POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) PLAN NARRATIVE

Prepared for:

DC AT LAFAYETTE, LLC
PROPOSED SINGLE FAMILY DETACHED RESIDENTIAL DEVELOPMENT

Penn Street (TR-338)
Parcel No. 29-010-032 & 29-010-032-002
Township of Newtown
Bucks County, PA

Prepared by:

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I. SITE DESCRIPTION

This Narrative has been prepared to describe the stormwater drainage conditions that will occur as a result of the proposed Single Family Detached Residential Development of the subject parcel, located on Penn Street (TR-338) in the Township of Newtown, Bucks County, Pennsylvania. The existing site is identified as Parcel No. 29-010-032 & 29-010-032-002. This report should be reviewed in conjunction with the Post Construction Stormwater Management Plan drawings. Under current conditions, the site is undeveloped as open space. The 4.95-acre lot, as measured from the Ultimate Right-of-Way Line, has frontage on Penn Street and Lafayette Street. Based on historical aerial photographs, it appears the site has been in its current condition for at least the last 20 years.

II. PROJECT DESCRIPTION

The project proposes construction of 4 Single Family Detached Dwellings. Additional improvements include driveways, sidewalks, utilities, landscaping, lighting, and stormwater management facilities including various Best Management Practices (BMP's). The NPDES Project Site boundary is 222,584 square feet (5.11 acres) and the Limit of Disturbance boundary is 203,159 square feet (4.66 acres).

III. DESIGN OVERVIEW

This Post Construction Stormwater Management Plan Narrative identifies and describes the manner by which the stormwater management design satisfies the performance measures set forth by the Newtown Township Stormwater Management Ordinance (SWMO) (Neshaminy Creek – District B) and the PADEP's NPDES Permit for Discharges Associated with Construction Activity (NPDES*)* and Bucks County Conservation District (BCCD) to minimize adverse impact of stormwater runoff to receiving water bodies and surrounding areas within the Neshaminy Creek Watershed. The subject site is located in an area with an adopted Act 167 Stormwater Management Plan as of December 18th, 2006. As such, the Stormwater Management Facilities have been designed to be consistent with the requirements set forth by the Township of Newtown, PADEP and the Bucks County Conservation District.

The scope of this study includes the entire site and proposed on-site stormwater management features as depicted on the accompanying engineering plans. Based upon the scope of the project, the development is classified as a "regulated activity" per the regulatory agencies and, therefore, the project has been designed to meet the nonstructural stormwater management

alternatives, water quality, groundwater recharge, and stormwater runoff quantity standards set forth in the Township Stormwater Ordinance and NPDES requirements.

Accordingly, the following items are addressed within this report:

- Standards for nonstructural stormwater management project design
- Water quality, groundwater recharge and streambank erosion protection
- Evaluation of the non-discharge alternative
- Volume Control and runoff quantity standards
- Calculation of stormwater runoff and groundwater recharge

A hydrological evaluation is provided for the 1, 2, 5, 10, 25, 50 and 100-year design storm events utilizing the Urban Hydrology for Small Watershed TR55 method. Per the Newtown Township Stormwater Management Ordinance, the post-development runoff rates are not to exceed the pre-development runoff rates for the previous storm.

Proposed Condition Design Storm	Reduce to Predevelopment Condition Design Storm
2-year	1-year
5-year	2-year
10-year	5-year
25-year	10-year
50-year	25-year
100-year	50-year

The stormwater analysis includes the requirements set forth as follows:

- The analysis in Appendix G demonstrates that the PCSM BMPs will manage the net change for storms up to and including the 2-year/24-hour storm event when compared to preconstruction runoff volume and water quality.
- The existing pre-development non-forested pervious areas are considered meadow in good condition in the existing condition analysis.
- The water quality volume and treatment has been maximized to the extent practicable.
- The analysis demonstrates the proposed BMPs will meet the rate requirements specified in the Horsham Township SWMO; and manage the net change in peak rate for the 1, 2, 5, 10, 25, 50 and 100-year/24-hour storm event to not exceed the preconstruction rates.

IV. EXISTING DRAINAGE CONDITIONS

The proposed development incorporates the entirety of Parcel Numbers 29-010-032 & 29-010-032-002. The 4.95-acre lot has frontage on Penn Street and Lafayette Street. The subject property is bound to the north by Residential; to the west by Residential; to the south by Residential; and to the east by Industrial / Offices.

Under the existing conditions, stormwater runoff generated by the subject site currently drains to the southwestern corner of the site via overland flow, which ultimately flows via an inlet and MS4 conveyance system to Newtown Creek. Newtown Creek is ultimately tributary to the Neshaminy Creek. Newtown Creek is classified as a Warm Water Fishes (WWF) and Migratory Fishes (MF) water per Pennsylvania's Water Quality Criteria (PA Code Title 25, Chapter 93).

The limits of the drainage study have been delineated to accommodate the entire development area and any offsite discharge to the subject site. One (1) discharge point (DP) and one (1) point of analysis (POA) to each receiving water (Newtown Creek) has been analyzed for this project. The tract has been evaluated with the following drainage sub-watershed areas as depicted on the Existing Drainage Area Map included within the Appendix L of this report.

Pre-Development DP-01 – (POD #01 – POA-01 Newtown Creek): POA-01 is identified on the Existing Drainage Area Map (Appendix L) as the double inlet off-site to the southwestern corner of the site, which is ultimately tributary to Newtown Creek. Under existing conditions, the stormwater runoff drains uncontrolled to the double inlets. The post-developed flow rate will be reduced to the pre-developed conditions at POA-01.

Based upon the USDA Natural Resources Conservation Service (NRCS) Soil Survey, the soil types native to the site are:

BUCKS COUNTY SOIL SURVEY INFORMATION		
SOIL TYPE (SYMBOL)	**SOIL TYPE (NAME)**	**HYDROLOGIC SOIL GROUP (HSG)**
CbA	Chalfont silt loam, 0 to 3 percent slopes	D
DuA	Duncannon silt loam, 0 to 3 percent slopes	B
DuB	Duncannon silt loam, 3 to 8 percent slopes	B
LkA	Lawrenceville silt loam, 0 to 3 percent slopes	C
UnB	Urban land-Duffield complex, 0 to 8 percent slopes	Unrated
UsB	Urban land-Lawrenceville complex, 0 to 8 percent slopes	Unrated

V. PROPOSED DRAINAGE CONDITIONS

Under the proposed conditions, the site will be redeveloped with 4 Single Family Detached Dwellings with associated site improvements such as parking, landscaping, lighting, stormwater management facilities and Best Management Practices (BMP's). The intent of the proposed design is to maintain the existing runoff characteristics where practicable and manage the peak flow rate and volume to the overall POA. All storm events will be released within the allowable reduction limits. The site improvements have been designed to respect and maintain the existing drainage patterns and minimize soil disturbance to the fullest extent possible. One (1) aboveground Managed Release Concept Basin (MRC) and one (1) Infiltration Basin have been proposed to control the increase in peak rate and volume of discharge from the site.

The post-development conditions were modeled utilizing drainage sub-watershed areas similar to the existing conditions model. These drainage sub-watershed areas are depicted on the Proposed Drainage Area Map included within the Appendix L of this narrative and is further described below:

Post-Development DP-01 - (POD #01 – POA-01 Newtown Creek): POA-01 is identified on the Proposed Drainage Area Map (Appendix L) as the existing double inlets off-site towards the southwestern corner of the property, which is ultimately tributary to Newtown Creek. Under proposed conditions, a portion of the stormwater runoff generated from the site will drain via proposed storm infrastructure to the infiltration and managed release concept (MRC) basin. Outflow from the basins will drain via an engineering outlet control structure and ultimately discharge directly into the existing double inlets. The overall stormwater BMPs for the POD have been designed to control the rate and volume to the to the double inlets reduced to the requirements set forth by PADEP, Newtown Township Stormwater Ordinance, and the Neshaminy Creek Stormwater Ordinance. The analyzed drainage area includes the entire Project Site Boundary (PSB) and Limit of Disturbance (LOD) area from the development site. The post-developed flow rate and volume will be reduced to the required pre-developed conditions at POA-01.

VI. NONSTRUCTURAL STORMWATER DESIGN

As previously discussed, the stormwater management design for the subject parcel has been designed to comply with the Township Ordinances and PA Code Title 25. Accordingly, the proposed stormwater management plan has been developed to identify the following nonstructural techniques.

- Find practical alternatives to the surface discharge of stormwater, the creation of impervious surfaces and the degradation of water of the Commonwealth, and must maintain as much as possible the natural hydrologic regime.

  The intent of the proposed drainage design is to maintain the existing drainage patterns and discharge points while improving stormwater quality and controlling rate and quantity as required by the Township Ordinance and PA Code Title 25 via nonstructural project design strategies and BMPs. The entire development area is being controlled by the Managed Release Concept (MRC) basin and Infiltration basin and will continue to contribute to the natural hydrologic regime of the surround drainage area.

- An alternative is practical if it is available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes.

  The subject development minimizes disturbance to undeveloped areas and incorporates landscaping and vegetation areas which will promote evapotranspiration. The design

serves to utilize the existing discharge points and reduce the rate and volume of stormwater and improve the quality of stormwater.

- All practical alternatives to the discharge of stormwater are presumed to have less adverse impact on quantity and quality on the waters of Commonwealth unless otherwise demonstrated.

  The project minimizes disturbance to undeveloped areas and incorporates landscaping and vegetation areas which will allow for natural evapotranspiration. The proposed MRC and Infiltration Basins have been designed to reduce the peak discharge rate from post development to the required pre-development conditions in accordance with the Township Ordinances and PA Code Title 25 requirements.

- Prepare a Conservation Plan, showing environmentally sensitive areas.

  Existing features are shown on the PCSM Plan. As indicated on the plan the site does not contain wetlands/streams.

- Establish stream buffers.

  The site does not contain wetlands/streams; The proposed design minimizes disturbance to undeveloped areas and incorporates landscaping and vegetation areas which will allow for natural evapotranspiration.

- Prepare a draft project layout avoiding earth disturbance in sensitive areas.

  The site does not contain wetlands/streams; The proposed design minimizes disturbance to undeveloped areas and incorporates landscaping and vegetation areas which will allow for natural evapotranspiration. Existing vegetation and natural habitat will be preserved to the maximum extent practicable.

- Identify site-specific predevelopment drainage areas, discharge points, recharge areas to be preserved and Hydrologic Soil Groups A and B to be utilized for recharge.

  The proposed development has been located within hydrologic soil group (HSG) B and C areas. The drainage design has been developed to maintain existing drainage patterns and utilize engineered soils media to promote evapotranspiration of captured runoff.

- Evaluate nonstructural stormwater management alternatives such as minimize earth disturbance, minimize impervious surfaces, and break up large impervious surfaces.
  The proposed design minimizes disturbance to previously undeveloped areas, protects existing natural habitat and vegetation to the maximum extent practicable, and incorporates landscaping and vegetation areas which will allow for natural evapotranspiration.

- Satisfy water quality and streambank erosion protection objective.
  The proposed drainage design has been prepared to satisfy the performance measures set forth by the Township Ordinance and PA Code Title 25 requirements to minimize adverse impact of stormwater runoff on receiving water bodies and surrounding areas.

- Satisfy groundwater recharge (infiltration) objective.
  The volume difference of the 2-year storm as well as the required recharge/infiltration volume is managed and infiltrated by the infiltration basin.

VII. DESIGN METHODOLOGY

The intent of the design of the proposed stormwater management plan for this project is to provide measures as required to address applicable aspects of the Township Ordinances and PA Code Title 25. In order to prepare the stormwater management design for the subject project, extensive initial investigation of the property and topographic survey were performed. On-site review of the tract was performed by Dynamic Engineering Consultants, PC and VW Consultants LLC to verify existing site conditions and land cover characteristics.

Based on our review of the existing site conditions and the ALTA Survey, Drainage Area Maps for the existing and proposed site conditions as defined within this report were prepared. A preliminary grading plan was developed with consideration to the existing drainage patterns. The plan was designed to ensure runoff from the proposed development could be directed to the proposed conveyance system, swales and basins while meeting or reducing peak flow rates and volumes from post-development to pre-development conditions.

Stormwater runoff generated by the proposed improvements will be collected in a series of inlets and swales, and directed to the MRC and Infiltration Basins. The proposed MRC and

Infiltration Basins have been designed to safely accommodate the 100-yr design storm utilizing the Rational Method.

Runoff volumes for the site were modeled utilizing HydroCAD 10.20-2g computer software, utilizing the method (e.g. SCS TR-20) for the applicable design storms. The 1-, 2-, 5-, 10-, 25-, 50- and 100-year design rainfall depths were obtained from NOAA Atlas 14 for the site with a Type II distribution. The rainfall depths values are included in Appendix E of this narrative. The existing and proposed curve numbers (CN) are outlined in Appendix C and D of this report and were utilized to calculate the runoff rate and volume generated by the development. Associated hydrographs are included in Appendix F and G of this narrative.

VIII. BMP DESIGN

The proposed Stormwater Management BMPs have been designed in conformance with the Pennsylvania Stormwater Best Management Practices Manual and the Newtown Township SWMO. The proposed stormwater management plan contains One (1) aboveground Infiltration Basin and One (1) aboveground Managed Release Concept (MRC) Basin. The BMPs has been designed to provide improved water quality functions, reduce volume and slow the rate of runoff from the subject parcel.

Aboveground Managed Release Concept (MRC) Basin (Alternative BMP)

The aboveground MRC basin has been proposed southeastern corner of the site. The proposed MRC basin was designed to manage runoff rates and volume due to lack of infiltration rates within this portion of the site. Stormwater runoff from the site is collected in a series of inlets and swales to the proposed MRC Basin and then slowly released via a low flow orifice and a proposed outlet control structure. PA DEP has released an MRC design document (Version 1.3, July 9, 2026) that outlines the design standards and MRC BMP selection. The proposed MRC basin will utilize a slow release-orifice that will manage the release of ponded stormwater (below the invert of the next lowest weir/orifice) to meet the MRC design standards including: Runoff capture from the 1.2-inch/2-hour storm and release rate for the 1.2-inch/2-hour storm not to exceed 0.02 CFS from the equivalent impervious area. Pre-treatment in the form of pervious surface runoff/swales is provided. Further the aboveground basins, and the outlet control structures have all been designed with maintenance operations and features to safeguard against sediment build-up within the system. All MRC basin routing and associated calculations have been provided in Appendix G and I.

Design elements incorporated into the MRC basins includes the following:

- Engineered Soil Media for the aboveground basins;
- MRC low flow slow release-orifice;
- Internal water storage volume;
- Perforated underdrain & upturn elbow; and
- Proposed outlet control structure to control rate.

Infiltration Basin (BMP 6.4.2)

The subsurface infiltration basin has been proposed near the southwestern corner of the site. Stormwater runoff from the site is collected via swales and overland flow to the infiltration basin. Design elements incorporated into the infiltration basin include the following:

- Uncompacted sub-grade
- Designed to hold/infiltrate volume difference in 2-yr storms
- Provides positive stormwater overflow through engineered outlet structure & principal emergency spillway
- Not installed on recently placed fill (<5 years)
- Maintains a minimum 2-foot separation to bedrock and seasonally high-water table

"Mosquito/West Nile Virus Control"

The proposed BMP's have been designed per the requirements and recommendations provided in the Pennsylvania Stormwater BMP Manual. This includes minimizing drain times and minimizing standing stagnant water. All these elements, along with the provided maintenance program, will serve to provide stormwater runoff mitigation benefits that limit potential mosquito breeding habitats.

IX. WATER QUALITY AND STREAMBANK EROSION PROTECTION

The water quality and streambank erosion protection design has been developed to satisfy the applicable requirements of the Township Ordinances via a combination of non-structural measures and stormwater BMP's. The intent of the drainage design is to maintain the existing drainage patterns and discharge points while satisfying the applicable water quality and streambank erosion protection criteria. The proposed redevelopment has been designed to minimize disturbance within the limits of the previously undeveloped property area, to protect

existing natural resources, and incorporate landscape and vegetation areas to the fullest extent, in order to preserve natural habitat and vegetation and improve stream quality.

In addition to the aforementioned non-structural measures, various BMPs have been proposed such as the Managed Release Concept (MRC) Basin and Infiltration Basin. These BMP's have been designed to satisfy the Township Ordinances and PA Code Title 25 requirements. This includes reducing the peak flow rates and volumes to the proposed point of interest. Since existing flow patterns are maintained, runoff is reduced and existing outlet protection measures are adequate, no negative downstream impacts are anticipated from the proposed improvements.

X. RUNOFF RATE REDUCTION PERFORMANCE

Per the Township Ordinances, specific post-development peak flow rate reductions are required. The proposed development has been designed to limit the impervious coverage on site as well as provide stormwater BMPs to meet these reduction requirements. The following table provides the existing and proposed peak runoff rate performance for the discharge points:

Pre-Development and Post-Development Peak Runoff Results Summary for DP-01 (Newtown Creek)

PRE VS. POST SUMMARY CHART

Design Storm	Pre-Development (CFS)		Max Allowable (CFS)	Post-Development (CFS)	Reduction in Flow (CFS)
	Off-Site*	On-Site			
1 YR	0.52	2.04	2.56	1.79	**-0.77**
2 YR	0.79	3.72	2.83	2.77	**-0.06**
5 YR	1.29	6.81	5.01	4.86	**-0.15**
10 YR	1.77	9.77	8.58	7.10	**-1.48**
25 YR	2.53	14.44	12.30	10.28	**-2.02**
50 YR	3.24	18.71	17.68	12.89	**-4.79**
100 YR	4.03	23.52	22.74	15.58	**-7.16**

*Off-Site Areas not subject to Newtown Township Rate Reduction Requirements

XI. THERMAL IMPACT ANALYSIS

Thermal impacts will be minimized and mitigated in the construction (E&S) phase by filtering runoff through natural vegetation, and erosion and sediment controls prior to discharging off-site. Cooling will take place in the construction (E&S) phase because the ground will naturally cool stormwater during construction because pavement will be limited and bare/stripped earth will be cooler during construction.

Thermal impacts will be minimized and mitigated in the post construction condition via the utilization of the Managed Release Concept (MRC) Basin and Infiltration Basin, and maximizing landscaping and vegetation which will provide shade and promote infiltration. The MRC and Infiltration Basins have been designed in accordance with the Township Ordinance requirements and PA BMP manual recommendations to provide recharge, water quality and peak flow rate reduction benefits for the contributing drainage area. Thermal impacts will be minimized by the MRC and Infiltration Basins, which will capture the initial runoff (which has the highest temperature). The MRC and Infiltration Basins have been designed with a low-flow orifice that will detain stormwater runoff from the contributing drainage area and thereby allow the surface runoff to cool prior to discharge. In addition, the landscaped and vegetated areas will provide cooling effects from shading impervious areas and allowing precipitation to infiltrate.

XIV. GROUNDWATER RECHARGE

Per correspondence with Bucks County Conservation District and PADEP, and information gathered by VW Consultants, LLC, it has been advised that infiltration is obtainable in the southwestern corner of the site, but should be avoided in the southeastern corner of the site due to lack of measurable results. Based on this correspondence, the stormwater design has been designed to meet the 2-yr volume requirements for PADEP and Newtown Township utilizing a Managed Release Concept (MRC) Basin with a slow-release rate orifice in the southeastern corner of the site and an Infiltration Basin in the southwestern corner of the site. Please refer to Appendix M for the Stormwater Basin Area Investigation Report prepared by VW Consultants, LLC. A summary of field-testing for each proposed basin is as follows:

SWM Basin Investigation Summary						
Pit No.	Pit Depth (in, BGS)	Observed Redox Features (in, BGS)	Depth to Rock (in, BGS)	Depth to Ground Water (in, BGS)	Infiltration Test Depth (in, BGS)	Average Infiltration Rate (in/hr.)
SW-1	80	45 to 55	NE	NE	36	5.25
SW-2	84	30 to 57	NE	NE	60	0.25
SW-3	60	NE	60	NE	36	9.375
SW-4	96	24 to 68	NE	NE	72	0.0
SW-5	96	25 to 66	NE	NE	72	0.0
SW-6	90	26 to 70	NE	NE	66	0.0

NE = Not Encountered

XV. OVERALL PCSM PLAN

The PCSM plan meets the following criteria of §102.8(b) as follows:

1. *Preserves the integrity of stream channels and maintains and protects the physical, biological and chemical qualities of the receiving stream.*

   The site does not contain wetlands. The proposed development area has been located outside all buffer areas and no earth disturbance is proposed in the vicinity of any stream or wetlands. The proposed design minimizes disturbance to undeveloped areas, protects existing natural resources and incorporates landscape and vegetation which will allow for natural evapotranspiration. The proposed drainage design has been prepared to satisfy the performance measures set forth by the Township Ordinance and the requirements of the NPDES permit for discharges associated with construction activity to minimize adverse

impact of stormwater runoff to receiving water bodies and surrounding areas.

2. *Prevent an increase in stormwater runoff rate and volume.*

   The runoff rate and volume will be controlled by the Managed Release Concept (MRC) Basin and Infiltration Basin. The proposed design satisfies the NPDES and Ordinance requirements for volume control. This includes reducing the runoff volumes for 2-year design storm and the runoff rate for design storms up to and including the post-development 100-year storm below pre-development conditions.

3. *Minimizes impervious areas.*

   The proposed design minimizes disturbance to undeveloped areas, protects existing natural resources and incorporates landscape and vegetation which will allow for natural evapotranspiration.

4. *Maximizes the protection of existing drainage features and existing vegetation.*

   The intent of the drainage design is to maintain the existing patterns and discharge points while satisfying the applicable water quality and rate control criteria as required NPDES and the Township Ordinance.

5. *Minimizes land clearing and grading.*

   The proposed design minimizes disturbance to undeveloped areas, protects existing natural resources and incorporates landscape and vegetation which will allow for natural evapotranspiration.

6. *Minimizes soil compaction.*

   Vehicles movement, storage, or equipment/material laydown shall not be permitted in areas where the project is proposing engineered soil media, such as the Managed Release Concept (MRC) Basin and Infiltration Basin. The area shall be protected from vehicular access.

7. *Utilizes structural or nonstructural BMPs that prevent or minimize changes in stormwater runoff.*

   The proposed development has been designed to protect existing natural resources and incorporates landscape and vegetation which will allow for natural evapotranspiration, and maintain the existing patterns and discharge points while satisfying the applicable water quality and rate control criteria as required NPDES and the Township Ordinance.

XVI. CRITICAL STAGES OF PCSM PLAN IMPLEMENTATION

The critical stages of PCSM plan implementation that require oversight by a licensed professional are as follows: The installation of the Managed Release Concept (MRC) and Infiltration Basin, and all associated components as deemed appropriate by PADEP or County Conservation District.

XVII. CONCLUSION

In compliance with Township, County and State requirements, the proposed development of the subject property is designed with provisions for safe and efficient control of stormwater runoff in a manner that will not adversely affect the existing drainage patterns, the adjacent roadways, or adjacent parcels. The proposed development will comply with the Township Ordinances and NPDES Plan requirements for stormwater runoff quality, volume, and quantity. Based on the information summarized in this report, the proposed development will limit impacts on the existing stormwater management system and meet or exceed water quality, runoff rates, and volume requirements.

APPENDIX

USGS MAP

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

LANGHORNE QUADRANGLE
PENNSYLVANIA
7.5-MINUTE SERIES

PIQ

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 18T

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, June 2017 - December 2017
Roads.....U.S. Census Bureau, 2016 - 2016
Names.....GNIS, 1979 - 2023
Hydrography.....National Hydrography Dataset, 2001 - 2022
Contours.....National Elevation Dataset, 2017
Boundaries.....Multiple sources; see metadata file 2021 - 2022

Wetlands.....FWS National Wetlands Inventory 1981 - 2013

UTM GRID AND 2023 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

MN 12°5′ 215 MILS | GN | 0°2′ 1 MILS

U.S. National Grid
100,000 - m Square ID
WK
Grid Zone Designation 18T

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

PENNSYLVANIA
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

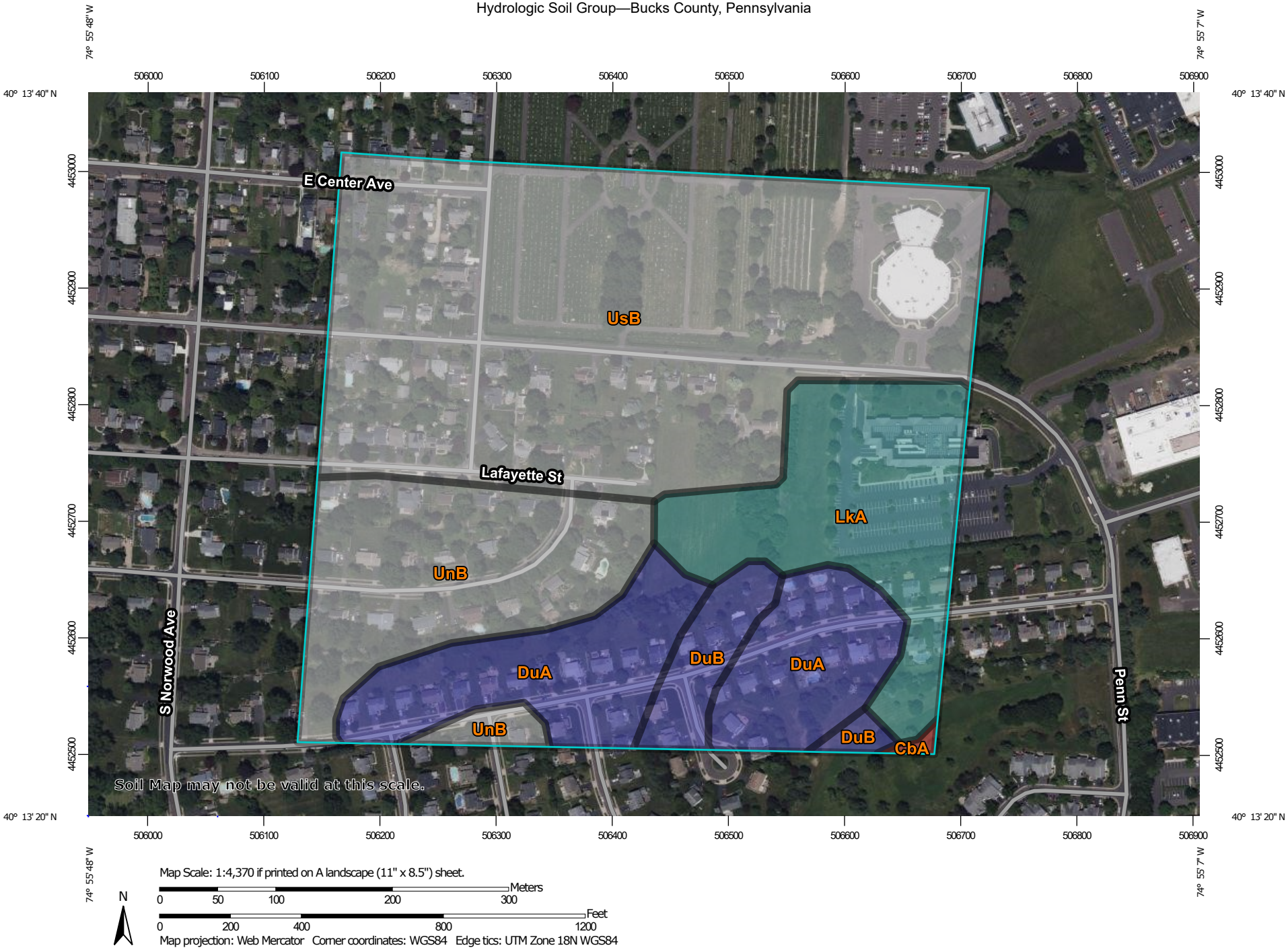
ADJOINING QUADRANGLES
1 Buckingham
2 Lambertville
3 Pennington
4 Hatboro
5 Trenton West
6 Frankford
7 Beverly
8 Bristol

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

LANGHORNE, PA
2023

NSN. 7643016391544
NGA REF NO. USGSX24K24919

NRCS SOIL SURVEY



Map Scale: 1:4,370 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Bucks County, Pennsylvania
Survey Area Data: Version 22, Sep 5, 2025

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

Date(s) aerial images were photographed: Jun 4, 2022—Jul 22, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CbA	Chalfont silt loam, 0 to 3 percent slopes	D	0.1	0.2%
DuA	Duncannon silt loam, 0 to 3 percent slopes	B	10.8	15.9%
DuB	Duncannon silt loam, 3 to 8 percent slopes	B	2.6	3.8%
LkA	Lawrenceville silt loam, 0 to 3 percent slopes	C	9.7	14.3%
UnB	Urban land-Duffield complex, 0 to 8 percent slopes		10.8	15.9%
UsB	Urban land-Lawrenceville complex, 0 to 8 percent slopes		34.0	49.9%
Totals for Area of Interest			**68.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

RUNOFF CURVE NUMBER (CN)
CALCULATIONS – EXISTING

Existing Drainage Area Summary and Average Curve Number(CN) Calculations

Project: DeLuca Construction
Job #: 4709 26-02232
Location: Lafayette Street

Computed By: JRB
Checked By: DCR
Date: 08/20/2026

Drainage Area	Impervious Area (acre)	Impervious Area (sf)	Curve Number (CN) Used	HSG B - Meadow (acre)	HSG B - Meadow (sf)	Curve Number (CN) Used	HSG C- Meadow (acre)	HSG C - Meadow (sf)	Curve Number (CN) Used	HSG B - Woods (acre)	HSG B - Woods (sf)	Curve Number (CN) Used	HSG C - Woods (acre)	HSG C - Woods (sf)	Curve Number (CN) Used	Total Pervious Area (acres)	Total Area (acres)	TC (Min.)
POA 001 (POI 1)	0.06	2,713	98	1.45	63,167	58	2.52	109,799	71	0.16	6,981	55	0.45	19,646	70	4.58	4.64	
20% Onsite Impervious to Meadow **	0.00		98	0.02	678	58	0.00	-	71	0.00	-	55	0.00	-	70	0.02	0.02	
	0.00	-	98	0.00	-	58	0.00	-	71	0.00	-	55	0.00	-	70	0.00	0.00	
	0.00	-	98	0.00	-	58	0.00	-	71	0.00	-	55	0.00	-	70	0.00	0.00	
Total	**0.06**			**1.47**			**2.52**			**0.16**			**0.45**			**4.60**	**4.66**	
Off-Site Area (POI 1)	0.15	6,408	98	0.66	28,684	58	0.00		71	0.00		55	0.00		70	0.66	0.81	
Off-Site Total	**0.15**			**0.66**			**2.52**			**0.00**			**0.00**			**0.66**	**0.81**	

Per County Soil Survey	DuA	HSG	B	Soil	Duncannon silt loam, 0 to 3 percent slopes
Per County Soil Survey	DuB	HSG	B	Soil	Duncannon silt loam, 3 to 8 percent slopes
Per County Soil Survey	LkA	HSG	C	Soil	Lawrenceville silt loam, 0 to 3 percent slopes
Per County Soil Survey	UnB	HSG	B	Soil	Urban land-Duffield complex, 0 to 8 percent slopes
Per County Soil Survey	UsB	HSG	B	Soil	Urban land-Lawrenceville complex, 0 to 8 percent slopes

Description	Runoff Curve Number (CN) (HSG A)	Runoff Curve Number (CN) (HSG B)	Runoff Curve Number (CN) (HSG C)	Runoff Curve Number (CN) (HSG D)
Impervious Surface	98	98	98	98
Open Space (Lawn)	39	61	74	80
Meadow	30	58	71	78
Woods (good)	30	55	70	77

* All onsite open space and grass coverage in existing conditions must be considered as "Meadow" in good condition.
** 20% of the onsite impervious area must be considered as "Meadow" in good condition.

RUNOFF CURVE NUMBER (CN)
CALCULATIONS – PROPOSED

DYNAMIC ENGINEERING

Proposed Drainage Area Summary and Average Curve Number(CN) Calculations

Project: DeLuca Construction
Job #: 4709 26-02232
Location: Lafayette Street

Computed By: JRB
Checked By: DCR
Date: 08/20/2026

Drainage Area	Impervious Area (acre)	Impervious Area (sf)	Curve Number (CN) Used	HSG B - Open Space (acre)	HSG B - Open Space (sf)	Curve Number (CN) Used	HSG C- Open Space (acre)	HSG C - Open Space (sf)	Curve Number (CN) Used	HSG B - Woods (acre)	HSG B - Woods (sf)	Curve Number (CN) Used	HSG C - Woods (acre)	HSG C - Woods (sf)	Curve Number (CN) Used	Total Pervious Area (acres)	Total Area (acres)	TC (Min.)
MRC Basin #1 (POI 1)	0.57	24,649	98	0.55	23,797	61	1.06	46,295	74	0.00	-	55	0.00	-	70	1.61	2.17	
Infiltration Basin #2 (POI 1)	0.10	4,156	98	0.28	12,194	61	0.41	17,861	74	0.00	-	55	0.00	-	70	0.69	0.79	
Bypass (POI 1)	0.10	4,224	98	0.60	26,259	61	1.00	43,576	74	0.00	-	55	0.00	-	70	1.60	1.70	
	0.00	-	98	0.00	-	61	0.00	-	74	0.00	-	55	0.00	-	70	0.00	0.00	
Total	**0.76**			**1.43**			**2.47**			**0.00**			**0.00**			**3.90**	**4.66**	
Off-Site Area (POI 1)	0.15	6,408	98	0.66	28,684	58	0.00		71	0.00		55	0.00		70	0.66	0.81	
Off-Site Total	**0.15**			**0.66**			**2.47**			**0.00**			**0.00**			**0.66**	**0.81**	

Per County Soil Survey	DuA	HSG	B	Soil	Duncannon silt loam, 0 to 3 percent slopes
Per County Soil Survey	DuB	HSG	B	Soil	Duncannon silt loam, 3 to 8 percent slopes
Per County Soil Survey	LkA	HSG	C	Soil	Lawrenceville silt loam, 0 to 3 percent slopes
Per County Soil Survey	UnB	HSG	B	Soil	Urban land-Duffield complex, 0 to 8 percent slopes
Per County Soil Survey	UsB	HSG	B	Soil	Urban land-Lawrenceville complex, 0 to 8 percent slopes

Description	Runoff Curve Number (CN) (HSG A)	Runoff Curve Number (CN) (HSG B)	Runoff Curve Number (CN) (HSG C)	Runoff Curve Number (CN) (HSG D)
Impervious Surface	98	98	98	98
Open Space (Lawn)	39	61	74	80
Meadow	30	58	71	78
Woods (good)	30	55	70	77

* All onsite open space and grass coverage in existing conditions must be considered as "Meadow" in good condition.
** 20% of the onsite impervious area must be considered as "Meadow" in good condition.

NOAA ATLAS 14 RAINFALL DEPTH

NOAA Atlas 14, Volume 2, Version 3
Location name: Newtown, Pennsylvania, USA*
Latitude: 40.2253°, Longitude: -74.9215°
Elevation: 183 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

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

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.345 (0.314-0.379)	0.411 (0.374-0.452)	0.487 (0.442-0.535)	0.542 (0.491-0.596)	0.610 (0.549-0.669)	0.658 (0.590-0.723)	0.706 (0.630-0.778)	0.750 (0.666-0.829)	0.805 (0.708-0.895)	0.847 (0.738-0.947)
10-min	0.550 (0.501-0.606)	0.658 (0.599-0.723)	0.780 (0.707-0.857)	0.867 (0.785-0.952)	0.972 (0.875-1.07)	1.05 (0.939-1.15)	1.12 (1.00-1.24)	1.19 (1.06-1.32)	1.27 (1.12-1.42)	1.33 (1.16-1.49)
15-min	0.688 (0.627-0.757)	0.827 (0.752-0.909)	0.987 (0.895-1.08)	1.10 (0.993-1.20)	1.23 (1.11-1.35)	1.33 (1.19-1.46)	1.42 (1.27-1.56)	1.50 (1.33-1.66)	1.60 (1.41-1.78)	1.68 (1.46-1.87)
30-min	0.943 (0.859-1.04)	1.14 (1.04-1.26)	1.40 (1.27-1.54)	1.59 (1.44-1.75)	1.82 (1.64-2.00)	2.00 (1.79-2.20)	2.17 (1.94-2.39)	2.34 (2.07-2.58)	2.55 (2.24-2.84)	2.71 (2.36-3.03)
60-min	1.18 (1.07-1.29)	1.43 (1.30-1.58)	1.80 (1.63-1.98)	2.07 (1.87-2.27)	2.43 (2.19-2.67)	2.71 (2.43-2.98)	2.99 (2.67-3.30)	3.28 (2.91-3.62)	3.66 (3.22-4.07)	3.96 (3.45-4.42)
2-hr	1.41 (1.28-1.56)	1.72 (1.56-1.89)	2.17 (1.96-2.38)	2.51 (2.27-2.76)	2.98 (2.68-3.27)	3.36 (3.00-3.68)	3.74 (3.32-4.12)	4.13 (3.64-4.56)	4.68 (4.07-5.19)	5.11 (4.40-5.69)
3-hr	1.55 (1.40-1.72)	1.88 (1.71-2.09)	2.38 (2.15-2.64)	2.77 (2.49-3.06)	3.30 (2.95-3.65)	3.73 (3.32-4.12)	4.18 (3.69-4.63)	4.64 (4.06-5.15)	5.28 (4.56-5.89)	5.80 (4.94-6.50)
6-hr	1.96 (1.78-2.17)	2.37 (2.16-2.64)	2.99 (2.70-3.31)	3.49 (3.14-3.86)	4.20 (3.75-4.65)	4.80 (4.25-5.30)	5.43 (4.77-6.02)	6.12 (5.30-6.78)	7.09 (6.04-7.91)	7.90 (6.64-8.87)
12-hr	2.38 (2.17-2.65)	2.88 (2.62-3.21)	3.65 (3.31-4.06)	4.30 (3.88-4.78)	5.27 (4.70-5.84)	6.10 (5.39-6.76)	7.01 (6.12-7.78)	8.01 (6.89-8.93)	9.51 (7.99-10.7)	10.8 (8.91-12.2)
24-hr	2.77 (2.56-3.00)	3.34 (3.10-3.62)	4.22 (3.91-4.58)	4.97 (4.58-5.38)	6.06 (5.55-6.55)	7.00 (6.36-7.55)	8.02 (7.23-8.64)	9.13 (8.15-9.85)	10.8 (9.48-11.7)	12.2 (10.6-13.2)
2-day	3.20 (2.96-3.48)	3.87 (3.58-4.21)	4.90 (4.52-5.33)	5.75 (5.28-6.25)	6.98 (6.37-7.56)	8.01 (7.27-8.67)	9.12 (8.22-9.87)	10.3 (9.22-11.2)	12.1 (10.6-13.1)	13.5 (11.8-14.7)
3-day	3.39 (3.14-3.68)	4.09 (3.80-4.44)	5.16 (4.77-5.59)	6.03 (5.57-6.53)	7.29 (6.69-7.88)	8.33 (7.60-9.00)	9.46 (8.57-10.2)	10.7 (9.59-11.5)	12.4 (11.0-13.4)	13.8 (12.2-15.0)
4-day	3.58 (3.33-3.87)	4.32 (4.02-4.67)	5.42 (5.03-5.86)	6.31 (5.85-6.82)	7.60 (7.00-8.20)	8.66 (7.94-9.33)	9.79 (8.93-10.6)	11.0 (9.96-11.9)	12.7 (11.4-13.8)	14.2 (12.6-15.3)
7-day	4.19 (3.90-4.52)	5.03 (4.69-5.43)	6.24 (5.79-6.72)	7.23 (6.70-7.79)	8.65 (7.98-9.30)	9.84 (9.04-10.6)	11.1 (10.1-11.9)	12.4 (11.3-13.4)	14.4 (12.9-15.5)	15.9 (14.2-17.2)
10-day	4.78 (4.48-5.12)	5.72 (5.35-6.13)	6.98 (6.52-7.48)	8.01 (7.47-8.57)	9.44 (8.77-10.1)	10.6 (9.81-11.3)	11.8 (10.9-12.6)	13.1 (12.0-14.0)	14.8 (13.5-15.9)	16.3 (14.7-17.5)
20-day	6.46 (6.09-6.86)	7.67 (7.23-8.14)	9.16 (8.63-9.73)	10.3 (9.72-11.0)	11.9 (11.2-12.7)	13.2 (12.3-14.0)	14.4 (13.5-15.3)	15.7 (14.6-16.7)	17.4 (16.1-18.6)	18.8 (17.2-20.0)
30-day	8.05 (7.63-8.48)	9.49 (8.99-10.0)	11.1 (10.5-11.7)	12.3 (11.7-13.0)	14.0 (13.2-14.7)	15.2 (14.3-16.0)	16.4 (15.4-17.3)	17.6 (16.5-18.6)	19.2 (17.9-20.3)	20.4 (18.9-21.6)
45-day	10.3 (9.77-10.8)	12.1 (11.5-12.7)	13.9 (13.2-14.6)	15.3 (14.5-16.0)	17.0 (16.2-17.9)	18.3 (17.4-19.2)	19.6 (18.5-20.6)	20.8 (19.6-21.8)	22.2 (20.9-23.4)	23.3 (21.9-24.6)
60-day	12.3 (11.7-12.9)	14.4 (13.8-15.1)	16.4 (15.7-17.2)	18.0 (17.2-18.8)	19.9 (19.0-20.8)	21.3 (20.3-22.3)	22.6 (21.5-23.6)	23.8 (22.6-24.9)	25.3 (23.9-26.5)	26.3 (24.8-27.7)

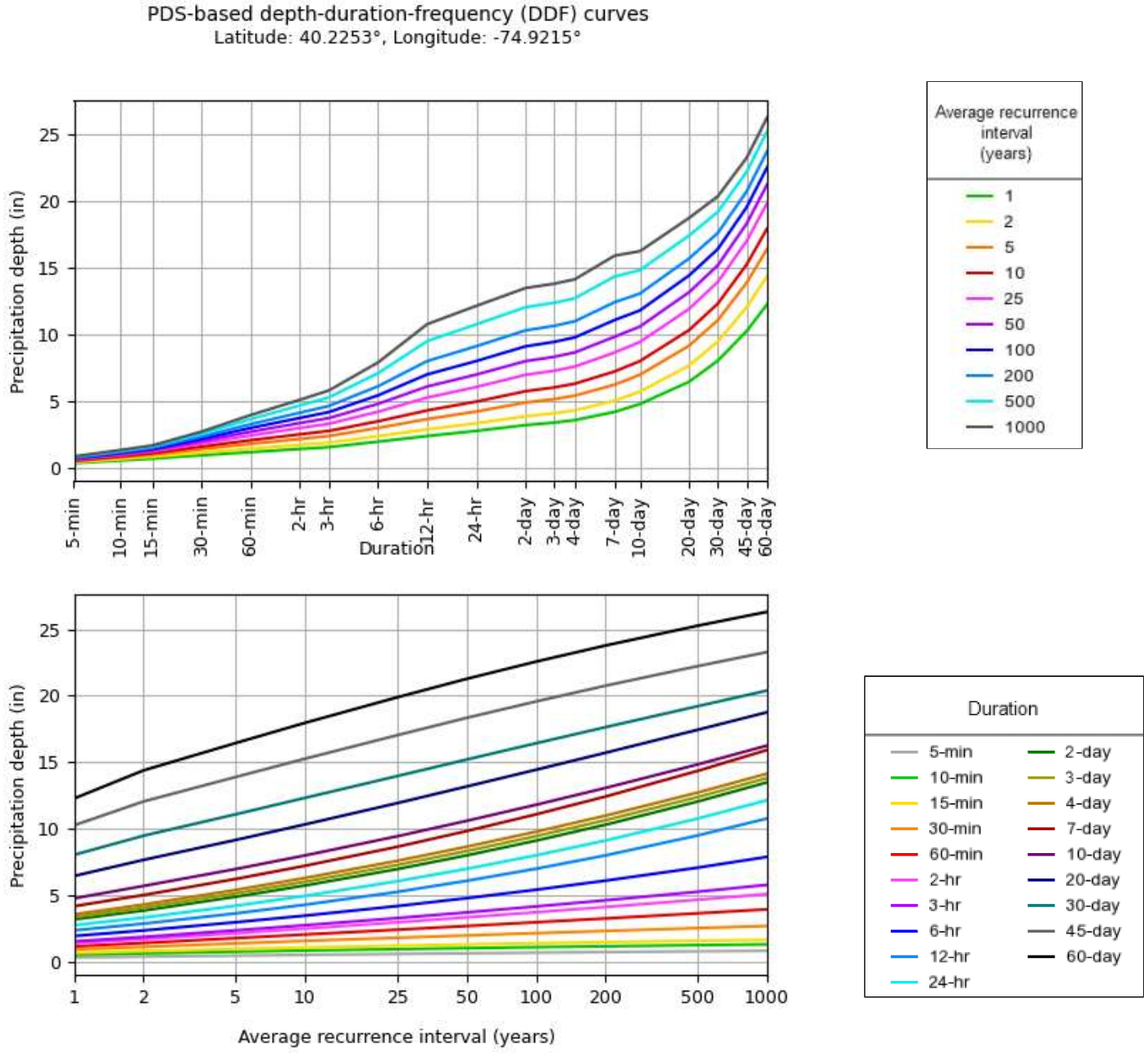
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



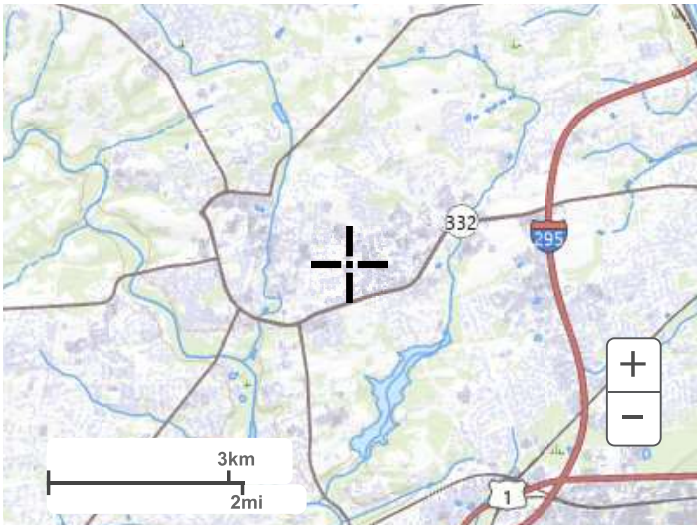
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Maps & aerials

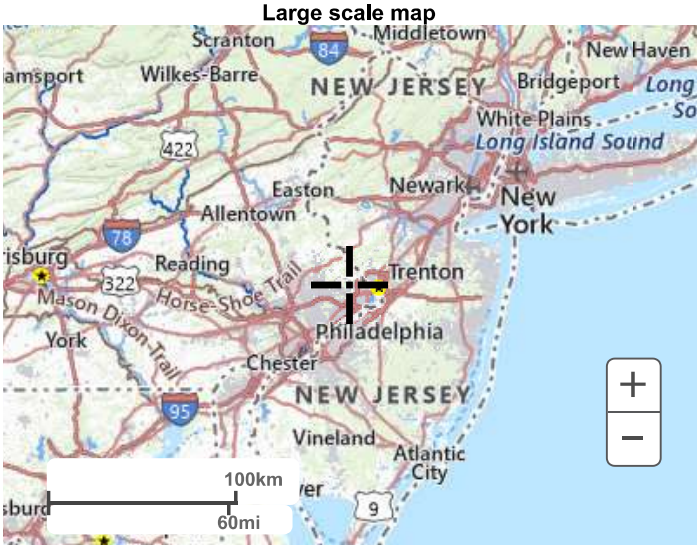
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



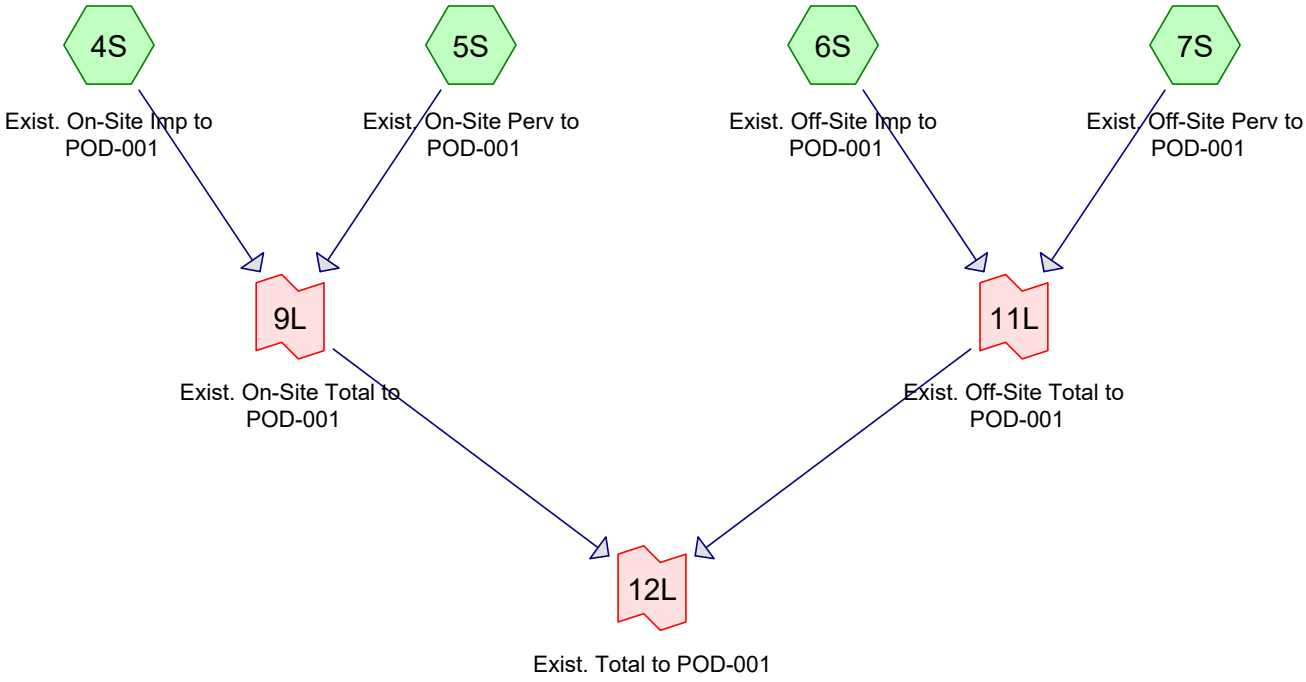
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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

HYDROGRAPH SUMMARY REPORTS – EXISTING CONDITIONS

1 YR, 2 YR, 5 YR, 10 YR, 25 YR, 50 YR & 100 YR



Subcat Reach Pond Link

Routing Diagram for DeLuca Lafayette (Rock) - HydroCAD
Prepared by Dynamic Engineering, Printed 9/8/2026
HydroCAD® 10.20-9a s/n 08640 © 2026 HydroCAD Software Solutions LLC

Summary for Subcatchment 4S: Exist. On-Site Imp to POD-001

Runoff = 0.13 cfs @ 1.22 hrs, Volume= 223 cf, Depth= 0.99"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
2,713	98	Paved parking, HSG B
2,713	98	100.00% Impervious Area

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

Summary for Subcatchment 5S: Exist. On-Site Perv to POD-001

Runoff = 0.05 cfs @ 1.87 hrs, Volume= 90 cf, Depth= 0.01"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

	Area (sf)	CN	Description
	63,167	58	Meadow, non-grazed, HSG B
	109,799	71	Meadow, non-grazed, HSG C
	6,981	55	Woods, Good, HSG B
	19,646	70	Woods, Good, HSG C
*	678	58	Impervious (20% as Meadow)
	200,271	66	Weighted Average
	200,271	66	100.00% Pervious Area

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

Summary for Subcatchment 6S: Exist. Off-Site Imp to POD-001

Runoff = 0.30 cfs @ 1.22 hrs, Volume= 526 cf, Depth= 0.99"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
6,408	98	Paved parking, HSG B
6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 7S: Exist. Off-Site Perv to POD-001

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Link 9L: Exist. On-Site Total to POD-001

Inflow Area = 202,984 sf, 1.34% Impervious, Inflow Depth = 0.02" for MRC event
Inflow = 0.13 cfs @ 1.22 hrs, Volume= 313 cf
Primary = 0.13 cfs @ 1.22 hrs, Volume= 313 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 11L: Exist. Off-Site Total to POD-001

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 0.18" for MRC event
Inflow = 0.30 cfs @ 1.22 hrs, Volume= 526 cf
Primary = 0.30 cfs @ 1.22 hrs, Volume= 526 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 12L: Exist. Total to POD-001

Inflow Area = 238,076 sf, 3.83% Impervious, Inflow Depth = 0.04" for MRC event
Inflow = 0.43 cfs @ 1.22 hrs, Volume= 839 cf
Primary = 0.43 cfs @ 1.22 hrs, Volume= 839 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 4S: Exist. On-Site Imp to POD-001

Runoff = 0.18 cfs @ 12.07 hrs, Volume= 574 cf, Depth= 2.54"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
2,713	98	Paved parking, HSG B
2,713	98	100.00% Impervious Area

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

Summary for Subcatchment 5S: Exist. On-Site Perv to POD-001

Runoff = 1.87 cfs @ 12.12 hrs, Volume= 7,330 cf, Depth= 0.44"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

	Area (sf)	CN	Description
	63,167	58	Meadow, non-grazed, HSG B
	109,799	71	Meadow, non-grazed, HSG C
	6,981	55	Woods, Good, HSG B
	19,646	70	Woods, Good, HSG C
*	678	58	Impervious (20% as Meadow)
	200,271	66	Weighted Average
	200,271	66	100.00% Pervious Area

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

Summary for Subcatchment 6S: Exist. Off-Site Imp to POD-001

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 1,356 cf, Depth= 2.54"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
6,408	98	Paved parking, HSG B
6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 7S: Exist. Off-Site Perv to POD-001

Runoff = 0.12 cfs @ 12.15 hrs, Volume= 674 cf, Depth= 0.28"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Link 9L: Exist. On-Site Total to POD-001

Inflow Area = 202,984 sf, 1.34% Impervious, Inflow Depth = 0.47" for 1-YR event
Inflow = 2.04 cfs @ 12.12 hrs, Volume= 7,904 cf
Primary = 2.04 cfs @ 12.12 hrs, Volume= 7,904 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 11L: Exist. Off-Site Total to POD-001

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 0.69" for 1-YR event
Inflow = 0.52 cfs @ 12.09 hrs, Volume= 2,030 cf
Primary = 0.52 cfs @ 12.09 hrs, Volume= 2,030 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 12L: Exist. Total to POD-001

Inflow Area = 238,076 sf, 3.83% Impervious, Inflow Depth = 0.50" for 1-YR event
Inflow = 2.55 cfs @ 12.11 hrs, Volume= 9,934 cf
Primary = 2.55 cfs @ 12.11 hrs, Volume= 9,934 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 4S: Exist. On-Site Imp to POD-001

Runoff = 0.21 cfs @ 12.07 hrs, Volume= 702 cf, Depth= 3.11"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
2,713	98	Paved parking, HSG B
2,713	98	100.00% Impervious Area

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

Summary for Subcatchment 5S: Exist. On-Site Perv to POD-001

Runoff = 3.51 cfs @ 12.11 hrs, Volume= 11,933 cf, Depth= 0.71"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

	Area (sf)	CN	Description
	63,167	58	Meadow, non-grazed, HSG B
	109,799	71	Meadow, non-grazed, HSG C
	6,981	55	Woods, Good, HSG B
	19,646	70	Woods, Good, HSG C
*	678	58	Impervious (20% as Meadow)
	200,271	66	Weighted Average
	200,271	66	100.00% Pervious Area

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

Summary for Subcatchment 6S: Exist. Off-Site Imp to POD-001

Runoff = 0.51 cfs @ 12.07 hrs, Volume= 1,659 cf, Depth= 3.11"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
6,408	98	Paved parking, HSG B
6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 7S: Exist. Off-Site Perv to POD-001

Runoff = 0.30 cfs @ 12.12 hrs, Volume= 1,201 cf, Depth= 0.50"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Link 9L: Exist. On-Site Total to POD-001

Inflow Area = 202,984 sf, 1.34% Impervious, Inflow Depth = 0.75" for 2-YR event
Inflow = 3.72 cfs @ 12.11 hrs, Volume= 12,635 cf
Primary = 3.72 cfs @ 12.11 hrs, Volume= 12,635 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 11L: Exist. Off-Site Total to POD-001

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 0.98" for 2-YR event
Inflow = 0.79 cfs @ 12.09 hrs, Volume= 2,860 cf
Primary = 0.79 cfs @ 12.09 hrs, Volume= 2,860 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 12L: Exist. Total to POD-001

Inflow Area = 238,076 sf, 3.83% Impervious, Inflow Depth = 0.78" for 2-YR event
Inflow = 4.51 cfs @ 12.10 hrs, Volume= 15,496 cf
Primary = 4.51 cfs @ 12.10 hrs, Volume= 15,496 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 4S: Exist. On-Site Imp to POD-001

Runoff = 0.27 cfs @ 12.07 hrs, Volume= 901 cf, Depth= 3.98"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
2,713	98	Paved parking, HSG B
2,713	98	100.00% Impervious Area

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

Summary for Subcatchment 5S: Exist. On-Site Perv to POD-001

Runoff = 6.54 cfs @ 12.10 hrs, Volume= 20,357 cf, Depth= 1.22"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

	Area (sf)	CN	Description
	63,167	58	Meadow, non-grazed, HSG B
	109,799	71	Meadow, non-grazed, HSG C
	6,981	55	Woods, Good, HSG B
	19,646	70	Woods, Good, HSG C
*	678	58	Impervious (20% as Meadow)
	200,271	66	Weighted Average
	200,271	66	100.00% Pervious Area

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

Summary for Subcatchment 6S: Exist. Off-Site Imp to POD-001

Runoff = 0.64 cfs @ 12.07 hrs, Volume= 2,128 cf, Depth= 3.98"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
6,408	98	Paved parking, HSG B
6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 7S: Exist. Off-Site Perv to POD-001

Runoff = 0.66 cfs @ 12.11 hrs, Volume= 2,215 cf, Depth= 0.93"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Link 9L: Exist. On-Site Total to POD-001

Inflow Area = 202,984 sf, 1.34% Impervious, Inflow Depth = 1.26" for 5-YR event
Inflow = 6.81 cfs @ 12.10 hrs, Volume= 21,258 cf
Primary = 6.81 cfs @ 12.10 hrs, Volume= 21,258 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 11L: Exist. Off-Site Total to POD-001

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 1.49" for 5-YR event
Inflow = 1.29 cfs @ 12.09 hrs, Volume= 4,343 cf
Primary = 1.29 cfs @ 12.09 hrs, Volume= 4,343 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 12L: Exist. Total to POD-001

Inflow Area = 238,076 sf, 3.83% Impervious, Inflow Depth = 1.29" for 5-YR event
Inflow = 8.10 cfs @ 12.10 hrs, Volume= 25,601 cf
Primary = 8.10 cfs @ 12.10 hrs, Volume= 25,601 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 4S: Exist. On-Site Imp to POD-001

Runoff = 0.32 cfs @ 12.07 hrs, Volume= 1,070 cf, Depth= 4.73"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
2,713	98	Paved parking, HSG B
2,713	98	100.00% Impervious Area

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

Summary for Subcatchment 5S: Exist. On-Site Perv to POD-001

Runoff = 9.45 cfs @ 12.09 hrs, Volume= 28,493 cf, Depth= 1.71"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

	Area (sf)	CN	Description
	63,167	58	Meadow, non-grazed, HSG B
	109,799	71	Meadow, non-grazed, HSG C
	6,981	55	Woods, Good, HSG B
	19,646	70	Woods, Good, HSG C
*	678	58	Impervious (20% as Meadow)
	200,271	66	Weighted Average
	200,271	66	100.00% Pervious Area

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

Summary for Subcatchment 6S: Exist. Off-Site Imp to POD-001

Runoff = 0.76 cfs @ 12.07 hrs, Volume= 2,528 cf, Depth= 4.73"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
6,408	98	Paved parking, HSG B
6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 7S: Exist. Off-Site Perv to POD-001

Runoff = 1.02 cfs @ 12.10 hrs, Volume= 3,230 cf, Depth= 1.35"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Link 9L: Exist. On-Site Total to POD-001

Inflow Area = 202,984 sf, 1.34% Impervious, Inflow Depth = 1.75" for 10-YR event
Inflow = 9.77 cfs @ 12.09 hrs, Volume= 29,563 cf
Primary = 9.77 cfs @ 12.09 hrs, Volume= 29,563 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 11L: Exist. Off-Site Total to POD-001

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 1.97" for 10-YR event
Inflow = 1.77 cfs @ 12.09 hrs, Volume= 5,757 cf
Primary = 1.77 cfs @ 12.09 hrs, Volume= 5,757 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 12L: Exist. Total to POD-001

Inflow Area = 238,076 sf, 3.83% Impervious, Inflow Depth = 1.78" for 10-YR event
Inflow = 11.54 cfs @ 12.09 hrs, Volume= 35,320 cf
Primary = 11.54 cfs @ 12.09 hrs, Volume= 35,320 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 4S: Exist. On-Site Imp to POD-001

Runoff = 0.39 cfs @ 12.07 hrs, Volume= 1,316 cf, Depth= 5.82"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
2,713	98	Paved parking, HSG B
2,713	98	100.00% Impervious Area

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

Summary for Subcatchment 5S: Exist. On-Site Perv to POD-001

Runoff = 14.05 cfs @ 12.09 hrs, Volume= 41,469 cf, Depth= 2.48"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

	Area (sf)	CN	Description
	63,167	58	Meadow, non-grazed, HSG B
	109,799	71	Meadow, non-grazed, HSG C
	6,981	55	Woods, Good, HSG B
	19,646	70	Woods, Good, HSG C
*	678	58	Impervious (20% as Meadow)
	200,271	66	Weighted Average
	200,271	66	100.00% Pervious Area

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

Summary for Subcatchment 6S: Exist. Off-Site Imp to POD-001

Runoff = 0.93 cfs @ 12.07 hrs, Volume= 3,109 cf, Depth= 5.82"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
6,408	98	Paved parking, HSG B
6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 7S: Exist. Off-Site Perv to POD-001

Runoff = 1.62 cfs @ 12.09 hrs, Volume= 4,890 cf, Depth= 2.05"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Link 9L: Exist. On-Site Total to POD-001

Inflow Area = 202,984 sf, 1.34% Impervious, Inflow Depth = 2.53" for 25-YR event
Inflow = 14.44 cfs @ 12.09 hrs, Volume= 42,785 cf
Primary = 14.44 cfs @ 12.09 hrs, Volume= 42,785 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 11L: Exist. Off-Site Total to POD-001

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 2.74" for 25-YR event
Inflow = 2.53 cfs @ 12.09 hrs, Volume= 7,999 cf
Primary = 2.53 cfs @ 12.09 hrs, Volume= 7,999 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 12L: Exist. Total to POD-001

Inflow Area = 238,076 sf, 3.83% Impervious, Inflow Depth = 2.56" for 25-YR event
Inflow = 16.97 cfs @ 12.09 hrs, Volume= 50,784 cf
Primary = 16.97 cfs @ 12.09 hrs, Volume= 50,784 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 4S: Exist. On-Site Imp to POD-001

Runoff = 0.45 cfs @ 12.07 hrs, Volume= 1,529 cf, Depth= 6.76"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
2,713	98	Paved parking, HSG B
2,713	98	100.00% Impervious Area

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

Summary for Subcatchment 5S: Exist. On-Site Perv to POD-001

Runoff = 18.26 cfs @ 12.09 hrs, Volume= 53,480 cf, Depth= 3.20"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

	Area (sf)	CN	Description
	63,167	58	Meadow, non-grazed, HSG B
	109,799	71	Meadow, non-grazed, HSG C
	6,981	55	Woods, Good, HSG B
	19,646	70	Woods, Good, HSG C
*	678	58	Impervious (20% as Meadow)
	200,271	66	Weighted Average
	200,271	66	100.00% Pervious Area

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

Summary for Subcatchment 6S: Exist. Off-Site Imp to POD-001

Runoff = 1.07 cfs @ 12.07 hrs, Volume= 3,610 cf, Depth= 6.76"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
6,408	98	Paved parking, HSG B
6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 7S: Exist. Off-Site Perv to POD-001

Runoff = 2.17 cfs @ 12.09 hrs, Volume= 6,459 cf, Depth= 2.70"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Link 9L: Exist. On-Site Total to POD-001

Inflow Area = 202,984 sf, 1.34% Impervious, Inflow Depth = 3.25" for 50-YR event
Inflow = 18.71 cfs @ 12.09 hrs, Volume= 55,008 cf
Primary = 18.71 cfs @ 12.09 hrs, Volume= 55,008 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 11L: Exist. Off-Site Total to POD-001

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 3.44" for 50-YR event
Inflow = 3.24 cfs @ 12.09 hrs, Volume= 10,069 cf
Primary = 3.24 cfs @ 12.09 hrs, Volume= 10,069 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 12L: Exist. Total to POD-001

Inflow Area = 238,076 sf, 3.83% Impervious, Inflow Depth = 3.28" for 50-YR event
Inflow = 21.95 cfs @ 12.09 hrs, Volume= 65,077 cf
Primary = 21.95 cfs @ 12.09 hrs, Volume= 65,077 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 4S: Exist. On-Site Imp to POD-001

Runoff = 0.52 cfs @ 12.07 hrs, Volume= 1,759 cf, Depth= 7.78"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
2,713	98	Paved parking, HSG B
2,713	98	100.00% Impervious Area

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

Summary for Subcatchment 5S: Exist. On-Site Perv to POD-001

Runoff = 23.01 cfs @ 12.09 hrs, Volume= 67,157 cf, Depth= 4.02"
Routed to Link 9L : Exist. On-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

	Area (sf)	CN	Description
	63,167	58	Meadow, non-grazed, HSG B
	109,799	71	Meadow, non-grazed, HSG C
	6,981	55	Woods, Good, HSG B
	19,646	70	Woods, Good, HSG C
*	678	58	Impervious (20% as Meadow)
	200,271	66	Weighted Average
	200,271	66	100.00% Pervious Area

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

Summary for Subcatchment 6S: Exist. Off-Site Imp to POD-001

Runoff = 1.23 cfs @ 12.07 hrs, Volume= 4,155 cf, Depth= 7.78"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
6,408	98	Paved parking, HSG B
6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 7S: Exist. Off-Site Perv to POD-001

Runoff = 2.81 cfs @ 12.09 hrs, Volume= 8,270 cf, Depth= 3.46"
Routed to Link 11L : Exist. Off-Site Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Link 9L: Exist. On-Site Total to POD-001

Inflow Area = 202,984 sf, 1.34% Impervious, Inflow Depth = 4.07" for 100-YR event
Inflow = 23.52 cfs @ 12.08 hrs, Volume= 68,916 cf
Primary = 23.52 cfs @ 12.08 hrs, Volume= 68,916 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 11L: Exist. Off-Site Total to POD-001

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 4.25" for 100-YR event
Inflow = 4.03 cfs @ 12.08 hrs, Volume= 12,425 cf
Primary = 4.03 cfs @ 12.08 hrs, Volume= 12,425 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 12L : Exist. Total to POD-001

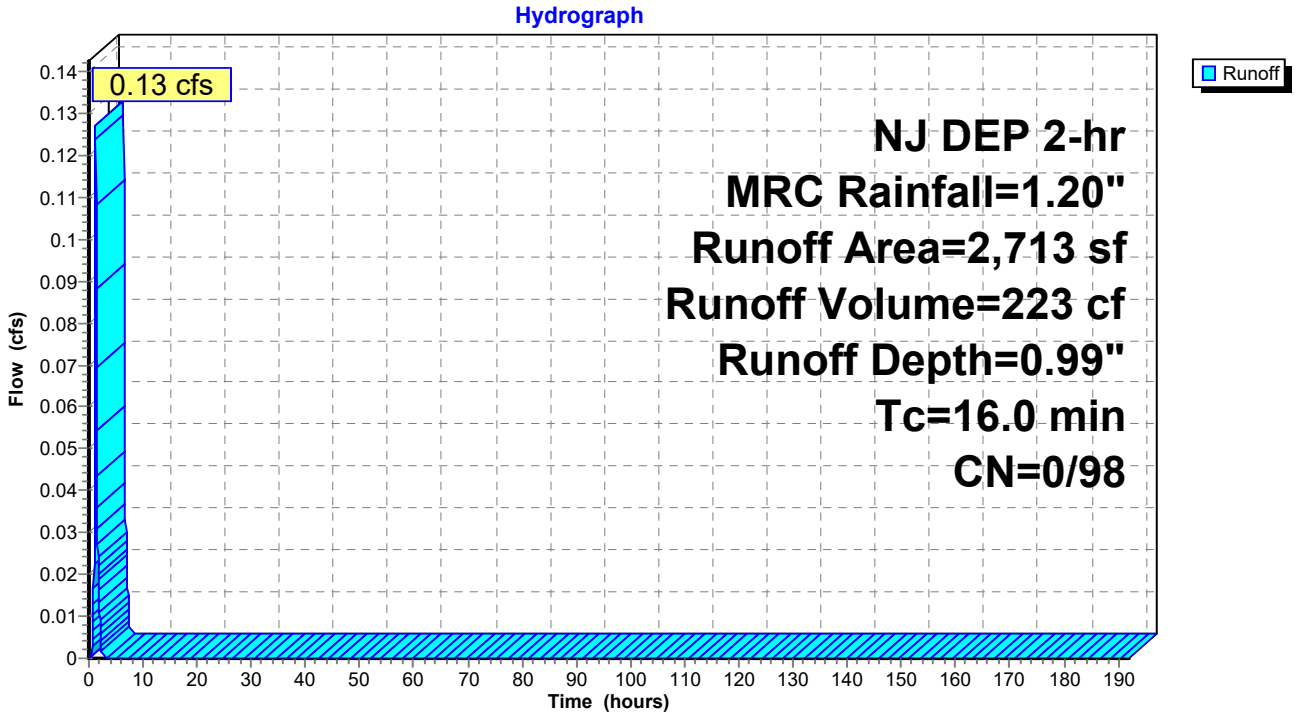
Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 12L: Exist. Total to POD-001

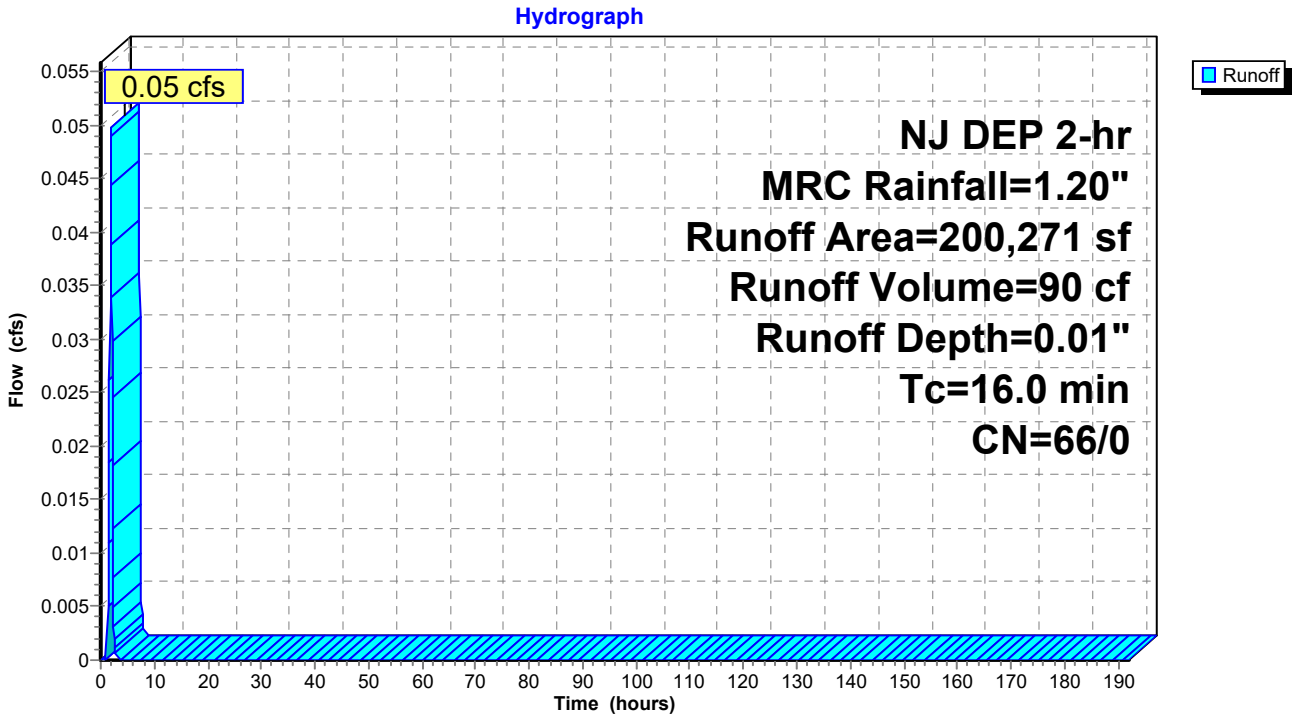
Inflow Area = 238,076 sf, 3.83% Impervious, Inflow Depth = 4.10" for 100-YR event
Inflow = 27.56 cfs @ 12.08 hrs, Volume= 81,341 cf
Primary = 27.56 cfs @ 12.08 hrs, Volume= 81,341 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

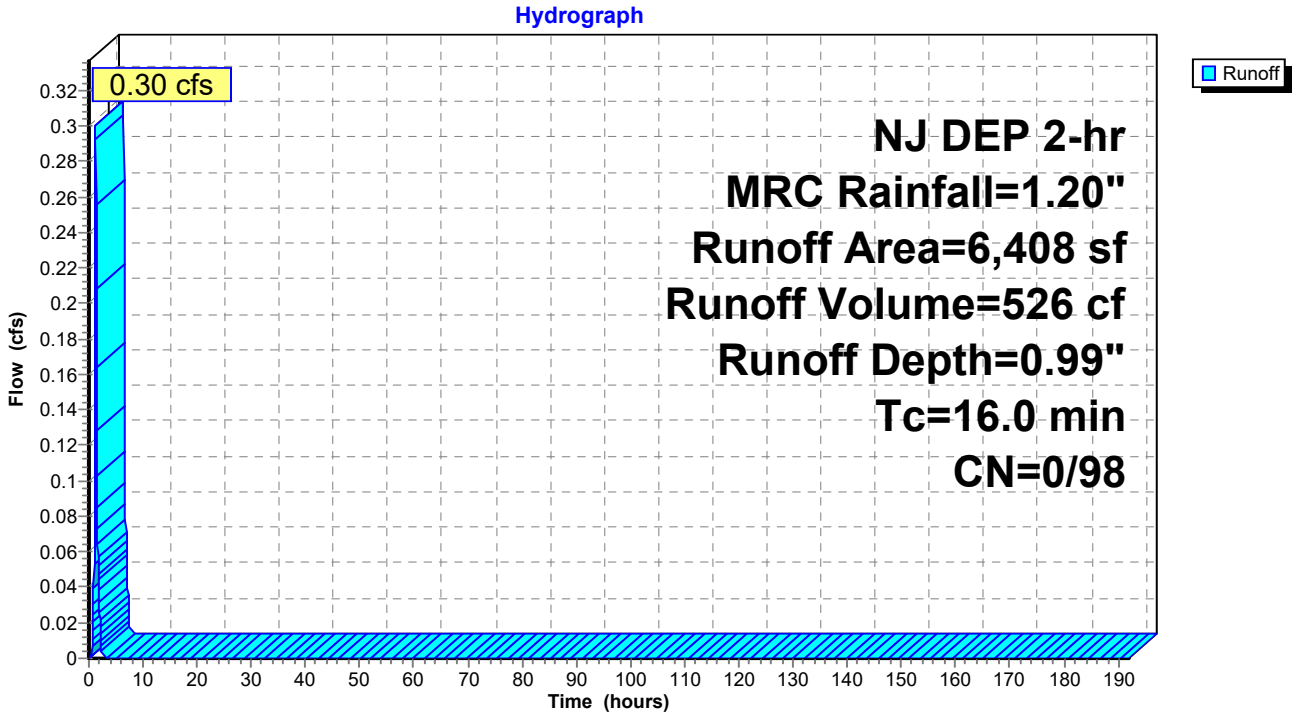
Subcatchment 4S: Exist. On-Site Imp to POD-001



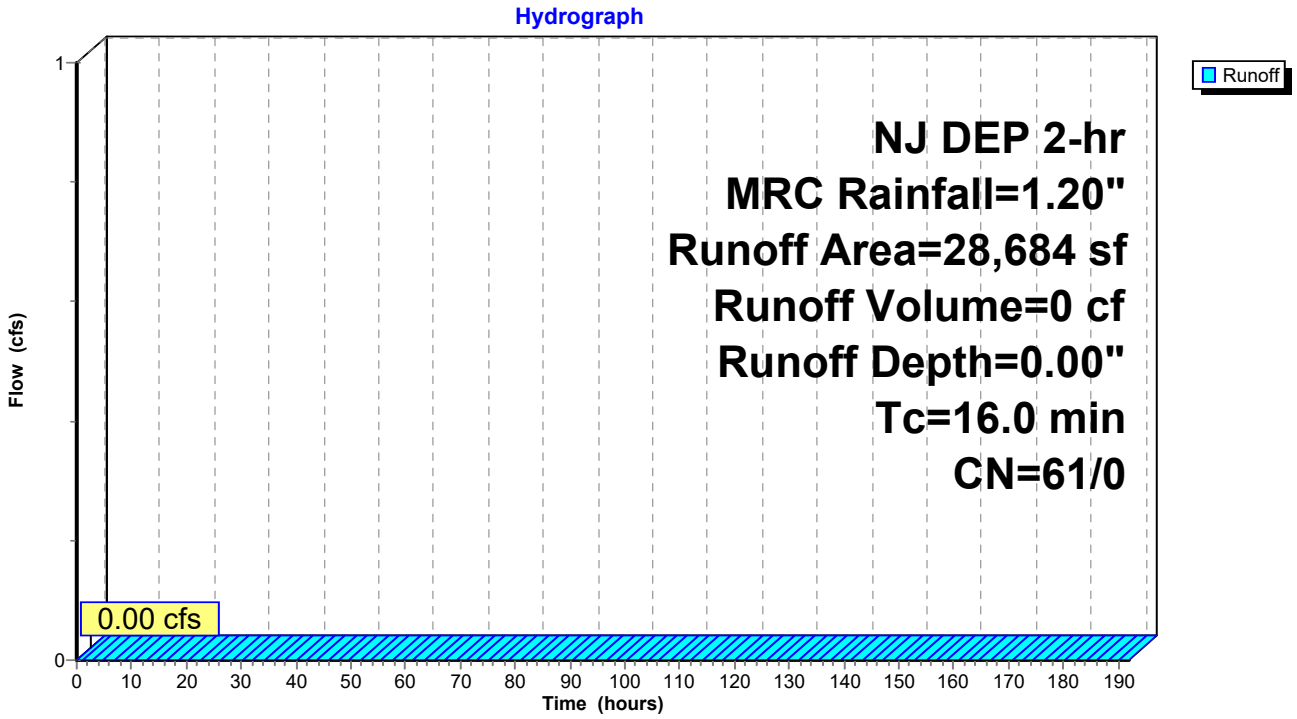
Subcatchment 5S: Exist. On-Site Perv to POD-001



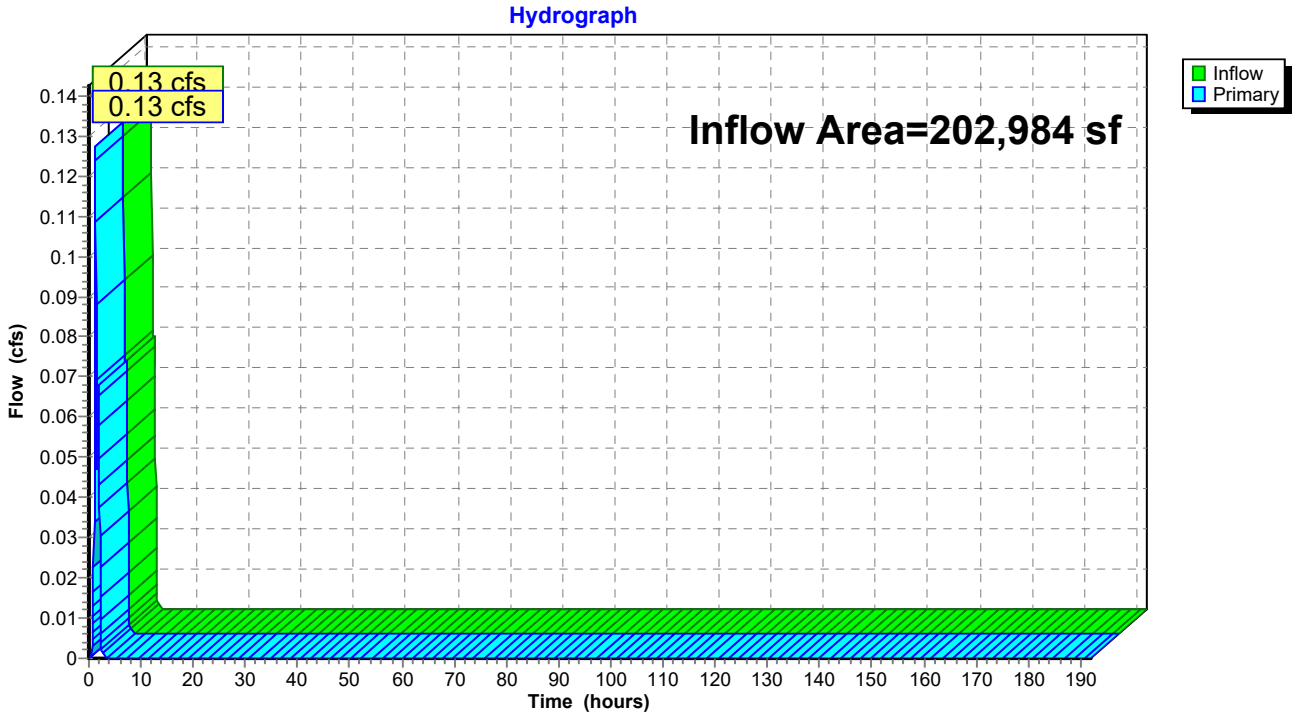
Subcatchment 6S: Exist. Off-Site Imp to POD-001



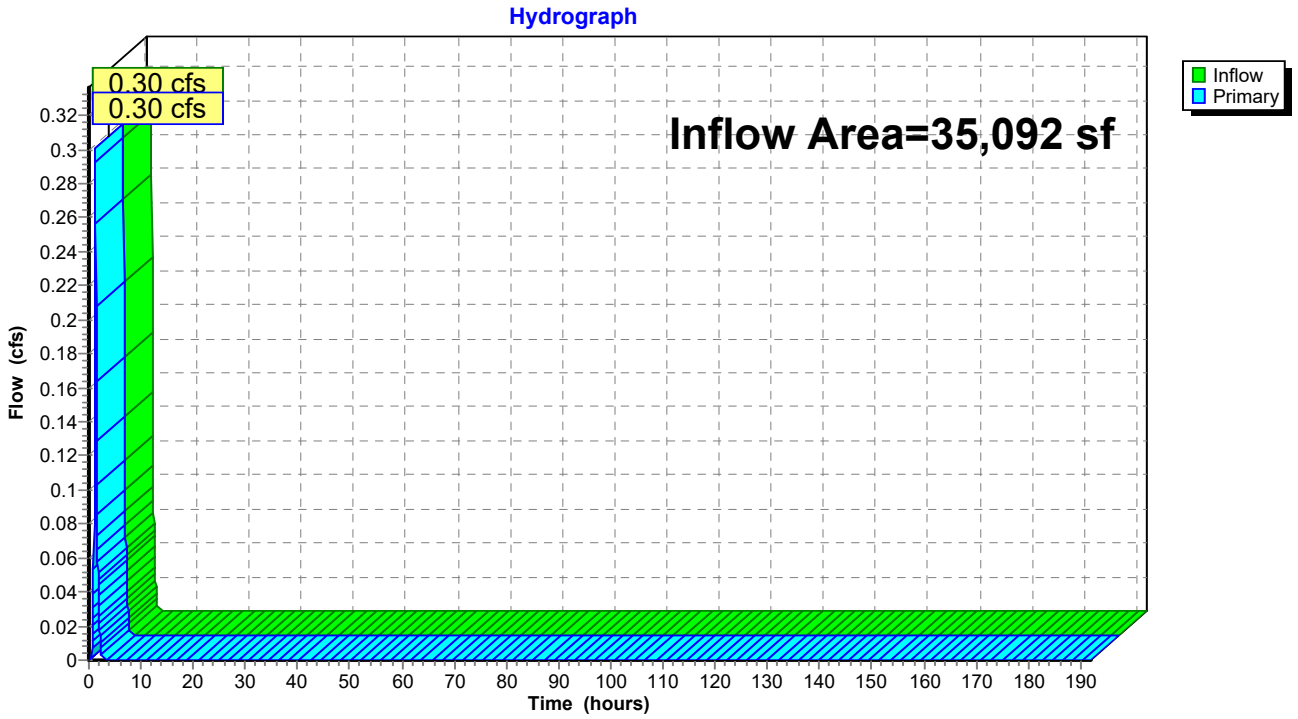
Subcatchment 7S: Exist. Off-Site Perv to POD-001



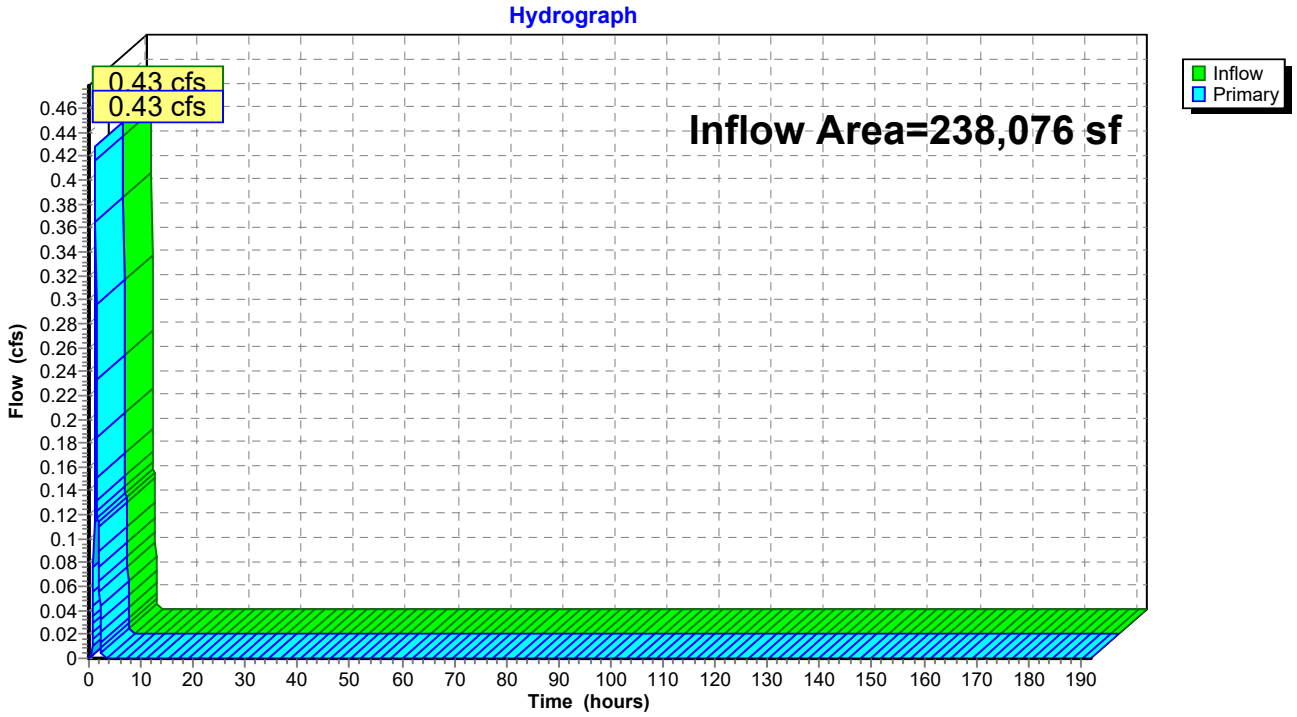
Link 9L: Exist. On-Site Total to POD-001



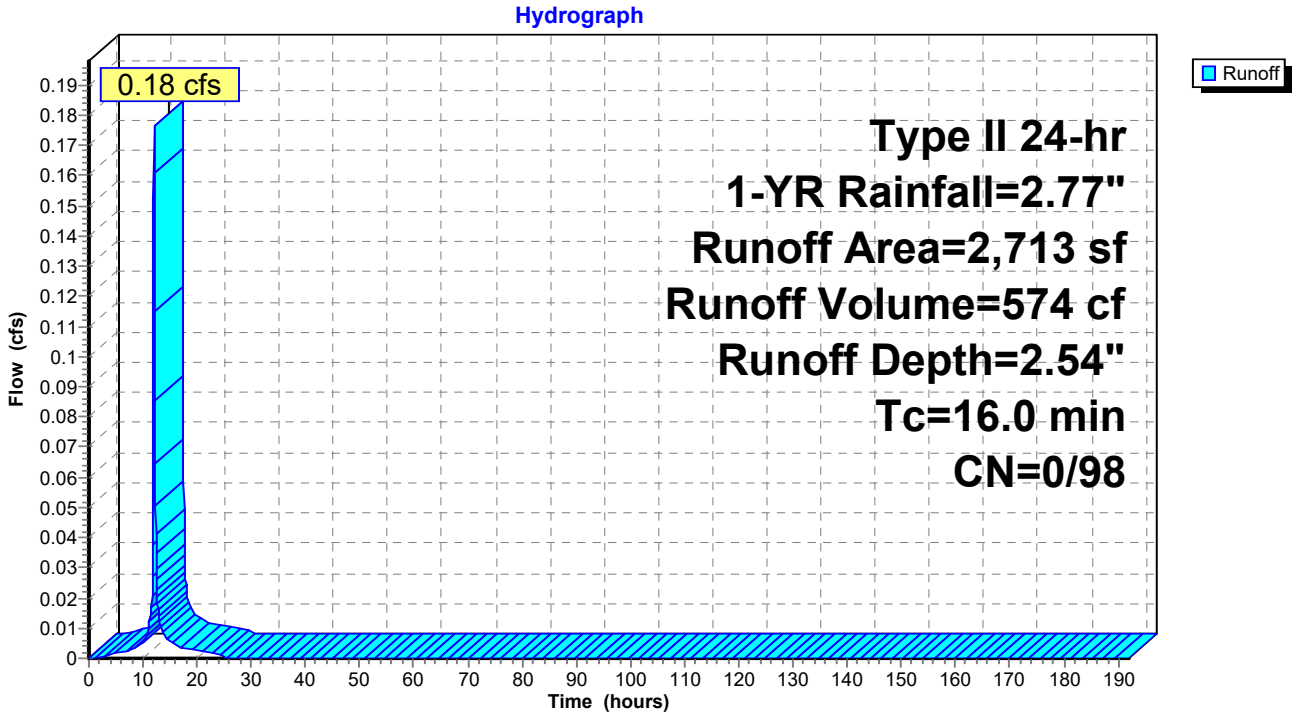
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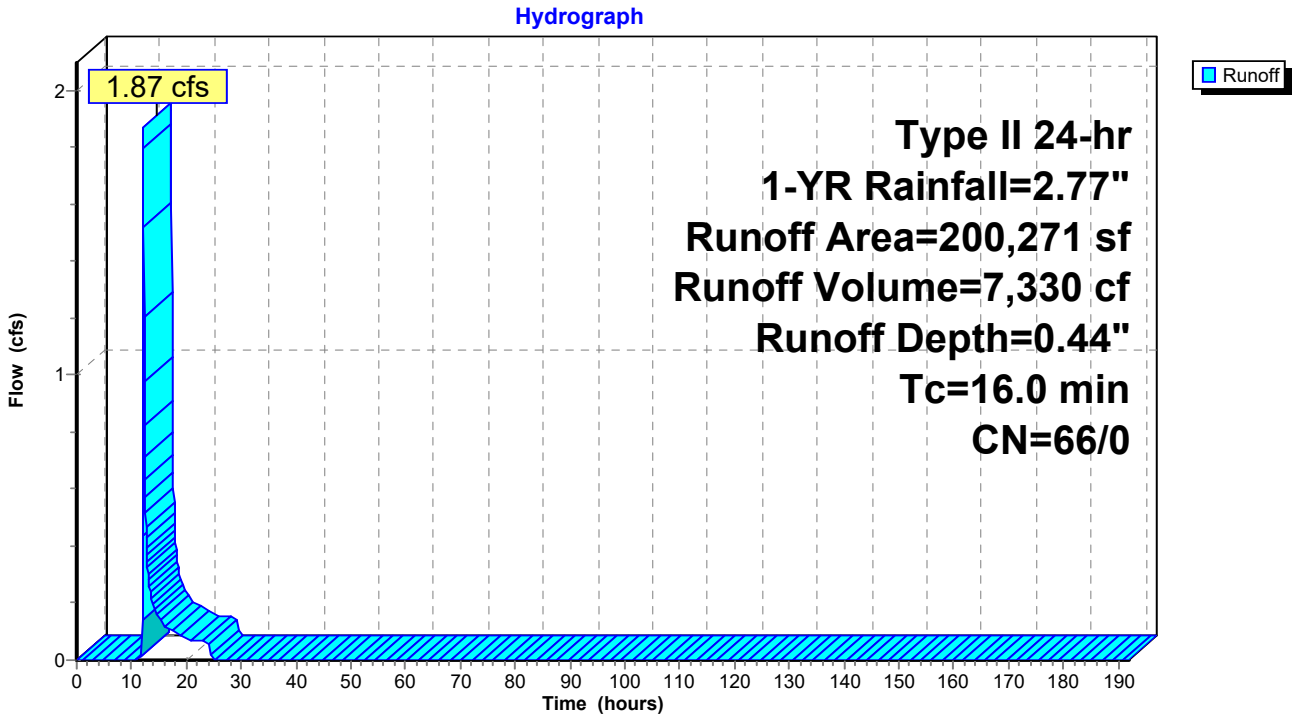
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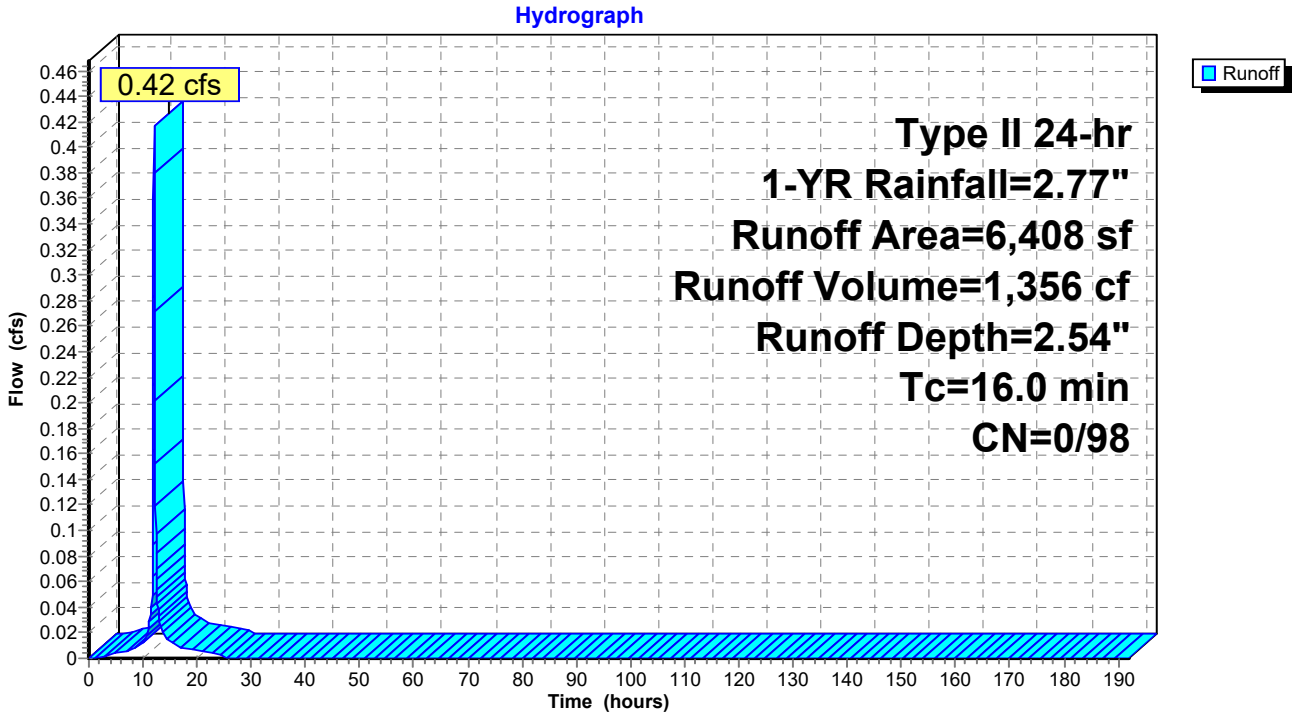
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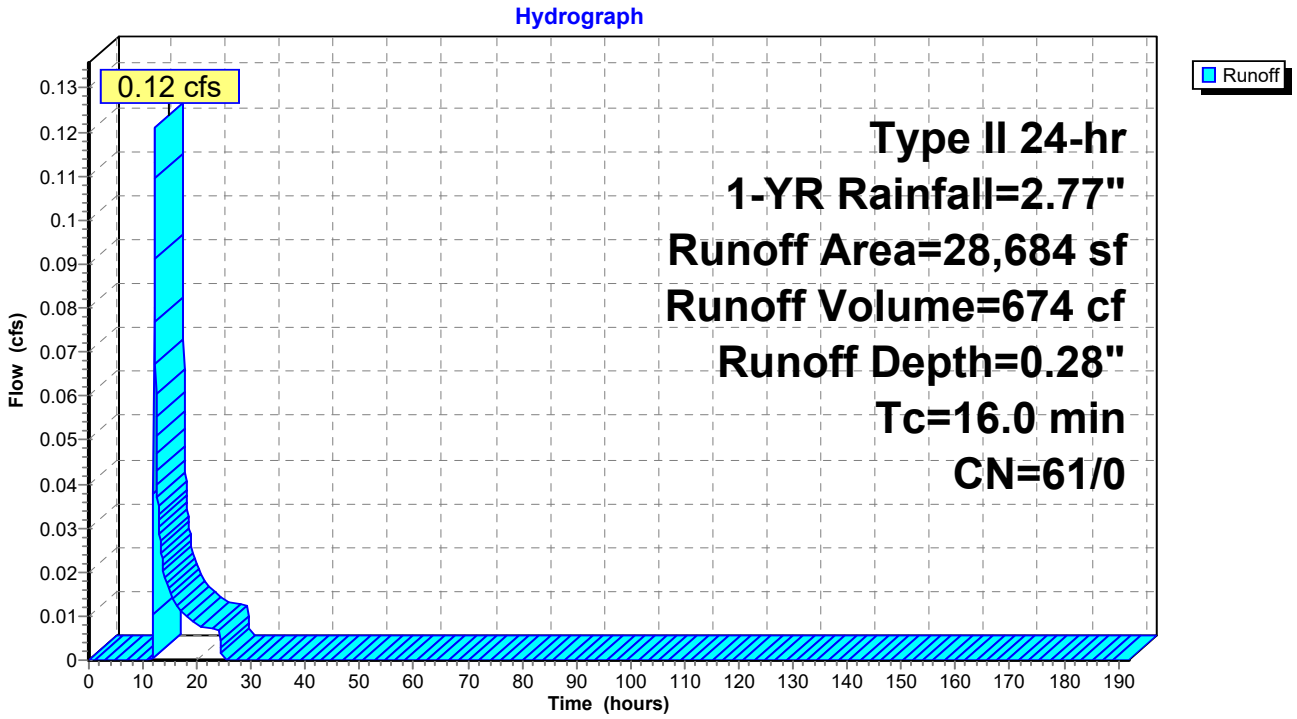
Subcatchment 5S: Exist. On-Site Perv to POD-001



