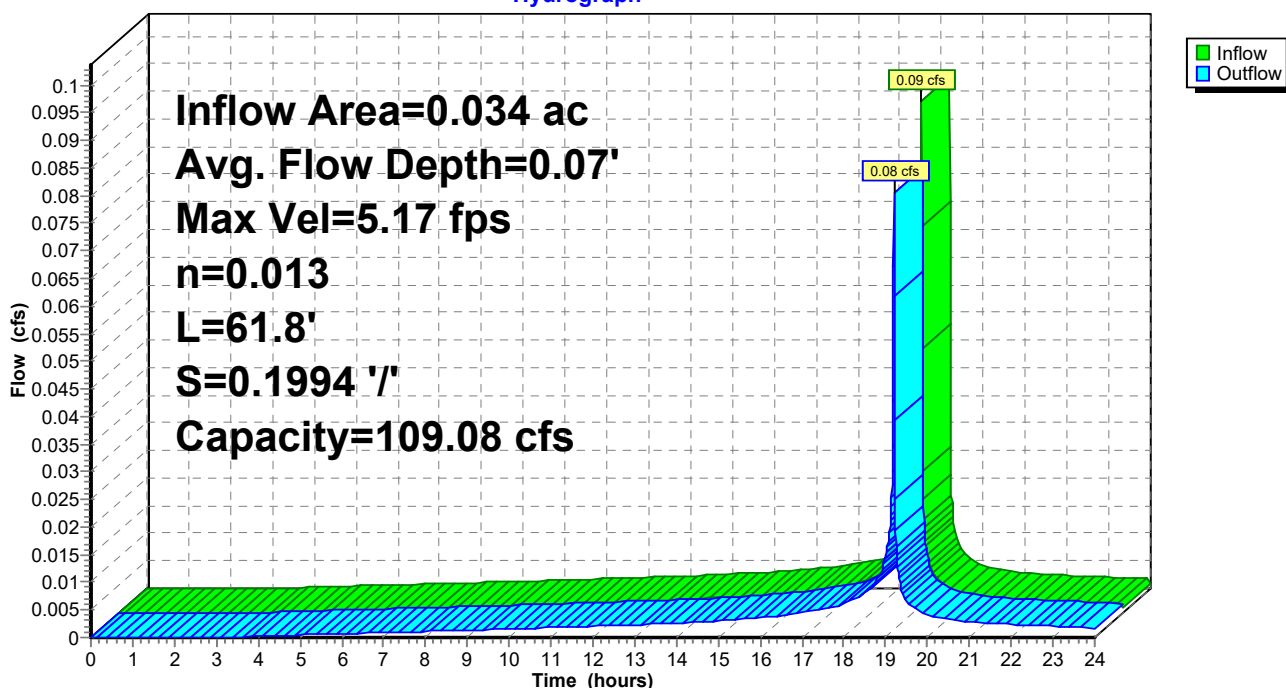
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 109.08 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 61.8' Slope= 0.1994 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,165.68'

**Reach 56R: CH-15A****Hydrograph**

Summary for Reach 60R: CH-10B

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 1.44" for 2-YR event
 Inflow = 0.57 cfs @ 19.20 hrs, Volume= 0.033 af
 Outflow = 0.54 cfs @ 19.20 hrs, Volume= 0.033 af, Atten= 4%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.05 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 3.69 fps, Avg. Travel Time= 0.2 min

Peak Storage= 3 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.14' , Surface Width= 0.86'

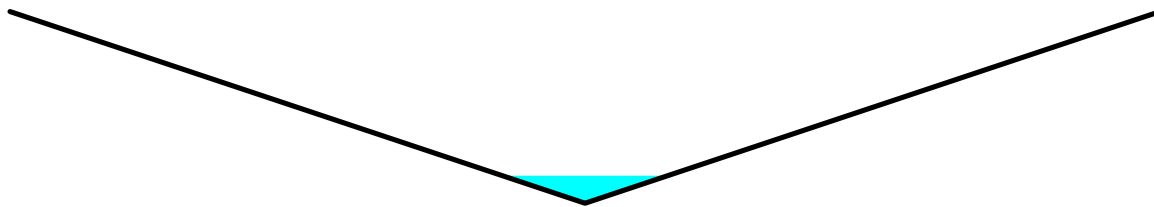
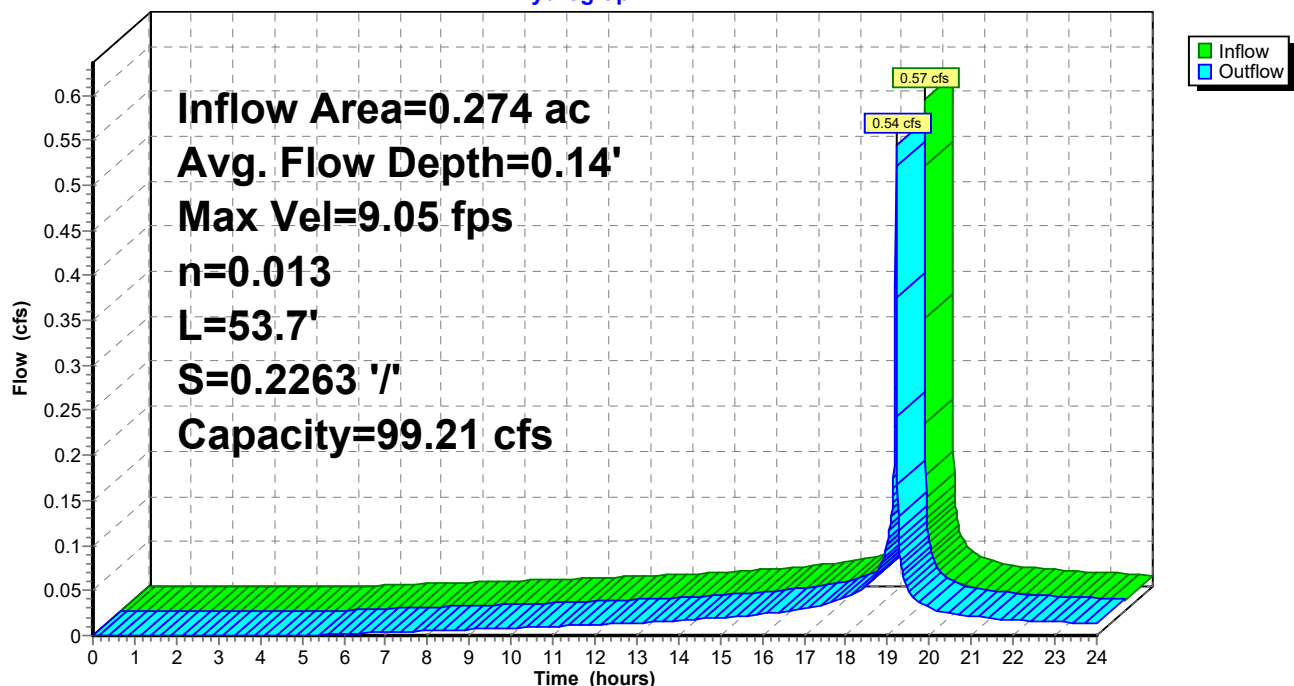
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 99.21 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 53.7' Slope= 0.2263 ' / '

Inlet Invert= 1,193.78', Outlet Invert= 1,181.63'

**Reach 60R: CH-10B****Hydrograph**

Summary for Reach 61R: CH-11B

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 1.51" for 2-YR event
Inflow = 0.35 cfs @ 19.20 hrs, Volume= 0.020 af
Outflow = 0.33 cfs @ 19.20 hrs, Volume= 0.020 af, Atten= 5%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.20 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 3.74 fps, Avg. Travel Time= 0.3 min

Peak Storage= 3 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.11', Surface Width= 0.67'

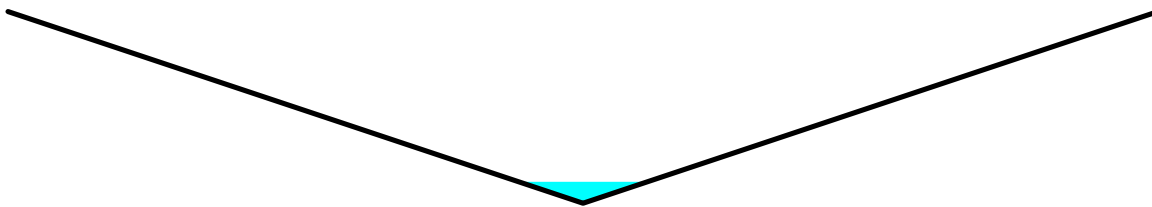
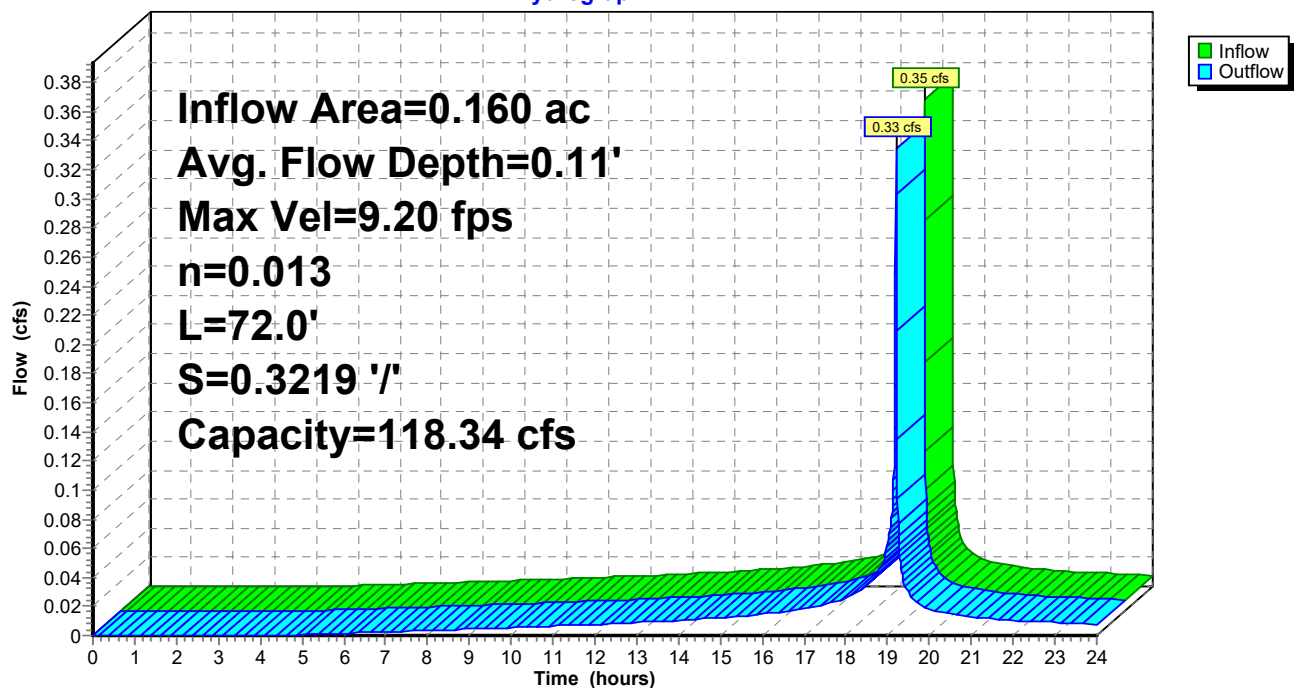
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 118.34 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 72.0' Slope= 0.3219 '/'

Inlet Invert= 1,204.81', Outlet Invert= 1,181.63'

**Reach 61R: CH-11B****Hydrograph**

Summary for Reach 62R: CH-15B

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 1.75" for 2-YR event
 Inflow = 0.08 cfs @ 19.20 hrs, Volume= 0.005 af
 Outflow = 0.08 cfs @ 19.20 hrs, Volume= 0.005 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.08 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 3.94 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.05' , Surface Width= 0.33'

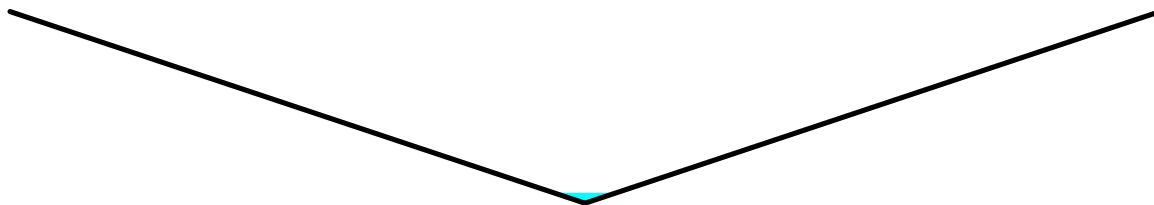
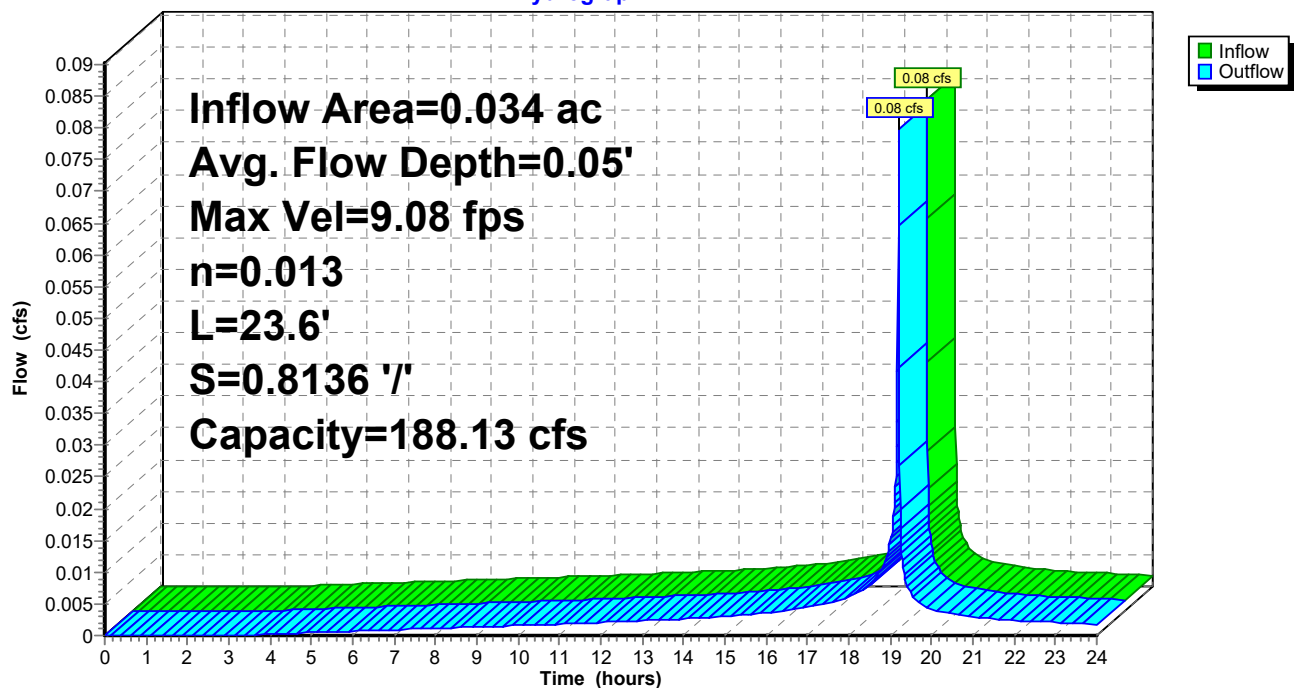
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 188.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 23.6' Slope= 0.8136 ' / '

Inlet Invert= 1,165.68', Outlet Invert= 1,146.48'

**Reach 62R: CH-15B****Hydrograph**

Summary for Reach 63R: CV-4

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 1.48" for 2-YR event
 Inflow = 2.80 cfs @ 19.23 hrs, Volume= 0.207 af
 Outflow = 2.77 cfs @ 19.23 hrs, Volume= 0.207 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.59 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 2.06 fps, Avg. Travel Time= 0.2 min

Peak Storage= 15 cf @ 19.23 hrs

Average Depth at Peak Storage= 0.53' , Surface Width= 1.24'

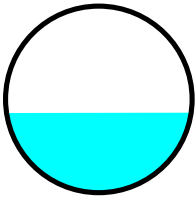
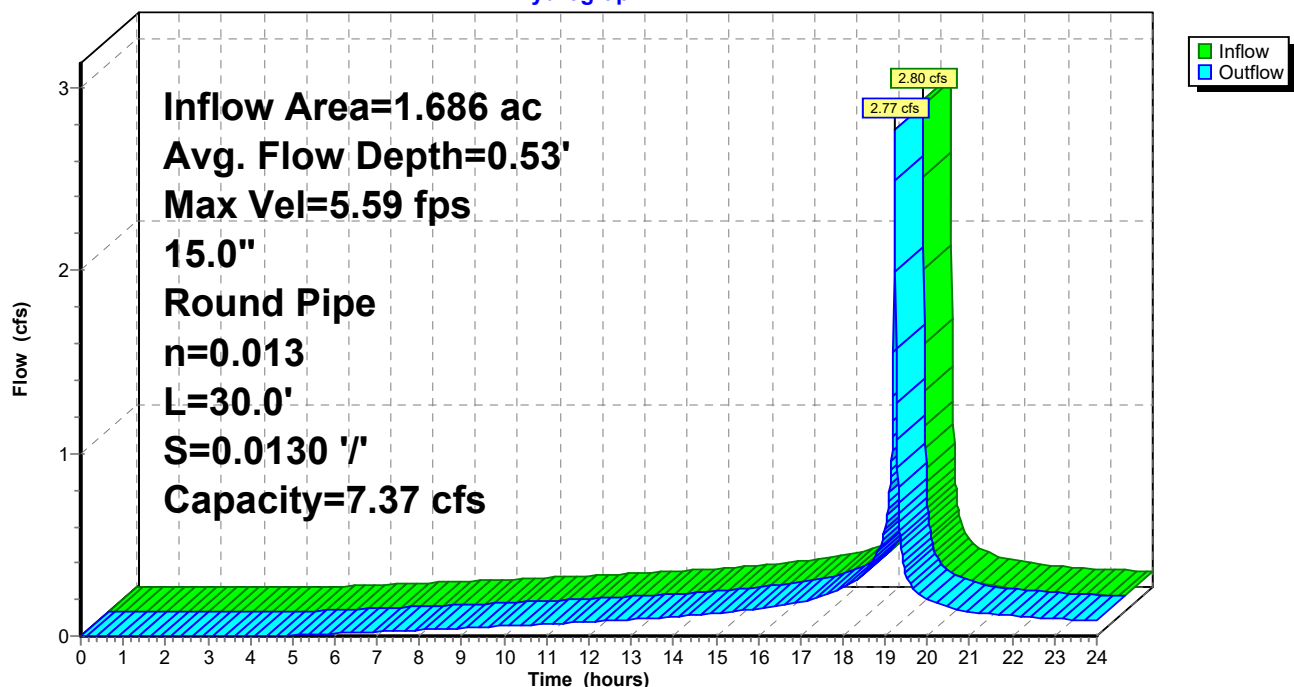
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 7.37 cfs

15.0" Round Pipe

n= 0.013

Length= 30.0' Slope= 0.0130 '/'

Inlet Invert= 1,122.99', Outlet Invert= 1,122.60'

**Reach 63R: CV-4****Hydrograph**

Summary for Subcatchment 1S: DA-1

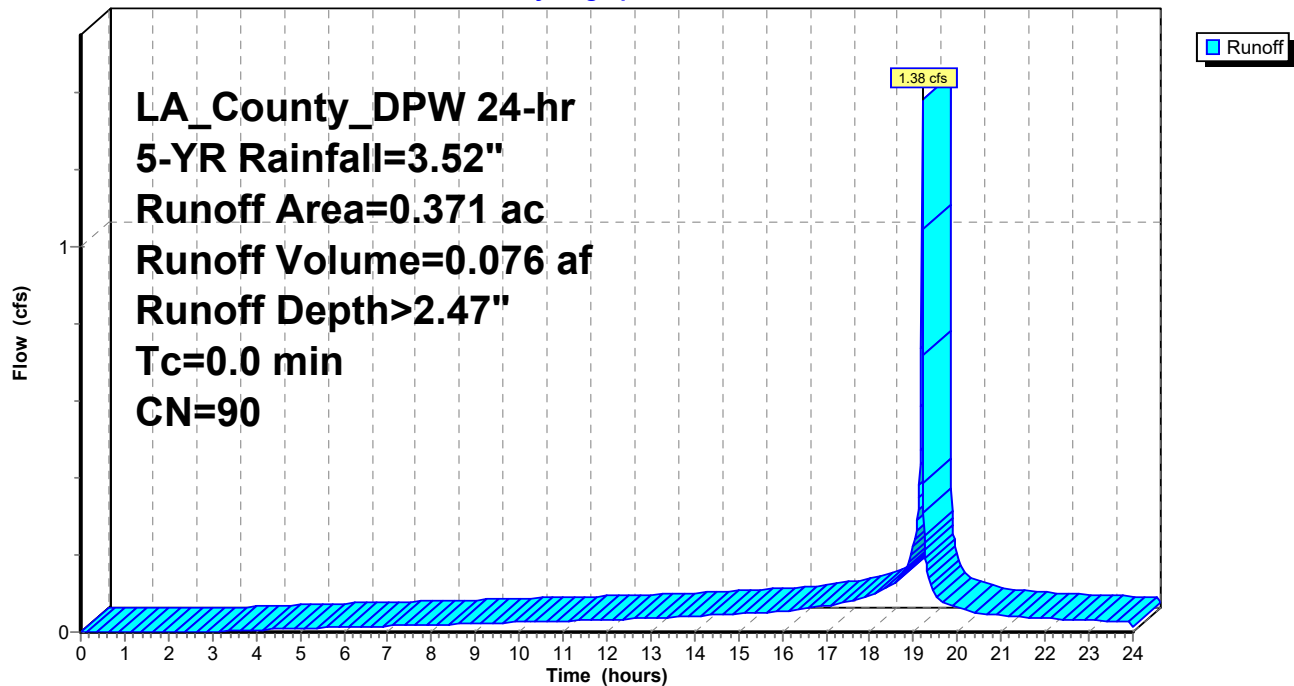
Runoff = 1.38 cfs @ 19.19 hrs, Volume= 0.076 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.371	90	
	0.371		100.00% Pervious Area

Subcatchment 1S: DA-1

Hydrograph

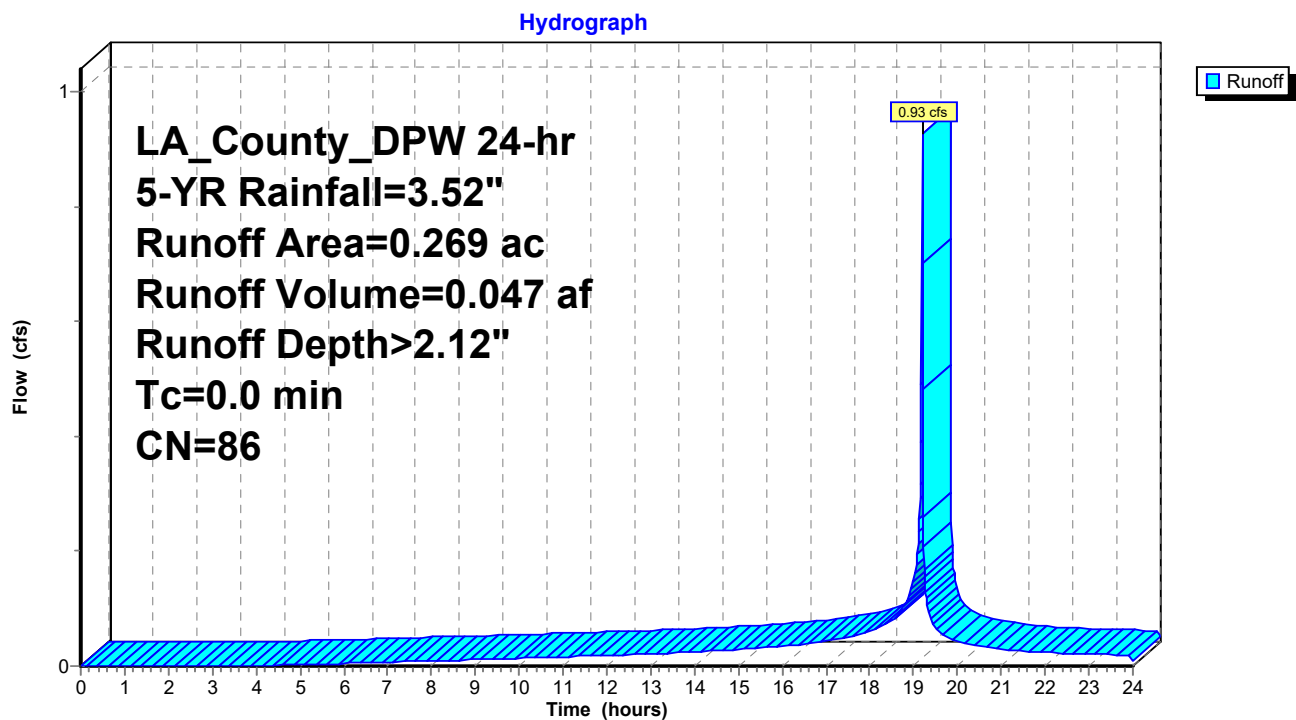


Summary for Subcatchment 3S: DA-3

Runoff = 0.93 cfs @ 19.19 hrs, Volume= 0.047 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.269	86	
	0.269		100.00% Pervious Area

Subcatchment 3S: DA-3

Summary for Subcatchment 4S: DA-4

Runoff = 0.13 cfs @ 19.26 hrs, Volume= 0.015 af, Depth> 2.46"

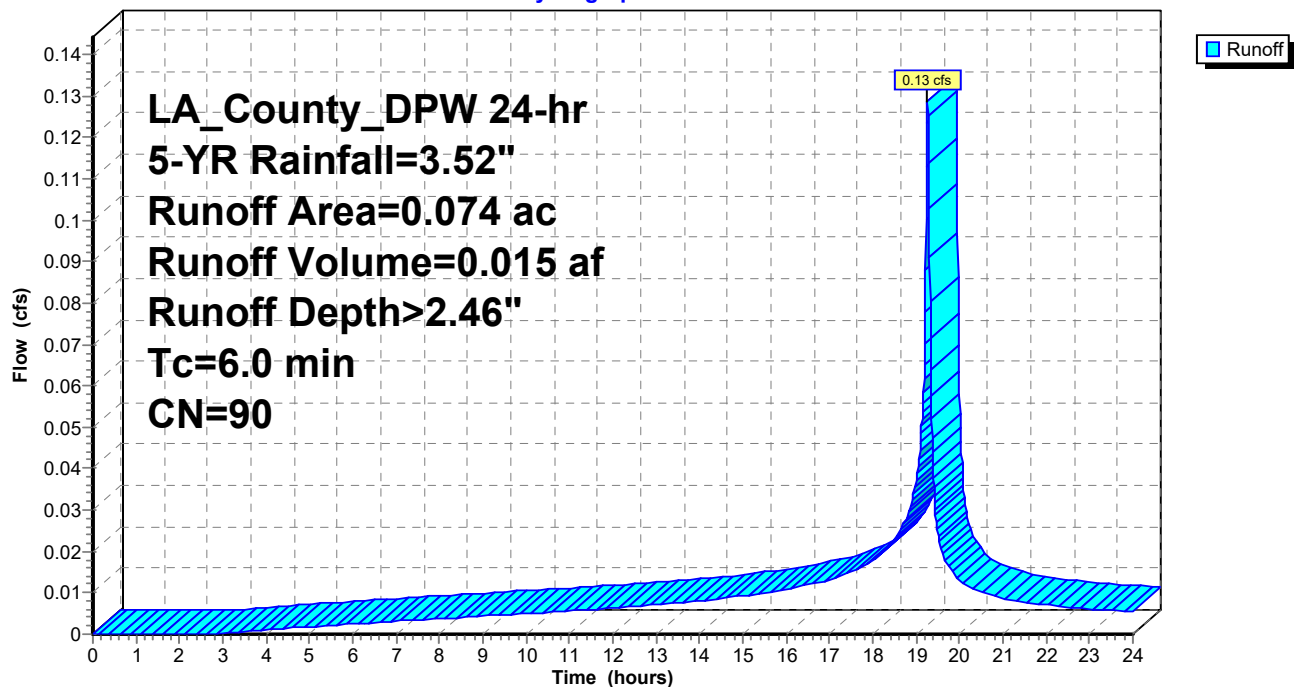
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

Area (ac)	CN	Description
* 0.074	90	
0.074		100.00% Pervious Area

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

Subcatchment 4S: DA-4

Hydrograph



Summary for Subcatchment 5S: DA-5

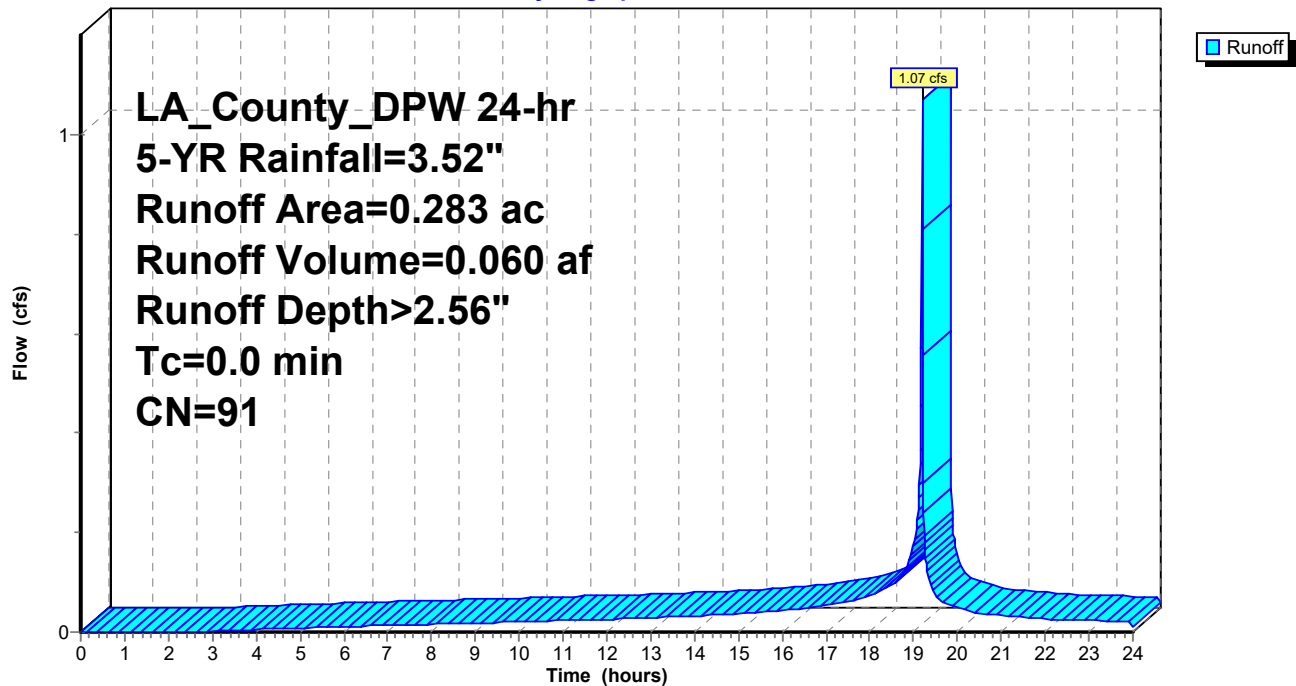
Runoff = 1.07 cfs @ 19.19 hrs, Volume= 0.060 af, Depth> 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.283	91	
	0.283		100.00% Pervious Area

Subcatchment 5S: DA-5

Hydrograph



Summary for Subcatchment 7S: DA-7

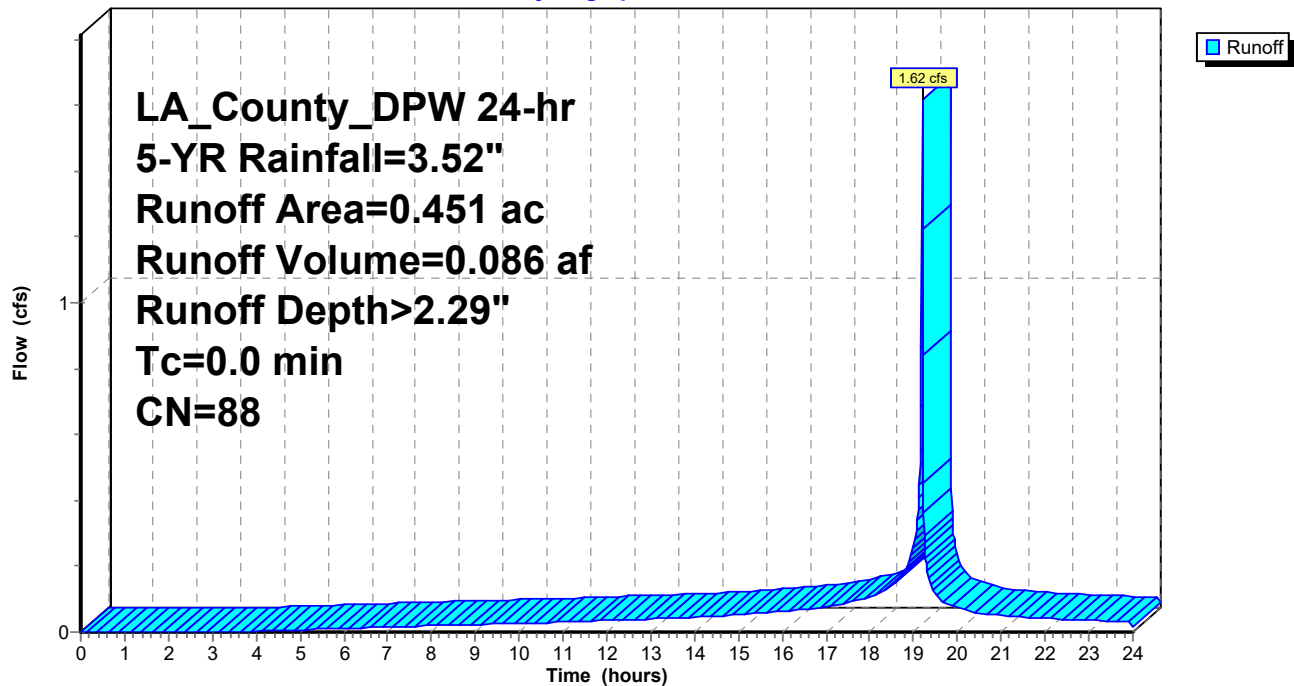
Runoff = 1.62 cfs @ 19.19 hrs, Volume= 0.086 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.451	88	
	0.451		100.00% Pervious Area

Subcatchment 7S: DA-7

Hydrograph



Summary for Subcatchment 8S: DA-8

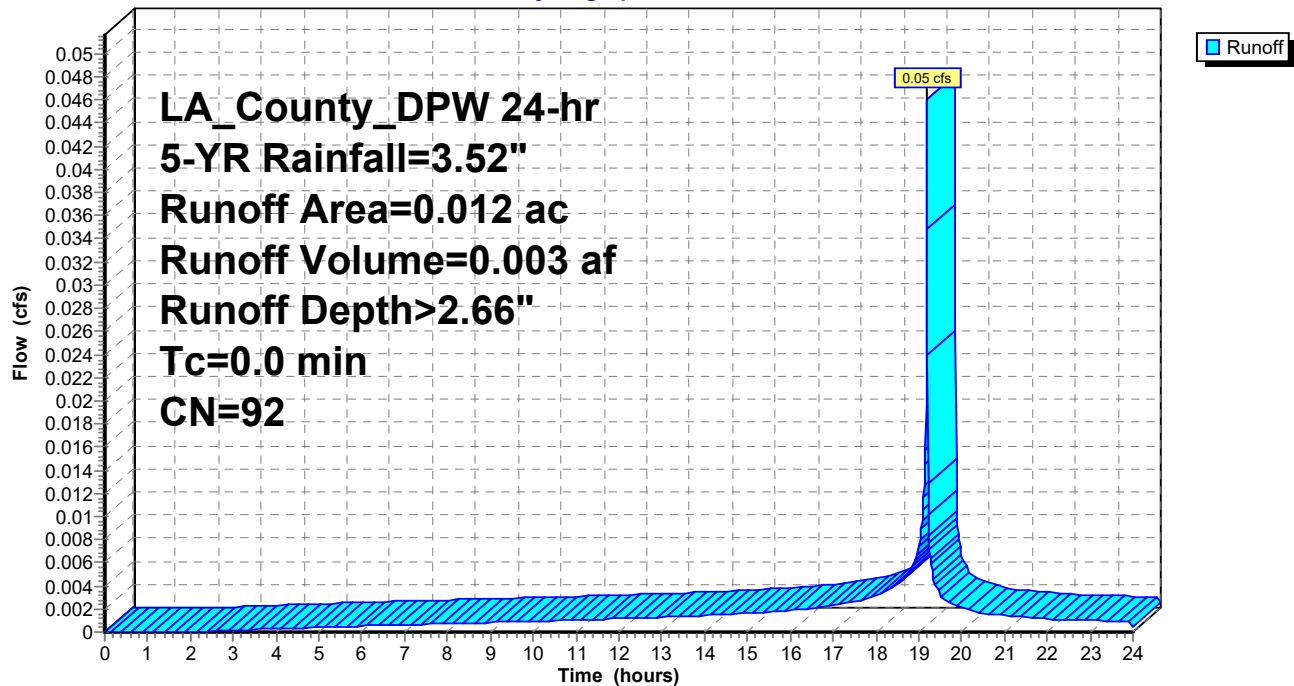
Runoff = 0.05 cfs @ 19.19 hrs, Volume= 0.003 af, Depth> 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

Area (ac)	CN	Description
* 0.012	92	
0.012		100.00% Pervious Area

Subcatchment 8S: DA-8

Hydrograph



Summary for Subcatchment 9S: DA-9

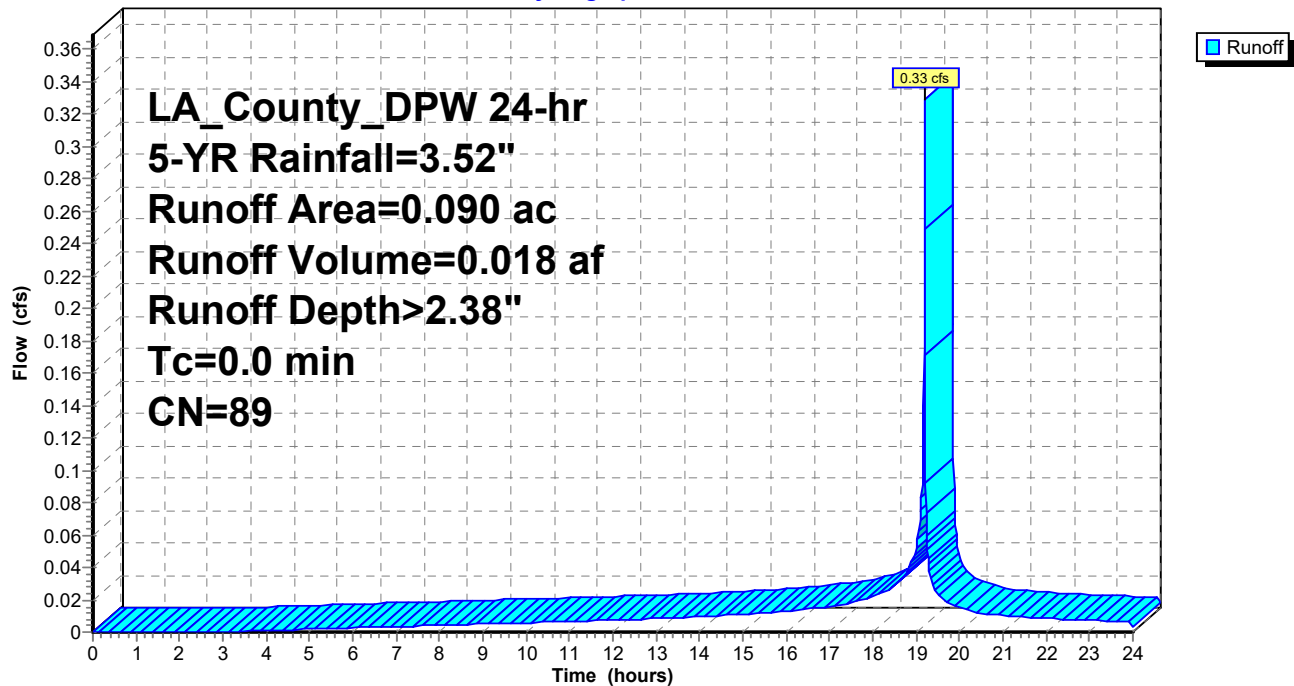
Runoff = 0.33 cfs @ 19.19 hrs, Volume= 0.018 af, Depth> 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.090	89	
	0.090		100.00% Pervious Area

Subcatchment 9S: DA-9

Hydrograph



Summary for Subcatchment 10S: DA-10

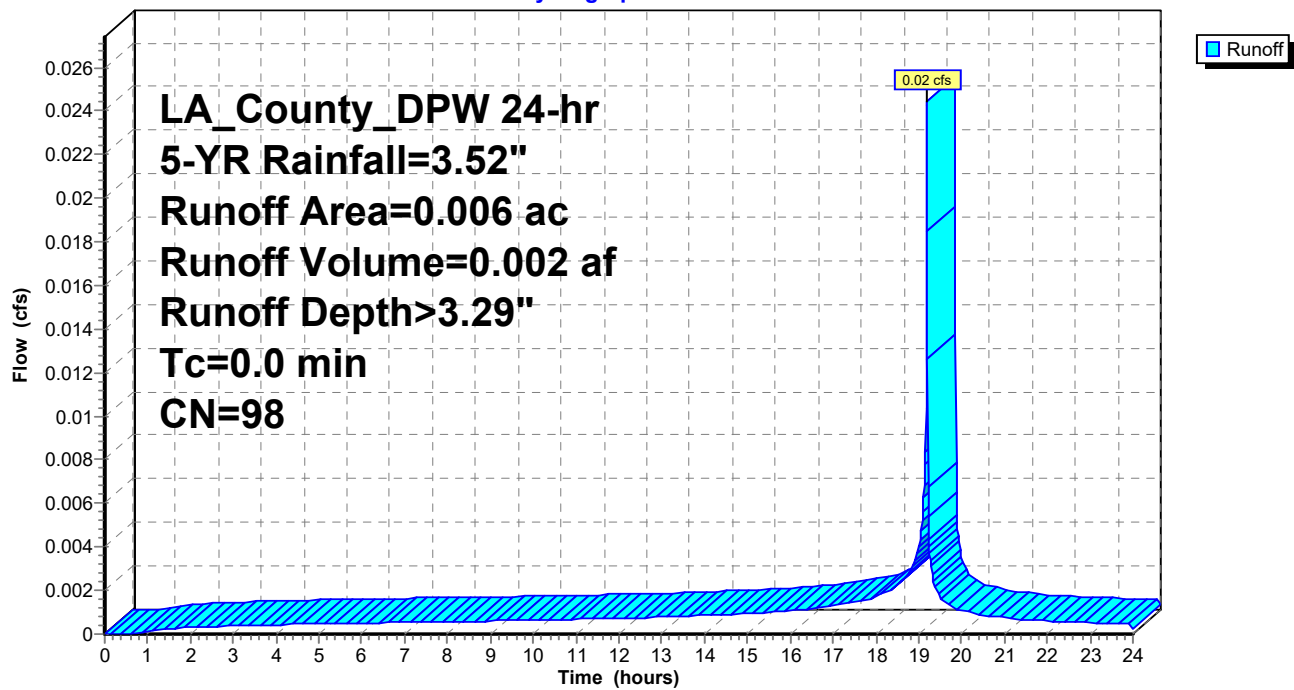
Runoff = 0.02 cfs @ 19.19 hrs, Volume= 0.002 af, Depth> 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.006	98	
	0.006		100.00% Impervious Area

Subcatchment 10S: DA-10

Hydrograph

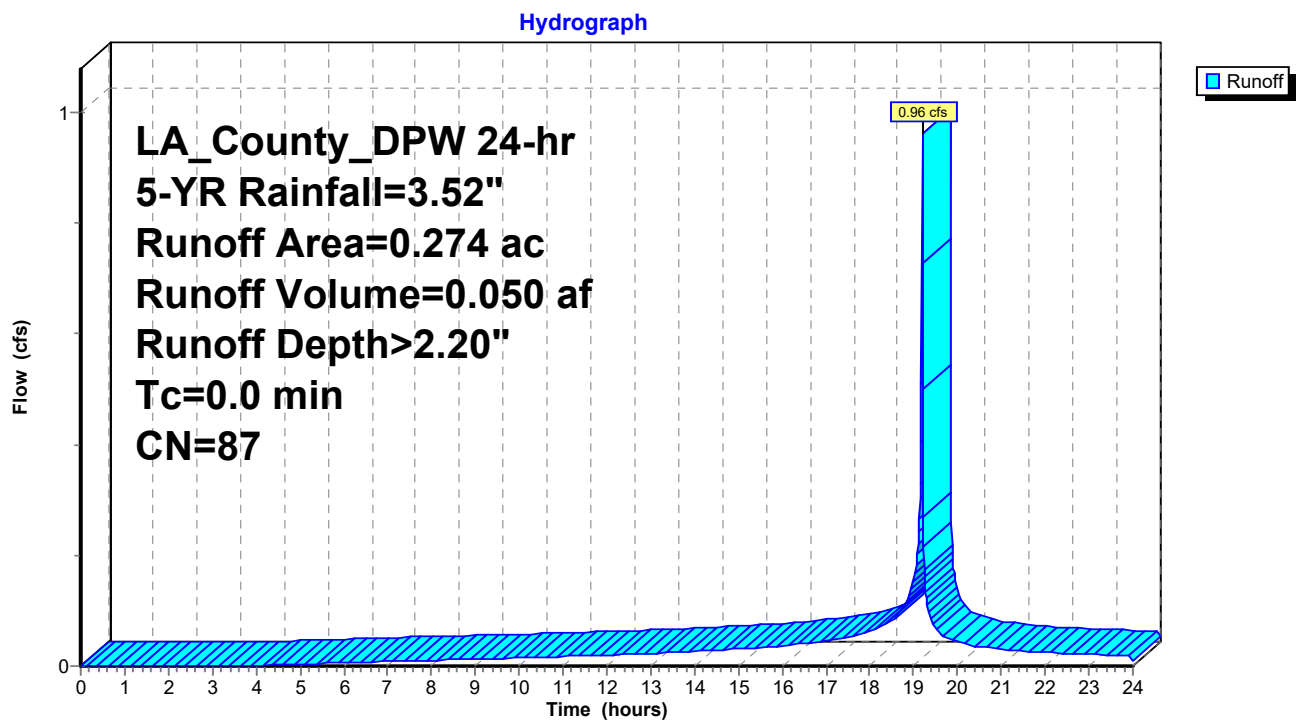


Summary for Subcatchment 11S: DA-11

Runoff = 0.96 cfs @ 19.19 hrs, Volume= 0.050 af, Depth> 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.274	87	
	0.274		100.00% Pervious Area

Subcatchment 11S: DA-11

Summary for Subcatchment 12S: DA-12

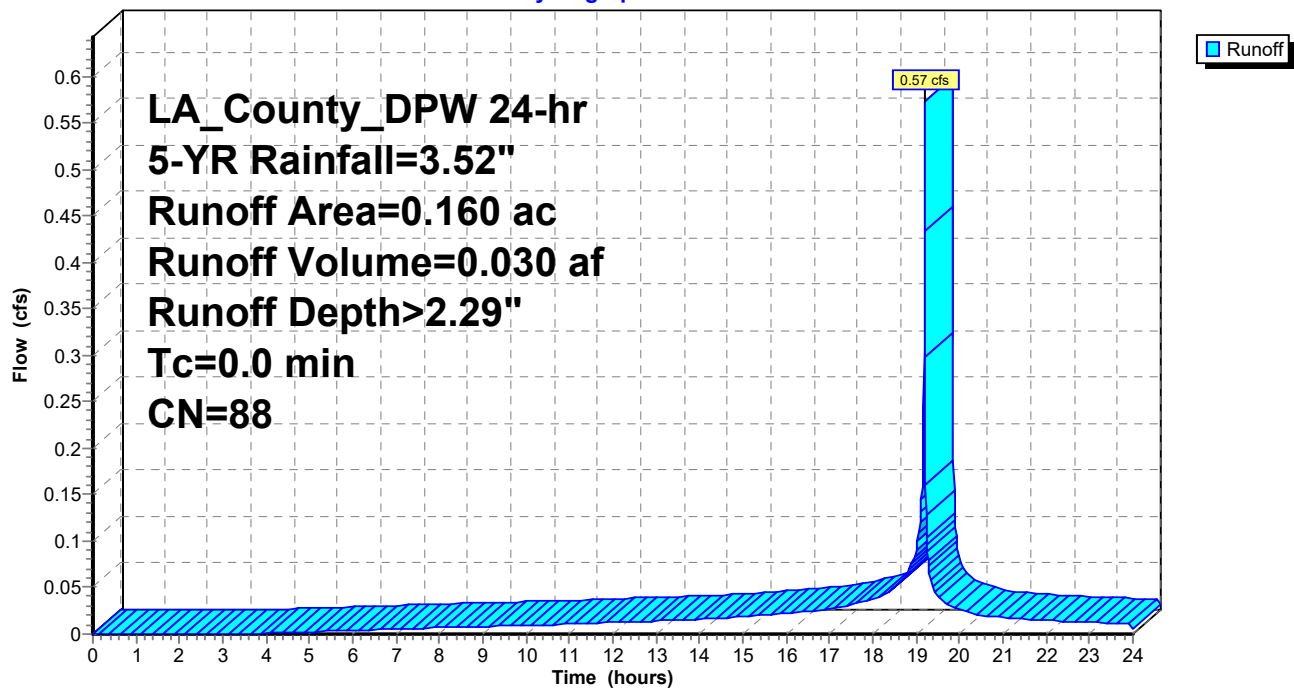
Runoff = 0.57 cfs @ 19.19 hrs, Volume= 0.030 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.160	88	
	0.160		100.00% Pervious Area

Subcatchment 12S: DA-12

Hydrograph



Summary for Subcatchment 13S: DA-13

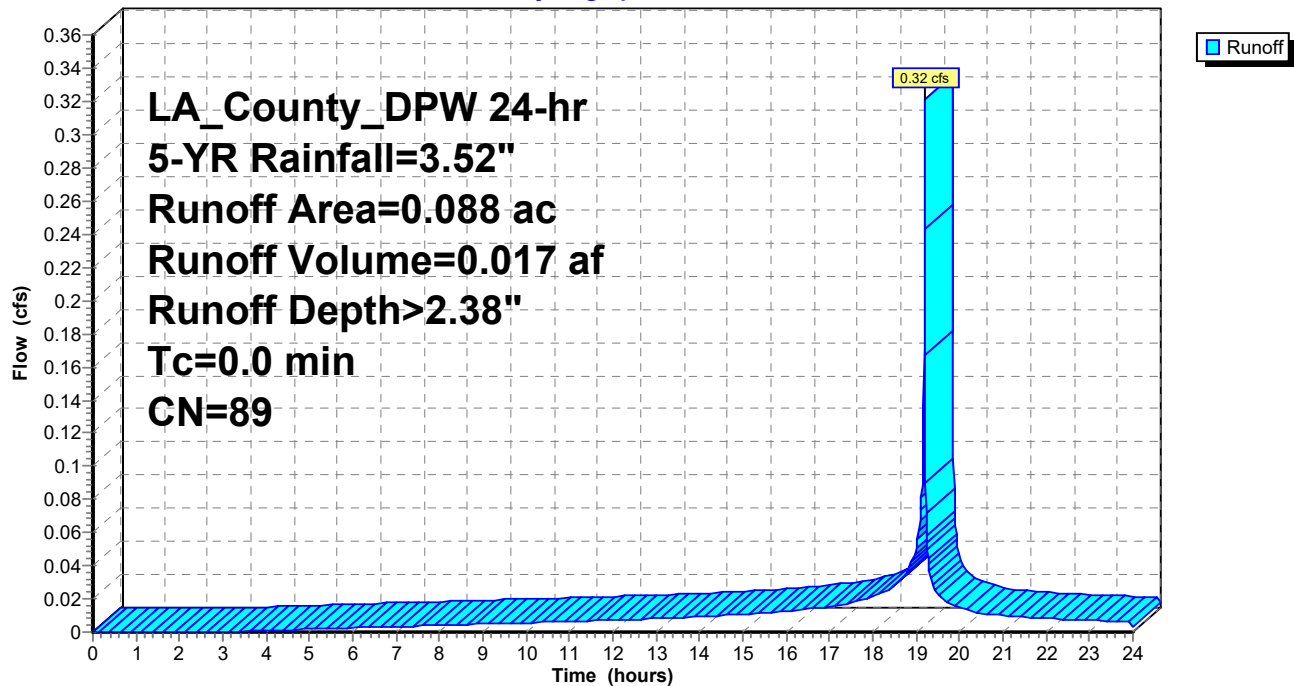
Runoff = 0.32 cfs @ 19.19 hrs, Volume= 0.017 af, Depth> 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.088	89	
	0.088		100.00% Pervious Area

Subcatchment 13S: DA-13

Hydrograph



Summary for Subcatchment 14S: DA-14

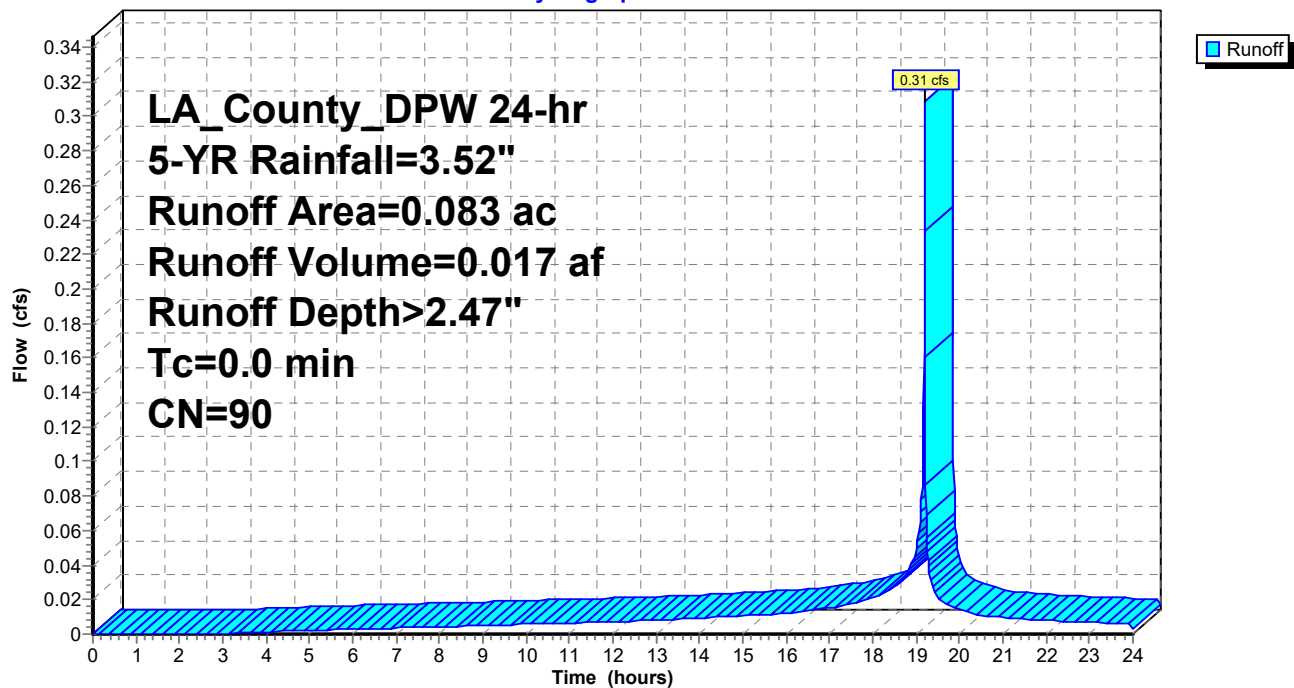
Runoff = 0.31 cfs @ 19.19 hrs, Volume= 0.017 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.083	90	
	0.083		100.00% Pervious Area

Subcatchment 14S: DA-14

Hydrograph



Summary for Subcatchment 15S: DA-15

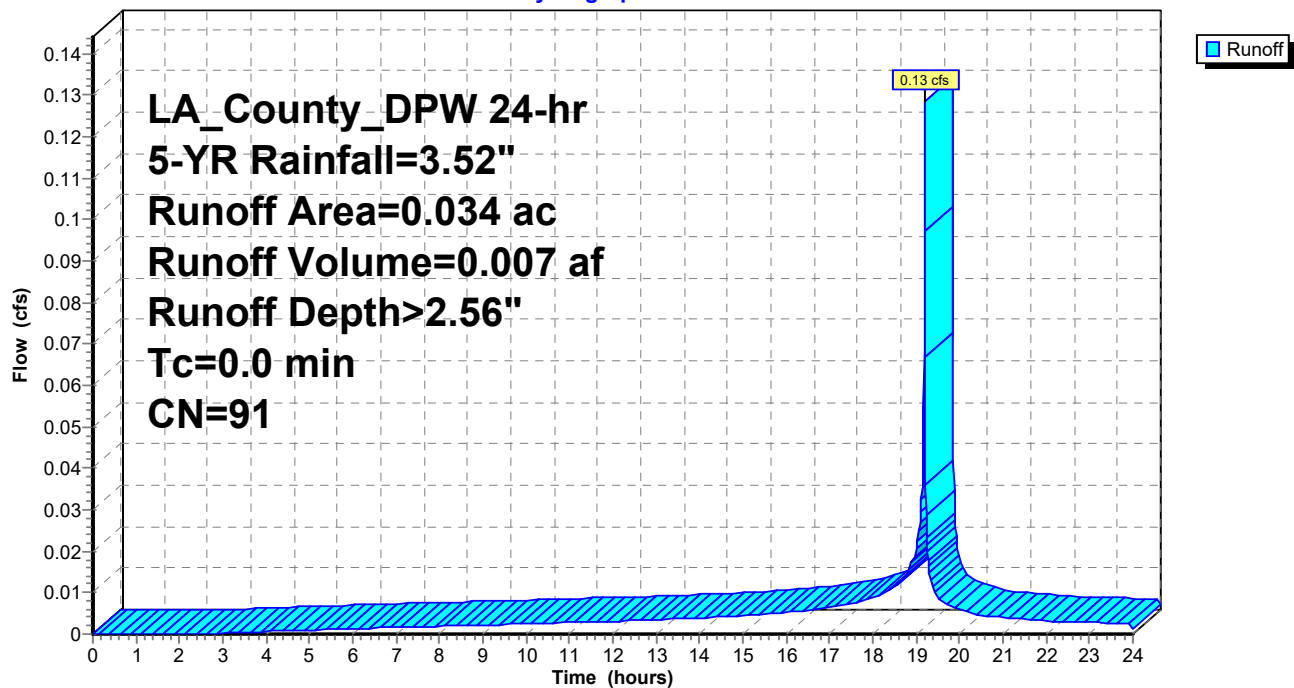
Runoff = 0.13 cfs @ 19.19 hrs, Volume= 0.007 af, Depth> 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 5-YR Rainfall=3.52"

Area (ac)	CN	Description
* 0.034	91	
0.034		100.00% Pervious Area

Subcatchment 15S: DA-15

Hydrograph



Summary for Subcatchment 16S: DA-16

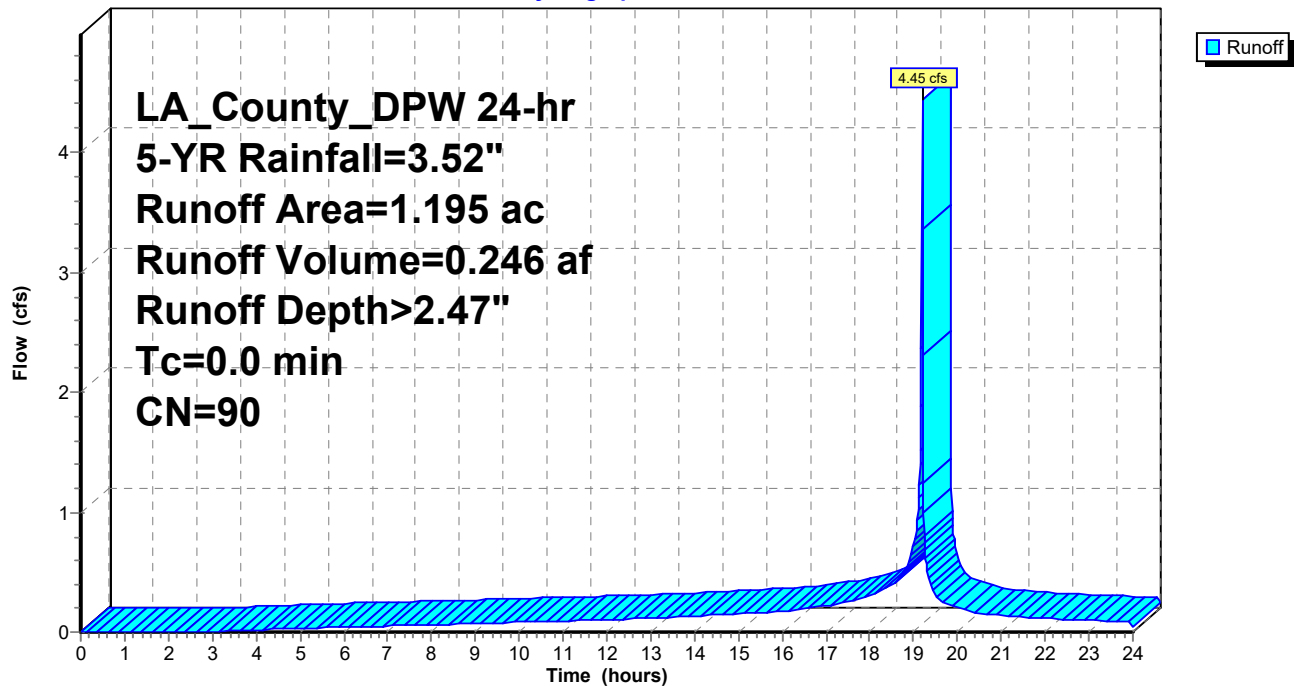
Runoff = 4.45 cfs @ 19.19 hrs, Volume= 0.246 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 5-YR Rainfall=3.52"

Area (ac)	CN	Description
* 1.195	90	
1.195		100.00% Pervious Area

Subcatchment 16S: DA-16

Hydrograph



Summary for Subcatchment 17S: DA-17

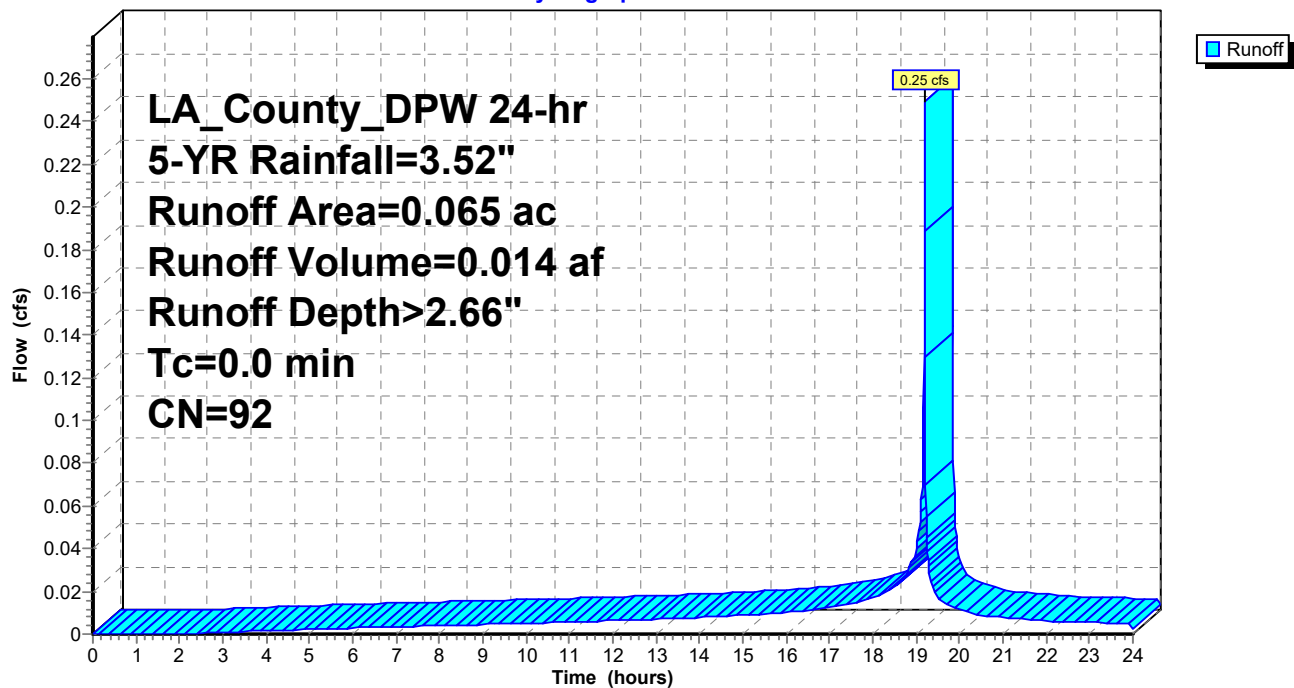
Runoff = 0.25 cfs @ 19.19 hrs, Volume= 0.014 af, Depth> 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 5-YR Rainfall=3.52"

Area (ac)	CN	Description
* 0.065	92	
0.065		100.00% Pervious Area

Subcatchment 17S: DA-17

Hydrograph



Summary for Subcatchment 19S: DA-19

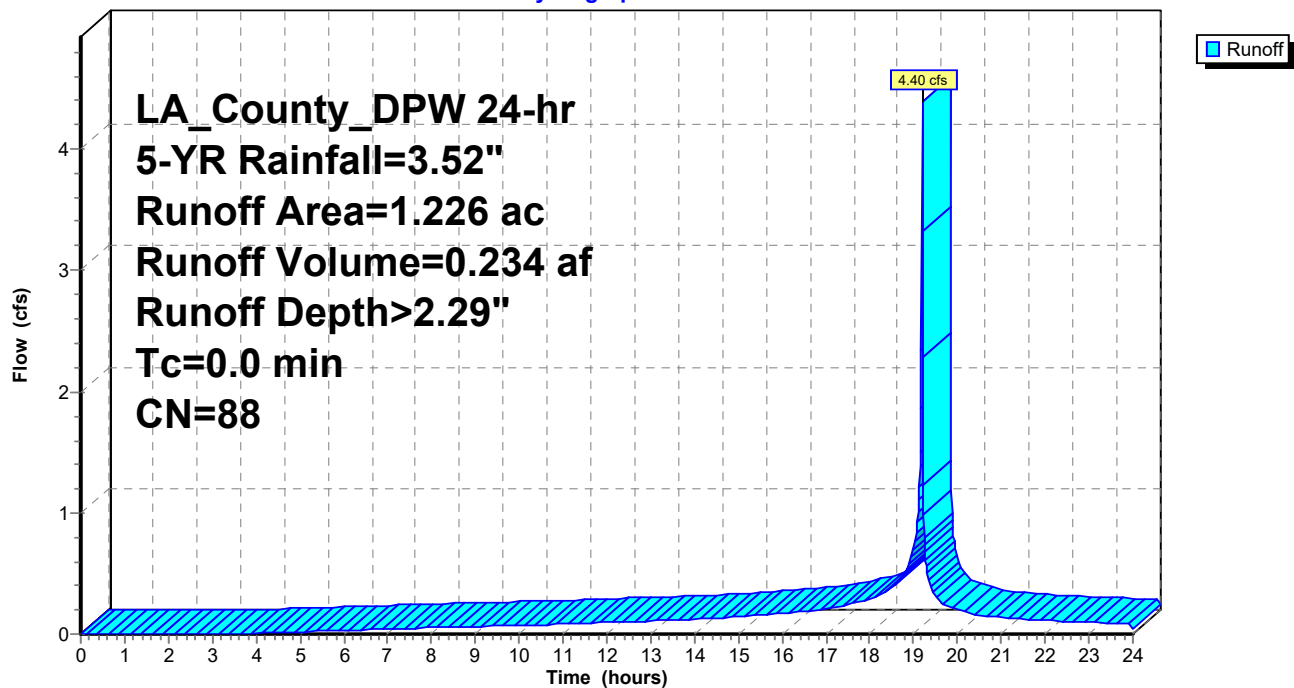
Runoff = 4.40 cfs @ 19.19 hrs, Volume= 0.234 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	1.226	88	
	1.226		100.00% Pervious Area

Subcatchment 19S: DA-19

Hydrograph



Summary for Subcatchment 25S: DA-26

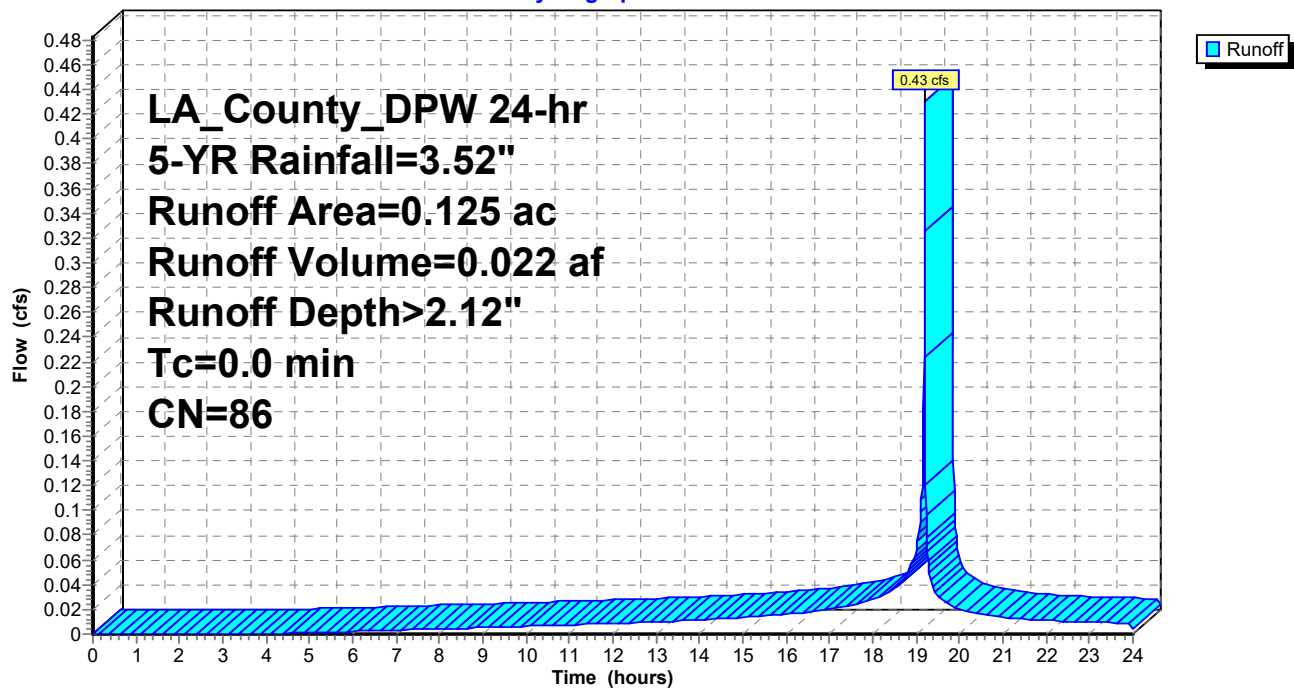
Runoff = 0.43 cfs @ 19.19 hrs, Volume= 0.022 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.125	86	
	0.125		100.00% Pervious Area

Subcatchment 25S: DA-26

Hydrograph



Summary for Subcatchment 26S: DA-27

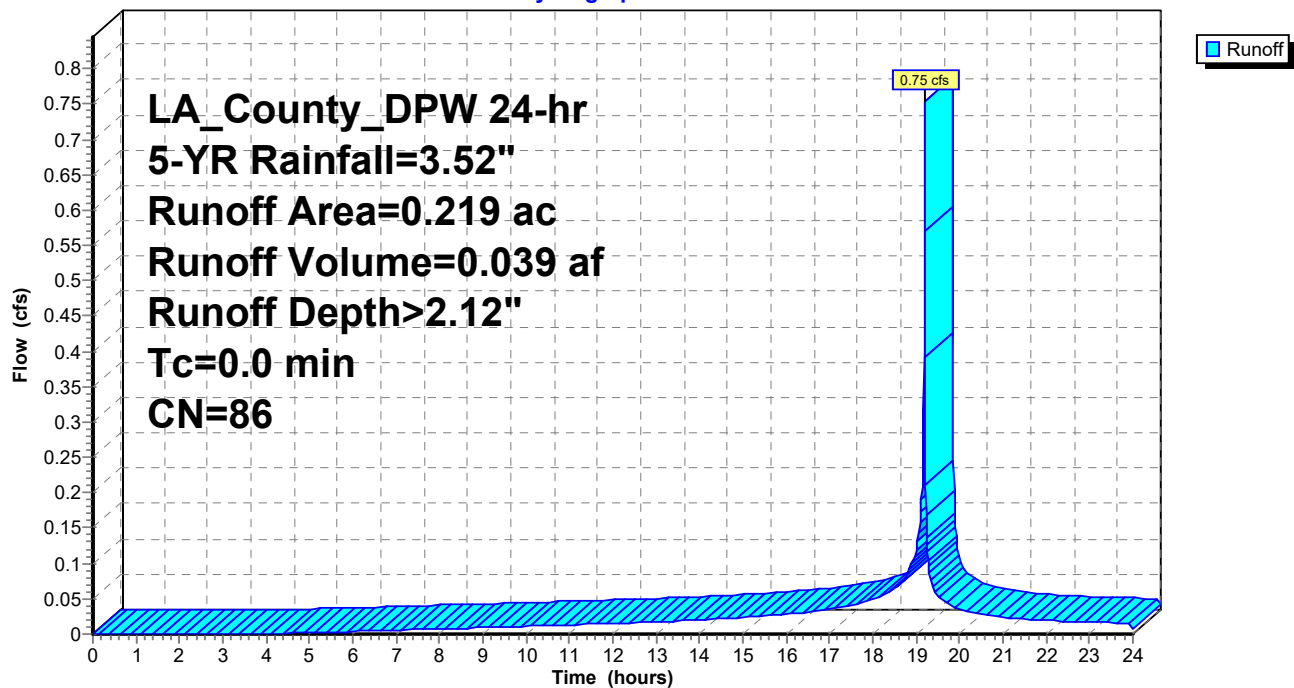
Runoff = 0.75 cfs @ 19.19 hrs, Volume= 0.039 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.219	86	
	0.219		100.00% Pervious Area

Subcatchment 26S: DA-27

Hydrograph



Summary for Subcatchment 28S: DA-29

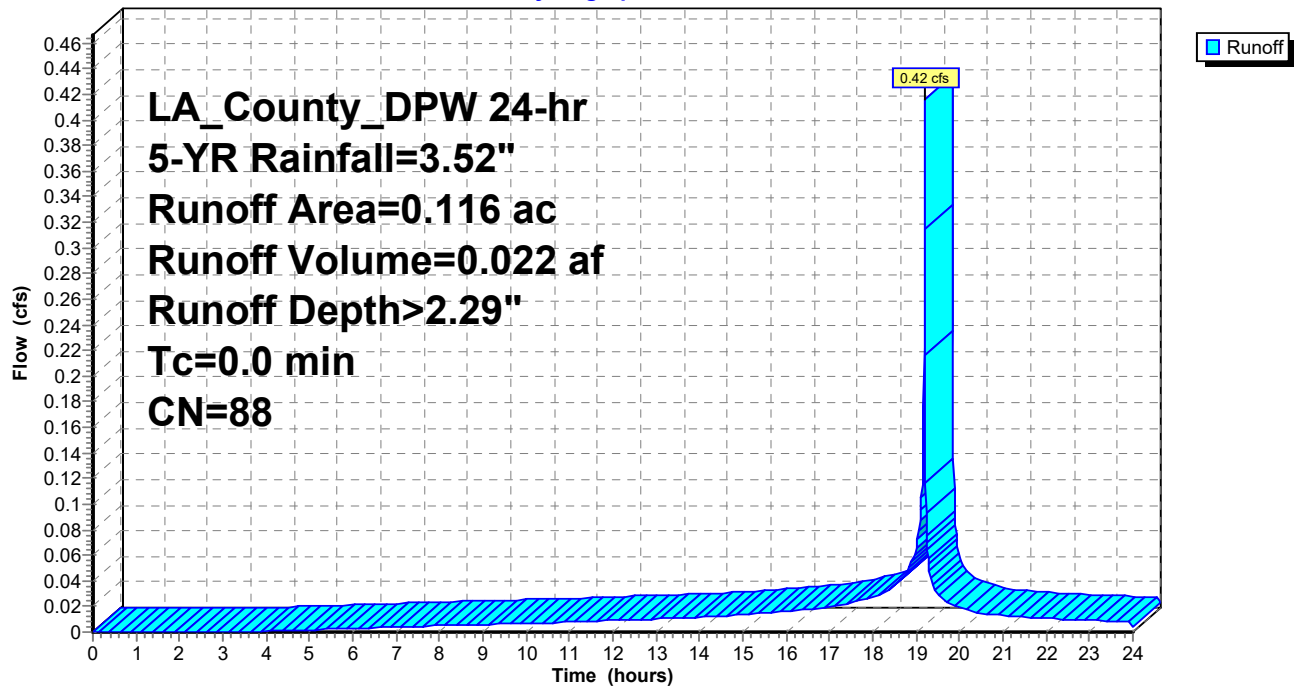
Runoff = 0.42 cfs @ 19.19 hrs, Volume= 0.022 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 5-YR Rainfall=3.52"

	Area (ac)	CN	Description
*	0.116	88	
	0.116		100.00% Pervious Area

Subcatchment 28S: DA-29

Hydrograph



Summary for Reach 29R: CH-6

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 2.34" for 5-YR event
 Inflow = 2.37 cfs @ 19.19 hrs, Volume= 0.159 af
 Outflow = 1.79 cfs @ 19.23 hrs, Volume= 0.159 af, Atten= 24%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.28 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 0.75 fps, Avg. Travel Time= 4.5 min

Peak Storage= 161 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.19' , Surface Width= 5.31'

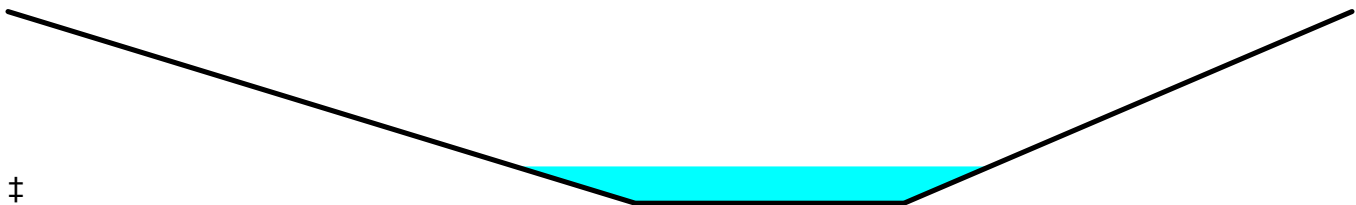
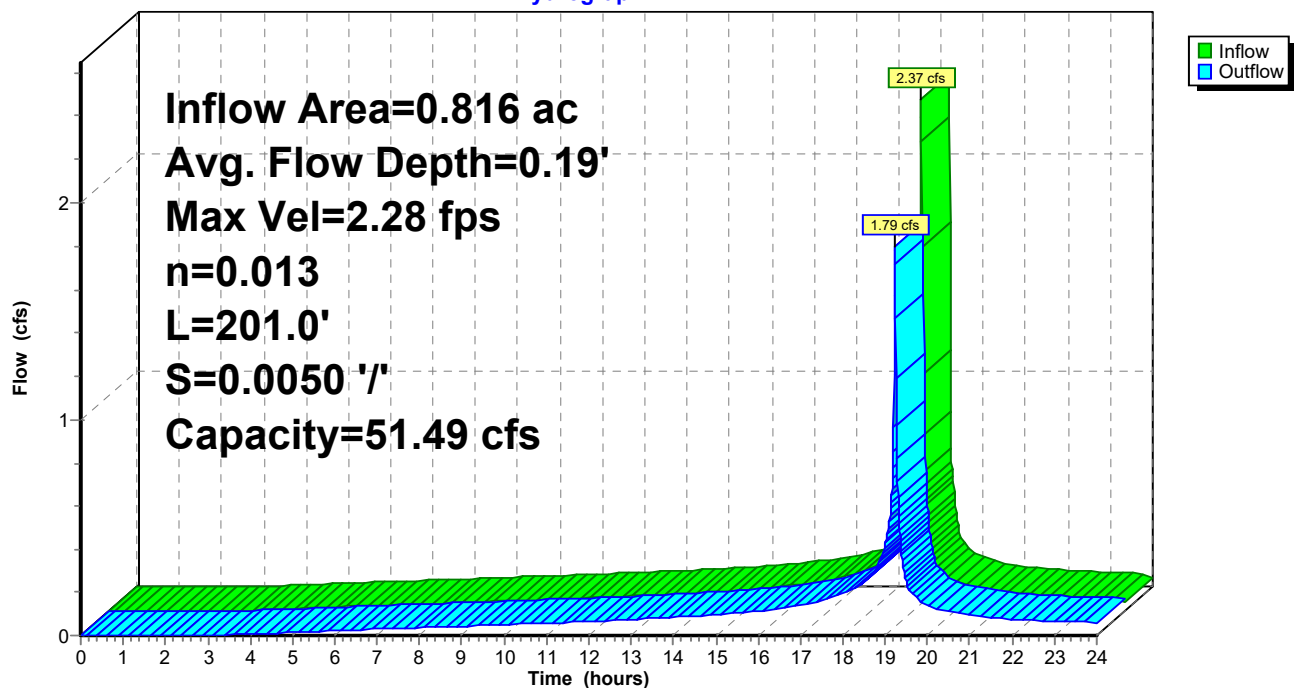
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 51.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 ' /' Top Width= 15.00'

Length= 201.0' Slope= 0.0050 ' /'

Inlet Invert= 1,148.00', Outlet Invert= 1,146.99'

**Reach 29R: CH-6****Hydrograph**

Summary for Reach 30R: CH-7

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 2.29" for 5-YR event
 Inflow = 1.62 cfs @ 19.19 hrs, Volume= 0.086 af
 Outflow = 1.36 cfs @ 19.21 hrs, Volume= 0.086 af, Atten= 16%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 7.35 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 2.11 fps, Avg. Travel Time= 1.7 min

Peak Storage= 41 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.09' , Surface Width= 2.35'

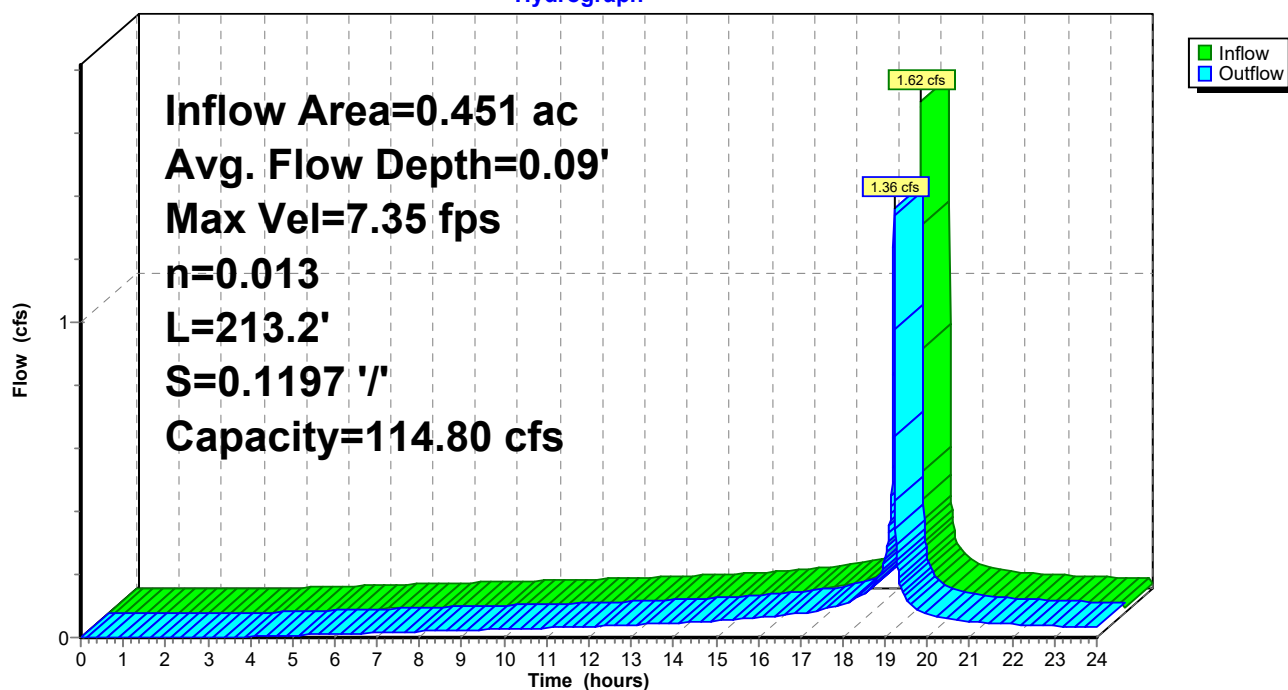
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 114.80 cfs

2.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 6.00'

Length= 213.2' Slope= 0.1197 '/'

Inlet Invert= 1,174.38', Outlet Invert= 1,148.85'

**Reach 30R: CH-7****Hydrograph**

Summary for Reach 31R: CH-4

Inflow Area = 0.445 ac, 0.00% Impervious, Inflow Depth > 2.24" for 5-YR event
 Inflow = 1.19 cfs @ 19.19 hrs, Volume= 0.083 af
 Outflow = 1.13 cfs @ 19.20 hrs, Volume= 0.083 af, Atten= 5%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.75 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 4.86 fps, Avg. Travel Time= 0.4 min

Peak Storage= 11 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.18' , Surface Width= 1.09'

