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Post Construction Stormwater Management Report

Malin Road Development

East Whiteland Township
Chester County, PA

refer to Plans entitled "Malin Road Development, Preliminary Land Development Plan, prepared by Taylor Wiseman & Taylor, dated September 22, 2018, Drawing No. 018-06476-LD"

Prepared for:
Constitution Drive Partners, LP
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TWT Project No: 06476

COMMONWEALTH OF PENNSYLVANIA
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Date: October 8, 2018

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I. INTRODUCTION / SUMMARY

The site is known as Tax Map Parcel #42-4-321.2, and is located at 9 Malin Road in East Whiteland Township. The site consists of approximately 13.6 acres within the RRD: Residential Revitalization Zoning District.

Currently, the site contains a vacant industrial building with associated parking. Constitution Drive Partners, LP, is proposing to develop the property with ninety-three (93) townhomes and related appurtenances.

The Post-Construction Stormwater Management and Erosion & Sediment Control Plans, prepared by Taylor Wiseman and Taylor, dated October 5, 2018, illustrate the proposed site construction, stormwater BMP's and proposed soil erosion and sediment control practices.

a. Experience of Preparer

Mark Thompson, PE is an experienced engineer with over 15 years of practice in the preparation of Land Development plans, including the development of Erosion and Sedimentation Control Plans and Stormwater Management design.

b. Site Location

The Malin Road Development is located at 9 Malin Road in East Whiteland Township, Chester County, Pennsylvania. It is identified as Tax Map Parcel #42-4-321.2.

c. Site Background

The site presently contains a vacant industrial building and has been for the past five (5) years. Fifty (50) years ago, the site was the location of the Bishop Tube Facility where they manufactured stainless steel tubes.

d. Environmental Limitations

The property is a listed contaminated site within the PaDEP Act 2 program for soil and groundwater contamination due to historic manufacturing that occurred from the 1950's to 1999.

e. Site Natural Features

The Little Valley Creek traverses along the eastern property line of the site. However, the site is outside of the limits of the 500-year floodplain as delineated in the Flood Insurance Study, Chester County, Pennsylvania (All Jurisdictions), Federal Emergency Management Agency (FEMA) Map Number 42029C0160G, revised September 29, 2017.

f. Receiving Waters of the Commonwealth Chapter 93 Classification

Stormwater runoff from the site will be discharged into the Little Valley Creek. It has an existing and designated use as Exceptional Value (EV) and Migratory Fishes (MF). The Little Valley Creek is an impaired stream according to Category 4c of the PA Integrated Water Quality Monitoring and Assessment Report. The impairment sources – causes are as follows: Habitat Modifications – Other Habitat Alterations; Urban Runoff/Storm Sewers – Water/Flow Variability. The Little Valley Creek is also listed as impaired per Category 5, the source – cause of impairments are as follows: Urban Runoff/Storm Sewers – Siltation, cause unknown; Source Unknown – Pathogens.

The TMDL goal for Little Valley Creek is for the level of PCB in the water column to be equal to or less than the Commonwealth's water quality criterion. The criterion, found in the "Water Quality Toxics Management Strategy – Statement of Policy" (Chapter 16 of the Department's rules and regulations) is 0.00004 µg/l (micrograms per liter,equivalent to parts per billion) for PCB. Another way to state the goal is to reach a point where fish consumption advisories are no longer needed because tissue levels of PCB are no longer above levels of concern.

g. Characteristics of Earth Disturbance Activity

Temporary erosion and sediment control measures will include stabilized construction entrance, inlet protection, and compost filter socks. During construction, stormwater discharge from the proposed site will be directed through these temporary measures and eventually to the Little Valley Creek. Stormwater mitigation for the site has been designed to meet guidelines stated in the Pennsylvania Best Management Practice Manual. The area to be disturbed with this development is approximately 10.48 acres.

The proposed development will limit the extent and duration of earth disturbance and grading. The construction sequence shall be adhered to. Each stage shall be completed before any following stage is initiated. Clearing & grubbing shall be limited only to those areas described in each phase. The contractor shall follow the PADEP Erosion & Sediment Pollution Control Program Manual. Areas and trees are to be excluded from grading and construction outside of the limit of disturbance. The site has been designed to tie the proposed grading into the existing with minimal changes in slope and preserving the drainage paths and locations off-site.

The proposed improvements will protect the existing drainage features and vegetation. Areas outside the limit of disturbance are to be preserved. The proposed design protects the Riparian Corridor of Little Valley Creek and provides Riparian Buffer Re-Forestation Areas.

Soil compaction has been minimized by limiting the area of disturbance. Additionally, the rain gardens, infiltration trenches and pervious pavers will be constructed with minimal compaction to the subgrade.

The proposed rain gardens, infiltration trenches and pervious pavers will reduce the peak rate and volume of stormwater runoff for all storm events, thus reducing the potential for erosion.

The proposed impervious areas have been minimized by using the smallest acceptable roadways and sidewalk per the Township's requirements. Overall, the proposed development will reduce the impervious coverage from currently exists on the property.

The project has been designed to utilize both structural and non-structural BMP measures to minimize stormwater runoff volume. The Riparian buffer reforestation, proposed rain gardens, infiltration trenches and pervious pavers are structural measures and the non-structural measures are Protect/Conserve/Enhance Riparian Buffers, minimizing disturbed areas, and Protect Sensitive/Special Value Features.

The proposed development will preserve the integrity of stream channels and maintain and protect the physical, biological and chemical qualities of the Little Valley Creek. The use of

the proposed development is consistent with the Township Zoning Ordinance. The proposed development will reduce the impervious coverage at the site. The proposed stormwater management design will provide water quality benefits through the use of the BMP's to treat the water before it enters the stream.

During construction there is potential for an increase in sediment runoff which may thermally impact nearby wetlands and streams. These impacts will be mitigated using compost filter socks and filter bags to catch sediment-laden runoff. Furthermore, impacts will be minimized by convective heat transfer within the underground stormwater piping system and the rain gardens. The Riparian Buffer Reforestation will reduce thermal impacts through filtering runoff and shading of the waterbody.

As on-site earthwork commences, within the contaminated areas for remediation, demolition and/or construction, the environmental consultant shall observe the operations, for assuring that the remediation follows all submitted reports, plans and procedures that were provided in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2) and/or approved by the Departments Environmental Cleanup and Brownfields (ECB) Program.

h. Sequence of BMP Installation

1. Rain Garden:
    a. Install all temporary erosion and sedimentation controls.
        i. The area immediately adjacent to the raingarden must be stabilized in accordance with the PaDEP's Erosion & Sediment Pollution Control Program Manual, prior to rain garden construction.
    b. Excavate rain garden to proposed invert depth, and scarify the existing soil surfaces. Do not compact in-situ soils. The rain garden subgrade preparation shall be witnessed by a licensed professional.
    c. Install geotextile fabric and PVC Basin Liner in accordance with manufacturers' recommendations. A liner representative shall be present to certify the installation and sealing of seams. A licensed professional engineer shall also witness the PVC basin liner installation.
    d. Backfill raingarden with stone and amended soil as shown on the plans. Overfilling is recommended to account for settlement. Light hand tamping is acceptable if necessary. A licensed professional shall be on-site during the stone backfill and amended soil placement.
    e. Pre-soak the planting soil prior to planting vegetation to aid in settlement.
    f. Complete final grading to achieve proposed design elevations.
    g. Plant vegetation according to the landscape plans.
    h. Once all tributary areas are sufficiently stabilized, remove temporary erosion and sediment controls.
    i. If any unfavorable geologic conditions are encountered during the installation of the rain garden (i.e. groundwater and/or bedrock, etc.) then the owner and engineer should be notified and the proposed rain garden should be relocated to a more suitable location on the site.

2. Infiltration Trench:
    a. Install all temporary erosion and sedimentation controls.

i. The area immediately adjacent to the trench must be stabilized in accordance with the PaDEP's Erosion & Sediment Pollution Control Program Manual, prior to trench construction.

b. Excavate trench to a uniform, level uncompacted subgrade free from rock/debris, and scarify the existing soil surfaces. Do not compact in-situ soils.
c. Install geotextile fabric and PVC Basin Liner in accordance with manufacturers' recommendations. A liner representative shall be present to certify the installation and sealing of seams. A licensed professional engineer shall also witness the PVC Basin Liner Installation.
d. Place uniformly graded, lightly compacted washed stone. Install underdrain pipe and backfill trench with stone as shown on the plans. Light hand tamping is acceptable if necessary. Place 2 feet of approved amended soil over trench as indicated on plans. Complete final grading to achieve proposed design elevations. Seed and stabilize soil. A licensed professional engineer shall be on-site to witness the stone backfill & amended soil placement.
e. Once all tributary areas are sufficiently stabilized, remove temporary erosion and sediment controls. Any sediment that enters inlets during construction is to be removed within 24 hours.
f. If any unfavorable geologic conditions are encountered during the installation of the trench (i.e. groundwater and/or bedrock, etc.) then the owner and engineer should be notified and the proposed trench should be relocated to a more suitable location on the site.

3. Vegetated Swale
   a. Begin vegetated swale construction only when the upgradient temporary erosion and sediment control measures are in place.
   b. Rough grade the vegetated swale. Equipment shall avoid excessive compaction and/or land disturbance. Excavating equipment should operate from the side of the swale and never on the bottom.
      i. If excavation leads to substantial compaction of the subgrade. 18-inches shall be removed and replaced with a blend of topsoil and sand to promote infiltration and biological growth. At the very least, topsoil shall be thoroughly deep plowed into the subgrade in order the penetrate the compacted zone.
      ii. A licensed professional engineer shall be on-site to witness the subgrade preparation of the channel.
   c. Fine grade the vegetated swale. The area should be disked prior to final grading of topsoil.
   d. Seed, vegetate and install protective lining as per approved plans. Plant the swale at a time of year when successful establishment without irrigation is most likely.
   e. Once all tributary areas sufficiently stabilized, remove temporary erosion and sediment controls.

4. Pervious Pavers
   a. Rough grade the paver area and install geotextile at subgrade invert elevation. Installation to be in accordance with manufacturers recommendations. Scarify the eixisting subgrade, do not compact in-situ soils. A licensed professional engineer shall be on-site to inspect the subgrade before geotextile installation.

b. Clean (washed) uniformly graded aggregate is placed in the bed in maximum 8-inch lifts. Each layer should be lightly compacted. Once bed aggregate is installed to the desired grade. A 2-inch layer of choker base course (AASHTO#57) aggregate should be installed uniformly over the surface in order to provide an even surface for paving. A licensed professional engineer shall be on-site to witness the stone backfill.
c. The pervious pavers shall be installed in accordance with the approved plans.

i. Maintenance of BMPs

Until the site is permanently stabilized, all temporary erosion and sediment and post-construction Best Management Practices must be maintained properly. Maintenance must include inspections of all BMP's after each runoff event. All preventative and remedial maintenance work including clean out, repair, replacement, regrading, reseeding, re-mulching and re-netting, must be performed immediately. If BMP's fail to perform as expected, replacement BMP's or modification of those installed will be required.

1. Rain Garden:
   a. For the first year of operation, inspection of stormwater basin should occur on a quarterly basis and after each storm event exceeding 1 inch of rainfall. after the first year, inspect basin every 12 months. make note of any of the following conditions:
      i. Any debris, such as leaves blocking flow from reaching a rain garden, are to be routinely removed.
      ii. Pruning and weeding are required as needed including removal of invasive species, especially while vegetation is being established for the rain garden.
      iii. Mulch cover is to be maintained in a rain garden, re-spread and replaced as needed to prevent erosion, reduce weed growth and assist stabilization.
      iv. Inspect vegetation, replace dead or dying plants, thin or prune excessive growth.
      v. Watering is required as needed, including during periods of extreme dry weather and drought.
   b. Inspect embankments, spillways, risers, and outfalls every 12 months, making note of the following:
      i. Look for gullies or bare areas on the berm or embankments. these areas should not be eroded or bare.
      ii. Ensure the discharge orifice, or overflow riser, and spillway are clear of sediment and debris and in good condition.
      iii. Ensure that the spillway, berm and embankments are not overgrown with underbrush and trees.
   c. If problems are observed, take immediate corrective action as necessary.
   d. Inspect dewatering times, post-construction, and make adjustments as necessary.
   e. Failure of the bioretention basin could entail standing water observed 72 hours after the storm event. Should this occur, take corrective action as necessary. (e.g. scarify amended soil, remove and replace amended soil, re-grade basin bottom, etc.)

2. Infiltration Trench:
   a. Trench should be inspected at least two times per year.

b. Vegetation along the surface of the trench should be maintained in good condition and any bare spots revegetated as soon as possible.
c. Vehicles should not be parked or driven on a vegetated infiltration trench and care should be taken to avoid excessive compaction by mowers.
d. Failure of the trench could entail standing water observed 72 hours after the storm event. Should this occur, take corrective action as necessary. (e.g. scarify topsoil, remove and replace topsoil, remove and replace stone trench & piping, etc.)

3. Vegetated Swale
   a. Inspect channel every 12 months. Make note of any of the following conditions:
      i. Inspect and correct erosion problems, damage to vegetation and sediment accumulation. (Address when >3-inches at any spot or covering vegetation)
      ii. Inspect vegetation on side slopes for erosion and formation of rills or gullies, correct as needed.
      iii. Inspect for pools of standing water; dewater and discharge to an approved location and restore to design grades.
      iv. Mow and trim vegetation to ensure safety, aesthetics, proper swale operation, or to suppress weeds and invasive vegetation. Mow only when swale is dry to avoid rutting.
      v. Inspect for litter. Remove prior to mowing.
      vi. Inspect for uniformity in cross-section and longitudinal slope, correct as needed.
   b. Failure of the vegetated swale could consist of excessive erosion or embankment overtopping. Should these be identified, take immediate corrective action (e.g. rip-rap apron, erosion control matting and/or re-grading, etc.).

4. Pervious Pavers
   a. Inspect and vacuum pavement twice annually. A log shall be maintained documenting when porous pavers have been vacuumed.
   b. Under no circumstance should the paver surface ever be seal coated.
   c. System replacement will be warranted where the following conditions exist:
      i. If there are potholes or settlement areas greater than 50 square feet;
      ii. If there is any evidence that liner may not be watertight;
      iii. If sediment build up does not allow system to completely drain within 72 hours after a storm event.

j. Recycling / Disposal of Materials

Contractor will develop and implement procedures which will ensure that the proper measures for disposal and recycling of materials associated with or from the project site in accordance with Department of Environmental Protection regulations. Construction wastes include, but are not limited to, excess soil materials, building materials, concrete wash water, sanitary wastes, etc. that could adversely impact water quality.

The contractor will inspect the project area weekly and properly dispose of all construction wastes. Measures should be planned and implemented for housekeeping, materials management, and litter control. Wherever possible, reusable wastes will be segregated from other waste and stored separately for recycling.

The contractor will be responsible for submitting an Erosion and Sediment Pollution Control Plan for any waste areas required to complete the work as required in Section 105.14, Publication 408M. Disposal locations for excess soil/rock waste will implement appropriate BMP's. The disposal locations must be verified with the PA Department of Environmental Protection to ensure compliance with wetland and floodplain regulations. These areas are to be seeded within 72 hours after earthmoving ceases. If an offsite location is used for this disposal, the contractor is responsible for developing and implementing an adequate Erosion and Sediment Pollution Control Plan and submitting the plan to the PA Department of Environmental Protection and PennDOT for review and approval.

All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Departments solid waste management regulations at 25 PA. Code 260.1 et seq., 271.1 and 287.1 et seq. No building materials or wastes or unused building materials shall be burned, buried, dumped or discharged at the site.

k. Soils

On-site soils within the Limit of Disturbance consist of the following: Manor loam, 15 to 25% slopes (MaD); Urban land-Conestoga complex, 8 to 25% slopes (UrgD); Urban land-Udorthents, schist and gneiss complex, 8 to 25% slopes. The soil limitations and resolutions are tabulated below.

Site Soil Limitations

LIMITATIONS	SOIL TYPE LIMITED (YES/NO)			RESOLUTION
	Manor loam (MaD)	Urban land-Conestoga (UrgD)	Urban land-Udorthents (UugD)	
CUTBANKS CAVE	YES	YES	YES	PERFORM SOIL TESTING PRIOR TO FOUNDATION DESIGN
CORROSIVE TO CONCRETE/STEEL (C/S)	YES-C	YES-C&S	YES-C&S	SEAL EXPOSED CONCRETE WITH BITUMASTIC
DROUGHTY	NO	NO	YES	MOISTURE WILL BE ADDED PRIOR TO SOIL COMPACTION, IF NECESSARY
EASILY ERODIBLE	YES	NO	YES	INSTALL ALL E&S MEASURES PER PLAN AND STABILIZE AREAS IMMEDIATELY AFTER GRADING IS COMPLETE
LOW STRENGTH/LANDSLIDE PRONE	YES	YES	YES	MINIMIZING THE DISTURRBACE AT STEEP SLOPES
SLOW PERCOLATION	YES	YES	YES	UTILIZE AREAS WITH GOOD TESTED PERCOLATION FOR BASINS & BMP's
PIPING	YES	YES	NO	SOFT LOOSE SOIL ENCOUNTERED, DURING PROOF-ROLLING WILL BE EVALUATED FOR POSSIBLE SINK HOLE CONDITIONS
POOR SOURCE OF TOPSOIL	YES	NO	YES	ANY REQUIRED TOPSOIL SHALL BE OF ADEQUATE QUALITY

FROST ACTION	YES	YES	YES	INSTALL FOUNDATIONS BELOW FROST LINE
POTENTIAL SINKHOLE	NO	YES	NO	SINKHOLE CONDITIONS IF ENCOUNTERED, WILL BE REMEDIATED UNDER DIRECTION OF ONSITE GEOTECHNICAL ENGINEER

I. Runoff from Project Area

This report is prepared in accordance with the Pennsylvania BMP Manual, the Township of East Whiteland Stormwater Ordinance and the County-Wide Act 167 Plan for Chester County approved by the PaDEP on July 2, 2013.

Per NOAA Atlas 14, the design storm volumes have the following characteristics:

1	2.6900	Synthetic Curve	TypeII	24hr
2	3.2300	Synthetic Curve	TypeII	24hr
5	4.0600	Synthetic Curve	TypeII	24hr
10	4.7400	Synthetic Curve	TypeII	24hr
25	5.7300	Synthetic Curve	TypeII	24hr
50	6.5600	Synthetic Curve	TypeII	24hr
100	7.4500	Synthetic Curve	TypeII	24hr

Storm routings for the pre- and post-development condition were performed using the HydroCAD Version 10 computer program. This program utilizes the SCS Unit Hydrograph Methodology. The curve number (CN) and time of concentration (Tc) for the proposed flows were determined using methods described in TR-55 Urban Hydrology for Small Watersheds. The HydroCAD output files can be found later in this report. Both the routings and NPDES Worksheet calculations assume 20% of the existing impervious areas on-site are considered as meadow.

The project was designed with two Points of Interest (POI). POI East (POI 'E') is located at the proposed headwall along Little Valley Creek in the northeast corner of the site. POI West (POI 'W') is located at an existing inlet along Malin Road at the northwest corner of the site.

In accordance with the East Whiteland Township Ordinance Chapter 170-308. Stormwater peak rate control requirements and the Act 167 Plan for Little Valley Creek, the proposed peak rate of runoff for each storm event up to and including the 100-yr event, shall be reduced by 90% from what currently exits the site. It should be noted, that although the redevelopment will reduce the overall impervious coverage of the site by more than 20%, the proposed development includes additional BMP's to reduce the peak rate to meet the 90% reductions.

<u>POI 'E'</u>

The drainage area to POI 'E' in the existing conditions and post conditions is 13.127 acres and 13.343 acres, respectively. These areas include 4.54 acres of off-site area that is collected in proposed inlet #300 and by-passed through the site. Stormwater runoff will be managed through Rain Garden #'s 1 & 2, and Infiltration Trench #'s 1-3. In addition, all proposed driveways, off-street parking areas and the emergency access road are designed with pervious pavers to reduce stormwater runoff.

The following table lists the Pre-Development rate of runoff, allowable runoff per regulations and the Post Development rate of runoff:

POI 'E'				
Storm	Existing (CFS)	Allowable (90% of Exist)	Proposed (CFS)	Net Change (%)
2-yr	19.53	17.58	12.89	66.0%
5-yr	26.71	24.04	18.13	67.9%
10-yr	33.23	29.91	23.30	70.1%
25-yr	43.42	39.08	33.58	77.3%
50-yr	52.39	47.15	43.28	82.6%
100-yr	62.33	56.10	54.36	87.2%

As determined from NPDES Worksheet 4 (see Page IV-3), the proposed development without any BMP's will decrease the volume of runoff by 11,763 cubic feet in the 2-year storm event, due to the reduction of impervious area with the removal of the existing building and parking areas.

As previously discussed, the site is hindered with soil contamination and stormwater infiltration is not recommended. As such, the proposed rain gardens and infiltration trenches are underlaid with an underdrain and encapsulated in a PVC liner. The underdrain will be equipped with a ½ - inch drill hole orifice in the outlet structure to provide extended detention.

POI 'W'

The drainage area to POI 'W' in the existing conditions and post conditions is 1.015 and 1.070 acres, respectively. Stormwater runoff will be managed through Rain Garden #3. The following table lists the Pre-Development rate of runoff, allowable runoff per regulations and the Post Development rate of runoff:

POI 'W'				
Storm	Existing (CFS)	Allowable (90% of Exist)	Proposed (CFS)	Net Change (%)
2-yr	1.41	1.27	0.70	49.6%
5-yr	2.01	1.81	1.29	64.2%
10-yr	2.55	2.30	2.11	82.7%
25-yr	3.38	3.04	3.02	89.3%
50-yr	4.11	3.70	3.55	86.4%
100-yr	4.93	4.44	4.38	88.8%

As determined from NPDES Worksheet 4 (see Page IV-4), the proposed development without any BMP's will decrease the volume of runoff by 911 cubic feet in the 2-year storm event.

m. Permanent Stormwater BMPs

Permanent Stormwater BMP's are to be implemented on this project. These measures impact both the quality and quantity of runoff leaving the site. The following descriptions detail some of the primary features of the stormwater management measures utilized for the proposed development:

Rain Garden / Bioretention Basin

The site will incorporate three (3) rain gardens as BMP's. Rain Gardens # 1 & 2 consist of 2-feet of amended soil area, underlain with 2-feet of clean stone a 4-inch underdrain and enclosed with a PVC liner. Rain Garden #3 consists of 1.5-ft of amended soil area, underlain with 1.5-feet of clean stone a 4-inch underdrain and enclosed with a PVC liner. The outlet structure for the Rain Gardens consists of a concrete inlet box with various orifices for rate control. Outlet pipes shall be constructed of Reinforced Concrete Pipe (RCP) with rubber gaskets in conformance with AASHTO M170, M198 & M207. Each of the Rain Gardens are equipped with an emergency spillway to safely pass runoff in excess of the 100-yr event or should the outlet structure become clogged. Refer to Page IV-17 for Spillway Calculations.

Infiltration Trench

The site will incorporate three (3) infiltration trenches as BMP's. These trenches are similar to the rain gardens construction, consisting of 2-feet of amended soil, over 2-feet of clean stone and underplayed by a 4-inch underdrain and enclosed within a PVC liner. However, the infiltration trenches collect smaller areas of the site and are equipped with a 12-inch Nyloplast circular riser. The underdrain will be capped in the outlet structure and provided with a 1-inch drill hole for slow release.

Riparian Buffer Re-Forestation

The proposed design incorporates the Re-Forestation of approx. 28,650 sf of Riparian Buffer that is currently void of trees and encumbered by buildings and parking areas. The vegetated corridor will provide water quality filtering, bank stability, rate attenuation and volume reduction, and shading of the waterbody to reduce the thermal impacts.

Water Quality Inlets

The stormwater management design also incorporates eight (8) water quality inlets. These inlets will be equipped with a snout hood and a sump to remove oil, grease and suspended solids prior to entering the Rain Gardens.

Primary BMPs for Nitrate:

NS BMP 5.4.2 – Protect/Conserve/Enhance Riparian Buffers

The proposed development will remove existing impervious areas (parking and buildings) within the riparian buffer and a 100-ft non-disturbance riparian buffer will be provided. Areas void of trees will be reforested as depicted on the Landscape Plans.

NS BMP 5.6.1 – Minimize Total Disturbed Area

Areas and trees are to be excluded from grading and construction outside of the limit of disturbance. The site has been designed to tie the proposed grading into the existing with minimal changes in slope and preserving the drainage paths and locations off-site.

NS BMP 5.6.3 – Re-Vegetate/Re-Forest Disturbed Areas (Native Species)
Extensive landscaping is proposed for the development, including extensive use of native species. The Applicant also proposed to implement low input lawn care procedures which embrace strategies and practices designed to reduce the use of chemical maintenance by fertilizers, herbicides and pesticides.

Secondary BMPs for Nitrate:

NS BMP 5.4.1 – Protect Sensitive/Special Value Features
The proposed redevelopment of the site has been designed to minimize impacts to wetlands, riparian areas, floodplain and existing woodlands.

Structural BMP 6.4.5 – Rain Garden/Bioretention
The site design incorporates three (3) rain gardens which slow runoff and filter pollutants and sediments in the process of conveying runoff.

n. Water Quality Analysis of Pollutant Loading from Disturbance in Buffer Area

The purpose of this section is to ensure compliance with the water quality requirements for stormwater runoff from developed sites. As depicted in NPDES Worksheet 14 (see Page IV-8), the existing conditions within the Riparian Buffer have a TSS, TP & NO3 total pollutant load of 2.08 lbs, 0.008 lbs and 0.013 lbs respectively. It should be noted that the NPDES Worksheet does not allow for loads associated with existing impervious within the Riparian Buffer which the current site has over 0.5 acres of impervious surfaces to be removed. The proposed conditions within the Riparian Buffer will create a TSS, TP & NO3 load of 4.90 lbs, 0.019 lbs and 0.024 lbs, respectively. Therefore, the difference between these values (2.82 lbs of TSS, 0.011 lbs of TP and 0.011 of NO3) shall be removed.

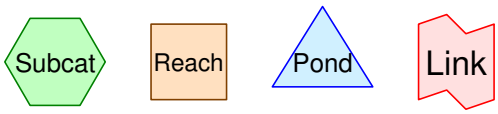
The proposed emergency access road is to be constructed of pervious pavers. Per NPDES Worksheet 15 (see Page IV-9 & IV-10), the pavers provide 85% TSS, 85% TP and 30% NO3 removal. Additionally, the undetained areas will flow across the newly Re-Forested Riparian Buffer which provides 65% TSS, 50% TP and 50% NO3 removal efficiencies. The combination of the Pervious Pavers and the Riparian Buffer Re-Forestation provide the required load reductions for all three Pollutants.

o. Summary

The proposed Stormwater Management design complies with the Pennsylvania Stormwater Best Management Practices Manual, the County-Wide Act 167 Plan and the East Whiteland Township Ordinances. The proposed improvements will decrease both the rate and volume of stormwater runoff from what leaves the site today.

II. EXISTING CONDITIONS

Pre-development peak discharge rates for the drainage area associated with the project were computed using the U.S.D.A. Soil Conservation Service unit hydrograph method as provided by the HydroCAD 10 computer program. This is the method used in the U.S.D.A. Soil Conservation Service Technical Release No. 20 (TR-20) *Project Formulation – Hydrology* computer program. The curve number (CN) and time of concentration (Tc) were determined using methods described in the U.S.D.A. Soil Conservation Service Technical Release No. 55 (TR-55) *Urban Hydrology for Small Watersheds*.



Routing Diagram for 181005_Malin Rd_mmt
Prepared by Taylor Wiseman & Taylor, Printed 10/9/2018
HydroCAD® 10.00 s/n 04585 © 2011 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.617	55	Woods, Good, HSG B (EX Off, EXgrass-E)
1.580	58	Meadow (20% Impervious) (EXgrass-E, EXgrass-W)
1.254	58	Meadow, non-grazed, HSG B (EXgrass-E, EXgrass-W)
0.132	70	Woods, Good, HSG C (EXgrass-E)
0.001	71	Meadow, non-grazed, HSG C (EXgrass-E)
0.238	85	Gravel roads, HSG B (EX Off)
6.321	98	Paved parking, HSG B (EXimp-E, EXimp-W)
14.142	**75**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	6.321	0.000	0.000	0.000	6.321	Paved parking	EXimp-E, EXimp-W
0.000	0.238	0.000	0.000	0.000	0.238	Gravel roads	EX Off
0.000	0.000	0.000	0.000	1.580	1.580	Meadow (20% Impervious)	EXgrass-E, EXgrass-W
0.000	1.254	0.001	0.000	0.000	1.255	Meadow, non-grazed	EXgrass-E, EXgrass-W
0.000	4.617	0.132	0.000	0.000	4.749	Woods, Good	EX Off, EXgrass-E
0.000	**12.429**	**0.133**	**0.000**	**1.580**	**14.142**	**TOTAL AREA**	

Summary for Subcatchment EX Off: EX Offsite

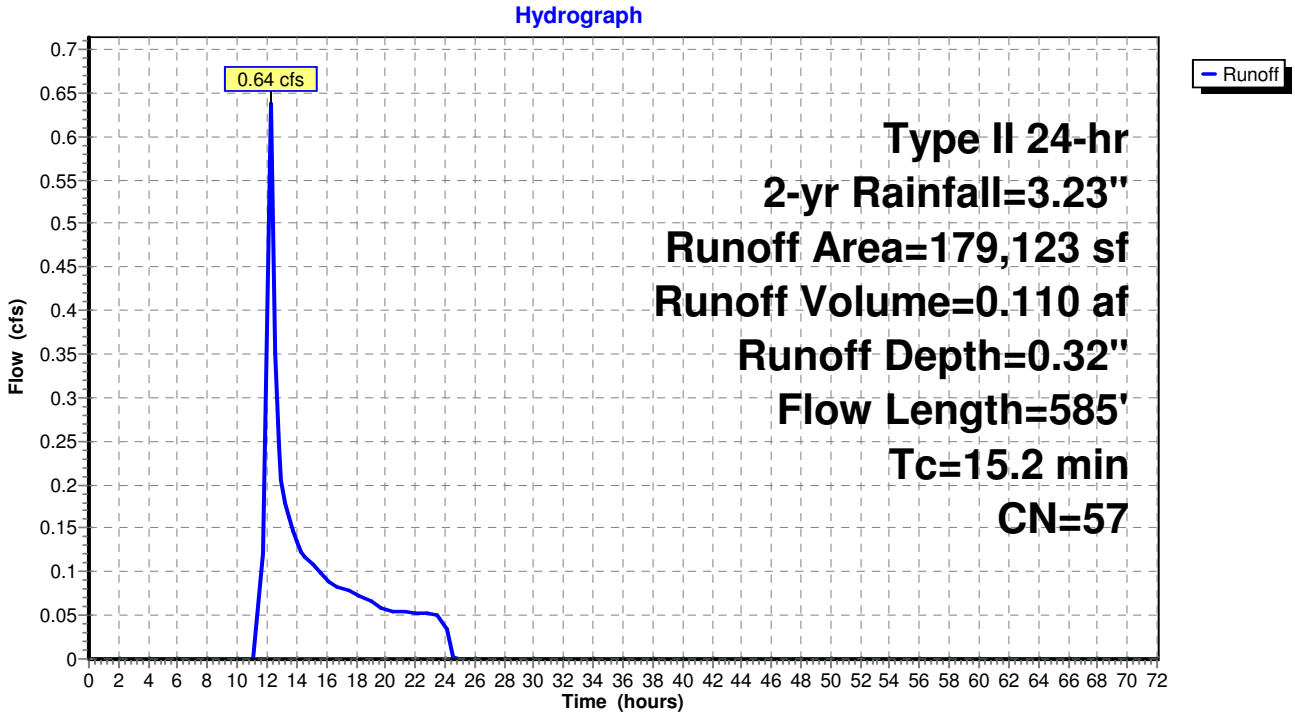
Runoff = 0.64 cfs @ 12.25 hrs, Volume= 0.110 af, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
168,770	55	Woods, Good, HSG B
10,353	85	Gravel roads, HSG B
179,123	57	Weighted Average
179,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.2300	0.12		**Sheet Flow, 1** Woods: Dense underbrush n= 0.800 P2= 3.30"
1.3	485	0.1500	6.24		**Shallow Concentrated Flow, 2** Unpaved Kv= 16.1 fps
15.2	585	Total			

Subcatchment EX Off: EX Offsite



Hydrograph for Subcatchment EX Off: EX Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.04	0.00	0.00
2.50	0.09	0.00	0.00
3.75	0.14	0.00	0.00
5.00	0.20	0.00	0.00
6.25	0.27	0.00	0.00
7.50	0.35	0.00	0.00
8.75	0.45	0.00	0.00
10.00	0.58	0.00	0.00
11.25	0.83	0.00	**0.00**
12.50	2.37	0.09	**0.35**
13.75	2.62	0.14	0.15
15.00	2.76	0.18	0.11
16.25	2.86	0.21	0.09
17.50	2.94	0.23	0.08
18.75	3.02	0.25	0.07
20.00	3.07	0.27	0.06
21.25	3.13	0.29	0.05
22.50	3.17	0.30	0.05
23.75	**3.22**	**0.32**	0.05
25.00	**3.23**	**0.32**	0.00
26.25	3.23	0.32	0.00
27.50	3.23	0.32	0.00
28.75	3.23	0.32	0.00
30.00	3.23	0.32	0.00
31.25	3.23	0.32	0.00
32.50	3.23	0.32	0.00
33.75	3.23	0.32	0.00
35.00	3.23	0.32	0.00
36.25	3.23	0.32	0.00
37.50	3.23	0.32	0.00
38.75	3.23	0.32	0.00
40.00	3.23	0.32	0.00
41.25	3.23	0.32	0.00
42.50	3.23	0.32	0.00
43.75	3.23	0.32	0.00
45.00	3.23	0.32	0.00
46.25	3.23	0.32	0.00
47.50	3.23	0.32	0.00
48.75	3.23	0.32	0.00
50.00	3.23	0.32	0.00
51.25	3.23	0.32	0.00
52.50	3.23	0.32	0.00
53.75	3.23	0.32	0.00
55.00	3.23	0.32	0.00
56.25	3.23	0.32	0.00
57.50	3.23	0.32	0.00
58.75	3.23	0.32	0.00
60.00	3.23	0.32	0.00
61.25	3.23	0.32	0.00
62.50	3.23	0.32	0.00
63.75	3.23	0.32	0.00
65.00	3.23	0.32	0.00
66.25	3.23	0.32	0.00
67.50	3.23	0.32	0.00
68.75	3.23	0.32	0.00
70.00	3.23	0.32	0.00
71.25	3.23	0.32	0.00

Summary for Subcatchment EXgrass-E: EX Grass - East

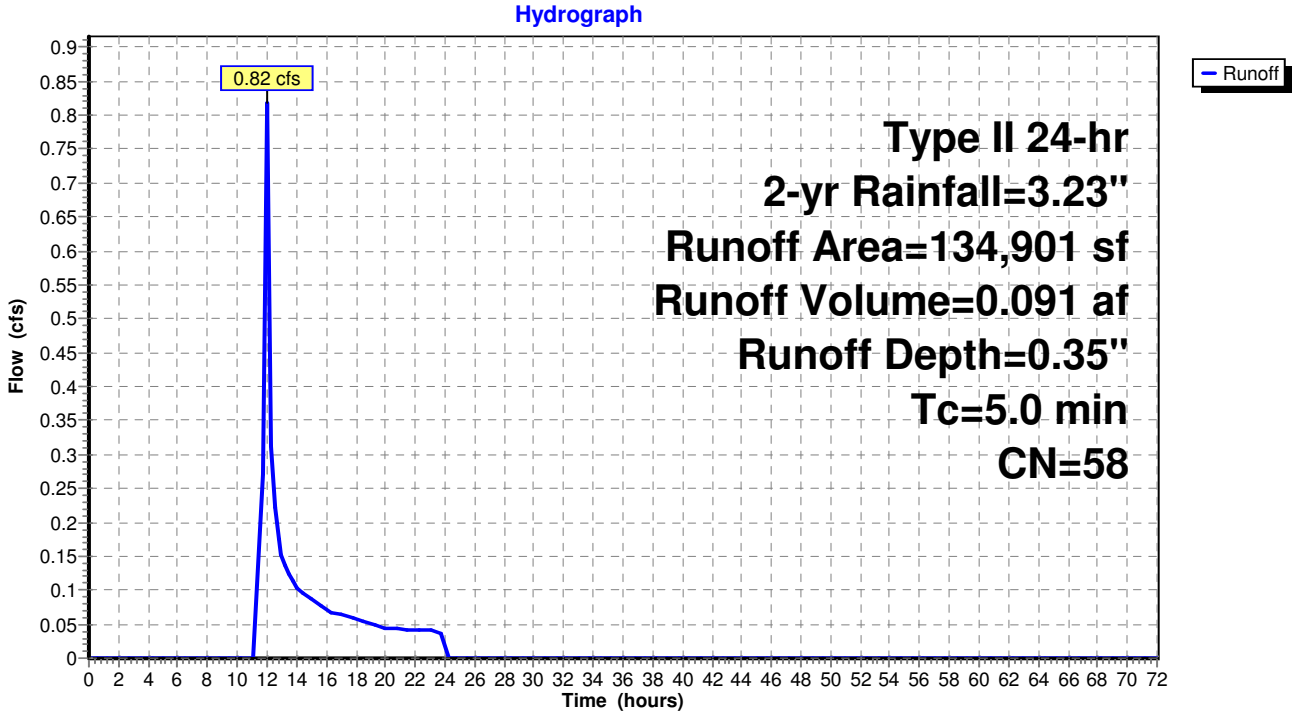
Runoff = 0.82 cfs @ 12.03 hrs, Volume= 0.091 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

	Area (sf)	CN	Description
	32,333	55	Woods, Good, HSG B
	5,752	70	Woods, Good, HSG C
	32,333	58	Meadow, non-grazed, HSG B
	33	71	Meadow, non-grazed, HSG C
*	64,450	58	Meadow (20% Impervious)
	134,901	58	Weighted Average
	134,901		100.00% Pervious Area

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

Subcatchment EXgrass-E: EX Grass - East



Hydrograph for Subcatchment EXgrass-E: EX Grass - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.04	0.00	0.00
2.50	0.09	0.00	0.00
3.75	0.14	0.00	0.00
5.00	0.20	0.00	0.00
6.25	0.27	0.00	0.00
7.50	0.35	0.00	0.00
8.75	0.45	0.00	0.00
10.00	0.58	0.00	0.00
11.25	0.83	0.00	**0.00**
12.50	2.37	0.10	**0.22**
13.75	2.62	0.16	0.11
15.00	2.76	0.20	0.09
16.25	2.86	0.23	0.07
17.50	2.94	0.26	0.06
18.75	3.02	0.28	0.05
20.00	3.07	0.30	0.04
21.25	3.13	0.32	0.04
22.50	3.17	0.33	0.04
23.75	**3.22**	**0.35**	0.04
25.00	**3.23**	**0.35**	0.00
26.25	3.23	0.35	0.00
27.50	3.23	0.35	0.00
28.75	3.23	0.35	0.00
30.00	3.23	0.35	0.00
31.25	3.23	0.35	0.00
32.50	3.23	0.35	0.00
33.75	3.23	0.35	0.00
35.00	3.23	0.35	0.00
36.25	3.23	0.35	0.00
37.50	3.23	0.35	0.00
38.75	3.23	0.35	0.00
40.00	3.23	0.35	0.00
41.25	3.23	0.35	0.00
42.50	3.23	0.35	0.00
43.75	3.23	0.35	0.00
45.00	3.23	0.35	0.00
46.25	3.23	0.35	0.00
47.50	3.23	0.35	0.00
48.75	3.23	0.35	0.00
50.00	3.23	0.35	0.00
51.25	3.23	0.35	0.00
52.50	3.23	0.35	0.00
53.75	3.23	0.35	0.00
55.00	3.23	0.35	0.00
56.25	3.23	0.35	0.00
57.50	3.23	0.35	0.00
58.75	3.23	0.35	0.00
60.00	3.23	0.35	0.00
61.25	3.23	0.35	0.00
62.50	3.23	0.35	0.00
63.75	3.23	0.35	0.00
65.00	3.23	0.35	0.00
66.25	3.23	0.35	0.00
67.50	3.23	0.35	0.00
68.75	3.23	0.35	0.00
70.00	3.23	0.35	0.00
71.25	3.23	0.35	0.00

Summary for Subcatchment EXgrass-W: EX Grass - West

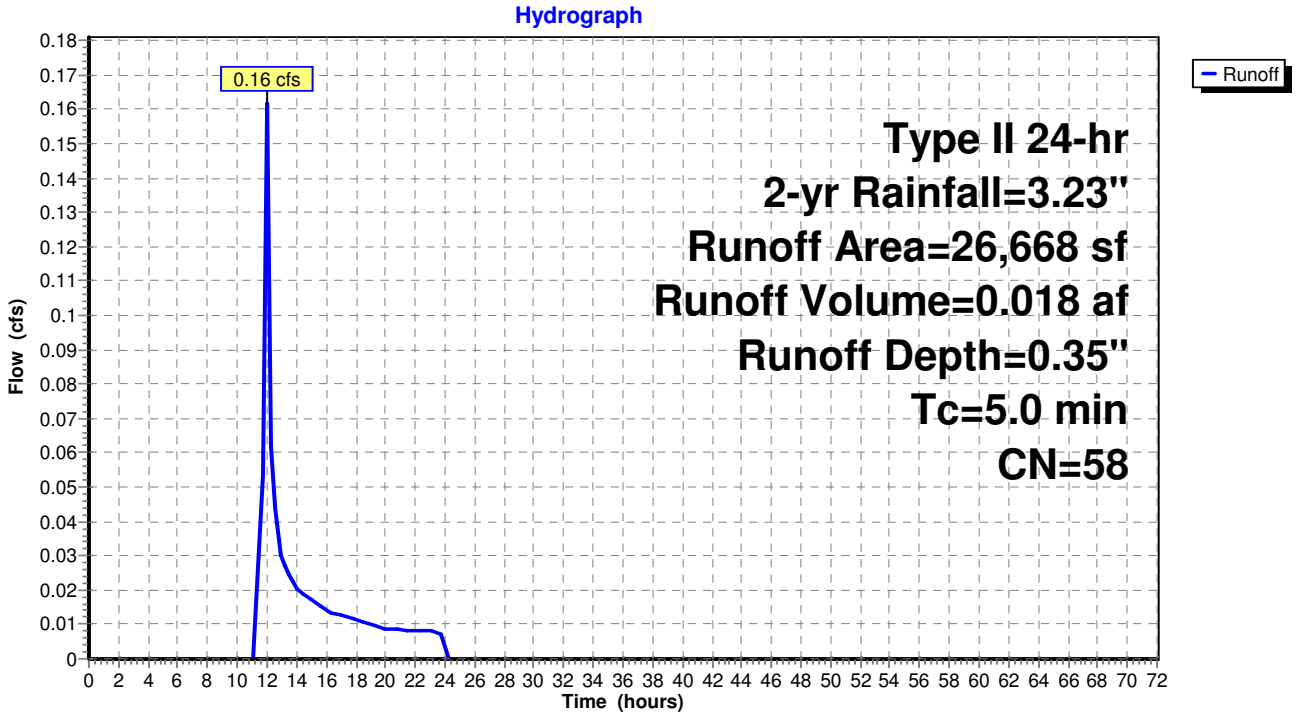
Runoff = 0.16 cfs @ 12.03 hrs, Volume= 0.018 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

	Area (sf)	CN	Description
	22,281	58	Meadow, non-grazed, HSG B
*	4,387	58	Meadow (20% Impervious)
	26,668	58	Weighted Average
	26,668		100.00% Pervious Area

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

Subcatchment EXgrass-W: EX Grass - West



Hydrograph for Subcatchment EXgrass-W: EX Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.04	0.00	0.00
2.50	0.09	0.00	0.00
3.75	0.14	0.00	0.00
5.00	0.20	0.00	0.00
6.25	0.27	0.00	0.00
7.50	0.35	0.00	0.00
8.75	0.45	0.00	0.00
10.00	0.58	0.00	0.00
11.25	0.83	0.00	**0.00**
12.50	2.37	0.10	**0.04**
13.75	2.62	0.16	0.02
15.00	2.76	0.20	0.02
16.25	2.86	0.23	0.01
17.50	2.94	0.26	0.01
18.75	3.02	0.28	0.01
20.00	3.07	0.30	0.01
21.25	3.13	0.32	0.01
22.50	3.17	0.33	0.01
23.75	**3.22**	**0.35**	0.01
25.00	**3.23**	**0.35**	0.00
26.25	3.23	0.35	0.00
27.50	3.23	0.35	0.00
28.75	3.23	0.35	0.00
30.00	3.23	0.35	0.00
31.25	3.23	0.35	0.00
32.50	3.23	0.35	0.00
33.75	3.23	0.35	0.00
35.00	3.23	0.35	0.00
36.25	3.23	0.35	0.00
37.50	3.23	0.35	0.00
38.75	3.23	0.35	0.00
40.00	3.23	0.35	0.00
41.25	3.23	0.35	0.00
42.50	3.23	0.35	0.00
43.75	3.23	0.35	0.00
45.00	3.23	0.35	0.00
46.25	3.23	0.35	0.00
47.50	3.23	0.35	0.00
48.75	3.23	0.35	0.00
50.00	3.23	0.35	0.00
51.25	3.23	0.35	0.00
52.50	3.23	0.35	0.00
53.75	3.23	0.35	0.00
55.00	3.23	0.35	0.00
56.25	3.23	0.35	0.00
57.50	3.23	0.35	0.00
58.75	3.23	0.35	0.00
60.00	3.23	0.35	0.00
61.25	3.23	0.35	0.00
62.50	3.23	0.35	0.00
63.75	3.23	0.35	0.00
65.00	3.23	0.35	0.00
66.25	3.23	0.35	0.00
67.50	3.23	0.35	0.00
68.75	3.23	0.35	0.00
70.00	3.23	0.35	0.00
71.25	3.23	0.35	0.00

Summary for Subcatchment EXimp-E: EX Imp - East

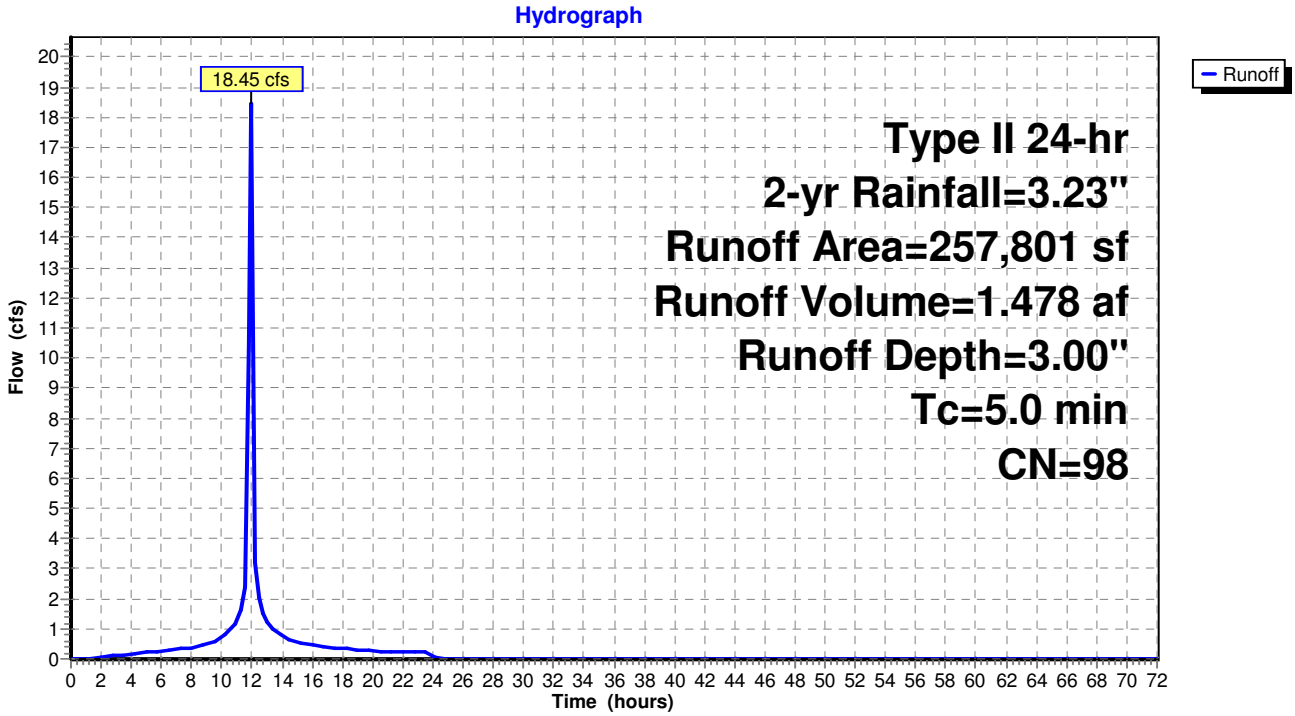
Runoff = 18.45 cfs @ 11.96 hrs, Volume= 1.478 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
257,801	98	Paved parking, HSG B
257,801		100.00% Impervious Area

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

Subcatchment EXimp-E: EX Imp - East



Hydrograph for Subcatchment EXimp-E: EX Imp - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.04	0.00	0.00
2.50	0.09	0.01	0.08
3.75	0.14	0.03	0.14
5.00	0.20	0.07	0.21
6.25	0.27	0.12	0.27
7.50	0.35	0.19	0.34
8.75	0.45	0.27	0.49
10.00	0.58	0.40	0.69
11.25	0.83	0.62	**1.63**
12.50	2.37	2.15	**2.03**
13.75	2.62	2.39	0.83
15.00	2.76	2.53	0.59
16.25	2.86	2.63	0.43
17.50	2.94	2.71	0.37
18.75	3.02	2.78	0.31
20.00	3.07	2.84	0.25
21.25	3.13	2.89	0.24
22.50	3.17	2.94	0.23
23.75	**3.22**	**2.99**	0.21
25.00	**3.23**	**3.00**	0.00
26.25	3.23	3.00	0.00
27.50	3.23	3.00	0.00
28.75	3.23	3.00	0.00
30.00	3.23	3.00	0.00
31.25	3.23	3.00	0.00
32.50	3.23	3.00	0.00
33.75	3.23	3.00	0.00
35.00	3.23	3.00	0.00
36.25	3.23	3.00	0.00
37.50	3.23	3.00	0.00
38.75	3.23	3.00	0.00
40.00	3.23	3.00	0.00
41.25	3.23	3.00	0.00
42.50	3.23	3.00	0.00
43.75	3.23	3.00	0.00
45.00	3.23	3.00	0.00
46.25	3.23	3.00	0.00
47.50	3.23	3.00	0.00
48.75	3.23	3.00	0.00
50.00	3.23	3.00	0.00
51.25	3.23	3.00	0.00
52.50	3.23	3.00	0.00
53.75	3.23	3.00	0.00
55.00	3.23	3.00	0.00
56.25	3.23	3.00	0.00
57.50	3.23	3.00	0.00
58.75	3.23	3.00	0.00
60.00	3.23	3.00	0.00
61.25	3.23	3.00	0.00
62.50	3.23	3.00	0.00
63.75	3.23	3.00	0.00
65.00	3.23	3.00	0.00
66.25	3.23	3.00	0.00
67.50	3.23	3.00	0.00
68.75	3.23	3.00	0.00
70.00	3.23	3.00	0.00
71.25	3.23	3.00	0.00

Summary for Subcatchment EXimp-W: EX Imp - West

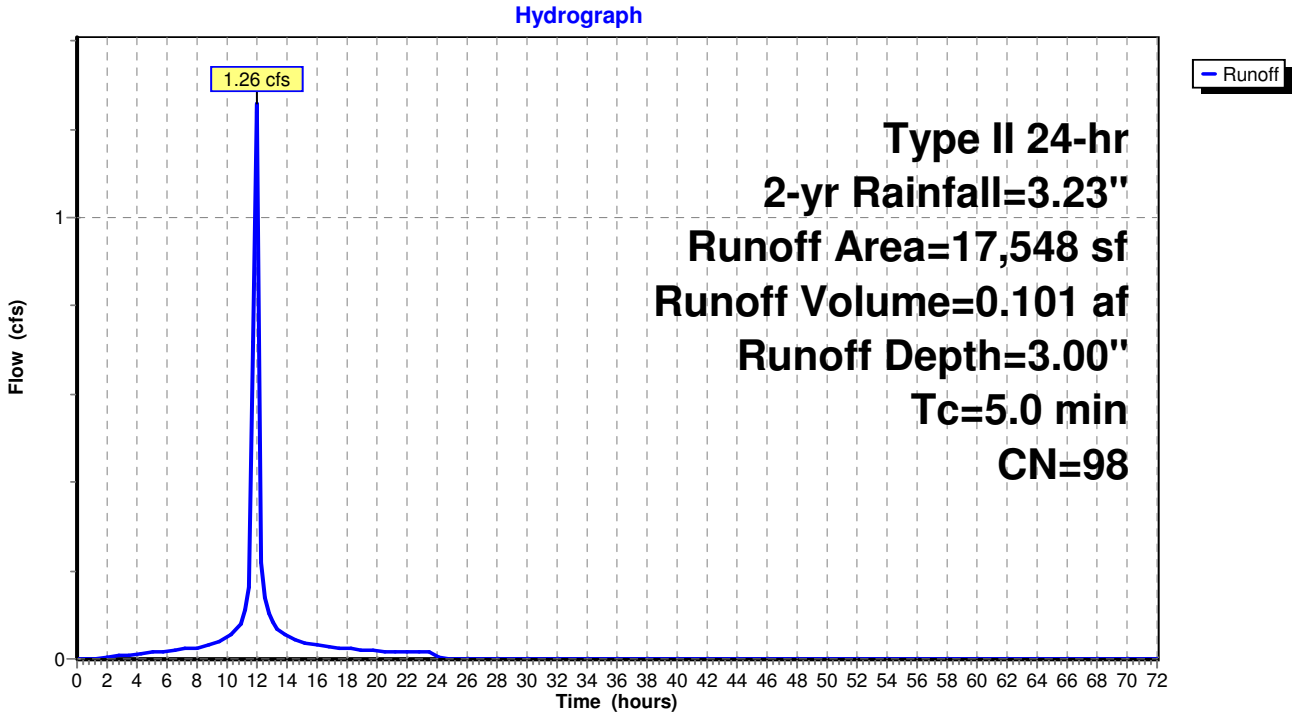
Runoff = 1.26 cfs @ 11.96 hrs, Volume= 0.101 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
17,548	98	Paved parking, HSG B
17,548		100.00% Impervious Area

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

Subcatchment EXimp-W: EX Imp - West



Hydrograph for Subcatchment EXimp-W: EX Imp - West

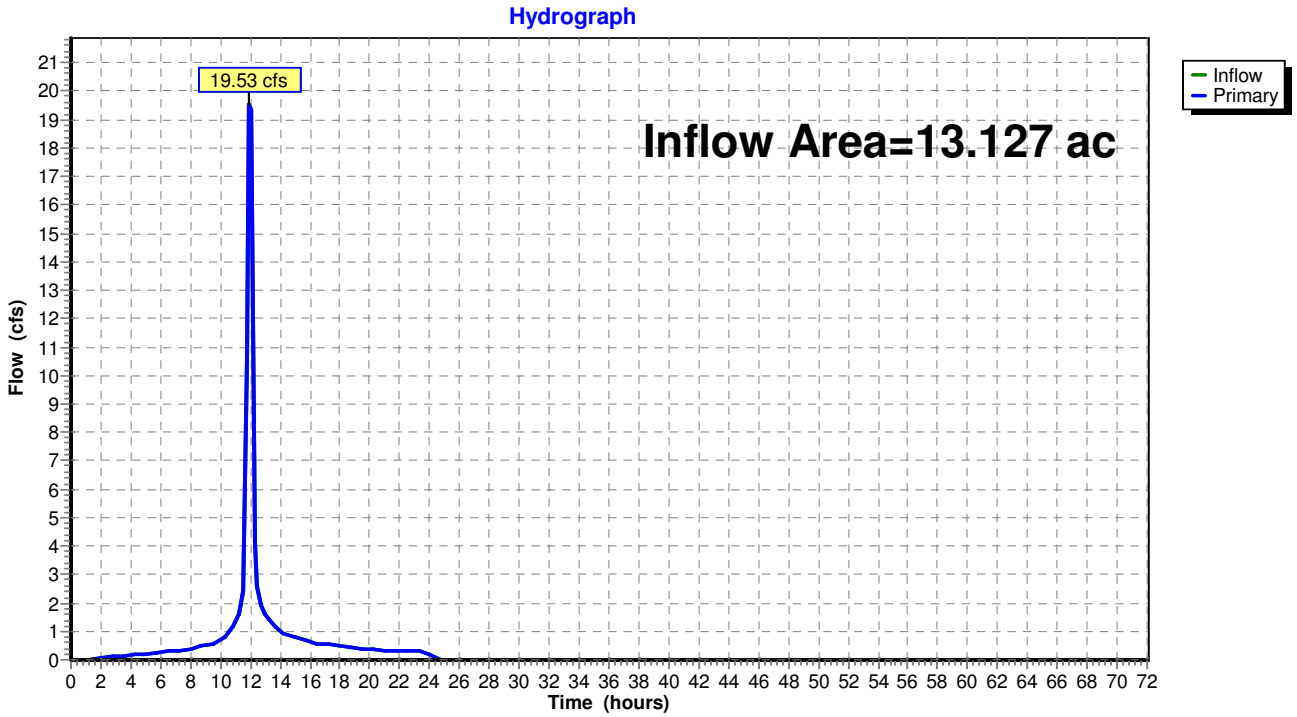
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.04	0.00	0.00
2.50	0.09	0.01	0.01
3.75	0.14	0.03	0.01
5.00	0.20	0.07	0.01
6.25	0.27	0.12	0.02
7.50	0.35	0.19	0.02
8.75	0.45	0.27	0.03
10.00	0.58	0.40	0.05
11.25	0.83	0.62	**0.11**
12.50	2.37	2.15	**0.14**
13.75	2.62	2.39	0.06
15.00	2.76	2.53	0.04
16.25	2.86	2.63	0.03
17.50	2.94	2.71	0.03
18.75	3.02	2.78	0.02
20.00	3.07	2.84	0.02
21.25	3.13	2.89	0.02
22.50	3.17	2.94	0.02
23.75	**3.22**	**2.99**	0.01
25.00	**3.23**	**3.00**	0.00
26.25	3.23	3.00	0.00
27.50	3.23	3.00	0.00
28.75	3.23	3.00	0.00
30.00	3.23	3.00	0.00
31.25	3.23	3.00	0.00
32.50	3.23	3.00	0.00
33.75	3.23	3.00	0.00
35.00	3.23	3.00	0.00
36.25	3.23	3.00	0.00
37.50	3.23	3.00	0.00
38.75	3.23	3.00	0.00
40.00	3.23	3.00	0.00
41.25	3.23	3.00	0.00
42.50	3.23	3.00	0.00
43.75	3.23	3.00	0.00
45.00	3.23	3.00	0.00
46.25	3.23	3.00	0.00
47.50	3.23	3.00	0.00
48.75	3.23	3.00	0.00
50.00	3.23	3.00	0.00
51.25	3.23	3.00	0.00
52.50	3.23	3.00	0.00
53.75	3.23	3.00	0.00
55.00	3.23	3.00	0.00
56.25	3.23	3.00	0.00
57.50	3.23	3.00	0.00
58.75	3.23	3.00	0.00
60.00	3.23	3.00	0.00
61.25	3.23	3.00	0.00
62.50	3.23	3.00	0.00
63.75	3.23	3.00	0.00
65.00	3.23	3.00	0.00
66.25	3.23	3.00	0.00
67.50	3.23	3.00	0.00
68.75	3.23	3.00	0.00
70.00	3.23	3.00	0.00
71.25	3.23	3.00	0.00

Summary for Link EX-East: Exist POI 'East'

Inflow Area = 13.127 ac, 45.08% Impervious, Inflow Depth = 1.53" for 2-yr event
Inflow = 19.53 cfs @ 11.97 hrs, Volume= 1.679 af
Primary = 19.53 cfs @ 11.97 hrs, Volume= 1.679 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-East: Exist POI 'East'



Hydrograph for Link EX-East: Exist POI 'East'

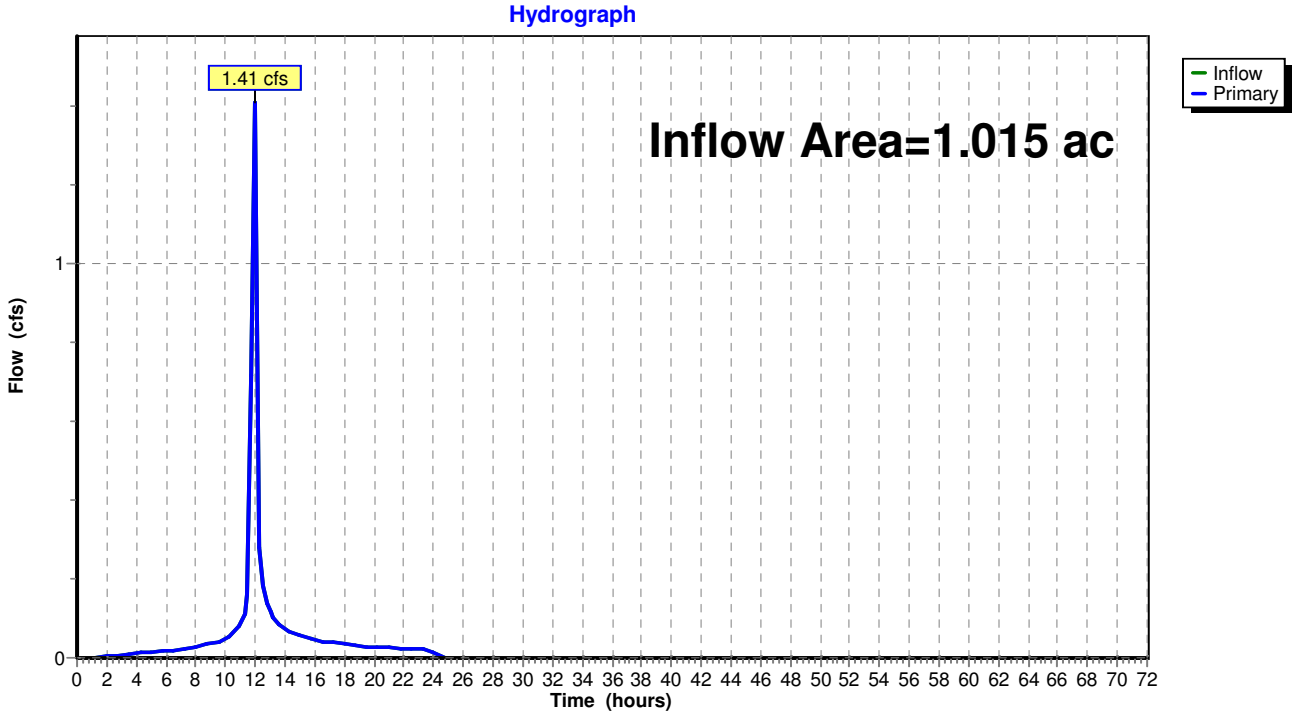
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.08	0.00	0.08	66.25	0.00	0.00	0.00
3.75	0.14	0.00	0.14	67.50	0.00	0.00	0.00
5.00	0.21	0.00	0.21	68.75	0.00	0.00	0.00
6.25	0.27	0.00	0.27	70.00	0.00	0.00	0.00
7.50	0.34	0.00	0.34	71.25	0.00	0.00	0.00
8.75	0.49	0.00	0.49				
10.00	0.69	0.00	0.69				
11.25	**1.63**	0.00	**1.63**				
12.50	**2.60**	0.00	**2.60**				
13.75	1.09	0.00	1.09				
15.00	0.78	0.00	0.78				
16.25	0.59	0.00	0.59				
17.50	0.51	0.00	0.51				
18.75	0.43	0.00	0.43				
20.00	0.35	0.00	0.35				
21.25	0.33	0.00	0.33				
22.50	0.32	0.00	0.32				
23.75	0.30	0.00	0.30				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link EX-West: Exist. POI 'West'

Inflow Area = 1.015 ac, 39.69% Impervious, Inflow Depth = 1.40" for 2-yr event
Inflow = 1.41 cfs @ 11.97 hrs, Volume= 0.119 af
Primary = 1.41 cfs @ 11.97 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-West: Exist. POI 'West'



Hydrograph for Link EX-West: Exist. POI 'West'

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.01	0.00	0.01	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.02	0.00	0.02	70.00	0.00	0.00	0.00
7.50	0.02	0.00	0.02	71.25	0.00	0.00	0.00
8.75	0.03	0.00	0.03				
10.00	0.05	0.00	0.05				
11.25	**0.11**	0.00	**0.11**				
12.50	**0.18**	0.00	**0.18**				
13.75	0.08	0.00	0.08				
15.00	0.06	0.00	0.06				
16.25	0.04	0.00	0.04				
17.50	0.04	0.00	0.04				
18.75	0.03	0.00	0.03				
20.00	0.03	0.00	0.03				
21.25	0.02	0.00	0.02				
22.50	0.02	0.00	0.02				
23.75	0.02	0.00	0.02				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment EX Off: EX Offsite

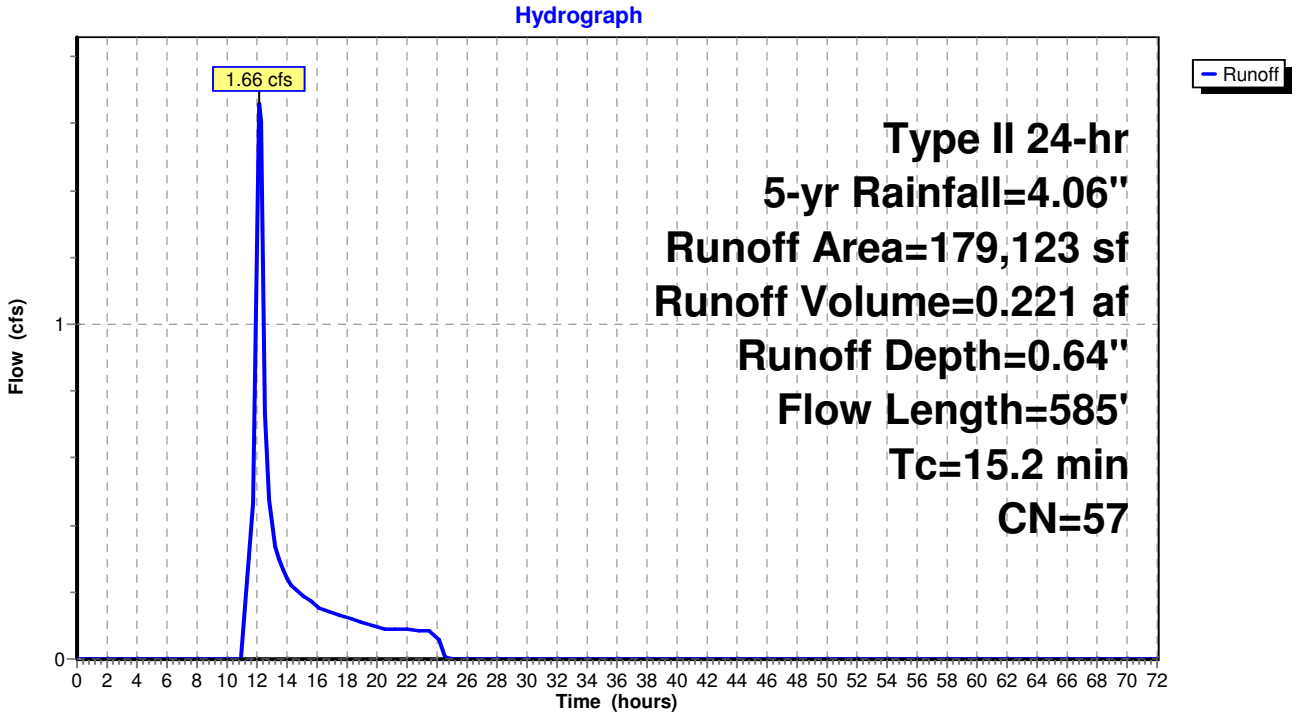
Runoff = 1.66 cfs @ 12.17 hrs, Volume= 0.221 af, Depth= 0.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
168,770	55	Woods, Good, HSG B
10,353	85	Gravel roads, HSG B
179,123	57	Weighted Average
179,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.2300	0.12		**Sheet Flow, 1** Woods: Dense underbrush n= 0.800 P2= 3.30"
1.3	485	0.1500	6.24		**Shallow Concentrated Flow, 2** Unpaved Kv= 16.1 fps
15.2	585	Total			

Subcatchment EX Off: EX Offsite



Hydrograph for Subcatchment EX Off: EX Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.05	0.00	0.00
2.50	0.11	0.00	0.00
3.75	0.18	0.00	0.00
5.00	0.26	0.00	0.00
6.25	0.34	0.00	0.00
7.50	0.44	0.00	0.00
8.75	0.57	0.00	0.00
10.00	0.73	0.00	0.00
11.25	1.04	0.00	**0.00**
12.50	2.98	0.24	**0.74**
13.75	3.29	0.34	0.27
15.00	3.47	0.40	0.19
16.25	3.60	0.45	0.15
17.50	3.70	0.49	0.13
18.75	3.79	0.53	0.11
20.00	3.87	0.56	0.10
21.25	3.93	0.59	0.09
22.50	3.99	0.61	0.09
23.75	**4.05**	**0.64**	0.08
25.00	**4.06**	**0.64**	0.00
26.25	4.06	0.64	0.00
27.50	4.06	0.64	0.00
28.75	4.06	0.64	0.00
30.00	4.06	0.64	0.00
31.25	4.06	0.64	0.00
32.50	4.06	0.64	0.00
33.75	4.06	0.64	0.00
35.00	4.06	0.64	0.00
36.25	4.06	0.64	0.00
37.50	4.06	0.64	0.00
38.75	4.06	0.64	0.00
40.00	4.06	0.64	0.00
41.25	4.06	0.64	0.00
42.50	4.06	0.64	0.00
43.75	4.06	0.64	0.00
45.00	4.06	0.64	0.00
46.25	4.06	0.64	0.00
47.50	4.06	0.64	0.00
48.75	4.06	0.64	0.00
50.00	4.06	0.64	0.00
51.25	4.06	0.64	0.00
52.50	4.06	0.64	0.00
53.75	4.06	0.64	0.00
55.00	4.06	0.64	0.00
56.25	4.06	0.64	0.00
57.50	4.06	0.64	0.00
58.75	4.06	0.64	0.00
60.00	4.06	0.64	0.00
61.25	4.06	0.64	0.00
62.50	4.06	0.64	0.00
63.75	4.06	0.64	0.00
65.00	4.06	0.64	0.00
66.25	4.06	0.64	0.00
67.50	4.06	0.64	0.00
68.75	4.06	0.64	0.00
70.00	4.06	0.64	0.00
71.25	4.06	0.64	0.00

Summary for Subcatchment EXgrass-E: EX Grass - East

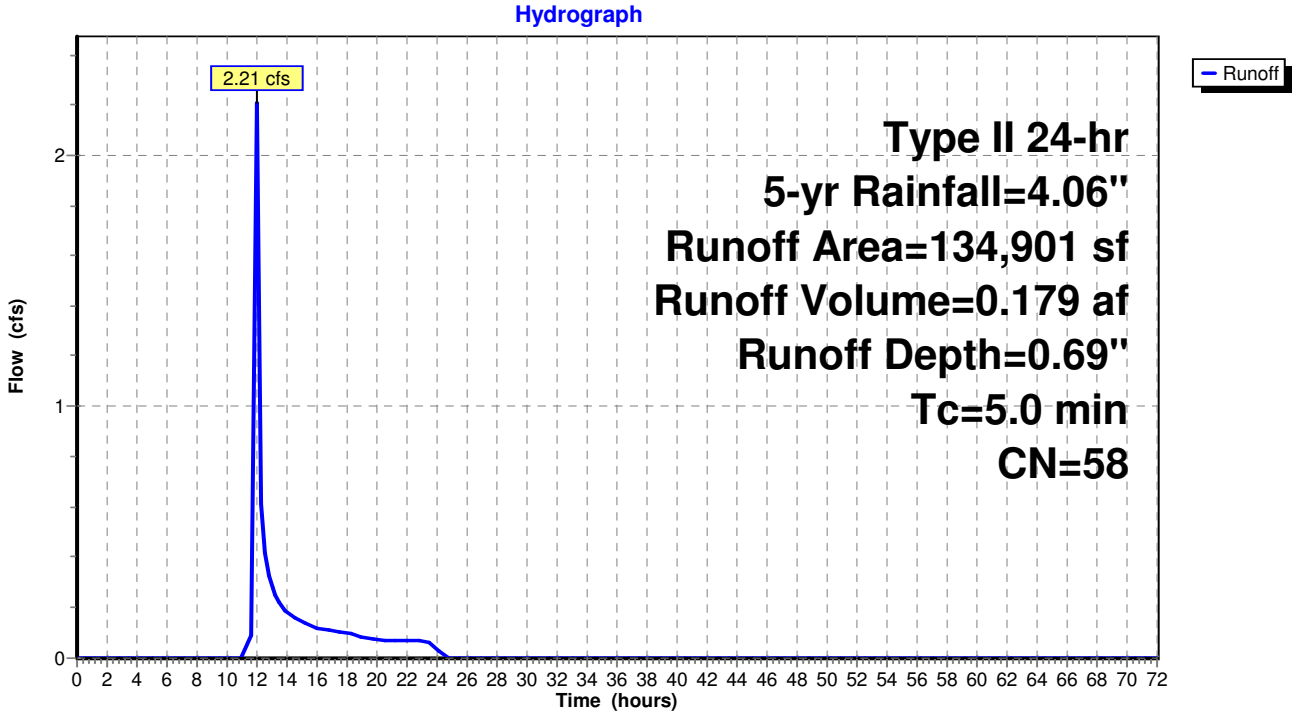
Runoff = 2.21 cfs @ 12.01 hrs, Volume= 0.179 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

	Area (sf)	CN	Description
	32,333	55	Woods, Good, HSG B
	5,752	70	Woods, Good, HSG C
	32,333	58	Meadow, non-grazed, HSG B
	33	71	Meadow, non-grazed, HSG C
*	64,450	58	Meadow (20% Impervious)
	134,901	58	Weighted Average
	134,901		100.00% Pervious Area

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

Subcatchment EXgrass-E: EX Grass - East



Hydrograph for Subcatchment EXgrass-E: EX Grass - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.05	0.00	0.00
2.50	0.11	0.00	0.00
3.75	0.18	0.00	0.00
5.00	0.26	0.00	0.00
6.25	0.34	0.00	0.00
7.50	0.44	0.00	0.00
8.75	0.57	0.00	0.00
10.00	0.73	0.00	0.00
11.25	1.04	0.00	**0.00**
12.50	2.98	0.27	**0.42**
13.75	3.29	0.37	0.20
15.00	3.47	0.44	0.15
16.25	3.60	0.49	0.12
17.50	3.70	0.53	0.10
18.75	3.79	0.57	0.09
20.00	3.87	0.60	0.07
21.25	3.93	0.63	0.07
22.50	3.99	0.66	0.07
23.75	**4.05**	**0.69**	0.06
25.00	**4.06**	**0.69**	0.00
26.25	4.06	0.69	0.00
27.50	4.06	0.69	0.00
28.75	4.06	0.69	0.00
30.00	4.06	0.69	0.00
31.25	4.06	0.69	0.00
32.50	4.06	0.69	0.00
33.75	4.06	0.69	0.00
35.00	4.06	0.69	0.00
36.25	4.06	0.69	0.00
37.50	4.06	0.69	0.00
38.75	4.06	0.69	0.00
40.00	4.06	0.69	0.00
41.25	4.06	0.69	0.00
42.50	4.06	0.69	0.00
43.75	4.06	0.69	0.00
45.00	4.06	0.69	0.00
46.25	4.06	0.69	0.00
47.50	4.06	0.69	0.00
48.75	4.06	0.69	0.00
50.00	4.06	0.69	0.00
51.25	4.06	0.69	0.00
52.50	4.06	0.69	0.00
53.75	4.06	0.69	0.00
55.00	4.06	0.69	0.00
56.25	4.06	0.69	0.00
57.50	4.06	0.69	0.00
58.75	4.06	0.69	0.00
60.00	4.06	0.69	0.00
61.25	4.06	0.69	0.00
62.50	4.06	0.69	0.00
63.75	4.06	0.69	0.00
65.00	4.06	0.69	0.00
66.25	4.06	0.69	0.00
67.50	4.06	0.69	0.00
68.75	4.06	0.69	0.00
70.00	4.06	0.69	0.00
71.25	4.06	0.69	0.00

Summary for Subcatchment EXgrass-W: EX Grass - West

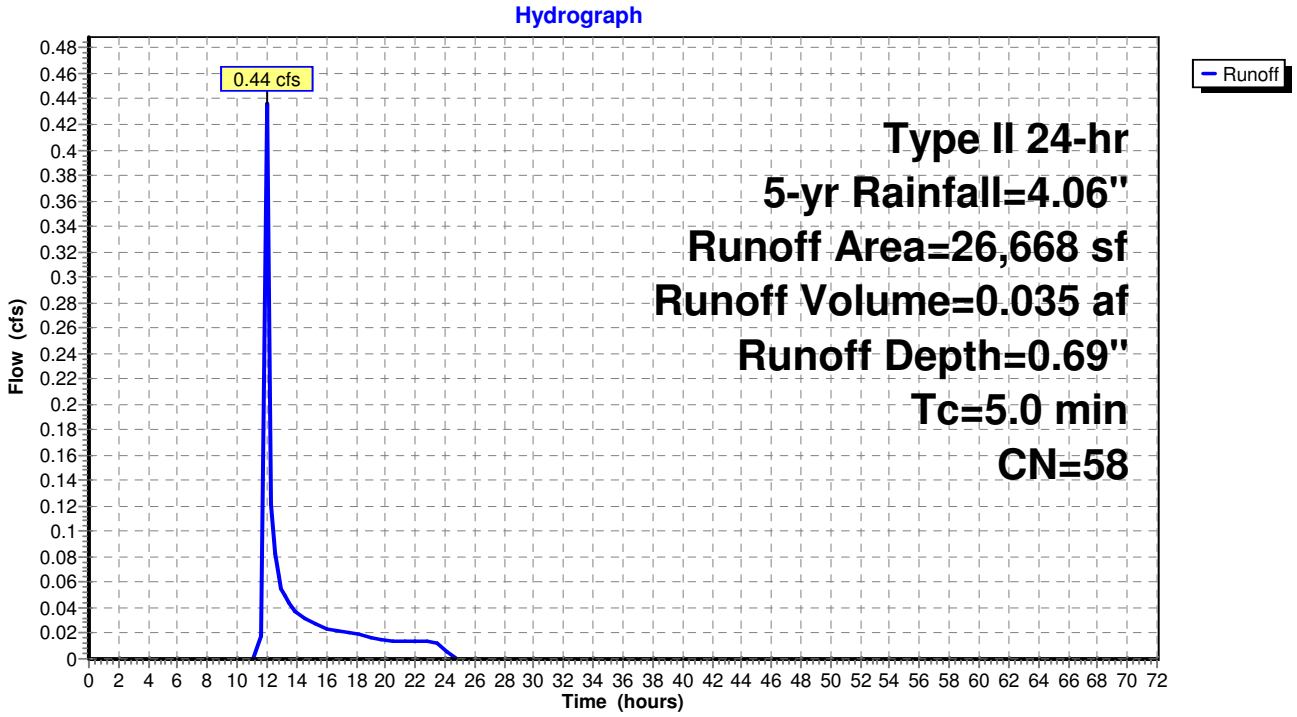
Runoff = 0.44 cfs @ 12.01 hrs, Volume= 0.035 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

	Area (sf)	CN	Description
	22,281	58	Meadow, non-grazed, HSG B
*	4,387	58	Meadow (20% Impervious)
	26,668	58	Weighted Average
	26,668		100.00% Pervious Area

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

Subcatchment EXgrass-W: EX Grass - West



Hydrograph for Subcatchment EXgrass-W: EX Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.05	0.00	0.00
2.50	0.11	0.00	0.00
3.75	0.18	0.00	0.00
5.00	0.26	0.00	0.00
6.25	0.34	0.00	0.00
7.50	0.44	0.00	0.00
8.75	0.57	0.00	0.00
10.00	0.73	0.00	0.00
11.25	1.04	0.00	**0.00**
12.50	2.98	0.27	**0.08**
13.75	3.29	0.37	0.04
15.00	3.47	0.44	0.03
16.25	3.60	0.49	0.02
17.50	3.70	0.53	0.02
18.75	3.79	0.57	0.02
20.00	3.87	0.60	0.01
21.25	3.93	0.63	0.01
22.50	3.99	0.66	0.01
23.75	**4.05**	**0.69**	0.01
25.00	**4.06**	**0.69**	0.00
26.25	4.06	0.69	0.00
27.50	4.06	0.69	0.00
28.75	4.06	0.69	0.00
30.00	4.06	0.69	0.00
31.25	4.06	0.69	0.00
32.50	4.06	0.69	0.00
33.75	4.06	0.69	0.00
35.00	4.06	0.69	0.00
36.25	4.06	0.69	0.00
37.50	4.06	0.69	0.00
38.75	4.06	0.69	0.00
40.00	4.06	0.69	0.00
41.25	4.06	0.69	0.00
42.50	4.06	0.69	0.00
43.75	4.06	0.69	0.00
45.00	4.06	0.69	0.00
46.25	4.06	0.69	0.00
47.50	4.06	0.69	0.00
48.75	4.06	0.69	0.00
50.00	4.06	0.69	0.00
51.25	4.06	0.69	0.00
52.50	4.06	0.69	0.00
53.75	4.06	0.69	0.00
55.00	4.06	0.69	0.00
56.25	4.06	0.69	0.00
57.50	4.06	0.69	0.00
58.75	4.06	0.69	0.00
60.00	4.06	0.69	0.00
61.25	4.06	0.69	0.00
62.50	4.06	0.69	0.00
63.75	4.06	0.69	0.00
65.00	4.06	0.69	0.00
66.25	4.06	0.69	0.00
67.50	4.06	0.69	0.00
68.75	4.06	0.69	0.00
70.00	4.06	0.69	0.00
71.25	4.06	0.69	0.00