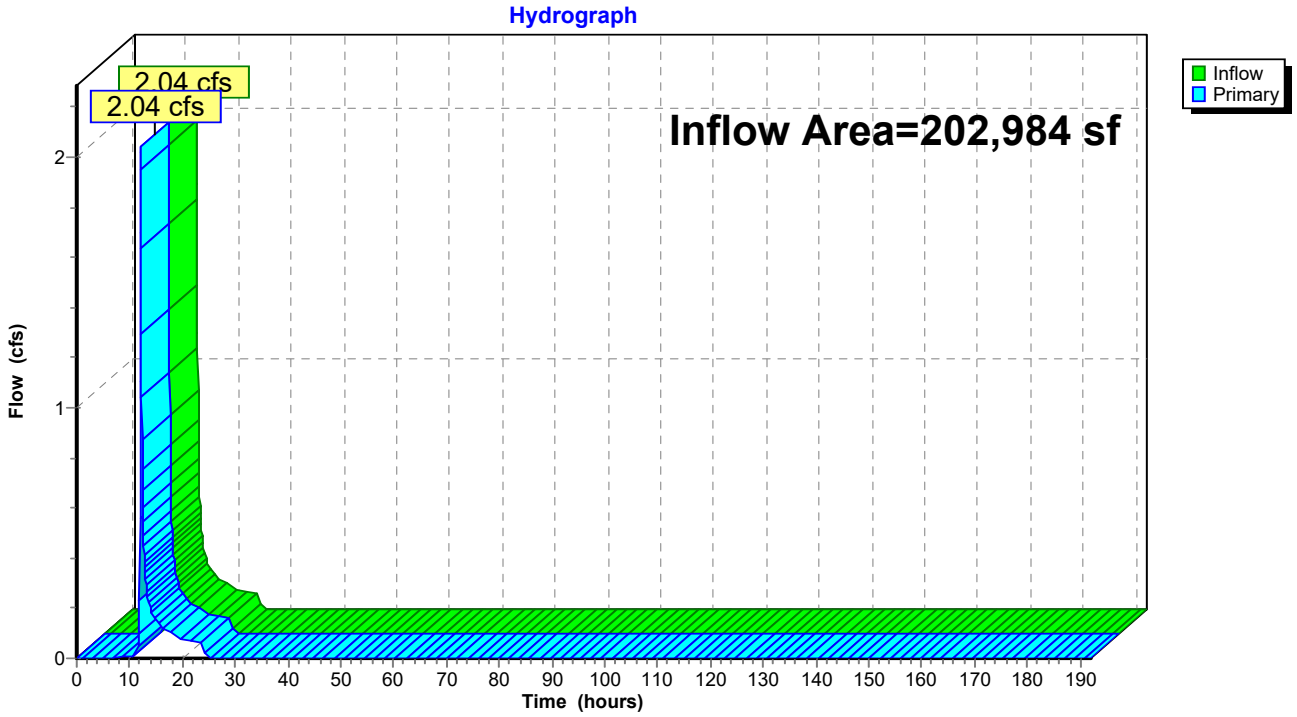
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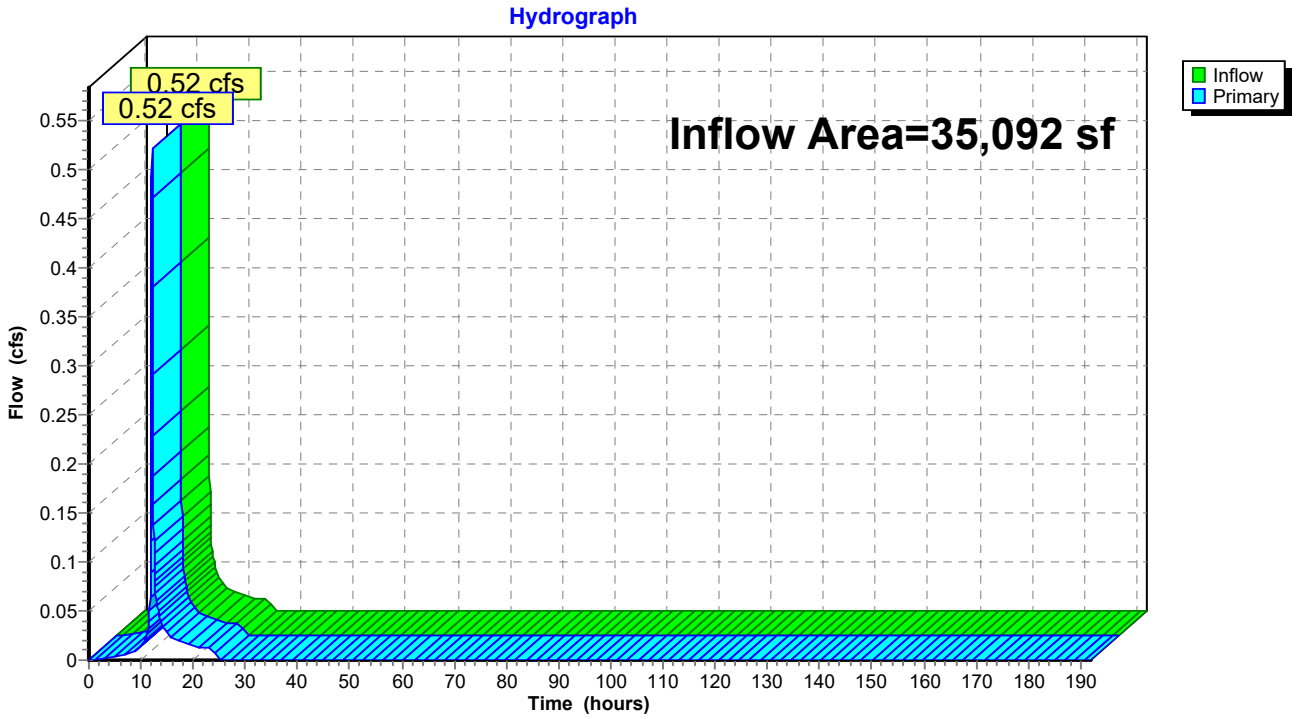
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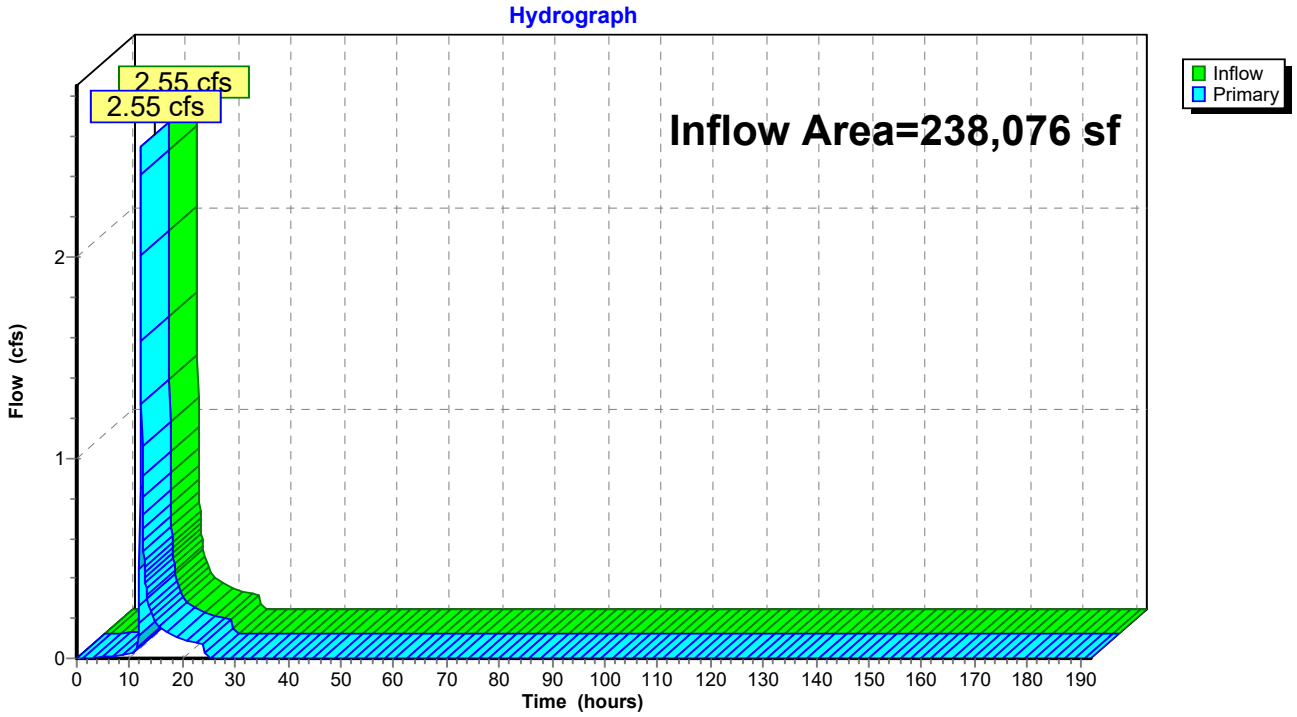
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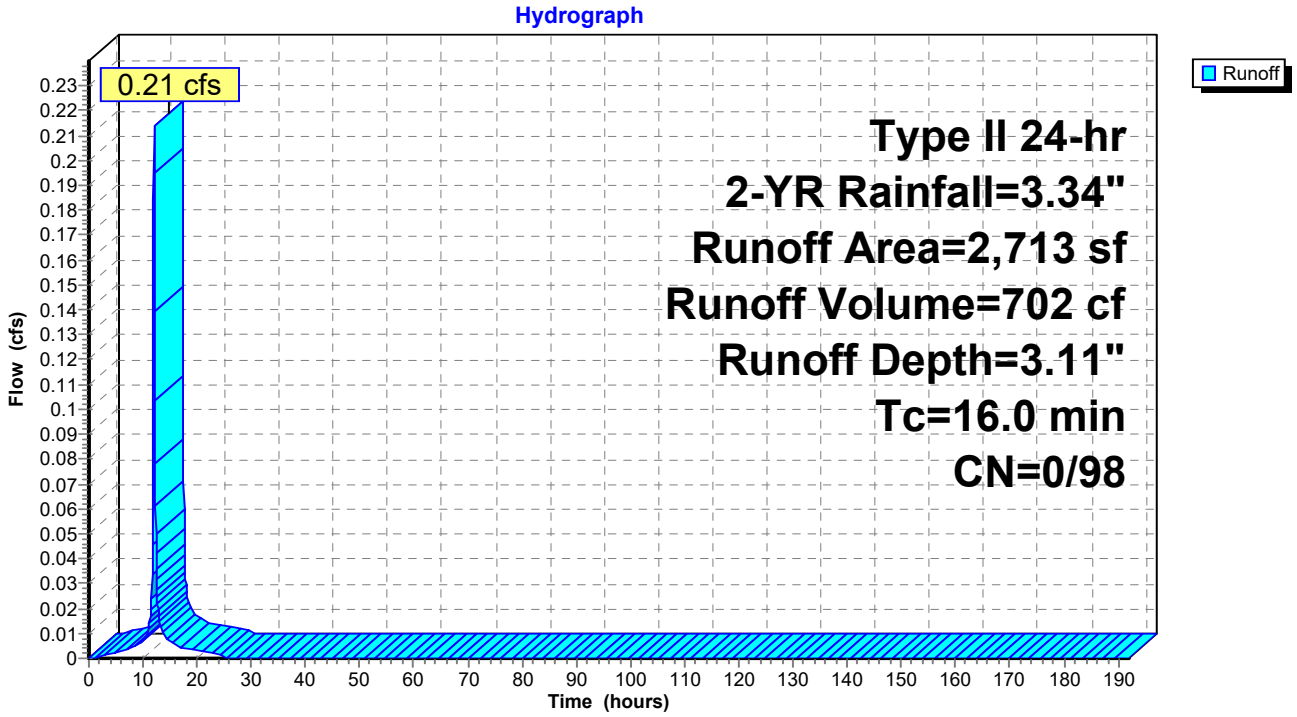
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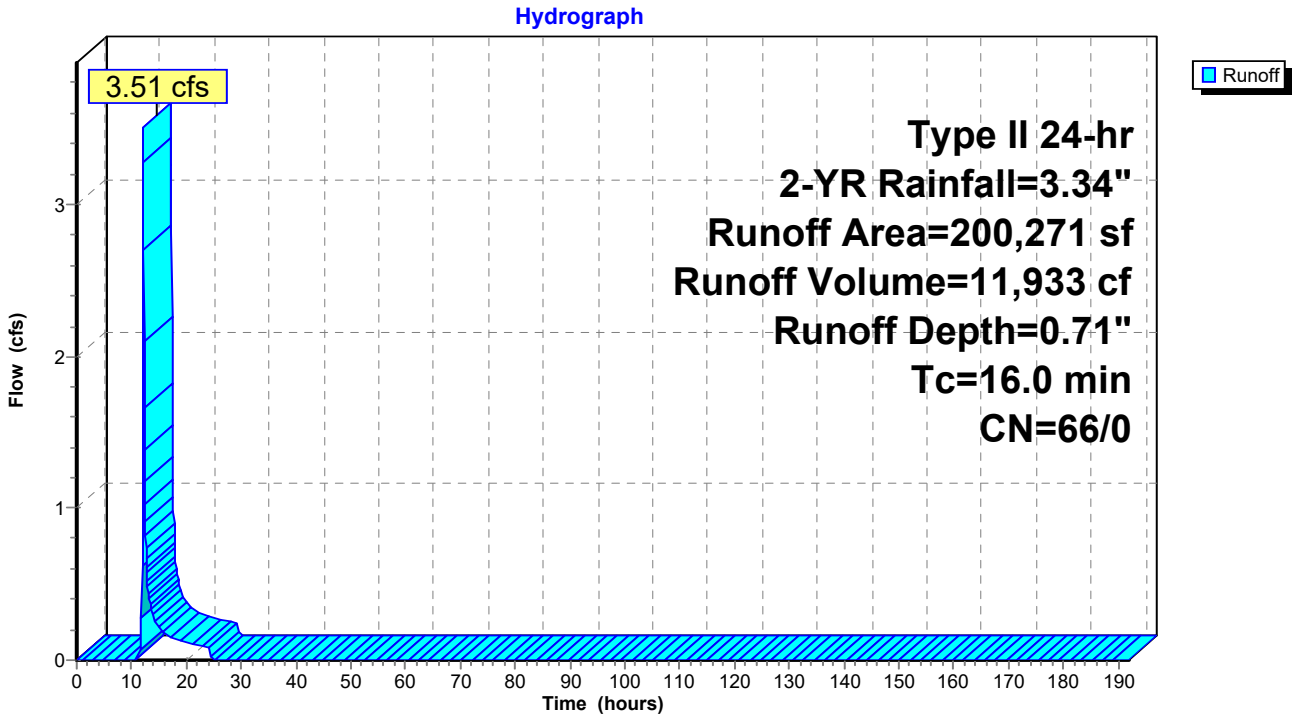
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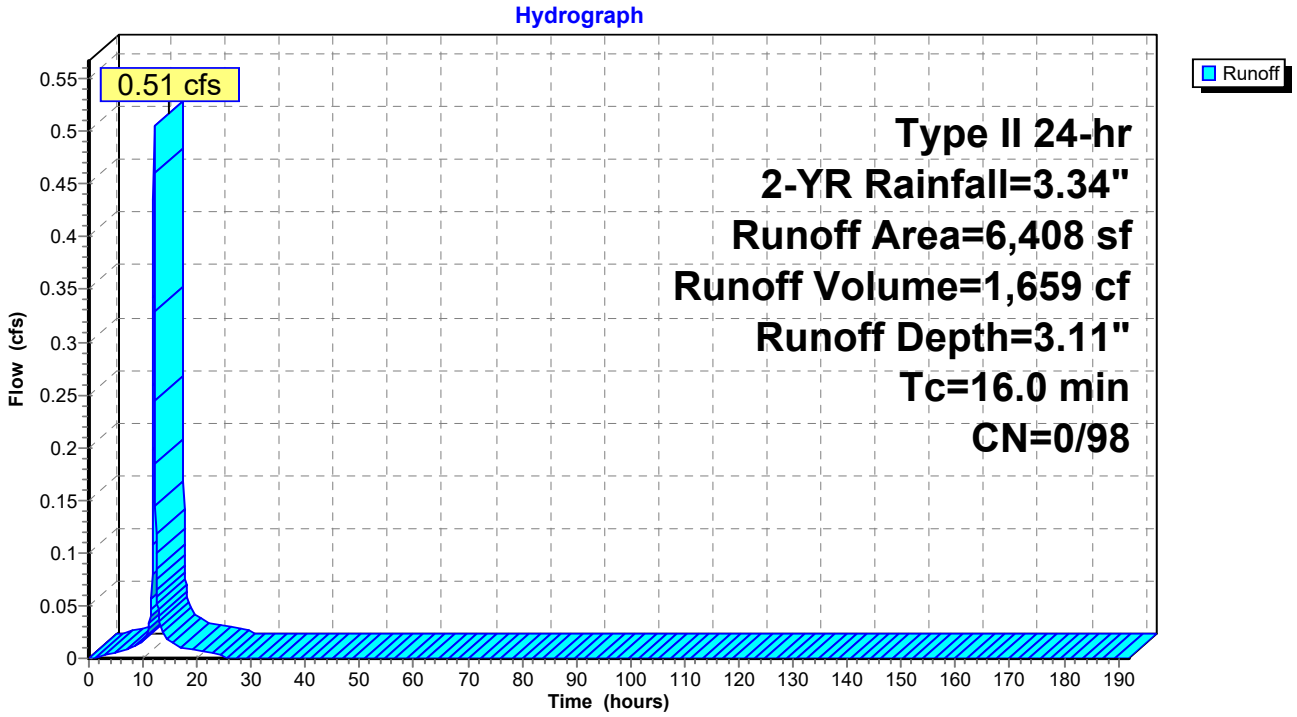
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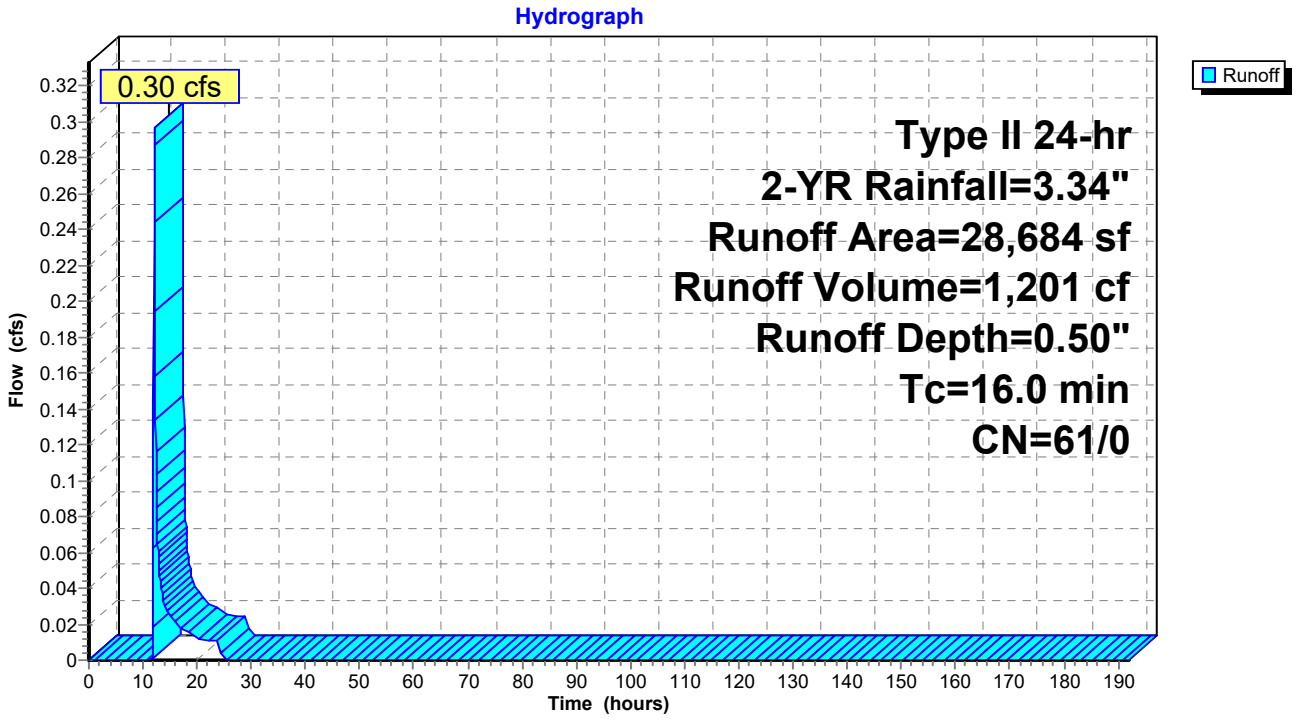
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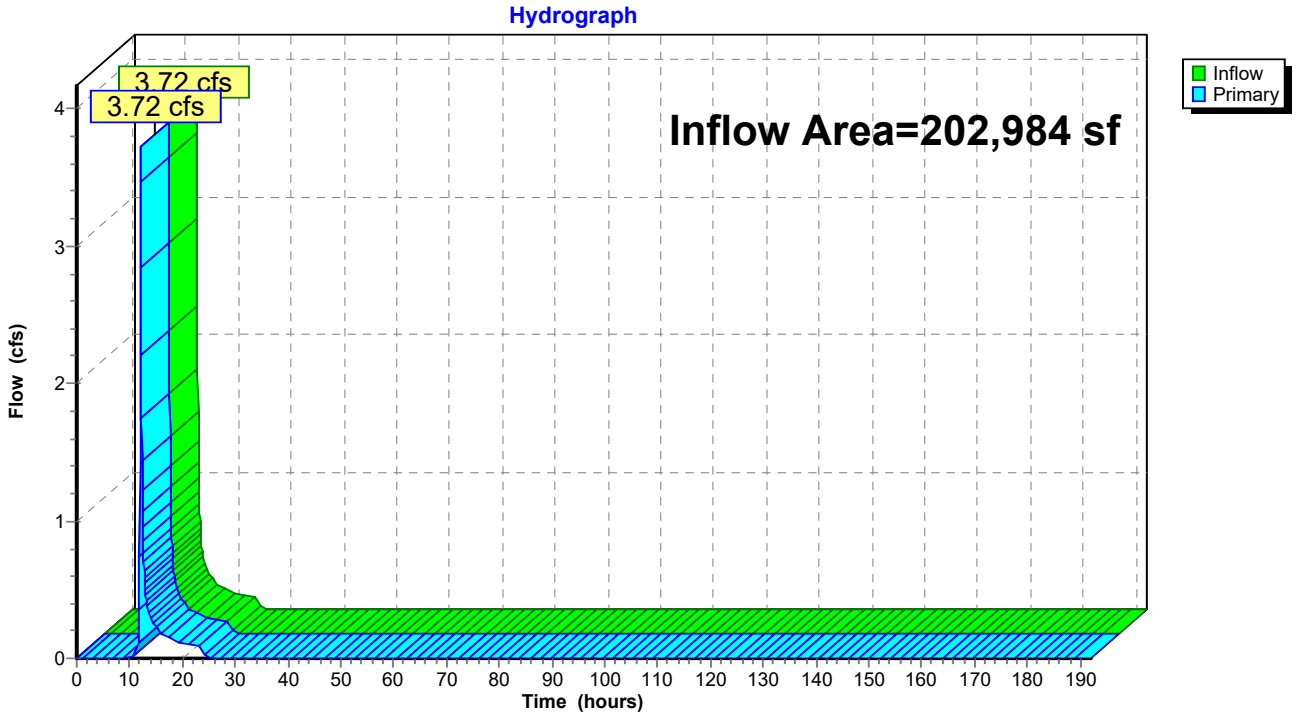
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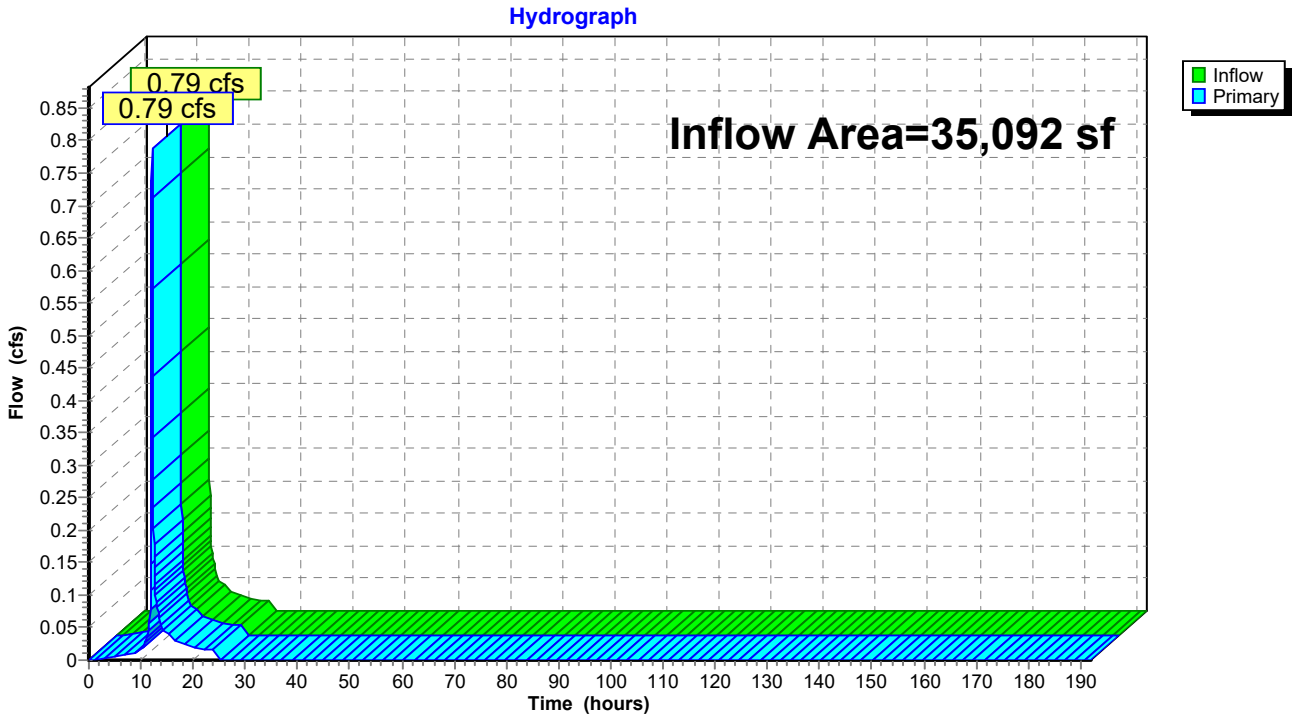
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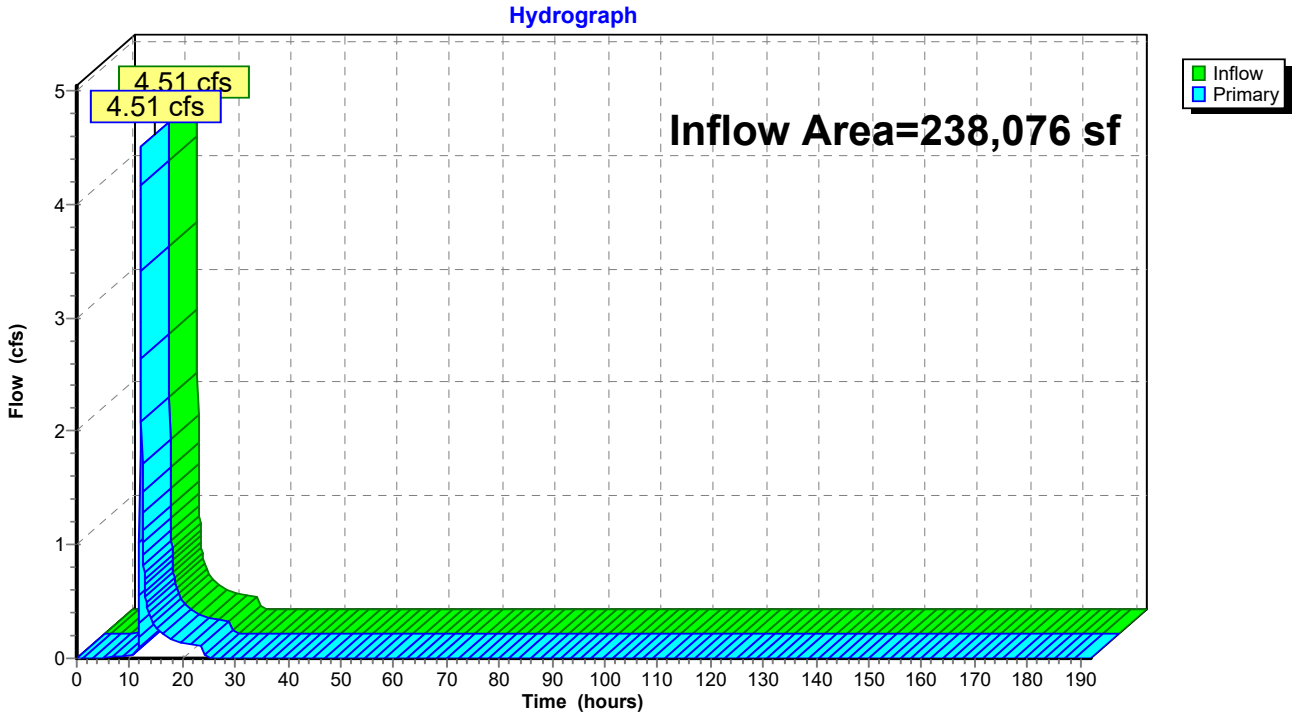
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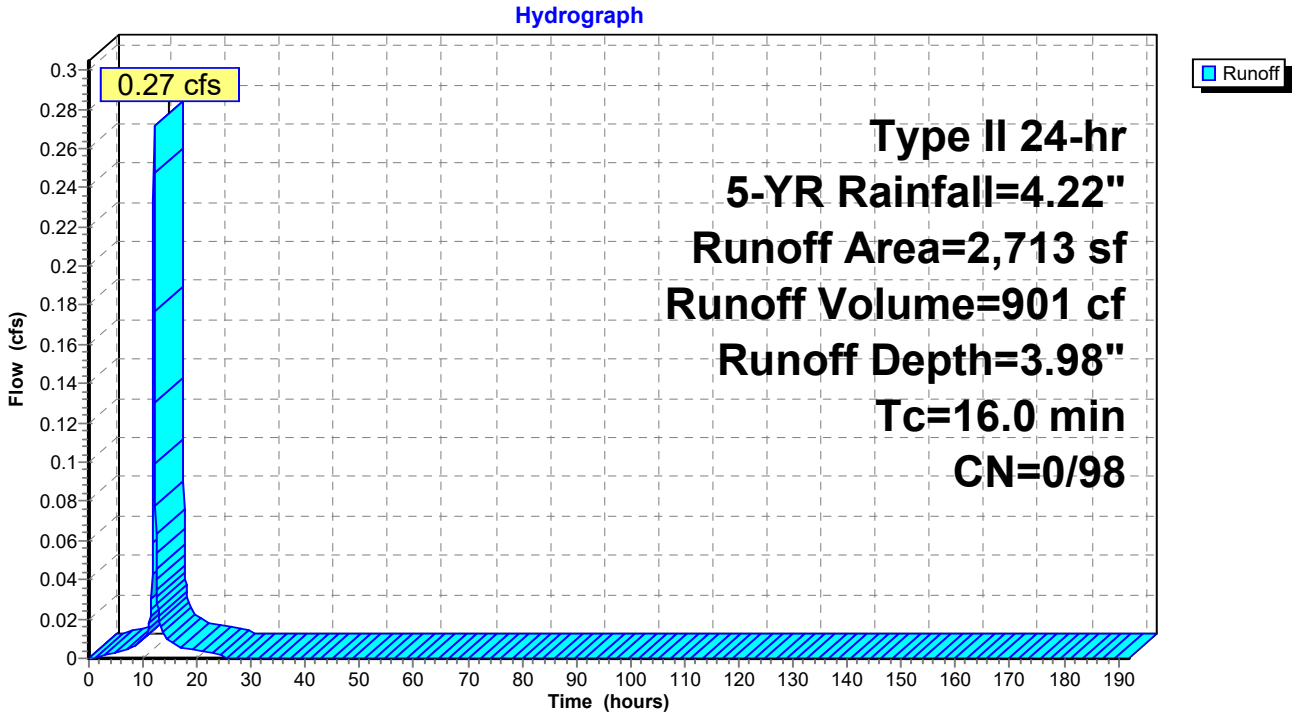
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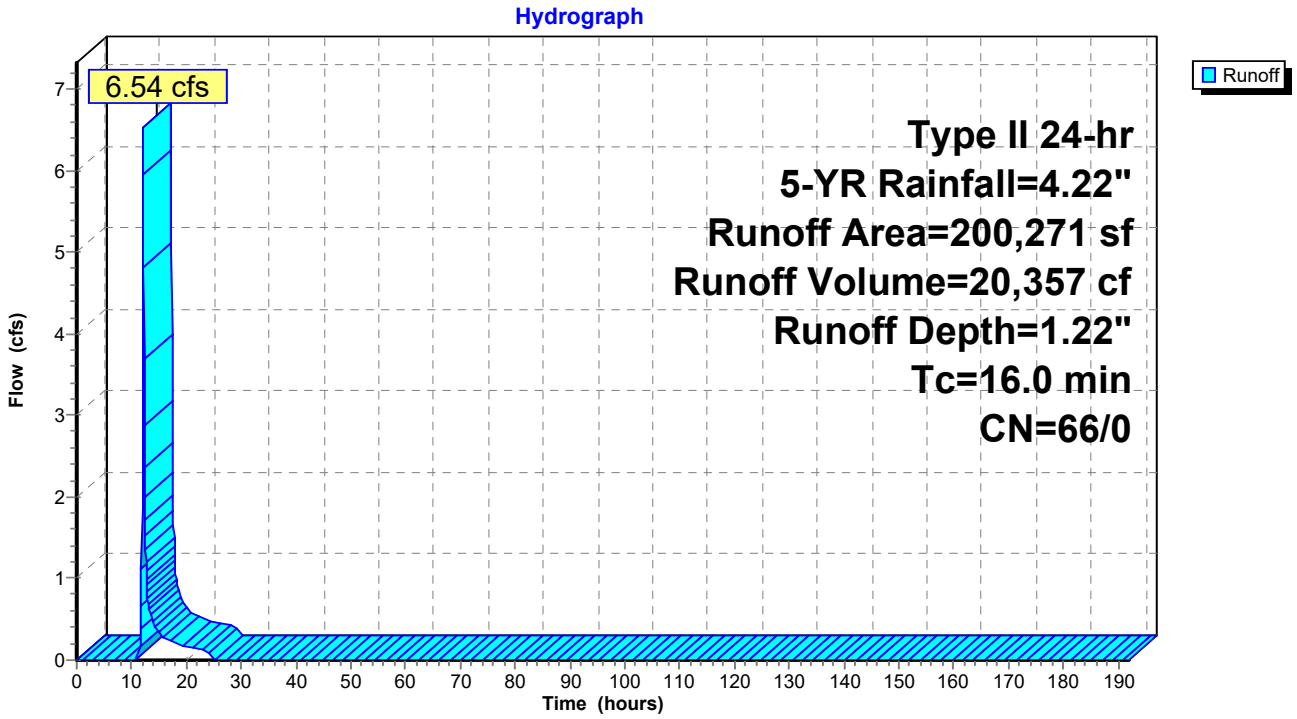
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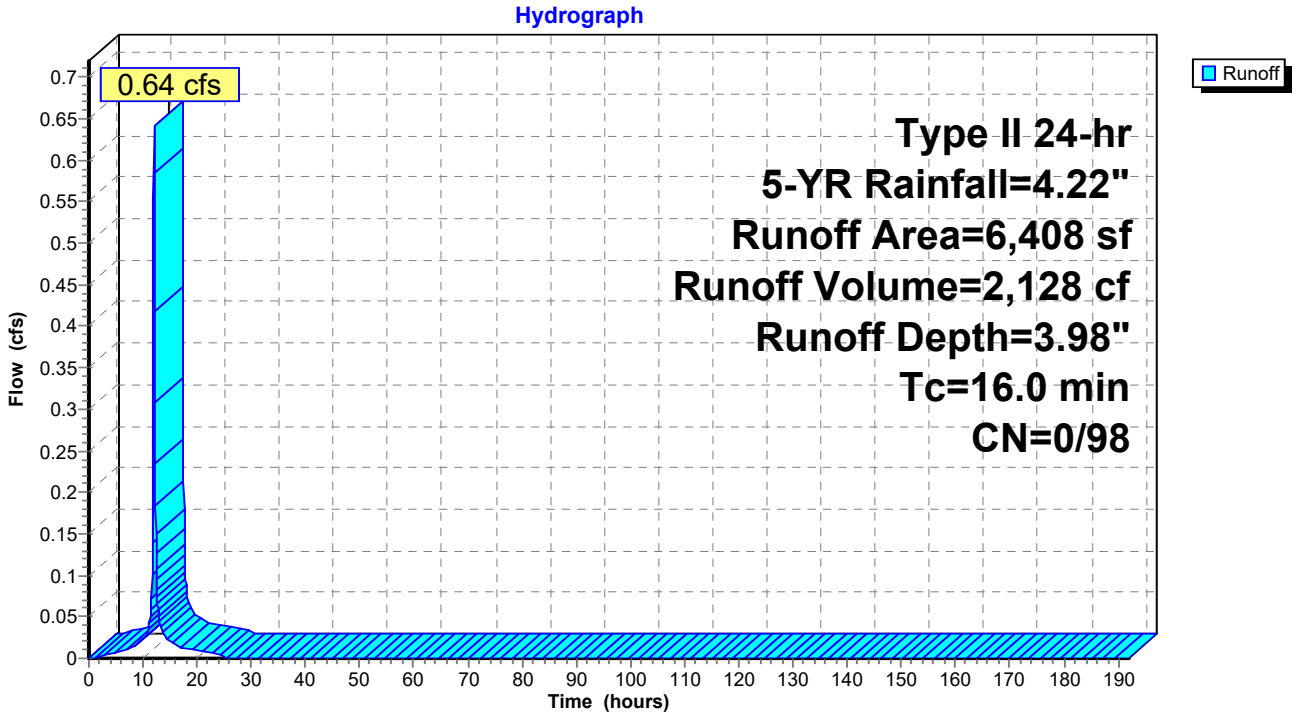
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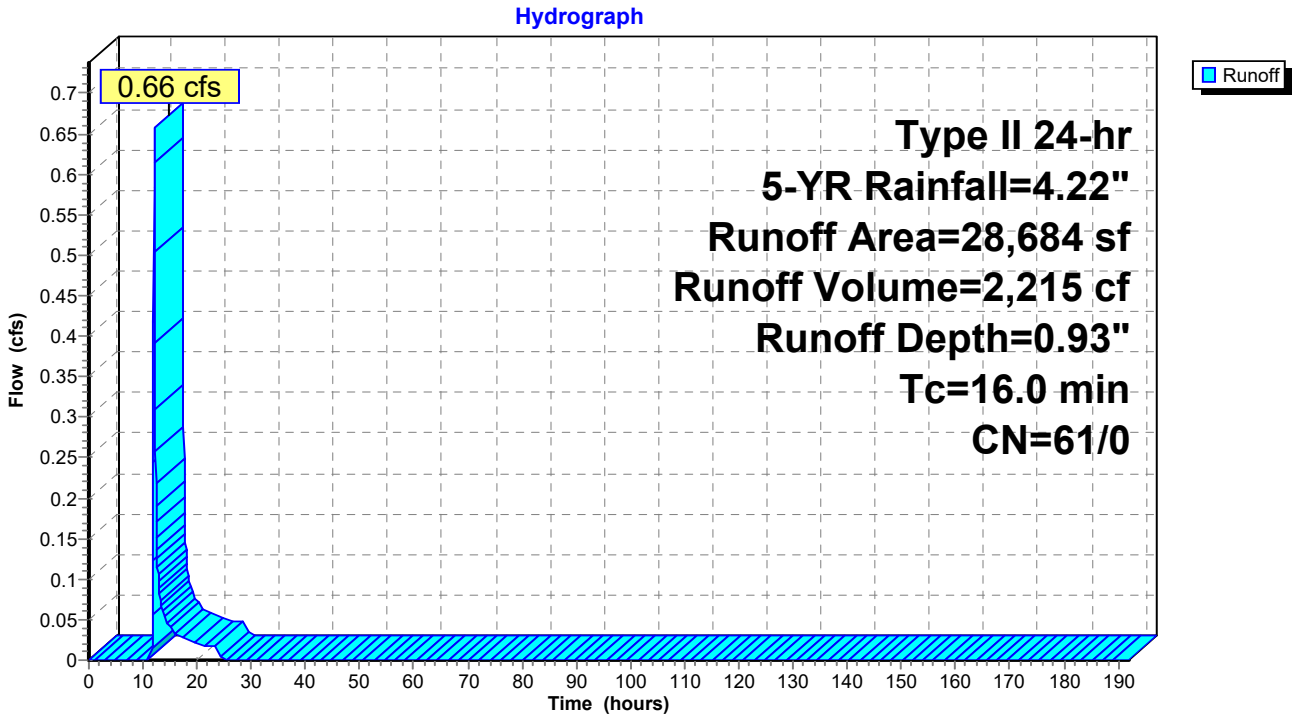
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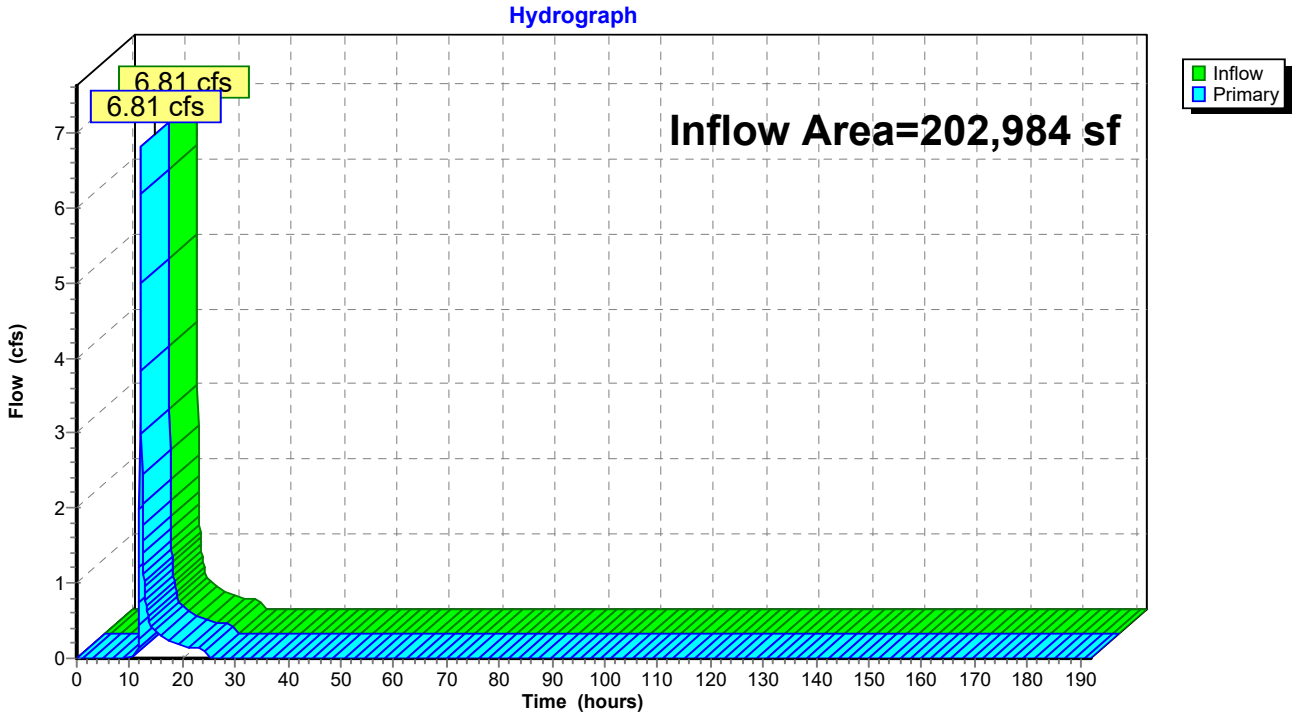
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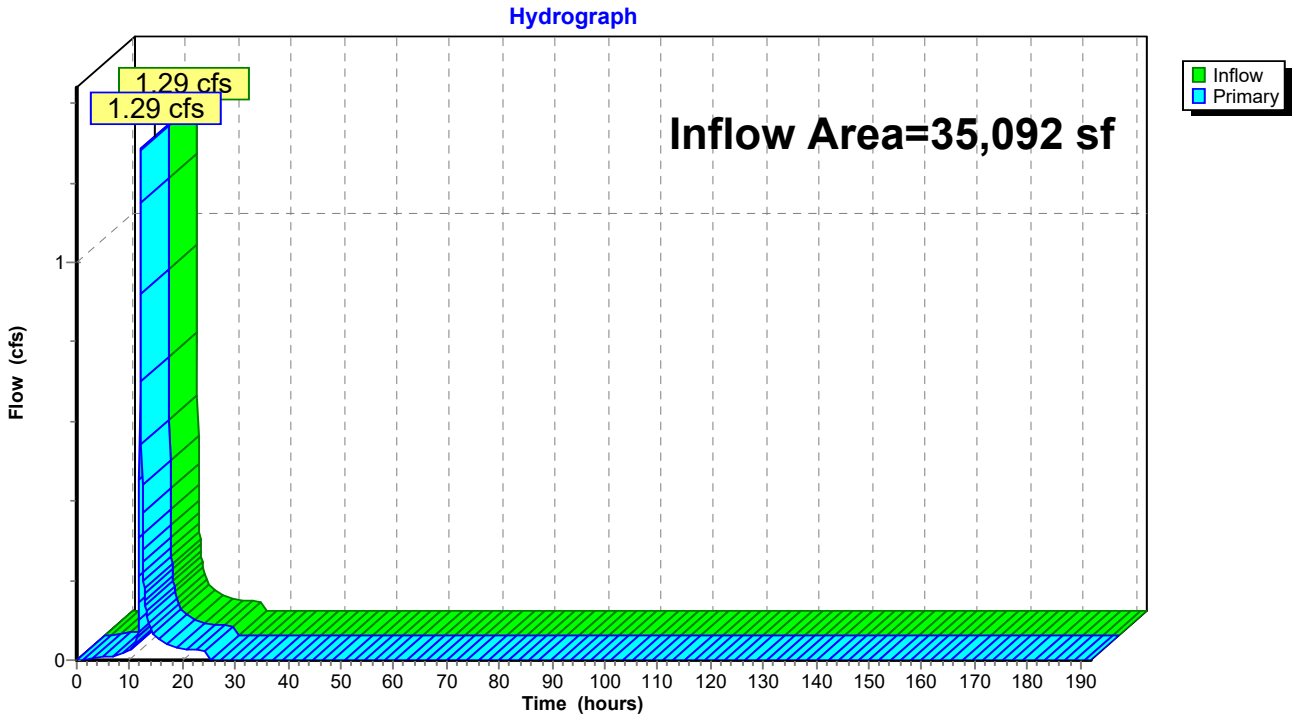
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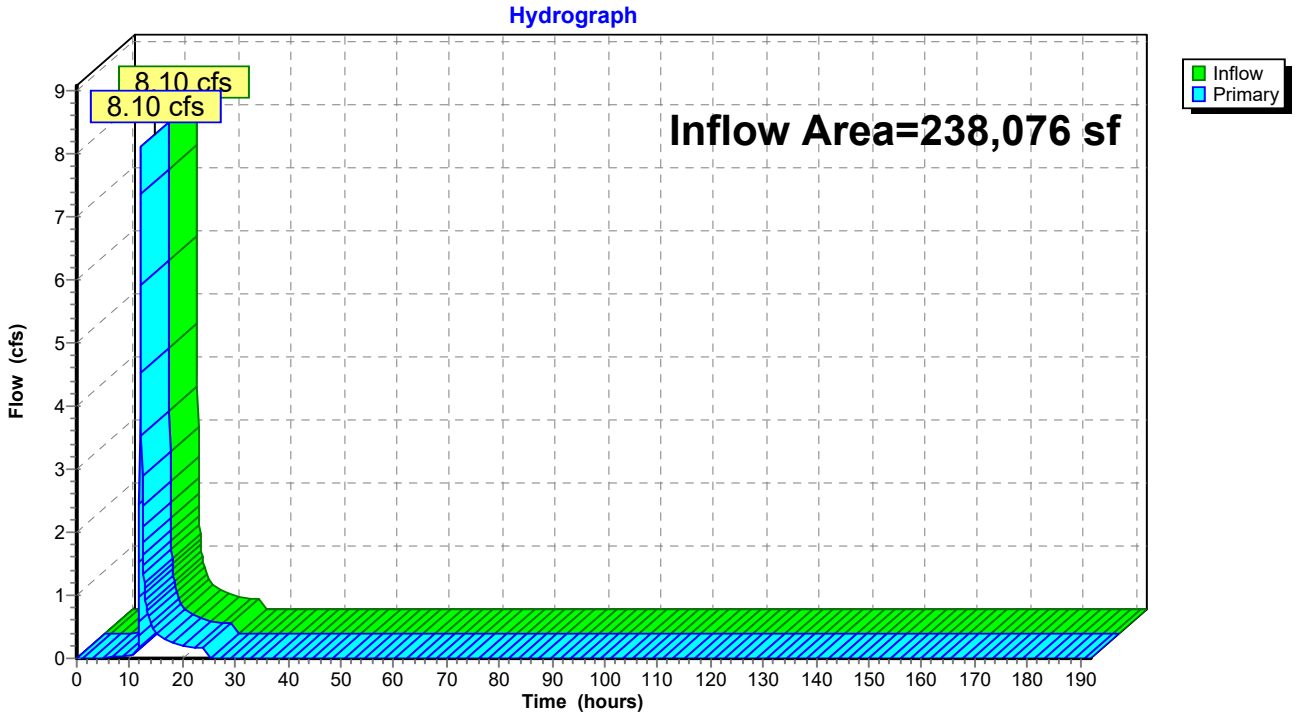
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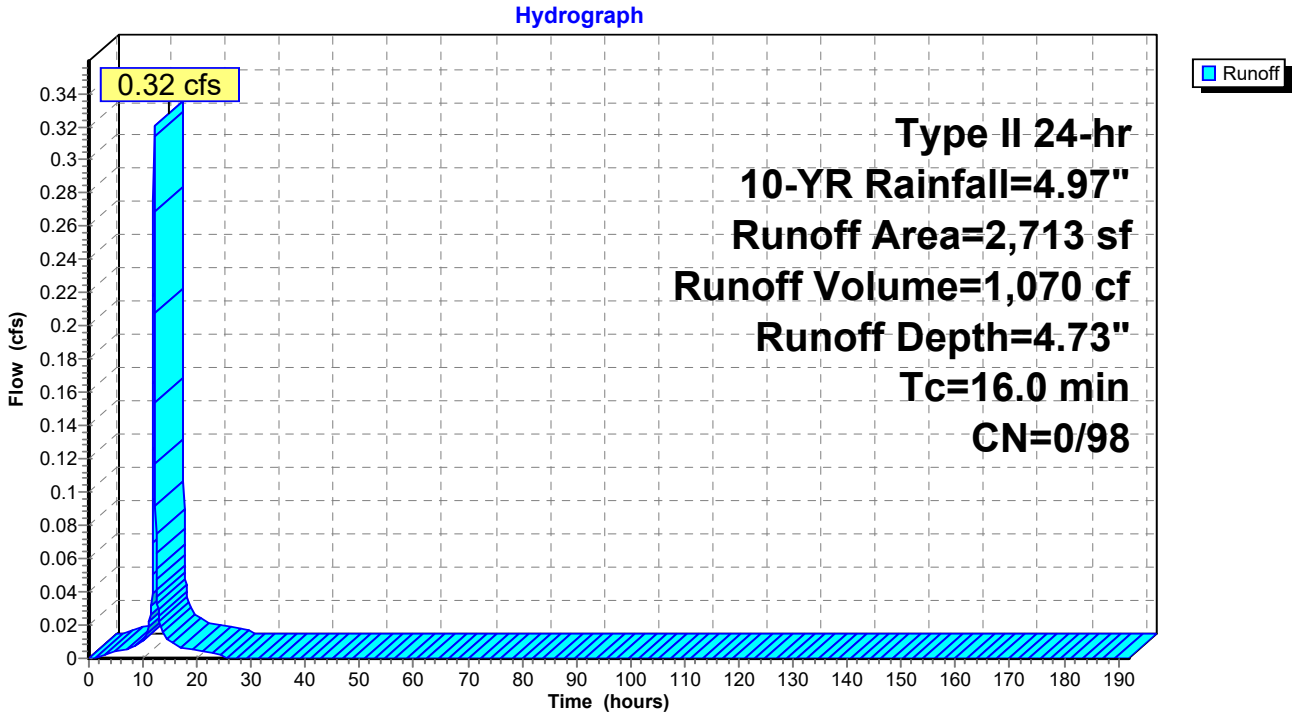
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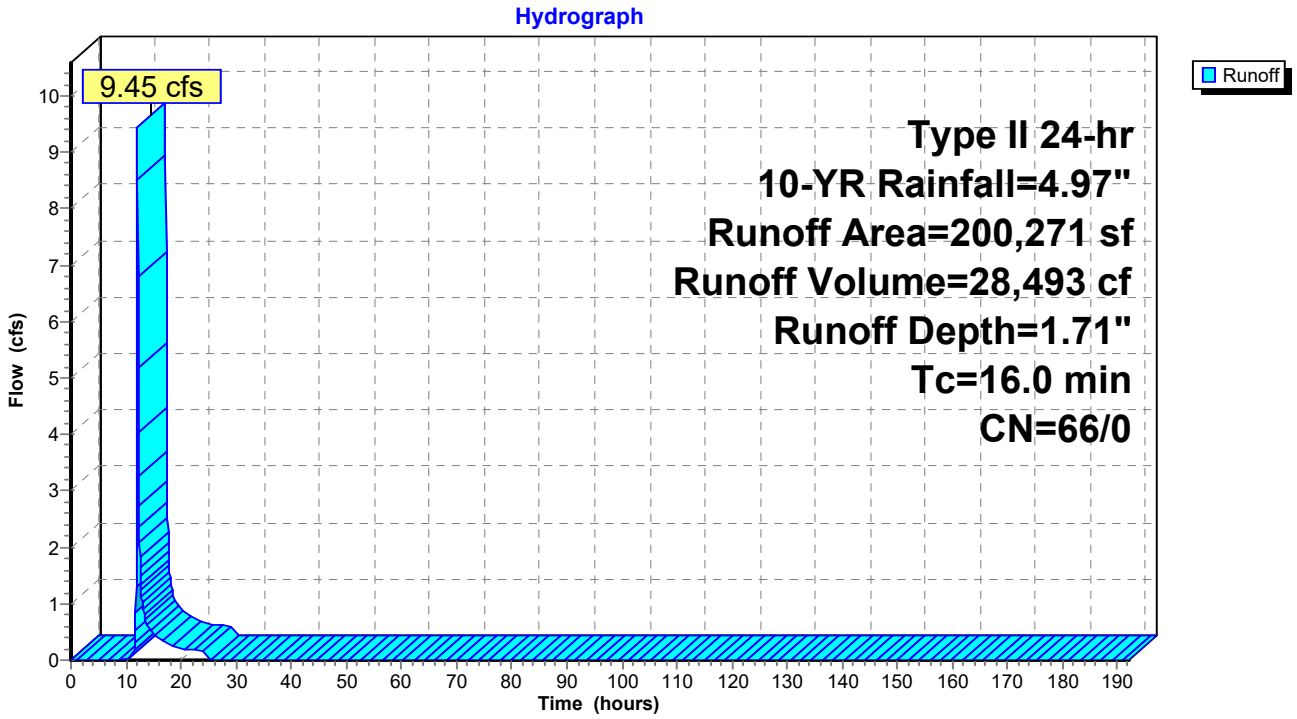
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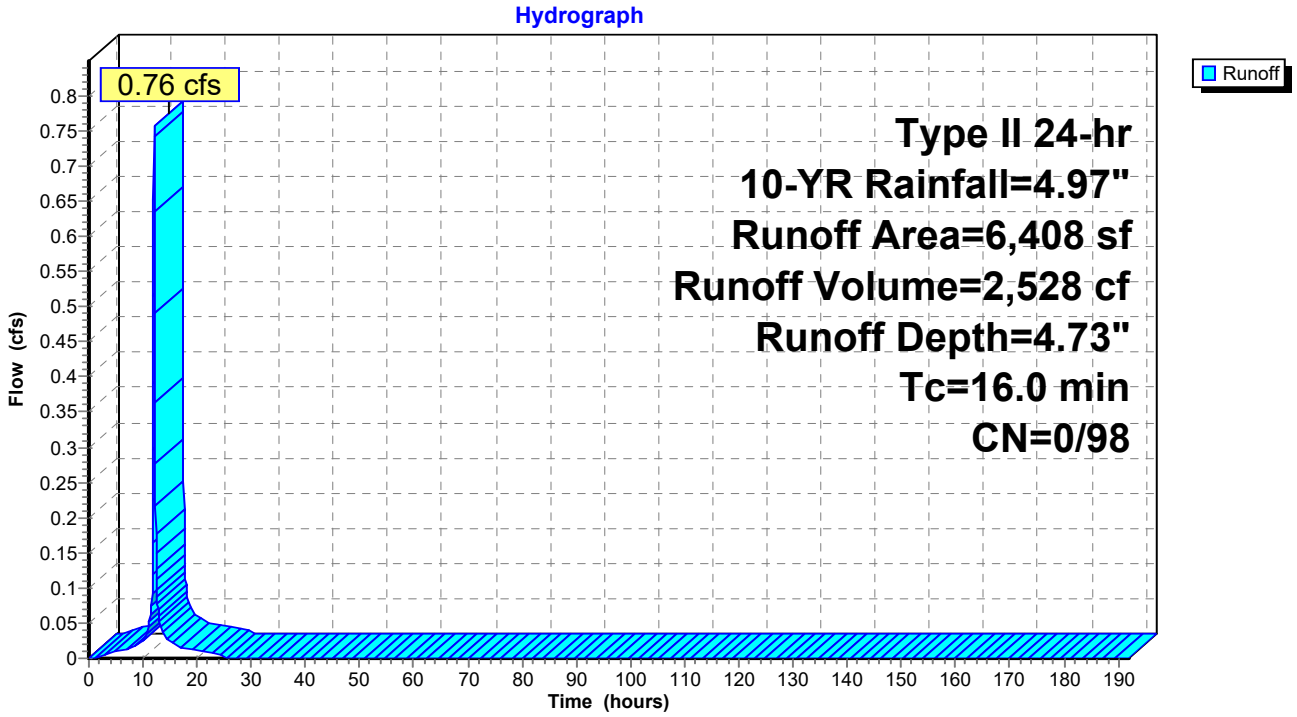
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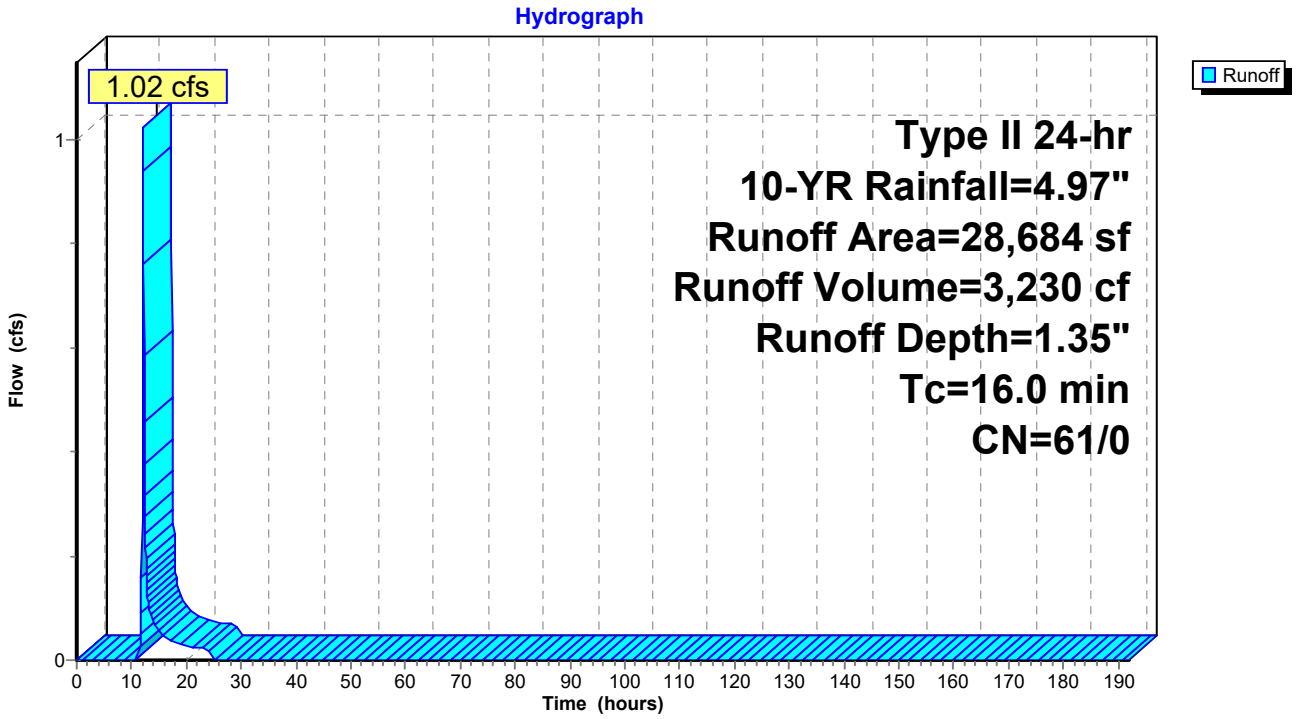
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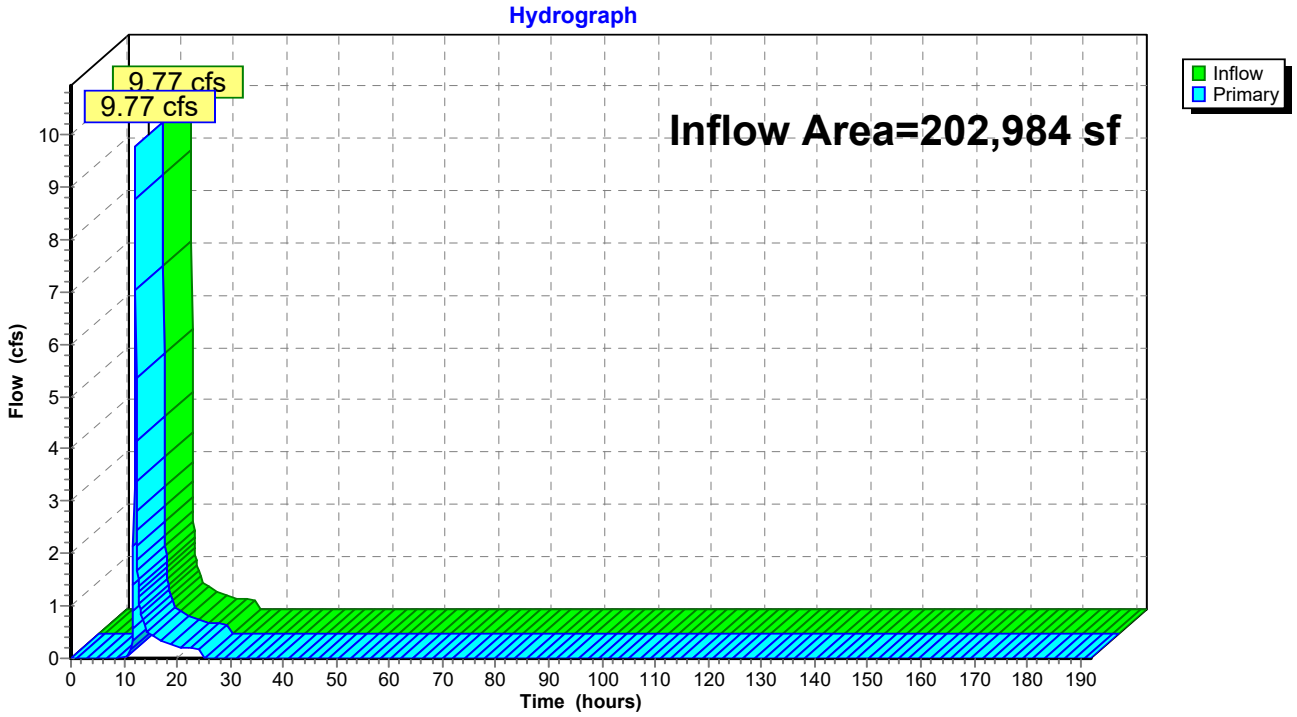
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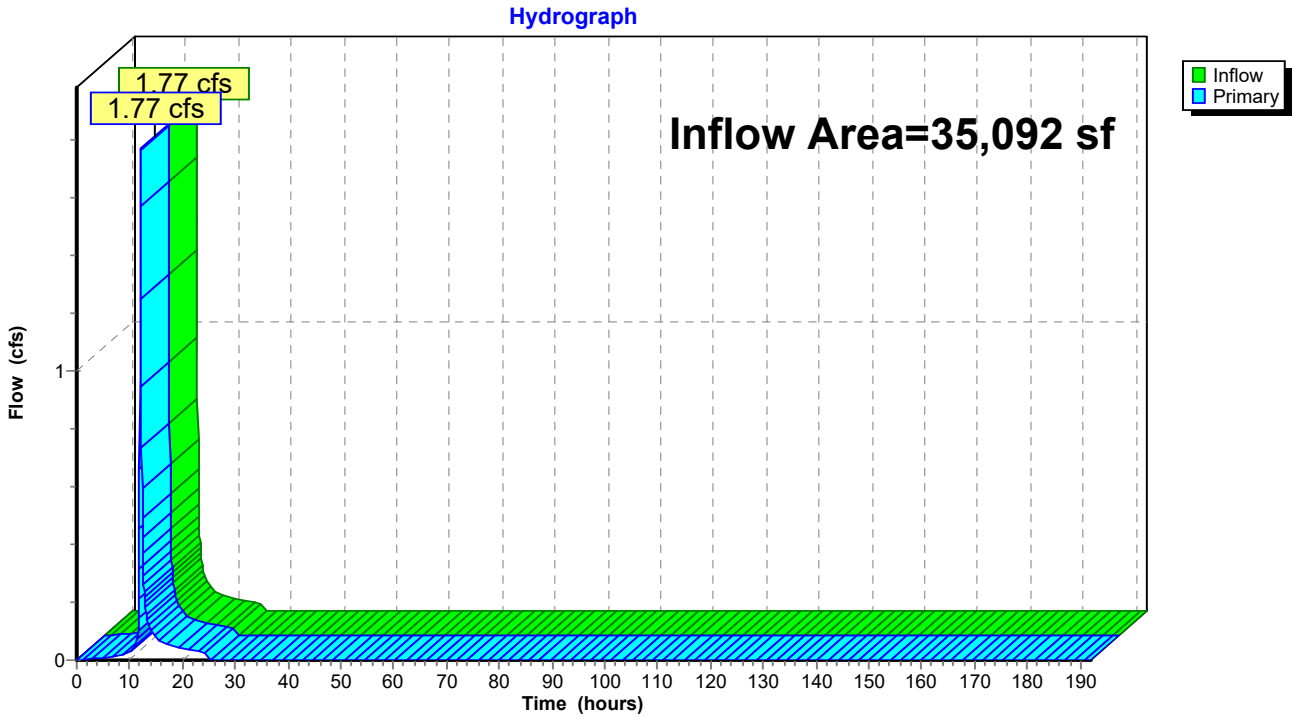
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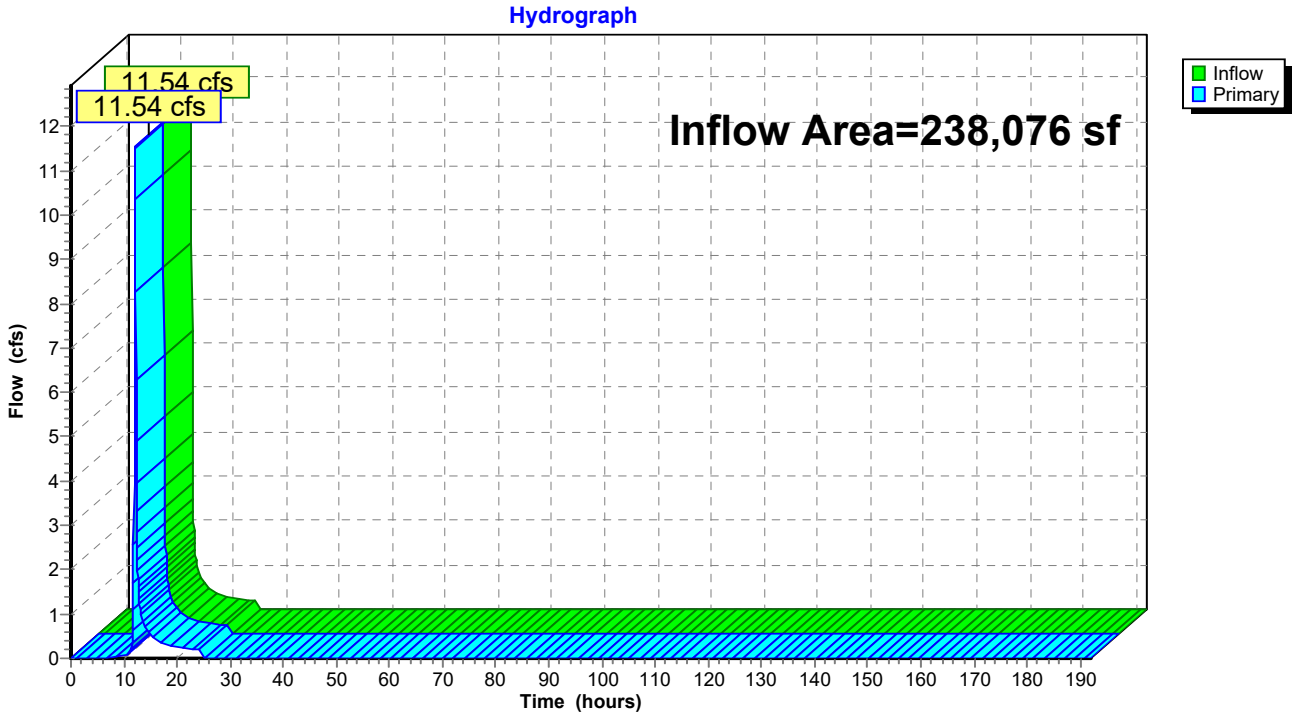
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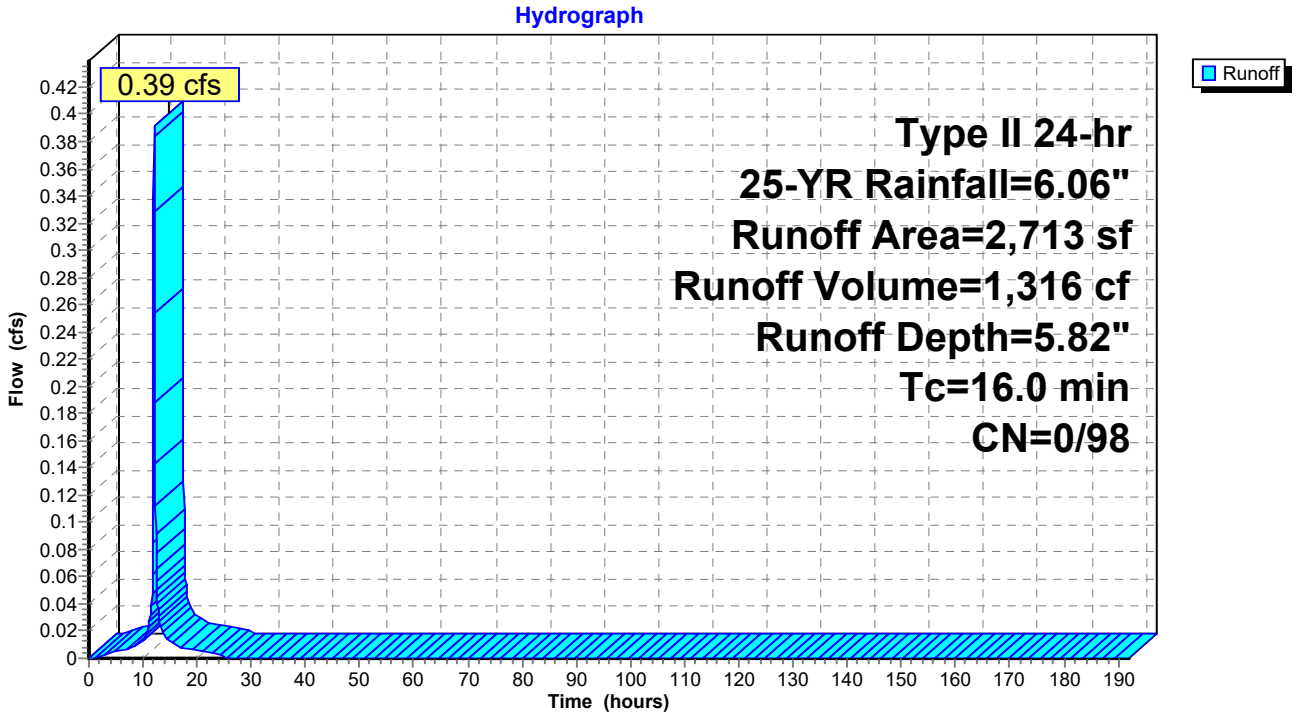
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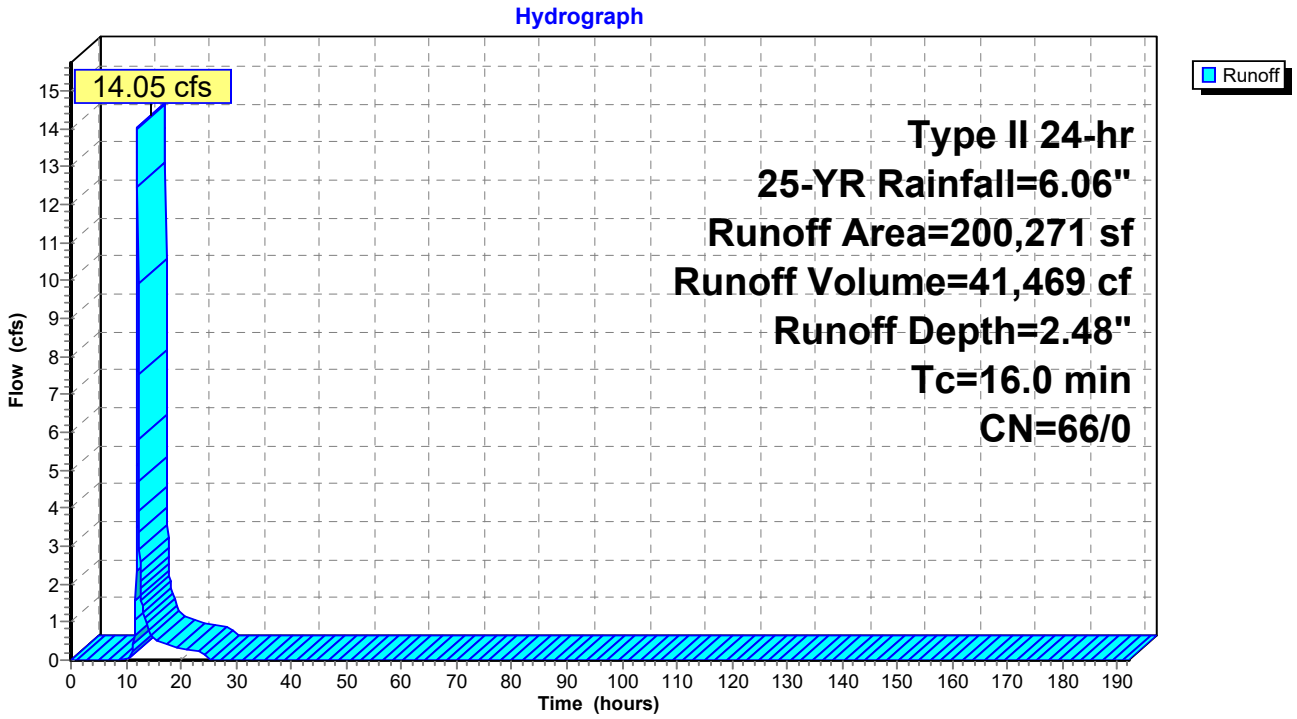
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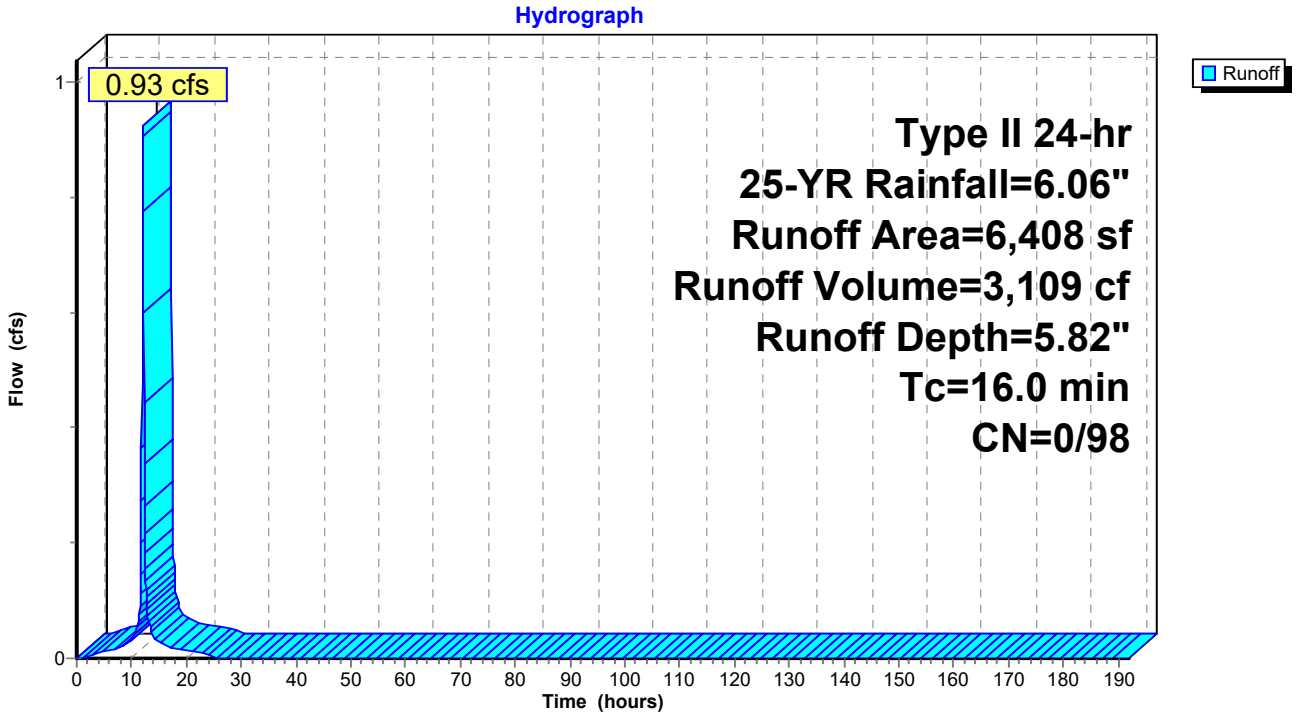
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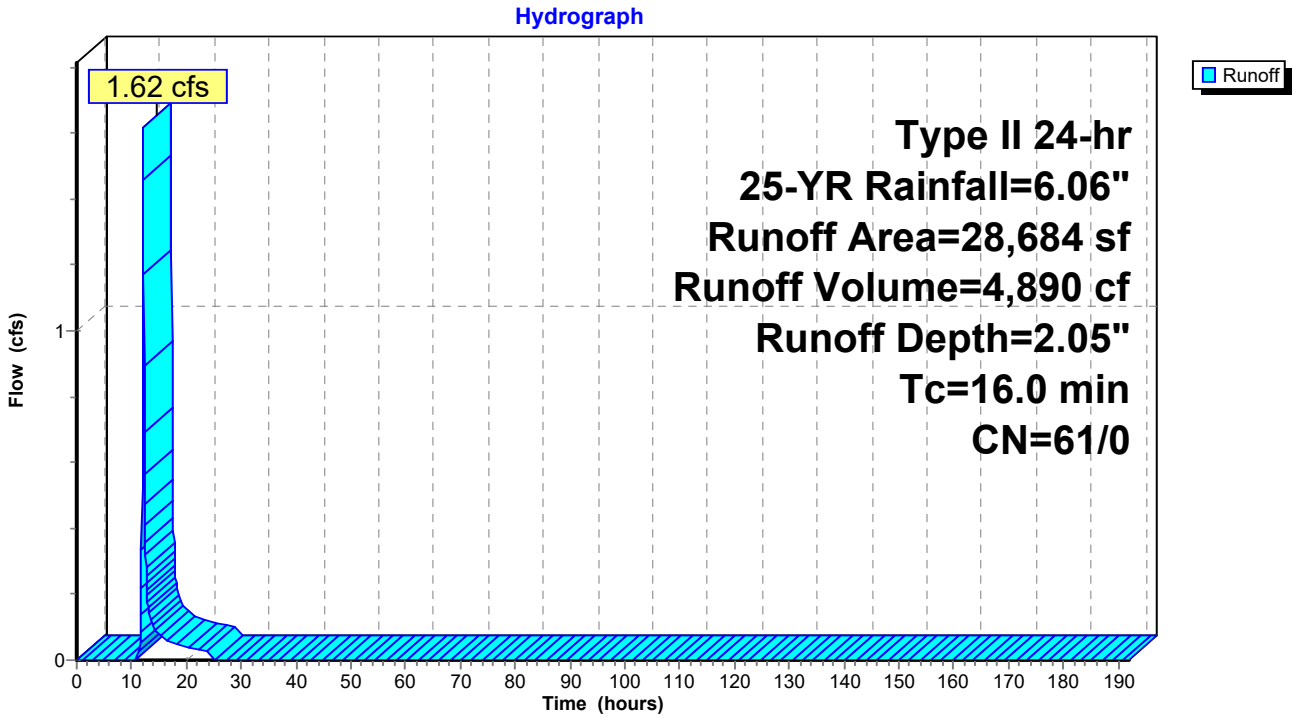
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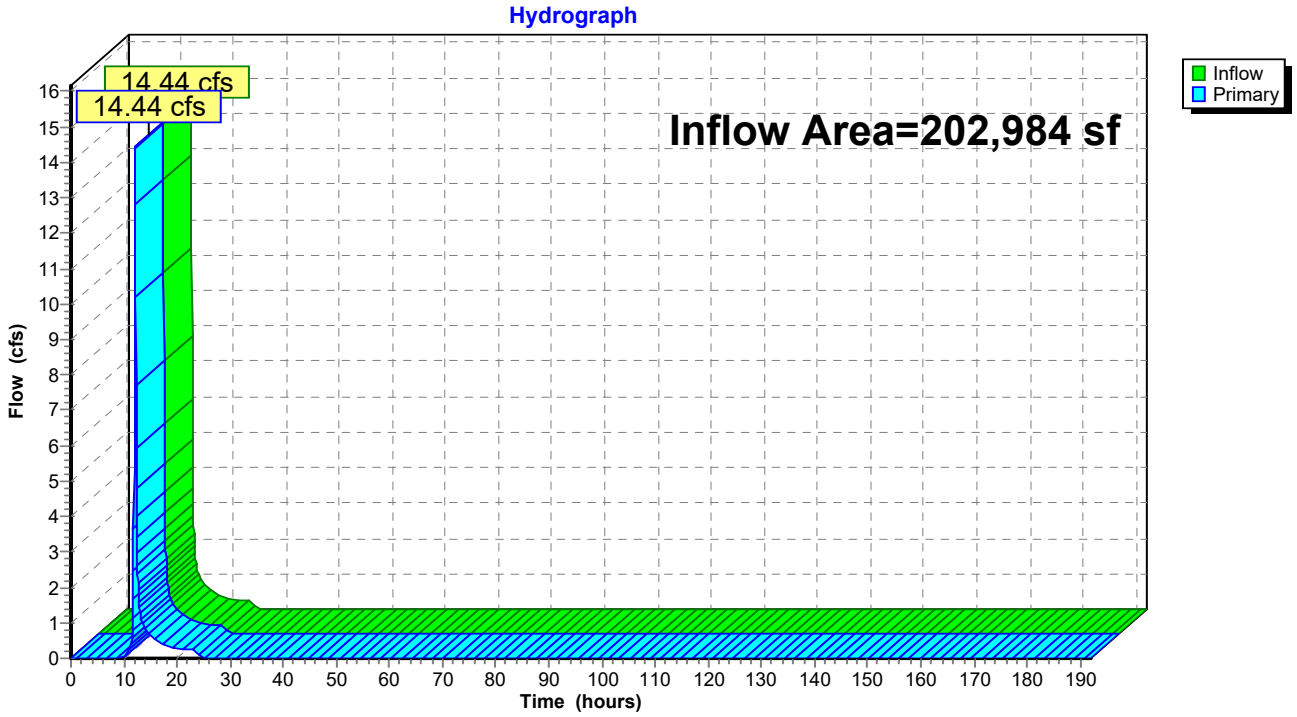
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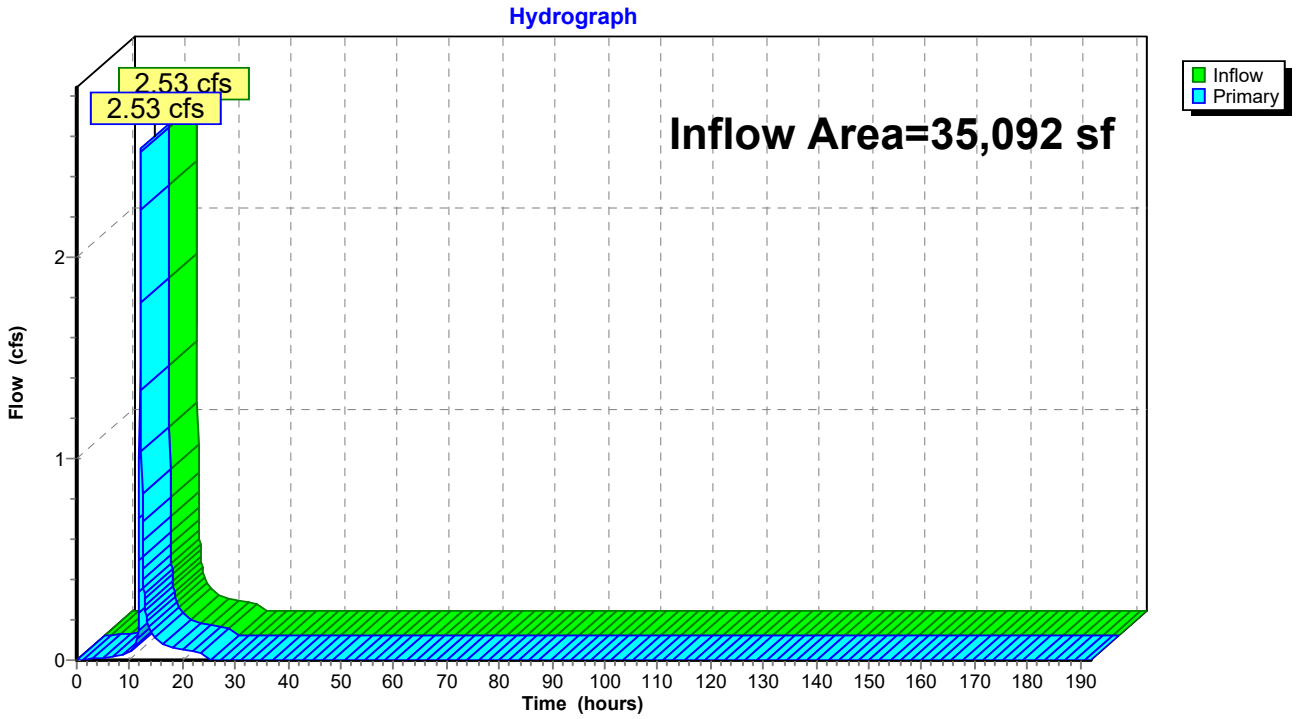
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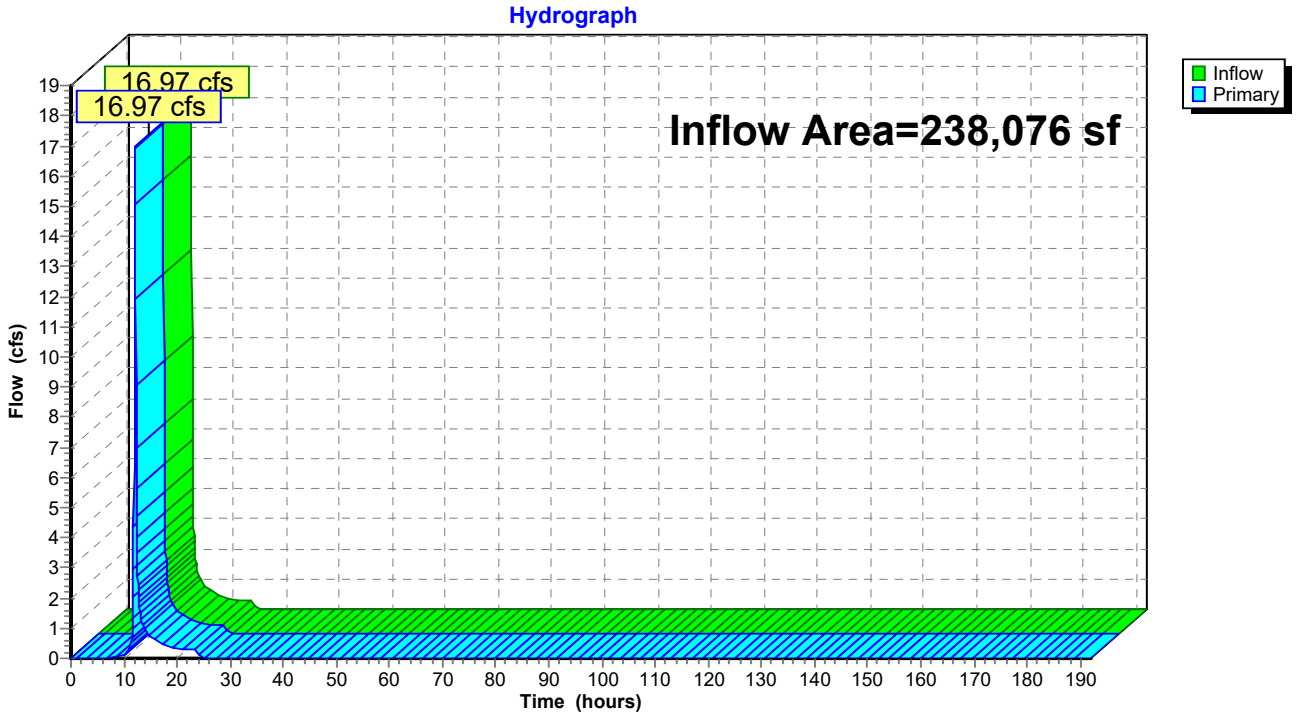
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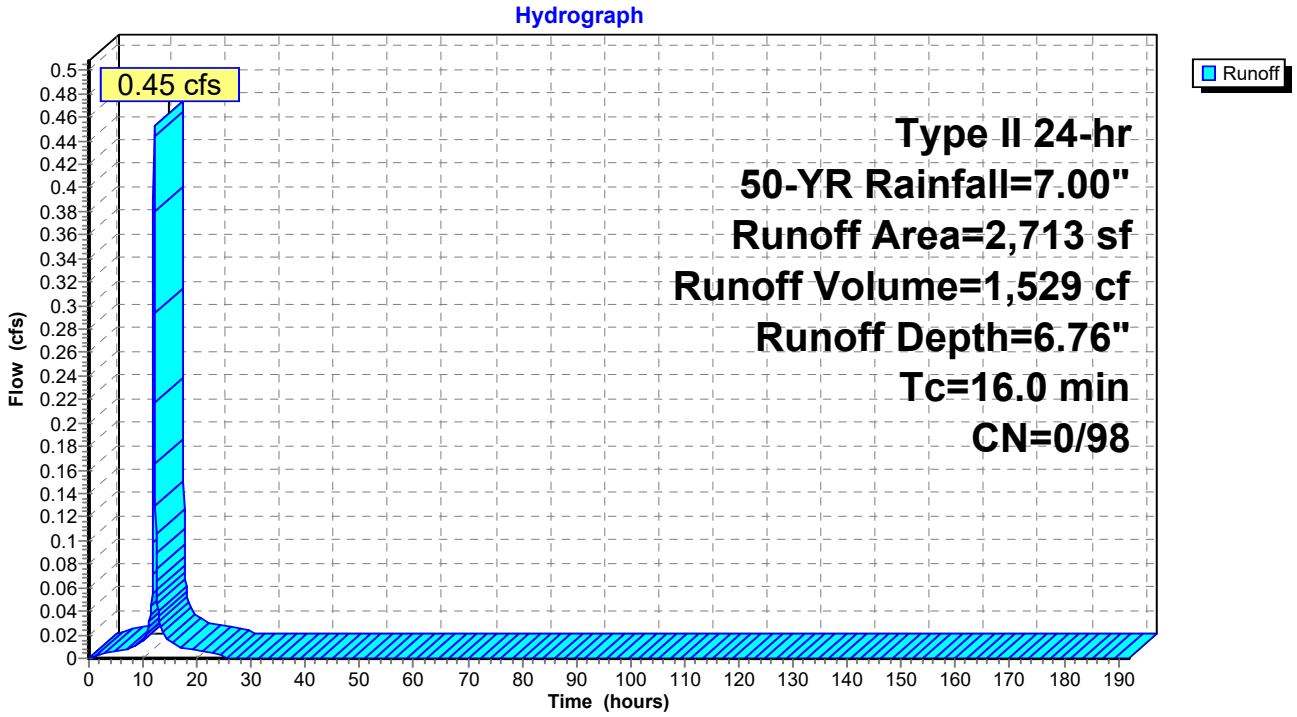
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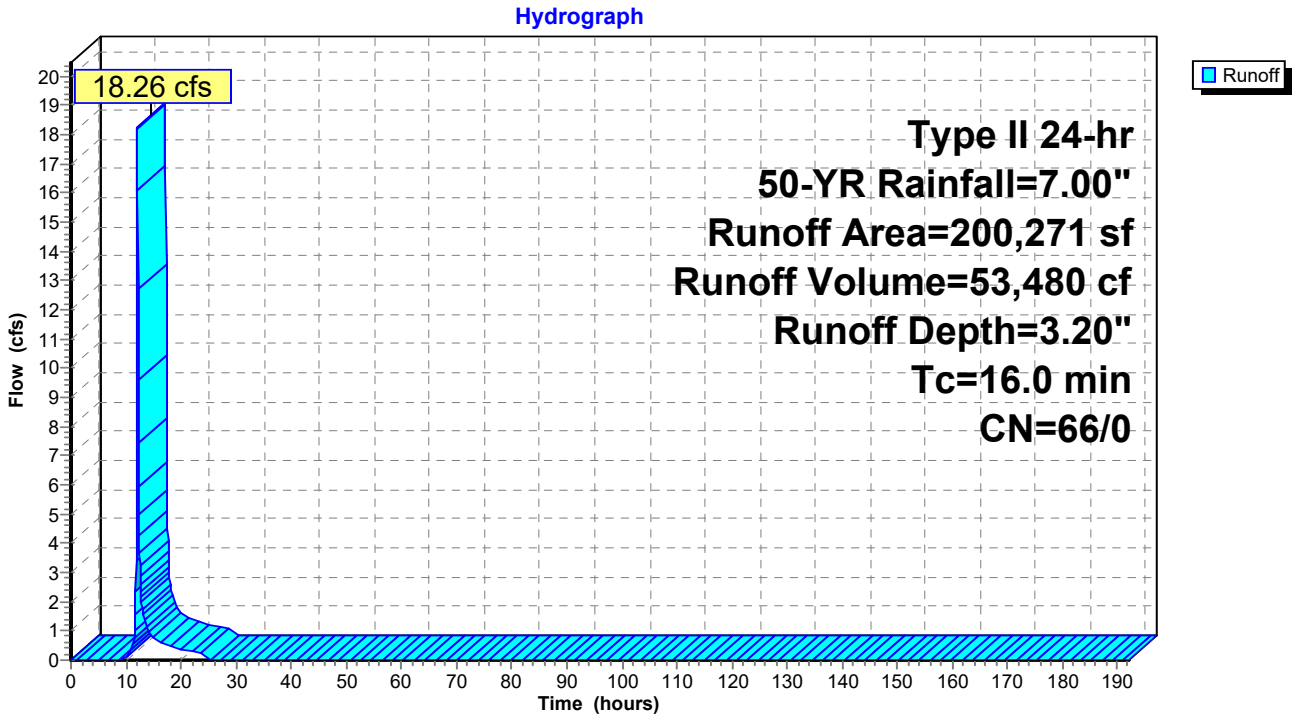
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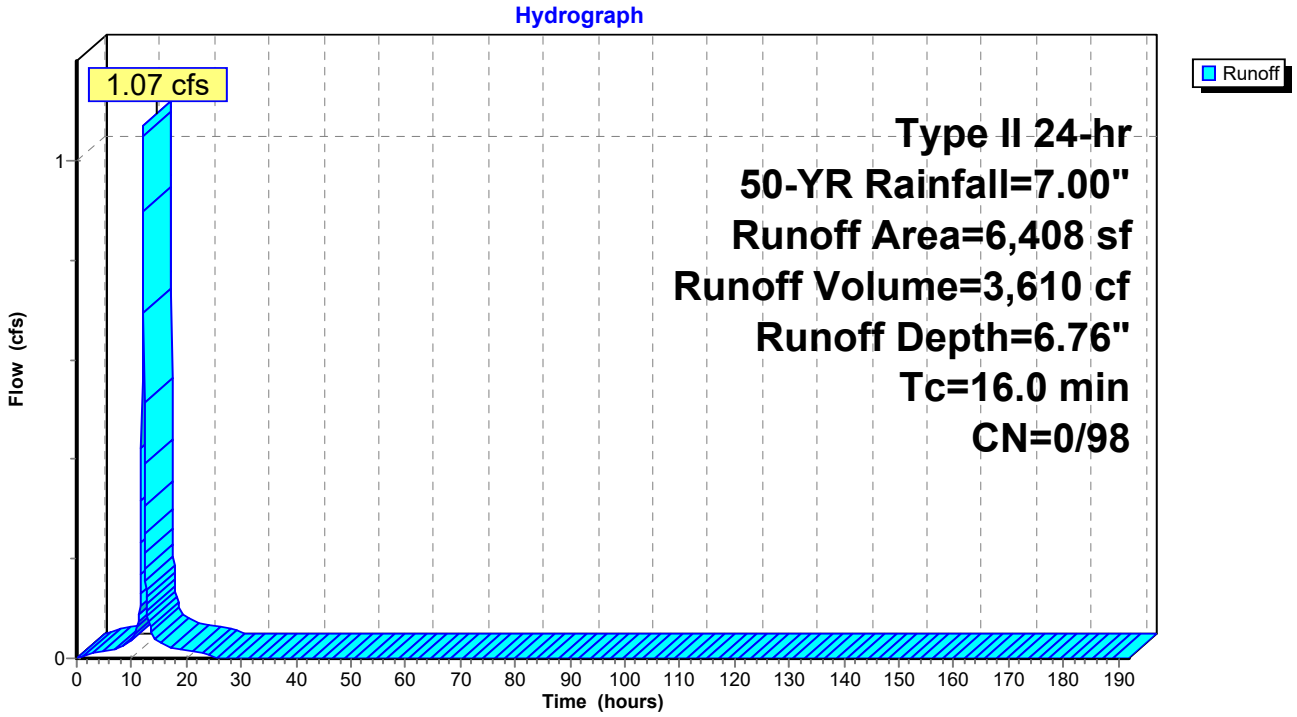
Subcatchment 4S: Exist. On-Site Imp to POD-001



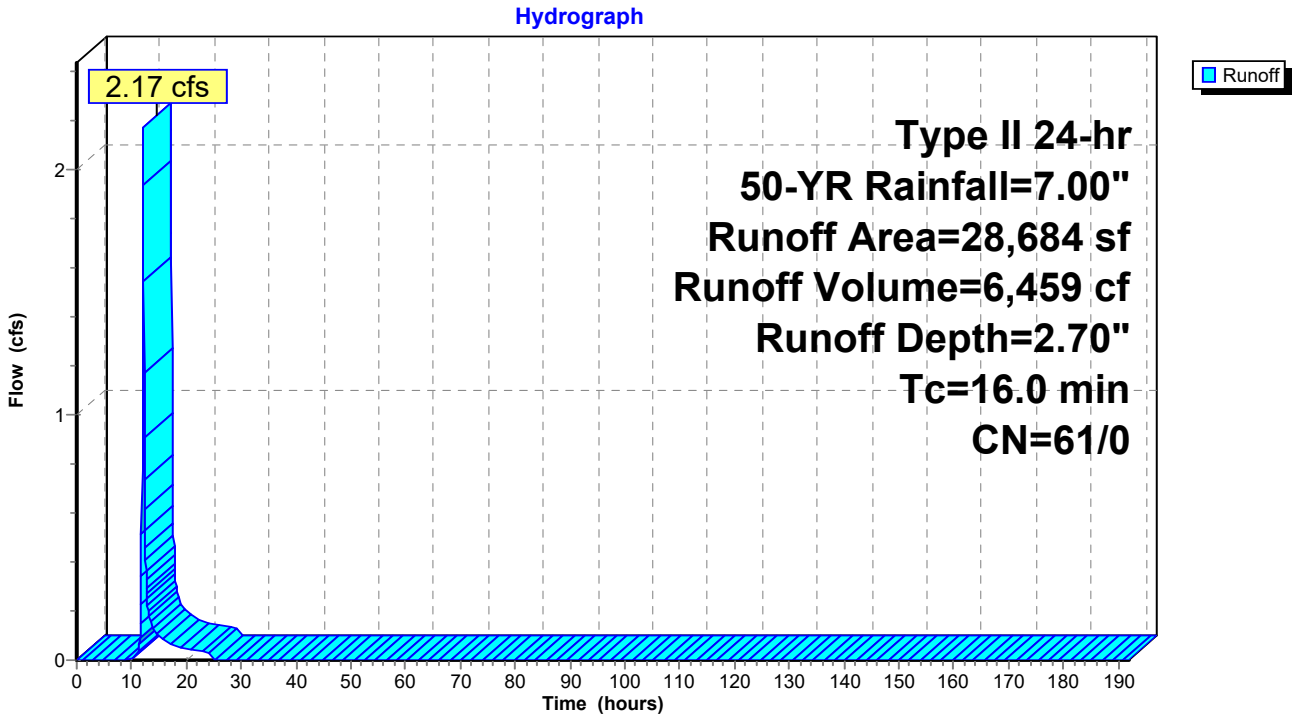
Subcatchment 5S: Exist. On-Site Perv to POD-001



