



## **PRELIMINARY STORMWATER MANAGEMENT REPORT –**

### **Amlin Crossing**

Cosgray Road  
Franklin County, Dublin, Ohio

Prepared by:  
Kimley-Horn and Associates, Inc.  
7965 North High Street, Suite 200  
Columbus, OH 43235  
Contact: Brian Prenger, PE

Prepared on: June 8<sup>th</sup>, 2023

**Kimley»»Horn**



## TABLE OF CONTENTS

<i>Project Description</i>	2
<i>Pre-Development Conditions</i>	2
<i>Post-Development Conditions</i>	3
<i>Water Quality</i>	4
<i>Basin Details</i>	4
<i>Soils Map</i>	5-7
<i>Routing Diagram</i>	8

## EXHIBITS

<i>Exhibit 1. Pre-Development Release Rates</i>
<i>Exhibit 2. Allowable Discharge Rate Summary</i>
<i>Exhibit 3. Water Quality Calculations</i>
<i>Exhibit 4. Post-Developed Watershed Characteristics</i>
<i>Exhibit 5. Outlet Capacity Calculations</i>
<i>Exhibit 6. Pre-developed Trib Map &amp; Post-Developed Trib Map</i>
<i>Exhibit 7. Post-Developed Release Rates</i>

## 1. PROJECT DESCRIPTION

Amlin Crossing is located on the east side of Cosgray Road, north of Myrick Road, south of Rings Road, and west of Avery Road in Franklin County Ohio. The development is bordered on the south by single family residential lots, the north and west sides by rural single family lots, and existing railroad tracks and agricultural land on the east side. The development site consists of four drainage areas that flow southeast, southwest, and west. Watershed A flows west to Cosgray ditch, enters a storm sewer which flows west under Cosgray Road and ultimately discharges into Hayden Run. Watershed B flows southeast into an existing 24” storm sewer that discharges into the stormwater management basins in the Hayden Farms Section 5 development. Watershed C flows southwest into an existing 24” culvert in Cosgray ditch and flows south into the stormwater management basins in the Hayden Farms Section 1 development which ultimately discharges west into Hayden Run. Watershed D flows west to Cosgray ditch and also ultimately drains into Hayden Run.

The proposed development will consist of 371 residential units to be built on public streets with associated stormwater, sanitary sewer and water utilities. Proposed detention basins to be built within the development will provide stormwater management and water quality treatment for the new development. The basins will meet the current requirements set forth by the City of Dublin and the Ohio Environmental Protection Agency (EPA) General Permit OHC000006.

## 2. PRE-DEVELOPMENT CONDITIONS

The proposed Amlin Crossing development site is approximately 105 acres of mostly undeveloped land used for agricultural purposes along with wooded areas. Existing soils are Type C/D with gradual slopes. The eastern portion of the site drains southeast and the western portion of the site drains west and southwest. There are two offsite areas to the north that flow onto the site.

See Exhibit 1 for pre-developed release rates and Exhibit 6 for the pre-developed tributary area map.

### Pre-Developed Watershed Characteristics

Watershed ID	Area (Acres)	Weighted CN	TC (Minutes)
Watershed A	22.4	82	82
Watershed B	62.5	75	134.4
Watershed C	21.3	82	58.2
Watershed D	1.7	82	20.9
Offsite Watershed A	4.1	79	14.6
Offsite Watershed B1	5.9	80	22.8
Offsite Watershed B2	2.8	79	9.7

### 3. POST-DEVELOPMENT CONDITIONS

The post-developed stormwater management will be based on the requirements of the City of Dublin and the Ohio Environmental Protection Agency (EPA) General Permit OHC000006. The City of Dublin developed a master stormwater management plan in 2004 for this area titled “Hydrologic Report for Sewer Line Extension and Preliminary Master Plan for Stormwater Detention for Avery / Hayden Run / Cosgray Road Development” and “Addendum 1” revised May 18, 2004 which dictates pre and post developed release rates for watersheds B and C. Watershed A uses the critical storm method to determine post developed release rates. Watershed D is a small area draining west towards Cosgray Road which will be directed to the southeast through watershed C as part of this development. The proposed development will include seven dry basins and two wet extended detention basins to provide detention and water quality with outlet structures to control the release rates. The basins will also provide sediment control during construction activities.

The critical storm method shows the peak rate of runoff for the 10-year storm shall not be greater than the peak rate of runoff for a 1-year storm in watershed A. Watershed B is being diverted to watershed A. Watershed C will be direct release to the southeast and has a post-developed release rate that is less than the pre-developed release rate in the 1-year storm event. Watershed D releases southwest of the site and will detain the 100-year storm to the peak rate of runoff for the 1-year storm. Post-developed watershed characteristics are shown below and in exhibit 4.

#### Post-Developed Watershed Characteristics

Watershed ID	Area (Acres)	Weighted CN	TC (Minutes)
Offsite A	4.1	79	14.6
Watershed A1	6.0	93	20
Watershed A2	14.5	92	20
Offsite B1	5.9	80	5.9
Offsite B2	2.8	79	9.7
Watershed B1	6.9	92	20
Watershed B2	21.4	79	53.7
Watershed B3	7.9	92	20
Watershed B4	18.1	92	30
Watershed C1	10.2	93	20
Watershed C2	4.3	93	20
Watershed C3	8.6	93	20
Watershed C4	3.0	93	20

The proposed basins for Sycamore Grove will be designed using HydroCAD software to accomplish the detention and water quality requirements for the development. An SCS Type II 24-hour storm will be modeled using rainfall depths obtained from the National Oceanic and Atmospheric Administration Atlas 14 precipitation frequency estimates.

#### 4. WATER QUALITY

The water quality volume (WQv) was calculated based on specific site characteristics to utilize the equation  $WQv=Rv*P*A$  provided in the Ohio EPA General Permit Authorization for Stormwater Discharges with Construction Activity where  $Rv$  is the volumetric runoff coefficient calculated using the equation  $Rv=0.05 + 0.9i$  ( $i$ =fraction of post-construction impervious surface),  $P$  is 0.90 inch precipitation depth and  $A$  is the area draining to the BMP in acres. The outlet structures were designed to release the WQv over a 24-hour drawdown period, limiting 50% of the WQv to be released during the first third of the required drawdown time.

Proposed Basins A, E, and F will provide the required WQv for the post-developed site conditions and will provide temporary sediment storage during construction for the Amlin Crossing development.

The temporary sediment storage volumes provided are based on the Ohio EPA General Stormwater Permit. The basin will include 1,800 cubic feet per acre of drainage area for the dewatering zone and 1,000 cubic feet per acre of drainage area for the sediment storage zone. The basin shall be cleaned when sediment reaches 75% of its designed storage volume. Refer to Exhibit 3 for water quality calculations.

#### 5. BASIN DETAILS

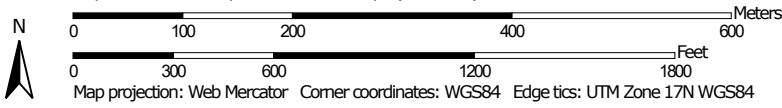
Basins A, B, C, D, F, H, and I will be dry extended detention basins with underdrains per the requirements of the City of Dublin and the Ohio EPA. Basins E and G will be wet detention basins per the requirements of the City of Dublin and the Ohio EPA.

Soil Map—Franklin County, Ohio



Soil Map may not be valid at this scale.

Map Scale: 1:6,890 if printed on A landscape (11" x 8.5") sheet.




## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Franklin County, Ohio

Survey Area Data: Version 21, Sep 8, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

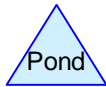
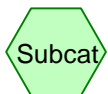
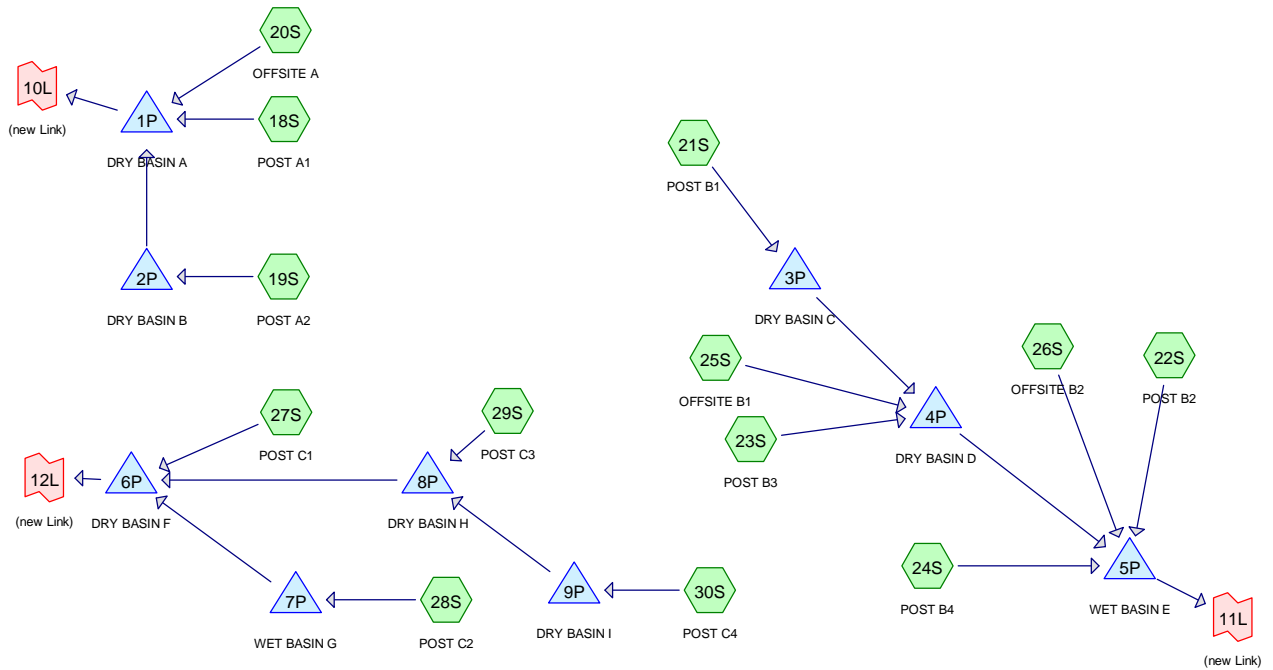
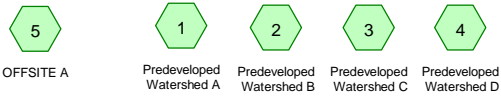
Date(s) aerial images were photographed: Feb 27, 2012—Aug 27, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CrA	Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	15.2	12.3%
CrB	Crosby silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes	5.2	4.2%
Ko	Kokomo silty clay loam, 0 to 2 percent slopes	63.1	51.0%
LeB	Lewisburg-Crosby complex, 2 to 6 percent slopes	40.1	32.5%
<b>Totals for Area of Interest</b>		<b>123.6</b>	<b>100.0%</b>





**Routing Diagram for Amlin Crossing Preliminary SWM**  
 Prepared by Kimley-Horn & Associates, Printed 6/7/2023  
 HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC



# Exhibit 1 – Pre-Development Release Rates



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 1

**Summary for Subcatchment 1: Predeveloped Watershed A**

Runoff = 7.79 cfs @ 13.20 hrs, Volume= 1.336 af, Depth> 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

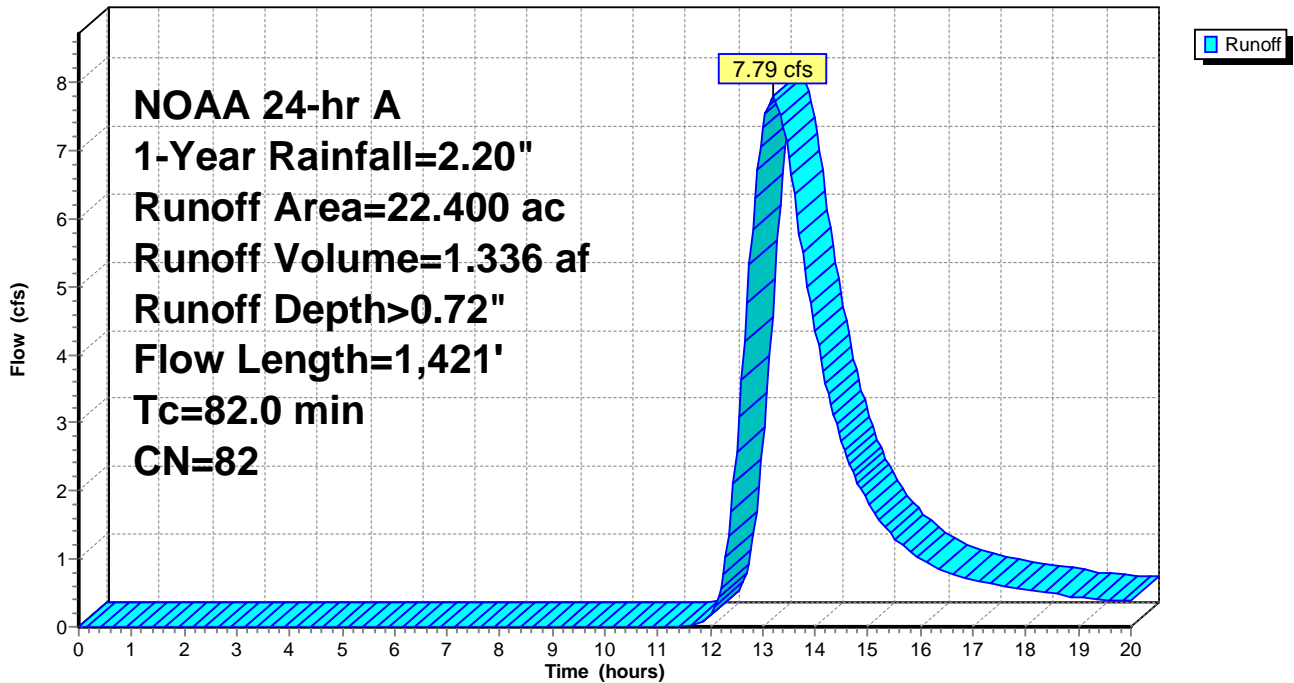
Area (ac)	CN	Description
22.400	82	Row crops, SR + CR, Good, HSG C
22.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	100	0.0065	0.20		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
73.8	1,321	0.0011	0.30		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
82.0	1,421	Total			

**Subcatchment 1: Predeveloped Watershed A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 2

**Summary for Subcatchment 2: Predeveloped Watershed B**

Runoff = 8.56 cfs @ 14.03 hrs, Volume= 2.184 af, Depth> 0.42"

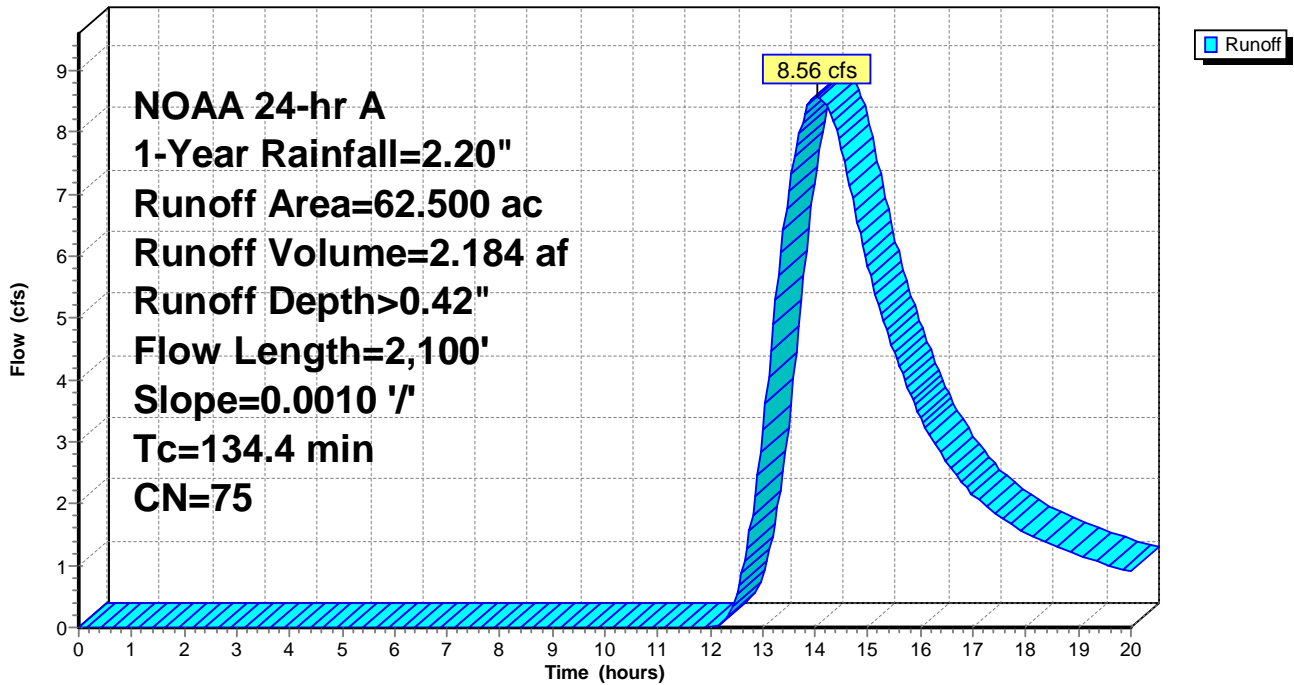
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
34.500	82	Row crops, SR + CR, Good, HSG C
12.400	70	Woods, Good, HSG C
15.600	65	Brush, Good, HSG C
62.500	75	Weighted Average
62.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	100	0.0010	0.10		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
117.1	2,000	0.0010	0.28		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
134.4	2,100	Total			

**Subcatchment 2: Predeveloped Watershed B**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 3

**Summary for Subcatchment 3: Predeveloped Watershed C**

Runoff = 9.34 cfs @ 12.86 hrs, Volume= 1.281 af, Depth> 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

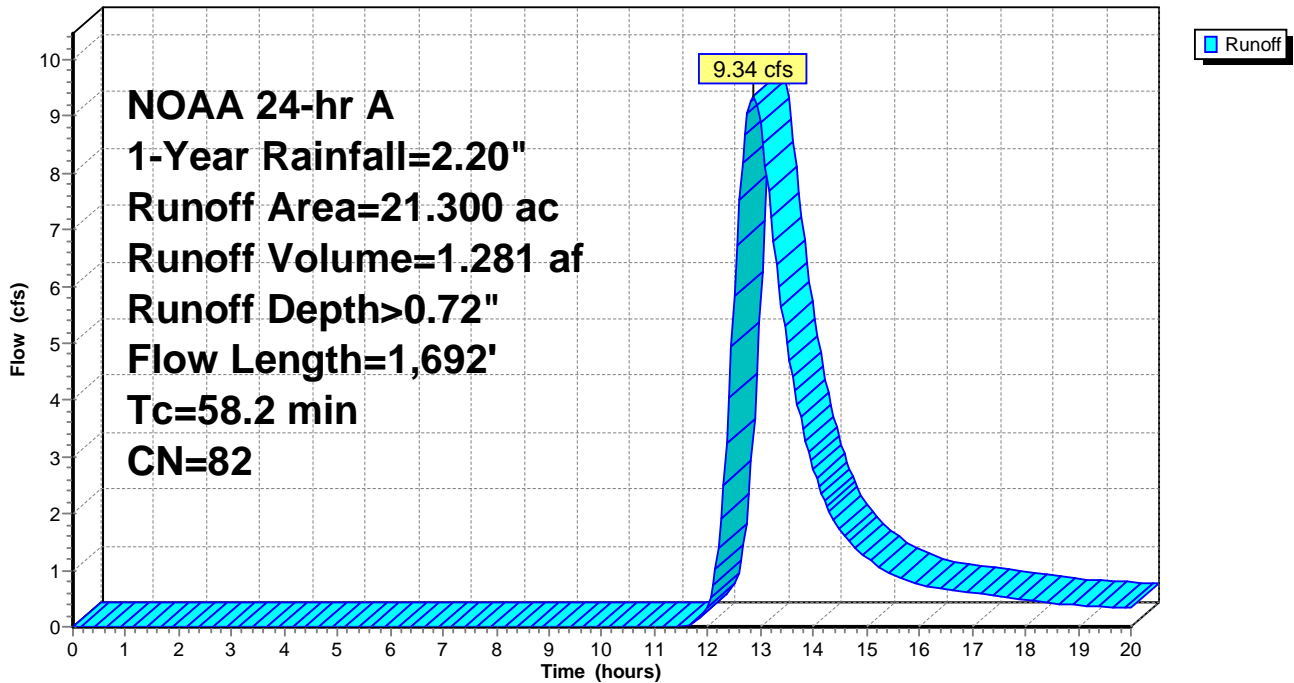
Area (ac)	CN	Description
21.300	82	Row crops, SR + CR, Good, HSG C
21.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
51.3	1,592	0.0033	0.52		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
58.2	1,692	Total			

**Subcatchment 3: Predeveloped Watershed C**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 4

**Summary for Subcatchment 4: Predeveloped Watershed D**

Runoff = 1.35 cfs @ 12.33 hrs, Volume= 0.104 af, Depth> 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

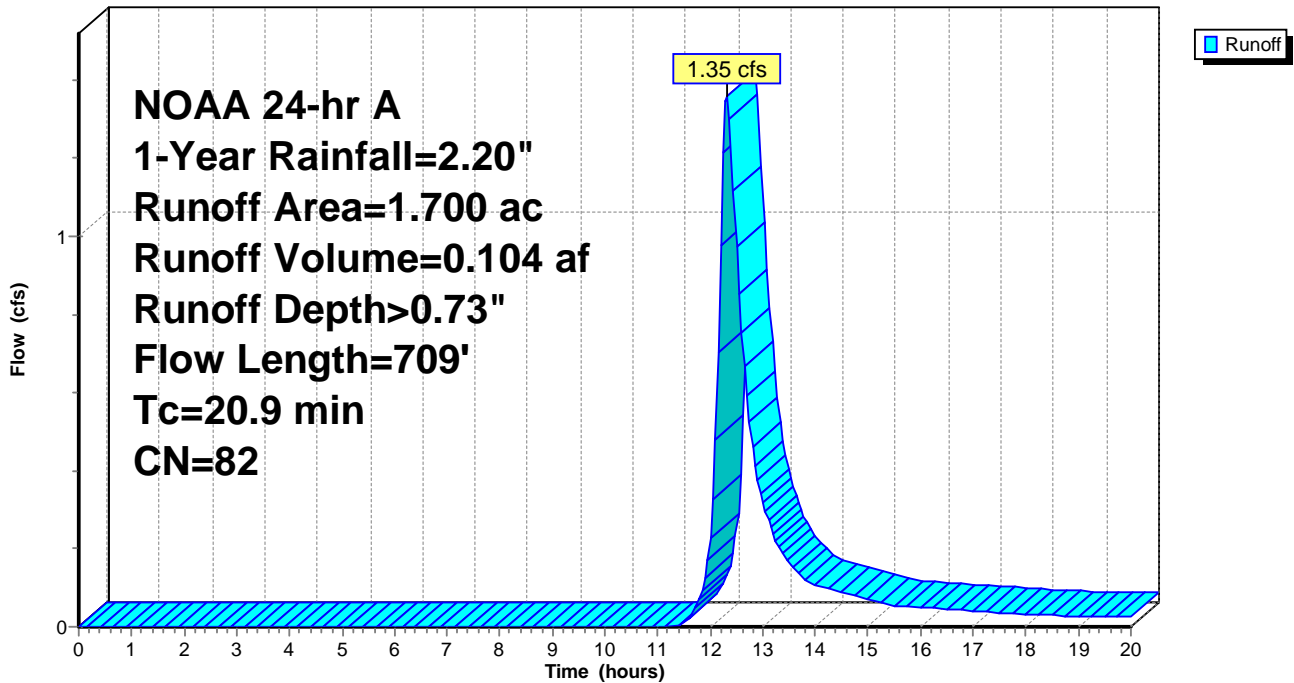
Area (ac)	CN	Description
1.700	82	Row crops, SR + CR, Good, HSG C
1.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
14.0	609	0.0065	0.73		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
20.9	709	Total			

**Subcatchment 4: Predeveloped Watershed D**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 5

**Summary for Subcatchment 5: OFFSITE A**

Runoff = 3.12 cfs @ 12.25 hrs, Volume= 0.204 af, Depth> 0.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

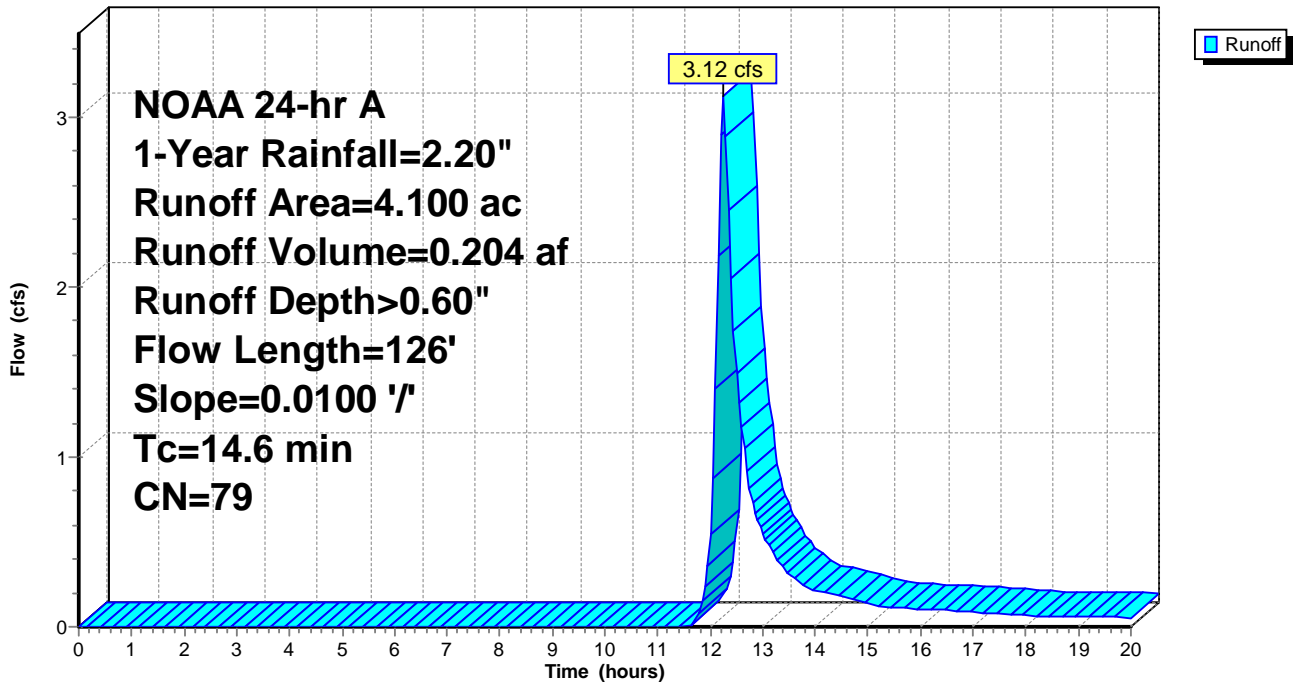
Area (ac)	CN	Description
4.100	79	50-75% Grass cover, Fair, HSG C
4.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	100	0.0100	0.12		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.60"
0.3	26	0.0100	1.50		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
14.6	126	Total			

**Subcatchment 5: OFFSITE A**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 6

## Summary for Subcatchment 23S: OFFSITE B2

Runoff = 2.52 cfs @ 12.19 hrs, Volume= 0.140 af, Depth> 0.60"  
Routed to Pond 5P : WET BASIN E

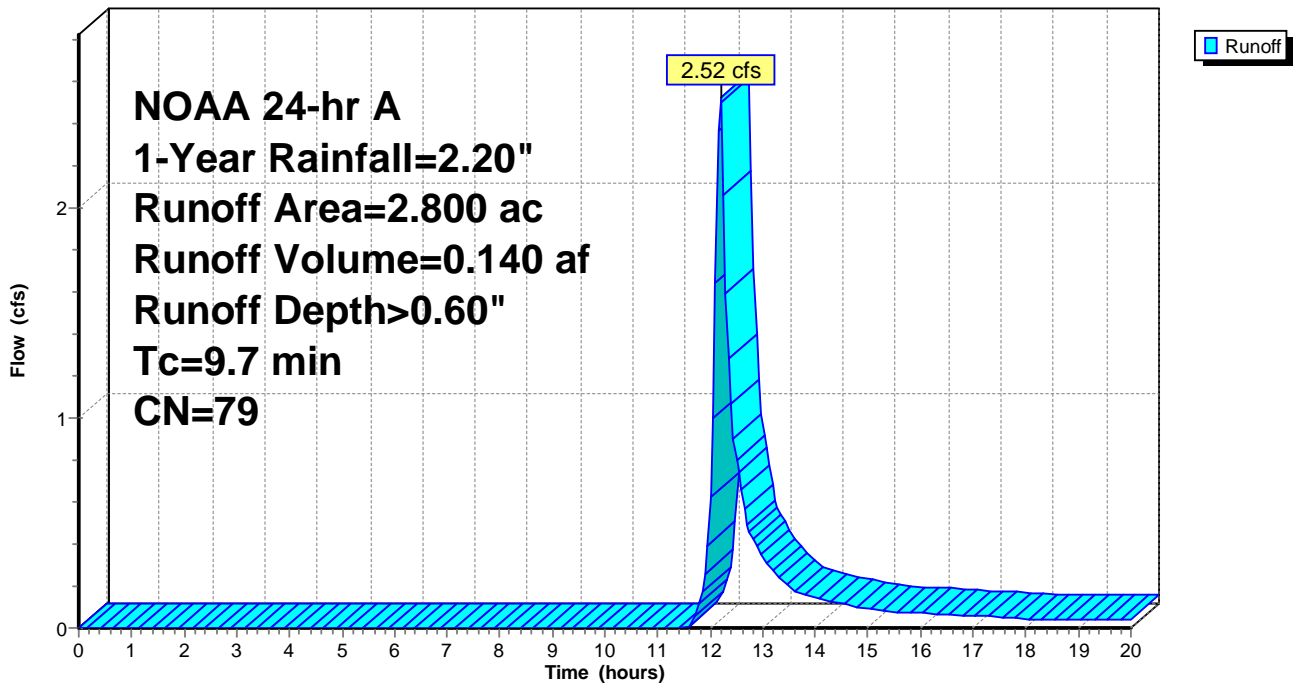
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

## Subcatchment 23S: OFFSITE B2

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 7

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 3.87 cfs @ 12.36 hrs, Volume= 0.314 af, Depth> 0.64"  
 Routed to Pond 4P : DRY BASIN D

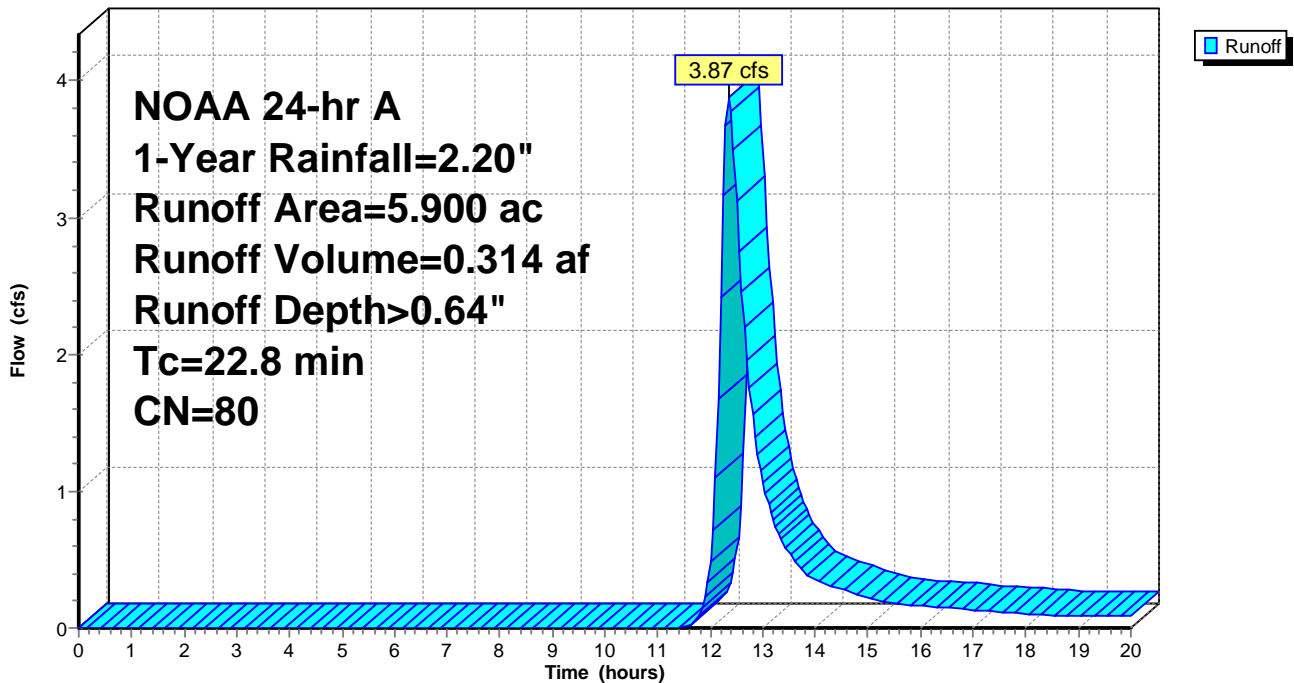
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 8

**Summary for Subcatchment 1: Predeveloped Watershed A**

Runoff = 11.10 cfs @ 13.18 hrs, Volume= 1.877 af, Depth> 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

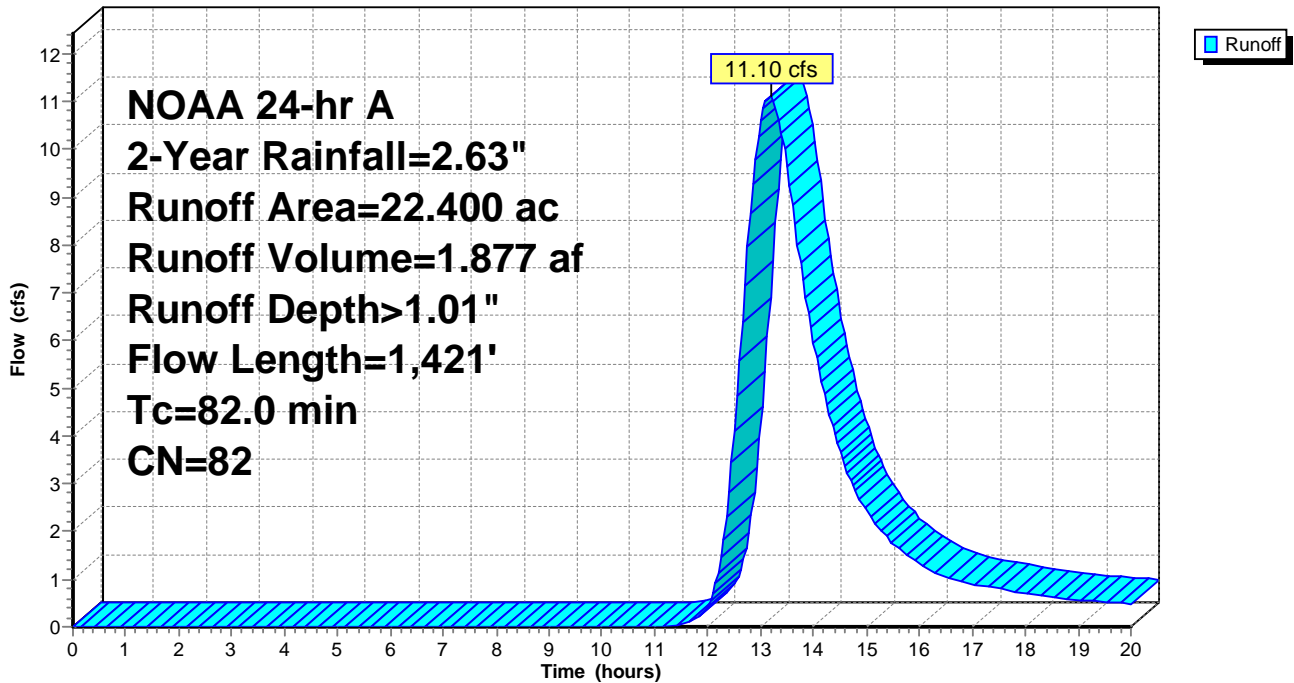
Area (ac)	CN	Description
22.400	82	Row crops, SR + CR, Good, HSG C
22.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	100	0.0065	0.20		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
73.8	1,321	0.0011	0.30		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
82.0	1,421	Total			

**Subcatchment 1: Predeveloped Watershed A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 9

**Summary for Subcatchment 2: Predeveloped Watershed B**

Runoff = 13.53 cfs @ 13.92 hrs, Volume= 3.337 af, Depth> 0.64"

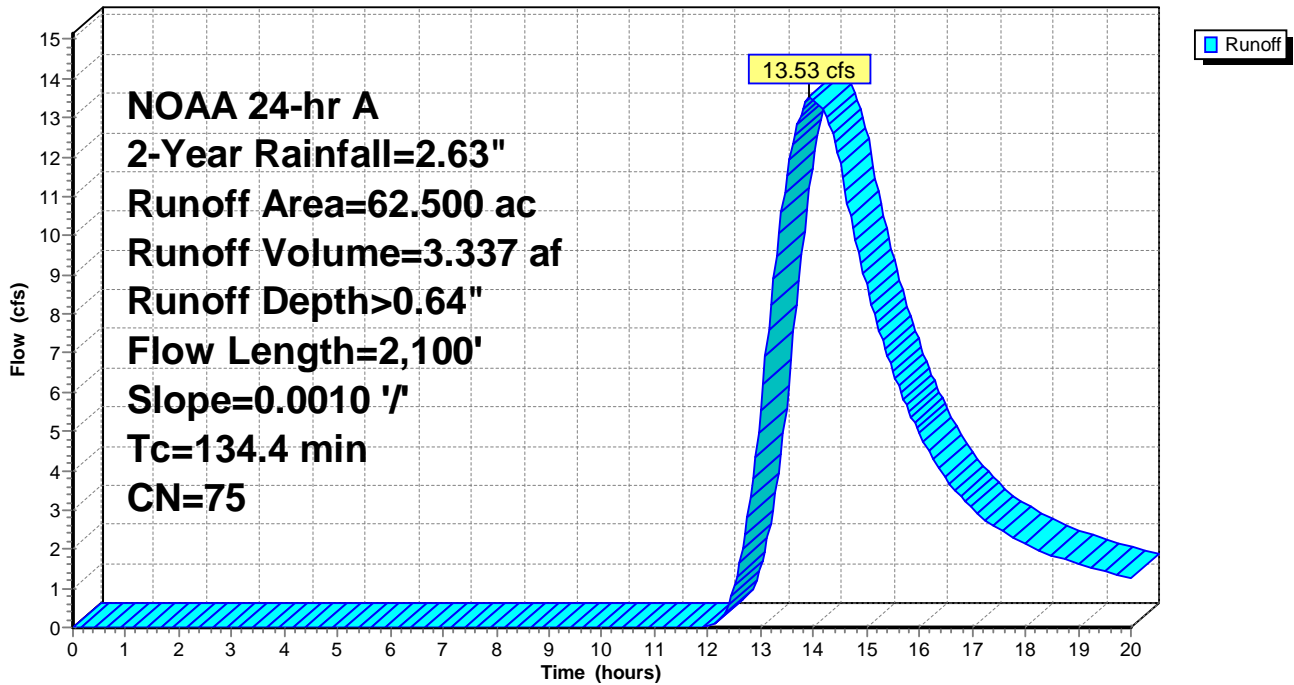
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
34.500	82	Row crops, SR + CR, Good, HSG C
12.400	70	Woods, Good, HSG C
15.600	65	Brush, Good, HSG C
62.500	75	Weighted Average
62.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	100	0.0010	0.10		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
117.1	2,000	0.0010	0.28		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
134.4	2,100	Total			

**Subcatchment 2: Predeveloped Watershed B**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 10

**Summary for Subcatchment 3: Predeveloped Watershed C**

Runoff = 13.32 cfs @ 12.84 hrs, Volume= 1.799 af, Depth> 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

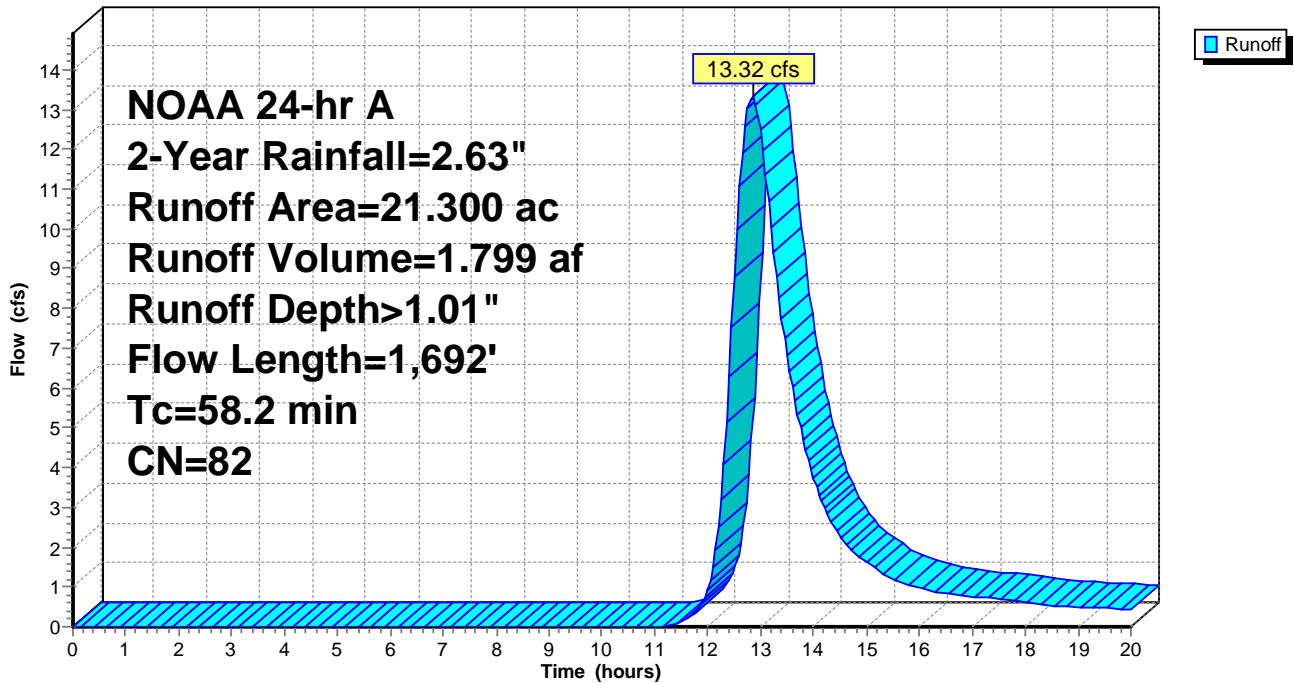
Area (ac)	CN	Description
21.300	82	Row crops, SR + CR, Good, HSG C
21.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
51.3	1,592	0.0033	0.52		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
58.2	1,692	Total			

**Subcatchment 3: Predeveloped Watershed C**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 11

**Summary for Subcatchment 4: Predeveloped Watershed D**

Runoff = 1.93 cfs @ 12.32 hrs, Volume= 0.145 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

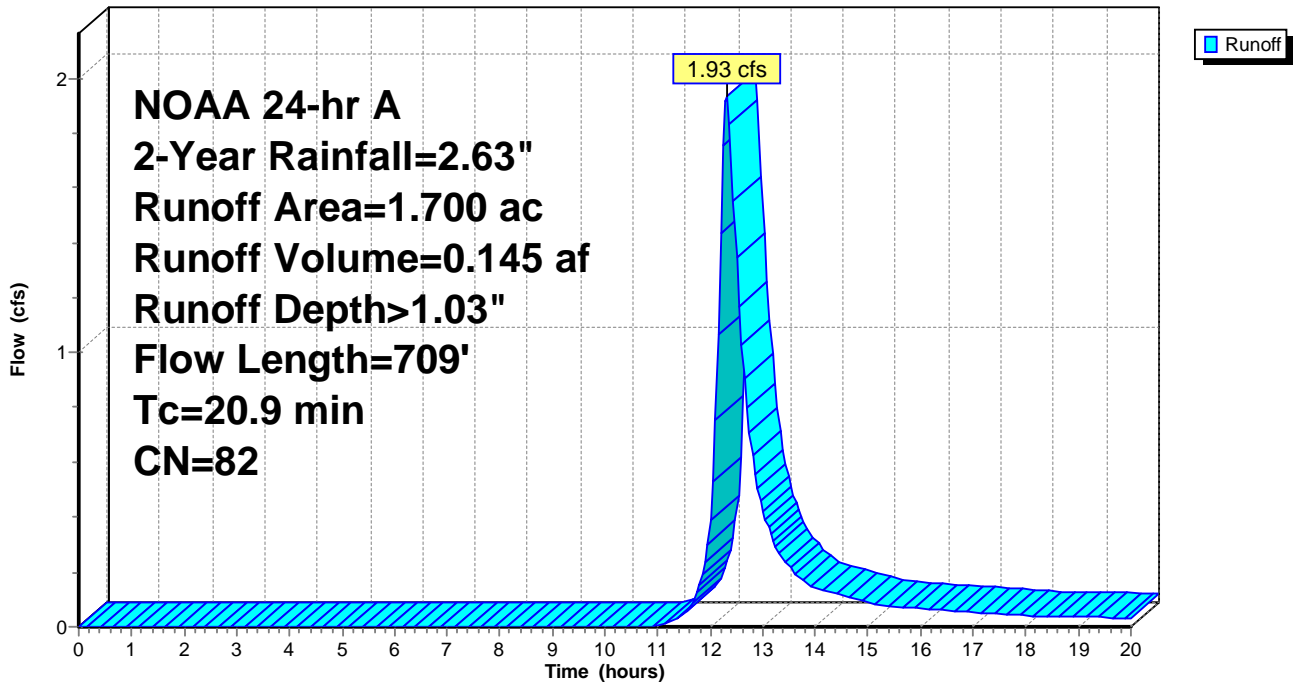
Area (ac)	CN	Description
1.700	82	Row crops, SR + CR, Good, HSG C
1.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
14.0	609	0.0065	0.73		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
20.9	709	Total			

**Subcatchment 4: Predeveloped Watershed D**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 12

**Summary for Subcatchment 5: OFFSITE A**

Runoff = 4.62 cfs @ 12.24 hrs, Volume= 0.295 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

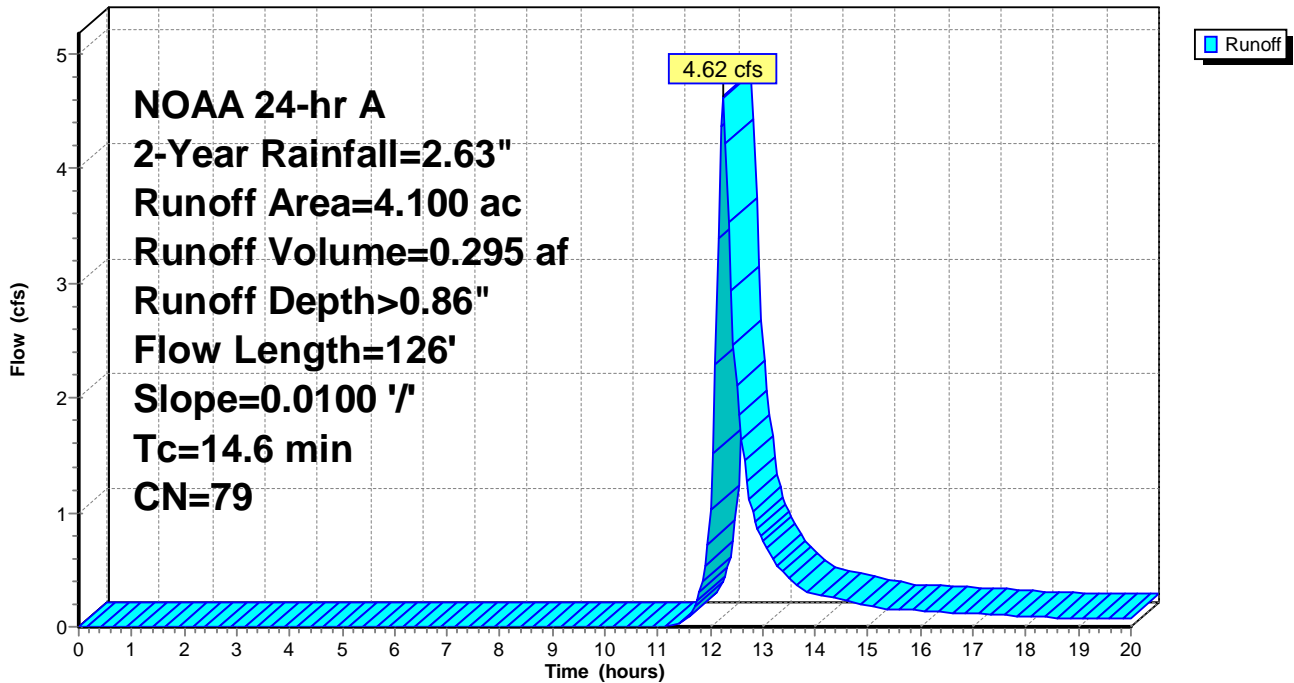
Area (ac)	CN	Description
4.100	79	50-75% Grass cover, Fair, HSG C
4.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	100	0.0100	0.12		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.60"
0.3	26	0.0100	1.50		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
14.6	126	Total			

**Subcatchment 5: OFFSITE A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 13

**Summary for Subcatchment 23S: OFFSITE B2**

Runoff = 3.72 cfs @ 12.18 hrs, Volume= 0.202 af, Depth> 0.87"

Routed to Pond 5P : WET BASIN E

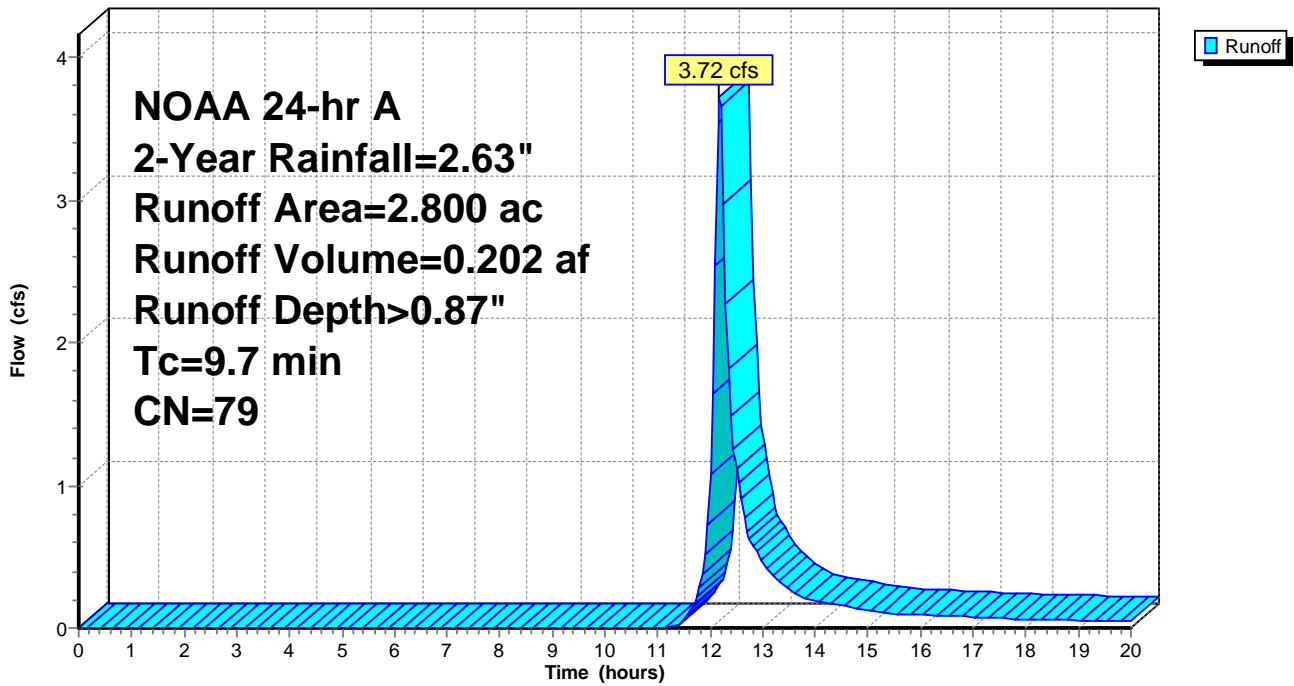
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 23S: OFFSITE B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 14

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 5.67 cfs @ 12.35 hrs, Volume= 0.450 af, Depth> 0.91"  
 Routed to Pond 4P : DRY BASIN D

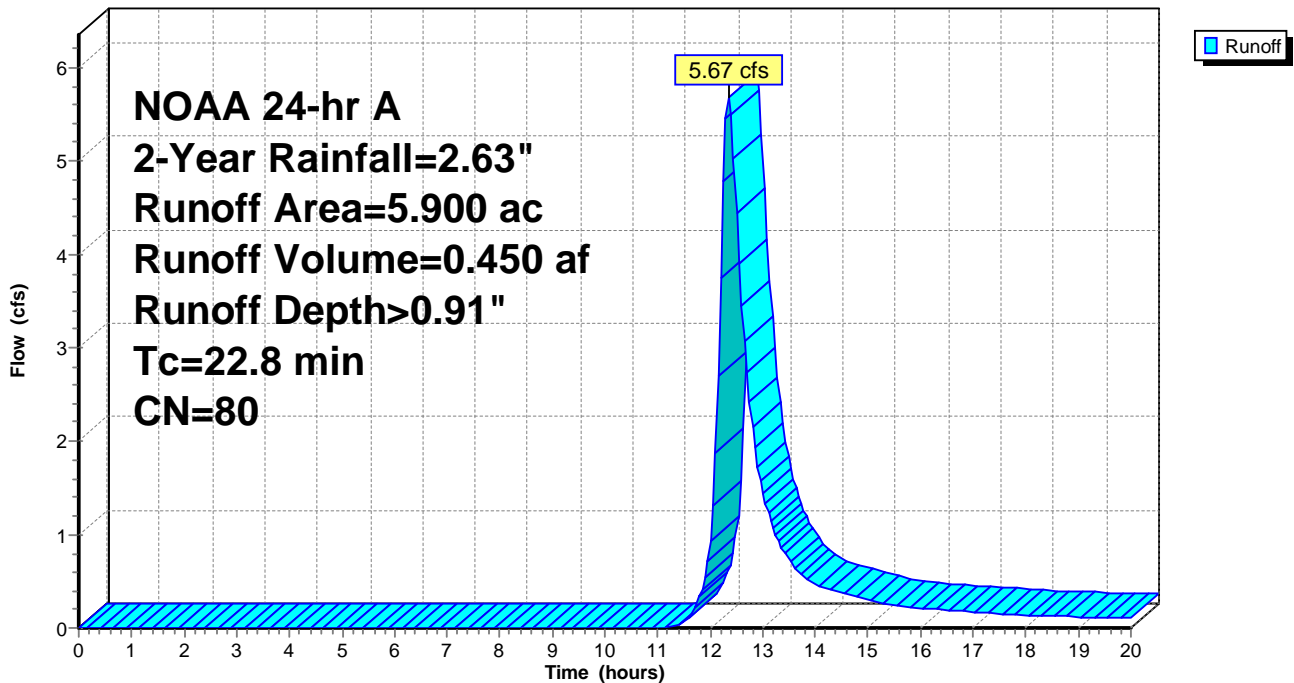
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 15

**Summary for Subcatchment 1: Predeveloped Watershed A**

Runoff = 16.15 cfs @ 13.16 hrs, Volume= 2.711 af, Depth> 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

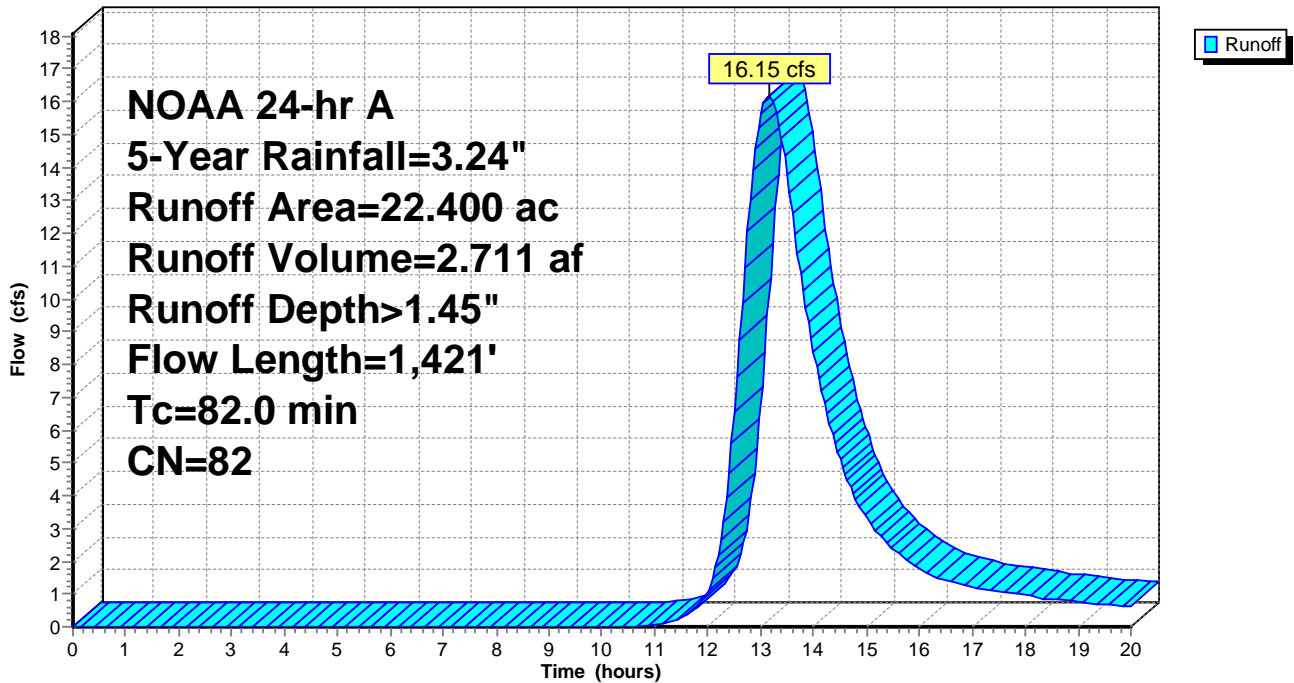
Area (ac)	CN	Description
22.400	82	Row crops, SR + CR, Good, HSG C
22.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	100	0.0065	0.20		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
73.8	1,321	0.0011	0.30		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
82.0	1,421	Total			

**Subcatchment 1: Predeveloped Watershed A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 16

**Summary for Subcatchment 2: Predeveloped Watershed B**

Runoff = 21.70 cfs @ 13.91 hrs, Volume= 5.206 af, Depth> 1.00"

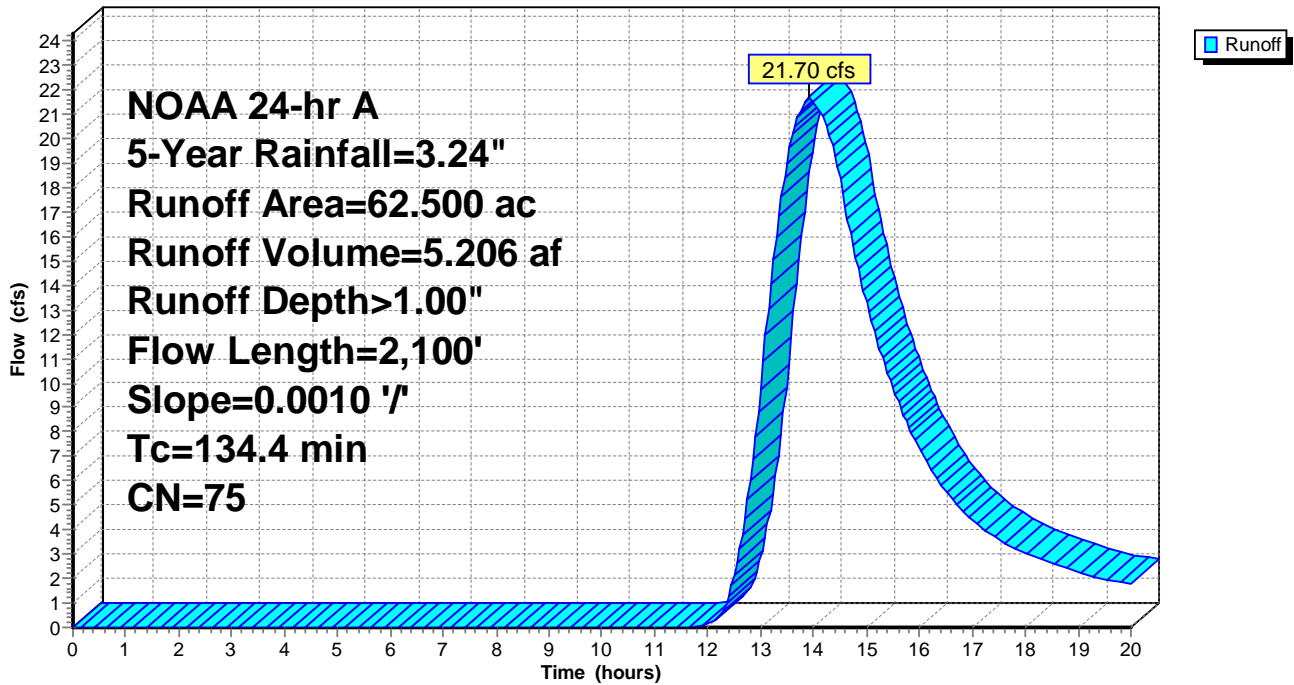
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
34.500	82	Row crops, SR + CR, Good, HSG C
12.400	70	Woods, Good, HSG C
15.600	65	Brush, Good, HSG C
62.500	75	Weighted Average
62.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	100	0.0010	0.10		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
117.1	2,000	0.0010	0.28		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
134.4	2,100	Total			

**Subcatchment 2: Predeveloped Watershed B**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 17

**Summary for Subcatchment 3: Predeveloped Watershed C**

Runoff = 19.39 cfs @ 12.83 hrs, Volume= 2.597 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

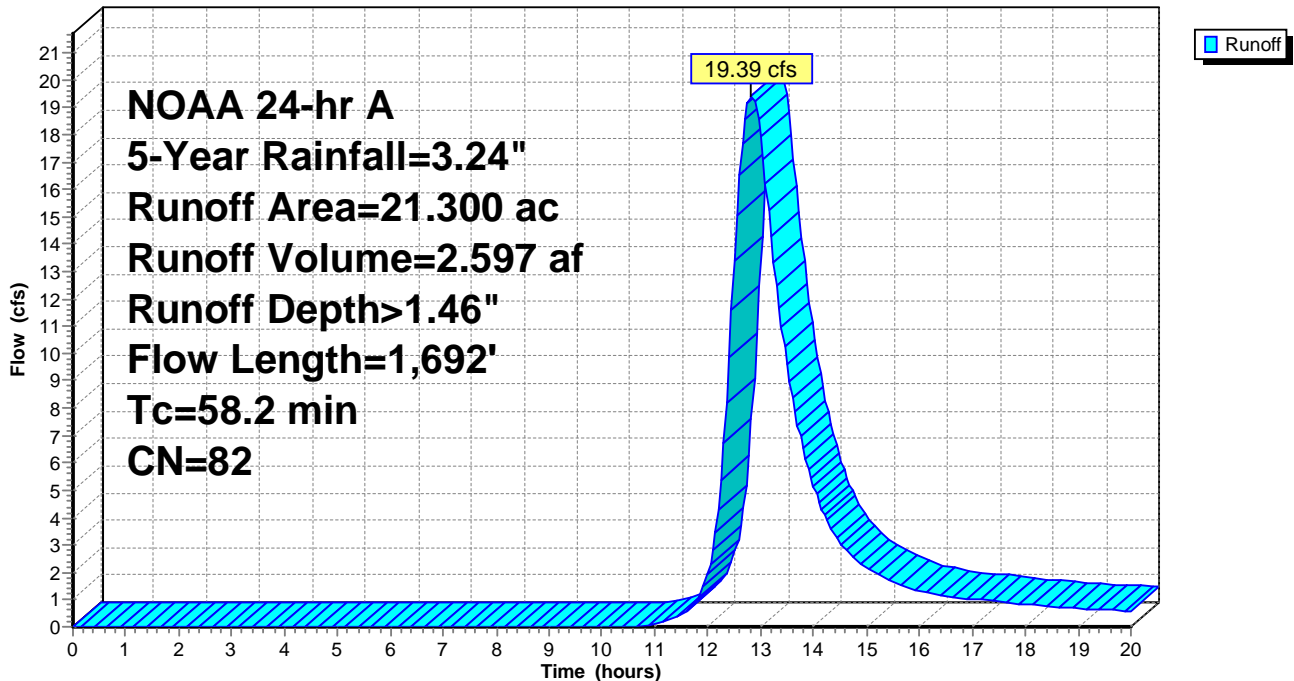
Area (ac)	CN	Description
21.300	82	Row crops, SR + CR, Good, HSG C
21.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
51.3	1,592	0.0033	0.52		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
58.2	1,692	Total			

**Subcatchment 3: Predeveloped Watershed C**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 18

**Summary for Subcatchment 4: Predeveloped Watershed D**

Runoff = 2.80 cfs @ 12.32 hrs, Volume= 0.209 af, Depth> 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

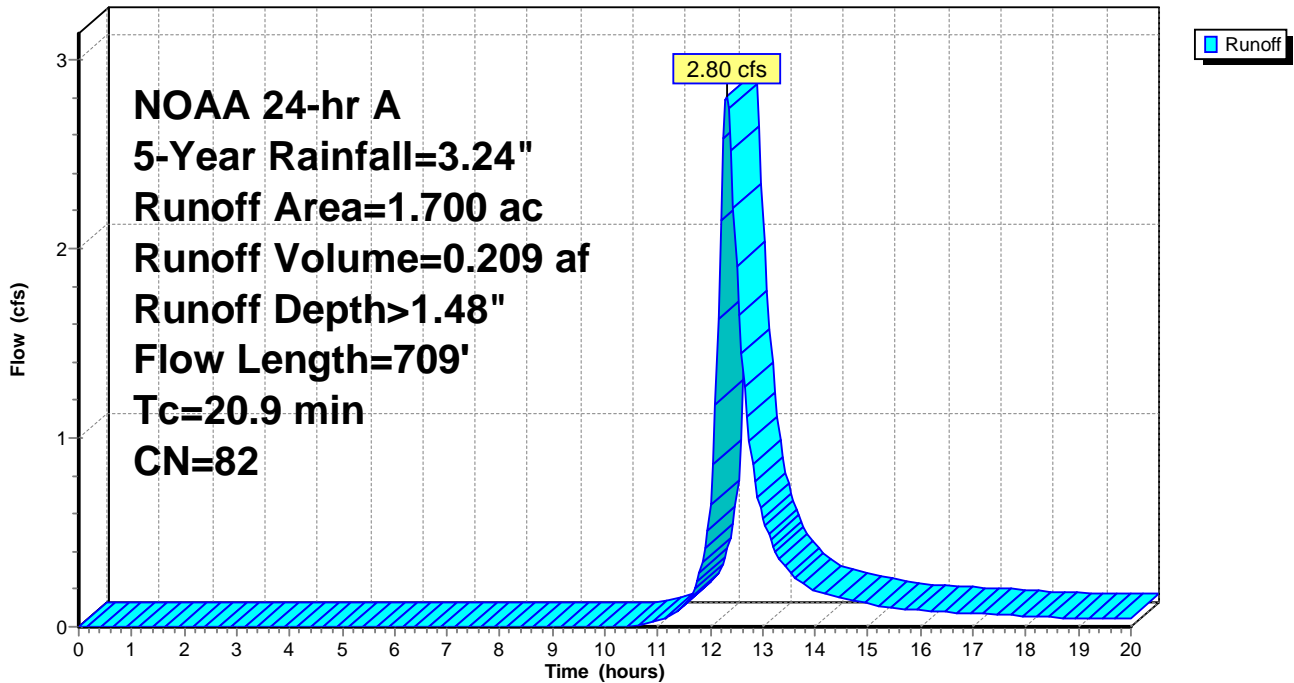
Area (ac)	CN	Description
1.700	82	Row crops, SR + CR, Good, HSG C
1.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
14.0	609	0.0065	0.73		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
20.9	709	Total			

**Subcatchment 4: Predeveloped Watershed D**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 19

## Summary for Subcatchment 5: OFFSITE A

Runoff = 6.95 cfs @ 12.24 hrs, Volume= 0.439 af, Depth> 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

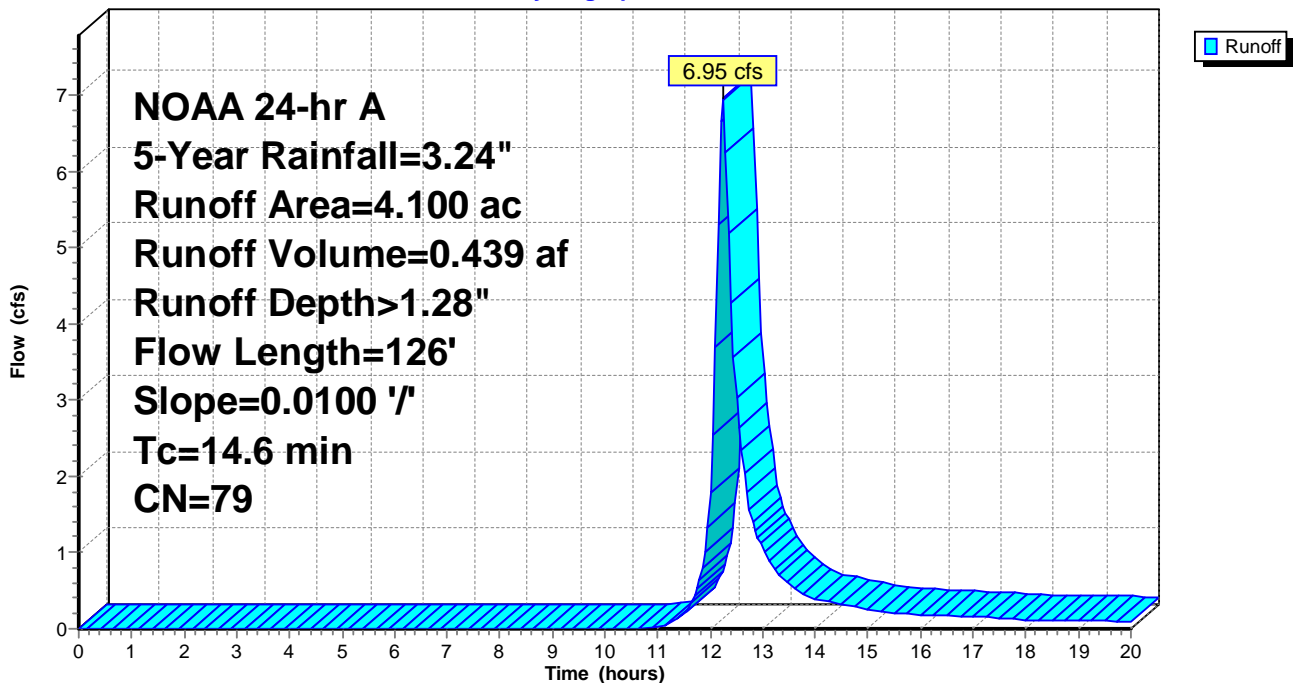
Area (ac)	CN	Description
4.100	79	50-75% Grass cover, Fair, HSG C
4.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	100	0.0100	0.12		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.60"
0.3	26	0.0100	1.50		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
14.6	126	Total			

## Subcatchment 5: OFFSITE A

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 20

**Summary for Subcatchment 23S: OFFSITE B2**

Runoff = 5.57 cfs @ 12.18 hrs, Volume= 0.300 af, Depth> 1.29"  
 Routed to Pond 5P : WET BASIN E

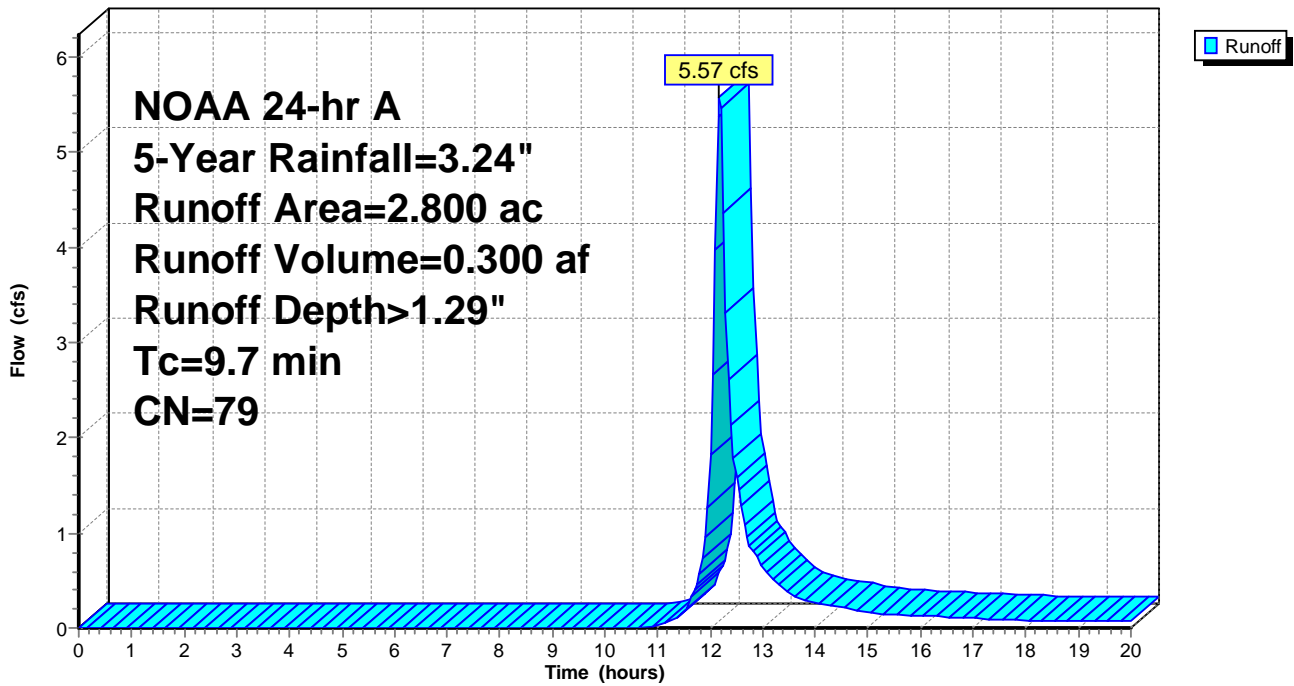
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 23S: OFFSITE B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 21

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 8.45 cfs @ 12.34 hrs, Volume= 0.661 af, Depth> 1.34"  
 Routed to Pond 4P : DRY BASIN D

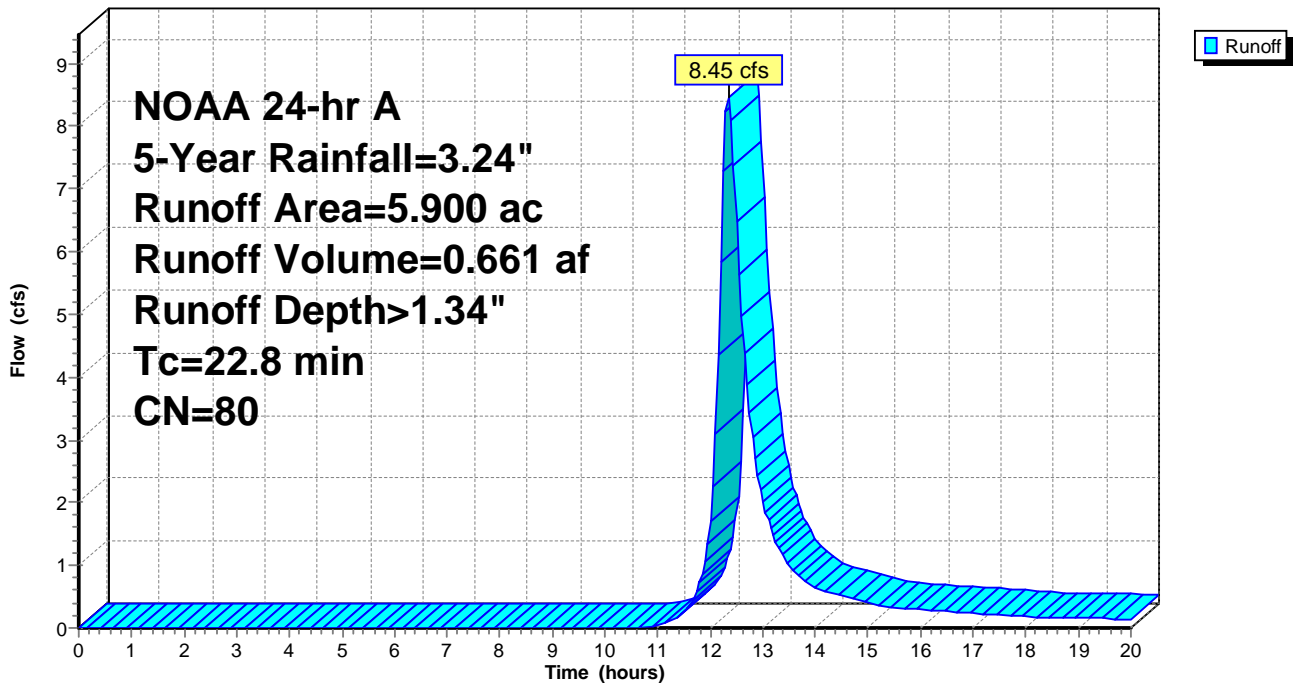
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 22

**Summary for Subcatchment 1: Predeveloped Watershed A**

Runoff = 20.42 cfs @ 13.14 hrs, Volume= 3.421 af, Depth> 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

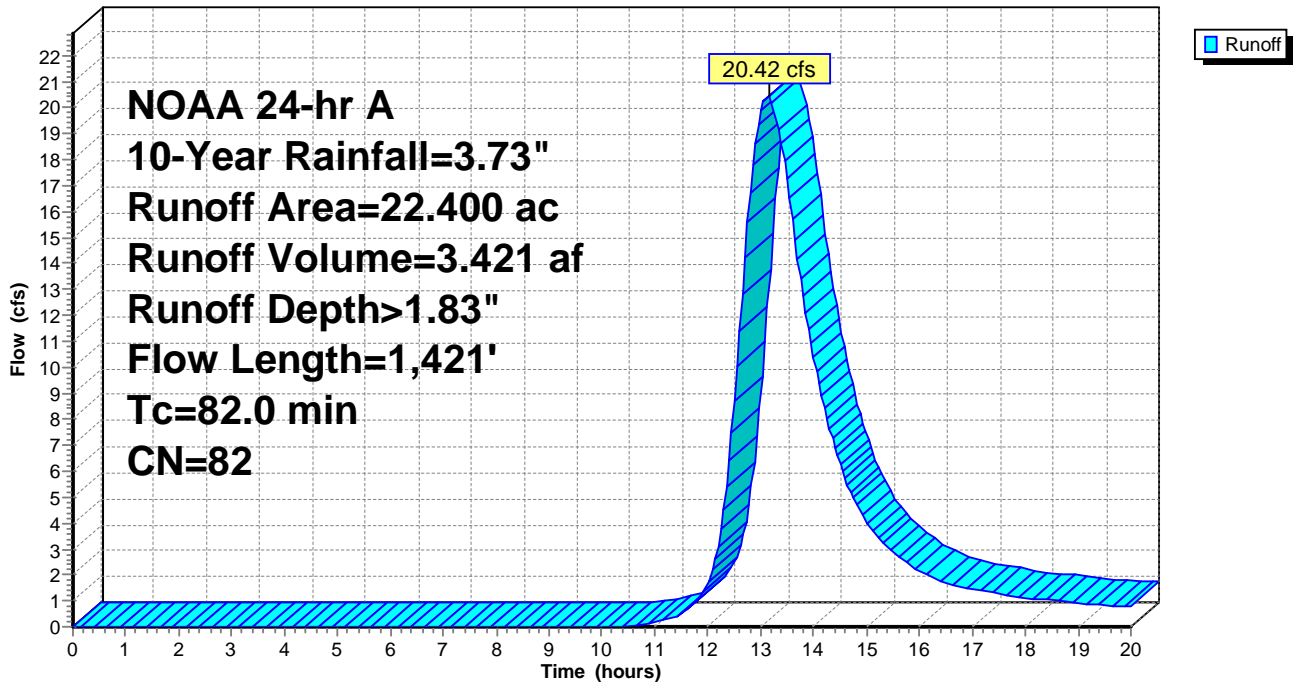
Area (ac)	CN	Description
22.400	82	Row crops, SR + CR, Good, HSG C
22.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	100	0.0065	0.20		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
73.8	1,321	0.0011	0.30		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
82.0	1,421	Total			

**Subcatchment 1: Predeveloped Watershed A**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 23

**Summary for Subcatchment 2: Predeveloped Watershed B**

Runoff = 28.94 cfs @ 13.90 hrs, Volume= 6.860 af, Depth> 1.32"

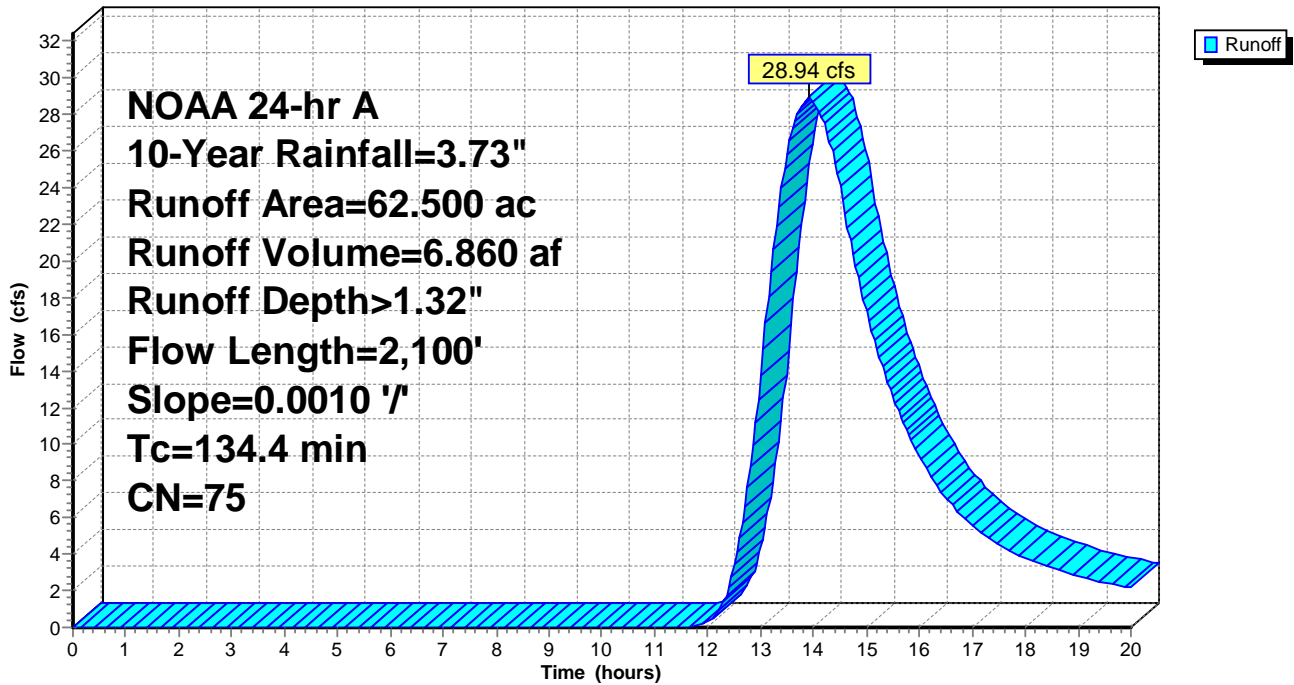
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
34.500	82	Row crops, SR + CR, Good, HSG C
12.400	70	Woods, Good, HSG C
15.600	65	Brush, Good, HSG C
62.500	75	Weighted Average
62.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	100	0.0010	0.10		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
117.1	2,000	0.0010	0.28		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
134.4	2,100	Total			

**Subcatchment 2: Predeveloped Watershed B**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 24

**Summary for Subcatchment 3: Predeveloped Watershed C**

Runoff = 24.48 cfs @ 12.82 hrs, Volume= 3.276 af, Depth> 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

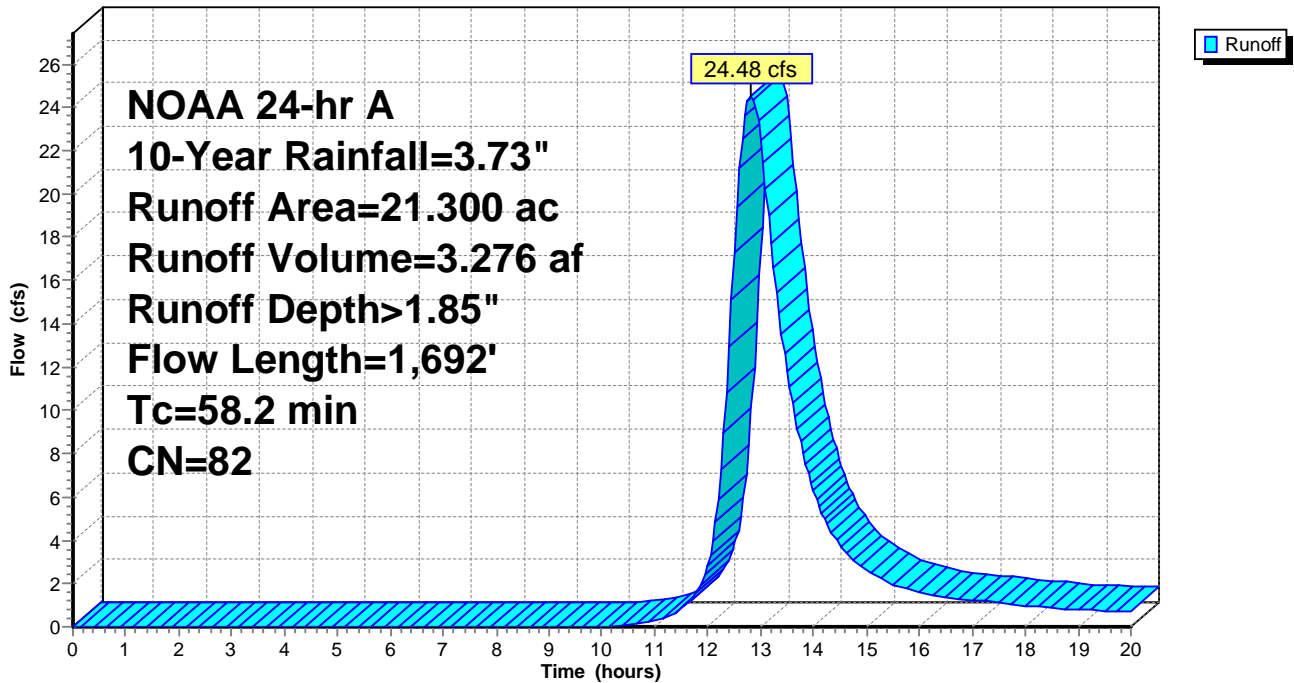
Area (ac)	CN	Description
21.300	82	Row crops, SR + CR, Good, HSG C
21.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
51.3	1,592	0.0033	0.52		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
58.2	1,692	Total			

**Subcatchment 3: Predeveloped Watershed C**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 25

**Summary for Subcatchment 4: Predeveloped Watershed D**

Runoff = 3.53 cfs @ 12.31 hrs, Volume= 0.264 af, Depth> 1.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

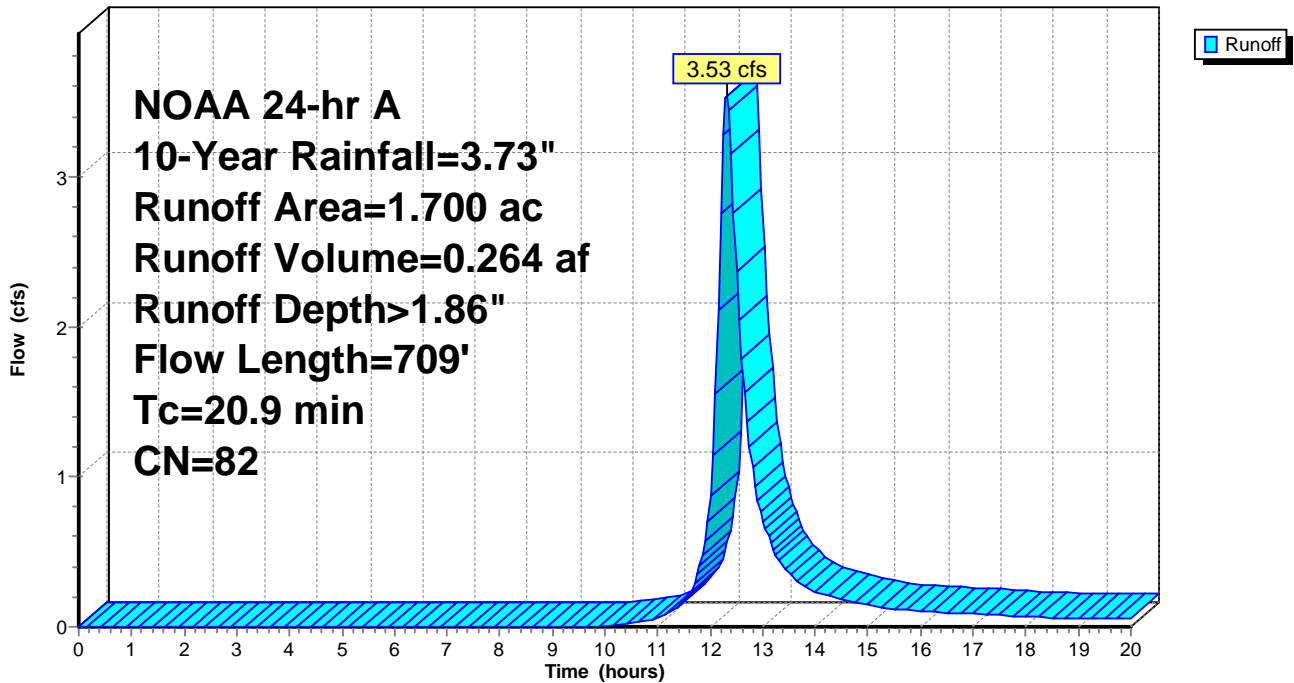
Area (ac)	CN	Description
1.700	82	Row crops, SR + CR, Good, HSG C
1.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
14.0	609	0.0065	0.73		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
20.9	709	Total			

**Subcatchment 4: Predeveloped Watershed D**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 26

**Summary for Subcatchment 5: OFFSITE A**

Runoff = 8.93 cfs @ 12.24 hrs, Volume= 0.562 af, Depth> 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

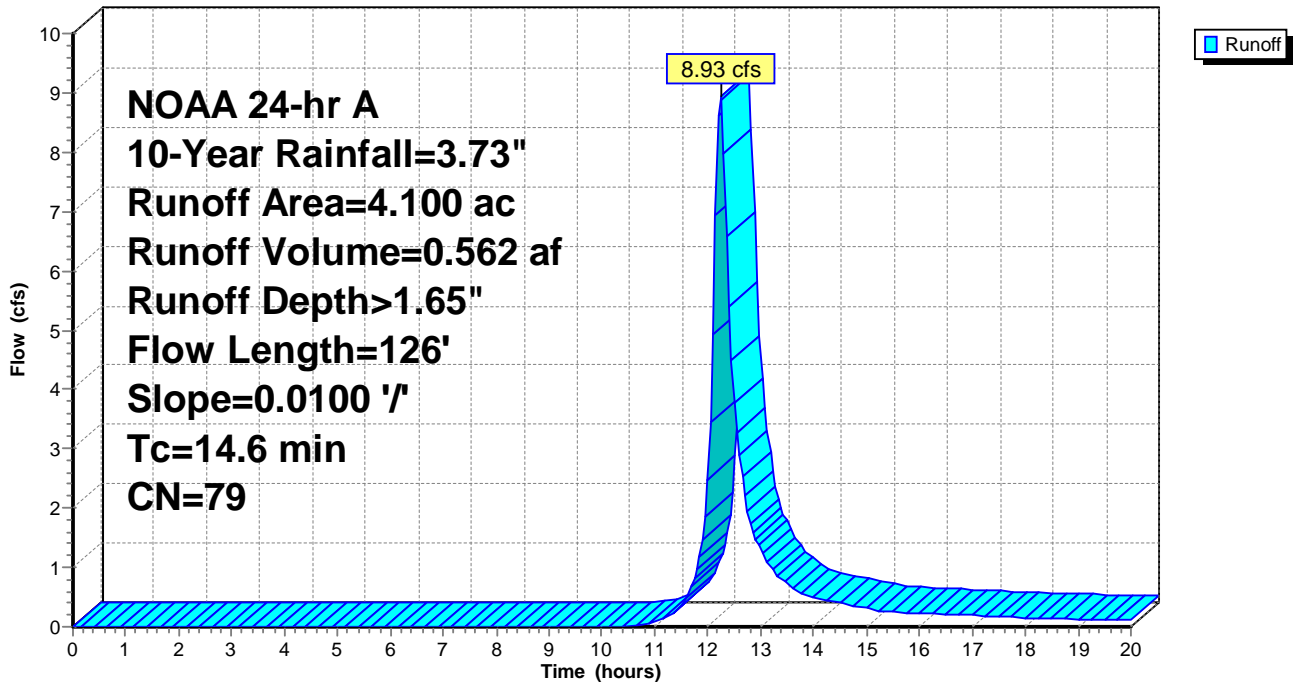
Area (ac)	CN	Description
4.100	79	50-75% Grass cover, Fair, HSG C
4.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	100	0.0100	0.12		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.60"
0.3	26	0.0100	1.50		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
14.6	126	Total			

**Subcatchment 5: OFFSITE A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 27

**Summary for Subcatchment 23S: OFFSITE B2**

Runoff = 7.14 cfs @ 12.18 hrs, Volume= 0.385 af, Depth> 1.65"  
 Routed to Pond 5P : WET BASIN E

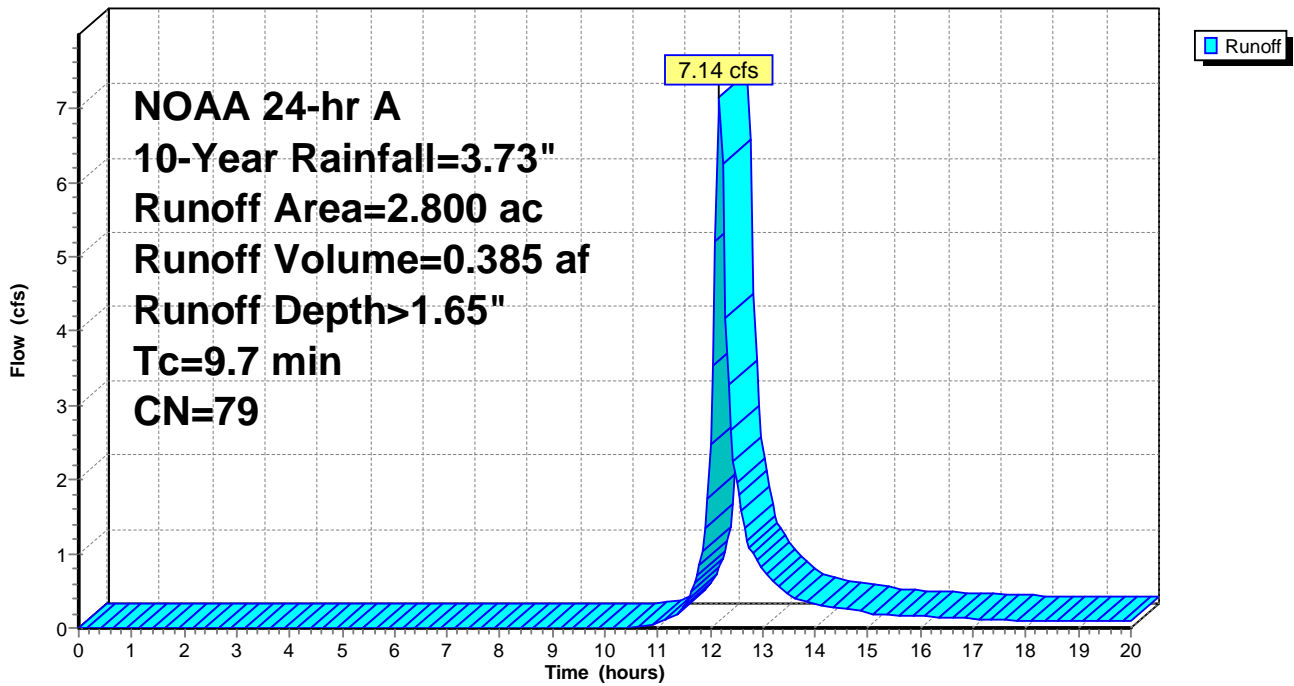
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 23S: OFFSITE B2**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 28

## Summary for Subcatchment 25S: OFFSITE B1

Runoff = 10.80 cfs @ 12.34 hrs, Volume= 0.843 af, Depth> 1.71"  
Routed to Pond 4P : DRY BASIN D

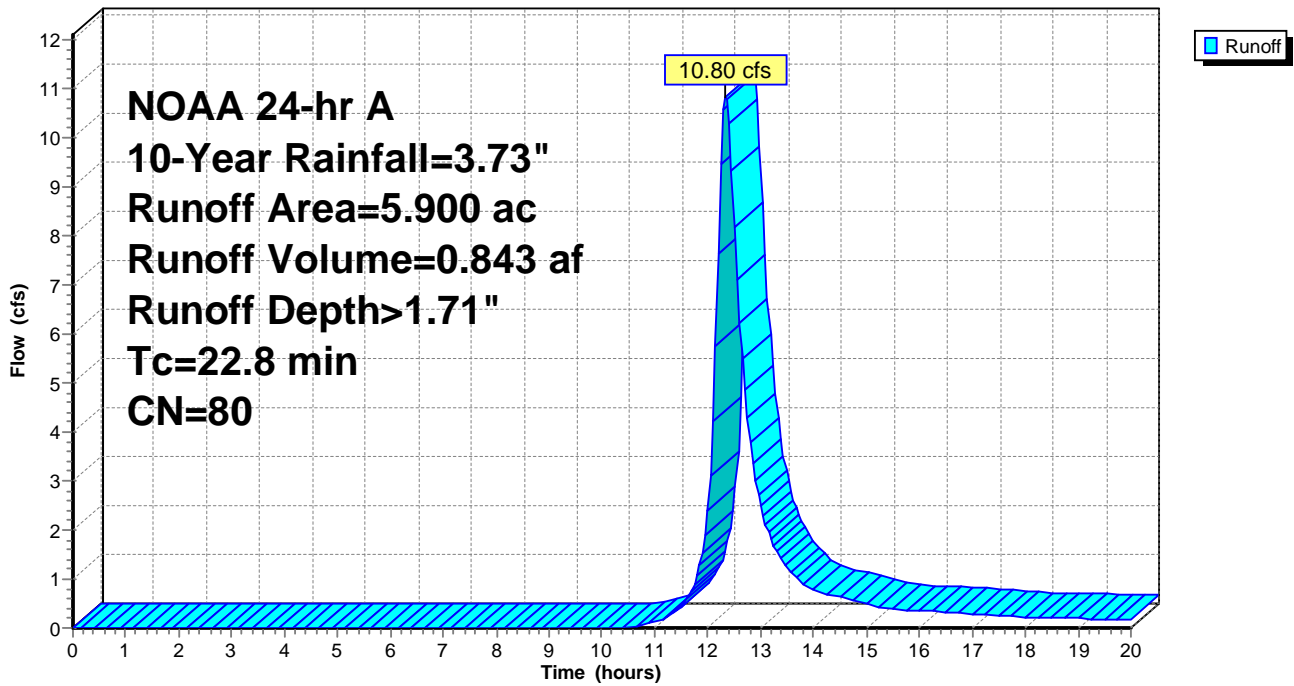
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

## Subcatchment 25S: OFFSITE B1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 29

**Summary for Subcatchment 1: Predeveloped Watershed A**

Runoff = 26.82 cfs @ 13.12 hrs, Volume= 4.495 af, Depth> 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