Summary for Subcatchment EXimp-E: EX Imp - East

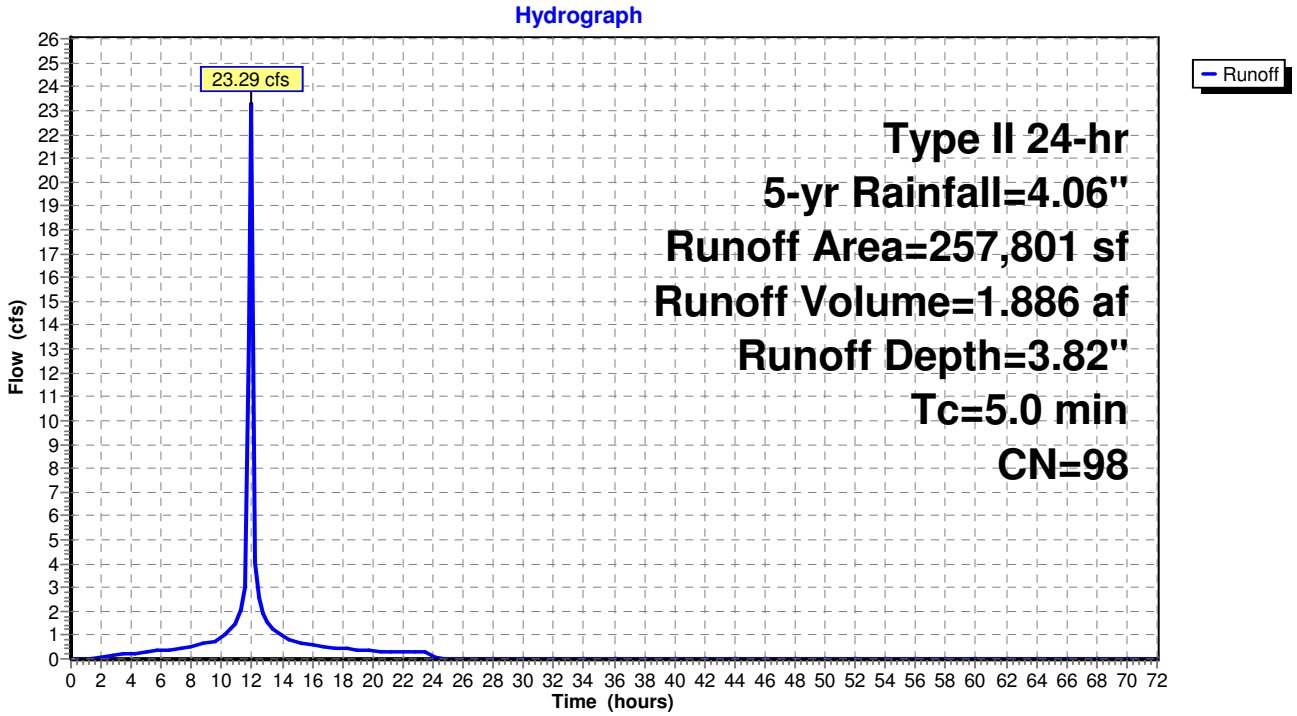
Runoff = 23.29 cfs @ 11.96 hrs, Volume= 1.886 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
257,801	98	Paved parking, HSG B
257,801		100.00% Impervious Area

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

Subcatchment EXimp-E: EX Imp - East



Hydrograph for Subcatchment EXimp-E: EX Imp - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.05	0.00	0.02
2.50	0.11	0.02	0.13
3.75	0.18	0.06	0.21
5.00	0.26	0.11	0.29
6.25	0.34	0.18	0.37
7.50	0.44	0.27	0.45
8.75	0.57	0.38	0.64
10.00	0.73	0.54	0.89
11.25	1.04	0.83	**2.08**
12.50	2.98	2.75	**2.55**
13.75	3.29	3.06	1.05
15.00	3.47	3.23	0.74
16.25	3.60	3.36	0.55
17.50	3.70	3.47	0.47
18.75	3.79	3.56	0.39
20.00	3.87	3.63	0.32
21.25	3.93	3.69	0.30
22.50	3.99	3.76	0.28
23.75	**4.05**	**3.81**	0.27
25.00	**4.06**	**3.82**	0.00
26.25	4.06	3.82	0.00
27.50	4.06	3.82	0.00
28.75	4.06	3.82	0.00
30.00	4.06	3.82	0.00
31.25	4.06	3.82	0.00
32.50	4.06	3.82	0.00
33.75	4.06	3.82	0.00
35.00	4.06	3.82	0.00
36.25	4.06	3.82	0.00
37.50	4.06	3.82	0.00
38.75	4.06	3.82	0.00
40.00	4.06	3.82	0.00
41.25	4.06	3.82	0.00
42.50	4.06	3.82	0.00
43.75	4.06	3.82	0.00
45.00	4.06	3.82	0.00
46.25	4.06	3.82	0.00
47.50	4.06	3.82	0.00
48.75	4.06	3.82	0.00
50.00	4.06	3.82	0.00
51.25	4.06	3.82	0.00
52.50	4.06	3.82	0.00
53.75	4.06	3.82	0.00
55.00	4.06	3.82	0.00
56.25	4.06	3.82	0.00
57.50	4.06	3.82	0.00
58.75	4.06	3.82	0.00
60.00	4.06	3.82	0.00
61.25	4.06	3.82	0.00
62.50	4.06	3.82	0.00
63.75	4.06	3.82	0.00
65.00	4.06	3.82	0.00
66.25	4.06	3.82	0.00
67.50	4.06	3.82	0.00
68.75	4.06	3.82	0.00
70.00	4.06	3.82	0.00
71.25	4.06	3.82	0.00

Summary for Subcatchment EXimp-W: EX Imp - West

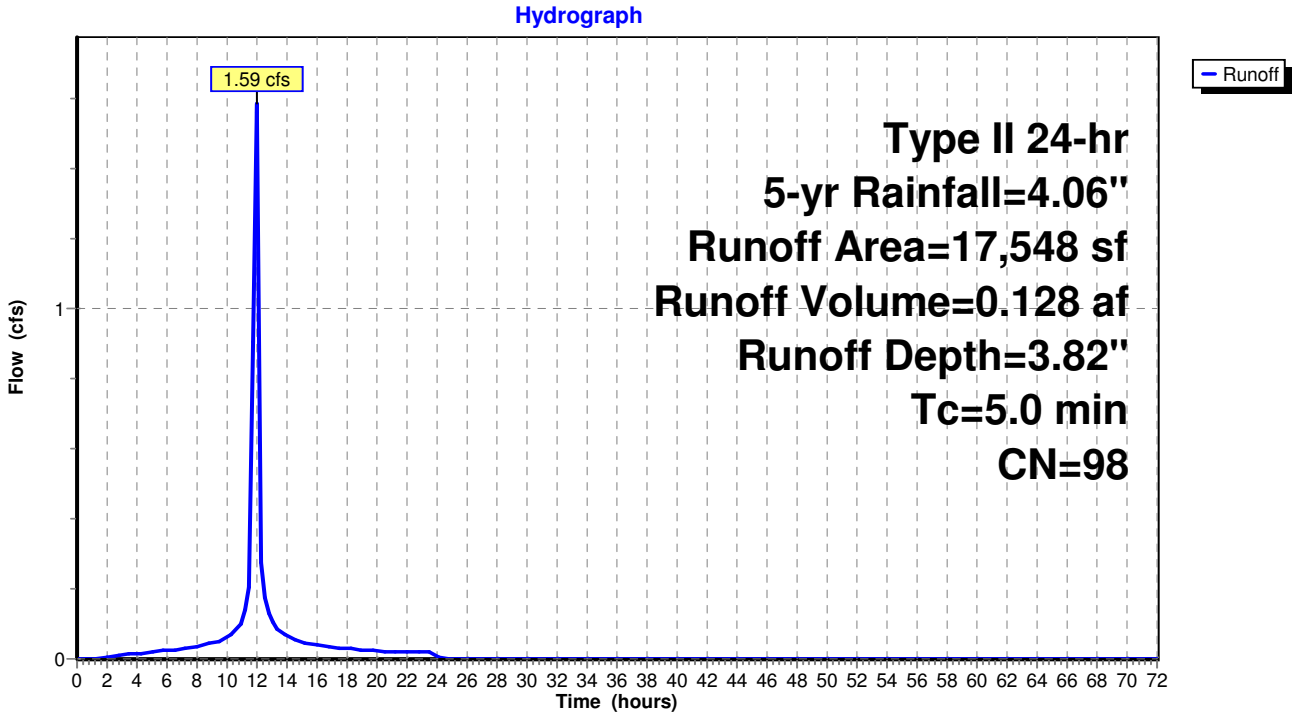
Runoff = 1.59 cfs @ 11.96 hrs, Volume= 0.128 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
17,548	98	Paved parking, HSG B
17,548		100.00% Impervious Area

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

Subcatchment EXimp-W: EX Imp - West



Hydrograph for Subcatchment EXimp-W: EX Imp - West

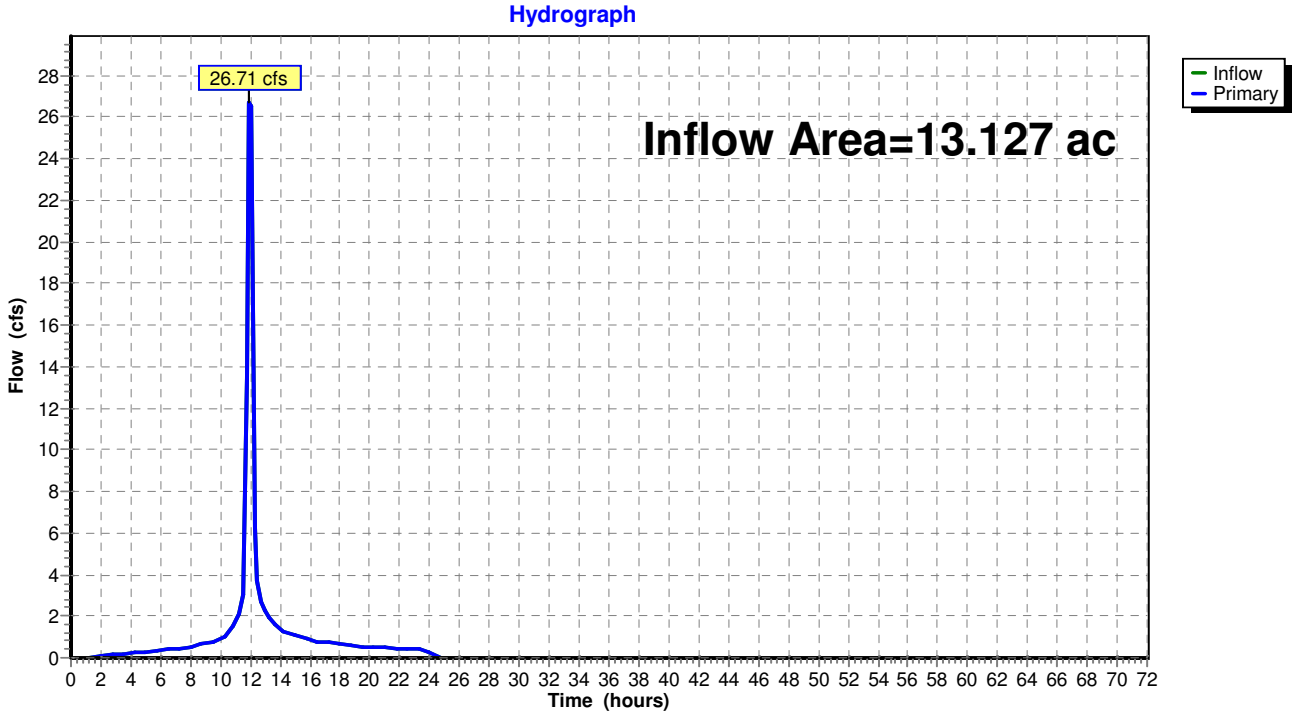
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.05	0.00	0.00
2.50	0.11	0.02	0.01
3.75	0.18	0.06	0.01
5.00	0.26	0.11	0.02
6.25	0.34	0.18	0.03
7.50	0.44	0.27	0.03
8.75	0.57	0.38	0.04
10.00	0.73	0.54	0.06
11.25	1.04	0.83	**0.14**
12.50	2.98	2.75	**0.17**
13.75	3.29	3.06	0.07
15.00	3.47	3.23	0.05
16.25	3.60	3.36	0.04
17.50	3.70	3.47	0.03
18.75	3.79	3.56	0.03
20.00	3.87	3.63	0.02
21.25	3.93	3.69	0.02
22.50	3.99	3.76	0.02
23.75	**4.05**	**3.81**	0.02
25.00	**4.06**	**3.82**	0.00
26.25	4.06	3.82	0.00
27.50	4.06	3.82	0.00
28.75	4.06	3.82	0.00
30.00	4.06	3.82	0.00
31.25	4.06	3.82	0.00
32.50	4.06	3.82	0.00
33.75	4.06	3.82	0.00
35.00	4.06	3.82	0.00
36.25	4.06	3.82	0.00
37.50	4.06	3.82	0.00
38.75	4.06	3.82	0.00
40.00	4.06	3.82	0.00
41.25	4.06	3.82	0.00
42.50	4.06	3.82	0.00
43.75	4.06	3.82	0.00
45.00	4.06	3.82	0.00
46.25	4.06	3.82	0.00
47.50	4.06	3.82	0.00
48.75	4.06	3.82	0.00
50.00	4.06	3.82	0.00
51.25	4.06	3.82	0.00
52.50	4.06	3.82	0.00
53.75	4.06	3.82	0.00
55.00	4.06	3.82	0.00
56.25	4.06	3.82	0.00
57.50	4.06	3.82	0.00
58.75	4.06	3.82	0.00
60.00	4.06	3.82	0.00
61.25	4.06	3.82	0.00
62.50	4.06	3.82	0.00
63.75	4.06	3.82	0.00
65.00	4.06	3.82	0.00
66.25	4.06	3.82	0.00
67.50	4.06	3.82	0.00
68.75	4.06	3.82	0.00
70.00	4.06	3.82	0.00
71.25	4.06	3.82	0.00

Summary for Link EX-East: Exist POI 'East'

Inflow Area = 13.127 ac, 45.08% Impervious, Inflow Depth = 2.09" for 5-yr event
Inflow = 26.71 cfs @ 11.97 hrs, Volume= 2.286 af
Primary = 26.71 cfs @ 11.97 hrs, Volume= 2.286 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-East: Exist POI 'East'



Hydrograph for Link EX-East: Exist POI 'East'

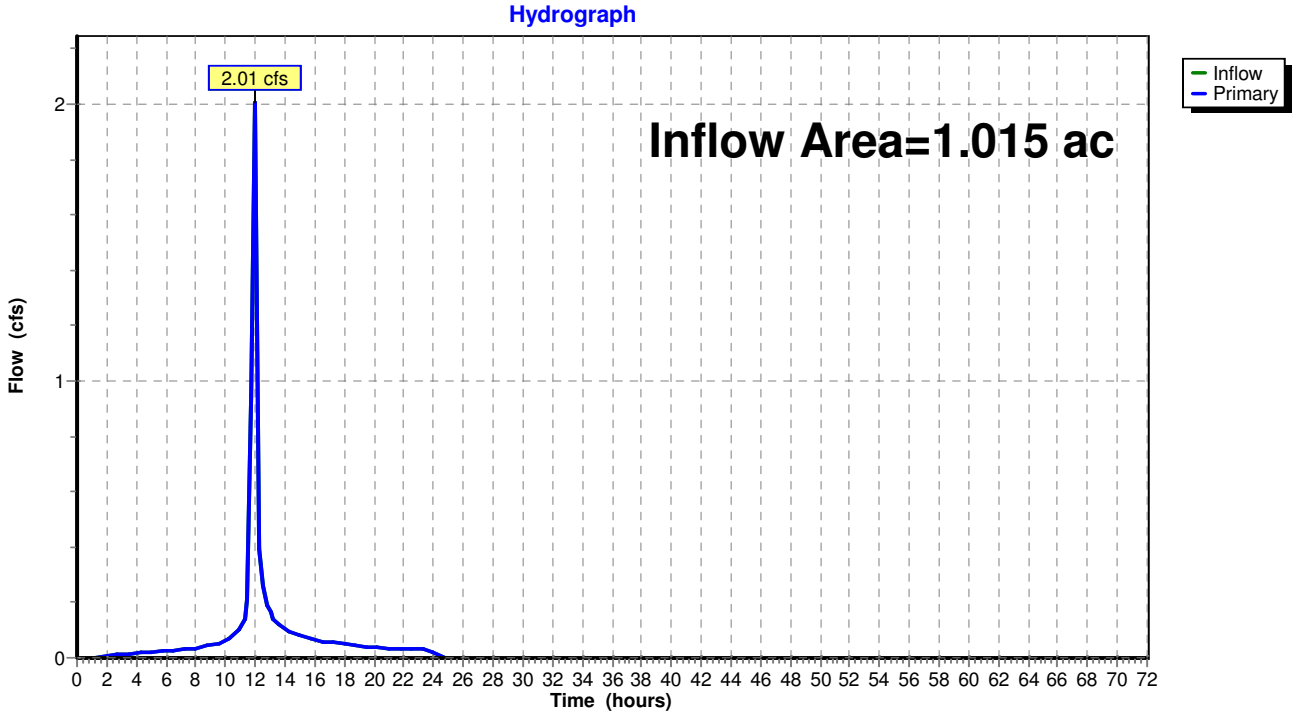
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.02	0.00	0.02	65.00	0.00	0.00	0.00
2.50	0.13	0.00	0.13	66.25	0.00	0.00	0.00
3.75	0.21	0.00	0.21	67.50	0.00	0.00	0.00
5.00	0.29	0.00	0.29	68.75	0.00	0.00	0.00
6.25	0.37	0.00	0.37	70.00	0.00	0.00	0.00
7.50	0.45	0.00	0.45	71.25	0.00	0.00	0.00
8.75	0.64	0.00	0.64				
10.00	0.89	0.00	0.89				
11.25	**2.08**	0.00	**2.08**				
12.50	**3.71**	0.00	**3.71**				
13.75	1.52	0.00	1.52				
15.00	1.08	0.00	1.08				
16.25	0.81	0.00	0.81				
17.50	0.71	0.00	0.71				
18.75	0.60	0.00	0.60				
20.00	0.49	0.00	0.49				
21.25	0.46	0.00	0.46				
22.50	0.44	0.00	0.44				
23.75	0.42	0.00	0.42				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link EX-West: Exist. POI 'West'

Inflow Area = 1.015 ac, 39.69% Impervious, Inflow Depth = 1.94" for 5-yr event
Inflow = 2.01 cfs @ 11.97 hrs, Volume= 0.164 af
Primary = 2.01 cfs @ 11.97 hrs, Volume= 0.164 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-West: Exist. POI 'West'



Hydrograph for Link EX-West: Exist. POI 'West'

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.01	0.00	0.01	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.02	0.00	0.02	68.75	0.00	0.00	0.00
6.25	0.03	0.00	0.03	70.00	0.00	0.00	0.00
7.50	0.03	0.00	0.03	71.25	0.00	0.00	0.00
8.75	0.04	0.00	0.04				
10.00	0.06	0.00	0.06				
11.25	**0.14**	0.00	**0.14**				
12.50	**0.26**	0.00	**0.26**				
13.75	0.11	0.00	0.11				
15.00	0.08	0.00	0.08				
16.25	0.06	0.00	0.06				
17.50	0.05	0.00	0.05				
18.75	0.04	0.00	0.04				
20.00	0.04	0.00	0.04				
21.25	0.03	0.00	0.03				
22.50	0.03	0.00	0.03				
23.75	0.03	0.00	0.03				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment EX Off: EX Offsite

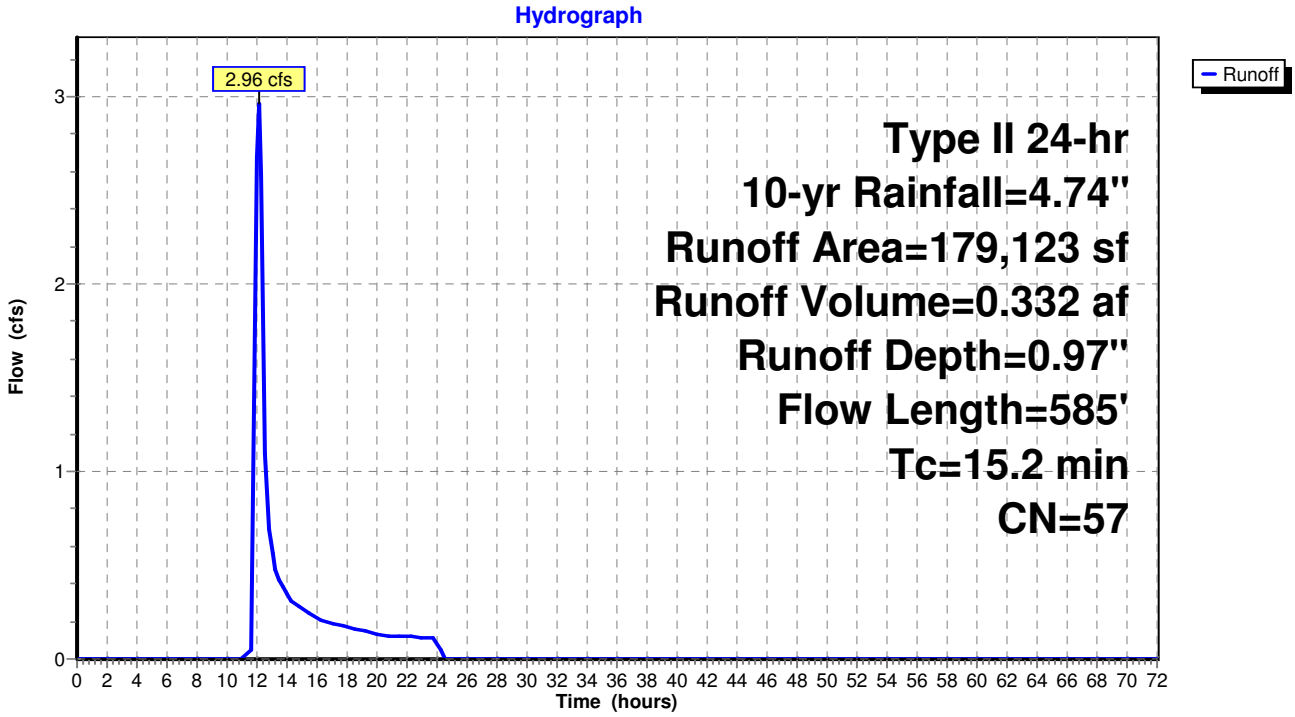
Runoff = 2.96 cfs @ 12.12 hrs, Volume= 0.332 af, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
168,770	55	Woods, Good, HSG B
10,353	85	Gravel roads, HSG B
179,123	57	Weighted Average
179,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.2300	0.12		**Sheet Flow, 1** Woods: Dense underbrush n= 0.800 P2= 3.30"
1.3	485	0.1500	6.24		**Shallow Concentrated Flow, 2** Unpaved Kv= 16.1 fps
15.2	585	Total			

Subcatchment EX Off: EX Offsite



Hydrograph for Subcatchment EX Off: EX Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.06	0.00	0.00
2.50	0.13	0.00	0.00
3.75	0.21	0.00	0.00
5.00	0.30	0.00	0.00
6.25	0.40	0.00	0.00
7.50	0.52	0.00	0.00
8.75	0.66	0.00	0.00
10.00	0.86	0.00	0.00
11.25	1.21	0.00	**0.00**
12.50	3.48	0.41	**1.10**
13.75	3.84	0.55	0.38
15.00	4.05	0.64	0.27
16.25	4.20	0.71	0.21
17.50	4.32	0.76	0.18
18.75	4.43	0.81	0.16
20.00	4.51	0.86	0.13
21.25	4.59	0.89	0.12
22.50	4.66	0.93	0.12
23.75	**4.73**	**0.96**	0.11
25.00	**4.74**	**0.97**	0.00
26.25	4.74	0.97	0.00
27.50	4.74	0.97	0.00
28.75	4.74	0.97	0.00
30.00	4.74	0.97	0.00
31.25	4.74	0.97	0.00
32.50	4.74	0.97	0.00
33.75	4.74	0.97	0.00
35.00	4.74	0.97	0.00
36.25	4.74	0.97	0.00
37.50	4.74	0.97	0.00
38.75	4.74	0.97	0.00
40.00	4.74	0.97	0.00
41.25	4.74	0.97	0.00
42.50	4.74	0.97	0.00
43.75	4.74	0.97	0.00
45.00	4.74	0.97	0.00
46.25	4.74	0.97	0.00
47.50	4.74	0.97	0.00
48.75	4.74	0.97	0.00
50.00	4.74	0.97	0.00
51.25	4.74	0.97	0.00
52.50	4.74	0.97	0.00
53.75	4.74	0.97	0.00
55.00	4.74	0.97	0.00
56.25	4.74	0.97	0.00
57.50	4.74	0.97	0.00
58.75	4.74	0.97	0.00
60.00	4.74	0.97	0.00
61.25	4.74	0.97	0.00
62.50	4.74	0.97	0.00
63.75	4.74	0.97	0.00
65.00	4.74	0.97	0.00
66.25	4.74	0.97	0.00
67.50	4.74	0.97	0.00
68.75	4.74	0.97	0.00
70.00	4.74	0.97	0.00
71.25	4.74	0.97	0.00

Summary for Subcatchment EXgrass-E: EX Grass - East

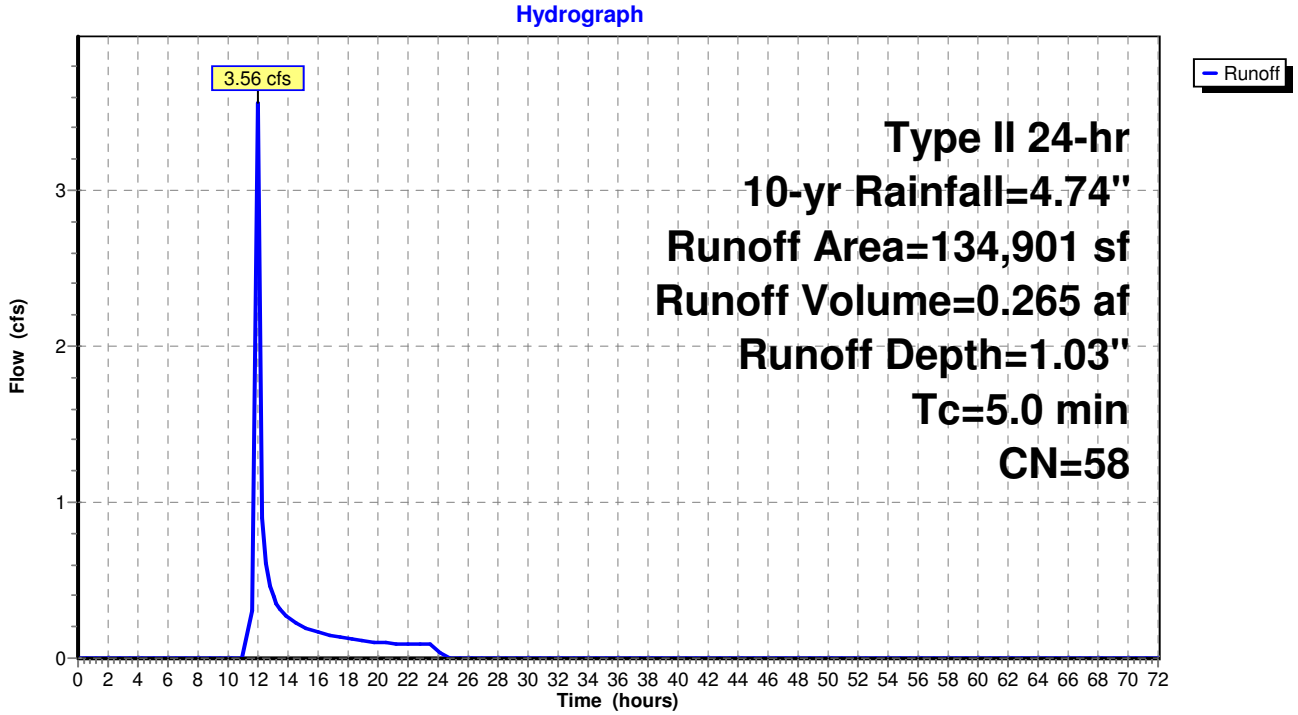
Runoff = 3.56 cfs @ 12.01 hrs, Volume= 0.265 af, Depth= 1.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

	Area (sf)	CN	Description
	32,333	55	Woods, Good, HSG B
	5,752	70	Woods, Good, HSG C
	32,333	58	Meadow, non-grazed, HSG B
	33	71	Meadow, non-grazed, HSG C
*	64,450	58	Meadow (20% Impervious)
	134,901	58	Weighted Average
	134,901		100.00% Pervious Area

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

Subcatchment EXgrass-E: EX Grass - East



Hydrograph for Subcatchment EXgrass-E: EX Grass - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.06	0.00	0.00
2.50	0.13	0.00	0.00
3.75	0.21	0.00	0.00
5.00	0.30	0.00	0.00
6.25	0.40	0.00	0.00
7.50	0.52	0.00	0.00
8.75	0.66	0.00	0.00
10.00	0.86	0.00	0.00
11.25	1.21	0.00	**0.00**
12.50	3.48	0.45	**0.60**
13.75	3.84	0.59	0.28
15.00	4.05	0.69	0.21
16.25	4.20	0.76	0.16
17.50	4.32	0.82	0.14
18.75	4.43	0.87	0.12
20.00	4.51	0.91	0.10
21.25	4.59	0.95	0.09
22.50	4.66	0.99	0.09
23.75	**4.73**	**1.02**	0.09
25.00	**4.74**	**1.03**	0.00
26.25	4.74	1.03	0.00
27.50	4.74	1.03	0.00
28.75	4.74	1.03	0.00
30.00	4.74	1.03	0.00
31.25	4.74	1.03	0.00
32.50	4.74	1.03	0.00
33.75	4.74	1.03	0.00
35.00	4.74	1.03	0.00
36.25	4.74	1.03	0.00
37.50	4.74	1.03	0.00
38.75	4.74	1.03	0.00
40.00	4.74	1.03	0.00
41.25	4.74	1.03	0.00
42.50	4.74	1.03	0.00
43.75	4.74	1.03	0.00
45.00	4.74	1.03	0.00
46.25	4.74	1.03	0.00
47.50	4.74	1.03	0.00
48.75	4.74	1.03	0.00
50.00	4.74	1.03	0.00
51.25	4.74	1.03	0.00
52.50	4.74	1.03	0.00
53.75	4.74	1.03	0.00
55.00	4.74	1.03	0.00
56.25	4.74	1.03	0.00
57.50	4.74	1.03	0.00
58.75	4.74	1.03	0.00
60.00	4.74	1.03	0.00
61.25	4.74	1.03	0.00
62.50	4.74	1.03	0.00
63.75	4.74	1.03	0.00
65.00	4.74	1.03	0.00
66.25	4.74	1.03	0.00
67.50	4.74	1.03	0.00
68.75	4.74	1.03	0.00
70.00	4.74	1.03	0.00
71.25	4.74	1.03	0.00

Summary for Subcatchment EXgrass-W: EX Grass - West

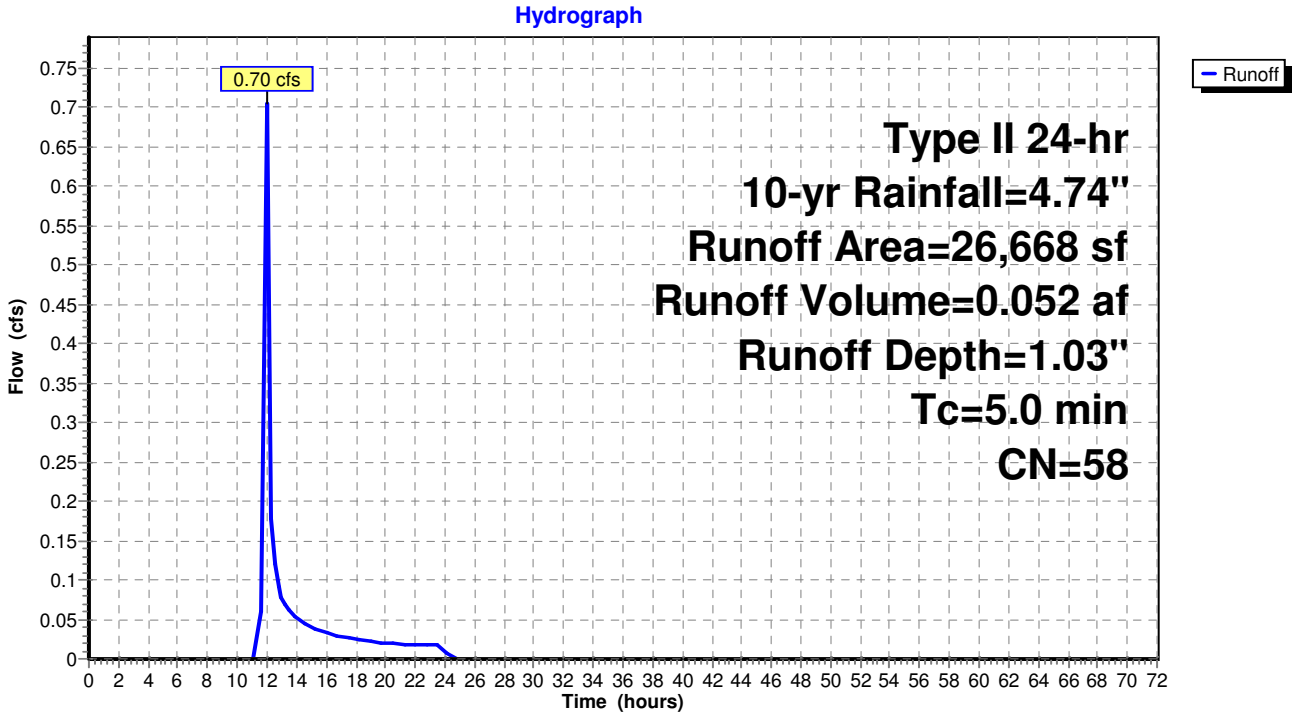
Runoff = 0.70 cfs @ 12.01 hrs, Volume= 0.052 af, Depth= 1.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

	Area (sf)	CN	Description
	22,281	58	Meadow, non-grazed, HSG B
*	4,387	58	Meadow (20% Impervious)
	26,668	58	Weighted Average
	26,668		100.00% Pervious Area

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

Subcatchment EXgrass-W: EX Grass - West



Hydrograph for Subcatchment EXgrass-W: EX Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.06	0.00	0.00
2.50	0.13	0.00	0.00
3.75	0.21	0.00	0.00
5.00	0.30	0.00	0.00
6.25	0.40	0.00	0.00
7.50	0.52	0.00	0.00
8.75	0.66	0.00	0.00
10.00	0.86	0.00	0.00
11.25	1.21	0.00	**0.00**
12.50	3.48	0.45	**0.12**
13.75	3.84	0.59	0.06
15.00	4.05	0.69	0.04
16.25	4.20	0.76	0.03
17.50	4.32	0.82	0.03
18.75	4.43	0.87	0.02
20.00	4.51	0.91	0.02
21.25	4.59	0.95	0.02
22.50	4.66	0.99	0.02
23.75	**4.73**	**1.02**	0.02
25.00	**4.74**	**1.03**	0.00
26.25	4.74	1.03	0.00
27.50	4.74	1.03	0.00
28.75	4.74	1.03	0.00
30.00	4.74	1.03	0.00
31.25	4.74	1.03	0.00
32.50	4.74	1.03	0.00
33.75	4.74	1.03	0.00
35.00	4.74	1.03	0.00
36.25	4.74	1.03	0.00
37.50	4.74	1.03	0.00
38.75	4.74	1.03	0.00
40.00	4.74	1.03	0.00
41.25	4.74	1.03	0.00
42.50	4.74	1.03	0.00
43.75	4.74	1.03	0.00
45.00	4.74	1.03	0.00
46.25	4.74	1.03	0.00
47.50	4.74	1.03	0.00
48.75	4.74	1.03	0.00
50.00	4.74	1.03	0.00
51.25	4.74	1.03	0.00
52.50	4.74	1.03	0.00
53.75	4.74	1.03	0.00
55.00	4.74	1.03	0.00
56.25	4.74	1.03	0.00
57.50	4.74	1.03	0.00
58.75	4.74	1.03	0.00
60.00	4.74	1.03	0.00
61.25	4.74	1.03	0.00
62.50	4.74	1.03	0.00
63.75	4.74	1.03	0.00
65.00	4.74	1.03	0.00
66.25	4.74	1.03	0.00
67.50	4.74	1.03	0.00
68.75	4.74	1.03	0.00
70.00	4.74	1.03	0.00
71.25	4.74	1.03	0.00

Summary for Subcatchment EXimp-E: EX Imp - East

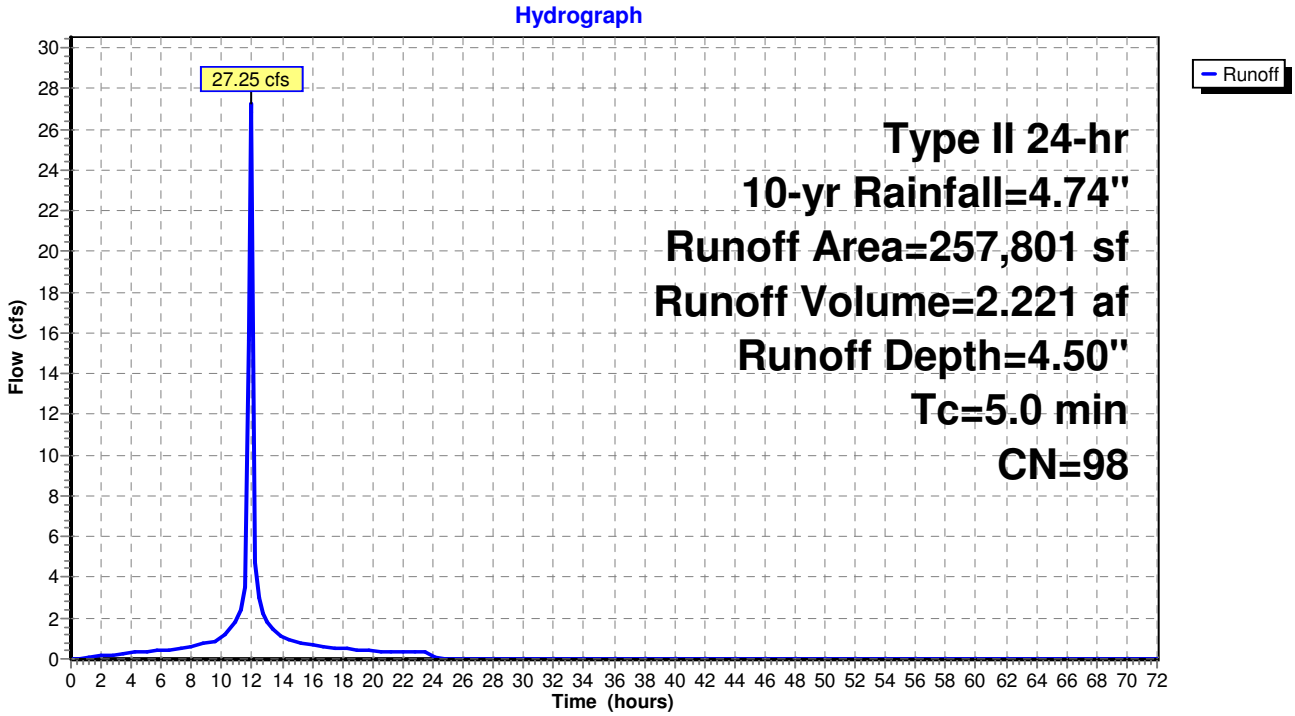
Runoff = 27.25 cfs @ 11.96 hrs, Volume= 2.221 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
257,801	98	Paved parking, HSG B
257,801		100.00% Impervious Area

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

Subcatchment EXimp-E: EX Imp - East



Hydrograph for Subcatchment EXimp-E: EX Imp - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.06	0.00	0.05
2.50	0.13	0.03	0.18
3.75	0.21	0.08	0.27
5.00	0.30	0.14	0.36
6.25	0.40	0.23	0.45
7.50	0.52	0.33	0.54
8.75	0.66	0.47	0.76
10.00	0.86	0.65	1.05
11.25	1.21	1.00	**2.45**
12.50	3.48	3.25	**2.98**
13.75	3.84	3.61	1.23
15.00	4.05	3.81	0.86
16.25	4.20	3.96	0.64
17.50	4.32	4.09	0.55
18.75	4.43	4.19	0.46
20.00	4.51	4.28	0.37
21.25	4.59	4.35	0.35
22.50	4.66	4.42	0.33
23.75	**4.73**	**4.49**	0.32
25.00	**4.74**	**4.50**	0.00
26.25	4.74	4.50	0.00
27.50	4.74	4.50	0.00
28.75	4.74	4.50	0.00
30.00	4.74	4.50	0.00
31.25	4.74	4.50	0.00
32.50	4.74	4.50	0.00
33.75	4.74	4.50	0.00
35.00	4.74	4.50	0.00
36.25	4.74	4.50	0.00
37.50	4.74	4.50	0.00
38.75	4.74	4.50	0.00
40.00	4.74	4.50	0.00
41.25	4.74	4.50	0.00
42.50	4.74	4.50	0.00
43.75	4.74	4.50	0.00
45.00	4.74	4.50	0.00
46.25	4.74	4.50	0.00
47.50	4.74	4.50	0.00
48.75	4.74	4.50	0.00
50.00	4.74	4.50	0.00
51.25	4.74	4.50	0.00
52.50	4.74	4.50	0.00
53.75	4.74	4.50	0.00
55.00	4.74	4.50	0.00
56.25	4.74	4.50	0.00
57.50	4.74	4.50	0.00
58.75	4.74	4.50	0.00
60.00	4.74	4.50	0.00
61.25	4.74	4.50	0.00
62.50	4.74	4.50	0.00
63.75	4.74	4.50	0.00
65.00	4.74	4.50	0.00
66.25	4.74	4.50	0.00
67.50	4.74	4.50	0.00
68.75	4.74	4.50	0.00
70.00	4.74	4.50	0.00
71.25	4.74	4.50	0.00

Summary for Subcatchment EXimp-W: EX Imp - West

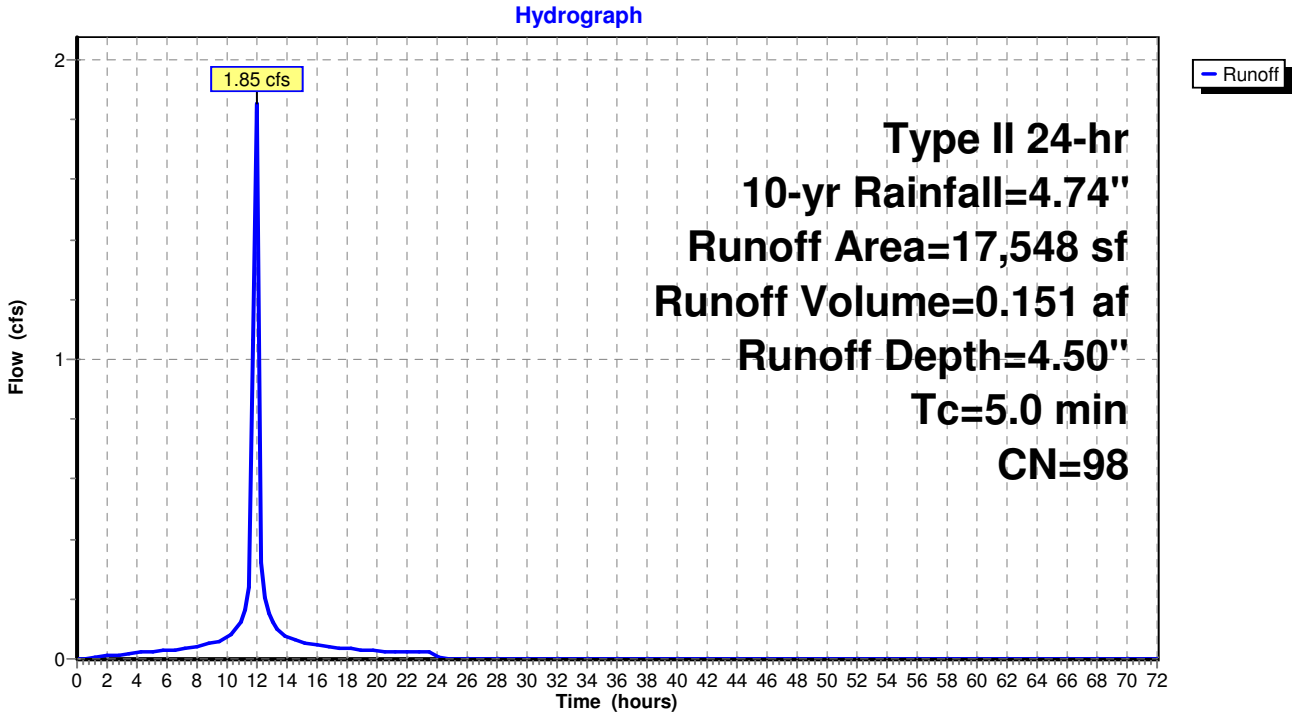
Runoff = 1.85 cfs @ 11.96 hrs, Volume= 0.151 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
17,548	98	Paved parking, HSG B
17,548		100.00% Impervious Area

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

Subcatchment EXimp-W: EX Imp - West



Hydrograph for Subcatchment EXimp-W: EX Imp - West

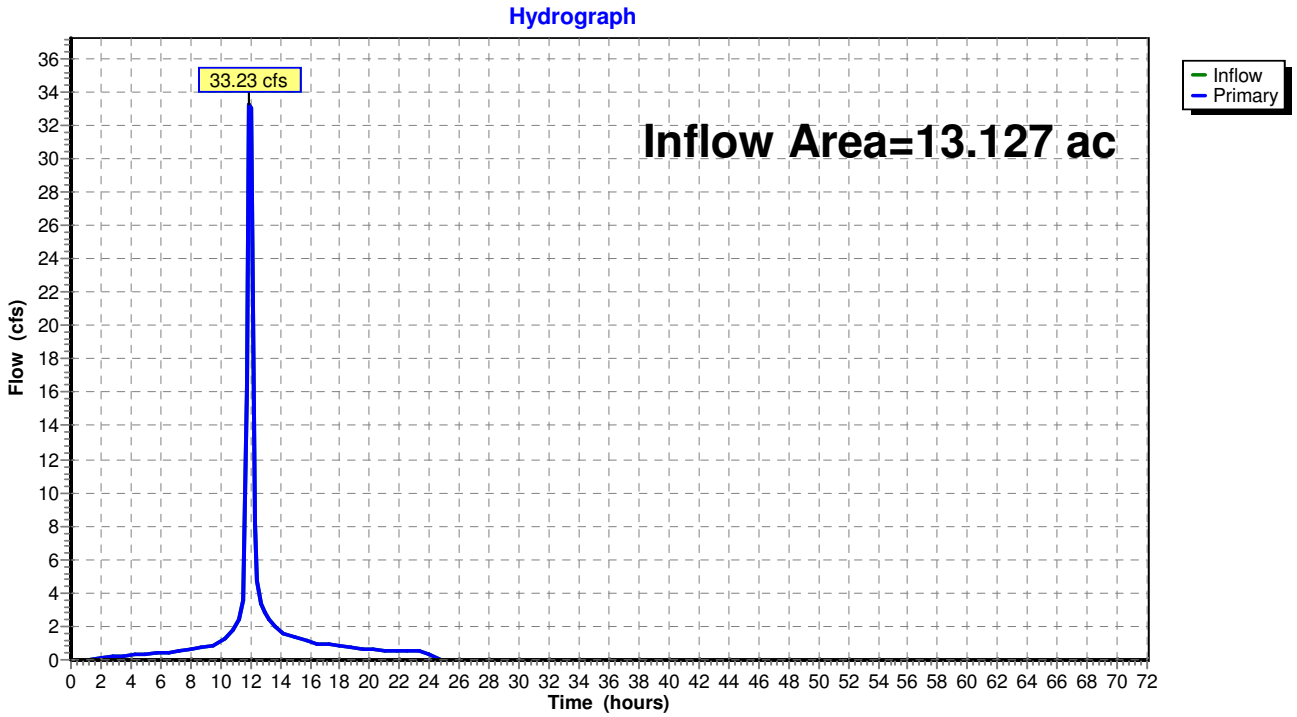
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.06	0.00	0.00
2.50	0.13	0.03	0.01
3.75	0.21	0.08	0.02
5.00	0.30	0.14	0.02
6.25	0.40	0.23	0.03
7.50	0.52	0.33	0.04
8.75	0.66	0.47	0.05
10.00	0.86	0.65	0.07
11.25	1.21	1.00	**0.17**
12.50	3.48	3.25	**0.20**
13.75	3.84	3.61	0.08
15.00	4.05	3.81	0.06
16.25	4.20	3.96	0.04
17.50	4.32	4.09	0.04
18.75	4.43	4.19	0.03
20.00	4.51	4.28	0.03
21.25	4.59	4.35	0.02
22.50	4.66	4.42	0.02
23.75	**4.73**	**4.49**	0.02
25.00	**4.74**	**4.50**	0.00
26.25	4.74	4.50	0.00
27.50	4.74	4.50	0.00
28.75	4.74	4.50	0.00
30.00	4.74	4.50	0.00
31.25	4.74	4.50	0.00
32.50	4.74	4.50	0.00
33.75	4.74	4.50	0.00
35.00	4.74	4.50	0.00
36.25	4.74	4.50	0.00
37.50	4.74	4.50	0.00
38.75	4.74	4.50	0.00
40.00	4.74	4.50	0.00
41.25	4.74	4.50	0.00
42.50	4.74	4.50	0.00
43.75	4.74	4.50	0.00
45.00	4.74	4.50	0.00
46.25	4.74	4.50	0.00
47.50	4.74	4.50	0.00
48.75	4.74	4.50	0.00
50.00	4.74	4.50	0.00
51.25	4.74	4.50	0.00
52.50	4.74	4.50	0.00
53.75	4.74	4.50	0.00
55.00	4.74	4.50	0.00
56.25	4.74	4.50	0.00
57.50	4.74	4.50	0.00
58.75	4.74	4.50	0.00
60.00	4.74	4.50	0.00
61.25	4.74	4.50	0.00
62.50	4.74	4.50	0.00
63.75	4.74	4.50	0.00
65.00	4.74	4.50	0.00
66.25	4.74	4.50	0.00
67.50	4.74	4.50	0.00
68.75	4.74	4.50	0.00
70.00	4.74	4.50	0.00
71.25	4.74	4.50	0.00

Summary for Link EX-East: Exist POI 'East'

Inflow Area = 13.127 ac, 45.08% Impervious, Inflow Depth = 2.58" for 10-yr event
Inflow = 33.23 cfs @ 11.98 hrs, Volume= 2.819 af
Primary = 33.23 cfs @ 11.98 hrs, Volume= 2.819 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-East: Exist POI 'East'



Hydrograph for Link EX-East: Exist POI 'East'

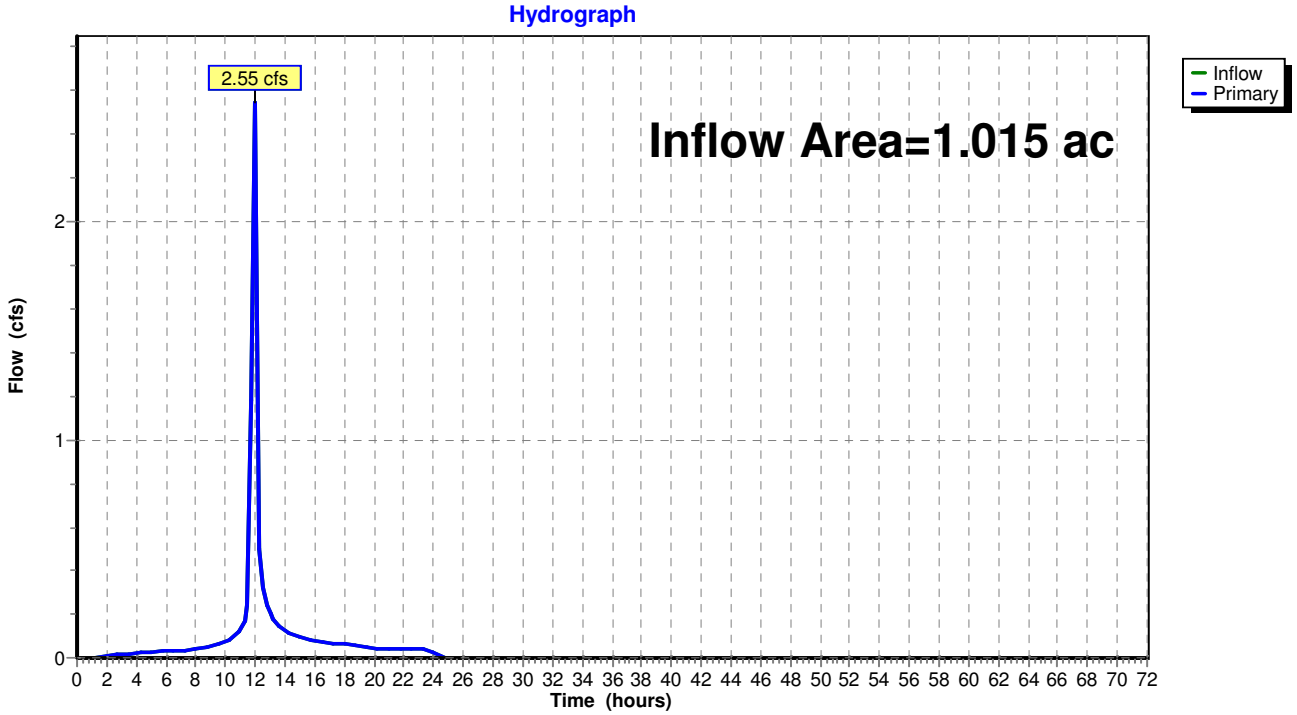
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.05	0.00	0.05	65.00	0.00	0.00	0.00
2.50	0.18	0.00	0.18	66.25	0.00	0.00	0.00
3.75	0.27	0.00	0.27	67.50	0.00	0.00	0.00
5.00	0.36	0.00	0.36	68.75	0.00	0.00	0.00
6.25	0.45	0.00	0.45	70.00	0.00	0.00	0.00
7.50	0.54	0.00	0.54	71.25	0.00	0.00	0.00
8.75	0.76	0.00	0.76				
10.00	1.05	0.00	1.05				
11.25	**2.45**	0.00	**2.45**				
12.50	**4.68**	0.00	**4.68**				
13.75	1.89	0.00	1.89				
15.00	1.34	0.00	1.34				
16.25	1.00	0.00	1.00				
17.50	0.87	0.00	0.87				
18.75	0.74	0.00	0.74				
20.00	0.60	0.00	0.60				
21.25	0.57	0.00	0.57				
22.50	0.54	0.00	0.54				
23.75	0.51	0.00	0.51				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link EX-West: Exist. POI 'West'

Inflow Area = 1.015 ac, 39.69% Impervious, Inflow Depth = 2.41" for 10-yr event
Inflow = 2.55 cfs @ 11.97 hrs, Volume= 0.204 af
Primary = 2.55 cfs @ 11.97 hrs, Volume= 0.204 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-West: Exist. POI 'West'



Hydrograph for Link EX-West: Exist. POI 'West'

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00
1.25	0.00	0.00	0.00
2.50	0.01	0.00	0.01
3.75	0.02	0.00	0.02
5.00	0.02	0.00	0.02
6.25	0.03	0.00	0.03
7.50	0.04	0.00	0.04
8.75	0.05	0.00	0.05
10.00	0.07	0.00	0.07
11.25	**0.17**	0.00	**0.17**
12.50	**0.32**	0.00	**0.32**
13.75	0.14	0.00	0.14
15.00	0.10	0.00	0.10
16.25	0.07	0.00	0.07
17.50	0.07	0.00	0.07
18.75	0.06	0.00	0.06
20.00	0.04	0.00	0.04
21.25	0.04	0.00	0.04
22.50	0.04	0.00	0.04
23.75	0.04	0.00	0.04
25.00	0.00	0.00	0.00
26.25	0.00	0.00	0.00
27.50	0.00	0.00	0.00
28.75	0.00	0.00	0.00
30.00	0.00	0.00	0.00
31.25	0.00	0.00	0.00
32.50	0.00	0.00	0.00
33.75	0.00	0.00	0.00
35.00	0.00	0.00	0.00
36.25	0.00	0.00	0.00
37.50	0.00	0.00	0.00
38.75	0.00	0.00	0.00
40.00	0.00	0.00	0.00
41.25	0.00	0.00	0.00
42.50	0.00	0.00	0.00
43.75	0.00	0.00	0.00
45.00	0.00	0.00	0.00
46.25	0.00	0.00	0.00
47.50	0.00	0.00	0.00
48.75	0.00	0.00	0.00
50.00	0.00	0.00	0.00
51.25	0.00	0.00	0.00
52.50	0.00	0.00	0.00
53.75	0.00	0.00	0.00
55.00	0.00	0.00	0.00
56.25	0.00	0.00	0.00
57.50	0.00	0.00	0.00
58.75	0.00	0.00	0.00
60.00	0.00	0.00	0.00
61.25	0.00	0.00	0.00
62.50	0.00	0.00	0.00
63.75	0.00	0.00	0.00
65.00	0.00	0.00	0.00
66.25	0.00	0.00	0.00
67.50	0.00	0.00	0.00
68.75	0.00	0.00	0.00
70.00	0.00	0.00	0.00
71.25	0.00	0.00	0.00

Summary for Subcatchment EX Off: EX Offsite

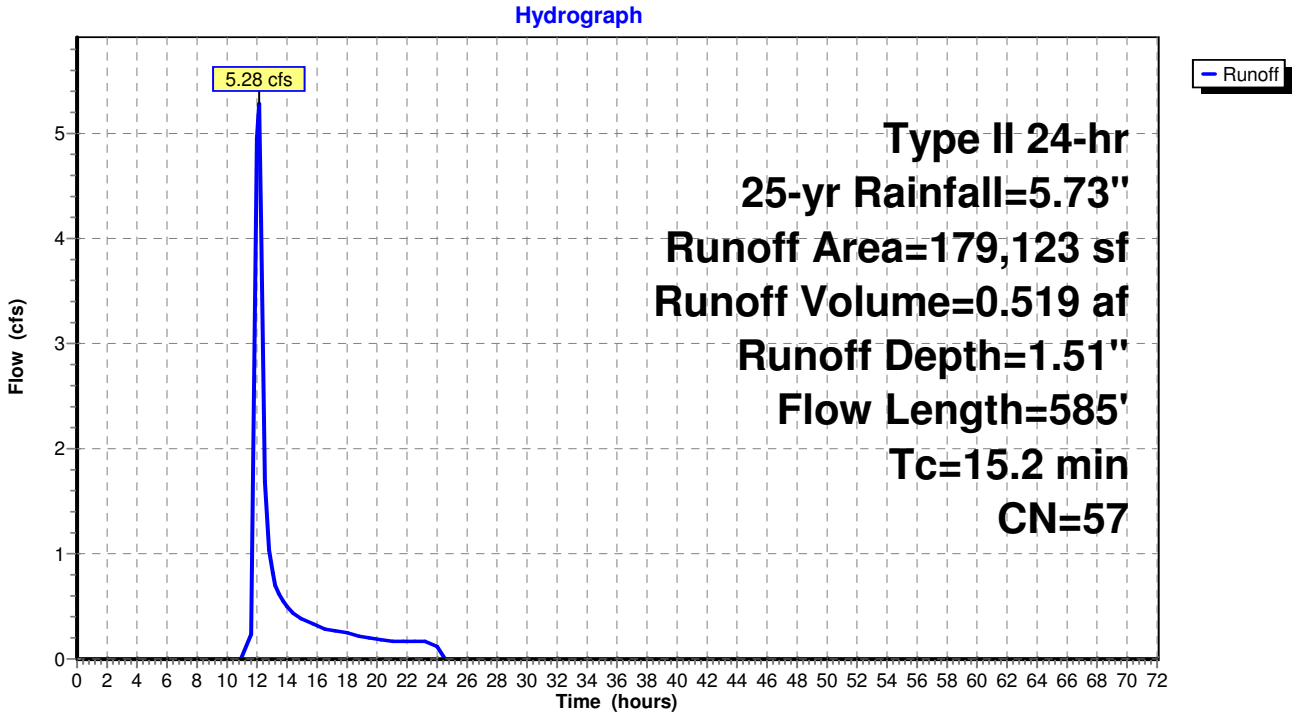
Runoff = 5.28 cfs @ 12.09 hrs, Volume= 0.519 af, Depth= 1.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
168,770	55	Woods, Good, HSG B
10,353	85	Gravel roads, HSG B
179,123	57	Weighted Average
179,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.2300	0.12		**Sheet Flow, 1** Woods: Dense underbrush n= 0.800 P2= 3.30"
1.3	485	0.1500	6.24		**Shallow Concentrated Flow, 2** Unpaved Kv= 16.1 fps
15.2	585	Total			

Subcatchment EX Off: EX Offsite



Hydrograph for Subcatchment EX Off: EX Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.08	0.00	0.00
2.50	0.16	0.00	0.00
3.75	0.26	0.00	0.00
5.00	0.36	0.00	0.00
6.25	0.48	0.00	0.00
7.50	0.63	0.00	0.00
8.75	0.80	0.00	0.00
10.00	1.04	0.00	0.00
11.25	1.47	0.00	**0.00**
12.50	4.21	0.71	**1.68**
13.75	4.64	0.92	0.55
15.00	4.89	1.05	0.39
16.25	5.07	1.14	0.30
17.50	5.22	1.23	0.26
18.75	5.35	1.30	0.22
20.00	5.45	1.36	0.18
21.25	5.55	1.41	0.17
22.50	5.63	1.46	0.16
23.75	**5.71**	**1.51**	0.16
25.00	**5.73**	**1.51**	0.00
26.25	5.73	1.51	0.00
27.50	5.73	1.51	0.00
28.75	5.73	1.51	0.00
30.00	5.73	1.51	0.00
31.25	5.73	1.51	0.00
32.50	5.73	1.51	0.00
33.75	5.73	1.51	0.00
35.00	5.73	1.51	0.00
36.25	5.73	1.51	0.00
37.50	5.73	1.51	0.00
38.75	5.73	1.51	0.00
40.00	5.73	1.51	0.00
41.25	5.73	1.51	0.00
42.50	5.73	1.51	0.00
43.75	5.73	1.51	0.00
45.00	5.73	1.51	0.00
46.25	5.73	1.51	0.00
47.50	5.73	1.51	0.00
48.75	5.73	1.51	0.00
50.00	5.73	1.51	0.00
51.25	5.73	1.51	0.00
52.50	5.73	1.51	0.00
53.75	5.73	1.51	0.00
55.00	5.73	1.51	0.00
56.25	5.73	1.51	0.00
57.50	5.73	1.51	0.00
58.75	5.73	1.51	0.00
60.00	5.73	1.51	0.00
61.25	5.73	1.51	0.00
62.50	5.73	1.51	0.00
63.75	5.73	1.51	0.00
65.00	5.73	1.51	0.00
66.25	5.73	1.51	0.00
67.50	5.73	1.51	0.00
68.75	5.73	1.51	0.00
70.00	5.73	1.51	0.00
71.25	5.73	1.51	0.00

Summary for Subcatchment EXgrass-E: EX Grass - East

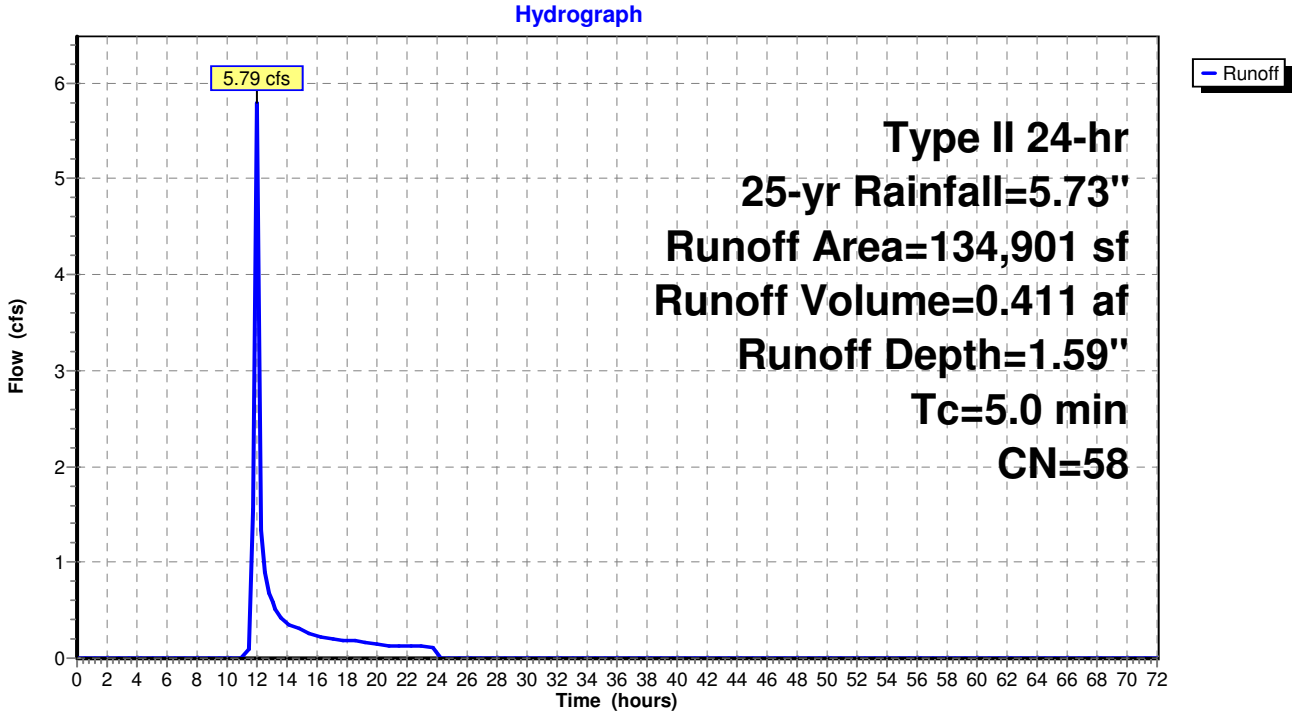
Runoff = 5.79 cfs @ 12.00 hrs, Volume= 0.411 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

	Area (sf)	CN	Description
	32,333	55	Woods, Good, HSG B
	5,752	70	Woods, Good, HSG C
	32,333	58	Meadow, non-grazed, HSG B
	33	71	Meadow, non-grazed, HSG C
*	64,450	58	Meadow (20% Impervious)
	134,901	58	Weighted Average
	134,901		100.00% Pervious Area

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

Subcatchment EXgrass-E: EX Grass - East



Hydrograph for Subcatchment EXgrass-E: EX Grass - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.08	0.00	0.00
2.50	0.16	0.00	0.00
3.75	0.26	0.00	0.00
5.00	0.36	0.00	0.00
6.25	0.48	0.00	0.00
7.50	0.63	0.00	0.00
8.75	0.80	0.00	0.00
10.00	1.04	0.00	0.00
11.25	1.47	0.00	**0.00**
12.50	4.21	0.76	**0.89**
13.75	4.64	0.98	0.40
15.00	4.89	1.11	0.29
16.25	5.07	1.21	0.22
17.50	5.22	1.29	0.20
18.75	5.35	1.37	0.17
20.00	5.45	1.43	0.14
21.25	5.55	1.48	0.13
22.50	5.63	1.53	0.13
23.75	**5.71**	**1.58**	0.12
25.00	**5.73**	**1.59**	0.00
26.25	5.73	1.59	0.00
27.50	5.73	1.59	0.00
28.75	5.73	1.59	0.00
30.00	5.73	1.59	0.00
31.25	5.73	1.59	0.00
32.50	5.73	1.59	0.00
33.75	5.73	1.59	0.00
35.00	5.73	1.59	0.00
36.25	5.73	1.59	0.00
37.50	5.73	1.59	0.00
38.75	5.73	1.59	0.00
40.00	5.73	1.59	0.00
41.25	5.73	1.59	0.00
42.50	5.73	1.59	0.00
43.75	5.73	1.59	0.00
45.00	5.73	1.59	0.00
46.25	5.73	1.59	0.00
47.50	5.73	1.59	0.00
48.75	5.73	1.59	0.00
50.00	5.73	1.59	0.00
51.25	5.73	1.59	0.00
52.50	5.73	1.59	0.00
53.75	5.73	1.59	0.00
55.00	5.73	1.59	0.00
56.25	5.73	1.59	0.00
57.50	5.73	1.59	0.00
58.75	5.73	1.59	0.00
60.00	5.73	1.59	0.00
61.25	5.73	1.59	0.00
62.50	5.73	1.59	0.00
63.75	5.73	1.59	0.00
65.00	5.73	1.59	0.00
66.25	5.73	1.59	0.00
67.50	5.73	1.59	0.00
68.75	5.73	1.59	0.00
70.00	5.73	1.59	0.00
71.25	5.73	1.59	0.00

Summary for Subcatchment EXgrass-W: EX Grass - West

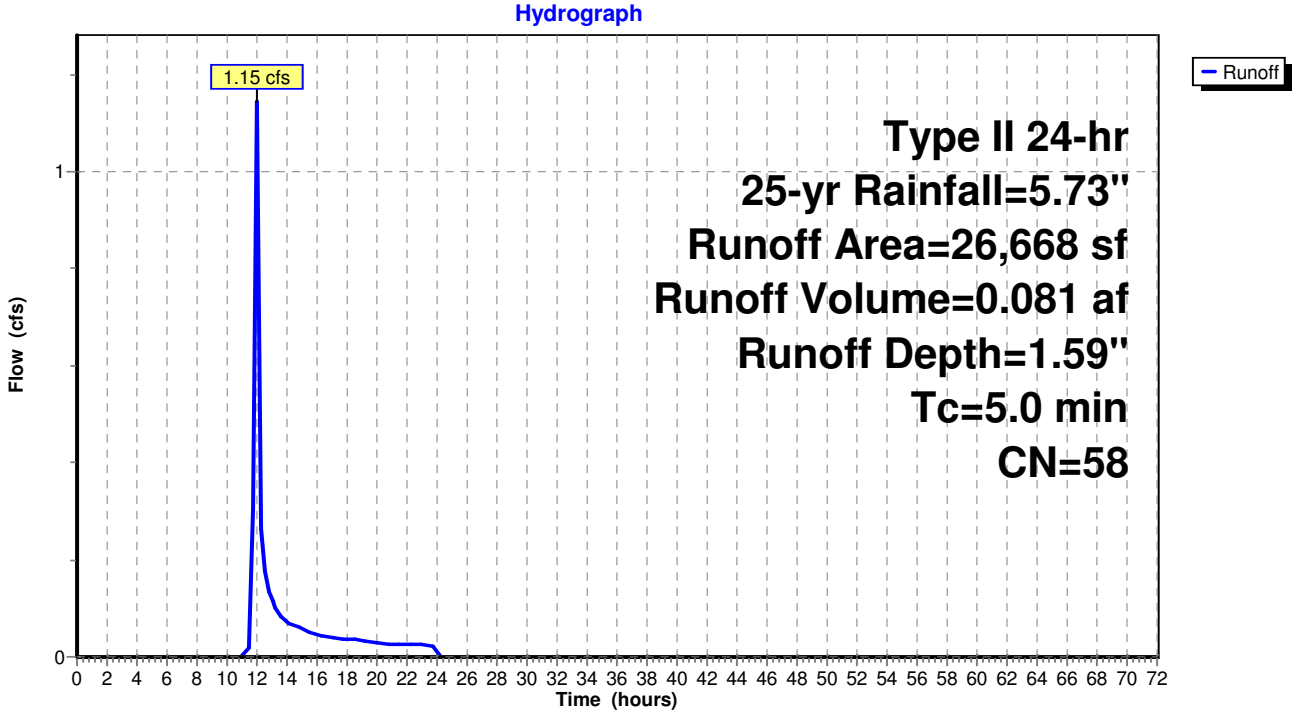
Runoff = 1.15 cfs @ 12.00 hrs, Volume= 0.081 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

	Area (sf)	CN	Description
	22,281	58	Meadow, non-grazed, HSG B
*	4,387	58	Meadow (20% Impervious)
	26,668	58	Weighted Average
	26,668		100.00% Pervious Area

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

Subcatchment EXgrass-W: EX Grass - West



Hydrograph for Subcatchment EXgrass-W: EX Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.08	0.00	0.00
2.50	0.16	0.00	0.00
3.75	0.26	0.00	0.00
5.00	0.36	0.00	0.00
6.25	0.48	0.00	0.00
7.50	0.63	0.00	0.00
8.75	0.80	0.00	0.00
10.00	1.04	0.00	0.00
11.25	1.47	0.00	**0.00**
12.50	4.21	0.76	**0.18**
13.75	4.64	0.98	0.08
15.00	4.89	1.11	0.06
16.25	5.07	1.21	0.04
17.50	5.22	1.29	0.04
18.75	5.35	1.37	0.03
20.00	5.45	1.43	0.03
21.25	5.55	1.48	0.03
22.50	5.63	1.53	0.02
23.75	**5.71**	**1.58**	0.02
25.00	**5.73**	**1.59**	0.00
26.25	5.73	1.59	0.00
27.50	5.73	1.59	0.00
28.75	5.73	1.59	0.00
30.00	5.73	1.59	0.00
31.25	5.73	1.59	0.00
32.50	5.73	1.59	0.00
33.75	5.73	1.59	0.00
35.00	5.73	1.59	0.00
36.25	5.73	1.59	0.00
37.50	5.73	1.59	0.00
38.75	5.73	1.59	0.00
40.00	5.73	1.59	0.00
41.25	5.73	1.59	0.00
42.50	5.73	1.59	0.00
43.75	5.73	1.59	0.00
45.00	5.73	1.59	0.00
46.25	5.73	1.59	0.00
47.50	5.73	1.59	0.00
48.75	5.73	1.59	0.00
50.00	5.73	1.59	0.00
51.25	5.73	1.59	0.00
52.50	5.73	1.59	0.00
53.75	5.73	1.59	0.00
55.00	5.73	1.59	0.00
56.25	5.73	1.59	0.00
57.50	5.73	1.59	0.00
58.75	5.73	1.59	0.00
60.00	5.73	1.59	0.00
61.25	5.73	1.59	0.00
62.50	5.73	1.59	0.00
63.75	5.73	1.59	0.00
65.00	5.73	1.59	0.00
66.25	5.73	1.59	0.00
67.50	5.73	1.59	0.00
68.75	5.73	1.59	0.00
70.00	5.73	1.59	0.00
71.25	5.73	1.59	0.00

Summary for Subcatchment EXimp-E: EX Imp - East

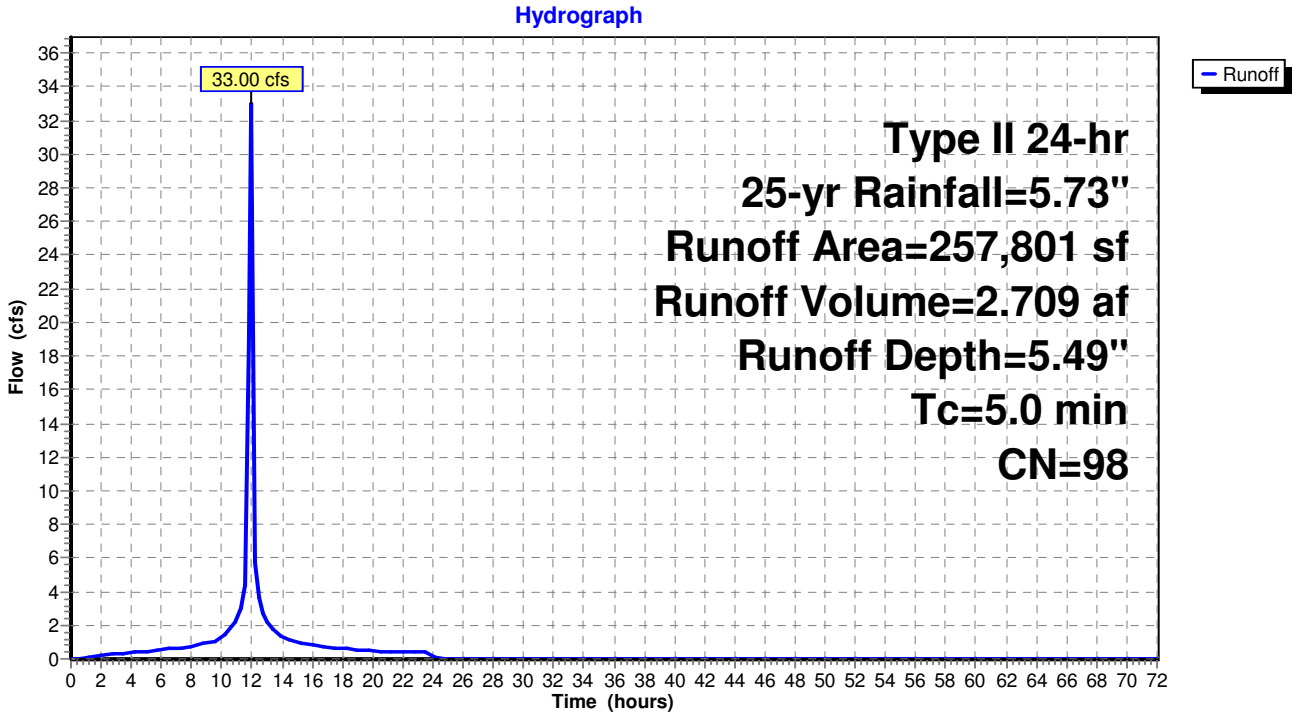
Runoff = 33.00 cfs @ 11.96 hrs, Volume= 2.709 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
257,801	98	Paved parking, HSG B
257,801		100.00% Impervious Area

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

Subcatchment EXimp-E: EX Imp - East



Hydrograph for Subcatchment EXimp-E: EX Imp - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.08	0.01	0.09
2.50	0.16	0.04	0.25
3.75	0.26	0.11	0.35
5.00	0.36	0.20	0.46
6.25	0.48	0.30	0.56
7.50	0.63	0.43	0.66
8.75	0.80	0.60	0.94
10.00	1.04	0.83	1.29
11.25	1.47	1.25	**2.98**
12.50	4.21	3.98	**3.61**
13.75	4.64	4.41	1.49
15.00	4.89	4.65	1.04
16.25	5.07	4.84	0.77
17.50	5.22	4.99	0.66
18.75	5.35	5.11	0.56
20.00	5.45	5.22	0.45
21.25	5.55	5.31	0.42
22.50	5.63	5.39	0.40
23.75	**5.71**	**5.48**	0.38
25.00	**5.73**	**5.49**	0.00
26.25	5.73	5.49	0.00
27.50	5.73	5.49	0.00
28.75	5.73	5.49	0.00
30.00	5.73	5.49	0.00
31.25	5.73	5.49	0.00
32.50	5.73	5.49	0.00
33.75	5.73	5.49	0.00
35.00	5.73	5.49	0.00
36.25	5.73	5.49	0.00
37.50	5.73	5.49	0.00
38.75	5.73	5.49	0.00
40.00	5.73	5.49	0.00
41.25	5.73	5.49	0.00
42.50	5.73	5.49	0.00
43.75	5.73	5.49	0.00
45.00	5.73	5.49	0.00
46.25	5.73	5.49	0.00
47.50	5.73	5.49	0.00
48.75	5.73	5.49	0.00
50.00	5.73	5.49	0.00
51.25	5.73	5.49	0.00
52.50	5.73	5.49	0.00
53.75	5.73	5.49	0.00
55.00	5.73	5.49	0.00
56.25	5.73	5.49	0.00
57.50	5.73	5.49	0.00
58.75	5.73	5.49	0.00
60.00	5.73	5.49	0.00
61.25	5.73	5.49	0.00
62.50	5.73	5.49	0.00
63.75	5.73	5.49	0.00
65.00	5.73	5.49	0.00
66.25	5.73	5.49	0.00
67.50	5.73	5.49	0.00
68.75	5.73	5.49	0.00
70.00	5.73	5.49	0.00
71.25	5.73	5.49	0.00

Summary for Subcatchment EXimp-W: EX Imp - West

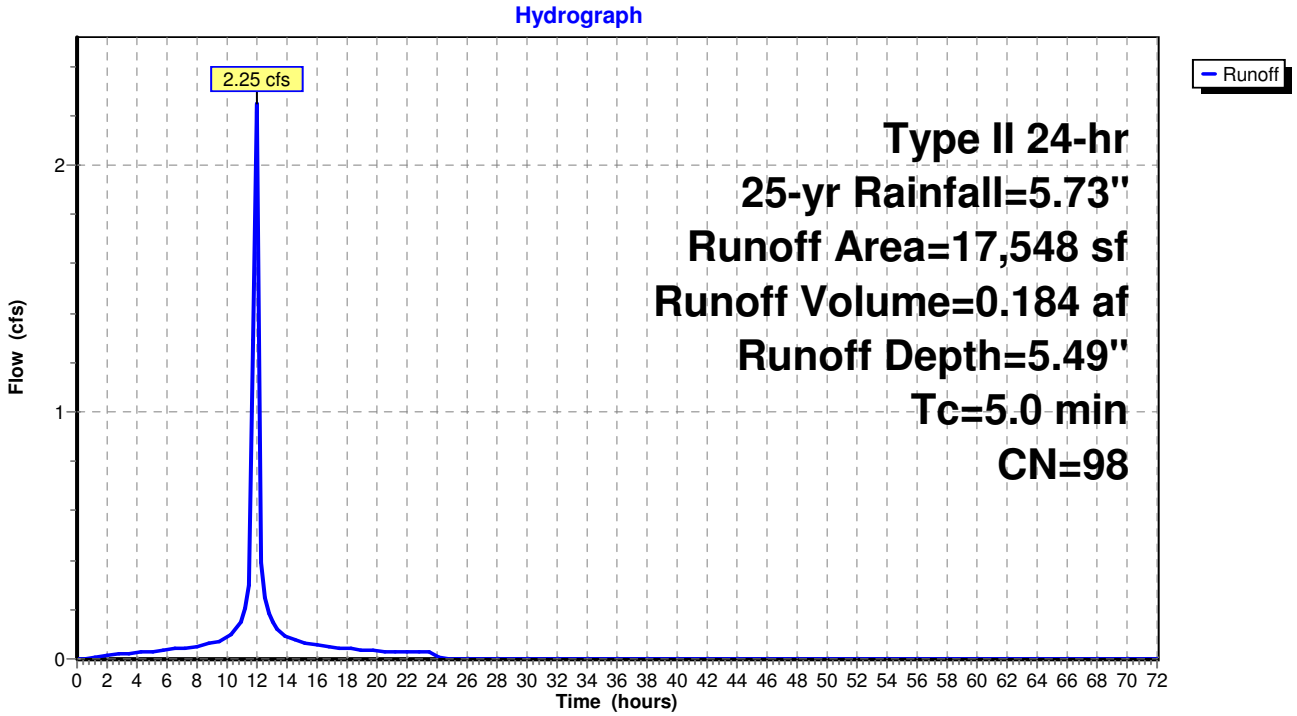
Runoff = 2.25 cfs @ 11.96 hrs, Volume= 0.184 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
17,548	98	Paved parking, HSG B
17,548		100.00% Impervious Area