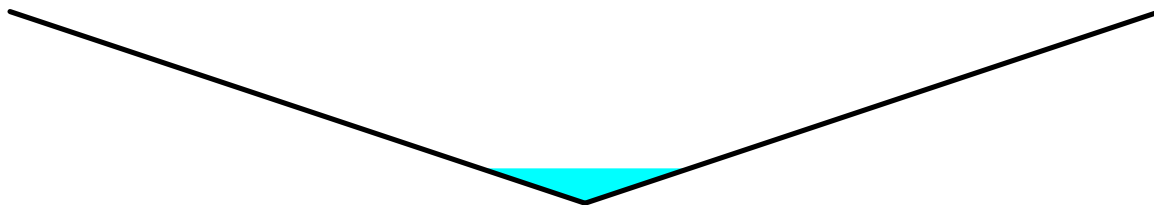
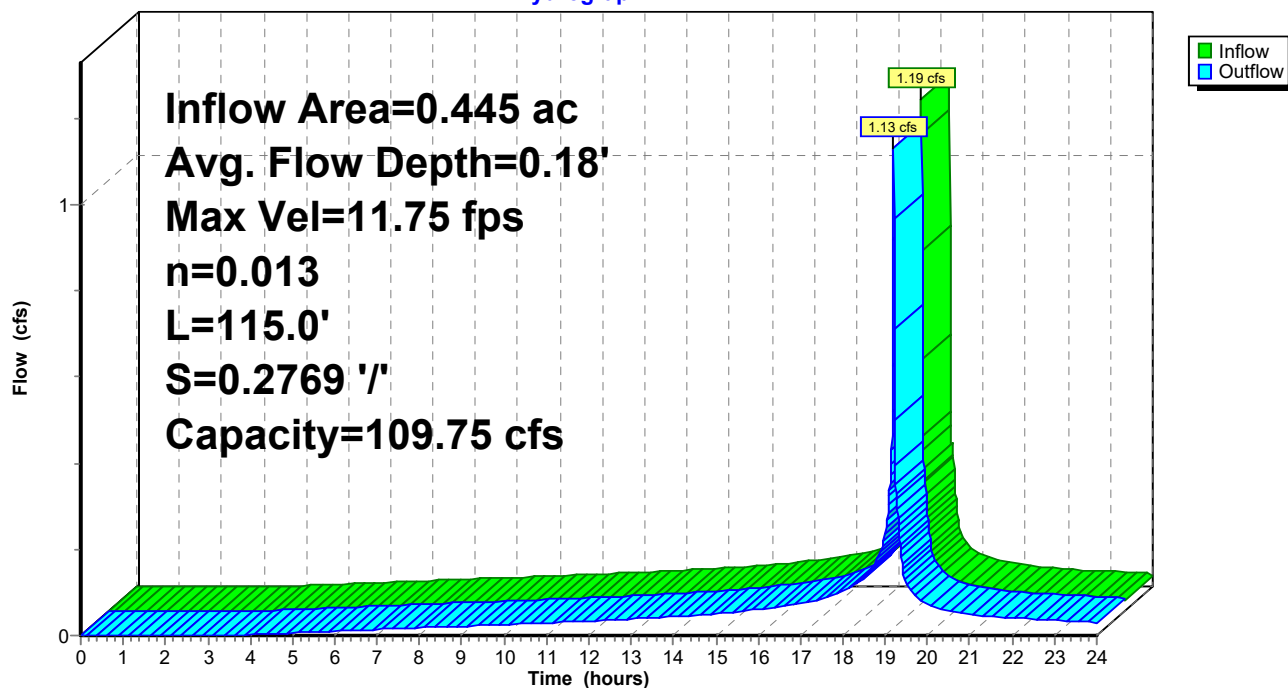
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 109.75 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 115.0' Slope= 0.2769 '/'

Inlet Invert= 1,179.25', Outlet Invert= 1,147.41'

**Reach 31R: CH-4****Hydrograph**

Summary for Reach 32R: CH-3

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 2.38" for 5-YR event
 Inflow = 0.33 cfs @ 19.19 hrs, Volume= 0.018 af
 Outflow = 0.27 cfs @ 19.21 hrs, Volume= 0.018 af, Atten= 18%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.36 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 1.78 fps, Avg. Travel Time= 1.1 min

Peak Storage= 8 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.14' , Surface Width= 0.96'

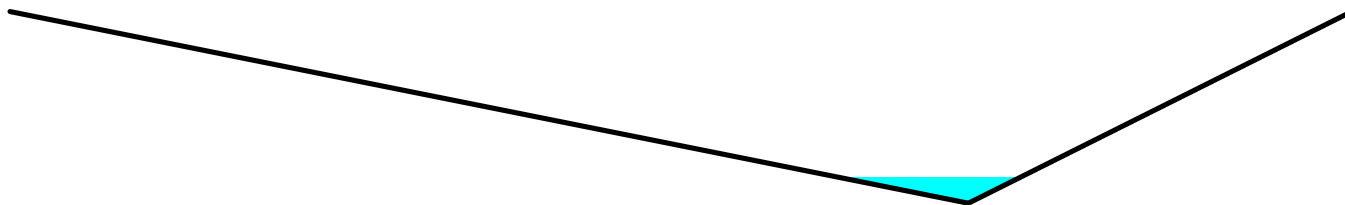
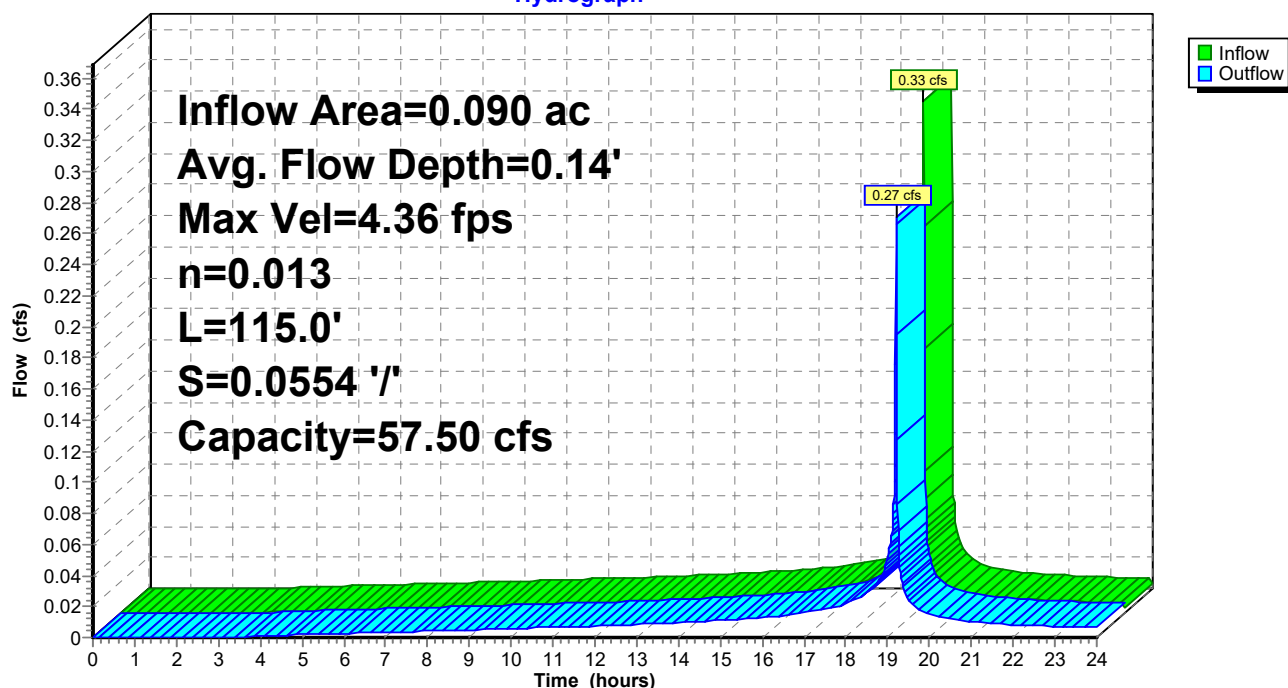
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 57.50 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' Top Width= 7.00'

Length= 115.0' Slope= 0.0554 '/'

Inlet Invert= 1,178.00', Outlet Invert= 1,171.63'

**Reach 32R: CH-3****Hydrograph**

Summary for Reach 33R: CH-2

Inflow Area = 0.269 ac, 0.00% Impervious, Inflow Depth > 2.12" for 5-YR event
 Inflow = 0.93 cfs @ 19.19 hrs, Volume= 0.047 af
 Outflow = 0.88 cfs @ 19.19 hrs, Volume= 0.047 af, Atten= 5%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.02 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 3.94 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 19.19 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 1.12'

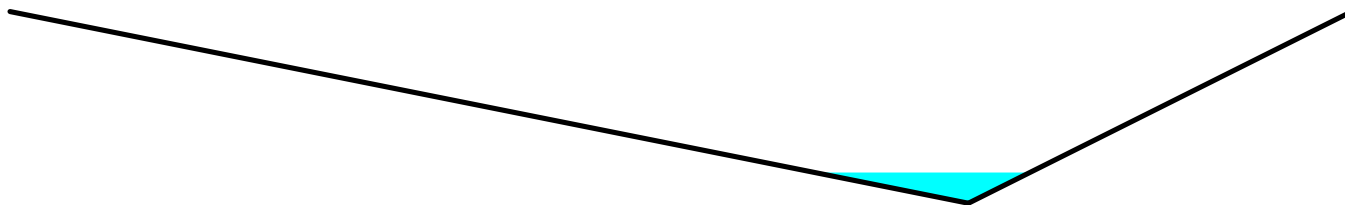
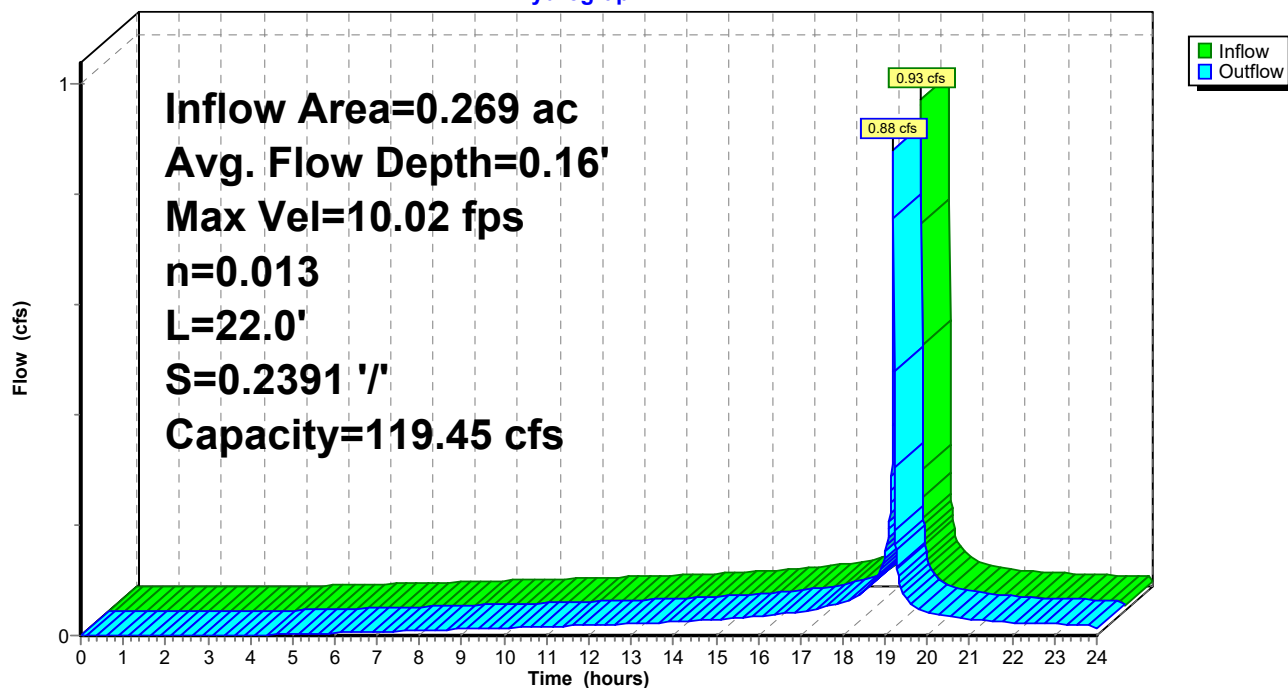
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 119.45 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 22.0' Slope= 0.2391 ' / '

Inlet Invert= 1,176.89', Outlet Invert= 1,171.63'

**Reach 33R: CH-2****Hydrograph**

Summary for Reach 34R: CH-1

Inflow Area = 0.074 ac, 0.00% Impervious, Inflow Depth > 2.46" for 5-YR event
 Inflow = 0.13 cfs @ 19.26 hrs, Volume= 0.015 af
 Outflow = 0.13 cfs @ 19.28 hrs, Volume= 0.015 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.35 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 1.61 fps, Avg. Travel Time= 1.3 min

Peak Storage= 5 cf @ 19.27 hrs

Average Depth at Peak Storage= 0.10' , Surface Width= 0.73'

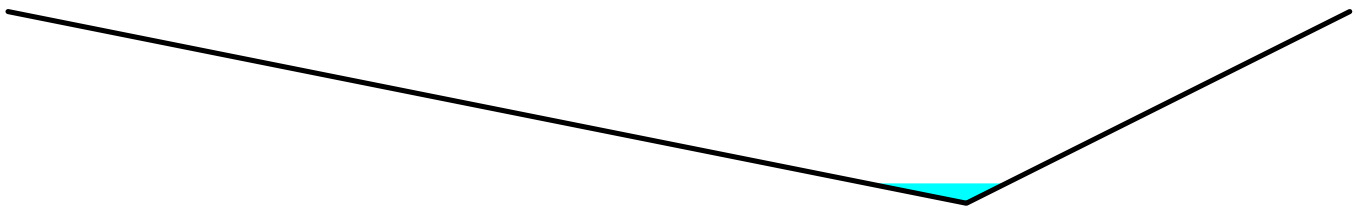
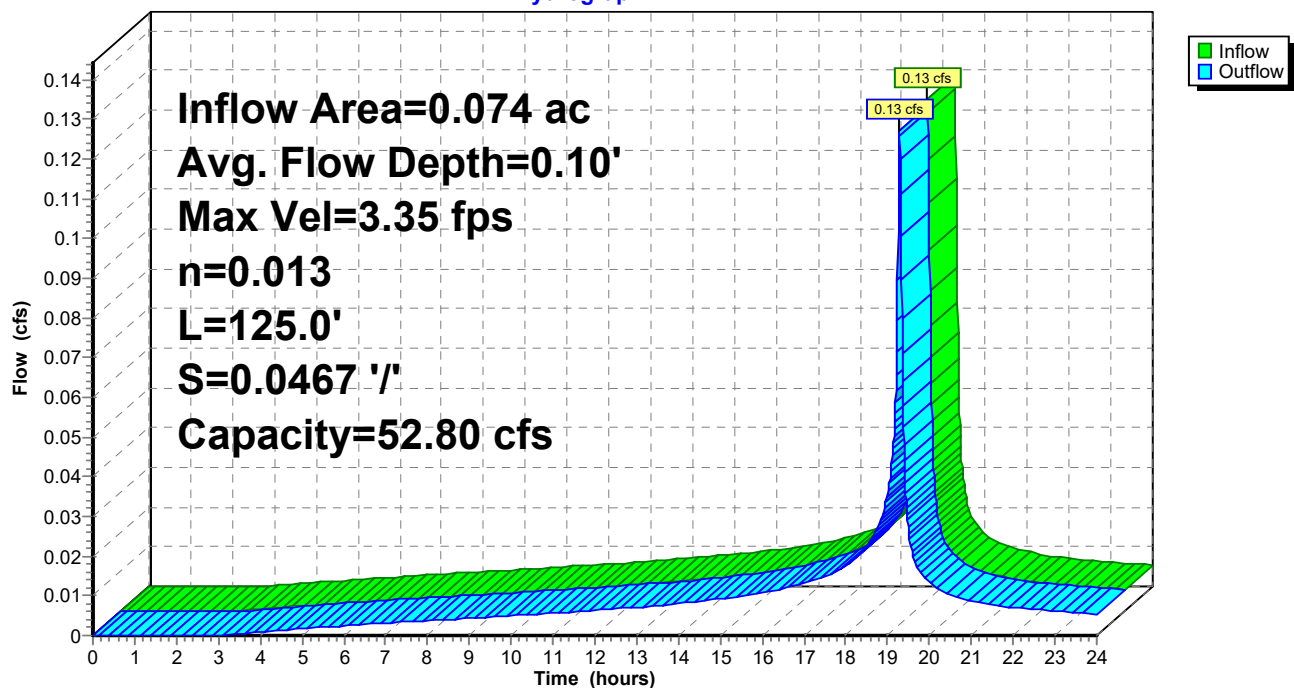
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 52.80 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 125.0' Slope= 0.0467 ' / '

Inlet Invert= 1,206.17', Outlet Invert= 1,200.33'

**Reach 34R: CH-1****Hydrograph**

Summary for Reach 35R: CH-8

Inflow Area = 0.065 ac, 0.00% Impervious, Inflow Depth > 2.66" for 5-YR event
 Inflow = 0.25 cfs @ 19.19 hrs, Volume= 0.014 af
 Outflow = 0.18 cfs @ 19.22 hrs, Volume= 0.014 af, Atten= 26%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.48 fps, Min. Travel Time= 0.9 min

Avg. Velocity = 2.33 fps, Avg. Travel Time= 2.0 min

Peak Storage= 10 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 0.53'

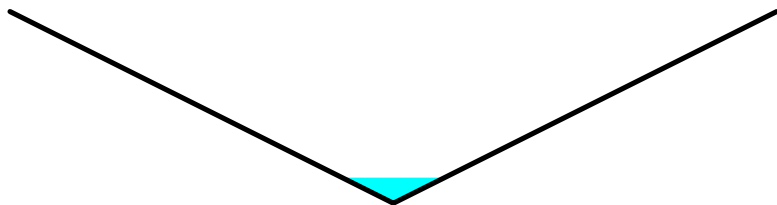
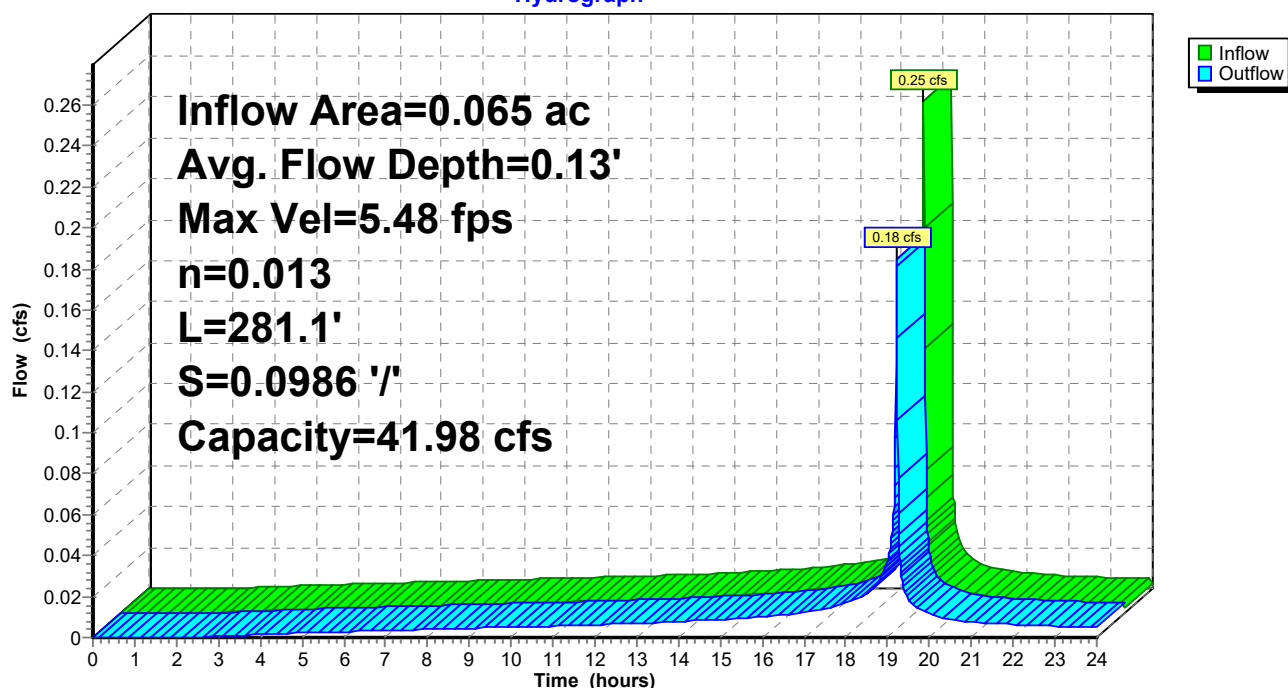
Bank-Full Depth= 1.00' Flow Area= 2.0 sf, Capacity= 41.98 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 4.00'

Length= 281.1' Slope= 0.0986 '/'

Inlet Invert= 1,174.52', Outlet Invert= 1,146.81'

**Reach 35R: CH-8****Hydrograph**

Summary for Reach 36R: CH-9

Inflow Area = 1.332 ac, 0.00% Impervious, Inflow Depth > 2.33" for 5-YR event
 Inflow = 2.78 cfs @ 19.22 hrs, Volume= 0.259 af
 Outflow = 2.74 cfs @ 19.23 hrs, Volume= 0.259 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.92 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 1.18 fps, Avg. Travel Time= 0.3 min

Peak Storage= 14 cf @ 19.22 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 4.80'

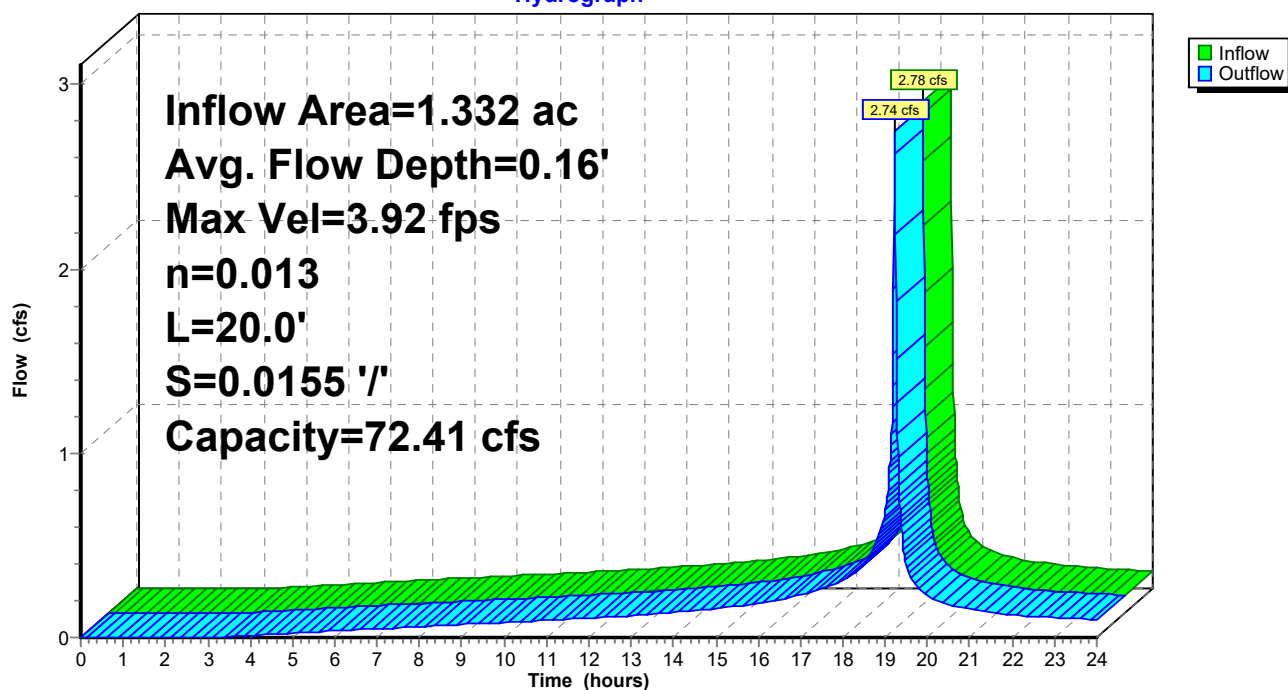
Bank-Full Depth= 1.00' Flow Area= 6.5 sf, Capacity= 72.41 cfs

4.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.5 ' / ' Top Width= 9.00'

Length= 20.0' Slope= 0.0155 ' / '

Inlet Invert= 1,146.81', Outlet Invert= 1,146.50'

**Reach 36R: CH-9****Hydrograph**

Summary for Reach 37R: CV-1

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 2.28" for 5-YR event
 Inflow = 1.36 cfs @ 19.21 hrs, Volume= 0.086 af
 Outflow = 1.26 cfs @ 19.21 hrs, Volume= 0.086 af, Atten= 7%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.66 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.63 fps, Avg. Travel Time= 0.7 min

Peak Storage= 19 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.39' , Surface Width= 0.98'

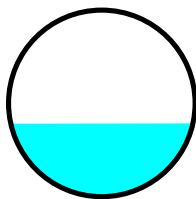
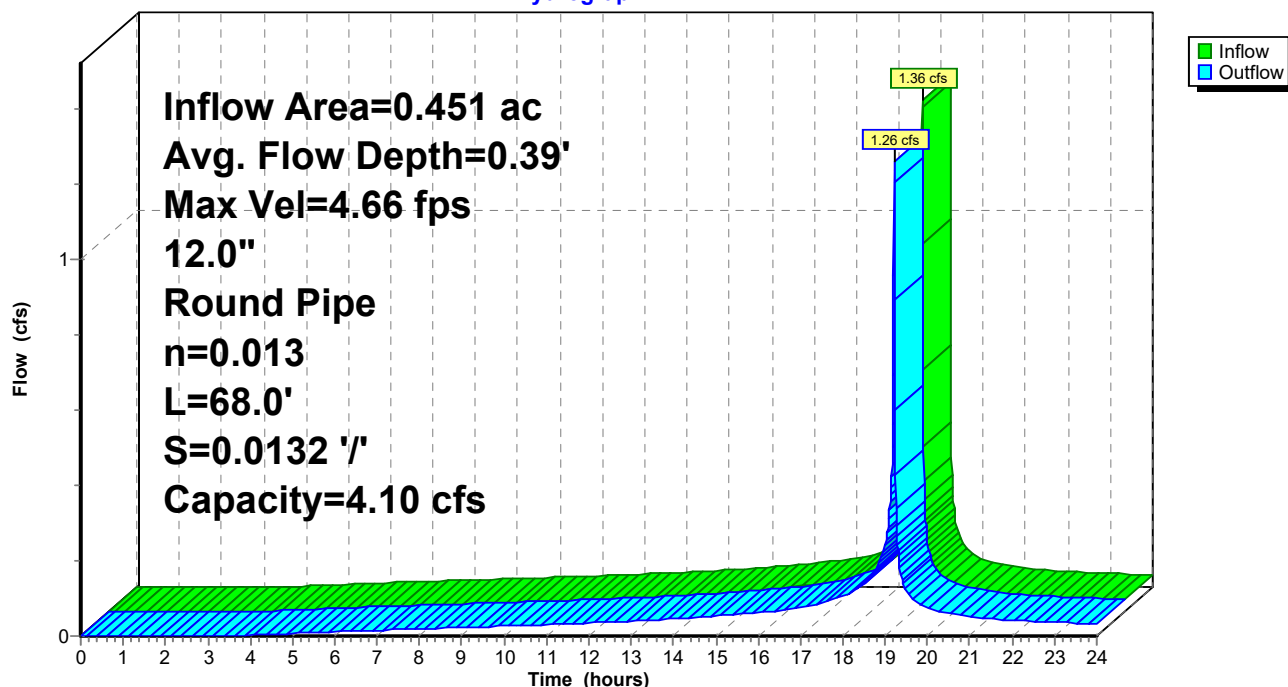
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.10 cfs

12.0" Round Pipe

n= 0.013

Length= 68.0' Slope= 0.0132 '/'

Inlet Invert= 1,148.90', Outlet Invert= 1,148.00'

**Reach 37R: CV-1****Hydrograph**

Summary for Reach 38R: CV-2

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 2.34" for 5-YR event
 Inflow = 1.79 cfs @ 19.23 hrs, Volume= 0.159 af
 Outflow = 1.75 cfs @ 19.24 hrs, Volume= 0.159 af, Atten= 2%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.44 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.29 fps, Avg. Travel Time= 0.5 min

Peak Storage= 20 cf @ 19.23 hrs

Average Depth at Peak Storage= 0.50' , Surface Width= 1.41'

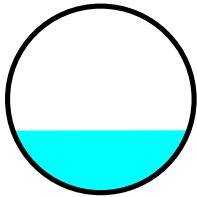
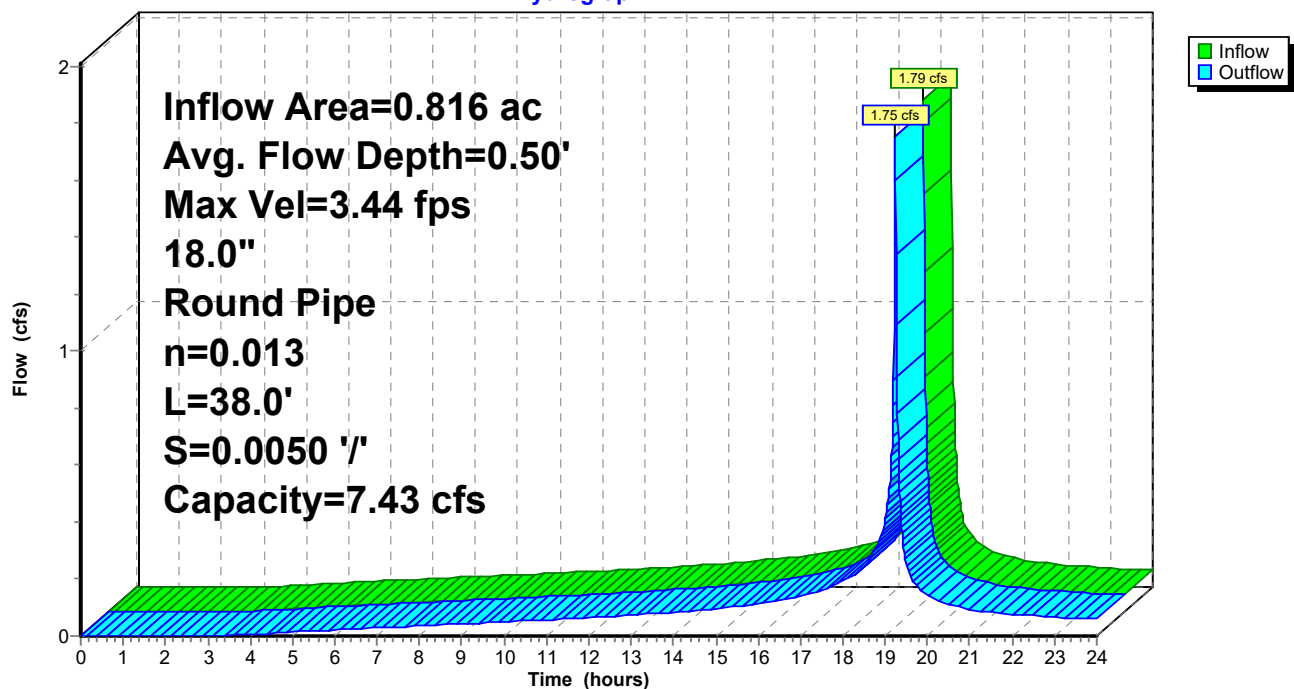
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe

n= 0.013

Length= 38.0' Slope= 0.0050 '/

Inlet Invert= 1,146.99', Outlet Invert= 1,146.80'

**Reach 38R: CV-2****Hydrograph**

Summary for Reach 39R: CH-10A

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 2.20" for 5-YR event
 Inflow = 0.96 cfs @ 19.19 hrs, Volume= 0.050 af
 Outflow = 0.82 cfs @ 19.20 hrs, Volume= 0.050 af, Atten= 15%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.49 fps, Min. Travel Time= 0.3 min

Avg. Velocity = 2.20 fps, Avg. Travel Time= 0.6 min

Peak Storage= 14 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.21' , Surface Width= 1.49'

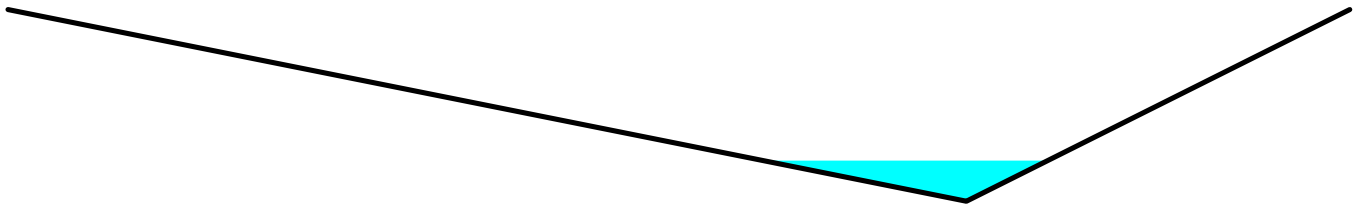
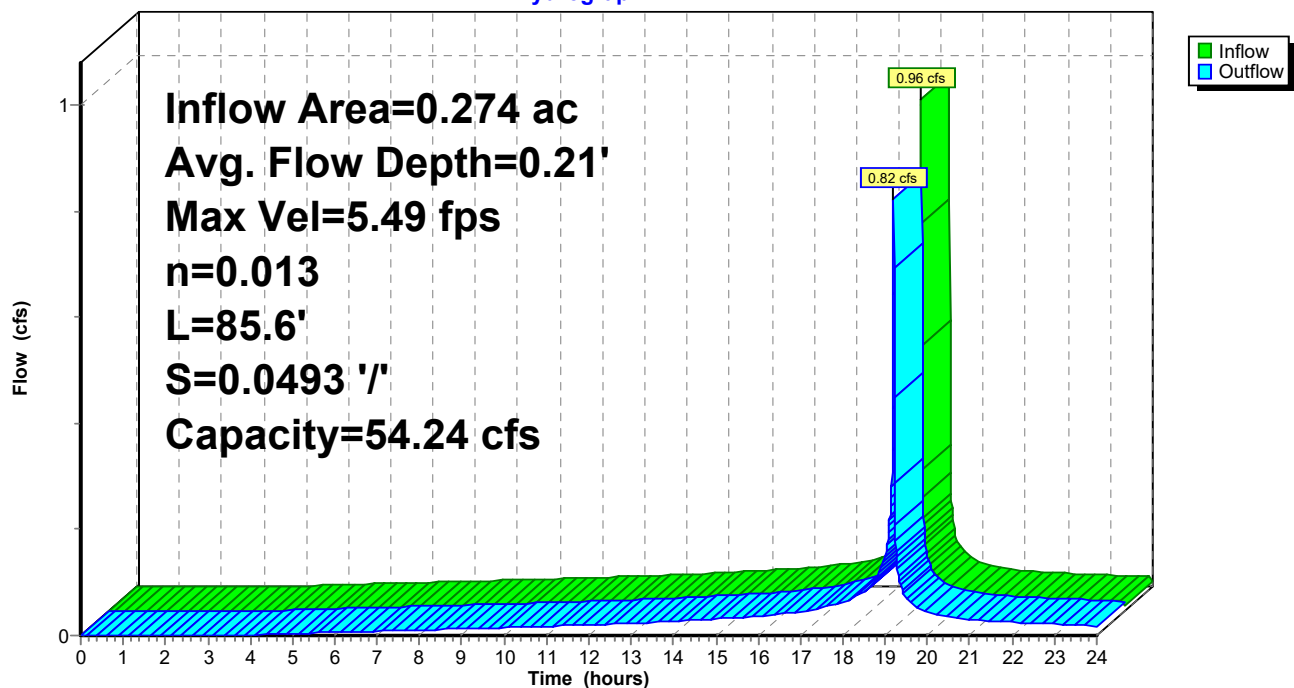
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 54.24 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 85.6' Slope= 0.0493 ' / '

Inlet Invert= 1,198.00', Outlet Invert= 1,193.78'

**Reach 39R: CH-10A****Hydrograph**

Summary for Reach 40R: CH-11A

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 2.29" for 5-YR event
 Inflow = 0.57 cfs @ 19.19 hrs, Volume= 0.030 af
 Outflow = 0.50 cfs @ 19.20 hrs, Volume= 0.030 af, Atten= 12%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.61 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 1.86 fps, Avg. Travel Time= 0.4 min

Peak Storage= 6 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.18' , Surface Width= 1.26'

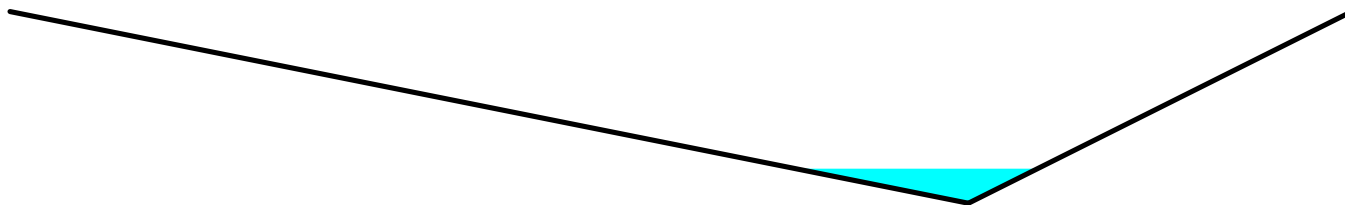
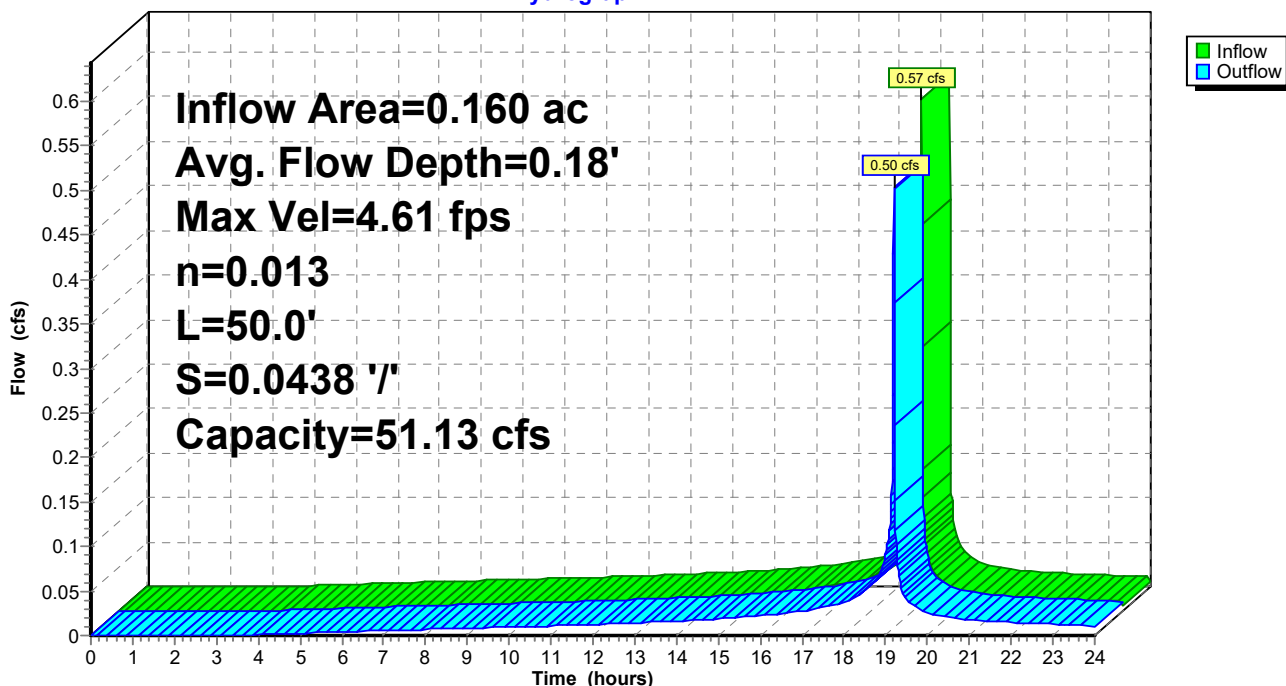
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 51.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 50.0' Slope= 0.0438 ' / '

Inlet Invert= 1,207.00', Outlet Invert= 1,204.81'

**Reach 40R: CH-11A****Hydrograph**

Summary for Reach 41R: CH-14

Inflow Area = 0.611 ac, 0.98% Impervious, Inflow Depth > 2.29" for 5-YR event
 Inflow = 1.79 cfs @ 19.20 hrs, Volume= 0.117 af
 Outflow = 1.76 cfs @ 19.21 hrs, Volume= 0.117 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 18.07 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 7.14 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.18' , Surface Width= 1.08'

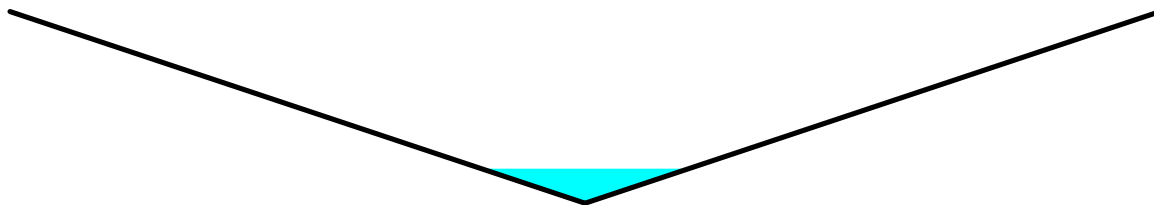
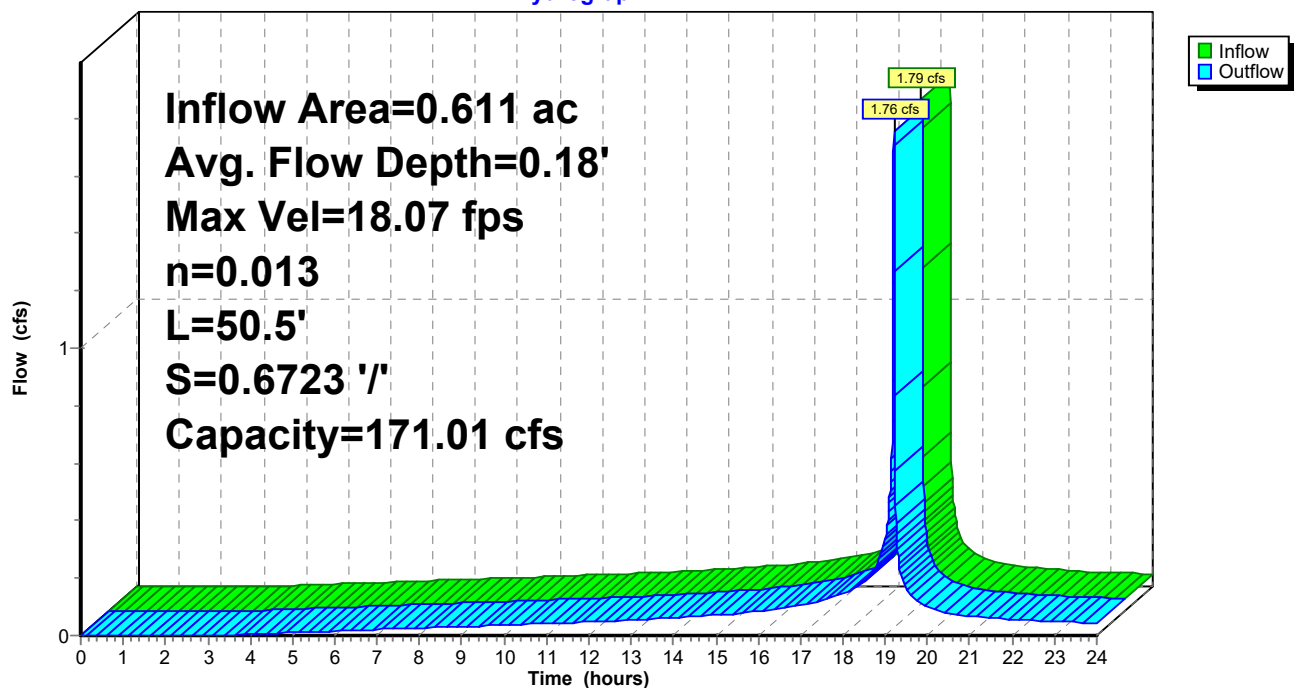
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 171.01 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 50.5' Slope= 0.6723 '/'

Inlet Invert= 1,181.63', Outlet Invert= 1,147.68'

**Reach 41R: CH-14****Hydrograph**

Summary for Reach 42R: CH-13

Inflow Area = 0.083 ac, 0.00% Impervious, Inflow Depth > 2.47" for 5-YR event
 Inflow = 0.31 cfs @ 19.19 hrs, Volume= 0.017 af
 Outflow = 0.26 cfs @ 19.21 hrs, Volume= 0.017 af, Atten= 17%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.94 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 1.63 fps, Avg. Travel Time= 1.4 min

Peak Storage= 9 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.12' , Surface Width= 1.09'

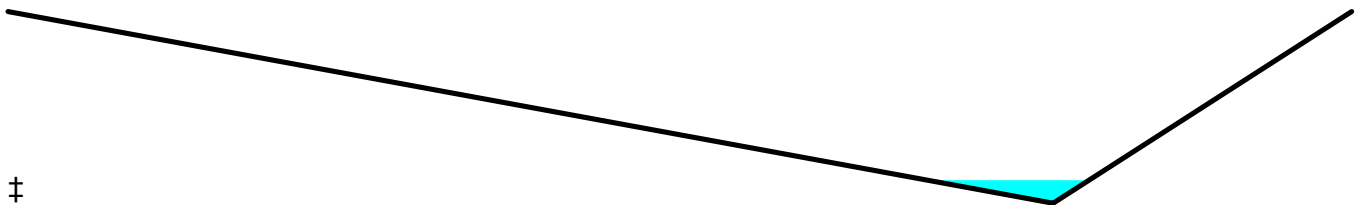
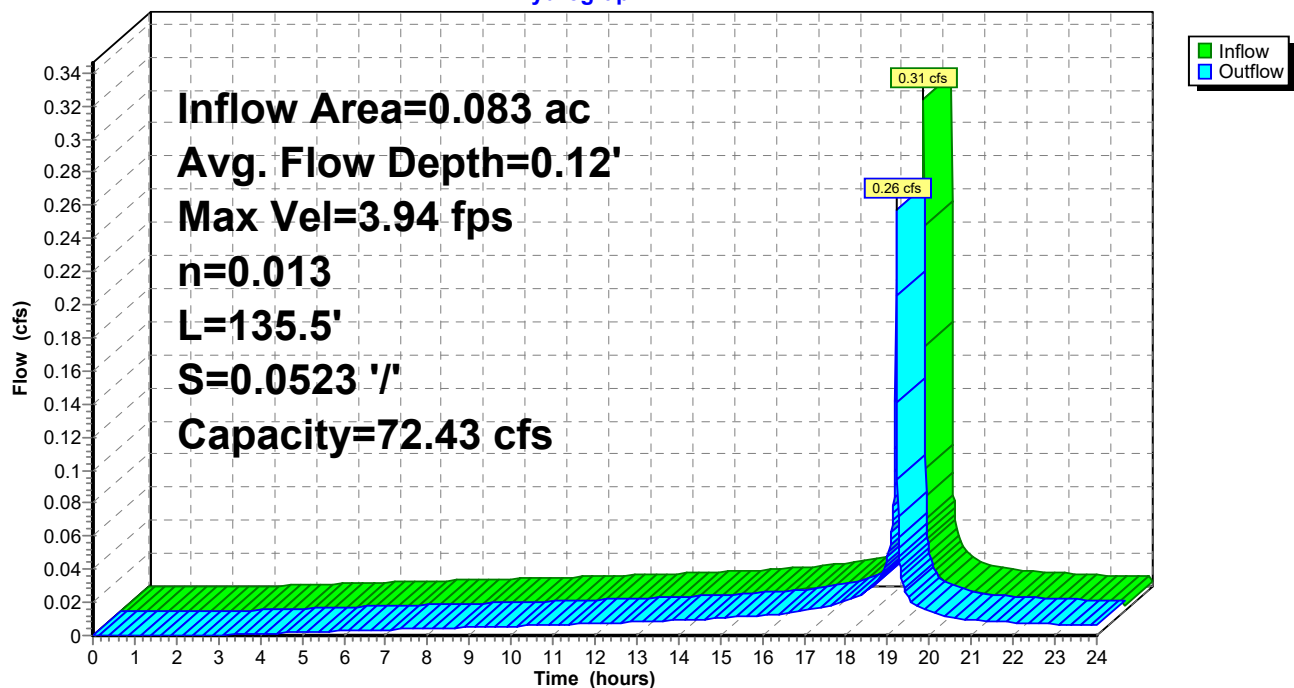
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 72.43 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 2.0 ' / ' Top Width= 9.00'

Length= 135.5' Slope= 0.0523 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 42R: CH-13****Hydrograph**

Summary for Reach 43R: CH-12

Inflow Area = 0.088 ac, 0.00% Impervious, Inflow Depth > 2.38" for 5-YR event
 Inflow = 0.32 cfs @ 19.19 hrs, Volume= 0.017 af
 Outflow = 0.26 cfs @ 19.21 hrs, Volume= 0.017 af, Atten= 18%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.56 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 1.86 fps, Avg. Travel Time= 1.0 min

Peak Storage= 7 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 0.93'

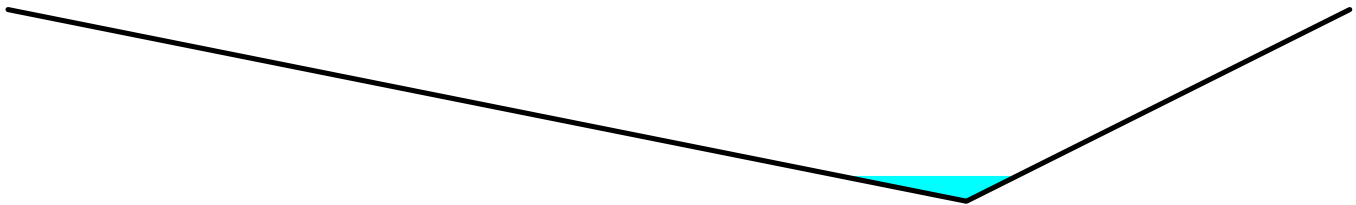
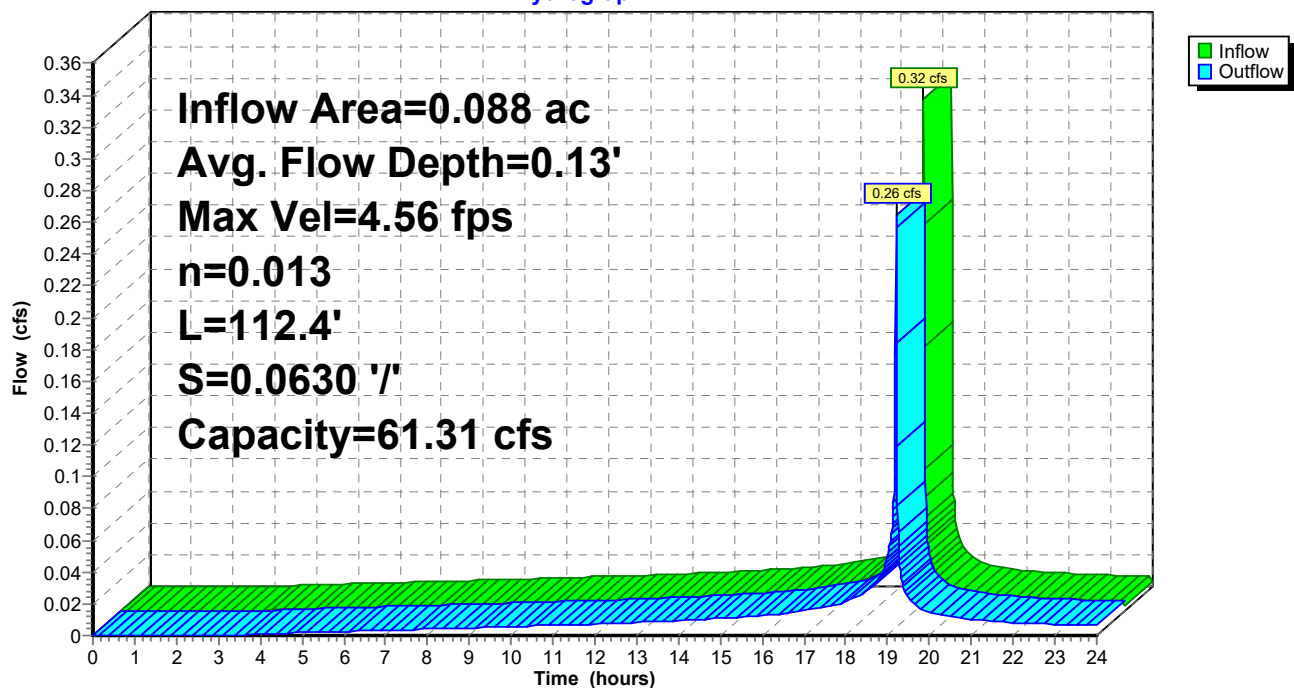
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 61.31 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' Top Width= 7.00'

Length= 112.4' Slope= 0.0630 '/'

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 43R: CH-12****Hydrograph**

Summary for Reach 44R: CH-16

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 2.38" for 5-YR event
 Inflow = 2.61 cfs @ 19.20 hrs, Volume= 0.184 af
 Outflow = 1.99 cfs @ 19.25 hrs, Volume= 0.184 af, Atten= 24%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.57 fps, Min. Travel Time= 2.0 min

Avg. Velocity = 0.82 fps, Avg. Travel Time= 6.3 min

Peak Storage= 246 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.19' , Surface Width= 5.28'

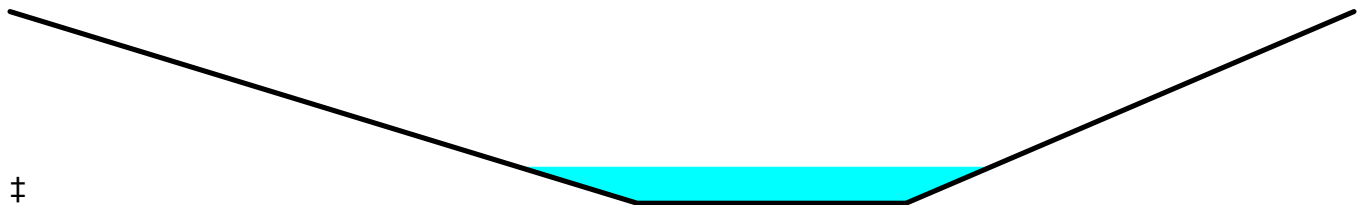
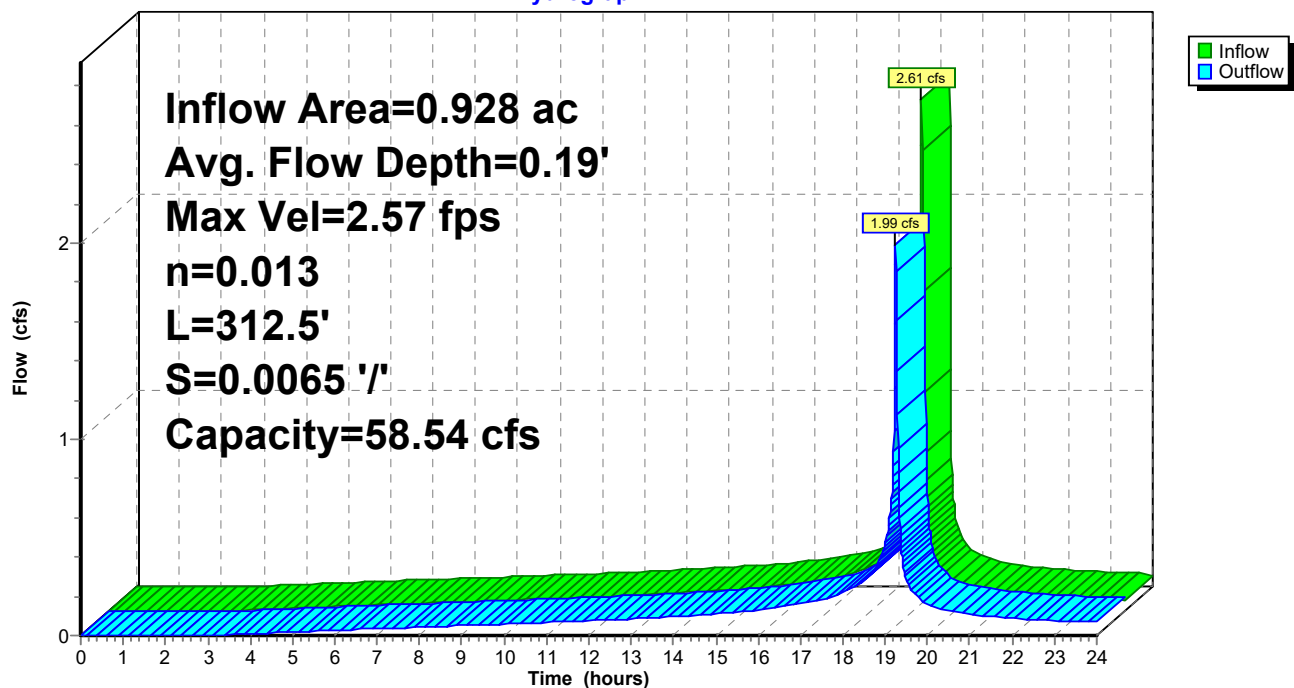
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 58.54 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 ' / ' Top Width= 15.00'

Length= 312.5' Slope= 0.0065 ' / '

Inlet Invert= 1,148.00', Outlet Invert= 1,145.97'

**Reach 44R: CH-16****Hydrograph**

Summary for Reach 45R: CV-3

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 2.37" for 5-YR event
 Inflow = 1.99 cfs @ 19.25 hrs, Volume= 0.184 af
 Outflow = 1.95 cfs @ 19.26 hrs, Volume= 0.184 af, Atten= 2%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.05 fps, Min. Travel Time= 0.3 min

Avg. Velocity= 1.46 fps, Avg. Travel Time= 0.8 min

Peak Storage= 34 cf @ 19.25 hrs

Average Depth at Peak Storage= 0.48' , Surface Width= 1.40'

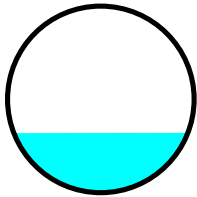
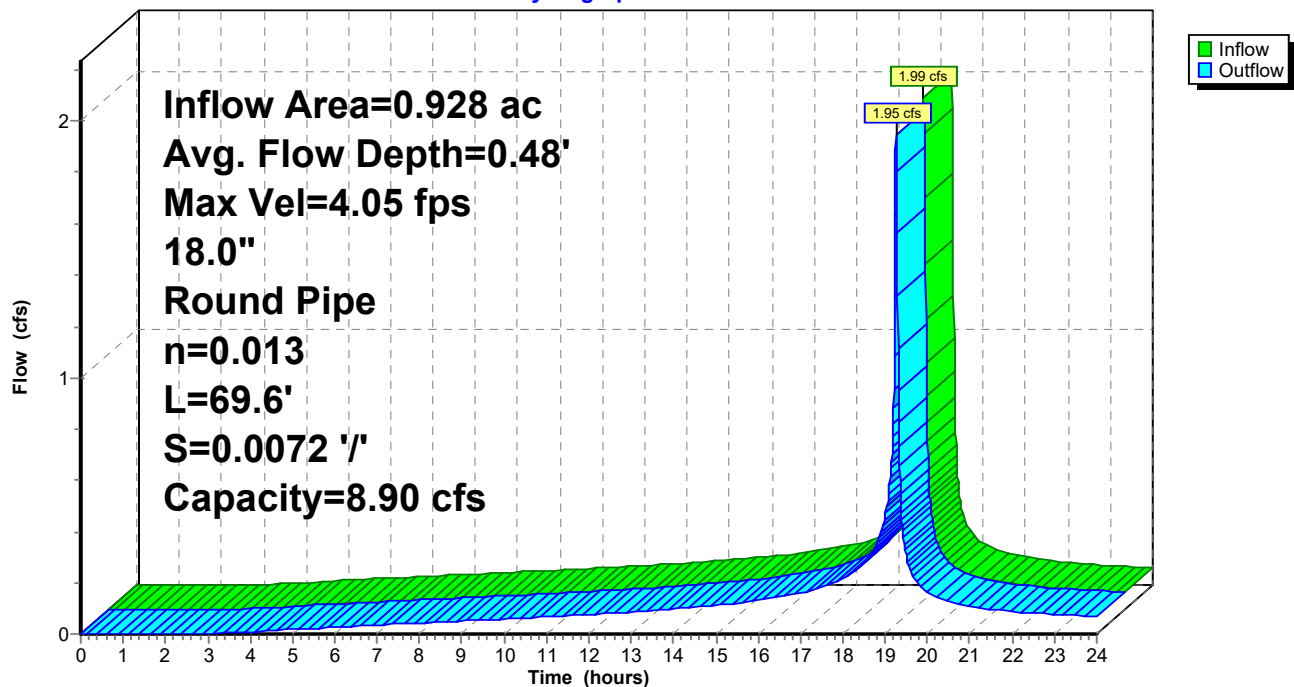
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.90 cfs

18.0" Round Pipe

n= 0.013

Length= 69.6' Slope= 0.0072 '/'

Inlet Invert= 1,146.00', Outlet Invert= 1,145.50'

**Reach 45R: CV-3****Hydrograph**

Summary for Reach 46R: CH-17

Inflow Area = 2.123 ac, 0.28% Impervious, Inflow Depth > 2.43" for 5-YR event
 Inflow = 5.28 cfs @ 19.19 hrs, Volume= 0.429 af
 Outflow = 4.15 cfs @ 19.22 hrs, Volume= 0.428 af, Atten= 21%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.61 fps, Min. Travel Time= 1.2 min

Avg. Velocity = 1.71 fps, Avg. Travel Time= 3.9 min

Peak Storage= 296 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.22' , Surface Width= 3.66'

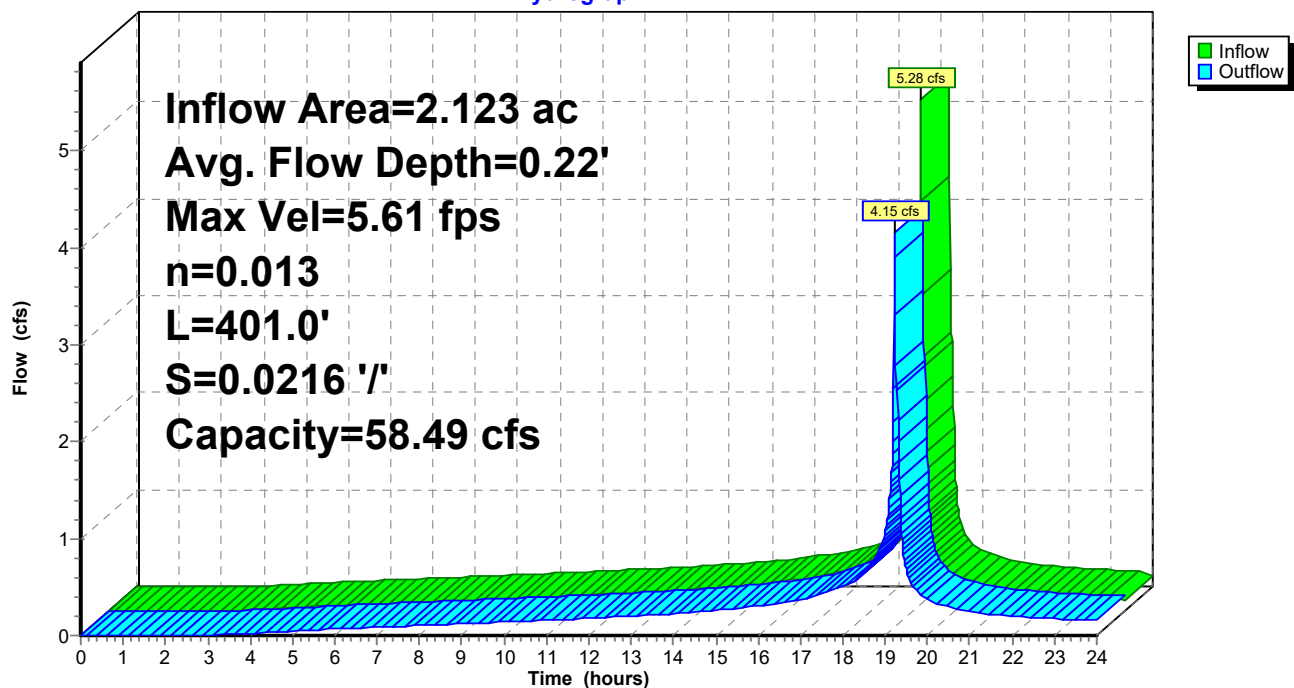
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 58.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 1.5 '/' Top Width= 6.00'

Length= 401.0' Slope= 0.0216 '/'

Inlet Invert= 1,145.50', Outlet Invert= 1,136.85'

**Reach 46R: CH-17****Hydrograph**

Summary for Reach 52R: CH-21

Inflow Area = 1.226 ac, 0.00% Impervious, Inflow Depth > 2.29" for 5-YR event
 Inflow = 4.40 cfs @ 19.19 hrs, Volume= 0.234 af
 Outflow = 3.66 cfs @ 19.21 hrs, Volume= 0.233 af, Atten= 17%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.14 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.17 fps, Avg. Travel Time= 1.6 min

Peak Storage= 101 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.14' , Surface Width= 3.58'

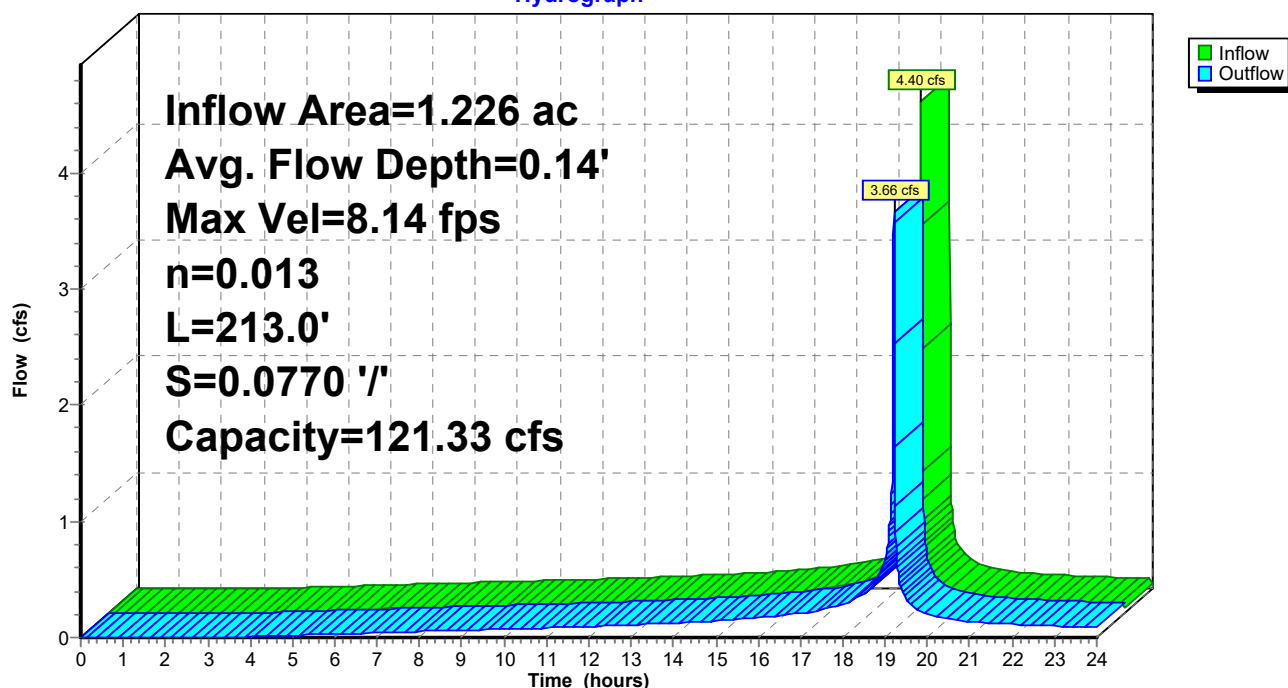
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 121.33 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 ' / ' Top Width= 7.00'

Length= 213.0' Slope= 0.0770 ' / '

Inlet Invert= 1,142.14', Outlet Invert= 1,125.74'

**Reach 52R: CH-21****Hydrograph**

Summary for Reach 53R: CH-24

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 2.25" for 5-YR event
 Inflow = 4.50 cfs @ 19.20 hrs, Volume= 0.316 af
 Outflow = 4.15 cfs @ 19.22 hrs, Volume= 0.316 af, Atten= 8%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.48 fps, Min. Travel Time= 0.7 min

Avg. Velocity= 1.26 fps, Avg. Travel Time= 2.4 min

Peak Storage= 173 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.20' , Surface Width= 5.10'

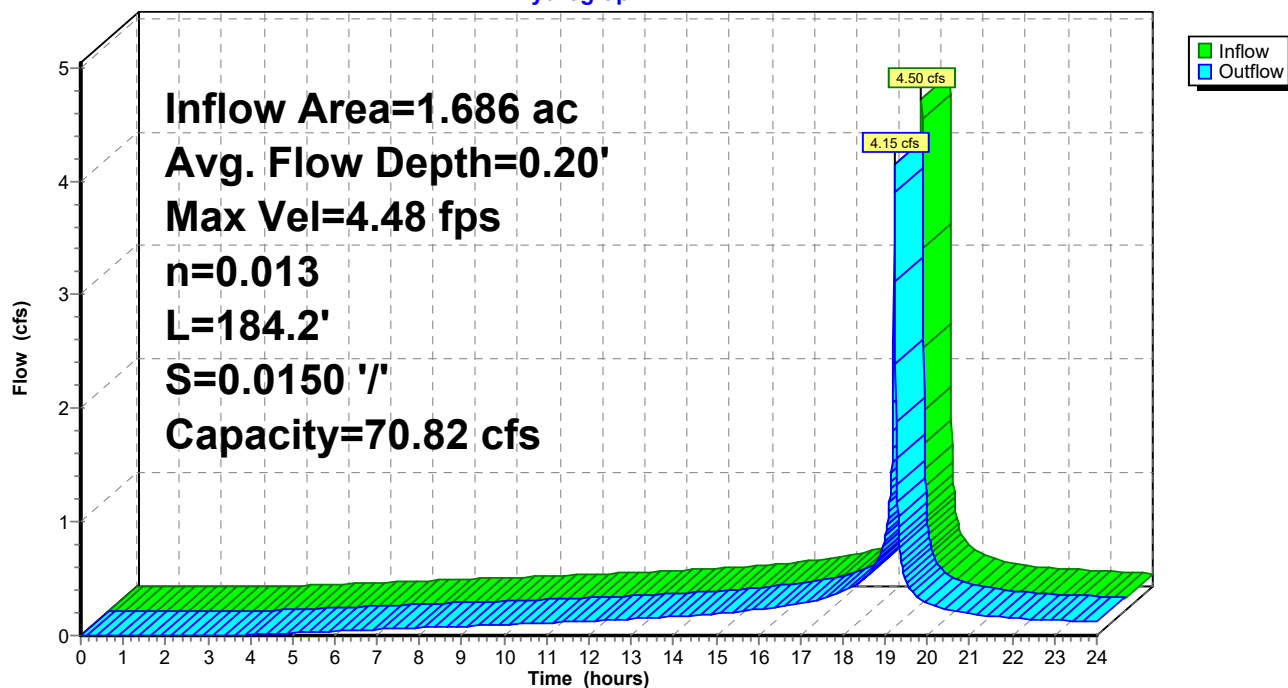
Bank-Full Depth= 1.00' Flow Area= 6.3 sf, Capacity= 70.82 cfs

4.30' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 8.30'

Length= 184.2' Slope= 0.0150 '/'

Inlet Invert= 1,125.74', Outlet Invert= 1,122.97'

**Reach 53R: CH-24****Hydrograph**

Summary for Reach 54R: CH-22

Inflow Area = 0.219 ac, 0.00% Impervious, Inflow Depth > 2.12" for 5-YR event
 Inflow = 0.75 cfs @ 19.19 hrs, Volume= 0.039 af
 Outflow = 0.50 cfs @ 19.23 hrs, Volume= 0.039 af, Atten= 34%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.11 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 0.90 fps, Avg. Travel Time= 3.7 min

Peak Storage= 48 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.28' , Surface Width= 1.70'

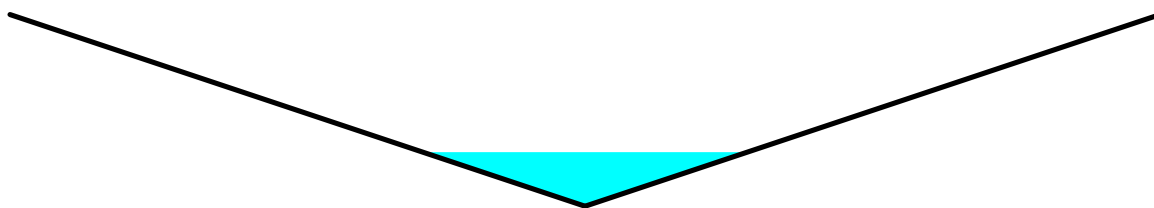
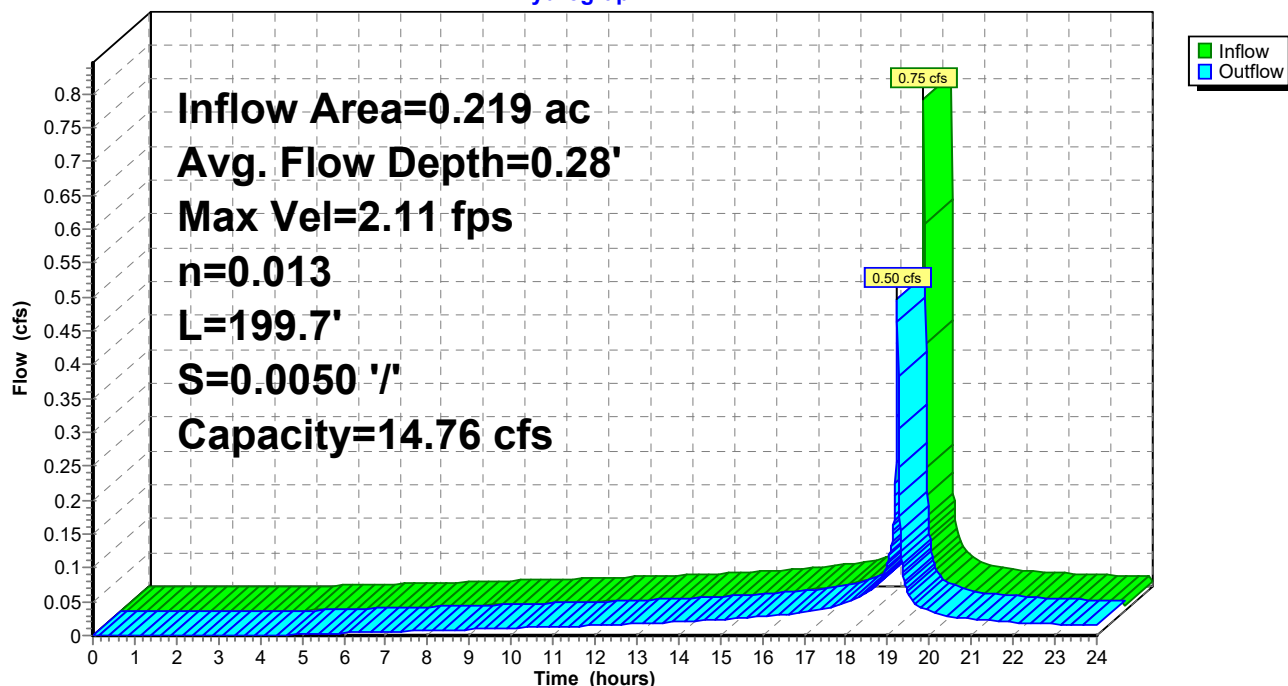
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 14.76 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 199.7' Slope= 0.0050 '/'

Inlet Invert= 1,163.81', Outlet Invert= 1,162.81'

**Reach 54R: CH-22****Hydrograph**

Summary for Reach 55R: CH-23

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 2.11" for 5-YR event
 Inflow = 0.66 cfs @ 19.19 hrs, Volume= 0.061 af
 Outflow = 0.62 cfs @ 19.20 hrs, Volume= 0.061 af, Atten= 6%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.69 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 5.34 fps, Avg. Travel Time= 0.3 min

Peak Storage= 5 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 0.80'

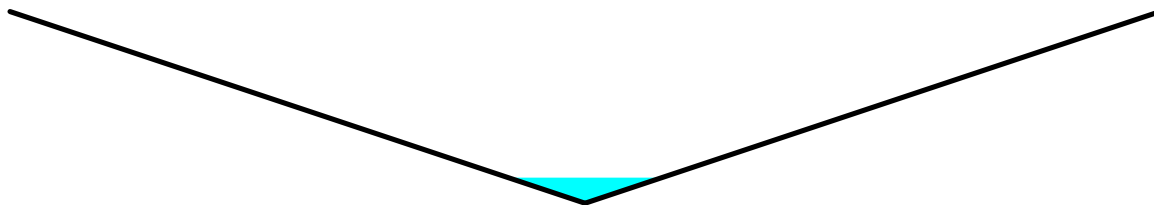
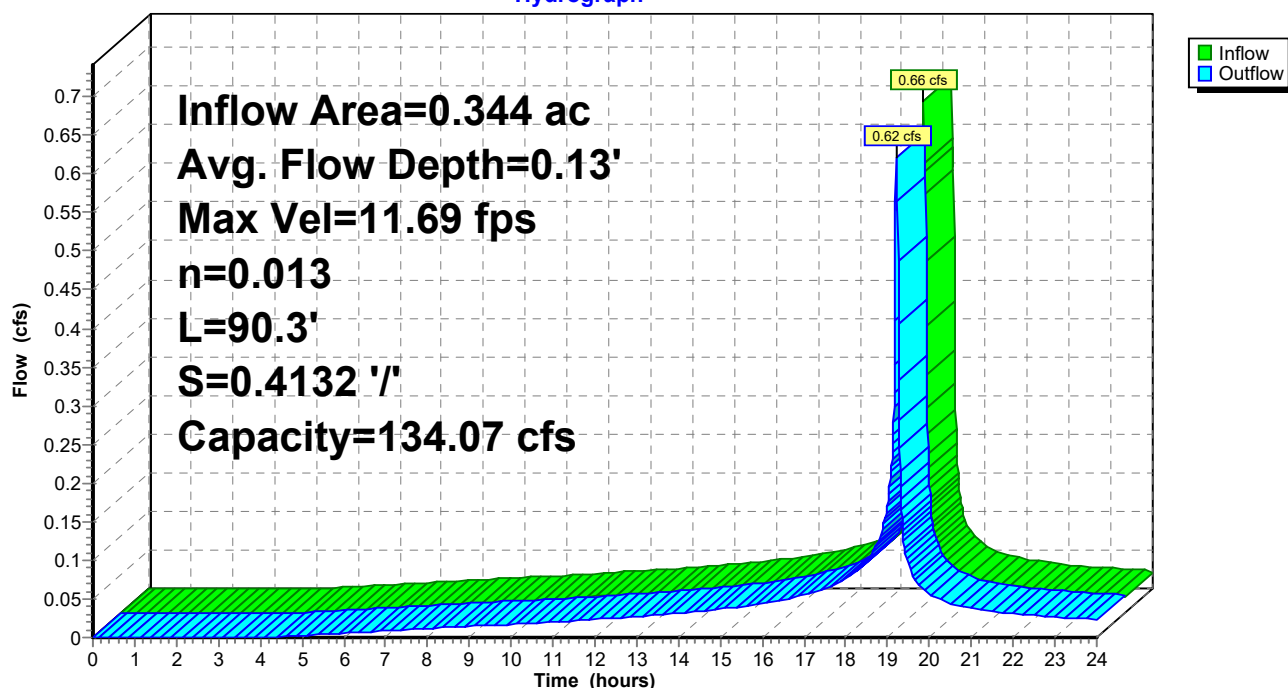
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 134.07 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 90.3' Slope= 0.4132 ' / '

Inlet Invert= 1,162.81', Outlet Invert= 1,125.50'

**Reach 55R: CH-23****Hydrograph**

Summary for Reach 56R: CH-15A

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 2.56" for 5-YR event
 Inflow = 0.13 cfs @ 19.19 hrs, Volume= 0.007 af
 Outflow = 0.11 cfs @ 19.20 hrs, Volume= 0.007 af, Atten= 13%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.61 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.35 fps, Avg. Travel Time= 0.4 min

Peak Storage= 1 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.08' , Surface Width= 0.54'

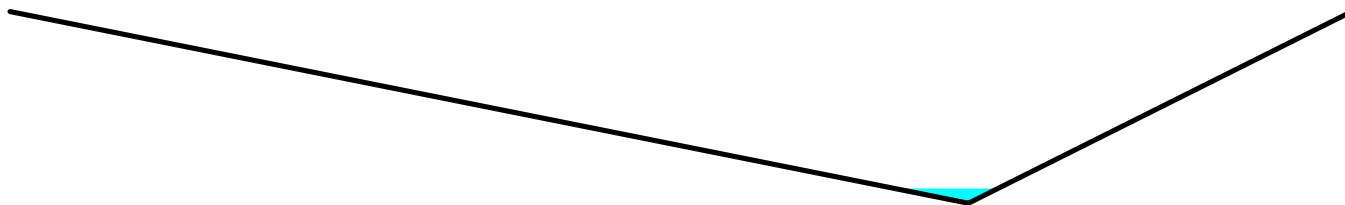
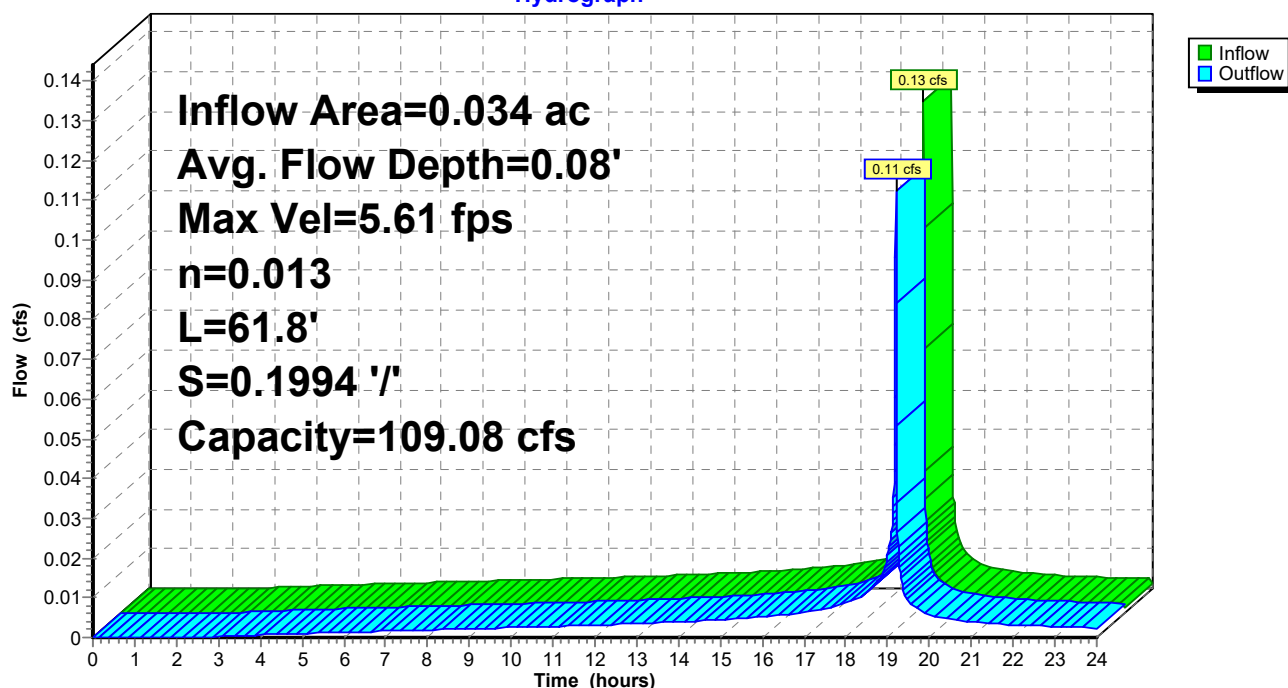
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 109.08 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' Top Width= 7.00'

Length= 61.8' Slope= 0.1994 '/'

Inlet Invert= 1,178.00', Outlet Invert= 1,165.68'

**Reach 56R: CH-15A****Hydrograph**

Summary for Reach 60R: CH-10B

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 2.20" for 5-YR event
Inflow = 0.82 cfs @ 19.20 hrs, Volume= 0.050 af
Outflow = 0.79 cfs @ 19.20 hrs, Volume= 0.050 af, Atten= 4%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.95 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.05 fps, Avg. Travel Time= 0.2 min

Peak Storage= 4 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.17' , Surface Width= 0.99'

