APPENDIX K

PRELIMINARY DRAINAGE REPORT

PRELIMINARY DRAINAGE STUDY

Northwest Open Space Project

PROJECT ADDRESS:
Camino Capistrano
APN: 121-150-03, 18, 19, & 28

Legacy Ranch, LLC
Legacy Ranch Partners, LLC
Almquist
31801 Paseo Adelanto
San Juan Capistrano, CA 92675

DATE: 5/19/2026

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Section 1 – Project Description

Existing Conditions:

The approximately 65.5-acre project site is located at 30291 Camino Capistrano, within the NWOS Specific Plan Area in San Juan Capistrano, Orange County. The project site is bound by single- family residential uses to the north, Camino Capistrano to the east, The Groves Apartments (senior living residential community) to the south, and an Orange County Transportation Authority (OCTA)-owned rail line to the west used by Metrolink commuter rail and Amtrak's Pacific Surfliner route. Regional access is provided by Interstate 5 (I-5) east of the site, with direct access via Camino Capistrano.

The existing site includes the Swanner House at the north side of the property along Camino Capistrano, an existing wood frame barn on the northeast side of the site across Trabuco Creek, and Putuidem Village and dog park located towards the middle of the site.

The total existing impervious area is 20,086 square feet. The balance of the project is covered by vegetation.

Proposed Conditions:

The proposed project will redevelop the Legacy Ranch, which would consist of equestrian facilities, a chapel, an event space, agricultural uses, and active and passive recreational uses. Several of the existing site improvements shall remain including the Putuidem Village, existing dog park, and Swanner house. Generally, the redevelopment project will maintain the existing drainage pattern, as well.

Drive aisles and parking stalls and new buildings are provided throughout the site with landscaping maximized to a practical extent. Offsite improvements are not included in this project, as all the roadway and offsite utility infrastructure is already constructed.

Section 2 – Drainage Patterns

Existing Drainage Patterns:

The existing drainage pattern for this site is divided into 10 areas: 2.71 acres Northeast of Trabuco Creek (DA-A), 0.87 acres East of the creek (DA-B), and 46.63 acres on the Western portion of the site (DA-C through DA-J).

DA-A consists of 2.71 acres along the east side of Trabuco Creek. Stormwater is conveyed via sheet flow over existing landscape east to west where it outlets into Trabuco Creek.

DA-B consists of approximately 0.87 acres along the east side of Trabuco Creek. Stormwater is conveyed via sheet flow over existing landscape north to south where it outlets into Trabuco Creek.

DA-C is approximately 9.93 acres and drains southwest towards node 3010, where it then combines with DA-D flow originating from the northeast portion of the site. Combined flow then continues south, parallel to the railroad, and collects at a low point at node 3020 approximately 1,400 LF from the initial subarea. During larger storm events, overflow from the low point occurs and flows towards Outlet 3.

DA-D, located on the west side of the property, is approximately 7.24 acres which slopes southwest across primarily pervious surfaces (native vegetation and ground cover) towards the low point at node 3010, as mentioned in DA-C above. Stormwater flow then combines with DA-C and overflows towards Outlet 3 during higher storm volumes.

DA-E, located downstream of DA-C and DA-D, includes a 6.64 acre area conveying flow north to south towards Outlet 3 through area DA-F.

DA-F includes a 3.00 acre area located to the northwest of Trabuco Creek, that slopes from north to south towards Outlet 3. Runoff from areas DA-C, DA-D and DA-E are conveyed through this subarea.

DA-G, a 9.29 acre area just west of Trabuco Creek and east of DA-E, is sloped from north to south. Stormwater is conveyed via sheet flow across the subarea to the south and through DA-H to Outlet 5.

DA-H includes an area of 5.10 acres and is roughly 20ft lower in elevation than subarea DA-G. Stormwater flows from northeast to southwest into an undefined swale along the rim of Trabuco Creek. This swale conveys runoff to the southwest portion of the subarea, channeling into the Trabuco Creek at Outlet 5.

DA-I includes a 1.35 acre area at the southwest corner of the site, directing flowing into Outlet 3 via sheet flow.

DA-J, a 4.60 acre area northeast of subarea DA-D, directs flow north to south via sheet flow to Outlet 4 which discharges into the creek.

Proposed Drainage Patterns:

There are 10 major drainage management areas (DMA's). Based on factors such as the site plan, underlying soil, and topography, 3 of these areas designed to discharge stormwater into Trabuco Creek, while the remaining seven are designed to retain stormwater on-site.

DAs 1.2, 4.2–4.3, 5.4-5.5, 6.3-6.4, and 7.3-7.4 include drainage from proposed building roof runoff, which will be directly conveyed via piping to adjacent biofiltration areas. Treated flows, along with bypass flows from higher storm events, will then be conveyed downstream to the proposed on-site basins.

DA's 1-9, excluding the previously noted subareas, generally convey runoff along flow paths moving from the north to the south of the project site, collecting into proposed onsite basins. These basins are designed to retain any onsite storm water, and shall infiltrate within a 48 hour period.

Drainage Area 1 (DA-1) is split into two subareas DA 1.1 and DA 1.2. DA 1.1 includes 1.55 acres of landscape, pervious asphalt, and concrete in the surrounding area of the proposed brewery. Sheet flow across the northern section of the drive aisle which the conveys flow to an inlet in the SWC portion of the subarea. DA 1.2, includes 0.252 acres consisting of the proposed brewery, directly pipes roof runoff into the biofiltration area. Both subareas' outlets are piped directly to an underground storage chamber located under the northwest corner of the proposed parking lot. Stormwater inside the storage chamber will infiltrate back into the native soil. Once the underground storage chamber has reached maximum capacity, the storm water is piped out to daylight into the Trabuco Creek.

Drainage Area 2 (DA-2) includes 1.12 acres of landscape, pervious asphalt, and concrete sidewalk for the Proposed Brewery parking lot. Drainage is conveyed via sheet flow across the parking lot, which combines flow with the DA-1 inlet to the underground storage chamber. Stormwater inside the storage chamber will infiltrate back into the native soil. Once the underground storage chamber has reached maximum capacity, the storm water is piped out to daylight into the Trabuco Creek.

Drainage Area 3 (DA -3) consists of 0.89 acres of landscape, pervious asphalt, and concrete, southeast of DA-2. Drainage is conveyed via sheet flow through the parking lot towards a proposed inlet, located at the southeast portion of the subarea. Storm at is then piped to a proposed basin for capture. The low flow collected in the basin will infiltrate back into the native soil below. The high-flow collect will daylight out of a stormdrain and into the Trabuco Creek.

Drainage Area 4 consists of 4.53 acres and is subdivided into 3 sub-drainage areas. DA-4 consists of concrete, landscape, and proposed/existing buildings which all direct flow to a basin either through direct pipe or open flow through landscaping. The proposed basin retains all stormwater drainage.

Drainage Area 5 consists of 9.56 acres and is subdivided into 5 sub-drainage areas. DA-5 consists of concrete, landscape, and proposed/existing buildings which all direct flow to a basin either through direct pipe or open flow through landscaping. The proposed basin retains all stormwater drainage. A key consideration is subarea DA 5.2, which consists of agricultural land and has not been included in the modeling or calculations, as it is assumed to be self-retaining.

Drainage Area 6 (DA-6) consists of 7.54 acres and is subdivided into 5 sub-drainage areas. DA-6 consists of concrete, landscape, and proposed/existing buildings which all sheet flow to a basin on the westerly property line. The proposed basin retains all stormwater drainage.

Drainage Area 7 (DA-7) consists of 5.10 acres and is subdivided into 4 sub-drainage areas. DA-7 consists of concrete, landscape, and proposed/existing buildings, arena and stage which all sheet flow to the nearest possible basin. In this area, there will be an interconnected basin designed to balance the runoff through a connecting pipe. The proposed basins retain all stormwater drainage.

Drainage Area 8 (DA-8) consists of 4.65 acres and is subdivided into 3 sub-drainage areas. DA-8 consists of the parking stalls and proposed building which all sheet flow to a proposed basin. The proposed basin retains all stormwater drainage.

Drainage Area 9 (DA-9) consists of the 2.77 acre, the Village of Putuidem, which has been assumed to retain all stormwater. No improvements will be added to alter the existing drainage. There will be no runoff contributing to surrounding proposed drainage systems.

Drainage Area 10 (DA-10) consists of a series of equine exercise trails composed primarily of landscaped, pervious surfaces. Based on recorded infiltration rates and the high percentage of pervious area, these areas are assumed to retain and treat stormwater within their limits. As for the rest of Drainage Area 9 will remain as the existing condition with exceptions of decomposed granite pathways added.

See the Drainage Maps hereon for more information.

Excavation:

The anticipated maximum excavation for proposed stormwater drainage facilities is approximately 8.5 ft from existing finished grade with roughly 110 cubic yards excavated. This occurs for the underground storage located in Drainage Area 1.

Run-On:

There is no run-on from adjacent properties or public roadways at this site, aside from flows within Trabuco Creek that are fully contained with the creek.

Flood Zone:

Based on the latest FEMA FIRM map (06059C0443J dated 12/3/2009), the areas outside of Trabuco Creek are located in Zone X which is defined as areas with minimal flood hazard. This is specified as a 0.2% annual chance flood hazard, and areas of 1% annual chance flood with average depths less than one foot or with drainage areas of less than one square mile.

Trabuco Creek is located in a Zone AE floodway with base flood elevations established. No work is proposed within the floodway.

Hydromodification:

The project drainage flows south downstream and is captured in Trabuco Creek adjacent to the railroad. Trabuco Creek will require water treatment prior to reaching any outlets, however, the creek is exempt from hydromodification.

Ground Water:

According to the GMU geotechnical report, groundwater is encountered at depths ranging from 20' to 50' below existing grade. Dewatering will not be required, as the proposed excavations do not extend this deep.

Soil Classification:

According to the GMU geotechnical report, Type B soils are specified east of Trabuco Creek, while Type C soils are specified west of Trabuco Creek.

Section 3 – Methodology

Runoff Determination Methods:

The two primary methods used in the Orange County area to determine design discharges are the Rational Method and the Unit Hydrograph (SCS) method. The Rational Method is generally intended for use on small watersheds of less than 300 to 500-acres while the Synthetic Unit Hydrograph method is intended for use on watersheds in excess of these limits. For the purposes of this report, we will be using the Rational Method for the 25- & 100-year storm event for the proposed conditions due to the retention facilities and the Rational Method for the existing conditions.

The Rational method is commonly used for determining peak discharge from relatively small drainage areas. The Rational method is based on the following equation:

$$Q = C \times I \times A$$

Where:

Q = peak discharge, in cubic feet per second (cfs)

C = runoff coefficient, proportion of the rainfall that runs off the surface (no units)

A = drainage area contributing to the design location, in acres

For this study, HydroCAD software was used to model the Rational Method for each drainage area on the proposed site.

The Tc values for each subarea were determined using nomographs from Figure D-1 from the OC Hydrology Manual. These Tc values are directly input for each subarea in the HydroCAD model. A Tc of 5 minutes was applied to initial subareas with calculated Tc values less than 5 minutes, such as subareas where roof drains are directly piped to proposed basins through overflow biofiltration areas.

The runoff coefficient (C) for each surface cover is also directly input for each subarea. Runoff coefficients were determined in accordance with the Orange County Hydrology Manual using HydroCAD, which applies the manual's recommended values for each land use type. The following factor was used for calculation of the runoff coefficient:

Each subarea is entered into the HydroCAD model as a Subcatchment and linked to a downstream node. A Subcatchment is defined in the HydroCAD manual as *"a relatively homogenous area of land that typically drains into a reach or pond."* A Reach is defined as *"a uniform stream, channel, or pipe that conveys water from one point to another"*. A Pond is defined as *"a pond, swamp, dam, catch basin, manhole, drywell, or other impoundment that fills with water from one or more souces and empties in a manner determined by a weir,*

culvert, or other outlet device(s).” A Pond is also used to model the end point of the drainage study. A model of the drainage catchment area was created using Subcatchments, Reaches and Ponds. A diagram of the model is included in the Appendix for the existing and proposed conditions.

In the HydroCAD program, the rainfall duration and corresponding peak flow rate are calculated based on the Tc for each subarea using the Rational Method for the frequency storm specified. The program allows for the 2-, 5-, 10-, 25-, 50- and 100-year storm frequencies. As noted above, the 25- & 100-year storm frequency will be calculated in this study.

Hydraulic Calculation Methods:

Since this is a preliminary report, hydraulic calculations are not included, however, the final report will include calculations using Hydraulic Toolbox, which will be used for this study to calculate pipe capacity, street flow capacity and catch basin sizing. This is a federally approved program and is generally accepted in Orange County.

Detention Modeling:

The OC Hydrology Manual uses the Modified Puls method (also referred to as the Storage-Indication Method) for detention basin modeling. HydroCAD uses several methods for reach routing, including the Storage-Indication Method. For this project, we selected the Storage-Indication Method for analyzing detention basin routing. This method was used within the Rational Method model to evaluate time-discharge rates for the two underground storage chamber systems. Please see the calculations in the Appendix for details.

Section 4 – Calculations

Using HydroCAD software, the proposed runoff for the project has been calculated for the 25- & 100-Year Storm Events. The HydroCAD software was used as it models retention basins better than most Orange County approved software. Existing runoff has been calculated utilizing AES software to determine the 25- & 100-Year storm event peak flow rates into the Trabuco Creek. A model was created based on the drainage areas for the existing and proposed conditions. See the Appendix for details.

Section 5 – Summary

As shown in the calculations and table below, runoff from the project will be significantly decreased with the development of the project as most storm water is retained onsite. Since the project is able to maintain a runoff less than that of the pre-developed conditions, no adverse effects will occur to the ultimate downstream conveyance system.

25-yr Storm Event

25-yr Storm	Trabuco Creek Outlet #1 (cfs)	Trabuco Creek Outlet #2 (cfs)	Trabuco Creek Outlet #3 (cfs)	Trabuco Creek Outlet #4 (cfs)	Trabuco Creek Outlet #5 (cfs)	Totals
Existing Condition	7.58	2.55	48.06	9.64	26.13	93.96
Proposed Condition	0.90	0.45	7.67	0	18.61	27.63
Difference	-6.68	-2.1	-40.39	-9.64	-7.52	-66.33

100-yr Storm Event

100-yr Storm	Trabuco Creek Outlet #1 (cfs)	Trabuco Creek Outlet #2 (cfs)	Trabuco Creek Outlet #3 (cfs)	Trabuco Creek Outlet #4 (cfs)	Trabuco Creek Outlet #5 (cfs)	Totals
Existing Condition	9.87	3.32	62.72	12.52	33.02	121.46
Proposed Condition	4.50	0.69	9.85	0	23.90	38.94
Difference	-5.37	-2.63	-52.87	-12.52	-9.12	-82.52

Appendix

Calculations for the following are included in the Appendix:

- Existing Development Drainage Map and Calculations
- Nomographs for proposed subareas for initial Tc.
- Proposed Development Drainage Map and Calculations

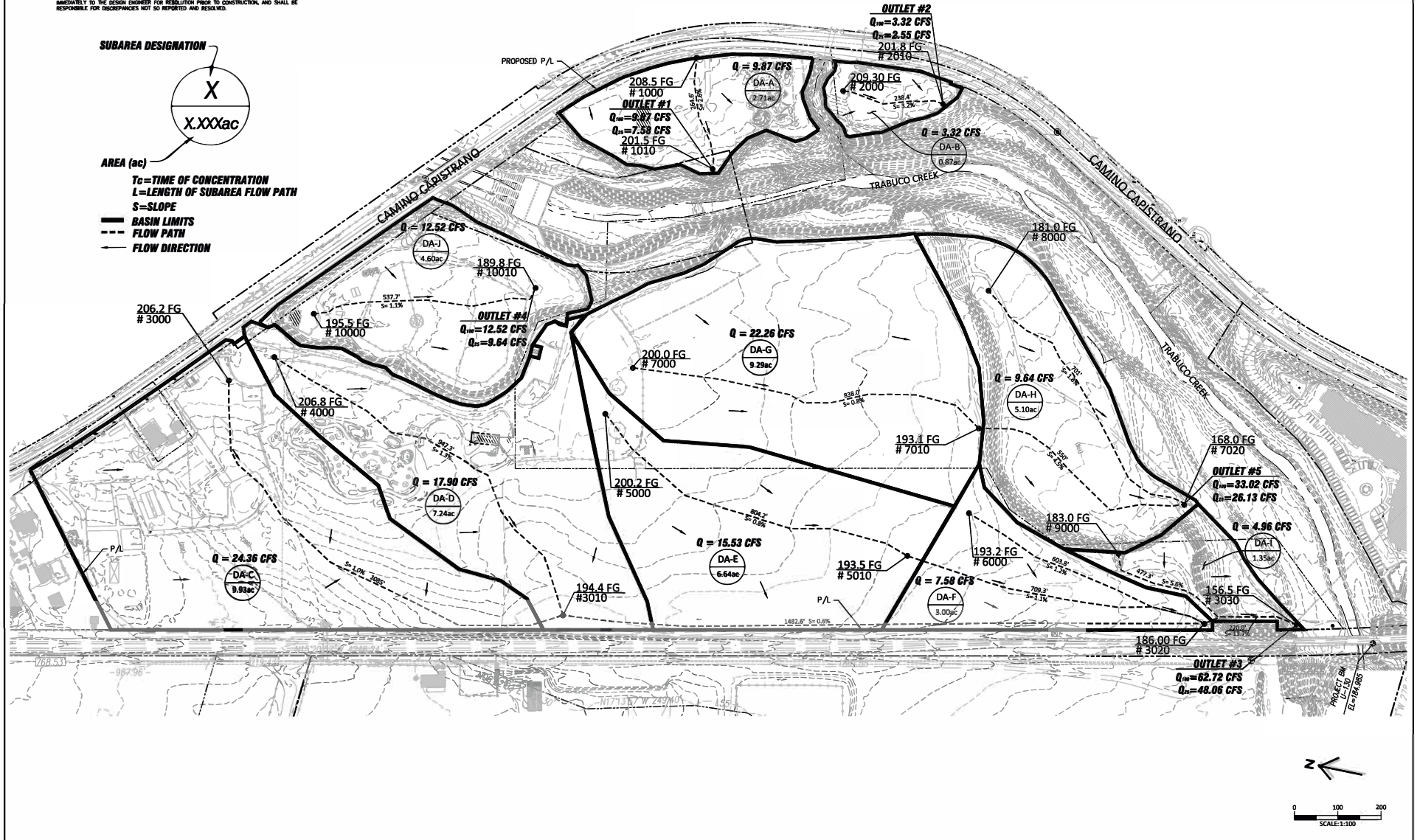
EXISTING DEVELOPMENT

PRIVATE ENGINEER'S NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN IN THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS, AND TO THE BEST OF OUR KNOWLEDGE, THERE ARE NOT EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN, AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS, AND IS RESPONSIBLE FOR THE PROTECTION OF AND ANY DAMAGE TO THESE LINES OR STRUCTURES.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY, ITS EMPLOYEES, AND AGENTS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

THE CONTRACTOR SHALL BE RESPONSIBLE TO REPORT DISCREPANCIES IN PLANS AND/OR FIELD CONDITIONS IMMEDIATELY TO THE DESIGN ENGINEER FOR RESOLUTION PRIOR TO CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR DISCREPANCIES NOT SO REPORTED AND RESOLVED.



REVISION RECORD		
#	DATE	DESCRIPTION

NORTHWEST OPEN SPACE

CAMINO CAPISTRANO
SAN JUAN CAPISTRANO, CA

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(208) 918-0826
tyler@c3civileng.com
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C3 CIVIL ENGINEERING

PROFESSIONAL SEAL

REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

DATE: 05/19/2026
C3 JOB NO:23-001
DRAWN BY:NM
CHECKED BY:TH

SHEET TITLE

EXISTING DRAINAGE MAP

SHEET NUMBER

1 of 2

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          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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           Ver. 23.0  Release Date: 07/01/2016  License ID 1744

                          Analysis prepared by:




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                SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
                         *DATA BANK RAINFALL USED*
    *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
   HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
    WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
 NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
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              as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
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                 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.379
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   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

LAND USE	GROUP	(ACRES)	(INCH/HR)	(DECIMAL)	CN	(MIN.)
		RESIDENTIAL				
".4 DWELLING/ACRE"	B	2.71	0.30	0.900	56	9.38

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.30
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.900
SUBAREA RUNOFF(CFS) = 7.58
TOTAL AREA(ACRES) = 2.71 PEAK FLOW RATE(CFS) = 7.58

==========

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 2.7 TC(MIN.) = 9.38
EFFECTIVE AREA(ACRES) = 2.71 AREA-AVERAGED Fm(INCH/HR)= 0.27
AREA-AVERAGED Fp(INCH/HR) = 0.30 AREA-AVERAGED Ap = 0.900
PEAK FLOW RATE(CFS) = 7.58

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END OF RATIONAL METHOD ANALYSIS

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                        Analysis prepared by:
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                SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
                        *DATA BANK RAINFALL USED*
    *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
   HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
    WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
 NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
 1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

                    GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
                     1. Relative Flow-Depth =  0.00 FEET
              as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
                 2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
                    *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
                     OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
      *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

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                *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.529
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   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

LAND USE	GROUP	(ACRES)	(INCH/HR)	(DECIMAL)	CN	(MIN.)
		RESIDENTIAL				
".4 DWELLING/ACRE"	B	0.87	0.30	0.900	56	8.69

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.30
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.900
SUBAREA RUNOFF(CFS) = 2.55
TOTAL AREA(ACRES) = 0.87 PEAK FLOW RATE(CFS) = 2.55

==========

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 0.9 TC(MIN.) = 8.69
EFFECTIVE AREA(ACRES) = 0.87 AREA-AVERAGED Fm(INCH/HR)= 0.27
AREA-AVERAGED Fp(INCH/HR) = 0.30 AREA-AVERAGED Ap = 0.900
PEAK FLOW RATE(CFS) = 2.55

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END OF RATIONAL METHOD ANALYSIS

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                          Analysis prepared by:




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                         *DATA BANK RAINFALL USED*
    *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
   HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
    WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
 NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
=== ===== ========== ================== ====== ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

                    GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
                     1. Relative Flow-Depth =  0.00 FEET
              as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
                 2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
                    *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
                     OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
       *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

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      FLOW PROCESS FROM NODE  10000.00 TO NODE  10010.00 IS CODE =  21
--------------------------------------------------------------------------
              >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
          >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
                  INITIAL SUBAREA FLOW-LENGTH(FEET) =   537.70
  ELEVATION DATA: UPSTREAM(FEET) =    195.50  DOWNSTREAM(FEET) =    189.80

                Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
                SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   14.951
                 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.595
                      SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

LAND USE	GROUP	(ACRES)	(INCH/HR)	(DECIMAL)	CN	(MIN.)
		RESIDENTIAL				
".4 DWELLING/ACRE"	C	4.52	0.25	0.900	69	14.95

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.25
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.900
SUBAREA RUNOFF(CFS) = 9.64
TOTAL AREA(ACRES) = 4.52 PEAK FLOW RATE(CFS) = 9.64

==========

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 4.5 TC(MIN.) = 14.95
EFFECTIVE AREA(ACRES) = 4.52 AREA-AVERAGED Fm(INCH/HR)= 0.22
AREA-AVERAGED Fp(INCH/HR) = 0.25 AREA-AVERAGED Ap = 0.900
PEAK FLOW RATE(CFS) = 9.64

==========
==========

END OF RATIONAL METHOD ANALYSIS

```
**************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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                          Analysis prepared by:

                            C3 Civil Engineering, LLC
                              Northwest Open Space
                             San Juan Capistrano, CA

--------------------------------------------------------------------------
  FILE NAME: 01O525.DAT
  TIME/DATE OF STUDY: 08:13 05/19/2026
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.    (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)   (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
  FLOW PROCESS FROM NODE   3000.00 TO NODE   3010.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   970.20
  ELEVATION DATA: UPSTREAM(FEET) =    206.90  DOWNSTREAM(FEET) =    194.40

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   18.208
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.321
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
        LAND USE           GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  ".4 DWELLING/ACRE"         C        9.93      0.25     0.900    69   18.21
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  SUBAREA RUNOFF(CFS) =     18.73
  TOTAL AREA(ACRES) =      9.93   PEAK FLOW RATE(CFS) =     18.73
```

```
****************************************************************************
 FLOW PROCESS FROM NODE   3010.00 TO NODE   3010.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   18.21
 RAINFALL INTENSITY(INCH/HR) =   2.32
 AREA-AVERAGED Fm(INCH/HR) =  0.22
 AREA-AVERAGED Fp(INCH/HR) =  0.25
 AREA-AVERAGED Ap =  0.90
 EFFECTIVE STREAM AREA(ACRES) =       9.93
 TOTAL STREAM AREA(ACRES) =       9.93
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      18.73

****************************************************************************
 FLOW PROCESS FROM NODE   4000.00 TO NODE   3010.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   947.20
 ELEVATION DATA: UPSTREAM(FEET) =    206.80  DOWNSTREAM(FEET) =    194.40

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   17.977
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.338
 SUBAREA Tc AND LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 RESIDENTIAL
 ".4 DWELLING/ACRE"          C        7.24      0.25     0.900    69   17.98
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
 SUBAREA RUNOFF(CFS) =     13.77
 TOTAL AREA(ACRES) =      7.24   PEAK FLOW RATE(CFS) =     13.77

****************************************************************************
 FLOW PROCESS FROM NODE   3010.00 TO NODE   3010.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =   17.98
 RAINFALL INTENSITY(INCH/HR) =   2.34
 AREA-AVERAGED Fm(INCH/HR) =  0.22
 AREA-AVERAGED Fp(INCH/HR) =  0.25
 AREA-AVERAGED Ap =  0.90
 EFFECTIVE STREAM AREA(ACRES) =       7.24
 TOTAL STREAM AREA(ACRES) =       7.24
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      13.77

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       18.73   18.21    2.321  0.25( 0.22) 0.90       9.9    3000.00
     2       13.77   17.98    2.338  0.25( 0.22) 0.90       7.2    4000.00

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
```

```
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1       32.41   17.98    2.338  0.25( 0.22) 0.90      17.0    4000.00
      2       32.39   18.21    2.321  0.25( 0.22) 0.90      17.2    3000.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      32.41    Tc(MIN.) =    17.98
  EFFECTIVE AREA(ACRES) =      17.04   AREA-AVERAGED Fm(INCH/HR) =  0.22
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap =  0.90
  TOTAL AREA(ACRES) =       17.2
  LONGEST FLOWPATH FROM NODE   3000.00 TO NODE   3010.00 =     970.20 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE   3010.00 TO NODE   3020.00 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    194.40  DOWNSTREAM(FEET) =    186.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1482.60   CHANNEL SLOPE =  0.0057
  GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.1
  "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =  14.81
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  1.793
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  ".4 DWELLING/ACRE"         C        1.45      0.25     0.900    69
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      33.43
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.30
  AVERAGE FLOW DEPTH(FEET) =  14.56   TRAVEL TIME(MIN.) =  10.76
  Tc(MIN.) =   28.74
  SUBAREA AREA(ACRES) =     1.45       SUBAREA RUNOFF(CFS) =    2.05
  EFFECTIVE AREA(ACRES) =     18.49     AREA-AVERAGED Fm(INCH/HR) =   0.22
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   0.90
  TOTAL AREA(ACRES) =       18.6         PEAK FLOW RATE(CFS) =      32.41
  NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE
  GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.1
  "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =  14.22

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) = 14.12   FLOW VELOCITY(FEET/SEC.) =   2.29
  LONGEST FLOWPATH FROM NODE   3000.00 TO NODE   3020.00 =    2452.80 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE   3020.00 TO NODE   3020.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   28.74
  RAINFALL INTENSITY(INCH/HR) =   1.79
  AREA-AVERAGED Fm(INCH/HR) =  0.22
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  0.90
```

```
  EFFECTIVE STREAM AREA(ACRES) =      18.49
  TOTAL STREAM AREA(ACRES) =      18.62
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      32.41

****************************************************************************
  FLOW PROCESS FROM NODE   5000.00 TO NODE   5010.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   804.20
  ELEVATION DATA: UPSTREAM(FEET) =    200.20  DOWNSTREAM(FEET) =    193.50

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   18.430
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.305
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  ".4 DWELLING/ACRE"         C        5.83      0.25     0.900    69   18.43
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  SUBAREA RUNOFF(CFS) =     10.91
  TOTAL AREA(ACRES) =      5.83   PEAK FLOW RATE(CFS) =     10.91

****************************************************************************
  FLOW PROCESS FROM NODE   5010.00 TO NODE   3020.00 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    193.50  DOWNSTREAM(FEET) =    186.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   709.30   CHANNEL SLOPE =  0.0106
  GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.1
  "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   4.66
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.065
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  ".4 DWELLING/ACRE"         C        2.92      0.25     0.900    69
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      13.33
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.99
  AVERAGE FLOW DEPTH(FEET) =   4.46   TRAVEL TIME(MIN.) =   3.95
  Tc(MIN.) =   22.39
  SUBAREA AREA(ACRES) =     2.92       SUBAREA RUNOFF(CFS) =    4.84
  EFFECTIVE AREA(ACRES) =      8.75     AREA-AVERAGED Fm(INCH/HR) =   0.22
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   0.90
  TOTAL AREA(ACRES) =        8.8         PEAK FLOW RATE(CFS) =      14.49
  GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.1
  "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   4.92

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  4.82   FLOW VELOCITY(FEET/SEC.) =   3.00
  LONGEST FLOWPATH FROM NODE   5000.00 TO NODE   3020.00 =    1513.50 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE   3020.00 TO NODE   3020.00 IS CODE =   1
```

```
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   22.39
  RAINFALL INTENSITY(INCH/HR) =   2.07
  AREA-AVERAGED Fm(INCH/HR) =  0.22
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  0.90
  EFFECTIVE STREAM AREA(ACRES) =       8.75
  TOTAL STREAM AREA(ACRES) =       8.75
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      14.49

****************************************************************************
  FLOW PROCESS FROM NODE   6000.00 TO NODE   3020.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   603.80
  ELEVATION DATA: UPSTREAM(FEET) =    193.20  DOWNSTREAM(FEET) =    186.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   15.297
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.562
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  ".4 DWELLING/ACRE"         C        1.00      0.25     0.900    69   15.30
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  SUBAREA RUNOFF(CFS) =      2.10
  TOTAL AREA(ACRES) =      1.00   PEAK FLOW RATE(CFS) =      2.10

****************************************************************************
  FLOW PROCESS FROM NODE   3020.00 TO NODE   3020.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
  TIME OF CONCENTRATION(MIN.) =   15.30
  RAINFALL INTENSITY(INCH/HR) =   2.56
  AREA-AVERAGED Fm(INCH/HR) =  0.22
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  0.90
  EFFECTIVE STREAM AREA(ACRES) =       1.00
  TOTAL STREAM AREA(ACRES) =       1.00
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.10

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1       32.41   28.74    1.793  0.25( 0.22) 0.90      18.5    4000.00
      1       32.39   28.97    1.785  0.25( 0.22) 0.90      18.6    3000.00
      2       14.49   22.39    2.065  0.25( 0.22) 0.90       8.8    5000.00
      3        2.10   15.30    2.562  0.25( 0.22) 0.90       1.0    6000.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  3 STREAMS.
```

```
 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       40.39   15.30    2.562  0.25( 0.22) 0.90      16.8    6000.00
     2       45.78   22.39    2.065  0.25( 0.22) 0.90      24.2    5000.00
     3       46.17   28.74    1.793  0.25( 0.22) 0.90      28.2    4000.00
     4       46.08   28.97    1.785  0.25( 0.22) 0.90      28.4    3000.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =      46.17    Tc(MIN.) =    28.74
 EFFECTIVE AREA(ACRES) =      28.24   AREA-AVERAGED Fm(INCH/HR) =  0.22
 AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap =  0.90
 TOTAL AREA(ACRES) =       28.4
 LONGEST FLOWPATH FROM NODE   3000.00 TO NODE   3020.00 =    2452.80 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE   3020.00 TO NODE   3030.00 IS CODE =  56
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    186.00  DOWNSTREAM(FEET) =    156.50
 CHANNEL LENGTH THRU SUBAREA(FEET) =   212.00   CHANNEL SLOPE =  0.1392
 GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.1
 "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
 *ESTIMATED CHANNEL HEIGHT(FEET) =   4.38
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  1.781
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 RESIDENTIAL
 ".4 DWELLING/ACRE"         C        0.10      0.25     0.900    69
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      46.24
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =  10.81
 AVERAGE FLOW DEPTH(FEET) =   4.28   TRAVEL TIME(MIN.) =   0.33
 Tc(MIN.) =   29.06
 SUBAREA AREA(ACRES) =     0.10       SUBAREA RUNOFF(CFS) =    0.14
 EFFECTIVE AREA(ACRES) =     28.34     AREA-AVERAGED Fm(INCH/HR) =   0.22
 AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   0.90
 TOTAL AREA(ACRES) =       28.5         PEAK FLOW RATE(CFS) =      46.17
 NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE
 GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.1
 "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
 *ESTIMATED CHANNEL HEIGHT(FEET) =   4.37

 END OF SUBAREA CHANNEL FLOW HYDRAULICS:
 DEPTH(FEET) =  4.27   FLOW VELOCITY(FEET/SEC.) =  10.81
 LONGEST FLOWPATH FROM NODE   3000.00 TO NODE   3030.00 =    2664.80 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE   3030.00 TO NODE   3030.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   29.06
 RAINFALL INTENSITY(INCH/HR) =   1.78
 AREA-AVERAGED Fm(INCH/HR) =  0.22
 AREA-AVERAGED Fp(INCH/HR) =  0.25
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  AREA-AVERAGED Ap =  0.90
  EFFECTIVE STREAM AREA(ACRES) =      28.34
  TOTAL STREAM AREA(ACRES) =      28.47
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      46.17

****************************************************************************
  FLOW PROCESS FROM NODE   9000.00 TO NODE   3030.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   477.30
  ELEVATION DATA: UPSTREAM(FEET) =    183.00  DOWNSTREAM(FEET) =    156.50

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   10.237
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.216
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  ".4 DWELLING/ACRE"          C        1.35      0.25     0.900    69   10.24
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  SUBAREA RUNOFF(CFS) =      3.63
  TOTAL AREA(ACRES) =      1.35   PEAK FLOW RATE(CFS) =      3.63

****************************************************************************
  FLOW PROCESS FROM NODE   3030.00 TO NODE   3030.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   10.24
  RAINFALL INTENSITY(INCH/HR) =   3.22
  AREA-AVERAGED Fm(INCH/HR) =  0.23
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  0.90
  EFFECTIVE STREAM AREA(ACRES) =       1.35
  TOTAL STREAM AREA(ACRES) =       1.35
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       3.63

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1       40.39   15.63    2.531  0.25( 0.22) 0.90      16.9    6000.00
      1       45.78   22.71    2.048  0.25( 0.22) 0.90      24.3    5000.00
      1       46.17   29.06    1.781  0.25( 0.22) 0.90      28.3    4000.00
      1       46.08   29.29    1.773  0.25( 0.22) 0.90      28.5    3000.00
      2        3.63   10.24    3.216  0.25( 0.23) 0.90       1.4    9000.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1       37.95   10.24    3.216  0.25( 0.22) 0.90      12.4    9000.00
      2       43.19   15.63    2.531  0.25( 0.22) 0.90      18.3    6000.00
      3       47.99   22.71    2.048  0.25( 0.22) 0.90      25.6    5000.00
      4       48.06   29.06    1.781  0.25( 0.22) 0.90      29.7    4000.00
```

```
     5       47.96   29.29    1.773  0.25( 0.22) 0.90      29.8    3000.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      48.06    Tc(MIN.) =    29.06
  EFFECTIVE AREA(ACRES) =      29.69   AREA-AVERAGED Fm(INCH/HR) =  0.22
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap =  0.90
  TOTAL AREA(ACRES) =       29.8
  LONGEST FLOWPATH FROM NODE   3000.00 TO NODE   3030.00 =    2664.80 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       29.8  TC(MIN.) =     29.06
  EFFECTIVE AREA(ACRES) =     29.69  AREA-AVERAGED Fm(INCH/HR)=  0.22
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap = 0.900
  PEAK FLOW RATE(CFS)   =      48.06

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1       37.95   10.24    3.216  0.25( 0.22) 0.90      12.4    9000.00
      2       43.19   15.63    2.531  0.25( 0.22) 0.90      18.3    6000.00
      3       47.99   22.71    2.048  0.25( 0.22) 0.90      25.6    5000.00
      4       48.06   29.06    1.781  0.25( 0.22) 0.90      29.7    4000.00
      5       47.96   29.29    1.773  0.25( 0.22) 0.90      29.8    3000.00
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1744

                          Analysis prepared by:

                            C3 Civil Engineering, LLC
                              Northwest Open Space
                             San Juan Capistrano, CA

--------------------------------------------------------------------------
  FILE NAME: 01O425.DAT
  TIME/DATE OF STUDY: 07:46 05/19/2026
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.    (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)   (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.08    2.00 0.0312 0.167 0.1000

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
  FLOW PROCESS FROM NODE   7000.00 TO NODE   7010.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   838.00
  ELEVATION DATA: UPSTREAM(FEET) =    200.00  DOWNSTREAM(FEET) =    193.10

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   18.086
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.330
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  "1 DWELLING/ACRE"          C        9.29      0.25      0.800    69   18.09
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.800
  SUBAREA RUNOFF(CFS) =     17.81
  TOTAL AREA(ACRES) =      9.29   PEAK FLOW RATE(CFS) =     17.81
```

```
****************************************************************************
  FLOW PROCESS FROM NODE   7010.00 TO NODE   7020.00 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    193.10  DOWNSTREAM(FEET) =    168.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   550.00   CHANNEL SLOPE =  0.0456
  GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.0
  "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   3.35
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.226
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  ".4 DWELLING/ACRE"         C        2.55      0.25     0.900    69
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      20.10
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.07
  AVERAGE FLOW DEPTH(FEET) =   3.31   TRAVEL TIME(MIN.) =   1.51
  Tc(MIN.) =   19.60
  SUBAREA AREA(ACRES) =     2.55       SUBAREA RUNOFF(CFS) =    4.59
  EFFECTIVE AREA(ACRES) =     11.84     AREA-AVERAGED Fm(INCH/HR) =   0.21
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   0.82
  TOTAL AREA(ACRES) =       11.8         PEAK FLOW RATE(CFS) =      21.54
  GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.0
  "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   3.54

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  3.53   FLOW VELOCITY(FEET/SEC.) =   6.10
  LONGEST FLOWPATH FROM NODE   7000.00 TO NODE   7020.00 =    1388.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE   7020.00 TO NODE   7020.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   19.60
  RAINFALL INTENSITY(INCH/HR) =   2.23
  AREA-AVERAGED Fm(INCH/HR) =  0.21
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  0.82
  EFFECTIVE STREAM AREA(ACRES) =      11.84
  TOTAL STREAM AREA(ACRES) =      11.84
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      21.54

****************************************************************************
  FLOW PROCESS FROM NODE   8000.00 TO NODE   7020.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   701.00
  ELEVATION DATA: UPSTREAM(FEET) =    181.00  DOWNSTREAM(FEET) =    168.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   14.865
```

```
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.603
 SUBAREA Tc AND LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 RESIDENTIAL
 ".4 DWELLING/ACRE"          C        2.55      0.25      0.900    69   14.87
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
 SUBAREA RUNOFF(CFS) =      5.46
 TOTAL AREA(ACRES) =      2.55   PEAK FLOW RATE(CFS) =      5.46

****************************************************************************
 FLOW PROCESS FROM NODE   7020.00 TO NODE   7020.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =   14.87
 RAINFALL INTENSITY(INCH/HR) =   2.60
 AREA-AVERAGED Fm(INCH/HR) =  0.22
 AREA-AVERAGED Fp(INCH/HR) =  0.25
 AREA-AVERAGED Ap =  0.90
 EFFECTIVE STREAM AREA(ACRES) =       2.55
 TOTAL STREAM AREA(ACRES) =       2.55
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       5.46

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       21.54   19.60    2.226  0.25( 0.21) 0.82      11.8    7000.00
     2        5.46   14.87    2.603  0.25( 0.22) 0.90       2.5    8000.00

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       24.84   14.87    2.603  0.25( 0.21) 0.84      11.5    8000.00
     2       26.13   19.60    2.226  0.25( 0.21) 0.84      14.4    7000.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =      26.13    Tc(MIN.) =    19.60
 EFFECTIVE AREA(ACRES) =      14.39   AREA-AVERAGED Fm(INCH/HR) =  0.21
 AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap =  0.84
 TOTAL AREA(ACRES) =       14.4
 LONGEST FLOWPATH FROM NODE   7000.00 TO NODE   7020.00 =    1388.00 FEET.
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =       14.4  TC(MIN.) =     19.60
 EFFECTIVE AREA(ACRES) =     14.39  AREA-AVERAGED Fm(INCH/HR)=  0.21
 AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap = 0.835
 PEAK FLOW RATE(CFS)   =      26.13

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       24.84   14.87    2.603  0.25( 0.21) 0.84      11.5    8000.00
     2       26.13   19.60    2.226  0.25( 0.21) 0.84      14.4    7000.00
============================================================================
============================================================================
```

```
_____
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           Ver. 23.0  Release Date: 07/01/2016  License ID 1744

                          Analysis prepared by:




--------------------------------------------------------------------------
                        FILE NAME: 01DA100.DAT
                    TIME/DATE OF STUDY: 11:29 12/16/2025
==========================================================================
         USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

                USER SPECIFIED STORM EVENT(YEAR) =  100.00
                SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
                         *DATA BANK RAINFALL USED*
    *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
   HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
    WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
 NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
=== ===== ========= ================= ====== ===== ====== ===== =======
 1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

                    GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
                     1. Relative Flow-Depth =  0.00 FEET
              as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
                 2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
                    *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
                     OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
       *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
      FLOW PROCESS FROM NODE   1000.00 TO NODE   1010.00 IS CODE =  21
--------------------------------------------------------------------------
              >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
          >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
                  INITIAL SUBAREA FLOW-LENGTH(FEET) =   264.60
  ELEVATION DATA: UPSTREAM(FEET) =    208.50  DOWNSTREAM(FEET) =    201.50

                Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
                SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.377
                 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.315
                      SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

LAND USE	GROUP	(ACRES)	(INCH/HR)	(DECIMAL)	CN	(MIN.)
		RESIDENTIAL				
".4 DWELLING/ACRE"	B	2.71	0.30	0.900	56	9.38

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.30
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.900
SUBAREA RUNOFF(CFS) = 9.87
TOTAL AREA(ACRES) = 2.71 PEAK FLOW RATE(CFS) = 9.87

==========

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 2.7 TC(MIN.) = 9.38
EFFECTIVE AREA(ACRES) = 2.71 AREA-AVERAGED Fm(INCH/HR)= 0.27
AREA-AVERAGED Fp(INCH/HR) = 0.30 AREA-AVERAGED Ap = 0.900
PEAK FLOW RATE(CFS) = 9.87

==========
==========

END OF RATIONAL METHOD ANALYSIS

```
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                            Analysis prepared by:
```


```
--------------------------------------------------------------------------
                        FILE NAME: 01DB100.DAT
                    TIME/DATE OF STUDY: 11:32 12/16/2025
==========================================================================
          USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                     --*TIME-OF-CONCENTRATION MODEL*--

                  USER SPECIFIED STORM EVENT(YEAR) =  100.00
                  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
                         *DATA BANK RAINFALL USED*
    *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
   HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
    WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
 NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
 1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

                    GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
                     1. Relative Flow-Depth =  0.00 FEET
              as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
                 2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
                    *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
                     OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
      *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
      FLOW PROCESS FROM NODE   2000.00 TO NODE   2010.00 IS CODE =  21
--------------------------------------------------------------------------
              >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
          >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
                  INITIAL SUBAREA FLOW-LENGTH(FEET) =   238.30
  ELEVATION DATA: UPSTREAM(FEET) =    209.30  DOWNSTREAM(FEET) =    201.80

                Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
                SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.685
                 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.509
                      SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

LAND USE	GROUP	(ACRES)	(INCH/HR)	(DECIMAL)	CN	(MIN.)
		RESIDENTIAL				
".4 DWELLING/ACRE"	B	0.87	0.30	0.900	56	8.69

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.30
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.900
SUBAREA RUNOFF(CFS) = 3.32
TOTAL AREA(ACRES) = 0.87 PEAK FLOW RATE(CFS) = 3.32

==========

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 0.9 TC(MIN.) = 8.69
EFFECTIVE AREA(ACRES) = 0.87 AREA-AVERAGED Fm(INCH/HR)= 0.27
AREA-AVERAGED Fp(INCH/HR) = 0.30 AREA-AVERAGED Ap = 0.900
PEAK FLOW RATE(CFS) = 3.32

==========
==========

END OF RATIONAL METHOD ANALYSIS

```
_____
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                Ver. 23.0  Release Date: 07/01/2016  License ID 1744

                              Analysis prepared by:




--------------------------------------------------------------------------
                            FILE NAME: 01DJ100.DAT
                         TIME/DATE OF STUDY: 13:31 12/16/2025
==========================================================================
          USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                         --*TIME-OF-CONCENTRATION MODEL*--

                    USER SPECIFIED STORM EVENT(YEAR) =  100.00
                    SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
                            *DATA BANK RAINFALL USED*
     *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

   *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
    HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
    WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
 NO.  (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
=== ===== ========= ================= ====== ===== ====== ===== =======
  1  30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

                      GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
                       1. Relative Flow-Depth =  0.00 FEET
                as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
                   2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
                      *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
                       OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
        *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
     FLOW PROCESS FROM NODE  10000.00 TO NODE  10010.00 IS CODE =  21
--------------------------------------------------------------------------
              >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
          >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
                    INITIAL SUBAREA FLOW-LENGTH(FEET) =   537.70
  ELEVATION DATA: UPSTREAM(FEET) =    195.50  DOWNSTREAM(FEET) =    189.80

                 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
                 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   14.951
                  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.303
                      SUBAREA Tc AND LOSS RATE DATA(AMC  II):
    DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

LAND USE	GROUP	(ACRES)	(INCH/HR)	(DECIMAL)	CN	(MIN.)
		RESIDENTIAL				
".4 DWELLING/ACRE"	C	4.52	0.25	0.900	69	14.95

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.25
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.900
SUBAREA RUNOFF(CFS) = 12.52
TOTAL AREA(ACRES) = 4.52 PEAK FLOW RATE(CFS) = 12.52

==========

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 4.5 TC(MIN.) = 14.95
EFFECTIVE AREA(ACRES) = 4.52 AREA-AVERAGED Fm(INCH/HR)= 0.22
AREA-AVERAGED Fp(INCH/HR) = 0.25 AREA-AVERAGED Ap = 0.900
PEAK FLOW RATE(CFS) = 12.52

==========
==========

END OF RATIONAL METHOD ANALYSIS

```
_____
**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
          (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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           Ver. 23.0  Release Date: 07/01/2016  License ID 1744

                          Analysis prepared by:




--------------------------------------------------------------------------
                        FILE NAME: 01O4100.DAT
                    TIME/DATE OF STUDY: 13:33 12/16/2025
==========================================================================
         USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

                USER SPECIFIED STORM EVENT(YEAR) =  100.00
                SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
                         *DATA BANK RAINFALL USED*
    *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
   HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
    WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
 NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
=== ===== ========= ================= ====== ===== ====== ===== =======
 1   30.0     20.0    0.018/0.018/0.020   0.08    2.00 0.0313 0.167 0.1000

                    GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
                     1. Relative Flow-Depth =  0.00 FEET
              as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
                 2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
                    *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
                     OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
      *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
      FLOW PROCESS FROM NODE   7000.00 TO NODE   7010.00 IS CODE =  21
--------------------------------------------------------------------------
             >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
          >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
                  INITIAL SUBAREA FLOW-LENGTH(FEET) =   838.00
  ELEVATION DATA: UPSTREAM(FEET) =    200.00  DOWNSTREAM(FEET) =    193.10

                Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
                SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   18.780
                 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.899
                      SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

```
   LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
                                RESIDENTIAL
 ".4 DWELLING/ACRE"         C        9.25      0.25      0.900    69   18.78
          SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
            SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
                       SUBAREA RUNOFF(CFS) =     22.26
      TOTAL AREA(ACRES) =      9.25   PEAK FLOW RATE(CFS) =     22.26

****************************************************************************
      FLOW PROCESS FROM NODE   7010.00 TO NODE   7020.00 IS CODE =  56
----------------------------------------------------------------------------
                >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
                    >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    193.10  DOWNSTREAM(FEET) =    170.00
   CHANNEL LENGTH THRU SUBAREA(FEET) =   482.80   CHANNEL SLOPE =  0.0478
    GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.0
              "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
                 *ESTIMATED CHANNEL HEIGHT(FEET) =   3.97
              * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.791
                     SUBAREA LOSS RATE DATA(AMC  II):
    DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
                                RESIDENTIAL
    ".4 DWELLING/ACRE"         C        2.28      0.25      0.900    69
         SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
           SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
       TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      24.89
      TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.31
      AVERAGE FLOW DEPTH(FEET) =   3.95   TRAVEL TIME(MIN.) =   1.28
                            Tc(MIN.) =   20.06
    SUBAREA AREA(ACRES) =     2.28       SUBAREA RUNOFF(CFS) =    5.27
  EFFECTIVE AREA(ACRES) =    11.53     AREA-AVERAGED Fm(INCH/HR) =   0.23
     AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   0.90
   TOTAL AREA(ACRES) =       11.5         PEAK FLOW RATE(CFS) =      26.63
    GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.0
              "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
                 *ESTIMATED CHANNEL HEIGHT(FEET) =   4.22

                END OF SUBAREA CHANNEL FLOW HYDRAULICS:
          DEPTH(FEET) =  4.21   FLOW VELOCITY(FEET/SEC.) =   6.33
 LONGEST FLOWPATH FROM NODE   7000.00 TO NODE   7020.00 =    1320.80 FEET.

****************************************************************************
      FLOW PROCESS FROM NODE   7020.00 TO NODE   7020.00 IS CODE =   1
----------------------------------------------------------------------------
           >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
                      TOTAL NUMBER OF STREAMS =  2
           CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
                   TIME OF CONCENTRATION(MIN.) =   20.06
                    RAINFALL INTENSITY(INCH/HR) =   2.79
                     AREA-AVERAGED Fm(INCH/HR) =  0.23
                     AREA-AVERAGED Fp(INCH/HR) =  0.25
                          AREA-AVERAGED Ap =  0.90
                 EFFECTIVE STREAM AREA(ACRES) =      11.53
                   TOTAL STREAM AREA(ACRES) =      11.53
```

PEAK FLOW RATE(CFS) AT CONFLUENCE = 26.63

****
FLOW PROCESS FROM NODE 8000.00 TO NODE 7020.00 IS CODE = 21

>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========
INITIAL SUBAREA FLOW-LENGTH(FEET) = 647.60
ELEVATION DATA: UPSTREAM(FEET) = 181.00 DOWNSTREAM(FEET) = 170.00

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 14.657
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.341
SUBAREA Tc AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
RESIDENTIAL						
".4 DWELLING/ACRE"	C	2.28	0.25	0.900	69	14.66

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.25
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.900
SUBAREA RUNOFF(CFS) = 6.39
TOTAL AREA(ACRES) = 2.28 PEAK FLOW RATE(CFS) = 6.39

****
FLOW PROCESS FROM NODE 7020.00 TO NODE 7020.00 IS CODE = 1

>>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
>>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
==========
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 14.66
RAINFALL INTENSITY(INCH/HR) = 3.34
AREA-AVERAGED Fm(INCH/HR) = 0.22
AREA-AVERAGED Fp(INCH/HR) = 0.25
AREA-AVERAGED Ap = 0.90
EFFECTIVE STREAM AREA(ACRES) = 2.28
TOTAL STREAM AREA(ACRES) = 2.28
PEAK FLOW RATE(CFS) AT CONFLUENCE = 6.39

** CONFLUENCE DATA **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	26.63	20.06	2.791	0.25(0.23)	0.90	11.5	7000.00
2	6.39	14.66	3.341	0.25(0.22)	0.90	2.3	8000.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	30.02	14.66	3.341	0.25(0.23)	0.90	10.7	8000.00
2	31.90	20.06	2.791	0.25(0.23)	0.90	13.8	7000.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 31.90 Tc(MIN.) = 20.06
EFFECTIVE AREA(ACRES) = 13.81 AREA-AVERAGED Fm(INCH/HR) = 0.23
AREA-AVERAGED Fp(INCH/HR) = 0.25 AREA-AVERAGED Ap = 0.90
TOTAL AREA(ACRES) = 13.8
LONGEST FLOWPATH FROM NODE 7000.00 TO NODE 7020.00 = 1320.80 FEET.

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 13.8 TC(MIN.) = 20.06
EFFECTIVE AREA(ACRES) = 13.81 AREA-AVERAGED Fm(INCH/HR)= 0.23
AREA-AVERAGED Fp(INCH/HR) = 0.25 AREA-AVERAGED Ap = 0.900
PEAK FLOW RATE(CFS) = 31.90

** PEAK FLOW RATE TABLE **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	30.02	14.66	3.341	0.25(0.23)	0.90	10.7	8000.00
2	31.90	20.06	2.791	0.25(0.23)	0.90	13.8	7000.00

END OF RATIONAL METHOD ANALYSIS

```
**************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1744

                          Analysis prepared by:

                            C3 Civil Engineering, LLC
                              Northwest Open Space
                             San Juan Capistrano, CA

--------------------------------------------------------------------------
  FILE NAME: 01O4100.DAT
  TIME/DATE OF STUDY: 07:54 05/19/2026
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.85
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.    (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)   (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.08    2.00 0.0313 0.167 0.1000

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
  FLOW PROCESS FROM NODE   7000.00 TO NODE   7010.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   838.00
  ELEVATION DATA: UPSTREAM(FEET) =    200.00  DOWNSTREAM(FEET) =    193.10

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   18.780
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.899
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
        LAND USE           GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  ".4 DWELLING/ACRE"         C        9.29      0.25      0.900    69   18.78
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  SUBAREA RUNOFF(CFS) =     22.35
  TOTAL AREA(ACRES) =      9.29   PEAK FLOW RATE(CFS) =     22.35
```

```
****************************************************************************
  FLOW PROCESS FROM NODE   7010.00 TO NODE   7020.00 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    193.10  DOWNSTREAM(FEET) =    168.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   550.00   CHANNEL SLOPE =  0.0456
  GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.0
  "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   4.13
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.775
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  RESIDENTIAL
  ".4 DWELLING/ACRE"         C        2.55      0.25     0.900    69
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      25.28
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.17
  AVERAGE FLOW DEPTH(FEET) =   4.09   TRAVEL TIME(MIN.) =   1.48
  Tc(MIN.) =   20.27
  SUBAREA AREA(ACRES) =     2.55       SUBAREA RUNOFF(CFS) =    5.85
  EFFECTIVE AREA(ACRES) =     11.84     AREA-AVERAGED Fm(INCH/HR) =   0.22
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   0.90
  TOTAL AREA(ACRES) =       11.8         PEAK FLOW RATE(CFS) =      27.17
  GIVEN CHANNEL BASE(FEET) =    1.00   CHANNEL FREEBOARD(FEET) =  0.0
  "Z" FACTOR =   0.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   4.39

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  4.38   FLOW VELOCITY(FEET/SEC.) =   6.20
  LONGEST FLOWPATH FROM NODE   7000.00 TO NODE   7020.00 =    1388.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE   7020.00 TO NODE   7020.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   20.27
  RAINFALL INTENSITY(INCH/HR) =   2.77
  AREA-AVERAGED Fm(INCH/HR) =  0.22
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  0.90
  EFFECTIVE STREAM AREA(ACRES) =      11.84
  TOTAL STREAM AREA(ACRES) =      11.84
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      27.17

****************************************************************************
  FLOW PROCESS FROM NODE   8000.00 TO NODE   7020.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   701.00
  ELEVATION DATA: UPSTREAM(FEET) =    181.00  DOWNSTREAM(FEET) =    168.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   14.865
```

```
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.314
 SUBAREA Tc AND LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 RESIDENTIAL
 ".4 DWELLING/ACRE"          C        2.55      0.25      0.900    69   14.87
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.900
 SUBAREA RUNOFF(CFS) =      7.09
 TOTAL AREA(ACRES) =      2.55   PEAK FLOW RATE(CFS) =      7.09

****************************************************************************
 FLOW PROCESS FROM NODE   7020.00 TO NODE   7020.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =   14.87
 RAINFALL INTENSITY(INCH/HR) =   3.31
 AREA-AVERAGED Fm(INCH/HR) =  0.22
 AREA-AVERAGED Fp(INCH/HR) =  0.25
 AREA-AVERAGED Ap =  0.90
 EFFECTIVE STREAM AREA(ACRES) =       2.55
 TOTAL STREAM AREA(ACRES) =       2.55
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       7.09

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       27.17   20.27    2.775  0.25( 0.22) 0.90      11.8    7000.00
     2        7.09   14.87    3.314  0.25( 0.22) 0.90       2.5    8000.00

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       31.23   14.87    3.314  0.25( 0.22) 0.90      11.2    8000.00
     2       33.02   20.27    2.775  0.25( 0.22) 0.90      14.4    7000.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =      33.02    Tc(MIN.) =    20.27
 EFFECTIVE AREA(ACRES) =      14.39   AREA-AVERAGED Fm(INCH/HR) =  0.22
 AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap =  0.90
 TOTAL AREA(ACRES) =       14.4
 LONGEST FLOWPATH FROM NODE   7000.00 TO NODE   7020.00 =    1388.00 FEET.
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =       14.4  TC(MIN.) =     20.27
 EFFECTIVE AREA(ACRES) =     14.39  AREA-AVERAGED Fm(INCH/HR)=  0.22
 AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap = 0.900
 PEAK FLOW RATE(CFS)   =      33.02

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)   (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       31.23   14.87    3.314  0.25( 0.22) 0.90      11.2    8000.00
     2       33.02   20.27    2.775  0.25( 0.22) 0.90      14.4    7000.00
============================================================================
============================================================================
```

PROPOSED DEVELOPMENT

PRIVATE ENGINEER'S NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN IN THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS, AND TO THE BEST OF OUR KNOWLEDGE THERE ARE NOT EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN, AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS, AND IS RESPONSIBLE FOR THE PROTECTION OF AND ANY DAMAGE TO THESE LINES OR STRUCTURES.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY, ITS EMPLOYEES, AND AGENTS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

THE CONTRACTOR SHALL BE RESPONSIBLE TO REPORT DISCREPANCIES IN PLANS AND/OR FIELD CONDITIONS IMMEDIATELY TO THE DESIGN ENGINEER FOR RESOLUTION PRIOR TO CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR DISCREPANCIES NOT SO REPORTED AND RESOLVED.

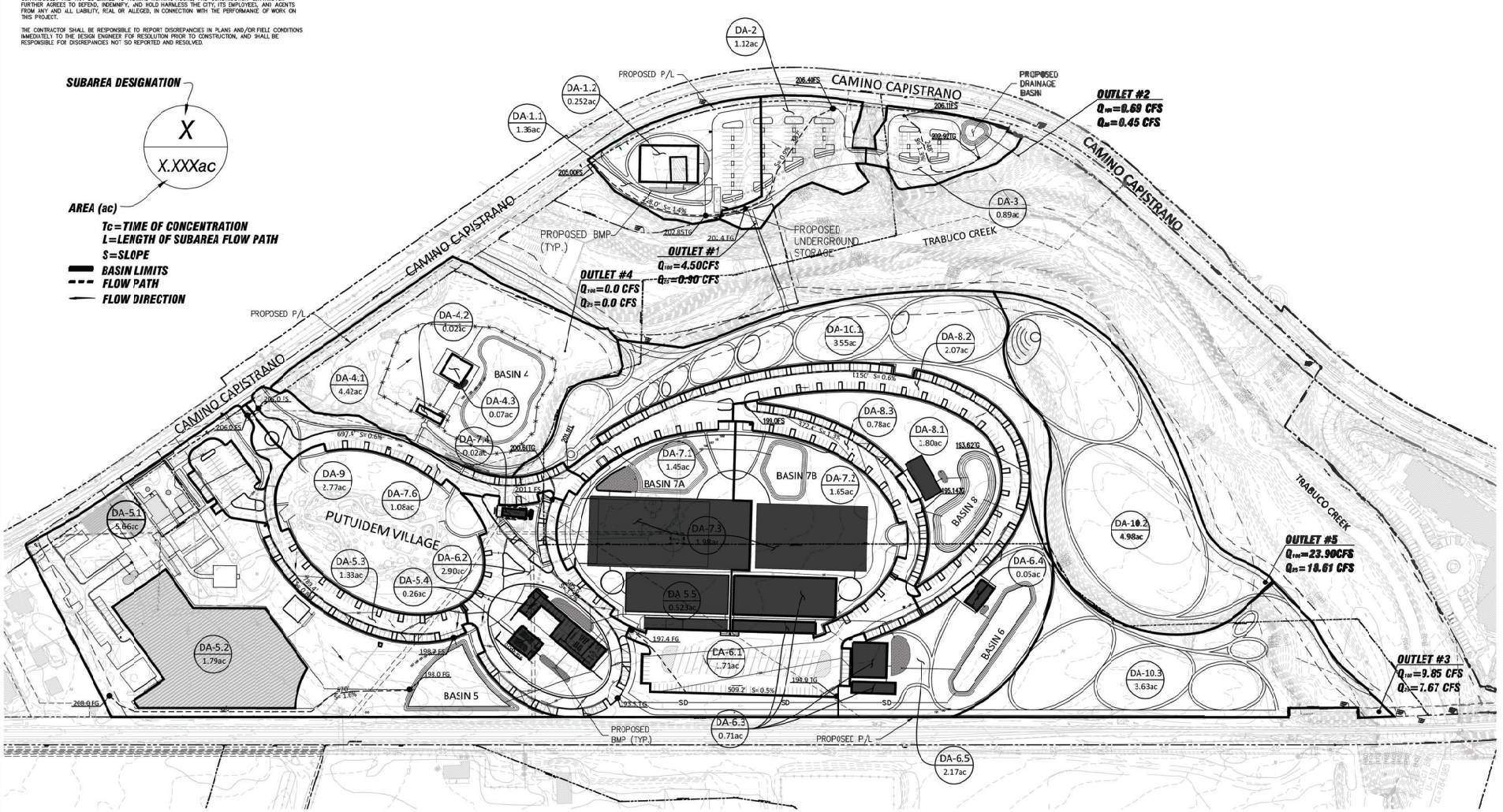
SUBAREA DESIGNATION

X

X.XXXac

AREA (ac)

Tc=TIME OF CONCENTRATION
L=LENGTH OF SUBAREA FLOW PATH
S=SLOPE
BASIN LIMITS
FLOW PATH
FLOW DIRECTION



REVISION RECORD

#	DATE	DESCRIPTION

NORTHWEST OPEN SPACE

CAMINO CAPISTRANO
SAN JUAN CAPISTRANO, CA

10870 W. FAIRVIEW DR
STE 102-1187
BOISE, ID 83713
(208) 918-0928
thomas@c3civileng.com
www.c3civileng.com

C3 CIVIL ENGINEERING

PROFESSIONAL SEAL

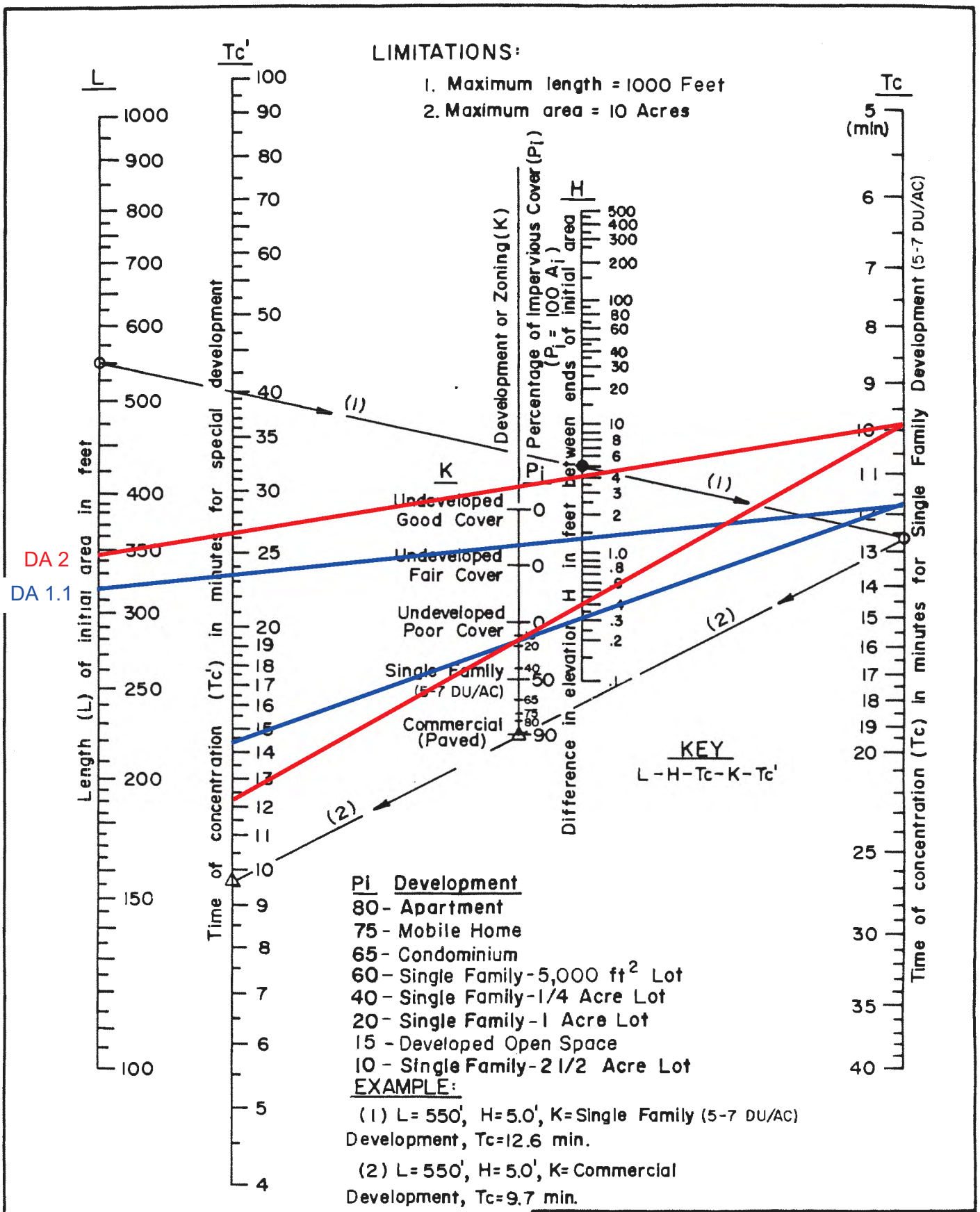
DATE: 05/30/2026
C3 JOB NO: 23-004
DRAWN BY: JMH
CHECKED BY: TH

SHEET TITLE

PROPOSED DRAINAGE MAP

SHEET NUMBER

2 of 2

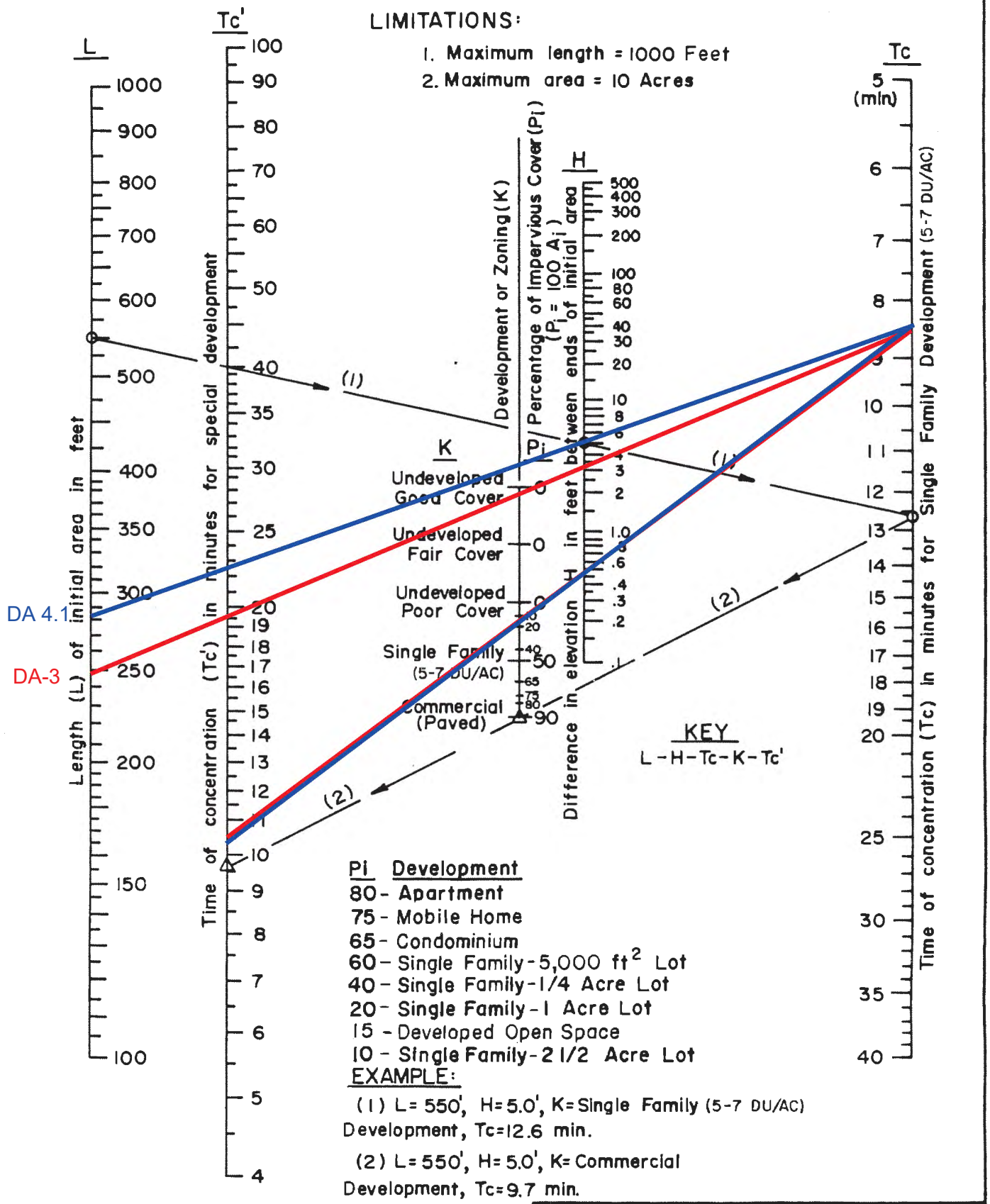


ORANGE COUNTY

HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

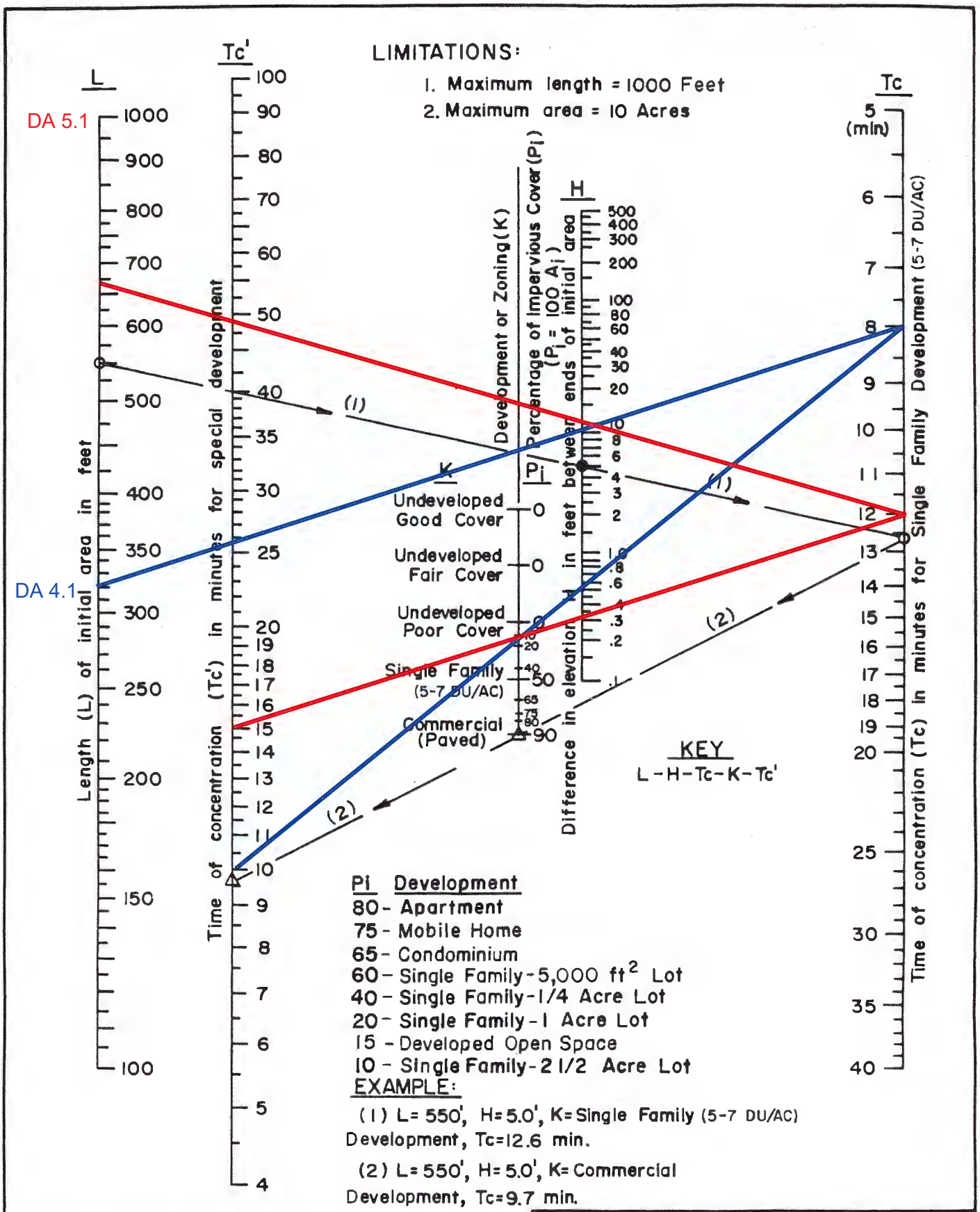
Figure D-1



ORANGE COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

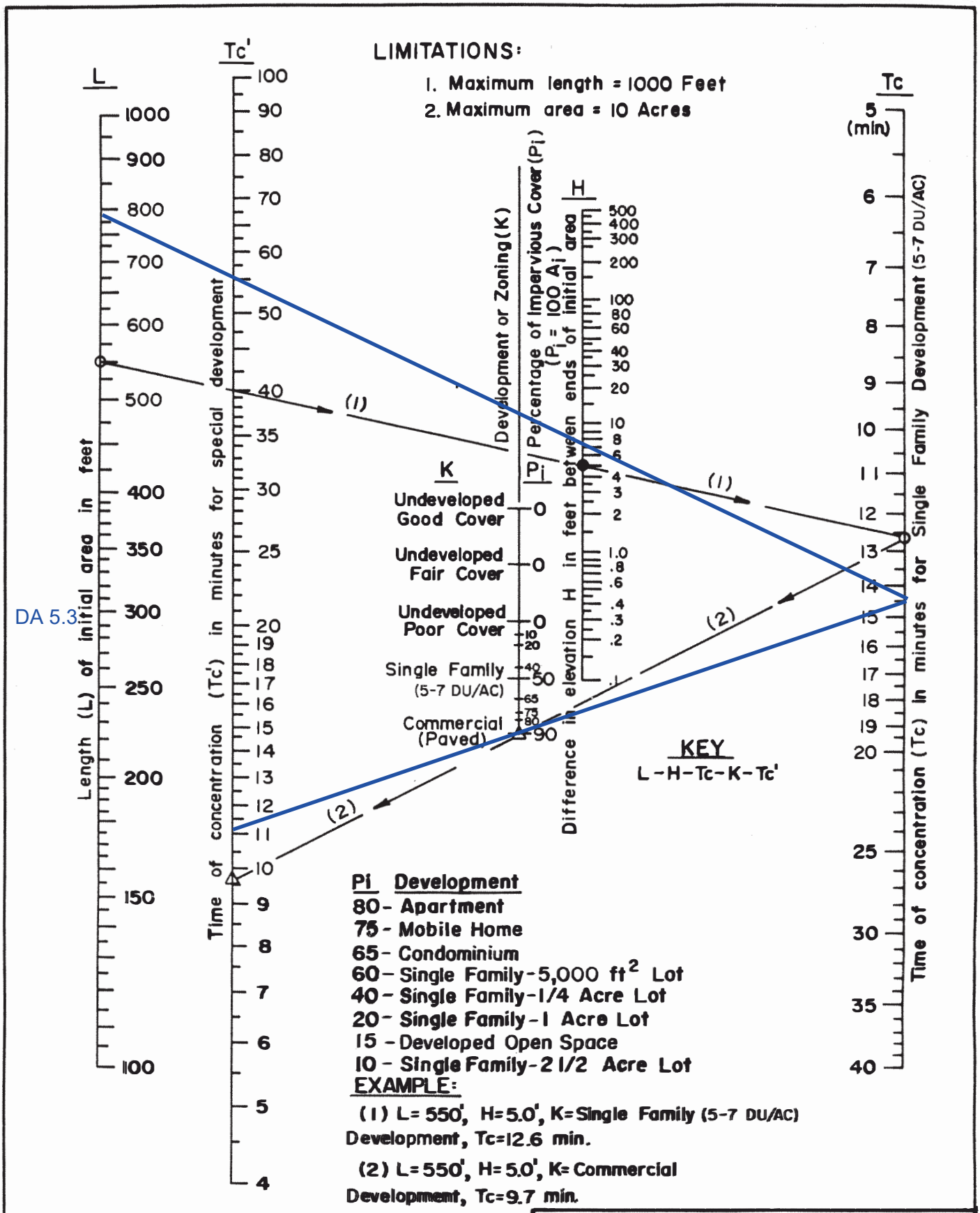
Figure D-1



ORANGE COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1

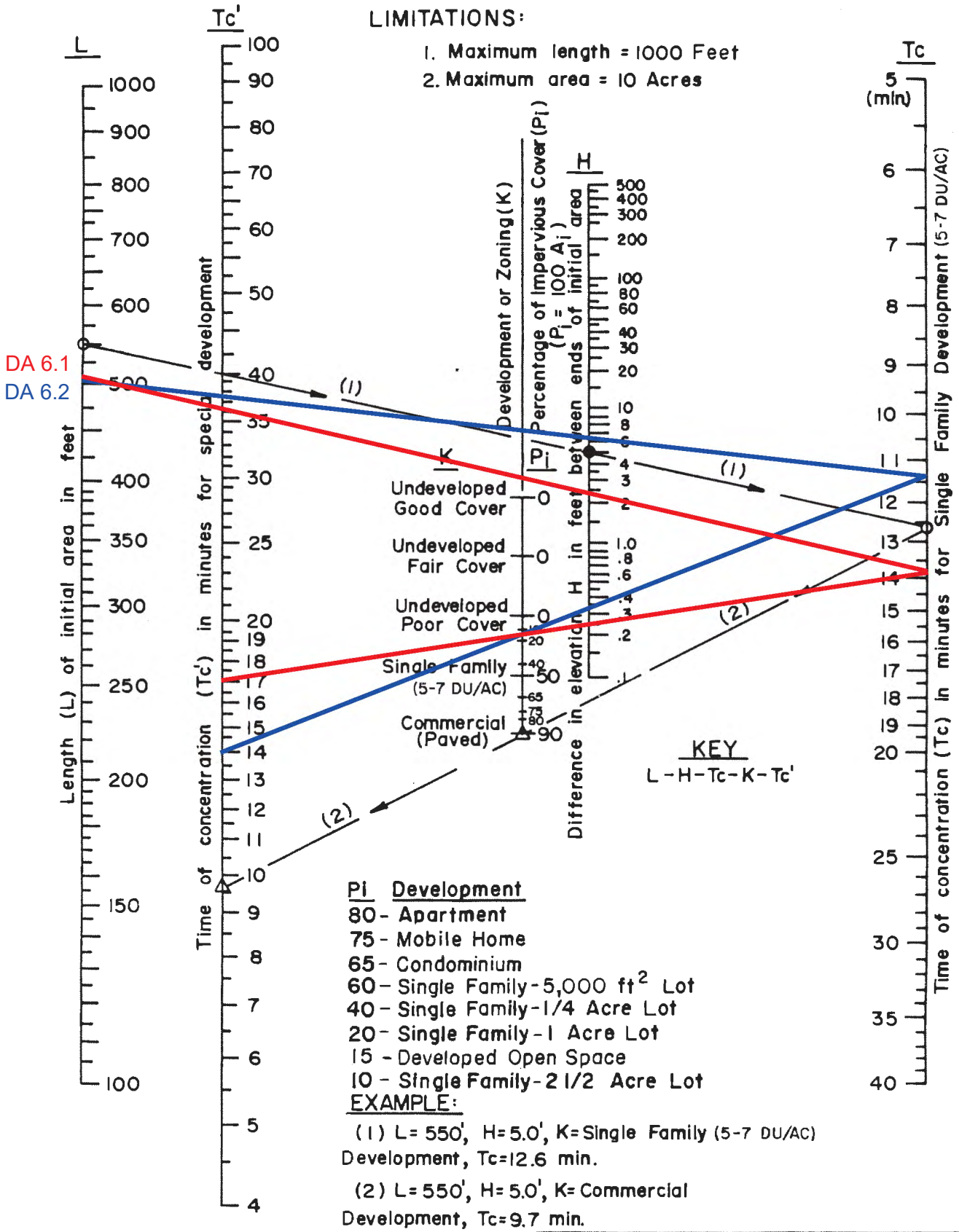


DA 5.3

ORANGE COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1

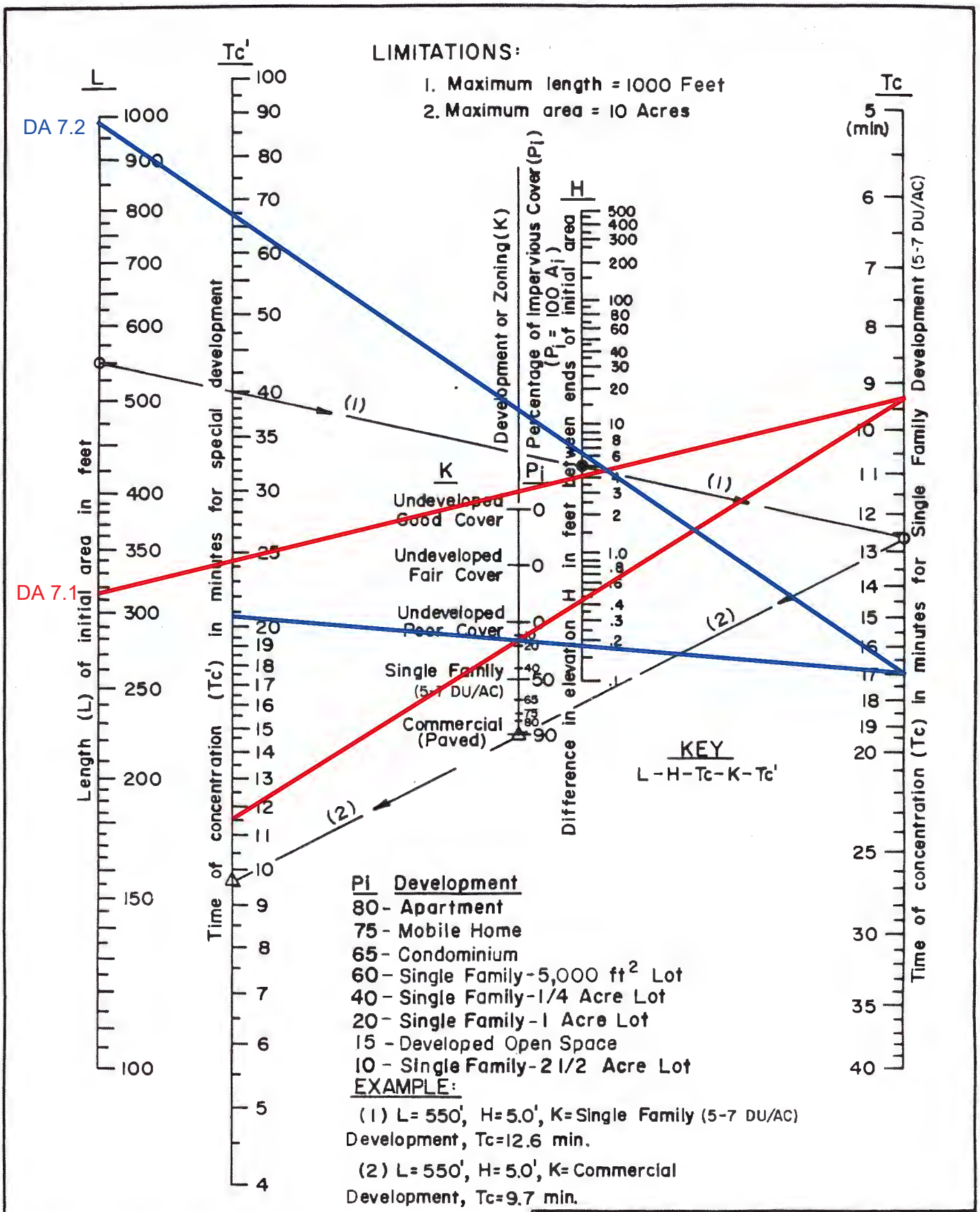


ORANGE COUNTY

HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

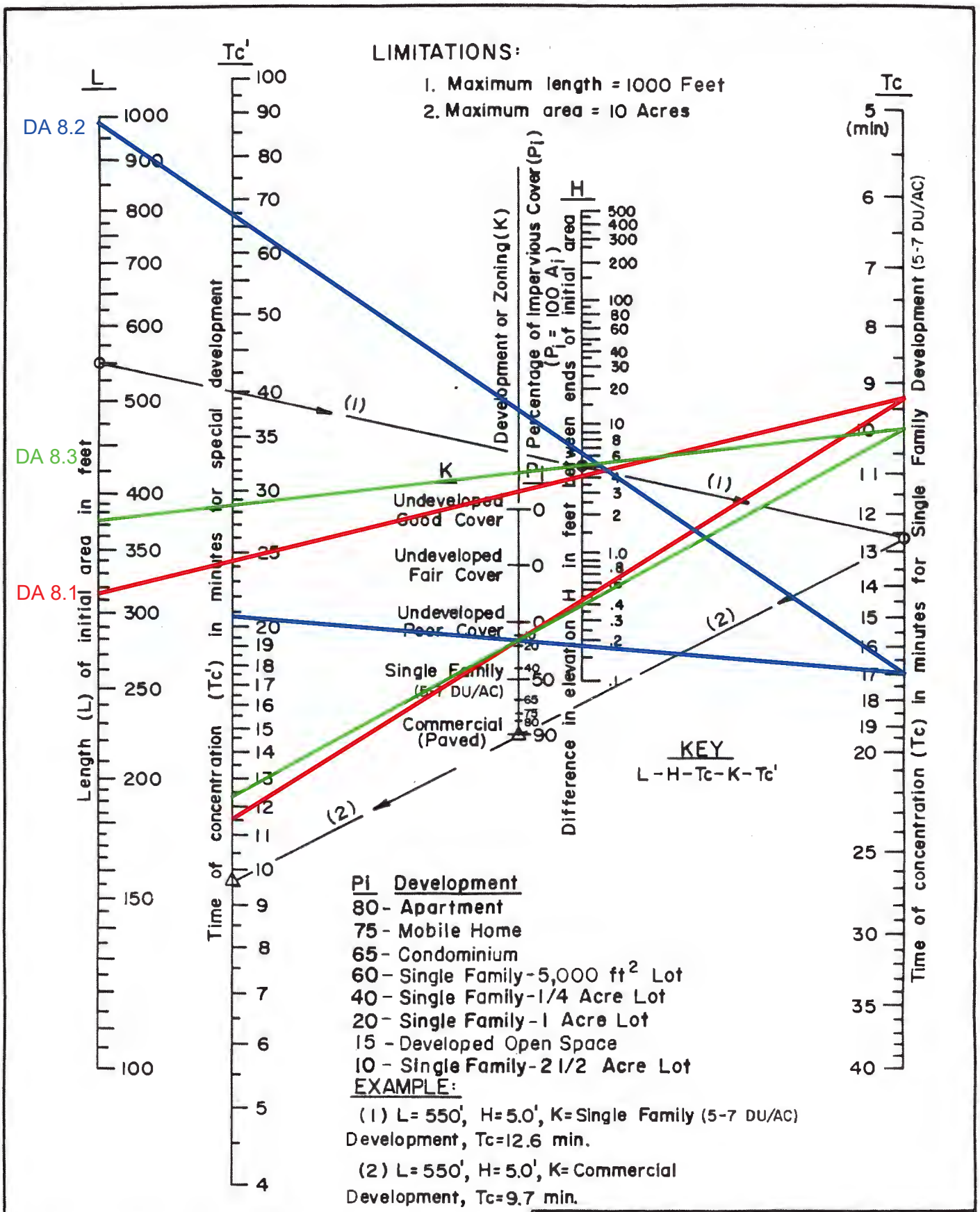
Figure D-1



ORANGE COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

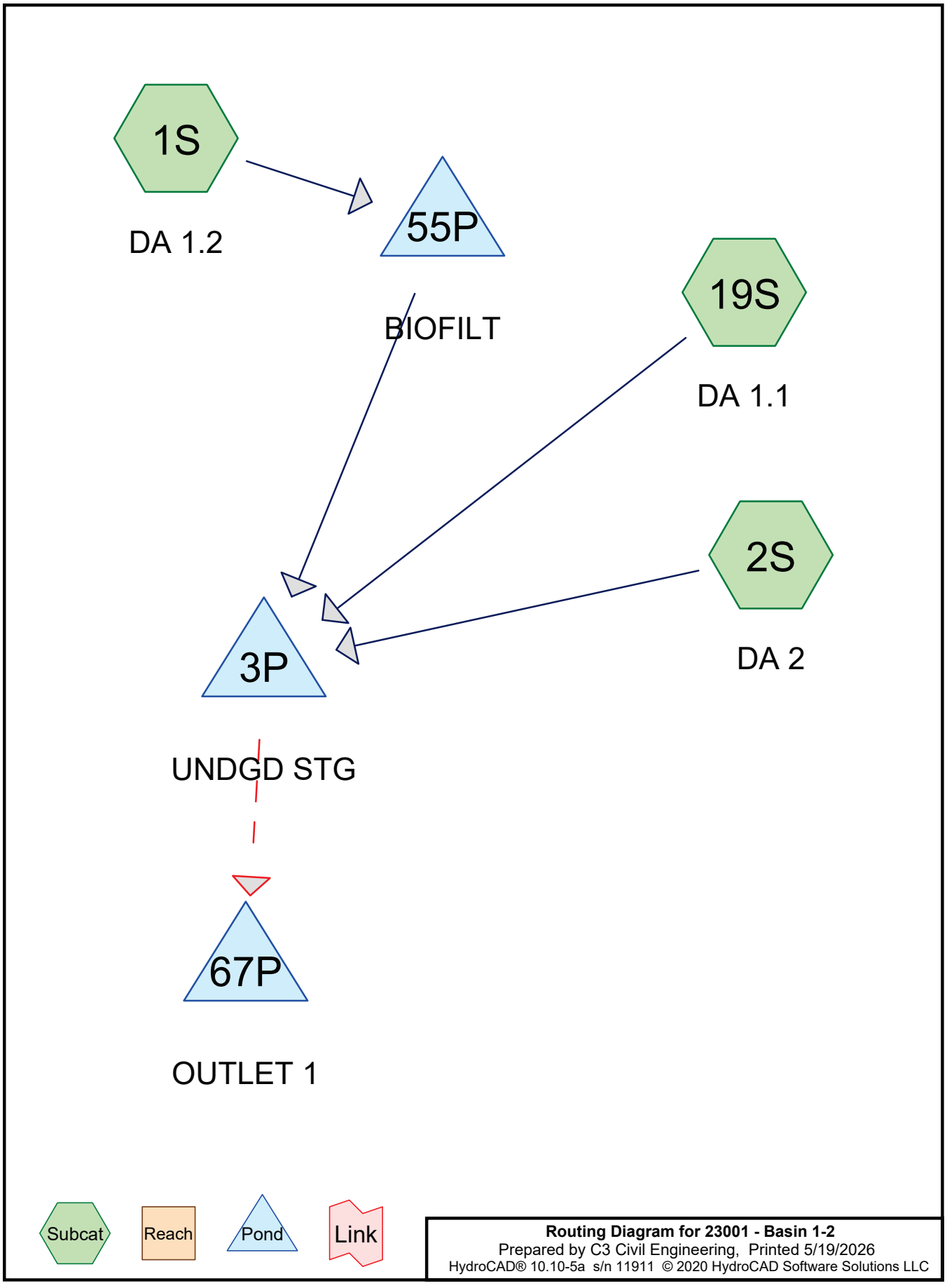
Figure D-1



ORANGE COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



Routing Diagram for 23001 - Basin 1-2
Prepared by C3 Civil Engineering, Printed 5/19/2026
HydroCAD® 10.10-5a s/n 11911 © 2020 HydroCAD Software Solutions LLC