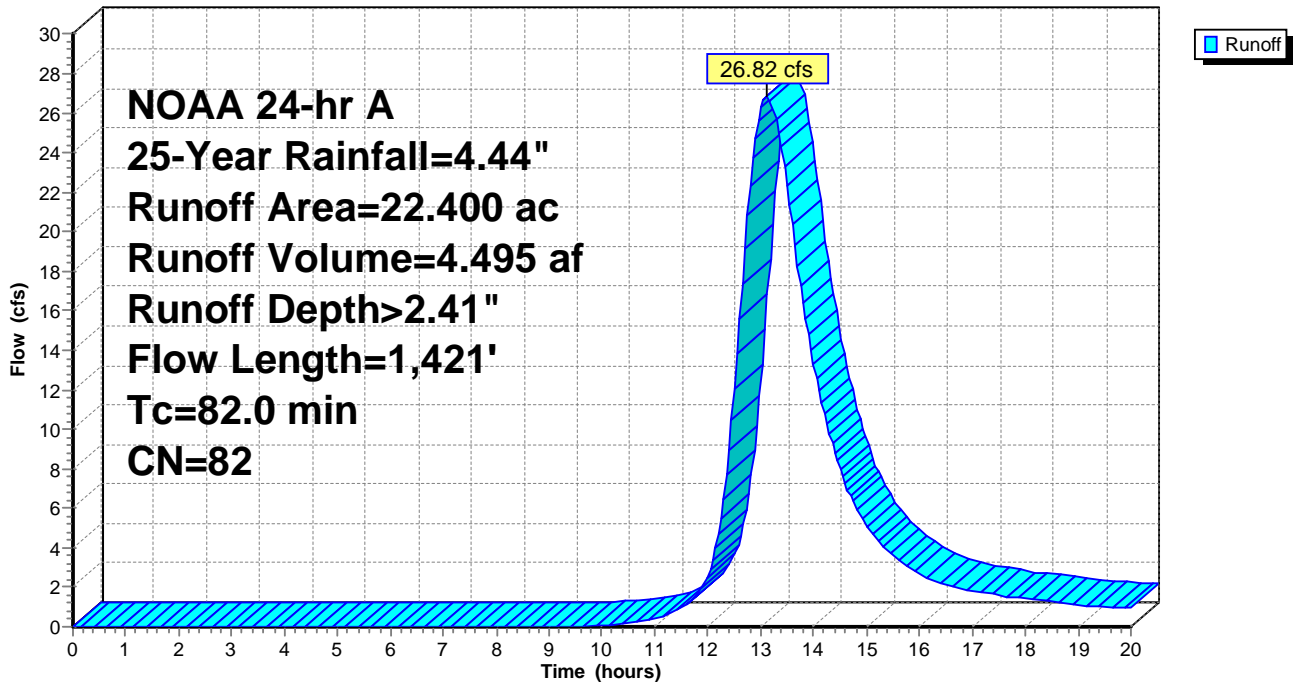
Area (ac)	CN	Description
22.400	82	Row crops, SR + CR, Good, HSG C
22.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	100	0.0065	0.20		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
73.8	1,321	0.0011	0.30		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
82.0	1,421	Total			

**Subcatchment 1: Predeveloped Watershed A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 30

**Summary for Subcatchment 2: Predeveloped Watershed B**

Runoff = 40.17 cfs @ 13.89 hrs, Volume= 9.437 af, Depth> 1.81"

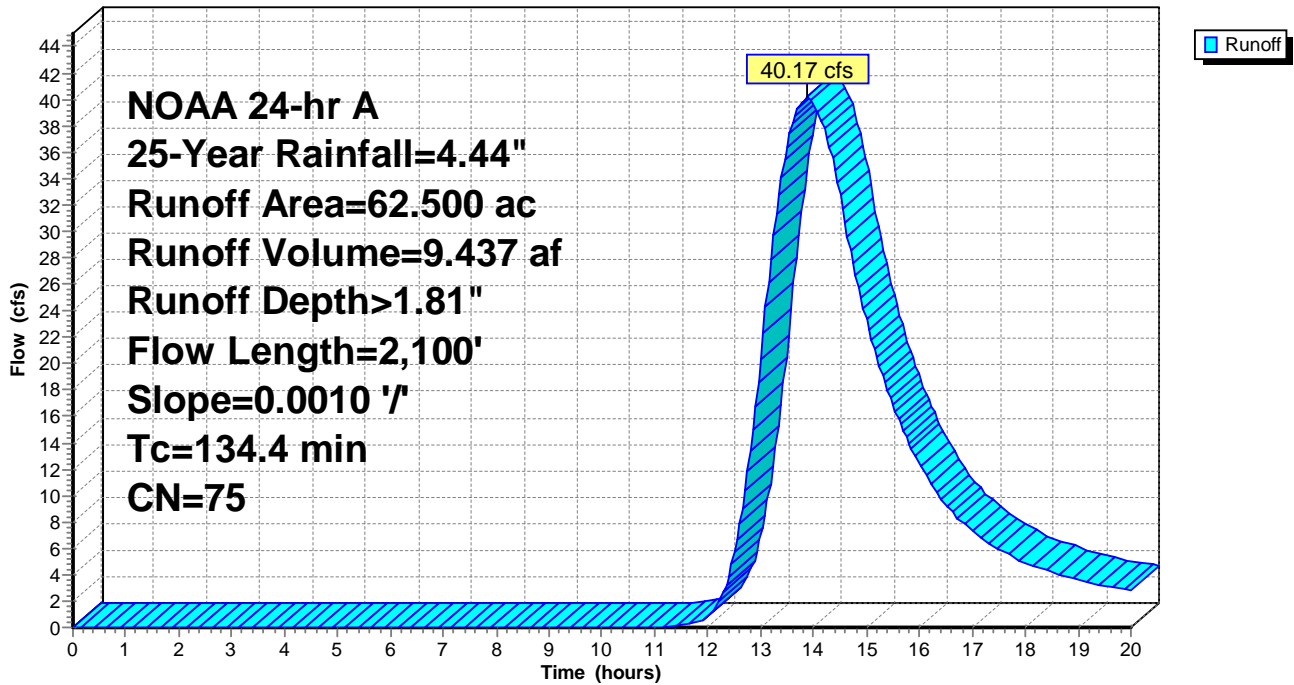
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
34.500	82	Row crops, SR + CR, Good, HSG C
12.400	70	Woods, Good, HSG C
15.600	65	Brush, Good, HSG C
62.500	75	Weighted Average
62.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	100	0.0010	0.10		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
117.1	2,000	0.0010	0.28		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
134.4	2,100	Total			

**Subcatchment 2: Predeveloped Watershed B**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 31

**Summary for Subcatchment 3: Predeveloped Watershed C**

Runoff = 32.13 cfs @ 12.80 hrs, Volume= 4.302 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

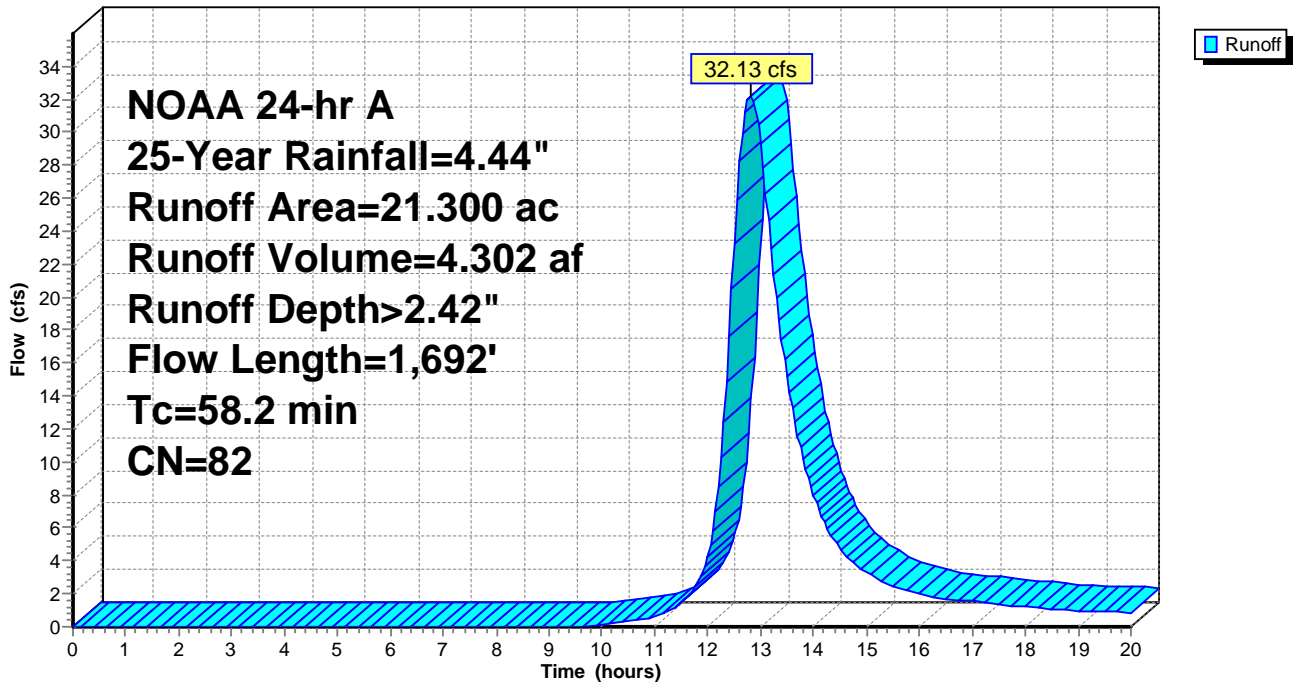
Area (ac)	CN	Description
21.300	82	Row crops, SR + CR, Good, HSG C
21.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
51.3	1,592	0.0033	0.52		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
58.2	1,692	Total			

**Subcatchment 3: Predeveloped Watershed C**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 32

**Summary for Subcatchment 4: Predeveloped Watershed D**

Runoff = 4.62 cfs @ 12.31 hrs, Volume= 0.347 af, Depth> 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

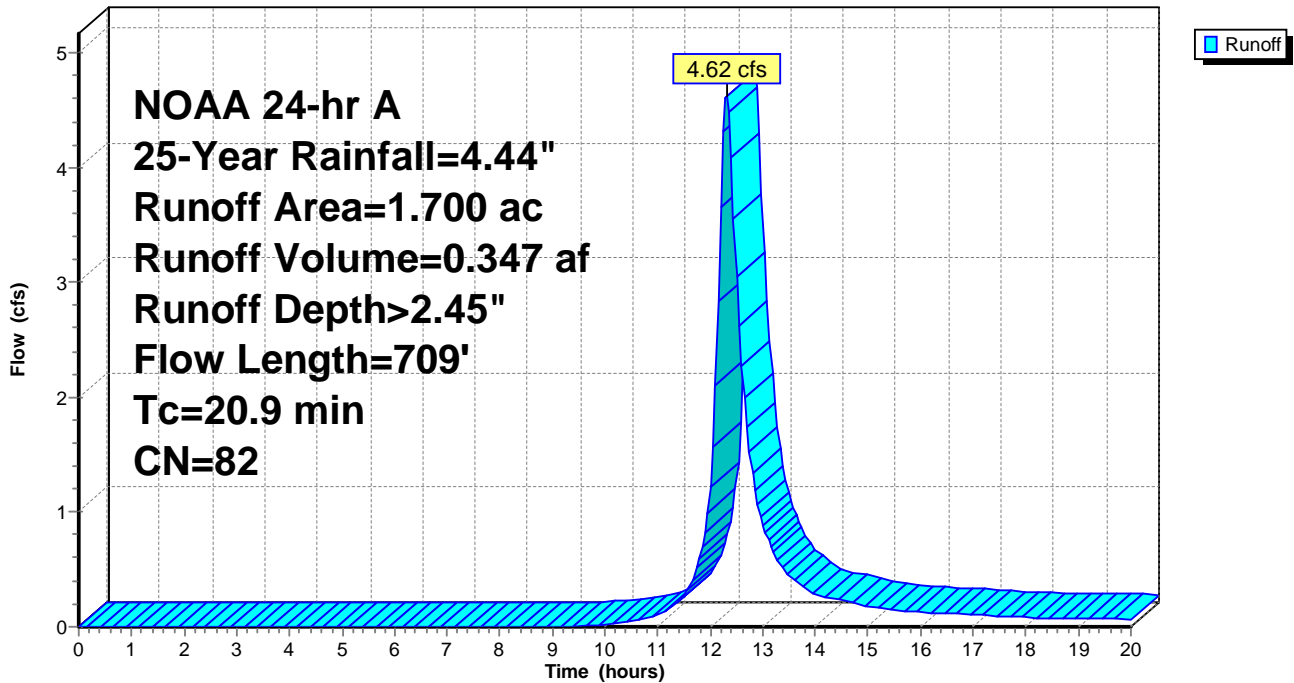
Area (ac)	CN	Description
1.700	82	Row crops, SR + CR, Good, HSG C
1.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
14.0	609	0.0065	0.73		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
20.9	709	Total			

**Subcatchment 4: Predeveloped Watershed D**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 33

**Summary for Subcatchment 5: OFFSITE A**

Runoff = 11.92 cfs @ 12.23 hrs, Volume= 0.752 af, Depth> 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

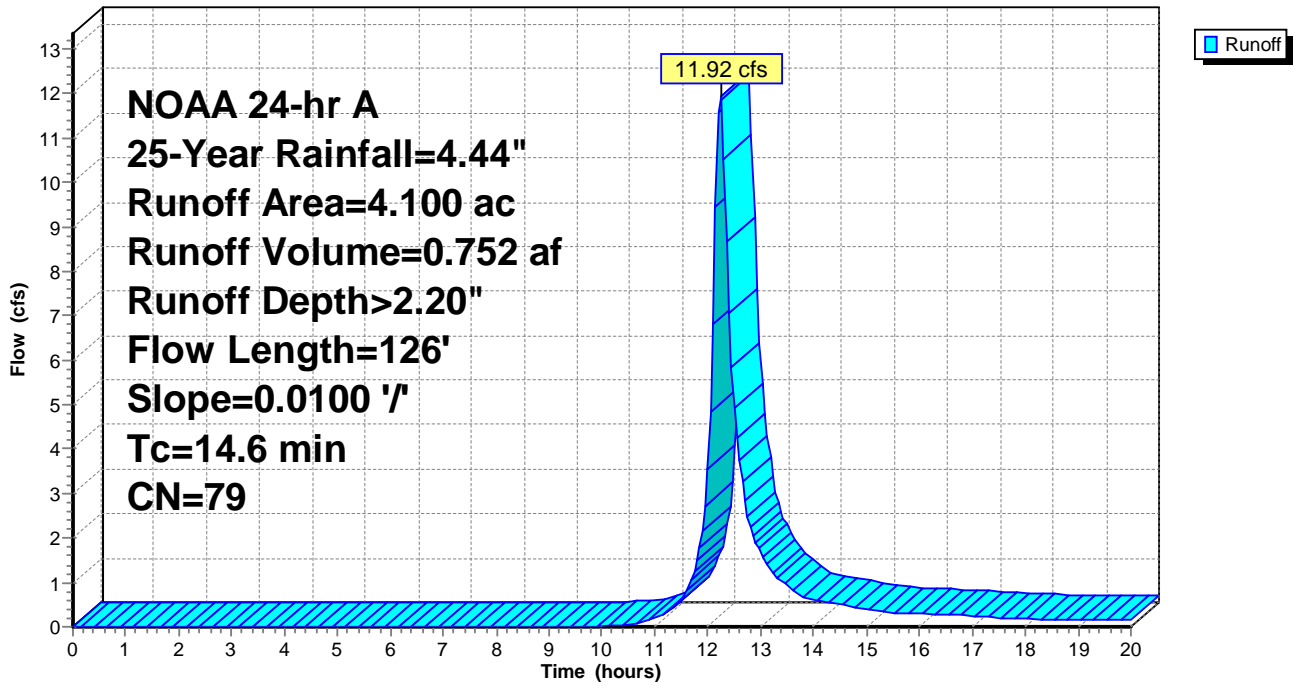
Area (ac)	CN	Description
4.100	79	50-75% Grass cover, Fair, HSG C
4.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	100	0.0100	0.12		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.60"
0.3	26	0.0100	1.50		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
14.6	126	Total			

**Subcatchment 5: OFFSITE A**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 34

## Summary for Subcatchment 23S: OFFSITE B2

Runoff = 9.55 cfs @ 12.17 hrs, Volume= 0.514 af, Depth> 2.20"  
Routed to Pond 5P : WET BASIN E

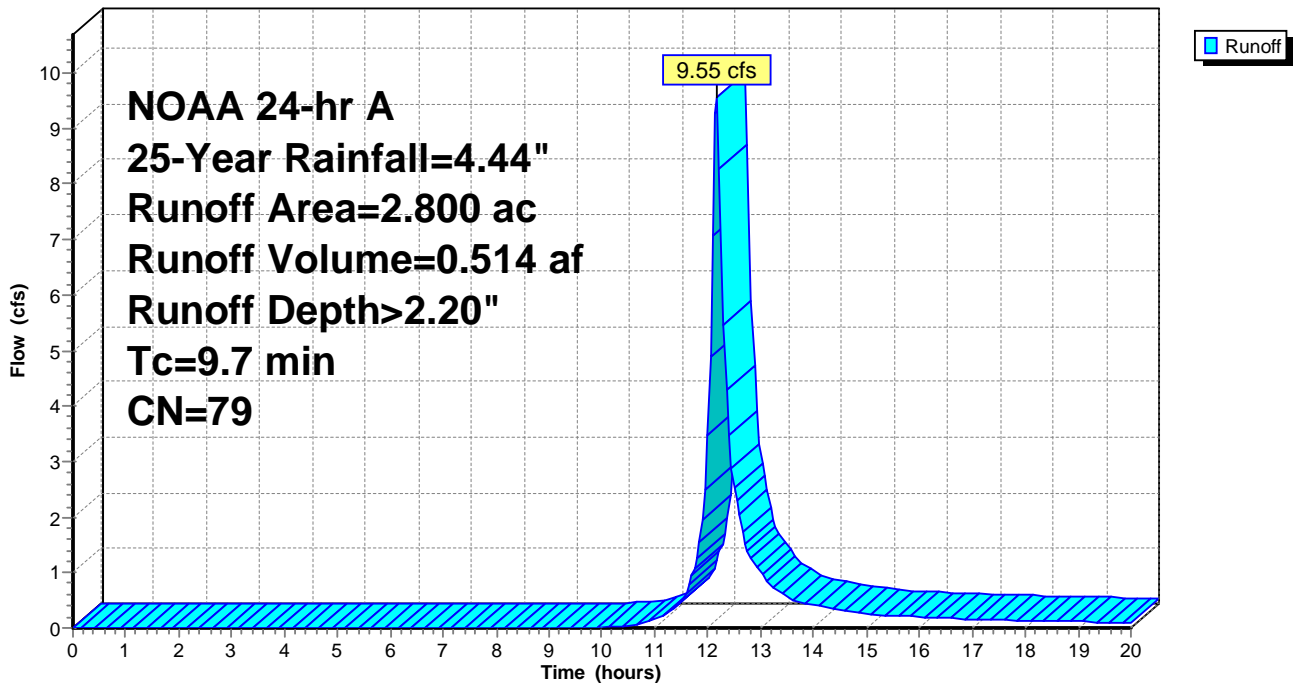
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

## Subcatchment 23S: OFFSITE B2

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 35

## Summary for Subcatchment 25S: OFFSITE B1

Runoff = 14.34 cfs @ 12.34 hrs, Volume= 1.120 af, Depth> 2.28"  
Routed to Pond 4P : DRY BASIN D

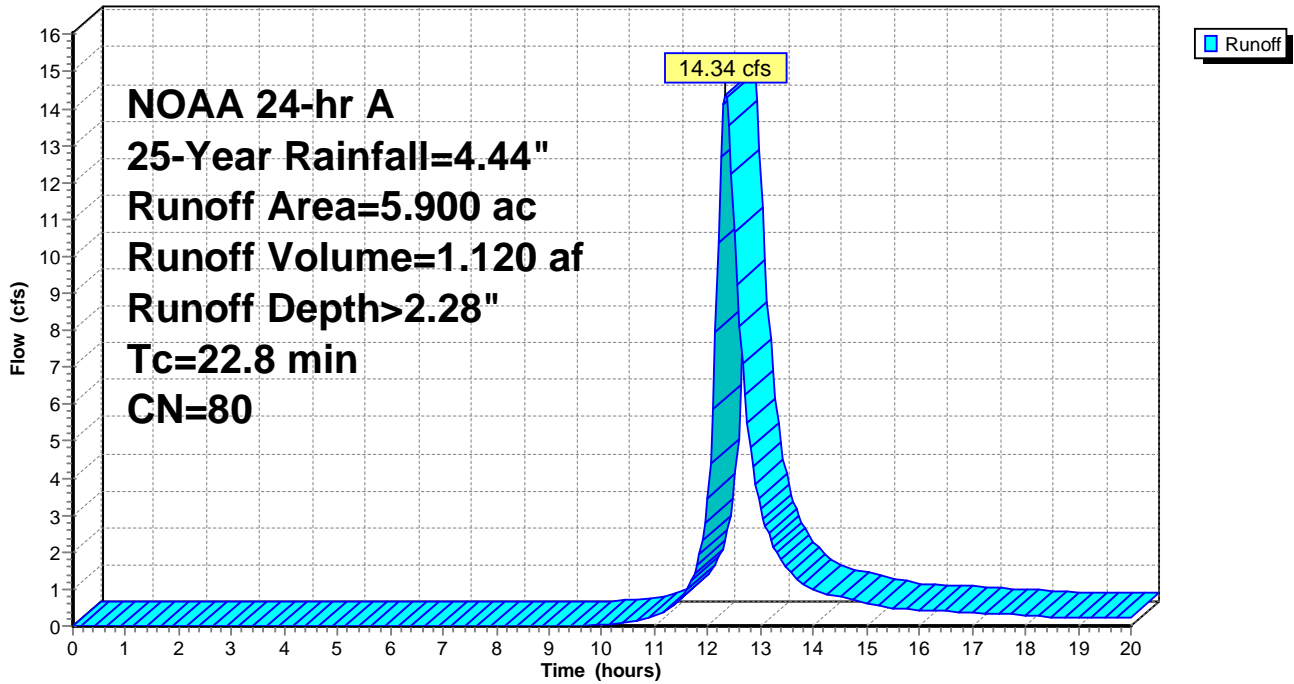
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

## Subcatchment 25S: OFFSITE B1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 36

**Summary for Subcatchment 1: Predeveloped Watershed A**

Runoff = 32.09 cfs @ 13.10 hrs, Volume= 5.386 af, Depth> 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

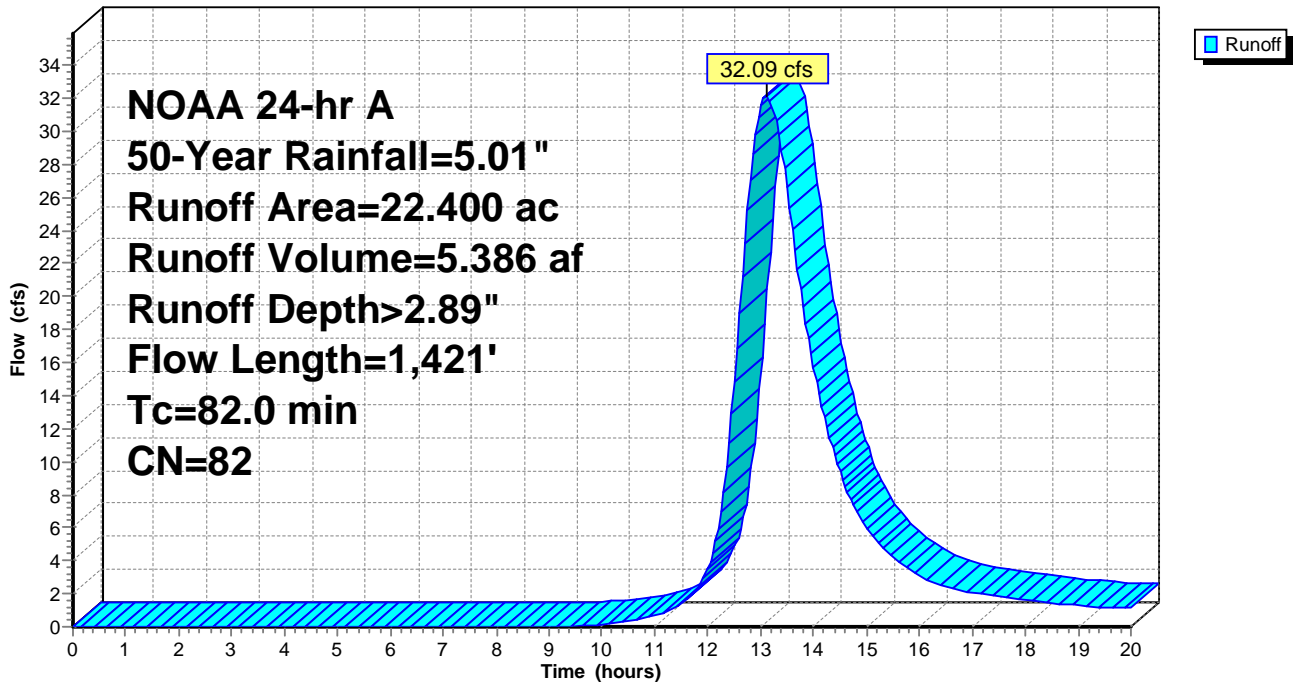
Area (ac)	CN	Description
22.400	82	Row crops, SR + CR, Good, HSG C
22.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	100	0.0065	0.20		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
73.8	1,321	0.0011	0.30		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
82.0	1,421	Total			

**Subcatchment 1: Predeveloped Watershed A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 37

**Summary for Subcatchment 2: Predeveloped Watershed B**

Runoff = 49.65 cfs @ 13.88 hrs, Volume= 11.625 af, Depth> 2.23"

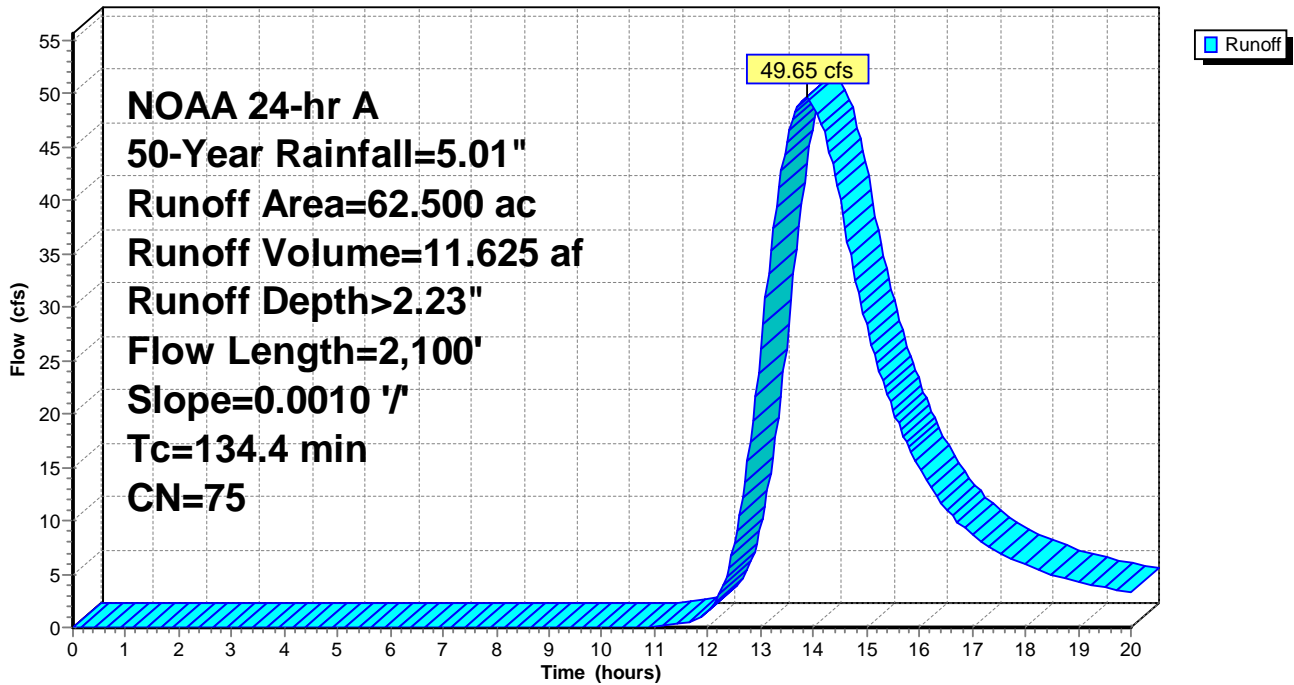
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
34.500	82	Row crops, SR + CR, Good, HSG C
12.400	70	Woods, Good, HSG C
15.600	65	Brush, Good, HSG C
62.500	75	Weighted Average
62.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	100	0.0010	0.10		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
117.1	2,000	0.0010	0.28		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
134.4	2,100	Total			

**Subcatchment 2: Predeveloped Watershed B**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 38

**Summary for Subcatchment 3: Predeveloped Watershed C**

Runoff = 38.40 cfs @ 12.79 hrs, Volume= 5.154 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

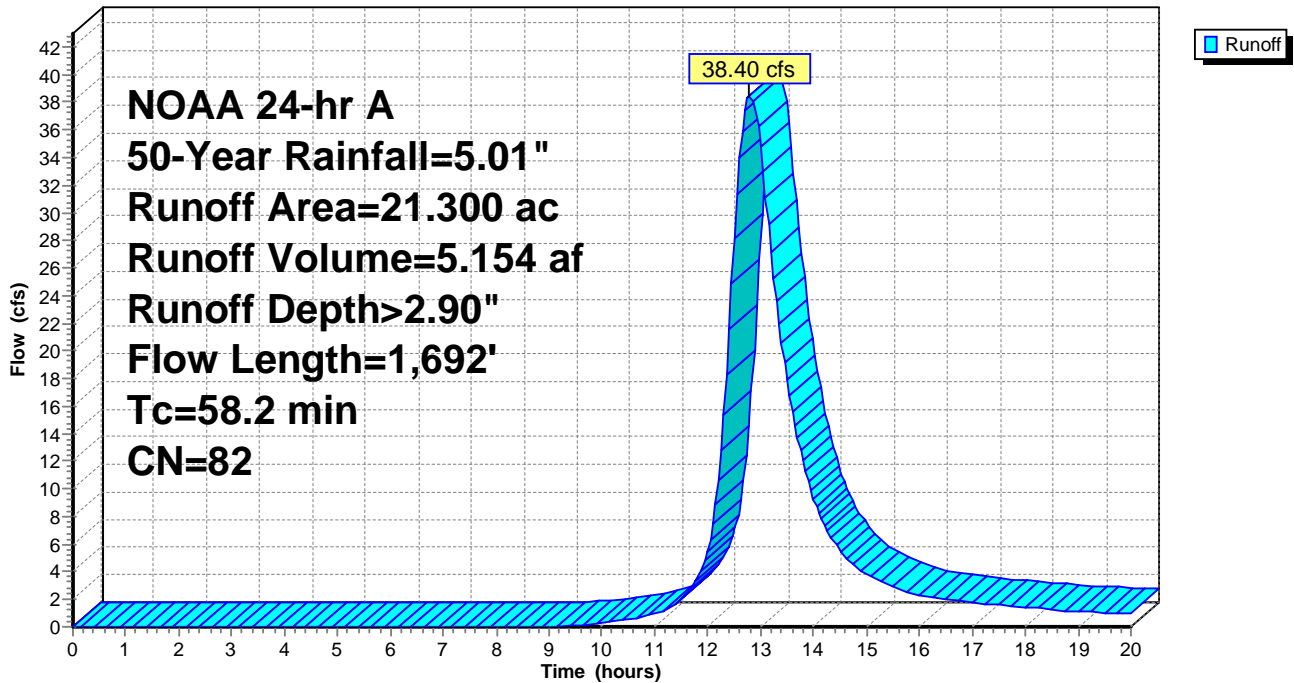
Area (ac)	CN	Description
21.300	82	Row crops, SR + CR, Good, HSG C
21.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
51.3	1,592	0.0033	0.52		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
58.2	1,692	Total			

**Subcatchment 3: Predeveloped Watershed C**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 39

**Summary for Subcatchment 4: Predeveloped Watershed D**

Runoff = 5.51 cfs @ 12.31 hrs, Volume= 0.415 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

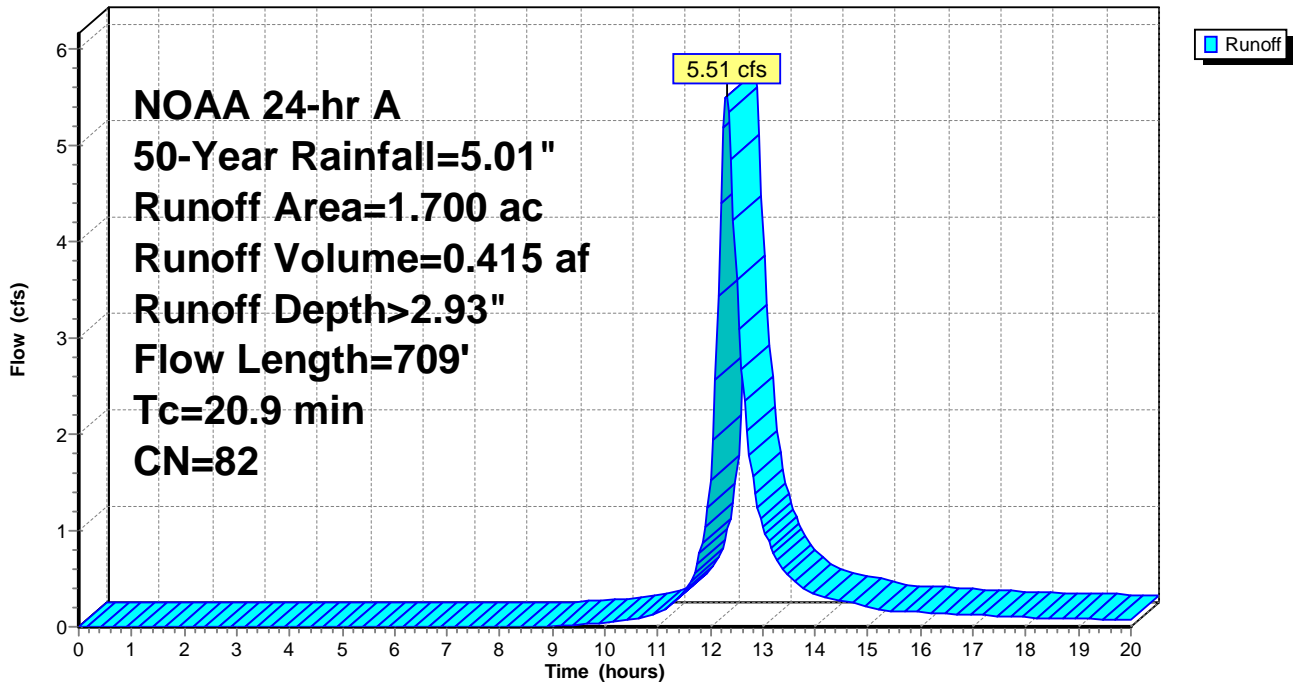
Area (ac)	CN	Description
1.700	82	Row crops, SR + CR, Good, HSG C
1.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
14.0	609	0.0065	0.73		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
20.9	709	Total			

**Subcatchment 4: Predeveloped Watershed D**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 40

**Summary for Subcatchment 5: OFFSITE A**

Runoff = 14.39 cfs @ 12.23 hrs, Volume= 0.910 af, Depth> 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

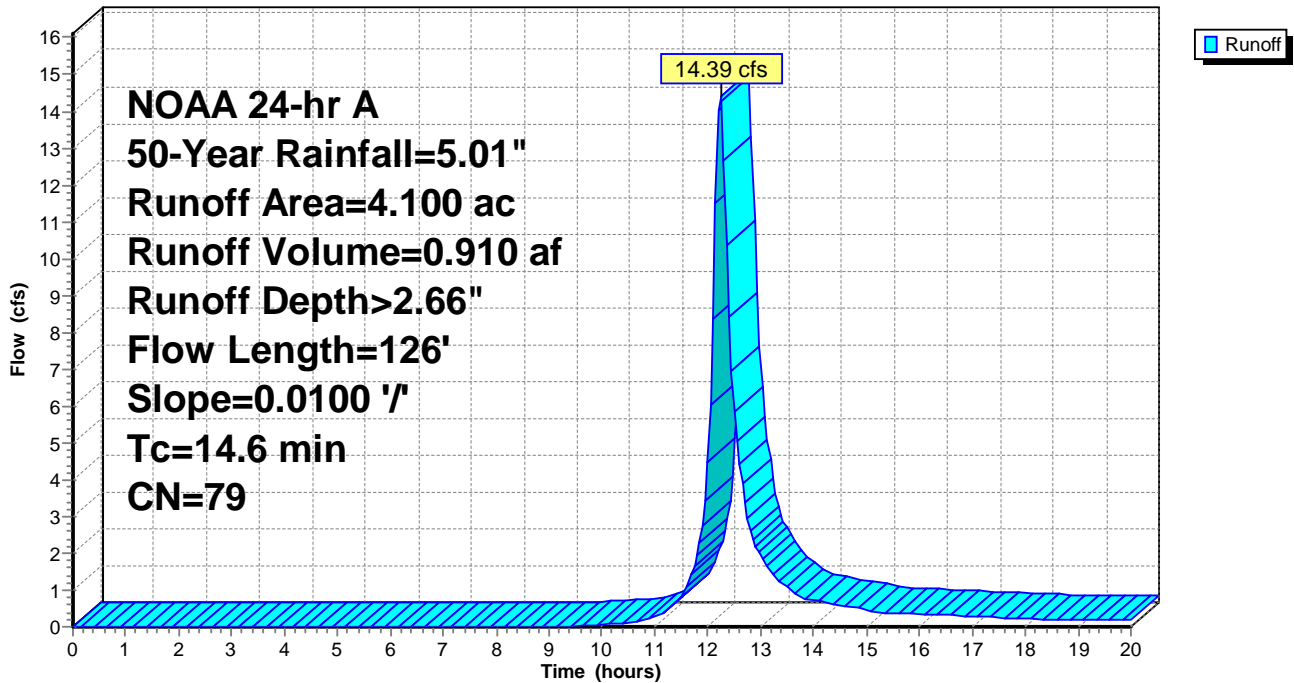
Area (ac)	CN	Description
4.100	79	50-75% Grass cover, Fair, HSG C
4.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	100	0.0100	0.12		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.60"
0.3	26	0.0100	1.50		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
14.6	126	Total			

**Subcatchment 5: OFFSITE A**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 41

## Summary for Subcatchment 23S: OFFSITE B2

Runoff = 11.51 cfs @ 12.17 hrs, Volume= 0.622 af, Depth> 2.67"

Routed to Pond 5P : WET BASIN E

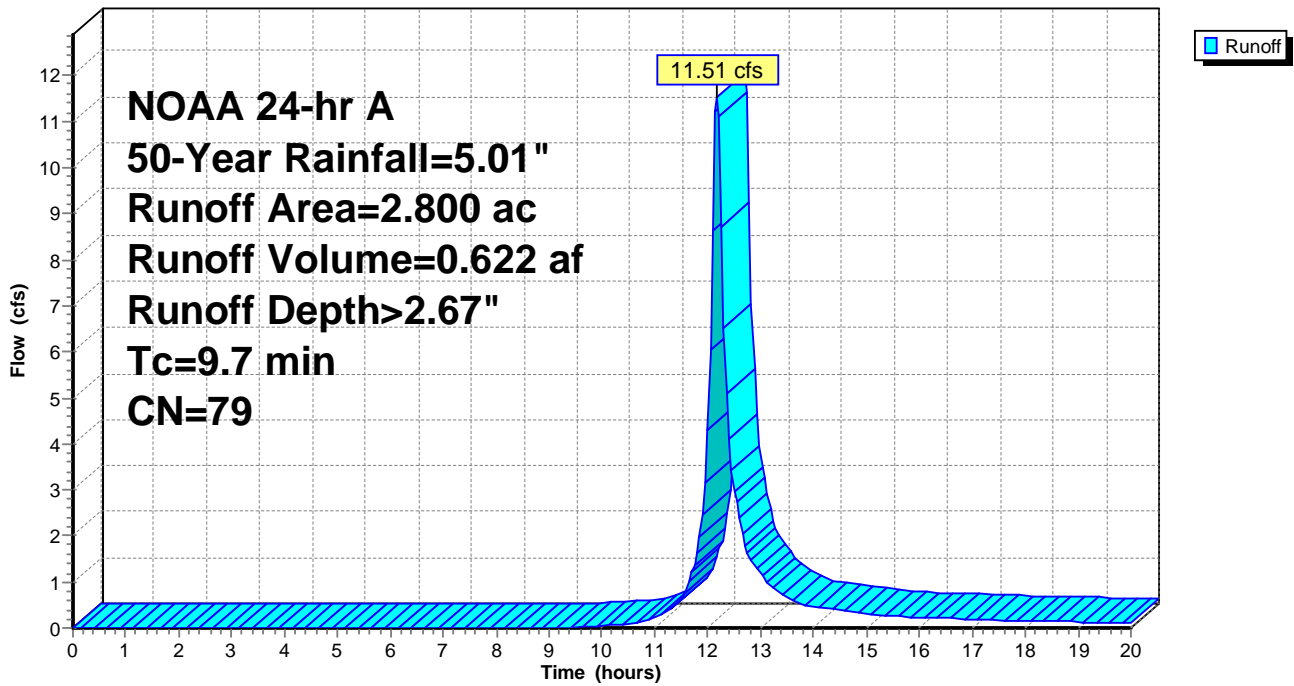
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

## Subcatchment 23S: OFFSITE B2

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 42

## Summary for Subcatchment 25S: OFFSITE B1

Runoff = 17.26 cfs @ 12.33 hrs, Volume= 1.351 af, Depth> 2.75"  
Routed to Pond 4P : DRY BASIN D

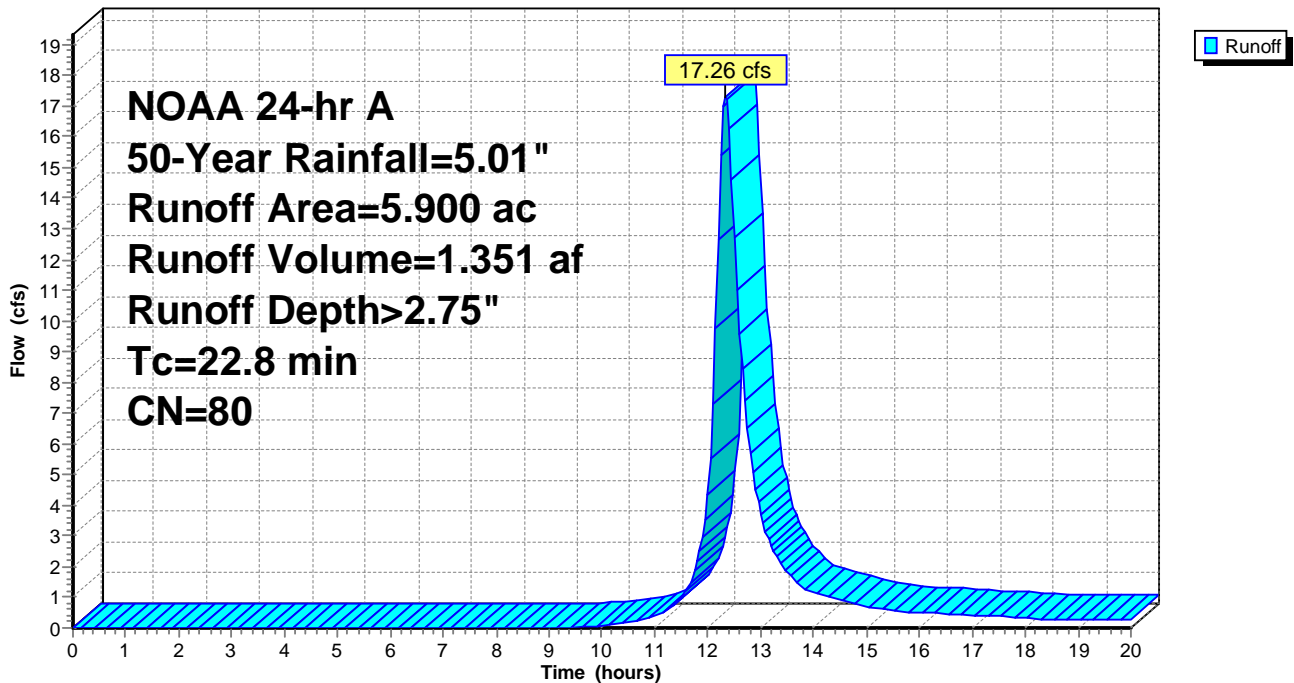
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

## Subcatchment 25S: OFFSITE B1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 43

**Summary for Subcatchment 1: Predeveloped Watershed A**

Runoff = 37.89 cfs @ 13.09 hrs, Volume= 6.376 af, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

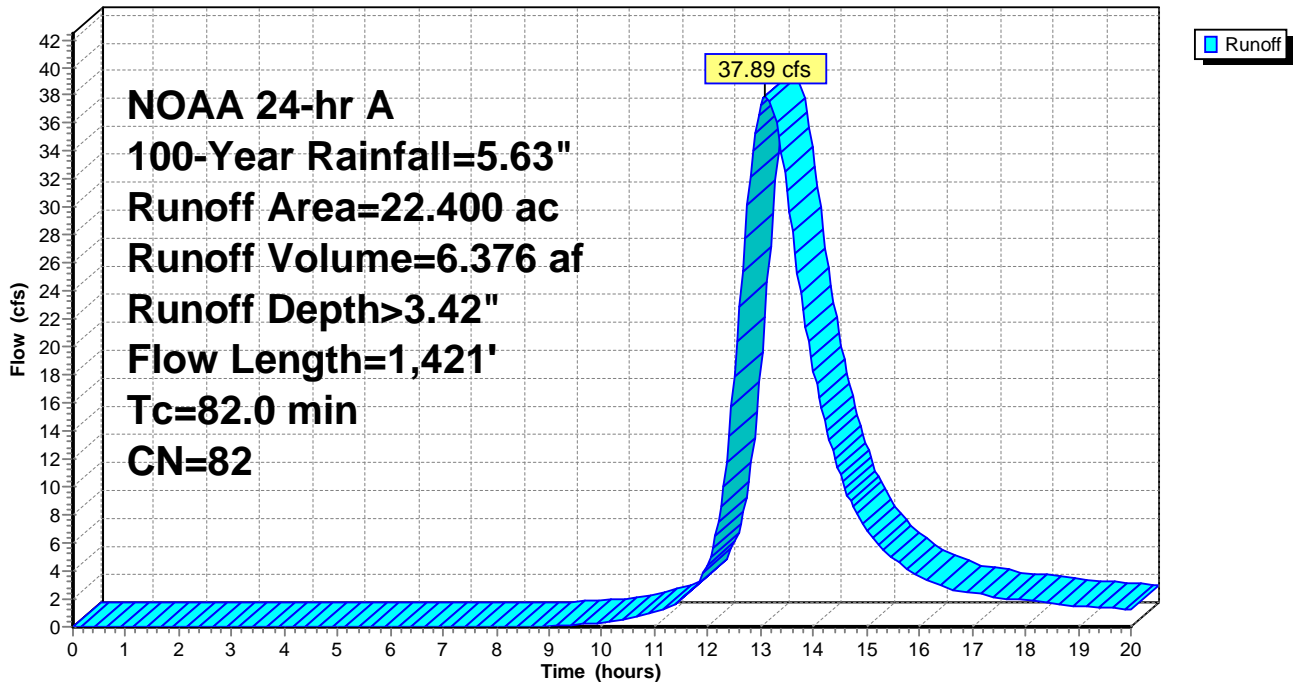
Area (ac)	CN	Description
22.400	82	Row crops, SR + CR, Good, HSG C
22.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	100	0.0065	0.20		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
73.8	1,321	0.0011	0.30		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
82.0	1,421	Total			

**Subcatchment 1: Predeveloped Watershed A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 44

**Summary for Subcatchment 2: Predeveloped Watershed B**

Runoff = 60.26 cfs @ 13.87 hrs, Volume= 14.100 af, Depth> 2.71"

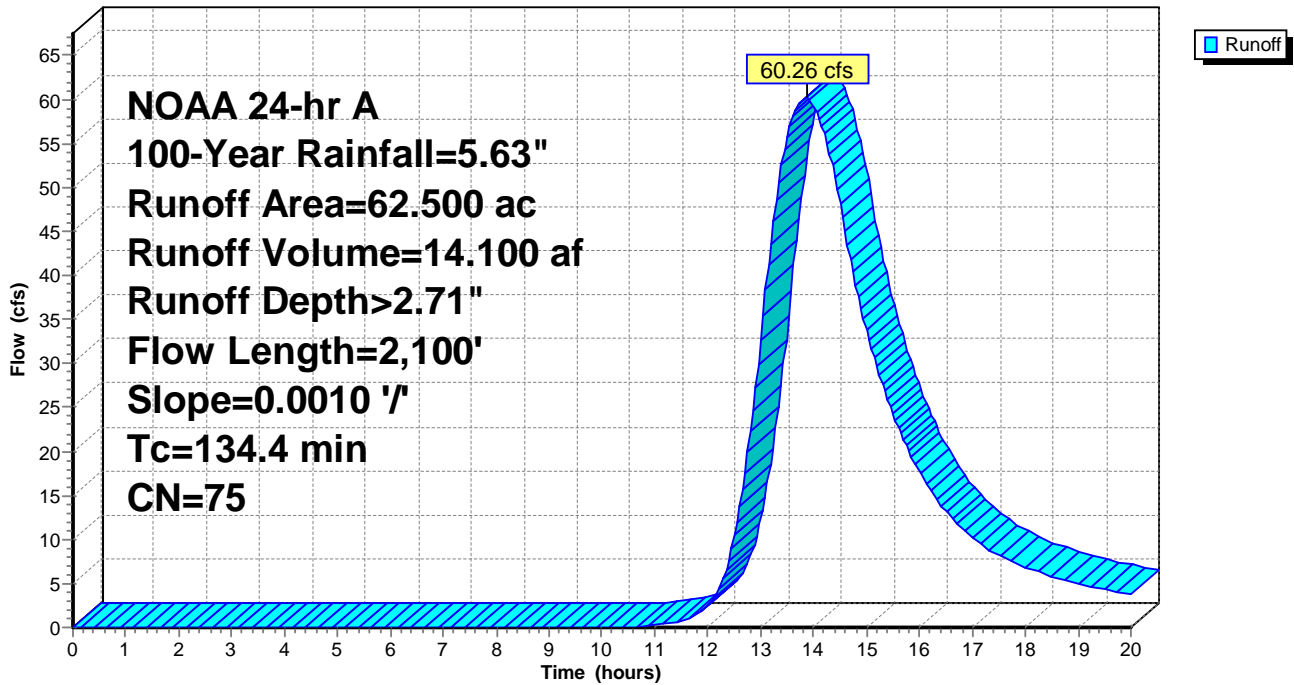
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
34.500	82	Row crops, SR + CR, Good, HSG C
12.400	70	Woods, Good, HSG C
15.600	65	Brush, Good, HSG C
62.500	75	Weighted Average
62.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	100	0.0010	0.10		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
117.1	2,000	0.0010	0.28		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
134.4	2,100	Total			

**Subcatchment 2: Predeveloped Watershed B**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 45

**Summary for Subcatchment 3: Predeveloped Watershed C**

Runoff = 45.31 cfs @ 12.79 hrs, Volume= 6.101 af, Depth> 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

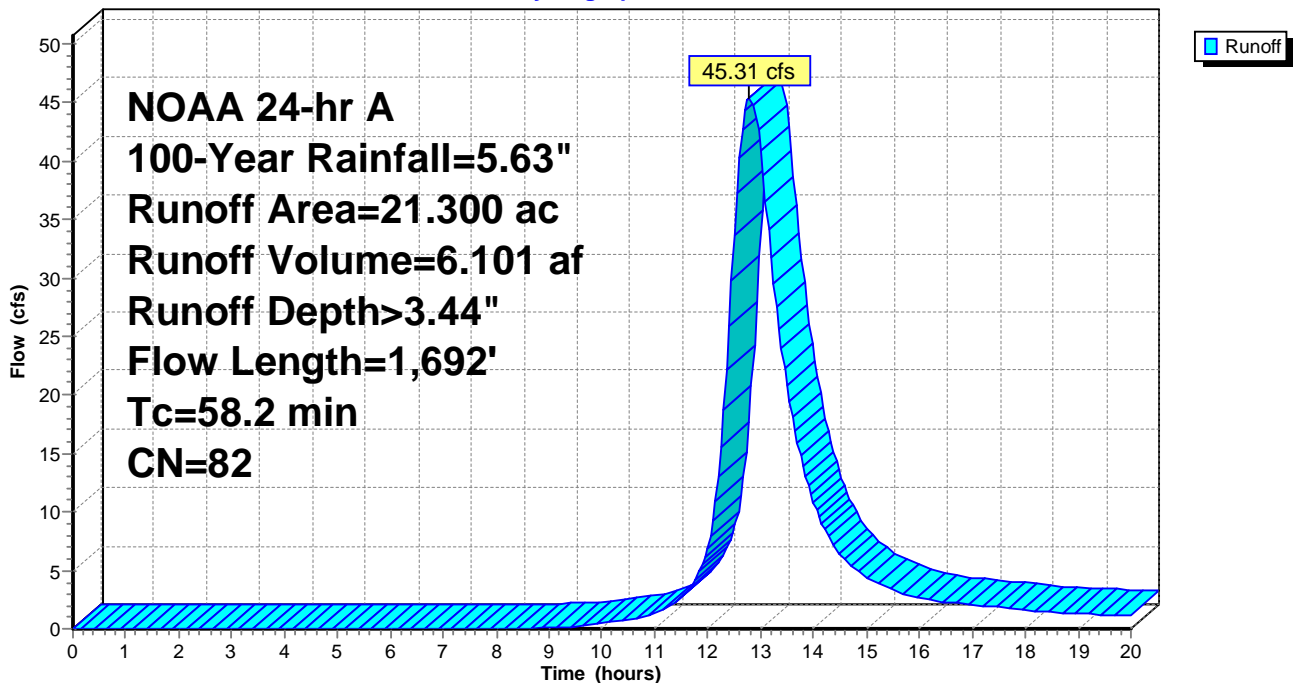
Area (ac)	CN	Description
21.300	82	Row crops, SR + CR, Good, HSG C
21.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
51.3	1,592	0.0033	0.52		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
58.2	1,692	Total			

**Subcatchment 3: Predeveloped Watershed C**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 46

**Summary for Subcatchment 4: Predeveloped Watershed D**

Runoff = 6.49 cfs @ 12.31 hrs, Volume= 0.491 af, Depth> 3.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

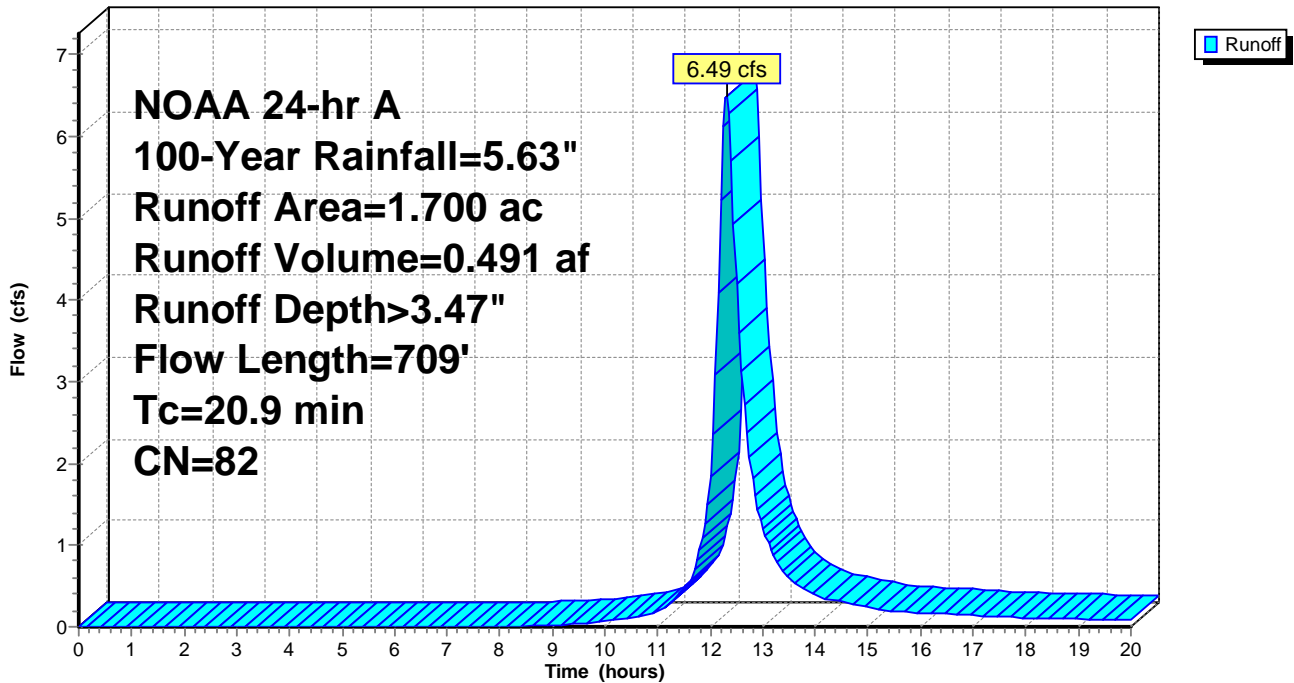
Area (ac)	CN	Description
1.700	82	Row crops, SR + CR, Good, HSG C
1.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0100	0.24		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.60"
14.0	609	0.0065	0.73		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
20.9	709	Total			

**Subcatchment 4: Predeveloped Watershed D**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 47

**Summary for Subcatchment 5: OFFSITE A**

Runoff = 17.12 cfs @ 12.23 hrs, Volume= 1.087 af, Depth> 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

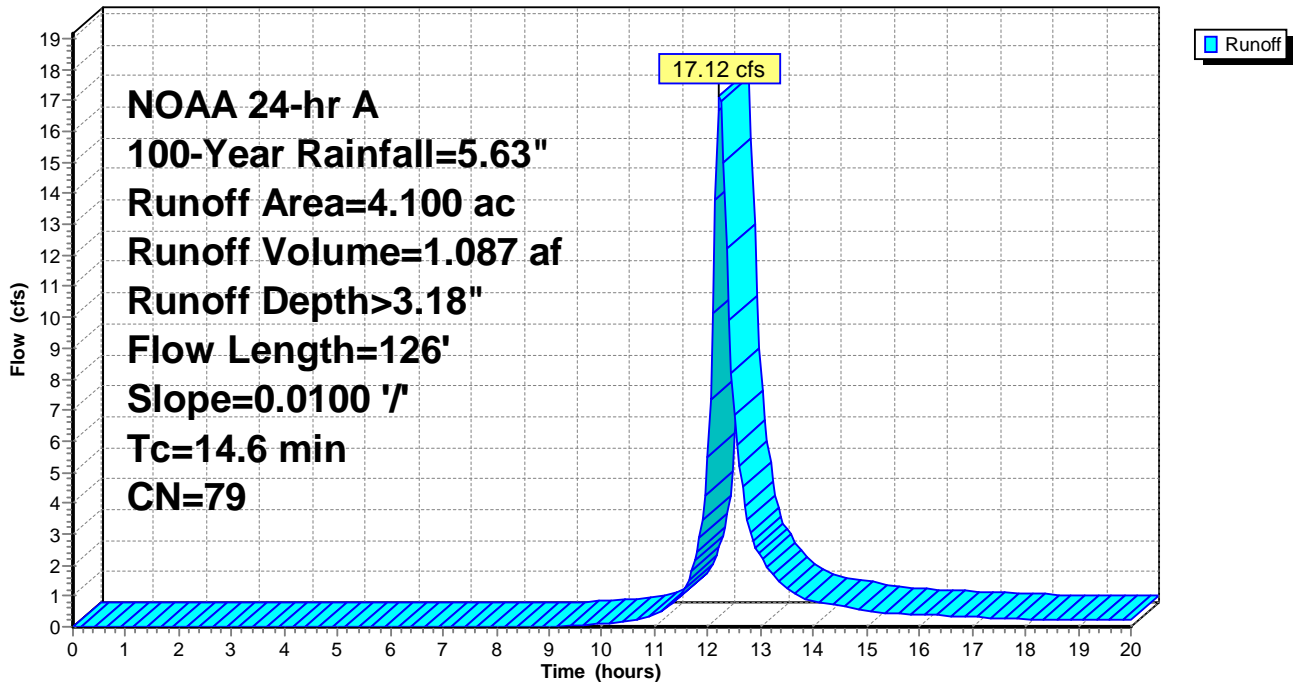
Area (ac)	CN	Description
4.100	79	50-75% Grass cover, Fair, HSG C
4.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	100	0.0100	0.12		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.60"
0.3	26	0.0100	1.50		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
14.6	126	Total			

**Subcatchment 5: OFFSITE A**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 48

## Summary for Subcatchment 23S: OFFSITE B2

Runoff = 13.68 cfs @ 12.17 hrs, Volume= 0.743 af, Depth> 3.19"

Routed to Pond 5P : WET BASIN E

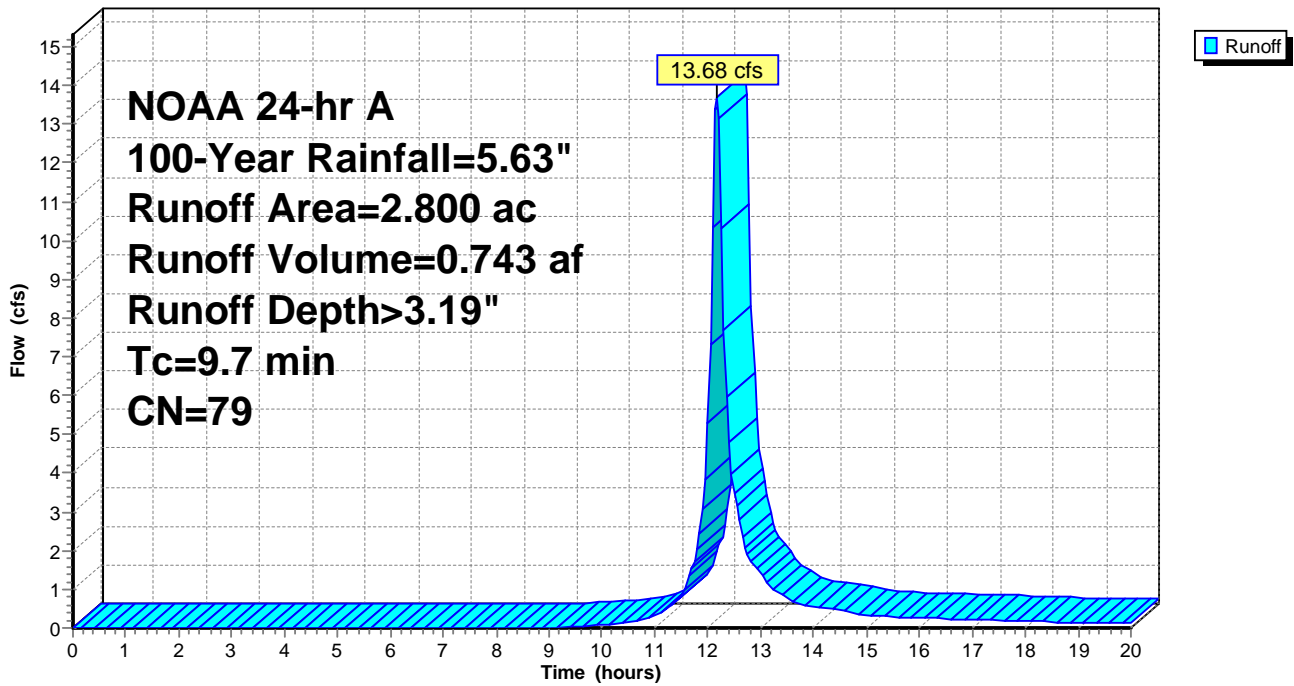
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

## Subcatchment 23S: OFFSITE B2

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 49

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 20.47 cfs @ 12.33 hrs, Volume= 1.608 af, Depth> 3.27"  
 Routed to Pond 4P : DRY BASIN D

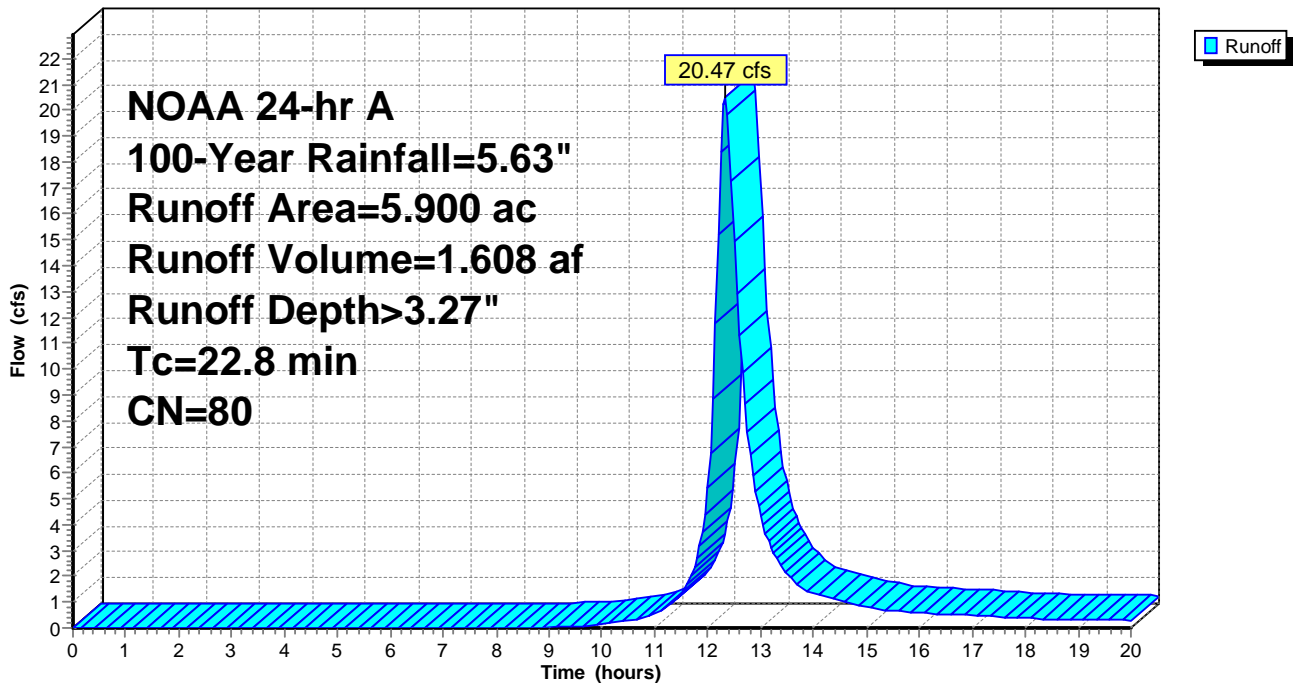
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph





# Exhibit 2 – Allowable Discharge Rate Summary



Critical Storm Determination  
 Amlin Crossing  
 Kimley-Horn Project #190016002

1-Year Pre-Developed Runoff Volume = 1.336 AC-FT  
 1-Year Post-Developed Runoff Volume = 2.658 AC-FT

Volume % Increase = 99.0%

Critical Storm = 10-Year
--------------------------

**Allowable Release Rate - Watershed A**

Storm Event (yr)	Pre-Developed Onsite Peak Flow Rates (CFS)	Allowable Release Rate (CFS)	Post-Developed Release Rates (CFS)	Basin A WSE
1	7.79	7.79	3.05	936.61
2	11.10	7.79	3.50	936.96
5	16.15	7.79	4.07	937.47
10	20.42	7.79	4.47	937.88
25	26.82	26.82	4.99	938.47
50	32.09	32.09	5.37	938.94
100	37.89	37.89	5.75	939.45

Critical Storm Determination  
 Amlin Crossing  
 Kimley-Horn Project #190016002

1-Year Pre-Developed Runoff Volume = 2.184 AC-FT  
 1-Year Post-Developed Runoff Volume = 3.999 AC-FT

Volume % Increase = 83.1%

Critical Storm = 10-Year
--------------------------

**Allowable Release Rate - Watershed B**

Storm Event (yr)	Pre-Developed Onsite Peak Flow Rates (CFS)	Allowable Release Rate (CFS)*	Post-Developed Release Rates (CFS)	Basin E WSE
1	13.09	1.00	1.00	935.40
2	19.19	1.70	1.20	935.85
5	28.67	2.60	1.49	936.56
10	36.77	3.40	3.13	937.01
25	49.00	4.80	4.74	937.63
50	59.13	6.00	5.71	938.18
100	70.37	7.30	7.11	938.69

\*See Pg. 3 of May, 2004 Addendum to Prelim Master Plan for release rates

Critical Storm Determination  
 Amlin Crossing  
 Kimley-Horn Project #190016002

1-Year Pre-Developed Runoff Volume = 1.28 Ac-Ft  
 1-Year Post-Developed Runoff Volume = 2.534 Ac-Ft

Volume % Increase = 97.8%

Critical Storm = 10-Year
--------------------------

**Allowable Release Rate - Watershed C**

Storm Event (yr)	Pre-Developed Onsite Peak Flow Rates (cfs)	Total Allowable Release Rates (cfs)*	Post-Developed Release Rates (CFS)	Basin F WSE
1	11.54	N/A	0.43	936.77
2	15.84	N/A	1.09	937.00
5	22.26	2.69	2.30	937.24
10	27.59	N/A	3.04	937.42
25	35.47	N/A	4.83	937.63
50	41.87	N/A	6.89	937.73
100	48.95	13.45	10.80	937.89

See Pg. 9 of Jan. 2004 Prelim Master Plan for release rates



## Exhibit 3 – Water Quality Calculations





# Project and Watershed Information; WQv Calculation

version 3.1 2018-10-25

## Project Details

Project Name:	Amlin Property
Project Location:	Dublin
Project Latitude:	
Project Longitude:	
NPDES Permit Applicant:	Schottenstein
Submitted by:	Brian Prenger
Date:	6/5/2023

## Subwatershed Details

Subwatershed ID/Label:	BASIN A		
Subwatershed Drainage Area, $A_{total}$ =	24.60 acres	=	1,071,576 ft <sup>2</sup>
Subwatershed Impervious Area, $A_{imp}$ =	15.99 acres	=	696,524 ft <sup>2</sup>
Imperviousness fraction, $i$ =	0.65	=	65%
Volumetric Runoff Coefficient, $R_v$ =	0.64		
Water Quality Volume, $WQ_v$ =	51,034		ft <sup>3</sup>



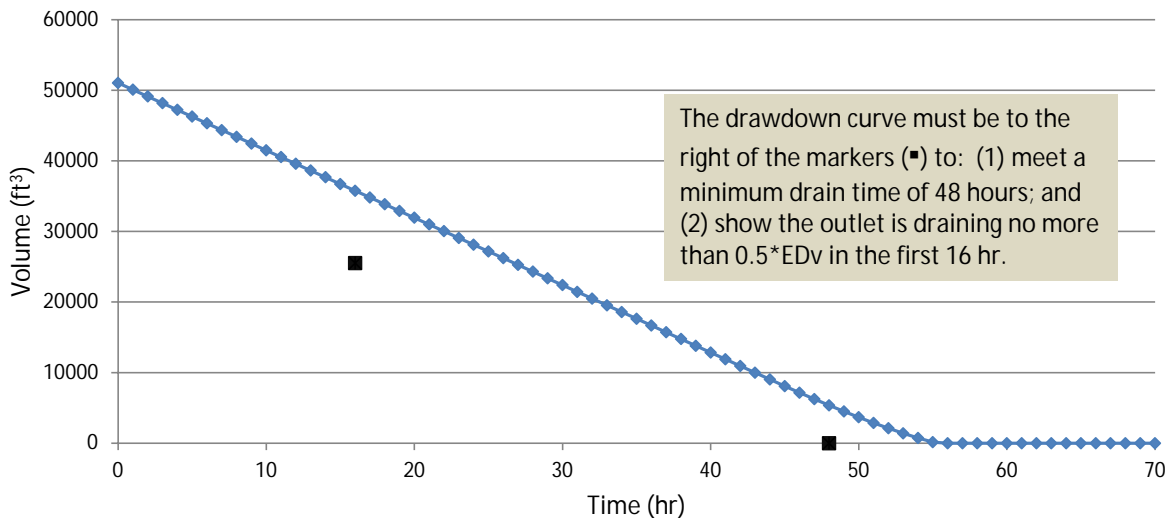
### Step 4 - Outlet Elevations and Storage Volumes

WQ Orifice Invert Elevation =	934.70	
Elevation of Top of EDv =	936.11	
Secondary Outlet Invert Elevation =		
WQ Treatment Volume Provided, $V_{treatment}$ =		ft <sup>3</sup>
Treatment Vol Provided Relative to EDv, $V_{treatment}/EDv$ =		=
Permanent Pool Volume Provided, PPv =	0	ft <sup>3</sup>
Forebay Volume Provided, $V_{forebay}$ =	15,000	ft <sup>3</sup>
Is forebay volume below WQ outlet? (Yes or No)	No	= 294% OKAY
Permanent Micropool Volume Provided, $V_{micropool}$ =	0	ft <sup>3</sup>
Ratio $V_{micropool}$ Provided to $V_{micropool}$ Required =	0.00	= 0% NOT MET
Sediment Storage Volume Provided, $V_{sediment}$ =	15,000	ft <sup>3</sup>
Ratio $V_{sediment}$ Provided to $V_{sediment}$ Required =	1.47	= 147% OKAY

### Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, $H_{max}$ =	1.41	ft	
Orifice Coefficient, $C$ =	0.6		
Target (Minimum) Draw-down Time, $T_d$ =	48	hr	
Target Average Discharge, $Q_{avg}$ =	0.30	cfs	
Average Hydraulic Head, $H_{avg}$ =	0.70	ft	
Estimated Orifice Area, $A_{orifice}$ =	10.52	in <sup>2</sup>	= 0.073 ft <sup>2</sup>
Estimated Orifice Diameter, $D_{orifice}$ =	3.66	in	= 0.30 ft
Design Orifice Diameter, $D_{orifice}$ =	3.00	in	= 0.25 ft
Design Orifice Area, $A_{orifice}$ =	7.02	in <sup>2</sup>	= 0.049 ft <sup>2</sup>
Time to Completely Drain EDv, $T_d$ =	56	hr	must be $\geq$ 48 hr OKAY
Volume Drained in First 16 hr =	15,274	ft <sup>3</sup>	
% of EDv =	29.9	%	must be $\leq$ 50% OKAY

### Dry Basin - EDv Drawdown vs Time



## Project and Watershed Information; WQv Calculation

version 3.1 2018-10-25

### Project Details

Project Name:	Amlin Property
Project Location:	Dublin
Project Latitude:	
Project Longitude:	
NPDES Permit Applicant:	Schottenstein
Submitted by:	Brian Prenger
Date:	6/5/2023

### Subwatershed Details

Subwatershed ID/Label:	BASIN E		
Subwatershed Drainage Area, $A_{total}$ =	63.00 acres	=	2,744,280 ft <sup>2</sup>
Subwatershed Impervious Area, $A_{imp}$ =	40.95 acres	=	1,783,782 ft <sup>2</sup>
Imperviousness fraction, $i$ =	0.65	=	65%
Volumetric Runoff Coefficient, $R_v$ =	0.64		
Water Quality Volume, $WQ_v$ =	130,696		ft <sup>3</sup>



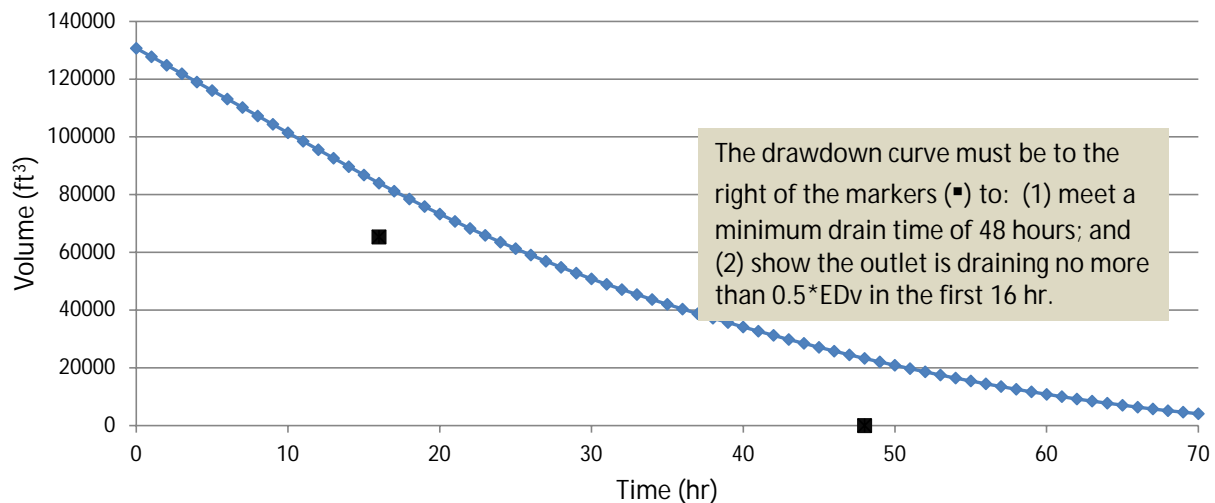
### Step 4 - Outlet Elevations and Storage Volumes

WQ Orifice Invert Elevation =	934.00	
Elevation of Top of EDv =	935.01	
Secondary Outlet Invert Elevation =		
WQ Treatment Volume Provided, $V_{\text{treatment}}$ =		ft <sup>3</sup>
Treatment Vol Provided Relative to EDv, $V_{\text{treatment}}/\text{EDv}$ =		=
Permanent Pool Volume Provided, PPv =	0	ft <sup>3</sup>
Forebay Volume Provided, $V_{\text{forebay}}$ =		ft <sup>3</sup>
Is forebay volume below WQ outlet? (Yes or No)		
Permanent Micropool Volume Provided, $V_{\text{micropool}}$ =	0	ft <sup>3</sup>
Ratio $V_{\text{micropool}}$ Provided to $V_{\text{micropool}}$ Required =	0.00	= 0% NOT MET
Sediment Storage Volume Provided, $V_{\text{sediment}}$ =		ft <sup>3</sup>
Ratio $V_{\text{sediment}}$ Provided to $V_{\text{sediment}}$ Required =		=

### Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, $H_{\text{max}}$ =	1.01	ft	
Orifice Coefficient, $C$ =	0.6		
Target (Minimum) Draw-down Time, $T_d$ =	48	hr	
Target Average Discharge, $Q_{\text{avg}}$ =	0.76	cfs	
Average Hydraulic Head, $H_{\text{avg}}$ =	0.50	ft	
Estimated Orifice Area, $A_{\text{orifice}}$ =	31.83	in <sup>2</sup>	= 0.221 ft <sup>2</sup>
Estimated Orifice Diameter, $D_{\text{orifice}}$ =	6.37	in	= 0.53 ft
Design Orifice Diameter, $D_{\text{orifice}}$ =	6.00	in	= 0.50 ft
Design Orifice Area, $A_{\text{orifice}}$ =	28.09	in <sup>2</sup>	= 0.195 ft <sup>2</sup>
Time to Completely Drain EDv, $T_d$ =	>72	hr	must be $\geq$ 48 hr OKAY
Volume Drained in First 16 hr =	46,720	ft <sup>3</sup>	
% of EDv =	35.7	%	must be $\leq$ 50% OKAY

Dry Basin - EDv Drawdown vs Time



# Project and Watershed Information; WQv Calculation

version 3.1 2018-10-25

## Project Details

Project Name:	Amlin Property
Project Location:	Dublin
Project Latitude:	
Project Longitude:	
NPDES Permit Applicant:	Schottenstein
Submitted by:	Brian Prenger
Date:	6/5/2023

## Subwatershed Details

Subwatershed ID/Label:	BASIN F		
Subwatershed Drainage Area, $A_{total}$ =	26.11 acres	=	1,137,352 ft <sup>2</sup>
Subwatershed Impervious Area, $A_{imp}$ =	16.97 acres	=	739,279 ft <sup>2</sup>
Imperviousness fraction, $i$ =	0.65	=	65%
Volumetric Runoff Coefficient, $R_v$ =	0.64		
Water Quality Volume, $WQ_v$ =	54,166		ft <sup>3</sup>





### Step 4 - Outlet Elevations and Storage Volumes

WQ Orifice Invert Elevation =	935.00	
Elevation of Top of EDv =	936.01	
Secondary Outlet Invert Elevation =		
WQ Treatment Volume Provided, $V_{\text{treatment}}$ =		ft <sup>3</sup>
Treatment Vol Provided Relative to EDv, $V_{\text{treatment}}/\text{EDv}$ =		=
Permanent Pool Volume Provided, PPv =	0	ft <sup>3</sup>
Forebay Volume Provided, $V_{\text{forebay}}$ =	12,000	ft <sup>3</sup>
Is forebay volume below WQ outlet? (Yes or No)	No	
Permanent Micropool Volume Provided, $V_{\text{micropool}}$ =	0	ft <sup>3</sup>
Ratio $V_{\text{micropool}}$ Provided to $V_{\text{micropool}}$ Required =	0.00	= 0% NOT MET
Sediment Storage Volume Provided, $V_{\text{sediment}}$ =	12,000	ft <sup>3</sup>
Ratio $V_{\text{sediment}}$ Provided to $V_{\text{sediment}}$ Required =	1.11	= 111% OKAY

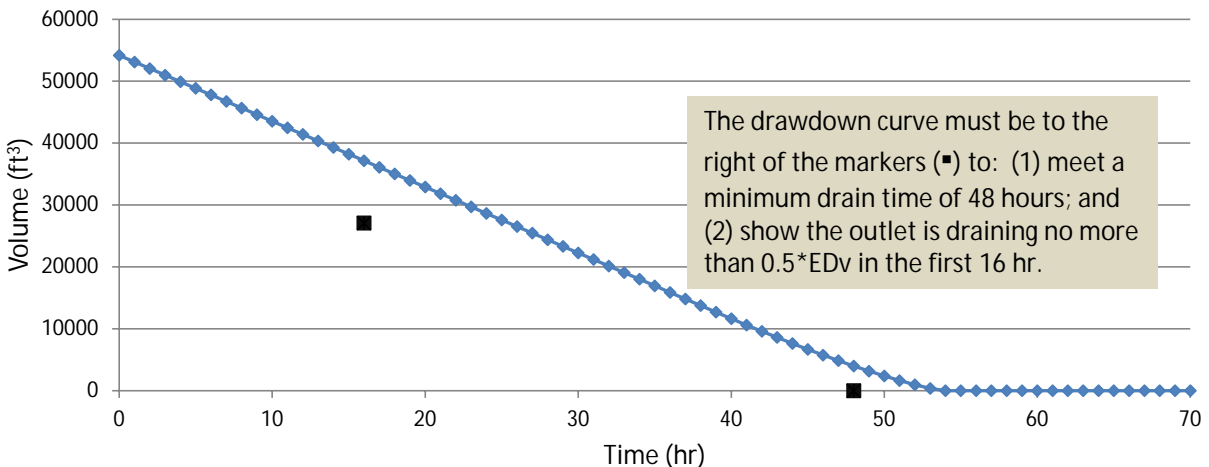
### Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, $H_{\text{max}}$ =	1.01	ft
Orifice Coefficient, $C$ =	0.6	
Target (Minimum) Draw-down Time, $T_d$ =	48	hr
Target Average Discharge, $Q_{\text{avg}}$ =	0.31	cfs
Average Hydraulic Head, $H_{\text{avg}}$ =	0.50	ft
Estimated Orifice Area, $A_{\text{orifice}}$ =	13.19	in <sup>2</sup>
Estimated Orifice Diameter, $D_{\text{orifice}}$ =	4.10	in
Design Orifice Diameter, $D_{\text{orifice}}$ =	3.50	in
Design Orifice Area, $A_{\text{orifice}}$ =	9.56	in <sup>2</sup>
Time to Completely Drain EDv, $T_d$ =	54	hr
Volume Drained in First 16 hr =	17,016	ft <sup>3</sup>
% of EDv =	31.4	%

=	0.092	ft <sup>2</sup>
=	0.34	ft
=	0.29	ft
=	0.066	ft <sup>2</sup>
must be $\geq$ 48 hr		OKAY
must be $\leq$ 50%		OKAY

### Dry Basin - EDv Drawdown vs Time





## Exhibit 4 – Post-Developed Watershed Characteristics



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 1

**Summary for Subcatchment 18S: POST A1**

Runoff = 9.57 cfs @ 12.29 hrs, Volume= 0.714 af, Depth> 1.43"  
 Routed to Pond 1P : DRY BASIN A

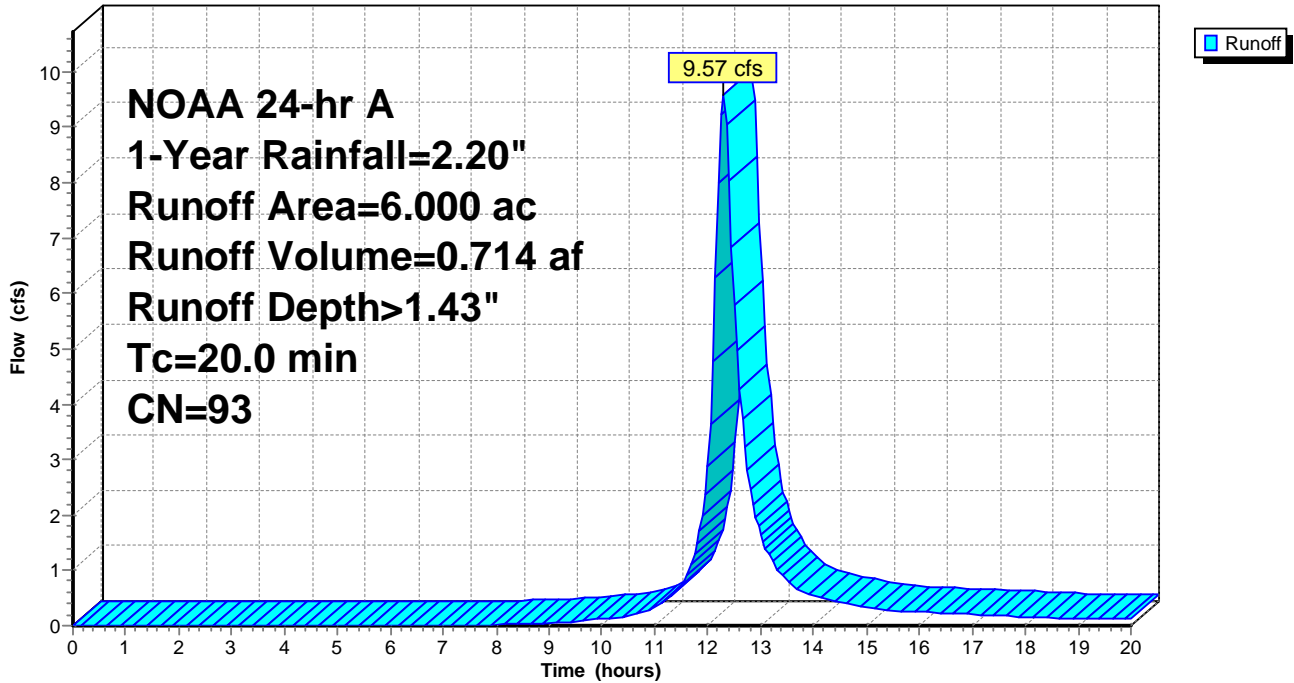
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
0.800	98	Water Surface, HSG D
5.200	92	1/8 acre lots, 65% imp, HSG D
6.000	93	Weighted Average
1.820		30.33% Pervious Area
4.180		69.67% Impervious Area

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

**Subcatchment 18S: POST A1**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 2

## Summary for Subcatchment 19S: POST A2

Runoff = 23.13 cfs @ 12.29 hrs, Volume= 1.725 af, Depth> 1.43"  
Routed to Pond 2P : DRY BASIN B

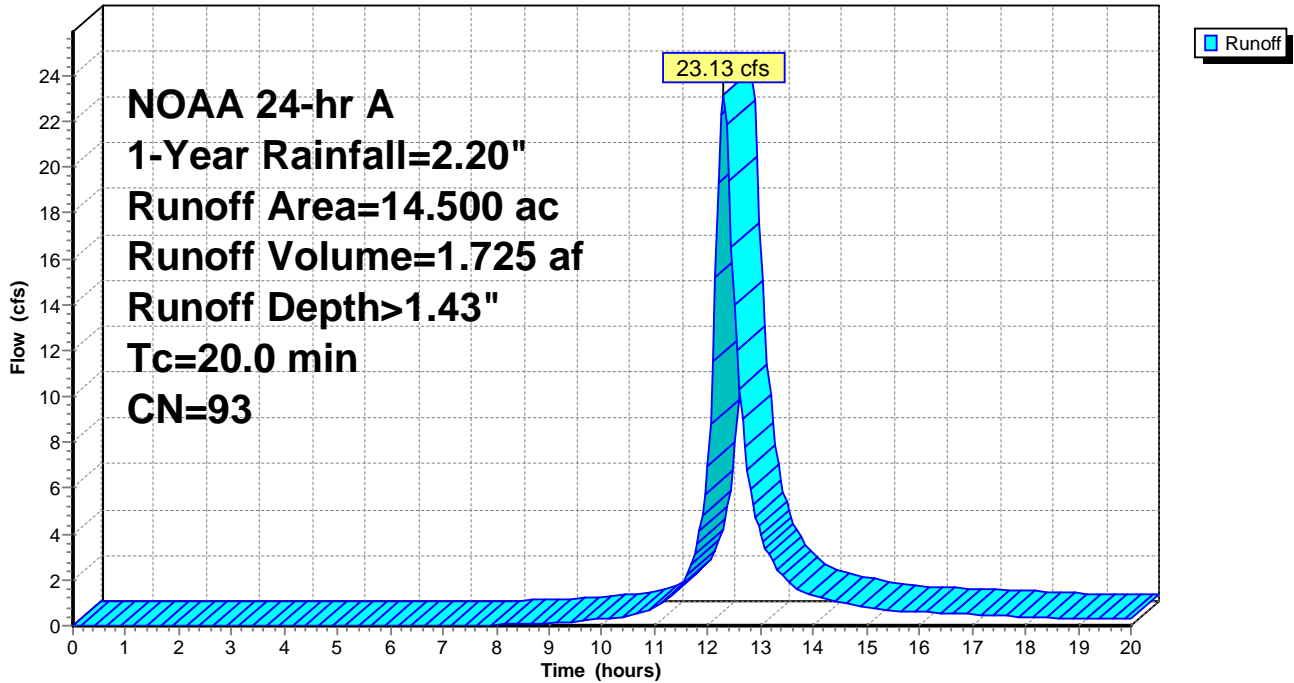
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
1.400	98	Water Surface, HSG D
13.100	92	1/8 acre lots, 65% imp, HSG D
14.500	93	Weighted Average
4.585		31.62% Pervious Area
9.915		68.38% Impervious Area

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

## Subcatchment 19S: POST A2

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 3

**Summary for Subcatchment 20S: OFFSITE A**

Runoff = 3.38 cfs @ 12.25 hrs, Volume= 0.219 af, Depth> 0.64"

Routed to Pond 1P : DRY BASIN A

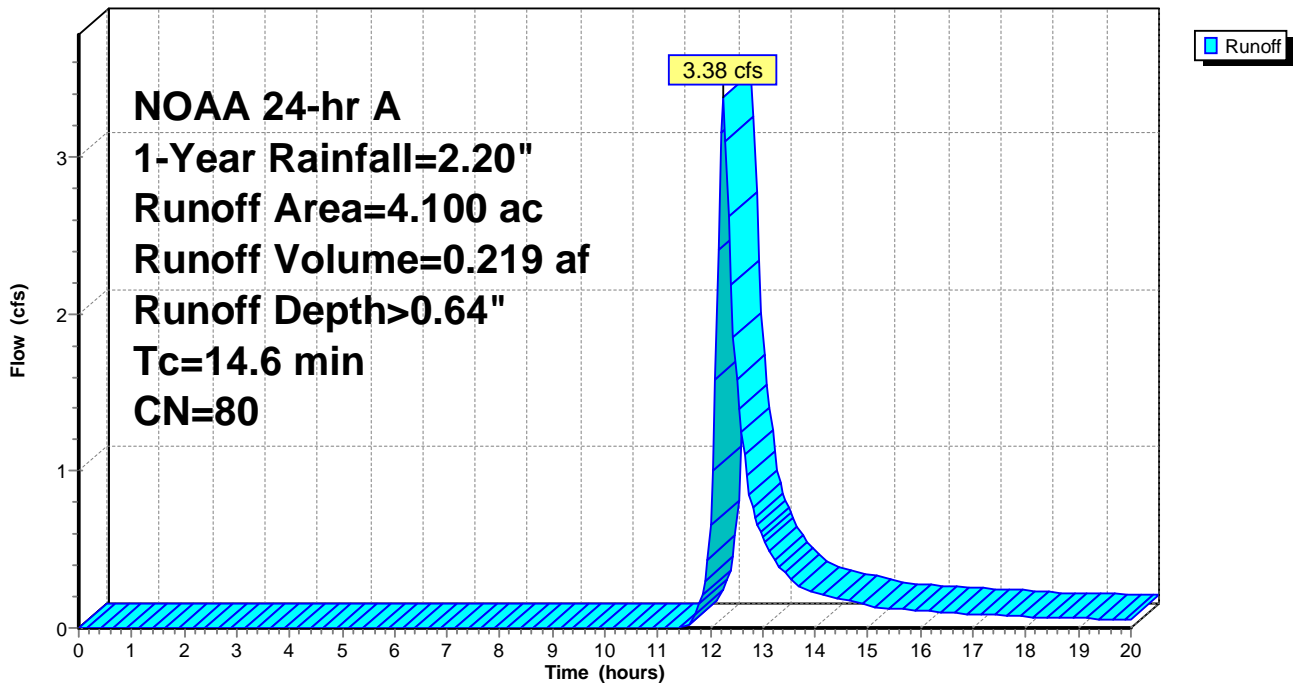
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
4.100	80	>75% Grass cover, Good, HSG D
4.100		100.00% Pervious Area

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

**Subcatchment 20S: OFFSITE A**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 4

## Summary for Subcatchment 21S: POST B1

Runoff = 10.47 cfs @ 12.30 hrs, Volume= 0.775 af, Depth> 1.35"  
Routed to Pond 3P : DRY BASIN C

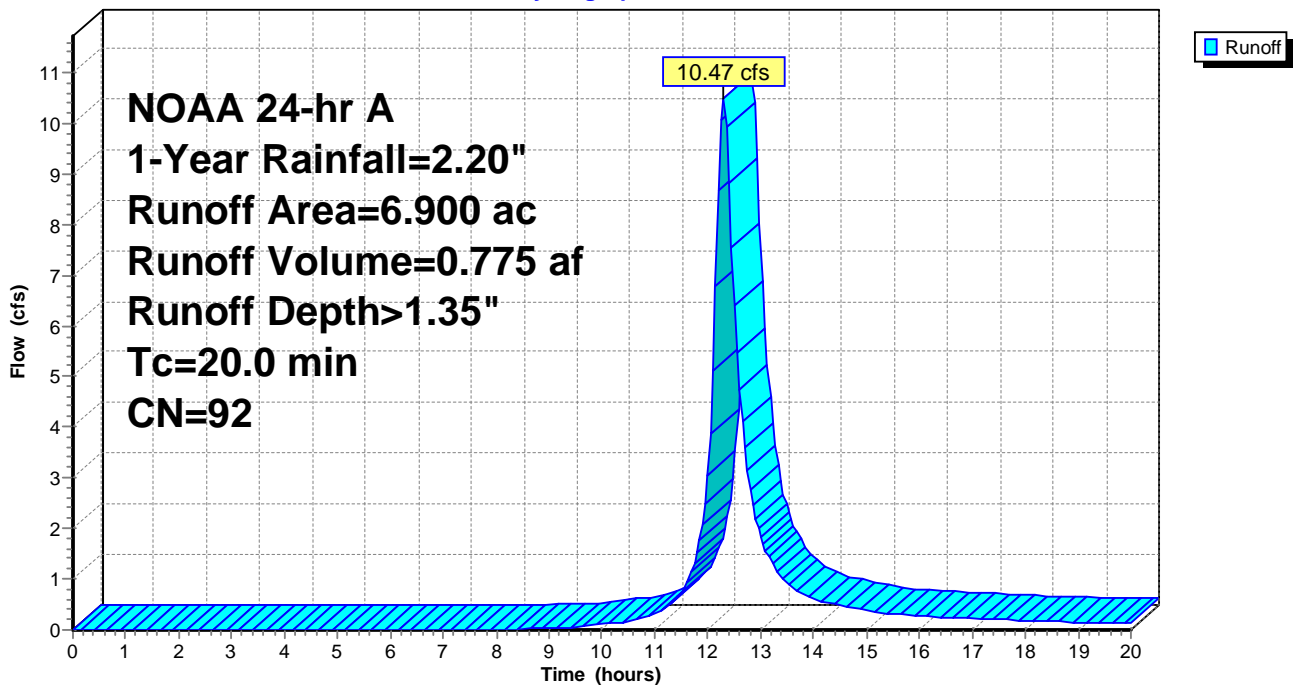
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
6.900	92	1/8 acre lots, 65% imp, HSG D
2.415		35.00% Pervious Area
4.485		65.00% Impervious Area

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

## Subcatchment 21S: POST B1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 5

**Summary for Subcatchment 22S: POST B2**

Runoff = 7.79 cfs @ 12.82 hrs, Volume= 1.050 af, Depth> 0.59"  
 Routed to Pond 5P : WET BASIN E

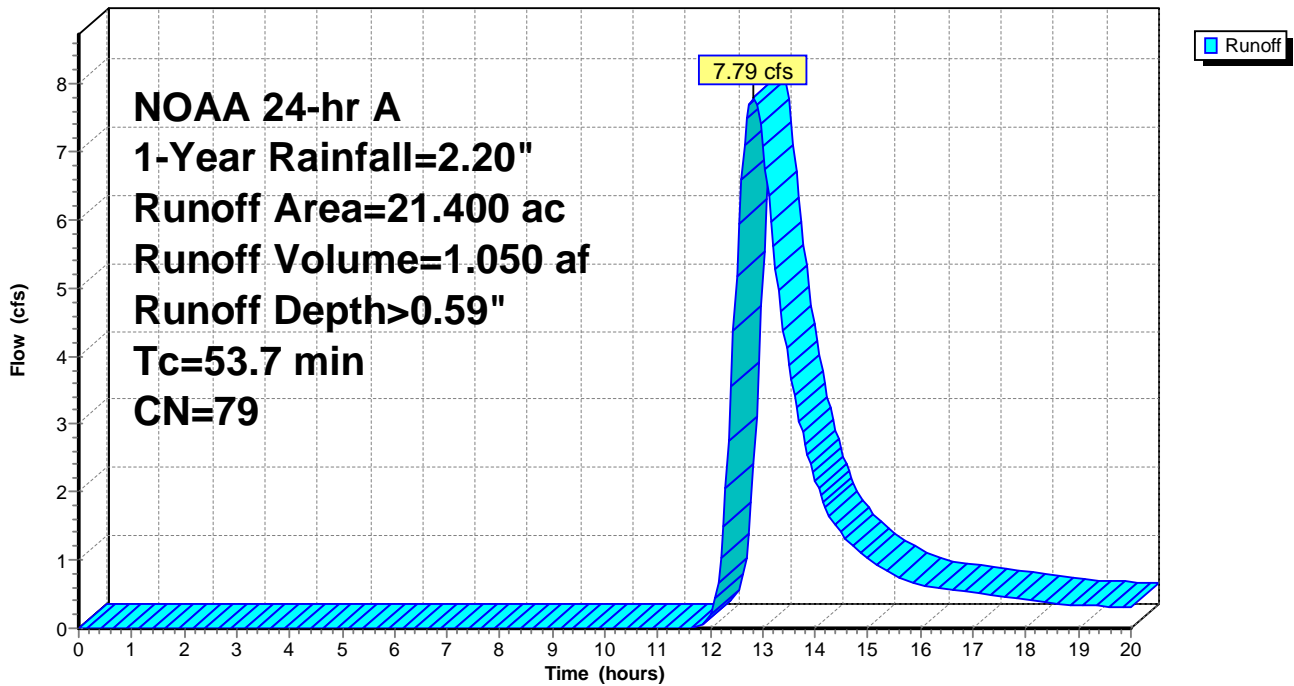
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
8.100	80	>75% Grass cover, Good, HSG D
13.300	79	Woods, Fair, HSG D
21.400	79	Weighted Average
21.400		100.00% Pervious Area

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

**Subcatchment 22S: POST B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 6

**Summary for Subcatchment 23S: POST B3**

Runoff = 6.88 cfs @ 12.72 hrs, Volume= 0.880 af, Depth> 1.34"  
 Routed to Pond 4P : DRY BASIN D