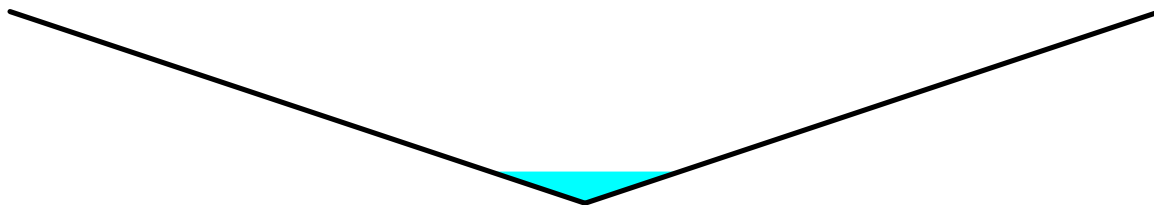
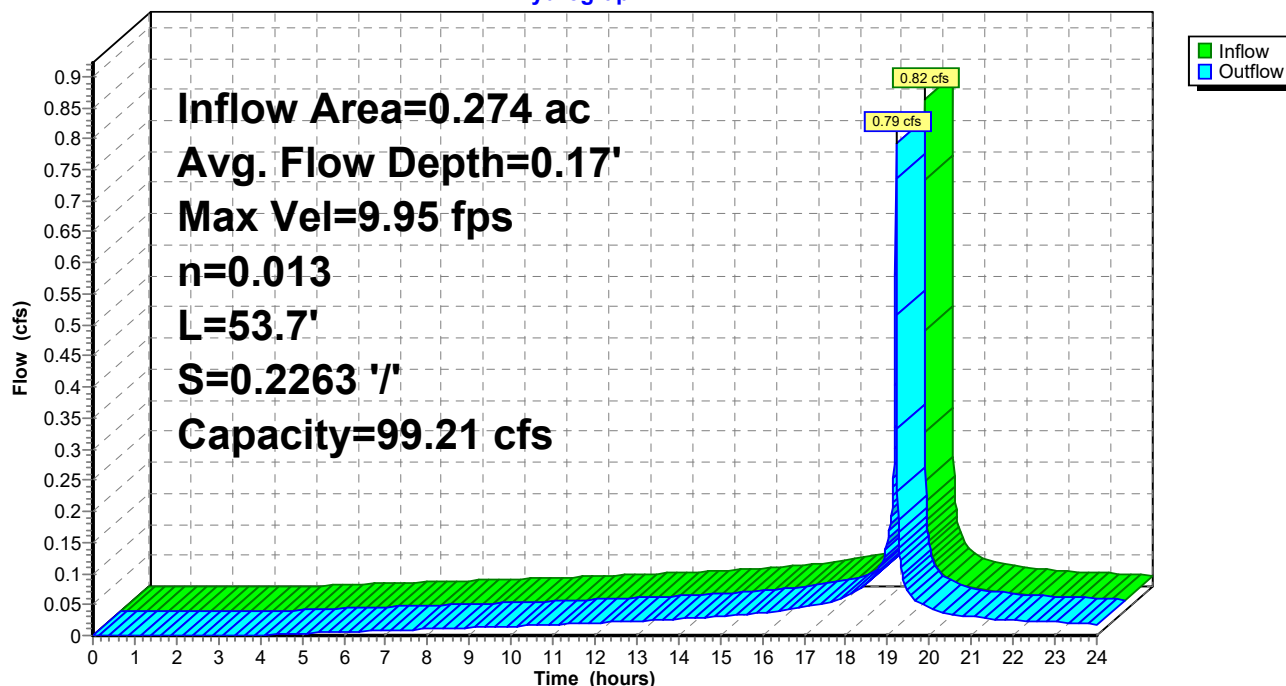
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 99.21 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 53.7' Slope= 0.2263 '/'

Inlet Invert= 1,193.78', Outlet Invert= 1,181.63'

**Reach 60R: CH-10B****Hydrograph**

Summary for Reach 61R: CH-11B

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 2.29" for 5-YR event
 Inflow = 0.50 cfs @ 19.20 hrs, Volume= 0.030 af
 Outflow = 0.48 cfs @ 19.20 hrs, Volume= 0.030 af, Atten= 4%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.07 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.10 fps, Avg. Travel Time= 0.3 min

Peak Storage= 4 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 0.77'

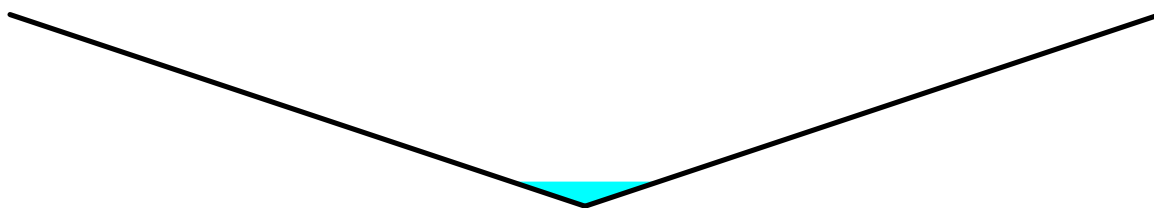
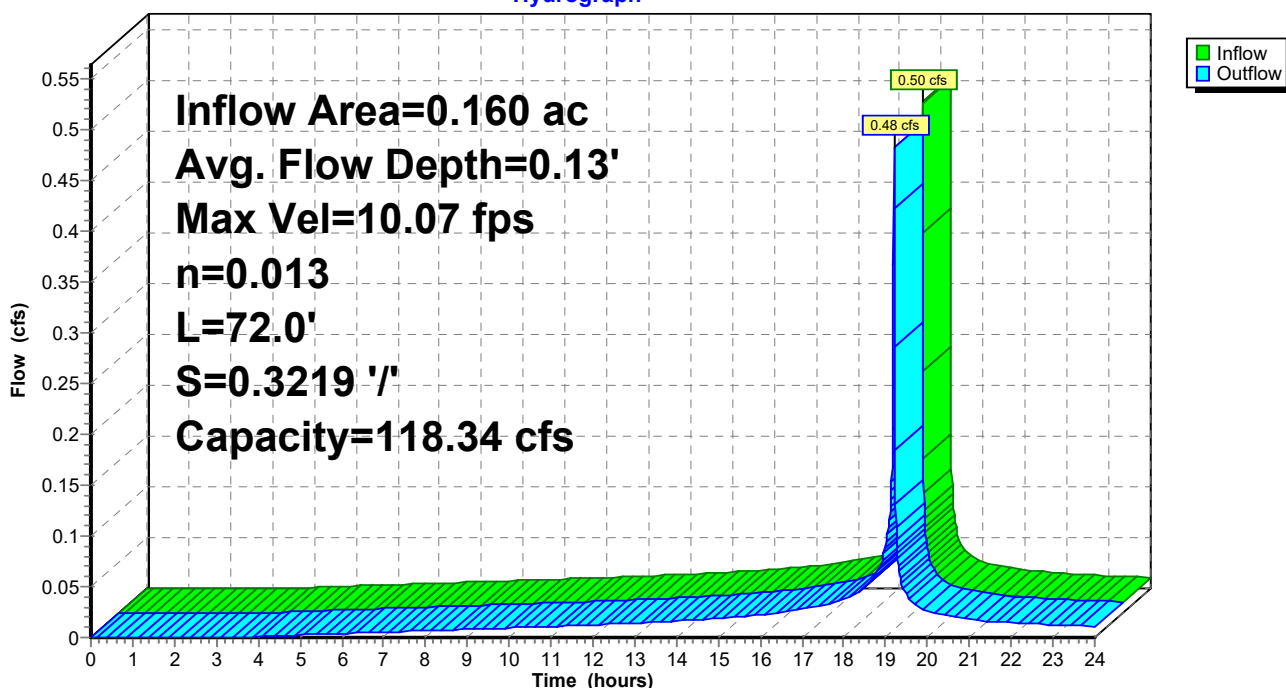
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 118.34 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 72.0' Slope= 0.3219 ' / '

Inlet Invert= 1,204.81', Outlet Invert= 1,181.63'

**Reach 61R: CH-11B****Hydrograph**

Summary for Reach 62R: CH-15B

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 2.56" for 5-YR event
 Inflow = 0.11 cfs @ 19.20 hrs, Volume= 0.007 af
 Outflow = 0.11 cfs @ 19.20 hrs, Volume= 0.007 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.84 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 4.24 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.06' , Surface Width= 0.37'

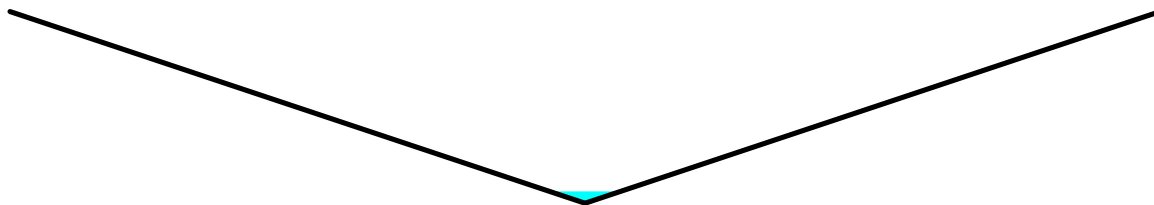
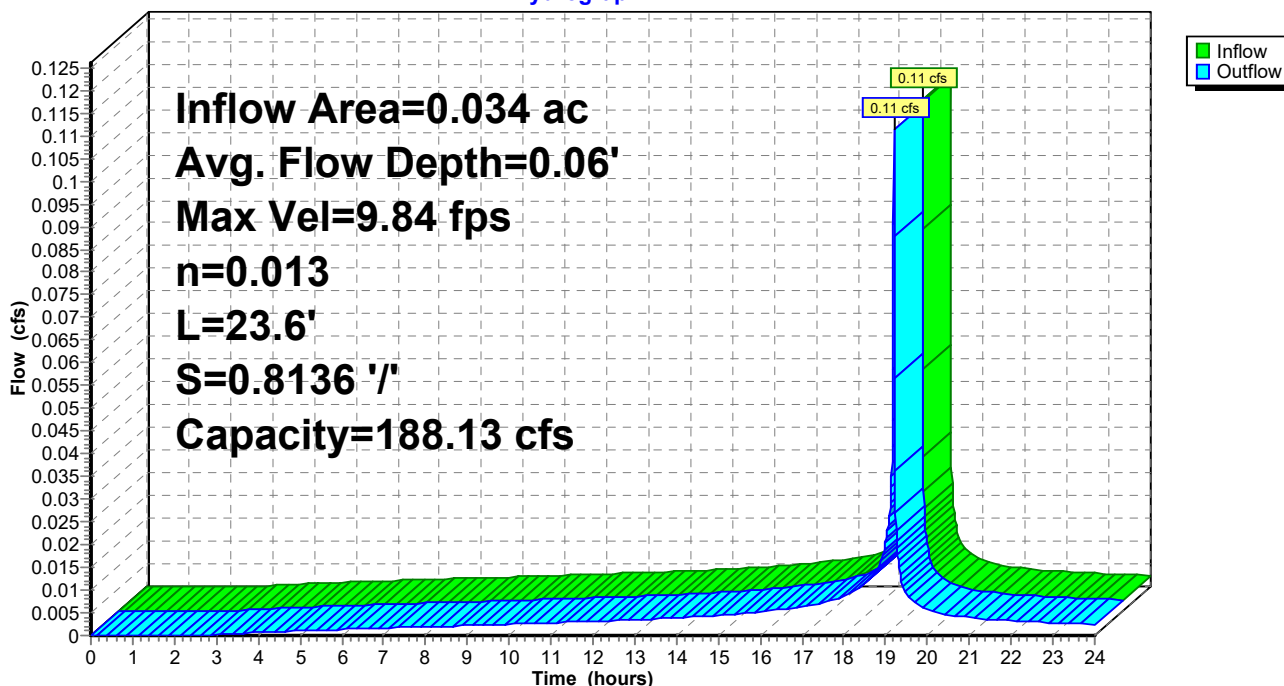
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 188.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 23.6' Slope= 0.8136 '/'

Inlet Invert= 1,165.68', Outlet Invert= 1,146.48'

**Reach 62R: CH-15B****Hydrograph**

Summary for Reach 63R: CV-4

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 2.25" for 5-YR event
 Inflow = 4.15 cfs @ 19.22 hrs, Volume= 0.316 af
 Outflow = 4.07 cfs @ 19.23 hrs, Volume= 0.315 af, Atten= 2%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.16 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 2.32 fps, Avg. Travel Time= 0.2 min

Peak Storage= 20 cf @ 19.22 hrs

Average Depth at Peak Storage= 0.67' , Surface Width= 1.25'

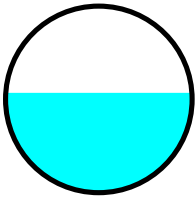
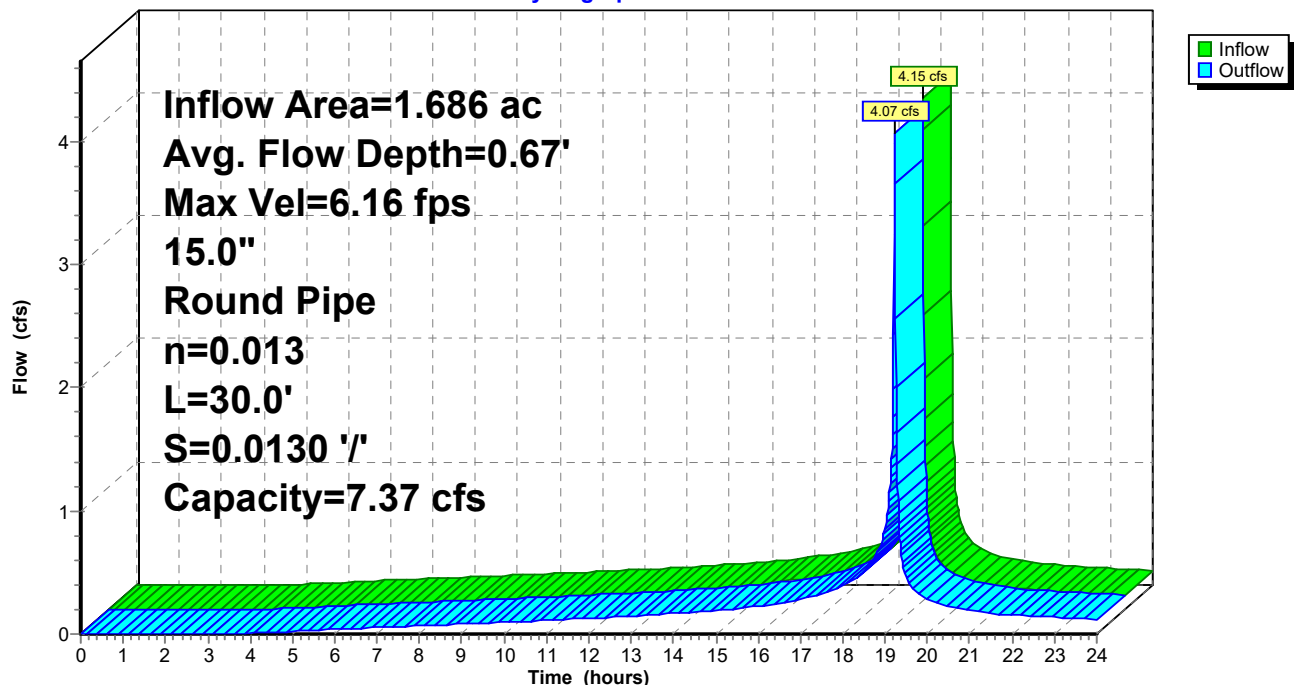
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 7.37 cfs

15.0" Round Pipe

n= 0.013

Length= 30.0' Slope= 0.0130 '/'

Inlet Invert= 1,122.99', Outlet Invert= 1,122.60'

**Reach 63R: CV-4****Hydrograph**

Summary for Subcatchment 1S: DA-1

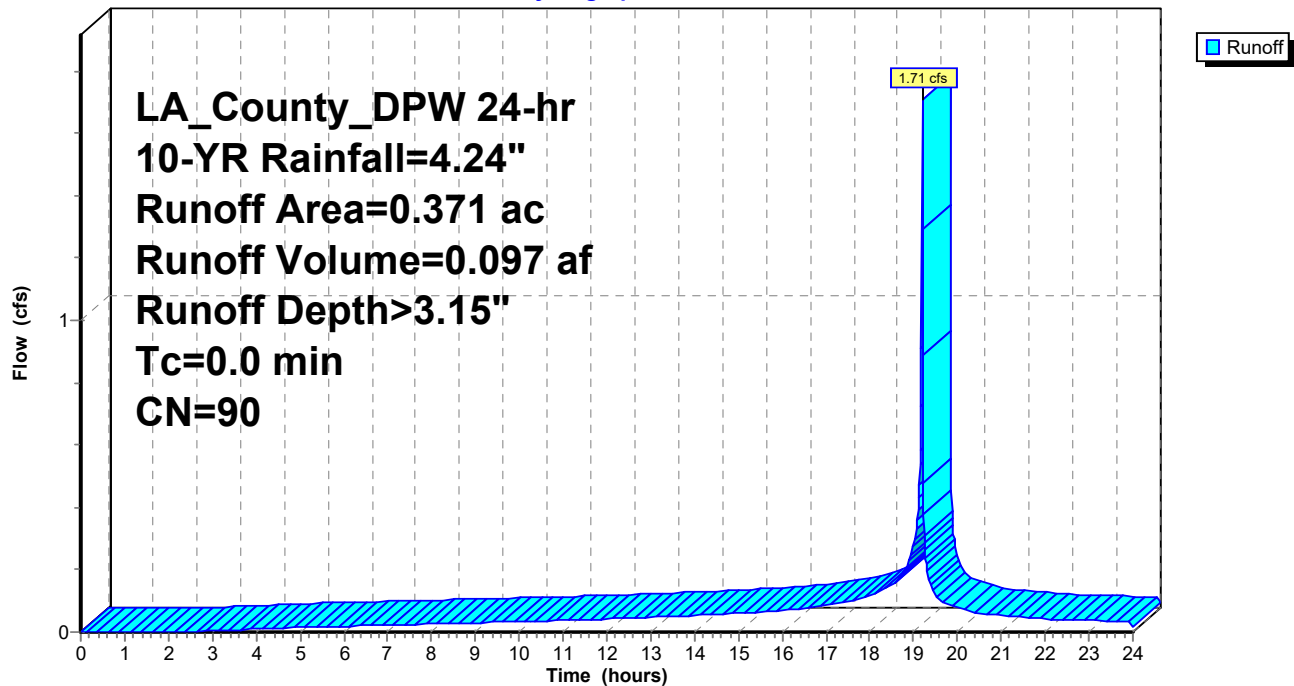
Runoff = 1.71 cfs @ 19.19 hrs, Volume= 0.097 af, Depth> 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.371	90	
	0.371		100.00% Pervious Area

Subcatchment 1S: DA-1

Hydrograph



Summary for Subcatchment 3S: DA-3

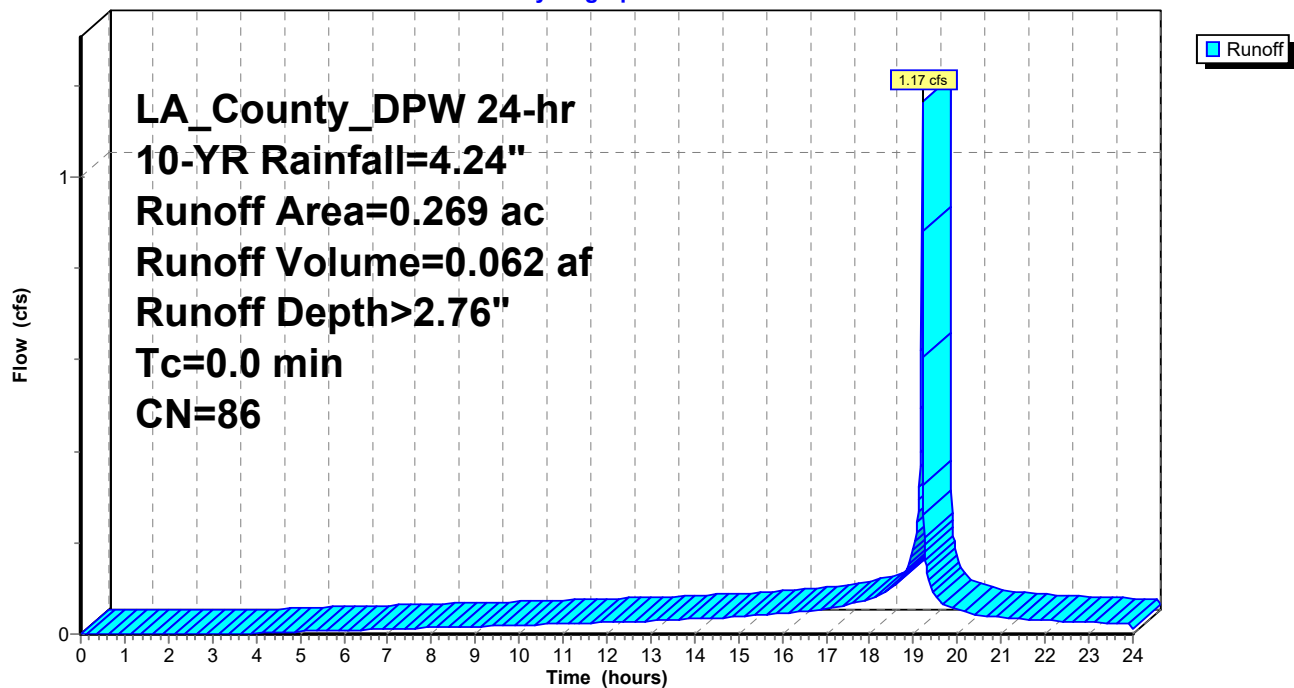
Runoff = 1.17 cfs @ 19.19 hrs, Volume= 0.062 af, Depth> 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.269	86	
	0.269		100.00% Pervious Area

Subcatchment 3S: DA-3

Hydrograph



Summary for Subcatchment 4S: DA-4

Runoff = 0.16 cfs @ 19.26 hrs, Volume= 0.019 af, Depth> 3.14"

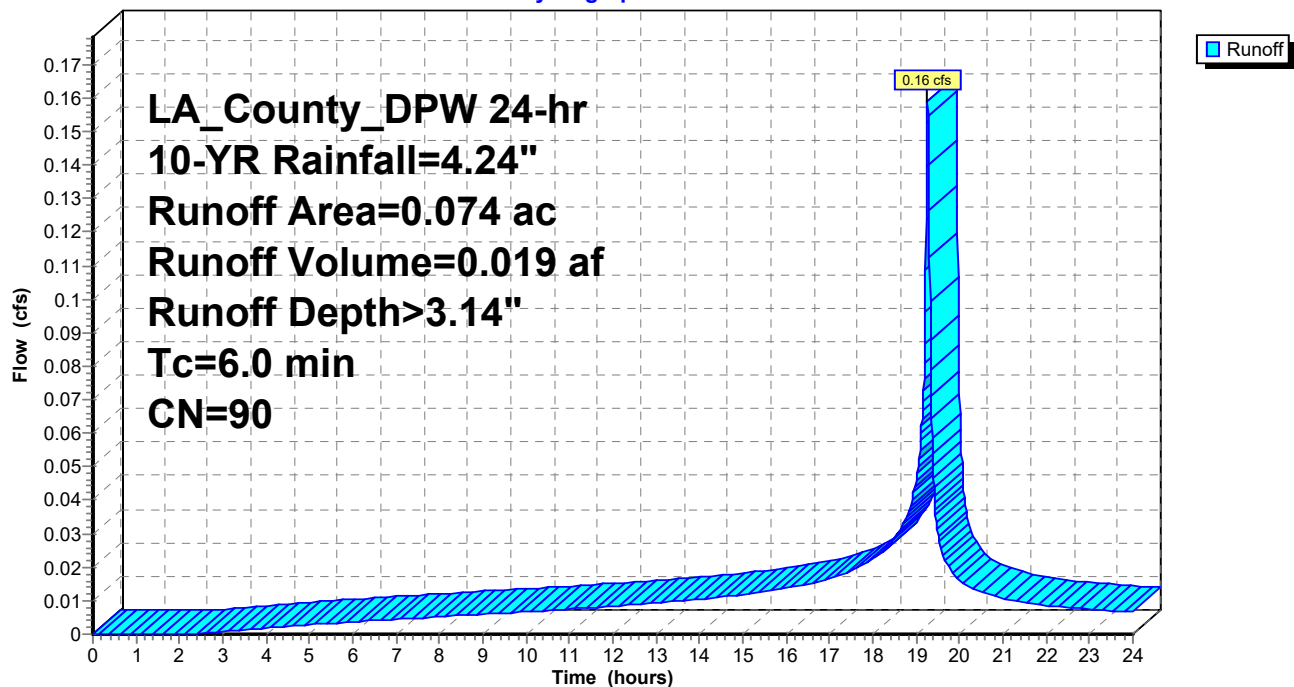
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

Area (ac)	CN	Description
* 0.074	90	
0.074		100.00% Pervious Area

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

Subcatchment 4S: DA-4

Hydrograph



Summary for Subcatchment 5S: DA-5

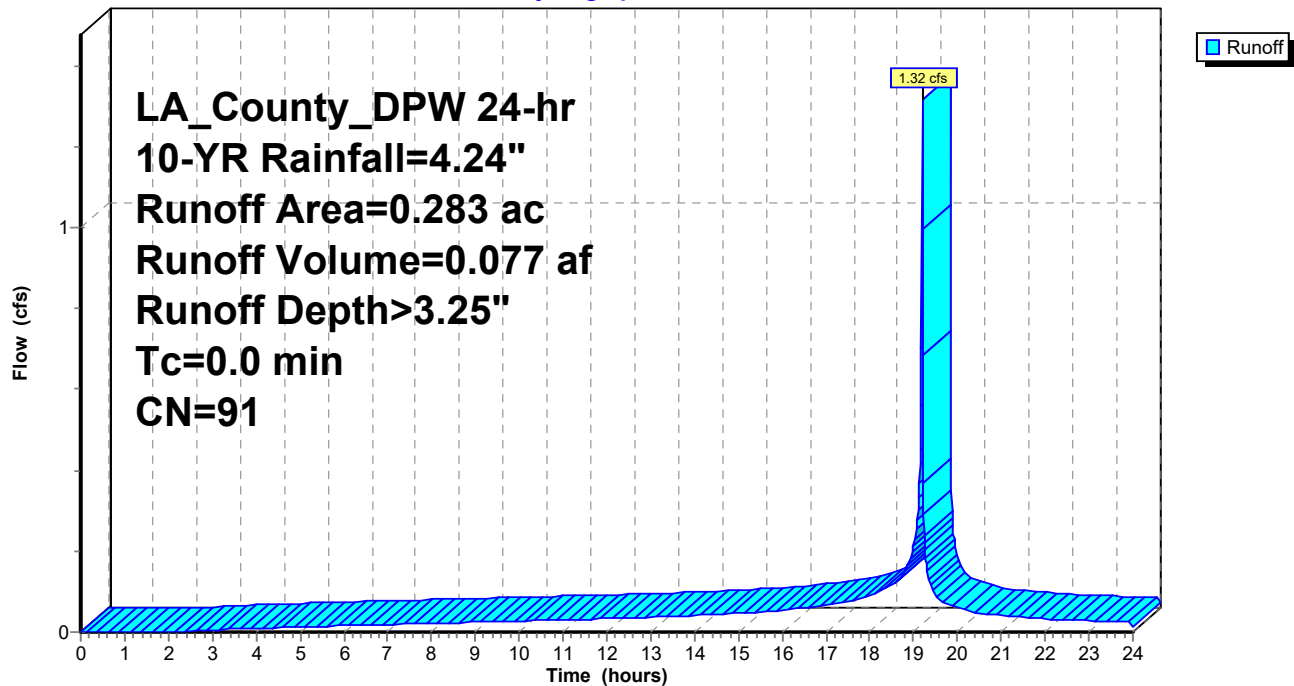
Runoff = 1.32 cfs @ 19.19 hrs, Volume= 0.077 af, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.283	91	
	0.283		100.00% Pervious Area

Subcatchment 5S: DA-5

Hydrograph



Summary for Subcatchment 7S: DA-7

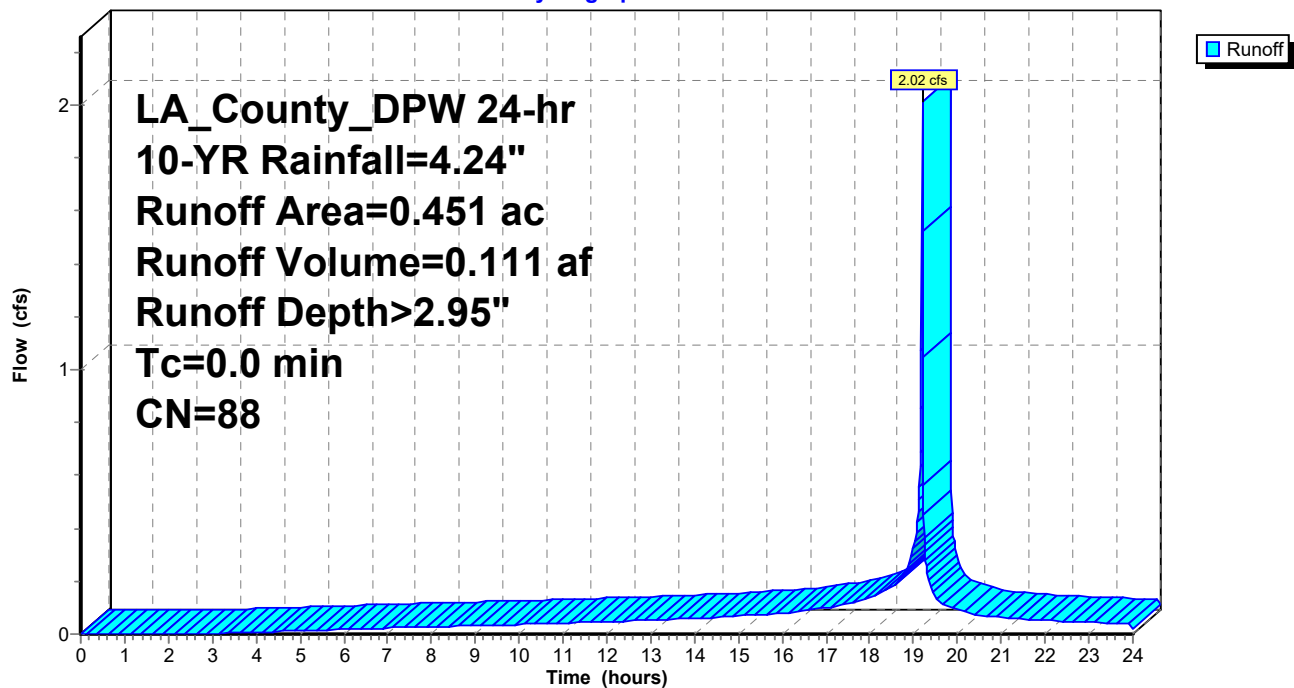
Runoff = 2.02 cfs @ 19.19 hrs, Volume= 0.111 af, Depth> 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.451	88	
	0.451		100.00% Pervious Area

Subcatchment 7S: DA-7

Hydrograph



Summary for Subcatchment 8S: DA-8

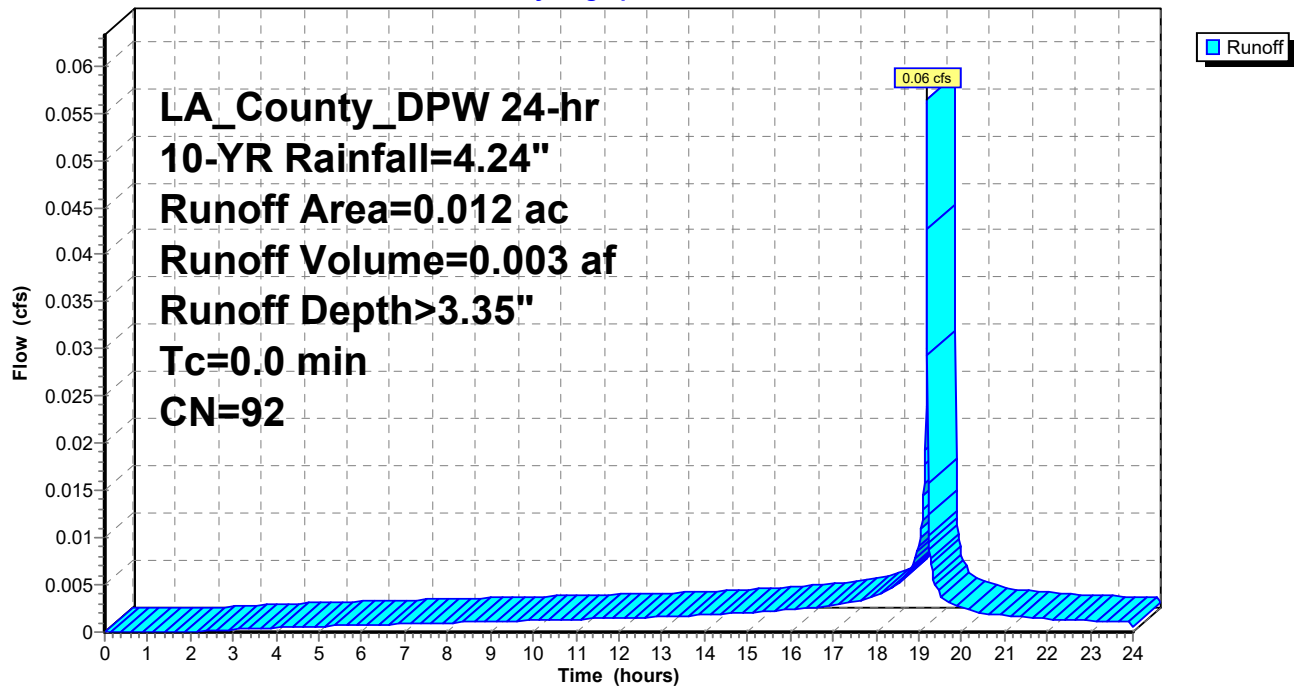
Runoff = 0.06 cfs @ 19.19 hrs, Volume= 0.003 af, Depth> 3.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.012	92	
	0.012		100.00% Pervious Area

Subcatchment 8S: DA-8

Hydrograph



Summary for Subcatchment 9S: DA-9

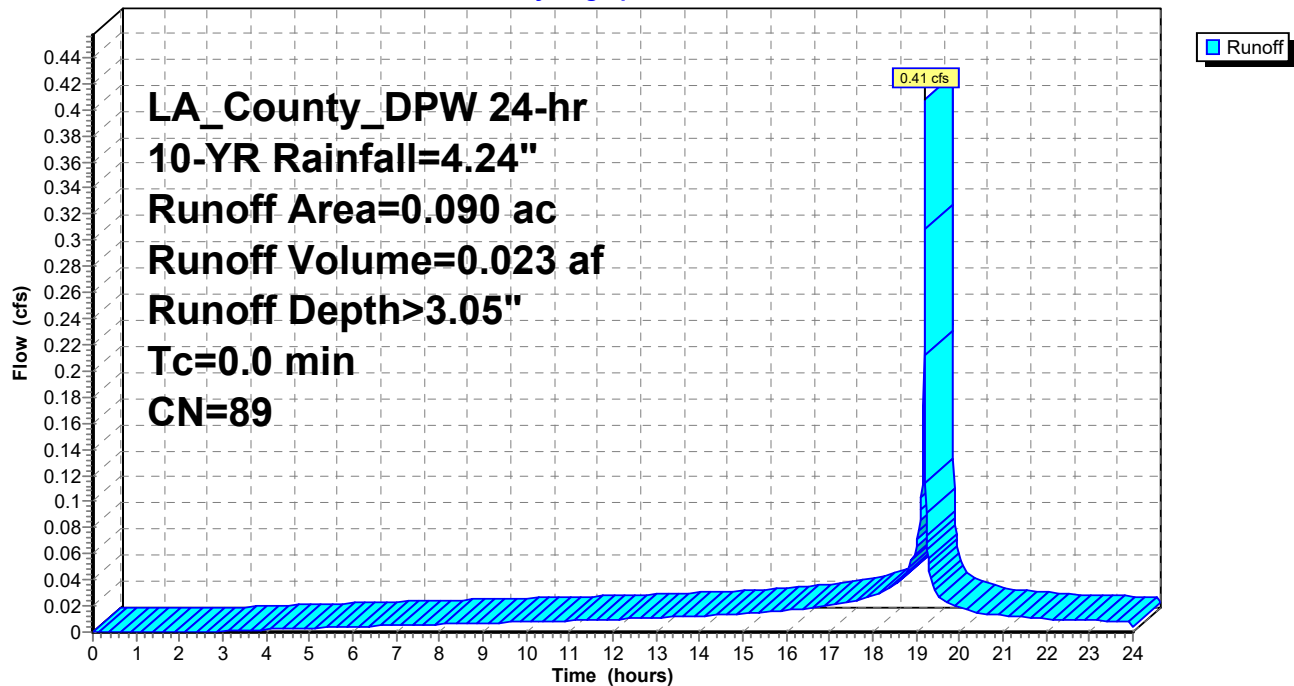
Runoff = 0.41 cfs @ 19.19 hrs, Volume= 0.023 af, Depth> 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.090	89	
	0.090		100.00% Pervious Area

Subcatchment 9S: DA-9

Hydrograph



Summary for Subcatchment 10S: DA-10

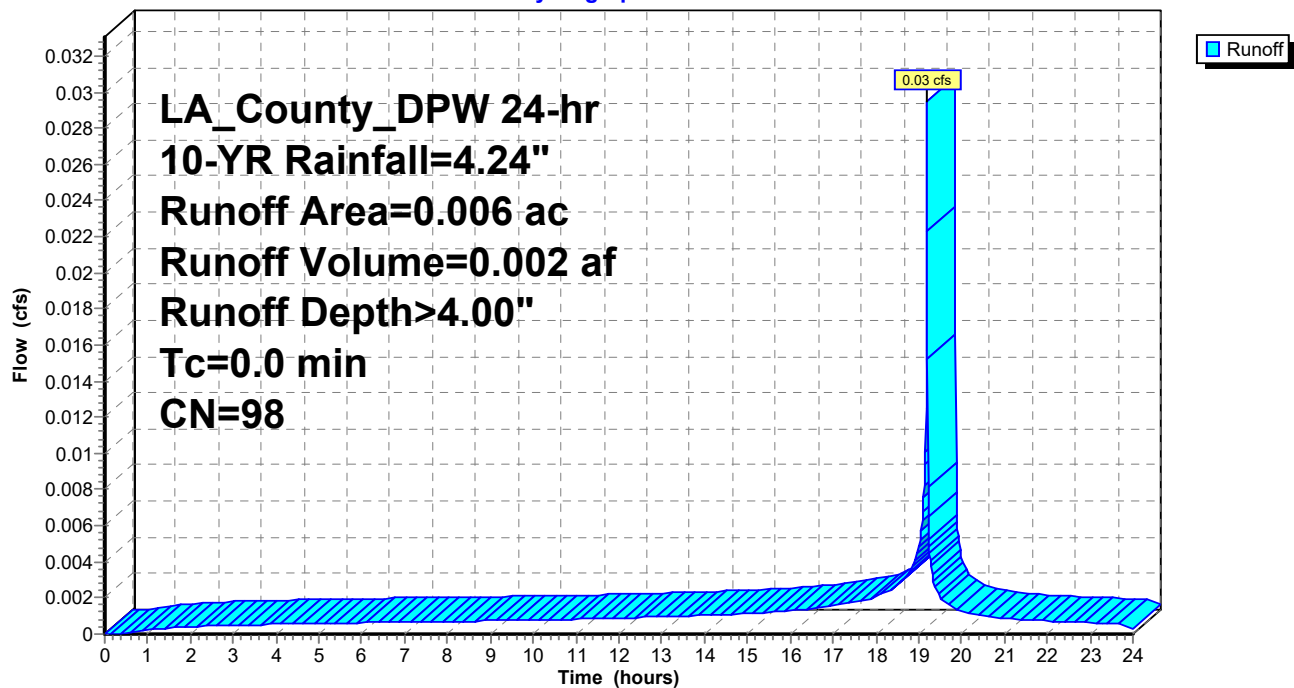
Runoff = 0.03 cfs @ 19.19 hrs, Volume= 0.002 af, Depth> 4.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.006	98	
	0.006		100.00% Impervious Area

Subcatchment 10S: DA-10

Hydrograph

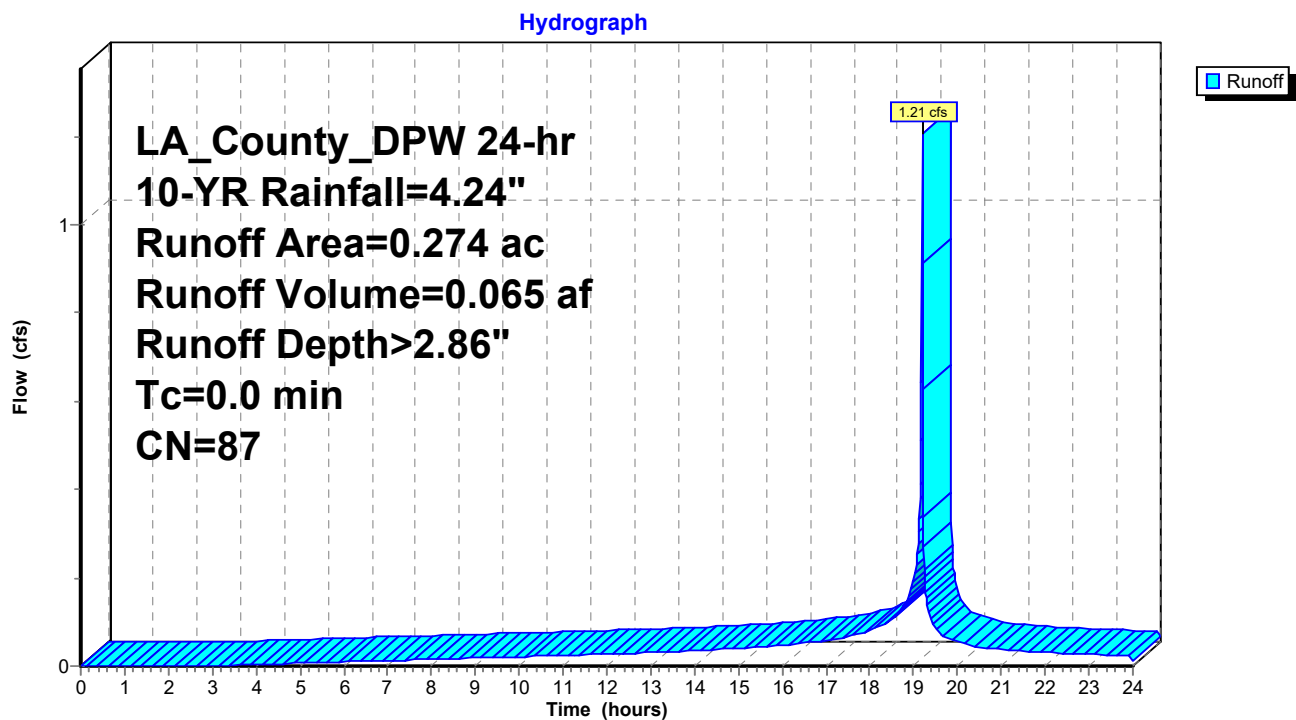


Summary for Subcatchment 11S: DA-11

Runoff = 1.21 cfs @ 19.19 hrs, Volume= 0.065 af, Depth> 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.274	87	
	0.274		100.00% Pervious Area

Subcatchment 11S: DA-11

Summary for Subcatchment 12S: DA-12

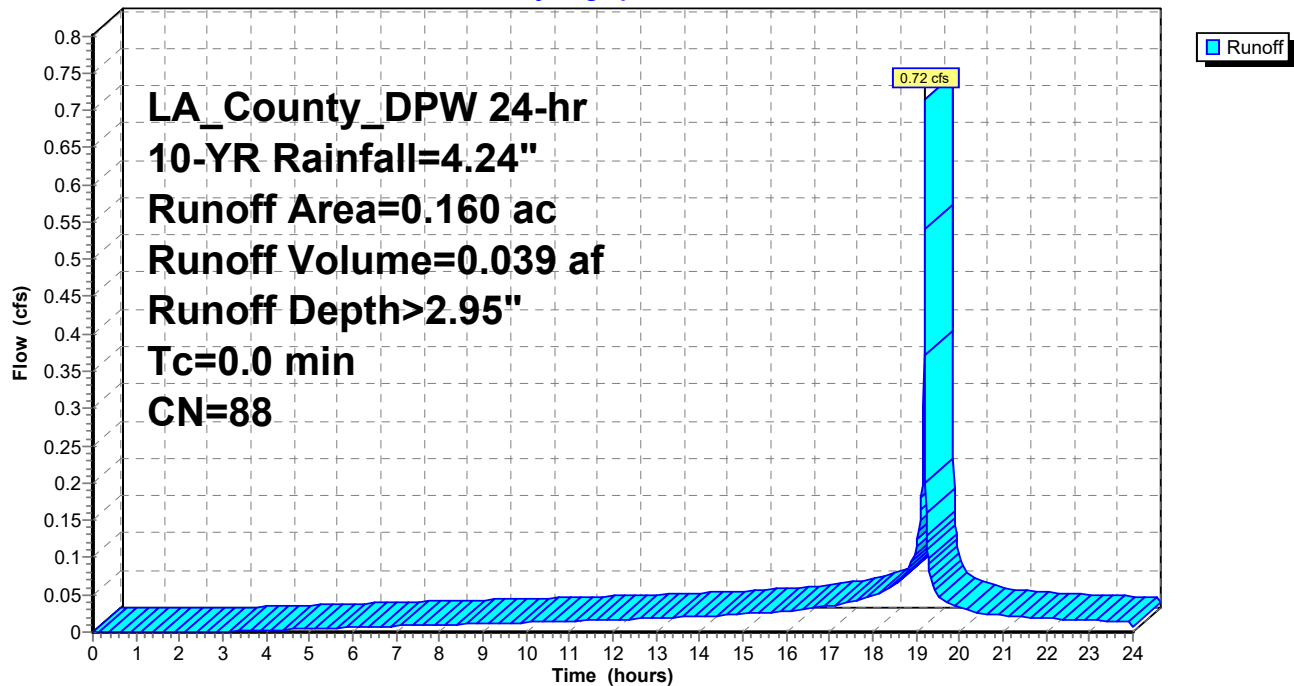
Runoff = 0.72 cfs @ 19.19 hrs, Volume= 0.039 af, Depth> 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.160	88	
	0.160		100.00% Pervious Area

Subcatchment 12S: DA-12

Hydrograph



Summary for Subcatchment 13S: DA-13

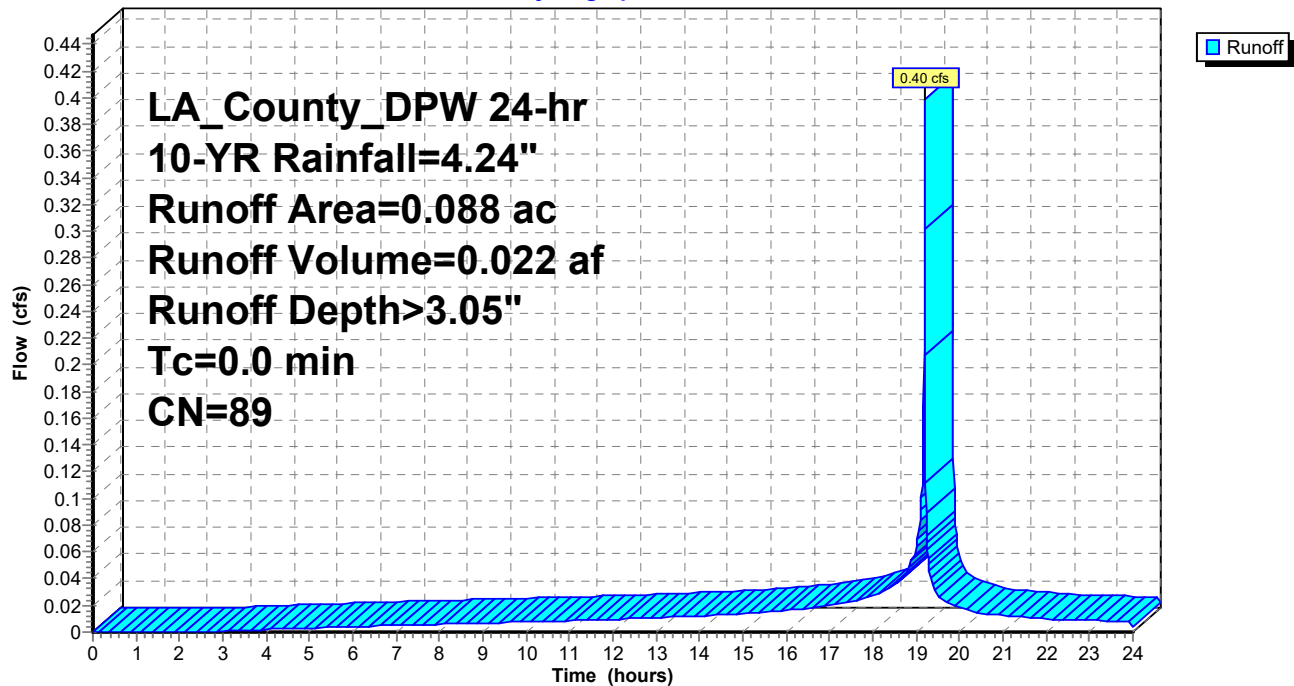
Runoff = 0.40 cfs @ 19.19 hrs, Volume= 0.022 af, Depth> 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 10-YR Rainfall=4.24"

Area (ac)	CN	Description
* 0.088	89	
0.088		100.00% Pervious Area

Subcatchment 13S: DA-13

Hydrograph

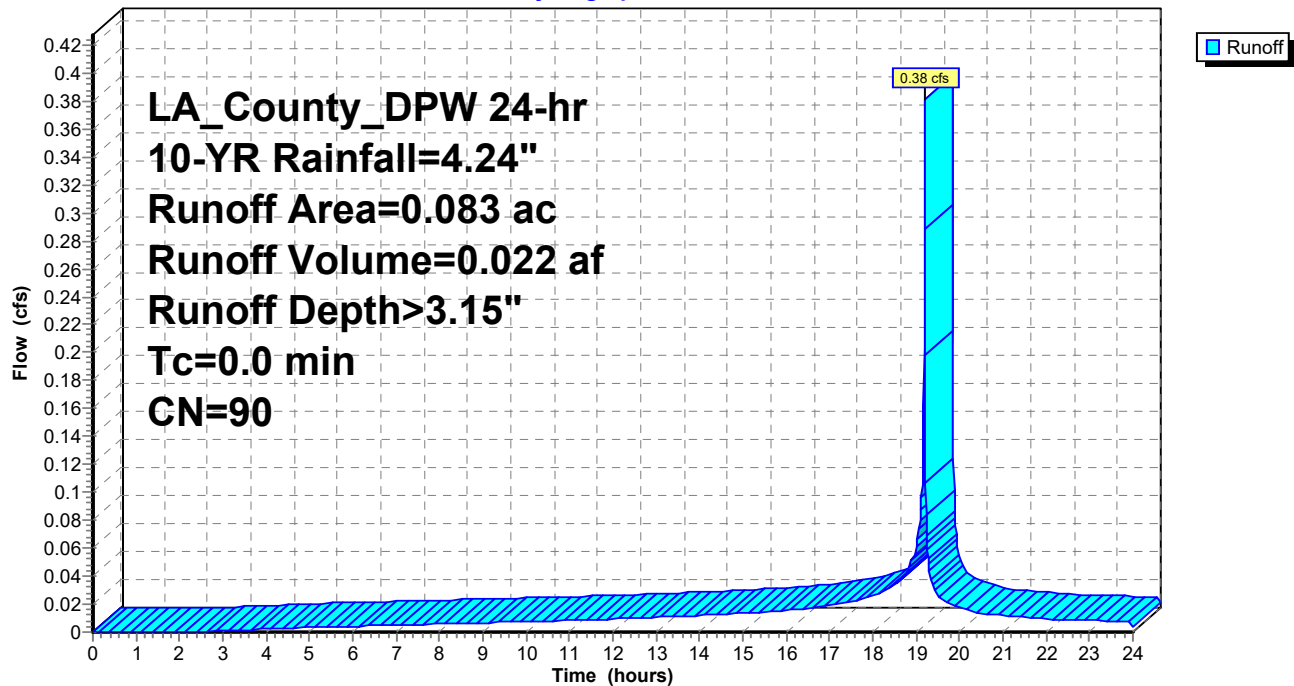


Summary for Subcatchment 14S: DA-14

Runoff = 0.38 cfs @ 19.19 hrs, Volume= 0.022 af, Depth> 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.083	90	
	0.083		100.00% Pervious Area

Subcatchment 14S: DA-14**Hydrograph**

Summary for Subcatchment 15S: DA-15

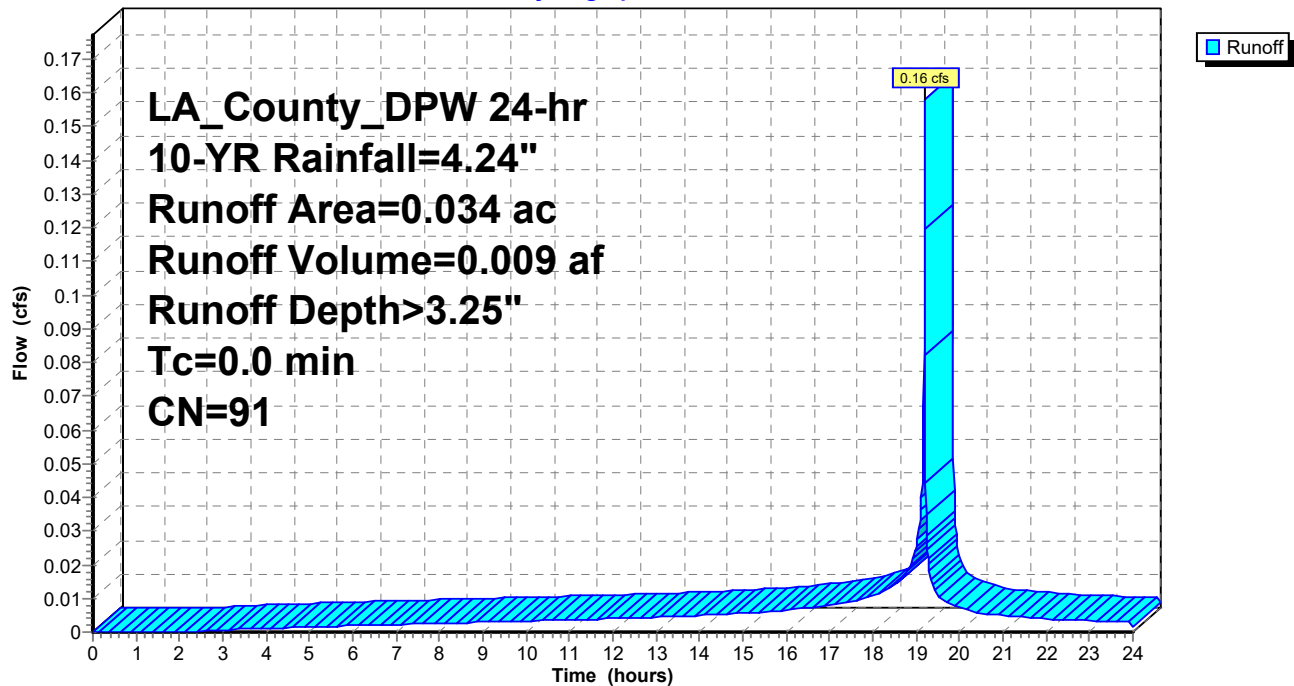
Runoff = 0.16 cfs @ 19.19 hrs, Volume= 0.009 af, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.034	91	
	0.034		100.00% Pervious Area

Subcatchment 15S: DA-15

Hydrograph



Summary for Subcatchment 16S: DA-16

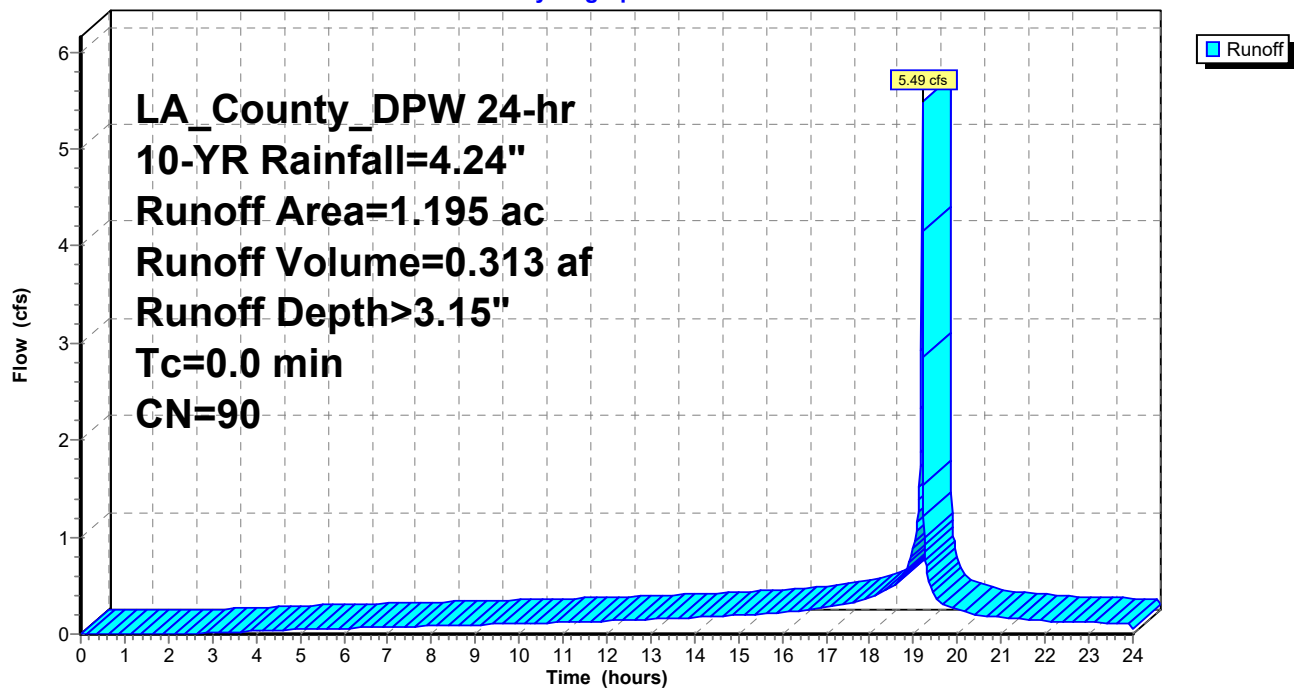
Runoff = 5.49 cfs @ 19.19 hrs, Volume= 0.313 af, Depth> 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	1.195	90	
	1.195		100.00% Pervious Area

Subcatchment 16S: DA-16

Hydrograph



Summary for Subcatchment 17S: DA-17

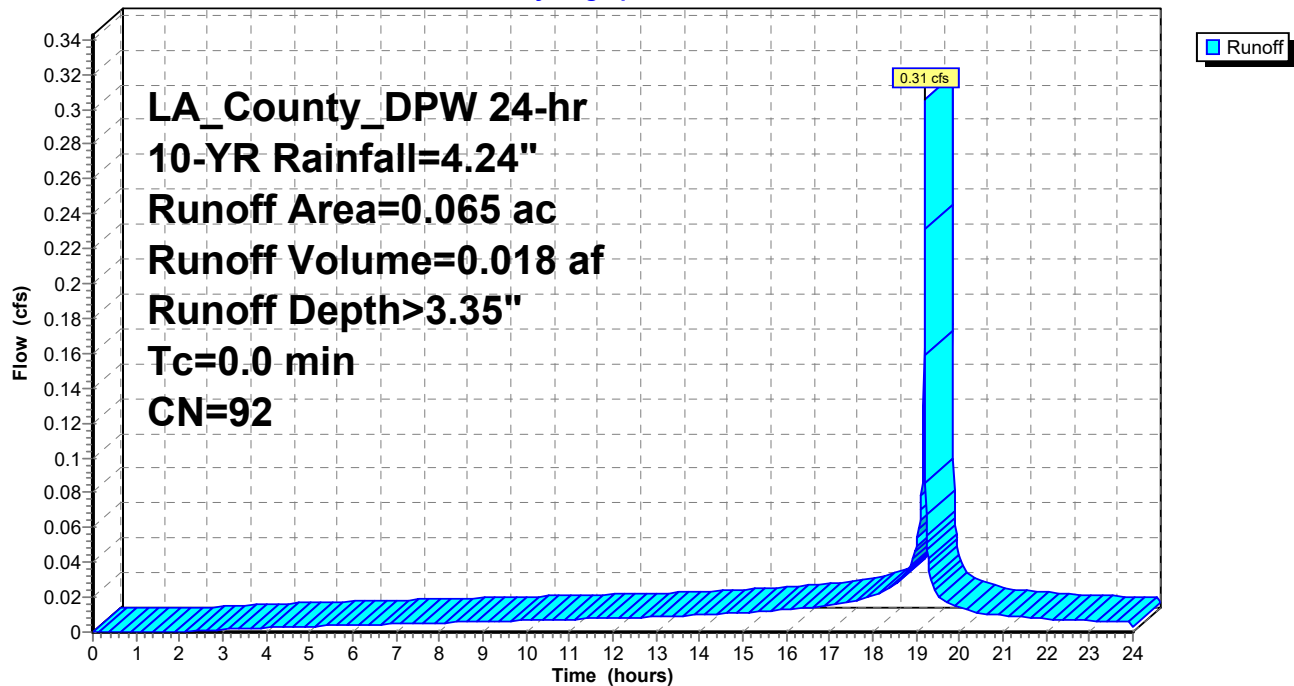
Runoff = 0.31 cfs @ 19.19 hrs, Volume= 0.018 af, Depth> 3.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.065	92	
	0.065		100.00% Pervious Area

Subcatchment 17S: DA-17

Hydrograph



Summary for Subcatchment 19S: DA-19

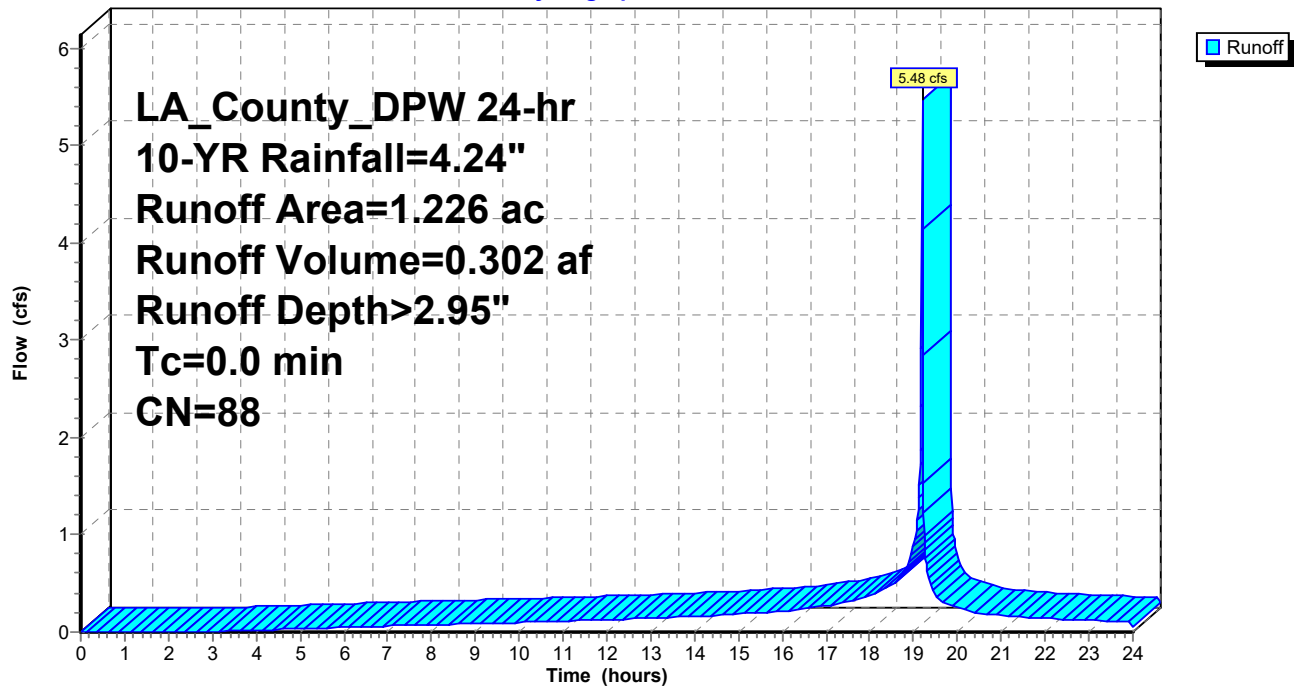
Runoff = 5.48 cfs @ 19.19 hrs, Volume= 0.302 af, Depth> 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	1.226	88	
	1.226		100.00% Pervious Area

Subcatchment 19S: DA-19

Hydrograph



Summary for Subcatchment 25S: DA-26

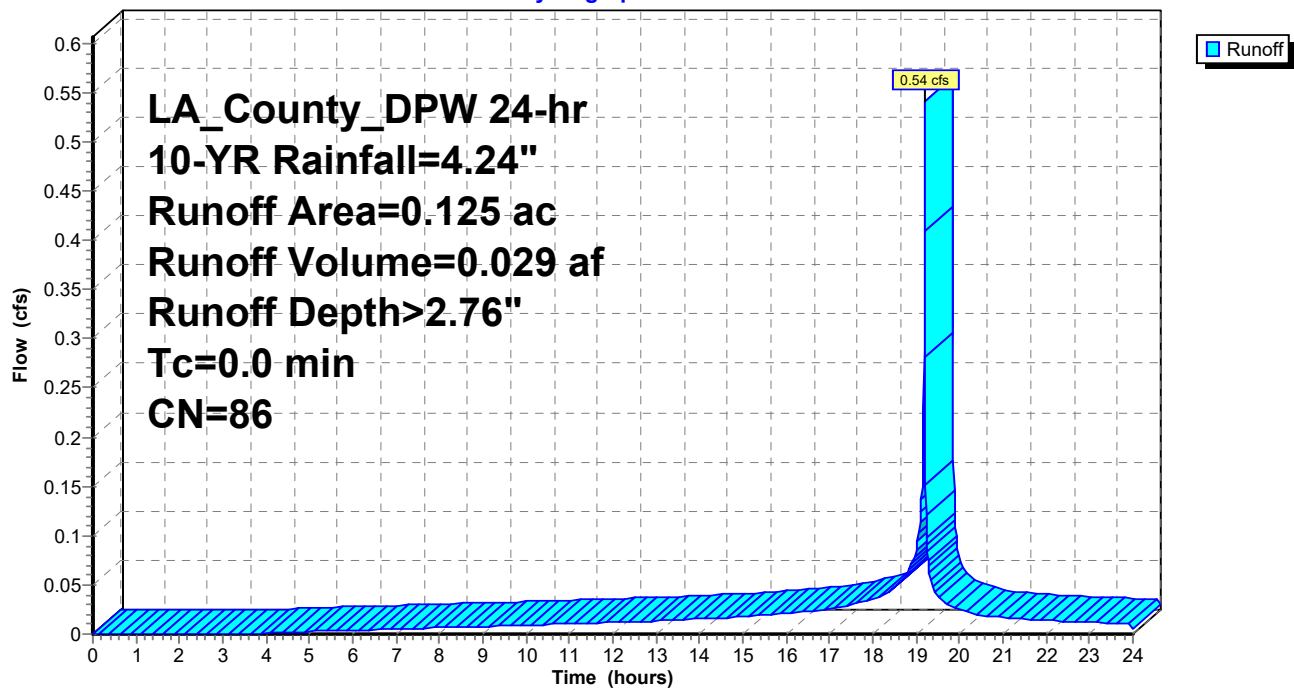
Runoff = 0.54 cfs @ 19.19 hrs, Volume= 0.029 af, Depth> 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.125	86	
	0.125		100.00% Pervious Area

Subcatchment 25S: DA-26

Hydrograph

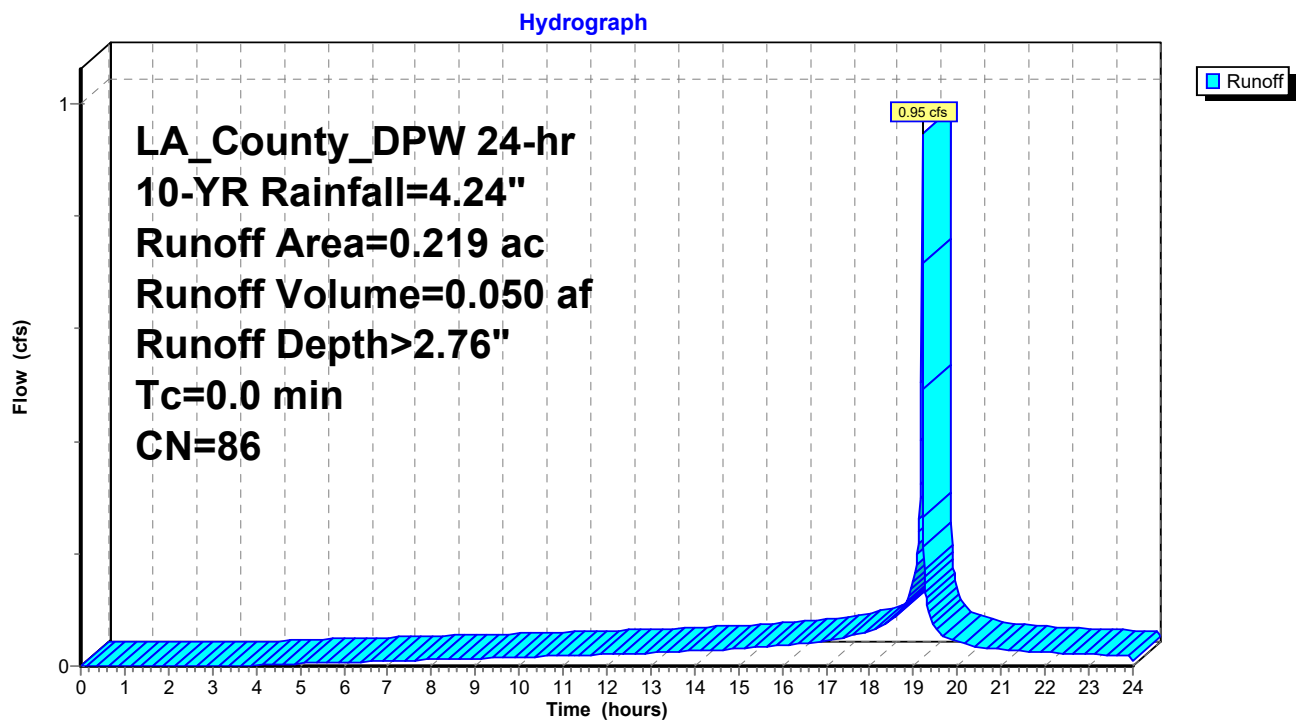


Summary for Subcatchment 26S: DA-27

Runoff = 0.95 cfs @ 19.19 hrs, Volume= 0.050 af, Depth> 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.219	86	
	0.219		100.00% Pervious Area

Subcatchment 26S: DA-27

Summary for Subcatchment 28S: DA-29

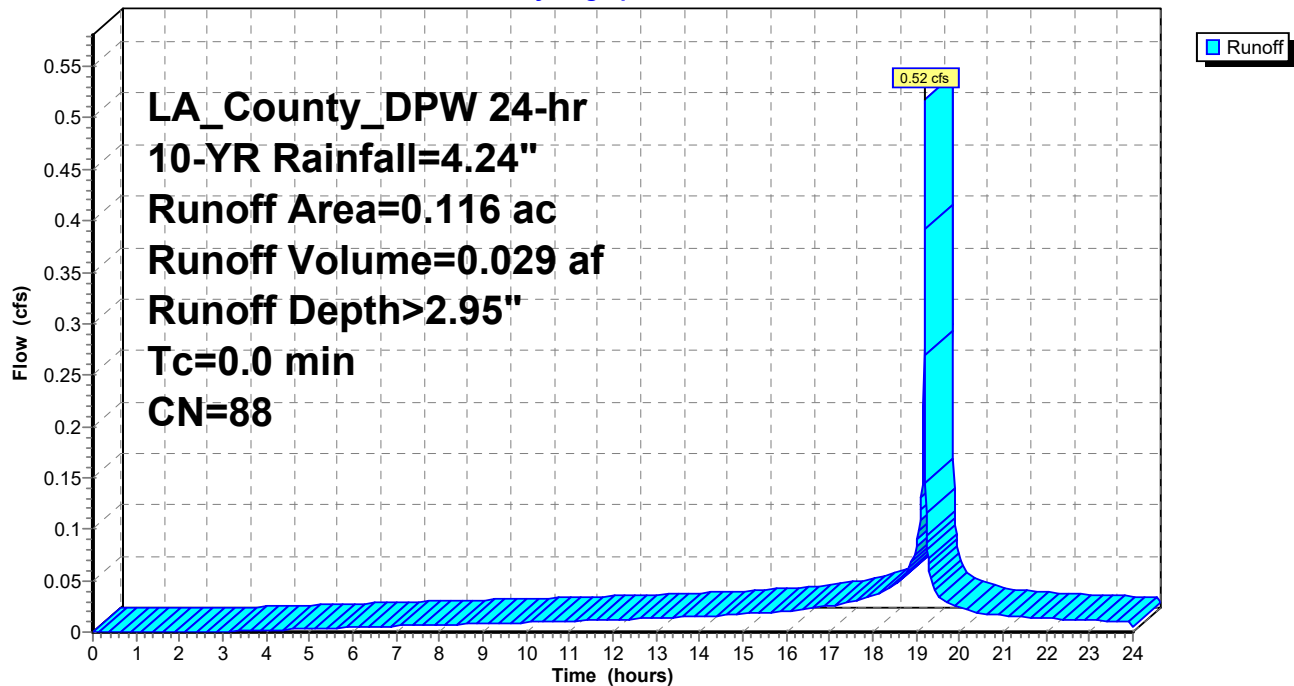
Runoff = 0.52 cfs @ 19.19 hrs, Volume= 0.029 af, Depth> 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 10-YR Rainfall=4.24"

	Area (ac)	CN	Description
*	0.116	88	
	0.116		100.00% Pervious Area

Subcatchment 28S: DA-29

Hydrograph



Summary for Reach 29R: CH-6

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 3.01" for 10-YR event
 Inflow = 2.96 cfs @ 19.19 hrs, Volume= 0.205 af
 Outflow = 2.27 cfs @ 19.23 hrs, Volume= 0.204 af, Atten= 23%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.45 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 0.81 fps, Avg. Travel Time= 4.1 min

Peak Storage= 189 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.22' , Surface Width= 5.62'

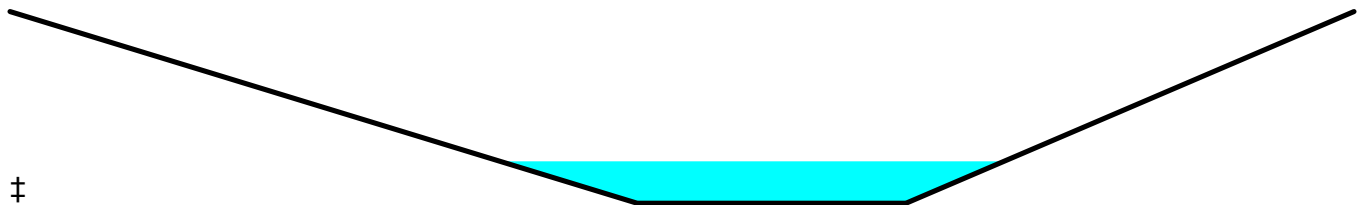
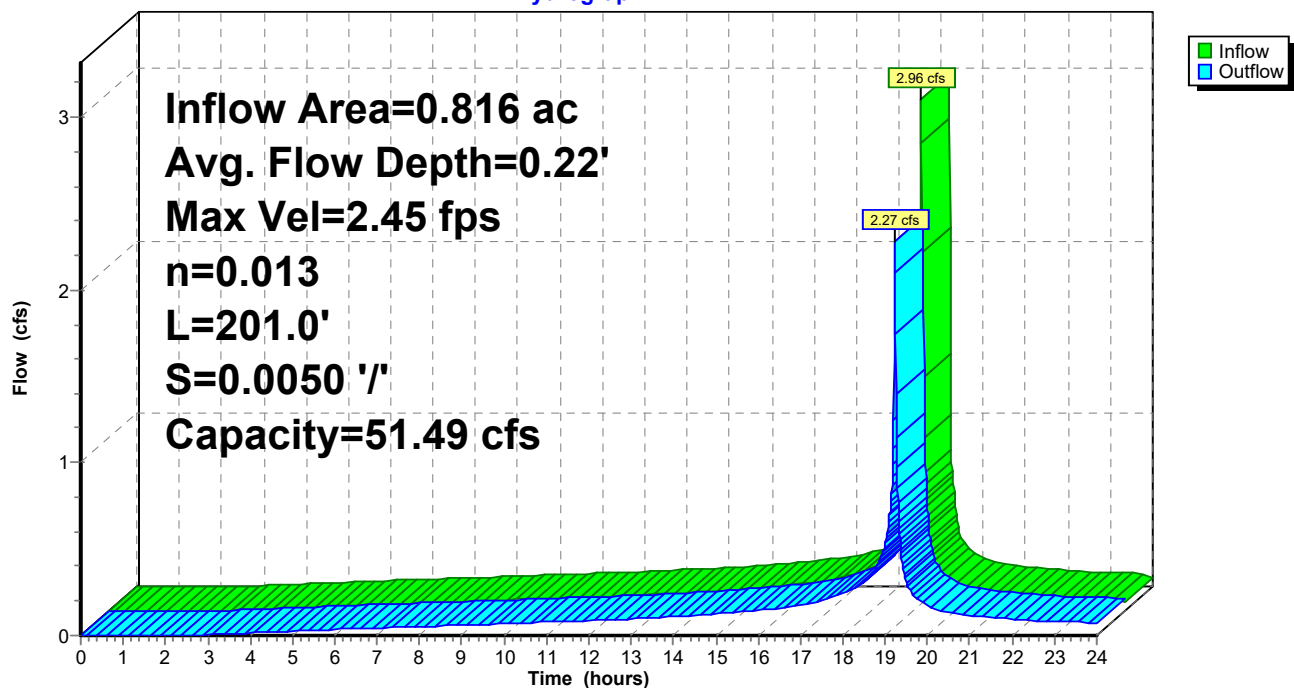
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 51.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 ' /' Top Width= 15.00'

Length= 201.0' Slope= 0.0050 ' /'

Inlet Invert= 1,148.00', Outlet Invert= 1,146.99'

**Reach 29R: CH-6****Hydrograph**

Summary for Reach 30R: CH-7

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 2.95" for 10-YR event
 Inflow = 2.02 cfs @ 19.19 hrs, Volume= 0.111 af
 Outflow = 1.68 cfs @ 19.21 hrs, Volume= 0.111 af, Atten= 17%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 7.97 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.24 fps, Avg. Travel Time= 1.6 min

Peak Storage= 47 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.10' , Surface Width= 2.40'

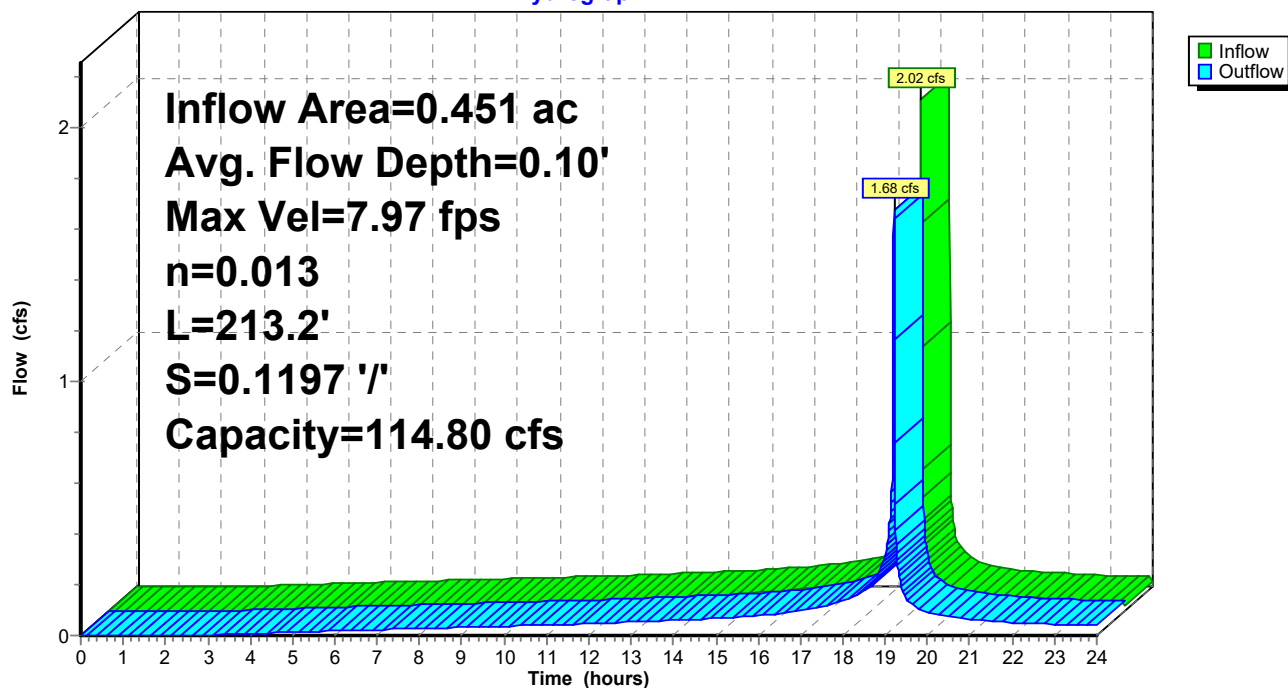
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 114.80 cfs

2.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 ' / ' Top Width= 6.00'

Length= 213.2' Slope= 0.1197 ' / '

Inlet Invert= 1,174.38', Outlet Invert= 1,148.85'

**Reach 30R: CH-7****Hydrograph**

Summary for Reach 31R: CH-4

Inflow Area = 0.445 ac, 0.00% Impervious, Inflow Depth > 2.90" for 10-YR event
 Inflow = 1.49 cfs @ 19.19 hrs, Volume= 0.108 af
 Outflow = 1.42 cfs @ 19.20 hrs, Volume= 0.107 af, Atten= 5%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 12.44 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 5.17 fps, Avg. Travel Time= 0.4 min

Peak Storage= 14 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.20' , Surface Width= 1.19'

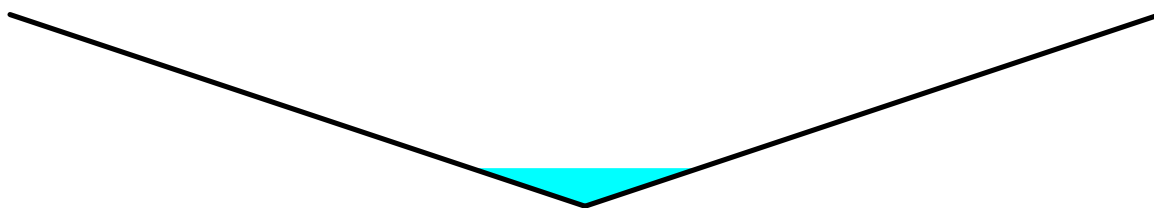
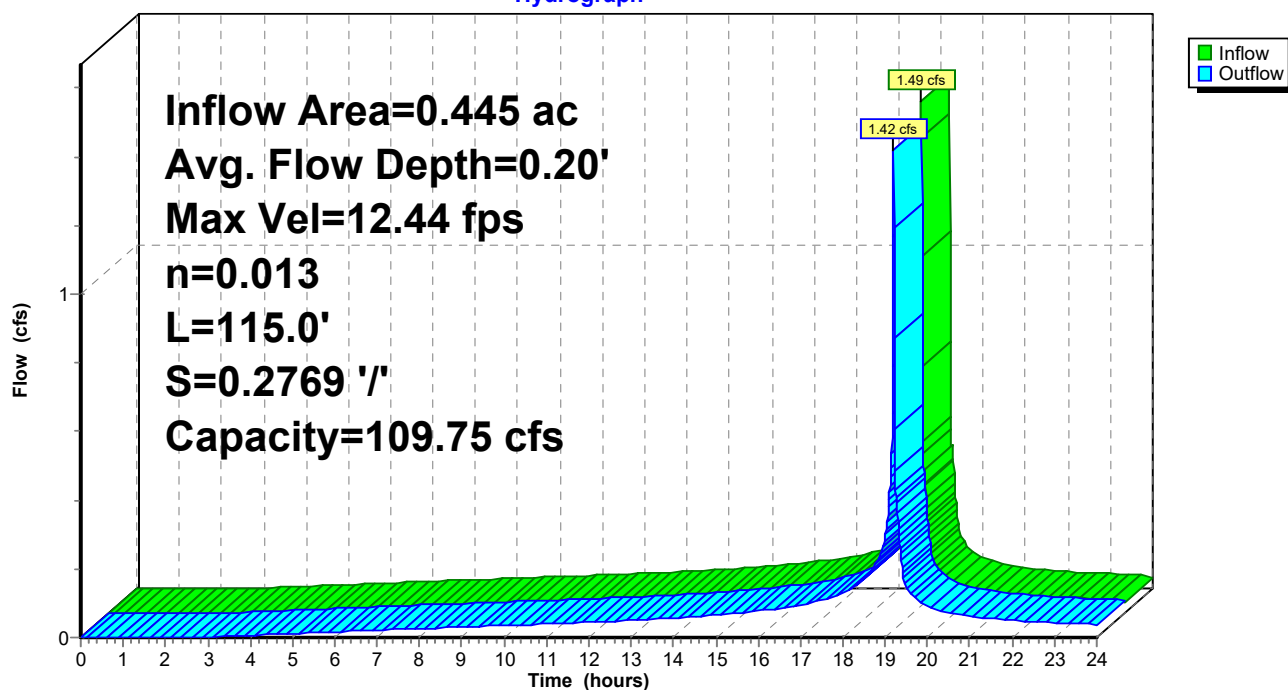
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 109.75 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 115.0' Slope= 0.2769 '/'

Inlet Invert= 1,179.25', Outlet Invert= 1,147.41'

**Reach 31R: CH-4****Hydrograph**

Summary for Reach 32R: CH-3

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 3.05" for 10-YR event
 Inflow = 0.41 cfs @ 19.19 hrs, Volume= 0.023 af
 Outflow = 0.34 cfs @ 19.21 hrs, Volume= 0.023 af, Atten= 18%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.61 fps, Min. Travel Time= 0.4 min

Avg. Velocity= 1.89 fps, Avg. Travel Time= 1.0 min

Peak Storage= 9 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.15', Surface Width= 1.04'