23001 - Basin 1-2

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	3P	198.00	195.00	75.0	0.0400	0.010	0.0	15.0	0.0
2	55P	204.00	199.50	87.5	0.0514	0.010	0.0	6.0	0.0

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: DA 1.2 Runoff Area=10,977 sf 90.56% Impervious Runoff Depth=0.52"
Tc=5.0 min C=0.88 Runoff=0.66 cfs 0.011 af

Subcatchment2S: DA 2 Runoff Area=48,867 sf 0.00% Impervious Runoff Depth=0.22"
Tc=12.2 min C=0.38 Runoff=1.24 cfs 0.021 af

Subcatchment19S: DA 1.1 Runoff Area=59,441 sf 0.00% Impervious Runoff Depth=0.22"
Tc=14.4 min C=0.44 Runoff=1.48 cfs 0.025 af

Pond 3P: UNDGD STG Peak Elev=198.45' Storage=0.040 af Inflow=2.73 cfs 0.045 af
Discarded=0.01 cfs 0.002 af Secondary=0.90 cfs 0.008 af Outflow=0.91 cfs 0.010 af

Pond 55P: BIOFILT Peak Elev=200.40' Storage=418 cf Inflow=0.66 cfs 0.011 af
Discarded=0.06 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.011 af

Pond 67P: OUTLET 1 Inflow=0.90 cfs 0.008 af
Primary=0.90 cfs 0.008 af

Total Runoff Area = 2.738 ac Runoff Volume = 0.056 af Average Runoff Depth = 0.25"
91.67% Pervious = 2.510 ac 8.33% Impervious = 0.228 ac

Summary for Subcatchment 1S: DA 1.2

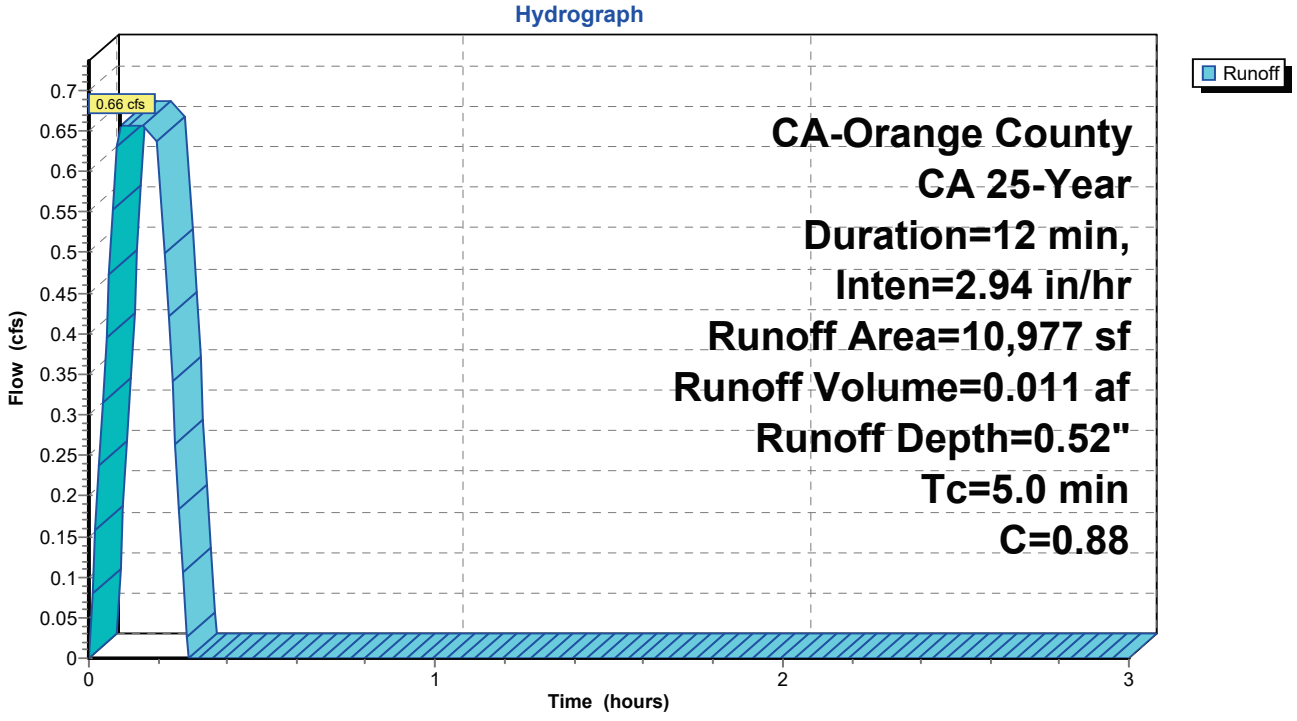
Runoff = 0.66 cfs @ 0.09 hrs, Volume= 0.011 af, Depth= 0.52"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
9,941	0.95	Roofs, HSG B
1,036	0.25	Landscape
10,977	0.88	Weighted Average
1,036		9.44% Pervious Area
9,941		90.56% Impervious Area

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

Subcatchment 1S: DA 1.2



Hydrograph for Subcatchment 1S: DA 1.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.16	1.04	0.00	2.06	0.00
0.04	0.32	1.06	0.00	2.08	0.00
0.06	0.47	1.08	0.00	2.10	0.00
0.08	**0.63**	1.10	0.00	2.12	0.00
0.10	**0.66**	1.12	0.00	2.14	0.00
0.12	0.66	1.14	0.00	2.16	0.00
0.14	0.66	1.16	0.00	2.18	0.00
0.16	0.66	1.18	0.00	2.20	0.00
0.18	0.66	1.20	0.00	2.22	0.00
0.20	0.66	1.22	0.00	2.24	0.00
0.22	0.50	1.24	0.00	2.26	0.00
0.24	0.34	1.26	0.00	2.28	0.00
0.26	0.18	1.28	0.00	2.30	0.00
0.28	0.03	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 2S: DA 2

[48] Hint: Peak<CiA due to short duration

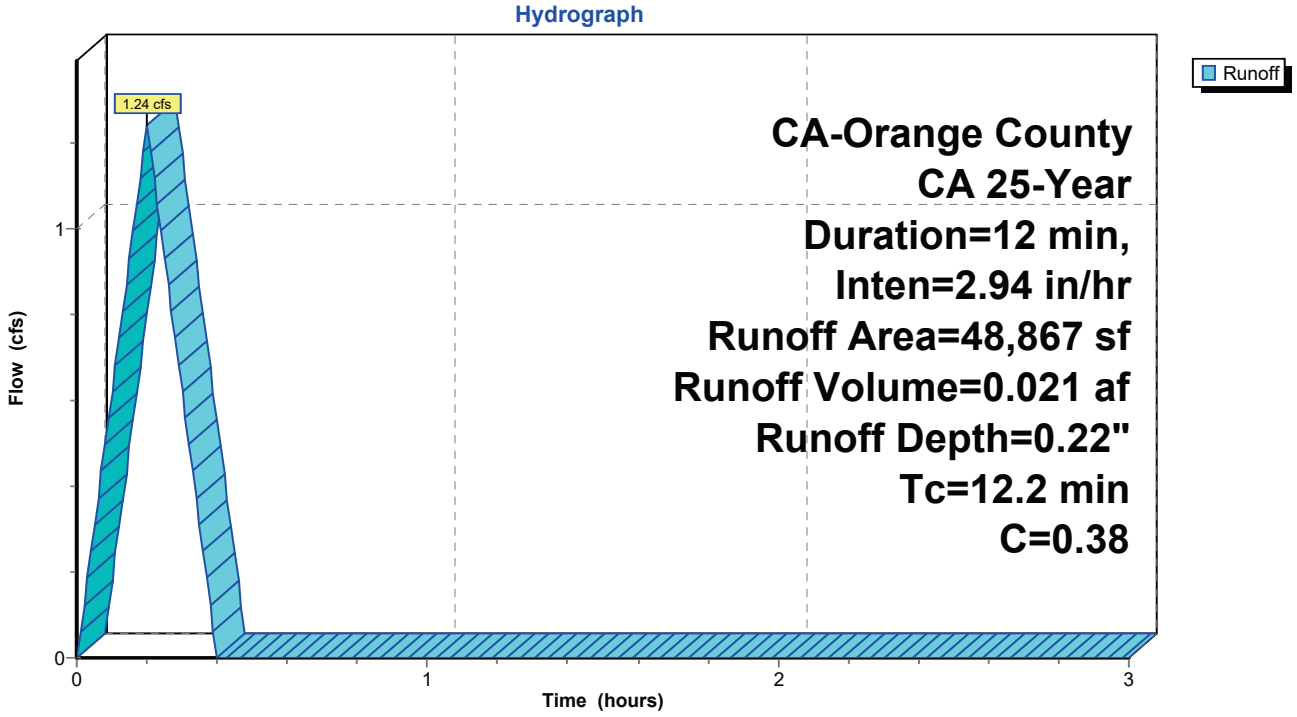
Runoff = 1.24 cfs @ 0.20 hrs, Volume= 0.021 af, Depth= 0.22"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
20,526	0.30	>75% Grass cover, Good, HSG B
2,326	0.85	Concrete Sidewalk
26,015	0.40	Pervious pavement
48,867	0.38	Weighted Average
48,867		100.00% Pervious Area

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

Subcatchment 2S: DA 2



Hydrograph for Subcatchment 2S: DA 2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.12	1.04	0.00	2.06	0.00
0.04	0.25	1.06	0.00	2.08	0.00
0.06	0.37	1.08	0.00	2.10	0.00
0.08	0.50	1.10	0.00	2.12	0.00
0.10	0.62	1.12	0.00	2.14	0.00
0.12	0.75	1.14	0.00	2.16	0.00
0.14	0.87	1.16	0.00	2.18	0.00
0.16	0.99	1.18	0.00	2.20	0.00
0.18	1.12	1.20	0.00	2.22	0.00
0.20	**1.24**	1.22	0.00	2.24	0.00
0.22	1.12	1.24	0.00	2.26	0.00
0.24	0.99	1.26	0.00	2.28	0.00
0.26	0.87	1.28	0.00	2.30	0.00
0.28	0.75	1.30	0.00	2.32	0.00
0.30	0.62	1.32	0.00	2.34	0.00
0.32	0.50	1.34	0.00	2.36	0.00
0.34	0.37	1.36	0.00	2.38	0.00
0.36	0.25	1.38	0.00	2.40	0.00
0.38	0.12	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 19S: DA 1.1

[48] Hint: Peak<CiA due to short duration

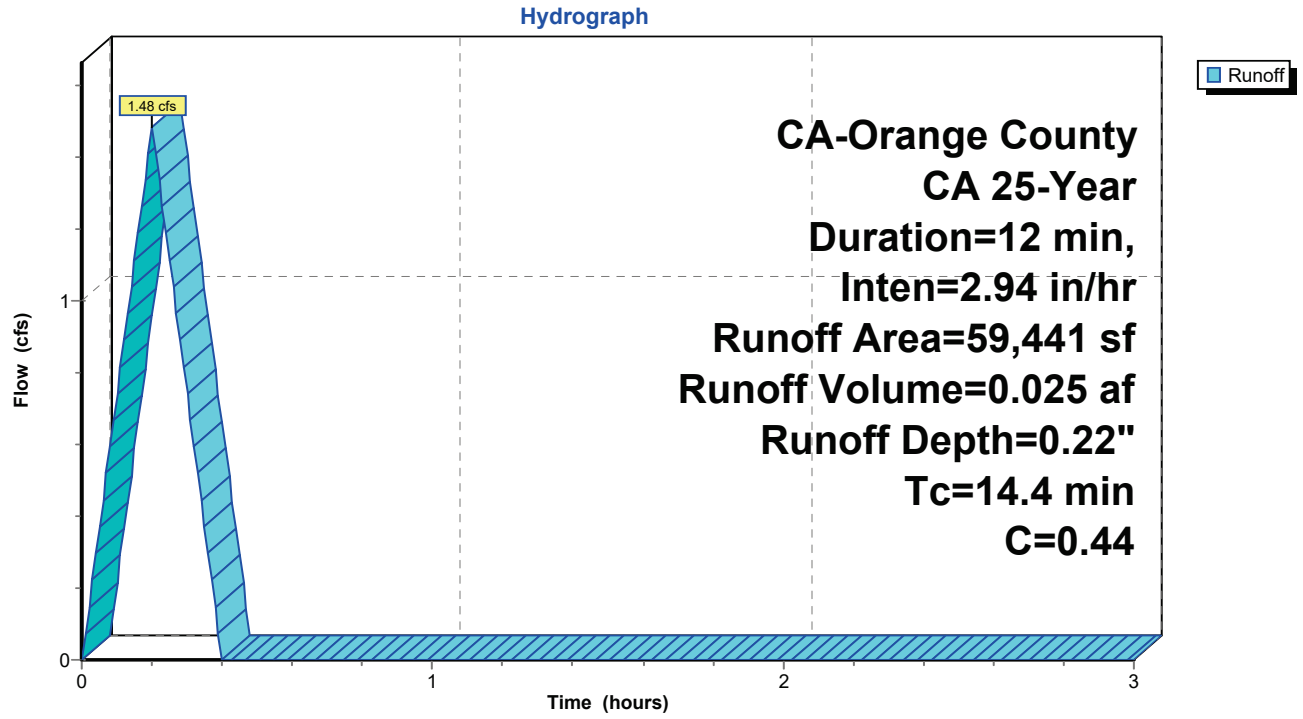
Runoff = 1.48 cfs @ 0.20 hrs, Volume= 0.025 af, Depth= 0.22"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
21,953	0.30	>75% Grass cover, Good, HSG B
10,164	0.85	Sidewalk
27,324	0.40	Pervious pavement
59,441	0.44	Weighted Average
59,441		100.00% Pervious Area

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

Subcatchment 19S: DA 1.1



Hydrograph for Subcatchment 19S: DA 1.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.15	1.04	0.00	2.06	0.00
0.04	0.30	1.06	0.00	2.08	0.00
0.06	0.44	1.08	0.00	2.10	0.00
0.08	0.59	1.10	0.00	2.12	0.00
0.10	0.74	1.12	0.00	2.14	0.00
0.12	0.89	1.14	0.00	2.16	0.00
0.14	1.04	1.16	0.00	2.18	0.00
0.16	1.19	1.18	0.00	2.20	0.00
0.18	1.33	1.20	0.00	2.22	0.00
0.20	**1.48**	1.22	0.00	2.24	0.00
0.22	1.33	1.24	0.00	2.26	0.00
0.24	1.19	1.26	0.00	2.28	0.00
0.26	1.04	1.28	0.00	2.30	0.00
0.28	0.89	1.30	0.00	2.32	0.00
0.30	0.74	1.32	0.00	2.34	0.00
0.32	0.59	1.34	0.00	2.36	0.00
0.34	0.44	1.36	0.00	2.38	0.00
0.36	0.30	1.38	0.00	2.40	0.00
0.38	0.15	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 3P: UNDGD STG

Inflow Area = 2.738 ac, 8.33% Impervious, Inflow Depth = 0.20" for 25-Year event
Inflow = 2.73 cfs @ 0.20 hrs, Volume= 0.045 af
Outflow = 0.91 cfs @ 0.33 hrs, Volume= 0.010 af, Atten= 67%, Lag= 8.0 min
Discarded = 0.01 cfs @ 0.33 hrs, Volume= 0.002 af
Secondary = 0.90 cfs @ 0.33 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 198.45' @ 0.33 hrs Surf.Area= 0.019 ac Storage= 0.040 af

Plug-Flow detention time= 28.6 min calculated for 0.010 af (21% of inflow)
Center-of-Mass det. time= 21.8 min (33.8 - 12.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	195.00'	0.018 af	**15.75'W x 53.46'L x 3.50'H Field A** 0.068 af Overall - 0.022 af Embedded = 0.046 af x 40.0% Voids
#2A	195.50'	0.022 af	**ADS_StormTech SC-740 +Cap** x 21 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 21 Chambers in 3 Rows
		0.040 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	195.00'	**0.300 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 165.20'
#2	Secondary	198.00'	**15.0" Round Culvert** L= 75.0' Ke= 0.500 Inlet / Outlet Invert= 198.00' / 195.00' S= 0.0400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.01 cfs @ 0.33 hrs HW=198.45' (Free Discharge)
↑**1=Exfiltration** (Controls 0.01 cfs)

Secondary OutFlow Max=0.90 cfs @ 0.33 hrs HW=198.45' (Free Discharge)
↑**2=Culvert** (Inlet Controls 0.90 cfs @ 2.28 fps)

Pond 3P: UNDGD STG - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

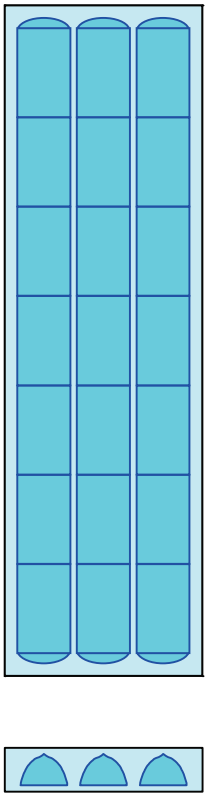
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

21 Chambers x 45.9 cf = 964.7 cf Chamber Storage

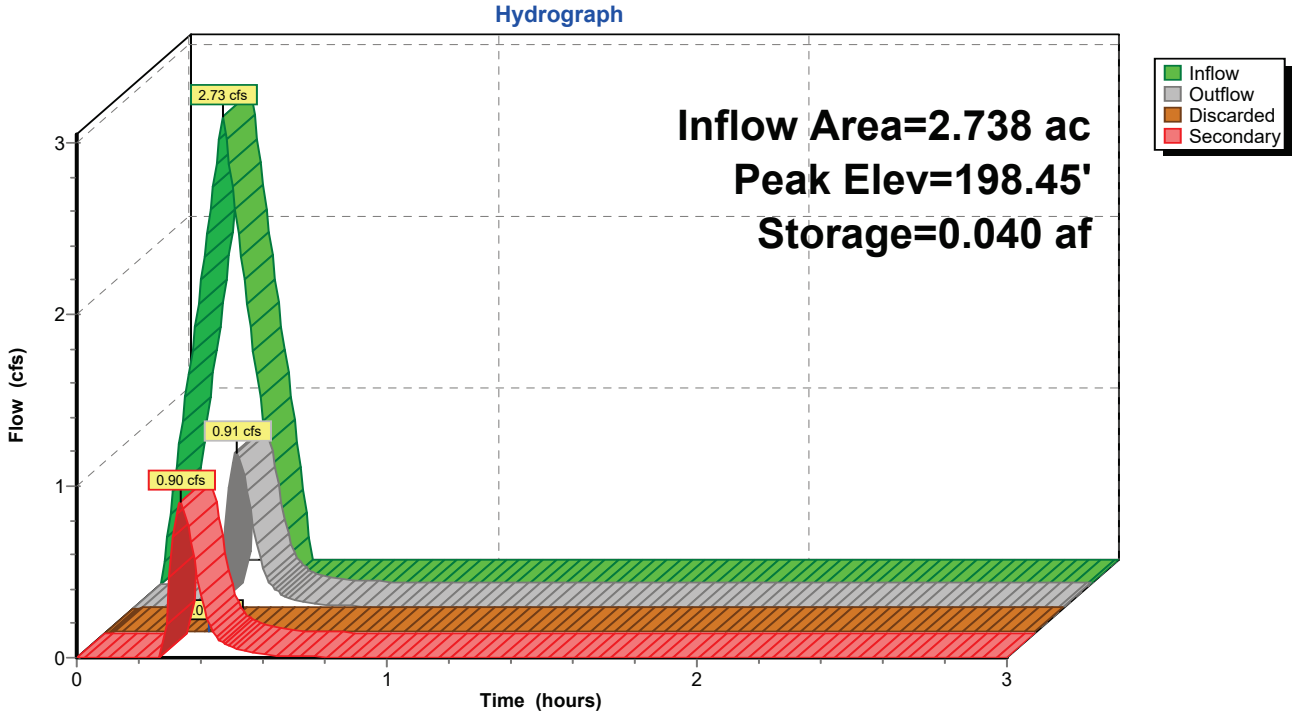
2,946.8 cf Field - 964.7 cf Chambers = 1,982.1 cf Stone x 40.0% Voids = 792.8 cf Stone Storage

Chamber Storage + Stone Storage = 1,757.6 cf = 0.040 af
Overall Storage Efficiency = 59.6%
Overall System Size = 53.46' x 15.75' x 3.50'

21 Chambers
109.1 cy Field
73.4 cy Stone



Pond 3P: UNDGD STG



Hydrograph for Pond 3P: UNDGD STG

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Secondary (cfs)
0.00	0.00	0.000	195.00	0.00	0.00	0.00
0.10	1.36	0.006	195.61	0.01	0.01	0.00
0.20	**2.73**	0.022	196.76	0.01	0.01	0.00
0.30	1.36	**0.039**	**198.32**	**0.47**	**0.01**	**0.47**
0.40	0.00	**0.039**	**198.28**	**0.38**	**0.01**	**0.37**
0.50	0.00	0.037	198.11	0.07	0.01	0.06
0.60	0.00	0.037	198.06	0.03	0.01	0.02
0.70	0.00	0.037	198.04	0.02	0.01	0.01
0.80	0.00	0.037	198.03	0.01	0.01	0.00
0.90	0.00	0.037	198.02	0.01	0.01	0.00
1.00	0.00	0.037	198.01	0.01	0.01	0.00
1.10	0.00	0.036	198.00	0.01	0.01	0.00
1.20	0.00	0.036	197.99	0.01	0.01	0.00
1.30	0.00	0.036	197.99	0.01	0.01	0.00
1.40	0.00	0.036	197.98	0.01	0.01	0.00
1.50	0.00	0.036	197.97	0.01	0.01	0.00
1.60	0.00	0.036	197.97	0.01	0.01	0.00
1.70	0.00	0.036	197.96	0.01	0.01	0.00
1.80	0.00	0.036	197.95	0.01	0.01	0.00
1.90	0.00	0.036	197.95	0.01	0.01	0.00
2.00	0.00	0.036	197.94	0.01	0.01	0.00
2.10	0.00	0.036	197.93	0.01	0.01	0.00
2.20	0.00	0.036	197.93	0.01	0.01	0.00
2.30	0.00	0.036	197.92	0.01	0.01	0.00
2.40	0.00	0.036	197.91	0.01	0.01	0.00
2.50	0.00	0.036	197.91	0.01	0.01	0.00
2.60	0.00	0.036	197.90	0.01	0.01	0.00
2.70	0.00	0.036	197.89	0.01	0.01	0.00
2.80	0.00	0.036	197.89	0.01	0.01	0.00
2.90	0.00	0.036	197.88	0.01	0.01	0.00
3.00	0.00	0.035	197.88	0.01	0.01	0.00

Summary for Pond 55P: BIOFILT

Inflow Area = 0.252 ac, 90.56% Impervious, Inflow Depth = 0.52" for 25-Year event
Inflow = 0.66 cfs @ 0.09 hrs, Volume= 0.011 af
Outflow = 0.06 cfs @ 0.28 hrs, Volume= 0.011 af, Atten= 91%, Lag= 11.2 min
Discarded = 0.06 cfs @ 0.28 hrs, Volume= 0.011 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 200.40' @ 0.28 hrs Surf.Area= 1,238 sf Storage= 418 cf

Plug-Flow detention time= 58.4 min calculated for 0.011 af (100% of inflow)
Center-of-Mass det. time= 58.3 min (66.8 - 8.5)

Volume	Invert	Avail.Storage	Storage Description
#1	200.00'	5,497 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

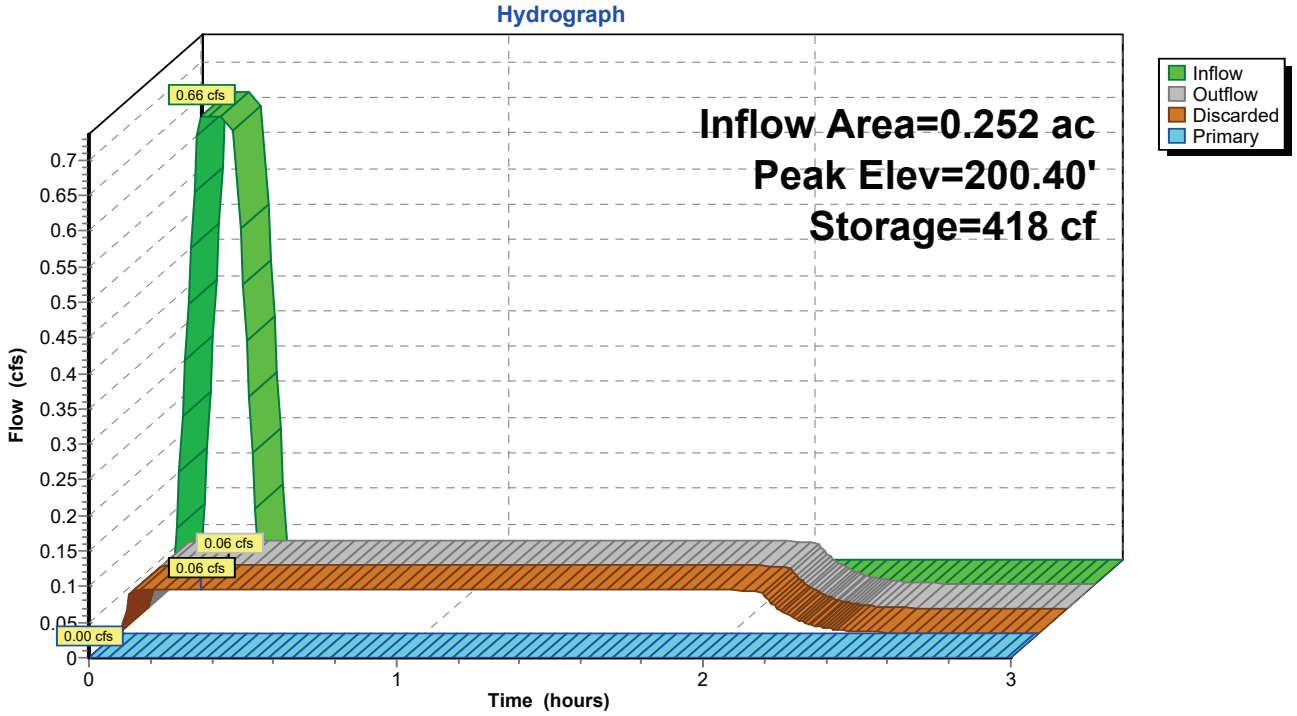
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
200.00	1,238	0.0	0	0
200.10	1,238	40.0	50	50
203.00	1,238	100.0	3,590	3,640
204.50	1,238	100.0	1,857	5,497

Device	Routing	Invert	Outlet Devices
#1	Discarded	200.00'	**2.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 165.20'
#2	Primary	204.00'	**6.0" Round Culvert** L= 87.5' Ke= 0.500 Inlet / Outlet Invert= 204.00' / 199.50' S= 0.0514 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.06 cfs @ 0.28 hrs HW=200.40' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=200.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 55P: BIOFILT



Hydrograph for Pond 55P: BIOFILT

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	200.00	0.00	0.00	**0.00**
0.10	**0.66**	122	200.16	0.06	0.06	0.00
0.20	0.66	**337**	**200.33**	**0.06**	**0.06**	0.00
0.30	0.00	**414**	**200.39**	**0.06**	**0.06**	0.00
0.40	0.00	392	200.38	0.06	0.06	0.00
0.50	0.00	370	200.36	0.06	0.06	0.00
0.60	0.00	348	200.34	0.06	0.06	0.00
0.70	0.00	326	200.32	0.06	0.06	0.00
0.80	0.00	304	200.31	0.06	0.06	0.00
0.90	0.00	283	200.29	0.06	0.06	0.00
1.00	0.00	261	200.27	0.06	0.06	0.00
1.10	0.00	239	200.25	0.06	0.06	0.00
1.20	0.00	217	200.24	0.06	0.06	0.00
1.30	0.00	195	200.22	0.06	0.06	0.00
1.40	0.00	174	200.20	0.06	0.06	0.00
1.50	0.00	152	200.18	0.06	0.06	0.00
1.60	0.00	130	200.16	0.06	0.06	0.00
1.70	0.00	108	200.15	0.06	0.06	0.00
1.80	0.00	86	200.13	0.06	0.06	0.00
1.90	0.00	65	200.11	0.06	0.06	0.00
2.00	0.00	43	200.09	0.06	0.06	0.00
2.10	0.00	21	200.04	0.06	0.06	0.00
2.20	0.00	8	200.02	0.02	0.02	0.00
2.30	0.00	3	200.01	0.01	0.01	0.00
2.40	0.00	1	200.00	0.00	0.00	0.00
2.50	0.00	0	200.00	0.00	0.00	0.00
2.60	0.00	0	200.00	0.00	0.00	0.00
2.70	0.00	0	200.00	0.00	0.00	0.00
2.80	0.00	0	200.00	0.00	0.00	0.00
2.90	0.00	0	200.00	0.00	0.00	0.00
3.00	0.00	0	200.00	0.00	0.00	0.00

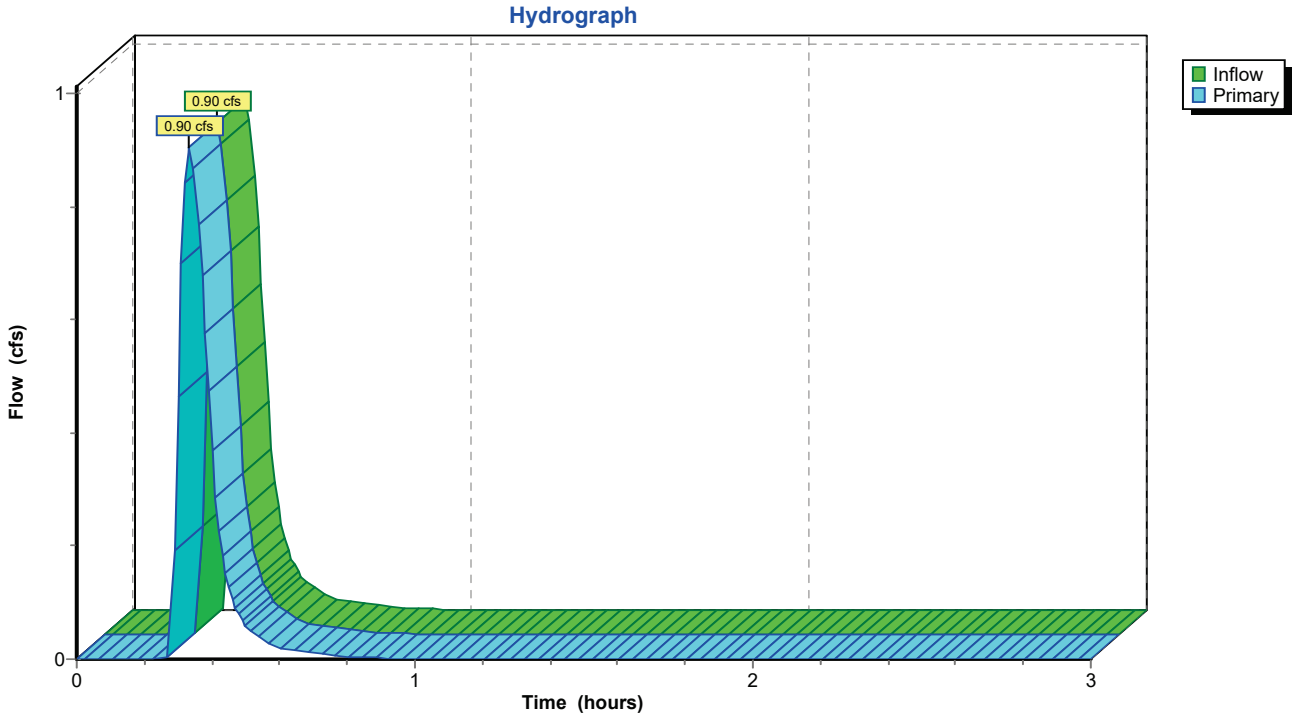
Summary for Pond 67P: OUTLET 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow	=	0.90 cfs @	0.33 hrs,	Volume=	0.008 af
Primary	=	0.90 cfs @	0.33 hrs,	Volume=	0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 67P: OUTLET 1



Hydrograph for Pond 67P: OUTLET 1

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.05	0.00		0.00
0.10	0.00		0.00
0.15	0.00		0.00
0.20	0.00		0.00
0.25	0.00		0.00
0.30	**0.47**		**0.47**
0.35	**0.84**		**0.84**
0.40	0.37		0.37
0.45	0.13		0.13
0.50	0.06		0.06
0.55	0.04		0.04
0.60	0.02		0.02
0.65	0.01		0.01
0.70	0.01		0.01
0.75	0.01		0.01
0.80	0.00		0.00
0.85	0.00		0.00
0.90	0.00		0.00
0.95	0.00		0.00
1.00	0.00		0.00
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: DA 1.2 Runoff Area=10,977 sf 90.56% Impervious Runoff Depth=0.69"
Tc=5.0 min C=0.88 Runoff=0.88 cfs 0.015 af

Subcatchment2S: DA 2 Runoff Area=48,867 sf 0.00% Impervious Runoff Depth=0.29"
Tc=12.2 min C=0.38 Runoff=1.67 cfs 0.028 af

Subcatchment19S: DA 1.1 Runoff Area=59,441 sf 0.00% Impervious Runoff Depth=0.29"
Tc=14.4 min C=0.44 Runoff=1.99 cfs 0.033 af

Pond 3P: UNDGD STG Peak Elev=199.20' Storage=0.040 af Inflow=3.66 cfs 0.060 af
Discarded=0.01 cfs 0.002 af Secondary=4.50 cfs 0.023 af Outflow=4.51 cfs 0.025 af

Pond 55P: BIOFILT Peak Elev=200.53' Storage=579 cf Inflow=0.88 cfs 0.015 af
Discarded=0.06 cfs 0.014 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.014 af

Pond 67P: OUTLET 1 Inflow=4.50 cfs 0.023 af
Primary=4.50 cfs 0.023 af

Total Runoff Area = 2.738 ac Runoff Volume = 0.075 af Average Runoff Depth = 0.33"
91.67% Pervious = 2.510 ac 8.33% Impervious = 0.228 ac

Summary for Subcatchment 1S: DA 1.2

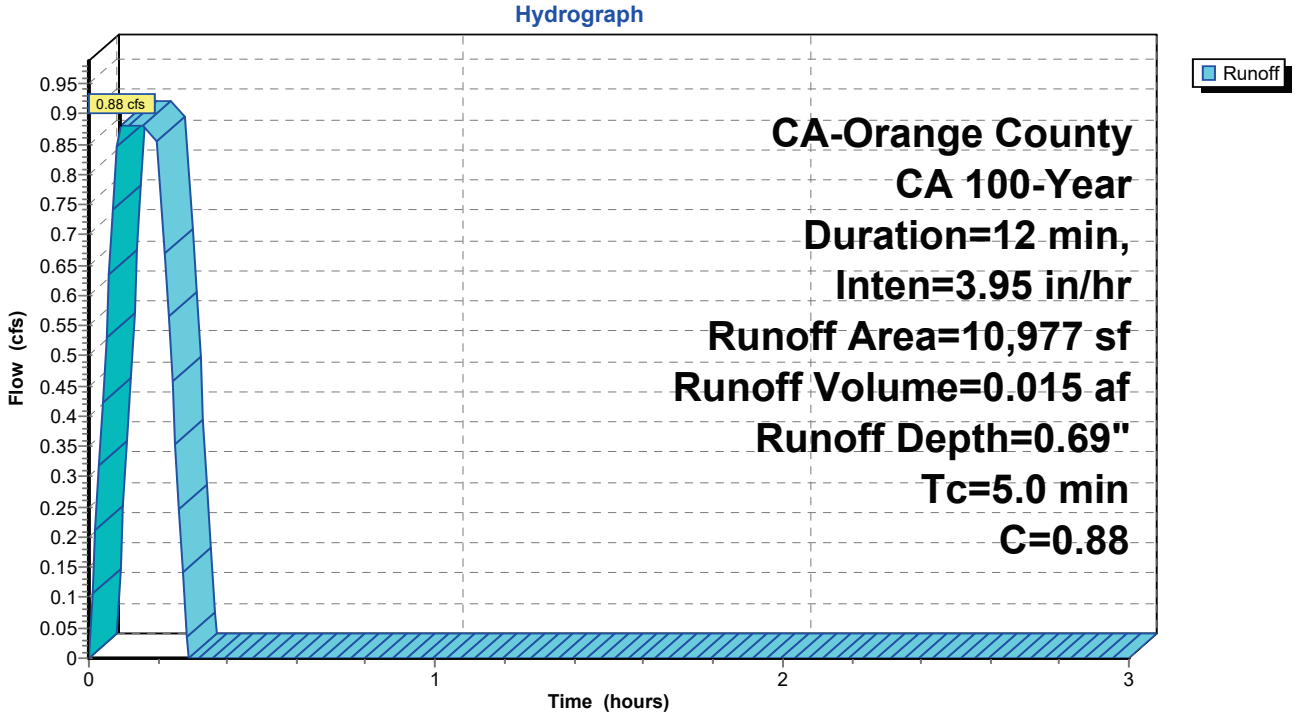
Runoff = 0.88 cfs @ 0.09 hrs, Volume= 0.015 af, Depth= 0.69"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
9,941	0.95	Roofs, HSG B
1,036	0.25	Landscape
10,977	0.88	Weighted Average
1,036		9.44% Pervious Area
9,941		90.56% Impervious Area

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

Subcatchment 1S: DA 1.2



Hydrograph for Subcatchment 1S: DA 1.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.21	1.04	0.00	2.06	0.00
0.04	0.42	1.06	0.00	2.08	0.00
0.06	0.64	1.08	0.00	2.10	0.00
0.08	**0.85**	1.10	0.00	2.12	0.00
0.10	**0.88**	1.12	0.00	2.14	0.00
0.12	0.88	1.14	0.00	2.16	0.00
0.14	0.88	1.16	0.00	2.18	0.00
0.16	0.88	1.18	0.00	2.20	0.00
0.18	0.88	1.20	0.00	2.22	0.00
0.20	0.88	1.22	0.00	2.24	0.00
0.22	0.67	1.24	0.00	2.26	0.00
0.24	0.46	1.26	0.00	2.28	0.00
0.26	0.25	1.28	0.00	2.30	0.00
0.28	0.04	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 2S: DA 2

[48] Hint: Peak<CiA due to short duration

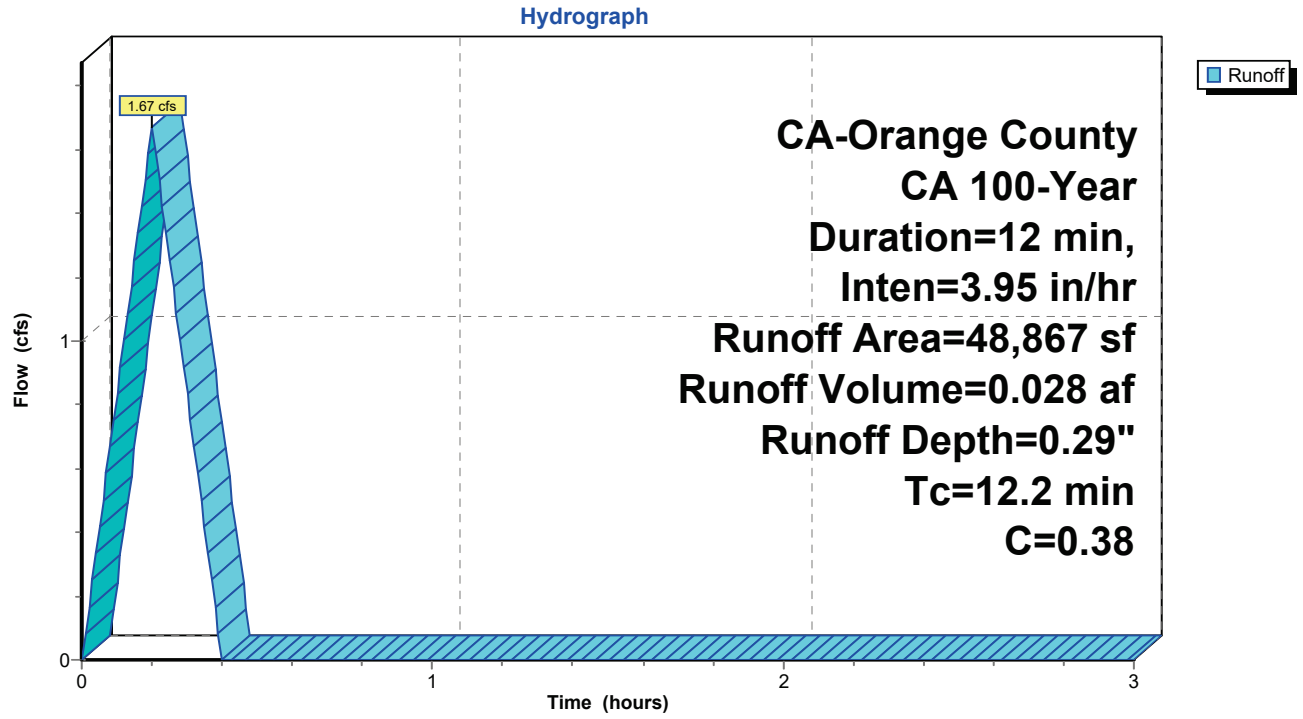
Runoff = 1.67 cfs @ 0.20 hrs, Volume= 0.028 af, Depth= 0.29"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
20,526	0.30	>75% Grass cover, Good, HSG B
2,326	0.85	Concrete Sidewalk
26,015	0.40	Pervious pavement
48,867	0.38	Weighted Average
48,867		100.00% Pervious Area

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

Subcatchment 2S: DA 2



Hydrograph for Subcatchment 2S: DA 2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.17	1.04	0.00	2.06	0.00
0.04	0.33	1.06	0.00	2.08	0.00
0.06	0.50	1.08	0.00	2.10	0.00
0.08	0.67	1.10	0.00	2.12	0.00
0.10	0.83	1.12	0.00	2.14	0.00
0.12	1.00	1.14	0.00	2.16	0.00
0.14	1.17	1.16	0.00	2.18	0.00
0.16	1.33	1.18	0.00	2.20	0.00
0.18	1.50	1.20	0.00	2.22	0.00
0.20	**1.67**	1.22	0.00	2.24	0.00
0.22	1.50	1.24	0.00	2.26	0.00
0.24	1.33	1.26	0.00	2.28	0.00
0.26	1.17	1.28	0.00	2.30	0.00
0.28	1.00	1.30	0.00	2.32	0.00
0.30	0.83	1.32	0.00	2.34	0.00
0.32	0.67	1.34	0.00	2.36	0.00
0.34	0.50	1.36	0.00	2.38	0.00
0.36	0.33	1.38	0.00	2.40	0.00
0.38	0.17	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 19S: DA 1.1

[48] Hint: Peak<CiA due to short duration

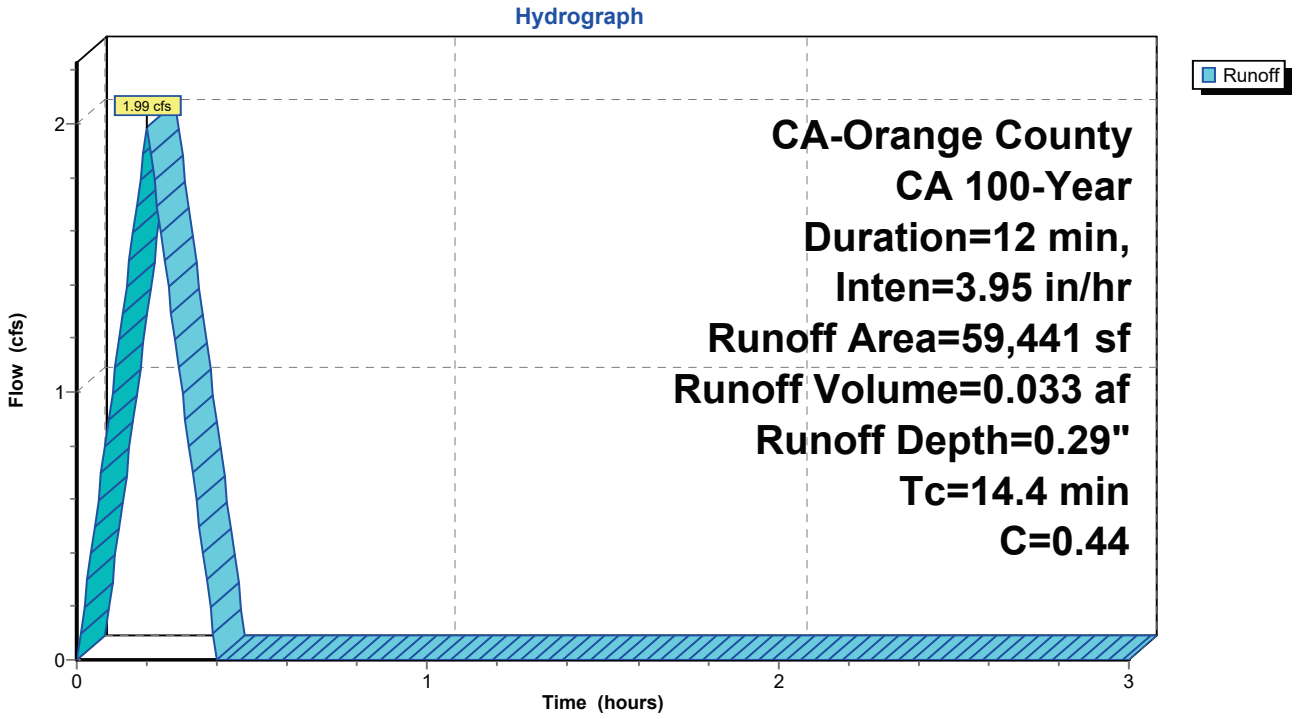
Runoff = 1.99 cfs @ 0.20 hrs, Volume= 0.033 af, Depth= 0.29"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
21,953	0.30	>75% Grass cover, Good, HSG B
10,164	0.85	Sidewalk
27,324	0.40	Pervious pavement
59,441	0.44	Weighted Average
59,441		100.00% Pervious Area

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

Subcatchment 19S: DA 1.1



Hydrograph for Subcatchment 19S: DA 1.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.20	1.04	0.00	2.06	0.00
0.04	0.40	1.06	0.00	2.08	0.00
0.06	0.60	1.08	0.00	2.10	0.00
0.08	0.80	1.10	0.00	2.12	0.00
0.10	1.00	1.12	0.00	2.14	0.00
0.12	1.19	1.14	0.00	2.16	0.00
0.14	1.39	1.16	0.00	2.18	0.00
0.16	1.59	1.18	0.00	2.20	0.00
0.18	1.79	1.20	0.00	2.22	0.00
0.20	**1.99**	1.22	0.00	2.24	0.00
0.22	1.79	1.24	0.00	2.26	0.00
0.24	1.59	1.26	0.00	2.28	0.00
0.26	1.39	1.28	0.00	2.30	0.00
0.28	1.19	1.30	0.00	2.32	0.00
0.30	1.00	1.32	0.00	2.34	0.00
0.32	0.80	1.34	0.00	2.36	0.00
0.34	0.60	1.36	0.00	2.38	0.00
0.36	0.40	1.38	0.00	2.40	0.00
0.38	0.20	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 3P: UNDGD STG

[93] Warning: Storage range exceeded by 0.70'
[88] Warning: Qout>Qin may require smaller dt or Finer Routing
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=2)

Inflow Area =	2.738 ac,	8.33% Impervious,	Inflow Depth =	0.27"	for 100-Year event
Inflow =	3.66 cfs @	0.20 hrs,	Volume=	0.060 af	
Outflow =	4.51 cfs @	0.25 hrs,	Volume=	0.025 af,	Atten= 0%, Lag= 3.0 min
Discarded =	0.01 cfs @	0.25 hrs,	Volume=	0.002 af	
Secondary =	4.50 cfs @	0.25 hrs,	Volume=	0.023 af	

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 199.20' @ 0.25 hrs Surf.Area= 0.019 ac Storage= 0.040 af

Plug-Flow detention time= 16.1 min calculated for 0.025 af (41% of inflow)
Center-of-Mass det. time= 11.3 min (23.3 - 12.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	195.00'	0.018 af	**15.75'W x 53.46'L x 3.50'H Field A** 0.068 af Overall - 0.022 af Embedded = 0.046 af x 40.0% Voids
#2A	195.50'	0.022 af	**ADS_StormTech SC-740 +Cap** x 21 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 21 Chambers in 3 Rows
		0.040 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	195.00'	**0.300 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 165.20'
#2	Secondary	198.00'	**15.0" Round Culvert** L= 75.0' Ke= 0.500 Inlet / Outlet Invert= 198.00' / 195.00' S= 0.0400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.01 cfs @ 0.25 hrs HW=199.19' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.01 cfs)

Secondary OutFlow Max=4.50 cfs @ 0.25 hrs HW=199.19' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 4.50 cfs @ 3.72 fps)

Pond 3P: UNDGD STG - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

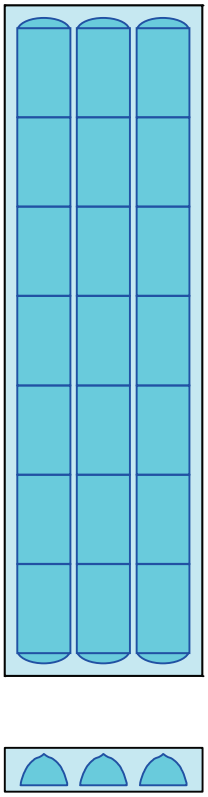
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

21 Chambers x 45.9 cf = 964.7 cf Chamber Storage

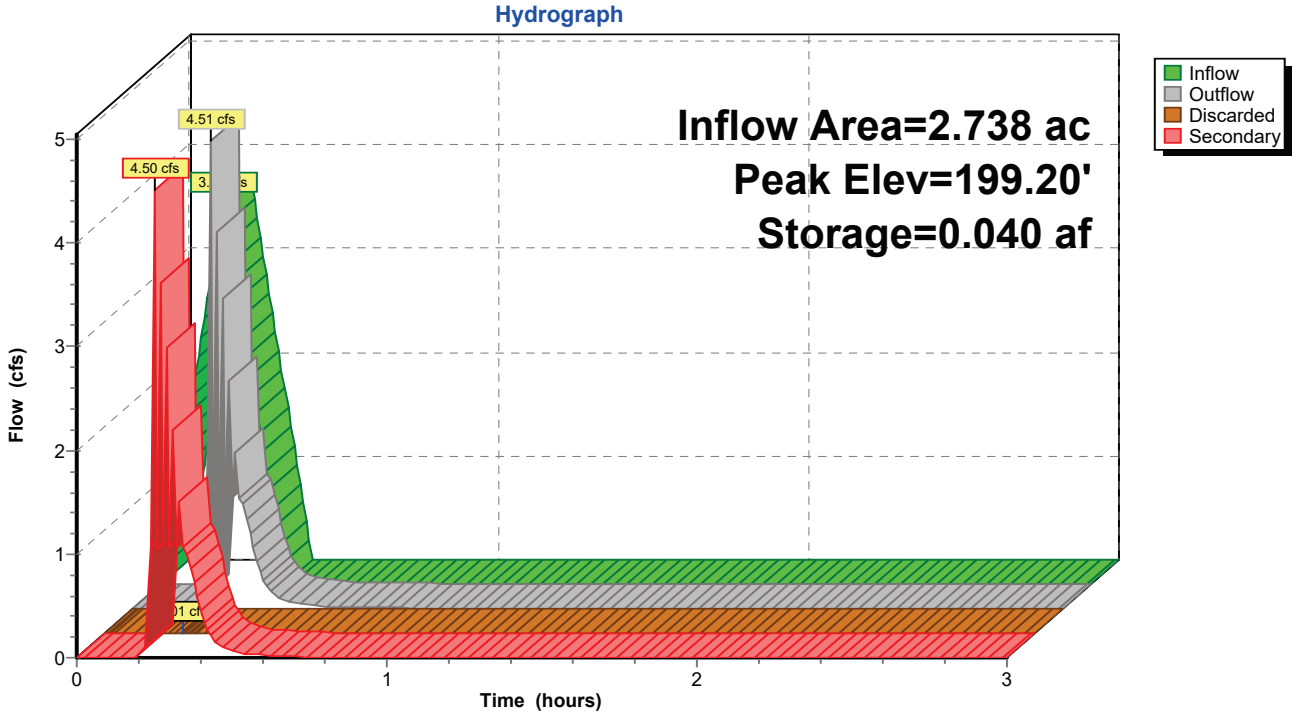
2,946.8 cf Field - 964.7 cf Chambers = 1,982.1 cf Stone x 40.0% Voids = 792.8 cf Stone Storage

Chamber Storage + Stone Storage = 1,757.6 cf = 0.040 af
Overall Storage Efficiency = 59.6%
Overall System Size = 53.46' x 15.75' x 3.50'

21 Chambers
109.1 cy Field
73.4 cy Stone



Pond 3P: UNDGD STG



Hydrograph for Pond 3P: UNDGD STG

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Secondary (cfs)
0.00	0.00	0.000	195.00	0.00	0.00	0.00
0.10	1.83	0.008	195.74	0.01	0.01	0.00
0.20	**3.66**	**0.030**	**197.36**	**0.01**	**0.01**	**0.00**
0.30	1.83	**0.040**	**198.49**	**1.06**	**0.01**	**1.06**
0.40	0.00	0.039	198.31	0.46	0.01	0.45
0.50	0.00	0.037	198.11	0.07	0.01	0.07
0.60	0.00	0.037	198.07	0.03	0.01	0.02
0.70	0.00	0.037	198.04	0.02	0.01	0.01
0.80	0.00	0.037	198.03	0.01	0.01	0.01
0.90	0.00	0.037	198.02	0.01	0.01	0.00
1.00	0.00	0.037	198.01	0.01	0.01	0.00
1.10	0.00	0.036	198.00	0.01	0.01	0.00
1.20	0.00	0.036	197.99	0.01	0.01	0.00
1.30	0.00	0.036	197.99	0.01	0.01	0.00
1.40	0.00	0.036	197.98	0.01	0.01	0.00
1.50	0.00	0.036	197.97	0.01	0.01	0.00
1.60	0.00	0.036	197.97	0.01	0.01	0.00
1.70	0.00	0.036	197.96	0.01	0.01	0.00
1.80	0.00	0.036	197.95	0.01	0.01	0.00
1.90	0.00	0.036	197.95	0.01	0.01	0.00
2.00	0.00	0.036	197.94	0.01	0.01	0.00
2.10	0.00	0.036	197.93	0.01	0.01	0.00
2.20	0.00	0.036	197.93	0.01	0.01	0.00
2.30	0.00	0.036	197.92	0.01	0.01	0.00
2.40	0.00	0.036	197.91	0.01	0.01	0.00
2.50	0.00	0.036	197.91	0.01	0.01	0.00
2.60	0.00	0.036	197.90	0.01	0.01	0.00
2.70	0.00	0.036	197.89	0.01	0.01	0.00
2.80	0.00	0.036	197.89	0.01	0.01	0.00
2.90	0.00	0.036	197.88	0.01	0.01	0.00
3.00	0.00	0.035	197.88	0.01	0.01	0.00

Summary for Pond 55P: BIOFILT

Inflow Area = 0.252 ac, 90.56% Impervious, Inflow Depth = 0.69" for 100-Year event
Inflow = 0.88 cfs @ 0.09 hrs, Volume= 0.015 af
Outflow = 0.06 cfs @ 0.28 hrs, Volume= 0.014 af, Atten= 93%, Lag= 11.3 min
Discarded = 0.06 cfs @ 0.28 hrs, Volume= 0.014 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 200.53' @ 0.28 hrs Surf.Area= 1,238 sf Storage= 579 cf

Plug-Flow detention time= 79.5 min calculated for 0.014 af (99% of inflow)
Center-of-Mass det. time= 79.5 min (88.0 - 8.5)

Volume	Invert	Avail.Storage	Storage Description
#1	200.00'	5,497 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

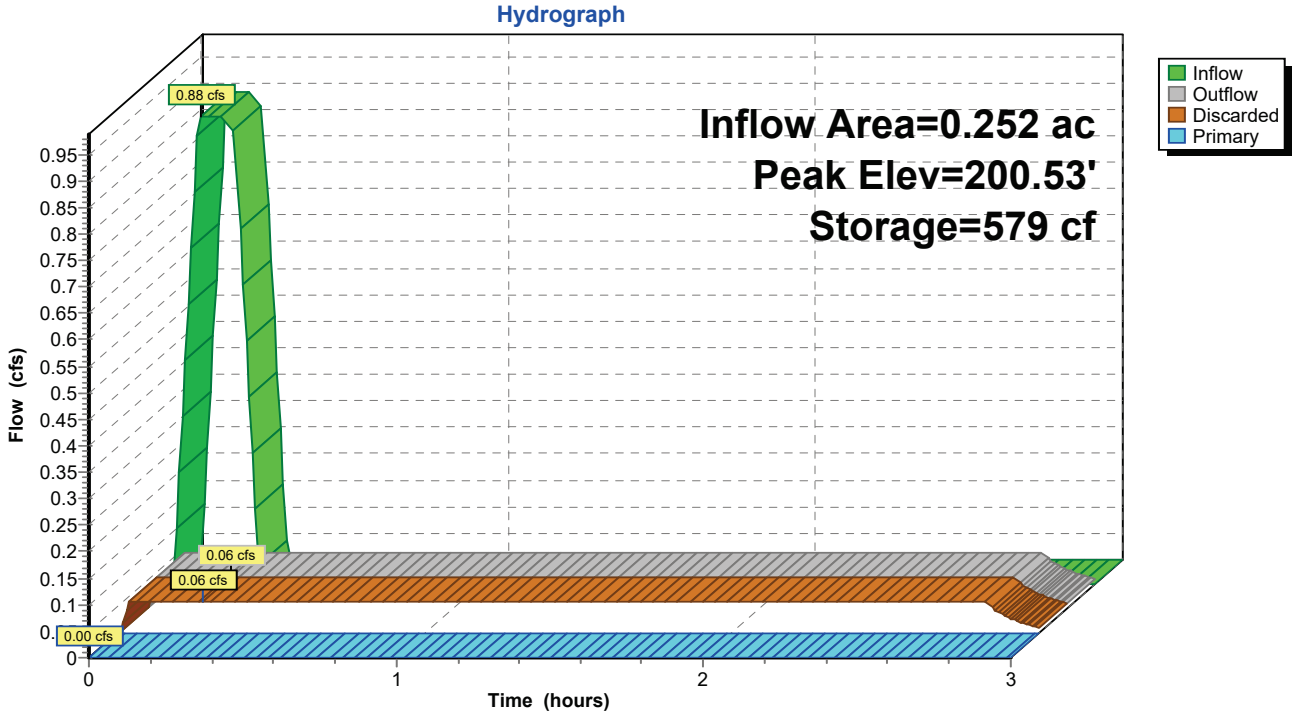
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
200.00	1,238	0.0	0	0
200.10	1,238	40.0	50	50
203.00	1,238	100.0	3,590	3,640
204.50	1,238	100.0	1,857	5,497

Device	Routing	Invert	Outlet Devices
#1	Discarded	200.00'	**2.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 165.20'
#2	Primary	204.00'	**6.0" Round Culvert** L= 87.5' Ke= 0.500 Inlet / Outlet Invert= 204.00' / 199.50' S= 0.0514 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.06 cfs @ 0.28 hrs HW=200.53' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=200.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 55P: BIOFILT



Hydrograph for Pond 55P: BIOFILT

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	200.00	0.00	0.00	**0.00**
0.10	**0.88**	168	200.20	0.06	0.06	0.00
0.20	0.88	**464**	**200.43**	**0.06**	**0.06**	0.00
0.30	0.00	**575**	**200.52**	**0.06**	**0.06**	0.00
0.40	0.00	553	200.51	0.06	0.06	0.00
0.50	0.00	531	200.49	0.06	0.06	0.00
0.60	0.00	509	200.47	0.06	0.06	0.00
0.70	0.00	487	200.45	0.06	0.06	0.00
0.80	0.00	465	200.44	0.06	0.06	0.00
0.90	0.00	443	200.42	0.06	0.06	0.00
1.00	0.00	421	200.40	0.06	0.06	0.00
1.10	0.00	399	200.38	0.06	0.06	0.00
1.20	0.00	377	200.36	0.06	0.06	0.00
1.30	0.00	356	200.35	0.06	0.06	0.00
1.40	0.00	334	200.33	0.06	0.06	0.00
1.50	0.00	312	200.31	0.06	0.06	0.00
1.60	0.00	290	200.29	0.06	0.06	0.00
1.70	0.00	268	200.28	0.06	0.06	0.00
1.80	0.00	246	200.26	0.06	0.06	0.00
1.90	0.00	224	200.24	0.06	0.06	0.00
2.00	0.00	203	200.22	0.06	0.06	0.00
2.10	0.00	181	200.21	0.06	0.06	0.00
2.20	0.00	159	200.19	0.06	0.06	0.00
2.30	0.00	137	200.17	0.06	0.06	0.00
2.40	0.00	116	200.15	0.06	0.06	0.00
2.50	0.00	94	200.14	0.06	0.06	0.00
2.60	0.00	72	200.12	0.06	0.06	0.00
2.70	0.00	50	200.10	0.06	0.06	0.00
2.80	0.00	29	200.06	0.06	0.06	0.00
2.90	0.00	11	200.02	0.03	0.03	0.00
3.00	0.00	4	200.01	0.01	0.01	0.00

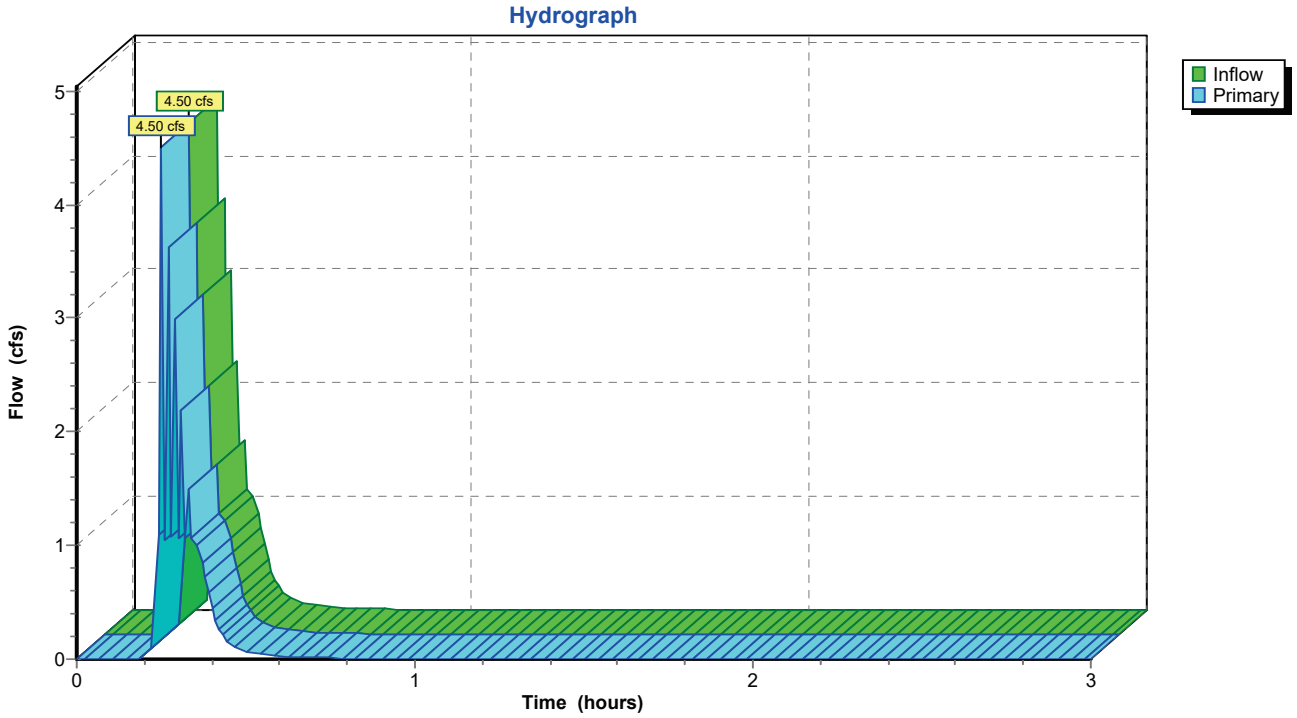
Summary for Pond 67P: OUTLET 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow	=	4.50 cfs @	0.25 hrs,	Volume=	0.023 af
Primary	=	4.50 cfs @	0.25 hrs,	Volume=	0.023 af, Atten= 0%, Lag= 0.0 min

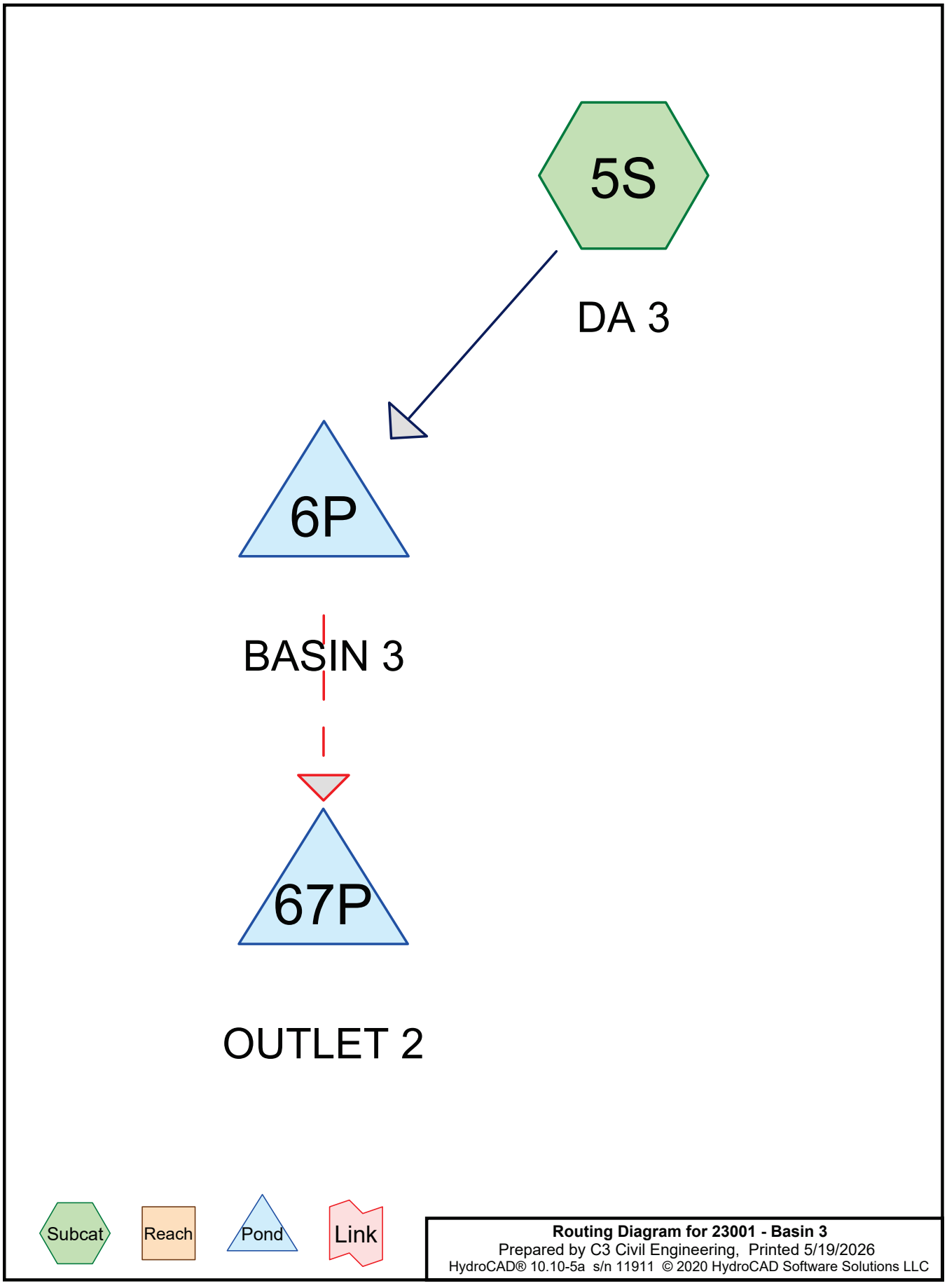
Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 67P: OUTLET 1



Hydrograph for Pond 67P: OUTLET 1

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.05	0.00		0.00
0.10	0.00		0.00
0.15	0.00		0.00
0.20	0.00		0.00
0.25	**4.50**		**4.50**
0.30	1.06		1.06
0.35	1.04		1.04
0.40	0.45		0.45
0.45	0.14		0.14
0.50	0.07		0.07
0.55	0.04		0.04
0.60	0.02		0.02
0.65	0.02		0.02
0.70	0.01		0.01
0.75	0.01		0.01
0.80	0.01		0.01
0.85	0.00		0.00
0.90	0.00		0.00
0.95	0.00		0.00
1.00	0.00		0.00
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00



Routing Diagram for 23001 - Basin 3
Prepared by C3 Civil Engineering, Printed 5/19/2026
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23001 - Basin 3

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	6P	200.00	197.00	220.0	0.0136	0.010	0.0	12.0	0.0

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5S: DA 3 Runoff Area=38,777 sf 0.00% Impervious Runoff Depth=0.22"
Tc=10.5 min C=0.37 Runoff=0.98 cfs 0.016 af

Pond 6P: BASIN 3 Peak Elev=200.33' Storage=396 cf Inflow=0.98 cfs 0.016 af
Discarded=0.06 cfs 0.005 af Secondary=0.45 cfs 0.011 af Outflow=0.52 cfs 0.016 af

Pond 67P: OUTLET 2 Inflow=0.45 cfs 0.011 af
Primary=0.45 cfs 0.011 af

Total Runoff Area = 0.890 ac Runoff Volume = 0.016 af Average Runoff Depth = 0.22"
100.00% Pervious = 0.890 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 5S: DA 3

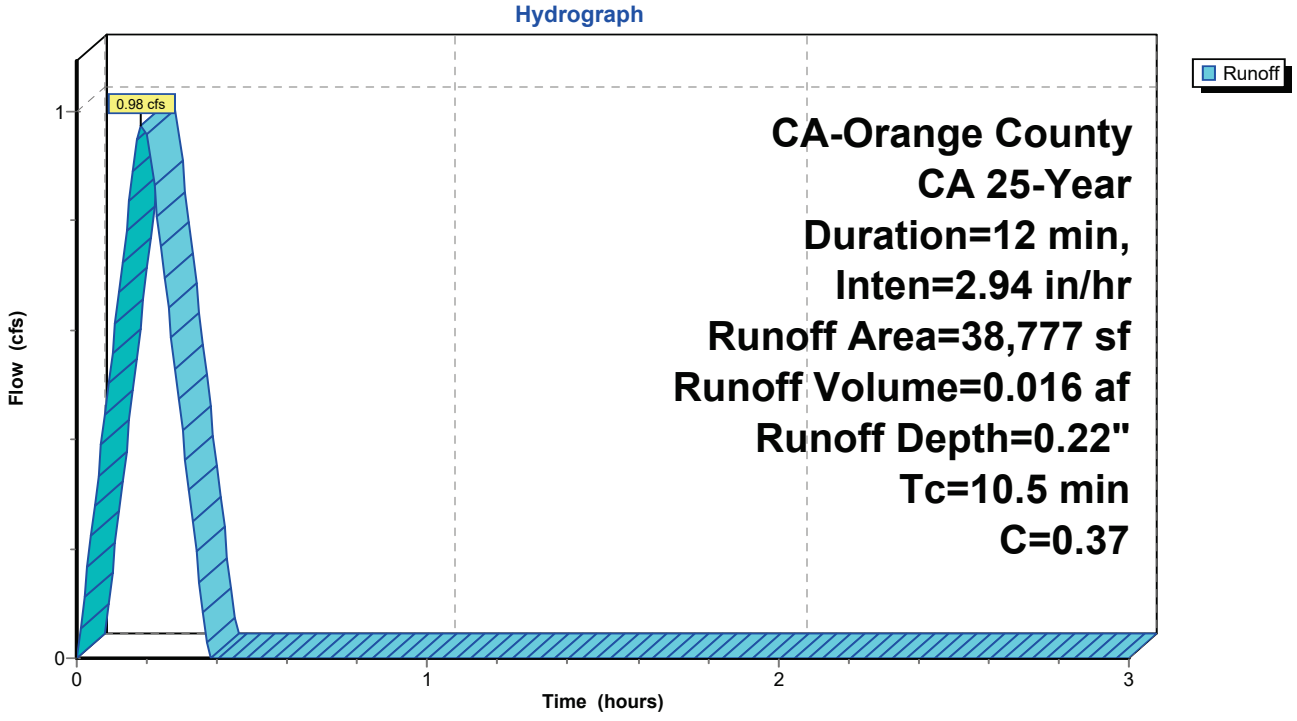
Runoff = 0.98 cfs @ 0.18 hrs, Volume= 0.016 af, Depth= 0.22"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
17,055	0.30	>75% Grass cover, Good, HSG B
1,376	0.85	Concrete Sidewalk
20,346	0.40	Pervious pavement
38,777	0.37	Weighted Average
38,777		100.00% Pervious Area

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

Subcatchment 5S: DA 3



Hydrograph for Subcatchment 5S: DA 3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.11	1.04	0.00	2.06	0.00
0.04	0.22	1.06	0.00	2.08	0.00
0.06	0.33	1.08	0.00	2.10	0.00
0.08	0.45	1.10	0.00	2.12	0.00
0.10	0.56	1.12	0.00	2.14	0.00
0.12	0.67	1.14	0.00	2.16	0.00
0.14	0.78	1.16	0.00	2.18	0.00
0.16	0.89	1.18	0.00	2.20	0.00
0.18	**0.98**	1.20	0.00	2.22	0.00
0.20	0.98	1.22	0.00	2.24	0.00
0.22	0.86	1.24	0.00	2.26	0.00
0.24	0.75	1.26	0.00	2.28	0.00
0.26	0.64	1.28	0.00	2.30	0.00
0.28	0.53	1.30	0.00	2.32	0.00
0.30	0.42	1.32	0.00	2.34	0.00
0.32	0.31	1.34	0.00	2.36	0.00
0.34	0.20	1.36	0.00	2.38	0.00
0.36	0.08	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 6P: BASIN 3

Inflow Area = 0.890 ac, 0.00% Impervious, Inflow Depth = 0.22" for 25-Year event
Inflow = 0.98 cfs @ 0.18 hrs, Volume= 0.016 af
Outflow = 0.52 cfs @ 0.28 hrs, Volume= 0.016 af, Atten= 47%, Lag= 6.2 min
Discarded = 0.06 cfs @ 0.28 hrs, Volume= 0.005 af
Secondary = 0.45 cfs @ 0.28 hrs, Volume= 0.011 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 200.33' @ 0.28 hrs Surf.Area= 1,249 sf Storage= 396 cf

Plug-Flow detention time= 14.8 min calculated for 0.016 af (100% of inflow)
Center-of-Mass det. time= 14.7 min (25.9 - 11.3)

Volume	Invert	Avail.Storage	Storage Description
#1	200.00'	3,056 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

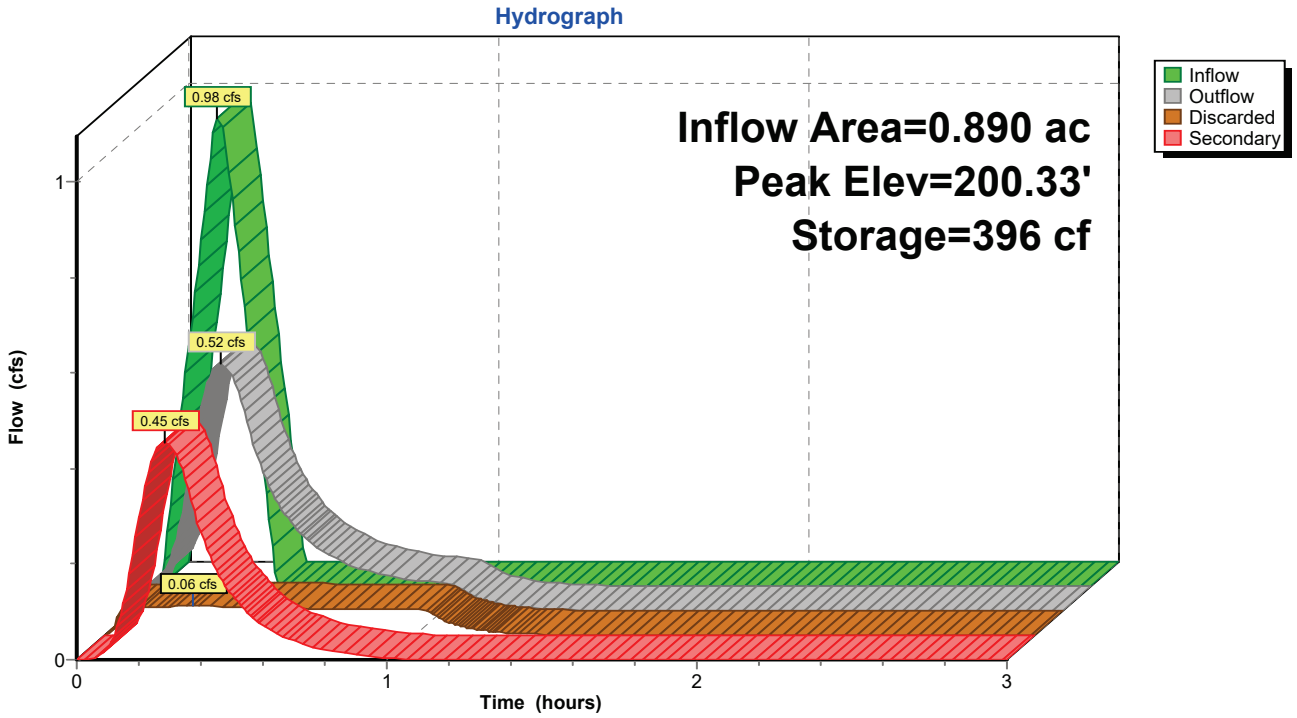
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
200.00	1,116	0	0
201.00	1,514	1,315	1,315
202.00	1,968	1,741	3,056

Device	Routing	Invert	Outlet Devices
#1	Discarded	200.00'	**2.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 168.00'
#2	Secondary	200.00'	**12.0" Round Culvert** L= 220.0' Ke= 0.500 Inlet / Outlet Invert= 200.00' / 197.00' S= 0.0136 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.06 cfs @ 0.28 hrs HW=200.33' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.06 cfs)

Secondary OutFlow Max=0.45 cfs @ 0.28 hrs HW=200.33' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 0.45 cfs @ 1.97 fps)

Pond 6P: BASIN 3



Hydrograph for Pond 6P: BASIN 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Secondary (cfs)
0.00	0.00	0	200.00	0.00	0.00	0.00
0.10	**0.56**	85	200.08	0.08	0.06	0.03
0.20	**0.98**	**311**	**200.27**	**0.36**	**0.06**	**0.30**
0.30	0.42	**393**	**200.33**	**0.51**	**0.06**	**0.45**
0.40	0.00	295	200.25	0.33	0.06	0.27
0.50	0.00	204	200.18	0.19	0.06	0.14
0.60	0.00	147	200.13	0.13	0.06	0.07
0.70	0.00	107	200.09	0.10	0.06	0.04
0.80	0.00	77	200.07	0.08	0.06	0.02
0.90	0.00	51	200.05	0.06	0.06	0.01
1.00	0.00	29	200.03	0.06	0.05	0.00
1.10	0.00	12	200.01	0.03	0.03	0.00
1.20	0.00	5	200.00	0.01	0.01	0.00
1.30	0.00	2	200.00	0.01	0.00	0.00
1.40	0.00	1	200.00	0.00	0.00	0.00
1.50	0.00	0	200.00	0.00	0.00	0.00
1.60	0.00	0	200.00	0.00	0.00	0.00
1.70	0.00	0	200.00	0.00	0.00	0.00
1.80	0.00	0	200.00	0.00	0.00	0.00
1.90	0.00	0	200.00	0.00	0.00	0.00
2.00	0.00	0	200.00	0.00	0.00	0.00
2.10	0.00	0	200.00	0.00	0.00	0.00
2.20	0.00	0	200.00	0.00	0.00	0.00
2.30	0.00	0	200.00	0.00	0.00	0.00
2.40	0.00	0	200.00	0.00	0.00	0.00
2.50	0.00	0	200.00	0.00	0.00	0.00
2.60	0.00	0	200.00	0.00	0.00	0.00
2.70	0.00	0	200.00	0.00	0.00	0.00
2.80	0.00	0	200.00	0.00	0.00	0.00
2.90	0.00	0	200.00	0.00	0.00	0.00
3.00	0.00	0	200.00	0.00	0.00	0.00

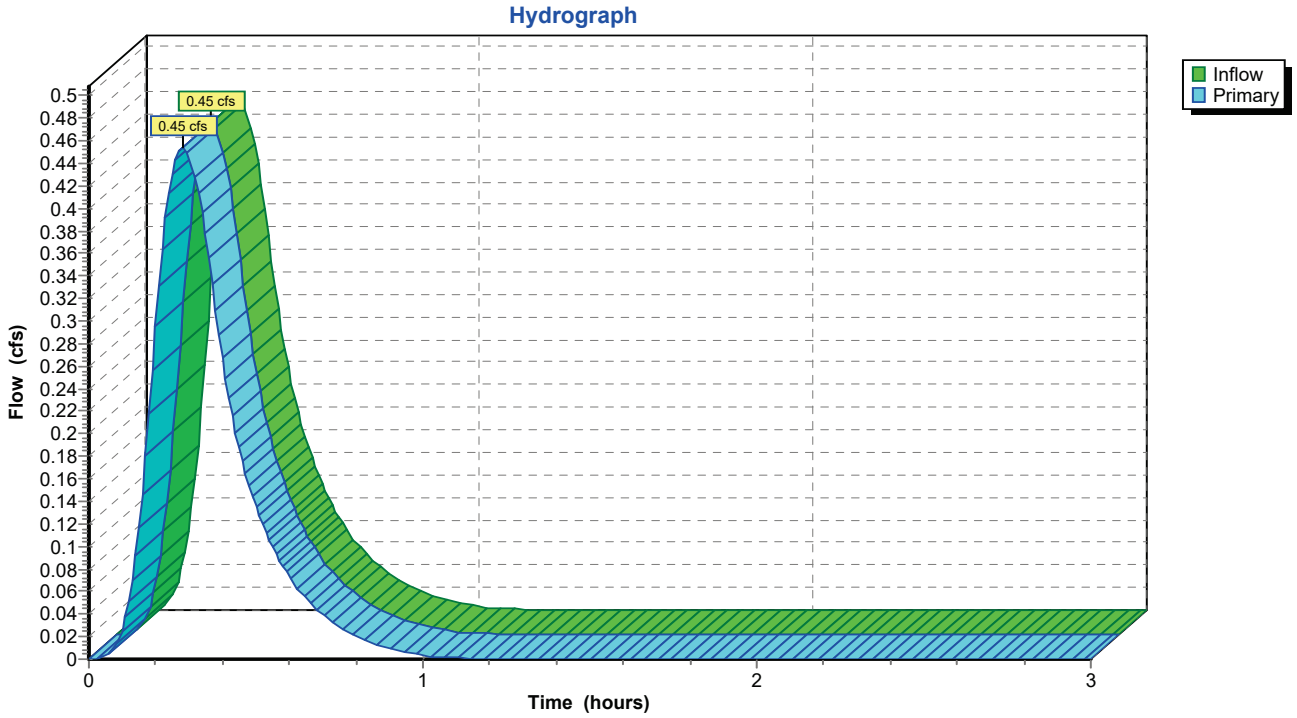
Summary for Pond 67P: OUTLET 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow	=	0.45 cfs @	0.28 hrs,	Volume=	0.011 af
Primary	=	0.45 cfs @	0.28 hrs,	Volume=	0.011 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 67P: OUTLET 2



Hydrograph for Pond 67P: OUTLET 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.05	0.00		0.00
0.10	0.03		0.03
0.15	0.12		0.12
0.20	0.30		0.30
0.25	**0.43**		**0.43**
0.30	**0.45**		**0.45**
0.35	0.38		0.38
0.40	0.27		0.27
0.45	0.19		0.19
0.50	0.14		0.14
0.55	0.10		0.10
0.60	0.07		0.07
0.65	0.05		0.05
0.70	0.04		0.04
0.75	0.03		0.03
0.80	0.02		0.02
0.85	0.01		0.01
0.90	0.01		0.01
0.95	0.01		0.01
1.00	0.00		0.00
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5S: DA 3 Runoff Area=38,777 sf 0.00% Impervious Runoff Depth=0.29"
Tc=10.5 min C=0.37 Runoff=1.31 cfs 0.022 af