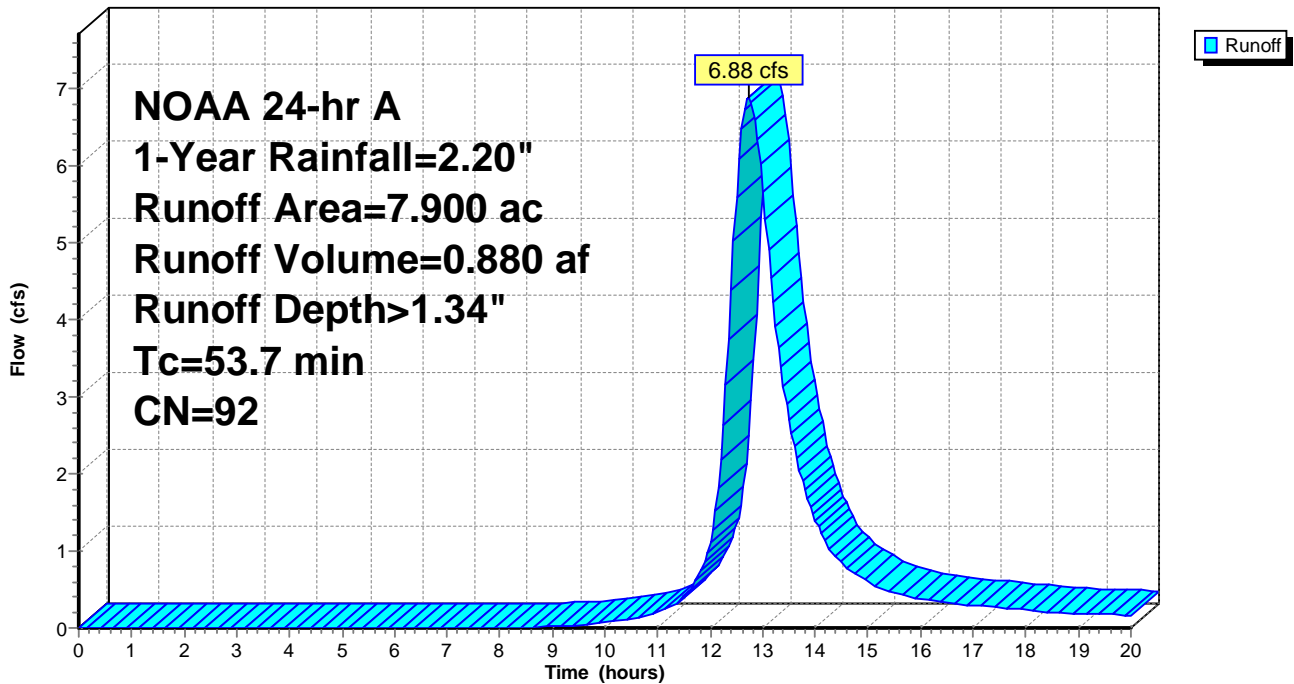
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
2.700	80	>75% Grass cover, Good, HSG D
2.900	98	Water Surface, HSG D
2.300	98	Paved roads w/curbs & sewers, HSG D
7.900	92	Weighted Average
2.700		34.18% Pervious Area
5.200		65.82% Impervious Area

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

**Subcatchment 23S: POST B3**

Hydrograph





# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 7

## Summary for Subcatchment 24S: POST B4

Runoff = 22.25 cfs @ 12.42 hrs, Volume= 2.028 af, Depth> 1.34"  
 Routed to Pond 5P : WET BASIN E

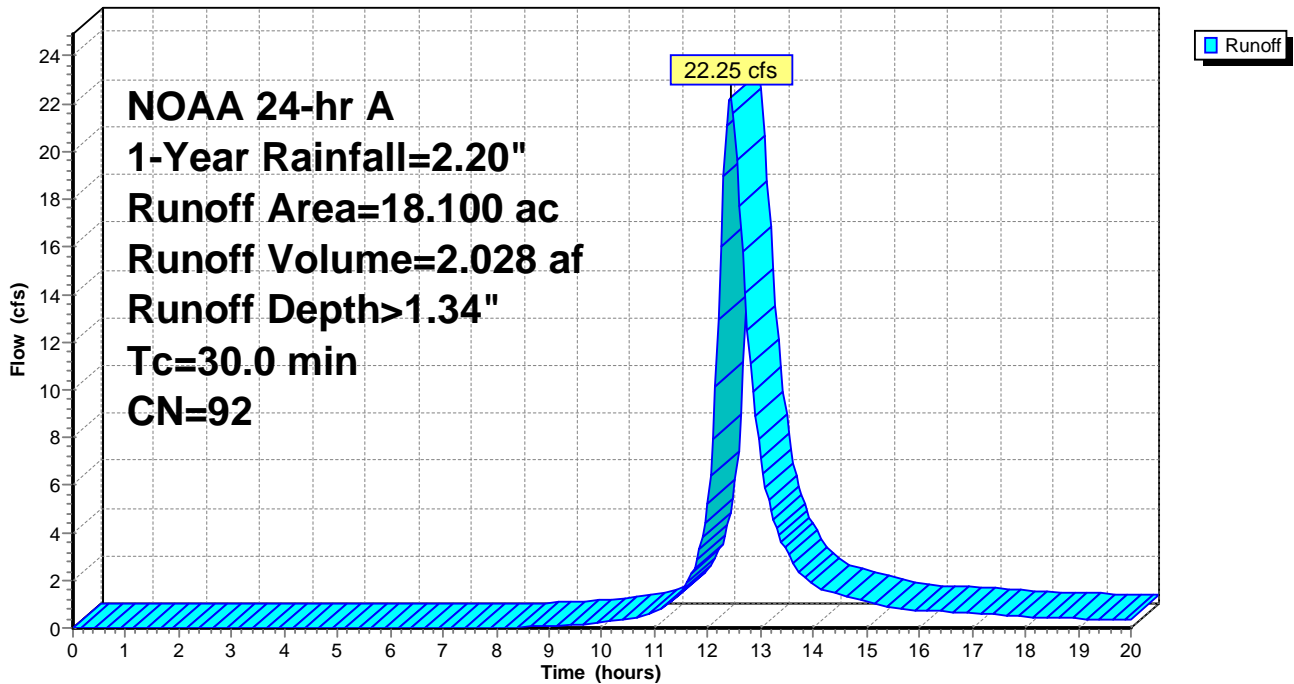
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
13.000	92	1/8 acre lots, 65% imp, HSG D
1.600	80	>75% Grass cover, Good, HSG D
3.500	98	Water Surface, HSG D
18.100	92	Weighted Average
6.150		33.98% Pervious Area
11.950		66.02% Impervious Area

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

## Subcatchment 24S: POST B4

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 8

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 3.87 cfs @ 12.36 hrs, Volume= 0.314 af, Depth> 0.64"  
 Routed to Pond 4P : DRY BASIN D

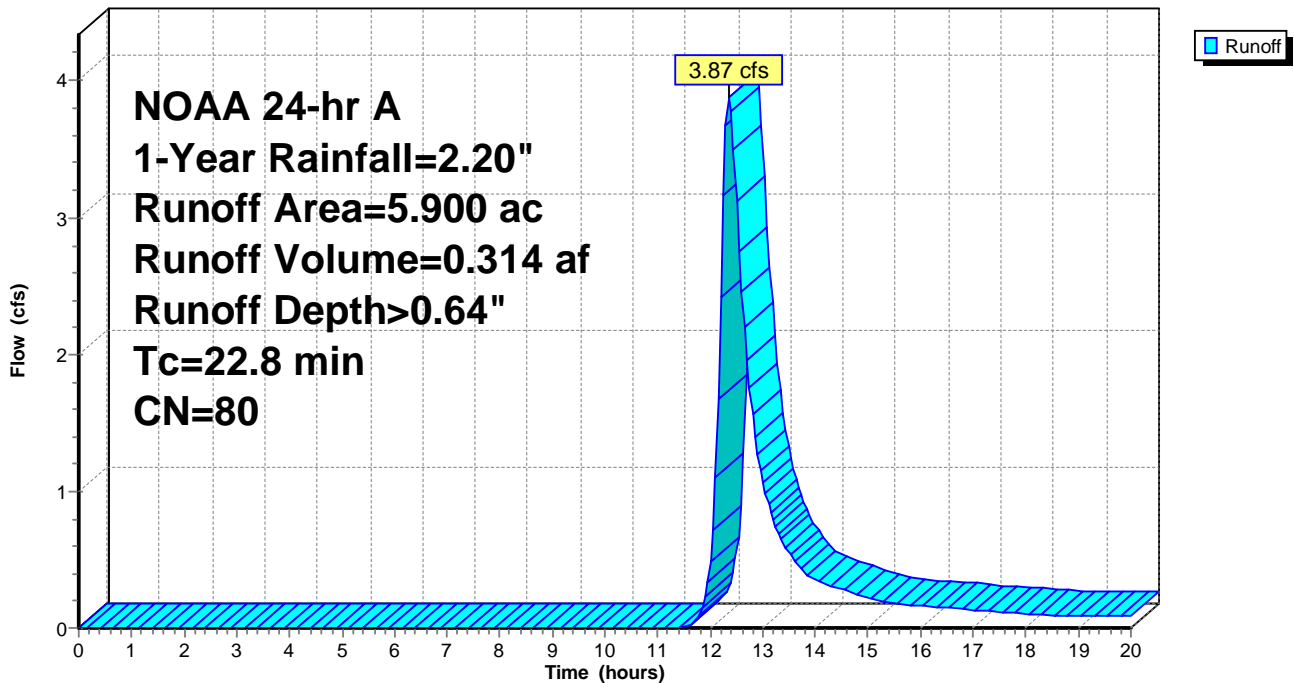
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 9

**Summary for Subcatchment 26S: OFFSITE B2**

Runoff = 2.52 cfs @ 12.19 hrs, Volume= 0.140 af, Depth> 0.60"

Routed to Pond 5P : WET BASIN E

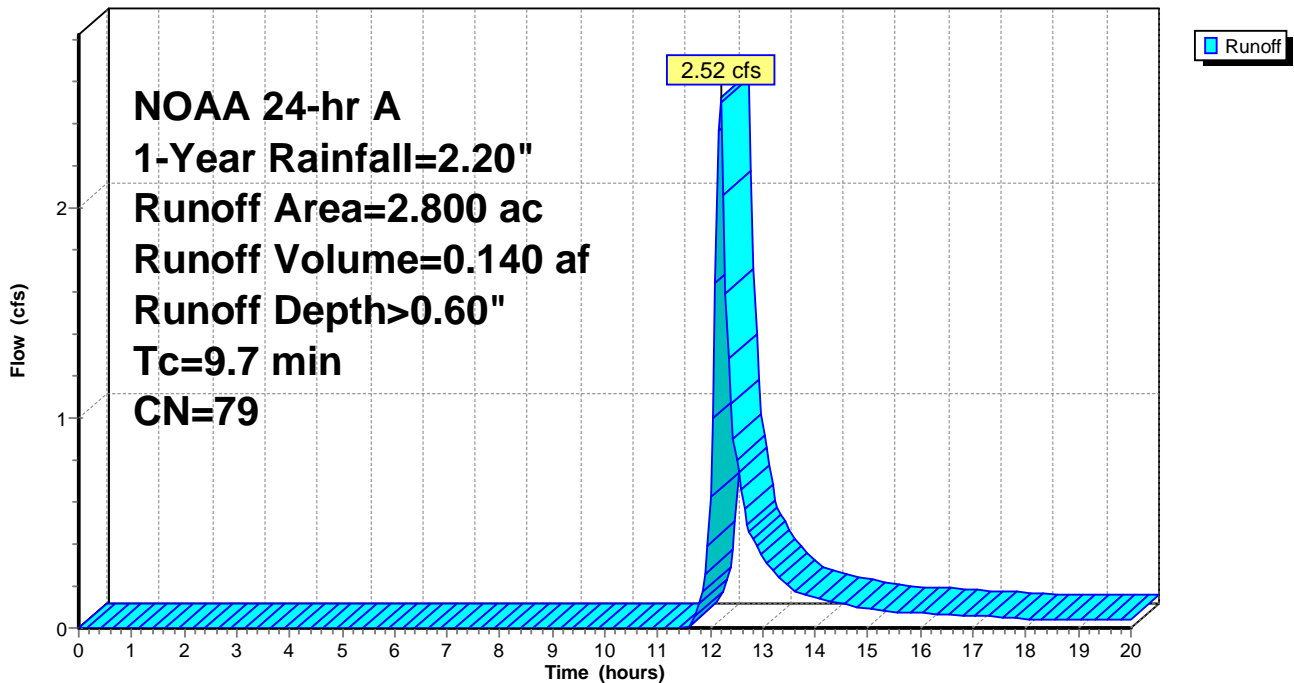
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 26S: OFFSITE B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 10

**Summary for Subcatchment 27S: POST C1**

Runoff = 16.99 cfs @ 12.29 hrs, Volume= 1.280 af, Depth> 1.51"  
 Routed to Pond 6P : DRY BASIN F

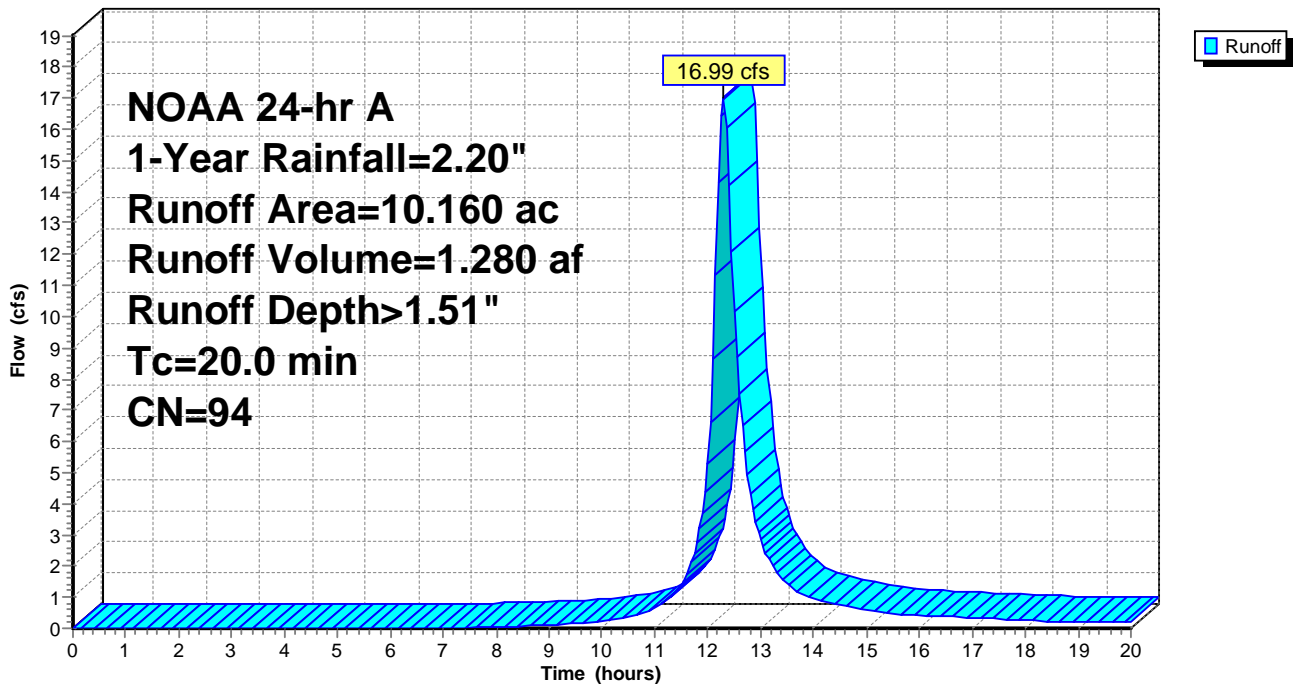
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
1.200	98	Paved roads w/curbs & sewers, HSG D
2.800	98	Water Surface, HSG D
5.500	92	1/8 acre lots, 65% imp, HSG D
0.660	80	>75% Grass cover, Good, HSG D
10.160	94	Weighted Average
2.585		25.44% Pervious Area
7.575		74.56% Impervious Area

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

**Subcatchment 27S: POST C1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 11

**Summary for Subcatchment 28S: POST C2**

Runoff = 6.86 cfs @ 12.29 hrs, Volume= 0.512 af, Depth> 1.43"  
 Routed to Pond 7P : WET BASIN G

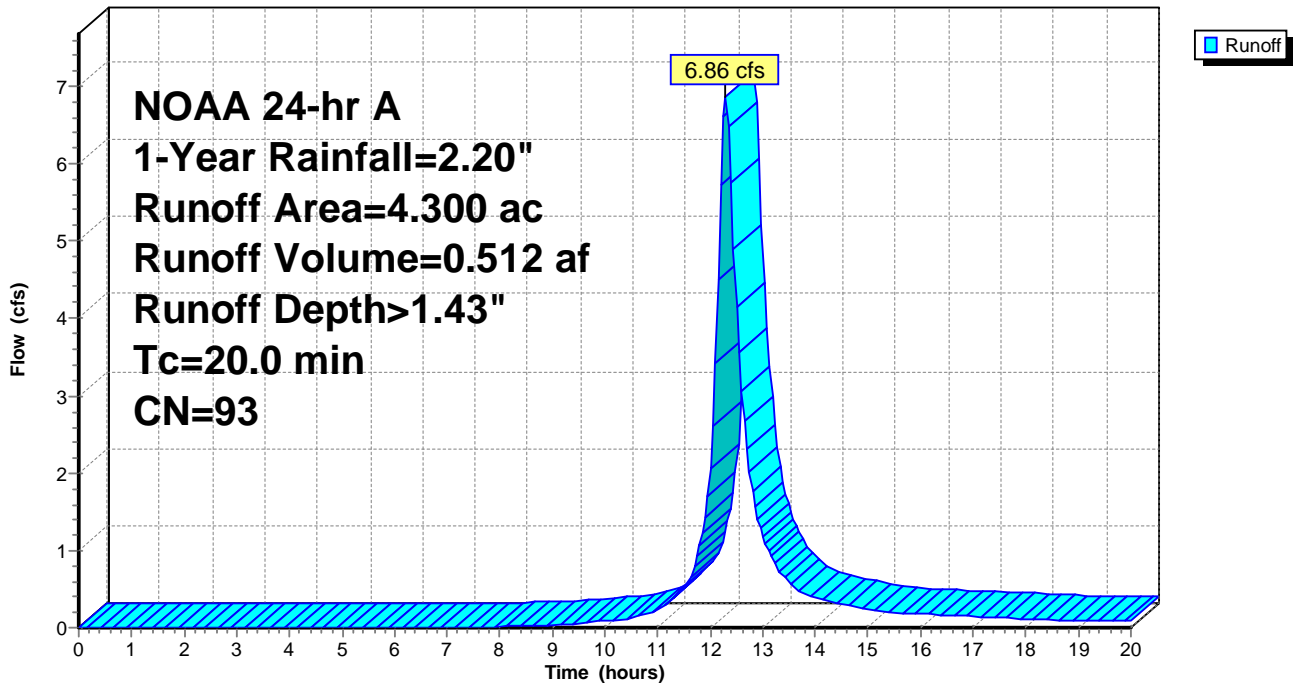
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
3.700	92	1/8 acre lots, 65% imp, HSG D
0.600	98	Water Surface, HSG D
4.300	93	Weighted Average
1.295		30.12% Pervious Area
3.005		69.88% Impervious Area

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

**Subcatchment 28S: POST C2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 12

**Summary for Subcatchment 29S: POST C3**

Runoff = 13.80 cfs @ 12.29 hrs, Volume= 1.029 af, Depth> 1.43"  
 Routed to Pond 8P : DRY BASIN H

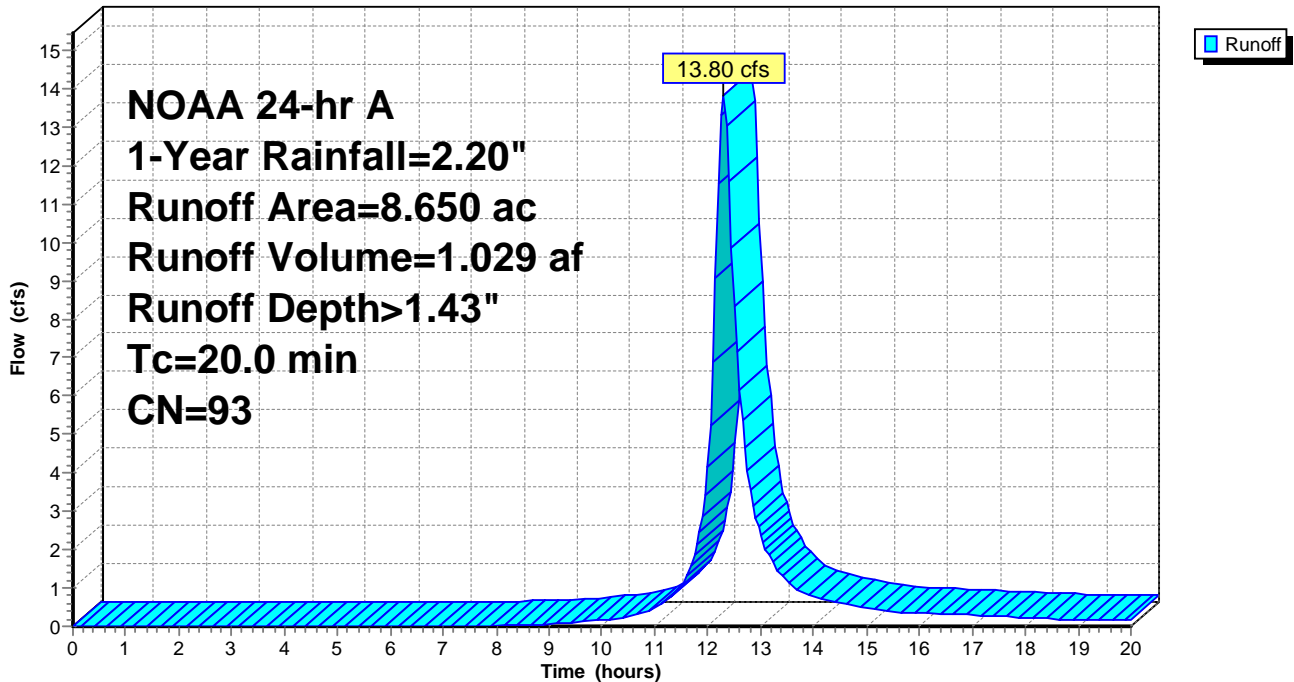
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
1.400	98	Paved roads w/curbs & sewers, HSG D
1.600	98	Water Surface, HSG D
4.900	92	1/8 acre lots, 65% imp, HSG D
0.750	80	>75% Grass cover, Good, HSG D
8.650	93	Weighted Average
2.465		28.50% Pervious Area
6.185		71.50% Impervious Area

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

**Subcatchment 29S: POST C3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 13

**Summary for Subcatchment 30S: POST C4**

Runoff = 4.79 cfs @ 12.29 hrs, Volume= 0.357 af, Depth> 1.43"  
 Routed to Pond 9P : DRY BASIN I

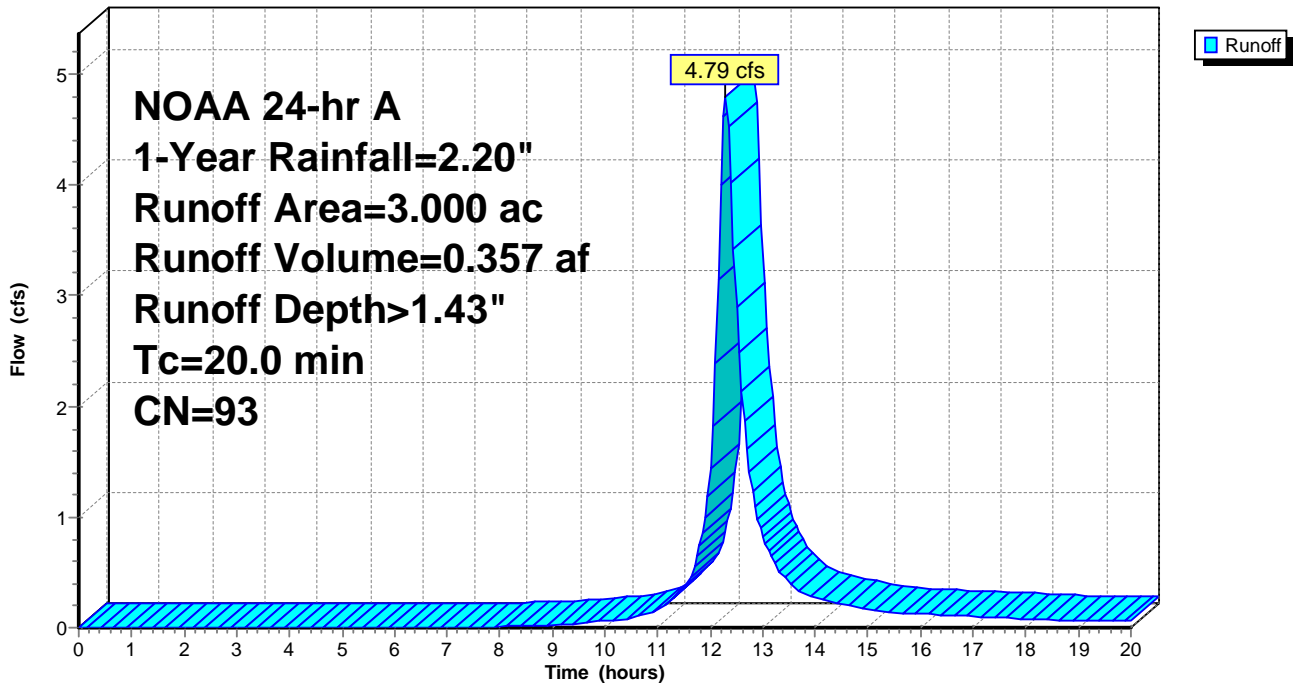
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 1-Year Rainfall=2.20"

Area (ac)	CN	Description
2.600	92	1/8 acre lots, 65% imp, HSG D
0.400	98	Water Surface, HSG D
3.000	93	Weighted Average
0.910		30.33% Pervious Area
2.090		69.67% Impervious Area

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

**Subcatchment 30S: POST C4**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 14

## Summary for Subcatchment 18S: POST A1

Runoff = 12.04 cfs @ 12.29 hrs, Volume= 0.907 af, Depth> 1.81"  
Routed to Pond 1P : DRY BASIN A

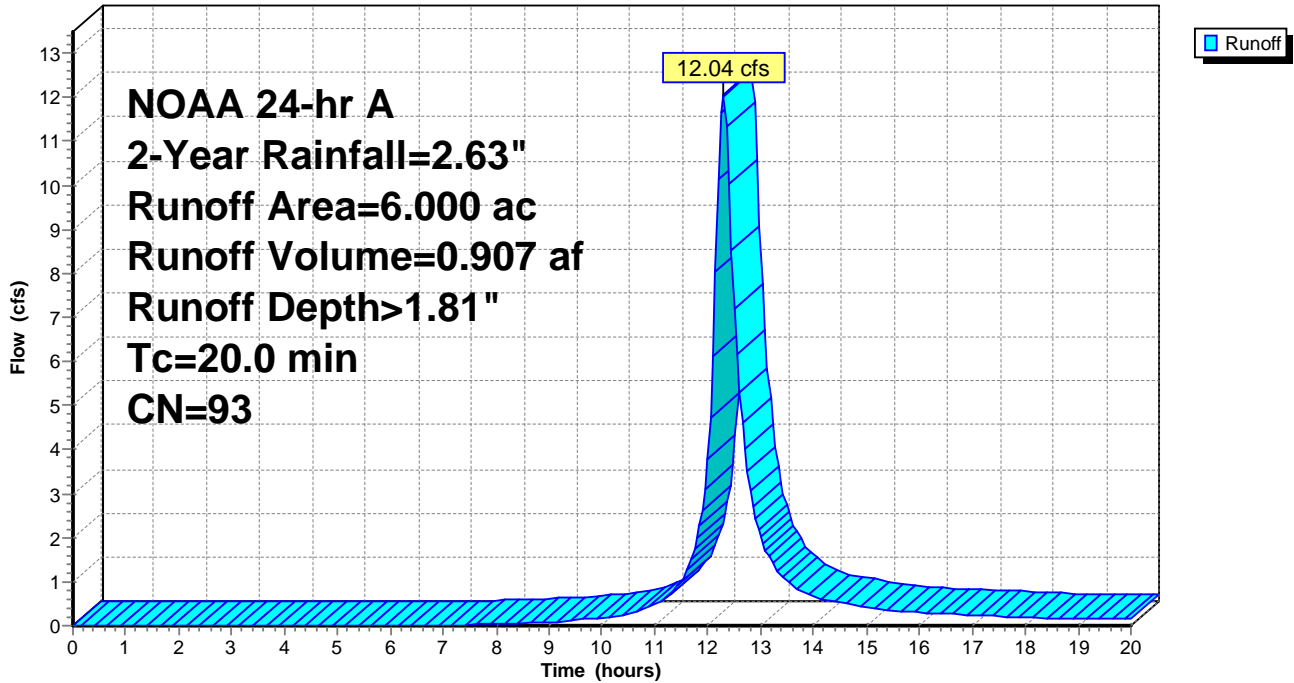
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
0.800	98	Water Surface, HSG D
5.200	92	1/8 acre lots, 65% imp, HSG D
6.000	93	Weighted Average
1.820		30.33% Pervious Area
4.180		69.67% Impervious Area

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

## Subcatchment 18S: POST A1

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 15

**Summary for Subcatchment 19S: POST A2**

Runoff = 29.10 cfs @ 12.29 hrs, Volume= 2.193 af, Depth> 1.81"  
 Routed to Pond 2P : DRY BASIN B

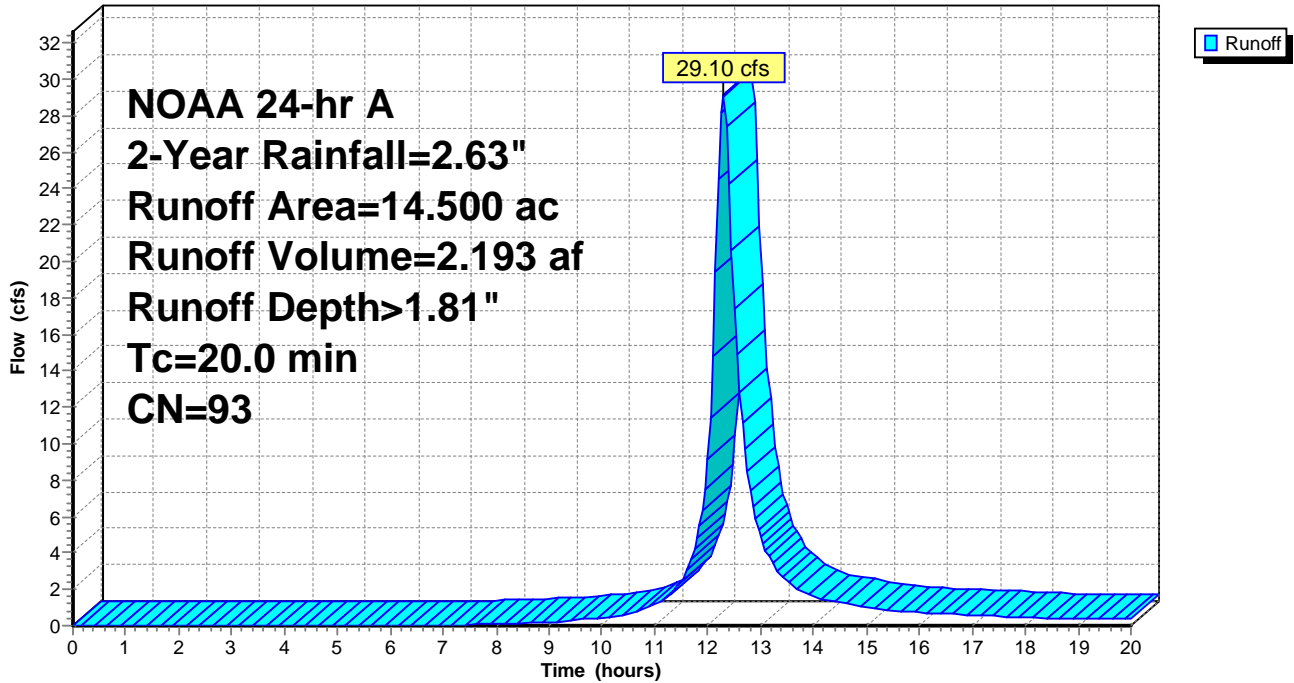
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
1.400	98	Water Surface, HSG D
13.100	92	1/8 acre lots, 65% imp, HSG D
14.500	93	Weighted Average
4.585		31.62% Pervious Area
9.915		68.38% Impervious Area

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

**Subcatchment 19S: POST A2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 16

**Summary for Subcatchment 20S: OFFSITE A**

Runoff = 4.93 cfs @ 12.24 hrs, Volume= 0.313 af, Depth> 0.92"

Routed to Pond 1P : DRY BASIN A

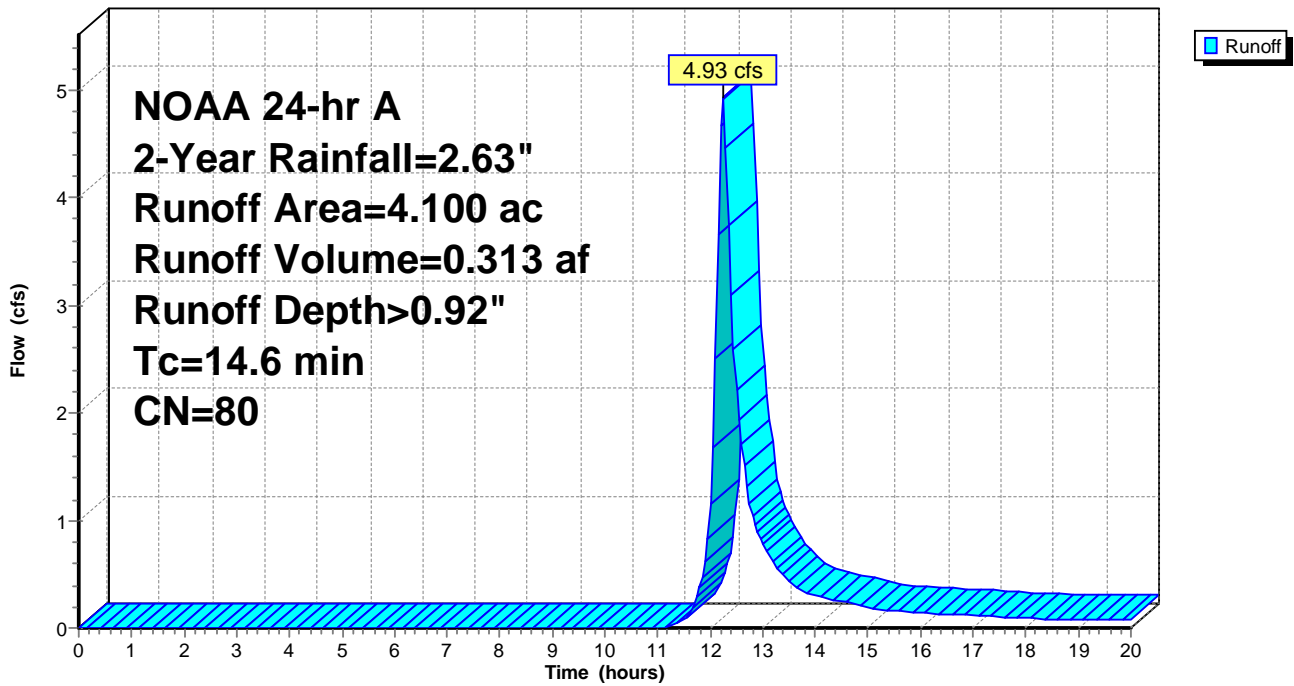
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
4.100	80	>75% Grass cover, Good, HSG D
4.100		100.00% Pervious Area

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

**Subcatchment 20S: OFFSITE A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 17

**Summary for Subcatchment 21S: POST B1**

Runoff = 13.30 cfs @ 12.29 hrs, Volume= 0.994 af, Depth> 1.73"

Routed to Pond 3P : DRY BASIN C

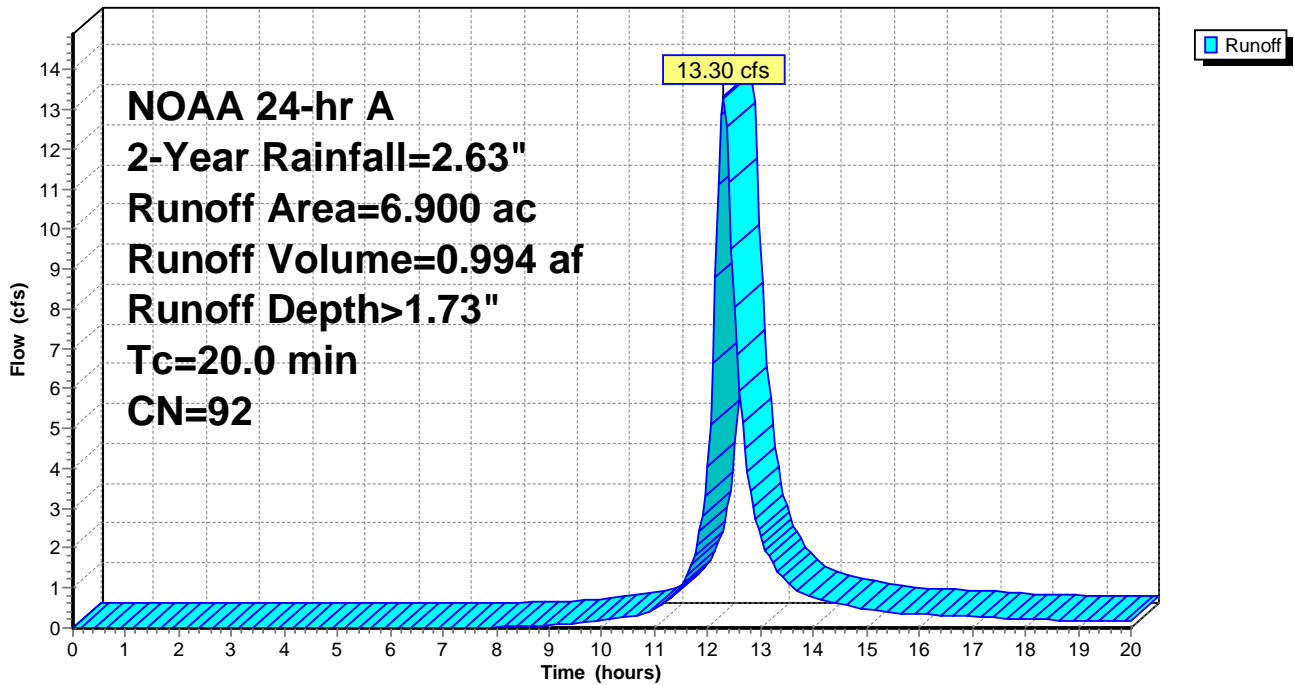
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
6.900	92	1/8 acre lots, 65% imp, HSG D
2.415		35.00% Pervious Area
4.485		65.00% Impervious Area

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

**Subcatchment 21S: POST B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 18

**Summary for Subcatchment 22S: POST B2**

Runoff = 11.61 cfs @ 12.79 hrs, Volume= 1.521 af, Depth> 0.85"  
 Routed to Pond 5P : WET BASIN E

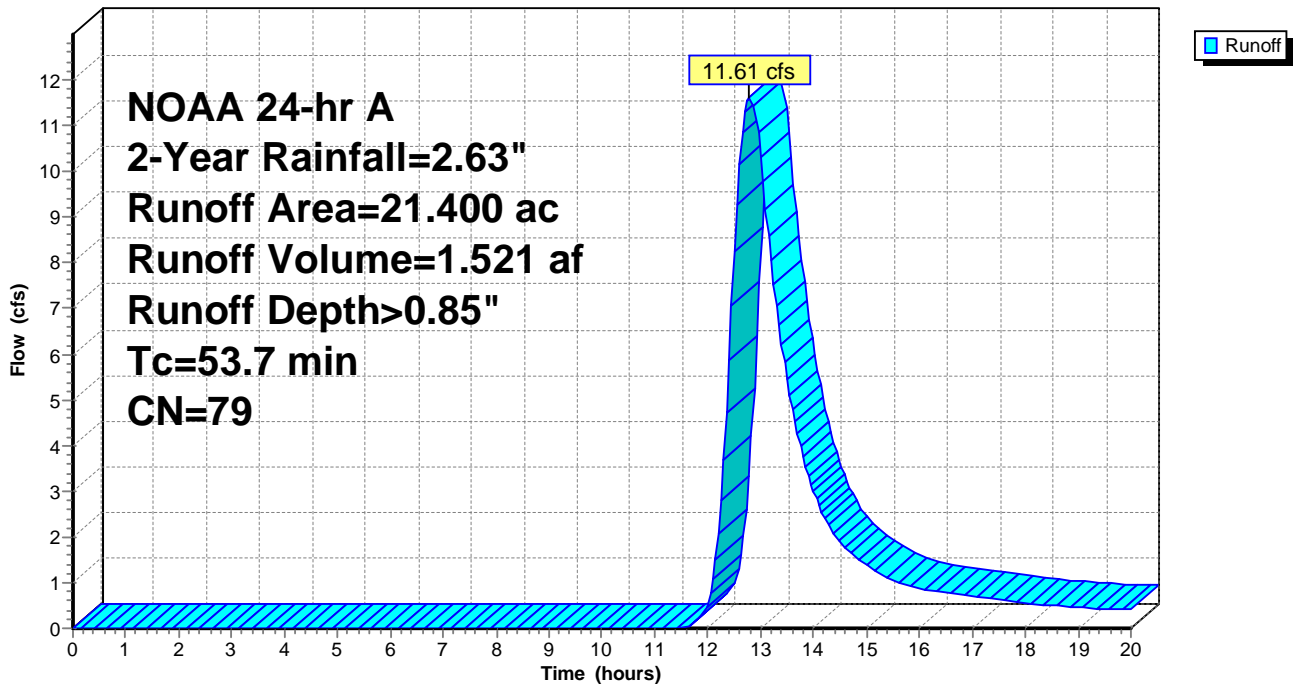
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
8.100	80	>75% Grass cover, Good, HSG D
13.300	79	Woods, Fair, HSG D
21.400	79	Weighted Average
21.400		100.00% Pervious Area

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

**Subcatchment 22S: POST B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 19

**Summary for Subcatchment 23S: POST B3**

Runoff = 8.77 cfs @ 12.72 hrs, Volume= 1.129 af, Depth> 1.71"  
 Routed to Pond 4P : DRY BASIN D

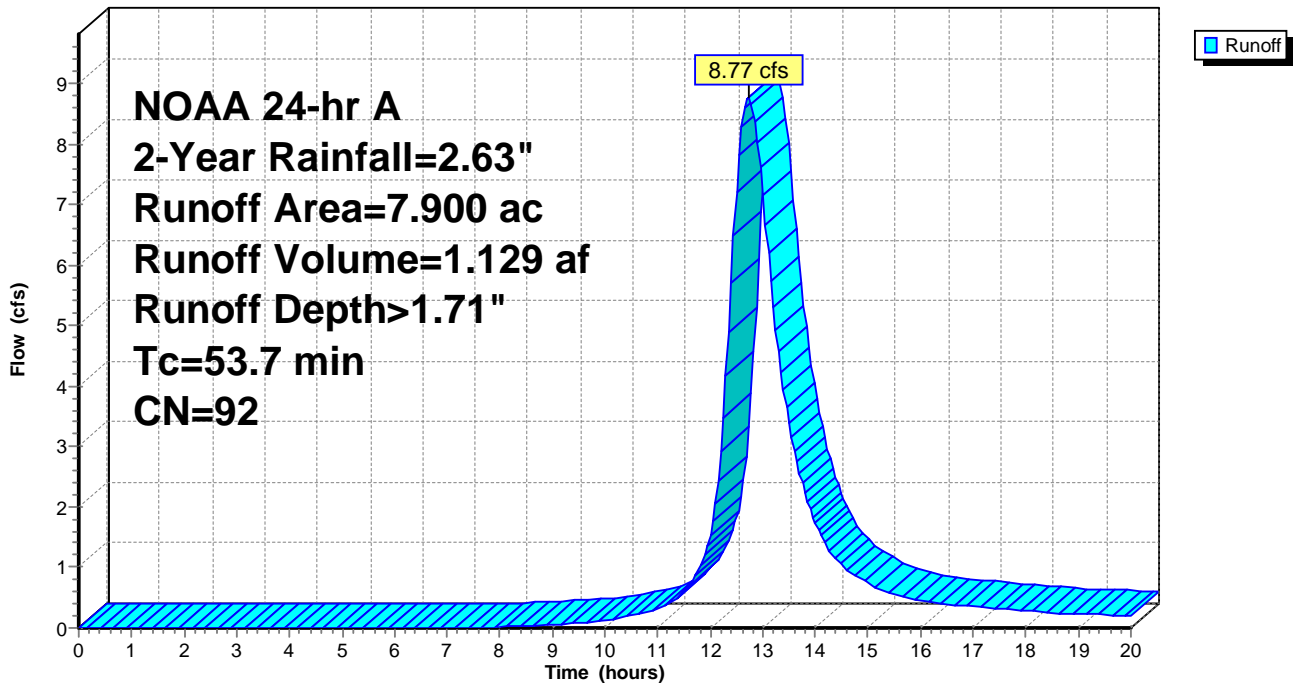
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
2.700	80	>75% Grass cover, Good, HSG D
2.900	98	Water Surface, HSG D
2.300	98	Paved roads w/curbs & sewers, HSG D
7.900	92	Weighted Average
2.700		34.18% Pervious Area
5.200		65.82% Impervious Area

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

**Subcatchment 23S: POST B3**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 20

## Summary for Subcatchment 24S: POST B4

Runoff = 28.30 cfs @ 12.42 hrs, Volume= 2.601 af, Depth> 1.72"  
Routed to Pond 5P : WET BASIN E

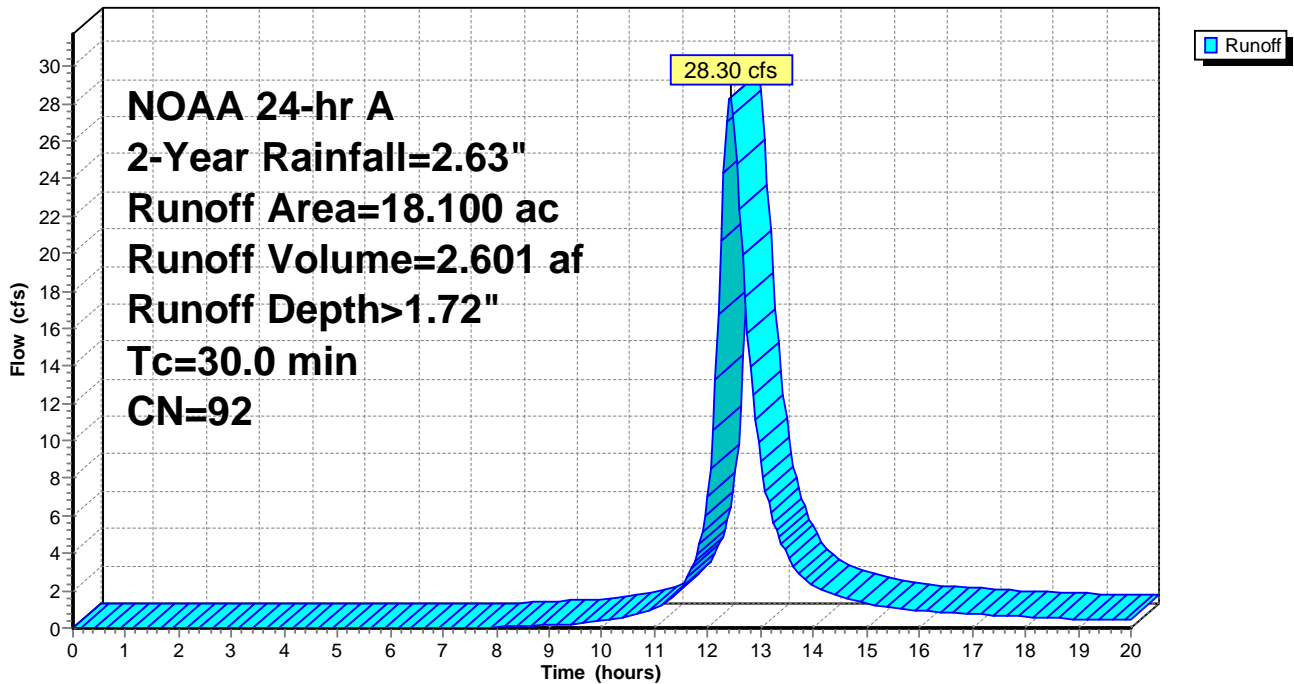
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
13.000	92	1/8 acre lots, 65% imp, HSG D
1.600	80	>75% Grass cover, Good, HSG D
3.500	98	Water Surface, HSG D
18.100	92	Weighted Average
6.150		33.98% Pervious Area
11.950		66.02% Impervious Area

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

## Subcatchment 24S: POST B4

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 21

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 5.67 cfs @ 12.35 hrs, Volume= 0.450 af, Depth> 0.91"  
 Routed to Pond 4P : DRY BASIN D

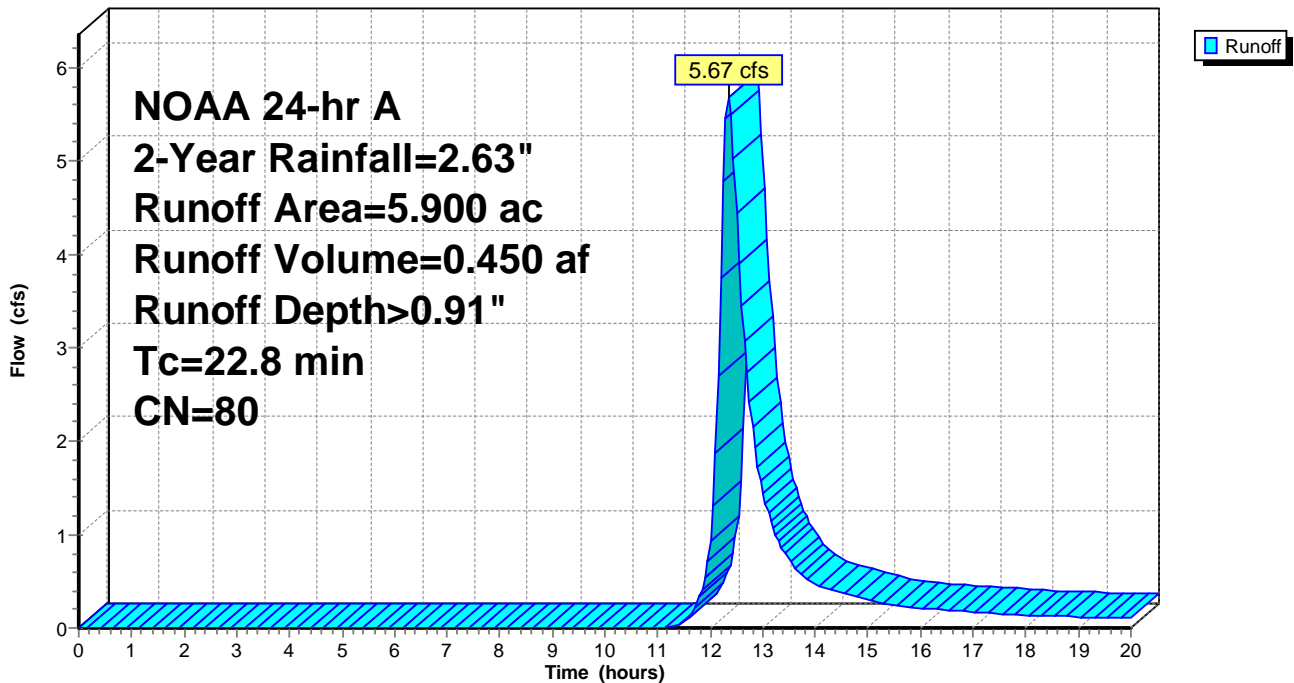
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 22

**Summary for Subcatchment 26S: OFFSITE B2**

Runoff = 3.72 cfs @ 12.18 hrs, Volume= 0.202 af, Depth> 0.87"

Routed to Pond 5P : WET BASIN E

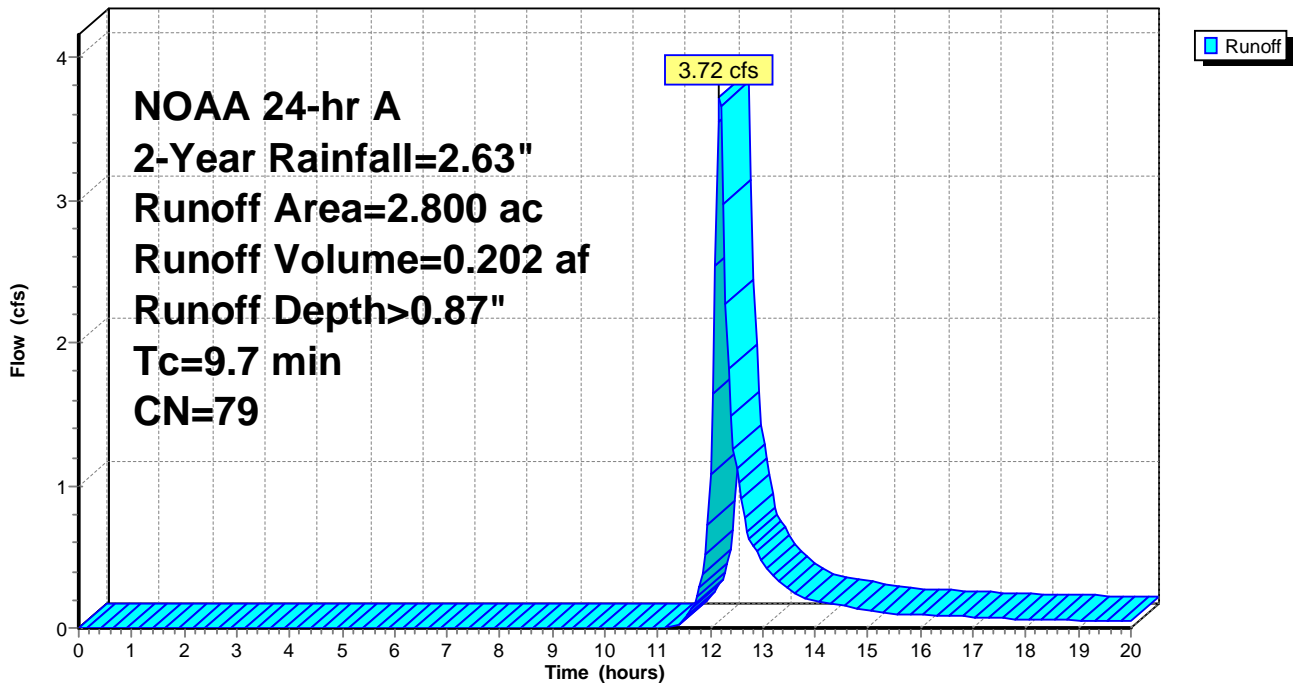
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 26S: OFFSITE B2**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 23

**Summary for Subcatchment 27S: POST C1**

Runoff = 21.17 cfs @ 12.29 hrs, Volume= 1.613 af, Depth> 1.91"

Routed to Pond 6P : DRY BASIN F

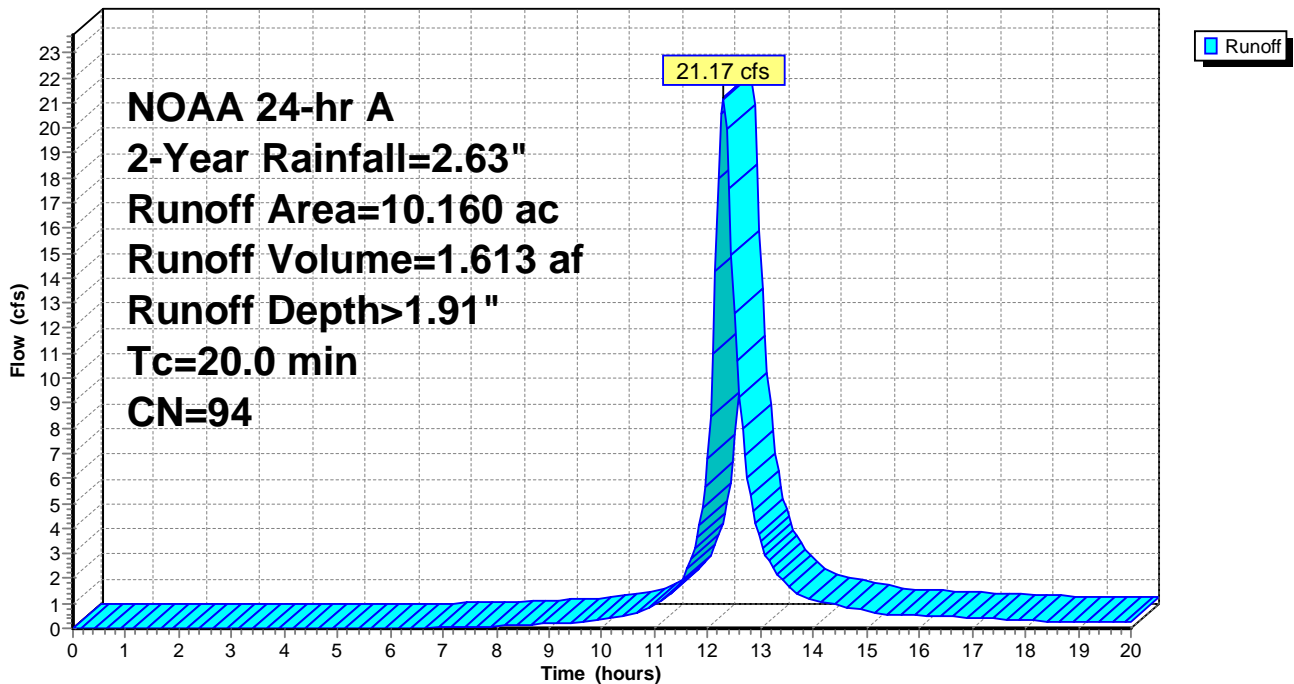
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
1.200	98	Paved roads w/curbs & sewers, HSG D
2.800	98	Water Surface, HSG D
5.500	92	1/8 acre lots, 65% imp, HSG D
0.660	80	>75% Grass cover, Good, HSG D
10.160	94	Weighted Average
2.585		25.44% Pervious Area
7.575		74.56% Impervious Area

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

**Subcatchment 27S: POST C1**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 24

## Summary for Subcatchment 28S: POST C2

Runoff = 8.63 cfs @ 12.29 hrs, Volume= 0.650 af, Depth> 1.81"  
Routed to Pond 7P : WET BASIN G

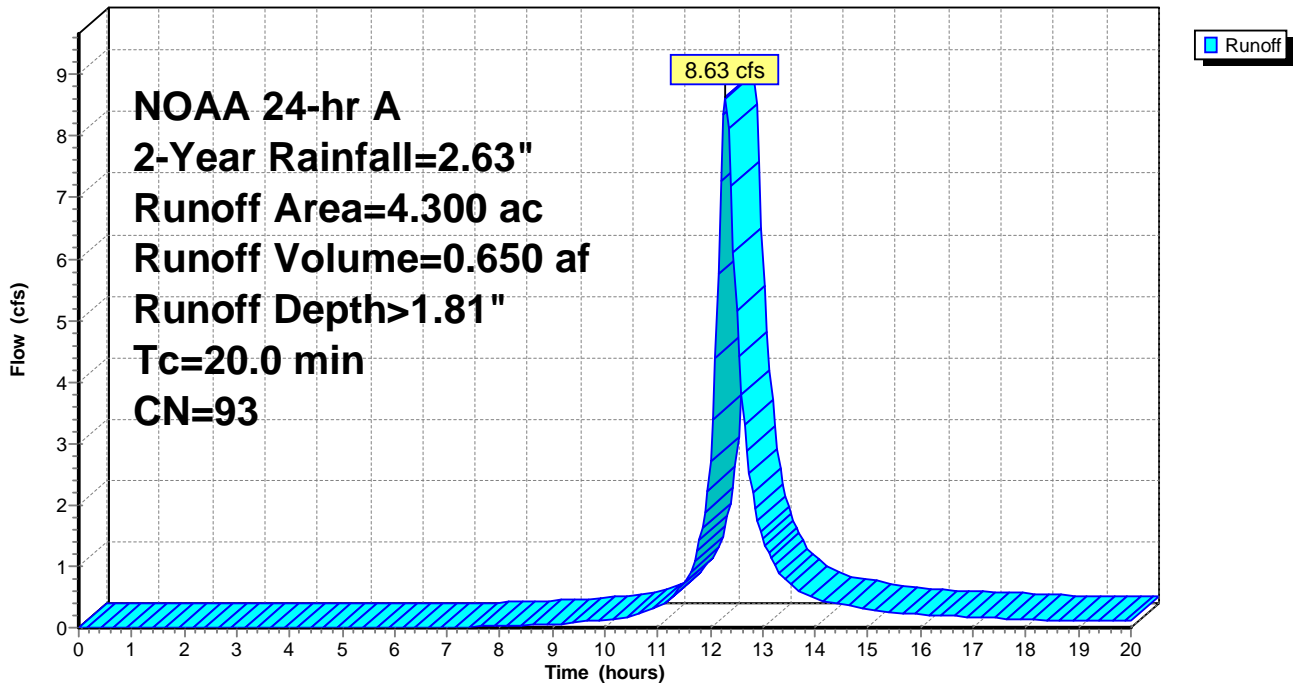
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
3.700	92	1/8 acre lots, 65% imp, HSG D
0.600	98	Water Surface, HSG D
4.300	93	Weighted Average
1.295		30.12% Pervious Area
3.005		69.88% Impervious Area

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

## Subcatchment 28S: POST C2

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 25

**Summary for Subcatchment 29S: POST C3**

Runoff = 17.36 cfs @ 12.29 hrs, Volume= 1.308 af, Depth> 1.81"  
 Routed to Pond 8P : DRY BASIN H

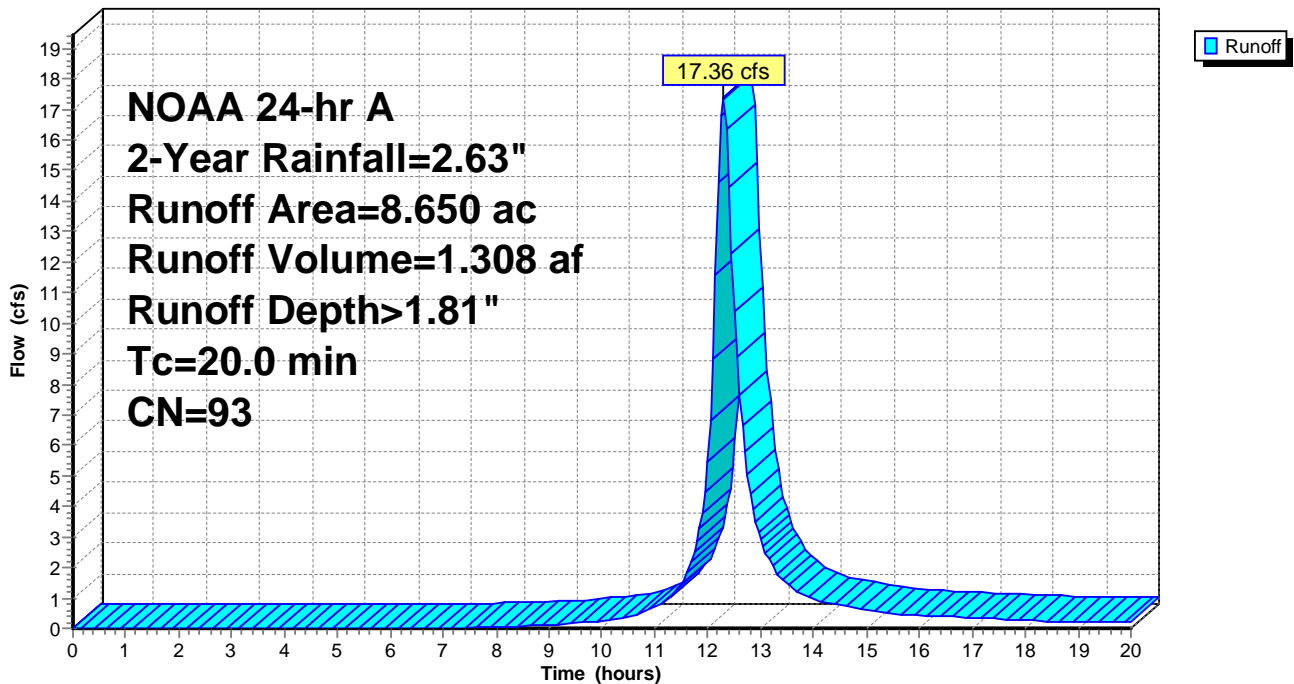
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
1.400	98	Paved roads w/curbs & sewers, HSG D
1.600	98	Water Surface, HSG D
4.900	92	1/8 acre lots, 65% imp, HSG D
0.750	80	>75% Grass cover, Good, HSG D
8.650	93	Weighted Average
2.465		28.50% Pervious Area
6.185		71.50% Impervious Area

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

**Subcatchment 29S: POST C3**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 2-Year Rainfall=2.63"

Printed 6/7/2023

Page 26

## Summary for Subcatchment 30S: POST C4

Runoff = 6.02 cfs @ 12.29 hrs, Volume= 0.454 af, Depth> 1.81"  
Routed to Pond 9P : DRY BASIN I

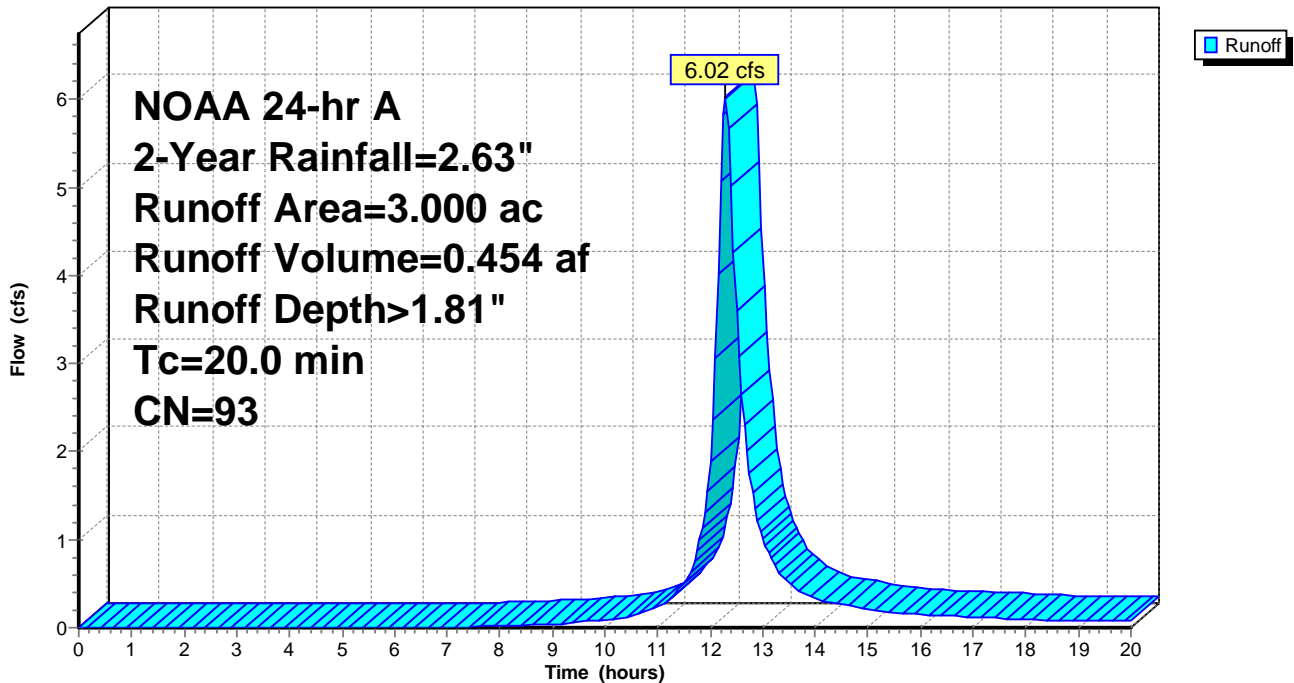
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 2-Year Rainfall=2.63"

Area (ac)	CN	Description
2.600	92	1/8 acre lots, 65% imp, HSG D
0.400	98	Water Surface, HSG D
3.000	93	Weighted Average
0.910		30.33% Pervious Area
2.090		69.67% Impervious Area

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

## Subcatchment 30S: POST C4

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 27

**Summary for Subcatchment 18S: POST A1**

Runoff = 15.54 cfs @ 12.29 hrs, Volume= 1.188 af, Depth> 2.38"  
 Routed to Pond 1P : DRY BASIN A

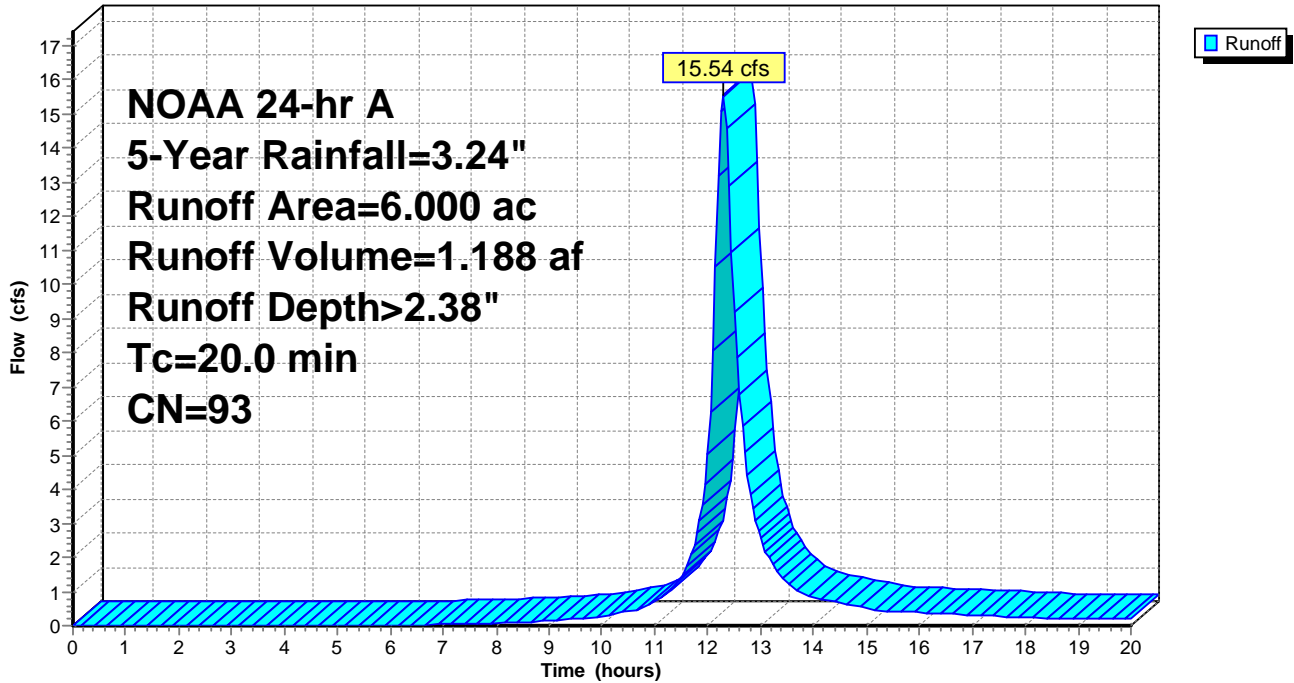
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
0.800	98	Water Surface, HSG D
5.200	92	1/8 acre lots, 65% imp, HSG D
6.000	93	Weighted Average
1.820		30.33% Pervious Area
4.180		69.67% Impervious Area

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

**Subcatchment 18S: POST A1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 28

**Summary for Subcatchment 19S: POST A2**

Runoff = 37.56 cfs @ 12.29 hrs, Volume= 2.870 af, Depth> 2.38"  
 Routed to Pond 2P : DRY BASIN B

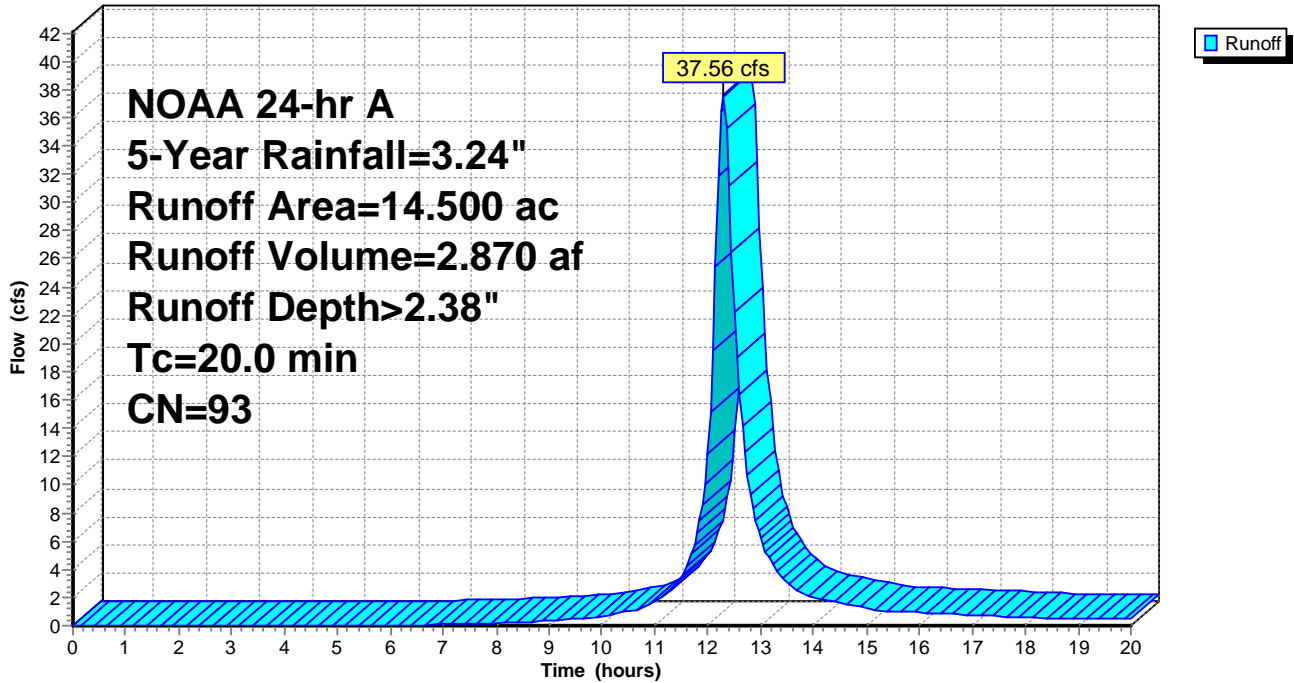
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
1.400	98	Water Surface, HSG D
13.100	92	1/8 acre lots, 65% imp, HSG D
14.500	93	Weighted Average
4.585		31.62% Pervious Area
9.915		68.38% Impervious Area

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

**Subcatchment 19S: POST A2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 29

**Summary for Subcatchment 20S: OFFSITE A**

Runoff = 7.31 cfs @ 12.24 hrs, Volume= 0.460 af, Depth> 1.35"

Routed to Pond 1P : DRY BASIN A

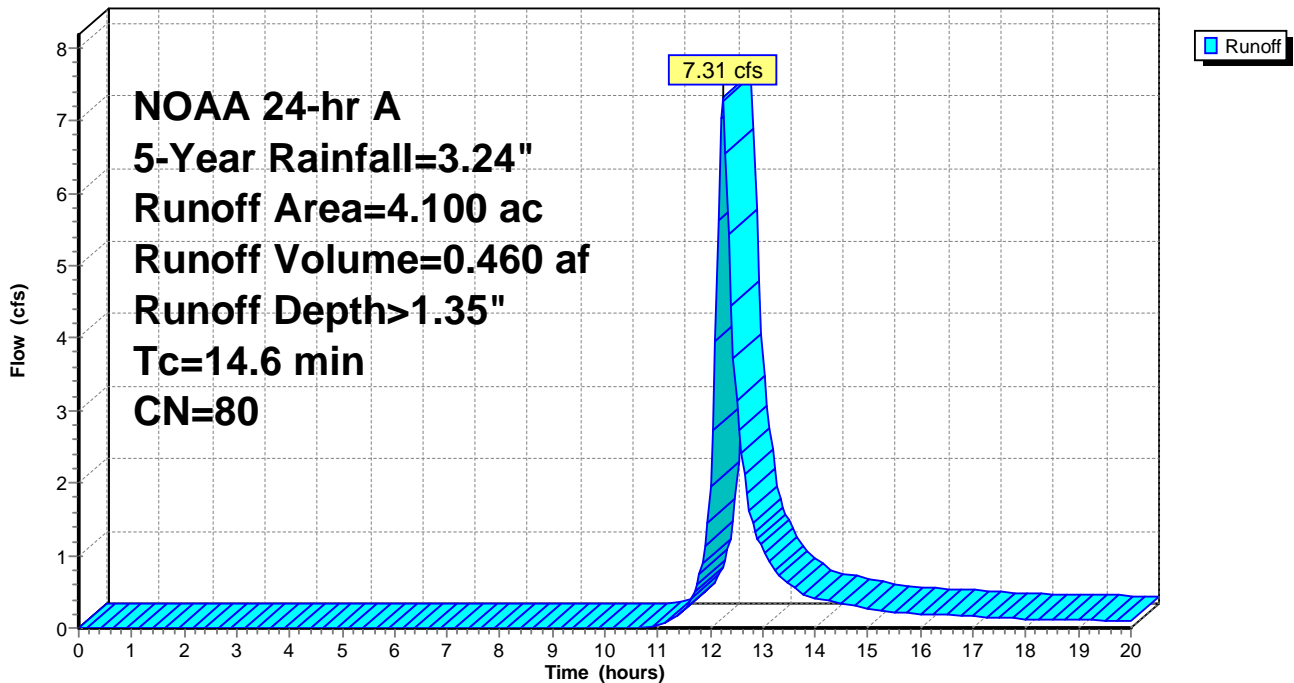
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
4.100	80	>75% Grass cover, Good, HSG D
4.100		100.00% Pervious Area

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

**Subcatchment 20S: OFFSITE A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 30

**Summary for Subcatchment 21S: POST B1**

Runoff = 17.33 cfs @ 12.29 hrs, Volume= 1.311 af, Depth> 2.28"

Routed to Pond 3P : DRY BASIN C

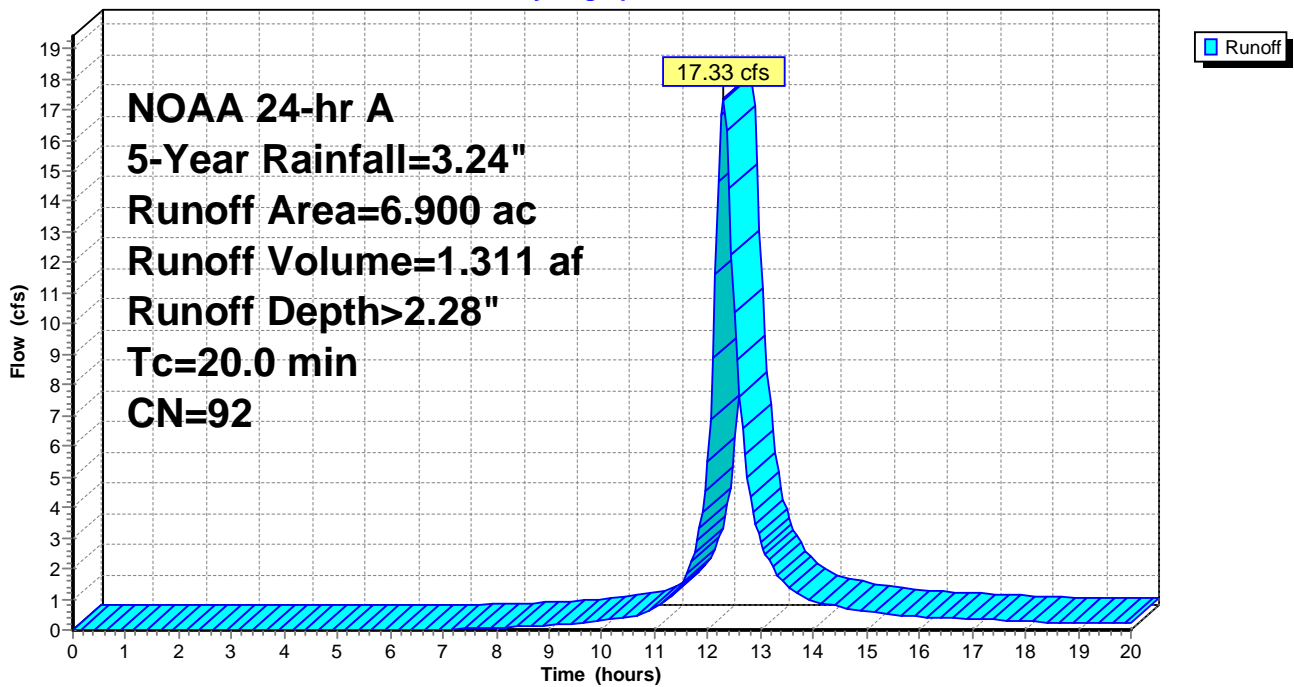
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
6.900	92	1/8 acre lots, 65% imp, HSG D
2.415		35.00% Pervious Area
4.485		65.00% Impervious Area

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

**Subcatchment 21S: POST B1**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 31

**Summary for Subcatchment 22S: POST B2**

Runoff = 17.57 cfs @ 12.77 hrs, Volume= 2.262 af, Depth> 1.27"  
 Routed to Pond 5P : WET BASIN E

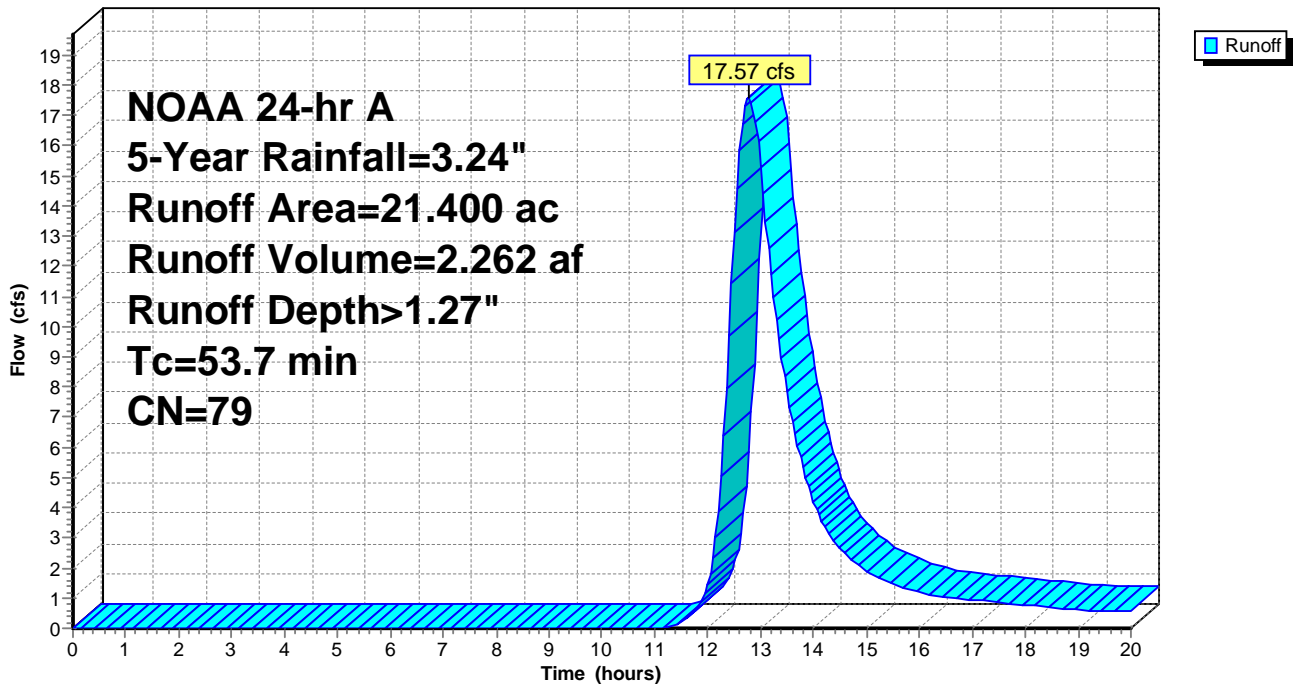
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
8.100	80	>75% Grass cover, Good, HSG D
13.300	79	Woods, Fair, HSG D
21.400	79	Weighted Average
21.400		100.00% Pervious Area

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

**Subcatchment 22S: POST B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 32

**Summary for Subcatchment 23S: POST B3**

Runoff = 11.46 cfs @ 12.72 hrs, Volume= 1.490 af, Depth> 2.26"  
 Routed to Pond 4P : DRY BASIN D

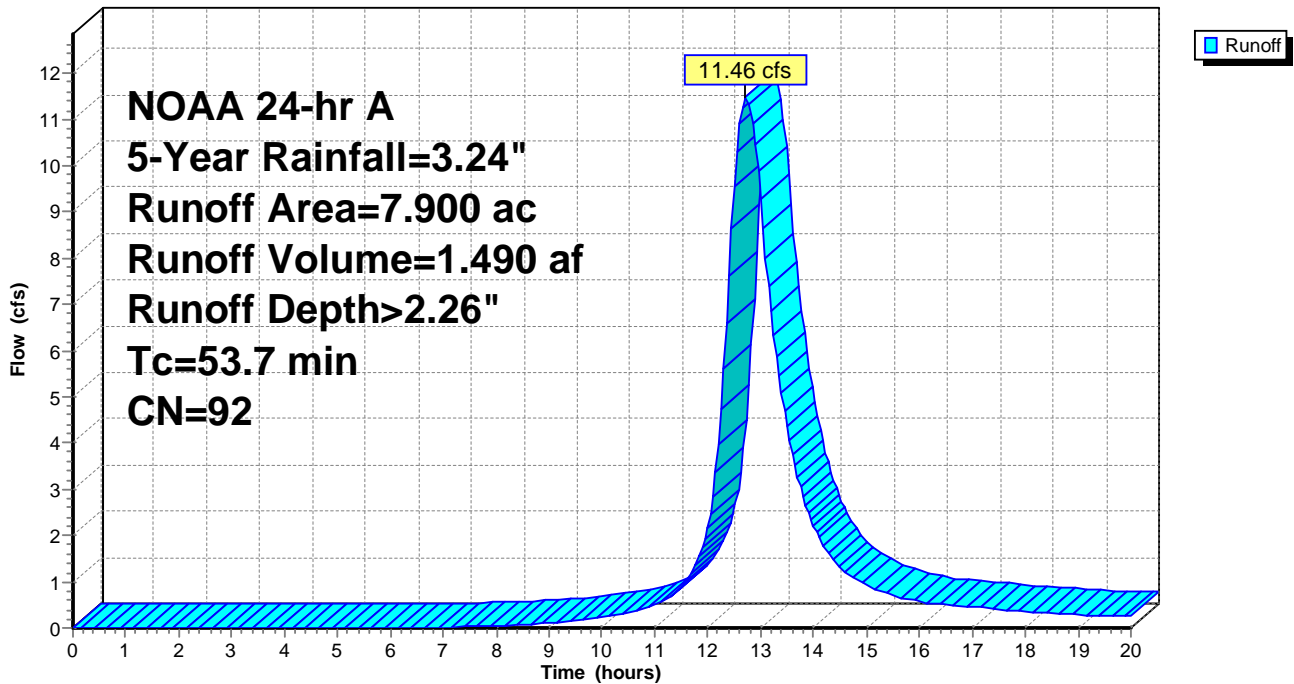
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
2.700	80	>75% Grass cover, Good, HSG D
2.900	98	Water Surface, HSG D
2.300	98	Paved roads w/curbs & sewers, HSG D
7.900	92	Weighted Average
2.700		34.18% Pervious Area
5.200		65.82% Impervious Area

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

**Subcatchment 23S: POST B3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 33

**Summary for Subcatchment 24S: POST B4**

Runoff = 36.93 cfs @ 12.42 hrs, Volume= 3.433 af, Depth> 2.28"  
 Routed to Pond 5P : WET BASIN E

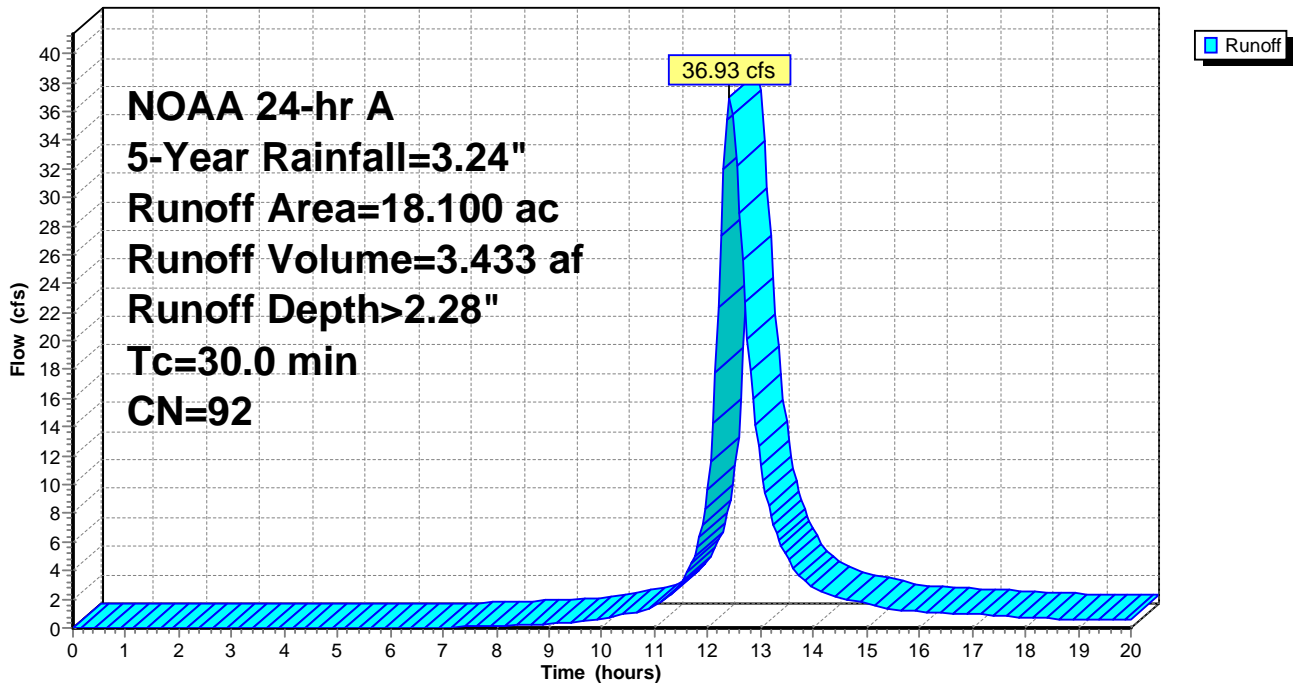
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
13.000	92	1/8 acre lots, 65% imp, HSG D
1.600	80	>75% Grass cover, Good, HSG D
3.500	98	Water Surface, HSG D
18.100	92	Weighted Average
6.150		33.98% Pervious Area
11.950		66.02% Impervious Area

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

**Subcatchment 24S: POST B4**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 34

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 8.45 cfs @ 12.34 hrs, Volume= 0.661 af, Depth> 1.34"  
 Routed to Pond 4P : DRY BASIN D

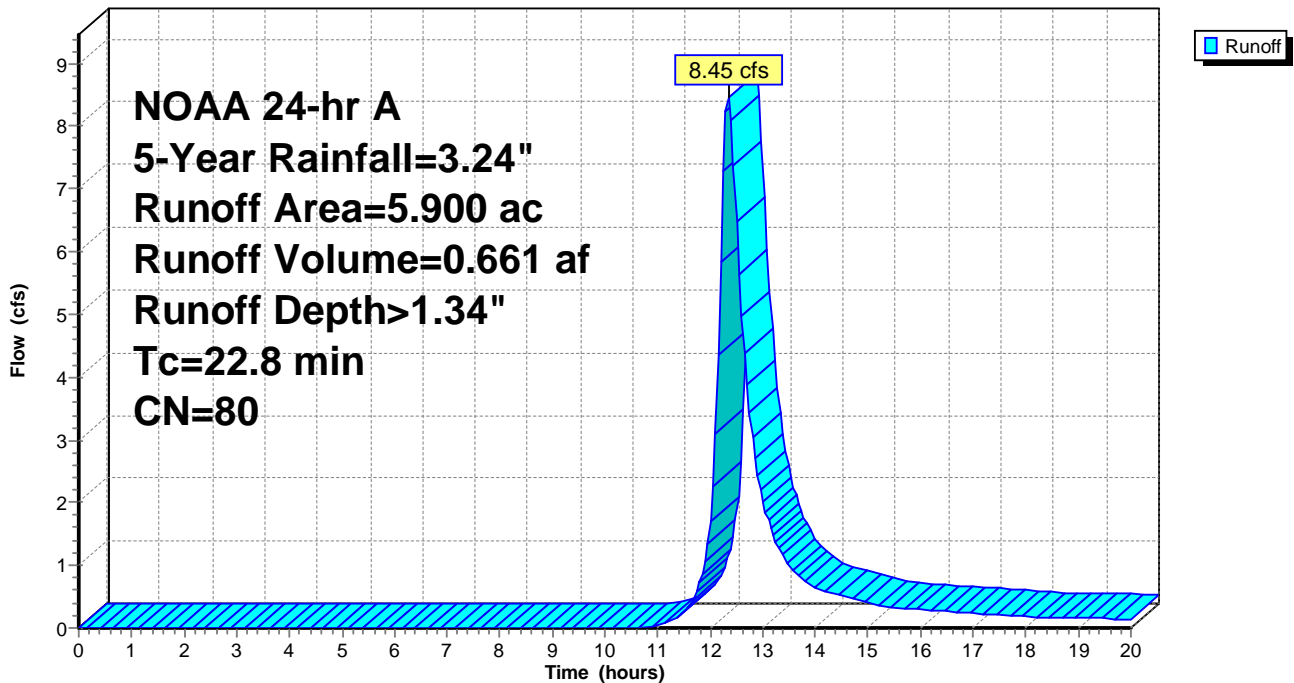
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 35

**Summary for Subcatchment 26S: OFFSITE B2**

Runoff = 5.57 cfs @ 12.18 hrs, Volume= 0.300 af, Depth> 1.29"  
Routed to Pond 5P : WET BASIN E

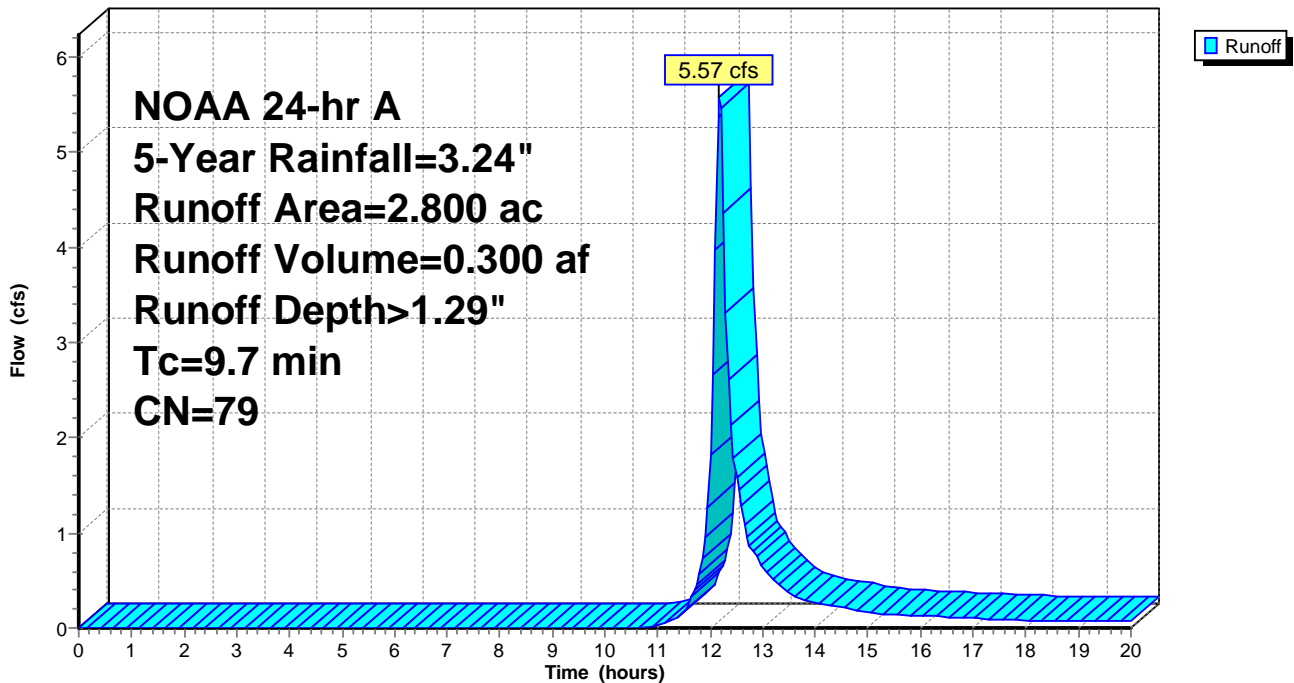
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 26S: OFFSITE B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 36

**Summary for Subcatchment 27S: POST C1**

Runoff = 27.08 cfs @ 12.29 hrs, Volume= 2.093 af, Depth> 2.47"  
 Routed to Pond 6P : DRY BASIN F

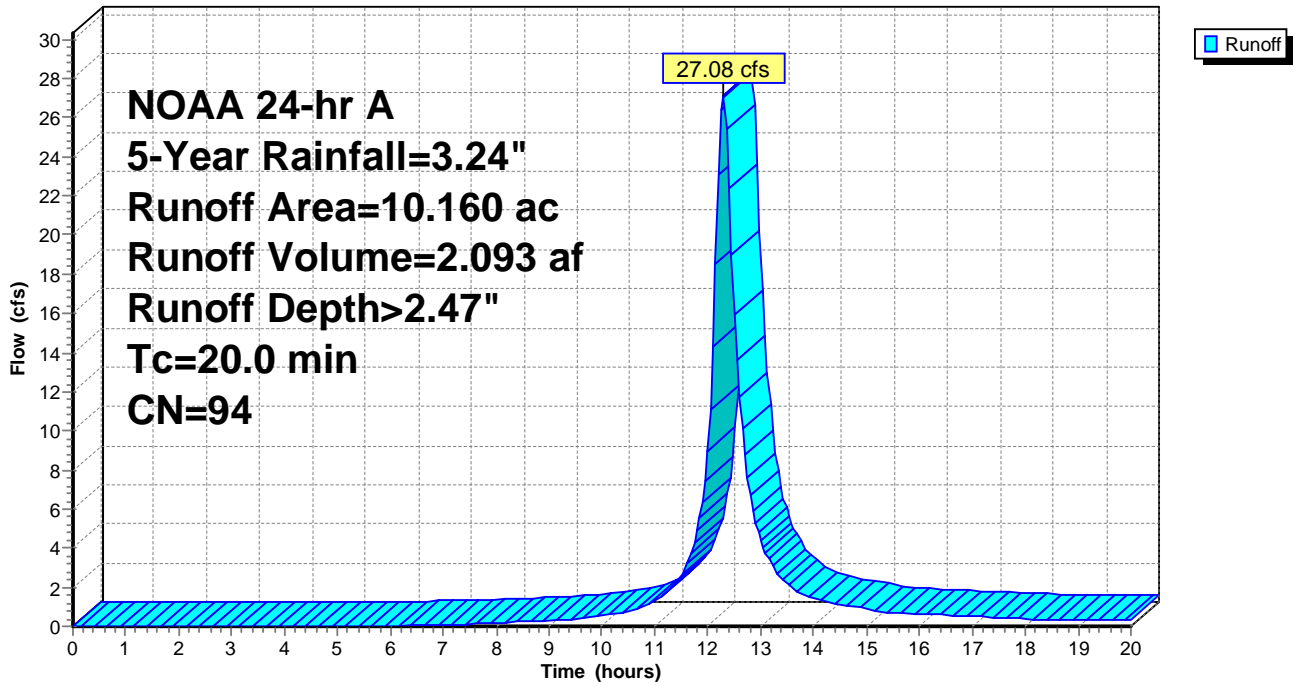
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
1.200	98	Paved roads w/curbs & sewers, HSG D
2.800	98	Water Surface, HSG D
5.500	92	1/8 acre lots, 65% imp, HSG D
0.660	80	>75% Grass cover, Good, HSG D
10.160	94	Weighted Average
2.585		25.44% Pervious Area
7.575		74.56% Impervious Area

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

**Subcatchment 27S: POST C1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 37

**Summary for Subcatchment 28S: POST C2**

Runoff = 11.14 cfs @ 12.29 hrs, Volume= 0.851 af, Depth> 2.38"  
 Routed to Pond 7P : WET BASIN G