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

Subcatchment EXimp-W: EX Imp - West



Hydrograph for Subcatchment EXimp-W: EX Imp - West

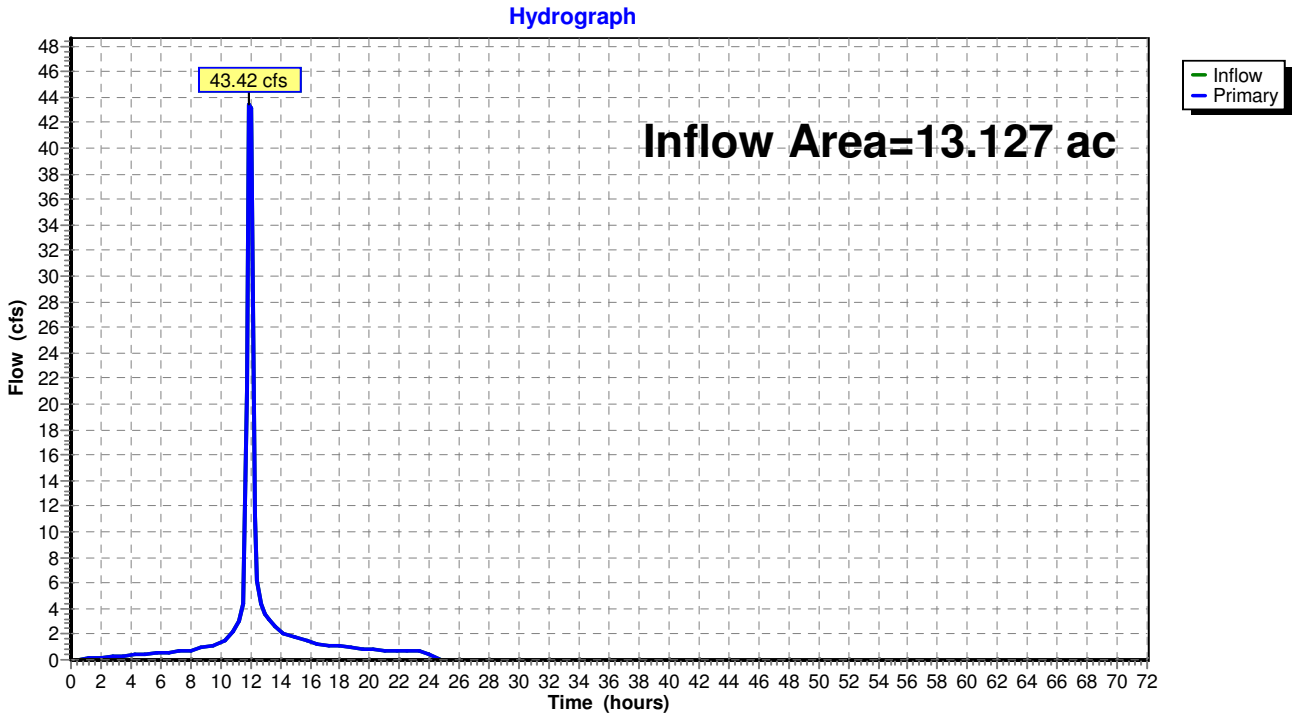
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.08	0.01	0.01
2.50	0.16	0.04	0.02
3.75	0.26	0.11	0.02
5.00	0.36	0.20	0.03
6.25	0.48	0.30	0.04
7.50	0.63	0.43	0.05
8.75	0.80	0.60	0.06
10.00	1.04	0.83	0.09
11.25	1.47	1.25	**0.20**
12.50	4.21	3.98	**0.25**
13.75	4.64	4.41	0.10
15.00	4.89	4.65	0.07
16.25	5.07	4.84	0.05
17.50	5.22	4.99	0.05
18.75	5.35	5.11	0.04
20.00	5.45	5.22	0.03
21.25	5.55	5.31	0.03
22.50	5.63	5.39	0.03
23.75	**5.71**	**5.48**	0.03
25.00	**5.73**	**5.49**	0.00
26.25	5.73	5.49	0.00
27.50	5.73	5.49	0.00
28.75	5.73	5.49	0.00
30.00	5.73	5.49	0.00
31.25	5.73	5.49	0.00
32.50	5.73	5.49	0.00
33.75	5.73	5.49	0.00
35.00	5.73	5.49	0.00
36.25	5.73	5.49	0.00
37.50	5.73	5.49	0.00
38.75	5.73	5.49	0.00
40.00	5.73	5.49	0.00
41.25	5.73	5.49	0.00
42.50	5.73	5.49	0.00
43.75	5.73	5.49	0.00
45.00	5.73	5.49	0.00
46.25	5.73	5.49	0.00
47.50	5.73	5.49	0.00
48.75	5.73	5.49	0.00
50.00	5.73	5.49	0.00
51.25	5.73	5.49	0.00
52.50	5.73	5.49	0.00
53.75	5.73	5.49	0.00
55.00	5.73	5.49	0.00
56.25	5.73	5.49	0.00
57.50	5.73	5.49	0.00
58.75	5.73	5.49	0.00
60.00	5.73	5.49	0.00
61.25	5.73	5.49	0.00
62.50	5.73	5.49	0.00
63.75	5.73	5.49	0.00
65.00	5.73	5.49	0.00
66.25	5.73	5.49	0.00
67.50	5.73	5.49	0.00
68.75	5.73	5.49	0.00
70.00	5.73	5.49	0.00
71.25	5.73	5.49	0.00

Summary for Link EX-East: Exist POI 'East'

Inflow Area = 13.127 ac, 45.08% Impervious, Inflow Depth = 3.33" for 25-yr event
Inflow = 43.42 cfs @ 11.98 hrs, Volume= 3.638 af
Primary = 43.42 cfs @ 11.98 hrs, Volume= 3.638 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-East: Exist POI 'East'



Hydrograph for Link EX-East: Exist POI 'East'

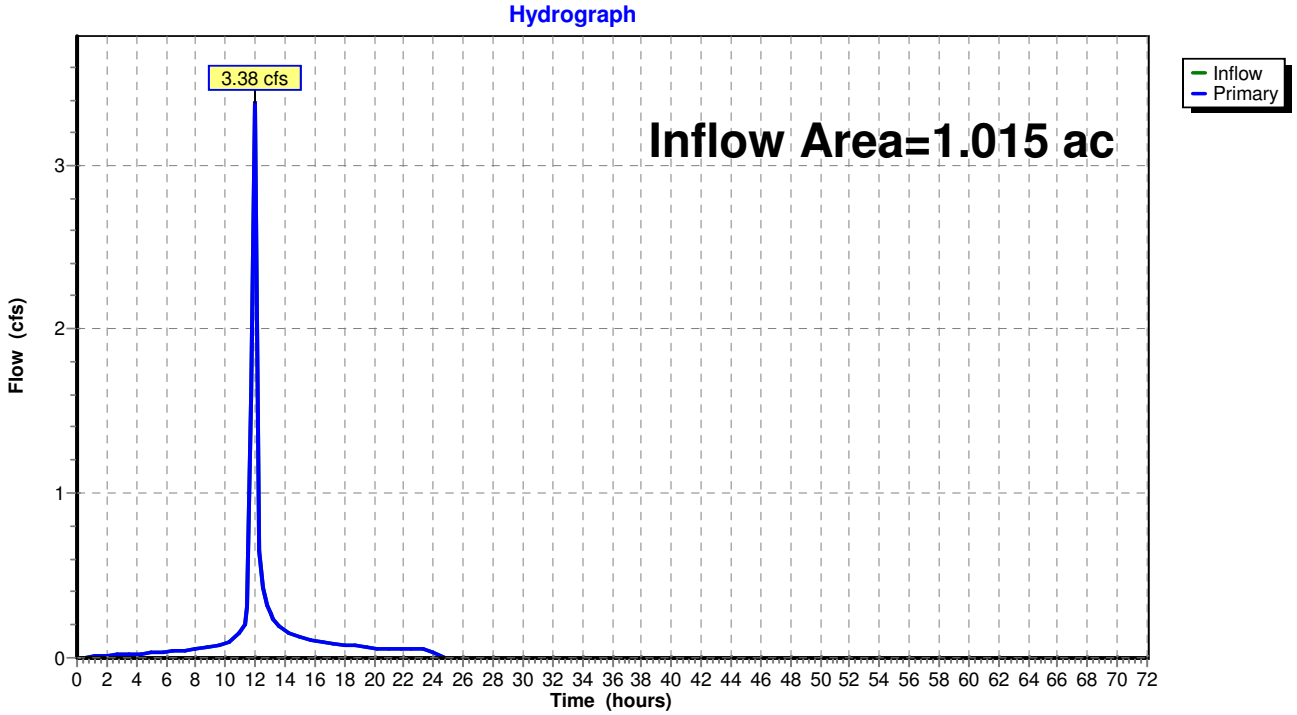
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.09	0.00	0.09	65.00	0.00	0.00	0.00
2.50	0.25	0.00	0.25	66.25	0.00	0.00	0.00
3.75	0.35	0.00	0.35	67.50	0.00	0.00	0.00
5.00	0.46	0.00	0.46	68.75	0.00	0.00	0.00
6.25	0.56	0.00	0.56	70.00	0.00	0.00	0.00
7.50	0.66	0.00	0.66	71.25	0.00	0.00	0.00
8.75	0.94	0.00	0.94				
10.00	1.29	0.00	1.29				
11.25	**2.98**	0.00	**2.98**				
12.50	**6.18**	0.00	**6.18**				
13.75	2.44	0.00	2.44				
15.00	1.73	0.00	1.73				
16.25	1.29	0.00	1.29				
17.50	1.12	0.00	1.12				
18.75	0.95	0.00	0.95				
20.00	0.77	0.00	0.77				
21.25	0.73	0.00	0.73				
22.50	0.69	0.00	0.69				
23.75	0.66	0.00	0.66				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link EX-West: Exist. POI 'West'

Inflow Area = 1.015 ac, 39.69% Impervious, Inflow Depth = 3.14" for 25-yr event
Inflow = 3.38 cfs @ 11.97 hrs, Volume= 0.266 af
Primary = 3.38 cfs @ 11.97 hrs, Volume= 0.266 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-West: Exist. POI 'West'



Hydrograph for Link EX-West: Exist. POI 'West'

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.01	0.00	0.01	65.00	0.00	0.00	0.00
2.50	0.02	0.00	0.02	66.25	0.00	0.00	0.00
3.75	0.02	0.00	0.02	67.50	0.00	0.00	0.00
5.00	0.03	0.00	0.03	68.75	0.00	0.00	0.00
6.25	0.04	0.00	0.04	70.00	0.00	0.00	0.00
7.50	0.05	0.00	0.05	71.25	0.00	0.00	0.00
8.75	0.06	0.00	0.06				
10.00	0.09	0.00	0.09				
11.25	**0.20**	0.00	**0.20**				
12.50	**0.42**	0.00	**0.42**				
13.75	0.18	0.00	0.18				
15.00	0.13	0.00	0.13				
16.25	0.10	0.00	0.10				
17.50	0.08	0.00	0.08				
18.75	0.07	0.00	0.07				
20.00	0.06	0.00	0.06				
21.25	0.05	0.00	0.05				
22.50	0.05	0.00	0.05				
23.75	0.05	0.00	0.05				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment EX Off: EX Offsite

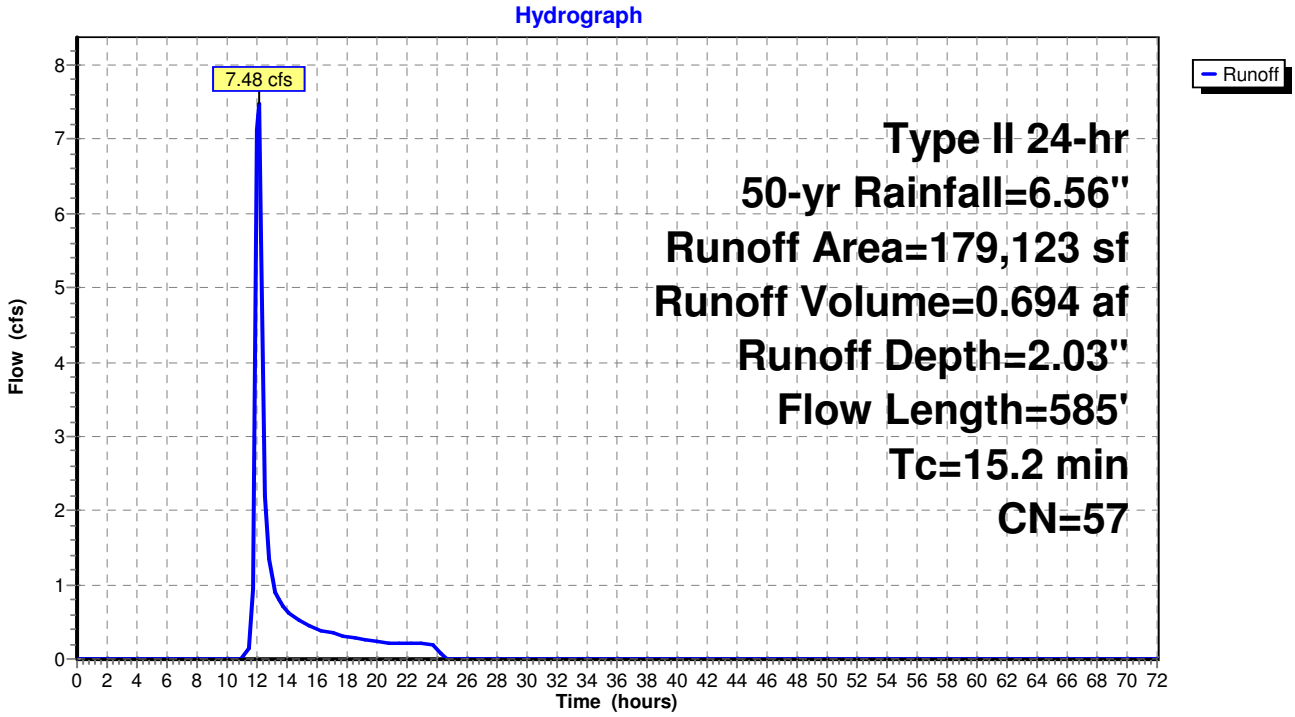
Runoff = 7.48 cfs @ 12.08 hrs, Volume= 0.694 af, Depth= 2.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
168,770	55	Woods, Good, HSG B
10,353	85	Gravel roads, HSG B
179,123	57	Weighted Average
179,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.2300	0.12		**Sheet Flow, 1** Woods: Dense underbrush n= 0.800 P2= 3.30"
1.3	485	0.1500	6.24		**Shallow Concentrated Flow, 2** Unpaved Kv= 16.1 fps
15.2	585	Total			

Subcatchment EX Off: EX Offsite



Hydrograph for Subcatchment EX Off: EX Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.09	0.00	0.00
2.50	0.18	0.00	0.00
3.75	0.29	0.00	0.00
5.00	0.41	0.00	0.00
6.25	0.55	0.00	0.00
7.50	0.72	0.00	0.00
8.75	0.91	0.00	0.00
10.00	1.19	0.00	0.00
11.25	1.68	0.00	**0.03**
12.50	4.82	1.01	**2.20**
13.75	5.31	1.28	0.71
15.00	5.60	1.44	0.50
16.25	5.81	1.56	0.37
17.50	5.98	1.66	0.33
18.75	6.13	1.75	0.28
20.00	6.25	1.83	0.23
21.25	6.35	1.89	0.21
22.50	6.45	1.95	0.20
23.75	**6.54**	**2.01**	0.20
25.00	**6.56**	**2.03**	0.00
26.25	6.56	2.03	0.00
27.50	6.56	2.03	0.00
28.75	6.56	2.03	0.00
30.00	6.56	2.03	0.00
31.25	6.56	2.03	0.00
32.50	6.56	2.03	0.00
33.75	6.56	2.03	0.00
35.00	6.56	2.03	0.00
36.25	6.56	2.03	0.00
37.50	6.56	2.03	0.00
38.75	6.56	2.03	0.00
40.00	6.56	2.03	0.00
41.25	6.56	2.03	0.00
42.50	6.56	2.03	0.00
43.75	6.56	2.03	0.00
45.00	6.56	2.03	0.00
46.25	6.56	2.03	0.00
47.50	6.56	2.03	0.00
48.75	6.56	2.03	0.00
50.00	6.56	2.03	0.00
51.25	6.56	2.03	0.00
52.50	6.56	2.03	0.00
53.75	6.56	2.03	0.00
55.00	6.56	2.03	0.00
56.25	6.56	2.03	0.00
57.50	6.56	2.03	0.00
58.75	6.56	2.03	0.00
60.00	6.56	2.03	0.00
61.25	6.56	2.03	0.00
62.50	6.56	2.03	0.00
63.75	6.56	2.03	0.00
65.00	6.56	2.03	0.00
66.25	6.56	2.03	0.00
67.50	6.56	2.03	0.00
68.75	6.56	2.03	0.00
70.00	6.56	2.03	0.00
71.25	6.56	2.03	0.00

Summary for Subcatchment EXgrass-E: EX Grass - East

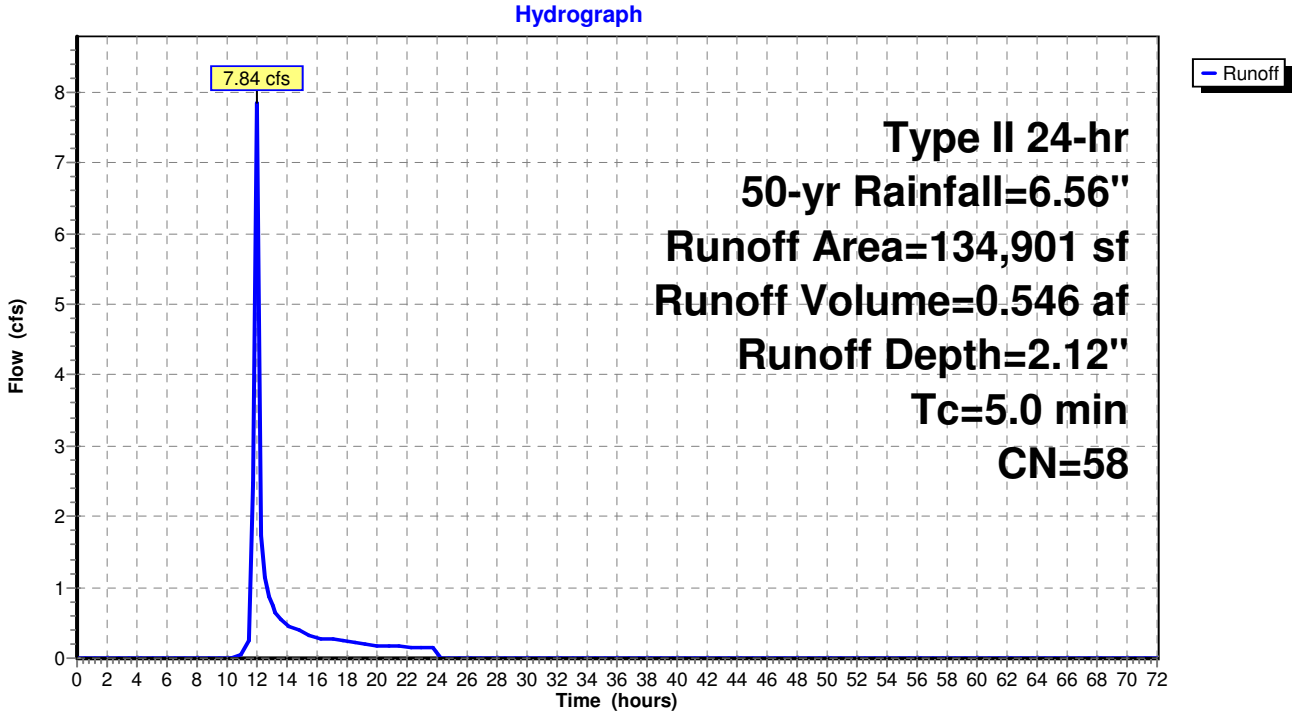
Runoff = 7.84 cfs @ 11.99 hrs, Volume= 0.546 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

	Area (sf)	CN	Description
	32,333	55	Woods, Good, HSG B
	5,752	70	Woods, Good, HSG C
	32,333	58	Meadow, non-grazed, HSG B
	33	71	Meadow, non-grazed, HSG C
*	64,450	58	Meadow (20% Impervious)
	134,901	58	Weighted Average
	134,901		100.00% Pervious Area

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

Subcatchment EXgrass-E: EX Grass - East



Hydrograph for Subcatchment EXgrass-E: EX Grass - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.09	0.00	0.00
2.50	0.18	0.00	0.00
3.75	0.29	0.00	0.00
5.00	0.41	0.00	0.00
6.25	0.55	0.00	0.00
7.50	0.72	0.00	0.00
8.75	0.91	0.00	0.00
10.00	1.19	0.00	0.00
11.25	1.68	0.01	**0.09**
12.50	4.82	1.07	**1.15**
13.75	5.31	1.35	0.51
15.00	5.60	1.51	0.37
16.25	5.81	1.64	0.28
17.50	5.98	1.74	0.25
18.75	6.13	1.84	0.21
20.00	6.25	1.91	0.17
21.25	6.35	1.98	0.16
22.50	6.45	2.04	0.16
23.75	**6.54**	**2.10**	0.15
25.00	**6.56**	**2.12**	0.00
26.25	6.56	2.12	0.00
27.50	6.56	2.12	0.00
28.75	6.56	2.12	0.00
30.00	6.56	2.12	0.00
31.25	6.56	2.12	0.00
32.50	6.56	2.12	0.00
33.75	6.56	2.12	0.00
35.00	6.56	2.12	0.00
36.25	6.56	2.12	0.00
37.50	6.56	2.12	0.00
38.75	6.56	2.12	0.00
40.00	6.56	2.12	0.00
41.25	6.56	2.12	0.00
42.50	6.56	2.12	0.00
43.75	6.56	2.12	0.00
45.00	6.56	2.12	0.00
46.25	6.56	2.12	0.00
47.50	6.56	2.12	0.00
48.75	6.56	2.12	0.00
50.00	6.56	2.12	0.00
51.25	6.56	2.12	0.00
52.50	6.56	2.12	0.00
53.75	6.56	2.12	0.00
55.00	6.56	2.12	0.00
56.25	6.56	2.12	0.00
57.50	6.56	2.12	0.00
58.75	6.56	2.12	0.00
60.00	6.56	2.12	0.00
61.25	6.56	2.12	0.00
62.50	6.56	2.12	0.00
63.75	6.56	2.12	0.00
65.00	6.56	2.12	0.00
66.25	6.56	2.12	0.00
67.50	6.56	2.12	0.00
68.75	6.56	2.12	0.00
70.00	6.56	2.12	0.00
71.25	6.56	2.12	0.00

Summary for Subcatchment EXgrass-W: EX Grass - West

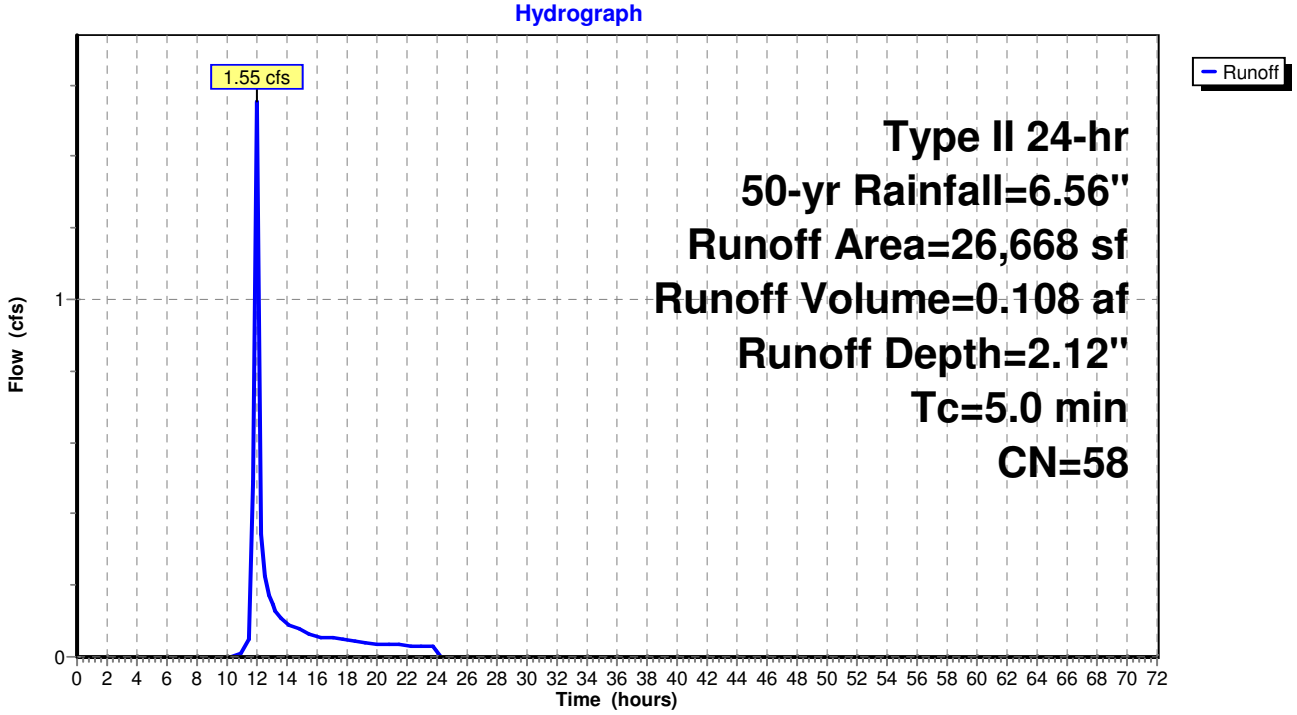
Runoff = 1.55 cfs @ 11.99 hrs, Volume= 0.108 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

	Area (sf)	CN	Description
	22,281	58	Meadow, non-grazed, HSG B
*	4,387	58	Meadow (20% Impervious)
	26,668	58	Weighted Average
	26,668		100.00% Pervious Area

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

Subcatchment EXgrass-W: EX Grass - West



Hydrograph for Subcatchment EXgrass-W: EX Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.09	0.00	0.00
2.50	0.18	0.00	0.00
3.75	0.29	0.00	0.00
5.00	0.41	0.00	0.00
6.25	0.55	0.00	0.00
7.50	0.72	0.00	0.00
8.75	0.91	0.00	0.00
10.00	1.19	0.00	0.00
11.25	1.68	0.01	**0.02**
12.50	4.82	1.07	**0.23**
13.75	5.31	1.35	0.10
15.00	5.60	1.51	0.07
16.25	5.81	1.64	0.06
17.50	5.98	1.74	0.05
18.75	6.13	1.84	0.04
20.00	6.25	1.91	0.03
21.25	6.35	1.98	0.03
22.50	6.45	2.04	0.03
23.75	**6.54**	**2.10**	0.03
25.00	**6.56**	**2.12**	0.00
26.25	6.56	2.12	0.00
27.50	6.56	2.12	0.00
28.75	6.56	2.12	0.00
30.00	6.56	2.12	0.00
31.25	6.56	2.12	0.00
32.50	6.56	2.12	0.00
33.75	6.56	2.12	0.00
35.00	6.56	2.12	0.00
36.25	6.56	2.12	0.00
37.50	6.56	2.12	0.00
38.75	6.56	2.12	0.00
40.00	6.56	2.12	0.00
41.25	6.56	2.12	0.00
42.50	6.56	2.12	0.00
43.75	6.56	2.12	0.00
45.00	6.56	2.12	0.00
46.25	6.56	2.12	0.00
47.50	6.56	2.12	0.00
48.75	6.56	2.12	0.00
50.00	6.56	2.12	0.00
51.25	6.56	2.12	0.00
52.50	6.56	2.12	0.00
53.75	6.56	2.12	0.00
55.00	6.56	2.12	0.00
56.25	6.56	2.12	0.00
57.50	6.56	2.12	0.00
58.75	6.56	2.12	0.00
60.00	6.56	2.12	0.00
61.25	6.56	2.12	0.00
62.50	6.56	2.12	0.00
63.75	6.56	2.12	0.00
65.00	6.56	2.12	0.00
66.25	6.56	2.12	0.00
67.50	6.56	2.12	0.00
68.75	6.56	2.12	0.00
70.00	6.56	2.12	0.00
71.25	6.56	2.12	0.00

Summary for Subcatchment EXimp-E: EX Imp - East

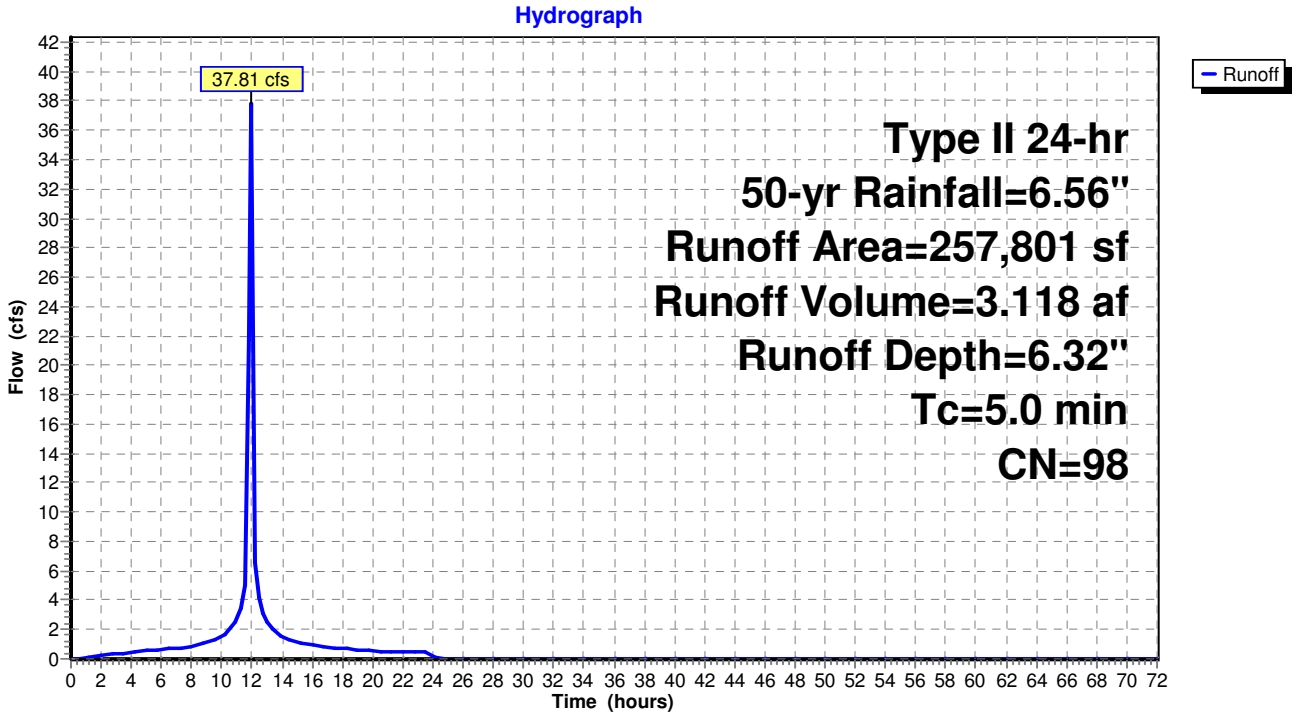
Runoff = 37.81 cfs @ 11.96 hrs, Volume= 3.118 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
257,801	98	Paved parking, HSG B
257,801		100.00% Impervious Area

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

Subcatchment EXimp-E: EX Imp - East



Hydrograph for Subcatchment EXimp-E: EX Imp - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.09	0.01	0.13
2.50	0.18	0.06	0.31
3.75	0.29	0.14	0.42
5.00	0.41	0.24	0.54
6.25	0.55	0.37	0.66
7.50	0.72	0.52	0.77
8.75	0.91	0.71	1.08
10.00	1.19	0.97	1.48
11.25	1.68	1.46	**3.42**
12.50	4.82	4.59	**4.14**
13.75	5.31	5.08	1.70
15.00	5.60	5.36	1.19
16.25	5.81	5.57	0.88
17.50	5.98	5.74	0.76
18.75	6.13	5.89	0.64
20.00	6.25	6.01	0.52
21.25	6.35	6.11	0.49
22.50	6.45	6.21	0.46
23.75	**6.54**	**6.30**	0.44
25.00	**6.56**	**6.32**	0.00
26.25	6.56	6.32	0.00
27.50	6.56	6.32	0.00
28.75	6.56	6.32	0.00
30.00	6.56	6.32	0.00
31.25	6.56	6.32	0.00
32.50	6.56	6.32	0.00
33.75	6.56	6.32	0.00
35.00	6.56	6.32	0.00
36.25	6.56	6.32	0.00
37.50	6.56	6.32	0.00
38.75	6.56	6.32	0.00
40.00	6.56	6.32	0.00
41.25	6.56	6.32	0.00
42.50	6.56	6.32	0.00
43.75	6.56	6.32	0.00
45.00	6.56	6.32	0.00
46.25	6.56	6.32	0.00
47.50	6.56	6.32	0.00
48.75	6.56	6.32	0.00
50.00	6.56	6.32	0.00
51.25	6.56	6.32	0.00
52.50	6.56	6.32	0.00
53.75	6.56	6.32	0.00
55.00	6.56	6.32	0.00
56.25	6.56	6.32	0.00
57.50	6.56	6.32	0.00
58.75	6.56	6.32	0.00
60.00	6.56	6.32	0.00
61.25	6.56	6.32	0.00
62.50	6.56	6.32	0.00
63.75	6.56	6.32	0.00
65.00	6.56	6.32	0.00
66.25	6.56	6.32	0.00
67.50	6.56	6.32	0.00
68.75	6.56	6.32	0.00
70.00	6.56	6.32	0.00
71.25	6.56	6.32	0.00

Summary for Subcatchment EXimp-W: EX Imp - West

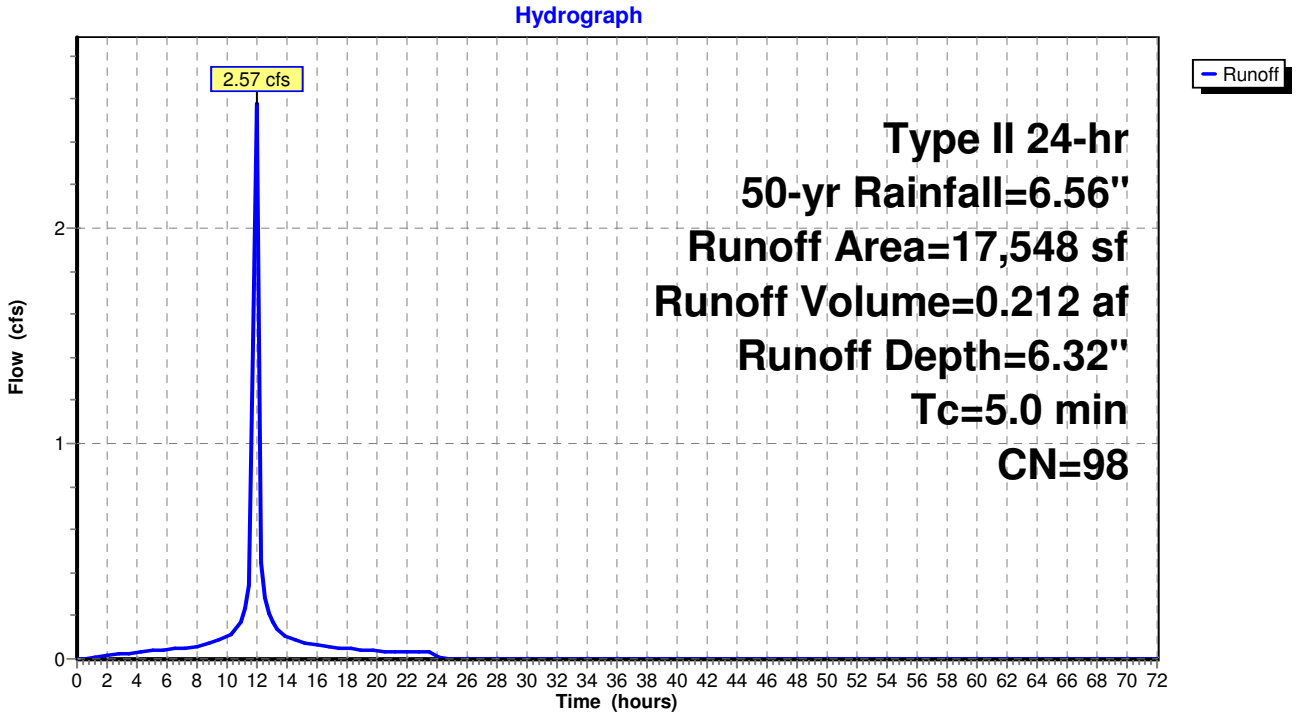
Runoff = 2.57 cfs @ 11.96 hrs, Volume= 0.212 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
17,548	98	Paved parking, HSG B
17,548		100.00% Impervious Area

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

Subcatchment EXimp-W: EX Imp - West



Hydrograph for Subcatchment EXimp-W: EX Imp - West

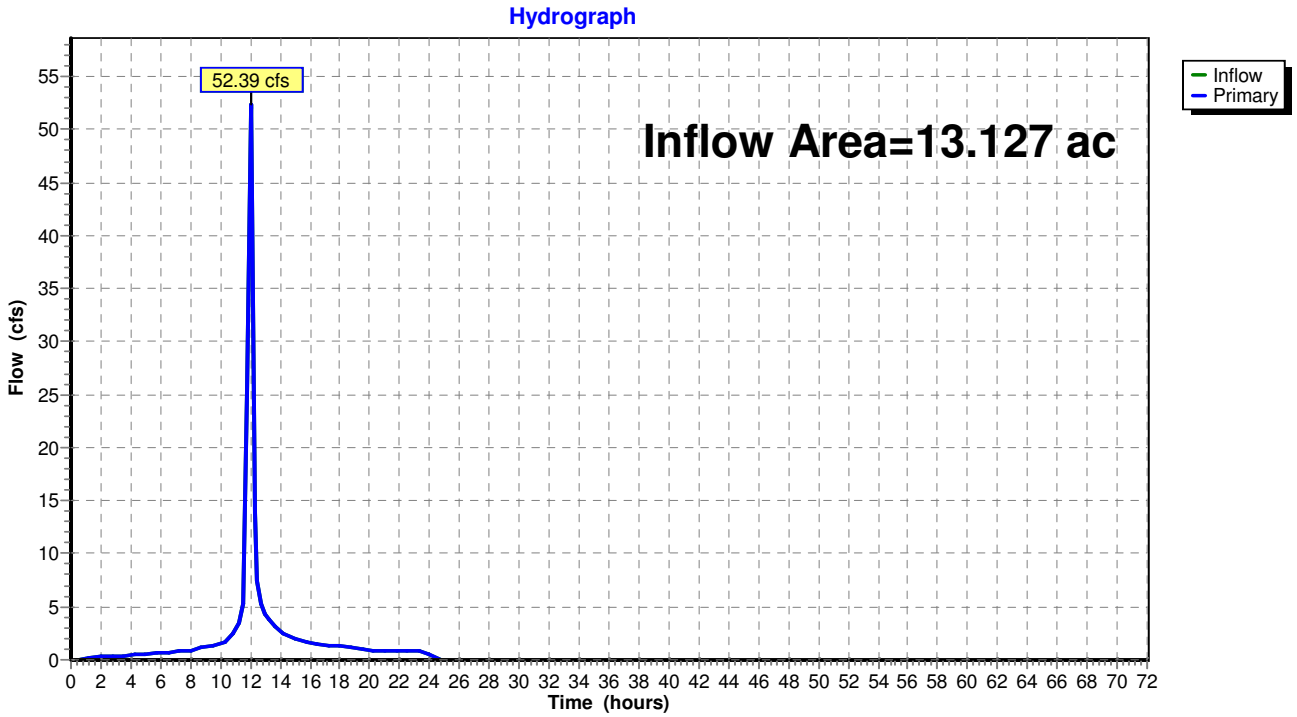
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.09	0.01	0.01
2.50	0.18	0.06	0.02
3.75	0.29	0.14	0.03
5.00	0.41	0.24	0.04
6.25	0.55	0.37	0.04
7.50	0.72	0.52	0.05
8.75	0.91	0.71	0.07
10.00	1.19	0.97	0.10
11.25	1.68	1.46	**0.23**
12.50	4.82	4.59	**0.28**
13.75	5.31	5.08	0.12
15.00	5.60	5.36	0.08
16.25	5.81	5.57	0.06
17.50	5.98	5.74	0.05
18.75	6.13	5.89	0.04
20.00	6.25	6.01	0.04
21.25	6.35	6.11	0.03
22.50	6.45	6.21	0.03
23.75	**6.54**	**6.30**	0.03
25.00	**6.56**	**6.32**	0.00
26.25	6.56	6.32	0.00
27.50	6.56	6.32	0.00
28.75	6.56	6.32	0.00
30.00	6.56	6.32	0.00
31.25	6.56	6.32	0.00
32.50	6.56	6.32	0.00
33.75	6.56	6.32	0.00
35.00	6.56	6.32	0.00
36.25	6.56	6.32	0.00
37.50	6.56	6.32	0.00
38.75	6.56	6.32	0.00
40.00	6.56	6.32	0.00
41.25	6.56	6.32	0.00
42.50	6.56	6.32	0.00
43.75	6.56	6.32	0.00
45.00	6.56	6.32	0.00
46.25	6.56	6.32	0.00
47.50	6.56	6.32	0.00
48.75	6.56	6.32	0.00
50.00	6.56	6.32	0.00
51.25	6.56	6.32	0.00
52.50	6.56	6.32	0.00
53.75	6.56	6.32	0.00
55.00	6.56	6.32	0.00
56.25	6.56	6.32	0.00
57.50	6.56	6.32	0.00
58.75	6.56	6.32	0.00
60.00	6.56	6.32	0.00
61.25	6.56	6.32	0.00
62.50	6.56	6.32	0.00
63.75	6.56	6.32	0.00
65.00	6.56	6.32	0.00
66.25	6.56	6.32	0.00
67.50	6.56	6.32	0.00
68.75	6.56	6.32	0.00
70.00	6.56	6.32	0.00
71.25	6.56	6.32	0.00

Summary for Link EX-East: Exist POI 'East'

Inflow Area = 13.127 ac, 45.08% Impervious, Inflow Depth = 3.98" for 50-yr event
Inflow = 52.39 cfs @ 11.98 hrs, Volume= 4.358 af
Primary = 52.39 cfs @ 11.98 hrs, Volume= 4.358 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-East: Exist POI 'East'



Hydrograph for Link EX-East: Exist POI 'East'

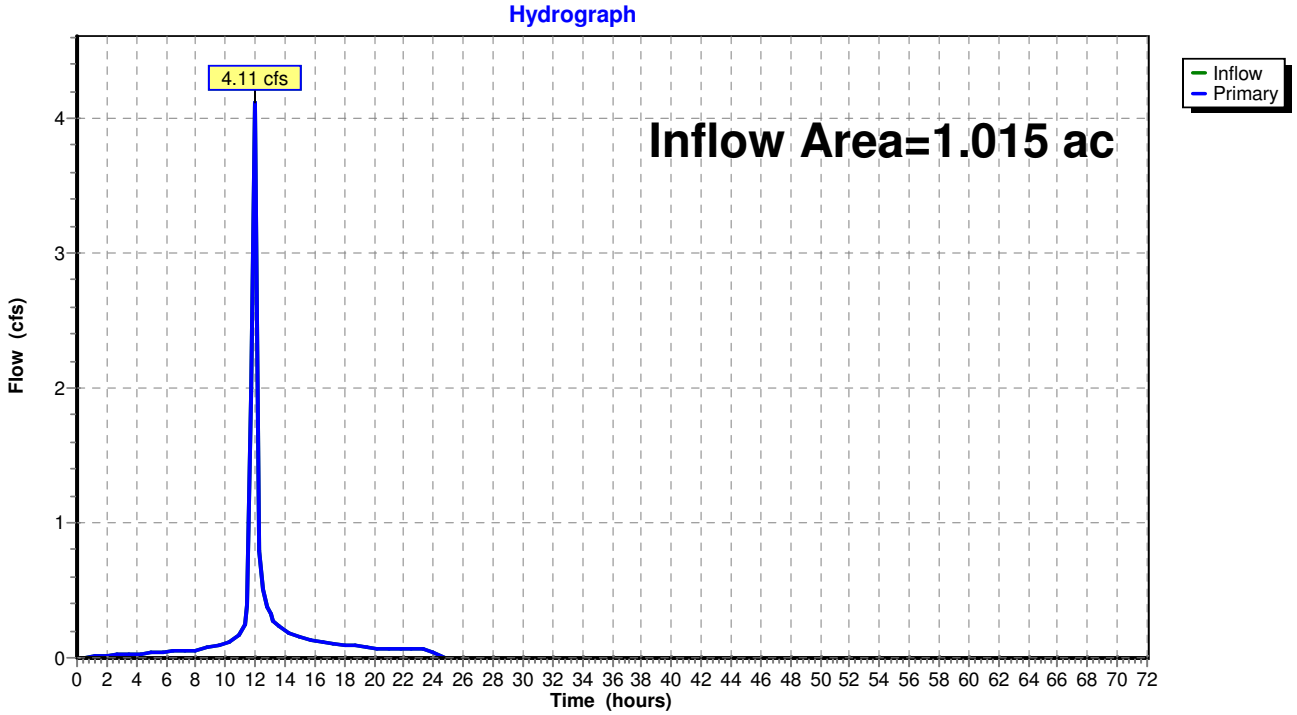
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.13	0.00	0.13	65.00	0.00	0.00	0.00
2.50	0.31	0.00	0.31	66.25	0.00	0.00	0.00
3.75	0.42	0.00	0.42	67.50	0.00	0.00	0.00
5.00	0.54	0.00	0.54	68.75	0.00	0.00	0.00
6.25	0.66	0.00	0.66	70.00	0.00	0.00	0.00
7.50	0.77	0.00	0.77	71.25	0.00	0.00	0.00
8.75	1.08	0.00	1.08				
10.00	1.48	0.00	1.48				
11.25	**3.55**	0.00	**3.55**				
12.50	**7.48**	0.00	**7.48**				
13.75	2.92	0.00	2.92				
15.00	2.06	0.00	2.06				
16.25	1.54	0.00	1.54				
17.50	1.33	0.00	1.33				
18.75	1.13	0.00	1.13				
20.00	0.92	0.00	0.92				
21.25	0.86	0.00	0.86				
22.50	0.82	0.00	0.82				
23.75	0.78	0.00	0.78				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link EX-West: Exist. POI 'West'

Inflow Area = 1.015 ac, 39.69% Impervious, Inflow Depth = 3.78" for 50-yr event
Inflow = 4.11 cfs @ 11.97 hrs, Volume= 0.320 af
Primary = 4.11 cfs @ 11.97 hrs, Volume= 0.320 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-West: Exist. POI 'West'



Hydrograph for Link EX-West: Exist. POI 'West'

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.01	0.00	0.01	65.00	0.00	0.00	0.00
2.50	0.02	0.00	0.02	66.25	0.00	0.00	0.00
3.75	0.03	0.00	0.03	67.50	0.00	0.00	0.00
5.00	0.04	0.00	0.04	68.75	0.00	0.00	0.00
6.25	0.04	0.00	0.04	70.00	0.00	0.00	0.00
7.50	0.05	0.00	0.05	71.25	0.00	0.00	0.00
8.75	0.07	0.00	0.07				
10.00	0.10	0.00	0.10				
11.25	**0.25**	0.00	**0.25**				
12.50	**0.51**	0.00	**0.51**				
13.75	0.22	0.00	0.22				
15.00	0.15	0.00	0.15				
16.25	0.12	0.00	0.12				
17.50	0.10	0.00	0.10				
18.75	0.09	0.00	0.09				
20.00	0.07	0.00	0.07				
21.25	0.07	0.00	0.07				
22.50	0.06	0.00	0.06				
23.75	0.06	0.00	0.06				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment EX Off: EX Offsite

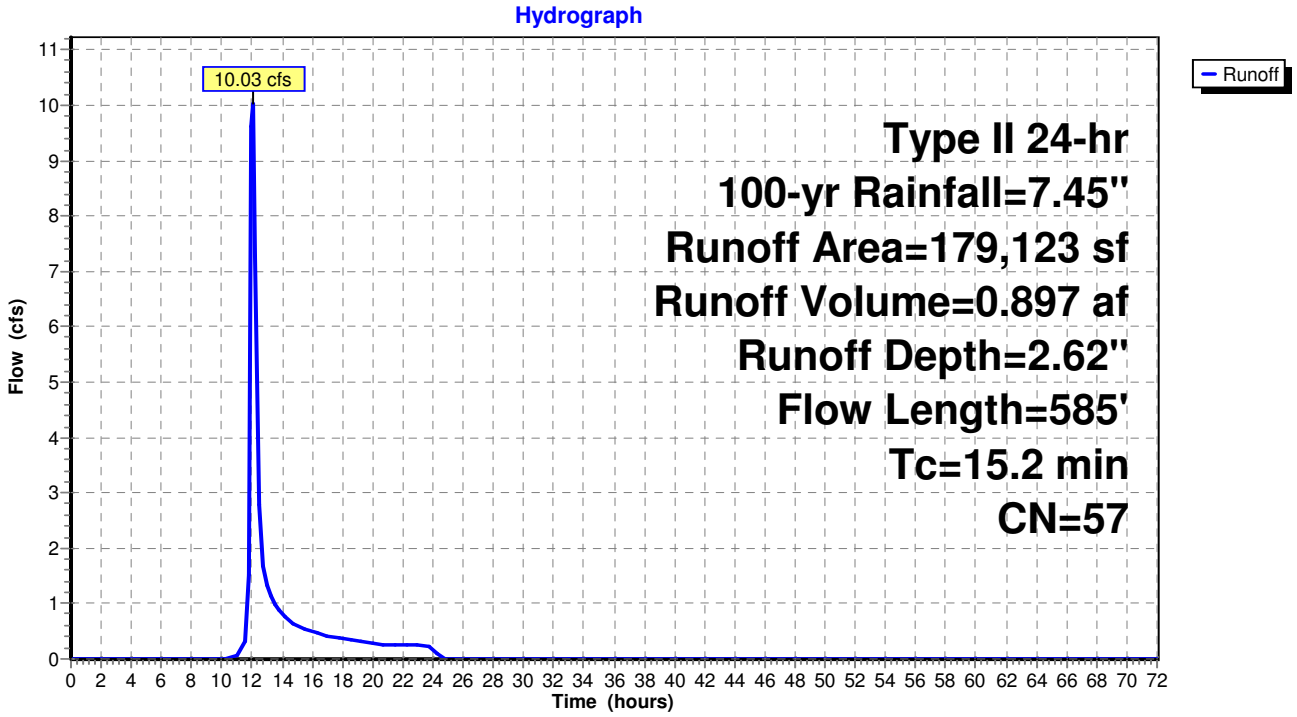
Runoff = 10.03 cfs @ 12.07 hrs, Volume= 0.897 af, Depth= 2.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
168,770	55	Woods, Good, HSG B
10,353	85	Gravel roads, HSG B
179,123	57	Weighted Average
179,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.2300	0.12		**Sheet Flow, 1** Woods: Dense underbrush n= 0.800 P2= 3.30"
1.3	485	0.1500	6.24		**Shallow Concentrated Flow, 2** Unpaved Kv= 16.1 fps
15.2	585	Total			

Subcatchment EX Off: EX Offsite



Hydrograph for Subcatchment EX Off: EX Offsite

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.10	0.00	0.00
2.50	0.21	0.00	0.00
3.75	0.33	0.00	0.00
5.00	0.47	0.00	0.00
6.25	0.63	0.00	0.00
7.50	0.81	0.00	0.00
8.75	1.04	0.00	0.00
10.00	1.35	0.00	0.00
11.25	1.91	0.02	**0.16**
12.50	5.48	1.37	**2.78**
13.75	6.04	1.70	0.88
15.00	6.36	1.90	0.61
16.25	6.60	2.05	0.46
17.50	6.79	2.18	0.40
18.75	6.96	2.28	0.34
20.00	7.09	2.37	0.28
21.25	7.21	2.45	0.26
22.50	7.32	2.53	0.25
23.75	**7.43**	**2.60**	0.24
25.00	**7.45**	**2.62**	0.00
26.25	7.45	2.62	0.00
27.50	7.45	2.62	0.00
28.75	7.45	2.62	0.00
30.00	7.45	2.62	0.00
31.25	7.45	2.62	0.00
32.50	7.45	2.62	0.00
33.75	7.45	2.62	0.00
35.00	7.45	2.62	0.00
36.25	7.45	2.62	0.00
37.50	7.45	2.62	0.00
38.75	7.45	2.62	0.00
40.00	7.45	2.62	0.00
41.25	7.45	2.62	0.00
42.50	7.45	2.62	0.00
43.75	7.45	2.62	0.00
45.00	7.45	2.62	0.00
46.25	7.45	2.62	0.00
47.50	7.45	2.62	0.00
48.75	7.45	2.62	0.00
50.00	7.45	2.62	0.00
51.25	7.45	2.62	0.00
52.50	7.45	2.62	0.00
53.75	7.45	2.62	0.00
55.00	7.45	2.62	0.00
56.25	7.45	2.62	0.00
57.50	7.45	2.62	0.00
58.75	7.45	2.62	0.00
60.00	7.45	2.62	0.00
61.25	7.45	2.62	0.00
62.50	7.45	2.62	0.00
63.75	7.45	2.62	0.00
65.00	7.45	2.62	0.00
66.25	7.45	2.62	0.00
67.50	7.45	2.62	0.00
68.75	7.45	2.62	0.00
70.00	7.45	2.62	0.00
71.25	7.45	2.62	0.00

Summary for Subcatchment EXgrass-E: EX Grass - East

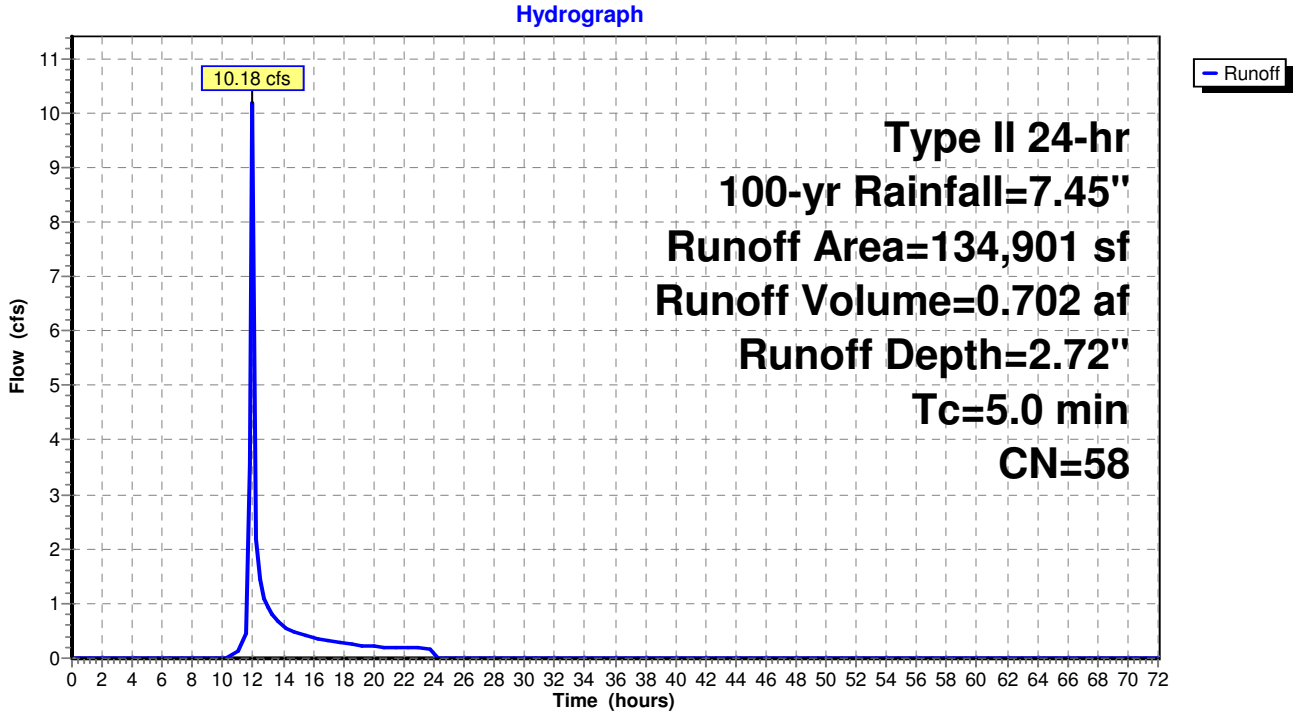
Runoff = 10.18 cfs @ 11.99 hrs, Volume= 0.702 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

	Area (sf)	CN	Description
	32,333	55	Woods, Good, HSG B
	5,752	70	Woods, Good, HSG C
	32,333	58	Meadow, non-grazed, HSG B
	33	71	Meadow, non-grazed, HSG C
*	64,450	58	Meadow (20% Impervious)
	134,901	58	Weighted Average
	134,901		100.00% Pervious Area

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

Subcatchment EXgrass-E: EX Grass - East



Hydrograph for Subcatchment EXgrass-E: EX Grass - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.10	0.00	0.00
2.50	0.21	0.00	0.00
3.75	0.33	0.00	0.00
5.00	0.47	0.00	0.00
6.25	0.63	0.00	0.00
7.50	0.81	0.00	0.00
8.75	1.04	0.00	0.00
10.00	1.35	0.00	0.00
11.25	1.91	0.03	**0.22**
12.50	5.48	1.44	**1.43**
13.75	6.04	1.78	0.63
15.00	6.36	1.98	0.46
16.25	6.60	2.14	0.35
17.50	6.79	2.27	0.30
18.75	6.96	2.38	0.26
20.00	7.09	2.47	0.21
21.25	7.21	2.55	0.20
22.50	7.32	2.63	0.19
23.75	**7.43**	**2.71**	0.18
25.00	**7.45**	**2.72**	0.00
26.25	7.45	2.72	0.00
27.50	7.45	2.72	0.00
28.75	7.45	2.72	0.00
30.00	7.45	2.72	0.00
31.25	7.45	2.72	0.00
32.50	7.45	2.72	0.00
33.75	7.45	2.72	0.00
35.00	7.45	2.72	0.00
36.25	7.45	2.72	0.00
37.50	7.45	2.72	0.00
38.75	7.45	2.72	0.00
40.00	7.45	2.72	0.00
41.25	7.45	2.72	0.00
42.50	7.45	2.72	0.00
43.75	7.45	2.72	0.00
45.00	7.45	2.72	0.00
46.25	7.45	2.72	0.00
47.50	7.45	2.72	0.00
48.75	7.45	2.72	0.00
50.00	7.45	2.72	0.00
51.25	7.45	2.72	0.00
52.50	7.45	2.72	0.00
53.75	7.45	2.72	0.00
55.00	7.45	2.72	0.00
56.25	7.45	2.72	0.00
57.50	7.45	2.72	0.00
58.75	7.45	2.72	0.00
60.00	7.45	2.72	0.00
61.25	7.45	2.72	0.00
62.50	7.45	2.72	0.00
63.75	7.45	2.72	0.00
65.00	7.45	2.72	0.00
66.25	7.45	2.72	0.00
67.50	7.45	2.72	0.00
68.75	7.45	2.72	0.00
70.00	7.45	2.72	0.00
71.25	7.45	2.72	0.00

Summary for Subcatchment EXgrass-W: EX Grass - West

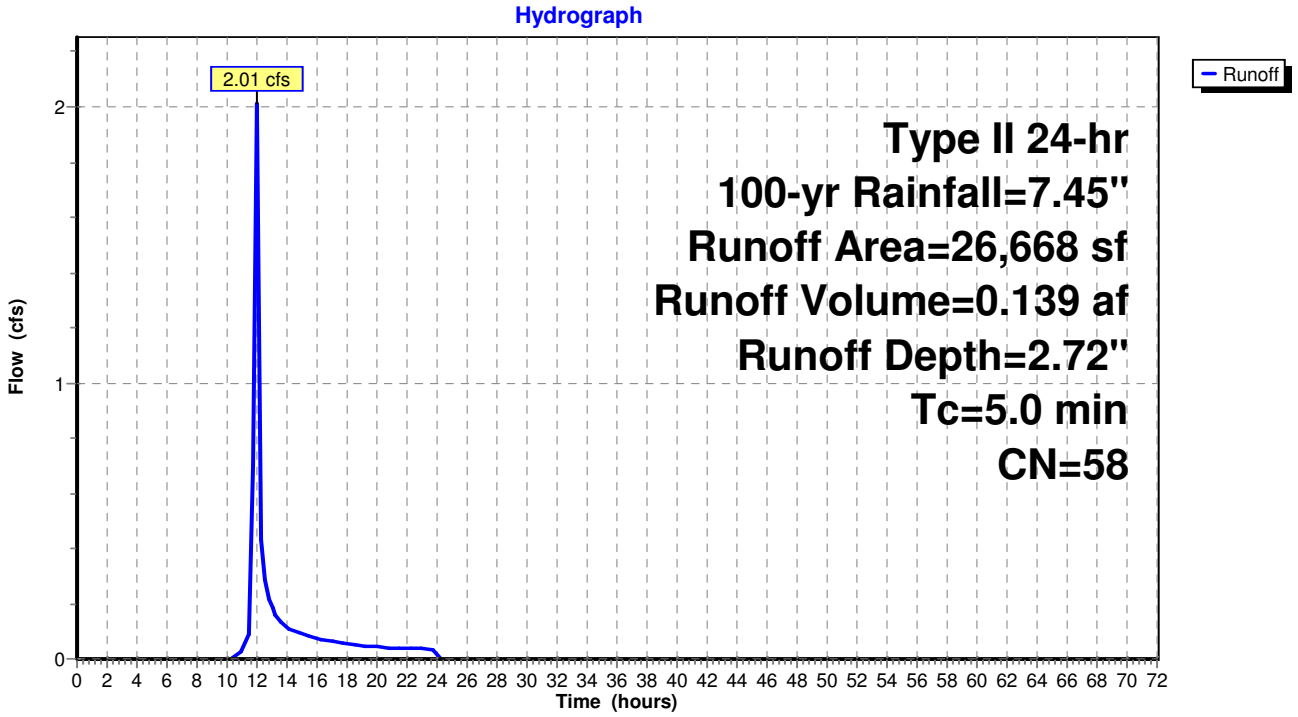
Runoff = 2.01 cfs @ 11.99 hrs, Volume= 0.139 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

	Area (sf)	CN	Description
	22,281	58	Meadow, non-grazed, HSG B
*	4,387	58	Meadow (20% Impervious)
	26,668	58	Weighted Average
	26,668		100.00% Pervious Area

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

Subcatchment EXgrass-W: EX Grass - West



Hydrograph for Subcatchment EXgrass-W: EX Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.10	0.00	0.00
2.50	0.21	0.00	0.00
3.75	0.33	0.00	0.00
5.00	0.47	0.00	0.00
6.25	0.63	0.00	0.00
7.50	0.81	0.00	0.00
8.75	1.04	0.00	0.00
10.00	1.35	0.00	0.00
11.25	1.91	0.03	**0.04**
12.50	5.48	1.44	**0.28**
13.75	6.04	1.78	0.12
15.00	6.36	1.98	0.09
16.25	6.60	2.14	0.07
17.50	6.79	2.27	0.06
18.75	6.96	2.38	0.05
20.00	7.09	2.47	0.04
21.25	7.21	2.55	0.04
22.50	7.32	2.63	0.04
23.75	**7.43**	**2.71**	0.04
25.00	**7.45**	**2.72**	0.00
26.25	7.45	2.72	0.00
27.50	7.45	2.72	0.00
28.75	7.45	2.72	0.00
30.00	7.45	2.72	0.00
31.25	7.45	2.72	0.00
32.50	7.45	2.72	0.00
33.75	7.45	2.72	0.00
35.00	7.45	2.72	0.00
36.25	7.45	2.72	0.00
37.50	7.45	2.72	0.00
38.75	7.45	2.72	0.00
40.00	7.45	2.72	0.00
41.25	7.45	2.72	0.00
42.50	7.45	2.72	0.00
43.75	7.45	2.72	0.00
45.00	7.45	2.72	0.00
46.25	7.45	2.72	0.00
47.50	7.45	2.72	0.00
48.75	7.45	2.72	0.00
50.00	7.45	2.72	0.00
51.25	7.45	2.72	0.00
52.50	7.45	2.72	0.00
53.75	7.45	2.72	0.00
55.00	7.45	2.72	0.00
56.25	7.45	2.72	0.00
57.50	7.45	2.72	0.00
58.75	7.45	2.72	0.00
60.00	7.45	2.72	0.00
61.25	7.45	2.72	0.00
62.50	7.45	2.72	0.00
63.75	7.45	2.72	0.00
65.00	7.45	2.72	0.00
66.25	7.45	2.72	0.00
67.50	7.45	2.72	0.00
68.75	7.45	2.72	0.00
70.00	7.45	2.72	0.00
71.25	7.45	2.72	0.00

Summary for Subcatchment EXimp-E: EX Imp - East

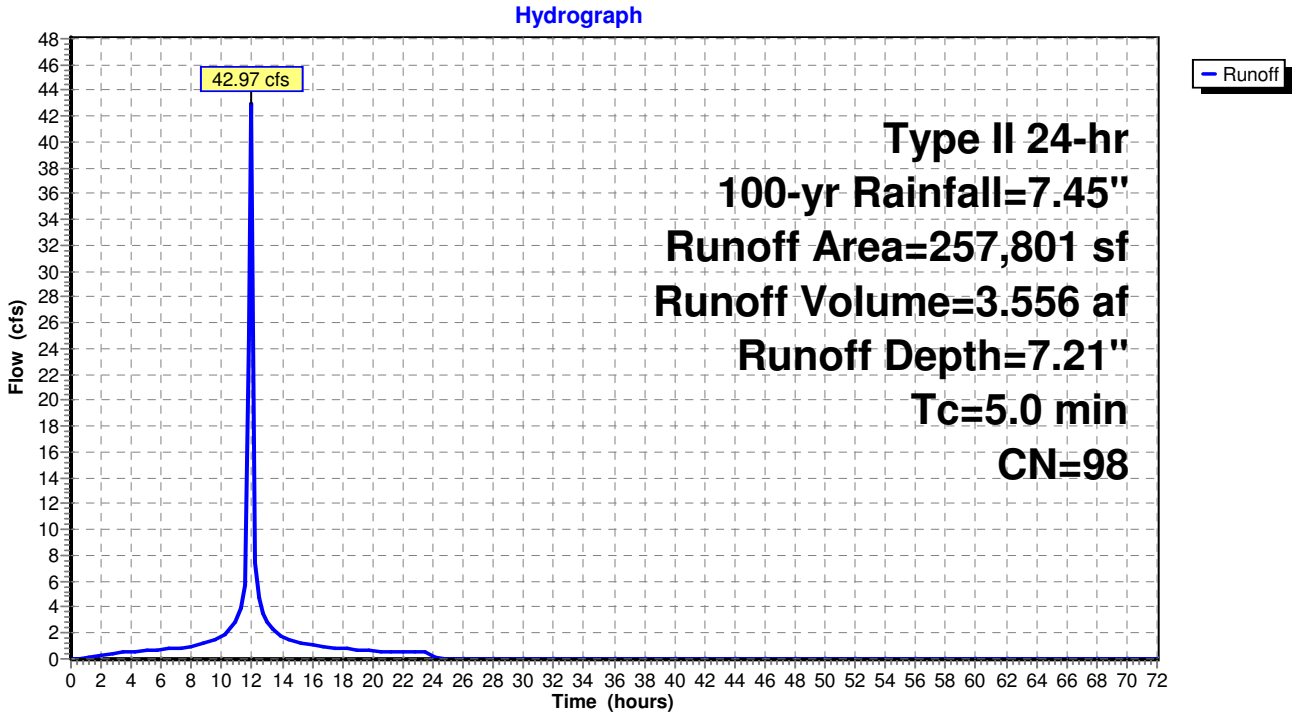
Runoff = 42.97 cfs @ 11.96 hrs, Volume= 3.556 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
257,801	98	Paved parking, HSG B
257,801		100.00% Impervious Area

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

Subcatchment EXimp-E: EX Imp - East



Hydrograph for Subcatchment EXimp-E: EX Imp - East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.10	0.01	0.18
2.50	0.21	0.08	0.38
3.75	0.33	0.17	0.50
5.00	0.47	0.29	0.63
6.25	0.63	0.44	0.76
7.50	0.81	0.61	0.89
8.75	1.04	0.83	1.24
10.00	1.35	1.13	1.69
11.25	1.91	1.68	**3.90**
12.50	5.48	5.24	**4.70**
13.75	6.04	5.80	1.93
15.00	6.36	6.12	1.36
16.25	6.60	6.36	1.00
17.50	6.79	6.55	0.86
18.75	6.96	6.72	0.72
20.00	7.09	6.85	0.59
21.25	7.21	6.97	0.55
22.50	7.32	7.08	0.52
23.75	**7.43**	**7.19**	0.50
25.00	**7.45**	**7.21**	0.00
26.25	7.45	7.21	0.00
27.50	7.45	7.21	0.00
28.75	7.45	7.21	0.00
30.00	7.45	7.21	0.00
31.25	7.45	7.21	0.00
32.50	7.45	7.21	0.00
33.75	7.45	7.21	0.00
35.00	7.45	7.21	0.00
36.25	7.45	7.21	0.00
37.50	7.45	7.21	0.00
38.75	7.45	7.21	0.00
40.00	7.45	7.21	0.00
41.25	7.45	7.21	0.00
42.50	7.45	7.21	0.00
43.75	7.45	7.21	0.00
45.00	7.45	7.21	0.00
46.25	7.45	7.21	0.00
47.50	7.45	7.21	0.00
48.75	7.45	7.21	0.00
50.00	7.45	7.21	0.00
51.25	7.45	7.21	0.00
52.50	7.45	7.21	0.00
53.75	7.45	7.21	0.00
55.00	7.45	7.21	0.00
56.25	7.45	7.21	0.00
57.50	7.45	7.21	0.00
58.75	7.45	7.21	0.00
60.00	7.45	7.21	0.00
61.25	7.45	7.21	0.00
62.50	7.45	7.21	0.00
63.75	7.45	7.21	0.00
65.00	7.45	7.21	0.00
66.25	7.45	7.21	0.00
67.50	7.45	7.21	0.00
68.75	7.45	7.21	0.00
70.00	7.45	7.21	0.00
71.25	7.45	7.21	0.00

Summary for Subcatchment EXimp-W: EX Imp - West

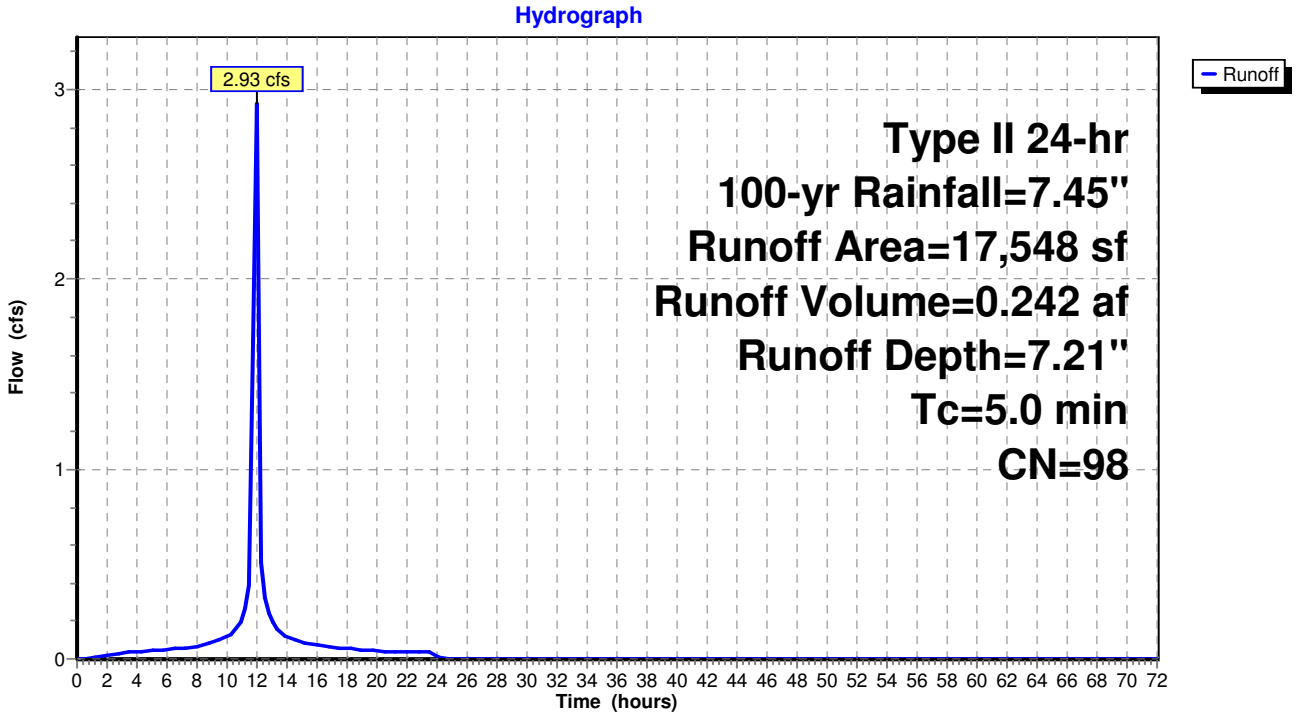
Runoff = 2.93 cfs @ 11.96 hrs, Volume= 0.242 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
17,548	98	Paved parking, HSG B
17,548		100.00% Impervious Area

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

Subcatchment EXimp-W: EX Imp - West



Hydrograph for Subcatchment EXimp-W: EX Imp - West

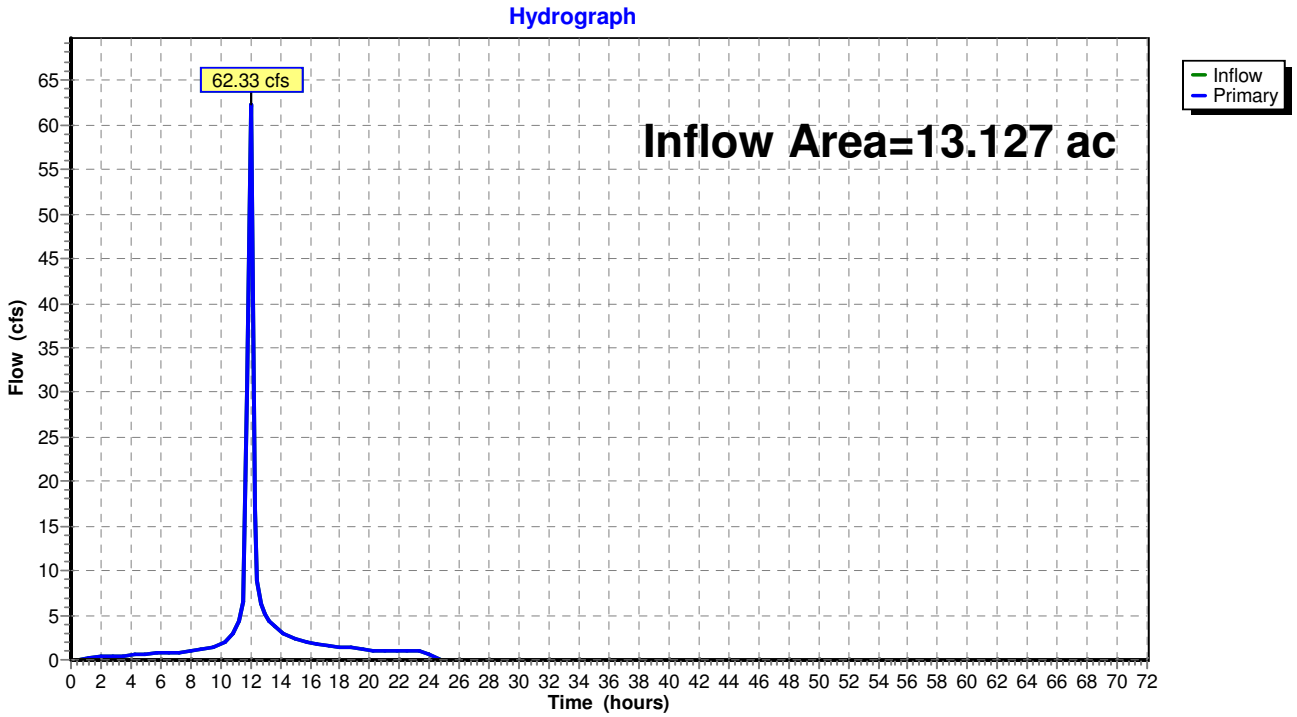
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.25	0.10	0.01	0.01
2.50	0.21	0.08	0.03
3.75	0.33	0.17	0.03
5.00	0.47	0.29	0.04
6.25	0.63	0.44	0.05
7.50	0.81	0.61	0.06
8.75	1.04	0.83	0.08
10.00	1.35	1.13	0.12
11.25	1.91	1.68	**0.27**
12.50	5.48	5.24	**0.32**
13.75	6.04	5.80	0.13
15.00	6.36	6.12	0.09
16.25	6.60	6.36	0.07
17.50	6.79	6.55	0.06
18.75	6.96	6.72	0.05
20.00	7.09	6.85	0.04
21.25	7.21	6.97	0.04
22.50	7.32	7.08	0.04
23.75	**7.43**	**7.19**	0.03
25.00	**7.45**	**7.21**	0.00
26.25	7.45	7.21	0.00
27.50	7.45	7.21	0.00
28.75	7.45	7.21	0.00
30.00	7.45	7.21	0.00
31.25	7.45	7.21	0.00
32.50	7.45	7.21	0.00
33.75	7.45	7.21	0.00
35.00	7.45	7.21	0.00
36.25	7.45	7.21	0.00
37.50	7.45	7.21	0.00
38.75	7.45	7.21	0.00
40.00	7.45	7.21	0.00
41.25	7.45	7.21	0.00
42.50	7.45	7.21	0.00
43.75	7.45	7.21	0.00
45.00	7.45	7.21	0.00
46.25	7.45	7.21	0.00
47.50	7.45	7.21	0.00
48.75	7.45	7.21	0.00
50.00	7.45	7.21	0.00
51.25	7.45	7.21	0.00
52.50	7.45	7.21	0.00
53.75	7.45	7.21	0.00
55.00	7.45	7.21	0.00
56.25	7.45	7.21	0.00
57.50	7.45	7.21	0.00
58.75	7.45	7.21	0.00
60.00	7.45	7.21	0.00
61.25	7.45	7.21	0.00
62.50	7.45	7.21	0.00
63.75	7.45	7.21	0.00
65.00	7.45	7.21	0.00
66.25	7.45	7.21	0.00
67.50	7.45	7.21	0.00
68.75	7.45	7.21	0.00
70.00	7.45	7.21	0.00
71.25	7.45	7.21	0.00

Summary for Link EX-East: Exist POI 'East'

Inflow Area = 13.127 ac, 45.08% Impervious, Inflow Depth = 4.71" for 100-yr event
Inflow = 62.33 cfs @ 11.98 hrs, Volume= 5.155 af
Primary = 62.33 cfs @ 11.98 hrs, Volume= 5.155 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-East: Exist POI 'East'



Hydrograph for Link EX-East: Exist POI 'East'

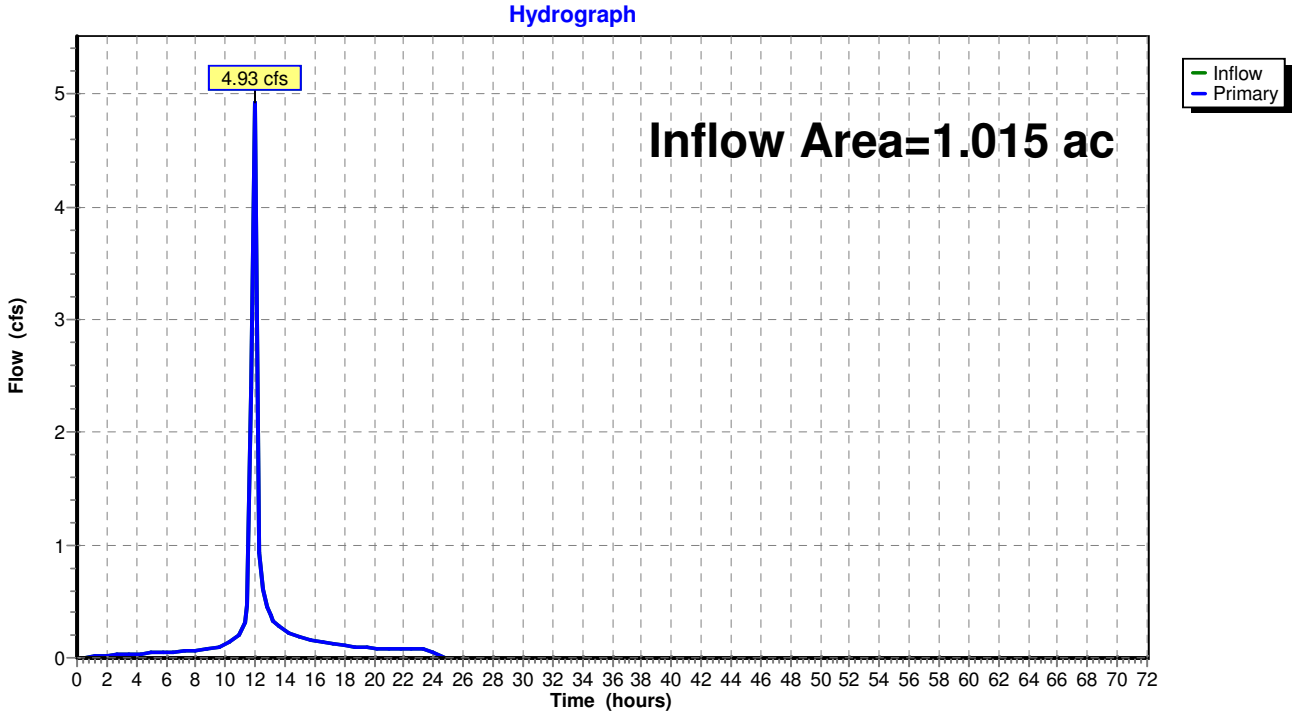
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.18	0.00	0.18	65.00	0.00	0.00	0.00
2.50	0.38	0.00	0.38	66.25	0.00	0.00	0.00
3.75	0.50	0.00	0.50	67.50	0.00	0.00	0.00
5.00	0.63	0.00	0.63	68.75	0.00	0.00	0.00
6.25	0.76	0.00	0.76	70.00	0.00	0.00	0.00
7.50	0.89	0.00	0.89	71.25	0.00	0.00	0.00
8.75	1.24	0.00	1.24				
10.00	1.69	0.00	1.69				
11.25	**4.27**	0.00	**4.27**				
12.50	**8.91**	0.00	**8.91**				
13.75	3.44	0.00	3.44				
15.00	2.43	0.00	2.43				
16.25	1.81	0.00	1.81				
17.50	1.57	0.00	1.57				
18.75	1.32	0.00	1.32				
20.00	1.08	0.00	1.08				
21.25	1.01	0.00	1.01				
22.50	0.96	0.00	0.96				
23.75	0.92	0.00	0.92				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link EX-West: Exist. POI 'West'

Inflow Area = 1.015 ac, 39.69% Impervious, Inflow Depth = 4.50" for 100-yr event
Inflow = 4.93 cfs @ 11.97 hrs, Volume= 0.381 af
Primary = 4.93 cfs @ 11.97 hrs, Volume= 0.381 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link EX-West: Exist. POI 'West'

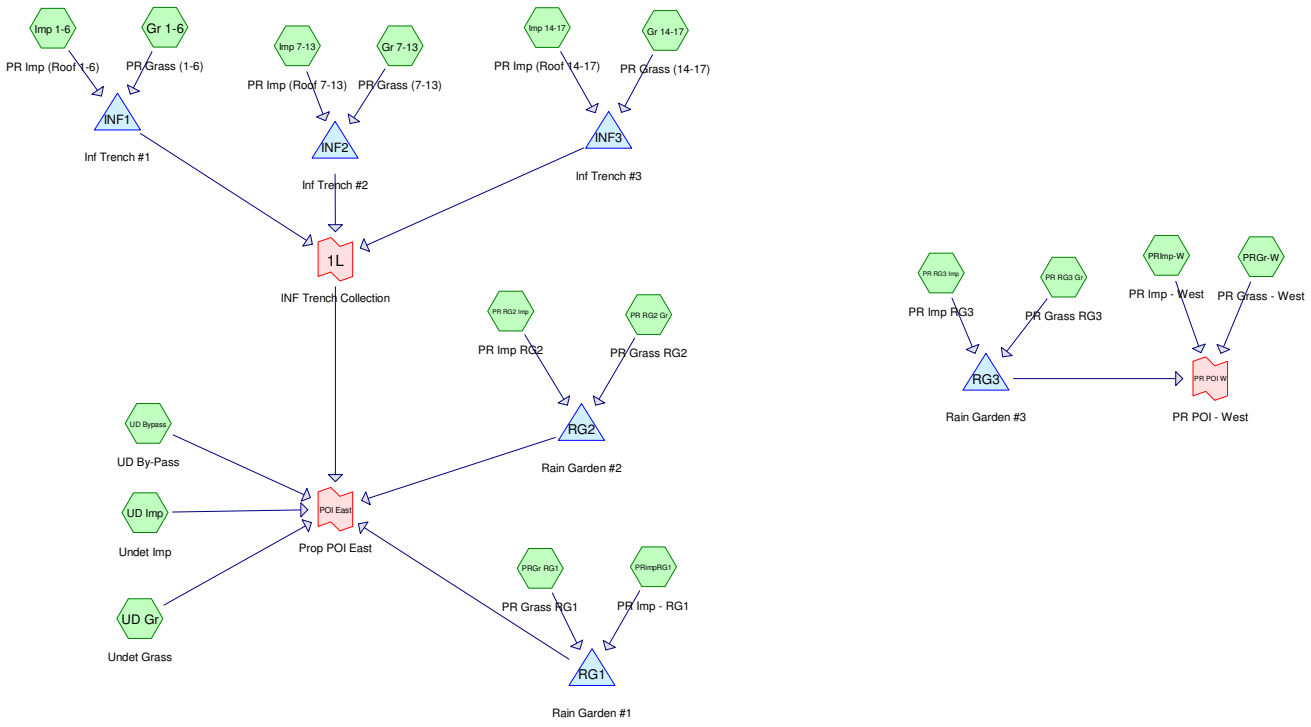


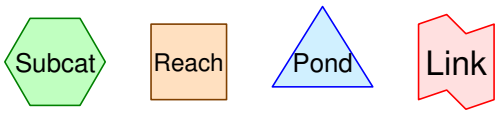
Hydrograph for Link EX-West: Exist. POI 'West'

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.01	0.00	0.01	65.00	0.00	0.00	0.00
2.50	0.03	0.00	0.03	66.25	0.00	0.00	0.00
3.75	0.03	0.00	0.03	67.50	0.00	0.00	0.00
5.00	0.04	0.00	0.04	68.75	0.00	0.00	0.00
6.25	0.05	0.00	0.05	70.00	0.00	0.00	0.00
7.50	0.06	0.00	0.06	71.25	0.00	0.00	0.00
8.75	0.08	0.00	0.08				
10.00	0.12	0.00	0.12				
11.25	**0.31**	0.00	**0.31**				
12.50	**0.60**	0.00	**0.60**				
13.75	0.26	0.00	0.26				
15.00	0.18	0.00	0.18				
16.25	0.14	0.00	0.14				
17.50	0.12	0.00	0.12				
18.75	0.10	0.00	0.10				
20.00	0.08	0.00	0.08				
21.25	0.08	0.00	0.08				
22.50	0.07	0.00	0.07				
23.75	0.07	0.00	0.07				
25.00	0.00	0.00	0.00				
26.25	0.00	0.00	0.00				
27.50	0.00	0.00	0.00				
28.75	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.25	0.00	0.00	0.00				
32.50	0.00	0.00	0.00				
33.75	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.25	0.00	0.00	0.00				
37.50	0.00	0.00	0.00				
38.75	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.25	0.00	0.00	0.00				
42.50	0.00	0.00	0.00				
43.75	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

III. PROPOSED CONDITIONS

Storm routings for the post-development condition were performed using the *HydroCAD 10* computer program. The curve number (CN) and time of concentration (Tc) for the proposed flows were determined using methods described in TR-55 or flow times from the pipe calculations as necessary. The routings were performed assuming no infiltration occurs in the Bioretention Basin.