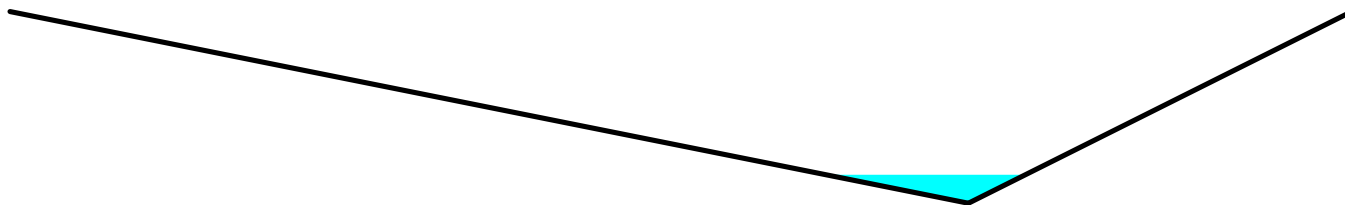
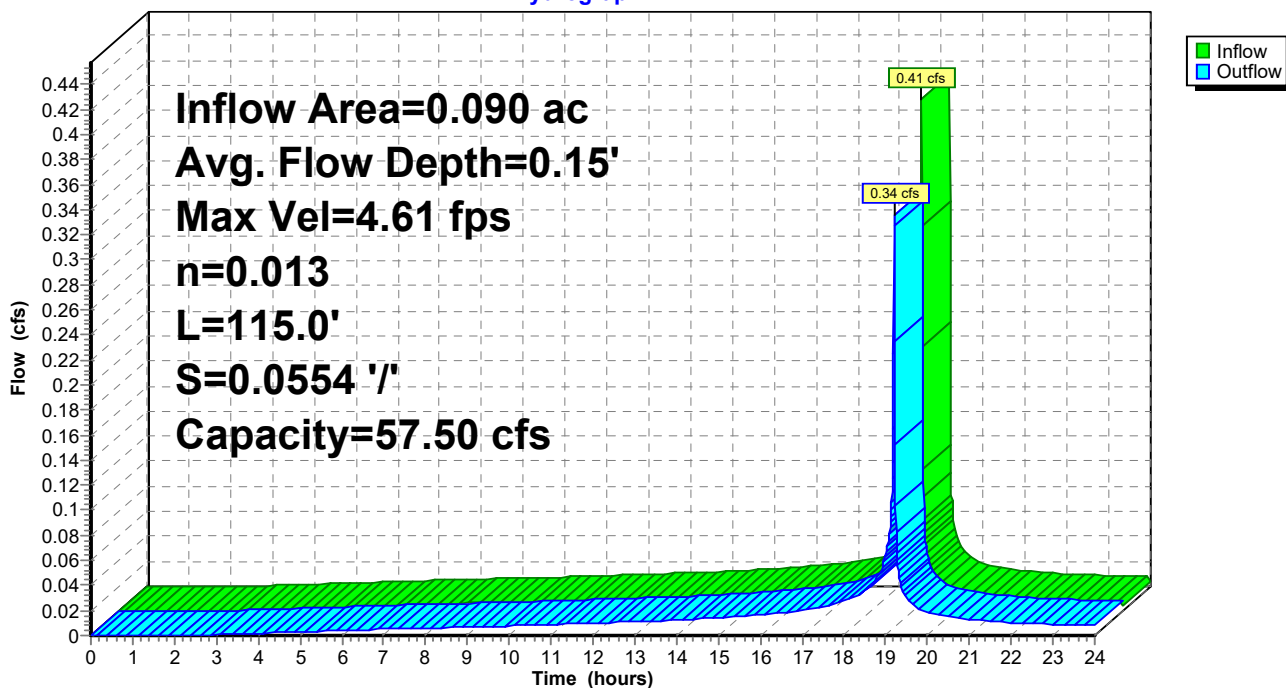
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 57.50 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 '/' Top Width= 7.00'

Length= 115.0' Slope= 0.0554 '/'

Inlet Invert= 1,178.00', Outlet Invert= 1,171.63'

**Reach 32R: CH-3****Hydrograph**

Summary for Reach 33R: CH-2

Inflow Area = 0.269 ac, 0.00% Impervious, Inflow Depth > 2.76" for 10-YR event
 Inflow = 1.17 cfs @ 19.19 hrs, Volume= 0.062 af
 Outflow = 1.11 cfs @ 19.19 hrs, Volume= 0.062 af, Atten= 5%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.61 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 4.19 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 19.19 hrs

Average Depth at Peak Storage= 0.17', Surface Width= 1.22'

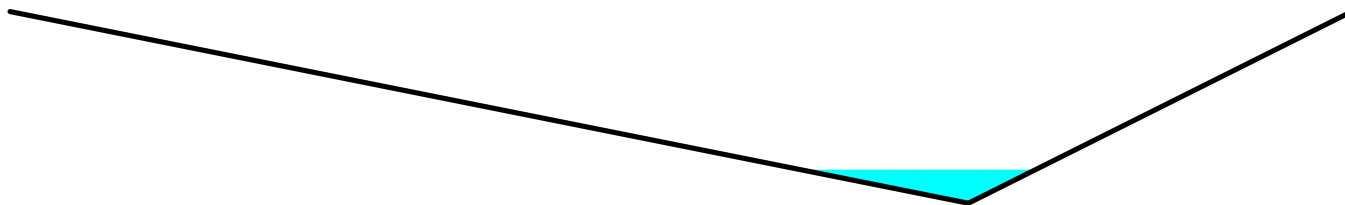
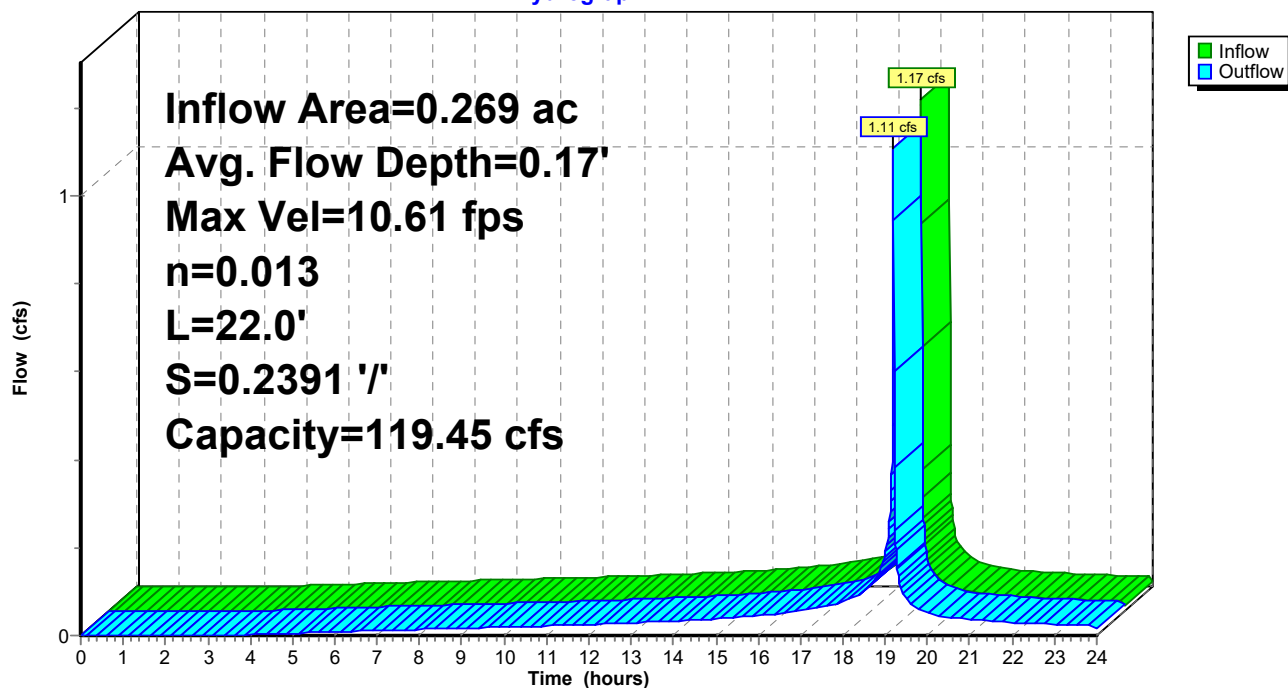
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 119.45 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' Top Width= 7.00'

Length= 22.0' Slope= 0.2391 '/'

Inlet Invert= 1,176.89', Outlet Invert= 1,171.63'

**Reach 33R: CH-2****Hydrograph**

Summary for Reach 34R: CH-1

Inflow Area = 0.074 ac, 0.00% Impervious, Inflow Depth > 3.14" for 10-YR event
 Inflow = 0.16 cfs @ 19.26 hrs, Volume= 0.019 af
 Outflow = 0.16 cfs @ 19.28 hrs, Volume= 0.019 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.53 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 1.70 fps, Avg. Travel Time= 1.2 min

Peak Storage= 6 cf @ 19.27 hrs

Average Depth at Peak Storage= 0.11', Surface Width= 0.79'

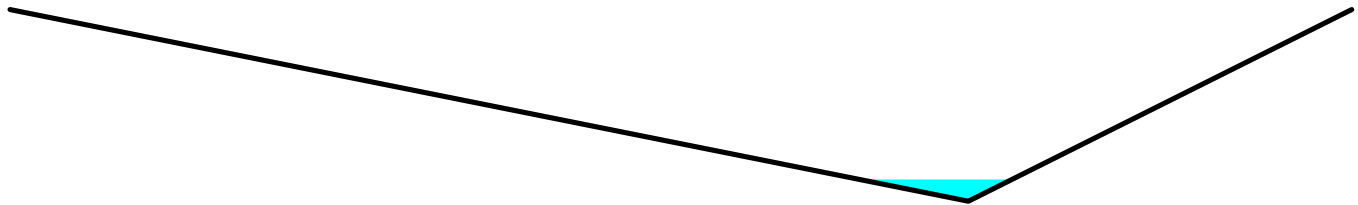
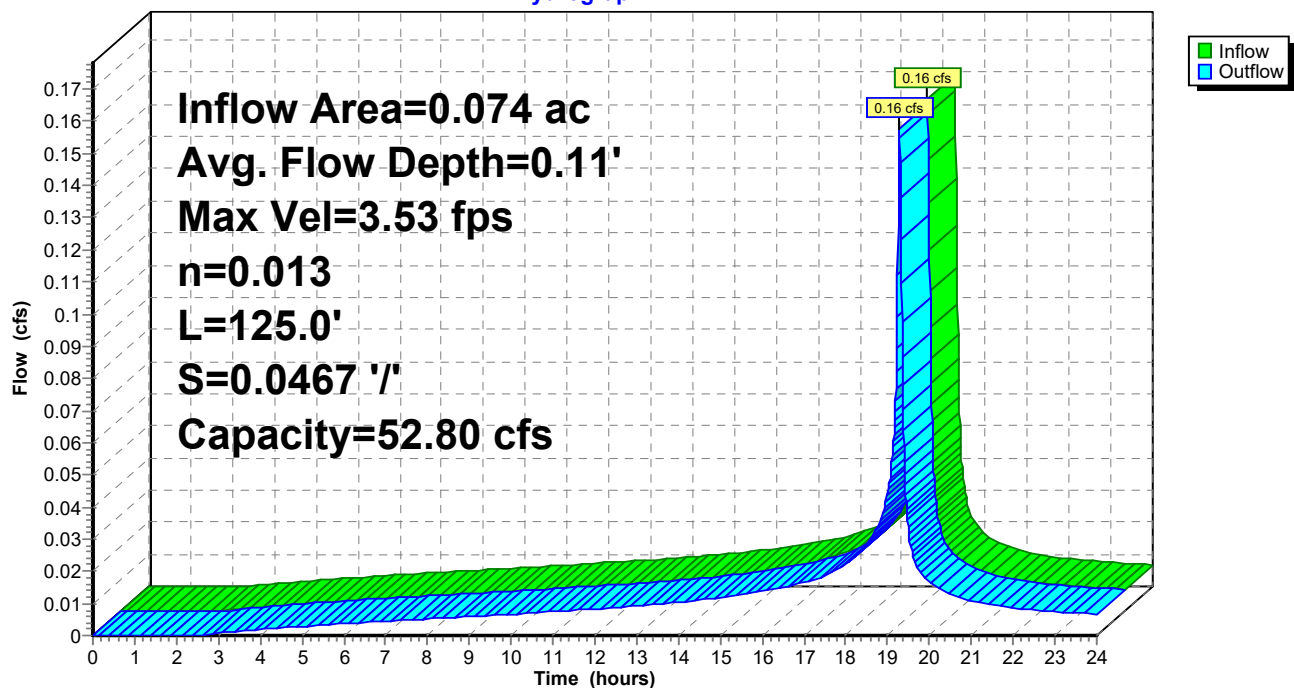
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 52.80 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 '/' Top Width= 7.00'

Length= 125.0' Slope= 0.0467 '/'

Inlet Invert= 1,206.17', Outlet Invert= 1,200.33'

**Reach 34R: CH-1****Hydrograph**

Summary for Reach 35R: CH-8

Inflow Area = 0.065 ac, 0.00% Impervious, Inflow Depth > 3.35" for 10-YR event
 Inflow = 0.31 cfs @ 19.19 hrs, Volume= 0.018 af
 Outflow = 0.23 cfs @ 19.21 hrs, Volume= 0.018 af, Atten= 25%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.78 fps, Min. Travel Time= 0.8 min

Avg. Velocity = 2.46 fps, Avg. Travel Time= 1.9 min

Peak Storage= 12 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.14' , Surface Width= 0.58'

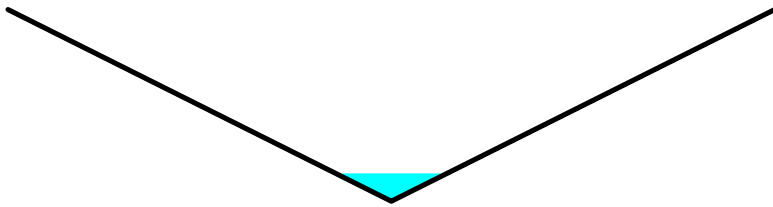
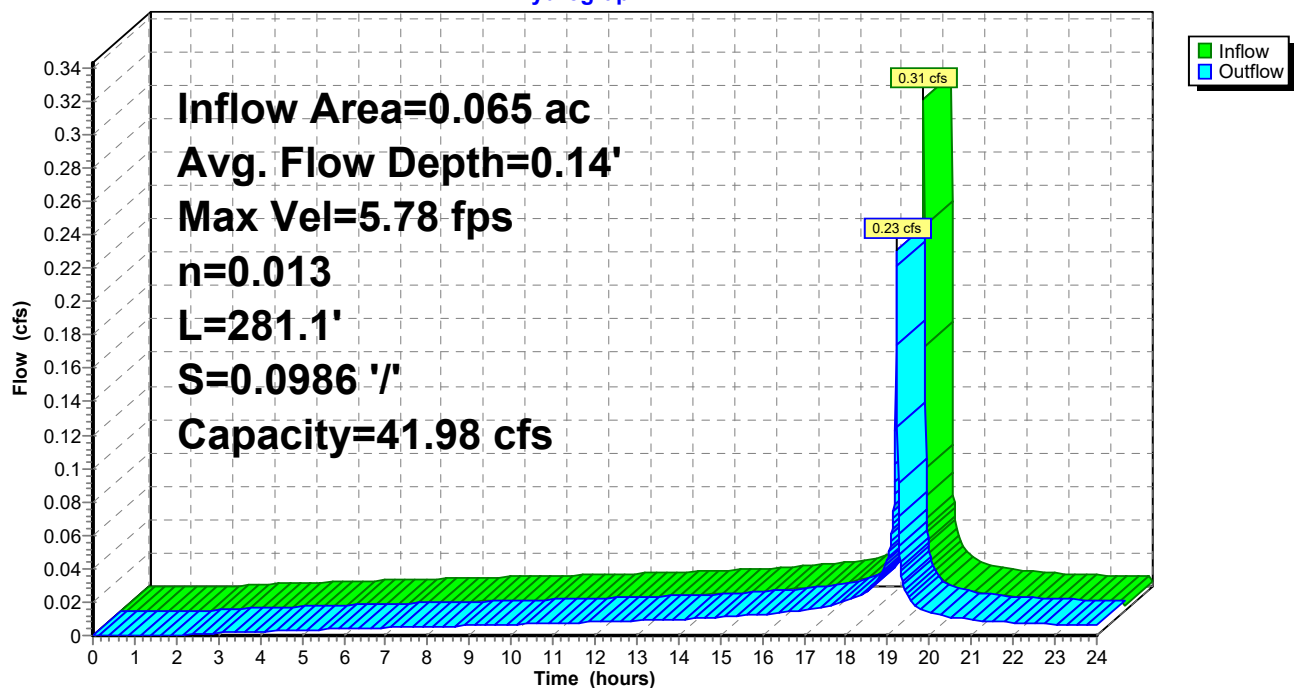
Bank-Full Depth= 1.00' Flow Area= 2.0 sf, Capacity= 41.98 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 ' / ' Top Width= 4.00'

Length= 281.1' Slope= 0.0986 ' / '

Inlet Invert= 1,174.52', Outlet Invert= 1,146.81'

**Reach 35R: CH-8****Hydrograph**

Summary for Reach 36R: CH-9

Inflow Area = 1.332 ac, 0.00% Impervious, Inflow Depth > 3.00" for 10-YR event
 Inflow = 3.53 cfs @ 19.22 hrs, Volume= 0.333 af
 Outflow = 3.50 cfs @ 19.22 hrs, Volume= 0.333 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.27 fps, Min. Travel Time= 0.1 min

Avg. Velocity= 1.29 fps, Avg. Travel Time= 0.3 min

Peak Storage= 16 cf @ 19.22 hrs

Average Depth at Peak Storage= 0.18' , Surface Width= 4.92'

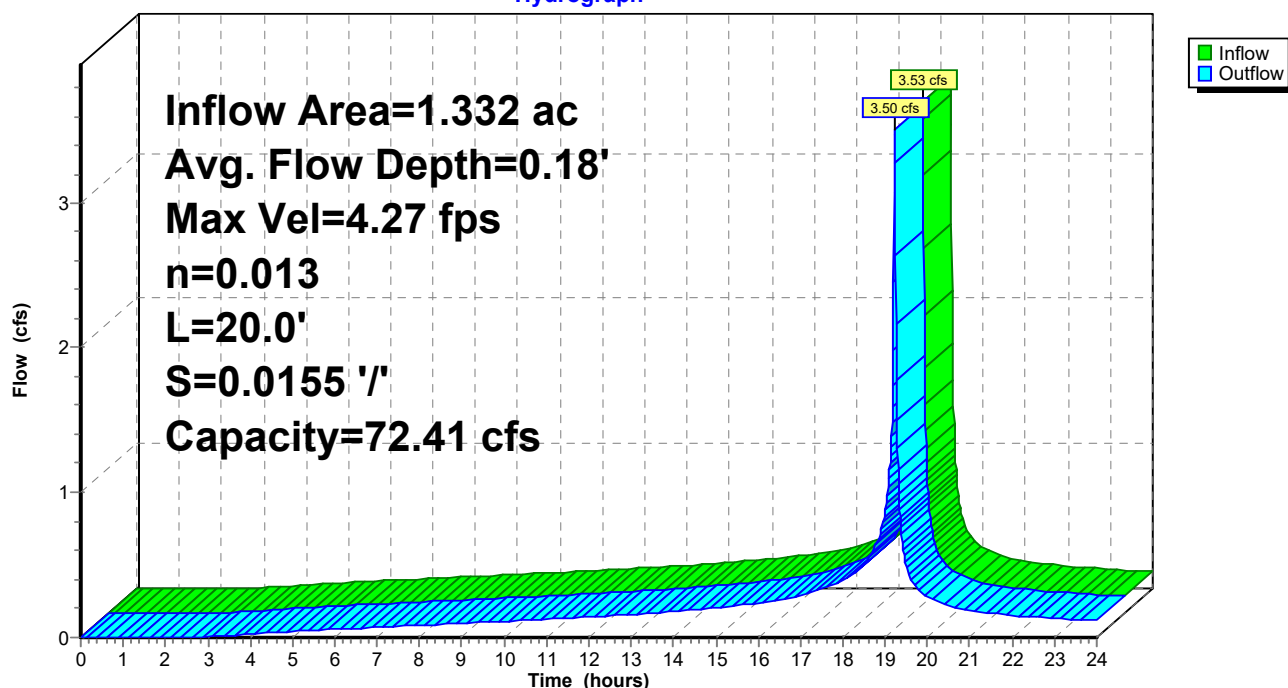
Bank-Full Depth= 1.00' Flow Area= 6.5 sf, Capacity= 72.41 cfs

4.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.5 ' / ' Top Width= 9.00'

Length= 20.0' Slope= 0.0155 ' / '

Inlet Invert= 1,146.81', Outlet Invert= 1,146.50'

**Reach 36R: CH-9****Hydrograph**

Summary for Reach 37R: CV-1

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 2.95" for 10-YR event
 Inflow = 1.68 cfs @ 19.21 hrs, Volume= 0.111 af
 Outflow = 1.58 cfs @ 19.21 hrs, Volume= 0.111 af, Atten= 6%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.94 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.76 fps, Avg. Travel Time= 0.6 min

Peak Storage= 23 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.44' , Surface Width= 0.99'

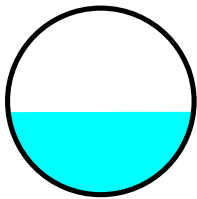
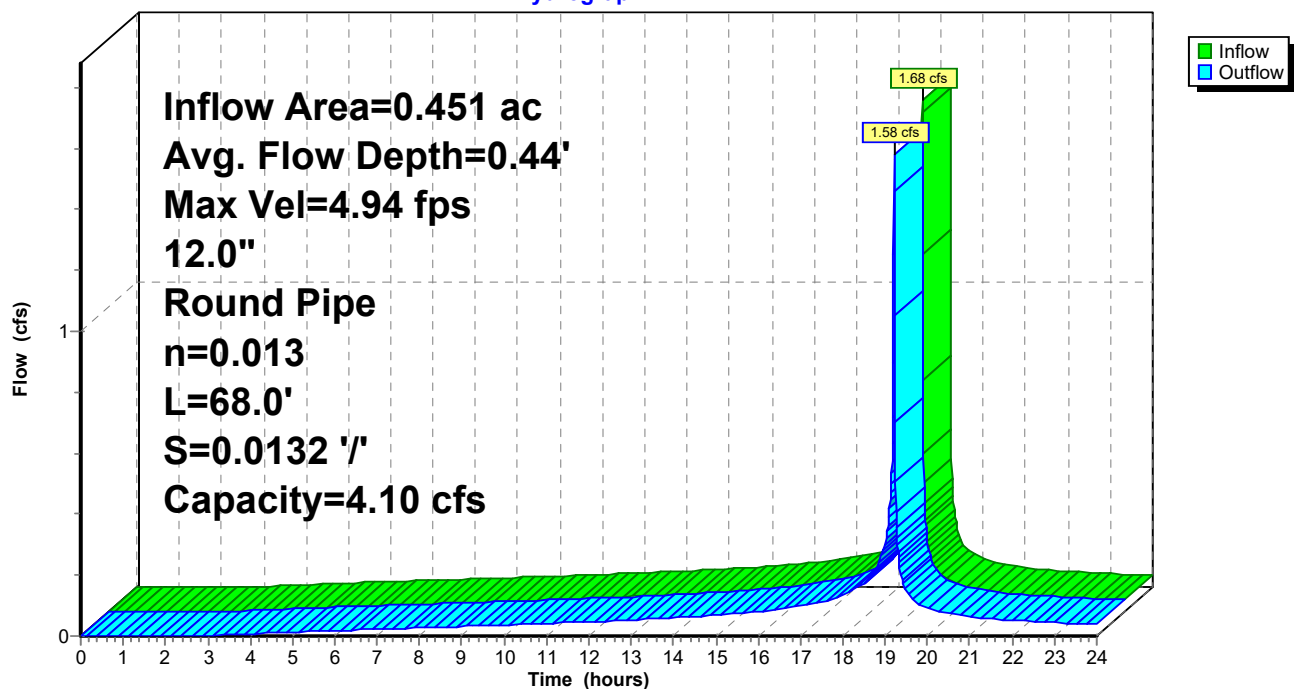
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.10 cfs

12.0" Round Pipe

n= 0.013

Length= 68.0' Slope= 0.0132 '/'

Inlet Invert= 1,148.90', Outlet Invert= 1,148.00'

**Reach 37R: CV-1****Hydrograph**

Summary for Reach 38R: CV-2

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 3.00" for 10-YR event
 Inflow = 2.27 cfs @ 19.23 hrs, Volume= 0.204 af
 Outflow = 2.22 cfs @ 19.24 hrs, Volume= 0.204 af, Atten= 3%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.69 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.40 fps, Avg. Travel Time= 0.5 min

Peak Storage= 23 cf @ 19.23 hrs

Average Depth at Peak Storage= 0.57' , Surface Width= 1.46'

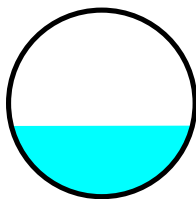
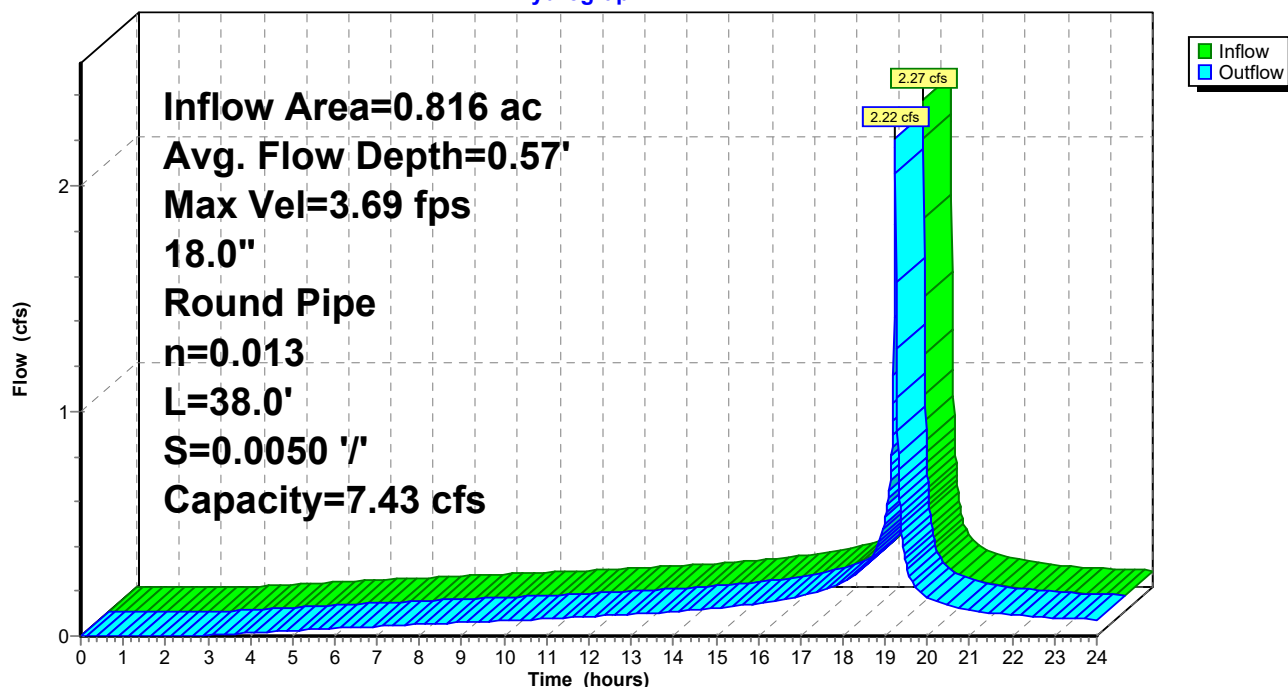
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe

n= 0.013

Length= 38.0' Slope= 0.0050 '/

Inlet Invert= 1,146.99', Outlet Invert= 1,146.80'

**Reach 38R: CV-2****Hydrograph**

Summary for Reach 39R: CH-10A

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 2.86" for 10-YR event
 Inflow = 1.21 cfs @ 19.19 hrs, Volume= 0.065 af
 Outflow = 1.03 cfs @ 19.20 hrs, Volume= 0.065 af, Atten= 14%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.81 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.34 fps, Avg. Travel Time= 0.6 min

Peak Storage= 16 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.23' , Surface Width= 1.62'

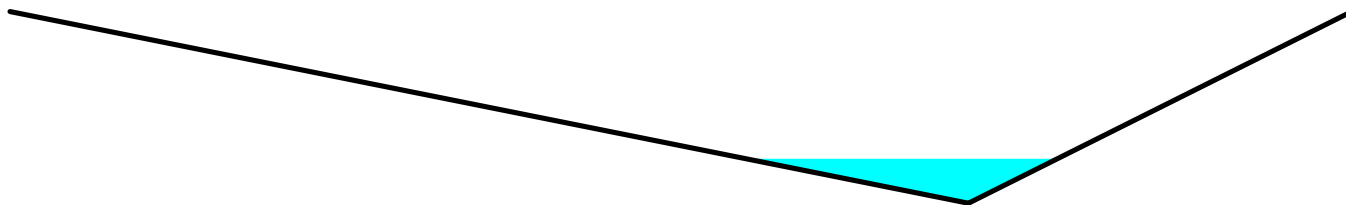
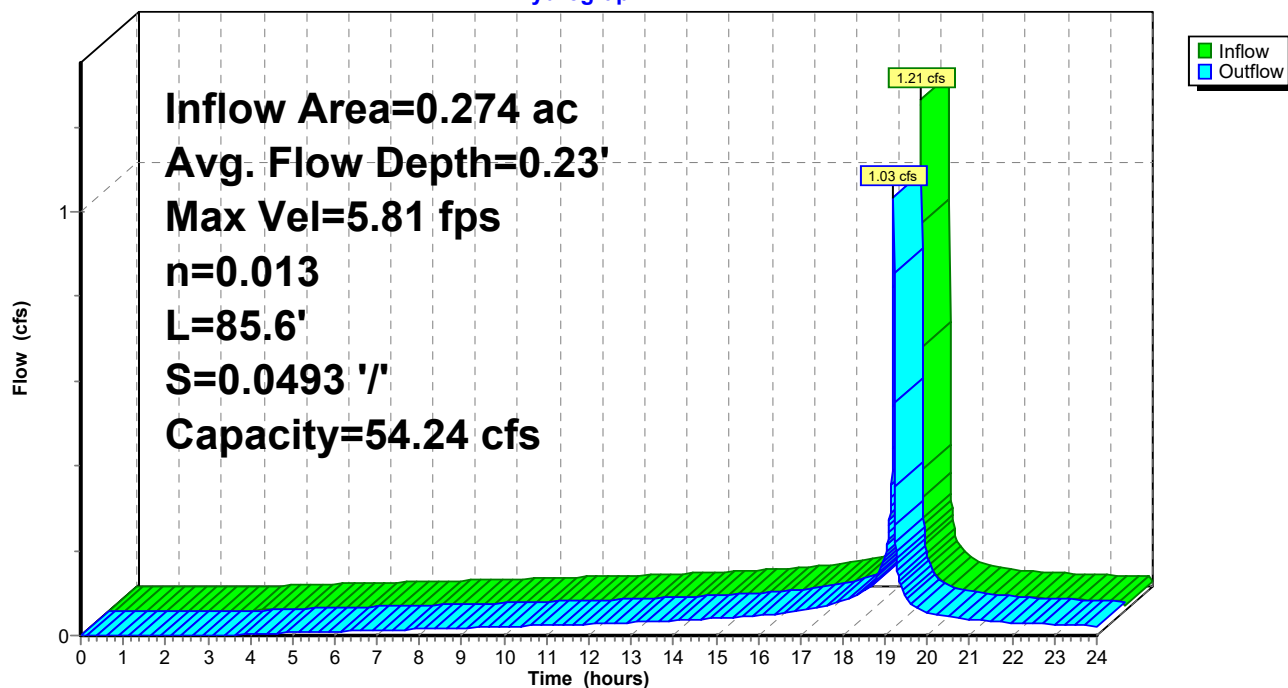
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 54.24 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 85.6' Slope= 0.0493 ' / '

Inlet Invert= 1,198.00', Outlet Invert= 1,193.78'

**Reach 39R: CH-10A****Hydrograph**

Summary for Reach 40R: CH-11A

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 2.95" for 10-YR event
 Inflow = 0.72 cfs @ 19.19 hrs, Volume= 0.039 af
 Outflow = 0.63 cfs @ 19.20 hrs, Volume= 0.039 af, Atten= 12%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.87 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 1.97 fps, Avg. Travel Time= 0.4 min

Peak Storage= 7 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.20' , Surface Width= 1.37'

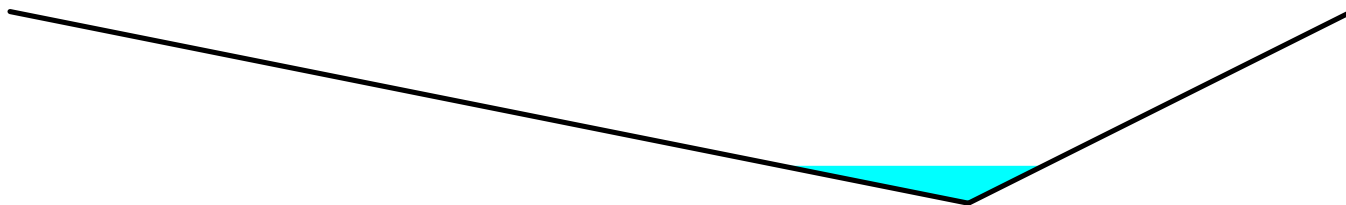
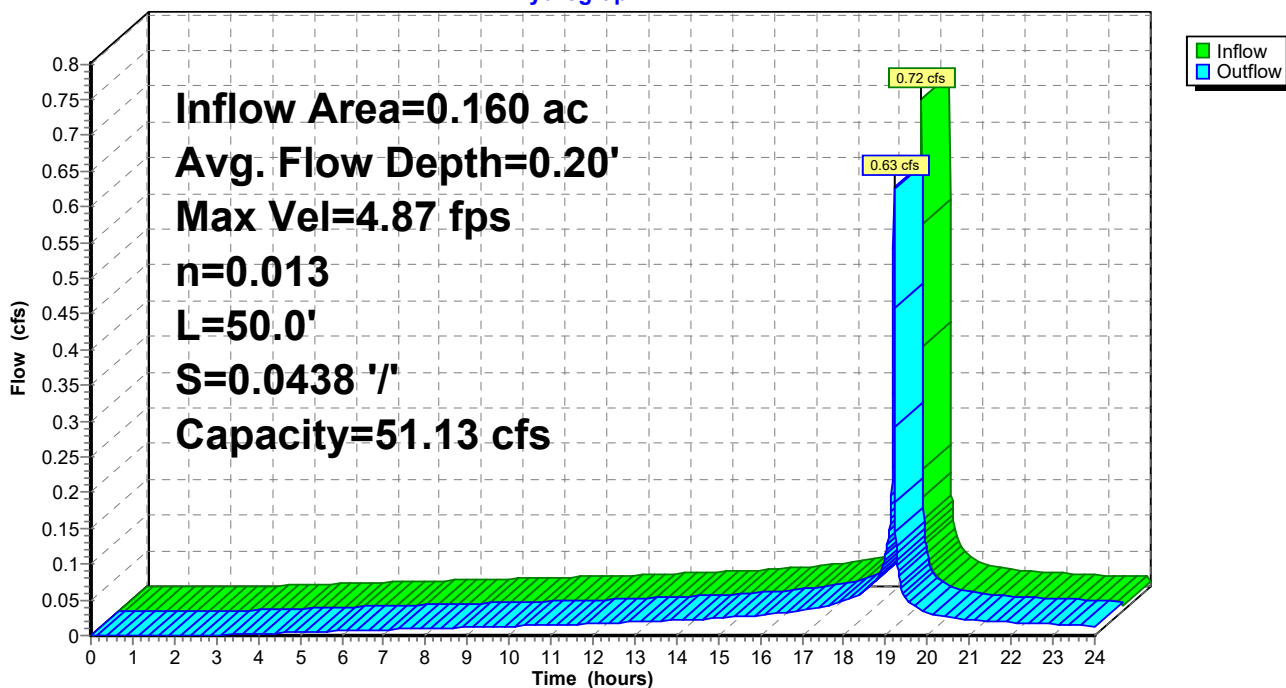
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 51.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' ' Top Width= 7.00'

Length= 50.0' Slope= 0.0438 ' '

Inlet Invert= 1,207.00', Outlet Invert= 1,204.81'

**Reach 40R: CH-11A****Hydrograph**

Summary for Reach 41R: CH-14

Inflow Area = 0.611 ac, 0.98% Impervious, Inflow Depth > 2.96" for 10-YR event
 Inflow = 2.24 cfs @ 19.20 hrs, Volume= 0.151 af
 Outflow = 2.20 cfs @ 19.20 hrs, Volume= 0.151 af, Atten= 2%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 19.17 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 7.58 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.20' , Surface Width= 1.18'

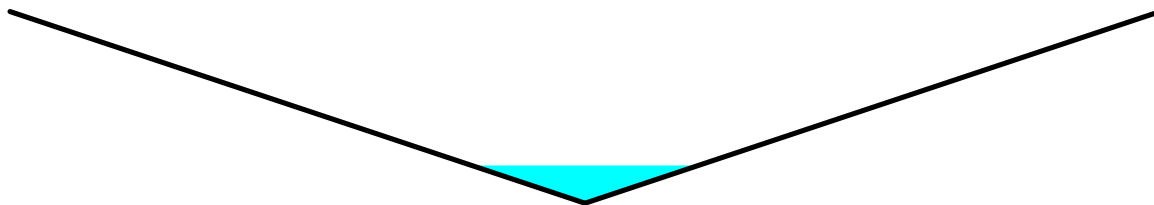
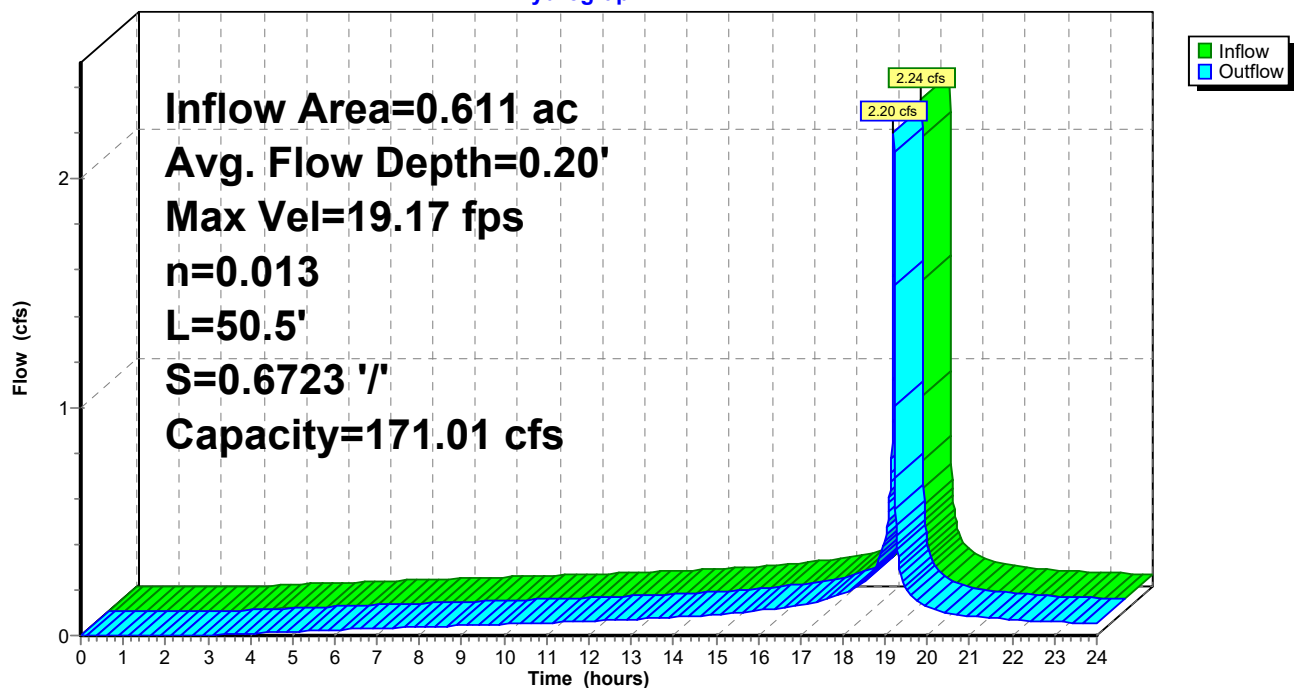
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 171.01 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 50.5' Slope= 0.6723 '/'

Inlet Invert= 1,181.63', Outlet Invert= 1,147.68'

**Reach 41R: CH-14****Hydrograph**

Summary for Reach 42R: CH-13

Inflow Area = 0.083 ac, 0.00% Impervious, Inflow Depth > 3.15" for 10-YR event
 Inflow = 0.38 cfs @ 19.19 hrs, Volume= 0.022 af
 Outflow = 0.32 cfs @ 19.21 hrs, Volume= 0.022 af, Atten= 17%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.16 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 1.73 fps, Avg. Travel Time= 1.3 min

Peak Storage= 11 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 1.18'

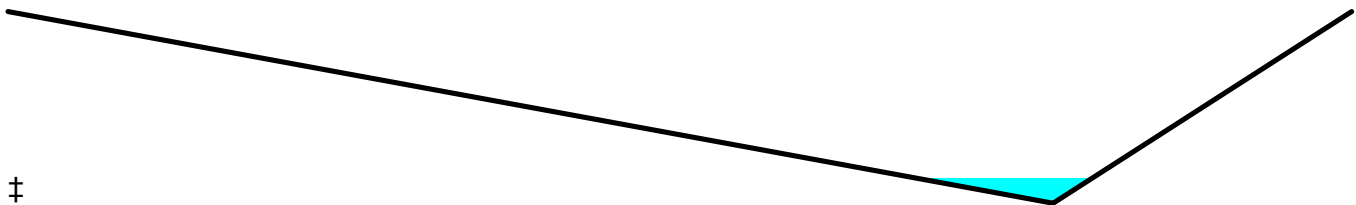
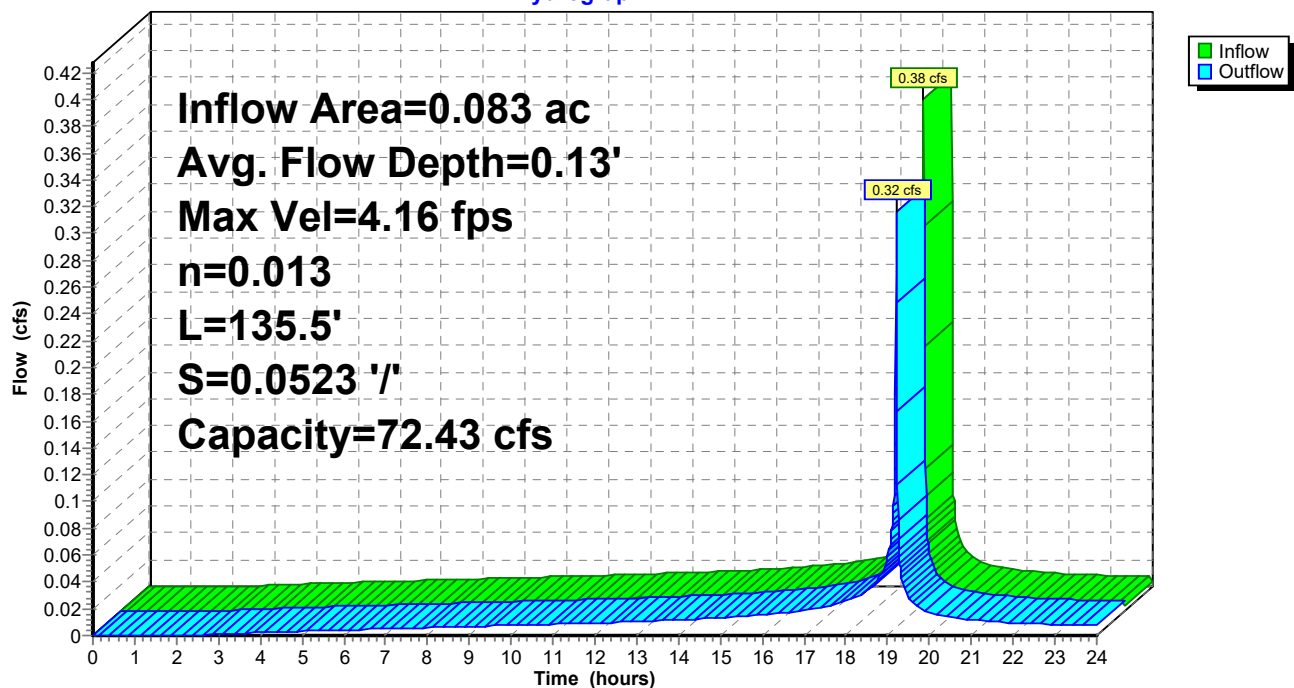
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 72.43 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 2.0 ' / ' Top Width= 9.00'

Length= 135.5' Slope= 0.0523 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 42R: CH-13****Hydrograph**

Summary for Reach 43R: CH-12

Inflow Area = 0.088 ac, 0.00% Impervious, Inflow Depth > 3.05" for 10-YR event
 Inflow = 0.40 cfs @ 19.19 hrs, Volume= 0.022 af
 Outflow = 0.33 cfs @ 19.20 hrs, Volume= 0.022 af, Atten= 18%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.81 fps, Min. Travel Time= 0.4 min

Avg. Velocity= 1.97 fps, Avg. Travel Time= 1.0 min

Peak Storage= 8 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.14' , Surface Width= 1.01'

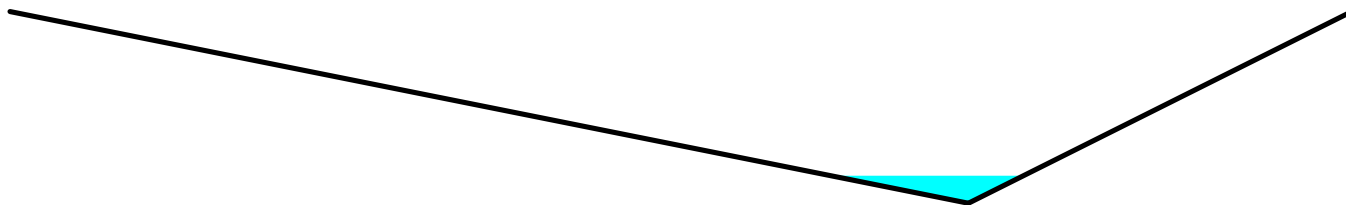
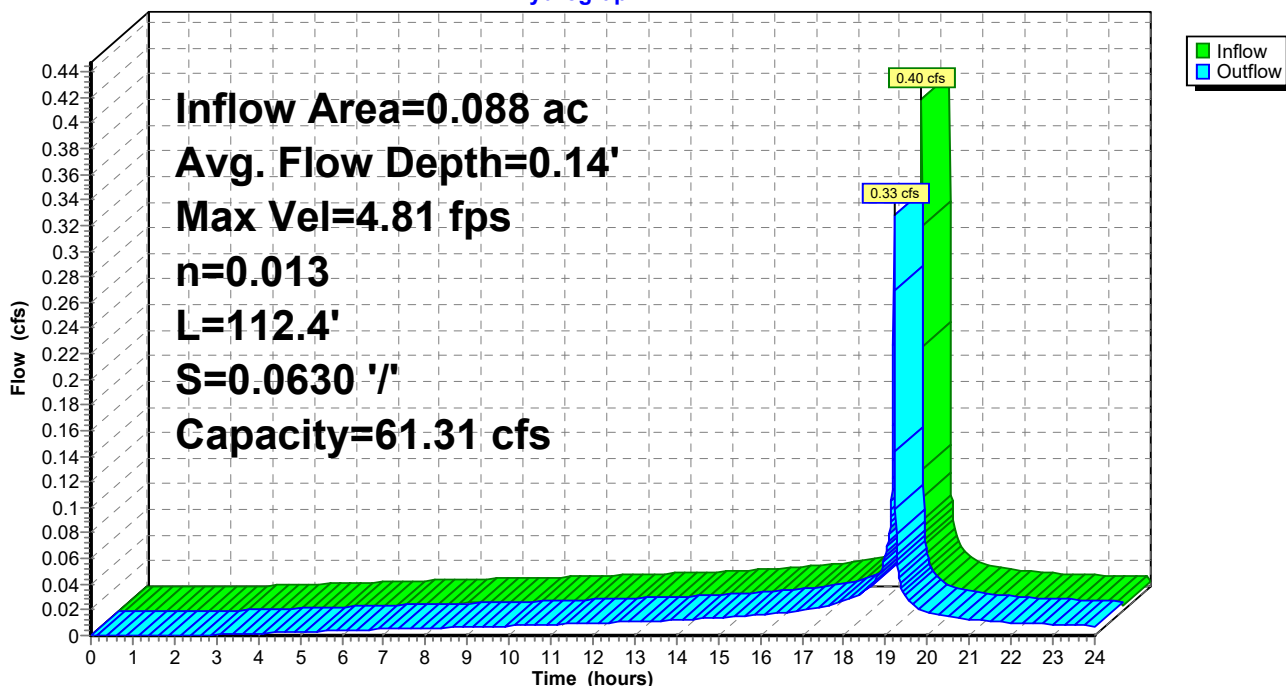
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 61.31 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 '/' Top Width= 7.00'

Length= 112.4' Slope= 0.0630 '/'

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 43R: CH-12****Hydrograph**

Summary for Reach 44R: CH-16

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 3.06" for 10-YR event
 Inflow = 3.27 cfs @ 19.20 hrs, Volume= 0.236 af
 Outflow = 2.53 cfs @ 19.25 hrs, Volume= 0.236 af, Atten= 23%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.76 fps, Min. Travel Time= 1.9 min

Avg. Velocity = 0.90 fps, Avg. Travel Time= 5.8 min

Peak Storage= 290 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.22' , Surface Width= 5.59'

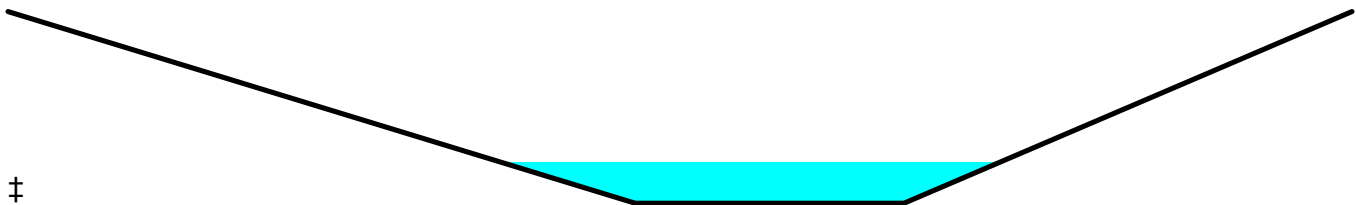
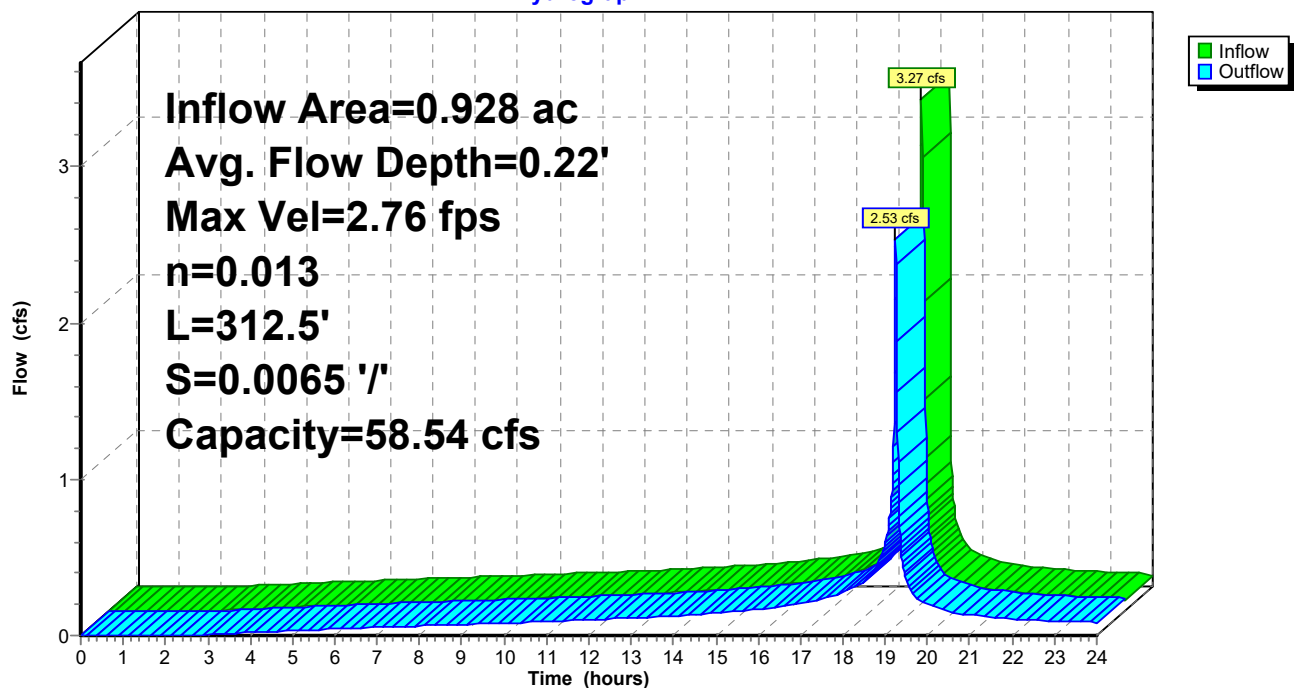
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 58.54 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 '/' Top Width= 15.00'

Length= 312.5' Slope= 0.0065 '/'

Inlet Invert= 1,148.00', Outlet Invert= 1,145.97'

**Reach 44R: CH-16****Hydrograph**

Summary for Reach 45R: CV-3

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 3.05" for 10-YR event
 Inflow = 2.53 cfs @ 19.25 hrs, Volume= 0.236 af
 Outflow = 2.48 cfs @ 19.25 hrs, Volume= 0.235 af, Atten= 2%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.34 fps, Min. Travel Time= 0.3 min

Avg. Velocity= 1.58 fps, Avg. Travel Time= 0.7 min

Peak Storage= 40 cf @ 19.25 hrs

Average Depth at Peak Storage= 0.55' , Surface Width= 1.44'

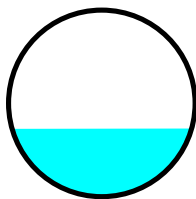
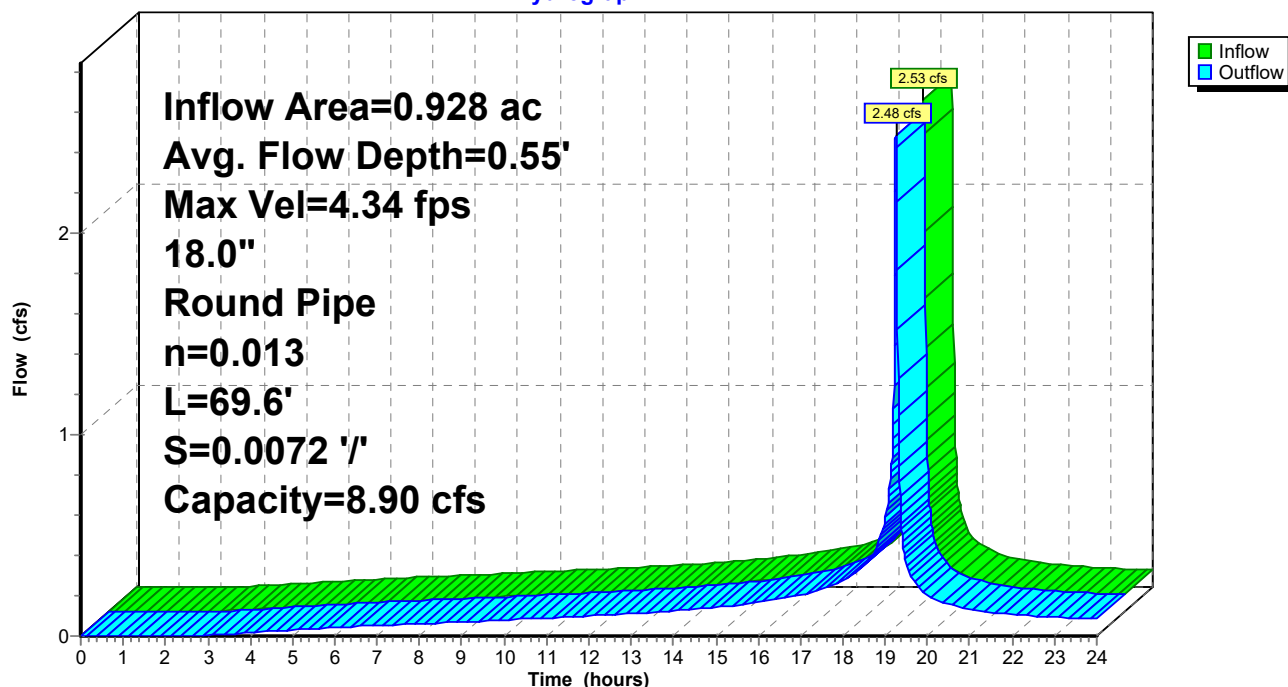
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.90 cfs

18.0" Round Pipe

n= 0.013

Length= 69.6' Slope= 0.0072 '/

Inlet Invert= 1,146.00', Outlet Invert= 1,145.50'

**Reach 45R: CV-3****Hydrograph**

Summary for Reach 46R: CH-17

Inflow Area = 2.123 ac, 0.28% Impervious, Inflow Depth > 3.10" for 10-YR event
 Inflow = 6.55 cfs @ 19.19 hrs, Volume= 0.549 af
 Outflow = 5.17 cfs @ 19.22 hrs, Volume= 0.548 af, Atten= 21%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.09 fps, Min. Travel Time= 1.1 min

Avg. Velocity = 1.88 fps, Avg. Travel Time= 3.5 min

Peak Storage= 345 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.25' , Surface Width= 3.76'

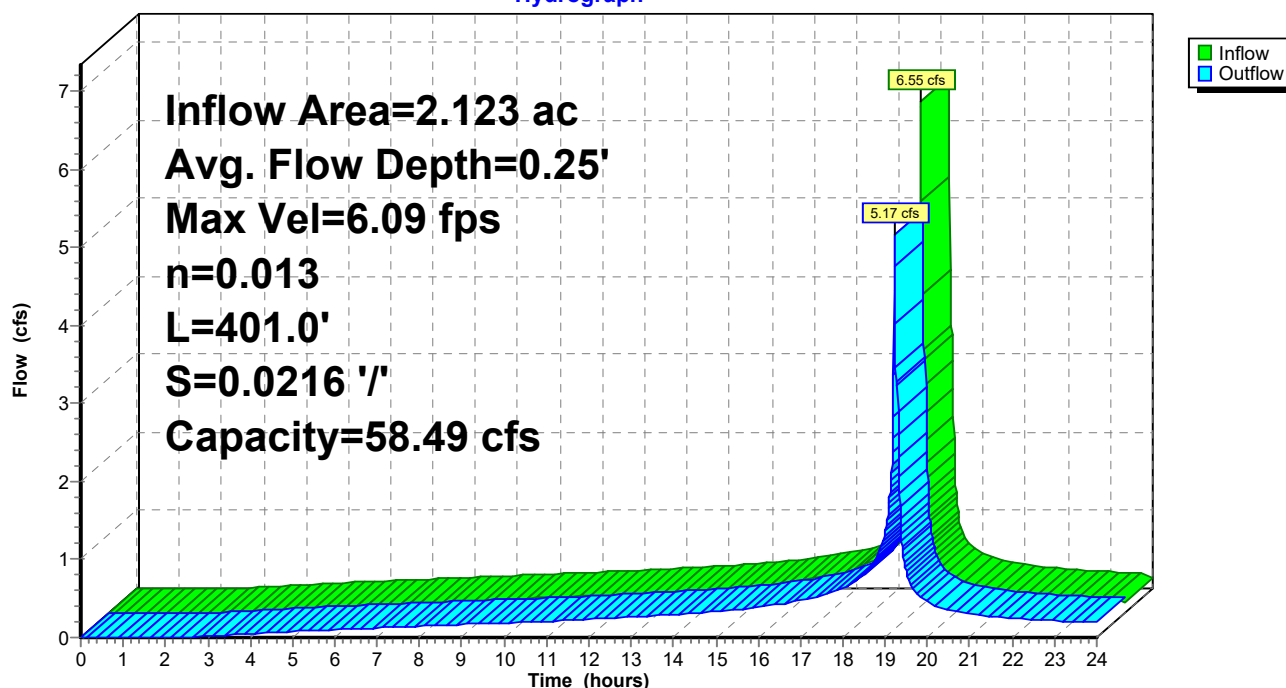
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 58.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 1.5 '/' Top Width= 6.00'

Length= 401.0' Slope= 0.0216 '/'

Inlet Invert= 1,145.50', Outlet Invert= 1,136.85'

**Reach 46R: CH-17****Hydrograph**

Summary for Reach 52R: CH-21

Inflow Area = 1.226 ac, 0.00% Impervious, Inflow Depth > 2.95" for 10-YR event
 Inflow = 5.48 cfs @ 19.19 hrs, Volume= 0.302 af
 Outflow = 4.55 cfs @ 19.20 hrs, Volume= 0.301 af, Atten= 17%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.82 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.35 fps, Avg. Travel Time= 1.5 min

Peak Storage= 117 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.17' , Surface Width= 3.66'

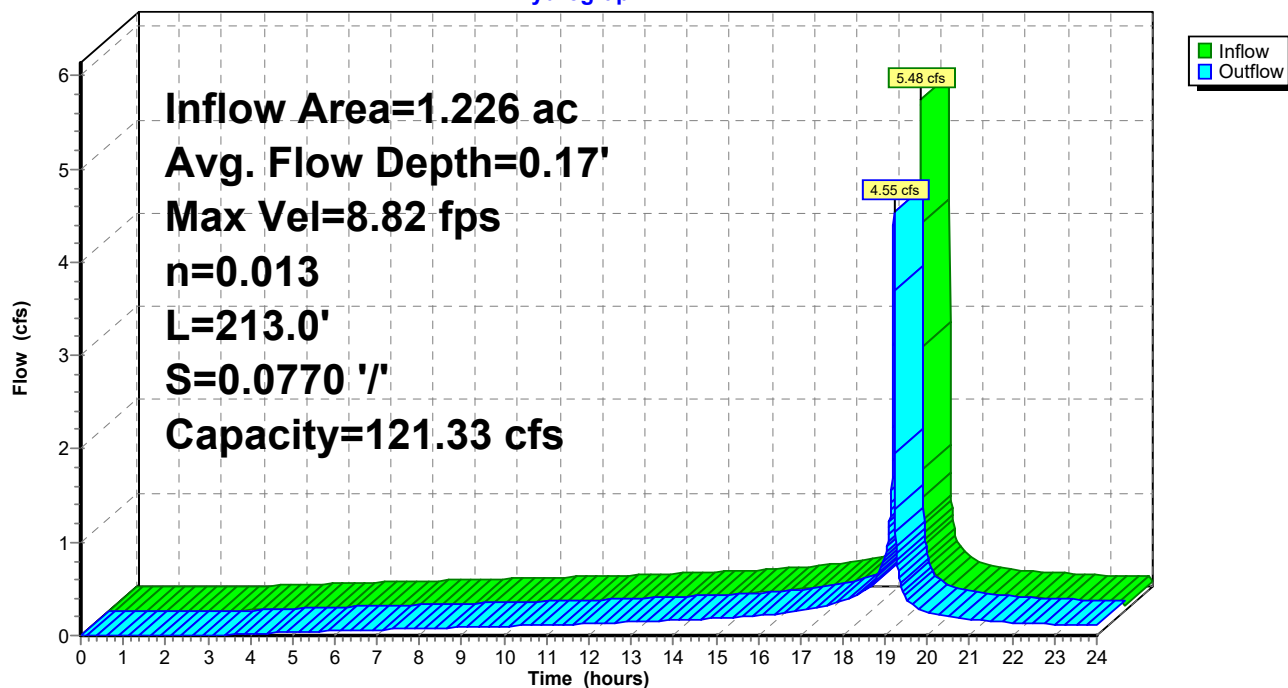
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 121.33 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 7.00'

Length= 213.0' Slope= 0.0770 '/'

Inlet Invert= 1,142.14', Outlet Invert= 1,125.74'

**Reach 52R: CH-21****Hydrograph**

Summary for Reach 53R: CH-24

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 2.91" for 10-YR event
 Inflow = 5.66 cfs @ 19.20 hrs, Volume= 0.409 af
 Outflow = 5.31 cfs @ 19.22 hrs, Volume= 0.408 af, Atten= 6%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.88 fps, Min. Travel Time= 0.6 min

Avg. Velocity= 1.37 fps, Avg. Travel Time= 2.2 min

Peak Storage= 201 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.23' , Surface Width= 5.22'

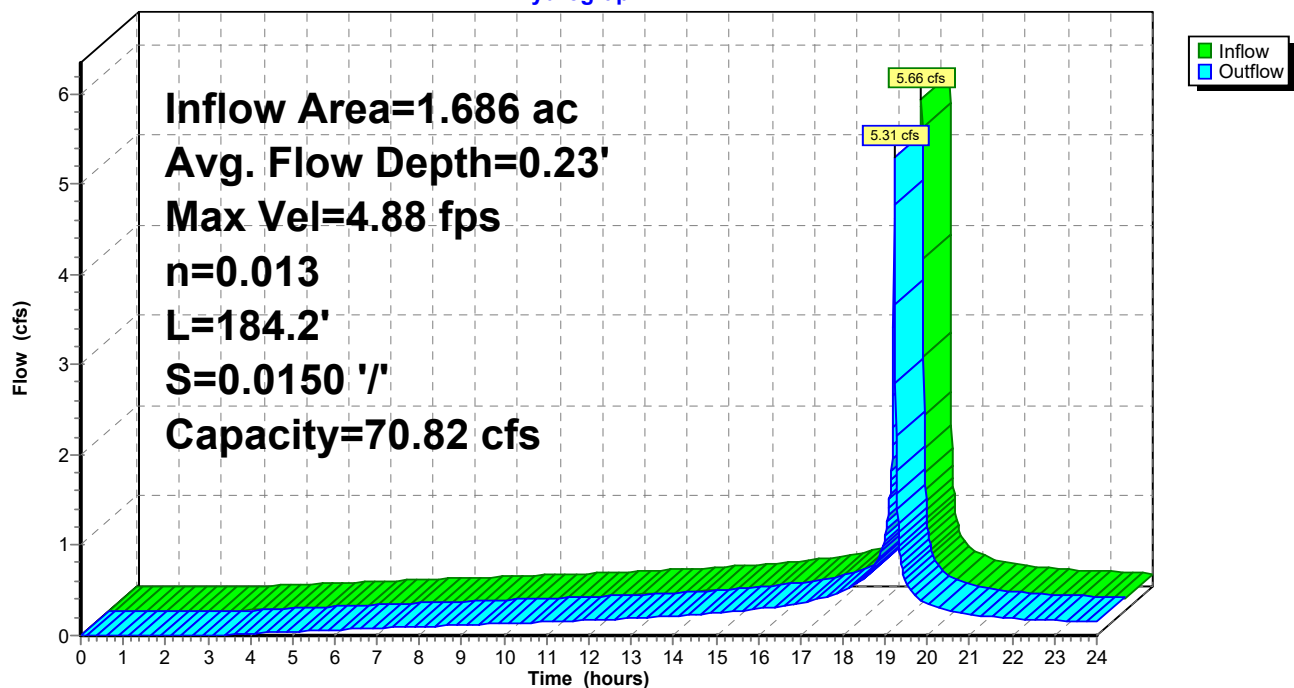
Bank-Full Depth= 1.00' Flow Area= 6.3 sf, Capacity= 70.82 cfs

4.30' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 8.30'

Length= 184.2' Slope= 0.0150 '/'

Inlet Invert= 1,125.74', Outlet Invert= 1,122.97'

**Reach 53R: CH-24****Hydrograph**

Summary for Reach 54R: CH-22

Inflow Area = 0.219 ac, 0.00% Impervious, Inflow Depth > 2.76" for 10-YR event
 Inflow = 0.95 cfs @ 19.19 hrs, Volume= 0.050 af
 Outflow = 0.63 cfs @ 19.23 hrs, Volume= 0.050 af, Atten= 34%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.24 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 0.96 fps, Avg. Travel Time= 3.5 min

Peak Storage= 58 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.31', Surface Width= 1.86'

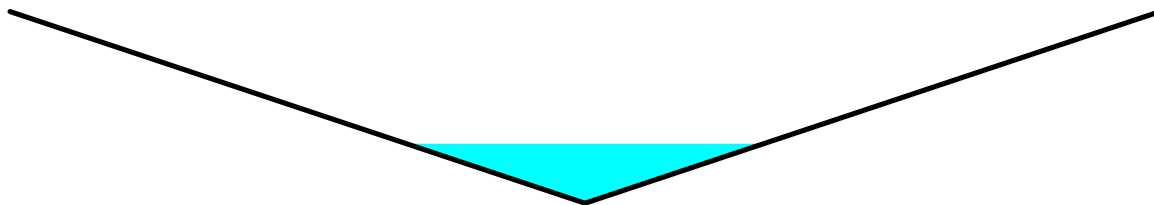
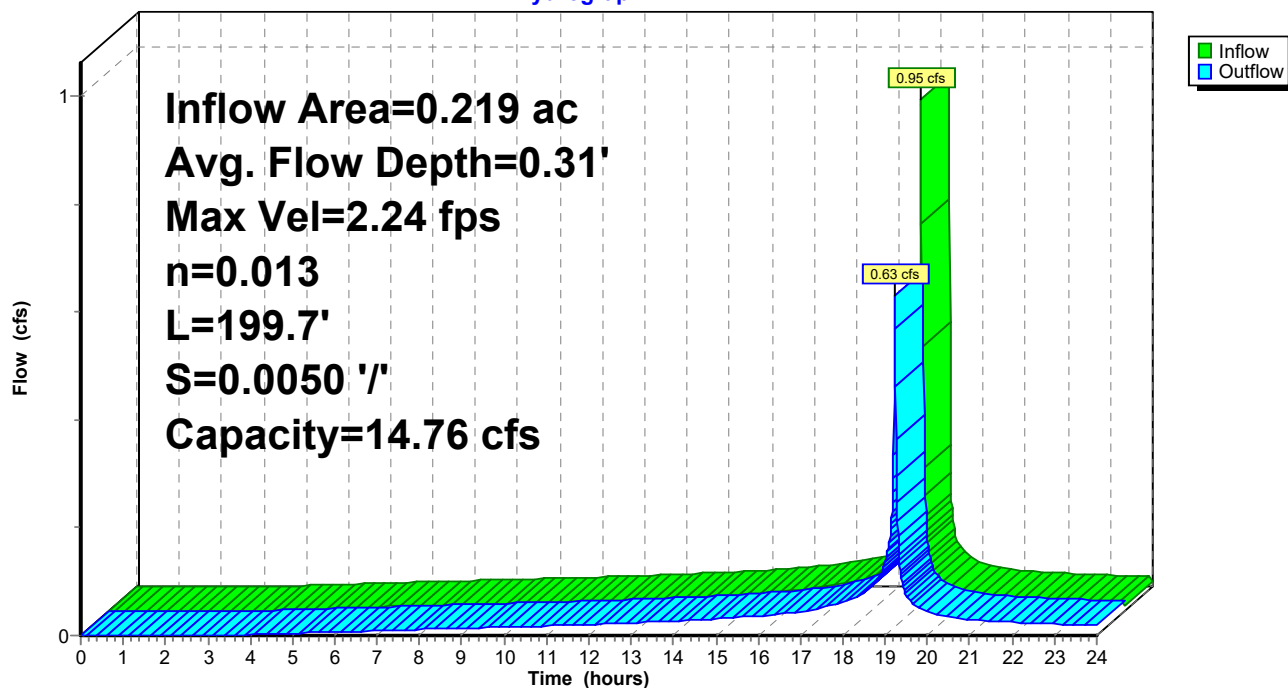
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 14.76 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 199.7' Slope= 0.0050 '/'

Inlet Invert= 1,163.81', Outlet Invert= 1,162.81'

**Reach 54R: CH-22****Hydrograph**

Summary for Reach 55R: CH-23

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 2.76" for 10-YR event
Inflow = 0.84 cfs @ 19.19 hrs, Volume= 0.079 af
Outflow = 0.79 cfs @ 19.20 hrs, Volume= 0.079 af, Atten= 6%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 12.41 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 5.67 fps, Avg. Travel Time= 0.3 min

Peak Storage= 6 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.15' , Surface Width= 0.88'

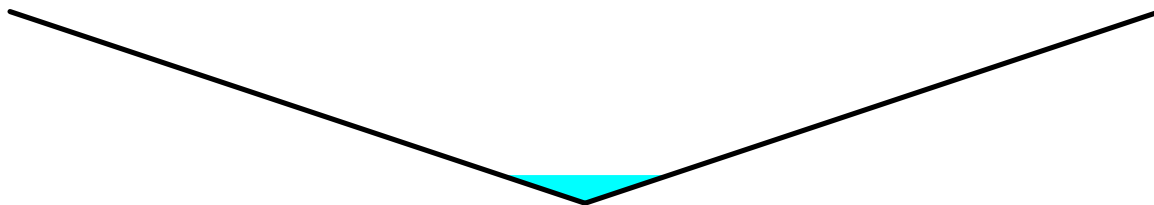
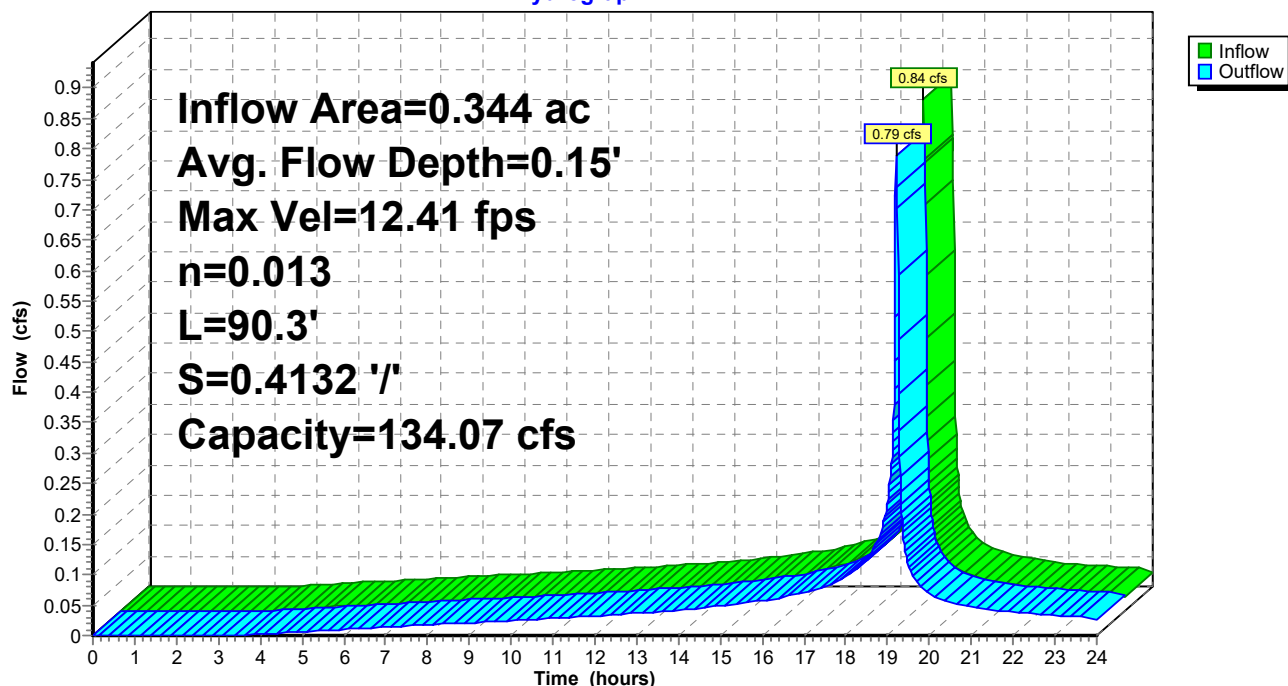
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 134.07 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 90.3' Slope= 0.4132 ' / '

Inlet Invert= 1,162.81', Outlet Invert= 1,125.50'

**Reach 55R: CH-23****Hydrograph**

Summary for Reach 56R: CH-15A

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 3.25" for 10-YR event
 Inflow = 0.16 cfs @ 19.19 hrs, Volume= 0.009 af
 Outflow = 0.14 cfs @ 19.20 hrs, Volume= 0.009 af, Atten= 12%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.90 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.48 fps, Avg. Travel Time= 0.4 min

Peak Storage= 2 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.08' , Surface Width= 0.58'

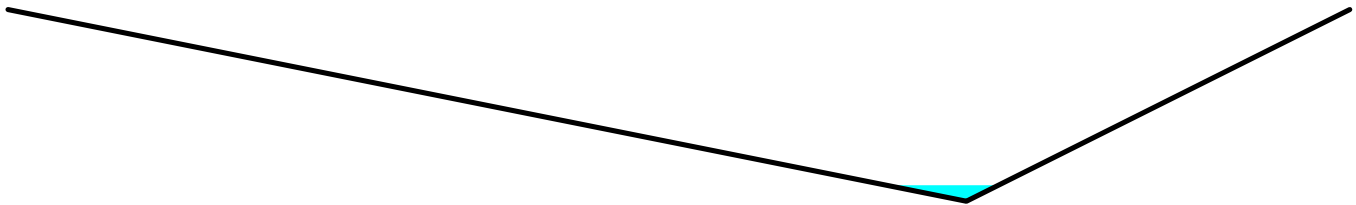
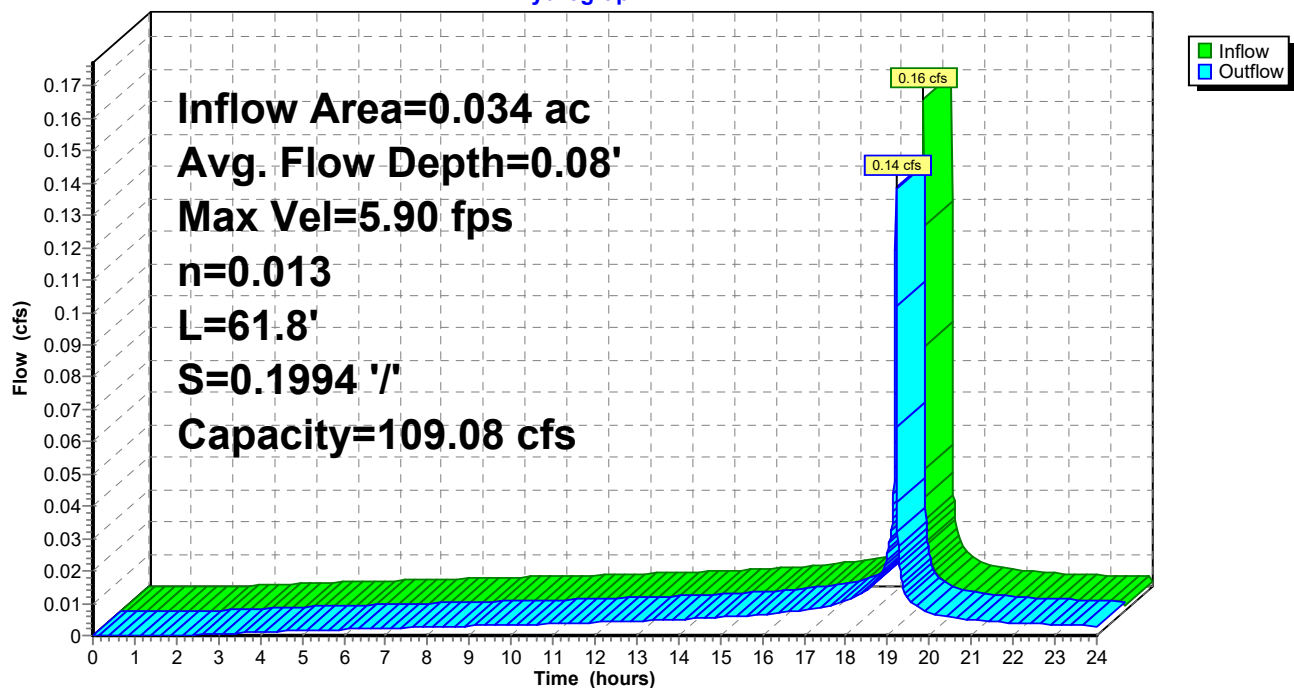
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 109.08 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 61.8' Slope= 0.1994 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,165.68'

**Reach 56R: CH-15A****Hydrograph**

Summary for Reach 60R: CH-10B

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 2.86" for 10-YR event
Inflow = 1.03 cfs @ 19.20 hrs, Volume= 0.065 af
Outflow = 1.00 cfs @ 19.20 hrs, Volume= 0.065 af, Atten= 3%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.54 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.30 fps, Avg. Travel Time= 0.2 min

Peak Storage= 5 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.18' , Surface Width= 1.08'

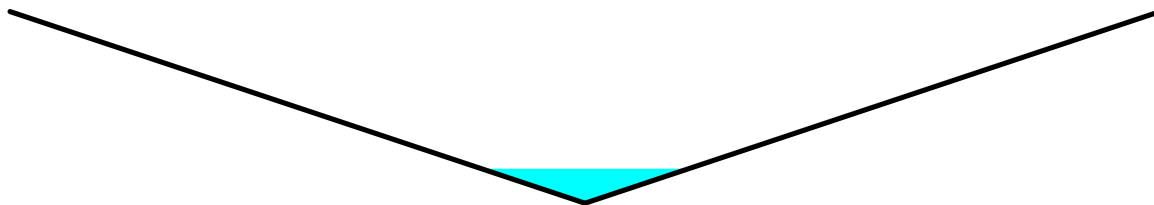
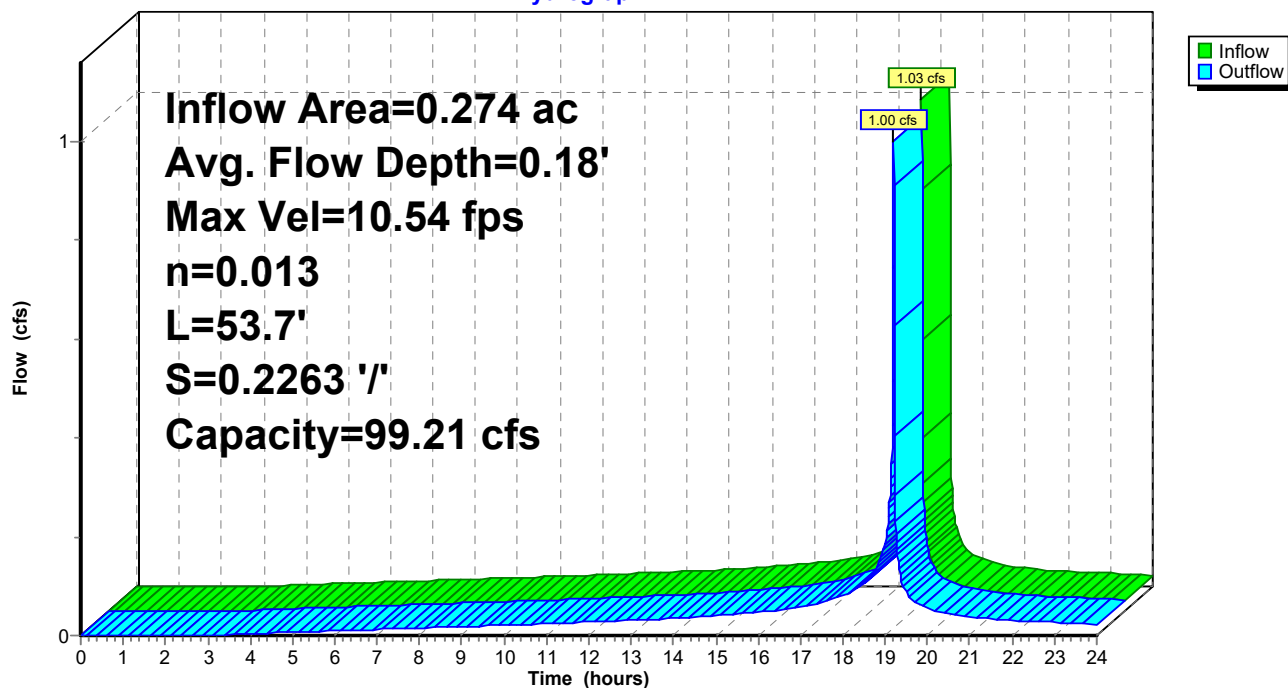
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 99.21 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 53.7' Slope= 0.2263 '/'

Inlet Invert= 1,193.78', Outlet Invert= 1,181.63'

**Reach 60R: CH-10B****Hydrograph**

Summary for Reach 61R: CH-11B

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 2.95" for 10-YR event
 Inflow = 0.63 cfs @ 19.20 hrs, Volume= 0.039 af
 Outflow = 0.61 cfs @ 19.20 hrs, Volume= 0.039 af, Atten= 4%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.65 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.35 fps, Avg. Travel Time= 0.3 min

Peak Storage= 4 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.14' , Surface Width= 0.84'