Pond 6P: BASIN 3 Peak Elev=200.42' Storage=503 cf Inflow=1.31 cfs 0.022 af
Discarded=0.06 cfs 0.006 af Secondary=0.69 cfs 0.016 af Outflow=0.75 cfs 0.022 af

Pond 67P: OUTLET 2 Inflow=0.69 cfs 0.016 af
Primary=0.69 cfs 0.016 af

Total Runoff Area = 0.890 ac Runoff Volume = 0.022 af Average Runoff Depth = 0.29"
100.00% Pervious = 0.890 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 5S: DA 3

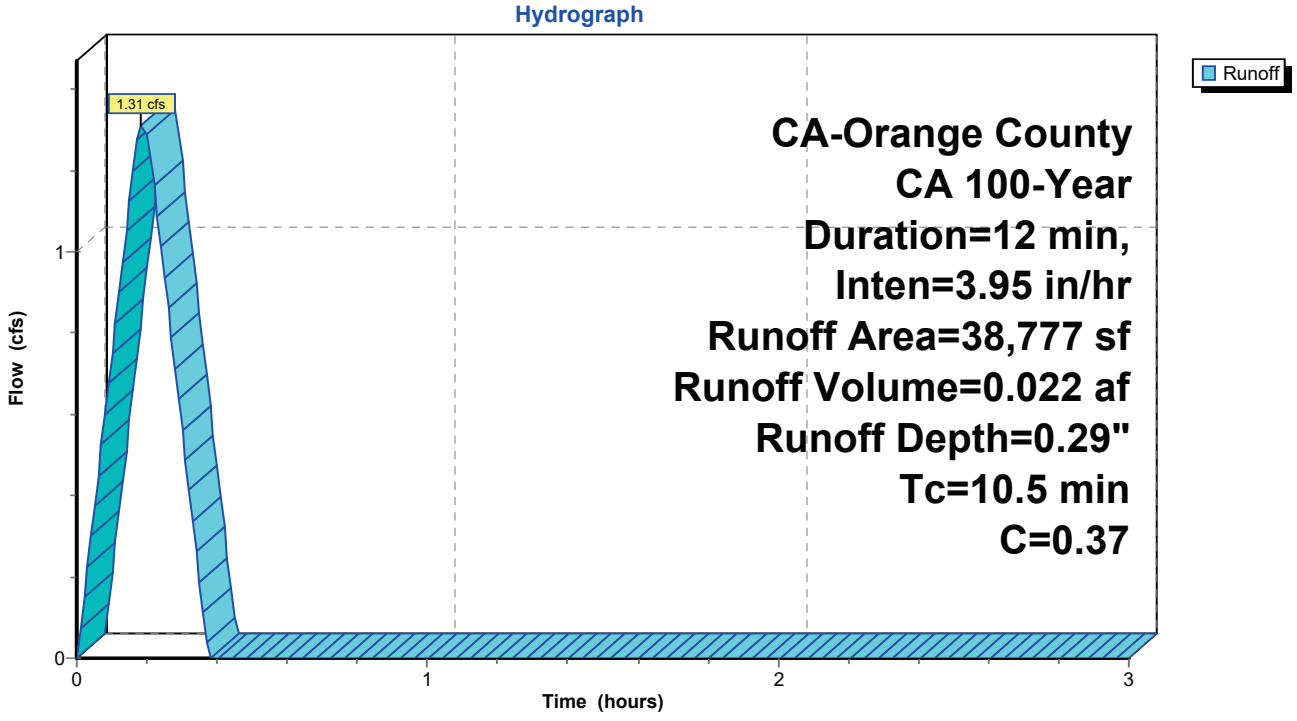
Runoff = 1.31 cfs @ 0.18 hrs, Volume= 0.022 af, Depth= 0.29"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
17,055	0.30	>75% Grass cover, Good, HSG B
1,376	0.85	Concrete Sidewalk
20,346	0.40	Pervious pavement
38,777	0.37	Weighted Average
38,777		100.00% Pervious Area

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

Subcatchment 5S: DA 3



Hydrograph for Subcatchment 5S: DA 3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.15	1.04	0.00	2.06	0.00
0.04	0.30	1.06	0.00	2.08	0.00
0.06	0.45	1.08	0.00	2.10	0.00
0.08	0.60	1.10	0.00	2.12	0.00
0.10	0.75	1.12	0.00	2.14	0.00
0.12	0.90	1.14	0.00	2.16	0.00
0.14	1.05	1.16	0.00	2.18	0.00
0.16	1.20	1.18	0.00	2.20	0.00
0.18	**1.31**	1.20	0.00	2.22	0.00
0.20	1.31	1.22	0.00	2.24	0.00
0.22	1.16	1.24	0.00	2.26	0.00
0.24	1.01	1.26	0.00	2.28	0.00
0.26	0.86	1.28	0.00	2.30	0.00
0.28	0.71	1.30	0.00	2.32	0.00
0.30	0.56	1.32	0.00	2.34	0.00
0.32	0.41	1.34	0.00	2.36	0.00
0.34	0.26	1.36	0.00	2.38	0.00
0.36	0.11	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 6P: BASIN 3

Inflow Area = 0.890 ac, 0.00% Impervious, Inflow Depth = 0.29" for 100-Year event
Inflow = 1.31 cfs @ 0.18 hrs, Volume= 0.022 af
Outflow = 0.75 cfs @ 0.27 hrs, Volume= 0.022 af, Atten= 43%, Lag= 5.7 min
Discarded = 0.06 cfs @ 0.27 hrs, Volume= 0.006 af
Secondary = 0.69 cfs @ 0.27 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 200.42' @ 0.27 hrs Surf.Area= 1,283 sf Storage= 503 cf

Plug-Flow detention time= 13.4 min calculated for 0.022 af (100% of inflow)
Center-of-Mass det. time= 13.5 min (24.8 - 11.3)

Volume	Invert	Avail.Storage	Storage Description
#1	200.00'	3,056 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

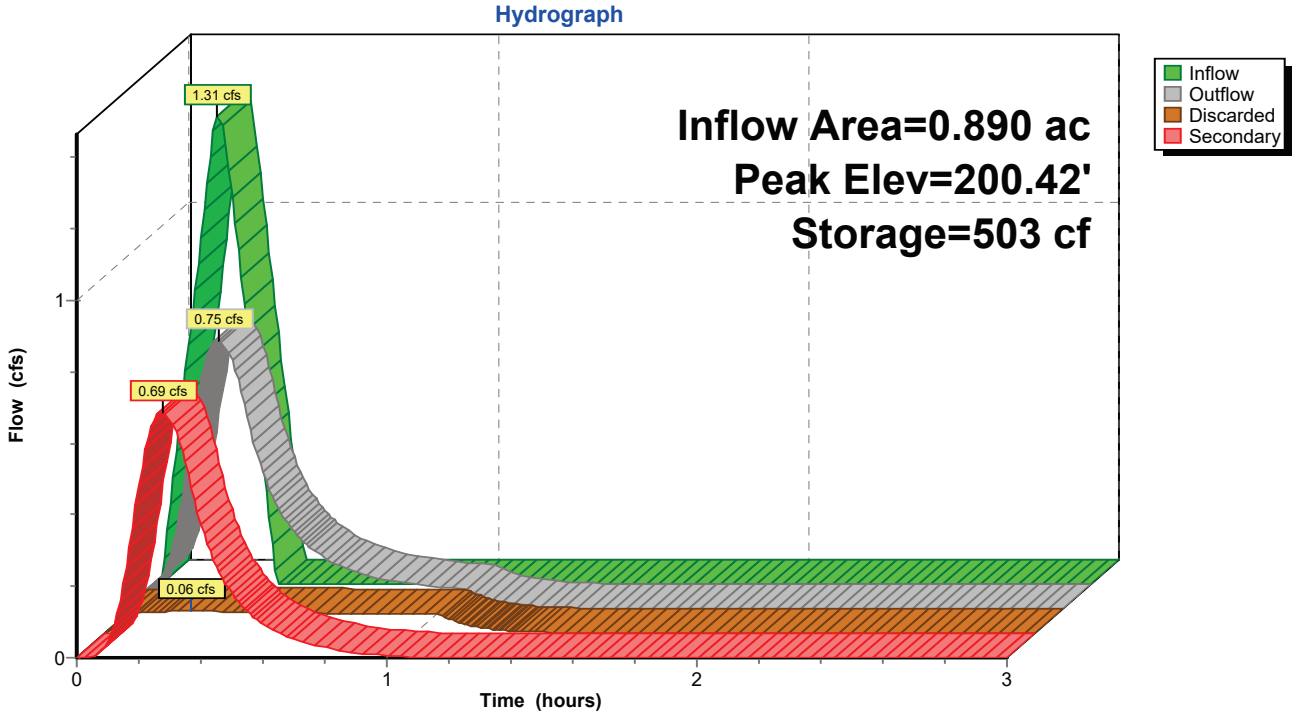
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
200.00	1,116	0	0
201.00	1,514	1,315	1,315
202.00	1,968	1,741	3,056

Device	Routing	Invert	Outlet Devices
#1	Discarded	200.00'	**2.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 168.00'
#2	Secondary	200.00'	**12.0" Round Culvert** L= 220.0' Ke= 0.500 Inlet / Outlet Invert= 200.00' / 197.00' S= 0.0136 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.06 cfs @ 0.27 hrs HW=200.42' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.06 cfs)

Secondary OutFlow Max=0.69 cfs @ 0.27 hrs HW=200.42' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 0.69 cfs @ 2.20 fps)

Pond 6P: BASIN 3



Hydrograph for Pond 6P: BASIN 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Secondary (cfs)
0.00	0.00	0	200.00	0.00	0.00	0.00
0.10	**0.75**	117	200.10	0.10	0.06	0.05
0.20	**1.31**	**410**	**200.35**	**0.54**	**0.06**	**0.48**
0.30	0.56	**495**	**200.41**	**0.73**	**0.06**	**0.67**
0.40	0.00	355	200.30	0.44	0.06	0.37
0.50	0.00	239	200.21	0.24	0.06	0.18
0.60	0.00	170	200.15	0.15	0.06	0.10
0.70	0.00	124	200.11	0.11	0.06	0.05
0.80	0.00	89	200.08	0.08	0.06	0.03
0.90	0.00	62	200.06	0.07	0.06	0.01
1.00	0.00	39	200.03	0.06	0.05	0.01
1.10	0.00	18	200.02	0.05	0.04	0.00
1.20	0.00	7	200.01	0.02	0.02	0.00
1.30	0.00	3	200.00	0.01	0.01	0.00
1.40	0.00	1	200.00	0.00	0.00	0.00
1.50	0.00	0	200.00	0.00	0.00	0.00
1.60	0.00	0	200.00	0.00	0.00	0.00
1.70	0.00	0	200.00	0.00	0.00	0.00
1.80	0.00	0	200.00	0.00	0.00	0.00
1.90	0.00	0	200.00	0.00	0.00	0.00
2.00	0.00	0	200.00	0.00	0.00	0.00
2.10	0.00	0	200.00	0.00	0.00	0.00
2.20	0.00	0	200.00	0.00	0.00	0.00
2.30	0.00	0	200.00	0.00	0.00	0.00
2.40	0.00	0	200.00	0.00	0.00	0.00
2.50	0.00	0	200.00	0.00	0.00	0.00
2.60	0.00	0	200.00	0.00	0.00	0.00
2.70	0.00	0	200.00	0.00	0.00	0.00
2.80	0.00	0	200.00	0.00	0.00	0.00
2.90	0.00	0	200.00	0.00	0.00	0.00
3.00	0.00	0	200.00	0.00	0.00	0.00

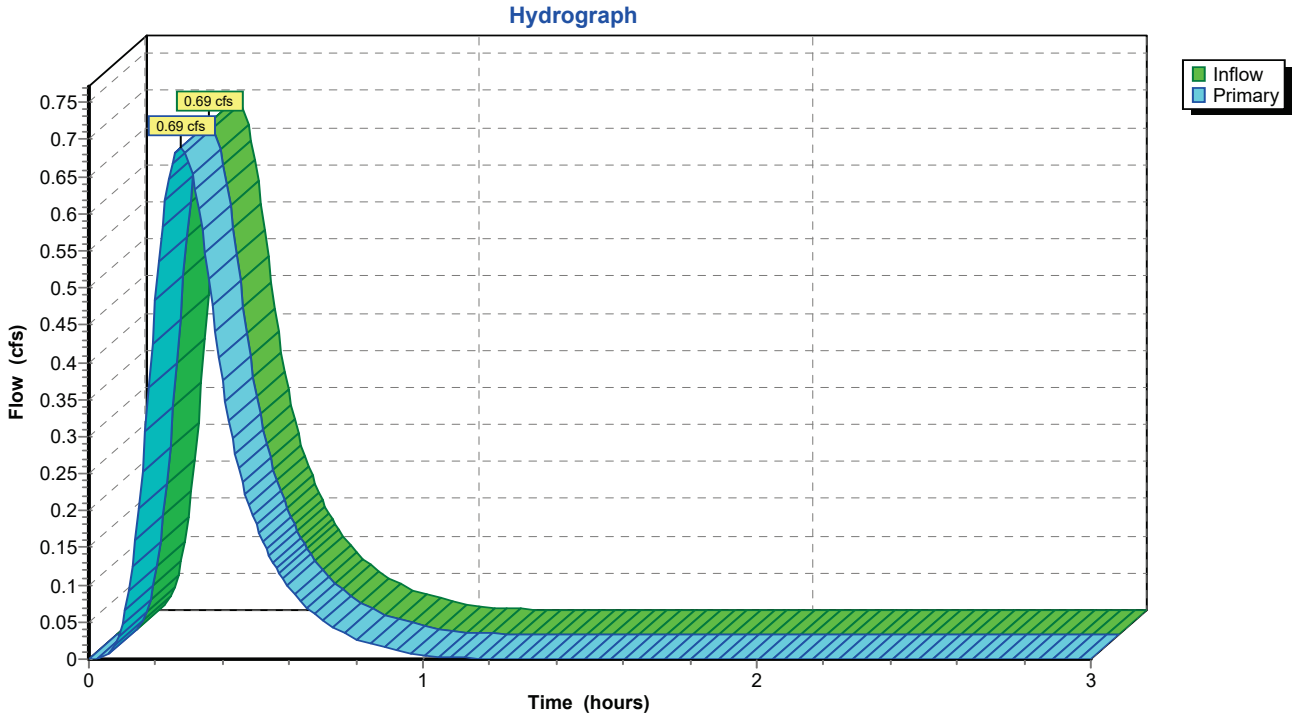
Summary for Pond 67P: OUTLET 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow	=	0.69 cfs @	0.27 hrs,	Volume=	0.016 af
Primary	=	0.69 cfs @	0.27 hrs,	Volume=	0.016 af, Atten= 0%, Lag= 0.0 min

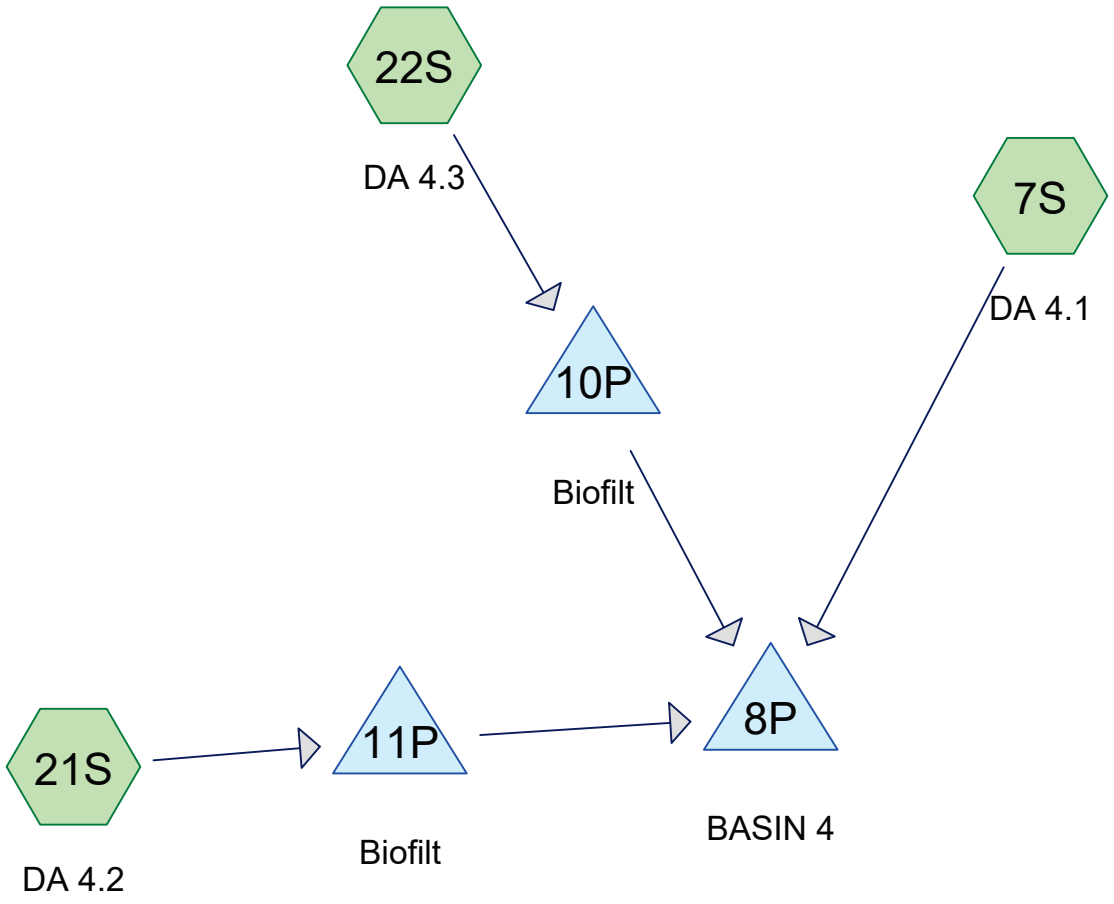
Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 67P: OUTLET 2



Hydrograph for Pond 67P: OUTLET 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.05	0.00		0.00
0.10	0.05		0.05
0.15	0.20		0.20
0.20	0.48		0.48
0.25	**0.67**		**0.67**
0.30	**0.67**		**0.67**
0.35	0.55		0.55
0.40	0.37		0.37
0.45	0.26		0.26
0.50	0.18		0.18
0.55	0.13		0.13
0.60	0.10		0.10
0.65	0.07		0.07
0.70	0.05		0.05
0.75	0.04		0.04
0.80	0.03		0.03
0.85	0.02		0.02
0.90	0.01		0.01
0.95	0.01		0.01
1.00	0.01		0.01
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00



Subcat Reach Pond Link

Routing Diagram for 23001 - Basin 4
Prepared by C3 Civil Engineering, Printed 5/19/2026
HydroCAD® 10.10-5a s/n 11911 © 2020 HydroCAD Software Solutions LLC

23001 - Basin 4

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	10P	190.00	188.50	30.0	0.0500	0.010	0.0	6.0	0.0
2	11P	192.50	189.00	30.0	0.1167	0.010	0.0	6.0	0.0

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment7S: DA 4.1 Runoff Area=192,550 sf 0.00% Impervious Runoff Depth=0.27"
Tc=12.4 min C=0.47 Runoff=5.96 cfs 0.099 af

Subcatchment21S: DA 4.2 Runoff Area=960 sf 100.00% Impervious Runoff Depth=0.56"
Tc=5.0 min C=0.95 Runoff=0.06 cfs 0.001 af

Subcatchment22S: DA 4.3 Runoff Area=2,500 sf 100.00% Impervious Runoff Depth=0.56"
Tc=5.0 min C=0.95 Runoff=0.16 cfs 0.003 af

Pond 8P: BASIN 4 Peak Elev=188.12' Storage=2,974 cf Inflow=5.96 cfs 0.099 af
Outflow=1.19 cfs 0.099 af

Pond 10P: Biofilt Peak Elev=186.47' Storage=116 cf Inflow=0.16 cfs 0.003 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 11P: Biofilt Peak Elev=189.60' Storage=45 cf Inflow=0.06 cfs 0.001 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 4.500 ac Runoff Volume = 0.102 af Average Runoff Depth = 0.27"
98.23% Pervious = 4.420 ac 1.77% Impervious = 0.079 ac

Summary for Subcatchment 7S: DA 4.1

[48] Hint: Peak<CiA due to short duration

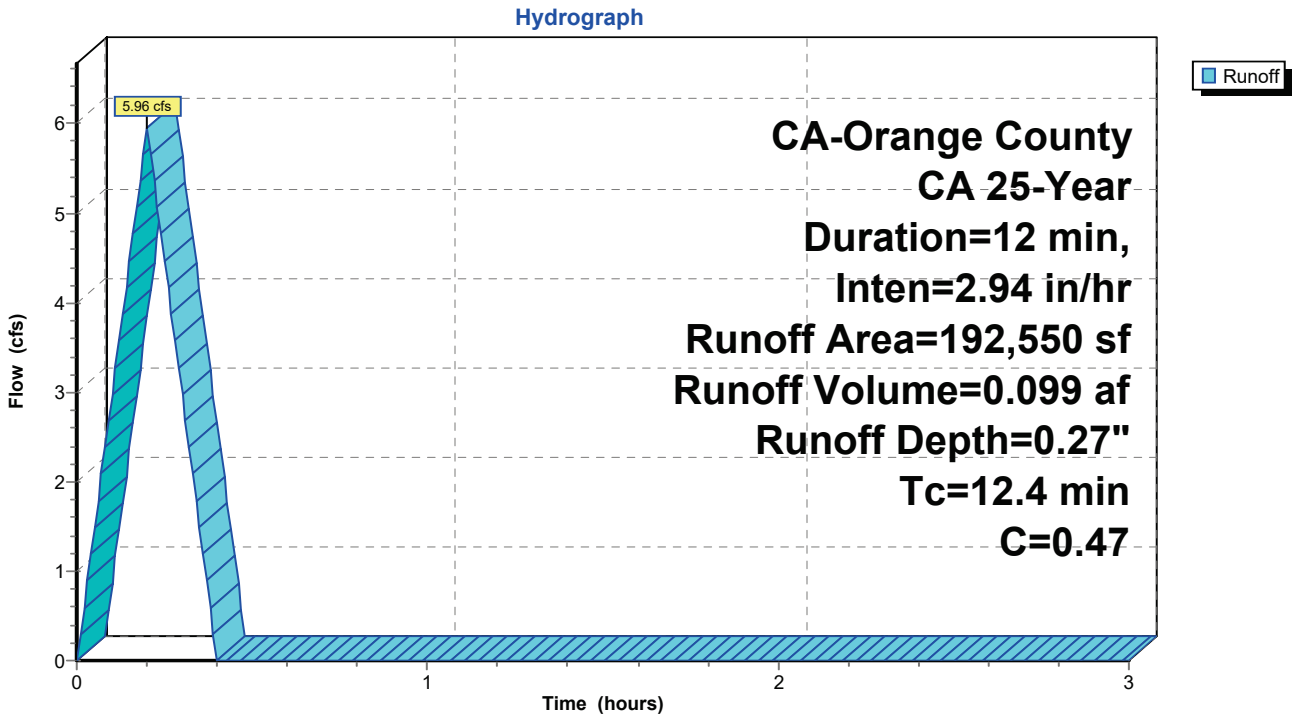
Runoff = 5.96 cfs @ 0.20 hrs, Volume= 0.099 af, Depth= 0.27"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
177,759	0.45	>75% Grass cover, Good, HSG C
14,791	0.65	Pervious pavement
192,550	0.47	Weighted Average
192,550		100.00% Pervious Area

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

Subcatchment 7S: DA 4.1



Hydrograph for Subcatchment 7S: DA 4.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.60	1.04	0.00	2.06	0.00
0.04	1.19	1.06	0.00	2.08	0.00
0.06	1.79	1.08	0.00	2.10	0.00
0.08	2.38	1.10	0.00	2.12	0.00
0.10	2.98	1.12	0.00	2.14	0.00
0.12	3.58	1.14	0.00	2.16	0.00
0.14	4.17	1.16	0.00	2.18	0.00
0.16	4.77	1.18	0.00	2.20	0.00
0.18	5.36	1.20	0.00	2.22	0.00
0.20	**5.96**	1.22	0.00	2.24	0.00
0.22	5.36	1.24	0.00	2.26	0.00
0.24	4.77	1.26	0.00	2.28	0.00
0.26	4.17	1.28	0.00	2.30	0.00
0.28	3.58	1.30	0.00	2.32	0.00
0.30	2.98	1.32	0.00	2.34	0.00
0.32	2.38	1.34	0.00	2.36	0.00
0.34	1.79	1.36	0.00	2.38	0.00
0.36	1.19	1.38	0.00	2.40	0.00
0.38	0.60	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 21S: DA 4.2

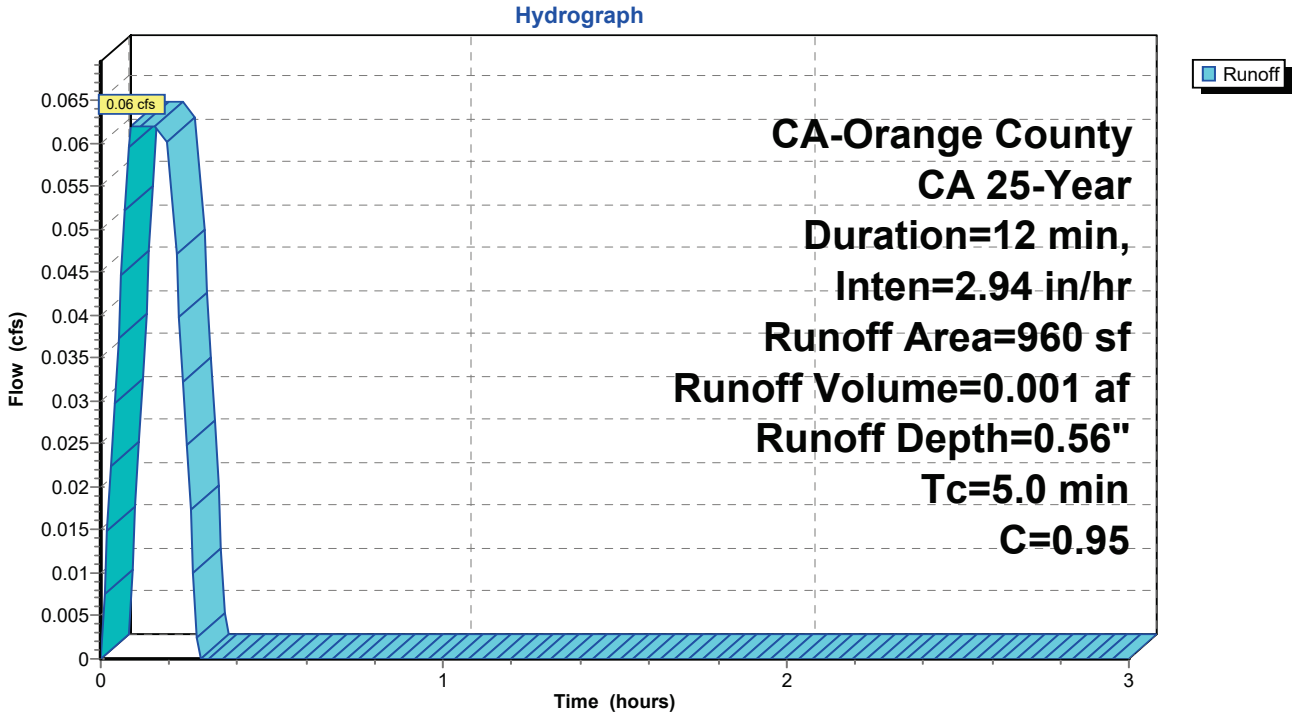
Runoff = 0.06 cfs @ 0.09 hrs, Volume= 0.001 af, Depth= 0.56"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
960	0.95	Roofs, HSG C
960		100.00% Impervious Area

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

Subcatchment 21S: DA 4.2



Hydrograph for Subcatchment 21S: DA 4.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.01	1.04	0.00	2.06	0.00
0.04	0.03	1.06	0.00	2.08	0.00
0.06	0.04	1.08	0.00	2.10	0.00
0.08	**0.06**	1.10	0.00	2.12	0.00
0.10	**0.06**	1.12	0.00	2.14	0.00
0.12	0.06	1.14	0.00	2.16	0.00
0.14	0.06	1.16	0.00	2.18	0.00
0.16	0.06	1.18	0.00	2.20	0.00
0.18	0.06	1.20	0.00	2.22	0.00
0.20	0.06	1.22	0.00	2.24	0.00
0.22	0.05	1.24	0.00	2.26	0.00
0.24	0.03	1.26	0.00	2.28	0.00
0.26	0.02	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 22S: DA 4.3

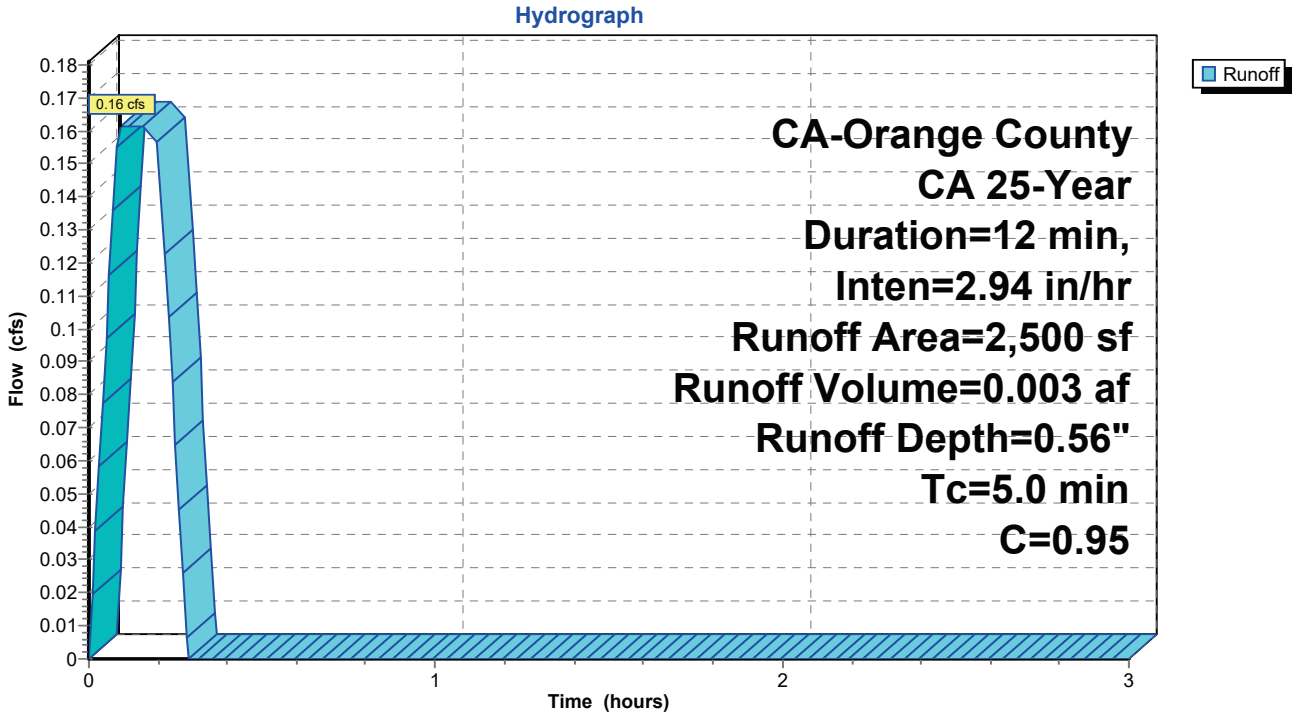
Runoff = 0.16 cfs @ 0.09 hrs, Volume= 0.003 af, Depth= 0.56"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
2,500	0.95	Roofs, HSG C
2,500		100.00% Impervious Area

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

Subcatchment 22S: DA 4.3



Hydrograph for Subcatchment 22S: DA 4.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.04	1.04	0.00	2.06	0.00
0.04	0.08	1.06	0.00	2.08	0.00
0.06	0.12	1.08	0.00	2.10	0.00
0.08	**0.16**	1.10	0.00	2.12	0.00
0.10	**0.16**	1.12	0.00	2.14	0.00
0.12	0.16	1.14	0.00	2.16	0.00
0.14	0.16	1.16	0.00	2.18	0.00
0.16	0.16	1.18	0.00	2.20	0.00
0.18	0.16	1.20	0.00	2.22	0.00
0.20	0.16	1.22	0.00	2.24	0.00
0.22	0.12	1.24	0.00	2.26	0.00
0.24	0.08	1.26	0.00	2.28	0.00
0.26	0.05	1.28	0.00	2.30	0.00
0.28	0.01	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 8P: BASIN 4

Inflow Area = 4.500 ac, 1.77% Impervious, Inflow Depth = 0.26" for 25-Year event
Inflow = 5.96 cfs @ 0.20 hrs, Volume= 0.099 af
Outflow = 1.19 cfs @ 0.36 hrs, Volume= 0.099 af, Atten= 80%, Lag= 9.6 min
Discarded = 1.19 cfs @ 0.36 hrs, Volume= 0.099 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 188.12' @ 0.36 hrs Surf.Area= 24,255 sf Storage= 2,974 cf

Plug-Flow detention time= 22.7 min calculated for 0.098 af (100% of inflow)
Center-of-Mass det. time= 22.8 min (34.8 - 12.0)

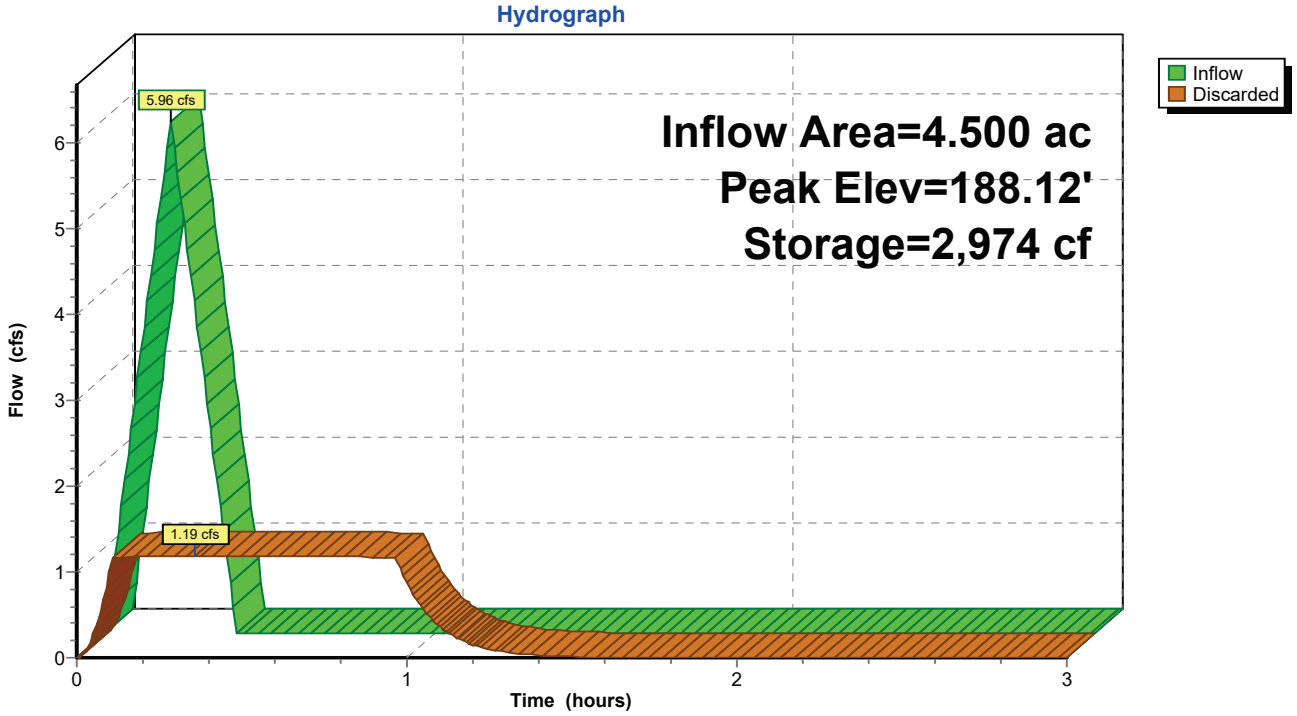
Volume	Invert	Avail.Storage	Storage Description
#1	188.00'	51,870 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
188.00	24,021	0	0
189.00	25,921	24,971	24,971
190.00	27,877	26,899	51,870

Device	Routing	Invert	Outlet Devices
#1	Discarded	188.00'	**2.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 175.00'

Discarded OutFlow Max=1.19 cfs @ 0.36 hrs HW=188.12' (Free Discharge)
↑**1=Exfiltration** (Controls 1.19 cfs)

Pond 8P: BASIN 4



Hydrograph for Pond 8P: BASIN 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	188.00	0.00
0.10	2.98	408	188.02	0.99
0.20	**5.96**	1,598	188.07	1.18
0.30	2.98	**2,780**	**188.12**	**1.19**
0.40	0.00	**2,888**	**188.12**	**1.19**
0.50	0.00	2,461	188.10	1.19
0.60	0.00	2,034	188.08	1.18
0.70	0.00	1,609	188.07	1.18
0.80	0.00	1,185	188.05	1.18
0.90	0.00	762	188.03	1.17
1.00	0.00	359	188.01	0.87
1.10	0.00	149	188.01	0.36
1.20	0.00	62	188.00	0.15
1.30	0.00	26	188.00	0.06
1.40	0.00	11	188.00	0.03
1.50	0.00	4	188.00	0.01
1.60	0.00	2	188.00	0.00
1.70	0.00	1	188.00	0.00
1.80	0.00	0	188.00	0.00
1.90	0.00	0	188.00	0.00
2.00	0.00	0	188.00	0.00
2.10	0.00	0	188.00	0.00
2.20	0.00	0	188.00	0.00
2.30	0.00	0	188.00	0.00
2.40	0.00	0	188.00	0.00
2.50	0.00	0	188.00	0.00
2.60	0.00	0	188.00	0.00
2.70	0.00	0	188.00	0.00
2.80	0.00	0	188.00	0.00
2.90	0.00	0	188.00	0.00
3.00	0.00	0	188.00	0.00

Summary for Pond 10P: Biofilt

Inflow Area = 0.057 ac,100.00% Impervious, Inflow Depth = 0.56" for 25-Year event
Inflow = 0.16 cfs @ 0.09 hrs, Volume= 0.003 af
Outflow = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af, Atten= 100%, Lag= 12.2 min
Discarded = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 186.47' @ 0.29 hrs Surf.Area= 282 sf Storage= 116 cf

Plug-Flow detention time= 89.2 min calculated for 0.000 af (6% of inflow)
Center-of-Mass det. time= 82.5 min (91.0 - 8.5)

Volume	Invert	Avail.Storage	Storage Description
#1	186.00'	1,252 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

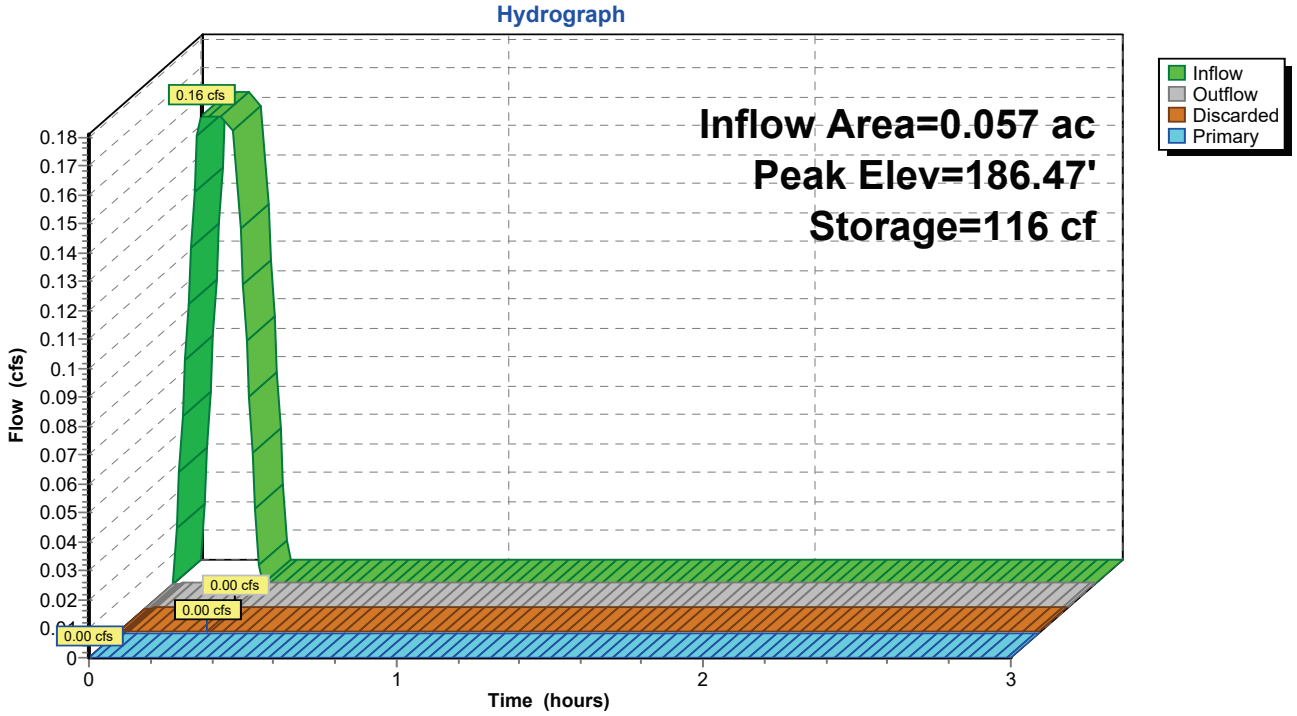
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
186.00	282	0.0	0	0
186.10	282	40.0	11	11
189.00	282	100.0	818	829
190.50	282	100.0	423	1,252

Device	Routing	Invert	Outlet Devices
#1	Discarded	186.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	190.00'	**6.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 190.00' / 188.50' S= 0.0500 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.29 hrs HW=186.47' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=186.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 10P: Biofilt



Hydrograph for Pond 10P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	186.00	0.00	0.00	**0.00**
0.10	**0.16**	34	186.18	0.00	0.00	0.00
0.20	0.16	**92**	**186.38**	**0.00**	**0.00**	0.00
0.30	0.00	**116**	**186.47**	**0.00**	**0.00**	0.00
0.40	0.00	115	186.47	0.00	0.00	0.00
0.50	0.00	115	186.47	0.00	0.00	0.00
0.60	0.00	115	186.47	0.00	0.00	0.00
0.70	0.00	115	186.47	0.00	0.00	0.00
0.80	0.00	114	186.47	0.00	0.00	0.00
0.90	0.00	114	186.46	0.00	0.00	0.00
1.00	0.00	114	186.46	0.00	0.00	0.00
1.10	0.00	114	186.46	0.00	0.00	0.00
1.20	0.00	113	186.46	0.00	0.00	0.00
1.30	0.00	113	186.46	0.00	0.00	0.00
1.40	0.00	113	186.46	0.00	0.00	0.00
1.50	0.00	113	186.46	0.00	0.00	0.00
1.60	0.00	112	186.46	0.00	0.00	0.00
1.70	0.00	112	186.46	0.00	0.00	0.00
1.80	0.00	112	186.46	0.00	0.00	0.00
1.90	0.00	112	186.46	0.00	0.00	0.00
2.00	0.00	111	186.46	0.00	0.00	0.00
2.10	0.00	111	186.45	0.00	0.00	0.00
2.20	0.00	111	186.45	0.00	0.00	0.00
2.30	0.00	111	186.45	0.00	0.00	0.00
2.40	0.00	110	186.45	0.00	0.00	0.00
2.50	0.00	110	186.45	0.00	0.00	0.00
2.60	0.00	110	186.45	0.00	0.00	0.00
2.70	0.00	110	186.45	0.00	0.00	0.00
2.80	0.00	109	186.45	0.00	0.00	0.00
2.90	0.00	109	186.45	0.00	0.00	0.00
3.00	0.00	109	186.45	0.00	0.00	0.00

Summary for Pond 11P: Biofilt

Inflow Area = 0.022 ac,100.00% Impervious, Inflow Depth = 0.56" for 25-Year event
Inflow = 0.06 cfs @ 0.09 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af, Atten= 100%, Lag= 12.0 min
Discarded = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 189.60' @ 0.29 hrs Surf.Area= 43 sf Storage= 45 cf

Plug-Flow detention time= 89.7 min calculated for 0.000 af (3% of inflow)
Center-of-Mass det. time= 82.4 min (90.9 - 8.5)

Volume	Invert	Avail.Storage	Storage Description
#1	188.50'	191 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

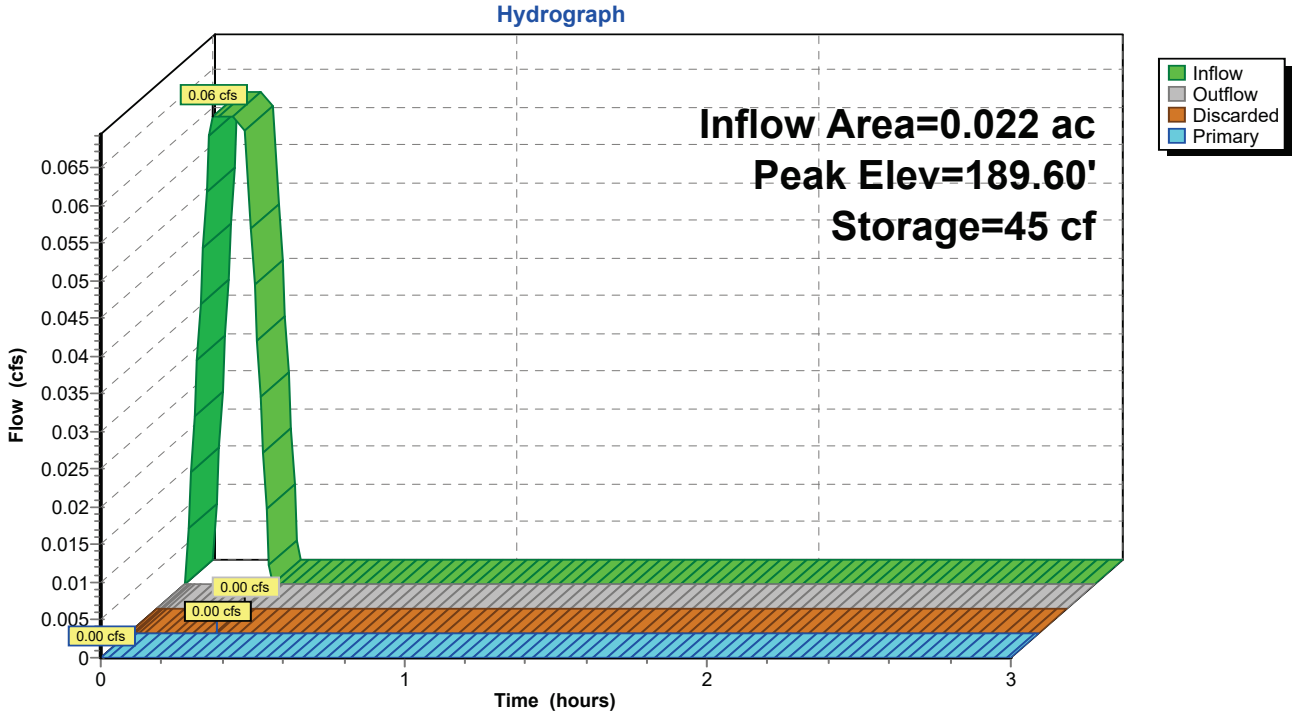
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
188.50	43	0.0	0	0
188.60	43	40.0	2	2
191.50	43	100.0	125	126
193.00	43	100.0	65	191

Device	Routing	Invert	Outlet Devices
#1	Discarded	188.50'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	192.50'	**6.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 192.50' / 189.00' S= 0.1167 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.29 hrs HW=189.60' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=188.50' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 11P: Biofilt



Hydrograph for Pond 11P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	188.50	0.00	0.00	**0.00**
0.10	**0.06**	13	188.86	0.00	0.00	0.00
0.20	0.06	**35**	**189.38**	**0.00**	**0.00**	0.00
0.30	0.00	**45**	**189.60**	**0.00**	**0.00**	0.00
0.40	0.00	45	189.60	0.00	0.00	0.00
0.50	0.00	44	189.59	0.00	0.00	0.00
0.60	0.00	44	189.59	0.00	0.00	0.00
0.70	0.00	44	189.59	0.00	0.00	0.00
0.80	0.00	44	189.59	0.00	0.00	0.00
0.90	0.00	44	189.59	0.00	0.00	0.00
1.00	0.00	44	189.59	0.00	0.00	0.00
1.10	0.00	44	189.59	0.00	0.00	0.00
1.20	0.00	44	189.59	0.00	0.00	0.00
1.30	0.00	44	189.59	0.00	0.00	0.00
1.40	0.00	44	189.59	0.00	0.00	0.00
1.50	0.00	44	189.59	0.00	0.00	0.00
1.60	0.00	44	189.58	0.00	0.00	0.00
1.70	0.00	44	189.58	0.00	0.00	0.00
1.80	0.00	44	189.58	0.00	0.00	0.00
1.90	0.00	44	189.58	0.00	0.00	0.00
2.00	0.00	44	189.58	0.00	0.00	0.00
2.10	0.00	44	189.58	0.00	0.00	0.00
2.20	0.00	44	189.58	0.00	0.00	0.00
2.30	0.00	44	189.58	0.00	0.00	0.00
2.40	0.00	44	189.58	0.00	0.00	0.00
2.50	0.00	44	189.58	0.00	0.00	0.00
2.60	0.00	44	189.58	0.00	0.00	0.00
2.70	0.00	44	189.57	0.00	0.00	0.00
2.80	0.00	44	189.57	0.00	0.00	0.00
2.90	0.00	44	189.57	0.00	0.00	0.00
3.00	0.00	44	189.57	0.00	0.00	0.00

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment7S: DA 4.1 Runoff Area=192,550 sf 0.00% Impervious Runoff Depth=0.36"
Tc=12.4 min C=0.47 Runoff=8.00 cfs 0.132 af

Subcatchment21S: DA 4.2 Runoff Area=960 sf 100.00% Impervious Runoff Depth=0.75"
Tc=5.0 min C=0.95 Runoff=0.08 cfs 0.001 af

Subcatchment22S: DA 4.3 Runoff Area=2,500 sf 100.00% Impervious Runoff Depth=0.75"
Tc=5.0 min C=0.95 Runoff=0.22 cfs 0.004 af

Pond 8P: BASIN 4 Peak Elev=188.18' Storage=4,371 cf Inflow=8.00 cfs 0.132 af
Outflow=1.20 cfs 0.132 af

Pond 10P: Biofilt Peak Elev=186.61' Storage=156 cf Inflow=0.22 cfs 0.004 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 11P: Biofilt Peak Elev=189.95' Storage=60 cf Inflow=0.08 cfs 0.001 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 4.500 ac Runoff Volume = 0.137 af Average Runoff Depth = 0.37"
98.23% Pervious = 4.420 ac 1.77% Impervious = 0.079 ac

Summary for Subcatchment 7S: DA 4.1

[48] Hint: Peak<CiA due to short duration

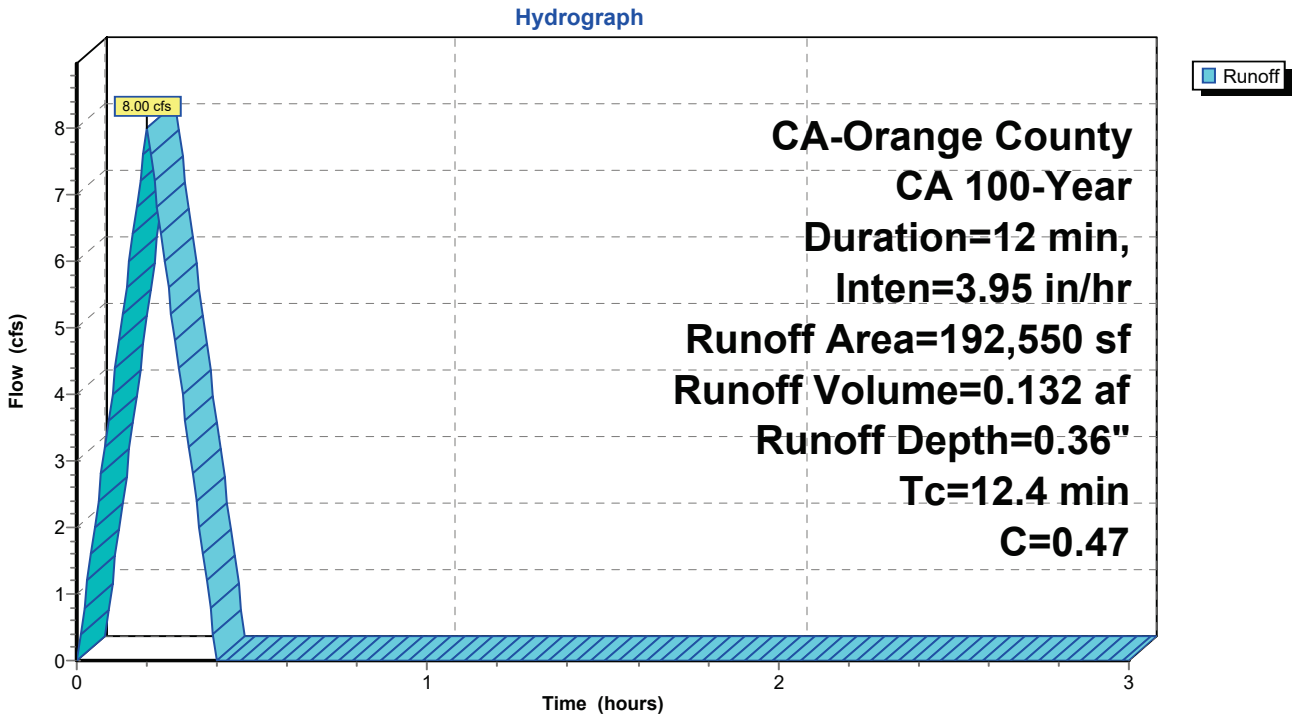
Runoff = 8.00 cfs @ 0.20 hrs, Volume= 0.132 af, Depth= 0.36"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
177,759	0.45	>75% Grass cover, Good, HSG C
14,791	0.65	Pervious pavement
192,550	0.47	Weighted Average
192,550		100.00% Pervious Area

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

Subcatchment 7S: DA 4.1



Hydrograph for Subcatchment 7S: DA 4.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.80	1.04	0.00	2.06	0.00
0.04	1.60	1.06	0.00	2.08	0.00
0.06	2.40	1.08	0.00	2.10	0.00
0.08	3.20	1.10	0.00	2.12	0.00
0.10	4.00	1.12	0.00	2.14	0.00
0.12	4.80	1.14	0.00	2.16	0.00
0.14	5.60	1.16	0.00	2.18	0.00
0.16	6.40	1.18	0.00	2.20	0.00
0.18	7.20	1.20	0.00	2.22	0.00
0.20	**8.00**	1.22	0.00	2.24	0.00
0.22	7.20	1.24	0.00	2.26	0.00
0.24	6.40	1.26	0.00	2.28	0.00
0.26	5.60	1.28	0.00	2.30	0.00
0.28	4.80	1.30	0.00	2.32	0.00
0.30	4.00	1.32	0.00	2.34	0.00
0.32	3.20	1.34	0.00	2.36	0.00
0.34	2.40	1.36	0.00	2.38	0.00
0.36	1.60	1.38	0.00	2.40	0.00
0.38	0.80	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 21S: DA 4.2

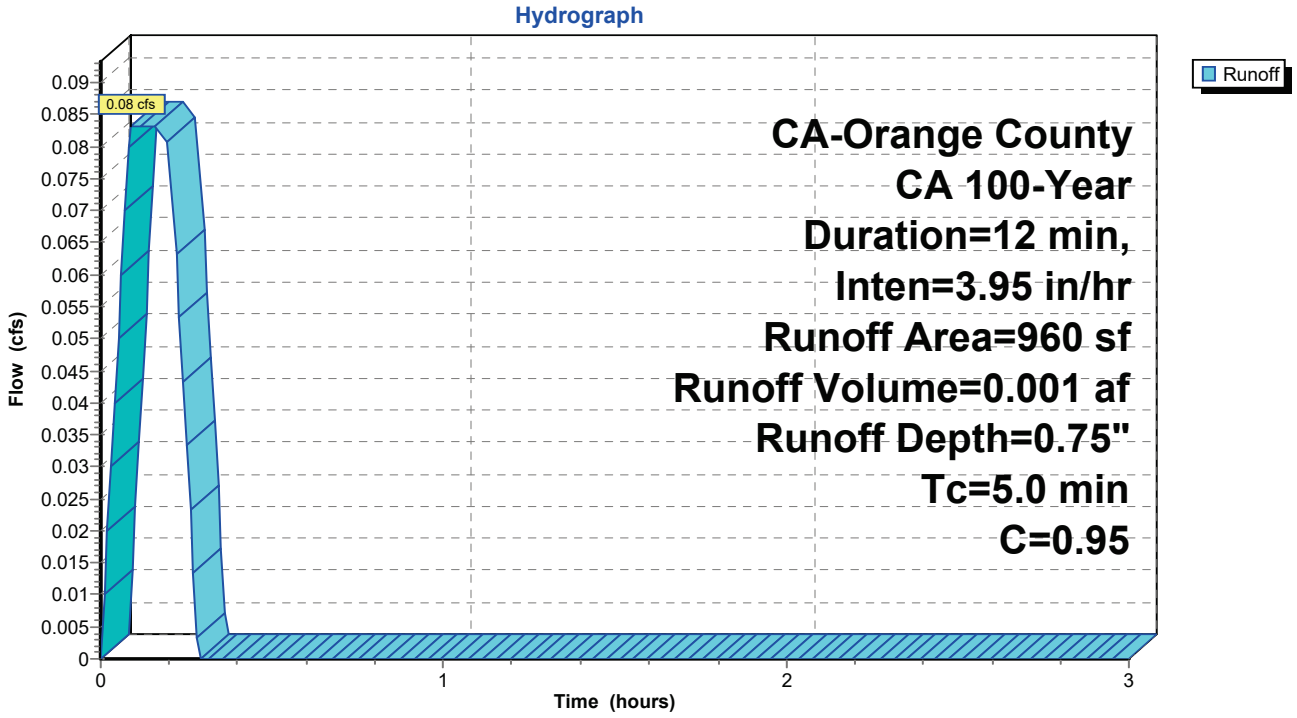
Runoff = 0.08 cfs @ 0.09 hrs, Volume= 0.001 af, Depth= 0.75"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
960	0.95	Roofs, HSG C
960		100.00% Impervious Area

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

Subcatchment 21S: DA 4.2



Hydrograph for Subcatchment 21S: DA 4.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.02	1.04	0.00	2.06	0.00
0.04	0.04	1.06	0.00	2.08	0.00
0.06	0.06	1.08	0.00	2.10	0.00
0.08	**0.08**	1.10	0.00	2.12	0.00
0.10	**0.08**	1.12	0.00	2.14	0.00
0.12	0.08	1.14	0.00	2.16	0.00
0.14	0.08	1.16	0.00	2.18	0.00
0.16	0.08	1.18	0.00	2.20	0.00
0.18	0.08	1.20	0.00	2.22	0.00
0.20	0.08	1.22	0.00	2.24	0.00
0.22	0.06	1.24	0.00	2.26	0.00
0.24	0.04	1.26	0.00	2.28	0.00
0.26	0.02	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 22S: DA 4.3

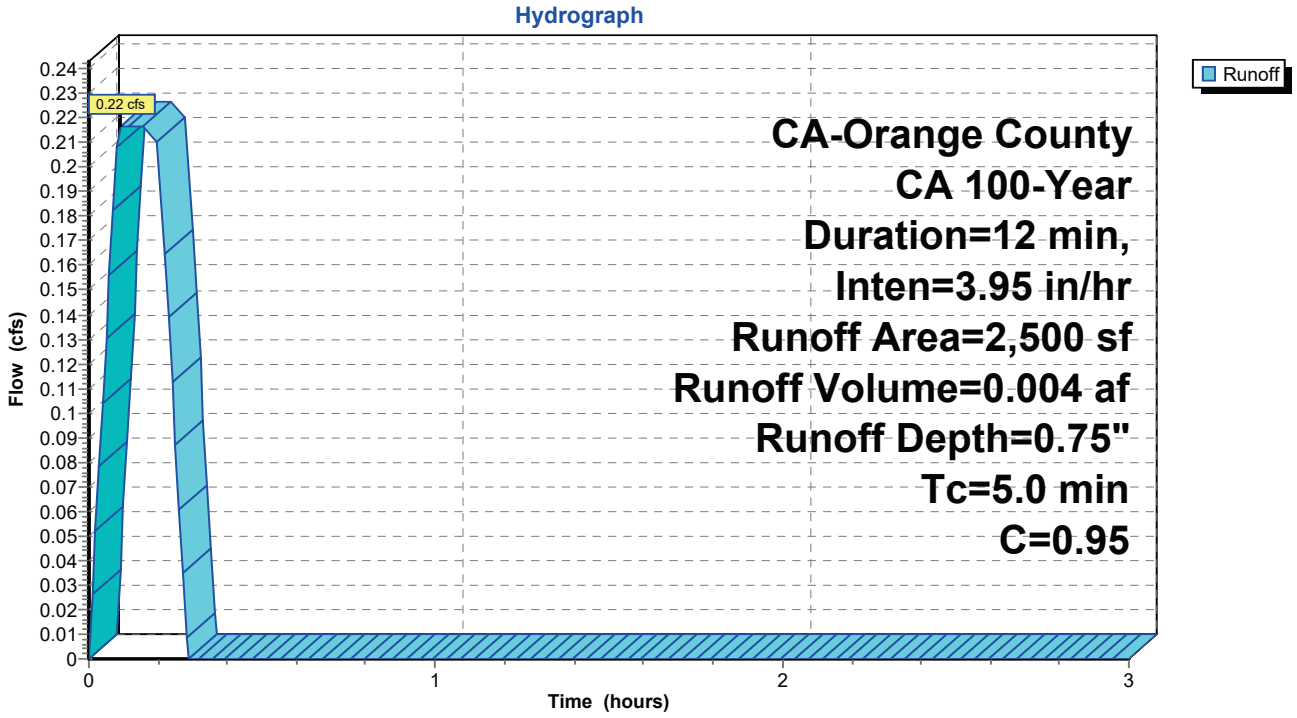
Runoff = 0.22 cfs @ 0.09 hrs, Volume= 0.004 af, Depth= 0.75"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
2,500	0.95	Roofs, HSG C
2,500		100.00% Impervious Area

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

Subcatchment 22S: DA 4.3



Hydrograph for Subcatchment 22S: DA 4.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.05	1.04	0.00	2.06	0.00
0.04	0.10	1.06	0.00	2.08	0.00
0.06	0.16	1.08	0.00	2.10	0.00
0.08	**0.21**	1.10	0.00	2.12	0.00
0.10	**0.22**	1.12	0.00	2.14	0.00
0.12	0.22	1.14	0.00	2.16	0.00
0.14	0.22	1.16	0.00	2.18	0.00
0.16	0.22	1.18	0.00	2.20	0.00
0.18	0.22	1.20	0.00	2.22	0.00
0.20	0.22	1.22	0.00	2.24	0.00
0.22	0.16	1.24	0.00	2.26	0.00
0.24	0.11	1.26	0.00	2.28	0.00
0.26	0.06	1.28	0.00	2.30	0.00
0.28	0.01	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 8P: BASIN 4

Inflow Area = 4.500 ac, 1.77% Impervious, Inflow Depth = 0.35" for 100-Year event
Inflow = 8.00 cfs @ 0.20 hrs, Volume= 0.132 af
Outflow = 1.20 cfs @ 0.37 hrs, Volume= 0.132 af, Atten= 85%, Lag= 10.2 min
Discarded = 1.20 cfs @ 0.37 hrs, Volume= 0.132 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 188.18' @ 0.37 hrs Surf.Area= 24,364 sf Storage= 4,371 cf

Plug-Flow detention time= 32.1 min calculated for 0.132 af (100% of inflow)
Center-of-Mass det. time= 32.3 min (44.3 - 12.0)

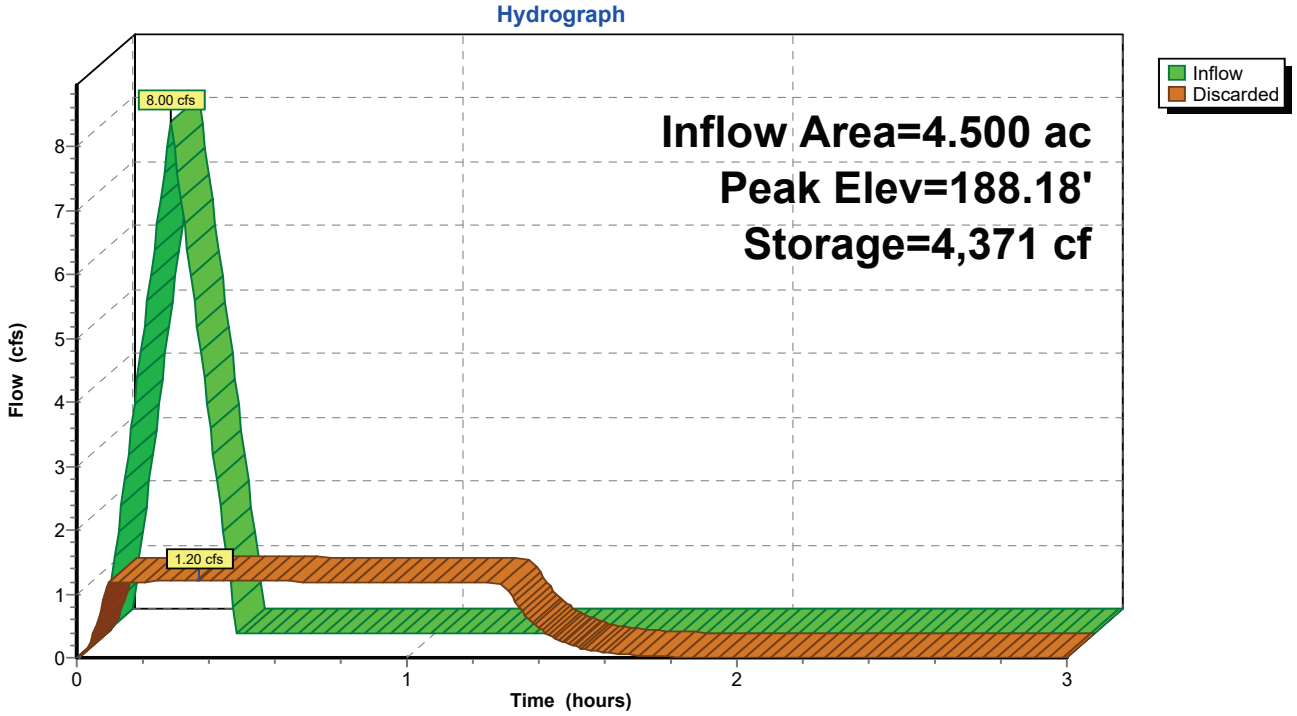
Volume	Invert	Avail.Storage	Storage Description
#1	188.00'	51,870 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
188.00	24,021	0	0
189.00	25,921	24,971	24,971
190.00	27,877	26,899	51,870

Device	Routing	Invert	Outlet Devices
#1	Discarded	188.00'	**2.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 175.00'

Discarded OutFlow Max=1.20 cfs @ 0.37 hrs HW=188.18' (Free Discharge)
↑**1=Exfiltration** (Controls 1.20 cfs)

Pond 8P: BASIN 4



Hydrograph for Pond 8P: BASIN 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	188.00	0.00
0.10	4.00	551	188.02	1.17
0.20	**8.00**	2,287	188.09	1.18
0.30	4.00	**4,018**	**188.17**	**1.20**
0.40	0.00	**4,306**	**188.18**	**1.20**
0.50	0.00	3,874	188.16	1.20
0.60	0.00	3,444	188.14	1.19
0.70	0.00	3,015	188.12	1.19
0.80	0.00	2,587	188.11	1.19
0.90	0.00	2,160	188.09	1.18
1.00	0.00	1,734	188.07	1.18
1.10	0.00	1,310	188.05	1.18
1.20	0.00	886	188.04	1.17
1.30	0.00	465	188.02	1.13
1.40	0.00	193	188.01	0.47
1.50	0.00	80	188.00	0.20
1.60	0.00	33	188.00	0.08
1.70	0.00	14	188.00	0.03
1.80	0.00	6	188.00	0.01
1.90	0.00	2	188.00	0.01
2.00	0.00	1	188.00	0.00
2.10	0.00	0	188.00	0.00
2.20	0.00	0	188.00	0.00
2.30	0.00	0	188.00	0.00
2.40	0.00	0	188.00	0.00
2.50	0.00	0	188.00	0.00
2.60	0.00	0	188.00	0.00
2.70	0.00	0	188.00	0.00
2.80	0.00	0	188.00	0.00
2.90	0.00	0	188.00	0.00
3.00	0.00	0	188.00	0.00

Summary for Pond 10P: Biofilt

Inflow Area = 0.057 ac,100.00% Impervious, Inflow Depth = 0.75" for 100-Year event
Inflow = 0.22 cfs @ 0.09 hrs, Volume= 0.004 af
Outflow = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af, Atten= 100%, Lag= 12.2 min
Discarded = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 186.61' @ 0.29 hrs Surf.Area= 282 sf Storage= 156 cf

Plug-Flow detention time= 89.4 min calculated for 0.000 af (5% of inflow)
Center-of-Mass det. time= 82.5 min (91.0 - 8.5)

Volume	Invert	Avail.Storage	Storage Description
#1	186.00'	1,252 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

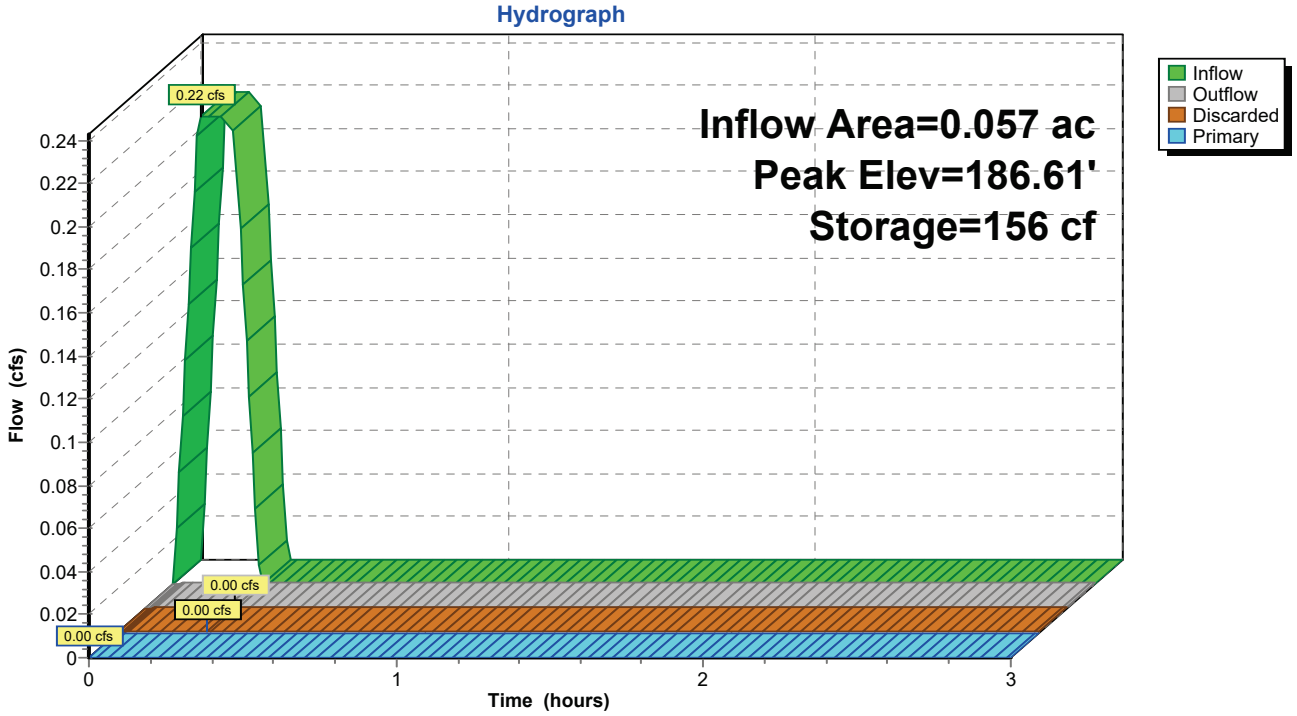
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
186.00	282	0.0	0	0
186.10	282	40.0	11	11
189.00	282	100.0	818	829
190.50	282	100.0	423	1,252

Device	Routing	Invert	Outlet Devices
#1	Discarded	186.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	190.00'	**6.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 190.00' / 188.50' S= 0.0500 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.29 hrs HW=186.61' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=186.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 10P: Biofilt



Hydrograph for Pond 10P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	186.00	0.00	0.00	**0.00**
0.10	**0.22**	45	186.22	0.00	0.00	0.00
0.20	0.22	**123**	**186.50**	**0.00**	**0.00**	0.00
0.30	0.00	**156**	**186.61**	**0.00**	**0.00**	0.00
0.40	0.00	155	186.61	0.00	0.00	0.00
0.50	0.00	155	186.61	0.00	0.00	0.00
0.60	0.00	155	186.61	0.00	0.00	0.00
0.70	0.00	155	186.61	0.00	0.00	0.00
0.80	0.00	154	186.61	0.00	0.00	0.00
0.90	0.00	154	186.61	0.00	0.00	0.00
1.00	0.00	154	186.61	0.00	0.00	0.00
1.10	0.00	153	186.60	0.00	0.00	0.00
1.20	0.00	153	186.60	0.00	0.00	0.00
1.30	0.00	153	186.60	0.00	0.00	0.00
1.40	0.00	153	186.60	0.00	0.00	0.00
1.50	0.00	152	186.60	0.00	0.00	0.00
1.60	0.00	152	186.60	0.00	0.00	0.00
1.70	0.00	152	186.60	0.00	0.00	0.00
1.80	0.00	152	186.60	0.00	0.00	0.00
1.90	0.00	151	186.60	0.00	0.00	0.00
2.00	0.00	151	186.60	0.00	0.00	0.00
2.10	0.00	151	186.60	0.00	0.00	0.00
2.20	0.00	151	186.59	0.00	0.00	0.00
2.30	0.00	150	186.59	0.00	0.00	0.00
2.40	0.00	150	186.59	0.00	0.00	0.00
2.50	0.00	150	186.59	0.00	0.00	0.00
2.60	0.00	150	186.59	0.00	0.00	0.00
2.70	0.00	149	186.59	0.00	0.00	0.00
2.80	0.00	149	186.59	0.00	0.00	0.00
2.90	0.00	149	186.59	0.00	0.00	0.00
3.00	0.00	149	186.59	0.00	0.00	0.00

Summary for Pond 11P: Biofilt

Inflow Area = 0.022 ac,100.00% Impervious, Inflow Depth = 0.75" for 100-Year event
Inflow = 0.08 cfs @ 0.09 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af, Atten= 100%, Lag= 12.0 min
Discarded = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 189.95' @ 0.29 hrs Surf.Area= 43 sf Storage= 60 cf

Plug-Flow detention time= 89.6 min calculated for 0.000 af (2% of inflow)
Center-of-Mass det. time= 82.4 min (90.9 - 8.5)

Volume	Invert	Avail.Storage	Storage Description
#1	188.50'	191 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

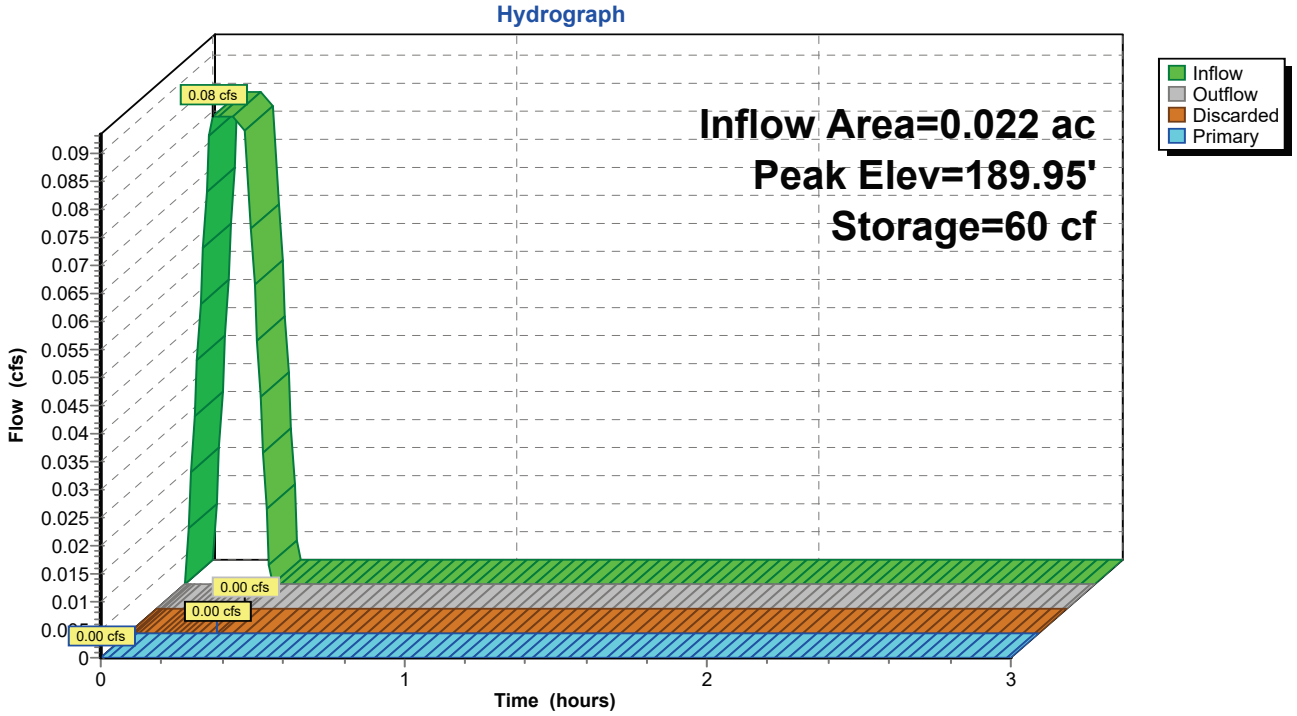
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
188.50	43	0.0	0	0
188.60	43	40.0	2	2
191.50	43	100.0	125	126
193.00	43	100.0	65	191

Device	Routing	Invert	Outlet Devices
#1	Discarded	188.50'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	192.50'	**6.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 192.50' / 189.00' S= 0.1167 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.29 hrs HW=189.95' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

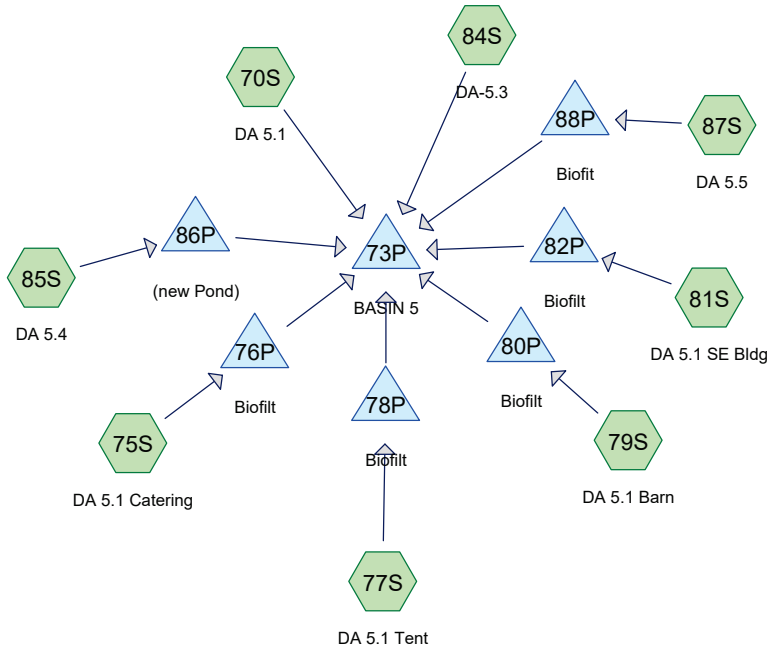
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=188.50' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 11P: Biofilt



Hydrograph for Pond 11P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	188.50	0.00	0.00	**0.00**
0.10	**0.08**	17	188.97	0.00	0.00	0.00
0.20	0.08	**47**	**189.66**	**0.00**	**0.00**	0.00
0.30	0.00	**60**	**189.95**	**0.00**	**0.00**	0.00
0.40	0.00	60	189.95	0.00	0.00	0.00
0.50	0.00	60	189.95	0.00	0.00	0.00
0.60	0.00	60	189.95	0.00	0.00	0.00
0.70	0.00	60	189.95	0.00	0.00	0.00
0.80	0.00	60	189.95	0.00	0.00	0.00
0.90	0.00	60	189.95	0.00	0.00	0.00
1.00	0.00	60	189.95	0.00	0.00	0.00
1.10	0.00	60	189.94	0.00	0.00	0.00
1.20	0.00	60	189.94	0.00	0.00	0.00
1.30	0.00	59	189.94	0.00	0.00	0.00
1.40	0.00	59	189.94	0.00	0.00	0.00
1.50	0.00	59	189.94	0.00	0.00	0.00
1.60	0.00	59	189.94	0.00	0.00	0.00
1.70	0.00	59	189.94	0.00	0.00	0.00
1.80	0.00	59	189.94	0.00	0.00	0.00
1.90	0.00	59	189.94	0.00	0.00	0.00
2.00	0.00	59	189.94	0.00	0.00	0.00
2.10	0.00	59	189.94	0.00	0.00	0.00
2.20	0.00	59	189.93	0.00	0.00	0.00
2.30	0.00	59	189.93	0.00	0.00	0.00
2.40	0.00	59	189.93	0.00	0.00	0.00
2.50	0.00	59	189.93	0.00	0.00	0.00
2.60	0.00	59	189.93	0.00	0.00	0.00
2.70	0.00	59	189.93	0.00	0.00	0.00
2.80	0.00	59	189.93	0.00	0.00	0.00
2.90	0.00	59	189.93	0.00	0.00	0.00
3.00	0.00	59	189.93	0.00	0.00	0.00



Subcat Reach Pond Link

Routing Diagram for 23001 - Basin 5
Prepared by C3 Civil Engineering, Printed 5/19/2026
HydroCAD® 10.10-5a s/n 11911 © 2020 HydroCAD Software Solutions LLC

23001 - Basin 5

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	76P	201.00	197.00	660.0	0.0061	0.010	0.0	6.0	0.0
2	78P	205.00	197.00	564.0	0.0142	0.010	0.0	6.0	0.0
3	80P	207.00	197.00	590.0	0.0169	0.010	0.0	6.0	0.0
4	82P	201.00	197.00	284.0	0.0141	0.010	0.0	6.0	0.0
5	86P	201.00	196.00	260.0	0.0192	0.010	0.0	8.0	0.0
6	88P	201.00	196.00	320.0	0.0156	0.010	0.0	8.0	0.0

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment70S: DA 5.1 Runoff Area=232,511 sf 0.00% Impervious Runoff Depth=0.25"
Tc=15.0 min C=0.35 Runoff=4.40 cfs 0.109 af

Subcatchment75S: DA 5.1 Catering Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=0.69"
Tc=0.0 min C=0.95 Runoff=0.31 cfs 0.008 af

Subcatchment77S: DA 5.1 Tent Runoff Area=3,000 sf 100.00% Impervious Runoff Depth=0.67"
Tc=5.0 min C=0.95 Runoff=0.15 cfs 0.004 af

Subcatchment79S: DA 5.1 Barn Runoff Area=3,000 sf 100.00% Impervious Runoff Depth=0.67"
Tc=5.0 min C=0.95 Runoff=0.15 cfs 0.004 af

Subcatchment81S: DA 5.1 SE Bldg Runoff Area=1,800 sf 100.00% Impervious Runoff Depth=0.67"
Tc=5.0 min C=0.95 Runoff=0.09 cfs 0.002 af

Subcatchment83S: DA 5.2 Runoff Area=77,666.000 ac 0.00% Impervious Runoff Depth=0.33"
Tc=0.0 min C=0.45 Runoff=82,306.02 cfs 2,108.667 af

Subcatchment84S: DA-5.3 Runoff Area=57,973 sf 0.00% Impervious Runoff Depth=0.28"
Tc=11.0 min C=0.40 Runoff=1.25 cfs 0.031 af

Subcatchment85S: DA 5.4 Runoff Area=11,702 sf 100.00% Impervious Runoff Depth=0.69"
Tc=5.0 min C=0.98 Runoff=0.62 cfs 0.015 af

Subcatchment87S: DA 5.5 Runoff Area=22,800 sf 100.00% Impervious Runoff Depth=0.69"
Tc=5.0 min C=0.98 Runoff=1.21 cfs 0.030 af

Pond 73P: BASIN 5 Peak Elev=195.35' Storage=5,574 cf Inflow=6.96 cfs 0.191 af
Outflow=1.23 cfs 0.191 af

Pond 76P: Biofilt Peak Elev=201.33' Storage=162 cf Inflow=0.31 cfs 0.008 af
Discarded=0.00 cfs 0.000 af Primary=0.27 cfs 0.008 af Outflow=0.27 cfs 0.008 af

Pond 78P: Biofilt Peak Elev=201.31' Storage=164 cf Inflow=0.15 cfs 0.004 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 80P: Biofilt Peak Elev=204.57' Storage=165 cf Inflow=0.15 cfs 0.004 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 82P: Biofilt Peak Elev=198.58' Storage=99 cf Inflow=0.09 cfs 0.002 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 86P: (new Pond) Peak Elev=201.38' Storage=378 cf Inflow=0.62 cfs 0.015 af
Discarded=0.00 cfs 0.000 af Primary=0.44 cfs 0.015 af Outflow=0.44 cfs 0.015 af

Pond 88P: Biofit Peak Elev=201.48' Storage=893 cf Inflow=1.21 cfs 0.030 af
Discarded=0.01 cfs 0.001 af Primary=0.64 cfs 0.028 af Outflow=0.64 cfs 0.030 af

Total Runoff Area = 77,673.777 ac Runoff Volume = 2,108.870 af Average Runoff Depth = 0.33"
100.00% Pervious = 77,672.669 ac 0.00% Impervious = 1.109 ac

Summary for Subcatchment 70S: DA 5.1

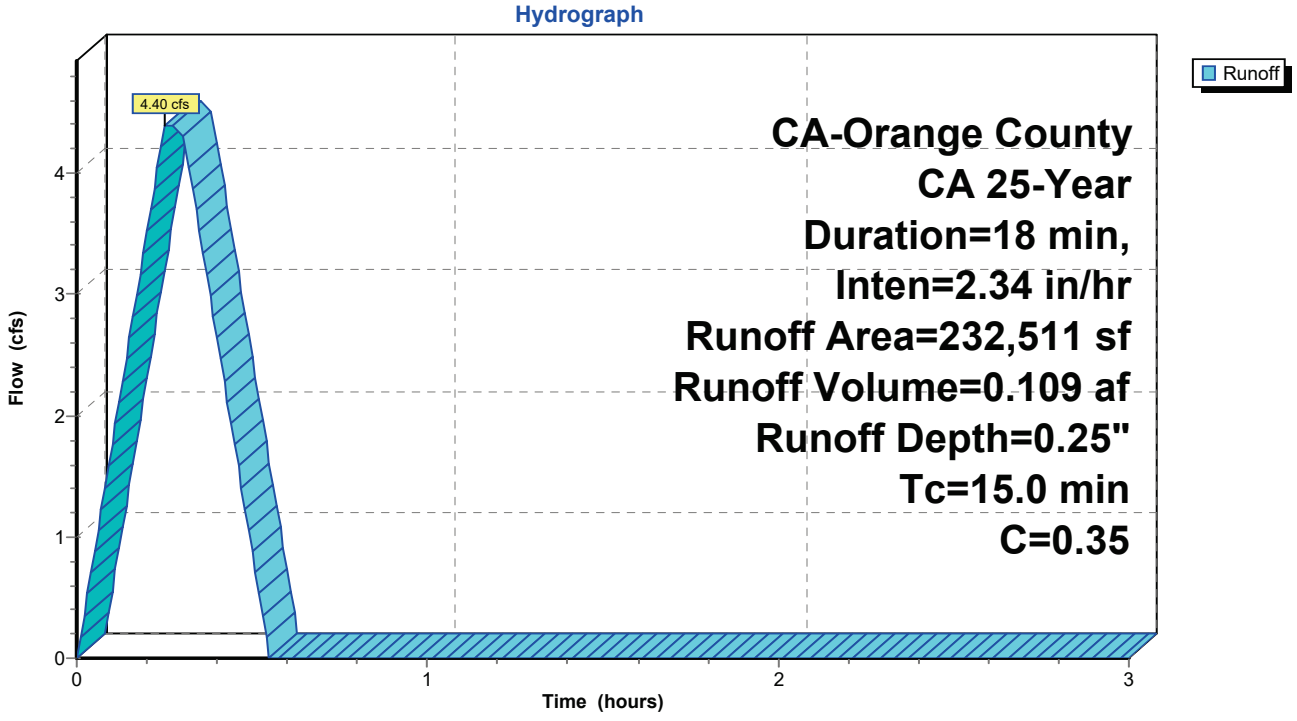
Runoff = 4.40 cfs @ 0.25 hrs, Volume= 0.109 af, Depth= 0.25"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (sf)	C	Description
18,233	0.40	Pervious pavement
197,163	0.30	>75% Grass cover, Good, HSG C
17,115	0.85	concrete sidewalk
232,511	0.35	Weighted Average
232,511		100.00% Pervious Area