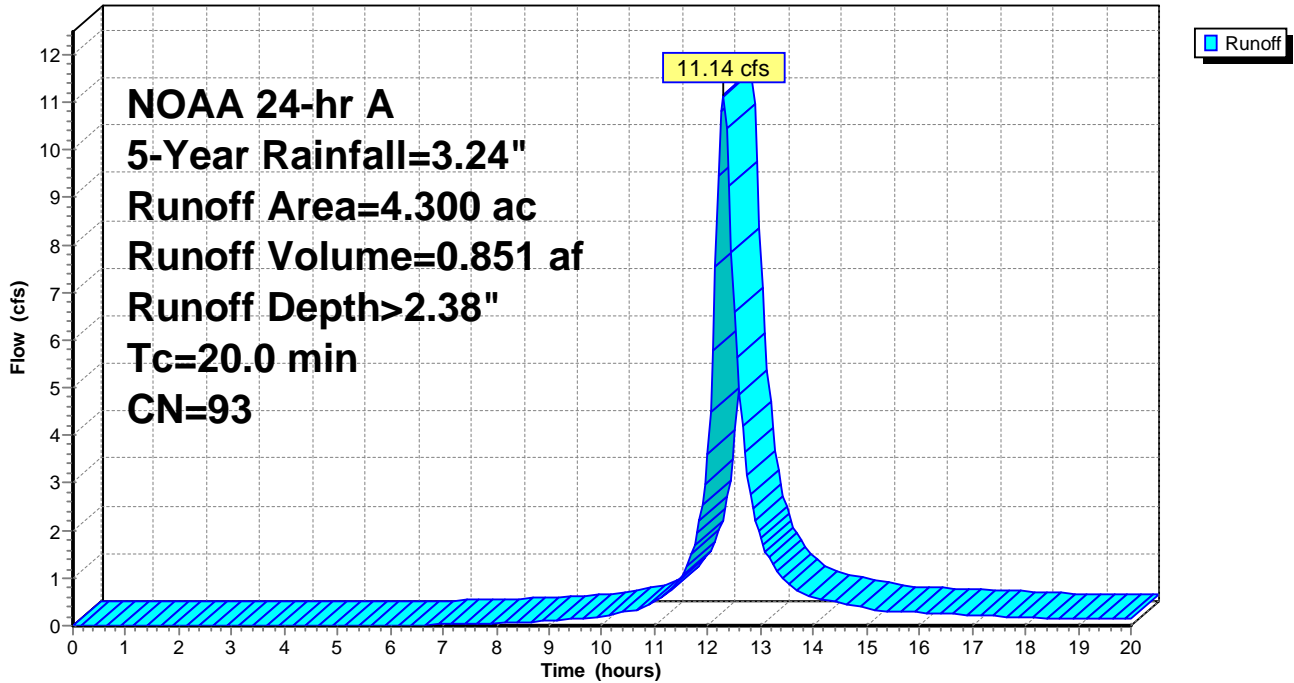
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
3.700	92	1/8 acre lots, 65% imp, HSG D
0.600	98	Water Surface, HSG D
4.300	93	Weighted Average
1.295		30.12% Pervious Area
3.005		69.88% Impervious Area

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

**Subcatchment 28S: POST C2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 38

**Summary for Subcatchment 29S: POST C3**

Runoff = 22.40 cfs @ 12.29 hrs, Volume= 1.712 af, Depth> 2.38"  
 Routed to Pond 8P : DRY BASIN H

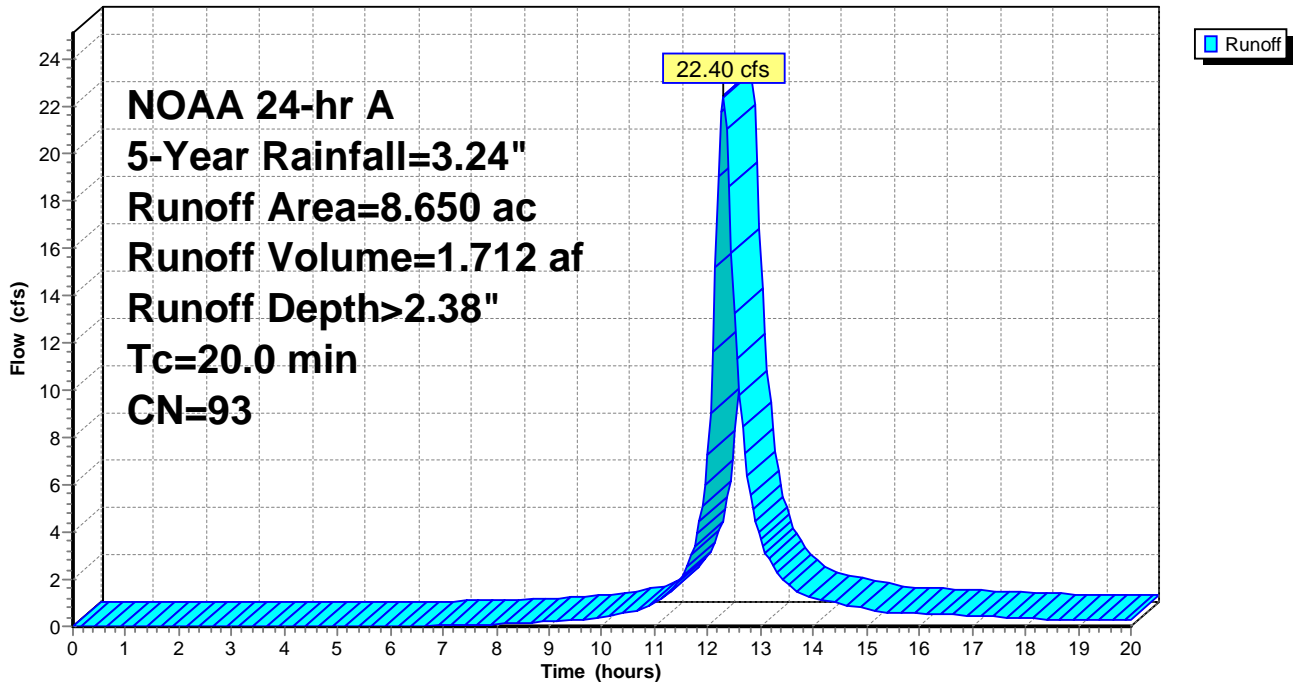
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
1.400	98	Paved roads w/curbs & sewers, HSG D
1.600	98	Water Surface, HSG D
4.900	92	1/8 acre lots, 65% imp, HSG D
0.750	80	>75% Grass cover, Good, HSG D
8.650	93	Weighted Average
2.465		28.50% Pervious Area
6.185		71.50% Impervious Area

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

**Subcatchment 29S: POST C3**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 39

**Summary for Subcatchment 30S: POST C4**

Runoff = 7.77 cfs @ 12.29 hrs, Volume= 0.594 af, Depth> 2.38"  
 Routed to Pond 9P : DRY BASIN I

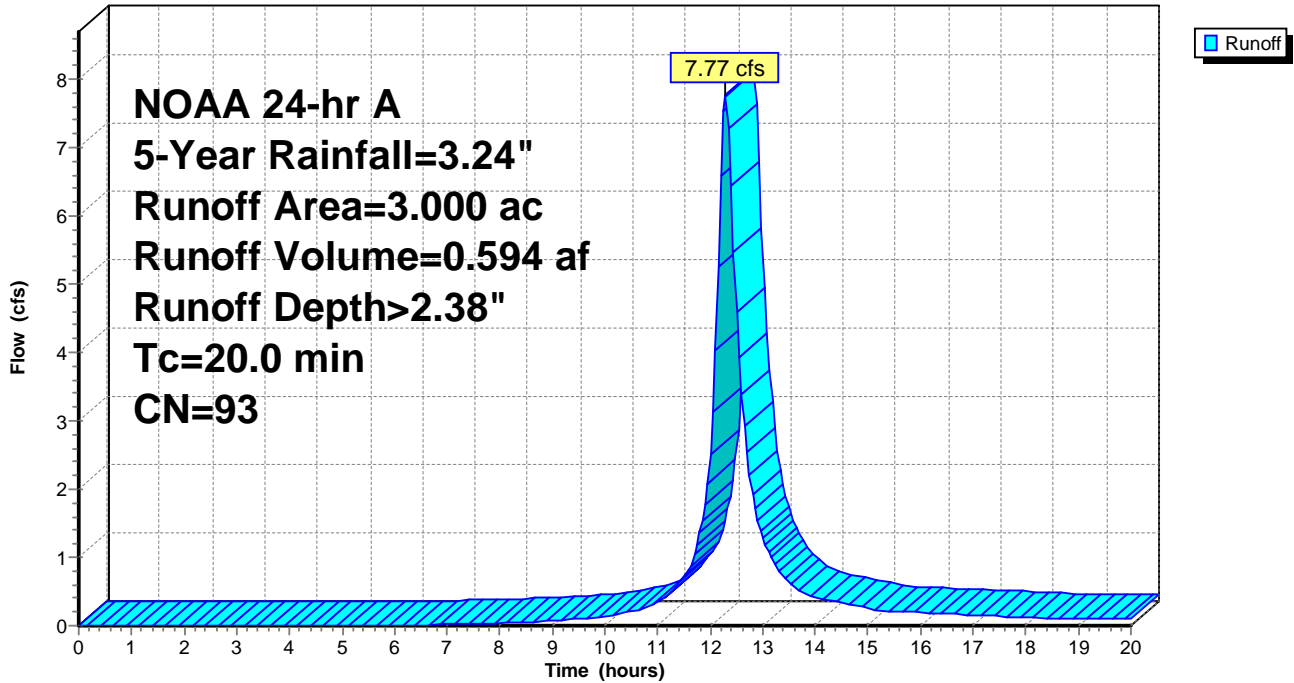
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 5-Year Rainfall=3.24"

Area (ac)	CN	Description
2.600	92	1/8 acre lots, 65% imp, HSG D
0.400	98	Water Surface, HSG D
3.000	93	Weighted Average
0.910		30.33% Pervious Area
2.090		69.67% Impervious Area

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

**Subcatchment 30S: POST C4**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 40

**Summary for Subcatchment 18S: POST A1**

Runoff = 18.34 cfs @ 12.29 hrs, Volume= 1.415 af, Depth> 2.83"  
 Routed to Pond 1P : DRY BASIN A

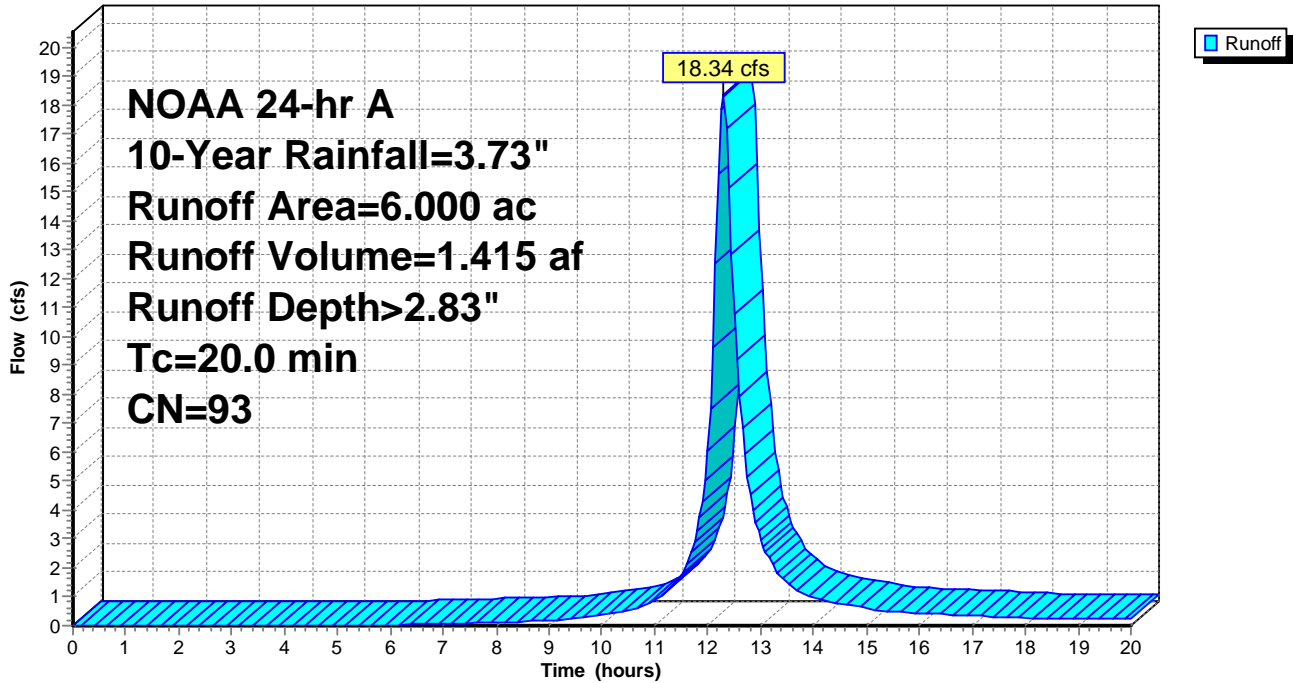
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
0.800	98	Water Surface, HSG D
5.200	92	1/8 acre lots, 65% imp, HSG D
6.000	93	Weighted Average
1.820		30.33% Pervious Area
4.180		69.67% Impervious Area

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

**Subcatchment 18S: POST A1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 41

**Summary for Subcatchment 19S: POST A2**

Runoff = 44.33 cfs @ 12.29 hrs, Volume= 3.421 af, Depth> 2.83"  
 Routed to Pond 2P : DRY BASIN B

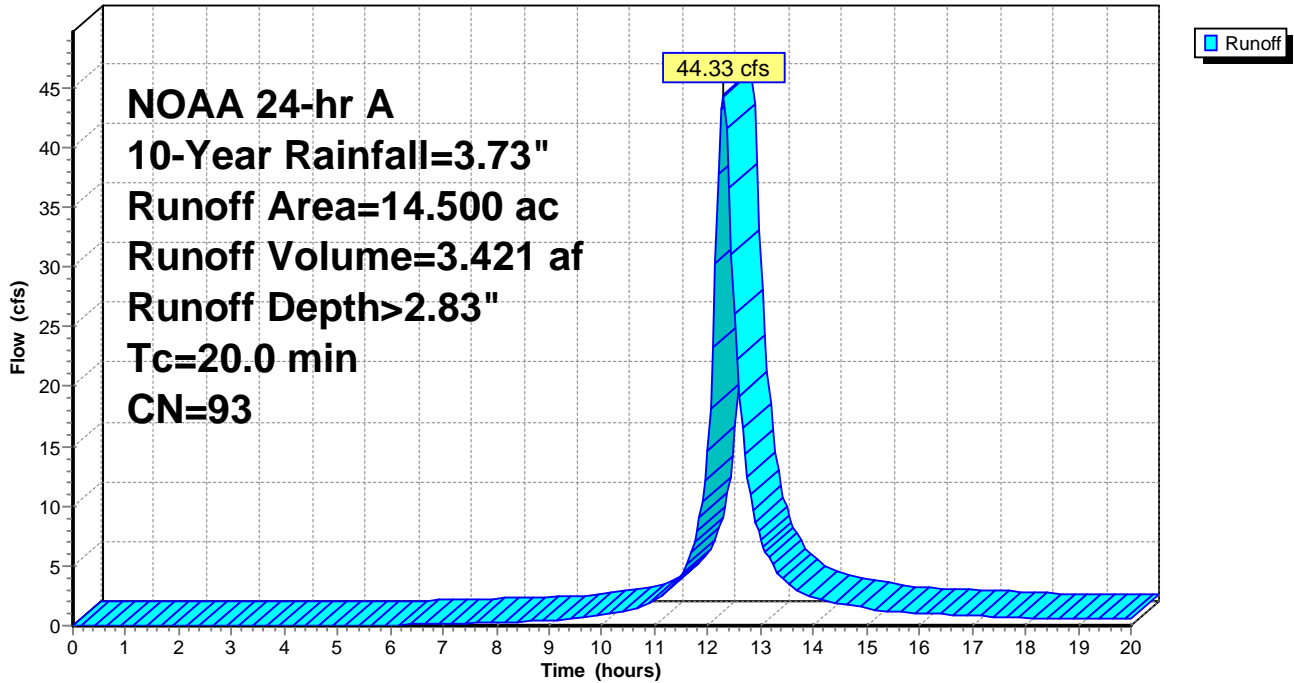
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
1.400	98	Water Surface, HSG D
13.100	92	1/8 acre lots, 65% imp, HSG D
14.500	93	Weighted Average
4.585		31.62% Pervious Area
9.915		68.38% Impervious Area

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

**Subcatchment 19S: POST A2**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 42

## Summary for Subcatchment 20S: OFFSITE A

Runoff = 9.33 cfs @ 12.24 hrs, Volume= 0.587 af, Depth> 1.72"

Routed to Pond 1P : DRY BASIN A

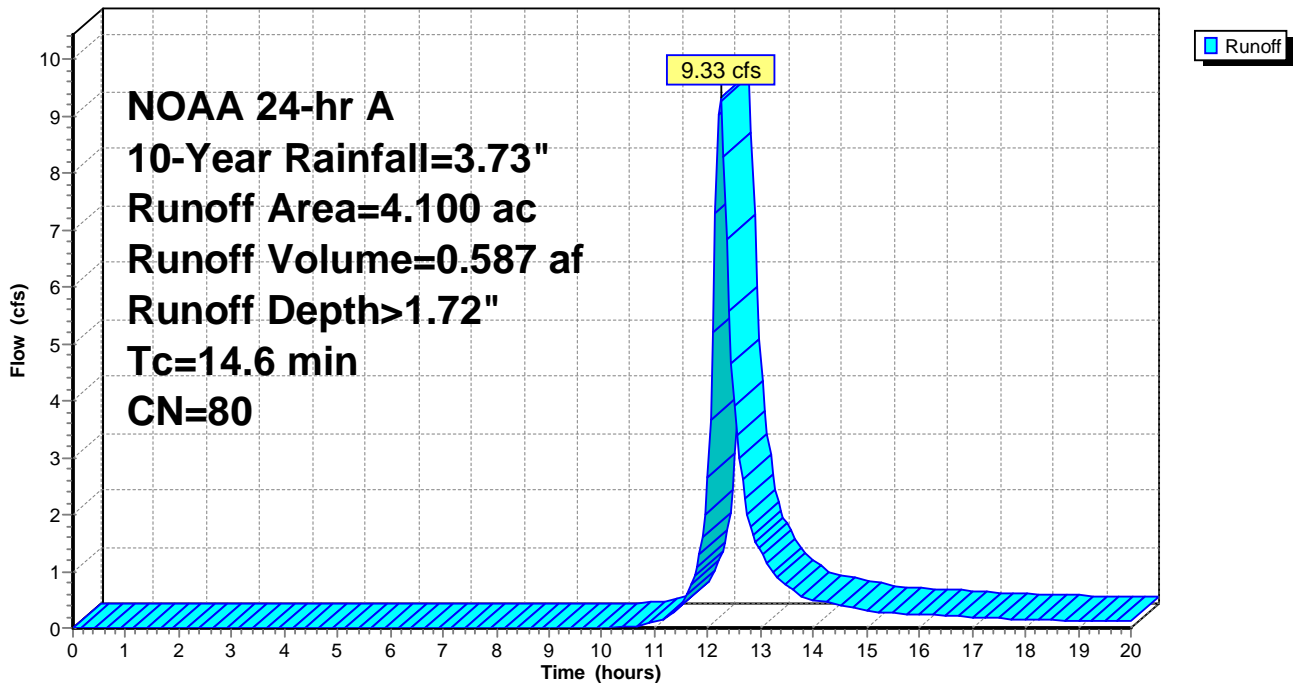
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
4.100	80	>75% Grass cover, Good, HSG D
4.100		100.00% Pervious Area

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

## Subcatchment 20S: OFFSITE A

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 43

**Summary for Subcatchment 21S: POST B1**

Runoff = 20.56 cfs @ 12.29 hrs, Volume= 1.571 af, Depth> 2.73"  
 Routed to Pond 3P : DRY BASIN C

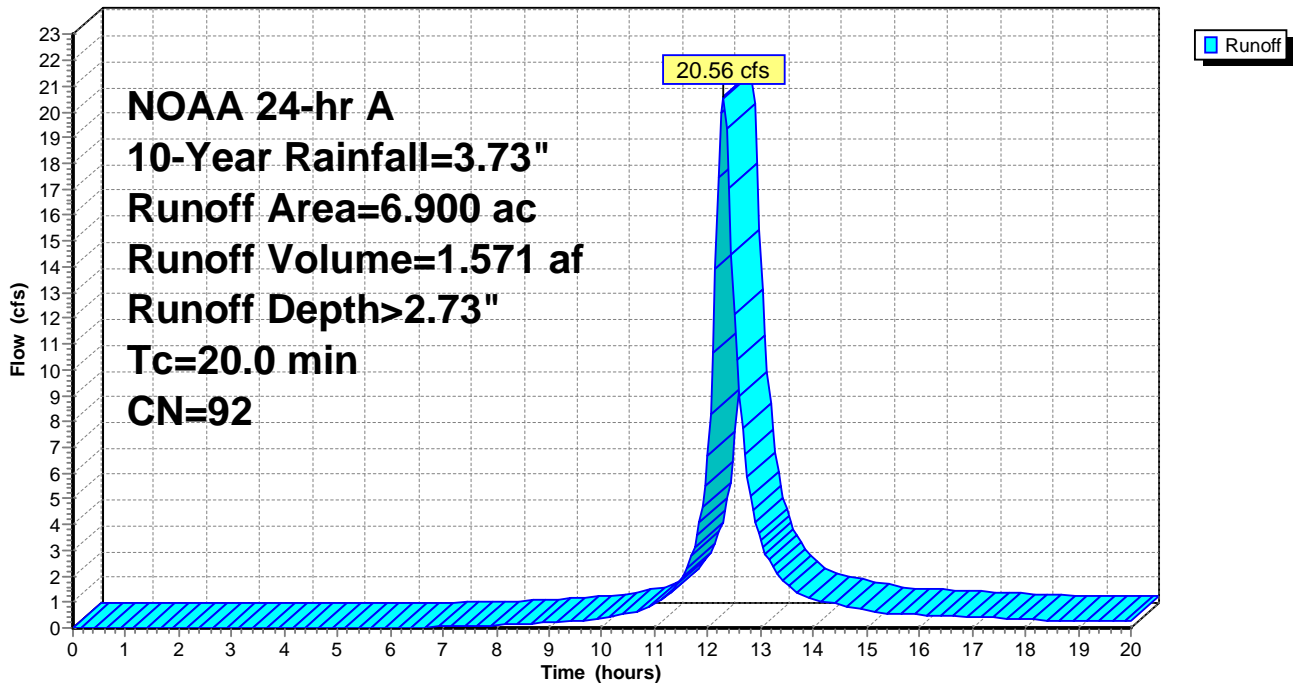
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
6.900	92	1/8 acre lots, 65% imp, HSG D
2.415		35.00% Pervious Area
4.485		65.00% Impervious Area

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

**Subcatchment 21S: POST B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 44

**Summary for Subcatchment 22S: POST B2**

Runoff = 22.69 cfs @ 12.76 hrs, Volume= 2.902 af, Depth> 1.63"  
 Routed to Pond 5P : WET BASIN E

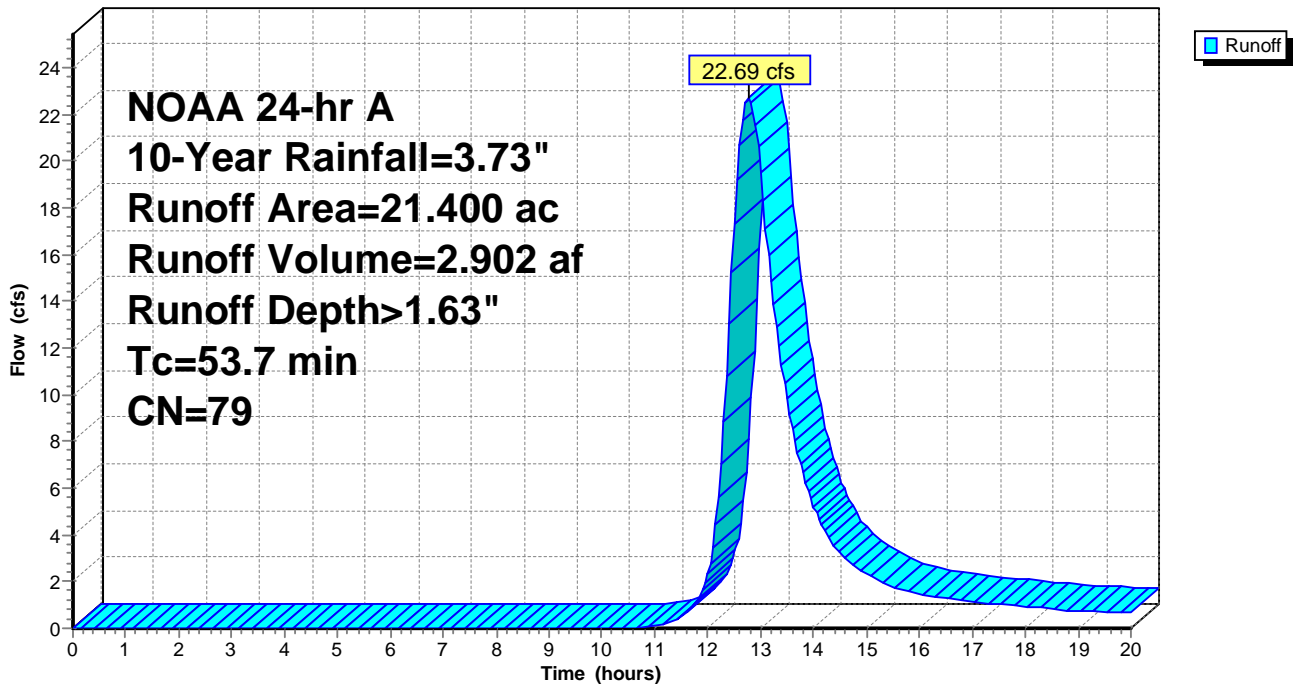
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
8.100	80	>75% Grass cover, Good, HSG D
13.300	79	Woods, Fair, HSG D
21.400	79	Weighted Average
21.400		100.00% Pervious Area

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

**Subcatchment 22S: POST B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 45

**Summary for Subcatchment 23S: POST B3**

Runoff = 13.63 cfs @ 12.71 hrs, Volume= 1.786 af, Depth> 2.71"  
 Routed to Pond 4P : DRY BASIN D

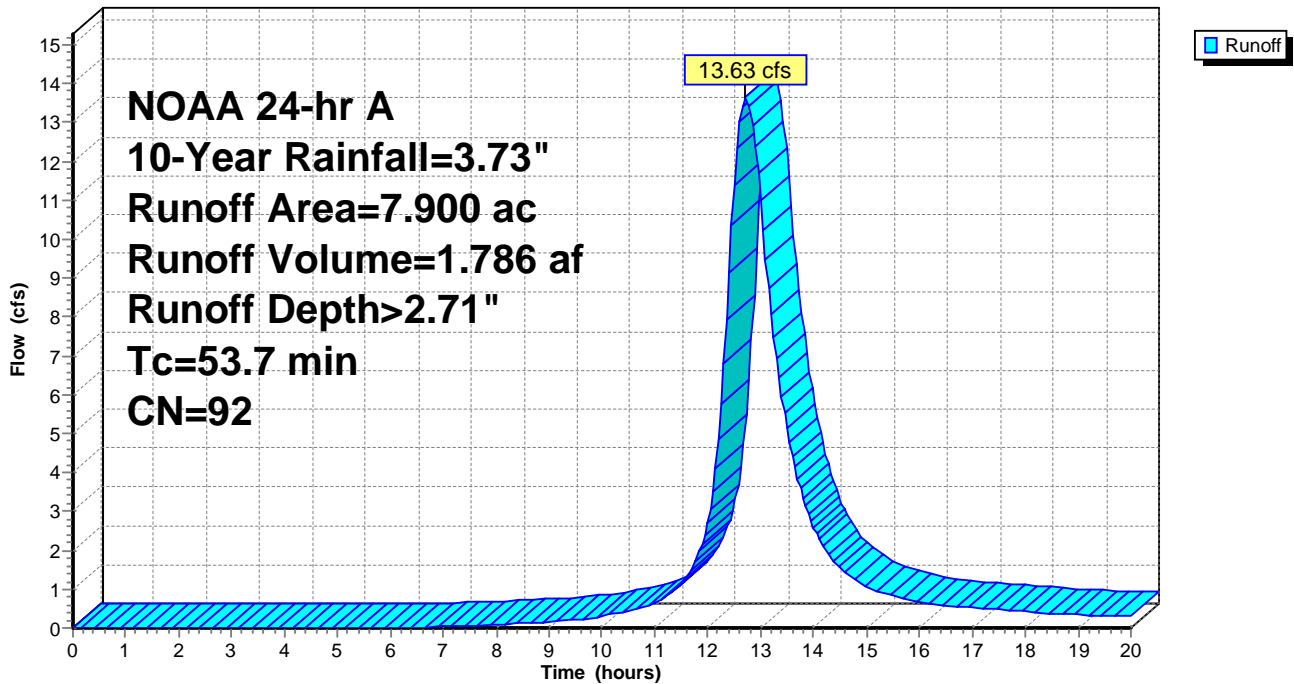
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
2.700	80	>75% Grass cover, Good, HSG D
2.900	98	Water Surface, HSG D
2.300	98	Paved roads w/curbs & sewers, HSG D
7.900	92	Weighted Average
2.700		34.18% Pervious Area
5.200		65.82% Impervious Area

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

**Subcatchment 23S: POST B3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 46

**Summary for Subcatchment 24S: POST B4**

Runoff = 43.86 cfs @ 12.42 hrs, Volume= 4.112 af, Depth> 2.73"  
 Routed to Pond 5P : WET BASIN E

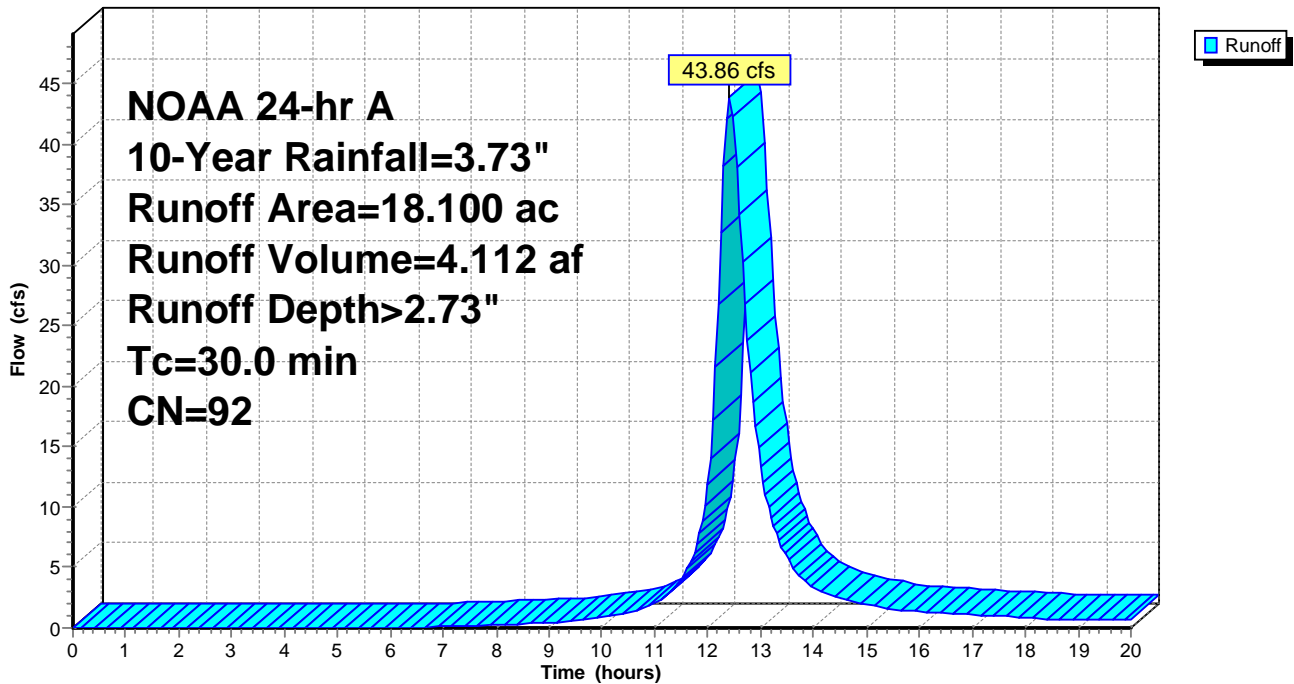
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
13.000	92	1/8 acre lots, 65% imp, HSG D
1.600	80	>75% Grass cover, Good, HSG D
3.500	98	Water Surface, HSG D
18.100	92	Weighted Average
6.150		33.98% Pervious Area
11.950		66.02% Impervious Area

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

**Subcatchment 24S: POST B4**

Hydrograph





# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 47

## Summary for Subcatchment 25S: OFFSITE B1

Runoff = 10.80 cfs @ 12.34 hrs, Volume= 0.843 af, Depth> 1.71"  
Routed to Pond 4P : DRY BASIN D

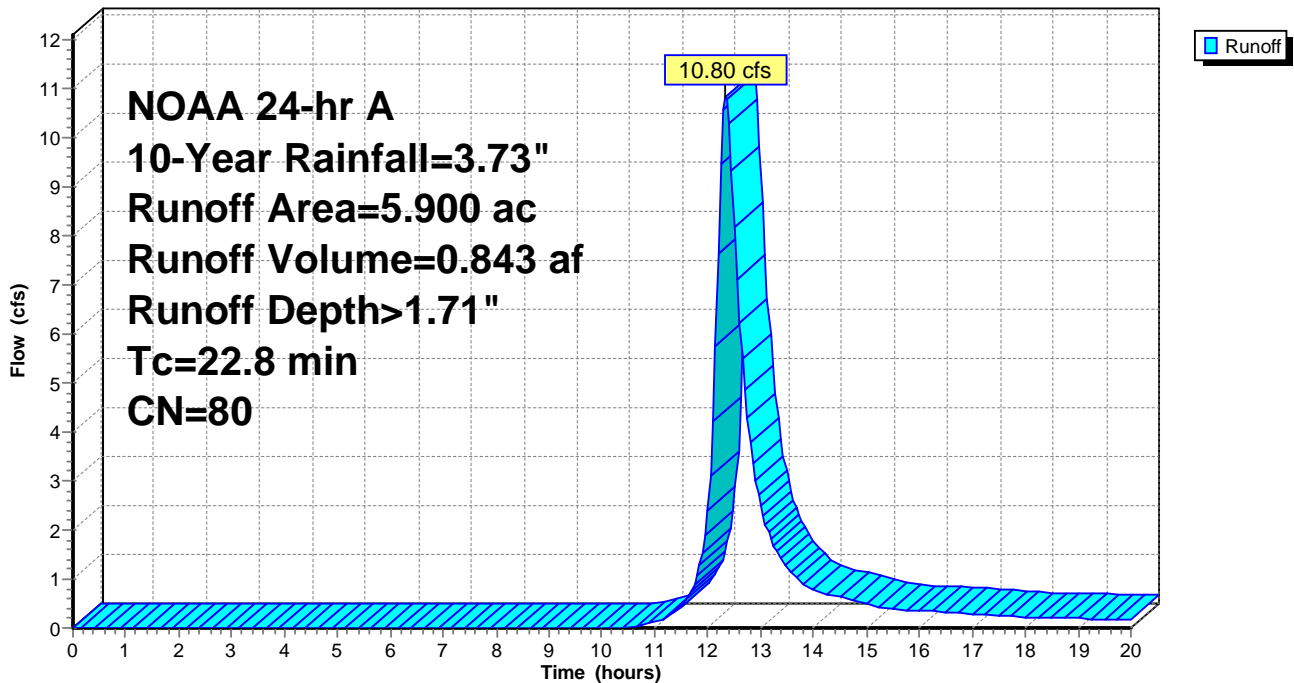
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

## Subcatchment 25S: OFFSITE B1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 48

**Summary for Subcatchment 26S: OFFSITE B2**

Runoff = 7.14 cfs @ 12.18 hrs, Volume= 0.385 af, Depth> 1.65"  
 Routed to Pond 5P : WET BASIN E

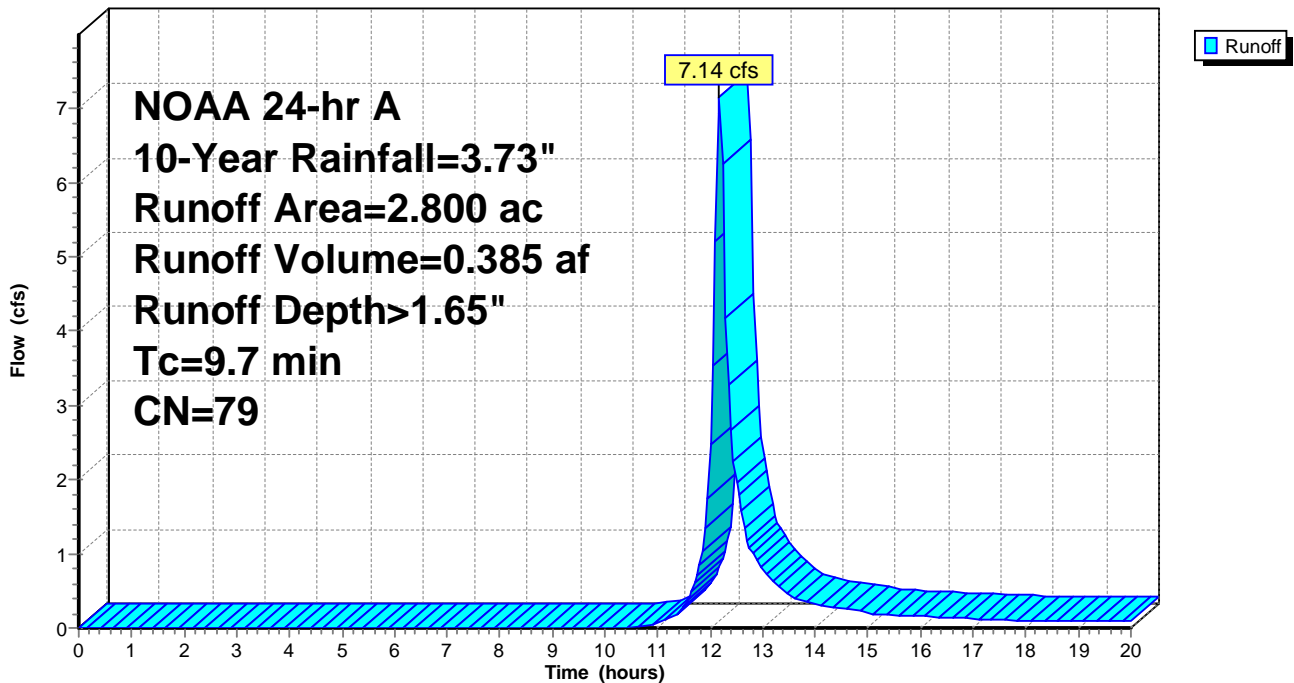
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 26S: OFFSITE B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 49

**Summary for Subcatchment 27S: POST C1**

Runoff = 31.80 cfs @ 12.29 hrs, Volume= 2.483 af, Depth> 2.93"  
 Routed to Pond 6P : DRY BASIN F

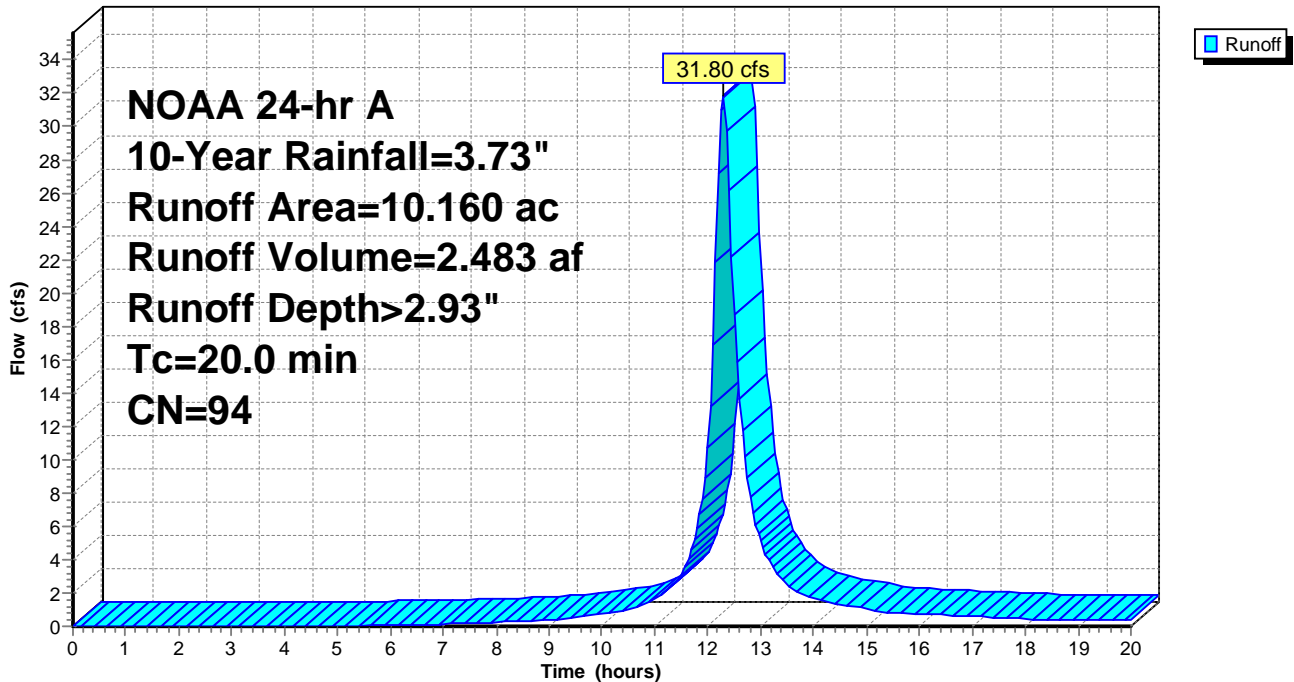
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
1.200	98	Paved roads w/curbs & sewers, HSG D
2.800	98	Water Surface, HSG D
5.500	92	1/8 acre lots, 65% imp, HSG D
0.660	80	>75% Grass cover, Good, HSG D
10.160	94	Weighted Average
2.585		25.44% Pervious Area
7.575		74.56% Impervious Area

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

**Subcatchment 27S: POST C1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 50

**Summary for Subcatchment 28S: POST C2**

Runoff = 13.15 cfs @ 12.29 hrs, Volume= 1.014 af, Depth> 2.83"  
 Routed to Pond 7P : WET BASIN G

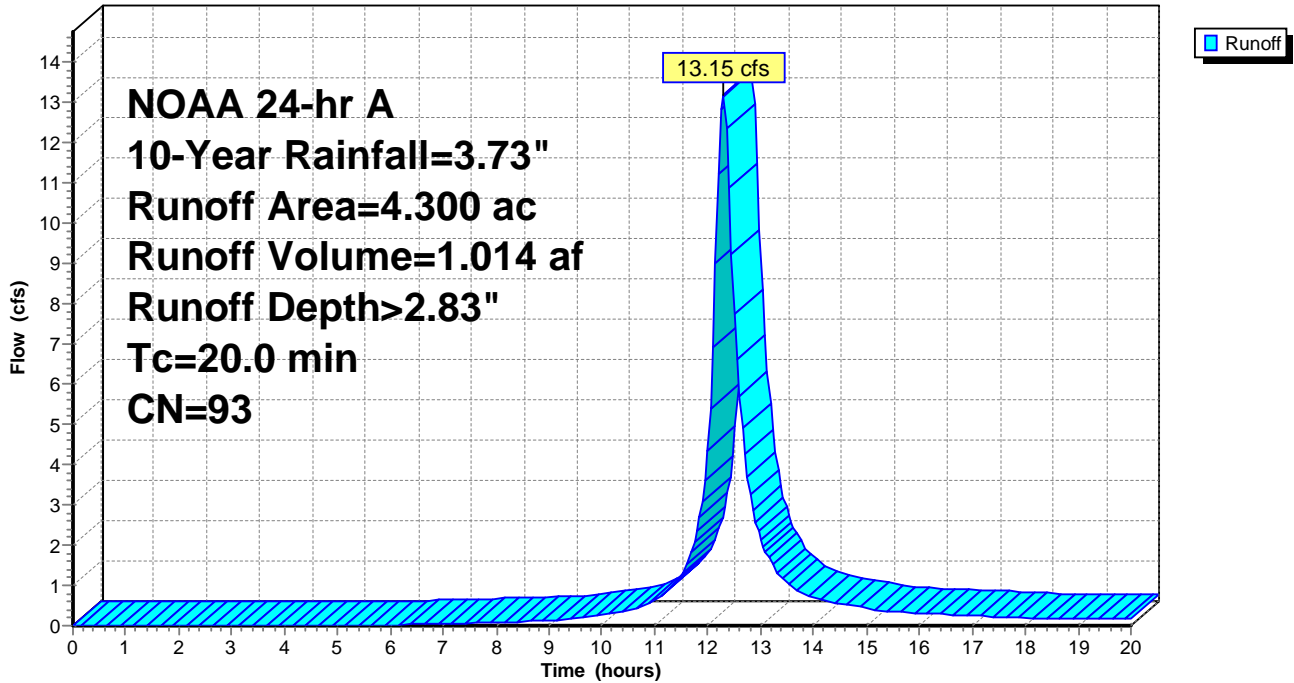
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
3.700	92	1/8 acre lots, 65% imp, HSG D
0.600	98	Water Surface, HSG D
4.300	93	Weighted Average
1.295		30.12% Pervious Area
3.005		69.88% Impervious Area

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

**Subcatchment 28S: POST C2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 51

**Summary for Subcatchment 29S: POST C3**

Runoff = 26.44 cfs @ 12.29 hrs, Volume= 2.041 af, Depth> 2.83"  
 Routed to Pond 8P : DRY BASIN H

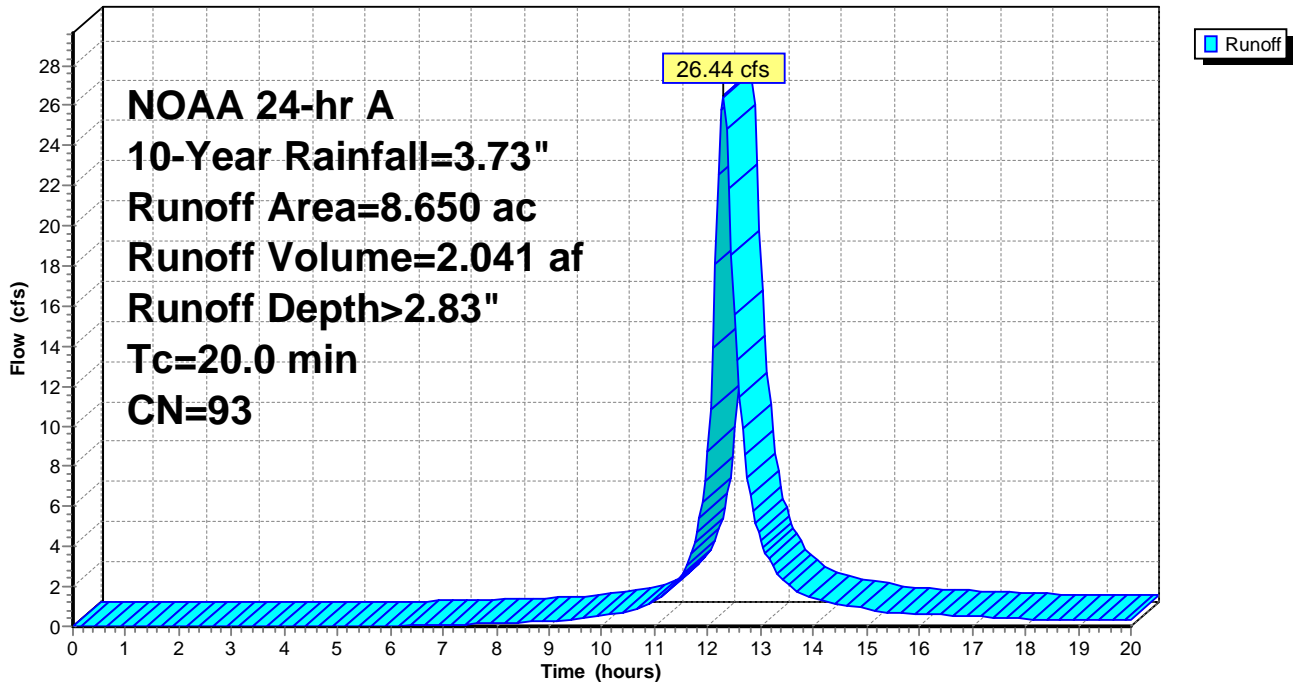
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
1.400	98	Paved roads w/curbs & sewers, HSG D
1.600	98	Water Surface, HSG D
4.900	92	1/8 acre lots, 65% imp, HSG D
0.750	80	>75% Grass cover, Good, HSG D
8.650	93	Weighted Average
2.465		28.50% Pervious Area
6.185		71.50% Impervious Area

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

**Subcatchment 29S: POST C3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 10-Year Rainfall=3.73"

Printed 6/7/2023

Page 52

**Summary for Subcatchment 30S: POST C4**

Runoff = 9.17 cfs @ 12.29 hrs, Volume= 0.708 af, Depth> 2.83"  
 Routed to Pond 9P : DRY BASIN I

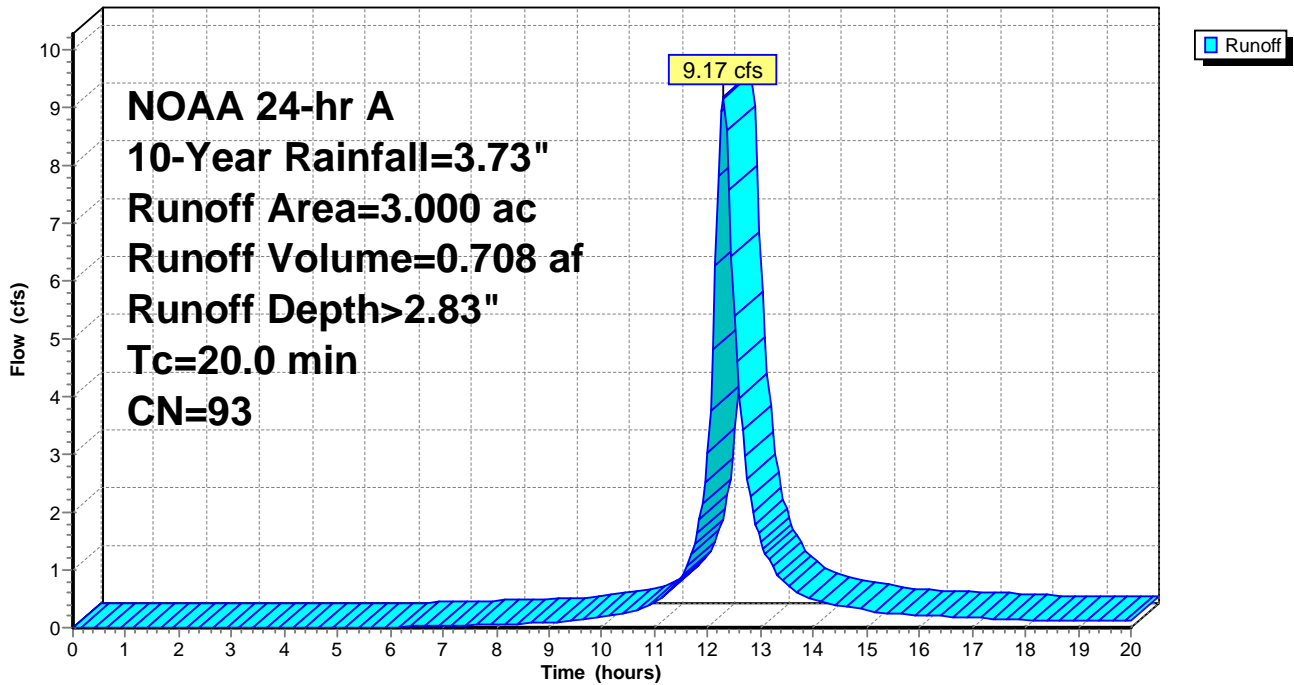
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 10-Year Rainfall=3.73"

Area (ac)	CN	Description
2.600	92	1/8 acre lots, 65% imp, HSG D
0.400	98	Water Surface, HSG D
3.000	93	Weighted Average
0.910		30.33% Pervious Area
2.090		69.67% Impervious Area

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

**Subcatchment 30S: POST C4**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 53

**Summary for Subcatchment 18S: POST A1**

Runoff = 22.38 cfs @ 12.29 hrs, Volume= 1.748 af, Depth> 3.50"  
 Routed to Pond 1P : DRY BASIN A

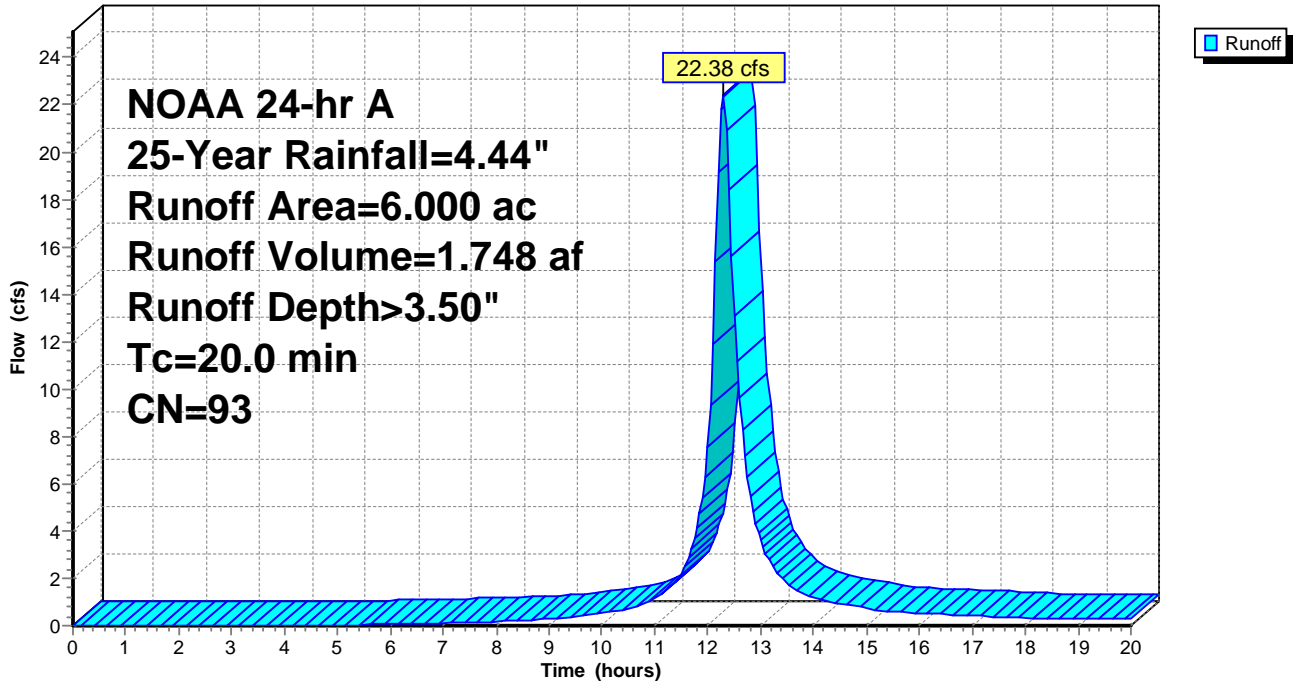
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
0.800	98	Water Surface, HSG D
5.200	92	1/8 acre lots, 65% imp, HSG D
6.000	93	Weighted Average
1.820		30.33% Pervious Area
4.180		69.67% Impervious Area

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

**Subcatchment 18S: POST A1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 54

**Summary for Subcatchment 19S: POST A2**

Runoff = 54.09 cfs @ 12.29 hrs, Volume= 4.225 af, Depth> 3.50"  
 Routed to Pond 2P : DRY BASIN B

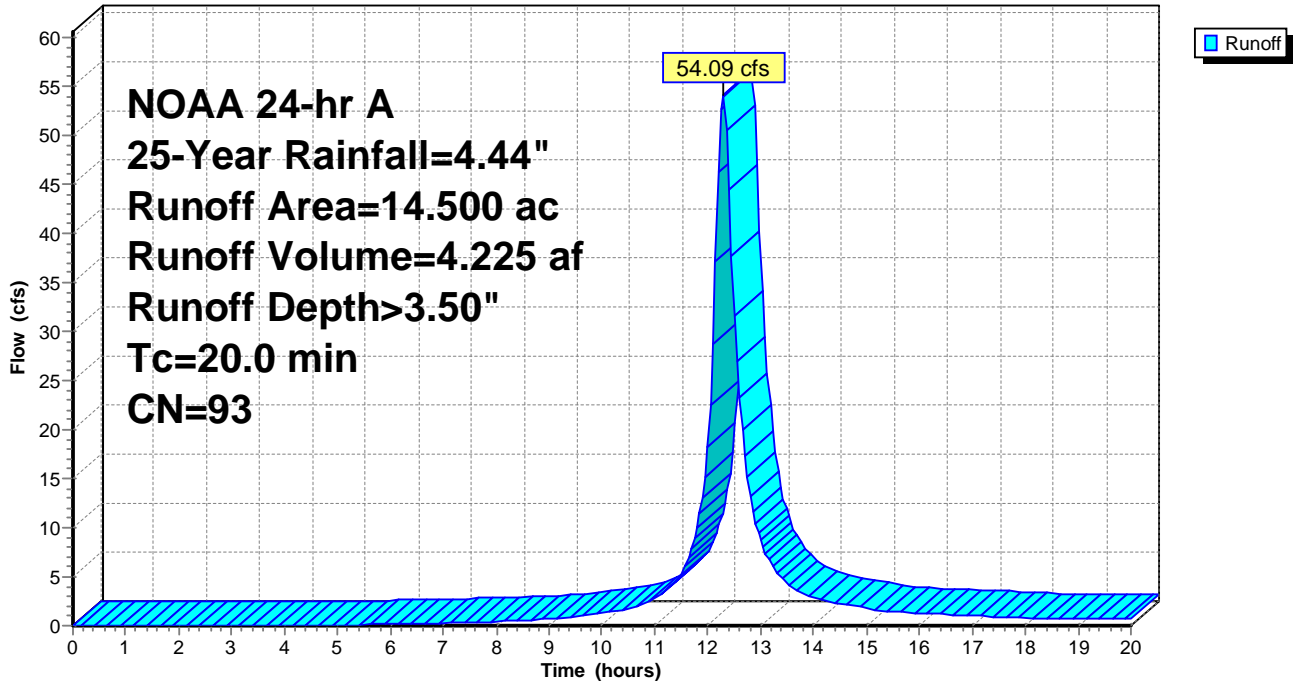
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
1.400	98	Water Surface, HSG D
13.100	92	1/8 acre lots, 65% imp, HSG D
14.500	93	Weighted Average
4.585		31.62% Pervious Area
9.915		68.38% Impervious Area

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

**Subcatchment 19S: POST A2**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 55

**Summary for Subcatchment 20S: OFFSITE A**

Runoff = 12.35 cfs @ 12.23 hrs, Volume= 0.780 af, Depth> 2.28"

Routed to Pond 1P : DRY BASIN A

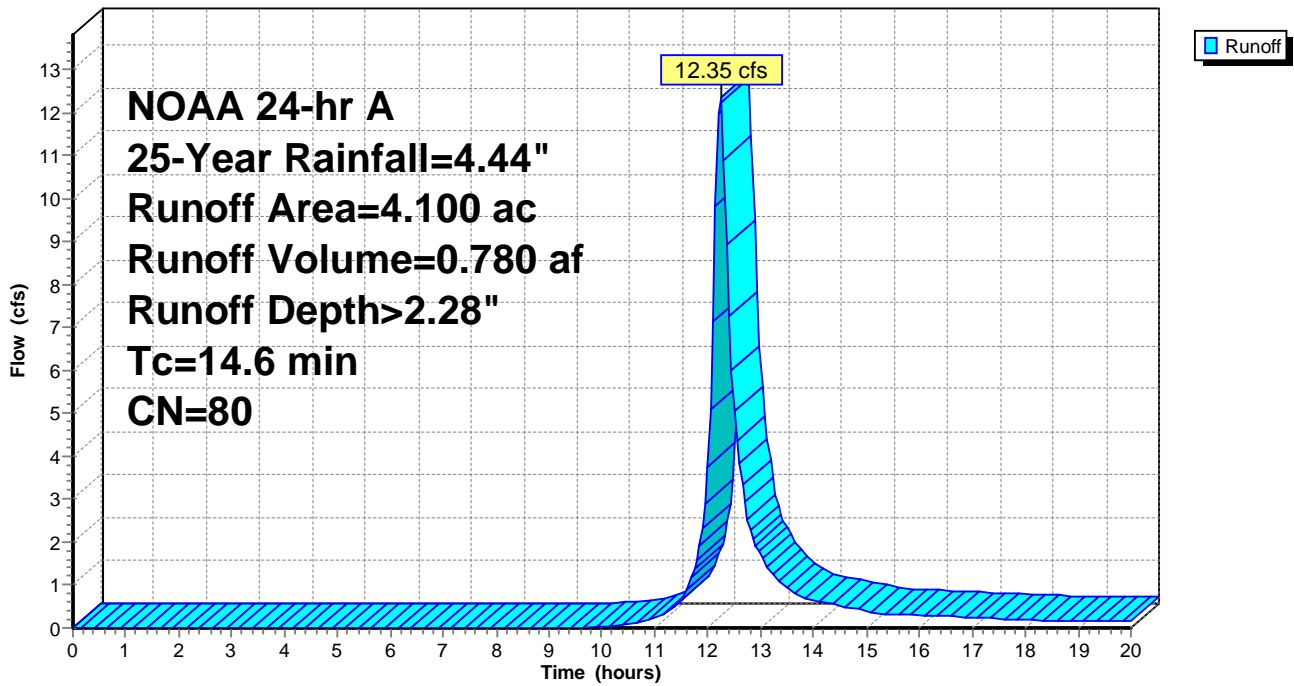
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
4.100	80	>75% Grass cover, Good, HSG D
4.100		100.00% Pervious Area

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

**Subcatchment 20S: OFFSITE A**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 56

## Summary for Subcatchment 21S: POST B1

Runoff = 25.23 cfs @ 12.29 hrs, Volume= 1.951 af, Depth> 3.39"  
Routed to Pond 3P : DRY BASIN C

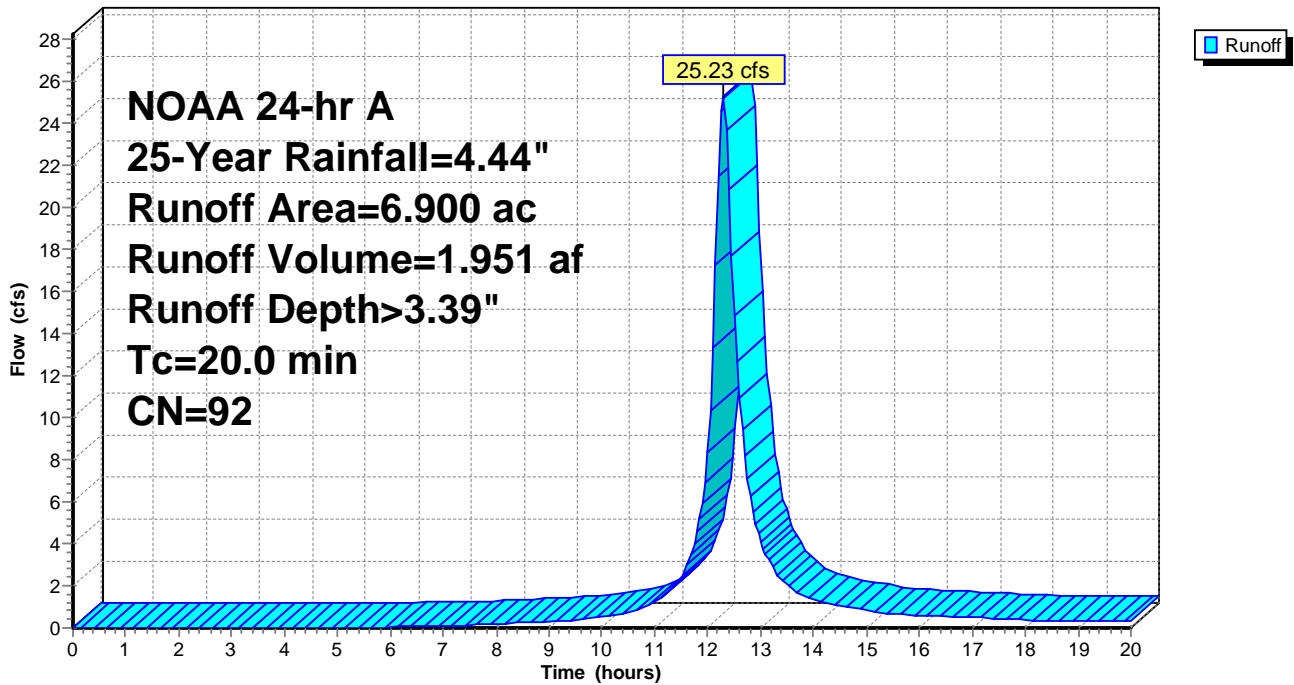
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
6.900	92	1/8 acre lots, 65% imp, HSG D
2.415		35.00% Pervious Area
4.485		65.00% Impervious Area

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

## Subcatchment 21S: POST B1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 57

**Summary for Subcatchment 22S: POST B2**

Runoff = 30.45 cfs @ 12.75 hrs, Volume= 3.882 af, Depth> 2.18"  
 Routed to Pond 5P : WET BASIN E

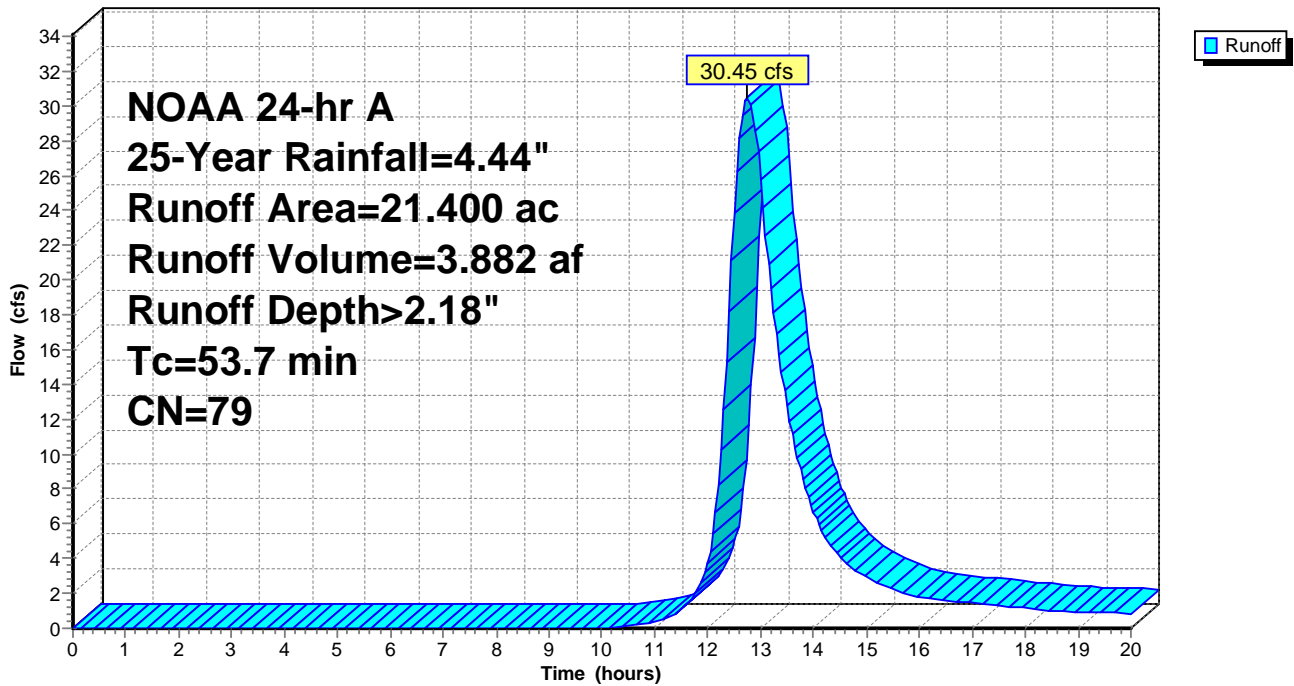
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
8.100	80	>75% Grass cover, Good, HSG D
13.300	79	Woods, Fair, HSG D
21.400	79	Weighted Average
21.400		100.00% Pervious Area

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

**Subcatchment 22S: POST B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 58

**Summary for Subcatchment 23S: POST B3**

Runoff = 16.77 cfs @ 12.71 hrs, Volume= 2.218 af, Depth> 3.37"  
 Routed to Pond 4P : DRY BASIN D

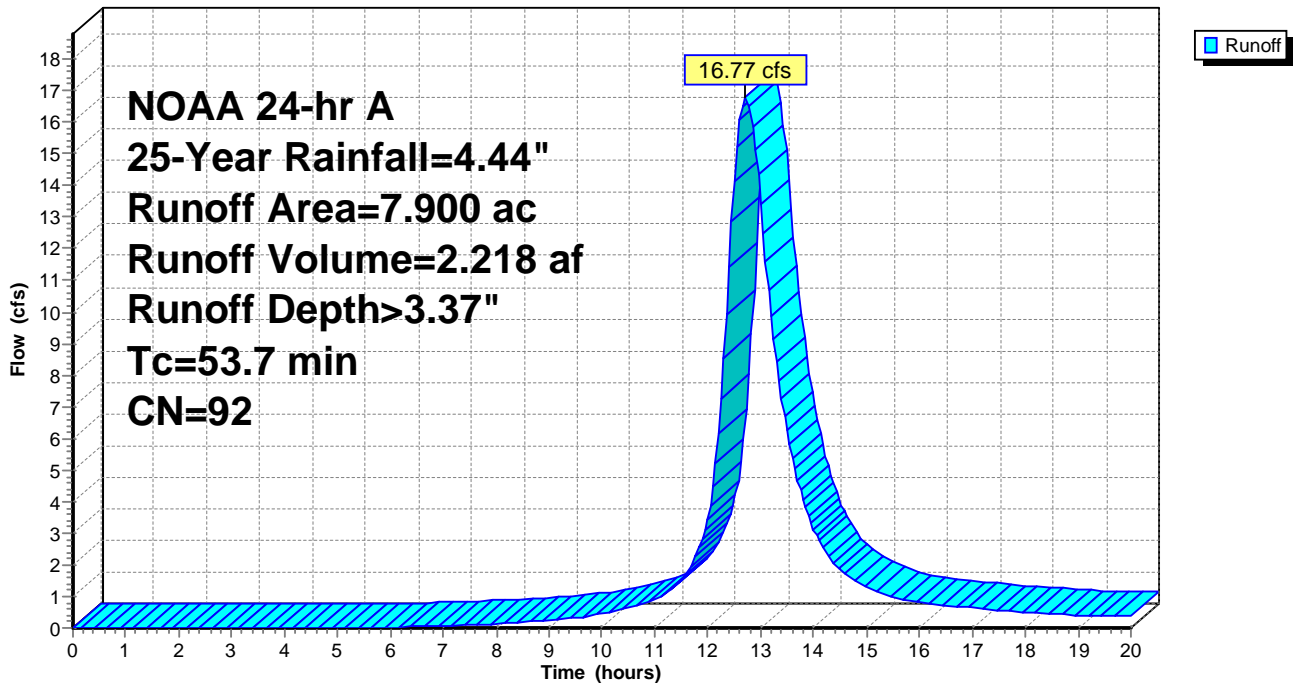
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
2.700	80	>75% Grass cover, Good, HSG D
2.900	98	Water Surface, HSG D
2.300	98	Paved roads w/curbs & sewers, HSG D
7.900	92	Weighted Average
2.700		34.18% Pervious Area
5.200		65.82% Impervious Area

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

**Subcatchment 23S: POST B3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 59

**Summary for Subcatchment 24S: POST B4**

Runoff = 53.87 cfs @ 12.41 hrs, Volume= 5.107 af, Depth> 3.39"  
 Routed to Pond 5P : WET BASIN E

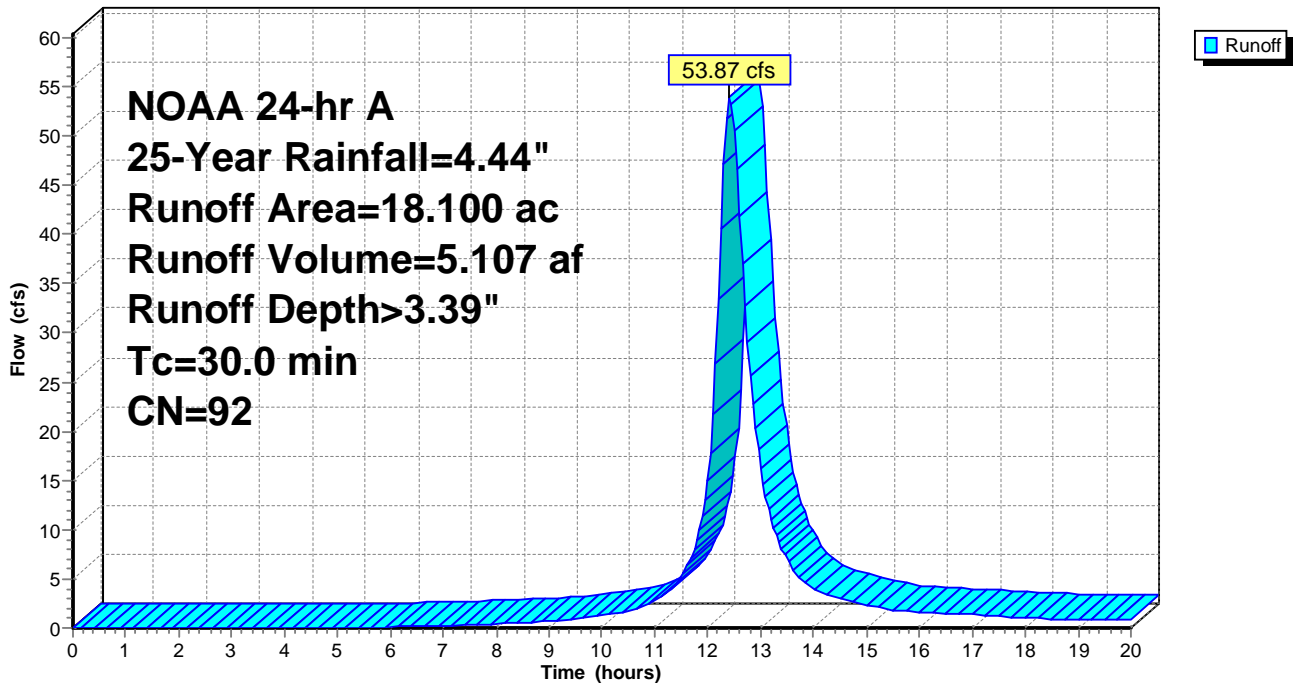
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
13.000	92	1/8 acre lots, 65% imp, HSG D
1.600	80	>75% Grass cover, Good, HSG D
3.500	98	Water Surface, HSG D
18.100	92	Weighted Average
6.150		33.98% Pervious Area
11.950		66.02% Impervious Area

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

**Subcatchment 24S: POST B4**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 60

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 14.34 cfs @ 12.34 hrs, Volume= 1.120 af, Depth> 2.28"  
 Routed to Pond 4P : DRY BASIN D

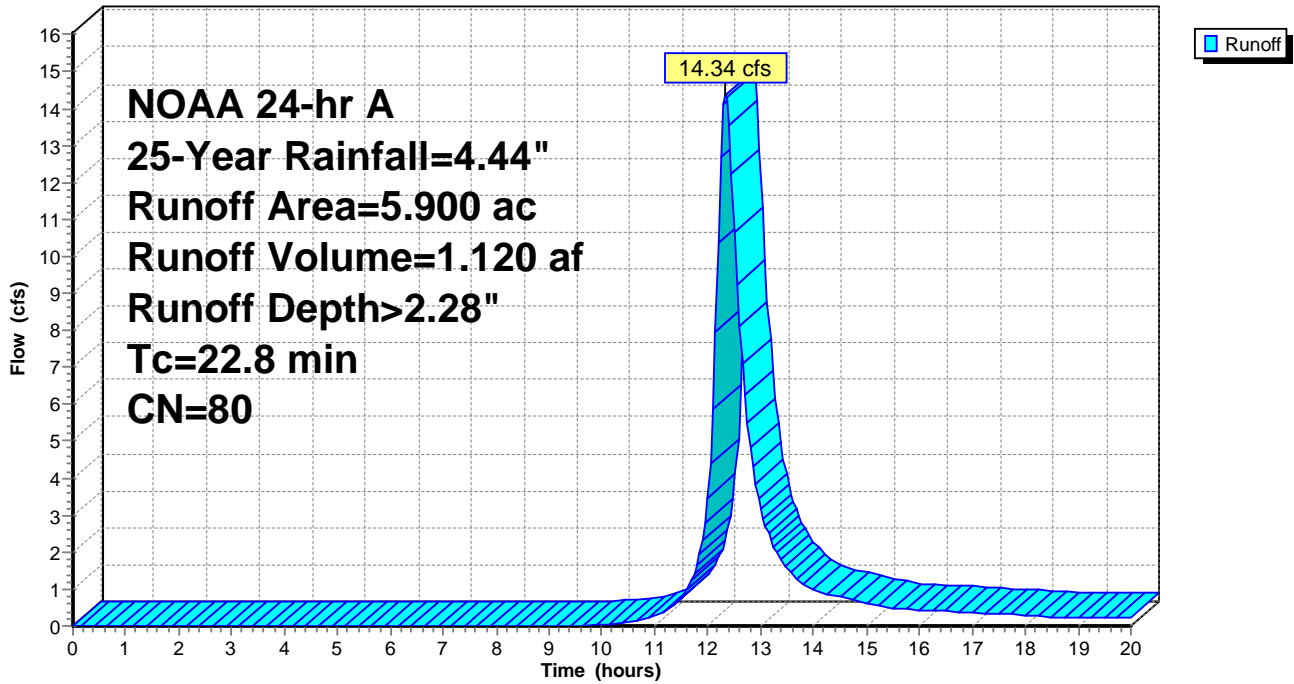
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 61

**Summary for Subcatchment 26S: OFFSITE B2**

Runoff = 9.55 cfs @ 12.17 hrs, Volume= 0.514 af, Depth> 2.20"  
 Routed to Pond 5P : WET BASIN E

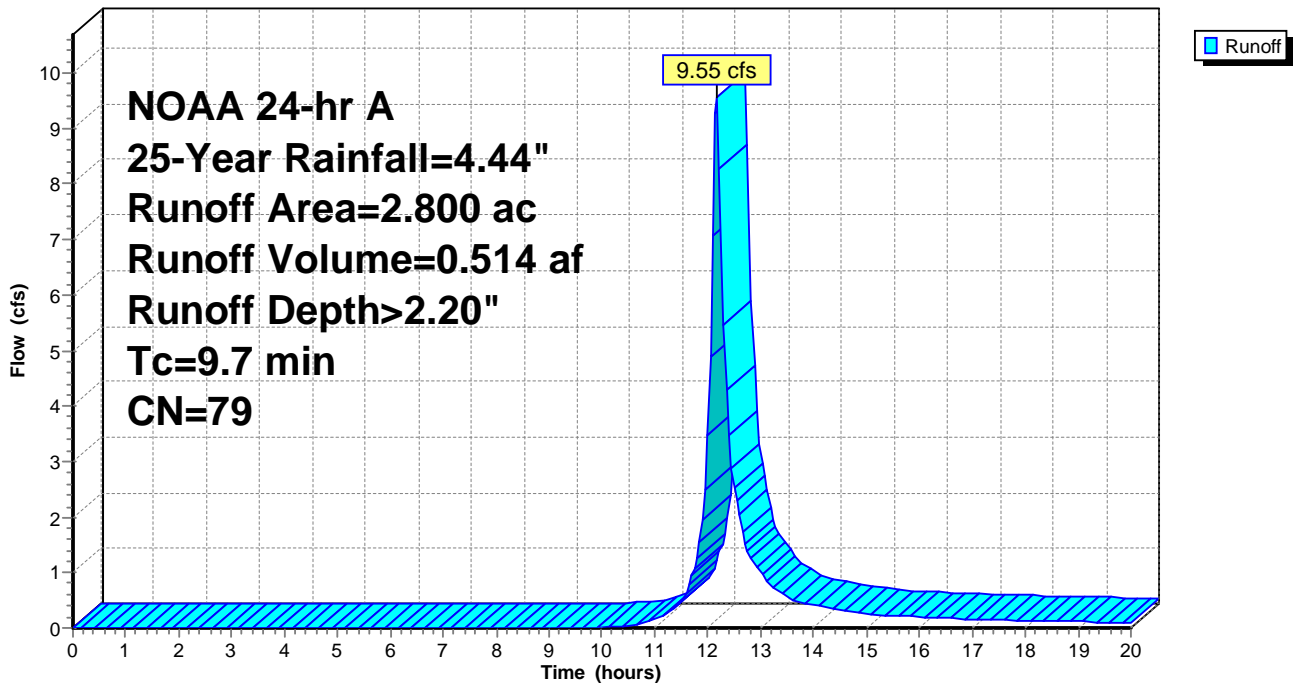
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 26S: OFFSITE B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 62

**Summary for Subcatchment 27S: POST C1**

Runoff = 38.60 cfs @ 12.29 hrs, Volume= 3.051 af, Depth> 3.60"  
 Routed to Pond 6P : DRY BASIN F

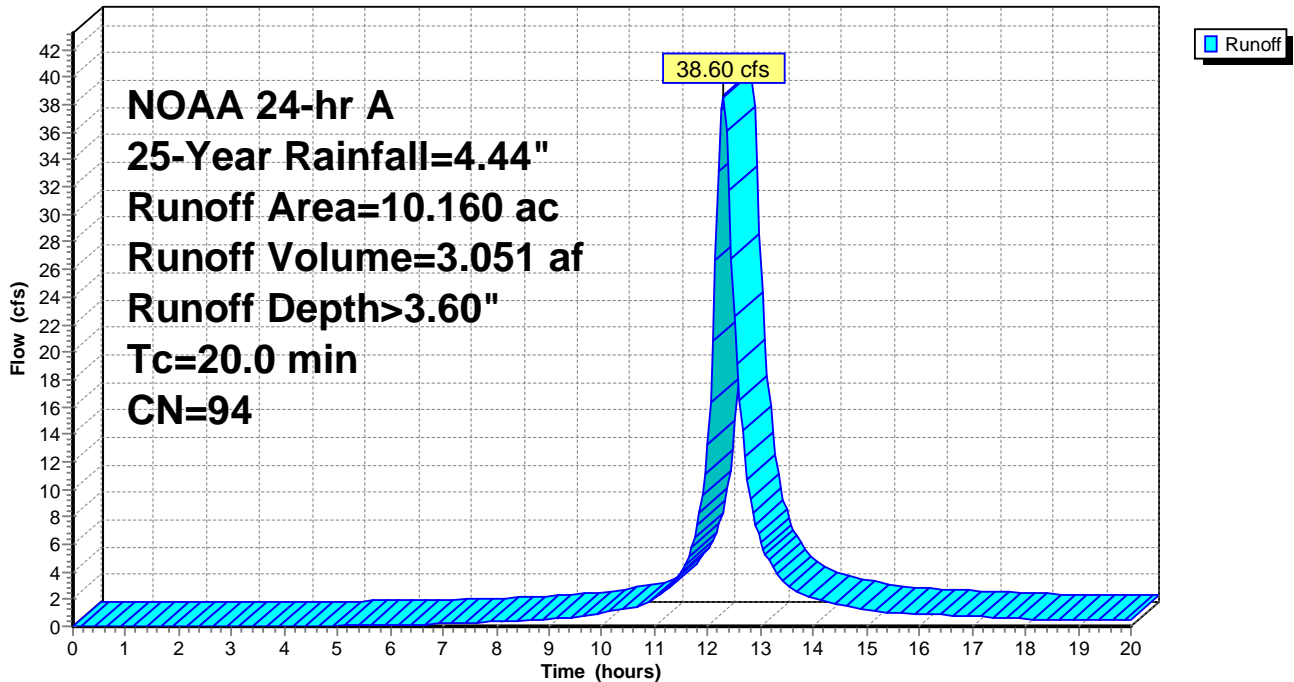
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
1.200	98	Paved roads w/curbs & sewers, HSG D
2.800	98	Water Surface, HSG D
5.500	92	1/8 acre lots, 65% imp, HSG D
0.660	80	>75% Grass cover, Good, HSG D
10.160	94	Weighted Average
2.585		25.44% Pervious Area
7.575		74.56% Impervious Area

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

**Subcatchment 27S: POST C1**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 63

**Summary for Subcatchment 28S: POST C2**

Runoff = 16.04 cfs @ 12.29 hrs, Volume= 1.253 af, Depth> 3.50"  
 Routed to Pond 7P : WET BASIN G

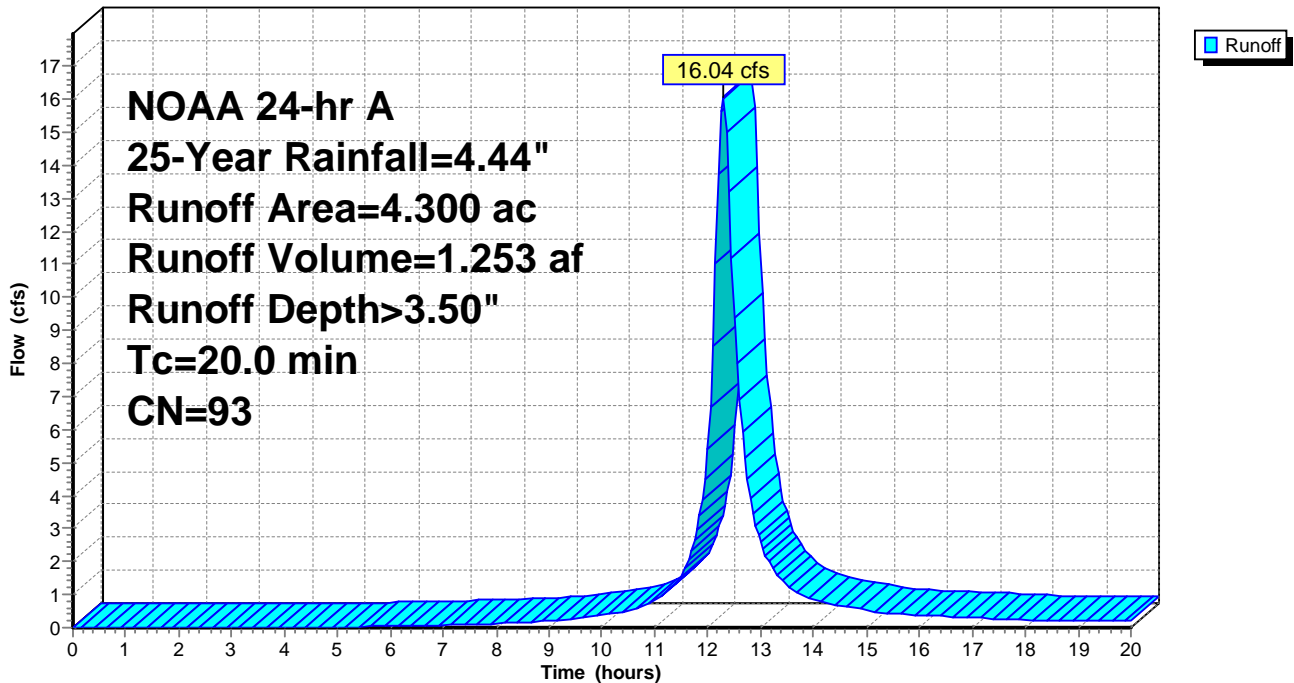
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
3.700	92	1/8 acre lots, 65% imp, HSG D
0.600	98	Water Surface, HSG D
4.300	93	Weighted Average
1.295		30.12% Pervious Area
3.005		69.88% Impervious Area

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

**Subcatchment 28S: POST C2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 64

**Summary for Subcatchment 29S: POST C3**

Runoff = 32.27 cfs @ 12.29 hrs, Volume= 2.521 af, Depth> 3.50"

Routed to Pond 8P : DRY BASIN H

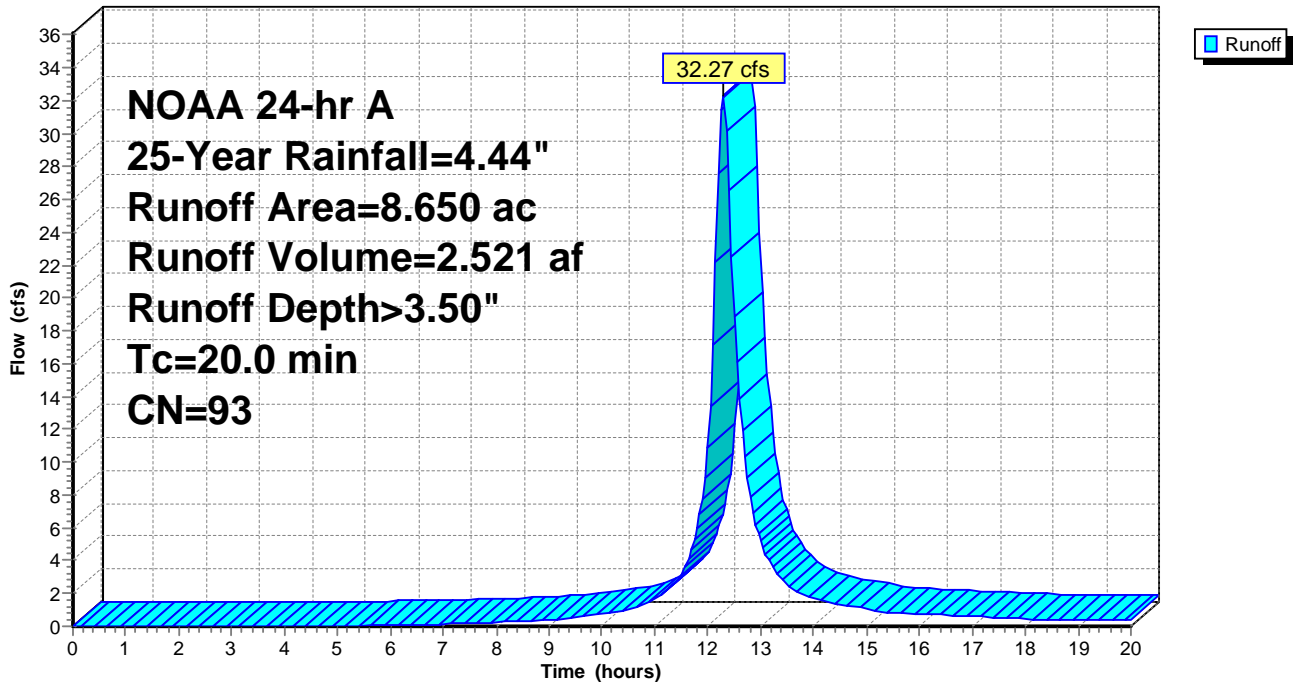
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
1.400	98	Paved roads w/curbs & sewers, HSG D
1.600	98	Water Surface, HSG D
4.900	92	1/8 acre lots, 65% imp, HSG D
0.750	80	>75% Grass cover, Good, HSG D
8.650	93	Weighted Average
2.465		28.50% Pervious Area
6.185		71.50% Impervious Area

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

**Subcatchment 29S: POST C3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 25-Year Rainfall=4.44"

Printed 6/7/2023

Page 65

**Summary for Subcatchment 30S: POST C4**

Runoff = 11.19 cfs @ 12.29 hrs, Volume= 0.874 af, Depth> 3.50"  
 Routed to Pond 9P : DRY BASIN I

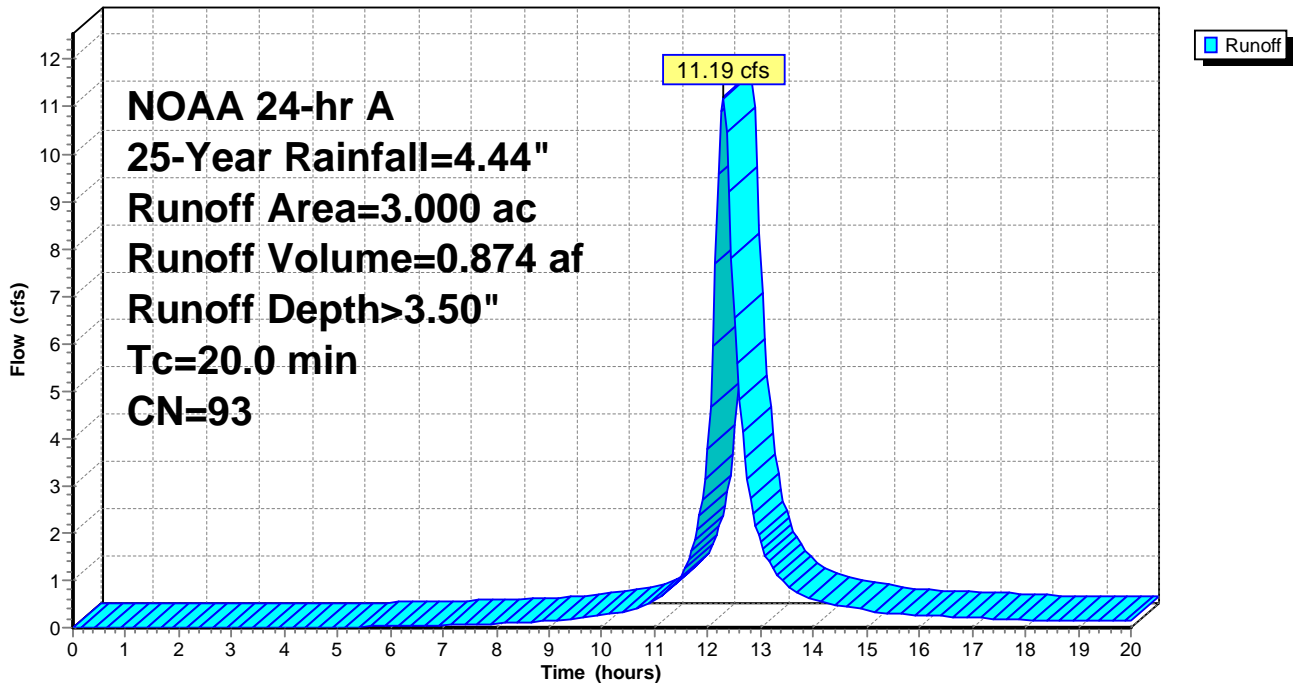
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 25-Year Rainfall=4.44"

Area (ac)	CN	Description
2.600	92	1/8 acre lots, 65% imp, HSG D
0.400	98	Water Surface, HSG D
3.000	93	Weighted Average
0.910		30.33% Pervious Area
2.090		69.67% Impervious Area

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

**Subcatchment 30S: POST C4**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 66

## Summary for Subcatchment 18S: POST A1

Runoff = 25.61 cfs @ 12.29 hrs, Volume= 2.018 af, Depth> 4.04"  
Routed to Pond 1P : DRY BASIN A

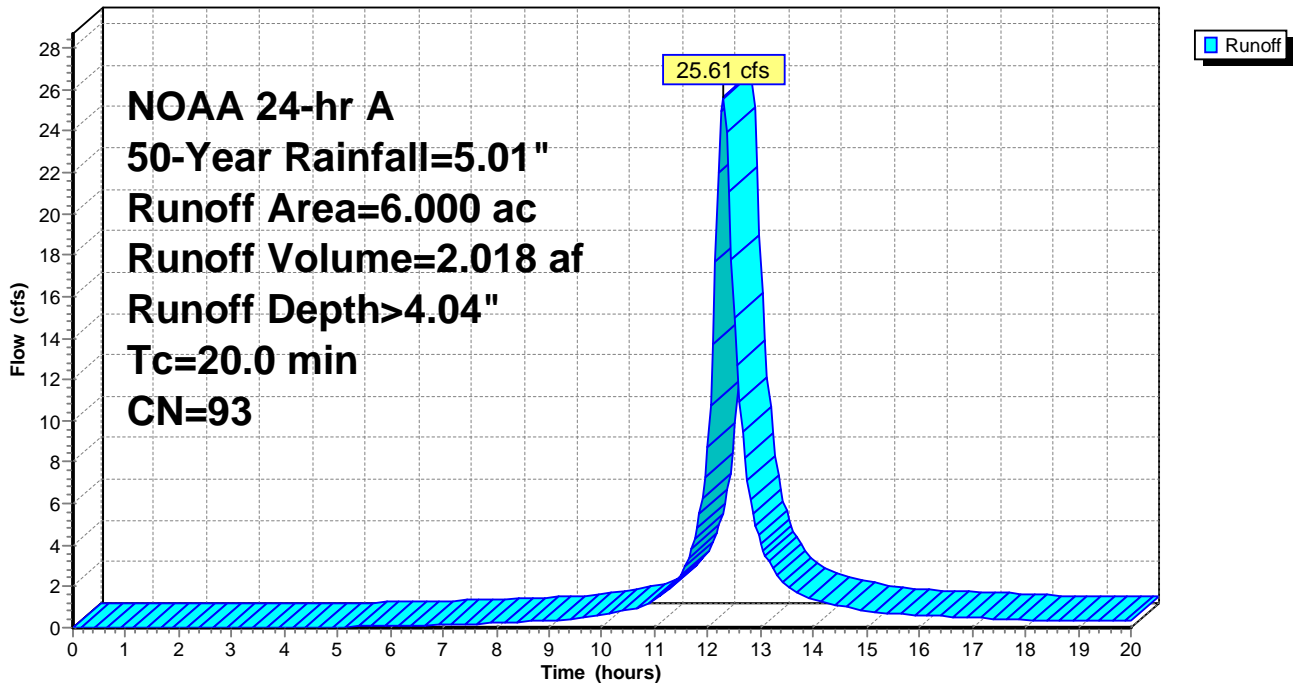
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
0.800	98	Water Surface, HSG D
5.200	92	1/8 acre lots, 65% imp, HSG D
6.000	93	Weighted Average
1.820		30.33% Pervious Area
4.180		69.67% Impervious Area

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

## Subcatchment 18S: POST A1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 67

**Summary for Subcatchment 19S: POST A2**

Runoff = 61.89 cfs @ 12.29 hrs, Volume= 4.876 af, Depth> 4.04"  
 Routed to Pond 2P : DRY BASIN B

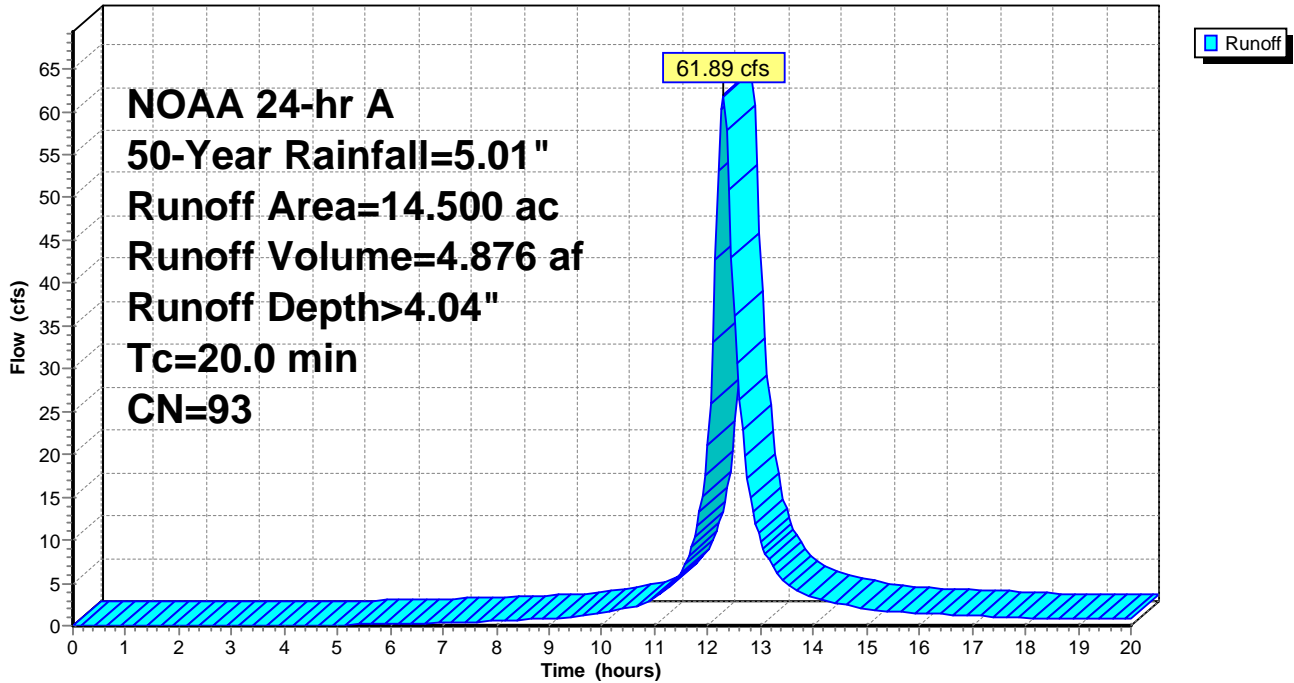
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
1.400	98	Water Surface, HSG D
13.100	92	1/8 acre lots, 65% imp, HSG D
14.500	93	Weighted Average
4.585		31.62% Pervious Area
9.915		68.38% Impervious Area

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

**Subcatchment 19S: POST A2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 68

**Summary for Subcatchment 20S: OFFSITE A**

Runoff = 14.84 cfs @ 12.23 hrs, Volume= 0.940 af, Depth> 2.75"