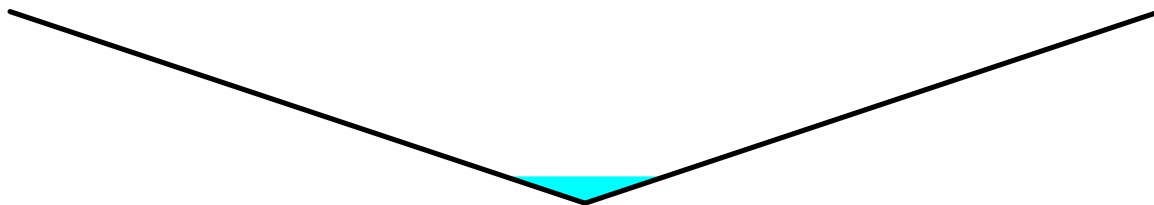
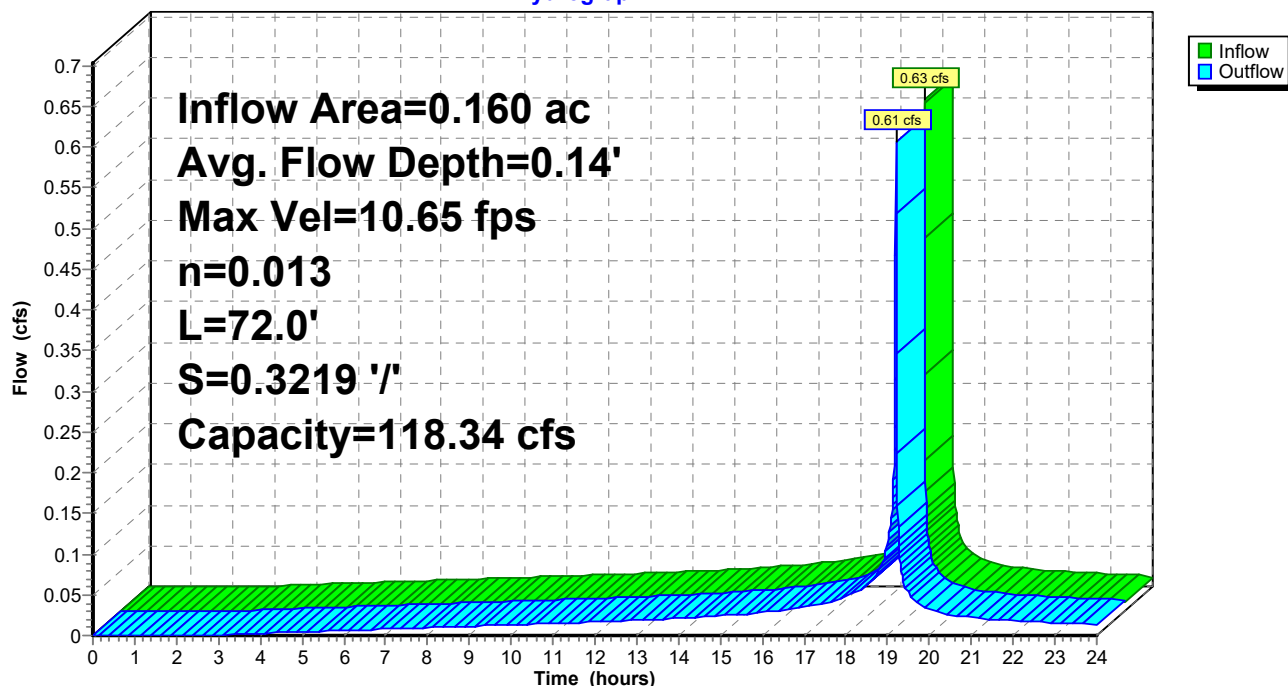
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 118.34 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 72.0' Slope= 0.3219 ' / '

Inlet Invert= 1,204.81', Outlet Invert= 1,181.63'

**Reach 61R: CH-11B****Hydrograph**

Summary for Reach 62R: CH-15B

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 3.25" for 10-YR event
 Inflow = 0.14 cfs @ 19.20 hrs, Volume= 0.009 af
 Outflow = 0.14 cfs @ 19.20 hrs, Volume= 0.009 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.38 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 4.44 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.07' , Surface Width= 0.40'

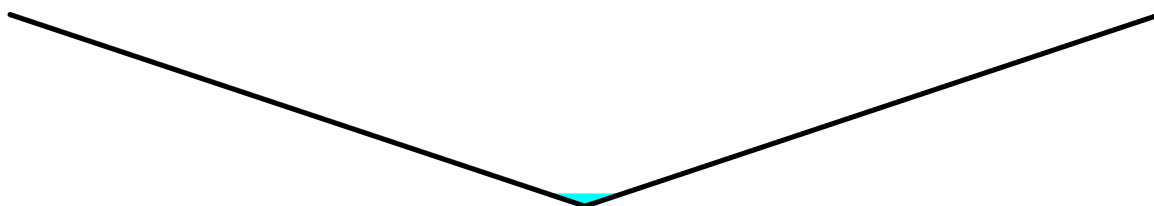
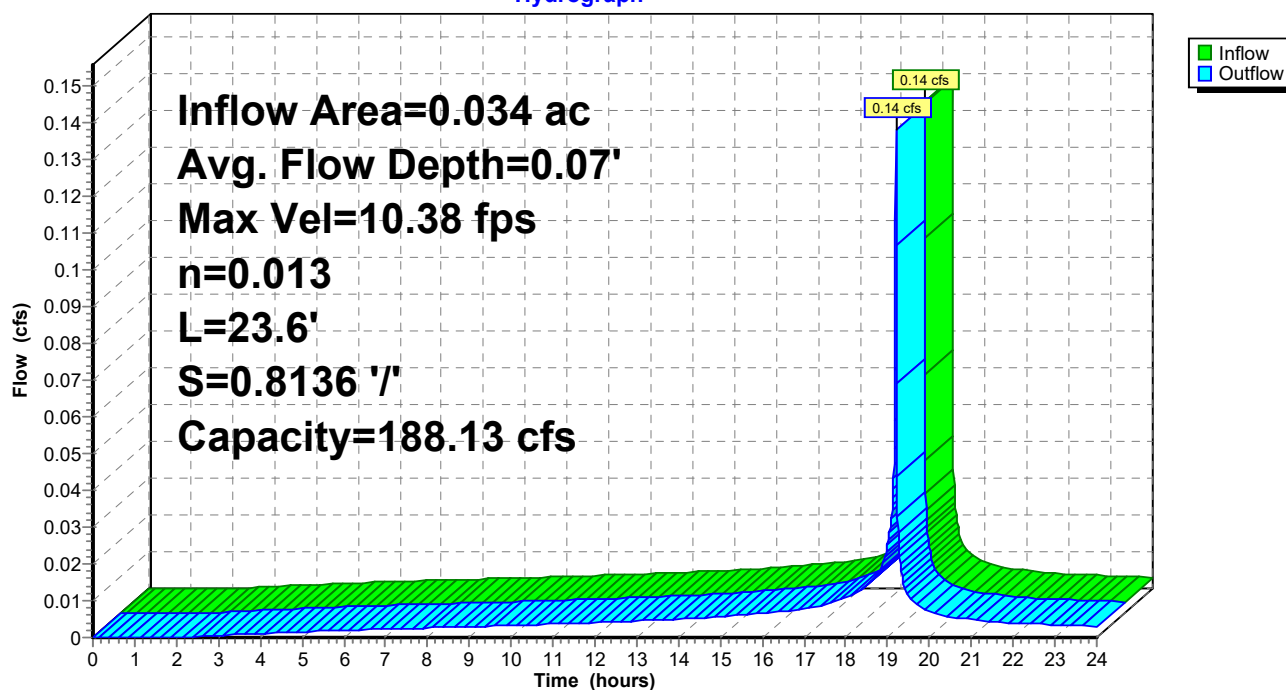
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 188.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 23.6' Slope= 0.8136 ' / '

Inlet Invert= 1,165.68', Outlet Invert= 1,146.48'

**Reach 62R: CH-15B****Hydrograph**

Summary for Reach 63R: CV-4

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 2.91" for 10-YR event
 Inflow = 5.31 cfs @ 19.22 hrs, Volume= 0.408 af
 Outflow = 5.22 cfs @ 19.22 hrs, Volume= 0.408 af, Atten= 2%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.53 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 2.50 fps, Avg. Travel Time= 0.2 min

Peak Storage= 24 cf @ 19.22 hrs

Average Depth at Peak Storage= 0.78' , Surface Width= 1.21'

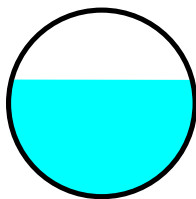
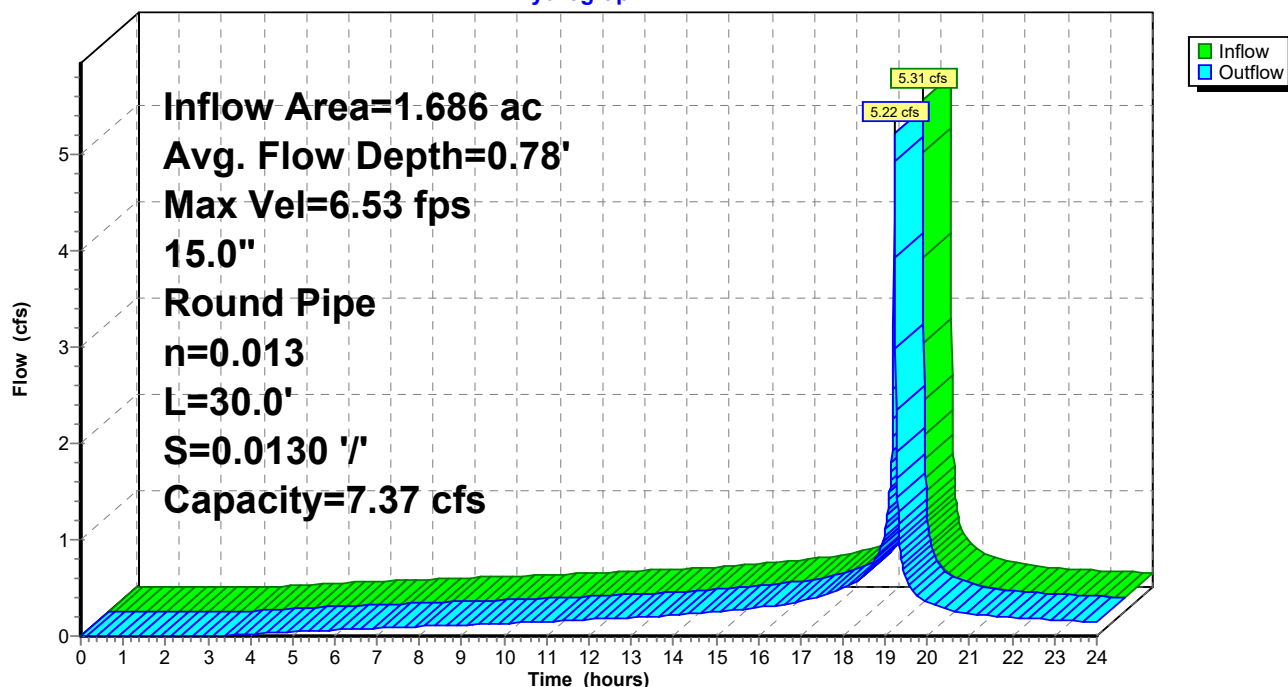
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 7.37 cfs

15.0" Round Pipe

n= 0.013

Length= 30.0' Slope= 0.0130 '/

Inlet Invert= 1,122.99', Outlet Invert= 1,122.60'

**Reach 63R: CV-4****Hydrograph**

Summary for Subcatchment 1S: DA-1

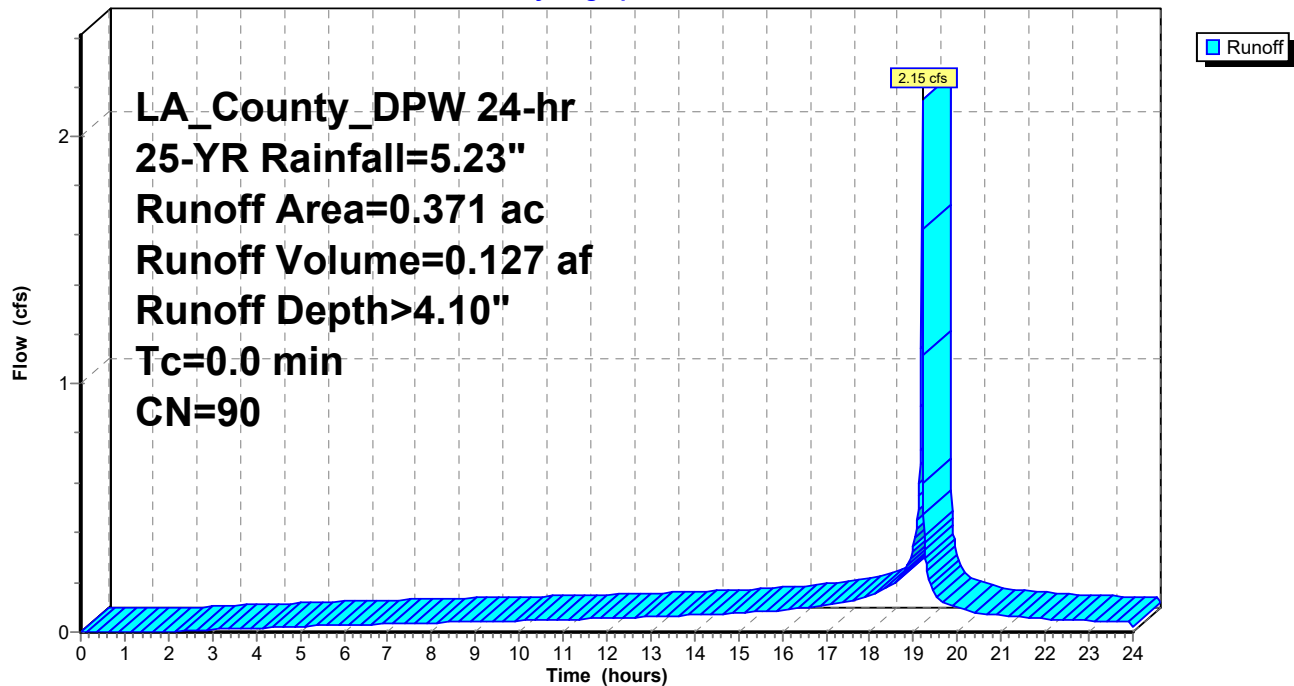
Runoff = 2.15 cfs @ 19.19 hrs, Volume= 0.127 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.371	90	
	0.371		100.00% Pervious Area

Subcatchment 1S: DA-1

Hydrograph



Summary for Subcatchment 3S: DA-3

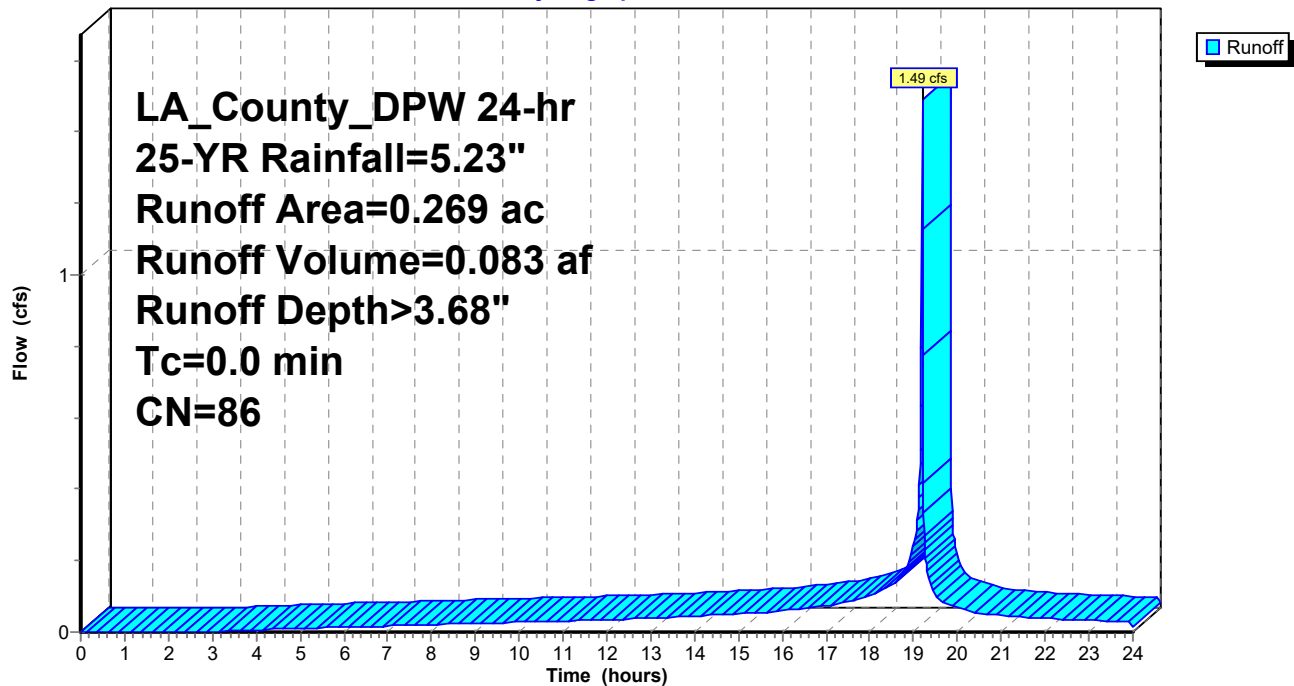
Runoff = 1.49 cfs @ 19.19 hrs, Volume= 0.083 af, Depth> 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.269	86	
	0.269		100.00% Pervious Area

Subcatchment 3S: DA-3

Hydrograph



Summary for Subcatchment 4S: DA-4

Runoff = 0.20 cfs @ 19.26 hrs, Volume= 0.025 af, Depth> 4.09"

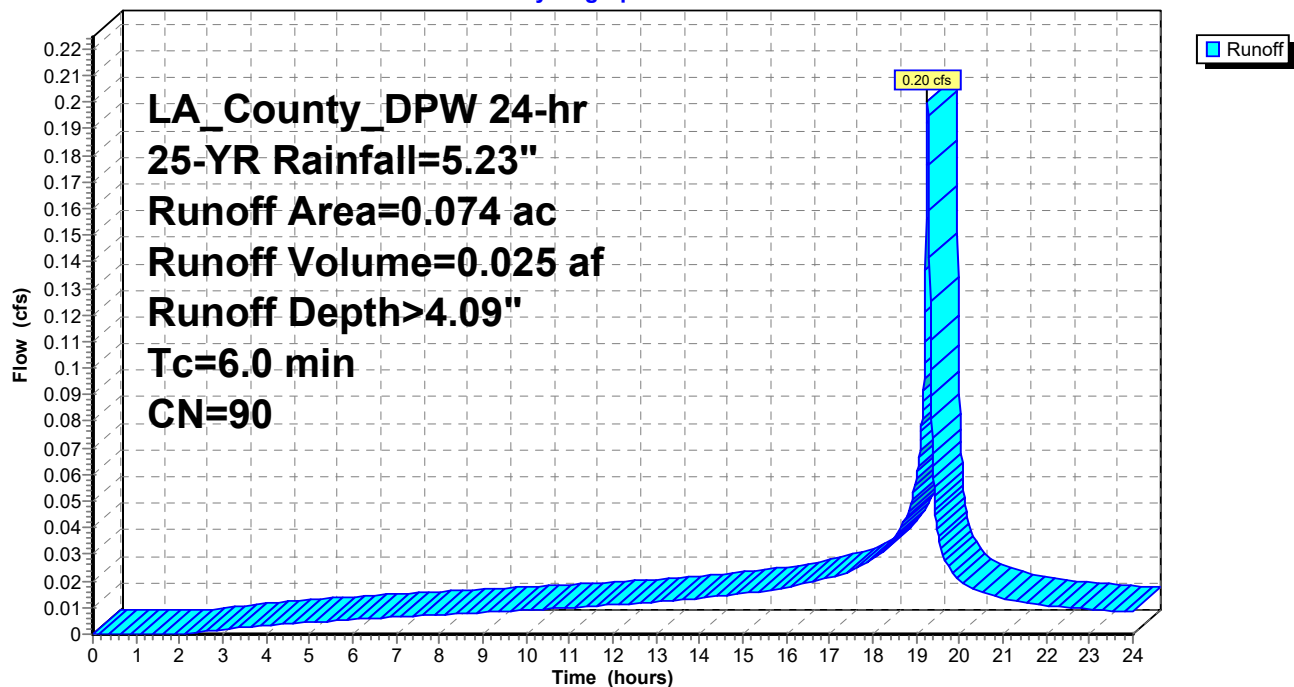
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

Area (ac)	CN	Description
* 0.074	90	
0.074		100.00% Pervious Area

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

Subcatchment 4S: DA-4

Hydrograph



Summary for Subcatchment 5S: DA-5

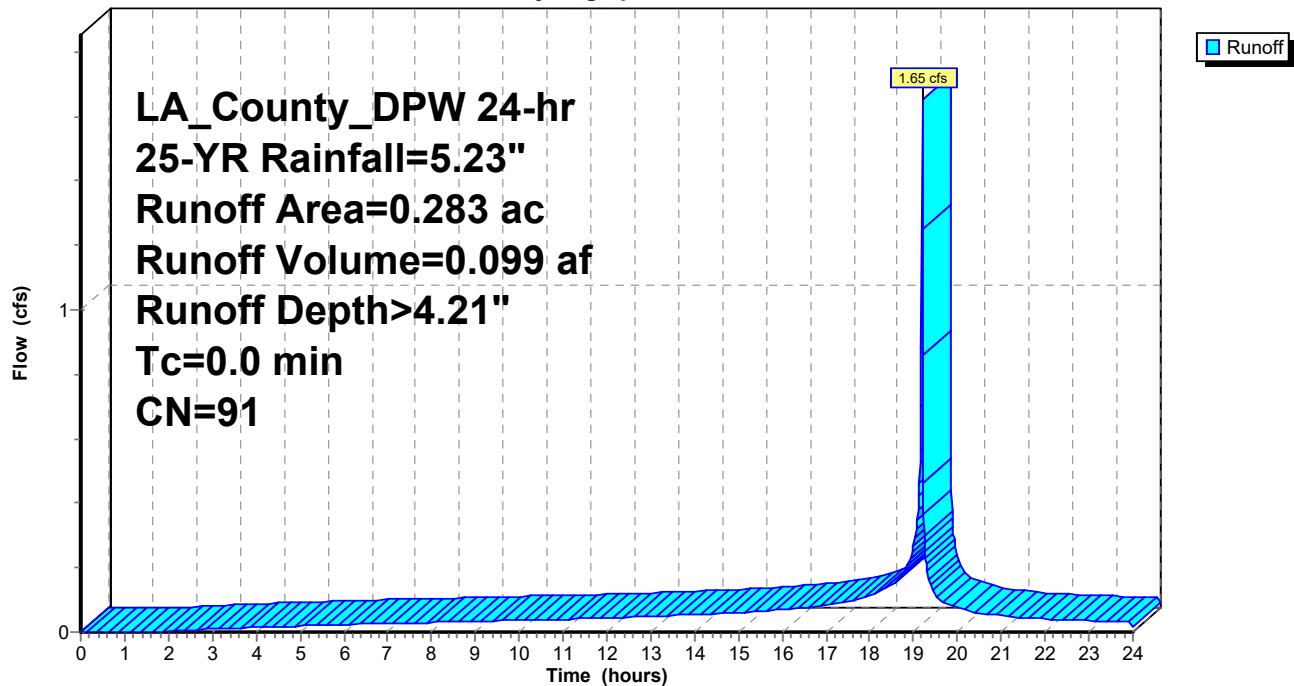
Runoff = 1.65 cfs @ 19.19 hrs, Volume= 0.099 af, Depth> 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.283	91	
	0.283		100.00% Pervious Area

Subcatchment 5S: DA-5

Hydrograph



Summary for Subcatchment 7S: DA-7

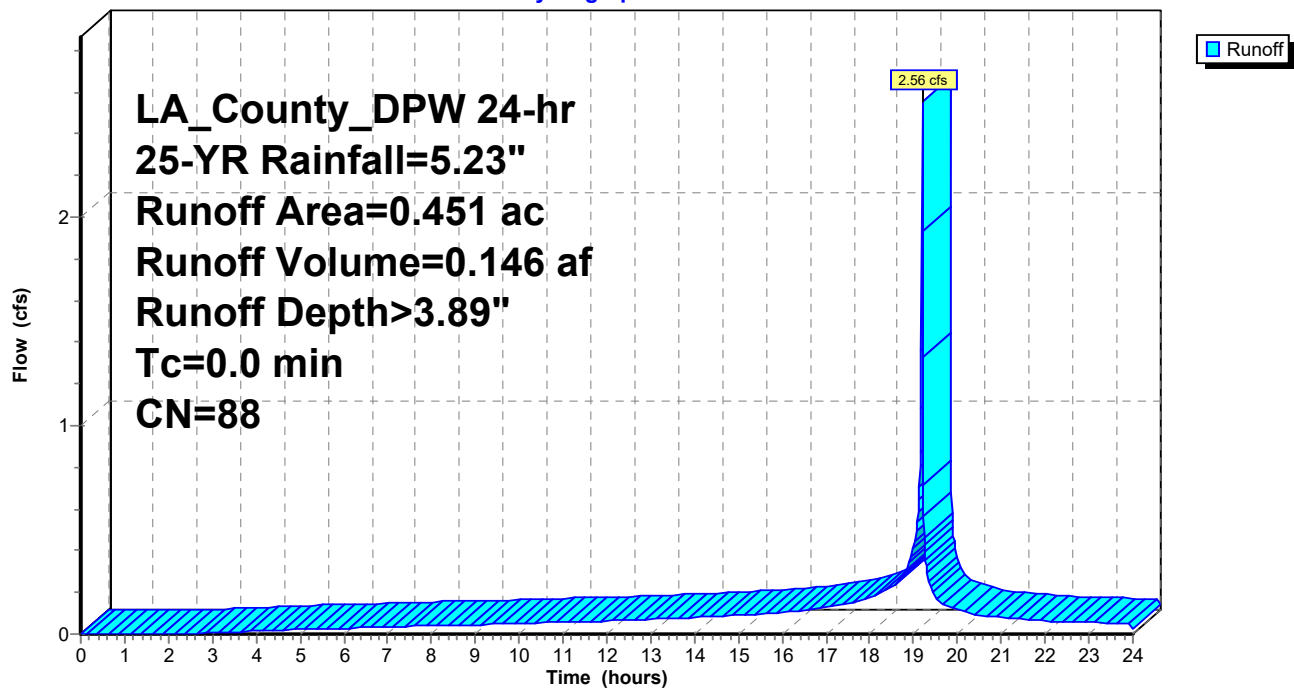
Runoff = 2.56 cfs @ 19.19 hrs, Volume= 0.146 af, Depth> 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.451	88	
	0.451		100.00% Pervious Area

Subcatchment 7S: DA-7

Hydrograph

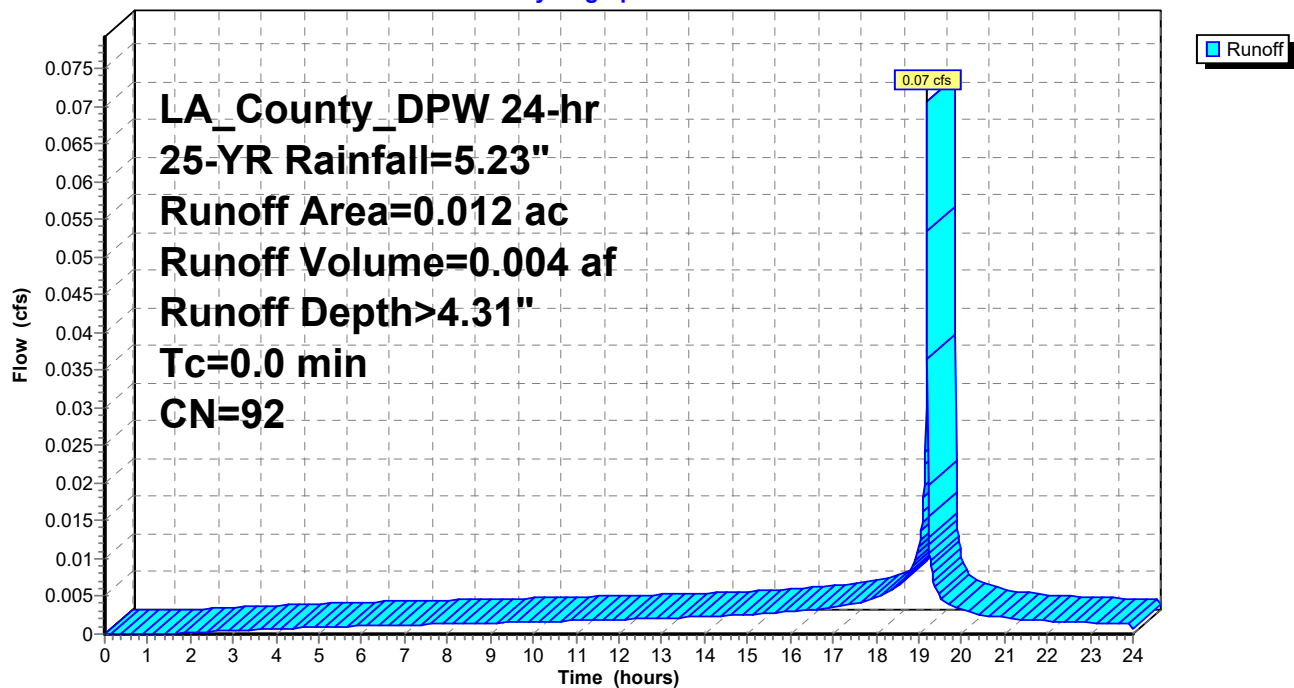


Summary for Subcatchment 8S: DA-8

Runoff = 0.07 cfs @ 19.19 hrs, Volume= 0.004 af, Depth> 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.012	92	
	0.012		100.00% Pervious Area

Subcatchment 8S: DA-8**Hydrograph**

Summary for Subcatchment 9S: DA-9

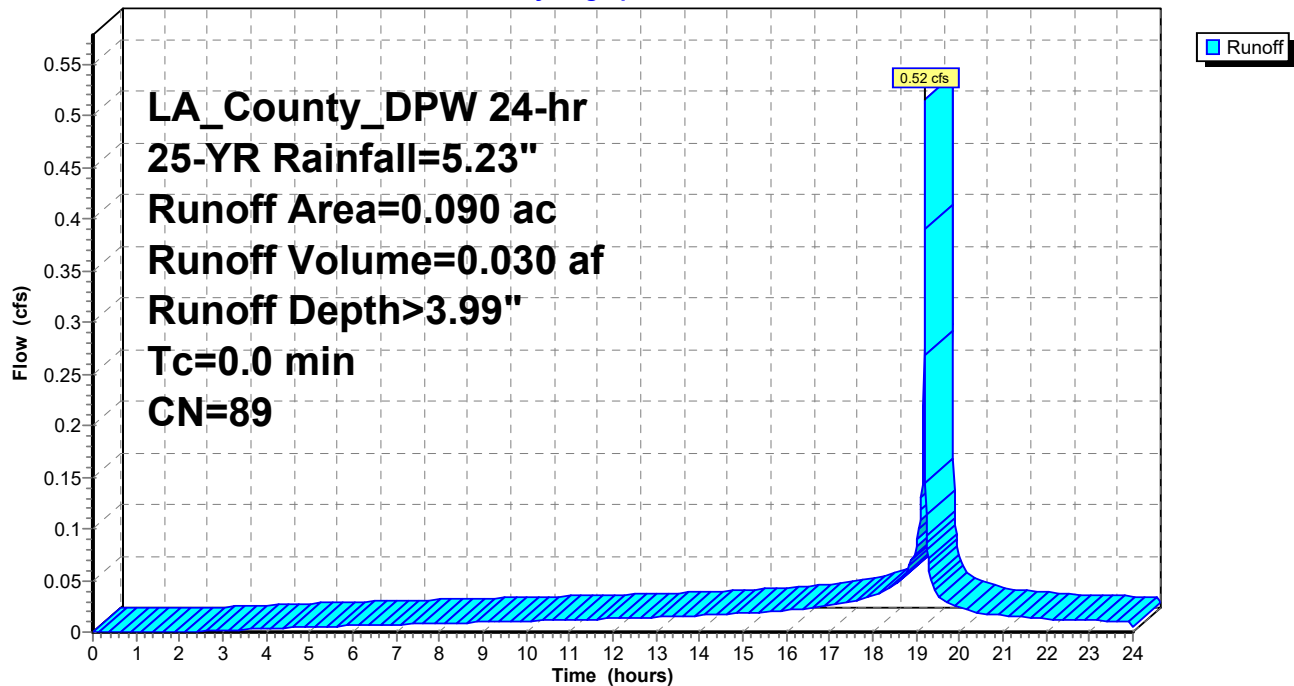
Runoff = 0.52 cfs @ 19.19 hrs, Volume= 0.030 af, Depth> 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.090	89	
	0.090		100.00% Pervious Area

Subcatchment 9S: DA-9

Hydrograph



Summary for Subcatchment 10S: DA-10

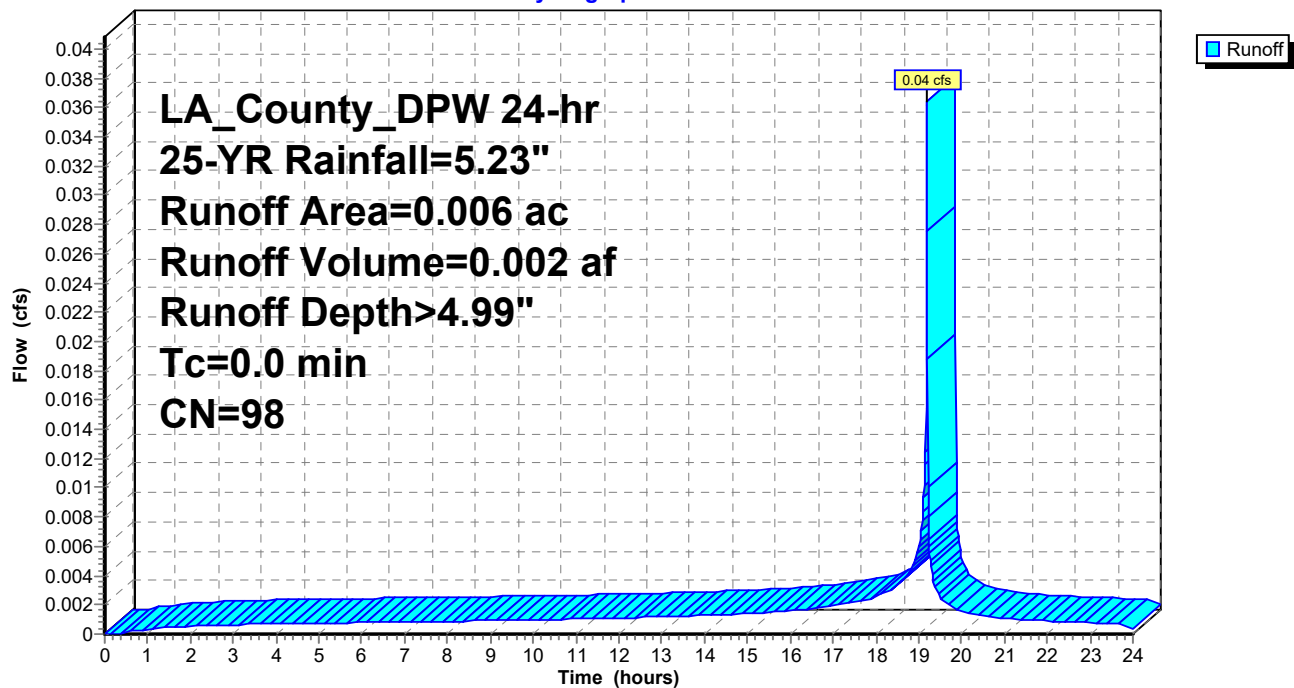
Runoff = 0.04 cfs @ 19.19 hrs, Volume= 0.002 af, Depth> 4.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.006	98	
	0.006		100.00% Impervious Area

Subcatchment 10S: DA-10

Hydrograph



Summary for Subcatchment 11S: DA-11

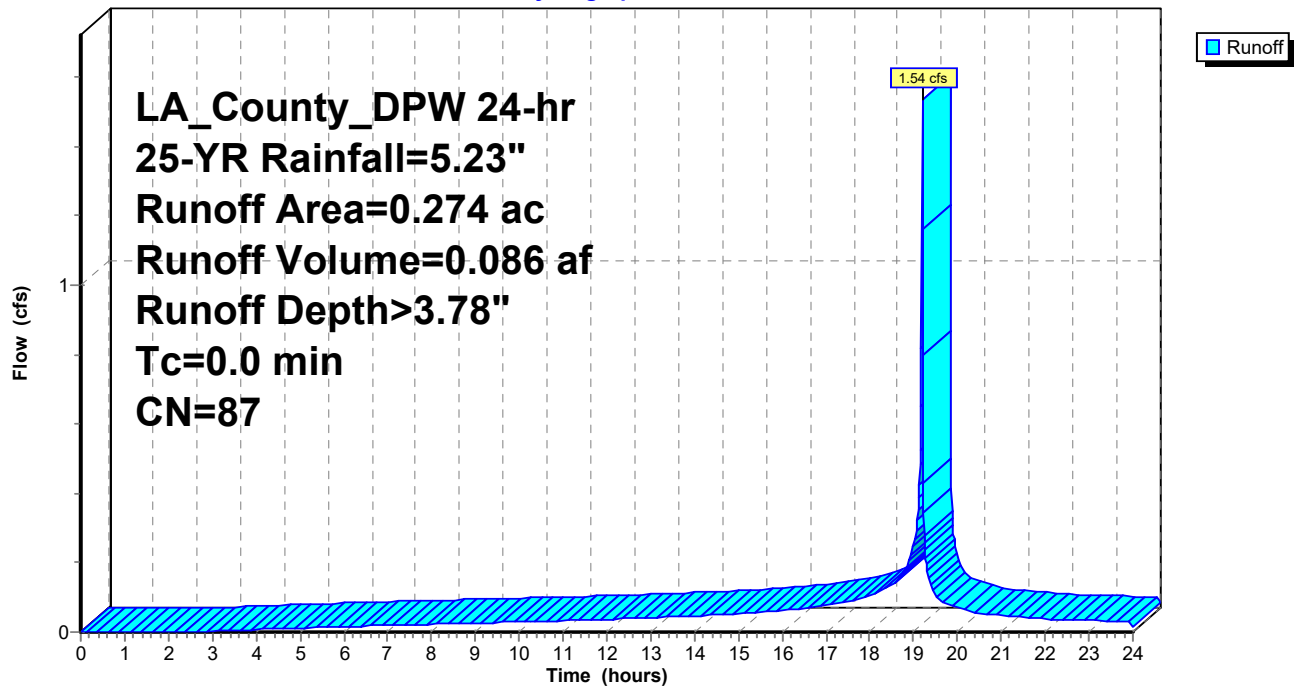
Runoff = 1.54 cfs @ 19.19 hrs, Volume= 0.086 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.274	87	
	0.274		100.00% Pervious Area

Subcatchment 11S: DA-11

Hydrograph

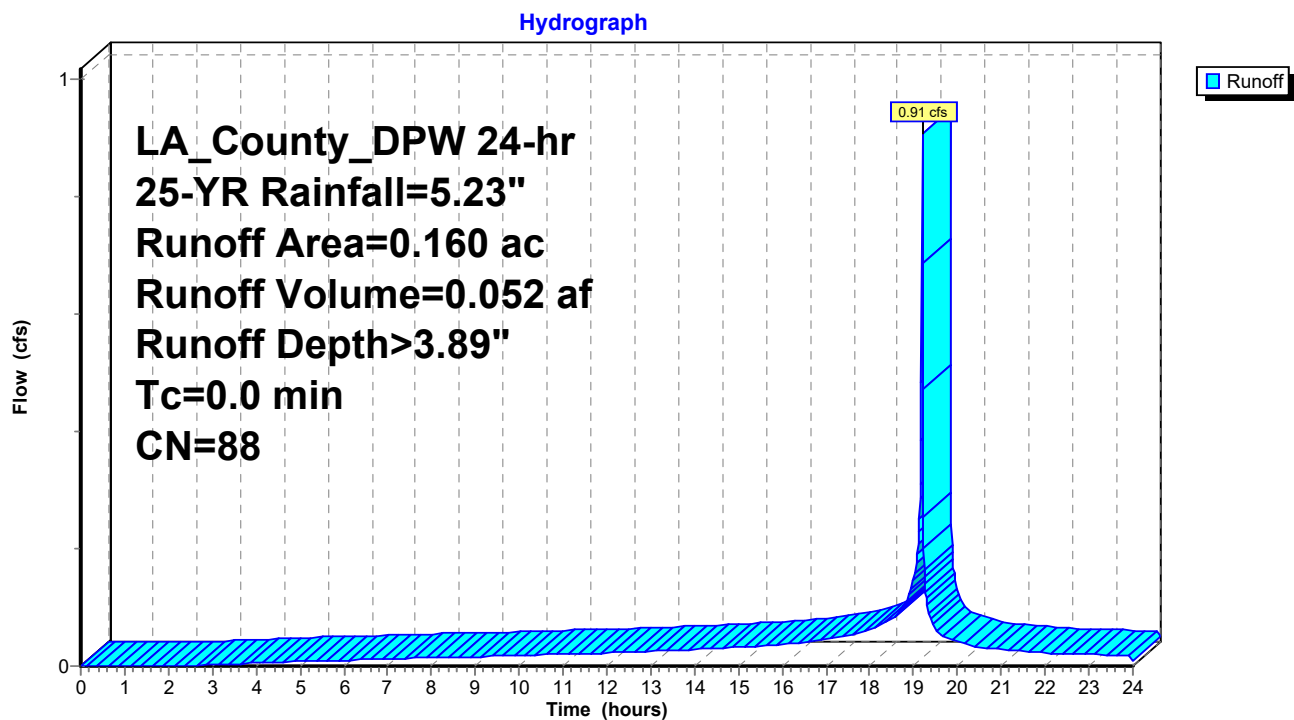


Summary for Subcatchment 12S: DA-12

Runoff = 0.91 cfs @ 19.19 hrs, Volume= 0.052 af, Depth> 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.160	88	
	0.160		100.00% Pervious Area

Subcatchment 12S: DA-12

Summary for Subcatchment 13S: DA-13

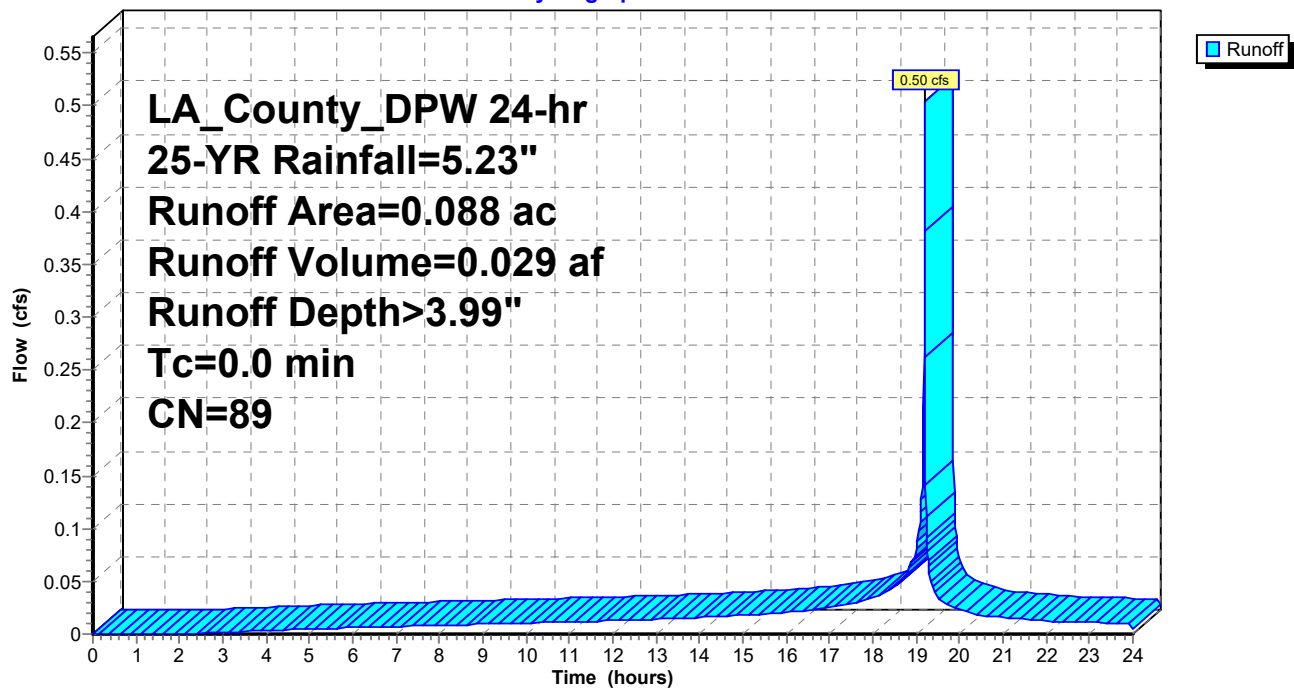
Runoff = 0.50 cfs @ 19.19 hrs, Volume= 0.029 af, Depth> 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.088	89	
	0.088		100.00% Pervious Area

Subcatchment 13S: DA-13

Hydrograph



Summary for Subcatchment 14S: DA-14

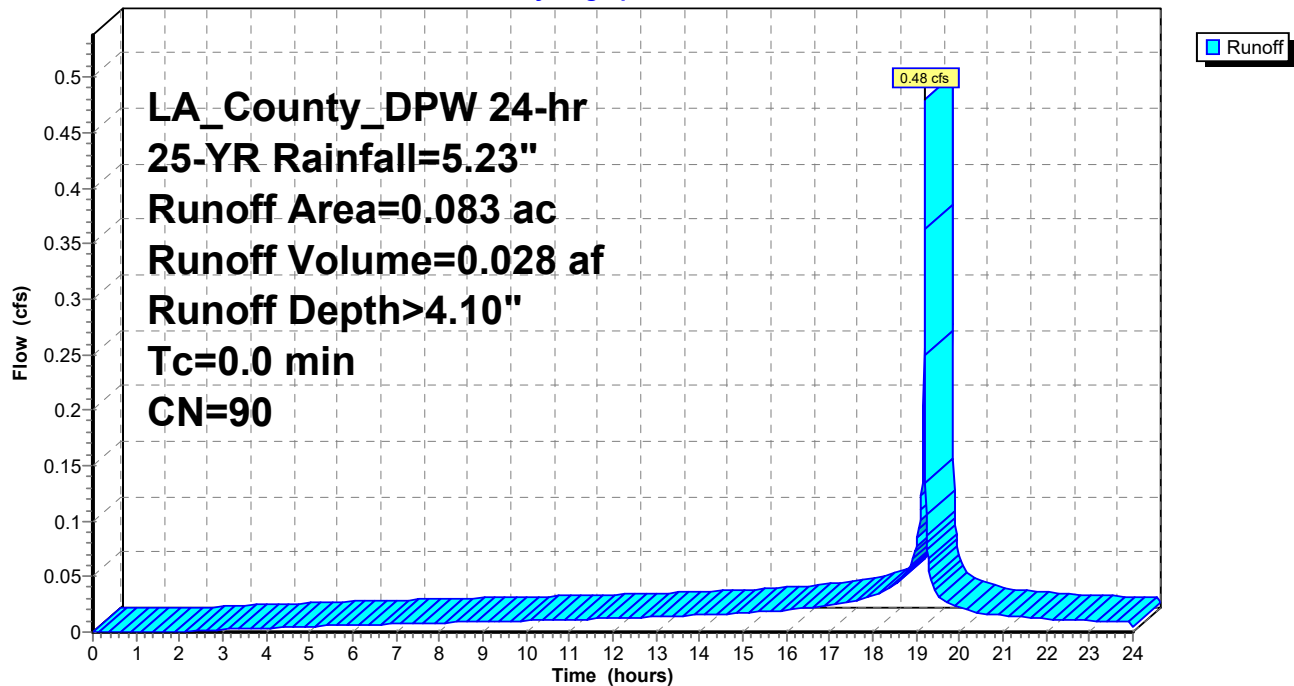
Runoff = 0.48 cfs @ 19.19 hrs, Volume= 0.028 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.083	90	
	0.083		100.00% Pervious Area

Subcatchment 14S: DA-14

Hydrograph



Summary for Subcatchment 15S: DA-15

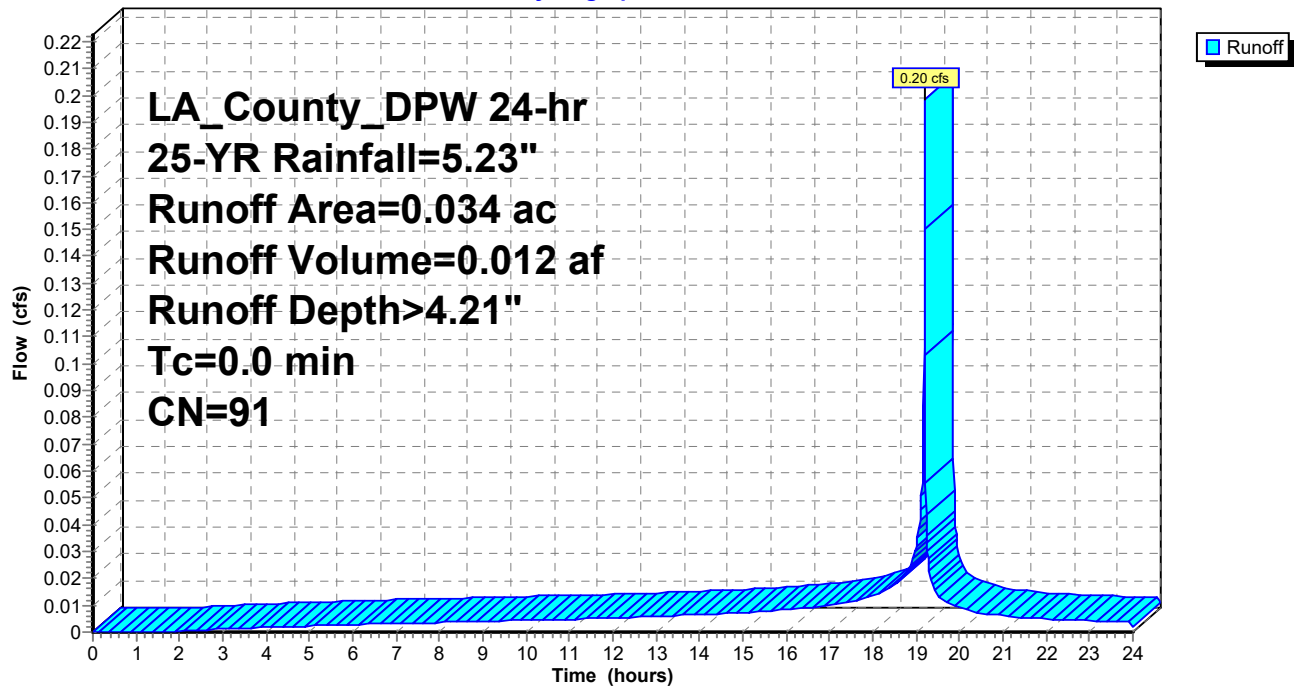
Runoff = 0.20 cfs @ 19.19 hrs, Volume= 0.012 af, Depth> 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.034	91	
	0.034		100.00% Pervious Area

Subcatchment 15S: DA-15

Hydrograph



Summary for Subcatchment 16S: DA-16

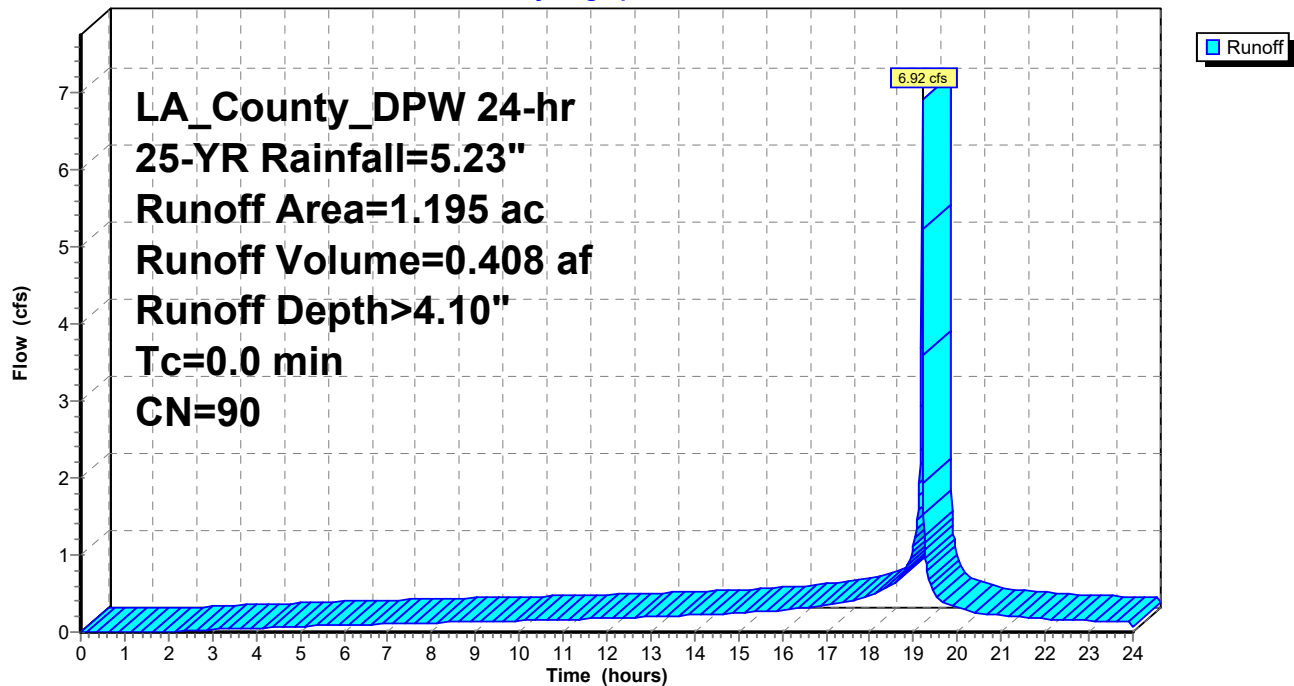
Runoff = 6.92 cfs @ 19.19 hrs, Volume= 0.408 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	1.195	90	
	1.195		100.00% Pervious Area

Subcatchment 16S: DA-16

Hydrograph



Summary for Subcatchment 17S: DA-17

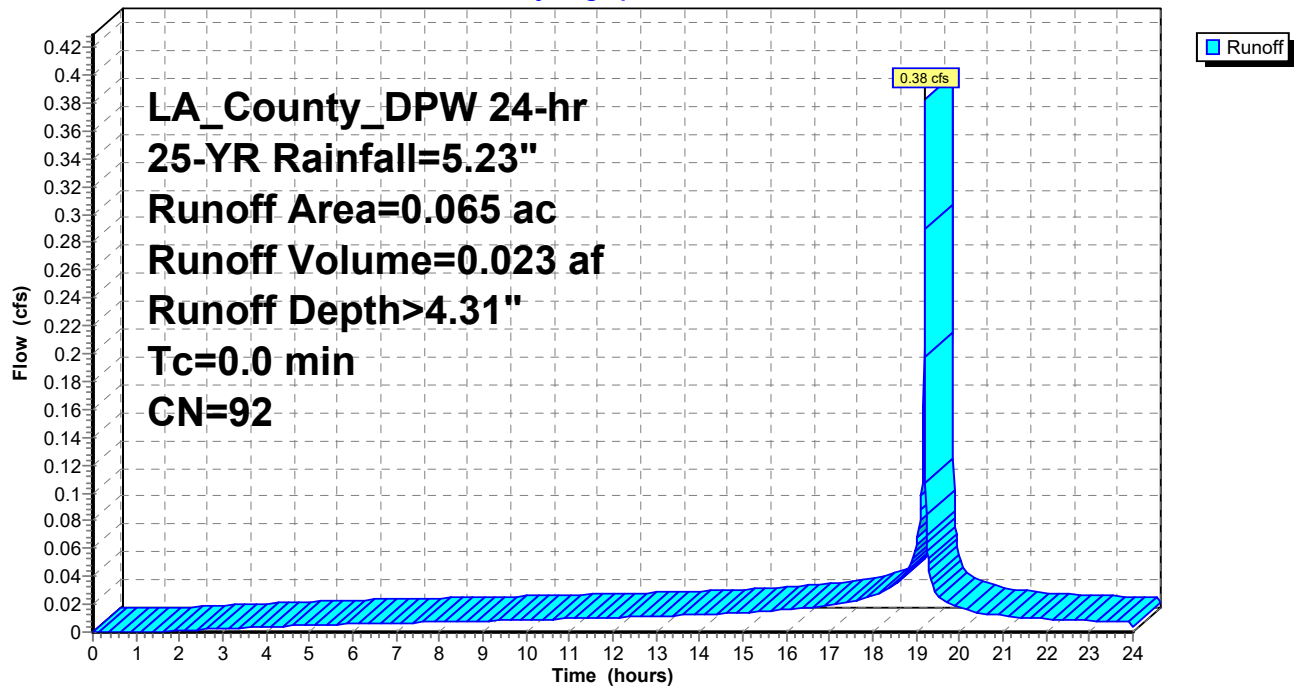
Runoff = 0.38 cfs @ 19.19 hrs, Volume= 0.023 af, Depth> 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.065	92	
	0.065		100.00% Pervious Area

Subcatchment 17S: DA-17

Hydrograph



Summary for Subcatchment 19S: DA-19

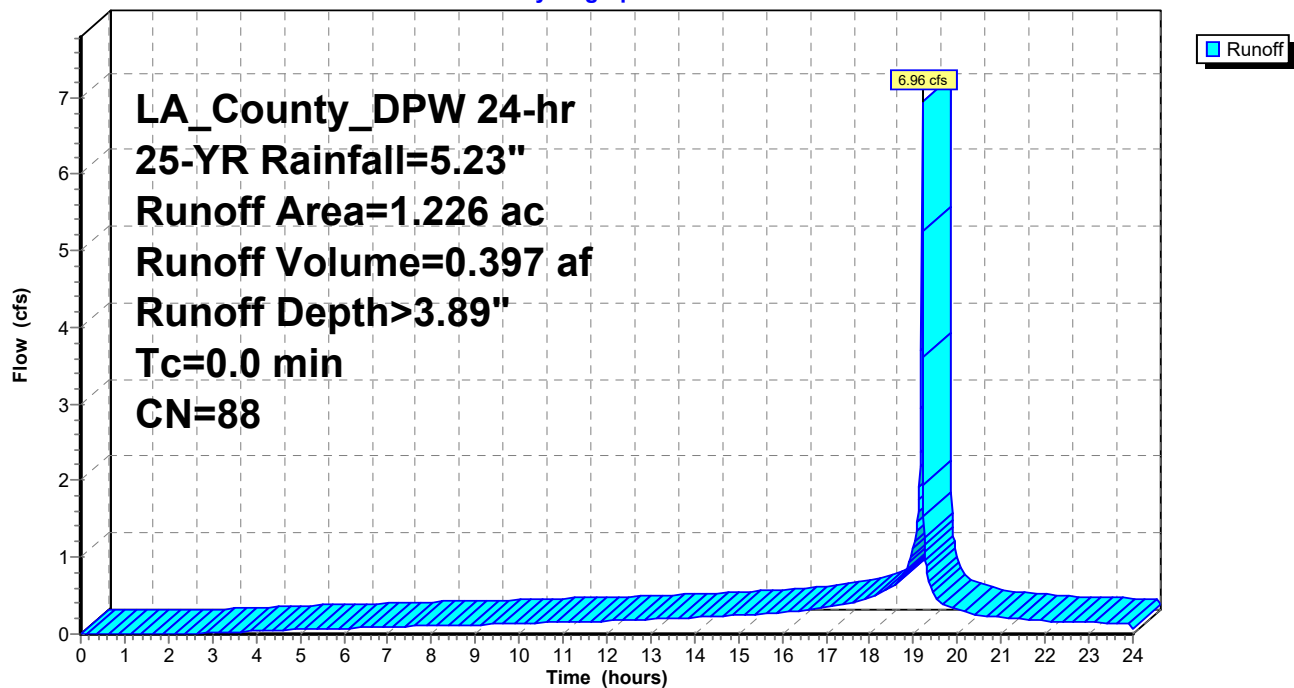
Runoff = 6.96 cfs @ 19.19 hrs, Volume= 0.397 af, Depth> 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	1.226	88	
	1.226		100.00% Pervious Area

Subcatchment 19S: DA-19

Hydrograph



Summary for Subcatchment 25S: DA-26

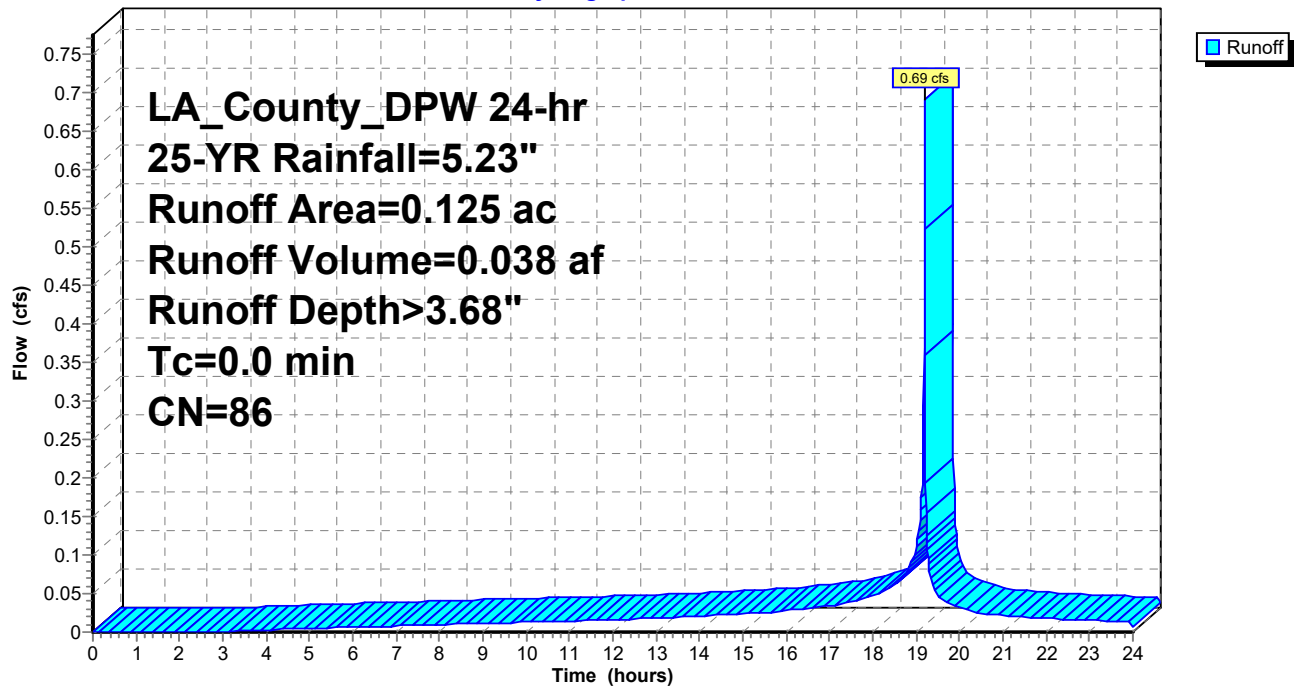
Runoff = 0.69 cfs @ 19.19 hrs, Volume= 0.038 af, Depth> 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.125	86	
	0.125		100.00% Pervious Area

Subcatchment 25S: DA-26

Hydrograph



Summary for Subcatchment 26S: DA-27

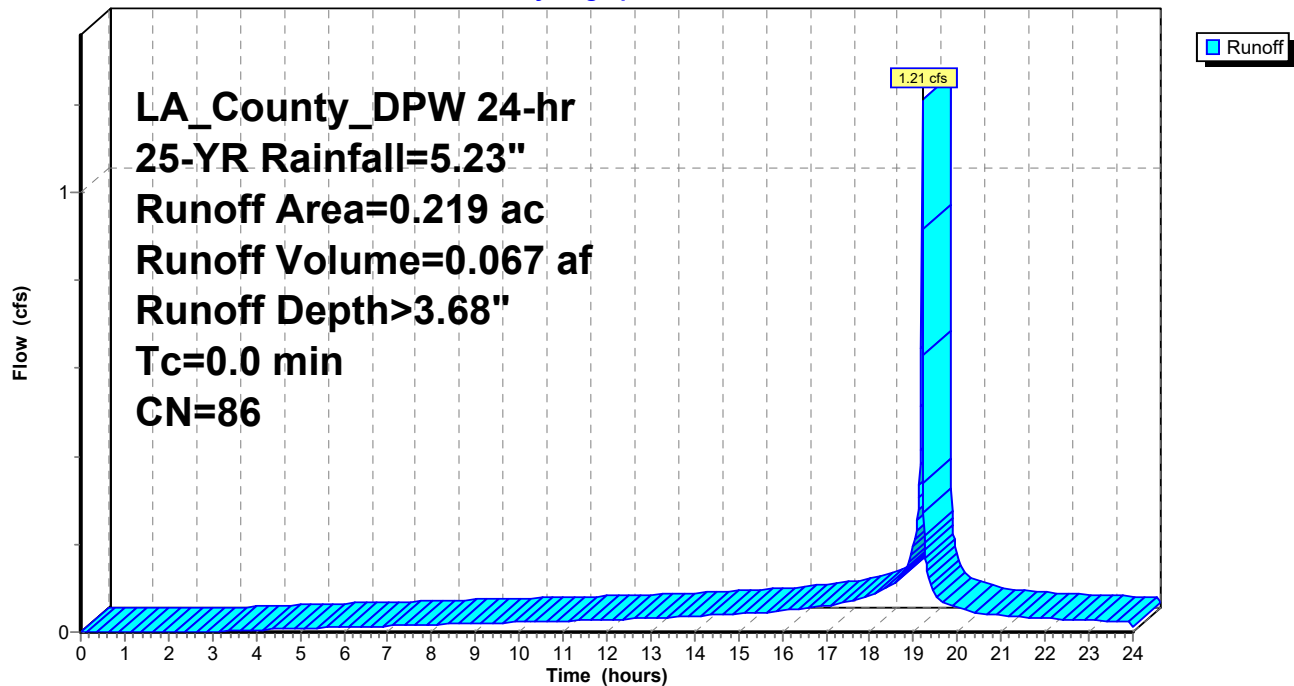
Runoff = 1.21 cfs @ 19.19 hrs, Volume= 0.067 af, Depth> 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.219	86	
	0.219		100.00% Pervious Area

Subcatchment 26S: DA-27

Hydrograph



Summary for Subcatchment 28S: DA-29

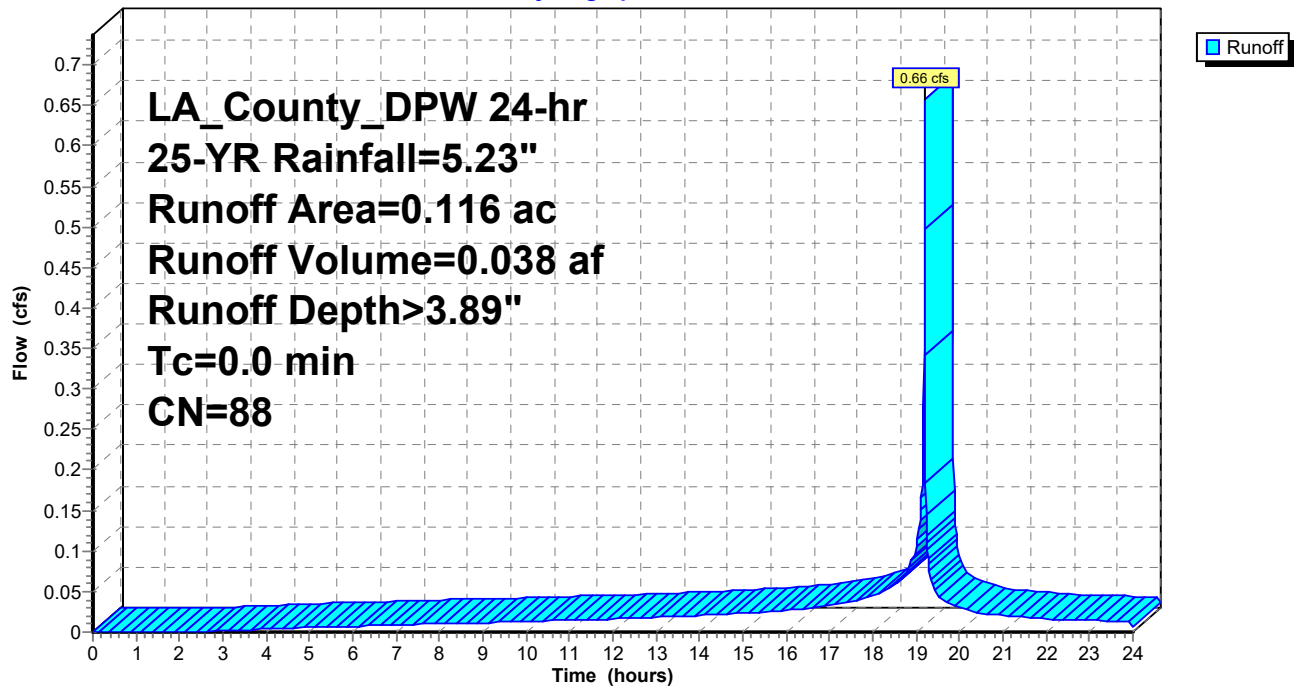
Runoff = 0.66 cfs @ 19.19 hrs, Volume= 0.038 af, Depth> 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 25-YR Rainfall=5.23"

	Area (ac)	CN	Description
*	0.116	88	
	0.116		100.00% Pervious Area

Subcatchment 28S: DA-29

Hydrograph



Summary for Reach 29R: CH-6

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 3.95" for 25-YR event
 Inflow = 3.77 cfs @ 19.19 hrs, Volume= 0.269 af
 Outflow = 2.95 cfs @ 19.23 hrs, Volume= 0.268 af, Atten= 22%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.64 fps, Min. Travel Time= 1.3 min

Avg. Velocity = 0.89 fps, Avg. Travel Time= 3.7 min

Peak Storage= 226 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.25' , Surface Width= 6.00'

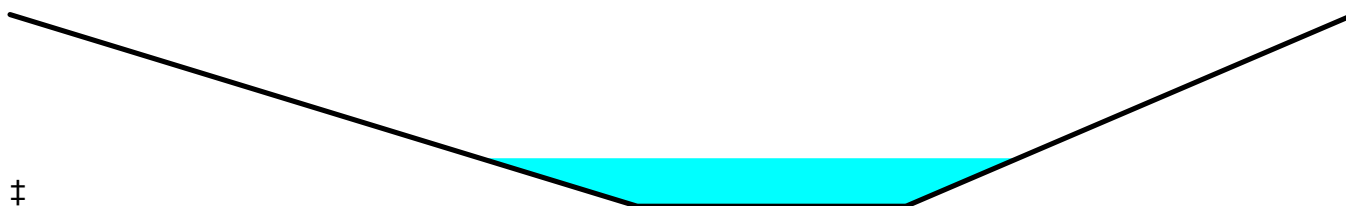
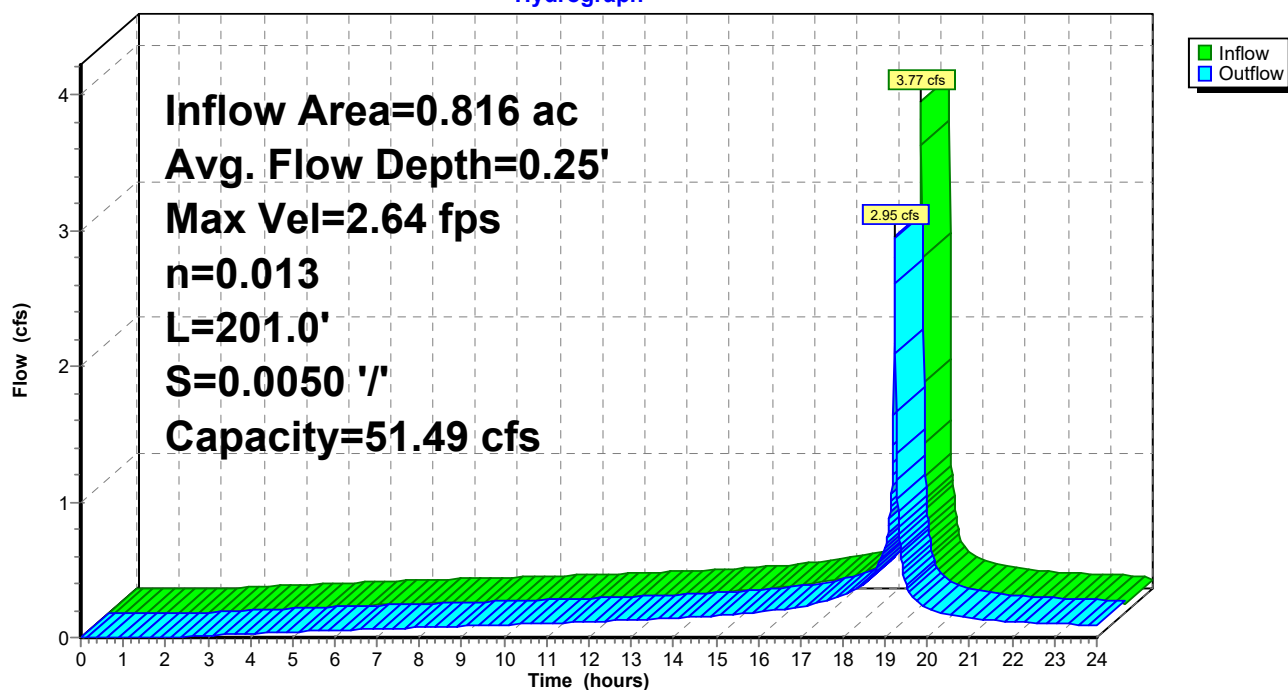
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 51.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 '/' Top Width= 15.00'

Length= 201.0' Slope= 0.0050 '/'

Inlet Invert= 1,148.00', Outlet Invert= 1,146.99'

**Reach 29R: CH-6****Hydrograph**

Summary for Reach 30R: CH-7

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 3.89" for 25-YR event
 Inflow = 2.56 cfs @ 19.19 hrs, Volume= 0.146 af
 Outflow = 2.12 cfs @ 19.20 hrs, Volume= 0.146 af, Atten= 17%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.69 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.42 fps, Avg. Travel Time= 1.5 min

Peak Storage= 55 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.12', Surface Width= 2.47'

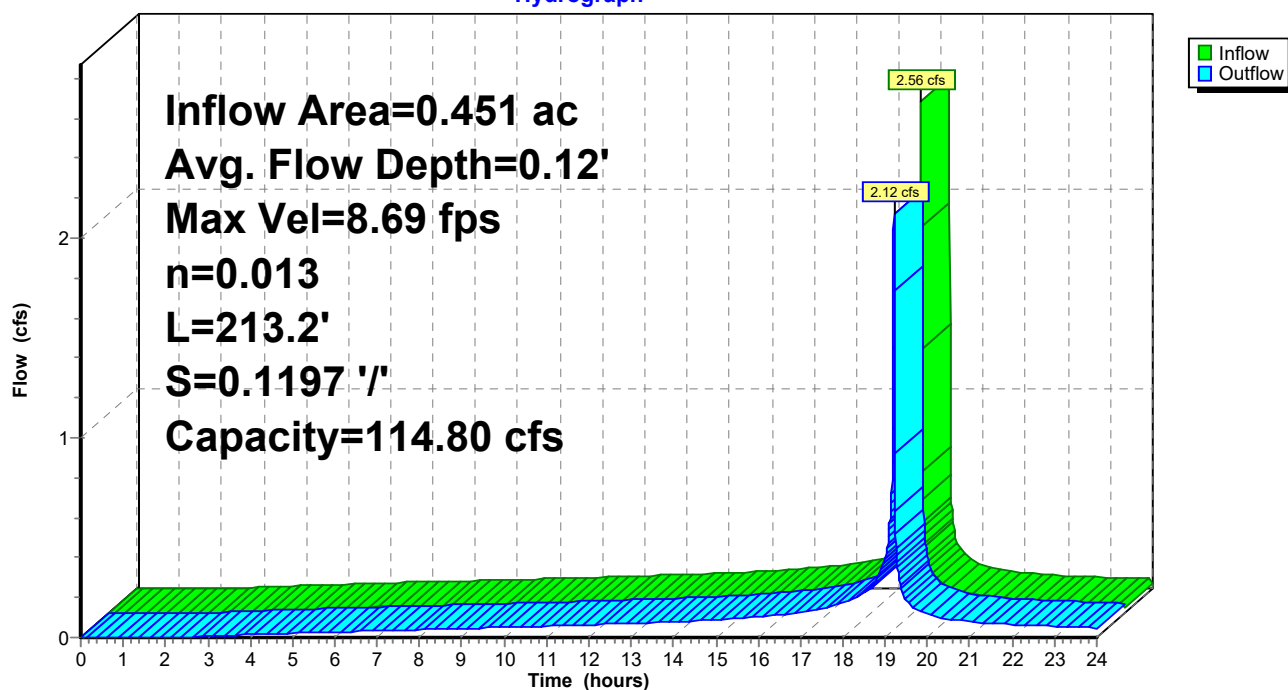
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 114.80 cfs

2.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 6.00'

Length= 213.2' Slope= 0.1197 '/'

Inlet Invert= 1,174.38', Outlet Invert= 1,148.85'

**Reach 30R: CH-7****Hydrograph**

Summary for Reach 31R: CH-4

Inflow Area = 0.445 ac, 0.00% Impervious, Inflow Depth > 3.83" for 25-YR event
 Inflow = 1.91 cfs @ 19.19 hrs, Volume= 0.142 af
 Outflow = 1.82 cfs @ 19.20 hrs, Volume= 0.142 af, Atten= 5%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 13.23 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 5.53 fps, Avg. Travel Time= 0.3 min

Peak Storage= 16 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.22' , Surface Width= 1.31'

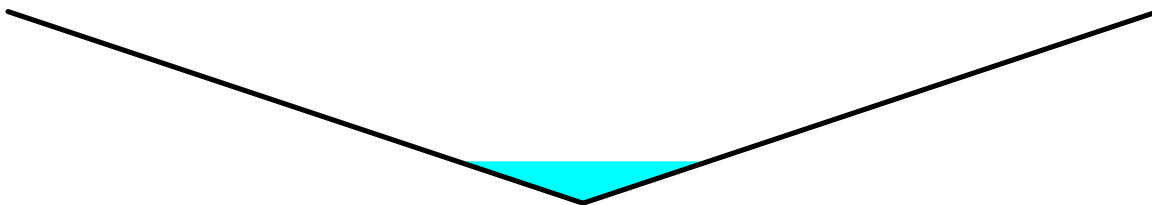
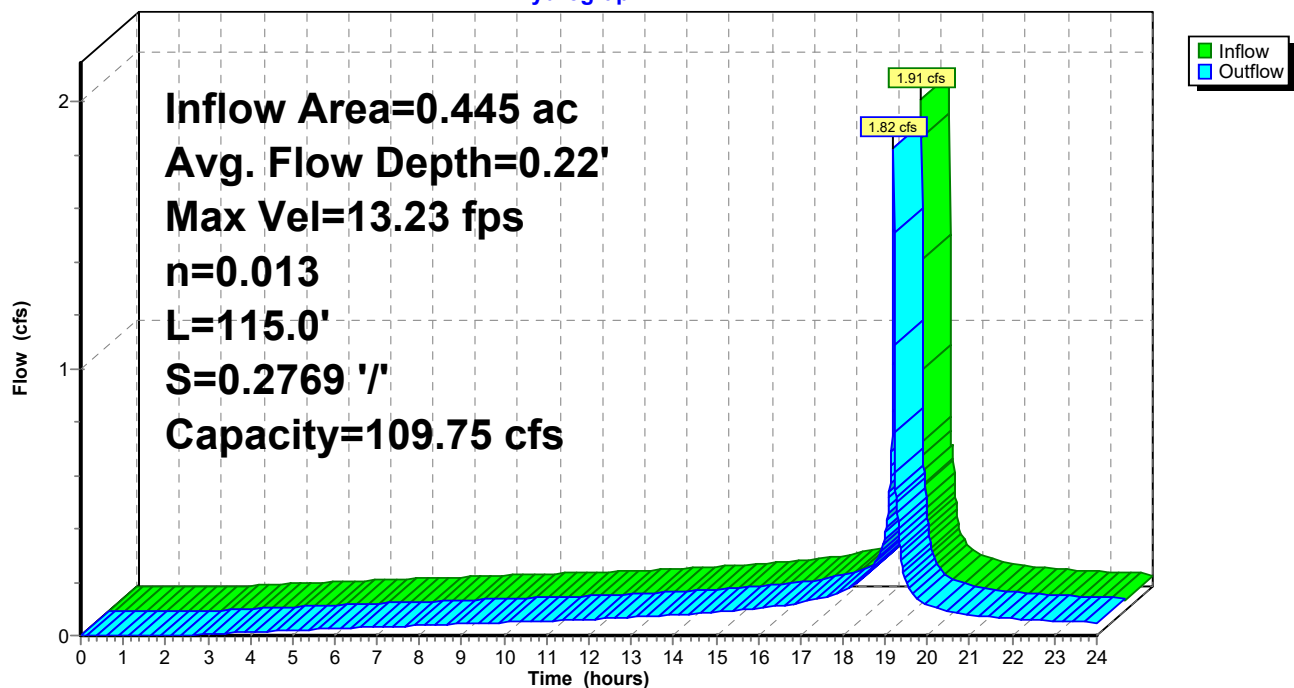
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 109.75 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 115.0' Slope= 0.2769 '/'

Inlet Invert= 1,179.25', Outlet Invert= 1,147.41'

**Reach 31R: CH-4****Hydrograph**

Summary for Reach 32R: CH-3

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 3.99" for 25-YR event
 Inflow = 0.52 cfs @ 19.19 hrs, Volume= 0.030 af
 Outflow = 0.42 cfs @ 19.20 hrs, Volume= 0.030 af, Atten= 18%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.89 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.01 fps, Avg. Travel Time= 1.0 min

Peak Storage= 11 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 1.14'

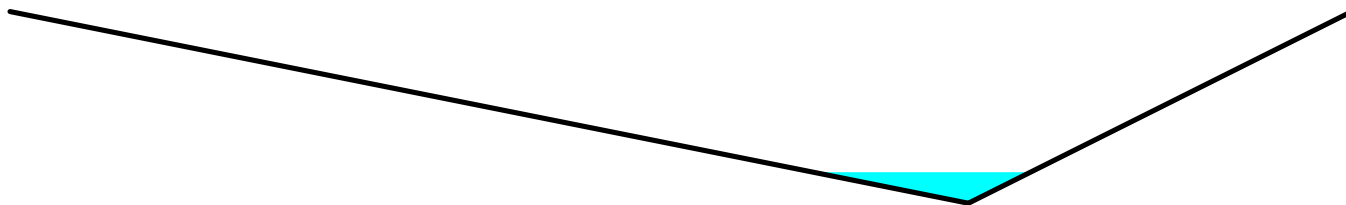
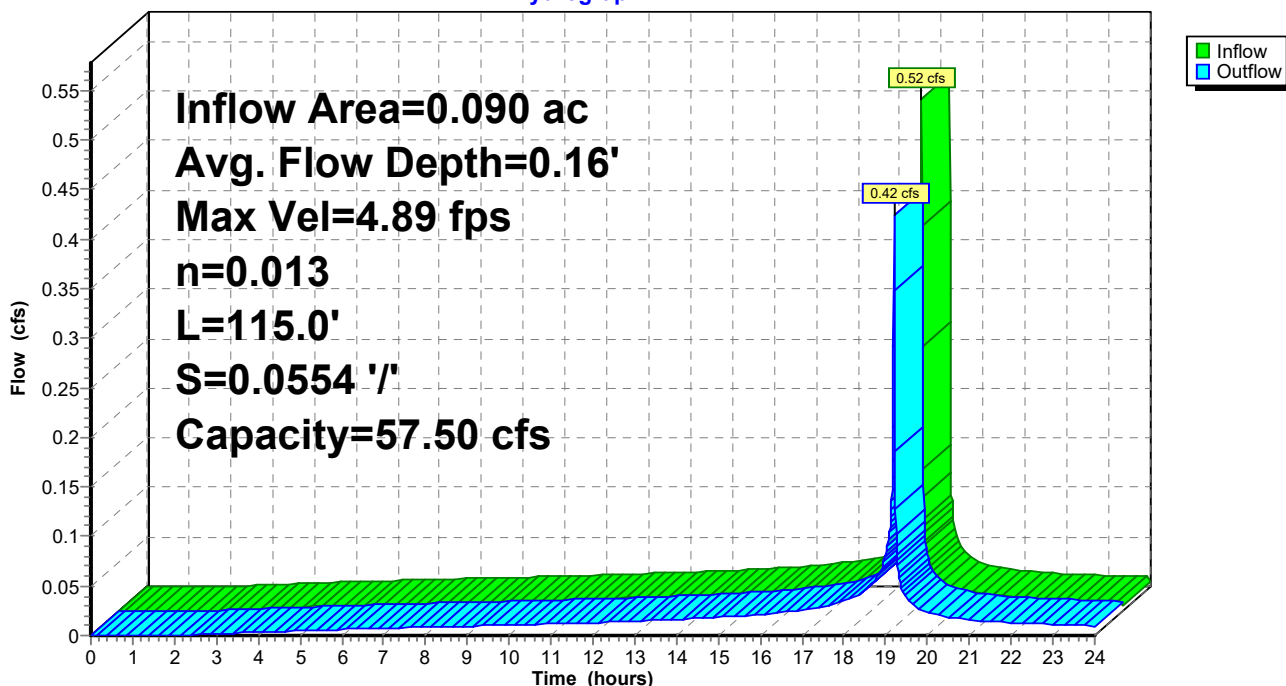
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 57.50 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 115.0' Slope= 0.0554 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,171.63'

**Reach 32R: CH-3****Hydrograph**

Summary for Reach 33R: CH-2

Inflow Area = 0.269 ac, 0.00% Impervious, Inflow Depth > 3.68" for 25-YR event
 Inflow = 1.49 cfs @ 19.19 hrs, Volume= 0.083 af
 Outflow = 1.42 cfs @ 19.19 hrs, Volume= 0.083 af, Atten= 5%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.29 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 4.49 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 19.19 hrs

Average Depth at Peak Storage= 0.19' , Surface Width= 1.34'