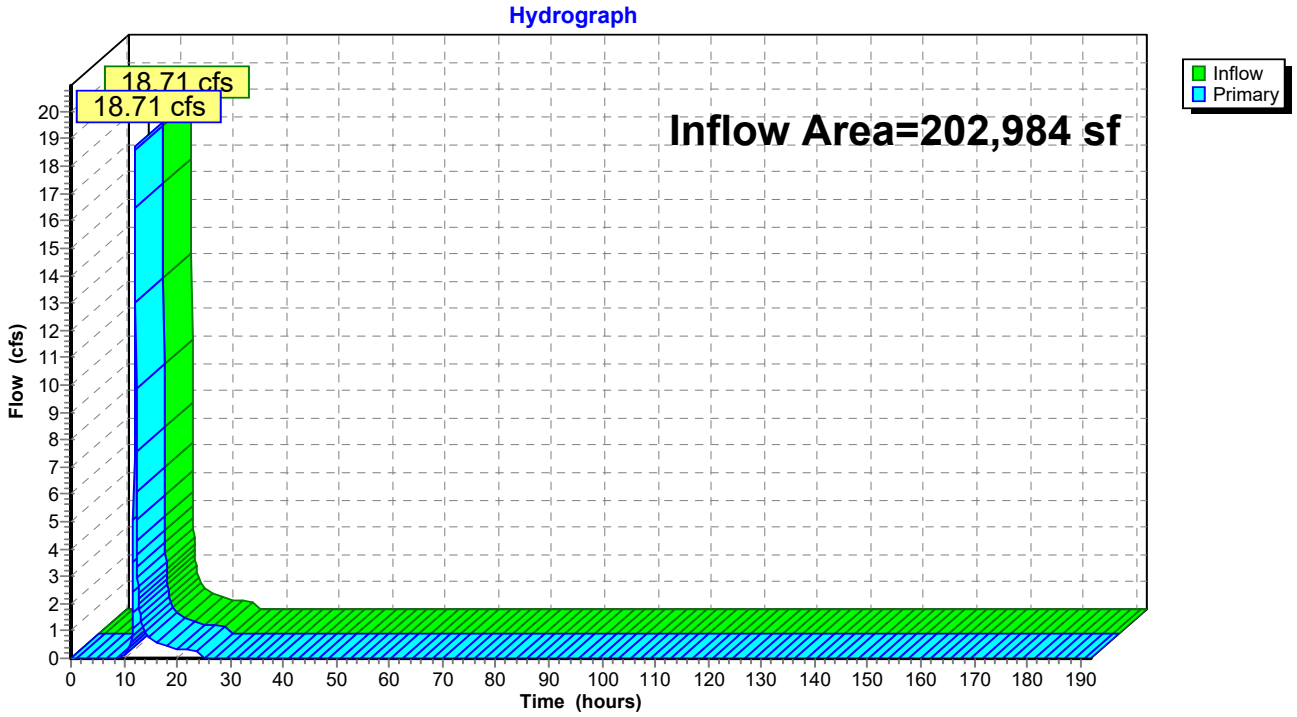
Subcatchment 6S: Exist. Off-Site Imp to POD-001



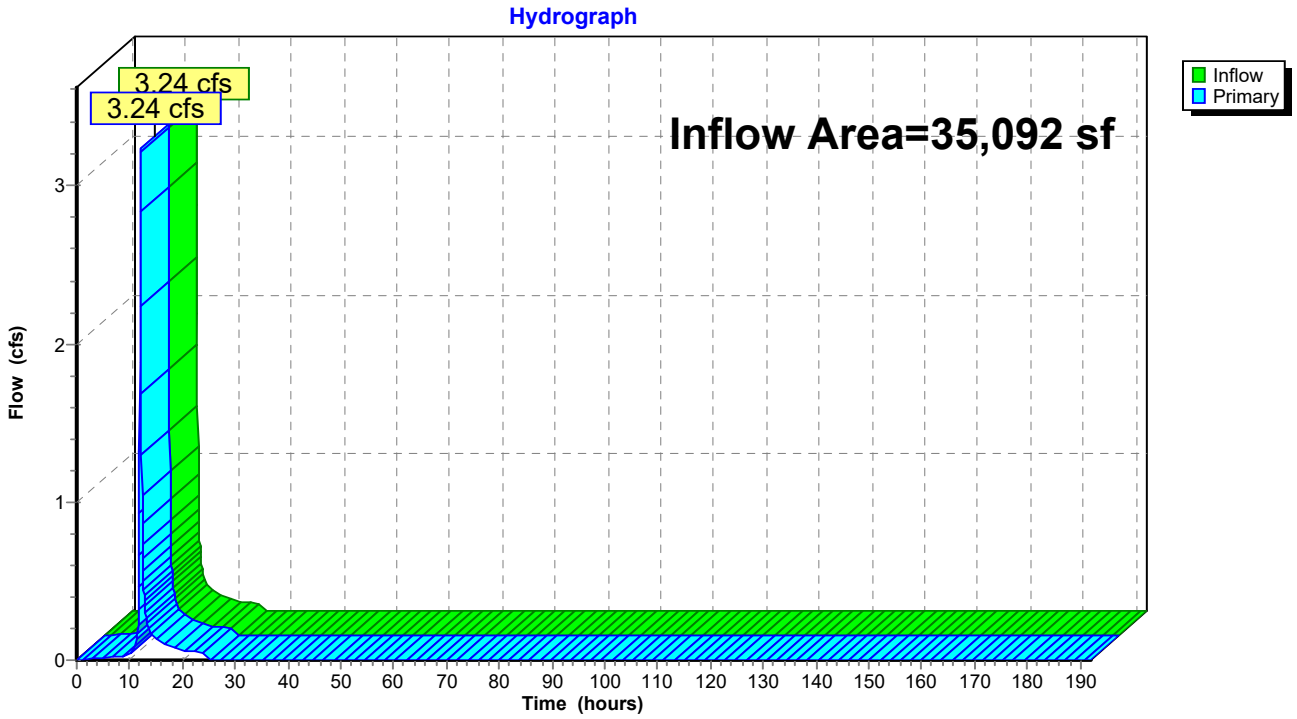
Subcatchment 7S: Exist. Off-Site Perv to POD-001



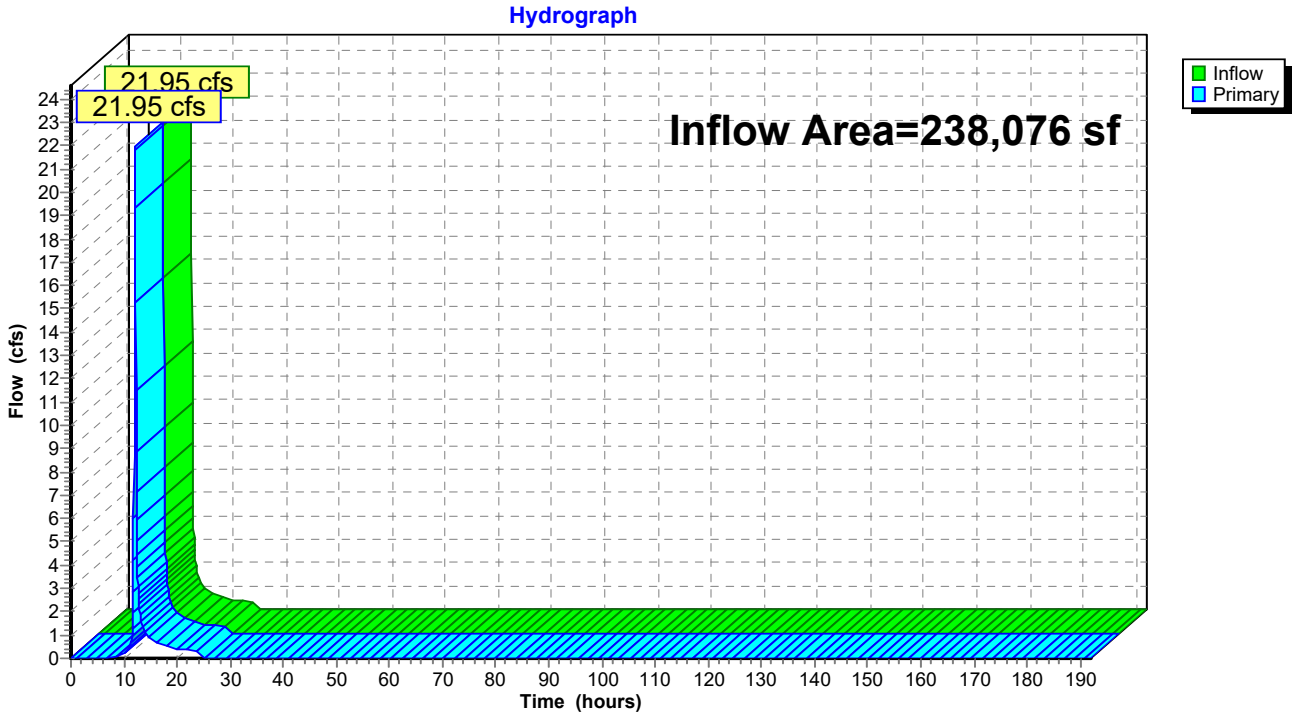
Link 9L: Exist. On-Site Total to POD-001



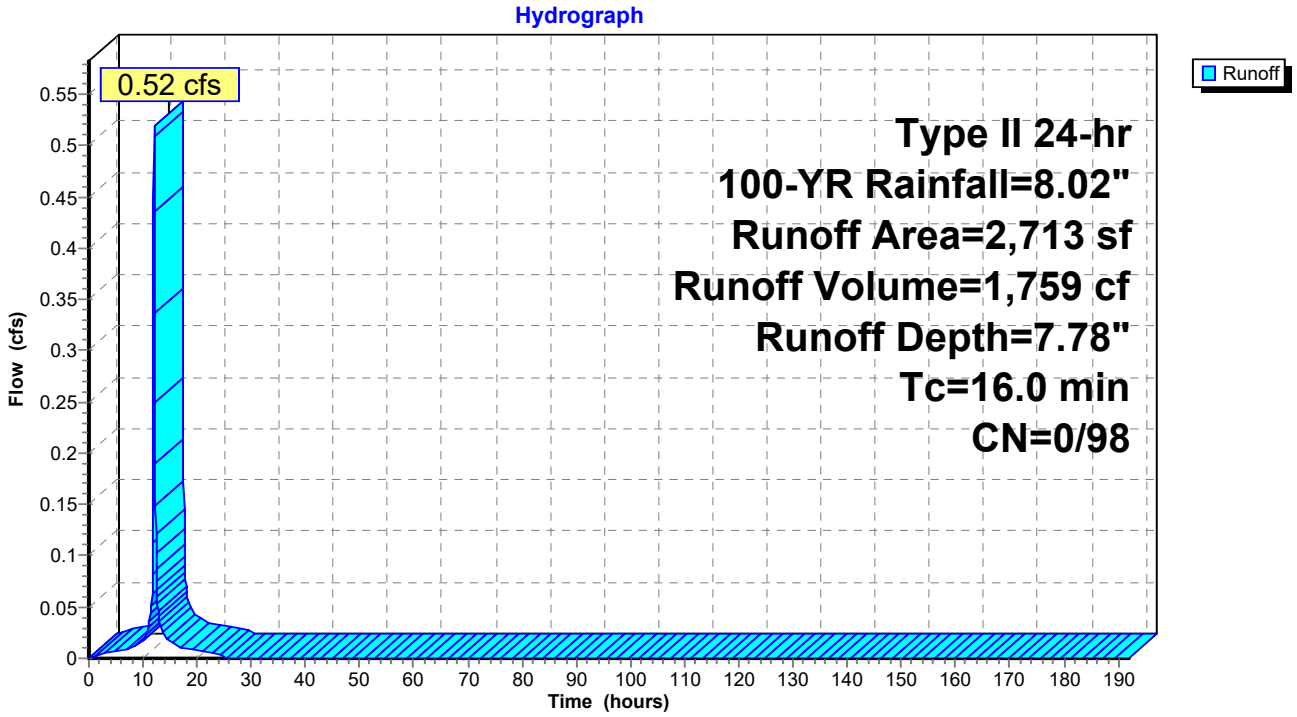
Link 11L: Exist. Off-Site Total to POD-001



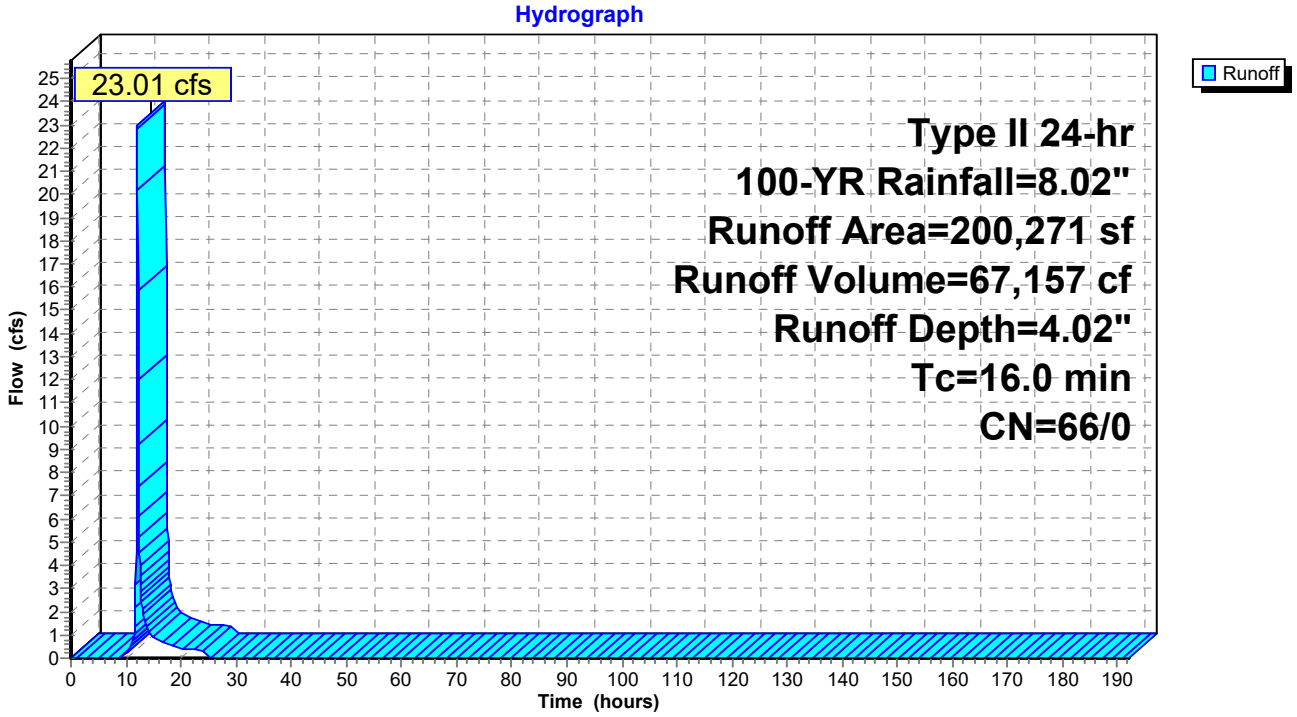
Link 12L: Exist. Total to POD-001



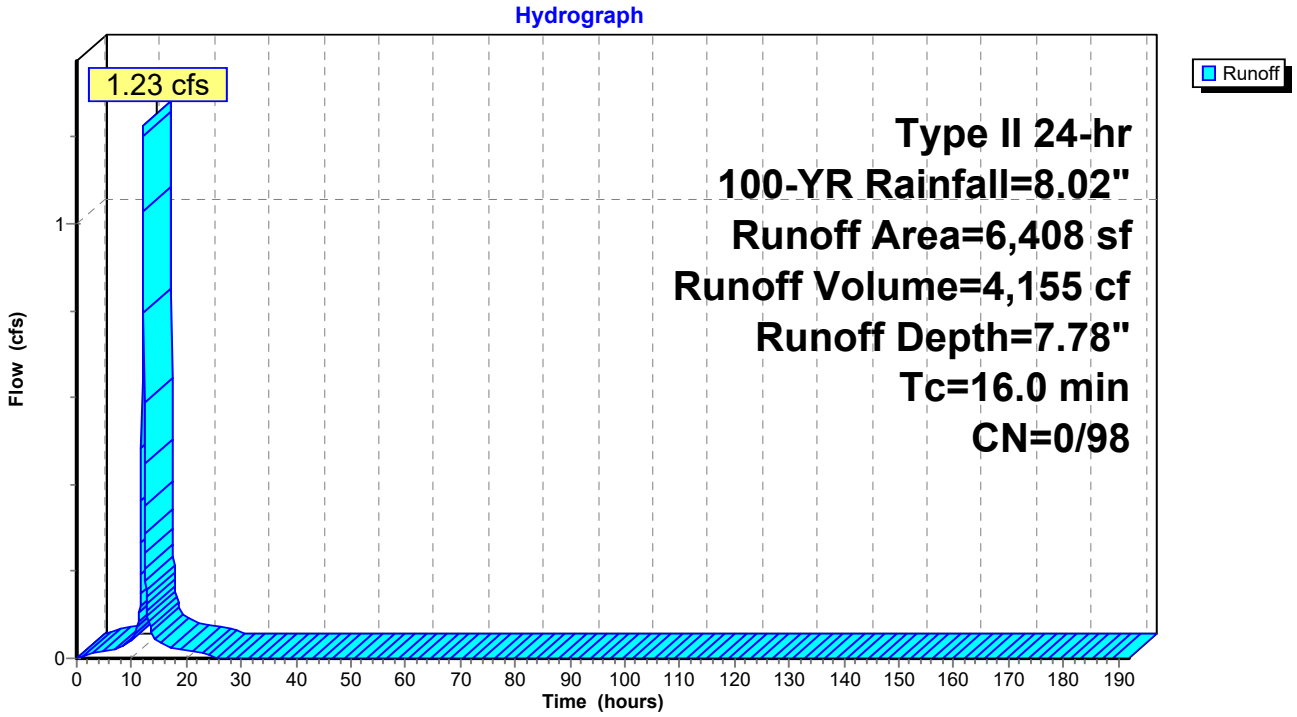
Subcatchment 4S: Exist. On-Site Imp to POD-001



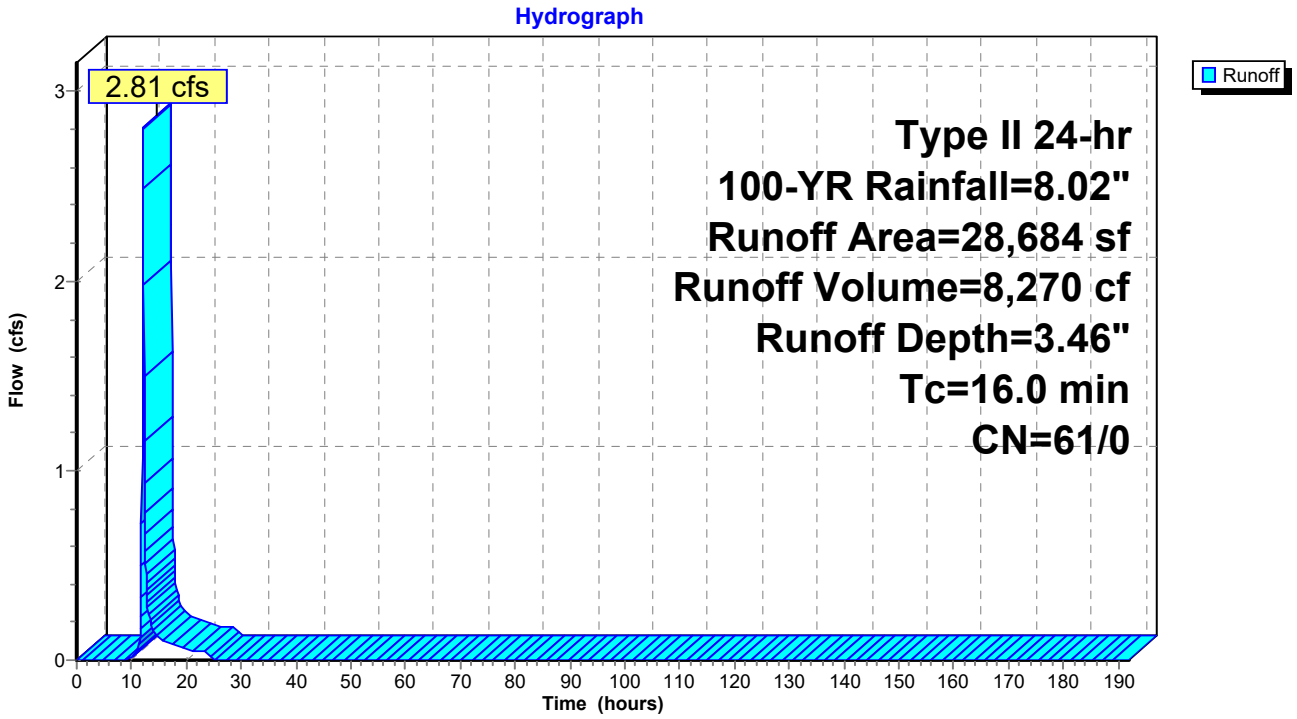
Subcatchment 5S: Exist. On-Site Perv to POD-001



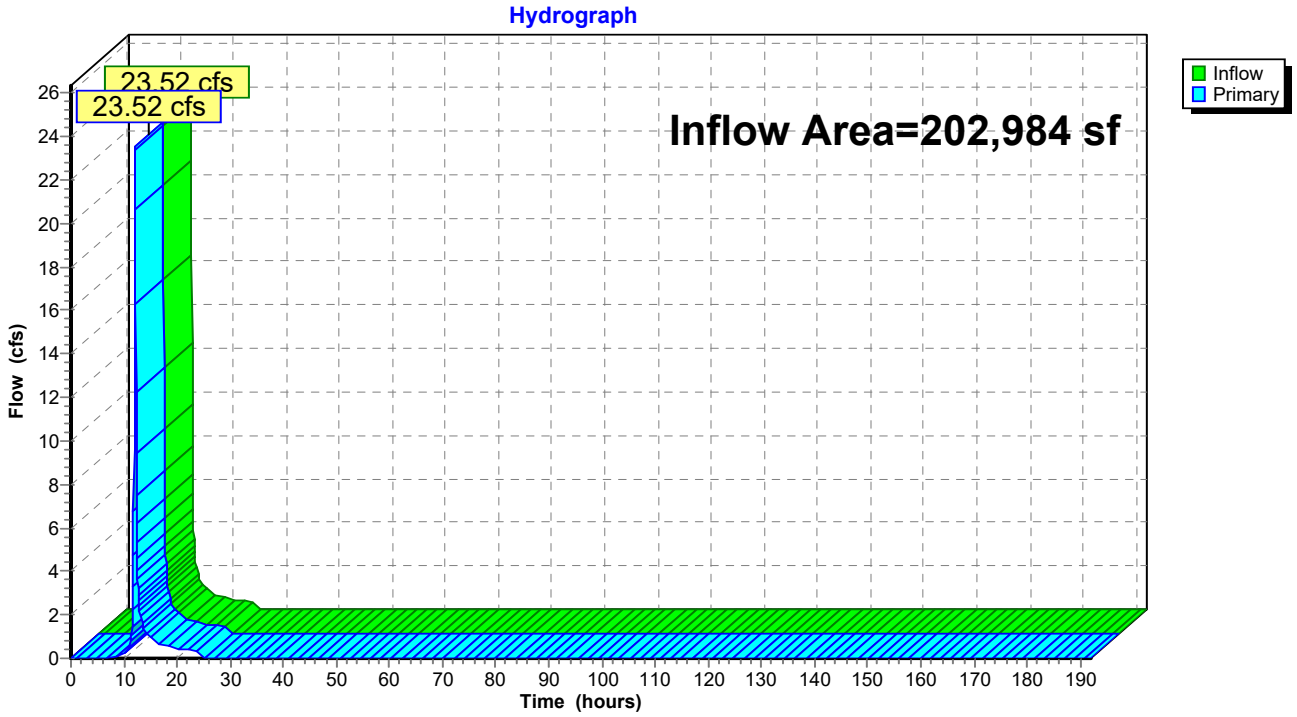
Subcatchment 6S: Exist. Off-Site Imp to POD-001



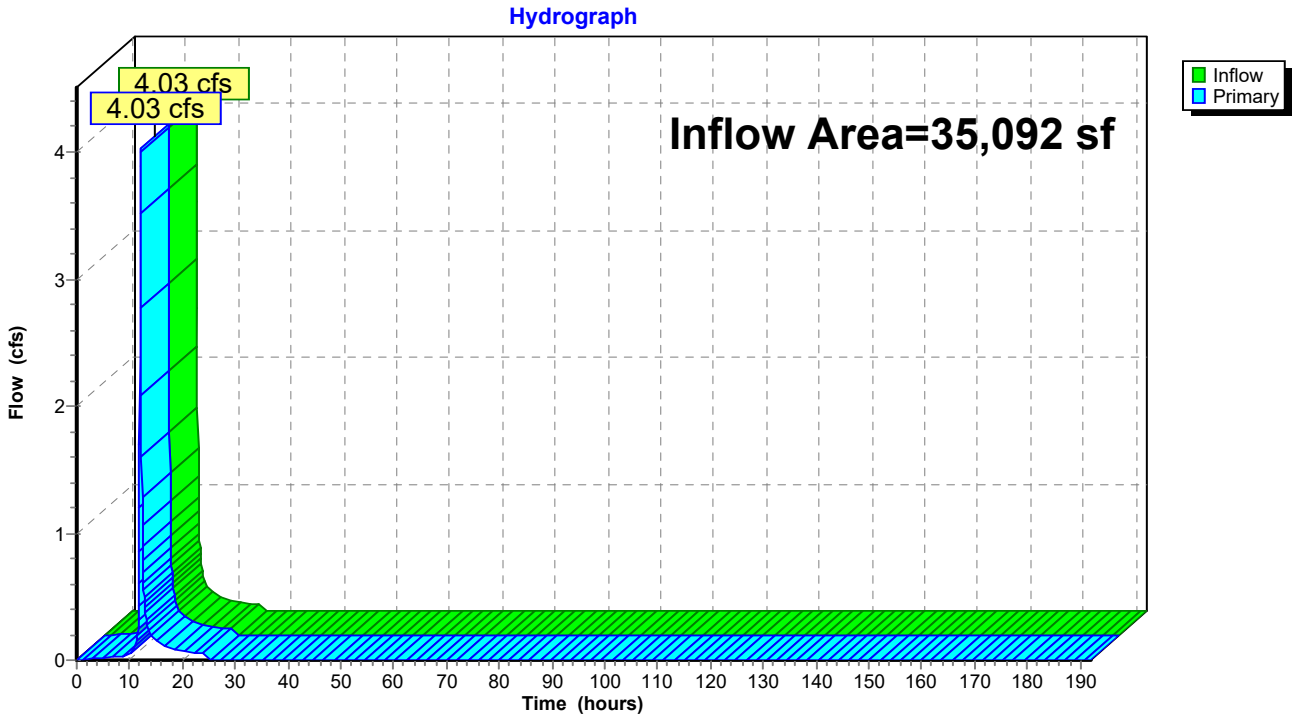
Subcatchment 7S: Exist. Off-Site Perv to POD-001



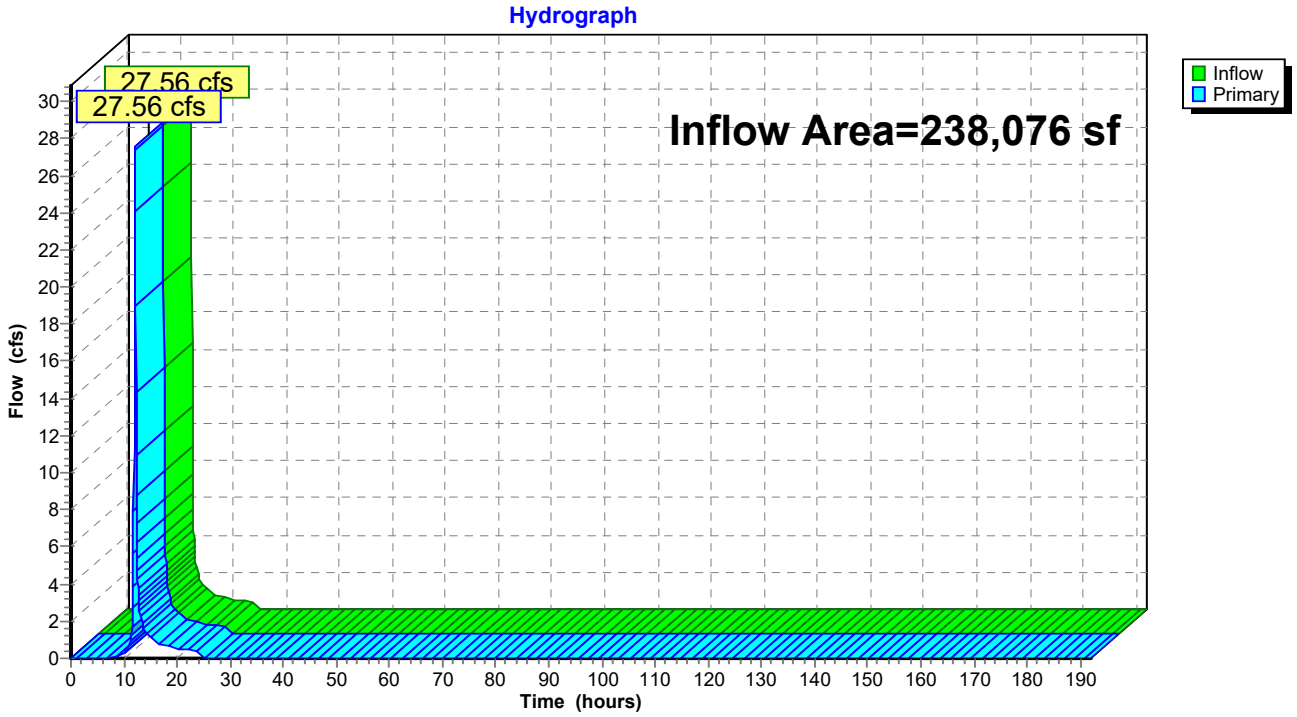
Link 9L: Exist. On-Site Total to POD-001



Link 11L: Exist. Off-Site Total to POD-001

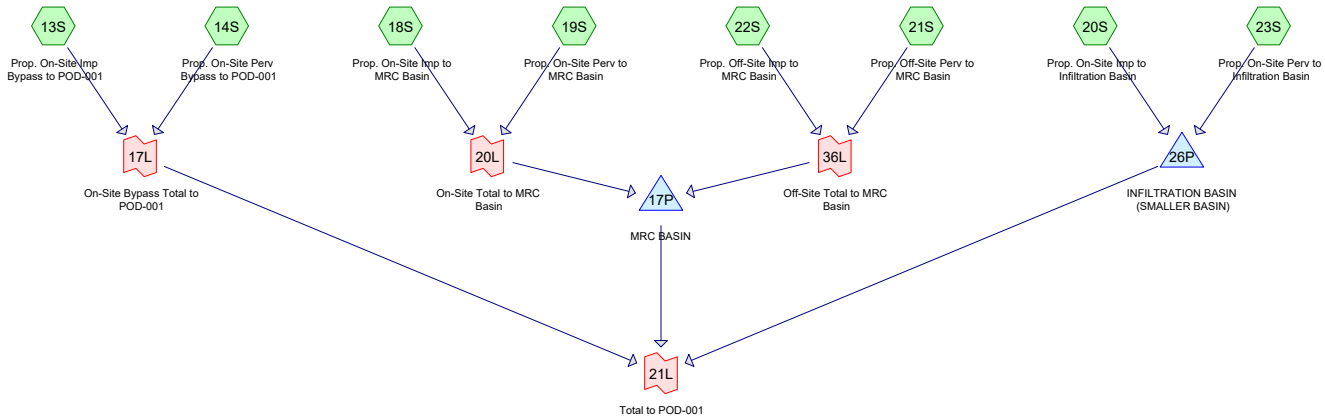


Link 12L: Exist. Total to POD-001



HYDROGRAPH SUMMARY REPORTS – PROPOSED CONDITIONS

1 YR, 2 YR, 5 YR, 10 YR, 25 YR, 50 YR & 100 YR



Subcat Reach Pond Link

Routing Diagram for DeLuca Lafayette (Rock) - HydroCAD
Prepared by Dynamic Engineering, Printed 9/8/2026
HydroCAD® 10.20-9a s/n 08640 © 2026 HydroCAD Software Solutions LLC

Summary for Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001

Runoff = 0.27 cfs @ 1.09 hrs, Volume= 347 cf, Depth= 0.99"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
4,224	98	Paved parking, HSG C
4,224	98	100.00% Impervious Area

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

Summary for Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001

Runoff = 0.05 cfs @ 1.75 hrs, Volume= 110 cf, Depth= 0.02"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
26,259	61	>75% Grass cover, Good, HSG B
43,576	74	>75% Grass cover, Good, HSG C
69,835	69	Weighted Average
69,835	69	100.00% Pervious Area

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

Summary for Subcatchment 18S: Prop. On-Site Imp to MRC Basin

Runoff = 1.57 cfs @ 1.09 hrs, Volume= 2,025 cf, Depth= 0.99"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
24,649	98	Paved parking, HSG B
24,649	98	100.00% Impervious Area

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

Summary for Subcatchment 19S: Prop. On-Site Perv to MRC Basin

Runoff = 0.06 cfs @ 1.54 hrs, Volume= 148 cf, Depth= 0.03"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
23,797	61	>75% Grass cover, Good, HSG B
46,295	74	>75% Grass cover, Good, HSG C
70,092	70	Weighted Average
70,092	70	100.00% Pervious Area

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

Summary for Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin

Runoff = 0.26 cfs @ 1.09 hrs, Volume= 341 cf, Depth= 0.99"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
4,156	98	Paved parking, HSG C
4,156	98	100.00% Impervious Area

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

Summary for Subcatchment 21S: Prop. Off-Site Perv to MRC Basin

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Subcatchment 22S: Prop. Off-Site Imp to MRC Basin

Runoff = 0.41 cfs @ 1.09 hrs, Volume= 526 cf, Depth= 0.99"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

	Area (sf)	CN	Description
*	6,408	98	Additional Impervious
	6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin

Runoff = 0.02 cfs @ 1.75 hrs, Volume= 47 cf, Depth= 0.02"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr MRC Rainfall=1.20"

Area (sf)	CN	Description
12,194	61	>75% Grass cover, Good, HSG B
17,861	74	>75% Grass cover, Good, HSG C
30,055	69	Weighted Average
30,055	69	100.00% Pervious Area

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

Summary for Pond 17P: MRC BASIN

Inflow Area = 129,833 sf, 23.92% Impervious, Inflow Depth = 0.25" for MRC event
Inflow = 1.97 cfs @ 1.09 hrs, Volume= 2,699 cf
Outflow = 0.02 cfs @ 2.13 hrs, Volume= 1,539 cf, Atten= 99%, Lag= 62.0 min
Primary = 0.02 cfs @ 2.13 hrs, Volume= 1,539 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 170.64' @ 2.13 hrs Surf.Area= 7,735 sf Storage= 2,634 cf

Plug-Flow detention time= 957.4 min calculated for 1,539 cf (57% of inflow)
Center-of-Mass det. time= 946.1 min (1,017.8 - 71.7)

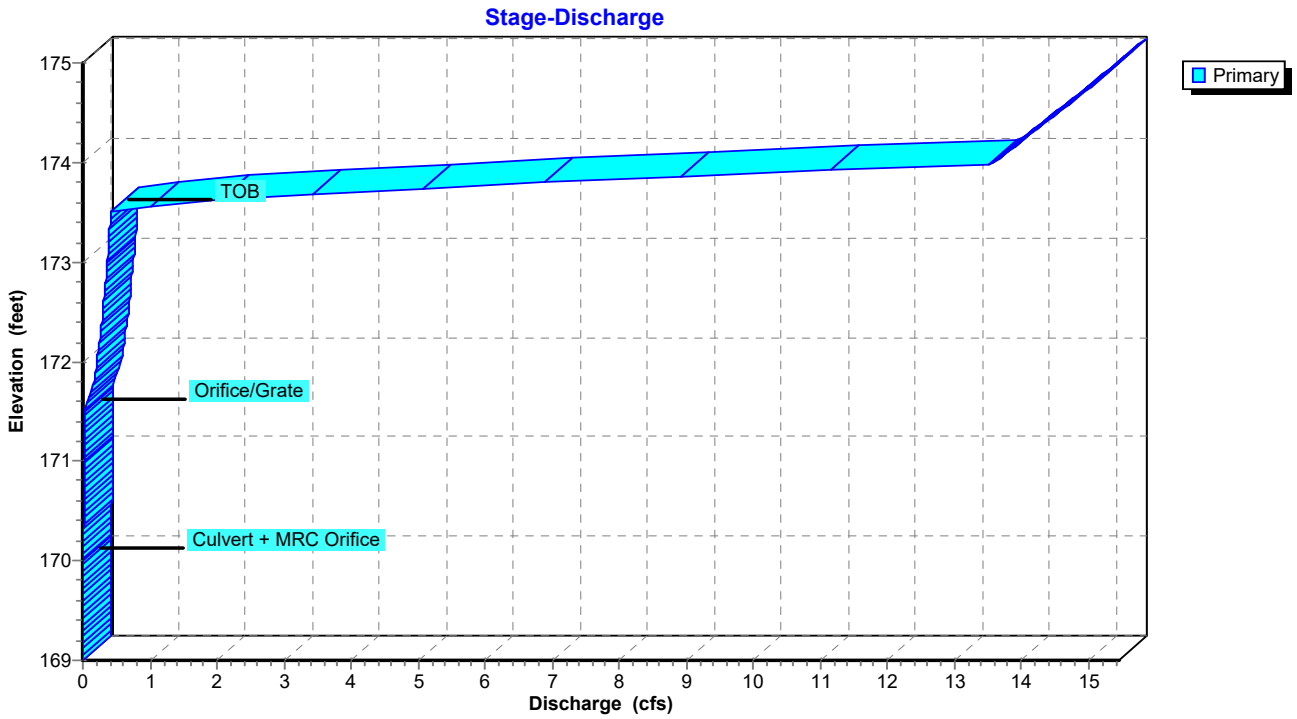
Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	44,399 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	7,735	0.0	0	0
170.00	7,735	15.0	1,160	1,160
171.00	7,735	30.0	2,321	3,481
172.00	8,910	100.0	8,323	11,803
173.00	10,156	100.0	9,533	21,336
174.00	11,530	100.0	10,843	32,179
175.00	12,910	100.0	12,220	44,399

Device	Routing	Invert	Outlet Devices
#1	Primary	170.00'	**15.00" Round Culvert** L= 10.0' Ke= 0.200 Inlet / Outlet Invert= 170.00' / 169.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	170.00'	**1.00" Vert. MRC Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	171.50'	**4.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	173.50'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 2.13 hrs HW=170.63' (Free Discharge)
└**1=Culvert** (Passes 0.02 cfs of 1.30 cfs potential flow)
  ├**2=MRC Orifice** (Orifice Controls 0.02 cfs @ 3.71 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=TOB** (Controls 0.00 cfs)

Pond 17P: MRC BASIN



Stage-Area-Storage for Pond 17P: MRC BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	7,735	0
169.10	7,735	116
169.20	7,735	232
169.30	7,735	348
169.40	7,735	464
169.50	7,735	580
169.60	7,735	696
169.70	7,735	812
169.80	7,735	928
169.90	7,735	1,044
170.00	7,735	1,160
170.10	7,735	1,392
170.20	7,735	1,624
170.30	7,735	1,856
170.40	7,735	2,088
170.50	7,735	2,321
170.60	7,735	2,553
170.70	7,735	2,785
170.80	7,735	3,017
170.90	7,735	3,249
171.00	7,735	3,481
171.10	7,852	4,260
171.20	7,970	5,051
171.30	8,088	5,854
171.40	8,205	6,669
171.50	8,323	7,495
171.60	8,440	8,333
171.70	8,557	9,183
171.80	8,675	10,045
171.90	8,793	10,918
172.00	8,910	11,803
172.10	9,035	12,700
172.20	9,159	13,610
172.30	9,284	14,532
172.40	9,408	15,467
172.50	9,533	16,414
172.60	9,658	17,374
172.70	9,782	18,346
172.80	9,907	19,330
172.90	10,031	20,327
173.00	10,156	21,336
173.10	10,293	22,359
173.20	10,431	23,395
173.30	10,568	24,445
173.40	10,706	25,509
173.50	10,843	26,586
173.60	10,980	27,677
173.70	11,118	28,782
173.80	11,255	29,901
173.90	11,393	31,033
174.00	11,530	32,179
174.10	11,668	33,339
174.20	11,806	34,513
174.30	11,944	35,700
174.40	12,082	36,902
174.50	12,220	38,117
174.60	12,358	39,346
174.70	12,496	40,588
174.80	12,634	41,845
174.90	12,772	43,115
175.00	**12,910**	**44,399**

Summary for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Inflow Area = 34,211 sf, 12.15% Impervious, Inflow Depth = 0.14" for MRC event
Inflow = 0.26 cfs @ 1.09 hrs, Volume= 389 cf
Outflow = 0.00 cfs @ 2.12 hrs, Volume= 389 cf, Atten= 98%, Lag= 61.6 min
Discarded = 0.00 cfs @ 2.12 hrs, Volume= 389 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 169.20' @ 2.12 hrs Surf.Area= 1,943 sf Storage= 368 cf

Plug-Flow detention time= 729.2 min calculated for 389 cf (100% of inflow)
Center-of-Mass det. time= 728.6 min (802.2 - 73.7)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	8,737 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

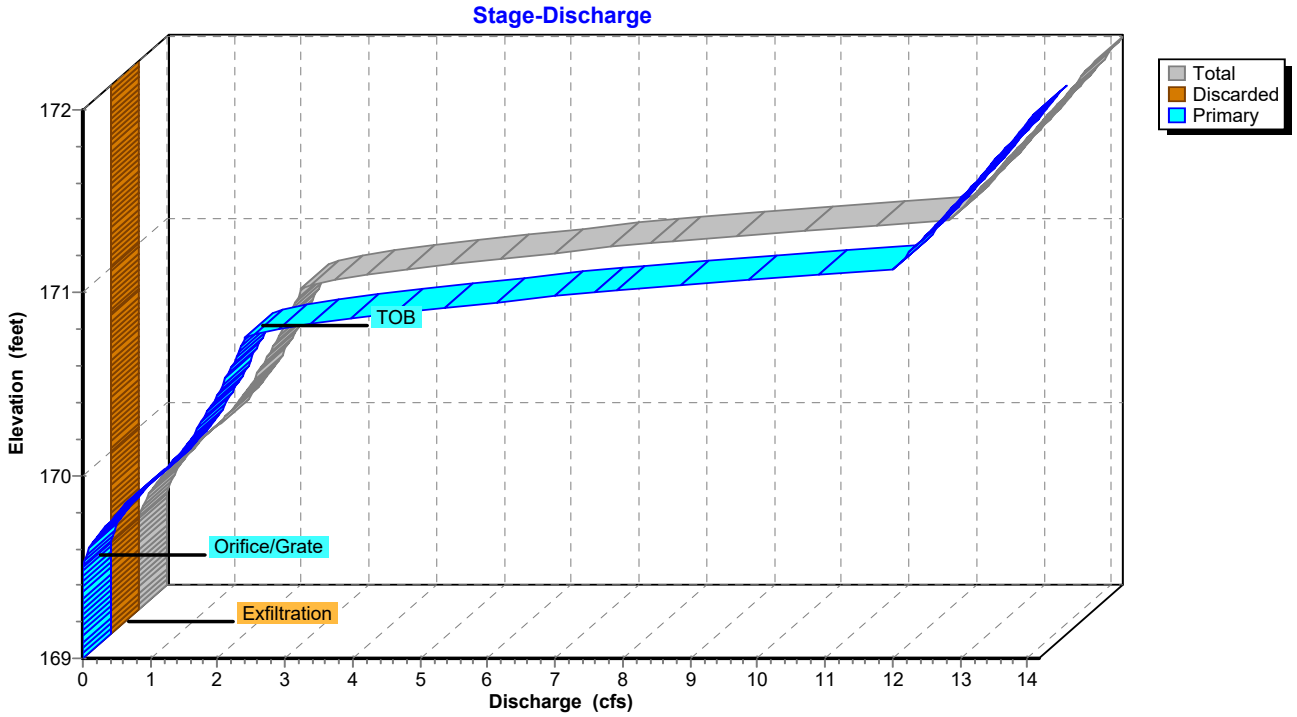
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,805	0	0
170.00	2,508	2,157	2,157
171.00	3,276	2,892	5,049
172.00	4,101	3,689	8,737

Device	Routing	Invert	Outlet Devices
#1	Discarded	169.00'	**0.100 in/hr Exfiltration over Surface area**
#2	Primary	168.00'	**15.00" Round Culvert** L= 24.0' Ke= 0.100 Inlet / Outlet Invert= 168.00' / 167.65' S= 0.0146 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Device 2	169.50'	**12.00" W x 6.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	170.75'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 2.12 hrs HW=169.20' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=169.00' (Free Discharge)
└**2=Culvert** (Passes 0.00 cfs of 3.97 cfs potential flow)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=TOB** (Controls 0.00 cfs)

Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



Stage-Area-Storage for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	1,805	0
169.05	1,840	91
169.10	1,875	184
169.15	1,910	279
169.20	1,946	375
169.25	1,981	473
169.30	2,016	573
169.35	2,051	675
169.40	2,086	778
169.45	2,121	883
169.50	2,157	990
169.55	2,192	1,099
169.60	2,227	1,210
169.65	2,262	1,322
169.70	2,297	1,436
169.75	2,332	1,551
169.80	2,367	1,669
169.85	2,403	1,788
169.90	2,438	1,909
169.95	2,473	2,032
170.00	2,508	2,157
170.05	2,546	2,283
170.10	2,585	2,411
170.15	2,623	2,541
170.20	2,662	2,673
170.25	2,700	2,808
170.30	2,738	2,943
170.35	2,777	3,081
170.40	2,815	3,221
170.45	2,854	3,363
170.50	2,892	3,507
170.55	2,930	3,652
170.60	2,969	3,800
170.65	3,007	3,949
170.70	3,046	4,100
170.75	3,084	4,254
170.80	3,122	4,409
170.85	3,161	4,566
170.90	3,199	4,725
170.95	3,238	4,886
171.00	3,276	5,049
171.05	3,317	5,213
171.10	3,358	5,380
171.15	3,400	5,549
171.20	3,441	5,720
171.25	3,482	5,893
171.30	3,524	6,068
171.35	3,565	6,246
171.40	3,606	6,425
171.45	3,647	6,606
171.50	3,689	6,790
171.55	3,730	6,975
171.60	3,771	7,163
171.65	3,812	7,352
171.70	3,853	7,544
171.75	3,895	7,738
171.80	3,936	7,933
171.85	3,977	8,131
171.90	4,019	8,331
171.95	4,060	8,533
172.00	**4,101**	**8,737**

Summary for Link 17L: On-Site Bypass Total to POD-001

Inflow Area = 74,059 sf, 5.70% Impervious, Inflow Depth = 0.07" for MRC event
Inflow = 0.27 cfs @ 1.09 hrs, Volume= 457 cf
Primary = 0.27 cfs @ 1.09 hrs, Volume= 457 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 21L : Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 20L: On-Site Total to MRC Basin

Inflow Area = 94,741 sf, 26.02% Impervious, Inflow Depth = 0.28" for MRC event
Inflow = 1.57 cfs @ 1.09 hrs, Volume= 2,173 cf
Primary = 1.57 cfs @ 1.09 hrs, Volume= 2,173 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 21L: Total to POD-001

Inflow Area = 238,103 sf, 16.56% Impervious, Inflow Depth = 0.10" for MRC event
Inflow = 0.27 cfs @ 1.10 hrs, Volume= 1,996 cf
Primary = 0.27 cfs @ 1.10 hrs, Volume= 1,996 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Off-Site Total to MRC Basin

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 0.18" for MRC event
Inflow = 0.41 cfs @ 1.09 hrs, Volume= 526 cf
Primary = 0.41 cfs @ 1.09 hrs, Volume= 526 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001

Runoff = 0.37 cfs @ 11.96 hrs, Volume= 894 cf, Depth= 2.54"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
4,224	98	Paved parking, HSG C
4,224	98	100.00% Impervious Area

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

Summary for Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001

Runoff = 1.40 cfs @ 11.99 hrs, Volume= 3,203 cf, Depth= 0.55"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
26,259	61	>75% Grass cover, Good, HSG B
43,576	74	>75% Grass cover, Good, HSG C
69,835	69	Weighted Average
69,835	69	100.00% Pervious Area

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

Summary for Subcatchment 18S: Prop. On-Site Imp to MRC Basin

Runoff = 2.15 cfs @ 11.96 hrs, Volume= 5,216 cf, Depth= 2.54"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
24,649	98	Paved parking, HSG B
24,649	98	100.00% Impervious Area

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

Summary for Subcatchment 19S: Prop. On-Site Perv to MRC Basin

Runoff = 1.54 cfs @ 11.99 hrs, Volume= 3,448 cf, Depth= 0.59"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
23,797	61	>75% Grass cover, Good, HSG B
46,295	74	>75% Grass cover, Good, HSG C
70,092	70	Weighted Average
70,092	70	100.00% Pervious Area

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

Summary for Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin

Runoff = 0.36 cfs @ 11.96 hrs, Volume= 879 cf, Depth= 2.54"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
4,156	98	Paved parking, HSG C
4,156	98	100.00% Impervious Area

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

Summary for Subcatchment 21S: Prop. Off-Site Perv to MRC Basin

Runoff = 0.21 cfs @ 12.01 hrs, Volume= 674 cf, Depth= 0.28"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Subcatchment 22S: Prop. Off-Site Imp to MRC Basin

Runoff = 0.56 cfs @ 11.96 hrs, Volume= 1,356 cf, Depth= 2.54"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

	Area (sf)	CN	Description
*	6,408	98	Additional Impervious
	6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin

Runoff = 0.60 cfs @ 11.99 hrs, Volume= 1,378 cf, Depth= 0.55"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.77"

Area (sf)	CN	Description
12,194	61	>75% Grass cover, Good, HSG B
17,861	74	>75% Grass cover, Good, HSG C
30,055	69	Weighted Average
30,055	69	100.00% Pervious Area

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

Summary for Pond 17P: MRC BASIN

Inflow Area = 129,833 sf, 23.92% Impervious, Inflow Depth = 0.99" for 1-YR event
Inflow = 4.38 cfs @ 11.98 hrs, Volume= 10,694 cf
Outflow = 0.07 cfs @ 19.48 hrs, Volume= 9,530 cf, Atten= 98%, Lag= 450.1 min
Primary = 0.07 cfs @ 19.48 hrs, Volume= 9,530 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 171.60' @ 19.48 hrs Surf.Area= 8,445 sf Storage= 8,366 cf

Plug-Flow detention time= 2,118.9 min calculated for 9,530 cf (89% of inflow)
Center-of-Mass det. time= 2,061.4 min (2,870.1 - 808.7)

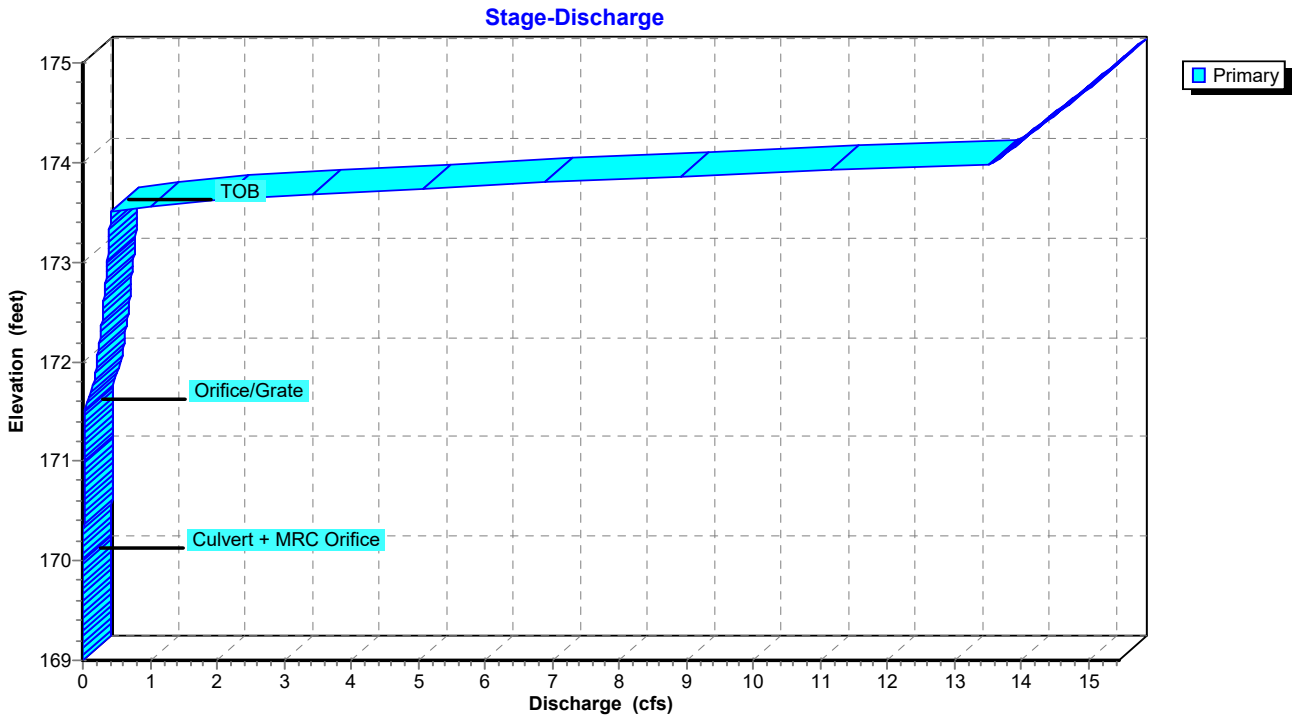
Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	44,399 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	7,735	0.0	0	0
170.00	7,735	15.0	1,160	1,160
171.00	7,735	30.0	2,321	3,481
172.00	8,910	100.0	8,323	11,803
173.00	10,156	100.0	9,533	21,336
174.00	11,530	100.0	10,843	32,179
175.00	12,910	100.0	12,220	44,399

Device	Routing	Invert	Outlet Devices
#1	Primary	170.00'	**15.00" Round Culvert** L= 10.0' Ke= 0.200 Inlet / Outlet Invert= 170.00' / 169.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	170.00'	**1.00" Vert. MRC Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	171.50'	**4.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	173.50'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.07 cfs @ 19.48 hrs HW=171.60' (Free Discharge)
↑**1=Culvert** (Passes 0.07 cfs of 5.58 cfs potential flow)
↑**2=MRC Orifice** (Orifice Controls 0.03 cfs @ 6.02 fps)
3=Orifice/Grate (Orifice Controls 0.04 cfs @ 1.03 fps)
4=TOB (Controls 0.00 cfs)

Pond 17P: MRC BASIN



Stage-Area-Storage for Pond 17P: MRC BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	7,735	0
169.10	7,735	116
169.20	7,735	232
169.30	7,735	348
169.40	7,735	464
169.50	7,735	580
169.60	7,735	696
169.70	7,735	812
169.80	7,735	928
169.90	7,735	1,044
170.00	7,735	1,160
170.10	7,735	1,392
170.20	7,735	1,624
170.30	7,735	1,856
170.40	7,735	2,088
170.50	7,735	2,321
170.60	7,735	2,553
170.70	7,735	2,785
170.80	7,735	3,017
170.90	7,735	3,249
171.00	7,735	3,481
171.10	7,852	4,260
171.20	7,970	5,051
171.30	8,088	5,854
171.40	8,205	6,669
171.50	8,323	7,495
171.60	8,440	8,333
171.70	8,557	9,183
171.80	8,675	10,045
171.90	8,793	10,918
172.00	8,910	11,803
172.10	9,035	12,700
172.20	9,159	13,610
172.30	9,284	14,532
172.40	9,408	15,467
172.50	9,533	16,414
172.60	9,658	17,374
172.70	9,782	18,346
172.80	9,907	19,330
172.90	10,031	20,327
173.00	10,156	21,336
173.10	10,293	22,359
173.20	10,431	23,395
173.30	10,568	24,445
173.40	10,706	25,509
173.50	10,843	26,586
173.60	10,980	27,677
173.70	11,118	28,782
173.80	11,255	29,901
173.90	11,393	31,033
174.00	11,530	32,179
174.10	11,668	33,339
174.20	11,806	34,513
174.30	11,944	35,700
174.40	12,082	36,902
174.50	12,220	38,117
174.60	12,358	39,346
174.70	12,496	40,588
174.80	12,634	41,845
174.90	12,772	43,115
175.00	**12,910**	**44,399**

Summary for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Inflow Area = 34,211 sf, 12.15% Impervious, Inflow Depth = 0.79" for 1-YR event
Inflow = 0.96 cfs @ 11.98 hrs, Volume= 2,258 cf
Outflow = 0.06 cfs @ 13.21 hrs, Volume= 2,258 cf, Atten= 94%, Lag= 73.4 min
Discarded = 0.01 cfs @ 13.21 hrs, Volume= 1,314 cf
Primary = 0.05 cfs @ 13.21 hrs, Volume= 944 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 169.56' @ 13.21 hrs Surf.Area= 2,202 sf Storage= 1,132 cf

Plug-Flow detention time= 1,155.2 min calculated for 2,257 cf (100% of inflow)
Center-of-Mass det. time= 1,156.1 min (1,993.3 - 837.2)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	8,737 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

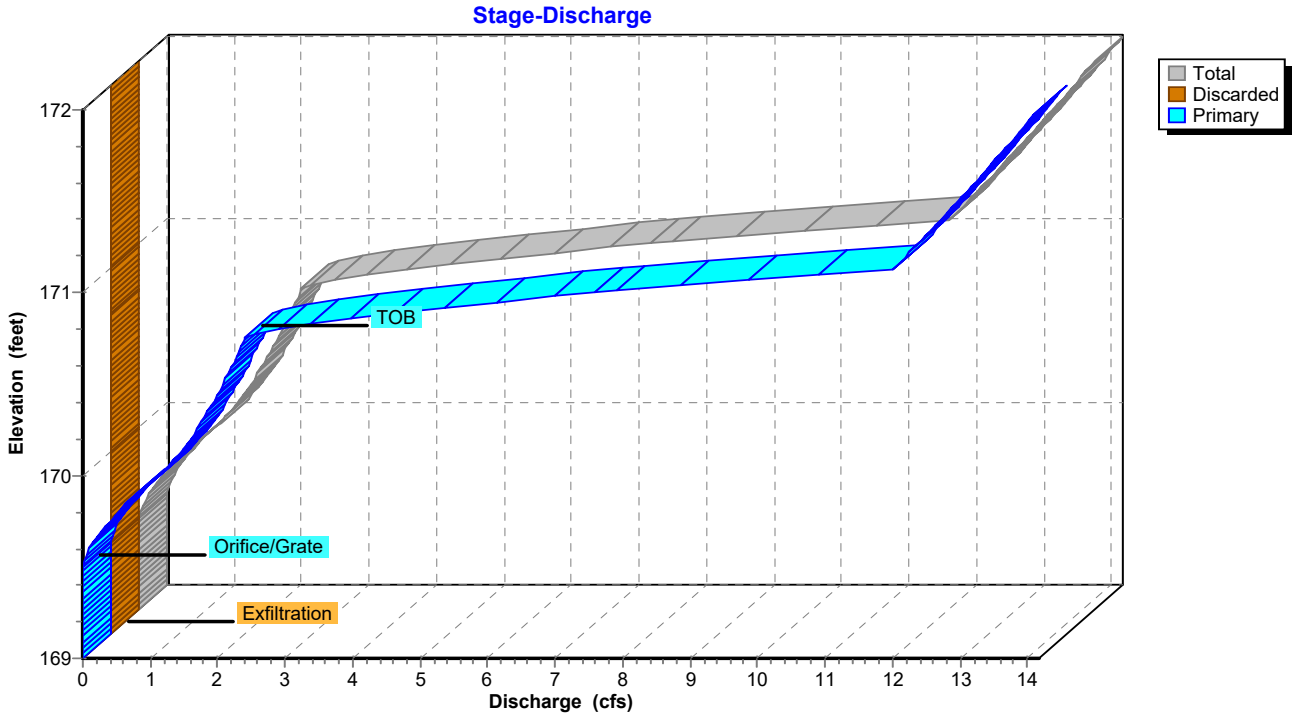
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,805	0	0
170.00	2,508	2,157	2,157
171.00	3,276	2,892	5,049
172.00	4,101	3,689	8,737

Device	Routing	Invert	Outlet Devices
#1	Discarded	169.00'	**0.100 in/hr Exfiltration over Surface area**
#2	Primary	168.00'	**15.00" Round Culvert** L= 24.0' Ke= 0.100 Inlet / Outlet Invert= 168.00' / 167.65' S= 0.0146 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Device 2	169.50'	**12.00" W x 6.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	170.75'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 13.21 hrs HW=169.56' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.05 cfs @ 13.21 hrs HW=169.56' (Free Discharge)
└**2=Culvert** (Passes 0.05 cfs of 6.91 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 0.05 cfs @ 0.82 fps)
  └**4=TOB** (Controls 0.00 cfs)

Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



Stage-Area-Storage for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	1,805	0
169.05	1,840	91
169.10	1,875	184
169.15	1,910	279
169.20	1,946	375
169.25	1,981	473
169.30	2,016	573
169.35	2,051	675
169.40	2,086	778
169.45	2,121	883
169.50	2,157	990
169.55	2,192	1,099
169.60	2,227	1,210
169.65	2,262	1,322
169.70	2,297	1,436
169.75	2,332	1,551
169.80	2,367	1,669
169.85	2,403	1,788
169.90	2,438	1,909
169.95	2,473	2,032
170.00	2,508	2,157
170.05	2,546	2,283
170.10	2,585	2,411
170.15	2,623	2,541
170.20	2,662	2,673
170.25	2,700	2,808
170.30	2,738	2,943
170.35	2,777	3,081
170.40	2,815	3,221
170.45	2,854	3,363
170.50	2,892	3,507
170.55	2,930	3,652
170.60	2,969	3,800
170.65	3,007	3,949
170.70	3,046	4,100
170.75	3,084	4,254
170.80	3,122	4,409
170.85	3,161	4,566
170.90	3,199	4,725
170.95	3,238	4,886
171.00	3,276	5,049
171.05	3,317	5,213
171.10	3,358	5,380
171.15	3,400	5,549
171.20	3,441	5,720
171.25	3,482	5,893
171.30	3,524	6,068
171.35	3,565	6,246
171.40	3,606	6,425
171.45	3,647	6,606
171.50	3,689	6,790
171.55	3,730	6,975
171.60	3,771	7,163
171.65	3,812	7,352
171.70	3,853	7,544
171.75	3,895	7,738
171.80	3,936	7,933
171.85	3,977	8,131
171.90	4,019	8,331
171.95	4,060	8,533
172.00	**4,101**	**8,737**

Summary for Link 17L: On-Site Bypass Total to POD-001

Inflow Area = 74,059 sf, 5.70% Impervious, Inflow Depth = 0.66" for 1-YR event
Inflow = 1.76 cfs @ 11.99 hrs, Volume= 4,096 cf
Primary = 1.76 cfs @ 11.99 hrs, Volume= 4,096 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 21L : Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 20L: On-Site Total to MRC Basin

Inflow Area = 94,741 sf, 26.02% Impervious, Inflow Depth = 1.10" for 1-YR event
Inflow = 3.65 cfs @ 11.98 hrs, Volume= 8,664 cf
Primary = 3.65 cfs @ 11.98 hrs, Volume= 8,664 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 21L: Total to POD-001

Inflow Area = 238,103 sf, 16.56% Impervious, Inflow Depth = 0.73" for 1-YR event
Inflow = 1.79 cfs @ 11.99 hrs, Volume= 14,570 cf
Primary = 1.79 cfs @ 11.99 hrs, Volume= 14,570 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Off-Site Total to MRC Basin

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 0.69" for 1-YR event
Inflow = 0.74 cfs @ 11.98 hrs, Volume= 2,030 cf
Primary = 0.74 cfs @ 11.98 hrs, Volume= 2,030 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001

Runoff = 0.45 cfs @ 11.96 hrs, Volume= 1,094 cf, Depth= 3.11"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
4,224	98	Paved parking, HSG C
4,224	98	100.00% Impervious Area

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

Summary for Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001

Runoff = 2.31 cfs @ 11.98 hrs, Volume= 5,003 cf, Depth= 0.86"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
26,259	61	>75% Grass cover, Good, HSG B
43,576	74	>75% Grass cover, Good, HSG C
69,835	69	Weighted Average
69,835	69	100.00% Pervious Area

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

Summary for Subcatchment 18S: Prop. On-Site Imp to MRC Basin

Runoff = 2.60 cfs @ 11.96 hrs, Volume= 6,382 cf, Depth= 3.11"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
24,649	98	Paved parking, HSG B
24,649	98	100.00% Impervious Area

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

Summary for Subcatchment 19S: Prop. On-Site Perv to MRC Basin

Runoff = 2.48 cfs @ 11.98 hrs, Volume= 5,320 cf, Depth= 0.91"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
23,797	61	>75% Grass cover, Good, HSG B
46,295	74	>75% Grass cover, Good, HSG C
70,092	70	Weighted Average
70,092	70	100.00% Pervious Area

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

Summary for Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin

Runoff = 0.44 cfs @ 11.96 hrs, Volume= 1,076 cf, Depth= 3.11"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
4,156	98	Paved parking, HSG C
4,156	98	100.00% Impervious Area

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

Summary for Subcatchment 21S: Prop. Off-Site Perv to MRC Basin

Runoff = 0.48 cfs @ 12.00 hrs, Volume= 1,201 cf, Depth= 0.50"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Subcatchment 22S: Prop. Off-Site Imp to MRC Basin

Runoff = 0.68 cfs @ 11.96 hrs, Volume= 1,659 cf, Depth= 3.11"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

	Area (sf)	CN	Description
*	6,408	98	Additional Impervious
	6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin

Runoff = 1.00 cfs @ 11.98 hrs, Volume= 2,153 cf, Depth= 0.86"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.34"

Area (sf)	CN	Description
12,194	61	>75% Grass cover, Good, HSG B
17,861	74	>75% Grass cover, Good, HSG C
30,055	69	Weighted Average
30,055	69	100.00% Pervious Area

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

Summary for Pond 17P: MRC BASIN

Inflow Area = 129,833 sf, 23.92% Impervious, Inflow Depth = 1.35" for 2-YR event
Inflow = 6.18 cfs @ 11.98 hrs, Volume= 14,562 cf
Outflow = 0.15 cfs @ 15.83 hrs, Volume= 13,398 cf, Atten= 98%, Lag= 231.5 min
Primary = 0.15 cfs @ 15.83 hrs, Volume= 13,398 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 171.78' @ 15.83 hrs Surf.Area= 8,654 sf Storage= 9,890 cf

Plug-Flow detention time= 1,663.4 min calculated for 13,394 cf (92% of inflow)
Center-of-Mass det. time= 1,621.1 min (2,428.6 - 807.5)

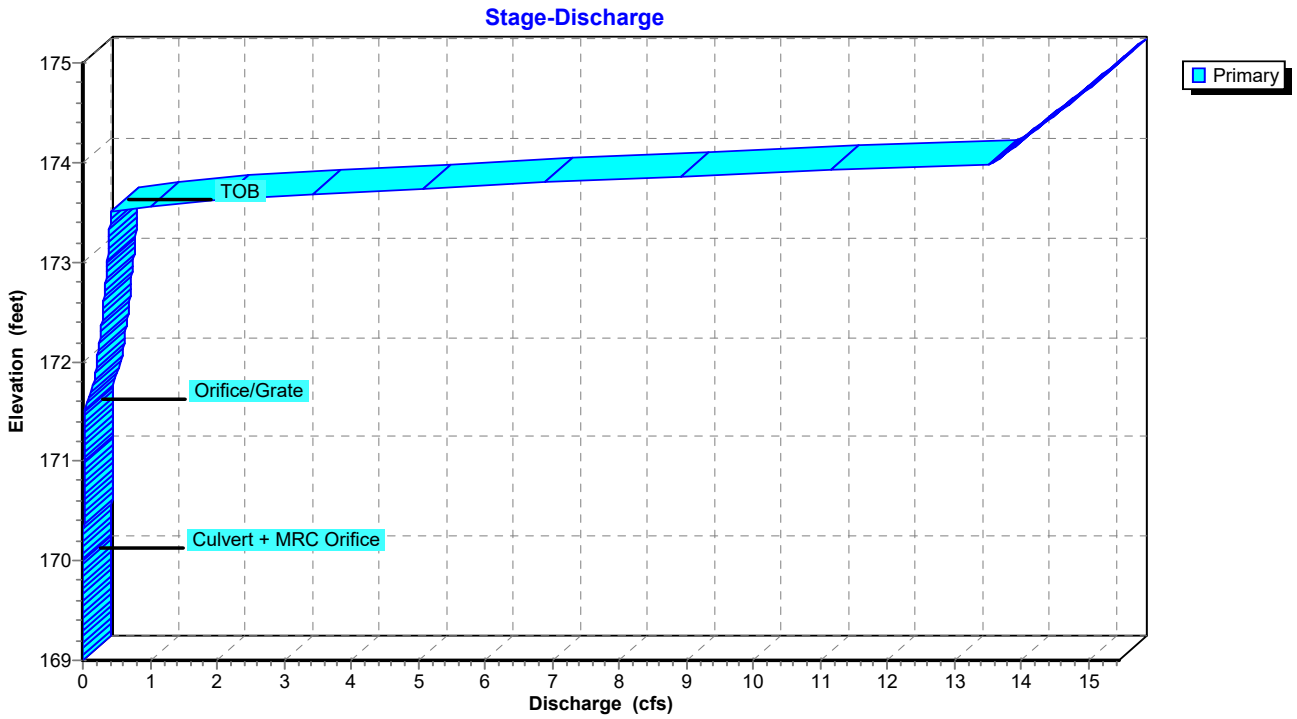
Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	44,399 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	7,735	0.0	0	0
170.00	7,735	15.0	1,160	1,160
171.00	7,735	30.0	2,321	3,481
172.00	8,910	100.0	8,323	11,803
173.00	10,156	100.0	9,533	21,336
174.00	11,530	100.0	10,843	32,179
175.00	12,910	100.0	12,220	44,399

Device	Routing	Invert	Outlet Devices
#1	Primary	170.00'	**15.00" Round Culvert** L= 10.0' Ke= 0.200 Inlet / Outlet Invert= 170.00' / 169.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	170.00'	**1.00" Vert. MRC Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	171.50'	**4.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	173.50'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 15.83 hrs HW=171.78' (Free Discharge)
↑└**1=Culvert** (Passes 0.15 cfs of 6.35 cfs potential flow)
↑ ├**2=MRC Orifice** (Orifice Controls 0.03 cfs @ 6.35 fps)
├**3=Orifice/Grate** (Orifice Controls 0.12 cfs @ 2.13 fps)
└**4=TOB** (Controls 0.00 cfs)

Pond 17P: MRC BASIN



Stage-Area-Storage for Pond 17P: MRC BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	7,735	0
169.10	7,735	116
169.20	7,735	232
169.30	7,735	348
169.40	7,735	464
169.50	7,735	580
169.60	7,735	696
169.70	7,735	812
169.80	7,735	928
169.90	7,735	1,044
170.00	7,735	1,160
170.10	7,735	1,392
170.20	7,735	1,624
170.30	7,735	1,856
170.40	7,735	2,088
170.50	7,735	2,321
170.60	7,735	2,553
170.70	7,735	2,785
170.80	7,735	3,017
170.90	7,735	3,249
171.00	7,735	3,481
171.10	7,852	4,260
171.20	7,970	5,051
171.30	8,088	5,854
171.40	8,205	6,669
171.50	8,323	7,495
171.60	8,440	8,333
171.70	8,557	9,183
171.80	8,675	10,045
171.90	8,793	10,918
172.00	8,910	11,803
172.10	9,035	12,700
172.20	9,159	13,610
172.30	9,284	14,532
172.40	9,408	15,467
172.50	9,533	16,414
172.60	9,658	17,374
172.70	9,782	18,346
172.80	9,907	19,330
172.90	10,031	20,327
173.00	10,156	21,336
173.10	10,293	22,359
173.20	10,431	23,395
173.30	10,568	24,445
173.40	10,706	25,509
173.50	10,843	26,586
173.60	10,980	27,677
173.70	11,118	28,782
173.80	11,255	29,901
173.90	11,393	31,033
174.00	11,530	32,179
174.10	11,668	33,339
174.20	11,806	34,513
174.30	11,944	35,700
174.40	12,082	36,902
174.50	12,220	38,117
174.60	12,358	39,346
174.70	12,496	40,588
174.80	12,634	41,845
174.90	12,772	43,115
175.00	**12,910**	**44,399**

Summary for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Inflow Area = 34,211 sf, 12.15% Impervious, Inflow Depth = 1.13" for 2-YR event
Inflow = 1.43 cfs @ 11.98 hrs, Volume= 3,229 cf
Outflow = 0.21 cfs @ 12.29 hrs, Volume= 3,229 cf, Atten= 86%, Lag= 18.6 min
Discarded = 0.01 cfs @ 12.29 hrs, Volume= 1,334 cf
Primary = 0.20 cfs @ 12.29 hrs, Volume= 1,895 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 169.66' @ 12.29 hrs Surf.Area= 2,267 sf Storage= 1,339 cf

Plug-Flow detention time= 826.5 min calculated for 3,229 cf (100% of inflow)
Center-of-Mass det. time= 825.9 min (1,658.4 - 832.5)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	8,737 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

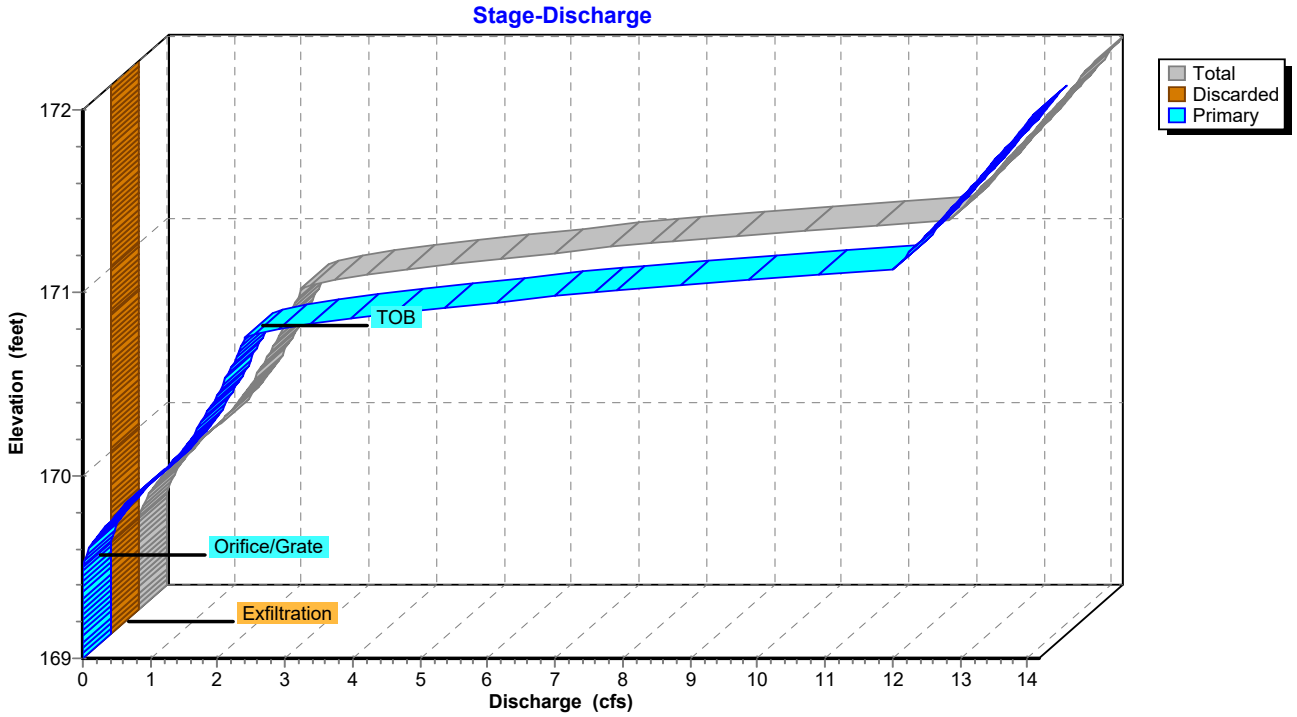
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,805	0	0
170.00	2,508	2,157	2,157
171.00	3,276	2,892	5,049
172.00	4,101	3,689	8,737

Device	Routing	Invert	Outlet Devices
#1	Discarded	169.00'	**0.100 in/hr Exfiltration over Surface area**
#2	Primary	168.00'	**15.00" Round Culvert** L= 24.0' Ke= 0.100 Inlet / Outlet Invert= 168.00' / 167.65' S= 0.0146 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Device 2	169.50'	**12.00" W x 6.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	170.75'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.29 hrs HW=169.66' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.20 cfs @ 12.29 hrs HW=169.66' (Free Discharge)
└**2=Culvert** (Passes 0.20 cfs of 7.08 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 0.20 cfs @ 1.27 fps)
  └**4=TOB** (Controls 0.00 cfs)

Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



Stage-Area-Storage for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	1,805	0
169.05	1,840	91
169.10	1,875	184
169.15	1,910	279
169.20	1,946	375
169.25	1,981	473
169.30	2,016	573
169.35	2,051	675
169.40	2,086	778
169.45	2,121	883
169.50	2,157	990
169.55	2,192	1,099
169.60	2,227	1,210
169.65	2,262	1,322
169.70	2,297	1,436
169.75	2,332	1,551
169.80	2,367	1,669
169.85	2,403	1,788
169.90	2,438	1,909
169.95	2,473	2,032
170.00	2,508	2,157
170.05	2,546	2,283
170.10	2,585	2,411
170.15	2,623	2,541
170.20	2,662	2,673
170.25	2,700	2,808
170.30	2,738	2,943
170.35	2,777	3,081
170.40	2,815	3,221
170.45	2,854	3,363
170.50	2,892	3,507
170.55	2,930	3,652
170.60	2,969	3,800
170.65	3,007	3,949
170.70	3,046	4,100
170.75	3,084	4,254
170.80	3,122	4,409
170.85	3,161	4,566
170.90	3,199	4,725
170.95	3,238	4,886
171.00	3,276	5,049
171.05	3,317	5,213
171.10	3,358	5,380
171.15	3,400	5,549
171.20	3,441	5,720
171.25	3,482	5,893
171.30	3,524	6,068
171.35	3,565	6,246
171.40	3,606	6,425
171.45	3,647	6,606
171.50	3,689	6,790
171.55	3,730	6,975
171.60	3,771	7,163
171.65	3,812	7,352
171.70	3,853	7,544
171.75	3,895	7,738
171.80	3,936	7,933
171.85	3,977	8,131
171.90	4,019	8,331
171.95	4,060	8,533
172.00	**4,101**	**8,737**

Summary for Link 17L: On-Site Bypass Total to POD-001

Inflow Area = 74,059 sf, 5.70% Impervious, Inflow Depth = 0.99" for 2-YR event
Inflow = 2.75 cfs @ 11.98 hrs, Volume= 6,096 cf
Primary = 2.75 cfs @ 11.98 hrs, Volume= 6,096 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 21L : Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 20L: On-Site Total to MRC Basin

Inflow Area = 94,741 sf, 26.02% Impervious, Inflow Depth = 1.48" for 2-YR event
Inflow = 5.00 cfs @ 11.97 hrs, Volume= 11,702 cf
Primary = 5.00 cfs @ 11.97 hrs, Volume= 11,702 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 21L: Total to POD-001

Inflow Area = 238,103 sf, 16.56% Impervious, Inflow Depth = 1.08" for 2-YR event
Inflow = 2.77 cfs @ 11.98 hrs, Volume= 21,389 cf
Primary = 2.77 cfs @ 11.98 hrs, Volume= 21,389 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Off-Site Total to MRC Basin

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 0.98" for 2-YR event
Inflow = 1.13 cfs @ 11.98 hrs, Volume= 2,860 cf
Primary = 1.13 cfs @ 11.98 hrs, Volume= 2,860 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001

Runoff = 0.57 cfs @ 11.96 hrs, Volume= 1,403 cf, Depth= 3.98"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
4,224	98	Paved parking, HSG C
4,224	98	100.00% Impervious Area

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

Summary for Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001

Runoff = 3.91 cfs @ 11.98 hrs, Volume= 8,216 cf, Depth= 1.41"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
26,259	61	>75% Grass cover, Good, HSG B
43,576	74	>75% Grass cover, Good, HSG C
69,835	69	Weighted Average
69,835	69	100.00% Pervious Area

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

Summary for Subcatchment 18S: Prop. On-Site Imp to MRC Basin

Runoff = 3.30 cfs @ 11.96 hrs, Volume= 8,185 cf, Depth= 3.98"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
24,649	98	Paved parking, HSG B
24,649	98	100.00% Impervious Area

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

Summary for Subcatchment 19S: Prop. On-Site Perv to MRC Basin

Runoff = 4.12 cfs @ 11.98 hrs, Volume= 8,636 cf, Depth= 1.48"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
23,797	61	>75% Grass cover, Good, HSG B
46,295	74	>75% Grass cover, Good, HSG C
70,092	70	Weighted Average
70,092	70	100.00% Pervious Area

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

Summary for Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin

Runoff = 0.56 cfs @ 11.96 hrs, Volume= 1,380 cf, Depth= 3.98"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
4,156	98	Paved parking, HSG C
4,156	98	100.00% Impervious Area

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

Summary for Subcatchment 21S: Prop. Off-Site Perv to MRC Basin

Runoff = 0.99 cfs @ 11.99 hrs, Volume= 2,215 cf, Depth= 0.93"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Subcatchment 22S: Prop. Off-Site Imp to MRC Basin

Runoff = 0.86 cfs @ 11.96 hrs, Volume= 2,128 cf, Depth= 3.98"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

	Area (sf)	CN	Description
*	6,408	98	Additional Impervious
	6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin

Runoff = 1.68 cfs @ 11.98 hrs, Volume= 3,536 cf, Depth= 1.41"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-YR Rainfall=4.22"

Area (sf)	CN	Description
12,194	61	>75% Grass cover, Good, HSG B
17,861	74	>75% Grass cover, Good, HSG C
30,055	69	Weighted Average
30,055	69	100.00% Pervious Area

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

Summary for Pond 17P: MRC BASIN

Inflow Area = 129,833 sf, 23.92% Impervious, Inflow Depth = 1.96" for 5-YR event
Inflow = 9.15 cfs @ 11.97 hrs, Volume= 21,164 cf
Outflow = 0.25 cfs @ 15.23 hrs, Volume= 19,999 cf, Atten= 97%, Lag= 195.6 min
Primary = 0.25 cfs @ 15.23 hrs, Volume= 19,999 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 172.21' @ 15.23 hrs Surf.Area= 9,175 sf Storage= 13,729 cf

Plug-Flow detention time= 1,352.6 min calculated for 19,994 cf (94% of inflow)
Center-of-Mass det. time= 1,322.8 min (2,127.6 - 804.8)

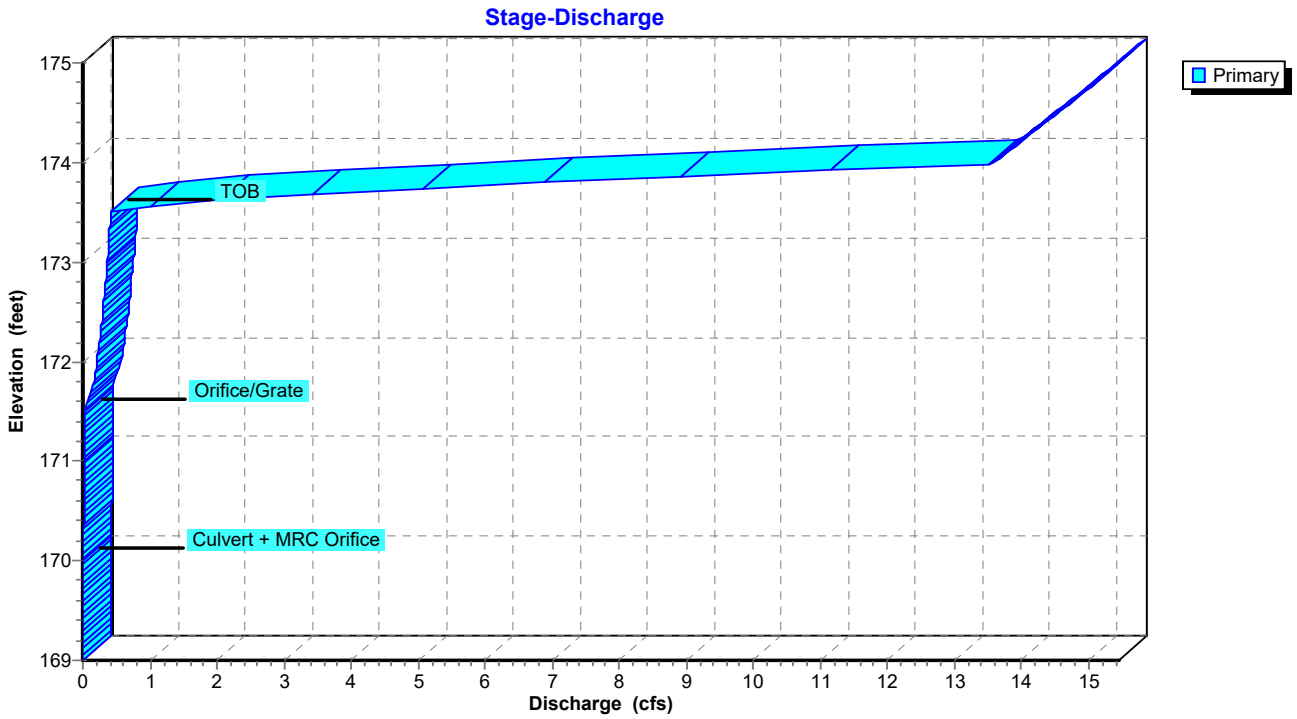
Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	44,399 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	7,735	0.0	0	0
170.00	7,735	15.0	1,160	1,160
171.00	7,735	30.0	2,321	3,481
172.00	8,910	100.0	8,323	11,803
173.00	10,156	100.0	9,533	21,336
174.00	11,530	100.0	10,843	32,179
175.00	12,910	100.0	12,220	44,399

Device	Routing	Invert	Outlet Devices
#1	Primary	170.00'	**15.00" Round Culvert** L= 10.0' Ke= 0.200 Inlet / Outlet Invert= 170.00' / 169.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	170.00'	**1.00" Vert. MRC Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	171.50'	**4.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	173.50'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.25 cfs @ 15.23 hrs HW=172.21' (Free Discharge)
↑**1=Culvert** (Passes 0.25 cfs of 8.38 cfs potential flow)
↑**2=MRC Orifice** (Orifice Controls 0.04 cfs @ 7.10 fps)
3=Orifice/Grate (Orifice Controls 0.21 cfs @ 3.82 fps)
4=TOB (Controls 0.00 cfs)

Pond 17P: MRC BASIN



Stage-Area-Storage for Pond 17P: MRC BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	7,735	0
169.10	7,735	116
169.20	7,735	232
169.30	7,735	348
169.40	7,735	464
169.50	7,735	580
169.60	7,735	696
169.70	7,735	812
169.80	7,735	928
169.90	7,735	1,044
170.00	7,735	1,160
170.10	7,735	1,392
170.20	7,735	1,624
170.30	7,735	1,856
170.40	7,735	2,088
170.50	7,735	2,321
170.60	7,735	2,553
170.70	7,735	2,785
170.80	7,735	3,017
170.90	7,735	3,249
171.00	7,735	3,481
171.10	7,852	4,260
171.20	7,970	5,051
171.30	8,088	5,854
171.40	8,205	6,669
171.50	8,323	7,495
171.60	8,440	8,333
171.70	8,557	9,183
171.80	8,675	10,045
171.90	8,793	10,918
172.00	8,910	11,803
172.10	9,035	12,700
172.20	9,159	13,610
172.30	9,284	14,532
172.40	9,408	15,467
172.50	9,533	16,414
172.60	9,658	17,374
172.70	9,782	18,346
172.80	9,907	19,330
172.90	10,031	20,327
173.00	10,156	21,336
173.10	10,293	22,359
173.20	10,431	23,395
173.30	10,568	24,445
173.40	10,706	25,509
173.50	10,843	26,586
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173.90	11,393	31,033
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174.30	11,944	35,700
174.40	12,082	36,902
174.50	12,220	38,117
174.60	12,358	39,346
174.70	12,496	40,588
174.80	12,634	41,845
174.90	12,772	43,115
175.00	**12,910**	**44,399**

Summary for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Inflow Area = 34,211 sf, 12.15% Impervious, Inflow Depth = 1.72" for 5-YR event
Inflow = 2.23 cfs @ 11.98 hrs, Volume= 4,916 cf
Outflow = 0.75 cfs @ 12.11 hrs, Volume= 4,916 cf, Atten= 66%, Lag= 8.0 min
Discarded = 0.01 cfs @ 12.11 hrs, Volume= 1,357 cf
Primary = 0.75 cfs @ 12.11 hrs, Volume= 3,559 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 169.88' @ 12.11 hrs Surf.Area= 2,423 sf Storage= 1,857 cf

Plug-Flow detention time= 556.5 min calculated for 4,915 cf (100% of inflow)
Center-of-Mass det. time= 557.5 min (1,383.5 - 826.0)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	8,737 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

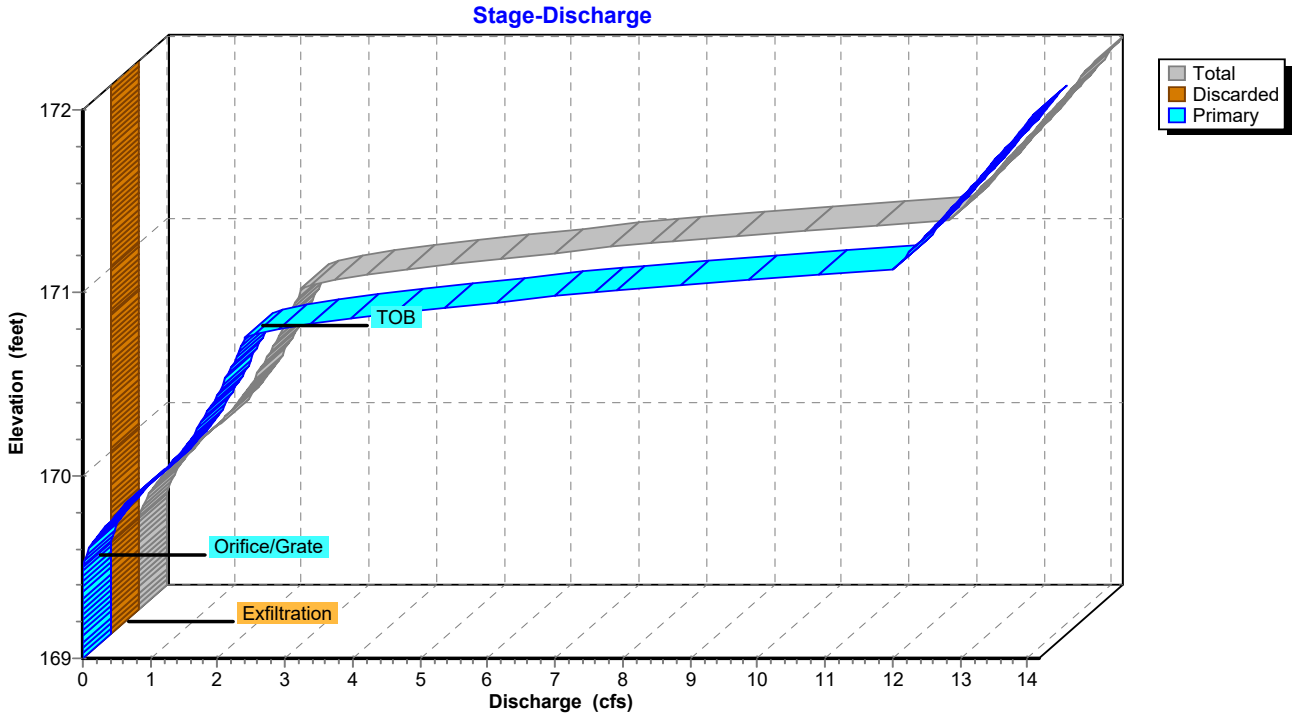
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,805	0	0
170.00	2,508	2,157	2,157
171.00	3,276	2,892	5,049
172.00	4,101	3,689	8,737

Device	Routing	Invert	Outlet Devices
#1	Discarded	169.00'	**0.100 in/hr Exfiltration over Surface area**
#2	Primary	168.00'	**15.00" Round Culvert** L= 24.0' Ke= 0.100 Inlet / Outlet Invert= 168.00' / 167.65' S= 0.0146 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Device 2	169.50'	**12.00" W x 6.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	170.75'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.11 hrs HW=169.88' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.74 cfs @ 12.11 hrs HW=169.88' (Free Discharge)
└**2=Culvert** (Passes 0.74 cfs of 7.94 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 0.74 cfs @ 1.97 fps)
  └**4=TOB** (Controls 0.00 cfs)

Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



Stage-Area-Storage for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	1,805	0
169.05	1,840	91
169.10	1,875	184
169.15	1,910	279
169.20	1,946	375
169.25	1,981	473
169.30	2,016	573
169.35	2,051	675
169.40	2,086	778
169.45	2,121	883
169.50	2,157	990
169.55	2,192	1,099
169.60	2,227	1,210
169.65	2,262	1,322
169.70	2,297	1,436
169.75	2,332	1,551
169.80	2,367	1,669
169.85	2,403	1,788
169.90	2,438	1,909
169.95	2,473	2,032
170.00	2,508	2,157
170.05	2,546	2,283
170.10	2,585	2,411
170.15	2,623	2,541
170.20	2,662	2,673
170.25	2,700	2,808
170.30	2,738	2,943
170.35	2,777	3,081
170.40	2,815	3,221
170.45	2,854	3,363
170.50	2,892	3,507
170.55	2,930	3,652
170.60	2,969	3,800
170.65	3,007	3,949
170.70	3,046	4,100
170.75	3,084	4,254
170.80	3,122	4,409
170.85	3,161	4,566
170.90	3,199	4,725
170.95	3,238	4,886
171.00	3,276	5,049
171.05	3,317	5,213
171.10	3,358	5,380
171.15	3,400	5,549
171.20	3,441	5,720
171.25	3,482	5,893
171.30	3,524	6,068
171.35	3,565	6,246
171.40	3,606	6,425
171.45	3,647	6,606
171.50	3,689	6,790
171.55	3,730	6,975
171.60	3,771	7,163
171.65	3,812	7,352
171.70	3,853	7,544
171.75	3,895	7,738
171.80	3,936	7,933
171.85	3,977	8,131
171.90	4,019	8,331
171.95	4,060	8,533
172.00	**4,101**	**8,737**

Summary for Link 17L: On-Site Bypass Total to POD-001

Inflow Area = 74,059 sf, 5.70% Impervious, Inflow Depth = 1.56" for 5-YR event
Inflow = 4.47 cfs @ 11.98 hrs, Volume= 9,619 cf
Primary = 4.47 cfs @ 11.98 hrs, Volume= 9,619 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 21L : Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 20L: On-Site Total to MRC Basin

Inflow Area = 94,741 sf, 26.02% Impervious, Inflow Depth = 2.13" for 5-YR event
Inflow = 7.34 cfs @ 11.97 hrs, Volume= 16,821 cf
Primary = 7.34 cfs @ 11.97 hrs, Volume= 16,821 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 21L: Total to POD-001

Inflow Area = 238,103 sf, 16.56% Impervious, Inflow Depth = 1.67" for 5-YR event
Inflow = 4.86 cfs @ 11.99 hrs, Volume= 33,176 cf
Primary = 4.86 cfs @ 11.99 hrs, Volume= 33,176 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Off-Site Total to MRC Basin

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 1.49" for 5-YR event
Inflow = 1.84 cfs @ 11.98 hrs, Volume= 4,343 cf
Primary = 1.84 cfs @ 11.98 hrs, Volume= 4,343 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001

Runoff = 0.67 cfs @ 11.96 hrs, Volume= 1,666 cf, Depth= 4.73"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
4,224	98	Paved parking, HSG C
4,224	98	100.00% Impervious Area

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

Summary for Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001

Runoff = 5.40 cfs @ 11.98 hrs, Volume= 11,264 cf, Depth= 1.94"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
26,259	61	>75% Grass cover, Good, HSG B
43,576	74	>75% Grass cover, Good, HSG C
69,835	69	Weighted Average
69,835	69	100.00% Pervious Area

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

Summary for Subcatchment 18S: Prop. On-Site Imp to MRC Basin

Runoff = 3.89 cfs @ 11.96 hrs, Volume= 9,722 cf, Depth= 4.73"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
24,649	98	Paved parking, HSG B
24,649	98	100.00% Impervious Area

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

Summary for Subcatchment 19S: Prop. On-Site Perv to MRC Basin

Runoff = 5.64 cfs @ 11.98 hrs, Volume= 11,764 cf, Depth= 2.01"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
23,797	61	>75% Grass cover, Good, HSG B
46,295	74	>75% Grass cover, Good, HSG C
70,092	70	Weighted Average
70,092	70	100.00% Pervious Area

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

Summary for Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin

Runoff = 0.66 cfs @ 11.96 hrs, Volume= 1,639 cf, Depth= 4.73"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
4,156	98	Paved parking, HSG C
4,156	98	100.00% Impervious Area

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

Summary for Subcatchment 21S: Prop. Off-Site Perv to MRC Basin

Runoff = 1.51 cfs @ 11.98 hrs, Volume= 3,230 cf, Depth= 1.35"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Subcatchment 22S: Prop. Off-Site Imp to MRC Basin

Runoff = 1.01 cfs @ 11.96 hrs, Volume= 2,528 cf, Depth= 4.73"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

	Area (sf)	CN	Description
*	6,408	98	Additional Impervious
	6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin

Runoff = 2.32 cfs @ 11.98 hrs, Volume= 4,848 cf, Depth= 1.94"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.97"

Area (sf)	CN	Description
12,194	61	>75% Grass cover, Good, HSG B
17,861	74	>75% Grass cover, Good, HSG C
30,055	69	Weighted Average
30,055	69	100.00% Pervious Area

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

Summary for Pond 17P: MRC BASIN

Inflow Area = 129,833 sf, 23.92% Impervious, Inflow Depth = 2.52" for 10-YR event
Inflow = 11.92 cfs @ 11.97 hrs, Volume= 27,244 cf
Outflow = 0.32 cfs @ 15.22 hrs, Volume= 26,078 cf, Atten= 97%, Lag= 194.7 min
Primary = 0.32 cfs @ 15.22 hrs, Volume= 26,078 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 172.64' @ 15.22 hrs Surf.Area= 9,708 sf Storage= 17,765 cf

Plug-Flow detention time= 1,246.5 min calculated for 26,078 cf (96% of inflow)
Center-of-Mass det. time= 1,221.1 min (2,023.4 - 802.4)