Routing Diagram for 181005_Malin Rd_mmt
Prepared by Taylor Wiseman & Taylor, Printed 10/9/2018
HydroCAD® 10.00 s/n 04585 © 2011 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.874	55	Woods, Good, HSG B (UD Bypass)
5.255	61	>75% Grass cover, Good, HSG B (Gr 1-6, Gr 14-17, Gr 7-13, PR RG2 Gr, PR RG3 Gr, PRGr RG1, PRGr-W, UD Bypass, UD Gr)
1.223	85	Gravel roads, HSG B (PR RG2 Imp, UD Bypass, UD Imp)
0.379	98	Paved parking, HSG B (PR RG3 Imp, PRImp-W, UD Imp)
1.442	98	Paved roads w/curbs & sewers, HSG B (PR RG2 Imp)
2.240	98	Roofs, HSG B (Imp 1-6, Imp 14-17, Imp 7-13, PR RG2 Imp, PRimpRG1)
14.413	**72**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	5.255	0.000	0.000	0.000	5.255	>75% Grass cover, Good	Gr 1-6, Gr 14-17, Gr 7-13, PR RG2 Gr, PR RG3 Gr, PR Gr RG1, PR Gr-W, UD Bypass, UD Gr
0.000	0.379	0.000	0.000	0.000	0.379	Paved parking	PR RG3 Imp, PR Imp-

Ground Covers (selected nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	2.240	0.000	0.000	0.000	2.240	Roofs	Imp 1-6, Imp 14-17, Imp 7-13, PR RG2 Imp, PRimp RG1
0.000	1.442	0.000	0.000	0.000	1.442	Paved roads w/curbs & sewers	PR RG2 Imp
0.000	1.223	0.000	0.000	0.000	1.223	Gravel roads	PR RG2 Imp, UD By pass, UD Imp

Ground Covers (selected nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	3.874	0.000	0.000	0.000	3.874	Woods, Good	UD By pass
0.000	**14.413**	**0.000**	**0.000**	**0.000**	**14.413**	**TOTAL AREA**	

Summary for Subcatchment Gr 1-6: PR Grass (1-6)

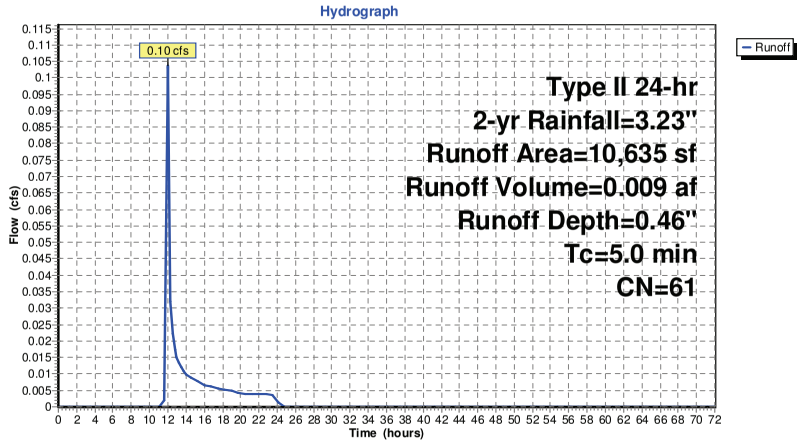
Runoff = 0.10 cfs @ 12.02 hrs, Volume= 0.009 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
10,635	61	>75% Grass cover, Good, HSG B
10,635		100.00% Pervious Area

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

Subcatchment Gr 1-6: PR Grass (1-6)



Hydrograph for Subcatchment Gr 1-6: PR Grass (1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.46	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.46	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.46	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.46	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.46	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.46	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.46	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.16	**0.02**				
13.75	2.62	0.23	0.01				
15.00	2.76	0.28	0.01				
16.25	2.86	0.31	0.01				
17.50	2.94	0.34	0.01				
18.75	3.02	0.37	0.00				
20.00	3.07	0.39	0.00				
21.25	3.13	0.41	0.00				
22.50	3.17	0.43	0.00				
23.75	**3.22**	**0.45**	0.00				
25.00	**3.23**	**0.46**	0.00				
26.25	3.23	0.46	0.00				
27.50	3.23	0.46	0.00				
28.75	3.23	0.46	0.00				
30.00	3.23	0.46	0.00				
31.25	3.23	0.46	0.00				
32.50	3.23	0.46	0.00				
33.75	3.23	0.46	0.00				
35.00	3.23	0.46	0.00				
36.25	3.23	0.46	0.00				
37.50	3.23	0.46	0.00				
38.75	3.23	0.46	0.00				
40.00	3.23	0.46	0.00				
41.25	3.23	0.46	0.00				
42.50	3.23	0.46	0.00				
43.75	3.23	0.46	0.00				
45.00	3.23	0.46	0.00				
46.25	3.23	0.46	0.00				
47.50	3.23	0.46	0.00				
48.75	3.23	0.46	0.00				
50.00	3.23	0.46	0.00				
51.25	3.23	0.46	0.00				
52.50	3.23	0.46	0.00				
53.75	3.23	0.46	0.00				
55.00	3.23	0.46	0.00				
56.25	3.23	0.46	0.00				
57.50	3.23	0.46	0.00				
58.75	3.23	0.46	0.00				
60.00	3.23	0.46	0.00				
61.25	3.23	0.46	0.00				
62.50	3.23	0.46	0.00				

Summary for Subcatchment Gr 14-17: PR Grass (14-17)

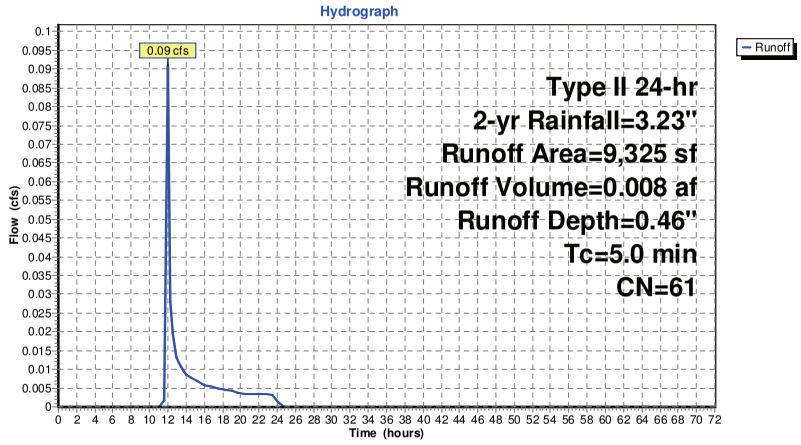
Runoff = 0.09 cfs @ 12.02 hrs, Volume= 0.008 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
9,325	61	>75% Grass cover, Good, HSG B
9,325		100.00% Pervious Area

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

Subcatchment Gr 14-17: PR Grass (14-17)



Hydrograph for Subcatchment Gr 14-17: PR Grass (14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.46	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.46	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.46	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.46	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.46	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.46	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.46	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.16	**0.02**				
13.75	2.62	0.23	0.01				
15.00	2.76	0.28	0.01				
16.25	2.86	0.31	0.01				
17.50	2.94	0.34	0.01				
18.75	3.02	0.37	0.00				
20.00	3.07	0.39	0.00				
21.25	3.13	0.41	0.00				
22.50	3.17	0.43	0.00				
23.75	**3.22**	**0.45**	0.00				
25.00	**3.23**	**0.46**	0.00				
26.25	3.23	0.46	0.00				
27.50	3.23	0.46	0.00				
28.75	3.23	0.46	0.00				
30.00	3.23	0.46	0.00				
31.25	3.23	0.46	0.00				
32.50	3.23	0.46	0.00				
33.75	3.23	0.46	0.00				
35.00	3.23	0.46	0.00				
36.25	3.23	0.46	0.00				
37.50	3.23	0.46	0.00				
38.75	3.23	0.46	0.00				
40.00	3.23	0.46	0.00				
41.25	3.23	0.46	0.00				
42.50	3.23	0.46	0.00				
43.75	3.23	0.46	0.00				
45.00	3.23	0.46	0.00				
46.25	3.23	0.46	0.00				
47.50	3.23	0.46	0.00				
48.75	3.23	0.46	0.00				
50.00	3.23	0.46	0.00				
51.25	3.23	0.46	0.00				
52.50	3.23	0.46	0.00				
53.75	3.23	0.46	0.00				
55.00	3.23	0.46	0.00				
56.25	3.23	0.46	0.00				
57.50	3.23	0.46	0.00				
58.75	3.23	0.46	0.00				
60.00	3.23	0.46	0.00				
61.25	3.23	0.46	0.00				
62.50	3.23	0.46	0.00				

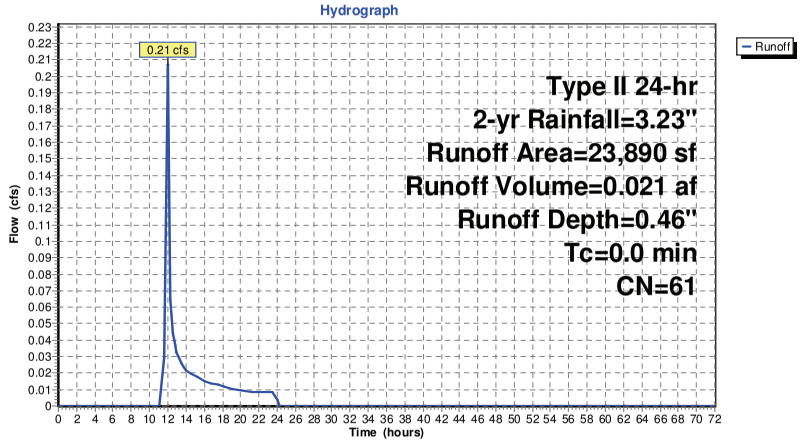
Summary for Subcatchment Gr 7-13: PR Grass (7-13)

Runoff = 0.21 cfs @ 12.00 hrs, Volume= 0.021 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
23,890	61	>75% Grass cover, Good, HSG B
23,890		100.00% Pervious Area

Subcatchment Gr 7-13: PR Grass (7-13)



Hydrograph for Subcatchment Gr 7-13: PR Grass (7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.46	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.46	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.46	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.46	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.46	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.46	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.46	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.16	**0.04**				
13.75	2.62	0.23	0.02				
15.00	2.76	0.28	0.02				
16.25	2.86	0.31	0.01				
17.50	2.94	0.34	0.01				
18.75	3.02	0.37	0.01				
20.00	3.07	0.39	0.01				
21.25	3.13	0.41	0.01				
22.50	3.17	0.43	0.01				
23.75	**3.22**	**0.45**	0.01				
25.00	**3.23**	**0.46**	0.00				
26.25	3.23	0.46	0.00				
27.50	3.23	0.46	0.00				
28.75	3.23	0.46	0.00				
30.00	3.23	0.46	0.00				
31.25	3.23	0.46	0.00				
32.50	3.23	0.46	0.00				
33.75	3.23	0.46	0.00				
35.00	3.23	0.46	0.00				
36.25	3.23	0.46	0.00				
37.50	3.23	0.46	0.00				
38.75	3.23	0.46	0.00				
40.00	3.23	0.46	0.00				
41.25	3.23	0.46	0.00				
42.50	3.23	0.46	0.00				
43.75	3.23	0.46	0.00				
45.00	3.23	0.46	0.00				
46.25	3.23	0.46	0.00				
47.50	3.23	0.46	0.00				
48.75	3.23	0.46	0.00				
50.00	3.23	0.46	0.00				
51.25	3.23	0.46	0.00				
52.50	3.23	0.46	0.00				
53.75	3.23	0.46	0.00				
55.00	3.23	0.46	0.00				
56.25	3.23	0.46	0.00				
57.50	3.23	0.46	0.00				
58.75	3.23	0.46	0.00				
60.00	3.23	0.46	0.00				
61.25	3.23	0.46	0.00				
62.50	3.23	0.46	0.00				

Summary for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

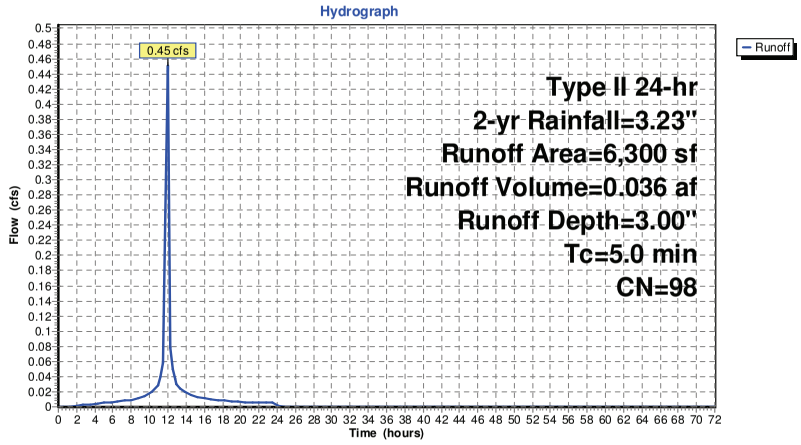
Runoff = 0.45 cfs @ 11.96 hrs, Volume= 0.036 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
6,300	98	Roofs, HSG B
6,300		100.00% Impervious Area

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

Subcatchment Imp 1-6: PR Imp (Roof 1-6)



III -9

Hydrograph for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	3.00	0.00
1.25	0.04	0.00	0.00	65.00	3.23	3.00	0.00
2.50	0.09	0.01	0.00	66.25	3.23	3.00	0.00
3.75	0.14	0.03	0.00	67.50	3.23	3.00	0.00
5.00	0.20	0.07	0.01	68.75	3.23	3.00	0.00
6.25	0.27	0.12	0.01	70.00	3.23	3.00	0.00
7.50	0.35	0.19	0.01	71.25	3.23	3.00	0.00
8.75	0.45	0.27	0.01				
10.00	0.58	0.40	0.02				
11.25	0.83	0.62	**0.04**				
12.50	2.37	2.15	**0.05**				
13.75	2.62	2.39	0.02				
15.00	2.76	2.53	0.01				
16.25	2.86	2.63	0.01				
17.50	2.94	2.71	0.01				
18.75	3.02	2.78	0.01				
20.00	3.07	2.84	0.01				
21.25	3.13	2.89	0.01				
22.50	3.17	2.94	0.01				
23.75	**3.22**	**2.99**	0.01				
25.00	**3.23**	**3.00**	0.00				
26.25	3.23	3.00	0.00				
27.50	3.23	3.00	0.00				
28.75	3.23	3.00	0.00				
30.00	3.23	3.00	0.00				
31.25	3.23	3.00	0.00				
32.50	3.23	3.00	0.00				
33.75	3.23	3.00	0.00				
35.00	3.23	3.00	0.00				
36.25	3.23	3.00	0.00				
37.50	3.23	3.00	0.00				
38.75	3.23	3.00	0.00				
40.00	3.23	3.00	0.00				
41.25	3.23	3.00	0.00				
42.50	3.23	3.00	0.00				
43.75	3.23	3.00	0.00				
45.00	3.23	3.00	0.00				
46.25	3.23	3.00	0.00				
47.50	3.23	3.00	0.00				
48.75	3.23	3.00	0.00				
50.00	3.23	3.00	0.00				
51.25	3.23	3.00	0.00				
52.50	3.23	3.00	0.00				
53.75	3.23	3.00	0.00				
55.00	3.23	3.00	0.00				
56.25	3.23	3.00	0.00				
57.50	3.23	3.00	0.00				
58.75	3.23	3.00	0.00				
60.00	3.23	3.00	0.00				
61.25	3.23	3.00	0.00				
62.50	3.23	3.00	0.00				

Summary for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

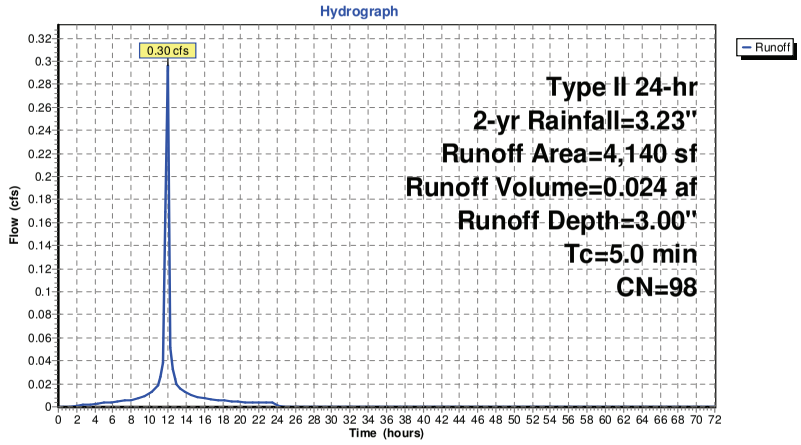
Runoff = 0.30 cfs @ 11.96 hrs, Volume= 0.024 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,140	98	Roofs, HSG B
4,140		100.00% Impervious Area

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

Subcatchment Imp 14-17: PR Imp (Roof 14-17)



Hydrograph for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	3.00	0.00
1.25	0.04	0.00	0.00	65.00	3.23	3.00	0.00
2.50	0.09	0.01	0.00	66.25	3.23	3.00	0.00
3.75	0.14	0.03	0.00	67.50	3.23	3.00	0.00
5.00	0.20	0.07	0.00	68.75	3.23	3.00	0.00
6.25	0.27	0.12	0.00	70.00	3.23	3.00	0.00
7.50	0.35	0.19	0.01	71.25	3.23	3.00	0.00
8.75	0.45	0.27	0.01				
10.00	0.58	0.40	0.01				
11.25	0.83	0.62	**0.03**				
12.50	2.37	2.15	**0.03**				
13.75	2.62	2.39	0.01				
15.00	2.76	2.53	0.01				
16.25	2.86	2.63	0.01				
17.50	2.94	2.71	0.01				
18.75	3.02	2.78	0.01				
20.00	3.07	2.84	0.00				
21.25	3.13	2.89	0.00				
22.50	3.17	2.94	0.00				
23.75	**3.22**	**2.99**	0.00				
25.00	**3.23**	**3.00**	0.00				
26.25	3.23	3.00	0.00				
27.50	3.23	3.00	0.00				
28.75	3.23	3.00	0.00				
30.00	3.23	3.00	0.00				
31.25	3.23	3.00	0.00				
32.50	3.23	3.00	0.00				
33.75	3.23	3.00	0.00				
35.00	3.23	3.00	0.00				
36.25	3.23	3.00	0.00				
37.50	3.23	3.00	0.00				
38.75	3.23	3.00	0.00				
40.00	3.23	3.00	0.00				
41.25	3.23	3.00	0.00				
42.50	3.23	3.00	0.00				
43.75	3.23	3.00	0.00				
45.00	3.23	3.00	0.00				
46.25	3.23	3.00	0.00				
47.50	3.23	3.00	0.00				
48.75	3.23	3.00	0.00				
50.00	3.23	3.00	0.00				
51.25	3.23	3.00	0.00				
52.50	3.23	3.00	0.00				
53.75	3.23	3.00	0.00				
55.00	3.23	3.00	0.00				
56.25	3.23	3.00	0.00				
57.50	3.23	3.00	0.00				
58.75	3.23	3.00	0.00				
60.00	3.23	3.00	0.00				
61.25	3.23	3.00	0.00				
62.50	3.23	3.00	0.00				

Summary for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

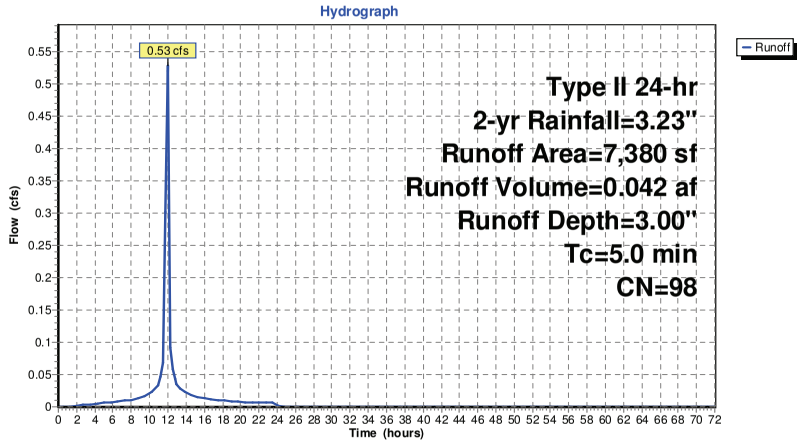
Runoff = 0.53 cfs @ 11.96 hrs, Volume= 0.042 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
7,380	98	Roofs, HSG B
7,380		100.00% Impervious Area

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

Subcatchment Imp 7-13: PR Imp (Roof 7-13)



Hydrograph for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	3.00	0.00
1.25	0.04	0.00	0.00	65.00	3.23	3.00	0.00
2.50	0.09	0.01	0.00	66.25	3.23	3.00	0.00
3.75	0.14	0.03	0.00	67.50	3.23	3.00	0.00
5.00	0.20	0.07	0.01	68.75	3.23	3.00	0.00
6.25	0.27	0.12	0.01	70.00	3.23	3.00	0.00
7.50	0.35	0.19	0.01	71.25	3.23	3.00	0.00
8.75	0.45	0.27	0.01				
10.00	0.58	0.40	0.02				
11.25	0.83	0.62	**0.05**				
12.50	2.37	2.15	**0.06**				
13.75	2.62	2.39	0.02				
15.00	2.76	2.53	0.02				
16.25	2.86	2.63	0.01				
17.50	2.94	2.71	0.01				
18.75	3.02	2.78	0.01				
20.00	3.07	2.84	0.01				
21.25	3.13	2.89	0.01				
22.50	3.17	2.94	0.01				
23.75	**3.22**	**2.99**	0.01				
25.00	**3.23**	**3.00**	0.00				
26.25	3.23	3.00	0.00				
27.50	3.23	3.00	0.00				
28.75	3.23	3.00	0.00				
30.00	3.23	3.00	0.00				
31.25	3.23	3.00	0.00				
32.50	3.23	3.00	0.00				
33.75	3.23	3.00	0.00				
35.00	3.23	3.00	0.00				
36.25	3.23	3.00	0.00				
37.50	3.23	3.00	0.00				
38.75	3.23	3.00	0.00				
40.00	3.23	3.00	0.00				
41.25	3.23	3.00	0.00				
42.50	3.23	3.00	0.00				
43.75	3.23	3.00	0.00				
45.00	3.23	3.00	0.00				
46.25	3.23	3.00	0.00				
47.50	3.23	3.00	0.00				
48.75	3.23	3.00	0.00				
50.00	3.23	3.00	0.00				
51.25	3.23	3.00	0.00				
52.50	3.23	3.00	0.00				
53.75	3.23	3.00	0.00				
55.00	3.23	3.00	0.00				
56.25	3.23	3.00	0.00				
57.50	3.23	3.00	0.00				
58.75	3.23	3.00	0.00				
60.00	3.23	3.00	0.00				
61.25	3.23	3.00	0.00				
62.50	3.23	3.00	0.00				

Summary for Subcatchment PR RG2 Gr: PR Grass RG2

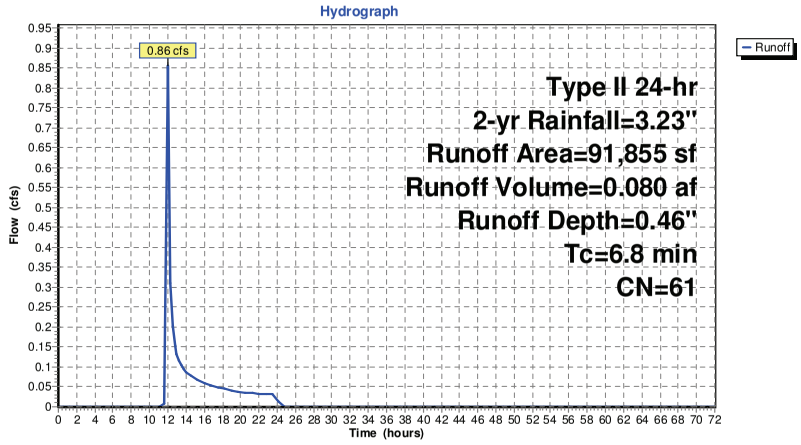
Runoff = 0.86 cfs @ 12.03 hrs, Volume= 0.080 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
91,855	61	>75% Grass cover, Good, HSG B
91,855		100.00% Pervious Area

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

Subcatchment PR RG2 Gr: PR Grass RG2



Hydrograph for Subcatchment PR RG2 Gr: PR Grass RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.46	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.46	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.46	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.46	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.46	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.46	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.46	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.16	**0.20**				
13.75	2.62	0.23	0.09				
15.00	2.76	0.28	0.07				
16.25	2.86	0.31	0.06				
17.50	2.94	0.34	0.05				
18.75	3.02	0.37	0.04				
20.00	3.07	0.39	0.04				
21.25	3.13	0.41	0.03				
22.50	3.17	0.43	0.03				
23.75	**3.22**	**0.45**	0.03				
25.00	**3.23**	**0.46**	0.00				
26.25	3.23	0.46	0.00				
27.50	3.23	0.46	0.00				
28.75	3.23	0.46	0.00				
30.00	3.23	0.46	0.00				
31.25	3.23	0.46	0.00				
32.50	3.23	0.46	0.00				
33.75	3.23	0.46	0.00				
35.00	3.23	0.46	0.00				
36.25	3.23	0.46	0.00				
37.50	3.23	0.46	0.00				
38.75	3.23	0.46	0.00				
40.00	3.23	0.46	0.00				
41.25	3.23	0.46	0.00				
42.50	3.23	0.46	0.00				
43.75	3.23	0.46	0.00				
45.00	3.23	0.46	0.00				
46.25	3.23	0.46	0.00				
47.50	3.23	0.46	0.00				
48.75	3.23	0.46	0.00				
50.00	3.23	0.46	0.00				
51.25	3.23	0.46	0.00				
52.50	3.23	0.46	0.00				
53.75	3.23	0.46	0.00				
55.00	3.23	0.46	0.00				
56.25	3.23	0.46	0.00				
57.50	3.23	0.46	0.00				
58.75	3.23	0.46	0.00				
60.00	3.23	0.46	0.00				
61.25	3.23	0.46	0.00				
62.50	3.23	0.46	0.00				

Summary for Subcatchment PR RG2 Imp: PR Imp RG2

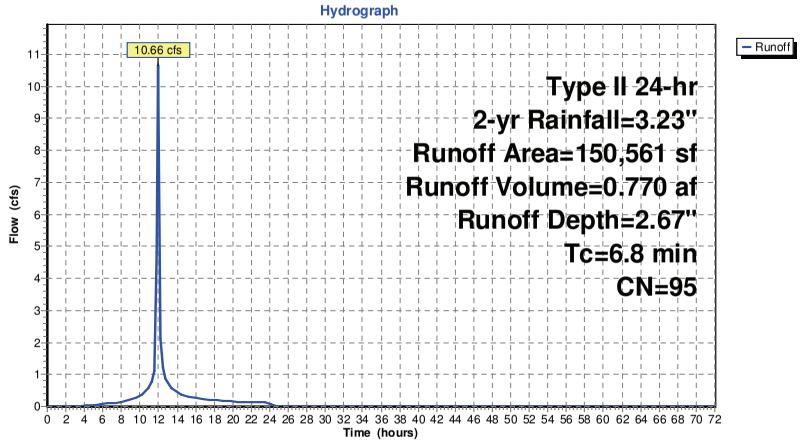
Runoff = 10.66 cfs @ 11.98 hrs, Volume= 0.770 af, Depth= 2.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
62,832	98	Paved roads w/curbs & sewers, HSG B
36,249	85	Gravel roads, HSG B
51,480	98	Roofs, HSG B
150,561	95	Weighted Average
36,249		24.08% Pervious Area
114,312		75.92% Impervious Area

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

Subcatchment PR RG2 Imp: PR Imp RG2



Hydrograph for Subcatchment PR RG2 Imp: PR Imp RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	2.67	0.00
1.25	0.04	0.00	0.00	65.00	3.23	2.67	0.00
2.50	0.09	0.00	0.00	66.25	3.23	2.67	0.00
3.75	0.14	0.00	0.02	67.50	3.23	2.67	0.00
5.00	0.20	0.02	0.05	68.75	3.23	2.67	0.00
6.25	0.27	0.04	0.09	70.00	3.23	2.67	0.00
7.50	0.35	0.08	0.12	71.25	3.23	2.67	0.00
8.75	0.45	0.14	0.20				
10.00	0.58	0.23	0.31				
11.25	0.83	0.42	**0.79**				
12.50	2.37	1.84	**1.21**				
13.75	2.62	2.08	0.48				
15.00	2.76	2.21	0.34				
16.25	2.86	2.31	0.25				
17.50	2.94	2.40	0.21				
18.75	3.02	2.47	0.18				
20.00	3.07	2.52	0.15				
21.25	3.13	2.57	0.14				
22.50	3.17	2.62	0.13				
23.75	**3.22**	**2.67**	0.12				
25.00	**3.23**	**2.67**	0.00				
26.25	3.23	2.67	0.00				
27.50	3.23	2.67	0.00				
28.75	3.23	2.67	0.00				
30.00	3.23	2.67	0.00				
31.25	3.23	2.67	0.00				
32.50	3.23	2.67	0.00				
33.75	3.23	2.67	0.00				
35.00	3.23	2.67	0.00				
36.25	3.23	2.67	0.00				
37.50	3.23	2.67	0.00				
38.75	3.23	2.67	0.00				
40.00	3.23	2.67	0.00				
41.25	3.23	2.67	0.00				
42.50	3.23	2.67	0.00				
43.75	3.23	2.67	0.00				
45.00	3.23	2.67	0.00				
46.25	3.23	2.67	0.00				
47.50	3.23	2.67	0.00				
48.75	3.23	2.67	0.00				
50.00	3.23	2.67	0.00				
51.25	3.23	2.67	0.00				
52.50	3.23	2.67	0.00				
53.75	3.23	2.67	0.00				
55.00	3.23	2.67	0.00				
56.25	3.23	2.67	0.00				
57.50	3.23	2.67	0.00				
58.75	3.23	2.67	0.00				
60.00	3.23	2.67	0.00				
61.25	3.23	2.67	0.00				
62.50	3.23	2.67	0.00				

Summary for Subcatchment PR RG3 Gr: PR Grass RG3

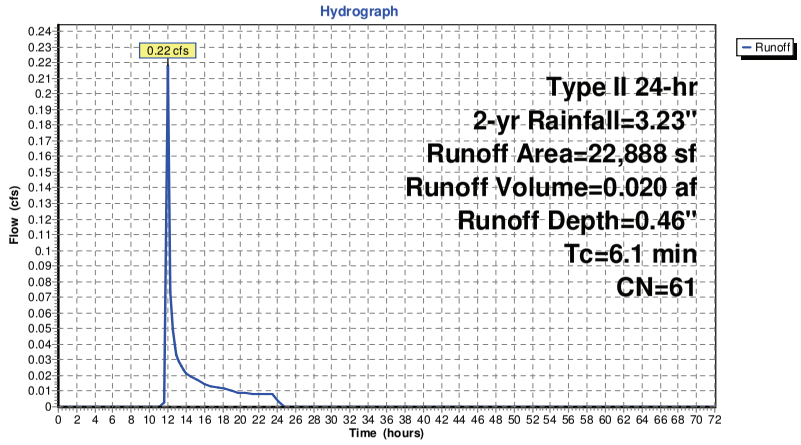
Runoff = 0.22 cfs @ 12.02 hrs, Volume= 0.020 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
22,888	61	>75% Grass cover, Good, HSG B
22,888		100.00% Pervious Area

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

Subcatchment PR RG3 Gr: PR Grass RG3



Hydrograph for Subcatchment PR RG3 Gr: PR Grass RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.46	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.46	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.46	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.46	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.46	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.46	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.46	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.16	**0.05**				
13.75	2.62	0.23	0.02				
15.00	2.76	0.28	0.02				
16.25	2.86	0.31	0.01				
17.50	2.94	0.34	0.01				
18.75	3.02	0.37	0.01				
20.00	3.07	0.39	0.01				
21.25	3.13	0.41	0.01				
22.50	3.17	0.43	0.01				
23.75	**3.22**	**0.45**	0.01				
25.00	**3.23**	**0.46**	0.00				
26.25	3.23	0.46	0.00				
27.50	3.23	0.46	0.00				
28.75	3.23	0.46	0.00				
30.00	3.23	0.46	0.00				
31.25	3.23	0.46	0.00				
32.50	3.23	0.46	0.00				
33.75	3.23	0.46	0.00				
35.00	3.23	0.46	0.00				
36.25	3.23	0.46	0.00				
37.50	3.23	0.46	0.00				
38.75	3.23	0.46	0.00				
40.00	3.23	0.46	0.00				
41.25	3.23	0.46	0.00				
42.50	3.23	0.46	0.00				
43.75	3.23	0.46	0.00				
45.00	3.23	0.46	0.00				
46.25	3.23	0.46	0.00				
47.50	3.23	0.46	0.00				
48.75	3.23	0.46	0.00				
50.00	3.23	0.46	0.00				
51.25	3.23	0.46	0.00				
52.50	3.23	0.46	0.00				
53.75	3.23	0.46	0.00				
55.00	3.23	0.46	0.00				
56.25	3.23	0.46	0.00				
57.50	3.23	0.46	0.00				
58.75	3.23	0.46	0.00				
60.00	3.23	0.46	0.00				
61.25	3.23	0.46	0.00				
62.50	3.23	0.46	0.00				

Summary for Subcatchment PR RG3 Imp: PR Imp RG3

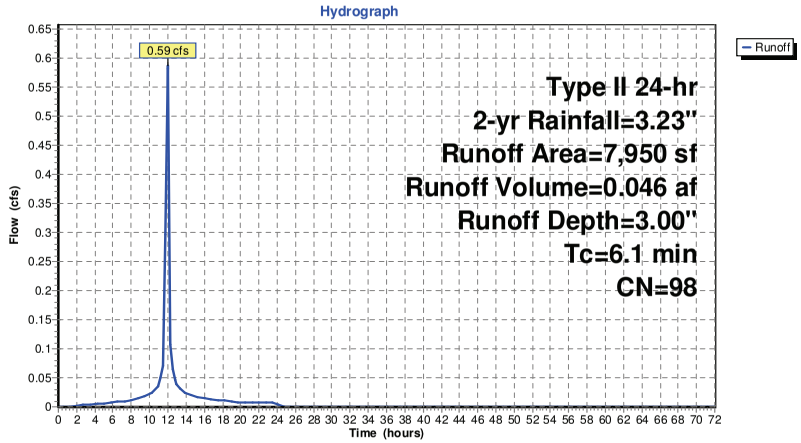
Runoff = 0.59 cfs @ 11.97 hrs, Volume= 0.046 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
7,950	98	Paved parking, HSG B
7,950		100.00% Impervious Area

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

Subcatchment PR RG3 Imp: PR Imp RG3



Hydrograph for Subcatchment PR RG3 Imp: PR Imp RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	3.00	0.00
1.25	0.04	0.00	0.00	65.00	3.23	3.00	0.00
2.50	0.09	0.01	0.00	66.25	3.23	3.00	0.00
3.75	0.14	0.03	0.00	67.50	3.23	3.00	0.00
5.00	0.20	0.07	0.01	68.75	3.23	3.00	0.00
6.25	0.27	0.12	0.01	70.00	3.23	3.00	0.00
7.50	0.35	0.19	0.01	71.25	3.23	3.00	0.00
8.75	0.45	0.27	0.02				
10.00	0.58	0.40	0.02				
11.25	0.83	0.62	**0.05**				
12.50	2.37	2.15	**0.06**				
13.75	2.62	2.39	0.03				
15.00	2.76	2.53	0.02				
16.25	2.86	2.63	0.01				
17.50	2.94	2.71	0.01				
18.75	3.02	2.78	0.01				
20.00	3.07	2.84	0.01				
21.25	3.13	2.89	0.01				
22.50	3.17	2.94	0.01				
23.75	**3.22**	**2.99**	0.01				
25.00	**3.23**	**3.00**	0.00				
26.25	3.23	3.00	0.00				
27.50	3.23	3.00	0.00				
28.75	3.23	3.00	0.00				
30.00	3.23	3.00	0.00				
31.25	3.23	3.00	0.00				
32.50	3.23	3.00	0.00				
33.75	3.23	3.00	0.00				
35.00	3.23	3.00	0.00				
36.25	3.23	3.00	0.00				
37.50	3.23	3.00	0.00				
38.75	3.23	3.00	0.00				
40.00	3.23	3.00	0.00				
41.25	3.23	3.00	0.00				
42.50	3.23	3.00	0.00				
43.75	3.23	3.00	0.00				
45.00	3.23	3.00	0.00				
46.25	3.23	3.00	0.00				
47.50	3.23	3.00	0.00				
48.75	3.23	3.00	0.00				
50.00	3.23	3.00	0.00				
51.25	3.23	3.00	0.00				
52.50	3.23	3.00	0.00				
53.75	3.23	3.00	0.00				
55.00	3.23	3.00	0.00				
56.25	3.23	3.00	0.00				
57.50	3.23	3.00	0.00				
58.75	3.23	3.00	0.00				
60.00	3.23	3.00	0.00				
61.25	3.23	3.00	0.00				
62.50	3.23	3.00	0.00				

Summary for Subcatchment PRGr RG1: PR Grass RG1

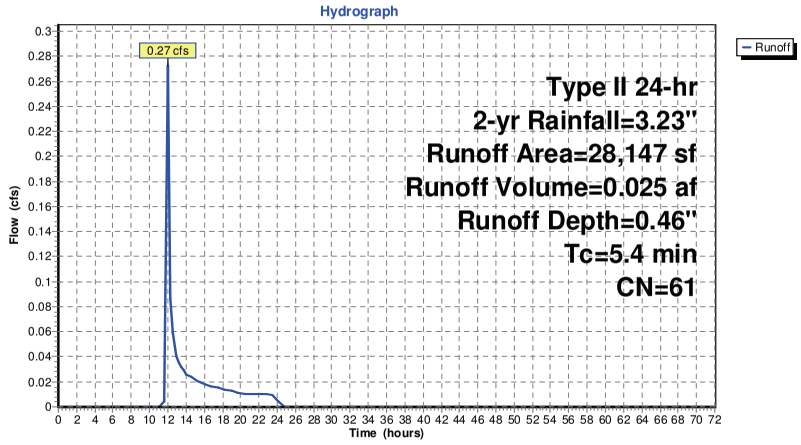
Runoff = 0.27 cfs @ 12.02 hrs, Volume= 0.025 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
28,147	61	>75% Grass cover, Good, HSG B
28,147		100.00% Pervious Area

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

Subcatchment PRGr RG1: PR Grass RG1



Hydrograph for Subcatchment PRGr RG1: PR Grass RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.46	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.46	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.46	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.46	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.46	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.46	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.46	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.16	**0.06**				
13.75	2.62	0.23	0.03				
15.00	2.76	0.28	0.02				
16.25	2.86	0.31	0.02				
17.50	2.94	0.34	0.02				
18.75	3.02	0.37	0.01				
20.00	3.07	0.39	0.01				
21.25	3.13	0.41	0.01				
22.50	3.17	0.43	0.01				
23.75	**3.22**	**0.45**	0.01				
25.00	**3.23**	**0.46**	0.00				
26.25	3.23	0.46	0.00				
27.50	3.23	0.46	0.00				
28.75	3.23	0.46	0.00				
30.00	3.23	0.46	0.00				
31.25	3.23	0.46	0.00				
32.50	3.23	0.46	0.00				
33.75	3.23	0.46	0.00				
35.00	3.23	0.46	0.00				
36.25	3.23	0.46	0.00				
37.50	3.23	0.46	0.00				
38.75	3.23	0.46	0.00				
40.00	3.23	0.46	0.00				
41.25	3.23	0.46	0.00				
42.50	3.23	0.46	0.00				
43.75	3.23	0.46	0.00				
45.00	3.23	0.46	0.00				
46.25	3.23	0.46	0.00				
47.50	3.23	0.46	0.00				
48.75	3.23	0.46	0.00				
50.00	3.23	0.46	0.00				
51.25	3.23	0.46	0.00				
52.50	3.23	0.46	0.00				
53.75	3.23	0.46	0.00				
55.00	3.23	0.46	0.00				
56.25	3.23	0.46	0.00				
57.50	3.23	0.46	0.00				
58.75	3.23	0.46	0.00				
60.00	3.23	0.46	0.00				
61.25	3.23	0.46	0.00				
62.50	3.23	0.46	0.00				

Summary for Subcatchment PRGr-W: PR Grass - West

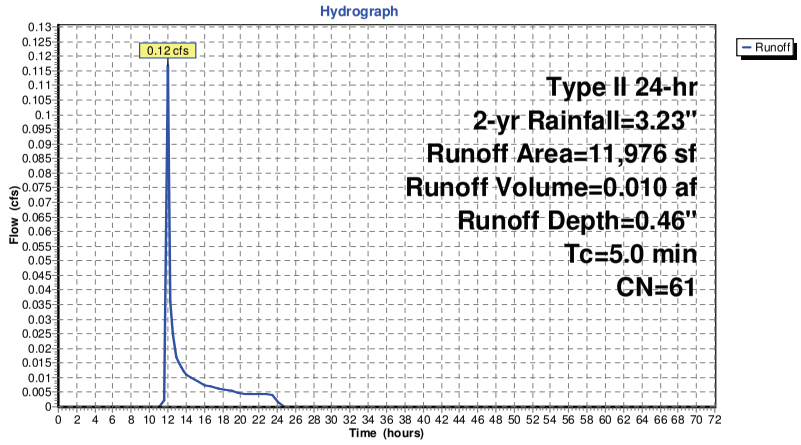
Runoff = 0.12 cfs @ 12.02 hrs, Volume= 0.010 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
11,976	61	>75% Grass cover, Good, HSG B
11,976		100.00% Pervious Area

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

Subcatchment PRGr-W: PR Grass - West



Hydrograph for Subcatchment PRGr-W: PR Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.46	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.46	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.46	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.46	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.46	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.46	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.46	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.16	**0.03**				
13.75	2.62	0.23	0.01				
15.00	2.76	0.28	0.01				
16.25	2.86	0.31	0.01				
17.50	2.94	0.34	0.01				
18.75	3.02	0.37	0.01				
20.00	3.07	0.39	0.00				
21.25	3.13	0.41	0.00				
22.50	3.17	0.43	0.00				
23.75	**3.22**	**0.45**	0.00				
25.00	**3.23**	**0.46**	0.00				
26.25	3.23	0.46	0.00				
27.50	3.23	0.46	0.00				
28.75	3.23	0.46	0.00				
30.00	3.23	0.46	0.00				
31.25	3.23	0.46	0.00				
32.50	3.23	0.46	0.00				
33.75	3.23	0.46	0.00				
35.00	3.23	0.46	0.00				
36.25	3.23	0.46	0.00				
37.50	3.23	0.46	0.00				
38.75	3.23	0.46	0.00				
40.00	3.23	0.46	0.00				
41.25	3.23	0.46	0.00				
42.50	3.23	0.46	0.00				
43.75	3.23	0.46	0.00				
45.00	3.23	0.46	0.00				
46.25	3.23	0.46	0.00				
47.50	3.23	0.46	0.00				
48.75	3.23	0.46	0.00				
50.00	3.23	0.46	0.00				
51.25	3.23	0.46	0.00				
52.50	3.23	0.46	0.00				
53.75	3.23	0.46	0.00				
55.00	3.23	0.46	0.00				
56.25	3.23	0.46	0.00				
57.50	3.23	0.46	0.00				
58.75	3.23	0.46	0.00				
60.00	3.23	0.46	0.00				
61.25	3.23	0.46	0.00				
62.50	3.23	0.46	0.00				

Summary for Subcatchment PRImp-W: PR Imp - West

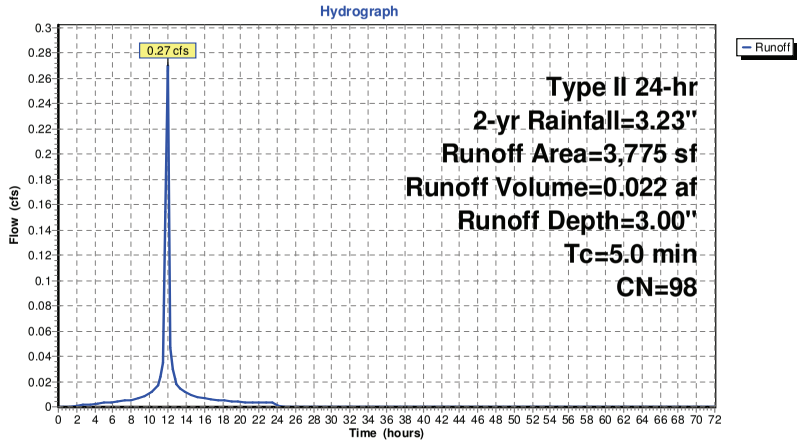
Runoff = 0.27 cfs @ 11.96 hrs, Volume= 0.022 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,775	98	Paved parking, HSG B
3,775		100.00% Impervious Area

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

Subcatchment PRImp-W: PR Imp - West



Hydrograph for Subcatchment PRImp-W: PR Imp - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	3.00	0.00
1.25	0.04	0.00	0.00	65.00	3.23	3.00	0.00
2.50	0.09	0.01	0.00	66.25	3.23	3.00	0.00
3.75	0.14	0.03	0.00	67.50	3.23	3.00	0.00
5.00	0.20	0.07	0.00	68.75	3.23	3.00	0.00
6.25	0.27	0.12	0.00	70.00	3.23	3.00	0.00
7.50	0.35	0.19	0.00	71.25	3.23	3.00	0.00
8.75	0.45	0.27	0.01				
10.00	0.58	0.40	0.01				
11.25	0.83	0.62	**0.02**				
12.50	2.37	2.15	**0.03**				
13.75	2.62	2.39	0.01				
15.00	2.76	2.53	0.01				
16.25	2.86	2.63	0.01				
17.50	2.94	2.71	0.01				
18.75	3.02	2.78	0.00				
20.00	3.07	2.84	0.00				
21.25	3.13	2.89	0.00				
22.50	3.17	2.94	0.00				
23.75	**3.22**	**2.99**	0.00				
25.00	**3.23**	**3.00**	0.00				
26.25	3.23	3.00	0.00				
27.50	3.23	3.00	0.00				
28.75	3.23	3.00	0.00				
30.00	3.23	3.00	0.00				
31.25	3.23	3.00	0.00				
32.50	3.23	3.00	0.00				
33.75	3.23	3.00	0.00				
35.00	3.23	3.00	0.00				
36.25	3.23	3.00	0.00				
37.50	3.23	3.00	0.00				
38.75	3.23	3.00	0.00				
40.00	3.23	3.00	0.00				
41.25	3.23	3.00	0.00				
42.50	3.23	3.00	0.00				
43.75	3.23	3.00	0.00				
45.00	3.23	3.00	0.00				
46.25	3.23	3.00	0.00				
47.50	3.23	3.00	0.00				
48.75	3.23	3.00	0.00				
50.00	3.23	3.00	0.00				
51.25	3.23	3.00	0.00				
52.50	3.23	3.00	0.00				
53.75	3.23	3.00	0.00				
55.00	3.23	3.00	0.00				
56.25	3.23	3.00	0.00				
57.50	3.23	3.00	0.00				
58.75	3.23	3.00	0.00				
60.00	3.23	3.00	0.00				
61.25	3.23	3.00	0.00				
62.50	3.23	3.00	0.00				

Summary for Subcatchment PRimpRG1: PR Imp - RG1

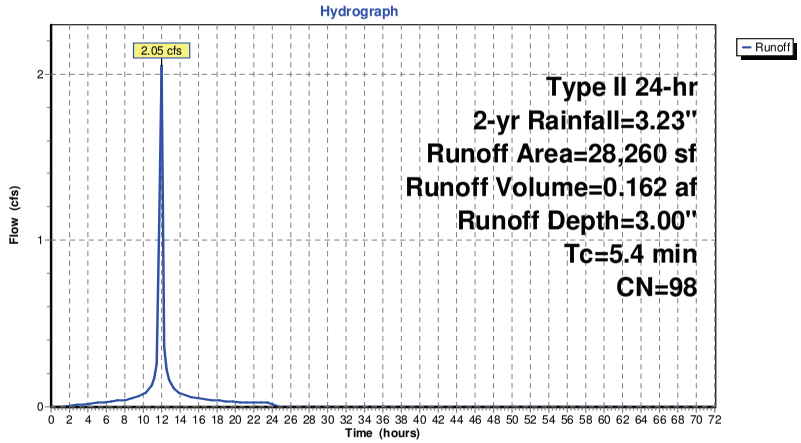
Runoff = 2.05 cfs @ 11.96 hrs, Volume= 0.162 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
28,260	98	Roofs, HSG B
28,260		100.00% Impervious Area

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

Subcatchment PRimpRG1: PR Imp - RG1



Hydrograph for Subcatchment PRimpRG1: PR Imp - RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	3.00	0.00
1.25	0.04	0.00	0.00	65.00	3.23	3.00	0.00
2.50	0.09	0.01	0.01	66.25	3.23	3.00	0.00
3.75	0.14	0.03	0.02	67.50	3.23	3.00	0.00
5.00	0.20	0.07	0.02	68.75	3.23	3.00	0.00
6.25	0.27	0.12	0.03	70.00	3.23	3.00	0.00
7.50	0.35	0.19	0.04	71.25	3.23	3.00	0.00
8.75	0.45	0.27	0.05				
10.00	0.58	0.40	0.08				
11.25	0.83	0.62	**0.18**				
12.50	2.37	2.15	**0.22**				
13.75	2.62	2.39	0.09				
15.00	2.76	2.53	0.06				
16.25	2.86	2.63	0.05				
17.50	2.94	2.71	0.04				
18.75	3.02	2.78	0.03				
20.00	3.07	2.84	0.03				
21.25	3.13	2.89	0.03				
22.50	3.17	2.94	0.02				
23.75	**3.22**	**2.99**	0.02				
25.00	**3.23**	**3.00**	0.00				
26.25	3.23	3.00	0.00				
27.50	3.23	3.00	0.00				
28.75	3.23	3.00	0.00				
30.00	3.23	3.00	0.00				
31.25	3.23	3.00	0.00				
32.50	3.23	3.00	0.00				
33.75	3.23	3.00	0.00				
35.00	3.23	3.00	0.00				
36.25	3.23	3.00	0.00				
37.50	3.23	3.00	0.00				
38.75	3.23	3.00	0.00				
40.00	3.23	3.00	0.00				
41.25	3.23	3.00	0.00				
42.50	3.23	3.00	0.00				
43.75	3.23	3.00	0.00				
45.00	3.23	3.00	0.00				
46.25	3.23	3.00	0.00				
47.50	3.23	3.00	0.00				
48.75	3.23	3.00	0.00				
50.00	3.23	3.00	0.00				
51.25	3.23	3.00	0.00				
52.50	3.23	3.00	0.00				
53.75	3.23	3.00	0.00				
55.00	3.23	3.00	0.00				
56.25	3.23	3.00	0.00				
57.50	3.23	3.00	0.00				
58.75	3.23	3.00	0.00				
60.00	3.23	3.00	0.00				
61.25	3.23	3.00	0.00				
62.50	3.23	3.00	0.00				

Summary for Subcatchment UD Bypass: UD By-Pass

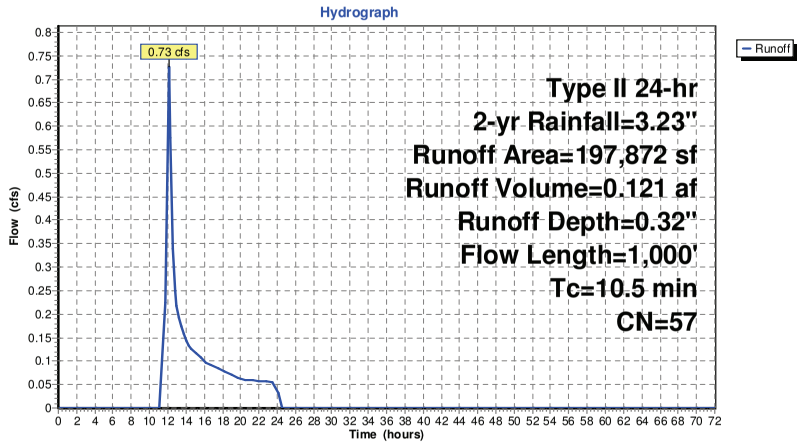
Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.121 af, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
10,353	85	Gravel roads, HSG B
168,770	55	Woods, Good, HSG B
18,749	61	>75% Grass cover, Good, HSG B
197,872	57	Weighted Average
197,872		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2200	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
2.1	700	0.1140	5.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	200	0.0400	10.31	61.86	**Channel Flow,** Area= 6.0 sf Perim= 9.0' r= 0.67' n= 0.022 Earth, clean & straight
10.5	1,000	Total			

Subcatchment UD Bypass: UD By-Pass



Hydrograph for Subcatchment UD Bypass: UD By-Pass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.32	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.32	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.32	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.32	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.32	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.32	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.32	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.09	**0.34**				
13.75	2.62	0.14	0.16				
15.00	2.76	0.18	0.12				
16.25	2.86	0.21	0.09				
17.50	2.94	0.23	0.09				
18.75	3.02	0.25	0.07				
20.00	3.07	0.27	0.06				
21.25	3.13	0.29	0.06				
22.50	3.17	0.30	0.06				
23.75	**3.22**	**0.32**	0.06				
25.00	**3.23**	**0.32**	0.00				
26.25	3.23	0.32	0.00				
27.50	3.23	0.32	0.00				
28.75	3.23	0.32	0.00				
30.00	3.23	0.32	0.00				
31.25	3.23	0.32	0.00				
32.50	3.23	0.32	0.00				
33.75	3.23	0.32	0.00				
35.00	3.23	0.32	0.00				
36.25	3.23	0.32	0.00				
37.50	3.23	0.32	0.00				
38.75	3.23	0.32	0.00				
40.00	3.23	0.32	0.00				
41.25	3.23	0.32	0.00				
42.50	3.23	0.32	0.00				
43.75	3.23	0.32	0.00				
45.00	3.23	0.32	0.00				
46.25	3.23	0.32	0.00				
47.50	3.23	0.32	0.00				
48.75	3.23	0.32	0.00				
50.00	3.23	0.32	0.00				
51.25	3.23	0.32	0.00				
52.50	3.23	0.32	0.00				
53.75	3.23	0.32	0.00				
55.00	3.23	0.32	0.00				
56.25	3.23	0.32	0.00				
57.50	3.23	0.32	0.00				
58.75	3.23	0.32	0.00				
60.00	3.23	0.32	0.00				
61.25	3.23	0.32	0.00				
62.50	3.23	0.32	0.00				

Summary for Subcatchment UD Gr: Undet Grass

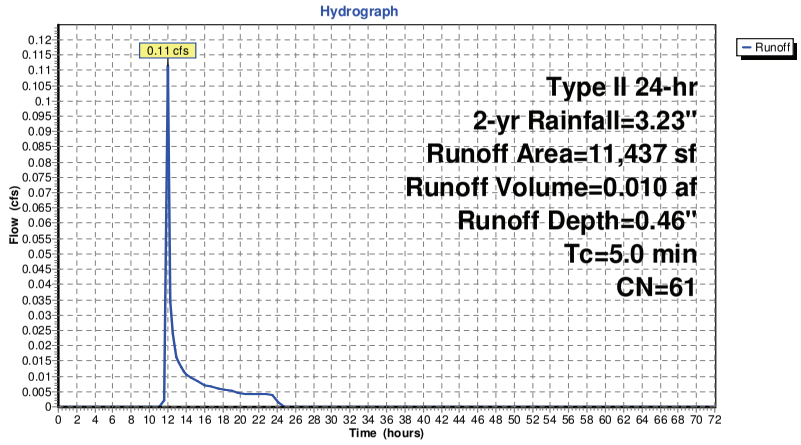
Runoff = 0.11 cfs @ 12.02 hrs, Volume= 0.010 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
11,437	61	>75% Grass cover, Good, HSG B
11,437		100.00% Pervious Area

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

Subcatchment UD Gr: Undet Grass



Hydrograph for Subcatchment UD Gr: Undet Grass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	0.46	0.00
1.25	0.04	0.00	0.00	65.00	3.23	0.46	0.00
2.50	0.09	0.00	0.00	66.25	3.23	0.46	0.00
3.75	0.14	0.00	0.00	67.50	3.23	0.46	0.00
5.00	0.20	0.00	0.00	68.75	3.23	0.46	0.00
6.25	0.27	0.00	0.00	70.00	3.23	0.46	0.00
7.50	0.35	0.00	0.00	71.25	3.23	0.46	0.00
8.75	0.45	0.00	0.00				
10.00	0.58	0.00	0.00				
11.25	0.83	0.00	**0.00**				
12.50	2.37	0.16	**0.02**				
13.75	2.62	0.23	0.01				
15.00	2.76	0.28	0.01				
16.25	2.86	0.31	0.01				
17.50	2.94	0.34	0.01				
18.75	3.02	0.37	0.01				
20.00	3.07	0.39	0.00				
21.25	3.13	0.41	0.00				
22.50	3.17	0.43	0.00				
23.75	**3.22**	**0.45**	0.00				
25.00	**3.23**	**0.46**	0.00				
26.25	3.23	0.46	0.00				
27.50	3.23	0.46	0.00				
28.75	3.23	0.46	0.00				
30.00	3.23	0.46	0.00				
31.25	3.23	0.46	0.00				
32.50	3.23	0.46	0.00				
33.75	3.23	0.46	0.00				
35.00	3.23	0.46	0.00				
36.25	3.23	0.46	0.00				
37.50	3.23	0.46	0.00				
38.75	3.23	0.46	0.00				
40.00	3.23	0.46	0.00				
41.25	3.23	0.46	0.00				
42.50	3.23	0.46	0.00				
43.75	3.23	0.46	0.00				
45.00	3.23	0.46	0.00				
46.25	3.23	0.46	0.00				
47.50	3.23	0.46	0.00				
48.75	3.23	0.46	0.00				
50.00	3.23	0.46	0.00				
51.25	3.23	0.46	0.00				
52.50	3.23	0.46	0.00				
53.75	3.23	0.46	0.00				
55.00	3.23	0.46	0.00				
56.25	3.23	0.46	0.00				
57.50	3.23	0.46	0.00				
58.75	3.23	0.46	0.00				
60.00	3.23	0.46	0.00				
61.25	3.23	0.46	0.00				
62.50	3.23	0.46	0.00				

Summary for Subcatchment UD Imp: Undet Imp

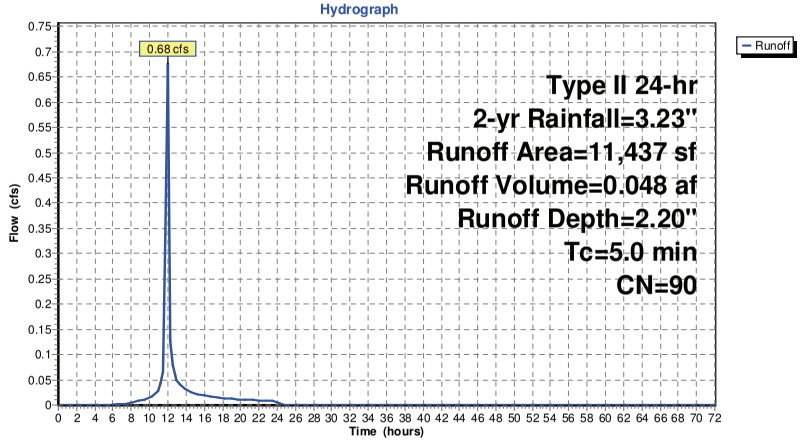
Runoff = 0.68 cfs @ 11.97 hrs, Volume= 0.048 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,777	98	Paved parking, HSG B
6,660	85	Gravel roads, HSG B
11,437	90	Weighted Average
6,660		58.23% Pervious Area
4,777		41.77% Impervious Area

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

Subcatchment UD Imp: Undet Imp



Hydrograph for Subcatchment UD Imp: Undet Imp

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	3.23	2.20	0.00
1.25	0.04	0.00	0.00	65.00	3.23	2.20	0.00
2.50	0.09	0.00	0.00	66.25	3.23	2.20	0.00
3.75	0.14	0.00	0.00	67.50	3.23	2.20	0.00
5.00	0.20	0.00	0.00	68.75	3.23	2.20	0.00
6.25	0.27	0.00	0.00	70.00	3.23	2.20	0.00
7.50	0.35	0.01	0.00	71.25	3.23	2.20	0.00
8.75	0.45	0.04	0.01				
10.00	0.58	0.09	0.01				
11.25	0.83	0.21	**0.04**				
12.50	2.37	1.42	**0.08**				
13.75	2.62	1.64	0.03				
15.00	2.76	1.76	0.02				
16.25	2.86	1.86	0.02				
17.50	2.94	1.93	0.02				
18.75	3.02	2.00	0.01				
20.00	3.07	2.05	0.01				
21.25	3.13	2.10	0.01				
22.50	3.17	2.15	0.01				
23.75	**3.22**	**2.19**	0.01				
25.00	**3.23**	**2.20**	0.00				
26.25	3.23	2.20	0.00				
27.50	3.23	2.20	0.00				
28.75	3.23	2.20	0.00				
30.00	3.23	2.20	0.00				
31.25	3.23	2.20	0.00				
32.50	3.23	2.20	0.00				
33.75	3.23	2.20	0.00				
35.00	3.23	2.20	0.00				
36.25	3.23	2.20	0.00				
37.50	3.23	2.20	0.00				
38.75	3.23	2.20	0.00				
40.00	3.23	2.20	0.00				
41.25	3.23	2.20	0.00				
42.50	3.23	2.20	0.00				
43.75	3.23	2.20	0.00				
45.00	3.23	2.20	0.00				
46.25	3.23	2.20	0.00				
47.50	3.23	2.20	0.00				
48.75	3.23	2.20	0.00				
50.00	3.23	2.20	0.00				
51.25	3.23	2.20	0.00				
52.50	3.23	2.20	0.00				
53.75	3.23	2.20	0.00				
55.00	3.23	2.20	0.00				
56.25	3.23	2.20	0.00				
57.50	3.23	2.20	0.00				
58.75	3.23	2.20	0.00				
60.00	3.23	2.20	0.00				
61.25	3.23	2.20	0.00				
62.50	3.23	2.20	0.00				

Summary for Pond INF1: Inf Trench #1

Inflow Area = 0.389 ac, 37.20% Impervious, Inflow Depth = 1.40" for 2-yr event
Inflow = 0.55 cfs @ 11.97 hrs, Volume= 0.045 af
Outflow = 0.02 cfs @ 15.55 hrs, Volume= 0.045 af, Atten= 96%, Lag= 214.7 min
Primary = 0.02 cfs @ 15.55 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.05' @ 15.55 hrs Surf.Area= 2,050 sf Storage= 1,256 cf

Plug-Flow detention time= 878.8 min calculated for 0.045 af (100% of inflow)
Center-of-Mass det. time= 877.7 min (1,661.9 - 784.2)

Volume	Invert	Avail.Storage	Storage Description
#1	384.00'	2,484 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	382.00'	77 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 768 cf Overall x 10.0% Voids
#3	380.00'	307 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 768 cf Overall x 40.0% Voids
		2,868 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
384.00	384	0	0
386.00	2,100	2,484	2,484

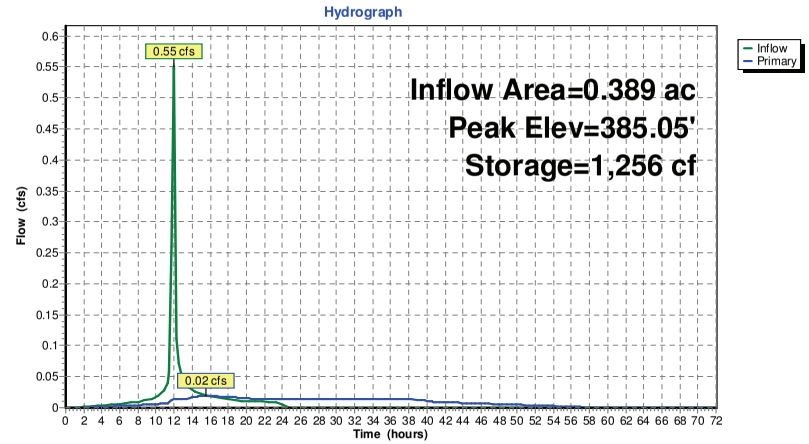
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
382.00	384	0	0
384.00	384	768	768

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	384	0	0
382.00	384	768	768

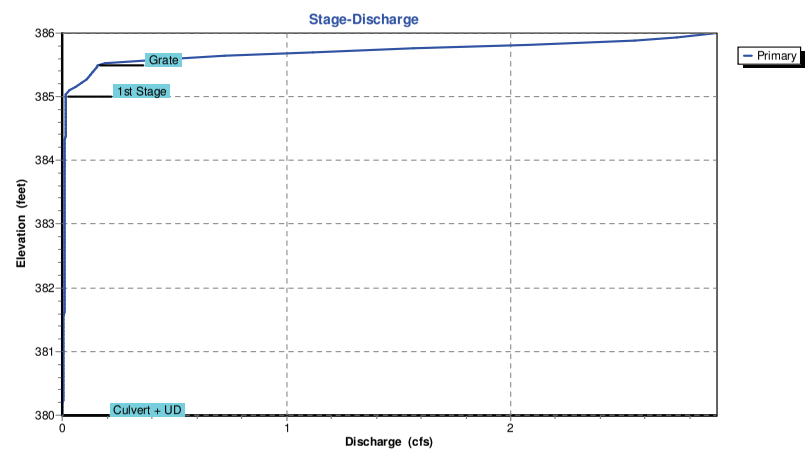
Device	Routing	Invert	Outlet Devices
#1	Primary	380.00'	**18.0" Round Culvert** L= 28.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 380.00' / 379.72' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	385.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	385.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	380.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.02 cfs @ 15.55 hrs HW=385.05' (Free Discharge)
└─**1=Culvert** (Passes 0.02 cfs of 17.64 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=1st Stage** (Orifice Controls 0.00 cfs @ 0.73 fps)
  └─**4=UD** (Orifice Controls 0.01 cfs @ 10.79 fps)

Pond INF1: Inf Trench #1



Pond INF1: Inf Trench #1



Hydrograph for Pond INF1: Inf Trench #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	380.00	0.00
2.50	0.00	4	380.02	0.00
5.00	0.01	22	380.15	0.00
7.50	0.01	55	380.36	0.00
10.00	**0.02**	119	380.78	0.01
12.50	**0.07**	1,079	384.90	0.01
15.00	0.02	**1,253**	**385.04**	**0.02**
17.50	0.01	**1,241**	**385.04**	**0.02**
20.00	0.01	1,205	385.01	0.02
22.50	0.01	1,161	384.97	0.01
25.00	0.00	1,081	384.90	0.01
27.50	0.00	951	384.79	0.01
30.00	0.00	823	384.66	0.01
32.50	0.00	697	384.52	0.01
35.00	0.00	573	384.35	0.01
37.50	0.00	451	384.15	0.01
40.00	0.00	337	382.78	0.01
42.50	0.00	254	381.65	0.01
45.00	0.00	184	381.20	0.01
47.50	0.00	126	380.82	0.01
50.00	0.00	79	380.51	0.00
52.50	0.00	43	380.28	0.00
55.00	0.00	19	380.12	0.00
57.50	0.00	6	380.04	0.00
60.00	0.00	2	380.01	0.00
62.50	0.00	0	380.00	0.00
65.00	0.00	0	380.00	0.00
67.50	0.00	0	380.00	0.00
70.00	0.00	0	380.00	0.00

Stage-Discharge for Pond INF1: Inf Trench #1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
380.00	0.00	382.04	0.01	384.08	0.01
380.04	0.00	382.08	0.01	384.12	0.01
380.08	0.00	382.12	0.01	384.16	0.01
380.12	0.00	382.16	0.01	384.20	0.01
380.16	0.00	382.20	0.01	384.24	0.01
380.20	0.00	382.24	0.01	384.28	0.01
380.24	0.00	382.28	0.01	384.32	0.01
380.28	0.00	382.32	0.01	384.36	0.01
380.32	0.00	382.36	0.01	384.40	0.01
380.36	0.00	382.40	0.01	384.44	0.01
380.40	0.00	382.44	0.01	384.48	0.01
380.44	0.00	382.48	0.01	384.52	0.01
380.48	0.00	382.52	0.01	384.56	0.01
380.52	0.00	382.56	0.01	384.60	0.01
380.56	0.00	382.60	0.01	384.64	0.01
380.60	0.00	382.64	0.01	384.68	0.01
380.64	0.01	382.68	0.01	384.72	0.01
380.68	0.01	382.72	0.01	384.76	0.01
380.72	0.01	382.76	0.01	384.80	0.01
380.76	0.01	382.80	0.01	384.84	0.01
380.80	0.01	382.84	0.01	384.88	0.01
380.84	0.01	382.88	0.01	384.92	0.01
380.88	0.01	382.92	0.01	384.96	0.01
380.92	0.01	382.96	0.01	385.00	0.01
380.96	0.01	383.00	0.01	385.04	0.02
381.00	0.01	383.04	0.01	385.08	0.03
381.04	0.01	383.08	0.01	385.12	0.04
381.08	0.01	383.12	0.01	385.16	0.06
381.12	0.01	383.16	0.01	385.20	0.08
381.16	0.01	383.20	0.01	385.24	0.10
381.20	0.01	383.24	0.01	385.28	0.11
381.24	0.01	383.28	0.01	385.32	0.12
381.28	0.01	383.32	0.01	385.36	0.13
381.32	0.01	383.36	0.01	385.40	0.14
381.36	0.01	383.40	0.01	385.44	0.15
381.40	0.01	383.44	0.01	385.48	0.16
381.44	0.01	383.48	0.01	385.52	0.19
381.48	0.01	383.52	0.01	385.56	0.32
381.52	0.01	383.56	0.01	385.60	0.50
381.56	0.01	383.60	0.01	385.64	0.72
381.60	0.01	383.64	0.01	385.68	0.98
381.64	0.01	383.68	0.01	385.72	1.26
381.68	0.01	383.72	0.01	385.76	1.57
381.72	0.01	383.76	0.01	385.80	1.90
381.76	0.01	383.80	0.01	385.84	2.25
381.80	0.01	383.84	0.01	385.88	2.55
381.84	0.01	383.88	0.01	385.92	2.68
381.88	0.01	383.92	0.01	385.96	2.80
381.92	0.01	383.96	0.01	386.00	**2.91**
381.96	0.01	384.00	0.01		
382.00	0.01	384.04	0.01		

Summary for Pond INF2: Inf Trench #2

Inflow Area = 0.718 ac, 23.60% Impervious, Inflow Depth = 1.06" for 2-yr event
Inflow = 0.73 cfs @ 11.97 hrs, Volume= 0.063 af
Outflow = 0.07 cfs @ 13.09 hrs, Volume= 0.063 af, Atten= 91%, Lag= 67.3 min
Primary = 0.07 cfs @ 13.09 hrs, Volume= 0.063 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 384.17' @ 13.09 hrs Surf.Area= 2,190 sf Storage= 1,445 cf

Plug-Flow detention time= 721.3 min calculated for 0.063 af (100% of inflow)
Center-of-Mass det. time= 720.4 min (1,523.2 - 802.8)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	2,520 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	78 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 780 cf Overall x 10.0% Voids
#3	379.00'	312 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 780 cf Overall x 40.0% Voids
		2,910 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	390	0	0
385.00	2,130	2,520	2,520

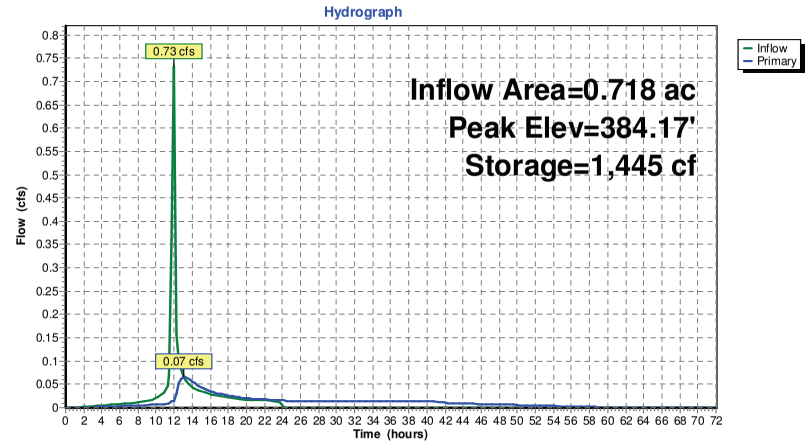
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	390	0	0
383.00	390	780	780

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	390	0	0
381.00	390	780	780

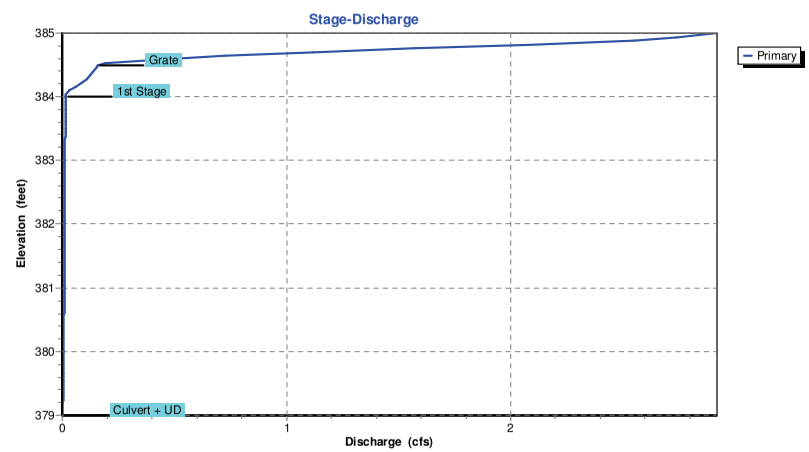
Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.89' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	384.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	384.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.07 cfs @ 13.09 hrs HW=384.17' (Free Discharge)
└─**1=Culvert** (Passes 0.07 cfs of 17.89 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=1st Stage** (Orifice Controls 0.05 cfs @ 1.41 fps)
  └─**4=UD** (Orifice Controls 0.01 cfs @ 10.93 fps)

Pond INF2: Inf Trench #2



Pond INF2: Inf Trench #2



Hydrograph for Pond INF2: Inf Trench #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	379.00	0.00
2.50	0.00	4	379.03	0.00
5.00	0.01	27	379.17	0.00
7.50	0.01	67	379.43	0.00
10.00	**0.02**	145	379.93	0.01
12.50	**0.10**	**1,406**	**384.14**	**0.05**
15.00	0.04	**1,376**	**384.12**	**0.04**
17.50	0.02	1,315	384.08	0.03
20.00	0.02	1,277	384.05	0.02
22.50	0.01	1,253	384.03	0.02
25.00	0.00	1,188	383.98	0.01
27.50	0.00	1,057	383.87	0.01
30.00	0.00	928	383.75	0.01
32.50	0.00	801	383.62	0.01
35.00	0.00	675	383.48	0.01
37.50	0.00	551	383.31	0.01
40.00	0.00	430	383.09	0.01
42.50	0.00	322	381.26	0.01
45.00	0.00	243	380.56	0.01
47.50	0.00	175	380.12	0.01
50.00	0.00	119	379.76	0.01
52.50	0.00	74	379.47	0.00
55.00	0.00	40	379.25	0.00
57.50	0.00	17	379.11	0.00
60.00	0.00	5	379.03	0.00
62.50	0.00	1	379.01	0.00
65.00	0.00	0	379.00	0.00
67.50	0.00	0	379.00	0.00
70.00	0.00	0	379.00	0.00

Stage-Discharge for Pond INF2: Inf Trench #2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
379.00	0.00	381.04	0.01	383.08	0.01
379.04	0.00	381.08	0.01	383.12	0.01
379.08	0.00	381.12	0.01	383.16	0.01
379.12	0.00	381.16	0.01	383.20	0.01
379.16	0.00	381.20	0.01	383.24	0.01
379.20	0.00	381.24	0.01	383.28	0.01
379.24	0.00	381.28	0.01	383.32	0.01
379.28	0.00	381.32	0.01	383.36	0.01
379.32	0.00	381.36	0.01	383.40	0.01
379.36	0.00	381.40	0.01	383.44	0.01
379.40	0.00	381.44	0.01	383.48	0.01
379.44	0.00	381.48	0.01	383.52	0.01
379.48	0.00	381.52	0.01	383.56	0.01
379.52	0.00	381.56	0.01	383.60	0.01
379.56	0.00	381.60	0.01	383.64	0.01
379.60	0.00	381.64	0.01	383.68	0.01
379.64	0.01	381.68	0.01	383.72	0.01
379.68	0.01	381.72	0.01	383.76	0.01
379.72	0.01	381.76	0.01	383.80	0.01
379.76	0.01	381.80	0.01	383.84	0.01
379.80	0.01	381.84	0.01	383.88	0.01
379.84	0.01	381.88	0.01	383.92	0.01
379.88	0.01	381.92	0.01	383.96	0.01
379.92	0.01	381.96	0.01	384.00	0.01
379.96	0.01	382.00	0.01	384.04	0.02
380.00	0.01	382.04	0.01	384.08	0.03
380.04	0.01	382.08	0.01	384.12	0.04
380.08	0.01	382.12	0.01	384.16	0.06
380.12	0.01	382.16	0.01	384.20	0.08
380.16	0.01	382.20	0.01	384.24	0.10
380.20	0.01	382.24	0.01	384.28	0.11
380.24	0.01	382.28	0.01	384.32	0.12
380.28	0.01	382.32	0.01	384.36	0.13
380.32	0.01	382.36	0.01	384.40	0.14
380.36	0.01	382.40	0.01	384.44	0.15
380.40	0.01	382.44	0.01	384.48	0.16
380.44	0.01	382.48	0.01	384.52	0.19
380.48	0.01	382.52	0.01	384.56	0.32
380.52	0.01	382.56	0.01	384.60	0.50
380.56	0.01	382.60	0.01	384.64	0.72
380.60	0.01	382.64	0.01	384.68	0.98
380.64	0.01	382.68	0.01	384.72	1.26
380.68	0.01	382.72	0.01	384.76	1.57
380.72	0.01	382.76	0.01	384.80	1.90
380.76	0.01	382.80	0.01	384.84	2.25
380.80	0.01	382.84	0.01	384.88	2.55
380.84	0.01	382.88	0.01	384.92	2.68
380.88	0.01	382.92	0.01	384.96	2.80
380.92	0.01	382.96	0.01	385.00	**2.91**
380.96	0.01	383.00	0.01		
381.00	0.01	383.04	0.01		

Summary for Pond INF3: Inf Trench #3

Inflow Area = 0.309 ac, 30.75% Impervious, Inflow Depth = 1.24" for 2-yr event
Inflow = 0.38 cfs @ 11.98 hrs, Volume= 0.032 af
Outflow = 0.01 cfs @ 15.57 hrs, Volume= 0.032 af, Atten= 96%, Lag= 215.8 min
Primary = 0.01 cfs @ 15.57 hrs, Volume= 0.032 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 382.46' @ 15.57 hrs Surf.Area= 1,388 sf Storage= 806 cf

Plug-Flow detention time= 607.7 min calculated for 0.032 af (100% of inflow)
Center-of-Mass det. time= 605.2 min (1,397.5 - 792.3)

Volume	Invert	Avail.Storage	Storage Description
#1	381.50'	1,764 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	379.50'	53 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 528 cf Overall x 10.0% Voids
#3	377.50'	211 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 528 cf Overall x 40.0% Voids
		2,028 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.50	264	0	0
383.50	1,500	1,764	1,764

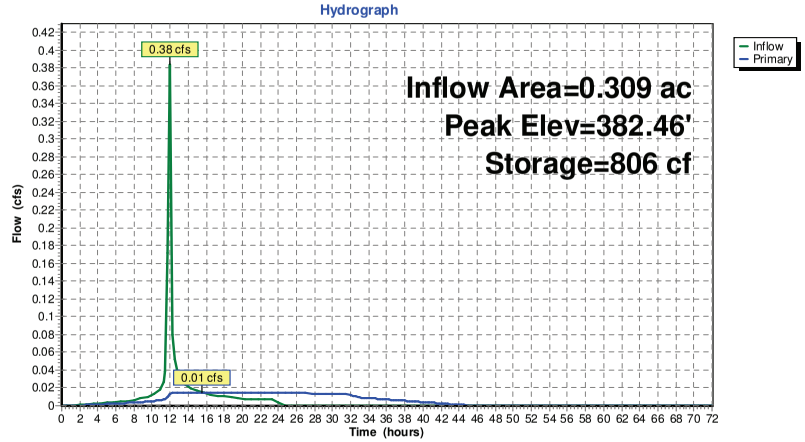
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.50	264	0	0
381.50	264	528	528

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
377.50	264	0	0
379.50	264	528	528