Routed to Pond 1P : DRY BASIN A

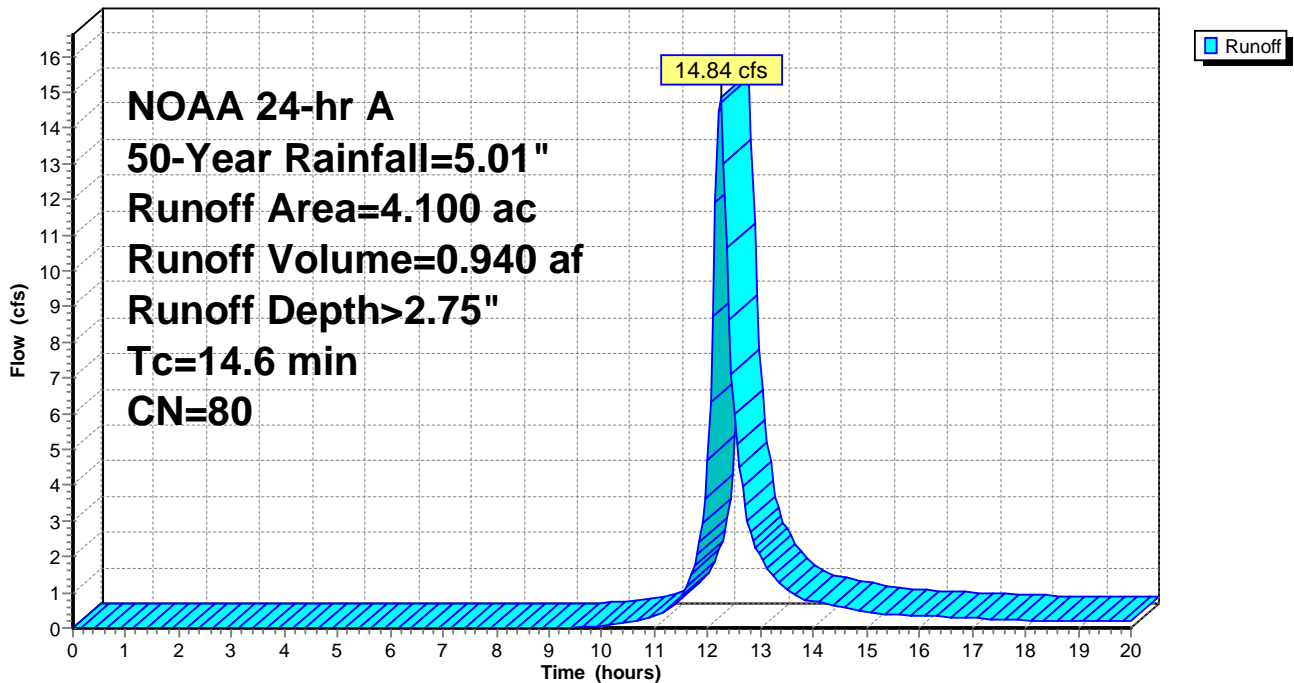
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
4.100	80	>75% Grass cover, Good, HSG D
4.100		100.00% Pervious Area

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

**Subcatchment 20S: OFFSITE A**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 69

## Summary for Subcatchment 21S: POST B1

Runoff = 28.96 cfs @ 12.29 hrs, Volume= 2.258 af, Depth> 3.93"  
Routed to Pond 3P : DRY BASIN C

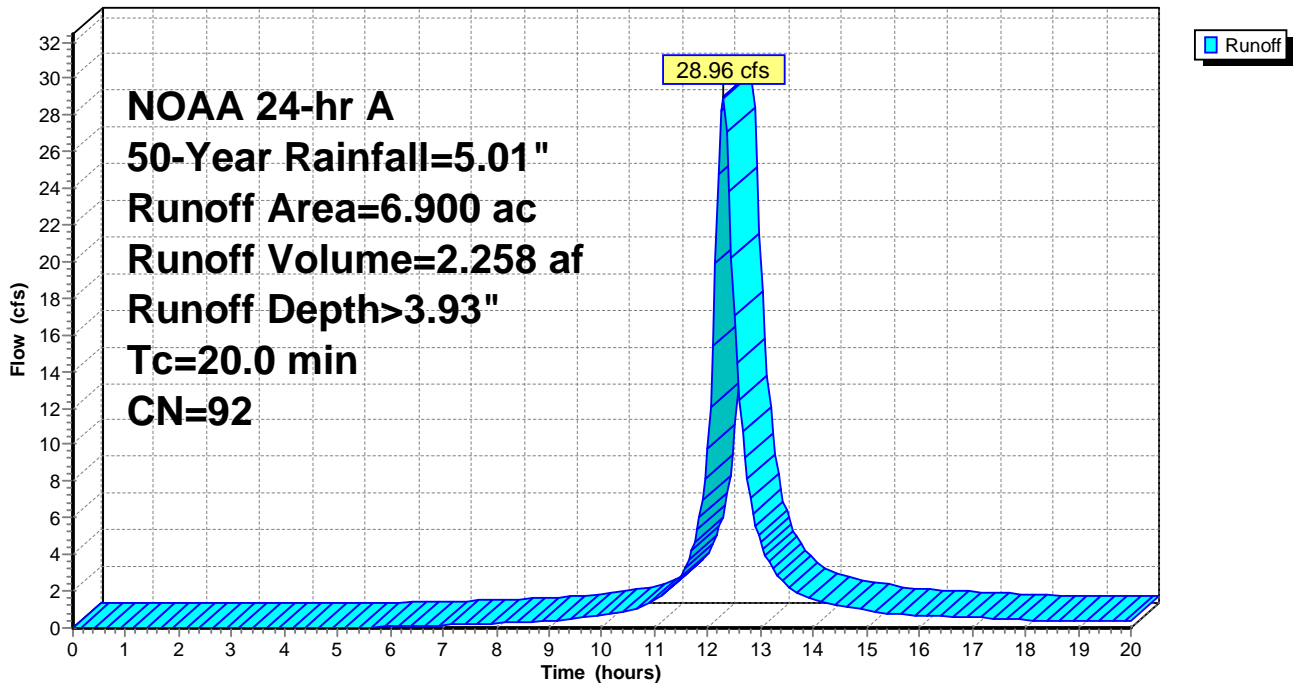
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
6.900	92	1/8 acre lots, 65% imp, HSG D
2.415		35.00% Pervious Area
4.485		65.00% Impervious Area

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

## Subcatchment 21S: POST B1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 70

**Summary for Subcatchment 22S: POST B2**

Runoff = 36.89 cfs @ 12.74 hrs, Volume= 4.701 af, Depth> 2.64"  
 Routed to Pond 5P : WET BASIN E

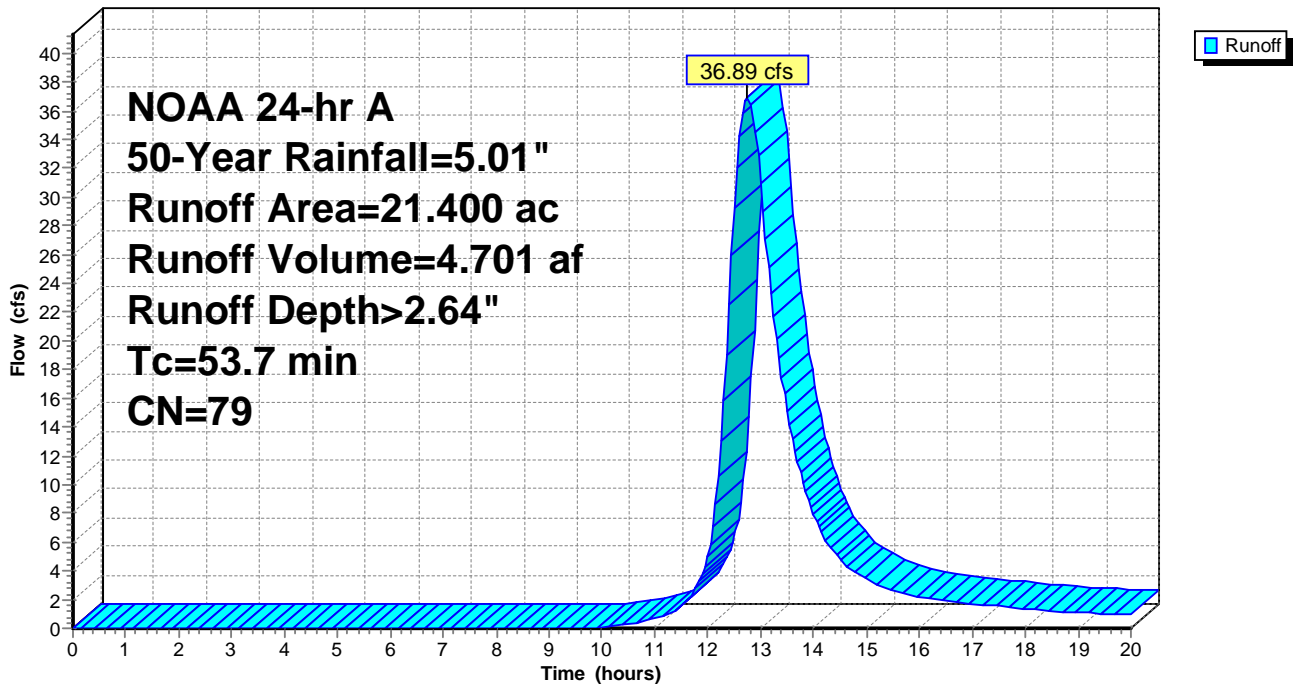
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
8.100	80	>75% Grass cover, Good, HSG D
13.300	79	Woods, Fair, HSG D
21.400	79	Weighted Average
21.400		100.00% Pervious Area

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

**Subcatchment 22S: POST B2**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 71

**Summary for Subcatchment 23S: POST B3**

Runoff = 19.28 cfs @ 12.71 hrs, Volume= 2.568 af, Depth> 3.90"  
 Routed to Pond 4P : DRY BASIN D

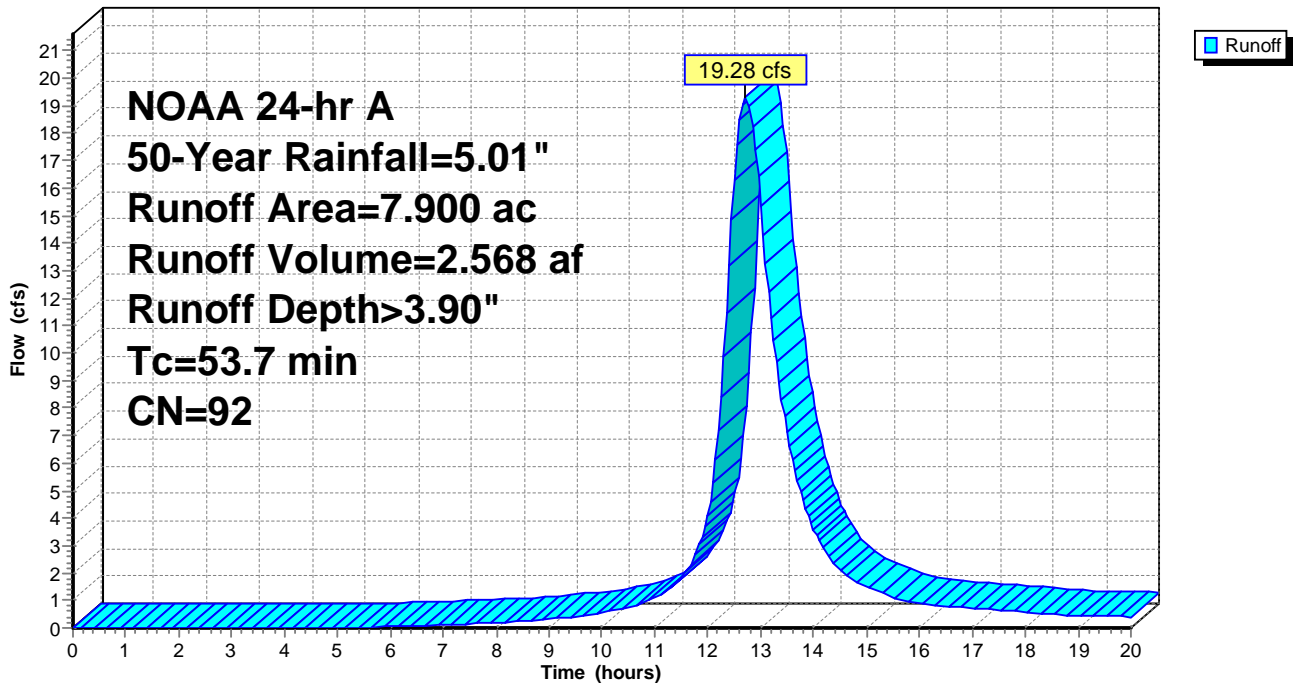
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
2.700	80	>75% Grass cover, Good, HSG D
2.900	98	Water Surface, HSG D
2.300	98	Paved roads w/curbs & sewers, HSG D
7.900	92	Weighted Average
2.700		34.18% Pervious Area
5.200		65.82% Impervious Area

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

**Subcatchment 23S: POST B3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 72

**Summary for Subcatchment 24S: POST B4**

Runoff = 61.88 cfs @ 12.41 hrs, Volume= 5.912 af, Depth> 3.92"  
 Routed to Pond 5P : WET BASIN E

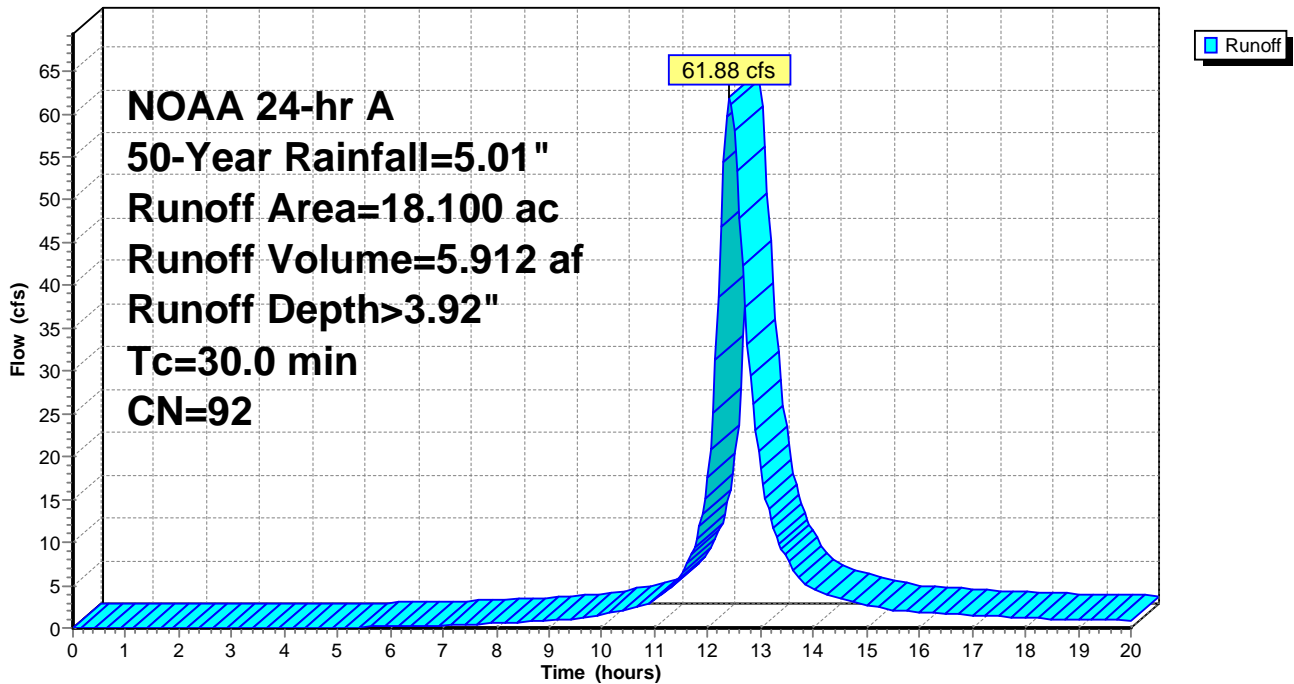
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
13.000	92	1/8 acre lots, 65% imp, HSG D
1.600	80	>75% Grass cover, Good, HSG D
3.500	98	Water Surface, HSG D
18.100	92	Weighted Average
6.150		33.98% Pervious Area
11.950		66.02% Impervious Area

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

**Subcatchment 24S: POST B4**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 73

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 17.26 cfs @ 12.33 hrs, Volume= 1.351 af, Depth> 2.75"  
 Routed to Pond 4P : DRY BASIN D

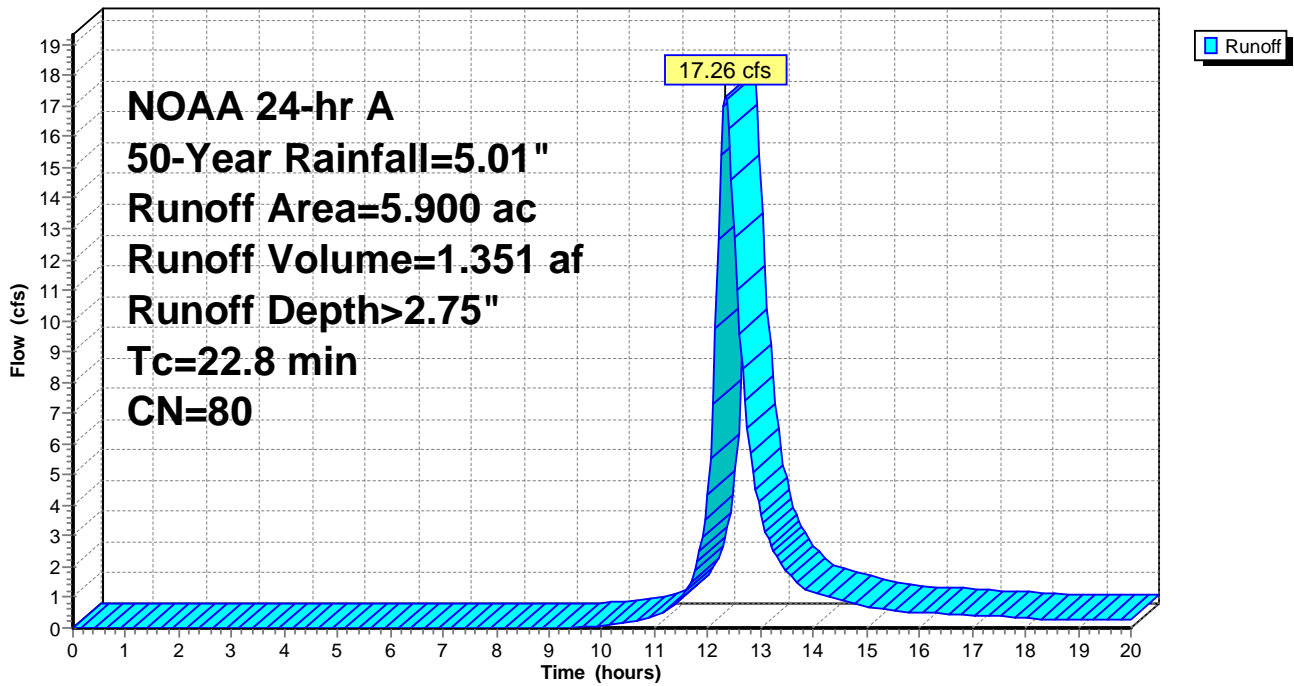
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 74

## Summary for Subcatchment 26S: OFFSITE B2

Runoff = 11.51 cfs @ 12.17 hrs, Volume= 0.622 af, Depth> 2.67"  
Routed to Pond 5P : WET BASIN E

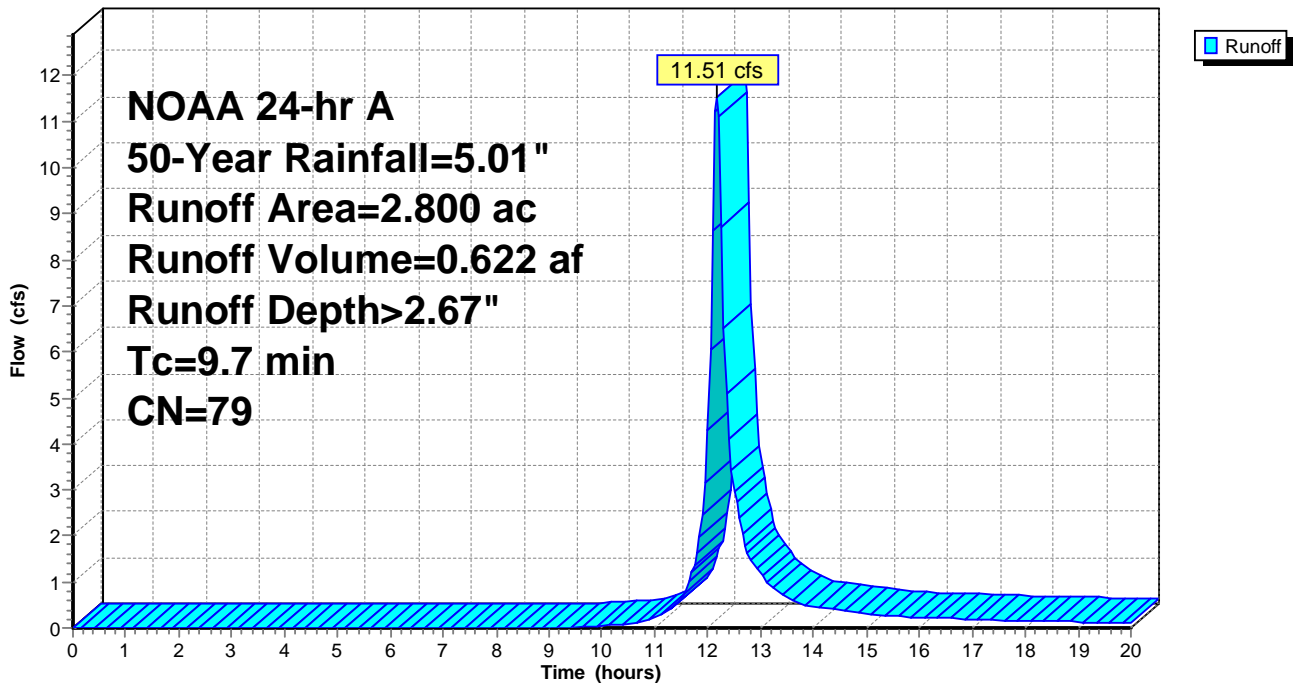
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

## Subcatchment 26S: OFFSITE B2

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 75

**Summary for Subcatchment 27S: POST C1**

Runoff = 44.04 cfs @ 12.29 hrs, Volume= 3.509 af, Depth> 4.14"  
 Routed to Pond 6P : DRY BASIN F

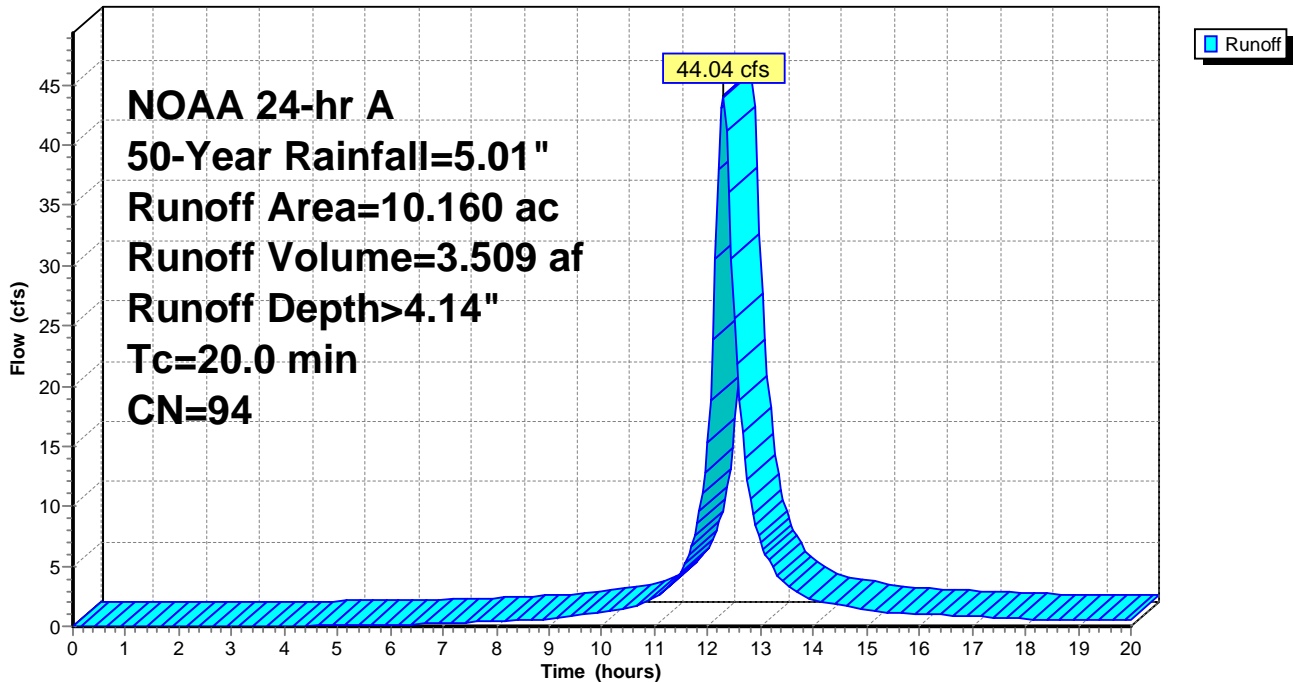
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
1.200	98	Paved roads w/curbs & sewers, HSG D
2.800	98	Water Surface, HSG D
5.500	92	1/8 acre lots, 65% imp, HSG D
0.660	80	>75% Grass cover, Good, HSG D
10.160	94	Weighted Average
2.585		25.44% Pervious Area
7.575		74.56% Impervious Area

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

**Subcatchment 27S: POST C1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 76

**Summary for Subcatchment 28S: POST C2**

Runoff = 18.35 cfs @ 12.29 hrs, Volume= 1.446 af, Depth> 4.04"  
 Routed to Pond 7P : WET BASIN G

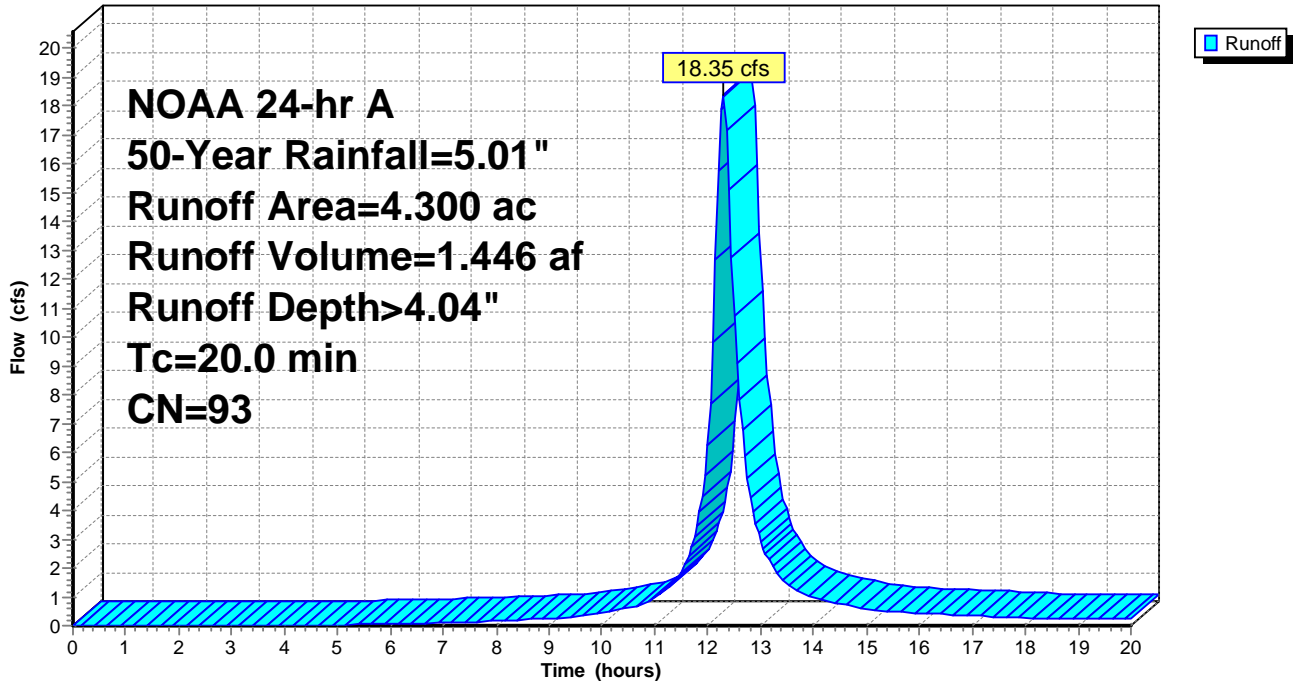
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
3.700	92	1/8 acre lots, 65% imp, HSG D
0.600	98	Water Surface, HSG D
4.300	93	Weighted Average
1.295		30.12% Pervious Area
3.005		69.88% Impervious Area

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

**Subcatchment 28S: POST C2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 77

**Summary for Subcatchment 29S: POST C3**

Runoff = 36.92 cfs @ 12.29 hrs, Volume= 2.909 af, Depth> 4.04"  
 Routed to Pond 8P : DRY BASIN H

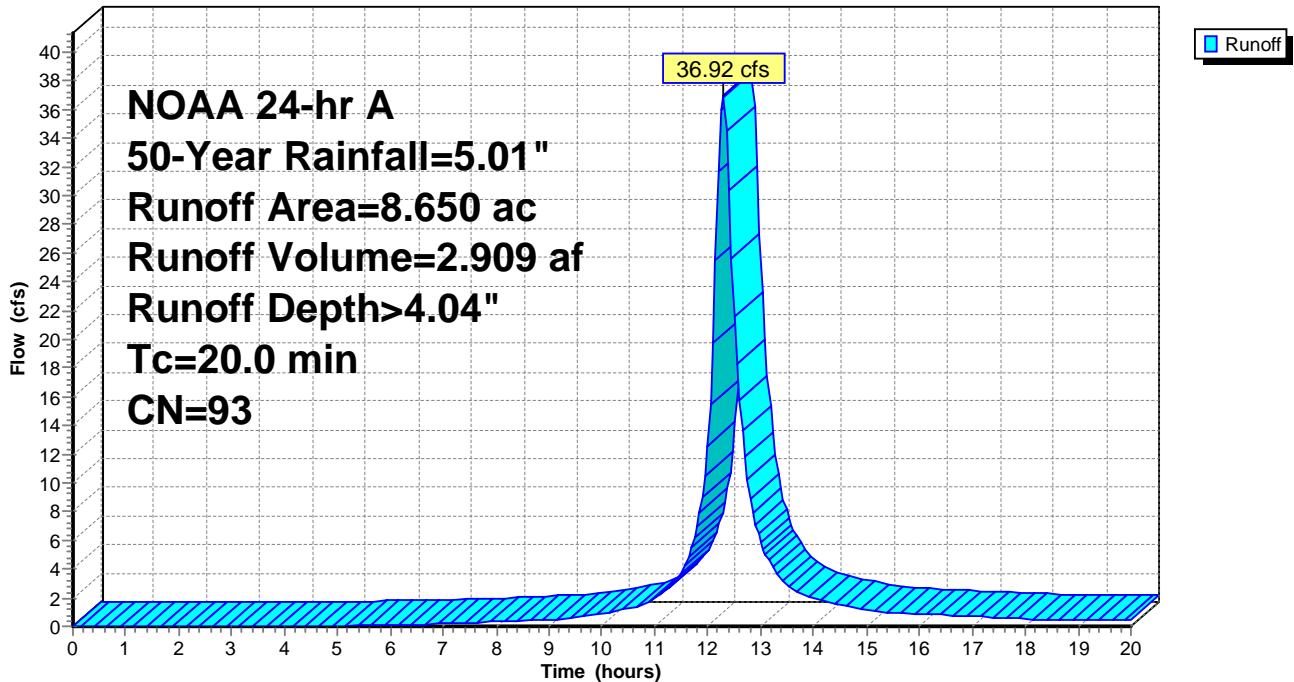
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
1.400	98	Paved roads w/curbs & sewers, HSG D
1.600	98	Water Surface, HSG D
4.900	92	1/8 acre lots, 65% imp, HSG D
0.750	80	>75% Grass cover, Good, HSG D
8.650	93	Weighted Average
2.465		28.50% Pervious Area
6.185		71.50% Impervious Area

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

**Subcatchment 29S: POST C3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 50-Year Rainfall=5.01"

Printed 6/7/2023

Page 78

**Summary for Subcatchment 30S: POST C4**

Runoff = 12.80 cfs @ 12.29 hrs, Volume= 1.009 af, Depth> 4.04"  
 Routed to Pond 9P : DRY BASIN I

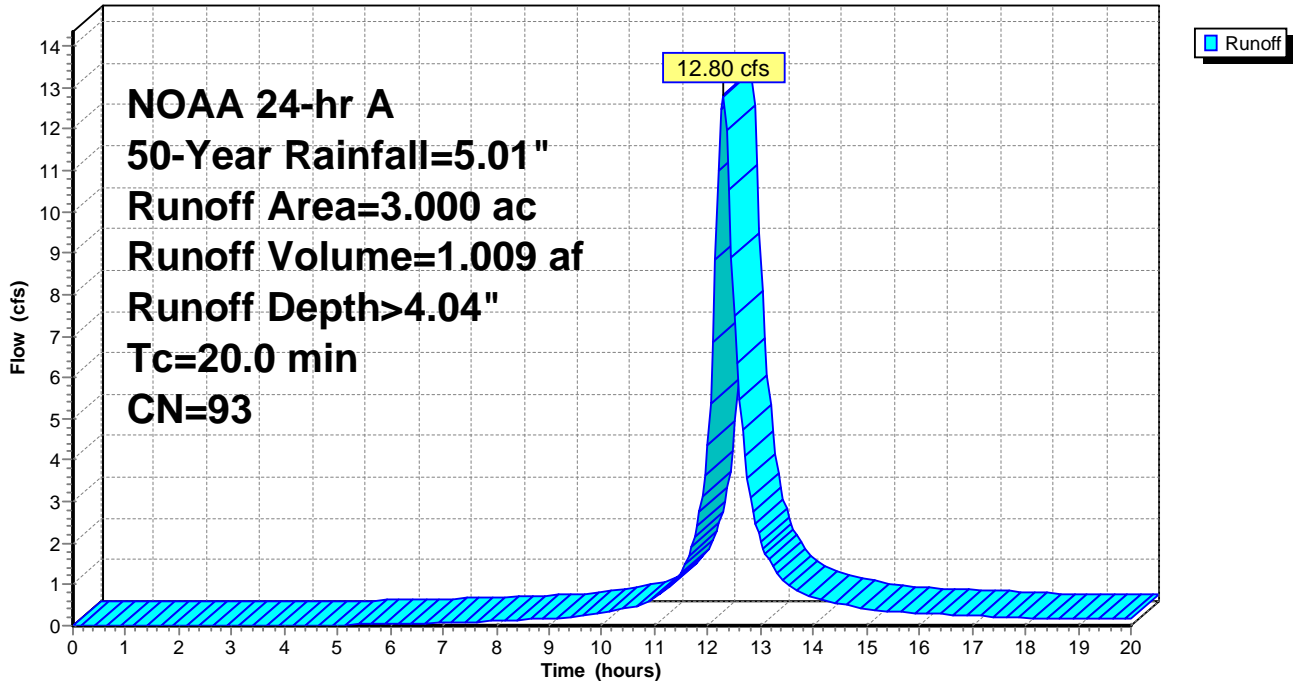
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 50-Year Rainfall=5.01"

Area (ac)	CN	Description
2.600	92	1/8 acre lots, 65% imp, HSG D
0.400	98	Water Surface, HSG D
3.000	93	Weighted Average
0.910		30.33% Pervious Area
2.090		69.67% Impervious Area

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

**Subcatchment 30S: POST C4**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 79

**Summary for Subcatchment 18S: POST A1**

Runoff = 29.11 cfs @ 12.29 hrs, Volume= 2.312 af, Depth> 4.62"  
 Routed to Pond 1P : DRY BASIN A

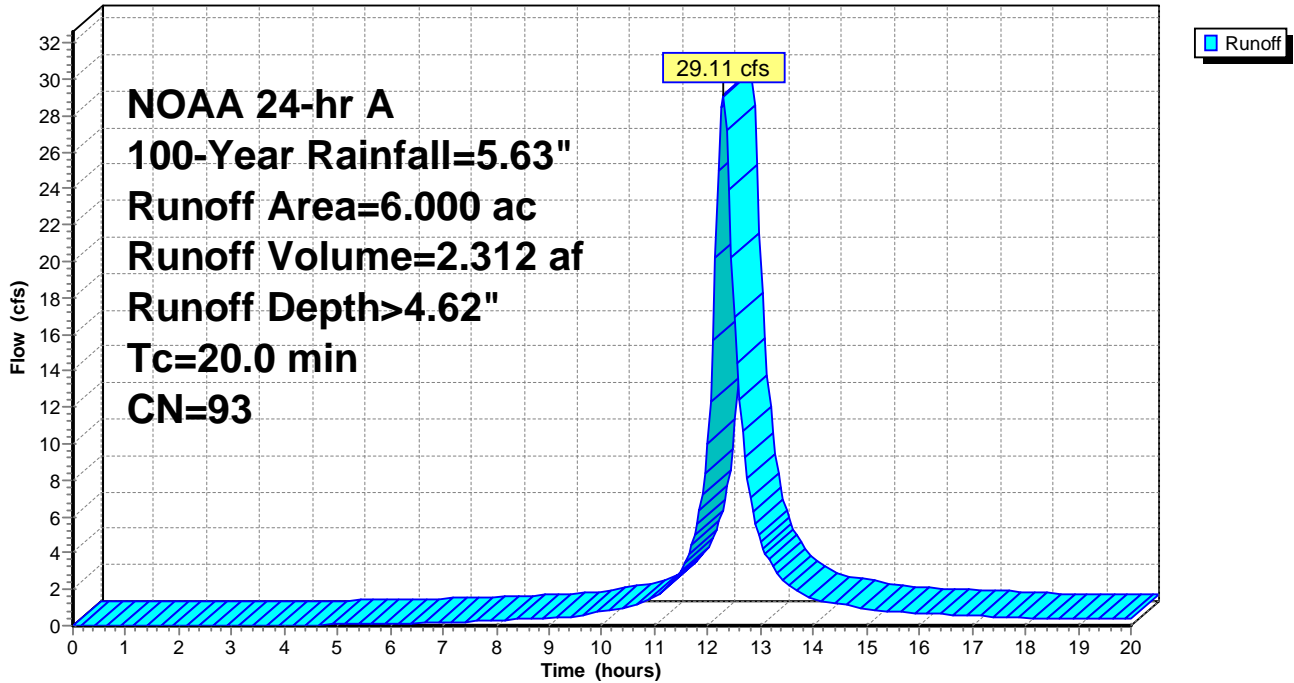
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
0.800	98	Water Surface, HSG D
5.200	92	1/8 acre lots, 65% imp, HSG D
6.000	93	Weighted Average
1.820		30.33% Pervious Area
4.180		69.67% Impervious Area

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

**Subcatchment 18S: POST A1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 80

**Summary for Subcatchment 19S: POST A2**

Runoff = 70.34 cfs @ 12.29 hrs, Volume= 5.586 af, Depth> 4.62"  
 Routed to Pond 2P : DRY BASIN B

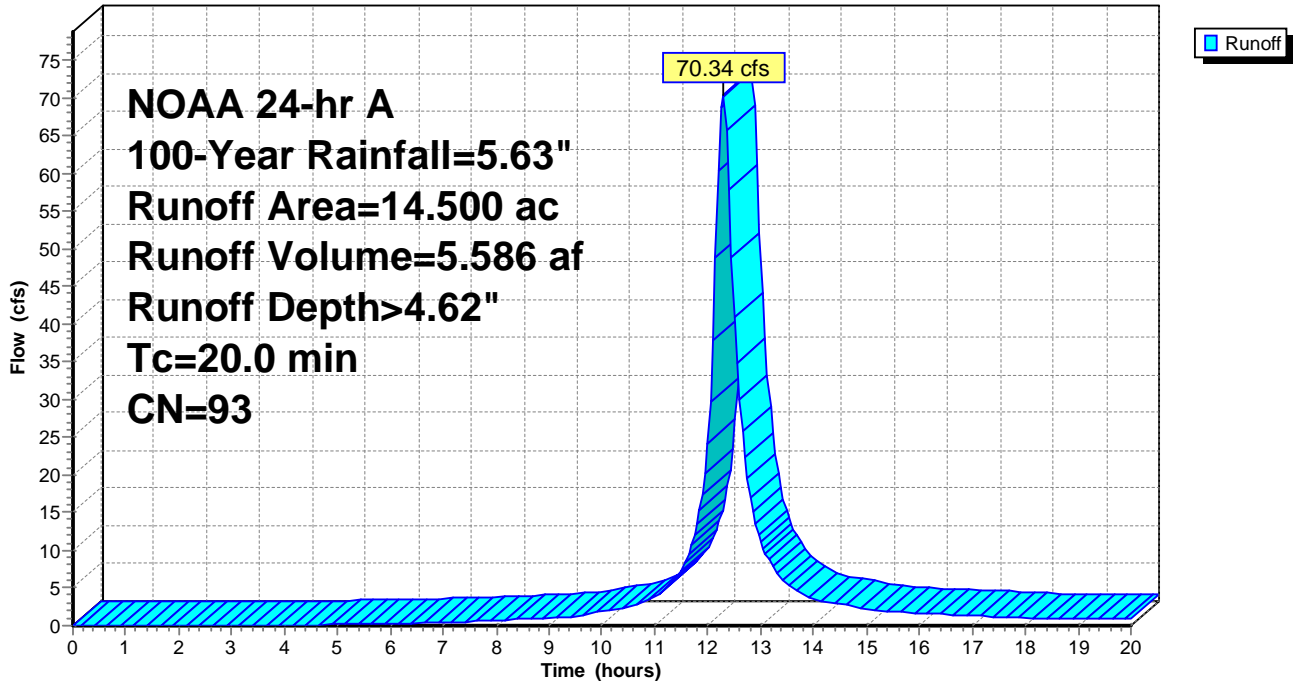
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
1.400	98	Water Surface, HSG D
13.100	92	1/8 acre lots, 65% imp, HSG D
14.500	93	Weighted Average
4.585		31.62% Pervious Area
9.915		68.38% Impervious Area

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

**Subcatchment 19S: POST A2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 81

**Summary for Subcatchment 20S: OFFSITE A**

Runoff = 17.58 cfs @ 12.23 hrs, Volume= 1.120 af, Depth> 3.28"

Routed to Pond 1P : DRY BASIN A

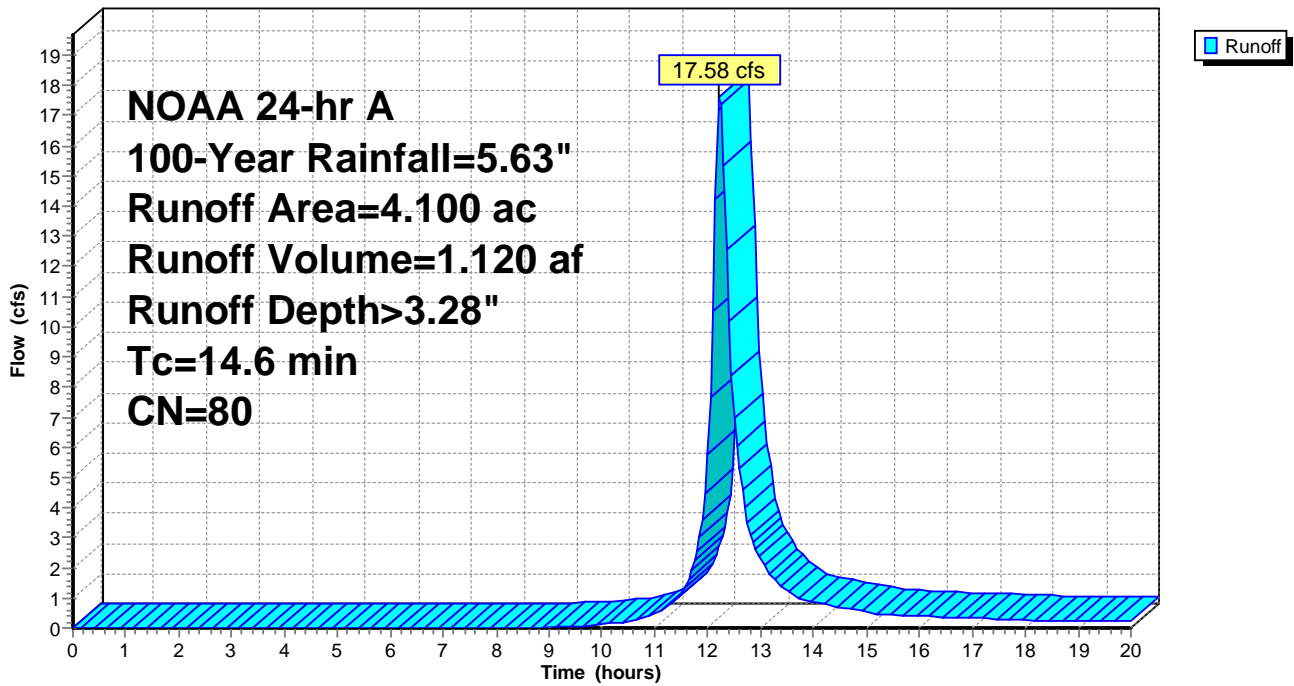
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
4.100	80	>75% Grass cover, Good, HSG D
4.100		100.00% Pervious Area

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

**Subcatchment 20S: OFFSITE A**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 82

**Summary for Subcatchment 21S: POST B1**

Runoff = 33.00 cfs @ 12.29 hrs, Volume= 2.595 af, Depth> 4.51"  
 Routed to Pond 3P : DRY BASIN C

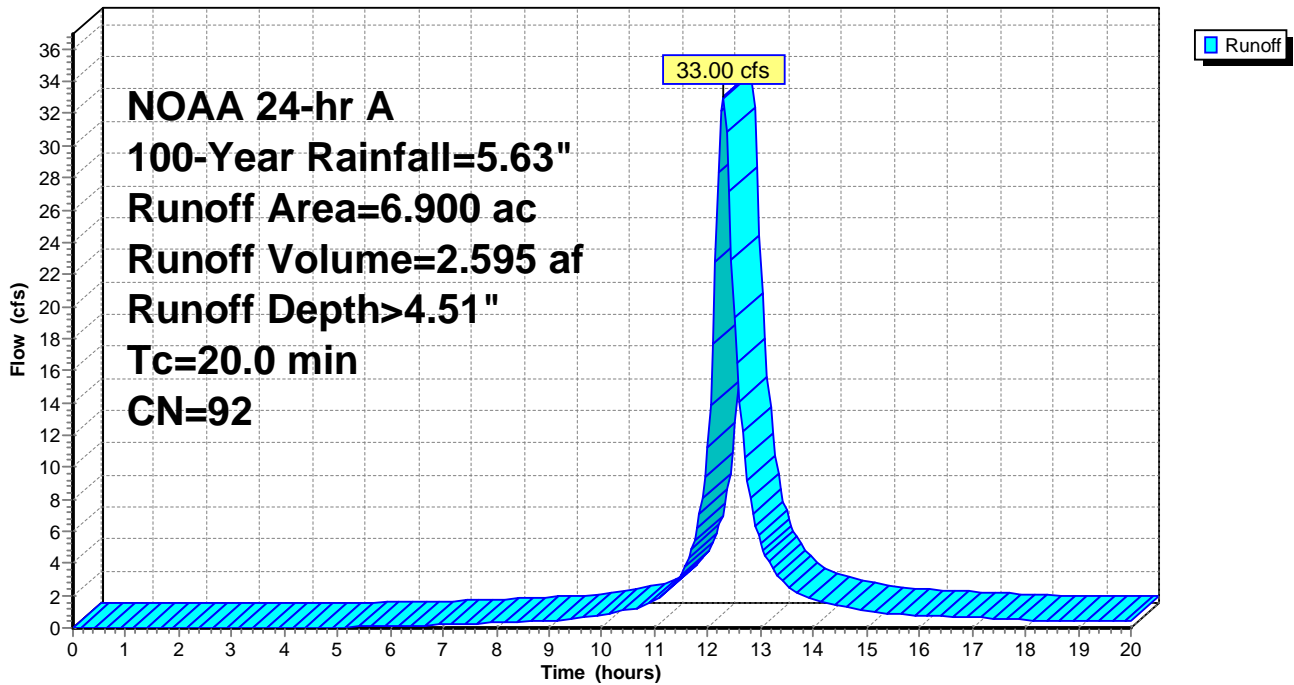
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
6.900	92	1/8 acre lots, 65% imp, HSG D
2.415		35.00% Pervious Area
4.485		65.00% Impervious Area

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

**Subcatchment 21S: POST B1**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 83

**Summary for Subcatchment 22S: POST B2**

Runoff = 44.03 cfs @ 12.73 hrs, Volume= 5.618 af, Depth> 3.15"  
 Routed to Pond 5P : WET BASIN E

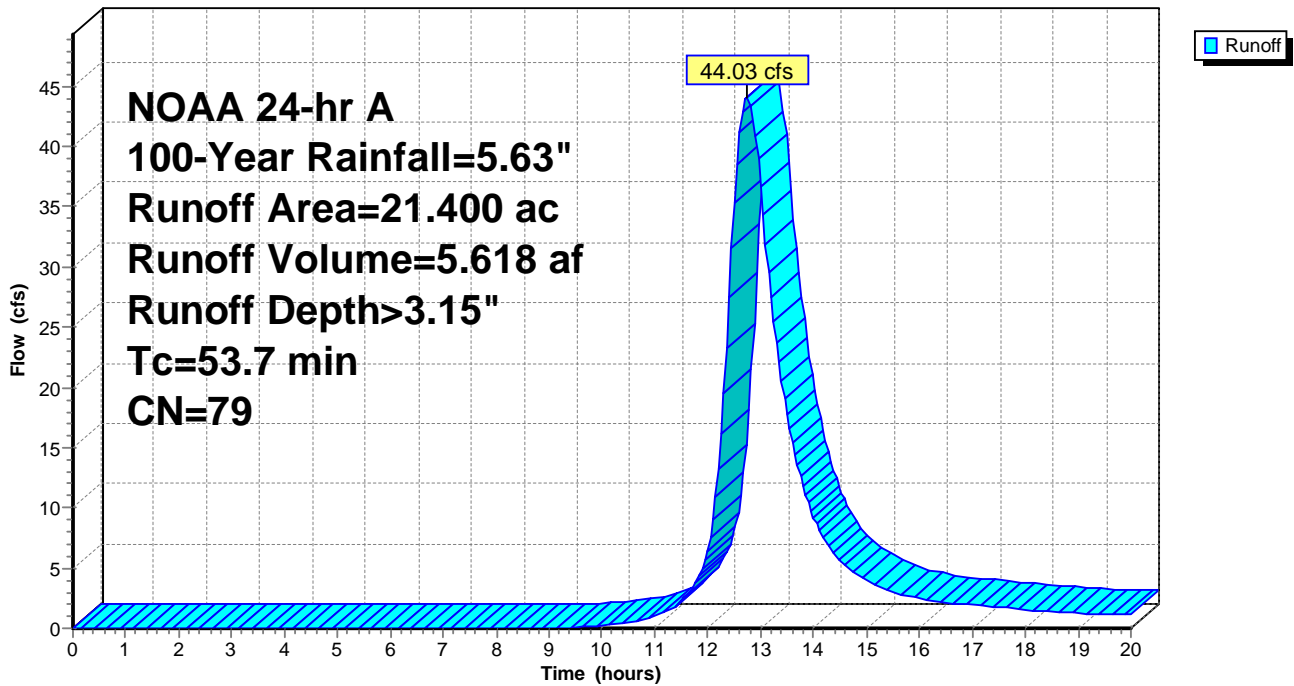
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
8.100	80	>75% Grass cover, Good, HSG D
13.300	79	Woods, Fair, HSG D
21.400	79	Weighted Average
21.400		100.00% Pervious Area

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

**Subcatchment 22S: POST B2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 84

**Summary for Subcatchment 23S: POST B3**

Runoff = 22.01 cfs @ 12.71 hrs, Volume= 2.951 af, Depth> 4.48"  
 Routed to Pond 4P : DRY BASIN D

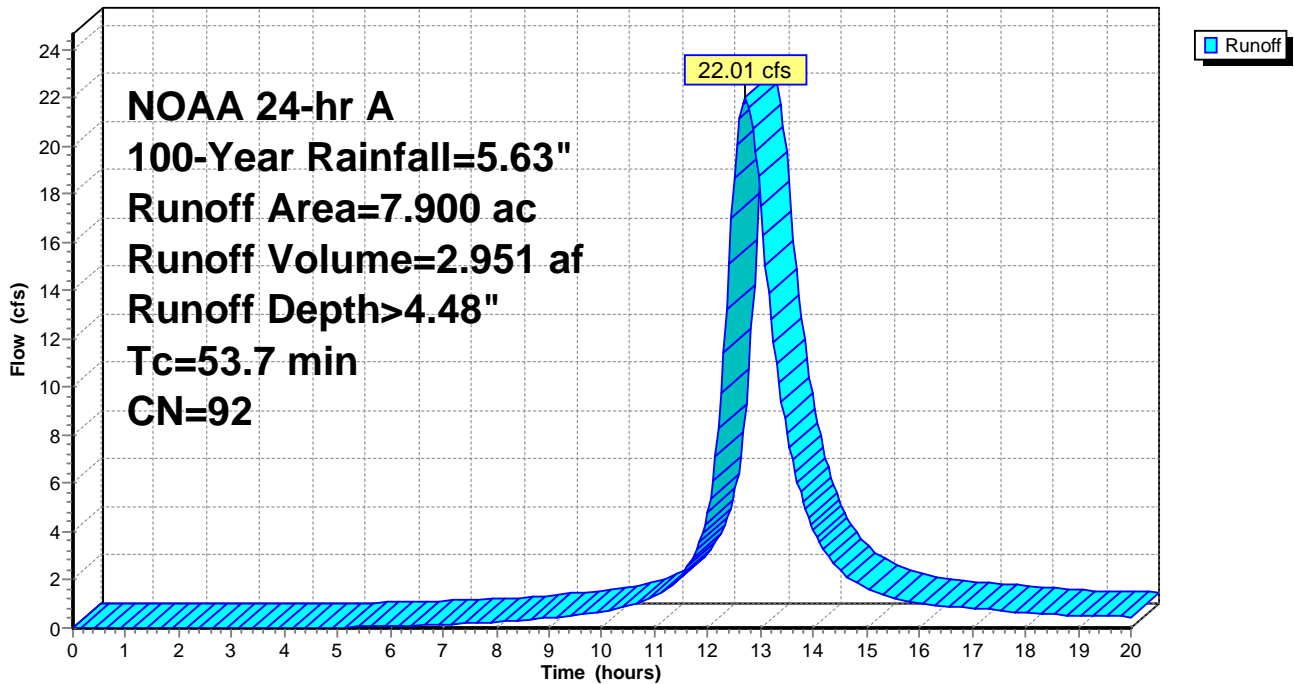
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
2.700	80	>75% Grass cover, Good, HSG D
2.900	98	Water Surface, HSG D
2.300	98	Paved roads w/curbs & sewers, HSG D
7.900	92	Weighted Average
2.700		34.18% Pervious Area
5.200		65.82% Impervious Area

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

**Subcatchment 23S: POST B3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 85

**Summary for Subcatchment 24S: POST B4**

Runoff = 70.55 cfs @ 12.41 hrs, Volume= 6.793 af, Depth> 4.50"  
 Routed to Pond 5P : WET BASIN E

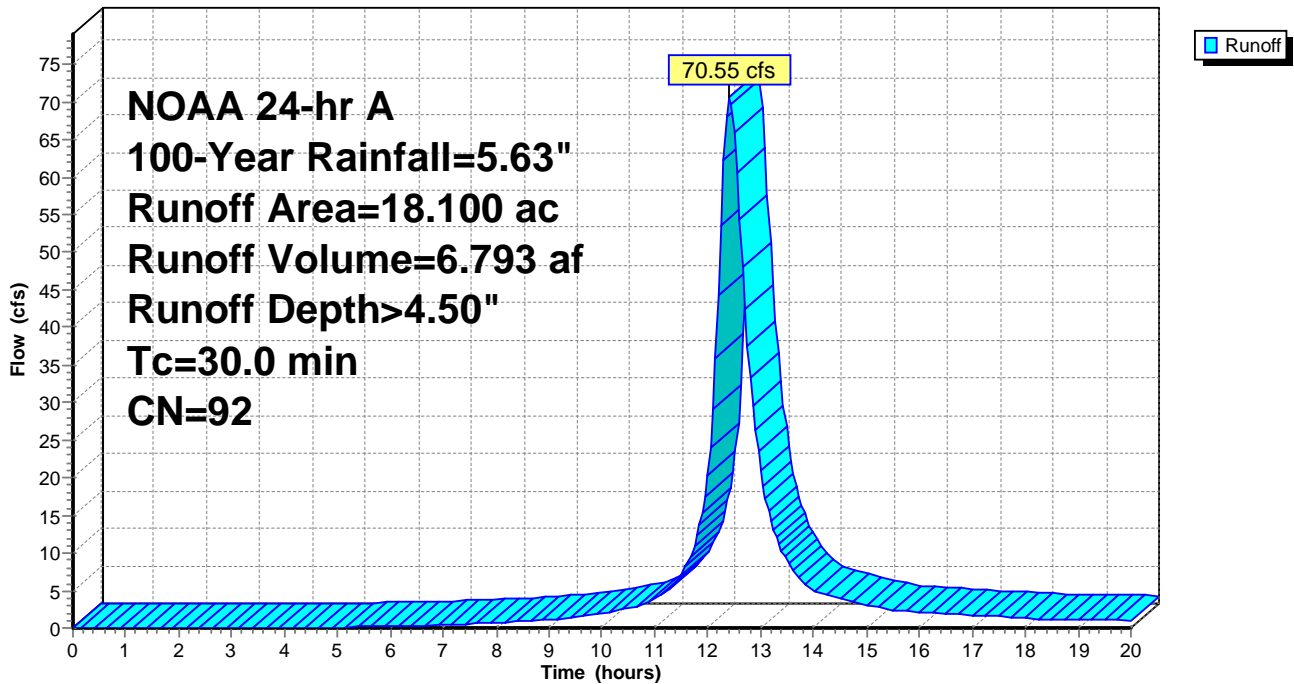
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
13.000	92	1/8 acre lots, 65% imp, HSG D
1.600	80	>75% Grass cover, Good, HSG D
3.500	98	Water Surface, HSG D
18.100	92	Weighted Average
6.150		33.98% Pervious Area
11.950		66.02% Impervious Area

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

**Subcatchment 24S: POST B4**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 86

**Summary for Subcatchment 25S: OFFSITE B1**

Runoff = 20.47 cfs @ 12.33 hrs, Volume= 1.608 af, Depth> 3.27"  
 Routed to Pond 4P : DRY BASIN D

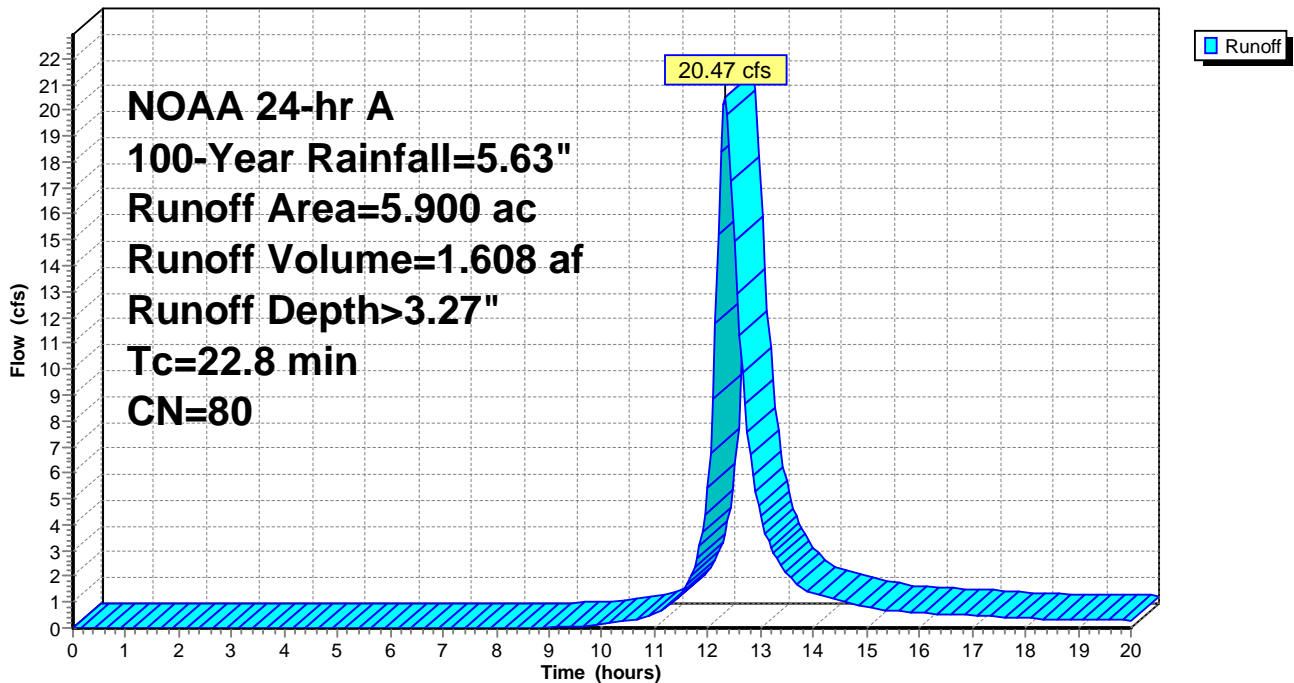
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
5.900	80	>75% Grass cover, Good, HSG D
5.900		100.00% Pervious Area

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

**Subcatchment 25S: OFFSITE B1**

Hydrograph





**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 87

**Summary for Subcatchment 26S: OFFSITE B2**

Runoff = 13.68 cfs @ 12.17 hrs, Volume= 0.743 af, Depth> 3.19"

Routed to Pond 5P : WET BASIN E

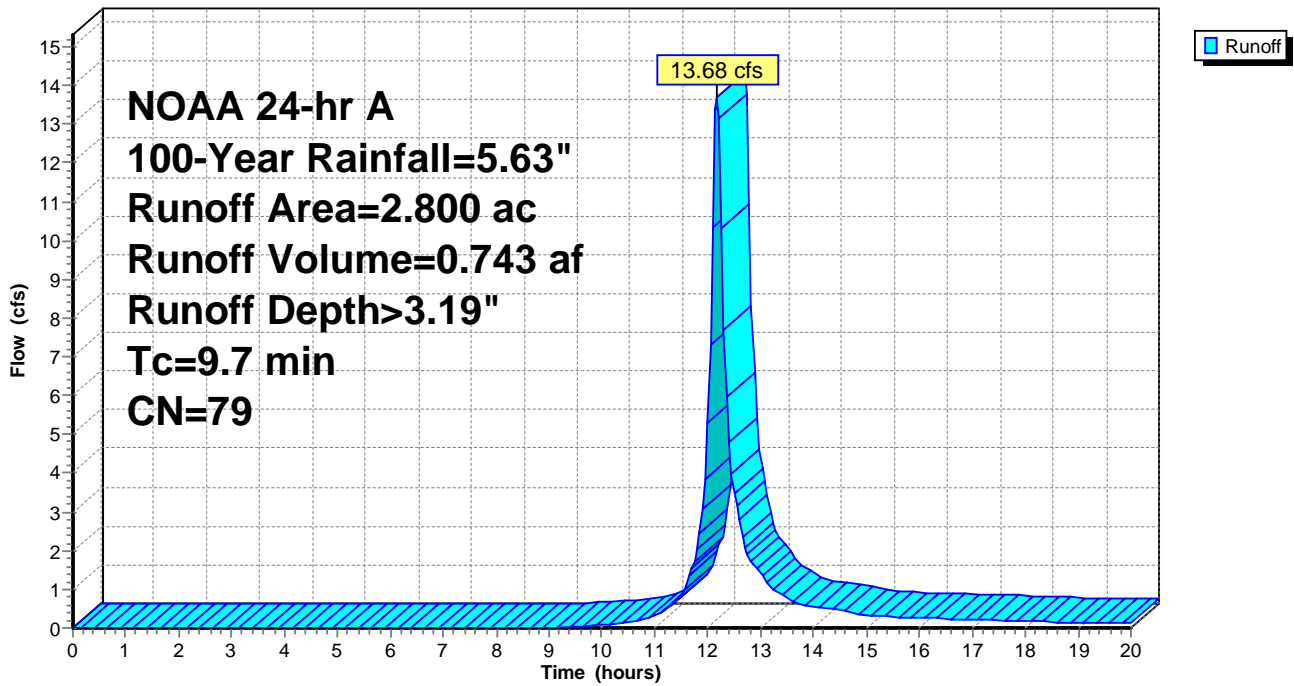
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
2.800	79	Woods, Fair, HSG D
2.800		100.00% Pervious Area

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

**Subcatchment 26S: OFFSITE B2**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 88

## Summary for Subcatchment 27S: POST C1

Runoff = 49.92 cfs @ 12.29 hrs, Volume= 4.009 af, Depth> 4.74"  
 Routed to Pond 6P : DRY BASIN F

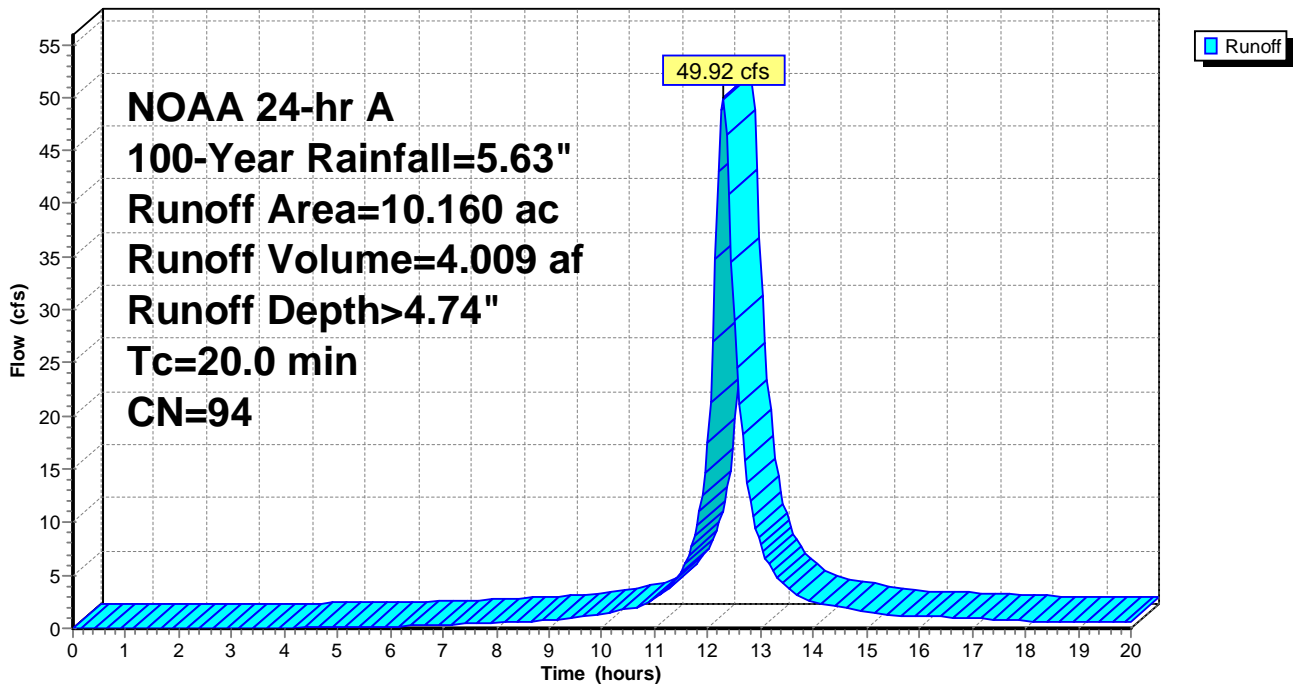
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
1.200	98	Paved roads w/curbs & sewers, HSG D
2.800	98	Water Surface, HSG D
5.500	92	1/8 acre lots, 65% imp, HSG D
0.660	80	>75% Grass cover, Good, HSG D
10.160	94	Weighted Average
2.585		25.44% Pervious Area
7.575		74.56% Impervious Area

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

## Subcatchment 27S: POST C1

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 89

**Summary for Subcatchment 28S: POST C2**

Runoff = 20.86 cfs @ 12.29 hrs, Volume= 1.657 af, Depth> 4.62"  
 Routed to Pond 7P : WET BASIN G

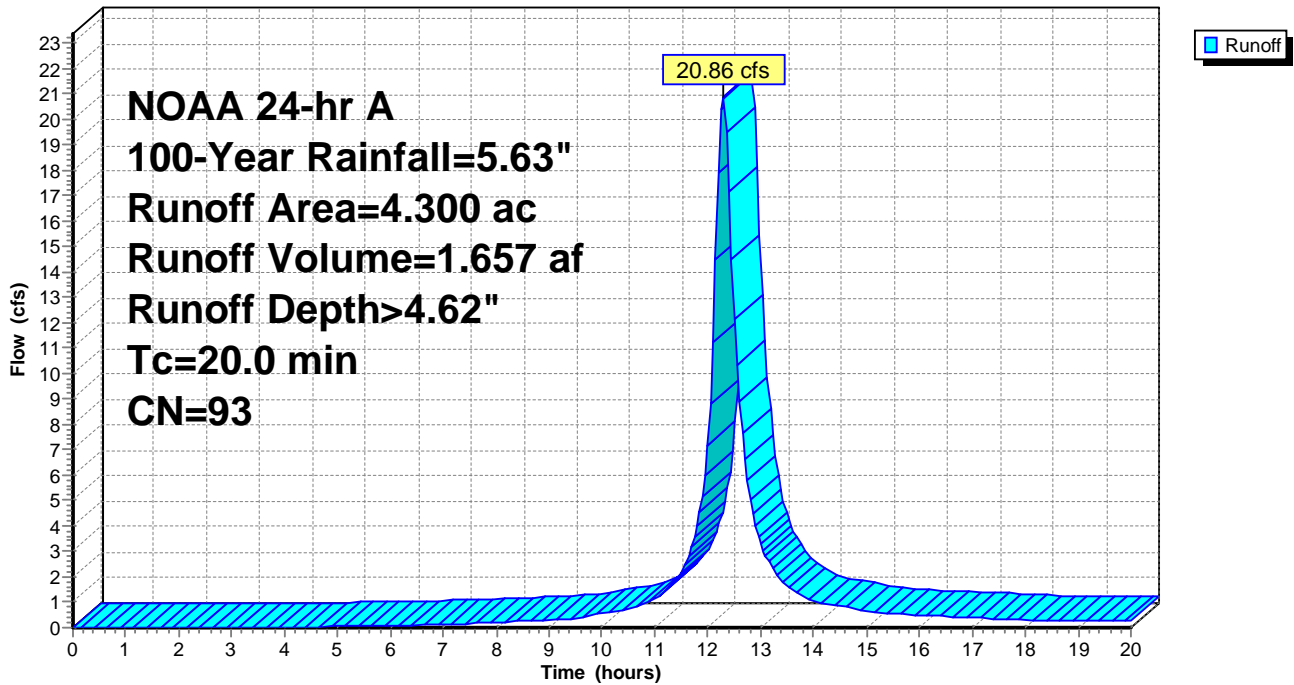
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
3.700	92	1/8 acre lots, 65% imp, HSG D
0.600	98	Water Surface, HSG D
4.300	93	Weighted Average
1.295		30.12% Pervious Area
3.005		69.88% Impervious Area

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

**Subcatchment 28S: POST C2**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 90

**Summary for Subcatchment 29S: POST C3**

Runoff = 41.96 cfs @ 12.29 hrs, Volume= 3.333 af, Depth> 4.62"  
 Routed to Pond 8P : DRY BASIN H

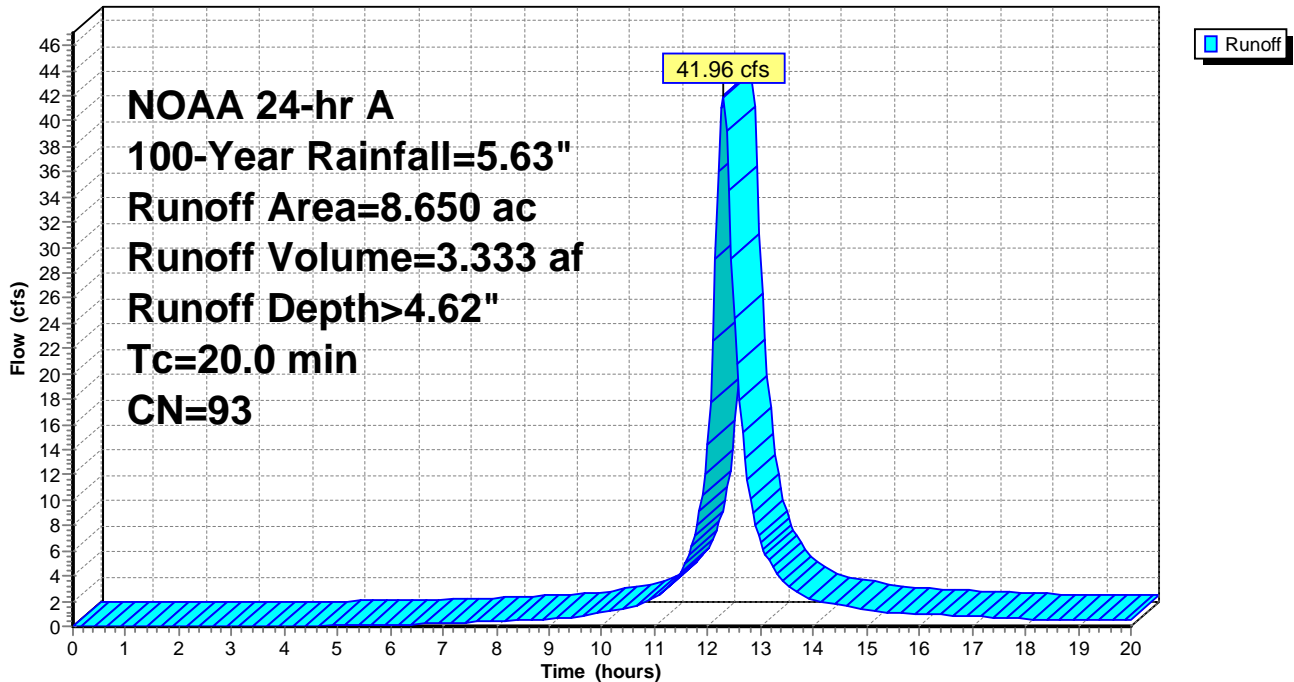
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
1.400	98	Paved roads w/curbs & sewers, HSG D
1.600	98	Water Surface, HSG D
4.900	92	1/8 acre lots, 65% imp, HSG D
0.750	80	>75% Grass cover, Good, HSG D
8.650	93	Weighted Average
2.465		28.50% Pervious Area
6.185		71.50% Impervious Area

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

**Subcatchment 29S: POST C3**

Hydrograph



**Amlin Crossing Preliminary SWM**

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 100-Year Rainfall=5.63"

Printed 6/7/2023

Page 91

**Summary for Subcatchment 30S: POST C4**

Runoff = 14.55 cfs @ 12.29 hrs, Volume= 1.156 af, Depth> 4.62"  
 Routed to Pond 9P : DRY BASIN I

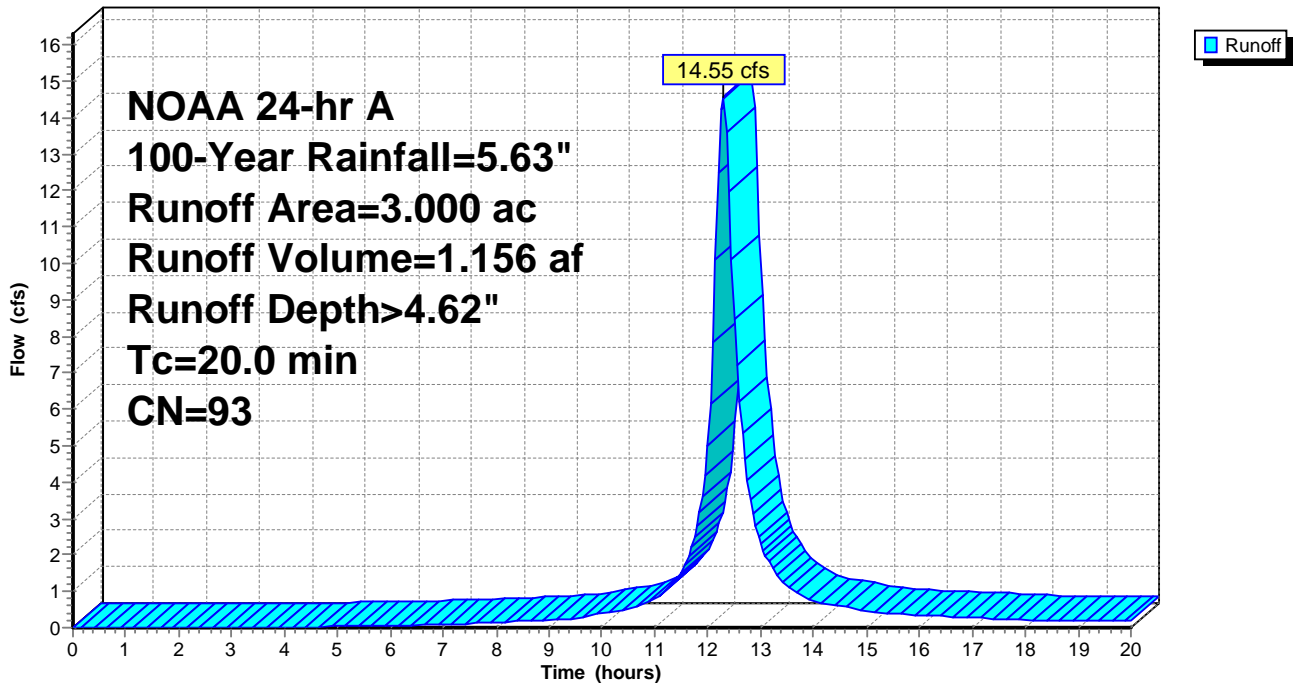
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 NOAA 24-hr A 100-Year Rainfall=5.63"

Area (ac)	CN	Description
2.600	92	1/8 acre lots, 65% imp, HSG D
0.400	98	Water Surface, HSG D
3.000	93	Weighted Average
0.910		30.33% Pervious Area
2.090		69.67% Impervious Area

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

**Subcatchment 30S: POST C4**

Hydrograph





# Exhibit 5 – Outlet Capacity Calculations



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 1-Year Rainfall=2.20"

Printed 6/7/2023

Page 1

## Summary for Pond 1P: DRY BASIN A

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 0.92" for 1-Year event  
 Inflow = 13.52 cfs @ 12.27 hrs, Volume= 1.895 af  
 Outflow = 3.05 cfs @ 13.47 hrs, Volume= 1.516 af, Atten= 77%, Lag= 71.8 min  
 Primary = 3.05 cfs @ 13.47 hrs, Volume= 1.516 af  
 Routed to Link 12L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.61' @ 13.47 hrs Surf.Area= 21,399 sf Storage= 24,855 cf

Plug-Flow detention time= 120.2 min calculated for 1.516 af (80% of inflow)  
 Center-of-Mass det. time= 64.8 min ( 926.7 - 861.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.70'	109,750 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.70	0	0	0
935.00	3,347	502	502
936.00	20,147	11,747	12,249
937.00	22,210	21,179	33,428
938.00	24,332	23,271	56,699
939.00	26,511	25,422	82,120
940.00	28,749	27,630	109,750

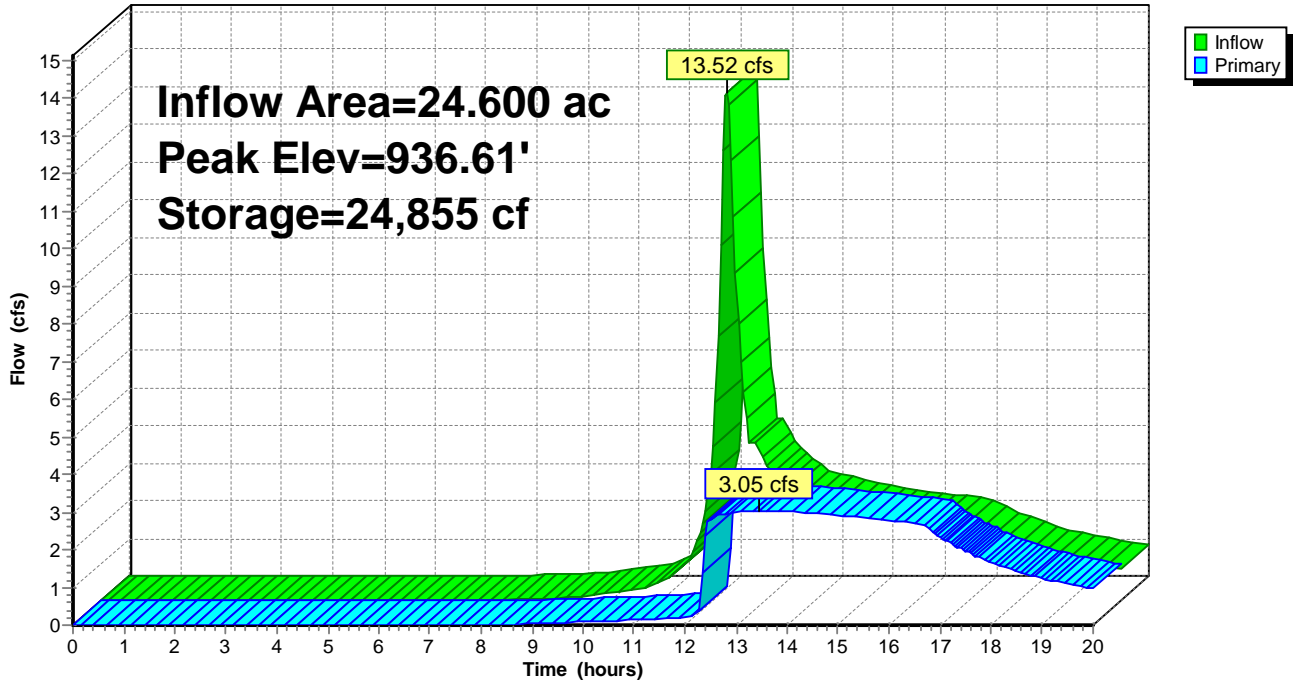
Device	Routing	Invert	Outlet Devices
#1	Primary	934.70'	<b>12.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.70' / 934.50' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	934.70'	<b>3.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.10'	<b>24.0" W x 8.0" H Vert. Windows X 3.00</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.05 cfs @ 13.47 hrs HW=936.61' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Barrel Controls 3.05 cfs @ 3.88 fps)
- ↑ **2=Orifice** (Passes < 0.32 cfs potential flow)
- ↑ **3=Windows** (Passes < 6.95 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 1P: DRY BASIN A

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 1-Year Rainfall=2.20"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 3

**Summary for Pond 2P: DRY BASIN B**

Inflow Area = 14.500 ac, 68.38% Impervious, Inflow Depth > 1.43" for 1-Year event  
 Inflow = 23.13 cfs @ 12.29 hrs, Volume= 1.725 af  
 Outflow = 1.93 cfs @ 14.22 hrs, Volume= 0.962 af, Atten= 92%, Lag= 115.8 min  
 Primary = 1.93 cfs @ 14.22 hrs, Volume= 0.962 af  
 Routed to Pond 1P : DRY BASIN A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.65' @ 13.58 hrs Surf.Area= 47,285 sf Storage= 53,187 cf

Plug-Flow detention time= 215.3 min calculated for 0.962 af (56% of inflow)  
 Center-of-Mass det. time= 158.0 min ( 936.5 - 778.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	223,479 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	45,956	22,978	22,978
937.00	48,007	46,982	69,960
938.00	50,097	49,052	119,012
939.00	52,226	51,162	170,173
940.00	54,386	53,306	223,479

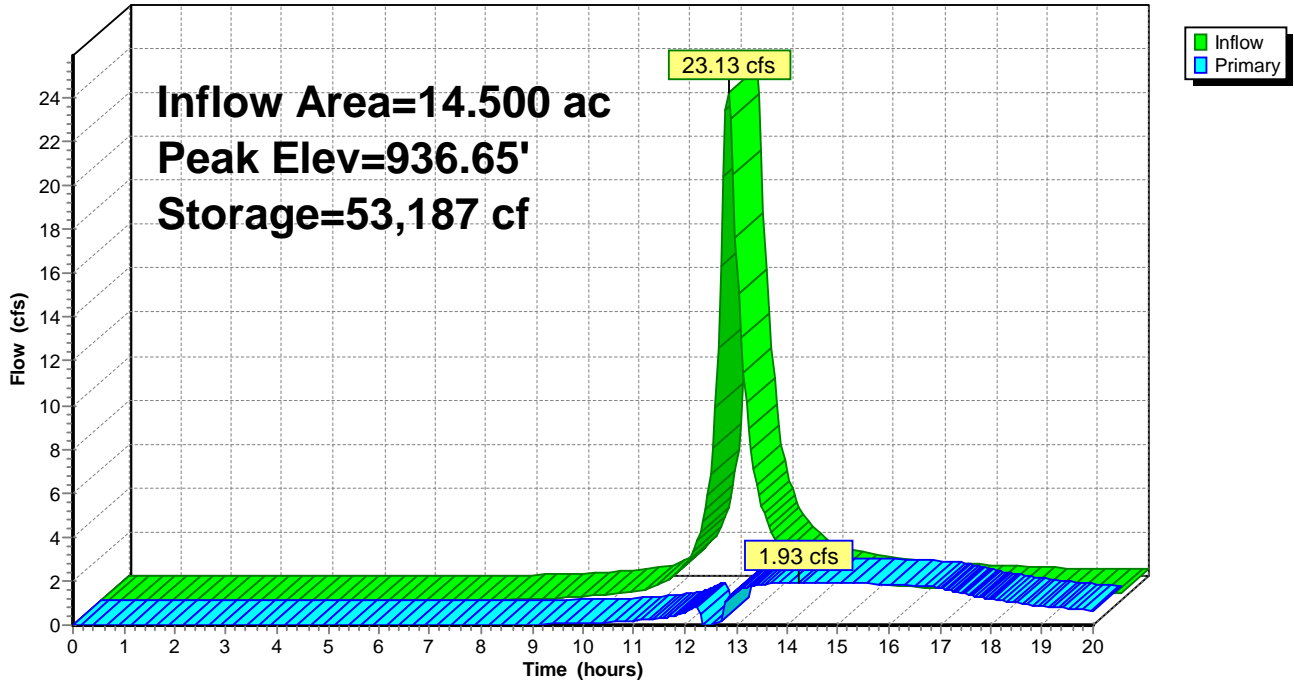
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 150.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.70' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>24.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>24.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.99 cfs @ 14.22 hrs HW=936.62' TW=936.57' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 1.99 cfs @ 1.00 fps)
- ↑ **2=Orifice/Grate** (Passes 1.99 cfs of 2.92 cfs potential flow)
- ↑ **3=Window** ( Controls 0.00 cfs)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 2P: DRY BASIN B**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 1-Year Rainfall=2.20"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 5

**Summary for Pond 3P: DRY BASIN C**

Inflow Area = 6.900 ac, 65.00% Impervious, Inflow Depth > 1.35" for 1-Year event  
 Inflow = 10.47 cfs @ 12.30 hrs, Volume= 0.775 af  
 Outflow = 0.96 cfs @ 13.42 hrs, Volume= 0.382 af, Atten= 91%, Lag= 67.6 min  
 Primary = 0.96 cfs @ 13.42 hrs, Volume= 0.382 af  
 Routed to Pond 4P : DRY BASIN D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.23' @ 13.48 hrs Surf.Area= 14,101 sf Storage= 21,941 cf

Plug-Flow detention time= 181.1 min calculated for 0.381 af (49% of inflow)  
 Center-of-Mass det. time= 121.1 min ( 902.9 - 781.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	49,847 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	11,869	5,935	5,935
937.00	13,659	12,764	18,699
938.00	15,549	14,604	33,303
939.00	17,539	16,544	49,847

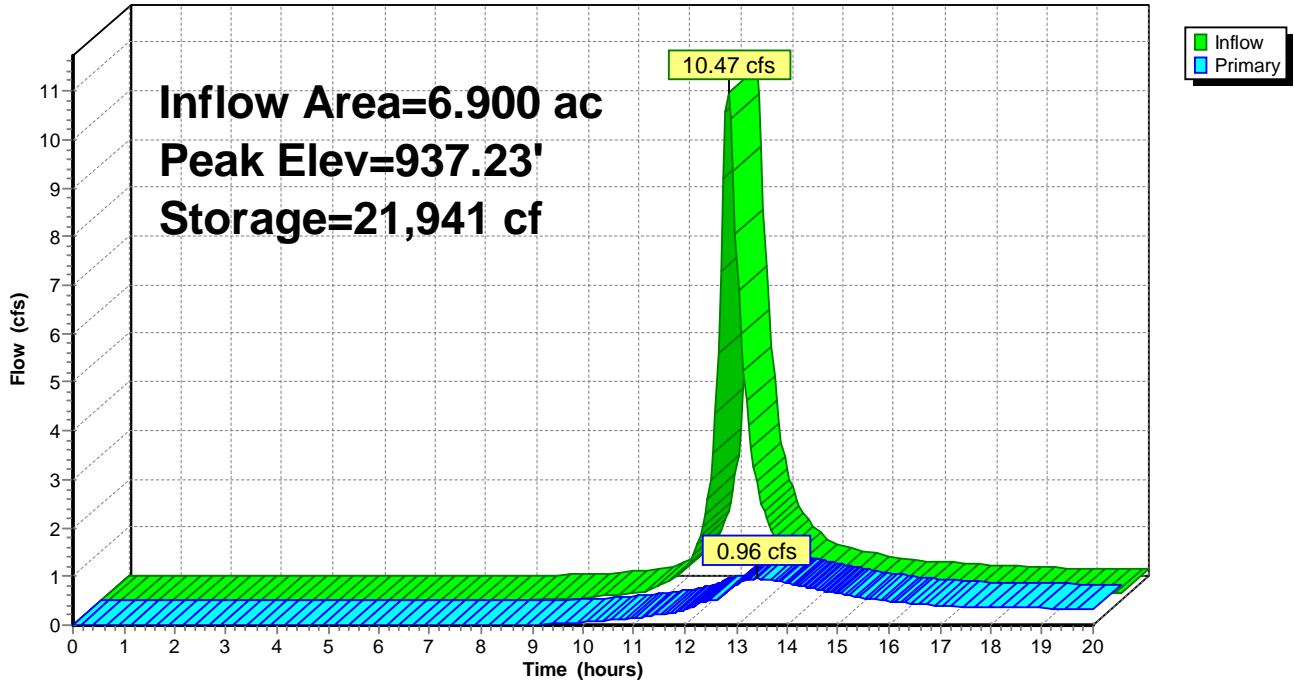
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 350.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0014 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.96 cfs @ 13.42 hrs HW=937.23' TW=935.95' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.96 cfs of 10.41 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.48 cfs @ 5.45 fps)
- ↑ **3=Windows** (Orifice Controls 0.48 cfs @ 1.55 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 3P: DRY BASIN C

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 1-Year Rainfall=2.20"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 7

**Summary for Pond 4P: DRY BASIN D**

Inflow Area = 20.700 ac, 46.79% Impervious, Inflow Depth > 0.91" for 1-Year event  
 Inflow = 9.44 cfs @ 12.62 hrs, Volume= 1.576 af  
 Outflow = 0.41 cfs @ 12.74 hrs, Volume= 0.278 af, Atten= 96%, Lag= 7.2 min  
 Primary = 0.41 cfs @ 12.74 hrs, Volume= 0.278 af  
 Routed to Pond 5P : WET BASIN E

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.28' @ 20.00 hrs Surf.Area= 61,724 sf Storage= 56,535 cf

Plug-Flow detention time= 223.5 min calculated for 0.278 af (18% of inflow)  
 Center-of-Mass det. time= 107.5 min ( 940.3 - 832.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.50'	237,628 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.50	0	0	0
935.00	12,225	3,056	3,056
936.00	60,758	36,492	39,548
937.00	64,240	62,499	102,047
938.00	67,771	66,006	168,052
939.00	71,380	69,576	237,628

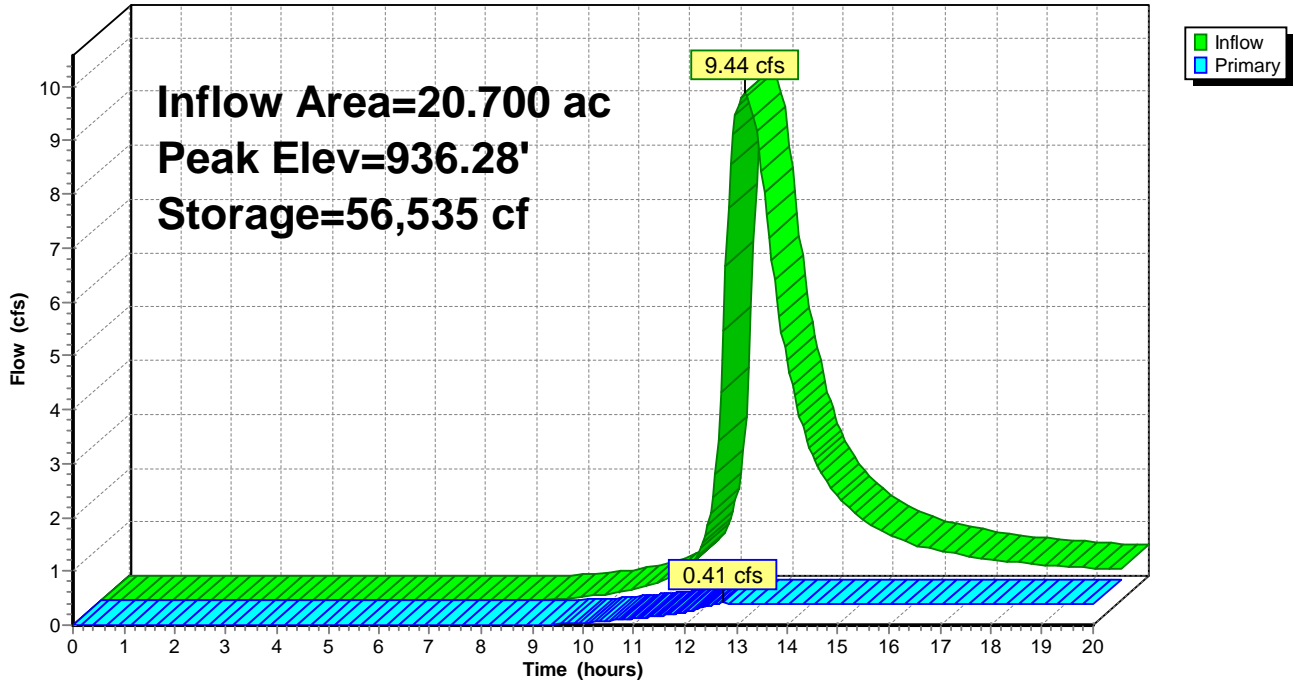
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 400.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.00' S= 0.0013 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.40 cfs @ 12.74 hrs HW=935.64' TW=934.73' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.40 cfs of 3.34 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.40 cfs @ 4.57 fps)
- ↑ **3=Windows** ( Controls 0.00 cfs)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 4P: DRY BASIN D**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 1-Year Rainfall=2.20"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 9

**Summary for Pond 5P: WET BASIN E**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.67" for 1-Year event  
 Inflow = 27.75 cfs @ 12.46 hrs, Volume= 3.495 af  
 Outflow = 1.01 cfs @ 20.00 hrs, Volume= 0.602 af, Atten= 96%, Lag= 452.2 min  
 Primary = 1.01 cfs @ 20.00 hrs, Volume= 0.602 af  
 Routed to Link 10L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 935.40' @ 20.00 hrs Surf.Area= 94,280 sf Storage= 125,986 cf

Plug-Flow detention time= 270.2 min calculated for 0.602 af (17% of inflow)  
 Center-of-Mass det. time= 164.4 min ( 981.8 - 817.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	507,647 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.00	85,433	0	0
935.00	91,702	88,568	88,568
936.00	98,109	94,906	183,473
937.00	104,658	101,384	284,857
938.00	111,356	108,007	392,864
939.00	118,210	114,783	507,647

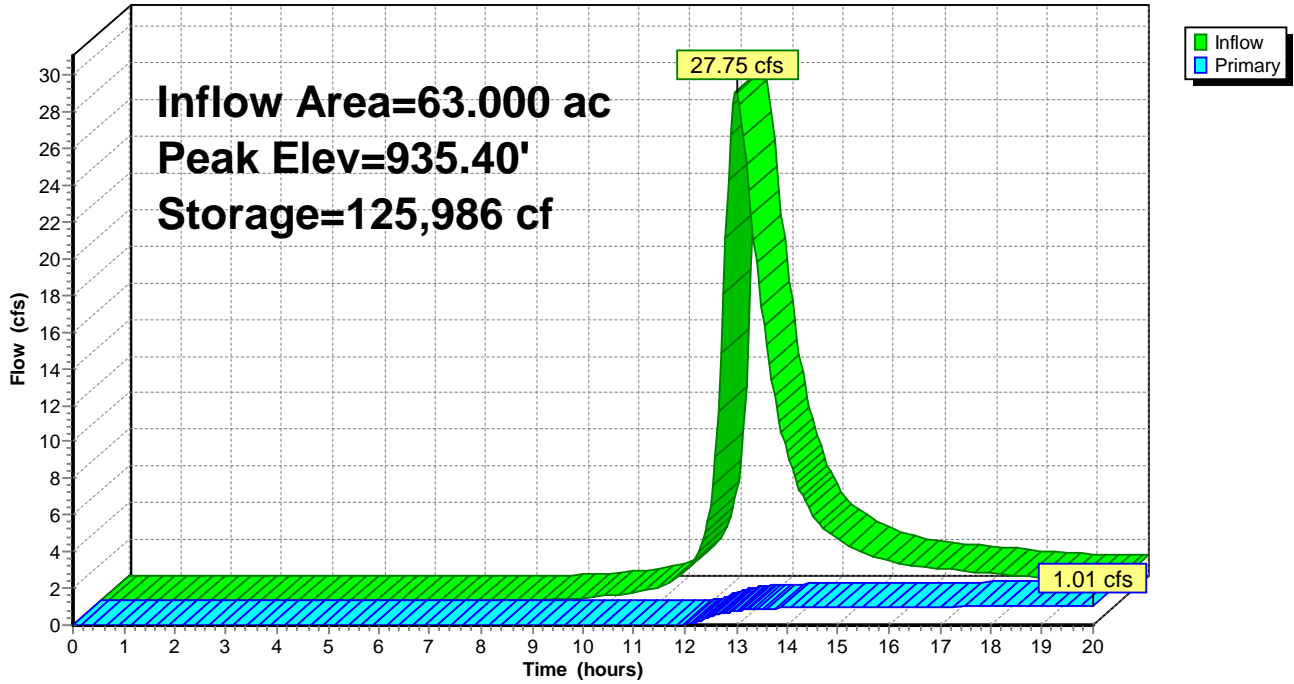
Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.00' / 933.43' S= 0.0057 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.00'	<b>6.0" Vert. 6" Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.60'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.01 cfs @ 20.00 hrs HW=935.40' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 1.01 cfs of 7.71 cfs potential flow)
- ↑ **2=6" Orifice** (Orifice Controls 1.01 cfs @ 5.17 fps)
- ↑ **3=Window** ( Controls 0.00 cfs)
- ↑ **4=Grate** ( Controls 0.00 cfs)

Pond 5P: WET BASIN E

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 1-Year Rainfall=2.20"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 11

**Summary for Pond 6P: DRY BASIN F**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 0.91" for 1-Year event  
 Inflow = 17.61 cfs @ 12.29 hrs, Volume= 1.986 af  
 Outflow = 0.43 cfs @ 20.00 hrs, Volume= 0.282 af, Atten= 98%, Lag= 462.4 min  
 Primary = 0.43 cfs @ 20.00 hrs, Volume= 0.282 af  
 Routed to Link 11L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.77' @ 20.00 hrs Surf.Area= 61,278 sf Storage= 74,218 cf

Plug-Flow detention time= 268.5 min calculated for 0.281 af (14% of inflow)  
 Center-of-Mass det. time= 118.7 min ( 939.4 - 820.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	188,546 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	56,901	28,451	28,451
937.00	62,552	59,727	88,177
938.00	68,273	65,413	153,590
938.50	71,552	34,956	188,546