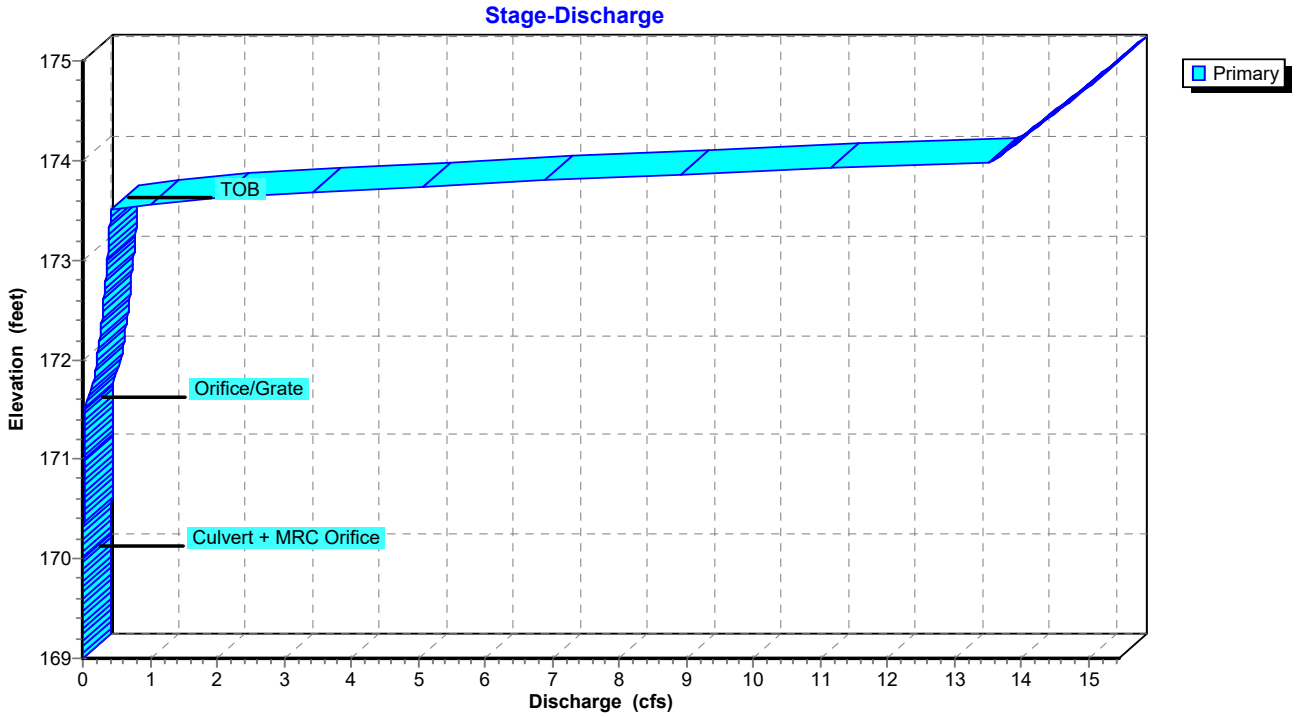
Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	44,399 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	7,735	0.0	0	0
170.00	7,735	15.0	1,160	1,160
171.00	7,735	30.0	2,321	3,481
172.00	8,910	100.0	8,323	11,803
173.00	10,156	100.0	9,533	21,336
174.00	11,530	100.0	10,843	32,179
175.00	12,910	100.0	12,220	44,399

Device	Routing	Invert	Outlet Devices
#1	Primary	170.00'	**15.00" Round Culvert** L= 10.0' Ke= 0.200 Inlet / Outlet Invert= 170.00' / 169.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	170.00'	**1.00" Vert. MRC Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	171.50'	**4.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	173.50'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.32 cfs @ 15.22 hrs HW=172.64' (Free Discharge)
↑**1=Culvert** (Passes 0.32 cfs of 9.99 cfs potential flow)
↑**2=MRC Orifice** (Orifice Controls 0.04 cfs @ 7.76 fps)
3=Orifice/Grate (Orifice Controls 0.27 cfs @ 4.95 fps)
4=TOB (Controls 0.00 cfs)

Pond 17P: MRC BASIN



Stage-Area-Storage for Pond 17P: MRC BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	7,735	0
169.10	7,735	116
169.20	7,735	232
169.30	7,735	348
169.40	7,735	464
169.50	7,735	580
169.60	7,735	696
169.70	7,735	812
169.80	7,735	928
169.90	7,735	1,044
170.00	7,735	1,160
170.10	7,735	1,392
170.20	7,735	1,624
170.30	7,735	1,856
170.40	7,735	2,088
170.50	7,735	2,321
170.60	7,735	2,553
170.70	7,735	2,785
170.80	7,735	3,017
170.90	7,735	3,249
171.00	7,735	3,481
171.10	7,852	4,260
171.20	7,970	5,051
171.30	8,088	5,854
171.40	8,205	6,669
171.50	8,323	7,495
171.60	8,440	8,333
171.70	8,557	9,183
171.80	8,675	10,045
171.90	8,793	10,918
172.00	8,910	11,803
172.10	9,035	12,700
172.20	9,159	13,610
172.30	9,284	14,532
172.40	9,408	15,467
172.50	9,533	16,414
172.60	9,658	17,374
172.70	9,782	18,346
172.80	9,907	19,330
172.90	10,031	20,327
173.00	10,156	21,336
173.10	10,293	22,359
173.20	10,431	23,395
173.30	10,568	24,445
173.40	10,706	25,509
173.50	10,843	26,586
173.60	10,980	27,677
173.70	11,118	28,782
173.80	11,255	29,901
173.90	11,393	31,033
174.00	11,530	32,179
174.10	11,668	33,339
174.20	11,806	34,513
174.30	11,944	35,700
174.40	12,082	36,902
174.50	12,220	38,117
174.60	12,358	39,346
174.70	12,496	40,588
174.80	12,634	41,845
174.90	12,772	43,115
175.00	**12,910**	**44,399**

Summary for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Inflow Area = 34,211 sf, 12.15% Impervious, Inflow Depth = 2.28" for 10-YR event
Inflow = 2.95 cfs @ 11.97 hrs, Volume= 6,487 cf
Outflow = 1.30 cfs @ 12.08 hrs, Volume= 6,487 cf, Atten= 56%, Lag= 6.5 min
Discarded = 0.01 cfs @ 12.08 hrs, Volume= 1,372 cf
Primary = 1.30 cfs @ 12.08 hrs, Volume= 5,115 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 170.06' @ 12.08 hrs Surf.Area= 2,553 sf Storage= 2,305 cf

Plug-Flow detention time= 431.9 min calculated for 6,487 cf (100% of inflow)
Center-of-Mass det. time= 431.4 min (1,252.5 - 821.1)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	8,737 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

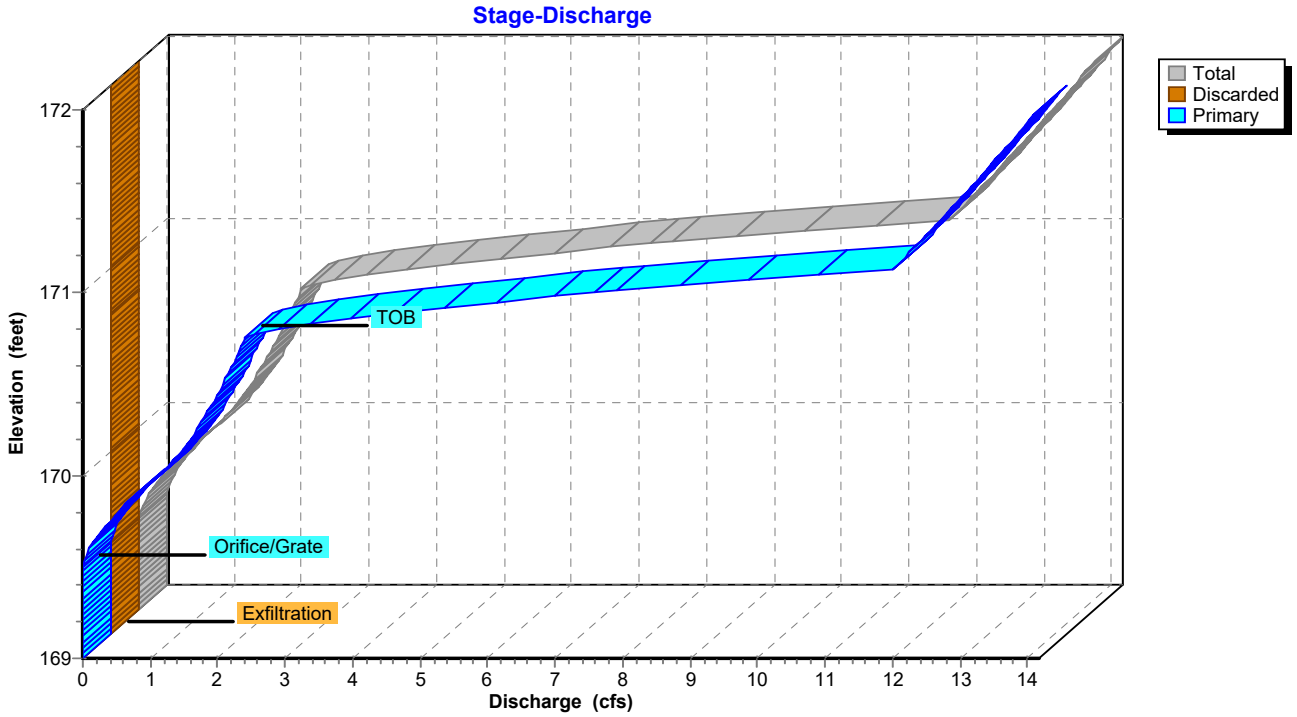
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,805	0	0
170.00	2,508	2,157	2,157
171.00	3,276	2,892	5,049
172.00	4,101	3,689	8,737

Device	Routing	Invert	Outlet Devices
#1	Discarded	169.00'	**0.100 in/hr Exfiltration over Surface area**
#2	Primary	168.00'	**15.00" Round Culvert** L= 24.0' Ke= 0.100 Inlet / Outlet Invert= 168.00' / 167.65' S= 0.0146 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Device 2	169.50'	**12.00" W x 6.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	170.75'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.08 hrs HW=170.05' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.28 cfs @ 12.08 hrs HW=170.05' (Free Discharge)
└**2=Culvert** (Passes 1.28 cfs of 8.64 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 1.28 cfs @ 2.57 fps)
  └**4=TOB** (Controls 0.00 cfs)

Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



Stage-Area-Storage for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	1,805	0
169.05	1,840	91
169.10	1,875	184
169.15	1,910	279
169.20	1,946	375
169.25	1,981	473
169.30	2,016	573
169.35	2,051	675
169.40	2,086	778
169.45	2,121	883
169.50	2,157	990
169.55	2,192	1,099
169.60	2,227	1,210
169.65	2,262	1,322
169.70	2,297	1,436
169.75	2,332	1,551
169.80	2,367	1,669
169.85	2,403	1,788
169.90	2,438	1,909
169.95	2,473	2,032
170.00	2,508	2,157
170.05	2,546	2,283
170.10	2,585	2,411
170.15	2,623	2,541
170.20	2,662	2,673
170.25	2,700	2,808
170.30	2,738	2,943
170.35	2,777	3,081
170.40	2,815	3,221
170.45	2,854	3,363
170.50	2,892	3,507
170.55	2,930	3,652
170.60	2,969	3,800
170.65	3,007	3,949
170.70	3,046	4,100
170.75	3,084	4,254
170.80	3,122	4,409
170.85	3,161	4,566
170.90	3,199	4,725
170.95	3,238	4,886
171.00	3,276	5,049
171.05	3,317	5,213
171.10	3,358	5,380
171.15	3,400	5,549
171.20	3,441	5,720
171.25	3,482	5,893
171.30	3,524	6,068
171.35	3,565	6,246
171.40	3,606	6,425
171.45	3,647	6,606
171.50	3,689	6,790
171.55	3,730	6,975
171.60	3,771	7,163
171.65	3,812	7,352
171.70	3,853	7,544
171.75	3,895	7,738
171.80	3,936	7,933
171.85	3,977	8,131
171.90	4,019	8,331
171.95	4,060	8,533
172.00	**4,101**	**8,737**

Summary for Link 17L: On-Site Bypass Total to POD-001

Inflow Area = 74,059 sf, 5.70% Impervious, Inflow Depth = 2.10" for 10-YR event
Inflow = 6.06 cfs @ 11.98 hrs, Volume= 12,930 cf
Primary = 6.06 cfs @ 11.98 hrs, Volume= 12,930 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 21L : Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 20L: On-Site Total to MRC Basin

Inflow Area = 94,741 sf, 26.02% Impervious, Inflow Depth = 2.72" for 10-YR event
Inflow = 9.45 cfs @ 11.97 hrs, Volume= 21,487 cf
Primary = 9.45 cfs @ 11.97 hrs, Volume= 21,487 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 21L: Total to POD-001

Inflow Area = 238,103 sf, 16.56% Impervious, Inflow Depth = 2.22" for 10-YR event
Inflow = 7.10 cfs @ 11.99 hrs, Volume= 44,123 cf
Primary = 7.10 cfs @ 11.99 hrs, Volume= 44,123 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Off-Site Total to MRC Basin

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 1.97" for 10-YR event
Inflow = 2.50 cfs @ 11.98 hrs, Volume= 5,757 cf
Primary = 2.50 cfs @ 11.98 hrs, Volume= 5,757 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001

Runoff = 0.81 cfs @ 11.96 hrs, Volume= 2,049 cf, Depth= 5.82"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
4,224	98	Paved parking, HSG C
4,224	98	100.00% Impervious Area

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

Summary for Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001

Runoff = 7.63 cfs @ 11.97 hrs, Volume= 16,059 cf, Depth= 2.76"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
26,259	61	>75% Grass cover, Good, HSG B
43,576	74	>75% Grass cover, Good, HSG C
69,835	69	Weighted Average
69,835	69	100.00% Pervious Area

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

Summary for Subcatchment 18S: Prop. On-Site Imp to MRC Basin

Runoff = 4.75 cfs @ 11.96 hrs, Volume= 11,958 cf, Depth= 5.82"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
24,649	98	Paved parking, HSG B
24,649	98	100.00% Impervious Area

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

Summary for Subcatchment 19S: Prop. On-Site Perv to MRC Basin

Runoff = 7.92 cfs @ 11.97 hrs, Volume= 16,664 cf, Depth= 2.85"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
23,797	61	>75% Grass cover, Good, HSG B
46,295	74	>75% Grass cover, Good, HSG C
70,092	70	Weighted Average
70,092	70	100.00% Pervious Area

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

Summary for Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin

Runoff = 0.80 cfs @ 11.96 hrs, Volume= 2,016 cf, Depth= 5.82"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
4,156	98	Paved parking, HSG C
4,156	98	100.00% Impervious Area

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

Summary for Subcatchment 21S: Prop. Off-Site Perv to MRC Basin

Runoff = 2.33 cfs @ 11.98 hrs, Volume= 4,890 cf, Depth= 2.05"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Subcatchment 22S: Prop. Off-Site Imp to MRC Basin

Runoff = 1.24 cfs @ 11.96 hrs, Volume= 3,109 cf, Depth= 5.82"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

	Area (sf)	CN	Description
*	6,408	98	Additional Impervious
	6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin

Runoff = 3.28 cfs @ 11.97 hrs, Volume= 6,911 cf, Depth= 2.76"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=6.06"

Area (sf)	CN	Description
12,194	61	>75% Grass cover, Good, HSG B
17,861	74	>75% Grass cover, Good, HSG C
30,055	69	Weighted Average
30,055	69	100.00% Pervious Area

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

Summary for Pond 17P: MRC BASIN

Inflow Area = 129,833 sf, 23.92% Impervious, Inflow Depth = 3.38" for 25-YR event
Inflow = 16.16 cfs @ 11.97 hrs, Volume= 36,621 cf
Outflow = 0.40 cfs @ 15.40 hrs, Volume= 35,454 cf, Atten= 98%, Lag= 205.8 min
Primary = 0.40 cfs @ 15.40 hrs, Volume= 35,454 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 173.29' @ 15.40 hrs Surf.Area= 10,557 sf Storage= 24,362 cf

Plug-Flow detention time= 1,187.7 min calculated for 35,445 cf (97% of inflow)
Center-of-Mass det. time= 1,170.4 min (1,969.3 - 798.9)

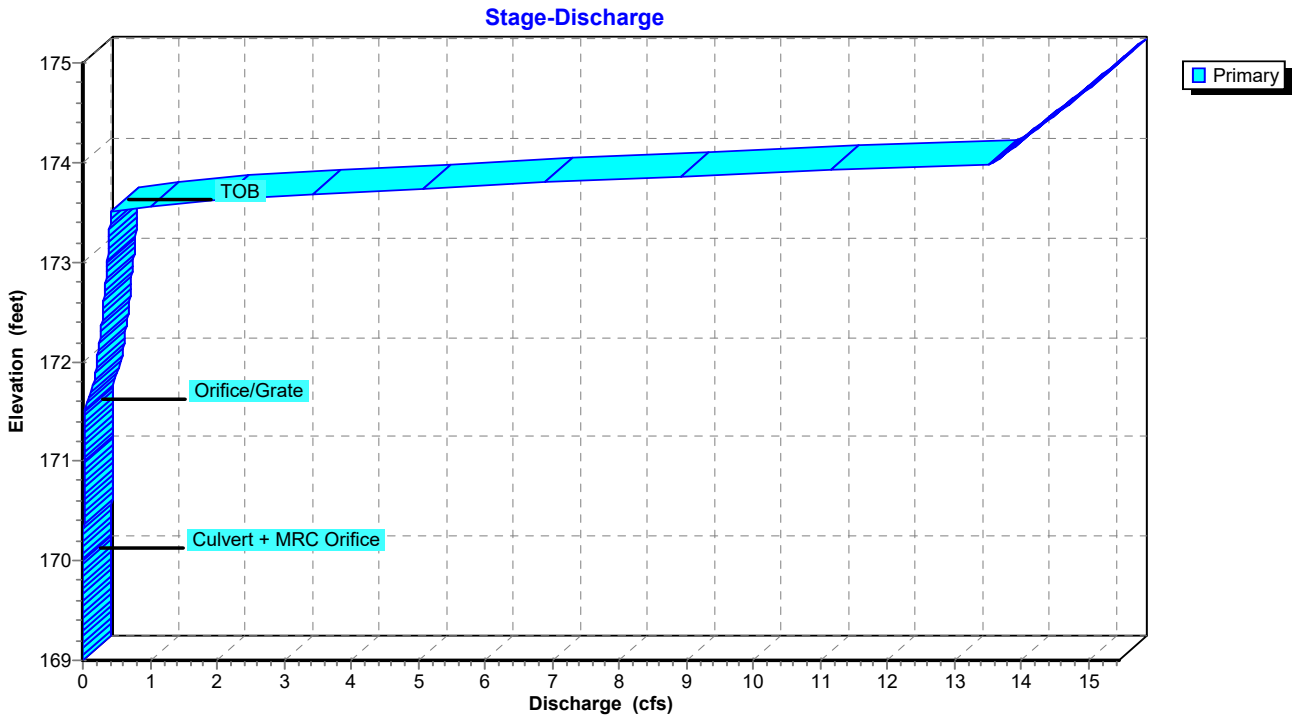
Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	44,399 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	7,735	0.0	0	0
170.00	7,735	15.0	1,160	1,160
171.00	7,735	30.0	2,321	3,481
172.00	8,910	100.0	8,323	11,803
173.00	10,156	100.0	9,533	21,336
174.00	11,530	100.0	10,843	32,179
175.00	12,910	100.0	12,220	44,399

Device	Routing	Invert	Outlet Devices
#1	Primary	170.00'	**15.00" Round Culvert** L= 10.0' Ke= 0.200 Inlet / Outlet Invert= 170.00' / 169.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	170.00'	**1.00" Vert. MRC Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	171.50'	**4.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	173.50'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.40 cfs @ 15.40 hrs HW=173.29' (Free Discharge)
- **1=Culvert** (Passes 0.40 cfs of 12.04 cfs potential flow)
  - **2=MRC Orifice** (Orifice Controls 0.05 cfs @ 8.68 fps)
  - **3=Orifice/Grate** (Orifice Controls 0.35 cfs @ 6.29 fps)
  - **4=TOB** (Controls 0.00 cfs)

Pond 17P: MRC BASIN



Stage-Area-Storage for Pond 17P: MRC BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	7,735	0
169.10	7,735	116
169.20	7,735	232
169.30	7,735	348
169.40	7,735	464
169.50	7,735	580
169.60	7,735	696
169.70	7,735	812
169.80	7,735	928
169.90	7,735	1,044
170.00	7,735	1,160
170.10	7,735	1,392
170.20	7,735	1,624
170.30	7,735	1,856
170.40	7,735	2,088
170.50	7,735	2,321
170.60	7,735	2,553
170.70	7,735	2,785
170.80	7,735	3,017
170.90	7,735	3,249
171.00	7,735	3,481
171.10	7,852	4,260
171.20	7,970	5,051
171.30	8,088	5,854
171.40	8,205	6,669
171.50	8,323	7,495
171.60	8,440	8,333
171.70	8,557	9,183
171.80	8,675	10,045
171.90	8,793	10,918
172.00	8,910	11,803
172.10	9,035	12,700
172.20	9,159	13,610
172.30	9,284	14,532
172.40	9,408	15,467
172.50	9,533	16,414
172.60	9,658	17,374
172.70	9,782	18,346
172.80	9,907	19,330
172.90	10,031	20,327
173.00	10,156	21,336
173.10	10,293	22,359
173.20	10,431	23,395
173.30	10,568	24,445
173.40	10,706	25,509
173.50	10,843	26,586
173.60	10,980	27,677
173.70	11,118	28,782
173.80	11,255	29,901
173.90	11,393	31,033
174.00	11,530	32,179
174.10	11,668	33,339
174.20	11,806	34,513
174.30	11,944	35,700
174.40	12,082	36,902
174.50	12,220	38,117
174.60	12,358	39,346
174.70	12,496	40,588
174.80	12,634	41,845
174.90	12,772	43,115
175.00	**12,910**	**44,399**

Summary for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Inflow Area = 34,211 sf, 12.15% Impervious, Inflow Depth = 3.13" for 25-YR event
Inflow = 4.08 cfs @ 11.97 hrs, Volume= 8,928 cf
Outflow = 1.84 cfs @ 12.08 hrs, Volume= 8,928 cf, Atten= 55%, Lag= 6.4 min
Discarded = 0.01 cfs @ 12.08 hrs, Volume= 1,389 cf
Primary = 1.83 cfs @ 12.08 hrs, Volume= 7,539 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 170.34' @ 12.08 hrs Surf.Area= 2,767 sf Storage= 3,045 cf

Plug-Flow detention time= 322.1 min calculated for 8,925 cf (100% of inflow)
Center-of-Mass det. time= 323.2 min (1,138.3 - 815.2)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	8,737 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

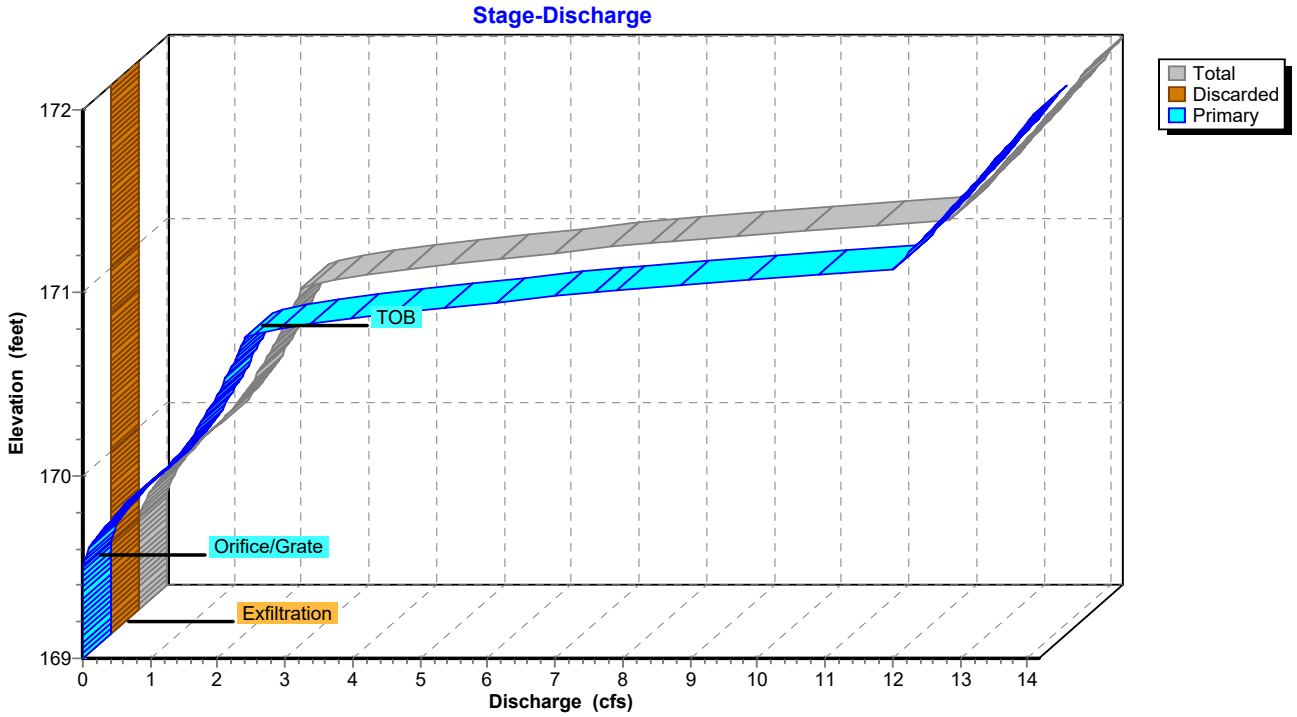
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,805	0	0
170.00	2,508	2,157	2,157
171.00	3,276	2,892	5,049
172.00	4,101	3,689	8,737

Device	Routing	Invert	Outlet Devices
#1	Discarded	169.00'	**0.100 in/hr Exfiltration over Surface area**
#2	Primary	168.00'	**15.00" Round Culvert** L= 24.0' Ke= 0.100 Inlet / Outlet Invert= 168.00' / 167.65' S= 0.0146 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Device 2	169.50'	**12.00" W x 6.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	170.75'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.08 hrs HW=170.33' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.82 cfs @ 12.08 hrs HW=170.33' (Free Discharge)
└**2=Culvert** (Passes 1.82 cfs of 9.61 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 1.82 cfs @ 3.64 fps)
  └**4=TOB** (Controls 0.00 cfs)

Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



Stage-Area-Storage for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	1,805	0
169.05	1,840	91
169.10	1,875	184
169.15	1,910	279
169.20	1,946	375
169.25	1,981	473
169.30	2,016	573
169.35	2,051	675
169.40	2,086	778
169.45	2,121	883
169.50	2,157	990
169.55	2,192	1,099
169.60	2,227	1,210
169.65	2,262	1,322
169.70	2,297	1,436
169.75	2,332	1,551
169.80	2,367	1,669
169.85	2,403	1,788
169.90	2,438	1,909
169.95	2,473	2,032
170.00	2,508	2,157
170.05	2,546	2,283
170.10	2,585	2,411
170.15	2,623	2,541
170.20	2,662	2,673
170.25	2,700	2,808
170.30	2,738	2,943
170.35	2,777	3,081
170.40	2,815	3,221
170.45	2,854	3,363
170.50	2,892	3,507
170.55	2,930	3,652
170.60	2,969	3,800
170.65	3,007	3,949
170.70	3,046	4,100
170.75	3,084	4,254
170.80	3,122	4,409
170.85	3,161	4,566
170.90	3,199	4,725
170.95	3,238	4,886
171.00	3,276	5,049
171.05	3,317	5,213
171.10	3,358	5,380
171.15	3,400	5,549
171.20	3,441	5,720
171.25	3,482	5,893
171.30	3,524	6,068
171.35	3,565	6,246
171.40	3,606	6,425
171.45	3,647	6,606
171.50	3,689	6,790
171.55	3,730	6,975
171.60	3,771	7,163
171.65	3,812	7,352
171.70	3,853	7,544
171.75	3,895	7,738
171.80	3,936	7,933
171.85	3,977	8,131
171.90	4,019	8,331
171.95	4,060	8,533
172.00	**4,101**	**8,737**

Summary for Link 17L: On-Site Bypass Total to POD-001

Inflow Area = 74,059 sf, 5.70% Impervious, Inflow Depth = 2.93" for 25-YR event
Inflow = 8.44 cfs @ 11.97 hrs, Volume= 18,108 cf
Primary = 8.44 cfs @ 11.97 hrs, Volume= 18,108 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 21L : Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 20L: On-Site Total to MRC Basin

Inflow Area = 94,741 sf, 26.02% Impervious, Inflow Depth = 3.63" for 25-YR event
Inflow = 12.65 cfs @ 11.97 hrs, Volume= 28,622 cf
Primary = 12.65 cfs @ 11.97 hrs, Volume= 28,622 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 21L: Total to POD-001

Inflow Area = 238,103 sf, 16.56% Impervious, Inflow Depth = 3.08" for 25-YR event
Inflow = 10.28 cfs @ 11.98 hrs, Volume= 61,101 cf
Primary = 10.28 cfs @ 11.98 hrs, Volume= 61,101 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Off-Site Total to MRC Basin

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 2.74" for 25-YR event
Inflow = 3.52 cfs @ 11.97 hrs, Volume= 7,999 cf
Primary = 3.52 cfs @ 11.97 hrs, Volume= 7,999 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001

Runoff = 0.94 cfs @ 11.96 hrs, Volume= 2,380 cf, Depth= 6.76"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
4,224	98	Paved parking, HSG C
4,224	98	100.00% Impervious Area

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

Summary for Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001

Runoff = 9.70 cfs @ 11.97 hrs, Volume= 20,450 cf, Depth= 3.51"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
26,259	61	>75% Grass cover, Good, HSG B
43,576	74	>75% Grass cover, Good, HSG C
69,835	69	Weighted Average
69,835	69	100.00% Pervious Area

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

Summary for Subcatchment 18S: Prop. On-Site Imp to MRC Basin

Runoff = 5.50 cfs @ 11.96 hrs, Volume= 13,887 cf, Depth= 6.76"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
24,649	98	Paved parking, HSG B
24,649	98	100.00% Impervious Area

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

Summary for Subcatchment 19S: Prop. On-Site Perv to MRC Basin

Runoff = 10.01 cfs @ 11.97 hrs, Volume= 21,135 cf, Depth= 3.62"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
23,797	61	>75% Grass cover, Good, HSG B
46,295	74	>75% Grass cover, Good, HSG C
70,092	70	Weighted Average
70,092	70	100.00% Pervious Area

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

Summary for Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin

Runoff = 0.93 cfs @ 11.96 hrs, Volume= 2,342 cf, Depth= 6.76"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
4,156	98	Paved parking, HSG C
4,156	98	100.00% Impervious Area

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

Summary for Subcatchment 21S: Prop. Off-Site Perv to MRC Basin

Runoff = 3.10 cfs @ 11.98 hrs, Volume= 6,459 cf, Depth= 2.70"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Subcatchment 22S: Prop. Off-Site Imp to MRC Basin

Runoff = 1.43 cfs @ 11.96 hrs, Volume= 3,610 cf, Depth= 6.76"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

	Area (sf)	CN	Description
*	6,408	98	Additional Impervious
	6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin

Runoff = 4.17 cfs @ 11.97 hrs, Volume= 8,801 cf, Depth= 3.51"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-YR Rainfall=7.00"

Area (sf)	CN	Description
12,194	61	>75% Grass cover, Good, HSG B
17,861	74	>75% Grass cover, Good, HSG C
30,055	69	Weighted Average
30,055	69	100.00% Pervious Area

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

Summary for Pond 17P: MRC BASIN

Inflow Area = 129,833 sf, 23.92% Impervious, Inflow Depth = 4.17" for 50-YR event
Inflow = 19.96 cfs @ 11.97 hrs, Volume= 45,091 cf
Outflow = 1.21 cfs @ 12.86 hrs, Volume= 43,924 cf, Atten= 94%, Lag= 53.4 min
Primary = 1.21 cfs @ 12.86 hrs, Volume= 43,924 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 173.57' @ 12.86 hrs Surf.Area= 10,942 sf Storage= 27,369 cf

Plug-Flow detention time= 1,071.2 min calculated for 43,924 cf (97% of inflow)
Center-of-Mass det. time= 1,055.2 min (1,851.3 - 796.1)

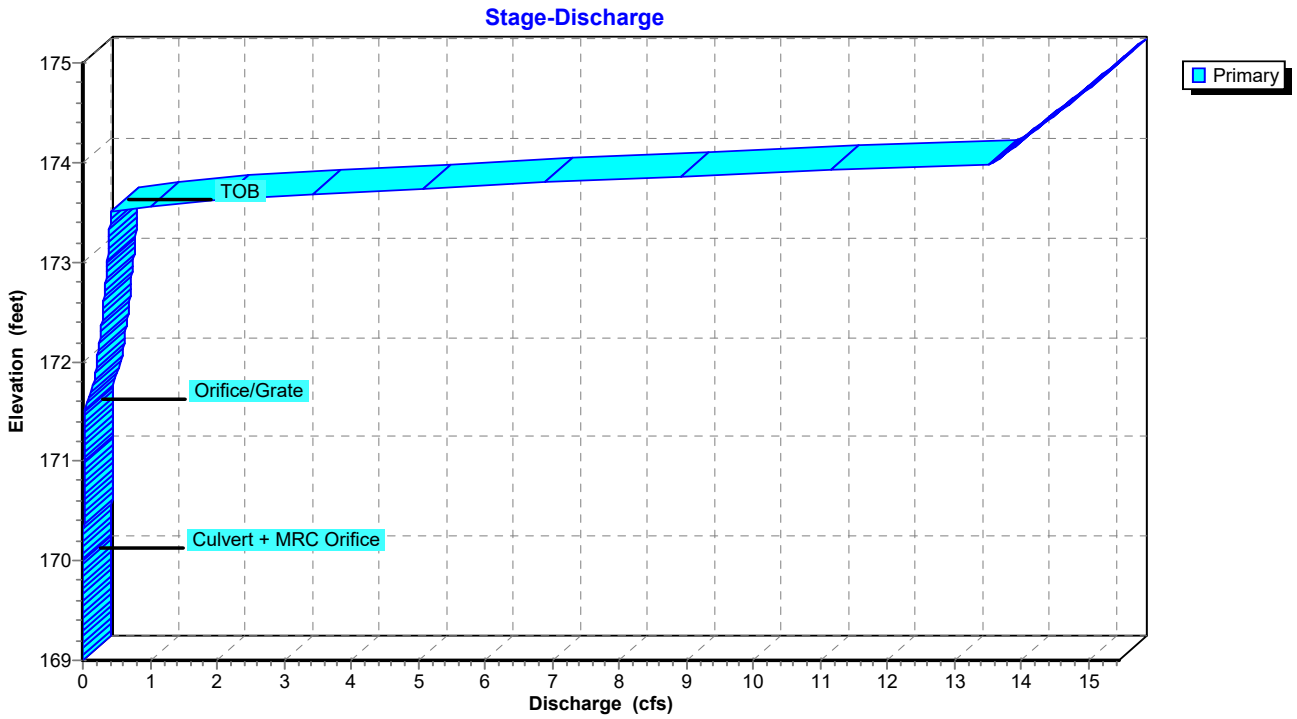
Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	44,399 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	7,735	0.0	0	0
170.00	7,735	15.0	1,160	1,160
171.00	7,735	30.0	2,321	3,481
172.00	8,910	100.0	8,323	11,803
173.00	10,156	100.0	9,533	21,336
174.00	11,530	100.0	10,843	32,179
175.00	12,910	100.0	12,220	44,399

Device	Routing	Invert	Outlet Devices
#1	Primary	170.00'	**15.00" Round Culvert** L= 10.0' Ke= 0.200 Inlet / Outlet Invert= 170.00' / 169.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	170.00'	**1.00" Vert. MRC Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	171.50'	**4.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	173.50'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.18 cfs @ 12.86 hrs HW=173.57' (Free Discharge)
└**1=Culvert** (Passes 1.18 cfs of 12.68 cfs potential flow)
  ├**2=MRC Orifice** (Orifice Controls 0.05 cfs @ 9.05 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.38 cfs @ 6.79 fps)
  └**4=TOB** (Weir Controls 0.76 cfs @ 0.88 fps)

Pond 17P: MRC BASIN



Stage-Area-Storage for Pond 17P: MRC BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	7,735	0
169.10	7,735	116
169.20	7,735	232
169.30	7,735	348
169.40	7,735	464
169.50	7,735	580
169.60	7,735	696
169.70	7,735	812
169.80	7,735	928
169.90	7,735	1,044
170.00	7,735	1,160
170.10	7,735	1,392
170.20	7,735	1,624
170.30	7,735	1,856
170.40	7,735	2,088
170.50	7,735	2,321
170.60	7,735	2,553
170.70	7,735	2,785
170.80	7,735	3,017
170.90	7,735	3,249
171.00	7,735	3,481
171.10	7,852	4,260
171.20	7,970	5,051
171.30	8,088	5,854
171.40	8,205	6,669
171.50	8,323	7,495
171.60	8,440	8,333
171.70	8,557	9,183
171.80	8,675	10,045
171.90	8,793	10,918
172.00	8,910	11,803
172.10	9,035	12,700
172.20	9,159	13,610
172.30	9,284	14,532
172.40	9,408	15,467
172.50	9,533	16,414
172.60	9,658	17,374
172.70	9,782	18,346
172.80	9,907	19,330
172.90	10,031	20,327
173.00	10,156	21,336
173.10	10,293	22,359
173.20	10,431	23,395
173.30	10,568	24,445
173.40	10,706	25,509
173.50	10,843	26,586
173.60	10,980	27,677
173.70	11,118	28,782
173.80	11,255	29,901
173.90	11,393	31,033
174.00	11,530	32,179
174.10	11,668	33,339
174.20	11,806	34,513
174.30	11,944	35,700
174.40	12,082	36,902
174.50	12,220	38,117
174.60	12,358	39,346
174.70	12,496	40,588
174.80	12,634	41,845
174.90	12,772	43,115
175.00	**12,910**	**44,399**

Summary for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Inflow Area = 34,211 sf, 12.15% Impervious, Inflow Depth = 3.91" for 50-YR event
Inflow = 5.10 cfs @ 11.97 hrs, Volume= 11,143 cf
Outflow = 2.19 cfs @ 12.08 hrs, Volume= 11,143 cf, Atten= 57%, Lag= 6.7 min
Discarded = 0.01 cfs @ 12.08 hrs, Volume= 1,401 cf
Primary = 2.19 cfs @ 12.08 hrs, Volume= 9,742 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 170.58' @ 12.08 hrs Surf.Area= 2,955 sf Storage= 3,745 cf

Plug-Flow detention time= 265.3 min calculated for 11,140 cf (100% of inflow)
Center-of-Mass det. time= 266.4 min (1,077.1 - 810.7)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	8,737 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

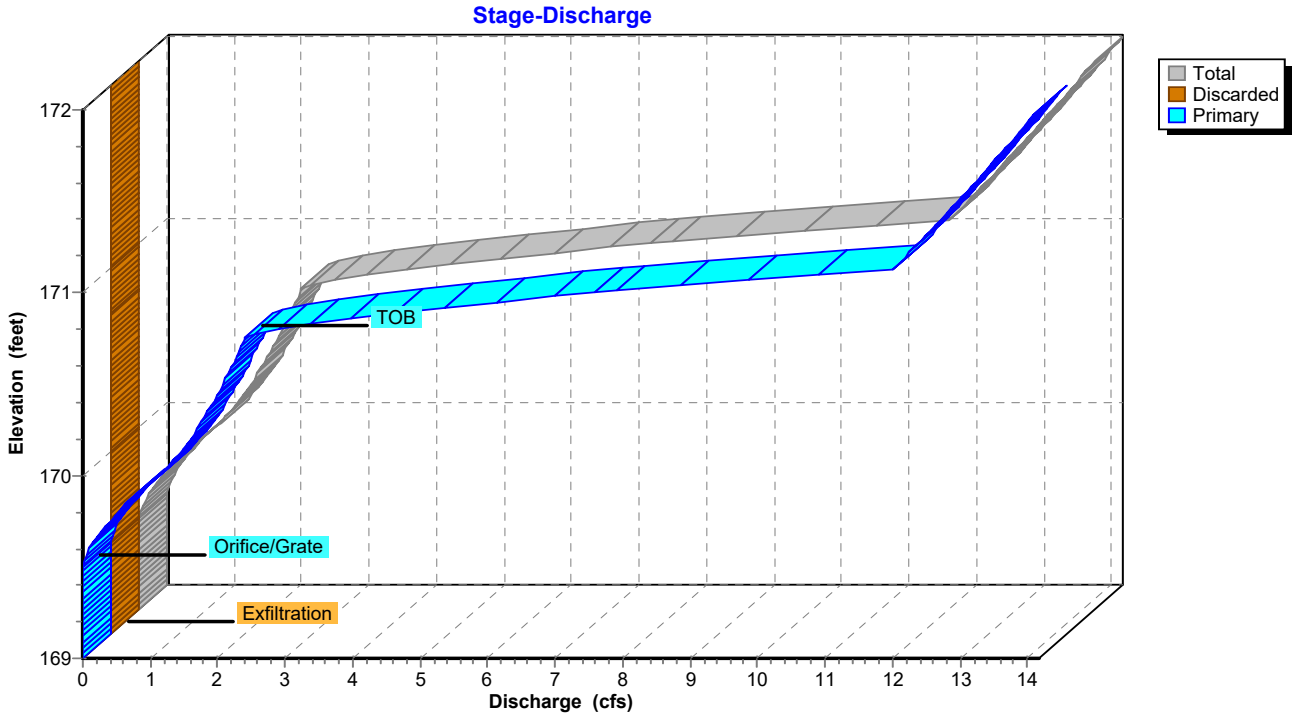
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,805	0	0
170.00	2,508	2,157	2,157
171.00	3,276	2,892	5,049
172.00	4,101	3,689	8,737

Device	Routing	Invert	Outlet Devices
#1	Discarded	169.00'	**0.100 in/hr Exfiltration over Surface area**
#2	Primary	168.00'	**15.00" Round Culvert** L= 24.0' Ke= 0.100 Inlet / Outlet Invert= 168.00' / 167.65' S= 0.0146 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Device 2	169.50'	**12.00" W x 6.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	170.75'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.08 hrs HW=170.57' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=2.18 cfs @ 12.08 hrs HW=170.57' (Free Discharge)
└**2=Culvert** (Passes 2.18 cfs of 10.40 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 2.18 cfs @ 4.36 fps)
  └**4=TOB** (Controls 0.00 cfs)

Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



Stage-Area-Storage for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	1,805	0
169.05	1,840	91
169.10	1,875	184
169.15	1,910	279
169.20	1,946	375
169.25	1,981	473
169.30	2,016	573
169.35	2,051	675
169.40	2,086	778
169.45	2,121	883
169.50	2,157	990
169.55	2,192	1,099
169.60	2,227	1,210
169.65	2,262	1,322
169.70	2,297	1,436
169.75	2,332	1,551
169.80	2,367	1,669
169.85	2,403	1,788
169.90	2,438	1,909
169.95	2,473	2,032
170.00	2,508	2,157
170.05	2,546	2,283
170.10	2,585	2,411
170.15	2,623	2,541
170.20	2,662	2,673
170.25	2,700	2,808
170.30	2,738	2,943
170.35	2,777	3,081
170.40	2,815	3,221
170.45	2,854	3,363
170.50	2,892	3,507
170.55	2,930	3,652
170.60	2,969	3,800
170.65	3,007	3,949
170.70	3,046	4,100
170.75	3,084	4,254
170.80	3,122	4,409
170.85	3,161	4,566
170.90	3,199	4,725
170.95	3,238	4,886
171.00	3,276	5,049
171.05	3,317	5,213
171.10	3,358	5,380
171.15	3,400	5,549
171.20	3,441	5,720
171.25	3,482	5,893
171.30	3,524	6,068
171.35	3,565	6,246
171.40	3,606	6,425
171.45	3,647	6,606
171.50	3,689	6,790
171.55	3,730	6,975
171.60	3,771	7,163
171.65	3,812	7,352
171.70	3,853	7,544
171.75	3,895	7,738
171.80	3,936	7,933
171.85	3,977	8,131
171.90	4,019	8,331
171.95	4,060	8,533
172.00	**4,101**	**8,737**

Summary for Link 17L: On-Site Bypass Total to POD-001

Inflow Area = 74,059 sf, 5.70% Impervious, Inflow Depth = 3.70" for 50-YR event
Inflow = 10.63 cfs @ 11.97 hrs, Volume= 22,830 cf
Primary = 10.63 cfs @ 11.97 hrs, Volume= 22,830 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 21L : Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 20L: On-Site Total to MRC Basin

Inflow Area = 94,741 sf, 26.02% Impervious, Inflow Depth = 4.44" for 50-YR event
Inflow = 15.49 cfs @ 11.97 hrs, Volume= 35,023 cf
Primary = 15.49 cfs @ 11.97 hrs, Volume= 35,023 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 21L: Total to POD-001

Inflow Area = 238,103 sf, 16.56% Impervious, Inflow Depth = 3.86" for 50-YR event
Inflow = 12.89 cfs @ 11.98 hrs, Volume= 76,495 cf
Primary = 12.89 cfs @ 11.98 hrs, Volume= 76,495 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Off-Site Total to MRC Basin

Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 3.44" for 50-YR event
Inflow = 4.48 cfs @ 11.97 hrs, Volume= 10,069 cf
Primary = 4.48 cfs @ 11.97 hrs, Volume= 10,069 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001

Runoff = 1.08 cfs @ 11.96 hrs, Volume= 2,739 cf, Depth= 7.78"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
4,224	98	Paved parking, HSG C
4,224	98	100.00% Impervious Area

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

Summary for Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001

Runoff = 12.00 cfs @ 11.97 hrs, Volume= 25,412 cf, Depth= 4.37"
Routed to Link 17L : On-Site Bypass Total to POD-001

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
26,259	61	>75% Grass cover, Good, HSG B
43,576	74	>75% Grass cover, Good, HSG C
69,835	69	Weighted Average
69,835	69	100.00% Pervious Area

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

Summary for Subcatchment 18S: Prop. On-Site Imp to MRC Basin

Runoff = 6.30 cfs @ 11.96 hrs, Volume= 15,981 cf, Depth= 7.78"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
24,649	98	Paved parking, HSG B
24,649	98	100.00% Impervious Area

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

Summary for Subcatchment 19S: Prop. On-Site Perv to MRC Basin

Runoff = 12.34 cfs @ 11.97 hrs, Volume= 26,176 cf, Depth= 4.48"
Routed to Link 20L : On-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
23,797	61	>75% Grass cover, Good, HSG B
46,295	74	>75% Grass cover, Good, HSG C
70,092	70	Weighted Average
70,092	70	100.00% Pervious Area

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

Summary for Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin

Runoff = 1.06 cfs @ 11.96 hrs, Volume= 2,695 cf, Depth= 7.78"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
4,156	98	Paved parking, HSG C
4,156	98	100.00% Impervious Area

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

Summary for Subcatchment 21S: Prop. Off-Site Perv to MRC Basin

Runoff = 3.97 cfs @ 11.98 hrs, Volume= 8,270 cf, Depth= 3.46"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
28,684	61	>75% Grass cover, Good, HSG B
28,684	61	100.00% Pervious Area

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

Summary for Subcatchment 22S: Prop. Off-Site Imp to MRC Basin

Runoff = 1.64 cfs @ 11.96 hrs, Volume= 4,155 cf, Depth= 7.78"
Routed to Link 36L : Off-Site Total to MRC Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

	Area (sf)	CN	Description
*	6,408	98	Additional Impervious
	6,408	98	100.00% Impervious Area

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

Summary for Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin

Runoff = 5.16 cfs @ 11.97 hrs, Volume= 10,937 cf, Depth= 4.37"
Routed to Pond 26P : INFILTRATION BASIN (SMALLER BASIN)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=8.02"

Area (sf)	CN	Description
12,194	61	>75% Grass cover, Good, HSG B
17,861	74	>75% Grass cover, Good, HSG C
30,055	69	Weighted Average
30,055	69	100.00% Pervious Area

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

Summary for Pond 17P: MRC BASIN

Inflow Area = 129,833 sf, 23.92% Impervious, Inflow Depth = 5.04" for 100-YR event
Inflow = 24.17 cfs @ 11.97 hrs, Volume= 54,582 cf
Outflow = 4.45 cfs @ 12.17 hrs, Volume= 53,415 cf, Atten= 82%, Lag= 12.2 min
Primary = 4.45 cfs @ 12.17 hrs, Volume= 53,415 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 173.72' @ 12.17 hrs Surf.Area= 11,142 sf Storage= 28,976 cf

Plug-Flow detention time= 911.4 min calculated for 53,401 cf (98% of inflow)
Center-of-Mass det. time= 900.3 min (1,693.5 - 793.2)

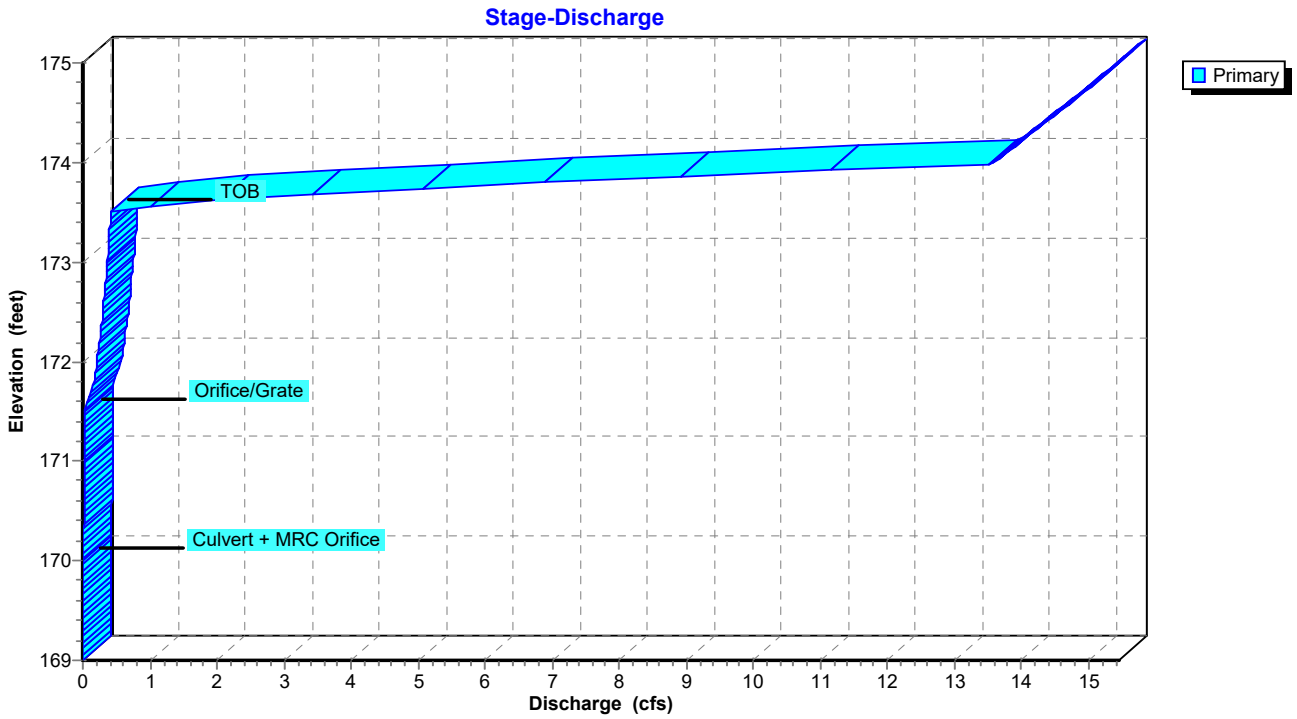
Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	44,399 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	7,735	0.0	0	0
170.00	7,735	15.0	1,160	1,160
171.00	7,735	30.0	2,321	3,481
172.00	8,910	100.0	8,323	11,803
173.00	10,156	100.0	9,533	21,336
174.00	11,530	100.0	10,843	32,179
175.00	12,910	100.0	12,220	44,399

Device	Routing	Invert	Outlet Devices
#1	Primary	170.00'	**15.00" Round Culvert** L= 10.0' Ke= 0.200 Inlet / Outlet Invert= 170.00' / 169.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	170.00'	**1.00" Vert. MRC Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	171.50'	**4.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	173.50'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.30 cfs @ 12.17 hrs HW=173.71' (Free Discharge)
↑**1=Culvert** (Passes 4.30 cfs of 12.98 cfs potential flow)
↑**2=MRC Orifice** (Orifice Controls 0.05 cfs @ 9.23 fps)
3=Orifice/Grate (Orifice Controls 0.39 cfs @ 7.03 fps)
4=TOB (Weir Controls 3.86 cfs @ 1.51 fps)

Pond 17P: MRC BASIN



Stage-Area-Storage for Pond 17P: MRC BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	7,735	0
169.10	7,735	116
169.20	7,735	232
169.30	7,735	348
169.40	7,735	464
169.50	7,735	580
169.60	7,735	696
169.70	7,735	812
169.80	7,735	928
169.90	7,735	1,044
170.00	7,735	1,160
170.10	7,735	1,392
170.20	7,735	1,624
170.30	7,735	1,856
170.40	7,735	2,088
170.50	7,735	2,321
170.60	7,735	2,553
170.70	7,735	2,785
170.80	7,735	3,017
170.90	7,735	3,249
171.00	7,735	3,481
171.10	7,852	4,260
171.20	7,970	5,051
171.30	8,088	5,854
171.40	8,205	6,669
171.50	8,323	7,495
171.60	8,440	8,333
171.70	8,557	9,183
171.80	8,675	10,045
171.90	8,793	10,918
172.00	8,910	11,803
172.10	9,035	12,700
172.20	9,159	13,610
172.30	9,284	14,532
172.40	9,408	15,467
172.50	9,533	16,414
172.60	9,658	17,374
172.70	9,782	18,346
172.80	9,907	19,330
172.90	10,031	20,327
173.00	10,156	21,336
173.10	10,293	22,359
173.20	10,431	23,395
173.30	10,568	24,445
173.40	10,706	25,509
173.50	10,843	26,586
173.60	10,980	27,677
173.70	11,118	28,782
173.80	11,255	29,901
173.90	11,393	31,033
174.00	11,530	32,179
174.10	11,668	33,339
174.20	11,806	34,513
174.30	11,944	35,700
174.40	12,082	36,902
174.50	12,220	38,117
174.60	12,358	39,346
174.70	12,496	40,588
174.80	12,634	41,845
174.90	12,772	43,115
175.00	**12,910**	**44,399**

Summary for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Inflow Area = 34,211 sf, 12.15% Impervious, Inflow Depth = 4.78" for 100-YR event
Inflow = 6.22 cfs @ 11.97 hrs, Volume= 13,631 cf
Outflow = 3.05 cfs @ 12.07 hrs, Volume= 13,631 cf, Atten= 51%, Lag= 6.0 min
Discarded = 0.01 cfs @ 12.07 hrs, Volume= 1,412 cf
Primary = 3.04 cfs @ 12.07 hrs, Volume= 12,219 cf
Routed to Link 21L : Total to POD-001

Routing by Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
Peak Elev= 170.82' @ 12.07 hrs Surf.Area= 3,137 sf Storage= 4,468 cf

Plug-Flow detention time= 225.2 min calculated for 13,631 cf (100% of inflow)
Center-of-Mass det. time= 224.6 min (1,031.1 - 806.5)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	8,737 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

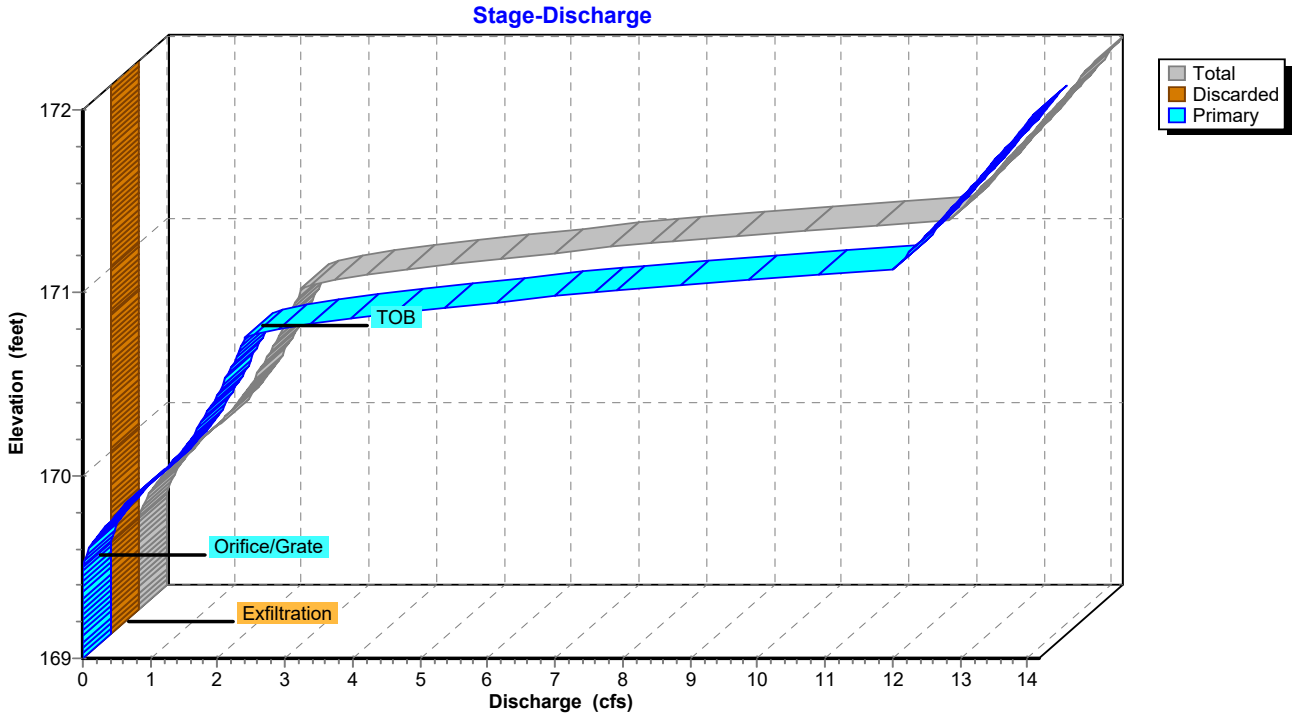
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,805	0	0
170.00	2,508	2,157	2,157
171.00	3,276	2,892	5,049
172.00	4,101	3,689	8,737

Device	Routing	Invert	Outlet Devices
#1	Discarded	169.00'	**0.100 in/hr Exfiltration over Surface area**
#2	Primary	168.00'	**15.00" Round Culvert** L= 24.0' Ke= 0.100 Inlet / Outlet Invert= 168.00' / 167.65' S= 0.0146 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Device 2	169.50'	**12.00" W x 6.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	170.75'	**24.00" x 48.00" Horiz. TOB** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.07 hrs HW=170.80' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=2.94 cfs @ 12.07 hrs HW=170.80' (Free Discharge)
└**2=Culvert** (Passes 2.94 cfs of 11.09 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 2.46 cfs @ 4.93 fps)
  └**4=TOB** (Weir Controls 0.48 cfs @ 0.75 fps)

Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



Stage-Area-Storage for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
169.00	1,805	0
169.05	1,840	91
169.10	1,875	184
169.15	1,910	279
169.20	1,946	375
169.25	1,981	473
169.30	2,016	573
169.35	2,051	675
169.40	2,086	778
169.45	2,121	883
169.50	2,157	990
169.55	2,192	1,099
169.60	2,227	1,210
169.65	2,262	1,322
169.70	2,297	1,436
169.75	2,332	1,551
169.80	2,367	1,669
169.85	2,403	1,788
169.90	2,438	1,909
169.95	2,473	2,032
170.00	2,508	2,157
170.05	2,546	2,283
170.10	2,585	2,411
170.15	2,623	2,541
170.20	2,662	2,673
170.25	2,700	2,808
170.30	2,738	2,943
170.35	2,777	3,081
170.40	2,815	3,221
170.45	2,854	3,363
170.50	2,892	3,507
170.55	2,930	3,652
170.60	2,969	3,800
170.65	3,007	3,949
170.70	3,046	4,100
170.75	3,084	4,254
170.80	3,122	4,409
170.85	3,161	4,566
170.90	3,199	4,725
170.95	3,238	4,886
171.00	3,276	5,049
171.05	3,317	5,213
171.10	3,358	5,380
171.15	3,400	5,549
171.20	3,441	5,720
171.25	3,482	5,893
171.30	3,524	6,068
171.35	3,565	6,246
171.40	3,606	6,425
171.45	3,647	6,606
171.50	3,689	6,790
171.55	3,730	6,975
171.60	3,771	7,163
171.65	3,812	7,352
171.70	3,853	7,544
171.75	3,895	7,738
171.80	3,936	7,933
171.85	3,977	8,131
171.90	4,019	8,331
171.95	4,060	8,533
172.00	**4,101**	**8,737**

Summary for Link 17L: On-Site Bypass Total to POD-001

Inflow Area = 74,059 sf, 5.70% Impervious, Inflow Depth = 4.56" for 100-YR event
Inflow = 13.07 cfs @ 11.97 hrs, Volume= 28,151 cf
Primary = 13.07 cfs @ 11.97 hrs, Volume= 28,151 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 21L : Total to POD-001

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 20L: On-Site Total to MRC Basin

Inflow Area = 94,741 sf, 26.02% Impervious, Inflow Depth = 5.34" for 100-YR event
Inflow = 18.62 cfs @ 11.97 hrs, Volume= 42,157 cf
Primary = 18.62 cfs @ 11.97 hrs, Volume= 42,157 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 21L: Total to POD-001

Inflow Area = 238,103 sf, 16.56% Impervious, Inflow Depth = 4.73" for 100-YR event
Inflow = 15.58 cfs @ 11.98 hrs, Volume= 93,784 cf
Primary = 15.58 cfs @ 11.98 hrs, Volume= 93,784 cf, Atten= 0%, Lag= 0.0 min

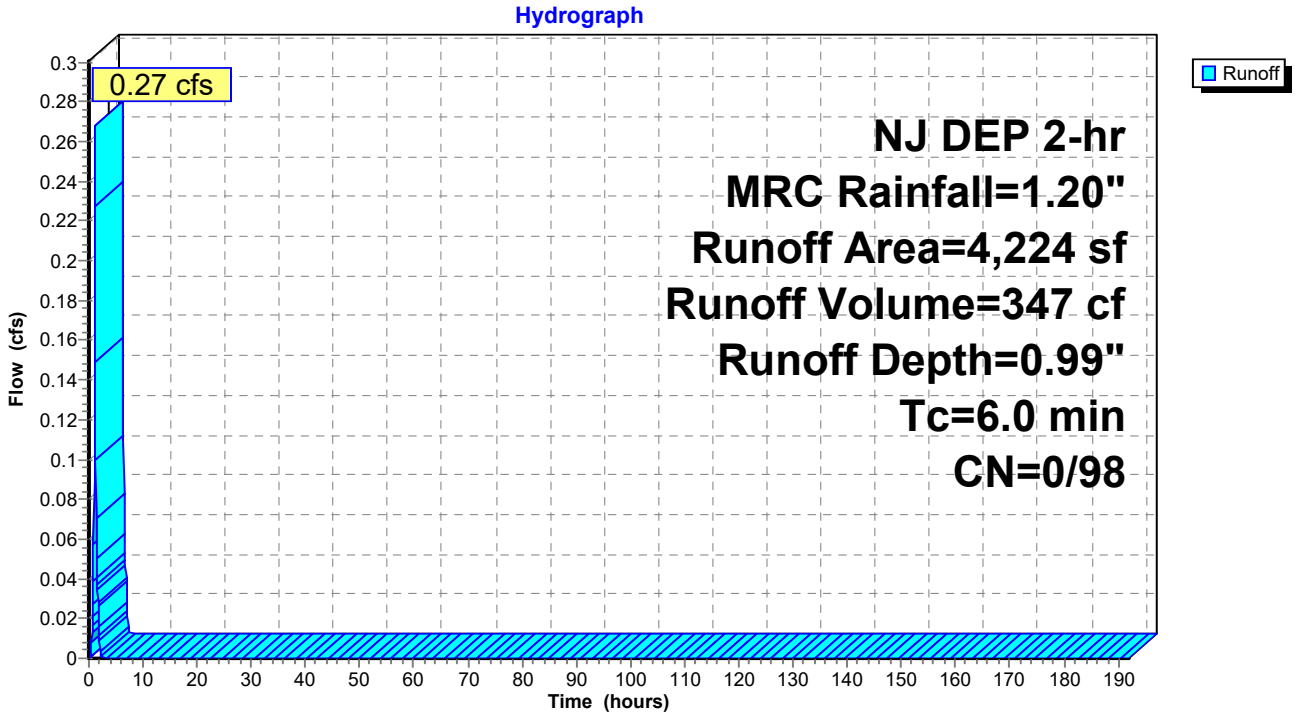
Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Off-Site Total to MRC Basin

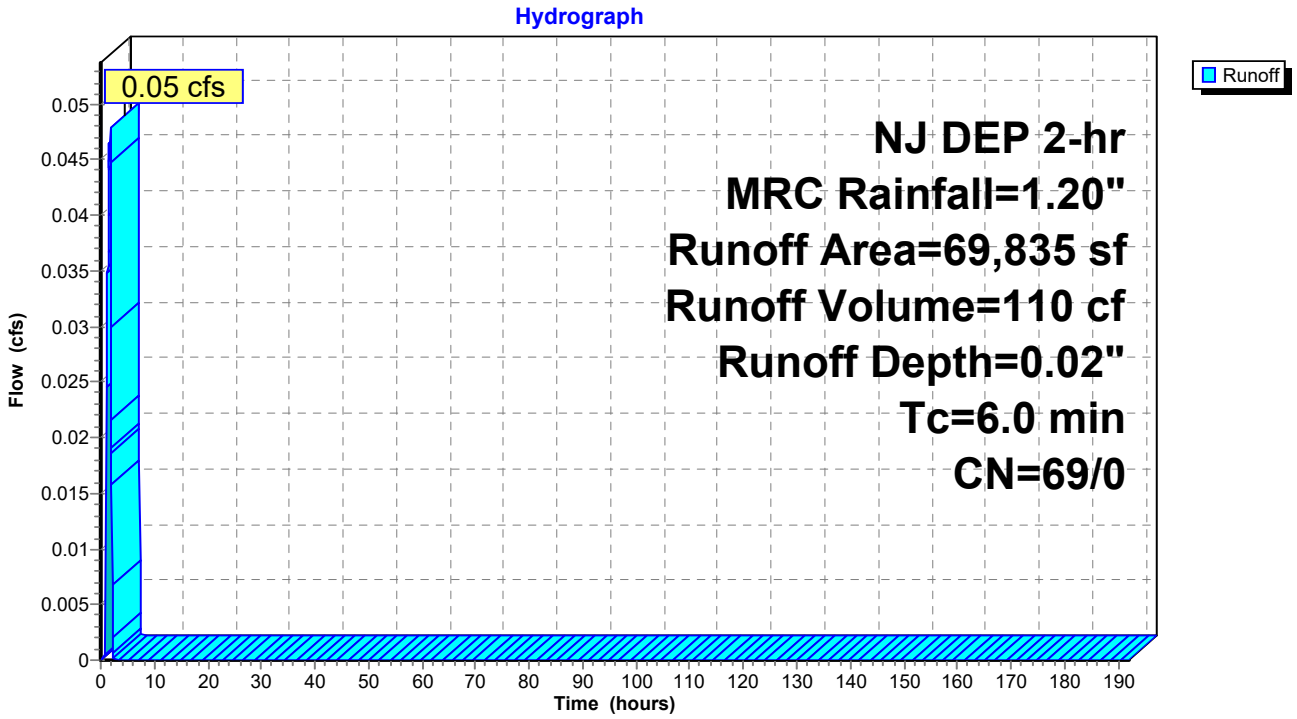
Inflow Area = 35,092 sf, 18.26% Impervious, Inflow Depth = 4.25" for 100-YR event
Inflow = 5.56 cfs @ 11.97 hrs, Volume= 12,425 cf
Primary = 5.56 cfs @ 11.97 hrs, Volume= 12,425 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 17P : MRC BASIN

Primary outflow = Inflow, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

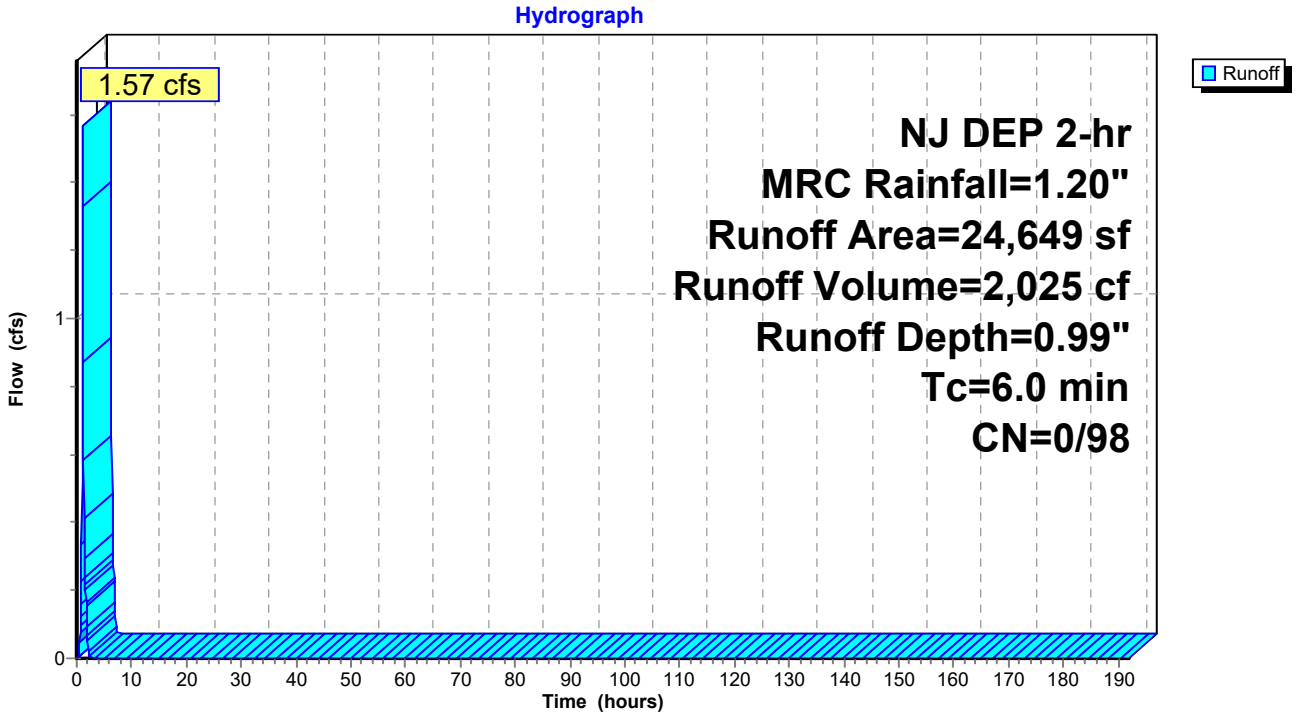
Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001



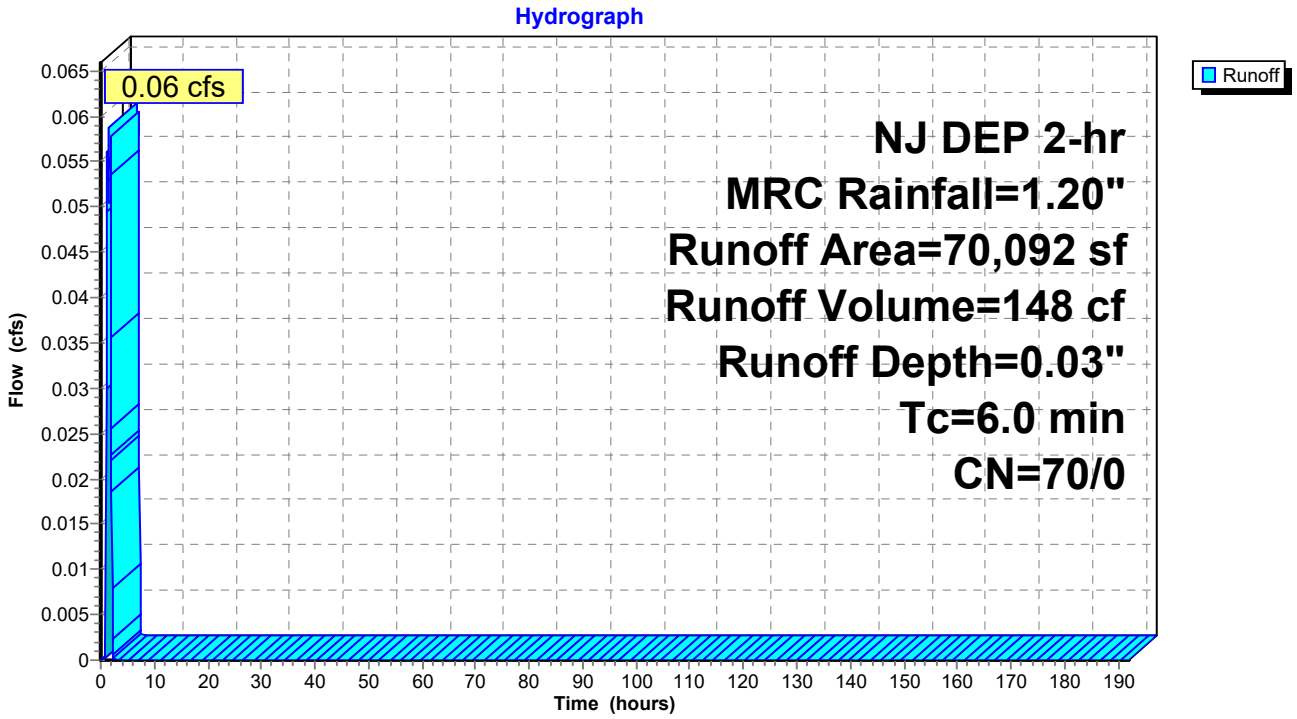
Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001



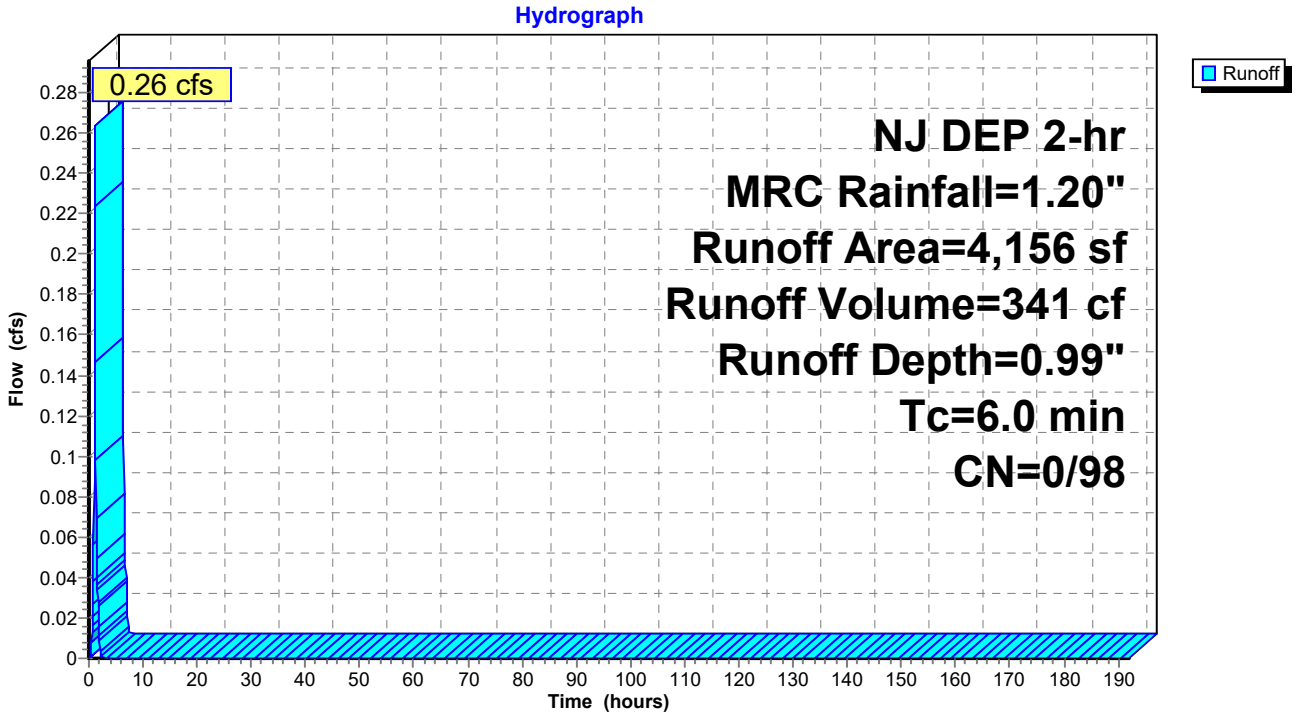
Subcatchment 18S: Prop. On-Site Imp to MRC Basin



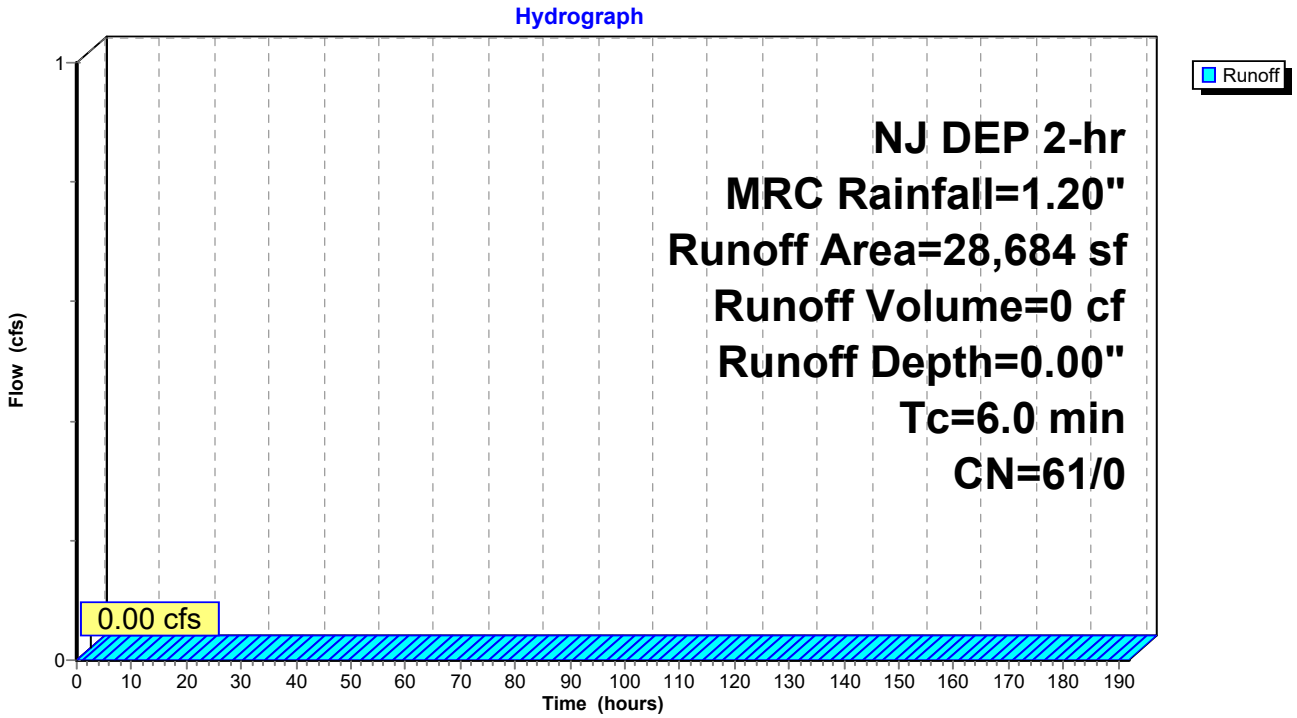
Subcatchment 19S: Prop. On-Site Perv to MRC Basin



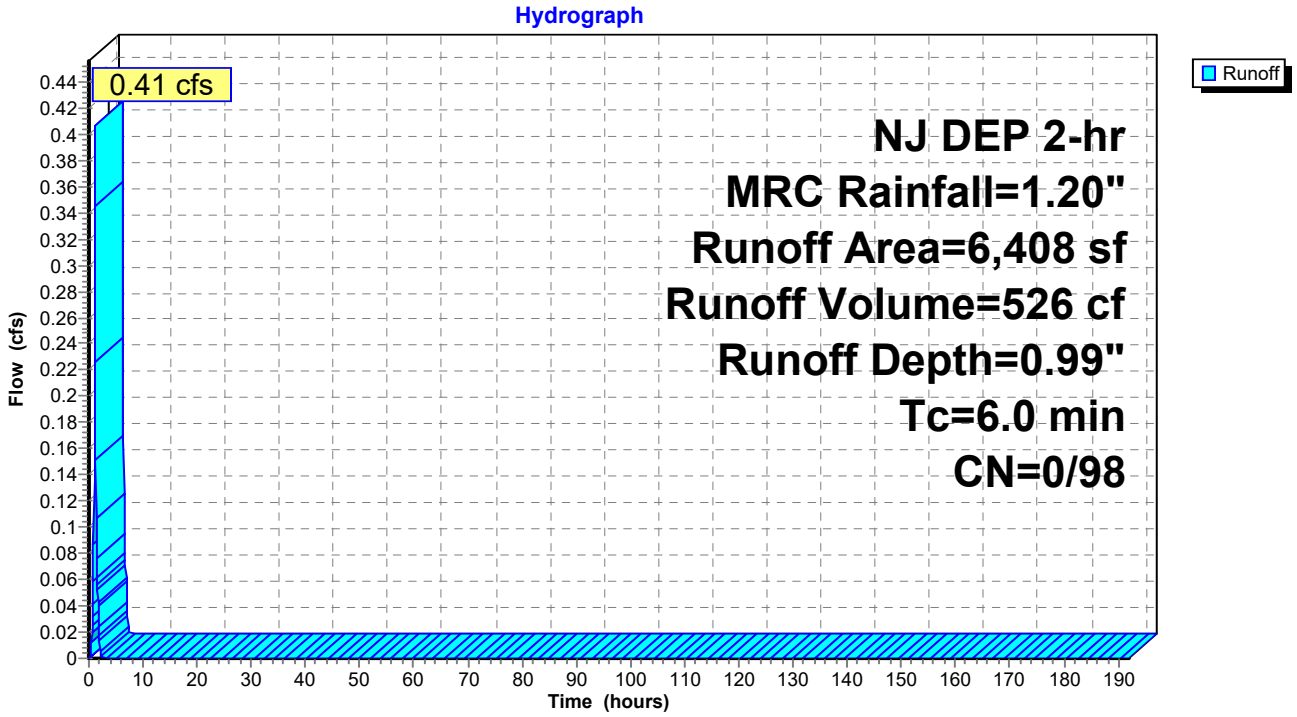
Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin



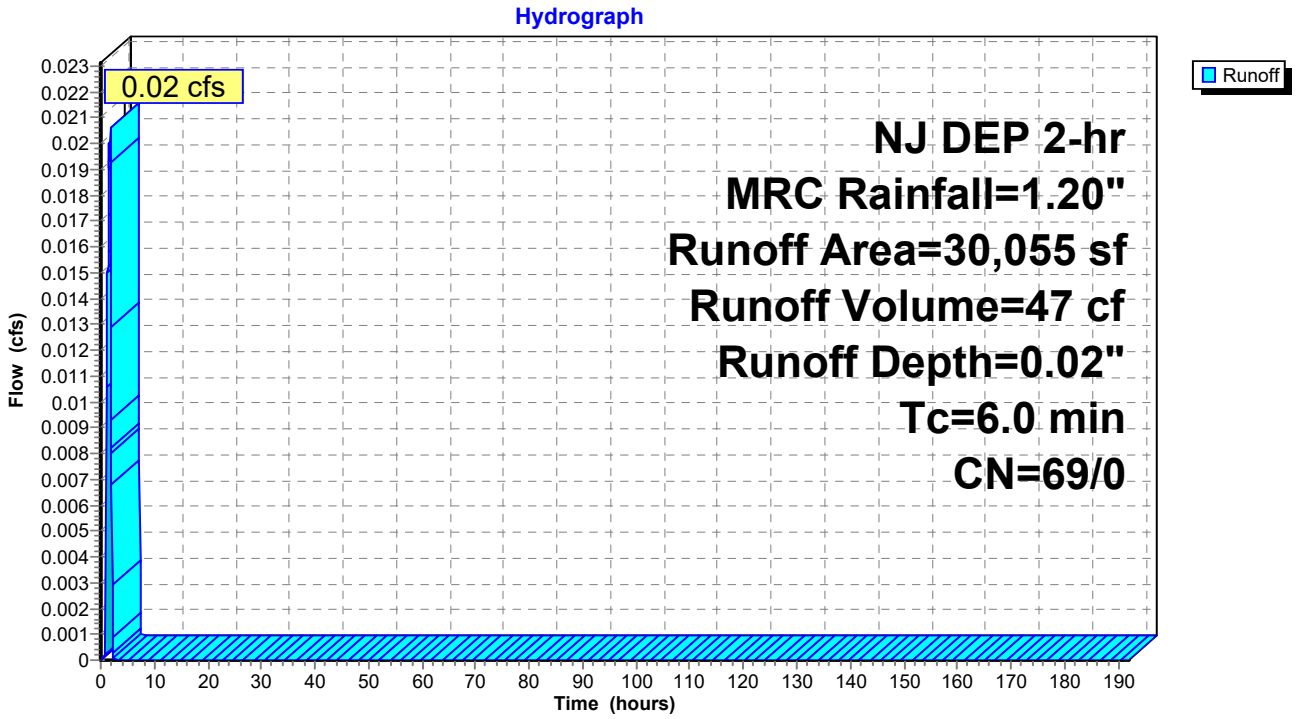
Subcatchment 21S: Prop. Off-Site Perv to MRC Basin



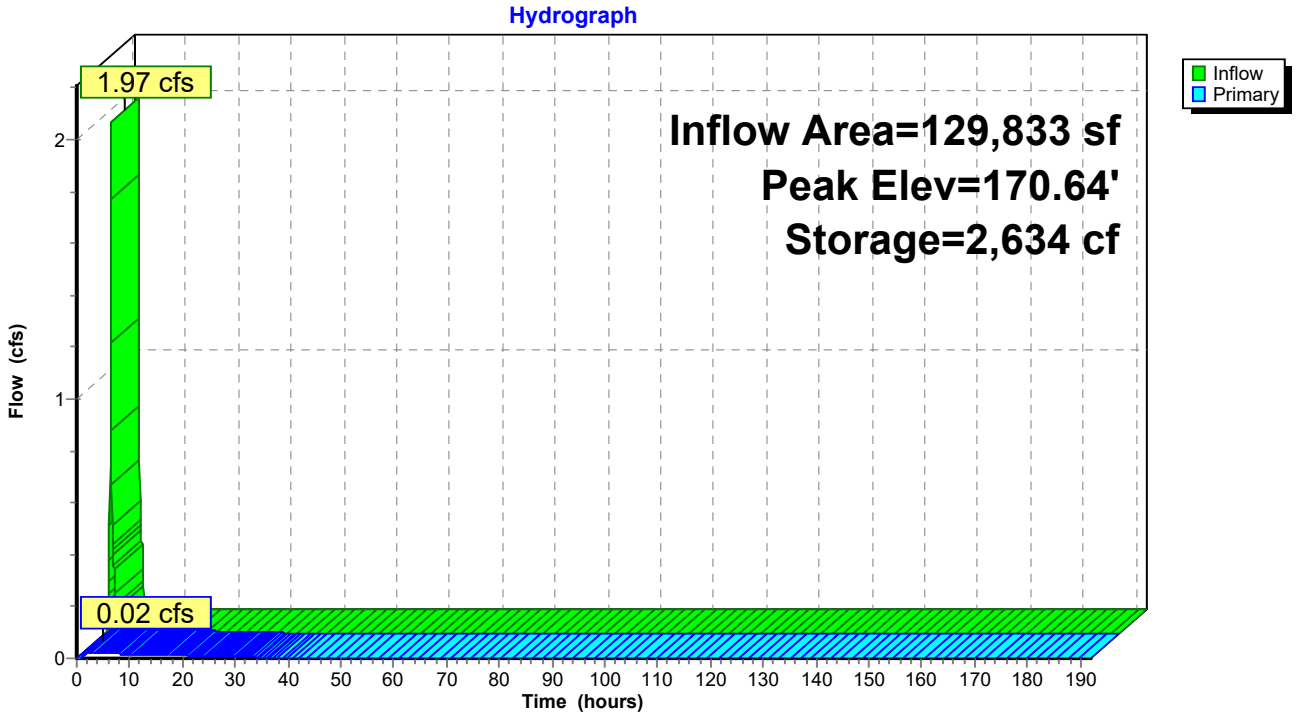
Subcatchment 22S: Prop. Off-Site Imp to MRC Basin



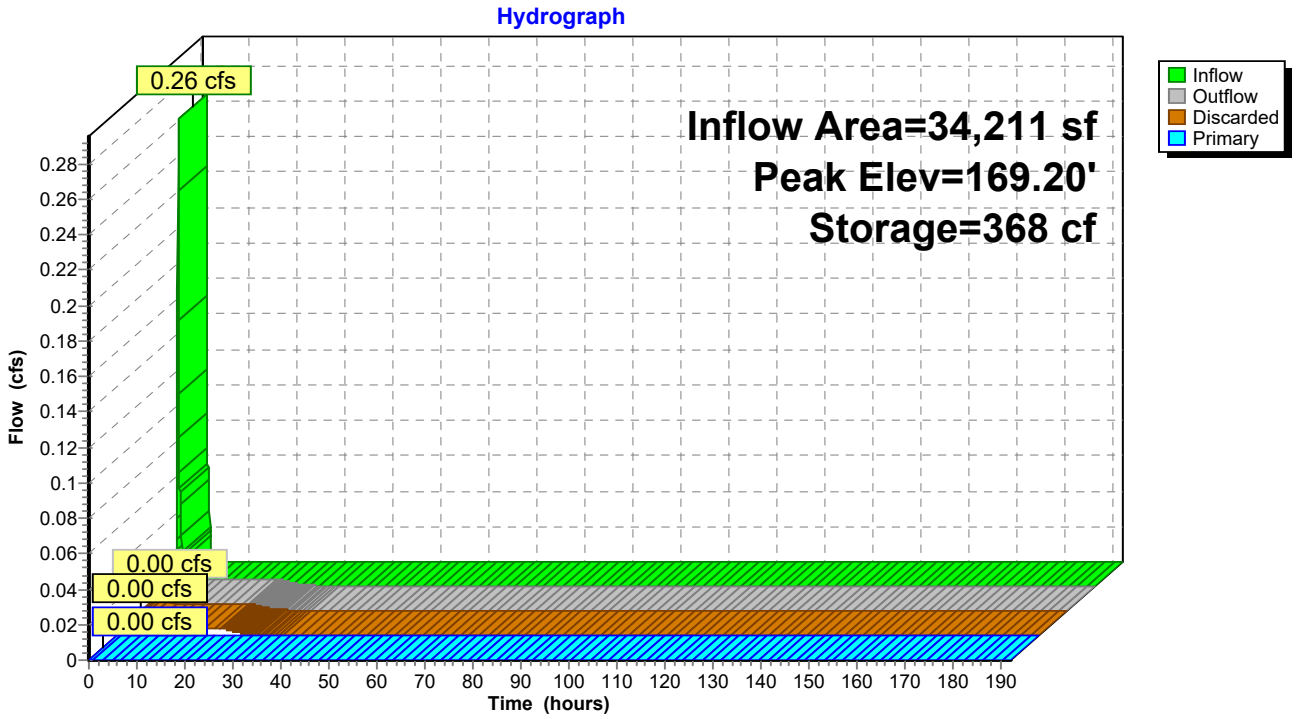
Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin



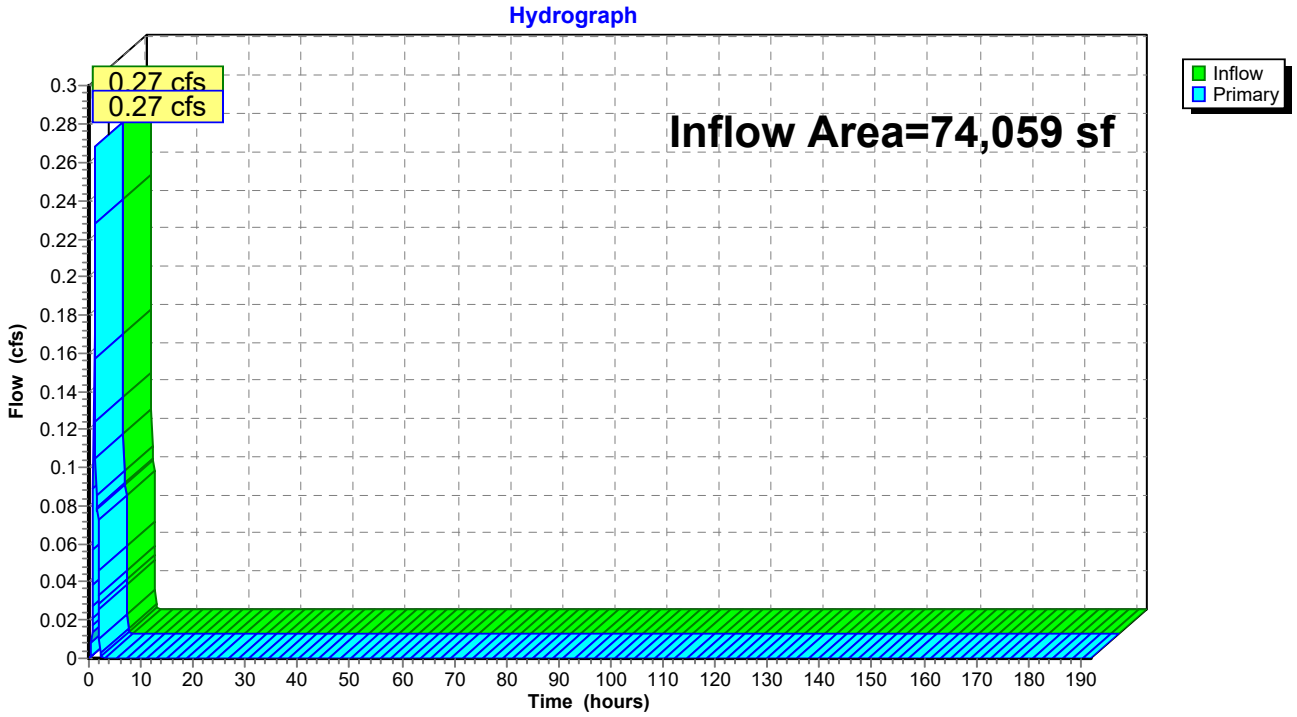
Pond 17P: MRC BASIN



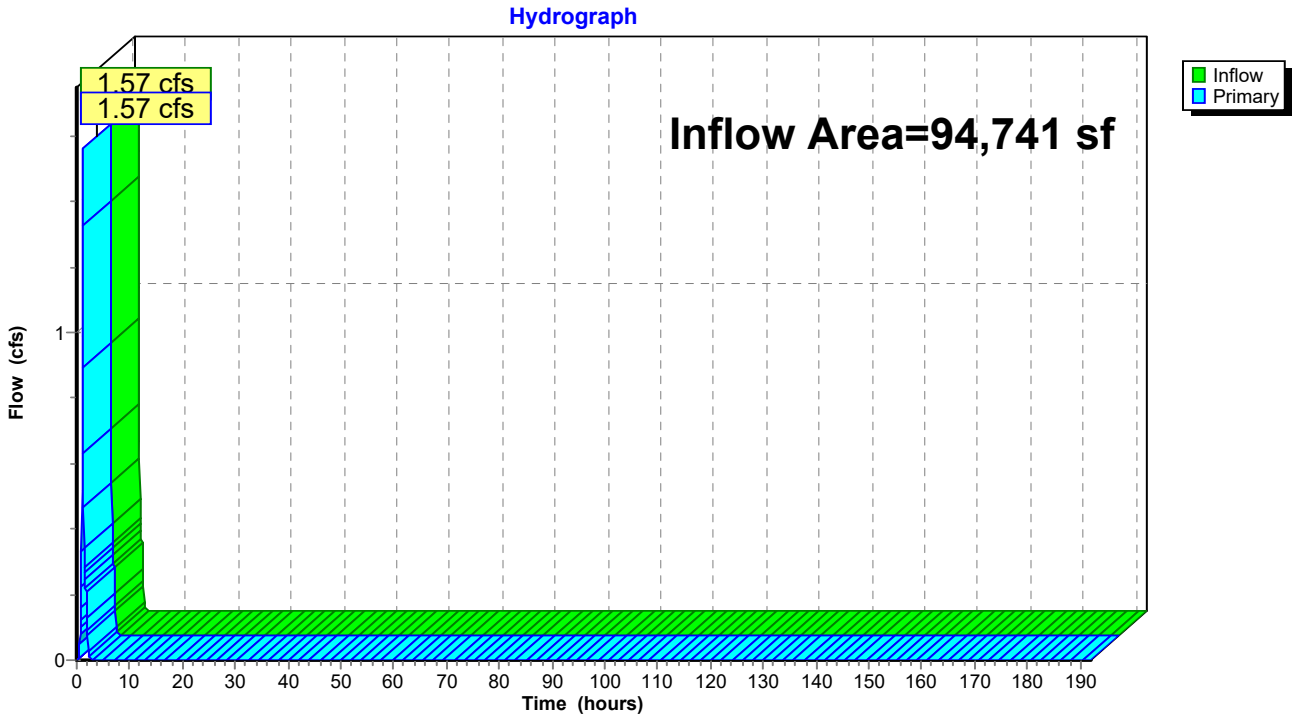
Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



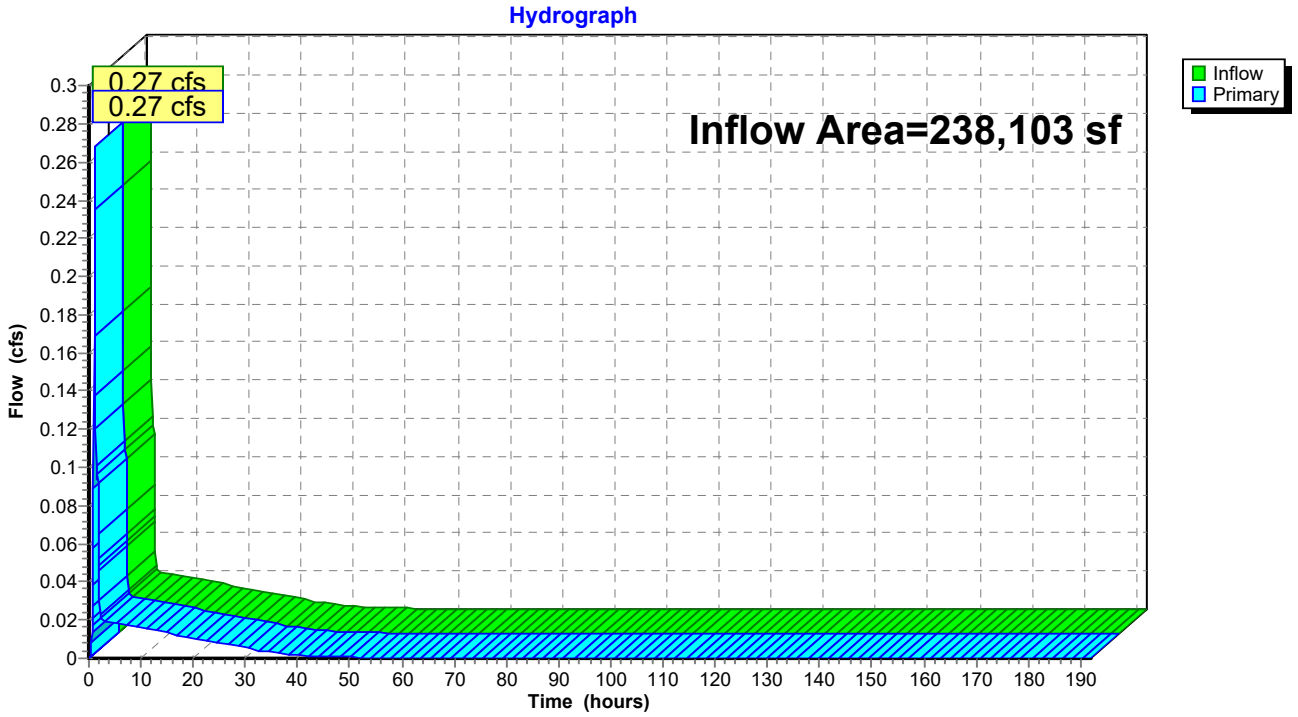
Link 17L: On-Site Bypass Total to POD-001