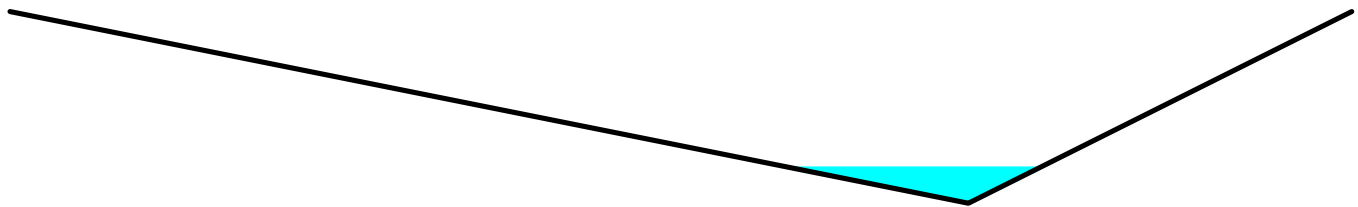
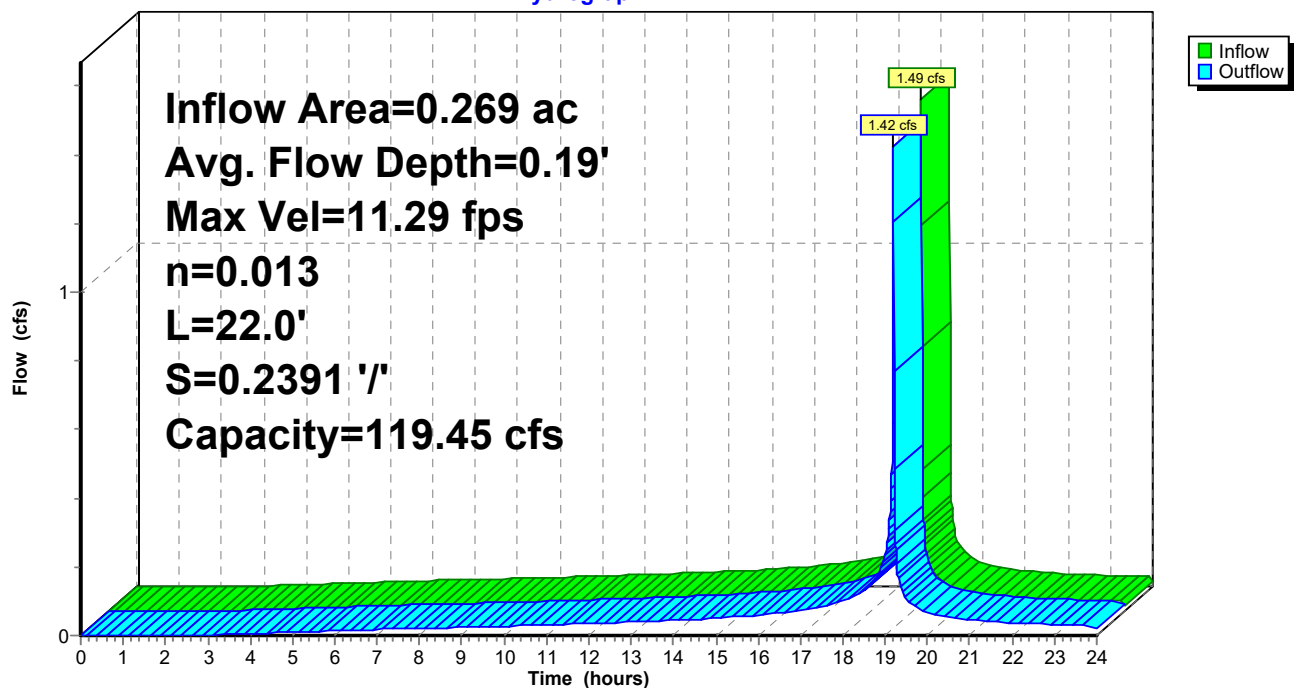
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 119.45 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 22.0' Slope= 0.2391 ' / '

Inlet Invert= 1,176.89', Outlet Invert= 1,171.63'

**Reach 33R: CH-2****Hydrograph**

Summary for Reach 34R: CH-1

Inflow Area = 0.074 ac, 0.00% Impervious, Inflow Depth > 4.09" for 25-YR event
 Inflow = 0.20 cfs @ 19.26 hrs, Volume= 0.025 af
 Outflow = 0.20 cfs @ 19.28 hrs, Volume= 0.025 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.74 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 1.81 fps, Avg. Travel Time= 1.1 min

Peak Storage= 7 cf @ 19.27 hrs

Average Depth at Peak Storage= 0.12' , Surface Width= 0.86'

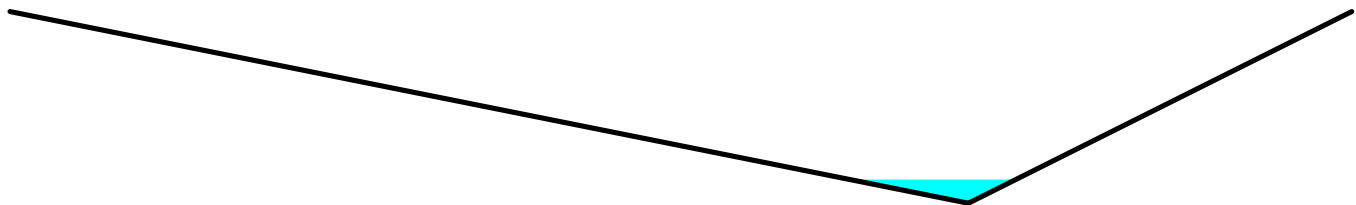
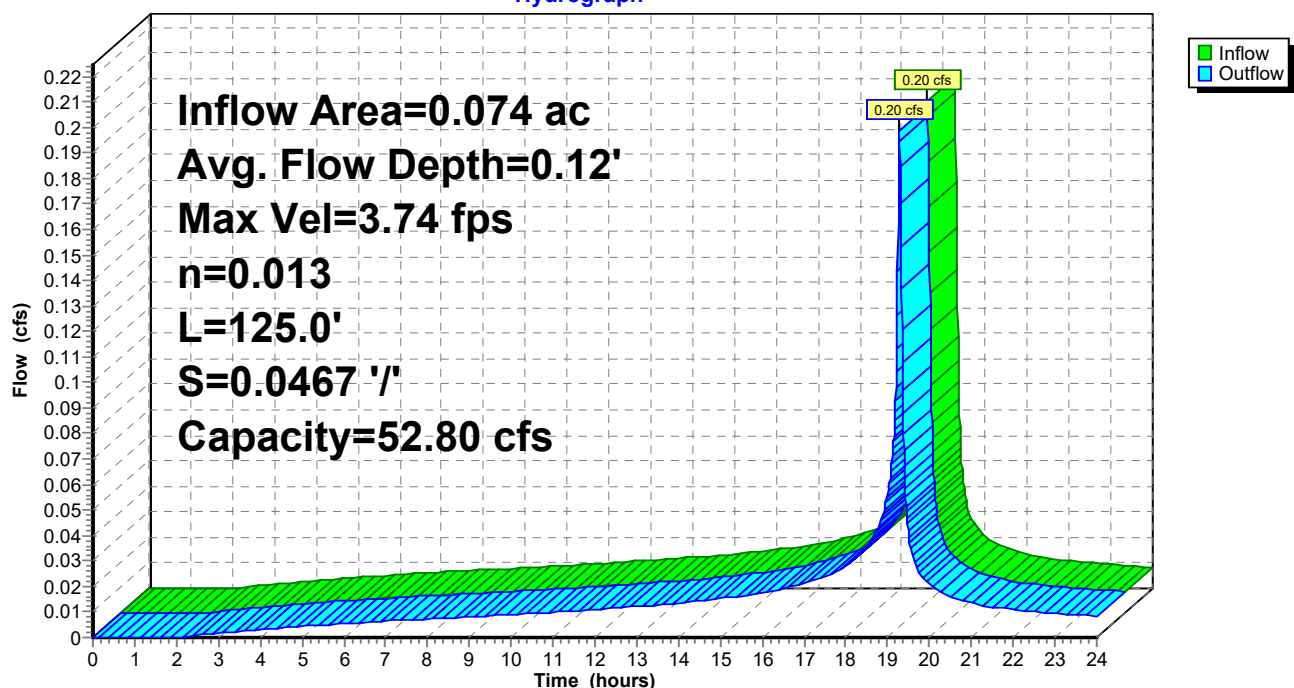
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 52.80 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' Top Width= 7.00'

Length= 125.0' Slope= 0.0467 ' / '

Inlet Invert= 1,206.17', Outlet Invert= 1,200.33'

**Reach 34R: CH-1****Hydrograph**

Summary for Reach 35R: CH-8

Inflow Area = 0.065 ac, 0.00% Impervious, Inflow Depth > 4.31" for 25-YR event
 Inflow = 0.38 cfs @ 19.19 hrs, Volume= 0.023 af
 Outflow = 0.29 cfs @ 19.21 hrs, Volume= 0.023 af, Atten= 23%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.13 fps, Min. Travel Time= 0.8 min

Avg. Velocity = 2.62 fps, Avg. Travel Time= 1.8 min

Peak Storage= 14 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 0.63'

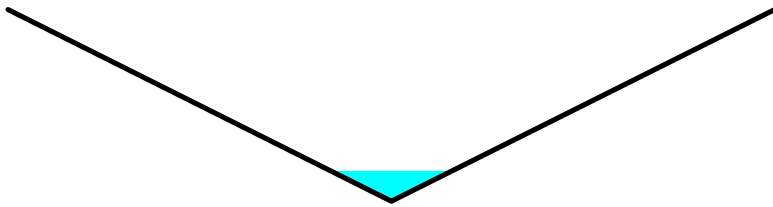
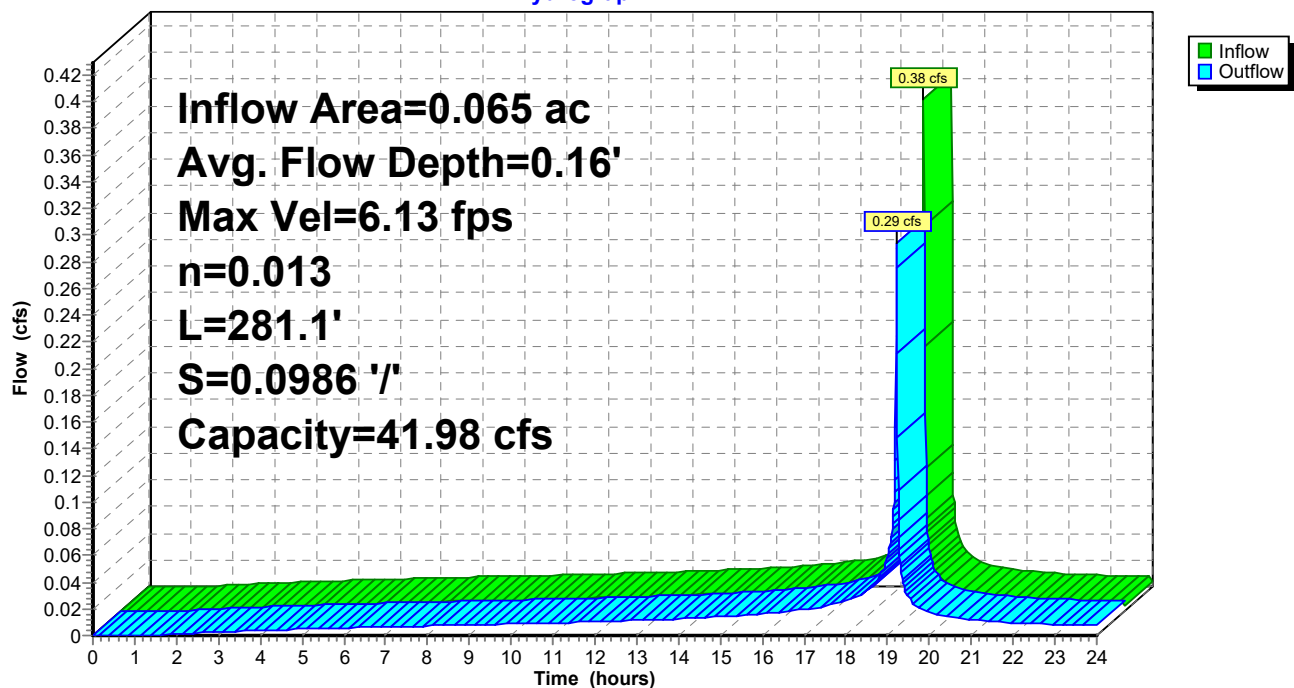
Bank-Full Depth= 1.00' Flow Area= 2.0 sf, Capacity= 41.98 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 4.00'

Length= 281.1' Slope= 0.0986 '/'

Inlet Invert= 1,174.52', Outlet Invert= 1,146.81'

**Reach 35R: CH-8****Hydrograph**

Summary for Reach 36R: CH-9

Inflow Area = 1.332 ac, 0.00% Impervious, Inflow Depth > 3.94" for 25-YR event
 Inflow = 4.58 cfs @ 19.22 hrs, Volume= 0.437 af
 Outflow = 4.54 cfs @ 19.22 hrs, Volume= 0.437 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.69 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 1.43 fps, Avg. Travel Time= 0.2 min

Peak Storage= 20 cf @ 19.22 hrs

Average Depth at Peak Storage= 0.22' , Surface Width= 5.08'

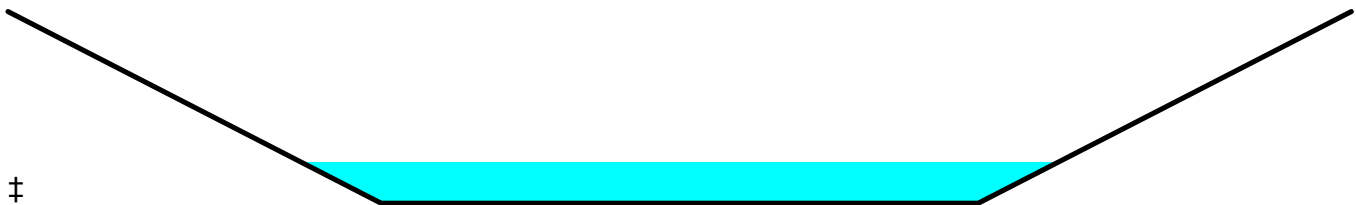
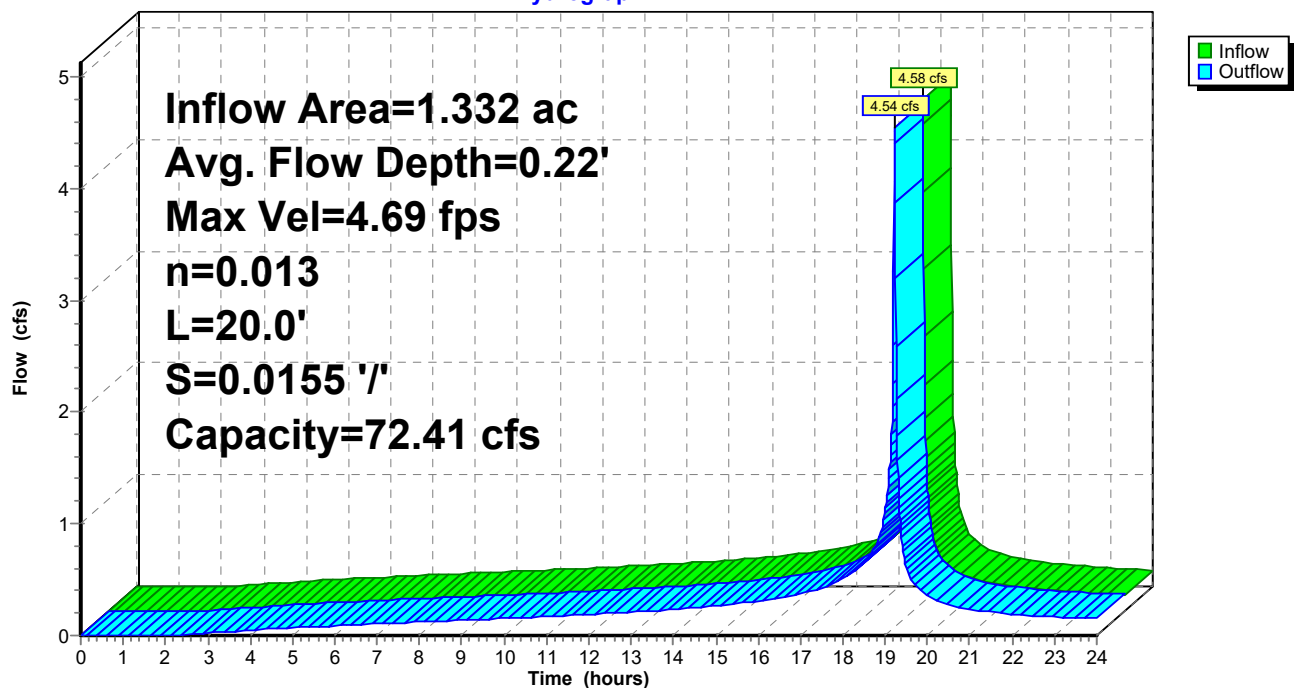
Bank-Full Depth= 1.00' Flow Area= 6.5 sf, Capacity= 72.41 cfs

4.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.5 ' / ' Top Width= 9.00'

Length= 20.0' Slope= 0.0155 ' / '

Inlet Invert= 1,146.81', Outlet Invert= 1,146.50'

**Reach 36R: CH-9****Hydrograph**

Summary for Reach 37R: CV-1

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 3.88" for 25-YR event
 Inflow = 2.12 cfs @ 19.20 hrs, Volume= 0.146 af
 Outflow = 2.02 cfs @ 19.21 hrs, Volume= 0.146 af, Atten= 5%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.25 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.90 fps, Avg. Travel Time= 0.6 min

Peak Storage= 27 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.51' , Surface Width= 1.00'

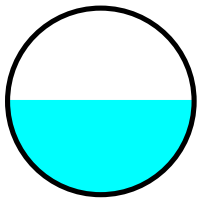
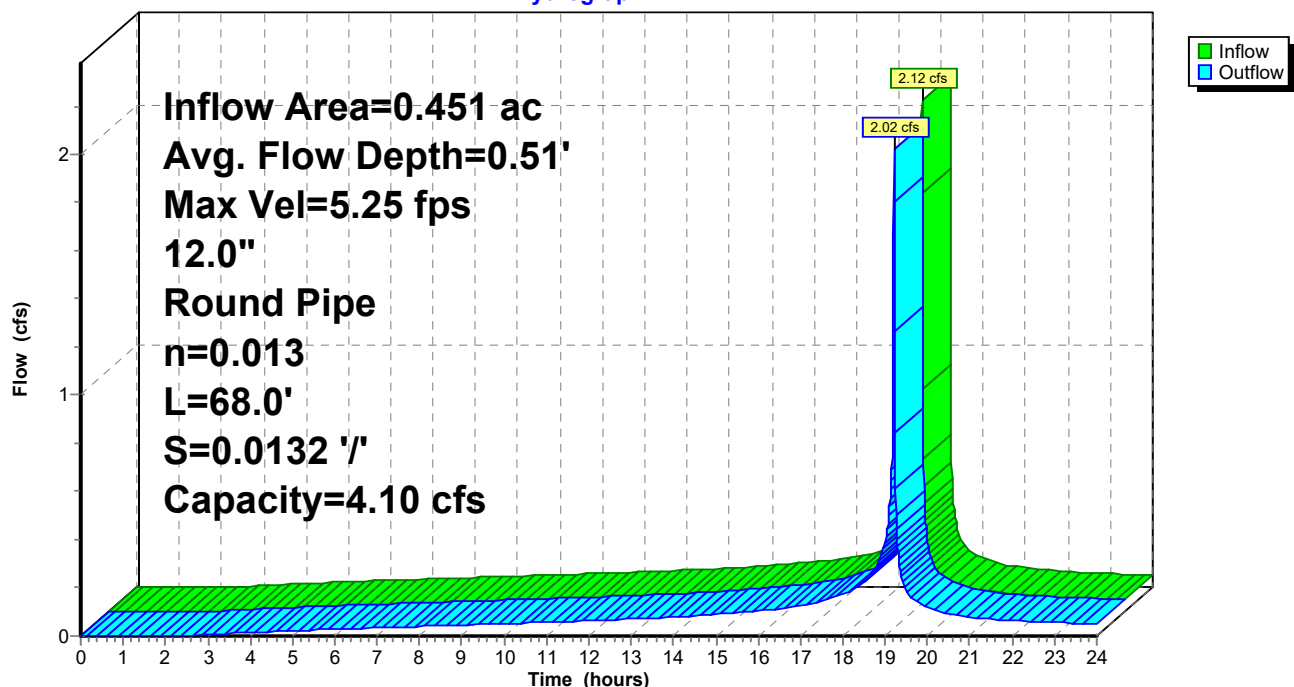
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.10 cfs

12.0" Round Pipe

n= 0.013

Length= 68.0' Slope= 0.0132 '/'

Inlet Invert= 1,148.90', Outlet Invert= 1,148.00'

**Reach 37R: CV-1****Hydrograph**

Summary for Reach 38R: CV-2

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 3.94" for 25-YR event
 Inflow = 2.95 cfs @ 19.23 hrs, Volume= 0.268 af
 Outflow = 2.90 cfs @ 19.23 hrs, Volume= 0.268 af, Atten= 2%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.96 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.52 fps, Avg. Travel Time= 0.4 min

Peak Storage= 28 cf @ 19.23 hrs

Average Depth at Peak Storage= 0.66' , Surface Width= 1.49'

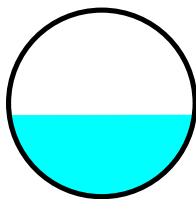
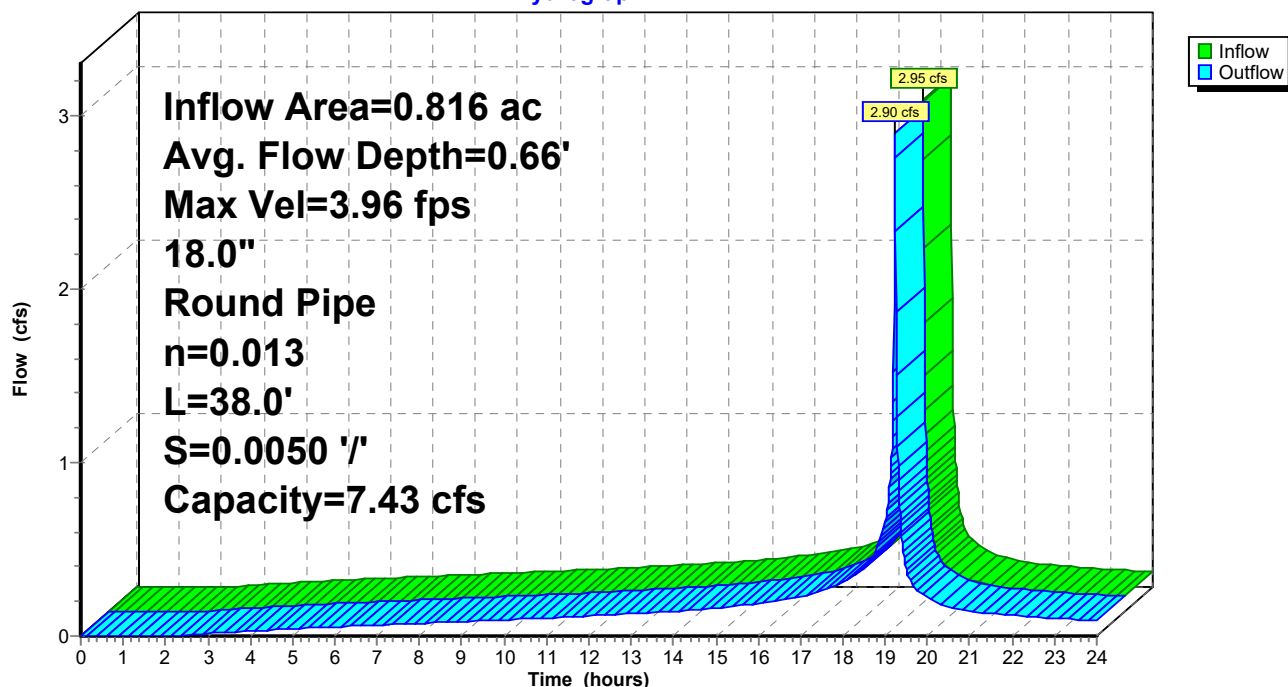
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe

n= 0.013

Length= 38.0' Slope= 0.0050 '/'

Inlet Invert= 1,146.99', Outlet Invert= 1,146.80'

**Reach 38R: CV-2****Hydrograph**

Summary for Reach 39R: CH-10A

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 3.78" for 25-YR event
 Inflow = 1.54 cfs @ 19.19 hrs, Volume= 0.086 af
 Outflow = 1.32 cfs @ 19.20 hrs, Volume= 0.086 af, Atten= 14%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.17 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.50 fps, Avg. Travel Time= 0.6 min

Peak Storage= 19 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.25' , Surface Width= 1.78'

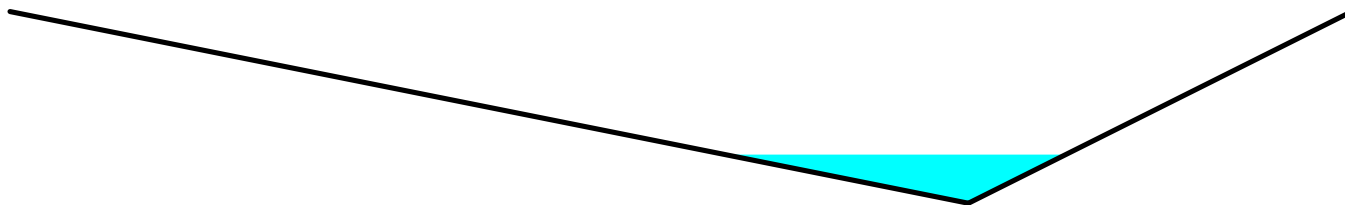
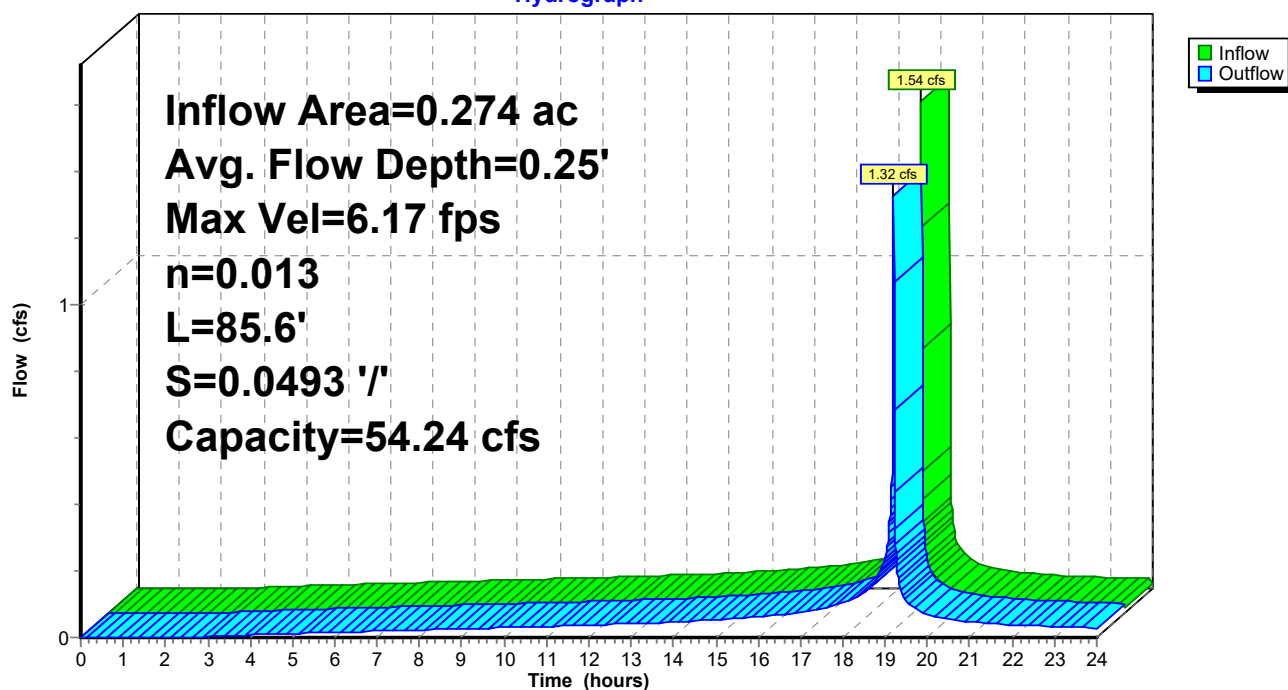
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 54.24 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 85.6' Slope= 0.0493 ' / '

Inlet Invert= 1,198.00', Outlet Invert= 1,193.78'

**Reach 39R: CH-10A****Hydrograph**

Summary for Reach 40R: CH-11A

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 3.89" for 25-YR event
 Inflow = 0.91 cfs @ 19.19 hrs, Volume= 0.052 af
 Outflow = 0.80 cfs @ 19.20 hrs, Volume= 0.052 af, Atten= 12%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.16 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.11 fps, Avg. Travel Time= 0.4 min

Peak Storage= 8 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.21' , Surface Width= 1.50'

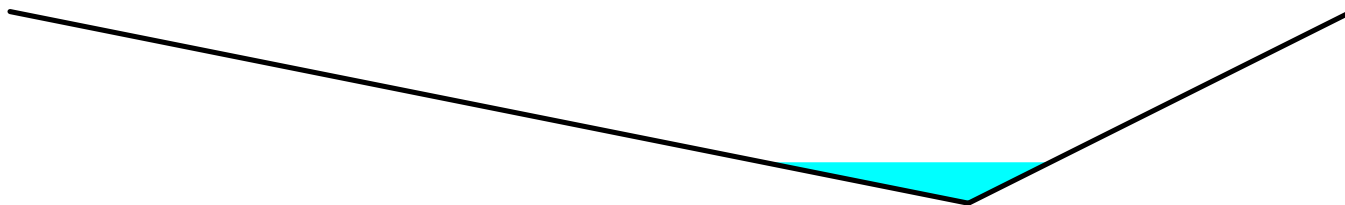
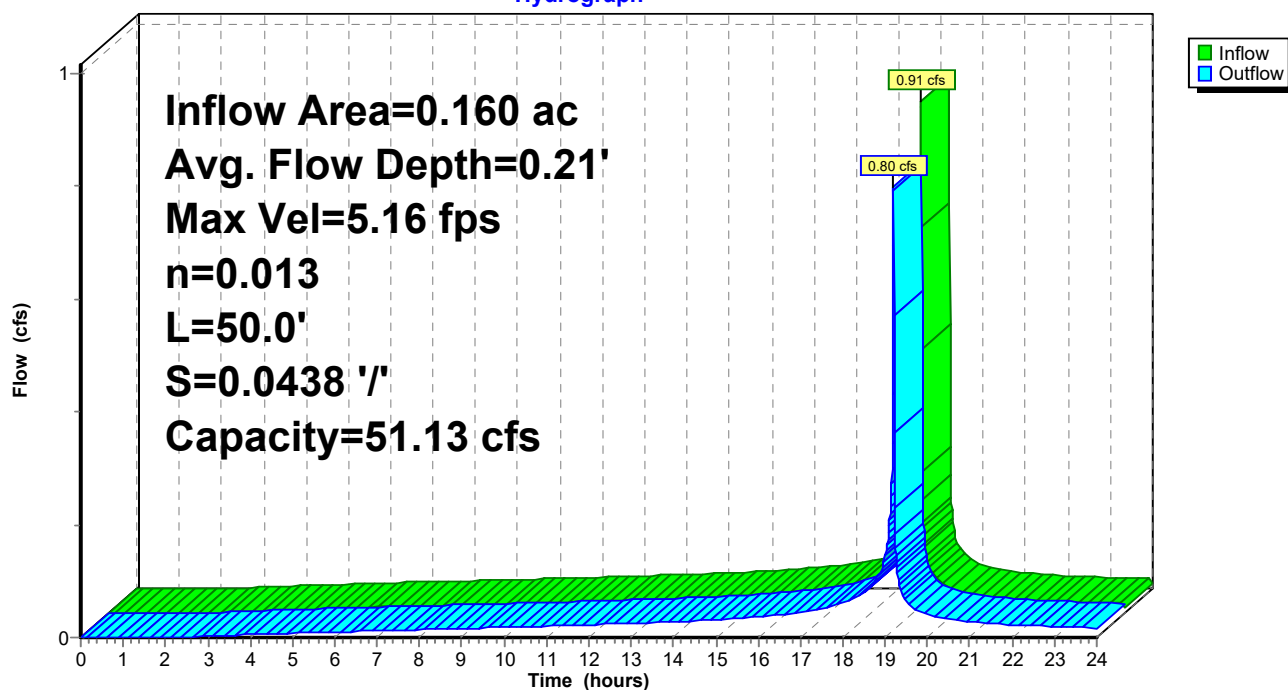
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 51.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 '/' Top Width= 7.00'

Length= 50.0' Slope= 0.0438 '/'

Inlet Invert= 1,207.00', Outlet Invert= 1,204.81'

**Reach 40R: CH-11A****Hydrograph**

Summary for Reach 41R: CH-14

Inflow Area = 0.611 ac, 0.98% Impervious, Inflow Depth > 3.89" for 25-YR event
 Inflow = 2.86 cfs @ 19.20 hrs, Volume= 0.198 af
 Outflow = 2.82 cfs @ 19.20 hrs, Volume= 0.198 af, Atten= 2%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 20.42 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 8.13 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.22' , Surface Width= 1.29'

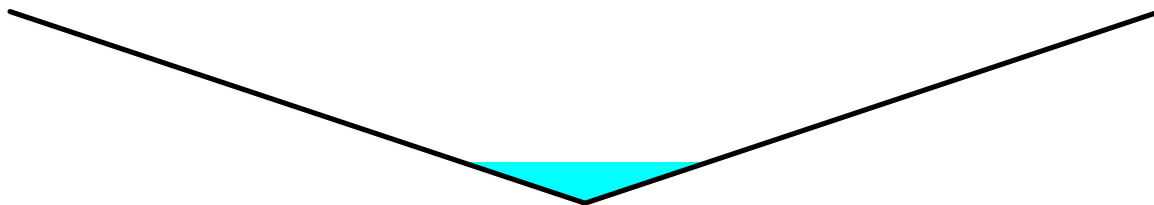
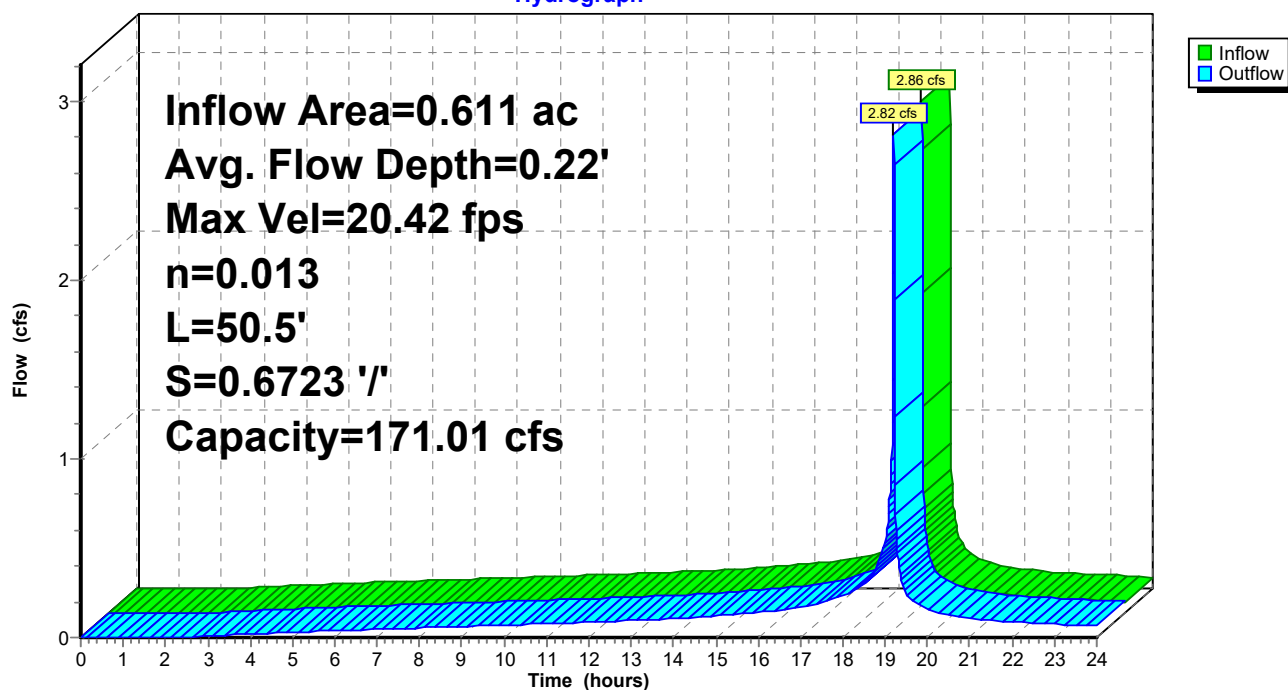
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 171.01 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 50.5' Slope= 0.6723 '/'

Inlet Invert= 1,181.63', Outlet Invert= 1,147.68'

**Reach 41R: CH-14****Hydrograph**

Summary for Reach 42R: CH-13

Inflow Area = 0.083 ac, 0.00% Impervious, Inflow Depth > 4.10" for 25-YR event
 Inflow = 0.48 cfs @ 19.19 hrs, Volume= 0.028 af
 Outflow = 0.40 cfs @ 19.21 hrs, Volume= 0.028 af, Atten= 17%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.42 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 1.84 fps, Avg. Travel Time= 1.2 min

Peak Storage= 13 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.14' , Surface Width= 1.29'

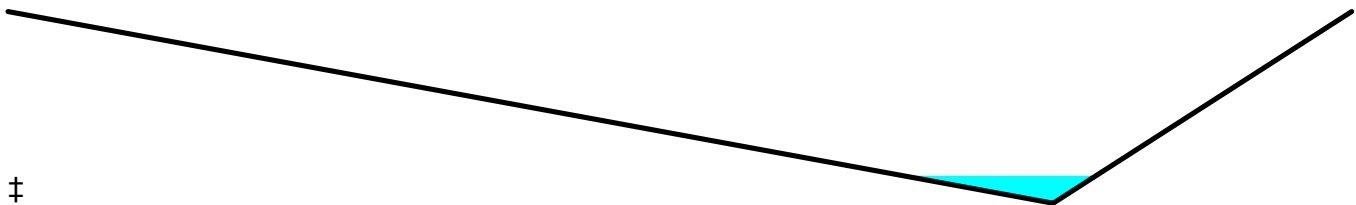
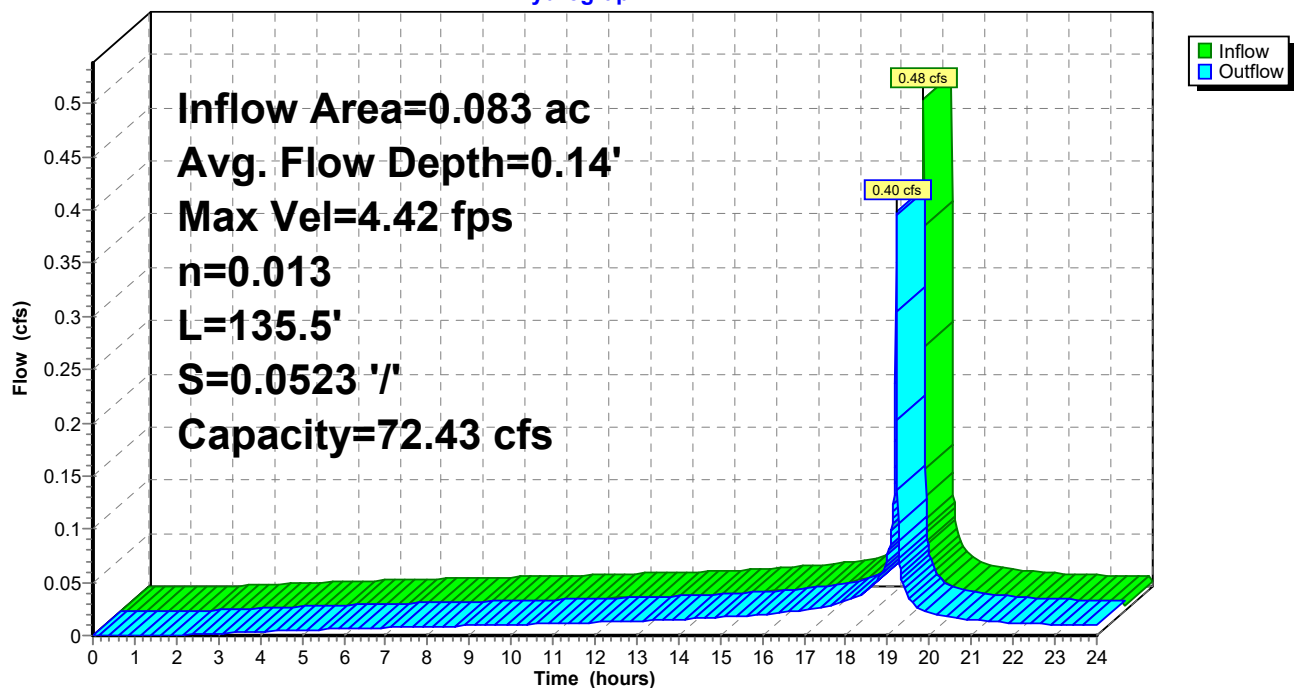
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 72.43 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 2.0 ' / ' Top Width= 9.00'

Length= 135.5' Slope= 0.0523 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 42R: CH-13****Hydrograph**

Summary for Reach 43R: CH-12

Inflow Area = 0.088 ac, 0.00% Impervious, Inflow Depth > 3.99" for 25-YR event
 Inflow = 0.50 cfs @ 19.19 hrs, Volume= 0.029 af
 Outflow = 0.42 cfs @ 19.20 hrs, Volume= 0.029 af, Atten= 17%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.11 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.10 fps, Avg. Travel Time= 0.9 min

Peak Storage= 10 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 1.10'

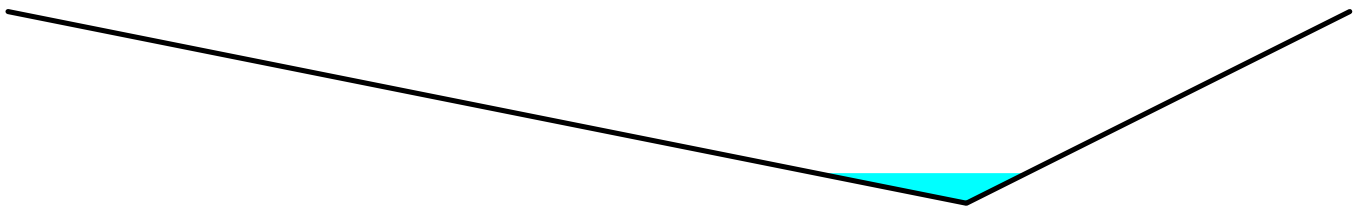
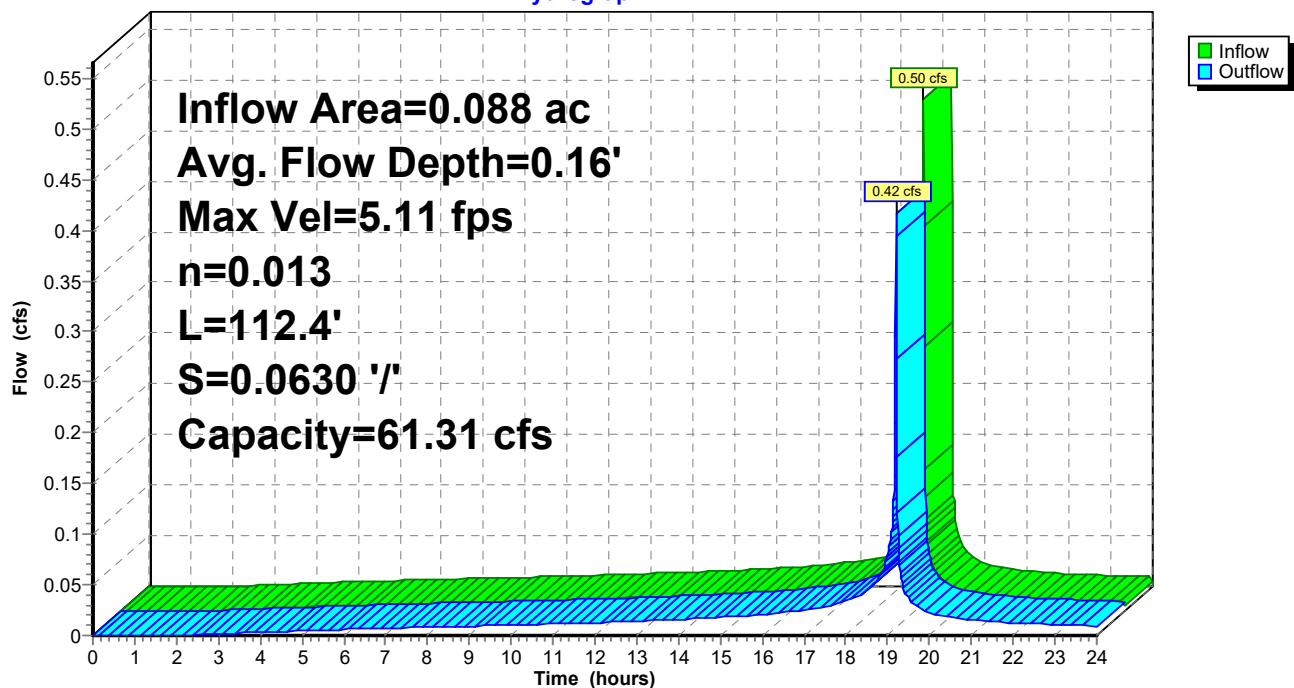
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 61.31 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 112.4' Slope= 0.0630 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 43R: CH-12****Hydrograph**

Summary for Reach 44R: CH-16

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 4.00" for 25-YR event
 Inflow = 4.19 cfs @ 19.20 hrs, Volume= 0.309 af
 Outflow = 3.30 cfs @ 19.24 hrs, Volume= 0.308 af, Atten= 21%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.98 fps, Min. Travel Time= 1.7 min

Avg. Velocity = 0.99 fps, Avg. Travel Time= 5.3 min

Peak Storage= 347 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.25' , Surface Width= 5.97'

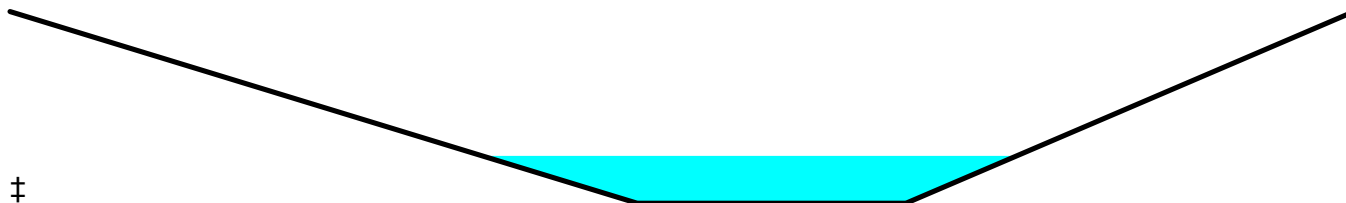
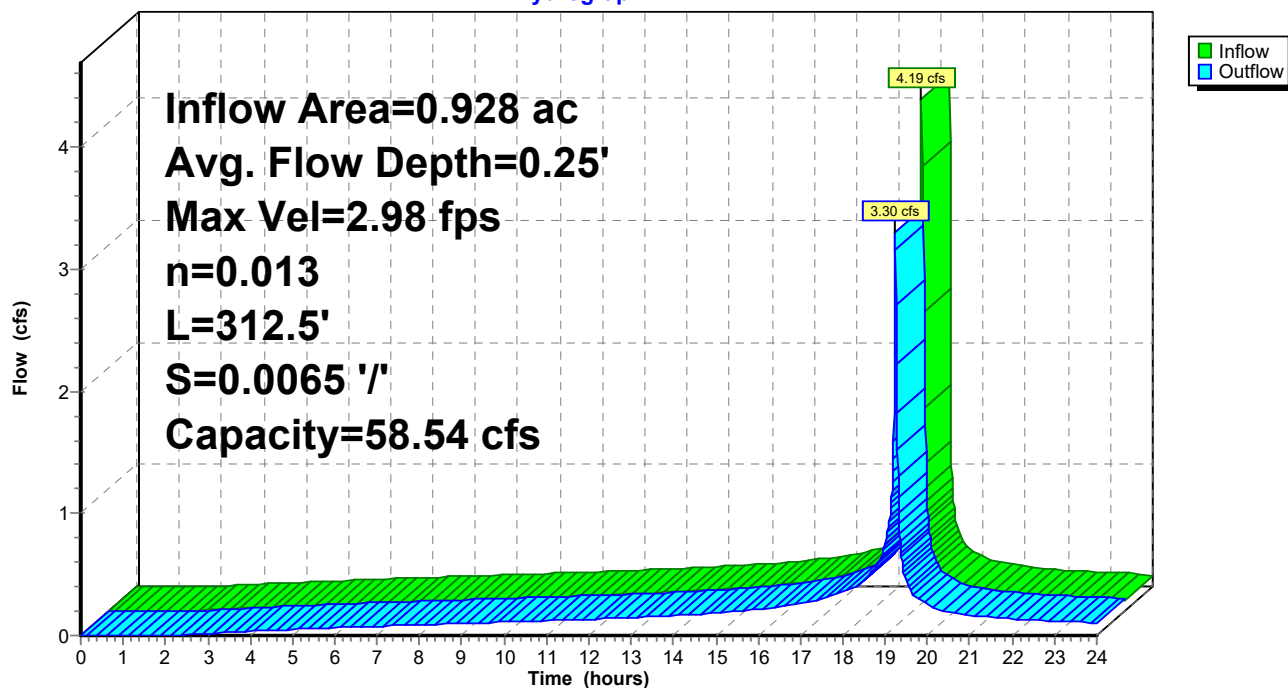
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 58.54 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 ' / ' Top Width= 15.00'

Length= 312.5' Slope= 0.0065 ' / '

Inlet Invert= 1,148.00', Outlet Invert= 1,145.97'

**Reach 44R: CH-16****Hydrograph**

Summary for Reach 45R: CV-3

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 3.99" for 25-YR event
 Inflow = 3.30 cfs @ 19.24 hrs, Volume= 0.308 af
 Outflow = 3.21 cfs @ 19.25 hrs, Volume= 0.308 af, Atten= 3%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.63 fps, Min. Travel Time= 0.3 min

Avg. Velocity= 1.73 fps, Avg. Travel Time= 0.7 min

Peak Storage= 49 cf @ 19.25 hrs

Average Depth at Peak Storage= 0.63' , Surface Width= 1.48'

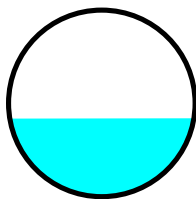
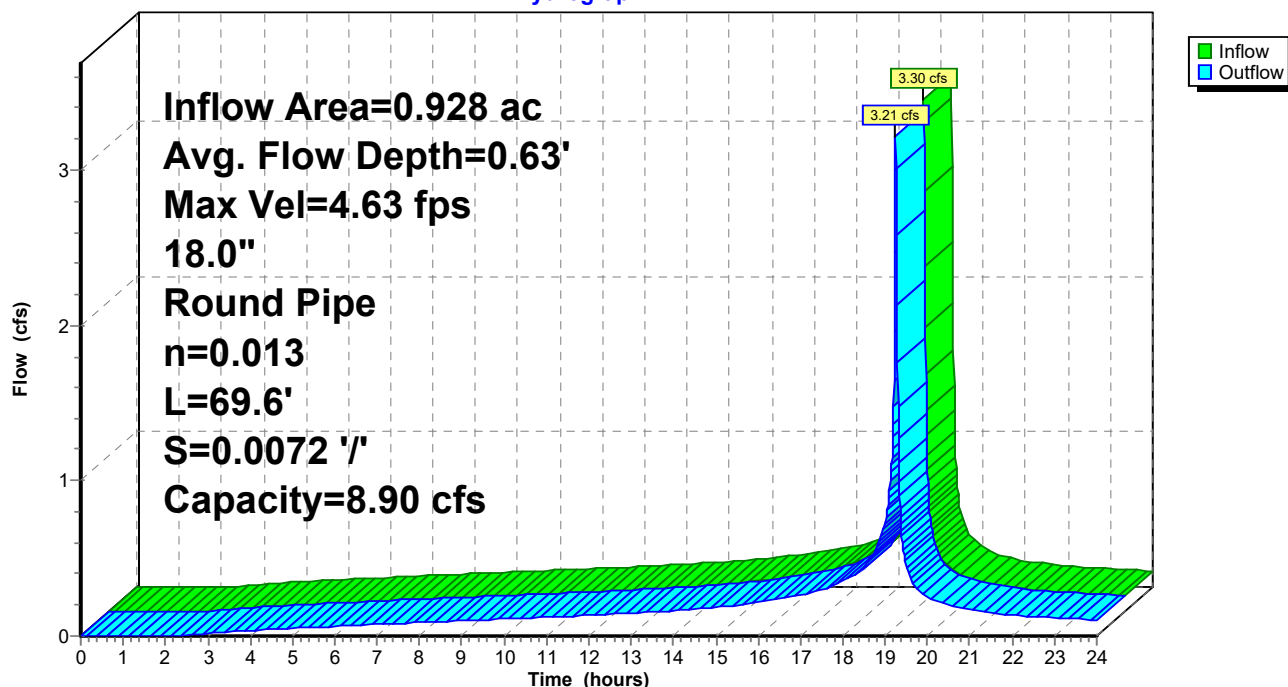
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.90 cfs

18.0" Round Pipe

n= 0.013

Length= 69.6' Slope= 0.0072 '/'

Inlet Invert= 1,146.00', Outlet Invert= 1,145.50'

**Reach 45R: CV-3****Hydrograph**

Summary for Reach 46R: CH-17

Inflow Area = 2.123 ac, 0.28% Impervious, Inflow Depth > 4.05" for 25-YR event
 Inflow = 8.31 cfs @ 19.19 hrs, Volume= 0.716 af
 Outflow = 6.57 cfs @ 19.22 hrs, Volume= 0.715 af, Atten= 21%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.64 fps, Min. Travel Time= 1.0 min

Avg. Velocity = 2.09 fps, Avg. Travel Time= 3.2 min

Peak Storage= 407 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.29' , Surface Width= 3.88'

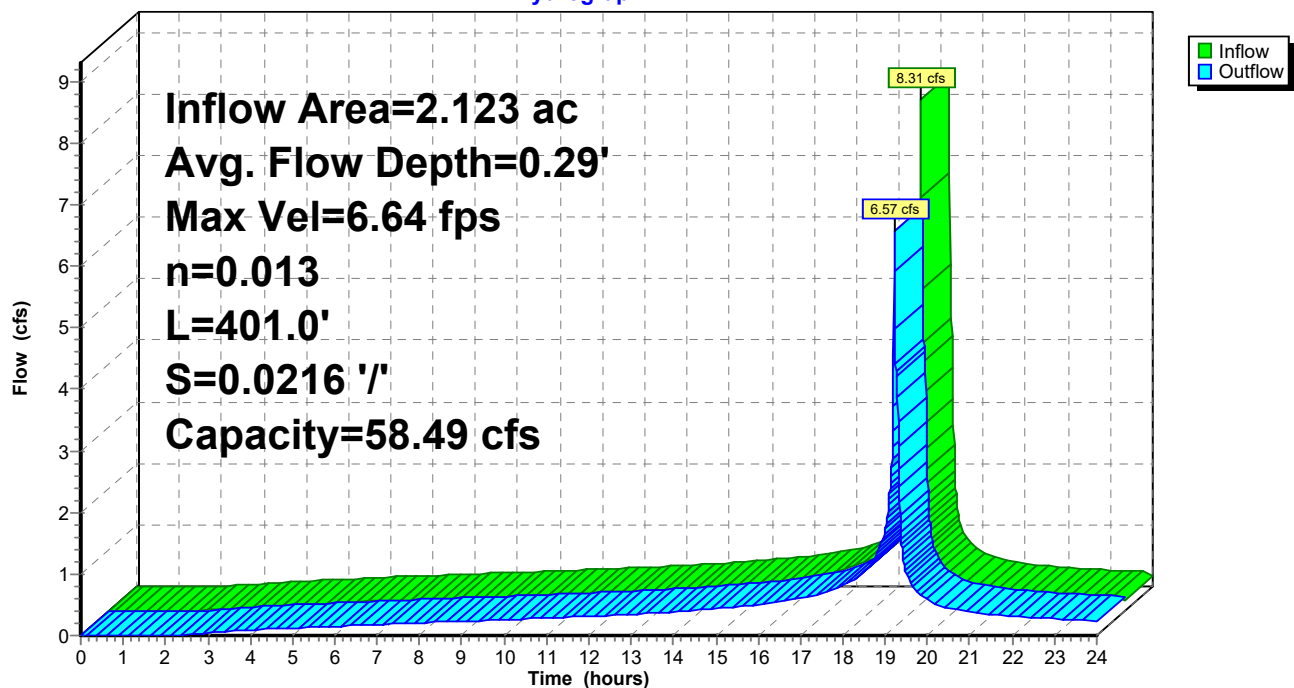
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 58.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 1.5 '/' Top Width= 6.00'

Length= 401.0' Slope= 0.0216 '/'

Inlet Invert= 1,145.50', Outlet Invert= 1,136.85'

**Reach 46R: CH-17****Hydrograph**

Summary for Reach 52R: CH-21

Inflow Area = 1.226 ac, 0.00% Impervious, Inflow Depth > 3.89" for 25-YR event
 Inflow = 6.96 cfs @ 19.19 hrs, Volume= 0.397 af
 Outflow = 5.80 cfs @ 19.20 hrs, Volume= 0.397 af, Atten= 17%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.59 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.58 fps, Avg. Travel Time= 1.4 min

Peak Storage= 137 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.19' , Surface Width= 3.76'

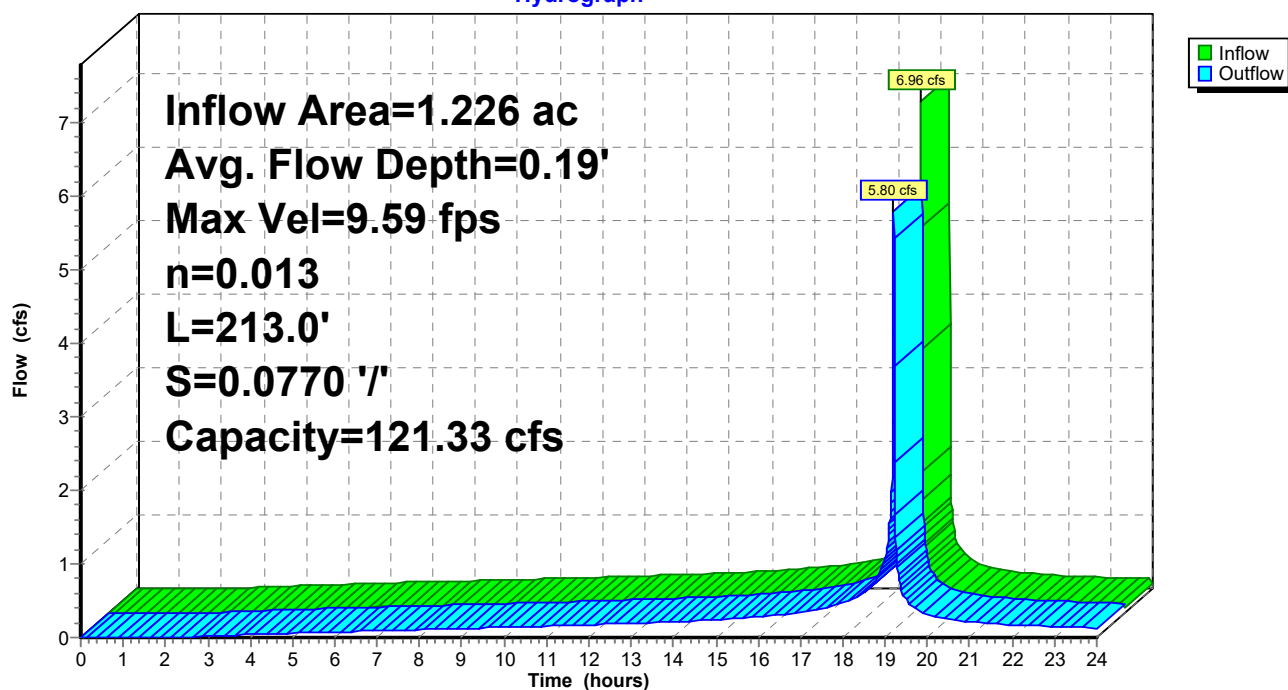
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 121.33 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 7.00'

Length= 213.0' Slope= 0.0770 '/'

Inlet Invert= 1,142.14', Outlet Invert= 1,125.74'

**Reach 52R: CH-21****Hydrograph**

Summary for Reach 53R: CH-24

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 3.84" for 25-YR event
 Inflow = 7.27 cfs @ 19.20 hrs, Volume= 0.540 af
 Outflow = 6.84 cfs @ 19.22 hrs, Volume= 0.539 af, Atten= 6%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.33 fps, Min. Travel Time= 0.6 min

Avg. Velocity= 1.52 fps, Avg. Travel Time= 2.0 min

Peak Storage= 237 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.27' , Surface Width= 5.37'

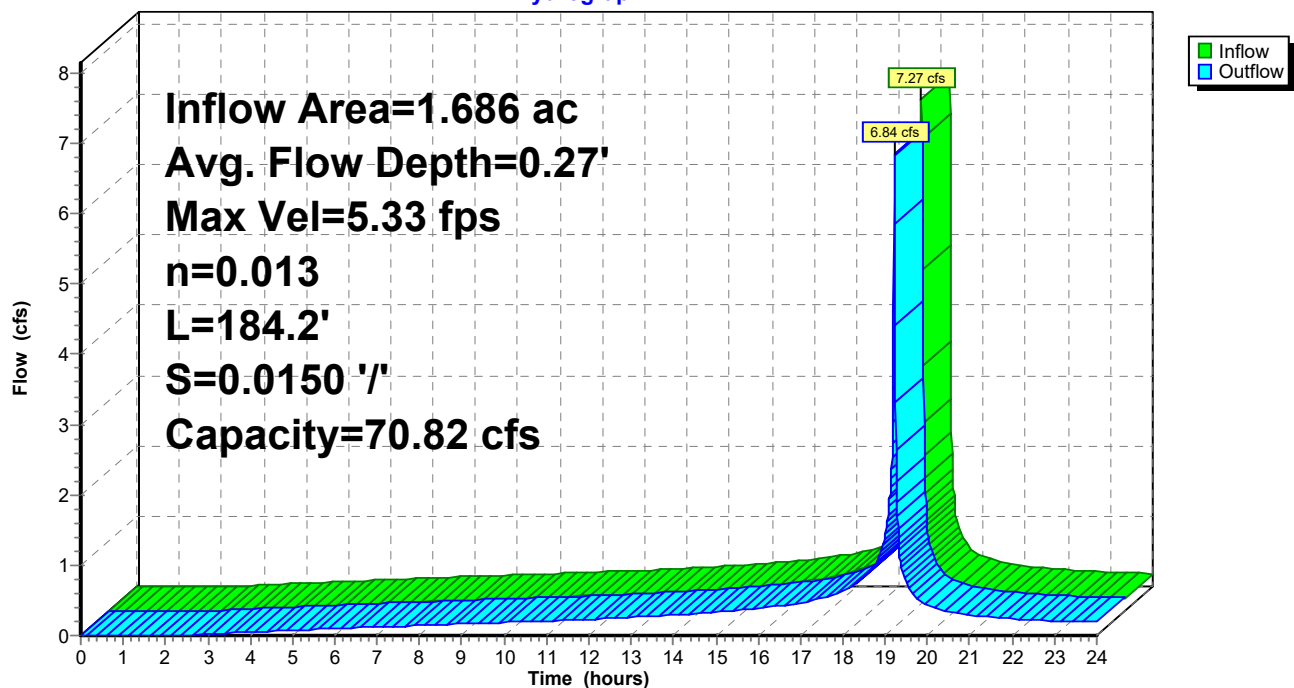
Bank-Full Depth= 1.00' Flow Area= 6.3 sf, Capacity= 70.82 cfs

4.30' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 8.30'

Length= 184.2' Slope= 0.0150 '/'

Inlet Invert= 1,125.74', Outlet Invert= 1,122.97'

**Reach 53R: CH-24****Hydrograph**

Summary for Reach 54R: CH-22

Inflow Area = 0.219 ac, 0.00% Impervious, Inflow Depth > 3.68" for 25-YR event
 Inflow = 1.21 cfs @ 19.19 hrs, Volume= 0.067 af
 Outflow = 0.82 cfs @ 19.23 hrs, Volume= 0.067 af, Atten= 33%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.40 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 1.03 fps, Avg. Travel Time= 3.2 min

Peak Storage= 70 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.34' , Surface Width= 2.06'

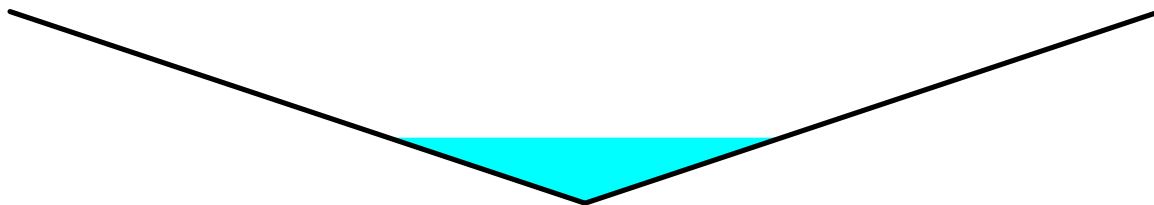
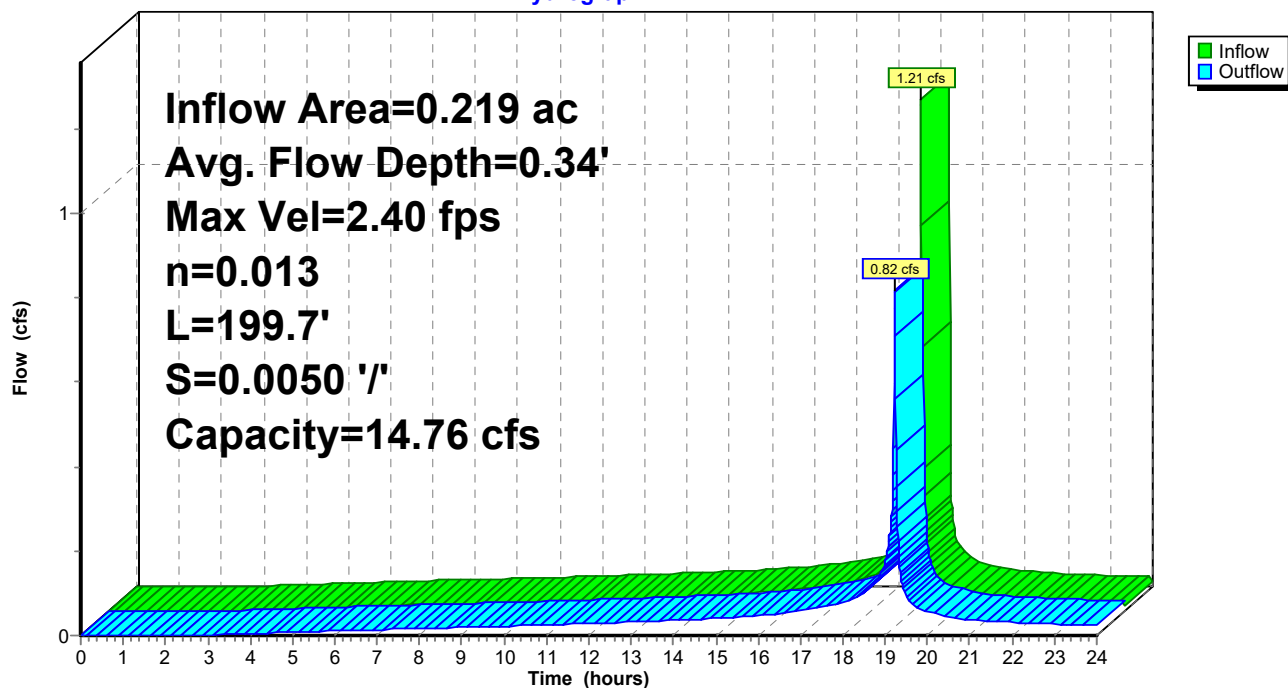
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 14.76 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 199.7' Slope= 0.0050 '/'

Inlet Invert= 1,163.81', Outlet Invert= 1,162.81'

**Reach 54R: CH-22****Hydrograph**

Summary for Reach 55R: CH-23

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 3.68" for 25-YR event
 Inflow = 1.09 cfs @ 19.19 hrs, Volume= 0.105 af
 Outflow = 1.03 cfs @ 19.20 hrs, Volume= 0.105 af, Atten= 6%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 13.24 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 6.07 fps, Avg. Travel Time= 0.2 min

Peak Storage= 7 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 0.97'

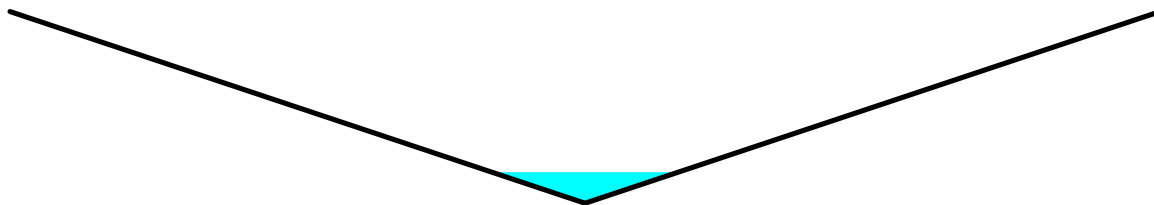
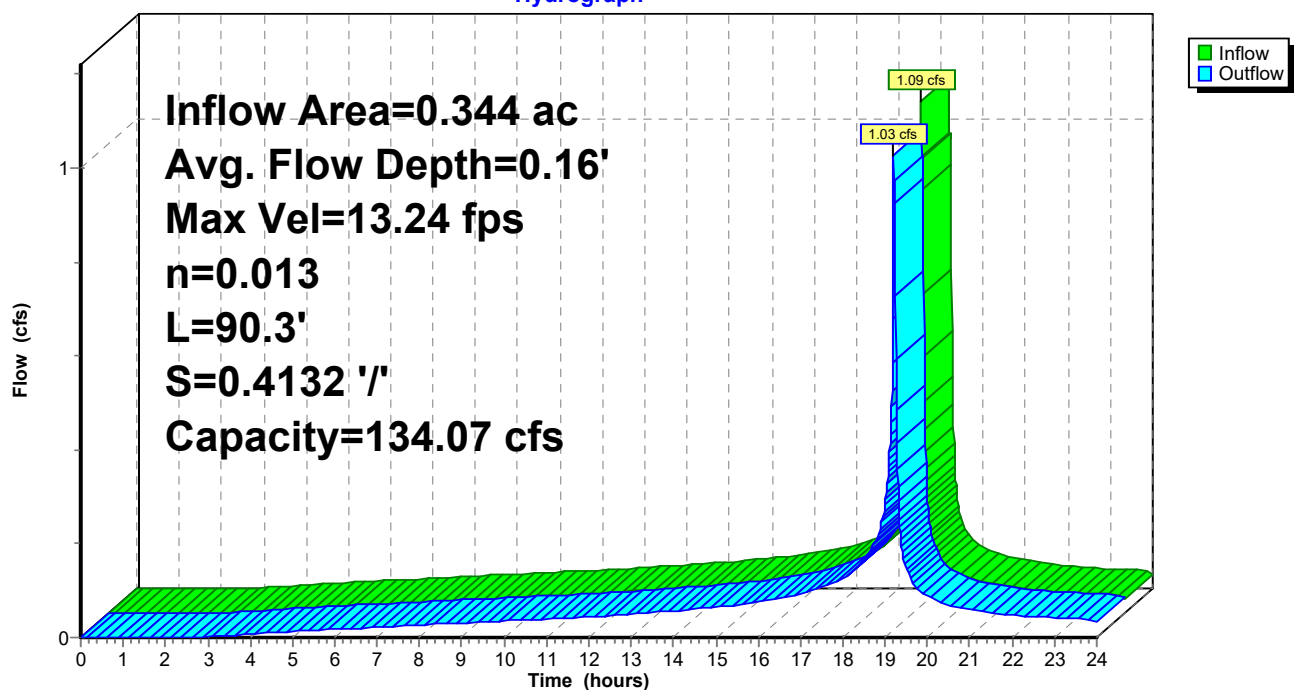
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 134.07 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 90.3' Slope= 0.4132 '/'

Inlet Invert= 1,162.81', Outlet Invert= 1,125.50'

**Reach 55R: CH-23****Hydrograph**

Summary for Reach 56R: CH-15A

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 4.21" for 25-YR event
 Inflow = 0.20 cfs @ 19.19 hrs, Volume= 0.012 af
 Outflow = 0.17 cfs @ 19.20 hrs, Volume= 0.012 af, Atten= 12%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.23 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.63 fps, Avg. Travel Time= 0.4 min

Peak Storage= 2 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.09' , Surface Width= 0.64'

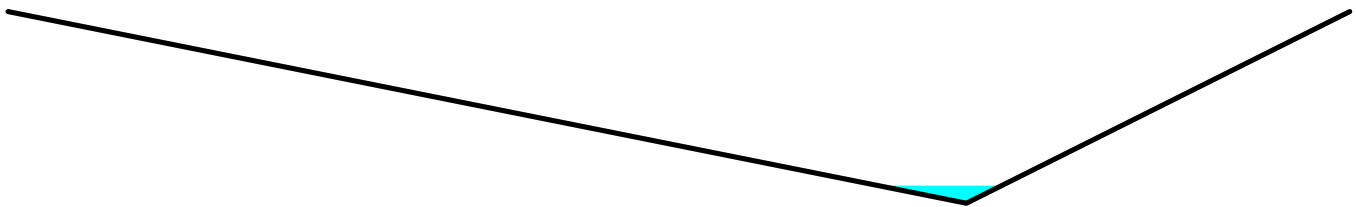
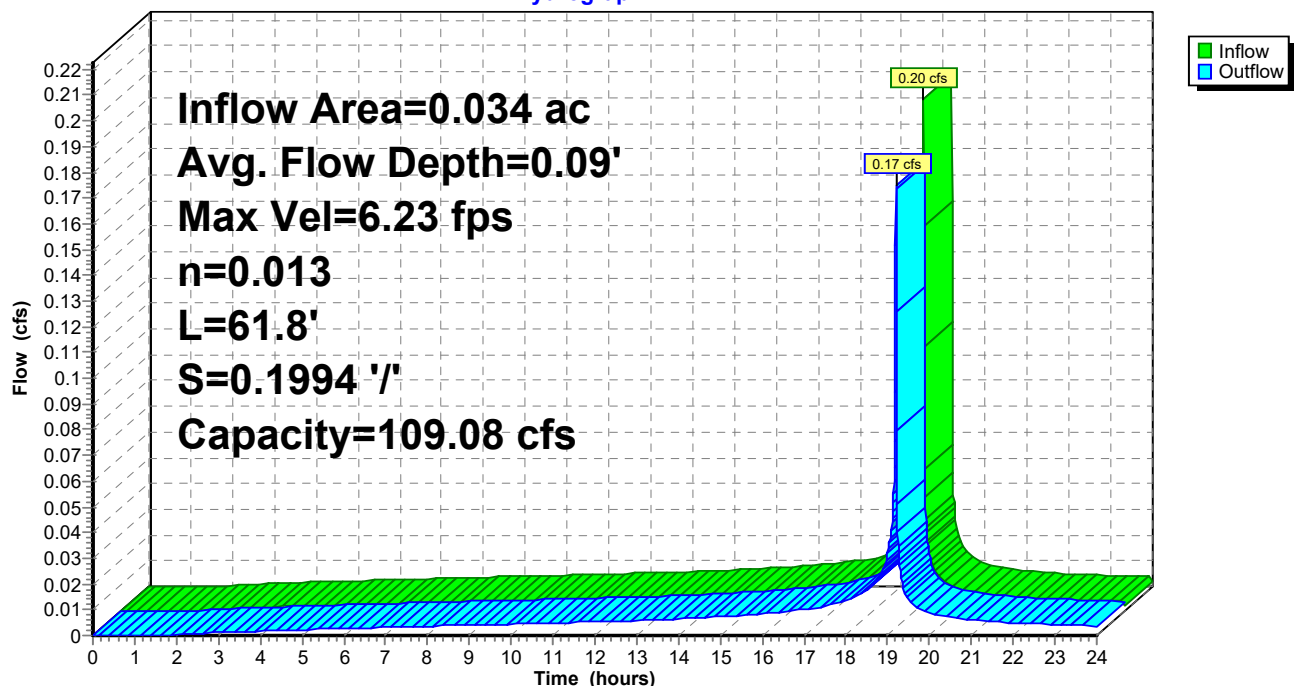
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 109.08 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 61.8' Slope= 0.1994 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,165.68'

**Reach 56R: CH-15A****Hydrograph**

Summary for Reach 60R: CH-10B

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 3.78" for 25-YR event
 Inflow = 1.32 cfs @ 19.20 hrs, Volume= 0.086 af
 Outflow = 1.29 cfs @ 19.20 hrs, Volume= 0.086 af, Atten= 3%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.23 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.60 fps, Avg. Travel Time= 0.2 min

Peak Storage= 6 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.20' , Surface Width= 1.19'

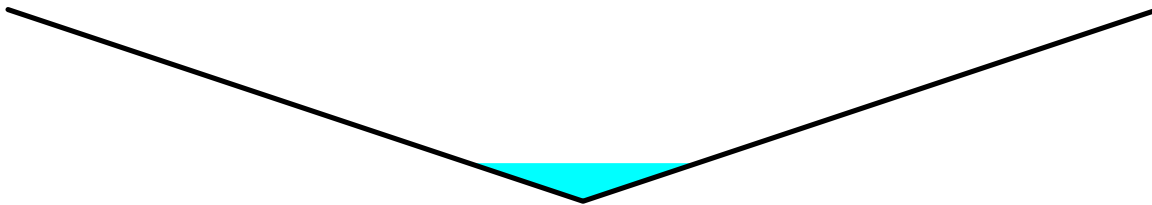
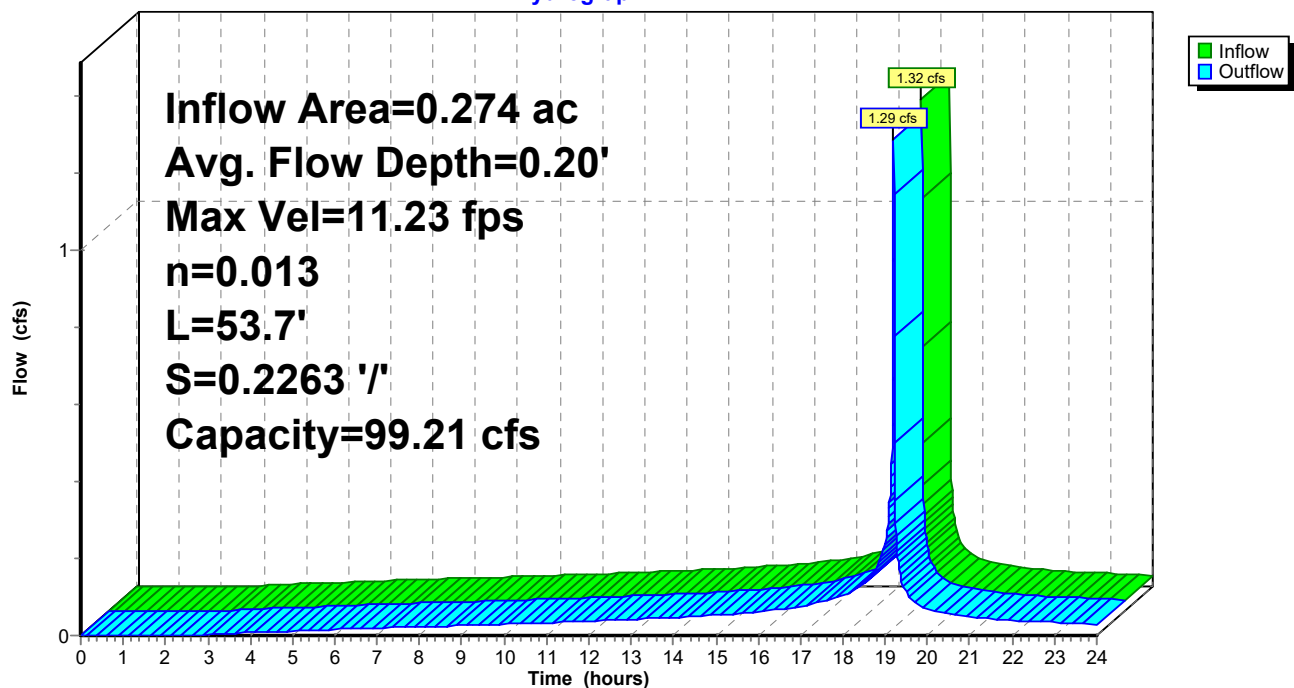
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 99.21 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 53.7' Slope= 0.2263 '/'

Inlet Invert= 1,193.78', Outlet Invert= 1,181.63'

**Reach 60R: CH-10B****Hydrograph**

Summary for Reach 61R: CH-11B

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 3.89" for 25-YR event
 Inflow = 0.80 cfs @ 19.20 hrs, Volume= 0.052 af
 Outflow = 0.77 cfs @ 19.20 hrs, Volume= 0.052 af, Atten= 3%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.32 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.64 fps, Avg. Travel Time= 0.3 min

Peak Storage= 5 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.15' , Surface Width= 0.92'

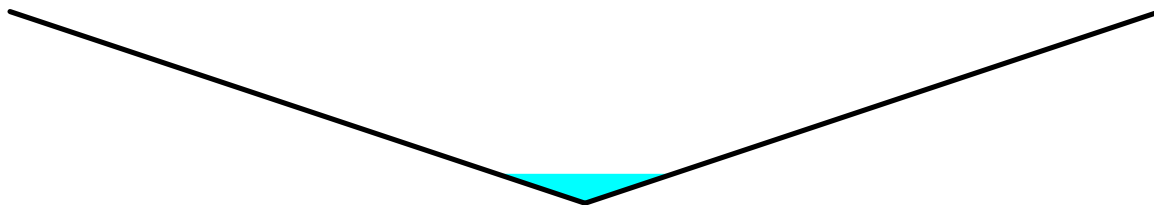
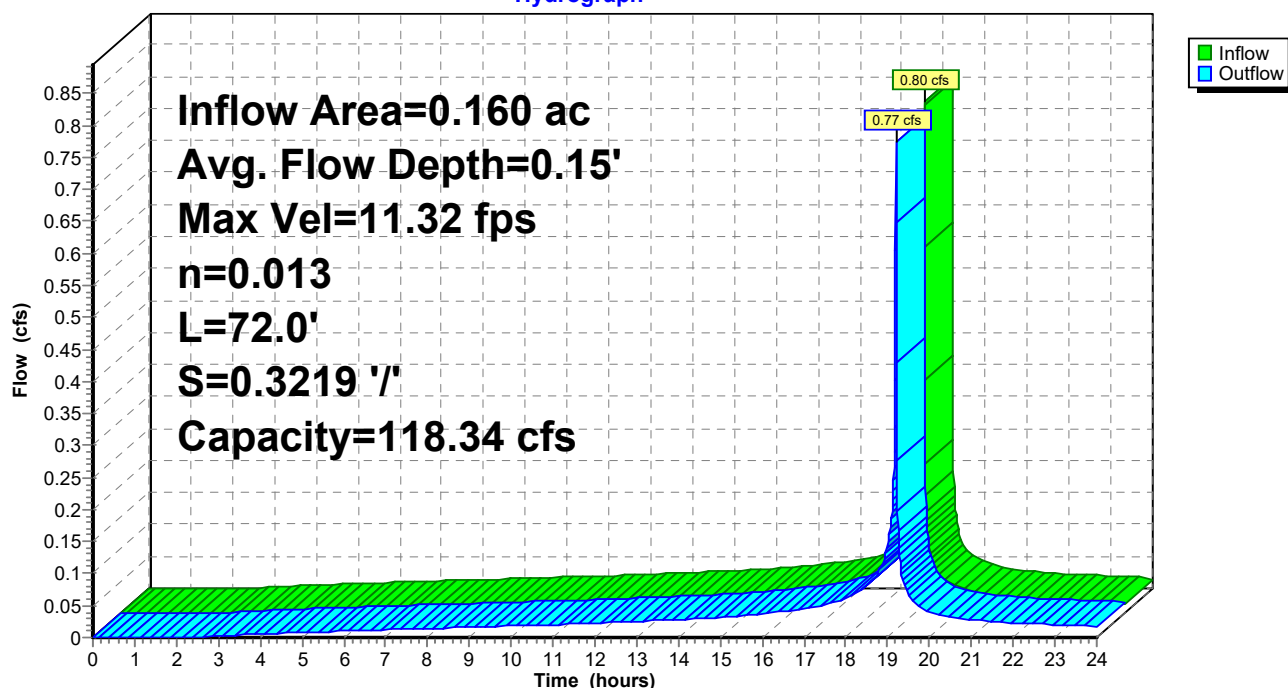
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 118.34 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 72.0' Slope= 0.3219 ' / '

Inlet Invert= 1,204.81', Outlet Invert= 1,181.63'

**Reach 61R: CH-11B****Hydrograph**

Summary for Reach 62R: CH-15B

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 4.20" for 25-YR event
 Inflow = 0.17 cfs @ 19.20 hrs, Volume= 0.012 af
 Outflow = 0.17 cfs @ 19.20 hrs, Volume= 0.012 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.98 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 4.68 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.07' , Surface Width= 0.44'