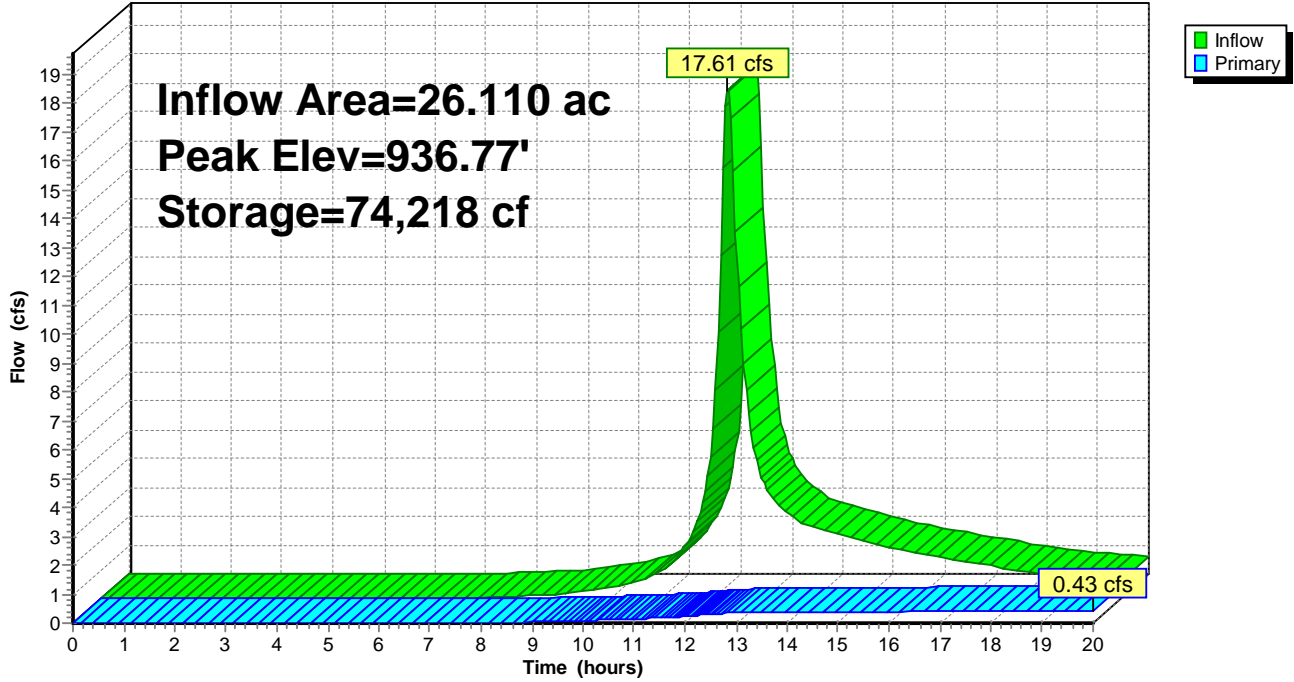
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>3.5" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.75'	<b>20.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.43 cfs @ 20.00 hrs HW=936.77' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.43 cfs of 10.70 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.41 cfs @ 6.14 fps)
- ↑ **3=Window** (Orifice Controls 0.02 cfs @ 0.50 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 6P: DRY BASIN F**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 1-Year Rainfall=2.20"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 13

**Summary for Pond 7P: WET BASIN G**

Inflow Area = 4.300 ac, 69.88% Impervious, Inflow Depth > 1.43" for 1-Year event  
 Inflow = 6.86 cfs @ 12.29 hrs, Volume= 0.512 af  
 Outflow = 0.58 cfs @ 13.40 hrs, Volume= 0.287 af, Atten= 92%, Lag= 66.4 min  
 Primary = 0.58 cfs @ 13.40 hrs, Volume= 0.287 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.13' @ 13.54 hrs Surf.Area= 21,411 sf Storage= 13,038 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 93.0 min ( 871.5 - 778.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.50'	57,566 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.50	19,817	0	0
937.00	21,069	10,222	10,222
938.00	23,647	22,358	32,580
939.00	26,326	24,987	57,566

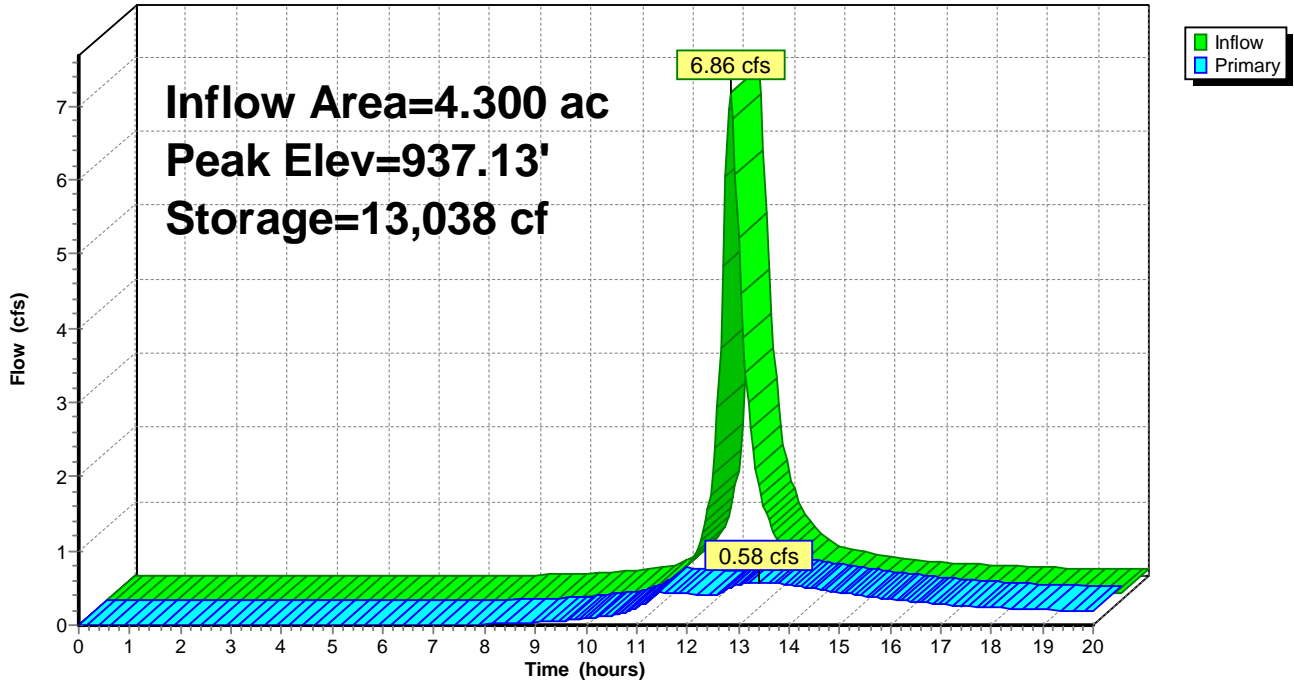
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>12.0" Round Culvert</b> L= 300.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.57 cfs @ 13.40 hrs HW=937.13' TW=936.35' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.57 cfs of 1.68 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.37 cfs @ 4.25 fps)
- ↑ **3=Windows** (Orifice Controls 0.20 cfs @ 1.16 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 7P: WET BASIN G

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 1-Year Rainfall=2.20"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 15

**Summary for Pond 8P: DRY BASIN H**

Inflow Area = 11.650 ac, 71.03% Impervious, Inflow Depth > 1.32" for 1-Year event  
 Inflow = 14.47 cfs @ 12.30 hrs, Volume= 1.281 af  
 Outflow = 0.98 cfs @ 14.42 hrs, Volume= 0.419 af, Atten= 93%, Lag= 127.5 min  
 Primary = 0.98 cfs @ 14.42 hrs, Volume= 0.419 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.81' @ 14.72 hrs Surf.Area= 31,311 sf Storage= 38,427 cf

Plug-Flow detention time= 217.4 min calculated for 0.418 af (33% of inflow)  
 Center-of-Mass det. time= 129.7 min ( 926.5 - 796.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	115,607 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	28,411	14,206	14,206
937.00	31,986	30,199	44,404
938.00	35,583	33,785	78,189
939.00	39,254	37,419	115,607

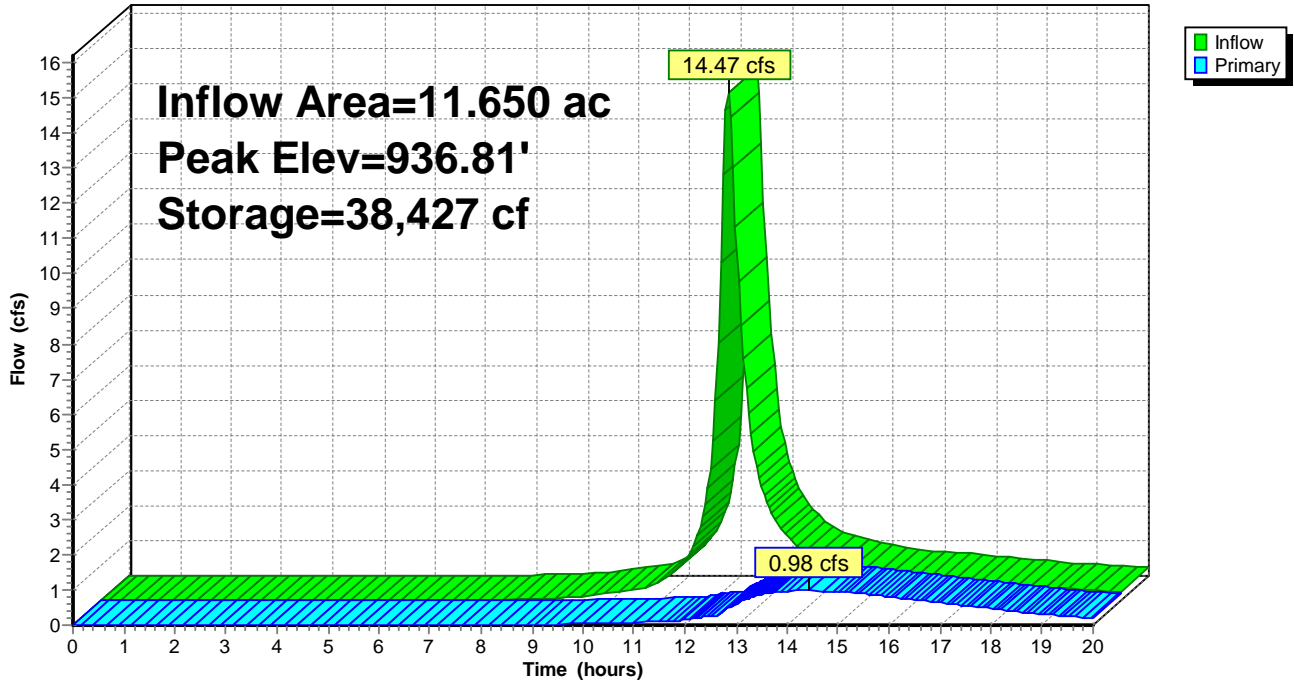
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 200.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.98 cfs @ 14.42 hrs HW=936.81' TW=936.49' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.98 cfs of 7.00 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.24 cfs @ 2.73 fps)
- ↑ **3=Window** (Orifice Controls 0.74 cfs @ 1.79 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 8P: DRY BASIN H

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 1-Year Rainfall=2.20"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 17

**Summary for Pond 9P: DRY BASIN I**

Inflow Area = 3.000 ac, 69.67% Impervious, Inflow Depth > 1.43" for 1-Year event  
 Inflow = 4.79 cfs @ 12.29 hrs, Volume= 0.357 af  
 Outflow = 0.75 cfs @ 12.44 hrs, Volume= 0.252 af, Atten= 84%, Lag= 8.8 min  
 Primary = 0.75 cfs @ 12.44 hrs, Volume= 0.252 af  
 Routed to Pond 8P : DRY BASIN H

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.05' @ 13.20 hrs Surf.Area= 14,860 sf Storage= 8,182 cf

Plug-Flow detention time= 142.7 min calculated for 0.252 af (71% of inflow)  
 Center-of-Mass det. time= 93.4 min ( 871.9 - 778.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	40,965 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.00	0	0	0
937.00	14,750	7,375	7,375
938.00	16,770	15,760	23,135
939.00	18,890	17,830	40,965

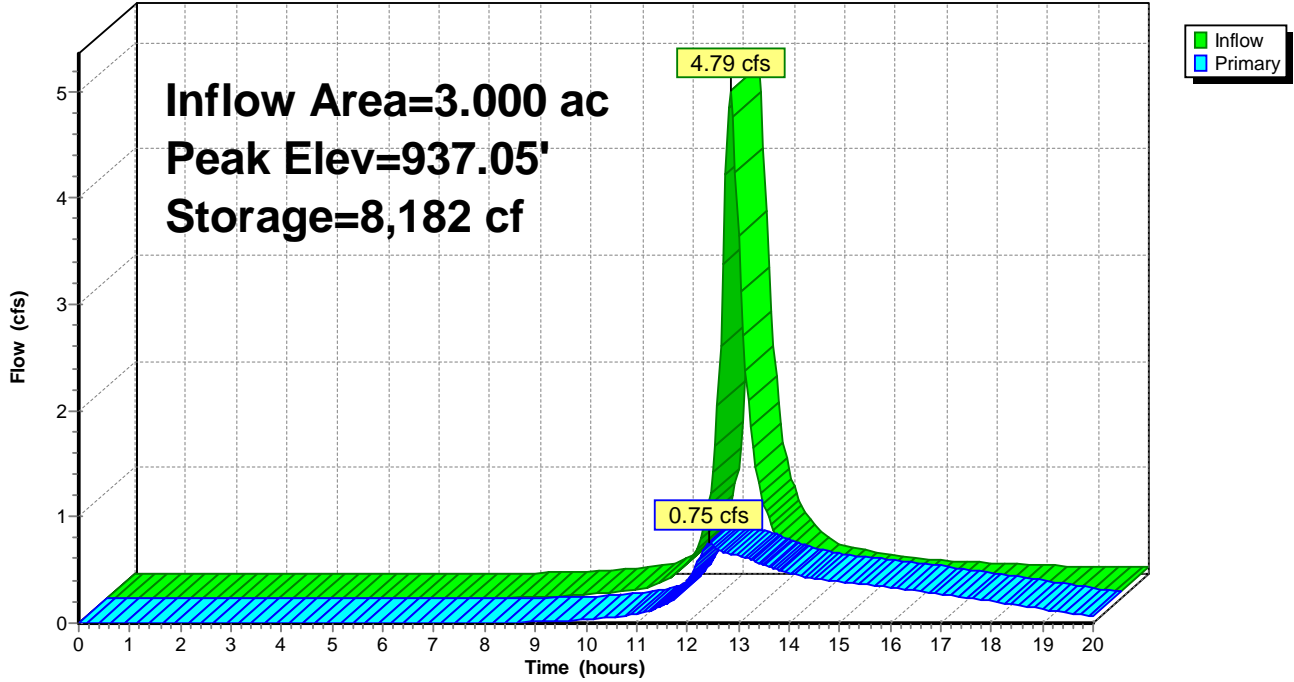
Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>12.0" Round Culvert</b> L= 250.0' Ke= 0.600 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0040 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	936.00'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.72 cfs @ 12.44 hrs HW=936.90' TW=936.33' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.72 cfs of 1.22 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.72 cfs @ 3.64 fps)
- ↑ **3=Window** ( Controls 0.00 cfs)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 9P: DRY BASIN I**

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 19

**Summary for Pond 1P: DRY BASIN A**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.22" for 2-Year event  
 Inflow = 16.71 cfs @ 12.27 hrs, Volume= 2.492 af  
 Outflow = 3.50 cfs @ 13.55 hrs, Volume= 2.063 af, Atten= 79%, Lag= 76.9 min  
 Primary = 3.50 cfs @ 13.55 hrs, Volume= 2.063 af  
 Routed to Link 12L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.96' @ 13.55 hrs Surf.Area= 22,129 sf Storage= 32,553 cf

Plug-Flow detention time= 129.1 min calculated for 2.058 af (83% of inflow)  
 Center-of-Mass det. time= 76.7 min ( 950.3 - 873.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.70'	109,750 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.70	0	0	0
935.00	3,347	502	502
936.00	20,147	11,747	12,249
937.00	22,210	21,179	33,428
938.00	24,332	23,271	56,699
939.00	26,511	25,422	82,120
940.00	28,749	27,630	109,750

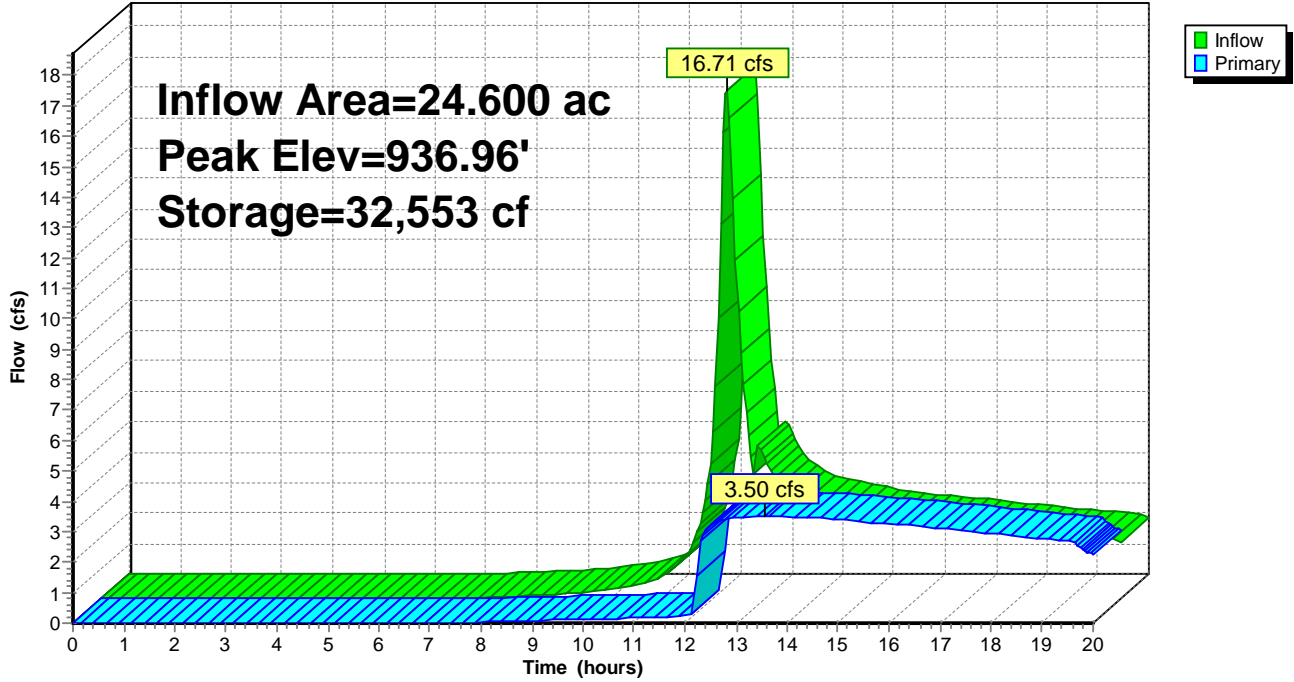
Device	Routing	Invert	Outlet Devices
#1	Primary	934.70'	<b>12.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.70' / 934.50' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	934.70'	<b>3.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.10'	<b>24.0" W x 8.0" H Vert. Windows X 3.00</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.50 cfs @ 13.55 hrs HW=936.96' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Barrel Controls 3.50 cfs @ 4.45 fps)
- ↑ **2=Orifice** (Passes < 0.35 cfs potential flow)
- ↑ **3=Windows** (Passes < 13.73 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

Pond 1P: DRY BASIN A

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 21

**Summary for Pond 2P: DRY BASIN B**

Inflow Area = 14.500 ac, 68.38% Impervious, Inflow Depth > 1.81" for 2-Year event  
 Inflow = 29.10 cfs @ 12.29 hrs, Volume= 2.193 af  
 Outflow = 2.21 cfs @ 14.37 hrs, Volume= 1.272 af, Atten= 92%, Lag= 124.6 min  
 Primary = 2.21 cfs @ 14.37 hrs, Volume= 1.272 af  
 Routed to Pond 1P : DRY BASIN A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.99' @ 13.64 hrs Surf.Area= 47,995 sf Storage= 69,688 cf

Plug-Flow detention time= 244.4 min calculated for 1.272 af (58% of inflow)  
 Center-of-Mass det. time= 188.2 min ( 962.6 - 774.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	223,479 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	45,956	22,978	22,978
937.00	48,007	46,982	69,960
938.00	50,097	49,052	119,012
939.00	52,226	51,162	170,173
940.00	54,386	53,306	223,479

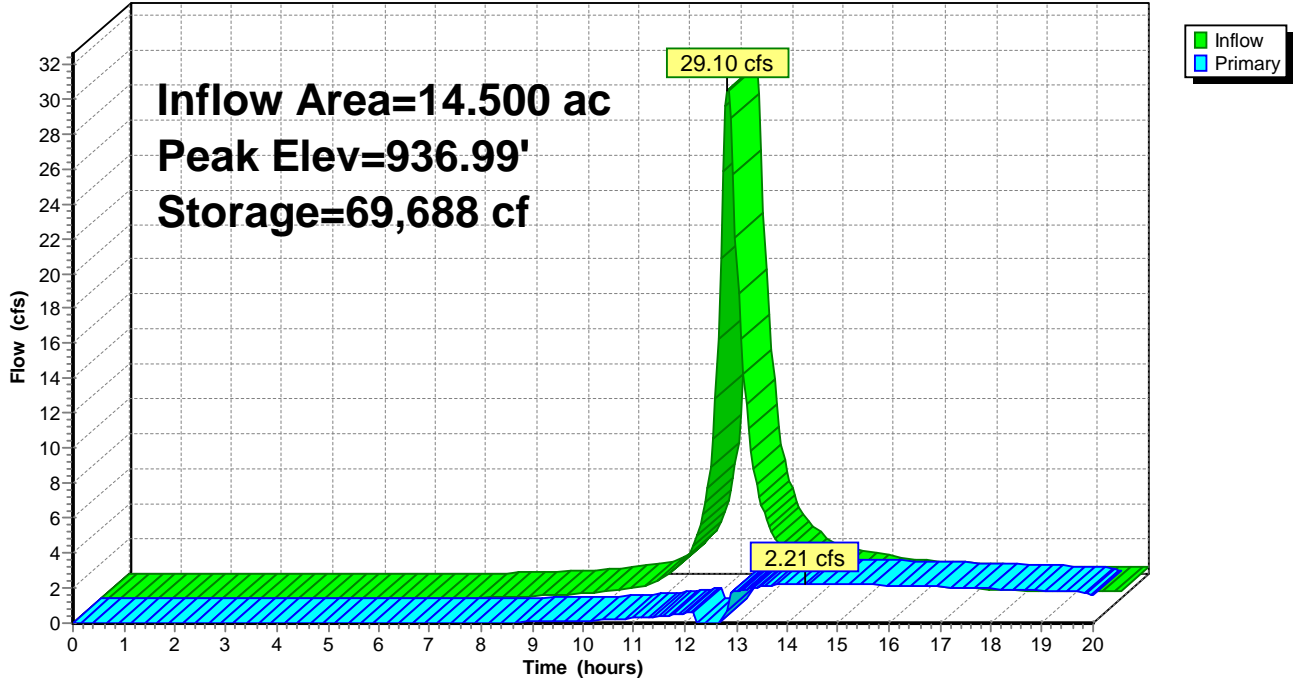
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 150.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.70' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>24.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>24.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.31 cfs @ 14.37 hrs HW=936.96' TW=936.92' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 2.31 cfs @ 0.93 fps)
- ↑ **2=Orifice/Grate** (Passes 2.31 cfs of 3.05 cfs potential flow)
- ↑ **3=Window** ( Controls 0.00 cfs)
- ↑ **4=Grate** ( Controls 0.00 cfs)

Pond 2P: DRY BASIN B

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 23

**Summary for Pond 3P: DRY BASIN C**

Inflow Area = 6.900 ac, 65.00% Impervious, Inflow Depth > 1.73" for 2-Year event  
 Inflow = 13.30 cfs @ 12.29 hrs, Volume= 0.994 af  
 Outflow = 2.10 cfs @ 13.02 hrs, Volume= 0.560 af, Atten= 84%, Lag= 43.4 min  
 Primary = 2.10 cfs @ 13.02 hrs, Volume= 0.560 af  
 Routed to Pond 4P : DRY BASIN D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.52' @ 13.05 hrs Surf.Area= 14,636 sf Storage= 26,015 cf

Plug-Flow detention time= 147.6 min calculated for 0.560 af (56% of inflow)  
 Center-of-Mass det. time= 90.6 min ( 868.3 - 777.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	49,847 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	11,869	5,935	5,935
937.00	13,659	12,764	18,699
938.00	15,549	14,604	33,303
939.00	17,539	16,544	49,847

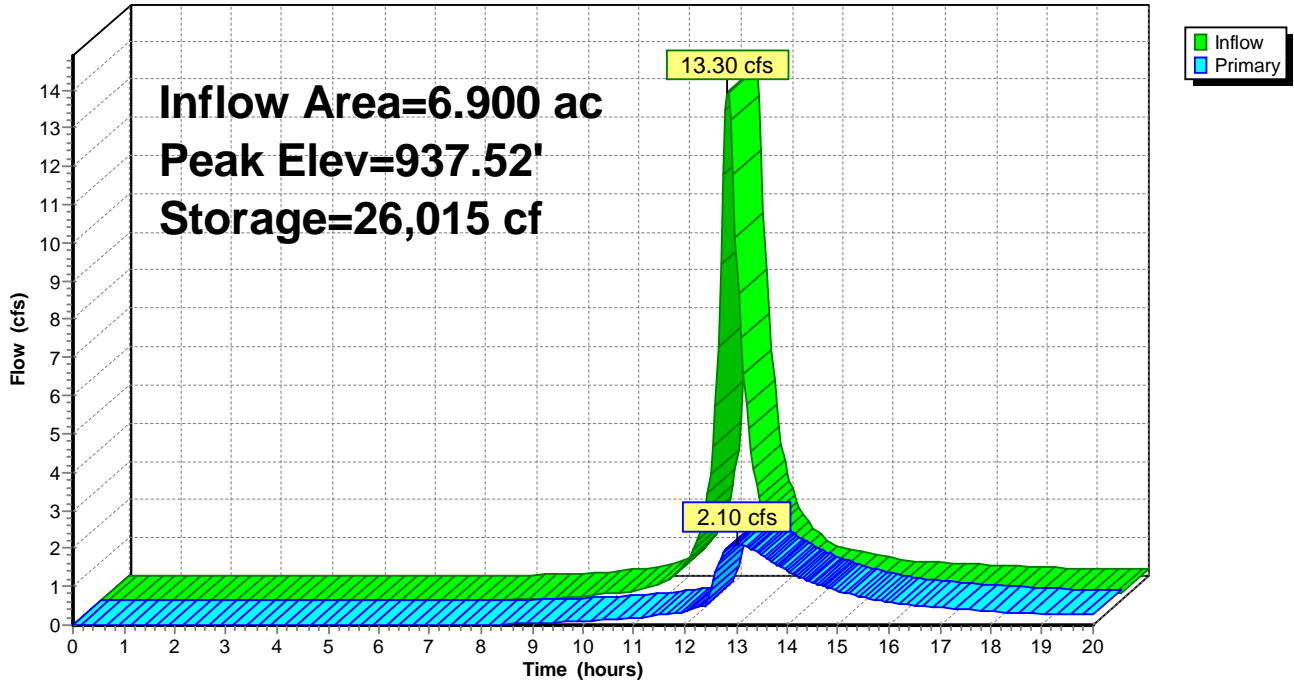
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 350.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0014 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.09 cfs @ 13.02 hrs HW=937.52' TW=936.03' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 2.09 cfs of 11.48 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.51 cfs @ 5.87 fps)
- ↑ **3=Windows** (Orifice Controls 1.58 cfs @ 2.37 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 3P: DRY BASIN C

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 25

**Summary for Pond 4P: DRY BASIN D**

Inflow Area = 20.700 ac, 46.79% Impervious, Inflow Depth > 1.24" for 2-Year event  
 Inflow = 13.26 cfs @ 12.67 hrs, Volume= 2.139 af  
 Outflow = 0.41 cfs @ 12.55 hrs, Volume= 0.281 af, Atten= 97%, Lag= 0.0 min  
 Primary = 0.41 cfs @ 12.55 hrs, Volume= 0.281 af  
 Routed to Pond 5P : WET BASIN E

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.67' @ 20.00 hrs Surf.Area= 63,084 sf Storage= 80,917 cf

Plug-Flow detention time= 225.6 min calculated for 0.281 af (13% of inflow)  
 Center-of-Mass det. time= 102.6 min ( 925.0 - 822.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.50'	237,628 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.50	0	0	0
935.00	12,225	3,056	3,056
936.00	60,758	36,492	39,548
937.00	64,240	62,499	102,047
938.00	67,771	66,006	168,052
939.00	71,380	69,576	237,628

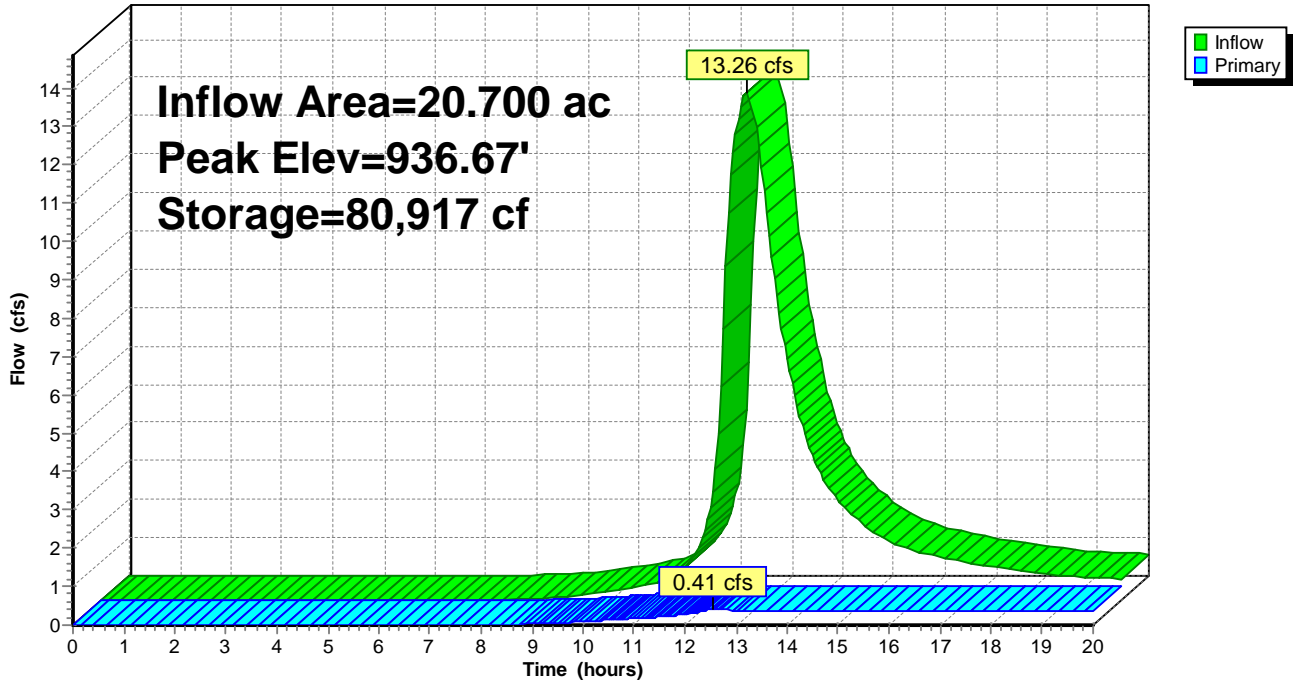
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 400.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.00' S= 0.0013 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.39 cfs @ 12.55 hrs HW=935.65' TW=934.77' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.39 cfs of 3.40 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.39 cfs @ 4.51 fps)
- ↑ **3=Windows** ( Controls 0.00 cfs)
- ↑ **4=Grate** ( Controls 0.00 cfs)

Pond 4P: DRY BASIN D

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 27

**Summary for Pond 5P: WET BASIN E**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.88" for 2-Year event  
 Inflow = 36.83 cfs @ 12.46 hrs, Volume= 4.605 af  
 Outflow = 1.20 cfs @ 20.00 hrs, Volume= 0.721 af, Atten= 97%, Lag= 452.1 min  
 Primary = 1.20 cfs @ 20.00 hrs, Volume= 0.721 af  
 Routed to Link 10L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 935.85' @ 20.00 hrs Surf.Area= 97,171 sf Storage= 169,180 cf

Plug-Flow detention time= 277.0 min calculated for 0.719 af (16% of inflow)  
 Center-of-Mass det. time= 168.1 min ( 978.8 - 810.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	507,647 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.00	85,433	0	0
935.00	91,702	88,568	88,568
936.00	98,109	94,906	183,473
937.00	104,658	101,384	284,857
938.00	111,356	108,007	392,864
939.00	118,210	114,783	507,647

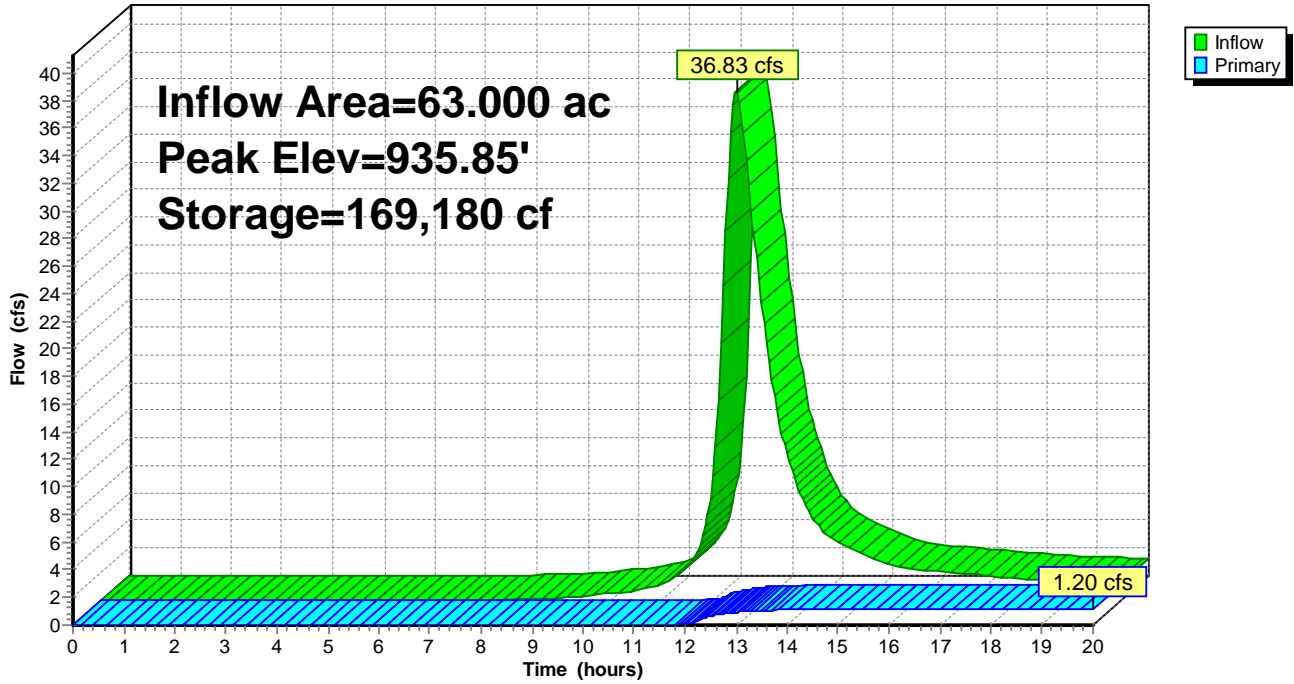
Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.00' / 933.43' S= 0.0057 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.00'	<b>6.0" Vert. 6" Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.60'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.20 cfs @ 20.00 hrs HW=935.85' TW=0.00' (Dynamic Tailwater)

- ↑ 1=Culvert (Passes 1.20 cfs of 11.80 cfs potential flow)
- ↑ 2=6" Orifice (Orifice Controls 1.20 cfs @ 6.10 fps)
- ↑ 3=Window ( Controls 0.00 cfs)
- ↑ 4=Grate ( Controls 0.00 cfs)

### Pond 5P: WET BASIN E

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 29

**Summary for Pond 6P: DRY BASIN F**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 1.18" for 2-Year event  
 Inflow = 21.82 cfs @ 12.29 hrs, Volume= 2.572 af  
 Outflow = 1.09 cfs @ 17.76 hrs, Volume= 0.575 af, Atten= 95%, Lag= 328.4 min  
 Primary = 1.09 cfs @ 17.76 hrs, Volume= 0.575 af  
 Routed to Link 11L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.00' @ 17.76 hrs Surf.Area= 62,531 sf Storage= 87,944 cf

Plug-Flow detention time= 298.4 min calculated for 0.573 af (22% of inflow)  
 Center-of-Mass det. time= 170.0 min ( 982.5 - 812.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	188,546 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	56,901	28,451	28,451
937.00	62,552	59,727	88,177
938.00	68,273	65,413	153,590
938.50	71,552	34,956	188,546

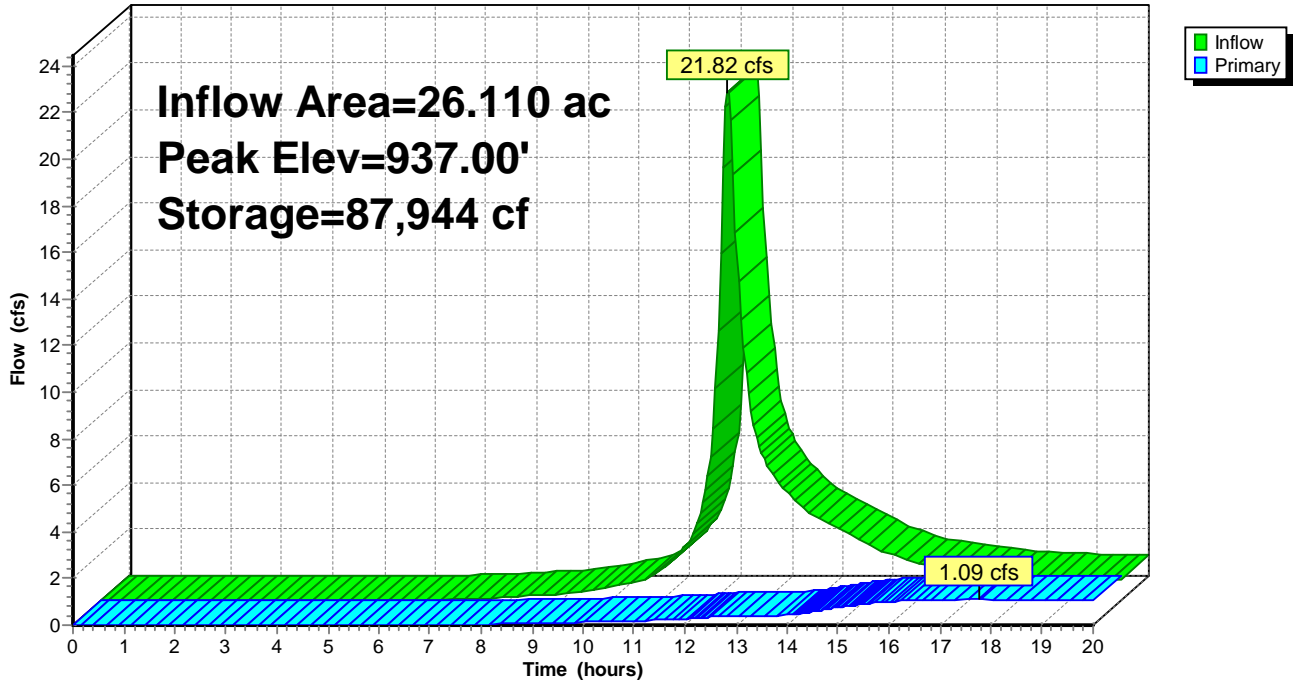
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>3.5" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.75'	<b>20.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.09 cfs @ 17.76 hrs HW=937.00' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 1.09 cfs of 12.62 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.44 cfs @ 6.55 fps)
- ↑ **3=Window** (Orifice Controls 0.65 cfs @ 1.59 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 6P: DRY BASIN F**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 31

**Summary for Pond 7P: WET BASIN G**

Inflow Area = 4.300 ac, 69.88% Impervious, Inflow Depth > 1.81" for 2-Year event  
 Inflow = 8.63 cfs @ 12.29 hrs, Volume= 0.650 af  
 Outflow = 0.99 cfs @ 13.17 hrs, Volume= 0.385 af, Atten= 89%, Lag= 52.4 min  
 Primary = 0.99 cfs @ 13.17 hrs, Volume= 0.385 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.28' @ 13.25 hrs Surf.Area= 21,789 sf Storage= 16,205 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 83.8 min ( 858.2 - 774.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.50'	57,566 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.50	19,817	0	0
937.00	21,069	10,222	10,222
938.00	23,647	22,358	32,580
939.00	26,326	24,987	57,566

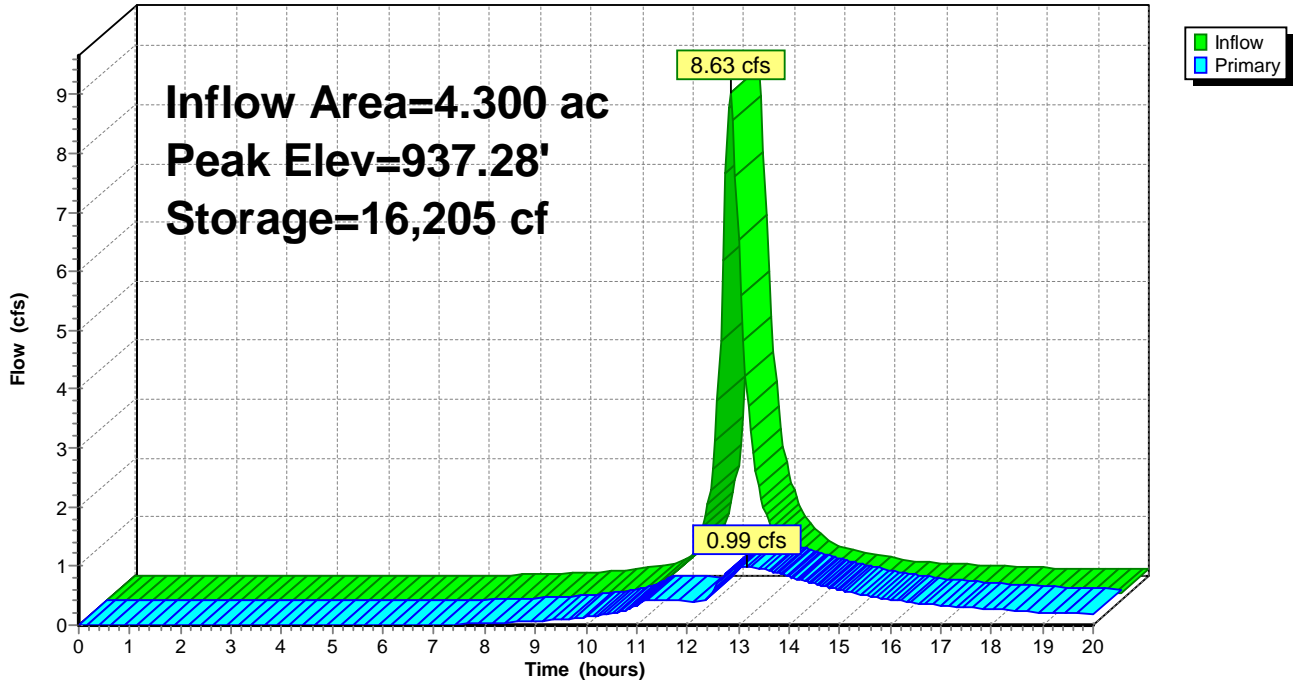
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>12.0" Round Culvert</b> L= 300.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.98 cfs @ 13.17 hrs HW=937.28' TW=936.56' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.98 cfs of 1.60 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.36 cfs @ 4.07 fps)
- ↑ **3=Windows** (Orifice Controls 0.63 cfs @ 1.69 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

Pond 7P: WET BASIN G

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 33

**Summary for Pond 8P: DRY BASIN H**

Inflow Area = 11.650 ac, 71.03% Impervious, Inflow Depth > 1.64" for 2-Year event  
 Inflow = 18.10 cfs @ 12.29 hrs, Volume= 1.590 af  
 Outflow = 1.81 cfs @ 13.44 hrs, Volume= 0.574 af, Atten= 90%, Lag= 68.8 min  
 Primary = 1.81 cfs @ 13.44 hrs, Volume= 0.574 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.03' @ 13.81 hrs Surf.Area= 32,088 sf Storage= 45,313 cf

Plug-Flow detention time= 193.6 min calculated for 0.572 af (36% of inflow)  
 Center-of-Mass det. time= 111.8 min ( 898.9 - 787.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	115,607 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	28,411	14,206	14,206
937.00	31,986	30,199	44,404
938.00	35,583	33,785	78,189
939.00	39,254	37,419	115,607

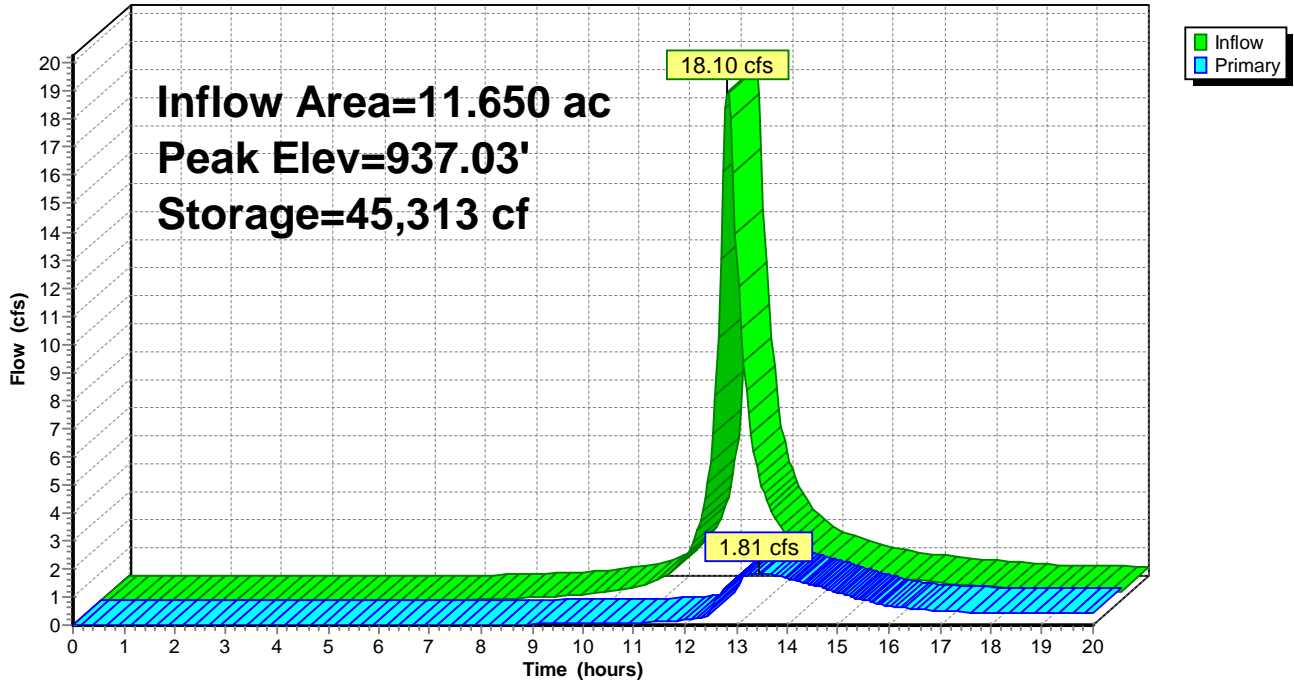
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 200.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.80 cfs @ 13.44 hrs HW=937.02' TW=936.64' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 1.80 cfs of 7.92 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.26 cfs @ 2.96 fps)
- ↑ **3=Window** (Orifice Controls 1.54 cfs @ 2.31 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 8P: DRY BASIN H

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 2-Year Rainfall=2.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 35

**Summary for Pond 9P: DRY BASIN I**

Inflow Area = 3.000 ac, 69.67% Impervious, Inflow Depth > 1.81" for 2-Year event  
 Inflow = 6.02 cfs @ 12.29 hrs, Volume= 0.454 af  
 Outflow = 0.91 cfs @ 12.86 hrs, Volume= 0.281 af, Atten= 85%, Lag= 33.9 min  
 Primary = 0.91 cfs @ 12.86 hrs, Volume= 0.281 af  
 Routed to Pond 8P : DRY BASIN H

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.21' @ 13.09 hrs Surf.Area= 15,174 sf Storage= 10,513 cf

Plug-Flow detention time= 125.9 min calculated for 0.281 af (62% of inflow)  
 Center-of-Mass det. time= 71.9 min ( 846.3 - 774.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	40,965 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.00	0	0	0
937.00	14,750	7,375	7,375
938.00	16,770	15,760	23,135
939.00	18,890	17,830	40,965

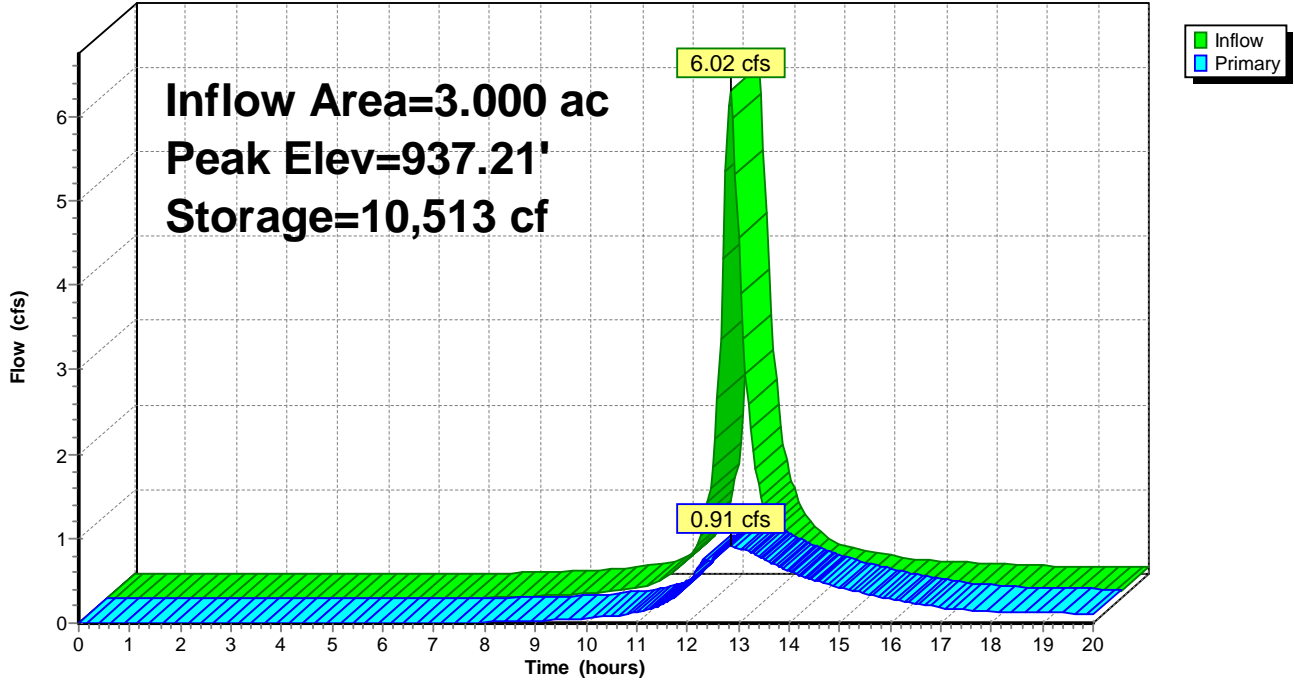
Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>12.0" Round Culvert</b> L= 250.0' Ke= 0.600 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0040 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	936.00'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.89 cfs @ 12.86 hrs HW=937.20' TW=936.91' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.89 cfs of 1.14 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.51 cfs @ 2.58 fps)
- ↑ **3=Window** (Orifice Controls 0.38 cfs @ 1.44 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 9P: DRY BASIN I

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 37

**Summary for Pond 1P: DRY BASIN A**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.53" for 5-Year event  
 Inflow = 22.55 cfs @ 12.27 hrs, Volume= 3.131 af  
 Outflow = 4.07 cfs @ 13.64 hrs, Volume= 2.490 af, Atten= 82%, Lag= 82.3 min  
 Primary = 4.07 cfs @ 13.64 hrs, Volume= 2.490 af  
 Routed to Link 12L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.47' @ 13.64 hrs Surf.Area= 23,215 sf Storage= 44,181 cf

Plug-Flow detention time= 146.6 min calculated for 2.484 af (79% of inflow)  
 Center-of-Mass det. time= 83.7 min ( 950.7 - 867.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.70'	109,750 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.70	0	0	0
935.00	3,347	502	502
936.00	20,147	11,747	12,249
937.00	22,210	21,179	33,428
938.00	24,332	23,271	56,699
939.00	26,511	25,422	82,120
940.00	28,749	27,630	109,750

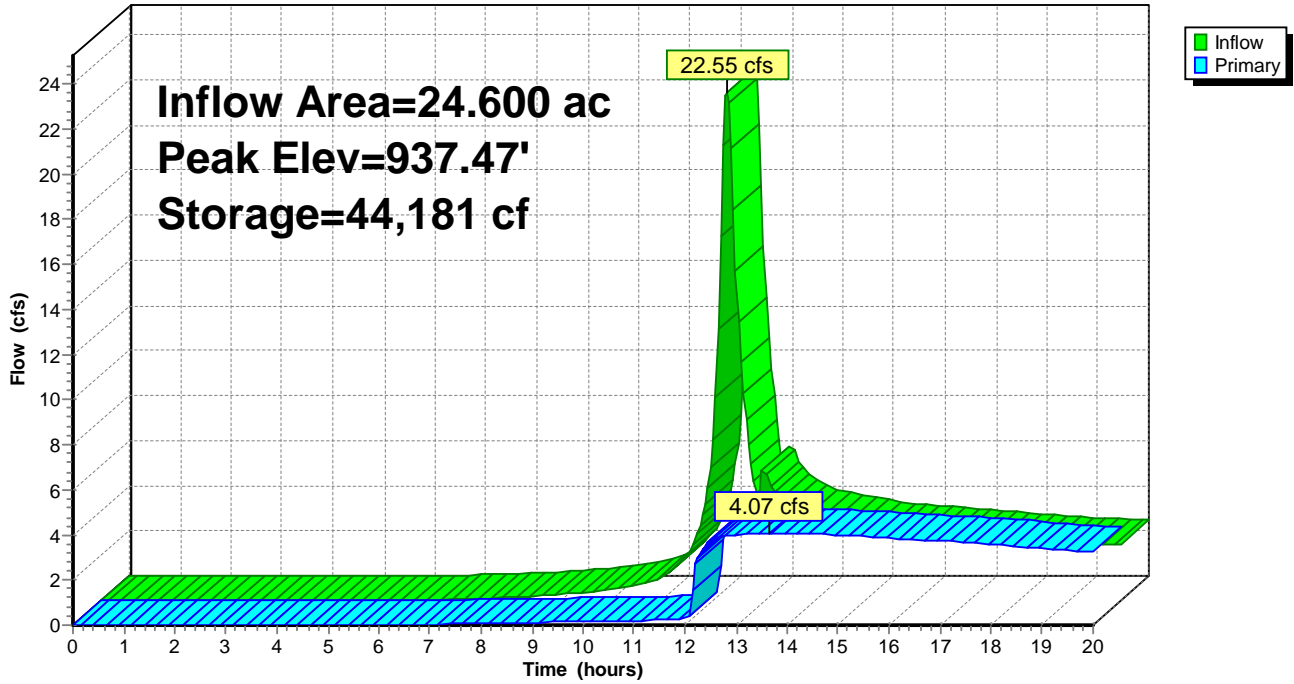
Device	Routing	Invert	Outlet Devices
#1	Primary	934.70'	<b>12.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.70' / 934.50' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	934.70'	<b>3.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.10'	<b>24.0" W x 8.0" H Vert. Windows X 3.00</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=4.07 cfs @ 13.64 hrs HW=937.47' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Barrel Controls 4.07 cfs @ 5.18 fps)
- ↑ **2=Orifice** (Passes < 0.38 cfs potential flow)
- ↑ **3=Windows** (Passes < 19.56 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 1P: DRY BASIN A**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 39

**Summary for Pond 2P: DRY BASIN B**

Inflow Area = 14.500 ac, 68.38% Impervious, Inflow Depth > 2.38" for 5-Year event  
 Inflow = 37.56 cfs @ 12.29 hrs, Volume= 2.870 af  
 Outflow = 2.56 cfs @ 15.13 hrs, Volume= 1.483 af, Atten= 93%, Lag= 170.4 min  
 Primary = 2.56 cfs @ 15.13 hrs, Volume= 1.483 af  
 Routed to Pond 1P : DRY BASIN A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.50' @ 13.73 hrs Surf.Area= 49,062 sf Storage= 94,449 cf

Plug-Flow detention time= 258.0 min calculated for 1.479 af (52% of inflow)  
 Center-of-Mass det. time= 197.7 min ( 967.5 - 769.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	223,479 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	45,956	22,978	22,978
937.00	48,007	46,982	69,960
938.00	50,097	49,052	119,012
939.00	52,226	51,162	170,173
940.00	54,386	53,306	223,479

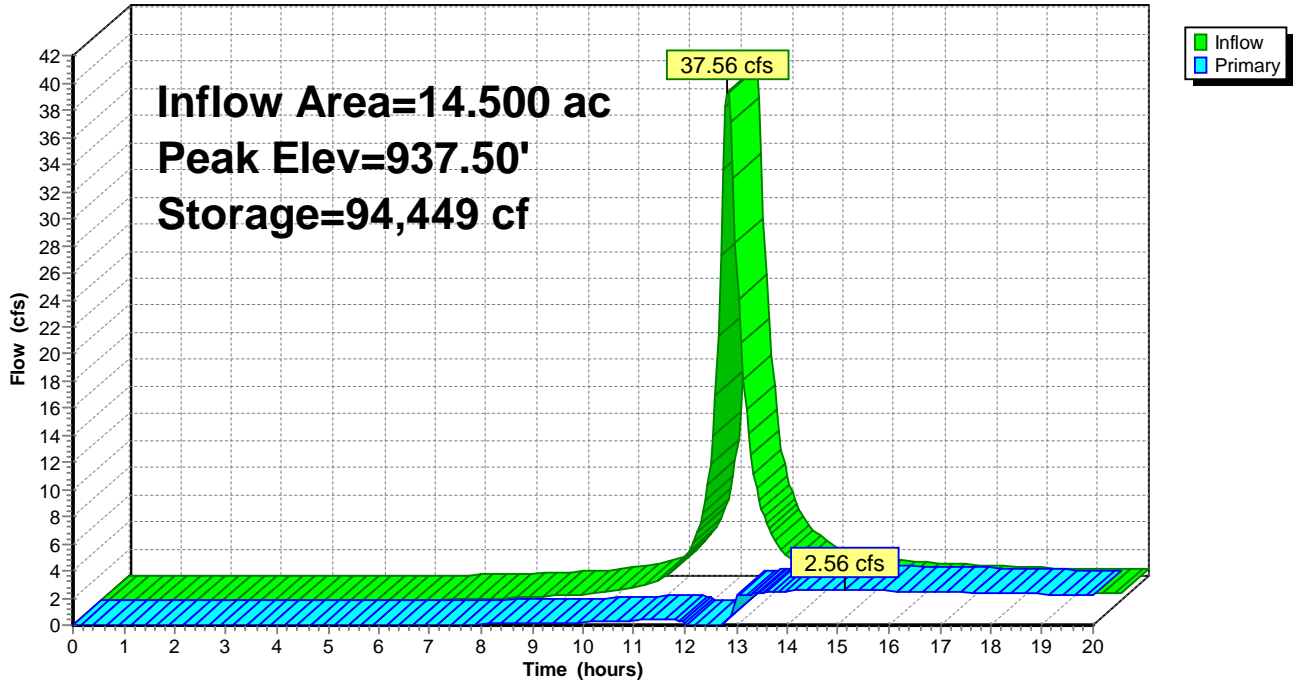
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 150.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.70' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>24.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>24.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.74 cfs @ 15.13 hrs HW=937.42' TW=937.38' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 2.74 cfs @ 0.92 fps)
- ↑ **2=Orifice/Grate** (Passes < 3.03 cfs potential flow)
- ↑ **3=Window** (Passes < 0.78 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 2P: DRY BASIN B**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 41

**Summary for Pond 3P: DRY BASIN C**

Inflow Area = 6.900 ac, 65.00% Impervious, Inflow Depth > 2.28" for 5-Year event  
 Inflow = 17.33 cfs @ 12.29 hrs, Volume= 1.311 af  
 Outflow = 3.26 cfs @ 12.89 hrs, Volume= 0.821 af, Atten= 81%, Lag= 35.8 min  
 Primary = 3.26 cfs @ 12.89 hrs, Volume= 0.821 af  
 Routed to Pond 4P : DRY BASIN D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.96' @ 12.93 hrs Surf.Area= 15,482 sf Storage= 32,749 cf

Plug-Flow detention time= 125.3 min calculated for 0.819 af (62% of inflow)  
 Center-of-Mass det. time= 72.5 min ( 845.4 - 773.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	49,847 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	11,869	5,935	5,935
937.00	13,659	12,764	18,699
938.00	15,549	14,604	33,303
939.00	17,539	16,544	49,847

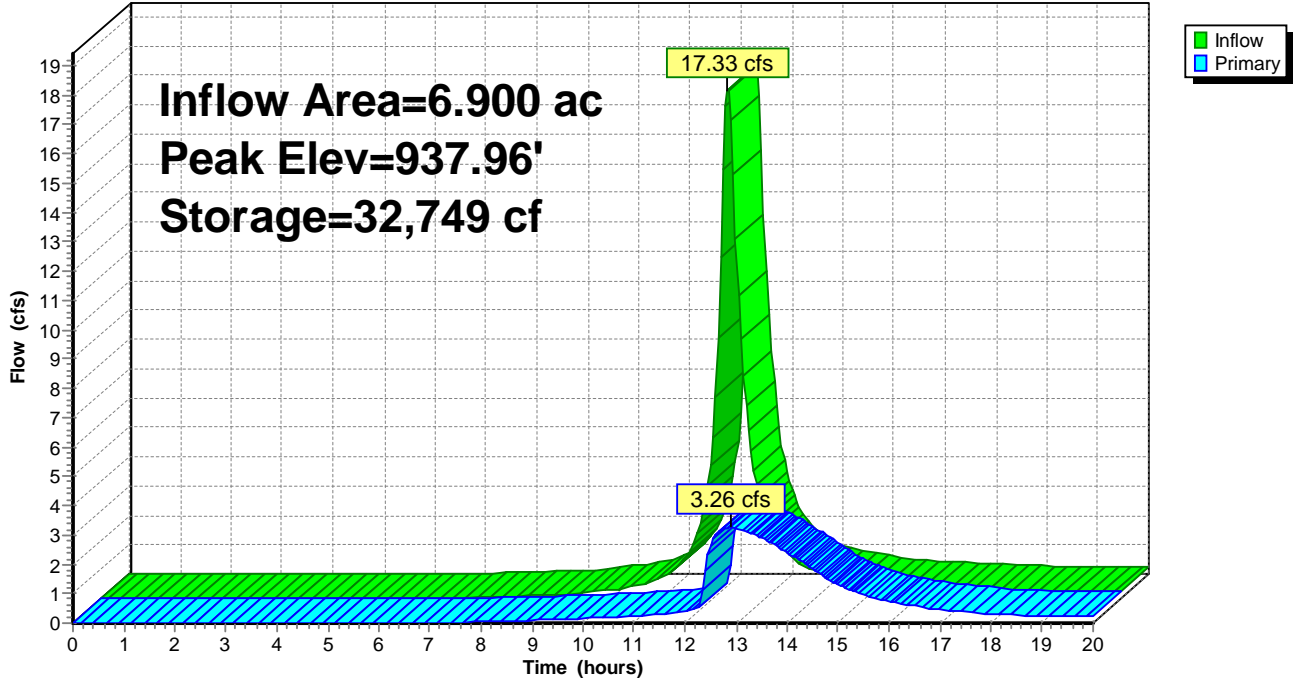
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 350.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0014 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.25 cfs @ 12.89 hrs HW=937.96' TW=936.23' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 3.25 cfs of 12.49 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.55 cfs @ 6.34 fps)
- ↑ **3=Windows** (Orifice Controls 2.70 cfs @ 4.04 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 3P: DRY BASIN C

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 43

**Summary for Pond 4P: DRY BASIN D**

Inflow Area = 20.700 ac, 46.79% Impervious, Inflow Depth > 1.72" for 5-Year event  
 Inflow = 18.87 cfs @ 12.59 hrs, Volume= 2.972 af  
 Outflow = 0.64 cfs @ 19.40 hrs, Volume= 0.371 af, Atten= 97%, Lag= 408.8 min  
 Primary = 0.64 cfs @ 19.40 hrs, Volume= 0.371 af  
 Routed to Pond 5P : WET BASIN E

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.17' @ 19.86 hrs Surf.Area= 64,856 sf Storage= 113,299 cf

Plug-Flow detention time= 259.4 min calculated for 0.371 af (12% of inflow)  
 Center-of-Mass det. time= 132.1 min ( 945.4 - 813.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.50'	237,628 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.50	0	0	0
935.00	12,225	3,056	3,056
936.00	60,758	36,492	39,548
937.00	64,240	62,499	102,047
938.00	67,771	66,006	168,052
939.00	71,380	69,576	237,628

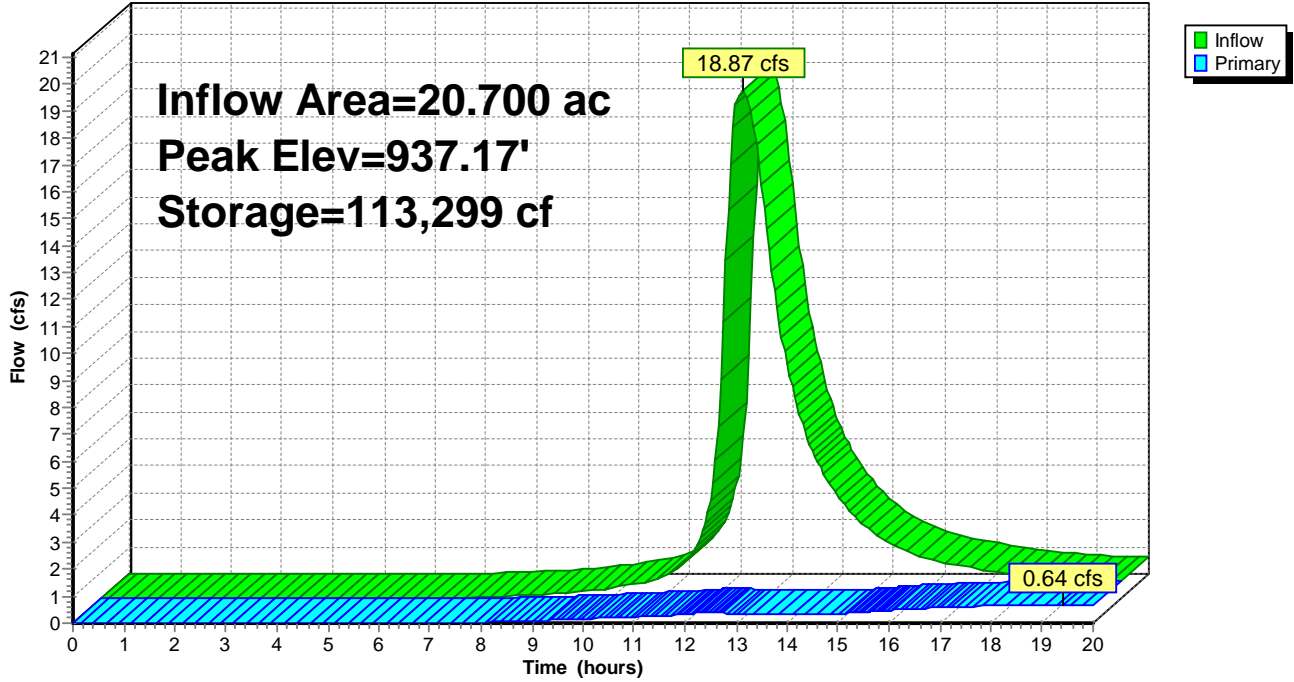
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 400.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.00' S= 0.0013 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.64 cfs @ 19.40 hrs HW=937.17' TW=936.55' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.64 cfs of 7.78 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.33 cfs @ 3.81 fps)
- ↑ **3=Windows** (Orifice Controls 0.31 cfs @ 1.34 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 4P: DRY BASIN D

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 45

**Summary for Pond 5P: WET BASIN E**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 1.21" for 5-Year event  
 Inflow = 50.25 cfs @ 12.47 hrs, Volume= 6.366 af  
 Outflow = 1.49 cfs @ 20.00 hrs, Volume= 0.879 af, Atten= 97%, Lag= 452.1 min  
 Primary = 1.49 cfs @ 20.00 hrs, Volume= 0.879 af  
 Routed to Link 10L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 936.56' @ 20.00 hrs Surf.Area= 101,746 sf Storage= 238,960 cf

Plug-Flow detention time= 289.8 min calculated for 0.879 af (14% of inflow)  
 Center-of-Mass det. time= 168.9 min ( 976.7 - 807.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	507,647 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.00	85,433	0	0
935.00	91,702	88,568	88,568
936.00	98,109	94,906	183,473
937.00	104,658	101,384	284,857
938.00	111,356	108,007	392,864
939.00	118,210	114,783	507,647

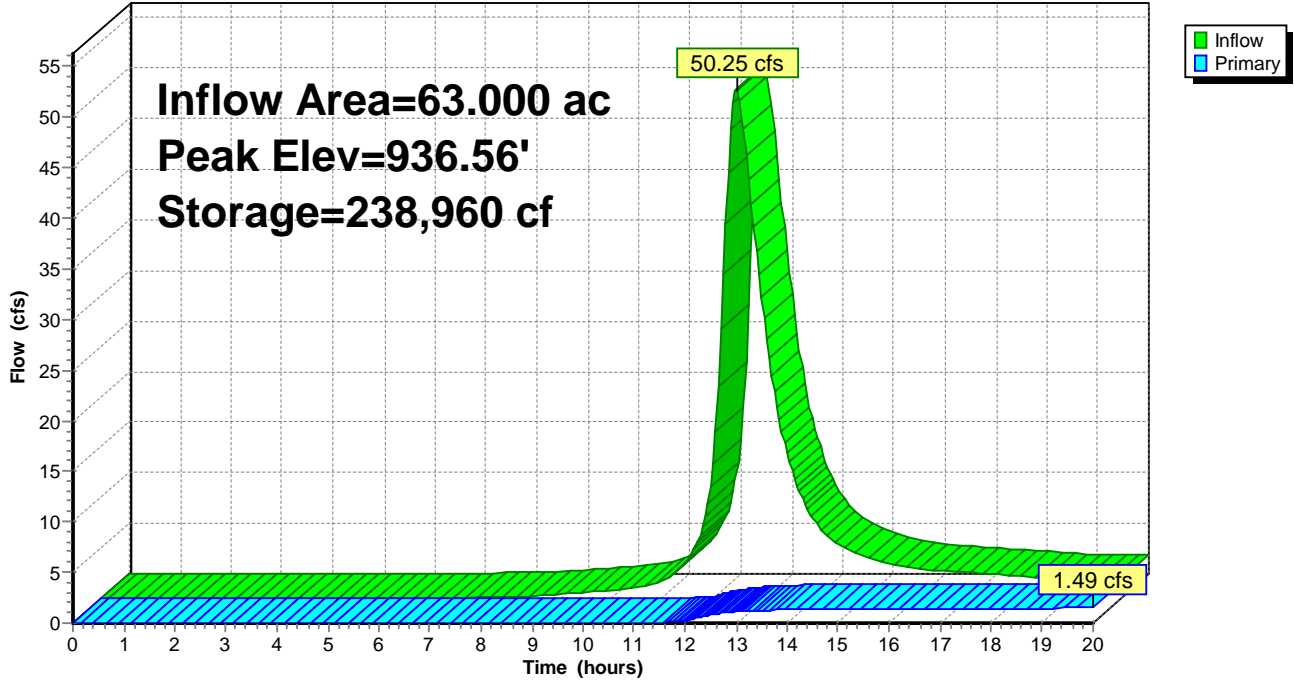
Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.00' / 933.43' S= 0.0057 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.00'	<b>6.0" Vert. 6" Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.60'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.49 cfs @ 20.00 hrs HW=936.56' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 1.49 cfs of 16.77 cfs potential flow)
- ↑ **2=6" Orifice** (Orifice Controls 1.44 cfs @ 7.31 fps)
- ↑ **3=Window** (Orifice Controls 0.06 cfs @ 0.75 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 5P: WET BASIN E

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 47

**Summary for Pond 6P: DRY BASIN F**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 1.61" for 5-Year event  
 Inflow = 27.86 cfs @ 12.30 hrs, Volume= 3.498 af  
 Outflow = 2.30 cfs @ 16.06 hrs, Volume= 1.241 af, Atten= 92%, Lag= 225.8 min  
 Primary = 2.30 cfs @ 16.06 hrs, Volume= 1.241 af  
 Routed to Link 11L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.24' @ 16.06 hrs Surf.Area= 63,925 sf Storage= 103,357 cf

Plug-Flow detention time= 278.4 min calculated for 1.238 af (35% of inflow)  
 Center-of-Mass det. time= 161.0 min ( 977.7 - 816.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	188,546 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	56,901	28,451	28,451
937.00	62,552	59,727	88,177
938.00	68,273	65,413	153,590
938.50	71,552	34,956	188,546

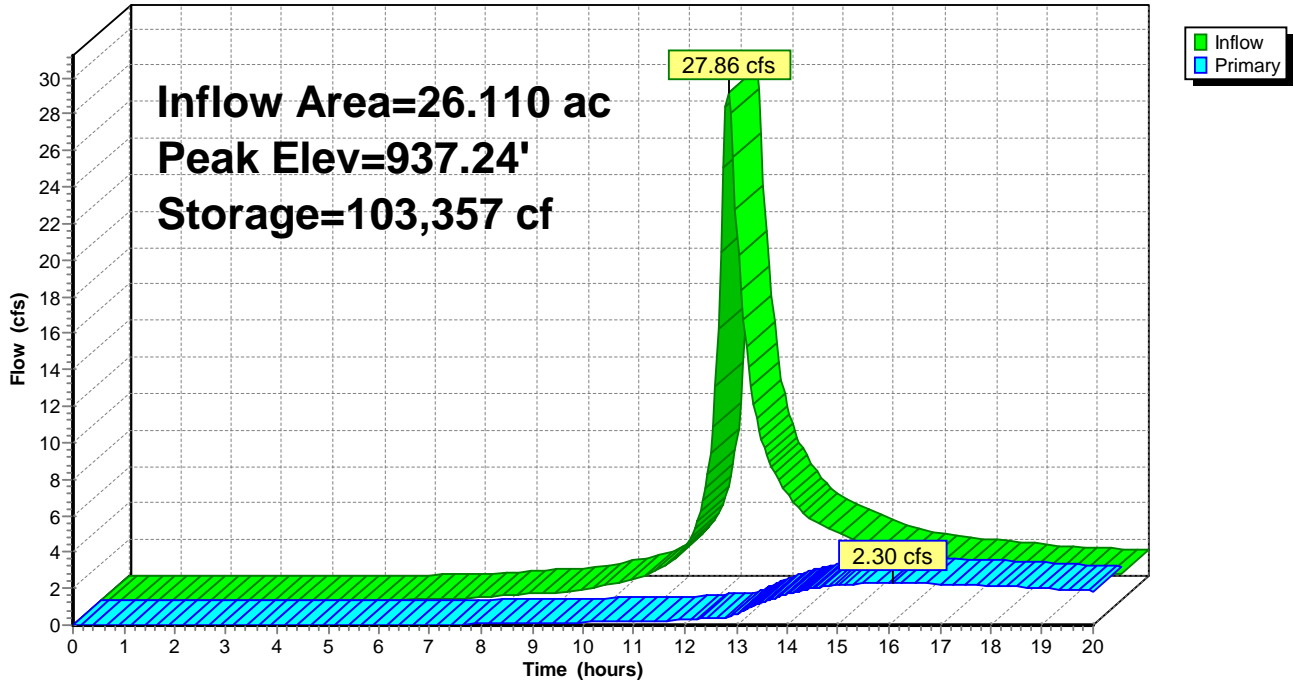
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>3.5" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.75'	<b>20.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.30 cfs @ 16.06 hrs HW=937.24' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 2.30 cfs of 14.54 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.47 cfs @ 6.97 fps)
- ↑ **3=Window** (Orifice Controls 1.84 cfs @ 2.25 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 6P: DRY BASIN F

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 49

**Summary for Pond 7P: WET BASIN G**

Inflow Area = 4.300 ac, 69.88% Impervious, Inflow Depth > 2.38" for 5-Year event  
 Inflow = 11.14 cfs @ 12.29 hrs, Volume= 0.851 af  
 Outflow = 1.64 cfs @ 12.77 hrs, Volume= 0.522 af, Atten= 85%, Lag= 28.6 min  
 Primary = 1.64 cfs @ 12.77 hrs, Volume= 0.522 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.48' @ 13.15 hrs Surf.Area= 22,310 sf Storage= 20,663 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 83.5 min ( 853.2 - 769.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.50'	57,566 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.50	19,817	0	0
937.00	21,069	10,222	10,222
938.00	23,647	22,358	32,580
939.00	26,326	24,987	57,566

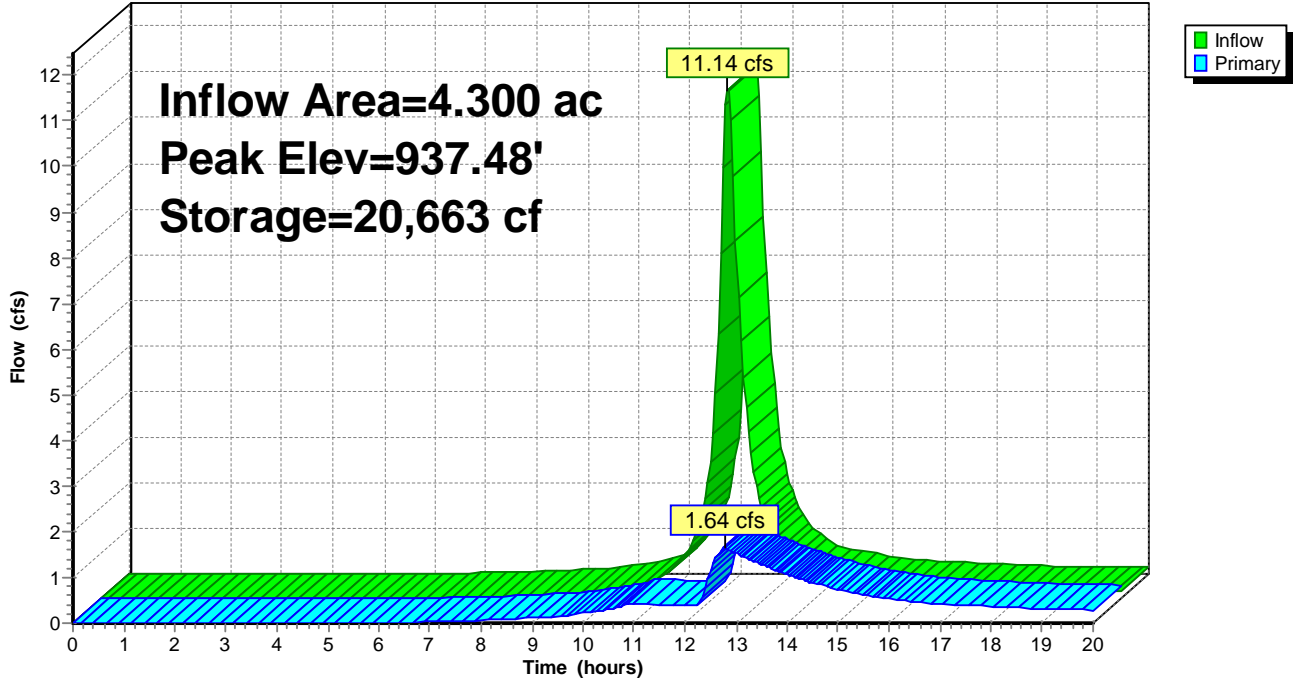
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>12.0" Round Culvert</b> L= 300.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.61 cfs @ 12.77 hrs HW=937.45' TW=936.73' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 1.61 cfs @ 2.05 fps)
- ↑ **2=Orifice** (Passes < 0.36 cfs potential flow)
- ↑ **3=Windows** (Passes < 1.29 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 7P: WET BASIN G**

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 51

**Summary for Pond 8P: DRY BASIN H**

Inflow Area = 11.650 ac, 71.03% Impervious, Inflow Depth > 2.12" for 5-Year event  
 Inflow = 23.12 cfs @ 12.29 hrs, Volume= 2.059 af  
 Outflow = 2.48 cfs @ 12.88 hrs, Volume= 0.882 af, Atten= 89%, Lag= 35.4 min  
 Primary = 2.48 cfs @ 12.88 hrs, Volume= 0.882 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.38' @ 13.82 hrs Surf.Area= 33,344 sf Storage= 56,733 cf

Plug-Flow detention time= 211.3 min calculated for 0.882 af (43% of inflow)  
 Center-of-Mass det. time= 128.7 min ( 914.8 - 786.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	115,607 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	28,411	14,206	14,206
937.00	31,986	30,199	44,404
938.00	35,583	33,785	78,189
939.00	39,254	37,419	115,607

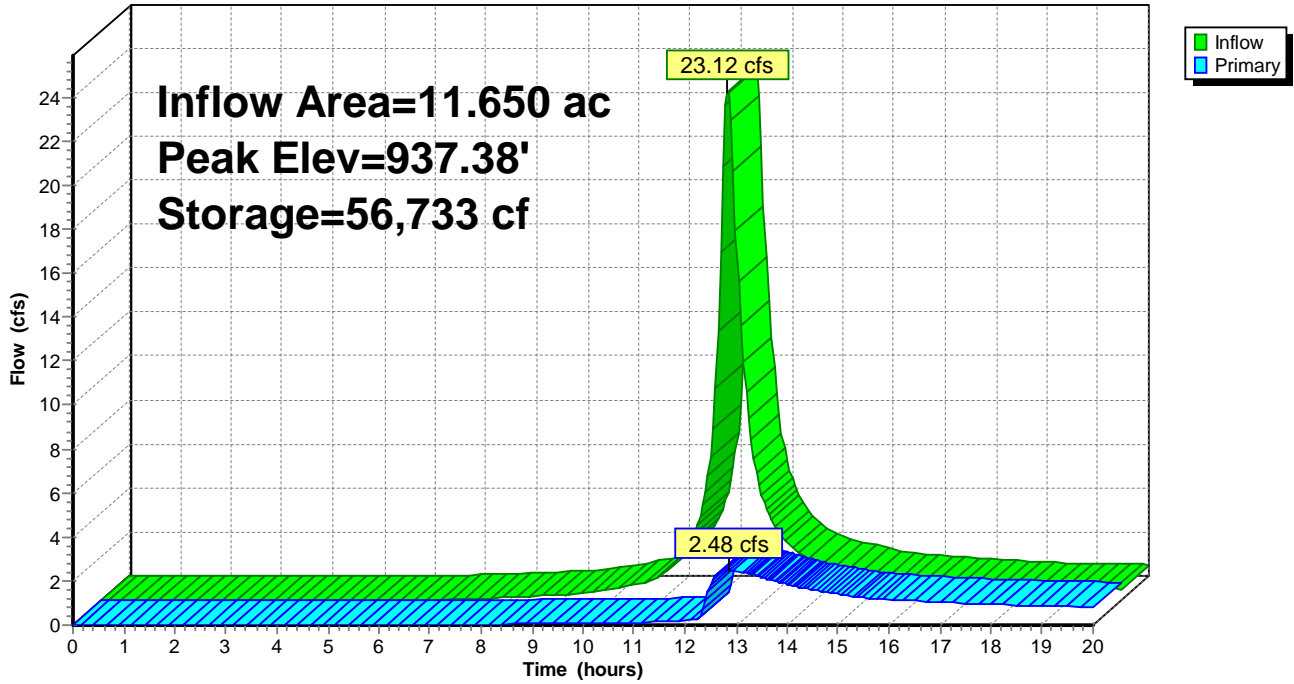
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 200.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.44 cfs @ 12.88 hrs HW=937.29' TW=936.80' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 2.44 cfs of 8.71 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.29 cfs @ 3.37 fps)
- ↑ **3=Window** (Orifice Controls 2.14 cfs @ 3.21 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 8P: DRY BASIN H

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 5-Year Rainfall=3.24"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 53

**Summary for Pond 9P: DRY BASIN I**

Inflow Area = 3.000 ac, 69.67% Impervious, Inflow Depth > 2.38" for 5-Year event  
 Inflow = 7.77 cfs @ 12.29 hrs, Volume= 0.594 af  
 Outflow = 1.20 cfs @ 12.53 hrs, Volume= 0.347 af, Atten= 85%, Lag= 14.1 min  
 Primary = 1.20 cfs @ 12.53 hrs, Volume= 0.347 af  
 Routed to Pond 8P : DRY BASIN H

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.47' @ 13.48 hrs Surf.Area= 15,706 sf Storage= 14,583 cf

Plug-Flow detention time= 152.8 min calculated for 0.347 af (58% of inflow)  
 Center-of-Mass det. time= 96.5 min ( 866.2 - 769.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	40,965 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.00	0	0	0
937.00	14,750	7,375	7,375
938.00	16,770	15,760	23,135
939.00	18,890	17,830	40,965

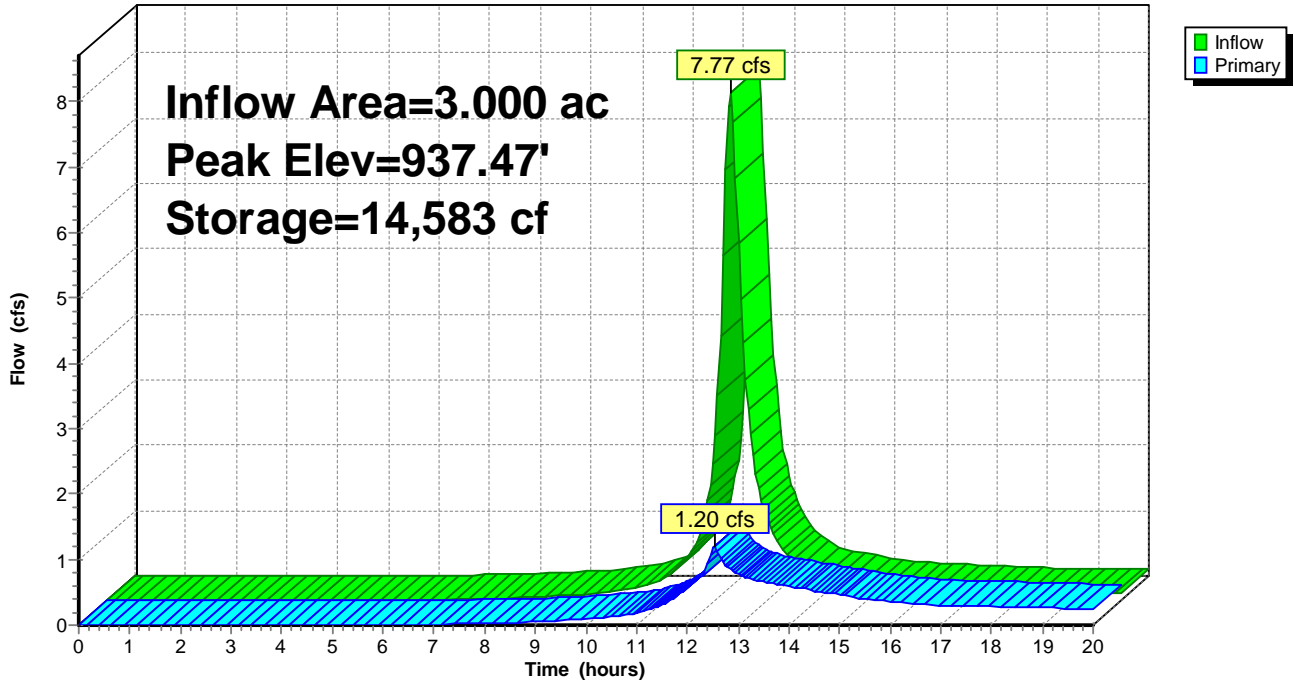
Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>12.0" Round Culvert</b> L= 250.0' Ke= 0.600 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0040 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	936.00'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.09 cfs @ 12.53 hrs HW=937.29' TW=937.04' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 1.09 cfs @ 1.40 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.48 cfs potential flow)
- ↑ **3=Window** (Passes < 0.68 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

Pond 9P: DRY BASIN I

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 55

**Summary for Pond 1P: DRY BASIN A**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.77" for 10-Year event  
 Inflow = 27.28 cfs @ 12.27 hrs, Volume= 3.625 af  
 Outflow = 4.47 cfs @ 13.69 hrs, Volume= 2.792 af, Atten= 84%, Lag= 85.6 min  
 Primary = 4.47 cfs @ 13.69 hrs, Volume= 2.792 af  
 Routed to Link 12L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.88' @ 13.69 hrs Surf.Area= 24,083 sf Storage= 53,859 cf

Plug-Flow detention time= 158.8 min calculated for 2.792 af (77% of inflow)  
 Center-of-Mass det. time= 88.1 min ( 950.0 - 861.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.70'	109,750 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.70	0	0	0
935.00	3,347	502	502
936.00	20,147	11,747	12,249
937.00	22,210	21,179	33,428
938.00	24,332	23,271	56,699
939.00	26,511	25,422	82,120
940.00	28,749	27,630	109,750

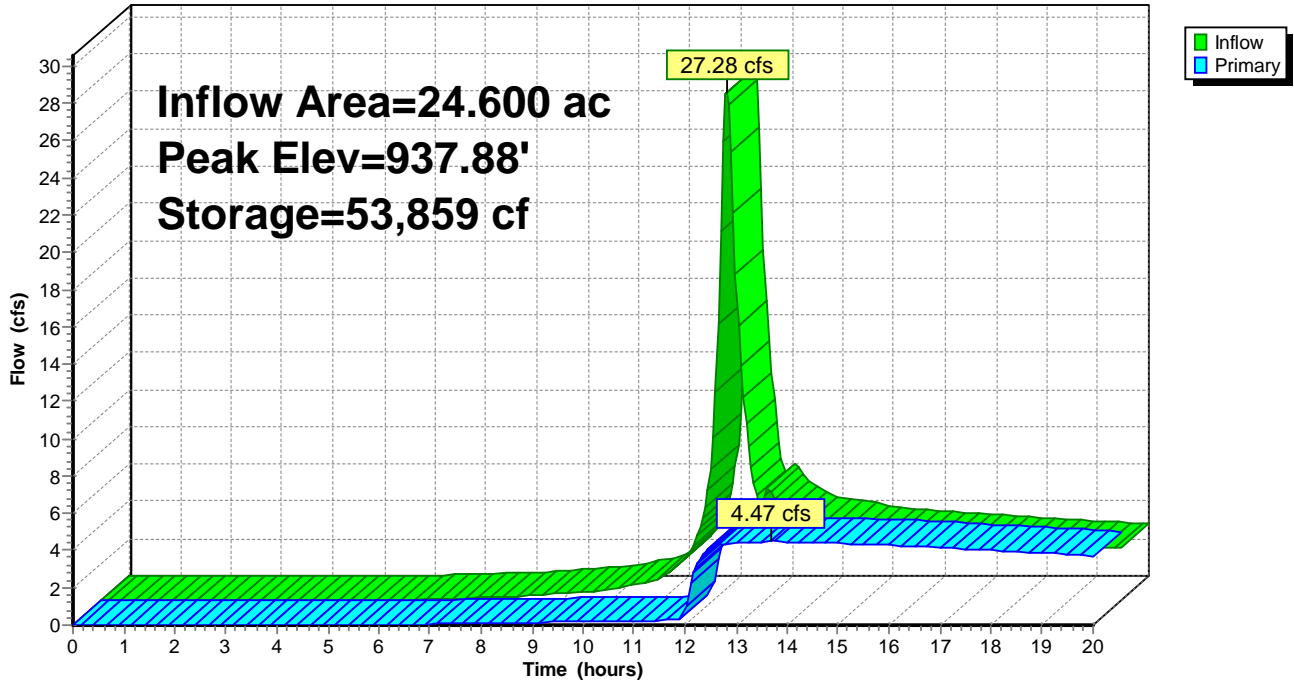
Device	Routing	Invert	Outlet Devices
#1	Primary	934.70'	<b>12.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.70' / 934.50' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	934.70'	<b>3.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.10'	<b>24.0" W x 8.0" H Vert. Windows X 3.00</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=4.47 cfs @ 13.69 hrs HW=937.88' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Barrel Controls 4.47 cfs @ 5.69 fps)
- ↑ **2=Orifice** (Passes < 0.41 cfs potential flow)
- ↑ **3=Windows** (Passes < 23.13 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 1P: DRY BASIN A

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 57

**Summary for Pond 2P: DRY BASIN B**

Inflow Area = 14.500 ac, 68.38% Impervious, Inflow Depth > 2.83" for 10-Year event  
 Inflow = 44.33 cfs @ 12.29 hrs, Volume= 3.421 af  
 Outflow = 2.81 cfs @ 15.44 hrs, Volume= 1.623 af, Atten= 94%, Lag= 188.9 min  
 Primary = 2.81 cfs @ 15.44 hrs, Volume= 1.623 af  
 Routed to Pond 1P : DRY BASIN A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.92' @ 13.80 hrs Surf.Area= 49,933 sf Storage= 115,085 cf

Plug-Flow detention time= 268.7 min calculated for 1.619 af (47% of inflow)  
 Center-of-Mass det. time= 204.1 min ( 970.9 - 766.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	223,479 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	45,956	22,978	22,978
937.00	48,007	46,982	69,960
938.00	50,097	49,052	119,012
939.00	52,226	51,162	170,173
940.00	54,386	53,306	223,479

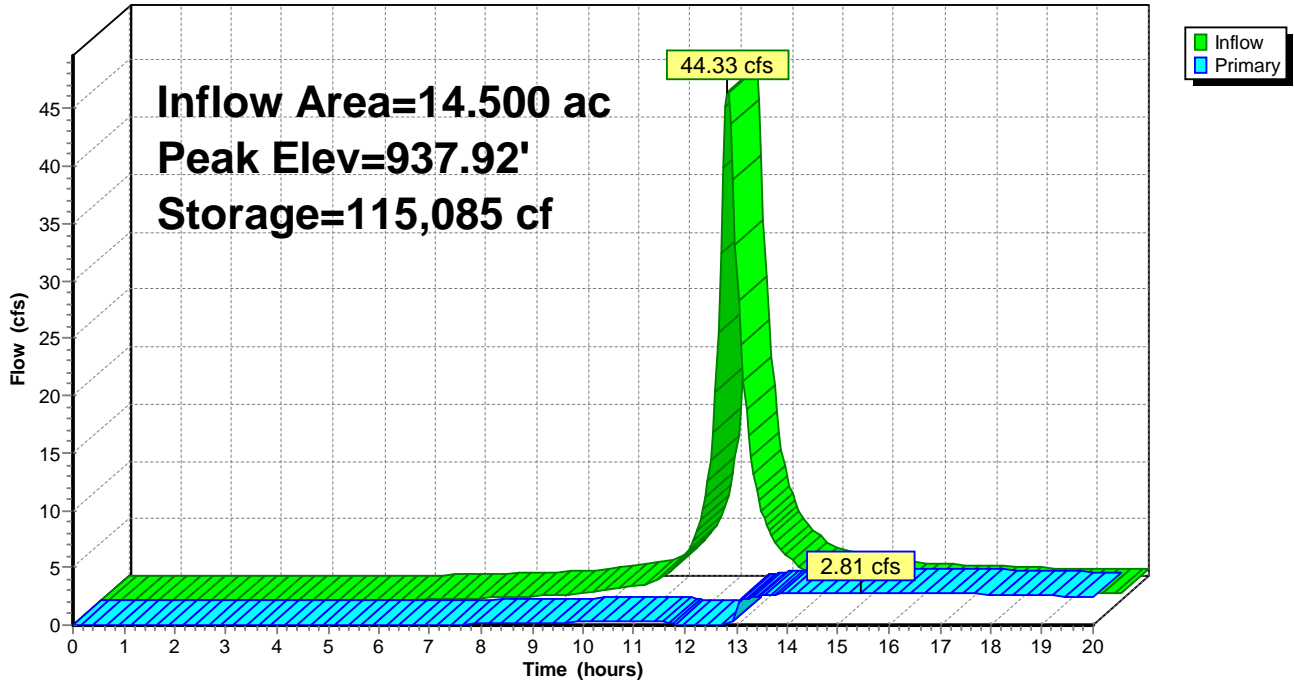
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 150.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.70' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>24.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>24.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.00 cfs @ 15.44 hrs HW=937.81' TW=937.76' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 3.00 cfs @ 0.95 fps)
- ↑ **2=Orifice/Grate** (Passes < 3.35 cfs potential flow)
- ↑ **3=Window** (Passes < 1.07 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 2P: DRY BASIN B

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 59

**Summary for Pond 3P: DRY BASIN C**

Inflow Area = 6.900 ac, 65.00% Impervious, Inflow Depth > 2.73" for 10-Year event  
 Inflow = 20.56 cfs @ 12.29 hrs, Volume= 1.571 af  
 Outflow = 6.38 cfs @ 12.72 hrs, Volume= 1.020 af, Atten= 69%, Lag= 25.8 min  
 Primary = 6.38 cfs @ 12.72 hrs, Volume= 1.020 af  
 Routed to Pond 4P : DRY BASIN D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.22' @ 12.72 hrs Surf.Area= 15,980 sf Storage= 36,719 cf

Plug-Flow detention time= 116.8 min calculated for 1.020 af (65% of inflow)  
 Center-of-Mass det. time= 64.5 min ( 834.4 - 769.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	49,847 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	11,869	5,935	5,935
937.00	13,659	12,764	18,699
938.00	15,549	14,604	33,303
939.00	17,539	16,544	49,847

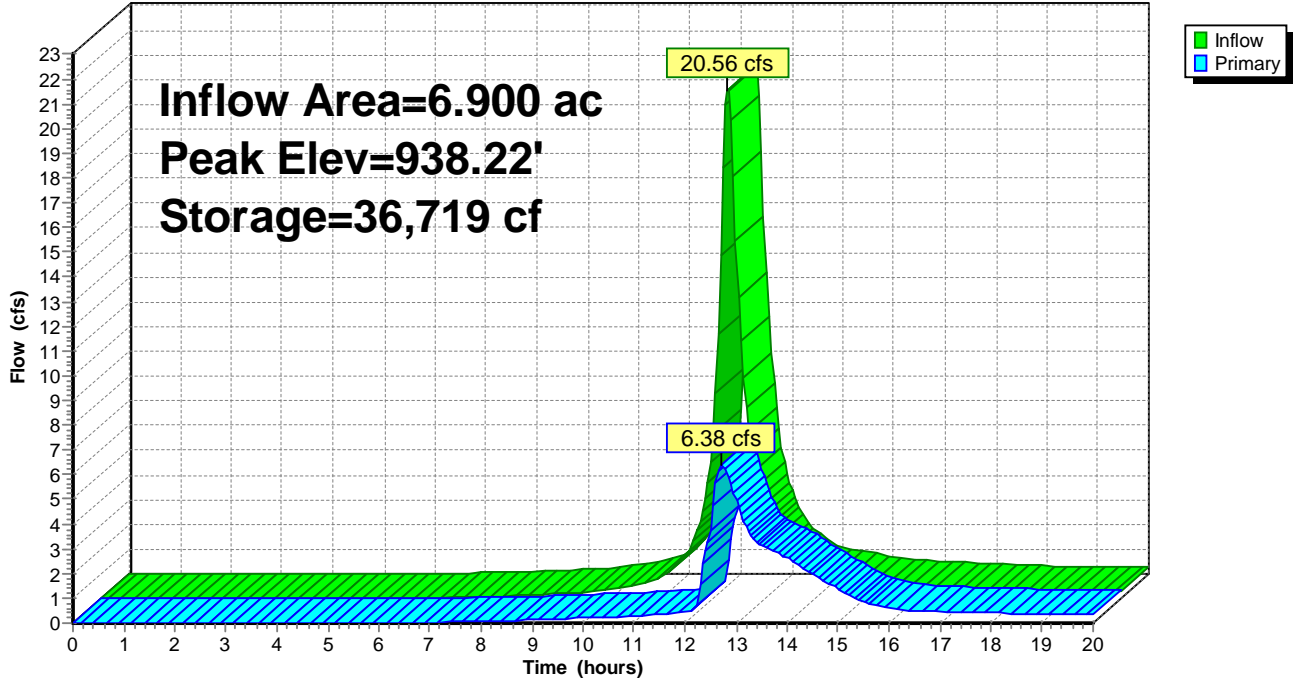
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 350.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0014 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=6.34 cfs @ 12.72 hrs HW=938.22' TW=936.28' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 6.34 cfs of 13.52 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.58 cfs @ 6.70 fps)
- ↑ **3=Windows** (Orifice Controls 3.14 cfs @ 4.72 fps)
- ↑ **4=Grate** (Weir Controls 2.61 cfs @ 1.52 fps)

**Pond 3P: DRY BASIN C**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 61

**Summary for Pond 4P: DRY BASIN D**

Inflow Area = 20.700 ac, 46.79% Impervious, Inflow Depth > 2.12" for 10-Year event  
 Inflow = 25.05 cfs @ 12.65 hrs, Volume= 3.649 af  
 Outflow = 1.43 cfs @ 16.27 hrs, Volume= 0.768 af, Atten= 94%, Lag= 217.5 min  
 Primary = 1.43 cfs @ 16.27 hrs, Volume= 0.768 af  
 Routed to Pond 5P : WET BASIN E