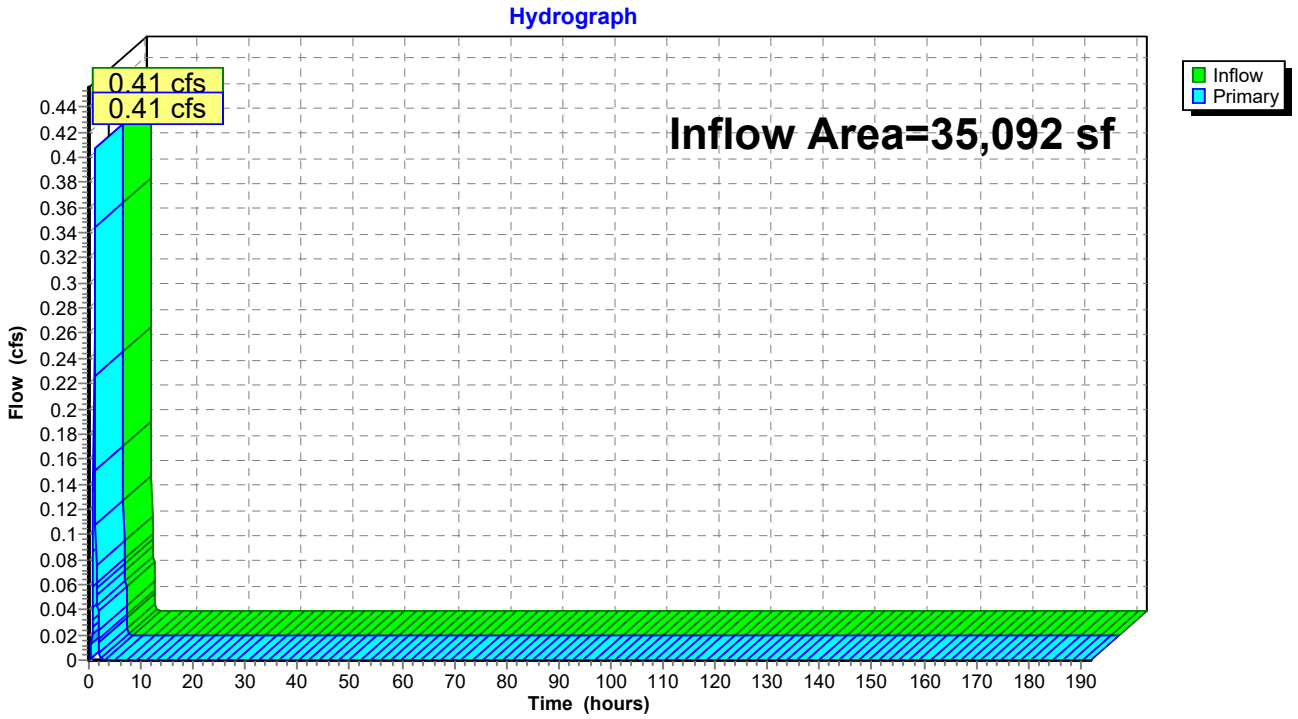
Link 20L: On-On-Site Total to MRC Basin



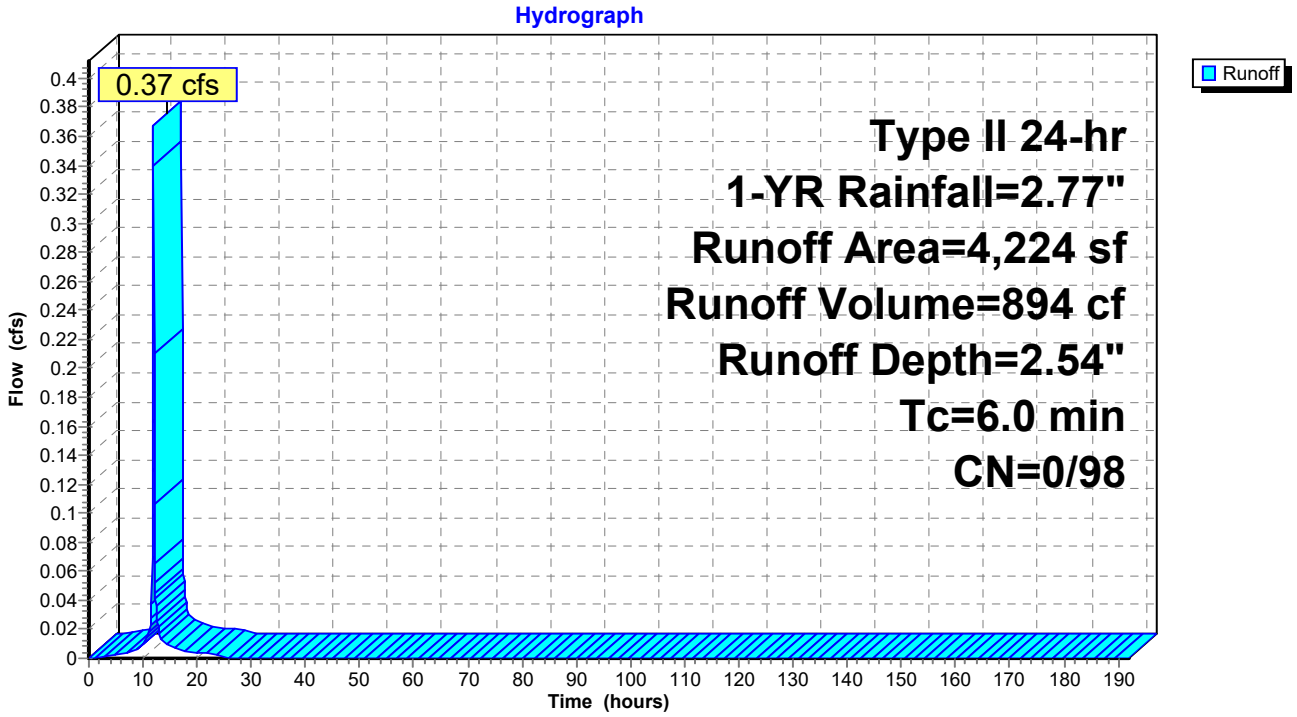
Link 21L: Total to POD-001



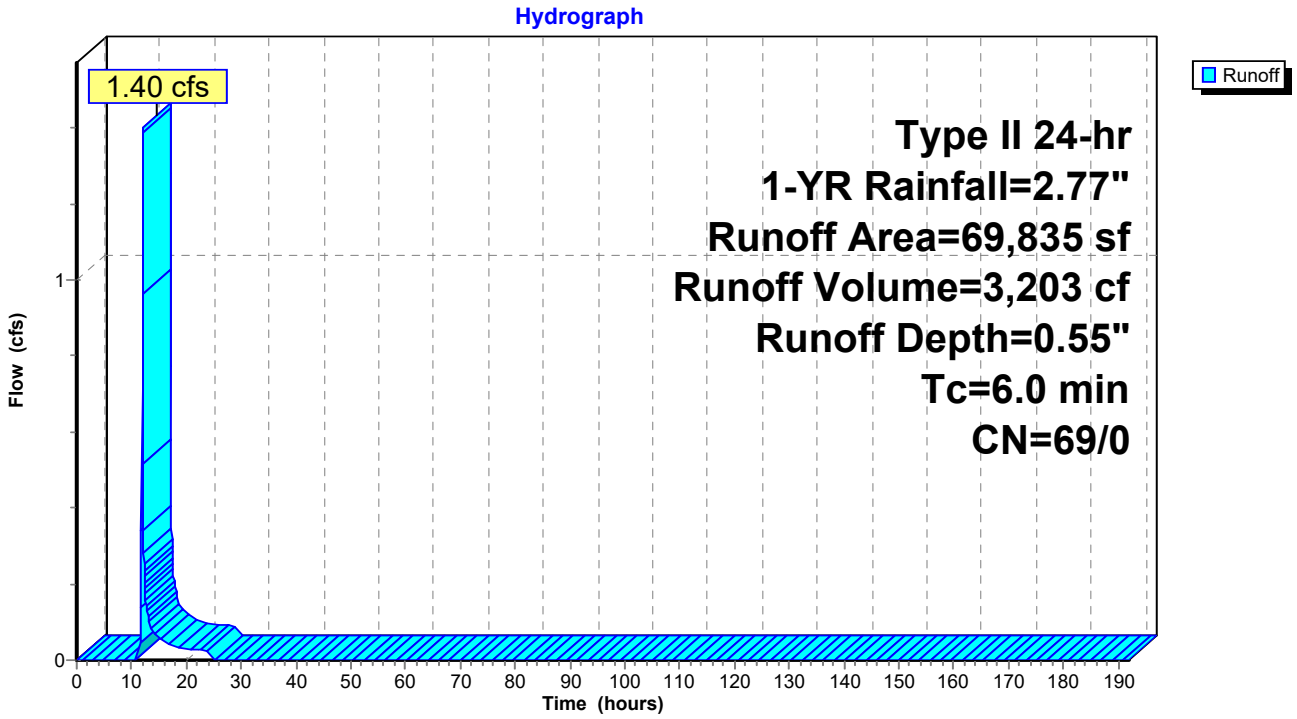
Link 36L: Off-Site Total to MRC Basin



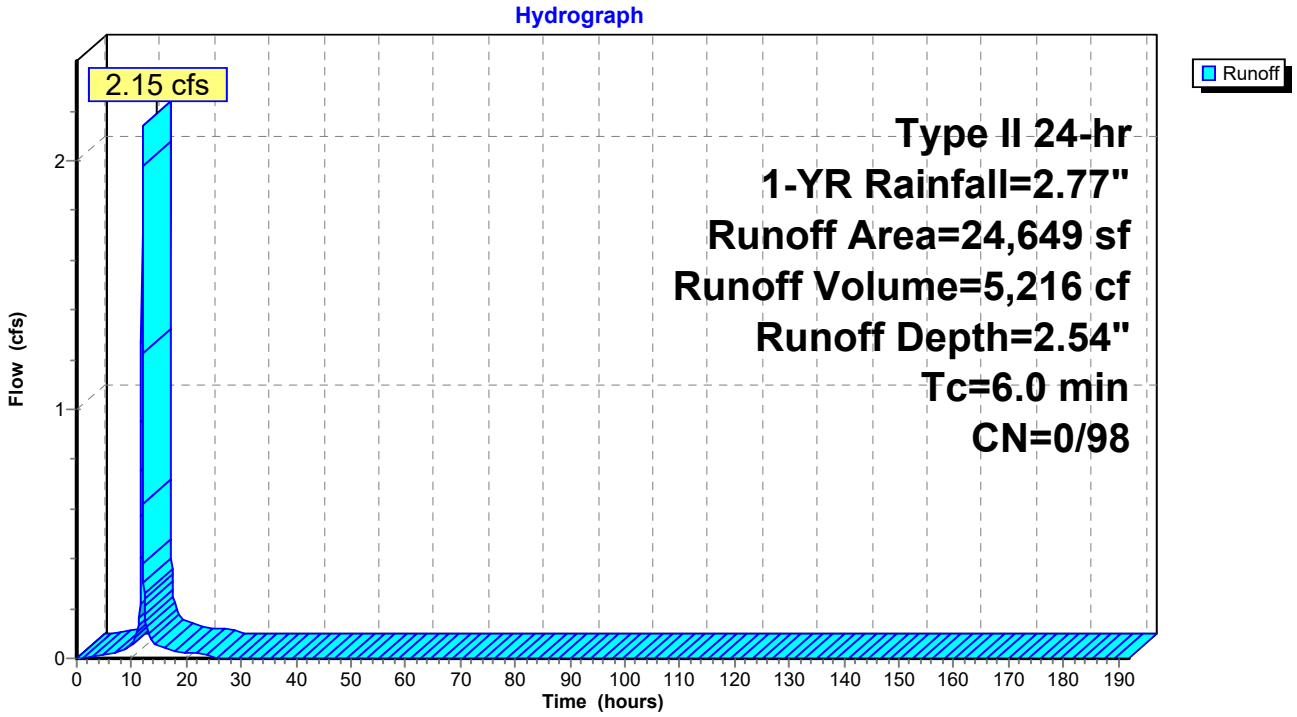
Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001



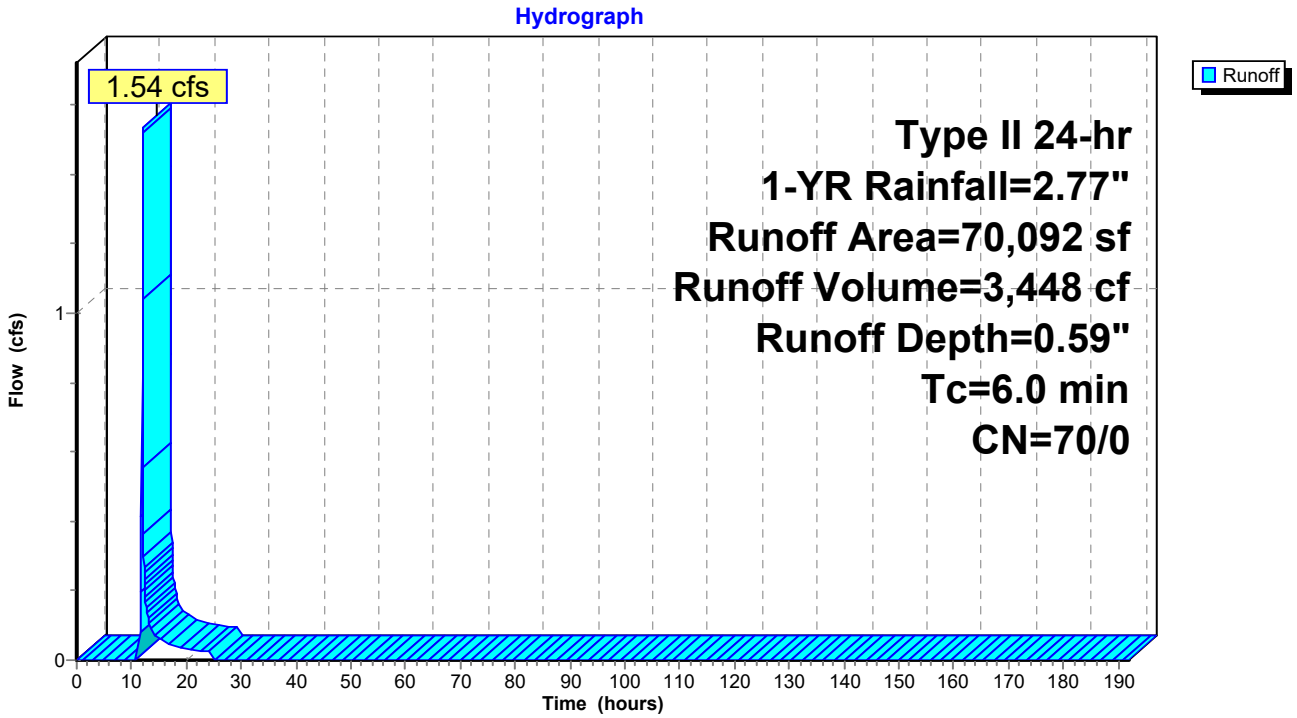
Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001



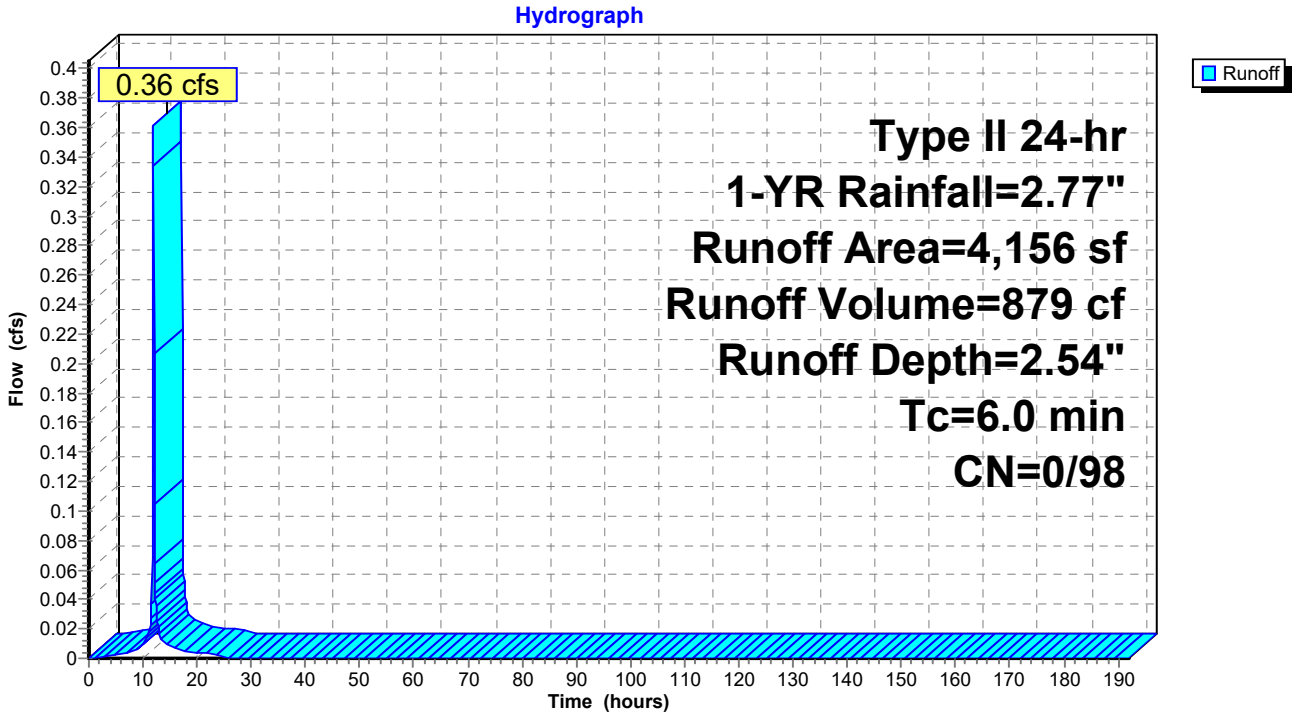
Subcatchment 18S: Prop. On-Site Imp to MRC Basin



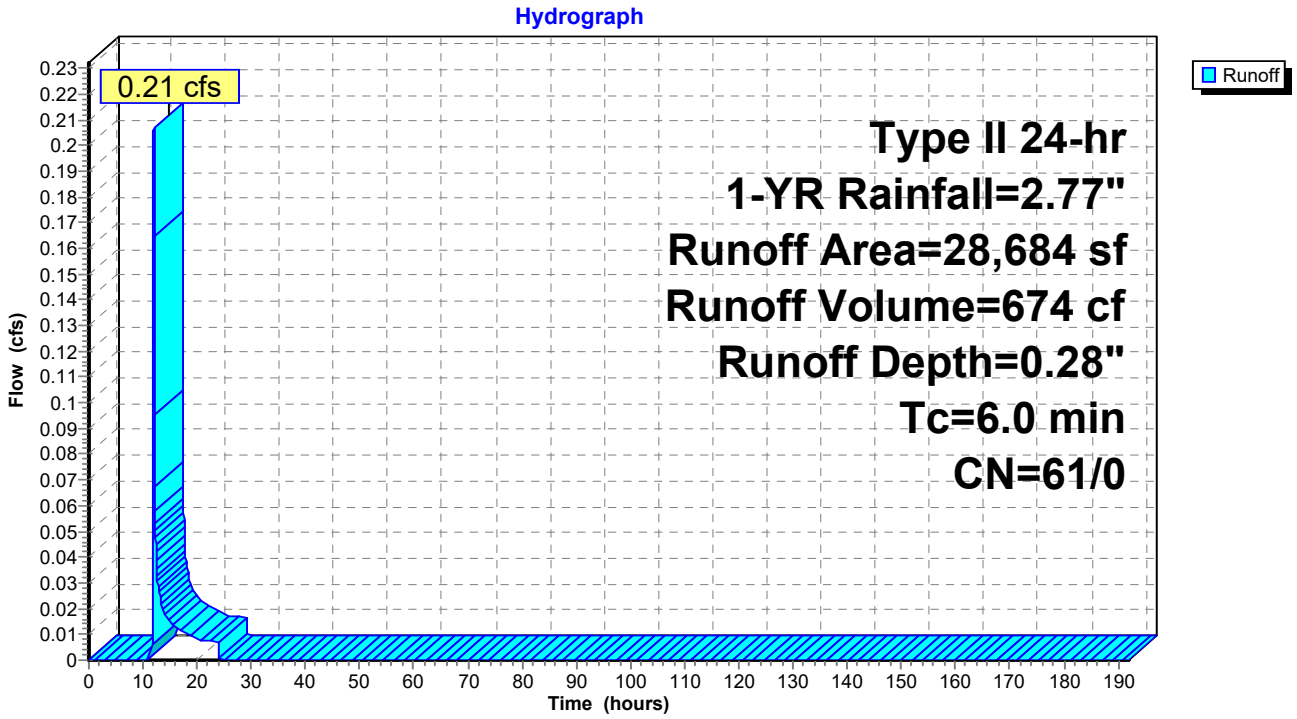
Subcatchment 19S: Prop. On-Site Perv to MRC Basin



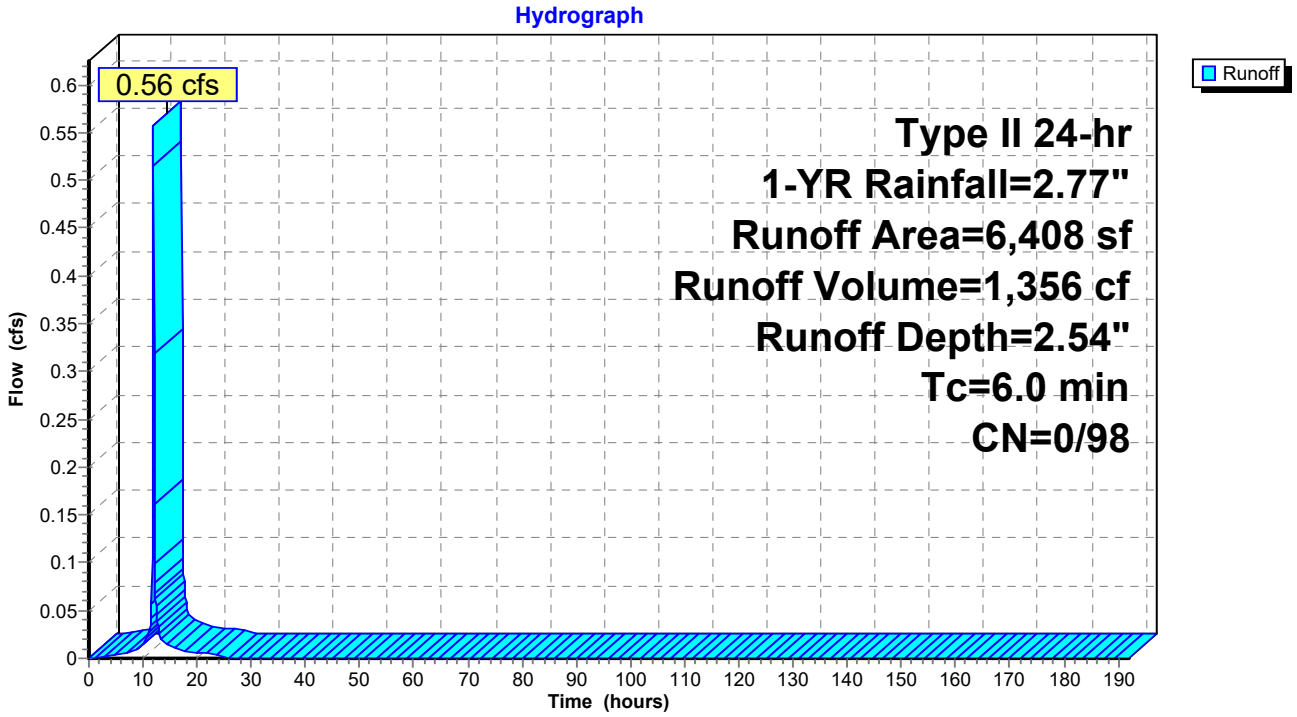
Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin



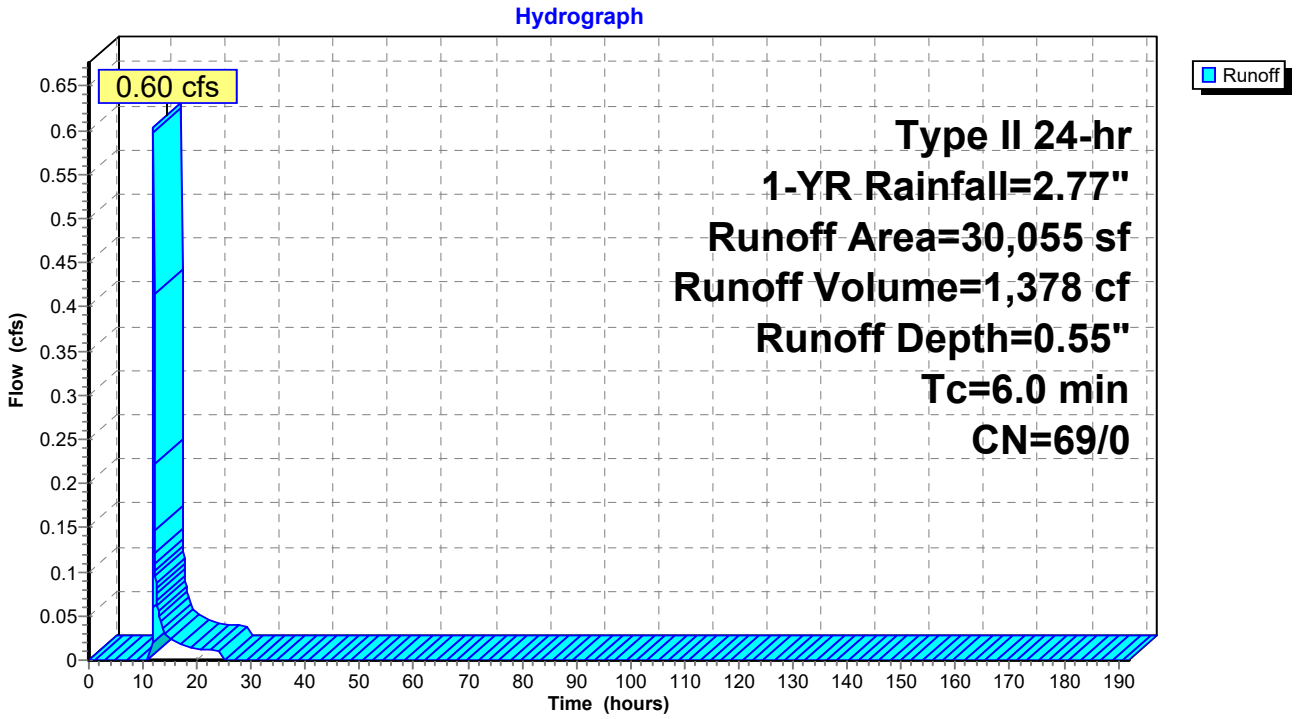
Subcatchment 21S: Prop. Off-Site Perv to MRC Basin



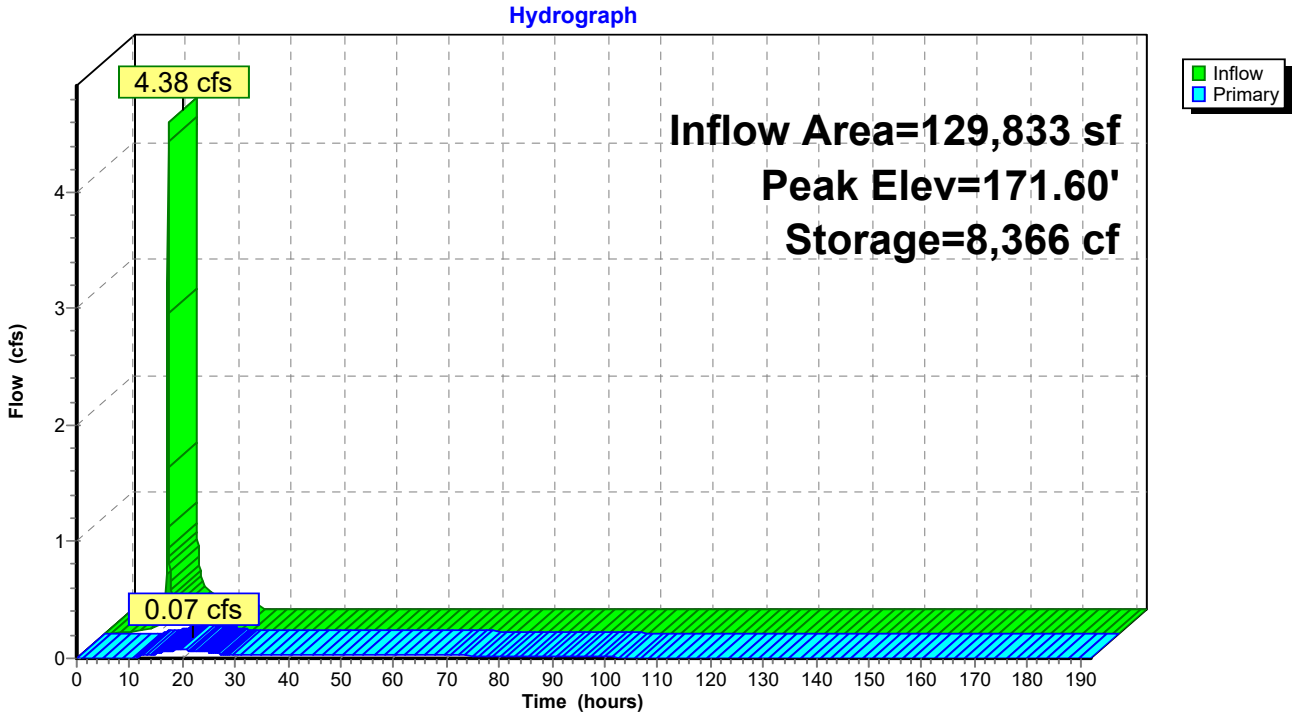
Subcatchment 22S: Prop. Off-Site Imp to MRC Basin



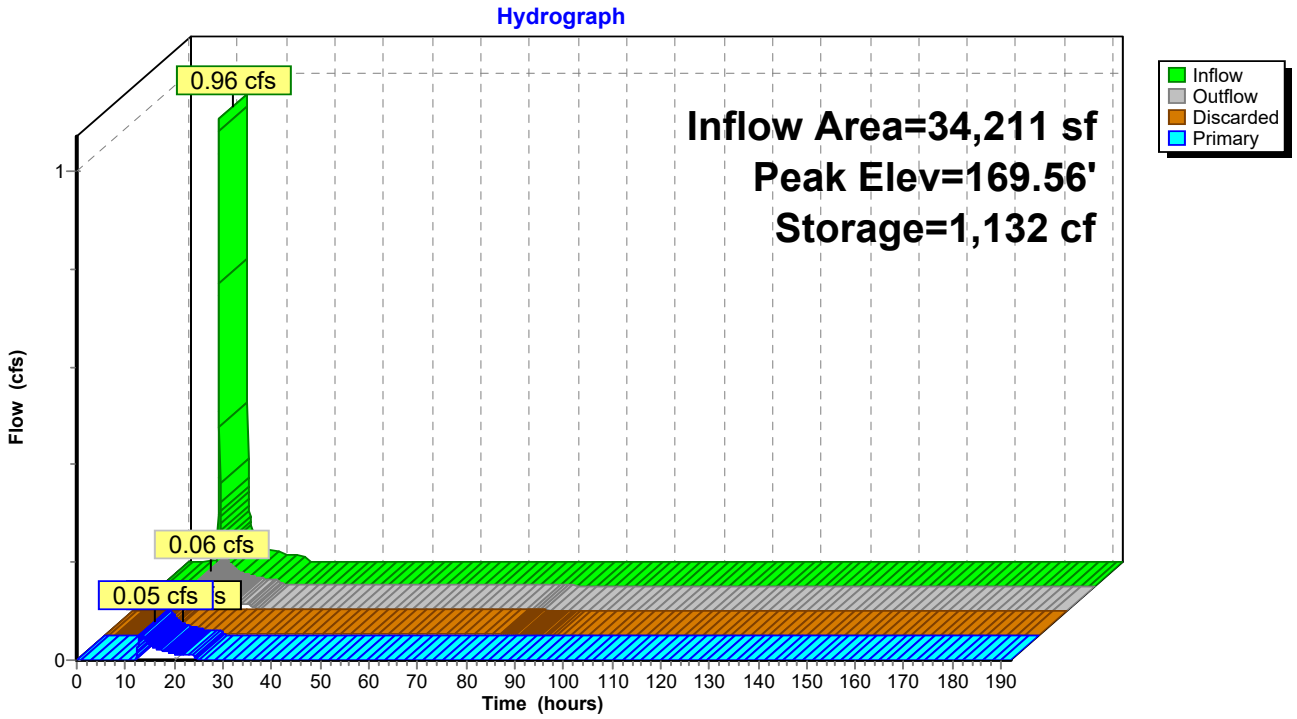
Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin



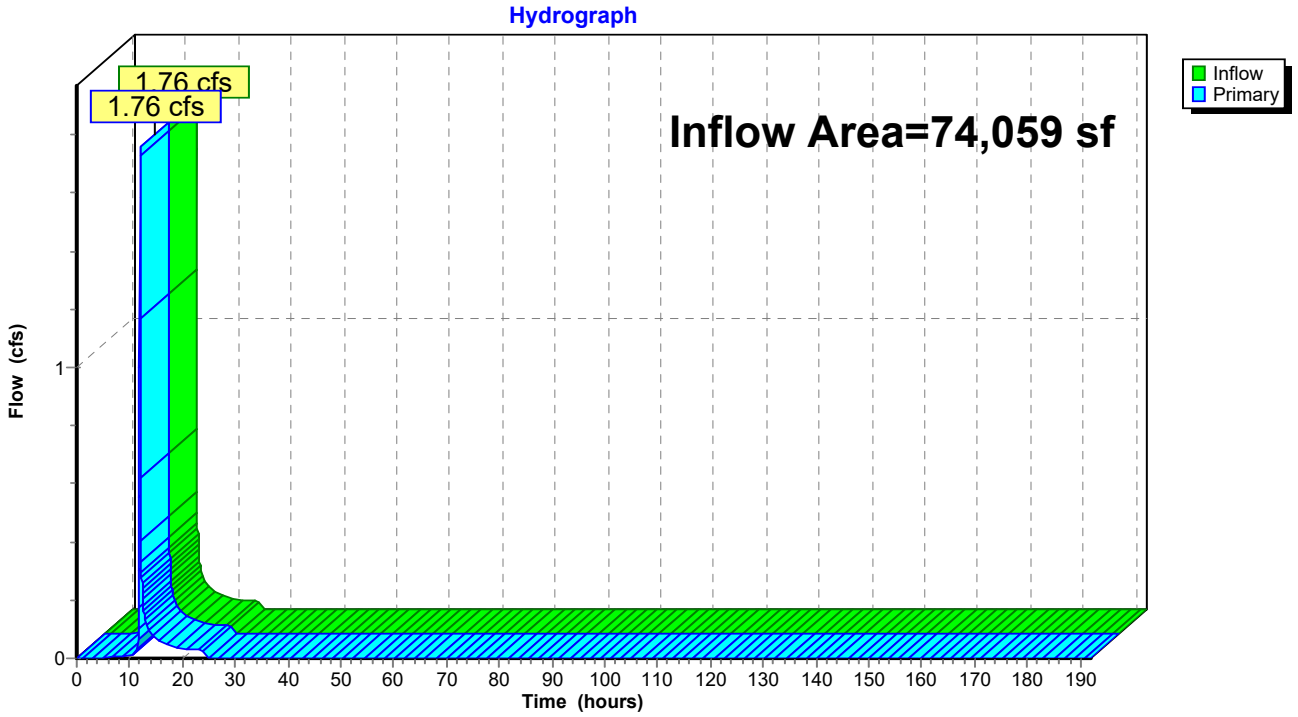
Pond 17P: MRC BASIN



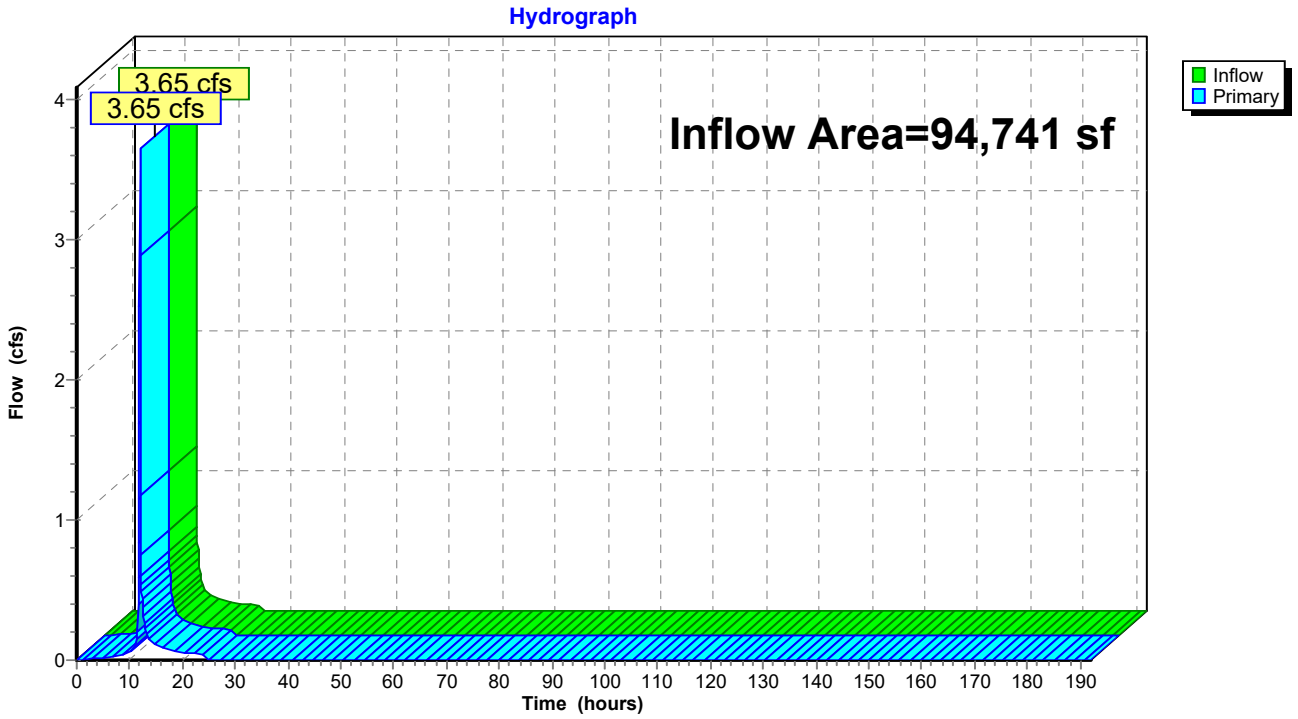
Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



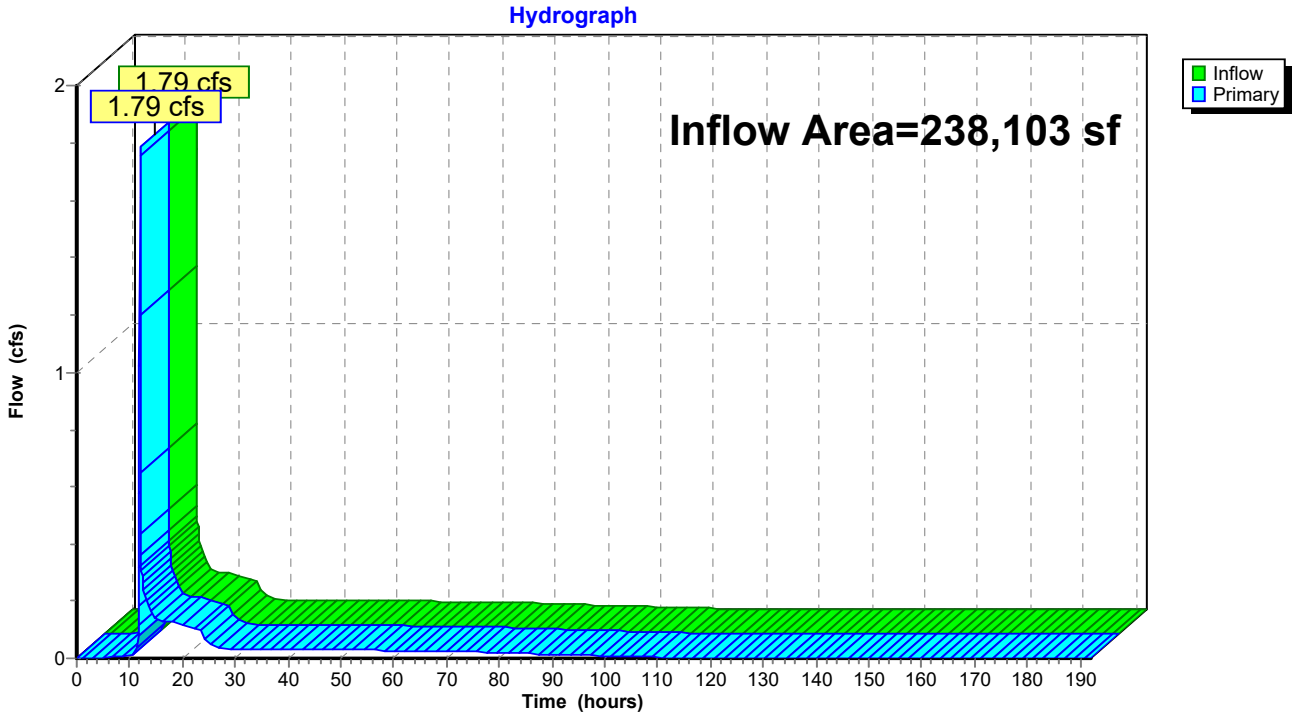
Link 17L: On-Site Bypass Total to POD-001



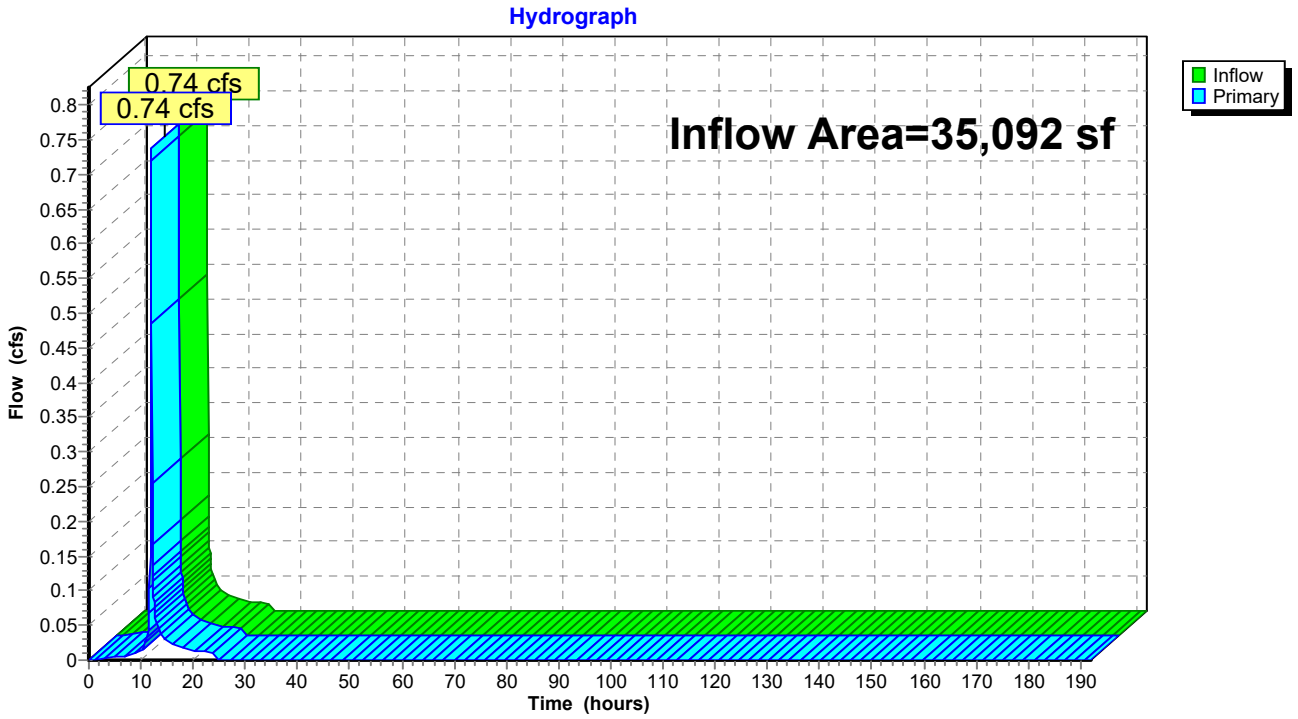
Link 20L: On-Site Total to MRC Basin



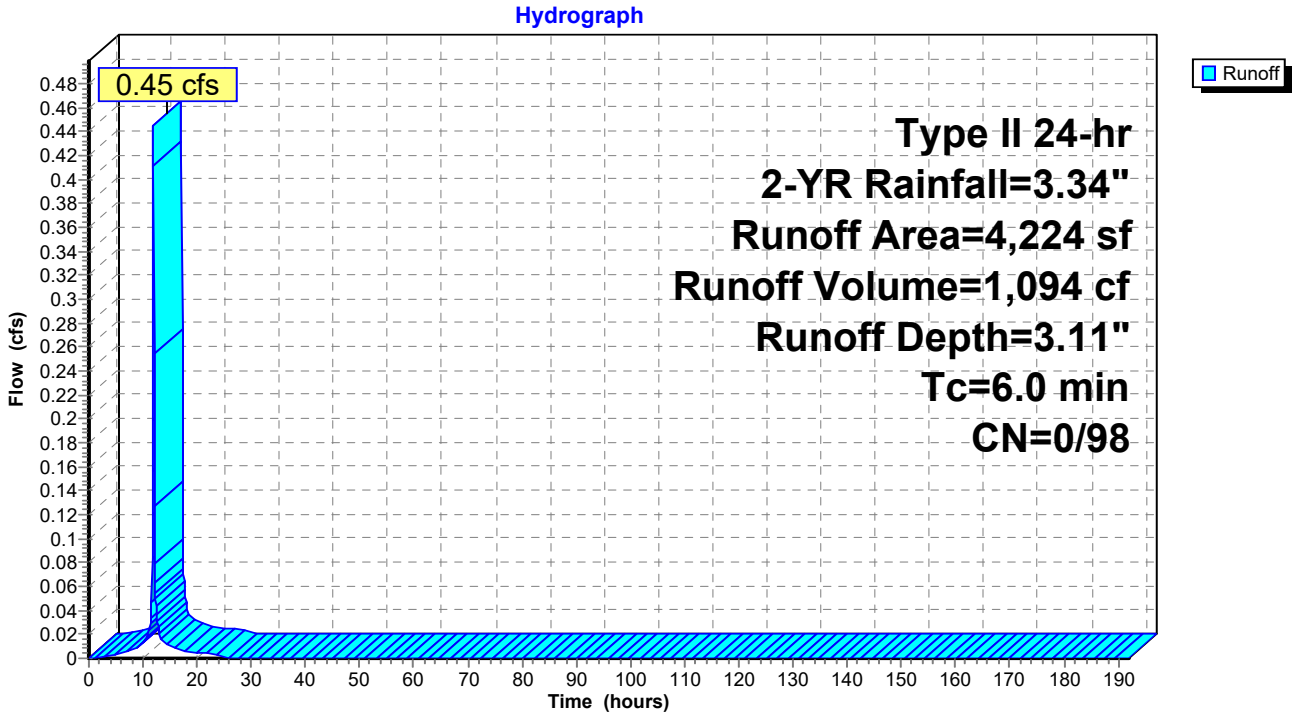
Link 21L: Total to POD-001



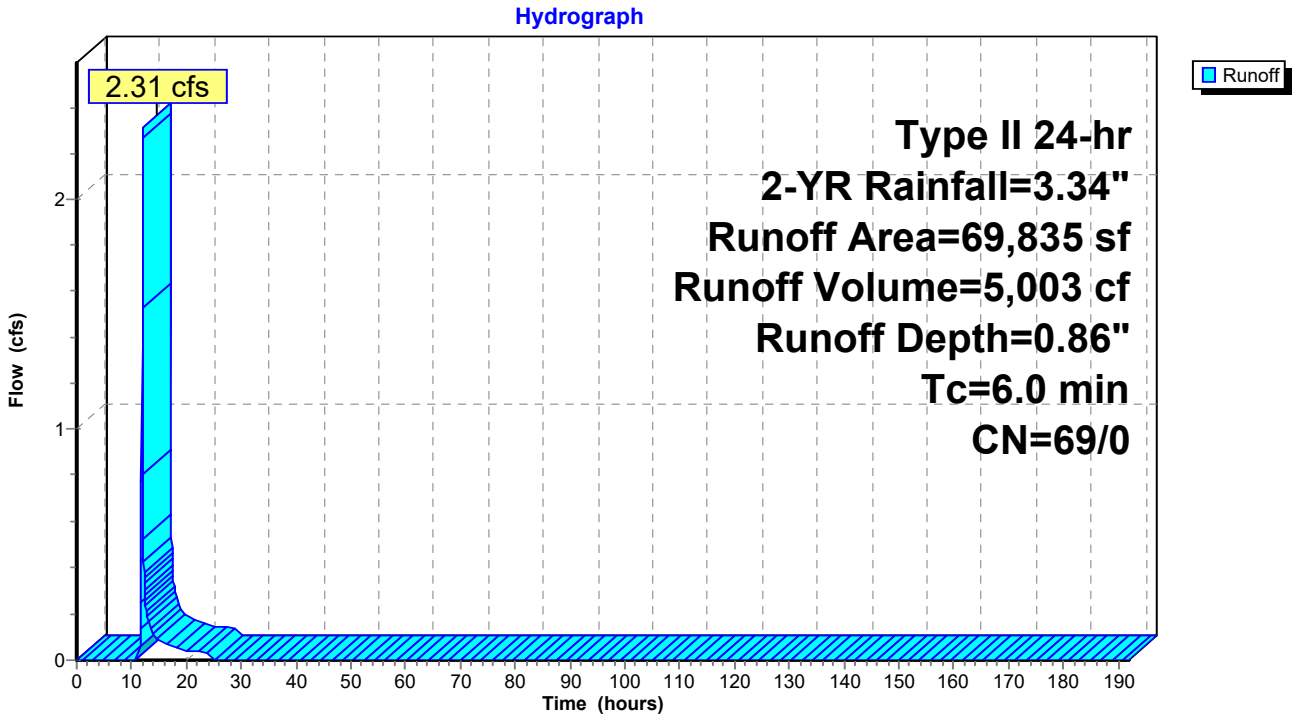
Link 36L: Off-Site Total to MRC Basin



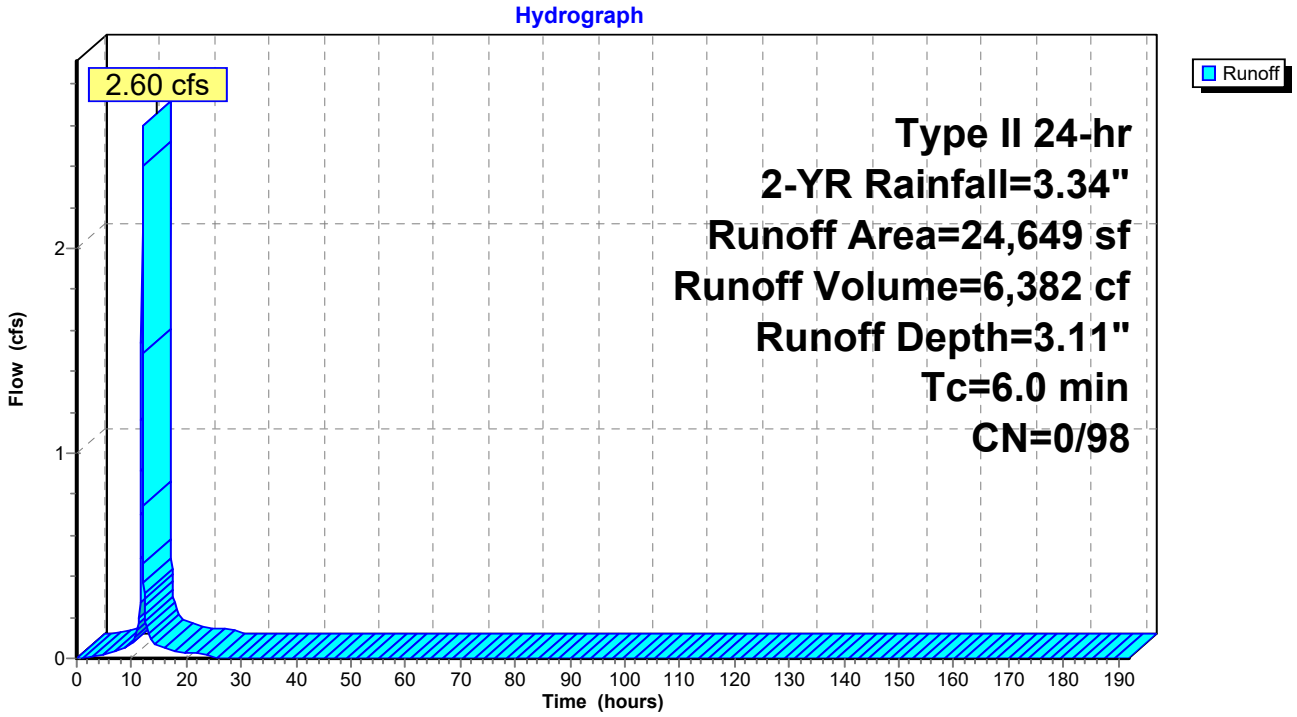
Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001



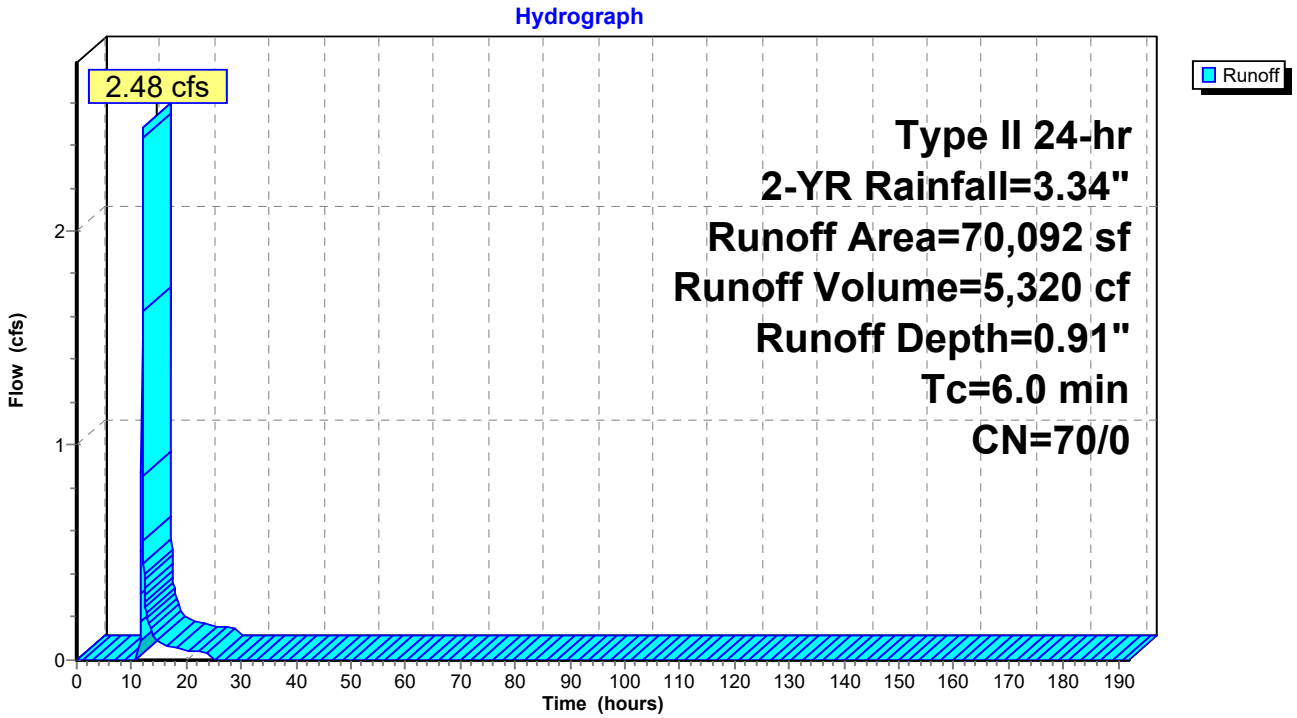
Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001



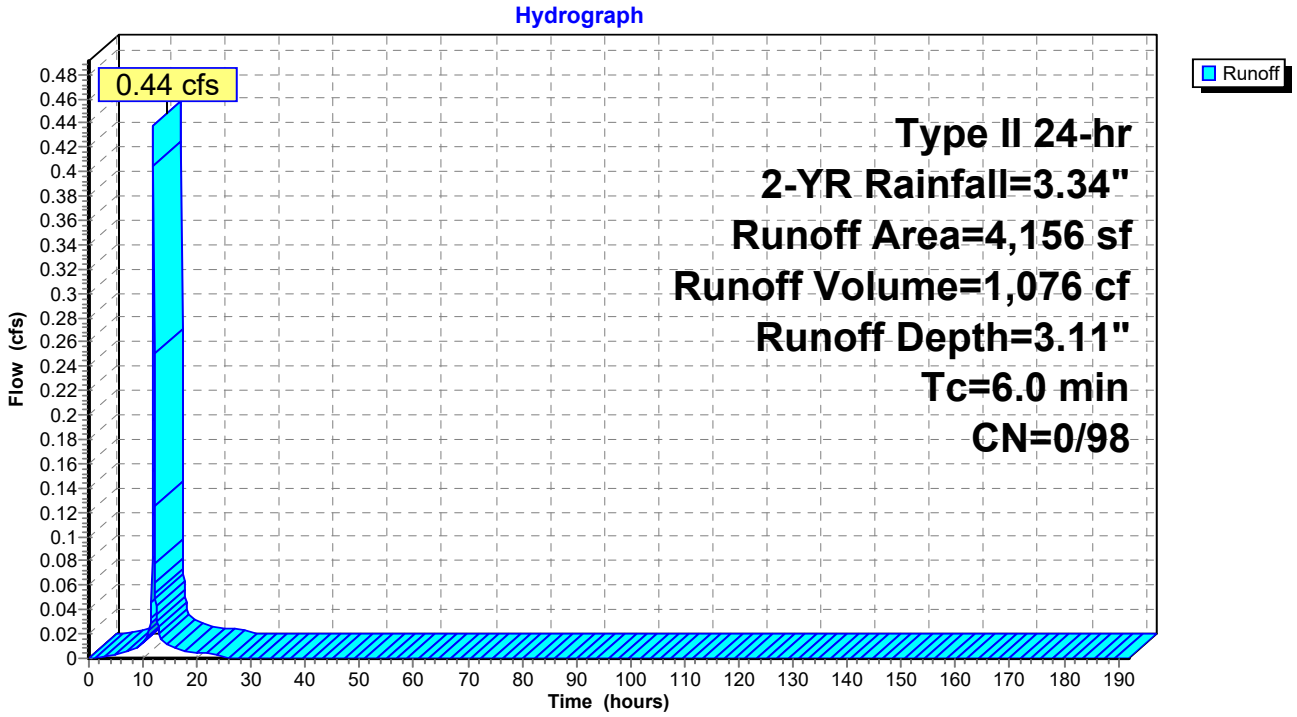
Subcatchment 18S: Prop. On-Site Imp to MRC Basin



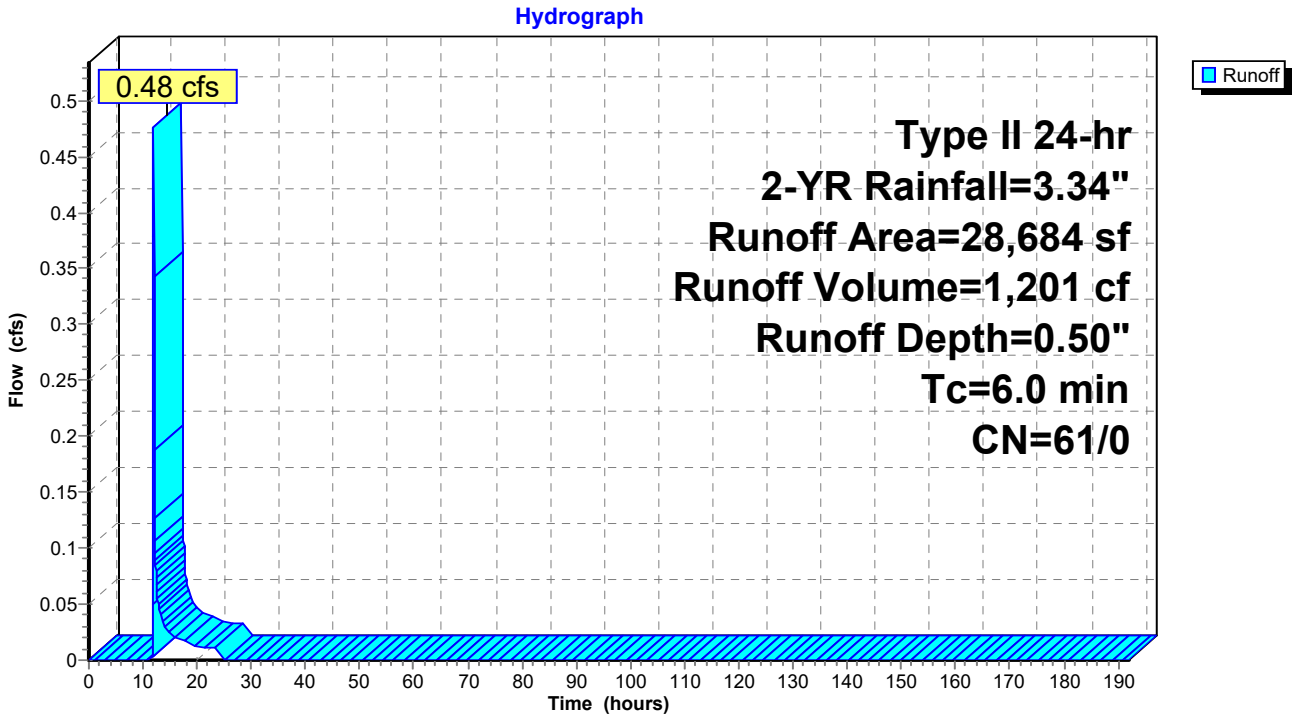
Subcatchment 19S: Prop. On-Site Perv to MRC Basin



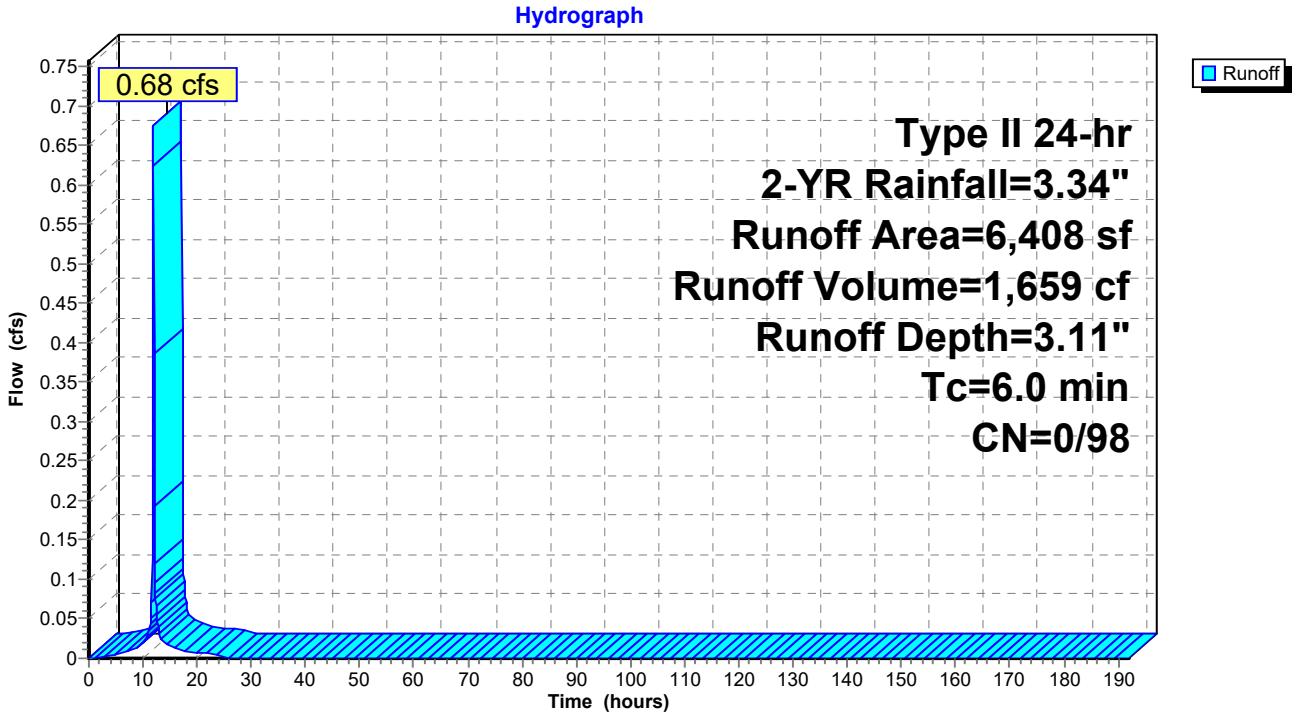
Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin



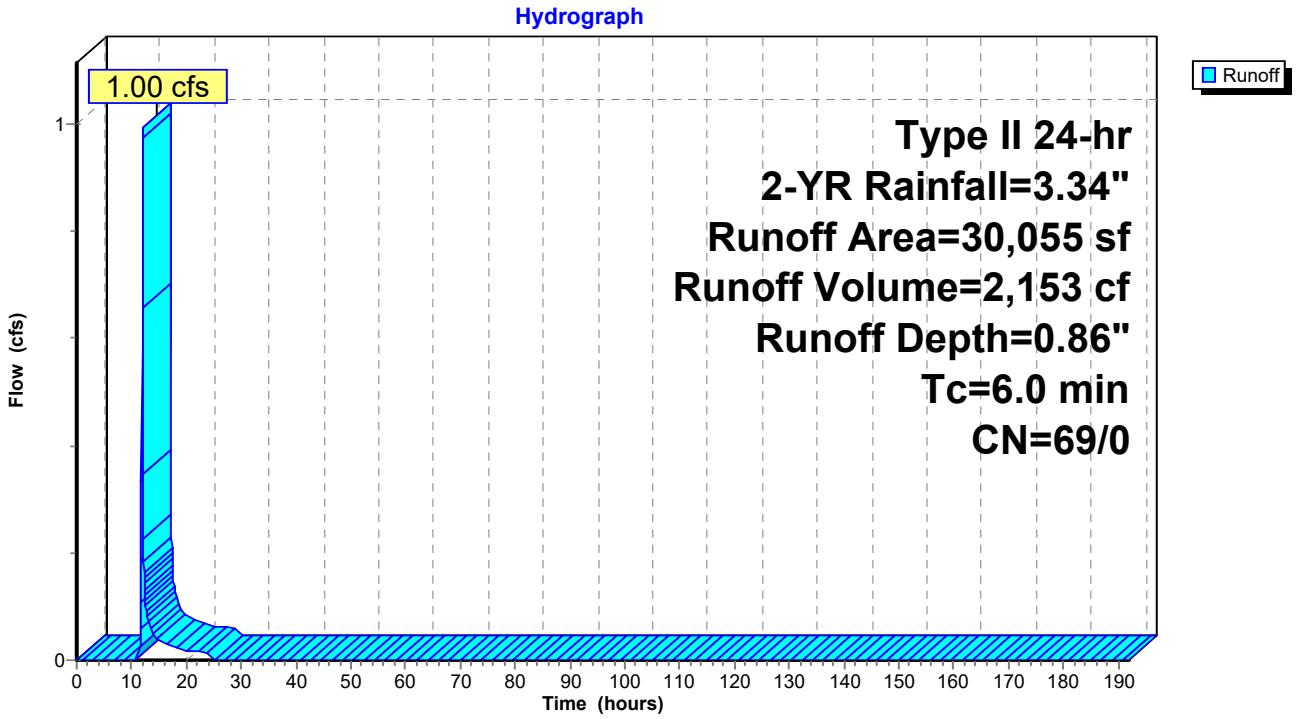
Subcatchment 21S: Prop. Off-Site Perv to MRC Basin



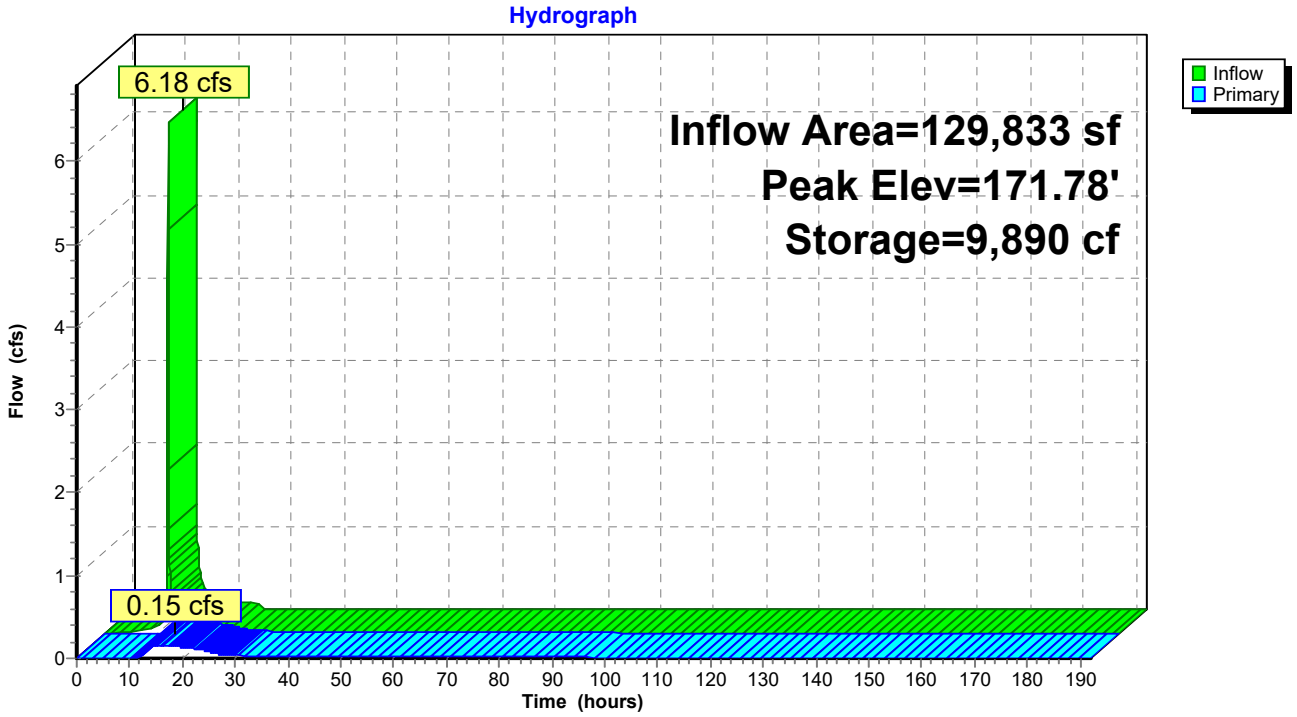
Subcatchment 22S: Prop. Off-Site Imp to MRC Basin



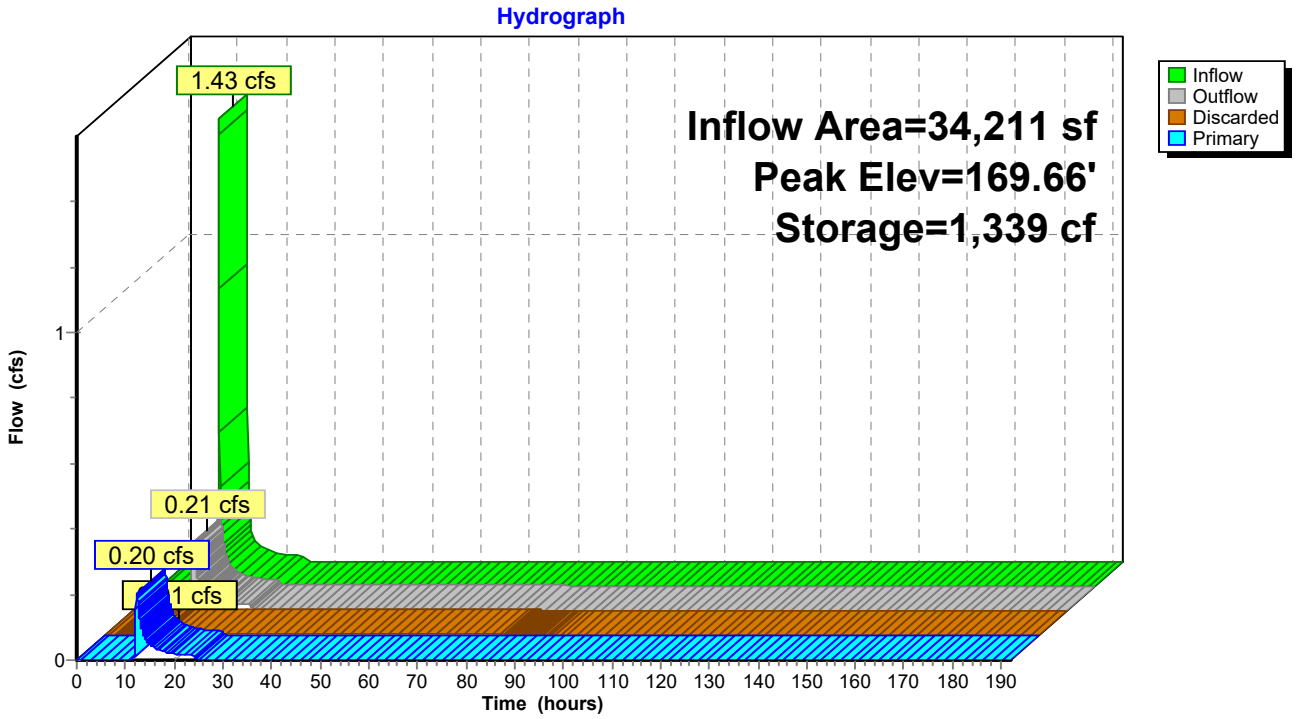
Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin



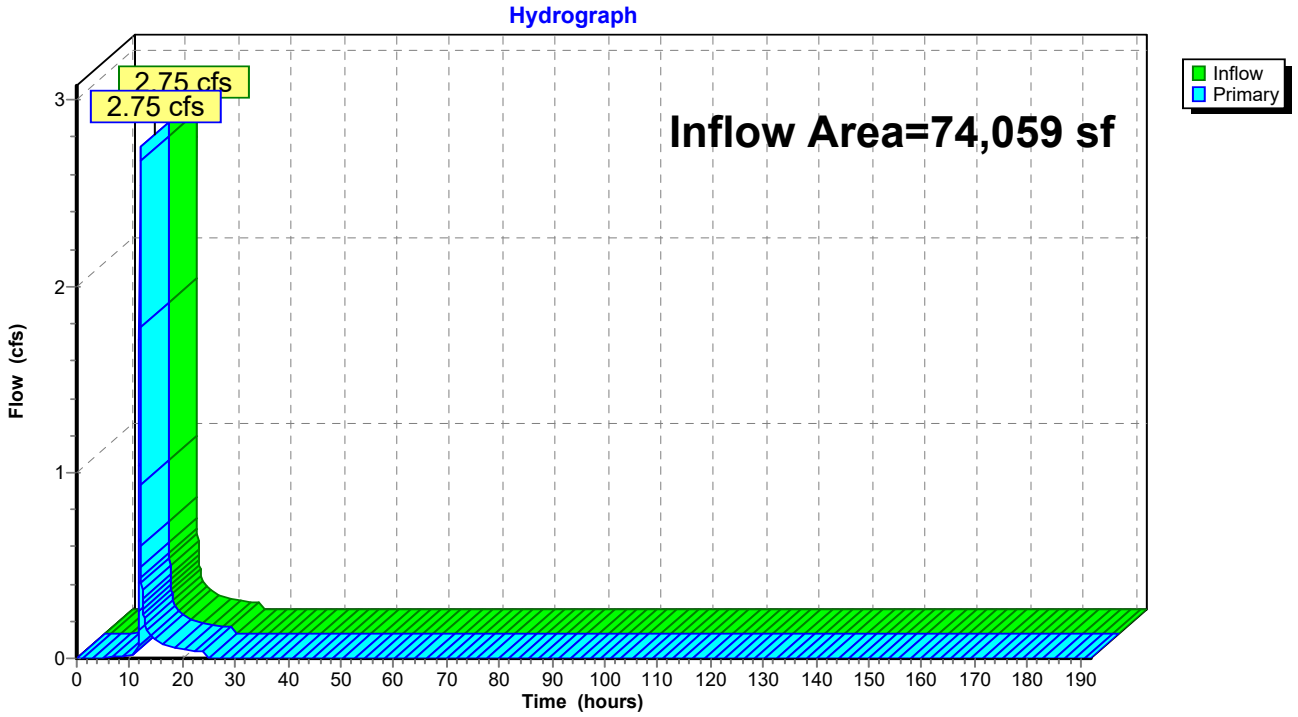
Pond 17P: MRC BASIN



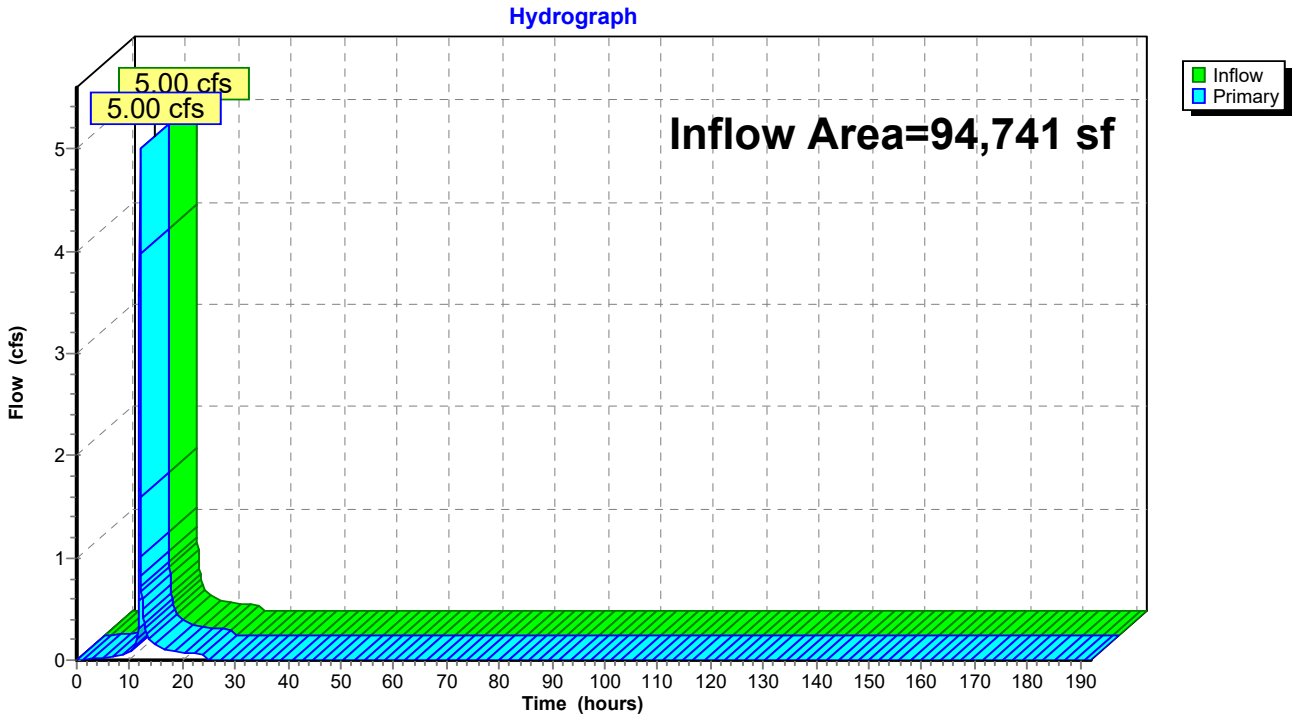
Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



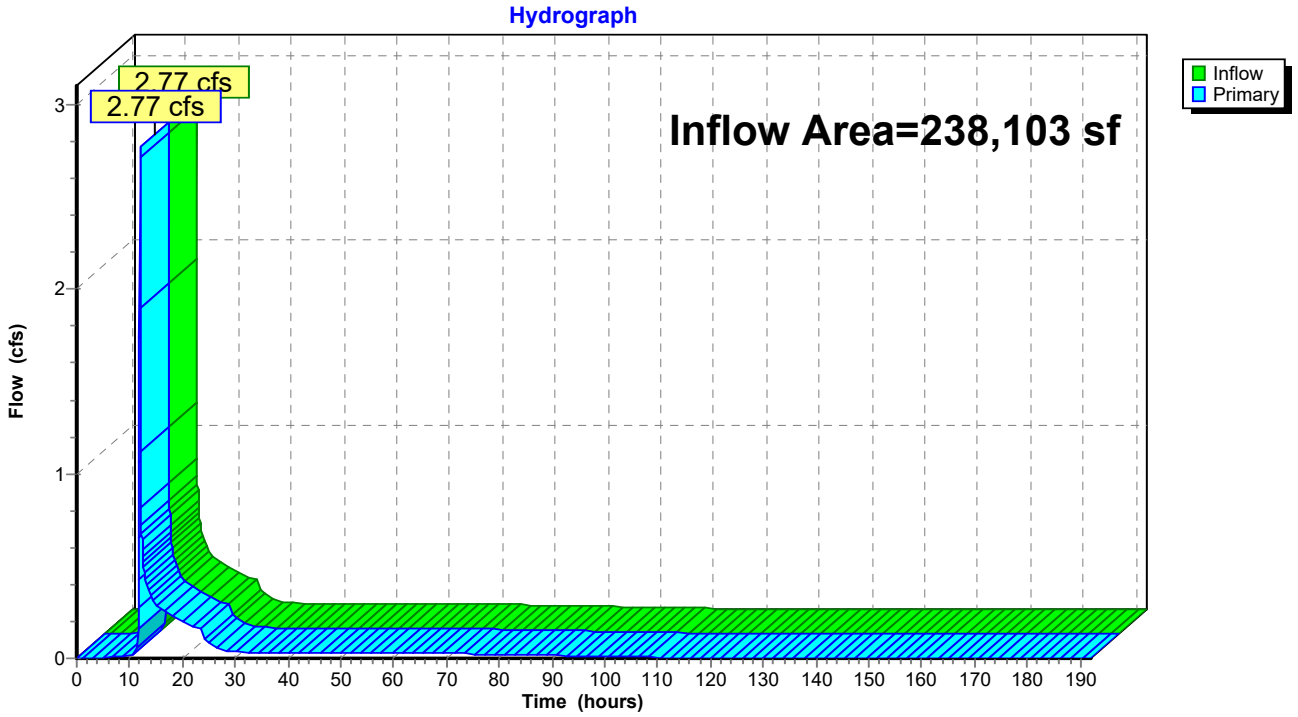
Link 17L: On-Site Bypass Total to POD-001



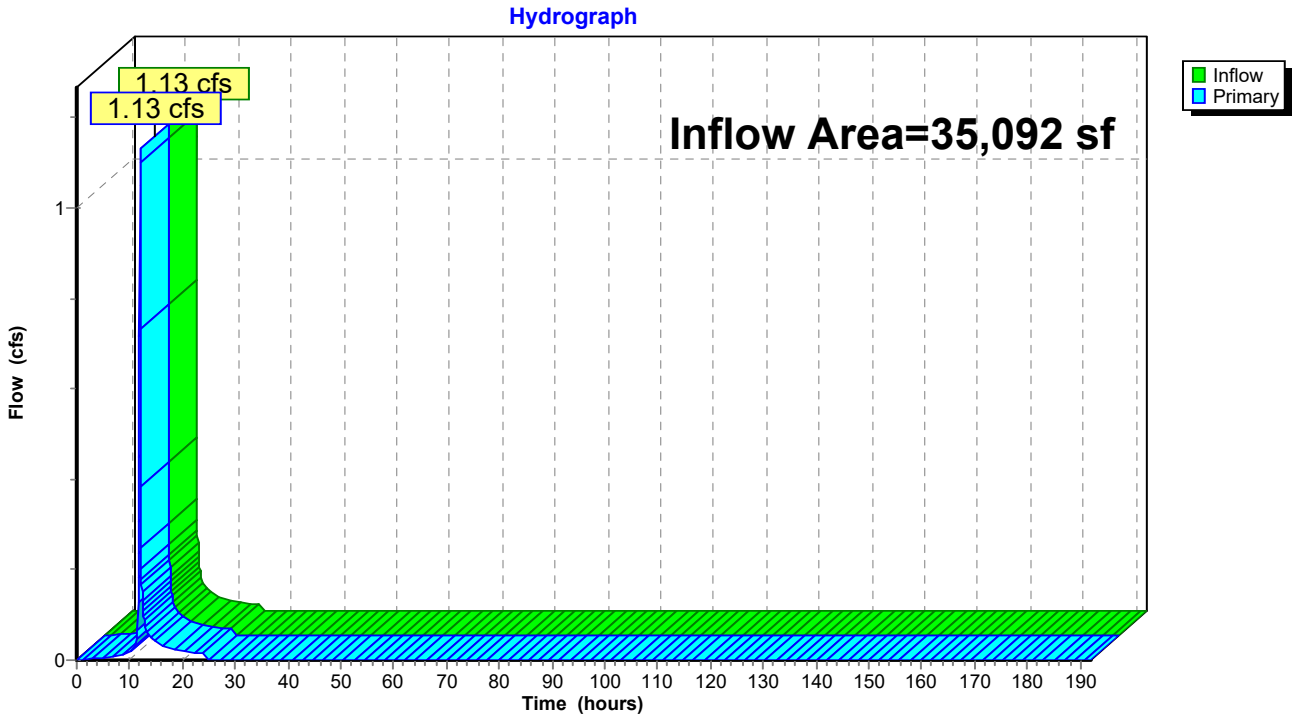
Link 20L: On-Site Total to MRC Basin



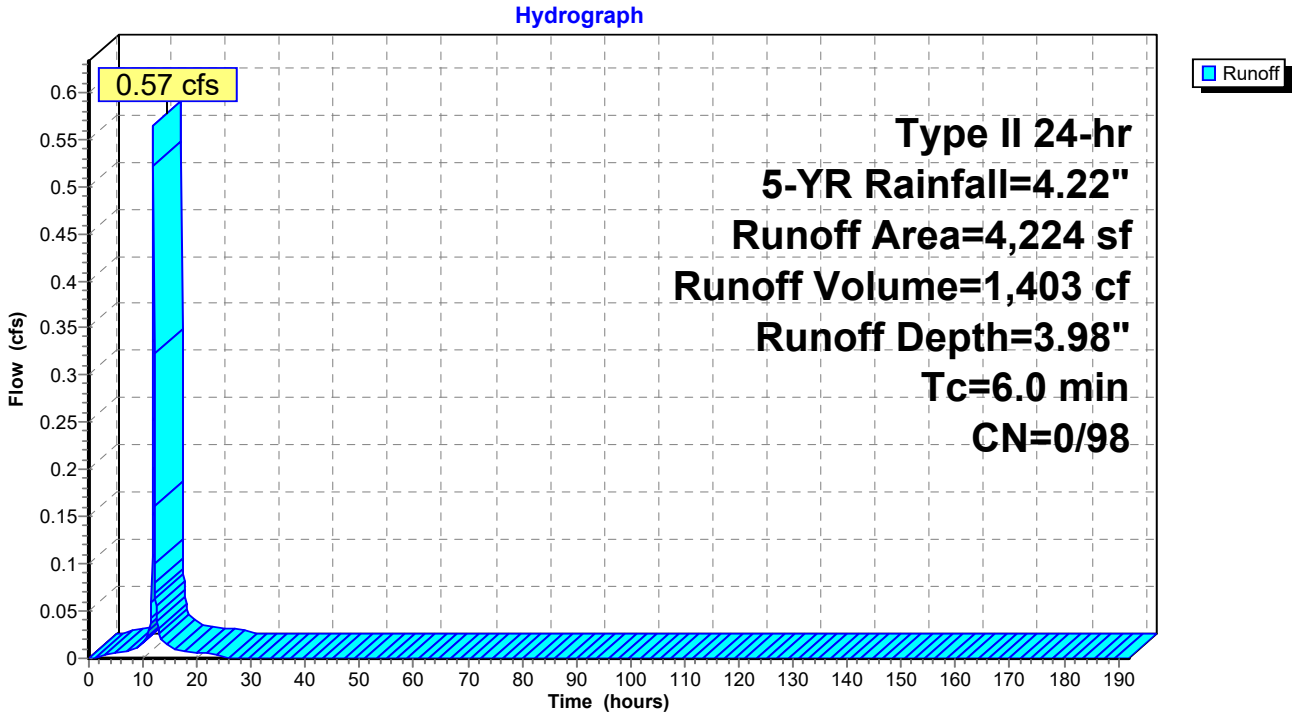
Link 21L: Total to POD-001



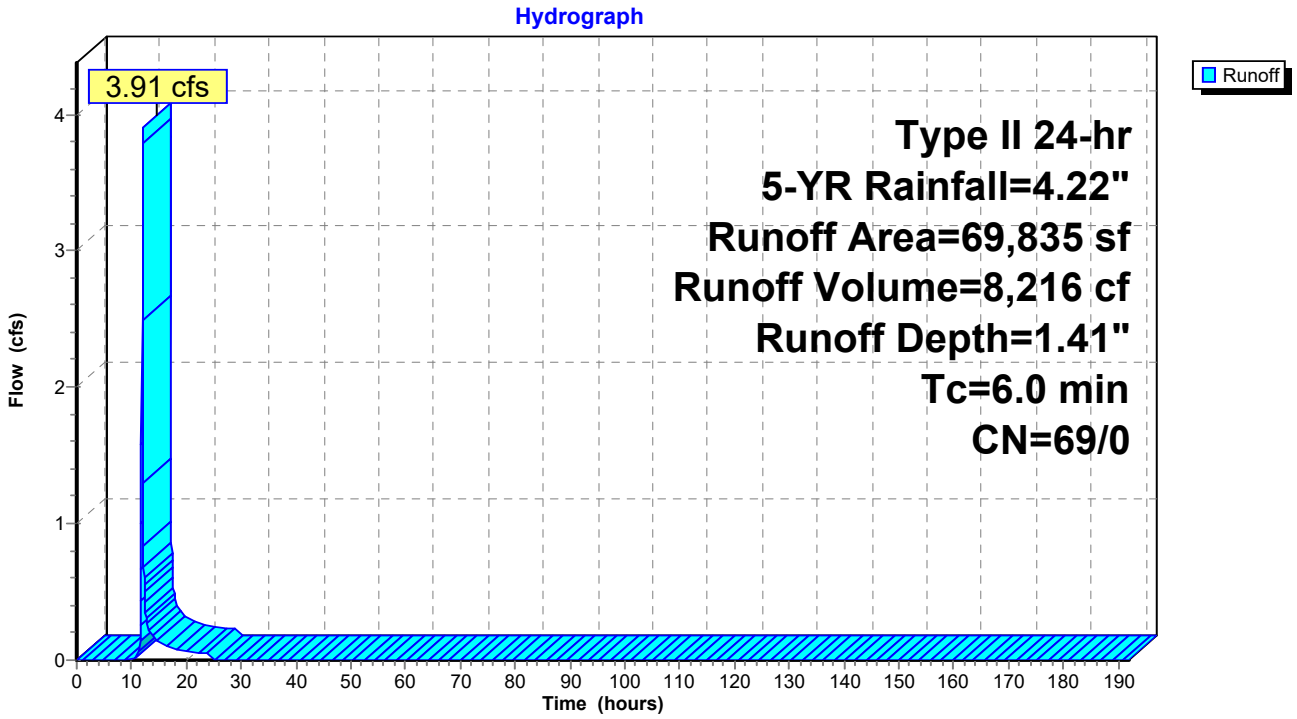
Link 36L: Off-Site Total to MRC Basin



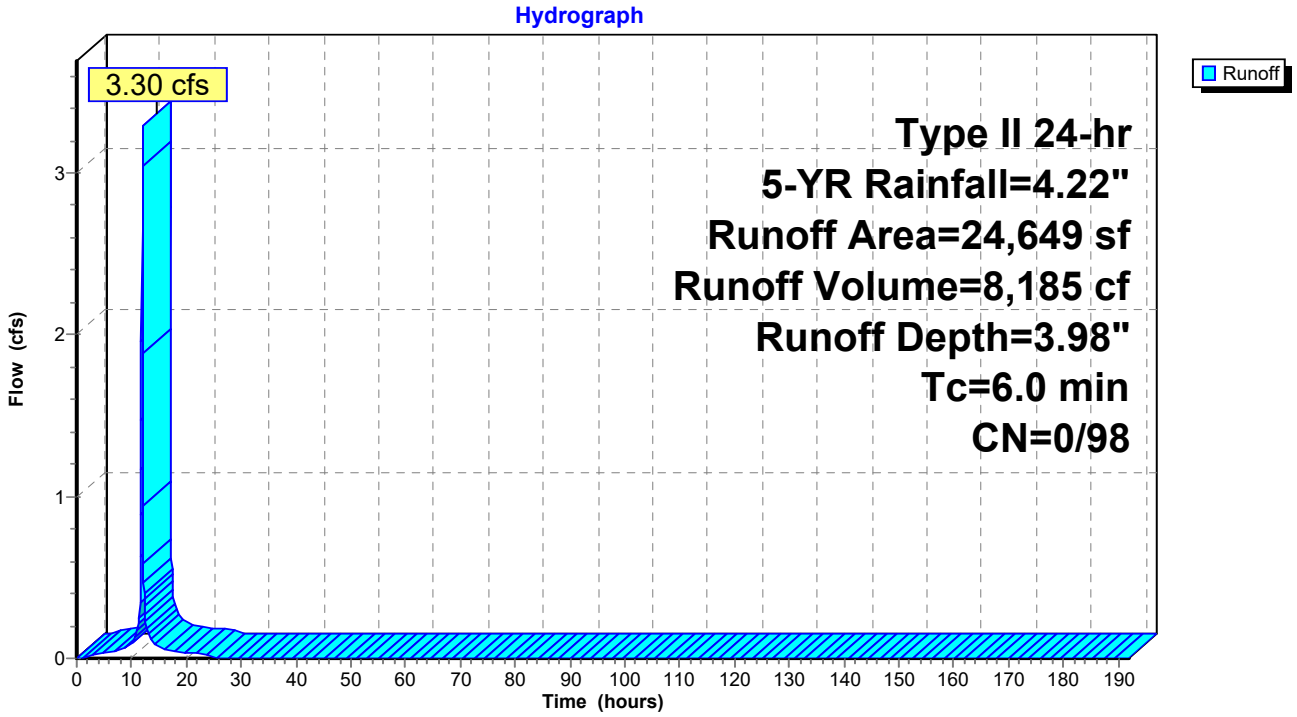
Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001



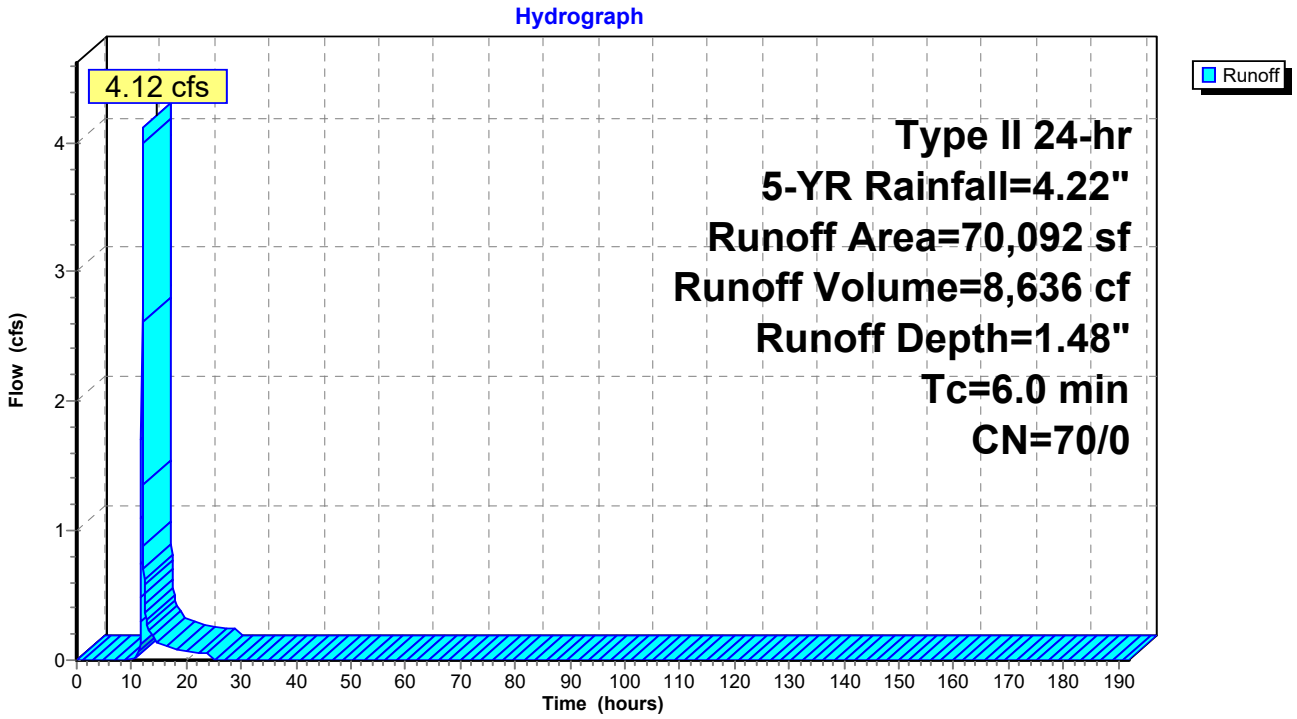
Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001



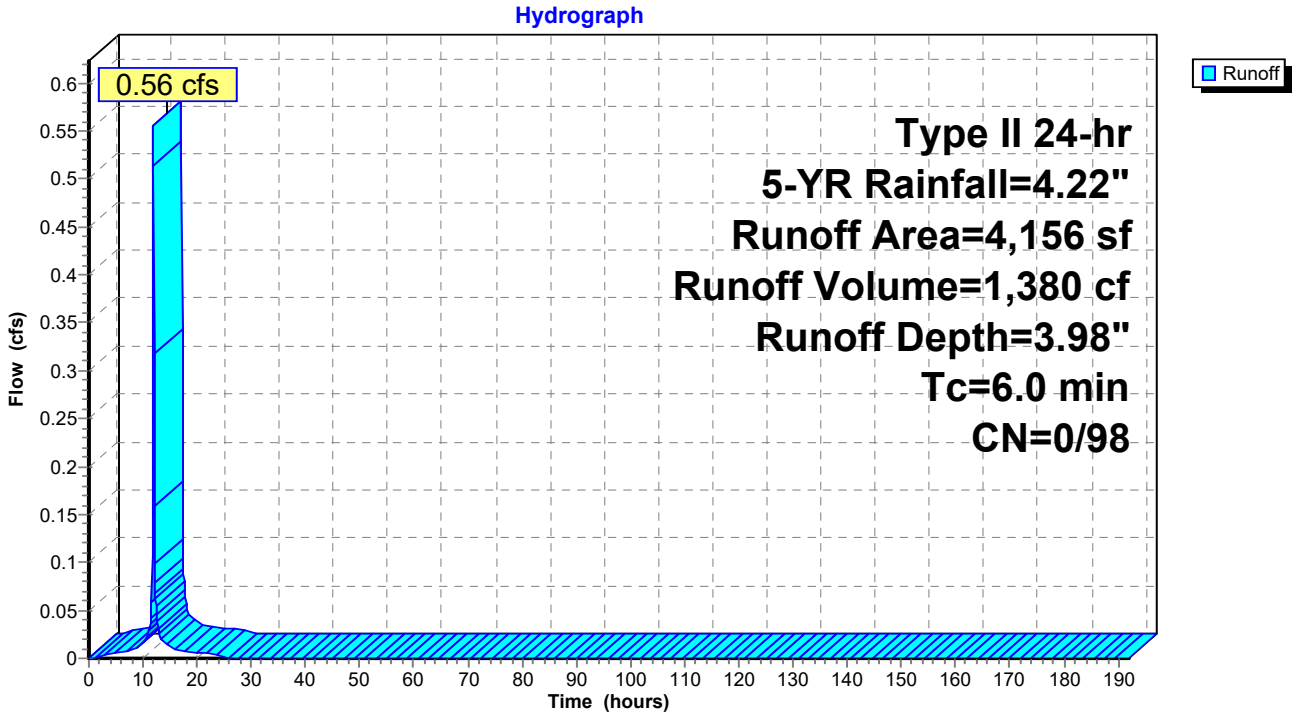
Subcatchment 18S: Prop. On-Site Imp to MRC Basin