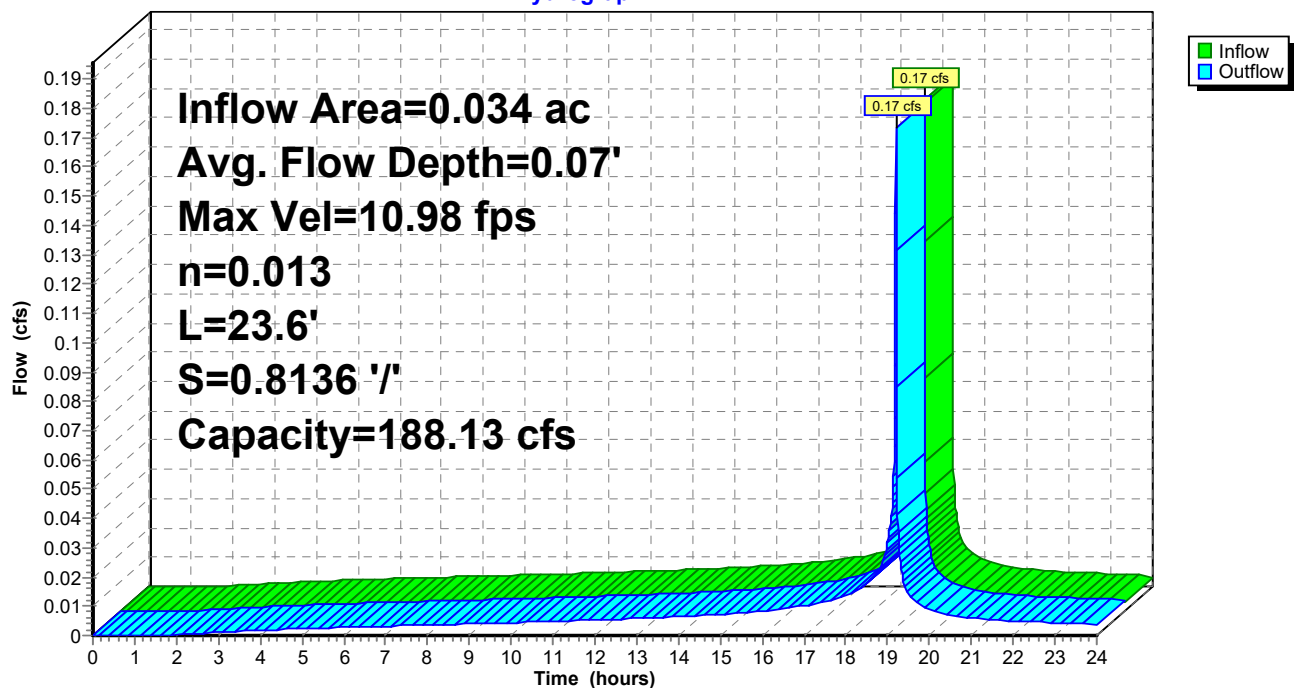
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 188.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'

Length= 23.6' Slope= 0.8136 ' / '

Inlet Invert= 1,165.68', Outlet Invert= 1,146.48'

**Reach 62R: CH-15B****Hydrograph**

Summary for Reach 63R: CV-4

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 3.84" for 25-YR event
 Inflow = 6.84 cfs @ 19.22 hrs, Volume= 0.539 af
 Outflow = 6.74 cfs @ 19.22 hrs, Volume= 0.539 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.81 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 2.71 fps, Avg. Travel Time= 0.2 min

Peak Storage= 30 cf @ 19.22 hrs

Average Depth at Peak Storage= 0.95' , Surface Width= 1.07'

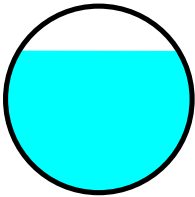
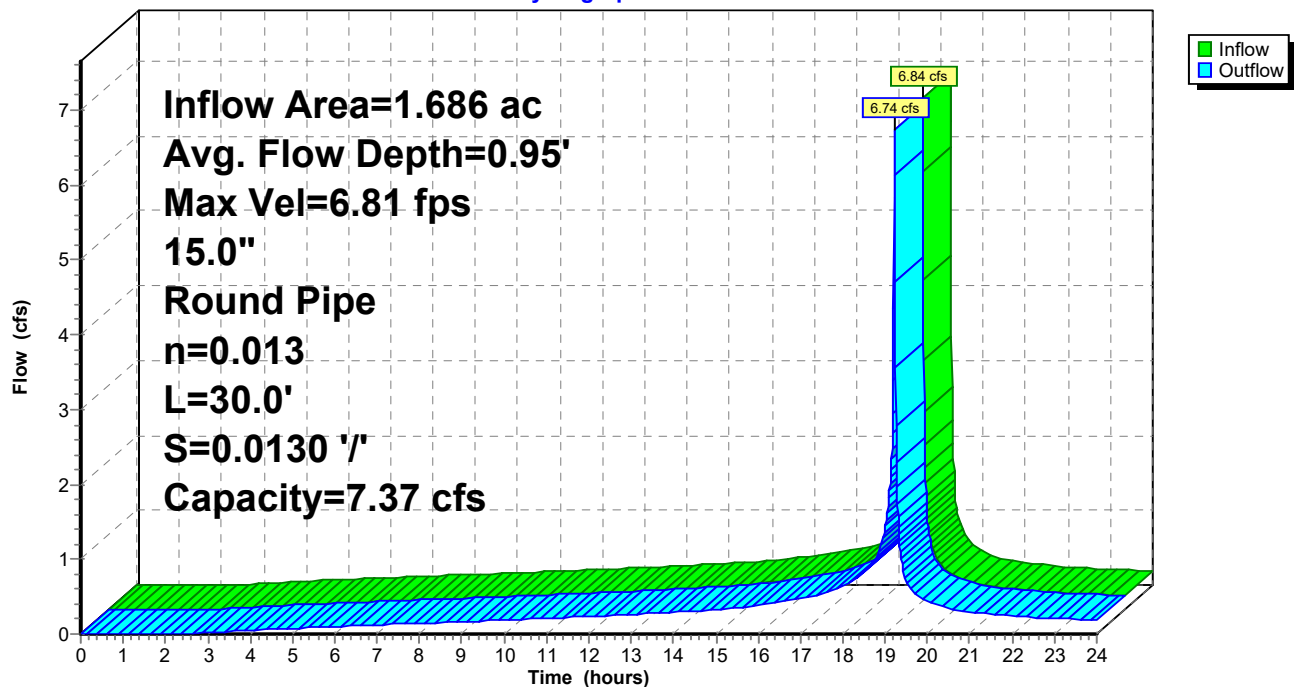
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 7.37 cfs

15.0" Round Pipe

n= 0.013

Length= 30.0' Slope= 0.0130 '/'

Inlet Invert= 1,122.99', Outlet Invert= 1,122.60'

**Reach 63R: CV-4****Hydrograph**

Summary for Subcatchment 1S: DA-1

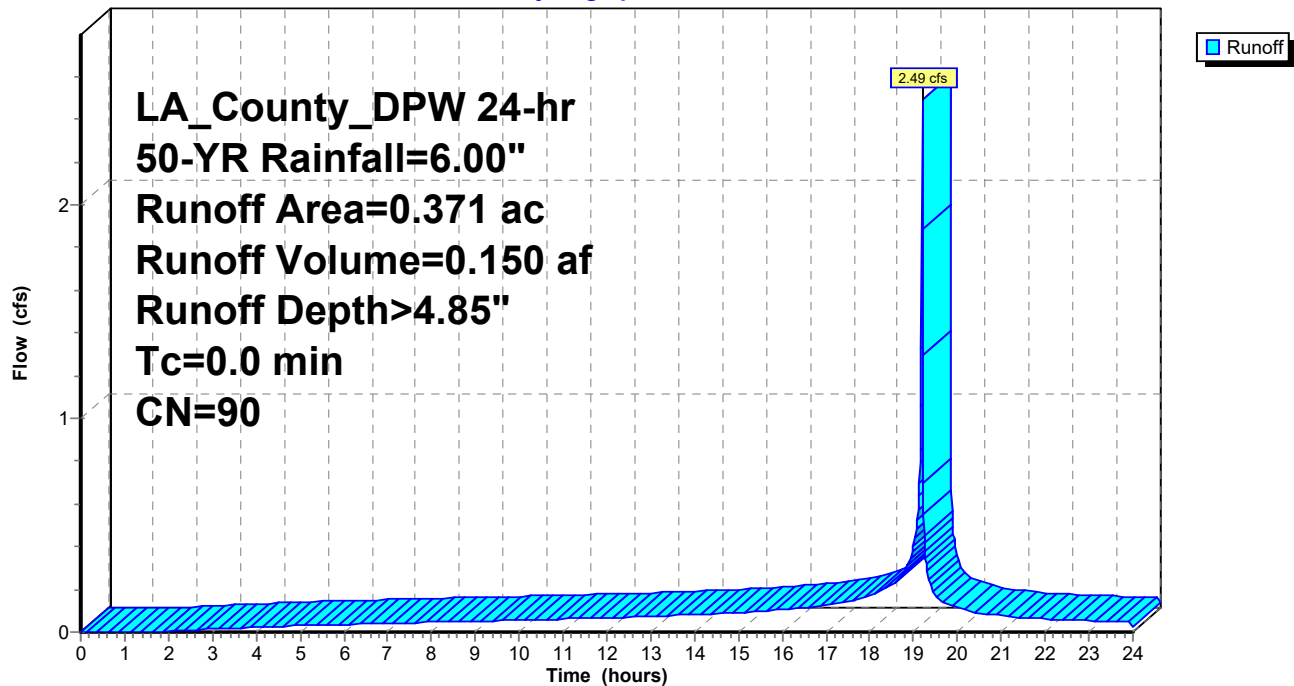
Runoff = 2.49 cfs @ 19.19 hrs, Volume= 0.150 af, Depth> 4.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.371	90	
	0.371		100.00% Pervious Area

Subcatchment 1S: DA-1

Hydrograph



Summary for Subcatchment 3S: DA-3

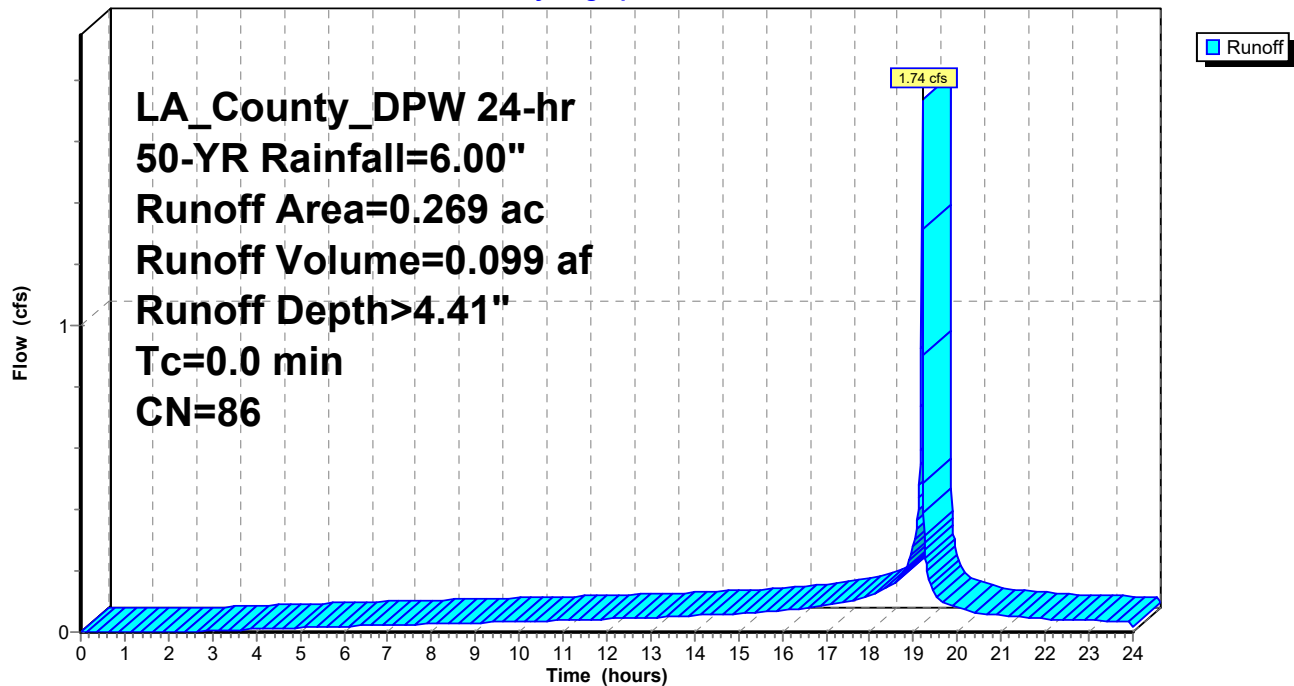
Runoff = 1.74 cfs @ 19.19 hrs, Volume= 0.099 af, Depth> 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.269	86	
	0.269		100.00% Pervious Area

Subcatchment 3S: DA-3

Hydrograph



Summary for Subcatchment 4S: DA-4

Runoff = 0.23 cfs @ 19.26 hrs, Volume= 0.030 af, Depth> 4.83"

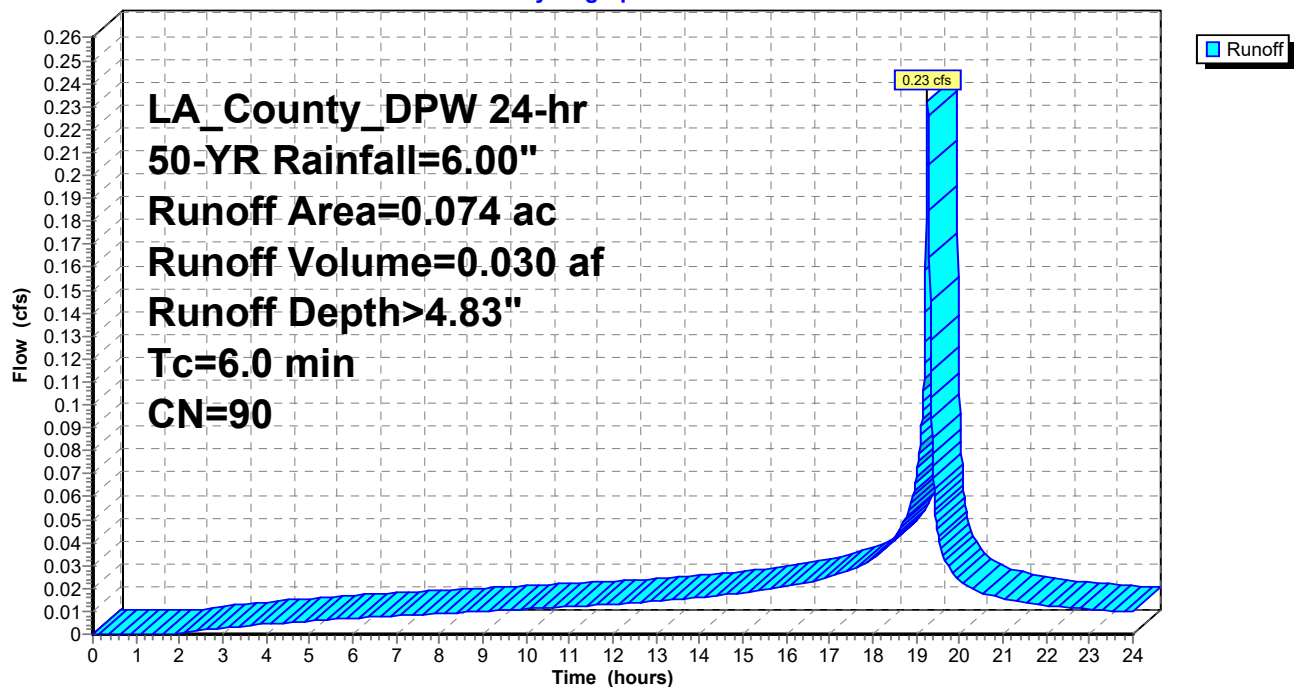
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

Area (ac)	CN	Description
* 0.074	90	
0.074		100.00% Pervious Area

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

Subcatchment 4S: DA-4

Hydrograph



Summary for Subcatchment 5S: DA-5

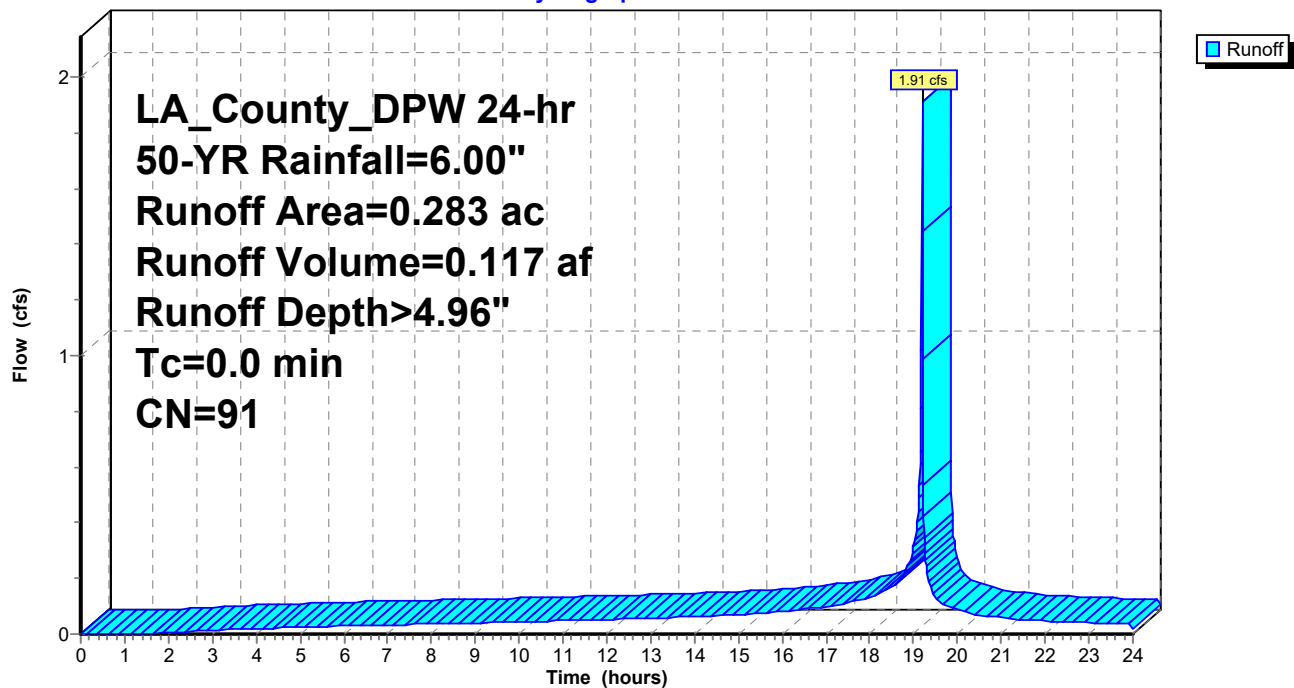
Runoff = 1.91 cfs @ 19.19 hrs, Volume= 0.117 af, Depth> 4.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.283	91	
	0.283		100.00% Pervious Area

Subcatchment 5S: DA-5

Hydrograph



Summary for Subcatchment 7S: DA-7

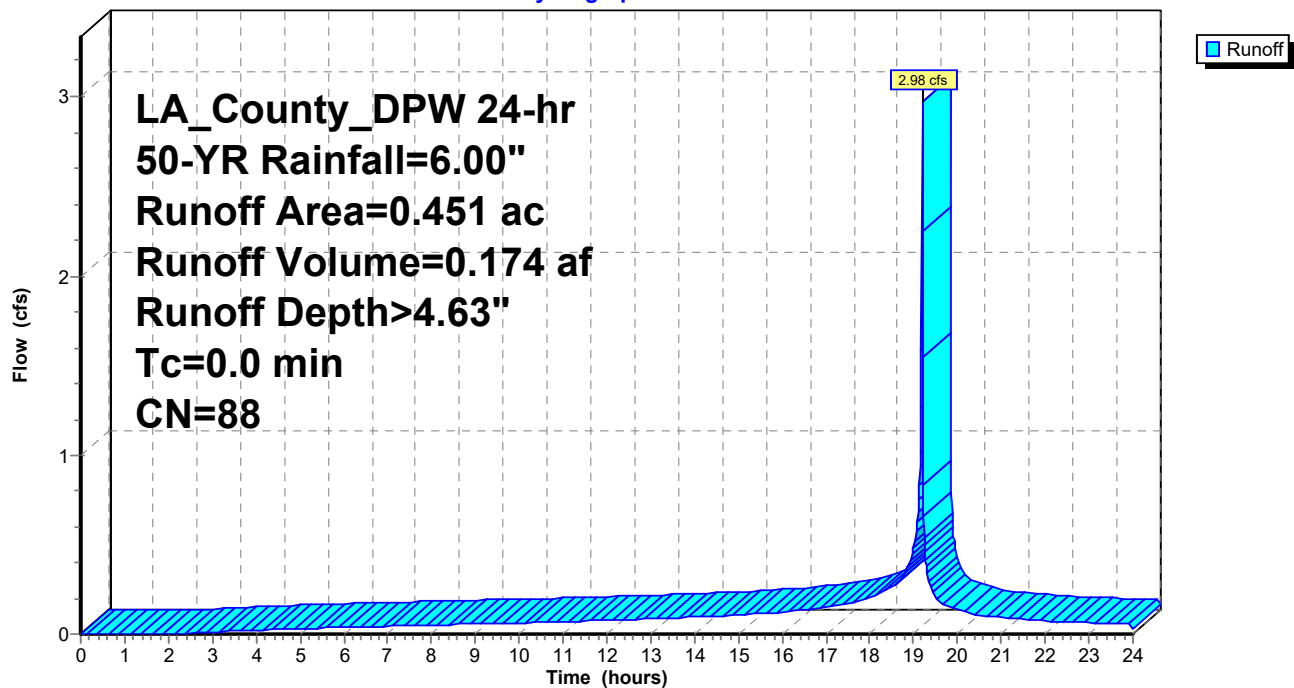
Runoff = 2.98 cfs @ 19.19 hrs, Volume= 0.174 af, Depth> 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.451	88	
	0.451		100.00% Pervious Area

Subcatchment 7S: DA-7

Hydrograph



Summary for Subcatchment 8S: DA-8

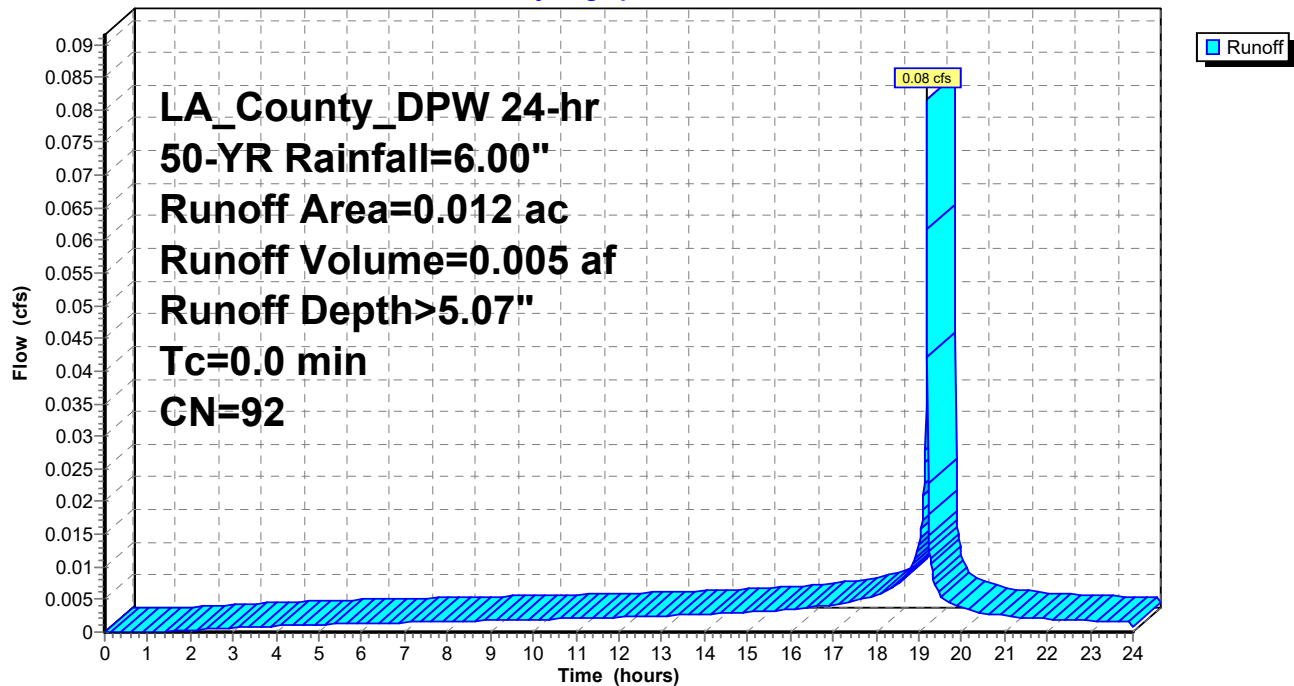
Runoff = 0.08 cfs @ 19.19 hrs, Volume= 0.005 af, Depth> 5.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.012	92	
	0.012		100.00% Pervious Area

Subcatchment 8S: DA-8

Hydrograph



Summary for Subcatchment 9S: DA-9

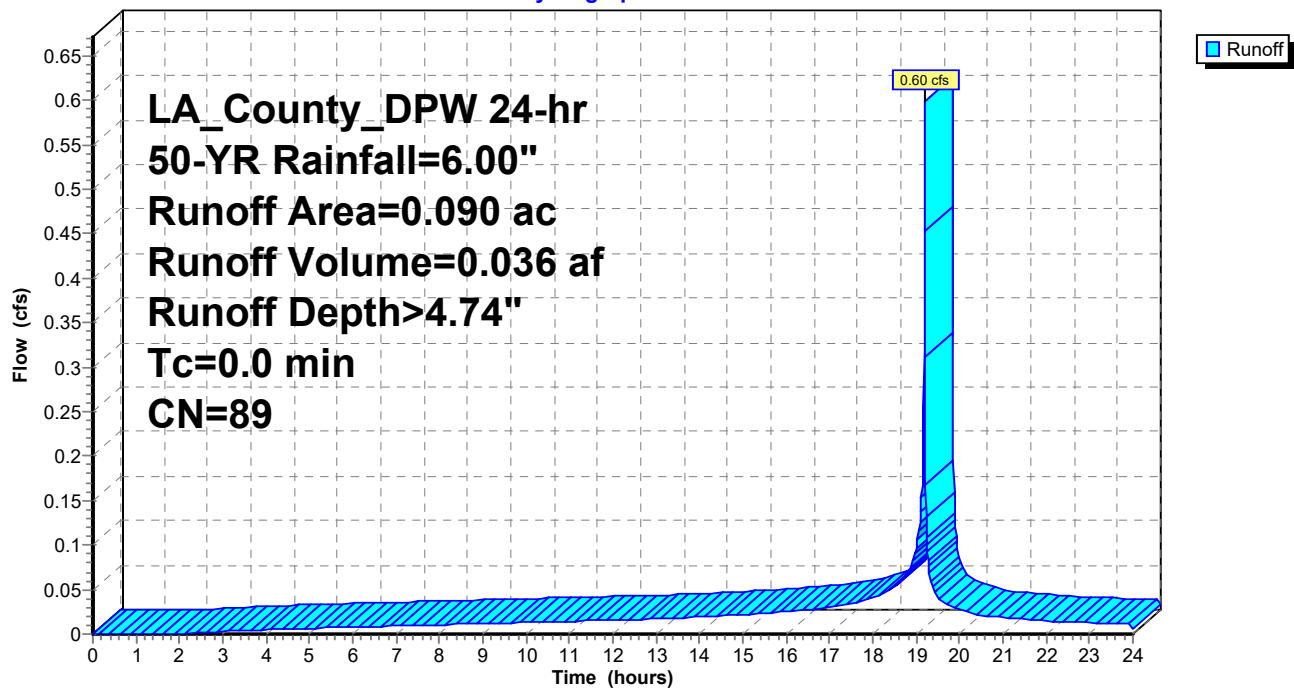
Runoff = 0.60 cfs @ 19.19 hrs, Volume= 0.036 af, Depth> 4.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

Area (ac)	CN	Description
* 0.090	89	
0.090		100.00% Pervious Area

Subcatchment 9S: DA-9

Hydrograph



Summary for Subcatchment 10S: DA-10

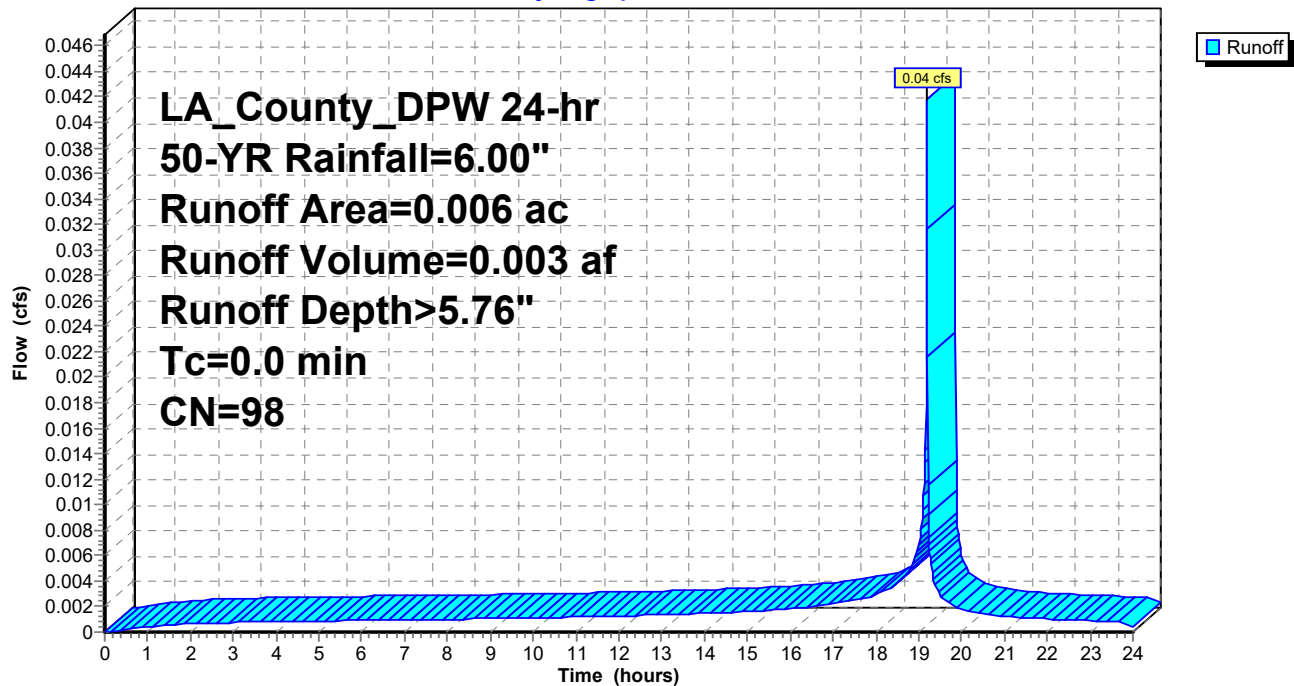
Runoff = 0.04 cfs @ 19.19 hrs, Volume= 0.003 af, Depth> 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.006	98	
	0.006		100.00% Impervious Area

Subcatchment 10S: DA-10

Hydrograph

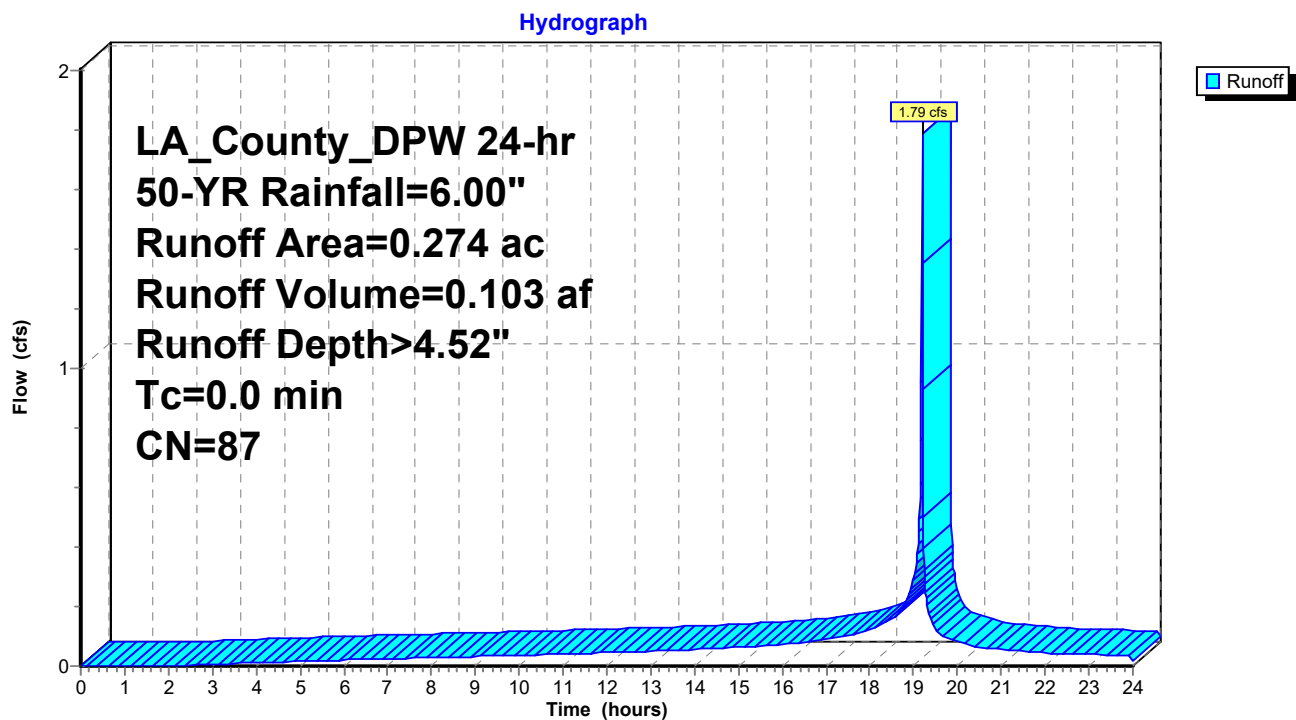


Summary for Subcatchment 11S: DA-11

Runoff = 1.79 cfs @ 19.19 hrs, Volume= 0.103 af, Depth> 4.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.274	87	
	0.274		100.00% Pervious Area

Subcatchment 11S: DA-11

Summary for Subcatchment 12S: DA-12

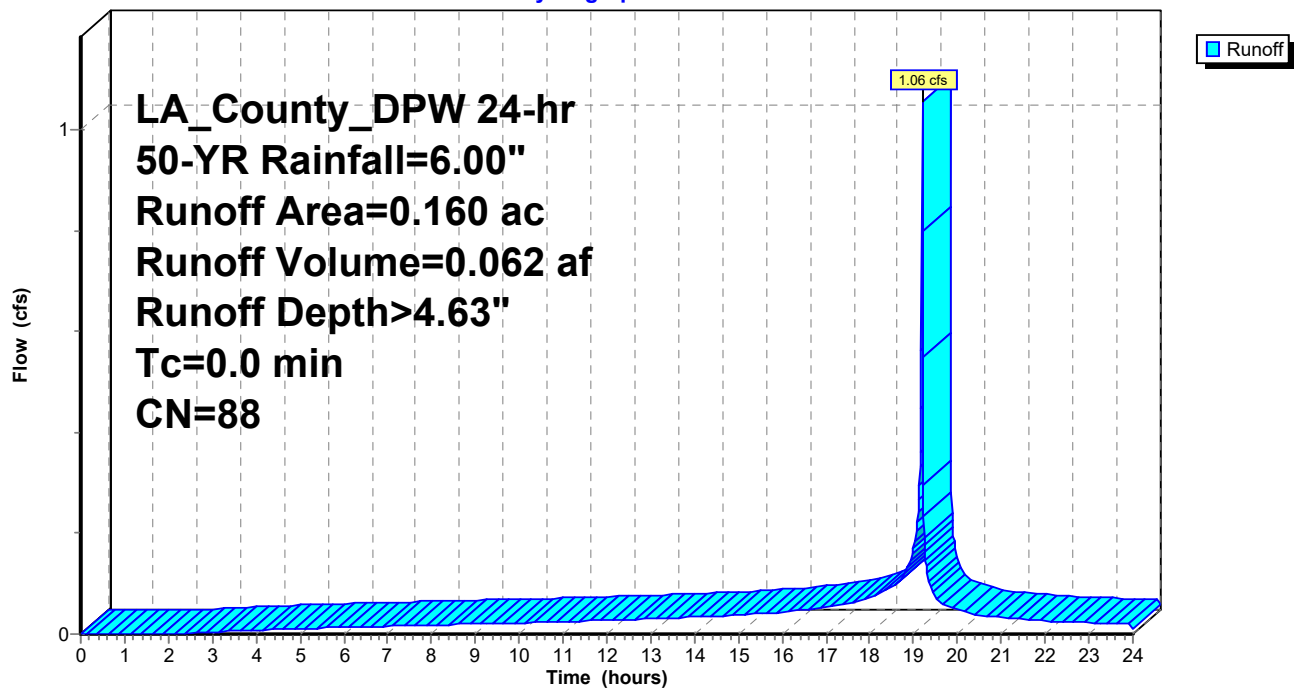
Runoff = 1.06 cfs @ 19.19 hrs, Volume= 0.062 af, Depth> 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.160	88	
	0.160		100.00% Pervious Area

Subcatchment 12S: DA-12

Hydrograph



Summary for Subcatchment 13S: DA-13

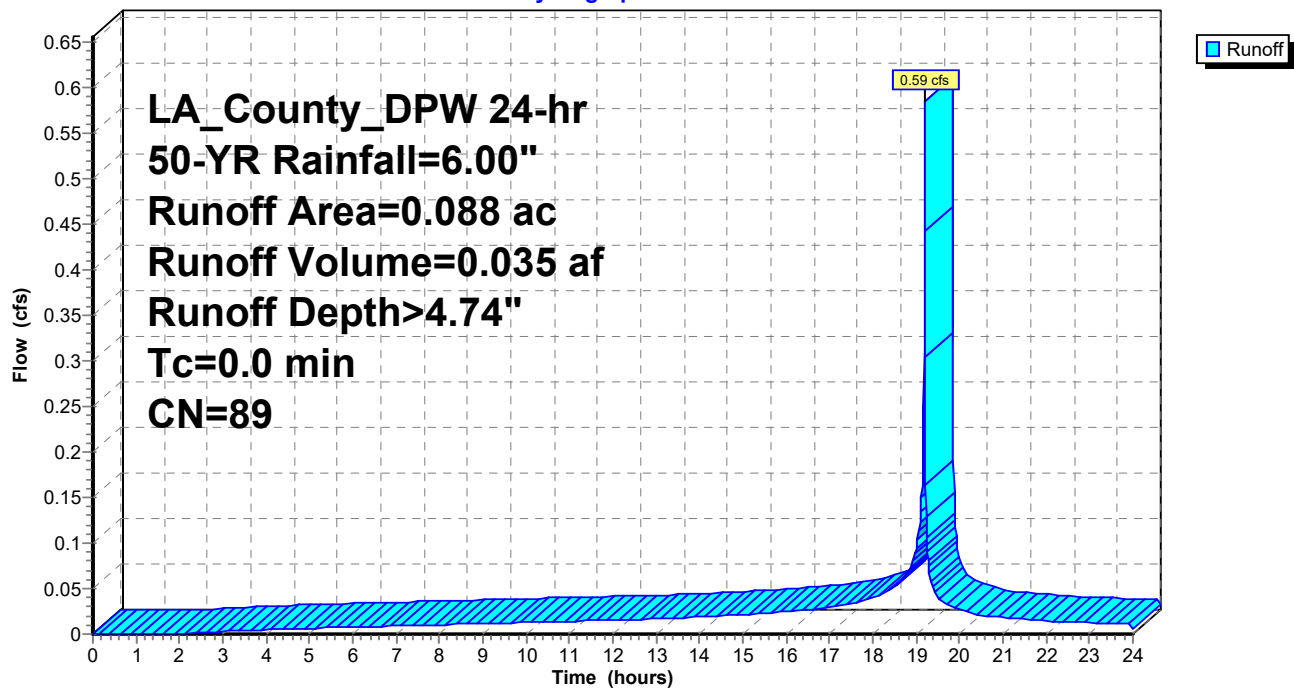
Runoff = 0.59 cfs @ 19.19 hrs, Volume= 0.035 af, Depth> 4.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.088	89	
	0.088		100.00% Pervious Area

Subcatchment 13S: DA-13

Hydrograph



Summary for Subcatchment 14S: DA-14

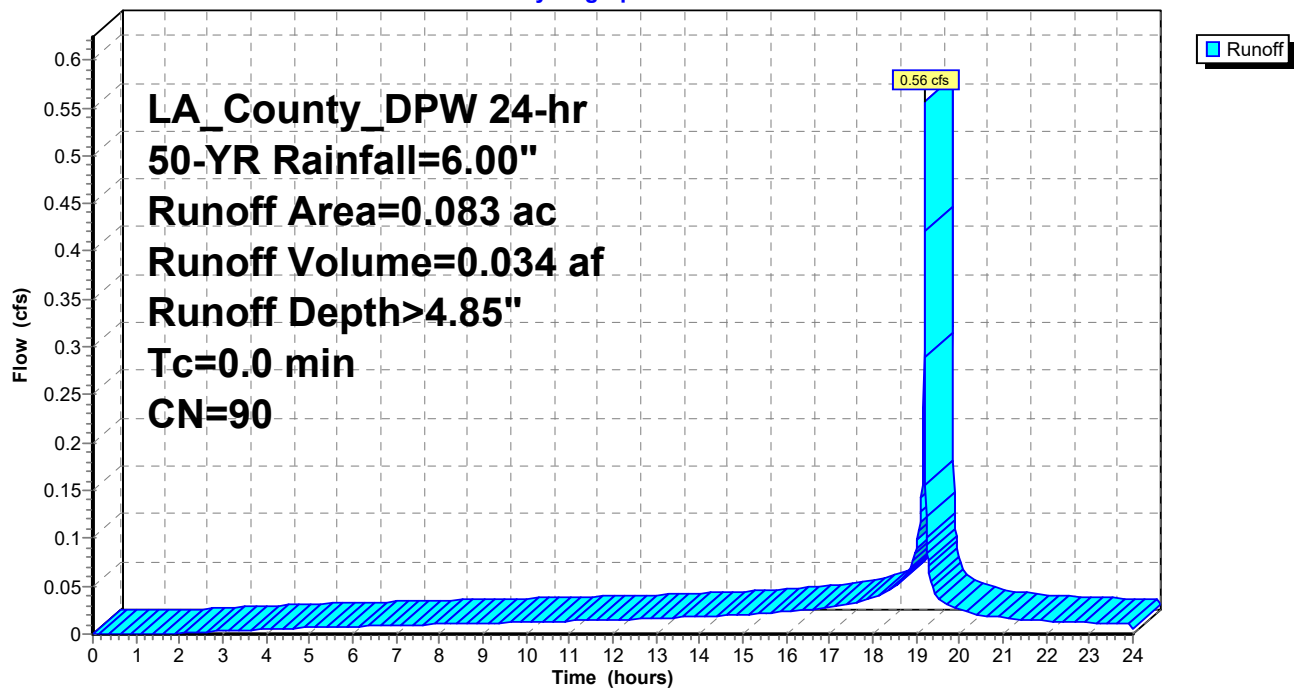
Runoff = 0.56 cfs @ 19.19 hrs, Volume= 0.034 af, Depth> 4.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.083	90	
	0.083		100.00% Pervious Area

Subcatchment 14S: DA-14

Hydrograph



Summary for Subcatchment 15S: DA-15

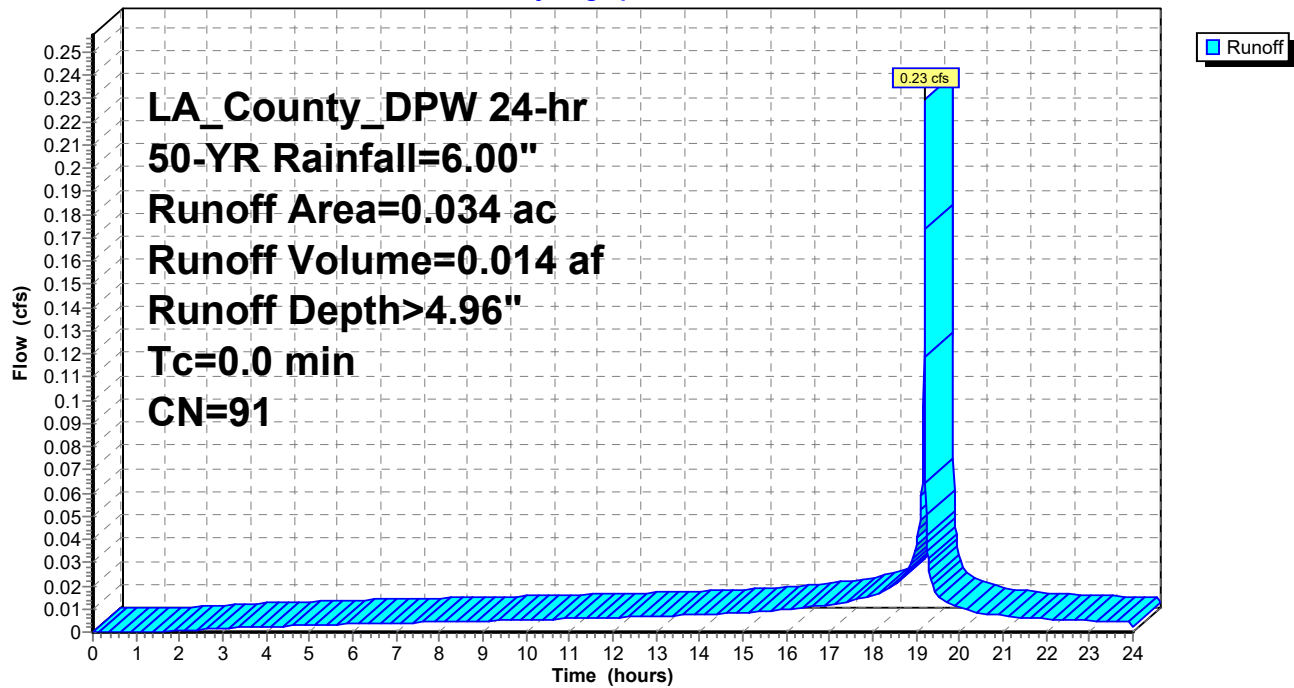
Runoff = 0.23 cfs @ 19.19 hrs, Volume= 0.014 af, Depth> 4.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.034	91	
	0.034		100.00% Pervious Area

Subcatchment 15S: DA-15

Hydrograph



Summary for Subcatchment 16S: DA-16

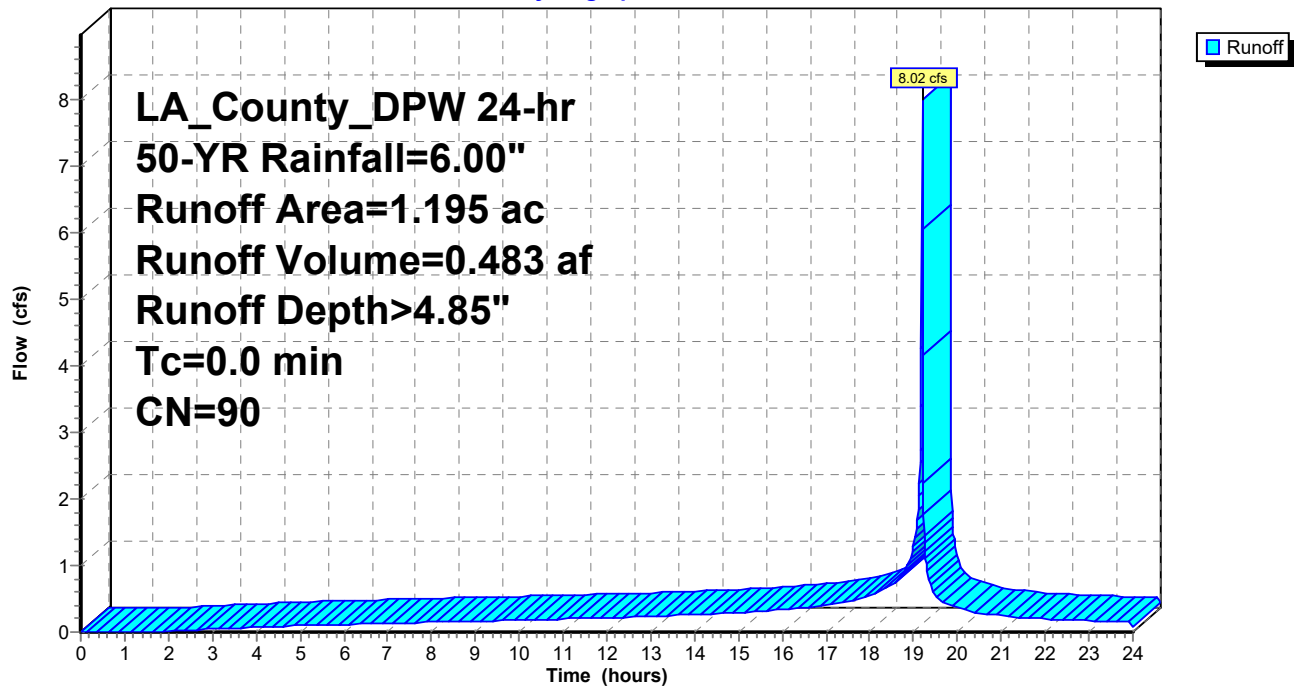
Runoff = 8.02 cfs @ 19.19 hrs, Volume= 0.483 af, Depth> 4.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	1.195	90	
	1.195		100.00% Pervious Area

Subcatchment 16S: DA-16

Hydrograph

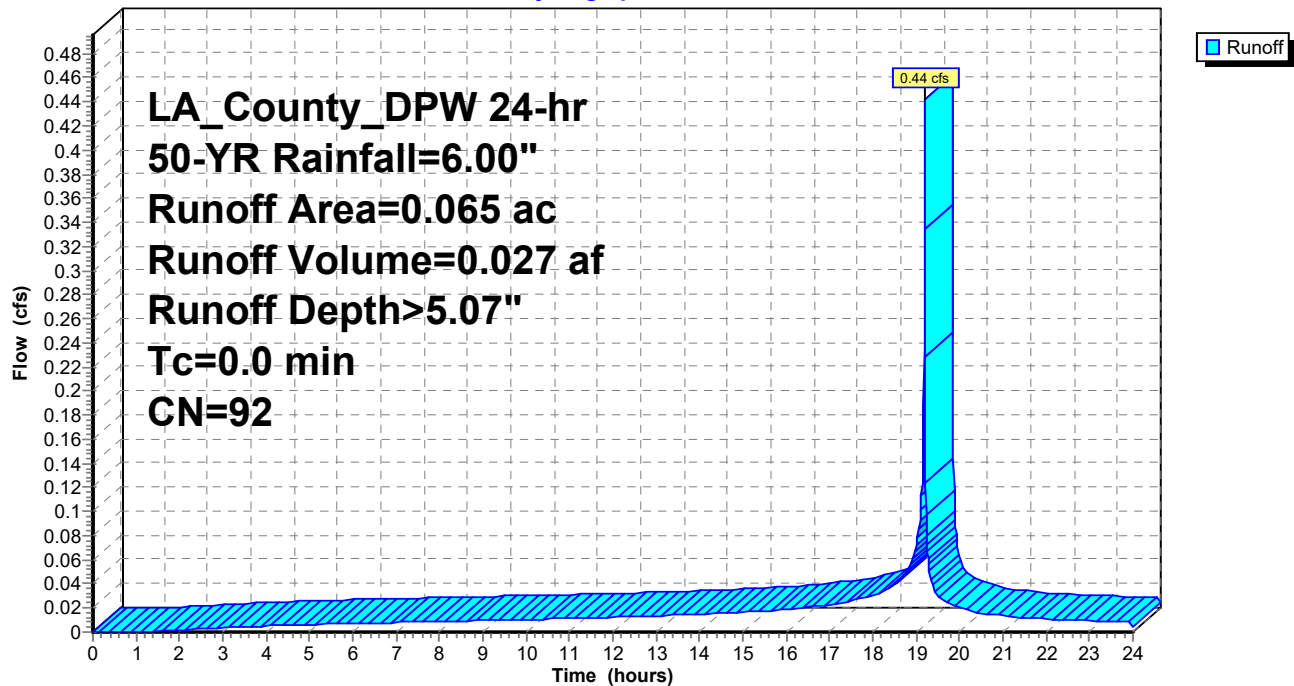


Summary for Subcatchment 17S: DA-17

Runoff = 0.44 cfs @ 19.19 hrs, Volume= 0.027 af, Depth> 5.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.065	92	
	0.065		100.00% Pervious Area

Subcatchment 17S: DA-17**Hydrograph**

Summary for Subcatchment 19S: DA-19

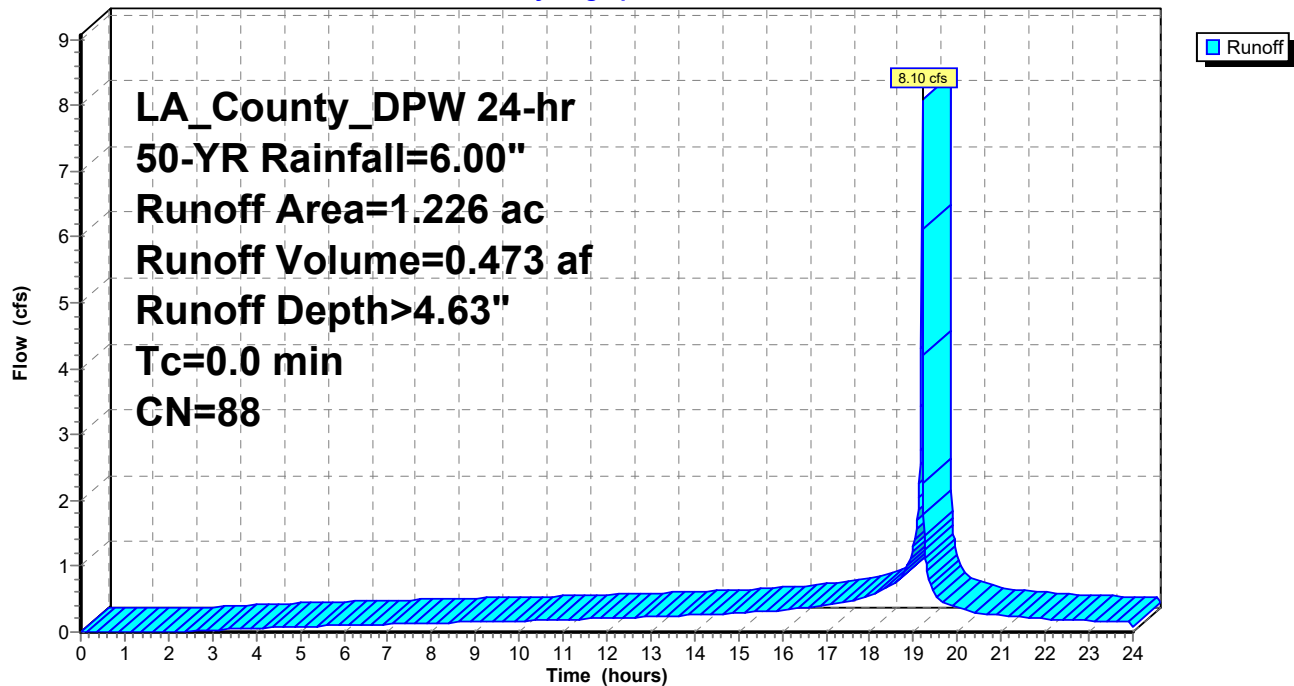
Runoff = 8.10 cfs @ 19.19 hrs, Volume= 0.473 af, Depth> 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	1.226	88	
	1.226		100.00% Pervious Area

Subcatchment 19S: DA-19

Hydrograph



Summary for Subcatchment 25S: DA-26

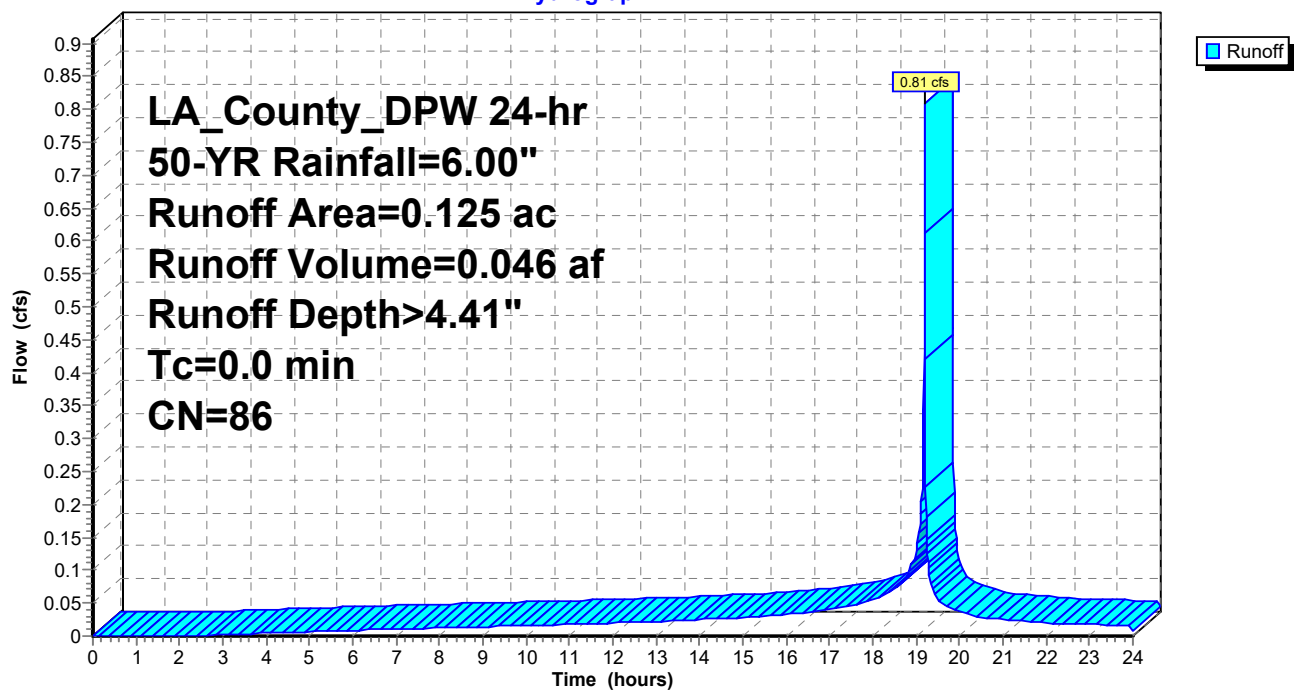
Runoff = 0.81 cfs @ 19.19 hrs, Volume= 0.046 af, Depth> 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 LA_County_DPW 24-hr 50-YR Rainfall=6.00"

Area (ac)	CN	Description
* 0.125	86	
0.125		100.00% Pervious Area

Subcatchment 25S: DA-26

Hydrograph



Summary for Subcatchment 26S: DA-27

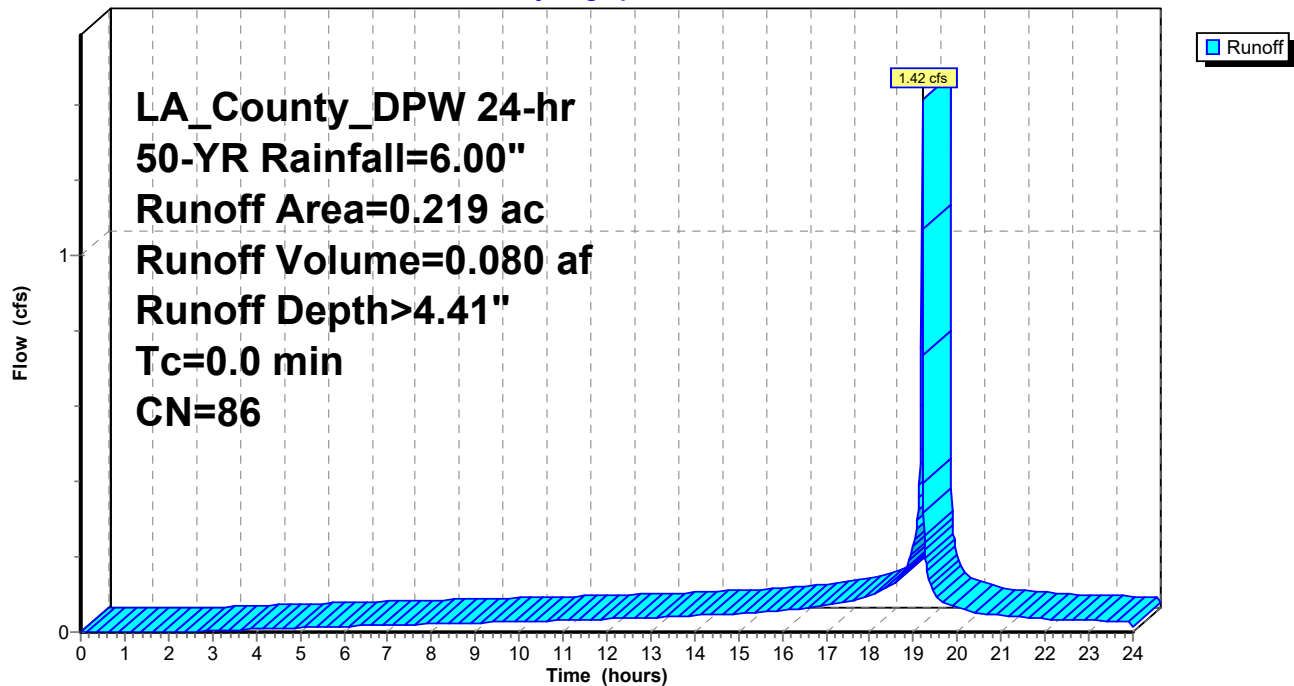
Runoff = 1.42 cfs @ 19.19 hrs, Volume= 0.080 af, Depth> 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.219	86	
	0.219		100.00% Pervious Area

Subcatchment 26S: DA-27

Hydrograph



Summary for Subcatchment 28S: DA-29

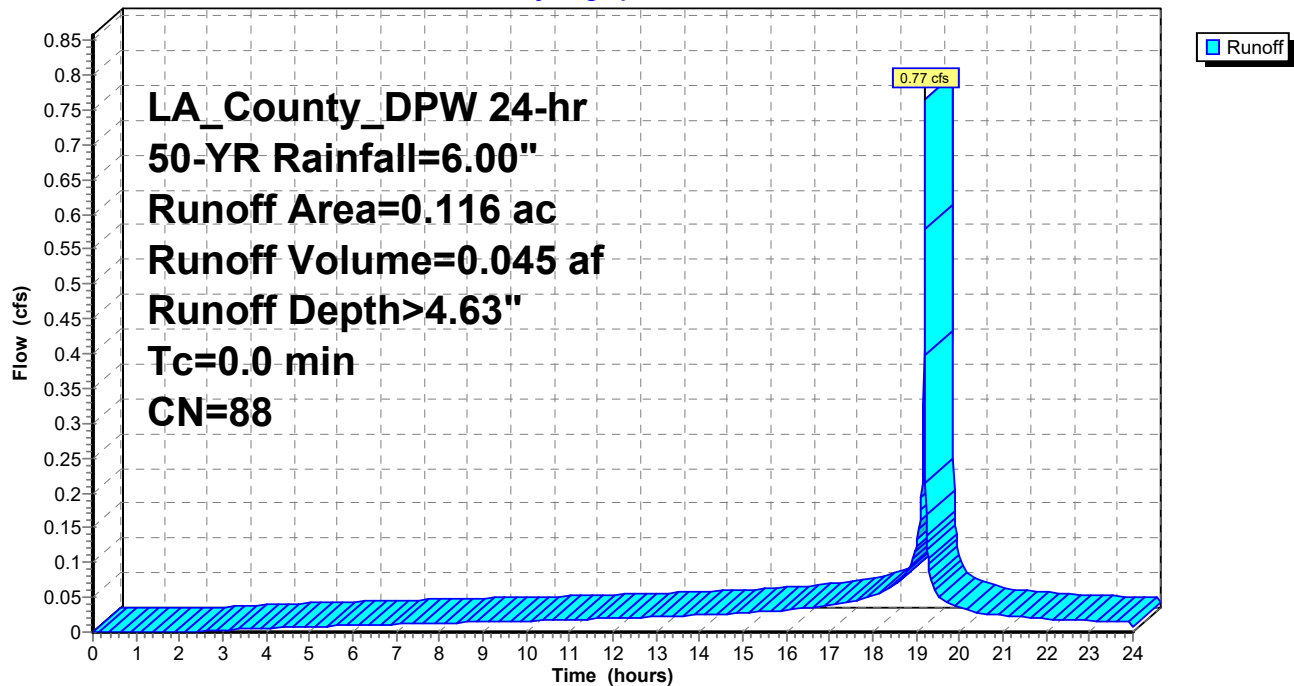
Runoff = 0.77 cfs @ 19.19 hrs, Volume= 0.045 af, Depth> 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
LA_County_DPW 24-hr 50-YR Rainfall=6.00"

	Area (ac)	CN	Description
*	0.116	88	
	0.116		100.00% Pervious Area

Subcatchment 28S: DA-29

Hydrograph



Summary for Reach 29R: CH-6

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 4.69" for 50-YR event
 Inflow = 4.40 cfs @ 19.19 hrs, Volume= 0.319 af
 Outflow = 3.49 cfs @ 19.23 hrs, Volume= 0.318 af, Atten= 21%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.76 fps, Min. Travel Time= 1.2 min

Avg. Velocity = 0.95 fps, Avg. Travel Time= 3.5 min

Peak Storage= 254 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.27' , Surface Width= 6.27'

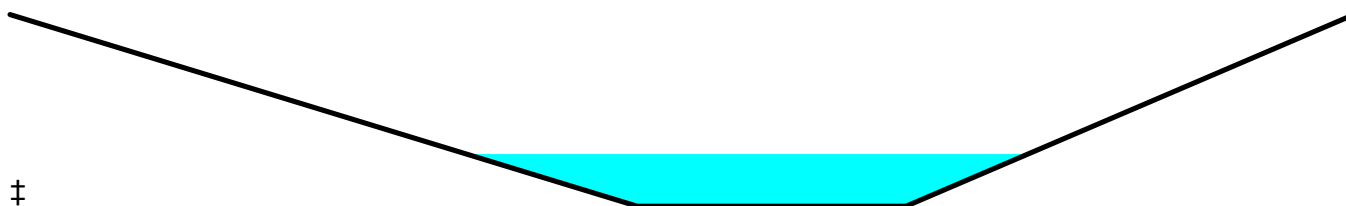
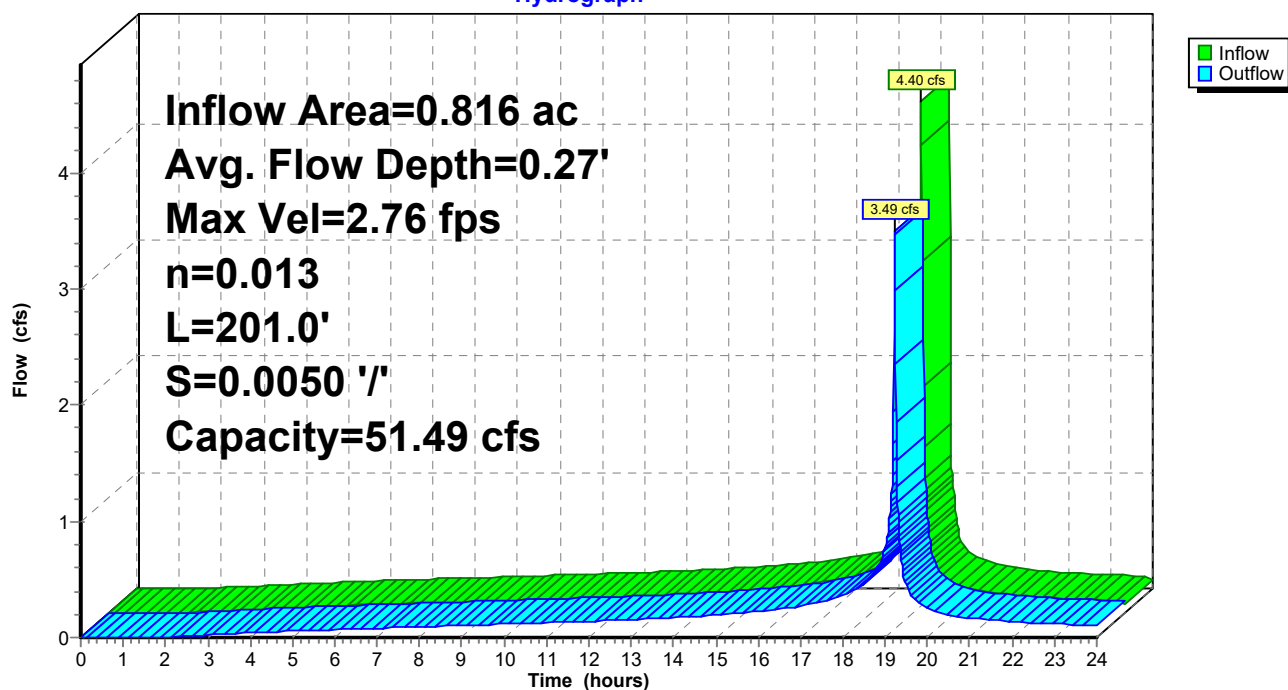
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 51.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 ' / ' Top Width= 15.00'

Length= 201.0' Slope= 0.0050 ' / '

Inlet Invert= 1,148.00', Outlet Invert= 1,146.99'

**Reach 29R: CH-6****Hydrograph**

Summary for Reach 30R: CH-7

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 4.63" for 50-YR event
 Inflow = 2.98 cfs @ 19.19 hrs, Volume= 0.174 af
 Outflow = 2.47 cfs @ 19.20 hrs, Volume= 0.174 af, Atten= 17%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.17 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.55 fps, Avg. Travel Time= 1.4 min

Peak Storage= 61 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 2.51'

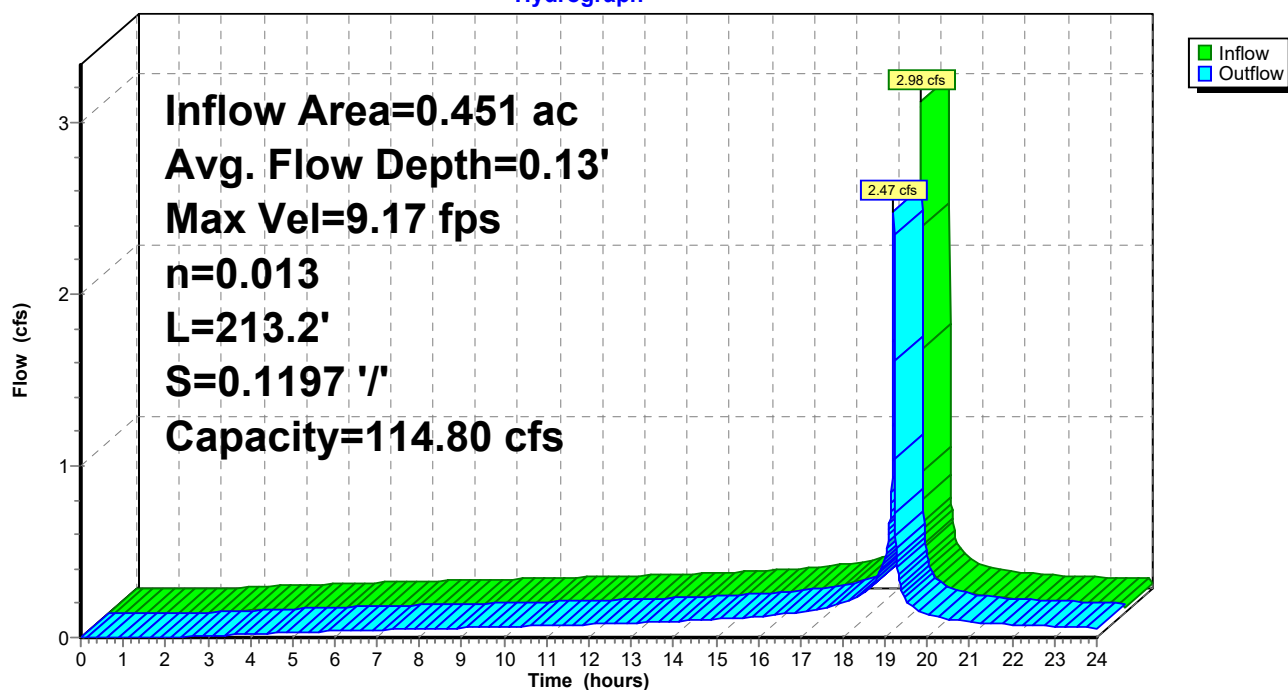
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 114.80 cfs

2.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 6.00'

Length= 213.2' Slope= 0.1197 '/'

Inlet Invert= 1,174.38', Outlet Invert= 1,148.85'

**Reach 30R: CH-7****Hydrograph**

Summary for Reach 31R: CH-4

Inflow Area = 0.445 ac, 0.00% Impervious, Inflow Depth > 4.56" for 50-YR event
 Inflow = 2.24 cfs @ 19.19 hrs, Volume= 0.169 af
 Outflow = 2.14 cfs @ 19.20 hrs, Volume= 0.169 af, Atten= 5%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 13.75 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 5.77 fps, Avg. Travel Time= 0.3 min

Peak Storage= 18 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.23' , Surface Width= 1.39'

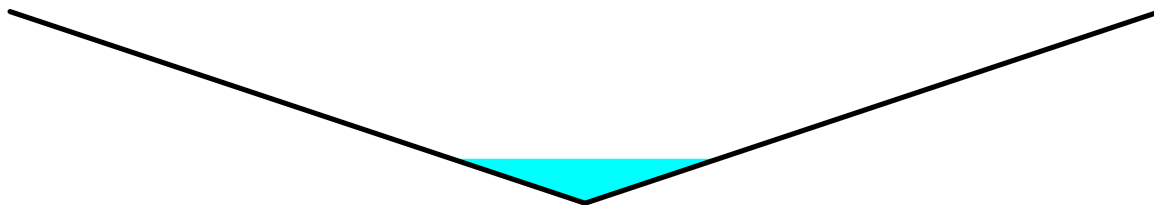
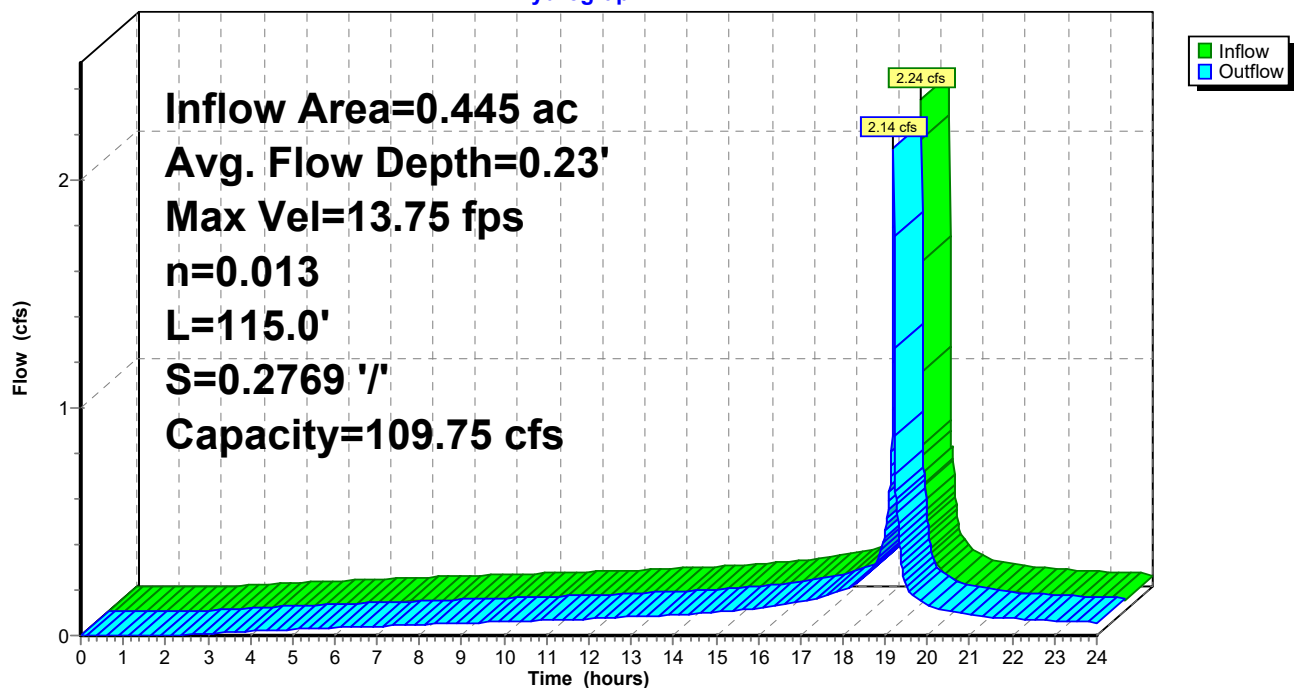
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 109.75 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 115.0' Slope= 0.2769 '/'

Inlet Invert= 1,179.25', Outlet Invert= 1,147.41'

**Reach 31R: CH-4****Hydrograph**

Summary for Reach 32R: CH-3

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 4.74" for 50-YR event
 Inflow = 0.60 cfs @ 19.19 hrs, Volume= 0.036 af
 Outflow = 0.49 cfs @ 19.20 hrs, Volume= 0.035 af, Atten= 18%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.08 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.10 fps, Avg. Travel Time= 0.9 min

Peak Storage= 12 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.17' , Surface Width= 1.21'

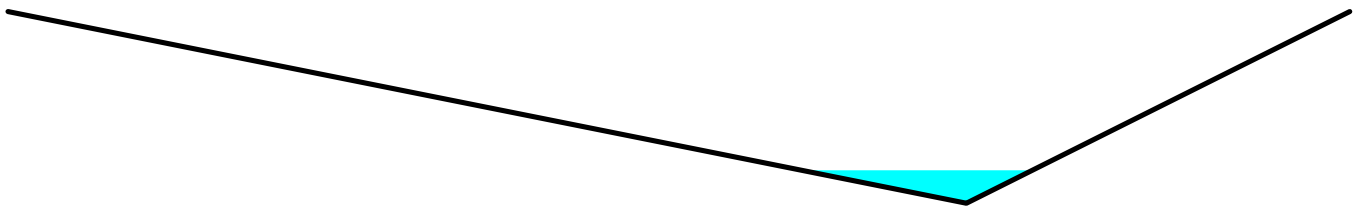
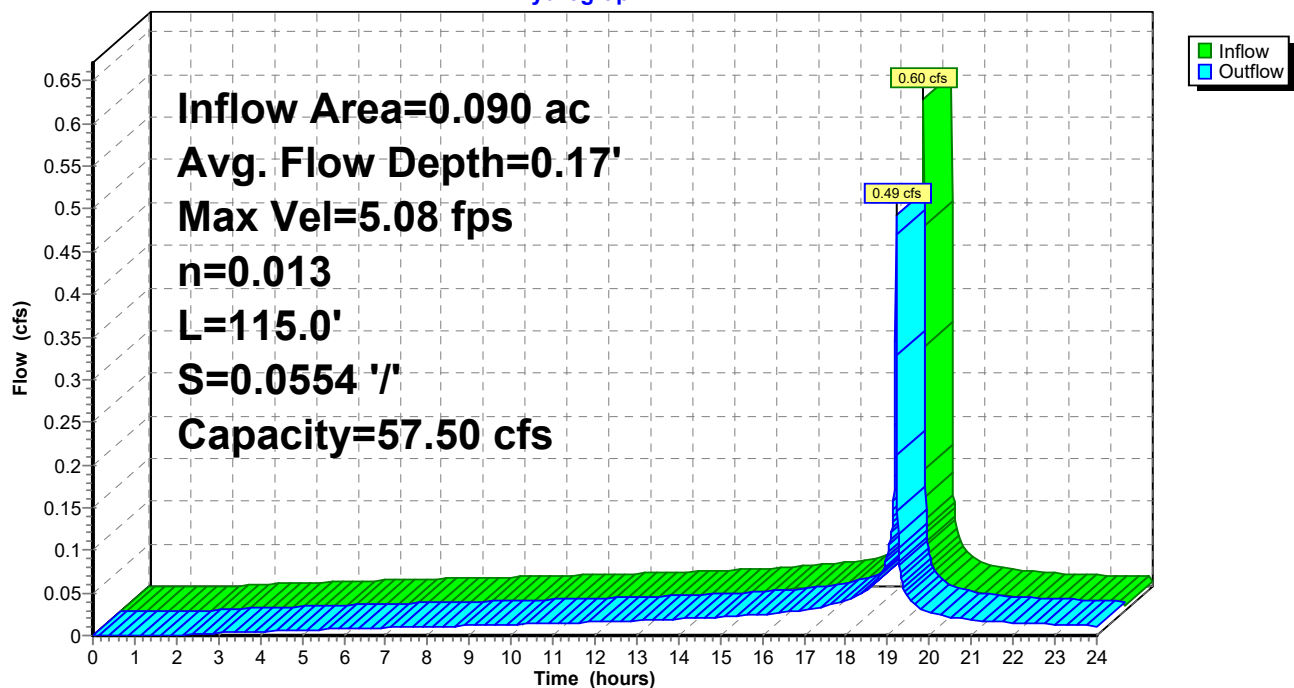
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 57.50 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 115.0' Slope= 0.0554 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,171.63'

**Reach 32R: CH-3****Hydrograph**

Summary for Reach 33R: CH-2

Inflow Area = 0.269 ac, 0.00% Impervious, Inflow Depth > 4.41" for 50-YR event
 Inflow = 1.74 cfs @ 19.19 hrs, Volume= 0.099 af
 Outflow = 1.67 cfs @ 19.19 hrs, Volume= 0.099 af, Atten= 4%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.74 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 4.68 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 19.19 hrs

Average Depth at Peak Storage= 0.20' , Surface Width= 1.42'

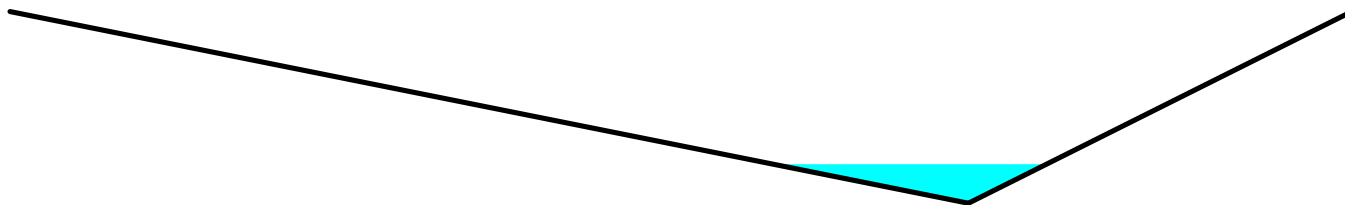
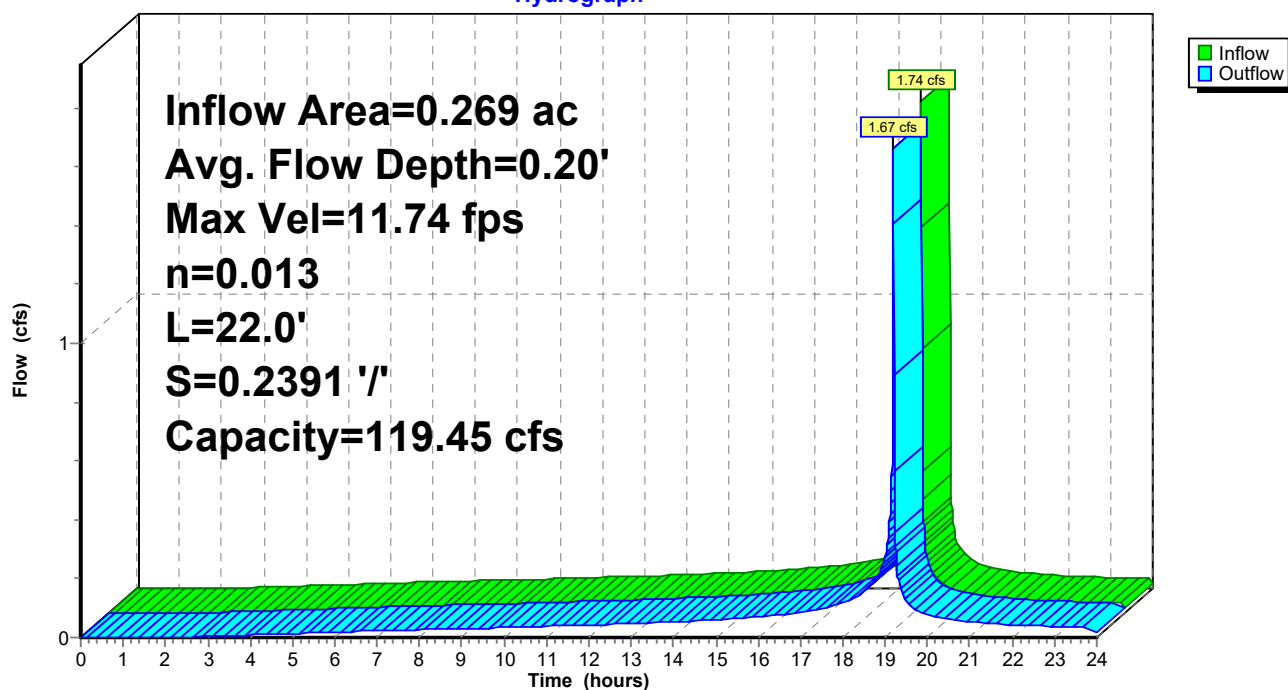
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 119.45 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 22.0' Slope= 0.2391 ' / '

Inlet Invert= 1,176.89', Outlet Invert= 1,171.63'

**Reach 33R: CH-2****Hydrograph**

Summary for Reach 34R: CH-1

Inflow Area = 0.074 ac, 0.00% Impervious, Inflow Depth > 4.83" for 50-YR event
 Inflow = 0.23 cfs @ 19.26 hrs, Volume= 0.030 af
 Outflow = 0.23 cfs @ 19.28 hrs, Volume= 0.030 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.88 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 1.89 fps, Avg. Travel Time= 1.1 min

Peak Storage= 7 cf @ 19.27 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 0.91'