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

Subcatchment 70S: DA 5.1



Hydrograph for Subcatchment 70S: DA 5.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.35	1.04	0.00	2.06	0.00
0.04	0.70	1.06	0.00	2.08	0.00
0.06	1.06	1.08	0.00	2.10	0.00
0.08	1.41	1.10	0.00	2.12	0.00
0.10	1.76	1.12	0.00	2.14	0.00
0.12	2.11	1.14	0.00	2.16	0.00
0.14	2.46	1.16	0.00	2.18	0.00
0.16	2.82	1.18	0.00	2.20	0.00
0.18	3.17	1.20	0.00	2.22	0.00
0.20	3.52	1.22	0.00	2.24	0.00
0.22	3.87	1.24	0.00	2.26	0.00
0.24	**4.22**	1.26	0.00	2.28	0.00
0.26	**4.40**	1.28	0.00	2.30	0.00
0.28	4.40	1.30	0.00	2.32	0.00
0.30	4.40	1.32	0.00	2.34	0.00
0.32	4.05	1.34	0.00	2.36	0.00
0.34	3.70	1.36	0.00	2.38	0.00
0.36	3.34	1.38	0.00	2.40	0.00
0.38	2.99	1.40	0.00	2.42	0.00
0.40	2.64	1.42	0.00	2.44	0.00
0.42	2.29	1.44	0.00	2.46	0.00
0.44	1.94	1.46	0.00	2.48	0.00
0.46	1.58	1.48	0.00	2.50	0.00
0.48	1.23	1.50	0.00	2.52	0.00
0.50	0.88	1.52	0.00	2.54	0.00
0.52	0.53	1.54	0.00	2.56	0.00
0.54	0.18	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

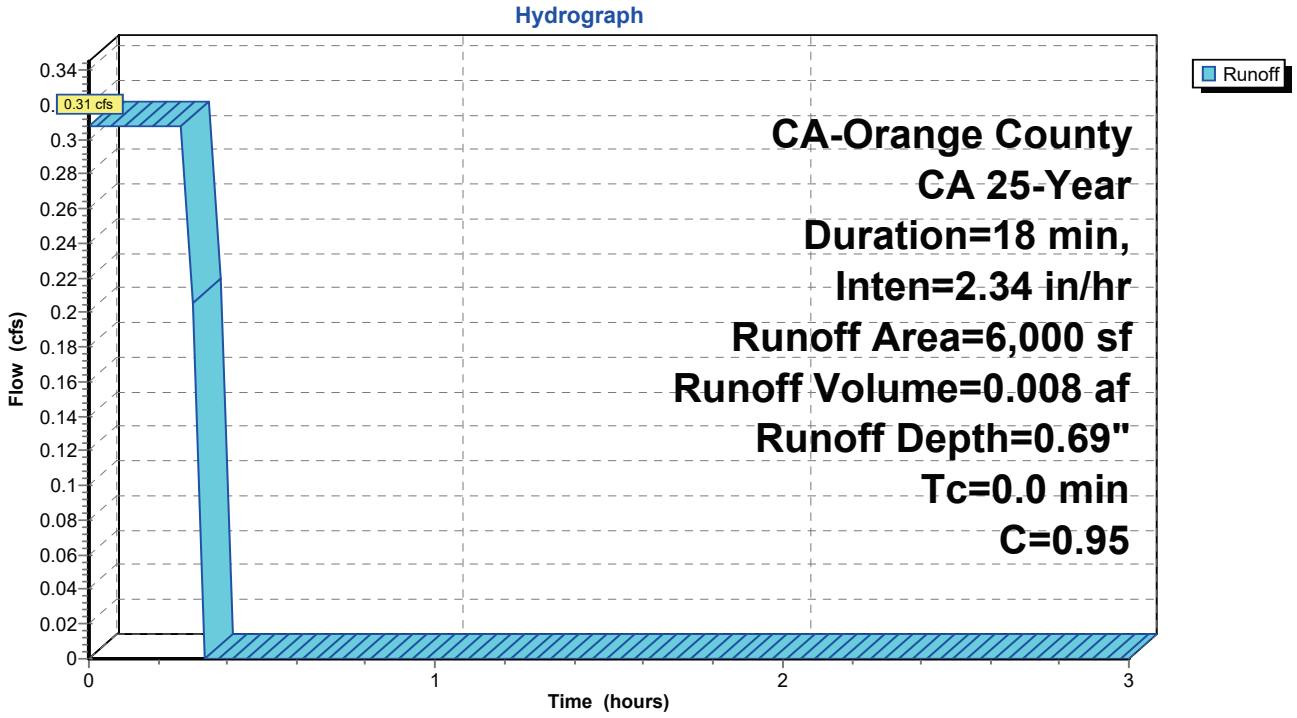
Summary for Subcatchment 75S: DA 5.1 Catering

Runoff = 0.31 cfs @ 0.00 hrs, Volume= 0.008 af, Depth= 0.69"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (sf)	C	Description
6,000	0.95	
6,000		100.00% Impervious Area

Subcatchment 75S: DA 5.1 Catering



Hydrograph for Subcatchment 75S: DA 5.1 Catering

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	**0.31**	1.02	0.00	2.04	0.00
0.02	0.31	1.04	0.00	2.06	0.00
0.04	0.31	1.06	0.00	2.08	0.00
0.06	0.31	1.08	0.00	2.10	0.00
0.08	0.31	1.10	0.00	2.12	0.00
0.10	0.31	1.12	0.00	2.14	0.00
0.12	0.31	1.14	0.00	2.16	0.00
0.14	0.31	1.16	0.00	2.18	0.00
0.16	0.31	1.18	0.00	2.20	0.00
0.18	0.31	1.20	0.00	2.22	0.00
0.20	0.31	1.22	0.00	2.24	0.00
0.22	0.31	1.24	0.00	2.26	0.00
0.24	0.31	1.26	0.00	2.28	0.00
0.26	0.31	1.28	0.00	2.30	0.00
0.28	0.31	1.30	0.00	2.32	0.00
0.30	0.31	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 77S: DA 5.1 Tent

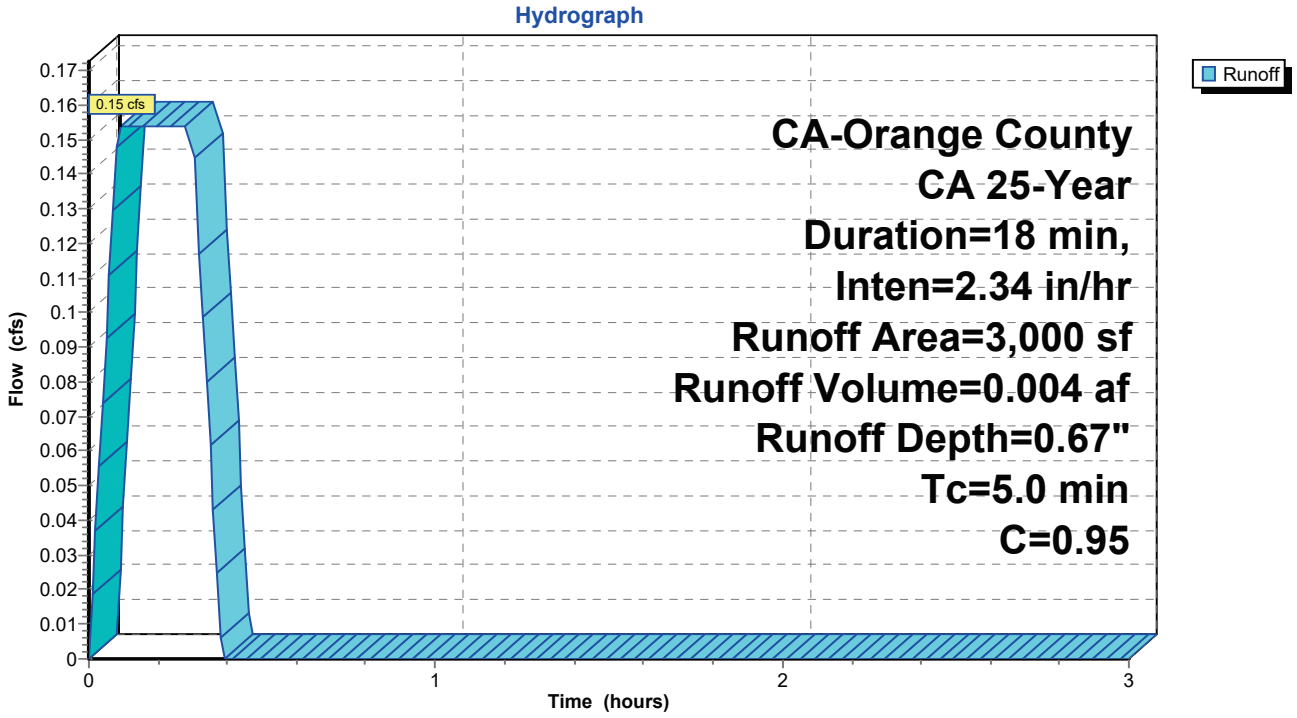
Runoff = 0.15 cfs @ 0.09 hrs, Volume= 0.004 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (sf)	C	Description
3,000	0.95	Building
3,000		100.00% Impervious Area

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

Subcatchment 77S: DA 5.1 Tent



Hydrograph for Subcatchment 77S: DA 5.1 Tent

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.04	1.04	0.00	2.06	0.00
0.04	0.07	1.06	0.00	2.08	0.00
0.06	0.11	1.08	0.00	2.10	0.00
0.08	**0.15**	1.10	0.00	2.12	0.00
0.10	**0.15**	1.12	0.00	2.14	0.00
0.12	0.15	1.14	0.00	2.16	0.00
0.14	0.15	1.16	0.00	2.18	0.00
0.16	0.15	1.18	0.00	2.20	0.00
0.18	0.15	1.20	0.00	2.22	0.00
0.20	0.15	1.22	0.00	2.24	0.00
0.22	0.15	1.24	0.00	2.26	0.00
0.24	0.15	1.26	0.00	2.28	0.00
0.26	0.15	1.28	0.00	2.30	0.00
0.28	0.15	1.30	0.00	2.32	0.00
0.30	0.15	1.32	0.00	2.34	0.00
0.32	0.12	1.34	0.00	2.36	0.00
0.34	0.08	1.36	0.00	2.38	0.00
0.36	0.04	1.38	0.00	2.40	0.00
0.38	0.01	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 79S: DA 5.1 Barn

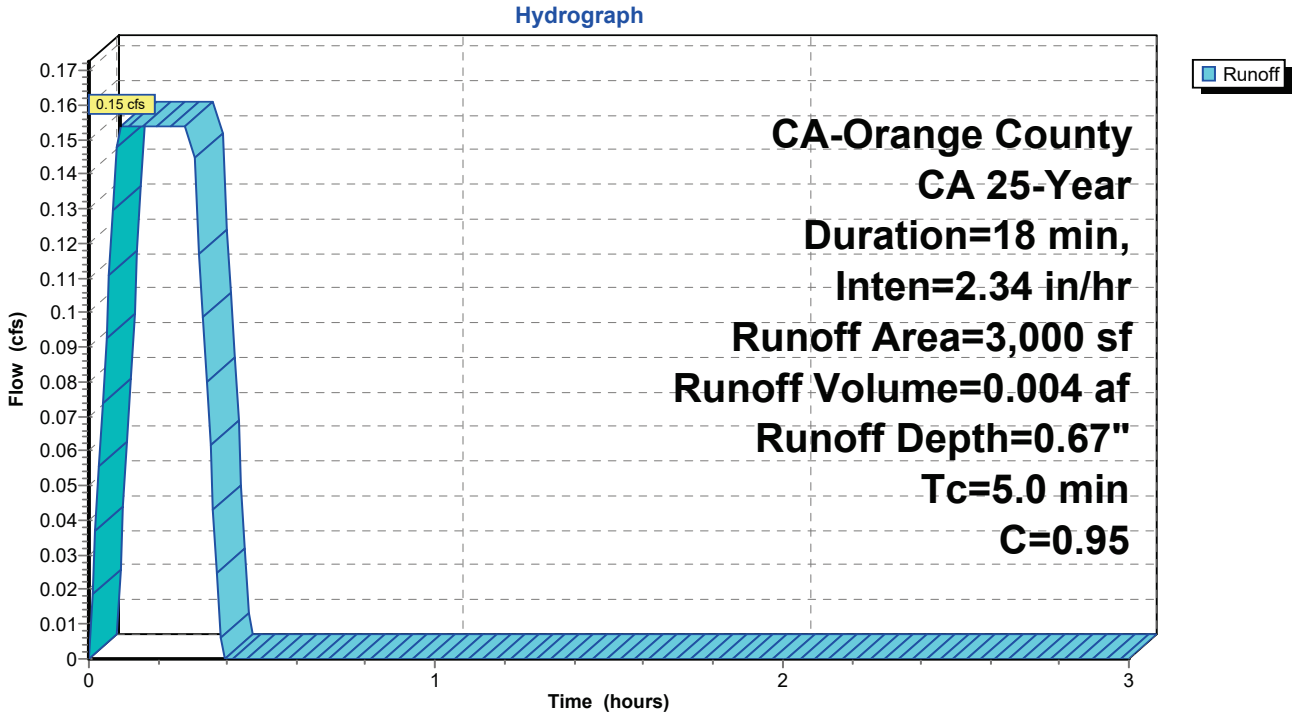
Runoff = 0.15 cfs @ 0.09 hrs, Volume= 0.004 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (sf)	C	Description
3,000	0.95	Building
3,000		100.00% Impervious Area

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

Subcatchment 79S: DA 5.1 Barn



Hydrograph for Subcatchment 79S: DA 5.1 Barn

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.04	1.04	0.00	2.06	0.00
0.04	0.07	1.06	0.00	2.08	0.00
0.06	0.11	1.08	0.00	2.10	0.00
0.08	**0.15**	1.10	0.00	2.12	0.00
0.10	**0.15**	1.12	0.00	2.14	0.00
0.12	0.15	1.14	0.00	2.16	0.00
0.14	0.15	1.16	0.00	2.18	0.00
0.16	0.15	1.18	0.00	2.20	0.00
0.18	0.15	1.20	0.00	2.22	0.00
0.20	0.15	1.22	0.00	2.24	0.00
0.22	0.15	1.24	0.00	2.26	0.00
0.24	0.15	1.26	0.00	2.28	0.00
0.26	0.15	1.28	0.00	2.30	0.00
0.28	0.15	1.30	0.00	2.32	0.00
0.30	0.15	1.32	0.00	2.34	0.00
0.32	0.12	1.34	0.00	2.36	0.00
0.34	0.08	1.36	0.00	2.38	0.00
0.36	0.04	1.38	0.00	2.40	0.00
0.38	0.01	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 81S: DA 5.1 SE Bldg

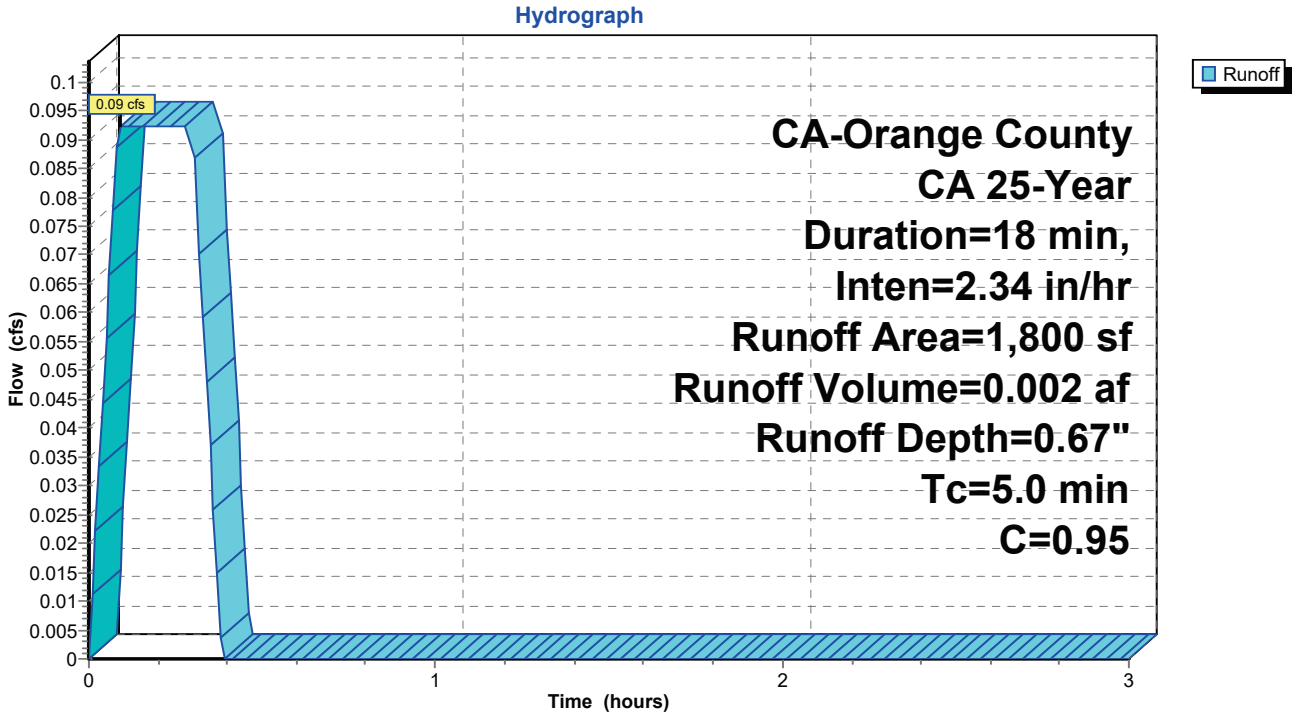
Runoff = 0.09 cfs @ 0.09 hrs, Volume= 0.002 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (sf)	C	Description
1,800	0.95	Building
1,800		100.00% Impervious Area

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

Subcatchment 81S: DA 5.1 SE Bldg



Hydrograph for Subcatchment 81S: DA 5.1 SE Bldg

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.02	1.04	0.00	2.06	0.00
0.04	0.04	1.06	0.00	2.08	0.00
0.06	0.07	1.08	0.00	2.10	0.00
0.08	**0.09**	1.10	0.00	2.12	0.00
0.10	**0.09**	1.12	0.00	2.14	0.00
0.12	0.09	1.14	0.00	2.16	0.00
0.14	0.09	1.16	0.00	2.18	0.00
0.16	0.09	1.18	0.00	2.20	0.00
0.18	0.09	1.20	0.00	2.22	0.00
0.20	0.09	1.22	0.00	2.24	0.00
0.22	0.09	1.24	0.00	2.26	0.00
0.24	0.09	1.26	0.00	2.28	0.00
0.26	0.09	1.28	0.00	2.30	0.00
0.28	0.09	1.30	0.00	2.32	0.00
0.30	0.09	1.32	0.00	2.34	0.00
0.32	0.07	1.34	0.00	2.36	0.00
0.34	0.05	1.36	0.00	2.38	0.00
0.36	0.03	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

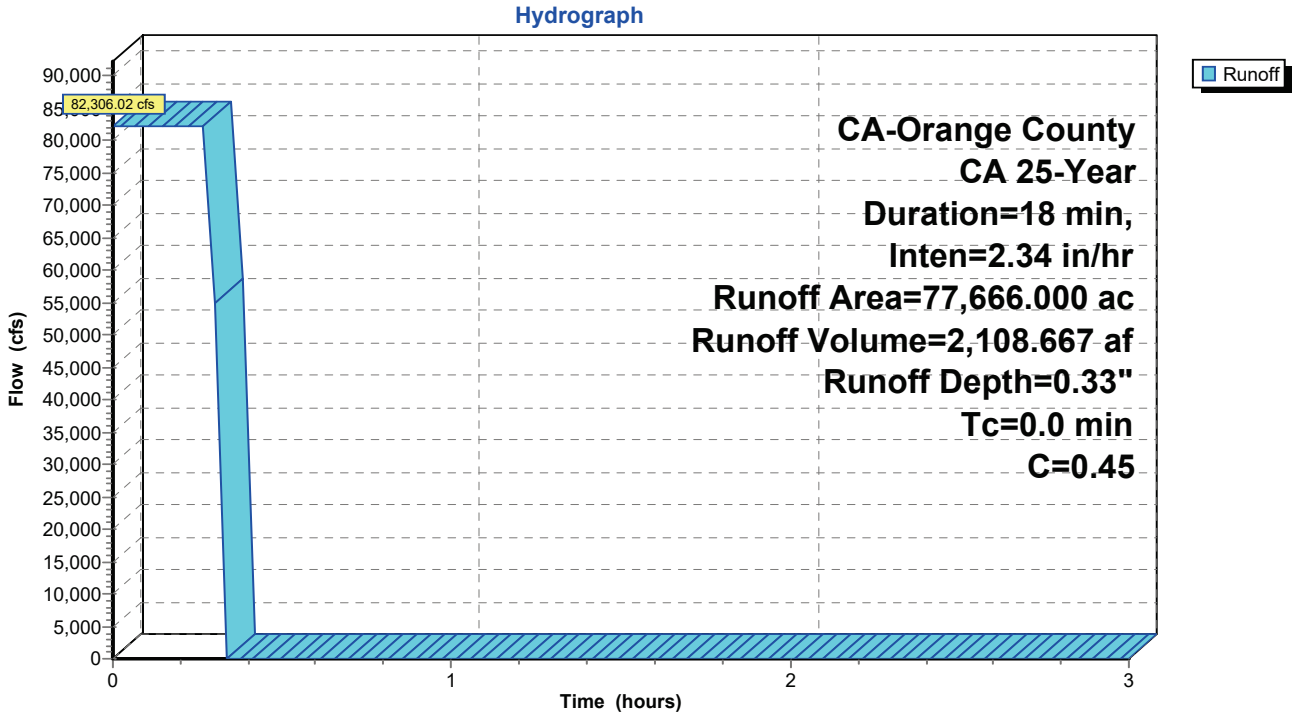
Summary for Subcatchment 83S: DA 5.2

Runoff = 82,306.02 cfs @ 0.00 hrs, Volume= 2,108.667 af, Depth= 0.33"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (ac)	C	Description
77,666.000	0.45	FARM CROP
77,666.000		100.00% Pervious Area

Subcatchment 83S: DA 5.2



Hydrograph for Subcatchment 83S: DA 5.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	**82,306.02**	1.02	0.00	2.04	0.00
0.02	82,306.02	1.04	0.00	2.06	0.00
0.04	82,306.02	1.06	0.00	2.08	0.00
0.06	82,306.02	1.08	0.00	2.10	0.00
0.08	82,306.02	1.10	0.00	2.12	0.00
0.10	82,306.02	1.12	0.00	2.14	0.00
0.12	82,306.02	1.14	0.00	2.16	0.00
0.14	82,306.02	1.16	0.00	2.18	0.00
0.16	82,306.02	1.18	0.00	2.20	0.00
0.18	82,306.02	1.20	0.00	2.22	0.00
0.20	82,306.02	1.22	0.00	2.24	0.00
0.22	82,306.02	1.24	0.00	2.26	0.00
0.24	82,306.02	1.26	0.00	2.28	0.00
0.26	82,306.02	1.28	0.00	2.30	0.00
0.28	82,306.02	1.30	0.00	2.32	0.00
0.30	82,306.02	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 84S: DA-5.3

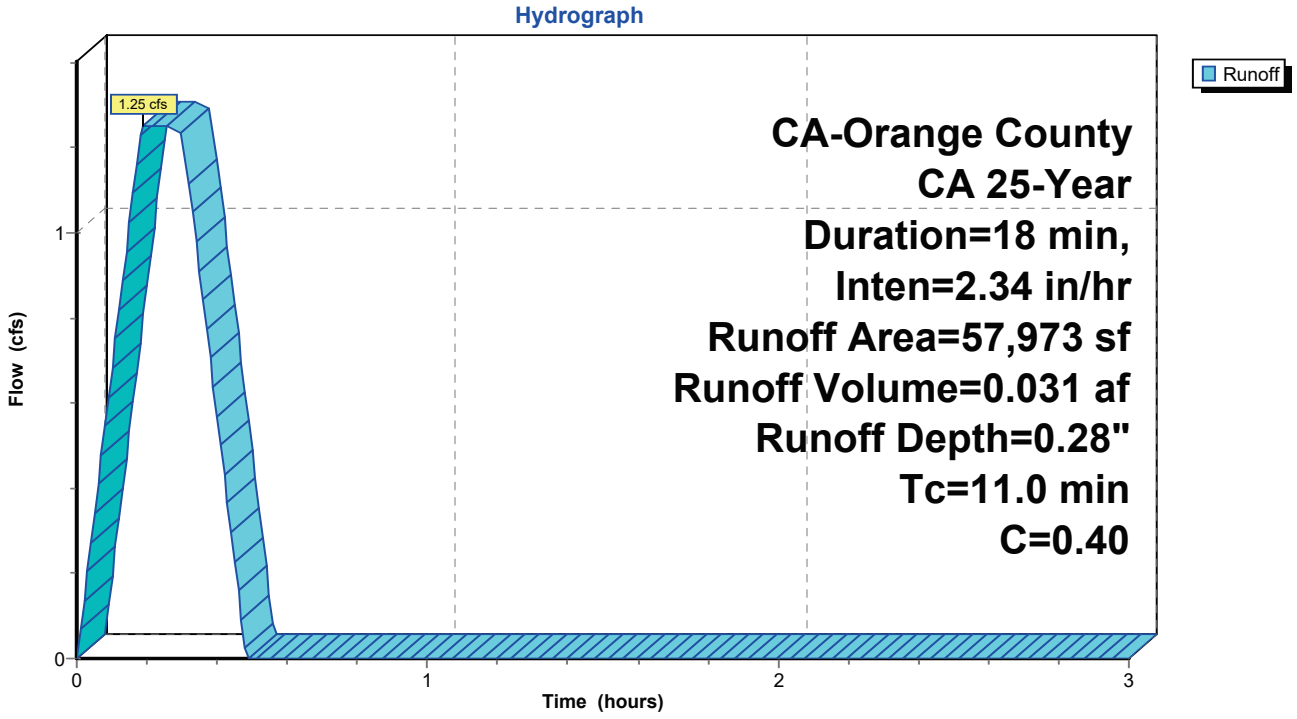
Runoff = 1.25 cfs @ 0.19 hrs, Volume= 0.031 af, Depth= 0.28"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (sf)	C	Description
56,084	0.40	Pervious pavement
1,889	0.30	Landscape
57,973	0.40	Weighted Average
57,973		100.00% Pervious Area

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

Subcatchment 84S: DA-5.3



Hydrograph for Subcatchment 84S: DA-5.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.14	1.04	0.00	2.06	0.00
0.04	0.27	1.06	0.00	2.08	0.00
0.06	0.41	1.08	0.00	2.10	0.00
0.08	0.55	1.10	0.00	2.12	0.00
0.10	0.68	1.12	0.00	2.14	0.00
0.12	0.82	1.14	0.00	2.16	0.00
0.14	0.96	1.16	0.00	2.18	0.00
0.16	1.09	1.18	0.00	2.20	0.00
0.18	**1.23**	1.20	0.00	2.22	0.00
0.20	**1.25**	1.22	0.00	2.24	0.00
0.22	1.25	1.24	0.00	2.26	0.00
0.24	1.25	1.26	0.00	2.28	0.00
0.26	1.25	1.28	0.00	2.30	0.00
0.28	1.25	1.30	0.00	2.32	0.00
0.30	1.25	1.32	0.00	2.34	0.00
0.32	1.12	1.34	0.00	2.36	0.00
0.34	0.98	1.36	0.00	2.38	0.00
0.36	0.84	1.38	0.00	2.40	0.00
0.38	0.71	1.40	0.00	2.42	0.00
0.40	0.57	1.42	0.00	2.44	0.00
0.42	0.43	1.44	0.00	2.46	0.00
0.44	0.30	1.46	0.00	2.48	0.00
0.46	0.16	1.48	0.00	2.50	0.00
0.48	0.02	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 85S: DA 5.4

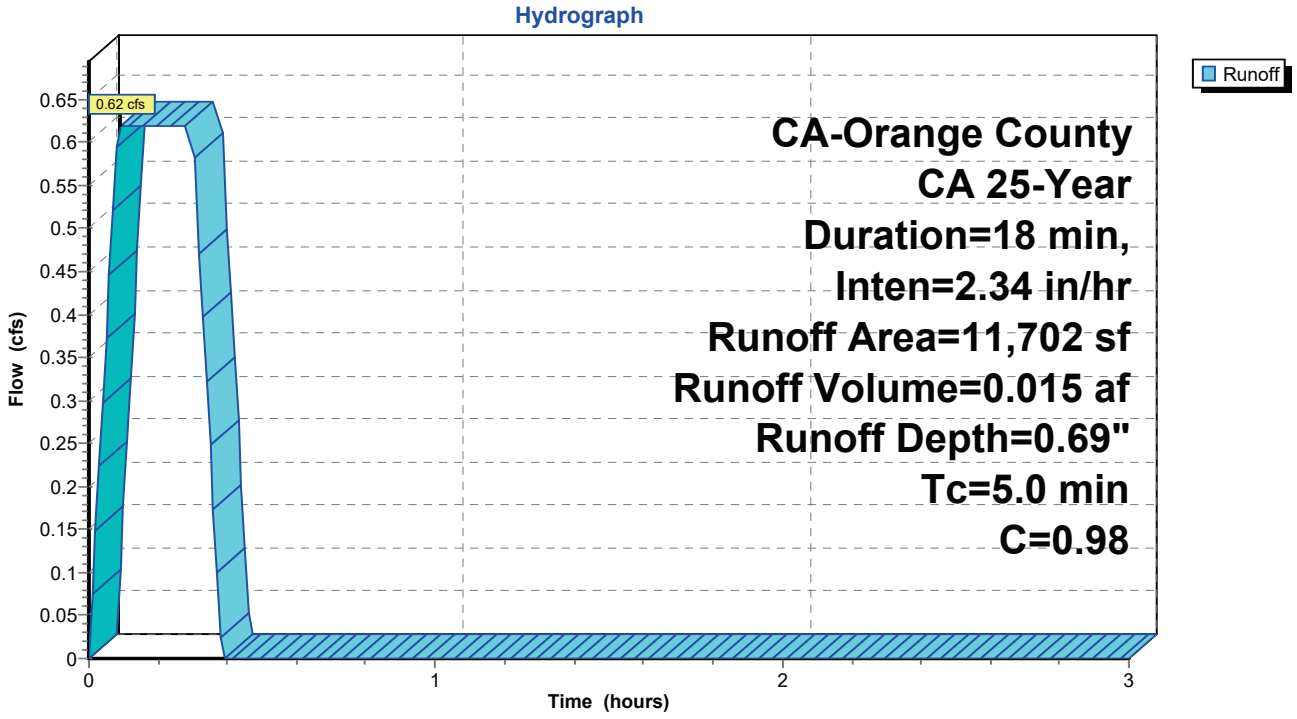
Runoff = 0.62 cfs @ 0.09 hrs, Volume= 0.015 af, Depth= 0.69"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (sf)	C	Description
2,736	0.98	Building
8,966	0.98	Building
11,702	0.98	Weighted Average
11,702		100.00% Impervious Area

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

Subcatchment 85S: DA 5.4



Hydrograph for Subcatchment 85S: DA 5.4

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.15	1.04	0.00	2.06	0.00
0.04	0.30	1.06	0.00	2.08	0.00
0.06	0.45	1.08	0.00	2.10	0.00
0.08	**0.60**	1.10	0.00	2.12	0.00
0.10	**0.62**	1.12	0.00	2.14	0.00
0.12	0.62	1.14	0.00	2.16	0.00
0.14	0.62	1.16	0.00	2.18	0.00
0.16	0.62	1.18	0.00	2.20	0.00
0.18	0.62	1.20	0.00	2.22	0.00
0.20	0.62	1.22	0.00	2.24	0.00
0.22	0.62	1.24	0.00	2.26	0.00
0.24	0.62	1.26	0.00	2.28	0.00
0.26	0.62	1.28	0.00	2.30	0.00
0.28	0.62	1.30	0.00	2.32	0.00
0.30	0.62	1.32	0.00	2.34	0.00
0.32	0.47	1.34	0.00	2.36	0.00
0.34	0.32	1.36	0.00	2.38	0.00
0.36	0.17	1.38	0.00	2.40	0.00
0.38	0.02	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 87S: DA 5.5

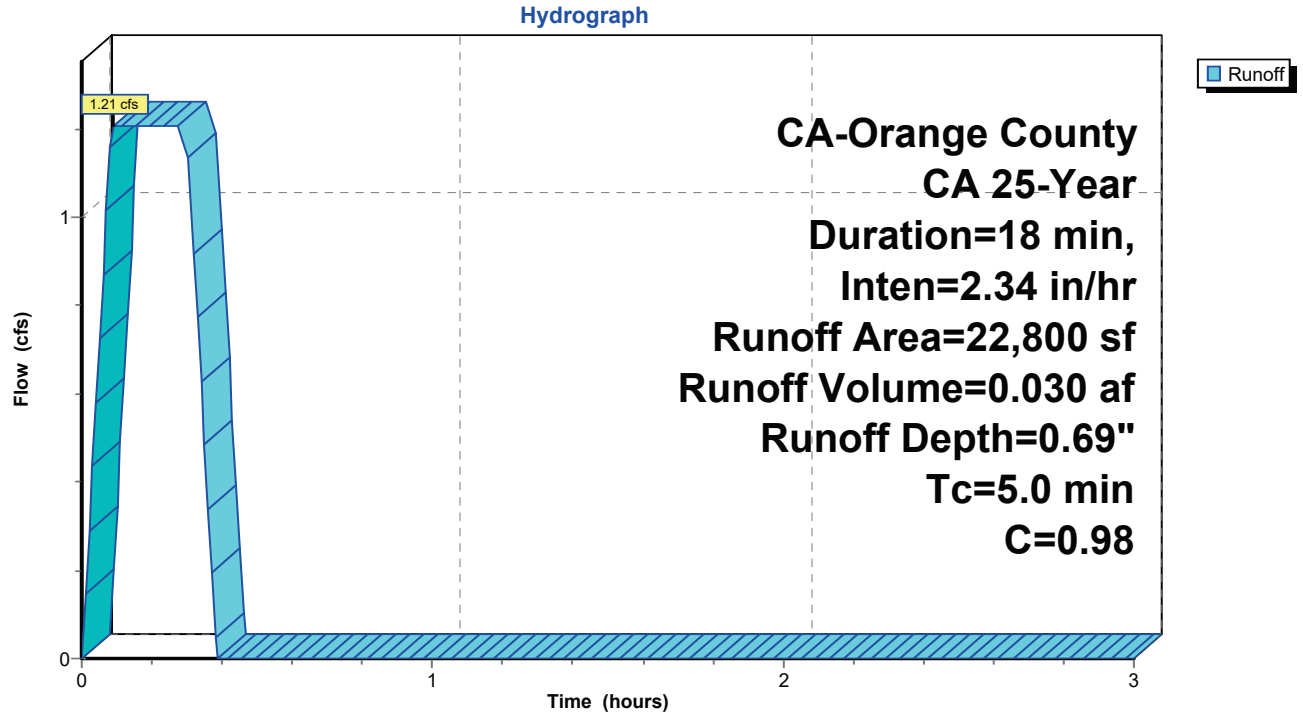
Runoff = 1.21 cfs @ 0.09 hrs, Volume= 0.030 af, Depth= 0.69"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=18 min, Inten=2.34 in/hr

Area (sf)	C	Description
18,480	0.98	Building
4,320	0.98	Building
22,800	0.98	Weighted Average
22,800		100.00% Impervious Area

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

Subcatchment 87S: DA 5.5



Hydrograph for Subcatchment 87S: DA 5.5

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.29	1.04	0.00	2.06	0.00
0.04	0.58	1.06	0.00	2.08	0.00
0.06	0.87	1.08	0.00	2.10	0.00
0.08	**1.16**	1.10	0.00	2.12	0.00
0.10	**1.21**	1.12	0.00	2.14	0.00
0.12	1.21	1.14	0.00	2.16	0.00
0.14	1.21	1.16	0.00	2.18	0.00
0.16	1.21	1.18	0.00	2.20	0.00
0.18	1.21	1.20	0.00	2.22	0.00
0.20	1.21	1.22	0.00	2.24	0.00
0.22	1.21	1.24	0.00	2.26	0.00
0.24	1.21	1.26	0.00	2.28	0.00
0.26	1.21	1.28	0.00	2.30	0.00
0.28	1.21	1.30	0.00	2.32	0.00
0.30	1.21	1.32	0.00	2.34	0.00
0.32	0.92	1.34	0.00	2.36	0.00
0.34	0.63	1.36	0.00	2.38	0.00
0.36	0.34	1.38	0.00	2.40	0.00
0.38	0.05	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 73P: BASIN 5

Inflow Area = 7.777 ac, 14.26% Impervious, Inflow Depth > 0.30" for 25-Year event
Inflow = 6.96 cfs @ 0.30 hrs, Volume= 0.191 af
Outflow = 1.23 cfs @ 0.52 hrs, Volume= 0.191 af, Atten= 82%, Lag= 13.2 min
Discarded = 1.23 cfs @ 0.52 hrs, Volume= 0.191 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 195.35' @ 0.52 hrs Surf.Area= 16,415 sf Storage= 5,574 cf

Plug-Flow detention time= 41.9 min calculated for 0.191 af (100% of inflow)
Center-of-Mass det. time= 41.7 min (62.1 - 20.4)

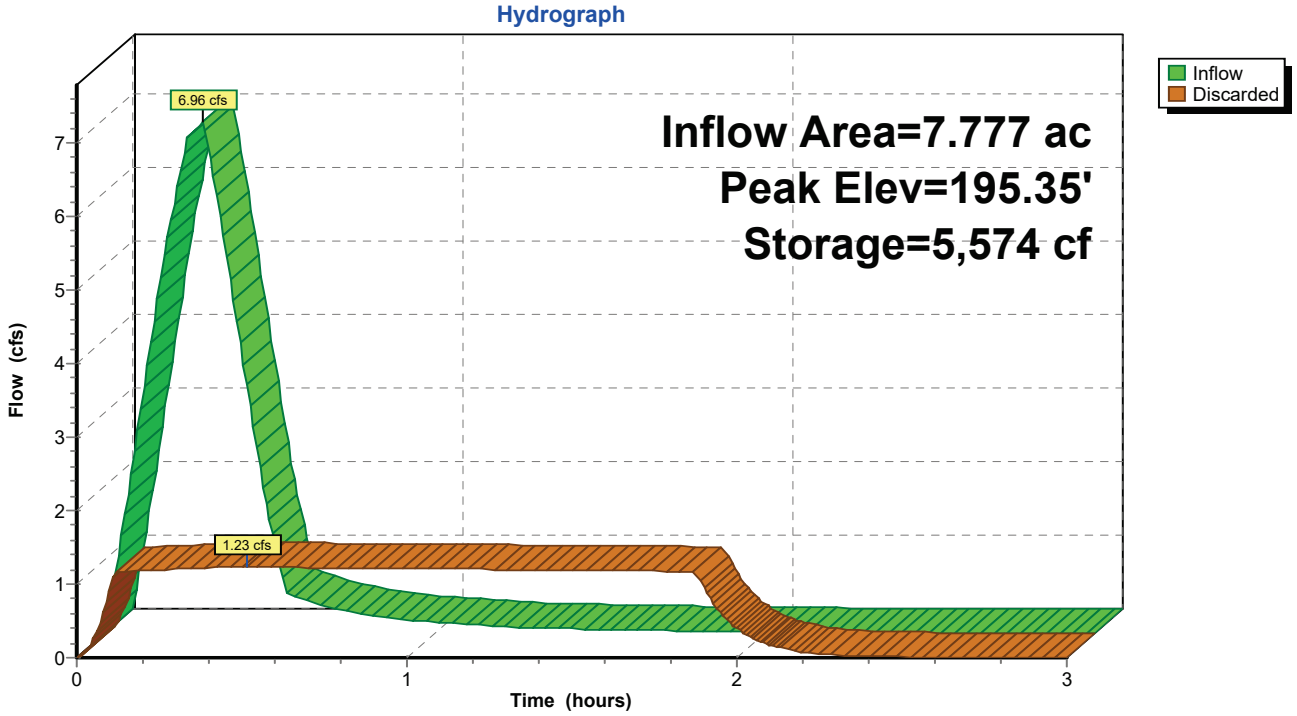
Volume	Invert	Avail.Storage	Storage Description
#1	195.00'	55,660 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
195.00	15,795	0	0
196.00	17,586	16,691	16,691
197.00	19,470	18,528	35,219
198.00	21,413	20,442	55,660

Device	Routing	Invert	Outlet Devices
#1	Discarded	195.00'	**3.200 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 170.00'

Discarded OutFlow Max=1.23 cfs @ 0.52 hrs HW=195.35' (Free Discharge)
↑**1=Exfiltration** (Controls 1.23 cfs)

Pond 73P: BASIN 5



Hydrograph for Pond 73P: BASIN 5

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	195.00	0.00
0.10	2.76	369	195.02	0.91
0.20	5.62	1,479	195.09	1.19
0.30	**6.94**	3,394	195.21	1.21
0.40	4.24	4,989	195.31	1.23
0.50	1.55	**5,565**	**195.35**	**1.23**
0.60	0.47	**5,402**	**195.34**	**1.23**
0.70	0.34	5,103	195.32	1.23
0.80	0.25	4,767	195.30	1.22
0.90	0.19	4,407	195.27	1.22
1.00	0.15	4,030	195.25	1.22
1.10	0.12	3,642	195.23	1.21
1.20	0.09	3,245	195.20	1.21
1.30	0.08	2,842	195.18	1.20
1.40	0.06	2,435	195.15	1.20
1.50	0.05	2,025	195.13	1.19
1.60	0.05	1,615	195.10	1.19
1.70	0.04	1,203	195.08	1.18
1.80	0.03	790	195.05	1.18
1.90	0.02	385	195.02	0.95
2.00	0.02	163	195.01	0.40
2.10	0.01	70	195.00	0.17
2.20	0.01	32	195.00	0.08
2.30	0.01	15	195.00	0.04
2.40	0.01	8	195.00	0.02
2.50	0.01	5	195.00	0.01
2.60	0.01	4	195.00	0.01
2.70	0.01	3	195.00	0.01
2.80	0.00	2	195.00	0.01
2.90	0.00	2	195.00	0.00
3.00	0.00	2	195.00	0.00

Summary for Pond 76P: Biofilt

Inflow Area = 0.138 ac,100.00% Impervious, Inflow Depth = 0.69" for 25-Year event
Inflow = 0.31 cfs @ 0.00 hrs, Volume= 0.008 af
Outflow = 0.27 cfs @ 0.30 hrs, Volume= 0.008 af, Atten= 13%, Lag= 17.9 min
Discarded = 0.00 cfs @ 0.30 hrs, Volume= 0.000 af
Primary = 0.27 cfs @ 0.30 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 201.33' @ 0.30 hrs Surf.Area= 602 sf Storage= 162 cf

Plug-Flow detention time= 12.7 min calculated for 0.008 af (98% of inflow)
Center-of-Mass det. time= 12.2 min (21.2 - 9.0)

Volume	Invert	Avail.Storage	Storage Description
#1	201.00'	2,673 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

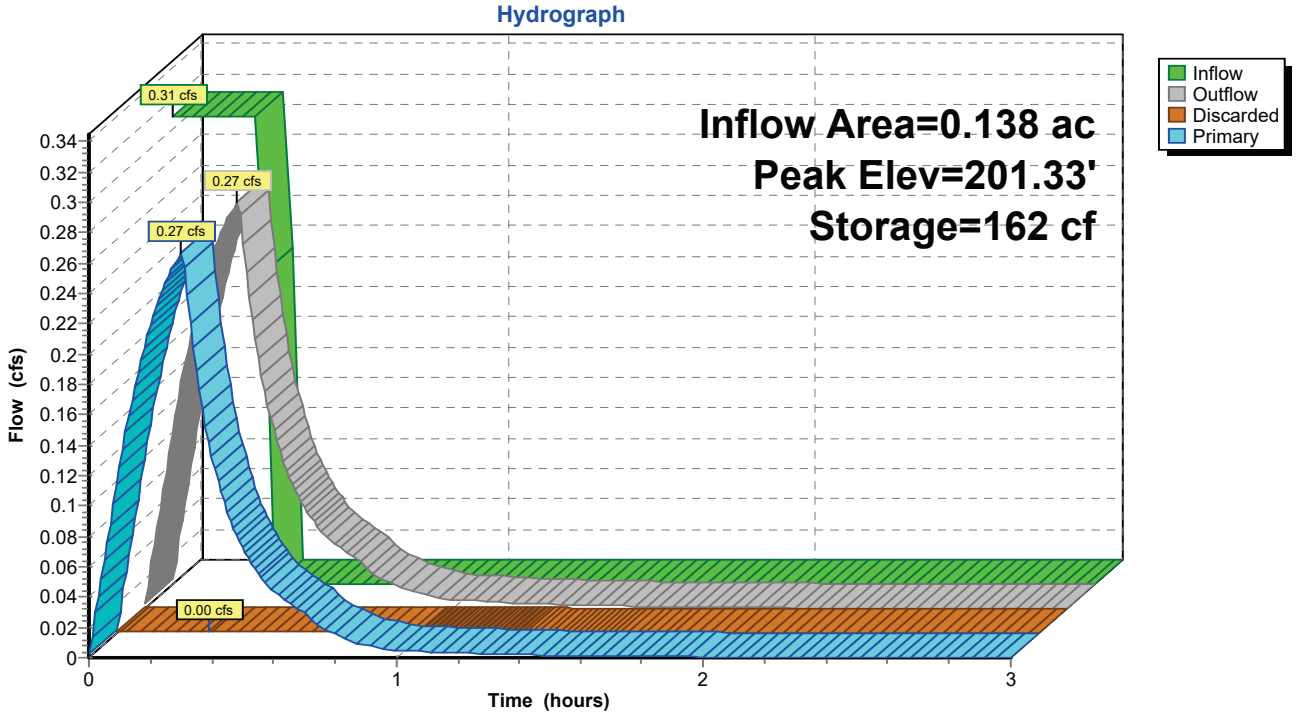
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
201.00	602	0.0	0	0
201.10	602	40.0	24	24
204.00	602	100.0	1,746	1,770
205.50	602	100.0	903	2,673

Device	Routing	Invert	Outlet Devices
#1	Primary	201.00'	**6.0" Round Culvert** L= 660.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 197.00' S= 0.0061 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	201.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.00 cfs @ 0.30 hrs HW=201.33' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.27 cfs @ 0.30 hrs HW=201.33' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.27 cfs @ 1.95 fps)

Pond 76P: Biofilt



Hydrograph for Pond 76P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.31**	5	201.02	0.00	0.00	0.00
0.10	0.31	93	201.21	0.13	0.00	0.13
0.20	0.31	139	201.29	0.22	0.00	0.22
0.30	0.31	**161**	**201.33**	**0.27**	**0.00**	**0.27**
0.40	0.00	96	201.22	0.13	0.00	0.13
0.50	0.00	60	201.16	0.07	0.00	0.07
0.60	0.00	40	201.13	0.05	0.00	0.04
0.70	0.00	26	201.10	0.03	0.00	0.03
0.80	0.00	18	201.07	0.02	0.00	0.02
0.90	0.00	13	201.05	0.01	0.00	0.01
1.00	0.00	10	201.04	0.01	0.00	0.00
1.10	0.00	8	201.03	0.00	0.00	0.00
1.20	0.00	7	201.03	0.00	0.00	0.00
1.30	0.00	5	201.02	0.00	0.00	0.00
1.40	0.00	4	201.02	0.00	0.00	0.00
1.50	0.00	3	201.01	0.00	0.00	0.00
1.60	0.00	3	201.01	0.00	0.00	0.00
1.70	0.00	2	201.01	0.00	0.00	0.00
1.80	0.00	2	201.01	0.00	0.00	0.00
1.90	0.00	1	201.01	0.00	0.00	0.00
2.00	0.00	1	201.00	0.00	0.00	0.00
2.10	0.00	1	201.00	0.00	0.00	0.00
2.20	0.00	1	201.00	0.00	0.00	0.00
2.30	0.00	1	201.00	0.00	0.00	0.00
2.40	0.00	0	201.00	0.00	0.00	0.00
2.50	0.00	0	201.00	0.00	0.00	0.00
2.60	0.00	0	201.00	0.00	0.00	0.00
2.70	0.00	0	201.00	0.00	0.00	0.00
2.80	0.00	0	201.00	0.00	0.00	0.00
2.90	0.00	0	201.00	0.00	0.00	0.00
3.00	0.00	0	201.00	0.00	0.00	0.00

Summary for Pond 78P: Biofilt

Inflow Area = 0.069 ac,100.00% Impervious, Inflow Depth = 0.67" for 25-Year event
Inflow = 0.15 cfs @ 0.09 hrs, Volume= 0.004 af
Outflow = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af, Atten= 99%, Lag= 18.0 min
Discarded = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 201.31' @ 0.39 hrs Surf.Area= 658 sf Storage= 164 cf

Plug-Flow detention time= 88.3 min calculated for 0.000 af (10% of inflow)
Center-of-Mass det. time= 79.9 min (91.4 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	201.00'	2,922 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

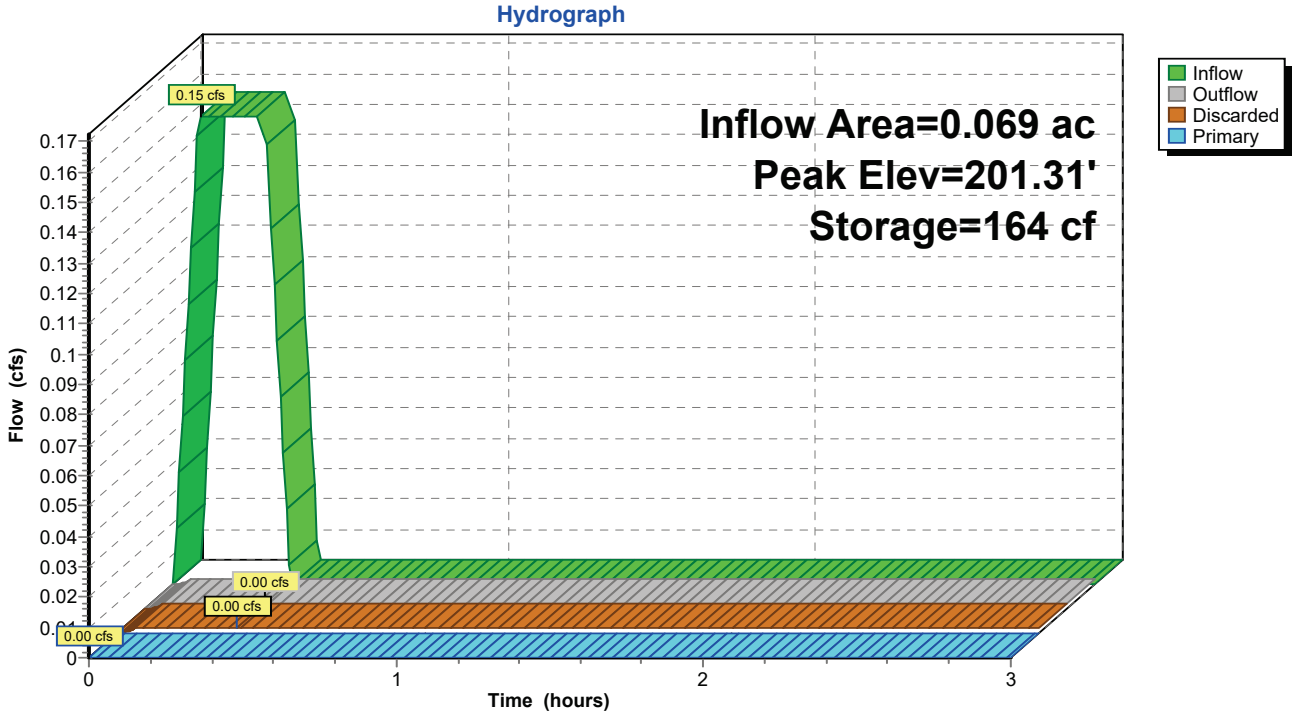
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
201.00	658	0.0	0	0
201.10	658	40.0	26	26
204.00	658	100.0	1,908	1,935
205.50	658	100.0	987	2,922

Device	Routing	Invert	Outlet Devices
#1	Discarded	201.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	205.00'	**6.0" Round Culvert** L= 564.0' Ke= 0.500 Inlet / Outlet Invert= 205.00' / 197.00' S= 0.0142 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.39 hrs HW=201.31' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=201.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 78P: Biofilt



Hydrograph for Pond 78P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	201.00	0.00	0.00	**0.00**
0.10	**0.15**	32	201.11	0.00	0.00	0.00
0.20	0.15	87	201.19	0.00	0.00	0.00
0.30	0.15	**142**	**201.28**	**0.00**	**0.00**	0.00
0.40	0.00	**164**	**201.31**	**0.00**	**0.00**	0.00
0.50	0.00	164	201.31	0.00	0.00	0.00
0.60	0.00	163	201.31	0.00	0.00	0.00
0.70	0.00	163	201.31	0.00	0.00	0.00
0.80	0.00	162	201.31	0.00	0.00	0.00
0.90	0.00	162	201.31	0.00	0.00	0.00
1.00	0.00	161	201.30	0.00	0.00	0.00
1.10	0.00	161	201.30	0.00	0.00	0.00
1.20	0.00	160	201.30	0.00	0.00	0.00
1.30	0.00	159	201.30	0.00	0.00	0.00
1.40	0.00	159	201.30	0.00	0.00	0.00
1.50	0.00	158	201.30	0.00	0.00	0.00
1.60	0.00	158	201.30	0.00	0.00	0.00
1.70	0.00	157	201.30	0.00	0.00	0.00
1.80	0.00	157	201.30	0.00	0.00	0.00
1.90	0.00	156	201.30	0.00	0.00	0.00
2.00	0.00	156	201.30	0.00	0.00	0.00
2.10	0.00	155	201.30	0.00	0.00	0.00
2.20	0.00	154	201.29	0.00	0.00	0.00
2.30	0.00	154	201.29	0.00	0.00	0.00
2.40	0.00	153	201.29	0.00	0.00	0.00
2.50	0.00	153	201.29	0.00	0.00	0.00
2.60	0.00	152	201.29	0.00	0.00	0.00
2.70	0.00	152	201.29	0.00	0.00	0.00
2.80	0.00	151	201.29	0.00	0.00	0.00
2.90	0.00	151	201.29	0.00	0.00	0.00
3.00	0.00	150	201.29	0.00	0.00	0.00

Summary for Pond 80P: Biofilt

Inflow Area = 0.069 ac,100.00% Impervious, Inflow Depth = 0.67" for 25-Year event
Inflow = 0.15 cfs @ 0.09 hrs, Volume= 0.004 af
Outflow = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af, Atten= 100%, Lag= 18.2 min
Discarded = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 204.57' @ 0.39 hrs Surf.Area= 325 sf Storage= 165 cf

Plug-Flow detention time= 88.8 min calculated for 0.000 af (5% of inflow)
Center-of-Mass det. time= 79.6 min (91.1 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	204.00'	1,443 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

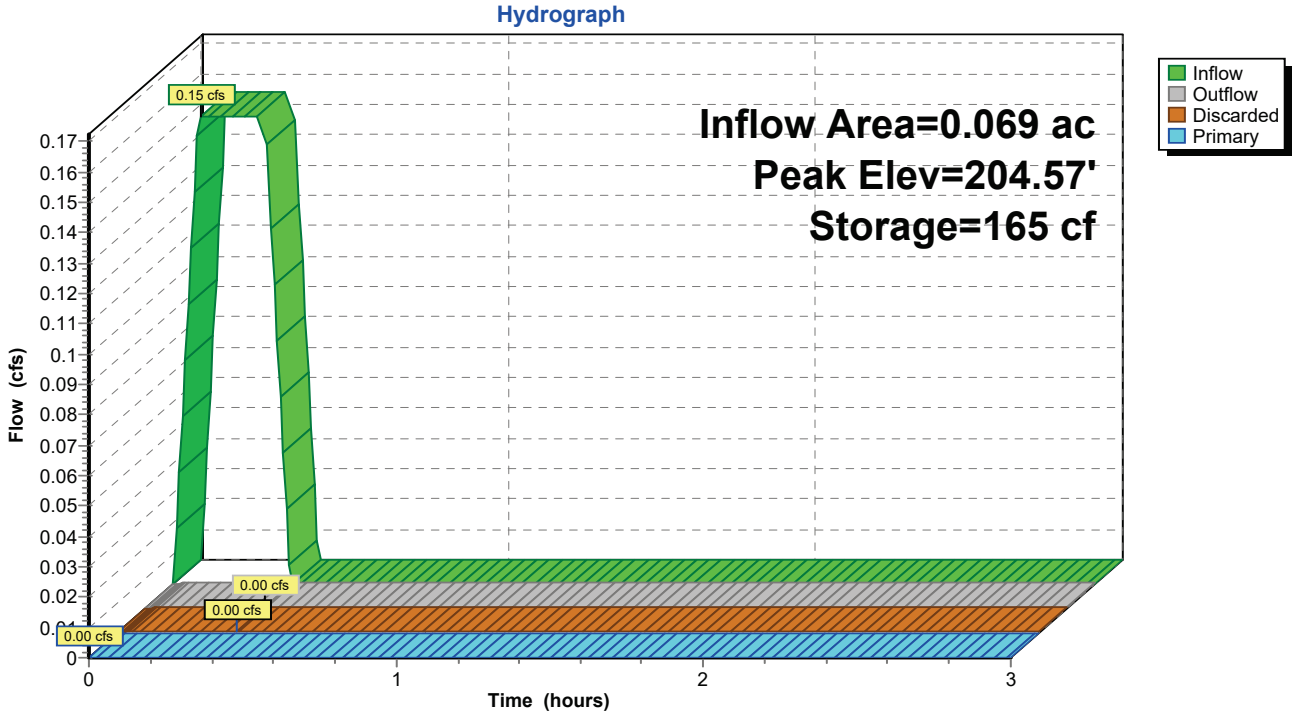
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
204.00	325	0.0	0	0
204.10	325	40.0	13	13
207.00	325	100.0	943	956
208.50	325	100.0	488	1,443

Device	Routing	Invert	Outlet Devices
#1	Primary	207.00'	**6.0" Round Culvert** L= 590.0' Ke= 0.500 Inlet / Outlet Invert= 207.00' / 197.00' S= 0.0169 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	204.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.00 cfs @ 0.39 hrs HW=204.57' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=204.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Pond 80P: Biofilt



Hydrograph for Pond 80P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	204.00	0.00	0.00	**0.00**
0.10	**0.15**	32	204.16	0.00	0.00	0.00
0.20	0.15	87	204.33	0.00	0.00	0.00
0.30	0.15	**142**	**204.50**	**0.00**	**0.00**	0.00
0.40	0.00	**165**	**204.57**	**0.00**	**0.00**	0.00
0.50	0.00	165	204.57	0.00	0.00	0.00
0.60	0.00	165	204.57	0.00	0.00	0.00
0.70	0.00	165	204.57	0.00	0.00	0.00
0.80	0.00	164	204.57	0.00	0.00	0.00
0.90	0.00	164	204.56	0.00	0.00	0.00
1.00	0.00	164	204.56	0.00	0.00	0.00
1.10	0.00	163	204.56	0.00	0.00	0.00
1.20	0.00	163	204.56	0.00	0.00	0.00
1.30	0.00	163	204.56	0.00	0.00	0.00
1.40	0.00	163	204.56	0.00	0.00	0.00
1.50	0.00	162	204.56	0.00	0.00	0.00
1.60	0.00	162	204.56	0.00	0.00	0.00
1.70	0.00	162	204.56	0.00	0.00	0.00
1.80	0.00	162	204.56	0.00	0.00	0.00
1.90	0.00	161	204.56	0.00	0.00	0.00
2.00	0.00	161	204.56	0.00	0.00	0.00
2.10	0.00	161	204.55	0.00	0.00	0.00
2.20	0.00	160	204.55	0.00	0.00	0.00
2.30	0.00	160	204.55	0.00	0.00	0.00
2.40	0.00	160	204.55	0.00	0.00	0.00
2.50	0.00	160	204.55	0.00	0.00	0.00
2.60	0.00	159	204.55	0.00	0.00	0.00
2.70	0.00	159	204.55	0.00	0.00	0.00
2.80	0.00	159	204.55	0.00	0.00	0.00
2.90	0.00	158	204.55	0.00	0.00	0.00
3.00	0.00	158	204.55	0.00	0.00	0.00

Summary for Pond 82P: Biofilt

Inflow Area = 0.041 ac,100.00% Impervious, Inflow Depth = 0.67" for 25-Year event
Inflow = 0.09 cfs @ 0.09 hrs, Volume= 0.002 af
Outflow = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af, Atten= 100%, Lag= 18.2 min
Discarded = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 198.58' @ 0.39 hrs Surf.Area= 191 sf Storage= 99 cf

Plug-Flow detention time= 89.1 min calculated for 0.000 af (5% of inflow)
Center-of-Mass det. time= 79.6 min (91.1 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	198.00'	848 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

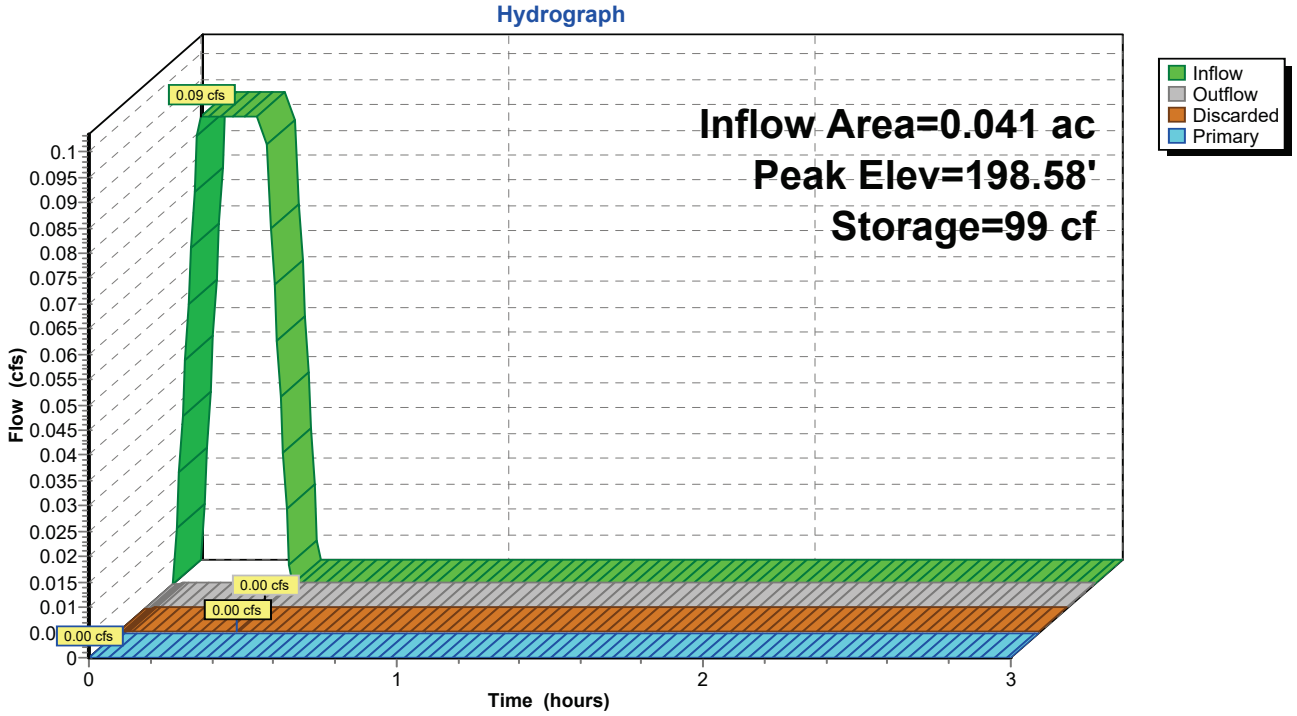
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
198.00	191	0.0	0	0
198.10	191	40.0	8	8
201.00	191	100.0	554	562
202.50	191	100.0	287	848

Device	Routing	Invert	Outlet Devices
#1	Discarded	198.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	201.00'	**6.0" Round Culvert** L= 284.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 197.00' S= 0.0141 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.39 hrs HW=198.58' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=198.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 82P: Biofilt



Hydrograph for Pond 82P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	198.00	0.00	0.00	**0.00**
0.10	**0.09**	19	198.16	0.00	0.00	0.00
0.20	0.09	52	198.33	0.00	0.00	0.00
0.30	0.09	**85**	**198.51**	**0.00**	**0.00**	0.00
0.40	0.00	**99**	**198.58**	**0.00**	**0.00**	0.00
0.50	0.00	99	198.58	0.00	0.00	0.00
0.60	0.00	99	198.58	0.00	0.00	0.00
0.70	0.00	99	198.58	0.00	0.00	0.00
0.80	0.00	99	198.58	0.00	0.00	0.00
0.90	0.00	98	198.58	0.00	0.00	0.00
1.00	0.00	98	198.57	0.00	0.00	0.00
1.10	0.00	98	198.57	0.00	0.00	0.00
1.20	0.00	98	198.57	0.00	0.00	0.00
1.30	0.00	98	198.57	0.00	0.00	0.00
1.40	0.00	98	198.57	0.00	0.00	0.00
1.50	0.00	97	198.57	0.00	0.00	0.00
1.60	0.00	97	198.57	0.00	0.00	0.00
1.70	0.00	97	198.57	0.00	0.00	0.00
1.80	0.00	97	198.57	0.00	0.00	0.00
1.90	0.00	97	198.57	0.00	0.00	0.00
2.00	0.00	97	198.57	0.00	0.00	0.00
2.10	0.00	96	198.57	0.00	0.00	0.00
2.20	0.00	96	198.56	0.00	0.00	0.00
2.30	0.00	96	198.56	0.00	0.00	0.00
2.40	0.00	96	198.56	0.00	0.00	0.00
2.50	0.00	96	198.56	0.00	0.00	0.00
2.60	0.00	96	198.56	0.00	0.00	0.00
2.70	0.00	95	198.56	0.00	0.00	0.00
2.80	0.00	95	198.56	0.00	0.00	0.00
2.90	0.00	95	198.56	0.00	0.00	0.00
3.00	0.00	95	198.56	0.00	0.00	0.00

Summary for Pond 86P: (new Pond)

Inflow Area = 0.269 ac,100.00% Impervious, Inflow Depth = 0.69" for 25-Year event
Inflow = 0.62 cfs @ 0.09 hrs, Volume= 0.015 af
Outflow = 0.44 cfs @ 0.32 hrs, Volume= 0.015 af, Atten= 29%, Lag= 14.1 min
Discarded = 0.00 cfs @ 0.32 hrs, Volume= 0.000 af
Primary = 0.44 cfs @ 0.32 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 201.38' @ 0.32 hrs Surf.Area= 1,170 sf Storage= 378 cf

Plug-Flow detention time= 17.7 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 17.7 min (29.2 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	201.00'	5,195 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

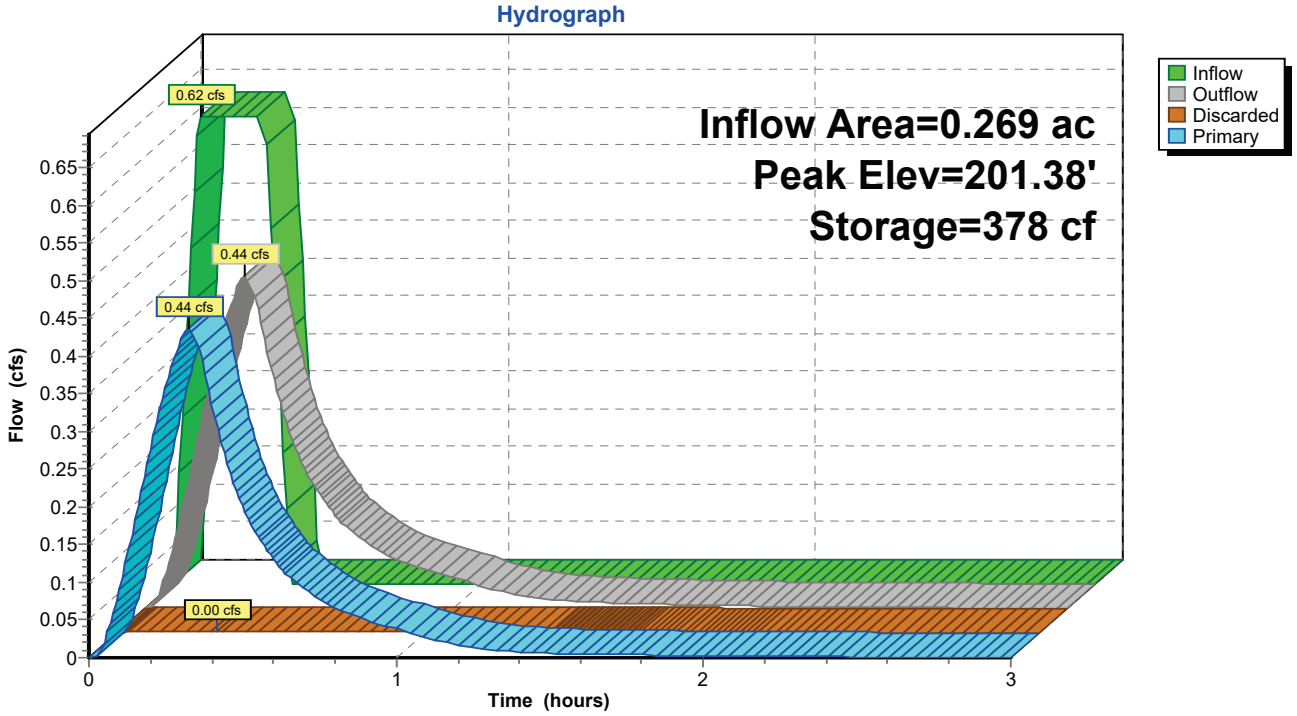
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
201.00	1,170	0.0	0	0
201.10	1,170	40.0	47	47
204.00	1,170	100.0	3,393	3,440
205.50	1,170	100.0	1,755	5,195

Device	Routing	Invert	Outlet Devices
#1	Discarded	201.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	201.00'	**8.0" Round Culvert** L= 260.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 196.00' S= 0.0192 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 0.32 hrs HW=201.38' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.44 cfs @ 0.32 hrs HW=201.38' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 0.44 cfs @ 2.11 fps)

Pond 86P: (new Pond)



Hydrograph for Pond 86P: (new Pond)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	201.00	0.00	0.00	0.00
0.10	**0.62**	119	201.16	0.09	0.00	0.09
0.20	0.62	275	201.30	0.28	0.00	0.28
0.30	0.62	**369**	**201.38**	**0.43**	**0.00**	**0.42**
0.40	0.00	**315**	**201.33**	**0.34**	**0.00**	**0.34**
0.50	0.00	220	201.25	0.20	0.00	0.20
0.60	0.00	160	201.20	0.13	0.00	0.13
0.70	0.00	120	201.16	0.09	0.00	0.09
0.80	0.00	91	201.14	0.07	0.00	0.07
0.90	0.00	69	201.12	0.05	0.00	0.05
1.00	0.00	52	201.10	0.04	0.00	0.04
1.10	0.00	39	201.08	0.03	0.00	0.03
1.20	0.00	31	201.07	0.02	0.00	0.02
1.30	0.00	25	201.05	0.01	0.00	0.01
1.40	0.00	21	201.04	0.01	0.00	0.01
1.50	0.00	17	201.04	0.01	0.00	0.01
1.60	0.00	15	201.03	0.01	0.00	0.01
1.70	0.00	12	201.03	0.01	0.00	0.00
1.80	0.00	10	201.02	0.00	0.00	0.00
1.90	0.00	9	201.02	0.00	0.00	0.00
2.00	0.00	7	201.02	0.00	0.00	0.00
2.10	0.00	6	201.01	0.00	0.00	0.00
2.20	0.00	5	201.01	0.00	0.00	0.00
2.30	0.00	4	201.01	0.00	0.00	0.00
2.40	0.00	4	201.01	0.00	0.00	0.00
2.50	0.00	3	201.01	0.00	0.00	0.00
2.60	0.00	3	201.01	0.00	0.00	0.00
2.70	0.00	2	201.00	0.00	0.00	0.00
2.80	0.00	2	201.00	0.00	0.00	0.00
2.90	0.00	2	201.00	0.00	0.00	0.00
3.00	0.00	1	201.00	0.00	0.00	0.00

Summary for Pond 88P: Biofit

Inflow Area = 0.523 ac,100.00% Impervious, Inflow Depth = 0.69" for 25-Year event
Inflow = 1.21 cfs @ 0.09 hrs, Volume= 0.030 af
Outflow = 0.64 cfs @ 0.34 hrs, Volume= 0.030 af, Atten= 47%, Lag= 14.9 min
Discarded = 0.01 cfs @ 0.34 hrs, Volume= 0.001 af
Primary = 0.64 cfs @ 0.34 hrs, Volume= 0.028 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 201.48' @ 0.34 hrs Surf.Area= 2,116 sf Storage= 893 cf

Plug-Flow detention time= 27.8 min calculated for 0.030 af (99% of inflow)
Center-of-Mass det. time= 27.7 min (39.2 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	201.00'	9,395 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

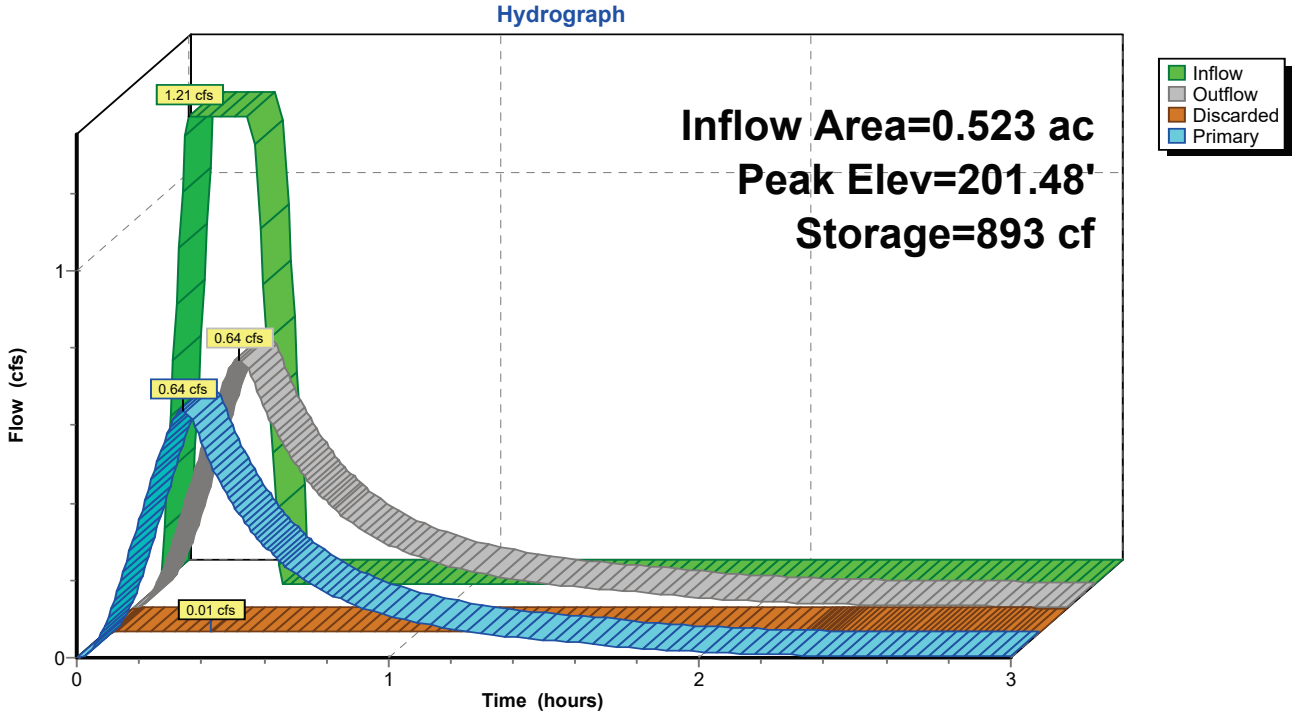
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
201.00	2,116	0.0	0	0
201.10	2,116	40.0	85	85
204.00	2,116	100.0	6,136	6,221
205.50	2,116	100.0	3,174	9,395

Device	Routing	Invert	Outlet Devices
#1	Discarded	201.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	201.00'	**8.0" Round Culvert** L= 320.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 196.00' S= 0.0156 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.01 cfs @ 0.34 hrs HW=201.48' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.64 cfs @ 0.34 hrs HW=201.48' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 0.64 cfs @ 2.36 fps)

Pond 88P: Biofit



Hydrograph for Pond 88P: Biofit

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	201.00	0.00	0.00	0.00
0.10	**1.21**	240	201.17	0.11	0.00	0.10
0.20	1.21	592	201.34	0.36	0.00	0.36
0.30	1.21	**852**	**201.46**	**0.60**	**0.00**	**0.60**
0.40	0.00	**810**	**201.44**	**0.56**	**0.00**	**0.56**
0.50	0.00	639	201.36	0.40	0.00	0.40
0.60	0.00	514	201.30	0.30	0.00	0.29
0.70	0.00	422	201.26	0.22	0.00	0.22
0.80	0.00	351	201.23	0.17	0.00	0.17
0.90	0.00	295	201.20	0.14	0.00	0.13
1.00	0.00	250	201.18	0.11	0.00	0.11
1.10	0.00	212	201.16	0.09	0.00	0.09
1.20	0.00	181	201.15	0.08	0.00	0.07
1.30	0.00	155	201.13	0.07	0.00	0.06
1.40	0.00	133	201.12	0.06	0.00	0.05
1.50	0.00	113	201.11	0.05	0.00	0.05
1.60	0.00	96	201.11	0.04	0.00	0.04
1.70	0.00	81	201.10	0.04	0.00	0.03
1.80	0.00	69	201.08	0.03	0.00	0.02
1.90	0.00	59	201.07	0.02	0.00	0.02
2.00	0.00	51	201.06	0.02	0.00	0.01
2.10	0.00	45	201.05	0.02	0.00	0.01
2.20	0.00	40	201.05	0.01	0.00	0.01
2.30	0.00	35	201.04	0.01	0.00	0.01
2.40	0.00	31	201.04	0.01	0.00	0.01
2.50	0.00	28	201.03	0.01	0.00	0.01
2.60	0.00	25	201.03	0.01	0.00	0.00
2.70	0.00	22	201.03	0.01	0.00	0.00
2.80	0.00	20	201.02	0.01	0.00	0.00
2.90	0.00	18	201.02	0.01	0.00	0.00
3.00	0.00	16	201.02	0.01	0.00	0.00

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment70S: DA 5.1 Runoff Area=232,511 sf 0.00% Impervious Runoff Depth=0.32"
Tc=15.0 min C=0.35 Runoff=5.66 cfs 0.140 af

Subcatchment75S: DA 5.1 Catering Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=0.89"
Tc=0.0 min C=0.95 Runoff=0.40 cfs 0.010 af

Subcatchment77S: DA 5.1 Tent Runoff Area=3,000 sf 100.00% Impervious Runoff Depth=0.86"
Tc=5.0 min C=0.95 Runoff=0.20 cfs 0.005 af

Subcatchment79S: DA 5.1 Barn Runoff Area=3,000 sf 100.00% Impervious Runoff Depth=0.86"
Tc=5.0 min C=0.95 Runoff=0.20 cfs 0.005 af

Subcatchment81S: DA 5.1 SE Bldg Runoff Area=1,800 sf 100.00% Impervious Runoff Depth=0.86"
Tc=5.0 min C=0.95 Runoff=0.12 cfs 0.003 af

Subcatchment83S: DA 5.2 Runoff Area=77,666.000 ac 0.00% Impervious Runoff Depth=0.42"
Tc=0.0 min C=0.45 Runoff=105,910.03 cfs 2,713.398 af

Subcatchment84S: DA-5.3 Runoff Area=57,973 sf 0.00% Impervious Runoff Depth=0.36"
Tc=11.0 min C=0.40 Runoff=1.61 cfs 0.040 af

Subcatchment85S: DA 5.4 Runoff Area=11,702 sf 100.00% Impervious Runoff Depth=0.88"
Tc=5.0 min C=0.98 Runoff=0.80 cfs 0.020 af

Subcatchment87S: DA 5.5 Runoff Area=22,800 sf 100.00% Impervious Runoff Depth=0.88"
Tc=5.0 min C=0.98 Runoff=1.55 cfs 0.039 af

Pond 73P: BASIN 5 Peak Elev=195.48' Storage=7,748 cf Inflow=9.03 cfs 0.247 af
Outflow=1.26 cfs 0.247 af

Pond 76P: Biofilt Peak Elev=201.39' Storage=199 cf Inflow=0.40 cfs 0.010 af
Discarded=0.00 cfs 0.000 af Primary=0.35 cfs 0.010 af Outflow=0.35 cfs 0.010 af

Pond 78P: Biofilt Peak Elev=201.38' Storage=212 cf Inflow=0.20 cfs 0.005 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 80P: Biofilt Peak Elev=204.72' Storage=213 cf Inflow=0.20 cfs 0.005 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 82P: Biofilt Peak Elev=198.73' Storage=128 cf Inflow=0.12 cfs 0.003 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 86P: (new Pond) Peak Elev=201.46' Storage=465 cf Inflow=0.80 cfs 0.020 af
Discarded=0.00 cfs 0.000 af Primary=0.59 cfs 0.019 af Outflow=0.59 cfs 0.020 af

Pond 88P: Biofit Peak Elev=201.59' Storage=1,119 cf Inflow=1.55 cfs 0.039 af
Discarded=0.01 cfs 0.001 af Primary=0.85 cfs 0.037 af Outflow=0.86 cfs 0.038 af

Total Runoff Area = 77,673.777 ac Runoff Volume = 2,713.659 af Average Runoff Depth = 0.42"
100.00% Pervious = 77,672.669 ac 0.00% Impervious = 1.109 ac

Summary for Subcatchment 70S: DA 5.1

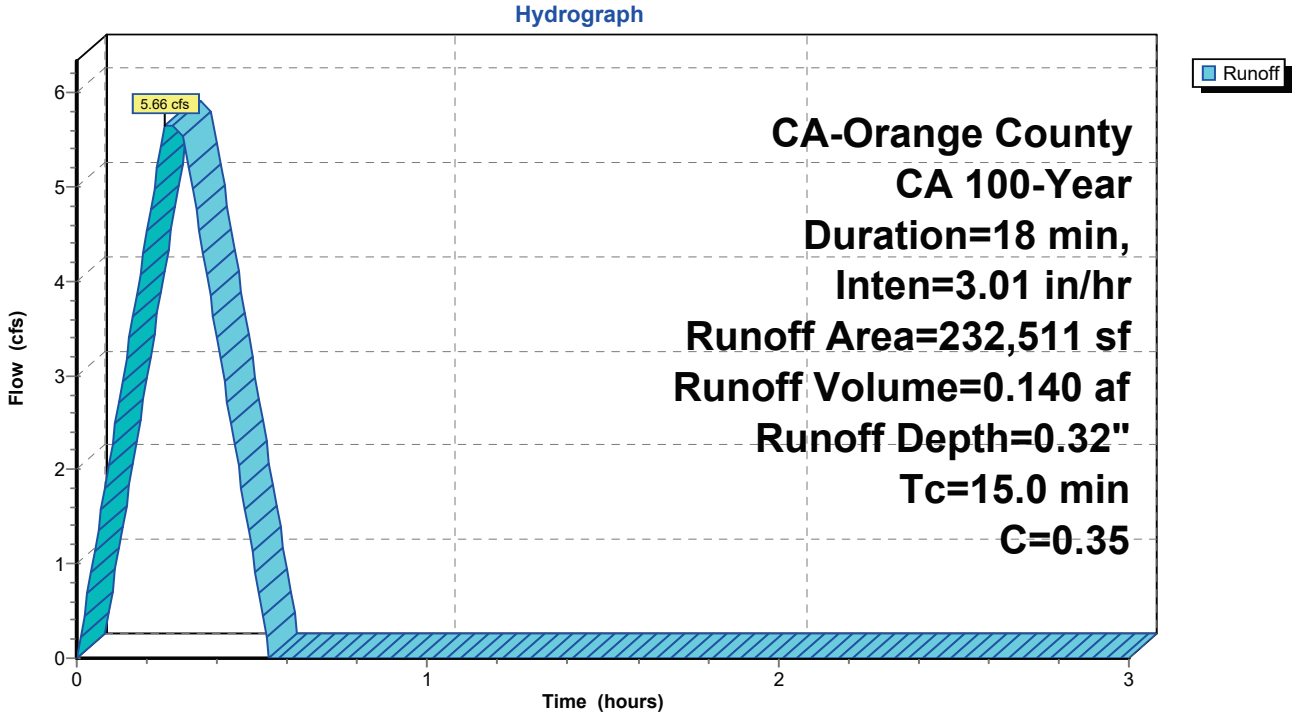
Runoff = 5.66 cfs @ 0.25 hrs, Volume= 0.140 af, Depth= 0.32"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (sf)	C	Description
18,233	0.40	Pervious pavement
197,163	0.30	>75% Grass cover, Good, HSG C
17,115	0.85	concrete sidewalk
232,511	0.35	Weighted Average
232,511		100.00% Pervious Area

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

Subcatchment 70S: DA 5.1



Hydrograph for Subcatchment 70S: DA 5.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.45	1.04	0.00	2.06	0.00
0.04	0.91	1.06	0.00	2.08	0.00
0.06	1.36	1.08	0.00	2.10	0.00
0.08	1.81	1.10	0.00	2.12	0.00
0.10	2.26	1.12	0.00	2.14	0.00
0.12	2.72	1.14	0.00	2.16	0.00
0.14	3.17	1.16	0.00	2.18	0.00
0.16	3.62	1.18	0.00	2.20	0.00
0.18	4.08	1.20	0.00	2.22	0.00
0.20	4.53	1.22	0.00	2.24	0.00
0.22	4.98	1.24	0.00	2.26	0.00
0.24	**5.43**	1.26	0.00	2.28	0.00
0.26	**5.66**	1.28	0.00	2.30	0.00
0.28	5.66	1.30	0.00	2.32	0.00
0.30	5.66	1.32	0.00	2.34	0.00
0.32	5.21	1.34	0.00	2.36	0.00
0.34	4.76	1.36	0.00	2.38	0.00
0.36	4.30	1.38	0.00	2.40	0.00
0.38	3.85	1.40	0.00	2.42	0.00
0.40	3.40	1.42	0.00	2.44	0.00
0.42	2.94	1.44	0.00	2.46	0.00
0.44	2.49	1.46	0.00	2.48	0.00
0.46	2.04	1.48	0.00	2.50	0.00
0.48	1.59	1.50	0.00	2.52	0.00
0.50	1.13	1.52	0.00	2.54	0.00
0.52	0.68	1.54	0.00	2.56	0.00
0.54	0.23	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