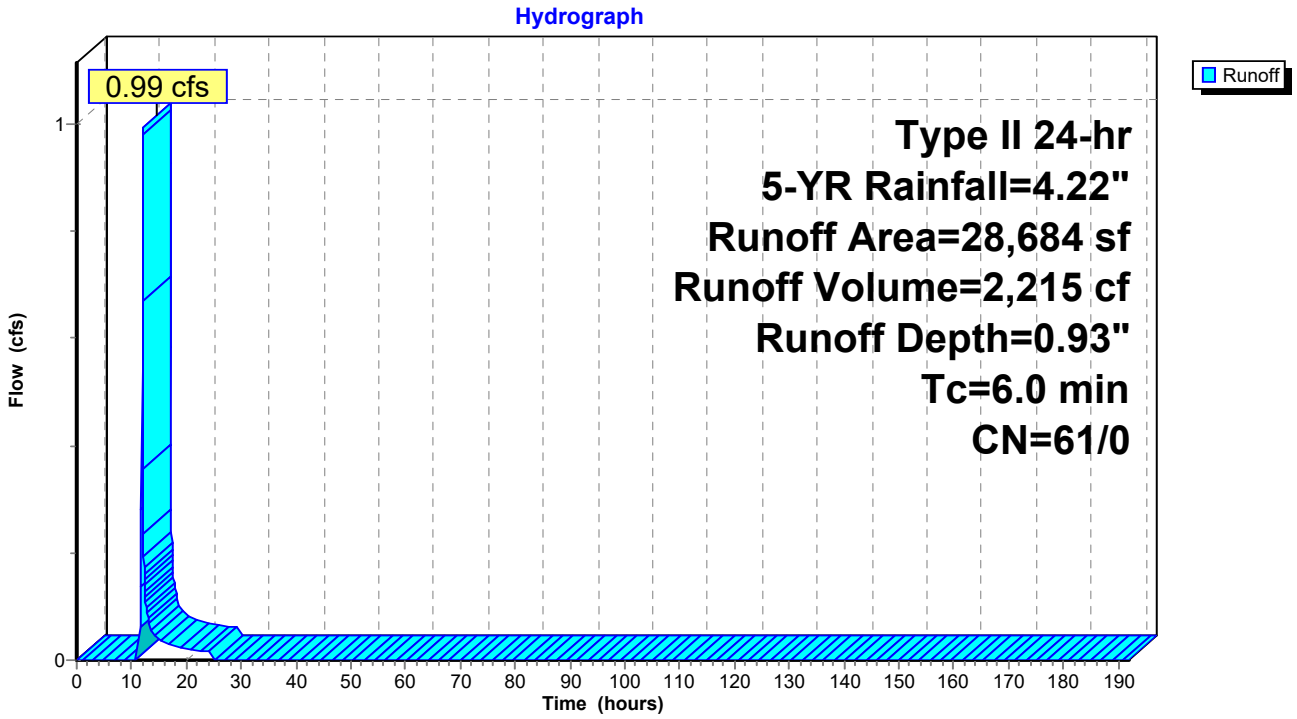
Subcatchment 19S: Prop. On-Site Perv to MRC Basin



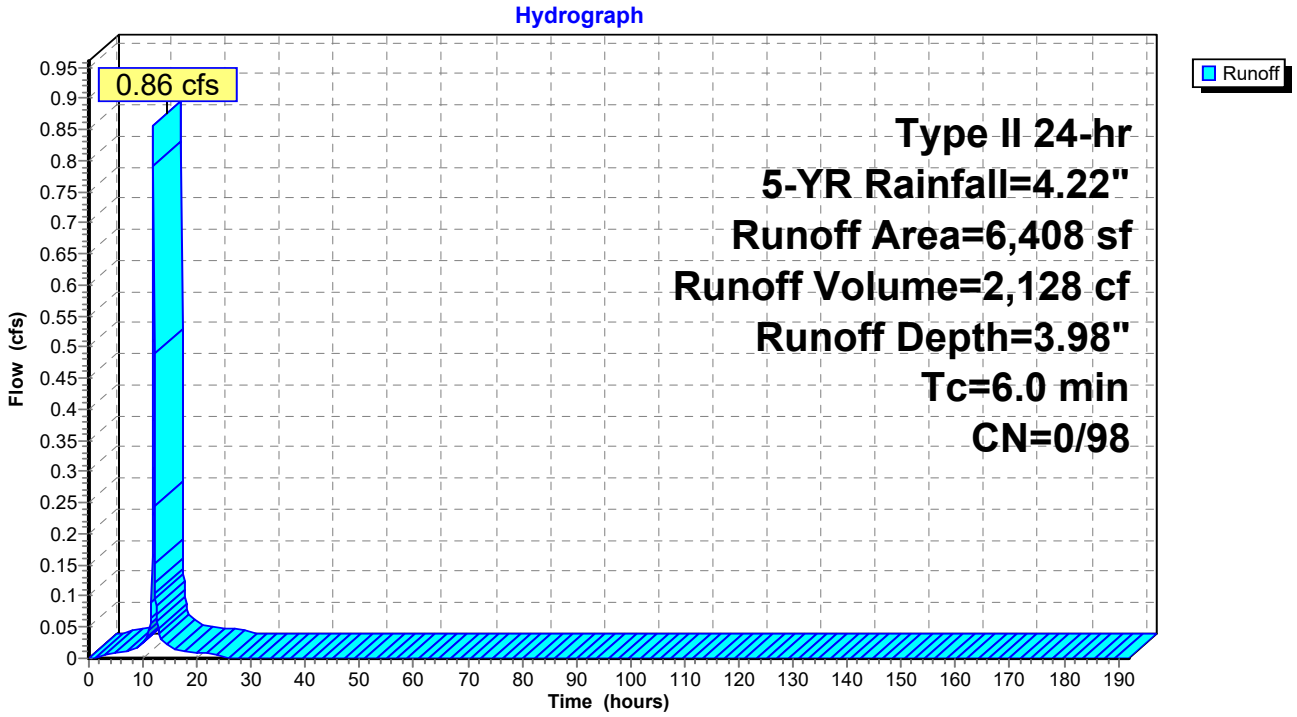
Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin



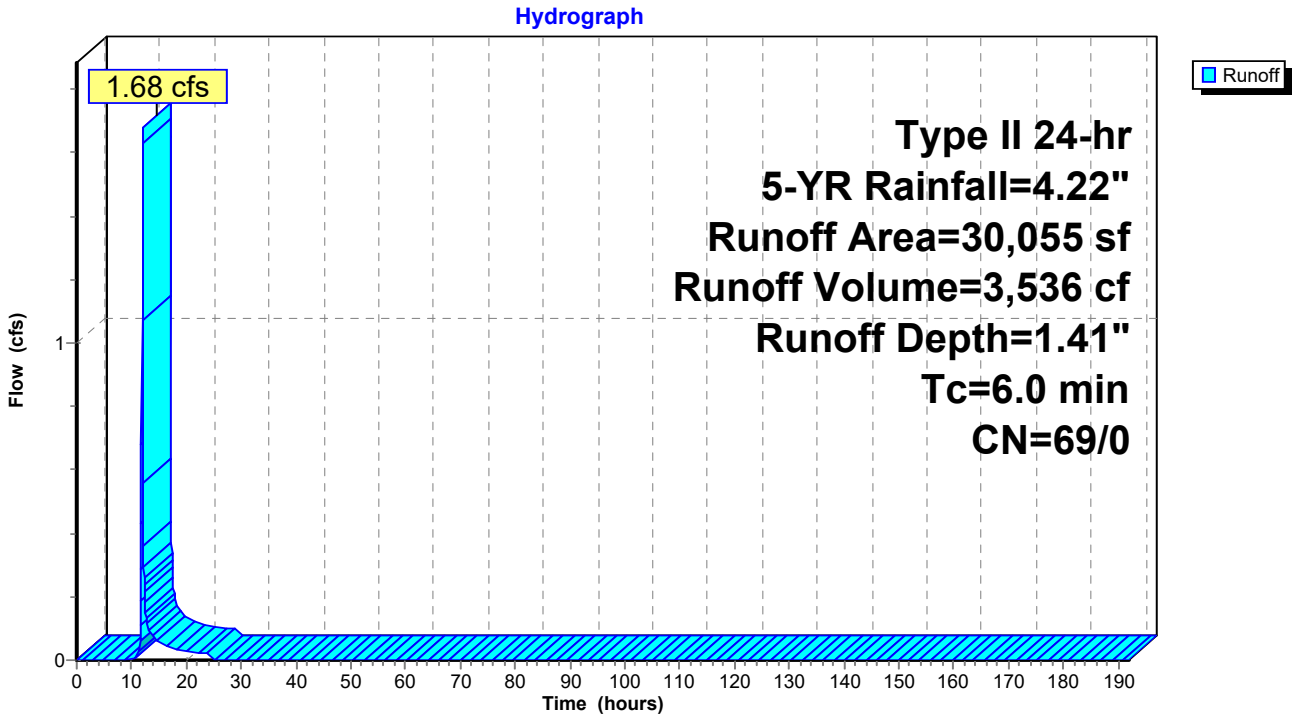
Subcatchment 21S: Prop. Off-Site Perv to MRC Basin



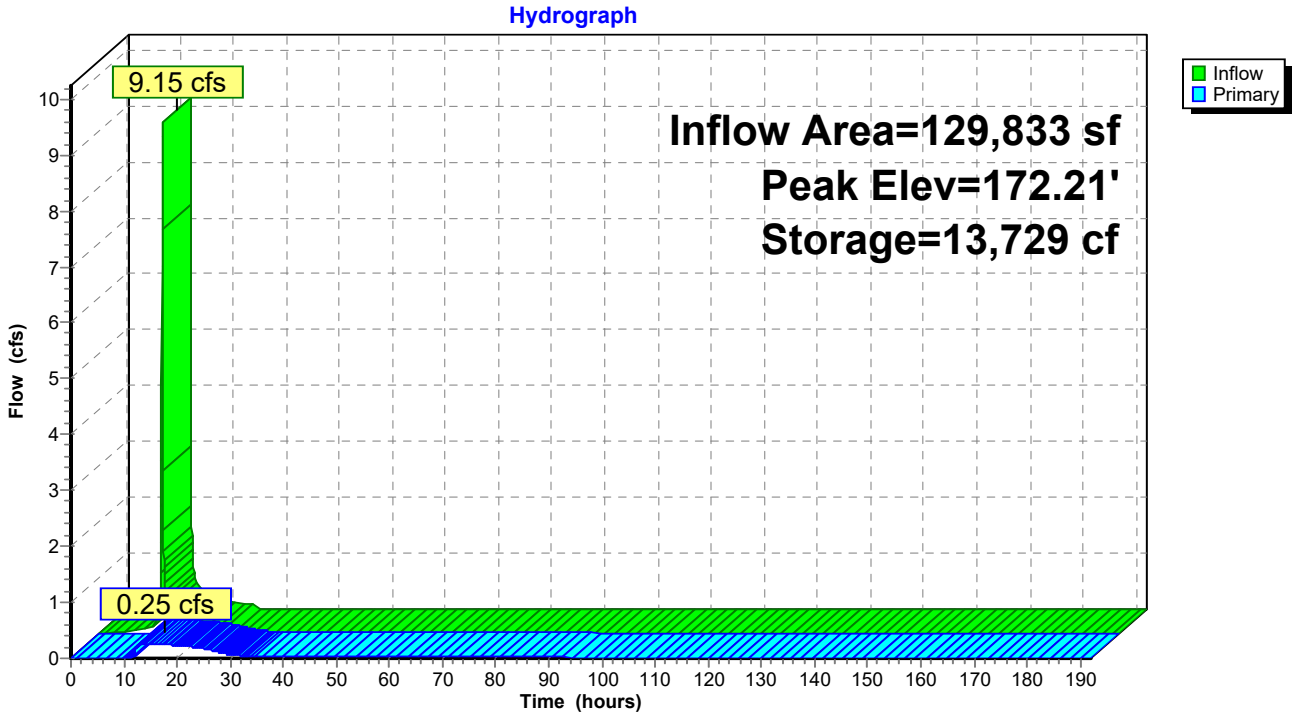
Subcatchment 22S: Prop. Off-Site Imp to MRC Basin



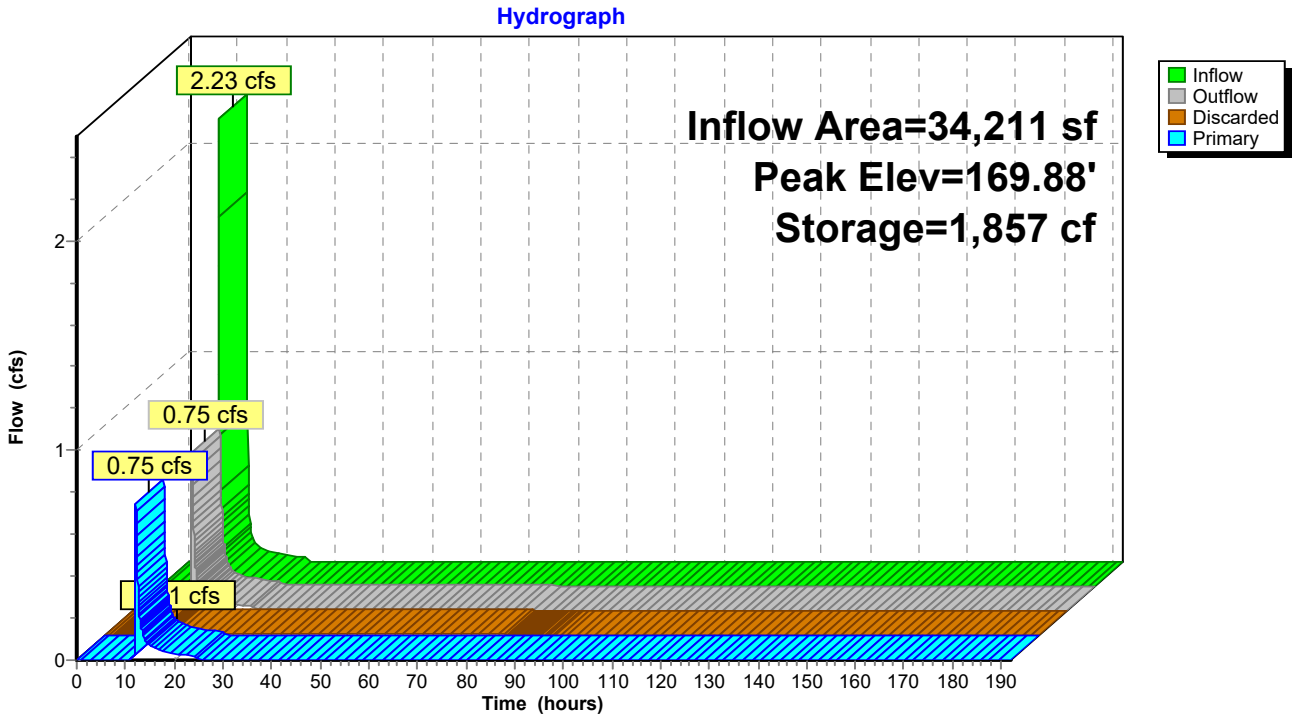
Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin



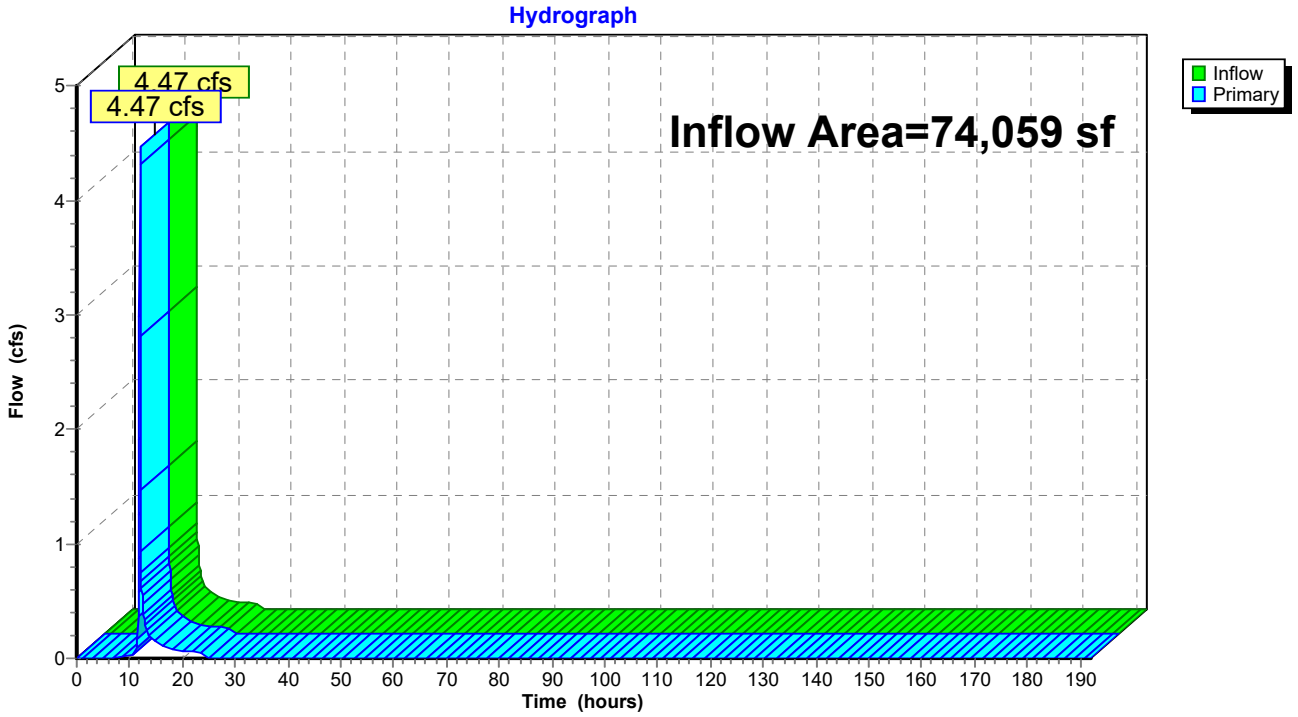
Pond 17P: MRC BASIN



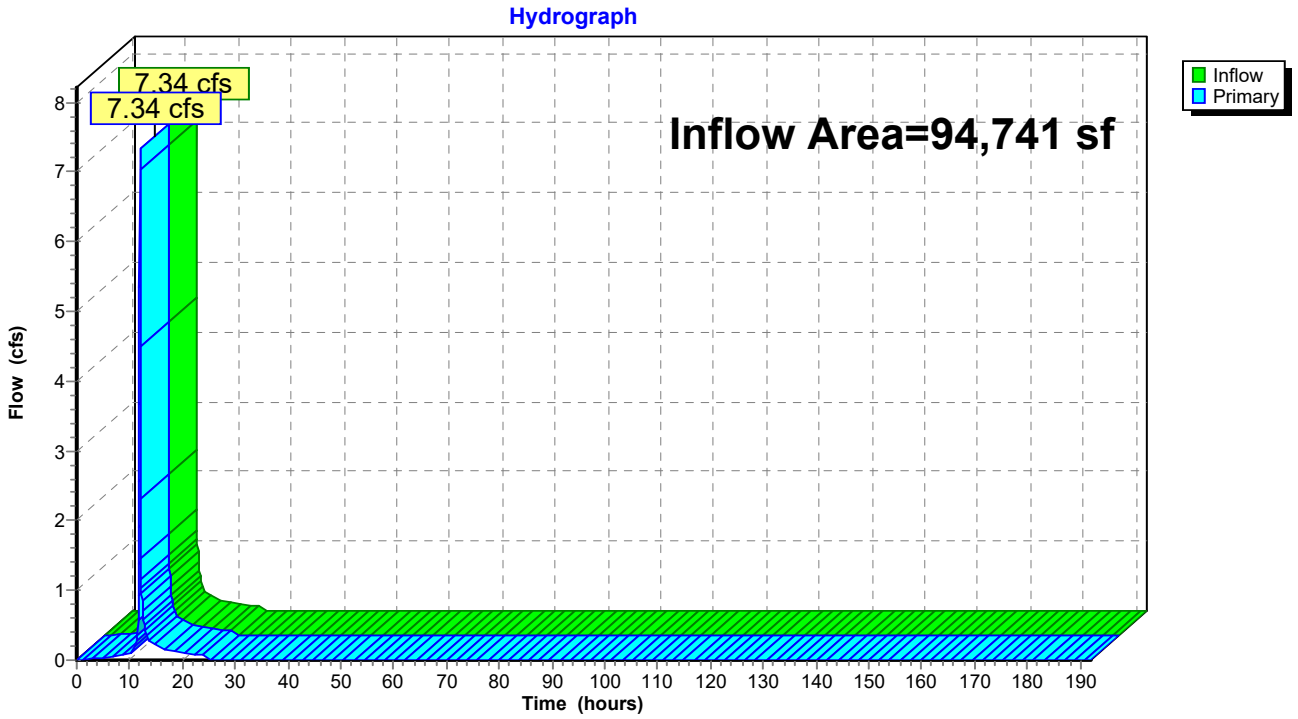
Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



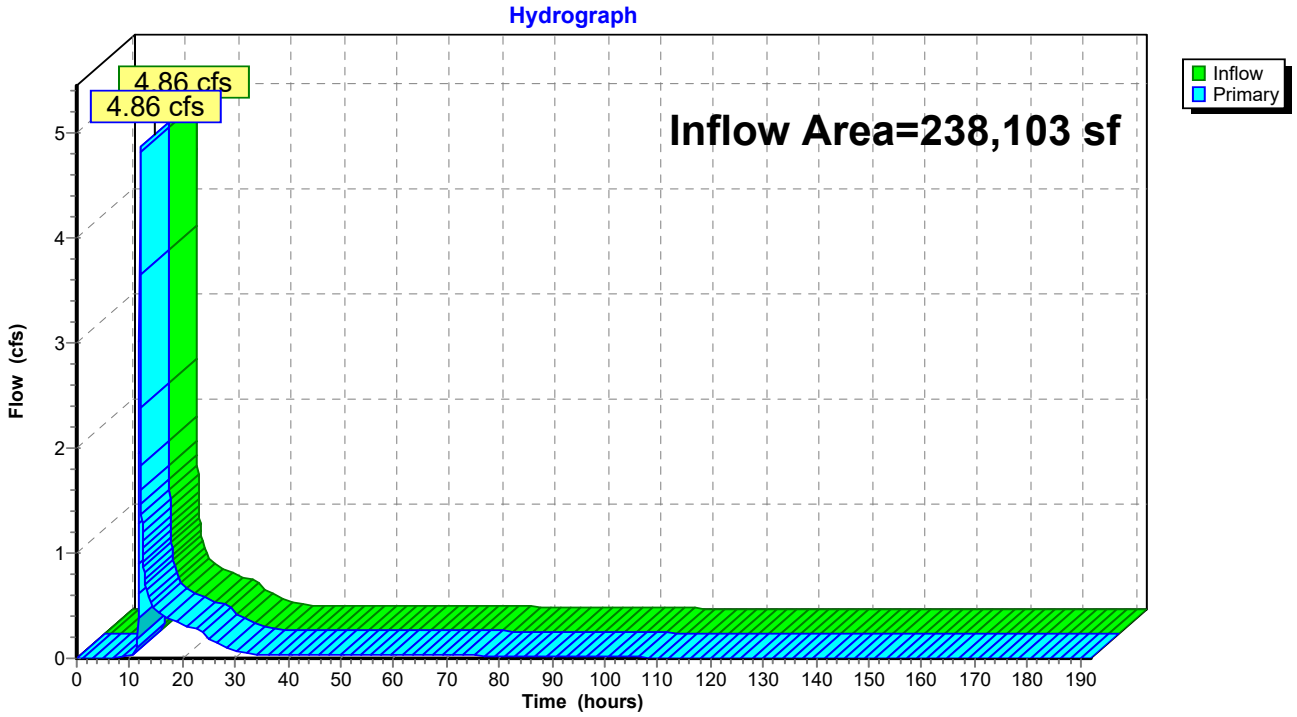
Link 17L: On-Site Bypass Total to POD-001



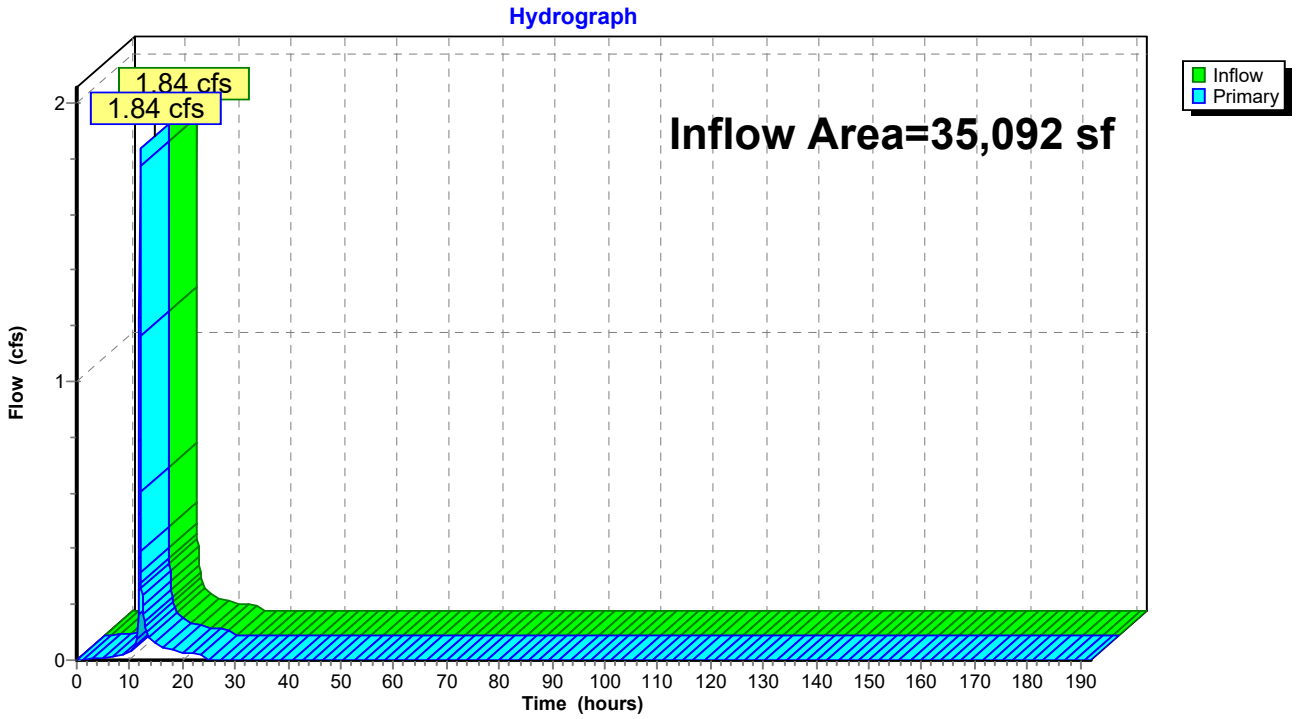
Link 20L: On-On-Site Total to MRC Basin



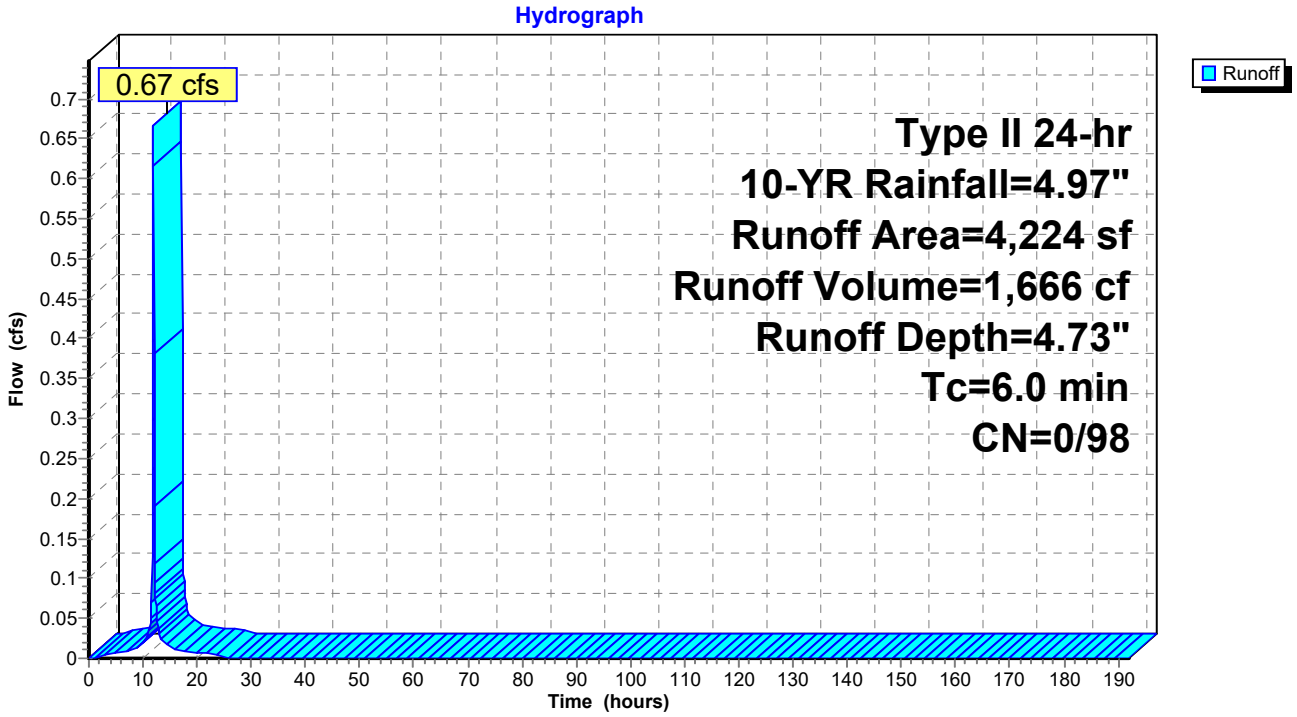
Link 21L: Total to POD-001



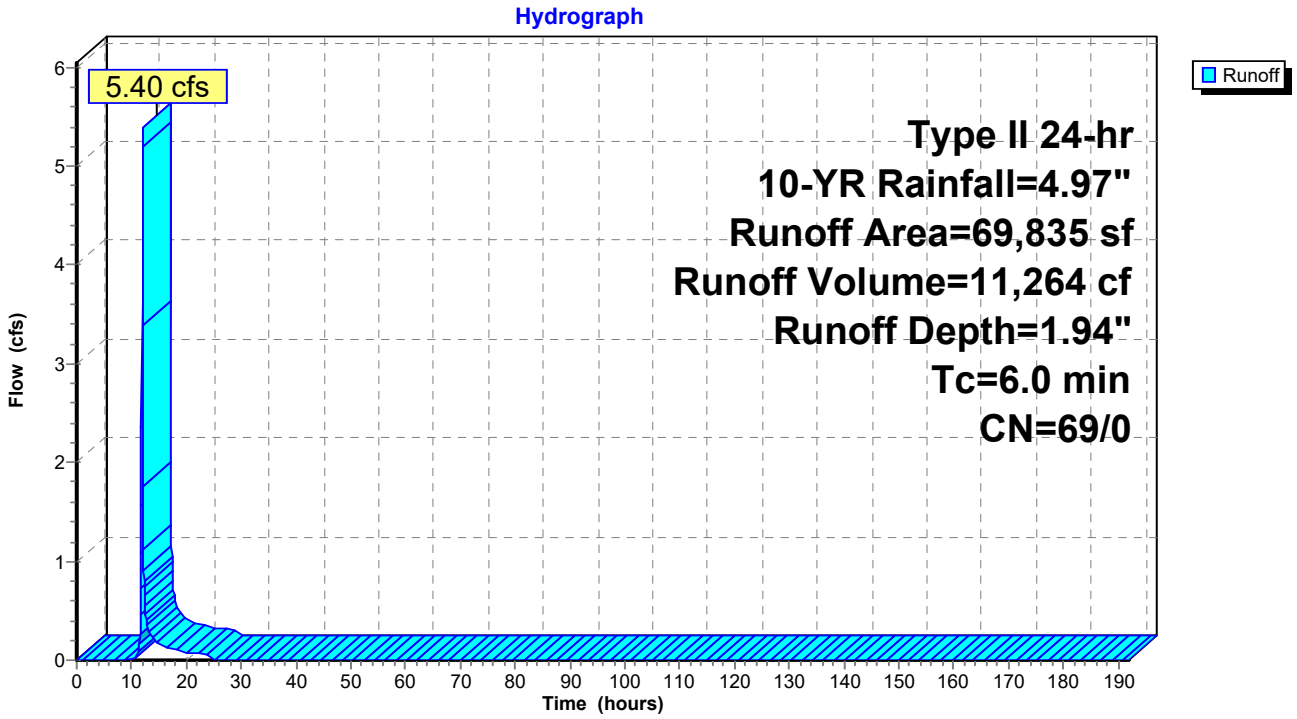
Link 36L: Off-Site Total to MRC Basin



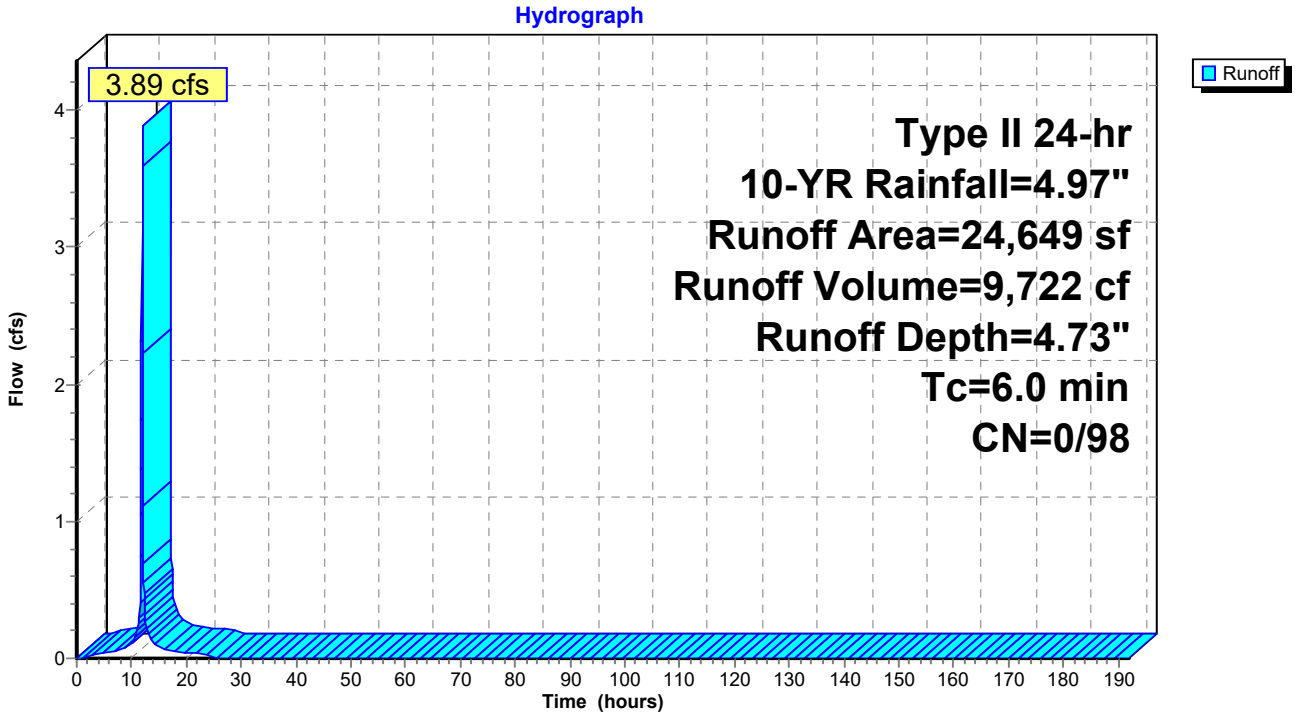
Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001



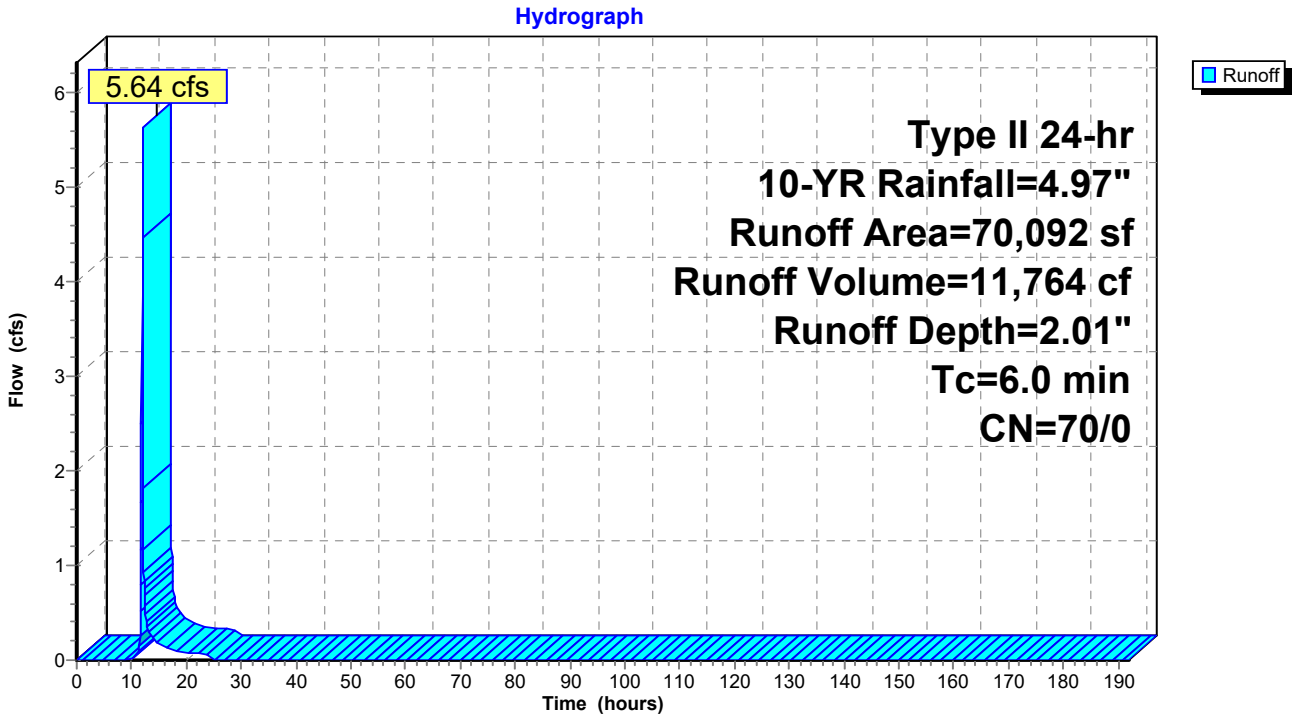
Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001



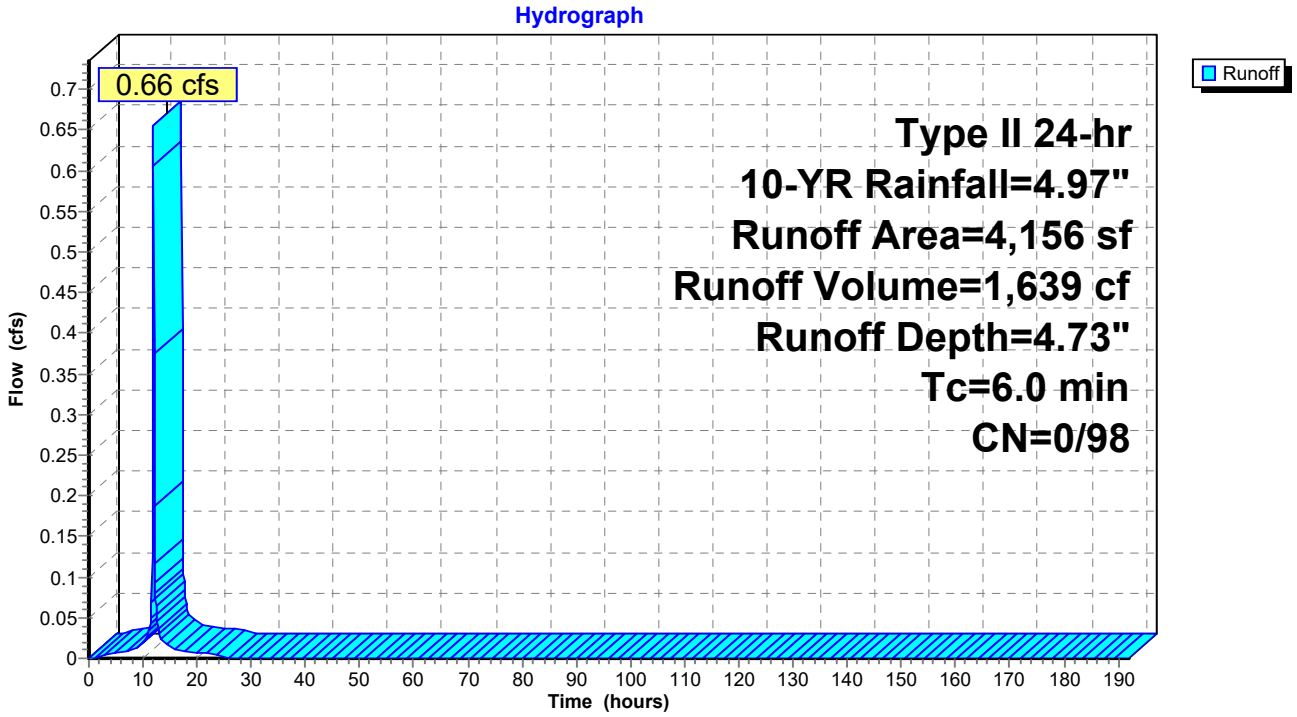
Subcatchment 18S: Prop. On-Site Imp to MRC Basin



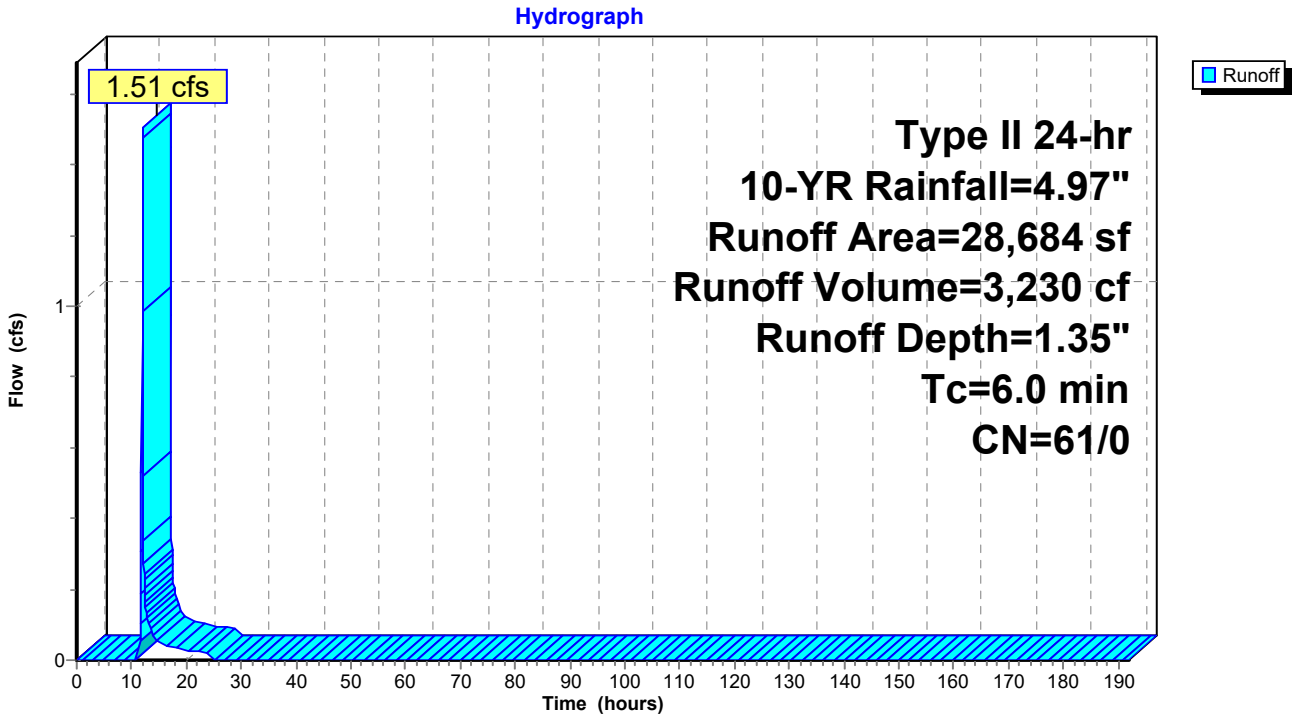
Subcatchment 19S: Prop. On-Site Perv to MRC Basin



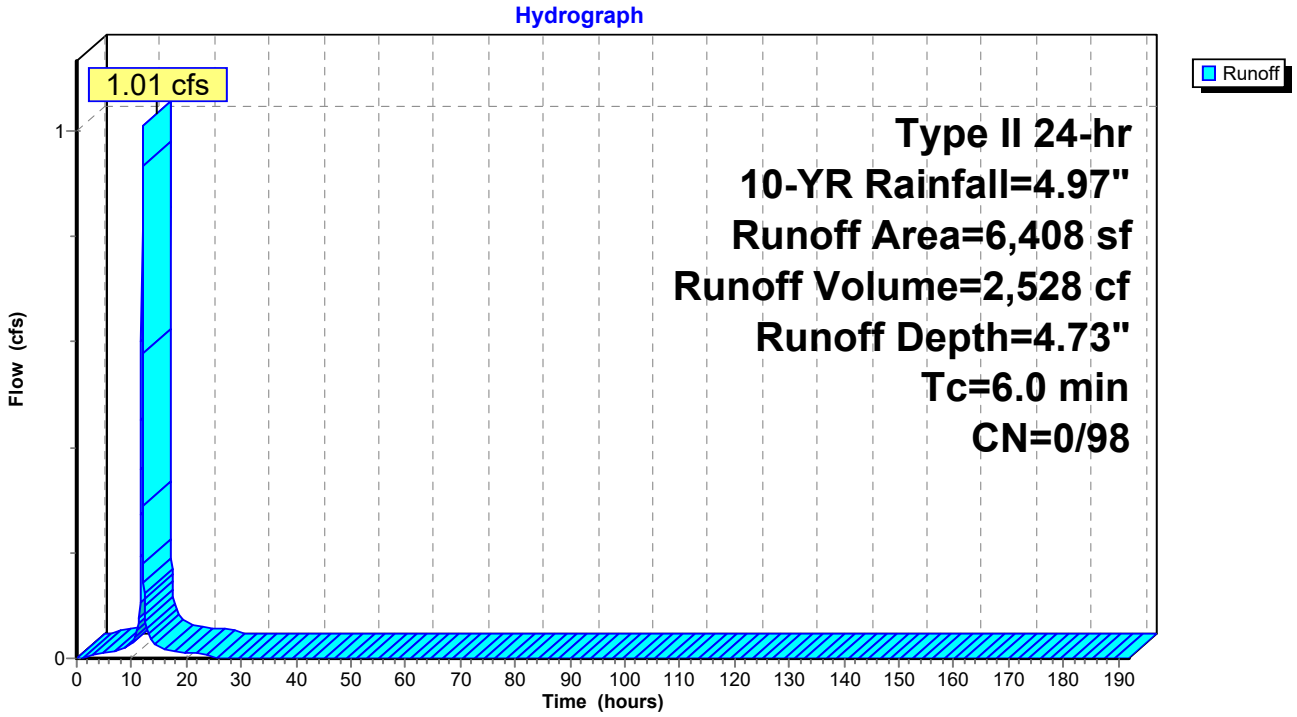
Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin



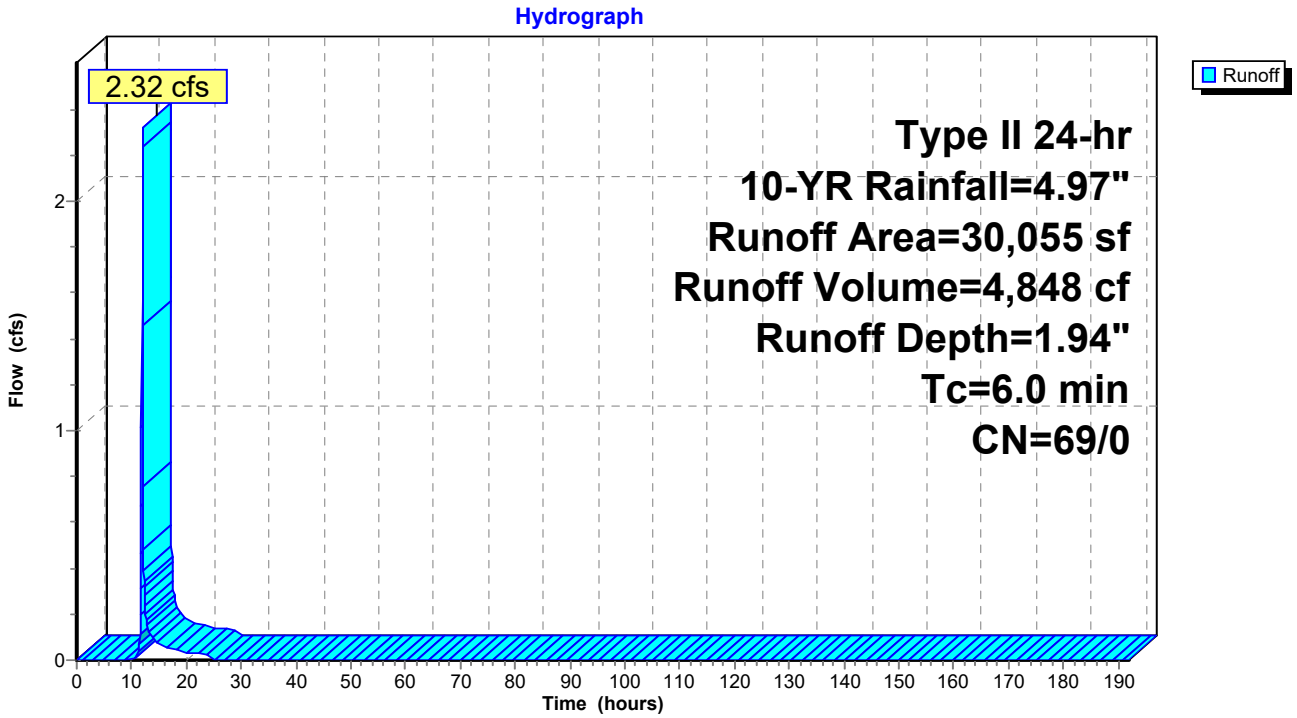
Subcatchment 21S: Prop. Off-Site Perv to MRC Basin



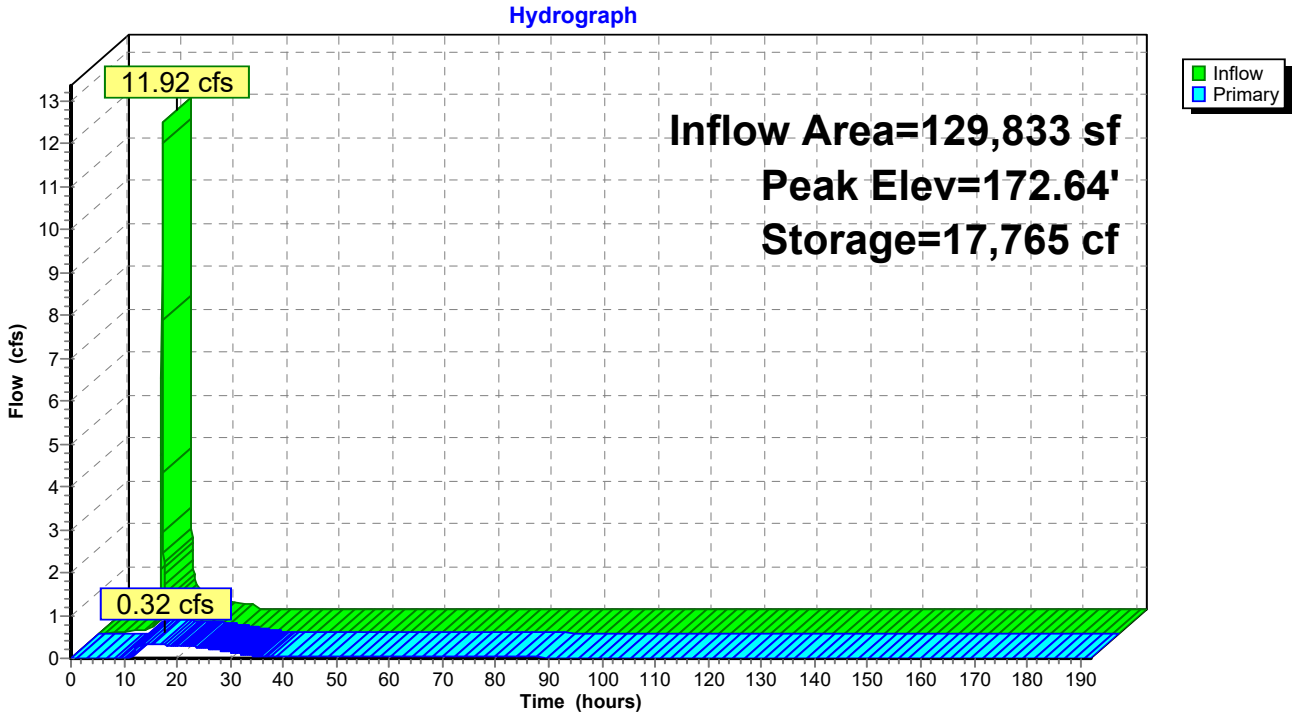
Subcatchment 22S: Prop. Off-Site Imp to MRC Basin



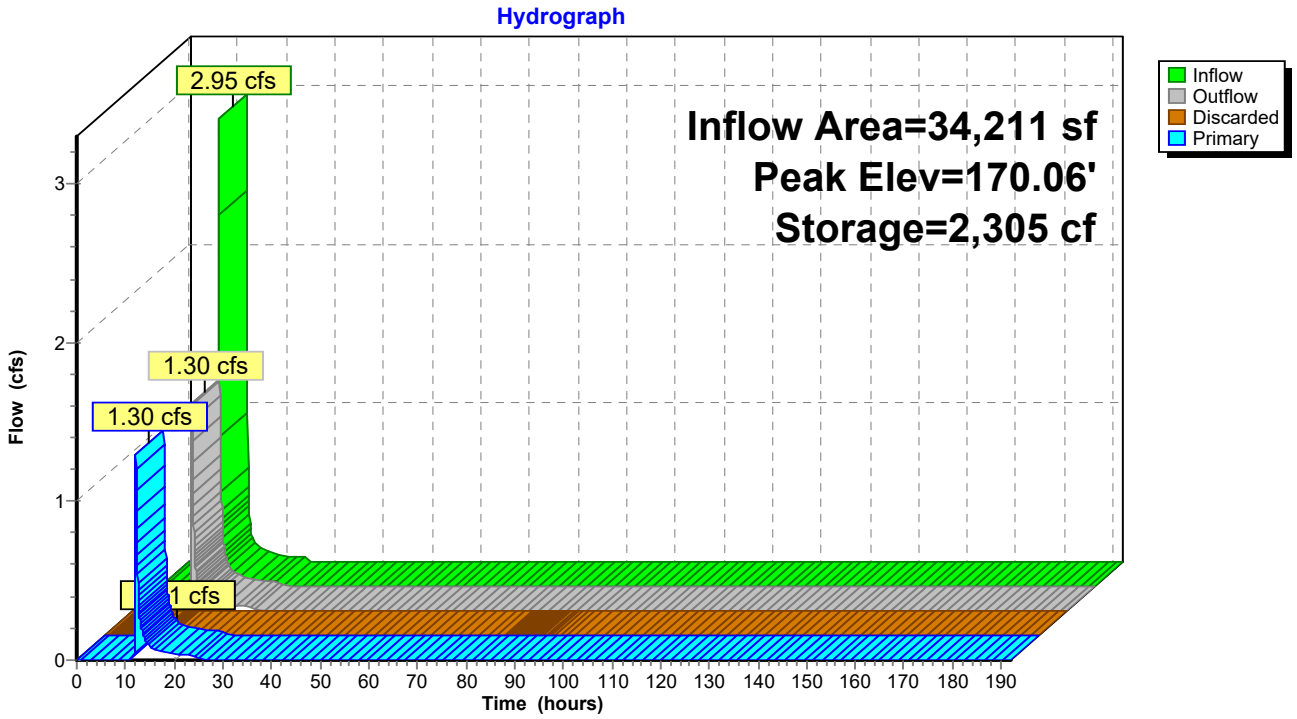
Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin



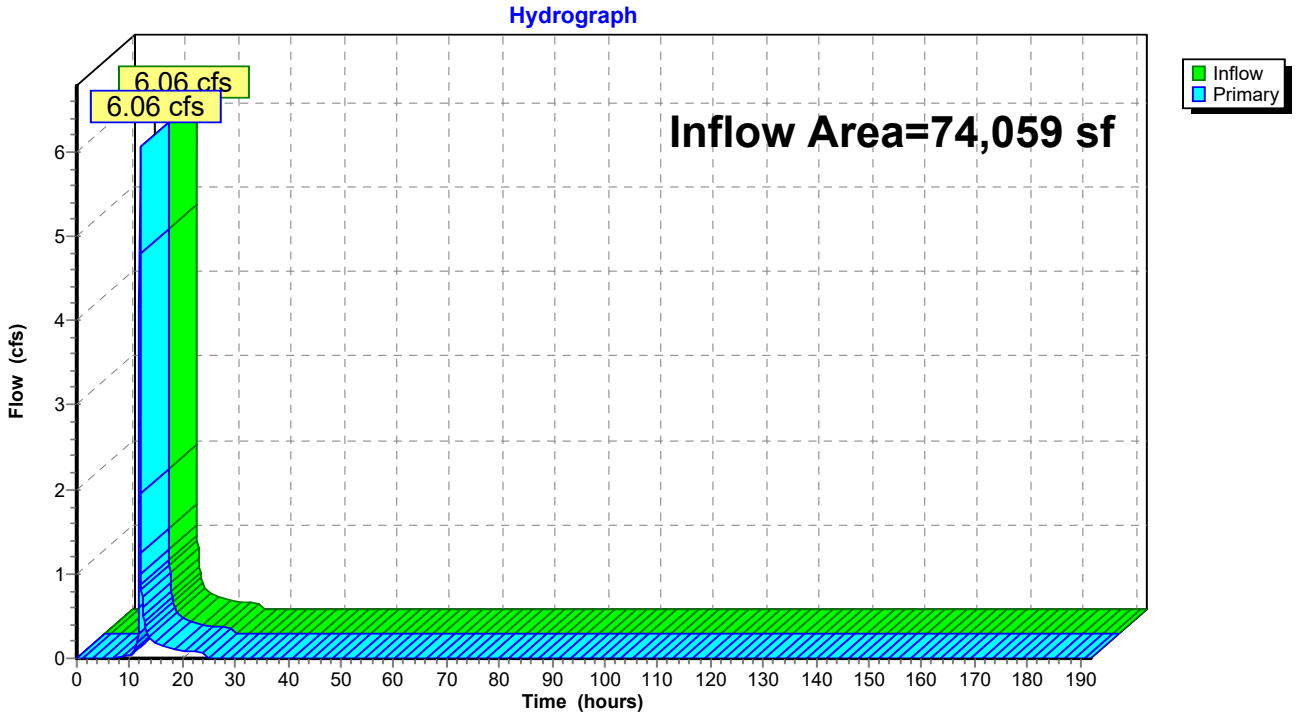
Pond 17P: MRC BASIN



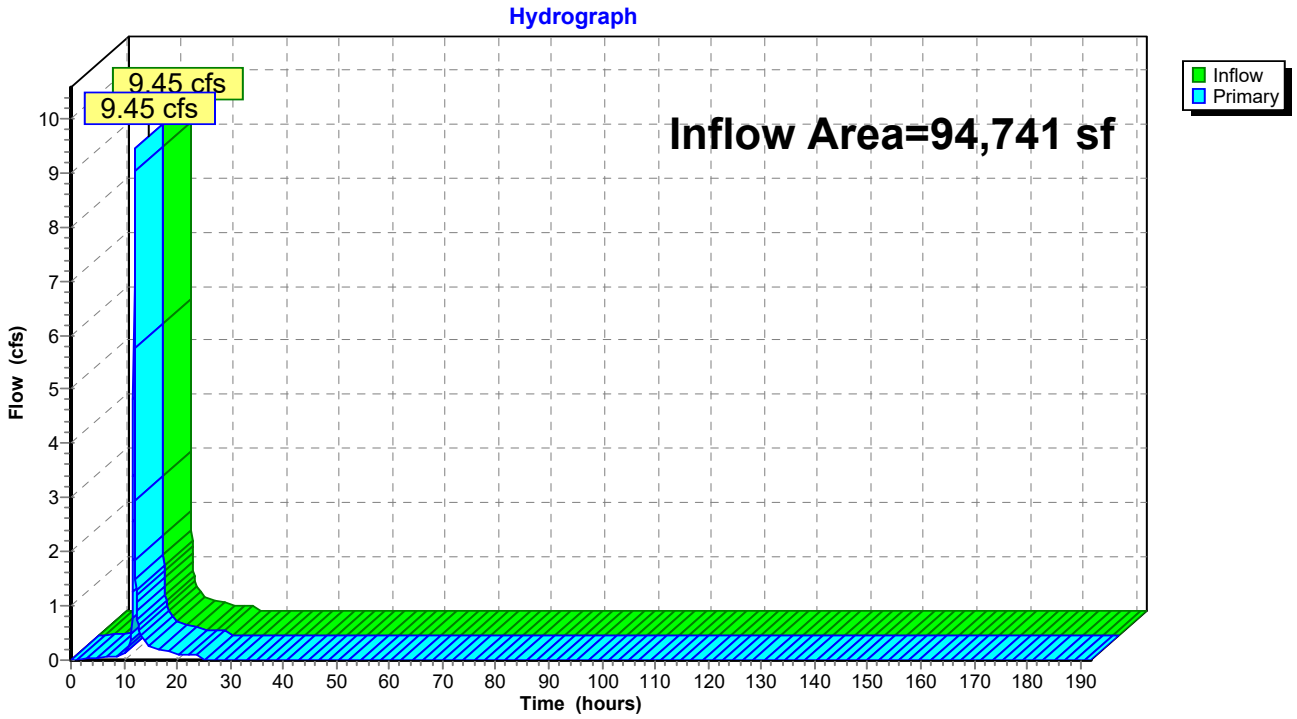
Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



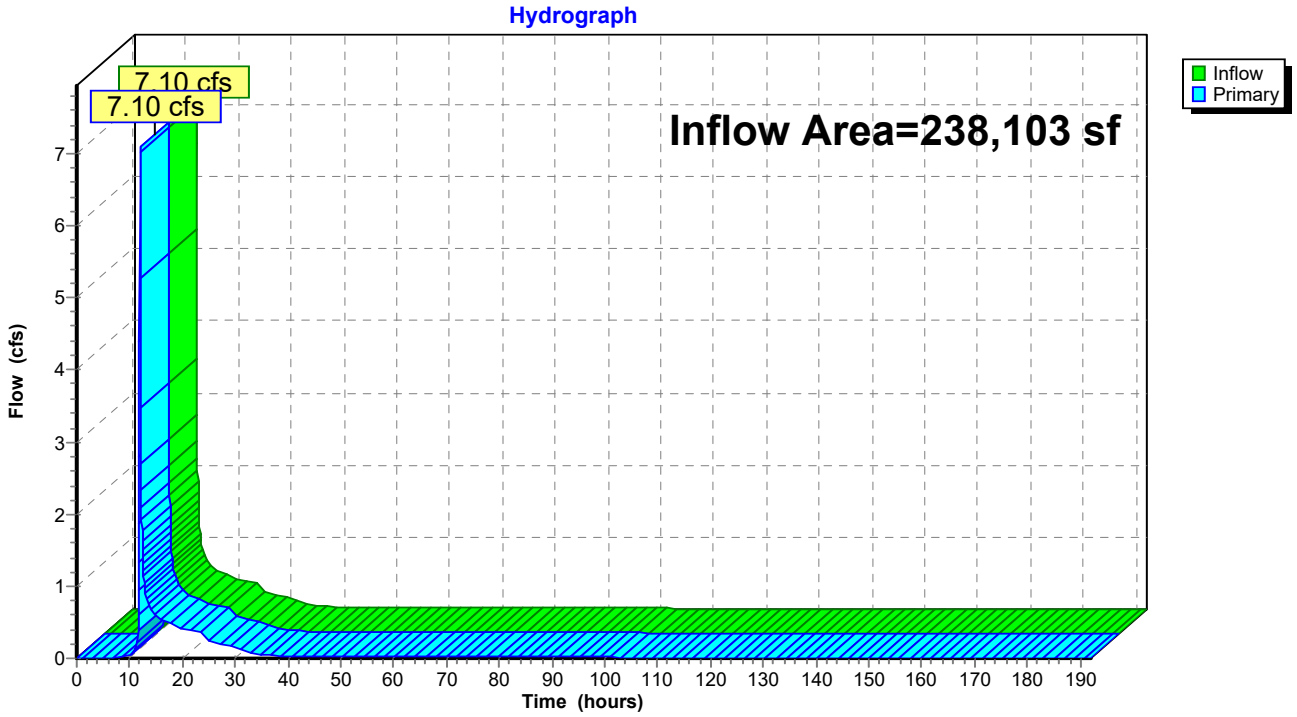
Link 17L: On-Site Bypass Total to POD-001



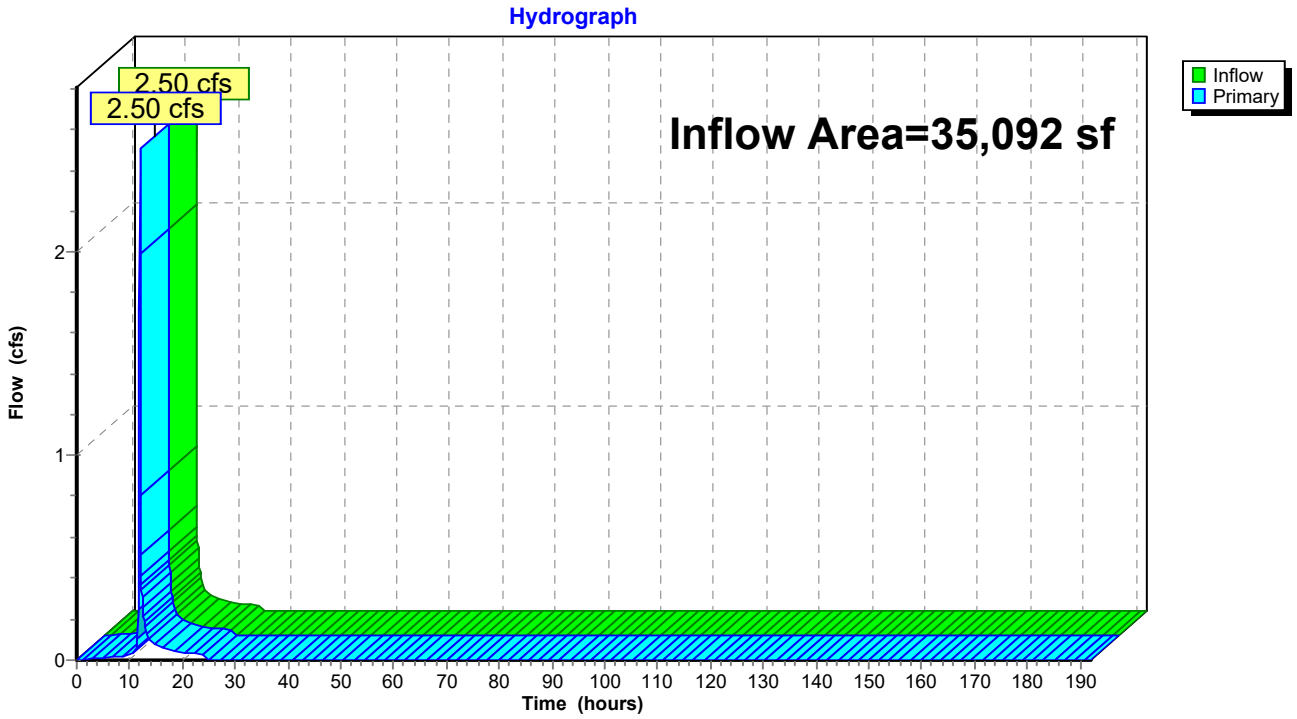
Link 20L: On-On-Site Total to MRC Basin



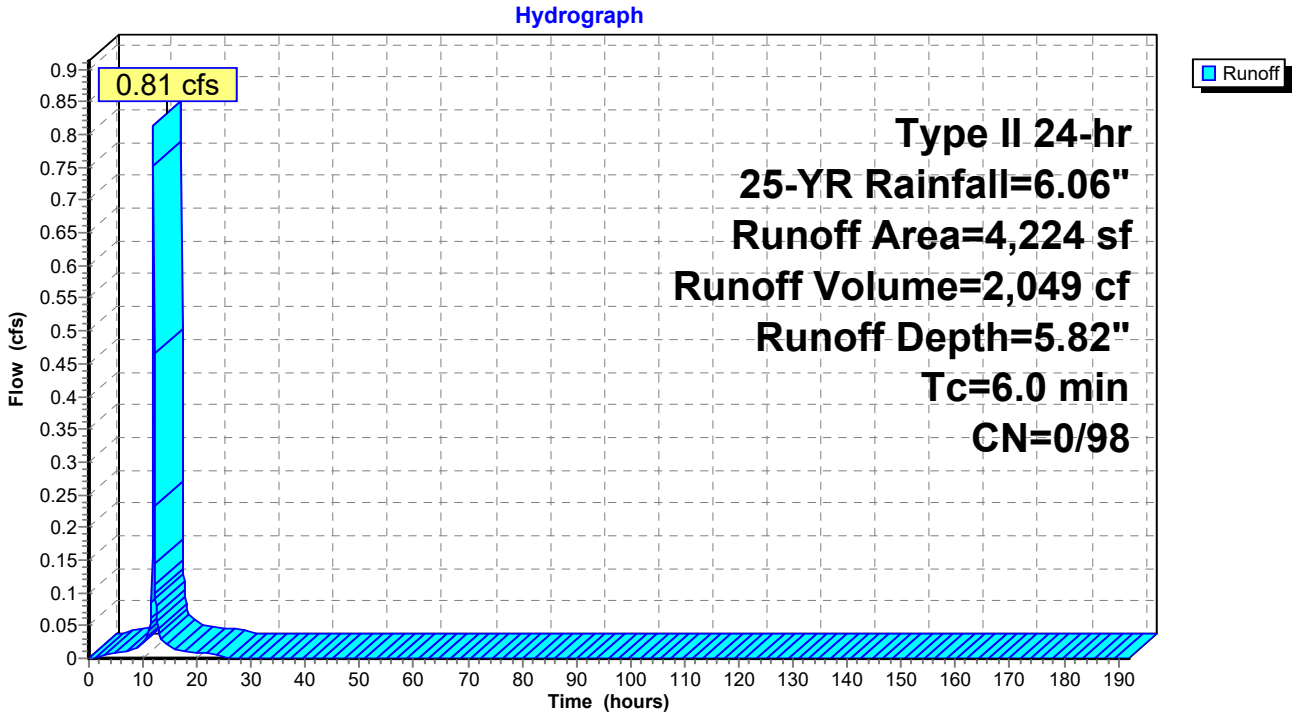
Link 21L: Total to POD-001



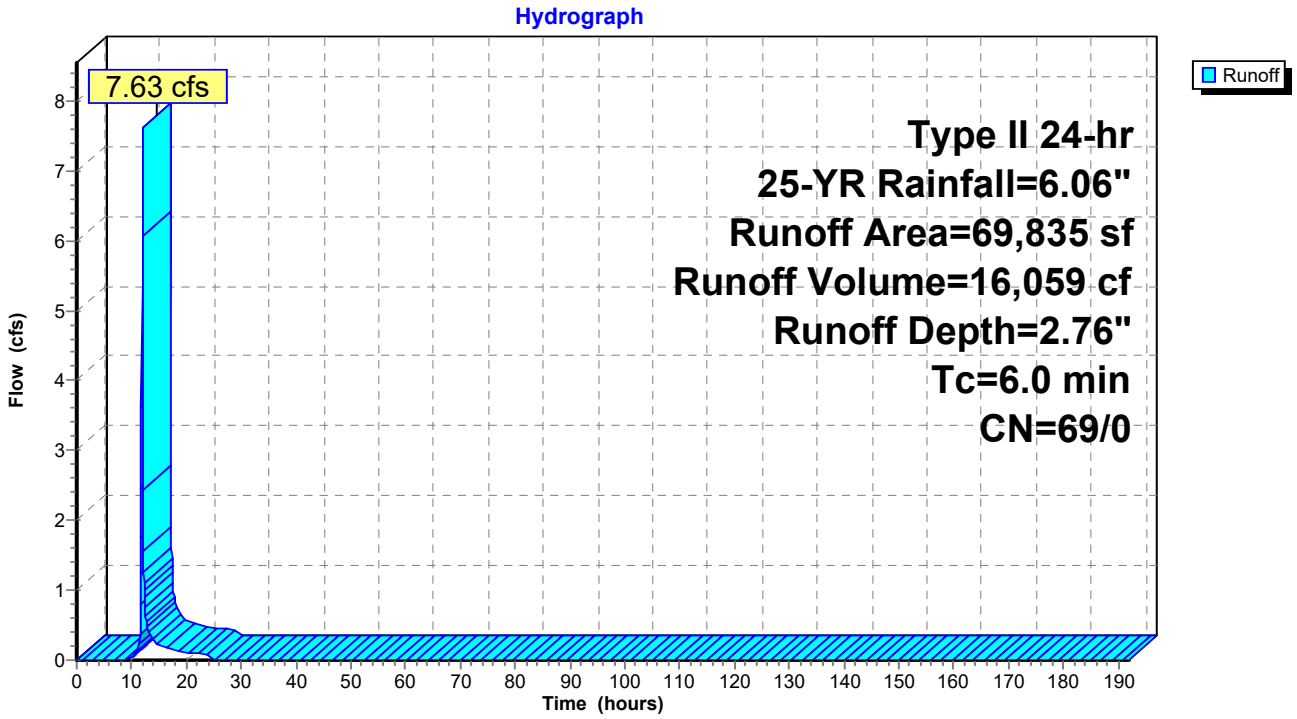
Link 36L: Off-Site Total to MRC Basin



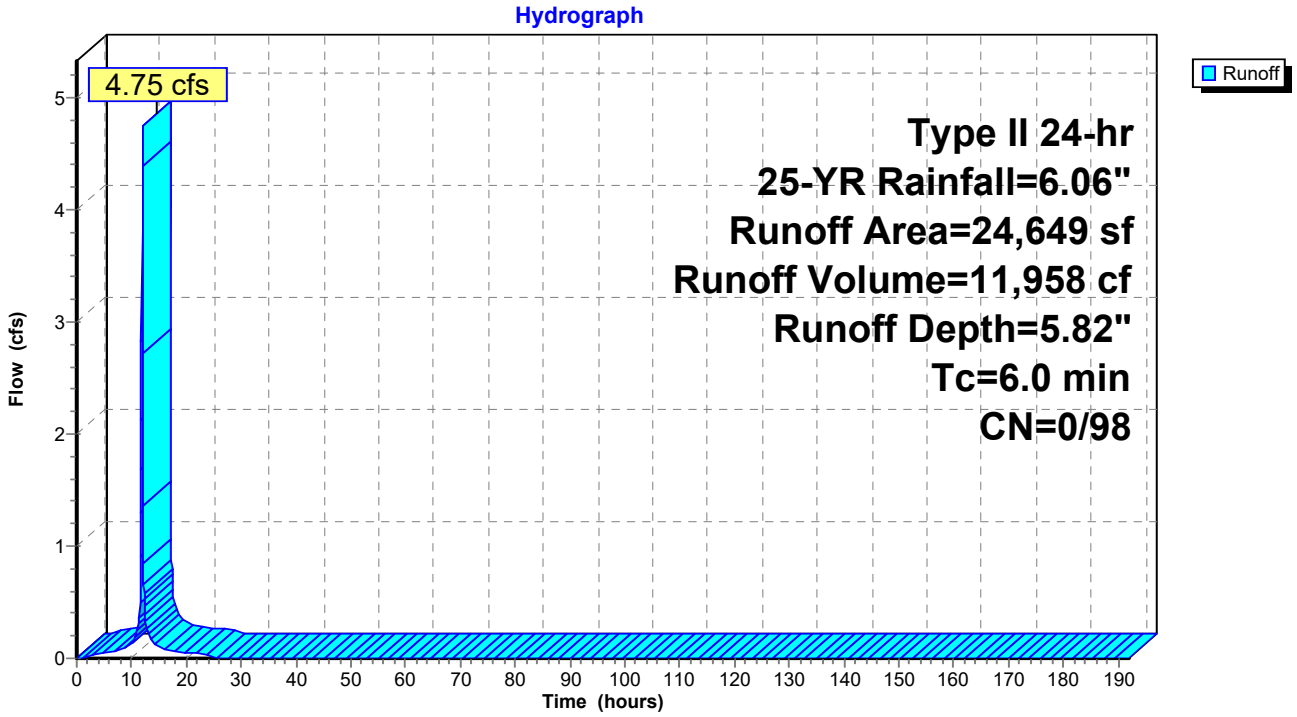
Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001



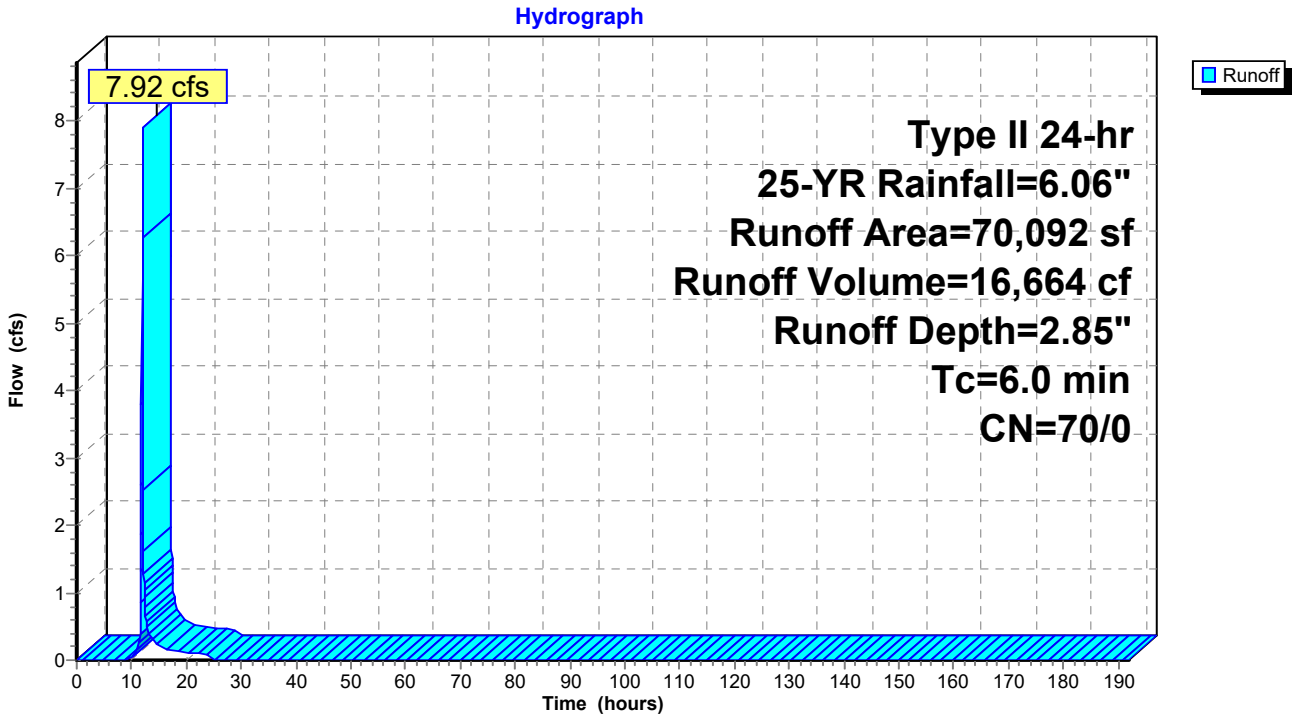
Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001



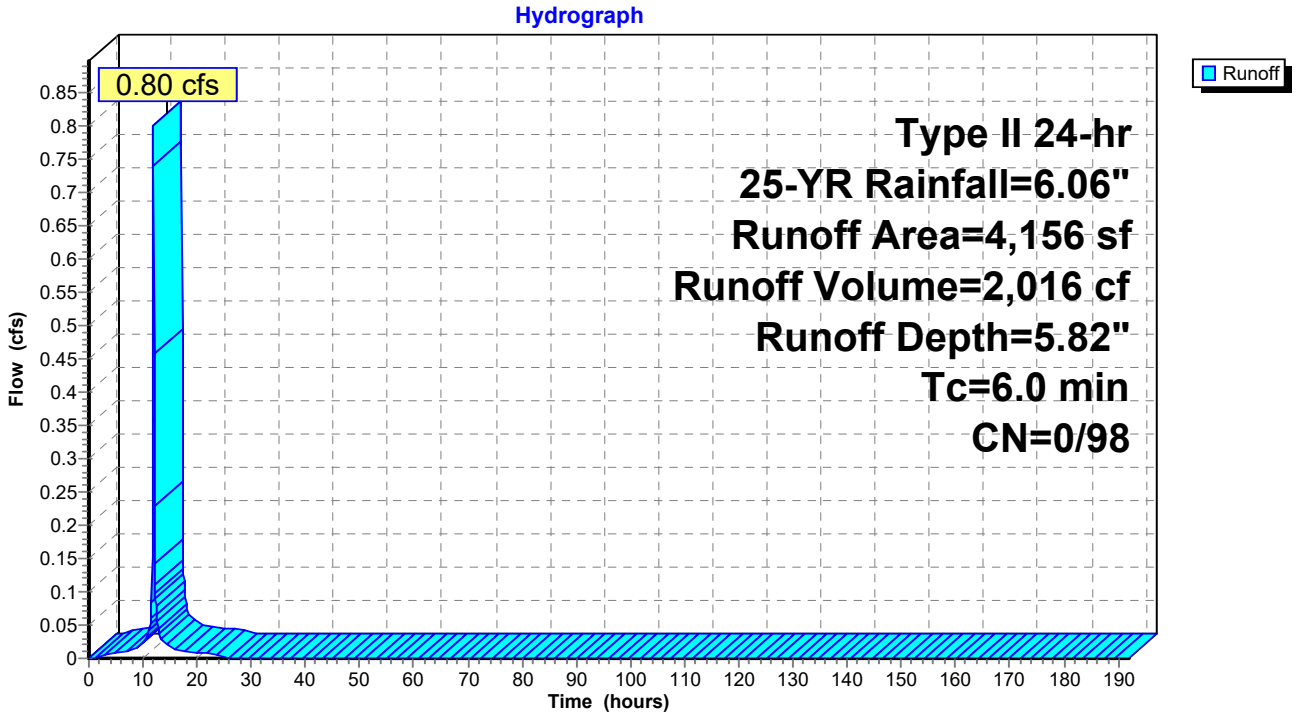
Subcatchment 18S: Prop. On-Site Imp to MRC Basin



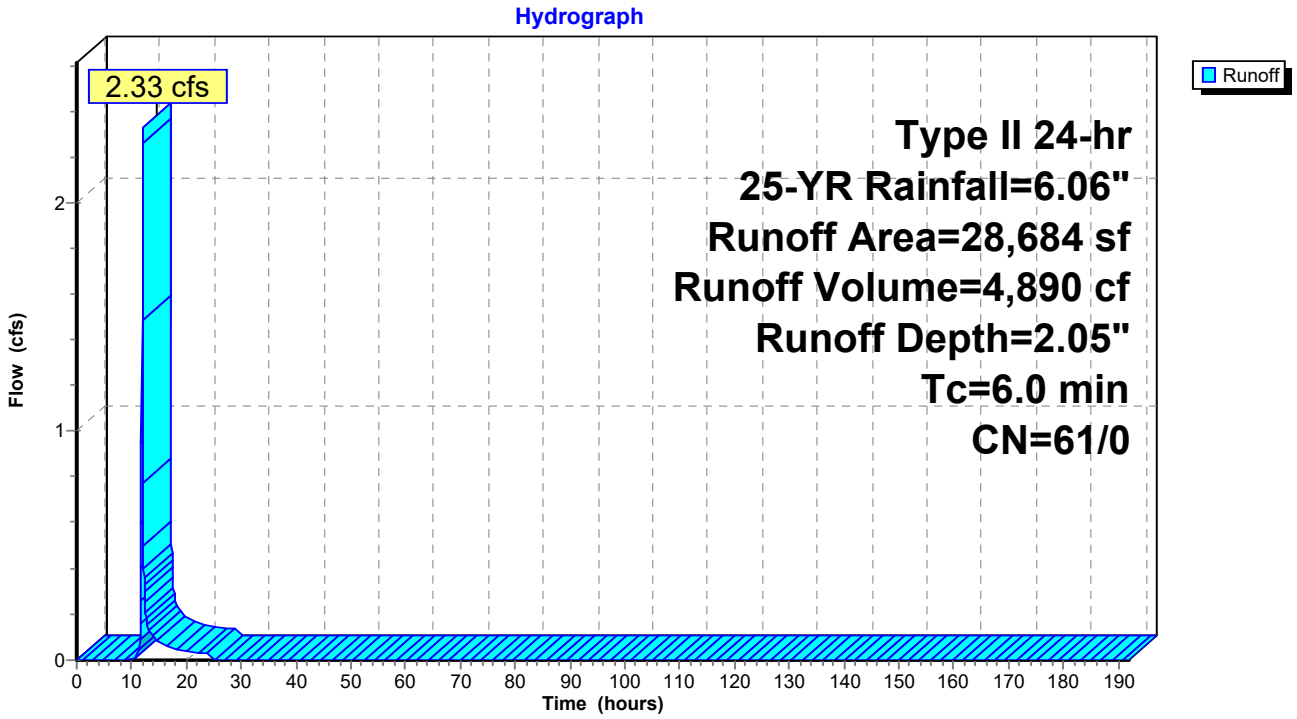
Subcatchment 19S: Prop. On-Site Perv to MRC Basin



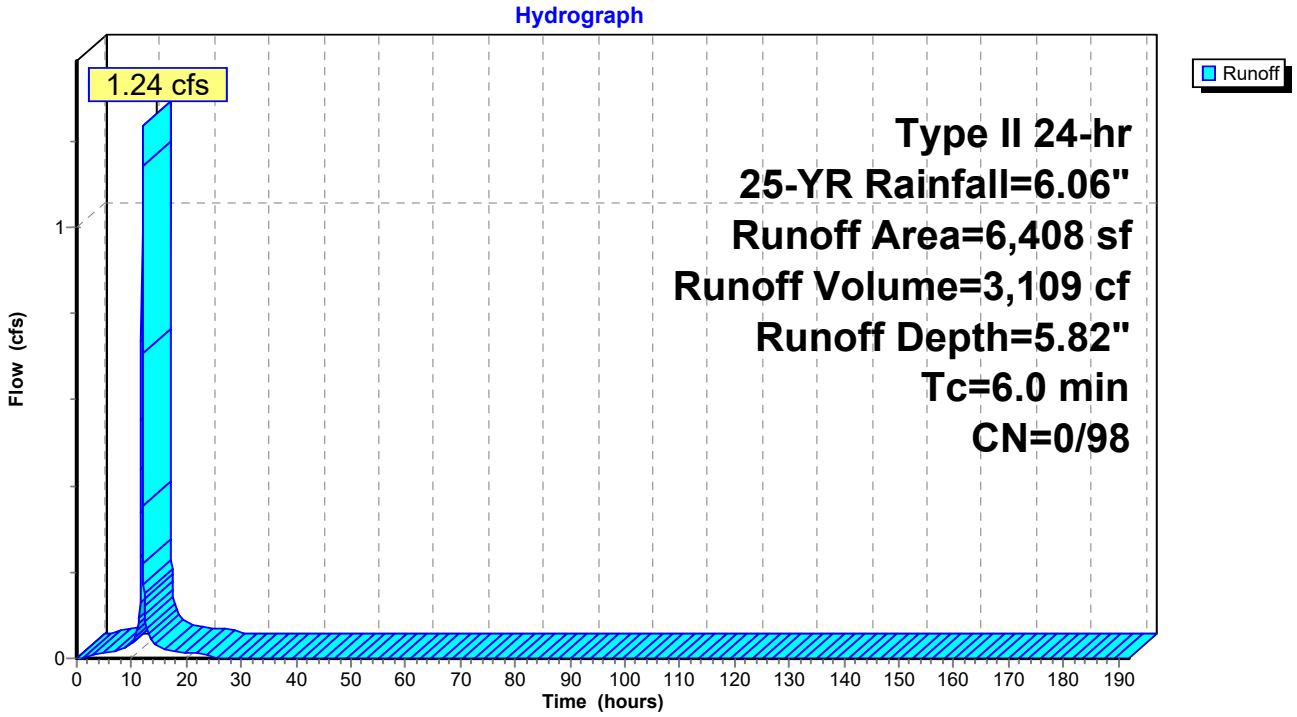
Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin



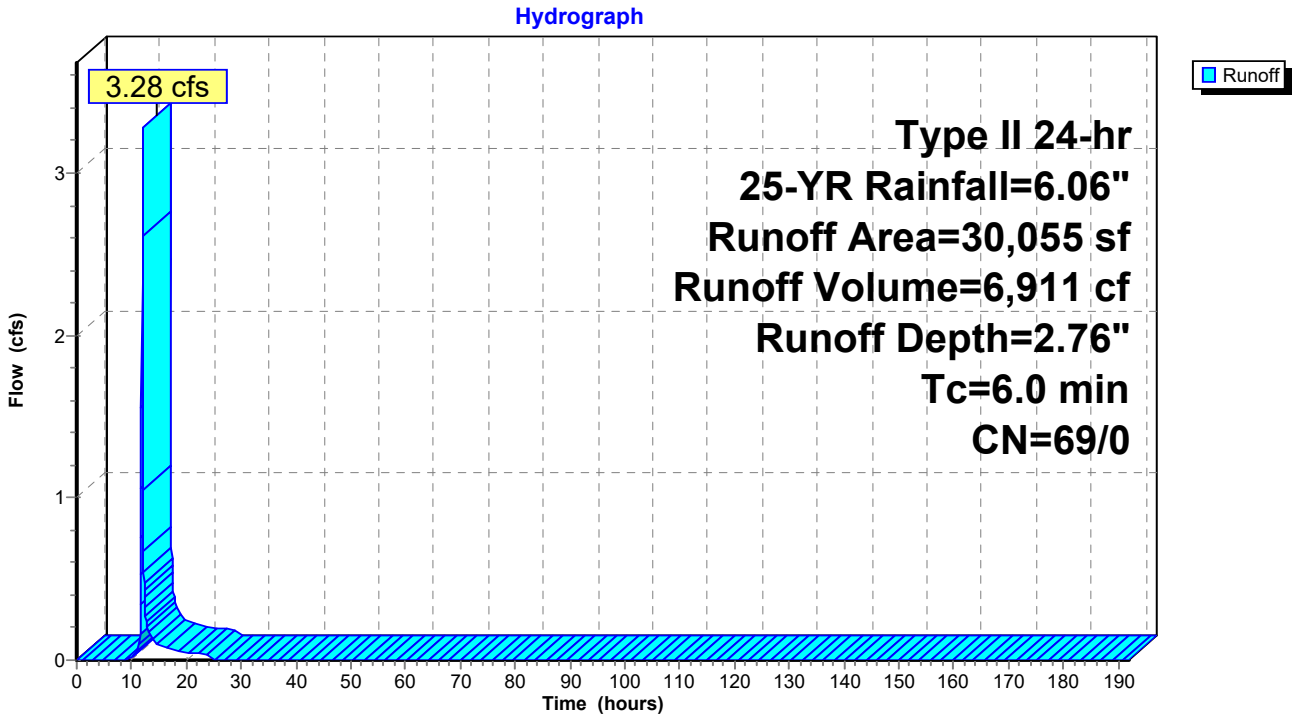
Subcatchment 21S: Prop. Off-Site Perv to MRC Basin



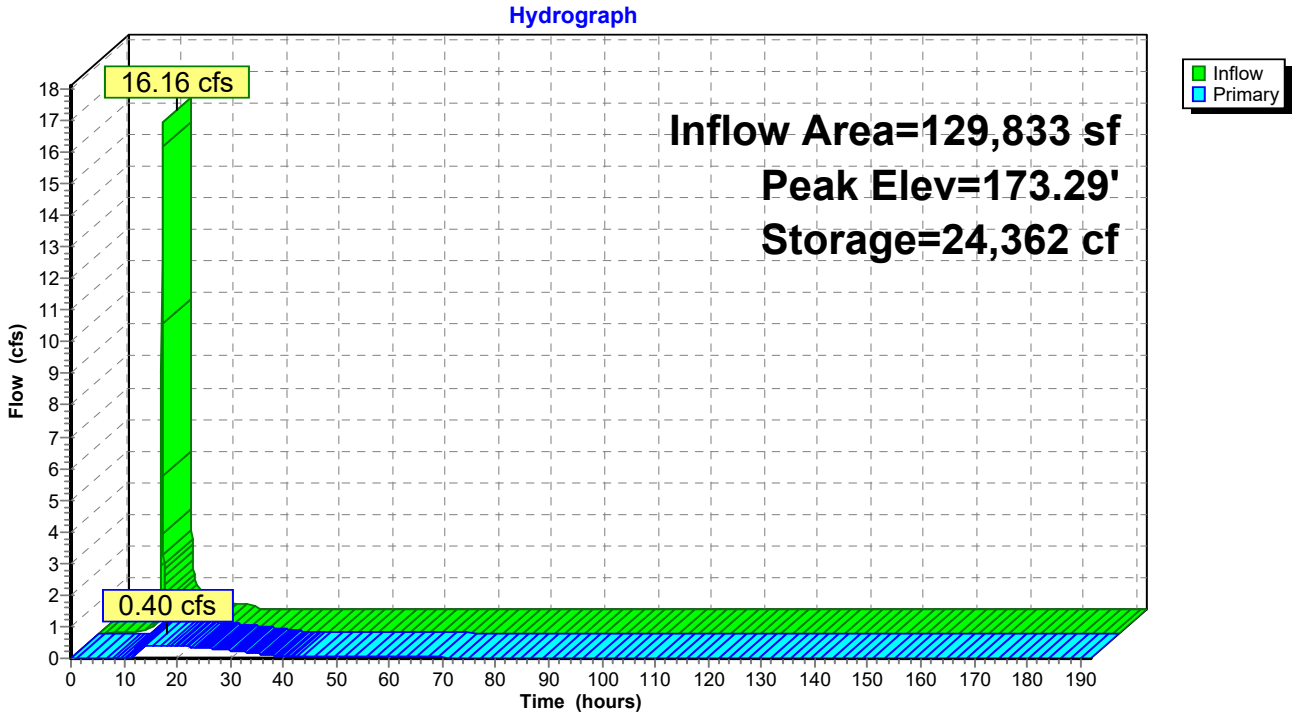
Subcatchment 22S: Prop. Off-Site Imp to MRC Basin



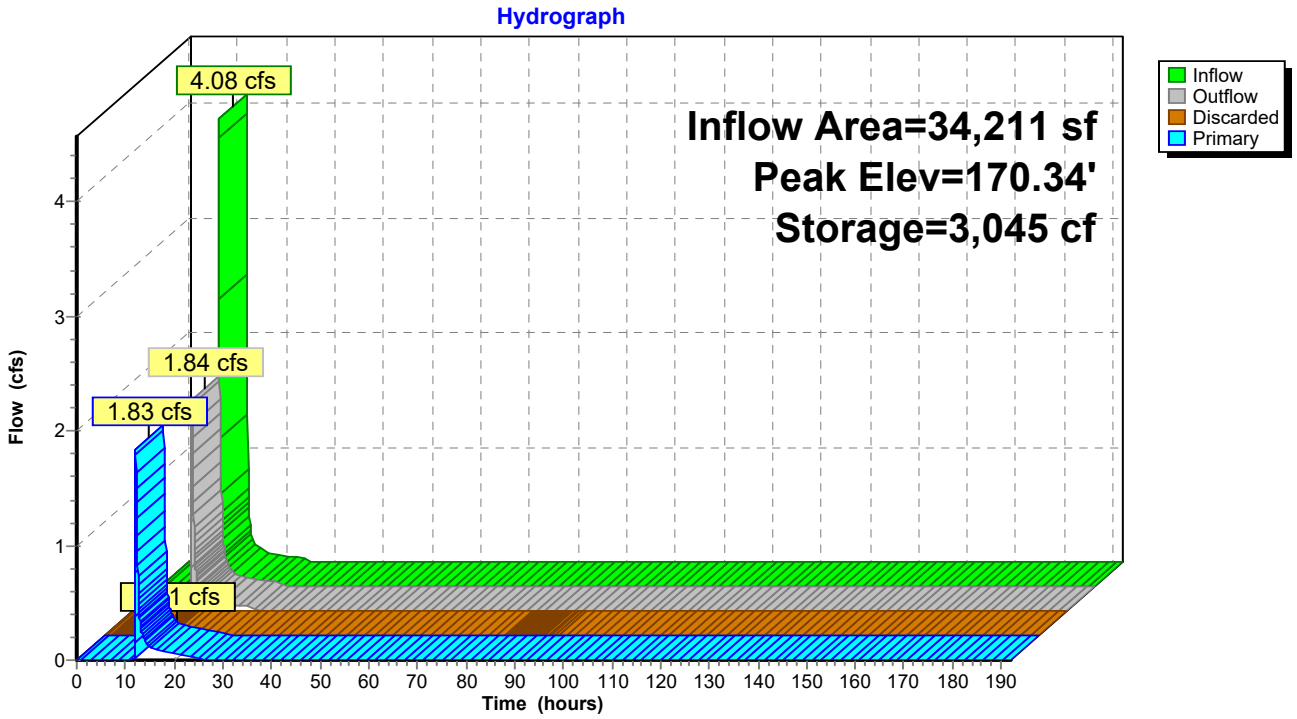
Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin



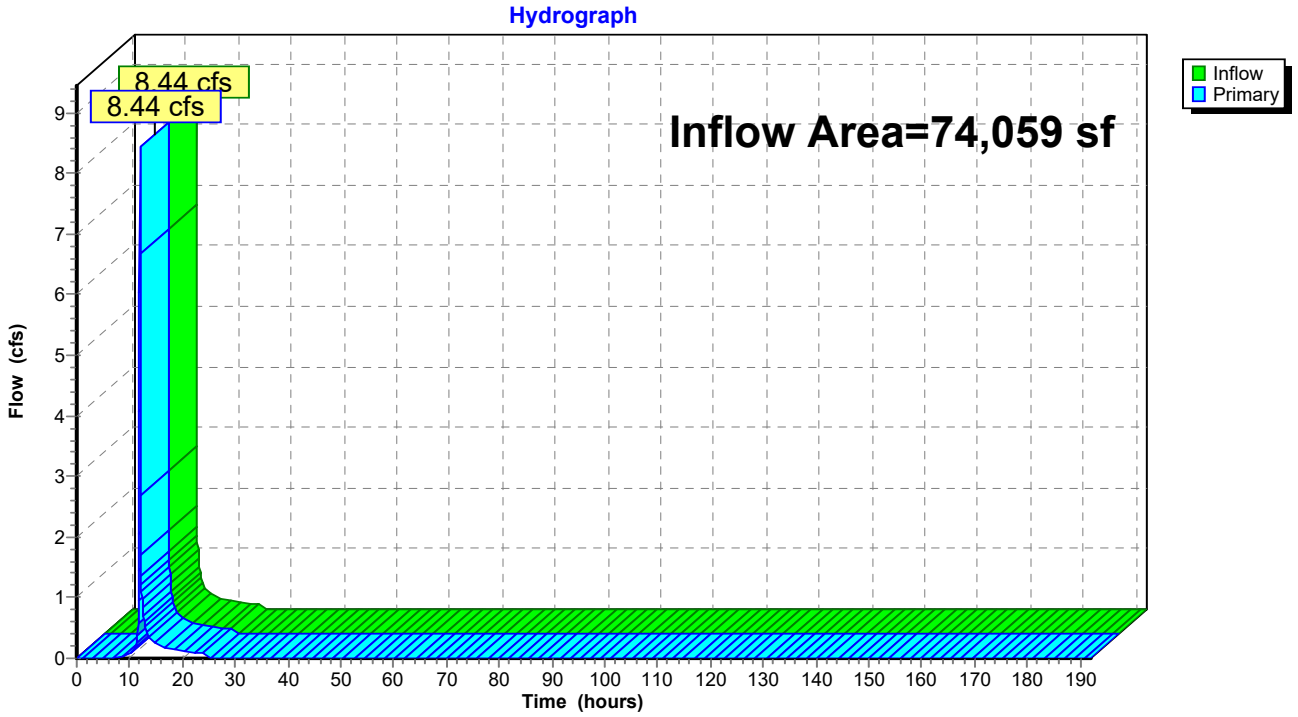
Pond 17P: MRC BASIN



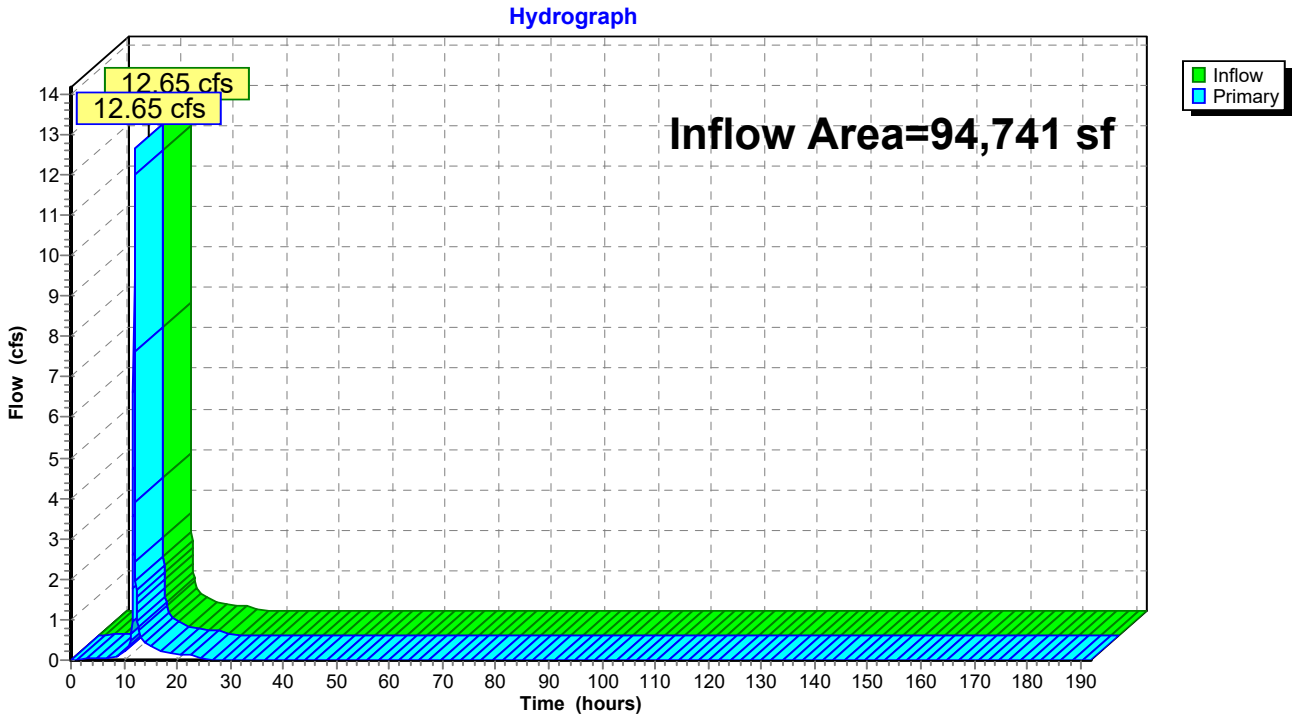
Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