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.42' @ 16.45 hrs Surf.Area= 65,708 sf Storage= 129,055 cf

Plug-Flow detention time= 267.9 min calculated for 0.766 af (21% of inflow)  
 Center-of-Mass det. time= 162.7 min ( 970.7 - 808.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.50'	237,628 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.50	0	0	0
935.00	12,225	3,056	3,056
936.00	60,758	36,492	39,548
937.00	64,240	62,499	102,047
938.00	67,771	66,006	168,052
939.00	71,380	69,576	237,628

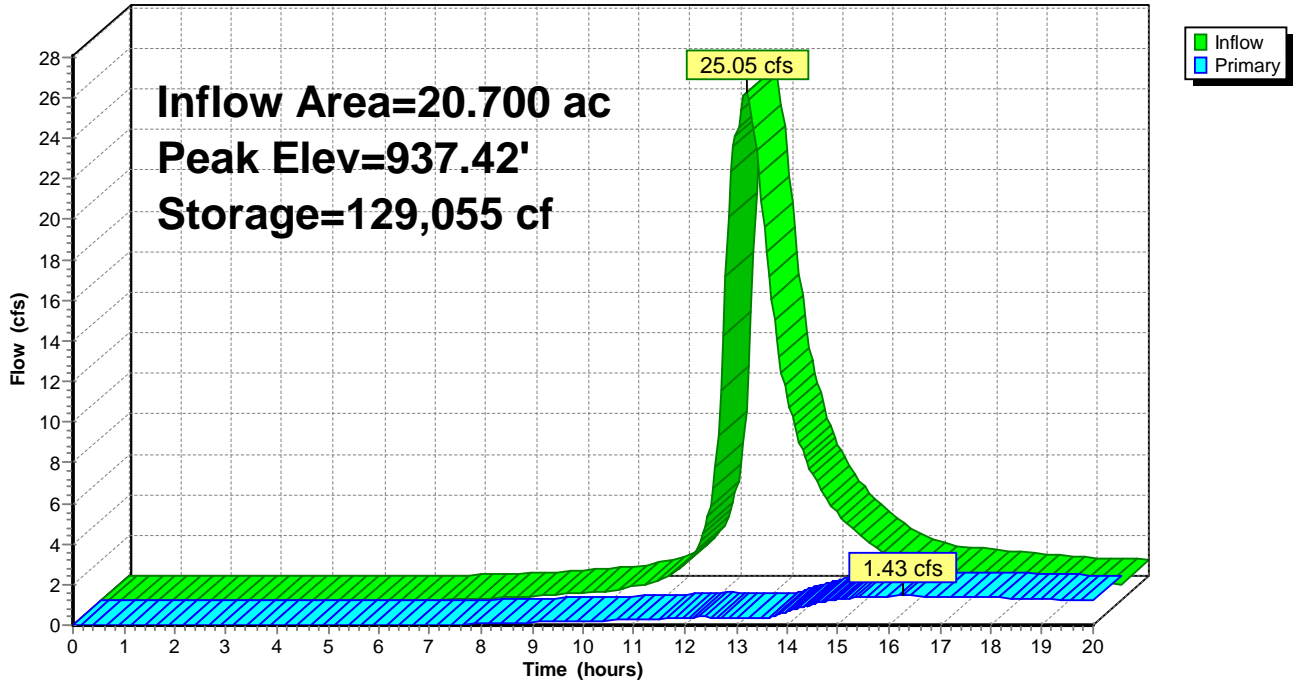
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 400.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.00' S= 0.0013 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.43 cfs @ 16.27 hrs HW=937.42' TW=936.97' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 1.43 cfs of 6.56 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.28 cfs @ 3.22 fps)
- ↑ **3=Windows** (Orifice Controls 1.15 cfs @ 2.07 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 4P: DRY BASIN D

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 63

**Summary for Pond 5P: WET BASIN E**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 1.56" for 10-Year event  
 Inflow = 61.33 cfs @ 12.47 hrs, Volume= 8.166 af  
 Outflow = 3.13 cfs @ 18.25 hrs, Volume= 1.643 af, Atten= 95%, Lag= 346.9 min  
 Primary = 3.13 cfs @ 18.25 hrs, Volume= 1.643 af  
 Routed to Link 10L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.01' @ 18.25 hrs Surf.Area= 104,727 sf Storage= 285,937 cf

Plug-Flow detention time= 300.6 min calculated for 1.643 af (20% of inflow)  
 Center-of-Mass det. time= 185.9 min ( 998.8 - 813.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	507,647 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.00	85,433	0	0
935.00	91,702	88,568	88,568
936.00	98,109	94,906	183,473
937.00	104,658	101,384	284,857
938.00	111,356	108,007	392,864
939.00	118,210	114,783	507,647

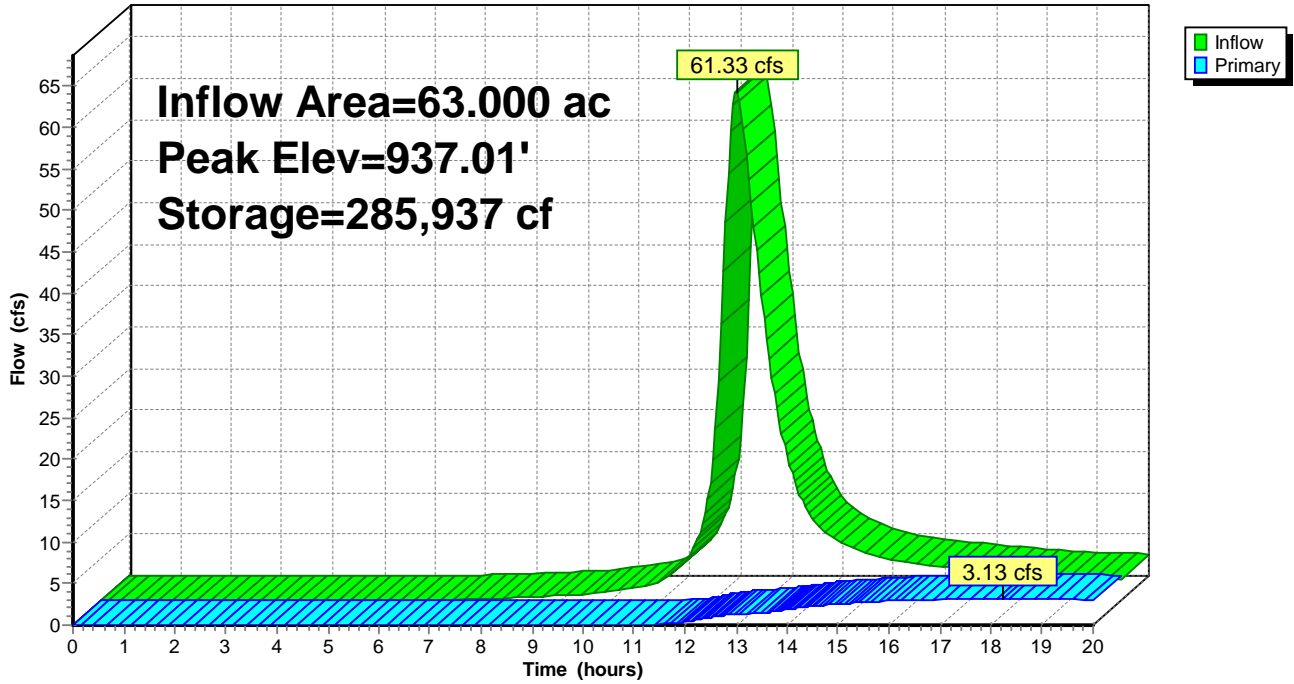
Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.00' / 933.43' S= 0.0057 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.00'	<b>6.0" Vert. 6" Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.60'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.13 cfs @ 18.25 hrs HW=937.01' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 3.13 cfs of 18.79 cfs potential flow)
- ↑ **2=6" Orifice** (Orifice Controls 1.57 cfs @ 8.00 fps)
- ↑ **3=Window** (Orifice Controls 1.56 cfs @ 2.33 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 5P: WET BASIN E**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 65

**Summary for Pond 6P: DRY BASIN F**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 1.93" for 10-Year event  
 Inflow = 33.49 cfs @ 12.30 hrs, Volume= 4.204 af  
 Outflow = 3.04 cfs @ 15.80 hrs, Volume= 1.746 af, Atten= 91%, Lag= 209.6 min  
 Primary = 3.04 cfs @ 15.80 hrs, Volume= 1.746 af  
 Routed to Link 11L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.42' @ 15.80 hrs Surf.Area= 64,944 sf Storage= 114,829 cf

Plug-Flow detention time= 269.1 min calculated for 1.746 af (42% of inflow)  
 Center-of-Mass det. time= 152.1 min ( 971.6 - 819.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	188,546 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	56,901	28,451	28,451
937.00	62,552	59,727	88,177
938.00	68,273	65,413	153,590
938.50	71,552	34,956	188,546

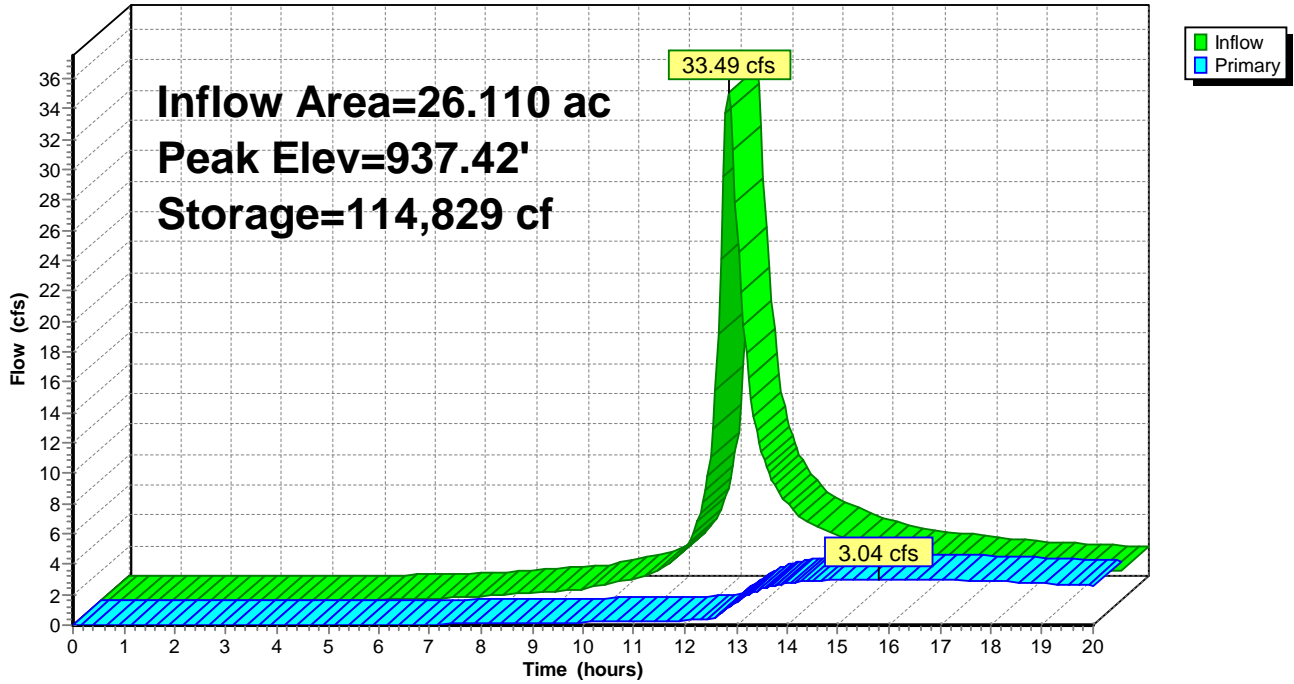
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>3.5" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.75'	<b>20.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.04 cfs @ 15.80 hrs HW=937.42' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 3.04 cfs of 15.69 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.48 cfs @ 7.26 fps)
- ↑ **3=Window** (Orifice Controls 2.55 cfs @ 3.06 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 6P: DRY BASIN F

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 67

**Summary for Pond 7P: WET BASIN G**

Inflow Area = 4.300 ac, 69.88% Impervious, Inflow Depth > 2.83" for 10-Year event  
 Inflow = 13.15 cfs @ 12.29 hrs, Volume= 1.014 af  
 Outflow = 1.75 cfs @ 12.52 hrs, Volume= 0.607 af, Atten= 87%, Lag= 13.7 min  
 Primary = 1.75 cfs @ 12.52 hrs, Volume= 0.607 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.69' @ 13.31 hrs Surf.Area= 22,847 sf Storage= 25,369 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 95.0 min ( 861.8 - 766.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.50'	57,566 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.50	19,817	0	0
937.00	21,069	10,222	10,222
938.00	23,647	22,358	32,580
939.00	26,326	24,987	57,566

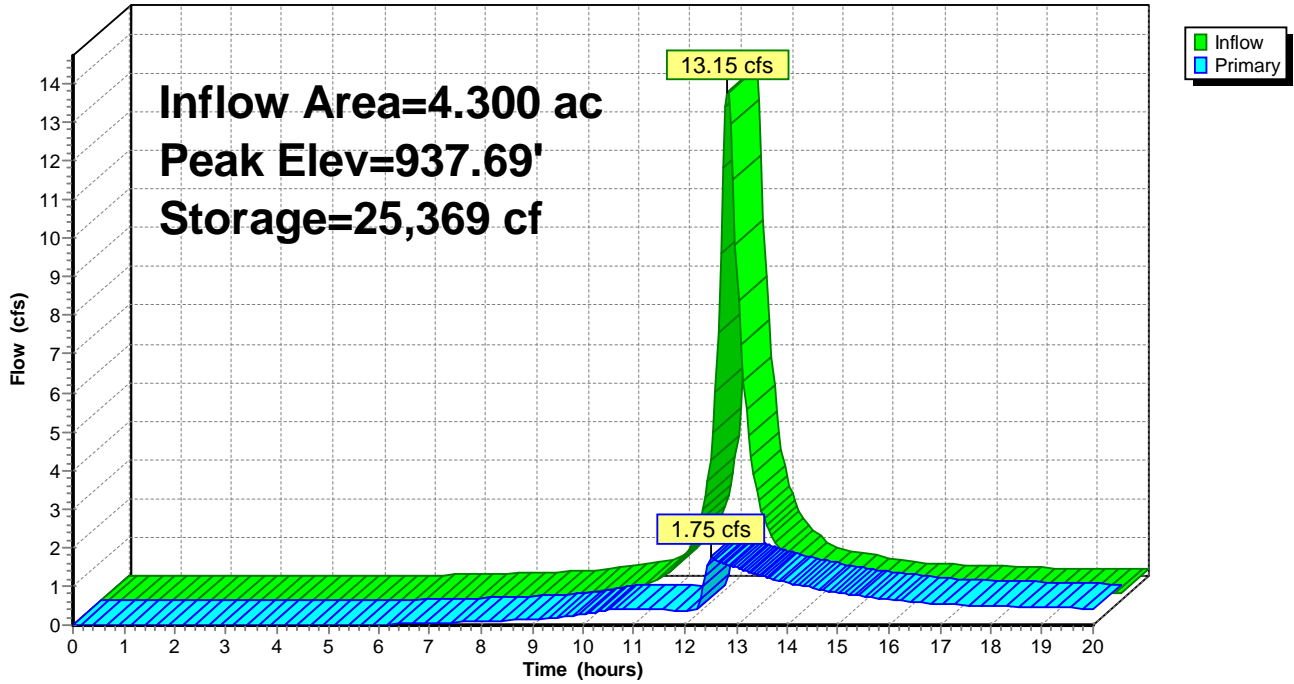
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>12.0" Round Culvert</b> L= 300.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.65 cfs @ 12.52 hrs HW=937.49' TW=936.73' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 1.65 cfs @ 2.11 fps)
- ↑ **2=Orifice** (Passes < 0.37 cfs potential flow)
- ↑ **3=Windows** (Passes < 1.47 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 7P: WET BASIN G

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 69

**Summary for Pond 8P: DRY BASIN H**

Inflow Area = 11.650 ac, 71.03% Impervious, Inflow Depth > 2.50" for 10-Year event  
 Inflow = 27.28 cfs @ 12.29 hrs, Volume= 2.430 af  
 Outflow = 2.81 cfs @ 12.70 hrs, Volume= 1.114 af, Atten= 90%, Lag= 24.5 min  
 Primary = 2.81 cfs @ 12.70 hrs, Volume= 1.114 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.67' @ 13.72 hrs Surf.Area= 34,399 sf Storage= 66,669 cf

Plug-Flow detention time= 220.4 min calculated for 1.111 af (46% of inflow)  
 Center-of-Mass det. time= 137.0 min ( 922.2 - 785.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	115,607 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	28,411	14,206	14,206
937.00	31,986	30,199	44,404
938.00	35,583	33,785	78,189
939.00	39,254	37,419	115,607

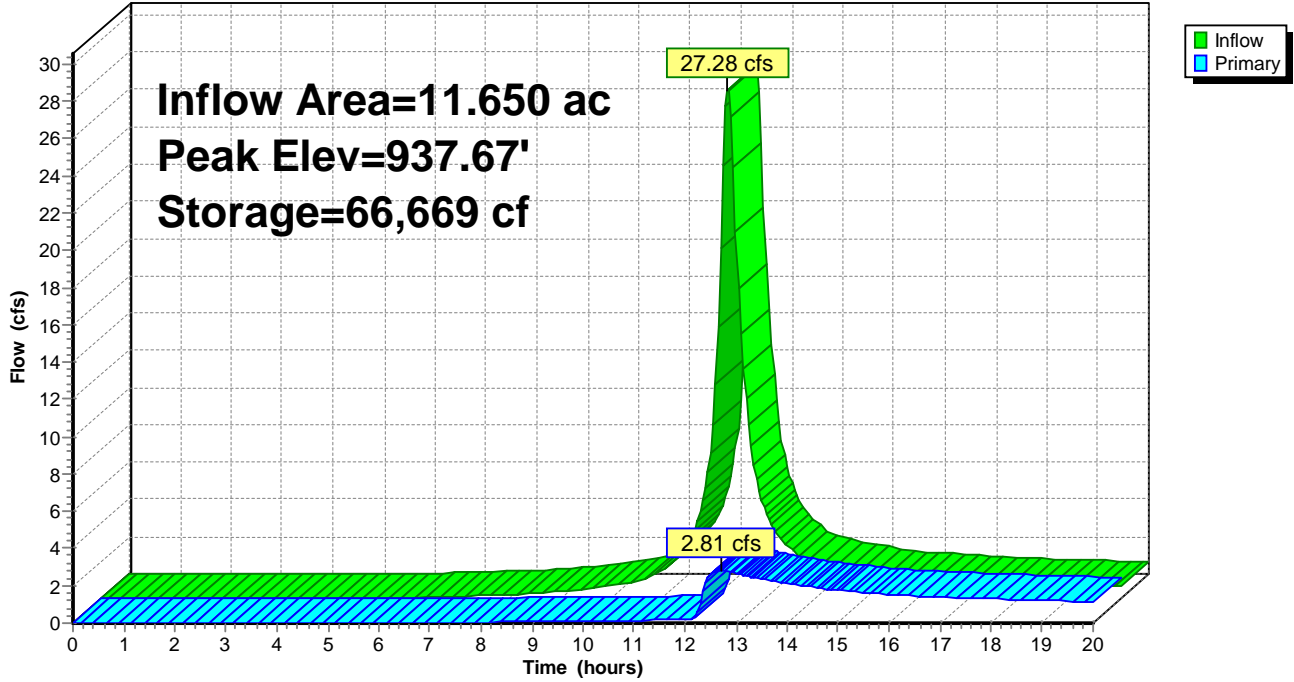
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 200.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.72 cfs @ 12.70 hrs HW=937.49' TW=936.92' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 2.72 cfs of 9.39 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.32 cfs @ 3.63 fps)
- ↑ **3=Window** (Orifice Controls 2.41 cfs @ 3.61 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 8P: DRY BASIN H**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 10-Year Rainfall=3.73"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 71

**Summary for Pond 9P: DRY BASIN I**

Inflow Area = 3.000 ac, 69.67% Impervious, Inflow Depth > 2.83" for 10-Year event  
 Inflow = 9.17 cfs @ 12.29 hrs, Volume= 0.708 af  
 Outflow = 1.27 cfs @ 12.40 hrs, Volume= 0.390 af, Atten= 86%, Lag= 6.8 min  
 Primary = 1.27 cfs @ 12.40 hrs, Volume= 0.390 af  
 Routed to Pond 8P : DRY BASIN H

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.74' @ 13.82 hrs Surf.Area= 16,246 sf Storage= 18,853 cf

Plug-Flow detention time= 174.4 min calculated for 0.390 af (55% of inflow)  
 Center-of-Mass det. time= 115.2 min ( 881.9 - 766.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	40,965 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.00	0	0	0
937.00	14,750	7,375	7,375
938.00	16,770	15,760	23,135
939.00	18,890	17,830	40,965

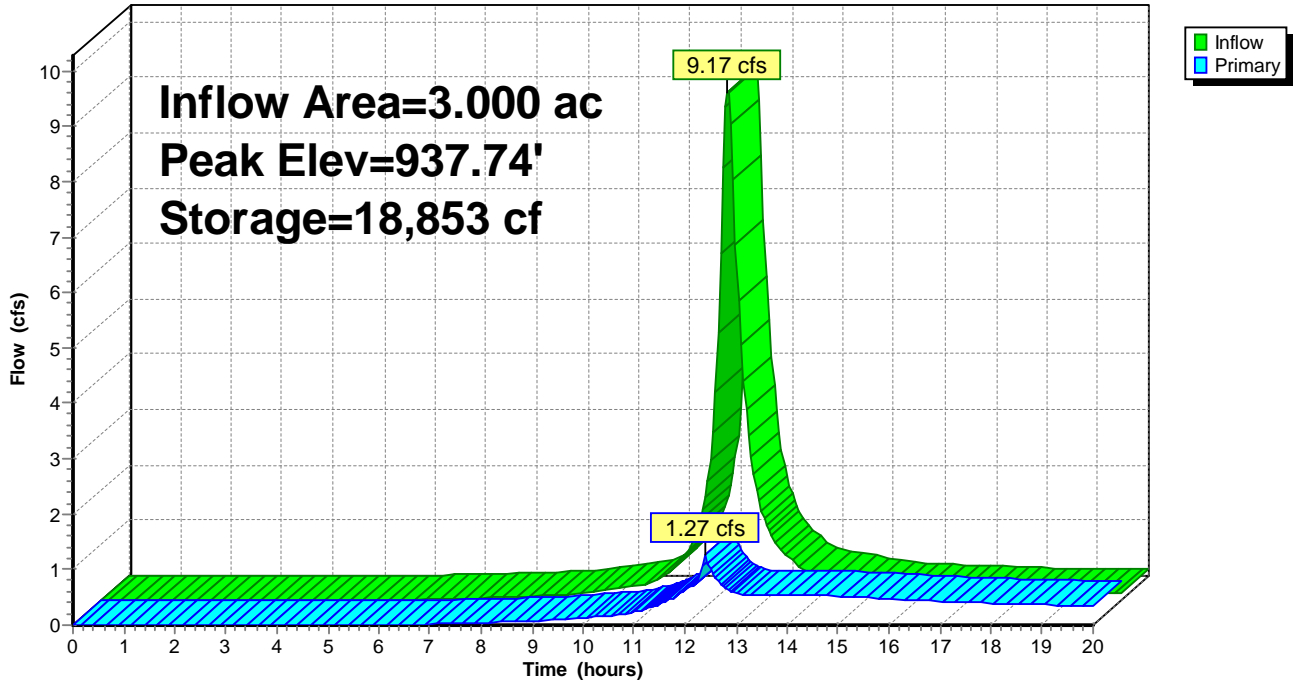
Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>12.0" Round Culvert</b> L= 250.0' Ke= 0.600 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0040 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	936.00'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.01 cfs @ 12.40 hrs HW=937.31' TW=937.09' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 1.01 cfs @ 1.29 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.45 cfs potential flow)
- ↑ **3=Window** (Passes < 0.73 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

Pond 9P: DRY BASIN I

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 73

**Summary for Pond 1P: DRY BASIN A**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 2.11" for 25-Year event  
 Inflow = 34.19 cfs @ 12.26 hrs, Volume= 4.321 af  
 Outflow = 4.99 cfs @ 13.77 hrs, Volume= 3.193 af, Atten= 85%, Lag= 90.5 min  
 Primary = 4.99 cfs @ 13.77 hrs, Volume= 3.193 af  
 Routed to Link 12L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.47' @ 13.77 hrs Surf.Area= 25,364 sf Storage= 68,470 cf

Plug-Flow detention time= 173.9 min calculated for 3.185 af (74% of inflow)  
 Center-of-Mass det. time= 93.6 min ( 948.2 - 854.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.70'	109,750 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.70	0	0	0
935.00	3,347	502	502
936.00	20,147	11,747	12,249
937.00	22,210	21,179	33,428
938.00	24,332	23,271	56,699
939.00	26,511	25,422	82,120
940.00	28,749	27,630	109,750

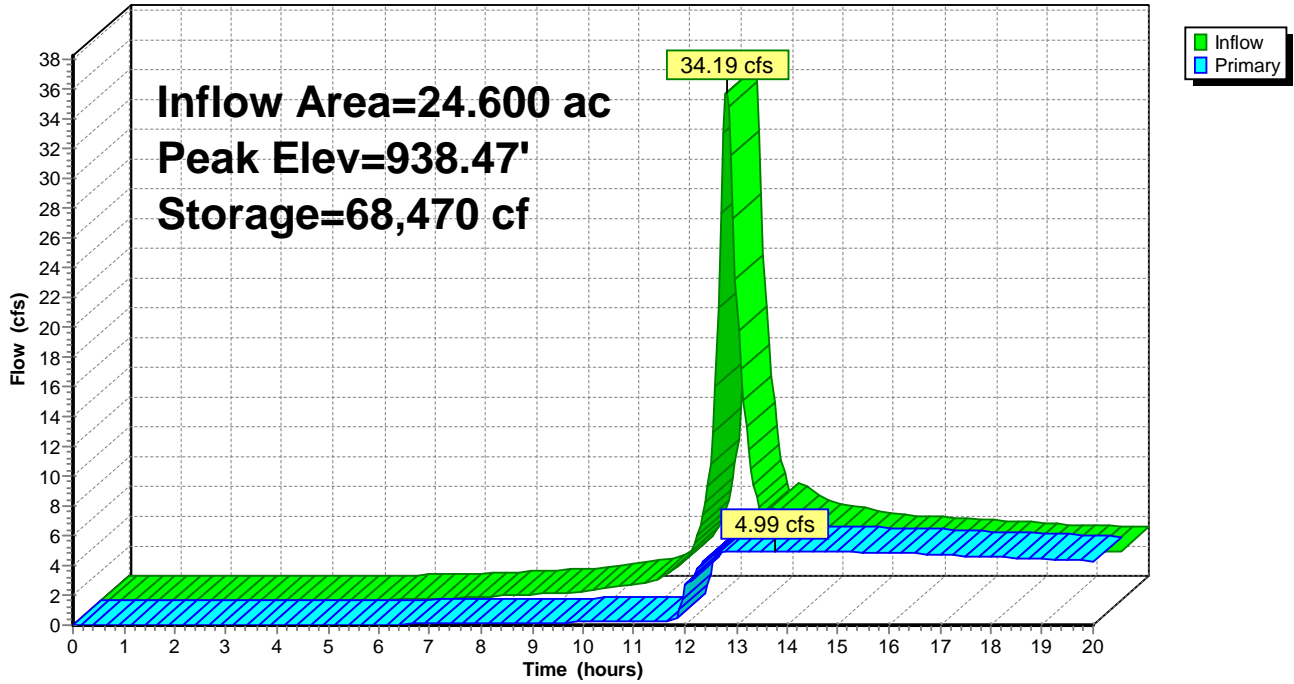
Device	Routing	Invert	Outlet Devices
#1	Primary	934.70'	<b>12.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.70' / 934.50' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	934.70'	<b>3.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.10'	<b>24.0" W x 8.0" H Vert. Windows X 3.00</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=4.99 cfs @ 13.77 hrs HW=938.47' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Barrel Controls 4.99 cfs @ 6.36 fps)
- ↑ **2=Orifice** (Passes < 0.45 cfs potential flow)
- ↑ **3=Windows** (Passes < 27.48 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 1P: DRY BASIN A

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 75

**Summary for Pond 2P: DRY BASIN B**

Inflow Area = 14.500 ac, 68.38% Impervious, Inflow Depth > 3.50" for 25-Year event  
 Inflow = 54.09 cfs @ 12.29 hrs, Volume= 4.225 af  
 Outflow = 3.12 cfs @ 15.53 hrs, Volume= 1.793 af, Atten= 94%, Lag= 194.2 min  
 Primary = 3.12 cfs @ 15.53 hrs, Volume= 1.793 af  
 Routed to Pond 1P : DRY BASIN A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.52' @ 13.90 hrs Surf.Area= 51,207 sf Storage= 145,426 cf

Plug-Flow detention time= 282.5 min calculated for 1.793 af (42% of inflow)  
 Center-of-Mass det. time= 210.9 min ( 973.9 - 763.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	223,479 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	45,956	22,978	22,978
937.00	48,007	46,982	69,960
938.00	50,097	49,052	119,012
939.00	52,226	51,162	170,173
940.00	54,386	53,306	223,479

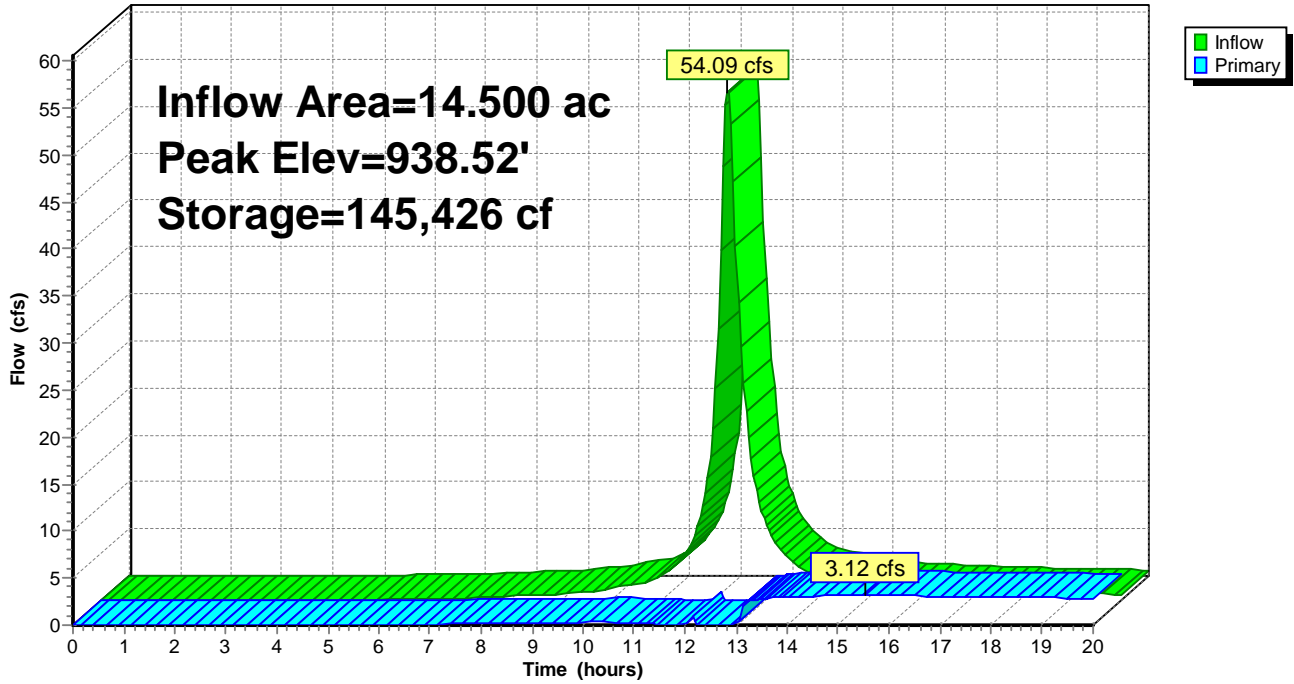
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 150.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.70' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>24.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>24.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.30 cfs @ 15.53 hrs HW=938.41' TW=938.35' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 3.30 cfs @ 1.05 fps)
- ↑ **2=Orifice/Grate** (Passes < 3.68 cfs potential flow)
- ↑ **3=Window** (Passes < 1.17 cfs potential flow)
- ↑ **4=Grate** (Passes < 3.73 cfs potential flow)

**Pond 2P: DRY BASIN B**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 77

**Summary for Pond 3P: DRY BASIN C**

Inflow Area = 6.900 ac, 65.00% Impervious, Inflow Depth > 3.39" for 25-Year event  
 Inflow = 25.23 cfs @ 12.29 hrs, Volume= 1.951 af  
 Outflow = 12.12 cfs @ 12.57 hrs, Volume= 1.262 af, Atten= 52%, Lag= 16.7 min  
 Primary = 12.12 cfs @ 12.57 hrs, Volume= 1.262 af  
 Routed to Pond 4P : DRY BASIN D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.45' @ 12.57 hrs Surf.Area= 16,451 sf Storage= 40,554 cf

Plug-Flow detention time= 103.3 min calculated for 1.259 af (65% of inflow)  
 Center-of-Mass det. time= 51.4 min ( 817.5 - 766.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	49,847 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	11,869	5,935	5,935
937.00	13,659	12,764	18,699
938.00	15,549	14,604	33,303
939.00	17,539	16,544	49,847

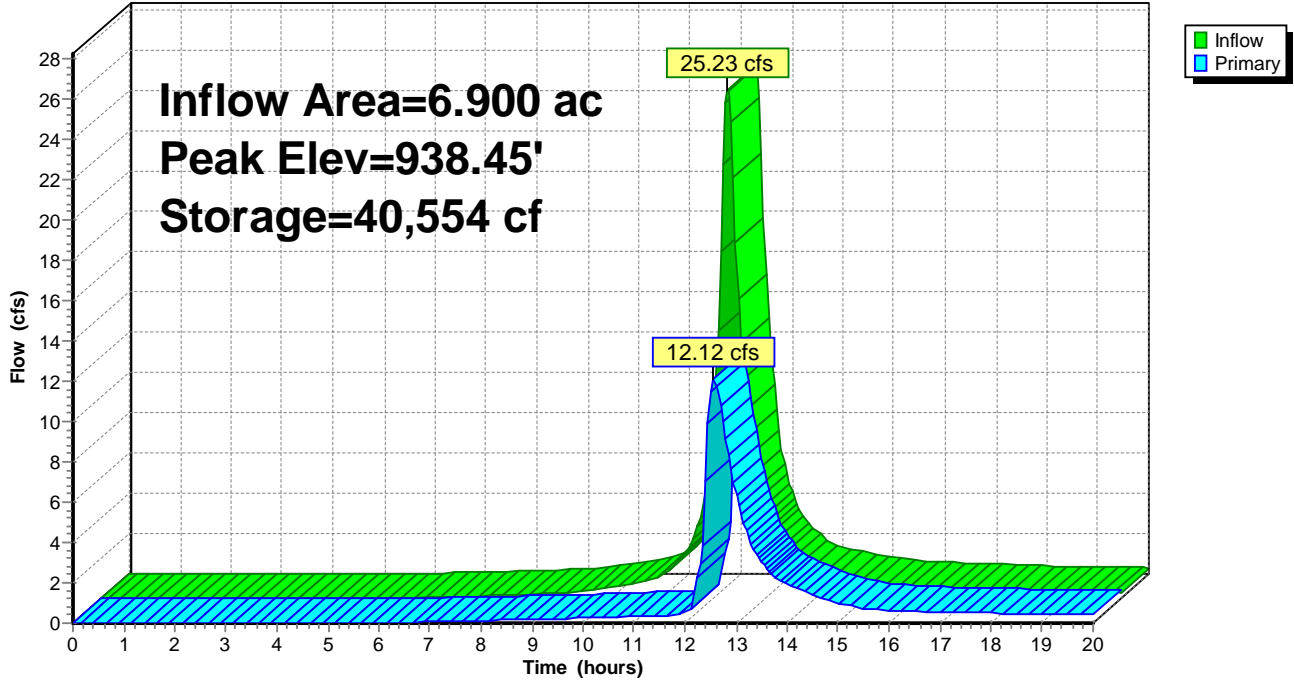
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 350.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0014 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=12.02 cfs @ 12.57 hrs HW=938.45' TW=936.37' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 12.02 cfs of 14.42 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.61 cfs @ 6.94 fps)
- ↑ **3=Windows** (Orifice Controls 3.51 cfs @ 5.27 fps)
- ↑ **4=Grate** (Weir Controls 7.91 cfs @ 2.19 fps)

### Pond 3P: DRY BASIN C

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 79

**Summary for Pond 4P: DRY BASIN D**

Inflow Area = 20.700 ac, 46.79% Impervious, Inflow Depth > 2.67" for 25-Year event  
 Inflow = 36.55 cfs @ 12.54 hrs, Volume= 4.599 af  
 Outflow = 1.96 cfs @ 13.89 hrs, Volume= 1.100 af, Atten= 95%, Lag= 81.0 min  
 Primary = 1.96 cfs @ 13.89 hrs, Volume= 1.100 af  
 Routed to Pond 5P : WET BASIN E

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.84' @ 16.52 hrs Surf.Area= 67,216 sf Storage= 157,436 cf

Plug-Flow detention time= 253.4 min calculated for 1.097 af (24% of inflow)  
 Center-of-Mass det. time= 154.0 min ( 954.3 - 800.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.50'	237,628 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.50	0	0	0
935.00	12,225	3,056	3,056
936.00	60,758	36,492	39,548
937.00	64,240	62,499	102,047
938.00	67,771	66,006	168,052
939.00	71,380	69,576	237,628

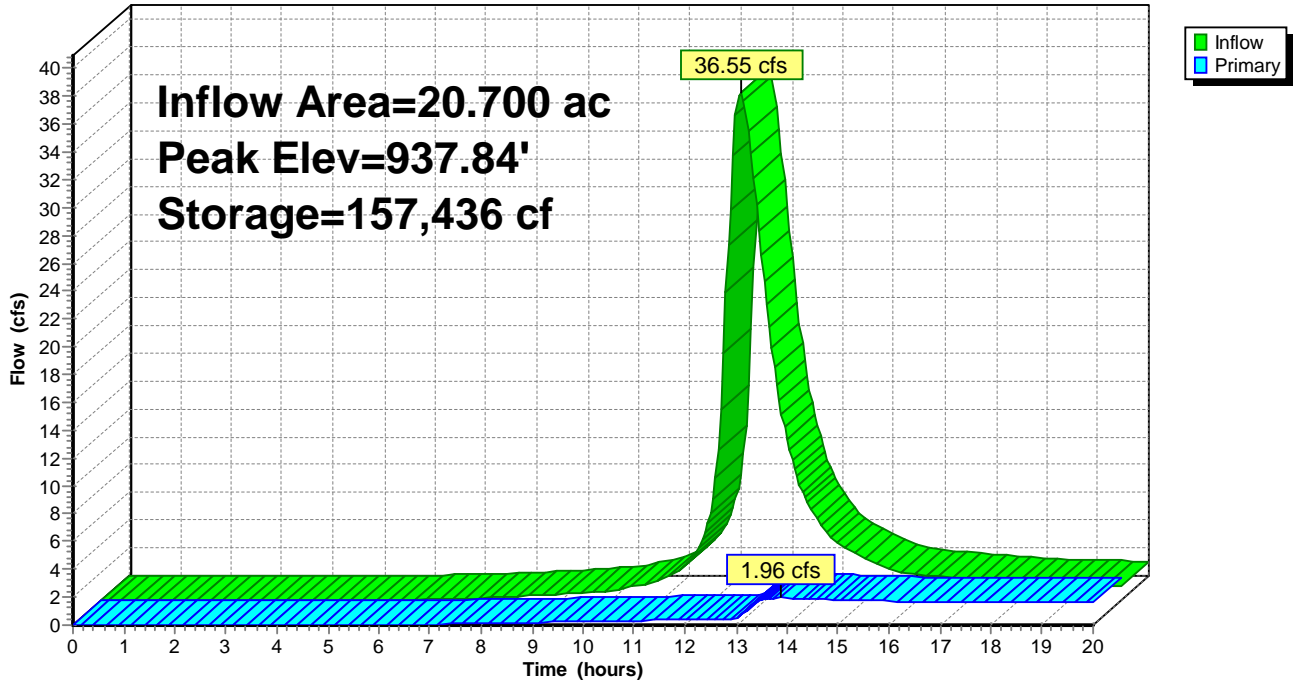
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 400.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.00' S= 0.0013 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.91 cfs @ 13.89 hrs HW=937.66' TW=937.37' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 1.91 cfs of 5.33 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.23 cfs @ 2.61 fps)
- ↑ **3=Windows** (Orifice Controls 1.69 cfs @ 2.53 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 4P: DRY BASIN D**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 81

**Summary for Pond 5P: WET BASIN E**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 2.02" for 25-Year event  
 Inflow = 77.70 cfs @ 12.47 hrs, Volume= 10.603 af  
 Outflow = 4.74 cfs @ 16.84 hrs, Volume= 2.721 af, Atten= 94%, Lag= 262.6 min  
 Primary = 4.74 cfs @ 16.84 hrs, Volume= 2.721 af  
 Routed to Link 10L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.63' @ 16.84 hrs Surf.Area= 108,877 sf Storage= 352,112 cf

Plug-Flow detention time= 284.9 min calculated for 2.721 af (26% of inflow)  
 Center-of-Mass det. time= 177.3 min ( 987.4 - 810.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	507,647 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.00	85,433	0	0
935.00	91,702	88,568	88,568
936.00	98,109	94,906	183,473
937.00	104,658	101,384	284,857
938.00	111,356	108,007	392,864
939.00	118,210	114,783	507,647

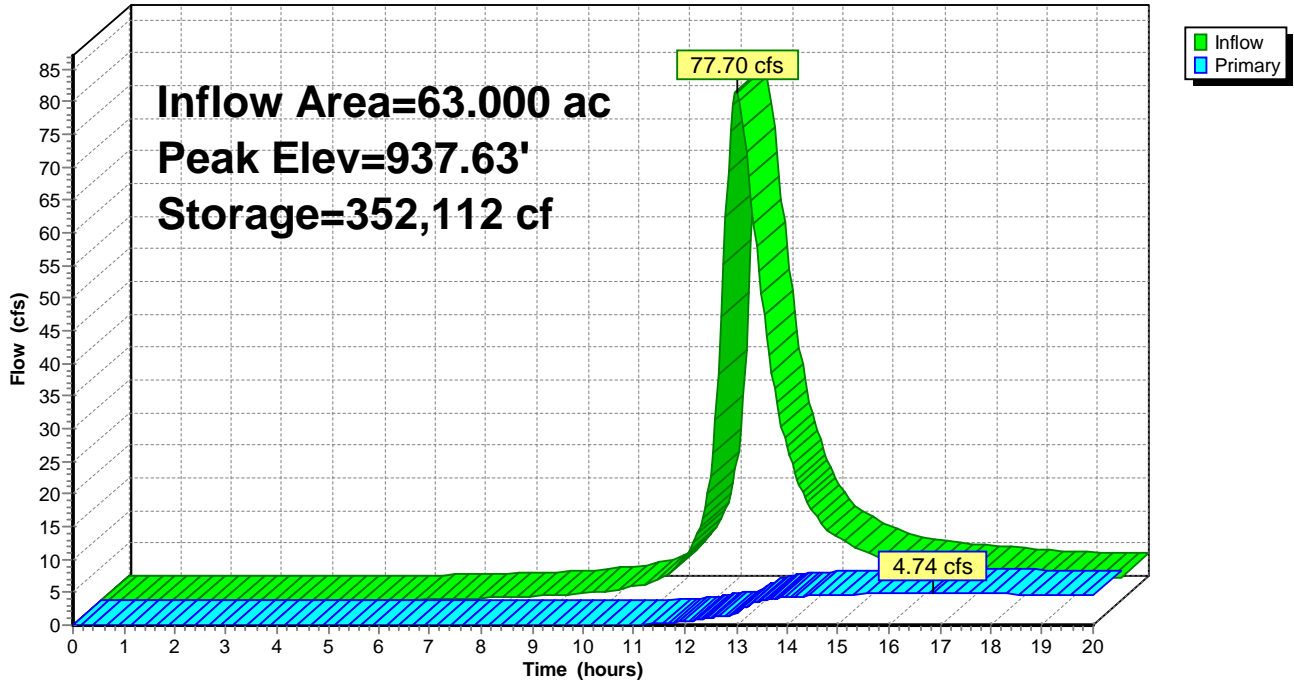
Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.00' / 933.43' S= 0.0057 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.00'	<b>6.0" Vert. 6" Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.60'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=4.74 cfs @ 16.84 hrs HW=937.63' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 4.74 cfs of 22.16 cfs potential flow)
- ↑ **2=6" Orifice** (Orifice Controls 1.74 cfs @ 8.85 fps)
- ↑ **3=Window** (Orifice Controls 3.00 cfs @ 4.50 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 5P: WET BASIN E

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 83

**Summary for Pond 6P: DRY BASIN F**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 2.41" for 25-Year event  
 Inflow = 42.08 cfs @ 12.30 hrs, Volume= 5.246 af  
 Outflow = 4.83 cfs @ 14.78 hrs, Volume= 2.523 af, Atten= 89%, Lag= 148.6 min  
 Primary = 4.83 cfs @ 14.78 hrs, Volume= 2.523 af  
 Routed to Link 11L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.63' @ 14.78 hrs Surf.Area= 66,135 sf Storage= 128,476 cf

Plug-Flow detention time= 252.2 min calculated for 2.523 af (48% of inflow)  
 Center-of-Mass det. time= 135.7 min ( 958.4 - 822.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	188,546 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	56,901	28,451	28,451
937.00	62,552	59,727	88,177
938.00	68,273	65,413	153,590
938.50	71,552	34,956	188,546

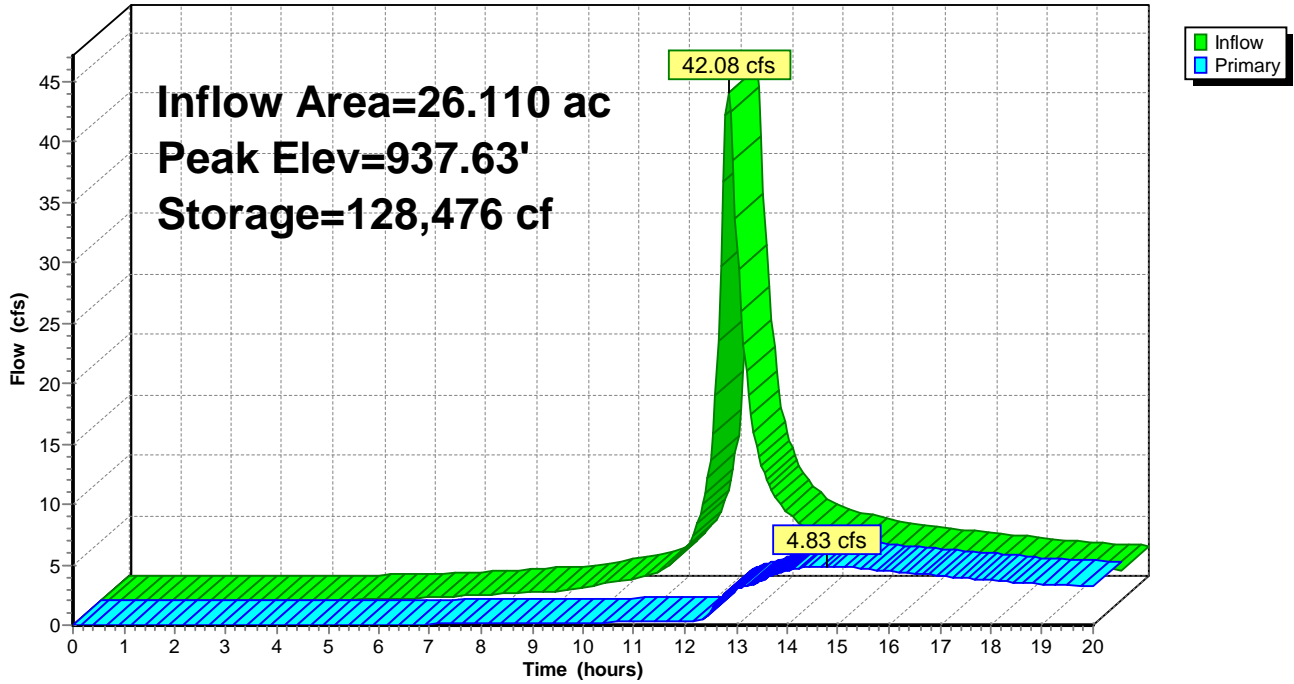
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>3.5" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.75'	<b>20.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=4.83 cfs @ 14.78 hrs HW=937.63' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 4.83 cfs of 16.38 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.51 cfs @ 7.58 fps)
- ↑ **3=Window** (Orifice Controls 3.15 cfs @ 3.78 fps)
- ↑ **4=Grate** (Weir Controls 1.17 cfs @ 1.16 fps)

**Pond 6P: DRY BASIN F**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 85

**Summary for Pond 7P: WET BASIN G**

Inflow Area = 4.300 ac, 69.88% Impervious, Inflow Depth > 3.50" for 25-Year event  
 Inflow = 16.04 cfs @ 12.29 hrs, Volume= 1.253 af  
 Outflow = 1.76 cfs @ 12.38 hrs, Volume= 0.740 af, Atten= 89%, Lag= 5.8 min  
 Primary = 1.76 cfs @ 12.38 hrs, Volume= 0.740 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.01' @ 13.50 hrs Surf.Area= 23,676 sf Storage= 32,834 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 108.3 min ( 871.4 - 763.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.50'	57,566 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.50	19,817	0	0
937.00	21,069	10,222	10,222
938.00	23,647	22,358	32,580
939.00	26,326	24,987	57,566

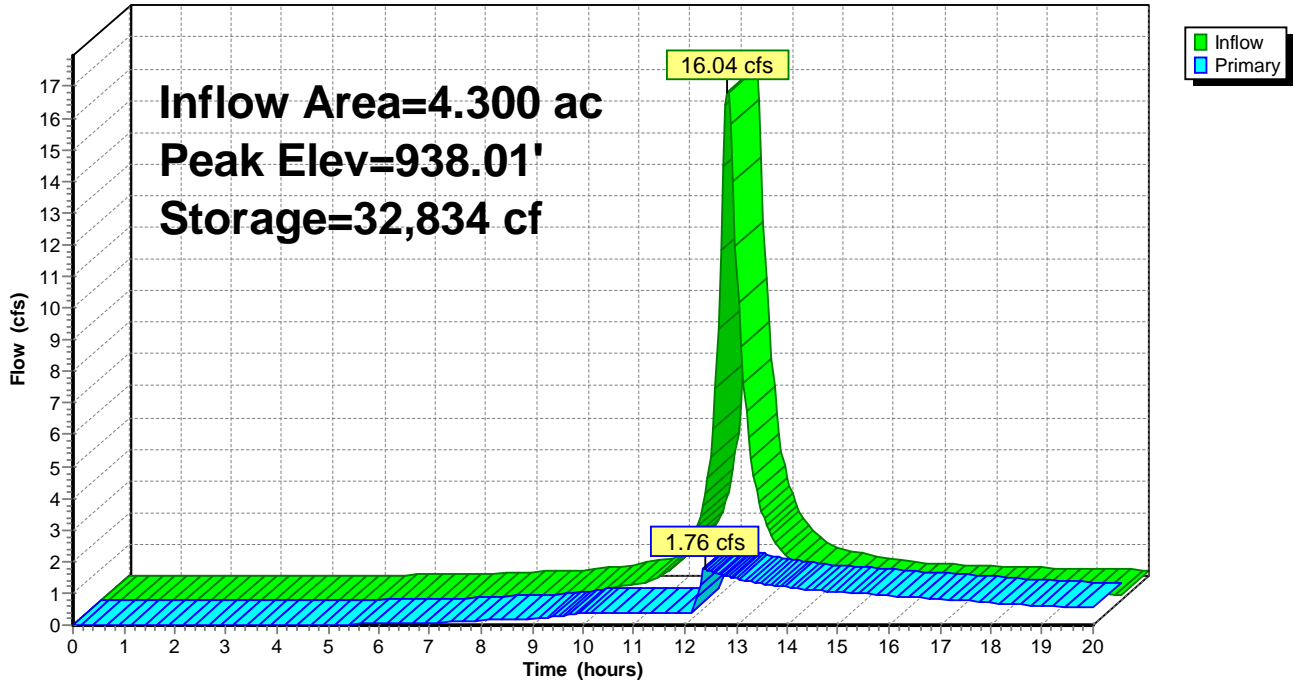
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>12.0" Round Culvert</b> L= 300.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.64 cfs @ 12.38 hrs HW=937.53' TW=936.79' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 1.64 cfs @ 2.09 fps)
- ↑ **2=Orifice** (Passes < 0.36 cfs potential flow)
- ↑ **3=Windows** (Passes < 1.64 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 7P: WET BASIN G**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 87

**Summary for Pond 8P: DRY BASIN H**

Inflow Area = 11.650 ac, 71.03% Impervious, Inflow Depth > 3.06" for 25-Year event  
 Inflow = 33.51 cfs @ 12.29 hrs, Volume= 2.972 af  
 Outflow = 3.11 cfs @ 12.54 hrs, Volume= 1.455 af, Atten= 91%, Lag= 14.9 min  
 Primary = 3.11 cfs @ 12.54 hrs, Volume= 1.455 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.09' @ 13.68 hrs Surf.Area= 35,913 sf Storage= 81,398 cf

Plug-Flow detention time= 232.1 min calculated for 1.455 af (49% of inflow)  
 Center-of-Mass det. time= 146.0 min ( 930.3 - 784.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	115,607 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	28,411	14,206	14,206
937.00	31,986	30,199	44,404
938.00	35,583	33,785	78,189
939.00	39,254	37,419	115,607

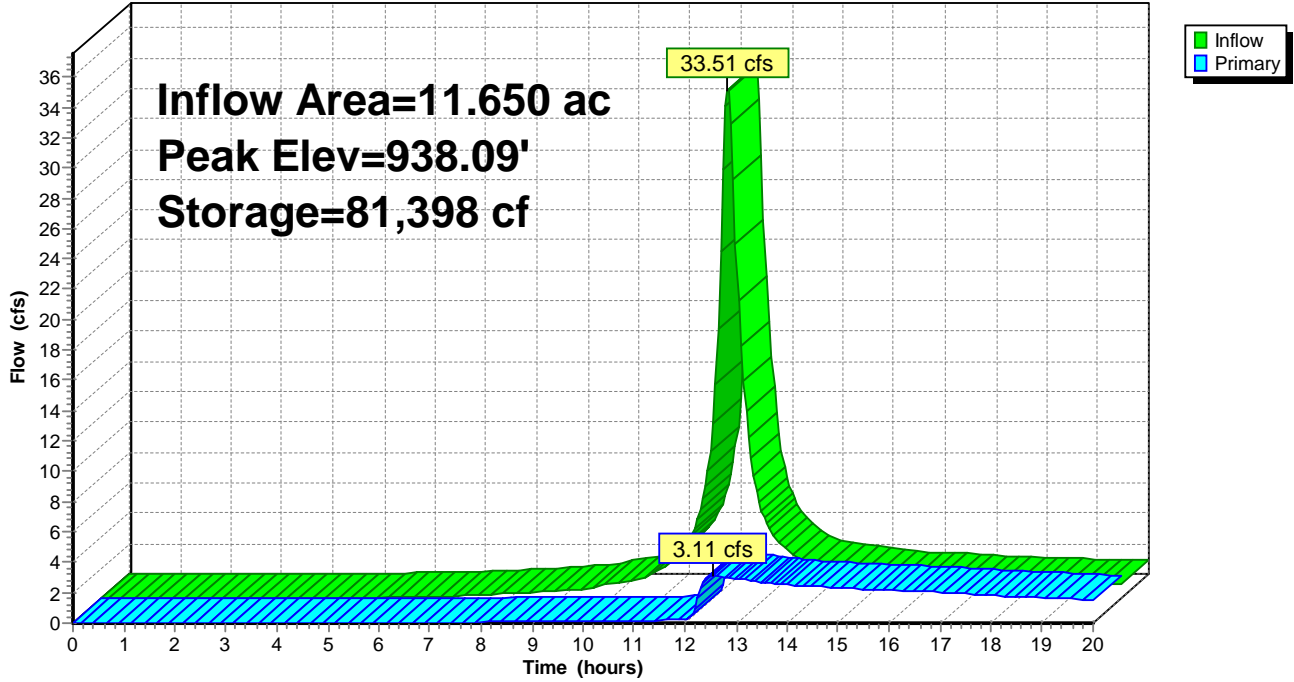
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 200.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.95 cfs @ 12.54 hrs HW=937.72' TW=937.06' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 2.95 cfs of 10.13 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.34 cfs @ 3.92 fps)
- ↑ **3=Window** (Orifice Controls 2.61 cfs @ 3.92 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 8P: DRY BASIN H

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 25-Year Rainfall=4.44"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 89

**Summary for Pond 9P: DRY BASIN I**

Inflow Area = 3.000 ac, 69.67% Impervious, Inflow Depth > 3.50" for 25-Year event  
 Inflow = 11.19 cfs @ 12.29 hrs, Volume= 0.874 af  
 Outflow = 1.27 cfs @ 12.31 hrs, Volume= 0.451 af, Atten= 89%, Lag= 1.2 min  
 Primary = 1.27 cfs @ 12.31 hrs, Volume= 0.451 af  
 Routed to Pond 8P : DRY BASIN H

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.15' @ 14.13 hrs Surf.Area= 17,090 sf Storage= 25,693 cf

Plug-Flow detention time= 202.7 min calculated for 0.450 af (51% of inflow)  
 Center-of-Mass det. time= 140.4 min ( 903.4 - 763.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	40,965 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.00	0	0	0
937.00	14,750	7,375	7,375
938.00	16,770	15,760	23,135
939.00	18,890	17,830	40,965

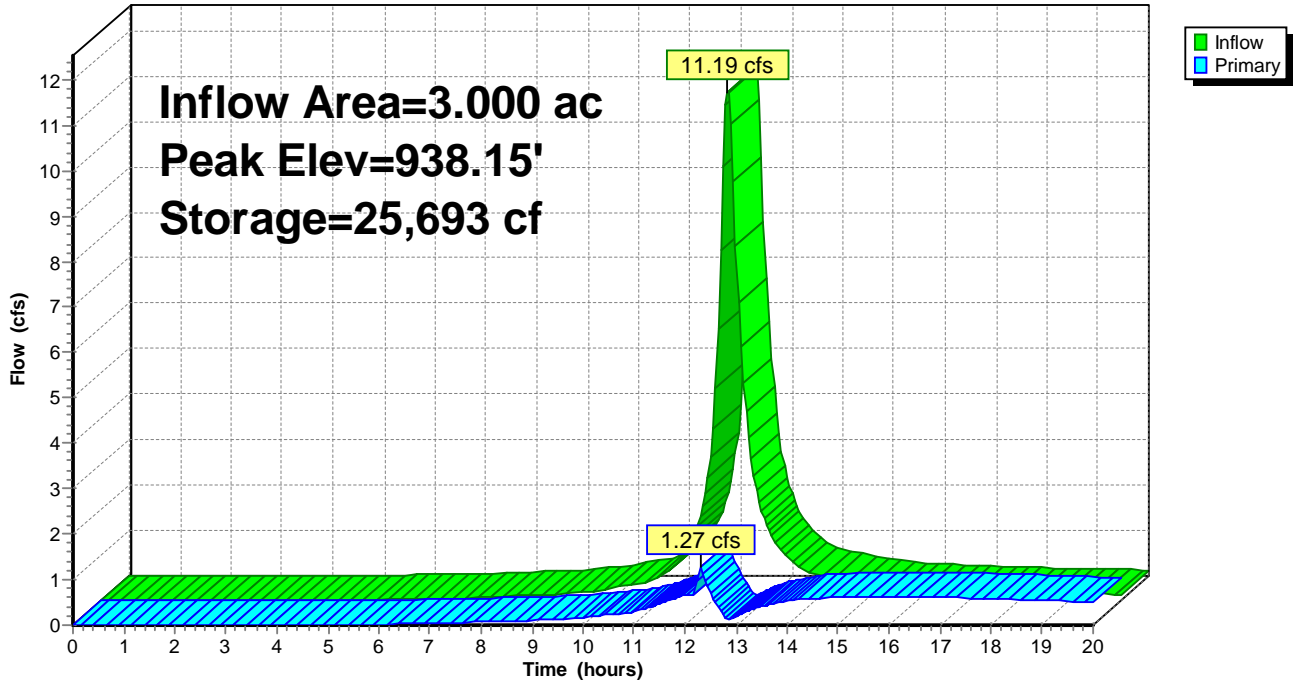
Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>12.0" Round Culvert</b> L= 250.0' Ke= 0.600 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0040 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	936.00'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.86 cfs @ 12.31 hrs HW=937.32' TW=937.16' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 0.86 cfs @ 1.10 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.39 cfs potential flow)
- ↑ **3=Window** (Passes < 0.70 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 9P: DRY BASIN I

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 91

**Summary for Pond 1P: DRY BASIN A**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 2.38" for 50-Year event  
 Inflow = 39.82 cfs @ 12.26 hrs, Volume= 4.871 af  
 Outflow = 5.37 cfs @ 13.85 hrs, Volume= 3.490 af, Atten= 87%, Lag= 95.2 min  
 Primary = 5.37 cfs @ 13.85 hrs, Volume= 3.490 af  
 Routed to Link 12L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.94' @ 13.85 hrs Surf.Area= 26,387 sf Storage= 80,612 cf

Plug-Flow detention time= 184.1 min calculated for 3.482 af (71% of inflow)  
 Center-of-Mass det. time= 97.3 min ( 946.5 - 849.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.70'	109,750 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.70	0	0	0
935.00	3,347	502	502
936.00	20,147	11,747	12,249
937.00	22,210	21,179	33,428
938.00	24,332	23,271	56,699
939.00	26,511	25,422	82,120
940.00	28,749	27,630	109,750

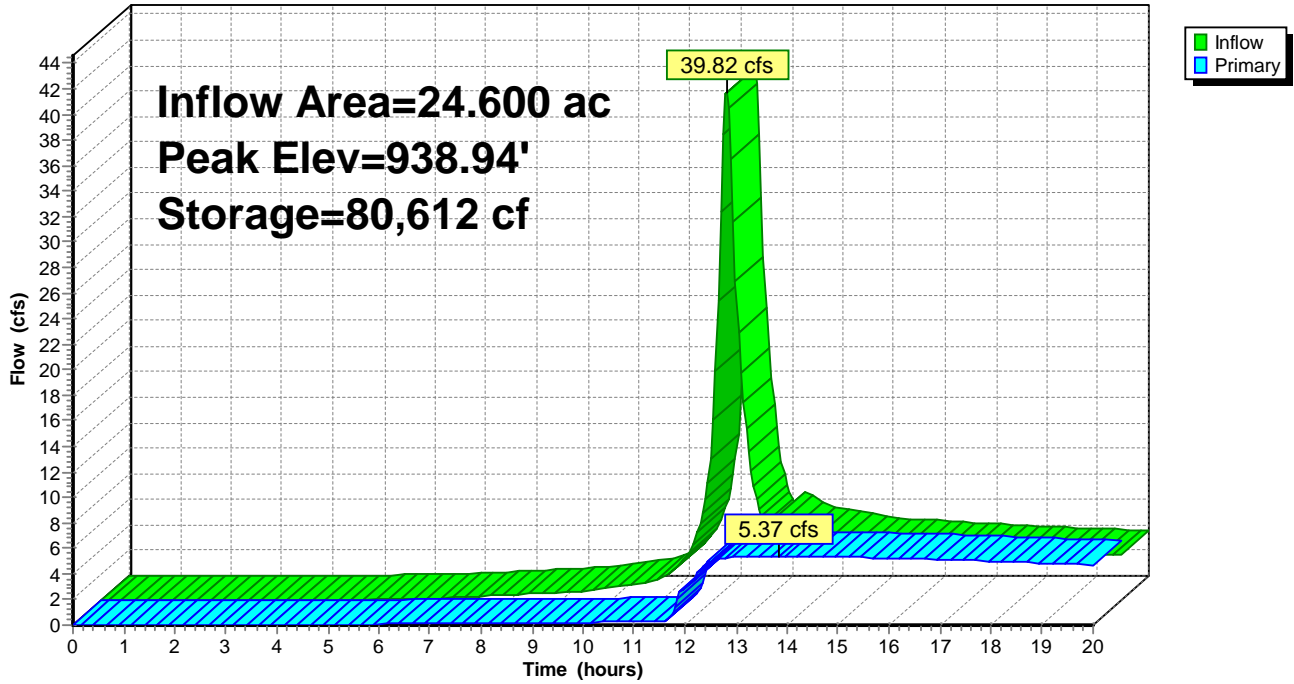
Device	Routing	Invert	Outlet Devices
#1	Primary	934.70'	<b>12.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.70' / 934.50' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	934.70'	<b>3.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.10'	<b>24.0" W x 8.0" H Vert. Windows X 3.00</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=5.37 cfs @ 13.85 hrs HW=938.94' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Barrel Controls 5.37 cfs @ 6.84 fps)
- ↑ **2=Orifice** (Passes < 0.48 cfs potential flow)
- ↑ **3=Windows** (Passes < 30.49 cfs potential flow)
- ↑ **4=Grate** (Passes < 7.71 cfs potential flow)

**Pond 1P: DRY BASIN A**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 93

**Summary for Pond 2P: DRY BASIN B**

Inflow Area = 14.500 ac, 68.38% Impervious, Inflow Depth > 4.04" for 50-Year event  
 Inflow = 61.89 cfs @ 12.29 hrs, Volume= 4.876 af  
 Outflow = 3.35 cfs @ 15.58 hrs, Volume= 1.913 af, Atten= 95%, Lag= 197.8 min  
 Primary = 3.35 cfs @ 15.58 hrs, Volume= 1.913 af  
 Routed to Pond 1P : DRY BASIN A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 939.00' @ 13.99 hrs Surf.Area= 52,222 sf Storage= 170,072 cf

Plug-Flow detention time= 291.7 min calculated for 1.908 af (39% of inflow)  
 Center-of-Mass det. time= 214.8 min ( 975.4 - 760.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	223,479 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	45,956	22,978	22,978
937.00	48,007	46,982	69,960
938.00	50,097	49,052	119,012
939.00	52,226	51,162	170,173
940.00	54,386	53,306	223,479

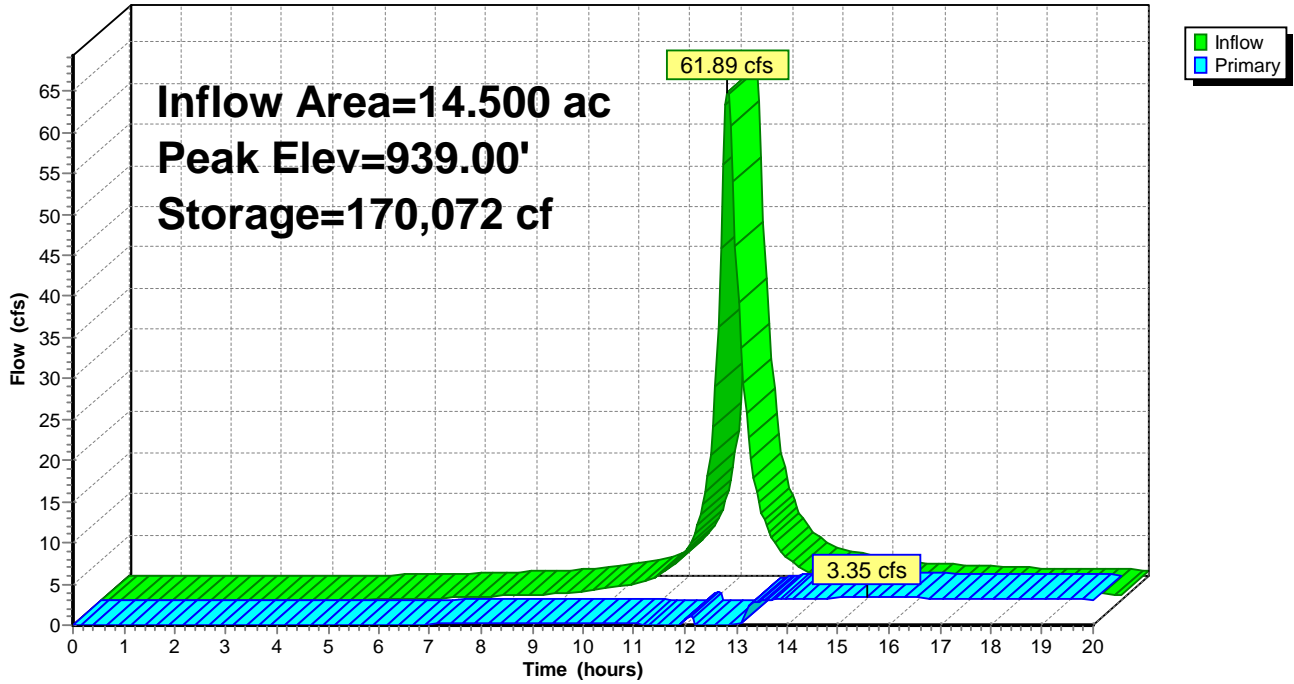
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 150.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.70' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>24.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>24.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.51 cfs @ 15.58 hrs HW=938.89' TW=938.82' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 3.51 cfs @ 1.12 fps)
- ↑ **2=Orifice/Grate** (Passes < 3.92 cfs potential flow)
- ↑ **3=Window** (Passes < 1.25 cfs potential flow)
- ↑ **4=Grate** (Passes < 5.00 cfs potential flow)

Pond 2P: DRY BASIN B

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 95

**Summary for Pond 3P: DRY BASIN C**

Inflow Area = 6.900 ac, 65.00% Impervious, Inflow Depth > 3.93" for 50-Year event  
 Inflow = 28.96 cfs @ 12.29 hrs, Volume= 2.258 af  
 Outflow = 15.17 cfs @ 12.53 hrs, Volume= 1.447 af, Atten= 48%, Lag= 14.3 min  
 Primary = 15.17 cfs @ 12.53 hrs, Volume= 1.447 af  
 Routed to Pond 4P : DRY BASIN D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.65' @ 12.54 hrs Surf.Area= 16,835 sf Storage= 43,766 cf

Plug-Flow detention time= 96.8 min calculated for 1.447 af (64% of inflow)  
 Center-of-Mass det. time= 43.3 min ( 806.8 - 763.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	49,847 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	11,869	5,935	5,935
937.00	13,659	12,764	18,699
938.00	15,549	14,604	33,303
939.00	17,539	16,544	49,847

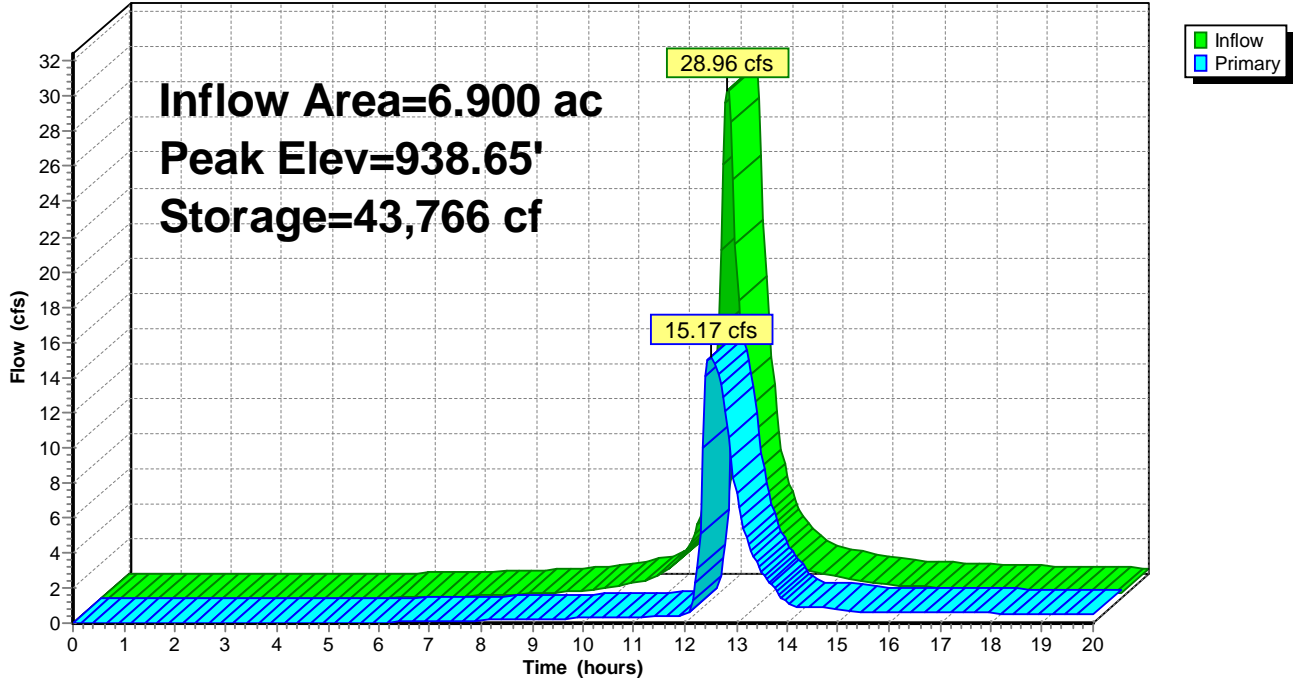
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 350.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0014 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=14.98 cfs @ 12.53 hrs HW=938.64' TW=936.54' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 14.98 cfs @ 4.77 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.61 cfs potential flow)
- ↑ **3=Windows** (Passes < 3.78 cfs potential flow)
- ↑ **4=Grate** (Passes < 13.48 cfs potential flow)

### Pond 3P: DRY BASIN C

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 97

**Summary for Pond 4P: DRY BASIN D**

Inflow Area = 20.700 ac, 46.79% Impervious, Inflow Depth > 3.11" for 50-Year event  
 Inflow = 44.46 cfs @ 12.46 hrs, Volume= 5.365 af  
 Outflow = 2.68 cfs @ 14.34 hrs, Volume= 1.310 af, Atten= 94%, Lag= 112.6 min  
 Primary = 2.68 cfs @ 14.34 hrs, Volume= 1.310 af  
 Routed to Pond 5P : WET BASIN E

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.22' @ 16.63 hrs Surf.Area= 68,548 sf Storage= 182,731 cf

Plug-Flow detention time= 251.3 min calculated for 1.307 af (24% of inflow)  
 Center-of-Mass det. time= 152.7 min ( 948.0 - 795.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.50'	237,628 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.50	0	0	0
935.00	12,225	3,056	3,056
936.00	60,758	36,492	39,548
937.00	64,240	62,499	102,047
938.00	67,771	66,006	168,052
939.00	71,380	69,576	237,628

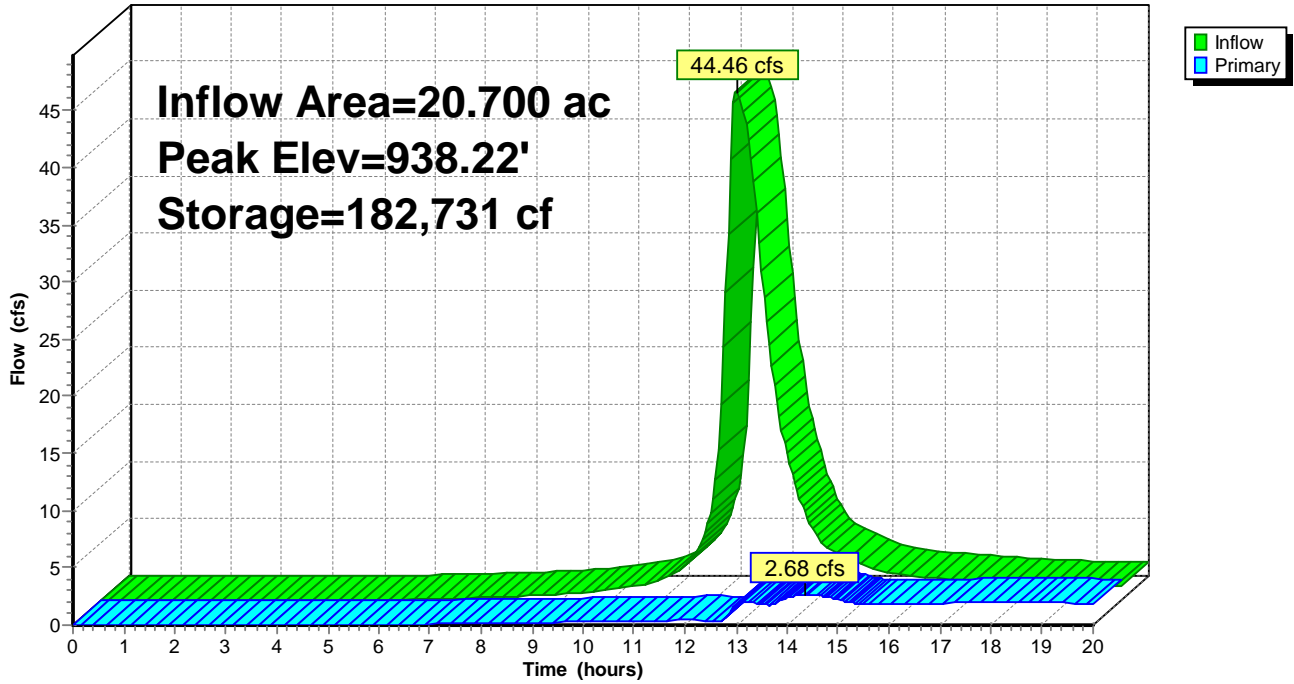
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 400.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.00' S= 0.0013 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.59 cfs @ 14.34 hrs HW=938.15' TW=938.03' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 2.59 cfs of 3.27 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.14 cfs @ 1.60 fps)
- ↑ **3=Windows** (Orifice Controls 1.07 cfs @ 1.60 fps)
- ↑ **4=Grate** (Weir Controls 1.38 cfs @ 1.19 fps)

**Pond 4P: DRY BASIN D**

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 99

**Summary for Pond 5P: WET BASIN E**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 2.39" for 50-Year event  
 Inflow = 91.03 cfs @ 12.47 hrs, Volume= 12.546 af  
 Outflow = 5.71 cfs @ 16.38 hrs, Volume= 3.361 af, Atten= 94%, Lag= 234.6 min  
 Primary = 5.71 cfs @ 16.38 hrs, Volume= 3.361 af  
 Routed to Link 10L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.18' @ 16.38 hrs Surf.Area= 112,592 sf Storage= 413,054 cf

Plug-Flow detention time= 282.2 min calculated for 3.361 af (27% of inflow)  
 Center-of-Mass det. time= 175.1 min ( 982.6 - 807.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	507,647 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.00	85,433	0	0
935.00	91,702	88,568	88,568
936.00	98,109	94,906	183,473
937.00	104,658	101,384	284,857
938.00	111,356	108,007	392,864
939.00	118,210	114,783	507,647

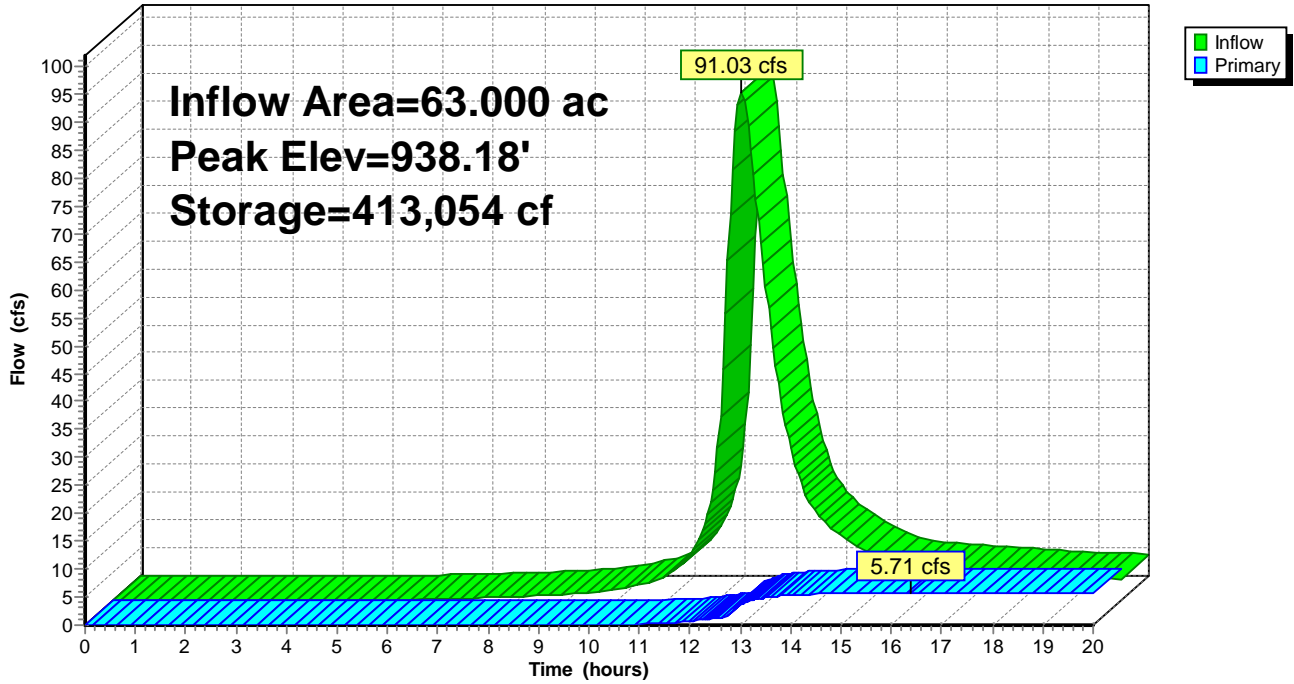
Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.00' / 933.43' S= 0.0057 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.00'	<b>6.0" Vert. 6" Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.60'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=5.71 cfs @ 16.38 hrs HW=938.18' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 5.71 cfs of 24.78 cfs potential flow)
- ↑ **2=6" Orifice** (Orifice Controls 1.87 cfs @ 9.55 fps)
- ↑ **3=Window** (Orifice Controls 3.83 cfs @ 5.75 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 5P: WET BASIN E**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 101

**Summary for Pond 6P: DRY BASIN F**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 2.83" for 50-Year event  
 Inflow = 48.55 cfs @ 12.30 hrs, Volume= 6.150 af  
 Outflow = 6.89 cfs @ 13.82 hrs, Volume= 3.329 af, Atten= 86%, Lag= 91.5 min  
 Primary = 6.89 cfs @ 13.82 hrs, Volume= 3.329 af  
 Routed to Link 11L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.73' @ 13.82 hrs Surf.Area= 66,749 sf Storage= 135,605 cf

Plug-Flow detention time= 234.1 min calculated for 3.329 af (54% of inflow)  
 Center-of-Mass det. time= 120.3 min ( 946.4 - 826.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	188,546 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	56,901	28,451	28,451
937.00	62,552	59,727	88,177
938.00	68,273	65,413	153,590
938.50	71,552	34,956	188,546

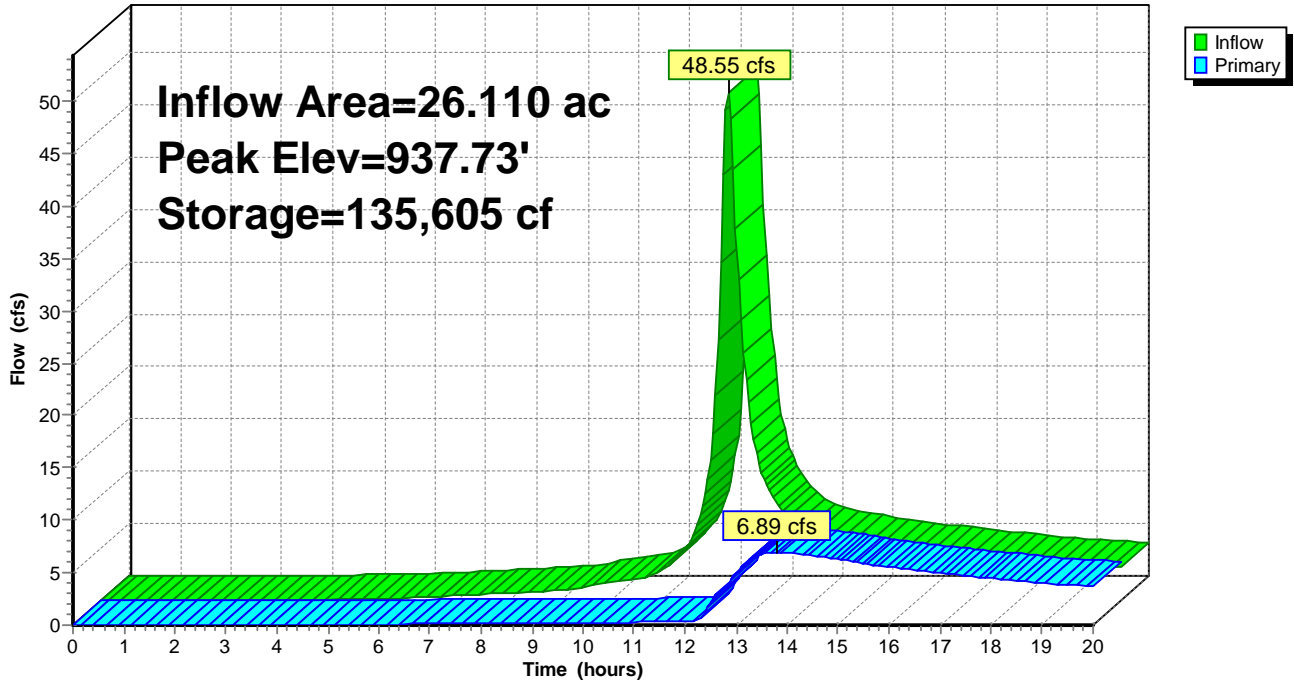
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>3.5" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.75'	<b>20.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=6.89 cfs @ 13.82 hrs HW=937.73' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 6.89 cfs of 16.60 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.52 cfs @ 7.75 fps)
- ↑ **3=Window** (Orifice Controls 3.42 cfs @ 4.10 fps)
- ↑ **4=Grate** (Weir Controls 2.95 cfs @ 1.58 fps)

**Pond 6P: DRY BASIN F**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 103

**Summary for Pond 7P: WET BASIN G**

Inflow Area = 4.300 ac, 69.88% Impervious, Inflow Depth > 4.04" for 50-Year event  
 Inflow = 18.35 cfs @ 12.29 hrs, Volume= 1.446 af  
 Outflow = 1.77 cfs @ 12.30 hrs, Volume= 0.876 af, Atten= 90%, Lag= 0.7 min  
 Primary = 1.77 cfs @ 12.30 hrs, Volume= 0.876 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.27' @ 13.55 hrs Surf.Area= 24,366 sf Storage= 39,024 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 120.3 min ( 880.8 - 760.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.50'	57,566 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.50	19,817	0	0
937.00	21,069	10,222	10,222
938.00	23,647	22,358	32,580
939.00	26,326	24,987	57,566

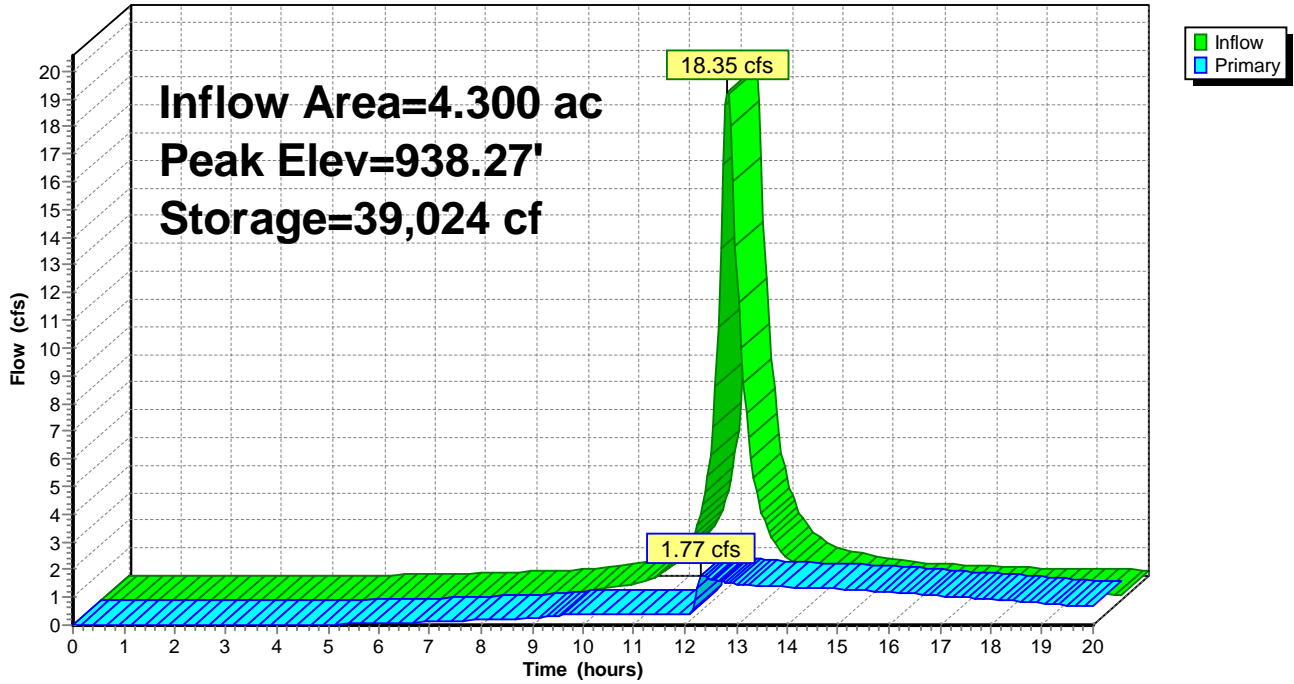
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>12.0" Round Culvert</b> L= 300.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.62 cfs @ 12.30 hrs HW=937.50' TW=936.77' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 1.62 cfs @ 2.07 fps)
- ↑ **2=Orifice** (Passes < 0.36 cfs potential flow)
- ↑ **3=Windows** (Passes < 1.51 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 7P: WET BASIN G

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 105

**Summary for Pond 8P: DRY BASIN H**

Inflow Area = 11.650 ac, 71.03% Impervious, Inflow Depth > 3.52" for 50-Year event  
 Inflow = 38.01 cfs @ 12.29 hrs, Volume= 3.416 af  
 Outflow = 3.28 cfs @ 12.49 hrs, Volume= 1.765 af, Atten= 91%, Lag= 12.4 min  
 Primary = 3.28 cfs @ 12.49 hrs, Volume= 1.765 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.42' @ 13.62 hrs Surf.Area= 37,108 sf Storage= 93,290 cf

Plug-Flow detention time= 238.9 min calculated for 1.765 af (52% of inflow)  
 Center-of-Mass det. time= 151.8 min ( 935.8 - 784.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	115,607 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	28,411	14,206	14,206
937.00	31,986	30,199	44,404
938.00	35,583	33,785	78,189
939.00	39,254	37,419	115,607

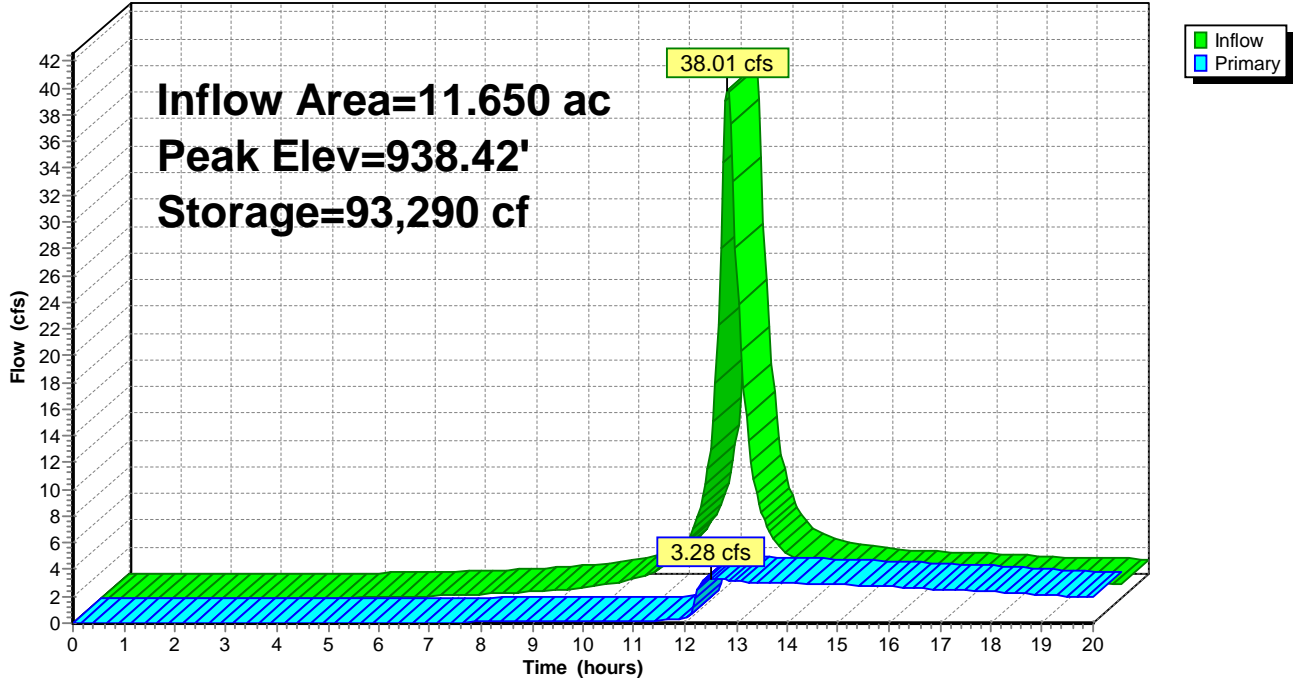
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 200.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.09 cfs @ 12.49 hrs HW=937.93' TW=937.21' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 3.09 cfs of 10.62 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.36 cfs @ 4.10 fps)
- ↑ **3=Window** (Orifice Controls 2.73 cfs @ 4.10 fps)
- ↑ **4=Grate** ( Controls 0.00 cfs)

**Pond 8P: DRY BASIN H**

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 50-Year Rainfall=5.01"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 107

**Summary for Pond 9P: DRY BASIN I**

Inflow Area = 3.000 ac, 69.67% Impervious, Inflow Depth > 4.04" for 50-Year event  
 Inflow = 12.80 cfs @ 12.29 hrs, Volume= 1.009 af  
 Outflow = 1.20 cfs @ 12.26 hrs, Volume= 0.507 af, Atten= 91%, Lag= 0.0 min  
 Primary = 1.20 cfs @ 12.26 hrs, Volume= 0.507 af  
 Routed to Pond 8P : DRY BASIN H

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.48' @ 14.24 hrs Surf.Area= 17,779 sf Storage= 31,353 cf

Plug-Flow detention time= 223.8 min calculated for 0.507 af (50% of inflow)  
 Center-of-Mass det. time= 158.6 min ( 919.1 - 760.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	40,965 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.00	0	0	0
937.00	14,750	7,375	7,375
938.00	16,770	15,760	23,135
939.00	18,890	17,830	40,965

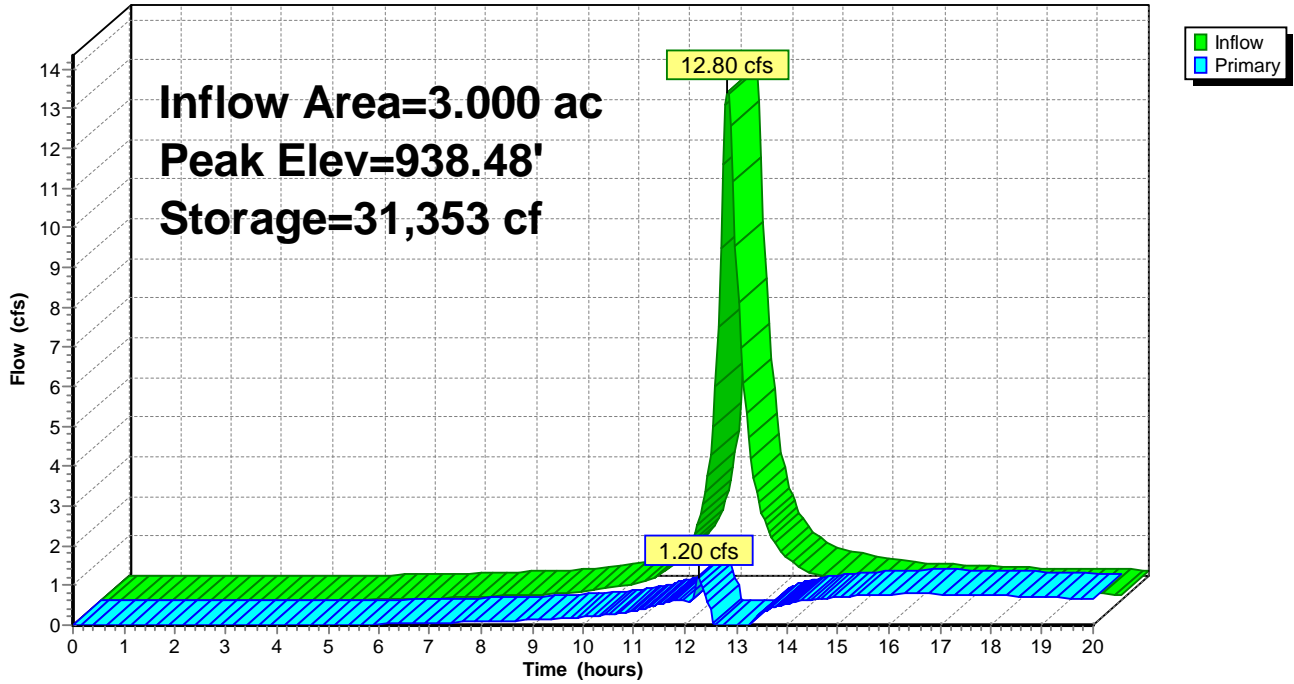
Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>12.0" Round Culvert</b> L= 250.0' Ke= 0.600 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0040 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	936.00'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.71 cfs @ 12.26 hrs HW=937.34' TW=937.22' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 0.71 cfs @ 0.91 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.33 cfs potential flow)
- ↑ **3=Window** (Passes < 0.66 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 9P: DRY BASIN I

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 109

**Summary for Pond 1P: DRY BASIN A**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 2.66" for 100-Year event  
 Inflow = 45.94 cfs @ 12.26 hrs, Volume= 5.462 af  
 Outflow = 5.75 cfs @ 13.96 hrs, Volume= 3.795 af, Atten= 87%, Lag= 101.8 min  
 Primary = 5.75 cfs @ 13.96 hrs, Volume= 3.795 af  
 Routed to Link 12L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 939.45' @ 13.96 hrs Surf.Area= 27,511 sf Storage= 94,185 cf

Plug-Flow detention time= 193.4 min calculated for 3.786 af (69% of inflow)  
 Center-of-Mass det. time= 100.8 min ( 944.5 - 843.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.70'	109,750 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.70	0	0	0
935.00	3,347	502	502
936.00	20,147	11,747	12,249
937.00	22,210	21,179	33,428
938.00	24,332	23,271	56,699
939.00	26,511	25,422	82,120
940.00	28,749	27,630	109,750