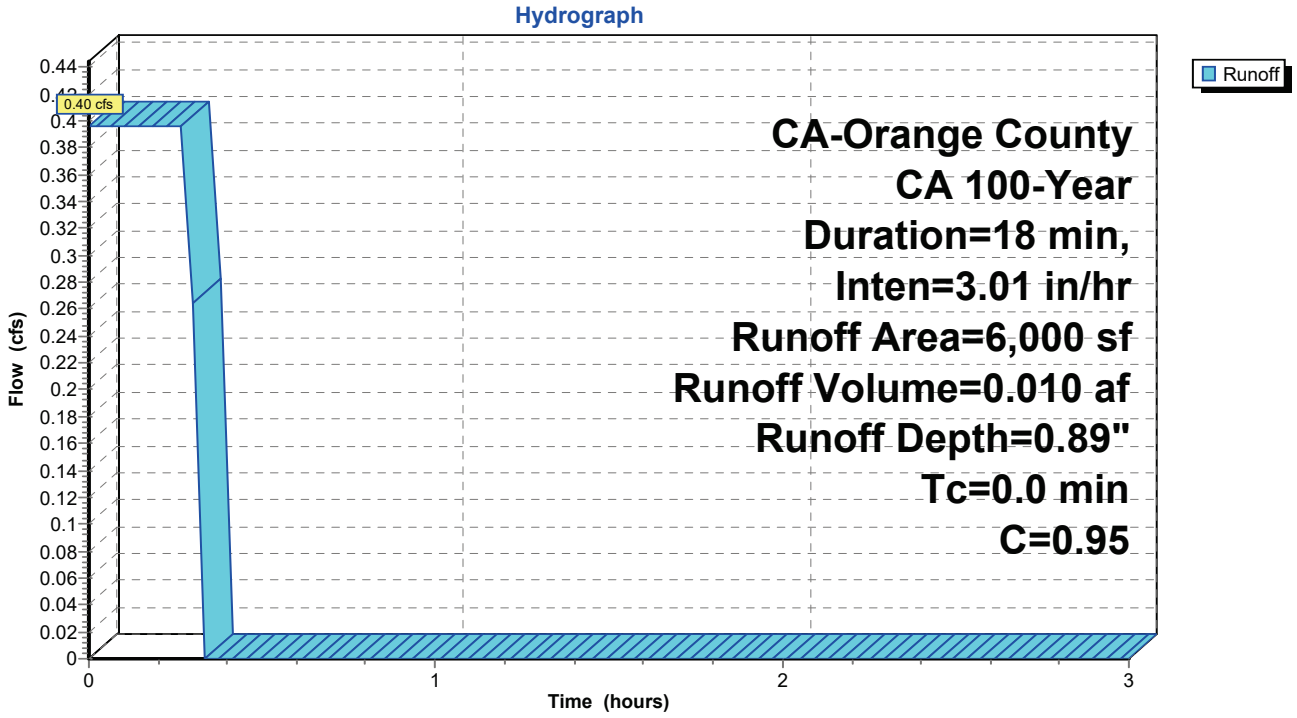
Summary for Subcatchment 75S: DA 5.1 Catering

Runoff = 0.40 cfs @ 0.00 hrs, Volume= 0.010 af, Depth= 0.89"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (sf)	C	Description
6,000	0.95	
6,000		100.00% Impervious Area

Subcatchment 75S: DA 5.1 Catering



Hydrograph for Subcatchment 75S: DA 5.1 Catering

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	**0.40**	1.02	0.00	2.04	0.00
0.02	0.40	1.04	0.00	2.06	0.00
0.04	0.40	1.06	0.00	2.08	0.00
0.06	0.40	1.08	0.00	2.10	0.00
0.08	0.40	1.10	0.00	2.12	0.00
0.10	0.40	1.12	0.00	2.14	0.00
0.12	0.40	1.14	0.00	2.16	0.00
0.14	0.40	1.16	0.00	2.18	0.00
0.16	0.40	1.18	0.00	2.20	0.00
0.18	0.40	1.20	0.00	2.22	0.00
0.20	0.40	1.22	0.00	2.24	0.00
0.22	0.40	1.24	0.00	2.26	0.00
0.24	0.40	1.26	0.00	2.28	0.00
0.26	0.40	1.28	0.00	2.30	0.00
0.28	0.40	1.30	0.00	2.32	0.00
0.30	0.40	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 77S: DA 5.1 Tent

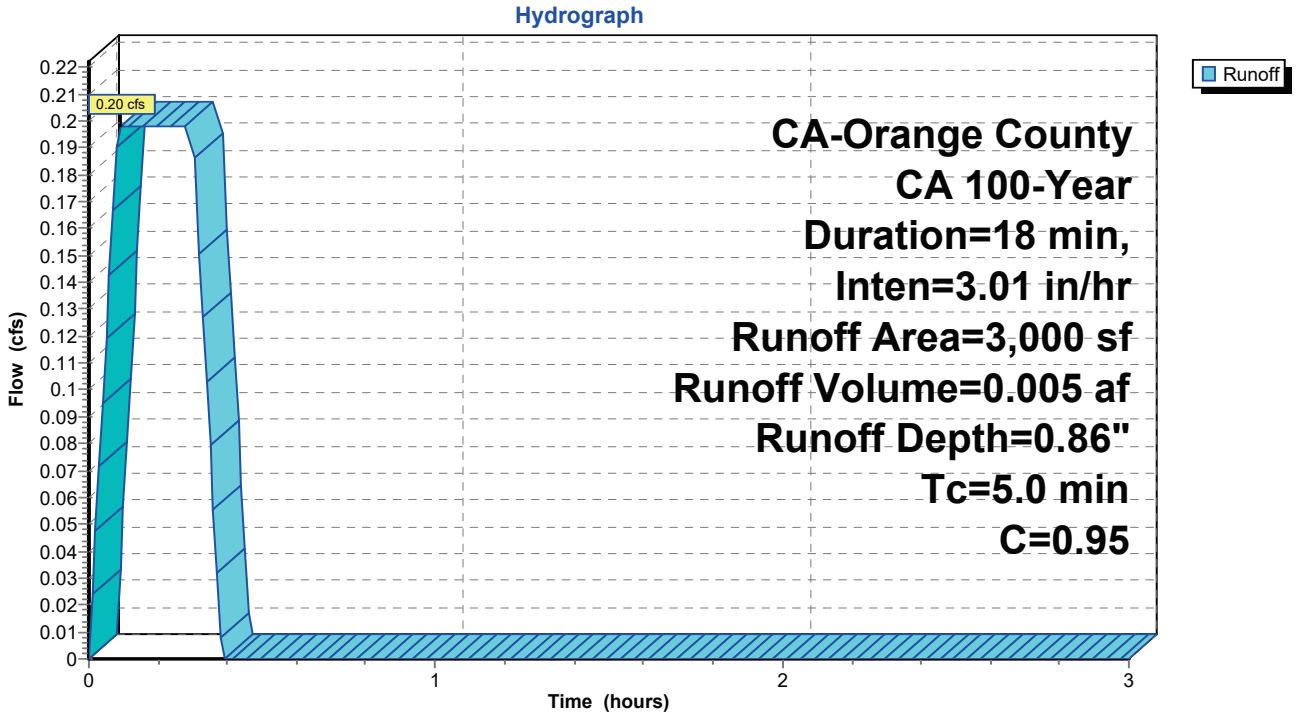
Runoff = 0.20 cfs @ 0.09 hrs, Volume= 0.005 af, Depth= 0.86"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (sf)	C	Description
3,000	0.95	Building
3,000		100.00% Impervious Area

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

Subcatchment 77S: DA 5.1 Tent



Hydrograph for Subcatchment 77S: DA 5.1 Tent

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.05	1.04	0.00	2.06	0.00
0.04	0.10	1.06	0.00	2.08	0.00
0.06	0.14	1.08	0.00	2.10	0.00
0.08	**0.19**	1.10	0.00	2.12	0.00
0.10	**0.20**	1.12	0.00	2.14	0.00
0.12	0.20	1.14	0.00	2.16	0.00
0.14	0.20	1.16	0.00	2.18	0.00
0.16	0.20	1.18	0.00	2.20	0.00
0.18	0.20	1.20	0.00	2.22	0.00
0.20	0.20	1.22	0.00	2.24	0.00
0.22	0.20	1.24	0.00	2.26	0.00
0.24	0.20	1.26	0.00	2.28	0.00
0.26	0.20	1.28	0.00	2.30	0.00
0.28	0.20	1.30	0.00	2.32	0.00
0.30	0.20	1.32	0.00	2.34	0.00
0.32	0.15	1.34	0.00	2.36	0.00
0.34	0.10	1.36	0.00	2.38	0.00
0.36	0.06	1.38	0.00	2.40	0.00
0.38	0.01	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 79S: DA 5.1 Barn

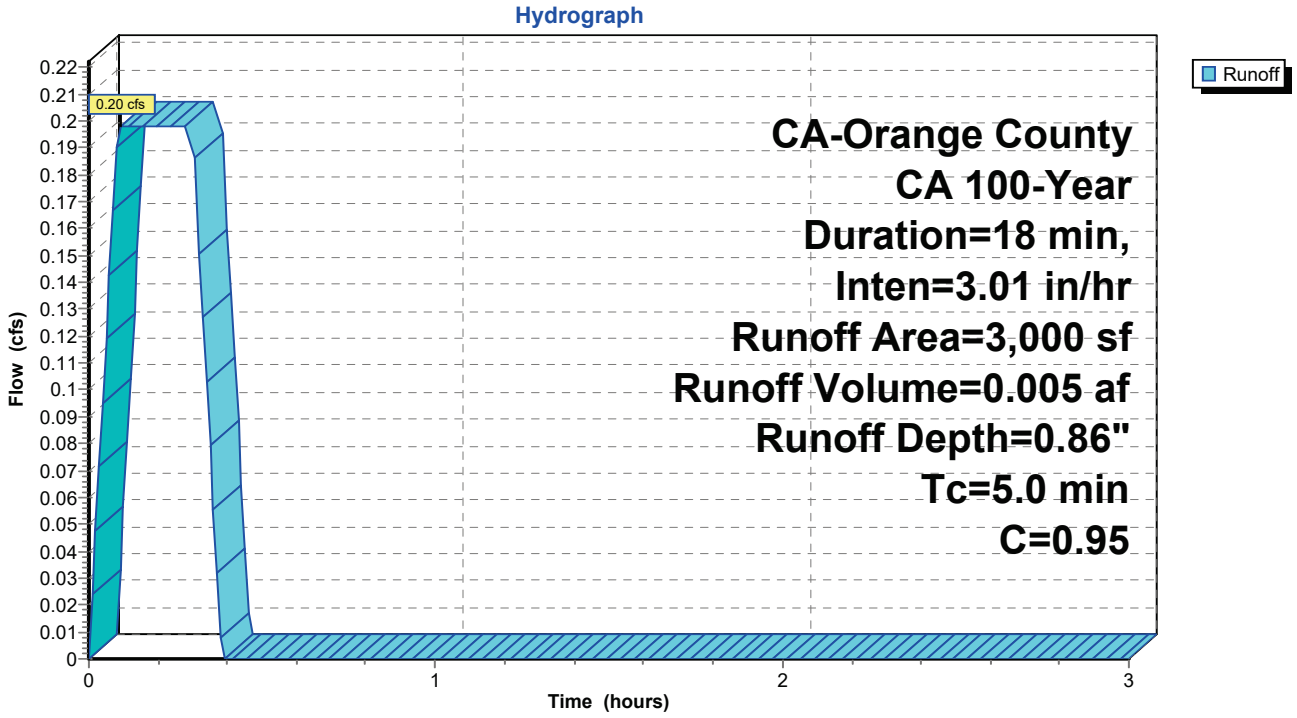
Runoff = 0.20 cfs @ 0.09 hrs, Volume= 0.005 af, Depth= 0.86"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (sf)	C	Description
3,000	0.95	Building
3,000		100.00% Impervious Area

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

Subcatchment 79S: DA 5.1 Barn



Hydrograph for Subcatchment 79S: DA 5.1 Barn

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.05	1.04	0.00	2.06	0.00
0.04	0.10	1.06	0.00	2.08	0.00
0.06	0.14	1.08	0.00	2.10	0.00
0.08	**0.19**	1.10	0.00	2.12	0.00
0.10	**0.20**	1.12	0.00	2.14	0.00
0.12	0.20	1.14	0.00	2.16	0.00
0.14	0.20	1.16	0.00	2.18	0.00
0.16	0.20	1.18	0.00	2.20	0.00
0.18	0.20	1.20	0.00	2.22	0.00
0.20	0.20	1.22	0.00	2.24	0.00
0.22	0.20	1.24	0.00	2.26	0.00
0.24	0.20	1.26	0.00	2.28	0.00
0.26	0.20	1.28	0.00	2.30	0.00
0.28	0.20	1.30	0.00	2.32	0.00
0.30	0.20	1.32	0.00	2.34	0.00
0.32	0.15	1.34	0.00	2.36	0.00
0.34	0.10	1.36	0.00	2.38	0.00
0.36	0.06	1.38	0.00	2.40	0.00
0.38	0.01	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 81S: DA 5.1 SE Bldg

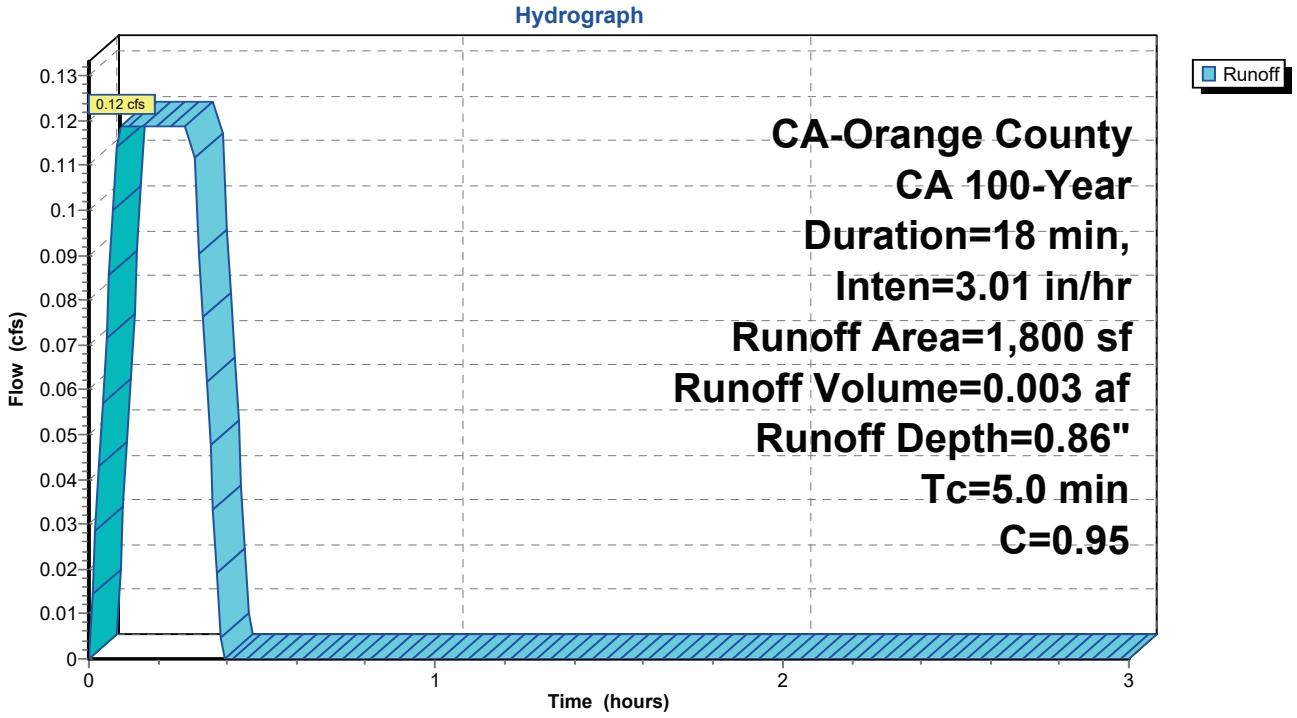
Runoff = 0.12 cfs @ 0.09 hrs, Volume= 0.003 af, Depth= 0.86"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (sf)	C	Description
1,800	0.95	Building
1,800		100.00% Impervious Area

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

Subcatchment 81S: DA 5.1 SE Bldg



Hydrograph for Subcatchment 81S: DA 5.1 SE Bldg

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.03	1.04	0.00	2.06	0.00
0.04	0.06	1.06	0.00	2.08	0.00
0.06	0.09	1.08	0.00	2.10	0.00
0.08	**0.11**	1.10	0.00	2.12	0.00
0.10	**0.12**	1.12	0.00	2.14	0.00
0.12	0.12	1.14	0.00	2.16	0.00
0.14	0.12	1.16	0.00	2.18	0.00
0.16	0.12	1.18	0.00	2.20	0.00
0.18	0.12	1.20	0.00	2.22	0.00
0.20	0.12	1.22	0.00	2.24	0.00
0.22	0.12	1.24	0.00	2.26	0.00
0.24	0.12	1.26	0.00	2.28	0.00
0.26	0.12	1.28	0.00	2.30	0.00
0.28	0.12	1.30	0.00	2.32	0.00
0.30	0.12	1.32	0.00	2.34	0.00
0.32	0.09	1.34	0.00	2.36	0.00
0.34	0.06	1.36	0.00	2.38	0.00
0.36	0.03	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

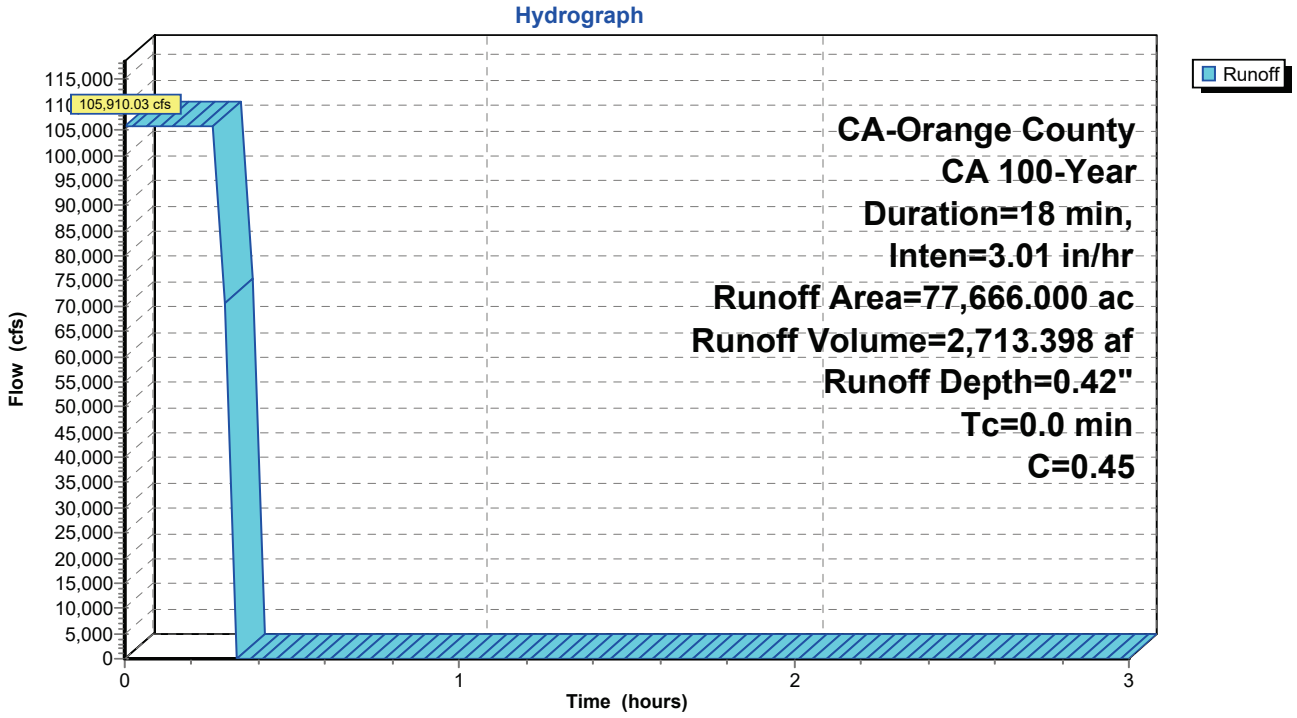
Summary for Subcatchment 83S: DA 5.2

Runoff =105,910.03 cfs @ 0.00 hrs, Volume= 2,713.398 af, Depth= 0.42"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (ac)	C	Description
77,666.000	0.45	FARM CROP
77,666.000		100.00% Pervious Area

Subcatchment 83S: DA 5.2



Hydrograph for Subcatchment 83S: DA 5.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	**105,910.03**	1.02	0.00	2.04	0.00
0.02	105,910.03	1.04	0.00	2.06	0.00
0.04	105,910.03	1.06	0.00	2.08	0.00
0.06	105,910.03	1.08	0.00	2.10	0.00
0.08	105,910.03	1.10	0.00	2.12	0.00
0.10	105,910.03	1.12	0.00	2.14	0.00
0.12	105,910.03	1.14	0.00	2.16	0.00
0.14	105,910.03	1.16	0.00	2.18	0.00
0.16	105,910.03	1.18	0.00	2.20	0.00
0.18	105,910.03	1.20	0.00	2.22	0.00
0.20	105,910.03	1.22	0.00	2.24	0.00
0.22	105,910.03	1.24	0.00	2.26	0.00
0.24	105,910.03	1.26	0.00	2.28	0.00
0.26	105,910.03	1.28	0.00	2.30	0.00
0.28	105,910.03	1.30	0.00	2.32	0.00
0.30	105,910.03	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 84S: DA-5.3

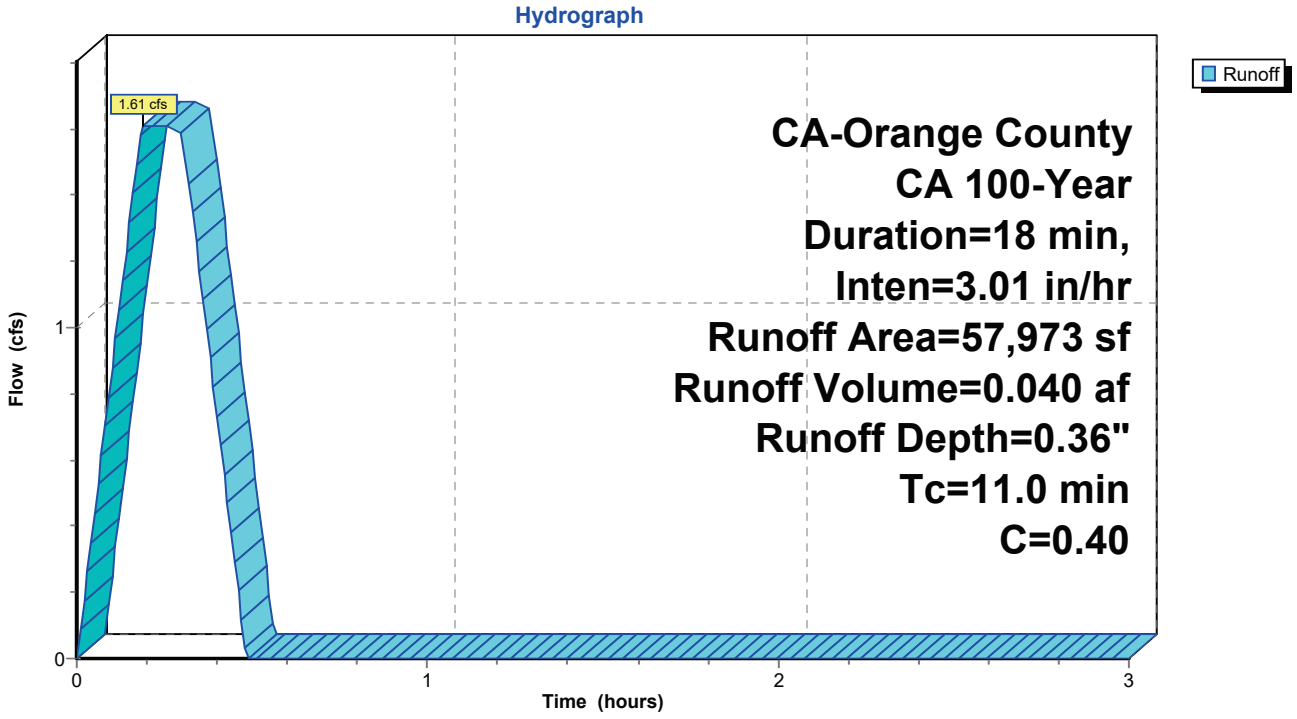
Runoff = 1.61 cfs @ 0.19 hrs, Volume= 0.040 af, Depth= 0.36"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (sf)	C	Description
56,084	0.40	Pervious pavement
1,889	0.30	Landscape
57,973	0.40	Weighted Average
57,973		100.00% Pervious Area

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

Subcatchment 84S: DA-5.3



Hydrograph for Subcatchment 84S: DA-5.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.18	1.04	0.00	2.06	0.00
0.04	0.35	1.06	0.00	2.08	0.00
0.06	0.53	1.08	0.00	2.10	0.00
0.08	0.70	1.10	0.00	2.12	0.00
0.10	0.88	1.12	0.00	2.14	0.00
0.12	1.06	1.14	0.00	2.16	0.00
0.14	1.23	1.16	0.00	2.18	0.00
0.16	1.41	1.18	0.00	2.20	0.00
0.18	**1.58**	1.20	0.00	2.22	0.00
0.20	**1.61**	1.22	0.00	2.24	0.00
0.22	1.61	1.24	0.00	2.26	0.00
0.24	1.61	1.26	0.00	2.28	0.00
0.26	1.61	1.28	0.00	2.30	0.00
0.28	1.61	1.30	0.00	2.32	0.00
0.30	1.61	1.32	0.00	2.34	0.00
0.32	1.44	1.34	0.00	2.36	0.00
0.34	1.26	1.36	0.00	2.38	0.00
0.36	1.09	1.38	0.00	2.40	0.00
0.38	0.91	1.40	0.00	2.42	0.00
0.40	0.73	1.42	0.00	2.44	0.00
0.42	0.56	1.44	0.00	2.46	0.00
0.44	0.38	1.46	0.00	2.48	0.00
0.46	0.21	1.48	0.00	2.50	0.00
0.48	0.03	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 85S: DA 5.4

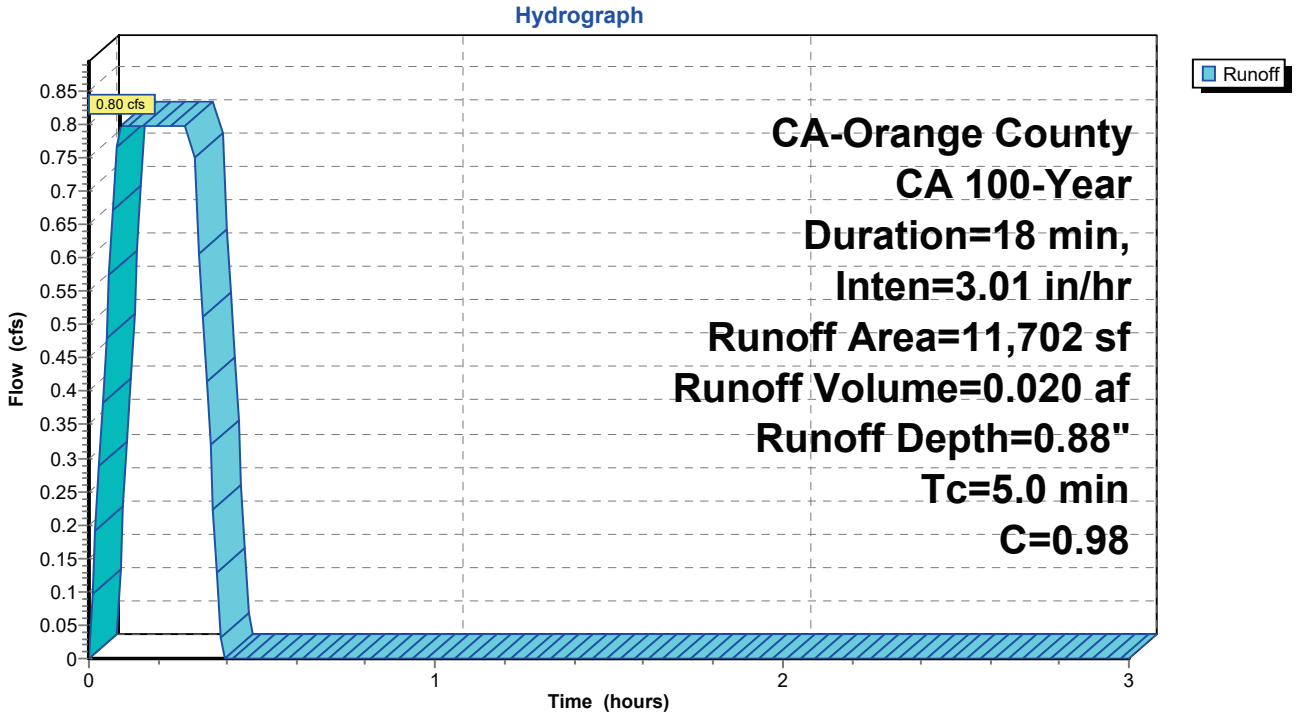
Runoff = 0.80 cfs @ 0.09 hrs, Volume= 0.020 af, Depth= 0.88"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (sf)	C	Description
2,736	0.98	Building
8,966	0.98	Building
11,702	0.98	Weighted Average
11,702		100.00% Impervious Area

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

Subcatchment 85S: DA 5.4



Hydrograph for Subcatchment 85S: DA 5.4

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.19	1.04	0.00	2.06	0.00
0.04	0.38	1.06	0.00	2.08	0.00
0.06	0.57	1.08	0.00	2.10	0.00
0.08	**0.77**	1.10	0.00	2.12	0.00
0.10	**0.80**	1.12	0.00	2.14	0.00
0.12	0.80	1.14	0.00	2.16	0.00
0.14	0.80	1.16	0.00	2.18	0.00
0.16	0.80	1.18	0.00	2.20	0.00
0.18	0.80	1.20	0.00	2.22	0.00
0.20	0.80	1.22	0.00	2.24	0.00
0.22	0.80	1.24	0.00	2.26	0.00
0.24	0.80	1.26	0.00	2.28	0.00
0.26	0.80	1.28	0.00	2.30	0.00
0.28	0.80	1.30	0.00	2.32	0.00
0.30	0.80	1.32	0.00	2.34	0.00
0.32	0.61	1.34	0.00	2.36	0.00
0.34	0.41	1.36	0.00	2.38	0.00
0.36	0.22	1.38	0.00	2.40	0.00
0.38	0.03	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 87S: DA 5.5

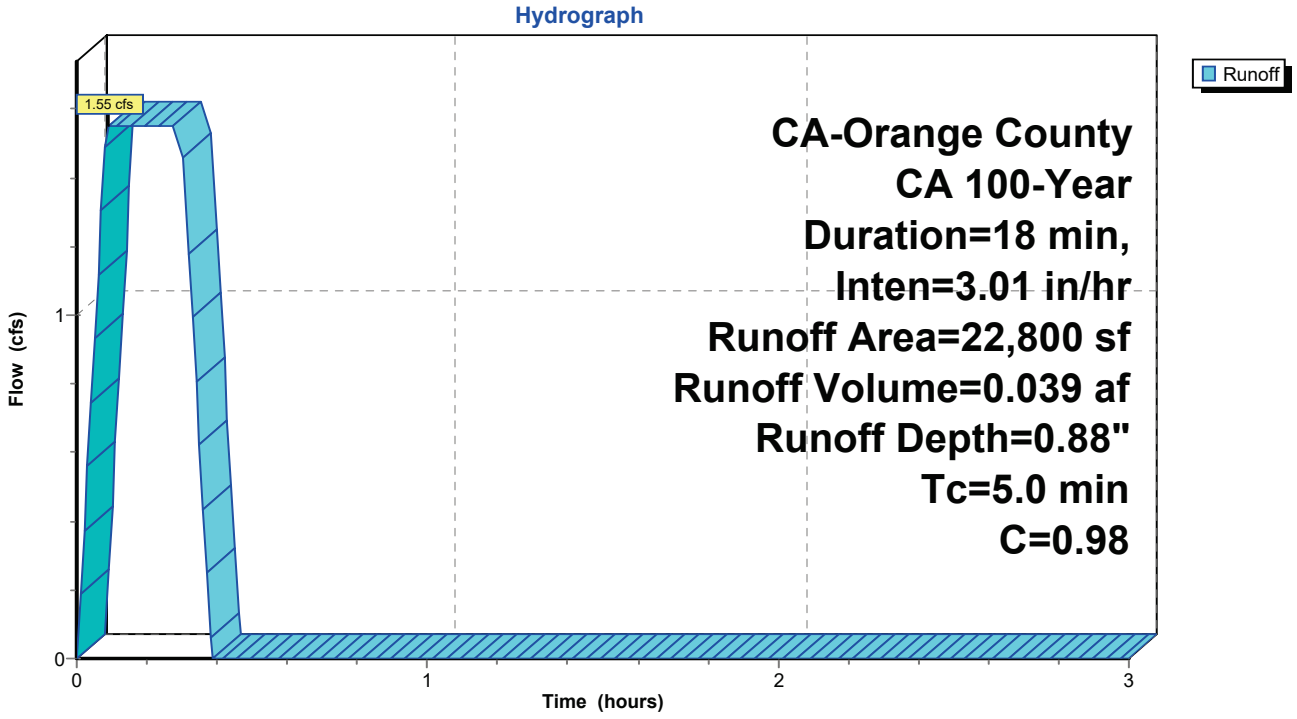
Runoff = 1.55 cfs @ 0.09 hrs, Volume= 0.039 af, Depth= 0.88"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=18 min, Inten=3.01 in/hr

Area (sf)	C	Description
18,480	0.98	Building
4,320	0.98	Building
22,800	0.98	Weighted Average
22,800		100.00% Impervious Area

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

Subcatchment 87S: DA 5.5



Hydrograph for Subcatchment 87S: DA 5.5

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.37	1.04	0.00	2.06	0.00
0.04	0.75	1.06	0.00	2.08	0.00
0.06	1.12	1.08	0.00	2.10	0.00
0.08	**1.49**	1.10	0.00	2.12	0.00
0.10	**1.55**	1.12	0.00	2.14	0.00
0.12	1.55	1.14	0.00	2.16	0.00
0.14	1.55	1.16	0.00	2.18	0.00
0.16	1.55	1.18	0.00	2.20	0.00
0.18	1.55	1.20	0.00	2.22	0.00
0.20	1.55	1.22	0.00	2.24	0.00
0.22	1.55	1.24	0.00	2.26	0.00
0.24	1.55	1.26	0.00	2.28	0.00
0.26	1.55	1.28	0.00	2.30	0.00
0.28	1.55	1.30	0.00	2.32	0.00
0.30	1.55	1.32	0.00	2.34	0.00
0.32	1.18	1.34	0.00	2.36	0.00
0.34	0.81	1.36	0.00	2.38	0.00
0.36	0.44	1.38	0.00	2.40	0.00
0.38	0.06	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 73P: BASIN 5

Inflow Area = 7.777 ac, 14.26% Impervious, Inflow Depth > 0.38" for 100-Year event
Inflow = 9.03 cfs @ 0.30 hrs, Volume= 0.247 af
Outflow = 1.26 cfs @ 0.53 hrs, Volume= 0.247 af, Atten= 86%, Lag= 13.9 min
Discarded = 1.26 cfs @ 0.53 hrs, Volume= 0.247 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 195.48' @ 0.53 hrs Surf.Area= 16,650 sf Storage= 7,748 cf

Plug-Flow detention time= 57.1 min calculated for 0.246 af (100% of inflow)
Center-of-Mass det. time= 56.9 min (77.0 - 20.1)

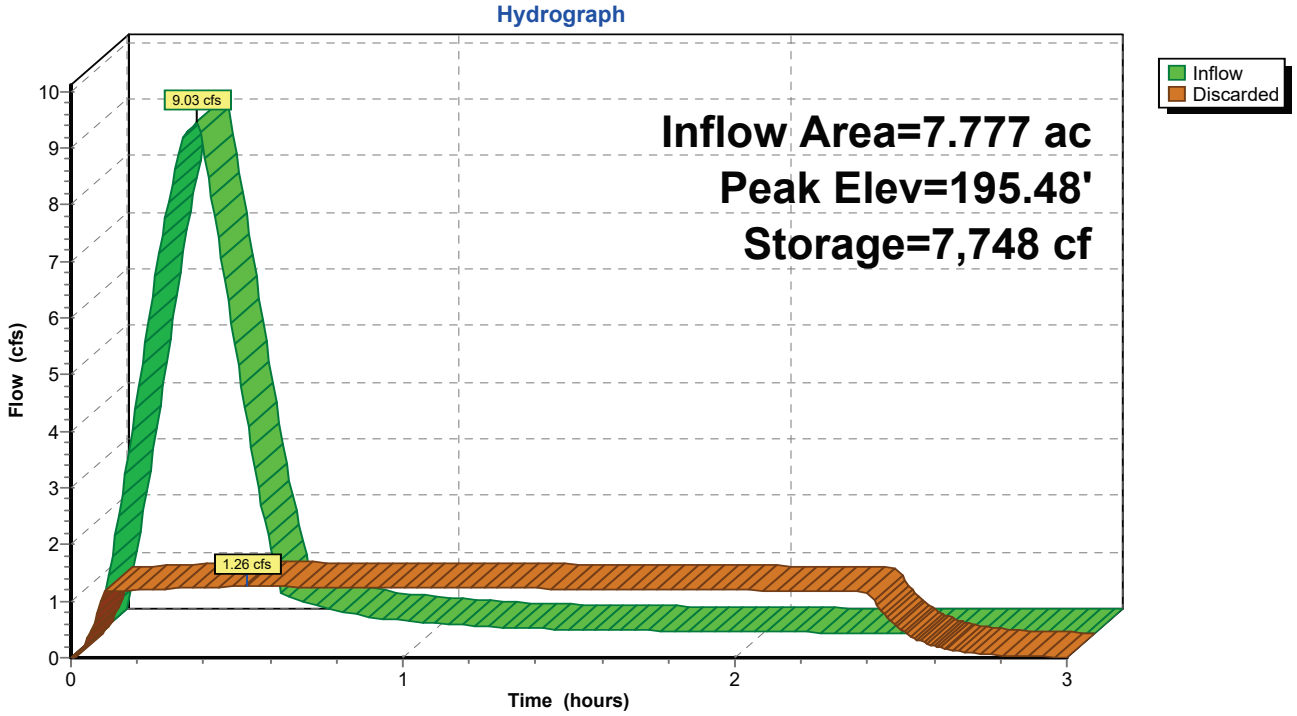
Volume	Invert	Avail.Storage	Storage Description
#1	195.00'	55,660 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
195.00	15,795	0	0
196.00	17,586	16,691	16,691
197.00	19,470	18,528	35,219
198.00	21,413	20,442	55,660

Device	Routing	Invert	Outlet Devices
#1	Discarded	195.00'	**3.200 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 170.00'

Discarded OutFlow Max=1.26 cfs @ 0.53 hrs HW=195.48' (Free Discharge)
1=Exfiltration (Controls 1.26 cfs)

Pond 73P: BASIN 5



Hydrograph for Pond 73P: BASIN 5

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	195.00	0.00
0.10	3.58	478	195.03	1.18
0.20	7.32	2,038	195.13	1.19
0.30	**9.01**	4,653	195.29	1.22
0.40	5.49	6,844	195.42	1.25
0.50	2.00	**7,710**	**195.48**	**1.26**
0.60	0.59	**7,617**	**195.47**	**1.25**
0.70	0.42	7,344	195.45	1.25
0.80	0.31	7,023	195.43	1.25
0.90	0.23	6,669	195.41	1.24
1.00	0.18	6,295	195.39	1.24
1.10	0.14	5,907	195.37	1.24
1.20	0.11	5,508	195.34	1.23
1.30	0.09	5,101	195.32	1.23
1.40	0.07	4,688	195.29	1.22
1.50	0.06	4,272	195.27	1.22
1.60	0.05	3,855	195.24	1.21
1.70	0.04	3,436	195.21	1.21
1.80	0.04	3,017	195.19	1.20
1.90	0.03	2,595	195.16	1.20
2.00	0.02	2,173	195.14	1.19
2.10	0.02	1,751	195.11	1.19
2.20	0.01	1,329	195.08	1.19
2.30	0.01	907	195.06	1.18
2.40	0.01	486	195.03	1.18
2.50	0.01	201	195.01	0.50
2.60	0.01	84	195.01	0.21
2.70	0.01	36	195.00	0.09
2.80	0.01	16	195.00	0.04
2.90	0.00	8	195.00	0.02
3.00	0.00	4	195.00	0.01

Summary for Pond 76P: Biofilt

Inflow Area = 0.138 ac,100.00% Impervious, Inflow Depth = 0.89" for 100-Year event
Inflow = 0.40 cfs @ 0.00 hrs, Volume= 0.010 af
Outflow = 0.35 cfs @ 0.30 hrs, Volume= 0.010 af, Atten= 11%, Lag= 17.8 min
Discarded = 0.00 cfs @ 0.30 hrs, Volume= 0.000 af
Primary = 0.35 cfs @ 0.30 hrs, Volume= 0.010 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 201.39' @ 0.30 hrs Surf.Area= 602 sf Storage= 199 cf

Plug-Flow detention time= 11.9 min calculated for 0.010 af (98% of inflow)
Center-of-Mass det. time= 11.4 min (20.4 - 9.0)

Volume	Invert	Avail.Storage	Storage Description
#1	201.00'	2,673 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

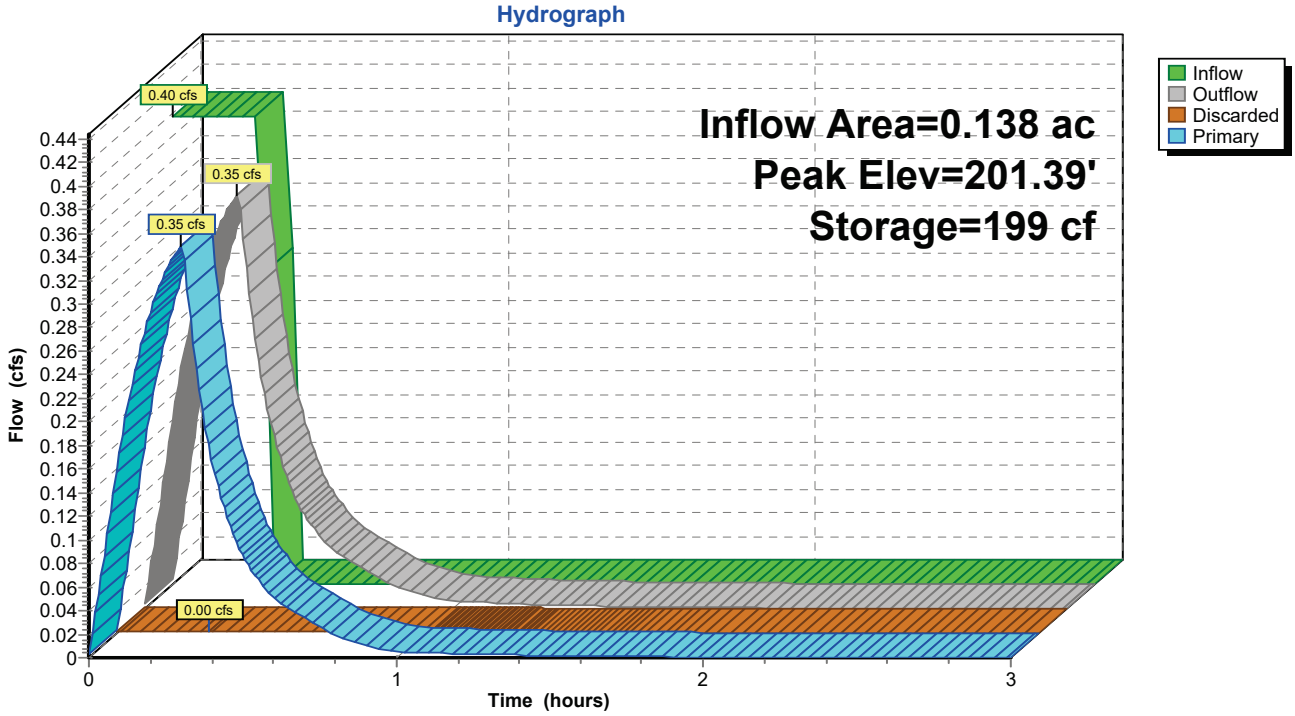
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
201.00	602	0.0	0	0
201.10	602	40.0	24	24
204.00	602	100.0	1,746	1,770
205.50	602	100.0	903	2,673

Device	Routing	Invert	Outlet Devices
#1	Primary	201.00'	**6.0" Round Culvert** L= 660.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 197.00' S= 0.0061 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	201.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.00 cfs @ 0.30 hrs HW=201.39' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.35 cfs @ 0.30 hrs HW=201.39' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.35 cfs @ 2.12 fps)

Pond 76P: Biofilt



Hydrograph for Pond 76P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.40**	7	201.03	0.00	0.00	0.00
0.10	0.40	118	201.26	0.18	0.00	0.17
0.20	0.40	173	201.35	0.29	0.00	0.29
0.30	0.40	**199**	**201.39**	**0.35**	**0.00**	**0.35**
0.40	0.00	115	201.25	0.17	0.00	0.17
0.50	0.00	70	201.18	0.09	0.00	0.09
0.60	0.00	45	201.14	0.05	0.00	0.05
0.70	0.00	30	201.11	0.04	0.00	0.03
0.80	0.00	20	201.08	0.02	0.00	0.02
0.90	0.00	14	201.06	0.01	0.00	0.01
1.00	0.00	11	201.05	0.01	0.00	0.01
1.10	0.00	9	201.04	0.01	0.00	0.00
1.20	0.00	7	201.03	0.00	0.00	0.00
1.30	0.00	6	201.02	0.00	0.00	0.00
1.40	0.00	5	201.02	0.00	0.00	0.00
1.50	0.00	4	201.02	0.00	0.00	0.00
1.60	0.00	3	201.01	0.00	0.00	0.00
1.70	0.00	2	201.01	0.00	0.00	0.00
1.80	0.00	2	201.01	0.00	0.00	0.00
1.90	0.00	2	201.01	0.00	0.00	0.00
2.00	0.00	1	201.01	0.00	0.00	0.00
2.10	0.00	1	201.00	0.00	0.00	0.00
2.20	0.00	1	201.00	0.00	0.00	0.00
2.30	0.00	1	201.00	0.00	0.00	0.00
2.40	0.00	1	201.00	0.00	0.00	0.00
2.50	0.00	0	201.00	0.00	0.00	0.00
2.60	0.00	0	201.00	0.00	0.00	0.00
2.70	0.00	0	201.00	0.00	0.00	0.00
2.80	0.00	0	201.00	0.00	0.00	0.00
2.90	0.00	0	201.00	0.00	0.00	0.00
3.00	0.00	0	201.00	0.00	0.00	0.00

Summary for Pond 78P: Biofilt

Inflow Area = 0.069 ac,100.00% Impervious, Inflow Depth = 0.86" for 100-Year event
Inflow = 0.20 cfs @ 0.09 hrs, Volume= 0.005 af
Outflow = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af, Atten= 99%, Lag= 18.1 min
Discarded = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 201.38' @ 0.39 hrs Surf.Area= 658 sf Storage= 212 cf

Plug-Flow detention time= 88.8 min calculated for 0.000 af (8% of inflow)
Center-of-Mass det. time= 79.7 min (91.3 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	201.00'	2,922 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

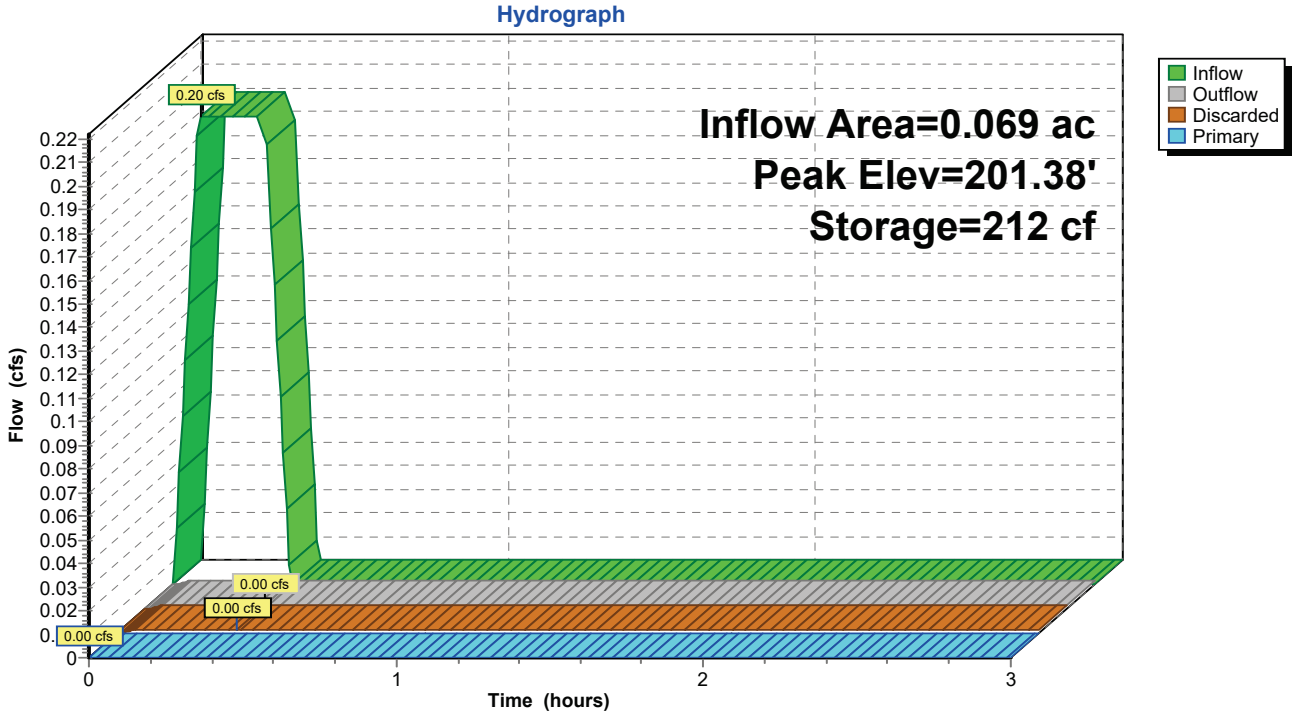
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
201.00	658	0.0	0	0
201.10	658	40.0	26	26
204.00	658	100.0	1,908	1,935
205.50	658	100.0	987	2,922

Device	Routing	Invert	Outlet Devices
#1	Discarded	201.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	205.00'	**6.0" Round Culvert** L= 564.0' Ke= 0.500 Inlet / Outlet Invert= 205.00' / 197.00' S= 0.0142 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.39 hrs HW=201.38' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=201.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 78P: Biofilt



Hydrograph for Pond 78P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	201.00	0.00	0.00	**0.00**
0.10	**0.20**	41	201.12	0.00	0.00	0.00
0.20	0.20	112	201.23	0.00	0.00	0.00
0.30	0.20	**183**	**201.34**	**0.00**	**0.00**	0.00
0.40	0.00	**212**	**201.38**	**0.00**	**0.00**	0.00
0.50	0.00	212	201.38	0.00	0.00	0.00
0.60	0.00	211	201.38	0.00	0.00	0.00
0.70	0.00	210	201.38	0.00	0.00	0.00
0.80	0.00	210	201.38	0.00	0.00	0.00
0.90	0.00	209	201.38	0.00	0.00	0.00
1.00	0.00	209	201.38	0.00	0.00	0.00
1.10	0.00	208	201.38	0.00	0.00	0.00
1.20	0.00	208	201.38	0.00	0.00	0.00
1.30	0.00	207	201.37	0.00	0.00	0.00
1.40	0.00	207	201.37	0.00	0.00	0.00
1.50	0.00	206	201.37	0.00	0.00	0.00
1.60	0.00	205	201.37	0.00	0.00	0.00
1.70	0.00	205	201.37	0.00	0.00	0.00
1.80	0.00	204	201.37	0.00	0.00	0.00
1.90	0.00	204	201.37	0.00	0.00	0.00
2.00	0.00	203	201.37	0.00	0.00	0.00
2.10	0.00	203	201.37	0.00	0.00	0.00
2.20	0.00	202	201.37	0.00	0.00	0.00
2.30	0.00	202	201.37	0.00	0.00	0.00
2.40	0.00	201	201.37	0.00	0.00	0.00
2.50	0.00	200	201.36	0.00	0.00	0.00
2.60	0.00	200	201.36	0.00	0.00	0.00
2.70	0.00	199	201.36	0.00	0.00	0.00
2.80	0.00	199	201.36	0.00	0.00	0.00
2.90	0.00	198	201.36	0.00	0.00	0.00
3.00	0.00	198	201.36	0.00	0.00	0.00

Summary for Pond 80P: Biofilt

Inflow Area = 0.069 ac,100.00% Impervious, Inflow Depth = 0.86" for 100-Year event
Inflow = 0.20 cfs @ 0.09 hrs, Volume= 0.005 af
Outflow = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af, Atten= 100%, Lag= 18.2 min
Discarded = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 204.72' @ 0.39 hrs Surf.Area= 325 sf Storage= 213 cf

Plug-Flow detention time= 88.9 min calculated for 0.000 af (4% of inflow)
Center-of-Mass det. time= 79.5 min (91.0 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	204.00'	1,443 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

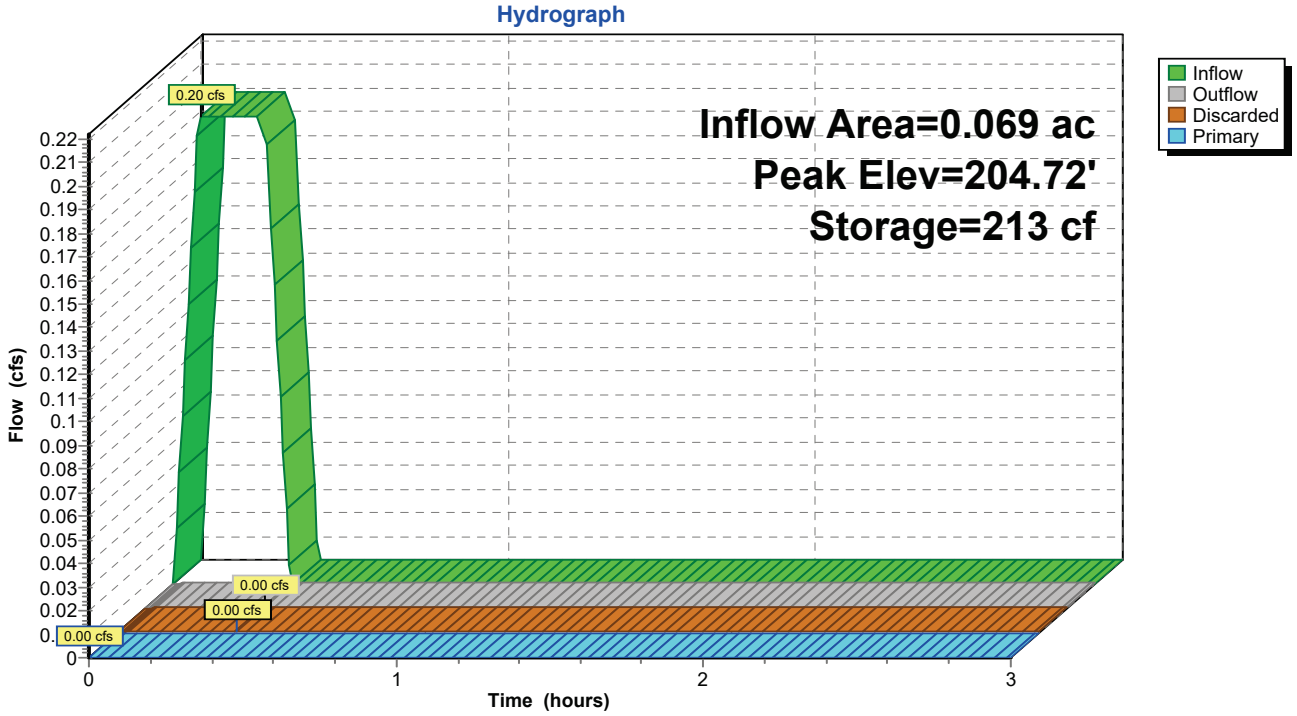
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
204.00	325	0.0	0	0
204.10	325	40.0	13	13
207.00	325	100.0	943	956
208.50	325	100.0	488	1,443

Device	Routing	Invert	Outlet Devices
#1	Primary	207.00'	**6.0" Round Culvert** L= 590.0' Ke= 0.500 Inlet / Outlet Invert= 207.00' / 197.00' S= 0.0169 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	204.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.00 cfs @ 0.39 hrs HW=204.72' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=204.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Pond 80P: Biofilt



Hydrograph for Pond 80P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	204.00	0.00	0.00	**0.00**
0.10	**0.20**	41	204.19	0.00	0.00	0.00
0.20	0.20	112	204.41	0.00	0.00	0.00
0.30	0.20	**184**	**204.62**	**0.00**	**0.00**	0.00
0.40	0.00	**213**	**204.72**	**0.00**	**0.00**	0.00
0.50	0.00	213	204.71	0.00	0.00	0.00
0.60	0.00	213	204.71	0.00	0.00	0.00
0.70	0.00	212	204.71	0.00	0.00	0.00
0.80	0.00	212	204.71	0.00	0.00	0.00
0.90	0.00	212	204.71	0.00	0.00	0.00
1.00	0.00	211	204.71	0.00	0.00	0.00
1.10	0.00	211	204.71	0.00	0.00	0.00
1.20	0.00	211	204.71	0.00	0.00	0.00
1.30	0.00	211	204.71	0.00	0.00	0.00
1.40	0.00	210	204.71	0.00	0.00	0.00
1.50	0.00	210	204.71	0.00	0.00	0.00
1.60	0.00	210	204.71	0.00	0.00	0.00
1.70	0.00	209	204.70	0.00	0.00	0.00
1.80	0.00	209	204.70	0.00	0.00	0.00
1.90	0.00	209	204.70	0.00	0.00	0.00
2.00	0.00	209	204.70	0.00	0.00	0.00
2.10	0.00	208	204.70	0.00	0.00	0.00
2.20	0.00	208	204.70	0.00	0.00	0.00
2.30	0.00	208	204.70	0.00	0.00	0.00
2.40	0.00	208	204.70	0.00	0.00	0.00
2.50	0.00	207	204.70	0.00	0.00	0.00
2.60	0.00	207	204.70	0.00	0.00	0.00
2.70	0.00	207	204.70	0.00	0.00	0.00
2.80	0.00	206	204.70	0.00	0.00	0.00
2.90	0.00	206	204.69	0.00	0.00	0.00
3.00	0.00	206	204.69	0.00	0.00	0.00

Summary for Pond 82P: Biofilt

Inflow Area = 0.041 ac,100.00% Impervious, Inflow Depth = 0.86" for 100-Year event
Inflow = 0.12 cfs @ 0.09 hrs, Volume= 0.003 af
Outflow = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af, Atten= 100%, Lag= 18.2 min
Discarded = 0.00 cfs @ 0.39 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 198.73' @ 0.39 hrs Surf.Area= 191 sf Storage= 128 cf

Plug-Flow detention time= 89.0 min calculated for 0.000 af (4% of inflow)
Center-of-Mass det. time= 79.5 min (91.0 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	198.00'	848 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

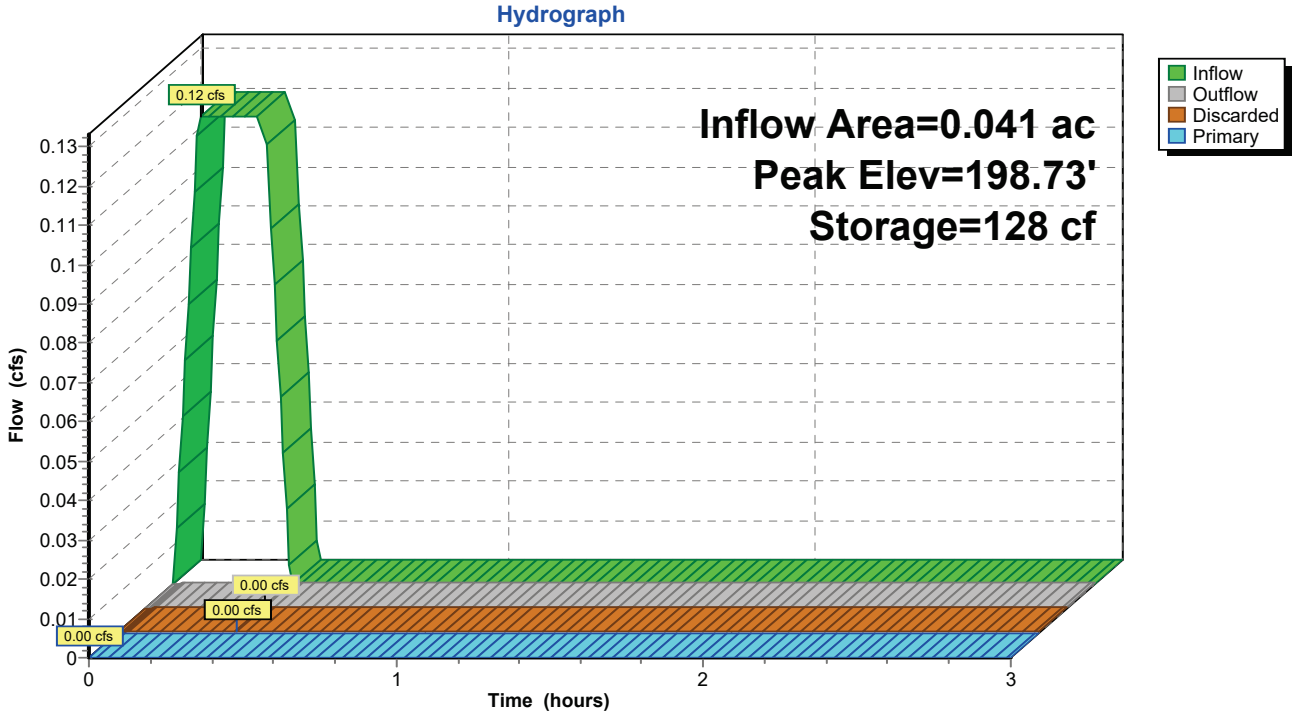
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
198.00	191	0.0	0	0
198.10	191	40.0	8	8
201.00	191	100.0	554	562
202.50	191	100.0	287	848

Device	Routing	Invert	Outlet Devices
#1	Discarded	198.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	201.00'	**6.0" Round Culvert** L= 284.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 197.00' S= 0.0141 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.39 hrs HW=198.73' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=198.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 82P: Biofilt



Hydrograph for Pond 82P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	198.00	0.00	0.00	**0.00**
0.10	**0.12**	25	198.19	0.00	0.00	0.00
0.20	0.12	67	198.41	0.00	0.00	0.00
0.30	0.12	**110**	**198.64**	**0.00**	**0.00**	0.00
0.40	0.00	**128**	**198.73**	**0.00**	**0.00**	0.00
0.50	0.00	128	198.73	0.00	0.00	0.00
0.60	0.00	128	198.73	0.00	0.00	0.00
0.70	0.00	127	198.73	0.00	0.00	0.00
0.80	0.00	127	198.73	0.00	0.00	0.00
0.90	0.00	127	198.73	0.00	0.00	0.00
1.00	0.00	127	198.72	0.00	0.00	0.00
1.10	0.00	127	198.72	0.00	0.00	0.00
1.20	0.00	127	198.72	0.00	0.00	0.00
1.30	0.00	126	198.72	0.00	0.00	0.00
1.40	0.00	126	198.72	0.00	0.00	0.00
1.50	0.00	126	198.72	0.00	0.00	0.00
1.60	0.00	126	198.72	0.00	0.00	0.00
1.70	0.00	126	198.72	0.00	0.00	0.00
1.80	0.00	126	198.72	0.00	0.00	0.00
1.90	0.00	125	198.72	0.00	0.00	0.00
2.00	0.00	125	198.72	0.00	0.00	0.00
2.10	0.00	125	198.71	0.00	0.00	0.00
2.20	0.00	125	198.71	0.00	0.00	0.00
2.30	0.00	125	198.71	0.00	0.00	0.00
2.40	0.00	125	198.71	0.00	0.00	0.00
2.50	0.00	124	198.71	0.00	0.00	0.00
2.60	0.00	124	198.71	0.00	0.00	0.00
2.70	0.00	124	198.71	0.00	0.00	0.00
2.80	0.00	124	198.71	0.00	0.00	0.00
2.90	0.00	124	198.71	0.00	0.00	0.00
3.00	0.00	124	198.71	0.00	0.00	0.00

Summary for Pond 86P: (new Pond)

Inflow Area = 0.269 ac,100.00% Impervious, Inflow Depth = 0.88" for 100-Year event
Inflow = 0.80 cfs @ 0.09 hrs, Volume= 0.020 af
Outflow = 0.59 cfs @ 0.32 hrs, Volume= 0.020 af, Atten= 26%, Lag= 13.9 min
Discarded = 0.00 cfs @ 0.32 hrs, Volume= 0.000 af
Primary = 0.59 cfs @ 0.32 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 201.46' @ 0.32 hrs Surf.Area= 1,170 sf Storage= 465 cf

Plug-Flow detention time= 16.5 min calculated for 0.020 af (100% of inflow)
Center-of-Mass det. time= 16.4 min (27.9 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	201.00'	5,195 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

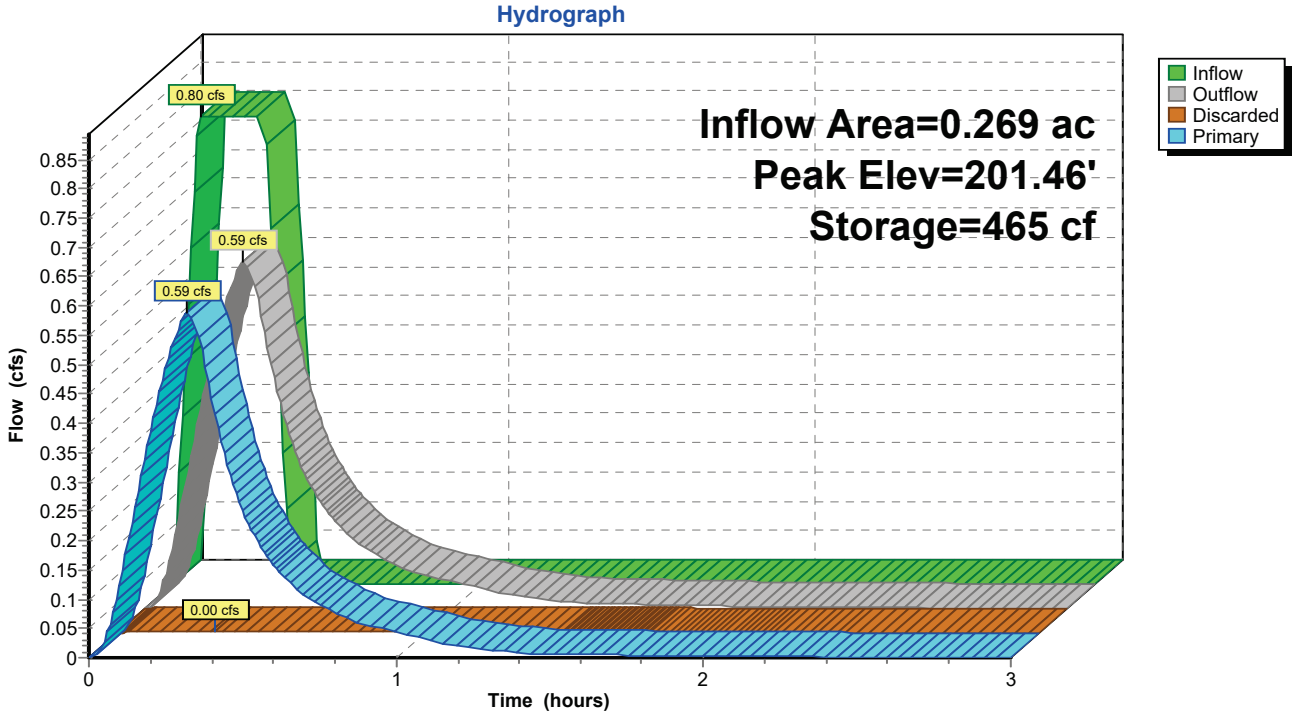
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
201.00	1,170	0.0	0	0
201.10	1,170	40.0	47	47
204.00	1,170	100.0	3,393	3,440
205.50	1,170	100.0	1,755	5,195

Device	Routing	Invert	Outlet Devices
#1	Discarded	201.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	201.00'	**8.0" Round Culvert** L= 260.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 196.00' S= 0.0192 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 0.32 hrs HW=201.46' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.59 cfs @ 0.32 hrs HW=201.46' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 0.59 cfs @ 2.30 fps)

Pond 86P: (new Pond)



Hydrograph for Pond 86P: (new Pond)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	201.00	0.00	0.00	0.00
0.10	**0.80**	152	201.19	0.13	0.00	0.12
0.20	0.80	346	201.36	0.39	0.00	0.39
0.30	0.80	**457**	**201.45**	**0.58**	**0.00**	**0.57**
0.40	0.00	**380**	**201.38**	**0.44**	**0.00**	**0.44**
0.50	0.00	258	201.28	0.26	0.00	0.25
0.60	0.00	185	201.22	0.16	0.00	0.16
0.70	0.00	137	201.18	0.11	0.00	0.11
0.80	0.00	103	201.15	0.08	0.00	0.08
0.90	0.00	78	201.13	0.06	0.00	0.06
1.00	0.00	59	201.11	0.05	0.00	0.04
1.10	0.00	45	201.10	0.03	0.00	0.03
1.20	0.00	34	201.07	0.02	0.00	0.02
1.30	0.00	27	201.06	0.02	0.00	0.01
1.40	0.00	22	201.05	0.01	0.00	0.01
1.50	0.00	19	201.04	0.01	0.00	0.01
1.60	0.00	16	201.03	0.01	0.00	0.01
1.70	0.00	13	201.03	0.01	0.00	0.00
1.80	0.00	11	201.02	0.01	0.00	0.00
1.90	0.00	9	201.02	0.00	0.00	0.00
2.00	0.00	8	201.02	0.00	0.00	0.00
2.10	0.00	7	201.01	0.00	0.00	0.00
2.20	0.00	6	201.01	0.00	0.00	0.00
2.30	0.00	5	201.01	0.00	0.00	0.00
2.40	0.00	4	201.01	0.00	0.00	0.00
2.50	0.00	3	201.01	0.00	0.00	0.00
2.60	0.00	3	201.01	0.00	0.00	0.00
2.70	0.00	2	201.01	0.00	0.00	0.00
2.80	0.00	2	201.00	0.00	0.00	0.00
2.90	0.00	2	201.00	0.00	0.00	0.00
3.00	0.00	1	201.00	0.00	0.00	0.00

Summary for Pond 88P: Biofit

Inflow Area = 0.523 ac,100.00% Impervious, Inflow Depth = 0.88" for 100-Year event
Inflow = 1.55 cfs @ 0.09 hrs, Volume= 0.039 af
Outflow = 0.86 cfs @ 0.34 hrs, Volume= 0.038 af, Atten= 45%, Lag= 14.8 min
Discarded = 0.01 cfs @ 0.34 hrs, Volume= 0.001 af
Primary = 0.85 cfs @ 0.34 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 201.59' @ 0.34 hrs Surf.Area= 2,116 sf Storage= 1,119 cf

Plug-Flow detention time= 25.7 min calculated for 0.038 af (99% of inflow)
Center-of-Mass det. time= 26.0 min (37.5 - 11.5)

Volume	Invert	Avail.Storage	Storage Description
#1	201.00'	9,395 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

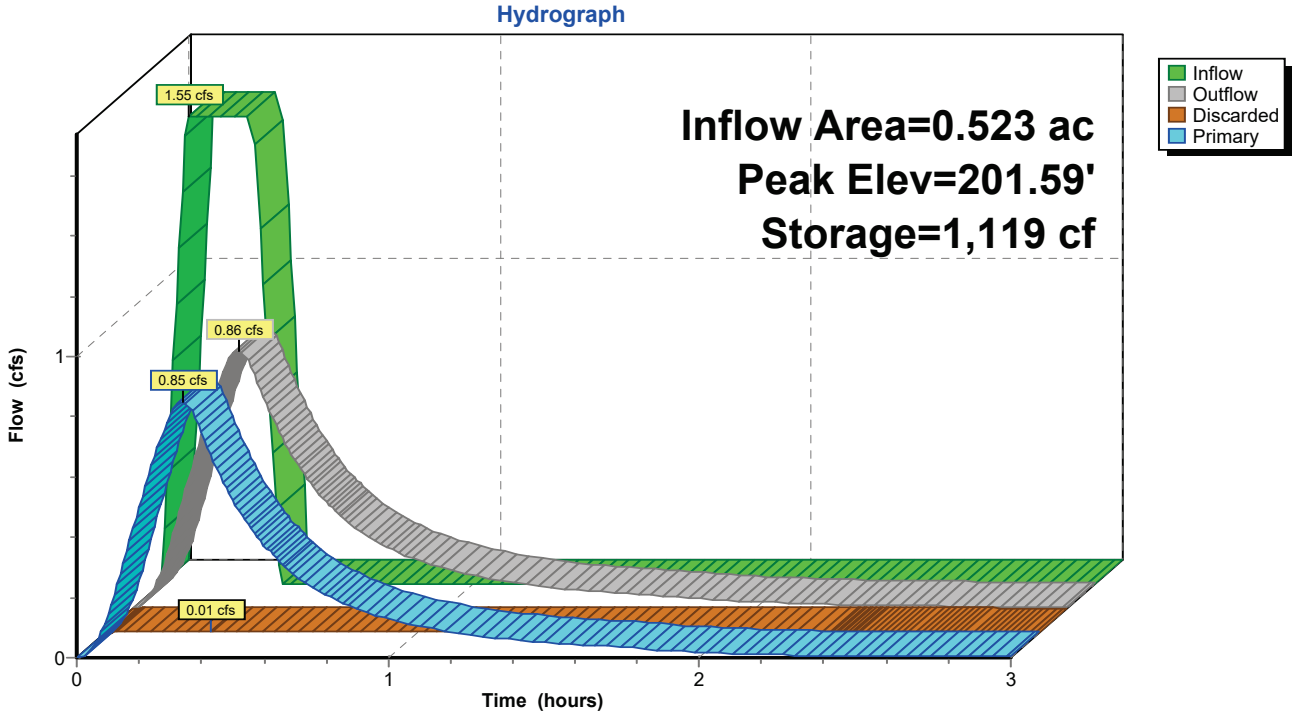
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
201.00	2,116	0.0	0	0
201.10	2,116	40.0	85	85
204.00	2,116	100.0	6,136	6,221
205.50	2,116	100.0	3,174	9,395

Device	Routing	Invert	Outlet Devices
#1	Discarded	201.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	201.00'	**8.0" Round Culvert** L= 320.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 196.00' S= 0.0156 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.01 cfs @ 0.34 hrs HW=201.59' (Free Discharge)
↑**1=Exfiltration** (Controls 0.01 cfs)

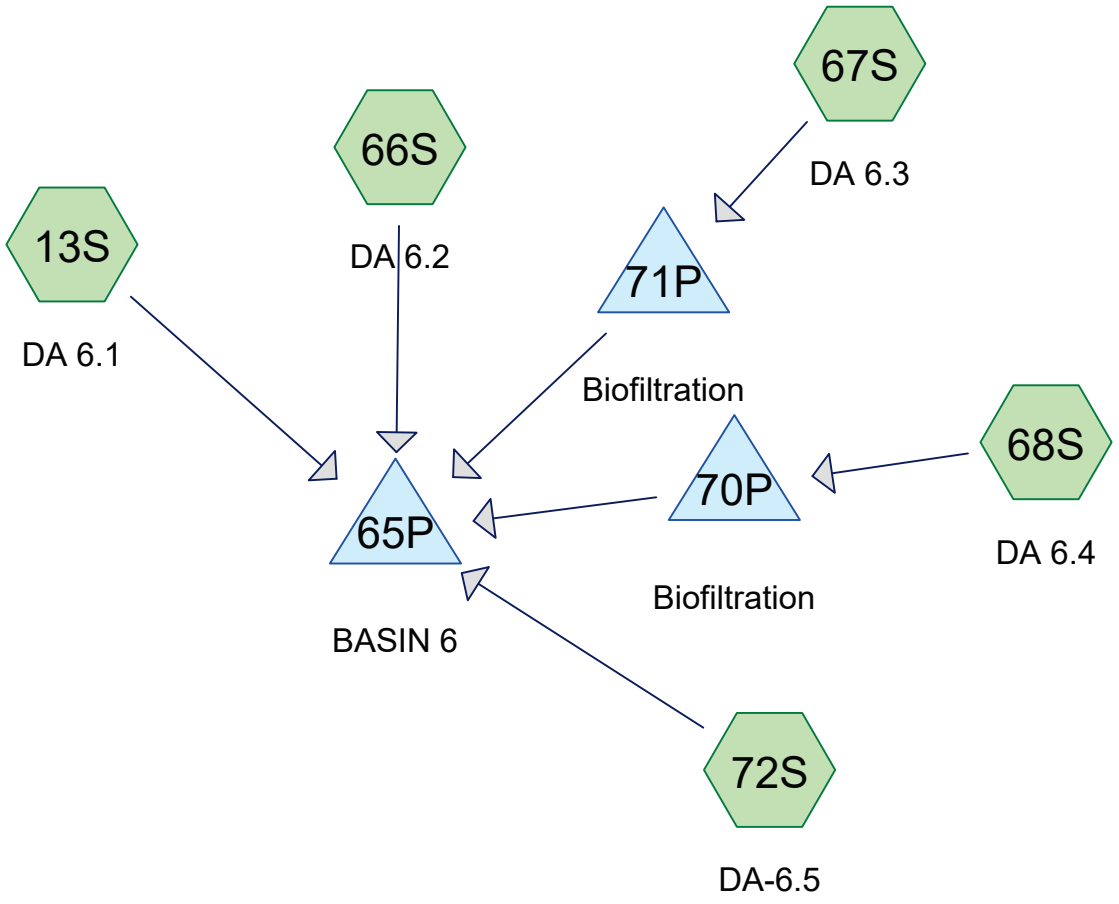
Primary OutFlow Max=0.85 cfs @ 0.34 hrs HW=201.59' (Free Discharge)
↑**2=Culvert** (Inlet Controls 0.85 cfs @ 2.61 fps)

Pond 88P: Biofit



Hydrograph for Pond 88P: Biofit

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	201.00	0.00	0.00	0.00
0.10	**1.55**	309	201.21	0.15	0.00	0.14
0.20	1.55	752	201.42	0.51	0.00	0.50
0.30	1.55	**1,070**	**201.57**	**0.81**	**0.01**	**0.81**
0.40	0.00	**1,006**	**201.54**	**0.75**	**0.01**	**0.75**
0.50	0.00	777	201.43	0.53	0.00	0.53
0.60	0.00	615	201.35	0.38	0.00	0.38
0.70	0.00	497	201.29	0.28	0.00	0.28
0.80	0.00	409	201.25	0.21	0.00	0.21
0.90	0.00	341	201.22	0.17	0.00	0.16
1.00	0.00	286	201.20	0.13	0.00	0.13
1.10	0.00	243	201.17	0.11	0.00	0.10
1.20	0.00	207	201.16	0.09	0.00	0.09
1.30	0.00	177	201.14	0.08	0.00	0.07
1.40	0.00	151	201.13	0.07	0.00	0.06
1.50	0.00	129	201.12	0.06	0.00	0.05
1.60	0.00	110	201.11	0.05	0.00	0.04
1.70	0.00	93	201.10	0.04	0.00	0.04
1.80	0.00	79	201.09	0.04	0.00	0.03
1.90	0.00	67	201.08	0.03	0.00	0.02
2.00	0.00	58	201.07	0.02	0.00	0.02
2.10	0.00	50	201.06	0.02	0.00	0.01
2.20	0.00	44	201.05	0.02	0.00	0.01
2.30	0.00	39	201.05	0.01	0.00	0.01
2.40	0.00	35	201.04	0.01	0.00	0.01
2.50	0.00	31	201.04	0.01	0.00	0.01
2.60	0.00	28	201.03	0.01	0.00	0.01
2.70	0.00	24	201.03	0.01	0.00	0.00
2.80	0.00	22	201.03	0.01	0.00	0.00
2.90	0.00	19	201.02	0.01	0.00	0.00
3.00	0.00	17	201.02	0.01	0.00	0.00



Subcat Reach Pond Link

Routing Diagram for 23001 - Basin 6
Prepared by C3 Civil Engineering, Printed 5/19/2026
HydroCAD® 10.10-5a s/n 11911 © 2020 HydroCAD Software Solutions LLC

23001 - Basin 6

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	70P	193.00	192.00	18.0	0.0556	0.010	0.0	6.0	0.0
2	71P	193.00	191.00	115.0	0.0174	0.010	0.0	6.0	0.0

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment13S: DA 6.1 Runoff Area=74,704 sf 0.00% Impervious Runoff Depth=0.23"
Tc=17.0 min C=0.45 Runoff=1.70 cfs 0.033 af

Subcatchment66S: DA 6.2 Runoff Area=127,425 sf 0.00% Impervious Runoff Depth=0.30"
Tc=14.0 min C=0.47 Runoff=3.69 cfs 0.072 af

Subcatchment67S: DA 6.3 Runoff Area=30,711 sf 100.00% Impervious Runoff Depth=0.60"
Tc=5.0 min C=0.95 Runoff=1.82 cfs 0.035 af

Subcatchment68S: DA 6.4 Runoff Area=2,001 sf 100.00% Impervious Runoff Depth=0.60"
Tc=5.0 min C=0.95 Runoff=0.12 cfs 0.002 af

Subcatchment72S: DA-6.5 Runoff Area=94,617 sf 0.00% Impervious Runoff Depth=0.25"
Tc=5.0 min C=0.40 Runoff=2.36 cfs 0.045 af

Pond 65P: BASIN 6 Peak Elev=190.39' Storage=4,881 cf Inflow=7.74 cfs 0.151 af
Outflow=1.22 cfs 0.151 af

Pond 70P: Biofiltration Peak Elev=190.53' Storage=99 cf Inflow=0.12 cfs 0.002 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 71P: Biofiltration Peak Elev=190.58' Storage=1,520 cf Inflow=1.82 cfs 0.035 af
Discarded=0.01 cfs 0.002 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.002 af

Total Runoff Area = 7.563 ac Runoff Volume = 0.188 af Average Runoff Depth = 0.30"
90.07% Pervious = 6.812 ac 9.93% Impervious = 0.751 ac

Summary for Subcatchment 13S: DA 6.1

[48] Hint: Peak<CiA due to short duration

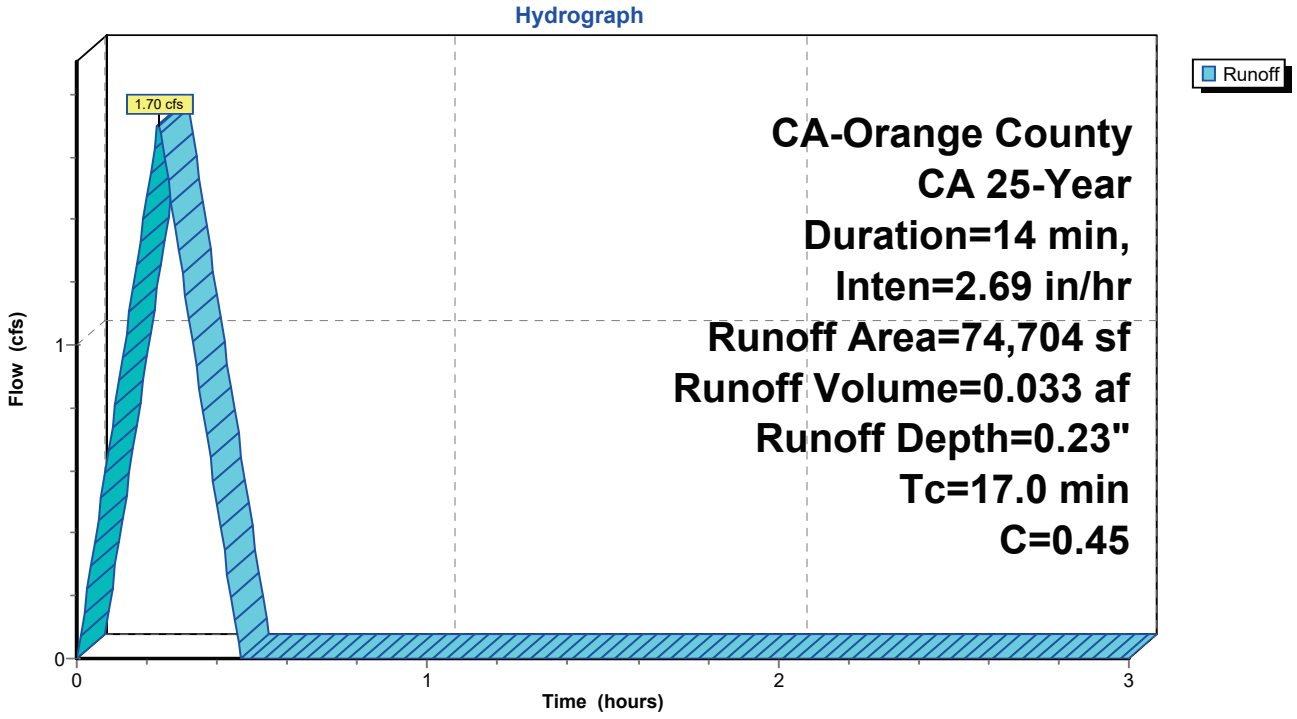
Runoff = 1.70 cfs @ 0.23 hrs, Volume= 0.033 af, Depth= 0.23"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=14 min, Inten=2.69 in/hr

Area (sf)	C	Description
74,704	0.45	Pervious Asphalt
74,704		100.00% Pervious Area

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

Subcatchment 13S: DA 6.1



Hydrograph for Subcatchment 13S: DA 6.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.15	1.04	0.00	2.06	0.00
0.04	0.30	1.06	0.00	2.08	0.00
0.06	0.44	1.08	0.00	2.10	0.00
0.08	0.59	1.10	0.00	2.12	0.00
0.10	0.74	1.12	0.00	2.14	0.00
0.12	0.89	1.14	0.00	2.16	0.00
0.14	1.04	1.16	0.00	2.18	0.00
0.16	1.18	1.18	0.00	2.20	0.00
0.18	1.33	1.20	0.00	2.22	0.00
0.20	1.48	1.22	0.00	2.24	0.00
0.22	**1.63**	1.24	0.00	2.26	0.00
0.24	**1.68**	1.26	0.00	2.28	0.00
0.26	1.53	1.28	0.00	2.30	0.00
0.28	1.38	1.30	0.00	2.32	0.00
0.30	1.23	1.32	0.00	2.34	0.00
0.32	1.08	1.34	0.00	2.36	0.00
0.34	0.94	1.36	0.00	2.38	0.00
0.36	0.79	1.38	0.00	2.40	0.00
0.38	0.64	1.40	0.00	2.42	0.00
0.40	0.49	1.42	0.00	2.44	0.00
0.42	0.35	1.44	0.00	2.46	0.00
0.44	0.20	1.46	0.00	2.48	0.00
0.46	0.05	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 66S: DA 6.2

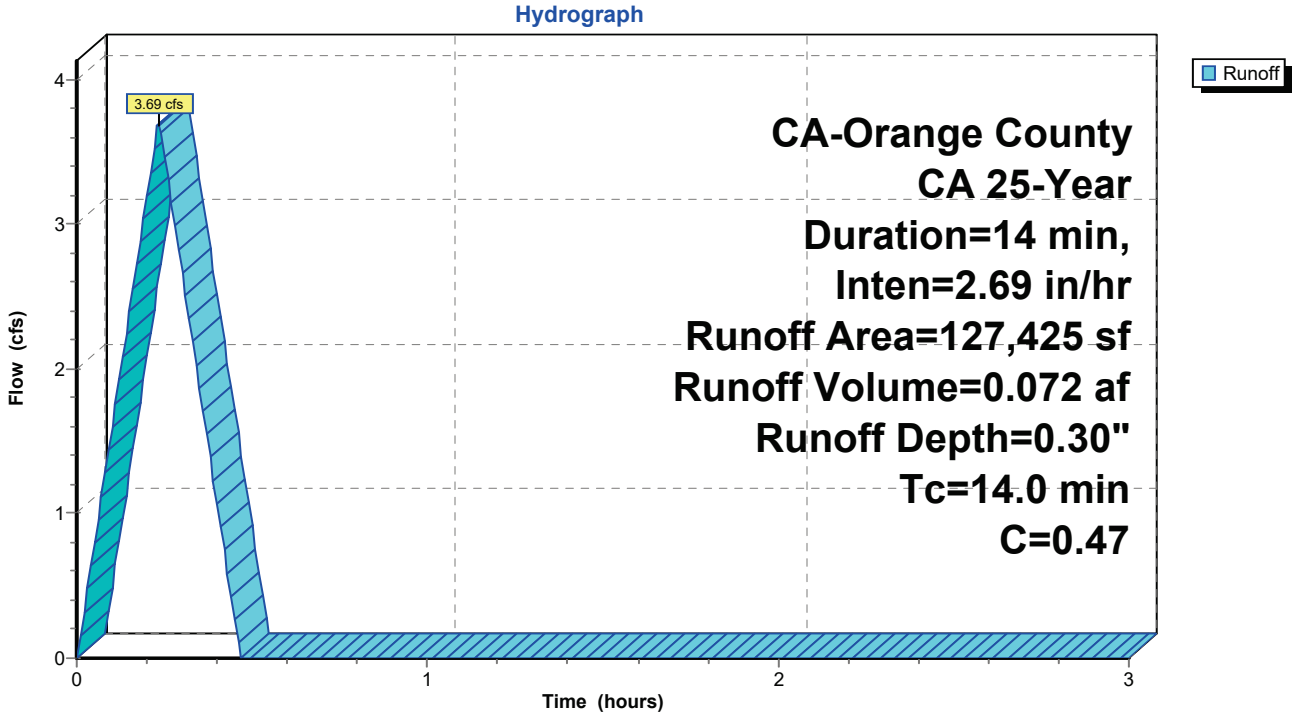
Runoff = 3.69 cfs @ 0.23 hrs, Volume= 0.072 af, Depth= 0.30"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=14 min, Inten=2.69 in/hr