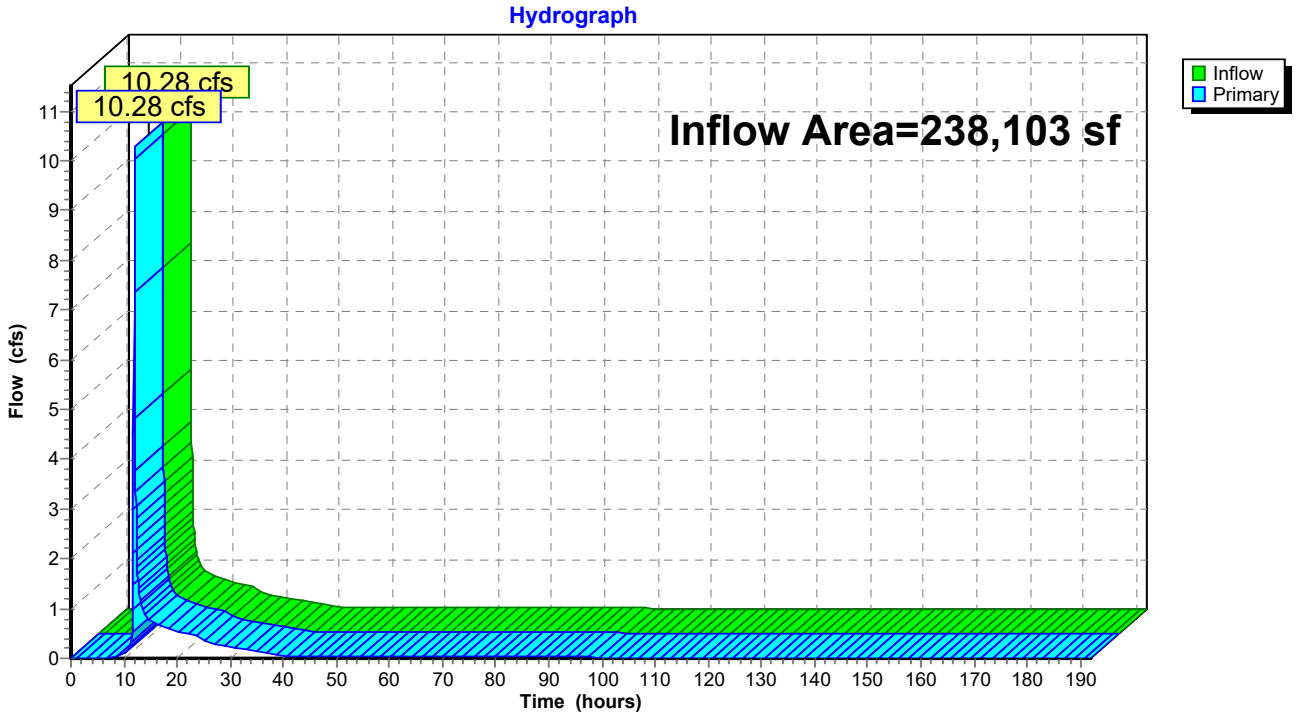
Link 17L: On-Site Bypass Total to POD-001



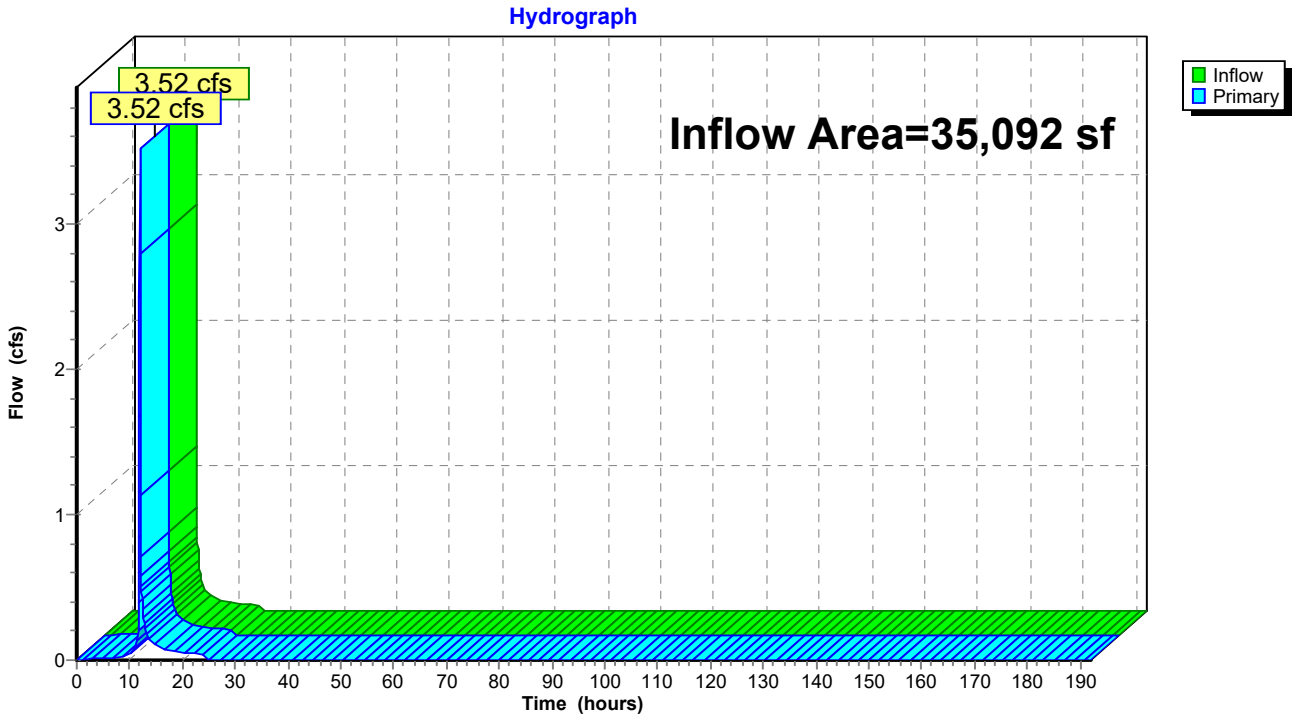
Link 20L: On-On-Site Total to MRC Basin



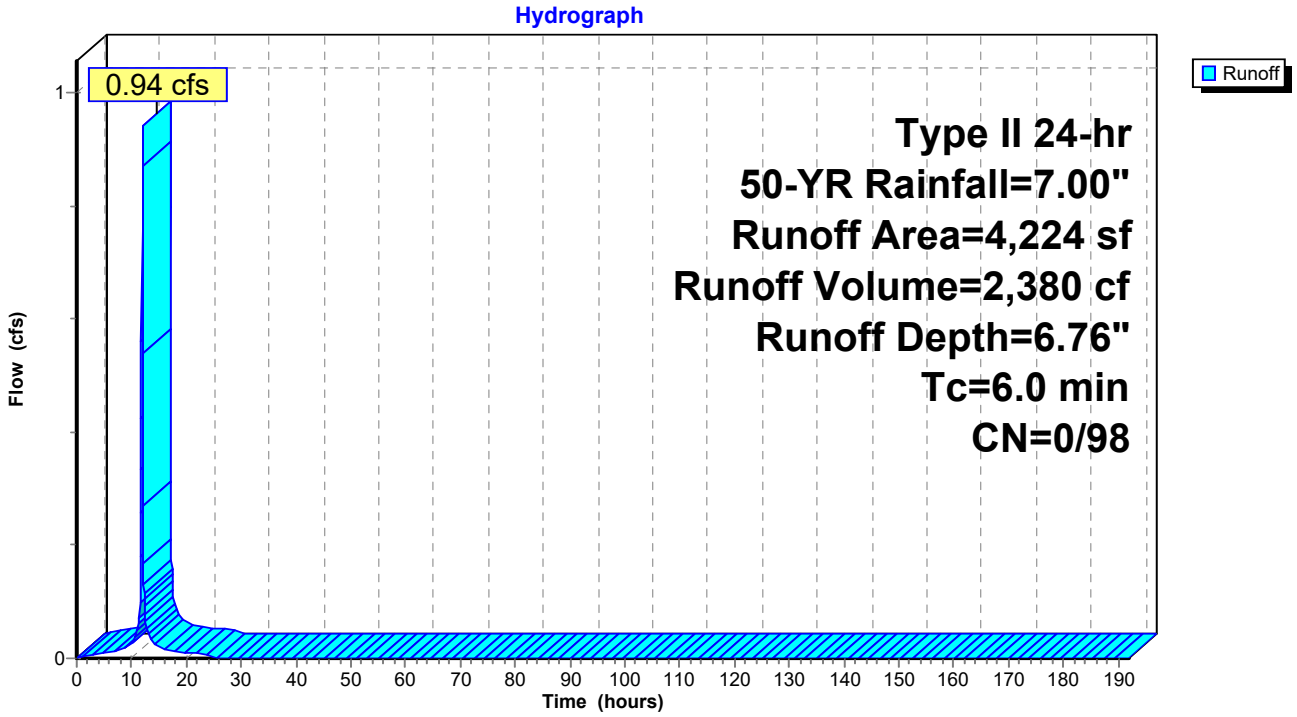
Link 21L: Total to POD-001



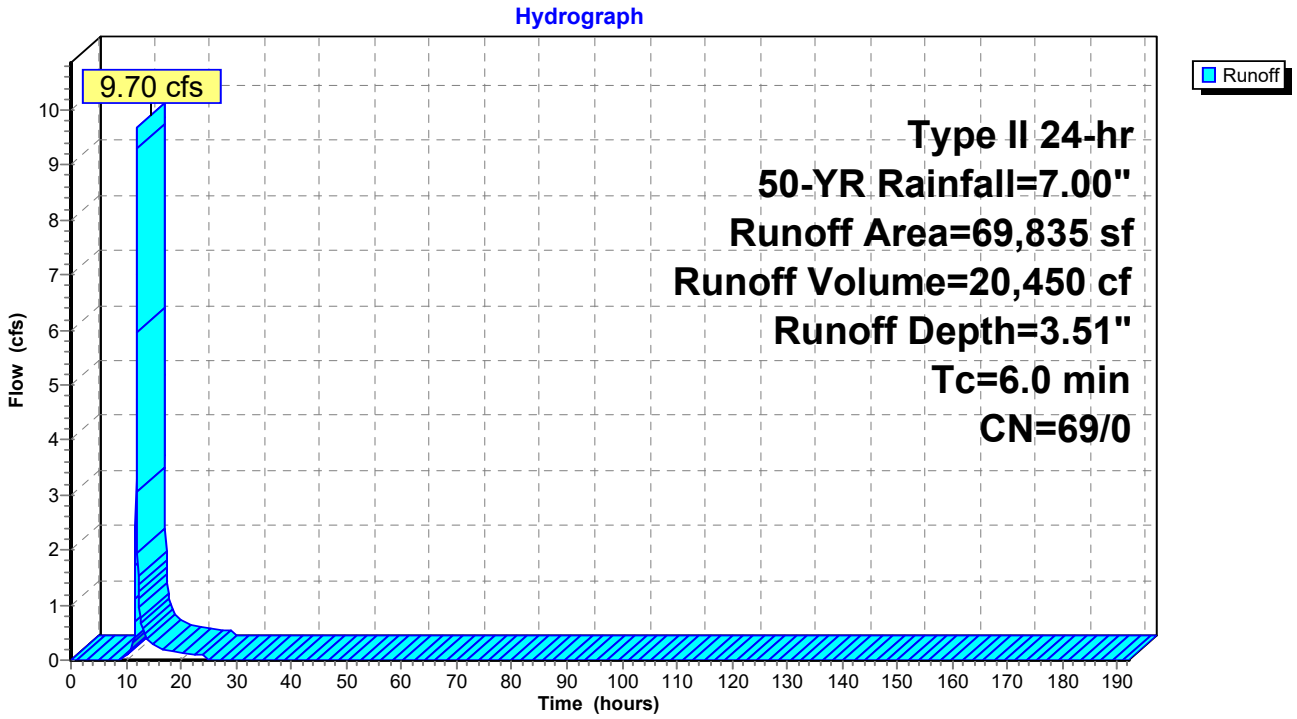
Link 36L: Off-Site Total to MRC Basin



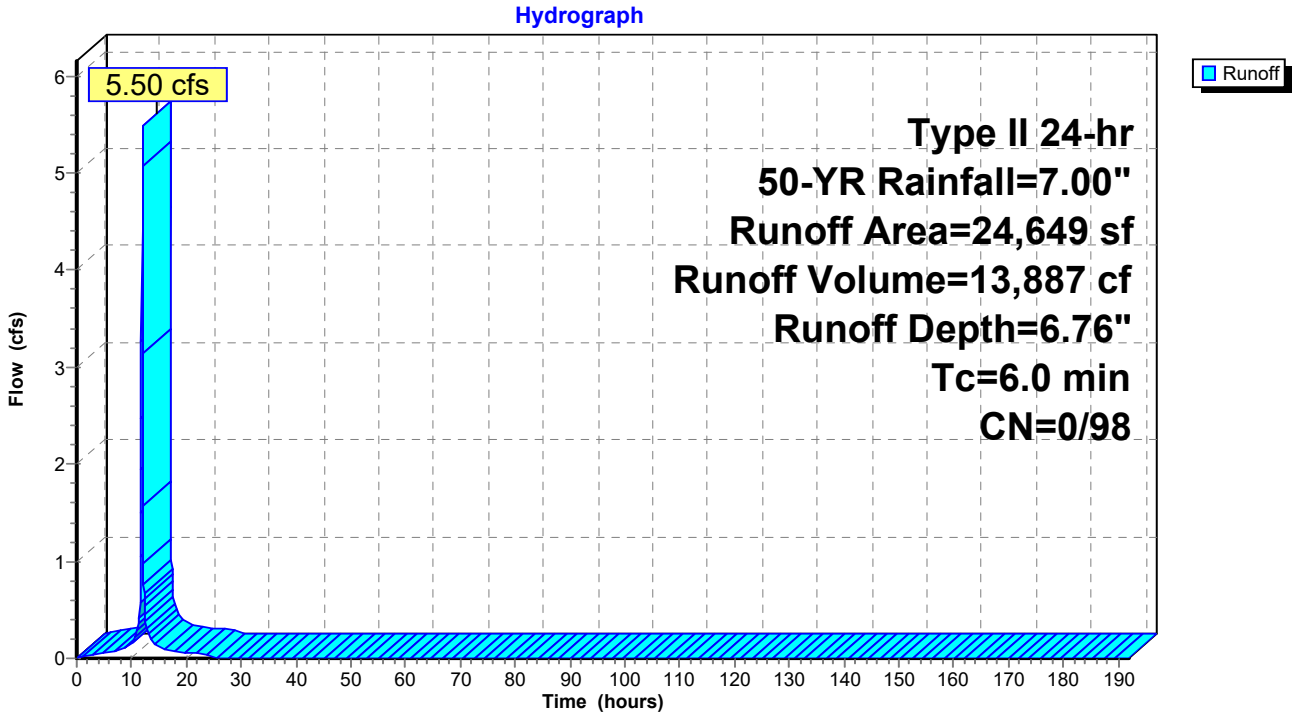
Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001



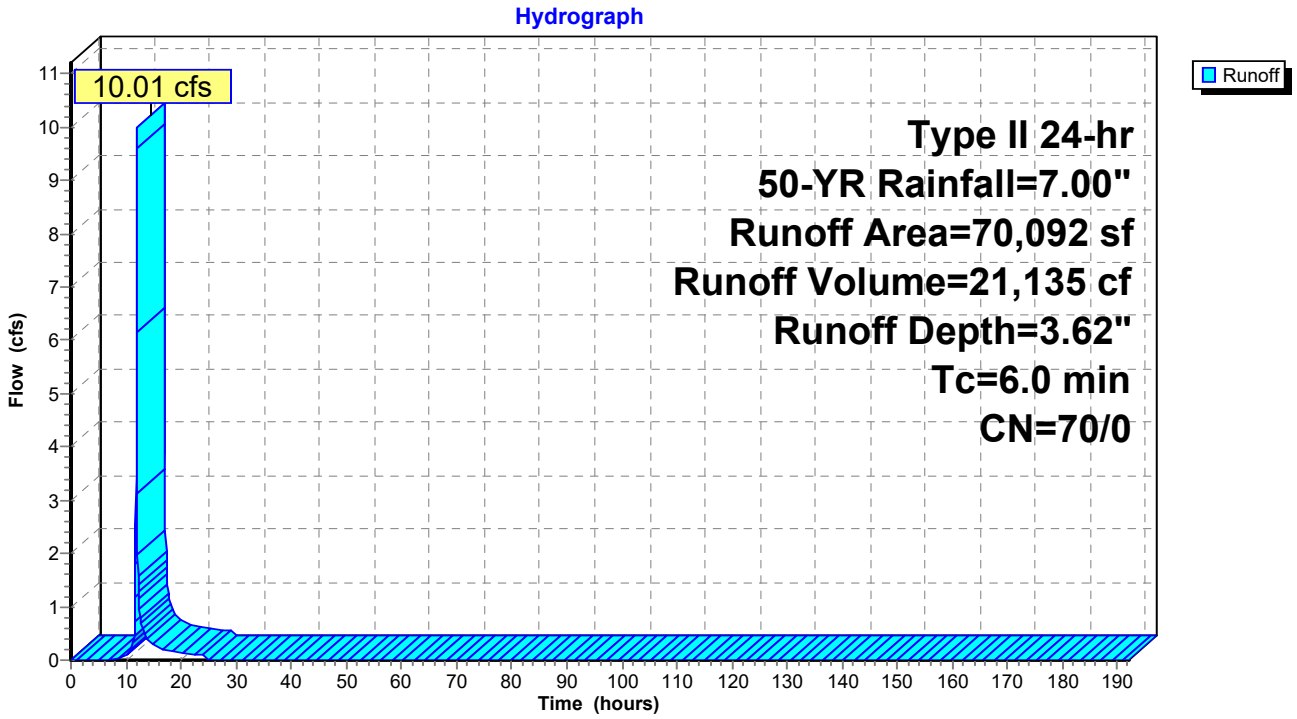
Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001



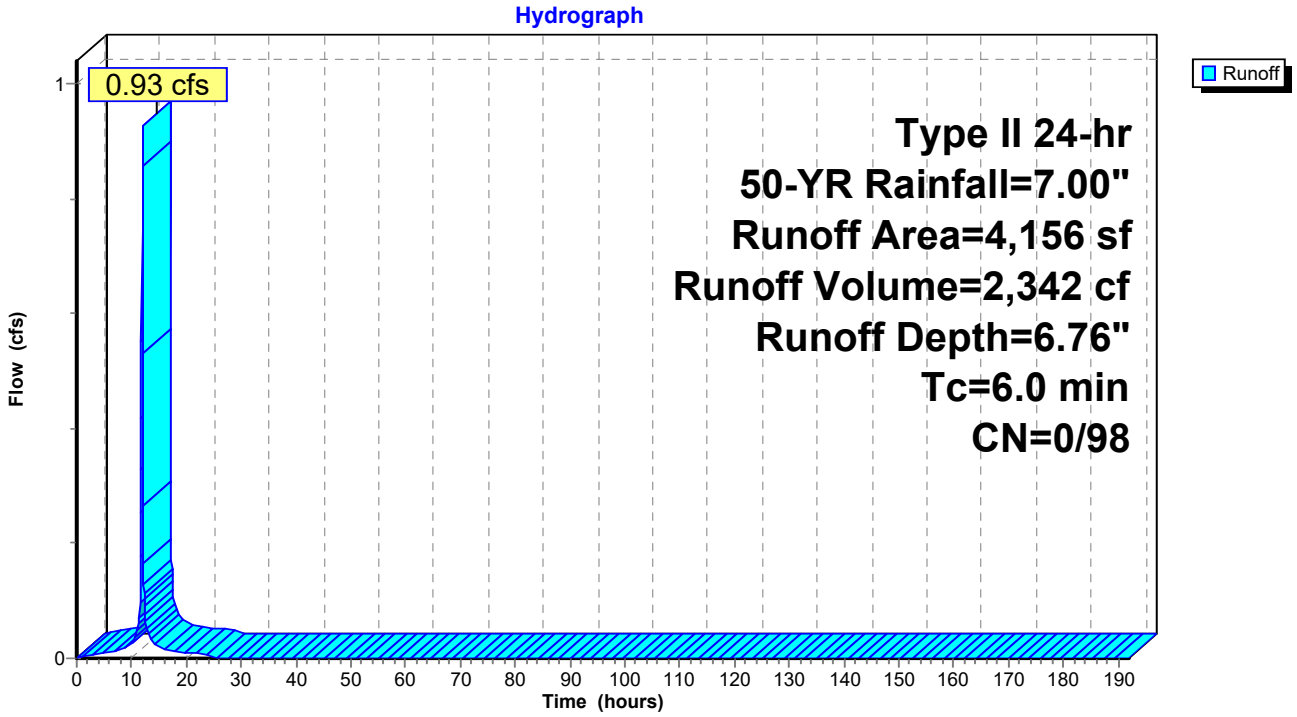
Subcatchment 18S: Prop. On-Site Imp to MRC Basin



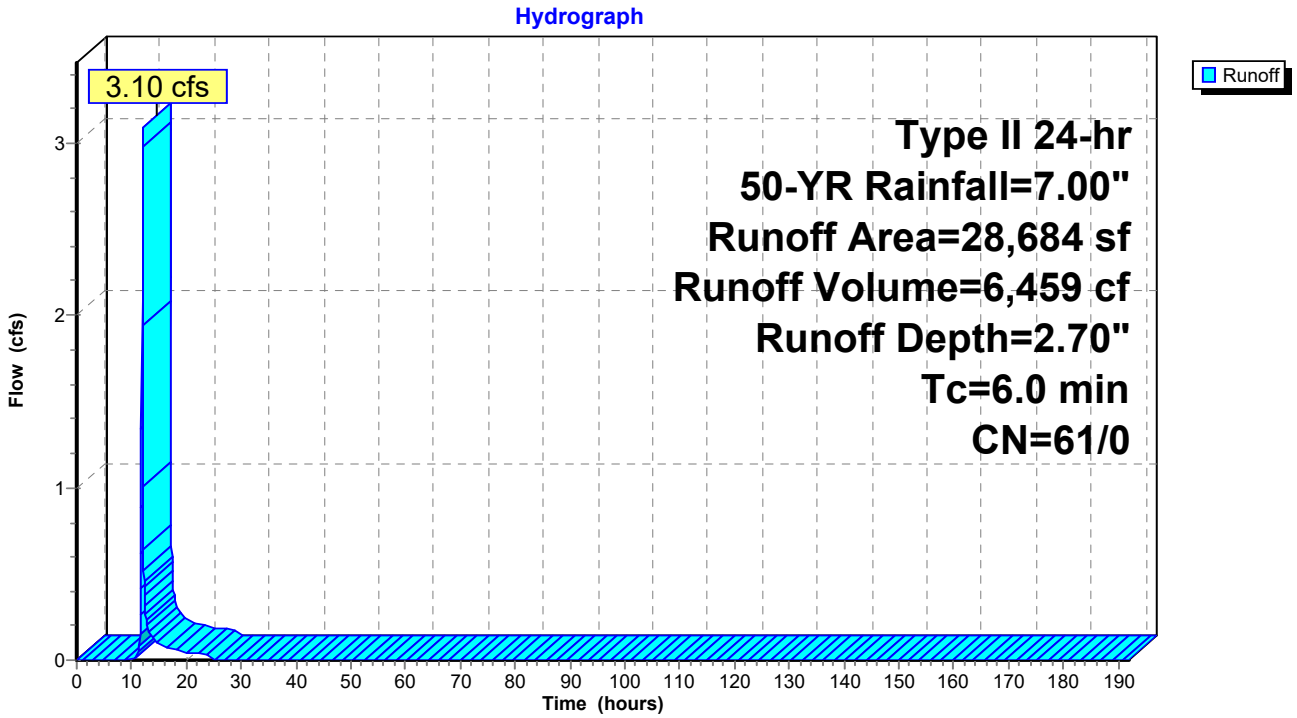
Subcatchment 19S: Prop. On-Site Perv to MRC Basin



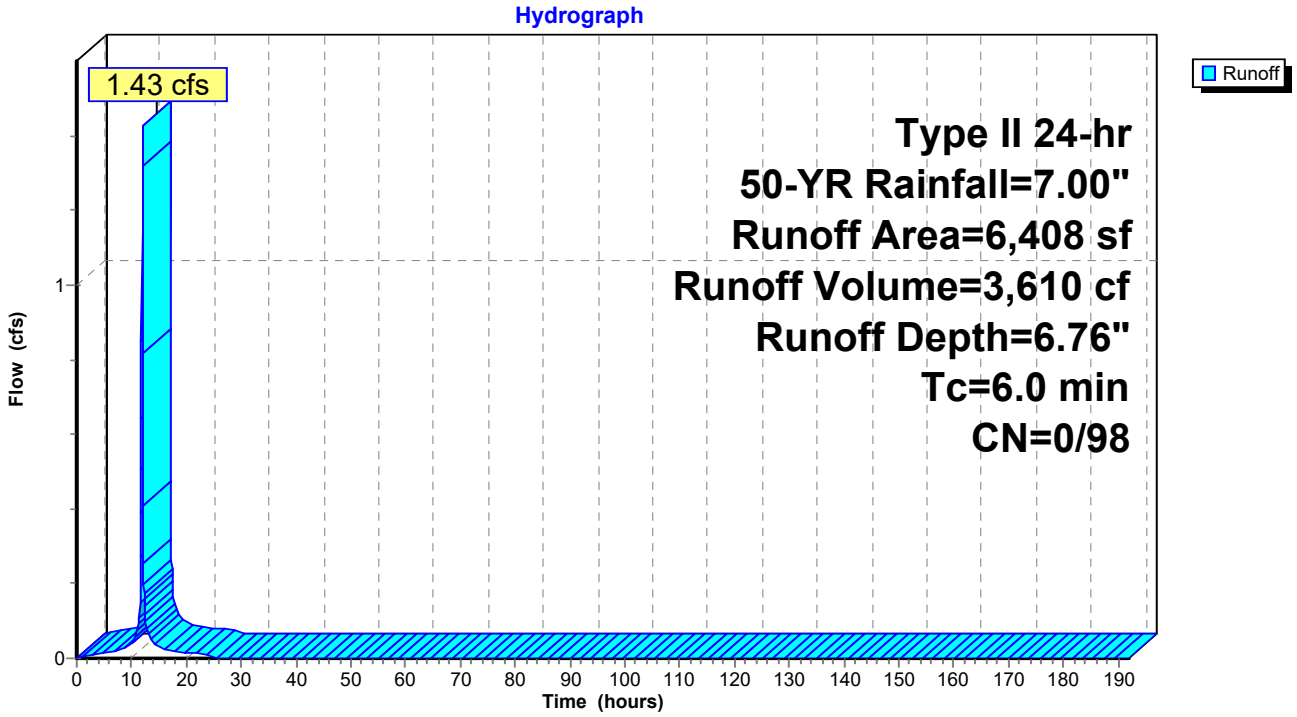
Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin



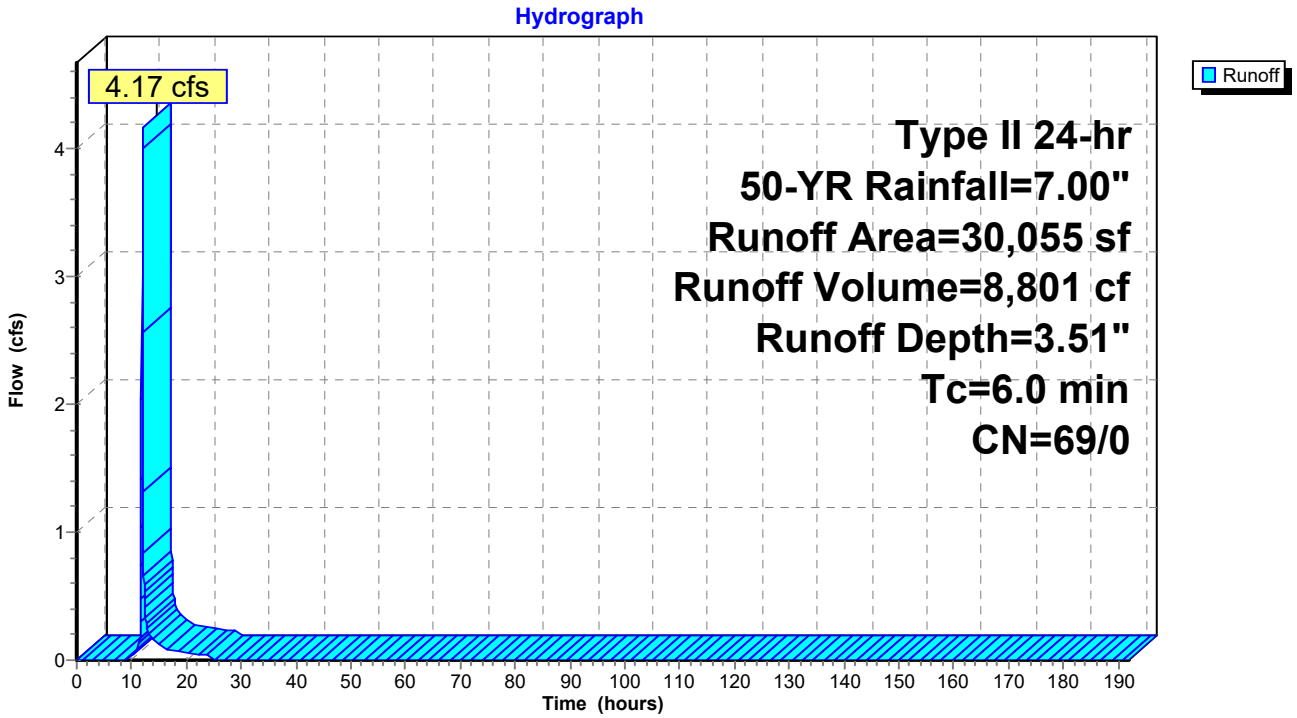
Subcatchment 21S: Prop. Off-Site Perv to MRC Basin



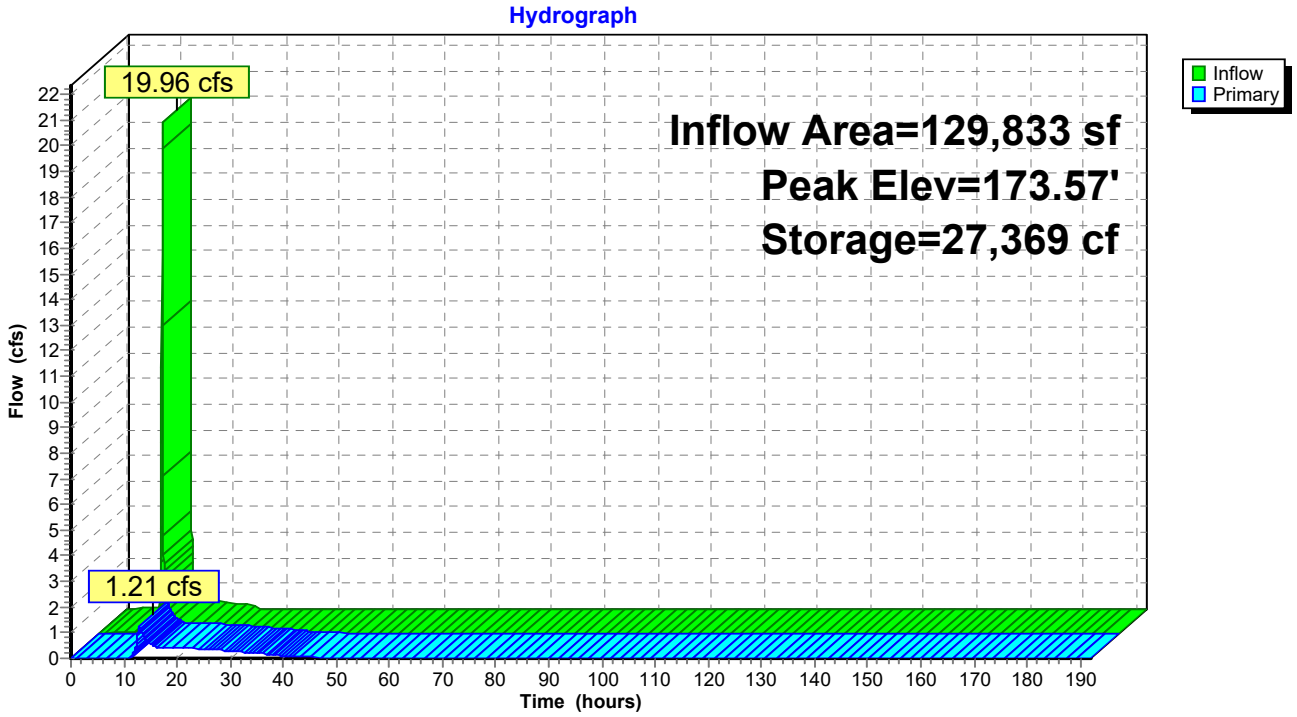
Subcatchment 22S: Prop. Off-Site Imp to MRC Basin



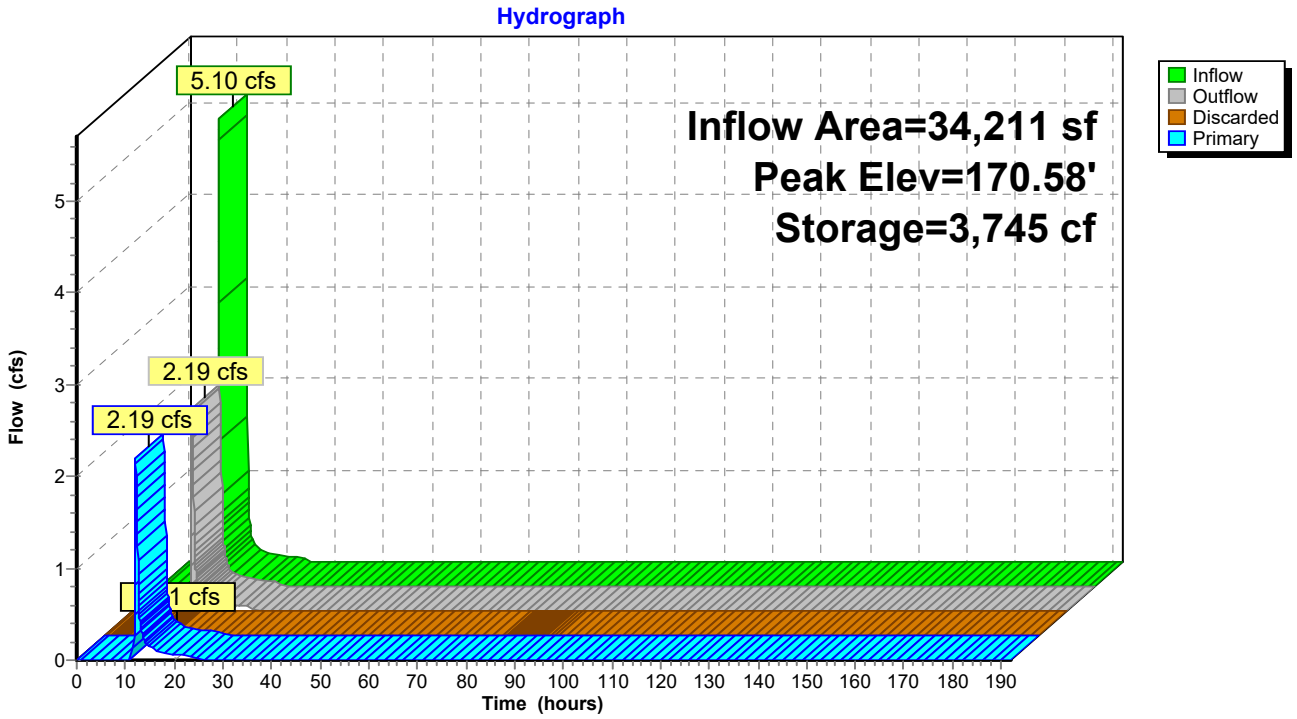
Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin



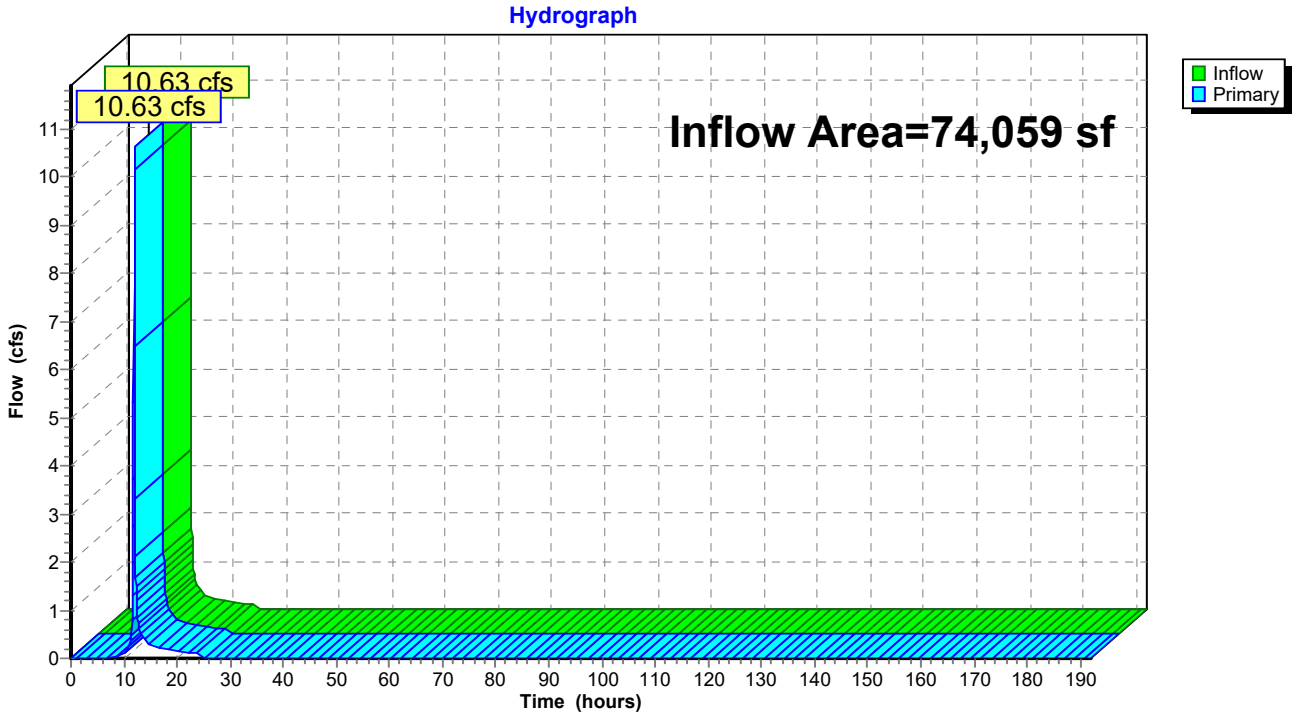
Pond 17P: MRC BASIN



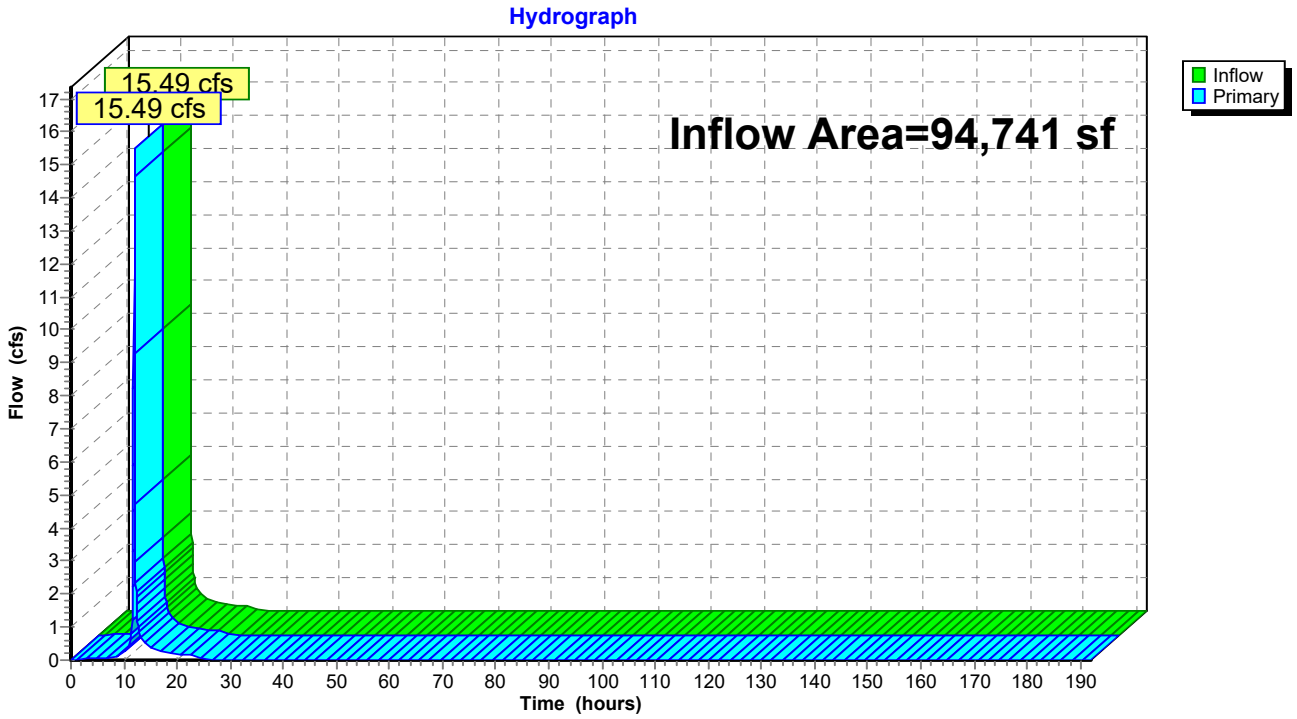
Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



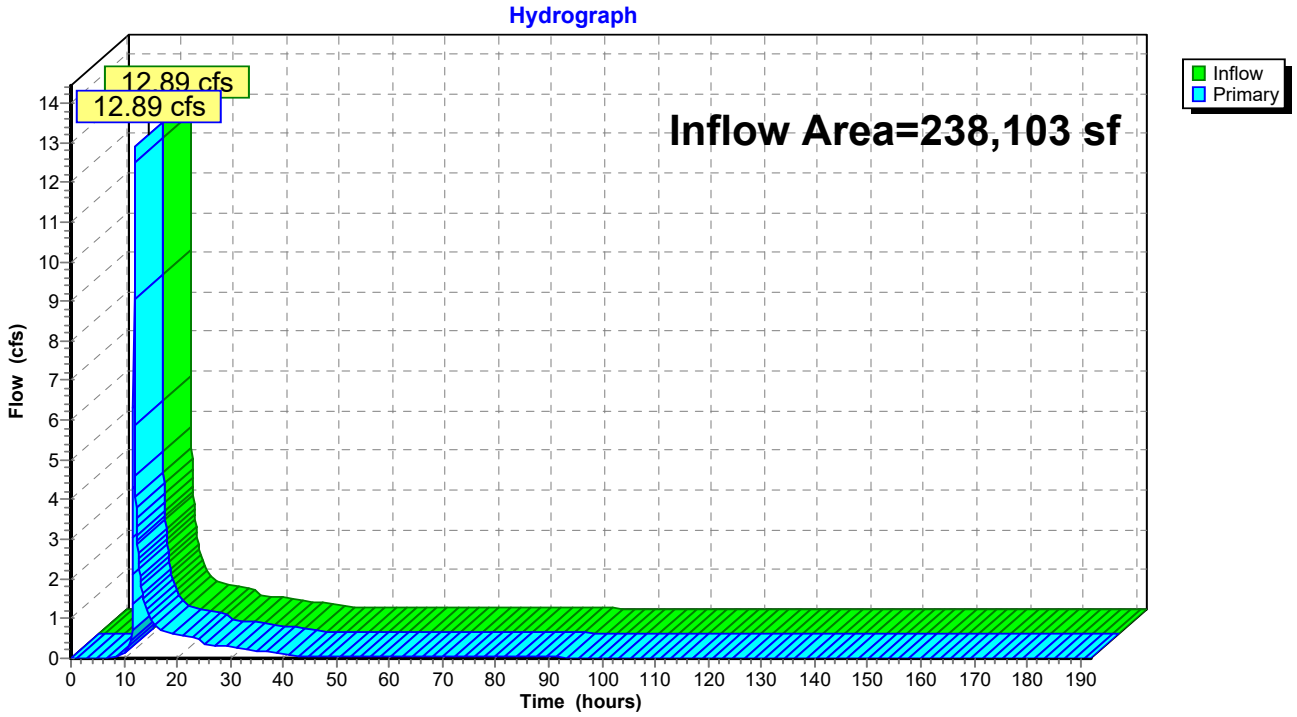
Link 17L: On-Site Bypass Total to POD-001



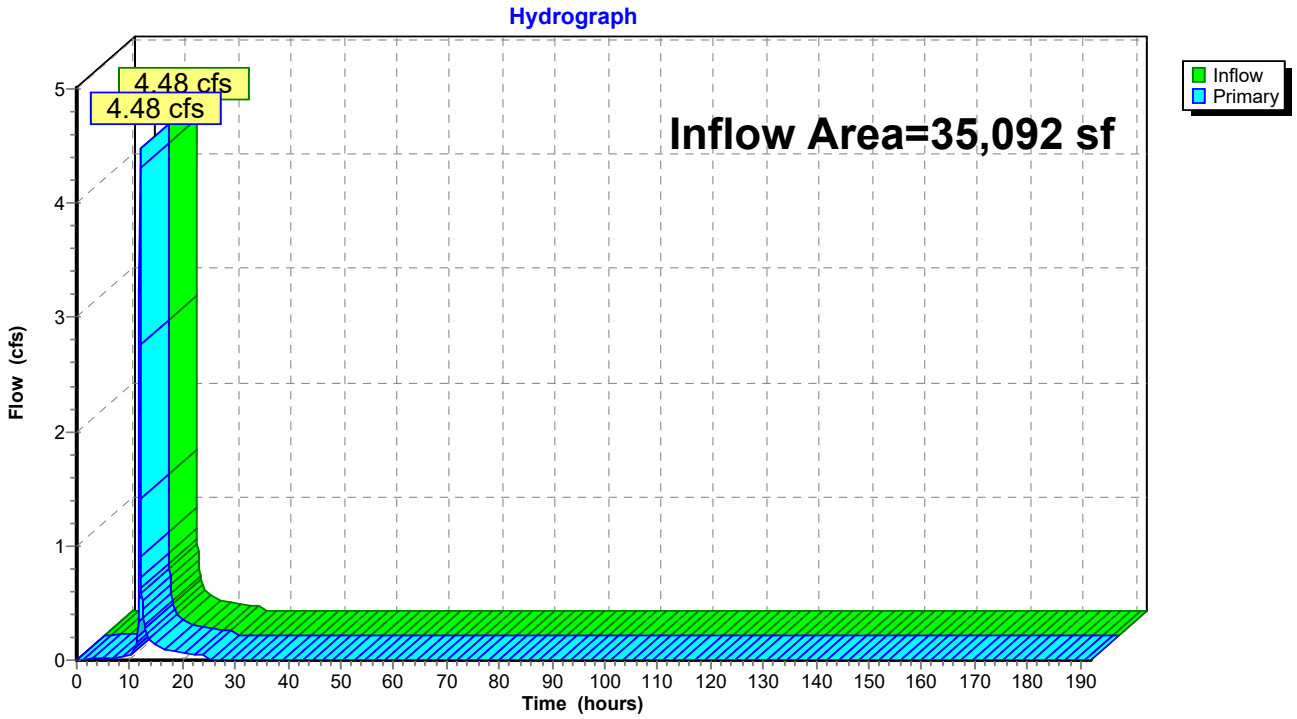
Link 20L: On-On-Site Total to MRC Basin



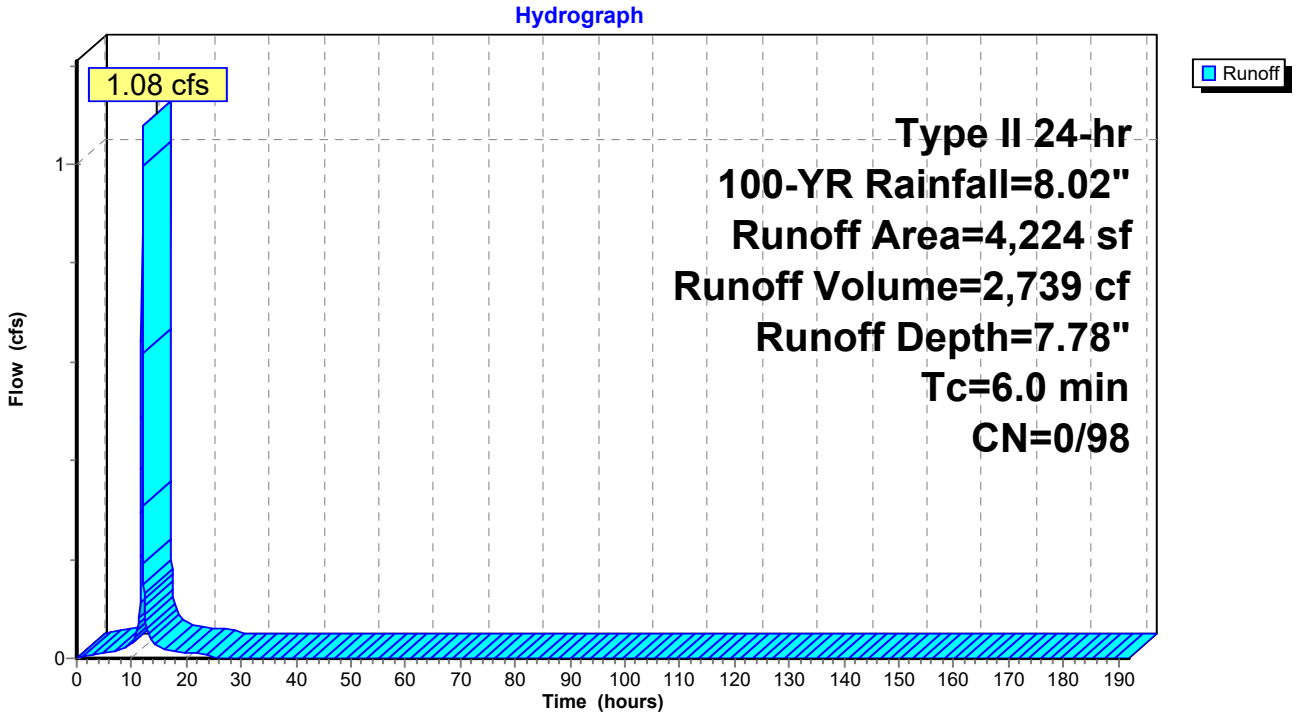
Link 21L: Total to POD-001



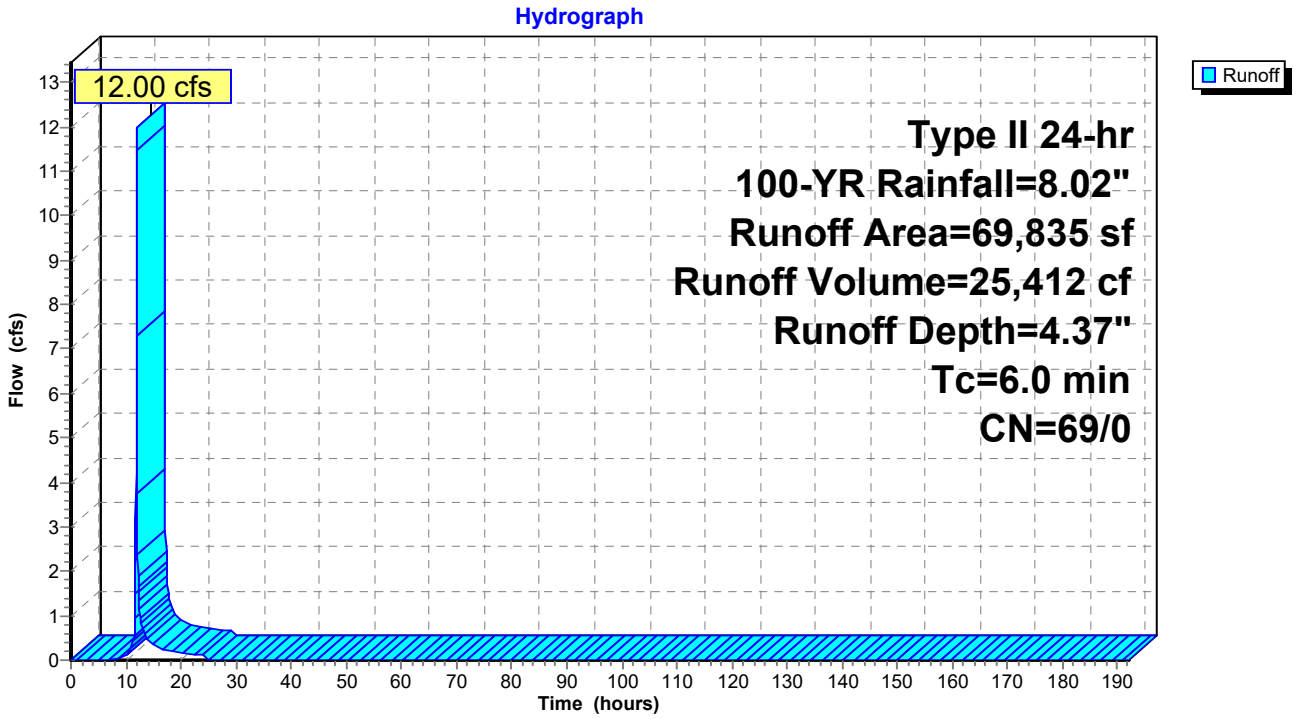
Link 36L: Off-Site Total to MRC Basin



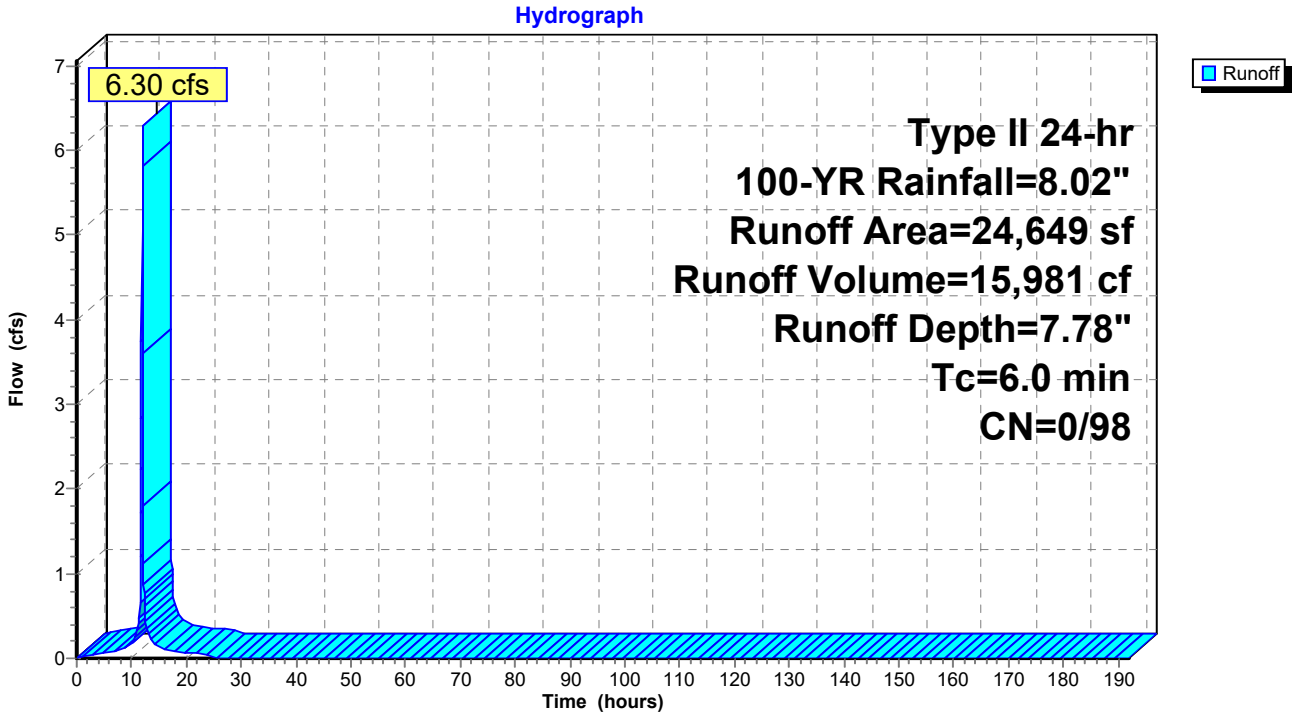
Subcatchment 13S: Prop. On-Site Imp Bypass to POD-001



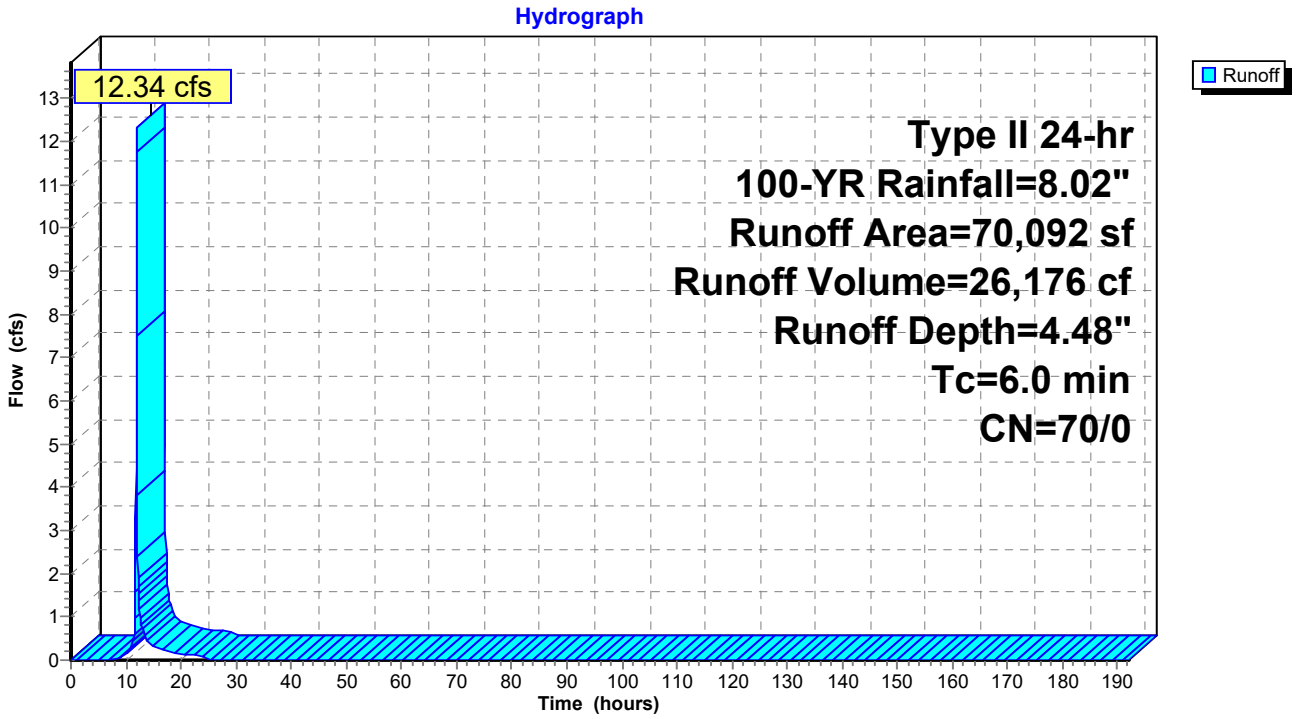
Subcatchment 14S: Prop. On-Site Perv Bypass to POD-001



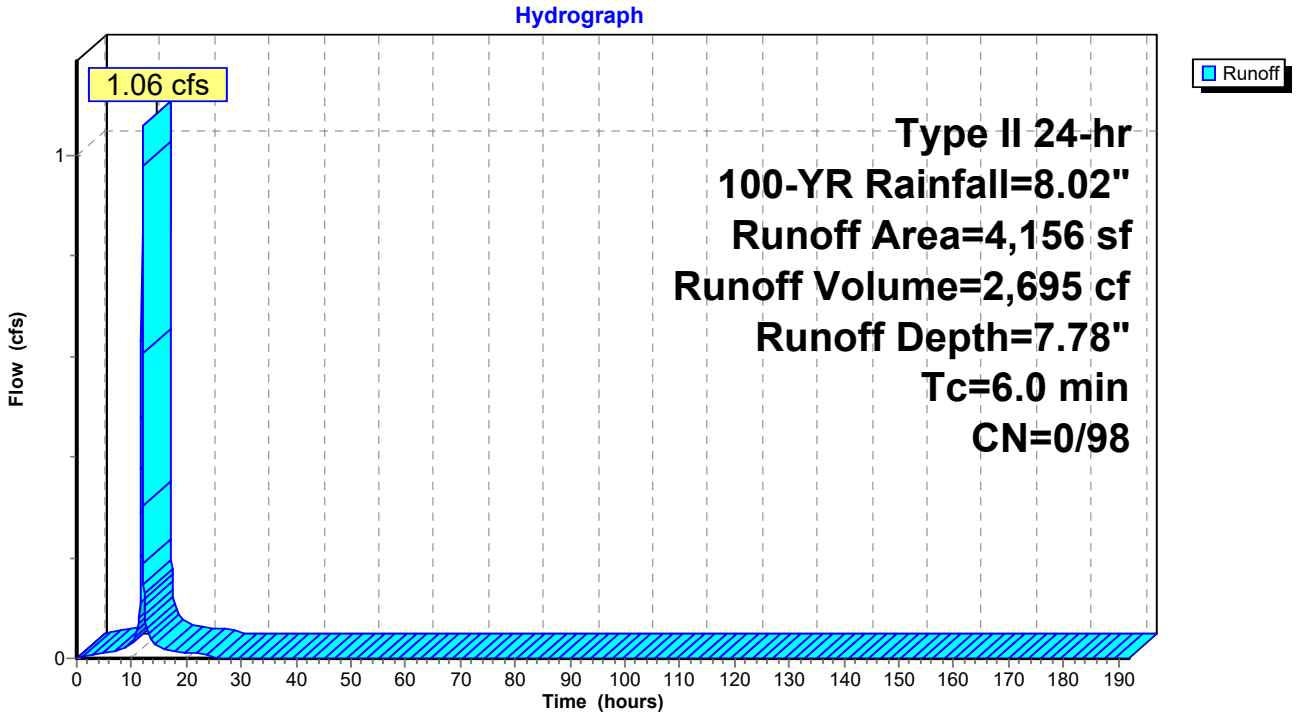
Subcatchment 18S: Prop. On-Site Imp to MRC Basin



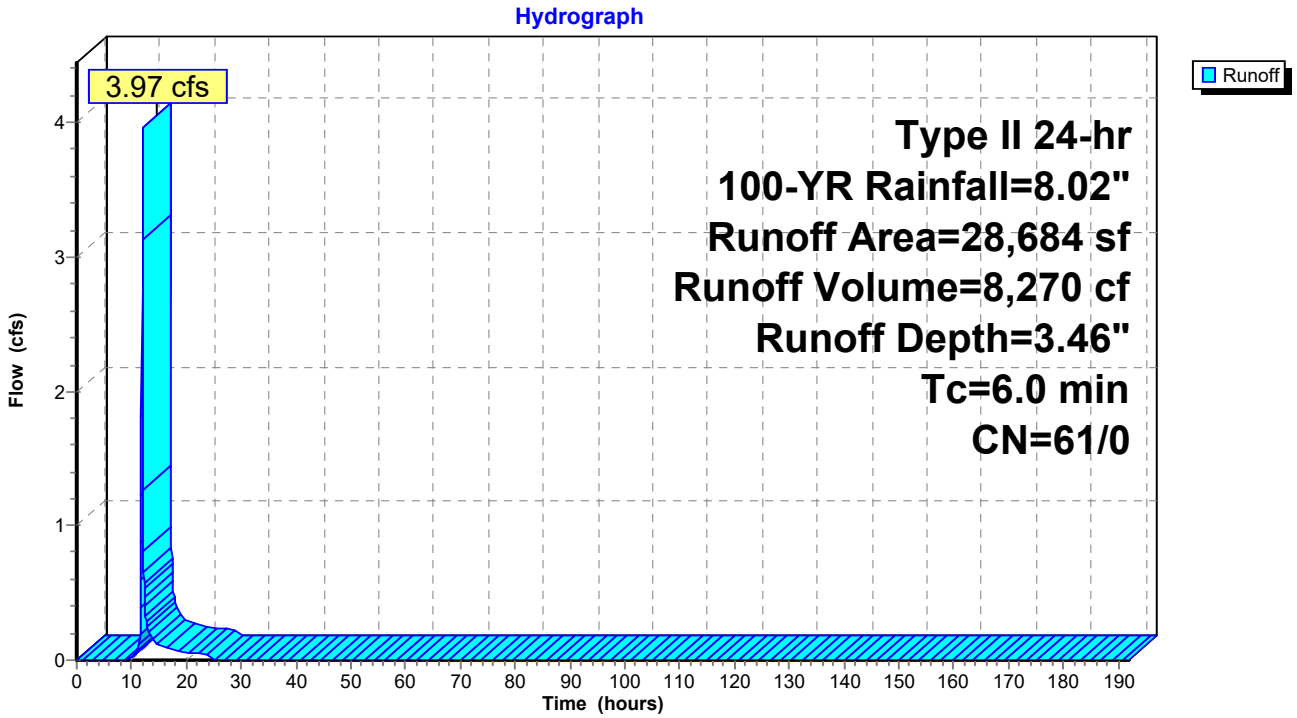
Subcatchment 19S: Prop. On-Site Perv to MRC Basin



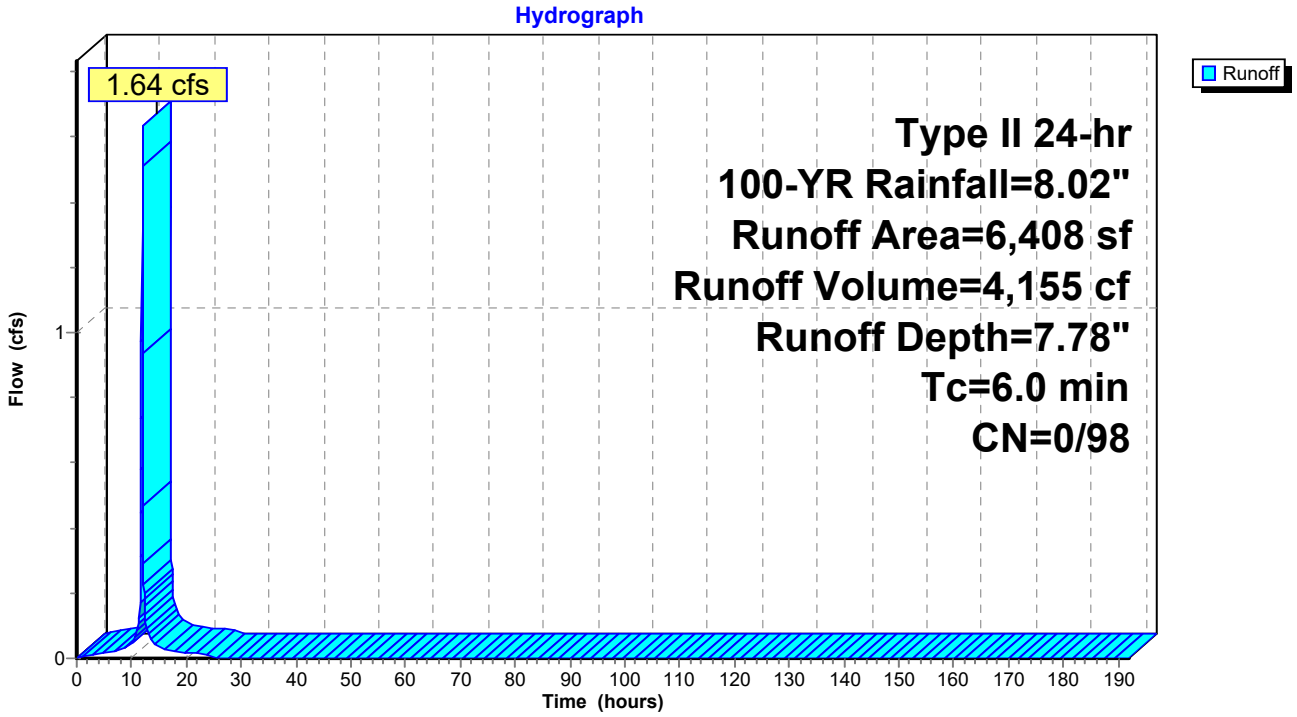
Subcatchment 20S: Prop. On-Site Imp to Infiltration Basin



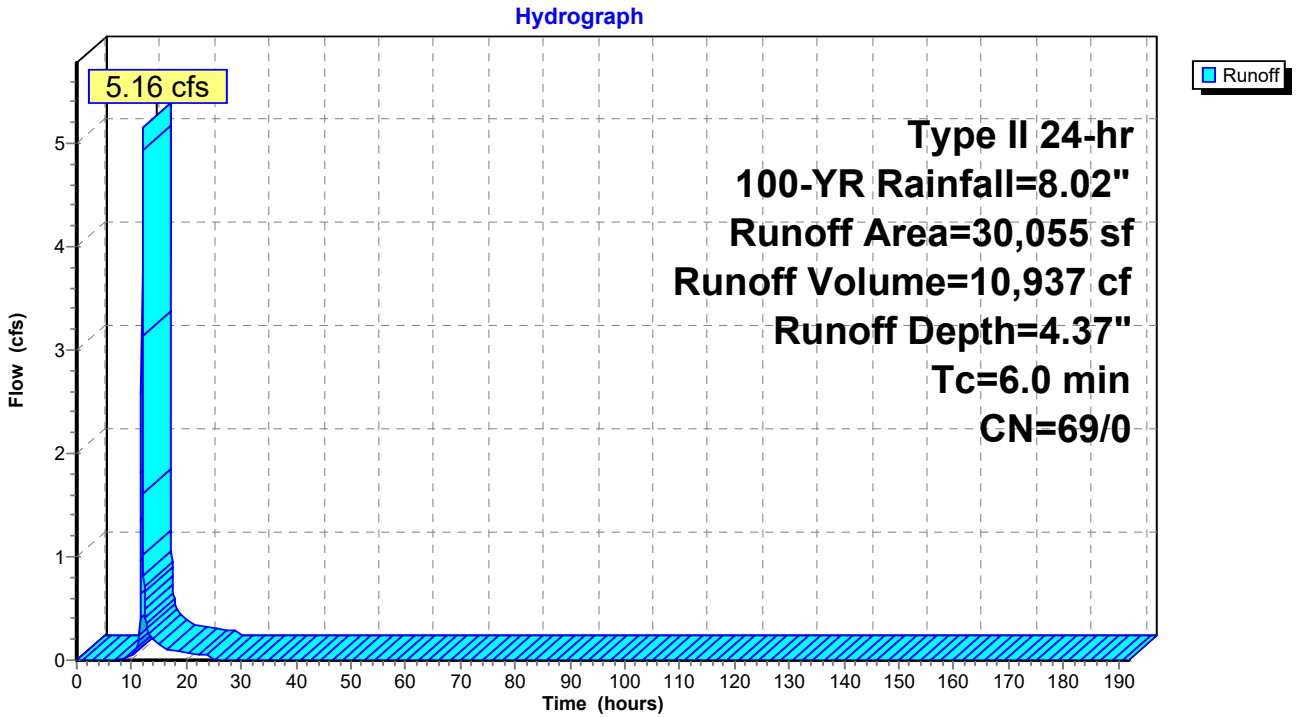
Subcatchment 21S: Prop. Off-Site Perv to MRC Basin



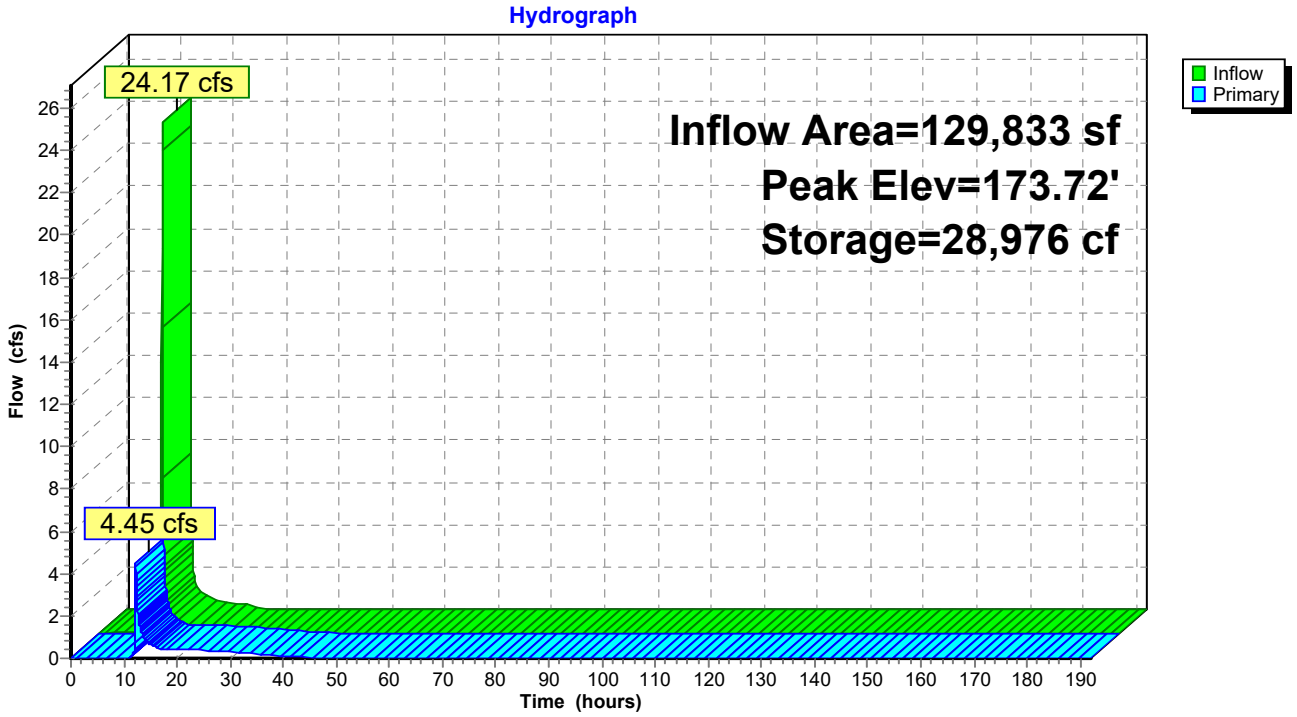
Subcatchment 22S: Prop. Off-Site Imp to MRC Basin



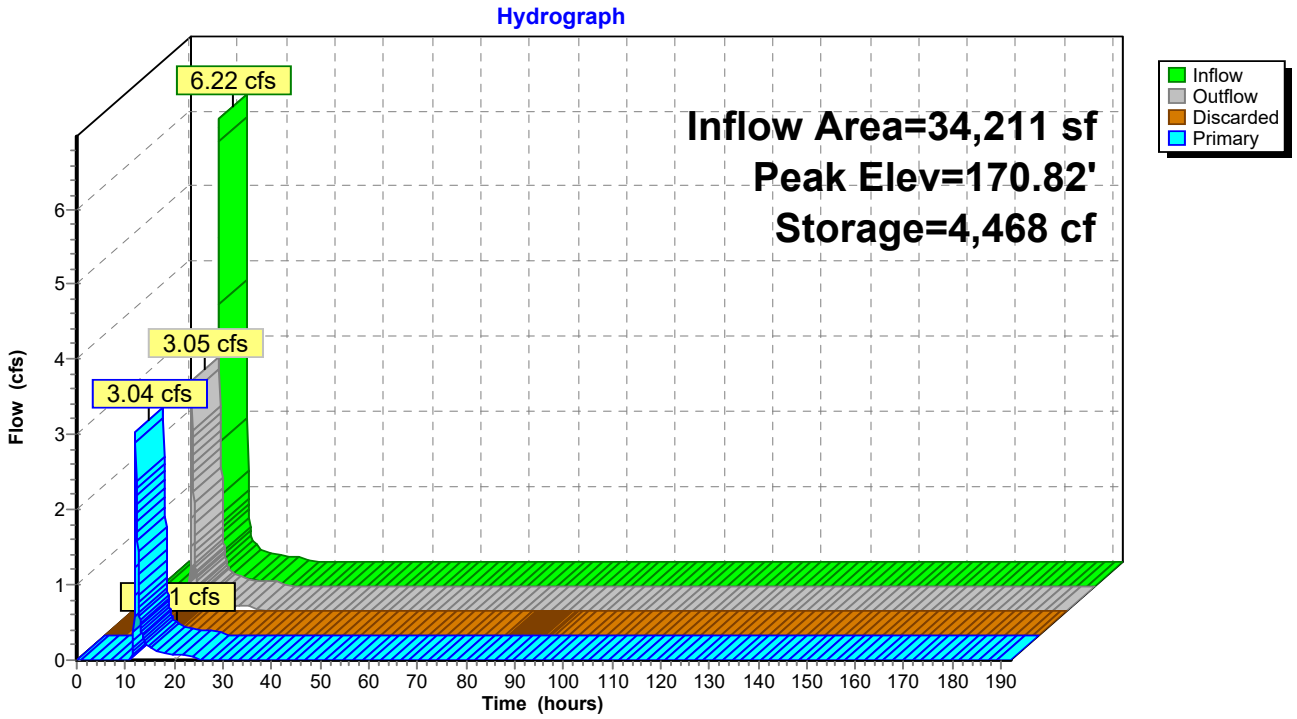
Subcatchment 23S: Prop. On-Site Perv to Infiltration Basin



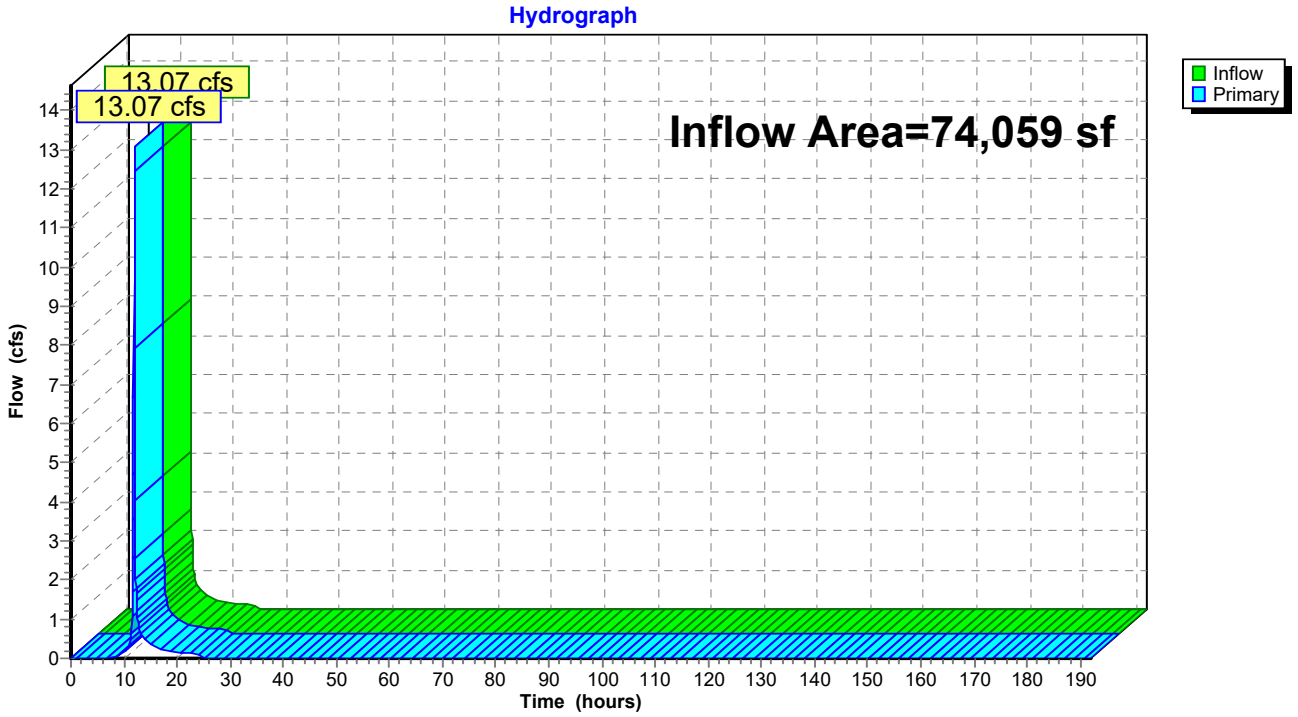
Pond 17P: MRC BASIN



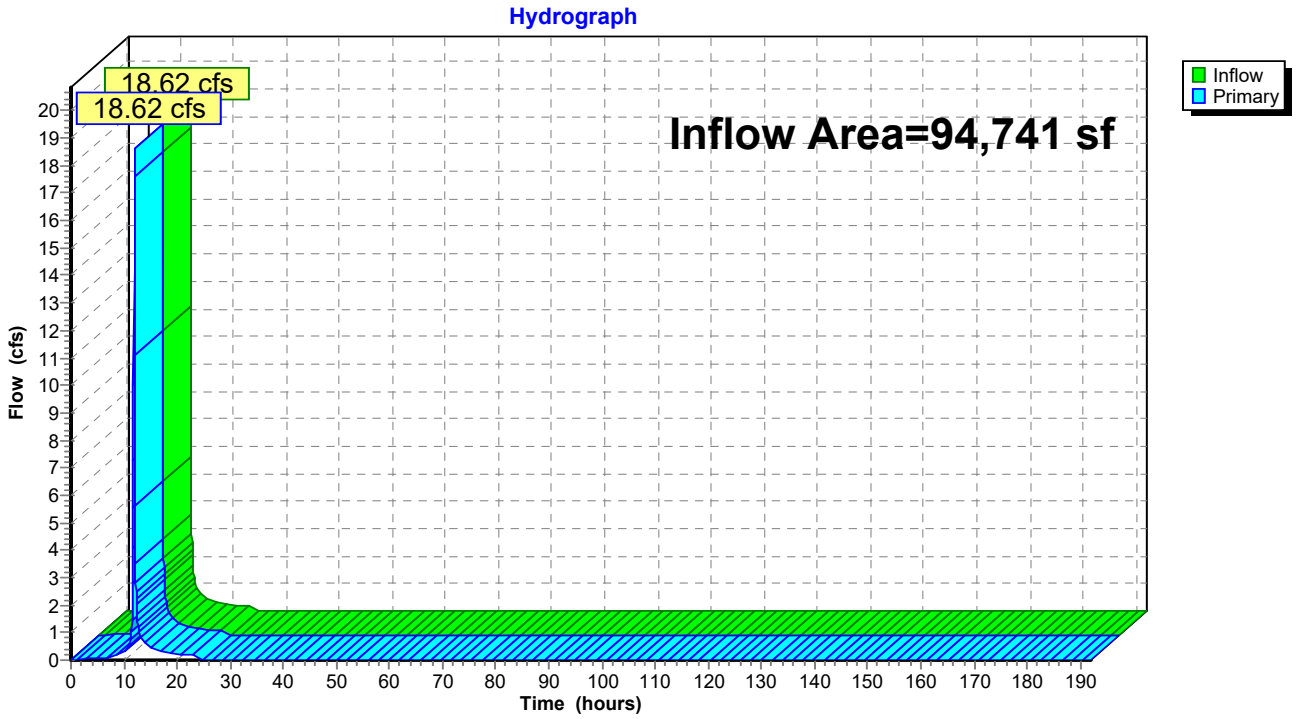
Pond 26P: INFILTRATION BASIN (SMALLER BASIN)



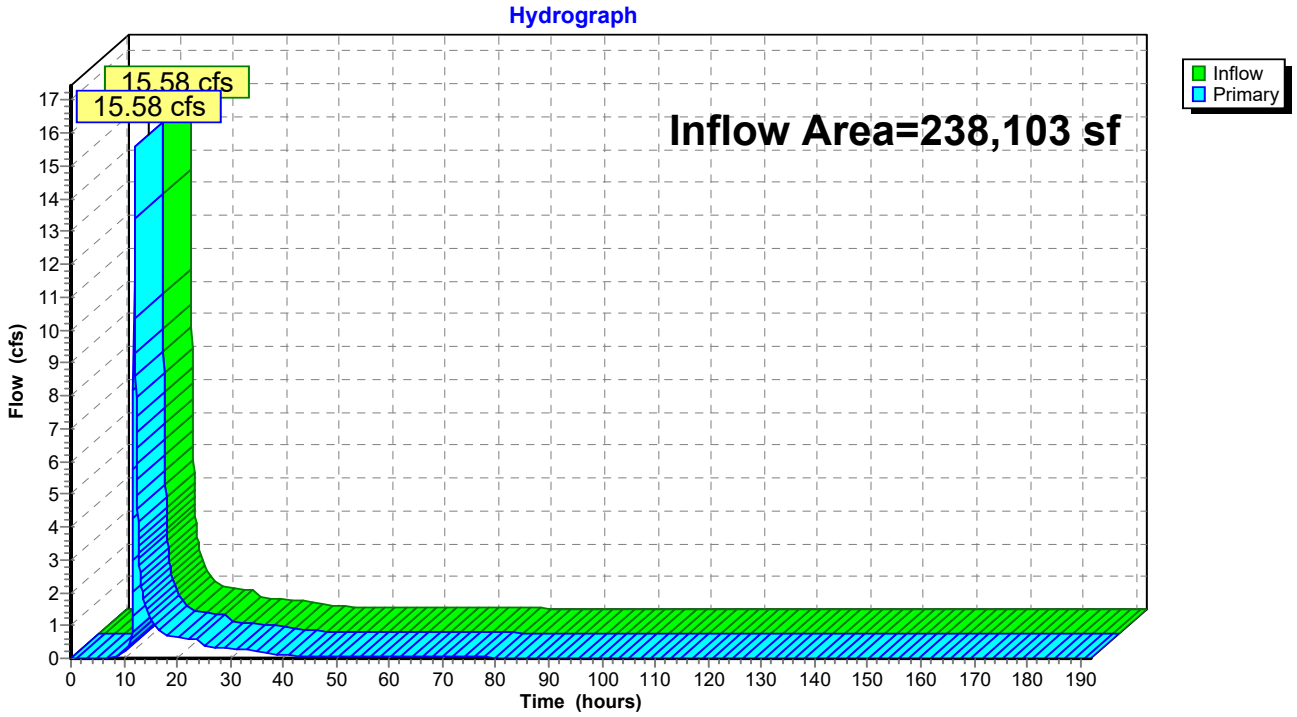
Link 17L: On-Site Bypass Total to POD-001



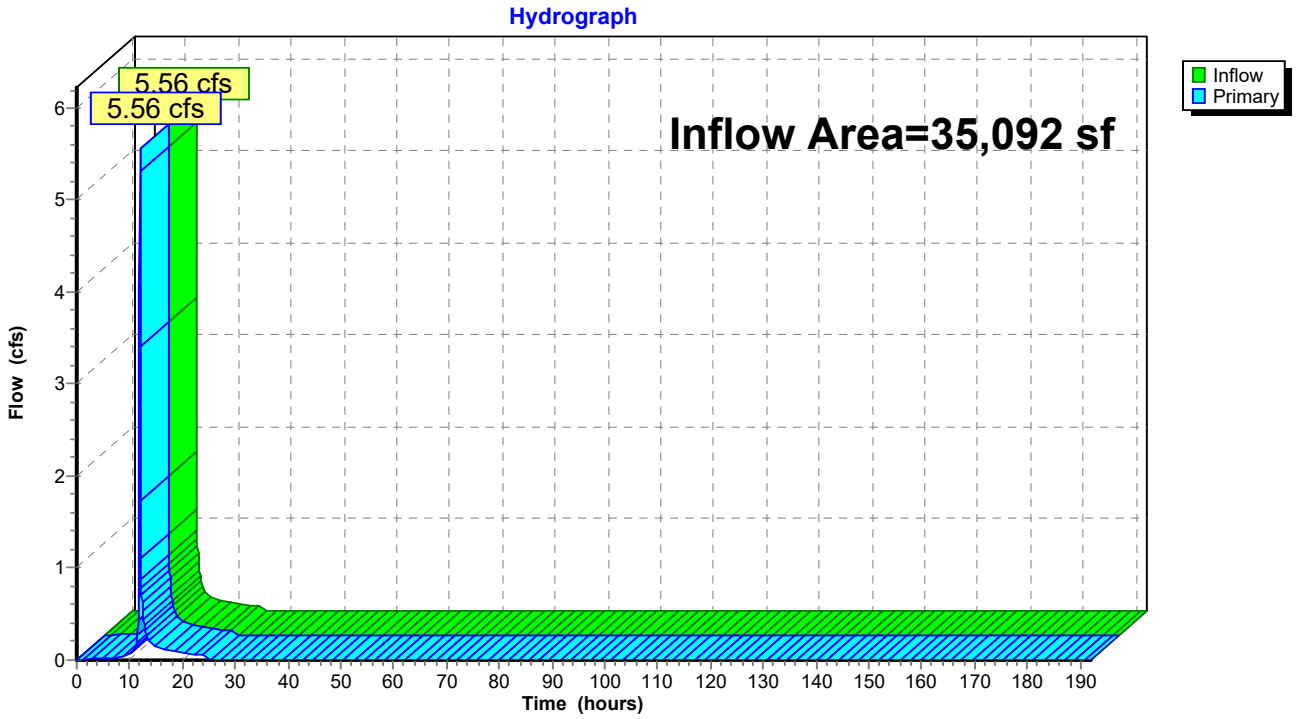
Link 20L: On-On-Site Total to MRC Basin



Link 21L: Total to POD-001



Link 36L: Off-Site Total to MRC Basin



Hydrograph for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	**0**	**169.00**	**0.00**	**0.00**	**0.00**
5.00	**0.00**	**322**	**169.17**	**0.00**	**0.00**	0.00
10.00	0.00	242	169.13	0.00	0.00	0.00
15.00	0.00	164	169.09	0.00	0.00	0.00
20.00	0.00	87	169.05	0.00	0.00	0.00
25.00	0.00	24	169.01	0.00	0.00	0.00
30.00	0.00	6	169.00	0.00	0.00	0.00
35.00	0.00	1	169.00	0.00	0.00	0.00
40.00	0.00	0	169.00	0.00	0.00	0.00
45.00	0.00	0	169.00	0.00	0.00	0.00
50.00	0.00	0	169.00	0.00	0.00	0.00
55.00	0.00	0	169.00	0.00	0.00	0.00
60.00	0.00	0	169.00	0.00	0.00	0.00
65.00	0.00	0	169.00	0.00	0.00	0.00
70.00	0.00	0	169.00	0.00	0.00	0.00
75.00	0.00	0	169.00	0.00	0.00	0.00
80.00	0.00	0	169.00	0.00	0.00	0.00
85.00	0.00	0	169.00	0.00	0.00	0.00
90.00	0.00	0	169.00	0.00	0.00	0.00
95.00	0.00	0	169.00	0.00	0.00	0.00
100.00	0.00	0	169.00	0.00	0.00	0.00
105.00	0.00	0	169.00	0.00	0.00	0.00
110.00	0.00	0	169.00	0.00	0.00	0.00
115.00	0.00	0	169.00	0.00	0.00	0.00
120.00	0.00	0	169.00	0.00	0.00	0.00
125.00	0.00	0	169.00	0.00	0.00	0.00
130.00	0.00	0	169.00	0.00	0.00	0.00
135.00	0.00	0	169.00	0.00	0.00	0.00
140.00	0.00	0	169.00	0.00	0.00	0.00
145.00	0.00	0	169.00	0.00	0.00	0.00
150.00	0.00	0	169.00	0.00	0.00	0.00
155.00	0.00	0	169.00	0.00	0.00	0.00
160.00	0.00	0	169.00	0.00	0.00	0.00
165.00	0.00	0	169.00	0.00	0.00	0.00
170.00	0.00	0	169.00	0.00	0.00	0.00
175.00	0.00	0	169.00	0.00	0.00	0.00
180.00	0.00	0	169.00	0.00	0.00	0.00
185.00	0.00	0	169.00	0.00	0.00	0.00
190.00	0.00	0	169.00	0.00	0.00	0.00

Hydrograph for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	169.00	0.00	0.00	0.00
5.00	0.00	13	169.01	0.00	0.00	0.00
10.00	**0.01**	**59**	**169.03**	**0.00**	**0.00**	**0.00**
15.00	**0.03**	**1,091**	**169.55**	**0.04**	**0.01**	**0.03**
20.00	0.02	1,040	169.52	0.02	0.01	0.01
25.00	0.00	999	169.50	0.01	0.00	0.00
30.00	0.00	909	169.46	0.00	0.00	0.00
35.00	0.00	821	169.42	0.00	0.00	0.00
40.00	0.00	734	169.38	0.00	0.00	0.00
45.00	0.00	648	169.34	0.00	0.00	0.00
50.00	0.00	564	169.30	0.00	0.00	0.00
55.00	0.00	481	169.25	0.00	0.00	0.00
60.00	0.00	399	169.21	0.00	0.00	0.00
65.00	0.00	318	169.17	0.00	0.00	0.00
70.00	0.00	238	169.13	0.00	0.00	0.00
75.00	0.00	160	169.09	0.00	0.00	0.00
80.00	0.00	83	169.05	0.00	0.00	0.00
85.00	0.00	23	169.01	0.00	0.00	0.00
90.00	0.00	6	169.00	0.00	0.00	0.00
95.00	0.00	1	169.00	0.00	0.00	0.00
100.00	0.00	0	169.00	0.00	0.00	0.00
105.00	0.00	0	169.00	0.00	0.00	0.00
110.00	0.00	0	169.00	0.00	0.00	0.00
115.00	0.00	0	169.00	0.00	0.00	0.00
120.00	0.00	0	169.00	0.00	0.00	0.00
125.00	0.00	0	169.00	0.00	0.00	0.00
130.00	0.00	0	169.00	0.00	0.00	0.00
135.00	0.00	0	169.00	0.00	0.00	0.00
140.00	0.00	0	169.00	0.00	0.00	0.00
145.00	0.00	0	169.00	0.00	0.00	0.00
150.00	0.00	0	169.00	0.00	0.00	0.00
155.00	0.00	0	169.00	0.00	0.00	0.00
160.00	0.00	0	169.00	0.00	0.00	0.00
165.00	0.00	0	169.00	0.00	0.00	0.00
170.00	0.00	0	169.00	0.00	0.00	0.00
175.00	0.00	0	169.00	0.00	0.00	0.00
180.00	0.00	0	169.00	0.00	0.00	0.00
185.00	0.00	0	169.00	0.00	0.00	0.00
190.00	0.00	0	169.00	0.00	0.00	0.00

Hydrograph for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	169.00	0.00	0.00	0.00
5.00	0.00	18	169.01	0.00	0.00	0.00
10.00	**0.01**	**77**	**169.04**	**0.00**	**0.00**	**0.00**
15.00	**0.05**	**1,120**	**169.56**	**0.05**	**0.01**	**0.05**
20.00	0.02	1,059	169.53	0.02	0.01	0.02
25.00	0.00	1,005	169.51	0.01	0.01	0.00
30.00	0.00	913	169.46	0.00	0.00	0.00
35.00	0.00	825	169.42	0.00	0.00	0.00
40.00	0.00	738	169.38	0.00	0.00	0.00
45.00	0.00	653	169.34	0.00	0.00	0.00
50.00	0.00	568	169.30	0.00	0.00	0.00
55.00	0.00	485	169.26	0.00	0.00	0.00
60.00	0.00	403	169.21	0.00	0.00	0.00
65.00	0.00	322	169.17	0.00	0.00	0.00
70.00	0.00	242	169.13	0.00	0.00	0.00
75.00	0.00	164	169.09	0.00	0.00	0.00
80.00	0.00	86	169.05	0.00	0.00	0.00
85.00	0.00	24	169.01	0.00	0.00	0.00
90.00	0.00	6	169.00	0.00	0.00	0.00
95.00	0.00	1	169.00	0.00	0.00	0.00
100.00	0.00	0	169.00	0.00	0.00	0.00
105.00	0.00	0	169.00	0.00	0.00	0.00
110.00	0.00	0	169.00	0.00	0.00	0.00
115.00	0.00	0	169.00	0.00	0.00	0.00
120.00	0.00	0	169.00	0.00	0.00	0.00
125.00	0.00	0	169.00	0.00	0.00	0.00
130.00	0.00	0	169.00	0.00	0.00	0.00
135.00	0.00	0	169.00	0.00	0.00	0.00
140.00	0.00	0	169.00	0.00	0.00	0.00
145.00	0.00	0	169.00	0.00	0.00	0.00
150.00	0.00	0	169.00	0.00	0.00	0.00
155.00	0.00	0	169.00	0.00	0.00	0.00
160.00	0.00	0	169.00	0.00	0.00	0.00
165.00	0.00	0	169.00	0.00	0.00	0.00
170.00	0.00	0	169.00	0.00	0.00	0.00
175.00	0.00	0	169.00	0.00	0.00	0.00
180.00	0.00	0	169.00	0.00	0.00	0.00
185.00	0.00	0	169.00	0.00	0.00	0.00
190.00	0.00	0	169.00	0.00	0.00	0.00

Hydrograph for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	169.00	0.00	0.00	0.00
5.00	0.00	27	169.02	0.00	0.00	0.00
10.00	**0.01**	**112**	**169.06**	**0.00**	**0.00**	**0.00**
15.00	**0.07**	**1,160**	**169.58**	**0.08**	**0.01**	**0.07**
20.00	0.03	1,083	169.54	0.03	0.01	0.03
25.00	0.00	1,013	169.51	0.01	0.01	0.00
30.00	0.00	918	169.47	0.00	0.00	0.00
35.00	0.00	830	169.42	0.00	0.00	0.00
40.00	0.00	743	169.38	0.00	0.00	0.00
45.00	0.00	657	169.34	0.00	0.00	0.00
50.00	0.00	573	169.30	0.00	0.00	0.00
55.00	0.00	489	169.26	0.00	0.00	0.00
60.00	0.00	407	169.22	0.00	0.00	0.00
65.00	0.00	326	169.17	0.00	0.00	0.00
70.00	0.00	247	169.13	0.00	0.00	0.00
75.00	0.00	168	169.09	0.00	0.00	0.00
80.00	0.00	91	169.05	0.00	0.00	0.00
85.00	0.00	26	169.01	0.00	0.00	0.00
90.00	0.00	6	169.00	0.00	0.00	0.00
95.00	0.00	2	169.00	0.00	0.00	0.00
100.00	0.00	0	169.00	0.00	0.00	0.00
105.00	0.00	0	169.00	0.00	0.00	0.00
110.00	0.00	0	169.00	0.00	0.00	0.00
115.00	0.00	0	169.00	0.00	0.00	0.00
120.00	0.00	0	169.00	0.00	0.00	0.00
125.00	0.00	0	169.00	0.00	0.00	0.00
130.00	0.00	0	169.00	0.00	0.00	0.00
135.00	0.00	0	169.00	0.00	0.00	0.00
140.00	0.00	0	169.00	0.00	0.00	0.00
145.00	0.00	0	169.00	0.00	0.00	0.00
150.00	0.00	0	169.00	0.00	0.00	0.00
155.00	0.00	0	169.00	0.00	0.00	0.00
160.00	0.00	0	169.00	0.00	0.00	0.00
165.00	0.00	0	169.00	0.00	0.00	0.00
170.00	0.00	0	169.00	0.00	0.00	0.00
175.00	0.00	0	169.00	0.00	0.00	0.00
180.00	0.00	0	169.00	0.00	0.00	0.00
185.00	0.00	0	169.00	0.00	0.00	0.00
190.00	0.00	0	169.00	0.00	0.00	0.00