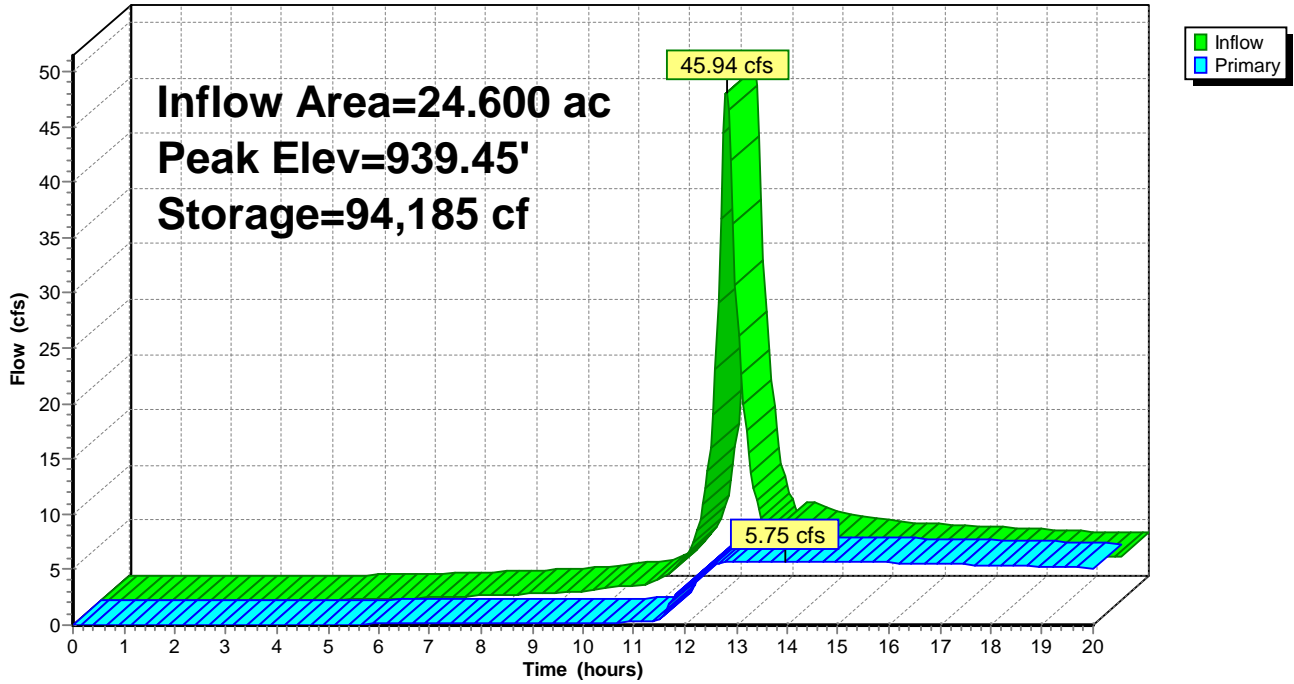
Device	Routing	Invert	Outlet Devices
#1	Primary	934.70'	<b>12.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.70' / 934.50' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	934.70'	<b>3.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.10'	<b>24.0" W x 8.0" H Vert. Windows X 3.00</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=5.75 cfs @ 13.96 hrs HW=939.45' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Barrel Controls 5.75 cfs @ 7.32 fps)
- ↑ **2=Orifice** (Passes < 0.51 cfs potential flow)
- ↑ **3=Windows** (Passes < 33.42 cfs potential flow)
- ↑ **4=Grate** (Passes < 18.74 cfs potential flow)

**Pond 1P: DRY BASIN A**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 111

**Summary for Pond 2P: DRY BASIN B**

Inflow Area = 14.500 ac, 68.38% Impervious, Inflow Depth > 4.62" for 100-Year event  
 Inflow = 70.34 cfs @ 12.29 hrs, Volume= 5.586 af  
 Outflow = 3.57 cfs @ 15.64 hrs, Volume= 2.031 af, Atten= 95%, Lag= 201.4 min  
 Primary = 3.57 cfs @ 15.64 hrs, Volume= 2.031 af  
 Routed to Pond 1P : DRY BASIN A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 939.51' @ 14.11 hrs Surf.Area= 53,327 sf Storage= 197,077 cf

Plug-Flow detention time= 301.4 min calculated for 2.026 af (36% of inflow)  
 Center-of-Mass det. time= 218.2 min ( 976.4 - 758.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	223,479 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	45,956	22,978	22,978
937.00	48,007	46,982	69,960
938.00	50,097	49,052	119,012
939.00	52,226	51,162	170,173
940.00	54,386	53,306	223,479

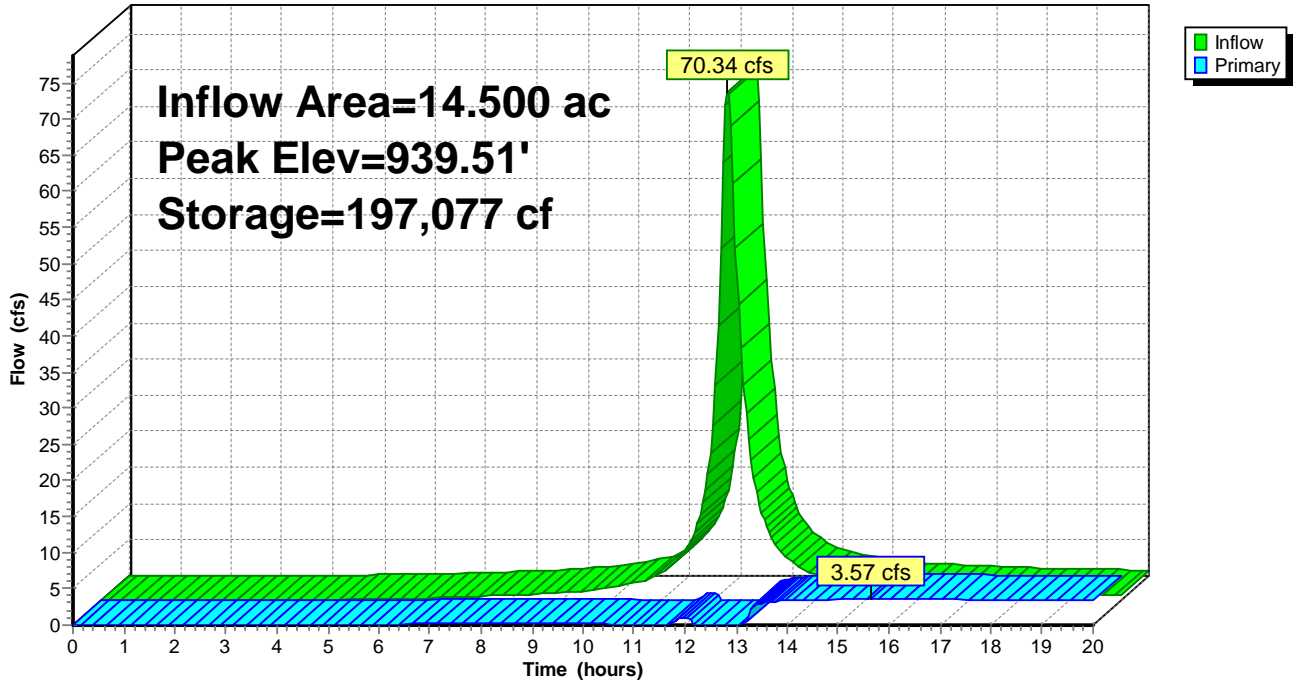
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 150.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.70' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>24.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>24.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.72 cfs @ 15.64 hrs HW=939.40' TW=939.33' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 3.72 cfs @ 1.18 fps)
- ↑ **2=Orifice/Grate** (Passes < 4.16 cfs potential flow)
- ↑ **3=Window** (Passes < 1.32 cfs potential flow)
- ↑ **4=Grate** (Passes < 5.29 cfs potential flow)

**Pond 2P: DRY BASIN B**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 113

**Summary for Pond 3P: DRY BASIN C**

Inflow Area = 6.900 ac, 65.00% Impervious, Inflow Depth > 4.51" for 100-Year event  
 Inflow = 33.00 cfs @ 12.29 hrs, Volume= 2.595 af  
 Outflow = 15.96 cfs @ 12.47 hrs, Volume= 1.601 af, Atten= 52%, Lag= 10.7 min  
 Primary = 15.96 cfs @ 12.47 hrs, Volume= 1.601 af  
 Routed to Pond 4P : DRY BASIN D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.96' @ 12.58 hrs Surf.Area= 17,464 sf Storage= 49,191 cf

Plug-Flow detention time= 97.8 min calculated for 1.601 af (62% of inflow)  
 Center-of-Mass det. time= 42.2 min ( 803.3 - 761.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	49,847 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	11,869	5,935	5,935
937.00	13,659	12,764	18,699
938.00	15,549	14,604	33,303
939.00	17,539	16,544	49,847

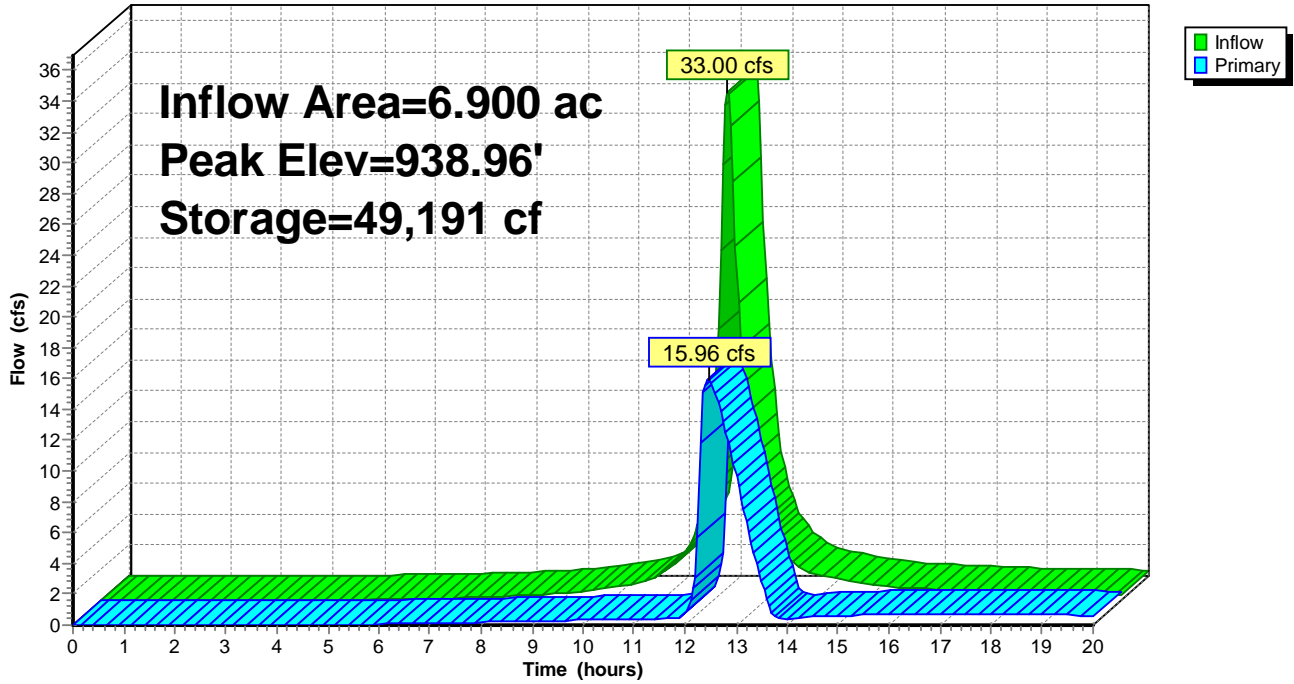
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 350.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0014 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=15.59 cfs @ 12.47 hrs HW=938.90' TW=936.62' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 15.59 cfs @ 4.96 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.63 cfs potential flow)
- ↑ **3=Windows** (Passes < 4.12 cfs potential flow)
- ↑ **4=Grate** (Passes < 18.28 cfs potential flow)

### Pond 3P: DRY BASIN C

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 115

**Summary for Pond 4P: DRY BASIN D**

Inflow Area = 20.700 ac, 46.79% Impervious, Inflow Depth > 3.57" for 100-Year event  
 Inflow = 50.22 cfs @ 12.44 hrs, Volume= 6.160 af  
 Outflow = 3.78 cfs @ 13.33 hrs, Volume= 1.334 af, Atten= 92%, Lag= 53.4 min  
 Primary = 3.78 cfs @ 13.33 hrs, Volume= 1.334 af  
 Routed to Pond 5P : WET BASIN E

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.73' @ 16.40 hrs Surf.Area= 70,413 sf Storage= 218,631 cf

Plug-Flow detention time= 277.5 min calculated for 1.334 af (22% of inflow)  
 Center-of-Mass det. time= 169.4 min ( 961.8 - 792.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.50'	237,628 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.50	0	0	0
935.00	12,225	3,056	3,056
936.00	60,758	36,492	39,548
937.00	64,240	62,499	102,047
938.00	67,771	66,006	168,052
939.00	71,380	69,576	237,628

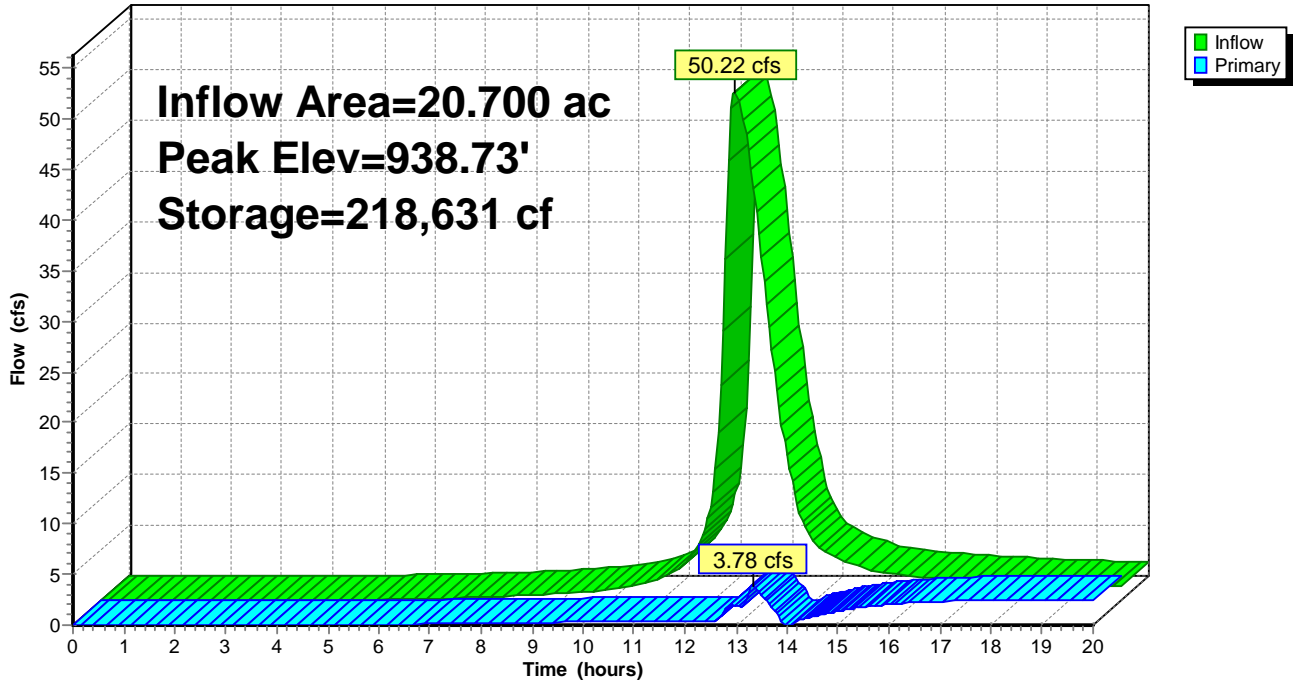
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 400.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.00' S= 0.0013 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.10 cfs @ 13.33 hrs HW=938.22' TW=938.12' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 3.10 cfs @ 0.99 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.13 cfs potential flow)
- ↑ **3=Windows** (Passes < 1.01 cfs potential flow)
- ↑ **4=Grate** (Passes < 2.20 cfs potential flow)

Pond 4P: DRY BASIN D

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 117

**Summary for Pond 5P: WET BASIN E**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 2.76" for 100-Year event  
 Inflow = 105.65 cfs @ 12.47 hrs, Volume= 14.488 af  
 Outflow = 7.11 cfs @ 15.77 hrs, Volume= 4.034 af, Atten= 93%, Lag= 197.8 min  
 Primary = 7.11 cfs @ 15.77 hrs, Volume= 4.034 af  
 Routed to Link 10L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.69' @ 15.77 hrs Surf.Area= 116,058 sf Storage= 470,862 cf

Plug-Flow detention time= 280.4 min calculated for 4.034 af (28% of inflow)  
 Center-of-Mass det. time= 173.3 min ( 978.1 - 804.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	507,647 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
934.00	85,433	0	0
935.00	91,702	88,568	88,568
936.00	98,109	94,906	183,473
937.00	104,658	101,384	284,857
938.00	111,356	108,007	392,864
939.00	118,210	114,783	507,647

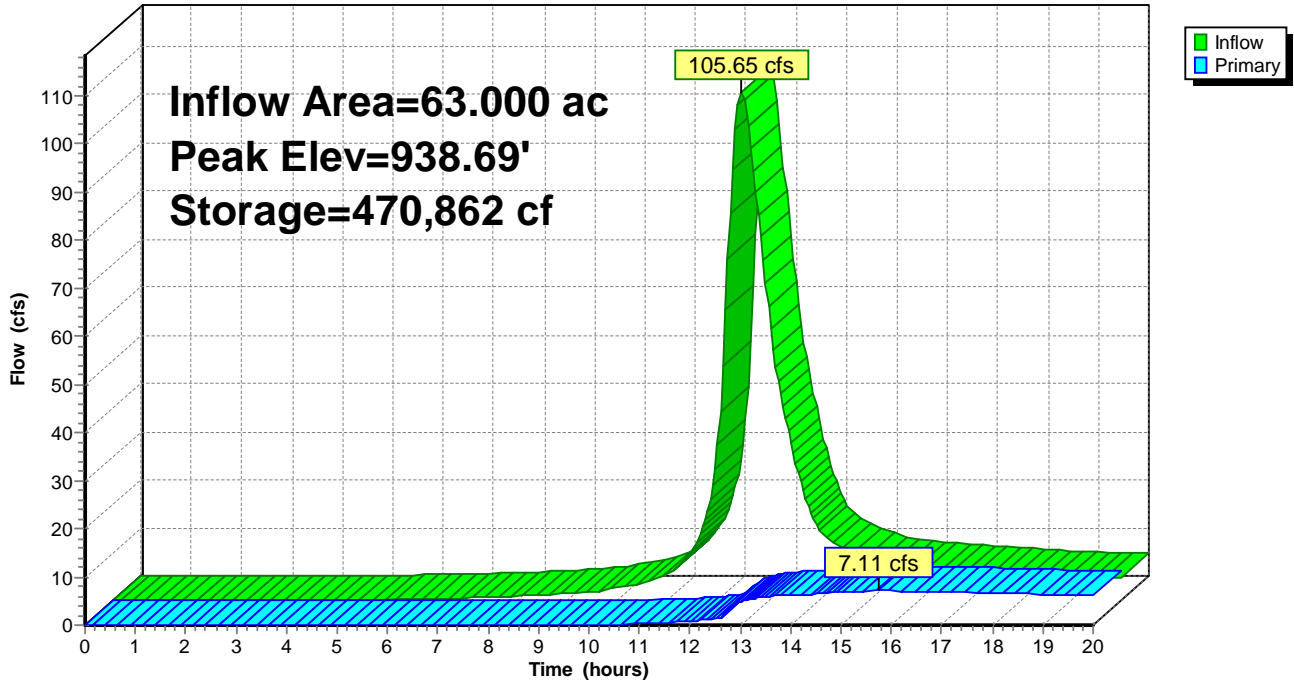
Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 934.00' / 933.43' S= 0.0057 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.00'	<b>6.0" Vert. 6" Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.60'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=7.11 cfs @ 15.77 hrs HW=938.69' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 7.11 cfs of 26.96 cfs potential flow)
- ↑ **2=6" Orifice** (Orifice Controls 1.99 cfs @ 10.14 fps)
- ↑ **3=Window** (Orifice Controls 4.46 cfs @ 6.69 fps)
- ↑ **4=Grate** (Weir Controls 0.66 cfs @ 0.96 fps)

### Pond 5P: WET BASIN E

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 119

**Summary for Pond 6P: DRY BASIN F**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 3.31" for 100-Year event  
 Inflow = 54.84 cfs @ 12.29 hrs, Volume= 7.192 af  
 Outflow = 10.80 cfs @ 13.42 hrs, Volume= 4.308 af, Atten= 80%, Lag= 68.1 min  
 Primary = 10.80 cfs @ 13.42 hrs, Volume= 4.308 af  
 Routed to Link 11L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.89' @ 13.42 hrs Surf.Area= 67,671 sf Storage= 146,436 cf

Plug-Flow detention time= 210.3 min calculated for 4.297 af (60% of inflow)  
 Center-of-Mass det. time= 105.7 min ( 931.0 - 825.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	188,546 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	56,901	28,451	28,451
937.00	62,552	59,727	88,177
938.00	68,273	65,413	153,590
938.50	71,552	34,956	188,546

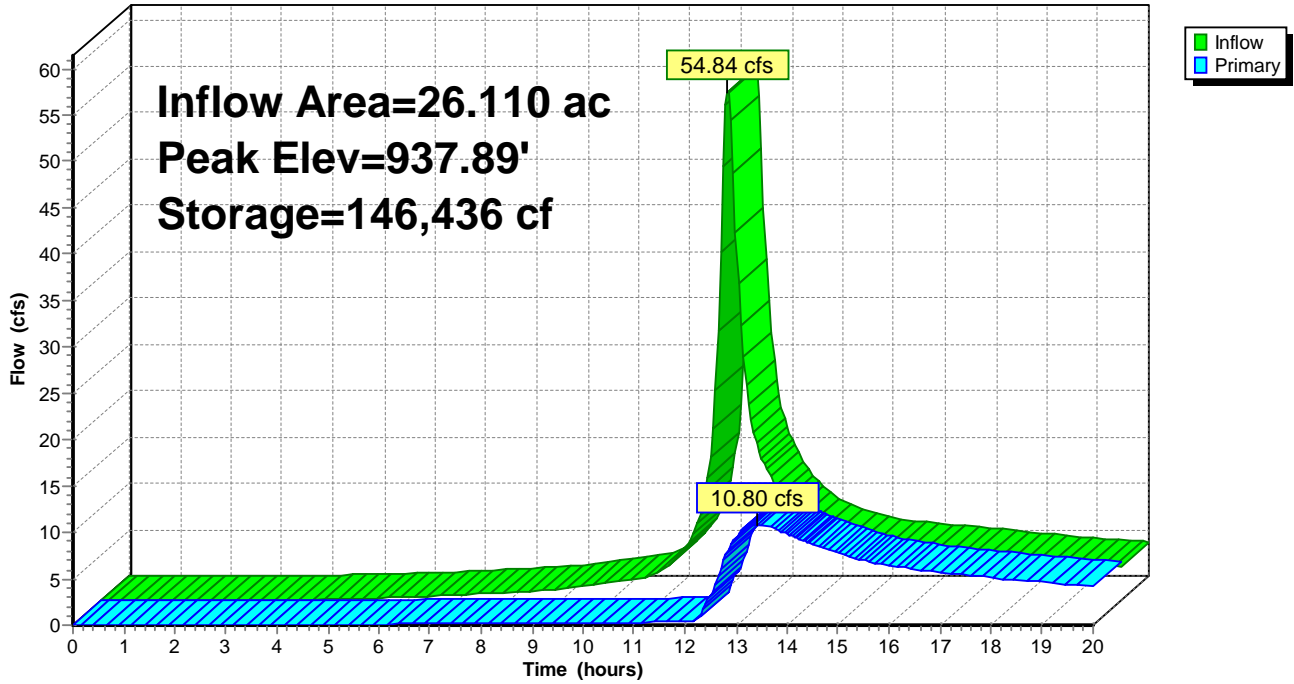
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>24.0" Round Culvert</b> L= 100.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	935.00'	<b>3.5" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.75'	<b>20.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=10.80 cfs @ 13.42 hrs HW=937.89' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 10.80 cfs of 17.65 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.53 cfs @ 7.98 fps)
- ↑ **3=Window** (Orifice Controls 3.78 cfs @ 4.54 fps)
- ↑ **4=Grate** (Weir Controls 6.49 cfs @ 2.05 fps)

### Pond 6P: DRY BASIN F

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 121

**Summary for Pond 7P: WET BASIN G**

Inflow Area = 4.300 ac, 69.88% Impervious, Inflow Depth > 4.62" for 100-Year event  
 Inflow = 20.86 cfs @ 12.29 hrs, Volume= 1.657 af  
 Outflow = 1.75 cfs @ 12.29 hrs, Volume= 1.022 af, Atten= 92%, Lag= 0.0 min  
 Primary = 1.75 cfs @ 12.29 hrs, Volume= 1.022 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.54' @ 13.58 hrs Surf.Area= 25,099 sf Storage= 45,791 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 130.8 min ( 888.9 - 758.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.50'	57,566 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.50	19,817	0	0
937.00	21,069	10,222	10,222
938.00	23,647	22,358	32,580
939.00	26,326	24,987	57,566

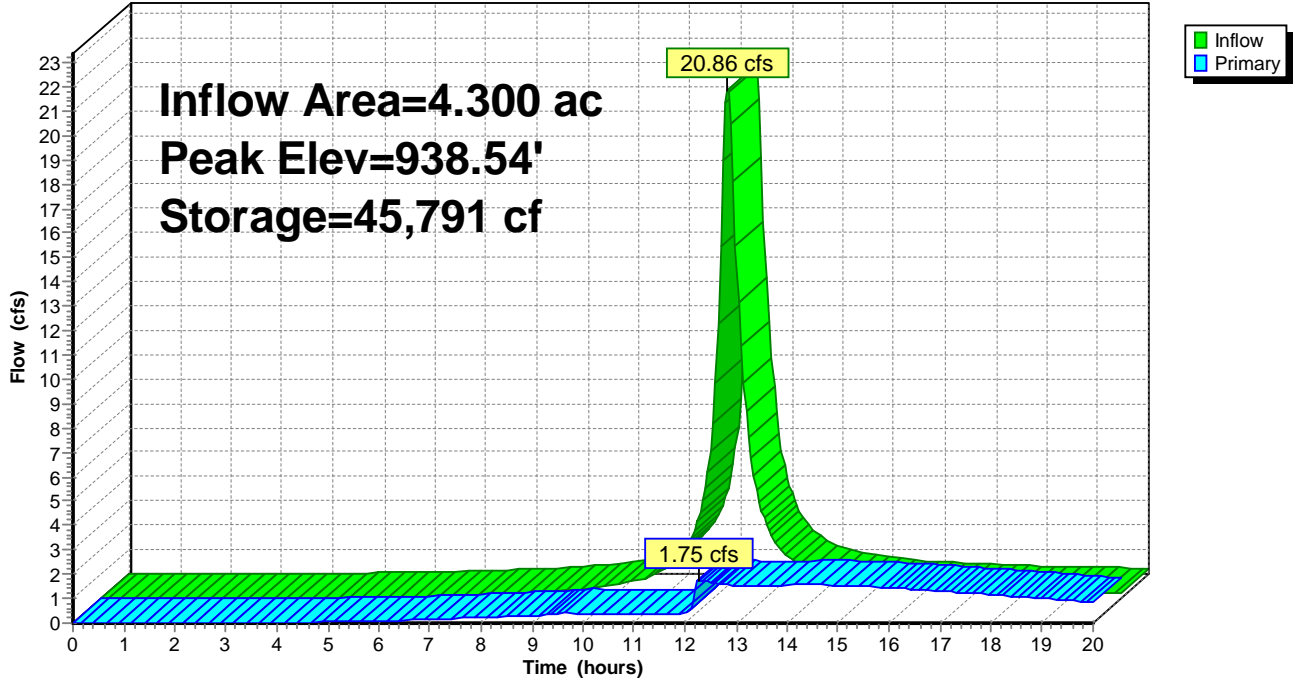
Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	<b>12.0" Round Culvert</b> L= 300.0' Ke= 0.600 Inlet / Outlet Invert= 935.00' / 934.50' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	935.00'	<b>4.0" Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Windows</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.58 cfs @ 12.29 hrs HW=937.62' TW=936.93' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 1.58 cfs @ 2.02 fps)
- ↑ **2=Orifice** (Passes < 0.35 cfs potential flow)
- ↑ **3=Windows** (Passes < 1.92 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 7P: WET BASIN G

Hydrograph





**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 123

**Summary for Pond 8P: DRY BASIN H**

Inflow Area = 11.650 ac, 71.03% Impervious, Inflow Depth > 4.04" for 100-Year event  
 Inflow = 42.88 cfs @ 12.29 hrs, Volume= 3.920 af  
 Outflow = 5.41 cfs @ 13.10 hrs, Volume= 2.160 af, Atten= 87%, Lag= 48.9 min  
 Primary = 5.41 cfs @ 13.10 hrs, Volume= 2.160 af  
 Routed to Pond 6P : DRY BASIN F

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.69' @ 13.13 hrs Surf.Area= 38,104 sf Storage= 103,489 cf

Plug-Flow detention time= 229.0 min calculated for 2.160 af (55% of inflow)  
 Center-of-Mass det. time= 143.6 min ( 925.8 - 782.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	115,607 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
935.00	0	0	0
936.00	28,411	14,206	14,206
937.00	31,986	30,199	44,404
938.00	35,583	33,785	78,189
939.00	39,254	37,419	115,607

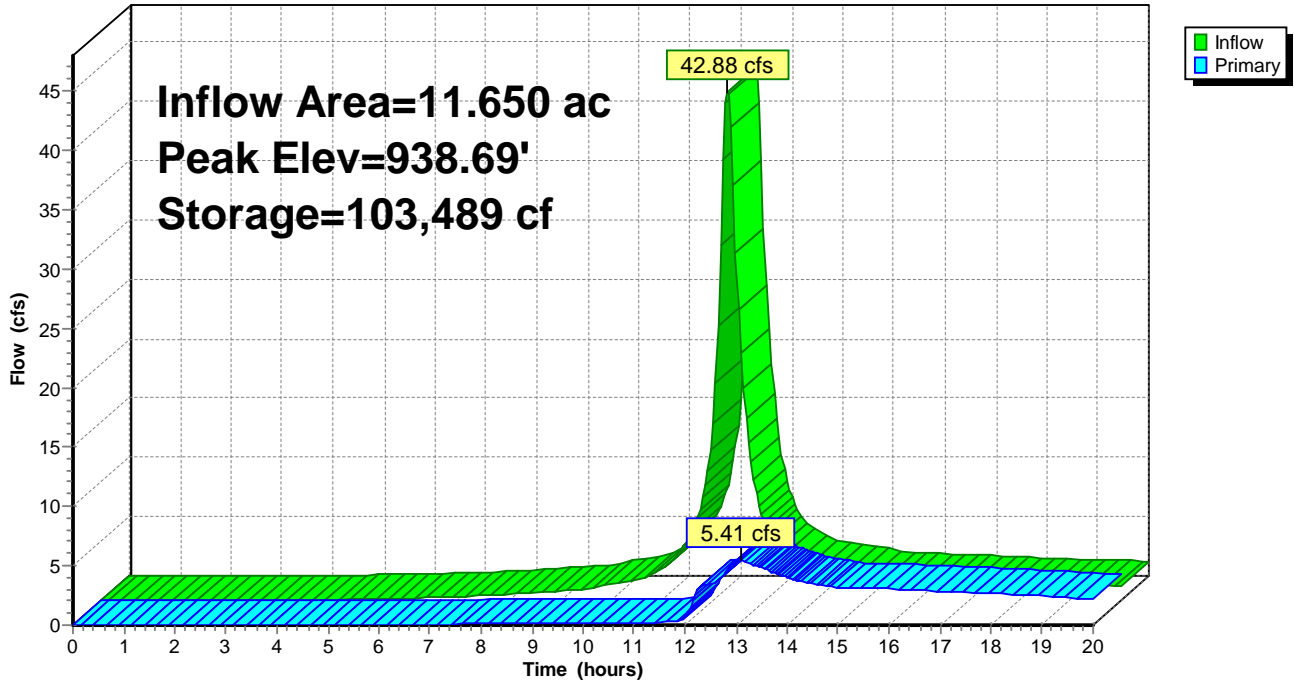
Device	Routing	Invert	Outlet Devices
#1	Primary	934.50'	<b>24.0" Round Culvert</b> L= 200.0' Ke= 0.600 Inlet / Outlet Invert= 934.50' / 934.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	934.50'	<b>4.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.50'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=5.39 cfs @ 13.10 hrs HW=938.69' TW=937.87' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 5.39 cfs of 11.27 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.38 cfs @ 4.35 fps)
- ↑ **3=Window** (Orifice Controls 2.90 cfs @ 4.35 fps)
- ↑ **4=Grate** (Weir Controls 2.11 cfs @ 1.41 fps)

**Pond 8P: DRY BASIN H**

Hydrograph



**Amlin Crossing Preliminary SWM**

NOAA 24-hr A 100-Year Rainfall=5.63"

Prepared by Kimley-Horn & Associates

Printed 6/7/2023

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Page 125

**Summary for Pond 9P: DRY BASIN I**

Inflow Area = 3.000 ac, 69.67% Impervious, Inflow Depth > 4.62" for 100-Year event  
 Inflow = 14.55 cfs @ 12.29 hrs, Volume= 1.156 af  
 Outflow = 1.11 cfs @ 12.21 hrs, Volume= 0.588 af, Atten= 92%, Lag= 0.0 min  
 Primary = 1.11 cfs @ 12.21 hrs, Volume= 0.588 af  
 Routed to Pond 8P : DRY BASIN H

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 938.74' @ 14.00 hrs Surf.Area= 18,341 sf Storage= 36,145 cf

Plug-Flow detention time= 226.3 min calculated for 0.588 af (51% of inflow)  
 Center-of-Mass det. time= 160.7 min ( 918.8 - 758.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	40,965 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
936.00	0	0	0
937.00	14,750	7,375	7,375
938.00	16,770	15,760	23,135
939.00	18,890	17,830	40,965

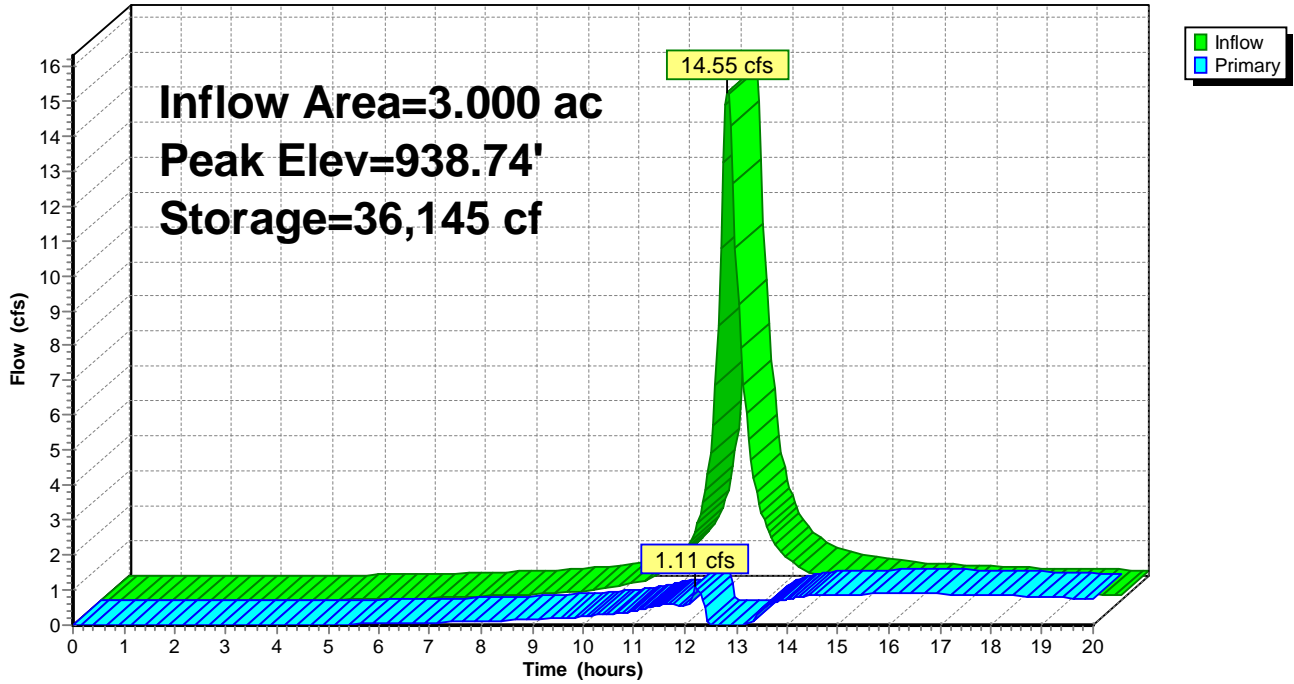
Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>12.0" Round Culvert</b> L= 250.0' Ke= 0.600 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0040 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	936.00'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	937.00'	<b>16.0" W x 6.0" H Vert. Window</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	<b>24.0" x 24.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.58 cfs @ 12.21 hrs HW=937.34' TW=937.26' (Dynamic Tailwater)

- ↑ **1=Culvert** (Outlet Controls 0.58 cfs @ 0.74 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.27 cfs potential flow)
- ↑ **3=Window** (Passes < 0.56 cfs potential flow)
- ↑ **4=Grate** ( Controls 0.00 cfs)

### Pond 9P: DRY BASIN I

Hydrograph





# Exhibit 6 – Pre-developed Tributary Map Post-developed Tributary Map



Drawing name: K:\CLB\_DEV\190016002\_Schottenstein\_Luff\2\_Design\CAD\Exhibits\Pre-developed Trib Map.dwg Layout1 Jun 05, 2023 4:23pm by: brian.prenger  
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



<b>COSGRAY ROAD DEVELOPMENT</b> COSGRAY ROAD DUBLIN, OH	<b>PRE-DEVELOPED TRIBUTARY</b> <b>MAP</b>
ORIGINAL ISSUE: 6/5/2023 KHA PROJECT NO. 190016002	SCALE: AS NOTED DESIGNED BY: BFP DRAWN BY: BFP CHECKED BY: MCR
SHEET NUMBER <b>1</b> OF 2	REVISIONS No. DATE BY APR BY

**Kimley Horn**  
 KIMLEY-HORN AND ASSOCIATES, INC.  
 7585 N. HIGH STREET, SUITE 200  
 COLUMBUS, OH 43235  
 PHONE: 614-454-6699  
 WWW.KIMLEY-HORN.COM



No.	DATE	BY	APR	DATE	BY

**Kimley»Horn**  
 © 2021 KIMLEY-HORN AND ASSOCIATES, INC.  
 7962 N. STATE ROUTE 200  
 COLUMBUS, OH 43235  
 PHONE: 614-454-6699  
 WWW.KIMLEY-HORN.COM

SCALE: AS NOTED  
 DESIGNED BY: BFP  
 DRAWN BY: BFP  
 CHECKED BY: MCR

**POST-DEVELOPED TRIBUTARY  
 MAP**

**COSGRAY ROAD DEVELOPMENT**  
 COSGRAY ROAD  
 DUBLIN, OH

ORIGINAL ISSUE:  
 6/5/2023  
 KHA PROJECT NO.  
 190016002  
 SHEET NUMBER



# Exhibit 7 – Post-Developed Release Rates





# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

Printed 6/7/2023

Page 1

## Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	NOAA 24-hr	A	Default	24.00	1	2.20	2
2	2-Year	NOAA 24-hr	A	Default	24.00	1	2.63	2
3	5-Year	NOAA 24-hr	A	Default	24.00	1	3.24	2
4	10-Year	NOAA 24-hr	A	Default	24.00	1	3.73	2
5	25-Year	NOAA 24-hr	A	Default	24.00	1	4.44	2
6	50-Year	NOAA 24-hr	A	Default	24.00	1	5.01	2
7	100-Year	NOAA 24-hr	A	Default	24.00	1	5.63	2

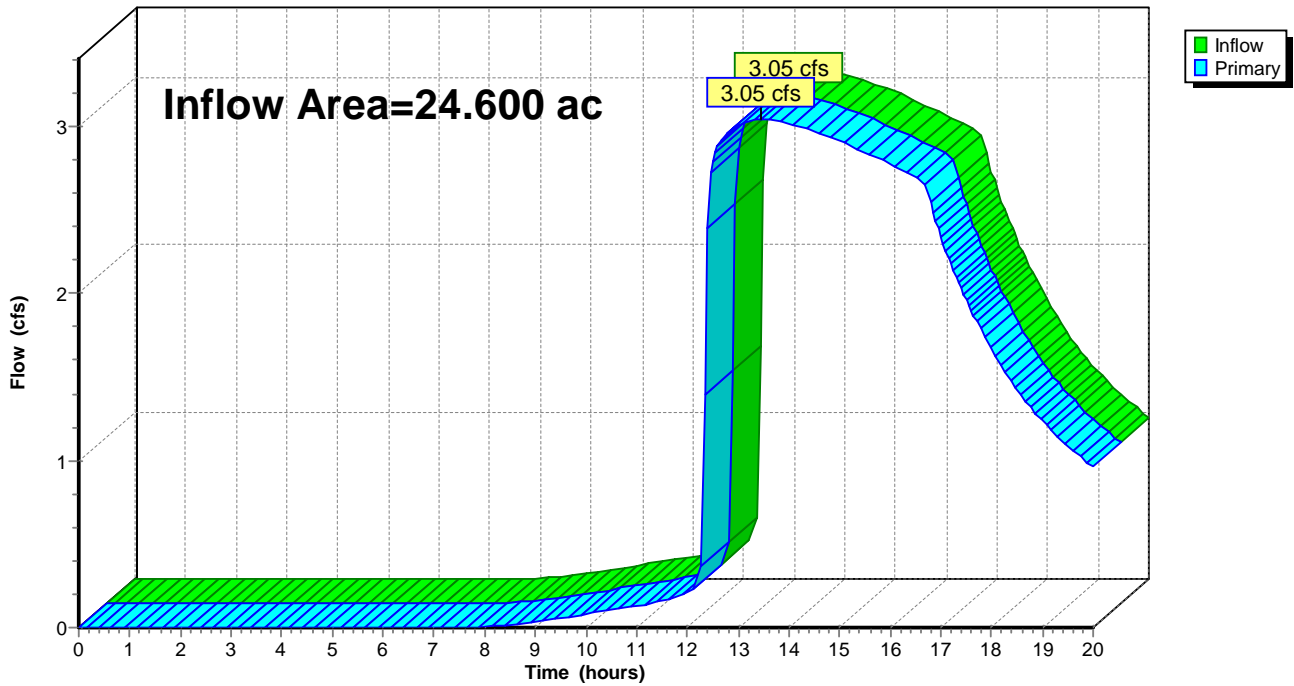
**Summary for Link 10L: (new Link)**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 0.74" for 1-Year event  
Inflow = 3.05 cfs @ 13.47 hrs, Volume= 1.516 af  
Primary = 3.05 cfs @ 13.47 hrs, Volume= 1.516 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 10L: (new Link)**

Hydrograph



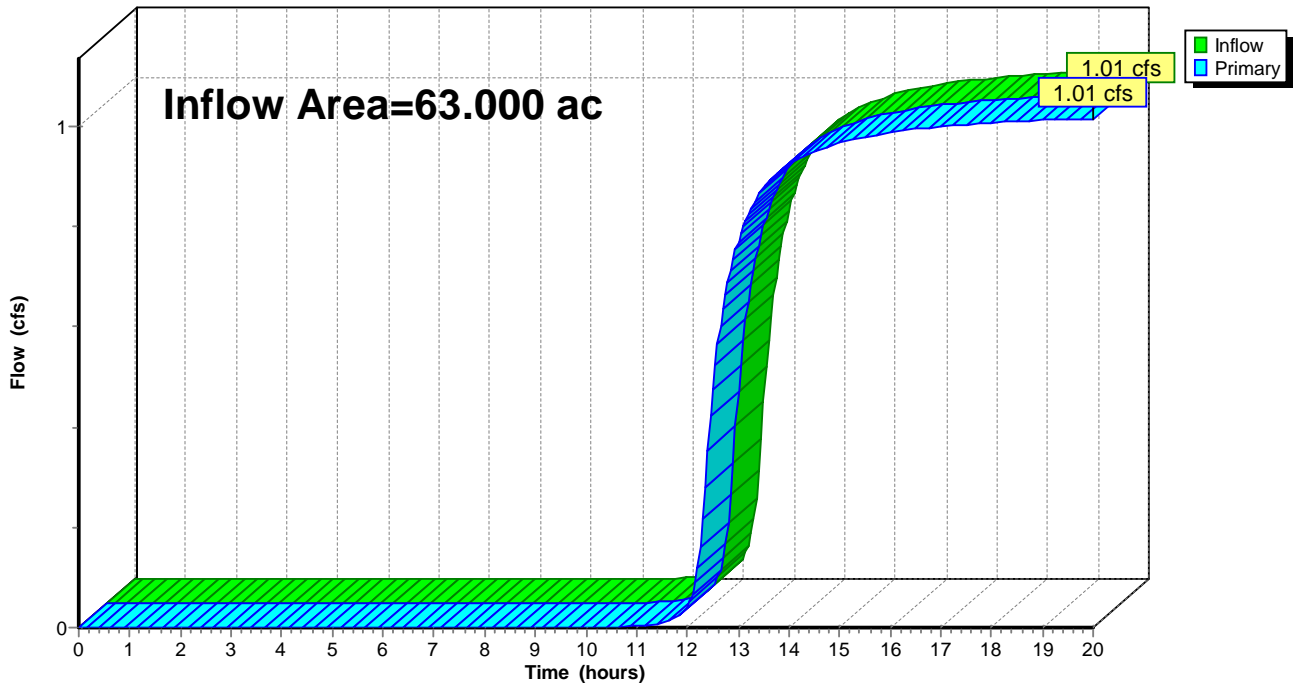
**Summary for Link 11L: (new Link)**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.11" for 1-Year event  
Inflow = 1.01 cfs @ 20.00 hrs, Volume= 0.602 af  
Primary = 1.01 cfs @ 20.00 hrs, Volume= 0.602 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 11L: (new Link)**

Hydrograph



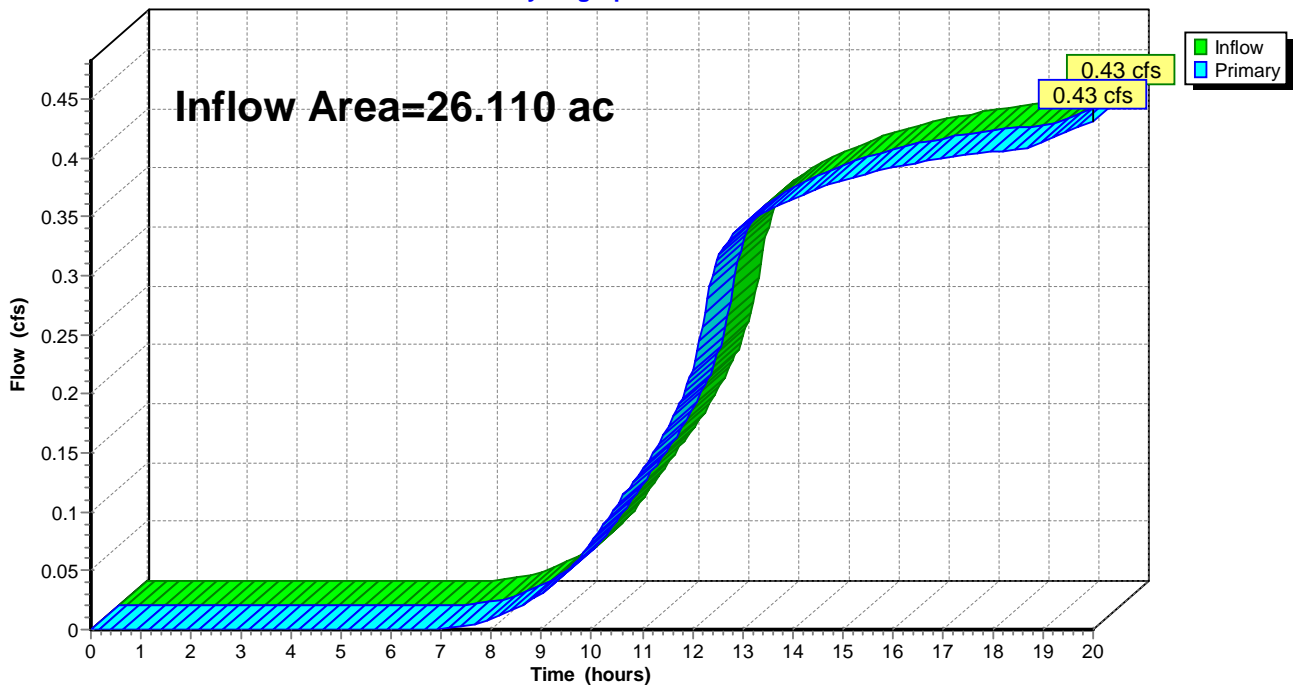
**Summary for Link 12L: (new Link)**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 0.13" for 1-Year event  
Inflow = 0.43 cfs @ 20.00 hrs, Volume= 0.282 af  
Primary = 0.43 cfs @ 20.00 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 12L: (new Link)**

Hydrograph



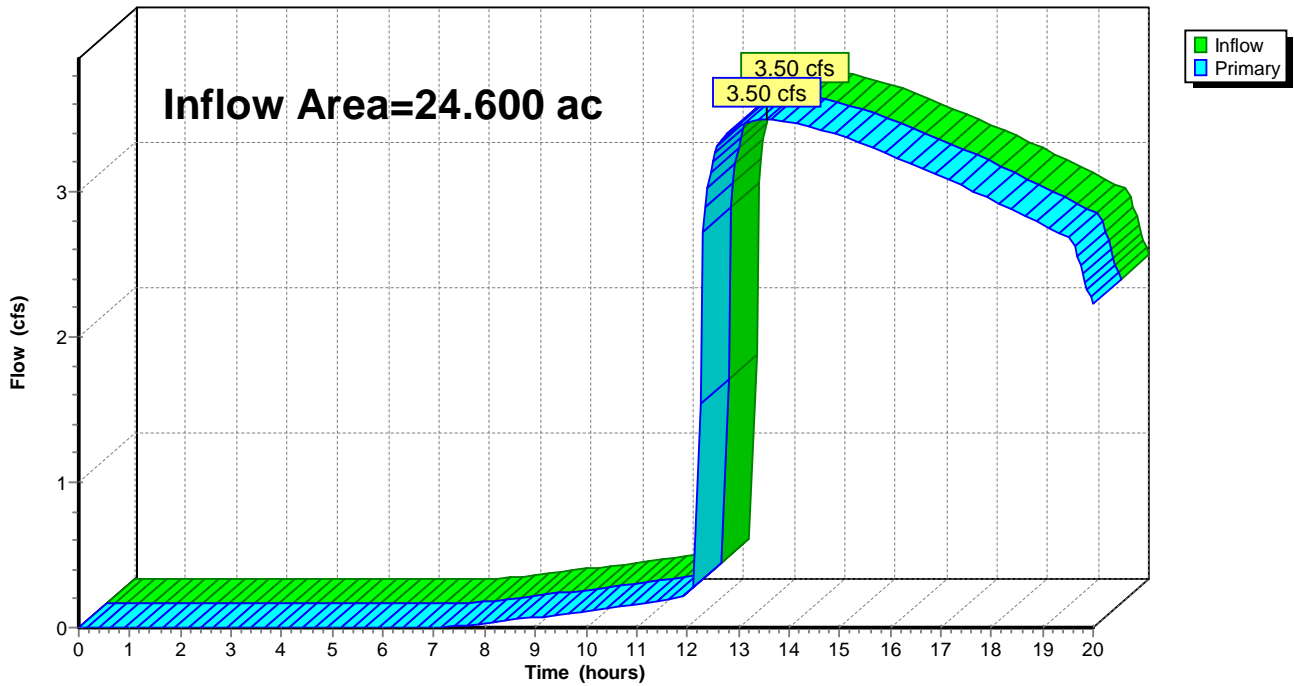
**Summary for Link 10L: (new Link)**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.01" for 2-Year event  
Inflow = 3.50 cfs @ 13.55 hrs, Volume= 2.063 af  
Primary = 3.50 cfs @ 13.55 hrs, Volume= 2.063 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 10L: (new Link)**

Hydrograph



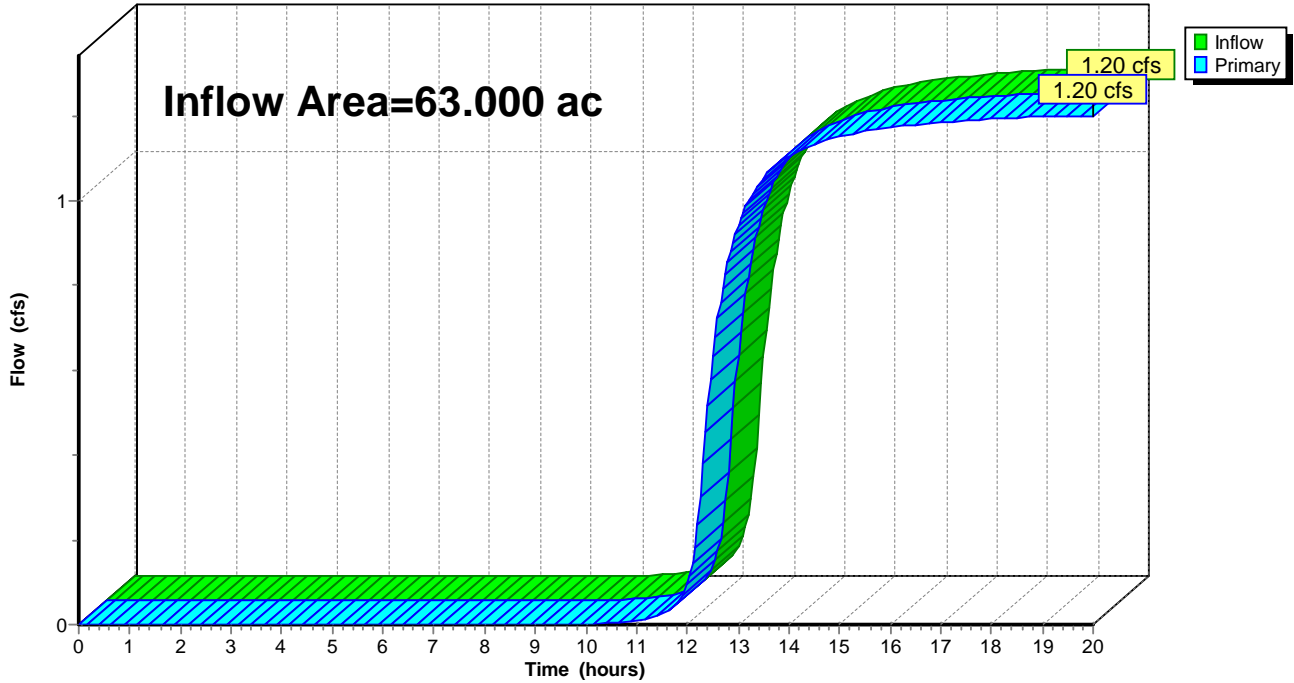
**Summary for Link 11L: (new Link)**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.14" for 2-Year event  
Inflow = 1.20 cfs @ 20.00 hrs, Volume= 0.721 af  
Primary = 1.20 cfs @ 20.00 hrs, Volume= 0.721 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 11L: (new Link)**

Hydrograph



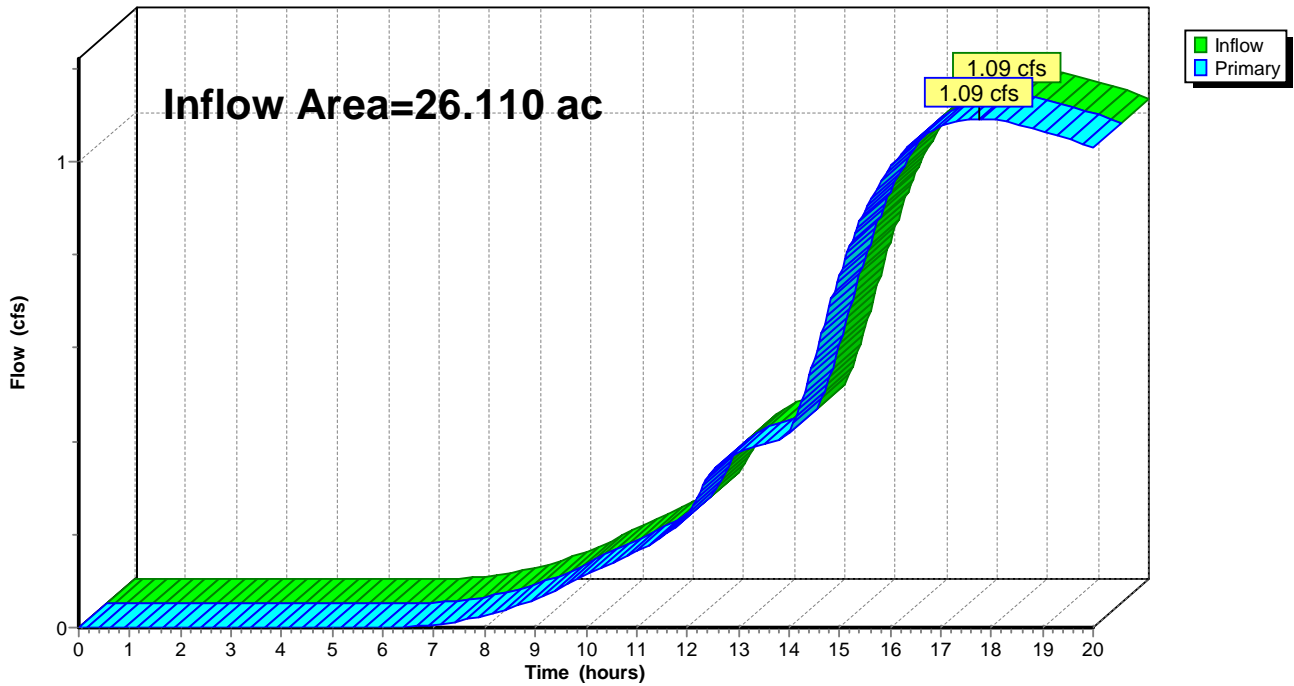
**Summary for Link 12L: (new Link)**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 0.26" for 2-Year event  
Inflow = 1.09 cfs @ 17.76 hrs, Volume= 0.575 af  
Primary = 1.09 cfs @ 17.76 hrs, Volume= 0.575 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 12L: (new Link)**

Hydrograph



# Amlin Crossing Preliminary SWM

Prepared by Kimley-Horn & Associates

HydroCAD® 10.20-2b s/n 02344 © 2021 HydroCAD Software Solutions LLC

NOAA 24-hr A 5-Year Rainfall=3.24"

Printed 6/7/2023

Page 8

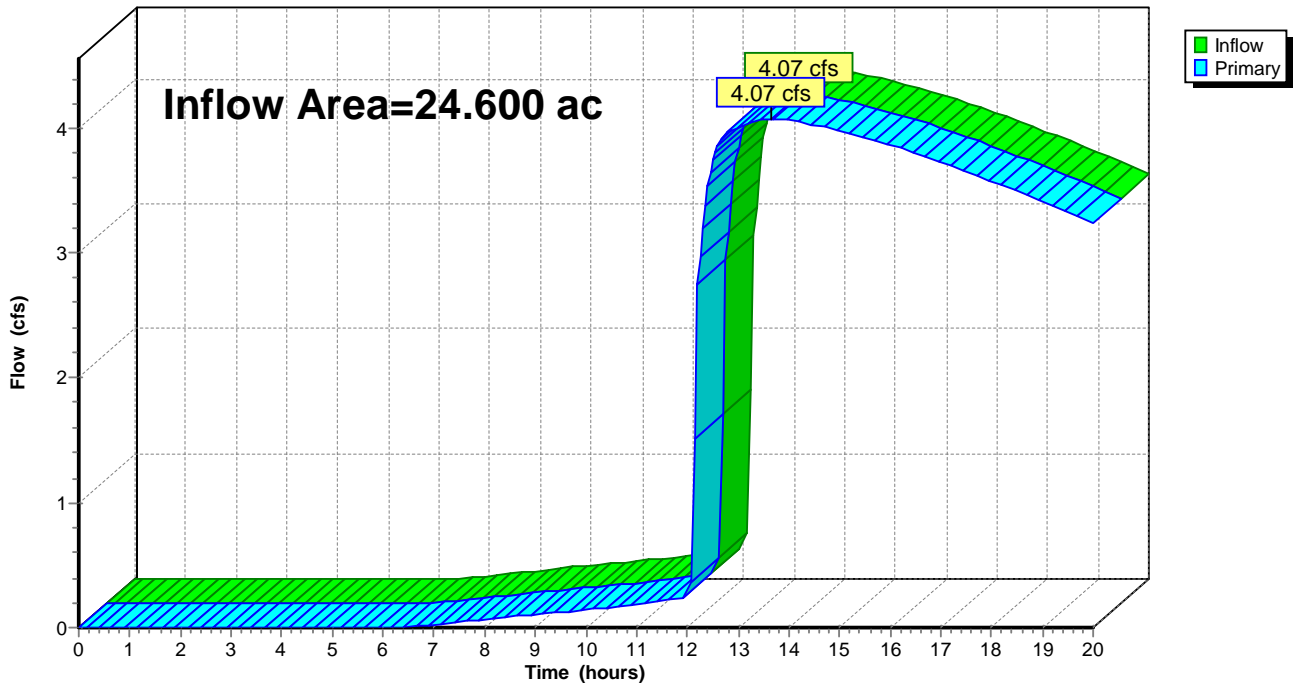
## Summary for Link 10L: (new Link)

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.21" for 5-Year event  
Inflow = 4.07 cfs @ 13.64 hrs, Volume= 2.490 af  
Primary = 4.07 cfs @ 13.64 hrs, Volume= 2.490 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

## Link 10L: (new Link)

Hydrograph





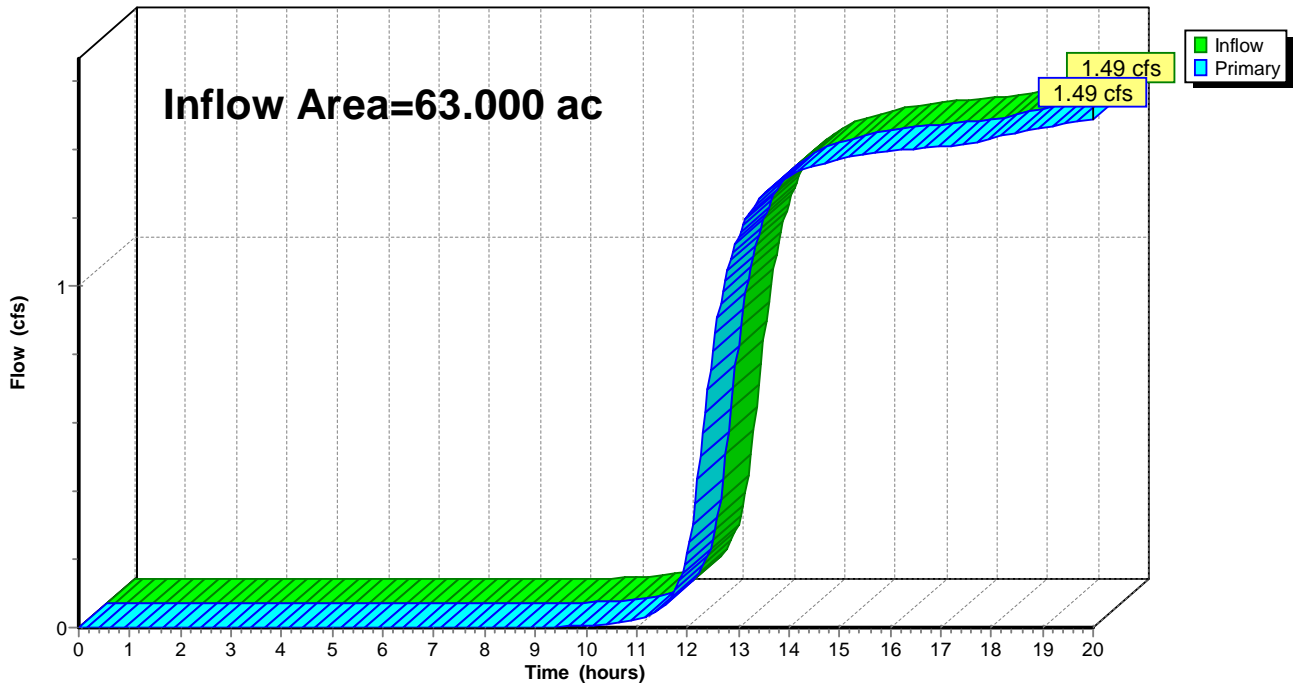
**Summary for Link 11L: (new Link)**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.17" for 5-Year event  
Inflow = 1.49 cfs @ 20.00 hrs, Volume= 0.879 af  
Primary = 1.49 cfs @ 20.00 hrs, Volume= 0.879 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 11L: (new Link)**

Hydrograph



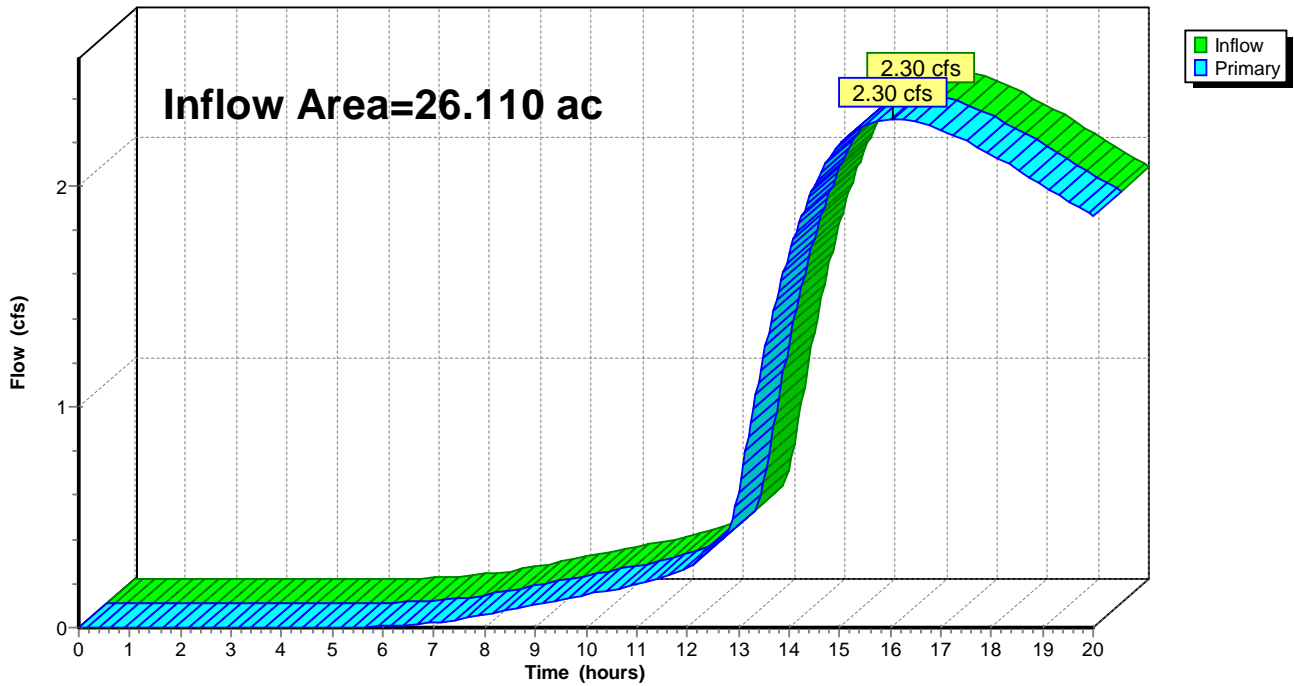
**Summary for Link 12L: (new Link)**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 0.57" for 5-Year event  
Inflow = 2.30 cfs @ 16.06 hrs, Volume= 1.241 af  
Primary = 2.30 cfs @ 16.06 hrs, Volume= 1.241 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 12L: (new Link)**

Hydrograph



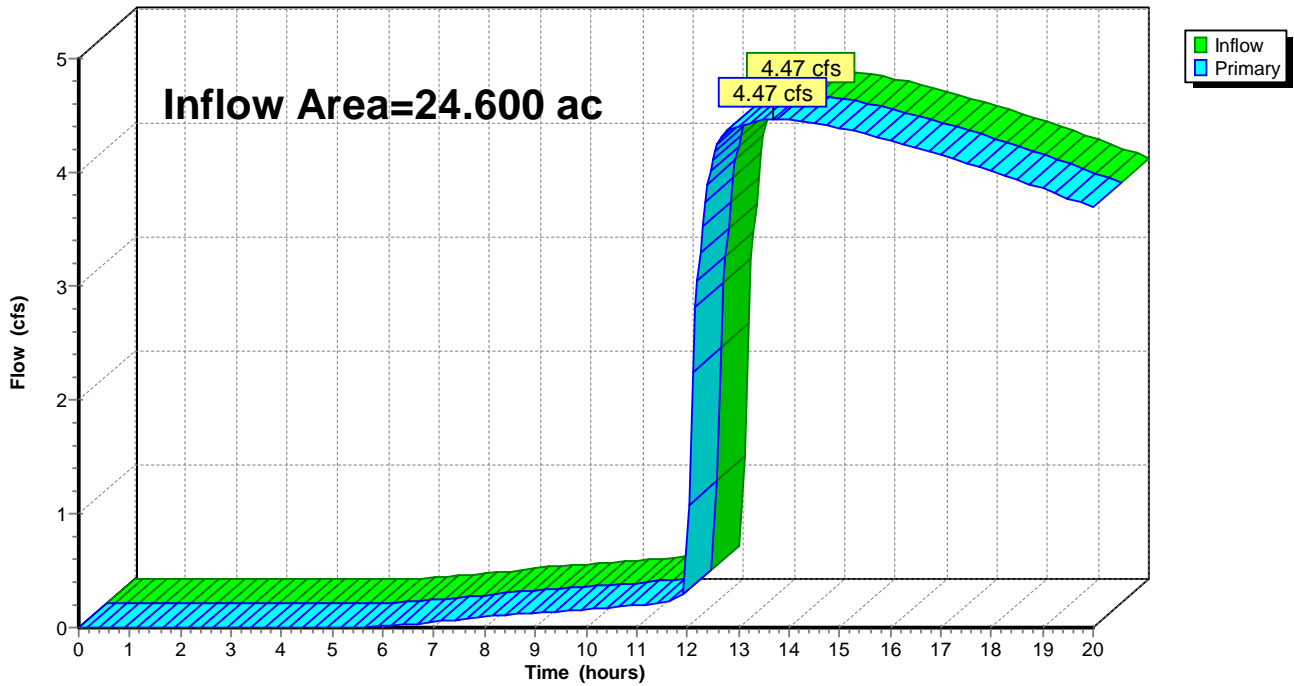
**Summary for Link 10L: (new Link)**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.36" for 10-Year event  
Inflow = 4.47 cfs @ 13.69 hrs, Volume= 2.792 af  
Primary = 4.47 cfs @ 13.69 hrs, Volume= 2.792 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 10L: (new Link)**

Hydrograph



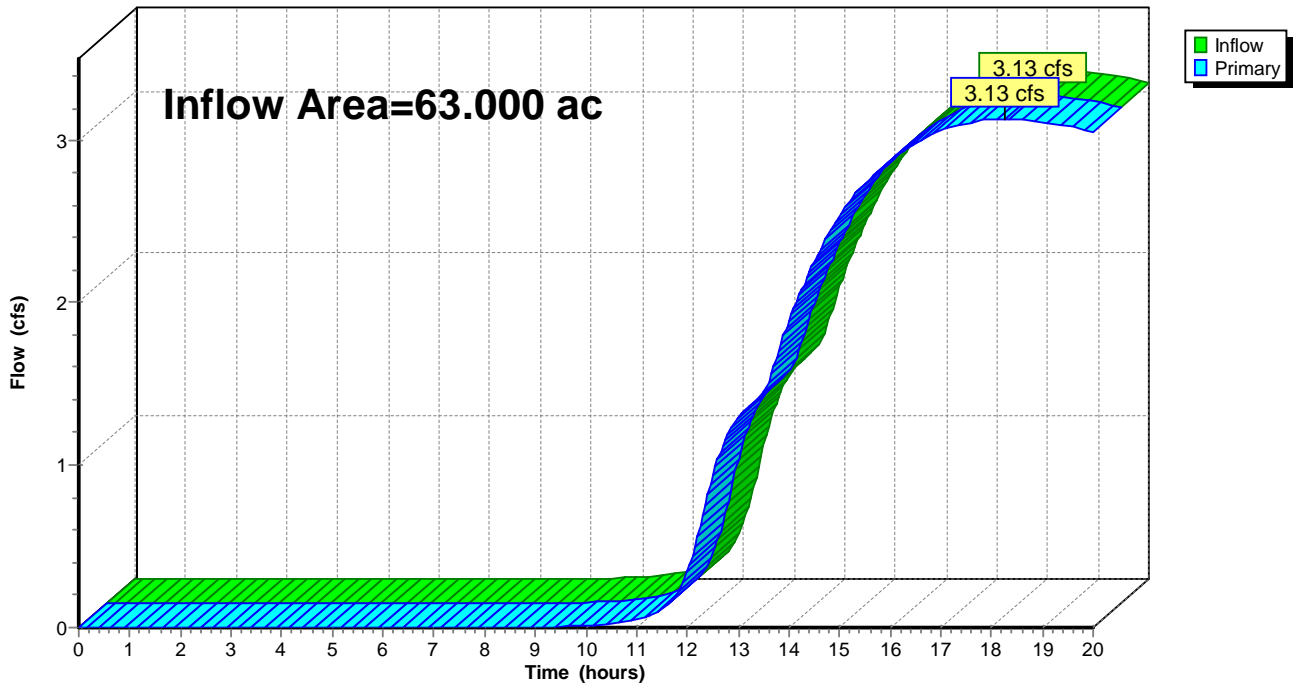
**Summary for Link 11L: (new Link)**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.31" for 10-Year event  
Inflow = 3.13 cfs @ 18.25 hrs, Volume= 1.643 af  
Primary = 3.13 cfs @ 18.25 hrs, Volume= 1.643 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 11L: (new Link)**

Hydrograph



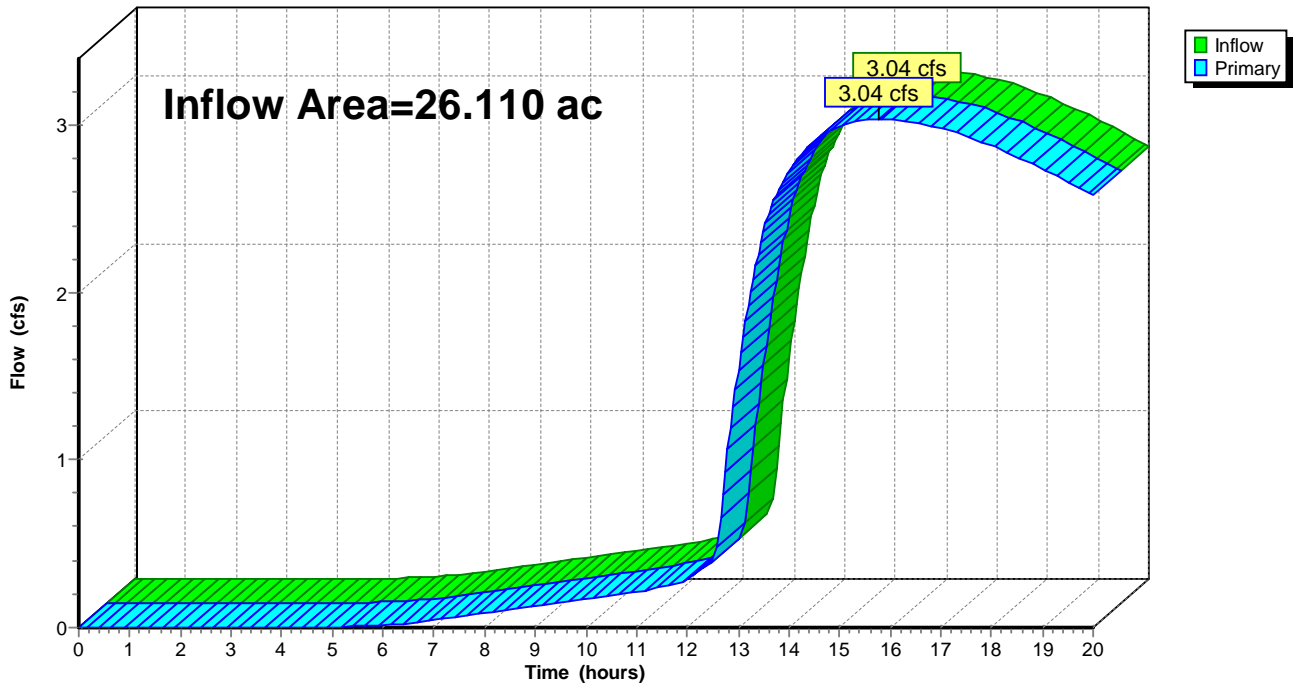
**Summary for Link 12L: (new Link)**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 0.80" for 10-Year event  
Inflow = 3.04 cfs @ 15.80 hrs, Volume= 1.746 af  
Primary = 3.04 cfs @ 15.80 hrs, Volume= 1.746 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 12L: (new Link)**

Hydrograph



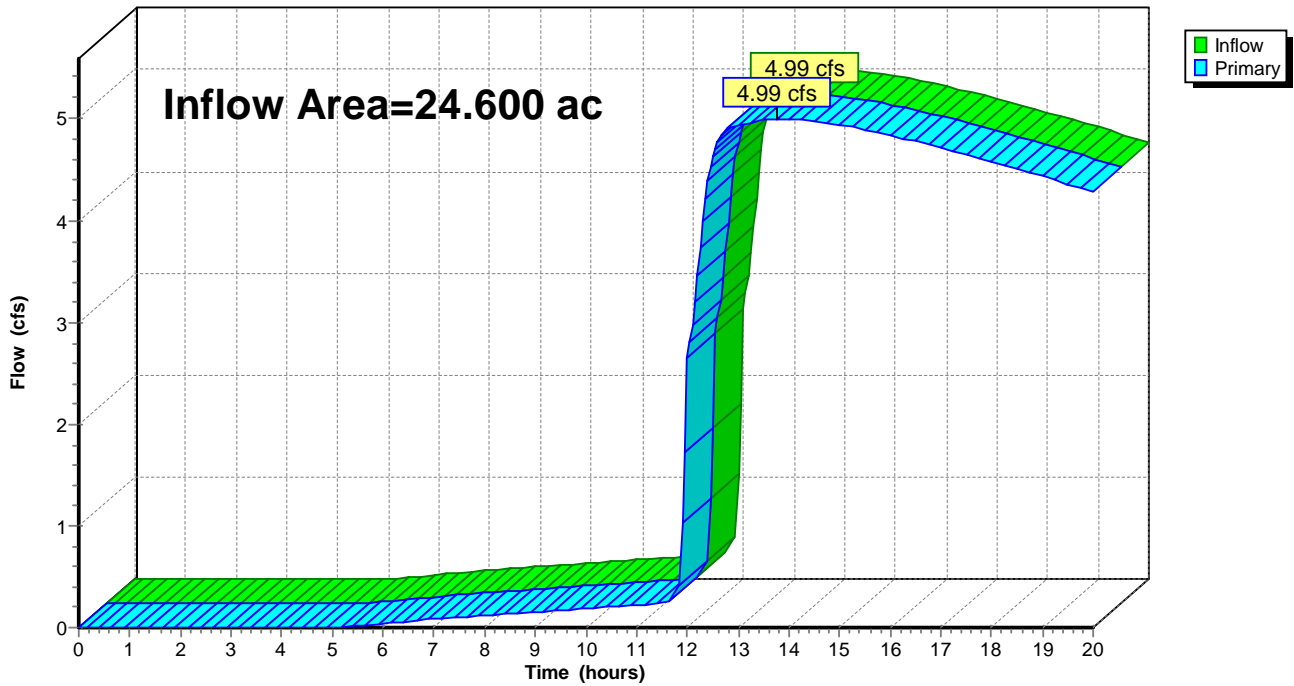
**Summary for Link 10L: (new Link)**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.56" for 25-Year event  
Inflow = 4.99 cfs @ 13.77 hrs, Volume= 3.193 af  
Primary = 4.99 cfs @ 13.77 hrs, Volume= 3.193 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 10L: (new Link)**

Hydrograph



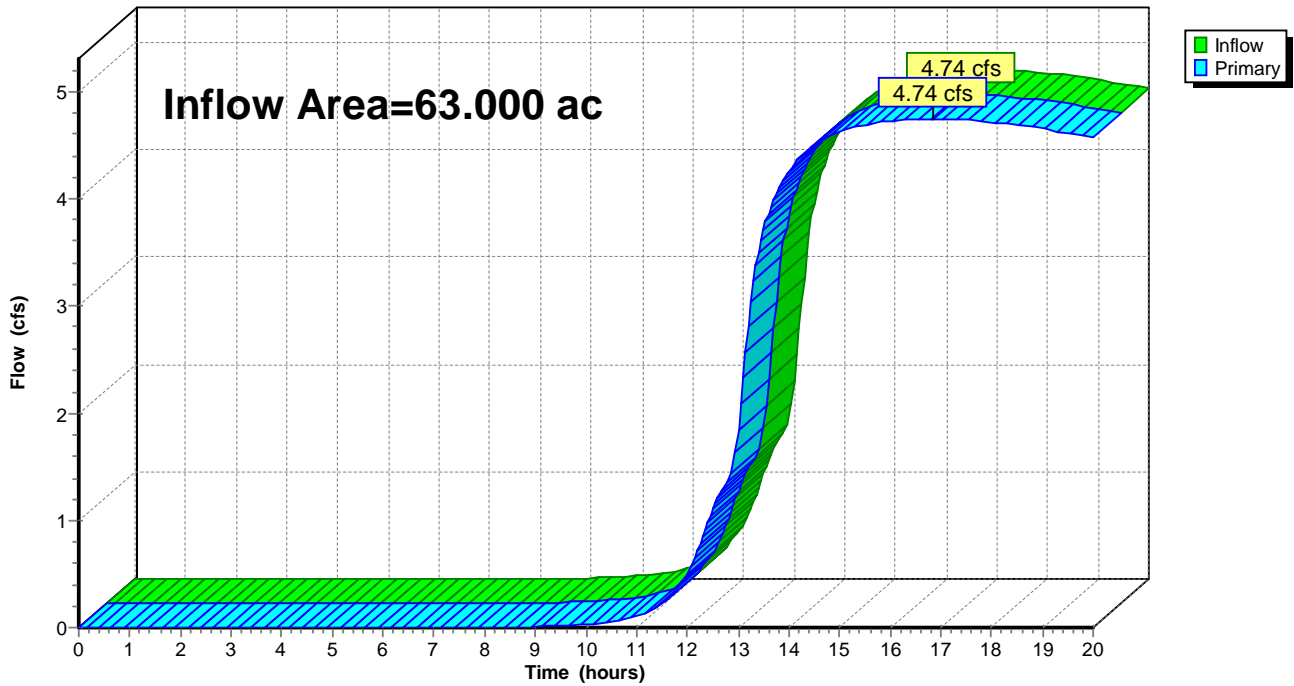
**Summary for Link 11L: (new Link)**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.52" for 25-Year event  
Inflow = 4.74 cfs @ 16.84 hrs, Volume= 2.721 af  
Primary = 4.74 cfs @ 16.84 hrs, Volume= 2.721 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 11L: (new Link)**

Hydrograph



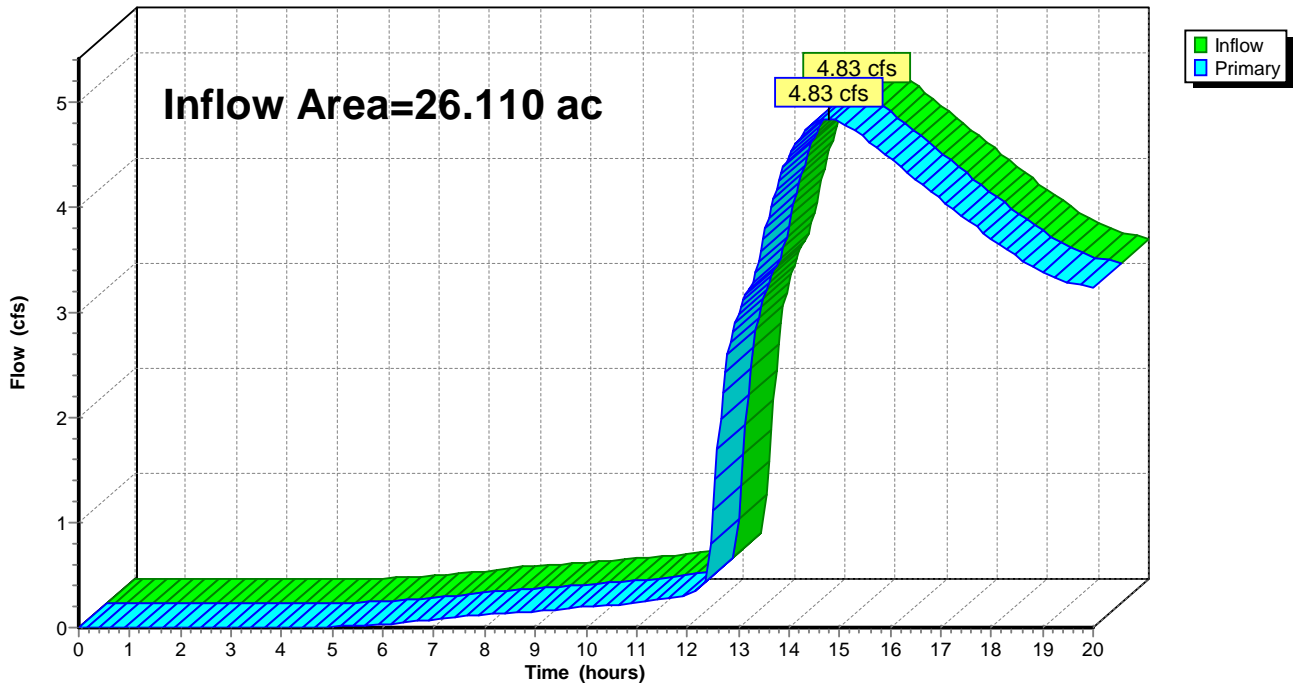
**Summary for Link 12L: (new Link)**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 1.16" for 25-Year event  
Inflow = 4.83 cfs @ 14.78 hrs, Volume= 2.523 af  
Primary = 4.83 cfs @ 14.78 hrs, Volume= 2.523 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 12L: (new Link)**

Hydrograph





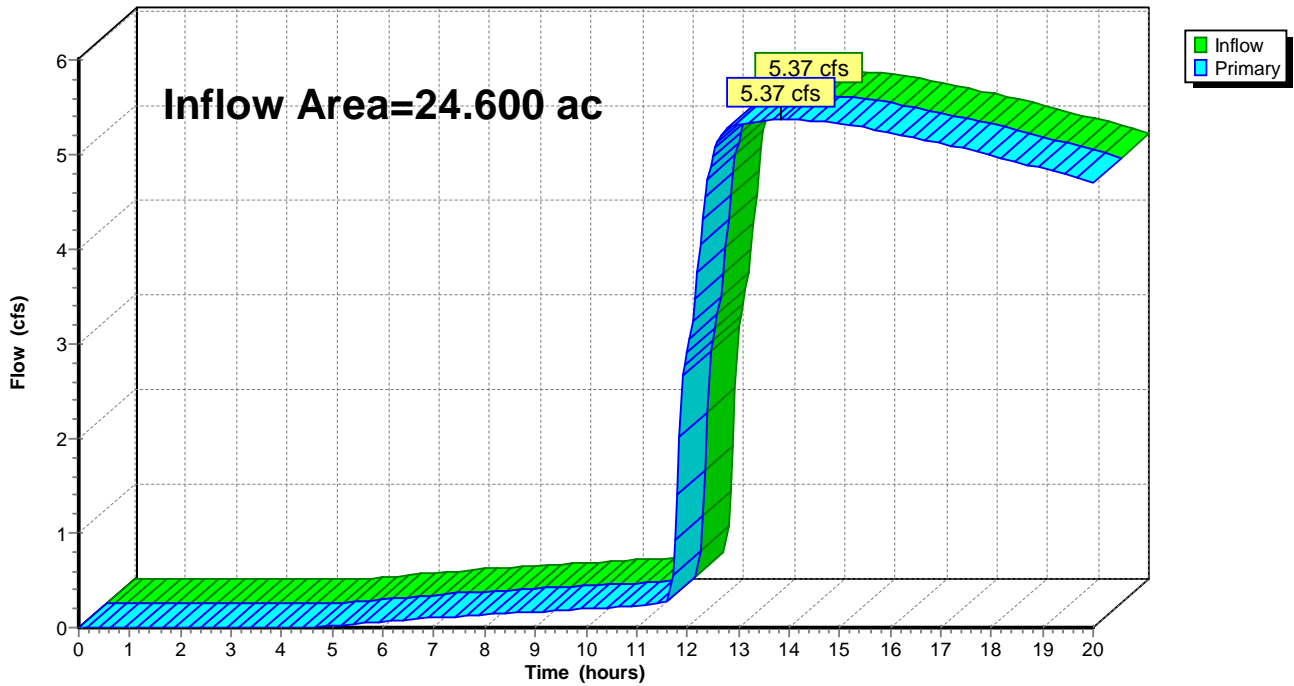
**Summary for Link 10L: (new Link)**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.70" for 50-Year event  
Inflow = 5.37 cfs @ 13.85 hrs, Volume= 3.490 af  
Primary = 5.37 cfs @ 13.85 hrs, Volume= 3.490 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 10L: (new Link)**

Hydrograph



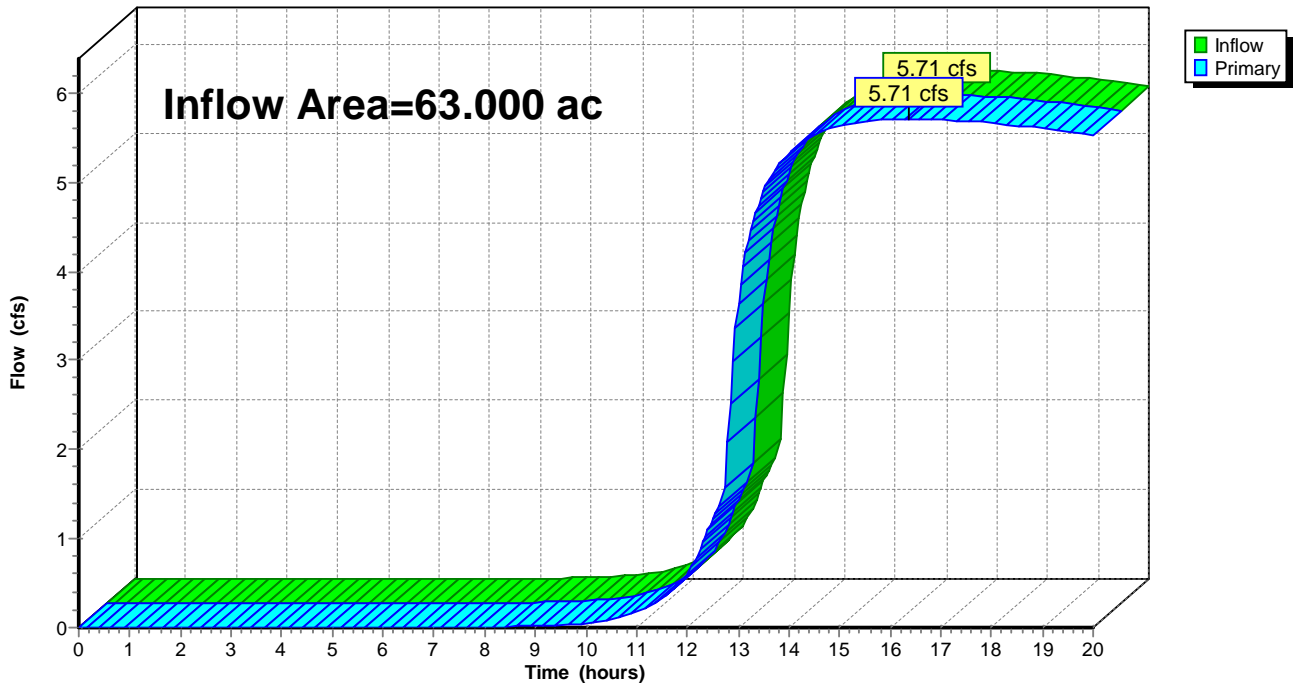
**Summary for Link 11L: (new Link)**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.64" for 50-Year event  
Inflow = 5.71 cfs @ 16.38 hrs, Volume= 3.361 af  
Primary = 5.71 cfs @ 16.38 hrs, Volume= 3.361 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 11L: (new Link)**

Hydrograph



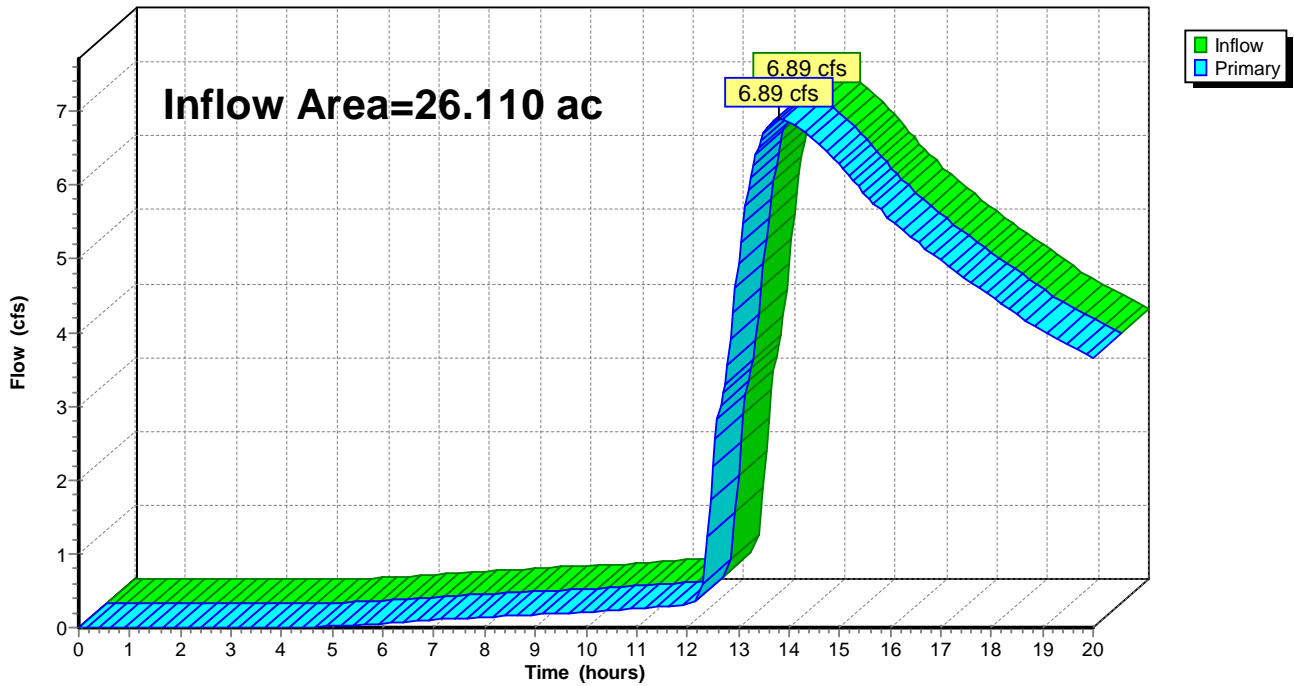
**Summary for Link 12L: (new Link)**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 1.53" for 50-Year event  
Inflow = 6.89 cfs @ 13.82 hrs, Volume= 3.329 af  
Primary = 6.89 cfs @ 13.82 hrs, Volume= 3.329 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 12L: (new Link)**

Hydrograph



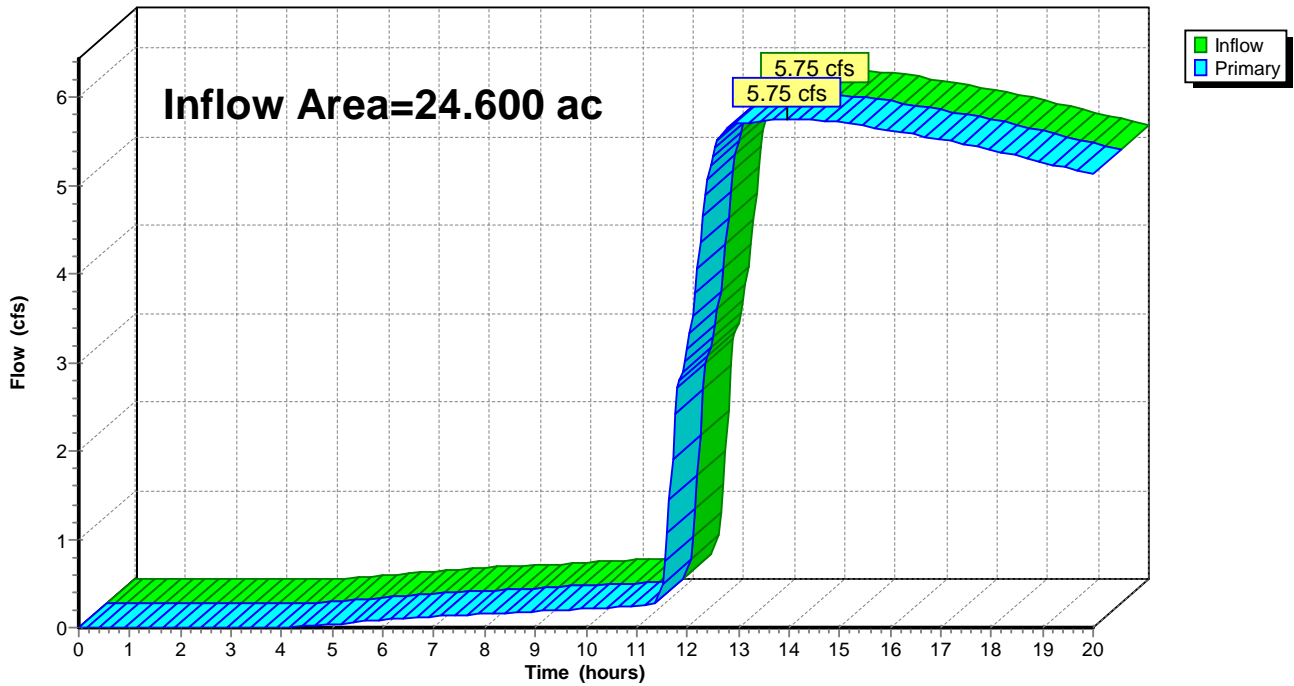
**Summary for Link 10L: (new Link)**

Inflow Area = 24.600 ac, 57.30% Impervious, Inflow Depth > 1.85" for 100-Year event  
Inflow = 5.75 cfs @ 13.96 hrs, Volume= 3.795 af  
Primary = 5.75 cfs @ 13.96 hrs, Volume= 3.795 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 10L: (new Link)**

Hydrograph



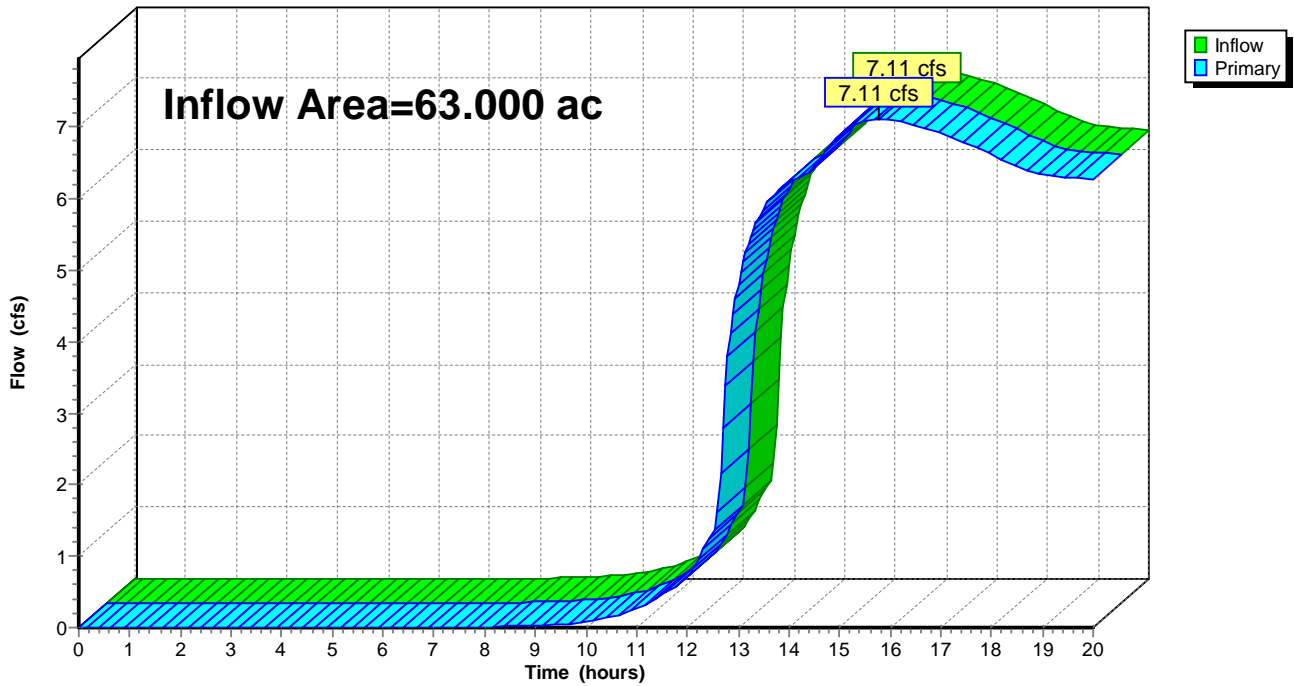
**Summary for Link 11L: (new Link)**

Inflow Area = 63.000 ac, 34.34% Impervious, Inflow Depth > 0.77" for 100-Year event  
Inflow = 7.11 cfs @ 15.77 hrs, Volume= 4.034 af  
Primary = 7.11 cfs @ 15.77 hrs, Volume= 4.034 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 11L: (new Link)**

Hydrograph



**Summary for Link 12L: (new Link)**

Inflow Area = 26.110 ac, 72.21% Impervious, Inflow Depth > 1.98" for 100-Year event  
Inflow = 10.80 cfs @ 13.42 hrs, Volume= 4.308 af  
Primary = 10.80 cfs @ 13.42 hrs, Volume= 4.308 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

**Link 12L: (new Link)**

Hydrograph