Area (sf)	C	Description
85,408	0.45	Landscape
38,247	0.50	Pervious Asphalt
3,770	0.45	Landscape Median
127,425	0.47	Weighted Average
127,425		100.00% Pervious Area

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

Subcatchment 66S: DA 6.2



Hydrograph for Subcatchment 66S: DA 6.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.32	1.04	0.00	2.06	0.00
0.04	0.64	1.06	0.00	2.08	0.00
0.06	0.96	1.08	0.00	2.10	0.00
0.08	1.28	1.10	0.00	2.12	0.00
0.10	1.60	1.12	0.00	2.14	0.00
0.12	1.92	1.14	0.00	2.16	0.00
0.14	2.24	1.16	0.00	2.18	0.00
0.16	2.56	1.18	0.00	2.20	0.00
0.18	2.88	1.20	0.00	2.22	0.00
0.20	3.20	1.22	0.00	2.24	0.00
0.22	**3.52**	1.24	0.00	2.26	0.00
0.24	**3.63**	1.26	0.00	2.28	0.00
0.26	3.31	1.28	0.00	2.30	0.00
0.28	2.99	1.30	0.00	2.32	0.00
0.30	2.67	1.32	0.00	2.34	0.00
0.32	2.35	1.34	0.00	2.36	0.00
0.34	2.03	1.36	0.00	2.38	0.00
0.36	1.71	1.38	0.00	2.40	0.00
0.38	1.39	1.40	0.00	2.42	0.00
0.40	1.07	1.42	0.00	2.44	0.00
0.42	0.75	1.44	0.00	2.46	0.00
0.44	0.43	1.46	0.00	2.48	0.00
0.46	0.11	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 67S: DA 6.3

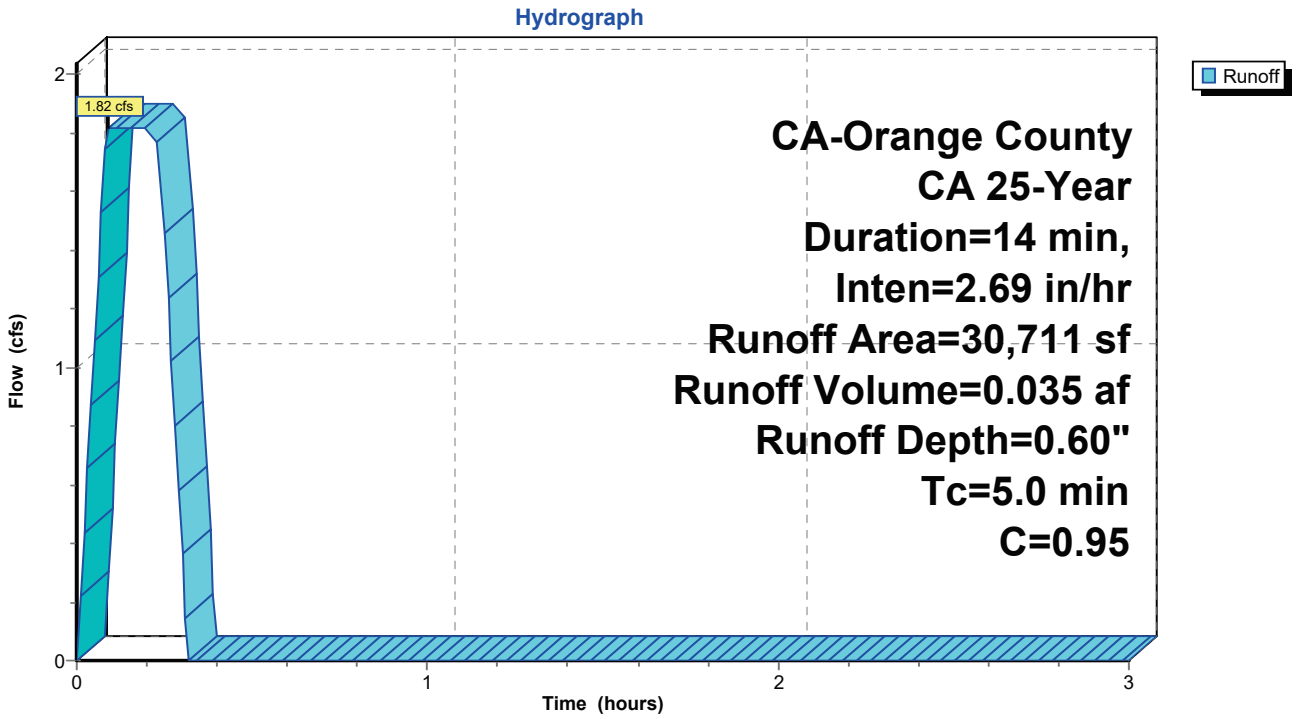
Runoff = 1.82 cfs @ 0.09 hrs, Volume= 0.035 af, Depth= 0.60"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=14 min, Inten=2.69 in/hr

Area (sf)	C	Description
18,480	0.95	Roofs, HSG C
4,320	0.95	
5,607	0.95	
2,304	0.95	
30,711	0.95	Weighted Average
30,711		100.00% Impervious Area

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

Subcatchment 67S: DA 6.3



Hydrograph for Subcatchment 67S: DA 6.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.44	1.04	0.00	2.06	0.00
0.04	0.87	1.06	0.00	2.08	0.00
0.06	1.31	1.08	0.00	2.10	0.00
0.08	**1.75**	1.10	0.00	2.12	0.00
0.10	**1.82**	1.12	0.00	2.14	0.00
0.12	1.82	1.14	0.00	2.16	0.00
0.14	1.82	1.16	0.00	2.18	0.00
0.16	1.82	1.18	0.00	2.20	0.00
0.18	1.82	1.20	0.00	2.22	0.00
0.20	1.82	1.22	0.00	2.24	0.00
0.22	1.82	1.24	0.00	2.26	0.00
0.24	1.67	1.26	0.00	2.28	0.00
0.26	1.24	1.28	0.00	2.30	0.00
0.28	0.80	1.30	0.00	2.32	0.00
0.30	0.36	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 68S: DA 6.4

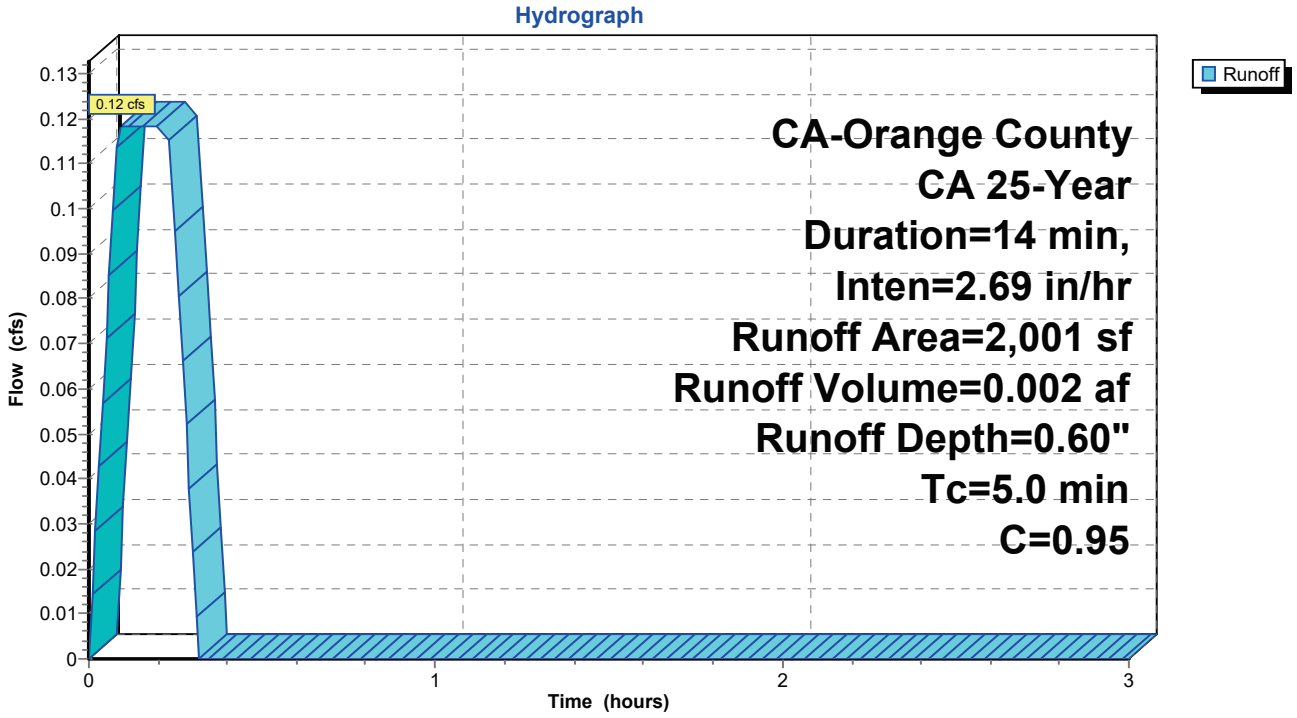
Runoff = 0.12 cfs @ 0.09 hrs, Volume= 0.002 af, Depth= 0.60"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=14 min, Inten=2.69 in/hr

Area (sf)	C	Description
2,001	0.95	Buildings
2,001		100.00% Impervious Area

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

Subcatchment 68S: DA 6.4



Hydrograph for Subcatchment 68S: DA 6.4

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.03	1.04	0.00	2.06	0.00
0.04	0.06	1.06	0.00	2.08	0.00
0.06	0.09	1.08	0.00	2.10	0.00
0.08	**0.11**	1.10	0.00	2.12	0.00
0.10	**0.12**	1.12	0.00	2.14	0.00
0.12	0.12	1.14	0.00	2.16	0.00
0.14	0.12	1.16	0.00	2.18	0.00
0.16	0.12	1.18	0.00	2.20	0.00
0.18	0.12	1.20	0.00	2.22	0.00
0.20	0.12	1.22	0.00	2.24	0.00
0.22	0.12	1.24	0.00	2.26	0.00
0.24	0.11	1.26	0.00	2.28	0.00
0.26	0.08	1.28	0.00	2.30	0.00
0.28	0.05	1.30	0.00	2.32	0.00
0.30	0.02	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 72S: DA-6.5

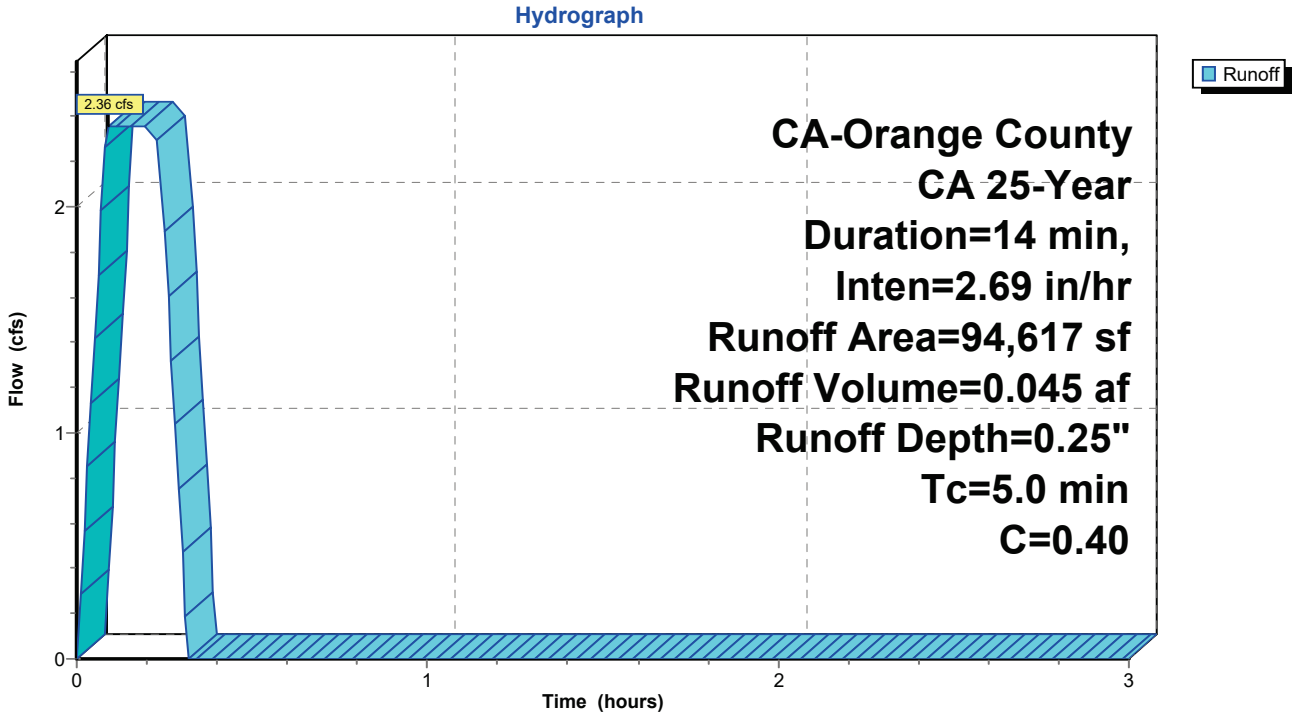
Runoff = 2.36 cfs @ 0.09 hrs, Volume= 0.045 af, Depth= 0.25"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=14 min, Inten=2.69 in/hr

Area (sf)	C	Description
94,617	0.40	Landscape
94,617		100.00% Pervious Area

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

Subcatchment 72S: DA-6.5



Hydrograph for Subcatchment 72S: DA-6.5

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.57	1.04	0.00	2.06	0.00
0.04	1.13	1.06	0.00	2.08	0.00
0.06	1.70	1.08	0.00	2.10	0.00
0.08	**2.27**	1.10	0.00	2.12	0.00
0.10	**2.36**	1.12	0.00	2.14	0.00
0.12	2.36	1.14	0.00	2.16	0.00
0.14	2.36	1.16	0.00	2.18	0.00
0.16	2.36	1.18	0.00	2.20	0.00
0.18	2.36	1.20	0.00	2.22	0.00
0.20	2.36	1.22	0.00	2.24	0.00
0.22	2.36	1.24	0.00	2.26	0.00
0.24	2.17	1.26	0.00	2.28	0.00
0.26	1.60	1.28	0.00	2.30	0.00
0.28	1.04	1.30	0.00	2.32	0.00
0.30	0.47	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 65P: BASIN 6

Inflow Area = 7.563 ac, 9.93% Impervious, Inflow Depth = 0.24" for 25-Year event
Inflow = 7.74 cfs @ 0.23 hrs, Volume= 0.151 af
Outflow = 1.22 cfs @ 0.41 hrs, Volume= 0.151 af, Atten= 84%, Lag= 11.1 min
Discarded = 1.22 cfs @ 0.41 hrs, Volume= 0.151 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 190.39' @ 0.41 hrs Surf.Area= 12,889 sf Storage= 4,881 cf

Plug-Flow detention time= 36.2 min calculated for 0.150 af (100% of inflow)
Center-of-Mass det. time= 36.3 min (49.0 - 12.6)

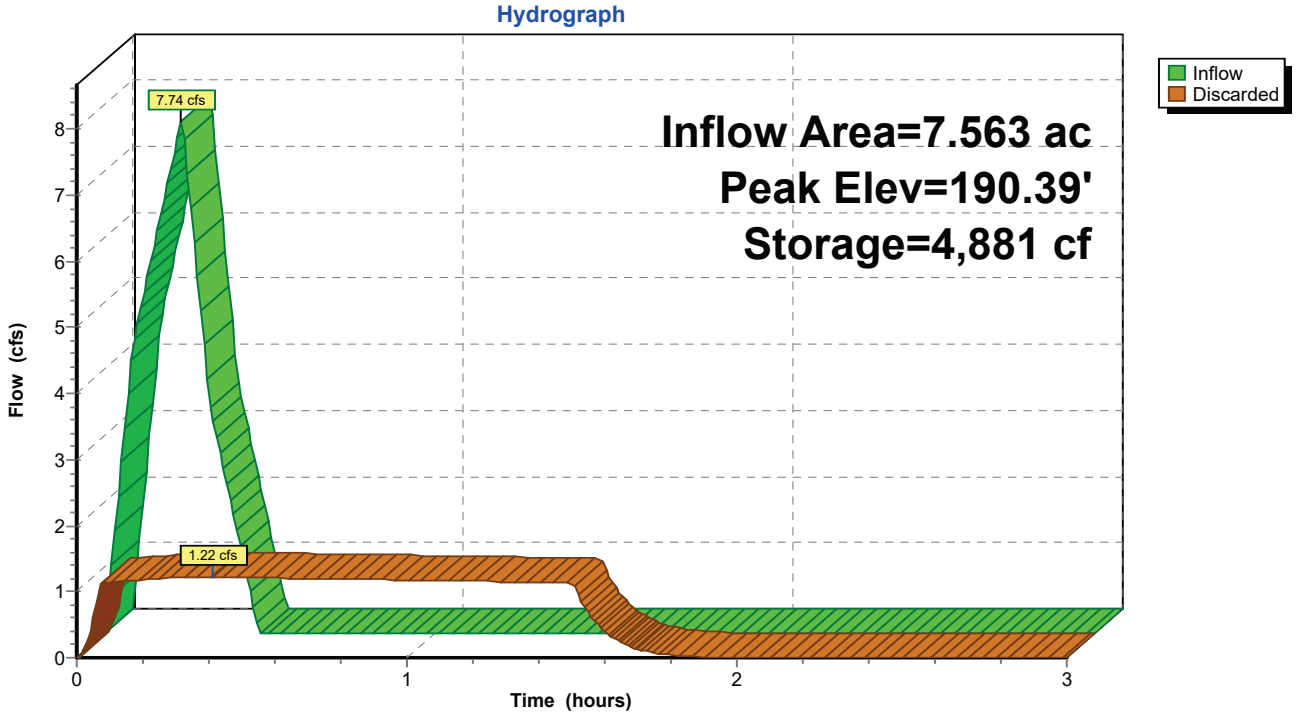
Volume	Invert	Avail.Storage	Storage Description
#1	190.00'	44,840 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
190.00	12,184	0	0
191.00	13,994	13,089	13,089
192.00	15,861	14,928	28,017
193.00	17,785	16,823	44,840

Device	Routing	Invert	Outlet Devices
#1	Discarded	190.00'	**4.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 174.00'

Discarded OutFlow Max=1.22 cfs @ 0.41 hrs HW=190.39' (Free Discharge)
↑**1=Exfiltration** (Controls 1.22 cfs)

Pond 65P: BASIN 6



Hydrograph for Pond 65P: BASIN 6

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	190.00	0.00
0.10	4.70	694	190.06	1.14
0.20	**7.04**	2,391	190.19	1.17
0.30	**4.37**	4,312	190.35	1.21
0.40	1.56	**4,872**	**190.39**	**1.22**
0.50	0.00	**4,621**	**190.37**	**1.22**
0.60	0.00	4,184	190.34	1.21
0.70	0.00	3,751	190.30	1.20
0.80	0.00	3,320	190.27	1.19
0.90	0.00	2,892	190.23	1.18
1.00	0.00	2,468	190.20	1.18
1.10	0.00	2,046	190.17	1.17
1.20	0.00	1,627	190.13	1.16
1.30	0.00	1,211	190.10	1.15
1.40	0.00	798	190.07	1.14
1.50	0.00	387	190.03	1.14
1.60	0.00	127	190.01	0.39
1.70	0.00	42	190.00	0.13
1.80	0.00	14	190.00	0.04
1.90	0.00	4	190.00	0.01
2.00	0.00	1	190.00	0.00
2.10	0.00	0	190.00	0.00
2.20	0.00	0	190.00	0.00
2.30	0.00	0	190.00	0.00
2.40	0.00	0	190.00	0.00
2.50	0.00	0	190.00	0.00
2.60	0.00	0	190.00	0.00
2.70	0.00	0	190.00	0.00
2.80	0.00	0	190.00	0.00
2.90	0.00	0	190.00	0.00
3.00	0.00	0	190.00	0.00

Summary for Pond 70P: Biofiltration

Inflow Area = 0.046 ac,100.00% Impervious, Inflow Depth = 0.60" for 25-Year event
Inflow = 0.12 cfs @ 0.09 hrs, Volume= 0.002 af
Outflow = 0.00 cfs @ 0.32 hrs, Volume= 0.000 af, Atten= 100%, Lag= 13.8 min
Discarded = 0.00 cfs @ 0.32 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 190.53' @ 0.32 hrs Surf.Area= 210 sf Storage= 99 cf

Plug-Flow detention time= 89.0 min calculated for 0.000 af (5% of inflow)
Center-of-Mass det. time= 81.6 min (91.1 - 9.5)

Volume	Invert	Avail.Storage	Storage Description
#1	190.00'	1,142 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

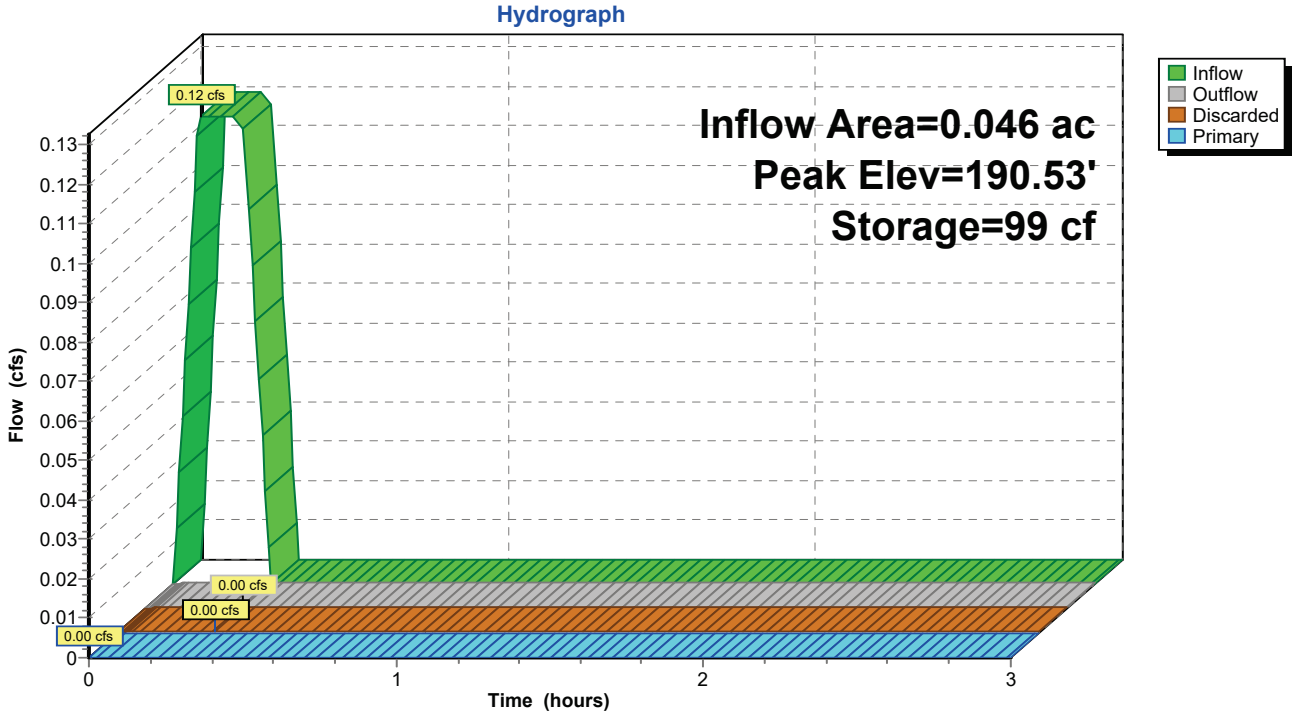
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
190.00	210	0.0	0	0
190.10	210	40.0	8	8
193.00	210	100.0	609	617
195.50	210	100.0	525	1,142

Device	Routing	Invert	Outlet Devices
#1	Primary	193.00'	**6.0" Round Culvert** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 193.00' / 192.00' S= 0.0556 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	190.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.00 cfs @ 0.32 hrs HW=190.53' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=190.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Pond 70P: Biofiltration



Hydrograph for Pond 70P: Biofiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	190.00	0.00	0.00	**0.00**
0.10	**0.12**	25	190.18	0.00	0.00	0.00
0.20	0.12	67	190.38	0.00	0.00	0.00
0.30	0.02	**98**	**190.53**	**0.00**	**0.00**	0.00
0.40	0.00	**99**	**190.53**	**0.00**	**0.00**	0.00
0.50	0.00	99	190.53	0.00	0.00	0.00
0.60	0.00	98	190.53	0.00	0.00	0.00
0.70	0.00	98	190.53	0.00	0.00	0.00
0.80	0.00	98	190.53	0.00	0.00	0.00
0.90	0.00	98	190.53	0.00	0.00	0.00
1.00	0.00	98	190.53	0.00	0.00	0.00
1.10	0.00	98	190.52	0.00	0.00	0.00
1.20	0.00	97	190.52	0.00	0.00	0.00
1.30	0.00	97	190.52	0.00	0.00	0.00
1.40	0.00	97	190.52	0.00	0.00	0.00
1.50	0.00	97	190.52	0.00	0.00	0.00
1.60	0.00	97	190.52	0.00	0.00	0.00
1.70	0.00	96	190.52	0.00	0.00	0.00
1.80	0.00	96	190.52	0.00	0.00	0.00
1.90	0.00	96	190.52	0.00	0.00	0.00
2.00	0.00	96	190.52	0.00	0.00	0.00
2.10	0.00	96	190.52	0.00	0.00	0.00
2.20	0.00	96	190.51	0.00	0.00	0.00
2.30	0.00	95	190.51	0.00	0.00	0.00
2.40	0.00	95	190.51	0.00	0.00	0.00
2.50	0.00	95	190.51	0.00	0.00	0.00
2.60	0.00	95	190.51	0.00	0.00	0.00
2.70	0.00	95	190.51	0.00	0.00	0.00
2.80	0.00	94	190.51	0.00	0.00	0.00
2.90	0.00	94	190.51	0.00	0.00	0.00
3.00	0.00	94	190.51	0.00	0.00	0.00

Summary for Pond 71P: Biofiltration

Inflow Area = 0.705 ac,100.00% Impervious, Inflow Depth = 0.60" for 25-Year event
Inflow = 1.82 cfs @ 0.09 hrs, Volume= 0.035 af
Outflow = 0.01 cfs @ 0.32 hrs, Volume= 0.002 af, Atten= 100%, Lag= 13.8 min
Discarded = 0.01 cfs @ 0.32 hrs, Volume= 0.002 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 190.58' @ 0.32 hrs Surf.Area= 2,937 sf Storage= 1,520 cf

Plug-Flow detention time= 89.0 min calculated for 0.002 af (5% of inflow)
Center-of-Mass det. time= 81.5 min (91.0 - 9.5)

Volume	Invert	Avail.Storage	Storage Description
#1	190.00'	14,509 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

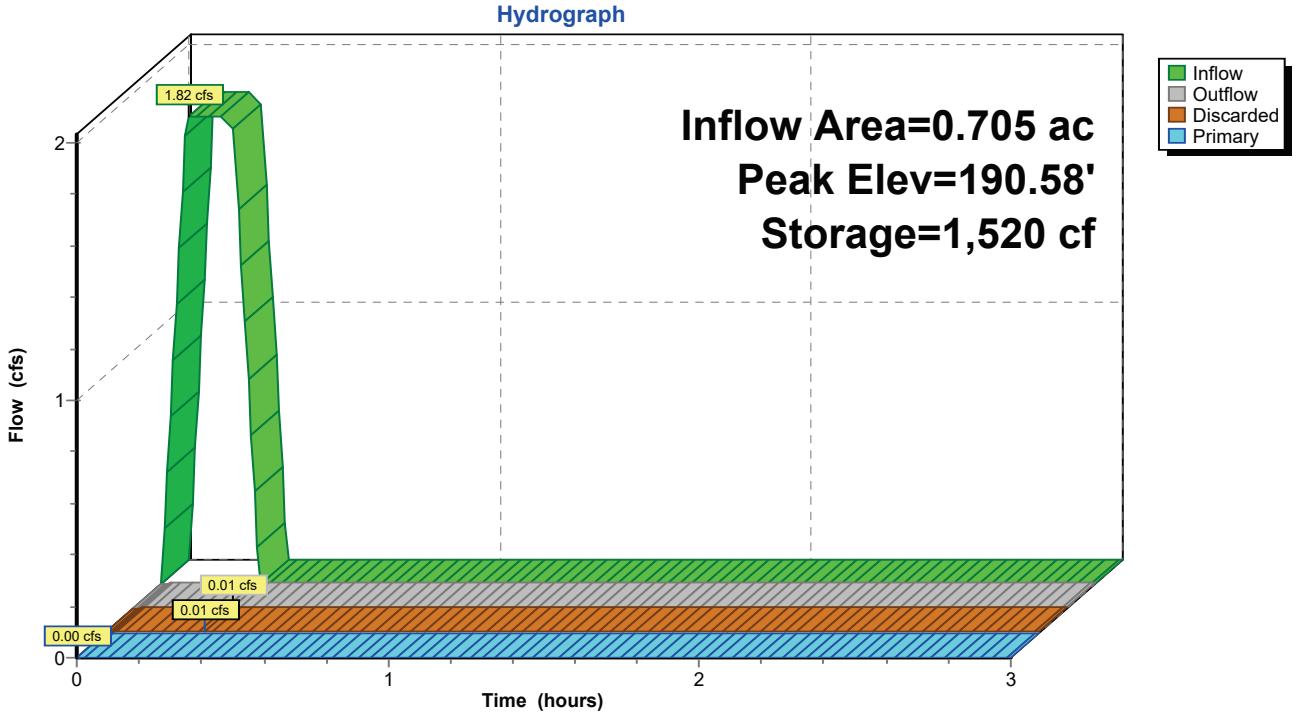
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
190.00	2,936	0.0	0	0
190.10	2,937	40.0	117	117
193.50	2,937	100.0	9,986	10,103
195.00	2,937	100.0	4,406	14,509

Device	Routing	Invert	Outlet Devices
#1	Primary	193.00'	**6.0" Round Culvert** L= 115.0' Ke= 0.500 Inlet / Outlet Invert= 193.00' / 191.00' S= 0.0174 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	190.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.01 cfs @ 0.32 hrs HW=190.58' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=190.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Pond 71P: Biofiltration



Hydrograph for Pond 71P: Biofiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	190.00	0.00	0.00	**0.00**
0.10	**1.82**	379	190.19	0.01	0.01	0.00
0.20	1.82	1,032	190.41	0.01	0.01	0.00
0.30	0.36	**1,508**	**190.57**	**0.01**	**0.01**	0.00
0.40	0.00	**1,518**	**190.58**	**0.01**	**0.01**	0.00
0.50	0.00	1,515	190.58	0.01	0.01	0.00
0.60	0.00	1,513	190.57	0.01	0.01	0.00
0.70	0.00	1,510	190.57	0.01	0.01	0.00
0.80	0.00	1,507	190.57	0.01	0.01	0.00
0.90	0.00	1,505	190.57	0.01	0.01	0.00
1.00	0.00	1,502	190.57	0.01	0.01	0.00
1.10	0.00	1,500	190.57	0.01	0.01	0.00
1.20	0.00	1,497	190.57	0.01	0.01	0.00
1.30	0.00	1,495	190.57	0.01	0.01	0.00
1.40	0.00	1,492	190.57	0.01	0.01	0.00
1.50	0.00	1,489	190.57	0.01	0.01	0.00
1.60	0.00	1,487	190.57	0.01	0.01	0.00
1.70	0.00	1,484	190.57	0.01	0.01	0.00
1.80	0.00	1,482	190.56	0.01	0.01	0.00
1.90	0.00	1,479	190.56	0.01	0.01	0.00
2.00	0.00	1,477	190.56	0.01	0.01	0.00
2.10	0.00	1,474	190.56	0.01	0.01	0.00
2.20	0.00	1,472	190.56	0.01	0.01	0.00
2.30	0.00	1,469	190.56	0.01	0.01	0.00
2.40	0.00	1,466	190.56	0.01	0.01	0.00
2.50	0.00	1,464	190.56	0.01	0.01	0.00
2.60	0.00	1,461	190.56	0.01	0.01	0.00
2.70	0.00	1,459	190.56	0.01	0.01	0.00
2.80	0.00	1,456	190.56	0.01	0.01	0.00
2.90	0.00	1,454	190.55	0.01	0.01	0.00
3.00	0.00	1,451	190.55	0.01	0.01	0.00

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment13S: DA 6.1 Runoff Area=74,704 sf 0.00% Impervious Runoff Depth=0.31"
Tc=17.0 min C=0.45 Runoff=2.25 cfs 0.044 af

Subcatchment66S: DA 6.2 Runoff Area=127,425 sf 0.00% Impervious Runoff Depth=0.39"
Tc=14.0 min C=0.47 Runoff=4.87 cfs 0.095 af

Subcatchment67S: DA 6.3 Runoff Area=30,711 sf 100.00% Impervious Runoff Depth=0.79"
Tc=5.0 min C=0.95 Runoff=2.40 cfs 0.046 af

Subcatchment68S: DA 6.4 Runoff Area=2,001 sf 100.00% Impervious Runoff Depth=0.79"
Tc=5.0 min C=0.95 Runoff=0.16 cfs 0.003 af

Subcatchment72S: DA-6.5 Runoff Area=94,617 sf 0.00% Impervious Runoff Depth=0.33"
Tc=5.0 min C=0.40 Runoff=3.12 cfs 0.060 af

Pond 65P: BASIN 6 Peak Elev=190.54' Storage=6,904 cf Inflow=10.23 cfs 0.199 af
Outflow=1.26 cfs 0.199 af

Pond 70P: Biofiltration Peak Elev=190.68' Storage=131 cf Inflow=0.16 cfs 0.003 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 71P: Biofiltration Peak Elev=190.74' Storage=2,010 cf Inflow=2.40 cfs 0.046 af
Discarded=0.01 cfs 0.002 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.002 af

Total Runoff Area = 7.563 ac Runoff Volume = 0.248 af Average Runoff Depth = 0.39"
90.07% Pervious = 6.812 ac 9.93% Impervious = 0.751 ac

Summary for Subcatchment 13S: DA 6.1

[48] Hint: Peak<CiA due to short duration

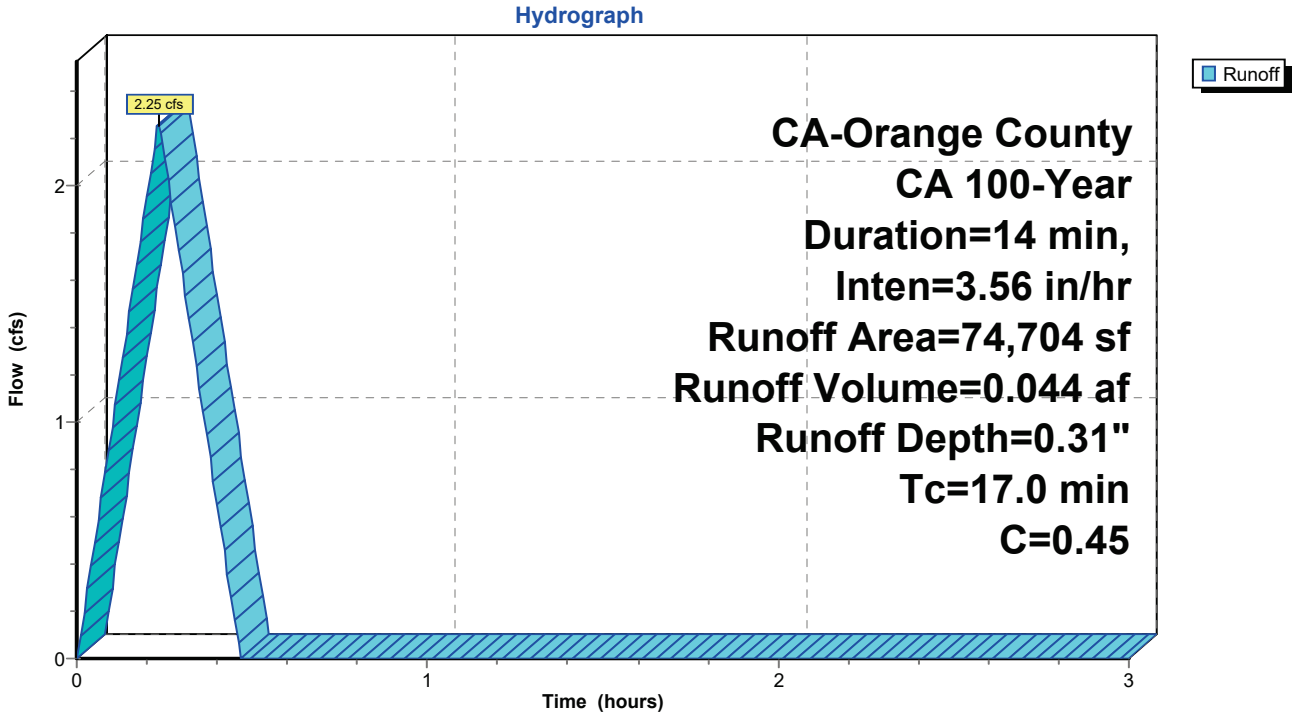
Runoff = 2.25 cfs @ 0.23 hrs, Volume= 0.044 af, Depth= 0.31"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=14 min, Inten=3.56 in/hr

Area (sf)	C	Description
74,704	0.45	Pervious Asphalt
74,704		100.00% Pervious Area

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

Subcatchment 13S: DA 6.1



Hydrograph for Subcatchment 13S: DA 6.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.20	1.04	0.00	2.06	0.00
0.04	0.39	1.06	0.00	2.08	0.00
0.06	0.59	1.08	0.00	2.10	0.00
0.08	0.78	1.10	0.00	2.12	0.00
0.10	0.98	1.12	0.00	2.14	0.00
0.12	1.17	1.14	0.00	2.16	0.00
0.14	1.37	1.16	0.00	2.18	0.00
0.16	1.56	1.18	0.00	2.20	0.00
0.18	1.76	1.20	0.00	2.22	0.00
0.20	1.95	1.22	0.00	2.24	0.00
0.22	**2.15**	1.24	0.00	2.26	0.00
0.24	**2.21**	1.26	0.00	2.28	0.00
0.26	2.02	1.28	0.00	2.30	0.00
0.28	1.82	1.30	0.00	2.32	0.00
0.30	1.63	1.32	0.00	2.34	0.00
0.32	1.43	1.34	0.00	2.36	0.00
0.34	1.24	1.36	0.00	2.38	0.00
0.36	1.04	1.38	0.00	2.40	0.00
0.38	0.85	1.40	0.00	2.42	0.00
0.40	0.65	1.42	0.00	2.44	0.00
0.42	0.46	1.44	0.00	2.46	0.00
0.44	0.26	1.46	0.00	2.48	0.00
0.46	0.07	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 66S: DA 6.2

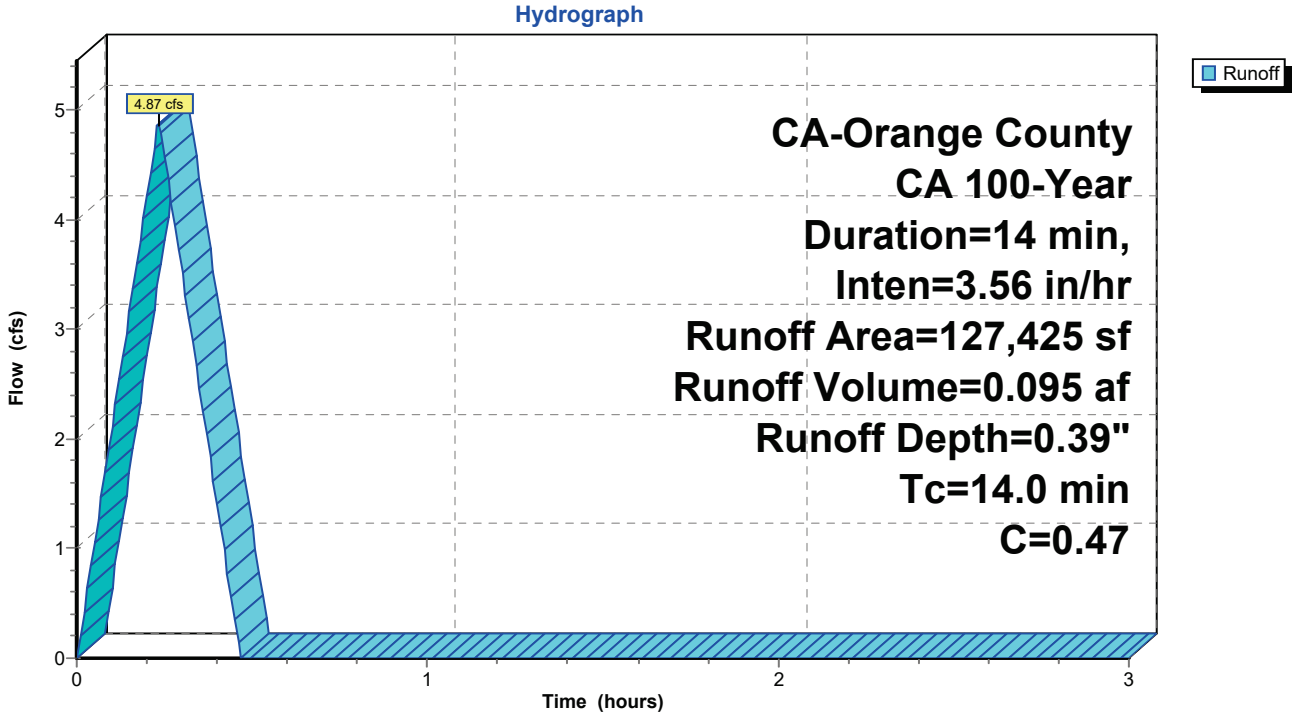
Runoff = 4.87 cfs @ 0.23 hrs, Volume= 0.095 af, Depth= 0.39"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=14 min, Inten=3.56 in/hr

Area (sf)	C	Description
85,408	0.45	Landscape
38,247	0.50	Pervious Asphalt
3,770	0.45	Landscape Median
127,425	0.47	Weighted Average
127,425		100.00% Pervious Area

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

Subcatchment 66S: DA 6.2



Hydrograph for Subcatchment 66S: DA 6.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.42	1.04	0.00	2.06	0.00
0.04	0.85	1.06	0.00	2.08	0.00
0.06	1.27	1.08	0.00	2.10	0.00
0.08	1.69	1.10	0.00	2.12	0.00
0.10	2.11	1.12	0.00	2.14	0.00
0.12	2.54	1.14	0.00	2.16	0.00
0.14	2.96	1.16	0.00	2.18	0.00
0.16	3.38	1.18	0.00	2.20	0.00
0.18	3.81	1.20	0.00	2.22	0.00
0.20	4.23	1.22	0.00	2.24	0.00
0.22	**4.65**	1.24	0.00	2.26	0.00
0.24	**4.79**	1.26	0.00	2.28	0.00
0.26	4.37	1.28	0.00	2.30	0.00
0.28	3.95	1.30	0.00	2.32	0.00
0.30	3.52	1.32	0.00	2.34	0.00
0.32	3.10	1.34	0.00	2.36	0.00
0.34	2.68	1.36	0.00	2.38	0.00
0.36	2.25	1.38	0.00	2.40	0.00
0.38	1.83	1.40	0.00	2.42	0.00
0.40	1.41	1.42	0.00	2.44	0.00
0.42	0.99	1.44	0.00	2.46	0.00
0.44	0.56	1.46	0.00	2.48	0.00
0.46	0.14	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 67S: DA 6.3

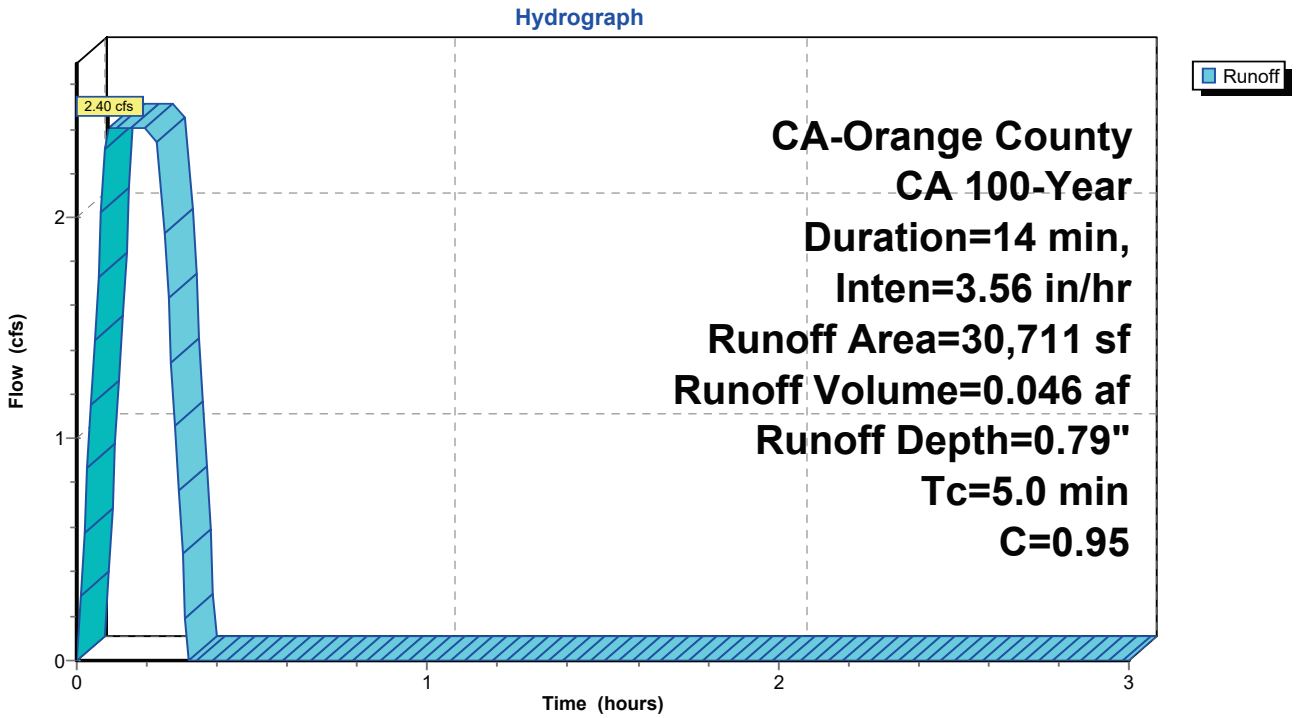
Runoff = 2.40 cfs @ 0.09 hrs, Volume= 0.046 af, Depth= 0.79"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=14 min, Inten=3.56 in/hr

Area (sf)	C	Description
18,480	0.95	Roofs, HSG C
4,320	0.95	
5,607	0.95	
2,304	0.95	
30,711	0.95	Weighted Average
30,711		100.00% Impervious Area

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

Subcatchment 67S: DA 6.3



Hydrograph for Subcatchment 67S: DA 6.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.58	1.04	0.00	2.06	0.00
0.04	1.15	1.06	0.00	2.08	0.00
0.06	1.73	1.08	0.00	2.10	0.00
0.08	**2.31**	1.10	0.00	2.12	0.00
0.10	**2.40**	1.12	0.00	2.14	0.00
0.12	2.40	1.14	0.00	2.16	0.00
0.14	2.40	1.16	0.00	2.18	0.00
0.16	2.40	1.18	0.00	2.20	0.00
0.18	2.40	1.20	0.00	2.22	0.00
0.20	2.40	1.22	0.00	2.24	0.00
0.22	2.40	1.24	0.00	2.26	0.00
0.24	2.21	1.26	0.00	2.28	0.00
0.26	1.63	1.28	0.00	2.30	0.00
0.28	1.06	1.30	0.00	2.32	0.00
0.30	0.48	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 68S: DA 6.4

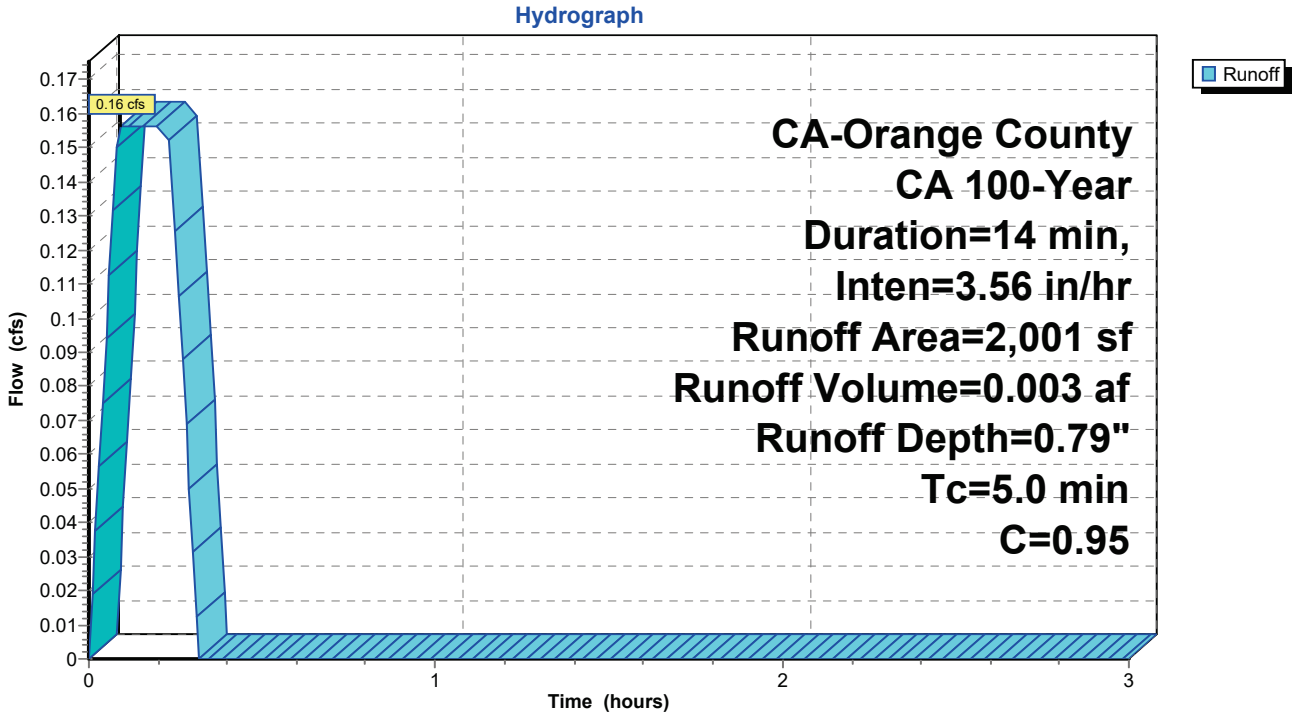
Runoff = 0.16 cfs @ 0.09 hrs, Volume= 0.003 af, Depth= 0.79"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=14 min, Inten=3.56 in/hr

Area (sf)	C	Description
2,001	0.95	Buildings
2,001		100.00% Impervious Area

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

Subcatchment 68S: DA 6.4



Hydrograph for Subcatchment 68S: DA 6.4

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.04	1.04	0.00	2.06	0.00
0.04	0.08	1.06	0.00	2.08	0.00
0.06	0.11	1.08	0.00	2.10	0.00
0.08	**0.15**	1.10	0.00	2.12	0.00
0.10	**0.16**	1.12	0.00	2.14	0.00
0.12	0.16	1.14	0.00	2.16	0.00
0.14	0.16	1.16	0.00	2.18	0.00
0.16	0.16	1.18	0.00	2.20	0.00
0.18	0.16	1.20	0.00	2.22	0.00
0.20	0.16	1.22	0.00	2.24	0.00
0.22	0.16	1.24	0.00	2.26	0.00
0.24	0.14	1.26	0.00	2.28	0.00
0.26	0.11	1.28	0.00	2.30	0.00
0.28	0.07	1.30	0.00	2.32	0.00
0.30	0.03	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 72S: DA-6.5

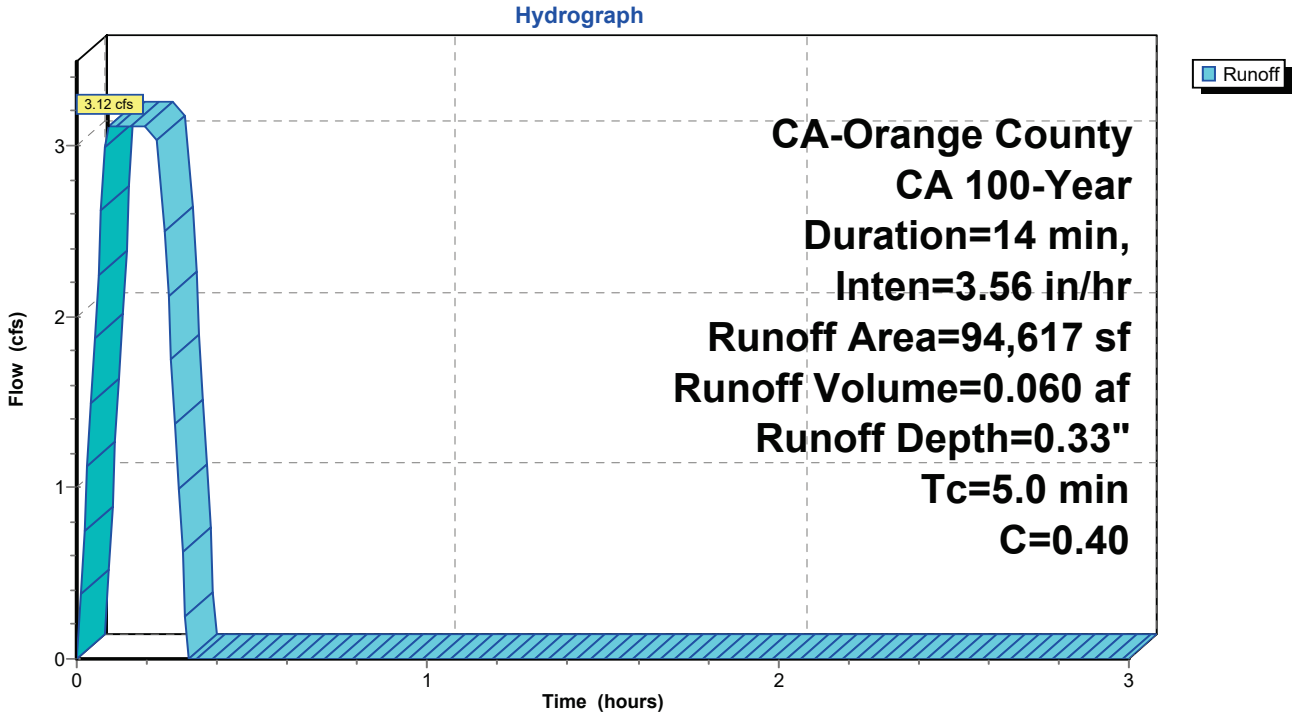
Runoff = 3.12 cfs @ 0.09 hrs, Volume= 0.060 af, Depth= 0.33"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=14 min, Inten=3.56 in/hr

Area (sf)	C	Description
94,617	0.40	Landscape
94,617		100.00% Pervious Area

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

Subcatchment 72S: DA-6.5



Hydrograph for Subcatchment 72S: DA-6.5

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.75	1.04	0.00	2.06	0.00
0.04	1.50	1.06	0.00	2.08	0.00
0.06	2.24	1.08	0.00	2.10	0.00
0.08	**2.99**	1.10	0.00	2.12	0.00
0.10	**3.12**	1.12	0.00	2.14	0.00
0.12	3.12	1.14	0.00	2.16	0.00
0.14	3.12	1.16	0.00	2.18	0.00
0.16	3.12	1.18	0.00	2.20	0.00
0.18	3.12	1.20	0.00	2.22	0.00
0.20	3.12	1.22	0.00	2.24	0.00
0.22	3.12	1.24	0.00	2.26	0.00
0.24	2.87	1.26	0.00	2.28	0.00
0.26	2.12	1.28	0.00	2.30	0.00
0.28	1.37	1.30	0.00	2.32	0.00
0.30	0.62	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 65P: BASIN 6

Inflow Area = 7.563 ac, 9.93% Impervious, Inflow Depth = 0.32" for 100-Year event
Inflow = 10.23 cfs @ 0.23 hrs, Volume= 0.199 af
Outflow = 1.26 cfs @ 0.43 hrs, Volume= 0.199 af, Atten= 88%, Lag= 11.8 min
Discarded = 1.26 cfs @ 0.43 hrs, Volume= 0.199 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 190.54' @ 0.43 hrs Surf.Area= 13,170 sf Storage= 6,904 cf

Plug-Flow detention time= 49.3 min calculated for 0.198 af (100% of inflow)
Center-of-Mass det. time= 49.5 min (62.1 - 12.6)

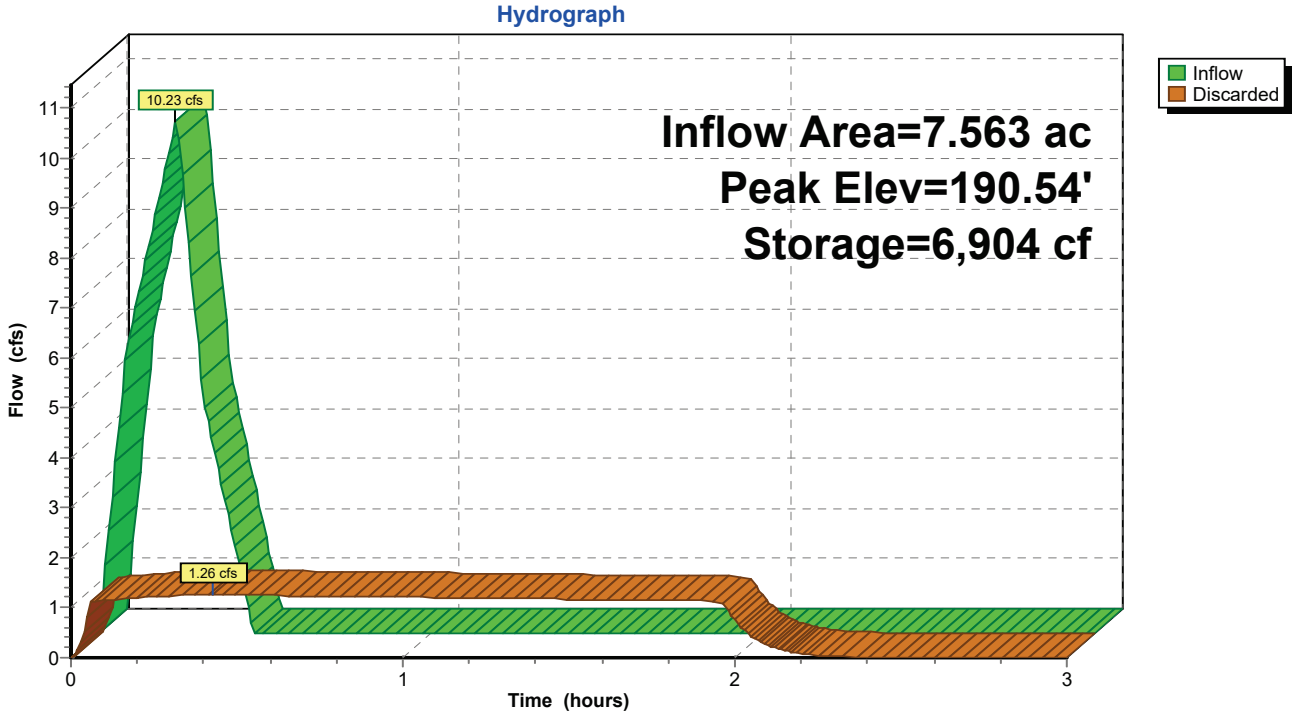
Volume	Invert	Avail.Storage	Storage Description
#1	190.00'	44,840 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
190.00	12,184	0	0
191.00	13,994	13,089	13,089
192.00	15,861	14,928	28,017
193.00	17,785	16,823	44,840

Device	Routing	Invert	Outlet Devices
#1	Discarded	190.00'	**4.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 174.00'

Discarded OutFlow Max=1.26 cfs @ 0.43 hrs HW=190.54' (Free Discharge)
↑**1=Exfiltration** (Controls 1.26 cfs)

Pond 65P: BASIN 6



Hydrograph for Pond 65P: BASIN 6

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	190.00	0.00
0.10	6.21	961	190.08	1.15
0.20	**9.30**	3,332	190.27	1.19
0.30	**5.78**	5,999	190.48	1.24
0.40	2.06	**6,866**	**190.54**	**1.26**
0.50	0.00	**6,662**	**190.53**	**1.25**
0.60	0.00	6,212	190.49	1.25
0.70	0.00	5,765	190.46	1.24
0.80	0.00	5,320	190.42	1.23
0.90	0.00	4,879	190.39	1.22
1.00	0.00	4,441	190.36	1.21
1.10	0.00	4,006	190.32	1.21
1.20	0.00	3,573	190.29	1.20
1.30	0.00	3,144	190.25	1.19
1.40	0.00	2,717	190.22	1.18
1.50	0.00	2,294	190.19	1.17
1.60	0.00	1,873	190.15	1.16
1.70	0.00	1,455	190.12	1.16
1.80	0.00	1,040	190.08	1.15
1.90	0.00	628	190.05	1.14
2.00	0.00	245	190.02	0.76
2.10	0.00	80	190.01	0.25
2.20	0.00	26	190.00	0.08
2.30	0.00	9	190.00	0.03
2.40	0.00	3	190.00	0.01
2.50	0.00	1	190.00	0.00
2.60	0.00	0	190.00	0.00
2.70	0.00	0	190.00	0.00
2.80	0.00	0	190.00	0.00
2.90	0.00	0	190.00	0.00
3.00	0.00	0	190.00	0.00

Summary for Pond 70P: Biofiltration

Inflow Area = 0.046 ac,100.00% Impervious, Inflow Depth = 0.79" for 100-Year event
Inflow = 0.16 cfs @ 0.09 hrs, Volume= 0.003 af
Outflow = 0.00 cfs @ 0.32 hrs, Volume= 0.000 af, Atten= 100%, Lag= 13.8 min
Discarded = 0.00 cfs @ 0.32 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 190.68' @ 0.32 hrs Surf.Area= 210 sf Storage= 131 cf

Plug-Flow detention time= 89.1 min calculated for 0.000 af (4% of inflow)
Center-of-Mass det. time= 81.5 min (91.1 - 9.5)

Volume	Invert	Avail.Storage	Storage Description
#1	190.00'	1,142 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

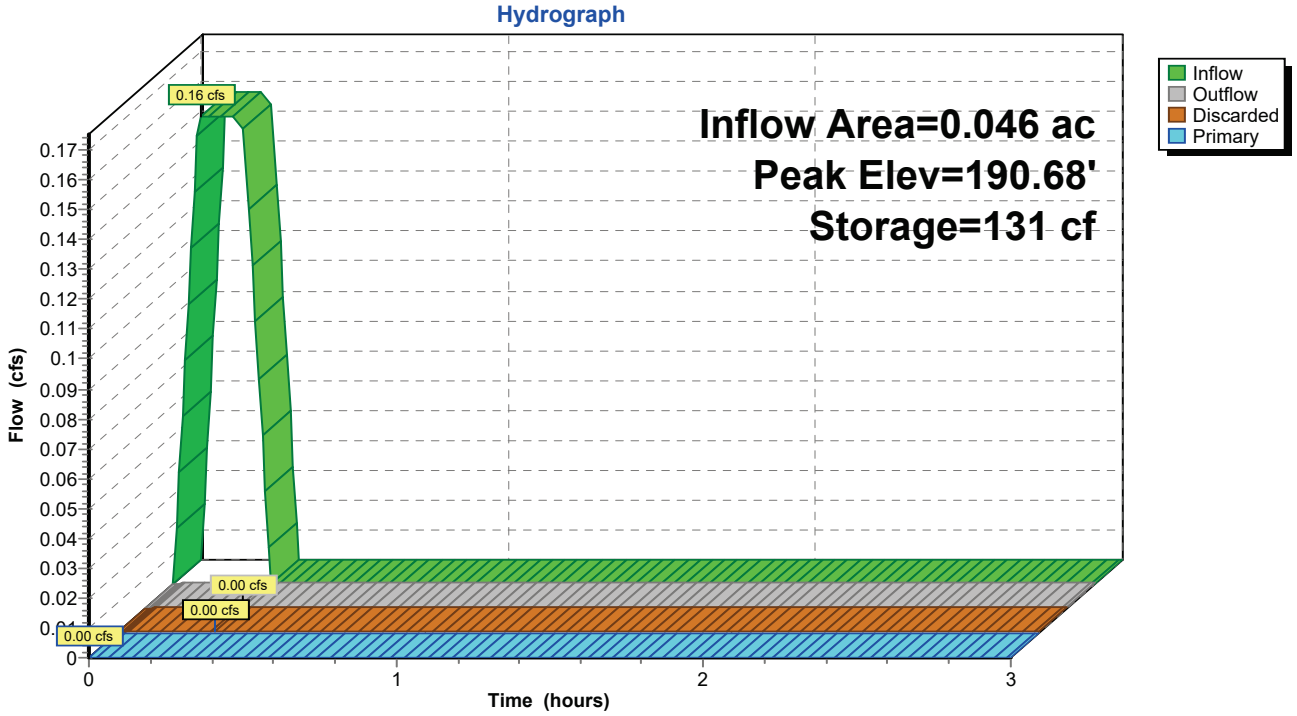
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
190.00	210	0.0	0	0
190.10	210	40.0	8	8
193.00	210	100.0	609	617
195.50	210	100.0	525	1,142

Device	Routing	Invert	Outlet Devices
#1	Primary	193.00'	**6.0" Round Culvert** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 193.00' / 192.00' S= 0.0556 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	190.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.00 cfs @ 0.32 hrs HW=190.68' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=190.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Pond 70P: Biofiltration



Hydrograph for Pond 70P: Biofiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	190.00	0.00	0.00	**0.00**
0.10	**0.16**	33	190.22	0.00	0.00	0.00
0.20	0.16	89	190.48	0.00	0.00	0.00
0.30	0.03	**130**	**190.68**	**0.00**	**0.00**	0.00
0.40	0.00	**131**	**190.68**	**0.00**	**0.00**	0.00
0.50	0.00	131	190.68	0.00	0.00	0.00
0.60	0.00	130	190.68	0.00	0.00	0.00
0.70	0.00	130	190.68	0.00	0.00	0.00
0.80	0.00	130	190.68	0.00	0.00	0.00
0.90	0.00	130	190.68	0.00	0.00	0.00
1.00	0.00	130	190.68	0.00	0.00	0.00
1.10	0.00	129	190.68	0.00	0.00	0.00
1.20	0.00	129	190.68	0.00	0.00	0.00
1.30	0.00	129	190.67	0.00	0.00	0.00
1.40	0.00	129	190.67	0.00	0.00	0.00
1.50	0.00	129	190.67	0.00	0.00	0.00
1.60	0.00	129	190.67	0.00	0.00	0.00
1.70	0.00	128	190.67	0.00	0.00	0.00
1.80	0.00	128	190.67	0.00	0.00	0.00
1.90	0.00	128	190.67	0.00	0.00	0.00
2.00	0.00	128	190.67	0.00	0.00	0.00
2.10	0.00	128	190.67	0.00	0.00	0.00
2.20	0.00	127	190.67	0.00	0.00	0.00
2.30	0.00	127	190.67	0.00	0.00	0.00
2.40	0.00	127	190.67	0.00	0.00	0.00
2.50	0.00	127	190.66	0.00	0.00	0.00
2.60	0.00	127	190.66	0.00	0.00	0.00
2.70	0.00	127	190.66	0.00	0.00	0.00
2.80	0.00	126	190.66	0.00	0.00	0.00
2.90	0.00	126	190.66	0.00	0.00	0.00
3.00	0.00	126	190.66	0.00	0.00	0.00

Summary for Pond 71P: Biofiltration

Inflow Area = 0.705 ac,100.00% Impervious, Inflow Depth = 0.79" for 100-Year event
Inflow = 2.40 cfs @ 0.09 hrs, Volume= 0.046 af
Outflow = 0.01 cfs @ 0.32 hrs, Volume= 0.002 af, Atten= 100%, Lag= 13.8 min
Discarded = 0.01 cfs @ 0.32 hrs, Volume= 0.002 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 190.74' @ 0.32 hrs Surf.Area= 2,937 sf Storage= 2,010 cf

Plug-Flow detention time= 89.2 min calculated for 0.002 af (4% of inflow)
Center-of-Mass det. time= 81.5 min (91.0 - 9.5)

Volume	Invert	Avail.Storage	Storage Description
#1	190.00'	14,509 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

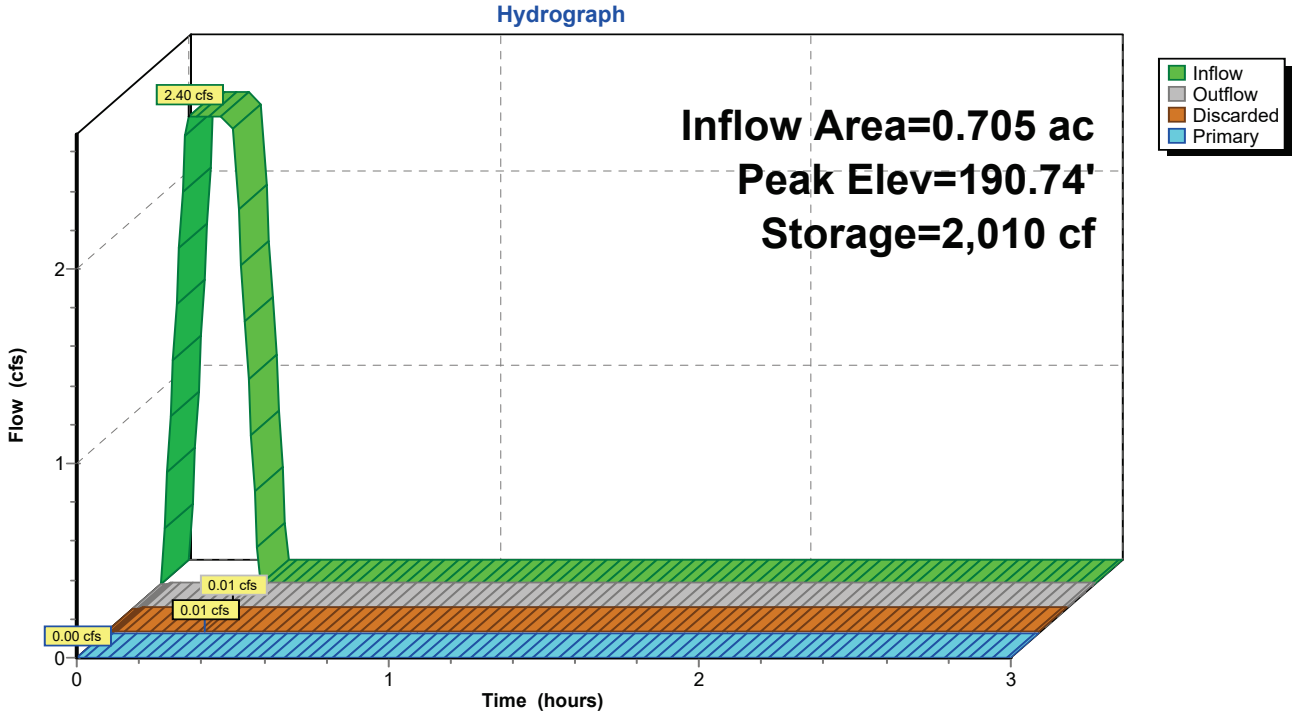
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
190.00	2,936	0.0	0	0
190.10	2,937	40.0	117	117
193.50	2,937	100.0	9,986	10,103
195.00	2,937	100.0	4,406	14,509

Device	Routing	Invert	Outlet Devices
#1	Primary	193.00'	**6.0" Round Culvert** L= 115.0' Ke= 0.500 Inlet / Outlet Invert= 193.00' / 191.00' S= 0.0174 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	190.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.01 cfs @ 0.32 hrs HW=190.74' (Free Discharge)
↑**2=Exfiltration** (Controls 0.01 cfs)

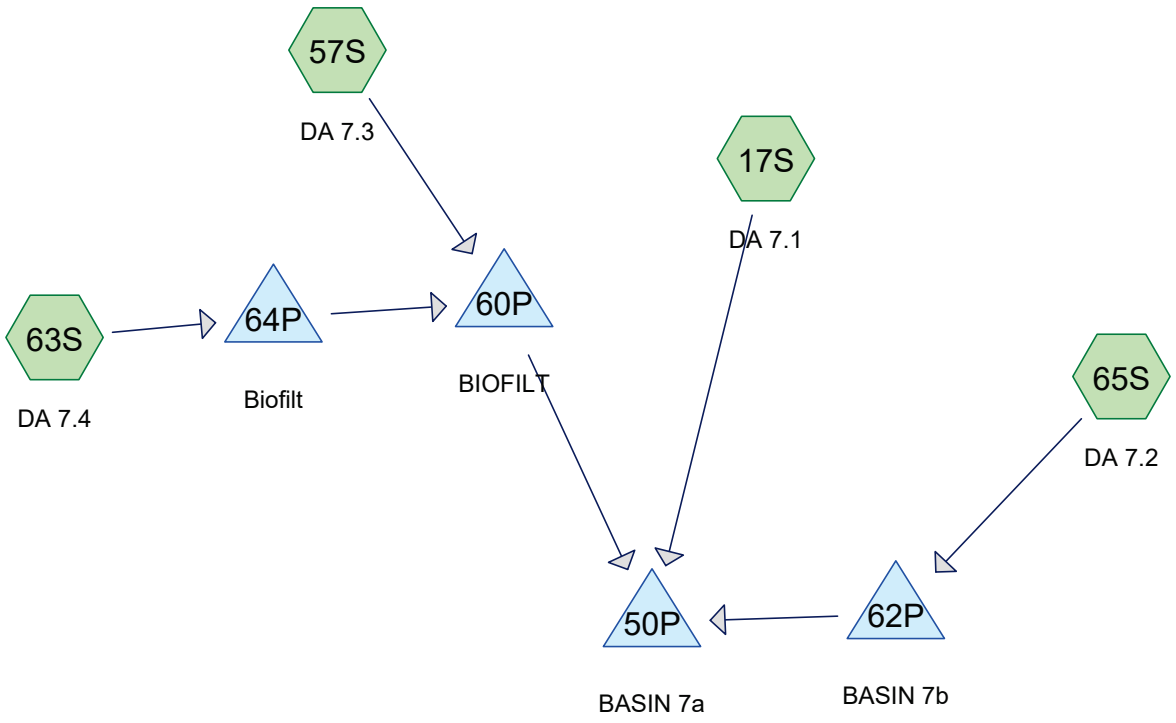
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=190.00' (Free Discharge)
↑**1=Culvert** (Controls 0.00 cfs)

Pond 71P: Biofiltration



Hydrograph for Pond 71P: Biofiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	190.00	0.00	0.00	**0.00**
0.10	**2.40**	502	190.23	0.01	0.01	0.00
0.20	2.40	1,364	190.52	0.01	0.01	0.00
0.30	0.48	**1,995**	**190.74**	**0.01**	**0.01**	0.00
0.40	0.00	**2,008**	**190.74**	**0.01**	**0.01**	0.00
0.50	0.00	2,005	190.74	0.01	0.01	0.00
0.60	0.00	2,002	190.74	0.01	0.01	0.00
0.70	0.00	2,000	190.74	0.01	0.01	0.00
0.80	0.00	1,997	190.74	0.01	0.01	0.00
0.90	0.00	1,995	190.74	0.01	0.01	0.00
1.00	0.00	1,992	190.74	0.01	0.01	0.00
1.10	0.00	1,989	190.74	0.01	0.01	0.00
1.20	0.00	1,987	190.74	0.01	0.01	0.00
1.30	0.00	1,984	190.74	0.01	0.01	0.00
1.40	0.00	1,982	190.73	0.01	0.01	0.00
1.50	0.00	1,979	190.73	0.01	0.01	0.00
1.60	0.00	1,976	190.73	0.01	0.01	0.00
1.70	0.00	1,974	190.73	0.01	0.01	0.00
1.80	0.00	1,971	190.73	0.01	0.01	0.00
1.90	0.00	1,969	190.73	0.01	0.01	0.00
2.00	0.00	1,966	190.73	0.01	0.01	0.00
2.10	0.00	1,963	190.73	0.01	0.01	0.00
2.20	0.00	1,961	190.73	0.01	0.01	0.00
2.30	0.00	1,958	190.73	0.01	0.01	0.00
2.40	0.00	1,956	190.73	0.01	0.01	0.00
2.50	0.00	1,953	190.72	0.01	0.01	0.00
2.60	0.00	1,950	190.72	0.01	0.01	0.00
2.70	0.00	1,948	190.72	0.01	0.01	0.00
2.80	0.00	1,945	190.72	0.01	0.01	0.00
2.90	0.00	1,943	190.72	0.01	0.01	0.00
3.00	0.00	1,940	190.72	0.01	0.01	0.00



Subcat Reach Pond Link

Routing Diagram for 23001 - Basin 7
Prepared by C3 Civil Engineering, Printed 5/19/2026
HydroCAD® 10.10-5a s/n 11911 © 2020 HydroCAD Software Solutions LLC

23001 - Basin 7

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	60P	198.00	196.00	52.0	0.0385	0.010	0.0	6.0	0.0
2	64P	201.00	198.00	158.0	0.0190	0.010	0.0	6.0	0.0

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment17S: DA 7.1 Runoff Area=63,193 sf 0.00% Impervious Runoff Depth=0.20"
Tc=5.0 min C=0.49 Runoff=3.33 cfs 0.024 af

Subcatchment57S: DA 7.3 Runoff Area=86,100 sf 100.00% Impervious Runoff Depth=0.38"
Tc=5.0 min C=0.95 Runoff=8.81 cfs 0.063 af

Subcatchment63S: DA 7.4 Runoff Area=815 sf 100.00% Impervious Runoff Depth=0.38"
Tc=5.0 min C=0.95 Runoff=0.08 cfs 0.001 af

Subcatchment65S: DA 7.2 Runoff Area=719,383 sf 0.00% Impervious Runoff Depth=0.18"
Tc=5.0 min C=0.45 Runoff=34.85 cfs 0.248 af

Pond 50P: BASIN 7a Peak Elev=197.07' Storage=11,809 cf Inflow=38.87 cfs 0.334 af
Outflow=0.80 cfs 0.192 af

Pond 60P: BIOFILT Peak Elev=198.96' Storage=2,362 cf Inflow=8.81 cfs 0.063 af
Discarded=0.01 cfs 0.001 af Primary=0.80 cfs 0.061 af Outflow=0.81 cfs 0.063 af

Pond 62P: BASIN 7b Inflow=34.85 cfs 0.248 af
Primary=34.85 cfs 0.248 af

Pond 64P: Biofilt Peak Elev=197.32' Storage=26 cf Inflow=0.08 cfs 0.001 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 19.961 ac Runoff Volume = 0.335 af Average Runoff Depth = 0.20"
90.00% Pervious = 17.965 ac 10.00% Impervious = 1.995 ac

Summary for Subcatchment 17S: DA 7.1

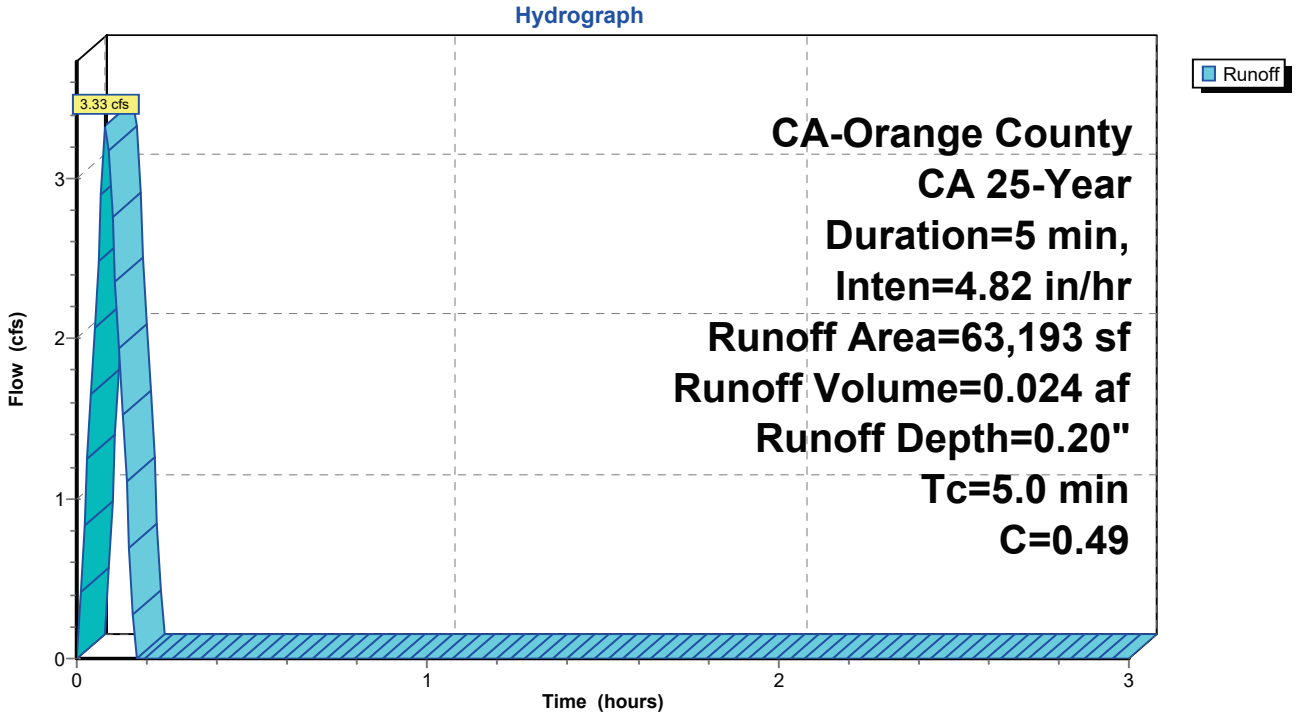
Runoff = 3.33 cfs @ 0.08 hrs, Volume= 0.024 af, Depth= 0.20"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=5 min, Inten=4.82 in/hr

Area (sf)	C	Description
51,321	0.45	>75% Grass cover, Good, HSG C
11,872	0.65	Pervious Pavement
63,193	0.49	Weighted Average
63,193		100.00% Pervious Area

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

Subcatchment 17S: DA 7.1



Hydrograph for Subcatchment 17S: DA 7.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.83	1.04	0.00	2.06	0.00
0.04	1.66	1.06	0.00	2.08	0.00
0.06	2.49	1.08	0.00	2.10	0.00
0.08	**3.32**	1.10	0.00	2.12	0.00
0.10	2.76	1.12	0.00	2.14	0.00
0.12	1.93	1.14	0.00	2.16	0.00
0.14	1.11	1.16	0.00	2.18	0.00
0.16	0.28	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 57S: DA 7.3

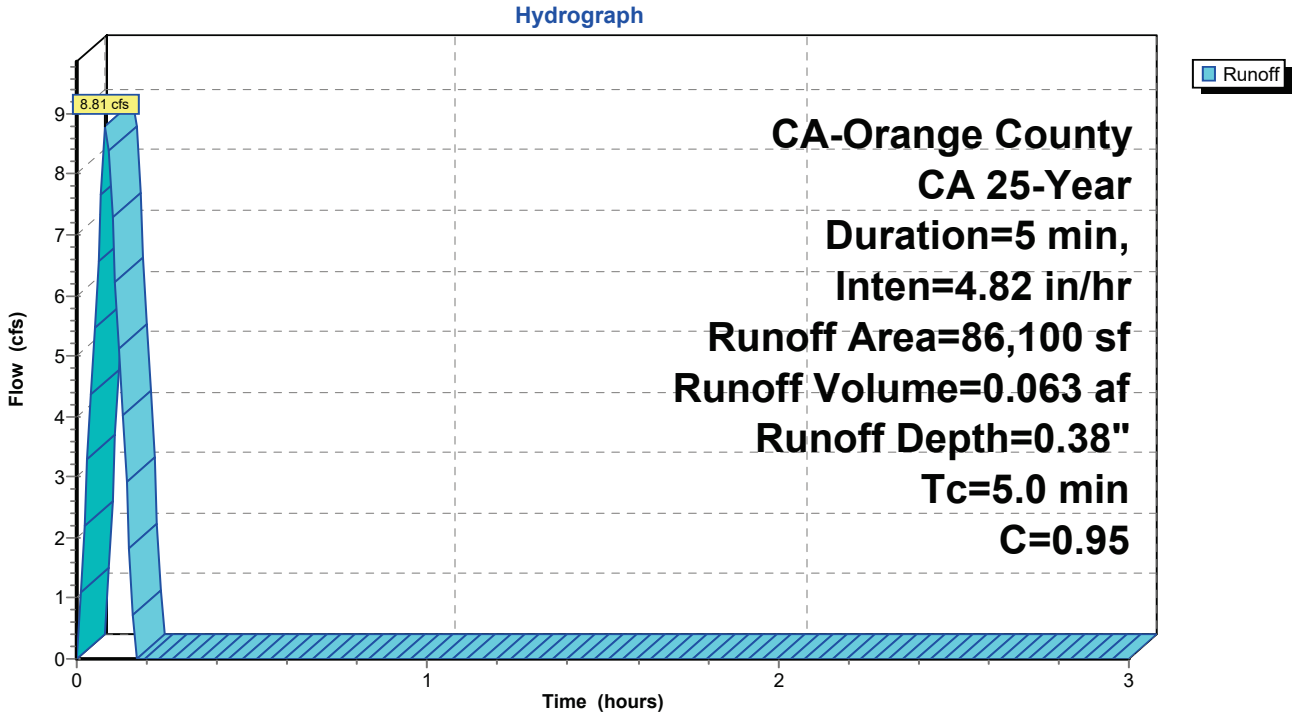
Runoff = 8.81 cfs @ 0.08 hrs, Volume= 0.063 af, Depth= 0.38"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=5 min, Inten=4.82 in/hr

Area (sf)	C	Description
86,100	0.95	Roofs, HSG C
86,100		100.00% Impervious Area

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

Subcatchment 57S: DA 7.3



Hydrograph for Subcatchment 57S: DA 7.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	2.19	1.04	0.00	2.06	0.00
0.04	4.38	1.06	0.00	2.08	0.00
0.06	6.57	1.08	0.00	2.10	0.00
0.08	**8.76**	1.10	0.00	2.12	0.00
0.10	7.30	1.12	0.00	2.14	0.00
0.12	5.11	1.14	0.00	2.16	0.00
0.14	2.92	1.16	0.00	2.18	0.00
0.16	0.73	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 63S: DA 7.4

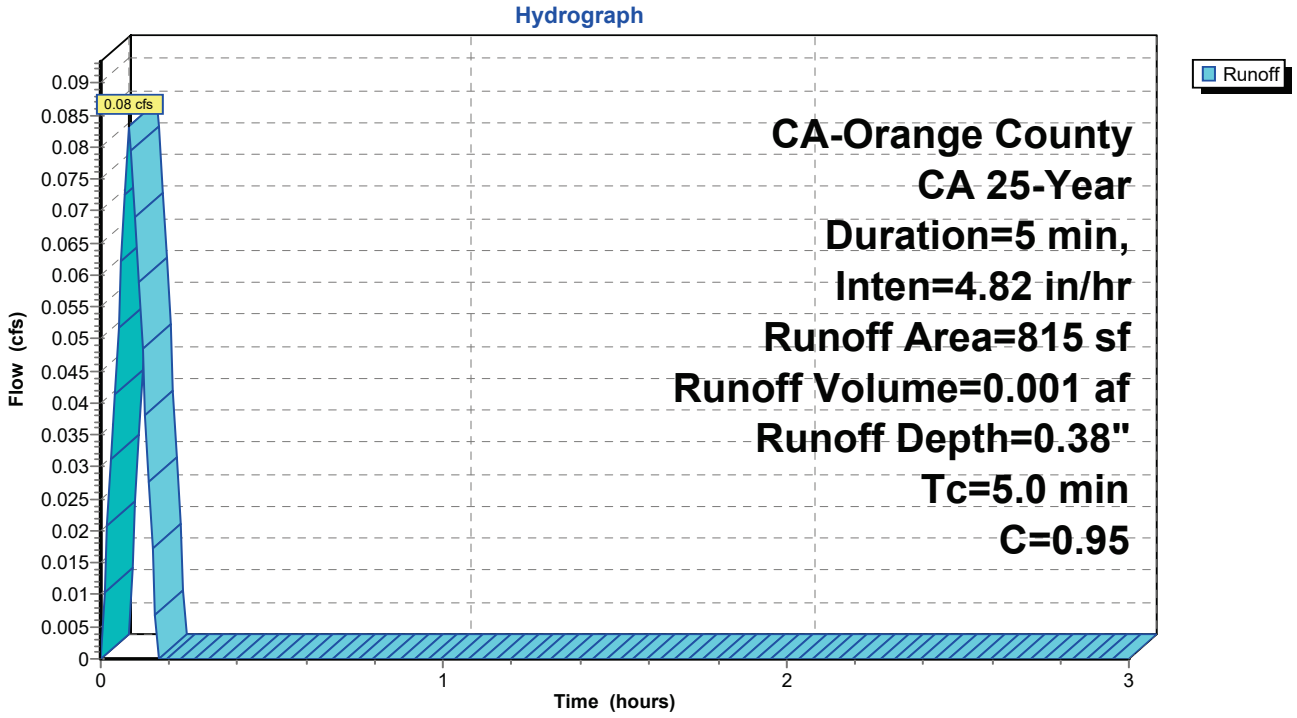
Runoff = 0.08 cfs @ 0.08 hrs, Volume= 0.001 af, Depth= 0.38"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=5 min, Inten=4.82 in/hr