Hydrograph for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	169.00	0.00	0.00	0.00
5.00	0.01	35	169.02	0.00	0.00	0.00
10.00	**0.02**	**145**	**169.08**	**0.00**	**0.00**	**0.00**
15.00	**0.09**	**1,191**	**169.59**	**0.09**	**0.01**	**0.09**
20.00	0.04	1,100	169.55	0.04	0.01	0.04
25.00	0.00	1,019	169.51	0.01	0.01	0.01
30.00	0.00	921	169.47	0.00	0.00	0.00
35.00	0.00	833	169.43	0.00	0.00	0.00
40.00	0.00	746	169.38	0.00	0.00	0.00
45.00	0.00	660	169.34	0.00	0.00	0.00
50.00	0.00	575	169.30	0.00	0.00	0.00
55.00	0.00	492	169.26	0.00	0.00	0.00
60.00	0.00	410	169.22	0.00	0.00	0.00
65.00	0.00	329	169.18	0.00	0.00	0.00
70.00	0.00	249	169.13	0.00	0.00	0.00
75.00	0.00	170	169.09	0.00	0.00	0.00
80.00	0.00	93	169.05	0.00	0.00	0.00
85.00	0.00	27	169.02	0.00	0.00	0.00
90.00	0.00	7	169.00	0.00	0.00	0.00
95.00	0.00	2	169.00	0.00	0.00	0.00
100.00	0.00	0	169.00	0.00	0.00	0.00
105.00	0.00	0	169.00	0.00	0.00	0.00
110.00	0.00	0	169.00	0.00	0.00	0.00
115.00	0.00	0	169.00	0.00	0.00	0.00
120.00	0.00	0	169.00	0.00	0.00	0.00
125.00	0.00	0	169.00	0.00	0.00	0.00
130.00	0.00	0	169.00	0.00	0.00	0.00
135.00	0.00	0	169.00	0.00	0.00	0.00
140.00	0.00	0	169.00	0.00	0.00	0.00
145.00	0.00	0	169.00	0.00	0.00	0.00
150.00	0.00	0	169.00	0.00	0.00	0.00
155.00	0.00	0	169.00	0.00	0.00	0.00
160.00	0.00	0	169.00	0.00	0.00	0.00
165.00	0.00	0	169.00	0.00	0.00	0.00
170.00	0.00	0	169.00	0.00	0.00	0.00
175.00	0.00	0	169.00	0.00	0.00	0.00
180.00	0.00	0	169.00	0.00	0.00	0.00
185.00	0.00	0	169.00	0.00	0.00	0.00
190.00	0.00	0	169.00	0.00	0.00	0.00

Hydrograph for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	169.00	0.00	0.00	0.00
5.00	0.01	48	169.03	0.00	0.00	0.00
10.00	**0.03**	**216**	**169.12**	**0.00**	**0.00**	**0.00**
15.00	**0.11**	**1,233**	**169.61**	**0.12**	**0.01**	**0.12**
20.00	0.05	1,125	169.56	0.06	0.01	0.05
25.00	0.00	1,025	169.52	0.01	0.01	0.01
30.00	0.00	924	169.47	0.00	0.00	0.00
35.00	0.00	835	169.43	0.00	0.00	0.00
40.00	0.00	748	169.39	0.00	0.00	0.00
45.00	0.00	662	169.34	0.00	0.00	0.00
50.00	0.00	578	169.30	0.00	0.00	0.00
55.00	0.00	494	169.26	0.00	0.00	0.00
60.00	0.00	412	169.22	0.00	0.00	0.00
65.00	0.00	331	169.18	0.00	0.00	0.00
70.00	0.00	251	169.14	0.00	0.00	0.00
75.00	0.00	173	169.09	0.00	0.00	0.00
80.00	0.00	95	169.05	0.00	0.00	0.00
85.00	0.00	28	169.02	0.00	0.00	0.00
90.00	0.00	7	169.00	0.00	0.00	0.00
95.00	0.00	2	169.00	0.00	0.00	0.00
100.00	0.00	0	169.00	0.00	0.00	0.00
105.00	0.00	0	169.00	0.00	0.00	0.00
110.00	0.00	0	169.00	0.00	0.00	0.00
115.00	0.00	0	169.00	0.00	0.00	0.00
120.00	0.00	0	169.00	0.00	0.00	0.00
125.00	0.00	0	169.00	0.00	0.00	0.00
130.00	0.00	0	169.00	0.00	0.00	0.00
135.00	0.00	0	169.00	0.00	0.00	0.00
140.00	0.00	0	169.00	0.00	0.00	0.00
145.00	0.00	0	169.00	0.00	0.00	0.00
150.00	0.00	0	169.00	0.00	0.00	0.00
155.00	0.00	0	169.00	0.00	0.00	0.00
160.00	0.00	0	169.00	0.00	0.00	0.00
165.00	0.00	0	169.00	0.00	0.00	0.00
170.00	0.00	0	169.00	0.00	0.00	0.00
175.00	0.00	0	169.00	0.00	0.00	0.00
180.00	0.00	0	169.00	0.00	0.00	0.00
185.00	0.00	0	169.00	0.00	0.00	0.00
190.00	0.00	0	169.00	0.00	0.00	0.00

Hydrograph for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	169.00	0.00	0.00	0.00
5.00	0.01	59	169.03	0.00	0.00	0.00
10.00	**0.05**	**309**	**169.17**	**0.00**	**0.00**	**0.00**
15.00	**0.14**	**1,268**	**169.63**	**0.15**	**0.01**	**0.14**
20.00	0.06	1,145	169.57	0.07	0.01	0.06
25.00	0.00	1,030	169.52	0.01	0.01	0.01
30.00	0.00	926	169.47	0.00	0.00	0.00
35.00	0.00	837	169.43	0.00	0.00	0.00
40.00	0.00	750	169.39	0.00	0.00	0.00
45.00	0.00	664	169.34	0.00	0.00	0.00
50.00	0.00	579	169.30	0.00	0.00	0.00
55.00	0.00	496	169.26	0.00	0.00	0.00
60.00	0.00	414	169.22	0.00	0.00	0.00
65.00	0.00	333	169.18	0.00	0.00	0.00
70.00	0.00	253	169.14	0.00	0.00	0.00
75.00	0.00	174	169.09	0.00	0.00	0.00
80.00	0.00	97	169.05	0.00	0.00	0.00
85.00	0.00	29	169.02	0.00	0.00	0.00
90.00	0.00	7	169.00	0.00	0.00	0.00
95.00	0.00	2	169.00	0.00	0.00	0.00
100.00	0.00	0	169.00	0.00	0.00	0.00
105.00	0.00	0	169.00	0.00	0.00	0.00
110.00	0.00	0	169.00	0.00	0.00	0.00
115.00	0.00	0	169.00	0.00	0.00	0.00
120.00	0.00	0	169.00	0.00	0.00	0.00
125.00	0.00	0	169.00	0.00	0.00	0.00
130.00	0.00	0	169.00	0.00	0.00	0.00
135.00	0.00	0	169.00	0.00	0.00	0.00
140.00	0.00	0	169.00	0.00	0.00	0.00
145.00	0.00	0	169.00	0.00	0.00	0.00
150.00	0.00	0	169.00	0.00	0.00	0.00
155.00	0.00	0	169.00	0.00	0.00	0.00
160.00	0.00	0	169.00	0.00	0.00	0.00
165.00	0.00	0	169.00	0.00	0.00	0.00
170.00	0.00	0	169.00	0.00	0.00	0.00
175.00	0.00	0	169.00	0.00	0.00	0.00
180.00	0.00	0	169.00	0.00	0.00	0.00
185.00	0.00	0	169.00	0.00	0.00	0.00
190.00	0.00	0	169.00	0.00	0.00	0.00

Hydrograph for Pond 26P: INFILTRATION BASIN (SMALLER BASIN)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	169.00	0.00	0.00	0.00
5.00	0.01	72	169.04	0.00	0.00	0.00
10.00	**0.07**	**440**	**169.23**	**0.00**	**0.00**	**0.00**
15.00	**0.16**	**1,302**	**169.64**	**0.18**	**0.01**	**0.17**
20.00	0.07	1,164	169.58	0.08	0.01	0.07
25.00	0.00	1,035	169.52	0.02	0.01	0.01
30.00	0.00	927	169.47	0.00	0.00	0.00
35.00	0.00	839	169.43	0.00	0.00	0.00
40.00	0.00	752	169.39	0.00	0.00	0.00
45.00	0.00	666	169.35	0.00	0.00	0.00
50.00	0.00	581	169.30	0.00	0.00	0.00
55.00	0.00	497	169.26	0.00	0.00	0.00
60.00	0.00	415	169.22	0.00	0.00	0.00
65.00	0.00	334	169.18	0.00	0.00	0.00
70.00	0.00	254	169.14	0.00	0.00	0.00
75.00	0.00	176	169.10	0.00	0.00	0.00
80.00	0.00	98	169.05	0.00	0.00	0.00
85.00	0.00	30	169.02	0.00	0.00	0.00
90.00	0.00	7	169.00	0.00	0.00	0.00
95.00	0.00	2	169.00	0.00	0.00	0.00
100.00	0.00	0	169.00	0.00	0.00	0.00
105.00	0.00	0	169.00	0.00	0.00	0.00
110.00	0.00	0	169.00	0.00	0.00	0.00
115.00	0.00	0	169.00	0.00	0.00	0.00
120.00	0.00	0	169.00	0.00	0.00	0.00
125.00	0.00	0	169.00	0.00	0.00	0.00
130.00	0.00	0	169.00	0.00	0.00	0.00
135.00	0.00	0	169.00	0.00	0.00	0.00
140.00	0.00	0	169.00	0.00	0.00	0.00
145.00	0.00	0	169.00	0.00	0.00	0.00
150.00	0.00	0	169.00	0.00	0.00	0.00
155.00	0.00	0	169.00	0.00	0.00	0.00
160.00	0.00	0	169.00	0.00	0.00	0.00
165.00	0.00	0	169.00	0.00	0.00	0.00
170.00	0.00	0	169.00	0.00	0.00	0.00
175.00	0.00	0	169.00	0.00	0.00	0.00
180.00	0.00	0	169.00	0.00	0.00	0.00
185.00	0.00	0	169.00	0.00	0.00	0.00
190.00	0.00	0	169.00	0.00	0.00	0.00

Hydrograph for Pond 17P: MRC BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0**	**169.00**	**0.00**
5.00	**0.00**	**2,436**	**170.55**	**0.02**
10.00	0.00	2,123	170.41	0.02
15.00	0.00	1,858	170.30	0.01
20.00	0.00	1,642	170.21	0.01
25.00	0.00	1,474	170.14	0.01
30.00	0.00	1,355	170.08	0.01
35.00	0.00	1,281	170.05	0.00
40.00	0.00	1,241	170.03	0.00
45.00	0.00	1,219	170.03	0.00
50.00	0.00	1,207	170.02	0.00
55.00	0.00	1,199	170.02	0.00
60.00	0.00	1,192	170.01	0.00
65.00	0.00	1,187	170.01	0.00
70.00	0.00	1,182	170.01	0.00
75.00	0.00	1,178	170.01	0.00
80.00	0.00	1,175	170.01	0.00
85.00	0.00	1,173	170.01	0.00
90.00	0.00	1,171	170.00	0.00
95.00	0.00	1,169	170.00	0.00
100.00	0.00	1,167	170.00	0.00
105.00	0.00	1,166	170.00	0.00
110.00	0.00	1,165	170.00	0.00
115.00	0.00	1,164	170.00	0.00
120.00	0.00	1,164	170.00	0.00
125.00	0.00	1,163	170.00	0.00
130.00	0.00	1,163	170.00	0.00
135.00	0.00	1,162	170.00	0.00
140.00	0.00	1,162	170.00	0.00
145.00	0.00	1,162	170.00	0.00
150.00	0.00	1,161	170.00	0.00
155.00	0.00	1,161	170.00	0.00
160.00	0.00	1,161	170.00	0.00
165.00	0.00	1,161	170.00	0.00
170.00	0.00	1,161	170.00	0.00
175.00	0.00	1,161	170.00	0.00
180.00	0.00	1,161	170.00	0.00
185.00	0.00	1,161	170.00	0.00
190.00	0.00	1,160	170.00	0.00

Hydrograph for Pond 17P: MRC BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	169.00	0.00
5.00	0.02	130	169.11	0.00
10.00	**0.07**	802	169.69	0.00
15.00	**0.14**	**7,775**	**171.53**	**0.04**
20.00	0.06	**8,361**	**171.60**	**0.07**
25.00	0.00	8,068	171.57	0.05
30.00	0.00	7,382	171.49	0.03
35.00	0.00	6,820	171.42	0.03
40.00	0.00	6,272	171.35	0.03
45.00	0.00	5,738	171.29	0.03
50.00	0.00	5,218	171.22	0.03
55.00	0.00	4,712	171.16	0.03
60.00	0.00	4,220	171.09	0.03
65.00	0.00	3,742	171.03	0.03
70.00	0.00	3,281	170.91	0.02
75.00	0.00	2,864	170.73	0.02
80.00	0.00	2,495	170.58	0.02
85.00	0.00	2,174	170.44	0.02
90.00	0.00	1,901	170.32	0.01
95.00	0.00	1,676	170.22	0.01
100.00	0.00	1,500	170.15	0.01
105.00	0.00	1,373	170.09	0.01
110.00	0.00	1,291	170.06	0.00
115.00	0.00	1,246	170.04	0.00
120.00	0.00	1,222	170.03	0.00
125.00	0.00	1,208	170.02	0.00
130.00	0.00	1,200	170.02	0.00
135.00	0.00	1,193	170.01	0.00
140.00	0.00	1,188	170.01	0.00
145.00	0.00	1,183	170.01	0.00
150.00	0.00	1,179	170.01	0.00
155.00	0.00	1,176	170.01	0.00
160.00	0.00	1,173	170.01	0.00
165.00	0.00	1,171	170.00	0.00
170.00	0.00	1,169	170.00	0.00
175.00	0.00	1,168	170.00	0.00
180.00	0.00	1,166	170.00	0.00
185.00	0.00	1,165	170.00	0.00
190.00	0.00	1,164	170.00	0.00

Hydrograph for Pond 17P: MRC BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	169.00	0.00
5.00	0.03	190	169.16	0.00
10.00	**0.09**	1,042	169.90	0.00
15.00	**0.19**	**9,838**	**171.78**	**0.15**
20.00	0.09	**9,442**	**171.73**	**0.13**
25.00	0.00	8,559	171.63	0.08
30.00	0.00	7,625	171.52	0.03
35.00	0.00	7,053	171.45	0.03
40.00	0.00	6,499	171.38	0.03
45.00	0.00	5,960	171.31	0.03
50.00	0.00	5,434	171.25	0.03
55.00	0.00	4,921	171.18	0.03
60.00	0.00	4,423	171.12	0.03
65.00	0.00	3,940	171.06	0.03
70.00	0.00	3,470	171.00	0.03
75.00	0.00	3,032	170.81	0.02
80.00	0.00	2,643	170.64	0.02
85.00	0.00	2,302	170.49	0.02
90.00	0.00	2,009	170.37	0.01
95.00	0.00	1,764	170.26	0.01
100.00	0.00	1,568	170.18	0.01
105.00	0.00	1,420	170.11	0.01
110.00	0.00	1,320	170.07	0.00
115.00	0.00	1,262	170.04	0.00
120.00	0.00	1,230	170.03	0.00
125.00	0.00	1,213	170.02	0.00
130.00	0.00	1,203	170.02	0.00
135.00	0.00	1,196	170.02	0.00
140.00	0.00	1,190	170.01	0.00
145.00	0.00	1,185	170.01	0.00
150.00	0.00	1,181	170.01	0.00
155.00	0.00	1,177	170.01	0.00
160.00	0.00	1,174	170.01	0.00
165.00	0.00	1,172	170.00	0.00
170.00	0.00	1,170	170.00	0.00
175.00	0.00	1,168	170.00	0.00
180.00	0.00	1,167	170.00	0.00
185.00	0.00	1,166	170.00	0.00
190.00	0.00	1,165	170.00	0.00

Hydrograph for Pond 17P: MRC BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	169.00	0.00
5.00	0.04	293	169.25	0.00
10.00	**0.11**	1,413	170.11	0.01
15.00	**0.26**	**13,724**	**172.21**	**0.25**
20.00	0.12	**12,550**	**172.08**	**0.23**
25.00	0.00	10,499	171.85	0.17
30.00	0.00	8,338	171.60	0.07
35.00	0.00	7,526	171.50	0.03
40.00	0.00	6,961	171.44	0.03
45.00	0.00	6,410	171.37	0.03
50.00	0.00	5,872	171.30	0.03
55.00	0.00	5,348	171.24	0.03
60.00	0.00	4,838	171.17	0.03
65.00	0.00	4,343	171.11	0.03
70.00	0.00	3,861	171.05	0.03
75.00	0.00	3,395	170.96	0.03
80.00	0.00	2,965	170.78	0.02
85.00	0.00	2,584	170.61	0.02
90.00	0.00	2,250	170.47	0.02
95.00	0.00	1,965	170.35	0.01
100.00	0.00	1,728	170.24	0.01
105.00	0.00	1,540	170.16	0.01
110.00	0.00	1,400	170.10	0.01
115.00	0.00	1,307	170.06	0.00
120.00	0.00	1,255	170.04	0.00
125.00	0.00	1,226	170.03	0.00
130.00	0.00	1,211	170.02	0.00
135.00	0.00	1,202	170.02	0.00
140.00	0.00	1,195	170.01	0.00
145.00	0.00	1,189	170.01	0.00
150.00	0.00	1,184	170.01	0.00
155.00	0.00	1,180	170.01	0.00
160.00	0.00	1,177	170.01	0.00
165.00	0.00	1,174	170.01	0.00
170.00	0.00	1,171	170.00	0.00
175.00	0.00	1,170	170.00	0.00
180.00	0.00	1,168	170.00	0.00
185.00	0.00	1,167	170.00	0.00
190.00	0.00	1,166	170.00	0.00

Hydrograph for Pond 17P: MRC BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	169.00	0.00
5.00	0.05	387	169.33	0.00
10.00	**0.14**	1,717	170.24	0.01
15.00	**0.33**	**17,760**	**172.64**	**0.32**
20.00	0.15	**16,199**	**172.48**	**0.29**
25.00	0.00	13,329	172.17	0.24
30.00	0.00	9,784	171.77	0.15
35.00	0.00	8,074	171.57	0.05
40.00	0.00	7,385	171.49	0.03
45.00	0.00	6,824	171.42	0.03
50.00	0.00	6,276	171.35	0.03
55.00	0.00	5,742	171.29	0.03
60.00	0.00	5,221	171.22	0.03
65.00	0.00	4,715	171.16	0.03
70.00	0.00	4,223	171.10	0.03
75.00	0.00	3,745	171.03	0.03
80.00	0.00	3,284	170.92	0.02
85.00	0.00	2,867	170.74	0.02
90.00	0.00	2,497	170.58	0.02
95.00	0.00	2,176	170.44	0.02
100.00	0.00	1,902	170.32	0.01
105.00	0.00	1,678	170.22	0.01
110.00	0.00	1,501	170.15	0.01
115.00	0.00	1,373	170.09	0.01
120.00	0.00	1,291	170.06	0.00
125.00	0.00	1,246	170.04	0.00
130.00	0.00	1,222	170.03	0.00
135.00	0.00	1,208	170.02	0.00
140.00	0.00	1,200	170.02	0.00
145.00	0.00	1,193	170.01	0.00
150.00	0.00	1,188	170.01	0.00
155.00	0.00	1,183	170.01	0.00
160.00	0.00	1,179	170.01	0.00
165.00	0.00	1,176	170.01	0.00
170.00	0.00	1,173	170.01	0.00
175.00	0.00	1,171	170.00	0.00
180.00	0.00	1,169	170.00	0.00
185.00	0.00	1,168	170.00	0.00
190.00	0.00	1,166	170.00	0.00

Hydrograph for Pond 17P: MRC BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	169.00	0.00
5.00	0.06	532	169.46	0.00
10.00	**0.20**	2,212	170.45	0.02
15.00	**0.44**	**24,335**	**173.29**	**0.40**
20.00	0.19	**22,519**	**173.12**	**0.38**
25.00	0.00	18,713	172.74	0.33
30.00	0.00	13,510	172.19	0.25
35.00	0.00	9,896	171.78	0.15
40.00	0.00	8,114	171.57	0.05
45.00	0.00	7,409	171.49	0.03
50.00	0.00	6,847	171.42	0.03
55.00	0.00	6,298	171.35	0.03
60.00	0.00	5,763	171.29	0.03
65.00	0.00	5,243	171.22	0.03
70.00	0.00	4,736	171.16	0.03
75.00	0.00	4,243	171.10	0.03
80.00	0.00	3,764	171.04	0.03
85.00	0.00	3,302	170.92	0.02
90.00	0.00	2,883	170.74	0.02
95.00	0.00	2,511	170.58	0.02
100.00	0.00	2,188	170.44	0.02
105.00	0.00	1,913	170.32	0.01
110.00	0.00	1,686	170.23	0.01
115.00	0.00	1,507	170.15	0.01
120.00	0.00	1,378	170.09	0.01
125.00	0.00	1,294	170.06	0.00
130.00	0.00	1,248	170.04	0.00
135.00	0.00	1,222	170.03	0.00
140.00	0.00	1,209	170.02	0.00
145.00	0.00	1,200	170.02	0.00
150.00	0.00	1,193	170.01	0.00
155.00	0.00	1,188	170.01	0.00
160.00	0.00	1,183	170.01	0.00
165.00	0.00	1,179	170.01	0.00
170.00	0.00	1,176	170.01	0.00
175.00	0.00	1,173	170.01	0.00
180.00	0.00	1,171	170.00	0.00
185.00	0.00	1,169	170.00	0.00
190.00	0.00	1,168	170.00	0.00

Hydrograph for Pond 17P: MRC BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	169.00	0.00
5.00	0.07	662	169.57	0.00
10.00	**0.26**	**2,708**	**170.67**	**0.02**
15.00	**0.52**	**26,748**	**173.51**	**0.56**
20.00	0.23	25,217	173.37	0.41
25.00	0.00	21,368	173.00	0.36
30.00	0.00	15,535	172.41	0.28
35.00	0.00	11,225	171.93	0.19
40.00	0.00	8,643	171.64	0.09
45.00	0.00	7,659	171.52	0.03
50.00	0.00	7,084	171.45	0.03
55.00	0.00	6,530	171.38	0.03
60.00	0.00	5,989	171.32	0.03
65.00	0.00	5,462	171.25	0.03
70.00	0.00	4,949	171.19	0.03
75.00	0.00	4,450	171.12	0.03
80.00	0.00	3,966	171.06	0.03
85.00	0.00	3,495	171.00	0.03
90.00	0.00	3,055	170.82	0.02
95.00	0.00	2,663	170.65	0.02
100.00	0.00	2,319	170.50	0.02
105.00	0.00	2,024	170.37	0.02
110.00	0.00	1,776	170.27	0.01
115.00	0.00	1,577	170.18	0.01
120.00	0.00	1,427	170.11	0.01
125.00	0.00	1,324	170.07	0.00
130.00	0.00	1,264	170.04	0.00
135.00	0.00	1,231	170.03	0.00
140.00	0.00	1,214	170.02	0.00
145.00	0.00	1,204	170.02	0.00
150.00	0.00	1,196	170.02	0.00
155.00	0.00	1,190	170.01	0.00
160.00	0.00	1,185	170.01	0.00
165.00	0.00	1,181	170.01	0.00
170.00	0.00	1,177	170.01	0.00
175.00	0.00	1,174	170.01	0.00
180.00	0.00	1,172	170.01	0.00
185.00	0.00	1,170	170.00	0.00
190.00	0.00	1,168	170.00	0.00

Hydrograph for Pond 17P: MRC BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	169.00	0.00
5.00	0.08	807	169.70	0.00
10.00	**0.34**	**3,320**	**170.93**	**0.02**
15.00	**0.62**	**26,865**	**173.53**	**0.67**
20.00	0.28	25,883	173.43	0.41
25.00	0.00	22,423	173.11	0.38
30.00	0.00	16,361	172.49	0.30
35.00	0.00	11,800	172.00	0.21
40.00	0.00	8,917	171.67	0.11
45.00	0.00	7,764	171.53	0.04
50.00	0.00	7,173	171.46	0.03
55.00	0.00	6,616	171.39	0.03
60.00	0.00	6,074	171.33	0.03
65.00	0.00	5,545	171.26	0.03
70.00	0.00	5,030	171.20	0.03
75.00	0.00	4,528	171.13	0.03
80.00	0.00	4,041	171.07	0.03
85.00	0.00	3,569	171.01	0.03
90.00	0.00	3,122	170.85	0.02
95.00	0.00	2,722	170.67	0.02
100.00	0.00	2,371	170.52	0.02
105.00	0.00	2,067	170.39	0.02
110.00	0.00	1,812	170.28	0.01
115.00	0.00	1,605	170.19	0.01
120.00	0.00	1,447	170.12	0.01
125.00	0.00	1,337	170.08	0.00
130.00	0.00	1,271	170.05	0.00
135.00	0.00	1,235	170.03	0.00
140.00	0.00	1,216	170.02	0.00
145.00	0.00	1,205	170.02	0.00
150.00	0.00	1,197	170.02	0.00
155.00	0.00	1,191	170.01	0.00
160.00	0.00	1,186	170.01	0.00
165.00	0.00	1,181	170.01	0.00
170.00	0.00	1,178	170.01	0.00
175.00	0.00	1,175	170.01	0.00
180.00	0.00	1,172	170.01	0.00
185.00	0.00	1,170	170.00	0.00
190.00	0.00	1,168	170.00	0.00

PADEP PCSM SPREADSHEET

General Information

Instructions | *General* | Volume | Rate | Quality

Project Name: **DeLuca Construction**

Application Type: **PAG-02 NOI**

County: **Bucks**

Municipality: **Newtown Township**

Project Type: **Single-Family Housing**

(●) New Project ( ) Minor / Major Amendment

Area: **5.110** acres
(In Watershed)

Total Earth Disturbance: **4.660** acres
(In Watershed)

No. of Post-Construction Points of Analysis: **1**

at: **001**

Point of Analysis (POA) No.	Total Drainage Area (DA) (acres)	Project Site DA (acres)	Existing Imp., Project Site DA (acres)	Proposed Imp., Project Site DA (acres)	Receiving Waters	Ch. 93 Class	Structural SCM(s)
001	3.770	2.960	0.078	0.661	Discharge to MS4	WWF, MF	Yes
Undetained Areas	1.700	1.700	0.000	0.097	Discharge to MS4	WWF, MF	
Totals:	**5.470**	**4.660**	**0.078**	**0.758**			

PROJECT SITE MEETS SMALL SITE EXCEPTION - RATE WORKSHEET NOT REQUIRED

Volume Management

Project: DeLuca Construction

Instructions | General | *Volume* | Rate | Quality

2-Year / 24-Hour Storm Event (NOAA Atlas 14): **3.34** inches

Alternative 2-Year / 24-Hour Storm Event: inches

Alternative Source:

Pre-Construction Conditions: *No. Rows:* **6**

☐ *Exempt from Meadow in Good Condition* ☑ *Automatically Calculate CN, Ia, Runoff and Volume*

Land Cover	Area (acres)	Soil Group	Outside LOD	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	0.062	B	☐	98	0.041	3.11	699
Impervious as Meadow	0.016	B	☐	58	1.448	0.39	23
Pervious as Meadow	1.450	B	☐	58	1.448	0.39	2,062
Pervious as Meadow	2.521	C	☐	71	0.817	0.96	8,817
Woods (Good Condition)	0.160	B	☐	55	1.636	0.29	171
Woods (Good Condition)	0.451	C	☐	70	0.857	0.91	1,491
TOTAL (ACRES):	**4.660**					**TOTAL (CF):**	**13,263**

Post-Construction Conditions: *No. Rows:* **3**

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	0.758	B	98	0.041	3.11	8,549

Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	1.429	B	61	1.279	0.50	2,607
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	2.473	C	74	0.703	1.13	10,151
	TOTAL (ACRES):	**4.660**			**TOTAL (CF):**	**21,307**

NET CHANGE IN VOLUME TO MANAGE (CF): **8,044**

Non-Structural SCM Volume Credits:

☐ Tree Planting Credit

☐ Other (attach calculations):

Description: **CREDIT (CF):**

Structural SCM Volume Credits: *No. Structural SCMs:* **2** *Start SCM Numbering at:* **1**

POA No.	SCM No.	SCM Name	MRC?	Discharge	Incremental SCM DA (acres)	Total Vol. Routed to SCM (CF)	Off-Site Vol. Routed to SCM (CF)	Infiltration / Vegetated Area (SF)	Infil. Rate (in/hr)	Infil. Period (hrs)	Vegeta-ted?	Media Depth (ft)	Stored Volume (CF)	Infiltration Credit (CF)	ET Credit (CF)
001	1	Dry Extended Detention Basin	Y	Off-Site	2.980	11,702	2,860	7,735	0		Yes	2.0	1,160		
001	2	Infiltration Basin	-	Off-Site	0.849	3,229	0	1,805	0.1	65	Yes	1.0	990	**880**	**300**
													Totals:	**880**	**300**

INFILTRATION & ET CREDITS - TOTAL (CF):	**880**
INFILTRATION & ET CREDITS - PROJECT SITE (CF):	**1,180**
MANAGED RELEASE CREDIT (CF):	**11,743**

NET CHANGE IN VOLUME TO MANAGE (CF):	**8,044**
TOTAL CREDITS (CF):	**12,923**

Rate Control

Project: DeLuca Construction

Instructions | General | Volume | *Rate* | Quality

SMALL SITE EXCEPTION SATISFIED: RATE CONTROL NOT REQUIRED

Precipitation Amounts:

NOAA 2-Year 24-Hour Storm Event (in):	**3.34**	Alternative 2-Year 24-Hour Storm Event (in):	
NOAA 10-Year 24-Hour Storm Event (in):		Alternative 10-Year 24-Hour Storm Event (in):	
NOAA 50-Year 24-Hour Storm Event (in):		Alternative 50-Year 24-Hour Storm Event (in):	
NOAA 100-Year 24-Hour Storm Event (in):		Alternative 100-Year 24-Hour Storm Event (in):	

☑ **Report Summary of Peak Rates Only**

Attach model input and output data or other calculations to support the rates reported below.

	Peak Discharge Rates (cfs)			
	Pre-Construction	**Post-Construction**	**Net Change**	
2-Year Storm:	**4.51**	**2.77**	**-1.74**	***Rate Control Satisfied***
10-Year Storm:	**11.54**	**7.10**	**-4.44**	***Rate Control Satisfied***
50-Year Storm:	**21.95**	**12.89**	**-9.06**	***Rate Control Satisfied***
100-Year Storm:	**27.56**	**15.58**	**-11.98**	***Rate Control Satisfied***

Water Quality

Project: DeLuca Construction

PRINT

Instructions | General | Volume | Rate | *Quality*

Pre-Construction Pollutant Loads:

Land Cover (from Volume Worksheet)	Land Cover for Water Quality	Area (acres)	Soil Group	Runoff Volume (cf)	Pollutant Conc. (mg/L)			Pollutant Loads (lbs)		
					TSS	TP	TN	TSS	TP	TN
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	Urban Highway	0.06	B	699	142.0	0.32	3.00	6.20	0.01	0.13
Impervious as Meadow	Grassland/Herbaceous	0.02	B	23	48.8	0.22	2.30	0.07	0.00	0.00
Pervious as Meadow	Grassland/Herbaceous	1.45	B	2,062	48.8	0.22	2.30	6.28	0.03	0.30
Pervious as Meadow	Grassland/Herbaceous	2.52	C	8,817	48.8	0.22	2.30	26.87	0.12	1.27
Woods (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	0.16	B	171	45.0	0.13	1.05	0.48	0.00	0.01
Woods (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	0.45	C	1,491	45.0	0.13	1.05	4.19	0.01	0.10
	TOTAL (ACRES):	**4.66**					**TOTALS:**	**44.09**	**0.18**	**1.81**

Post-Construction Pollutant Loads (without SCMs):

Land Cover (from Volume Worksheet)	Land Cover for Water	Area	Soil	Runoff Volume	Pollutant Conc. (mg/L)	Pollutant Loads (lbs)

Land Cover (from Volume Worksheet)	Quality	(acres)	Group	Volume (cf)	TSS	TP	TN	TSS	TP	TN
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	Urban Highway	0.76	B	8,549	142.0	0.32	3.00	75.80	0.17	1.60
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	1.43	B	2,607	78.0	0.25	1.25	12.70	0.04	0.20
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	2.47	C	10,151	78.0	0.25	1.25	49.44	0.16	0.79
	TOTAL (ACRES):	**4.66**					**TOTALS:**	**137.94**	**0.37**	**2.60**

POLLUTANT LOAD REDUCTION REQUIREMENTS (LBS):	**93.85**	**0.19**	**0.79**

☑ **Characterize Undetained Areas (for Untreated Stormwater)** *No. Rows:* **3**

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	0.097	B	**98**	**0.041**	**3.11**	**1,094**
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	0.603	B	**61**	**1.279**	**0.50**	**1,100**
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	1.000	C	**74**	**0.703**	**1.13**	**4,105**
	1.700					

Non-Structural SCM Water Quality Credits:

☐ Pervious Undetained Area Credit

☐ Other (attach calculations)

Structural SCM Water Quality Credits:

☑ *Use default SCM Outflows and Median SCM Outflow Concentrations*

POA No.	SCM No.	SCM Name	MRC?	SCM DA (acres)	Vol. Routed to SCM (CF)	Inf. & ET Credits (CF)	Capture & Buffer Credits (CF)	Outflow (CF)	Outflow Conc. (mg/L)			Pollutant Loads (lbs)		
									TSS	TP	TN	TSS	TP	TN
001	1	Dry Extended Detention Basin	Y	2.98	8,842			8,842	-	-	-	-	-	-
001	2	Infiltration Basin	-	0.85	3,229	1,180		2,049	10.00	0.24	0.96	1.28	0.03	0.12

	TSS	TP	TN
POLLUTANT LOADS FROM STRUCTURAL SCM (TREATED) OUTFLOWS (LBS):	**1.28**	**0.03**	**0.12**
POLLUTANT LOADS FROM UNTREATED STORMWATER (LBS):	**35.05**	**0.10**	**0.61**
NON-STRUCTURAL SCM WATER QUALITY CREDITS (LBS):			
NET POLLUTANT LOADS FROM SITE, POST-CONSTRUCTION (LBS):	**36.33**	**0.13**	**0.73**
POLLUTANT LOADS FROM SITE, PRE-CONSTRUCTION (LBS):	**44.09**	**0.18**	**1.81**

WATER QUALITY REQUIREMENT SATISFIED

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further certify that the structure, function, and calculations contained in this spreadsheet have not been modified in comparison to the spreadsheet DEP has posted to its website or, if modifications were made, an explanation of the modifications made is attached to this spreadsheet.

Spreadsheet User Name

Date

MRC DESIGN SUMMARY SPREADSHEET (W/ SUPPORTING CALCULATIONS

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Revised 7/2026

Managed Release Concept (MRC) Spreadsheet

SCM ID: 1 Type: **MRC Bioretention**

2-year/24-hour Precipitation Depth: **3.34** in Incremental SCM Drainage Area: **2.98** ac

Will flow from the drainage area be split into multiple MRC SCMs (cells) in parallel? ☐ Yes ☑ No

Is this SCM in series? ☐ Yes ☑ No

This SCM discharges: **Off-Site**

Will at least 10% of runoff from the 1.2-Inch/2-Hour Storm be managed using PCSM Objective A SCMs?

☐ Yes ☑ No

Maximum storm event routed to the MRC SCM: **> 2-Year/24-Hour Storm**

☑ ***Drainage Area Characterization***

Pre-Construction Drainage Area Rows: **8**

☐ ***Exempt from §§ 102.8(g)(2)(ii) & (iii)***

☑ ***Calculate runoff automatically***

Pre-Construction Drainage Area Cover Type	HSG	Area (ac)	Off-Site	Runoff, 1.2-Inch (CF)	Runoff, 2-Year (CF)
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	B	0.060	☐	215	677
Impervious as Meadow	B	0.015	☐	0	21
Pervious as Meadow	B	0.710	☐	0	1,010
Pervious as Meadow	C	1.282	☐	153	4,484
Forested (Good Condition)	B	0.019	☐	0	20
Forested (Good Condition)	C	0.089	☐	8	294
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	B	0.147	☑	526	1,658
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	B	0.658	☑		
		2.980			
			Totals (CF):	**902**	**8,164**

Post-Construction Drainage Area Rows: **6**

☐ ***Receives direct precipitation only***

Post-Construction Drainage Area Cover Type	HSG	Area (ac)	Off-Site	Runoff, 1.2-Inch (CF)	Runoff, 2-Year (CF)
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	B	0.258	☐	923	2,910
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	C	0.308	☐	1,102	3,474
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	B	0.546	☐	0	996

Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	C	1.063	☐	238	4,363
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	B	0.147	☑	526	1,658
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	B	0.658	☑	0	1,200
		2.980			

Totals (CF):	**2,789**	**14,601**
Volume Planned to be Routed to SCM (CF):		
Total Volume from Off-Site Sources (CF):	**526**	**2,858**
Equivalent Impervious Area (ac):	**0.77**	

☑ ***Design Standards***

MRC Bioretention Variation: **None**

Parameter	Standard	Design Value
Bypass/Overflow Volume @ 1.2-Inch/2-Hour Storm	0	0
MRC SCM Drainage Area (Equivalent Impervious, maximum)	1.0	0.8
Ponding Depth @ 1.2-Inch/2-Hour Storm (ft) (maximum)	1.0	1.0
Ponding Depth @ Maximum Storm Routed to SCM (ft) (maximum)	2.0	0.8
Pre-Construction 1-Year/24-Hour Peak Rate (cfs)		1.87
Post-Construction 2-Year/24-Hour Peak Rate (cfs) ***(see Note 1)***	1.87	0.15
Controlled Release Rate for 1.2-Inch/2-Hour Storm (cfs) ***(see Note 2)***	0.02	
Underdrain Outflow Rate for 1.2-Inch/2-Hour Storm (cfs).	≤ Controlled Release	0.02
Ponding Time for Storm Event Routed to MRC SCM (hrs) (maximum)	72	62
Soil Media Depth Above Internal Water Storage (IWS) (ft) (minimum)	1.0	1.0
IWS Depth (ft) (minimum)	1.0	1.0
Inflow Velocity for Storm Event Routed to MRC SCM (fps) (maximum)	3.0	0.1
Separation Distance Between MRC SCM Bottom and SHWT (in)	12	> 12
A Synthetic Liner Will Be Installed		FALSE
Diameter of Managed Release Orifice (in)		1.000
SCM Embankment Slopes	33%	33%
Pretreatment	Forebay	Forebay
Forebay Storage Volume (CF) (minimum)	697	764
Forebay Length in Direction of Flow (ft)		30.0
Forebay Width (ft)		15.0
Forebay Length:Width Ratio (minimum)	2.0 : 1	2.0 : 1
Forebay Depth (ft) (minimum)	1.5	2.0
Forebay Dewatering Time (hrs) (maximum)	72	72
Forebay Flow Rate @ Maximum Routed Storm (cfs)		24.0
Forebay Cross-Sectional Area Perpendicular to Flow (SF)		383.0
Forebay Flow Through Velocity (fps) (maximum)	2.0	0.1
SCM Bed Bottom Area (SF)		1,906

Note 1: The standard is either 1) ≤ the pre-construction 1-Year/24-Hour Peak Rate OR 2) 0.15 cfs, if the 1-Year/24-Hour Peak Rate is < 0.15 cfs.

Note 2: The standard is calculated based on the MRC release rate for the 1.2-Inch/2-Hour storm of 0.02 cfs/acre equivalent impervious x equivalent impervious in the drainage area (of each cell).

☑ ***Volume Management Credit***

Volume Management Credit (CF): **11,743**

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further certify that the structure, function, and calculations contained in this spreadsheet have not been modified in comparison to the spreadsheet DEP has posted to its website.

PA-Licensed Professional Engineer Responsible for Design: **Justin A. Geonnotti**

Professional Engineer Company: **Dynamic Engineering Consultants** License No.: **080629**

Hydrograph for Pond 17P: MRC BASIN (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
78.00	0.00	4,235	171.10	0.03
78.50	0.00	4,186	171.09	0.03
79.00	0.00	4,138	171.08	0.03
79.50	0.00	4,090	171.08	0.03
80.00	0.00	4,041	171.07	0.03
80.50	0.00	3,994	171.07	0.03
81.00	0.00	3,946	171.06	0.03
81.50	0.00	3,898	171.05	0.03
82.00	0.00	3,851	171.05	0.03
82.50	0.00	3,803	171.04	0.03
83.00	0.00	3,756	171.04	0.03
83.50	0.00	3,709	171.03	0.03
84.00	0.00	3,662	171.02	0.03
84.50	0.00	3,615	171.02	0.03
85.00	0.00	3,569	171.01	0.03
85.50	0.00	3,522	171.01	0.03
86.00	0.00	3,476	171.00	0.03
86.50	0.00	3,430	170.98	0.03
87.00	0.00	3,385	170.96	0.03
87.50	0.00	3,340	170.94	0.02
88.00	0.00	3,295	170.92	0.02
88.50	0.00	3,251	170.90	0.02
89.00	0.00	3,207	170.88	0.02
89.50	0.00	3,164	170.86	0.02
90.00	0.00	3,122	170.85	0.02
90.50	0.00	3,080	170.83	0.02
91.00	0.00	3,038	170.81	0.02
91.50	0.00	2,997	170.79	0.02
92.00	0.00	2,956	170.77	0.02
92.50	0.00	2,916	170.76	0.02
93.00	0.00	2,876	170.74	0.02
93.50	0.00	2,837	170.72	0.02
94.00	0.00	2,798	170.71	0.02
94.50	0.00	2,760	170.69	0.02
95.00	0.00	2,722	170.67	0.02
95.50	0.00	2,685	170.66	0.02
96.00	0.00	2,648	170.64	0.02
96.50	0.00	2,612	170.63	0.02
97.00	0.00	2,576	170.61	0.02
97.50	0.00	2,540	170.59	0.02
98.00	0.00	2,505	170.58	0.02
98.50	0.00	2,471	170.56	0.02
99.00	0.00	2,437	170.55	0.02
99.50	0.00	2,404	170.54	0.02
100.00	0.00	2,371	170.52	0.02
100.50	0.00	2,338	170.51	0.02
101.00	0.00	2,306	170.49	0.02
101.50	0.00	2,275	170.48	0.02
102.00	0.00	2,243	170.47	0.02
102.50	0.00	2,213	170.45	0.02
103.00	0.00	2,183	170.44	0.02
103.50	0.00	2,153	170.43	0.02

STORMWATER CALCULATIONS (TIME OF CONCENTRATION)

STANDARD E&S WORKSHEET #9

Determination of Time of Concentration (T_c)

(FOR SCS METHOD)

PROJECT NAME: DeLuca Construction

LOCATION: Newtown Township

PREPARED BY: JRB DATE: 7/21/26

LAST REVISED BY: DCR DATE: 7/21/26

FEATURE/STRUCTURE ##

Two-year 24-hour Rainfall, P_2: 3.34

$$T_t = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}}$$

OVERLAND FLOW:

PATH NUMBER	Length L (ft)	TYPE OF COVER	"n" VALUE	AVG. SLOPE (S) (ft/ft)	TIME (minutes)
A-B	100	Short Grass, Prairie	0.15	0.04	7.67

Surface description	n
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.0
Fallow (no residue)	0.0
Cultivated soils:	
Residue cover ≤20%	0.0
Residue cover >20%	0.1
Grass:	
Short grass prairie	0.1
Dense grasses[2/]	0.2
Bermudagrass	0.4
Range (natural)	0.1
Woods:[3/]	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW:

PATH NUMBER	Length (ft)	TYPE OF COVER	AVG. SLOPE (ft/ft)	V (ft/sec)	TIME (minutes)
B-C	407	Unpaved	0.01	1.61	4.20
C-D	90	Unpaved	0.01	1.61	0.93
D-E	302	Unpaved	0.01	1.61	3.12
E-F	17	Unpaved	0.02	2.28	0.12

CHANNEL FLOW:

PATH NUMBER	Length (ft)	AREA (sq. ft.)	AVG. SLOPE (ft/ft)	WETTED PERIMETER (ft)	HYDRAULIC RADIUS (ft)	MANNING'S n	V (ft/sec)	CHANNEL TIME (minutes)

CHANNEL DIMENSIONS:

PATH NUMBER	BOTTOM WIDTH (ft)	TOTAL DEPTH (ft)	RIGHT SIDE SLOPE (H:V)	LEFT SIDE SLOPE (H:V)	TOP WIDTH (ft)	CALC. FLOW DEPTH (ft)

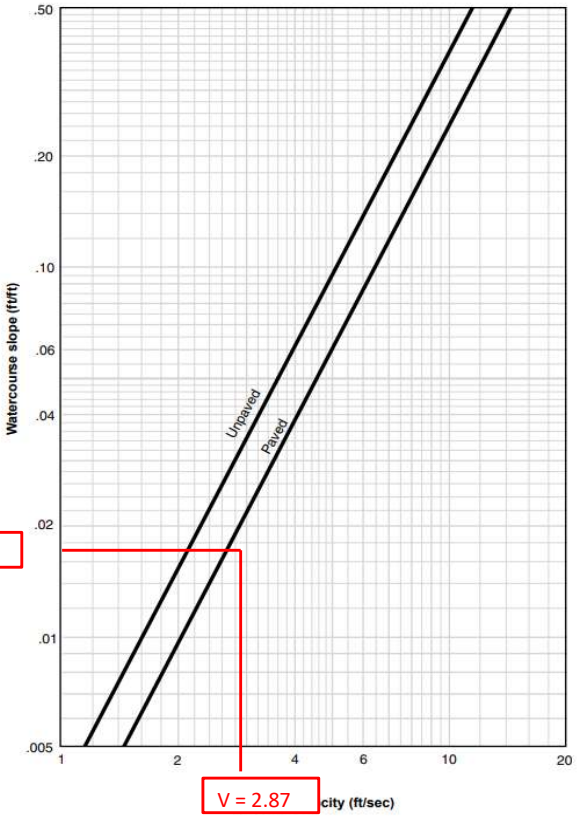
PIPE FLOW:

PATH NUMBER	Length (ft)	AREA (sq. ft.)	AVG. SLOPE (ft/ft)	WETTED PERIMETER (ft)	HYDRAULIC RADIUS (ft)	MANNING'S n	V (ft/sec)	PIPE TIME (minutes)

Total Time of Concentration: 16.04

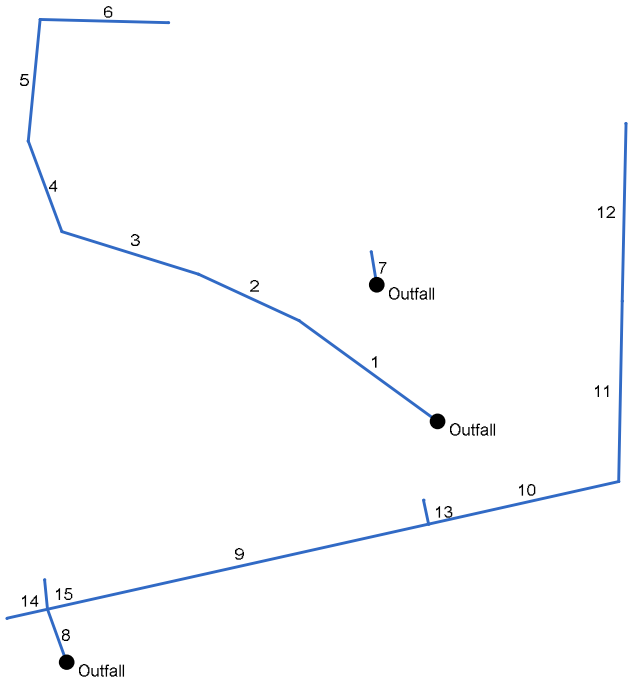
FEATURE/STRUCTURE

Figure 3-1 Average velocities for estimating travel time for shallow concentrated flow



STORMWATER COLLECTION SYSTEM CALCULATIONS (STORM SEWERS) – 100 YR

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	140.085	0.38	2.07	0.65	0.25	1.11	6.0	14.6	5.6	6.17	9.07	5.04	15	1.69	171.00	173.37	173.70	174.80	172.46	176.50	212 TO 211
2	1	90.332	0.37	1.69	0.58	0.21	0.86	6.0	14.3	5.6	4.83	7.73	4.56	15	1.23	173.47	174.58	174.89	175.47	176.50	177.68	213 TO 212
3	2	116.814	0.62	1.32	0.58	0.36	0.64	6.0	13.8	5.7	3.68	11.19	4.56	15	2.58	174.68	177.69	175.47	178.46	177.68	180.96	214 TO 213
4	3	79.159	0.44	0.70	0.44	0.19	0.28	6.0	13.0	5.8	1.66	4.96	2.99	15	0.51	177.79	178.19	178.46	178.70	180.96	180.65	215 TO 214
5	4	100.307	0.05	0.26	0.35	0.02	0.09	6.0	9.9	6.4	0.59	4.92	2.14	15	0.50	178.29	178.79	178.70	179.09	180.65	181.82	216 TO 215
6	5	104.817	0.21	0.21	0.35	0.07	0.07	6.0	6.0	7.5	0.55	5.94	2.80	15	0.73	178.89	179.65	179.15	179.94	181.82	181.30	217 TO 216
7	End	27.316	0.53	0.53	0.39	0.21	0.21	6.0	6.0	7.5	1.55	2.76	2.03	12	0.51	175.00	175.14	176.00	176.03	176.25	176.39	302 TO 301
8	End	46.237	0.82	2.10	0.39	0.32	1.06	6.0	9.2	6.6	14.00	8.02	8.08	18	0.50	163.17	163.40	164.55	165.28	164.61	170.73	101 TO 100
9	8	319.122	0.00	1.18	0.00	0.00	0.71	6.0	8.1	6.9	8.79	9.34	6.01	18	0.67	167.65	169.80	168.81	170.96	170.73	175.70	102 TO 101
10	9	158.904	0.00	1.18	0.00	0.00	0.71	6.0	7.4	7.1	4.99	6.26	4.27	15	0.81	169.90	171.18	171.52	172.25	175.70	177.56	103 TO 102
11	10	147.802	0.29	1.18	0.81	0.23	0.71	6.0	6.8	7.2	5.11	6.25	4.74	15	0.81	171.28	172.47	172.56	173.39	177.56	175.75	104 TO 103
12	11	145.590	0.89	0.89	0.53	0.47	0.47	6.0	6.0	7.5	3.53	6.28	4.35	15	0.81	172.57	173.75	173.39	174.51	175.75	176.75	105 TO 104
13	9	20.381	0.00	0.00	0.00	0.00	0.00	6.0	6.0	0.0	3.93	4.88	3.21	15	0.49	169.90	170.00	171.52	171.58	175.70	173.50	201 TO 102
14	8	33.768	0.10	0.10	0.35	0.04	0.04	6.0	6.0	7.5	0.26	4.95	2.12	15	0.50	167.65	167.82	167.85	168.02	170.73	170.82	106 TO 101
15	8	24.164	0.00	0.00	0.00	0.00	0.00	6.0	6.0	0.0	3.05	8.39	5.30	15	1.45	167.65	168.00	168.17	168.70	170.73	170.75	107 TO 101

Project File: 100 Pipe Sizing.stm

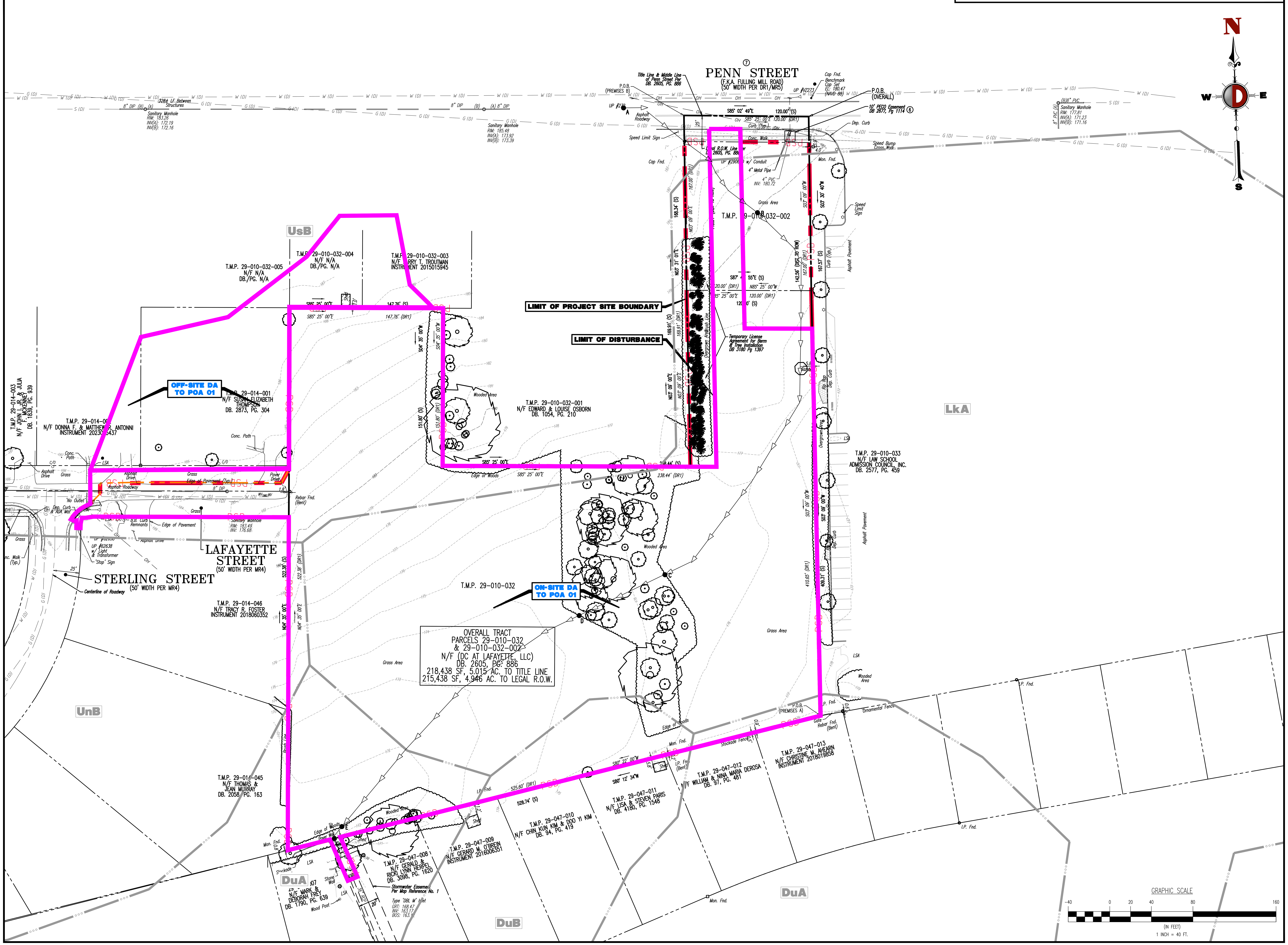
Number of lines: 15

Run Date: 9/8/2026

NOTES:Intensity = 44.22 / (Inlet time + 9.10) ^ 0.65; Return period =Yrs. 100 ; c = cir e = ellip b = box

DRAINAGE AREA MAPS

THIS PLAN TO BE UTILIZED FOR STORMWATER/DRAINAGE ANALYSIS PURPOSES ONLY



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Plotted: 09/08/26 - 3:42 PM, By: lzheng
File: \\decpc.local\decfolders\Data\decpc projects\4709 deluca construction\26-02232 newtown - lafayette\Dwg\4 DA Maps\D4709240106 2EXDAM0.dwg, ---> 01 EXISTING DRAINAGE AREA MAP

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DESIGNED BY: MTM
CHECKED BY: JAG
CHECKED BY: –

PROJECT: **DC AT LAFAYETTE, LLC.**
PROPOSED SINGLE FAMILY DETACHED RESIDENTIAL DEVELOPMENT
PARCEL NO. 29-010-032 & 29-010-032-002
PENN STREET (T-338)
TOWNSHIP OF NEWTOWN, BUCKS COUNTY, PENNSYLVANIA

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JUSTIN A. GEONNOTTI
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. 080629

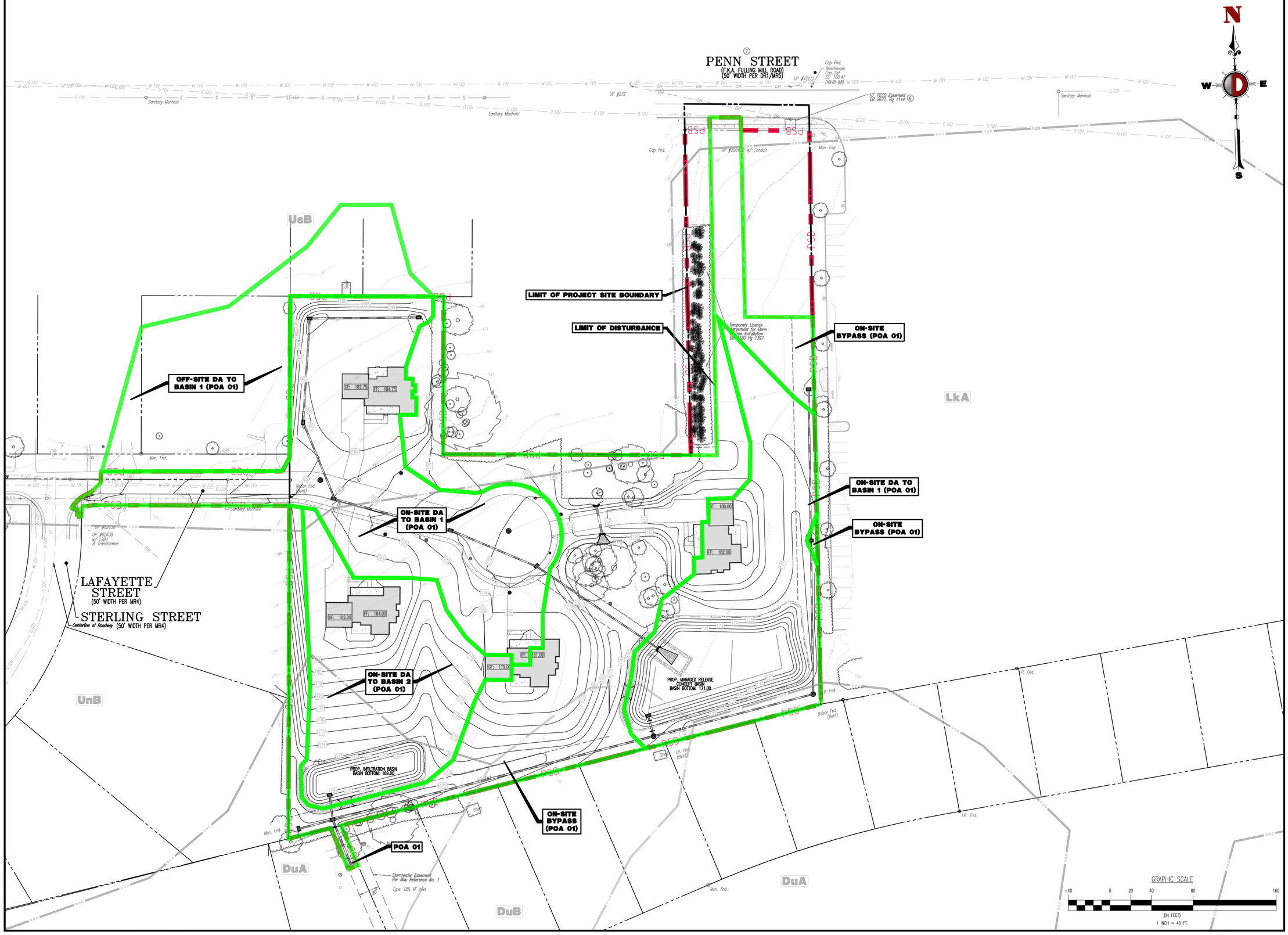
MATTHEW MAZZELLA
PROFESSIONAL ENGINEER

TITLE: EXISTING DRAINAGE AREA MAP

SCALE: (H) 1"=40' (V)
DATE: 09/04/2026
PROJECT No: 4709 26-02232

SHEET No: 1 OF 3
Rev. #: 0

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SURVEY • TRAFFIC

REV.	DATE	COMMENTS	BY

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DRAWN BY: LZ | DESIGNED BY: MTM | CHECKED BY: JAG | CHECKED BY: _

PROJECT: DC AT LAFAYETTE, LLC.
PROPOSED SINGLE FAMILY DETACHED RESIDENTIAL DEVELOPMENT
PARCEL NO. 29-010-032 & 29-010-032-002
PENN STREET (T-336)
TOWNSHIP OF NEWTOWN, BUCKS COUNTY, PENNSYLVANIA

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JUSTIN A. GEONNOTTI
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. 080629

MATTHEW MAZZELLA
PROFESSIONAL ENGINEER

TITLE: PROPOSED DRAINAGE AREA MAP

SCALE: (H) 1"=40' (V) | DATE: 09/04/2026
PROJECT No: 4709 26-02232

SHEET No: 2 OF 3 | Rev. #: 0

THIS PLAN TO BE UTILIZED FOR STORMWATER/DRAINAGE ANALYSIS PURPOSES ONLY

PENN STREET
(F.K.A. FULLING MILL ROAD)
(50' WIDTH PER DRT/MRS)

LAFAYETTE STREET
(50' WIDTH PER MR4)

STERLING STREET
Centerline of Roadway (50' WIDTH PER MR4)

Cap Fnd.
Benchmark
Cap Set
El. 180.47
(NAVD 88)

10' PECO Easement
DB 2617, Pg 1114

Temporary License Agreement for Berm Tree Installation
DB 1780 Pg 1397

Stormwater Easement
Per Map Reference No. 1

UsB
UnB
LkA
DuA
DuB

Mon. Fnd.
Rebar Fnd. (Bent)
I.P. Fnd.
I.P. Set
Shed
C/O
O/H

GRAPHIC SCALE
-40 0 20 40 80 160
(IN FEET)
1 INCH = 40 FT.

N
W E
S

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REV.	DATE	COMMENTS	BY

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DESIGNED BY: MTM
CHECKED BY: JAG
CHECKED BY: _

PROJECT: DC AT LAFAYETTE, LLC.
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PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. 080629

MATTHEW MAZZELLA
PROFESSIONAL ENGINEER

TITLE: PROPOSED INLET AREA MAP

SCALE: (H) 1"=40' (V)
DATE: 09/04/2026
PROJECT No: 4709 26-02232

SHEET No: 3 OF 3
Rev. #: 0

Plotted: 09/08/26 – 3:34 PM, By: lzheng
File: \\decpc.local\decfolders\Data\decpc projects\4709 deluca construction\26-02232 newtown – lafayette\dwg\4 DA Maps\04709240102PRIMAP.dwg, ----> 03 PROPOSED INLET AREA MAP

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SUPPLEMENTAL STORMWATER BASIN AREA INVESTIGATION REPORT (BY VW CONSULTANTS LLC)

1590 Canary Road, Quakertown, PA 18951 | 215-536-7006 | Fax: 215-538-6136

VW Consultants LLC

May 20, 2026

Rock Construction & Development, LLC
Attn: Nathan Torok
980 N. 2nd Street
Philadelphia, PA 19123

Via email to: natetorok@gmail.com

Re: Stormwater Infiltration Testing
Penn Street & Lafayette Street
Newtown, PA 18940
T.M.P. Nos.: 29-010-032 & 29-010-032-002
Newtown Township, Bucks County, PA

Dear Mr. Torok:

VW Consultants, LLC (VW) completed an evaluation of the above referenced properties on April 21, 2026 for the feasibility of stormwater infiltration. Testing was conducted at the six locations marked on the attached Test Pit Location Plan, which is based on an existing features plan of the property, prepared by Dynamic Engineering Consultants, P.C., dated 1/29/2026. The results of the testing, including soil test pit descriptions and infiltration rates at specified depths, expressed in inches below ground surface (B.G.S.), are summarized at the end of this report. The infiltration rates were established by the double-ring methodology, as described in the current *PADEP Stormwater Best Management Practices Manual (2006)*. Our findings indicate that infiltration of stormwater runoff is feasible/recommended at Test Pits SW-1 and SW-3 as outlined in the summary table at the end of this report. At areas where infiltration facilities are not feasible or utilized, shallow-based systems are recommended.

Project Setting

The project site consists of two vacant parcels that are mostly covered in open lawn with a tree row in the middle. The site gently slopes downhill to the south. VW performed six test pits on the south side of the project site in support of proposed stormwater management facilities to be utilized for future new residential land development.

Based on a review of a United States Geologic Survey map of Pennsylvania, the project site is underlain by the Stockton Formation. This formation is composed of beds of red to purple sandstone, shale, and siltstone, along with light gray to buff-colored arkosic sandstone. This rock type is moderately resistant to weathering and the overlying soil mantle is typically thin. Moderate porosity and permeability are characteristic of this formation. The excavation of this material varies from easy in weathered rock to difficult in decomposed rock.

Based on a review of the Web Soil Survey, the project area has been mapped by the Natural Resource Conservation Service as containing the Duncannon, Lawrenceville and Urban Land – Lawrenceville Complex soil series. Duncannon silt loams are classified as deep, well-drained soils formed in wind-blown loess over top of residuum weathered from siltstone, shale or sandstone. Lawrenceville silt

loams are classified as deep, moderately well-drained soils formed in wind-blown loess over top of residuum weathered from siltstone, shale or sandstone. While the soil profile characteristics and permeability rates of the Urban Land soil series have not been quantified, the soils are variable and can consist of shallow or deep profiles similar to the nearby undisturbed soils. Duncannon soils are classified as Hydrologic Soil Group B; Lawrenceville soils are classified as Hydrologic Soil Group C; and Urban Land soils are generally classified as Hydrologic Soil Group D.

Site Soils

The site was evaluated by a professional soil scientist and the soil profiles were described in accordance to the criteria of the USDA-SCS *Soil Survey Manual* Handbook No. 18 (3/2017) and the USDA-NRCS *Field Book for Describing and Sampling Soils* Version 3.0 (9/2012). A copy of the prepared soil profile descriptions is included with this report.

Six test pits were performed on the project site, as directed by the project engineer and as shown on the attached Test Pit Location Plan. In the test pits, VW observed brown or dark yellowish brown silt loam topsoil at the surface that was over top of brown, dark brown, strong brown, yellowish brown or dark yellowish brown silt loams and silty clay loams that are most likely wind-blown loess depositional soils. Beneath these surface soils, VW observed residual soils that consisted of reddish brown to dark reddish brown loams or gravelly loams that continued down to test pit completion or bedrock refusal. Bedrock, indicated by machine refusal, was only encountered at Test Pit SW-3 at 60 inches below the existing ground surface.

Redoximorphic features, an indication of seasonal wetness, were observed in five of the six test pits, ranging in depth from 24 to 70 inches below the existing ground surface. These redox features are the result of the soil's fine-grained texture and firm consistence, and do not represent a regional groundwater table where observed shallow in the soil profile. These redox features are formed as a result of hydraulically restrictive subsoils and slow permeability of surface runoff and are not the result of a fluctuating groundwater table; and therefore, should not be referenced or assimilated as such. A regional groundwater table was not observed in any of the test pits during the field investigation. Please see the soil profile descriptions for a more detailed description of the soils observed.

At completion, the test pits were backfilled and compacted with the excavated material, and leveled off with the surrounding grades. No additional compaction effort or site restoration was performed.

Infiltration Testing

To establish infiltration rates, two double-ring infiltrometer tests were conducted at each test pit location. All tests were conducted at the depth noted on the table below, depth expressed in inches below ground surface (B.G.S.). The test rates were averaged to obtain an average infiltration rate at that depth. The infiltration tests were conducted following the procedure of the current *PADEP Stormwater Best Management Practices Manual (2006)* for both test technique and calculation of the infiltration rate. Please be advised that this calculation, which is consistent with the methodology of the current PADEP Stormwater Manual, is not a soil hydraulic conductivity rate as determined by Darcy's Law.

The table below is a summary of the infiltration test depths and the infiltration rates obtained by VW during the field testing.

Pit No.	Pit Depth (in, BGS)	Observed Redox Features (in, BGS)	Depth to Rock (in, BGS)	Depth to Ground Water (in, BGS)	Infiltration Test Depth (in, BGS)	Average Infiltration Rate (in/hr.)
SW-1	80	45 to 55	NE	NE	36	5.25
SW-2	84	30 to 57	NE	NE	60	0.25
SW-3	60	NE	60	NE	36	9.375
SW-4	96	24 to 68	NE	NE	72	0.0
SW-5	96	25 to 66	NE	NE	72	0.0
SW-6	90	26 to 70	NE	NE	66	0.0

NE= not encountered

Conclusions and Recommendations

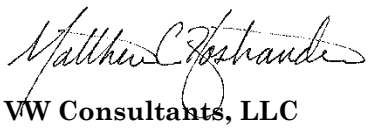
VW observed the site soils and performed infiltration testing at six test pit locations on the subject properties. Based on the observed soil conditions and infiltration rates obtained during the site testing, stormwater infiltration facilities can be designed at the locations and depths tested where suitable infiltration rates were obtained. More specifically, it is recommended to design infiltration facilities at Test Pits SW-1 and SW-3. The infiltration facilities should be designed by a professional engineer at the depth of the infiltration testing using appropriate engineering practices and with a safety factor reduction from the measured infiltration rate. Care should be taken to preserve the soil infiltrative surface during pre- and post-construction of the stormwater management facilities.

At areas where infiltration facilities are not recommended or utilized, the design engineer can provide for water quality and volume control with shallow-based stormwater management facilities that incorporates an underdrain or other positive outflow device so that the systems do not remain ponded during wet times of the year. These stormwater management facilities should be designed by a professional engineer at a suitable depth using appropriate engineering practices relative to the soil, rock and/or water conditions observed on-site.

Our findings are the result of testing conducted in specific locations and conditions. Should conditions contrary to the findings in this report be discovered prior to, during, or after construction of the stormwater control devices, VW must be notified so our recommendations can be reviewed or revised, if necessary. Additionally, if the stormwater management facility location and/or size changes, a VW soil scientist and the project engineer should review the site testing to confirm additional soil testing is not warranted.

Should you have any questions regarding the information included in this report, please contact me at 215-778-5284, or by email at mhostrander@vw-consultants.com.

Respectfully submitted,



VW Consultants, LLC
Matthew C. Hostrander, CPSS
Professional Soil Scientist

Enclosures: soil profile descriptions, infiltration data sheets, test pit location plan

cc: Justin Geonnotti, P.E. of Dynamic Engineering

Brendan J. O'Boyle, CPSS
Professional Soil Scientist

Date: 4/21/26 Pit # SW-1
Project: Rock Construction
Location: Penn & Lafayette Streets
Newtown Township, Bucks Co., PA
Soil Series Mapped: Duncannon
Soil Series Classified: Duncannon

Limiting Zone 80+" none Slope: 1-3% Conduct Double Ring Infiltrometer Test at 36"

Horizon	Depth (In.)	Matrix Color	Texture	Structure	Consistence	Fe Redox Depletions	Fe Redox Concentrations	Boundary
Ap1	0-12	7.5YR 4/4	sil	2 m gr	friable	none	none	gradual wavy
Ap2	12-28	7.5YR 4/2	sil	1 m sbk	friable	none	none	gradual wavy
Bt1	28-45	7.5YR 4/6	sil	2 m sbk	friable	none	none	gradual wavy
Bt2	45-55	7.5YR 5/6	sicl	2 m sbk	firm	c d	c d	gradual wavy
2BC	55-80+	5YR 3/3	gr l	2 f sbk	firm	none	none	

Township Representative: None Soil Scientist: Brendan J. O'Boyle

Notes: Site evaluation for stormwater infiltration. Bedrock and groundwater not encountered.
Weather / Field Conditions: Sunny, 50s, soils moist.
Others Present at Site: Paul Dougherty of Total Contracting, LLC – backhoe provider and operator.

EPIPEDON
Ochric

SUBSURFACE HORIZON(S)
Argillic

SOIL ORDER
Alfisol

DRAINAGE CLASS
Well Drained

LANDFORM
Upland

POSITION
Shoulder

PARENT MATERIAL
Loess
Residuum

BEDROCK LITHOLOGY
Sandstone

COARSE FRAGMENTS (% of Vol.)

15-35%	**35-65%**	**>65%**
(gr) gravelly	(vgr) very gravelly	(egr)extr. gravelly
(ch) channery	(vch) very channery	(ech) extr.channery
(cb) cobbly	(vcb) very cobbly	(ecb) extr. cobbly
(fl) flaggy	(vfl) very flaggy	(efl) extr. flaggy
(st) stony	(vst) very stony	(est) extr. stony
(bd) bouldery	(vbd) very bouldery	(ebd) extr. bouldery

TEXTURE
cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c – clay

STRUCTURE
Grade
Structureless - 0
Weak - 1
Moderate - 2
Strong - 3
Type
pl - platy
pr - prismatic
cpr - columnar
gr - granular
abk - angular blocky
sbk - subangular blocky
m - massive
s - single grain
Size
vf - very fine
f - fine
m - medium
co - coarse
vc - very coarse
vt - very thin
t - thin
th - thick
vth - very thick

REDOX FEATURES
Abundance
f - Few <2%
c - Common 2-20%
m - Many >20%
Contrast
f - Faint
d - Distinct
p - Prominent

BOUNDARY
Distinctness
Abrupt <1" (thick)
Clear 1-2.5"
Gradual 2.5 -5"
Diffuse >5
Topography
Smooth - boundary is nearly level
Wavy - pockets with width greater than depth
Irregular - pockets with depth greater than width
Broken discontinuous

Brendan J. O'Boyle, CPSS
Professional Soil Scientist

Date: 4/21/26 Pit # SW-2
Project: Rock Construction
Location: Penn & Lafayette Streets
Newtown Township, Bucks Co., PA
Soil Series Mapped: Duncannon
Soil Series Classified: Lawrenceville Taxadjunct

Limiting Zone 84+" none Slope: 1-3% Conduct Double Ring Infiltrometer Test at 60"

Horizon	Depth (In.)	Matrix Color	Texture	Structure	Consistence	Fe Redox Depletions	Fe Redox Concentrations	Boundary
Ap1	0-7	7.5YR 4/4	sil	2 m gr	friable	none	none	gradual wavy
Ap2	7-15	7.5YR 4/2	sil	1 m sbk	friable	none	none	gradual wavy
Bt1	15-30	7.5YR 4/6	sil	2 m sbk	friable	none	none	gradual wavy
Bt2	30-48	7.5YR 5/6	sil	2 m sbk	firm	c d	c d	gradual wavy
Bt3	48-57	7.5YR 5/8	sicl	2 m sbk	firm	m p	m p	gradual wavy
2BC	57-84+	5YR 3/3	gr l	2 f sbk	firm	none	none	

Township Representative: None Soil Scientist: Brendan J. O'Boyle

Notes: Site evaluation for stormwater infiltration. Bedrock and groundwater not encountered.
Weather / Field Conditions: Sunny, 50s, soils moist.
Others Present at Site: Paul Dougherty of Total Contracting, LLC – backhoe provider and operator.

EPIPEDON
Ochric

SUBSURFACE HORIZON(S)
Argillic

SOIL ORDER
Alfisol

DRAINAGE CLASS
Moderately well drained

LANDFORM
Upland

POSITION
Shoulder

PARENT MATERIAL
Loess
Residuum

BEDROCK LITHOLOGY
Sandstone

COARSE FRAGMENTS (% of Vol.)

15-35%	35-65%	>65%
(gr) gravelly	(vgr) very gravelly	(egr)extr. gravelly
(ch) channery	(vch) very channery	(ech) extr.channery
(cb) cobbly	(vcb) very cobbly	(ecb) extr. cobbly
(fl) flaggy	(vfl) very flaggy	(efl) extr. flaggy
(st) stony	(vst) very stony	(est) extr. stony
(bd) bouldery	(vbd) very bouldery	(ebd) extr. bouldery

TEXTURE
cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c – clay

STRUCTURE
Grade
Structureless - 0
Weak - 1
Moderate - 2
Strong - 3
Type
pl - platy
pr - prismatic
cpr - columnar
gr - granular
abk - angular blocky
sbk - subangular blocky
m - massive
s - single grain
Size
vf - very fine
f - fine
m - medium
co - coarse
vc - very coarse
vt - very thin
t - thin
th - thick
vth - very thick

REDOX FEATURES
Abundance
f - Few <2%
c - Common 2-20%
m - Many >20%
Contrast
f - Faint
d - Distinct
p - Prominent

BOUNDARY
Distinctness
Abrupt <1" (thick)
Clear 1-2.5"
Gradual 2.5 -5"
Diffuse >5
Topography
Smooth - boundary is nearly level
Wavy - pockets with width greater than depth
Irregular - pockets with depth greater than width
Broken discontinuous

Brendan J. O'Boyle, CPSS
Professional Soil Scientist

Date: 4/21/26 Pit # SW-3
Project: Rock Construction
Location: Penn & Lafayette Streets
Newtown Township, Bucks Co., PA
Soil Series Mapped: Duncannon
Soil Series Classified: Duncannon

Limiting Zone 60" Bedrock Slope: 1-3% Conduct Double Ring Infiltrometer Test at 36"

Horizon	Depth (In.)	Matrix Color	Texture	Structure	Consistence	Fe Redox Depletions	Fe Redox Concentrations	Boundary
Ap	0-12	10YR 4/6	sil	2 m gr	friable	none	none	gradual wavy
Bt1	12-23	7.5YR 3/3	sil	1 m sbk	friable	none	none	gradual wavy
Bt2	23-40	7.5YR 3/4	l	2 m sbk	friable	none	none	gradual wavy
2BC	40-60	5YR 3/3	gr l	2 f sbk	friable	none	none	
2R	60+	Bedrock						

Township Representative: None Soil Scientist: Brendan J. O'Boyle

Notes: Site evaluation for stormwater infiltration. Bedrock encountered at 60" bgs. Groundwater not observed.
Weather / Field Conditions: Sunny, 50s, soils moist.
Others Present at Site: Paul Dougherty of Total Contracting, LLC – backhoe provider and operator.

EPIPEDON
Ochric

SUBSURFACE HORIZON(S)
Argillic

SOIL ORDER
Alfisol

DRAINAGE CLASS
Well Drained

LANDFORM
Upland

POSITION
Shoulder

PARENT MATERIAL
Loess
Residuum

BEDROCK LITHOLOGY
Sandstone

COARSE FRAGMENTS (% of Vol.)

15-35%	**35-65%**	**>65%**
(gr) gravelly	(vgr) very gravelly	(egr)extr. gravelly
(ch) channery	(vch) very channery	(ech) extr.channery
(cb) cobbly	(vcb) very cobbly	(ecb) extr. cobbly
(fl) flaggy	(vfl) very flaggy	(efl) extr. flaggy
(st) stony	(vst) very stony	(est) extr. stony
(bd) bouldery	(vbd) very bouldery	(ebd) extr. bouldery

TEXTURE
cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c – clay

STRUCTURE
Grade
Structureless - 0
Weak - 1
Moderate - 2
Strong - 3
Type
pl - platy
pr - prismatic
cpr - columnar
gr - granular
abk - angular blocky
sbk - subangular blocky
m - massive
s - single grain
Size
vf - very fine
f - fine
m - medium
co - coarse
vc - very coarse
vt - very thin
t - thin
th - thick
vth - very thick

REDOX FEATURES
Abundance
f - Few <2%
c - Common 2-20%
m - Many >20%
Contrast
f - Faint
d - Distinct
p - Prominent

BOUNDARY
Distinctness
Abrupt <1" (thick)
Clear 1-2.5"
Gradual 2.5 -5"
Diffuse >5
Topography
Smooth - boundary is nearly level
Wavy - pockets with width greater than depth
Irregular - pockets with depth greater than width
Broken discontinuous

Brendan J. O'Boyle, CPSS
Professional Soil Scientist

Date: 4/21/26 Pit # SW-4
Project: Rock Construction
Location: Penn & Lafayette Streets
Newtown Township, Bucks Co., PA
Soil Series Mapped: Duncannon
Soil Series Classified: Lawrenceville Taxadjunct

Limiting Zone 96+" none Slope: 1-3% Conduct Double Ring Infiltrometer Test at 72"

Horizon	Depth (In.)	Matrix Color	Texture	Structure	Consistence	Fe Redox Depletions	Fe Redox Concentrations	Boundary
Ap1	0-12	10YR 4/4	sil	2 m gr	friable	none	none	gradual wavy
Bt1	12-24	10YR 5/6	sil	2 m sbk	friable	none	none	gradual wavy
Bt2	24-51	10YR 4/6	sil	2 m sbk	firm	c d	c d	gradual wavy
2Bt	51-68	5YR 3/2	sil	2 co sbk	firm	m p	m p	gradual wavy
2BC	68-96+	5YR 4/4	l	2 m sbk	friable	none	none	

Township Representative: None Soil Scientist: Brendan J. O'Boyle

Notes: Site evaluation for stormwater infiltration. Bedrock and groundwater not encountered.
Weather / Field Conditions: Sunny, 50s, soils moist.
Others Present at Site: Paul Dougherty of Total Contracting, LLC – backhoe provider and operator.

EPIPEDON
Ochric

SUBSURFACE HORIZON(S)
Argillic

SOIL ORDER
Alfisol

DRAINAGE CLASS
Moderately well drained

LANDFORM
Upland

POSITION
Shoulder

PARENT MATERIAL
Loess
Residuum

BEDROCK LITHOLOGY
Sandstone

COARSE FRAGMENTS (% of Vol.)

15-35%	**35-65%**	**>65%**
(gr) gravelly	(vgr) very gravelly	(egr)extr. gravelly
(ch) channery	(vch) very channery	(ech) extr.channery
(cb) cobbly	(vcb) very cobbly	(ecb) extr. cobbly
(fl) flaggy	(vfl) very flaggy	(efl) extr. flaggy
(st) stony	(vst) very stony	(est) extr. stony
(bd) bouldery	(vbd) very bouldery	(ebd) extr. bouldery

TEXTURE
cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c – clay

STRUCTURE
Grade
Structureless - 0
Weak - 1
Moderate - 2
Strong - 3
Type
pl - platy
pr - prismatic
cpr - columnar
gr - granular
abk - angular blocky
sbk - subangular blocky
m - massive
s - single grain
Size
vf - very fine
f - fine
m - medium
co - coarse
vc - very coarse
vt - very thin
t - thin
th - thick
vth - very thick

REDOX FEATURES
Abundance
f - Few <2%
c - Common 2-20%
m - Many >20%
Contrast
f - Faint
d - Distinct
p - Prominent

BOUNDARY
Distinctness
Abrupt <1" (thick)
Clear 1-2.5"
Gradual 2.5 -5"
Diffuse >5
Topography
Smooth - boundary is nearly level
Wavy - pockets with width greater than depth
Irregular - pockets with depth greater than width
Broken discontinuous

Brendan J. O'Boyle, CPSS
Professional Soil Scientist

Date: 4/21/26 Pit # SW-5
Project: Rock Construction
Location: Penn & Lafayette Streets
Newtown Township, Bucks Co., PA
Soil Series Mapped: Duncannon
Soil Series Classified: Lawrenceville Taxadjunct

Limiting Zone 96+" none Slope: 1-3% Conduct Double Ring Infiltrometer Test at 72"

Horizon	Depth (In.)	Matrix Color	Texture	Structure	Consistence	Fe Redox Depletions	Fe Redox Concentrations	Boundary
Ap	0-12	10YR 4/4	sil	2 m gr	friable	none	none	gradual wavy
Bt1	12-25	10YR 5/6	sil	1 m sbk	friable	none	none	gradual wavy
Bt2	25-33	10YR 5/8	sil	2 m sbk	friable	c d	c d	gradual wavy
2Bt	33-66	7.5YR 3/4	sil	2 m sbk	firm	m p	m p	gradual wavy
2BC	66-96+	5YR 3/3	l	2 f sbk	friable	none	none	

Township Representative: None Soil Scientist: Brendan J. O'Boyle

Notes: Site evaluation for stormwater infiltration. Bedrock and groundwater not encountered.
Weather / Field Conditions: Sunny, 50s, soils moist.
Others Present at Site: Paul Dougherty of Total Contracting, LLC – backhoe provider and operator.

EPIPEDON
Ochric

SUBSURFACE HORIZON(S)
Argillic

SOIL ORDER
Alfisol

DRAINAGE CLASS
Moderately well drained

LANDFORM
Upland

POSITION
Shoulder

PARENT MATERIAL
Loess
Residuum

BEDROCK LITHOLOGY
Sandstone

COARSE FRAGMENTS (% of Vol.)

15-35%	**35-65%**	**>65%**
(gr) gravelly	(vgr) very gravelly	(egr)extr. gravelly
(ch) channery	(vch) very channery	(ech) extr.channery
(cb) cobbly	(vcb) very cobbly	(ecb) extr. cobbly
(fl) flaggy	(vfl) very flaggy	(efl) extr. flaggy
(st) stony	(vst) very stony	(est) extr. stony
(bd) bouldery	(vbd) very bouldery	(ebd) extr. bouldery

TEXTURE
cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
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vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c – clay

STRUCTURE
Grade
Structureless - 0
Weak - 1
Moderate - 2
Strong - 3
Type
pl - platy
pr - prismatic
cpr - columnar
gr - granular
abk - angular blocky
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m - massive
s - single grain
Size
vf - very fine
f - fine
m - medium
co - coarse
vc - very coarse
vt - very thin
t - thin
th - thick
vth - very thick

REDOX FEATURES
Abundance
f - Few <2%
c - Common 2-20%
m - Many >20%
Contrast
f - Faint
d - Distinct
p - Prominent

BOUNDARY
Distinctness
Abrupt <1" (thick)
Clear 1-2.5"
Gradual 2.5 -5"
Diffuse >5
Topography
Smooth - boundary is nearly level
Wavy - pockets with width greater than depth
Irregular - pockets with depth greater than width
Broken discontinuous

Brendan J. O'Boyle, CPSS
Professional Soil Scientist

Date: 4/21/26 Pit # SW-6
Project: Rock Construction
Location: Penn & Lafayette Streets
Newtown Township, Bucks Co., PA
Soil Series Mapped: Duncannon
Soil Series Classified: Lawrenceville Taxadjunct

Limiting Zone 90+" none Slope: 1-3% Conduct Double Ring Infiltrometer Test at 66"

Horizon	Depth (In.)	Matrix Color	Texture	Structure	Consistence	Fe Redox Depletions	Fe Redox Concentrations	Boundary
Ap	0-12	10YR 4/4	sil	2 m gr	friable	none	none	gradual wavy
Bt1	12-26	10YR 5/6	sil	1 m sbk	friable	none	none	gradual wavy
Bt2	26-38	10YR 5/8	sil	2 m sbk	friable	c d	c d	gradual wavy
2Bt	38-70	7.5YR 3/4	sil	2 m sbk	firm	m p	m p	gradual wavy
2BC	70-90+	5YR 3/3	gr l	2 f sbk	friable	none	none	

Township Representative: None Soil Scientist: Brendan J. O'Boyle

Notes: Site evaluation for stormwater infiltration. Bedrock and groundwater not encountered.
Weather / Field Conditions: Sunny, 50s, soils moist.
Others Present at Site: Paul Dougherty of Total Contracting, LLC – backhoe provider and operator.

EPIPEDON
Ochric

SUBSURFACE HORIZON(S)
Argillic

SOIL ORDER
Alfisol

DRAINAGE CLASS
Moderately well drained

LANDFORM
Upland

POSITION
Shoulder

PARENT MATERIAL
Loess
Residuum

BEDROCK LITHOLOGY
Sandstone

COARSE FRAGMENTS (% of Vol.)

15-35%	**35-65%**	**>65%**
(gr) gravelly	(vgr) very gravelly	(egr)extr. gravelly
(ch) channery	(vch) very channery	(ech) extr.channery
(cb) cobbly	(vcb) very cobbly	(ecb) extr. cobbly
(fl) flaggy	(vfl) very flaggy	(efl) extr. flaggy
(st) stony	(vst) very stony	(est) extr. stony
(bd) bouldery	(vbd) very bouldery	(ebd) extr. bouldery

TEXTURE
cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
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fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c – clay

STRUCTURE
Grade
Structureless - 0
Weak - 1
Moderate - 2
Strong - 3
Type
pl - platy
pr - prismatic
cpr - columnar
gr - granular
abk - angular blocky
sbk - subangular blocky
m - massive
s - single grain
Size
vf - very fine
f - fine
m - medium
co - coarse
vc - very coarse
vt - very thin
t - thin
th - thick
vth - very thick

REDOX FEATURES
Abundance
f - Few <2%
c - Common 2-20%
m - Many >20%
Contrast
f - Faint
d - Distinct
p - Prominent

BOUNDARY
Distinctness
Abrupt <1" (thick)
Clear 1-2.5"
Gradual 2.5 -5"
Diffuse >5
Topography
Smooth - boundary is nearly level
Wavy - pockets with width greater than depth
Irregular - pockets with depth greater than width
Broken discontinuous

1590 Canary Road, Quakertown, PA 18951 | 215-536-7006 | 215-538-6136

Consultants LLC

Double Ring Infiltrometer Test Report

Site: Penn and Lafayette Streets - SW-1

Municipality: Newtown Township

County: Bucks

Date: 4/21/2026

Testing Depth: 36"
(Below Ground Surface)

	Test #1 Drop (in)	**Test #2** Drop (in)
Presoak 1 (30 min)	Dry	Dry
Presoak 2 (30 min)	Dry	Dry

		Test #1	**Test #2**
Interval 1	(min)	10	10
Drop	(in)	1.0	0.75
Interval 2	(min)	10	10
Drop	(in)	1.0	0.75
Interval 3	(min)	10	10
Drop	(in)	1.0	0.75
Interval 4	(min)	10	10
Drop	(in)	1.0	0.75
Interval 5	(min)	10	10
Drop	(in)	1.0	0.75
Interval 6	(min)	10	10
Drop	(in)	1.0	0.75
Final Drop	in/hr	6.0	4.5

Infiltration Rate= 5.25 in/hr

1590 Canary Road, Quakertown, PA 18951 | 215-536-7006 | 215-538-6136

Consultants LLC

Double Ring Infiltrometer Test Report

Site: Penn and Lafayette Streets - SW-2

Municipality: Newtown Township

County: Bucks

Date: 4/21/2026

Testing Depth: 60"
(Below Ground Surface)

	Test #1 Drop (in)	Test #2 Drop (in)
Presoak 1 (30 min)	0.25	0.25
Presoak 2 (30 min)	0.25	0.25

		Test #1	Test #2
Interval 1	(min)	30	30
Drop	(in)	0.125	0.125
Interval 2	(min)	30	30
Drop	(in)	0.125	0.125
Interval 3	(min)	30	30
Drop	(in)	0.125	0.125
Interval 4	(min)	30	30
Drop	(in)	0.125	0.125
Final Drop	in/hr	0.25	0.25

Infiltration Rate= 0.25 in/hr

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Consultants LLC

Double Ring Infiltrometer Test Report

Site: Penn and Lafayette Streets - SW-3

Municipality: Newtown Township

County: Bucks

Date: 4/21/2026

Testing Depth: 36"
(Below Ground Surface)

	Test #1 Drop (in)	Test #2 Drop (in)
Presoak 1 (30 min)	Dry	Dry
Presoak 2 (30 min)	Dry	Dry

		Test #1	Test #2
Interval 1	(min)	10	10
Drop	(in)	1.5	2.25
Interval 2	(min)	10	10
Drop	(in)	1.25	2.25
Interval 3	(min)	10	10
Drop	(in)	1.25	2.25
Interval 4	(min)	10	10
Drop	(in)	1.25	2.25
Interval 5	(min)	10	10
Drop	(in)	1.25	2.0
Interval 6	(min)	10	10
Drop	(in)	1.125	2.0
Final Drop	in/hr	6.75	12.00

Infiltration Rate= 9.375 in/hr

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Consultants LLC

Double Ring Infiltrometer Test Report

Site: Penn and Lafayette Streets - SW-4

Municipality: Newtown Township

County: Bucks

Date: 4/21/2026

Testing Depth: 72"
(Below Ground Surface)

	Test #1 Drop (in)	**Test #2** Drop (in)
Presoak 1 (30 min)	0.25	0.25
Presoak 2 (30 min)	0.0	0.125

		Test #1	**Test #2**
Interval 1	(min)	30	30
Drop	(in)	0.0	0.125
Interval 2	(min)	30	30
Drop	(in)	0.0	0.0
Interval 3	(min)	30	30
Drop	(in)	0.0	0.0
Interval 4	(min)	30	30
Drop	(in)	0.0	0.0
Final Drop	in/hr	0.0	0.0

Infiltration Rate= 0.00 in/hr

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Consultants LLC

Double Ring Infiltrometer Test Report

Site: Penn and Lafayette Streets - SW-5

Municipality: Newtown Township

County: Bucks

Date: 4/21/2026

Testing Depth: 72"
(Below Ground Surface)

	Test #1 Drop (in)	**Test #2** Drop (in)
Presoak 1 (30 min)	0.125	0.125
Presoak 2 (30 min)	0.0	0.0

		Test #1	**Test #2**
Interval 1	(min)	30	30
Drop	(in)	0.0	0.0
Interval 2	(min)	30	30
Drop	(in)	0.0	0.0
Interval 3	(min)	30	30
Drop	(in)	0.0	0.0
Interval 4	(min)	30	30
Drop	(in)	0.0	0.0
Final Drop	in/hr	0.0	0.0

Infiltration Rate= 0.00 in/hr

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Consultants LLC

Double Ring Infiltrometer Test Report

Site: Penn and Lafayette Streets - SW-6

Municipality: Newtown Township

County: Bucks

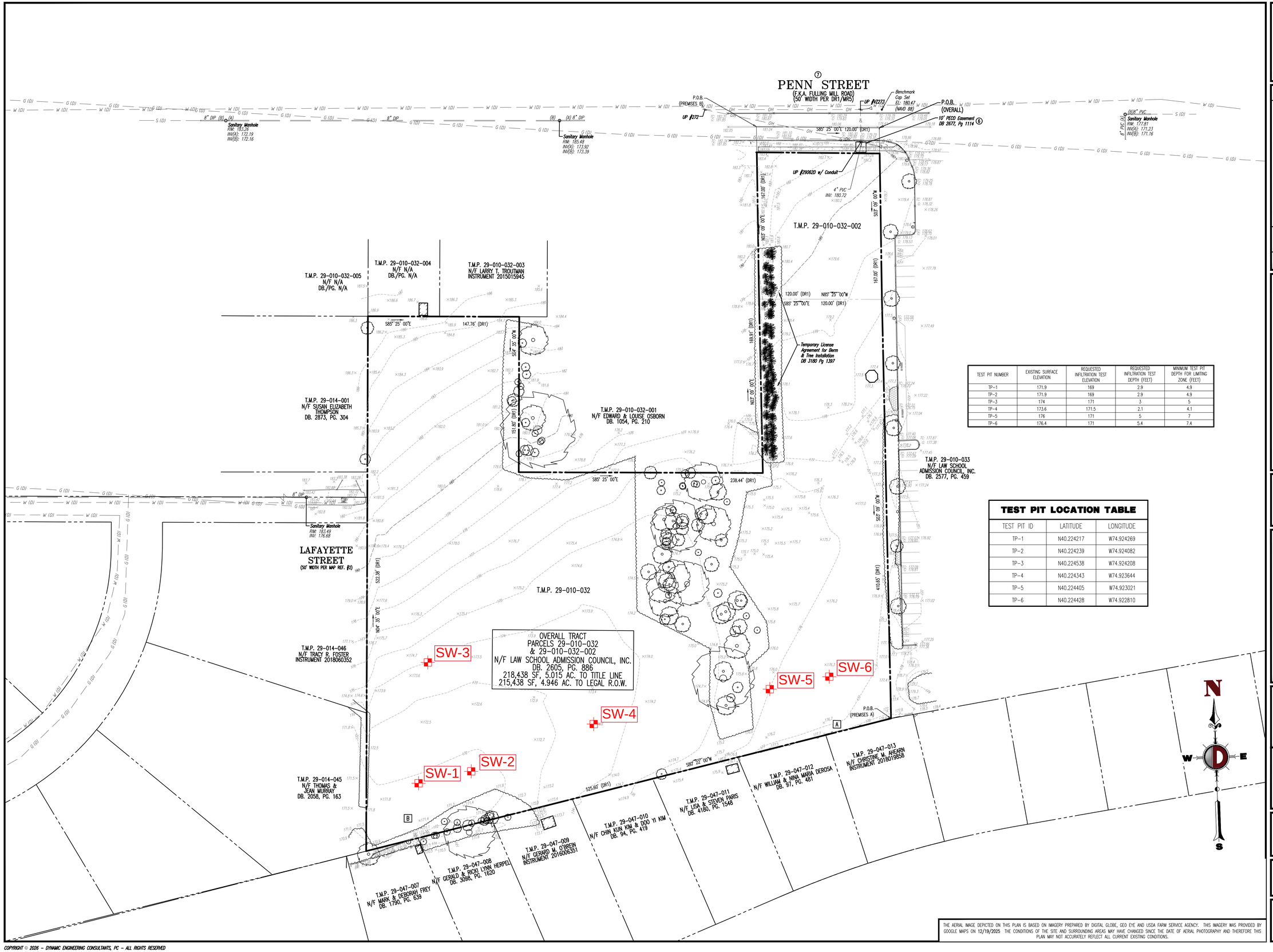
Date: 4/21/2026

Testing Depth: 66"
(Below Ground Surface)

	Test #1 Drop (in)	Test #2 Drop (in)
Presoak 1 (30 min)	0.125	0.125
Presoak 2 (30 min)	0.0	0.125

		Test #1	Test #2
Interval 1	(min)	30	30
Drop	(in)	0.0	0.0
Interval 2	(min)	30	30
Drop	(in)	0.0	0.0
Interval 3	(min)	30	30
Drop	(in)	0.0	0.0
Interval 4	(min)	30	30
Drop	(in)	0.0	0.0
Final Drop	in/hr	0.0	0.0

Infiltration Rate= 0.00 in/hr



TEST PIT NUMBER	EXISTING SURFACE ELEVATION	REQUESTED INFILTRATION TEST ELEVATION	REQUESTED INFILTRATION TEST DEPTH (FEET)	MINIMUM TEST PIT DEPTH FOR LIMITING ZONE (FEET)
TP-1	171.9	169	2.9	4.9
TP-2	171.9	169	2.9	4.9
TP-3	174	171	3	5
TP-4	173.6	171.5	2.1	4.1
TP-5	176	171	5	7
TP-6	176.4	171	5.4	7.4

TEST PIT LOCATION TABLE

TEST PIT ID	LATITUDE	LONGITUDE
TP-1	N40.224217	W74.924269
TP-2	N40.224239	W74.924082
TP-3	N40.224538	W74.924208
TP-4	N40.224343	W74.923644
TP-5	N40.224405	W74.923021
TP-6	N40.224428	W74.922810

THE AERIAL IMAGE DEPICTED ON THIS PLAN IS BASED ON IMAGERY PREPARED BY DIGITAL GLOBE, GEO EYE AND USDA FARM SERVICE AGENCY. THIS IMAGERY WAS PROVIDED BY GOOGLE MAPS ON 12/19/2025. THE CONDITIONS OF THE SITE AND SURROUNDING AREAS MAY HAVE CHANGED SINCE THE DATE OF AERIAL PHOTOGRAPHY AND THEREFORE THIS PLAN MAY NOT ACCURATELY REFLECT ALL CURRENT EXISTING CONDITIONS.

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DRAWN BY: FWD | DESIGNED BY: MTM | CHECKED BY: JAG | CHECKED BY: —

PROJECT: ROCK CONSTRUCTION & DEVELOPMENT, LLC.
PROPOSED SINGLE FAMILY DETACHED RESIDENTIAL DEVELOPMENT
PARCEL NO. 29-010-032 & 29-010-002
PENN STREET (T-336)
TOWNSHIP OF NEWTOWN, BUCKS COUNTY, PENNSYLVANIA

REV.	DATE	COMMENTS	BY

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JUSTIN A. GEONNOTTI
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. 080629

MATTHEW MAZZELLA
PROFESSIONAL ENGINEER

TITLE: TEST PIT LOCATION PLAN

SCALE: (H) 1"=40' (V) | DATE: 01/29/2026
PROJECT No: 4569-25-05441

SHEET No: 1 OF 1 | Rev. #: 0

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File: P:\DEC\PC PROJECTS\4569 Rock Construction and Development LLC\25-05441 Newtown PA\Dwg\Exhibits (Misc)\2026-03-30 Test Pit Plan\04569250544 1TPP.dwg, ----> TEST PIT PLAN