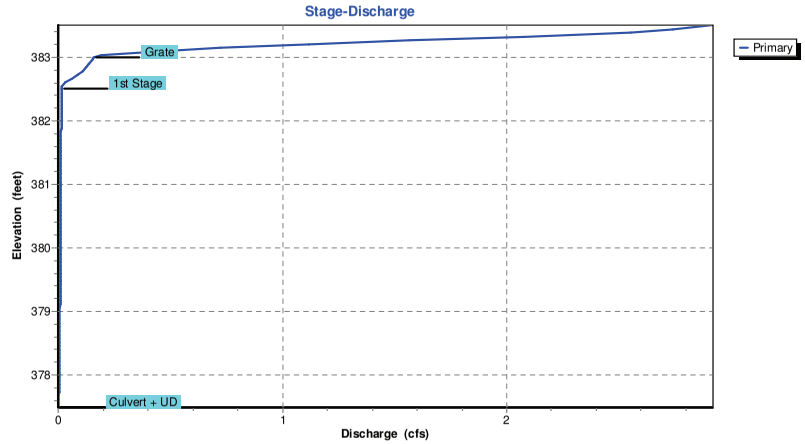
Device	Routing	Invert	Outlet Devices
#1	Primary	377.50'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 377.50' / 377.39' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	383.00'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	382.50'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	377.50'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.01 cfs @ 15.57 hrs HW=382.46' (Free Discharge)
└─**1=Culvert** (Passes 0.01 cfs of 17.47 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=1st Stage** (Controls 0.00 cfs)
  └─**4=UD** (Orifice Controls 0.01 cfs @ 10.71 fps)

Pond INF3: Inf Trench #3



Pond INF3: Inf Trench #3



Hydrograph for Pond INF3: Inf Trench #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	377.50	0.00
2.50	0.00	2	377.52	0.00
5.00	0.00	12	377.61	0.00
7.50	0.01	28	377.77	0.00
10.00	**0.01**	62	378.09	0.00
12.50	**0.05**	701	382.34	0.01
15.00	0.02	**804**	**382.46**	**0.01**
17.50	0.01	**791**	**382.45**	**0.01**
20.00	0.01	744	382.39	0.01
22.50	0.01	680	382.31	0.01
25.00	0.00	590	382.18	0.01
27.50	0.00	463	381.98	0.01
30.00	0.00	340	381.73	0.01
32.50	0.00	226	380.05	0.01
35.00	0.00	147	378.90	0.01
37.50	0.00	86	378.32	0.01
40.00	0.00	42	377.90	0.00
42.50	0.00	14	377.63	0.00
45.00	0.00	2	377.52	0.00
47.50	0.00	0	377.50	0.00
50.00	0.00	0	377.50	0.00
52.50	0.00	0	377.50	0.00
55.00	0.00	0	377.50	0.00
57.50	0.00	0	377.50	0.00
60.00	0.00	0	377.50	0.00
62.50	0.00	0	377.50	0.00
65.00	0.00	0	377.50	0.00
67.50	0.00	0	377.50	0.00
70.00	0.00	0	377.50	0.00

Stage-Discharge for Pond INF3: Inf Trench #3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
377.50	0.00	379.54	0.01	381.58	0.01
377.54	0.00	379.58	0.01	381.62	0.01
377.58	0.00	379.62	0.01	381.66	0.01
377.62	0.00	379.66	0.01	381.70	0.01
377.66	0.00	379.70	0.01	381.74	0.01
377.70	0.00	379.74	0.01	381.78	0.01
377.74	0.00	379.78	0.01	381.82	0.01
377.78	0.00	379.82	0.01	381.86	0.01
377.82	0.00	379.86	0.01	381.90	0.01
377.86	0.00	379.90	0.01	381.94	0.01
377.90	0.00	379.94	0.01	381.98	0.01
377.94	0.00	379.98	0.01	382.02	0.01
377.98	0.00	380.02	0.01	382.06	0.01
378.02	0.00	380.06	0.01	382.10	0.01
378.06	0.00	380.10	0.01	382.14	0.01
378.10	0.00	380.14	0.01	382.18	0.01
378.14	0.01	380.18	0.01	382.22	0.01
378.18	0.01	380.22	0.01	382.26	0.01
378.22	0.01	380.26	0.01	382.30	0.01
378.26	0.01	380.30	0.01	382.34	0.01
378.30	0.01	380.34	0.01	382.38	0.01
378.34	0.01	380.38	0.01	382.42	0.01
378.38	0.01	380.42	0.01	382.46	0.01
378.42	0.01	380.46	0.01	382.50	0.01
378.46	0.01	380.50	0.01	382.54	0.02
378.50	0.01	380.54	0.01	382.58	0.03
378.54	0.01	380.58	0.01	382.62	0.04
378.58	0.01	380.62	0.01	382.66	0.06
378.62	0.01	380.66	0.01	382.70	0.08
378.66	0.01	380.70	0.01	382.74	0.10
378.70	0.01	380.74	0.01	382.78	0.11
378.74	0.01	380.78	0.01	382.82	0.12
378.78	0.01	380.82	0.01	382.86	0.13
378.82	0.01	380.86	0.01	382.90	0.14
378.86	0.01	380.90	0.01	382.94	0.15
378.90	0.01	380.94	0.01	382.98	0.16
378.94	0.01	380.98	0.01	383.02	0.19
378.98	0.01	381.02	0.01	383.06	0.32
379.02	0.01	381.06	0.01	383.10	0.50
379.06	0.01	381.10	0.01	383.14	0.72
379.10	0.01	381.14	0.01	383.18	0.98
379.14	0.01	381.18	0.01	383.22	1.26
379.18	0.01	381.22	0.01	383.26	1.57
379.22	0.01	381.26	0.01	383.30	1.90
379.26	0.01	381.30	0.01	383.34	2.25
379.30	0.01	381.34	0.01	383.38	2.55
379.34	0.01	381.38	0.01	383.42	2.68
379.38	0.01	381.42	0.01	383.46	2.80
379.42	0.01	381.46	0.01	383.50	**2.91**
379.46	0.01	381.50	0.01		
379.50	0.01	381.54	0.01		

Summary for Pond RG1: Rain Garden #1

Inflow Area =	1.295 ac,	50.10% Impervious,	Inflow Depth =	1.73"	for 2-yr event	
Inflow =	2.31 cfs @	11.97 hrs,	Volume=	0.187 af		
Outflow =	2.08 cfs @	12.01 hrs,	Volume=	0.187 af,	Atten= 10%,	Lag= 2.4 min
Primary =	2.08 cfs @	12.01 hrs,	Volume=	0.187 af		
Secondary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af		

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 399.80' @ 12.01 hrs Surf.Area= 2,275 sf Storage= 1,259 cf

Plug-Flow detention time= 174.4 min calculated for 0.187 af (100% of inflow)
Center-of-Mass det. time= 173.2 min (946.2 - 772.9)

Volume	Invert	Avail.Storage	Storage Description
#1	399.00'	4,709 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	397.00'	117 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 10.0% Voids
#3	395.00'	466 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 40.0% Voids
		5,292 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
399.00	583	0	0
402.00	2,556	4,709	4,709

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
397.00	583	0	0
399.00	583	1,166	1,166

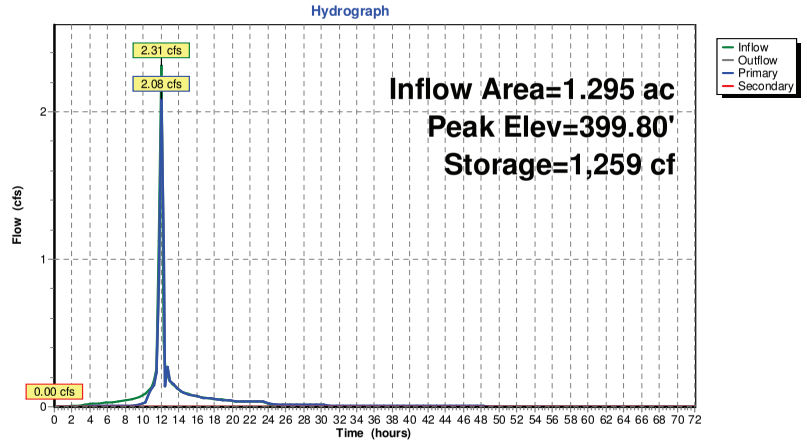
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	583	0	0
397.00	583	1,166	1,166

Device	Routing	Invert	Outlet Devices
#1	Primary	395.00'	**18.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 395.00' / 394.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	400.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	400.75'	**Spillway, C= 3.27** Offset (feet) 0.00 3.75 18.75 22.50 Height (feet) 1.25 0.00 0.00 1.25
#4	Device 1	399.33'	**24.0" W x 6.0" H Vert. 1st Stage** C= 0.600
#5	Device 1	395.00'	**0.5" Vert. UD** C= 0.600

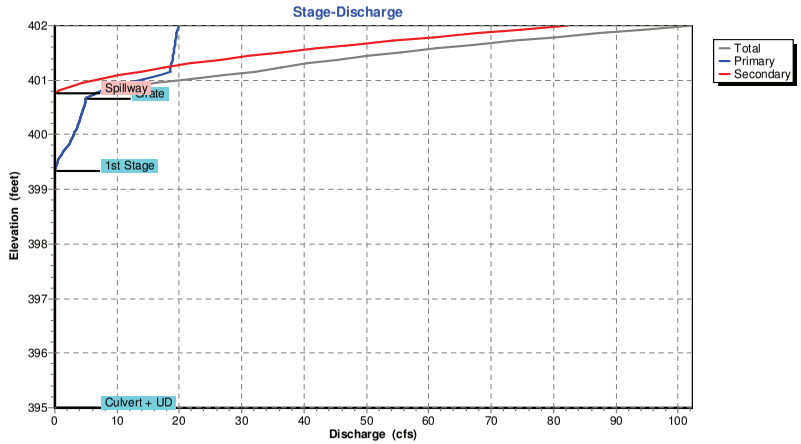
Primary OutFlow Max=2.02 cfs @ 12.01 hrs HW=399.79' (Free Discharge)
- **1=Culvert** (Passes 2.02 cfs of 16.10 cfs potential flow)
  - **2=Grate** (Controls 0.00 cfs)
  - **4=1st Stage** (Orifice Controls 2.01 cfs @ 2.18 fps)
  - **5=UD** (Orifice Controls 0.01 cfs @ 10.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=395.00' (Free Discharge)
- **3=Spillway** (Controls 0.00 cfs)

Pond RG1: Rain Garden #1



Pond RG1: Rain Garden #1



Hydrograph for Pond RG1: Rain Garden #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	395.00	0.00	0.00	**0.00**
2.50	0.01	18	395.08	0.00	0.00	0.00
5.00	0.02	131	395.56	0.00	0.00	0.00
7.50	0.04	344	396.48	0.01	0.01	0.00
10.00	**0.08**	**723**	**399.21**	**0.01**	**0.01**	0.00
12.50	**0.28**	**869**	**399.40**	**0.14**	**0.14**	0.00
15.00	0.09	848	399.37	0.09	0.09	0.00
17.50	0.06	835	399.36	0.06	0.06	0.00
20.00	0.04	827	399.35	0.04	0.04	0.00
22.50	0.03	825	399.35	0.04	0.04	0.00
25.00	0.00	777	399.29	0.01	0.01	0.00
27.50	0.00	656	399.12	0.01	0.01	0.00
30.00	0.00	540	398.26	0.01	0.01	0.00
32.50	0.00	448	396.92	0.01	0.01	0.00
35.00	0.00	370	396.59	0.01	0.01	0.00
37.50	0.00	300	396.29	0.01	0.01	0.00
40.00	0.00	237	396.02	0.01	0.01	0.00
42.50	0.00	182	395.78	0.01	0.01	0.00
45.00	0.00	134	395.58	0.00	0.00	0.00
47.50	0.00	94	395.40	0.00	0.00	0.00
50.00	0.00	61	395.26	0.00	0.00	0.00
52.50	0.00	36	395.15	0.00	0.00	0.00
55.00	0.00	18	395.08	0.00	0.00	0.00
57.50	0.00	8	395.04	0.00	0.00	0.00
60.00	0.00	4	395.02	0.00	0.00	0.00
62.50	0.00	2	395.01	0.00	0.00	0.00
65.00	0.00	1	395.00	0.00	0.00	0.00
67.50	0.00	0	395.00	0.00	0.00	0.00
70.00	0.00	0	395.00	0.00	0.00	0.00

Stage-Discharge for Pond RG1: Rain Garden #1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
395.00	0.00	0.00	0.00
395.10	0.00	0.00	0.00
395.20	0.00	0.00	0.00
395.30	0.00	0.00	0.00
395.40	0.00	0.00	0.00
395.50	0.00	0.00	0.00
395.60	0.00	0.00	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.01	0.01	0.00
396.20	0.01	0.01	0.00
396.30	0.01	0.01	0.00
396.40	0.01	0.01	0.00
396.50	0.01	0.01	0.00
396.60	0.01	0.01	0.00
396.70	0.01	0.01	0.00
396.80	0.01	0.01	0.00
396.90	0.01	0.01	0.00
397.00	0.01	0.01	0.00
397.10	0.01	0.01	0.00
397.20	0.01	0.01	0.00
397.30	0.01	0.01	0.00
397.40	0.01	0.01	0.00
397.50	0.01	0.01	0.00
397.60	0.01	0.01	0.00
397.70	0.01	0.01	0.00
397.80	0.01	0.01	0.00
397.90	0.01	0.01	0.00
398.00	0.01	0.01	0.00
398.10	0.01	0.01	0.00
398.20	0.01	0.01	0.00
398.30	0.01	0.01	0.00
398.40	0.01	0.01	0.00
398.50	0.01	0.01	0.00
398.60	0.01	0.01	0.00
398.70	0.01	0.01	0.00
398.80	0.01	0.01	0.00
398.90	0.01	0.01	0.00
399.00	0.01	0.01	0.00
399.10	0.01	0.01	0.00
399.20	0.01	0.01	0.00
399.30	0.01	0.01	0.00
399.40	0.13	0.13	0.00
399.50	0.46	0.46	0.00
399.60	0.91	0.91	0.00
399.70	1.46	1.46	0.00
399.80	2.08	2.08	0.00
399.90	2.66	2.66	0.00
400.00	3.09	3.09	0.00
400.10	3.45	3.45	0.00
400.20	3.78	3.78	0.00
400.30	4.08	4.08	0.00
400.40	4.36	4.36	0.00
400.50	4.62	4.62	0.00
400.60	4.87	4.87	0.00
400.70	5.52	5.52	0.00
400.80	8.07	7.52	0.55
400.90	13.17	10.25	2.92
401.00	19.93	13.56	6.38
401.10	28.06	17.33	10.73
401.20	34.43	18.56	15.87
401.30	40.49	18.72	21.77
401.40	47.26	18.88	28.38
401.50	54.72	19.04	35.68
401.60	62.86	19.20	43.67
401.70	71.67	19.35	52.32
401.80	81.15	19.51	61.64
401.90	91.28	19.66	71.62
402.00	**102.08**	**19.82**	**82.26**

Summary for Pond RG2: Rain Garden #2

Inflow Area = 5.565 ac, 47.16% Impervious, Inflow Depth = 1.83" for 2-yr event
Inflow = 11.49 cfs @ 11.98 hrs, Volume= 0.850 af
Outflow = 9.32 cfs @ 12.05 hrs, Volume= 0.834 af, Atten= 19%, Lag= 4.1 min
Primary = 9.32 cfs @ 12.05 hrs, Volume= 0.834 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 384.59' @ 12.04 hrs Surf.Area= 5,859 sf Storage= 5,023 cf

Plug-Flow detention time= 119.4 min calculated for 0.831 af (98% of inflow)
Center-of-Mass det. time= 116.9 min (907.7 - 790.8)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	12,723 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	359 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 10.0% Voids
#3	379.00'	1,435 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 40.0% Voids
		14,517 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	1,794	0	0
388.00	3,295	12,723	12,723

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	1,794	0	0
383.00	1,794	3,588	3,588

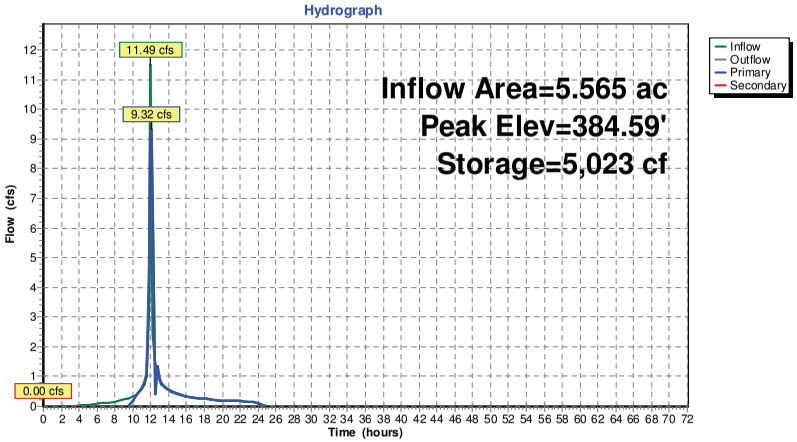
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	1,794	0	0
381.00	1,794	3,588	3,588

Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	386.60'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	386.70'	**Spillway, C= 3.27** Offset (feet) 0.00 3.90 58.90 62.80 Height (feet) 1.30 0.00 0.00 1.30
#4	Device 1	383.33'	**36.0" W x 8.0" H Vert. 1st stage** C= 0.600
#5	Device 1	385.33'	**24.0" W x 8.0" H Vert. 2nd Stage X 2.00** C= 0.600
#6	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

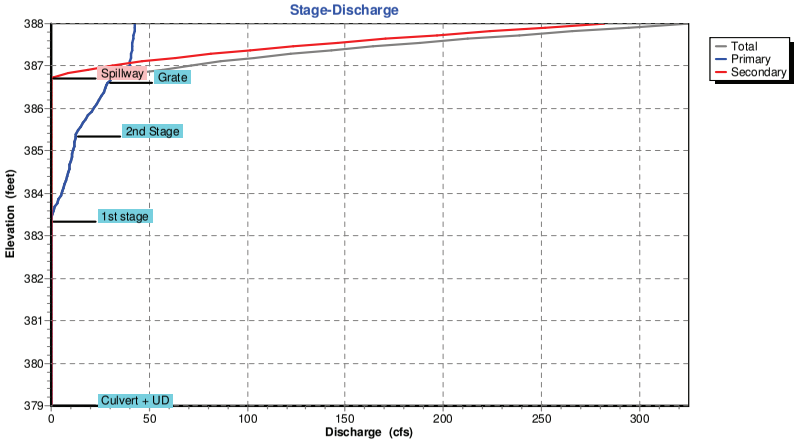
Primary OutFlow Max=8.75 cfs @ 12.05 hrs HW=384.50' (Free Discharge)
└─**1=Culvert** (Passes 8.75 cfs of 32.08 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=1st stage** (Orifice Controls 8.74 cfs @ 4.37 fps)
  ├─**5=2nd Stage** (Controls 0.00 cfs)
  └─**6=UD** (Orifice Controls 0.02 cfs @ 11.27 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=379.00' (Free Discharge)
└─**3=Spillway** (Controls 0.00 cfs)

Pond RG2: Rain Garden #2



Pond RG2: Rain Garden #2



Hydrograph for Pond RG2: Rain Garden #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	379.00	0.00	0.00	**0.00**
2.50	0.00	0	379.00	0.00	0.00	0.00
5.00	0.05	166	379.23	0.00	0.00	0.00
7.50	0.12	892	380.24	0.01	0.01	0.00
10.00	**0.31**	**2,523**	**383.39**	**0.19**	**0.19**	0.00
12.50	**1.41**	**2,619**	**383.44**	**0.40**	**0.40**	0.00
15.00	0.41	2,625	383.45	0.42	0.42	0.00
17.50	0.26	2,568	383.42	0.27	0.27	0.00
20.00	0.18	2,524	383.39	0.19	0.19	0.00
22.50	0.16	2,508	383.39	0.16	0.16	0.00
25.00	0.00	2,380	383.32	0.01	0.01	0.00
27.50	0.00	2,258	383.25	0.01	0.01	0.00
30.00	0.00	2,137	383.19	0.01	0.01	0.00
32.50	0.00	2,017	383.12	0.01	0.01	0.00
35.00	0.00	1,897	383.06	0.01	0.01	0.00
37.50	0.00	1,779	382.92	0.01	0.01	0.00
40.00	0.00	1,667	382.29	0.01	0.01	0.00
42.50	0.00	1,565	381.73	0.01	0.01	0.00
45.00	0.00	1,473	381.21	0.01	0.01	0.00
47.50	0.00	1,389	380.94	0.01	0.01	0.00
50.00	0.00	1,309	380.82	0.01	0.01	0.00
52.50	0.00	1,231	380.72	0.01	0.01	0.00
55.00	0.00	1,155	380.61	0.01	0.01	0.00
57.50	0.00	1,082	380.51	0.01	0.01	0.00
60.00	0.00	1,011	380.41	0.01	0.01	0.00
62.50	0.00	943	380.31	0.01	0.01	0.00
65.00	0.00	877	380.22	0.01	0.01	0.00
67.50	0.00	813	380.13	0.01	0.01	0.00
70.00	0.00	752	380.05	0.01	0.01	0.00

Stage-Discharge for Pond RG2: Rain Garden #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
379.00	0.00	0.00	0.00
379.10	0.00	0.00	0.00
379.20	0.00	0.00	0.00
379.30	0.00	0.00	0.00
379.40	0.00	0.00	0.00
379.50	0.00	0.00	0.00
379.60	0.00	0.00	0.00
379.70	0.01	0.01	0.00
379.80	0.01	0.01	0.00
379.90	0.01	0.01	0.00
380.00	0.01	0.01	0.00
380.10	0.01	0.01	0.00
380.20	0.01	0.01	0.00
380.30	0.01	0.01	0.00
380.40	0.01	0.01	0.00
380.50	0.01	0.01	0.00
380.60	0.01	0.01	0.00
380.70	0.01	0.01	0.00
380.80	0.01	0.01	0.00
380.90	0.01	0.01	0.00
381.00	0.01	0.01	0.00
381.10	0.01	0.01	0.00
381.20	0.01	0.01	0.00
381.30	0.01	0.01	0.00
381.40	0.01	0.01	0.00
381.50	0.01	0.01	0.00
381.60	0.01	0.01	0.00
381.70	0.01	0.01	0.00
381.80	0.01	0.01	0.00
381.90	0.01	0.01	0.00
382.00	0.01	0.01	0.00
382.10	0.01	0.01	0.00
382.20	0.01	0.01	0.00
382.30	0.01	0.01	0.00
382.40	0.01	0.01	0.00
382.50	0.01	0.01	0.00
382.60	0.01	0.01	0.00
382.70	0.01	0.01	0.00
382.80	0.01	0.01	0.00
382.90	0.01	0.01	0.00
383.00	0.01	0.01	0.00
383.10	0.01	0.01	0.00
383.20	0.01	0.01	0.00
383.30	0.01	0.01	0.00
383.40	0.19	0.19	0.00
383.50	0.69	0.69	0.00
383.60	1.37	1.37	0.00
383.70	2.18	2.18	0.00
383.80	3.12	3.12	0.00
383.90	4.16	4.16	0.00
384.00	5.29	5.29	0.00
384.10	6.20	6.20	0.00
384.20	6.95	6.95	0.00
384.30	7.61	7.61	0.00
384.40	8.21	8.21	0.00
384.50	8.76	8.76	0.00
384.60	9.29	9.29	0.00
384.70	9.78	9.78	0.00
384.80	10.25	10.25	0.00
384.90	10.69	10.69	0.00
385.00	11.12	11.12	0.00
385.10	11.53	11.53	0.00
385.20	11.93	11.93	0.00
385.30	12.31	12.31	0.00
385.40	12.93	12.93	0.00
385.50	13.95	13.95	0.00
385.60	15.20	15.20	0.00
385.70	16.63	16.63	0.00
385.80	18.22	18.22	0.00
385.90	19.93	19.93	0.00
386.00	21.76	21.76	0.00
386.10	23.29	23.29	0.00
386.20	24.59	24.59	0.00
386.30	25.77	25.77	0.00
386.40	26.86	26.86	0.00
386.50	27.89	27.89	0.00
386.60	28.87	28.87	0.00
386.70	31.00	31.00	0.00
386.80	39.79	34.08	5.71
386.90	53.99	37.77	16.23
387.00	69.96	40.02	29.94
387.10	86.60	40.31	46.29
387.20	105.56	40.59	64.97
387.30	126.65	40.87	85.78
387.40	149.70	41.15	108.55
387.50	174.61	41.43	133.18
387.60	201.29	41.70	159.59
387.70	229.67	41.97	187.70
387.80	259.70	42.25	217.45
387.90	291.32	42.52	248.80
388.00	**324.49**	**42.78**	**281.70**

Summary for Pond RG3: Rain Garden #3

Inflow Area =	0.708 ac,	25.78% Impervious,	Inflow Depth =	1.11"	for 2-yr event
Inflow =	0.80 cfs @	11.99 hrs,	Volume=	0.066 af	
Outflow =	0.60 cfs @	12.25 hrs,	Volume=	0.066 af,	Atten= 25%, Lag= 15.7 min
Primary =	0.60 cfs @	12.25 hrs,	Volume=	0.066 af	
Secondary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 396.20' @ 12.25 hrs Surf.Area= 1,686 sf Storage= 1,074 cf

Plug-Flow detention time= 465.5 min calculated for 0.066 af (100% of inflow)
Center-of-Mass det. time= 463.9 min (1,265.1 - 801.2)

Volume	Invert	Avail.Storage	Storage Description
#1	395.00'	2,978 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	393.50'	61 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 608 cf Overall x 10.0% Voids
#3	392.00'	243 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 608 cf Overall x 40.0% Voids
		3,281 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	405	0	0
398.00	1,580	2,978	2,978

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.50	405	0	0
395.00	405	608	608

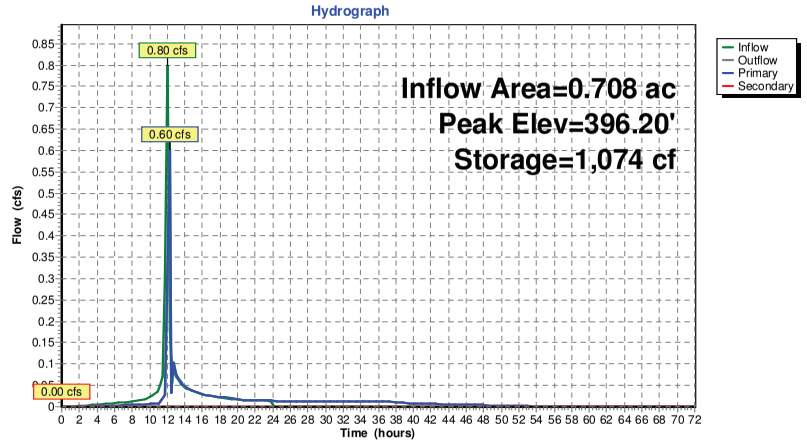
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
392.00	405	0	0
393.50	405	608	608

Device	Routing	Invert	Outlet Devices
#1	Primary	392.00'	**18.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 392.00' / 391.64' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	396.00'	**24.0" W x 4.0" H Vert. 1st Stage** C= 0.600
#3	Device 1	396.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	396.75'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 3.75 13.75 17.50 Height (feet) 1.25 0.00 0.00 1.25
#5	Device 1	391.00'	**0.5" Vert. UD** C= 0.600

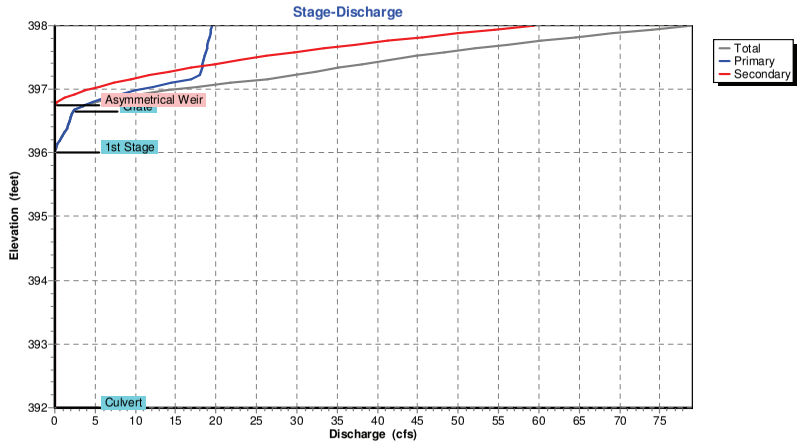
Primary OutFlow Max=0.59 cfs @ 12.25 hrs HW=396.20' (Free Discharge)
- **1=Culvert** (Passes 0.59 cfs of 15.81 cfs potential flow)
  - **2=1st Stage** (Orifice Controls 0.58 cfs @ 1.44 fps)
  - **3=Grate** (Controls 0.00 cfs)
  - **5=UD** (Orifice Controls 0.01 cfs @ 9.87 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' (Free Discharge)
- **4=Asymmetrical Weir** (Controls 0.00 cfs)

Pond RG3: Rain Garden #3



Pond RG3: Rain Garden #3



Hydrograph for Pond RG3: Rain Garden #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
2.50	0.00	4	392.03	0.00	0.00	0.00
5.00	0.01	28	392.17	0.00	0.00	0.00
7.50	0.01	72	392.44	0.00	0.00	0.00
10.00	**0.02**	**157**	**392.97**	**0.01**	**0.01**	0.00
12.50	**0.11**	**921**	**396.02**	**0.03**	**0.03**	0.00
15.00	0.04	923	396.02	0.04	0.04	0.00
17.50	0.02	915	396.01	0.02	0.02	0.00
20.00	0.02	908	396.00	0.02	0.02	0.00
22.50	0.02	906	396.00	0.02	0.02	0.00
25.00	0.00	864	395.95	0.01	0.01	0.00
27.50	0.00	747	395.79	0.01	0.01	0.00
30.00	0.00	634	395.62	0.01	0.01	0.00
32.50	0.00	522	395.44	0.01	0.01	0.00
35.00	0.00	414	395.24	0.01	0.01	0.00
37.50	0.00	310	395.01	0.01	0.01	0.00
40.00	0.00	226	393.39	0.01	0.01	0.00
42.50	0.00	161	393.00	0.01	0.01	0.00
45.00	0.00	108	392.66	0.01	0.01	0.00
47.50	0.00	65	392.40	0.00	0.00	0.00
50.00	0.00	33	392.20	0.00	0.00	0.00
52.50	0.00	12	392.07	0.00	0.00	0.00
55.00	0.00	3	392.02	0.00	0.00	0.00
57.50	0.00	1	392.00	0.00	0.00	0.00
60.00	0.00	0	392.00	0.00	0.00	0.00
62.50	0.00	0	392.00	0.00	0.00	0.00
65.00	0.00	0	392.00	0.00	0.00	0.00
67.50	0.00	0	392.00	0.00	0.00	0.00
70.00	0.00	0	392.00	0.00	0.00	0.00

Stage-Discharge for Pond RG3: Rain Garden #3

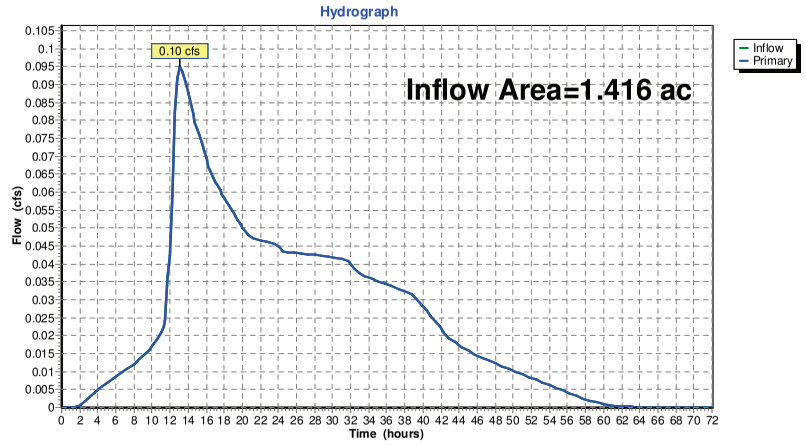
Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
392.00	0.00	0.00	0.00
392.10	0.00	0.00	0.00
392.20	0.00	0.00	0.00
392.30	0.00	0.00	0.00
392.40	0.00	0.00	0.00
392.50	0.00	0.00	0.00
392.60	0.01	0.01	0.00
392.70	0.01	0.01	0.00
392.80	0.01	0.01	0.00
392.90	0.01	0.01	0.00
393.00	0.01	0.01	0.00
393.10	0.01	0.01	0.00
393.20	0.01	0.01	0.00
393.30	0.01	0.01	0.00
393.40	0.01	0.01	0.00
393.50	0.01	0.01	0.00
393.60	0.01	0.01	0.00
393.70	0.01	0.01	0.00
393.80	0.01	0.01	0.00
393.90	0.01	0.01	0.00
394.00	0.01	0.01	0.00
394.10	0.01	0.01	0.00
394.20	0.01	0.01	0.00
394.30	0.01	0.01	0.00
394.40	0.01	0.01	0.00
394.50	0.01	0.01	0.00
394.60	0.01	0.01	0.00
394.70	0.01	0.01	0.00
394.80	0.01	0.01	0.00
394.90	0.01	0.01	0.00
395.00	0.01	0.01	0.00
395.10	0.01	0.01	0.00
395.20	0.01	0.01	0.00
395.30	0.01	0.01	0.00
395.40	0.01	0.01	0.00
395.50	0.01	0.01	0.00
395.60	0.01	0.01	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.22	0.22	0.00
396.20	0.59	0.59	0.00
396.30	1.07	1.07	0.00
396.40	1.53	1.53	0.00
396.50	1.85	1.85	0.00
396.60	2.11	2.11	0.00
396.70	2.77	2.77	0.00
396.80	5.12	4.75	0.37
396.90	9.44	7.47	1.97
397.00	15.08	10.75	4.33
397.10	21.84	14.50	7.34
397.20	28.89	17.95	10.94
397.30	33.25	18.15	15.10
397.40	38.16	18.35	19.81
397.50	43.61	18.54	25.06
397.60	49.59	18.74	30.85
397.70	56.11	18.93	37.18
397.80	63.17	19.12	44.05
397.90	70.77	19.31	51.46
398.00	**78.91**	**19.50**	**59.41**

Summary for Link 1L: INF Trench Collection

Inflow Area = 1.416 ac, 28.90% Impervious, Inflow Depth = 1.19" for 2-yr event
Inflow = 0.10 cfs @ 13.10 hrs, Volume= 0.140 af
Primary = 0.10 cfs @ 13.10 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link 1L: INF Trench Collection



Hydrograph for Link 1L: INF Trench Collection

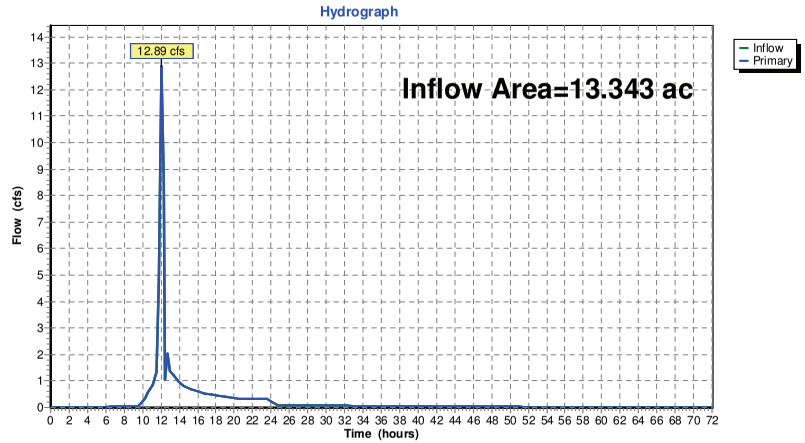
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	66.25	0.00	0.00	0.00
3.75	0.00	0.00	0.00	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.01	0.00	0.01	70.00	0.00	0.00	0.00
7.50	0.01	0.00	0.01	71.25	0.00	0.00	0.00
8.75	0.01	0.00	0.01				
10.00	0.02	0.00	0.02				
11.25	0.02	0.00	0.02				
12.50	**0.08**	0.00	**0.08**				
13.75	**0.09**	0.00	**0.09**				
15.00	0.08	0.00	0.08				
16.25	0.07	0.00	0.07				
17.50	0.06	0.00	0.06				
18.75	0.06	0.00	0.06				
20.00	0.05	0.00	0.05				
21.25	0.05	0.00	0.05				
22.50	0.05	0.00	0.05				
23.75	0.05	0.00	0.05				
25.00	0.04	0.00	0.04				
26.25	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.75	0.04	0.00	0.04				
30.00	0.04	0.00	0.04				
31.25	0.04	0.00	0.04				
32.50	0.04	0.00	0.04				
33.75	0.04	0.00	0.04				
35.00	0.04	0.00	0.04				
36.25	0.03	0.00	0.03				
37.50	0.03	0.00	0.03				
38.75	0.03	0.00	0.03				
40.00	0.03	0.00	0.03				
41.25	0.02	0.00	0.02				
42.50	0.02	0.00	0.02				
43.75	0.02	0.00	0.02				
45.00	0.02	0.00	0.02				
46.25	0.01	0.00	0.01				
47.50	0.01	0.00	0.01				
48.75	0.01	0.00	0.01				
50.00	0.01	0.00	0.01				
51.25	0.01	0.00	0.01				
52.50	0.01	0.00	0.01				
53.75	0.01	0.00	0.01				
55.00	0.01	0.00	0.01				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link POI East: Prop POI East

Inflow Area = 13.343 ac, 28.42% Impervious, Inflow Depth > 1.21" for 2-yr event
Inflow = 12.89 cfs @ 12.04 hrs, Volume= 1.341 af
Primary = 12.89 cfs @ 12.04 hrs, Volume= 1.341 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link POI East: Prop POI East



Hydrograph for Link POI East: Prop POI East

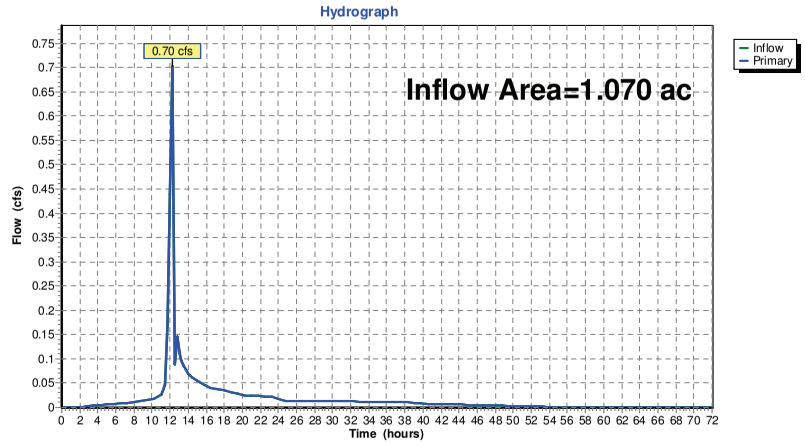
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.01	0.00	0.01
1.25	0.00	0.00	0.00	65.00	0.01	0.00	0.01
2.50	0.00	0.00	0.00	66.25	0.01	0.00	0.01
3.75	0.01	0.00	0.01	67.50	0.01	0.00	0.01
5.00	0.01	0.00	0.01	68.75	0.01	0.00	0.01
6.25	0.02	0.00	0.02	70.00	0.01	0.00	0.01
7.50	0.03	0.00	0.03	71.25	0.01	0.00	0.01
8.75	0.04	0.00	0.04				
10.00	0.23	0.00	0.23				
11.25	**0.94**	0.00	**0.94**				
12.50	**1.06**	0.00	**1.06**				
13.75	1.03	0.00	1.03				
15.00	0.74	0.00	0.74				
16.25	0.56	0.00	0.56				
17.50	0.49	0.00	0.49				
18.75	0.42	0.00	0.42				
20.00	0.35	0.00	0.35				
21.25	0.33	0.00	0.33				
22.50	0.32	0.00	0.32				
23.75	0.30	0.00	0.30				
25.00	0.07	0.00	0.07				
26.25	0.07	0.00	0.07				
27.50	0.07	0.00	0.07				
28.75	0.07	0.00	0.07				
30.00	0.07	0.00	0.07				
31.25	0.06	0.00	0.06				
32.50	0.06	0.00	0.06				
33.75	0.06	0.00	0.06				
35.00	0.06	0.00	0.06				
36.25	0.05	0.00	0.05				
37.50	0.05	0.00	0.05				
38.75	0.05	0.00	0.05				
40.00	0.05	0.00	0.05				
41.25	0.04	0.00	0.04				
42.50	0.04	0.00	0.04				
43.75	0.03	0.00	0.03				
45.00	0.03	0.00	0.03				
46.25	0.03	0.00	0.03				
47.50	0.03	0.00	0.03				
48.75	0.02	0.00	0.02				
50.00	0.02	0.00	0.02				
51.25	0.02	0.00	0.02				
52.50	0.02	0.00	0.02				
53.75	0.02	0.00	0.02				
55.00	0.02	0.00	0.02				
56.25	0.01	0.00	0.01				
57.50	0.01	0.00	0.01				
58.75	0.01	0.00	0.01				
60.00	0.01	0.00	0.01				
61.25	0.01	0.00	0.01				
62.50	0.01	0.00	0.01				

Summary for Link PR POI W: PR POI - West

Inflow Area = 1.070 ac, 25.17% Impervious, Inflow Depth = 1.10" for 2-yr event
Inflow = 0.70 cfs @ 12.20 hrs, Volume= 0.098 af
Primary = 0.70 cfs @ 12.20 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link PR POI W: PR POI - West



Hydrograph for Link PR POI W: PR POI - West

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	66.25	0.00	0.00	0.00
3.75	0.00	0.00	0.00	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.01	0.00	0.01	70.00	0.00	0.00	0.00
7.50	0.01	0.00	0.01	71.25	0.00	0.00	0.00
8.75	0.01	0.00	0.01				
10.00	0.02	0.00	0.02				
11.25	**0.03**	0.00	**0.03**				
12.50	**0.09**	0.00	**0.09**				
13.75	0.08	0.00	0.08				
15.00	0.05	0.00	0.05				
16.25	0.04	0.00	0.04				
17.50	0.04	0.00	0.04				
18.75	0.03	0.00	0.03				
20.00	0.03	0.00	0.03				
21.25	0.02	0.00	0.02				
22.50	0.02	0.00	0.02				
23.75	0.02	0.00	0.02				
25.00	0.01	0.00	0.01				
26.25	0.01	0.00	0.01				
27.50	0.01	0.00	0.01				
28.75	0.01	0.00	0.01				
30.00	0.01	0.00	0.01				
31.25	0.01	0.00	0.01				
32.50	0.01	0.00	0.01				
33.75	0.01	0.00	0.01				
35.00	0.01	0.00	0.01				
36.25	0.01	0.00	0.01				
37.50	0.01	0.00	0.01				
38.75	0.01	0.00	0.01				
40.00	0.01	0.00	0.01				
41.25	0.01	0.00	0.01				
42.50	0.01	0.00	0.01				
43.75	0.01	0.00	0.01				
45.00	0.01	0.00	0.01				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment Gr 1-6: PR Grass (1-6)

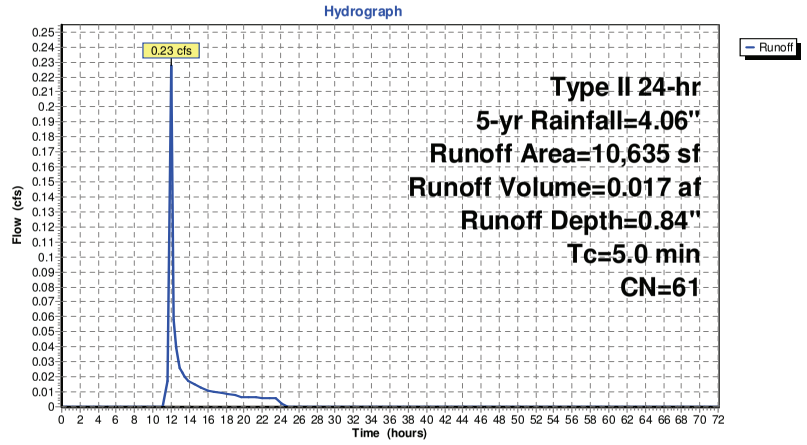
Runoff = 0.23 cfs @ 12.01 hrs, Volume= 0.017 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
10,635	61	>75% Grass cover, Good, HSG B
10,635		100.00% Pervious Area

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

Subcatchment Gr 1-6: PR Grass (1-6)



Hydrograph for Subcatchment Gr 1-6: PR Grass (1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.84	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.84	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.84	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.84	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.84	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.84	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.84	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.36	**0.04**				
13.75	3.29	0.48	0.02				
15.00	3.47	0.56	0.01				
16.25	3.60	0.62	0.01				
17.50	3.70	0.67	0.01				
18.75	3.79	0.71	0.01				
20.00	3.87	0.74	0.01				
21.25	3.93	0.78	0.01				
22.50	3.99	0.81	0.01				
23.75	**4.05**	**0.84**	0.01				
25.00	**4.06**	**0.84**	0.00				
26.25	4.06	0.84	0.00				
27.50	4.06	0.84	0.00				
28.75	4.06	0.84	0.00				
30.00	4.06	0.84	0.00				
31.25	4.06	0.84	0.00				
32.50	4.06	0.84	0.00				
33.75	4.06	0.84	0.00				
35.00	4.06	0.84	0.00				
36.25	4.06	0.84	0.00				
37.50	4.06	0.84	0.00				
38.75	4.06	0.84	0.00				
40.00	4.06	0.84	0.00				
41.25	4.06	0.84	0.00				
42.50	4.06	0.84	0.00				
43.75	4.06	0.84	0.00				
45.00	4.06	0.84	0.00				
46.25	4.06	0.84	0.00				
47.50	4.06	0.84	0.00				
48.75	4.06	0.84	0.00				
50.00	4.06	0.84	0.00				
51.25	4.06	0.84	0.00				
52.50	4.06	0.84	0.00				
53.75	4.06	0.84	0.00				
55.00	4.06	0.84	0.00				
56.25	4.06	0.84	0.00				
57.50	4.06	0.84	0.00				
58.75	4.06	0.84	0.00				
60.00	4.06	0.84	0.00				
61.25	4.06	0.84	0.00				
62.50	4.06	0.84	0.00				

Summary for Subcatchment Gr 14-17: PR Grass (14-17)

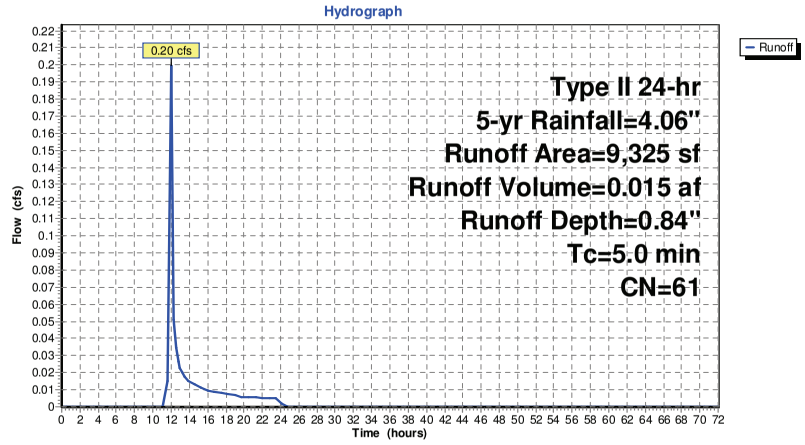
Runoff = 0.20 cfs @ 12.01 hrs, Volume= 0.015 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
9,325	61	>75% Grass cover, Good, HSG B
9,325		100.00% Pervious Area

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

Subcatchment Gr 14-17: PR Grass (14-17)



Hydrograph for Subcatchment Gr 14-17: PR Grass (14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.84	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.84	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.84	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.84	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.84	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.84	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.84	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.36	**0.03**				
13.75	3.29	0.48	0.02				
15.00	3.47	0.56	0.01				
16.25	3.60	0.62	0.01				
17.50	3.70	0.67	0.01				
18.75	3.79	0.71	0.01				
20.00	3.87	0.74	0.01				
21.25	3.93	0.78	0.01				
22.50	3.99	0.81	0.01				
23.75	**4.05**	**0.84**	0.01				
25.00	**4.06**	**0.84**	0.00				
26.25	4.06	0.84	0.00				
27.50	4.06	0.84	0.00				
28.75	4.06	0.84	0.00				
30.00	4.06	0.84	0.00				
31.25	4.06	0.84	0.00				
32.50	4.06	0.84	0.00				
33.75	4.06	0.84	0.00				
35.00	4.06	0.84	0.00				
36.25	4.06	0.84	0.00				
37.50	4.06	0.84	0.00				
38.75	4.06	0.84	0.00				
40.00	4.06	0.84	0.00				
41.25	4.06	0.84	0.00				
42.50	4.06	0.84	0.00				
43.75	4.06	0.84	0.00				
45.00	4.06	0.84	0.00				
46.25	4.06	0.84	0.00				
47.50	4.06	0.84	0.00				
48.75	4.06	0.84	0.00				
50.00	4.06	0.84	0.00				
51.25	4.06	0.84	0.00				
52.50	4.06	0.84	0.00				
53.75	4.06	0.84	0.00				
55.00	4.06	0.84	0.00				
56.25	4.06	0.84	0.00				
57.50	4.06	0.84	0.00				
58.75	4.06	0.84	0.00				
60.00	4.06	0.84	0.00				
61.25	4.06	0.84	0.00				
62.50	4.06	0.84	0.00				

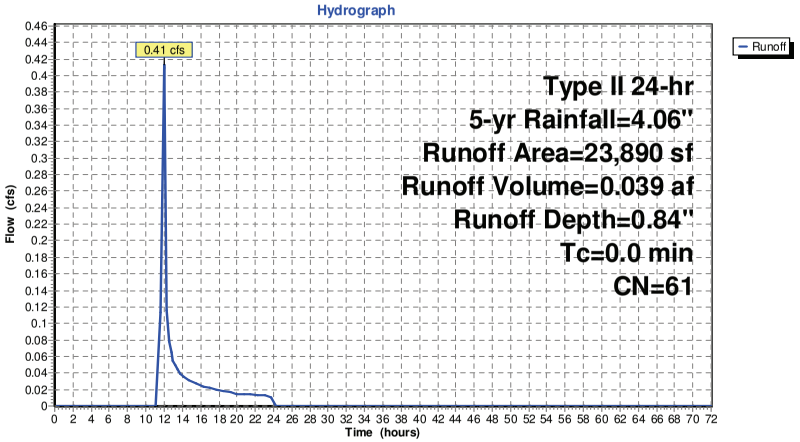
Summary for Subcatchment Gr 7-13: PR Grass (7-13)

Runoff = 0.41 cfs @ 11.97 hrs, Volume= 0.039 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
23,890	61	>75% Grass cover, Good, HSG B
23,890		100.00% Pervious Area

Subcatchment Gr 7-13: PR Grass (7-13)



Hydrograph for Subcatchment Gr 7-13: PR Grass (7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.84	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.84	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.84	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.84	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.84	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.84	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.84	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.36	**0.08**				
13.75	3.29	0.48	0.04				
15.00	3.47	0.56	0.03				
16.25	3.60	0.62	0.02				
17.50	3.70	0.67	0.02				
18.75	3.79	0.71	0.02				
20.00	3.87	0.74	0.01				
21.25	3.93	0.78	0.01				
22.50	3.99	0.81	0.01				
23.75	**4.05**	**0.84**	0.01				
25.00	**4.06**	**0.84**	0.00				
26.25	4.06	0.84	0.00				
27.50	4.06	0.84	0.00				
28.75	4.06	0.84	0.00				
30.00	4.06	0.84	0.00				
31.25	4.06	0.84	0.00				
32.50	4.06	0.84	0.00				
33.75	4.06	0.84	0.00				
35.00	4.06	0.84	0.00				
36.25	4.06	0.84	0.00				
37.50	4.06	0.84	0.00				
38.75	4.06	0.84	0.00				
40.00	4.06	0.84	0.00				
41.25	4.06	0.84	0.00				
42.50	4.06	0.84	0.00				
43.75	4.06	0.84	0.00				
45.00	4.06	0.84	0.00				
46.25	4.06	0.84	0.00				
47.50	4.06	0.84	0.00				
48.75	4.06	0.84	0.00				
50.00	4.06	0.84	0.00				
51.25	4.06	0.84	0.00				
52.50	4.06	0.84	0.00				
53.75	4.06	0.84	0.00				
55.00	4.06	0.84	0.00				
56.25	4.06	0.84	0.00				
57.50	4.06	0.84	0.00				
58.75	4.06	0.84	0.00				
60.00	4.06	0.84	0.00				
61.25	4.06	0.84	0.00				
62.50	4.06	0.84	0.00				

Summary for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

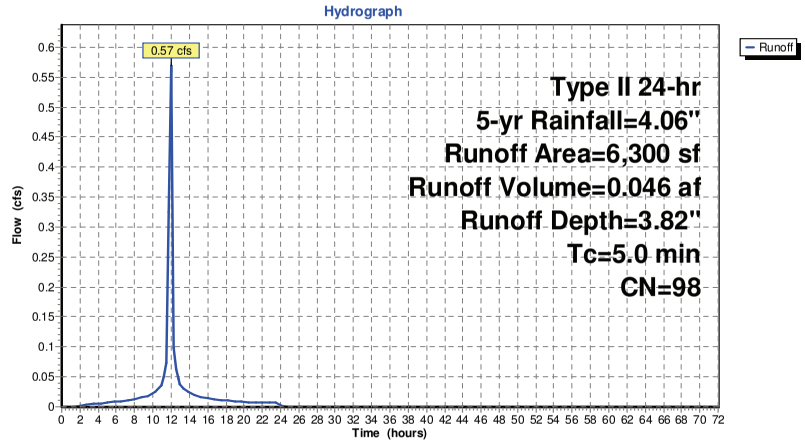
Runoff = 0.57 cfs @ 11.96 hrs, Volume= 0.046 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
6,300	98	Roofs, HSG B
6,300		100.00% Impervious Area

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

Subcatchment Imp 1-6: PR Imp (Roof 1-6)



Hydrograph for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	3.82	0.00
1.25	0.05	0.00	0.00	65.00	4.06	3.82	0.00
2.50	0.11	0.02	0.00	66.25	4.06	3.82	0.00
3.75	0.18	0.06	0.01	67.50	4.06	3.82	0.00
5.00	0.26	0.11	0.01	68.75	4.06	3.82	0.00
6.25	0.34	0.18	0.01	70.00	4.06	3.82	0.00
7.50	0.44	0.27	0.01	71.25	4.06	3.82	0.00
8.75	0.57	0.38	0.02				
10.00	0.73	0.54	0.02				
11.25	1.04	0.83	**0.05**				
12.50	2.98	2.75	**0.06**				
13.75	3.29	3.06	0.03				
15.00	3.47	3.23	0.02				
16.25	3.60	3.36	0.01				
17.50	3.70	3.47	0.01				
18.75	3.79	3.56	0.01				
20.00	3.87	3.63	0.01				
21.25	3.93	3.69	0.01				
22.50	3.99	3.76	0.01				
23.75	**4.05**	**3.81**	0.01				
25.00	**4.06**	**3.82**	0.00				
26.25	4.06	3.82	0.00				
27.50	4.06	3.82	0.00				
28.75	4.06	3.82	0.00				
30.00	4.06	3.82	0.00				
31.25	4.06	3.82	0.00				
32.50	4.06	3.82	0.00				
33.75	4.06	3.82	0.00				
35.00	4.06	3.82	0.00				
36.25	4.06	3.82	0.00				
37.50	4.06	3.82	0.00				
38.75	4.06	3.82	0.00				
40.00	4.06	3.82	0.00				
41.25	4.06	3.82	0.00				
42.50	4.06	3.82	0.00				
43.75	4.06	3.82	0.00				
45.00	4.06	3.82	0.00				
46.25	4.06	3.82	0.00				
47.50	4.06	3.82	0.00				
48.75	4.06	3.82	0.00				
50.00	4.06	3.82	0.00				
51.25	4.06	3.82	0.00				
52.50	4.06	3.82	0.00				
53.75	4.06	3.82	0.00				
55.00	4.06	3.82	0.00				
56.25	4.06	3.82	0.00				
57.50	4.06	3.82	0.00				
58.75	4.06	3.82	0.00				
60.00	4.06	3.82	0.00				
61.25	4.06	3.82	0.00				
62.50	4.06	3.82	0.00				

Summary for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

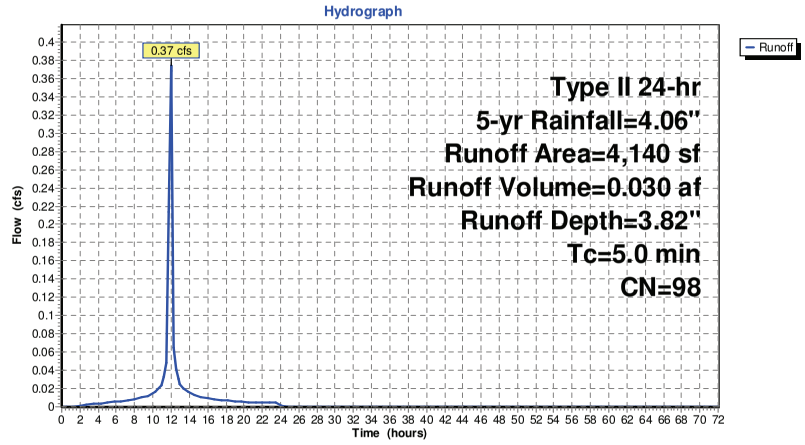
Runoff = 0.37 cfs @ 11.96 hrs, Volume= 0.030 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
4,140	98	Roofs, HSG B
4,140		100.00% Impervious Area

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

Subcatchment Imp 14-17: PR Imp (Roof 14-17)



Hydrograph for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	3.82	0.00
1.25	0.05	0.00	0.00	65.00	4.06	3.82	0.00
2.50	0.11	0.02	0.00	66.25	4.06	3.82	0.00
3.75	0.18	0.06	0.00	67.50	4.06	3.82	0.00
5.00	0.26	0.11	0.00	68.75	4.06	3.82	0.00
6.25	0.34	0.18	0.01	70.00	4.06	3.82	0.00
7.50	0.44	0.27	0.01	71.25	4.06	3.82	0.00
8.75	0.57	0.38	0.01				
10.00	0.73	0.54	0.01				
11.25	1.04	0.83	**0.03**				
12.50	2.98	2.75	**0.04**				
13.75	3.29	3.06	0.02				
15.00	3.47	3.23	0.01				
16.25	3.60	3.36	0.01				
17.50	3.70	3.47	0.01				
18.75	3.79	3.56	0.01				
20.00	3.87	3.63	0.01				
21.25	3.93	3.69	0.00				
22.50	3.99	3.76	0.00				
23.75	**4.05**	**3.81**	0.00				
25.00	**4.06**	**3.82**	0.00				
26.25	4.06	3.82	0.00				
27.50	4.06	3.82	0.00				
28.75	4.06	3.82	0.00				
30.00	4.06	3.82	0.00				
31.25	4.06	3.82	0.00				
32.50	4.06	3.82	0.00				
33.75	4.06	3.82	0.00				
35.00	4.06	3.82	0.00				
36.25	4.06	3.82	0.00				
37.50	4.06	3.82	0.00				
38.75	4.06	3.82	0.00				
40.00	4.06	3.82	0.00				
41.25	4.06	3.82	0.00				
42.50	4.06	3.82	0.00				
43.75	4.06	3.82	0.00				
45.00	4.06	3.82	0.00				
46.25	4.06	3.82	0.00				
47.50	4.06	3.82	0.00				
48.75	4.06	3.82	0.00				
50.00	4.06	3.82	0.00				
51.25	4.06	3.82	0.00				
52.50	4.06	3.82	0.00				
53.75	4.06	3.82	0.00				
55.00	4.06	3.82	0.00				
56.25	4.06	3.82	0.00				
57.50	4.06	3.82	0.00				
58.75	4.06	3.82	0.00				
60.00	4.06	3.82	0.00				
61.25	4.06	3.82	0.00				
62.50	4.06	3.82	0.00				

Summary for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

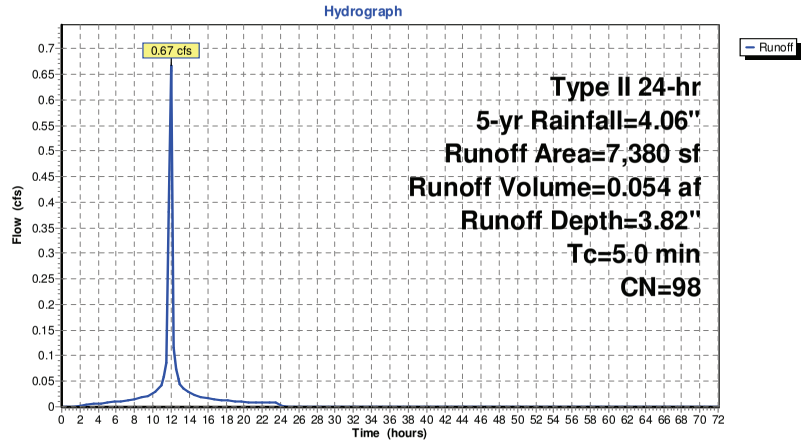
Runoff = 0.67 cfs @ 11.96 hrs, Volume= 0.054 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
7,380	98	Roofs, HSG B
7,380		100.00% Impervious Area

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

Subcatchment Imp 7-13: PR Imp (Roof 7-13)



Hydrograph for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	3.82	0.00
1.25	0.05	0.00	0.00	65.00	4.06	3.82	0.00
2.50	0.11	0.02	0.00	66.25	4.06	3.82	0.00
3.75	0.18	0.06	0.01	67.50	4.06	3.82	0.00
5.00	0.26	0.11	0.01	68.75	4.06	3.82	0.00
6.25	0.34	0.18	0.01	70.00	4.06	3.82	0.00
7.50	0.44	0.27	0.01	71.25	4.06	3.82	0.00
8.75	0.57	0.38	0.02				
10.00	0.73	0.54	0.03				
11.25	1.04	0.83	**0.06**				
12.50	2.98	2.75	**0.07**				
13.75	3.29	3.06	0.03				
15.00	3.47	3.23	0.02				
16.25	3.60	3.36	0.02				
17.50	3.70	3.47	0.01				
18.75	3.79	3.56	0.01				
20.00	3.87	3.63	0.01				
21.25	3.93	3.69	0.01				
22.50	3.99	3.76	0.01				
23.75	**4.05**	**3.81**	0.01				
25.00	**4.06**	**3.82**	0.00				
26.25	4.06	3.82	0.00				
27.50	4.06	3.82	0.00				
28.75	4.06	3.82	0.00				
30.00	4.06	3.82	0.00				
31.25	4.06	3.82	0.00				
32.50	4.06	3.82	0.00				
33.75	4.06	3.82	0.00				
35.00	4.06	3.82	0.00				
36.25	4.06	3.82	0.00				
37.50	4.06	3.82	0.00				
38.75	4.06	3.82	0.00				
40.00	4.06	3.82	0.00				
41.25	4.06	3.82	0.00				
42.50	4.06	3.82	0.00				
43.75	4.06	3.82	0.00				
45.00	4.06	3.82	0.00				
46.25	4.06	3.82	0.00				
47.50	4.06	3.82	0.00				
48.75	4.06	3.82	0.00				
50.00	4.06	3.82	0.00				
51.25	4.06	3.82	0.00				
52.50	4.06	3.82	0.00				
53.75	4.06	3.82	0.00				
55.00	4.06	3.82	0.00				
56.25	4.06	3.82	0.00				
57.50	4.06	3.82	0.00				
58.75	4.06	3.82	0.00				
60.00	4.06	3.82	0.00				
61.25	4.06	3.82	0.00				
62.50	4.06	3.82	0.00				

Summary for Subcatchment PR RG2 Gr: PR Grass RG2

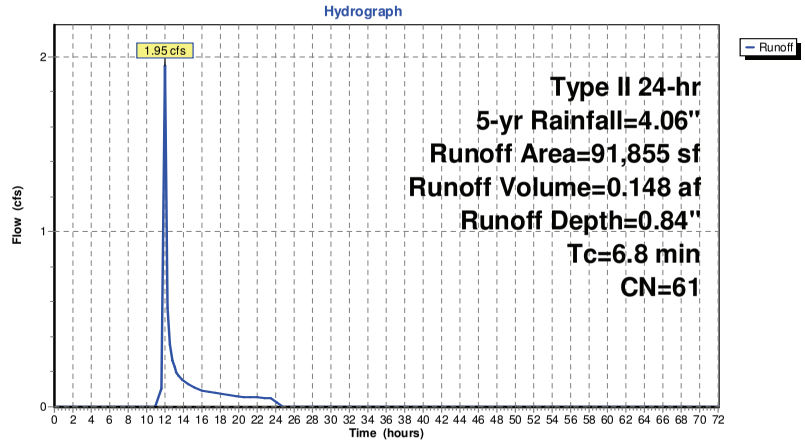
Runoff = 1.95 cfs @ 12.01 hrs, Volume= 0.148 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
91,855	61	>75% Grass cover, Good, HSG B
91,855		100.00% Pervious Area

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

Subcatchment PR RG2 Gr: PR Grass RG2



Hydrograph for Subcatchment PR RG2 Gr: PR Grass RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.84	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.84	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.84	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.84	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.84	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.84	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.84	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.36	**0.36**				
13.75	3.29	0.48	0.16				
15.00	3.47	0.56	0.12				
16.25	3.60	0.62	0.09				
17.50	3.70	0.67	0.08				
18.75	3.79	0.71	0.07				
20.00	3.87	0.74	0.06				
21.25	3.93	0.78	0.05				
22.50	3.99	0.81	0.05				
23.75	**4.05**	**0.84**	0.05				
25.00	**4.06**	**0.84**	0.00				
26.25	4.06	0.84	0.00				
27.50	4.06	0.84	0.00				
28.75	4.06	0.84	0.00				
30.00	4.06	0.84	0.00				
31.25	4.06	0.84	0.00				
32.50	4.06	0.84	0.00				
33.75	4.06	0.84	0.00				
35.00	4.06	0.84	0.00				
36.25	4.06	0.84	0.00				
37.50	4.06	0.84	0.00				
38.75	4.06	0.84	0.00				
40.00	4.06	0.84	0.00				
41.25	4.06	0.84	0.00				
42.50	4.06	0.84	0.00				
43.75	4.06	0.84	0.00				
45.00	4.06	0.84	0.00				
46.25	4.06	0.84	0.00				
47.50	4.06	0.84	0.00				
48.75	4.06	0.84	0.00				
50.00	4.06	0.84	0.00				
51.25	4.06	0.84	0.00				
52.50	4.06	0.84	0.00				
53.75	4.06	0.84	0.00				
55.00	4.06	0.84	0.00				
56.25	4.06	0.84	0.00				
57.50	4.06	0.84	0.00				
58.75	4.06	0.84	0.00				
60.00	4.06	0.84	0.00				
61.25	4.06	0.84	0.00				
62.50	4.06	0.84	0.00				

Summary for Subcatchment PR RG2 Imp: PR Imp RG2

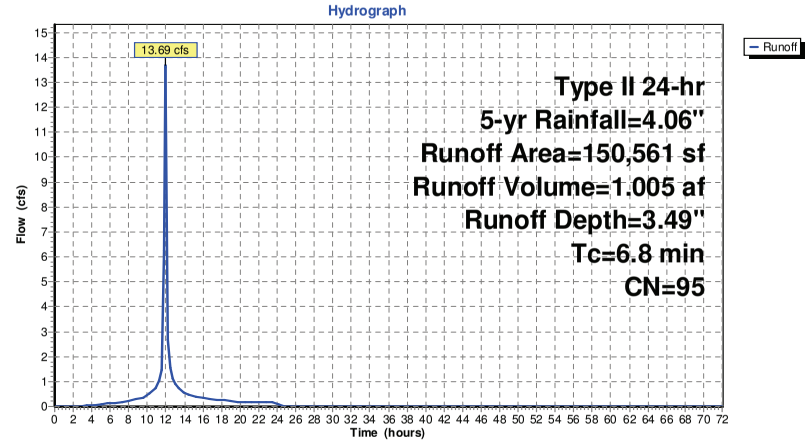
Runoff = 13.69 cfs @ 11.98 hrs, Volume= 1.005 af, Depth= 3.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
62,832	98	Paved roads w/curbs & sewers, HSG B
36,249	85	Gravel roads, HSG B
51,480	98	Roofs, HSG B
150,561	95	Weighted Average
36,249		24.08% Pervious Area
114,312		75.92% Impervious Area

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

Subcatchment PR RG2 Imp: PR Imp RG2



Hydrograph for Subcatchment PR RG2 Imp: PR Imp RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	3.49	0.00
1.25	0.05	0.00	0.00	65.00	4.06	3.49	0.00
2.50	0.11	0.00	0.00	66.25	4.06	3.49	0.00
3.75	0.18	0.01	0.04	67.50	4.06	3.49	0.00
5.00	0.26	0.03	0.09	68.75	4.06	3.49	0.00
6.25	0.34	0.07	0.13	70.00	4.06	3.49	0.00
7.50	0.44	0.13	0.18	71.25	4.06	3.49	0.00
8.75	0.57	0.21	0.29				
10.00	0.73	0.34	0.43				
11.25	1.04	0.60	**1.05**				
12.50	2.98	2.43	**1.54**				
13.75	3.29	2.73	0.61				
15.00	3.47	2.90	0.43				
16.25	3.60	3.03	0.31				
17.50	3.70	3.14	0.27				
18.75	3.79	3.23	0.23				
20.00	3.87	3.30	0.18				
21.25	3.93	3.36	0.17				
22.50	3.99	3.42	0.16				
23.75	**4.05**	**3.48**	0.16				
25.00	**4.06**	**3.49**	0.00				
26.25	4.06	3.49	0.00				
27.50	4.06	3.49	0.00				
28.75	4.06	3.49	0.00				
30.00	4.06	3.49	0.00				
31.25	4.06	3.49	0.00				
32.50	4.06	3.49	0.00				
33.75	4.06	3.49	0.00				
35.00	4.06	3.49	0.00				
36.25	4.06	3.49	0.00				
37.50	4.06	3.49	0.00				
38.75	4.06	3.49	0.00				
40.00	4.06	3.49	0.00				
41.25	4.06	3.49	0.00				
42.50	4.06	3.49	0.00				
43.75	4.06	3.49	0.00				
45.00	4.06	3.49	0.00				
46.25	4.06	3.49	0.00				
47.50	4.06	3.49	0.00				
48.75	4.06	3.49	0.00				
50.00	4.06	3.49	0.00				
51.25	4.06	3.49	0.00				
52.50	4.06	3.49	0.00				
53.75	4.06	3.49	0.00				
55.00	4.06	3.49	0.00				
56.25	4.06	3.49	0.00				
57.50	4.06	3.49	0.00				
58.75	4.06	3.49	0.00				
60.00	4.06	3.49	0.00				
61.25	4.06	3.49	0.00				
62.50	4.06	3.49	0.00				

Summary for Subcatchment PR RG3 Gr: PR Grass RG3

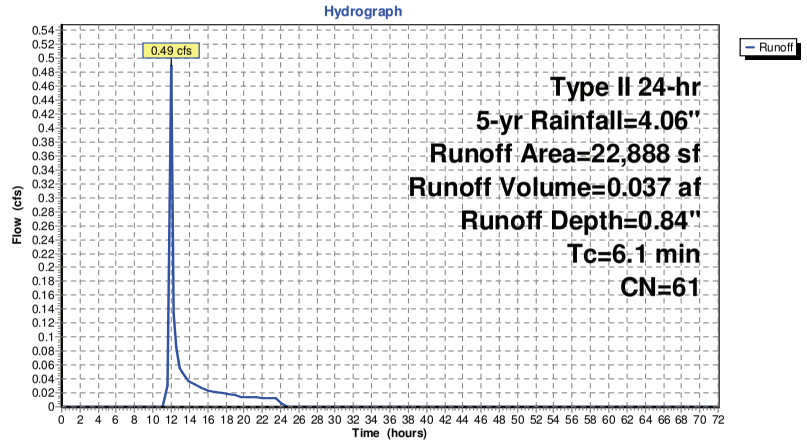
Runoff = 0.49 cfs @ 12.01 hrs, Volume= 0.037 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
22,888	61	>75% Grass cover, Good, HSG B
22,888		100.00% Pervious Area

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

Subcatchment PR RG3 Gr: PR Grass RG3



Hydrograph for Subcatchment PR RG3 Gr: PR Grass RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.84	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.84	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.84	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.84	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.84	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.84	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.84	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.36	**0.09**				
13.75	3.29	0.48	0.04				
15.00	3.47	0.56	0.03				
16.25	3.60	0.62	0.02				
17.50	3.70	0.67	0.02				
18.75	3.79	0.71	0.02				
20.00	3.87	0.74	0.01				
21.25	3.93	0.78	0.01				
22.50	3.99	0.81	0.01				
23.75	**4.05**	**0.84**	0.01				
25.00	**4.06**	**0.84**	0.00				
26.25	4.06	0.84	0.00				
27.50	4.06	0.84	0.00				
28.75	4.06	0.84	0.00				
30.00	4.06	0.84	0.00				
31.25	4.06	0.84	0.00				
32.50	4.06	0.84	0.00				
33.75	4.06	0.84	0.00				
35.00	4.06	0.84	0.00				
36.25	4.06	0.84	0.00				
37.50	4.06	0.84	0.00				
38.75	4.06	0.84	0.00				
40.00	4.06	0.84	0.00				
41.25	4.06	0.84	0.00				
42.50	4.06	0.84	0.00				
43.75	4.06	0.84	0.00				
45.00	4.06	0.84	0.00				
46.25	4.06	0.84	0.00				
47.50	4.06	0.84	0.00				
48.75	4.06	0.84	0.00				
50.00	4.06	0.84	0.00				
51.25	4.06	0.84	0.00				
52.50	4.06	0.84	0.00				
53.75	4.06	0.84	0.00				
55.00	4.06	0.84	0.00				
56.25	4.06	0.84	0.00				
57.50	4.06	0.84	0.00				
58.75	4.06	0.84	0.00				
60.00	4.06	0.84	0.00				
61.25	4.06	0.84	0.00				
62.50	4.06	0.84	0.00				

Summary for Subcatchment PR RG3 Imp: PR Imp RG3

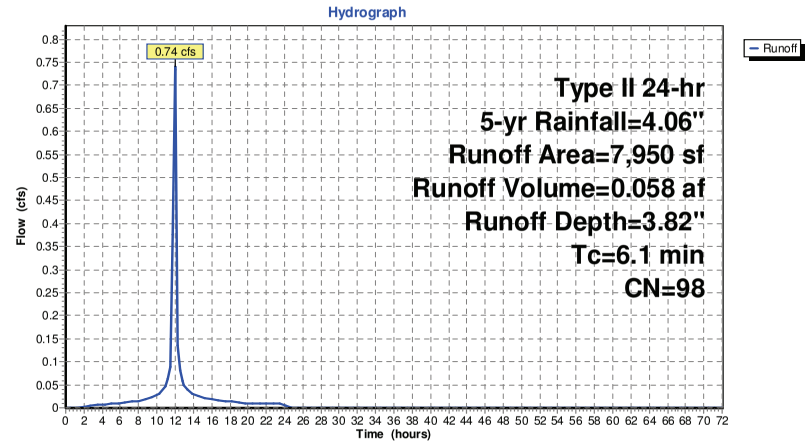
Runoff = 0.74 cfs @ 11.97 hrs, Volume= 0.058 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
7,950	98	Paved parking, HSG B
7,950		100.00% Impervious Area

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

Subcatchment PR RG3 Imp: PR Imp RG3



Hydrograph for Subcatchment PR RG3 Imp: PR Imp RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	3.82	0.00
1.25	0.05	0.00	0.00	65.00	4.06	3.82	0.00
2.50	0.11	0.02	0.00	66.25	4.06	3.82	0.00
3.75	0.18	0.06	0.01	67.50	4.06	3.82	0.00
5.00	0.26	0.11	0.01	68.75	4.06	3.82	0.00
6.25	0.34	0.18	0.01	70.00	4.06	3.82	0.00
7.50	0.44	0.27	0.01	71.25	4.06	3.82	0.00
8.75	0.57	0.38	0.02				
10.00	0.73	0.54	0.03				
11.25	1.04	0.83	**0.06**				
12.50	2.98	2.75	**0.08**				
13.75	3.29	3.06	0.03				
15.00	3.47	3.23	0.02				
16.25	3.60	3.36	0.02				
17.50	3.70	3.47	0.01				
18.75	3.79	3.56	0.01				
20.00	3.87	3.63	0.01				
21.25	3.93	3.69	0.01				
22.50	3.99	3.76	0.01				
23.75	**4.05**	**3.81**	0.01				
25.00	**4.06**	**3.82**	0.00				
26.25	4.06	3.82	0.00				
27.50	4.06	3.82	0.00				
28.75	4.06	3.82	0.00				
30.00	4.06	3.82	0.00				
31.25	4.06	3.82	0.00				
32.50	4.06	3.82	0.00				
33.75	4.06	3.82	0.00				
35.00	4.06	3.82	0.00				
36.25	4.06	3.82	0.00				
37.50	4.06	3.82	0.00				
38.75	4.06	3.82	0.00				
40.00	4.06	3.82	0.00				
41.25	4.06	3.82	0.00				
42.50	4.06	3.82	0.00				
43.75	4.06	3.82	0.00				
45.00	4.06	3.82	0.00				
46.25	4.06	3.82	0.00				
47.50	4.06	3.82	0.00				
48.75	4.06	3.82	0.00				
50.00	4.06	3.82	0.00				
51.25	4.06	3.82	0.00				
52.50	4.06	3.82	0.00				
53.75	4.06	3.82	0.00				
55.00	4.06	3.82	0.00				
56.25	4.06	3.82	0.00				
57.50	4.06	3.82	0.00				
58.75	4.06	3.82	0.00				
60.00	4.06	3.82	0.00				
61.25	4.06	3.82	0.00				
62.50	4.06	3.82	0.00				

Summary for Subcatchment PRGr RG1: PR Grass RG1

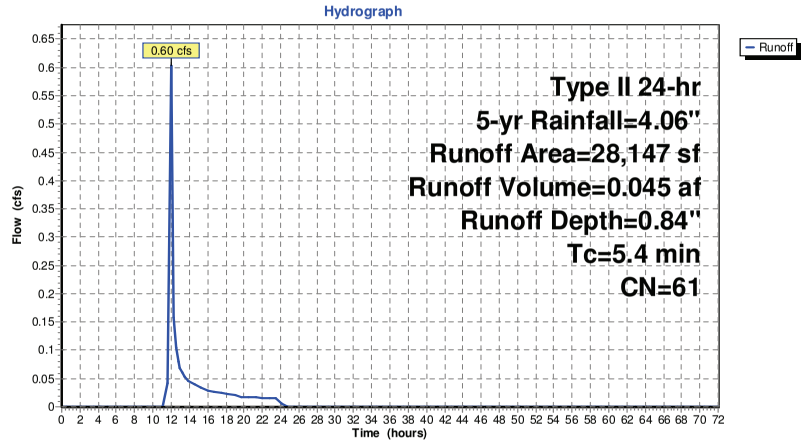
Runoff = 0.60 cfs @ 12.01 hrs, Volume= 0.045 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
28,147	61	>75% Grass cover, Good, HSG B
28,147		100.00% Pervious Area

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

Subcatchment PRGr RG1: PR Grass RG1



Hydrograph for Subcatchment PRGr RG1: PR Grass RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.84	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.84	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.84	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.84	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.84	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.84	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.84	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.36	**0.10**				
13.75	3.29	0.48	0.05				
15.00	3.47	0.56	0.04				
16.25	3.60	0.62	0.03				
17.50	3.70	0.67	0.02				
18.75	3.79	0.71	0.02				
20.00	3.87	0.74	0.02				
21.25	3.93	0.78	0.02				
22.50	3.99	0.81	0.02				
23.75	**4.05**	**0.84**	0.02				
25.00	**4.06**	**0.84**	0.00				
26.25	4.06	0.84	0.00				
27.50	4.06	0.84	0.00				
28.75	4.06	0.84	0.00				
30.00	4.06	0.84	0.00				
31.25	4.06	0.84	0.00				
32.50	4.06	0.84	0.00				
33.75	4.06	0.84	0.00				
35.00	4.06	0.84	0.00				
36.25	4.06	0.84	0.00				
37.50	4.06	0.84	0.00				
38.75	4.06	0.84	0.00				
40.00	4.06	0.84	0.00				
41.25	4.06	0.84	0.00				
42.50	4.06	0.84	0.00				
43.75	4.06	0.84	0.00				
45.00	4.06	0.84	0.00				
46.25	4.06	0.84	0.00				
47.50	4.06	0.84	0.00				
48.75	4.06	0.84	0.00				
50.00	4.06	0.84	0.00				
51.25	4.06	0.84	0.00				
52.50	4.06	0.84	0.00				
53.75	4.06	0.84	0.00				
55.00	4.06	0.84	0.00				
56.25	4.06	0.84	0.00				
57.50	4.06	0.84	0.00				
58.75	4.06	0.84	0.00				
60.00	4.06	0.84	0.00				
61.25	4.06	0.84	0.00				
62.50	4.06	0.84	0.00				

Summary for Subcatchment PRGr-W: PR Grass - West

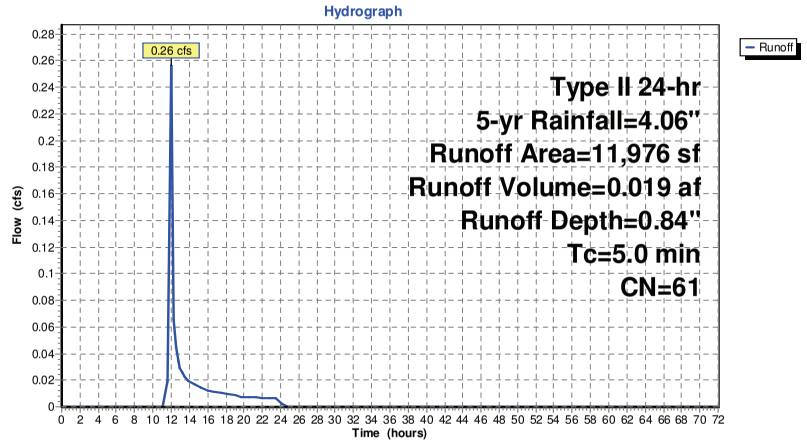
Runoff = 0.26 cfs @ 12.01 hrs, Volume= 0.019 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
11,976	61	>75% Grass cover, Good, HSG B
11,976		100.00% Pervious Area

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

Subcatchment PRGr-W: PR Grass - West



Hydrograph for Subcatchment PRGr-W: PR Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.84	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.84	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.84	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.84	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.84	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.84	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.84	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.36	**0.04**				
13.75	3.29	0.48	0.02				
15.00	3.47	0.56	0.02				
16.25	3.60	0.62	0.01				
17.50	3.70	0.67	0.01				
18.75	3.79	0.71	0.01				
20.00	3.87	0.74	0.01				
21.25	3.93	0.78	0.01				
22.50	3.99	0.81	0.01				
23.75	**4.05**	**0.84**	0.01				
25.00	**4.06**	**0.84**	0.00				
26.25	4.06	0.84	0.00				
27.50	4.06	0.84	0.00				
28.75	4.06	0.84	0.00				
30.00	4.06	0.84	0.00				
31.25	4.06	0.84	0.00				
32.50	4.06	0.84	0.00				
33.75	4.06	0.84	0.00				
35.00	4.06	0.84	0.00				
36.25	4.06	0.84	0.00				
37.50	4.06	0.84	0.00				
38.75	4.06	0.84	0.00				
40.00	4.06	0.84	0.00				
41.25	4.06	0.84	0.00				
42.50	4.06	0.84	0.00				
43.75	4.06	0.84	0.00				
45.00	4.06	0.84	0.00				
46.25	4.06	0.84	0.00				
47.50	4.06	0.84	0.00				
48.75	4.06	0.84	0.00				
50.00	4.06	0.84	0.00				
51.25	4.06	0.84	0.00				
52.50	4.06	0.84	0.00				
53.75	4.06	0.84	0.00				
55.00	4.06	0.84	0.00				
56.25	4.06	0.84	0.00				
57.50	4.06	0.84	0.00				
58.75	4.06	0.84	0.00				
60.00	4.06	0.84	0.00				
61.25	4.06	0.84	0.00				
62.50	4.06	0.84	0.00				