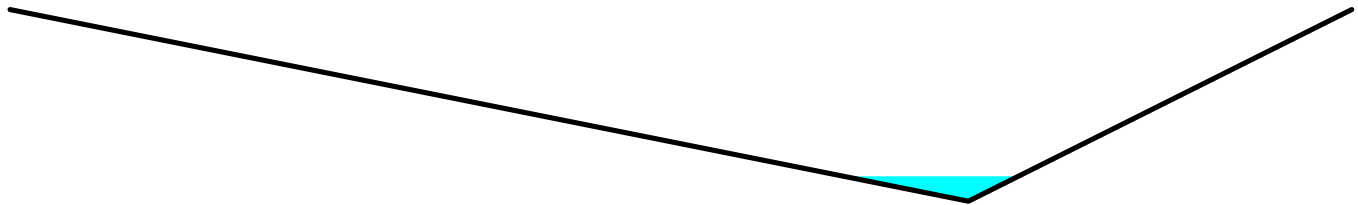
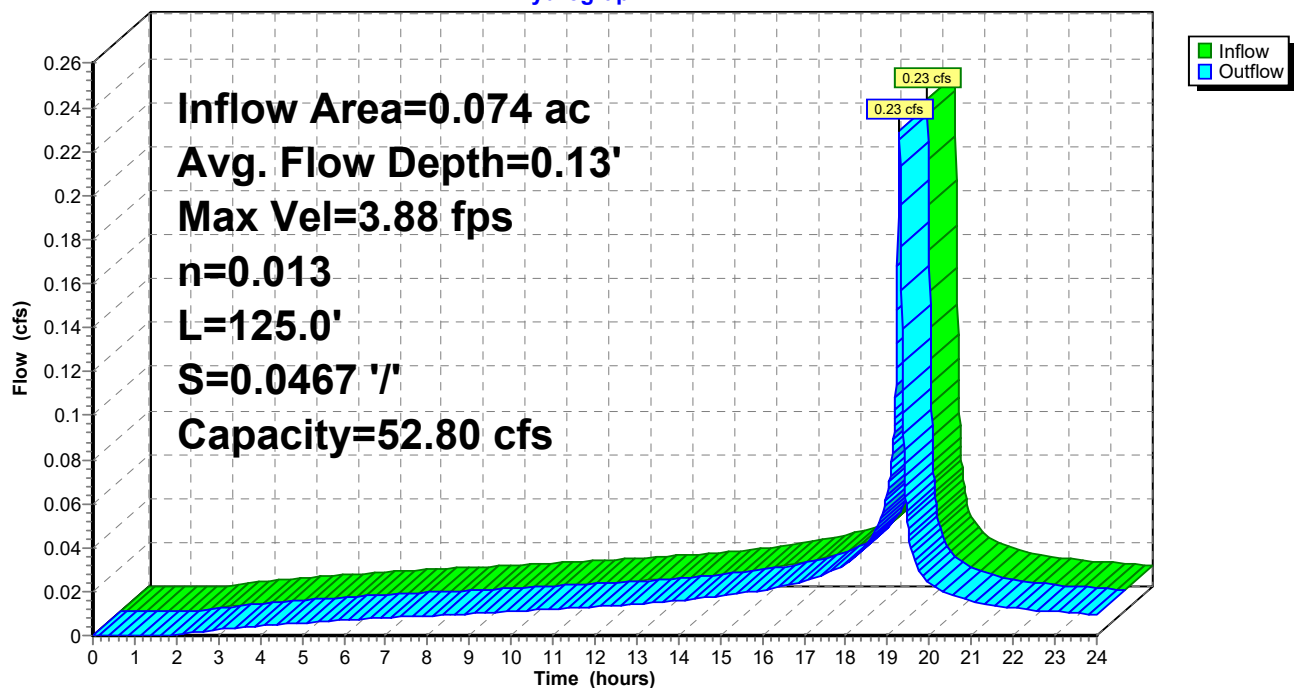
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 52.80 cfs

0.00' x 1.00' deep channel, n= 0.013 Concrete, trowel finish

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 125.0' Slope= 0.0467 ' / '

Inlet Invert= 1,206.17', Outlet Invert= 1,200.33'

**Reach 34R: CH-1****Hydrograph**

Summary for Reach 35R: CH-8

Inflow Area = 0.065 ac, 0.00% Impervious, Inflow Depth > 5.07" for 50-YR event
Inflow = 0.44 cfs @ 19.19 hrs, Volume= 0.027 af
Outflow = 0.34 cfs @ 19.21 hrs, Volume= 0.027 af, Atten= 22%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.37 fps, Min. Travel Time= 0.7 min

Avg. Velocity = 2.72 fps, Avg. Travel Time= 1.7 min

Peak Storage= 16 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.17' , Surface Width= 0.67'

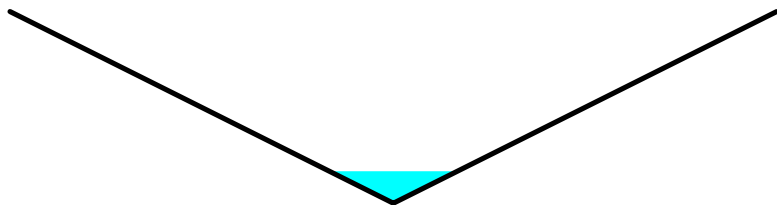
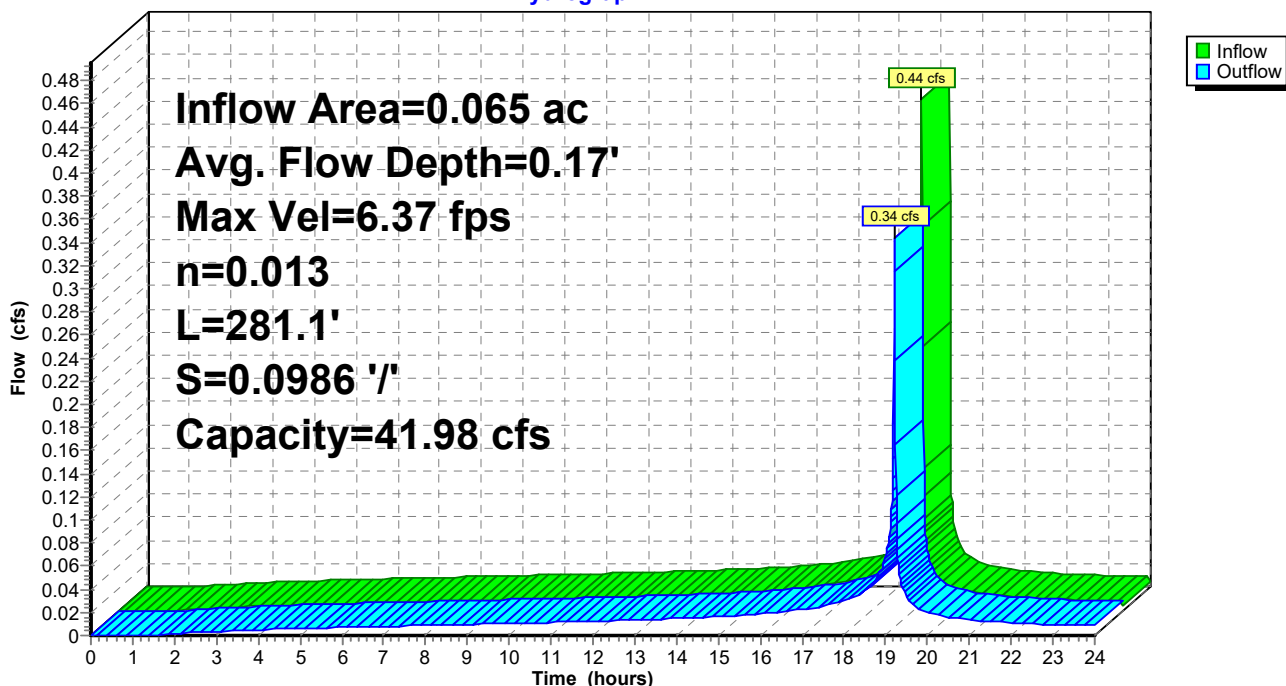
Bank-Full Depth= 1.00' Flow Area= 2.0 sf, Capacity= 41.98 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 4.00'

Length= 281.1' Slope= 0.0986 '/'

Inlet Invert= 1,174.52', Outlet Invert= 1,146.81'

**Reach 35R: CH-8****Hydrograph**

Summary for Reach 36R: CH-9

Inflow Area = 1.332 ac, 0.00% Impervious, Inflow Depth > 4.68" for 50-YR event
 Inflow = 5.40 cfs @ 19.22 hrs, Volume= 0.519 af
 Outflow = 5.36 cfs @ 19.22 hrs, Volume= 0.519 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.97 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 1.52 fps, Avg. Travel Time= 0.2 min

Peak Storage= 22 cf @ 19.22 hrs

Average Depth at Peak Storage= 0.24' , Surface Width= 5.18'

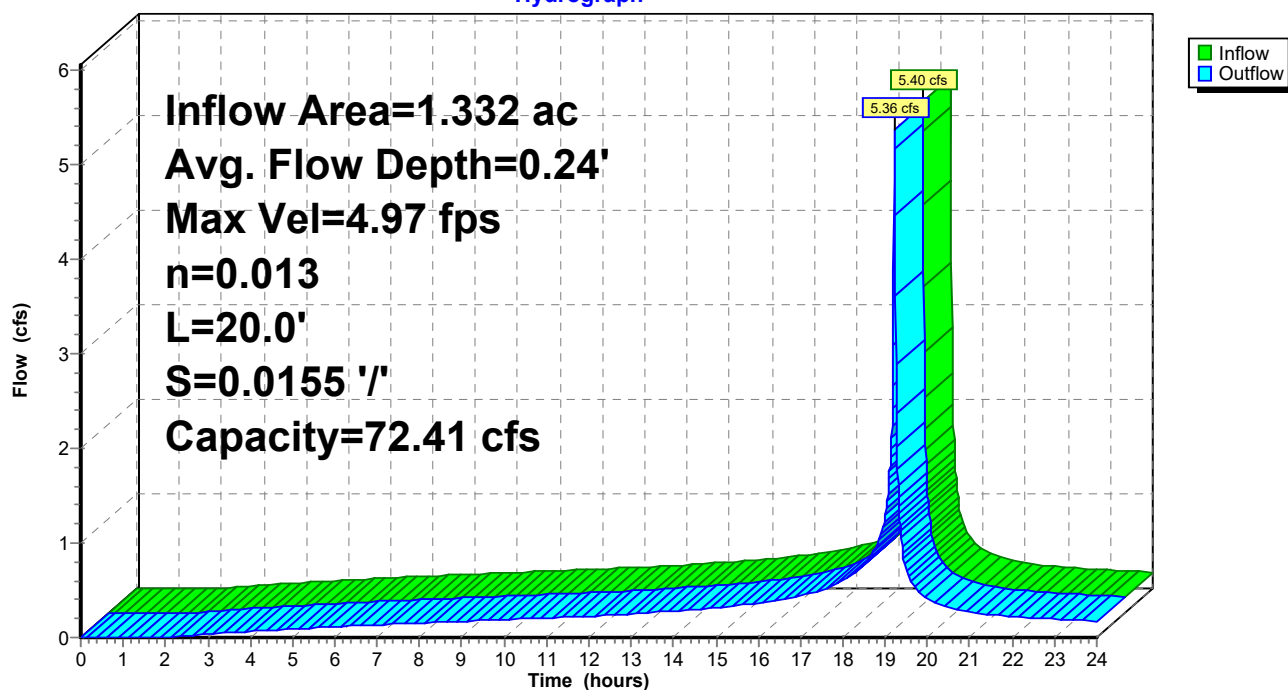
Bank-Full Depth= 1.00' Flow Area= 6.5 sf, Capacity= 72.41 cfs

4.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.5 '/' Top Width= 9.00'

Length= 20.0' Slope= 0.0155 '/'

Inlet Invert= 1,146.81', Outlet Invert= 1,146.50'

**Reach 36R: CH-9****Hydrograph**

Summary for Reach 37R: CV-1

Inflow Area = 0.451 ac, 0.00% Impervious, Inflow Depth > 4.62" for 50-YR event
 Inflow = 2.47 cfs @ 19.20 hrs, Volume= 0.174 af
 Outflow = 2.36 cfs @ 19.21 hrs, Volume= 0.174 af, Atten= 5%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.44 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.00 fps, Avg. Travel Time= 0.6 min

Peak Storage= 31 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.56' , Surface Width= 0.99'

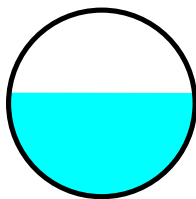
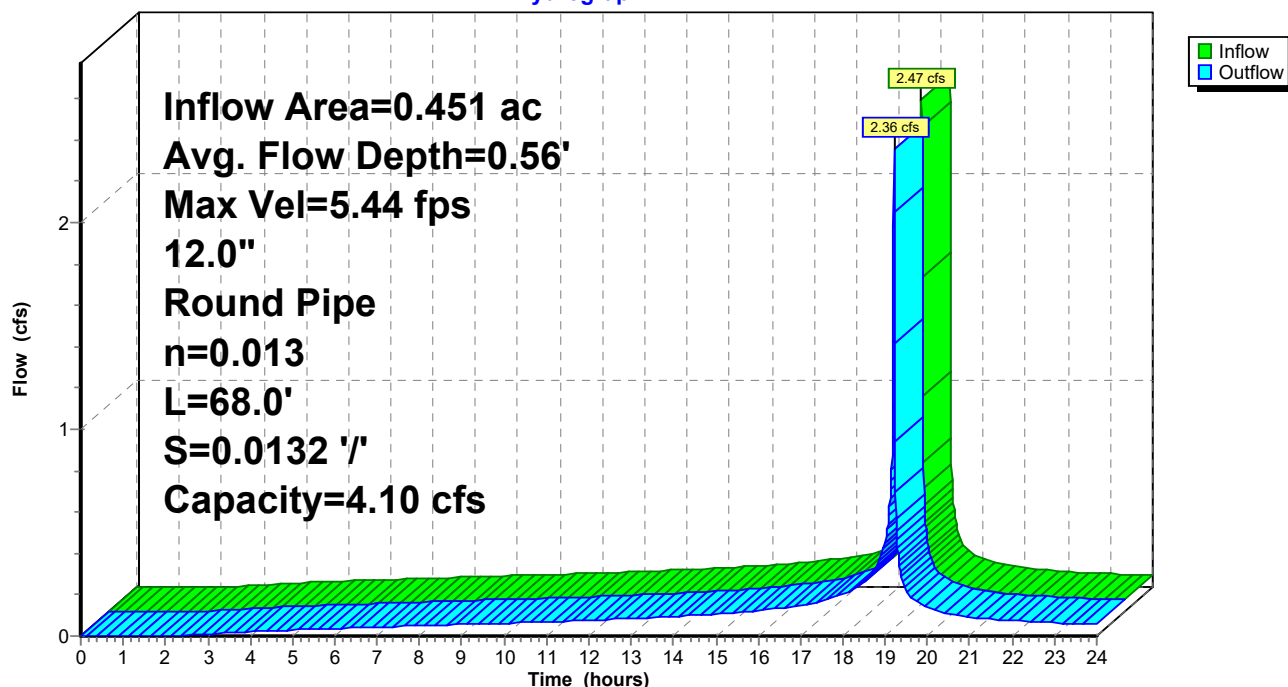
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.10 cfs

12.0" Round Pipe

n= 0.013

Length= 68.0' Slope= 0.0132 '/'

Inlet Invert= 1,148.90', Outlet Invert= 1,148.00'

**Reach 37R: CV-1****Hydrograph**

Summary for Reach 38R: CV-2

Inflow Area = 0.816 ac, 0.00% Impervious, Inflow Depth > 4.68" for 50-YR event
 Inflow = 3.49 cfs @ 19.23 hrs, Volume= 0.318 af
 Outflow = 3.44 cfs @ 19.23 hrs, Volume= 0.318 af, Atten= 2%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.14 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.60 fps, Avg. Travel Time= 0.4 min

Peak Storage= 32 cf @ 19.23 hrs

Average Depth at Peak Storage= 0.72' , Surface Width= 1.50'

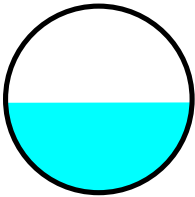
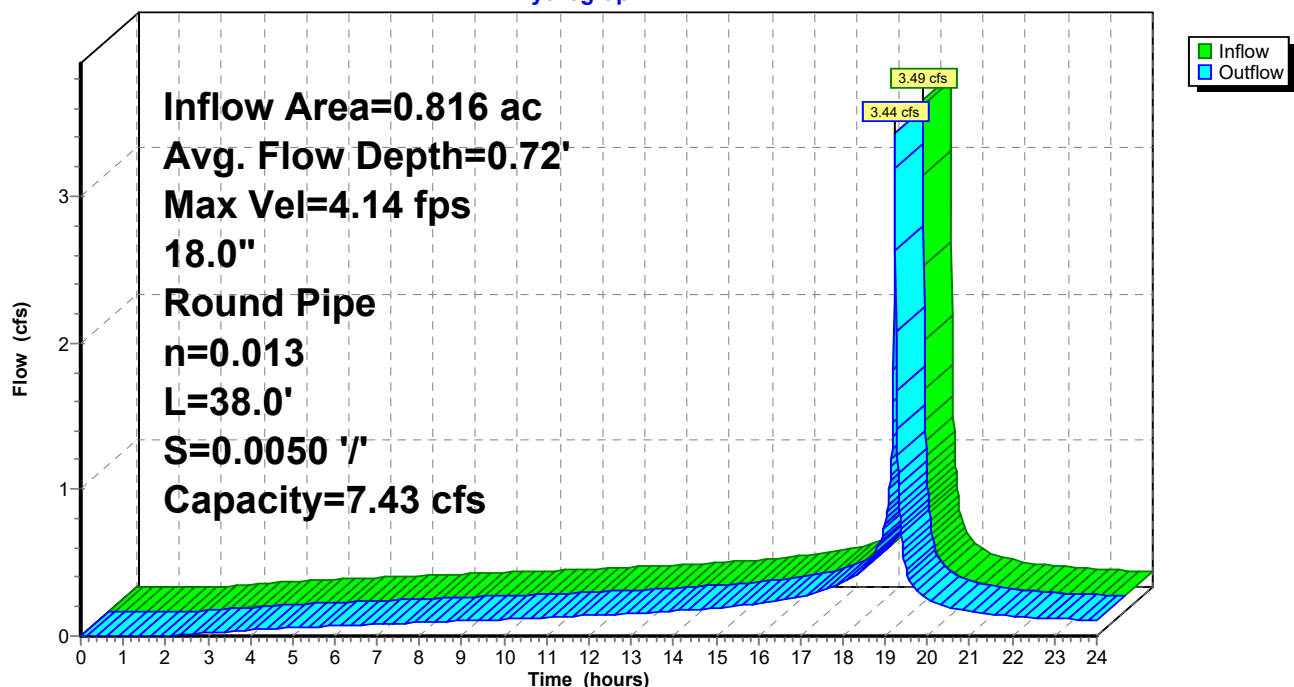
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe

n= 0.013

Length= 38.0' Slope= 0.0050 '/

Inlet Invert= 1,146.99', Outlet Invert= 1,146.80'

**Reach 38R: CV-2****Hydrograph**

Summary for Reach 39R: CH-10A

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 4.52" for 50-YR event
 Inflow = 1.79 cfs @ 19.19 hrs, Volume= 0.103 af
 Outflow = 1.55 cfs @ 19.20 hrs, Volume= 0.103 af, Atten= 14%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.41 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.61 fps, Avg. Travel Time= 0.5 min

Peak Storage= 22 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.27' , Surface Width= 1.88'

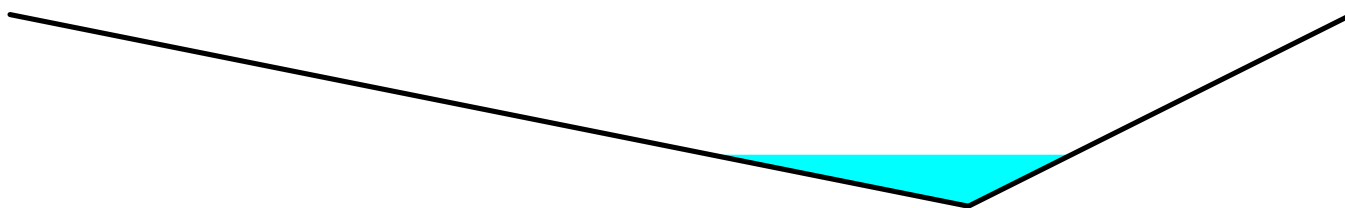
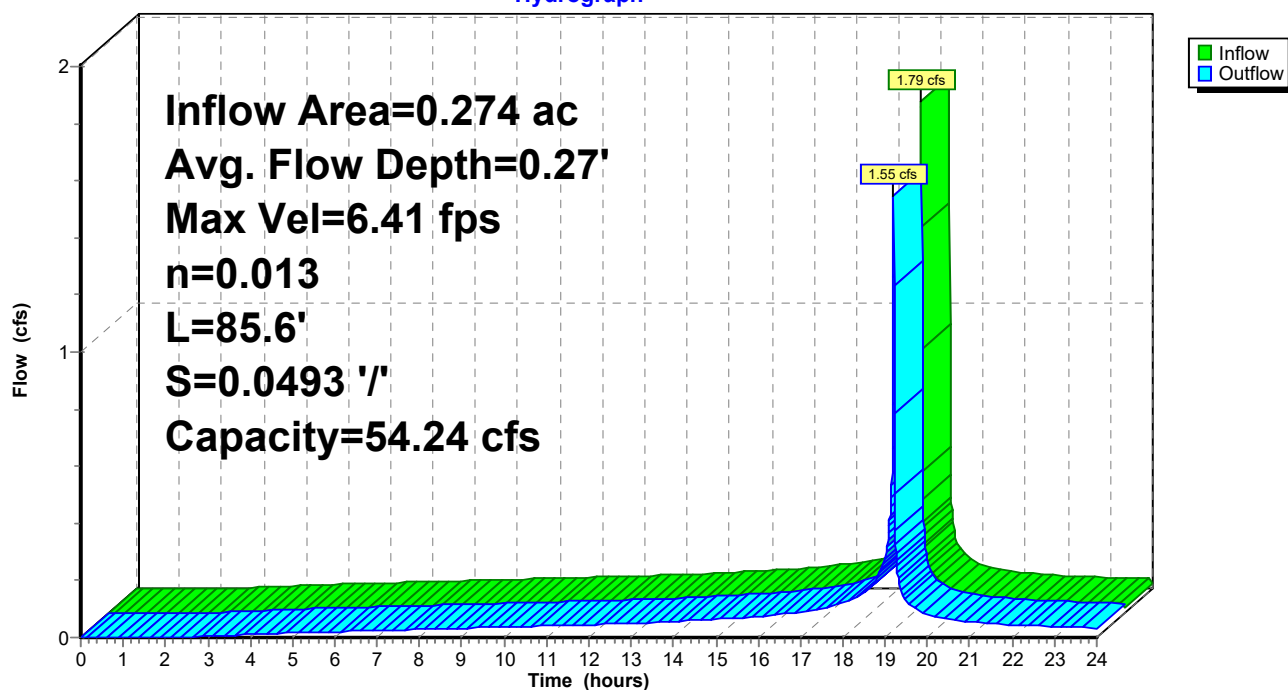
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 54.24 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' /' Top Width= 7.00'

Length= 85.6' Slope= 0.0493 ' /'

Inlet Invert= 1,198.00', Outlet Invert= 1,193.78'

**Reach 39R: CH-10A****Hydrograph**

Summary for Reach 40R: CH-11A

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 4.63" for 50-YR event
 Inflow = 1.06 cfs @ 19.19 hrs, Volume= 0.062 af
 Outflow = 0.93 cfs @ 19.20 hrs, Volume= 0.062 af, Atten= 12%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.36 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.20 fps, Avg. Travel Time= 0.4 min

Peak Storage= 9 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.23' , Surface Width= 1.59'

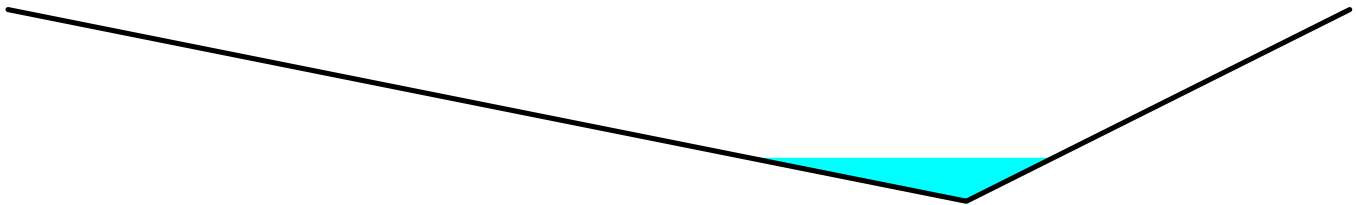
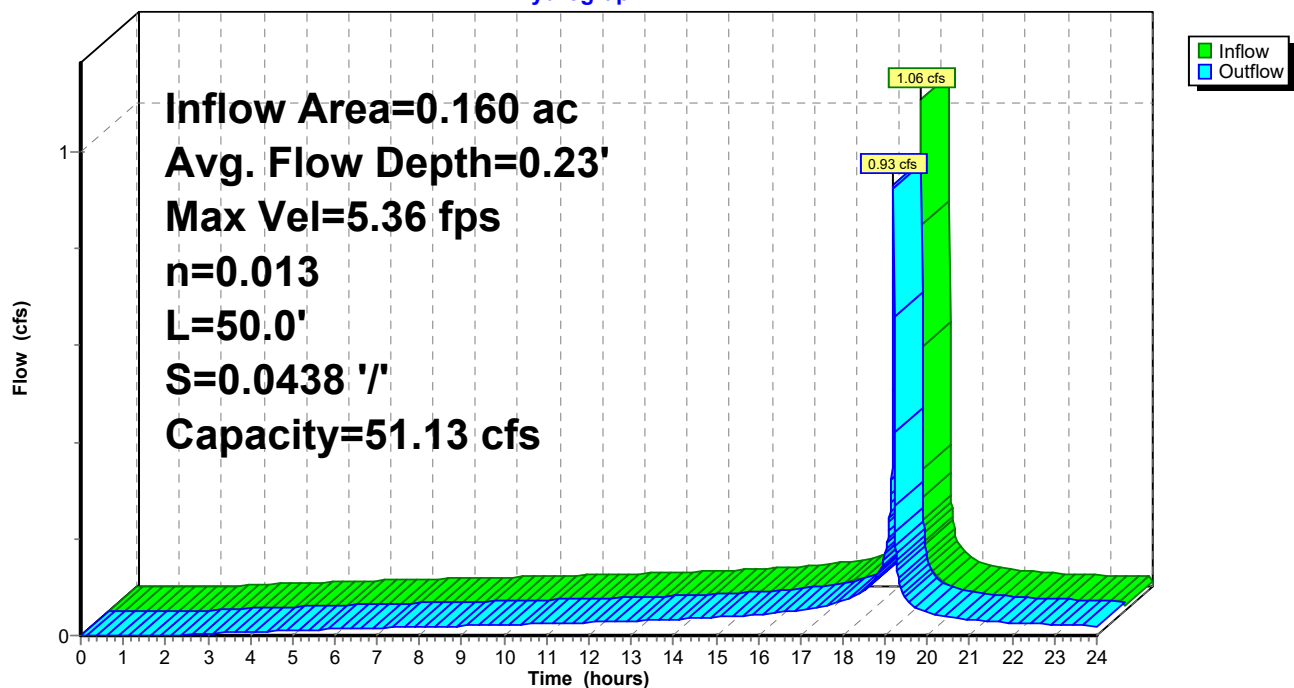
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 51.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 50.0' Slope= 0.0438 ' / '

Inlet Invert= 1,207.00', Outlet Invert= 1,204.81'

**Reach 40R: CH-11A****Hydrograph**

Summary for Reach 41R: CH-14

Inflow Area = 0.611 ac, 0.98% Impervious, Inflow Depth > 4.63" for 50-YR event
 Inflow = 3.35 cfs @ 19.20 hrs, Volume= 0.236 af
 Outflow = 3.30 cfs @ 19.20 hrs, Volume= 0.236 af, Atten= 2%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 21.26 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 8.51 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.23' , Surface Width= 1.37'

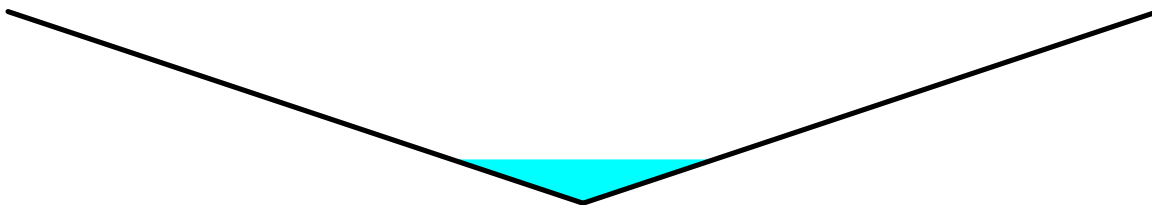
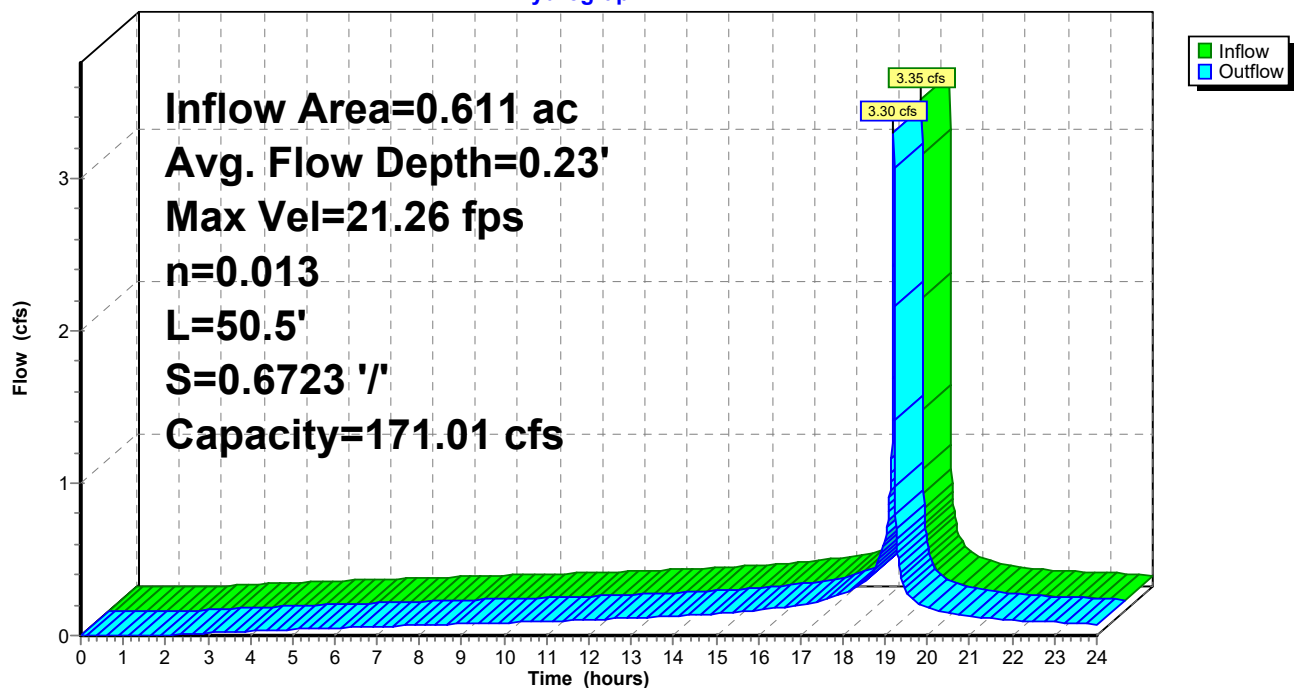
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 171.01 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 50.5' Slope= 0.6723 '/'

Inlet Invert= 1,181.63', Outlet Invert= 1,147.68'

**Reach 41R: CH-14****Hydrograph**

Summary for Reach 42R: CH-13

Inflow Area = 0.083 ac, 0.00% Impervious, Inflow Depth > 4.85" for 50-YR event
 Inflow = 0.56 cfs @ 19.19 hrs, Volume= 0.034 af
 Outflow = 0.46 cfs @ 19.21 hrs, Volume= 0.033 af, Atten= 17%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.59 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 1.92 fps, Avg. Travel Time= 1.2 min

Peak Storage= 14 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.15' , Surface Width= 1.37'

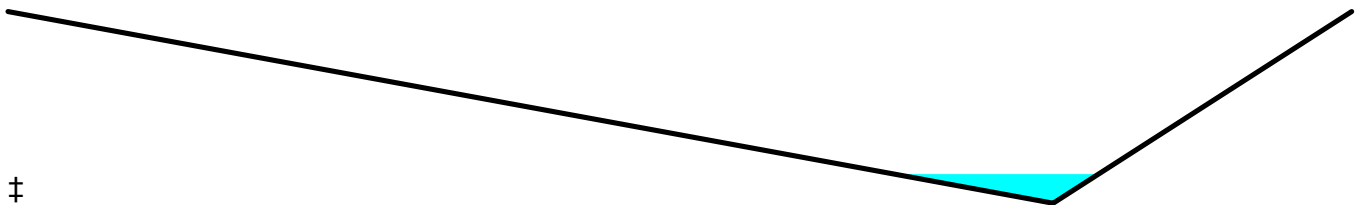
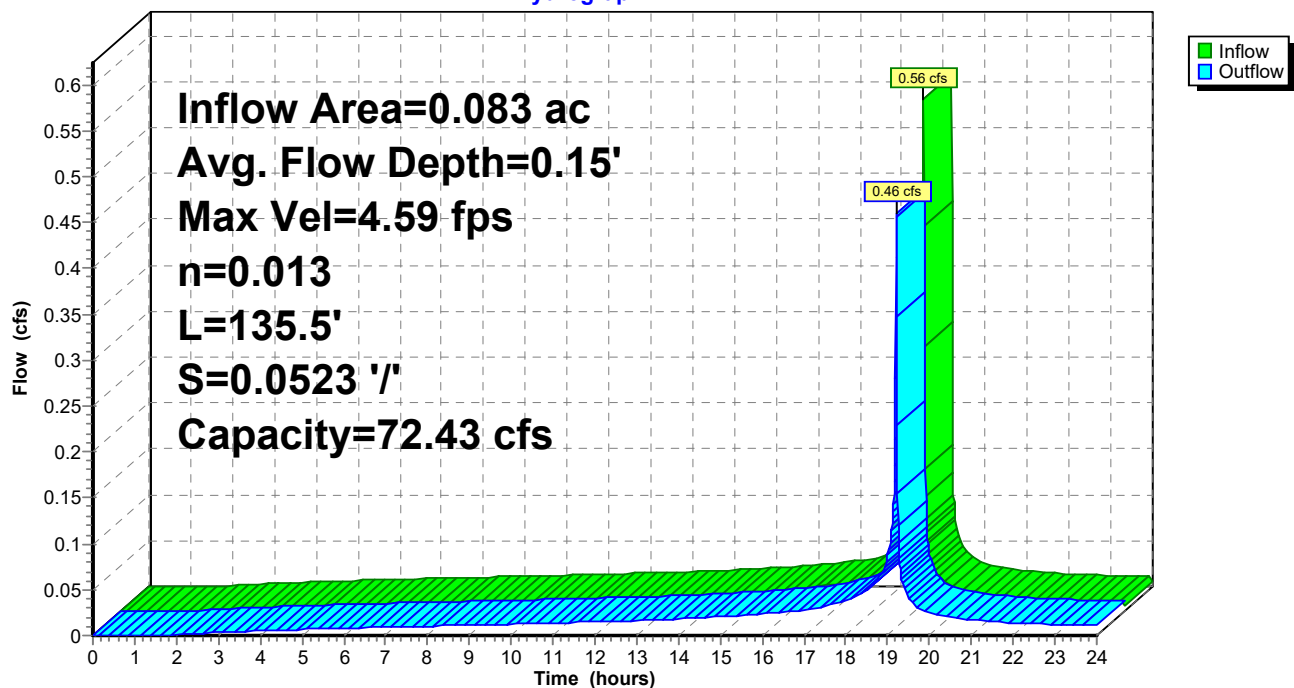
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 72.43 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 2.0 ' / ' Top Width= 9.00'

Length= 135.5' Slope= 0.0523 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 42R: CH-13****Hydrograph**

Summary for Reach 43R: CH-12

Inflow Area = 0.088 ac, 0.00% Impervious, Inflow Depth > 4.74" for 50-YR event
Inflow = 0.59 cfs @ 19.19 hrs, Volume= 0.035 af
Outflow = 0.49 cfs @ 19.20 hrs, Volume= 0.035 af, Atten= 17%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.31 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.19 fps, Avg. Travel Time= 0.9 min

Peak Storage= 11 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.17' , Surface Width= 1.17'

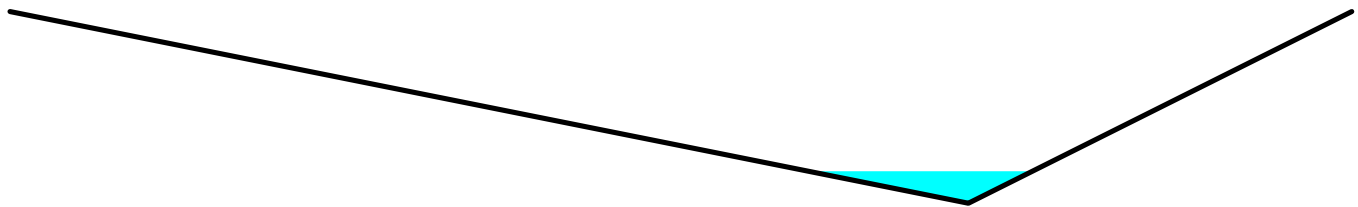
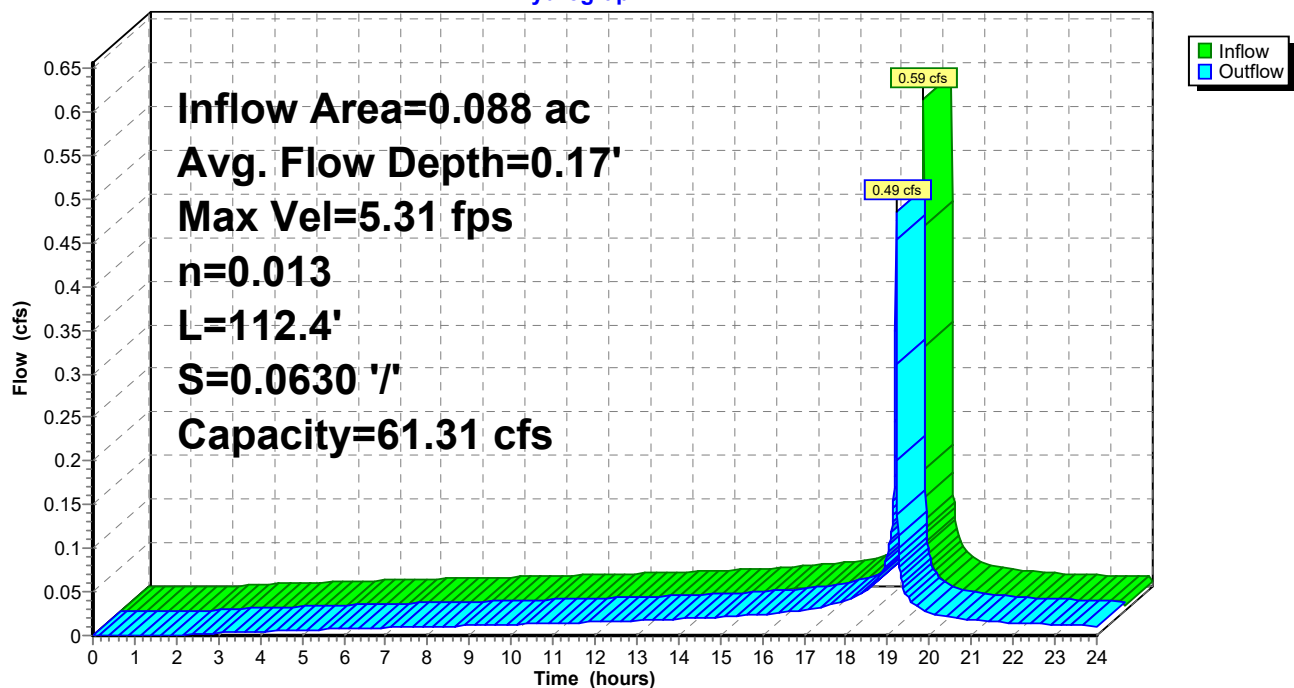
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 61.31 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 112.4' Slope= 0.0630 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,170.92'

**Reach 43R: CH-12****Hydrograph**

Summary for Reach 44R: CH-16

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 4.74" for 50-YR event
 Inflow = 4.90 cfs @ 19.20 hrs, Volume= 0.367 af
 Outflow = 3.85 cfs @ 19.24 hrs, Volume= 0.366 af, Atten= 21%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.13 fps, Min. Travel Time= 1.7 min

Avg. Velocity= 1.06 fps, Avg. Travel Time= 4.9 min

Peak Storage= 389 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.27' , Surface Width= 6.24'

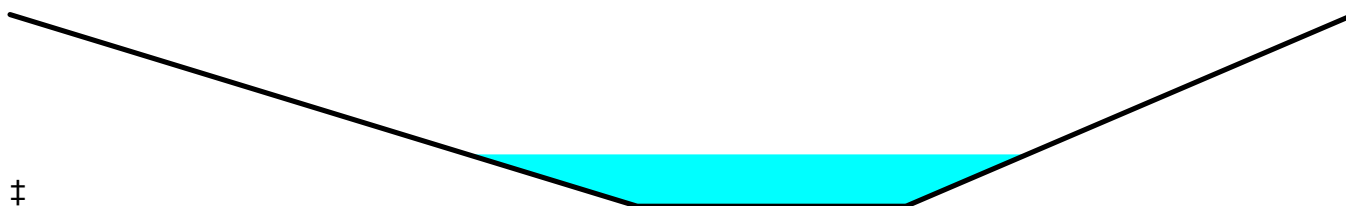
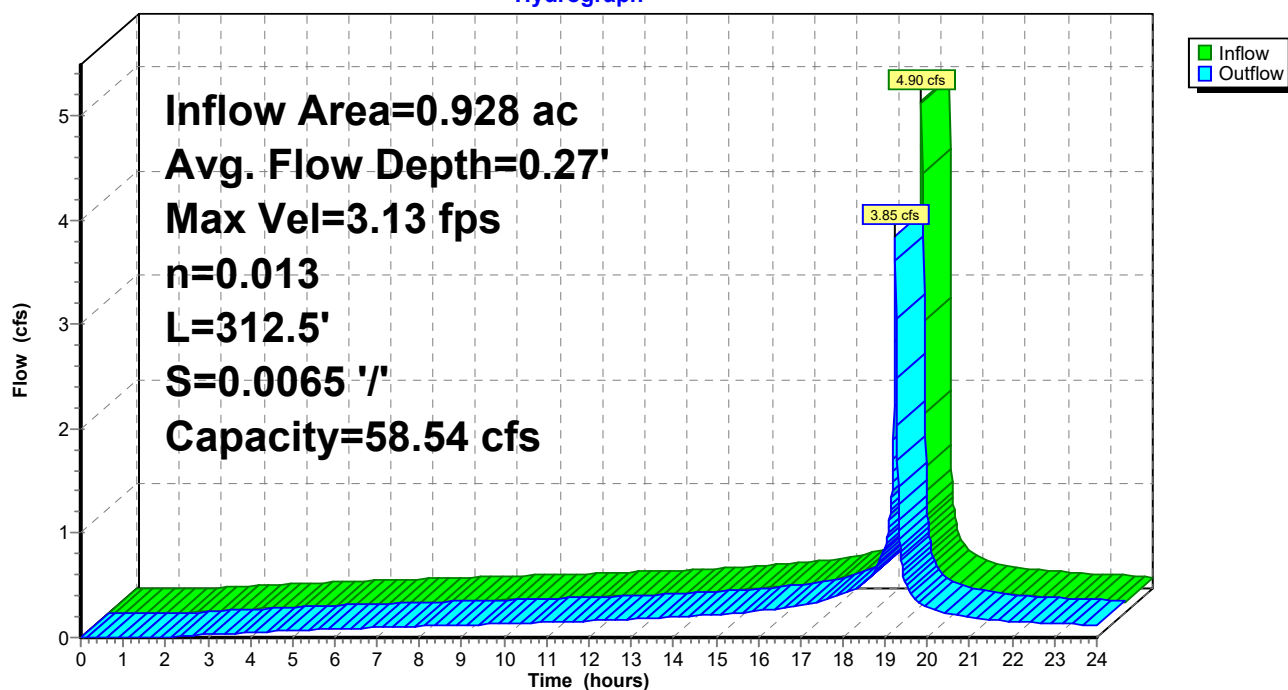
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 58.54 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 7.0 5.0 ' / ' Top Width= 15.00'

Length= 312.5' Slope= 0.0065 ' / '

Inlet Invert= 1,148.00', Outlet Invert= 1,145.97'

**Reach 44R: CH-16****Hydrograph**

Summary for Reach 45R: CV-3

Inflow Area = 0.928 ac, 0.65% Impervious, Inflow Depth > 4.73" for 50-YR event
 Inflow = 3.85 cfs @ 19.24 hrs, Volume= 0.366 af
 Outflow = 3.75 cfs @ 19.25 hrs, Volume= 0.366 af, Atten= 3%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.83 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.83 fps, Avg. Travel Time= 0.6 min

Peak Storage= 55 cf @ 19.24 hrs

Average Depth at Peak Storage= 0.69' , Surface Width= 1.49'

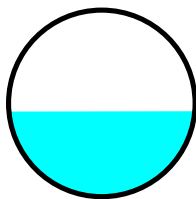
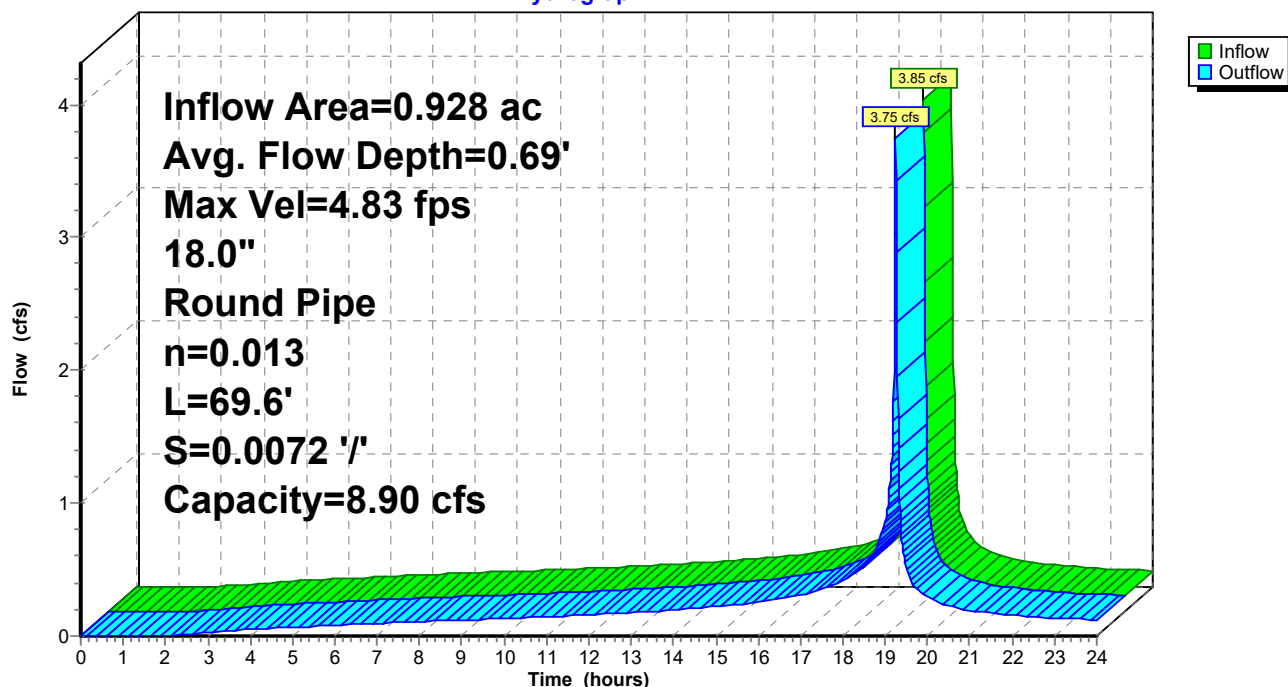
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.90 cfs

18.0" Round Pipe

n= 0.013

Length= 69.6' Slope= 0.0072 '/'

Inlet Invert= 1,146.00', Outlet Invert= 1,145.50'

**Reach 45R: CV-3****Hydrograph**

Summary for Reach 46R: CH-17

Inflow Area = 2.123 ac, 0.28% Impervious, Inflow Depth > 4.79" for 50-YR event
 Inflow = 9.67 cfs @ 19.19 hrs, Volume= 0.848 af
 Outflow = 7.66 cfs @ 19.22 hrs, Volume= 0.847 af, Atten= 21%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 7.02 fps, Min. Travel Time= 1.0 min

Avg. Velocity = 2.23 fps, Avg. Travel Time= 3.0 min

Peak Storage= 453 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.32' , Surface Width= 3.97'

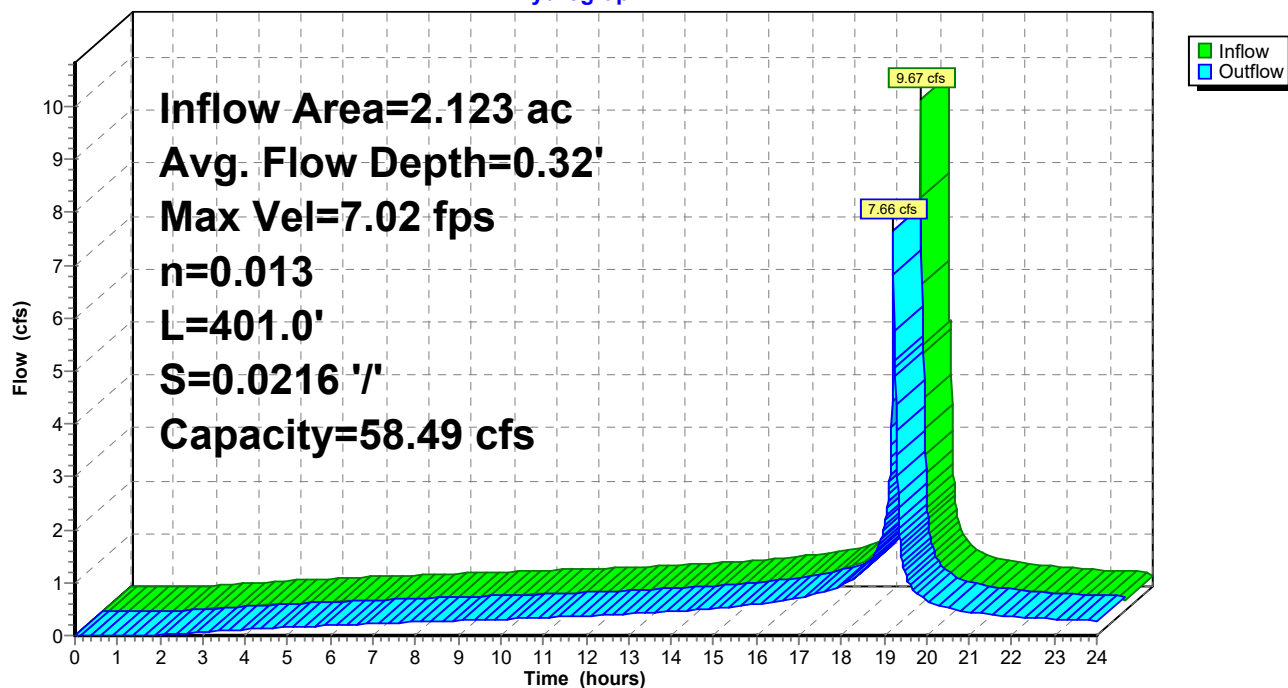
Bank-Full Depth= 1.00' Flow Area= 4.5 sf, Capacity= 58.49 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 1.5 '/' Top Width= 6.00'

Length= 401.0' Slope= 0.0216 '/'

Inlet Invert= 1,145.50', Outlet Invert= 1,136.85'

**Reach 46R: CH-17****Hydrograph**

Summary for Reach 52R: CH-21

Inflow Area = 1.226 ac, 0.00% Impervious, Inflow Depth > 4.63" for 50-YR event
 Inflow = 8.10 cfs @ 19.19 hrs, Volume= 0.473 af
 Outflow = 6.78 cfs @ 19.20 hrs, Volume= 0.472 af, Atten= 16%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.12 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.74 fps, Avg. Travel Time= 1.3 min

Peak Storage= 152 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.21' , Surface Width= 3.83'

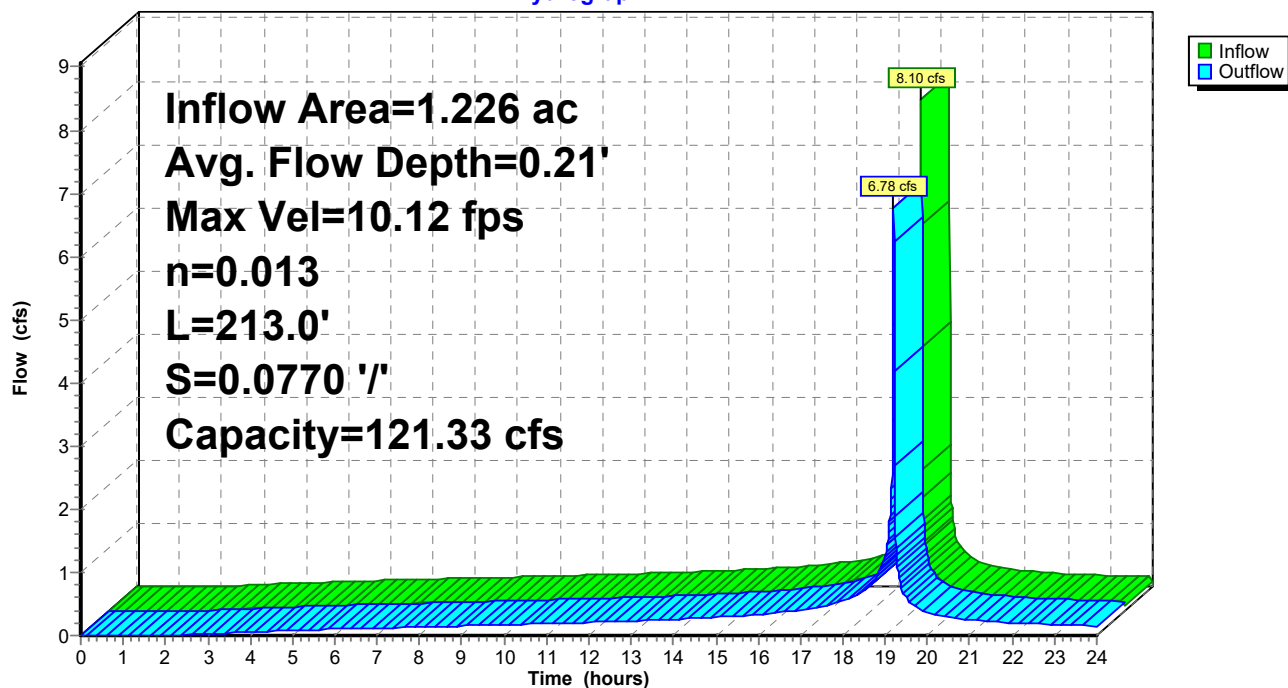
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 121.33 cfs

3.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 7.00'

Length= 213.0' Slope= 0.0770 '/'

Inlet Invert= 1,142.14', Outlet Invert= 1,125.74'

**Reach 52R: CH-21****Hydrograph**

Summary for Reach 53R: CH-24

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 4.58" for 50-YR event
 Inflow = 8.52 cfs @ 19.20 hrs, Volume= 0.643 af
 Outflow = 7.97 cfs @ 19.22 hrs, Volume= 0.642 af, Atten= 6%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.63 fps, Min. Travel Time= 0.5 min

Avg. Velocity= 1.62 fps, Avg. Travel Time= 1.9 min

Peak Storage= 263 cf @ 19.21 hrs

Average Depth at Peak Storage= 0.29' , Surface Width= 5.47'

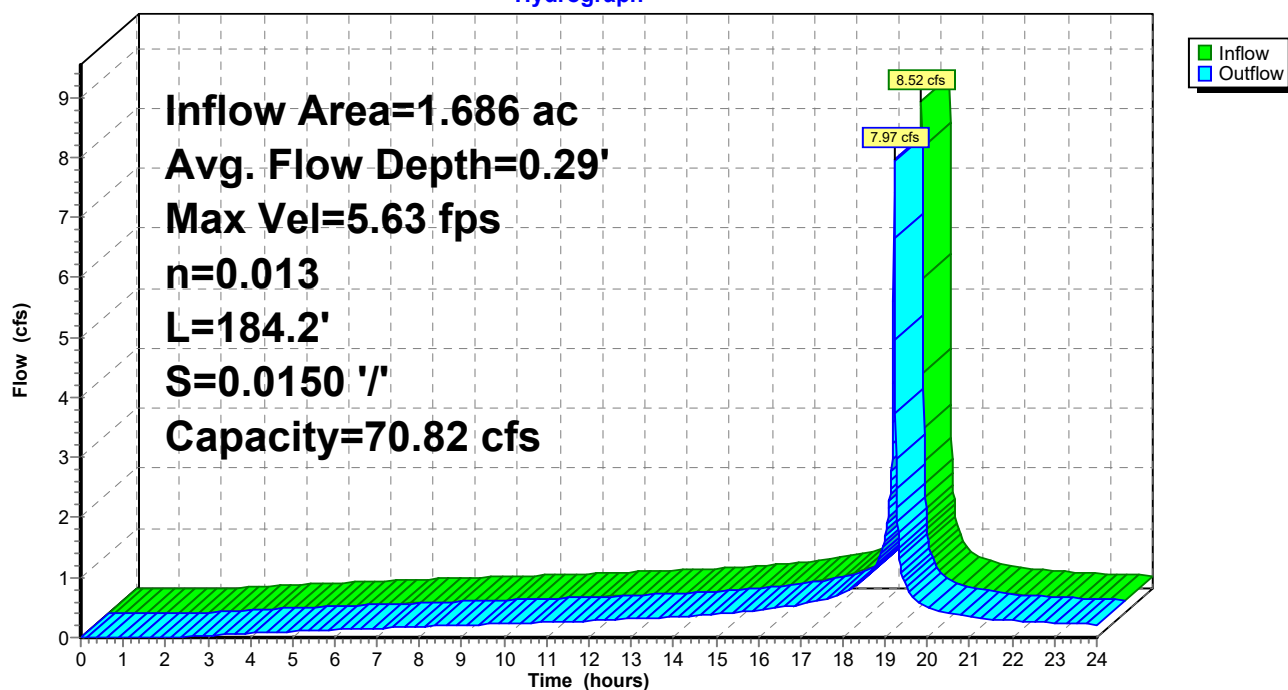
Bank-Full Depth= 1.00' Flow Area= 6.3 sf, Capacity= 70.82 cfs

4.30' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 2.0 '/' Top Width= 8.30'

Length= 184.2' Slope= 0.0150 '/'

Inlet Invert= 1,125.74', Outlet Invert= 1,122.97'

**Reach 53R: CH-24****Hydrograph**

Summary for Reach 54R: CH-22

Inflow Area = 0.219 ac, 0.00% Impervious, Inflow Depth > 4.41" for 50-YR event
 Inflow = 1.42 cfs @ 19.19 hrs, Volume= 0.080 af
 Outflow = 0.97 cfs @ 19.23 hrs, Volume= 0.080 af, Atten= 32%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.50 fps, Min. Travel Time= 1.3 min

Avg. Velocity = 1.08 fps, Avg. Travel Time= 3.1 min

Peak Storage= 80 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.36' , Surface Width= 2.19'

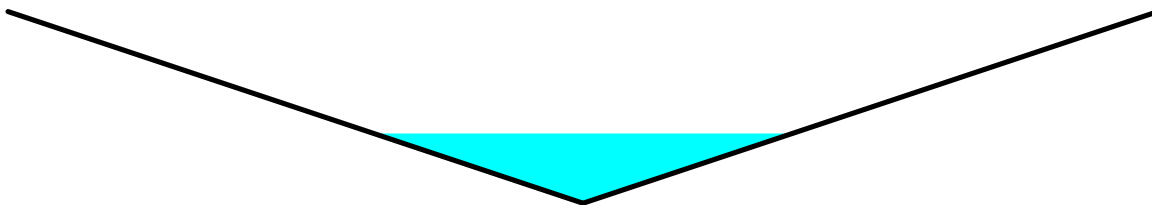
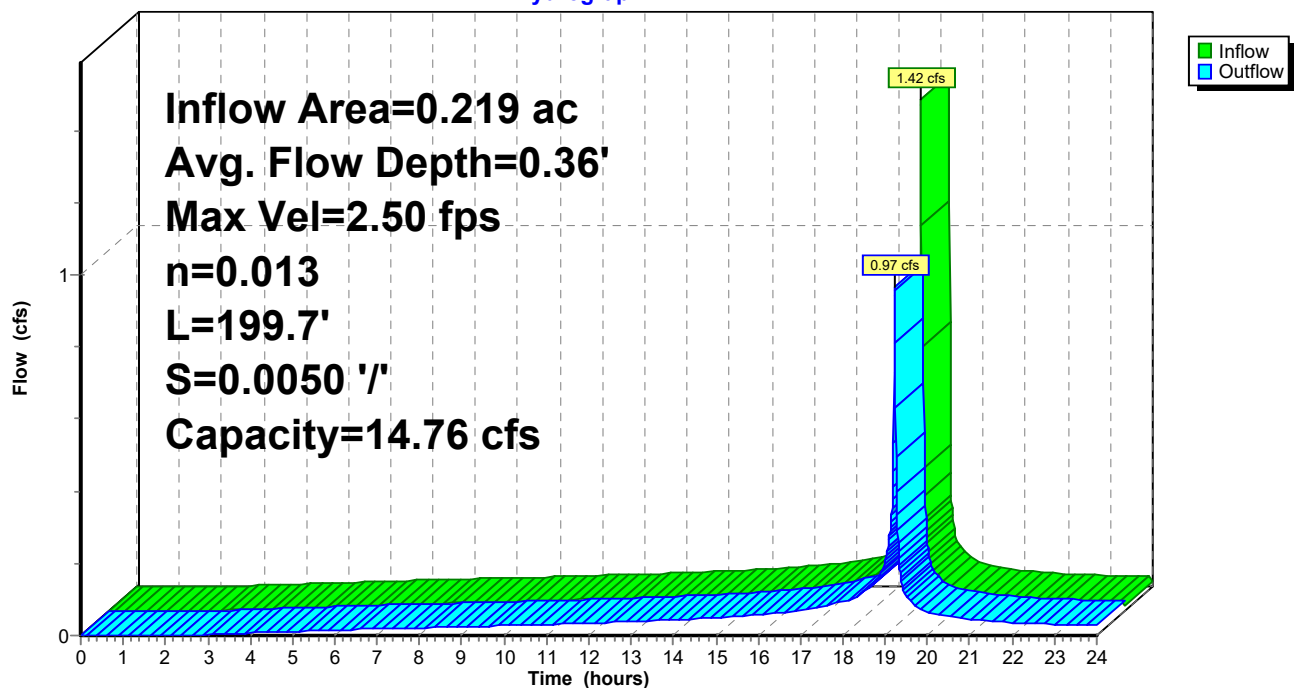
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 14.76 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 199.7' Slope= 0.0050 '/'

Inlet Invert= 1,163.81', Outlet Invert= 1,162.81'

**Reach 54R: CH-22****Hydrograph**

Summary for Reach 55R: CH-23

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 4.40" for 50-YR event
Inflow = 1.28 cfs @ 19.19 hrs, Volume= 0.126 af
Outflow = 1.21 cfs @ 19.20 hrs, Volume= 0.126 af, Atten= 6%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 13.80 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 6.33 fps, Avg. Travel Time= 0.2 min

Peak Storage= 8 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.17' , Surface Width= 1.03'

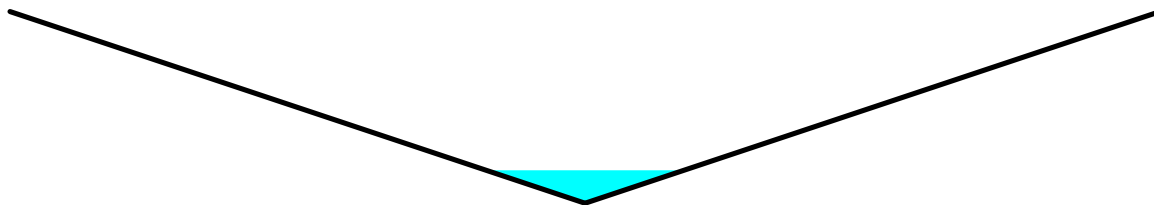
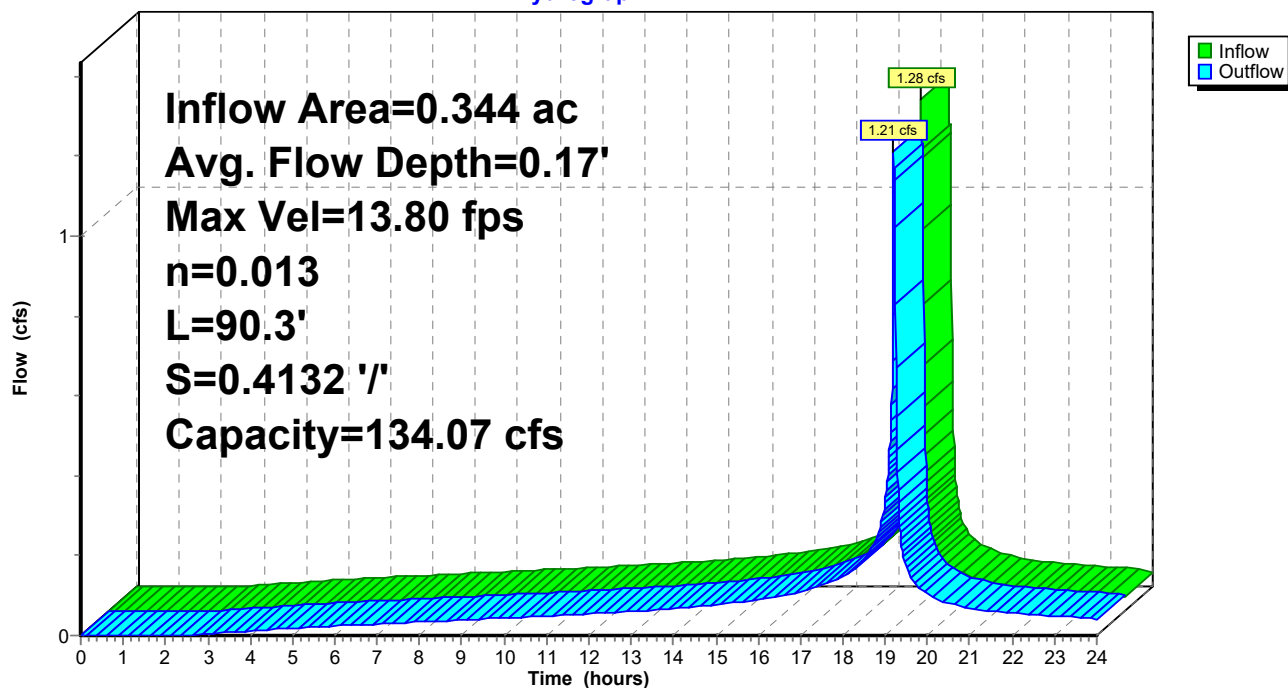
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 134.07 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 90.3' Slope= 0.4132 '/'

Inlet Invert= 1,162.81', Outlet Invert= 1,125.50'

**Reach 55R: CH-23****Hydrograph**

Summary for Reach 56R: CH-15A

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 4.96" for 50-YR event
Inflow = 0.23 cfs @ 19.19 hrs, Volume= 0.014 af
Outflow = 0.20 cfs @ 19.20 hrs, Volume= 0.014 af, Atten= 12%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.47 fps, Min. Travel Time= 0.2 min

Avg. Velocity = 2.74 fps, Avg. Travel Time= 0.4 min

Peak Storage= 2 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.10' , Surface Width= 0.67'

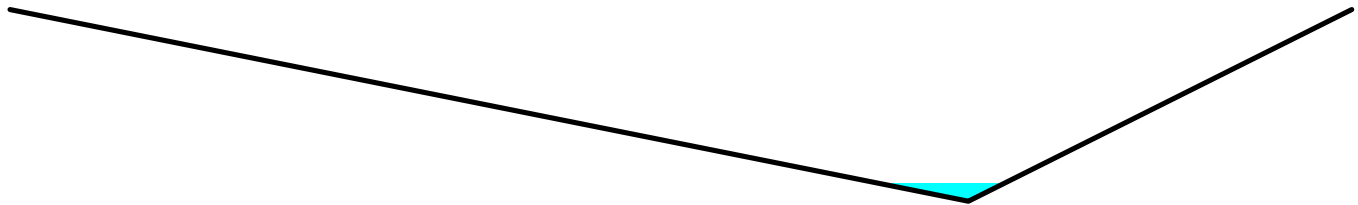
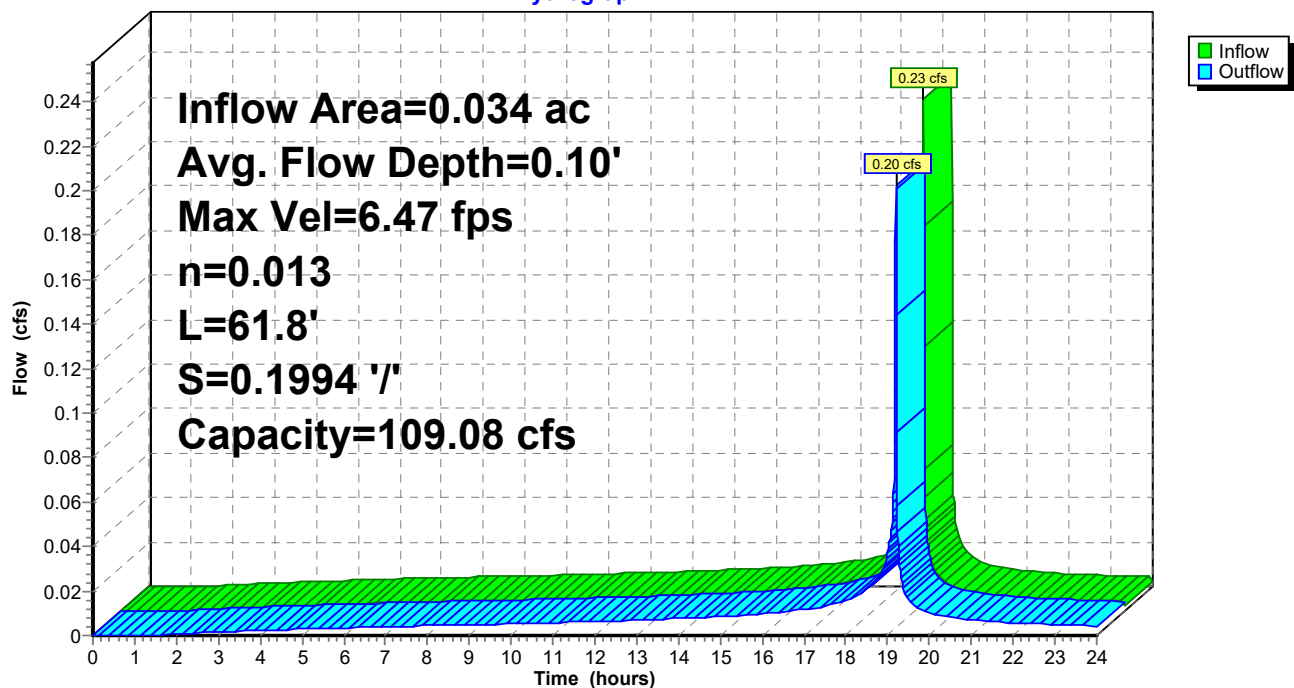
Bank-Full Depth= 1.00' Flow Area= 3.5 sf, Capacity= 109.08 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 5.0 2.0 ' / ' Top Width= 7.00'

Length= 61.8' Slope= 0.1994 ' / '

Inlet Invert= 1,178.00', Outlet Invert= 1,165.68'

**Reach 56R: CH-15A****Hydrograph**

Summary for Reach 60R: CH-10B

Inflow Area = 0.274 ac, 0.00% Impervious, Inflow Depth > 4.52" for 50-YR event
 Inflow = 1.55 cfs @ 19.20 hrs, Volume= 0.103 af
 Outflow = 1.51 cfs @ 19.20 hrs, Volume= 0.103 af, Atten= 3%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.68 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.80 fps, Avg. Travel Time= 0.2 min

Peak Storage= 7 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.21' , Surface Width= 1.26'

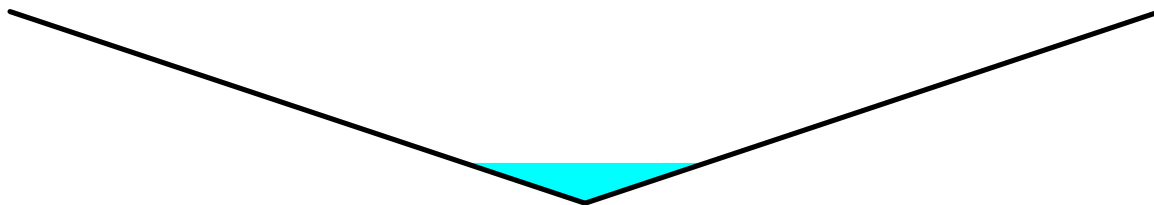
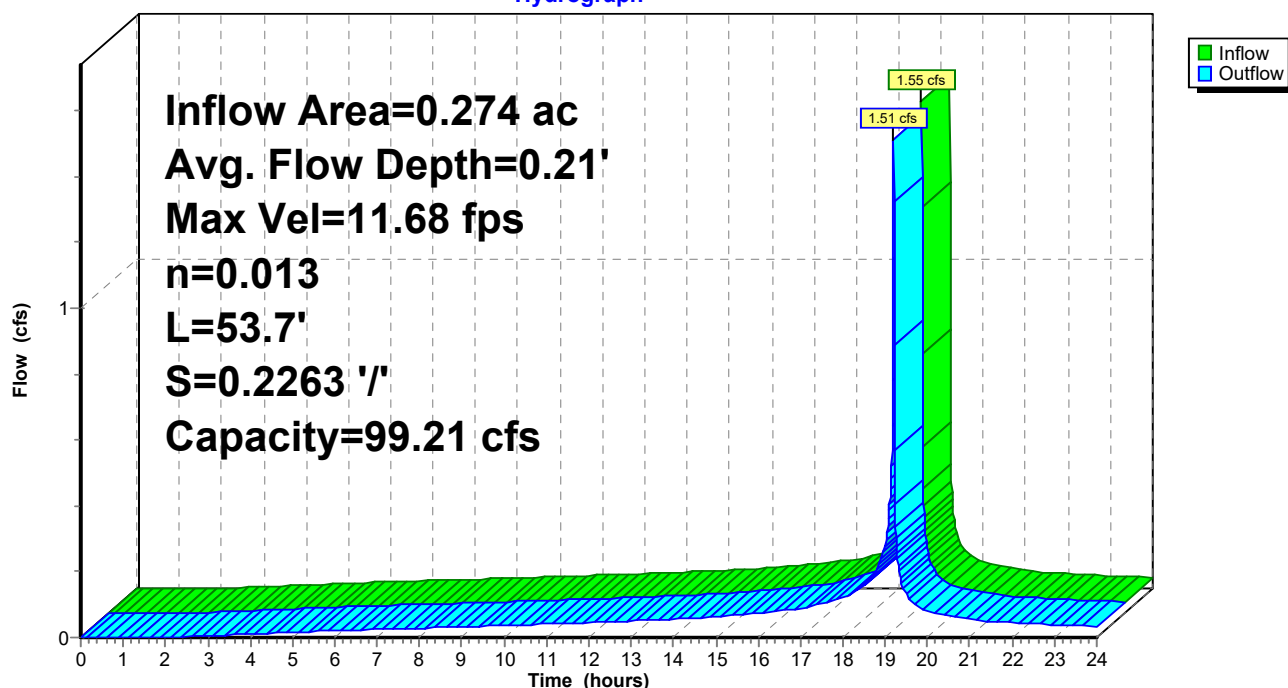
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 99.21 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 53.7' Slope= 0.2263 '/'

Inlet Invert= 1,193.78', Outlet Invert= 1,181.63'

**Reach 60R: CH-10B****Hydrograph**

Summary for Reach 61R: CH-11B

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 4.63" for 50-YR event
 Inflow = 0.93 cfs @ 19.20 hrs, Volume= 0.062 af
 Outflow = 0.91 cfs @ 19.20 hrs, Volume= 0.062 af, Atten= 3%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.77 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 4.84 fps, Avg. Travel Time= 0.2 min

Peak Storage= 6 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.16' , Surface Width= 0.98'

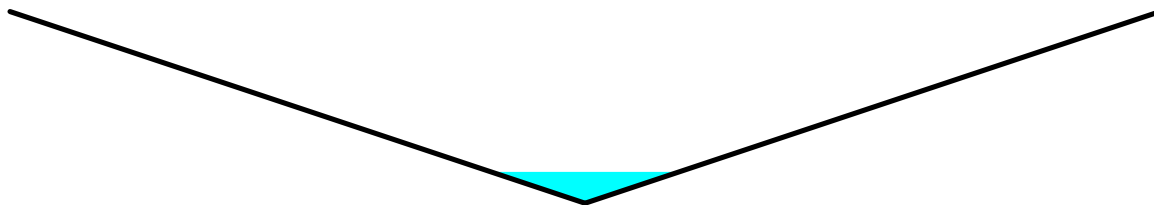
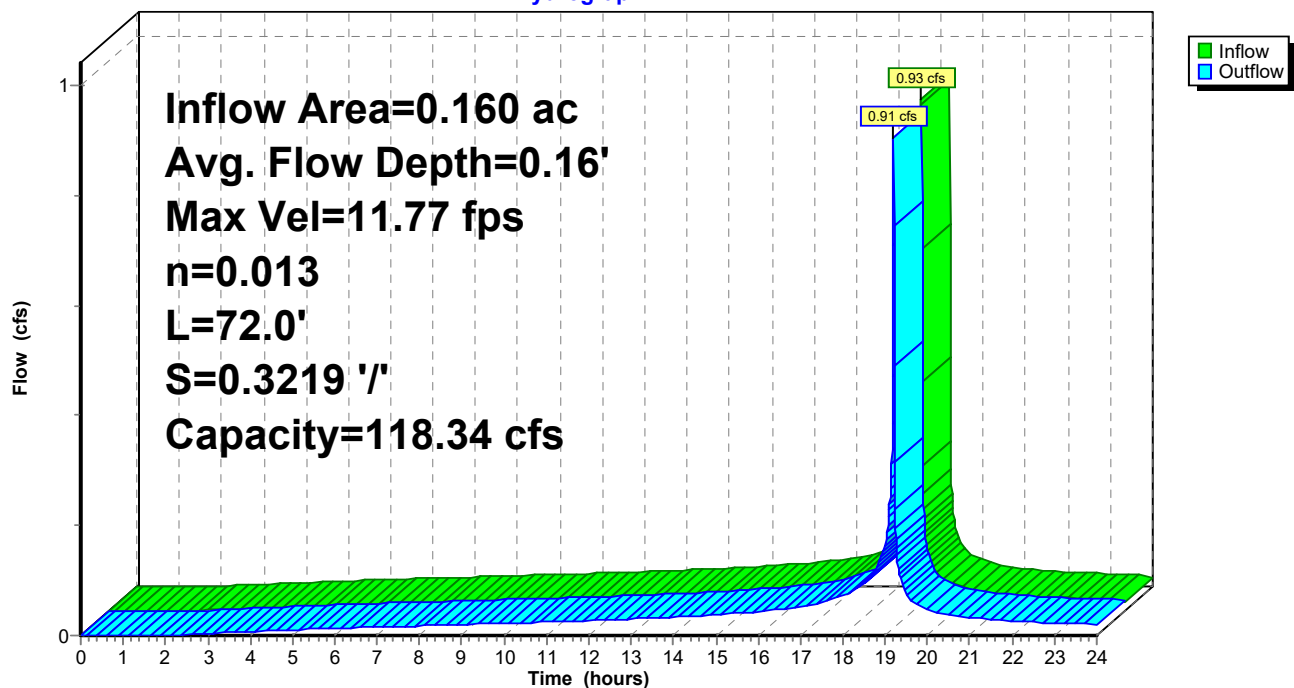
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 118.34 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 72.0' Slope= 0.3219 '/'

Inlet Invert= 1,204.81', Outlet Invert= 1,181.63'

**Reach 61R: CH-11B****Hydrograph**

Summary for Reach 62R: CH-15B

Inflow Area = 0.034 ac, 0.00% Impervious, Inflow Depth > 4.96" for 50-YR event
 Inflow = 0.20 cfs @ 19.20 hrs, Volume= 0.014 af
 Outflow = 0.20 cfs @ 19.20 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.39 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 4.85 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 19.20 hrs

Average Depth at Peak Storage= 0.08' , Surface Width= 0.46'

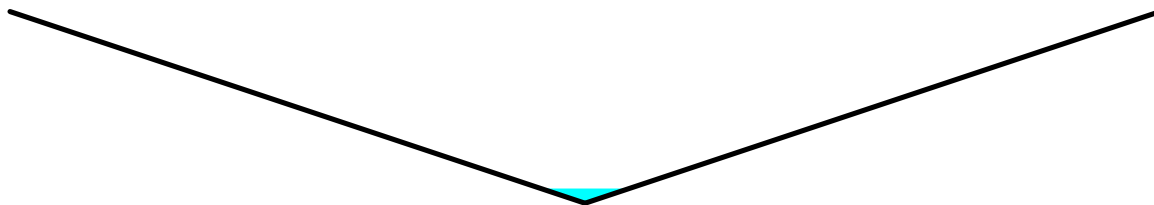
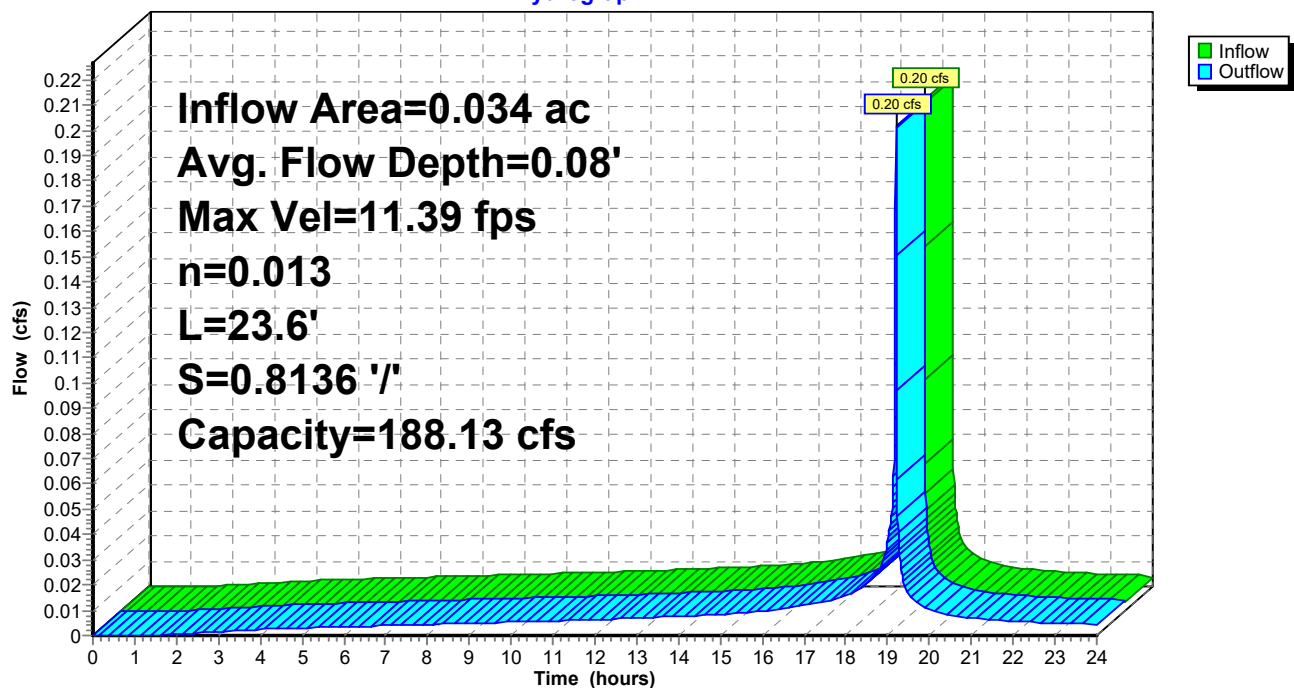
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 188.13 cfs

0.00' x 1.00' deep channel, n= 0.013

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

Length= 23.6' Slope= 0.8136 '/'

Inlet Invert= 1,165.68', Outlet Invert= 1,146.48'

**Reach 62R: CH-15B****Hydrograph**

Summary for Reach 63R: CV-4

Inflow Area = 1.686 ac, 0.00% Impervious, Inflow Depth > 4.57" for 50-YR event
 Inflow = 7.97 cfs @ 19.22 hrs, Volume= 0.642 af
 Outflow = 7.83 cfs @ 19.22 hrs, Volume= 0.642 af, Atten= 2%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Max. Velocity= 6.84 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 2.85 fps, Avg. Travel Time= 0.2 min

Peak Storage= 36 cf @ 19.22 hrs

Average Depth at Peak Storage= 1.16' , Surface Width= 0.66'

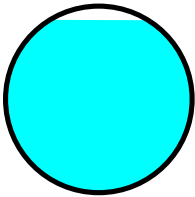
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 7.37 cfs

15.0" Round Pipe

n= 0.013

Length= 30.0' Slope= 0.0130 '/'

Inlet Invert= 1,122.99', Outlet Invert= 1,122.60'

**Reach 63R: CV-4****Hydrograph**