Area (sf)	C	Description
815	0.95	Building
815		100.00% Impervious Area

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

Subcatchment 63S: DA 7.4



Hydrograph for Subcatchment 63S: DA 7.4

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.02	1.04	0.00	2.06	0.00
0.04	0.04	1.06	0.00	2.08	0.00
0.06	0.06	1.08	0.00	2.10	0.00
0.08	**0.08**	1.10	0.00	2.12	0.00
0.10	0.07	1.12	0.00	2.14	0.00
0.12	0.05	1.14	0.00	2.16	0.00
0.14	0.03	1.16	0.00	2.18	0.00
0.16	0.01	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 65S: DA 7.2

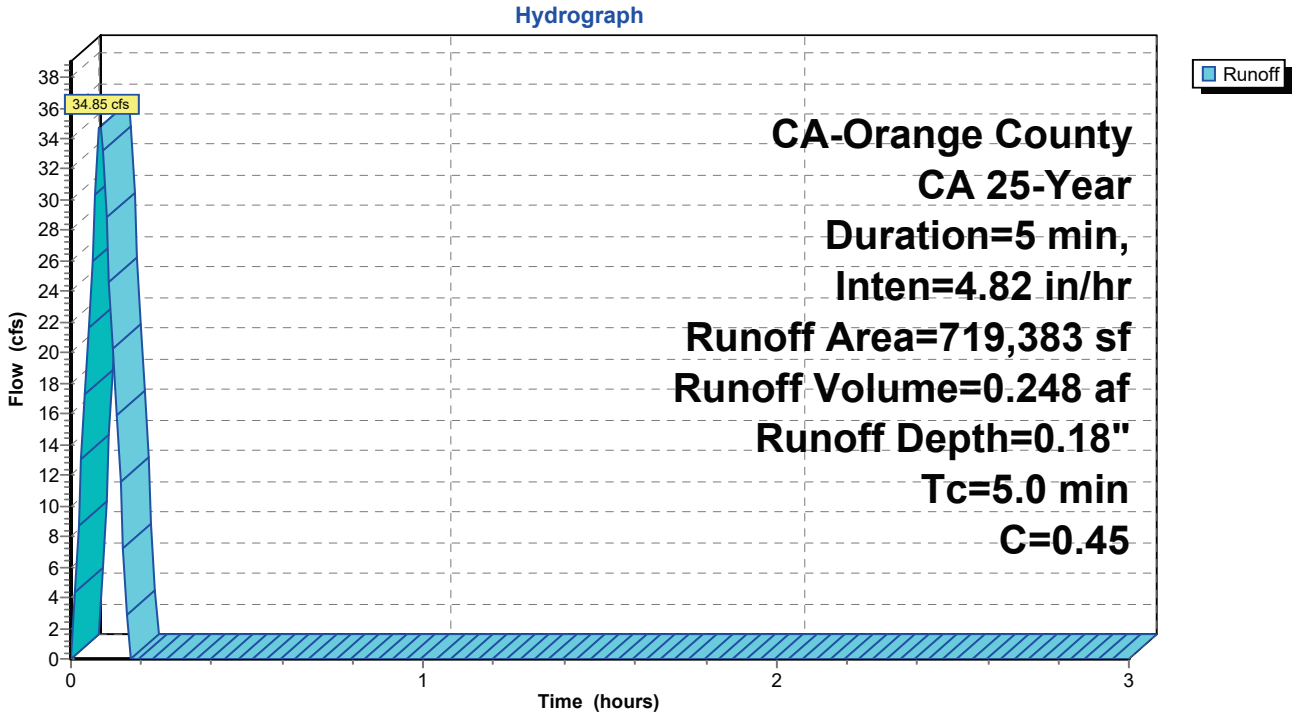
Runoff = 34.85 cfs @ 0.08 hrs, Volume= 0.248 af, Depth= 0.18"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=5 min, Inten=4.82 in/hr

Area (sf)	C	Description
719,383	0.45	>75% Grass cover, Good, HSG C
719,383		100.00% Pervious Area

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

Subcatchment 65S: DA 7.2



Hydrograph for Subcatchment 65S: DA 7.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	8.67	1.04	0.00	2.06	0.00
0.04	17.34	1.06	0.00	2.08	0.00
0.06	26.01	1.08	0.00	2.10	0.00
0.08	**34.67**	1.10	0.00	2.12	0.00
0.10	28.90	1.12	0.00	2.14	0.00
0.12	20.23	1.14	0.00	2.16	0.00
0.14	11.56	1.16	0.00	2.18	0.00
0.16	2.89	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 50P: BASIN 7a

[79] Warning: Submerged Pond 60P Primary device # 1 OUTLET by 1.07'

Inflow Area = 19.961 ac, 10.00% Impervious, Inflow Depth = 0.20" for 25-Year event
Inflow = 38.87 cfs @ 0.08 hrs, Volume= 0.334 af
Outflow = 0.80 cfs @ 0.17 hrs, Volume= 0.192 af, Atten= 98%, Lag= 5.2 min
Discarded = 0.80 cfs @ 0.17 hrs, Volume= 0.192 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 197.07' @ 0.17 hrs Surf.Area= 11,724 sf Storage= 11,809 cf

Plug-Flow detention time= 85.6 min calculated for 0.192 af (58% of inflow)
Center-of-Mass det. time= 79.5 min (89.6 - 10.1)

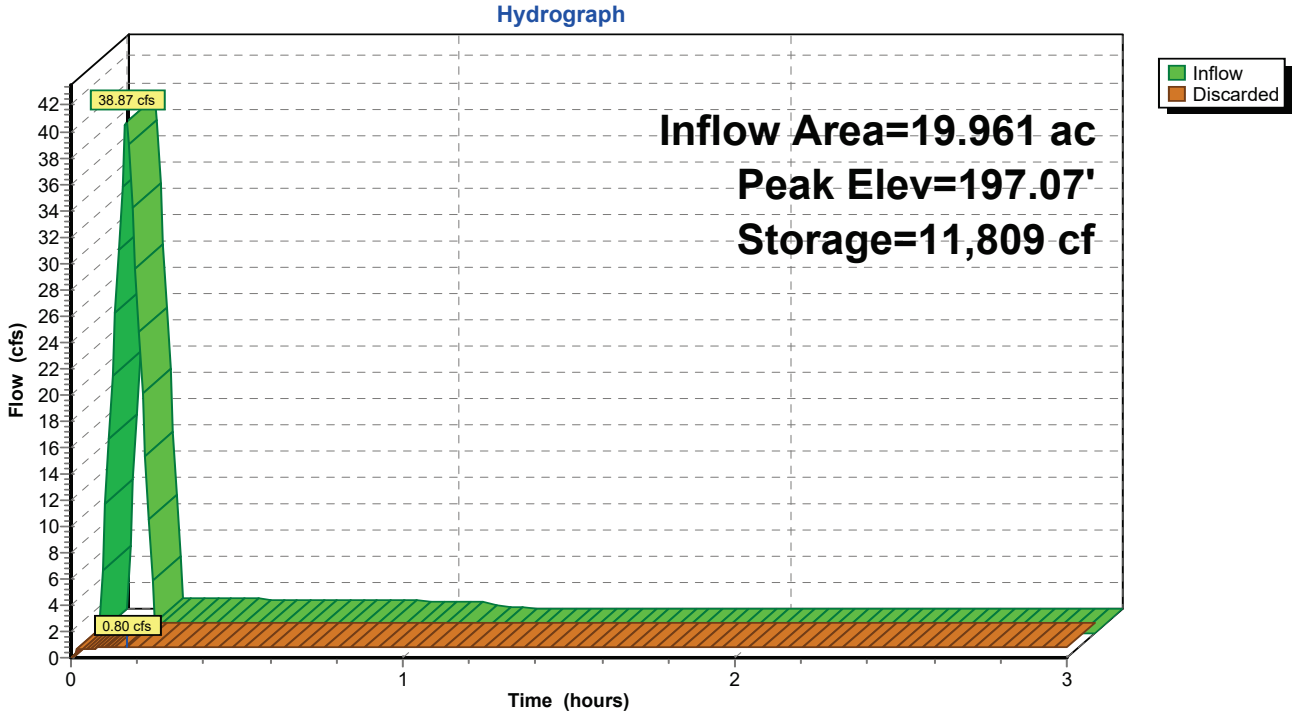
Volume	Invert	Avail.Storage	Storage Description
#1	196.00'	36,915 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
196.00	10,416	0	0
197.00	11,638	11,027	11,027
198.00	12,927	12,283	23,310
199.00	14,284	13,606	36,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	196.00'	**2.800 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.80 cfs @ 0.17 hrs HW=197.07' (Free Discharge)
↑**1=Exfiltration** (Controls 0.80 cfs)

Pond 50P: BASIN 7a



Hydrograph for Pond 50P: BASIN 7a

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	**0.00**	0	196.00	0.00
0.10	**32.39**	**7,994**	**196.74**	**0.76**
0.20	0.79	**11,809**	**197.07**	**0.80**
0.30	0.76	11,799	197.07	0.80
0.40	0.73	11,779	197.06	0.80
0.50	0.70	11,749	197.06	0.80
0.60	0.68	11,709	197.06	0.80
0.70	0.65	11,659	197.05	0.80
0.80	0.62	11,599	197.05	0.80
0.90	0.59	11,530	197.04	0.80
1.00	0.56	11,450	197.04	0.80
1.10	0.38	11,352	197.03	0.80
1.20	0.06	11,128	197.01	0.80
1.30	0.01	10,853	196.99	0.79
1.40	0.00	10,570	196.96	0.79
1.50	0.00	10,287	196.94	0.79
1.60	0.00	10,004	196.91	0.78
1.70	0.00	9,723	196.89	0.78
1.80	0.00	9,443	196.86	0.78
1.90	0.00	9,163	196.84	0.77
2.00	0.00	8,885	196.81	0.77
2.10	0.00	8,608	196.79	0.77
2.20	0.00	8,332	196.77	0.77
2.30	0.00	8,057	196.74	0.76
2.40	0.00	7,782	196.72	0.76
2.50	0.00	7,509	196.69	0.76
2.60	0.00	7,237	196.67	0.75
2.70	0.00	6,967	196.64	0.75
2.80	0.00	6,697	196.62	0.75
2.90	0.00	6,428	196.60	0.75
3.00	0.00	6,160	196.57	0.74

Summary for Pond 60P: BIOFILT

[44] Hint: Outlet device #1 is below defined storage
[79] Warning: Submerged Pond 64P Primary device # 2 OUTLET by 0.96'

Inflow Area = 1.995 ac,100.00% Impervious, Inflow Depth = 0.38" for 25-Year event
Inflow = 8.81 cfs @ 0.08 hrs, Volume= 0.063 af
Outflow = 0.81 cfs @ 0.16 hrs, Volume= 0.063 af, Atten= 91%, Lag= 4.7 min
Discarded = 0.01 cfs @ 0.16 hrs, Volume= 0.001 af
Primary = 0.80 cfs @ 0.16 hrs, Volume= 0.061 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 198.96' @ 0.16 hrs Surf.Area= 5,853 sf Storage= 2,362 cf

Plug-Flow detention time= 27.7 min calculated for 0.063 af (100% of inflow)
Center-of-Mass det. time= 27.8 min (32.9 - 5.0)

Volume	Invert	Avail.Storage	Storage Description
#1	198.50'	25,987 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

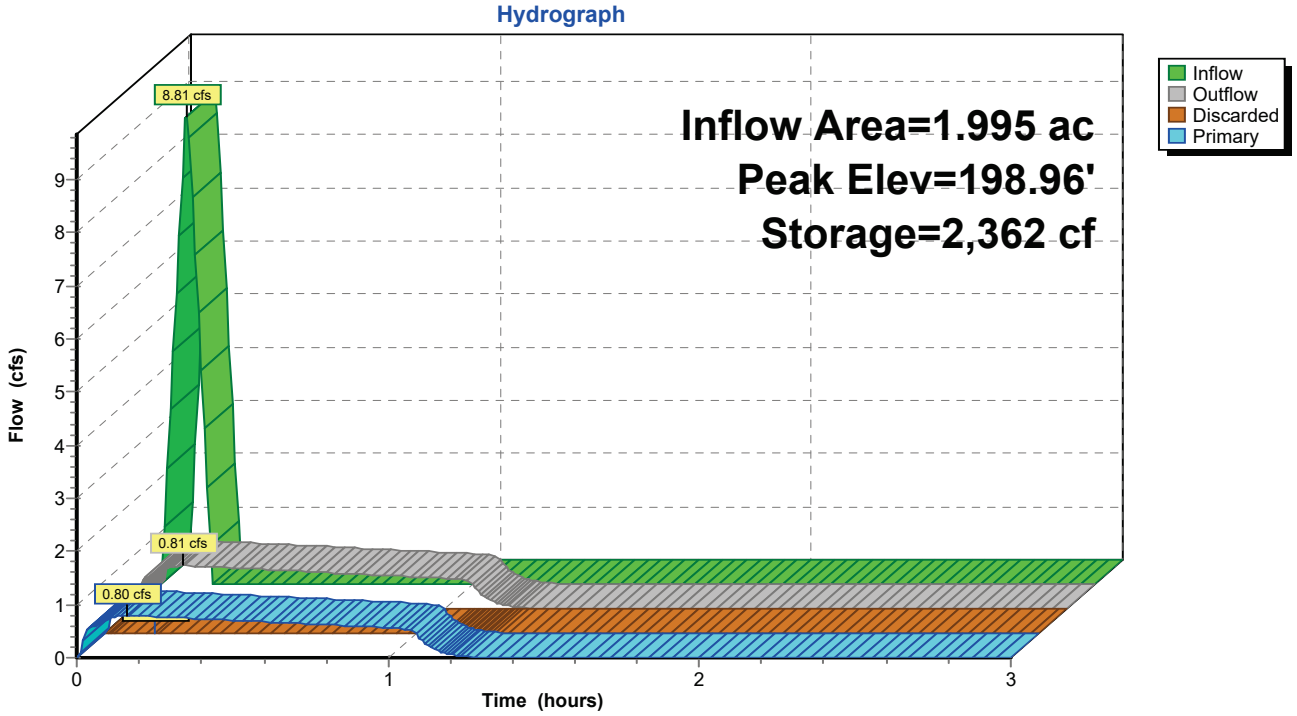
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
198.50	5,853	0.0	0	0
198.60	5,853	40.0	234	234
201.50	5,853	100.0	16,974	17,208
203.00	5,853	100.0	8,780	25,987

Device	Routing	Invert	Outlet Devices
#1	Primary	198.00'	**6.0" Round Culvert** L= 52.0' Ke= 0.500 Inlet / Outlet Invert= 198.00' / 196.00' S= 0.0385 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	198.50'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.01 cfs @ 0.16 hrs HW=198.96' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.80 cfs @ 0.16 hrs HW=198.96' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.80 cfs @ 4.07 fps)

Pond 60P: BIOFILT



Hydrograph for Pond 60P: BIOFILT

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	198.50	0.00	0.00	0.00
0.10	**7.30**	**1,666**	**198.84**	**0.74**	**0.01**	**0.73**
0.20	0.00	**2,259**	**198.95**	**0.80**	**0.01**	**0.79**
0.30	0.00	1,975	198.90	0.77	0.01	0.76
0.40	0.00	1,702	198.85	0.75	0.01	0.73
0.50	0.00	1,438	198.81	0.72	0.01	0.70
0.60	0.00	1,184	198.76	0.69	0.01	0.68
0.70	0.00	941	198.72	0.66	0.01	0.65
0.80	0.00	708	198.68	0.63	0.01	0.62
0.90	0.00	484	198.64	0.61	0.01	0.59
1.00	0.00	271	198.61	0.58	0.01	0.56
1.10	0.00	78	198.53	0.39	0.01	0.38
1.20	0.00	13	198.51	0.06	0.00	0.06
1.30	0.00	2	198.50	0.01	0.00	0.01
1.40	0.00	0	198.50	0.00	0.00	0.00
1.50	0.00	0	198.50	0.00	0.00	0.00
1.60	0.00	0	198.50	0.00	0.00	0.00
1.70	0.00	0	198.50	0.00	0.00	0.00
1.80	0.00	0	198.50	0.00	0.00	0.00
1.90	0.00	0	198.50	0.00	0.00	0.00
2.00	0.00	0	198.50	0.00	0.00	0.00
2.10	0.00	0	198.50	0.00	0.00	0.00
2.20	0.00	0	198.50	0.00	0.00	0.00
2.30	0.00	0	198.50	0.00	0.00	0.00
2.40	0.00	0	198.50	0.00	0.00	0.00
2.50	0.00	0	198.50	0.00	0.00	0.00
2.60	0.00	0	198.50	0.00	0.00	0.00
2.70	0.00	0	198.50	0.00	0.00	0.00
2.80	0.00	0	198.50	0.00	0.00	0.00
2.90	0.00	0	198.50	0.00	0.00	0.00
3.00	0.00	0	198.50	0.00	0.00	0.00

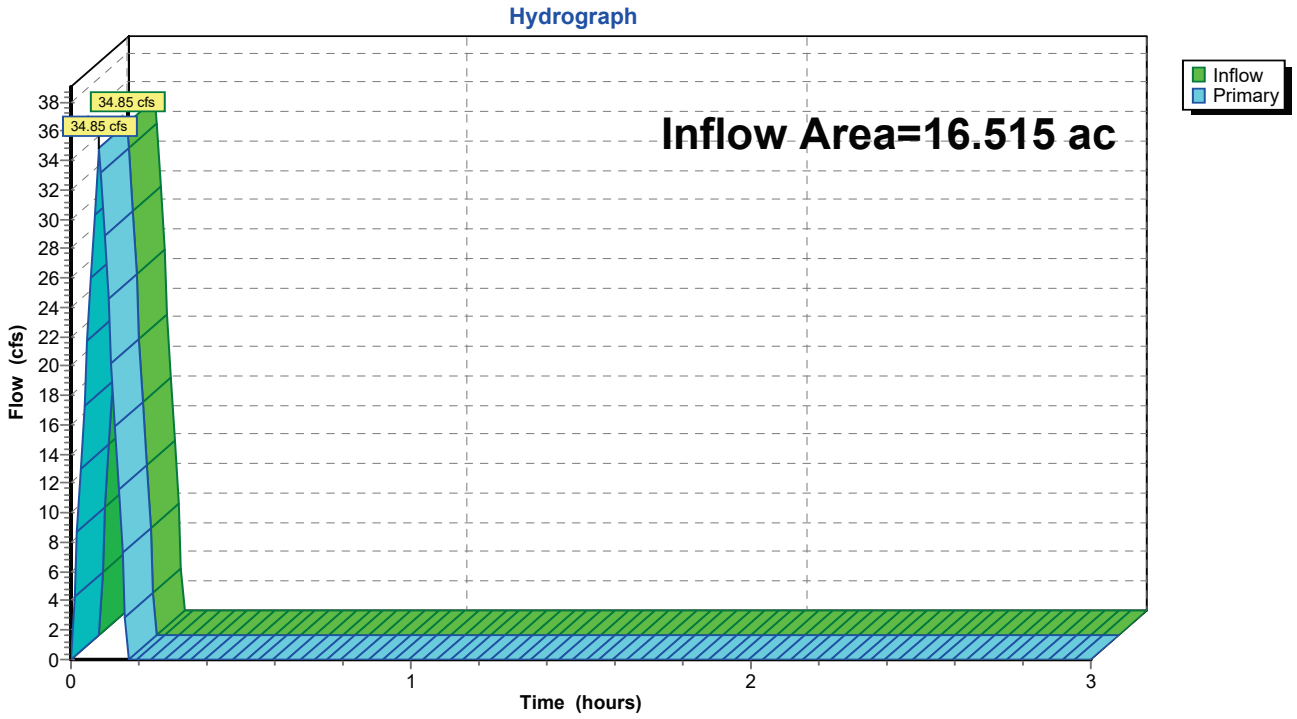
Summary for Pond 62P: BASIN 7b

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 16.515 ac, 0.00% Impervious, Inflow Depth = 0.18" for 25-Year event
Inflow = 34.85 cfs @ 0.08 hrs, Volume= 0.248 af
Primary = 34.85 cfs @ 0.08 hrs, Volume= 0.248 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 62P: BASIN 7b



Hydrograph for Pond 62P: BASIN 7b

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.05	**21.67**		**21.67**
0.10	**28.90**		**28.90**
0.15	7.22		7.22
0.20	0.00		0.00
0.25	0.00		0.00
0.30	0.00		0.00
0.35	0.00		0.00
0.40	0.00		0.00
0.45	0.00		0.00
0.50	0.00		0.00
0.55	0.00		0.00
0.60	0.00		0.00
0.65	0.00		0.00
0.70	0.00		0.00
0.75	0.00		0.00
0.80	0.00		0.00
0.85	0.00		0.00
0.90	0.00		0.00
0.95	0.00		0.00
1.00	0.00		0.00
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00

Summary for Pond 64P: Biofilt

Inflow Area = 0.019 ac,100.00% Impervious, Inflow Depth = 0.38" for 25-Year event
Inflow = 0.08 cfs @ 0.08 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 0.17 hrs, Volume= 0.000 af, Atten= 100%, Lag= 5.2 min
Discarded = 0.00 cfs @ 0.17 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 197.32' @ 0.17 hrs Surf.Area= 98 sf Storage= 26 cf

Plug-Flow detention time= 89.3 min calculated for 0.000 af (10% of inflow)
Center-of-Mass det. time= 85.8 min (90.8 - 5.0)

Volume	Invert	Avail.Storage	Storage Description
#1	197.00'	435 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

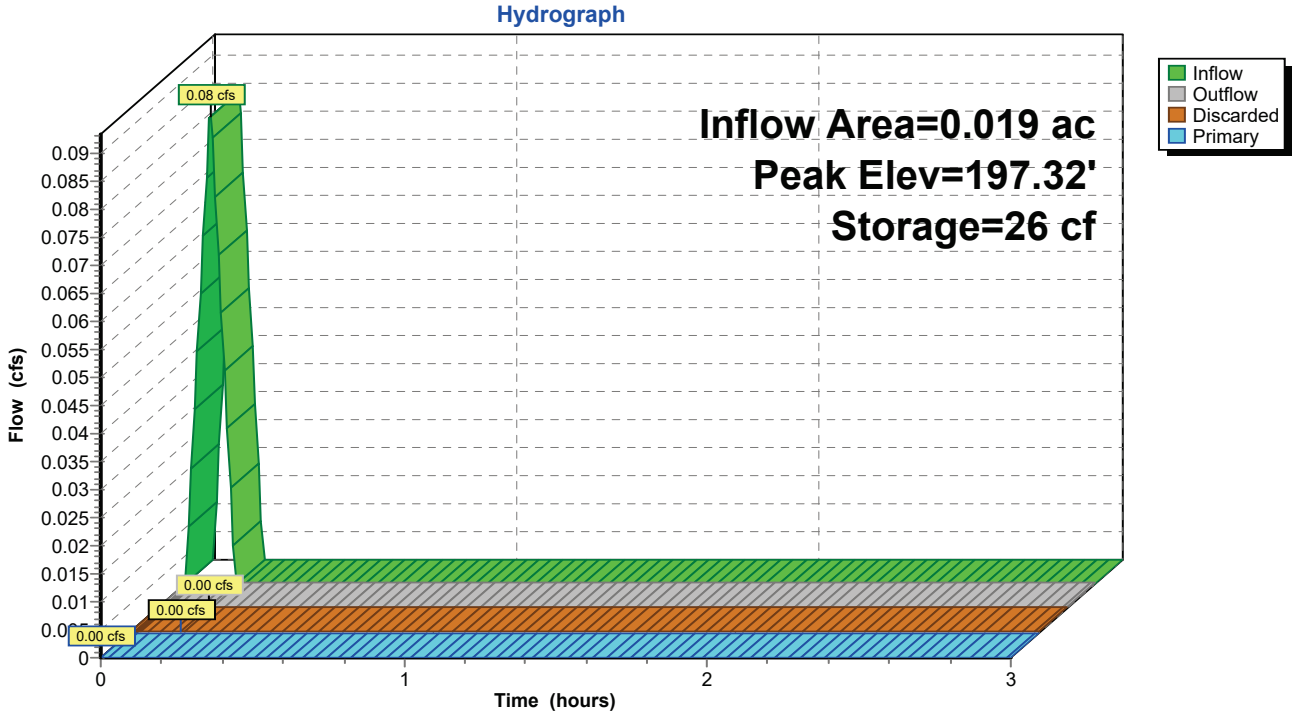
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
197.00	98	0.0	0	0
197.10	98	40.0	4	4
200.00	98	100.0	284	288
201.50	98	100.0	147	435

Device	Routing	Invert	Outlet Devices
#1	Discarded	197.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	201.00'	**6.0" Round Culvert** L= 158.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 198.00' S= 0.0190 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.17 hrs HW=197.32' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=197.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 64P: Biofilt



Hydrograph for Pond 64P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	197.00	0.00	0.00	**0.00**
0.10	**0.07**	**17**	**197.24**	**0.00**	**0.00**	0.00
0.20	0.00	**26**	**197.32**	**0.00**	**0.00**	0.00
0.30	0.00	26	197.32	0.00	0.00	0.00
0.40	0.00	26	197.32	0.00	0.00	0.00
0.50	0.00	25	197.32	0.00	0.00	0.00
0.60	0.00	25	197.32	0.00	0.00	0.00
0.70	0.00	25	197.32	0.00	0.00	0.00
0.80	0.00	25	197.32	0.00	0.00	0.00
0.90	0.00	25	197.32	0.00	0.00	0.00
1.00	0.00	25	197.32	0.00	0.00	0.00
1.10	0.00	25	197.31	0.00	0.00	0.00
1.20	0.00	25	197.31	0.00	0.00	0.00
1.30	0.00	25	197.31	0.00	0.00	0.00
1.40	0.00	25	197.31	0.00	0.00	0.00
1.50	0.00	25	197.31	0.00	0.00	0.00
1.60	0.00	25	197.31	0.00	0.00	0.00
1.70	0.00	24	197.31	0.00	0.00	0.00
1.80	0.00	24	197.31	0.00	0.00	0.00
1.90	0.00	24	197.31	0.00	0.00	0.00
2.00	0.00	24	197.31	0.00	0.00	0.00
2.10	0.00	24	197.31	0.00	0.00	0.00
2.20	0.00	24	197.31	0.00	0.00	0.00
2.30	0.00	24	197.30	0.00	0.00	0.00
2.40	0.00	24	197.30	0.00	0.00	0.00
2.50	0.00	24	197.30	0.00	0.00	0.00
2.60	0.00	24	197.30	0.00	0.00	0.00
2.70	0.00	24	197.30	0.00	0.00	0.00
2.80	0.00	24	197.30	0.00	0.00	0.00
2.90	0.00	23	197.30	0.00	0.00	0.00
3.00	0.00	23	197.30	0.00	0.00	0.00

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment17S: DA 7.1 Runoff Area=63,193 sf 0.00% Impervious Runoff Depth=0.25"
Tc=5.0 min C=0.49 Runoff=4.28 cfs 0.031 af

Subcatchment57S: DA 7.3 Runoff Area=86,100 sf 100.00% Impervious Runoff Depth=0.49"
Tc=5.0 min C=0.95 Runoff=11.31 cfs 0.081 af

Subcatchment63S: DA 7.4 Runoff Area=815 sf 100.00% Impervious Runoff Depth=0.49"
Tc=5.0 min C=0.95 Runoff=0.11 cfs 0.001 af

Subcatchment65S: DA 7.2 Runoff Area=719,383 sf 0.00% Impervious Runoff Depth=0.23"
Tc=5.0 min C=0.45 Runoff=44.76 cfs 0.319 af

Pond 50P: BASIN 7a Peak Elev=197.35' Storage=15,198 cf Inflow=49.76 cfs 0.428 af
Outflow=0.84 cfs 0.202 af

Pond 60P: BIOFILT Peak Elev=199.09' Storage=3,111 cf Inflow=11.31 cfs 0.081 af
Discarded=0.01 cfs 0.002 af Primary=0.87 cfs 0.079 af Outflow=0.88 cfs 0.081 af

Pond 62P: BASIN 7b Inflow=44.76 cfs 0.319 af
Primary=44.76 cfs 0.319 af

Pond 64P: Biofilt Peak Elev=197.40' Storage=33 cf Inflow=0.11 cfs 0.001 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 19.961 ac Runoff Volume = 0.431 af Average Runoff Depth = 0.26"
90.00% Pervious = 17.965 ac 10.00% Impervious = 1.995 ac

Summary for Subcatchment 17S: DA 7.1

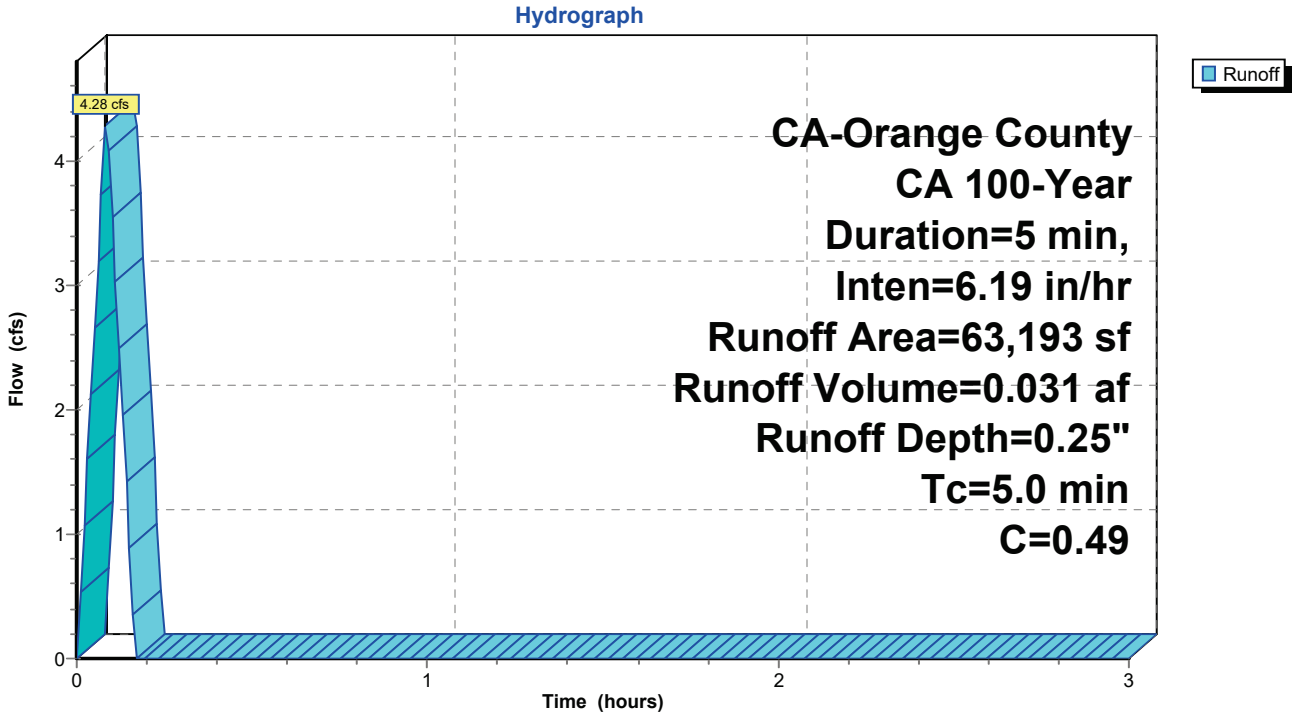
Runoff = 4.28 cfs @ 0.08 hrs, Volume= 0.031 af, Depth= 0.25"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=5 min, Inten=6.19 in/hr

Area (sf)	C	Description
51,321	0.45	>75% Grass cover, Good, HSG C
11,872	0.65	Pervious Pavement
63,193	0.49	Weighted Average
63,193		100.00% Pervious Area

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

Subcatchment 17S: DA 7.1



Hydrograph for Subcatchment 17S: DA 7.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	1.06	1.04	0.00	2.06	0.00
0.04	2.13	1.06	0.00	2.08	0.00
0.06	3.19	1.08	0.00	2.10	0.00
0.08	**4.26**	1.10	0.00	2.12	0.00
0.10	3.55	1.12	0.00	2.14	0.00
0.12	2.48	1.14	0.00	2.16	0.00
0.14	1.42	1.16	0.00	2.18	0.00
0.16	0.35	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 57S: DA 7.3

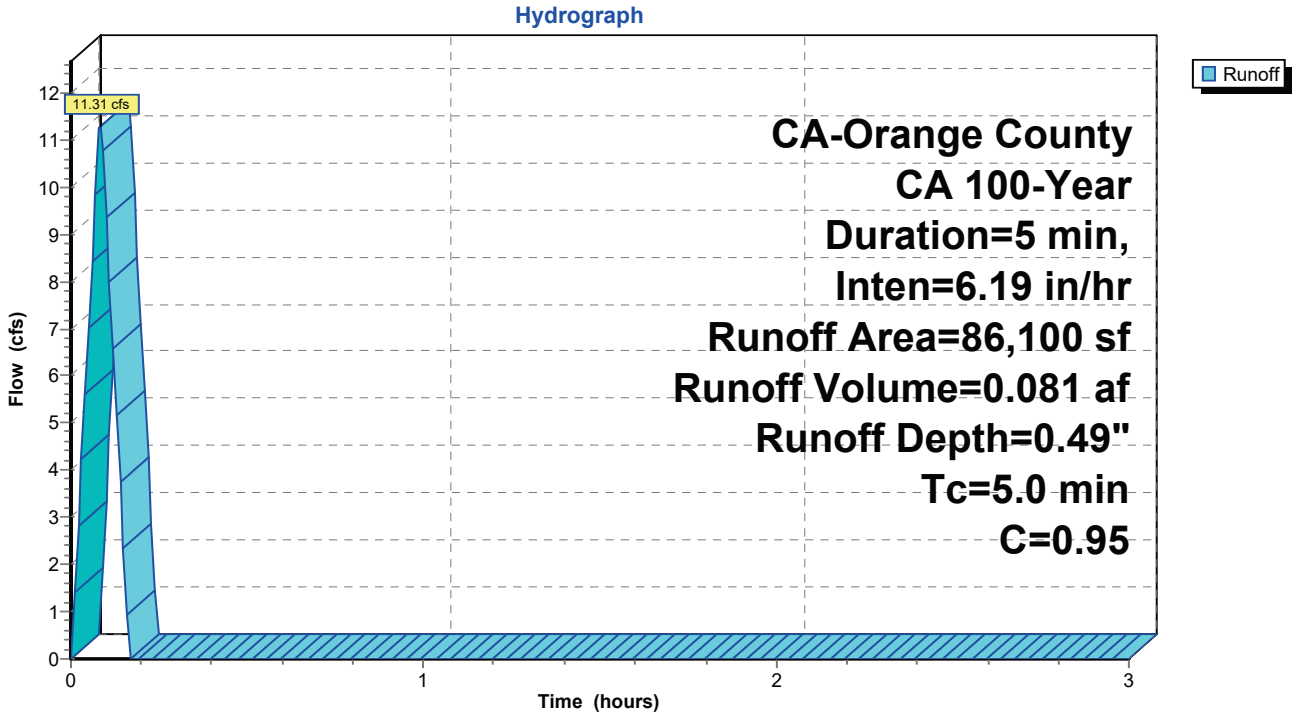
Runoff = 11.31 cfs @ 0.08 hrs, Volume= 0.081 af, Depth= 0.49"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=5 min, Inten=6.19 in/hr

Area (sf)	C	Description
86,100	0.95	Roofs, HSG C
86,100		100.00% Impervious Area

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

Subcatchment 57S: DA 7.3



Hydrograph for Subcatchment 57S: DA 7.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	2.81	1.04	0.00	2.06	0.00
0.04	5.63	1.06	0.00	2.08	0.00
0.06	8.44	1.08	0.00	2.10	0.00
0.08	**11.25**	1.10	0.00	2.12	0.00
0.10	9.38	1.12	0.00	2.14	0.00
0.12	6.56	1.14	0.00	2.16	0.00
0.14	3.75	1.16	0.00	2.18	0.00
0.16	0.94	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 63S: DA 7.4

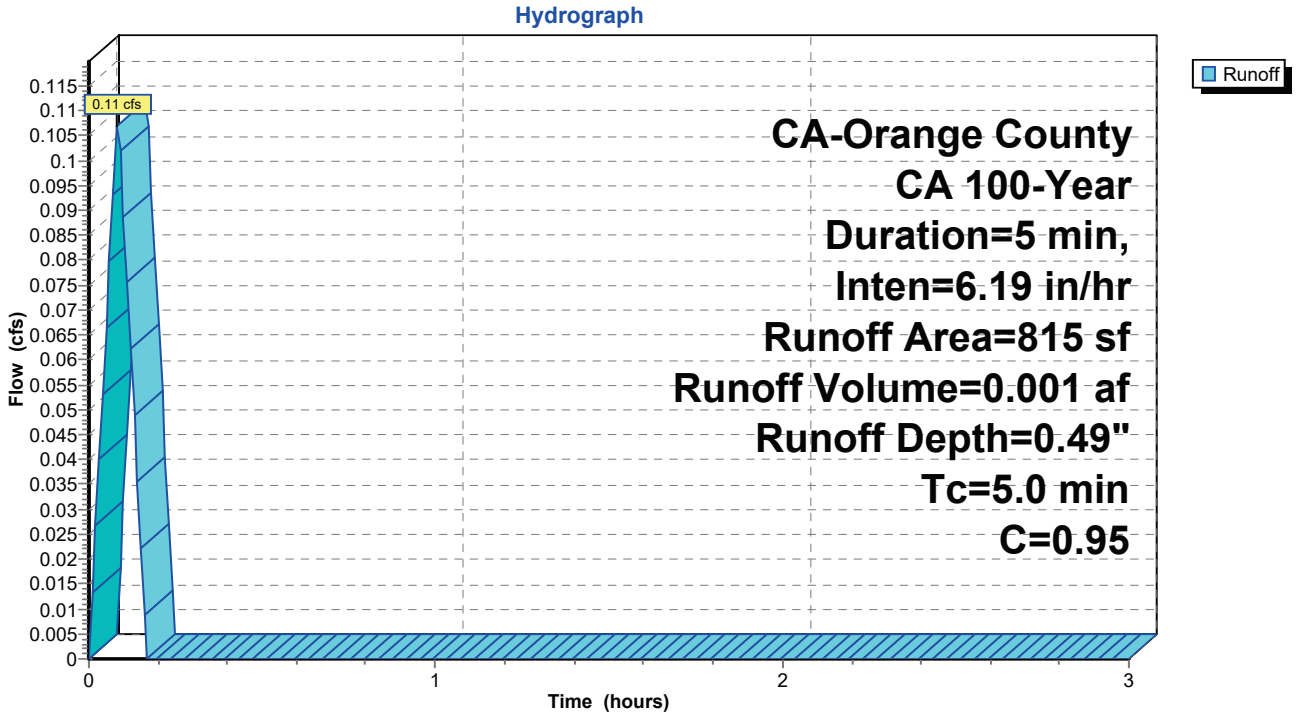
Runoff = 0.11 cfs @ 0.08 hrs, Volume= 0.001 af, Depth= 0.49"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=5 min, Inten=6.19 in/hr

Area (sf)	C	Description
815	0.95	Building
815		100.00% Impervious Area

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

Subcatchment 63S: DA 7.4



Hydrograph for Subcatchment 63S: DA 7.4

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.03	1.04	0.00	2.06	0.00
0.04	0.05	1.06	0.00	2.08	0.00
0.06	0.08	1.08	0.00	2.10	0.00
0.08	**0.11**	1.10	0.00	2.12	0.00
0.10	0.09	1.12	0.00	2.14	0.00
0.12	0.06	1.14	0.00	2.16	0.00
0.14	0.04	1.16	0.00	2.18	0.00
0.16	0.01	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 65S: DA 7.2

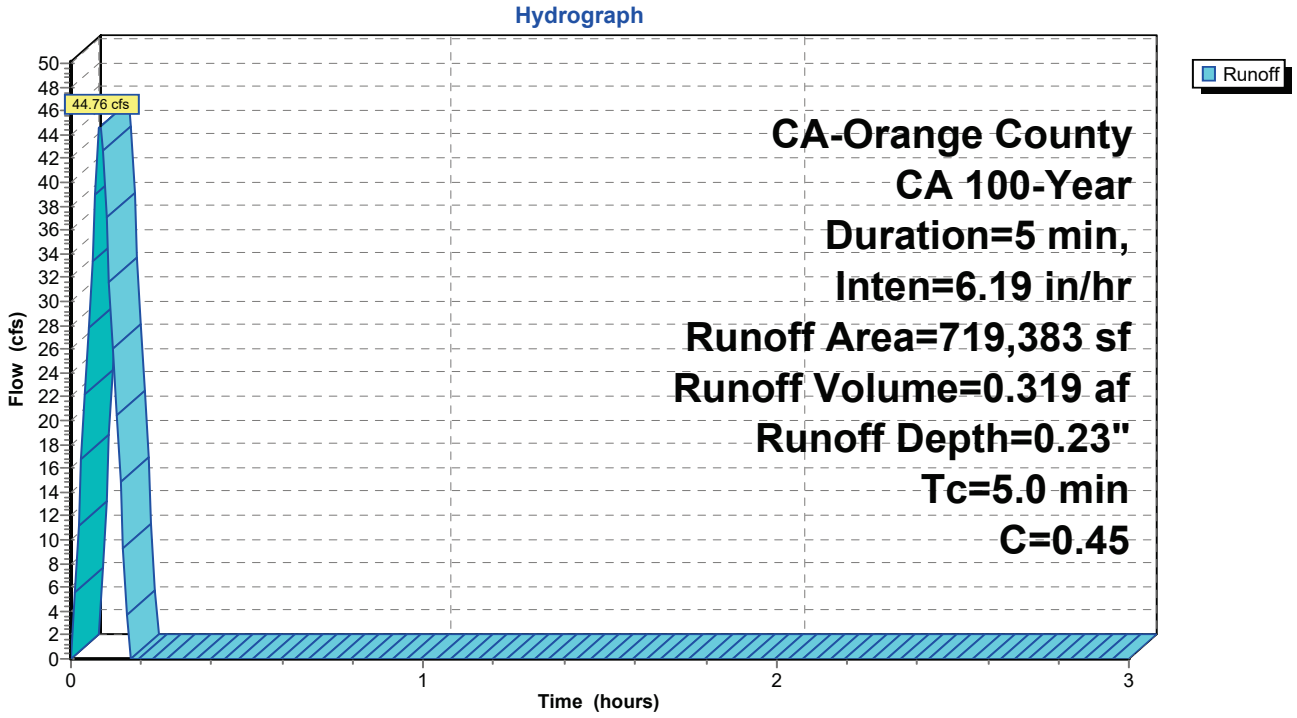
Runoff = 44.76 cfs @ 0.08 hrs, Volume= 0.319 af, Depth= 0.23"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=5 min, Inten=6.19 in/hr

Area (sf)	C	Description
719,383	0.45	>75% Grass cover, Good, HSG C
719,383		100.00% Pervious Area

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

Subcatchment 65S: DA 7.2



Hydrograph for Subcatchment 65S: DA 7.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	11.13	1.04	0.00	2.06	0.00
0.04	22.26	1.06	0.00	2.08	0.00
0.06	33.40	1.08	0.00	2.10	0.00
0.08	**44.53**	1.10	0.00	2.12	0.00
0.10	37.11	1.12	0.00	2.14	0.00
0.12	25.98	1.14	0.00	2.16	0.00
0.14	14.84	1.16	0.00	2.18	0.00
0.16	3.71	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 50P: BASIN 7a

[79] Warning: Submerged Pond 60P Primary device # 1 OUTLET by 1.35'

Inflow Area = 19.961 ac, 10.00% Impervious, Inflow Depth = 0.26" for 100-Year event
Inflow = 49.76 cfs @ 0.08 hrs, Volume= 0.428 af
Outflow = 0.84 cfs @ 0.27 hrs, Volume= 0.202 af, Atten= 98%, Lag= 11.2 min
Discarded = 0.84 cfs @ 0.27 hrs, Volume= 0.202 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 197.35' @ 0.27 hrs Surf.Area= 12,091 sf Storage= 15,198 cf

Plug-Flow detention time= 86.3 min calculated for 0.202 af (47% of inflow)
Center-of-Mass det. time= 78.5 min (89.8 - 11.3)

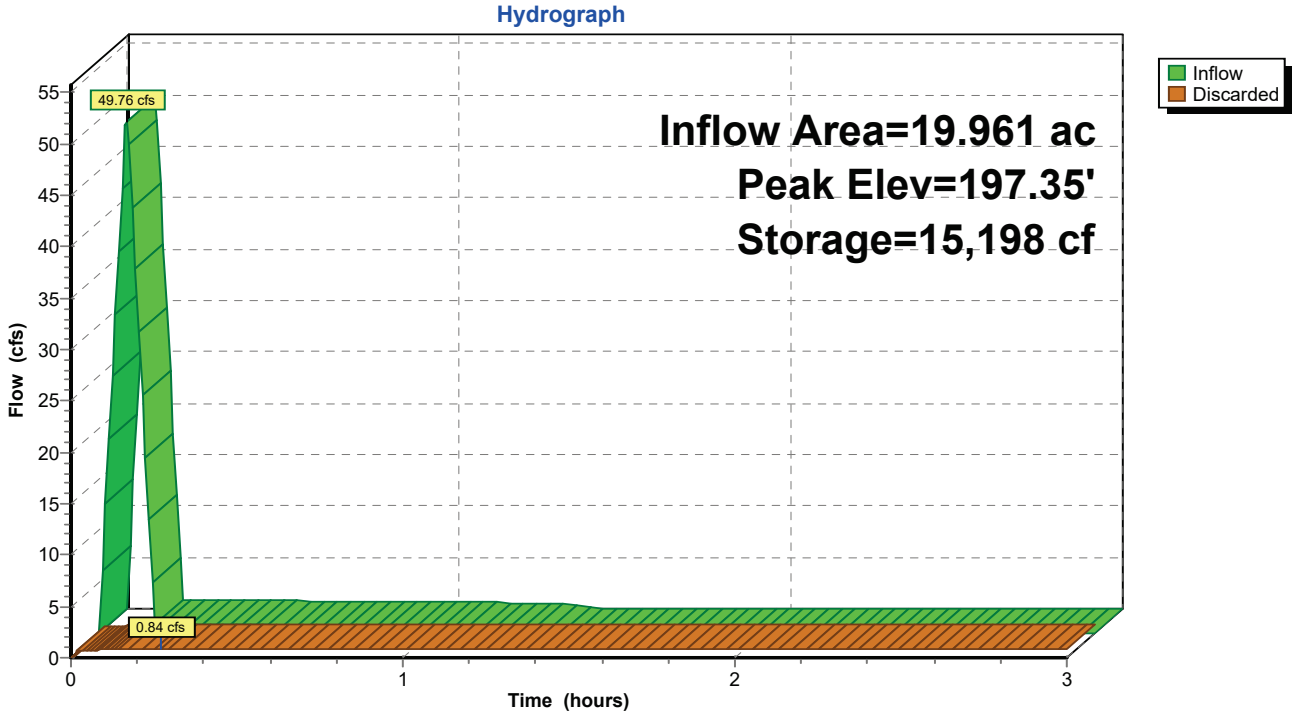
Volume	Invert	Avail.Storage	Storage Description
#1	196.00'	36,915 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
196.00	10,416	0	0
197.00	11,638	11,027	11,027
198.00	12,927	12,283	23,310
199.00	14,284	13,606	36,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	196.00'	**2.800 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.84 cfs @ 0.27 hrs HW=197.35' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.84 cfs)

Pond 50P: BASIN 7a



Hydrograph for Pond 50P: BASIN 7a

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	**0.00**	0	196.00	0.00
0.10	**41.44**	10,285	196.94	0.79
0.20	0.86	**15,196**	**197.35**	**0.84**
0.30	0.83	**15,198**	**197.35**	**0.84**
0.40	0.80	15,190	197.35	0.84
0.50	0.77	15,172	197.35	0.84
0.60	0.75	15,143	197.35	0.84
0.70	0.72	15,105	197.34	0.84
0.80	0.69	15,057	197.34	0.84
0.90	0.66	14,999	197.34	0.84
1.00	0.63	14,932	197.33	0.84
1.10	0.61	14,854	197.32	0.83
1.20	0.58	14,766	197.32	0.83
1.30	0.53	14,668	197.31	0.83
1.40	0.14	14,498	197.29	0.83
1.50	0.02	14,223	197.27	0.83
1.60	0.00	13,929	197.25	0.82
1.70	0.00	13,634	197.22	0.82
1.80	0.00	13,338	197.20	0.82
1.90	0.00	13,044	197.17	0.82
2.00	0.00	12,751	197.15	0.81
2.10	0.00	12,459	197.12	0.81
2.20	0.00	12,169	197.10	0.81
2.30	0.00	11,879	197.07	0.80
2.40	0.00	11,590	197.05	0.80
2.50	0.00	11,303	197.02	0.80
2.60	0.00	11,017	197.00	0.79
2.70	0.00	10,731	196.97	0.79
2.80	0.00	10,447	196.95	0.79
2.90	0.00	10,164	196.93	0.78
3.00	0.00	9,882	196.90	0.78

Summary for Pond 60P: BIOFILT

[44] Hint: Outlet device #1 is below defined storage
[79] Warning: Submerged Pond 64P Primary device # 2 OUTLET by 1.09'

Inflow Area = 1.995 ac,100.00% Impervious, Inflow Depth = 0.48" for 100-Year event
Inflow = 11.31 cfs @ 0.08 hrs, Volume= 0.081 af
Outflow = 0.88 cfs @ 0.16 hrs, Volume= 0.081 af, Atten= 92%, Lag= 4.7 min
Discarded = 0.01 cfs @ 0.16 hrs, Volume= 0.002 af
Primary = 0.87 cfs @ 0.16 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 199.09' @ 0.16 hrs Surf.Area= 5,853 sf Storage= 3,111 cf

Plug-Flow detention time= 34.1 min calculated for 0.080 af (100% of inflow)
Center-of-Mass det. time= 34.2 min (39.2 - 5.0)

Volume	Invert	Avail.Storage	Storage Description
#1	198.50'	25,987 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

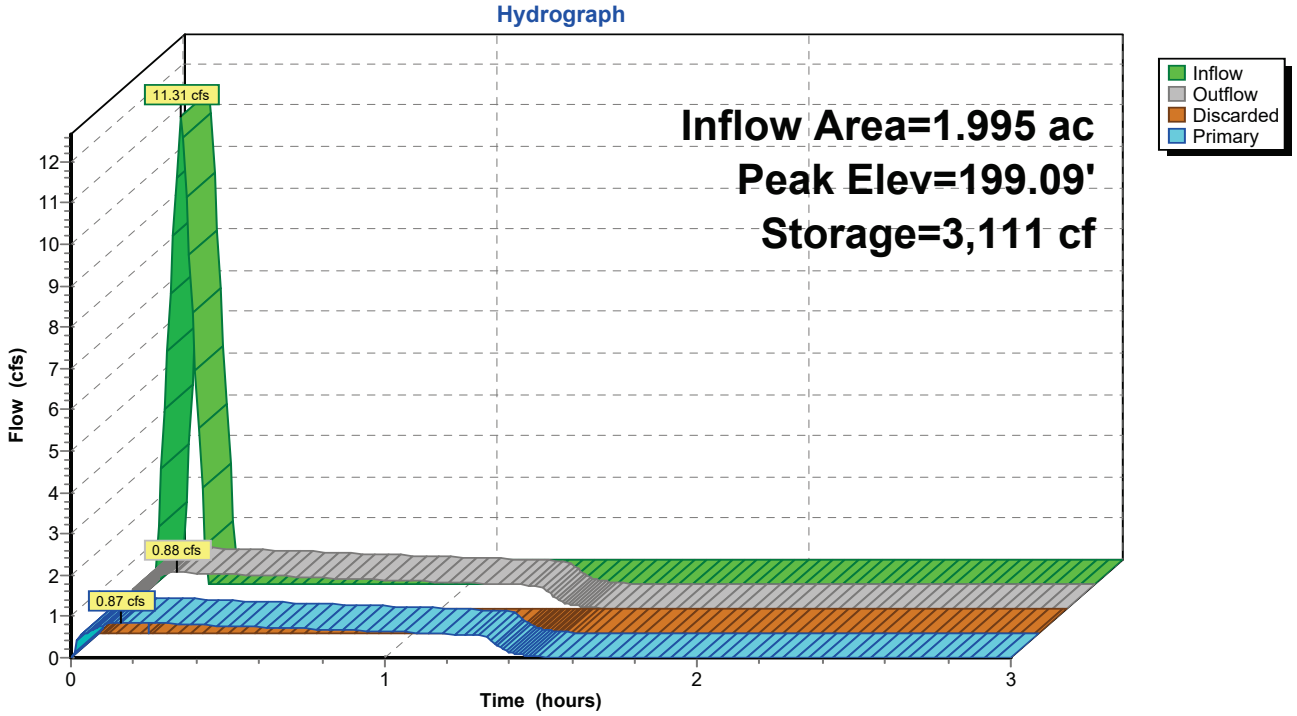
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
198.50	5,853	0.0	0	0
198.60	5,853	40.0	234	234
201.50	5,853	100.0	16,974	17,208
203.00	5,853	100.0	8,780	25,987

Device	Routing	Invert	Outlet Devices
#1	Primary	198.00'	**6.0" Round Culvert** L= 52.0' Ke= 0.500 Inlet / Outlet Invert= 198.00' / 196.00' S= 0.0385 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Discarded	198.50'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.01 cfs @ 0.16 hrs HW=199.09' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.87 cfs @ 0.16 hrs HW=199.09' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.87 cfs @ 4.42 fps)

Pond 60P: BIOFILT



Hydrograph for Pond 60P: BIOFILT

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	198.50	0.00	0.00	0.00
0.10	**9.38**	**2,180**	**198.93**	**0.79**	**0.01**	**0.78**
0.20	0.00	**3,001**	**199.07**	**0.87**	**0.01**	**0.86**
0.30	0.00	2,692	199.02	0.84	0.01	0.83
0.40	0.00	2,393	198.97	0.82	0.01	0.80
0.50	0.00	2,105	198.92	0.79	0.01	0.77
0.60	0.00	1,827	198.87	0.76	0.01	0.75
0.70	0.00	1,558	198.83	0.73	0.01	0.72
0.80	0.00	1,300	198.78	0.70	0.01	0.69
0.90	0.00	1,052	198.74	0.68	0.01	0.66
1.00	0.00	814	198.70	0.65	0.01	0.63
1.10	0.00	586	198.66	0.62	0.01	0.61
1.20	0.00	368	198.62	0.59	0.01	0.58
1.30	0.00	162	198.57	0.55	0.01	0.53
1.40	0.00	29	198.51	0.15	0.00	0.14
1.50	0.00	5	198.50	0.02	0.00	0.02
1.60	0.00	1	198.50	0.00	0.00	0.00
1.70	0.00	0	198.50	0.00	0.00	0.00
1.80	0.00	0	198.50	0.00	0.00	0.00
1.90	0.00	0	198.50	0.00	0.00	0.00
2.00	0.00	0	198.50	0.00	0.00	0.00
2.10	0.00	0	198.50	0.00	0.00	0.00
2.20	0.00	0	198.50	0.00	0.00	0.00
2.30	0.00	0	198.50	0.00	0.00	0.00
2.40	0.00	0	198.50	0.00	0.00	0.00
2.50	0.00	0	198.50	0.00	0.00	0.00
2.60	0.00	0	198.50	0.00	0.00	0.00
2.70	0.00	0	198.50	0.00	0.00	0.00
2.80	0.00	0	198.50	0.00	0.00	0.00
2.90	0.00	0	198.50	0.00	0.00	0.00
3.00	0.00	0	198.50	0.00	0.00	0.00

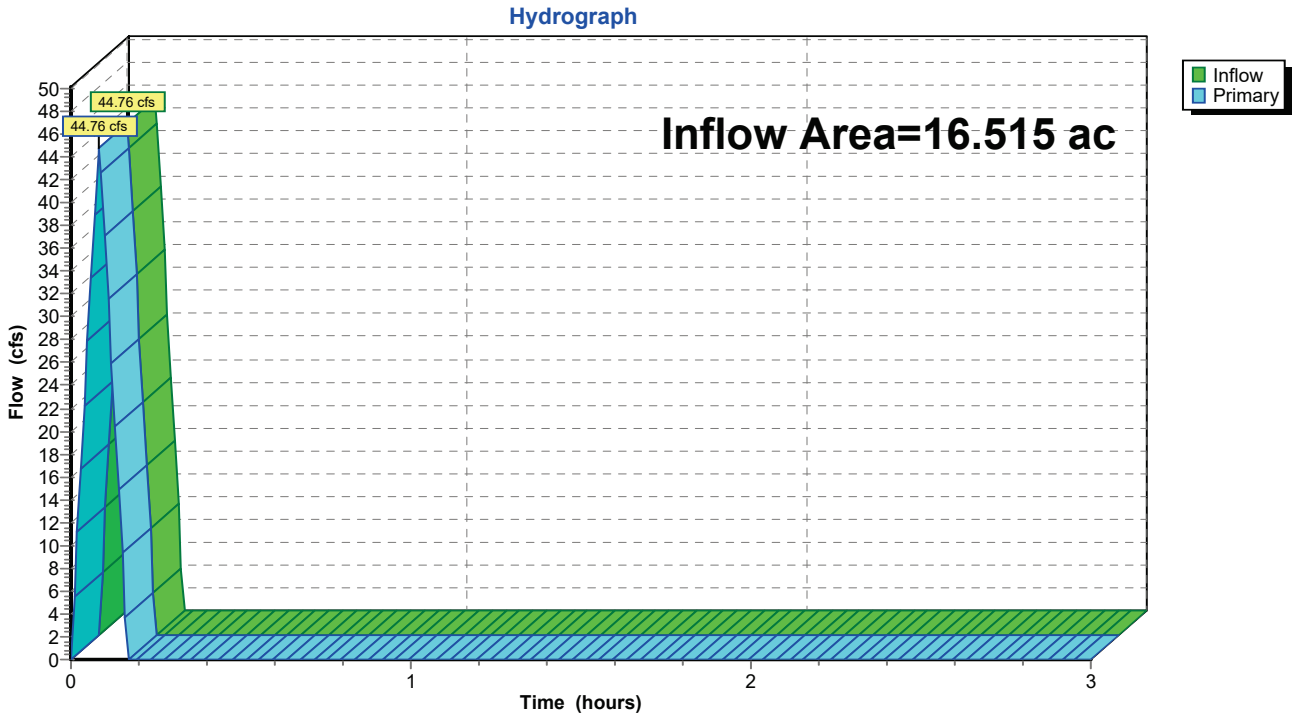
Summary for Pond 62P: BASIN 7b

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 16.515 ac, 0.00% Impervious, Inflow Depth = 0.23" for 100-Year event
Inflow = 44.76 cfs @ 0.08 hrs, Volume= 0.319 af
Primary = 44.76 cfs @ 0.08 hrs, Volume= 0.319 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 62P: BASIN 7b



Hydrograph for Pond 62P: BASIN 7b

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.05	**27.83**		**27.83**
0.10	**37.11**		**37.11**
0.15	9.28		9.28
0.20	0.00		0.00
0.25	0.00		0.00
0.30	0.00		0.00
0.35	0.00		0.00
0.40	0.00		0.00
0.45	0.00		0.00
0.50	0.00		0.00
0.55	0.00		0.00
0.60	0.00		0.00
0.65	0.00		0.00
0.70	0.00		0.00
0.75	0.00		0.00
0.80	0.00		0.00
0.85	0.00		0.00
0.90	0.00		0.00
0.95	0.00		0.00
1.00	0.00		0.00
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00

Summary for Pond 64P: Biofilt

Inflow Area = 0.019 ac,100.00% Impervious, Inflow Depth = 0.49" for 100-Year event
Inflow = 0.11 cfs @ 0.08 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 0.17 hrs, Volume= 0.000 af, Atten= 100%, Lag= 5.2 min
Discarded = 0.00 cfs @ 0.17 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 197.40' @ 0.17 hrs Surf.Area= 98 sf Storage= 33 cf

Plug-Flow detention time= 89.4 min calculated for 0.000 af (7% of inflow)
Center-of-Mass det. time= 85.7 min (90.7 - 5.0)

Volume	Invert	Avail.Storage	Storage Description
#1	197.00'	435 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

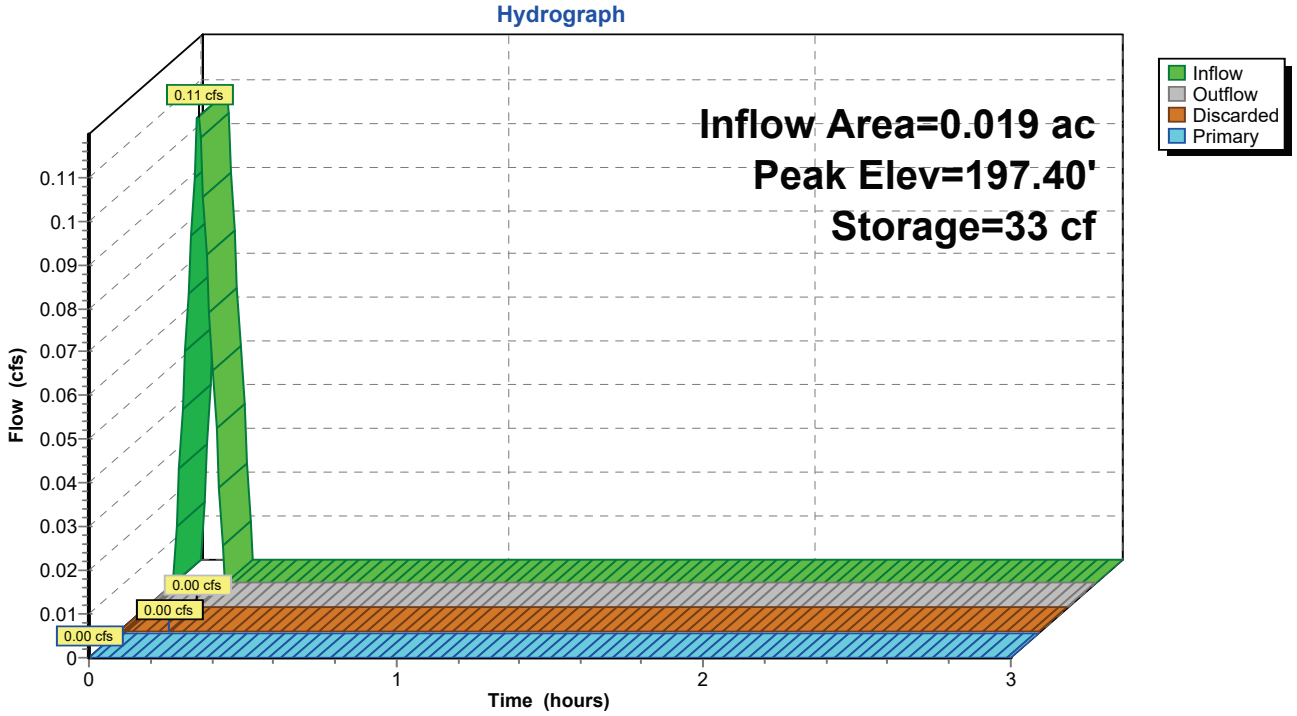
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
197.00	98	0.0	0	0
197.10	98	40.0	4	4
200.00	98	100.0	284	288
201.50	98	100.0	147	435

Device	Routing	Invert	Outlet Devices
#1	Discarded	197.00'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'
#2	Primary	201.00'	**6.0" Round Culvert** L= 158.0' Ke= 0.500 Inlet / Outlet Invert= 201.00' / 198.00' S= 0.0190 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf

Discarded OutFlow Max=0.00 cfs @ 0.17 hrs HW=197.40' (Free Discharge)
↑**1=Exfiltration** (Controls 0.00 cfs)

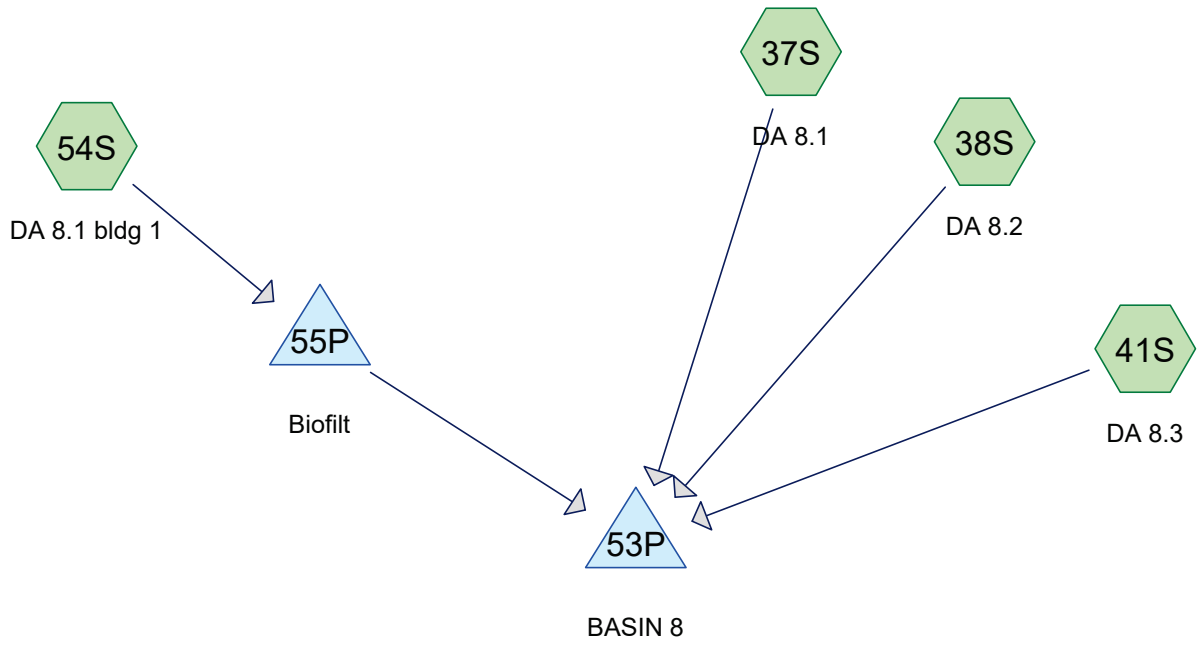
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=197.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 64P: Biofilt



Hydrograph for Pond 64P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	197.00	0.00	0.00	**0.00**
0.10	**0.09**	**22**	**197.29**	**0.00**	**0.00**	0.00
0.20	0.00	**33**	**197.40**	**0.00**	**0.00**	0.00
0.30	0.00	33	197.40	0.00	0.00	0.00
0.40	0.00	33	197.40	0.00	0.00	0.00
0.50	0.00	33	197.39	0.00	0.00	0.00
0.60	0.00	33	197.39	0.00	0.00	0.00
0.70	0.00	33	197.39	0.00	0.00	0.00
0.80	0.00	33	197.39	0.00	0.00	0.00
0.90	0.00	32	197.39	0.00	0.00	0.00
1.00	0.00	32	197.39	0.00	0.00	0.00
1.10	0.00	32	197.39	0.00	0.00	0.00
1.20	0.00	32	197.39	0.00	0.00	0.00
1.30	0.00	32	197.39	0.00	0.00	0.00
1.40	0.00	32	197.39	0.00	0.00	0.00
1.50	0.00	32	197.39	0.00	0.00	0.00
1.60	0.00	32	197.39	0.00	0.00	0.00
1.70	0.00	32	197.38	0.00	0.00	0.00
1.80	0.00	32	197.38	0.00	0.00	0.00
1.90	0.00	32	197.38	0.00	0.00	0.00
2.00	0.00	32	197.38	0.00	0.00	0.00
2.10	0.00	31	197.38	0.00	0.00	0.00
2.20	0.00	31	197.38	0.00	0.00	0.00
2.30	0.00	31	197.38	0.00	0.00	0.00
2.40	0.00	31	197.38	0.00	0.00	0.00
2.50	0.00	31	197.38	0.00	0.00	0.00
2.60	0.00	31	197.38	0.00	0.00	0.00
2.70	0.00	31	197.38	0.00	0.00	0.00
2.80	0.00	31	197.38	0.00	0.00	0.00
2.90	0.00	31	197.37	0.00	0.00	0.00
3.00	0.00	31	197.37	0.00	0.00	0.00



Subcat Reach Pond Link

Routing Diagram for 23001 - Basin 8
Prepared by C3 Civil Engineering, Printed 5/19/2026
HydroCAD® 10.10-5a s/n 11911 © 2020 HydroCAD Software Solutions LLC

23001 - Basin 8

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	55P	193.50	192.00	50.0	0.0300	0.010	0.0	6.0	0.0

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment37S: DA 8.1 Runoff Area=74,582 sf 0.00% Impervious Runoff Depth=0.26"
Tc=11.5 min C=0.45 Runoff=2.29 cfs 0.038 af

Subcatchment38S: DA 8.2 Runoff Area=79,940 sf 0.00% Impervious Runoff Depth=0.24"
Tc=14.4 min C=0.49 Runoff=2.22 cfs 0.037 af

Subcatchment41S: DA 8.3 Runoff Area=36,558 sf 0.00% Impervious Runoff Depth=0.28"
Tc=12.4 min C=0.49 Runoff=1.18 cfs 0.019 af

Subcatchment54S: DA 8.1 bldg 1 Runoff Area=3,600 sf 100.00% Impervious Runoff Depth=0.56"
Tc=5.0 min C=0.95 Runoff=0.23 cfs 0.004 af

Pond 53P: BASIN 8 Peak Elev=191.39' Storage=3,575 cf Inflow=5.69 cfs 0.094 af
Outflow=0.44 cfs 0.093 af

Pond 55P: Biofilt Peak Elev=190.04' Storage=167 cf Inflow=0.23 cfs 0.004 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 4.469 ac Runoff Volume = 0.098 af Average Runoff Depth = 0.26"
98.15% Pervious = 4.387 ac 1.85% Impervious = 0.083 ac

Summary for Subcatchment 37S: DA 8.1

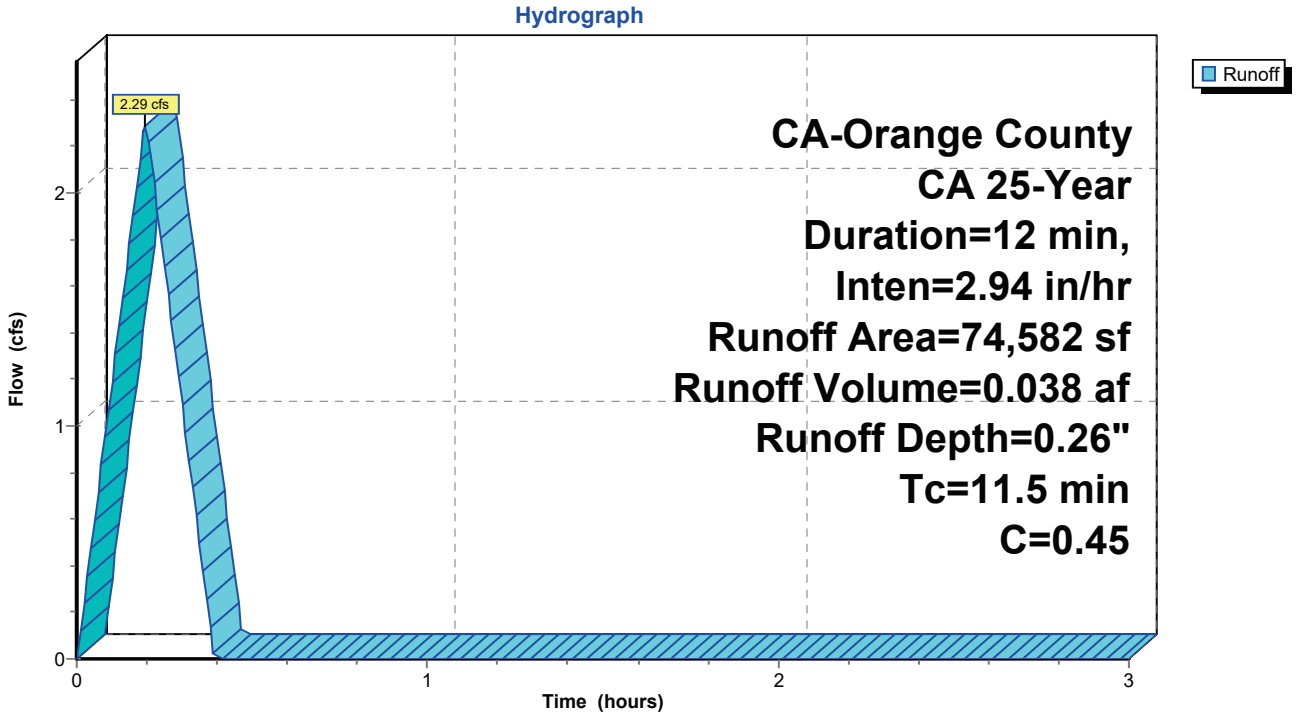
Runoff = 2.29 cfs @ 0.20 hrs, Volume= 0.038 af, Depth= 0.26"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
74,582	0.45	>75% Grass cover, Good, HSG C
74,582		100.00% Pervious Area

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

Subcatchment 37S: DA 8.1



Hydrograph for Subcatchment 37S: DA 8.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.24	1.04	0.00	2.06	0.00
0.04	0.48	1.06	0.00	2.08	0.00
0.06	0.71	1.08	0.00	2.10	0.00
0.08	0.95	1.10	0.00	2.12	0.00
0.10	1.19	1.12	0.00	2.14	0.00
0.12	1.43	1.14	0.00	2.16	0.00
0.14	1.67	1.16	0.00	2.18	0.00
0.16	1.91	1.18	0.00	2.20	0.00
0.18	2.14	1.20	0.00	2.22	0.00
0.20	**2.28**	1.22	0.00	2.24	0.00
0.22	2.05	1.24	0.00	2.26	0.00
0.24	1.81	1.26	0.00	2.28	0.00
0.26	1.57	1.28	0.00	2.30	0.00
0.28	1.33	1.30	0.00	2.32	0.00
0.30	1.09	1.32	0.00	2.34	0.00
0.32	0.85	1.34	0.00	2.36	0.00
0.34	0.62	1.36	0.00	2.38	0.00
0.36	0.38	1.38	0.00	2.40	0.00
0.38	0.14	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 38S: DA 8.2

[48] Hint: Peak<CiA due to short duration

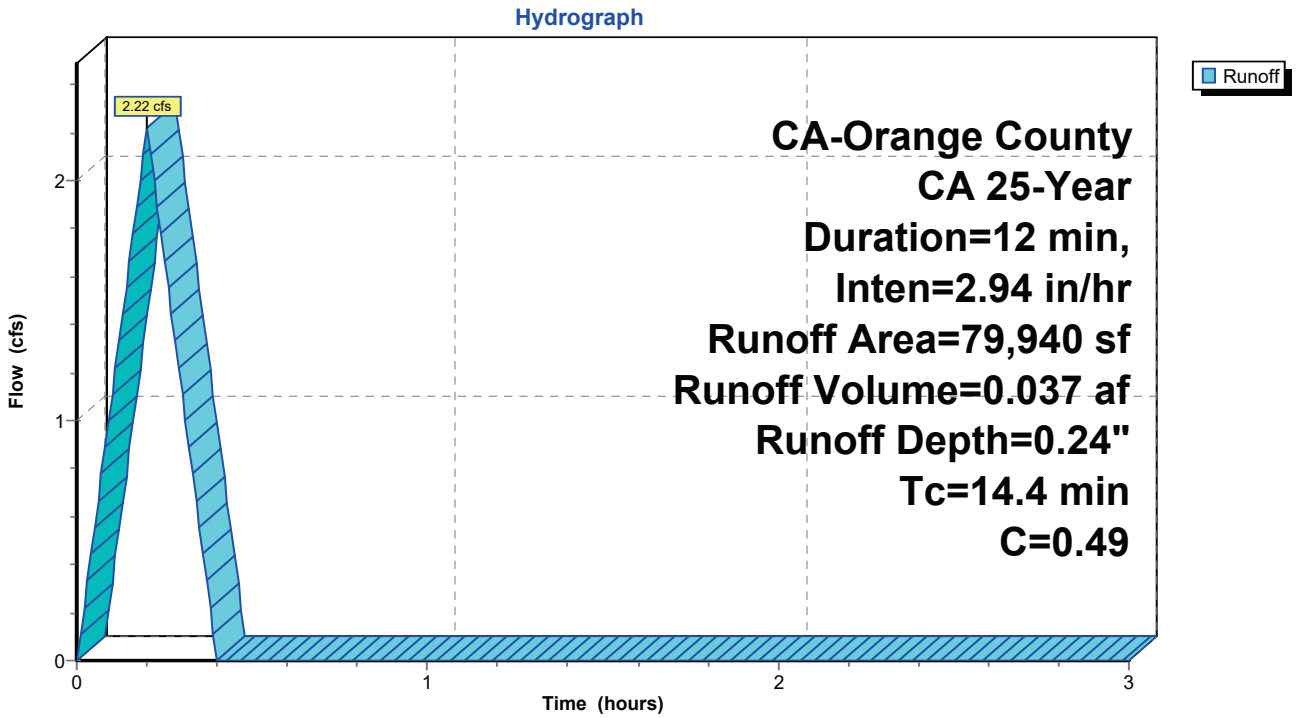
Runoff = 2.22 cfs @ 0.20 hrs, Volume= 0.037 af, Depth= 0.24"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
9,721	0.45	>75% Grass cover, Good, HSG C
70,219	0.50	Pervious asphalt
79,940	0.49	Weighted Average
79,940		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4					**Direct Entry, 20.3**

Subcatchment 38S: DA 8.2



Hydrograph for Subcatchment 38S: DA 8.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.22	1.04	0.00	2.06	0.00
0.04	0.44	1.06	0.00	2.08	0.00
0.06	0.67	1.08	0.00	2.10	0.00
0.08	0.89	1.10	0.00	2.12	0.00
0.10	1.11	1.12	0.00	2.14	0.00
0.12	1.33	1.14	0.00	2.16	0.00
0.14	1.55	1.16	0.00	2.18	0.00
0.16	1.78	1.18	0.00	2.20	0.00
0.18	2.00	1.20	0.00	2.22	0.00
0.20	**2.22**	1.22	0.00	2.24	0.00
0.22	2.00	1.24	0.00	2.26	0.00
0.24	1.78	1.26	0.00	2.28	0.00
0.26	1.55	1.28	0.00	2.30	0.00
0.28	1.33	1.30	0.00	2.32	0.00
0.30	1.11	1.32	0.00	2.34	0.00
0.32	0.89	1.34	0.00	2.36	0.00
0.34	0.67	1.36	0.00	2.38	0.00
0.36	0.44	1.38	0.00	2.40	0.00
0.38	0.22	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 41S: DA 8.3

[48] Hint: Peak<CiA due to short duration

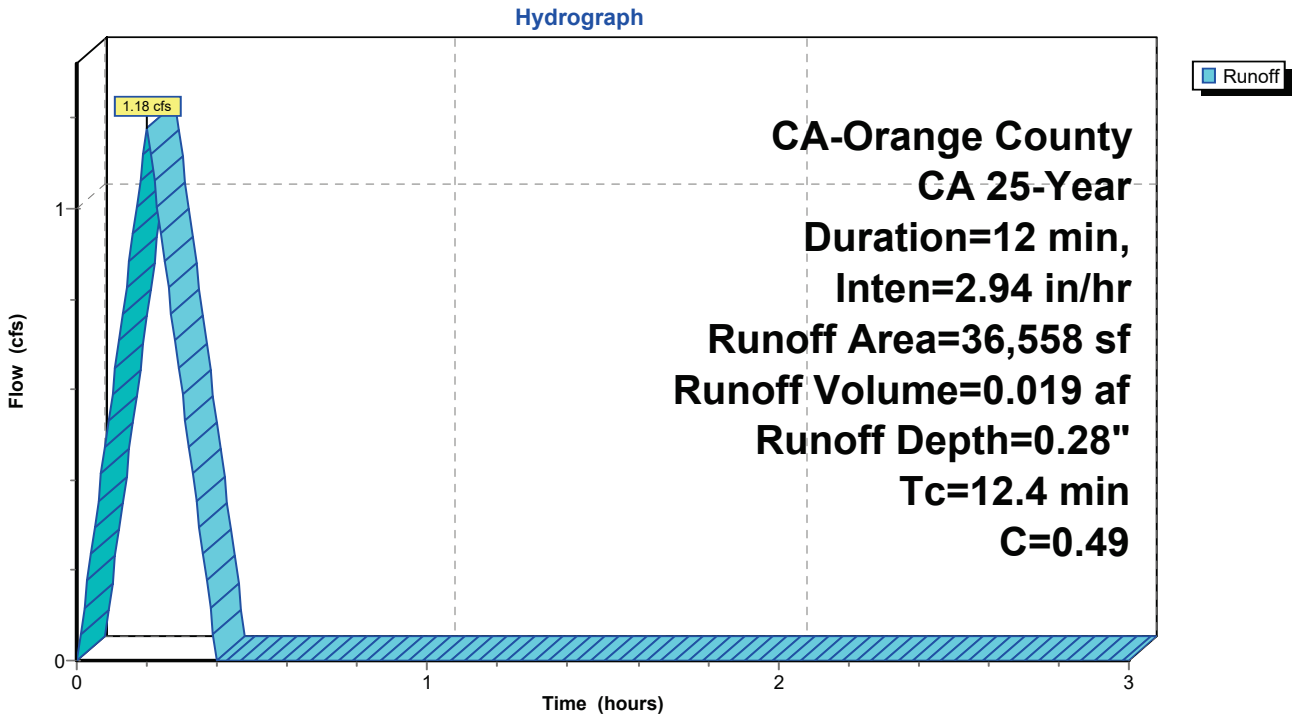
Runoff = 1.18 cfs @ 0.20 hrs, Volume= 0.019 af, Depth= 0.28"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
6,288	0.45	>75% Grass cover, Good, HSG C
30,270	0.50	Pervious asphalt
36,558	0.49	Weighted Average
36,558		100.00% Pervious Area

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

Subcatchment 41S: DA 8.3



Hydrograph for Subcatchment 41S: DA 8.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.12	1.04	0.00	2.06	0.00
0.04	0.24	1.06	0.00	2.08	0.00
0.06	0.35	1.08	0.00	2.10	0.00
0.08	0.47	1.10	0.00	2.12	0.00
0.10	0.59	1.12	0.00	2.14	0.00
0.12	0.71	1.14	0.00	2.16	0.00
0.14	0.83	1.16	0.00	2.18	0.00
0.16	0.94	1.18	0.00	2.20	0.00
0.18	1.06	1.20	0.00	2.22	0.00
0.20	**1.18**	1.22	0.00	2.24	0.00
0.22	1.06	1.24	0.00	2.26	0.00
0.24	0.94	1.26	0.00	2.28	0.00
0.26	0.83	1.28	0.00	2.30	0.00
0.28	0.71	1.30	0.00	2.32	0.00
0.30	0.59	1.32	0.00	2.34	0.00
0.32	0.47	1.34	0.00	2.36	0.00
0.34	0.35	1.36	0.00	2.38	0.00
0.36	0.24	1.38	0.00	2.40	0.00
0.38	0.12	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 54S: DA 8.1 bldg 1

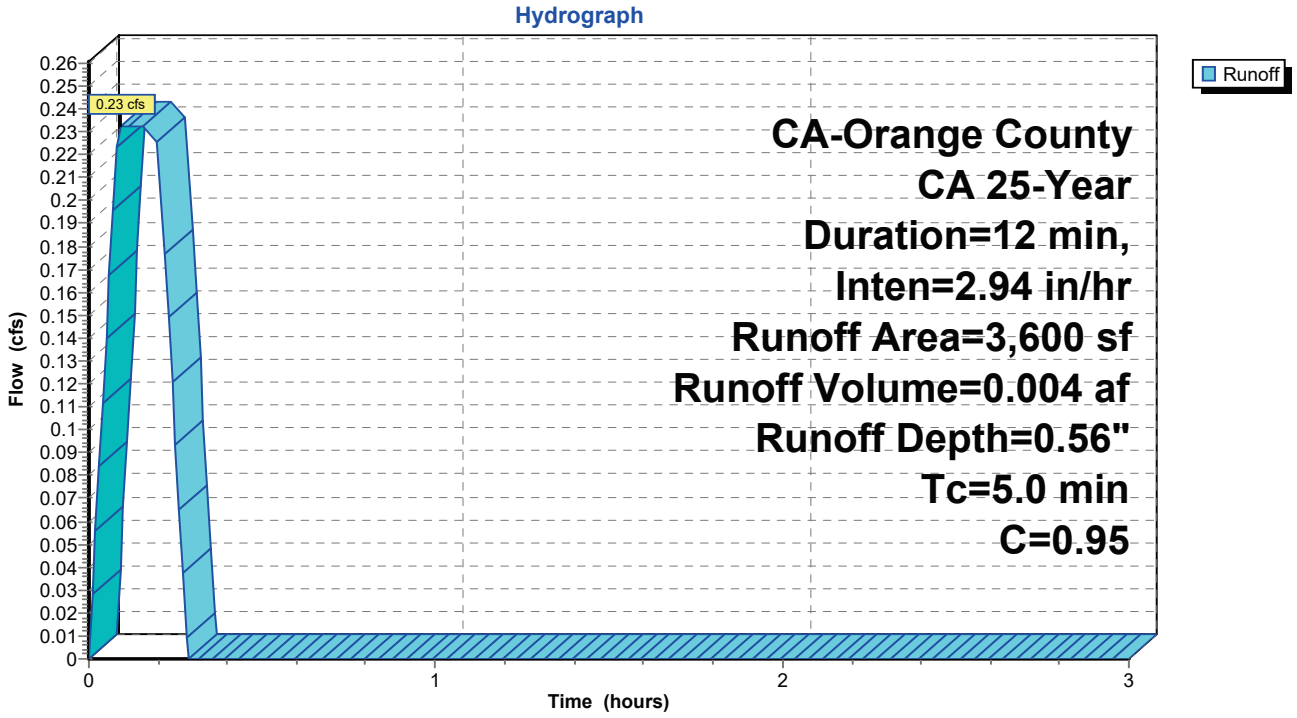
Runoff = 0.23 cfs @ 0.09 hrs, Volume= 0.004 af, Depth= 0.56"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=12 min, Inten=2.94 in/hr

Area (sf)	C	Description
3,600	0.95	Building
3,600		100.00% Impervious Area

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

Subcatchment 54S: DA 8.1 bldg 1



Hydrograph for Subcatchment 54S: DA 8.1 bldg 1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.06	1.04	0.00	2.06	0.00
0.04	0.11	1.06	0.00	2.08	0.00
0.06	0.17	1.08	0.00	2.10	0.00
0.08	**0.22**	1.10	0.00	2.12	0.00
0.10	**0.23**	1.12	0.00	2.14	0.00
0.12	0.23	1.14	0.00	2.16	0.00
0.14	0.23	1.16	0.00	2.18	0.00
0.16	0.23	1.18	0.00	2.20	0.00
0.18	0.23	1.20	0.00	2.22	0.00
0.20	0.23	1.22	0.00	2.24	0.00
0.22	0.18	1.24	0.00	2.26	0.00
0.24	0.12	1.26	0.00	2.28	0.00
0.26	0.07	1.28	0.00	2.30	0.00
0.28	0.01	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 53P: BASIN 8

Inflow Area = 4.469 ac, 1.85% Impervious, Inflow Depth = 0.25" for 25-Year event
Inflow = 5.69 cfs @ 0.20 hrs, Volume= 0.094 af
Outflow = 0.44 cfs @ 0.38 hrs, Volume= 0.093 af, Atten= 92%, Lag= 10.9 min
Discarded = 0.44 cfs @ 0.38 hrs, Volume= 0.093 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 191.39' @ 0.38 hrs Surf.Area= 9,435 sf Storage= 3,575 cf

Plug-Flow detention time= 70.9 min calculated for 0.093 af (99% of inflow)
Center-of-Mass det. time= 70.9 min (82.8 - 11.9)