Summary for Subcatchment PRImp-W: PR Imp - West

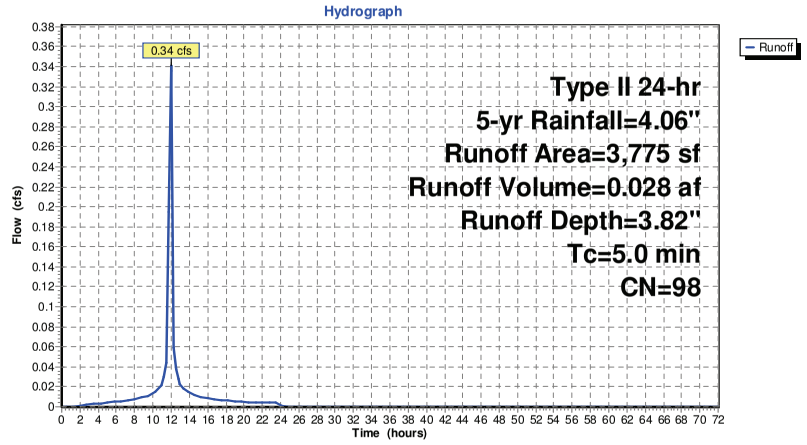
Runoff = 0.34 cfs @ 11.96 hrs, Volume= 0.028 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
3,775	98	Paved parking, HSG B
3,775		100.00% Impervious Area

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

Subcatchment PRImp-W: PR Imp - West



Hydrograph for Subcatchment PRImp-W: PR Imp - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	3.82	0.00
1.25	0.05	0.00	0.00	65.00	4.06	3.82	0.00
2.50	0.11	0.02	0.00	66.25	4.06	3.82	0.00
3.75	0.18	0.06	0.00	67.50	4.06	3.82	0.00
5.00	0.26	0.11	0.00	68.75	4.06	3.82	0.00
6.25	0.34	0.18	0.01	70.00	4.06	3.82	0.00
7.50	0.44	0.27	0.01	71.25	4.06	3.82	0.00
8.75	0.57	0.38	0.01				
10.00	0.73	0.54	0.01				
11.25	1.04	0.83	**0.03**				
12.50	2.98	2.75	**0.04**				
13.75	3.29	3.06	0.02				
15.00	3.47	3.23	0.01				
16.25	3.60	3.36	0.01				
17.50	3.70	3.47	0.01				
18.75	3.79	3.56	0.01				
20.00	3.87	3.63	0.00				
21.25	3.93	3.69	0.00				
22.50	3.99	3.76	0.00				
23.75	**4.05**	**3.81**	0.00				
25.00	**4.06**	**3.82**	0.00				
26.25	4.06	3.82	0.00				
27.50	4.06	3.82	0.00				
28.75	4.06	3.82	0.00				
30.00	4.06	3.82	0.00				
31.25	4.06	3.82	0.00				
32.50	4.06	3.82	0.00				
33.75	4.06	3.82	0.00				
35.00	4.06	3.82	0.00				
36.25	4.06	3.82	0.00				
37.50	4.06	3.82	0.00				
38.75	4.06	3.82	0.00				
40.00	4.06	3.82	0.00				
41.25	4.06	3.82	0.00				
42.50	4.06	3.82	0.00				
43.75	4.06	3.82	0.00				
45.00	4.06	3.82	0.00				
46.25	4.06	3.82	0.00				
47.50	4.06	3.82	0.00				
48.75	4.06	3.82	0.00				
50.00	4.06	3.82	0.00				
51.25	4.06	3.82	0.00				
52.50	4.06	3.82	0.00				
53.75	4.06	3.82	0.00				
55.00	4.06	3.82	0.00				
56.25	4.06	3.82	0.00				
57.50	4.06	3.82	0.00				
58.75	4.06	3.82	0.00				
60.00	4.06	3.82	0.00				
61.25	4.06	3.82	0.00				
62.50	4.06	3.82	0.00				

Summary for Subcatchment PRimpRG1: PR Imp - RG1

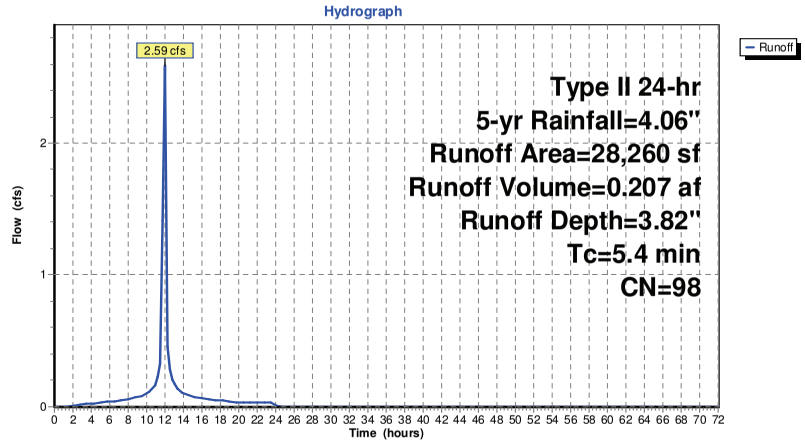
Runoff = 2.59 cfs @ 11.96 hrs, Volume= 0.207 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
28,260	98	Roofs, HSG B
28,260		100.00% Impervious Area

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

Subcatchment PRimpRG1: PR Imp - RG1



Hydrograph for Subcatchment PRimpRG1: PR Imp - RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	3.82	0.00
1.25	0.05	0.00	0.00	65.00	4.06	3.82	0.00
2.50	0.11	0.02	0.01	66.25	4.06	3.82	0.00
3.75	0.18	0.06	0.02	67.50	4.06	3.82	0.00
5.00	0.26	0.11	0.03	68.75	4.06	3.82	0.00
6.25	0.34	0.18	0.04	70.00	4.06	3.82	0.00
7.50	0.44	0.27	0.05	71.25	4.06	3.82	0.00
8.75	0.57	0.38	0.07				
10.00	0.73	0.54	0.10				
11.25	1.04	0.83	**0.23**				
12.50	2.98	2.75	**0.28**				
13.75	3.29	3.06	0.12				
15.00	3.47	3.23	0.08				
16.25	3.60	3.36	0.06				
17.50	3.70	3.47	0.05				
18.75	3.79	3.56	0.04				
20.00	3.87	3.63	0.04				
21.25	3.93	3.69	0.03				
22.50	3.99	3.76	0.03				
23.75	**4.05**	**3.81**	0.03				
25.00	**4.06**	**3.82**	0.00				
26.25	4.06	3.82	0.00				
27.50	4.06	3.82	0.00				
28.75	4.06	3.82	0.00				
30.00	4.06	3.82	0.00				
31.25	4.06	3.82	0.00				
32.50	4.06	3.82	0.00				
33.75	4.06	3.82	0.00				
35.00	4.06	3.82	0.00				
36.25	4.06	3.82	0.00				
37.50	4.06	3.82	0.00				
38.75	4.06	3.82	0.00				
40.00	4.06	3.82	0.00				
41.25	4.06	3.82	0.00				
42.50	4.06	3.82	0.00				
43.75	4.06	3.82	0.00				
45.00	4.06	3.82	0.00				
46.25	4.06	3.82	0.00				
47.50	4.06	3.82	0.00				
48.75	4.06	3.82	0.00				
50.00	4.06	3.82	0.00				
51.25	4.06	3.82	0.00				
52.50	4.06	3.82	0.00				
53.75	4.06	3.82	0.00				
55.00	4.06	3.82	0.00				
56.25	4.06	3.82	0.00				
57.50	4.06	3.82	0.00				
58.75	4.06	3.82	0.00				
60.00	4.06	3.82	0.00				
61.25	4.06	3.82	0.00				
62.50	4.06	3.82	0.00				

Summary for Subcatchment UD Bypass: UD By-Pass

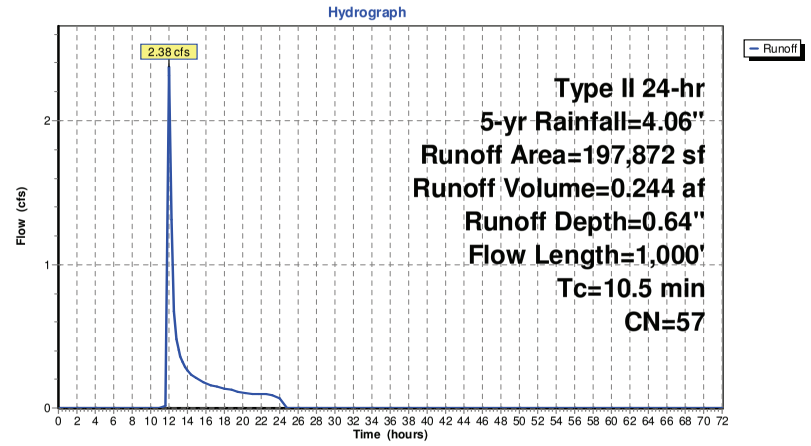
Runoff = 2.38 cfs @ 12.05 hrs, Volume= 0.244 af, Depth= 0.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
10,353	85	Gravel roads, HSG B
168,770	55	Woods, Good, HSG B
18,749	61	>75% Grass cover, Good, HSG B
197,872	57	Weighted Average
197,872		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2200	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
2.1	700	0.1140	5.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	200	0.0400	10.31	61.86	**Channel Flow,** Area= 6.0 sf Perim= 9.0' r= 0.67' n= 0.022 Earth, clean & straight
10.5	1,000	Total			

Subcatchment UD Bypass: UD By-Pass



Hydrograph for Subcatchment UD Bypass: UD By-Pass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.64	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.64	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.64	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.64	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.64	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.64	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.64	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.24	**0.67**				
13.75	3.29	0.34	0.29				
15.00	3.47	0.40	0.21				
16.25	3.60	0.45	0.16				
17.50	3.70	0.49	0.15				
18.75	3.79	0.53	0.13				
20.00	3.87	0.56	0.10				
21.25	3.93	0.59	0.10				
22.50	3.99	0.61	0.10				
23.75	**4.05**	**0.64**	0.09				
25.00	**4.06**	**0.64**	0.00				
26.25	4.06	0.64	0.00				
27.50	4.06	0.64	0.00				
28.75	4.06	0.64	0.00				
30.00	4.06	0.64	0.00				
31.25	4.06	0.64	0.00				
32.50	4.06	0.64	0.00				
33.75	4.06	0.64	0.00				
35.00	4.06	0.64	0.00				
36.25	4.06	0.64	0.00				
37.50	4.06	0.64	0.00				
38.75	4.06	0.64	0.00				
40.00	4.06	0.64	0.00				
41.25	4.06	0.64	0.00				
42.50	4.06	0.64	0.00				
43.75	4.06	0.64	0.00				
45.00	4.06	0.64	0.00				
46.25	4.06	0.64	0.00				
47.50	4.06	0.64	0.00				
48.75	4.06	0.64	0.00				
50.00	4.06	0.64	0.00				
51.25	4.06	0.64	0.00				
52.50	4.06	0.64	0.00				
53.75	4.06	0.64	0.00				
55.00	4.06	0.64	0.00				
56.25	4.06	0.64	0.00				
57.50	4.06	0.64	0.00				
58.75	4.06	0.64	0.00				
60.00	4.06	0.64	0.00				
61.25	4.06	0.64	0.00				
62.50	4.06	0.64	0.00				

Summary for Subcatchment UD Gr: Undet Grass

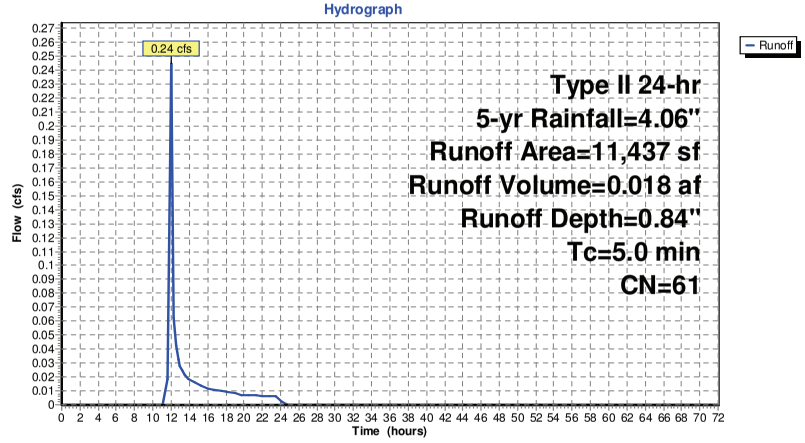
Runoff = 0.24 cfs @ 12.01 hrs, Volume= 0.018 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
11,437	61	>75% Grass cover, Good, HSG B
11,437		100.00% Pervious Area

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

Subcatchment UD Gr: Undet Grass



Hydrograph for Subcatchment UD Gr: Undet Grass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	0.84	0.00
1.25	0.05	0.00	0.00	65.00	4.06	0.84	0.00
2.50	0.11	0.00	0.00	66.25	4.06	0.84	0.00
3.75	0.18	0.00	0.00	67.50	4.06	0.84	0.00
5.00	0.26	0.00	0.00	68.75	4.06	0.84	0.00
6.25	0.34	0.00	0.00	70.00	4.06	0.84	0.00
7.50	0.44	0.00	0.00	71.25	4.06	0.84	0.00
8.75	0.57	0.00	0.00				
10.00	0.73	0.00	0.00				
11.25	1.04	0.00	**0.00**				
12.50	2.98	0.36	**0.04**				
13.75	3.29	0.48	0.02				
15.00	3.47	0.56	0.01				
16.25	3.60	0.62	0.01				
17.50	3.70	0.67	0.01				
18.75	3.79	0.71	0.01				
20.00	3.87	0.74	0.01				
21.25	3.93	0.78	0.01				
22.50	3.99	0.81	0.01				
23.75	**4.05**	**0.84**	0.01				
25.00	**4.06**	**0.84**	0.00				
26.25	4.06	0.84	0.00				
27.50	4.06	0.84	0.00				
28.75	4.06	0.84	0.00				
30.00	4.06	0.84	0.00				
31.25	4.06	0.84	0.00				
32.50	4.06	0.84	0.00				
33.75	4.06	0.84	0.00				
35.00	4.06	0.84	0.00				
36.25	4.06	0.84	0.00				
37.50	4.06	0.84	0.00				
38.75	4.06	0.84	0.00				
40.00	4.06	0.84	0.00				
41.25	4.06	0.84	0.00				
42.50	4.06	0.84	0.00				
43.75	4.06	0.84	0.00				
45.00	4.06	0.84	0.00				
46.25	4.06	0.84	0.00				
47.50	4.06	0.84	0.00				
48.75	4.06	0.84	0.00				
50.00	4.06	0.84	0.00				
51.25	4.06	0.84	0.00				
52.50	4.06	0.84	0.00				
53.75	4.06	0.84	0.00				
55.00	4.06	0.84	0.00				
56.25	4.06	0.84	0.00				
57.50	4.06	0.84	0.00				
58.75	4.06	0.84	0.00				
60.00	4.06	0.84	0.00				
61.25	4.06	0.84	0.00				
62.50	4.06	0.84	0.00				

Summary for Subcatchment UD Imp: Undet Imp

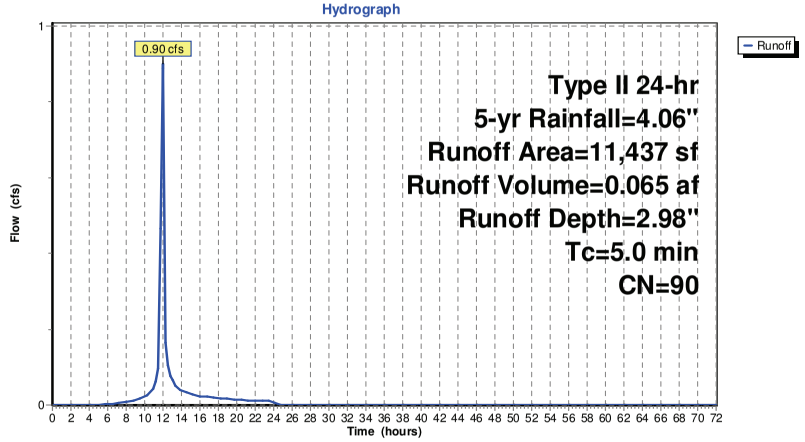
Runoff = 0.90 cfs @ 11.97 hrs, Volume= 0.065 af, Depth= 2.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 5-yr Rainfall=4.06"

Area (sf)	CN	Description
4,777	98	Paved parking, HSG B
6,660	85	Gravel roads, HSG B
11,437	90	Weighted Average
6,660		58.23% Pervious Area
4,777		41.77% Impervious Area

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

Subcatchment UD Imp: Undet Imp



Hydrograph for Subcatchment UD Imp: Undet Imp

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.06	2.98	0.00
1.25	0.05	0.00	0.00	65.00	4.06	2.98	0.00
2.50	0.11	0.00	0.00	66.25	4.06	2.98	0.00
3.75	0.18	0.00	0.00	67.50	4.06	2.98	0.00
5.00	0.26	0.00	0.00	68.75	4.06	2.98	0.00
6.25	0.34	0.01	0.00	70.00	4.06	2.98	0.00
7.50	0.44	0.04	0.01	71.25	4.06	2.98	0.00
8.75	0.57	0.08	0.01				
10.00	0.73	0.16	0.02				
11.25	1.04	0.35	**0.06**				
12.50	2.98	1.97	**0.10**				
13.75	3.29	2.25	0.04				
15.00	3.47	2.42	0.03				
16.25	3.60	2.54	0.02				
17.50	3.70	2.64	0.02				
18.75	3.79	2.72	0.02				
20.00	3.87	2.79	0.01				
21.25	3.93	2.85	0.01				
22.50	3.99	2.91	0.01				
23.75	**4.05**	**2.97**	0.01				
25.00	**4.06**	**2.98**	0.00				
26.25	4.06	2.98	0.00				
27.50	4.06	2.98	0.00				
28.75	4.06	2.98	0.00				
30.00	4.06	2.98	0.00				
31.25	4.06	2.98	0.00				
32.50	4.06	2.98	0.00				
33.75	4.06	2.98	0.00				
35.00	4.06	2.98	0.00				
36.25	4.06	2.98	0.00				
37.50	4.06	2.98	0.00				
38.75	4.06	2.98	0.00				
40.00	4.06	2.98	0.00				
41.25	4.06	2.98	0.00				
42.50	4.06	2.98	0.00				
43.75	4.06	2.98	0.00				
45.00	4.06	2.98	0.00				
46.25	4.06	2.98	0.00				
47.50	4.06	2.98	0.00				
48.75	4.06	2.98	0.00				
50.00	4.06	2.98	0.00				
51.25	4.06	2.98	0.00				
52.50	4.06	2.98	0.00				
53.75	4.06	2.98	0.00				
55.00	4.06	2.98	0.00				
56.25	4.06	2.98	0.00				
57.50	4.06	2.98	0.00				
58.75	4.06	2.98	0.00				
60.00	4.06	2.98	0.00				
61.25	4.06	2.98	0.00				
62.50	4.06	2.98	0.00				

Summary for Pond INF1: Inf Trench #1

Inflow Area = 0.389 ac, 37.20% Impervious, Inflow Depth = 1.95" for 5-yr event
Inflow = 0.79 cfs @ 11.98 hrs, Volume= 0.063 af
Outflow = 0.08 cfs @ 12.75 hrs, Volume= 0.063 af, Atten= 90%, Lag= 46.3 min
Primary = 0.08 cfs @ 12.75 hrs, Volume= 0.063 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.21' @ 12.75 hrs Surf.Area= 2,186 sf Storage= 1,470 cf

Plug-Flow detention time= 698.0 min calculated for 0.063 af (100% of inflow)
Center-of-Mass det. time= 697.0 min (1,481.5 - 784.6)

Volume	Invert	Avail.Storage	Storage Description
#1	384.00'	2,484 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	382.00'	77 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 768 cf Overall x 10.0% Voids
#3	380.00'	307 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 768 cf Overall x 40.0% Voids
		2,868 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
384.00	384	0	0
386.00	2,100	2,484	2,484

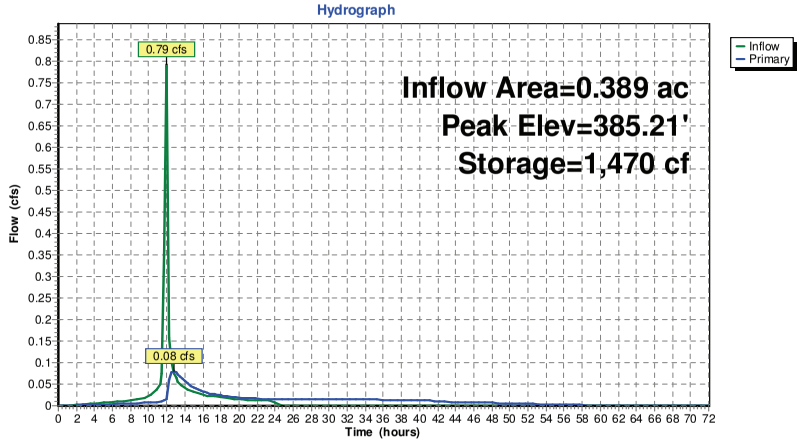
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
382.00	384	0	0
384.00	384	768	768

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	384	0	0
382.00	384	768	768

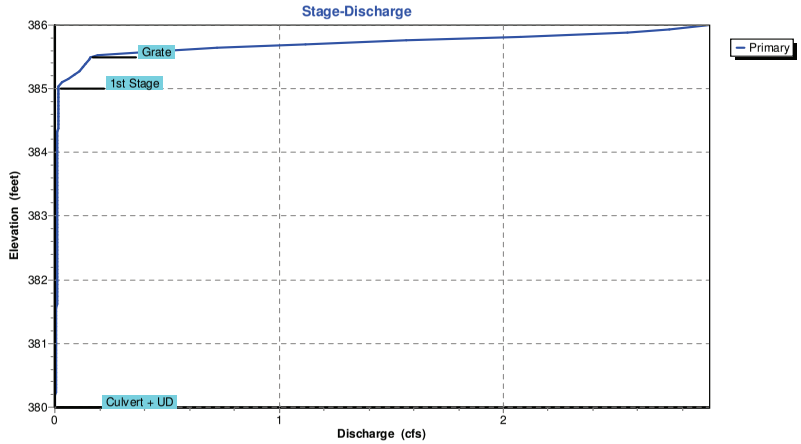
Device	Routing	Invert	Outlet Devices
#1	Primary	380.00'	**18.0" Round Culvert** L= 28.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 380.00' / 379.72' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	385.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	385.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	380.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.08 cfs @ 12.75 hrs HW=385.21' (Free Discharge)
└─**1=Culvert** (Passes 0.08 cfs of 17.96 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=1st Stage** (Orifice Controls 0.07 cfs @ 1.54 fps)
  └─**4=UD** (Orifice Controls 0.01 cfs @ 10.96 fps)

Pond INF1: Inf Trench #1



Pond INF1: Inf Trench #1



Hydrograph for Pond INF1: Inf Trench #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	380.00	0.00
2.50	0.00	7	380.05	0.00
5.00	0.01	35	380.23	0.00
7.50	0.01	82	380.53	0.00
10.00	**0.02**	169	381.10	0.01
12.50	**0.10**	**1,462**	**385.20**	**0.08**
15.00	0.03	**1,348**	**385.12**	**0.04**
17.50	0.02	1,283	385.07	0.03
20.00	0.01	1,246	385.04	0.02
22.50	0.01	1,215	385.01	0.02
25.00	0.00	1,151	384.96	0.01
27.50	0.00	1,020	384.85	0.01
30.00	0.00	891	384.73	0.01
32.50	0.00	764	384.59	0.01
35.00	0.00	639	384.44	0.01
37.50	0.00	516	384.26	0.01
40.00	0.00	395	384.03	0.01
42.50	0.00	296	381.93	0.01
45.00	0.00	220	381.43	0.01
47.50	0.00	155	381.01	0.01
50.00	0.00	102	380.67	0.01
52.50	0.00	60	380.39	0.00
55.00	0.00	30	380.20	0.00
57.50	0.00	11	380.07	0.00
60.00	0.00	3	380.02	0.00
62.50	0.00	1	380.01	0.00
65.00	0.00	0	380.00	0.00
67.50	0.00	0	380.00	0.00
70.00	0.00	0	380.00	0.00

Stage-Discharge for Pond INF1: Inf Trench #1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
380.00	0.00	382.04	0.01	384.08	0.01
380.04	0.00	382.08	0.01	384.12	0.01
380.08	0.00	382.12	0.01	384.16	0.01
380.12	0.00	382.16	0.01	384.20	0.01
380.16	0.00	382.20	0.01	384.24	0.01
380.20	0.00	382.24	0.01	384.28	0.01
380.24	0.00	382.28	0.01	384.32	0.01
380.28	0.00	382.32	0.01	384.36	0.01
380.32	0.00	382.36	0.01	384.40	0.01
380.36	0.00	382.40	0.01	384.44	0.01
380.40	0.00	382.44	0.01	384.48	0.01
380.44	0.00	382.48	0.01	384.52	0.01
380.48	0.00	382.52	0.01	384.56	0.01
380.52	0.00	382.56	0.01	384.60	0.01
380.56	0.00	382.60	0.01	384.64	0.01
380.60	0.00	382.64	0.01	384.68	0.01
380.64	0.01	382.68	0.01	384.72	0.01
380.68	0.01	382.72	0.01	384.76	0.01
380.72	0.01	382.76	0.01	384.80	0.01
380.76	0.01	382.80	0.01	384.84	0.01
380.80	0.01	382.84	0.01	384.88	0.01
380.84	0.01	382.88	0.01	384.92	0.01
380.88	0.01	382.92	0.01	384.96	0.01
380.92	0.01	382.96	0.01	385.00	0.01
380.96	0.01	383.00	0.01	385.04	0.02
381.00	0.01	383.04	0.01	385.08	0.03
381.04	0.01	383.08	0.01	385.12	0.04
381.08	0.01	383.12	0.01	385.16	0.06
381.12	0.01	383.16	0.01	385.20	0.08
381.16	0.01	383.20	0.01	385.24	0.10
381.20	0.01	383.24	0.01	385.28	0.11
381.24	0.01	383.28	0.01	385.32	0.12
381.28	0.01	383.32	0.01	385.36	0.13
381.32	0.01	383.36	0.01	385.40	0.14
381.36	0.01	383.40	0.01	385.44	0.15
381.40	0.01	383.44	0.01	385.48	0.16
381.44	0.01	383.48	0.01	385.52	0.19
381.48	0.01	383.52	0.01	385.56	0.32
381.52	0.01	383.56	0.01	385.60	0.50
381.56	0.01	383.60	0.01	385.64	0.72
381.60	0.01	383.64	0.01	385.68	0.98
381.64	0.01	383.68	0.01	385.72	1.26
381.68	0.01	383.72	0.01	385.76	1.57
381.72	0.01	383.76	0.01	385.80	1.90
381.76	0.01	383.80	0.01	385.84	2.25
381.80	0.01	383.84	0.01	385.88	2.55
381.84	0.01	383.88	0.01	385.92	2.68
381.88	0.01	383.92	0.01	385.96	2.80
381.92	0.01	383.96	0.01	386.00	**2.91**
381.96	0.01	384.00	0.01		
382.00	0.01	384.04	0.01		

Summary for Pond INF2: Inf Trench #2

Inflow Area = 0.718 ac, 23.60% Impervious, Inflow Depth = 1.55" for 5-yr event
Inflow = 1.08 cfs @ 11.96 hrs, Volume= 0.093 af
Outflow = 0.16 cfs @ 12.53 hrs, Volume= 0.093 af, Atten= 85%, Lag= 33.9 min
Primary = 0.16 cfs @ 12.53 hrs, Volume= 0.093 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 384.49' @ 12.53 hrs Surf.Area= 2,466 sf Storage= 1,936 cf

Plug-Flow detention time= 533.5 min calculated for 0.093 af (100% of inflow)
Center-of-Mass det. time= 532.5 min (1,335.4 - 802.8)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	2,520 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	78 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 780 cf Overall x 10.0% Voids
#3	379.00'	312 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 780 cf Overall x 40.0% Voids
		2,910 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	390	0	0
385.00	2,130	2,520	2,520

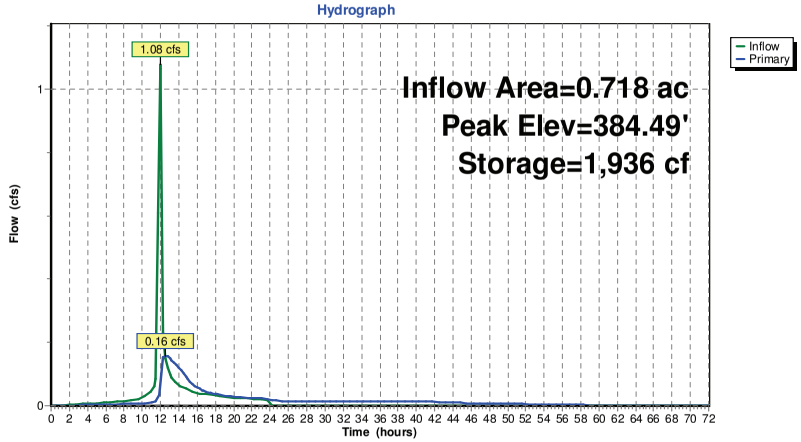
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	390	0	0
383.00	390	780	780

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	390	0	0
381.00	390	780	780

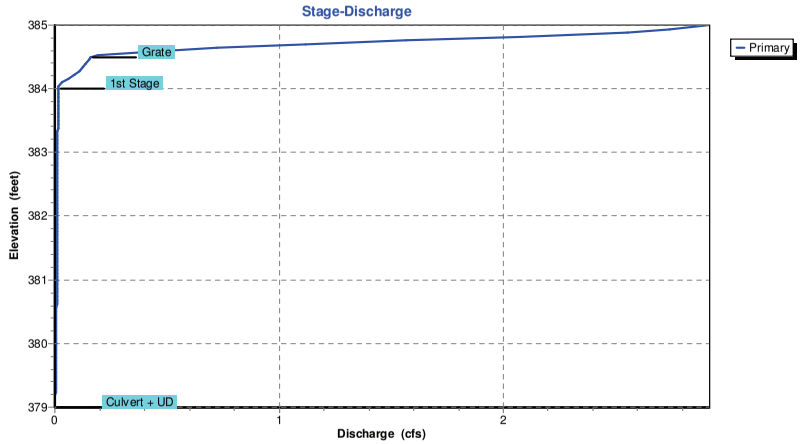
Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.89' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	384.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	384.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.16 cfs @ 12.53 hrs HW=384.49' (Free Discharge)
└─**1=Culvert** (Passes 0.16 cfs of 18.52 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=1st Stage** (Orifice Controls 0.14 cfs @ 2.90 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.26 fps)

Pond INF2: Inf Trench #2



Pond INF2: Inf Trench #2



Hydrograph for Pond INF2: Inf Trench #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	379.00	0.00
2.50	0.00	9	379.05	0.00
5.00	0.01	43	379.27	0.00
7.50	0.01	100	379.64	0.01
10.00	**0.03**	206	380.32	0.01
12.50	**0.15**	**1,936**	**384.49**	**0.16**
15.00	0.05	1,505	384.21	0.09
17.50	0.03	1,363	384.11	0.04
20.00	0.02	1,318	384.08	0.03
22.50	0.02	1,291	384.06	0.02
25.00	0.00	1,222	384.01	0.02
27.50	0.00	1,091	383.90	0.01
30.00	0.00	961	383.78	0.01
32.50	0.00	833	383.66	0.01
35.00	0.00	707	383.52	0.01
37.50	0.00	583	383.35	0.01
40.00	0.00	461	383.15	0.01
42.50	0.00	346	381.88	0.01
45.00	0.00	262	380.68	0.01
47.50	0.00	192	380.23	0.01
50.00	0.00	132	379.85	0.01
52.50	0.00	84	379.54	0.00
55.00	0.00	47	379.30	0.00
57.50	0.00	21	379.14	0.00
60.00	0.00	7	379.05	0.00
62.50	0.00	2	379.01	0.00
65.00	0.00	1	379.00	0.00
67.50	0.00	0	379.00	0.00
70.00	0.00	0	379.00	0.00

Stage-Discharge for Pond INF2: Inf Trench #2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
379.00	0.00	381.04	0.01	383.08	0.01
379.04	0.00	381.08	0.01	383.12	0.01
379.08	0.00	381.12	0.01	383.16	0.01
379.12	0.00	381.16	0.01	383.20	0.01
379.16	0.00	381.20	0.01	383.24	0.01
379.20	0.00	381.24	0.01	383.28	0.01
379.24	0.00	381.28	0.01	383.32	0.01
379.28	0.00	381.32	0.01	383.36	0.01
379.32	0.00	381.36	0.01	383.40	0.01
379.36	0.00	381.40	0.01	383.44	0.01
379.40	0.00	381.44	0.01	383.48	0.01
379.44	0.00	381.48	0.01	383.52	0.01
379.48	0.00	381.52	0.01	383.56	0.01
379.52	0.00	381.56	0.01	383.60	0.01
379.56	0.00	381.60	0.01	383.64	0.01
379.60	0.00	381.64	0.01	383.68	0.01
379.64	0.01	381.68	0.01	383.72	0.01
379.68	0.01	381.72	0.01	383.76	0.01
379.72	0.01	381.76	0.01	383.80	0.01
379.76	0.01	381.80	0.01	383.84	0.01
379.80	0.01	381.84	0.01	383.88	0.01
379.84	0.01	381.88	0.01	383.92	0.01
379.88	0.01	381.92	0.01	383.96	0.01
379.92	0.01	381.96	0.01	384.00	0.01
379.96	0.01	382.00	0.01	384.04	0.02
380.00	0.01	382.04	0.01	384.08	0.03
380.04	0.01	382.08	0.01	384.12	0.04
380.08	0.01	382.12	0.01	384.16	0.06
380.12	0.01	382.16	0.01	384.20	0.08
380.16	0.01	382.20	0.01	384.24	0.10
380.20	0.01	382.24	0.01	384.28	0.11
380.24	0.01	382.28	0.01	384.32	0.12
380.28	0.01	382.32	0.01	384.36	0.13
380.32	0.01	382.36	0.01	384.40	0.14
380.36	0.01	382.40	0.01	384.44	0.15
380.40	0.01	382.44	0.01	384.48	0.16
380.44	0.01	382.48	0.01	384.52	0.19
380.48	0.01	382.52	0.01	384.56	0.32
380.52	0.01	382.56	0.01	384.60	0.50
380.56	0.01	382.60	0.01	384.64	0.72
380.60	0.01	382.64	0.01	384.68	0.98
380.64	0.01	382.68	0.01	384.72	1.26
380.68	0.01	382.72	0.01	384.76	1.57
380.72	0.01	382.76	0.01	384.80	1.90
380.76	0.01	382.80	0.01	384.84	2.25
380.80	0.01	382.84	0.01	384.88	2.55
380.84	0.01	382.88	0.01	384.92	2.68
380.88	0.01	382.92	0.01	384.96	2.80
380.92	0.01	382.96	0.01	385.00	**2.91**
380.96	0.01	383.00	0.01		
381.00	0.01	383.04	0.01		

Summary for Pond INF3: Inf Trench #3

Inflow Area = 0.309 ac, 30.75% Impervious, Inflow Depth = 1.76" for 5-yr event
Inflow = 0.57 cfs @ 11.98 hrs, Volume= 0.045 af
Outflow = 0.06 cfs @ 12.74 hrs, Volume= 0.045 af, Atten= 89%, Lag= 45.4 min
Primary = 0.06 cfs @ 12.74 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 382.66' @ 12.74 hrs Surf.Area= 1,510 sf Storage= 989 cf

Plug-Flow detention time= 535.5 min calculated for 0.045 af (100% of inflow)
Center-of-Mass det. time= 533.1 min (1,326.1 - 793.0)

Volume	Invert	Avail.Storage	Storage Description
#1	381.50'	1,764 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	379.50'	53 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 528 cf Overall x 10.0% Voids
#3	377.50'	211 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 528 cf Overall x 40.0% Voids
		2,028 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.50	264	0	0
383.50	1,500	1,764	1,764

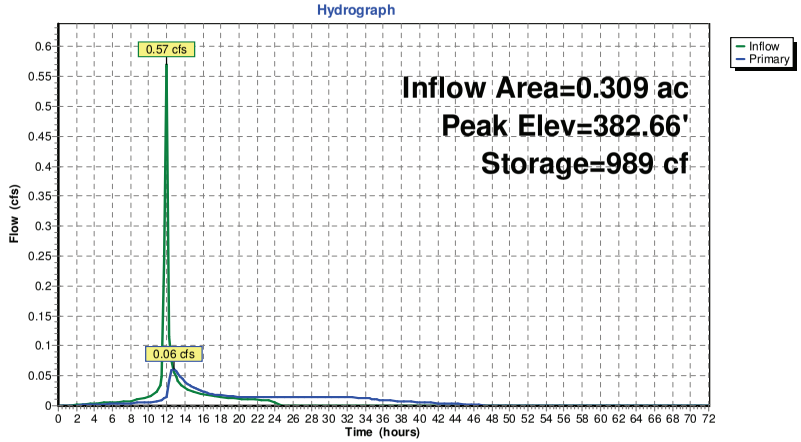
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.50	264	0	0
381.50	264	528	528

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
377.50	264	0	0
379.50	264	528	528

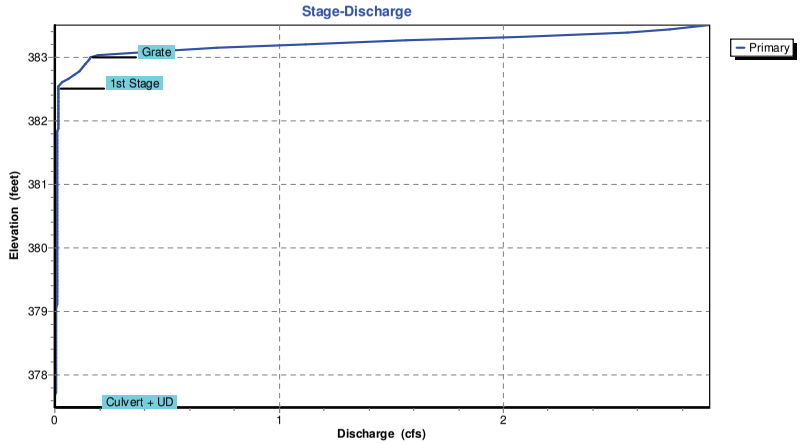
Device	Routing	Invert	Outlet Devices
#1	Primary	377.50'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 377.50' / 377.39' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	383.00'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	382.50'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	377.50'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.06 cfs @ 12.74 hrs HW=382.66' (Free Discharge)
└─**1=Culvert** (Passes 0.06 cfs of 17.87 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=1st Stage** (Orifice Controls 0.05 cfs @ 1.37 fps)
  └─**4=UD** (Orifice Controls 0.01 cfs @ 10.92 fps)

Pond INF3: Inf Trench #3



Pond INF3: Inf Trench #3



Hydrograph for Pond INF3: Inf Trench #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	377.50	0.00
2.50	0.00	4	377.54	0.00
5.00	0.00	19	377.68	0.00
7.50	0.01	42	377.90	0.00
10.00	**0.01**	89	378.34	0.01
12.50	**0.08**	**983**	**382.66**	**0.06**
15.00	0.02	**913**	**382.58**	**0.03**
17.50	0.02	873	382.54	0.02
20.00	0.01	841	382.50	0.02
22.50	0.01	802	382.46	0.01
25.00	0.00	725	382.37	0.01
27.50	0.00	596	382.19	0.01
30.00	0.00	470	381.99	0.01
32.50	0.00	346	381.74	0.01
35.00	0.00	230	380.23	0.01
37.50	0.00	151	378.93	0.01
40.00	0.00	89	378.34	0.01
42.50	0.00	44	377.91	0.00
45.00	0.00	15	377.64	0.00
47.50	0.00	3	377.53	0.00
50.00	0.00	0	377.50	0.00
52.50	0.00	0	377.50	0.00
55.00	0.00	0	377.50	0.00
57.50	0.00	0	377.50	0.00
60.00	0.00	0	377.50	0.00
62.50	0.00	0	377.50	0.00
65.00	0.00	0	377.50	0.00
67.50	0.00	0	377.50	0.00
70.00	0.00	0	377.50	0.00

Stage-Discharge for Pond INF3: Inf Trench #3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
377.50	0.00	379.54	0.01	381.58	0.01
377.54	0.00	379.58	0.01	381.62	0.01
377.58	0.00	379.62	0.01	381.66	0.01
377.62	0.00	379.66	0.01	381.70	0.01
377.66	0.00	379.70	0.01	381.74	0.01
377.70	0.00	379.74	0.01	381.78	0.01
377.74	0.00	379.78	0.01	381.82	0.01
377.78	0.00	379.82	0.01	381.86	0.01
377.82	0.00	379.86	0.01	381.90	0.01
377.86	0.00	379.90	0.01	381.94	0.01
377.90	0.00	379.94	0.01	381.98	0.01
377.94	0.00	379.98	0.01	382.02	0.01
377.98	0.00	380.02	0.01	382.06	0.01
378.02	0.00	380.06	0.01	382.10	0.01
378.06	0.00	380.10	0.01	382.14	0.01
378.10	0.00	380.14	0.01	382.18	0.01
378.14	0.01	380.18	0.01	382.22	0.01
378.18	0.01	380.22	0.01	382.26	0.01
378.22	0.01	380.26	0.01	382.30	0.01
378.26	0.01	380.30	0.01	382.34	0.01
378.30	0.01	380.34	0.01	382.38	0.01
378.34	0.01	380.38	0.01	382.42	0.01
378.38	0.01	380.42	0.01	382.46	0.01
378.42	0.01	380.46	0.01	382.50	0.01
378.46	0.01	380.50	0.01	382.54	0.02
378.50	0.01	380.54	0.01	382.58	0.03
378.54	0.01	380.58	0.01	382.62	0.04
378.58	0.01	380.62	0.01	382.66	0.06
378.62	0.01	380.66	0.01	382.70	0.08
378.66	0.01	380.70	0.01	382.74	0.10
378.70	0.01	380.74	0.01	382.78	0.11
378.74	0.01	380.78	0.01	382.82	0.12
378.78	0.01	380.82	0.01	382.86	0.13
378.82	0.01	380.86	0.01	382.90	0.14
378.86	0.01	380.90	0.01	382.94	0.15
378.90	0.01	380.94	0.01	382.98	0.16
378.94	0.01	380.98	0.01	383.02	0.19
378.98	0.01	381.02	0.01	383.06	0.32
379.02	0.01	381.06	0.01	383.10	0.50
379.06	0.01	381.10	0.01	383.14	0.72
379.10	0.01	381.14	0.01	383.18	0.98
379.14	0.01	381.18	0.01	383.22	1.26
379.18	0.01	381.22	0.01	383.26	1.57
379.22	0.01	381.26	0.01	383.30	1.90
379.26	0.01	381.30	0.01	383.34	2.25
379.30	0.01	381.34	0.01	383.38	2.55
379.34	0.01	381.38	0.01	383.42	2.68
379.38	0.01	381.42	0.01	383.46	2.80
379.42	0.01	381.46	0.01	383.50	**2.91**
379.46	0.01	381.50	0.01		
379.50	0.01	381.54	0.01		

Summary for Pond RG1: Rain Garden #1

Inflow Area = 1.295 ac, 50.10% Impervious, Inflow Depth = 2.34" for 5-yr event
Inflow = 3.18 cfs @ 11.97 hrs, Volume= 0.252 af
Outflow = 2.81 cfs @ 12.02 hrs, Volume= 0.252 af, Atten= 12%, Lag= 2.6 min
Primary = 2.81 cfs @ 12.02 hrs, Volume= 0.252 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 399.93' @ 12.02 hrs Surf.Area= 2,363 sf Storage= 1,415 cf

Plug-Flow detention time= 135.7 min calculated for 0.252 af (100% of inflow)
Center-of-Mass det. time= 134.4 min (906.7 - 772.3)

Volume	Invert	Avail.Storage	Storage Description
#1	399.00'	4,709 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	397.00'	117 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 10.0% Voids
#3	395.00'	466 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 40.0% Voids
		5,292 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
399.00	583	0	0
402.00	2,556	4,709	4,709

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
397.00	583	0	0
399.00	583	1,166	1,166

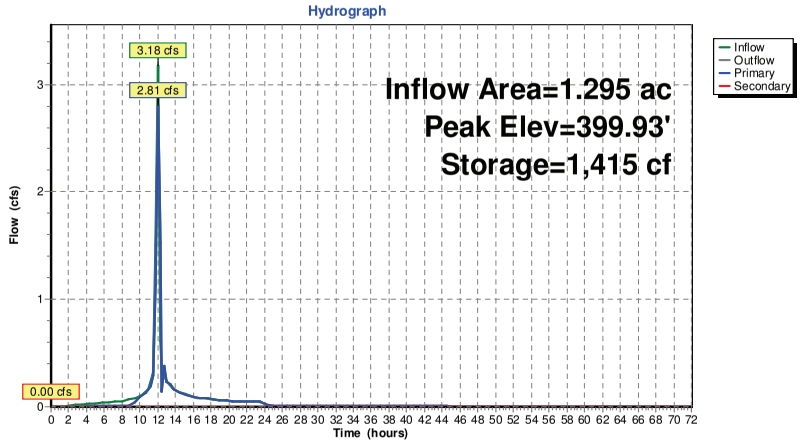
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	583	0	0
397.00	583	1,166	1,166

Device	Routing	Invert	Outlet Devices
#1	Primary	395.00'	**18.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 395.00' / 394.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	400.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	400.75'	**Spillway, C= 3.27** Offset (feet) 0.00 3.75 18.75 22.50 Height (feet) 1.25 0.00 0.00 1.25
#4	Device 1	399.33'	**24.0" W x 6.0" H Vert. 1st Stage** C= 0.600
#5	Device 1	395.00'	**0.5" Vert. UD** C= 0.600

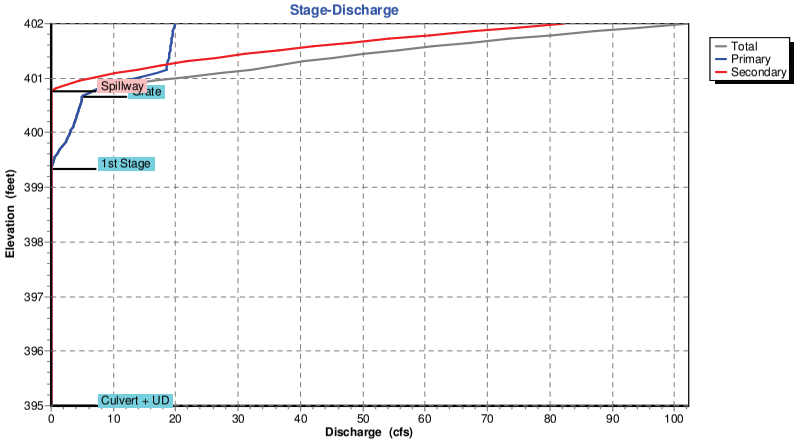
Primary OutFlow Max=2.74 cfs @ 12.02 hrs HW=399.92' (Free Discharge)
└─**1=Culvert** (Passes 2.74 cfs of 16.34 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=1st Stage** (Orifice Controls 2.73 cfs @ 2.73 fps)
  └─**5=UD** (Orifice Controls 0.01 cfs @ 10.66 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=395.00' (Free Discharge)
└─**3=Spillway** (Controls 0.00 cfs)

Pond RG1: Rain Garden #1



Pond RG1: Rain Garden #1



Hydrograph for Pond RG1: Rain Garden #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	395.00	0.00	0.00	**0.00**
2.50	0.01	36	395.15	0.00	0.00	0.00
5.00	0.03	206	395.88	0.01	0.01	0.00
7.50	0.05	500	397.57	0.01	0.01	0.00
10.00	**0.10**	**849**	**399.38**	**0.09**	**0.09**	0.00
12.50	**0.39**	**868**	**399.40**	**0.14**	**0.14**	0.00
15.00	0.12	861	399.39	0.12	0.12	0.00
17.50	0.08	843	399.37	0.08	0.08	0.00
20.00	0.05	833	399.36	0.05	0.05	0.00
22.50	0.05	831	399.35	0.05	0.05	0.00
25.00	0.00	779	399.29	0.01	0.01	0.00
27.50	0.00	658	399.12	0.01	0.01	0.00
30.00	0.00	542	398.29	0.01	0.01	0.00
32.50	0.00	449	396.93	0.01	0.01	0.00
35.00	0.00	372	396.59	0.01	0.01	0.00
37.50	0.00	301	396.29	0.01	0.01	0.00
40.00	0.00	238	396.02	0.01	0.01	0.00
42.50	0.00	183	395.78	0.01	0.01	0.00
45.00	0.00	135	395.58	0.00	0.00	0.00
47.50	0.00	95	395.41	0.00	0.00	0.00
50.00	0.00	62	395.26	0.00	0.00	0.00
52.50	0.00	36	395.16	0.00	0.00	0.00
55.00	0.00	19	395.08	0.00	0.00	0.00
57.50	0.00	8	395.04	0.00	0.00	0.00
60.00	0.00	4	395.02	0.00	0.00	0.00
62.50	0.00	2	395.01	0.00	0.00	0.00
65.00	0.00	1	395.00	0.00	0.00	0.00
67.50	0.00	0	395.00	0.00	0.00	0.00
70.00	0.00	0	395.00	0.00	0.00	0.00

Stage-Discharge for Pond RG1: Rain Garden #1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
395.00	0.00	0.00	0.00
395.10	0.00	0.00	0.00
395.20	0.00	0.00	0.00
395.30	0.00	0.00	0.00
395.40	0.00	0.00	0.00
395.50	0.00	0.00	0.00
395.60	0.00	0.00	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.01	0.01	0.00
396.20	0.01	0.01	0.00
396.30	0.01	0.01	0.00
396.40	0.01	0.01	0.00
396.50	0.01	0.01	0.00
396.60	0.01	0.01	0.00
396.70	0.01	0.01	0.00
396.80	0.01	0.01	0.00
396.90	0.01	0.01	0.00
397.00	0.01	0.01	0.00
397.10	0.01	0.01	0.00
397.20	0.01	0.01	0.00
397.30	0.01	0.01	0.00
397.40	0.01	0.01	0.00
397.50	0.01	0.01	0.00
397.60	0.01	0.01	0.00
397.70	0.01	0.01	0.00
397.80	0.01	0.01	0.00
397.90	0.01	0.01	0.00
398.00	0.01	0.01	0.00
398.10	0.01	0.01	0.00
398.20	0.01	0.01	0.00
398.30	0.01	0.01	0.00
398.40	0.01	0.01	0.00
398.50	0.01	0.01	0.00
398.60	0.01	0.01	0.00
398.70	0.01	0.01	0.00
398.80	0.01	0.01	0.00
398.90	0.01	0.01	0.00
399.00	0.01	0.01	0.00
399.10	0.01	0.01	0.00
399.20	0.01	0.01	0.00
399.30	0.01	0.01	0.00
399.40	0.13	0.13	0.00
399.50	0.46	0.46	0.00
399.60	0.91	0.91	0.00
399.70	1.46	1.46	0.00
399.80	2.08	2.08	0.00
399.90	2.66	2.66	0.00
400.00	3.09	3.09	0.00
400.10	3.45	3.45	0.00
400.20	3.78	3.78	0.00
400.30	4.08	4.08	0.00
400.40	4.36	4.36	0.00
400.50	4.62	4.62	0.00
400.60	4.87	4.87	0.00
400.70	5.52	5.52	0.00
400.80	8.07	7.52	0.55
400.90	13.17	10.25	2.92
401.00	19.93	13.56	6.38
401.10	28.06	17.33	10.73
401.20	34.43	18.56	15.87
401.30	40.49	18.72	21.77
401.40	47.26	18.88	28.38
401.50	54.72	19.04	35.68
401.60	62.86	19.20	43.67
401.70	71.67	19.35	52.32
401.80	81.15	19.51	61.64
401.90	91.28	19.66	71.62
402.00	**102.08**	**19.82**	**82.26**

Summary for Pond RG2: Rain Garden #2

Inflow Area = 5.565 ac, 47.16% Impervious, Inflow Depth = 2.49" for 5-yr event
Inflow = 15.60 cfs @ 11.98 hrs, Volume= 1.153 af
Outflow = 11.81 cfs @ 12.07 hrs, Volume= 1.137 af, Atten= 24%, Lag= 5.2 min
Primary = 11.81 cfs @ 12.07 hrs, Volume= 1.137 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.13' @ 12.06 hrs Surf.Area= 6,021 sf Storage= 6,290 cf

Plug-Flow detention time= 99.5 min calculated for 1.137 af (99% of inflow)
Center-of-Mass det. time= 90.7 min (876.8 - 786.1)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	12,723 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	359 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 10.0% Voids
#3	379.00'	1,435 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 40.0% Voids
		14,517 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	1,794	0	0
388.00	3,295	12,723	12,723

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	1,794	0	0
383.00	1,794	3,588	3,588

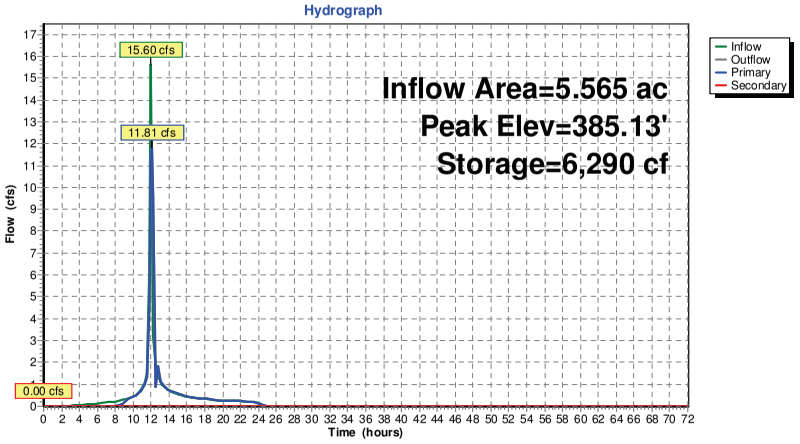
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	1,794	0	0
381.00	1,794	3,588	3,588

Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	386.60'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	386.70'	**Spillway, C= 3.27** Offset (feet) 0.00 3.90 58.90 62.80 Height (feet) 1.30 0.00 0.00 1.30
#4	Device 1	383.33'	**36.0" W x 8.0" H Vert. 1st stage** C= 0.600
#5	Device 1	385.33'	**24.0" W x 8.0" H Vert. 2nd Stage X 2.00** C= 0.600
#6	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

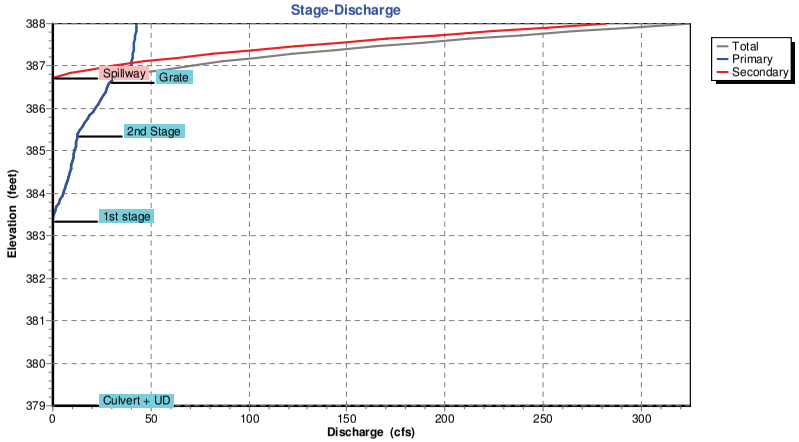
Primary OutFlow Max=11.00 cfs @ 12.07 hrs HW=384.97' (Free Discharge)
- **1=Culvert** (Passes 11.00 cfs of 33.73 cfs potential flow)
  - **2=Grate** (Controls 0.00 cfs)
  - **4=1st stage** (Orifice Controls 10.98 cfs @ 5.49 fps)
  - **5=2nd Stage** (Controls 0.00 cfs)
  - **6=UD** (Orifice Controls 0.02 cfs @ 11.75 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=379.00' (Free Discharge)
- **3=Spillway** (Controls 0.00 cfs)

Pond RG2: Rain Garden #2



Pond RG2: Rain Garden #2



Hydrograph for Pond RG2: Rain Garden #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	379.00	0.00	0.00	**0.00**
2.50	0.00	1	379.00	0.00	0.00	0.00
5.00	0.09	368	379.51	0.00	0.00	0.00
7.50	0.18	1,509	381.41	0.01	0.01	0.00
10.00	**0.43**	**2,620**	**383.44**	**0.40**	**0.40**	0.00
12.50	**1.90**	**2,789**	**383.53**	**0.89**	**0.89**	0.00
15.00	0.54	2,678	383.47	0.56	0.56	0.00
17.50	0.35	2,602	383.43	0.36	0.36	0.00
20.00	0.24	2,560	383.41	0.25	0.25	0.00
22.50	0.22	2,545	383.40	0.22	0.22	0.00
25.00	0.00	2,382	383.32	0.01	0.01	0.00
27.50	0.00	2,260	383.25	0.01	0.01	0.00
30.00	0.00	2,139	383.19	0.01	0.01	0.00
32.50	0.00	2,018	383.12	0.01	0.01	0.00
35.00	0.00	1,899	383.06	0.01	0.01	0.00
37.50	0.00	1,781	382.93	0.01	0.01	0.00
40.00	0.00	1,669	382.30	0.01	0.01	0.00
42.50	0.00	1,567	381.73	0.01	0.01	0.00
45.00	0.00	1,474	381.22	0.01	0.01	0.00
47.50	0.00	1,391	380.94	0.01	0.01	0.00
50.00	0.00	1,310	380.83	0.01	0.01	0.00
52.50	0.00	1,232	380.72	0.01	0.01	0.00
55.00	0.00	1,156	380.61	0.01	0.01	0.00
57.50	0.00	1,083	380.51	0.01	0.01	0.00
60.00	0.00	1,012	380.41	0.01	0.01	0.00
62.50	0.00	944	380.31	0.01	0.01	0.00
65.00	0.00	878	380.22	0.01	0.01	0.00
67.50	0.00	814	380.13	0.01	0.01	0.00
70.00	0.00	753	380.05	0.01	0.01	0.00

Stage-Discharge for Pond RG2: Rain Garden #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
379.00	0.00	0.00	0.00
379.10	0.00	0.00	0.00
379.20	0.00	0.00	0.00
379.30	0.00	0.00	0.00
379.40	0.00	0.00	0.00
379.50	0.00	0.00	0.00
379.60	0.00	0.00	0.00
379.70	0.01	0.01	0.00
379.80	0.01	0.01	0.00
379.90	0.01	0.01	0.00
380.00	0.01	0.01	0.00
380.10	0.01	0.01	0.00
380.20	0.01	0.01	0.00
380.30	0.01	0.01	0.00
380.40	0.01	0.01	0.00
380.50	0.01	0.01	0.00
380.60	0.01	0.01	0.00
380.70	0.01	0.01	0.00
380.80	0.01	0.01	0.00
380.90	0.01	0.01	0.00
381.00	0.01	0.01	0.00
381.10	0.01	0.01	0.00
381.20	0.01	0.01	0.00
381.30	0.01	0.01	0.00
381.40	0.01	0.01	0.00
381.50	0.01	0.01	0.00
381.60	0.01	0.01	0.00
381.70	0.01	0.01	0.00
381.80	0.01	0.01	0.00
381.90	0.01	0.01	0.00
382.00	0.01	0.01	0.00
382.10	0.01	0.01	0.00
382.20	0.01	0.01	0.00
382.30	0.01	0.01	0.00
382.40	0.01	0.01	0.00
382.50	0.01	0.01	0.00
382.60	0.01	0.01	0.00
382.70	0.01	0.01	0.00
382.80	0.01	0.01	0.00
382.90	0.01	0.01	0.00
383.00	0.01	0.01	0.00
383.10	0.01	0.01	0.00
383.20	0.01	0.01	0.00
383.30	0.01	0.01	0.00
383.40	0.19	0.19	0.00
383.50	0.69	0.69	0.00
383.60	1.37	1.37	0.00
383.70	2.18	2.18	0.00
383.80	3.12	3.12	0.00
383.90	4.16	4.16	0.00
384.00	5.29	5.29	0.00
384.10	6.20	6.20	0.00
384.20	6.95	6.95	0.00
384.30	7.61	7.61	0.00
384.40	8.21	8.21	0.00
384.50	8.76	8.76	0.00
384.60	9.29	9.29	0.00
384.70	9.78	9.78	0.00
384.80	10.25	10.25	0.00
384.90	10.69	10.69	0.00
385.00	11.12	11.12	0.00
385.10	11.53	11.53	0.00
385.20	11.93	11.93	0.00
385.30	12.31	12.31	0.00
385.40	12.93	12.93	0.00
385.50	13.95	13.95	0.00
385.60	15.20	15.20	0.00
385.70	16.63	16.63	0.00
385.80	18.22	18.22	0.00
385.90	19.93	19.93	0.00
386.00	21.76	21.76	0.00
386.10	23.29	23.29	0.00
386.20	24.59	24.59	0.00
386.30	25.77	25.77	0.00
386.40	26.86	26.86	0.00
386.50	27.89	27.89	0.00
386.60	28.87	28.87	0.00
386.70	31.00	31.00	0.00
386.80	39.79	34.08	5.71
386.90	53.99	37.77	16.23
387.00	69.96	40.02	29.94
387.10	86.60	40.31	46.29
387.20	105.56	40.59	64.97
387.30	126.65	40.87	85.78
387.40	149.70	41.15	108.55
387.50	174.61	41.43	133.18
387.60	201.29	41.70	159.59
387.70	229.67	41.97	187.70
387.80	259.70	42.25	217.45
387.90	291.32	42.52	248.80
388.00	**324.49**	**42.78**	**281.70**

Summary for Pond RG3: Rain Garden #3

Inflow Area = 0.708 ac, 25.78% Impervious, Inflow Depth = 1.61" for 5-yr event
Inflow = 1.22 cfs @ 11.99 hrs, Volume= 0.095 af
Outflow = 0.83 cfs @ 12.16 hrs, Volume= 0.095 af, Atten= 32%, Lag= 10.3 min
Primary = 0.83 cfs @ 12.16 hrs, Volume= 0.095 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 396.26' @ 12.15 hrs Surf.Area= 1,708 sf Storage= 1,125 cf

Plug-Flow detention time= 330.6 min calculated for 0.095 af (100% of inflow)
Center-of-Mass det. time= 328.9 min (1,130.7 - 801.7)

Volume	Invert	Avail.Storage	Storage Description
#1	395.00'	2,978 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	393.50'	61 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 608 cf Overall x 10.0% Voids
#3	392.00'	243 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 608 cf Overall x 40.0% Voids
		3,281 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	405	0	0
398.00	1,580	2,978	2,978

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.50	405	0	0
395.00	405	608	608

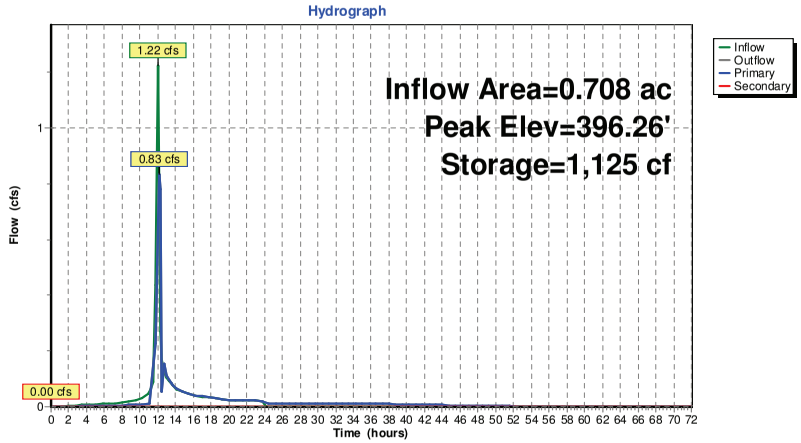
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
392.00	405	0	0
393.50	405	608	608

Device	Routing	Invert	Outlet Devices
#1	Primary	392.00'	**18.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 392.00' / 391.64' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	396.00'	**24.0" W x 4.0" H Vert. 1st Stage** C= 0.600
#3	Device 1	396.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	396.75'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 3.75 13.75 17.50 Height (feet) 1.25 0.00 0.00 1.25
#5	Device 1	391.00'	**0.5" Vert. UD** C= 0.600

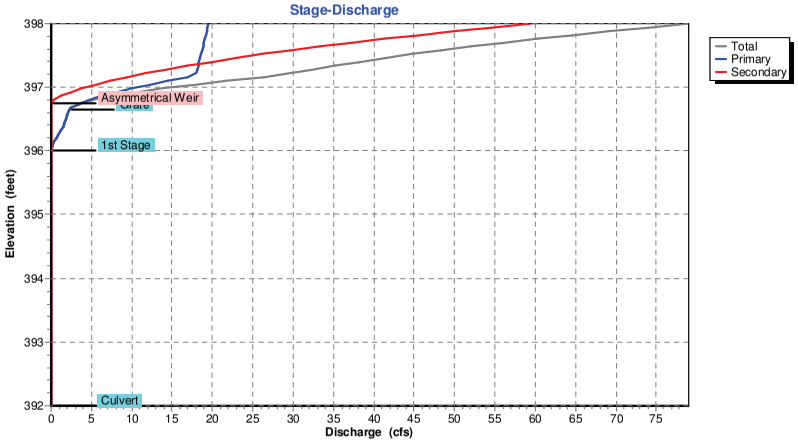
Primary OutFlow Max=0.73 cfs @ 12.16 hrs HW=396.23' (Free Discharge)
└─**1=Culvert** (Passes 0.73 cfs of 15.88 cfs potential flow)
  ├─**2=1st Stage** (Orifice Controls 0.72 cfs @ 1.55 fps)
  ├─**3=Grate** (Controls 0.00 cfs)
  └─**5=UD** (Orifice Controls 0.01 cfs @ 9.91 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' (Free Discharge)
└─**4=Asymmetrical Weir** (Controls 0.00 cfs)

Pond RG3: Rain Garden #3



Pond RG3: Rain Garden #3



Hydrograph for Pond RG3: Rain Garden #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
2.50	0.00	9	392.05	0.00	0.00	0.00
5.00	0.01	45	392.28	0.00	0.00	0.00
7.50	0.01	108	392.66	0.01	0.01	0.00
10.00	**0.03**	**224**	**393.38**	**0.01**	**0.01**	0.00
12.50	**0.17**	**930**	**396.03**	**0.06**	**0.06**	0.00
15.00	0.05	929	396.03	0.05	0.05	0.00
17.50	0.03	922	396.02	0.03	0.03	0.00
20.00	0.02	915	396.01	0.02	0.02	0.00
22.50	0.02	912	396.01	0.02	0.02	0.00
25.00	0.00	869	395.95	0.01	0.01	0.00
27.50	0.00	752	395.80	0.01	0.01	0.00
30.00	0.00	638	395.63	0.01	0.01	0.00
32.50	0.00	527	395.45	0.01	0.01	0.00
35.00	0.00	419	395.25	0.01	0.01	0.00
37.50	0.00	314	395.02	0.01	0.01	0.00
40.00	0.00	229	393.41	0.01	0.01	0.00
42.50	0.00	164	393.01	0.01	0.01	0.00
45.00	0.00	110	392.68	0.01	0.01	0.00
47.50	0.00	66	392.41	0.00	0.00	0.00
50.00	0.00	34	392.21	0.00	0.00	0.00
52.50	0.00	12	392.08	0.00	0.00	0.00
55.00	0.00	3	392.02	0.00	0.00	0.00
57.50	0.00	1	392.00	0.00	0.00	0.00
60.00	0.00	0	392.00	0.00	0.00	0.00
62.50	0.00	0	392.00	0.00	0.00	0.00
65.00	0.00	0	392.00	0.00	0.00	0.00
67.50	0.00	0	392.00	0.00	0.00	0.00
70.00	0.00	0	392.00	0.00	0.00	0.00

Stage-Discharge for Pond RG3: Rain Garden #3

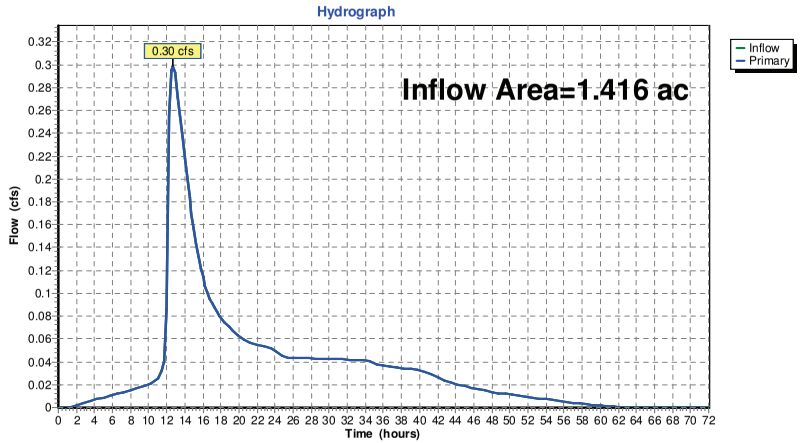
Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
392.00	0.00	0.00	0.00	397.10	21.84	14.50	7.34
392.10	0.00	0.00	0.00	397.20	28.89	17.95	10.94
392.20	0.00	0.00	0.00	397.30	33.25	18.15	15.10
392.30	0.00	0.00	0.00	397.40	38.16	18.35	19.81
392.40	0.00	0.00	0.00	397.50	43.61	18.54	25.06
392.50	0.00	0.00	0.00	397.60	49.59	18.74	30.85
392.60	0.01	0.01	0.00	397.70	56.11	18.93	37.18
392.70	0.01	0.01	0.00	397.80	63.17	19.12	44.05
392.80	0.01	0.01	0.00	397.90	70.77	19.31	51.46
392.90	0.01	0.01	0.00	398.00	**78.91**	**19.50**	**59.41**
393.00	0.01	0.01	0.00				
393.10	0.01	0.01	0.00				
393.20	0.01	0.01	0.00				
393.30	0.01	0.01	0.00				
393.40	0.01	0.01	0.00				
393.50	0.01	0.01	0.00				
393.60	0.01	0.01	0.00				
393.70	0.01	0.01	0.00				
393.80	0.01	0.01	0.00				
393.90	0.01	0.01	0.00				
394.00	0.01	0.01	0.00				
394.10	0.01	0.01	0.00				
394.20	0.01	0.01	0.00				
394.30	0.01	0.01	0.00				
394.40	0.01	0.01	0.00				
394.50	0.01	0.01	0.00				
394.60	0.01	0.01	0.00				
394.70	0.01	0.01	0.00				
394.80	0.01	0.01	0.00				
394.90	0.01	0.01	0.00				
395.00	0.01	0.01	0.00				
395.10	0.01	0.01	0.00				
395.20	0.01	0.01	0.00				
395.30	0.01	0.01	0.00				
395.40	0.01	0.01	0.00				
395.50	0.01	0.01	0.00				
395.60	0.01	0.01	0.00				
395.70	0.01	0.01	0.00				
395.80	0.01	0.01	0.00				
395.90	0.01	0.01	0.00				
396.00	0.01	0.01	0.00				
396.10	0.22	0.22	0.00				
396.20	0.59	0.59	0.00				
396.30	1.07	1.07	0.00				
396.40	1.53	1.53	0.00				
396.50	1.85	1.85	0.00				
396.60	2.11	2.11	0.00				
396.70	2.77	2.77	0.00				
396.80	5.12	4.75	0.37				
396.90	9.44	7.47	1.97				
397.00	15.08	10.75	4.33				

Summary for Link 1L: INF Trench Collection

Inflow Area = 1.416 ac, 28.90% Impervious, Inflow Depth = 1.70" for 5-yr event
Inflow = 0.30 cfs @ 12.68 hrs, Volume= 0.201 af
Primary = 0.30 cfs @ 12.68 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link 1L: INF Trench Collection



Hydrograph for Link 1L: INF Trench Collection

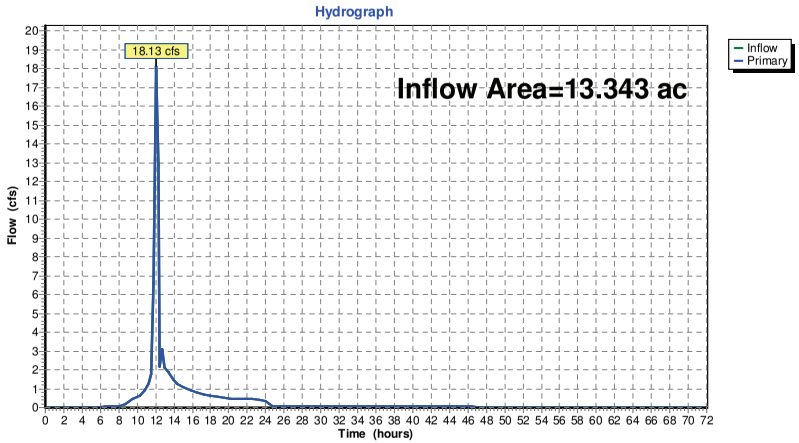
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.01	0.00	0.01	70.00	0.00	0.00	0.00
7.50	0.01	0.00	0.01	71.25	0.00	0.00	0.00
8.75	0.02	0.00	0.02				
10.00	0.02	0.00	0.02				
11.25	0.03	0.00	0.03				
12.50	**0.30**	0.00	**0.30**				
13.75	**0.24**	0.00	**0.24**				
15.00	0.16	0.00	0.16				
16.25	0.11	0.00	0.11				
17.50	0.08	0.00	0.08				
18.75	0.07	0.00	0.07				
20.00	0.06	0.00	0.06				
21.25	0.06	0.00	0.06				
22.50	0.05	0.00	0.05				
23.75	0.05	0.00	0.05				
25.00	0.04	0.00	0.04				
26.25	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.75	0.04	0.00	0.04				
30.00	0.04	0.00	0.04				
31.25	0.04	0.00	0.04				
32.50	0.04	0.00	0.04				
33.75	0.04	0.00	0.04				
35.00	0.04	0.00	0.04				
36.25	0.04	0.00	0.04				
37.50	0.03	0.00	0.03				
38.75	0.03	0.00	0.03				
40.00	0.03	0.00	0.03				
41.25	0.03	0.00	0.03				
42.50	0.02	0.00	0.02				
43.75	0.02	0.00	0.02				
45.00	0.02	0.00	0.02				
46.25	0.02	0.00	0.02				
47.50	0.01	0.00	0.01				
48.75	0.01	0.00	0.01				
50.00	0.01	0.00	0.01				
51.25	0.01	0.00	0.01				
52.50	0.01	0.00	0.01				
53.75	0.01	0.00	0.01				
55.00	0.01	0.00	0.01				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link POI East: Prop POI East

Inflow Area = 13.343 ac, 28.42% Impervious, Inflow Depth > 1.73" for 5-yr event
Inflow = 18.13 cfs @ 12.05 hrs, Volume= 1.918 af
Primary = 18.13 cfs @ 12.05 hrs, Volume= 1.918 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link POI East: Prop POI East



Hydrograph for Link POI East: Prop POI East

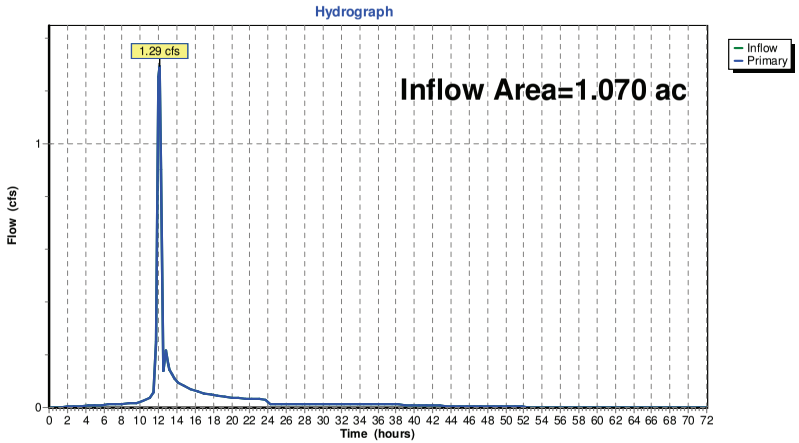
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.01	0.00	0.01
1.25	0.00	0.00	0.00	65.00	0.01	0.00	0.01
2.50	0.01	0.00	0.01	66.25	0.01	0.00	0.01
3.75	0.01	0.00	0.01	67.50	0.01	0.00	0.01
5.00	0.02	0.00	0.02	68.75	0.01	0.00	0.01
6.25	0.03	0.00	0.03	70.00	0.01	0.00	0.01
7.50	0.04	0.00	0.04	71.25	0.01	0.00	0.01
8.75	0.10	0.00	0.10				
10.00	0.54	0.00	0.54				
11.25	**1.27**	0.00	**1.27**				
12.50	**2.15**	0.00	**2.15**				
13.75	1.56	0.00	1.56				
15.00	1.09	0.00	1.09				
16.25	0.81	0.00	0.81				
17.50	0.69	0.00	0.69				
18.75	0.59	0.00	0.59				
20.00	0.49	0.00	0.49				
21.25	0.45	0.00	0.45				
22.50	0.43	0.00	0.43				
23.75	0.41	0.00	0.41				
25.00	0.07	0.00	0.07				
26.25	0.07	0.00	0.07				
27.50	0.07	0.00	0.07				
28.75	0.07	0.00	0.07				
30.00	0.07	0.00	0.07				
31.25	0.07	0.00	0.07				
32.50	0.06	0.00	0.06				
33.75	0.06	0.00	0.06				
35.00	0.06	0.00	0.06				
36.25	0.06	0.00	0.06				
37.50	0.06	0.00	0.06				
38.75	0.05	0.00	0.05				
40.00	0.05	0.00	0.05				
41.25	0.05	0.00	0.05				
42.50	0.04	0.00	0.04				
43.75	0.04	0.00	0.04				
45.00	0.03	0.00	0.03				
46.25	0.03	0.00	0.03				
47.50	0.03	0.00	0.03				
48.75	0.03	0.00	0.03				
50.00	0.02	0.00	0.02				
51.25	0.02	0.00	0.02				
52.50	0.02	0.00	0.02				
53.75	0.02	0.00	0.02				
55.00	0.02	0.00	0.02				
56.25	0.01	0.00	0.01				
57.50	0.01	0.00	0.01				
58.75	0.01	0.00	0.01				
60.00	0.01	0.00	0.01				
61.25	0.01	0.00	0.01				
62.50	0.01	0.00	0.01				

Summary for Link PR POI W: PR POI - West

Inflow Area = 1.070 ac, 25.17% Impervious, Inflow Depth = 1.59" for 5-yr event
Inflow = 1.29 cfs @ 12.06 hrs, Volume= 0.142 af
Primary = 1.29 cfs @ 12.06 hrs, Volume= 0.142 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link PR POI W: PR POI - West



Hydrograph for Link PR POI W: PR POI - West

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.01	0.00	0.01	70.00	0.00	0.00	0.00
7.50	0.01	0.00	0.01	71.25	0.00	0.00	0.00
8.75	0.02	0.00	0.02				
10.00	0.02	0.00	0.02				
11.25	**0.04**	0.00	**0.04**				
12.50	**0.14**	0.00	**0.14**				
13.75	0.11	0.00	0.11				
15.00	0.08	0.00	0.08				
16.25	0.06	0.00	0.06				
17.50	0.05	0.00	0.05				
18.75	0.04	0.00	0.04				
20.00	0.04	0.00	0.04				
21.25	0.03	0.00	0.03				
22.50	0.03	0.00	0.03				
23.75	0.03	0.00	0.03				
25.00	0.01	0.00	0.01				
26.25	0.01	0.00	0.01				
27.50	0.01	0.00	0.01				
28.75	0.01	0.00	0.01				
30.00	0.01	0.00	0.01				
31.25	0.01	0.00	0.01				
32.50	0.01	0.00	0.01				
33.75	0.01	0.00	0.01				
35.00	0.01	0.00	0.01				
36.25	0.01	0.00	0.01				
37.50	0.01	0.00	0.01				
38.75	0.01	0.00	0.01				
40.00	0.01	0.00	0.01				
41.25	0.01	0.00	0.01				
42.50	0.01	0.00	0.01				
43.75	0.01	0.00	0.01				
45.00	0.01	0.00	0.01				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment Gr 1-6: PR Grass (1-6)

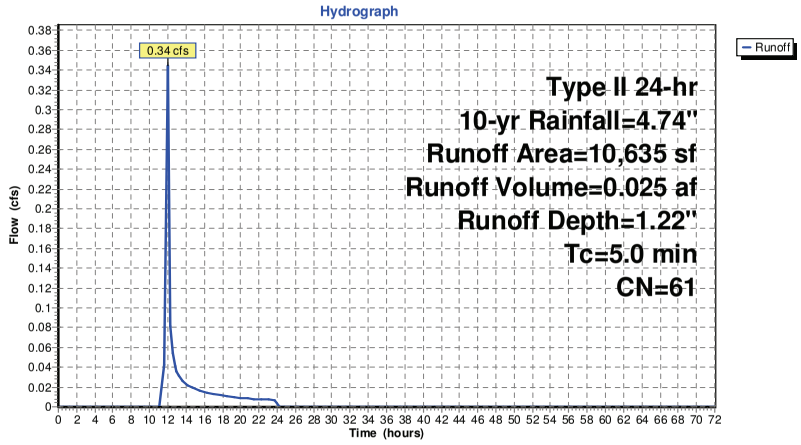
Runoff = 0.34 cfs @ 12.00 hrs, Volume= 0.025 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
10,635	61	>75% Grass cover, Good, HSG B
10,635		100.00% Pervious Area

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

Subcatchment Gr 1-6: PR Grass (1-6)



Hydrograph for Subcatchment Gr 1-6: PR Grass (1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	1.22	0.00
1.25	0.06	0.00	0.00	65.00	4.74	1.22	0.00
2.50	0.13	0.00	0.00	66.25	4.74	1.22	0.00
3.75	0.21	0.00	0.00	67.50	4.74	1.22	0.00
5.00	0.30	0.00	0.00	68.75	4.74	1.22	0.00
6.25	0.40	0.00	0.00	70.00	4.74	1.22	0.00
7.50	0.52	0.00	0.00	71.25	4.74	1.22	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.57	**0.05**				
13.75	3.84	0.73	0.02				
15.00	4.05	0.84	0.02				
16.25	4.20	0.92	0.01				
17.50	4.32	0.98	0.01				
18.75	4.43	1.04	0.01				
20.00	4.51	1.09	0.01				
21.25	4.59	1.13	0.01				
22.50	4.66	1.17	0.01				
23.75	**4.73**	**1.21**	0.01				
25.00	**4.74**	**1.22**	0.00				
26.25	4.74	1.22	0.00				
27.50	4.74	1.22	0.00				
28.75	4.74	1.22	0.00				
30.00	4.74	1.22	0.00				
31.25	4.74	1.22	0.00				
32.50	4.74	1.22	0.00				
33.75	4.74	1.22	0.00				
35.00	4.74	1.22	0.00				
36.25	4.74	1.22	0.00				
37.50	4.74	1.22	0.00				
38.75	4.74	1.22	0.00				
40.00	4.74	1.22	0.00				
41.25	4.74	1.22	0.00				
42.50	4.74	1.22	0.00				
43.75	4.74	1.22	0.00				
45.00	4.74	1.22	0.00				
46.25	4.74	1.22	0.00				
47.50	4.74	1.22	0.00				
48.75	4.74	1.22	0.00				
50.00	4.74	1.22	0.00				
51.25	4.74	1.22	0.00				
52.50	4.74	1.22	0.00				
53.75	4.74	1.22	0.00				
55.00	4.74	1.22	0.00				
56.25	4.74	1.22	0.00				
57.50	4.74	1.22	0.00				
58.75	4.74	1.22	0.00				
60.00	4.74	1.22	0.00				
61.25	4.74	1.22	0.00				
62.50	4.74	1.22	0.00				

Summary for Subcatchment Gr 14-17: PR Grass (14-17)

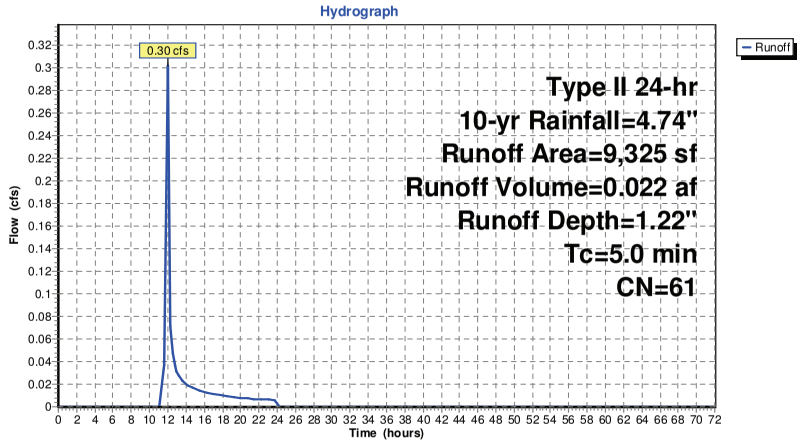
Runoff = 0.30 cfs @ 12.00 hrs, Volume= 0.022 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
9,325	61	>75% Grass cover, Good, HSG B
9,325		100.00% Pervious Area

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

Subcatchment Gr 14-17: PR Grass (14-17)



Hydrograph for Subcatchment Gr 14-17: PR Grass (14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	1.22	0.00
1.25	0.06	0.00	0.00	65.00	4.74	1.22	0.00
2.50	0.13	0.00	0.00	66.25	4.74	1.22	0.00
3.75	0.21	0.00	0.00	67.50	4.74	1.22	0.00
5.00	0.30	0.00	0.00	68.75	4.74	1.22	0.00
6.25	0.40	0.00	0.00	70.00	4.74	1.22	0.00
7.50	0.52	0.00	0.00	71.25	4.74	1.22	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.57	**0.05**				
13.75	3.84	0.73	0.02				
15.00	4.05	0.84	0.02				
16.25	4.20	0.92	0.01				
17.50	4.32	0.98	0.01				
18.75	4.43	1.04	0.01				
20.00	4.51	1.09	0.01				
21.25	4.59	1.13	0.01				
22.50	4.66	1.17	0.01				
23.75	**4.73**	**1.21**	0.01				
25.00	**4.74**	**1.22**	0.00				
26.25	4.74	1.22	0.00				
27.50	4.74	1.22	0.00				
28.75	4.74	1.22	0.00				
30.00	4.74	1.22	0.00				
31.25	4.74	1.22	0.00				
32.50	4.74	1.22	0.00				
33.75	4.74	1.22	0.00				
35.00	4.74	1.22	0.00				
36.25	4.74	1.22	0.00				
37.50	4.74	1.22	0.00				
38.75	4.74	1.22	0.00				
40.00	4.74	1.22	0.00				
41.25	4.74	1.22	0.00				
42.50	4.74	1.22	0.00				
43.75	4.74	1.22	0.00				
45.00	4.74	1.22	0.00				
46.25	4.74	1.22	0.00				
47.50	4.74	1.22	0.00				
48.75	4.74	1.22	0.00				
50.00	4.74	1.22	0.00				
51.25	4.74	1.22	0.00				
52.50	4.74	1.22	0.00				
53.75	4.74	1.22	0.00				
55.00	4.74	1.22	0.00				
56.25	4.74	1.22	0.00				
57.50	4.74	1.22	0.00				
58.75	4.74	1.22	0.00				
60.00	4.74	1.22	0.00				
61.25	4.74	1.22	0.00				
62.50	4.74	1.22	0.00				

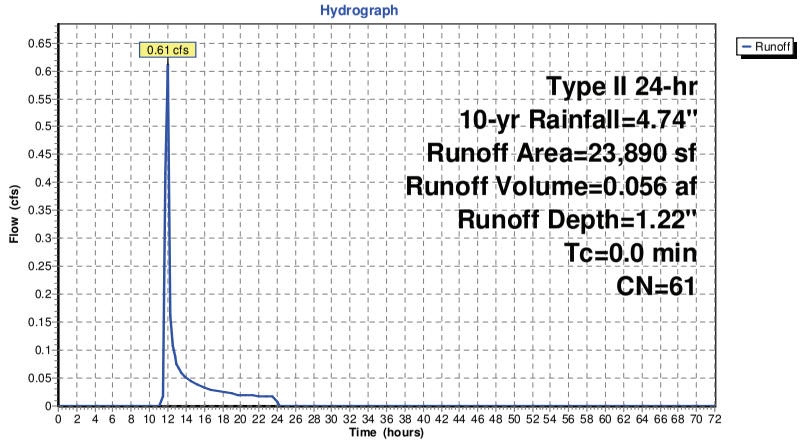
Summary for Subcatchment Gr 7-13: PR Grass (7-13)

Runoff = 0.61 cfs @ 11.95 hrs, Volume= 0.056 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
23,890	61	>75% Grass cover, Good, HSG B
23,890		100.00% Pervious Area

Subcatchment Gr 7-13: PR Grass (7-13)



Hydrograph for Subcatchment Gr 7-13: PR Grass (7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	1.22	0.00
1.25	0.06	0.00	0.00	65.00	4.74	1.22	0.00
2.50	0.13	0.00	0.00	66.25	4.74	1.22	0.00
3.75	0.21	0.00	0.00	67.50	4.74	1.22	0.00
5.00	0.30	0.00	0.00	68.75	4.74	1.22	0.00
6.25	0.40	0.00	0.00	70.00	4.74	1.22	0.00
7.50	0.52	0.00	0.00	71.25	4.74	1.22	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.57	**0.11**				
13.75	3.84	0.73	0.05				
15.00	4.05	0.84	0.04				
16.25	4.20	0.92	0.03				
17.50	4.32	0.98	0.03				
18.75	4.43	1.04	0.02				
20.00	4.51	1.09	0.02				
21.25	4.59	1.13	0.02				
22.50	4.66	1.17	0.02				
23.75	**4.73**	**1.21**	0.02				
25.00	**4.74**	**1.22**	0.00				
26.25	4.74	1.22	0.00				
27.50	4.74	1.22	0.00				
28.75	4.74	1.22	0.00				
30.00	4.74	1.22	0.00				
31.25	4.74	1.22	0.00				
32.50	4.74	1.22	0.00				
33.75	4.74	1.22	0.00				
35.00	4.74	1.22	0.00				
36.25	4.74	1.22	0.00				
37.50	4.74	1.22	0.00				
38.75	4.74	1.22	0.00				
40.00	4.74	1.22	0.00				
41.25	4.74	1.22	0.00				
42.50	4.74	1.22	0.00				
43.75	4.74	1.22	0.00				
45.00	4.74	1.22	0.00				
46.25	4.74	1.22	0.00				
47.50	4.74	1.22	0.00				
48.75	4.74	1.22	0.00				
50.00	4.74	1.22	0.00				
51.25	4.74	1.22	0.00				
52.50	4.74	1.22	0.00				
53.75	4.74	1.22	0.00				
55.00	4.74	1.22	0.00				
56.25	4.74	1.22	0.00				
57.50	4.74	1.22	0.00				
58.75	4.74	1.22	0.00				
60.00	4.74	1.22	0.00				
61.25	4.74	1.22	0.00				
62.50	4.74	1.22	0.00				

Summary for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

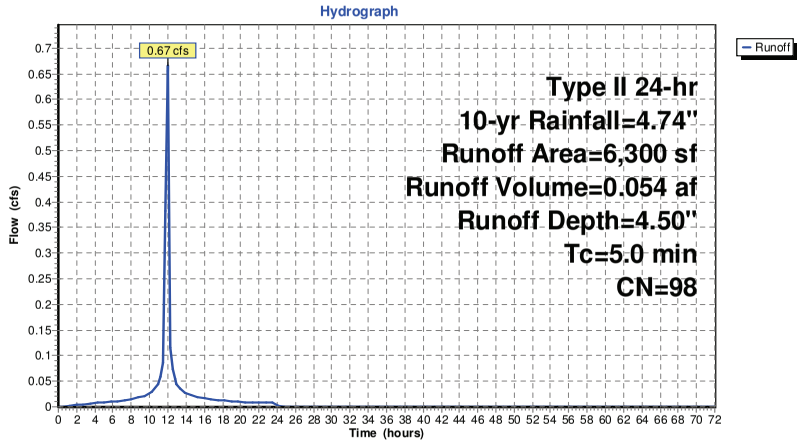
Runoff = 0.67 cfs @ 11.96 hrs, Volume= 0.054 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
6,300	98	Roofs, HSG B
6,300		100.00% Impervious Area

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

Subcatchment Imp 1-6: PR Imp (Roof 1-6)



Hydrograph for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	4.50	0.00
1.25	0.06	0.00	0.00	65.00	4.74	4.50	0.00
2.50	0.13	0.03	0.00	66.25	4.74	4.50	0.00
3.75	0.21	0.08	0.01	67.50	4.74	4.50	0.00
5.00	0.30	0.14	0.01	68.75	4.74	4.50	0.00
6.25	0.40	0.23	0.01	70.00	4.74	4.50	0.00
7.50	0.52	0.33	0.01	71.25	4.74	4.50	0.00
8.75	0.66	0.47	0.02				
10.00	0.86	0.65	0.03				
11.25	1.21	1.00	**0.06**				
12.50	3.48	3.25	**0.07**				
13.75	3.84	3.61	0.03				
15.00	4.05	3.81	0.02				
16.25	4.20	3.96	0.02				
17.50	4.32	4.09	0.01				
18.75	4.43	4.19	0.01				
20.00	4.51	4.28	0.01				
21.25	4.59	4.35	0.01				
22.50	4.66	4.42	0.01				
23.75	**4.73**	**4.49**	0.01				
25.00	**4.74**	**4.50**	0.00				
26.25	4.74	4.50	0.00				
27.50	4.74	4.50	0.00				
28.75	4.74	4.50	0.00				
30.00	4.74	4.50	0.00				
31.25	4.74	4.50	0.00				
32.50	4.74	4.50	0.00				
33.75	4.74	4.50	0.00				
35.00	4.74	4.50	0.00				
36.25	4.74	4.50	0.00				
37.50	4.74	4.50	0.00				
38.75	4.74	4.50	0.00				
40.00	4.74	4.50	0.00				
41.25	4.74	4.50	0.00				
42.50	4.74	4.50	0.00				
43.75	4.74	4.50	0.00				
45.00	4.74	4.50	0.00				
46.25	4.74	4.50	0.00				
47.50	4.74	4.50	0.00				
48.75	4.74	4.50	0.00				
50.00	4.74	4.50	0.00				
51.25	4.74	4.50	0.00				
52.50	4.74	4.50	0.00				
53.75	4.74	4.50	0.00				
55.00	4.74	4.50	0.00				
56.25	4.74	4.50	0.00				
57.50	4.74	4.50	0.00				
58.75	4.74	4.50	0.00				
60.00	4.74	4.50	0.00				
61.25	4.74	4.50	0.00				
62.50	4.74	4.50	0.00				

Summary for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

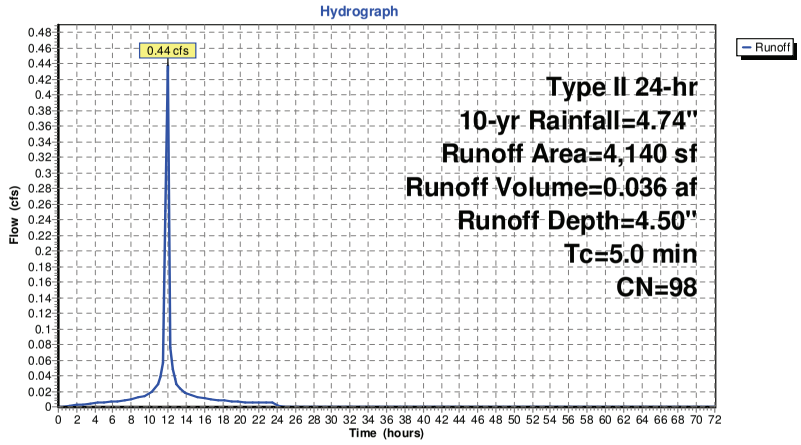
Runoff = 0.44 cfs @ 11.96 hrs, Volume= 0.036 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
4,140	98	Roofs, HSG B
4,140		100.00% Impervious Area

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

Subcatchment Imp 14-17: PR Imp (Roof 14-17)



Hydrograph for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	4.50	0.00
1.25	0.06	0.00	0.00	65.00	4.74	4.50	0.00
2.50	0.13	0.03	0.00	66.25	4.74	4.50	0.00
3.75	0.21	0.08	0.00	67.50	4.74	4.50	0.00
5.00	0.30	0.14	0.01	68.75	4.74	4.50	0.00
6.25	0.40	0.23	0.01	70.00	4.74	4.50	0.00
7.50	0.52	0.33	0.01	71.25	4.74	4.50	0.00
8.75	0.66	0.47	0.01				
10.00	0.86	0.65	0.02				
11.25	1.21	1.00	**0.04**				
12.50	3.48	3.25	**0.05**				
13.75	3.84	3.61	0.02				
15.00	4.05	3.81	0.01				
16.25	4.20	3.96	0.01				
17.50	4.32	4.09	0.01				
18.75	4.43	4.19	0.01				
20.00	4.51	4.28	0.01				
21.25	4.59	4.35	0.01				
22.50	4.66	4.42	0.01				
23.75	**4.73**	**4.49**	0.01				
25.00	**4.74**	**4.50**	0.00				
26.25	4.74	4.50	0.00				
27.50	4.74	4.50	0.00				
28.75	4.74	4.50	0.00				
30.00	4.74	4.50	0.00				
31.25	4.74	4.50	0.00				
32.50	4.74	4.50	0.00				
33.75	4.74	4.50	0.00				
35.00	4.74	4.50	0.00				
36.25	4.74	4.50	0.00				
37.50	4.74	4.50	0.00				
38.75	4.74	4.50	0.00				
40.00	4.74	4.50	0.00				
41.25	4.74	4.50	0.00				
42.50	4.74	4.50	0.00				
43.75	4.74	4.50	0.00				
45.00	4.74	4.50	0.00				
46.25	4.74	4.50	0.00				
47.50	4.74	4.50	0.00				
48.75	4.74	4.50	0.00				
50.00	4.74	4.50	0.00				
51.25	4.74	4.50	0.00				
52.50	4.74	4.50	0.00				
53.75	4.74	4.50	0.00				
55.00	4.74	4.50	0.00				
56.25	4.74	4.50	0.00				
57.50	4.74	4.50	0.00				
58.75	4.74	4.50	0.00				
60.00	4.74	4.50	0.00				
61.25	4.74	4.50	0.00				
62.50	4.74	4.50	0.00				

Summary for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

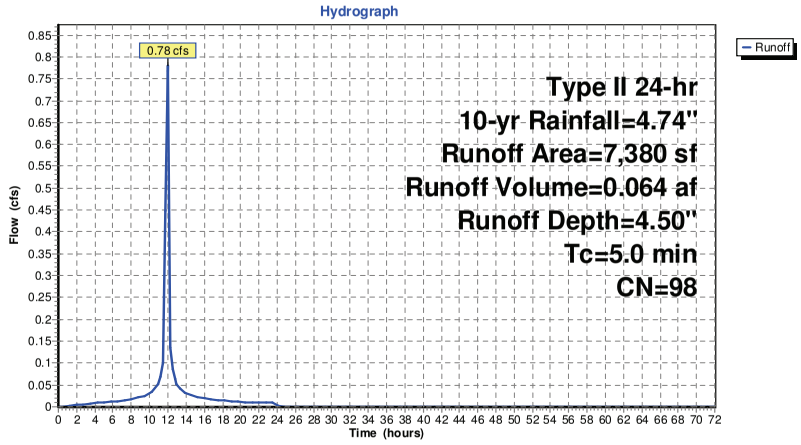
Runoff = 0.78 cfs @ 11.96 hrs, Volume= 0.064 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
7,380	98	Roofs, HSG B
7,380		100.00% Impervious Area

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

Subcatchment Imp 7-13: PR Imp (Roof 7-13)



Hydrograph for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	4.50	0.00
1.25	0.06	0.00	0.00	65.00	4.74	4.50	0.00
2.50	0.13	0.03	0.01	66.25	4.74	4.50	0.00
3.75	0.21	0.08	0.01	67.50	4.74	4.50	0.00
5.00	0.30	0.14	0.01	68.75	4.74	4.50	0.00
6.25	0.40	0.23	0.01	70.00	4.74	4.50	0.00
7.50	0.52	0.33	0.02	71.25	4.74	4.50	0.00
8.75	0.66	0.47	0.02				
10.00	0.86	0.65	0.03				
11.25	1.21	1.00	**0.07**				
12.50	3.48	3.25	**0.09**				
13.75	3.84	3.61	0.04				
15.00	4.05	3.81	0.02				
16.25	4.20	3.96	0.02				
17.50	4.32	4.09	0.02				
18.75	4.43	4.19	0.01				
20.00	4.51	4.28	0.01				
21.25	4.59	4.35	0.01				
22.50	4.66	4.42	0.01				
23.75	**4.73**	**4.49**	0.01				
25.00	**4.74**	**4.50**	0.00				
26.25	4.74	4.50	0.00				
27.50	4.74	4.50	0.00				
28.75	4.74	4.50	0.00				
30.00	4.74	4.50	0.00				
31.25	4.74	4.50	0.00				
32.50	4.74	4.50	0.00				
33.75	4.74	4.50	0.00				
35.00	4.74	4.50	0.00				
36.25	4.74	4.50	0.00				
37.50	4.74	4.50	0.00				
38.75	4.74	4.50	0.00				
40.00	4.74	4.50	0.00				
41.25	4.74	4.50	0.00				
42.50	4.74	4.50	0.00				
43.75	4.74	4.50	0.00				
45.00	4.74	4.50	0.00				
46.25	4.74	4.50	0.00				
47.50	4.74	4.50	0.00				
48.75	4.74	4.50	0.00				
50.00	4.74	4.50	0.00				
51.25	4.74	4.50	0.00				
52.50	4.74	4.50	0.00				
53.75	4.74	4.50	0.00				
55.00	4.74	4.50	0.00				
56.25	4.74	4.50	0.00				
57.50	4.74	4.50	0.00				
58.75	4.74	4.50	0.00				
60.00	4.74	4.50	0.00				
61.25	4.74	4.50	0.00				
62.50	4.74	4.50	0.00				

Summary for Subcatchment PR RG2 Gr: PR Grass RG2

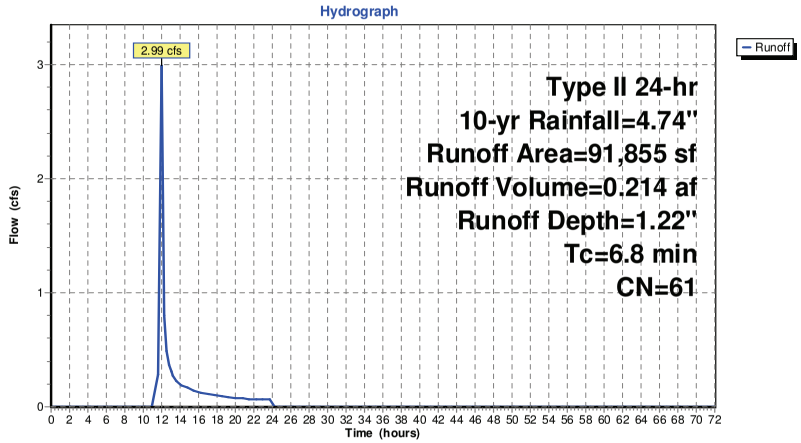
Runoff = 2.99 cfs @ 12.01 hrs, Volume= 0.214 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
91,855	61	>75% Grass cover, Good, HSG B
91,855		100.00% Pervious Area

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

Subcatchment PR RG2 Gr: PR Grass RG2



Hydrograph for Subcatchment PR RG2 Gr: PR Grass RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	1.22	0.00
1.25	0.06	0.00	0.00	65.00	4.74	1.22	0.00
2.50	0.13	0.00	0.00	66.25	4.74	1.22	0.00
3.75	0.21	0.00	0.00	67.50	4.74	1.22	0.00
5.00	0.30	0.00	0.00	68.75	4.74	1.22	0.00
6.25	0.40	0.00	0.00	70.00	4.74	1.22	0.00
7.50	0.52	0.00	0.00	71.25	4.74	1.22	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.57	**0.49**				
13.75	3.84	0.73	0.22				
15.00	4.05	0.84	0.16				
16.25	4.20	0.92	0.12				
17.50	4.32	0.98	0.11				
18.75	4.43	1.04	0.09				
20.00	4.51	1.09	0.07				
21.25	4.59	1.13	0.07				
22.50	4.66	1.17	0.07				
23.75	**4.73**	**1.21**	0.07				
25.00	**4.74**	**1.22**	0.00				
26.25	4.74	1.22	0.00				
27.50	4.74	1.22	0.00				
28.75	4.74	1.22	0.00				
30.00	4.74	1.22	0.00				
31.25	4.74	1.22	0.00				
32.50	4.74	1.22	0.00				
33.75	4.74	1.22	0.00				
35.00	4.74	1.22	0.00				
36.25	4.74	1.22	0.00				
37.50	4.74	1.22	0.00				
38.75	4.74	1.22	0.00				
40.00	4.74	1.22	0.00				
41.25	4.74	1.22	0.00				
42.50	4.74	1.22	0.00				
43.75	4.74	1.22	0.00				
45.00	4.74	1.22	0.00				
46.25	4.74	1.22	0.00				
47.50	4.74	1.22	0.00				
48.75	4.74	1.22	0.00				
50.00	4.74	1.22	0.00				
51.25	4.74	1.22	0.00				
52.50	4.74	1.22	0.00				
53.75	4.74	1.22	0.00				
55.00	4.74	1.22	0.00				
56.25	4.74	1.22	0.00				
57.50	4.74	1.22	0.00				
58.75	4.74	1.22	0.00				
60.00	4.74	1.22	0.00				
61.25	4.74	1.22	0.00				
62.50	4.74	1.22	0.00				

Summary for Subcatchment PR RG2 Imp: PR Imp RG2

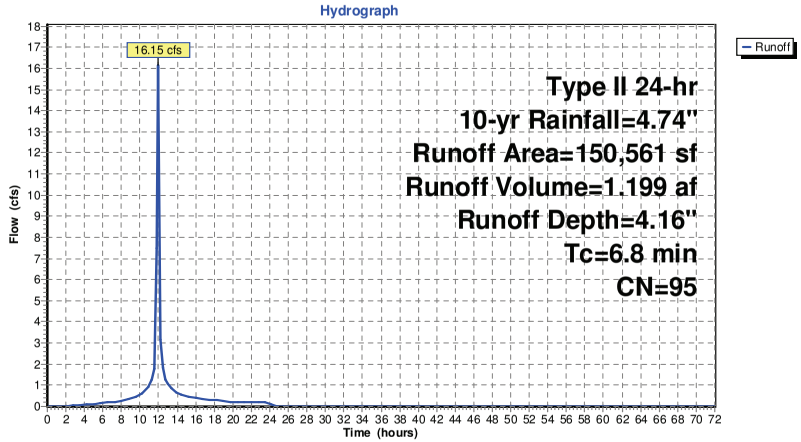
Runoff = 16.15 cfs @ 11.97 hrs, Volume= 1.199 af, Depth= 4.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
62,832	98	Paved roads w/curbs & sewers, HSG B
36,249	85	Gravel roads, HSG B
51,480	98	Roofs, HSG B
150,561	95	Weighted Average
36,249		24.08% Pervious Area
114,312		75.92% Impervious Area

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

Subcatchment PR RG2 Imp: PR Imp RG2



Hydrograph for Subcatchment PR RG2 Imp: PR Imp RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	4.16	0.00
1.25	0.06	0.00	0.00	65.00	4.74	4.16	0.00
2.50	0.13	0.00	0.02	66.25	4.74	4.16	0.00
3.75	0.21	0.02	0.07	67.50	4.74	4.16	0.00
5.00	0.30	0.05	0.12	68.75	4.74	4.16	0.00
6.25	0.40	0.11	0.18	70.00	4.74	4.16	0.00
7.50	0.52	0.18	0.23	71.25	4.74	4.16	0.00
8.75	0.66	0.28	0.36				
10.00	0.86	0.44	0.52				
11.25	1.21	0.75	**1.27**				
12.50	3.48	2.92	**1.81**				
13.75	3.84	3.27	0.72				
15.00	4.05	3.48	0.50				
16.25	4.20	3.63	0.37				
17.50	4.32	3.75	0.32				
18.75	4.43	3.85	0.27				
20.00	4.51	3.94	0.22				
21.25	4.59	4.01	0.20				
22.50	4.66	4.08	0.19				
23.75	**4.73**	**4.15**	0.18				
25.00	**4.74**	**4.16**	0.00				
26.25	4.74	4.16	0.00				
27.50	4.74	4.16	0.00				
28.75	4.74	4.16	0.00				
30.00	4.74	4.16	0.00				
31.25	4.74	4.16	0.00				
32.50	4.74	4.16	0.00				
33.75	4.74	4.16	0.00				
35.00	4.74	4.16	0.00				
36.25	4.74	4.16	0.00				
37.50	4.74	4.16	0.00				
38.75	4.74	4.16	0.00				
40.00	4.74	4.16	0.00				
41.25	4.74	4.16	0.00				
42.50	4.74	4.16	0.00				
43.75	4.74	4.16	0.00				
45.00	4.74	4.16	0.00				
46.25	4.74	4.16	0.00				
47.50	4.74	4.16	0.00				
48.75	4.74	4.16	0.00				
50.00	4.74	4.16	0.00				
51.25	4.74	4.16	0.00				
52.50	4.74	4.16	0.00				
53.75	4.74	4.16	0.00				
55.00	4.74	4.16	0.00				
56.25	4.74	4.16	0.00				
57.50	4.74	4.16	0.00				
58.75	4.74	4.16	0.00				
60.00	4.74	4.16	0.00				
61.25	4.74	4.16	0.00				
62.50	4.74	4.16	0.00				

Summary for Subcatchment PR RG3 Gr: PR Grass RG3

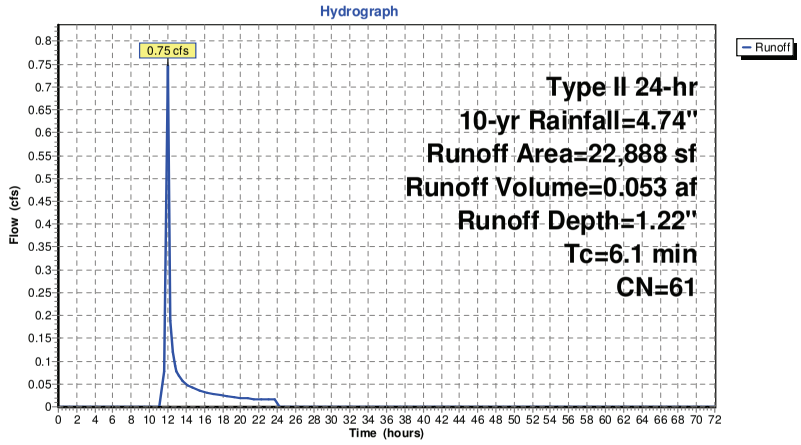
Runoff = 0.75 cfs @ 12.00 hrs, Volume= 0.053 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
22,888	61	>75% Grass cover, Good, HSG B
22,888		100.00% Pervious Area

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

Subcatchment PR RG3 Gr: PR Grass RG3



Hydrograph for Subcatchment PR RG3 Gr: PR Grass RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	1.22	0.00
1.25	0.06	0.00	0.00	65.00	4.74	1.22	0.00
2.50	0.13	0.00	0.00	66.25	4.74	1.22	0.00
3.75	0.21	0.00	0.00	67.50	4.74	1.22	0.00
5.00	0.30	0.00	0.00	68.75	4.74	1.22	0.00
6.25	0.40	0.00	0.00	70.00	4.74	1.22	0.00
7.50	0.52	0.00	0.00	71.25	4.74	1.22	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.57	**0.12**				
13.75	3.84	0.73	0.05				
15.00	4.05	0.84	0.04				
16.25	4.20	0.92	0.03				
17.50	4.32	0.98	0.03				
18.75	4.43	1.04	0.02				
20.00	4.51	1.09	0.02				
21.25	4.59	1.13	0.02				
22.50	4.66	1.17	0.02				
23.75	**4.73**	**1.21**	0.02				
25.00	**4.74**	**1.22**	0.00				
26.25	4.74	1.22	0.00				
27.50	4.74	1.22	0.00				
28.75	4.74	1.22	0.00				
30.00	4.74	1.22	0.00				
31.25	4.74	1.22	0.00				
32.50	4.74	1.22	0.00				
33.75	4.74	1.22	0.00				
35.00	4.74	1.22	0.00				
36.25	4.74	1.22	0.00				
37.50	4.74	1.22	0.00				
38.75	4.74	1.22	0.00				
40.00	4.74	1.22	0.00				
41.25	4.74	1.22	0.00				
42.50	4.74	1.22	0.00				
43.75	4.74	1.22	0.00				
45.00	4.74	1.22	0.00				
46.25	4.74	1.22	0.00				
47.50	4.74	1.22	0.00				
48.75	4.74	1.22	0.00				
50.00	4.74	1.22	0.00				
51.25	4.74	1.22	0.00				
52.50	4.74	1.22	0.00				
53.75	4.74	1.22	0.00				
55.00	4.74	1.22	0.00				
56.25	4.74	1.22	0.00				
57.50	4.74	1.22	0.00				
58.75	4.74	1.22	0.00				
60.00	4.74	1.22	0.00				
61.25	4.74	1.22	0.00				
62.50	4.74	1.22	0.00				

Summary for Subcatchment PR RG3 Imp: PR Imp RG3

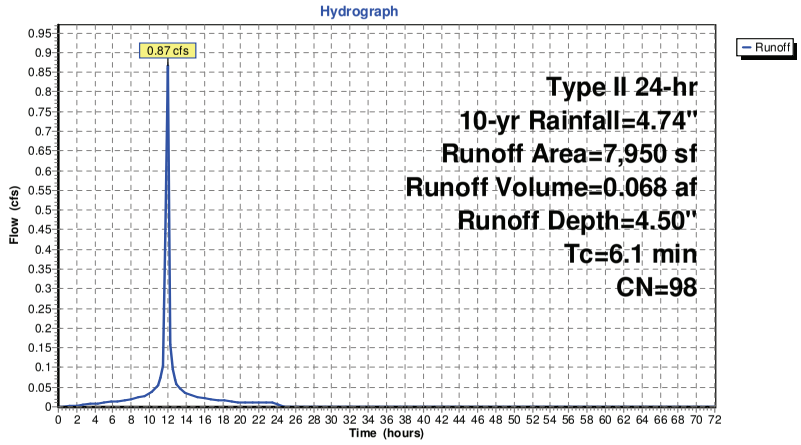
Runoff = 0.87 cfs @ 11.97 hrs, Volume= 0.068 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
7,950	98	Paved parking, HSG B
7,950		100.00% Impervious Area

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

Subcatchment PR RG3 Imp: PR Imp RG3



Hydrograph for Subcatchment PR RG3 Imp: PR Imp RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	4.50	0.00
1.25	0.06	0.00	0.00	65.00	4.74	4.50	0.00
2.50	0.13	0.03	0.01	66.25	4.74	4.50	0.00
3.75	0.21	0.08	0.01	67.50	4.74	4.50	0.00
5.00	0.30	0.14	0.01	68.75	4.74	4.50	0.00
6.25	0.40	0.23	0.01	70.00	4.74	4.50	0.00
7.50	0.52	0.33	0.02	71.25	4.74	4.50	0.00
8.75	0.66	0.47	0.02				
10.00	0.86	0.65	0.03				
11.25	1.21	1.00	**0.07**				
12.50	3.48	3.25	**0.10**				
13.75	3.84	3.61	0.04				
15.00	4.05	3.81	0.03				
16.25	4.20	3.96	0.02				
17.50	4.32	4.09	0.02				
18.75	4.43	4.19	0.01				
20.00	4.51	4.28	0.01				
21.25	4.59	4.35	0.01				
22.50	4.66	4.42	0.01				
23.75	**4.73**	**4.49**	0.01				
25.00	**4.74**	**4.50**	0.00				
26.25	4.74	4.50	0.00				
27.50	4.74	4.50	0.00				
28.75	4.74	4.50	0.00				
30.00	4.74	4.50	0.00				
31.25	4.74	4.50	0.00				
32.50	4.74	4.50	0.00				
33.75	4.74	4.50	0.00				
35.00	4.74	4.50	0.00				
36.25	4.74	4.50	0.00				
37.50	4.74	4.50	0.00				
38.75	4.74	4.50	0.00				
40.00	4.74	4.50	0.00				
41.25	4.74	4.50	0.00				
42.50	4.74	4.50	0.00				
43.75	4.74	4.50	0.00				
45.00	4.74	4.50	0.00				
46.25	4.74	4.50	0.00				
47.50	4.74	4.50	0.00				
48.75	4.74	4.50	0.00				
50.00	4.74	4.50	0.00				
51.25	4.74	4.50	0.00				
52.50	4.74	4.50	0.00				
53.75	4.74	4.50	0.00				
55.00	4.74	4.50	0.00				
56.25	4.74	4.50	0.00				
57.50	4.74	4.50	0.00				
58.75	4.74	4.50	0.00				
60.00	4.74	4.50	0.00				
61.25	4.74	4.50	0.00				
62.50	4.74	4.50	0.00				

Summary for Subcatchment PRGr RG1: PR Grass RG1

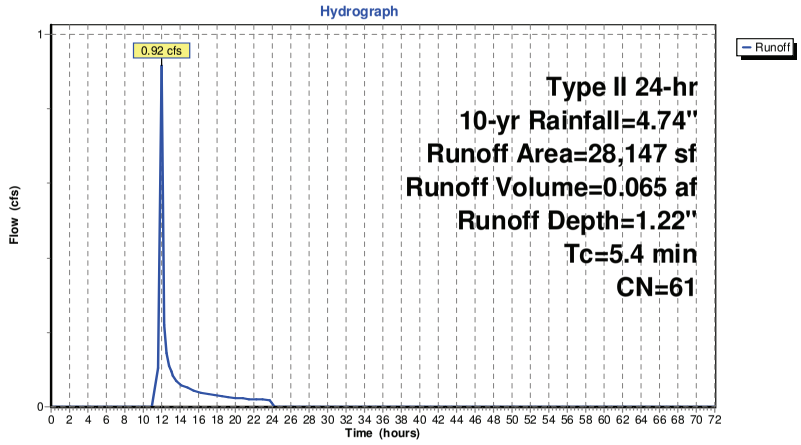
Runoff = 0.92 cfs @ 12.00 hrs, Volume= 0.065 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
28,147	61	>75% Grass cover, Good, HSG B
28,147		100.00% Pervious Area

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

Subcatchment PRGr RG1: PR Grass RG1



Hydrograph for Subcatchment PRGr RG1: PR Grass RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	1.22	0.00
1.25	0.06	0.00	0.00	65.00	4.74	1.22	0.00
2.50	0.13	0.00	0.00	66.25	4.74	1.22	0.00
3.75	0.21	0.00	0.00	67.50	4.74	1.22	0.00
5.00	0.30	0.00	0.00	68.75	4.74	1.22	0.00
6.25	0.40	0.00	0.00	70.00	4.74	1.22	0.00
7.50	0.52	0.00	0.00	71.25	4.74	1.22	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.57	**0.15**				
13.75	3.84	0.73	0.07				
15.00	4.05	0.84	0.05				
16.25	4.20	0.92	0.04				
17.50	4.32	0.98	0.03				
18.75	4.43	1.04	0.03				
20.00	4.51	1.09	0.02				
21.25	4.59	1.13	0.02				
22.50	4.66	1.17	0.02				
23.75	**4.73**	**1.21**	0.02				
25.00	**4.74**	**1.22**	0.00				
26.25	4.74	1.22	0.00				
27.50	4.74	1.22	0.00				
28.75	4.74	1.22	0.00				
30.00	4.74	1.22	0.00				
31.25	4.74	1.22	0.00				
32.50	4.74	1.22	0.00				
33.75	4.74	1.22	0.00				
35.00	4.74	1.22	0.00				
36.25	4.74	1.22	0.00				
37.50	4.74	1.22	0.00				
38.75	4.74	1.22	0.00				
40.00	4.74	1.22	0.00				
41.25	4.74	1.22	0.00				
42.50	4.74	1.22	0.00				
43.75	4.74	1.22	0.00				
45.00	4.74	1.22	0.00				
46.25	4.74	1.22	0.00				
47.50	4.74	1.22	0.00				
48.75	4.74	1.22	0.00				
50.00	4.74	1.22	0.00				
51.25	4.74	1.22	0.00				
52.50	4.74	1.22	0.00				
53.75	4.74	1.22	0.00				
55.00	4.74	1.22	0.00				
56.25	4.74	1.22	0.00				
57.50	4.74	1.22	0.00				
58.75	4.74	1.22	0.00				
60.00	4.74	1.22	0.00				
61.25	4.74	1.22	0.00				
62.50	4.74	1.22	0.00				

Summary for Subcatchment PRGr-W: PR Grass - West

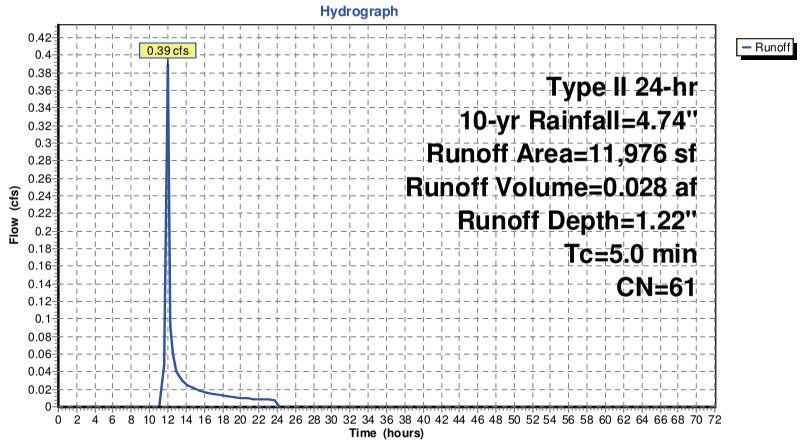
Runoff = 0.39 cfs @ 12.00 hrs, Volume= 0.028 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
11,976	61	>75% Grass cover, Good, HSG B
11,976		100.00% Pervious Area

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

Subcatchment PRGr-W: PR Grass - West



Hydrograph for Subcatchment PRGr-W: PR Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	1.22	0.00
1.25	0.06	0.00	0.00	65.00	4.74	1.22	0.00
2.50	0.13	0.00	0.00	66.25	4.74	1.22	0.00
3.75	0.21	0.00	0.00	67.50	4.74	1.22	0.00
5.00	0.30	0.00	0.00	68.75	4.74	1.22	0.00
6.25	0.40	0.00	0.00	70.00	4.74	1.22	0.00
7.50	0.52	0.00	0.00	71.25	4.74	1.22	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.57	**0.06**				
13.75	3.84	0.73	0.03				
15.00	4.05	0.84	0.02				
16.25	4.20	0.92	0.02				
17.50	4.32	0.98	0.01				
18.75	4.43	1.04	0.01				
20.00	4.51	1.09	0.01				
21.25	4.59	1.13	0.01				
22.50	4.66	1.17	0.01				
23.75	**4.73**	**1.21**	0.01				
25.00	**4.74**	**1.22**	0.00				
26.25	4.74	1.22	0.00				
27.50	4.74	1.22	0.00				
28.75	4.74	1.22	0.00				
30.00	4.74	1.22	0.00				
31.25	4.74	1.22	0.00				
32.50	4.74	1.22	0.00				
33.75	4.74	1.22	0.00				
35.00	4.74	1.22	0.00				
36.25	4.74	1.22	0.00				
37.50	4.74	1.22	0.00				
38.75	4.74	1.22	0.00				
40.00	4.74	1.22	0.00				
41.25	4.74	1.22	0.00				
42.50	4.74	1.22	0.00				
43.75	4.74	1.22	0.00				
45.00	4.74	1.22	0.00				
46.25	4.74	1.22	0.00				
47.50	4.74	1.22	0.00				
48.75	4.74	1.22	0.00				
50.00	4.74	1.22	0.00				
51.25	4.74	1.22	0.00				
52.50	4.74	1.22	0.00				
53.75	4.74	1.22	0.00				
55.00	4.74	1.22	0.00				
56.25	4.74	1.22	0.00				
57.50	4.74	1.22	0.00				
58.75	4.74	1.22	0.00				
60.00	4.74	1.22	0.00				
61.25	4.74	1.22	0.00				
62.50	4.74	1.22	0.00				

Summary for Subcatchment PRImp-W: PR Imp - West

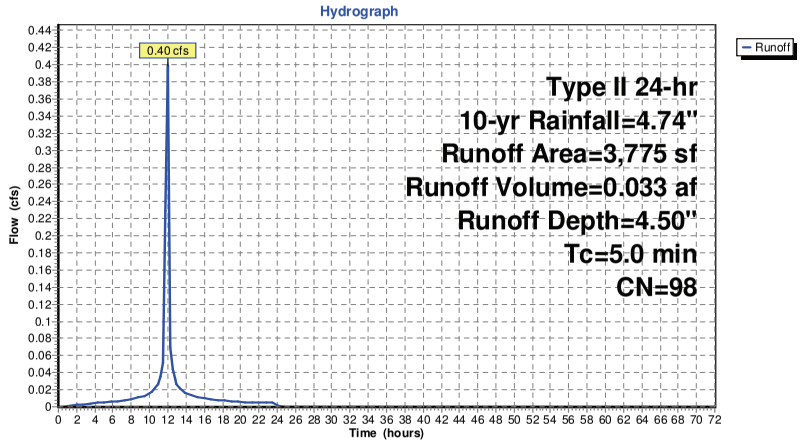
Runoff = 0.40 cfs @ 11.96 hrs, Volume= 0.033 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
3,775	98	Paved parking, HSG B
3,775		100.00% Impervious Area

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

Subcatchment PRImp-W: PR Imp - West



Hydrograph for Subcatchment PRImp-W: PR Imp - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	4.50	0.00
1.25	0.06	0.00	0.00	65.00	4.74	4.50	0.00
2.50	0.13	0.03	0.00	66.25	4.74	4.50	0.00
3.75	0.21	0.08	0.00	67.50	4.74	4.50	0.00
5.00	0.30	0.14	0.01	68.75	4.74	4.50	0.00
6.25	0.40	0.23	0.01	70.00	4.74	4.50	0.00
7.50	0.52	0.33	0.01	71.25	4.74	4.50	0.00
8.75	0.66	0.47	0.01				
10.00	0.86	0.65	0.02				
11.25	1.21	1.00	**0.04**				
12.50	3.48	3.25	**0.04**				
13.75	3.84	3.61	0.02				
15.00	4.05	3.81	0.01				
16.25	4.20	3.96	0.01				
17.50	4.32	4.09	0.01				
18.75	4.43	4.19	0.01				
20.00	4.51	4.28	0.01				
21.25	4.59	4.35	0.01				
22.50	4.66	4.42	0.00				
23.75	**4.73**	**4.49**	0.00				
25.00	**4.74**	**4.50**	0.00				
26.25	4.74	4.50	0.00				
27.50	4.74	4.50	0.00				
28.75	4.74	4.50	0.00				
30.00	4.74	4.50	0.00				
31.25	4.74	4.50	0.00				
32.50	4.74	4.50	0.00				
33.75	4.74	4.50	0.00				
35.00	4.74	4.50	0.00				
36.25	4.74	4.50	0.00				
37.50	4.74	4.50	0.00				
38.75	4.74	4.50	0.00				
40.00	4.74	4.50	0.00				
41.25	4.74	4.50	0.00				
42.50	4.74	4.50	0.00				
43.75	4.74	4.50	0.00				
45.00	4.74	4.50	0.00				
46.25	4.74	4.50	0.00				
47.50	4.74	4.50	0.00				
48.75	4.74	4.50	0.00				
50.00	4.74	4.50	0.00				
51.25	4.74	4.50	0.00				
52.50	4.74	4.50	0.00				
53.75	4.74	4.50	0.00				
55.00	4.74	4.50	0.00				
56.25	4.74	4.50	0.00				
57.50	4.74	4.50	0.00				
58.75	4.74	4.50	0.00				
60.00	4.74	4.50	0.00				
61.25	4.74	4.50	0.00				
62.50	4.74	4.50	0.00				

Summary for Subcatchment PRimpRG1: PR Imp - RG1

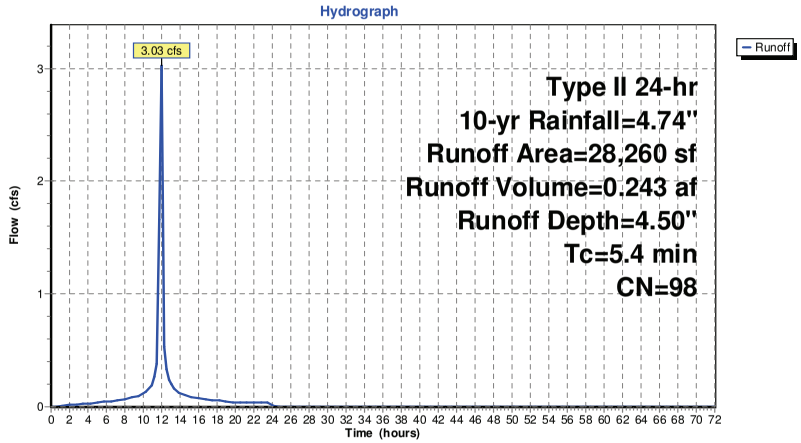
Runoff = 3.03 cfs @ 11.96 hrs, Volume= 0.243 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
28,260	98	Roofs, HSG B
28,260		100.00% Impervious Area

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

Subcatchment PRimpRG1: PR Imp - RG1



Hydrograph for Subcatchment PRimpRG1: PR Imp - RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	4.50	0.00
1.25	0.06	0.00	0.01	65.00	4.74	4.50	0.00
2.50	0.13	0.03	0.02	66.25	4.74	4.50	0.00
3.75	0.21	0.08	0.03	67.50	4.74	4.50	0.00
5.00	0.30	0.14	0.04	68.75	4.74	4.50	0.00
6.25	0.40	0.23	0.05	70.00	4.74	4.50	0.00
7.50	0.52	0.33	0.06	71.25	4.74	4.50	0.00
8.75	0.66	0.47	0.08				
10.00	0.86	0.65	0.12				
11.25	1.21	1.00	**0.27**				
12.50	3.48	3.25	**0.33**				
13.75	3.84	3.61	0.14				
15.00	4.05	3.81	0.09				
16.25	4.20	3.96	0.07				
17.50	4.32	4.09	0.06				
18.75	4.43	4.19	0.05				
20.00	4.51	4.28	0.04				
21.25	4.59	4.35	0.04				
22.50	4.66	4.42	0.04				
23.75	**4.73**	**4.49**	0.03				
25.00	**4.74**	**4.50**	0.00				
26.25	4.74	4.50	0.00				
27.50	4.74	4.50	0.00				
28.75	4.74	4.50	0.00				
30.00	4.74	4.50	0.00				
31.25	4.74	4.50	0.00				
32.50	4.74	4.50	0.00				
33.75	4.74	4.50	0.00				
35.00	4.74	4.50	0.00				
36.25	4.74	4.50	0.00				
37.50	4.74	4.50	0.00				
38.75	4.74	4.50	0.00				
40.00	4.74	4.50	0.00				
41.25	4.74	4.50	0.00				
42.50	4.74	4.50	0.00				
43.75	4.74	4.50	0.00				
45.00	4.74	4.50	0.00				
46.25	4.74	4.50	0.00				
47.50	4.74	4.50	0.00				
48.75	4.74	4.50	0.00				
50.00	4.74	4.50	0.00				
51.25	4.74	4.50	0.00				
52.50	4.74	4.50	0.00				
53.75	4.74	4.50	0.00				
55.00	4.74	4.50	0.00				
56.25	4.74	4.50	0.00				
57.50	4.74	4.50	0.00				
58.75	4.74	4.50	0.00				
60.00	4.74	4.50	0.00				
61.25	4.74	4.50	0.00				
62.50	4.74	4.50	0.00				

Summary for Subcatchment UD Bypass: UD By-Pass

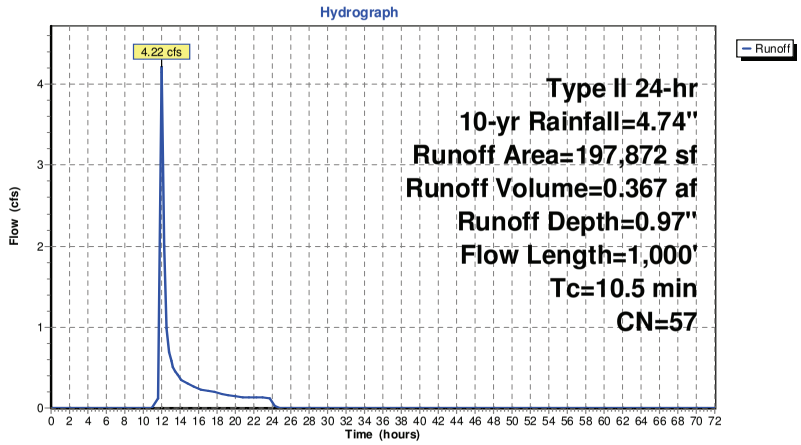
Runoff = 4.22 cfs @ 12.04 hrs, Volume= 0.367 af, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
10,353	85	Gravel roads, HSG B
168,770	55	Woods, Good, HSG B
18,749	61	>75% Grass cover, Good, HSG B
197,872	57	Weighted Average
197,872		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2200	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
2.1	700	0.1140	5.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	200	0.0400	10.31	61.86	**Channel Flow,** Area= 6.0 sf Perim= 9.0' r= 0.67' n= 0.022 Earth, clean & straight
10.5	1,000	Total			

Subcatchment UD Bypass: UD By-Pass



Hydrograph for Subcatchment UD Bypass: UD By-Pass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	0.97	0.00
1.25	0.06	0.00	0.00	65.00	4.74	0.97	0.00
2.50	0.13	0.00	0.00	66.25	4.74	0.97	0.00
3.75	0.21	0.00	0.00	67.50	4.74	0.97	0.00
5.00	0.30	0.00	0.00	68.75	4.74	0.97	0.00
6.25	0.40	0.00	0.00	70.00	4.74	0.97	0.00
7.50	0.52	0.00	0.00	71.25	4.74	0.97	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.41	**0.98**				
13.75	3.84	0.55	0.41				
15.00	4.05	0.64	0.30				
16.25	4.20	0.71	0.23				
17.50	4.32	0.76	0.20				
18.75	4.43	0.81	0.17				
20.00	4.51	0.86	0.14				
21.25	4.59	0.89	0.13				
22.50	4.66	0.93	0.13				
23.75	**4.73**	**0.96**	0.12				
25.00	**4.74**	**0.97**	0.00				
26.25	4.74	0.97	0.00				
27.50	4.74	0.97	0.00				
28.75	4.74	0.97	0.00				
30.00	4.74	0.97	0.00				
31.25	4.74	0.97	0.00				
32.50	4.74	0.97	0.00				
33.75	4.74	0.97	0.00				
35.00	4.74	0.97	0.00				
36.25	4.74	0.97	0.00				
37.50	4.74	0.97	0.00				
38.75	4.74	0.97	0.00				
40.00	4.74	0.97	0.00				
41.25	4.74	0.97	0.00				
42.50	4.74	0.97	0.00				
43.75	4.74	0.97	0.00				
45.00	4.74	0.97	0.00				
46.25	4.74	0.97	0.00				
47.50	4.74	0.97	0.00				
48.75	4.74	0.97	0.00				
50.00	4.74	0.97	0.00				
51.25	4.74	0.97	0.00				
52.50	4.74	0.97	0.00				
53.75	4.74	0.97	0.00				
55.00	4.74	0.97	0.00				
56.25	4.74	0.97	0.00				
57.50	4.74	0.97	0.00				
58.75	4.74	0.97	0.00				
60.00	4.74	0.97	0.00				
61.25	4.74	0.97	0.00				
62.50	4.74	0.97	0.00				

Summary for Subcatchment UD Gr: Undet Grass

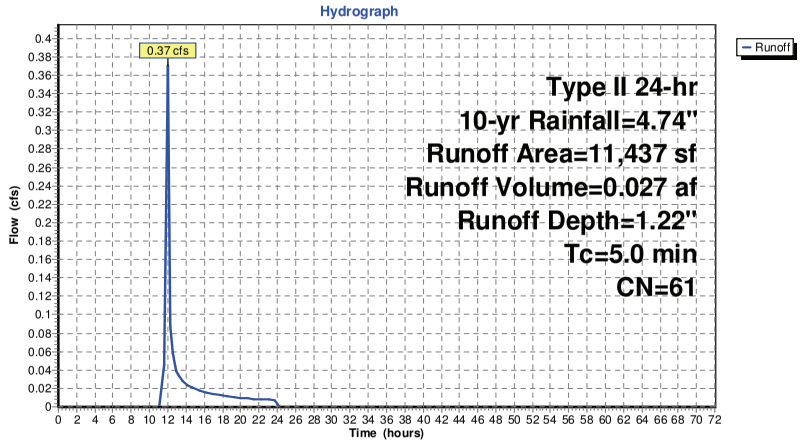
Runoff = 0.37 cfs @ 12.00 hrs, Volume= 0.027 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
11,437	61	>75% Grass cover, Good, HSG B
11,437		100.00% Pervious Area

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

Subcatchment UD Gr: Undet Grass



Hydrograph for Subcatchment UD Gr: Undet Grass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	1.22	0.00
1.25	0.06	0.00	0.00	65.00	4.74	1.22	0.00
2.50	0.13	0.00	0.00	66.25	4.74	1.22	0.00
3.75	0.21	0.00	0.00	67.50	4.74	1.22	0.00
5.00	0.30	0.00	0.00	68.75	4.74	1.22	0.00
6.25	0.40	0.00	0.00	70.00	4.74	1.22	0.00
7.50	0.52	0.00	0.00	71.25	4.74	1.22	0.00
8.75	0.66	0.00	0.00				
10.00	0.86	0.00	0.00				
11.25	1.21	0.00	**0.00**				
12.50	3.48	0.57	**0.06**				
13.75	3.84	0.73	0.03				
15.00	4.05	0.84	0.02				
16.25	4.20	0.92	0.01				
17.50	4.32	0.98	0.01				
18.75	4.43	1.04	0.01				
20.00	4.51	1.09	0.01				
21.25	4.59	1.13	0.01				
22.50	4.66	1.17	0.01				
23.75	**4.73**	**1.21**	0.01				
25.00	**4.74**	**1.22**	0.00				
26.25	4.74	1.22	0.00				
27.50	4.74	1.22	0.00				
28.75	4.74	1.22	0.00				
30.00	4.74	1.22	0.00				
31.25	4.74	1.22	0.00				
32.50	4.74	1.22	0.00				
33.75	4.74	1.22	0.00				
35.00	4.74	1.22	0.00				
36.25	4.74	1.22	0.00				
37.50	4.74	1.22	0.00				
38.75	4.74	1.22	0.00				
40.00	4.74	1.22	0.00				
41.25	4.74	1.22	0.00				
42.50	4.74	1.22	0.00				
43.75	4.74	1.22	0.00				
45.00	4.74	1.22	0.00				
46.25	4.74	1.22	0.00				
47.50	4.74	1.22	0.00				
48.75	4.74	1.22	0.00				
50.00	4.74	1.22	0.00				
51.25	4.74	1.22	0.00				
52.50	4.74	1.22	0.00				
53.75	4.74	1.22	0.00				
55.00	4.74	1.22	0.00				
56.25	4.74	1.22	0.00				
57.50	4.74	1.22	0.00				
58.75	4.74	1.22	0.00				
60.00	4.74	1.22	0.00				
61.25	4.74	1.22	0.00				
62.50	4.74	1.22	0.00				

Summary for Subcatchment UD Imp: Undet Imp

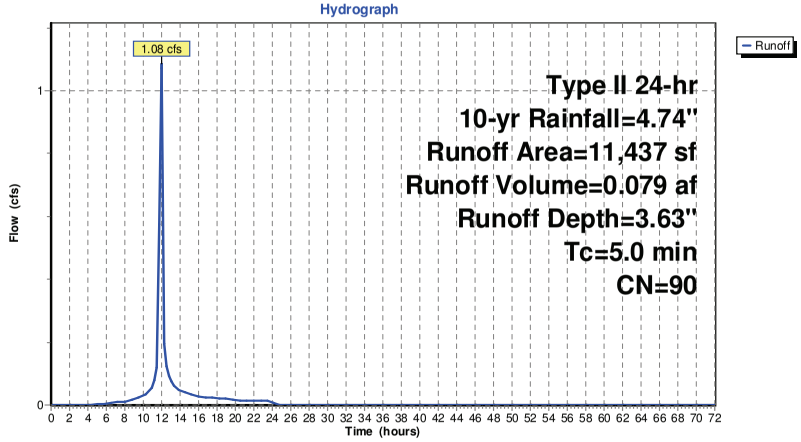
Runoff = 1.08 cfs @ 11.97 hrs, Volume= 0.079 af, Depth= 3.63"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 10-yr Rainfall=4.74"

Area (sf)	CN	Description
4,777	98	Paved parking, HSG B
6,660	85	Gravel roads, HSG B
11,437	90	Weighted Average
6,660		58.23% Pervious Area
4,777		41.77% Impervious Area

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

Subcatchment UD Imp: Undet Imp



Hydrograph for Subcatchment UD Imp: Undet Imp

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	4.74	3.63	0.00
1.25	0.06	0.00	0.00	65.00	4.74	3.63	0.00
2.50	0.13	0.00	0.00	66.25	4.74	3.63	0.00
3.75	0.21	0.00	0.00	67.50	4.74	3.63	0.00
5.00	0.30	0.00	0.00	68.75	4.74	3.63	0.00
6.25	0.40	0.02	0.01	70.00	4.74	3.63	0.00
7.50	0.52	0.06	0.01	71.25	4.74	3.63	0.00
8.75	0.66	0.12	0.02				
10.00	0.86	0.23	0.03				
11.25	1.21	0.47	**0.08**				
12.50	3.48	2.43	**0.12**				
13.75	3.84	2.77	0.05				
15.00	4.05	2.96	0.04				
16.25	4.20	3.11	0.03				
17.50	4.32	3.23	0.02				
18.75	4.43	3.33	0.02				
20.00	4.51	3.41	0.02				
21.25	4.59	3.48	0.01				
22.50	4.66	3.55	0.01				
23.75	**4.73**	**3.61**	0.01				
25.00	**4.74**	**3.63**	0.00				
26.25	4.74	3.63	0.00				
27.50	4.74	3.63	0.00				
28.75	4.74	3.63	0.00				
30.00	4.74	3.63	0.00				
31.25	4.74	3.63	0.00				
32.50	4.74	3.63	0.00				
33.75	4.74	3.63	0.00				
35.00	4.74	3.63	0.00				
36.25	4.74	3.63	0.00				
37.50	4.74	3.63	0.00				
38.75	4.74	3.63	0.00				
40.00	4.74	3.63	0.00				
41.25	4.74	3.63	0.00				
42.50	4.74	3.63	0.00				
43.75	4.74	3.63	0.00				
45.00	4.74	3.63	0.00				
46.25	4.74	3.63	0.00				
47.50	4.74	3.63	0.00				
48.75	4.74	3.63	0.00				
50.00	4.74	3.63	0.00				
51.25	4.74	3.63	0.00				
52.50	4.74	3.63	0.00				
53.75	4.74	3.63	0.00				
55.00	4.74	3.63	0.00				
56.25	4.74	3.63	0.00				
57.50	4.74	3.63	0.00				
58.75	4.74	3.63	0.00				
60.00	4.74	3.63	0.00				
61.25	4.74	3.63	0.00				
62.50	4.74	3.63	0.00				

Summary for Pond INF1: Inf Trench #1

Inflow Area = 0.389 ac, 37.20% Impervious, Inflow Depth = 2.44" for 10-yr event
Inflow = 1.01 cfs @ 11.97 hrs, Volume= 0.079 af
Outflow = 0.14 cfs @ 12.49 hrs, Volume= 0.079 af, Atten= 86%, Lag= 31.1 min
Primary = 0.14 cfs @ 12.49 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.40' @ 12.49 hrs Surf.Area= 2,356 sf Storage= 1,767 cf

Plug-Flow detention time= 590.3 min calculated for 0.079 af (100% of inflow)
Center-of-Mass det. time= 589.3 min (1,373.6 - 784.3)

Volume	Invert	Avail.Storage	Storage Description
#1	384.00'	2,484 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	382.00'	77 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 768 cf Overall x 10.0% Voids
#3	380.00'	307 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 768 cf Overall x 40.0% Voids
		2,868 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
384.00	384	0	0
386.00	2,100	2,484	2,484

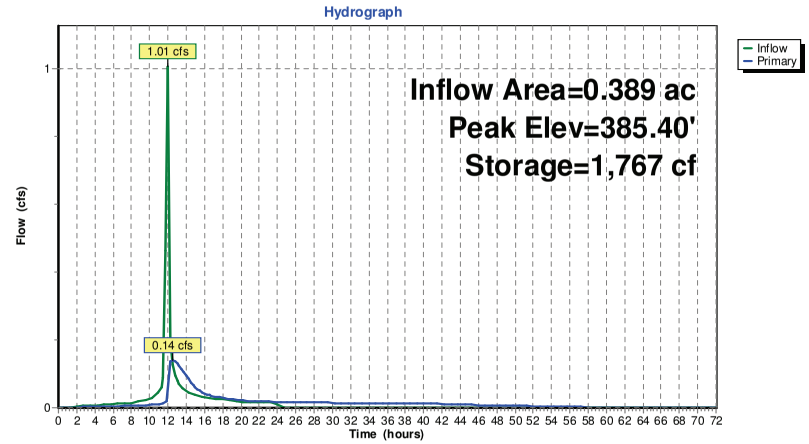
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
382.00	384	0	0
384.00	384	768	768

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	384	0	0
382.00	384	768	768

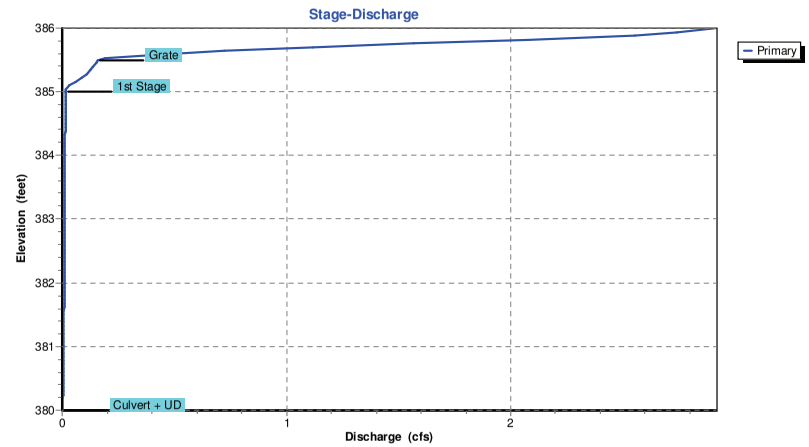
Device	Routing	Invert	Outlet Devices
#1	Primary	380.00'	**18.0" Round Culvert** L= 28.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 380.00' / 379.72' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	385.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	385.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	380.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.14 cfs @ 12.49 hrs HW=385.40' (Free Discharge)
└─**1=Culvert** (Passes 0.14 cfs of 18.35 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=1st Stage** (Orifice Controls 0.12 cfs @ 2.54 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.17 fps)

Pond INF1: Inf Trench #1



Pond INF1: Inf Trench #1



Hydrograph for Pond INF1: Inf Trench #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	380.00	0.00
2.50	0.00	11	380.07	0.00
5.00	0.01	47	380.31	0.00
7.50	0.01	106	380.69	0.01
10.00	**0.03**	213	381.38	0.01
12.50	**0.13**	**1,767**	**385.40**	**0.14**
15.00	0.04	1,405	385.16	0.06
17.50	0.03	1,310	385.09	0.03
20.00	0.02	1,266	385.05	0.02
22.50	0.02	1,243	385.04	0.02
25.00	0.00	1,181	384.99	0.01
27.50	0.00	1,050	384.88	0.01
30.00	0.00	920	384.76	0.01
32.50	0.00	793	384.63	0.01
35.00	0.00	667	384.48	0.01
37.50	0.00	543	384.31	0.01
40.00	0.00	422	384.09	0.01
42.50	0.00	315	382.20	0.01
45.00	0.00	236	381.54	0.01
47.50	0.00	169	381.10	0.01
50.00	0.00	113	380.74	0.01
52.50	0.00	69	380.45	0.00
55.00	0.00	36	380.23	0.00
57.50	0.00	14	380.09	0.00
60.00	0.00	4	380.03	0.00
62.50	0.00	1	380.01	0.00
65.00	0.00	0	380.00	0.00
67.50	0.00	0	380.00	0.00
70.00	0.00	0	380.00	0.00

Stage-Discharge for Pond INF1: Inf Trench #1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
380.00	0.00	382.04	0.01	384.08	0.01
380.04	0.00	382.08	0.01	384.12	0.01
380.08	0.00	382.12	0.01	384.16	0.01
380.12	0.00	382.16	0.01	384.20	0.01
380.16	0.00	382.20	0.01	384.24	0.01
380.20	0.00	382.24	0.01	384.28	0.01
380.24	0.00	382.28	0.01	384.32	0.01
380.28	0.00	382.32	0.01	384.36	0.01
380.32	0.00	382.36	0.01	384.40	0.01
380.36	0.00	382.40	0.01	384.44	0.01
380.40	0.00	382.44	0.01	384.48	0.01
380.44	0.00	382.48	0.01	384.52	0.01
380.48	0.00	382.52	0.01	384.56	0.01
380.52	0.00	382.56	0.01	384.60	0.01
380.56	0.00	382.60	0.01	384.64	0.01
380.60	0.00	382.64	0.01	384.68	0.01
380.64	0.01	382.68	0.01	384.72	0.01
380.68	0.01	382.72	0.01	384.76	0.01
380.72	0.01	382.76	0.01	384.80	0.01
380.76	0.01	382.80	0.01	384.84	0.01
380.80	0.01	382.84	0.01	384.88	0.01
380.84	0.01	382.88	0.01	384.92	0.01
380.88	0.01	382.92	0.01	384.96	0.01
380.92	0.01	382.96	0.01	385.00	0.01
380.96	0.01	383.00	0.01	385.04	0.02
381.00	0.01	383.04	0.01	385.08	0.03
381.04	0.01	383.08	0.01	385.12	0.04
381.08	0.01	383.12	0.01	385.16	0.06
381.12	0.01	383.16	0.01	385.20	0.08
381.16	0.01	383.20	0.01	385.24	0.10
381.20	0.01	383.24	0.01	385.28	0.11
381.24	0.01	383.28	0.01	385.32	0.12
381.28	0.01	383.32	0.01	385.36	0.13
381.32	0.01	383.36	0.01	385.40	0.14
381.36	0.01	383.40	0.01	385.44	0.15
381.40	0.01	383.44	0.01	385.48	0.16
381.44	0.01	383.48	0.01	385.52	0.19
381.48	0.01	383.52	0.01	385.56	0.32
381.52	0.01	383.56	0.01	385.60	0.50
381.56	0.01	383.60	0.01	385.64	0.72
381.60	0.01	383.64	0.01	385.68	0.98
381.64	0.01	383.68	0.01	385.72	1.26
381.68	0.01	383.72	0.01	385.76	1.57
381.72	0.01	383.76	0.01	385.80	1.90
381.76	0.01	383.80	0.01	385.84	2.25
381.80	0.01	383.84	0.01	385.88	2.55
381.84	0.01	383.88	0.01	385.92	2.68
381.88	0.01	383.92	0.01	385.96	2.80
381.92	0.01	383.96	0.01	386.00	**2.91**
381.96	0.01	384.00	0.01		
382.00	0.01	384.04	0.01		

Summary for Pond INF2: Inf Trench #2

Inflow Area = 0.718 ac, 23.60% Impervious, Inflow Depth = 1.99" for 10-yr event
Inflow = 1.39 cfs @ 11.95 hrs, Volume= 0.119 af
Outflow = 0.73 cfs @ 12.26 hrs, Volume= 0.119 af, Atten= 48%, Lag= 18.2 min
Primary = 0.73 cfs @ 12.26 hrs, Volume= 0.119 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 384.64' @ 12.29 hrs Surf.Area= 2,600 sf Storage= 2,207 cf

Plug-Flow detention time= 431.7 min calculated for 0.119 af (100% of inflow)
Center-of-Mass det. time= 430.7 min (1,232.5 - 801.8)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	2,520 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	78 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 780 cf Overall x 10.0% Voids
#3	379.00'	312 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 780 cf Overall x 40.0% Voids
		2,910 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	390	0	0
385.00	2,130	2,520	2,520

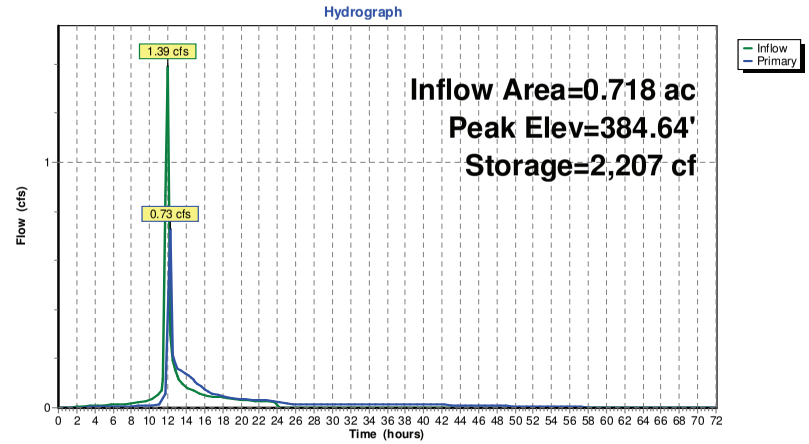
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	390	0	0
383.00	390	780	780

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	390	0	0
381.00	390	780	780

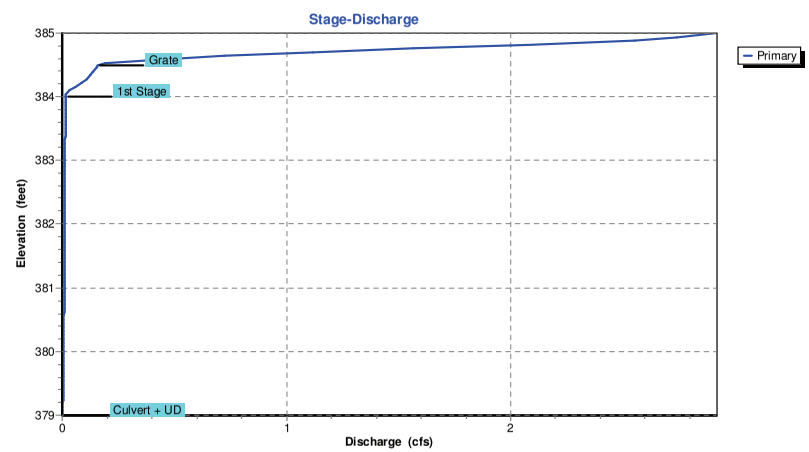
Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.89' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	384.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	384.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.71 cfs @ 12.26 hrs HW=384.64' (Free Discharge)
└─**1=Culvert** (Passes 0.71 cfs of 18.81 cfs potential flow)
  ├─**2=Grate** (Weir Controls 0.52 cfs @ 1.21 fps)
  ├─**3=1st Stage** (Orifice Controls 0.17 cfs @ 3.45 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.41 fps)

Pond INF2: Inf Trench #2



Pond INF2: Inf Trench #2



Hydrograph for Pond INF2: Inf Trench #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	379.00	0.00
2.50	0.01	13	379.08	0.00
5.00	0.01	57	379.37	0.00
7.50	0.02	129	379.82	0.01
10.00	**0.03**	**258**	**380.65**	**0.01**
12.50	**0.19**	**1,998**	**384.53**	**0.21**
15.00	0.07	1,596	384.28	0.11
17.50	0.04	1,399	384.14	0.05
20.00	0.03	1,346	384.10	0.03
22.50	0.03	1,319	384.08	0.03
25.00	0.00	1,240	384.02	0.02
27.50	0.00	1,107	383.91	0.01
30.00	0.00	977	383.80	0.01
32.50	0.00	849	383.67	0.01
35.00	0.00	722	383.53	0.01
37.50	0.00	598	383.38	0.01
40.00	0.00	476	383.18	0.01
42.50	0.00	359	382.20	0.01
45.00	0.00	271	380.74	0.01
47.50	0.00	200	380.28	0.01
50.00	0.00	139	379.89	0.01
52.50	0.00	89	379.57	0.00
55.00	0.00	51	379.33	0.00
57.50	0.00	24	379.15	0.00
60.00	0.00	8	379.05	0.00
62.50	0.00	2	379.02	0.00
65.00	0.00	1	379.00	0.00
67.50	0.00	0	379.00	0.00
70.00	0.00	0	379.00	0.00

Stage-Discharge for Pond INF2: Inf Trench #2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
379.00	0.00	381.04	0.01	383.08	0.01
379.04	0.00	381.08	0.01	383.12	0.01
379.08	0.00	381.12	0.01	383.16	0.01
379.12	0.00	381.16	0.01	383.20	0.01
379.16	0.00	381.20	0.01	383.24	0.01
379.20	0.00	381.24	0.01	383.28	0.01
379.24	0.00	381.28	0.01	383.32	0.01
379.28	0.00	381.32	0.01	383.36	0.01
379.32	0.00	381.36	0.01	383.40	0.01
379.36	0.00	381.40	0.01	383.44	0.01
379.40	0.00	381.44	0.01	383.48	0.01
379.44	0.00	381.48	0.01	383.52	0.01
379.48	0.00	381.52	0.01	383.56	0.01
379.52	0.00	381.56	0.01	383.60	0.01
379.56	0.00	381.60	0.01	383.64	0.01
379.60	0.00	381.64	0.01	383.68	0.01
379.64	0.01	381.68	0.01	383.72	0.01
379.68	0.01	381.72	0.01	383.76	0.01
379.72	0.01	381.76	0.01	383.80	0.01
379.76	0.01	381.80	0.01	383.84	0.01
379.80	0.01	381.84	0.01	383.88	0.01
379.84	0.01	381.88	0.01	383.92	0.01
379.88	0.01	381.92	0.01	383.96	0.01
379.92	0.01	381.96	0.01	384.00	0.01
379.96	0.01	382.00	0.01	384.04	0.02
380.00	0.01	382.04	0.01	384.08	0.03
380.04	0.01	382.08	0.01	384.12	0.04
380.08	0.01	382.12	0.01	384.16	0.06
380.12	0.01	382.16	0.01	384.20	0.08
380.16	0.01	382.20	0.01	384.24	0.10
380.20	0.01	382.24	0.01	384.28	0.11
380.24	0.01	382.28	0.01	384.32	0.12
380.28	0.01	382.32	0.01	384.36	0.13
380.32	0.01	382.36	0.01	384.40	0.14
380.36	0.01	382.40	0.01	384.44	0.15
380.40	0.01	382.44	0.01	384.48	0.16
380.44	0.01	382.48	0.01	384.52	0.19
380.48	0.01	382.52	0.01	384.56	0.32
380.52	0.01	382.56	0.01	384.60	0.50
380.56	0.01	382.60	0.01	384.64	0.72
380.60	0.01	382.64	0.01	384.68	0.98
380.64	0.01	382.68	0.01	384.72	1.26
380.68	0.01	382.72	0.01	384.76	1.57
380.72	0.01	382.76	0.01	384.80	1.90
380.76	0.01	382.80	0.01	384.84	2.25
380.80	0.01	382.84	0.01	384.88	2.55
380.84	0.01	382.88	0.01	384.92	2.68
380.88	0.01	382.92	0.01	384.96	2.80
380.92	0.01	382.96	0.01	385.00	**2.91**
380.96	0.01	383.00	0.01		
381.00	0.01	383.04	0.01		

Summary for Pond INF3: Inf Trench #3

Inflow Area = 0.309 ac, 30.75% Impervious, Inflow Depth = 2.23" for 10-yr event
Inflow = 0.74 cfs @ 11.98 hrs, Volume= 0.057 af
Outflow = 0.14 cfs @ 12.37 hrs, Volume= 0.057 af, Atten= 81%, Lag= 23.7 min
Primary = 0.14 cfs @ 12.37 hrs, Volume= 0.057 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 382.85' @ 12.25 hrs Surf.Area= 1,625 sf Storage= 1,182 cf

Plug-Flow detention time= 457.5 min calculated for 0.057 af (100% of inflow)
Center-of-Mass det. time= 455.2 min (1,247.8 - 792.6)

Volume	Invert	Avail.Storage	Storage Description
#1	381.50'	1,764 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	379.50'	53 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 528 cf Overall x 10.0% Voids
#3	377.50'	211 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 528 cf Overall x 40.0% Voids
		2,028 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.50	264	0	0
383.50	1,500	1,764	1,764

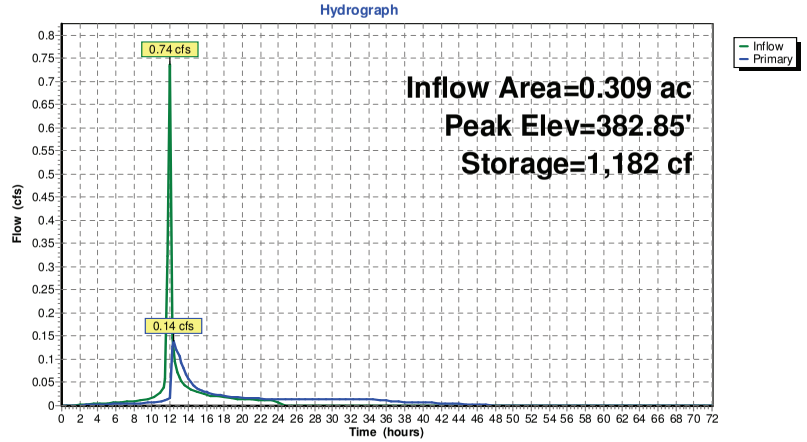
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.50	264	0	0
381.50	264	528	528

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
377.50	264	0	0
379.50	264	528	528

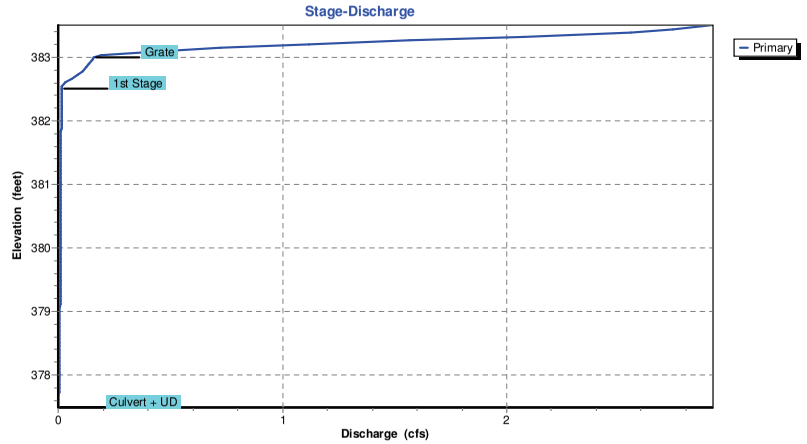
Device	Routing	Invert	Outlet Devices
#1	Primary	377.50'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 377.50' / 377.39' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	383.00'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	382.50'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	377.50'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.13 cfs @ 12.37 hrs HW=382.85' (Free Discharge)
└─**1=Culvert** (Passes 0.13 cfs of 18.24 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=1st Stage** (Orifice Controls 0.11 cfs @ 2.27 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.11 fps)

Pond INF3: Inf Trench #3



Pond INF3: Inf Trench #3



Hydrograph for Pond INF3: Inf Trench #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	377.50	0.00
2.50	0.00	6	377.56	0.00
5.00	0.01	25	377.74	0.00
7.50	0.01	55	378.02	0.00
10.00	**0.02**	**113**	**378.57**	**0.01**
12.50	**0.10**	**1,178**	**382.84**	**0.13**
15.00	0.03	935	382.61	0.04
17.50	0.02	888	382.56	0.02
20.00	0.01	863	382.53	0.02
22.50	0.01	836	382.50	0.01
25.00	0.00	772	382.42	0.01
27.50	0.00	642	382.26	0.01
30.00	0.00	515	382.07	0.01
32.50	0.00	390	381.84	0.01
35.00	0.00	270	381.52	0.01
37.50	0.00	177	379.18	0.01
40.00	0.00	109	378.54	0.01
42.50	0.00	58	378.05	0.00
45.00	0.00	23	377.72	0.00
47.50	0.00	5	377.55	0.00
50.00	0.00	1	377.51	0.00
52.50	0.00	0	377.50	0.00
55.00	0.00	0	377.50	0.00
57.50	0.00	0	377.50	0.00
60.00	0.00	0	377.50	0.00
62.50	0.00	0	377.50	0.00
65.00	0.00	0	377.50	0.00
67.50	0.00	0	377.50	0.00
70.00	0.00	0	377.50	0.00

Stage-Discharge for Pond INF3: Inf Trench #3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
377.50	0.00	379.54	0.01	381.58	0.01
377.54	0.00	379.58	0.01	381.62	0.01
377.58	0.00	379.62	0.01	381.66	0.01
377.62	0.00	379.66	0.01	381.70	0.01
377.66	0.00	379.70	0.01	381.74	0.01
377.70	0.00	379.74	0.01	381.78	0.01
377.74	0.00	379.78	0.01	381.82	0.01
377.78	0.00	379.82	0.01	381.86	0.01
377.82	0.00	379.86	0.01	381.90	0.01
377.86	0.00	379.90	0.01	381.94	0.01
377.90	0.00	379.94	0.01	381.98	0.01
377.94	0.00	379.98	0.01	382.02	0.01
377.98	0.00	380.02	0.01	382.06	0.01
378.02	0.00	380.06	0.01	382.10	0.01
378.06	0.00	380.10	0.01	382.14	0.01
378.10	0.00	380.14	0.01	382.18	0.01
378.14	0.01	380.18	0.01	382.22	0.01
378.18	0.01	380.22	0.01	382.26	0.01
378.22	0.01	380.26	0.01	382.30	0.01
378.26	0.01	380.30	0.01	382.34	0.01
378.30	0.01	380.34	0.01	382.38	0.01
378.34	0.01	380.38	0.01	382.42	0.01
378.38	0.01	380.42	0.01	382.46	0.01
378.42	0.01	380.46	0.01	382.50	0.01
378.46	0.01	380.50	0.01	382.54	0.02
378.50	0.01	380.54	0.01	382.58	0.03
378.54	0.01	380.58	0.01	382.62	0.04
378.58	0.01	380.62	0.01	382.66	0.06
378.62	0.01	380.66	0.01	382.70	0.08
378.66	0.01	380.70	0.01	382.74	0.10
378.70	0.01	380.74	0.01	382.78	0.11
378.74	0.01	380.78	0.01	382.82	0.12
378.78	0.01	380.82	0.01	382.86	0.13
378.82	0.01	380.86	0.01	382.90	0.14
378.86	0.01	380.90	0.01	382.94	0.15
378.90	0.01	380.94	0.01	382.98	0.16
378.94	0.01	380.98	0.01	383.02	0.19
378.98	0.01	381.02	0.01	383.06	0.32
379.02	0.01	381.06	0.01	383.10	0.50
379.06	0.01	381.10	0.01	383.14	0.72
379.10	0.01	381.14	0.01	383.18	0.98
379.14	0.01	381.18	0.01	383.22	1.26
379.18	0.01	381.22	0.01	383.26	1.57
379.22	0.01	381.26	0.01	383.30	1.90
379.26	0.01	381.30	0.01	383.34	2.25
379.30	0.01	381.34	0.01	383.38	2.55
379.34	0.01	381.38	0.01	383.42	2.68
379.38	0.01	381.42	0.01	383.46	2.80
379.42	0.01	381.46	0.01	383.50	**2.91**
379.46	0.01	381.50	0.01		
379.50	0.01	381.54	0.01		