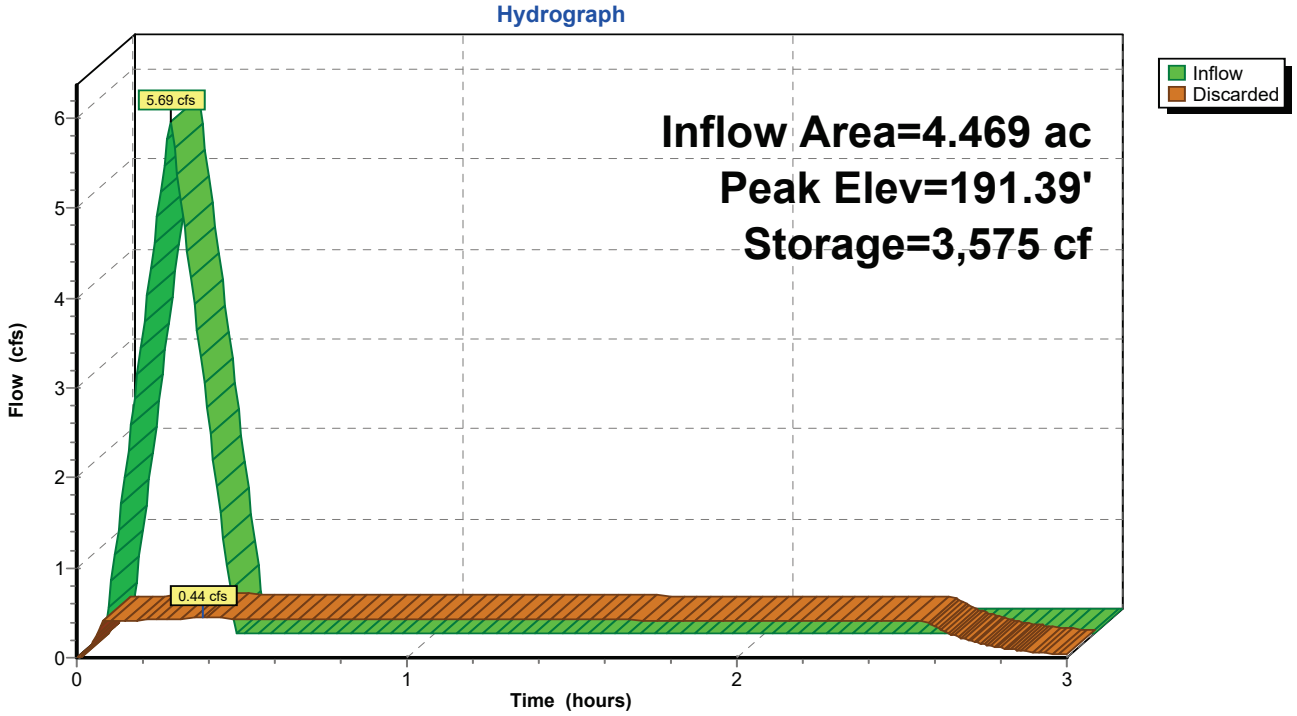
Volume	Invert	Avail.Storage	Storage Description
#1	191.00'	34,923 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
191.00	8,677	0	0
192.00	10,597	9,637	9,637
193.00	12,618	11,608	21,245
194.00	14,738	13,678	34,923

Device	Routing	Invert	Outlet Devices
#1	Discarded	191.00'	**2.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 130.00'

Discarded OutFlow Max=0.44 cfs @ 0.38 hrs HW=191.39' (Free Discharge)
↑**1=Exfiltration** (Controls 0.44 cfs)

Pond 53P: BASIN 8



Hydrograph for Pond 53P: BASIN 8

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	191.00	0.00
0.10	2.89	447	191.05	0.41
0.20	**5.68**	1,858	191.21	0.42
0.30	2.79	**3,230**	**191.36**	**0.44**
0.40	0.00	**3,558**	**191.39**	**0.44**
0.50	0.00	3,400	191.38	0.44
0.60	0.00	3,243	191.36	0.44
0.70	0.00	3,086	191.34	0.43
0.80	0.00	2,930	191.33	0.43
0.90	0.00	2,775	191.31	0.43
1.00	0.00	2,620	191.29	0.43
1.10	0.00	2,465	191.28	0.43
1.20	0.00	2,312	191.26	0.43
1.30	0.00	2,158	191.24	0.42
1.40	0.00	2,006	191.23	0.42
1.50	0.00	1,854	191.21	0.42
1.60	0.00	1,702	191.19	0.42
1.70	0.00	1,551	191.18	0.42
1.80	0.00	1,401	191.16	0.42
1.90	0.00	1,251	191.14	0.42
2.00	0.00	1,102	191.13	0.41
2.10	0.00	953	191.11	0.41
2.20	0.00	805	191.09	0.41
2.30	0.00	658	191.08	0.41
2.40	0.00	511	191.06	0.41
2.50	0.00	364	191.04	0.41
2.60	0.00	222	191.03	0.34
2.70	0.00	127	191.01	0.20
2.80	0.00	73	191.01	0.11
2.90	0.00	42	191.00	0.06
3.00	0.00	24	191.00	0.04

Summary for Pond 55P: Biofilt

Inflow Area = 0.083 ac,100.00% Impervious, Inflow Depth = 0.56" for 25-Year event
Inflow = 0.23 cfs @ 0.09 hrs, Volume= 0.004 af
Outflow = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af, Atten= 100%, Lag= 12.2 min
Discarded = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 190.04' @ 0.29 hrs Surf.Area= 348 sf Storage= 167 cf

Plug-Flow detention time= 89.3 min calculated for 0.000 af (5% of inflow)
Center-of-Mass det. time= 82.5 min (91.0 - 8.5)

Volume	Invert	Avail.Storage	Storage Description
#1	189.50'	1,545 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

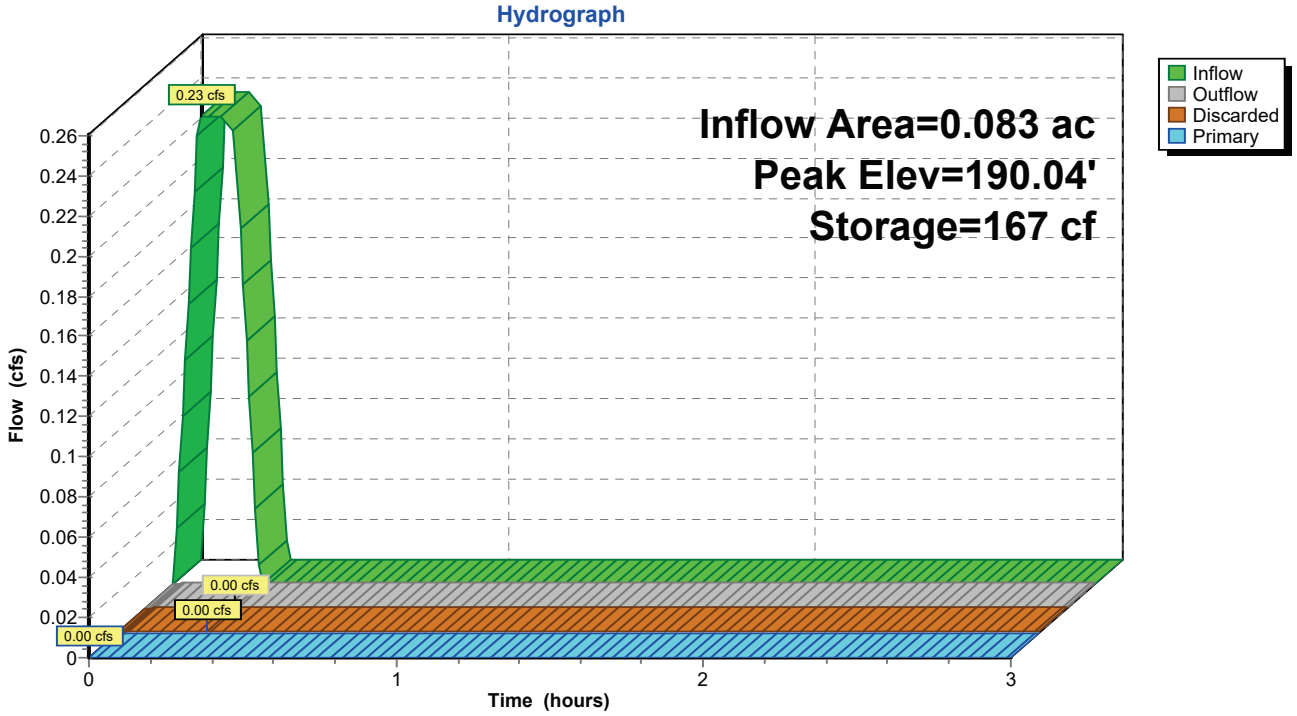
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
189.50	348	0.0	0	0
189.60	348	40.0	14	14
192.50	348	100.0	1,009	1,023
194.00	348	100.0	522	1,545

Device	Routing	Invert	Outlet Devices
#1	Primary	193.50'	**6.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 193.50' / 192.00' S= 0.0300 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	189.50'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.00 cfs @ 0.29 hrs HW=190.04' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=189.50' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Pond 55P: Biofilt



Hydrograph for Pond 55P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	189.50	0.00	0.00	**0.00**
0.10	**0.23**	49	189.70	0.00	0.00	0.00
0.20	0.23	**132**	**189.94**	**0.00**	**0.00**	0.00
0.30	0.00	**167**	**190.04**	**0.00**	**0.00**	0.00
0.40	0.00	166	190.04	0.00	0.00	0.00
0.50	0.00	166	190.04	0.00	0.00	0.00
0.60	0.00	166	190.04	0.00	0.00	0.00
0.70	0.00	166	190.04	0.00	0.00	0.00
0.80	0.00	165	190.03	0.00	0.00	0.00
0.90	0.00	165	190.03	0.00	0.00	0.00
1.00	0.00	165	190.03	0.00	0.00	0.00
1.10	0.00	164	190.03	0.00	0.00	0.00
1.20	0.00	164	190.03	0.00	0.00	0.00
1.30	0.00	164	190.03	0.00	0.00	0.00
1.40	0.00	163	190.03	0.00	0.00	0.00
1.50	0.00	163	190.03	0.00	0.00	0.00
1.60	0.00	163	190.03	0.00	0.00	0.00
1.70	0.00	162	190.03	0.00	0.00	0.00
1.80	0.00	162	190.03	0.00	0.00	0.00
1.90	0.00	162	190.03	0.00	0.00	0.00
2.00	0.00	162	190.02	0.00	0.00	0.00
2.10	0.00	161	190.02	0.00	0.00	0.00
2.20	0.00	161	190.02	0.00	0.00	0.00
2.30	0.00	161	190.02	0.00	0.00	0.00
2.40	0.00	160	190.02	0.00	0.00	0.00
2.50	0.00	160	190.02	0.00	0.00	0.00
2.60	0.00	160	190.02	0.00	0.00	0.00
2.70	0.00	159	190.02	0.00	0.00	0.00
2.80	0.00	159	190.02	0.00	0.00	0.00
2.90	0.00	159	190.02	0.00	0.00	0.00
3.00	0.00	159	190.02	0.00	0.00	0.00

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment37S: DA 8.1 Runoff Area=74,582 sf 0.00% Impervious Runoff Depth=0.36"
Tc=11.5 min C=0.45 Runoff=3.08 cfs 0.051 af

Subcatchment38S: DA 8.2 Runoff Area=79,940 sf 0.00% Impervious Runoff Depth=0.32"
Tc=14.4 min C=0.49 Runoff=2.98 cfs 0.049 af

Subcatchment41S: DA 8.3 Runoff Area=36,558 sf 0.00% Impervious Runoff Depth=0.37"
Tc=12.4 min C=0.49 Runoff=1.58 cfs 0.026 af

Subcatchment54S: DA 8.1 bldg 1 Runoff Area=3,600 sf 100.00% Impervious Runoff Depth=0.75"
Tc=5.0 min C=0.95 Runoff=0.31 cfs 0.005 af

Pond 53P: BASIN 8 Peak Elev=191.54' Storage=4,953 cf Inflow=7.63 cfs 0.126 af
Outflow=0.45 cfs 0.106 af

Pond 55P: Biofilt Peak Elev=190.20' Storage=224 cf Inflow=0.31 cfs 0.005 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 4.469 ac Runoff Volume = 0.131 af Average Runoff Depth = 0.35"
98.15% Pervious = 4.387 ac 1.85% Impervious = 0.083 ac

Summary for Subcatchment 37S: DA 8.1

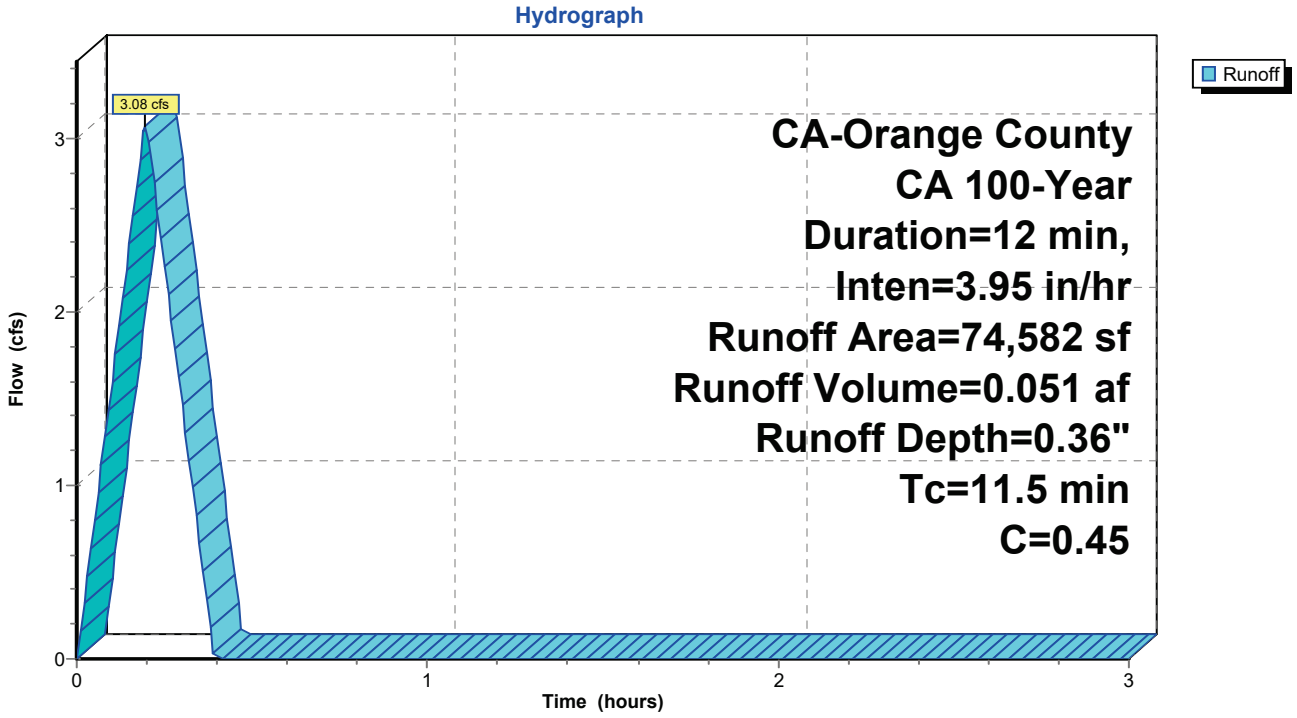
Runoff = 3.08 cfs @ 0.20 hrs, Volume= 0.051 af, Depth= 0.36"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
74,582	0.45	>75% Grass cover, Good, HSG C
74,582		100.00% Pervious Area

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

Subcatchment 37S: DA 8.1



Hydrograph for Subcatchment 37S: DA 8.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.32	1.04	0.00	2.06	0.00
0.04	0.64	1.06	0.00	2.08	0.00
0.06	0.96	1.08	0.00	2.10	0.00
0.08	1.28	1.10	0.00	2.12	0.00
0.10	1.60	1.12	0.00	2.14	0.00
0.12	1.92	1.14	0.00	2.16	0.00
0.14	2.24	1.16	0.00	2.18	0.00
0.16	2.56	1.18	0.00	2.20	0.00
0.18	2.88	1.20	0.00	2.22	0.00
0.20	**3.07**	1.22	0.00	2.24	0.00
0.22	2.75	1.24	0.00	2.26	0.00
0.24	2.43	1.26	0.00	2.28	0.00
0.26	2.11	1.28	0.00	2.30	0.00
0.28	1.79	1.30	0.00	2.32	0.00
0.30	1.47	1.32	0.00	2.34	0.00
0.32	1.15	1.34	0.00	2.36	0.00
0.34	0.83	1.36	0.00	2.38	0.00
0.36	0.51	1.38	0.00	2.40	0.00
0.38	0.19	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 38S: DA 8.2

[48] Hint: Peak<CiA due to short duration

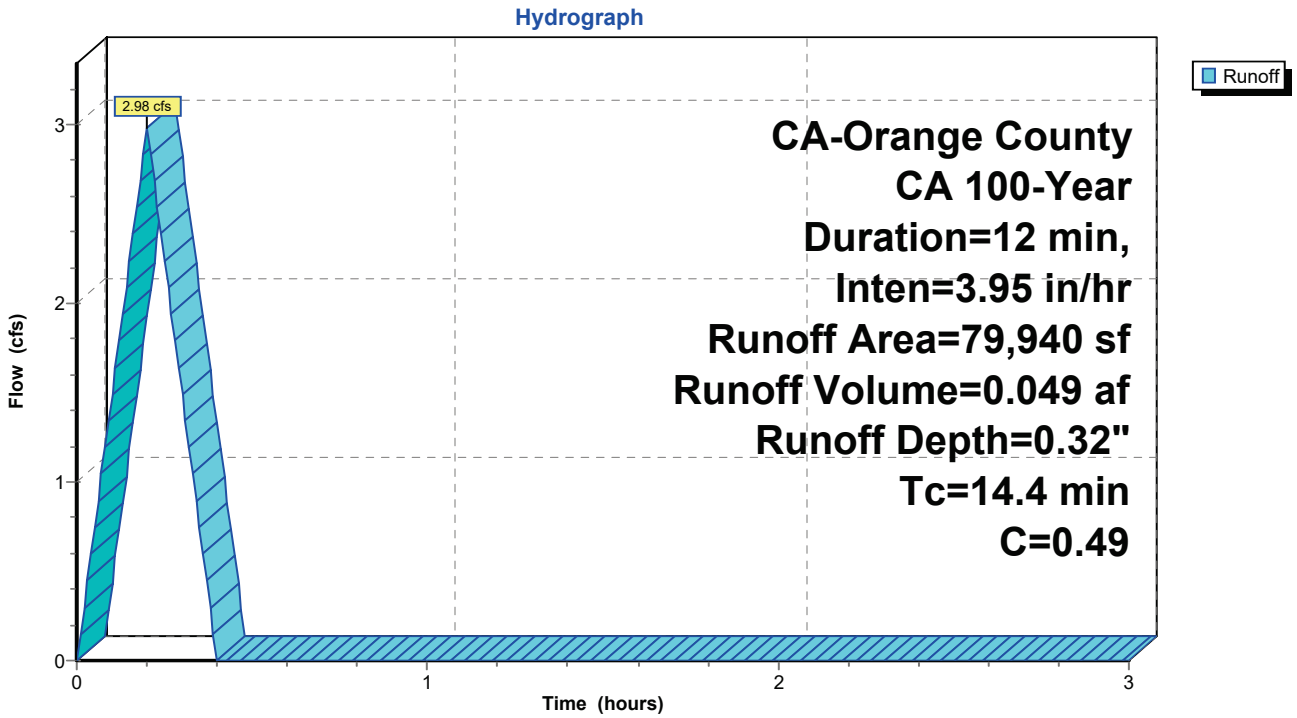
Runoff = 2.98 cfs @ 0.20 hrs, Volume= 0.049 af, Depth= 0.32"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
9,721	0.45	>75% Grass cover, Good, HSG C
70,219	0.50	Pervious asphalt
79,940	0.49	Weighted Average
79,940		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4					**Direct Entry, 20.3**

Subcatchment 38S: DA 8.2



Hydrograph for Subcatchment 38S: DA 8.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.30	1.04	0.00	2.06	0.00
0.04	0.60	1.06	0.00	2.08	0.00
0.06	0.89	1.08	0.00	2.10	0.00
0.08	1.19	1.10	0.00	2.12	0.00
0.10	1.49	1.12	0.00	2.14	0.00
0.12	1.79	1.14	0.00	2.16	0.00
0.14	2.09	1.16	0.00	2.18	0.00
0.16	2.39	1.18	0.00	2.20	0.00
0.18	2.68	1.20	0.00	2.22	0.00
0.20	**2.98**	1.22	0.00	2.24	0.00
0.22	2.68	1.24	0.00	2.26	0.00
0.24	2.39	1.26	0.00	2.28	0.00
0.26	2.09	1.28	0.00	2.30	0.00
0.28	1.79	1.30	0.00	2.32	0.00
0.30	1.49	1.32	0.00	2.34	0.00
0.32	1.19	1.34	0.00	2.36	0.00
0.34	0.89	1.36	0.00	2.38	0.00
0.36	0.60	1.38	0.00	2.40	0.00
0.38	0.30	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 41S: DA 8.3

[48] Hint: Peak<CiA due to short duration

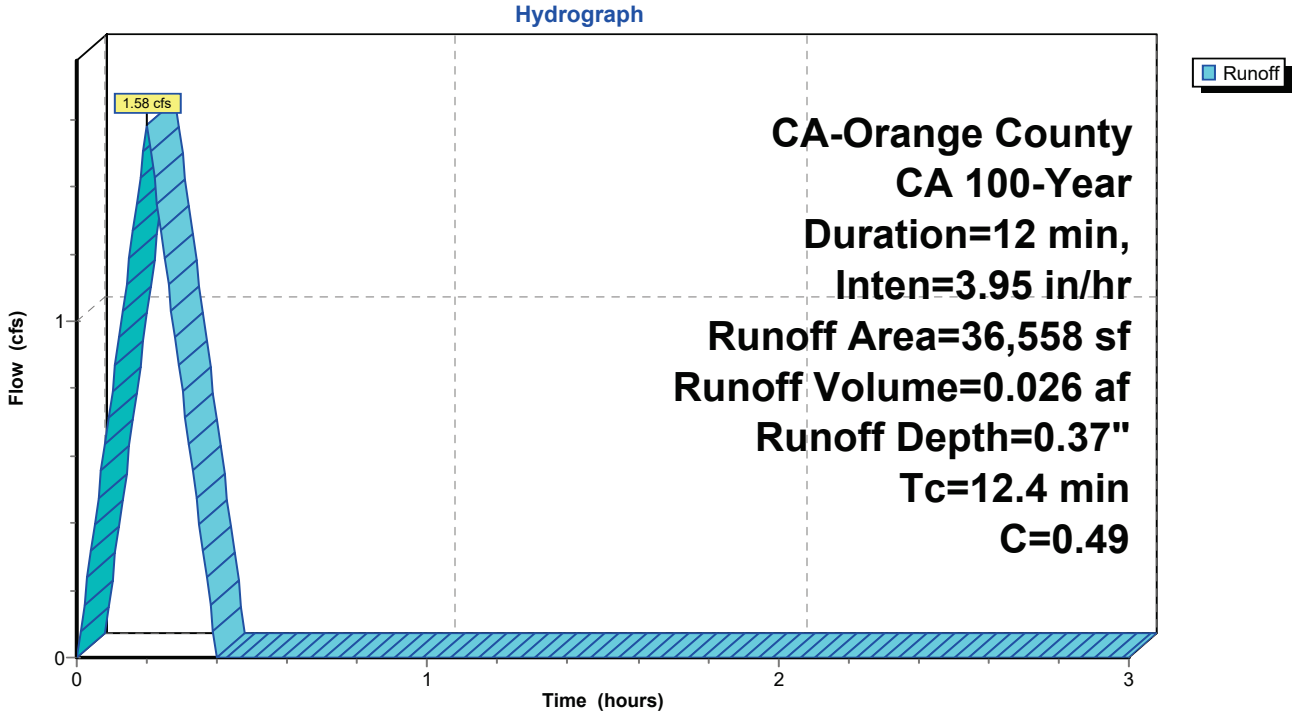
Runoff = 1.58 cfs @ 0.20 hrs, Volume= 0.026 af, Depth= 0.37"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
6,288	0.45	>75% Grass cover, Good, HSG C
30,270	0.50	Pervious asphalt
36,558	0.49	Weighted Average
36,558		100.00% Pervious Area

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

Subcatchment 41S: DA 8.3



Hydrograph for Subcatchment 41S: DA 8.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.16	1.04	0.00	2.06	0.00
0.04	0.32	1.06	0.00	2.08	0.00
0.06	0.48	1.08	0.00	2.10	0.00
0.08	0.63	1.10	0.00	2.12	0.00
0.10	0.79	1.12	0.00	2.14	0.00
0.12	0.95	1.14	0.00	2.16	0.00
0.14	1.11	1.16	0.00	2.18	0.00
0.16	1.27	1.18	0.00	2.20	0.00
0.18	1.43	1.20	0.00	2.22	0.00
0.20	**1.58**	1.22	0.00	2.24	0.00
0.22	1.43	1.24	0.00	2.26	0.00
0.24	1.27	1.26	0.00	2.28	0.00
0.26	1.11	1.28	0.00	2.30	0.00
0.28	0.95	1.30	0.00	2.32	0.00
0.30	0.79	1.32	0.00	2.34	0.00
0.32	0.63	1.34	0.00	2.36	0.00
0.34	0.48	1.36	0.00	2.38	0.00
0.36	0.32	1.38	0.00	2.40	0.00
0.38	0.16	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 54S: DA 8.1 bldg 1

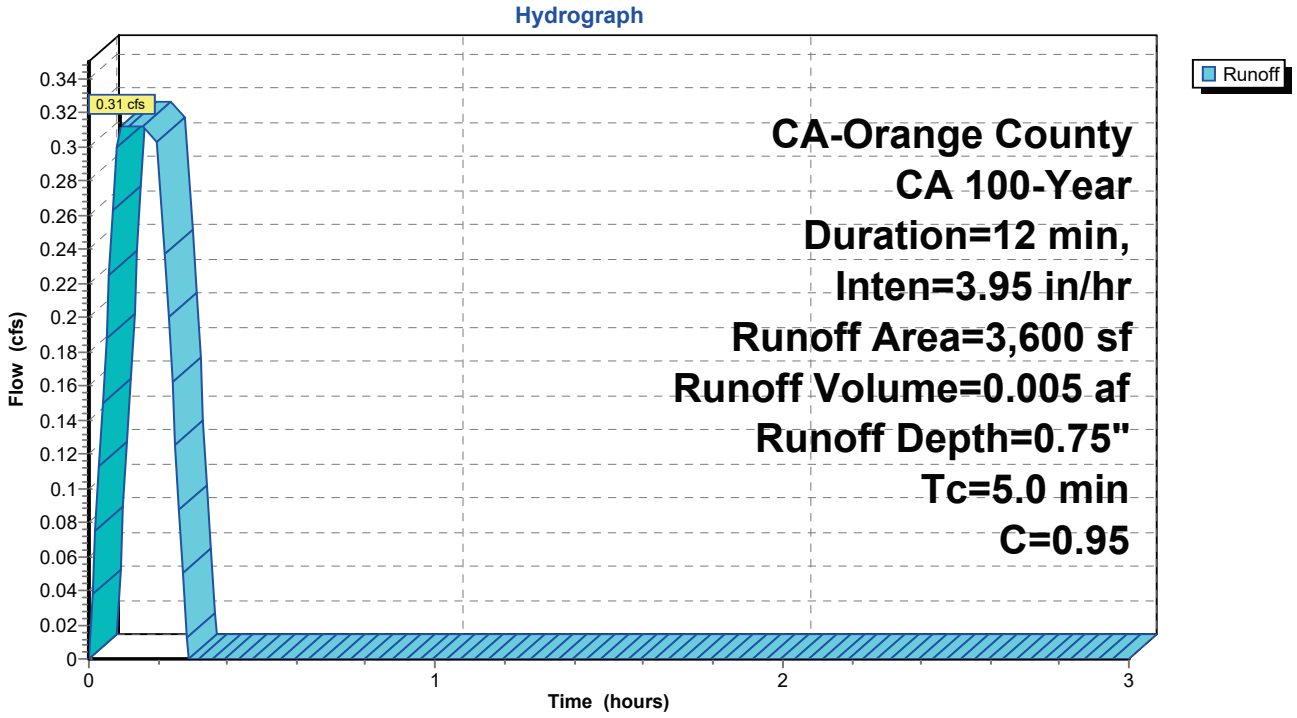
Runoff = 0.31 cfs @ 0.09 hrs, Volume= 0.005 af, Depth= 0.75"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=12 min, Inten=3.95 in/hr

Area (sf)	C	Description
3,600	0.95	Building
3,600		100.00% Impervious Area

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

Subcatchment 54S: DA 8.1 bldg 1



Hydrograph for Subcatchment 54S: DA 8.1 bldg 1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	0.07	1.04	0.00	2.06	0.00
0.04	0.15	1.06	0.00	2.08	0.00
0.06	0.22	1.08	0.00	2.10	0.00
0.08	**0.30**	1.10	0.00	2.12	0.00
0.10	**0.31**	1.12	0.00	2.14	0.00
0.12	0.31	1.14	0.00	2.16	0.00
0.14	0.31	1.16	0.00	2.18	0.00
0.16	0.31	1.18	0.00	2.20	0.00
0.18	0.31	1.20	0.00	2.22	0.00
0.20	0.31	1.22	0.00	2.24	0.00
0.22	0.24	1.24	0.00	2.26	0.00
0.24	0.16	1.26	0.00	2.28	0.00
0.26	0.09	1.28	0.00	2.30	0.00
0.28	0.01	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Pond 53P: BASIN 8

Inflow Area = 4.469 ac, 1.85% Impervious, Inflow Depth = 0.34" for 100-Year event
Inflow = 7.63 cfs @ 0.20 hrs, Volume= 0.126 af
Outflow = 0.45 cfs @ 0.38 hrs, Volume= 0.106 af, Atten= 94%, Lag= 11.2 min
Discarded = 0.45 cfs @ 0.38 hrs, Volume= 0.106 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 191.54' @ 0.38 hrs Surf.Area= 9,711 sf Storage= 4,953 cf

Plug-Flow detention time= 79.6 min calculated for 0.105 af (84% of inflow)
Center-of-Mass det. time= 78.5 min (90.4 - 11.9)

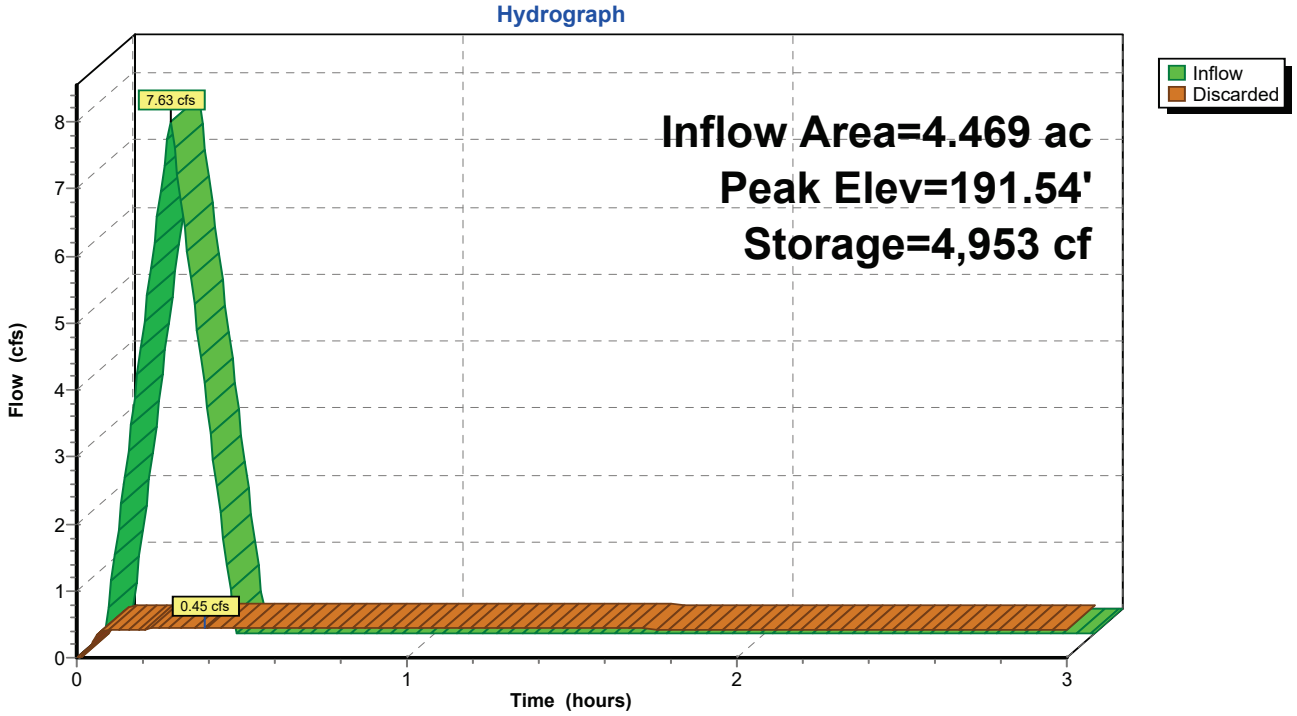
Volume	Invert	Avail.Storage	Storage Description
#1	191.00'	34,923 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
191.00	8,677	0	0
192.00	10,597	9,637	9,637
193.00	12,618	11,608	21,245
194.00	14,738	13,678	34,923

Device	Routing	Invert	Outlet Devices
#1	Discarded	191.00'	**2.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 130.00'

Discarded OutFlow Max=0.45 cfs @ 0.38 hrs HW=191.54' (Free Discharge)
↑**1=Exfiltration** (Controls 0.45 cfs)

Pond 53P: BASIN 8



Hydrograph for Pond 53P: BASIN 8

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	191.00	0.00
0.10	3.88	615	191.07	0.41
0.20	**7.63**	2,559	191.29	0.43
0.30	3.75	**4,449**	**191.49**	**0.45**
0.40	0.00	**4,939**	**191.54**	**0.45**
0.50	0.00	4,776	191.52	0.45
0.60	0.00	4,614	191.50	0.45
0.70	0.00	4,452	191.49	0.45
0.80	0.00	4,291	191.47	0.45
0.90	0.00	4,131	191.45	0.45
1.00	0.00	3,971	191.44	0.44
1.10	0.00	3,811	191.42	0.44
1.20	0.00	3,652	191.40	0.44
1.30	0.00	3,494	191.39	0.44
1.40	0.00	3,337	191.37	0.44
1.50	0.00	3,180	191.35	0.44
1.60	0.00	3,023	191.34	0.43
1.70	0.00	2,867	191.32	0.43
1.80	0.00	2,712	191.30	0.43
1.90	0.00	2,557	191.29	0.43
2.00	0.00	2,403	191.27	0.43
2.10	0.00	2,249	191.25	0.43
2.20	0.00	2,096	191.24	0.42
2.30	0.00	1,944	191.22	0.42
2.40	0.00	1,792	191.20	0.42
2.50	0.00	1,641	191.19	0.42
2.60	0.00	1,490	191.17	0.42
2.70	0.00	1,340	191.15	0.42
2.80	0.00	1,190	191.14	0.41
2.90	0.00	1,041	191.12	0.41
3.00	0.00	893	191.10	0.41

Summary for Pond 55P: Biofilt

Inflow Area = 0.083 ac,100.00% Impervious, Inflow Depth = 0.75" for 100-Year event
Inflow = 0.31 cfs @ 0.09 hrs, Volume= 0.005 af
Outflow = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af, Atten= 100%, Lag= 12.0 min
Discarded = 0.00 cfs @ 0.29 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 190.20' @ 0.29 hrs Surf.Area= 348 sf Storage= 224 cf

Plug-Flow detention time= 89.4 min calculated for 0.000 af (4% of inflow)
Center-of-Mass det. time= 82.4 min (90.9 - 8.5)

Volume	Invert	Avail.Storage	Storage Description
#1	189.50'	1,545 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

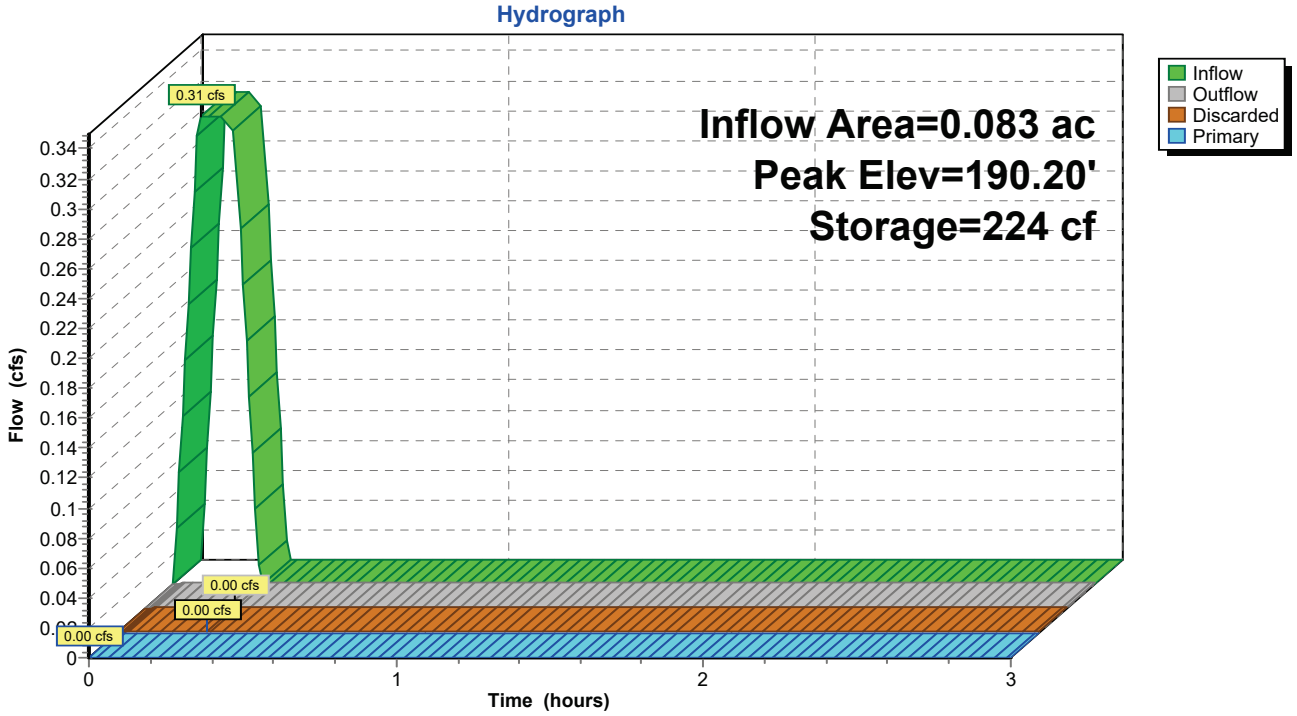
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
189.50	348	0.0	0	0
189.60	348	40.0	14	14
192.50	348	100.0	1,009	1,023
194.00	348	100.0	522	1,545

Device	Routing	Invert	Outlet Devices
#1	Primary	193.50'	**6.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 193.50' / 192.00' S= 0.0300 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Discarded	189.50'	**0.100 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 178.00'

Discarded OutFlow Max=0.00 cfs @ 0.29 hrs HW=190.20' (Free Discharge)
↑—**2=Exfiltration** (Controls 0.00 cfs)

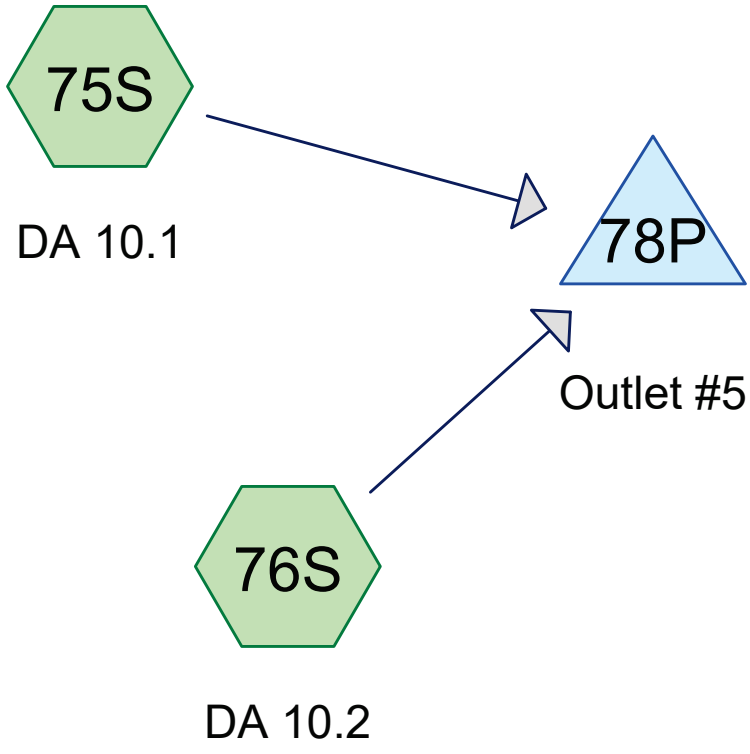
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=189.50' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

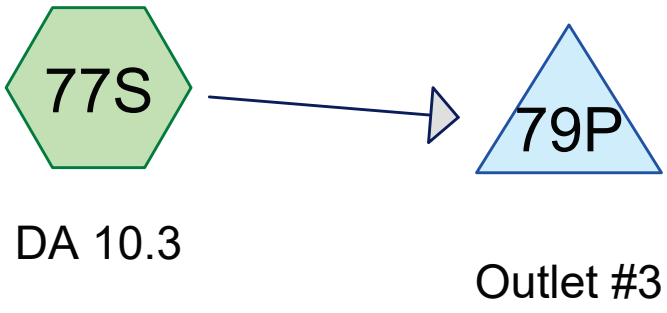
Pond 55P: Biofilt



Hydrograph for Pond 55P: Biofilt

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	0	189.50	0.00	0.00	**0.00**
0.10	**0.31**	65	189.75	0.00	0.00	0.00
0.20	0.31	**177**	**190.07**	**0.00**	**0.00**	0.00
0.30	0.00	**224**	**190.20**	**0.00**	**0.00**	0.00
0.40	0.00	224	190.20	0.00	0.00	0.00
0.50	0.00	223	190.20	0.00	0.00	0.00
0.60	0.00	223	190.20	0.00	0.00	0.00
0.70	0.00	223	190.20	0.00	0.00	0.00
0.80	0.00	223	190.20	0.00	0.00	0.00
0.90	0.00	222	190.20	0.00	0.00	0.00
1.00	0.00	222	190.20	0.00	0.00	0.00
1.10	0.00	222	190.20	0.00	0.00	0.00
1.20	0.00	221	190.20	0.00	0.00	0.00
1.30	0.00	221	190.20	0.00	0.00	0.00
1.40	0.00	221	190.19	0.00	0.00	0.00
1.50	0.00	220	190.19	0.00	0.00	0.00
1.60	0.00	220	190.19	0.00	0.00	0.00
1.70	0.00	220	190.19	0.00	0.00	0.00
1.80	0.00	219	190.19	0.00	0.00	0.00
1.90	0.00	219	190.19	0.00	0.00	0.00
2.00	0.00	219	190.19	0.00	0.00	0.00
2.10	0.00	219	190.19	0.00	0.00	0.00
2.20	0.00	218	190.19	0.00	0.00	0.00
2.30	0.00	218	190.19	0.00	0.00	0.00
2.40	0.00	218	190.19	0.00	0.00	0.00
2.50	0.00	217	190.18	0.00	0.00	0.00
2.60	0.00	217	190.18	0.00	0.00	0.00
2.70	0.00	217	190.18	0.00	0.00	0.00
2.80	0.00	216	190.18	0.00	0.00	0.00
2.90	0.00	216	190.18	0.00	0.00	0.00
3.00	0.00	216	190.18	0.00	0.00	0.00





Subcat Reach Pond Link

Routing Diagram for 23001 - Basin 9
Prepared by C3 Civil Engineering, Printed 5/19/2026
HydroCAD® 10.10-5a s/n 11911 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment75S: DA 10.1 Runoff Area=159,901 sf 0.00% Impervious Runoff Depth=0.20"
Tc=0.0 min C=0.45 Runoff=8.03 cfs 0.060 af

Subcatchment76S: DA 10.2 Runoff Area=210,745 sf 0.00% Impervious Runoff Depth=0.20"
Tc=0.0 min C=0.45 Runoff=10.58 cfs 0.079 af

Subcatchment77S: DA 10.3 Runoff Area=158,252 sf 0.00% Impervious Runoff Depth=0.18"
Tc=5.0 min C=0.45 Runoff=7.67 cfs 0.055 af

Pond 78P: Outlet #5 Inflow=18.61 cfs 0.138 af
Primary=18.61 cfs 0.138 af

Pond 79P: Outlet #3 Inflow=7.67 cfs 0.055 af
Primary=7.67 cfs 0.055 af

Total Runoff Area = 12.142 ac Runoff Volume = 0.193 af Average Runoff Depth = 0.19"
100.00% Pervious = 12.142 ac 0.00% Impervious = 0.000 ac

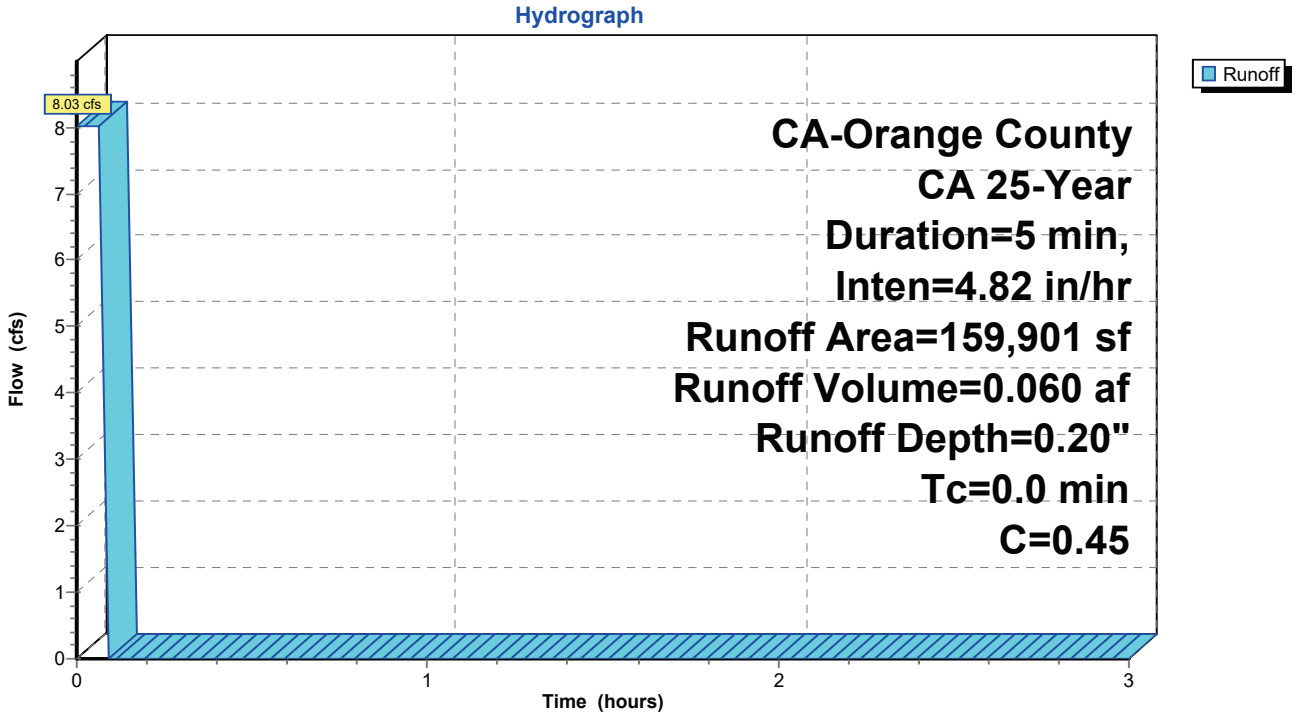
Summary for Subcatchment 75S: DA 10.1

Runoff = 8.03 cfs @ 0.00 hrs, Volume= 0.060 af, Depth= 0.20"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=5 min, Inten=4.82 in/hr

Area (sf)	C	Description
159,901	0.45	Pathway
159,901		100.00% Pervious Area

Subcatchment 75S: DA 10.1



Hydrograph for Subcatchment 75S: DA 10.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	**8.03**	1.02	0.00	2.04	0.00
0.02	8.03	1.04	0.00	2.06	0.00
0.04	8.03	1.06	0.00	2.08	0.00
0.06	8.03	1.08	0.00	2.10	0.00
0.08	8.03	1.10	0.00	2.12	0.00
0.10	0.00	1.12	0.00	2.14	0.00
0.12	0.00	1.14	0.00	2.16	0.00
0.14	0.00	1.16	0.00	2.18	0.00
0.16	0.00	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

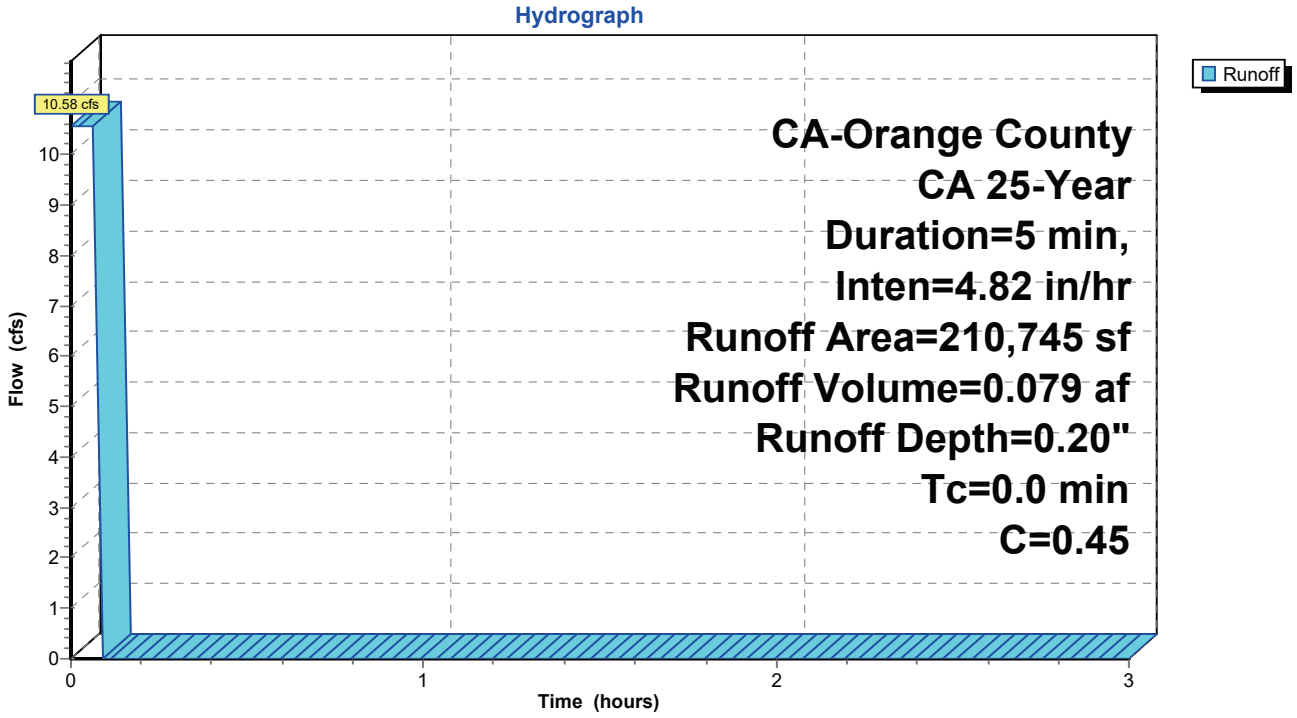
Summary for Subcatchment 76S: DA 10.2

Runoff = 10.58 cfs @ 0.00 hrs, Volume= 0.079 af, Depth= 0.20"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=5 min, Inten=4.82 in/hr

Area (sf)	C	Description
210,745	0.45	Pathway
210,745		100.00% Pervious Area

Subcatchment 76S: DA 10.2



Hydrograph for Subcatchment 76S: DA 10.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	**10.58**	1.02	0.00	2.04	0.00
0.02	10.58	1.04	0.00	2.06	0.00
0.04	10.58	1.06	0.00	2.08	0.00
0.06	10.58	1.08	0.00	2.10	0.00
0.08	10.58	1.10	0.00	2.12	0.00
0.10	0.00	1.12	0.00	2.14	0.00
0.12	0.00	1.14	0.00	2.16	0.00
0.14	0.00	1.16	0.00	2.18	0.00
0.16	0.00	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 77S: DA 10.3

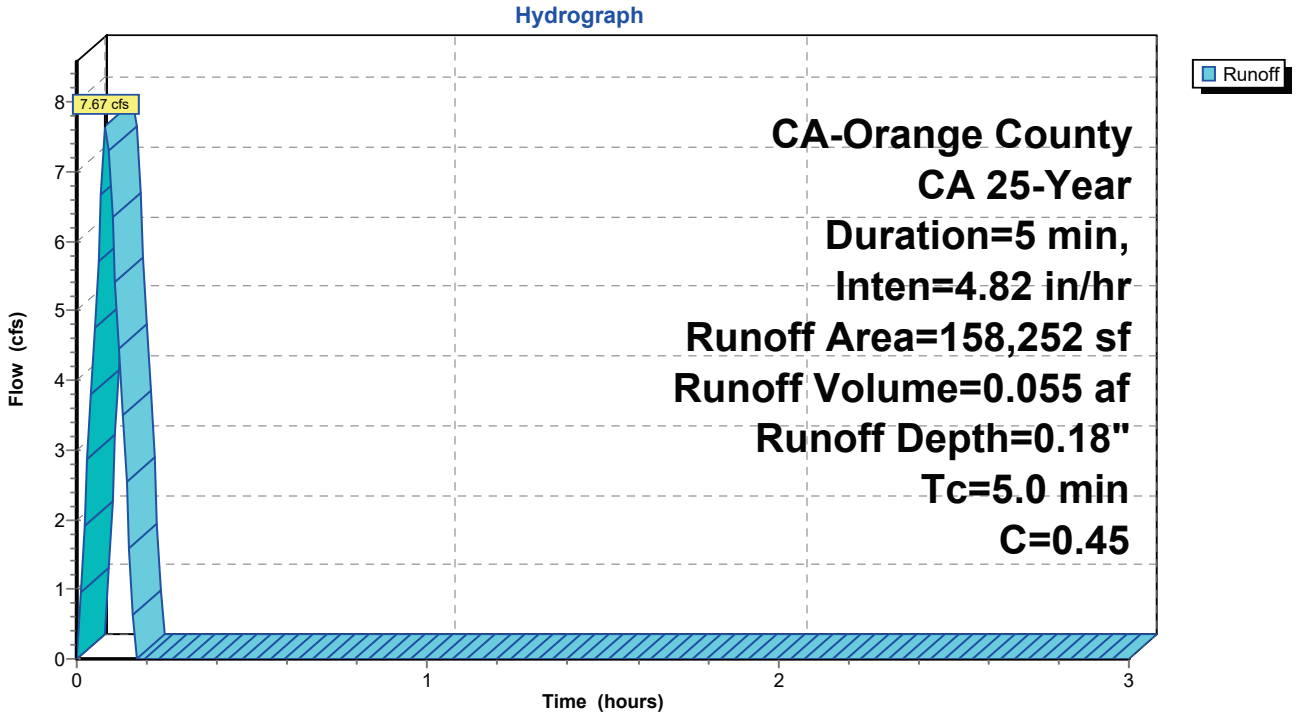
Runoff = 7.67 cfs @ 0.08 hrs, Volume= 0.055 af, Depth= 0.18"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 25-Year Duration=5 min, Inten=4.82 in/hr

Area (sf)	C	Description
158,252	0.45	Pathway
158,252		100.00% Pervious Area

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

Subcatchment 77S: DA 10.3



Hydrograph for Subcatchment 77S: DA 10.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	1.91	1.04	0.00	2.06	0.00
0.04	3.81	1.06	0.00	2.08	0.00
0.06	5.72	1.08	0.00	2.10	0.00
0.08	**7.63**	1.10	0.00	2.12	0.00
0.10	6.36	1.12	0.00	2.14	0.00
0.12	4.45	1.14	0.00	2.16	0.00
0.14	2.54	1.16	0.00	2.18	0.00
0.16	0.64	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

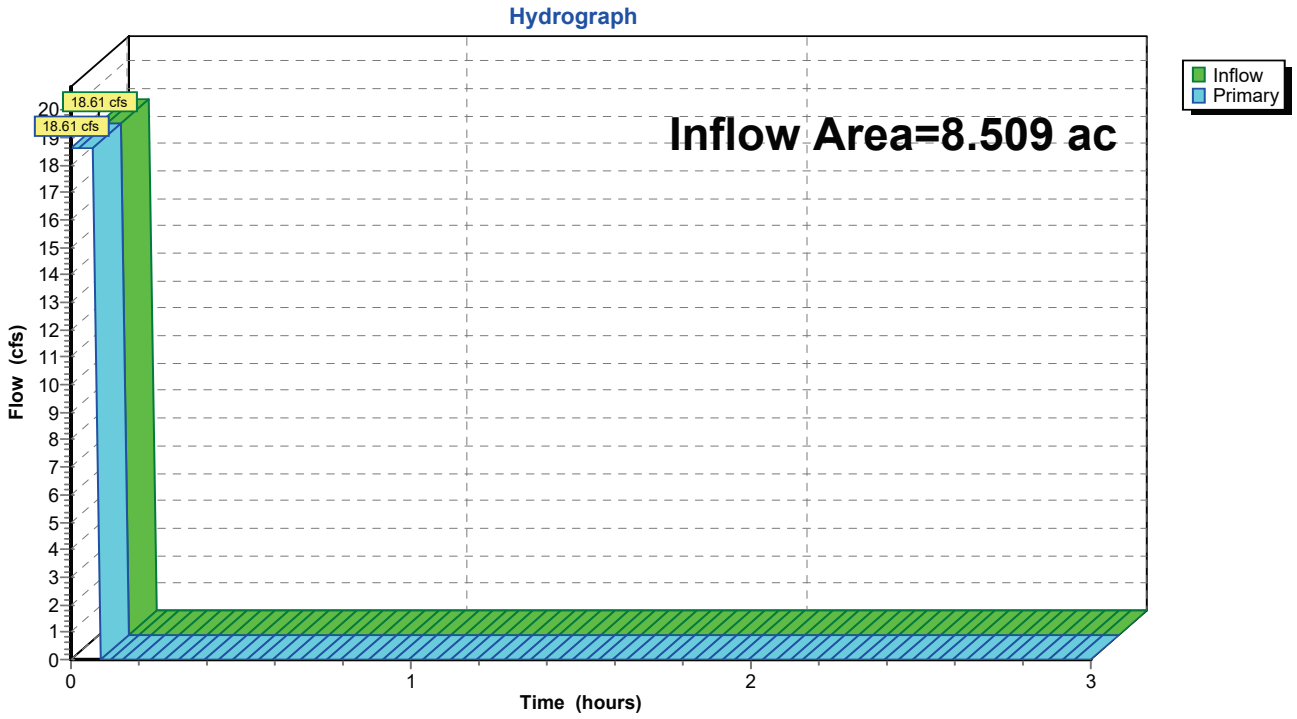
Summary for Pond 78P: Outlet #5

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 8.509 ac, 0.00% Impervious, Inflow Depth = 0.20" for 25-Year event
Inflow = 18.61 cfs @ 0.00 hrs, Volume= 0.138 af
Primary = 18.61 cfs @ 0.00 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 78P: Outlet #5



Hydrograph for Pond 78P: Outlet #5

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**18.61**		**18.61**	2.55	0.00		0.00
0.05	18.61		18.61	2.60	0.00		0.00
0.10	0.00		0.00	2.65	0.00		0.00
0.15	0.00		0.00	2.70	0.00		0.00
0.20	0.00		0.00	2.75	0.00		0.00
0.25	0.00		0.00	2.80	0.00		0.00
0.30	0.00		0.00	2.85	0.00		0.00
0.35	0.00		0.00	2.90	0.00		0.00
0.40	0.00		0.00	2.95	0.00		0.00
0.45	0.00		0.00	3.00	0.00		0.00
0.50	0.00		0.00				
0.55	0.00		0.00				
0.60	0.00		0.00				
0.65	0.00		0.00				
0.70	0.00		0.00				
0.75	0.00		0.00				
0.80	0.00		0.00				
0.85	0.00		0.00				
0.90	0.00		0.00				
0.95	0.00		0.00				
1.00	0.00		0.00				
1.05	0.00		0.00				
1.10	0.00		0.00				
1.15	0.00		0.00				
1.20	0.00		0.00				
1.25	0.00		0.00				
1.30	0.00		0.00				
1.35	0.00		0.00				
1.40	0.00		0.00				
1.45	0.00		0.00				
1.50	0.00		0.00				
1.55	0.00		0.00				
1.60	0.00		0.00				
1.65	0.00		0.00				
1.70	0.00		0.00				
1.75	0.00		0.00				
1.80	0.00		0.00				
1.85	0.00		0.00				
1.90	0.00		0.00				
1.95	0.00		0.00				
2.00	0.00		0.00				
2.05	0.00		0.00				
2.10	0.00		0.00				
2.15	0.00		0.00				
2.20	0.00		0.00				
2.25	0.00		0.00				
2.30	0.00		0.00				
2.35	0.00		0.00				
2.40	0.00		0.00				
2.45	0.00		0.00				
2.50	0.00		0.00				

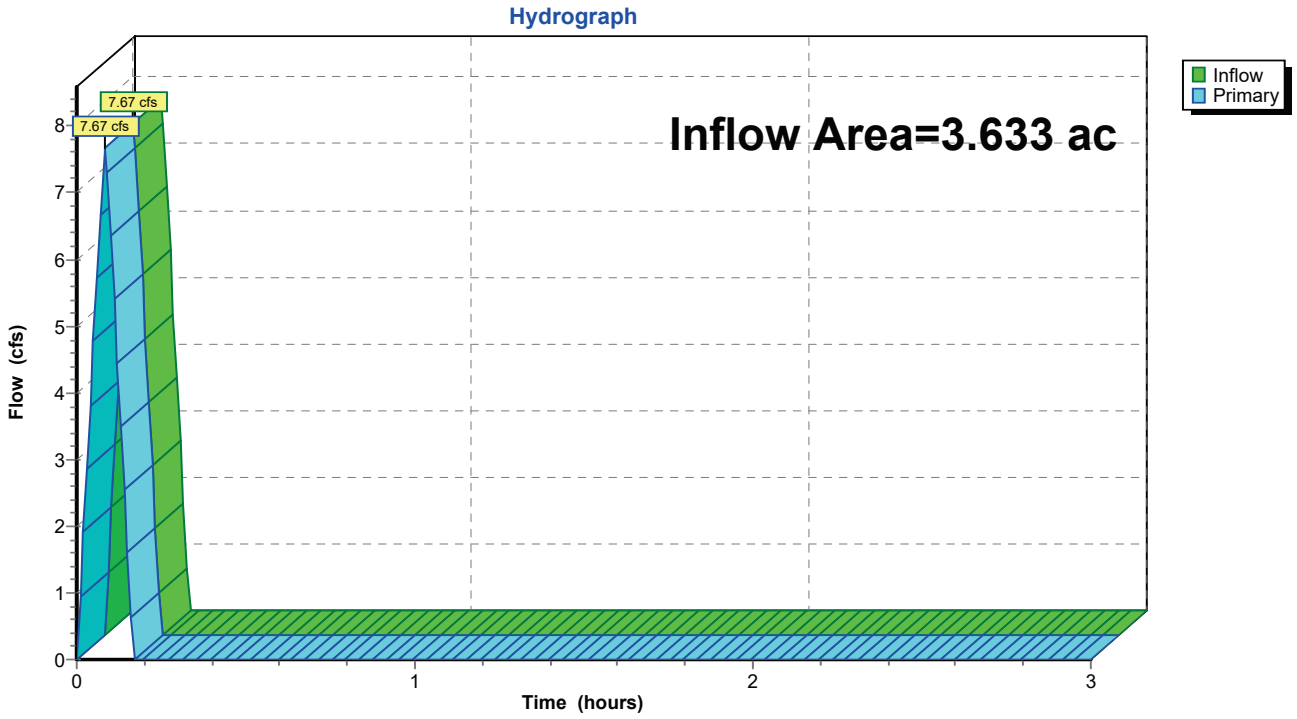
Summary for Pond 79P: Outlet #3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.633 ac, 0.00% Impervious, Inflow Depth = 0.18" for 25-Year event
Inflow = 7.67 cfs @ 0.08 hrs, Volume= 0.055 af
Primary = 7.67 cfs @ 0.08 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 79P: Outlet #3



Hydrograph for Pond 79P: Outlet #3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.05	**4.77**		**4.77**
0.10	**6.36**		**6.36**
0.15	1.59		1.59
0.20	0.00		0.00
0.25	0.00		0.00
0.30	0.00		0.00
0.35	0.00		0.00
0.40	0.00		0.00
0.45	0.00		0.00
0.50	0.00		0.00
0.55	0.00		0.00
0.60	0.00		0.00
0.65	0.00		0.00
0.70	0.00		0.00
0.75	0.00		0.00
0.80	0.00		0.00
0.85	0.00		0.00
0.90	0.00		0.00
0.95	0.00		0.00
1.00	0.00		0.00
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment75S: DA 10.1 Runoff Area=159,901 sf 0.00% Impervious Runoff Depth=0.25"
Tc=0.0 min C=0.45 Runoff=10.31 cfs 0.077 af

Subcatchment76S: DA 10.2 Runoff Area=210,745 sf 0.00% Impervious Runoff Depth=0.25"
Tc=0.0 min C=0.45 Runoff=13.59 cfs 0.101 af

Subcatchment77S: DA 10.3 Runoff Area=158,252 sf 0.00% Impervious Runoff Depth=0.23"
Tc=5.0 min C=0.45 Runoff=9.85 cfs 0.070 af

Pond 78P: Outlet #5 Inflow=23.90 cfs 0.178 af
Primary=23.90 cfs 0.178 af

Pond 79P: Outlet #3 Inflow=9.85 cfs 0.070 af
Primary=9.85 cfs 0.070 af

Total Runoff Area = 12.142 ac Runoff Volume = 0.248 af Average Runoff Depth = 0.25"
100.00% Pervious = 12.142 ac 0.00% Impervious = 0.000 ac

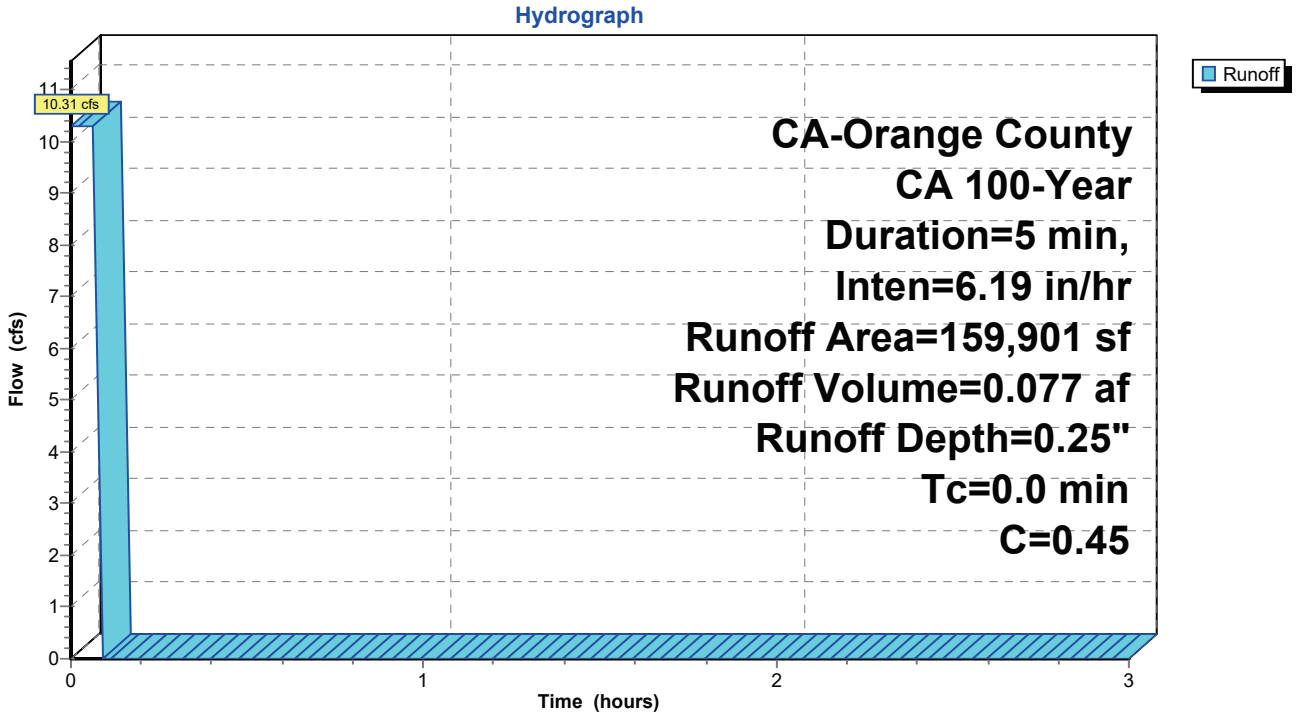
Summary for Subcatchment 75S: DA 10.1

Runoff = 10.31 cfs @ 0.00 hrs, Volume= 0.077 af, Depth= 0.25"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=5 min, Inten=6.19 in/hr

Area (sf)	C	Description
159,901	0.45	Pathway
159,901		100.00% Pervious Area

Subcatchment 75S: DA 10.1



Hydrograph for Subcatchment 75S: DA 10.1

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	**10.31**	1.02	0.00	2.04	0.00
0.02	10.31	1.04	0.00	2.06	0.00
0.04	10.31	1.06	0.00	2.08	0.00
0.06	10.31	1.08	0.00	2.10	0.00
0.08	10.31	1.10	0.00	2.12	0.00
0.10	0.00	1.12	0.00	2.14	0.00
0.12	0.00	1.14	0.00	2.16	0.00
0.14	0.00	1.16	0.00	2.18	0.00
0.16	0.00	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

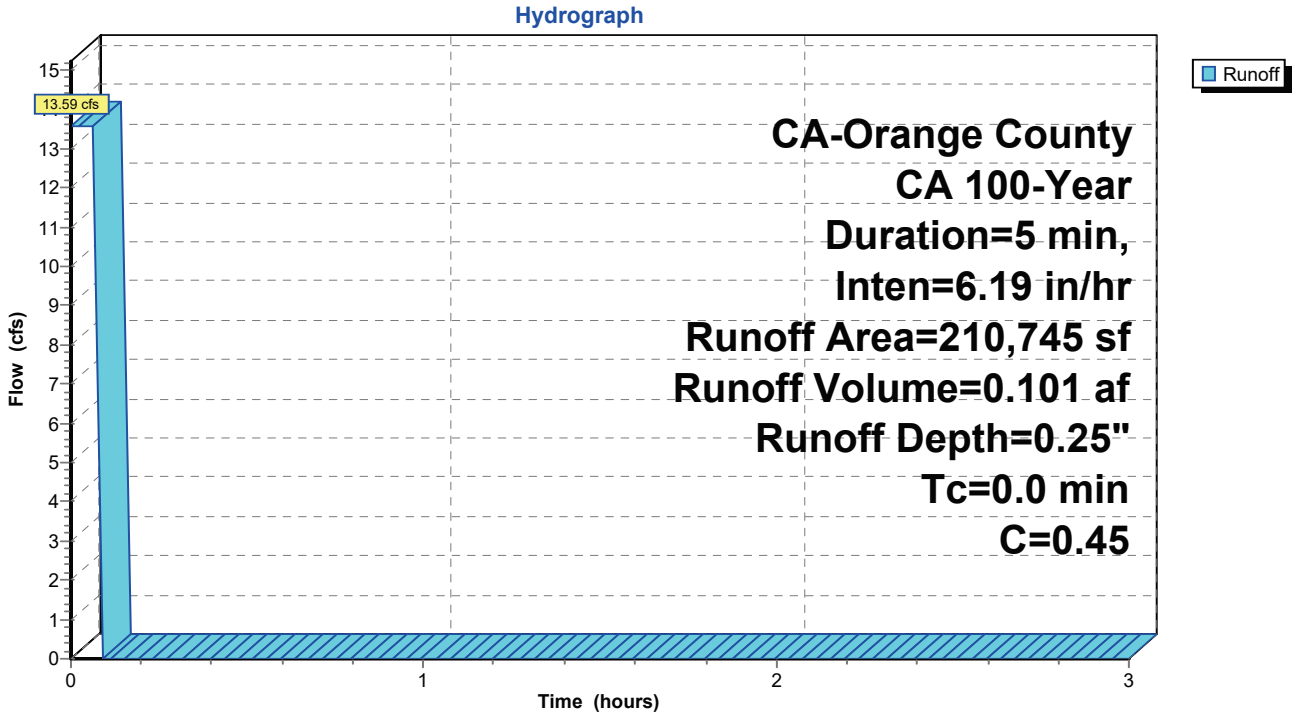
Summary for Subcatchment 76S: DA 10.2

Runoff = 13.59 cfs @ 0.00 hrs, Volume= 0.101 af, Depth= 0.25"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=5 min, Inten=6.19 in/hr

Area (sf)	C	Description
210,745	0.45	Pathway
210,745		100.00% Pervious Area

Subcatchment 76S: DA 10.2



Hydrograph for Subcatchment 76S: DA 10.2

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	**13.59**	1.02	0.00	2.04	0.00
0.02	13.59	1.04	0.00	2.06	0.00
0.04	13.59	1.06	0.00	2.08	0.00
0.06	13.59	1.08	0.00	2.10	0.00
0.08	13.59	1.10	0.00	2.12	0.00
0.10	0.00	1.12	0.00	2.14	0.00
0.12	0.00	1.14	0.00	2.16	0.00
0.14	0.00	1.16	0.00	2.18	0.00
0.16	0.00	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

Summary for Subcatchment 77S: DA 10.3

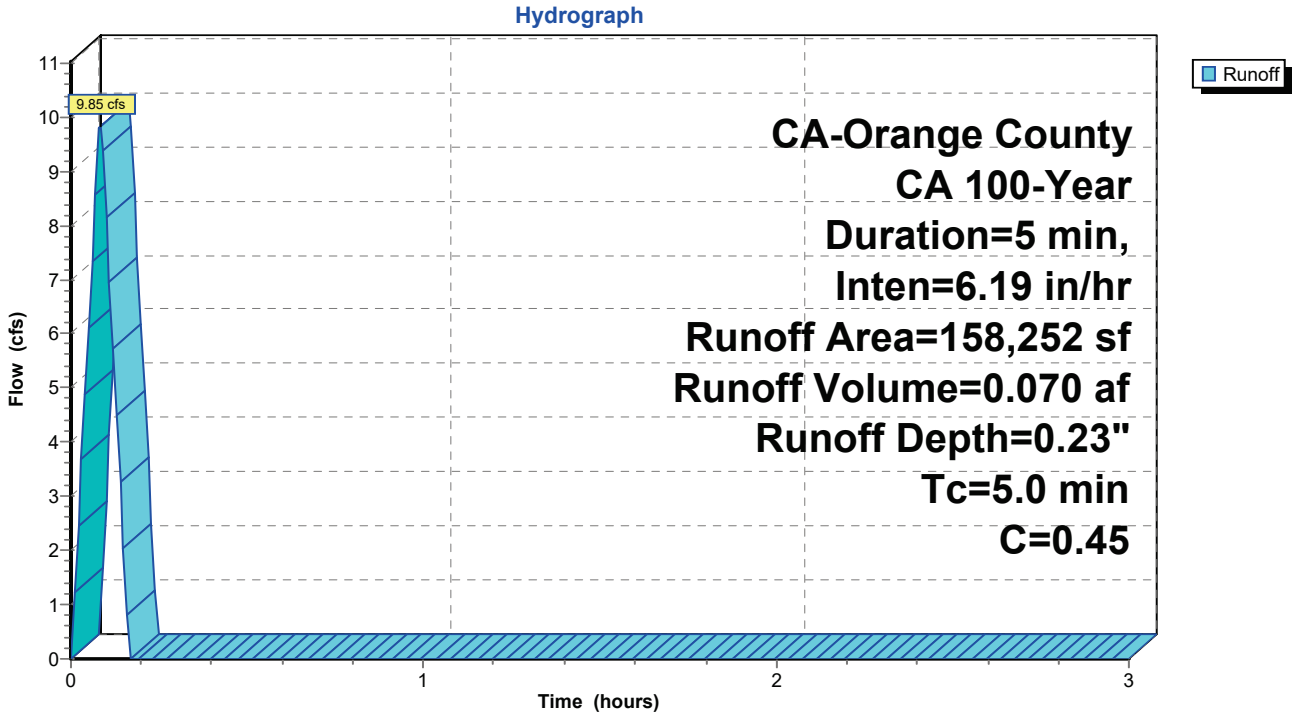
Runoff = 9.85 cfs @ 0.08 hrs, Volume= 0.070 af, Depth= 0.23"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
CA-Orange County, CA 100-Year Duration=5 min, Inten=6.19 in/hr

Area (sf)	C	Description
158,252	0.45	Pathway
158,252		100.00% Pervious Area

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

Subcatchment 77S: DA 10.3



Hydrograph for Subcatchment 77S: DA 10.3

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.02	0.00	2.04	0.00
0.02	2.45	1.04	0.00	2.06	0.00
0.04	4.90	1.06	0.00	2.08	0.00
0.06	7.35	1.08	0.00	2.10	0.00
0.08	**9.80**	1.10	0.00	2.12	0.00
0.10	8.16	1.12	0.00	2.14	0.00
0.12	5.71	1.14	0.00	2.16	0.00
0.14	3.27	1.16	0.00	2.18	0.00
0.16	0.82	1.18	0.00	2.20	0.00
0.18	0.00	1.20	0.00	2.22	0.00
0.20	0.00	1.22	0.00	2.24	0.00
0.22	0.00	1.24	0.00	2.26	0.00
0.24	0.00	1.26	0.00	2.28	0.00
0.26	0.00	1.28	0.00	2.30	0.00
0.28	0.00	1.30	0.00	2.32	0.00
0.30	0.00	1.32	0.00	2.34	0.00
0.32	0.00	1.34	0.00	2.36	0.00
0.34	0.00	1.36	0.00	2.38	0.00
0.36	0.00	1.38	0.00	2.40	0.00
0.38	0.00	1.40	0.00	2.42	0.00
0.40	0.00	1.42	0.00	2.44	0.00
0.42	0.00	1.44	0.00	2.46	0.00
0.44	0.00	1.46	0.00	2.48	0.00
0.46	0.00	1.48	0.00	2.50	0.00
0.48	0.00	1.50	0.00	2.52	0.00
0.50	0.00	1.52	0.00	2.54	0.00
0.52	0.00	1.54	0.00	2.56	0.00
0.54	0.00	1.56	0.00	2.58	0.00
0.56	0.00	1.58	0.00	2.60	0.00
0.58	0.00	1.60	0.00	2.62	0.00
0.60	0.00	1.62	0.00	2.64	0.00
0.62	0.00	1.64	0.00	2.66	0.00
0.64	0.00	1.66	0.00	2.68	0.00
0.66	0.00	1.68	0.00	2.70	0.00
0.68	0.00	1.70	0.00	2.72	0.00
0.70	0.00	1.72	0.00	2.74	0.00
0.72	0.00	1.74	0.00	2.76	0.00
0.74	0.00	1.76	0.00	2.78	0.00
0.76	0.00	1.78	0.00	2.80	0.00
0.78	0.00	1.80	0.00	2.82	0.00
0.80	0.00	1.82	0.00	2.84	0.00
0.82	0.00	1.84	0.00	2.86	0.00
0.84	0.00	1.86	0.00	2.88	0.00
0.86	0.00	1.88	0.00	2.90	0.00
0.88	0.00	1.90	0.00	2.92	0.00
0.90	0.00	1.92	0.00	2.94	0.00
0.92	0.00	1.94	0.00	2.96	0.00
0.94	0.00	1.96	0.00	2.98	0.00
0.96	0.00	1.98	0.00	3.00	0.00
0.98	0.00	2.00	0.00		
1.00	0.00	2.02	0.00		

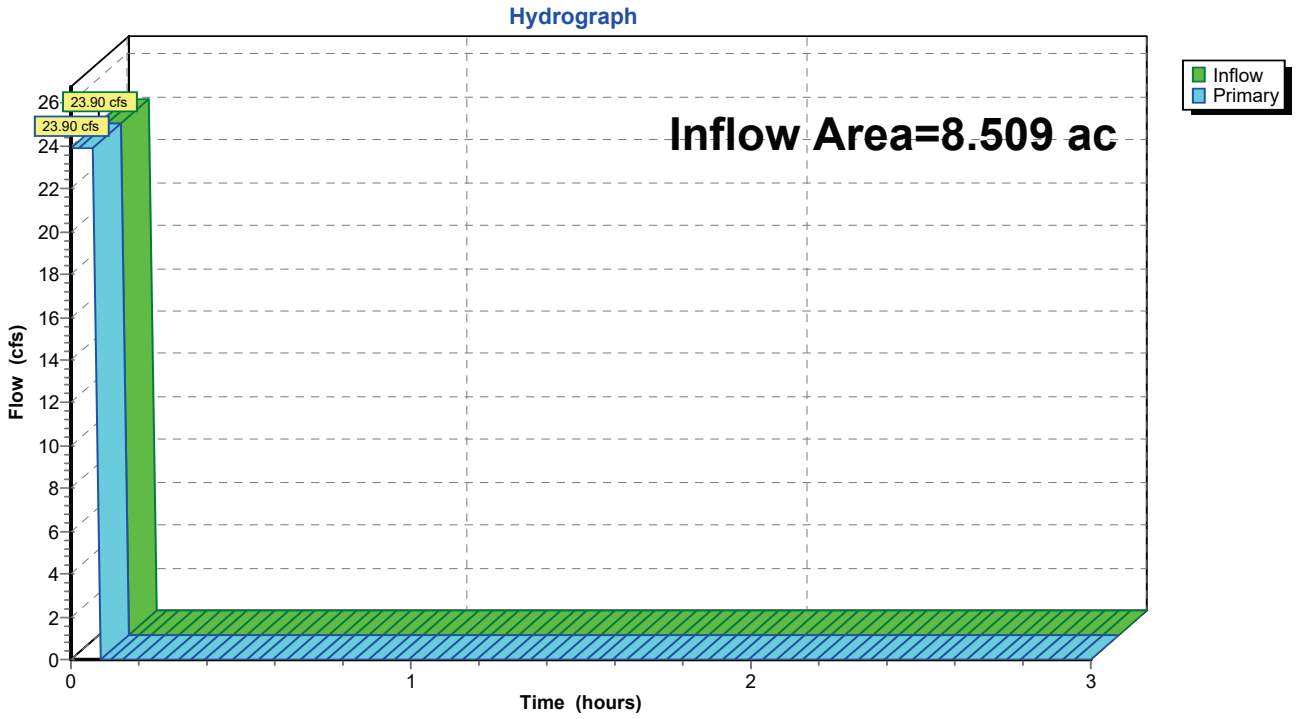
Summary for Pond 78P: Outlet #5

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 8.509 ac, 0.00% Impervious, Inflow Depth = 0.25" for 100-Year event
Inflow = 23.90 cfs @ 0.00 hrs, Volume= 0.178 af
Primary = 23.90 cfs @ 0.00 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 78P: Outlet #5



Hydrograph for Pond 78P: Outlet #5

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**23.90**		**23.90**
0.05	23.90		23.90
0.10	0.00		0.00
0.15	0.00		0.00
0.20	0.00		0.00
0.25	0.00		0.00
0.30	0.00		0.00
0.35	0.00		0.00
0.40	0.00		0.00
0.45	0.00		0.00
0.50	0.00		0.00
0.55	0.00		0.00
0.60	0.00		0.00
0.65	0.00		0.00
0.70	0.00		0.00
0.75	0.00		0.00
0.80	0.00		0.00
0.85	0.00		0.00
0.90	0.00		0.00
0.95	0.00		0.00
1.00	0.00		0.00
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00

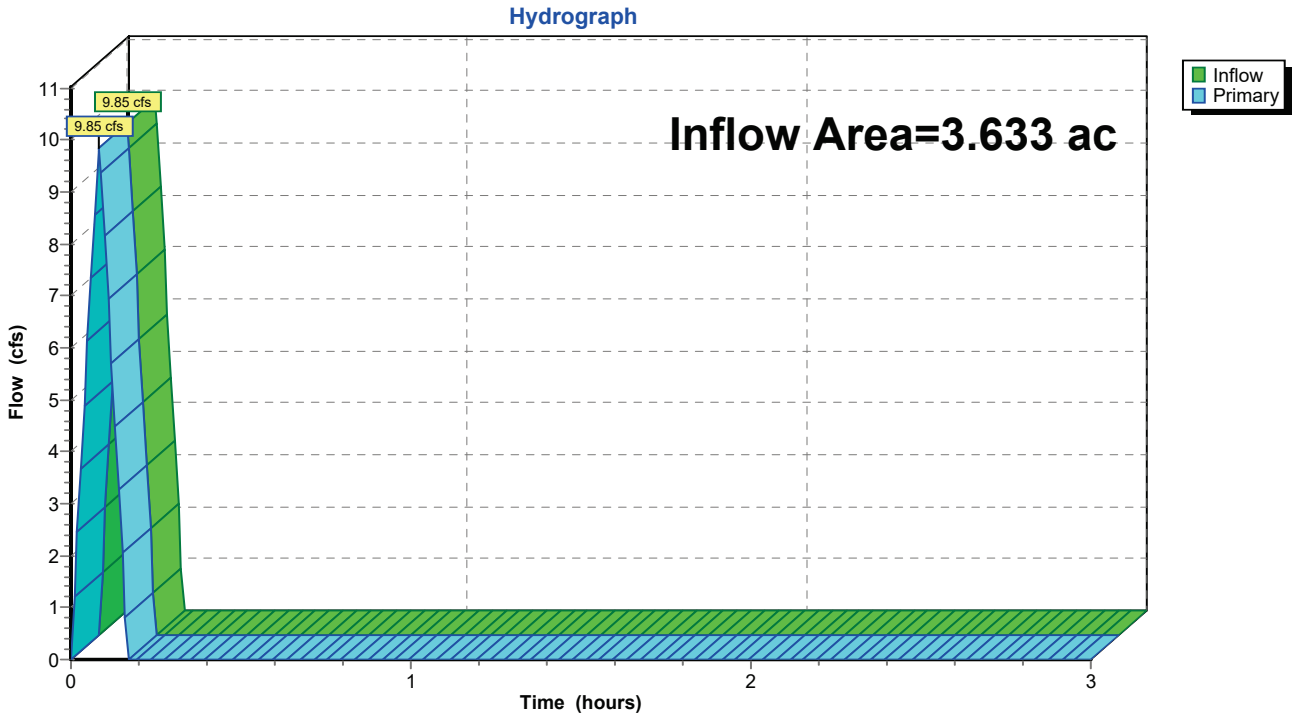
Summary for Pond 79P: Outlet #3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.633 ac, 0.00% Impervious, Inflow Depth = 0.23" for 100-Year event
Inflow = 9.85 cfs @ 0.08 hrs, Volume= 0.070 af
Primary = 9.85 cfs @ 0.08 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond 79P: Outlet #3



Hydrograph for Pond 79P: Outlet #3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
0.05	**6.12**		**6.12**
0.10	**8.16**		**8.16**
0.15	2.04		2.04
0.20	0.00		0.00
0.25	0.00		0.00
0.30	0.00		0.00
0.35	0.00		0.00
0.40	0.00		0.00
0.45	0.00		0.00
0.50	0.00		0.00
0.55	0.00		0.00
0.60	0.00		0.00
0.65	0.00		0.00
0.70	0.00		0.00
0.75	0.00		0.00
0.80	0.00		0.00
0.85	0.00		0.00
0.90	0.00		0.00
0.95	0.00		0.00
1.00	0.00		0.00
1.05	0.00		0.00
1.10	0.00		0.00
1.15	0.00		0.00
1.20	0.00		0.00
1.25	0.00		0.00
1.30	0.00		0.00
1.35	0.00		0.00
1.40	0.00		0.00
1.45	0.00		0.00
1.50	0.00		0.00
1.55	0.00		0.00
1.60	0.00		0.00
1.65	0.00		0.00
1.70	0.00		0.00
1.75	0.00		0.00
1.80	0.00		0.00
1.85	0.00		0.00
1.90	0.00		0.00
1.95	0.00		0.00
2.00	0.00		0.00
2.05	0.00		0.00
2.10	0.00		0.00
2.15	0.00		0.00
2.20	0.00		0.00
2.25	0.00		0.00
2.30	0.00		0.00
2.35	0.00		0.00
2.40	0.00		0.00
2.45	0.00		0.00
2.50	0.00		0.00
2.55	0.00		0.00
2.60	0.00		0.00
2.65	0.00		0.00
2.70	0.00		0.00
2.75	0.00		0.00
2.80	0.00		0.00
2.85	0.00		0.00
2.90	0.00		0.00
2.95	0.00		0.00
3.00	0.00		0.00