Summary for Pond RG1: Rain Garden #1

Inflow Area = 1.295 ac, 50.10% Impervious, Inflow Depth = 2.86" for 10-yr event
Inflow = 3.93 cfs @ 11.97 hrs, Volume= 0.309 af
Outflow = 3.37 cfs @ 12.02 hrs, Volume= 0.309 af, Atten= 14%, Lag= 3.0 min
Primary = 3.37 cfs @ 12.02 hrs, Volume= 0.309 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 400.08' @ 12.02 hrs Surf.Area= 2,456 sf Storage= 1,590 cf

Plug-Flow detention time= 107.2 min calculated for 0.308 af (100% of inflow)
Center-of-Mass det. time= 113.3 min (884.9 - 771.6)

Volume	Invert	Avail.Storage	Storage Description
#1	399.00'	4,709 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	397.00'	117 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 10.0% Voids
#3	395.00'	466 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 40.0% Voids
		5,292 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
399.00	583	0	0
402.00	2,556	4,709	4,709

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
397.00	583	0	0
399.00	583	1,166	1,166

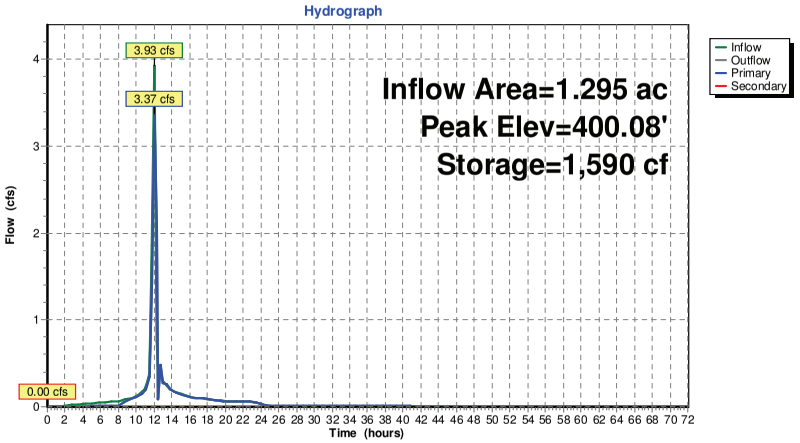
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	583	0	0
397.00	583	1,166	1,166

Device	Routing	Invert	Outlet Devices
#1	Primary	395.00'	**18.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 395.00' / 394.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	400.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	400.75'	**Spillway, C= 3.27** Offset (feet) 0.00 3.75 18.75 22.50 Height (feet) 1.25 0.00 0.00 1.25
#4	Device 1	399.33'	**24.0" W x 6.0" H Vert. 1st Stage** C= 0.600
#5	Device 1	395.00'	**0.5" Vert. UD** C= 0.600

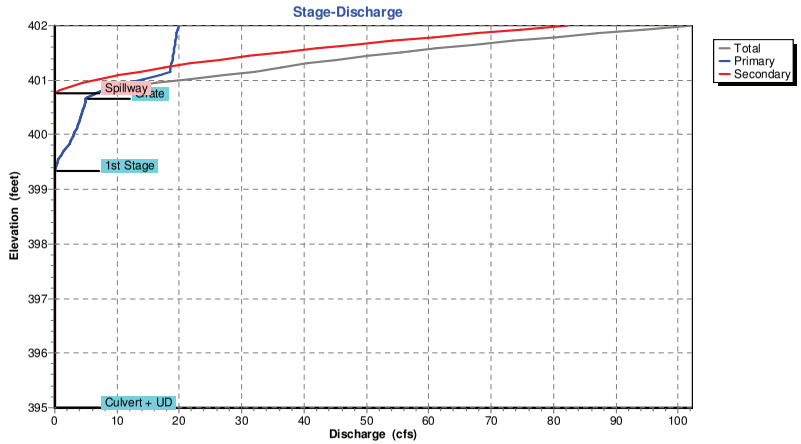
Primary OutFlow Max=3.26 cfs @ 12.02 hrs HW=400.05' (Free Discharge)
└─**1=Culvert** (Passes 3.26 cfs of 16.57 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=1st Stage** (Orifice Controls 3.25 cfs @ 3.25 fps)
  └─**5=UD** (Orifice Controls 0.01 cfs @ 10.79 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=395.00' (Free Discharge)
└─**3=Spillway** (Controls 0.00 cfs)

Pond RG1: Rain Garden #1



Pond RG1: Rain Garden #1



Hydrograph for Pond RG1: Rain Garden #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	395.00	0.00	0.00	**0.00**
2.50	0.02	54	395.23	0.00	0.00	0.00
5.00	0.04	273	396.17	0.01	0.01	0.00
7.50	0.06	629	399.07	0.01	0.01	0.00
10.00	**0.12**	**857**	**399.38**	**0.11**	**0.11**	0.00
12.50	**0.48**	**848**	**399.37**	**0.09**	**0.09**	0.00
15.00	0.14	872	399.40	0.15	0.15	0.00
17.50	0.09	850	399.38	0.09	0.09	0.00
20.00	0.06	838	399.36	0.07	0.07	0.00
22.50	0.06	835	399.36	0.06	0.06	0.00
25.00	0.00	780	399.29	0.01	0.01	0.00
27.50	0.00	659	399.12	0.01	0.01	0.00
30.00	0.00	543	398.31	0.01	0.01	0.00
32.50	0.00	450	396.93	0.01	0.01	0.00
35.00	0.00	372	396.60	0.01	0.01	0.00
37.50	0.00	302	396.29	0.01	0.01	0.00
40.00	0.00	239	396.02	0.01	0.01	0.00
42.50	0.00	183	395.79	0.01	0.01	0.00
45.00	0.00	135	395.58	0.00	0.00	0.00
47.50	0.00	95	395.41	0.00	0.00	0.00
50.00	0.00	62	395.27	0.00	0.00	0.00
52.50	0.00	37	395.16	0.00	0.00	0.00
55.00	0.00	19	395.08	0.00	0.00	0.00
57.50	0.00	8	395.04	0.00	0.00	0.00
60.00	0.00	4	395.02	0.00	0.00	0.00
62.50	0.00	2	395.01	0.00	0.00	0.00
65.00	0.00	1	395.00	0.00	0.00	0.00
67.50	0.00	0	395.00	0.00	0.00	0.00
70.00	0.00	0	395.00	0.00	0.00	0.00

Stage-Discharge for Pond RG1: Rain Garden #1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
395.00	0.00	0.00	0.00	400.10	3.45	3.45	0.00
395.10	0.00	0.00	0.00	400.20	3.78	3.78	0.00
395.20	0.00	0.00	0.00	400.30	4.08	4.08	0.00
395.30	0.00	0.00	0.00	400.40	4.36	4.36	0.00
395.40	0.00	0.00	0.00	400.50	4.62	4.62	0.00
395.50	0.00	0.00	0.00	400.60	4.87	4.87	0.00
395.60	0.00	0.00	0.00	400.70	5.52	5.52	0.00
395.70	0.01	0.01	0.00	400.80	8.07	7.52	0.55
395.80	0.01	0.01	0.00	400.90	13.17	10.25	2.92
395.90	0.01	0.01	0.00	401.00	19.93	13.56	6.38
396.00	0.01	0.01	0.00	401.10	28.06	17.33	10.73
396.10	0.01	0.01	0.00	401.20	34.43	18.56	15.87
396.20	0.01	0.01	0.00	401.30	40.49	18.72	21.77
396.30	0.01	0.01	0.00	401.40	47.26	18.88	28.38
396.40	0.01	0.01	0.00	401.50	54.72	19.04	35.68
396.50	0.01	0.01	0.00	401.60	62.86	19.20	43.67
396.60	0.01	0.01	0.00	401.70	71.67	19.35	52.32
396.70	0.01	0.01	0.00	401.80	81.15	19.51	61.64
396.80	0.01	0.01	0.00	401.90	91.28	19.66	71.62
396.90	0.01	0.01	0.00	402.00	**102.08**	**19.82**	**82.26**
397.00	0.01	0.01	0.00				
397.10	0.01	0.01	0.00				
397.20	0.01	0.01	0.00				
397.30	0.01	0.01	0.00				
397.40	0.01	0.01	0.00				
397.50	0.01	0.01	0.00				
397.60	0.01	0.01	0.00				
397.70	0.01	0.01	0.00				
397.80	0.01	0.01	0.00				
397.90	0.01	0.01	0.00				
398.00	0.01	0.01	0.00				
398.10	0.01	0.01	0.00				
398.20	0.01	0.01	0.00				
398.30	0.01	0.01	0.00				
398.40	0.01	0.01	0.00				
398.50	0.01	0.01	0.00				
398.60	0.01	0.01	0.00				
398.70	0.01	0.01	0.00				
398.80	0.01	0.01	0.00				
398.90	0.01	0.01	0.00				
399.00	0.01	0.01	0.00				
399.10	0.01	0.01	0.00				
399.20	0.01	0.01	0.00				
399.30	0.01	0.01	0.00				
399.40	0.13	0.13	0.00				
399.50	0.46	0.46	0.00				
399.60	0.91	0.91	0.00				
399.70	1.46	1.46	0.00				
399.80	2.08	2.08	0.00				
399.90	2.66	2.66	0.00				
400.00	3.09	3.09	0.00				

Summary for Pond RG2: Rain Garden #2

Inflow Area = 5.565 ac, 47.16% Impervious, Inflow Depth = 3.05" for 10-yr event
Inflow = 19.11 cfs @ 11.98 hrs, Volume= 1.412 af
Outflow = 14.10 cfs @ 12.07 hrs, Volume= 1.396 af, Atten= 26%, Lag= 5.2 min
Primary = 14.10 cfs @ 12.07 hrs, Volume= 1.396 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.55' @ 12.07 hrs Surf.Area= 6,148 sf Storage= 7,345 cf

Plug-Flow detention time= 83.9 min calculated for 1.396 af (99% of inflow)
Center-of-Mass det. time= 76.7 min (859.8 - 783.1)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	12,723 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	359 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 10.0% Voids
#3	379.00'	1,435 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 40.0% Voids
		14,517 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	1,794	0	0
388.00	3,295	12,723	12,723

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	1,794	0	0
383.00	1,794	3,588	3,588

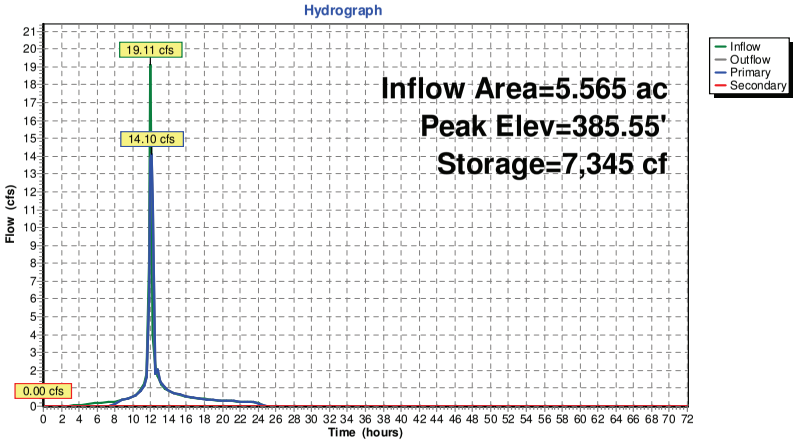
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	1,794	0	0
381.00	1,794	3,588	3,588

Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	386.60'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	386.70'	**Spillway, C= 3.27** Offset (feet) 0.00 3.90 58.90 62.80 Height (feet) 1.30 0.00 0.00 1.30
#4	Device 1	383.33'	**36.0" W x 8.0" H Vert. 1st stage** C= 0.600
#5	Device 1	385.33'	**24.0" W x 8.0" H Vert. 2nd Stage X 2.00** C= 0.600
#6	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

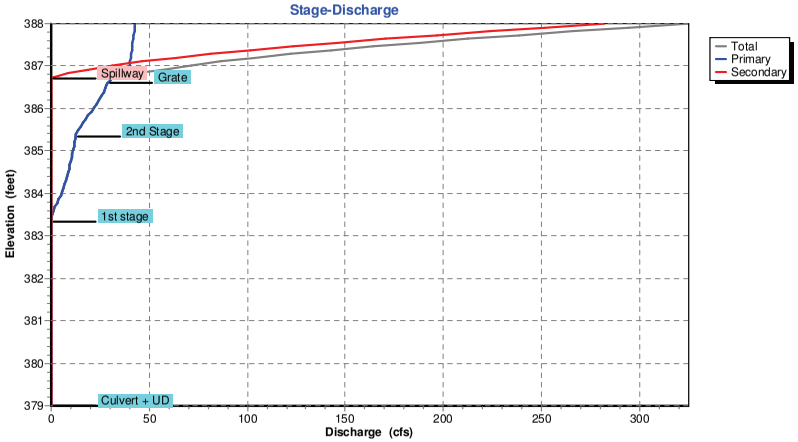
Primary OutFlow Max=12.71 cfs @ 12.07 hrs HW=385.37' (Free Discharge)
└─**1=Culvert** (Passes 12.71 cfs of 35.06 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=1st stage** (Orifice Controls 12.57 cfs @ 6.29 fps)
  ├─**5=2nd Stage** (Orifice Controls 0.12 cfs @ 0.67 fps)
  └─**6=UD** (Orifice Controls 0.02 cfs @ 12.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=379.00' (Free Discharge)
└─**3=Spillway** (Controls 0.00 cfs)

Pond RG2: Rain Garden #2



Pond RG2: Rain Garden #2



Hydrograph for Pond RG2: Rain Garden #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	379.00	0.00	0.00	**0.00**
2.50	0.02	12	379.02	0.00	0.00	0.00
5.00	0.12	579	379.81	0.01	0.01	0.00
7.50	0.23	2,076	383.16	0.01	0.01	0.00
10.00	**0.52**	**2,655**	**383.46**	**0.50**	**0.50**	0.00
12.50	**2.30**	**3,032**	**383.65**	**1.80**	**1.80**	0.00
15.00	0.66	2,722	383.50	0.67	0.67	0.00
17.50	0.42	2,630	383.45	0.43	0.43	0.00
20.00	0.29	2,580	383.42	0.30	0.30	0.00
22.50	0.26	2,566	383.42	0.26	0.26	0.00
25.00	0.00	2,383	383.32	0.01	0.01	0.00
27.50	0.00	2,261	383.25	0.01	0.01	0.00
30.00	0.00	2,140	383.19	0.01	0.01	0.00
32.50	0.00	2,020	383.12	0.01	0.01	0.00
35.00	0.00	1,901	383.06	0.01	0.01	0.00
37.50	0.00	1,782	382.93	0.01	0.01	0.00
40.00	0.00	1,670	382.31	0.01	0.01	0.00
42.50	0.00	1,568	381.74	0.01	0.01	0.00
45.00	0.00	1,475	381.22	0.01	0.01	0.00
47.50	0.00	1,392	380.94	0.01	0.01	0.00
50.00	0.00	1,311	380.83	0.01	0.01	0.00
52.50	0.00	1,233	380.72	0.01	0.01	0.00
55.00	0.00	1,157	380.61	0.01	0.01	0.00
57.50	0.00	1,084	380.51	0.01	0.01	0.00
60.00	0.00	1,013	380.41	0.01	0.01	0.00
62.50	0.00	944	380.32	0.01	0.01	0.00
65.00	0.00	878	380.22	0.01	0.01	0.00
67.50	0.00	815	380.14	0.01	0.01	0.00
70.00	0.00	754	380.05	0.01	0.01	0.00

Stage-Discharge for Pond RG2: Rain Garden #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
379.00	0.00	0.00	0.00
379.10	0.00	0.00	0.00
379.20	0.00	0.00	0.00
379.30	0.00	0.00	0.00
379.40	0.00	0.00	0.00
379.50	0.00	0.00	0.00
379.60	0.00	0.00	0.00
379.70	0.01	0.01	0.00
379.80	0.01	0.01	0.00
379.90	0.01	0.01	0.00
380.00	0.01	0.01	0.00
380.10	0.01	0.01	0.00
380.20	0.01	0.01	0.00
380.30	0.01	0.01	0.00
380.40	0.01	0.01	0.00
380.50	0.01	0.01	0.00
380.60	0.01	0.01	0.00
380.70	0.01	0.01	0.00
380.80	0.01	0.01	0.00
380.90	0.01	0.01	0.00
381.00	0.01	0.01	0.00
381.10	0.01	0.01	0.00
381.20	0.01	0.01	0.00
381.30	0.01	0.01	0.00
381.40	0.01	0.01	0.00
381.50	0.01	0.01	0.00
381.60	0.01	0.01	0.00
381.70	0.01	0.01	0.00
381.80	0.01	0.01	0.00
381.90	0.01	0.01	0.00
382.00	0.01	0.01	0.00
382.10	0.01	0.01	0.00
382.20	0.01	0.01	0.00
382.30	0.01	0.01	0.00
382.40	0.01	0.01	0.00
382.50	0.01	0.01	0.00
382.60	0.01	0.01	0.00
382.70	0.01	0.01	0.00
382.80	0.01	0.01	0.00
382.90	0.01	0.01	0.00
383.00	0.01	0.01	0.00
383.10	0.01	0.01	0.00
383.20	0.01	0.01	0.00
383.30	0.01	0.01	0.00
383.40	0.19	0.19	0.00
383.50	0.69	0.69	0.00
383.60	1.37	1.37	0.00
383.70	2.18	2.18	0.00
383.80	3.12	3.12	0.00
383.90	4.16	4.16	0.00
384.00	5.29	5.29	0.00
384.10	6.20	6.20	0.00
384.20	6.95	6.95	0.00
384.30	7.61	7.61	0.00
384.40	8.21	8.21	0.00
384.50	8.76	8.76	0.00
384.60	9.29	9.29	0.00
384.70	9.78	9.78	0.00
384.80	10.25	10.25	0.00
384.90	10.69	10.69	0.00
385.00	11.12	11.12	0.00
385.10	11.53	11.53	0.00
385.20	11.93	11.93	0.00
385.30	12.31	12.31	0.00
385.40	12.93	12.93	0.00
385.50	13.95	13.95	0.00
385.60	15.20	15.20	0.00
385.70	16.63	16.63	0.00
385.80	18.22	18.22	0.00
385.90	19.93	19.93	0.00
386.00	21.76	21.76	0.00
386.10	23.29	23.29	0.00
386.20	24.59	24.59	0.00
386.30	25.77	25.77	0.00
386.40	26.86	26.86	0.00
386.50	27.89	27.89	0.00
386.60	28.87	28.87	0.00
386.70	31.00	31.00	0.00
386.80	39.79	34.08	5.71
386.90	53.99	37.77	16.23
387.00	69.96	40.02	29.94
387.10	86.60	40.31	46.29
387.20	105.56	40.59	64.97
387.30	126.65	40.87	85.78
387.40	149.70	41.15	108.55
387.50	174.61	41.43	133.18
387.60	201.29	41.70	159.59
387.70	229.67	41.97	187.70
387.80	259.70	42.25	217.45
387.90	291.32	42.52	248.80
388.00	**324.49**	**42.78**	**281.70**

Summary for Pond RG3: Rain Garden #3

Inflow Area = 0.708 ac, 25.78% Impervious, Inflow Depth = 2.06" for 10-yr event
Inflow = 1.61 cfs @ 11.99 hrs, Volume= 0.122 af
Outflow = 1.36 cfs @ 12.06 hrs, Volume= 0.122 af, Atten= 15%, Lag= 4.3 min
Primary = 1.36 cfs @ 12.06 hrs, Volume= 0.122 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 396.38' @ 12.08 hrs Surf.Area= 1,756 sf Storage= 1,236 cf

Plug-Flow detention time= 264.2 min calculated for 0.122 af (100% of inflow)
Center-of-Mass det. time= 262.5 min (1,063.7 - 801.2)

Volume	Invert	Avail.Storage	Storage Description
#1	395.00'	2,978 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	393.50'	61 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 608 cf Overall x 10.0% Voids
#3	392.00'	243 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 608 cf Overall x 40.0% Voids
		3,281 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	405	0	0
398.00	1,580	2,978	2,978

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.50	405	0	0
395.00	405	608	608

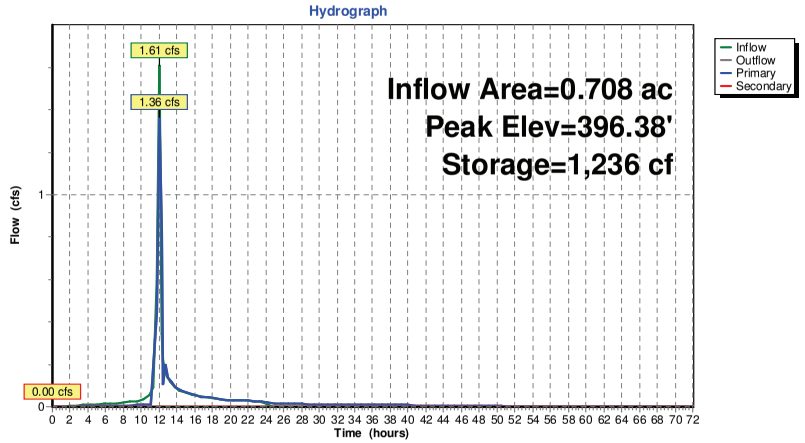
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
392.00	405	0	0
393.50	405	608	608

Device	Routing	Invert	Outlet Devices
#1	Primary	392.00'	**18.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 392.00' / 391.64' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	396.00'	**24.0" W x 4.0" H Vert. 1st Stage** C= 0.600
#3	Device 1	396.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	396.75'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 3.75 13.75 17.50 Height (feet) 1.25 0.00 0.00 1.25
#5	Device 1	391.00'	**0.5" Vert. UD** C= 0.600

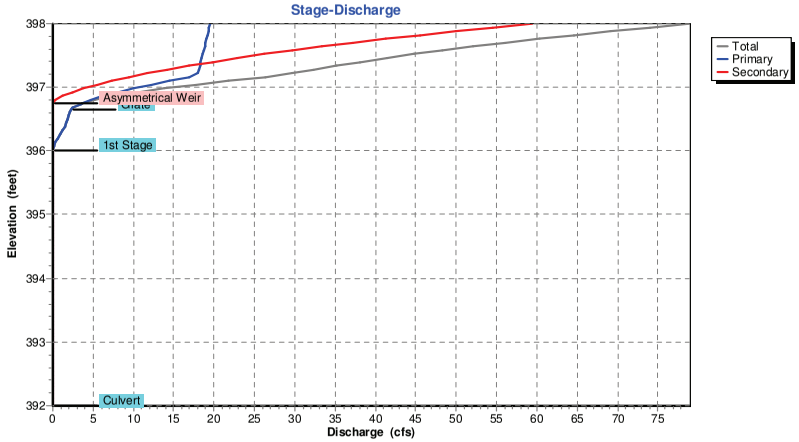
Primary OutFlow Max=1.22 cfs @ 12.06 hrs HW=396.33' (Free Discharge)
└─**1=Culvert** (Passes 1.22 cfs of 16.09 cfs potential flow)
  ├─**2=1st Stage** (Orifice Controls 1.21 cfs @ 1.84 fps)
  ├─**3=Grate** (Controls 0.00 cfs)
  └─**5=UD** (Orifice Controls 0.01 cfs @ 10.02 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' (Free Discharge)
└─**4=Asymmetrical Weir** (Controls 0.00 cfs)

Pond RG3: Rain Garden #3



Pond RG3: Rain Garden #3



Hydrograph for Pond RG3: Rain Garden #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
2.50	0.01	13	392.08	0.00	0.00	0.00
5.00	0.01	61	392.37	0.00	0.00	0.00
7.50	0.02	139	392.86	0.01	0.01	0.00
10.00	**0.03**	**279**	**394.39**	**0.01**	**0.01**	0.00
12.50	**0.22**	**949**	**396.06**	**0.11**	**0.11**	0.00
15.00	0.07	935	396.04	0.07	0.07	0.00
17.50	0.04	925	396.03	0.04	0.04	0.00
20.00	0.03	920	396.02	0.03	0.03	0.00
22.50	0.03	917	396.02	0.03	0.03	0.00
25.00	0.00	871	395.96	0.01	0.01	0.00
27.50	0.00	754	395.80	0.01	0.01	0.00
30.00	0.00	640	395.64	0.01	0.01	0.00
32.50	0.00	529	395.46	0.01	0.01	0.00
35.00	0.00	421	395.26	0.01	0.01	0.00
37.50	0.00	316	395.03	0.01	0.01	0.00
40.00	0.00	230	393.42	0.01	0.01	0.00
42.50	0.00	165	393.02	0.01	0.01	0.00
45.00	0.00	111	392.68	0.01	0.01	0.00
47.50	0.00	67	392.41	0.00	0.00	0.00
50.00	0.00	35	392.21	0.00	0.00	0.00
52.50	0.00	13	392.08	0.00	0.00	0.00
55.00	0.00	3	392.02	0.00	0.00	0.00
57.50	0.00	1	392.00	0.00	0.00	0.00
60.00	0.00	0	392.00	0.00	0.00	0.00
62.50	0.00	0	392.00	0.00	0.00	0.00
65.00	0.00	0	392.00	0.00	0.00	0.00
67.50	0.00	0	392.00	0.00	0.00	0.00
70.00	0.00	0	392.00	0.00	0.00	0.00

Stage-Discharge for Pond RG3: Rain Garden #3

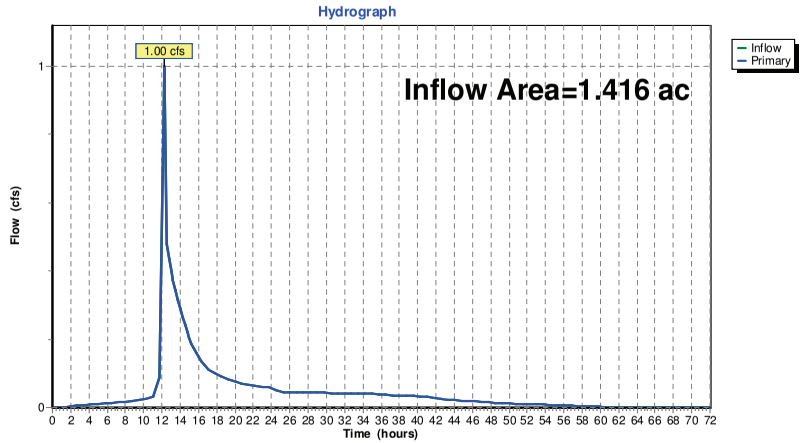
Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
392.00	0.00	0.00	0.00
392.10	0.00	0.00	0.00
392.20	0.00	0.00	0.00
392.30	0.00	0.00	0.00
392.40	0.00	0.00	0.00
392.50	0.00	0.00	0.00
392.60	0.01	0.01	0.00
392.70	0.01	0.01	0.00
392.80	0.01	0.01	0.00
392.90	0.01	0.01	0.00
393.00	0.01	0.01	0.00
393.10	0.01	0.01	0.00
393.20	0.01	0.01	0.00
393.30	0.01	0.01	0.00
393.40	0.01	0.01	0.00
393.50	0.01	0.01	0.00
393.60	0.01	0.01	0.00
393.70	0.01	0.01	0.00
393.80	0.01	0.01	0.00
393.90	0.01	0.01	0.00
394.00	0.01	0.01	0.00
394.10	0.01	0.01	0.00
394.20	0.01	0.01	0.00
394.30	0.01	0.01	0.00
394.40	0.01	0.01	0.00
394.50	0.01	0.01	0.00
394.60	0.01	0.01	0.00
394.70	0.01	0.01	0.00
394.80	0.01	0.01	0.00
394.90	0.01	0.01	0.00
395.00	0.01	0.01	0.00
395.10	0.01	0.01	0.00
395.20	0.01	0.01	0.00
395.30	0.01	0.01	0.00
395.40	0.01	0.01	0.00
395.50	0.01	0.01	0.00
395.60	0.01	0.01	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.22	0.22	0.00
396.20	0.59	0.59	0.00
396.30	1.07	1.07	0.00
396.40	1.53	1.53	0.00
396.50	1.85	1.85	0.00
396.60	2.11	2.11	0.00
396.70	2.77	2.77	0.00
396.80	5.12	4.75	0.37
396.90	9.44	7.47	1.97
397.00	15.08	10.75	4.33
397.10	21.84	14.50	7.34
397.20	28.89	17.95	10.94
397.30	33.25	18.15	15.10
397.40	38.16	18.35	19.81
397.50	43.61	18.54	25.06
397.60	49.59	18.74	30.85
397.70	56.11	18.93	37.18
397.80	63.17	19.12	44.05
397.90	70.77	19.31	51.46
398.00	**78.91**	**19.50**	**59.41**

Summary for Link 1L: INF Trench Collection

Inflow Area = 1.416 ac, 28.90% Impervious, Inflow Depth = 2.17" for 10-yr event
Inflow = 1.00 cfs @ 12.28 hrs, Volume= 0.256 af
Primary = 1.00 cfs @ 12.28 hrs, Volume= 0.256 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link 1L: INF Trench Collection



Hydrograph for Link 1L: INF Trench Collection

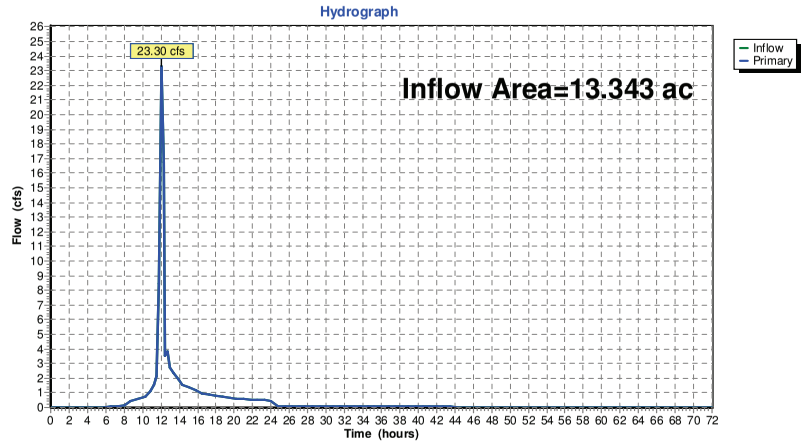
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.01	0.00	0.01	70.00	0.00	0.00	0.00
7.50	0.02	0.00	0.02	71.25	0.00	0.00	0.00
8.75	0.02	0.00	0.02				
10.00	0.02	0.00	0.02				
11.25	**0.03**	0.00	**0.03**				
12.50	**0.48**	0.00	**0.48**				
13.75	0.32	0.00	0.32				
15.00	0.20	0.00	0.20				
16.25	0.14	0.00	0.14				
17.50	0.10	0.00	0.10				
18.75	0.09	0.00	0.09				
20.00	0.07	0.00	0.07				
21.25	0.07	0.00	0.07				
22.50	0.06	0.00	0.06				
23.75	0.06	0.00	0.06				
25.00	0.05	0.00	0.05				
26.25	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.75	0.04	0.00	0.04				
30.00	0.04	0.00	0.04				
31.25	0.04	0.00	0.04				
32.50	0.04	0.00	0.04				
33.75	0.04	0.00	0.04				
35.00	0.04	0.00	0.04				
36.25	0.04	0.00	0.04				
37.50	0.04	0.00	0.04				
38.75	0.03	0.00	0.03				
40.00	0.03	0.00	0.03				
41.25	0.03	0.00	0.03				
42.50	0.03	0.00	0.03				
43.75	0.02	0.00	0.02				
45.00	0.02	0.00	0.02				
46.25	0.02	0.00	0.02				
47.50	0.02	0.00	0.02				
48.75	0.01	0.00	0.01				
50.00	0.01	0.00	0.01				
51.25	0.01	0.00	0.01				
52.50	0.01	0.00	0.01				
53.75	0.01	0.00	0.01				
55.00	0.01	0.00	0.01				
56.25	0.01	0.00	0.01				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link POI East: Prop POI East

Inflow Area = 13.343 ac, 28.42% Impervious, Inflow Depth > 2.19" for 10-yr event
Inflow = 23.30 cfs @ 12.05 hrs, Volume= 2.434 af
Primary = 23.30 cfs @ 12.05 hrs, Volume= 2.434 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link POI East: Prop POI East



Hydrograph for Link POI East: Prop POI East

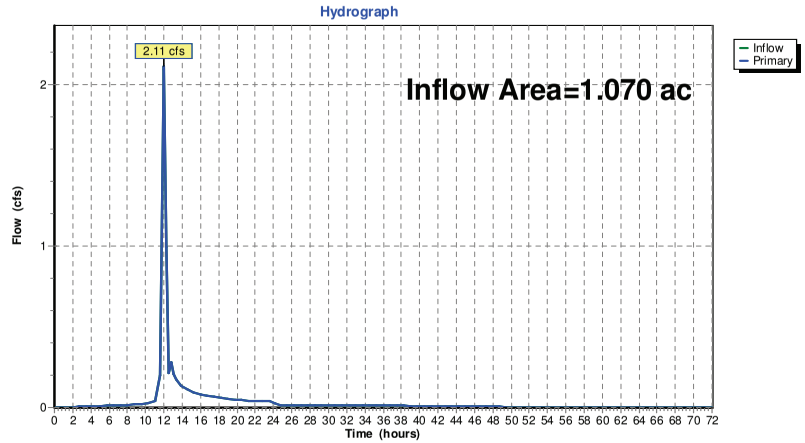
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.01	0.00	0.01
1.25	0.00	0.00	0.00	65.00	0.01	0.00	0.01
2.50	0.01	0.00	0.01	66.25	0.01	0.00	0.01
3.75	0.02	0.00	0.02	67.50	0.01	0.00	0.01
5.00	0.03	0.00	0.03	68.75	0.01	0.00	0.01
6.25	0.04	0.00	0.04	70.00	0.01	0.00	0.01
7.50	0.05	0.00	0.05	71.25	0.01	0.00	0.01
8.75	0.45	0.00	0.45				
10.00	0.66	0.00	0.66				
11.25	**1.53**	0.00	**1.53**				
12.50	**3.54**	0.00	**3.54**				
13.75	1.98	0.00	1.98				
15.00	1.37	0.00	1.37				
16.25	1.01	0.00	1.01				
17.50	0.87	0.00	0.87				
18.75	0.73	0.00	0.73				
20.00	0.60	0.00	0.60				
21.25	0.56	0.00	0.56				
22.50	0.53	0.00	0.53				
23.75	0.51	0.00	0.51				
25.00	0.07	0.00	0.07				
26.25	0.07	0.00	0.07				
27.50	0.07	0.00	0.07				
28.75	0.07	0.00	0.07				
30.00	0.07	0.00	0.07				
31.25	0.07	0.00	0.07				
32.50	0.06	0.00	0.06				
33.75	0.06	0.00	0.06				
35.00	0.06	0.00	0.06				
36.25	0.06	0.00	0.06				
37.50	0.06	0.00	0.06				
38.75	0.05	0.00	0.05				
40.00	0.05	0.00	0.05				
41.25	0.05	0.00	0.05				
42.50	0.04	0.00	0.04				
43.75	0.04	0.00	0.04				
45.00	0.03	0.00	0.03				
46.25	0.03	0.00	0.03				
47.50	0.03	0.00	0.03				
48.75	0.03	0.00	0.03				
50.00	0.02	0.00	0.02				
51.25	0.02	0.00	0.02				
52.50	0.02	0.00	0.02				
53.75	0.02	0.00	0.02				
55.00	0.02	0.00	0.02				
56.25	0.01	0.00	0.01				
57.50	0.01	0.00	0.01				
58.75	0.01	0.00	0.01				
60.00	0.01	0.00	0.01				
61.25	0.01	0.00	0.01				
62.50	0.01	0.00	0.01				

Summary for Link PR POI W: PR POI - West

Inflow Area = 1.070 ac, 25.17% Impervious, Inflow Depth = 2.04" for 10-yr event
Inflow = 2.11 cfs @ 12.03 hrs, Volume= 0.182 af
Primary = 2.11 cfs @ 12.03 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link PR POI W: PR POI - West



Hydrograph for Link PR POI W: PR POI - West

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.01	0.00	0.01	70.00	0.00	0.00	0.00
7.50	0.01	0.00	0.01	71.25	0.00	0.00	0.00
8.75	0.02	0.00	0.02				
10.00	0.03	0.00	0.03				
11.25	**0.05**	0.00	**0.05**				
12.50	**0.21**	0.00	**0.21**				
13.75	0.14	0.00	0.14				
15.00	0.10	0.00	0.10				
16.25	0.08	0.00	0.08				
17.50	0.07	0.00	0.07				
18.75	0.06	0.00	0.06				
20.00	0.05	0.00	0.05				
21.25	0.04	0.00	0.04				
22.50	0.04	0.00	0.04				
23.75	0.04	0.00	0.04				
25.00	0.01	0.00	0.01				
26.25	0.01	0.00	0.01				
27.50	0.01	0.00	0.01				
28.75	0.01	0.00	0.01				
30.00	0.01	0.00	0.01				
31.25	0.01	0.00	0.01				
32.50	0.01	0.00	0.01				
33.75	0.01	0.00	0.01				
35.00	0.01	0.00	0.01				
36.25	0.01	0.00	0.01				
37.50	0.01	0.00	0.01				
38.75	0.01	0.00	0.01				
40.00	0.01	0.00	0.01				
41.25	0.01	0.00	0.01				
42.50	0.01	0.00	0.01				
43.75	0.01	0.00	0.01				
45.00	0.01	0.00	0.01				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment Gr 1-6: PR Grass (1-6)

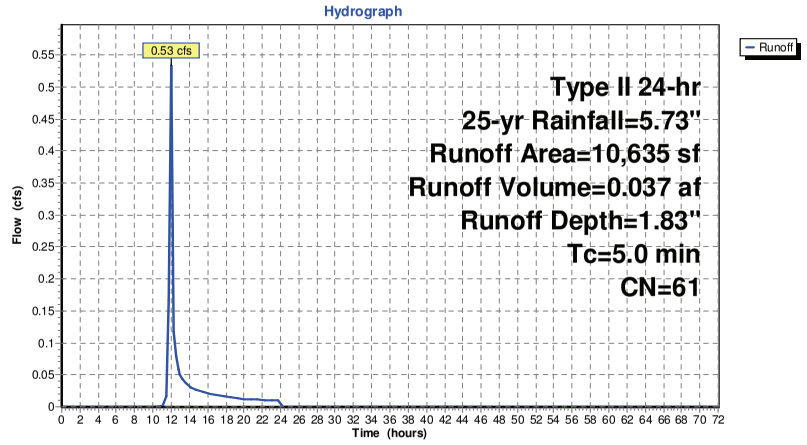
Runoff = 0.53 cfs @ 11.99 hrs, Volume= 0.037 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
10,635	61	>75% Grass cover, Good, HSG B
10,635		100.00% Pervious Area

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

Subcatchment Gr 1-6: PR Grass (1-6)



Hydrograph for Subcatchment Gr 1-6: PR Grass (1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.83	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.83	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.83	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.83	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.83	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.83	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.83	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.01	**0.01**				
12.50	4.21	0.92	**0.08**				
13.75	4.64	1.16	0.03				
15.00	4.89	1.30	0.03				
16.25	5.07	1.41	0.02				
17.50	5.22	1.51	0.02				
18.75	5.35	1.58	0.01				
20.00	5.45	1.65	0.01				
21.25	5.55	1.71	0.01				
22.50	5.63	1.76	0.01				
23.75	**5.71**	**1.82**	0.01				
25.00	**5.73**	**1.83**	0.00				
26.25	5.73	1.83	0.00				
27.50	5.73	1.83	0.00				
28.75	5.73	1.83	0.00				
30.00	5.73	1.83	0.00				
31.25	5.73	1.83	0.00				
32.50	5.73	1.83	0.00				
33.75	5.73	1.83	0.00				
35.00	5.73	1.83	0.00				
36.25	5.73	1.83	0.00				
37.50	5.73	1.83	0.00				
38.75	5.73	1.83	0.00				
40.00	5.73	1.83	0.00				
41.25	5.73	1.83	0.00				
42.50	5.73	1.83	0.00				
43.75	5.73	1.83	0.00				
45.00	5.73	1.83	0.00				
46.25	5.73	1.83	0.00				
47.50	5.73	1.83	0.00				
48.75	5.73	1.83	0.00				
50.00	5.73	1.83	0.00				
51.25	5.73	1.83	0.00				
52.50	5.73	1.83	0.00				
53.75	5.73	1.83	0.00				
55.00	5.73	1.83	0.00				
56.25	5.73	1.83	0.00				
57.50	5.73	1.83	0.00				
58.75	5.73	1.83	0.00				
60.00	5.73	1.83	0.00				
61.25	5.73	1.83	0.00				
62.50	5.73	1.83	0.00				

Summary for Subcatchment Gr 14-17: PR Grass (14-17)

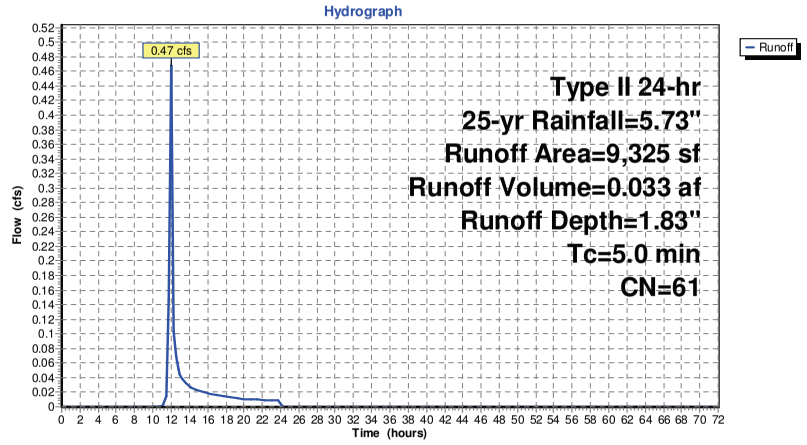
Runoff = 0.47 cfs @ 11.99 hrs, Volume= 0.033 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
9,325	61	>75% Grass cover, Good, HSG B
9,325		100.00% Pervious Area

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

Subcatchment Gr 14-17: PR Grass (14-17)



Hydrograph for Subcatchment Gr 14-17: PR Grass (14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.83	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.83	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.83	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.83	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.83	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.83	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.83	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.01	**0.01**				
12.50	4.21	0.92	**0.07**				
13.75	4.64	1.16	0.03				
15.00	4.89	1.30	0.02				
16.25	5.07	1.41	0.02				
17.50	5.22	1.51	0.01				
18.75	5.35	1.58	0.01				
20.00	5.45	1.65	0.01				
21.25	5.55	1.71	0.01				
22.50	5.63	1.76	0.01				
23.75	**5.71**	**1.82**	0.01				
25.00	**5.73**	**1.83**	0.00				
26.25	5.73	1.83	0.00				
27.50	5.73	1.83	0.00				
28.75	5.73	1.83	0.00				
30.00	5.73	1.83	0.00				
31.25	5.73	1.83	0.00				
32.50	5.73	1.83	0.00				
33.75	5.73	1.83	0.00				
35.00	5.73	1.83	0.00				
36.25	5.73	1.83	0.00				
37.50	5.73	1.83	0.00				
38.75	5.73	1.83	0.00				
40.00	5.73	1.83	0.00				
41.25	5.73	1.83	0.00				
42.50	5.73	1.83	0.00				
43.75	5.73	1.83	0.00				
45.00	5.73	1.83	0.00				
46.25	5.73	1.83	0.00				
47.50	5.73	1.83	0.00				
48.75	5.73	1.83	0.00				
50.00	5.73	1.83	0.00				
51.25	5.73	1.83	0.00				
52.50	5.73	1.83	0.00				
53.75	5.73	1.83	0.00				
55.00	5.73	1.83	0.00				
56.25	5.73	1.83	0.00				
57.50	5.73	1.83	0.00				
58.75	5.73	1.83	0.00				
60.00	5.73	1.83	0.00				
61.25	5.73	1.83	0.00				
62.50	5.73	1.83	0.00				

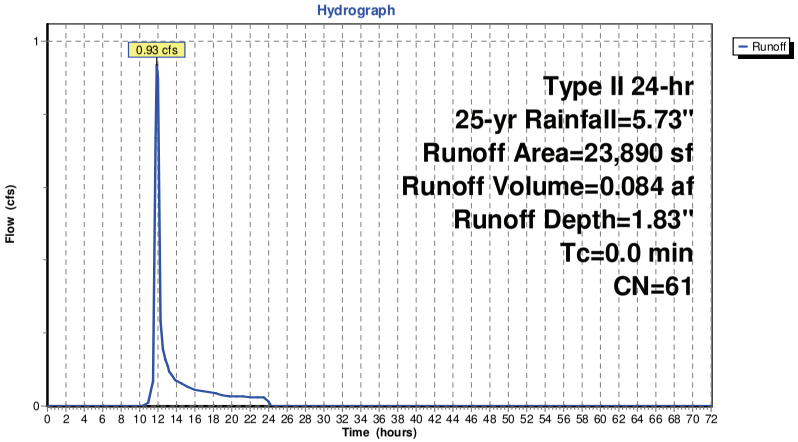
Summary for Subcatchment Gr 7-13: PR Grass (7-13)

Runoff = 0.93 cfs @ 11.92 hrs, Volume= 0.084 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
23,890	61	>75% Grass cover, Good, HSG B
23,890		100.00% Pervious Area

Subcatchment Gr 7-13: PR Grass (7-13)



Hydrograph for Subcatchment Gr 7-13: PR Grass (7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.83	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.83	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.83	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.83	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.83	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.83	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.83	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.01	**0.02**				
12.50	4.21	0.92	**0.16**				
13.75	4.64	1.16	0.08				
15.00	4.89	1.30	0.06				
16.25	5.07	1.41	0.04				
17.50	5.22	1.51	0.04				
18.75	5.35	1.58	0.03				
20.00	5.45	1.65	0.03				
21.25	5.55	1.71	0.03				
22.50	5.63	1.76	0.02				
23.75	**5.71**	**1.82**	0.02				
25.00	**5.73**	**1.83**	0.00				
26.25	5.73	1.83	0.00				
27.50	5.73	1.83	0.00				
28.75	5.73	1.83	0.00				
30.00	5.73	1.83	0.00				
31.25	5.73	1.83	0.00				
32.50	5.73	1.83	0.00				
33.75	5.73	1.83	0.00				
35.00	5.73	1.83	0.00				
36.25	5.73	1.83	0.00				
37.50	5.73	1.83	0.00				
38.75	5.73	1.83	0.00				
40.00	5.73	1.83	0.00				
41.25	5.73	1.83	0.00				
42.50	5.73	1.83	0.00				
43.75	5.73	1.83	0.00				
45.00	5.73	1.83	0.00				
46.25	5.73	1.83	0.00				
47.50	5.73	1.83	0.00				
48.75	5.73	1.83	0.00				
50.00	5.73	1.83	0.00				
51.25	5.73	1.83	0.00				
52.50	5.73	1.83	0.00				
53.75	5.73	1.83	0.00				
55.00	5.73	1.83	0.00				
56.25	5.73	1.83	0.00				
57.50	5.73	1.83	0.00				
58.75	5.73	1.83	0.00				
60.00	5.73	1.83	0.00				
61.25	5.73	1.83	0.00				
62.50	5.73	1.83	0.00				

Summary for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

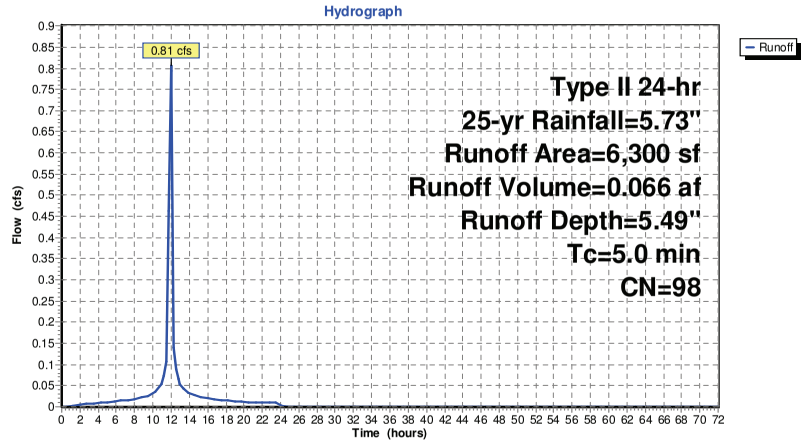
Runoff = 0.81 cfs @ 11.96 hrs, Volume= 0.066 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
6,300	98	Roofs, HSG B
6,300		100.00% Impervious Area

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

Subcatchment Imp 1-6: PR Imp (Roof 1-6)



Hydrograph for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	5.49	0.00
1.25	0.08	0.01	0.00	65.00	5.73	5.49	0.00
2.50	0.16	0.04	0.01	66.25	5.73	5.49	0.00
3.75	0.26	0.11	0.01	67.50	5.73	5.49	0.00
5.00	0.36	0.20	0.01	68.75	5.73	5.49	0.00
6.25	0.48	0.30	0.01	70.00	5.73	5.49	0.00
7.50	0.63	0.43	0.02	71.25	5.73	5.49	0.00
8.75	0.80	0.60	0.02				
10.00	1.04	0.83	0.03				
11.25	1.47	1.25	**0.07**				
12.50	4.21	3.98	**0.09**				
13.75	4.64	4.41	0.04				
15.00	4.89	4.65	0.03				
16.25	5.07	4.84	0.02				
17.50	5.22	4.99	0.02				
18.75	5.35	5.11	0.01				
20.00	5.45	5.22	0.01				
21.25	5.55	5.31	0.01				
22.50	5.63	5.39	0.01				
23.75	**5.71**	**5.48**	0.01				
25.00	**5.73**	**5.49**	0.00				
26.25	5.73	5.49	0.00				
27.50	5.73	5.49	0.00				
28.75	5.73	5.49	0.00				
30.00	5.73	5.49	0.00				
31.25	5.73	5.49	0.00				
32.50	5.73	5.49	0.00				
33.75	5.73	5.49	0.00				
35.00	5.73	5.49	0.00				
36.25	5.73	5.49	0.00				
37.50	5.73	5.49	0.00				
38.75	5.73	5.49	0.00				
40.00	5.73	5.49	0.00				
41.25	5.73	5.49	0.00				
42.50	5.73	5.49	0.00				
43.75	5.73	5.49	0.00				
45.00	5.73	5.49	0.00				
46.25	5.73	5.49	0.00				
47.50	5.73	5.49	0.00				
48.75	5.73	5.49	0.00				
50.00	5.73	5.49	0.00				
51.25	5.73	5.49	0.00				
52.50	5.73	5.49	0.00				
53.75	5.73	5.49	0.00				
55.00	5.73	5.49	0.00				
56.25	5.73	5.49	0.00				
57.50	5.73	5.49	0.00				
58.75	5.73	5.49	0.00				
60.00	5.73	5.49	0.00				
61.25	5.73	5.49	0.00				
62.50	5.73	5.49	0.00				

Summary for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

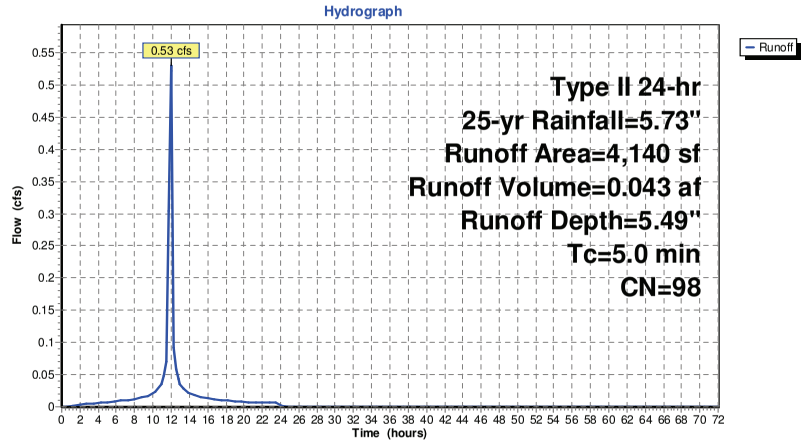
Runoff = 0.53 cfs @ 11.96 hrs, Volume= 0.043 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
4,140	98	Roofs, HSG B
4,140		100.00% Impervious Area

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

Subcatchment Imp 14-17: PR Imp (Roof 14-17)



Hydrograph for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	5.49	0.00
1.25	0.08	0.01	0.00	65.00	5.73	5.49	0.00
2.50	0.16	0.04	0.00	66.25	5.73	5.49	0.00
3.75	0.26	0.11	0.01	67.50	5.73	5.49	0.00
5.00	0.36	0.20	0.01	68.75	5.73	5.49	0.00
6.25	0.48	0.30	0.01	70.00	5.73	5.49	0.00
7.50	0.63	0.43	0.01	71.25	5.73	5.49	0.00
8.75	0.80	0.60	0.02				
10.00	1.04	0.83	0.02				
11.25	1.47	1.25	**0.05**				
12.50	4.21	3.98	**0.06**				
13.75	4.64	4.41	0.02				
15.00	4.89	4.65	0.02				
16.25	5.07	4.84	0.01				
17.50	5.22	4.99	0.01				
18.75	5.35	5.11	0.01				
20.00	5.45	5.22	0.01				
21.25	5.55	5.31	0.01				
22.50	5.63	5.39	0.01				
23.75	**5.71**	**5.48**	0.01				
25.00	**5.73**	**5.49**	0.00				
26.25	5.73	5.49	0.00				
27.50	5.73	5.49	0.00				
28.75	5.73	5.49	0.00				
30.00	5.73	5.49	0.00				
31.25	5.73	5.49	0.00				
32.50	5.73	5.49	0.00				
33.75	5.73	5.49	0.00				
35.00	5.73	5.49	0.00				
36.25	5.73	5.49	0.00				
37.50	5.73	5.49	0.00				
38.75	5.73	5.49	0.00				
40.00	5.73	5.49	0.00				
41.25	5.73	5.49	0.00				
42.50	5.73	5.49	0.00				
43.75	5.73	5.49	0.00				
45.00	5.73	5.49	0.00				
46.25	5.73	5.49	0.00				
47.50	5.73	5.49	0.00				
48.75	5.73	5.49	0.00				
50.00	5.73	5.49	0.00				
51.25	5.73	5.49	0.00				
52.50	5.73	5.49	0.00				
53.75	5.73	5.49	0.00				
55.00	5.73	5.49	0.00				
56.25	5.73	5.49	0.00				
57.50	5.73	5.49	0.00				
58.75	5.73	5.49	0.00				
60.00	5.73	5.49	0.00				
61.25	5.73	5.49	0.00				
62.50	5.73	5.49	0.00				

Summary for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

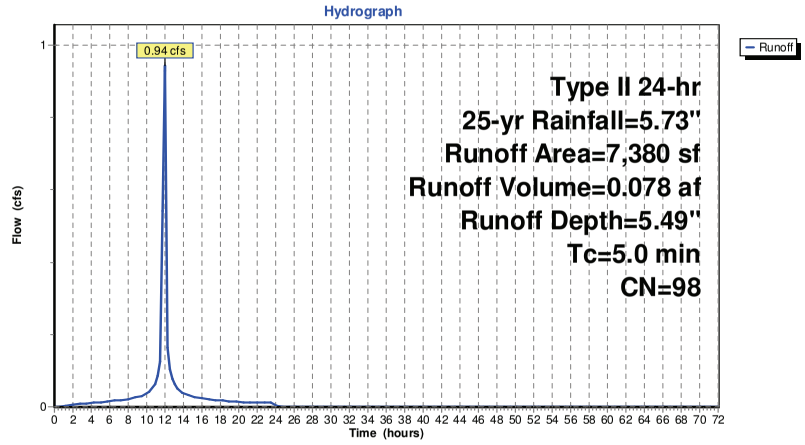
Runoff = 0.94 cfs @ 11.96 hrs, Volume= 0.078 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
7,380	98	Roofs, HSG B
7,380		100.00% Impervious Area

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

Subcatchment Imp 7-13: PR Imp (Roof 7-13)



Hydrograph for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	5.49	0.00
1.25	0.08	0.01	0.00	65.00	5.73	5.49	0.00
2.50	0.16	0.04	0.01	66.25	5.73	5.49	0.00
3.75	0.26	0.11	0.01	67.50	5.73	5.49	0.00
5.00	0.36	0.20	0.01	68.75	5.73	5.49	0.00
6.25	0.48	0.30	0.02	70.00	5.73	5.49	0.00
7.50	0.63	0.43	0.02	71.25	5.73	5.49	0.00
8.75	0.80	0.60	0.03				
10.00	1.04	0.83	0.04				
11.25	1.47	1.25	**0.09**				
12.50	4.21	3.98	**0.10**				
13.75	4.64	4.41	0.04				
15.00	4.89	4.65	0.03				
16.25	5.07	4.84	0.02				
17.50	5.22	4.99	0.02				
18.75	5.35	5.11	0.02				
20.00	5.45	5.22	0.01				
21.25	5.55	5.31	0.01				
22.50	5.63	5.39	0.01				
23.75	**5.71**	**5.48**	0.01				
25.00	**5.73**	**5.49**	0.00				
26.25	5.73	5.49	0.00				
27.50	5.73	5.49	0.00				
28.75	5.73	5.49	0.00				
30.00	5.73	5.49	0.00				
31.25	5.73	5.49	0.00				
32.50	5.73	5.49	0.00				
33.75	5.73	5.49	0.00				
35.00	5.73	5.49	0.00				
36.25	5.73	5.49	0.00				
37.50	5.73	5.49	0.00				
38.75	5.73	5.49	0.00				
40.00	5.73	5.49	0.00				
41.25	5.73	5.49	0.00				
42.50	5.73	5.49	0.00				
43.75	5.73	5.49	0.00				
45.00	5.73	5.49	0.00				
46.25	5.73	5.49	0.00				
47.50	5.73	5.49	0.00				
48.75	5.73	5.49	0.00				
50.00	5.73	5.49	0.00				
51.25	5.73	5.49	0.00				
52.50	5.73	5.49	0.00				
53.75	5.73	5.49	0.00				
55.00	5.73	5.49	0.00				
56.25	5.73	5.49	0.00				
57.50	5.73	5.49	0.00				
58.75	5.73	5.49	0.00				
60.00	5.73	5.49	0.00				
61.25	5.73	5.49	0.00				
62.50	5.73	5.49	0.00				

Summary for Subcatchment PR RG2 Gr: PR Grass RG2

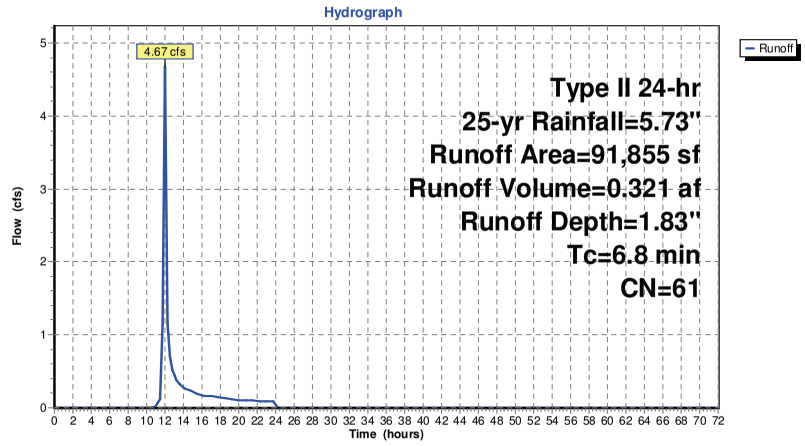
Runoff = 4.67 cfs @ 12.00 hrs, Volume= 0.321 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
91,855	61	>75% Grass cover, Good, HSG B
91,855		100.00% Pervious Area

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

Subcatchment PR RG2 Gr: PR Grass RG2



Hydrograph for Subcatchment PR RG2 Gr: PR Grass RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.83	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.83	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.83	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.83	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.83	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.83	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.83	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.01	**0.04**				
12.50	4.21	0.92	**0.71**				
13.75	4.64	1.16	0.31				
15.00	4.89	1.30	0.22				
16.25	5.07	1.41	0.17				
17.50	5.22	1.51	0.15				
18.75	5.35	1.58	0.13				
20.00	5.45	1.65	0.10				
21.25	5.55	1.71	0.10				
22.50	5.63	1.76	0.09				
23.75	**5.71**	**1.82**	0.09				
25.00	**5.73**	**1.83**	0.00				
26.25	5.73	1.83	0.00				
27.50	5.73	1.83	0.00				
28.75	5.73	1.83	0.00				
30.00	5.73	1.83	0.00				
31.25	5.73	1.83	0.00				
32.50	5.73	1.83	0.00				
33.75	5.73	1.83	0.00				
35.00	5.73	1.83	0.00				
36.25	5.73	1.83	0.00				
37.50	5.73	1.83	0.00				
38.75	5.73	1.83	0.00				
40.00	5.73	1.83	0.00				
41.25	5.73	1.83	0.00				
42.50	5.73	1.83	0.00				
43.75	5.73	1.83	0.00				
45.00	5.73	1.83	0.00				
46.25	5.73	1.83	0.00				
47.50	5.73	1.83	0.00				
48.75	5.73	1.83	0.00				
50.00	5.73	1.83	0.00				
51.25	5.73	1.83	0.00				
52.50	5.73	1.83	0.00				
53.75	5.73	1.83	0.00				
55.00	5.73	1.83	0.00				
56.25	5.73	1.83	0.00				
57.50	5.73	1.83	0.00				
58.75	5.73	1.83	0.00				
60.00	5.73	1.83	0.00				
61.25	5.73	1.83	0.00				
62.50	5.73	1.83	0.00				

Summary for Subcatchment PR RG2 Imp: PR Imp RG2

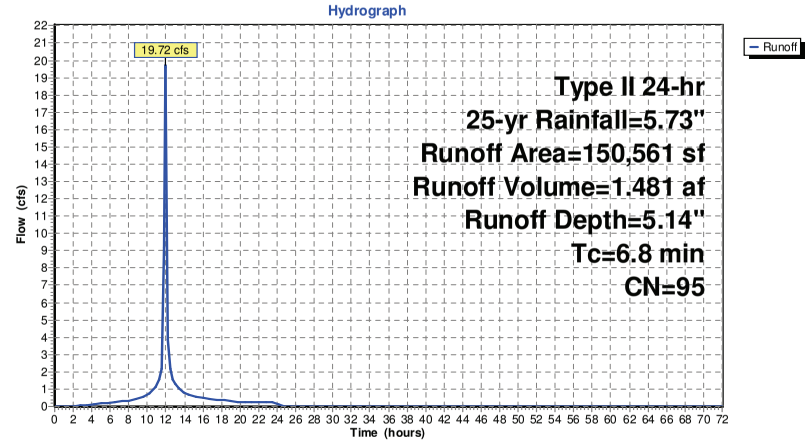
Runoff = 19.72 cfs @ 11.97 hrs, Volume= 1.481 af, Depth= 5.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
62,832	98	Paved roads w/curbs & sewers, HSG B
36,249	85	Gravel roads, HSG B
51,480	98	Roofs, HSG B
150,561	95	Weighted Average
36,249		24.08% Pervious Area
114,312		75.92% Impervious Area

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

Subcatchment PR RG2 Imp: PR Imp RG2



Hydrograph for Subcatchment PR RG2 Imp: PR Imp RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	5.14	0.00
1.25	0.08	0.00	0.00	65.00	5.73	5.14	0.00
2.50	0.16	0.01	0.04	66.25	5.73	5.14	0.00
3.75	0.26	0.03	0.10	67.50	5.73	5.14	0.00
5.00	0.36	0.08	0.17	68.75	5.73	5.14	0.00
6.25	0.48	0.16	0.24	70.00	5.73	5.14	0.00
7.50	0.63	0.26	0.31	71.25	5.73	5.14	0.00
8.75	0.80	0.39	0.46				
10.00	1.04	0.60	0.66				
11.25	1.47	0.98	**1.58**				
12.50	4.21	3.64	**2.20**				
13.75	4.64	4.07	0.87				
15.00	4.89	4.31	0.61				
16.25	5.07	4.49	0.45				
17.50	5.22	4.64	0.39				
18.75	5.35	4.77	0.32				
20.00	5.45	4.87	0.26				
21.25	5.55	4.96	0.25				
22.50	5.63	5.05	0.23				
23.75	**5.71**	**5.13**	0.22				
25.00	**5.73**	**5.14**	0.00				
26.25	5.73	5.14	0.00				
27.50	5.73	5.14	0.00				
28.75	5.73	5.14	0.00				
30.00	5.73	5.14	0.00				
31.25	5.73	5.14	0.00				
32.50	5.73	5.14	0.00				
33.75	5.73	5.14	0.00				
35.00	5.73	5.14	0.00				
36.25	5.73	5.14	0.00				
37.50	5.73	5.14	0.00				
38.75	5.73	5.14	0.00				
40.00	5.73	5.14	0.00				
41.25	5.73	5.14	0.00				
42.50	5.73	5.14	0.00				
43.75	5.73	5.14	0.00				
45.00	5.73	5.14	0.00				
46.25	5.73	5.14	0.00				
47.50	5.73	5.14	0.00				
48.75	5.73	5.14	0.00				
50.00	5.73	5.14	0.00				
51.25	5.73	5.14	0.00				
52.50	5.73	5.14	0.00				
53.75	5.73	5.14	0.00				
55.00	5.73	5.14	0.00				
56.25	5.73	5.14	0.00				
57.50	5.73	5.14	0.00				
58.75	5.73	5.14	0.00				
60.00	5.73	5.14	0.00				
61.25	5.73	5.14	0.00				
62.50	5.73	5.14	0.00				

Summary for Subcatchment PR RG3 Gr: PR Grass RG3

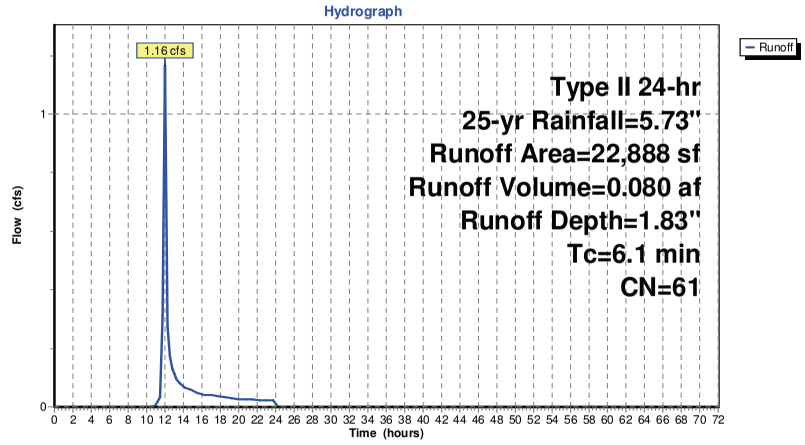
Runoff = 1.16 cfs @ 12.00 hrs, Volume= 0.080 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
22,888	61	>75% Grass cover, Good, HSG B
22,888		100.00% Pervious Area

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

Subcatchment PR RG3 Gr: PR Grass RG3



Hydrograph for Subcatchment PR RG3 Gr: PR Grass RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.83	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.83	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.83	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.83	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.83	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.83	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.83	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.01	**0.01**				
12.50	4.21	0.92	**0.17**				
13.75	4.64	1.16	0.08				
15.00	4.89	1.30	0.05				
16.25	5.07	1.41	0.04				
17.50	5.22	1.51	0.04				
18.75	5.35	1.58	0.03				
20.00	5.45	1.65	0.03				
21.25	5.55	1.71	0.02				
22.50	5.63	1.76	0.02				
23.75	**5.71**	**1.82**	0.02				
25.00	**5.73**	**1.83**	0.00				
26.25	5.73	1.83	0.00				
27.50	5.73	1.83	0.00				
28.75	5.73	1.83	0.00				
30.00	5.73	1.83	0.00				
31.25	5.73	1.83	0.00				
32.50	5.73	1.83	0.00				
33.75	5.73	1.83	0.00				
35.00	5.73	1.83	0.00				
36.25	5.73	1.83	0.00				
37.50	5.73	1.83	0.00				
38.75	5.73	1.83	0.00				
40.00	5.73	1.83	0.00				
41.25	5.73	1.83	0.00				
42.50	5.73	1.83	0.00				
43.75	5.73	1.83	0.00				
45.00	5.73	1.83	0.00				
46.25	5.73	1.83	0.00				
47.50	5.73	1.83	0.00				
48.75	5.73	1.83	0.00				
50.00	5.73	1.83	0.00				
51.25	5.73	1.83	0.00				
52.50	5.73	1.83	0.00				
53.75	5.73	1.83	0.00				
55.00	5.73	1.83	0.00				
56.25	5.73	1.83	0.00				
57.50	5.73	1.83	0.00				
58.75	5.73	1.83	0.00				
60.00	5.73	1.83	0.00				
61.25	5.73	1.83	0.00				
62.50	5.73	1.83	0.00				

Summary for Subcatchment PR RG3 Imp: PR Imp RG3

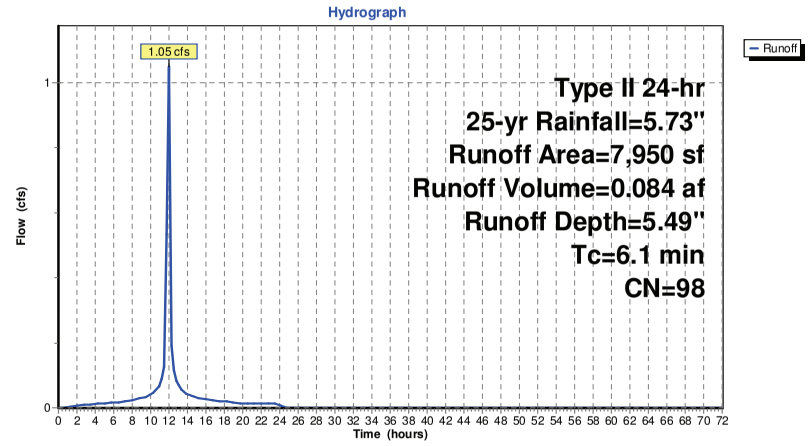
Runoff = 1.05 cfs @ 11.97 hrs, Volume= 0.084 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
7,950	98	Paved parking, HSG B
7,950		100.00% Impervious Area

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

Subcatchment PR RG3 Imp: PR Imp RG3



Hydrograph for Subcatchment PR RG3 Imp: PR Imp RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	5.49	0.00
1.25	0.08	0.01	0.00	65.00	5.73	5.49	0.00
2.50	0.16	0.04	0.01	66.25	5.73	5.49	0.00
3.75	0.26	0.11	0.01	67.50	5.73	5.49	0.00
5.00	0.36	0.20	0.01	68.75	5.73	5.49	0.00
6.25	0.48	0.30	0.02	70.00	5.73	5.49	0.00
7.50	0.63	0.43	0.02	71.25	5.73	5.49	0.00
8.75	0.80	0.60	0.03				
10.00	1.04	0.83	0.04				
11.25	1.47	1.25	**0.09**				
12.50	4.21	3.98	**0.12**				
13.75	4.64	4.41	0.05				
15.00	4.89	4.65	0.03				
16.25	5.07	4.84	0.02				
17.50	5.22	4.99	0.02				
18.75	5.35	5.11	0.02				
20.00	5.45	5.22	0.01				
21.25	5.55	5.31	0.01				
22.50	5.63	5.39	0.01				
23.75	**5.71**	**5.48**	0.01				
25.00	**5.73**	**5.49**	0.00				
26.25	5.73	5.49	0.00				
27.50	5.73	5.49	0.00				
28.75	5.73	5.49	0.00				
30.00	5.73	5.49	0.00				
31.25	5.73	5.49	0.00				
32.50	5.73	5.49	0.00				
33.75	5.73	5.49	0.00				
35.00	5.73	5.49	0.00				
36.25	5.73	5.49	0.00				
37.50	5.73	5.49	0.00				
38.75	5.73	5.49	0.00				
40.00	5.73	5.49	0.00				
41.25	5.73	5.49	0.00				
42.50	5.73	5.49	0.00				
43.75	5.73	5.49	0.00				
45.00	5.73	5.49	0.00				
46.25	5.73	5.49	0.00				
47.50	5.73	5.49	0.00				
48.75	5.73	5.49	0.00				
50.00	5.73	5.49	0.00				
51.25	5.73	5.49	0.00				
52.50	5.73	5.49	0.00				
53.75	5.73	5.49	0.00				
55.00	5.73	5.49	0.00				
56.25	5.73	5.49	0.00				
57.50	5.73	5.49	0.00				
58.75	5.73	5.49	0.00				
60.00	5.73	5.49	0.00				
61.25	5.73	5.49	0.00				
62.50	5.73	5.49	0.00				

Summary for Subcatchment PRGr RG1: PR Grass RG1

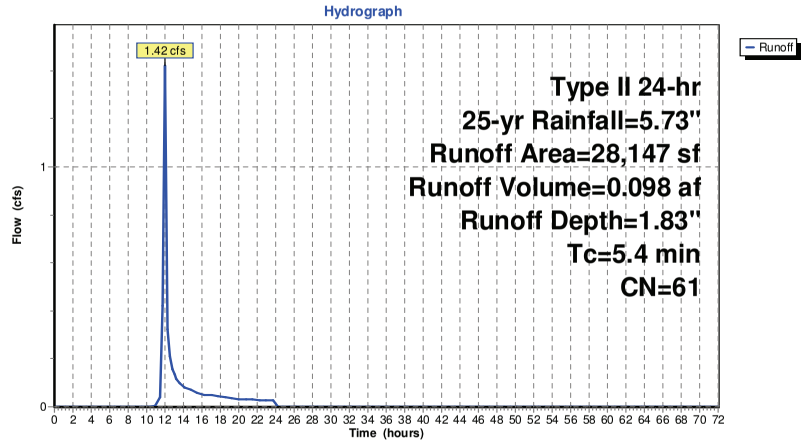
Runoff = 1.42 cfs @ 11.99 hrs, Volume= 0.098 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
28,147	61	>75% Grass cover, Good, HSG B
28,147		100.00% Pervious Area

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

Subcatchment PRGr RG1: PR Grass RG1



Hydrograph for Subcatchment PRGr RG1: PR Grass RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.83	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.83	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.83	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.83	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.83	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.83	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.83	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.01	**0.01**				
12.50	4.21	0.92	**0.21**				
13.75	4.64	1.16	0.09				
15.00	4.89	1.30	0.07				
16.25	5.07	1.41	0.05				
17.50	5.22	1.51	0.04				
18.75	5.35	1.58	0.04				
20.00	5.45	1.65	0.03				
21.25	5.55	1.71	0.03				
22.50	5.63	1.76	0.03				
23.75	**5.71**	**1.82**	0.03				
25.00	**5.73**	**1.83**	0.00				
26.25	5.73	1.83	0.00				
27.50	5.73	1.83	0.00				
28.75	5.73	1.83	0.00				
30.00	5.73	1.83	0.00				
31.25	5.73	1.83	0.00				
32.50	5.73	1.83	0.00				
33.75	5.73	1.83	0.00				
35.00	5.73	1.83	0.00				
36.25	5.73	1.83	0.00				
37.50	5.73	1.83	0.00				
38.75	5.73	1.83	0.00				
40.00	5.73	1.83	0.00				
41.25	5.73	1.83	0.00				
42.50	5.73	1.83	0.00				
43.75	5.73	1.83	0.00				
45.00	5.73	1.83	0.00				
46.25	5.73	1.83	0.00				
47.50	5.73	1.83	0.00				
48.75	5.73	1.83	0.00				
50.00	5.73	1.83	0.00				
51.25	5.73	1.83	0.00				
52.50	5.73	1.83	0.00				
53.75	5.73	1.83	0.00				
55.00	5.73	1.83	0.00				
56.25	5.73	1.83	0.00				
57.50	5.73	1.83	0.00				
58.75	5.73	1.83	0.00				
60.00	5.73	1.83	0.00				
61.25	5.73	1.83	0.00				
62.50	5.73	1.83	0.00				

Summary for Subcatchment PRGr-W: PR Grass - West

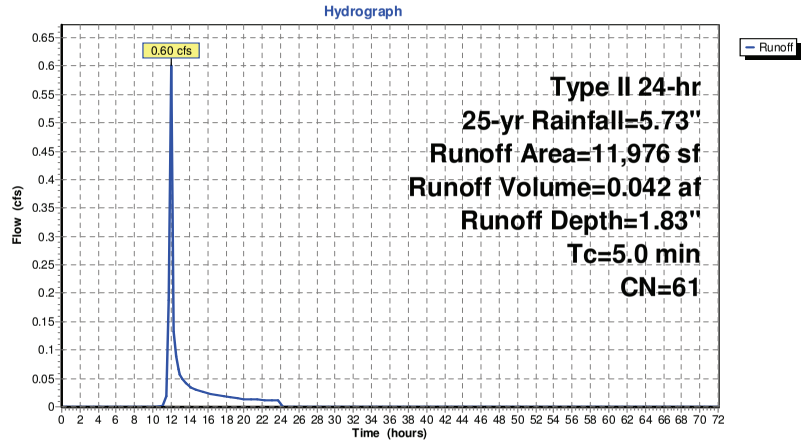
Runoff = 0.60 cfs @ 11.99 hrs, Volume= 0.042 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
11,976	61	>75% Grass cover, Good, HSG B
11,976		100.00% Pervious Area

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

Subcatchment PRGr-W: PR Grass - West



Hydrograph for Subcatchment PRGr-W: PR Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.83	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.83	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.83	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.83	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.83	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.83	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.83	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.01	**0.01**				
12.50	4.21	0.92	**0.09**				
13.75	4.64	1.16	0.04				
15.00	4.89	1.30	0.03				
16.25	5.07	1.41	0.02				
17.50	5.22	1.51	0.02				
18.75	5.35	1.58	0.02				
20.00	5.45	1.65	0.01				
21.25	5.55	1.71	0.01				
22.50	5.63	1.76	0.01				
23.75	**5.71**	**1.82**	0.01				
25.00	**5.73**	**1.83**	0.00				
26.25	5.73	1.83	0.00				
27.50	5.73	1.83	0.00				
28.75	5.73	1.83	0.00				
30.00	5.73	1.83	0.00				
31.25	5.73	1.83	0.00				
32.50	5.73	1.83	0.00				
33.75	5.73	1.83	0.00				
35.00	5.73	1.83	0.00				
36.25	5.73	1.83	0.00				
37.50	5.73	1.83	0.00				
38.75	5.73	1.83	0.00				
40.00	5.73	1.83	0.00				
41.25	5.73	1.83	0.00				
42.50	5.73	1.83	0.00				
43.75	5.73	1.83	0.00				
45.00	5.73	1.83	0.00				
46.25	5.73	1.83	0.00				
47.50	5.73	1.83	0.00				
48.75	5.73	1.83	0.00				
50.00	5.73	1.83	0.00				
51.25	5.73	1.83	0.00				
52.50	5.73	1.83	0.00				
53.75	5.73	1.83	0.00				
55.00	5.73	1.83	0.00				
56.25	5.73	1.83	0.00				
57.50	5.73	1.83	0.00				
58.75	5.73	1.83	0.00				
60.00	5.73	1.83	0.00				
61.25	5.73	1.83	0.00				
62.50	5.73	1.83	0.00				

Summary for Subcatchment PRImp-W: PR Imp - West

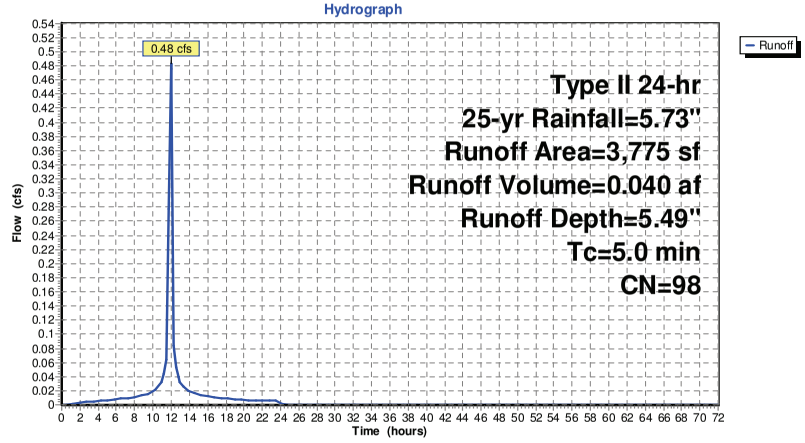
Runoff = 0.48 cfs @ 11.96 hrs, Volume= 0.040 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
3,775	98	Paved parking, HSG B
3,775		100.00% Impervious Area

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

Subcatchment PRImp-W: PR Imp - West



Hydrograph for Subcatchment PRImp-W: PR Imp - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	5.49	0.00
1.25	0.08	0.01	0.00	65.00	5.73	5.49	0.00
2.50	0.16	0.04	0.00	66.25	5.73	5.49	0.00
3.75	0.26	0.11	0.01	67.50	5.73	5.49	0.00
5.00	0.36	0.20	0.01	68.75	5.73	5.49	0.00
6.25	0.48	0.30	0.01	70.00	5.73	5.49	0.00
7.50	0.63	0.43	0.01	71.25	5.73	5.49	0.00
8.75	0.80	0.60	0.01				
10.00	1.04	0.83	0.02				
11.25	1.47	1.25	**0.04**				
12.50	4.21	3.98	**0.05**				
13.75	4.64	4.41	0.02				
15.00	4.89	4.65	0.02				
16.25	5.07	4.84	0.01				
17.50	5.22	4.99	0.01				
18.75	5.35	5.11	0.01				
20.00	5.45	5.22	0.01				
21.25	5.55	5.31	0.01				
22.50	5.63	5.39	0.01				
23.75	**5.71**	**5.48**	0.01				
25.00	**5.73**	**5.49**	0.00				
26.25	5.73	5.49	0.00				
27.50	5.73	5.49	0.00				
28.75	5.73	5.49	0.00				
30.00	5.73	5.49	0.00				
31.25	5.73	5.49	0.00				
32.50	5.73	5.49	0.00				
33.75	5.73	5.49	0.00				
35.00	5.73	5.49	0.00				
36.25	5.73	5.49	0.00				
37.50	5.73	5.49	0.00				
38.75	5.73	5.49	0.00				
40.00	5.73	5.49	0.00				
41.25	5.73	5.49	0.00				
42.50	5.73	5.49	0.00				
43.75	5.73	5.49	0.00				
45.00	5.73	5.49	0.00				
46.25	5.73	5.49	0.00				
47.50	5.73	5.49	0.00				
48.75	5.73	5.49	0.00				
50.00	5.73	5.49	0.00				
51.25	5.73	5.49	0.00				
52.50	5.73	5.49	0.00				
53.75	5.73	5.49	0.00				
55.00	5.73	5.49	0.00				
56.25	5.73	5.49	0.00				
57.50	5.73	5.49	0.00				
58.75	5.73	5.49	0.00				
60.00	5.73	5.49	0.00				
61.25	5.73	5.49	0.00				
62.50	5.73	5.49	0.00				

Summary for Subcatchment PRimpRG1: PR Imp - RG1

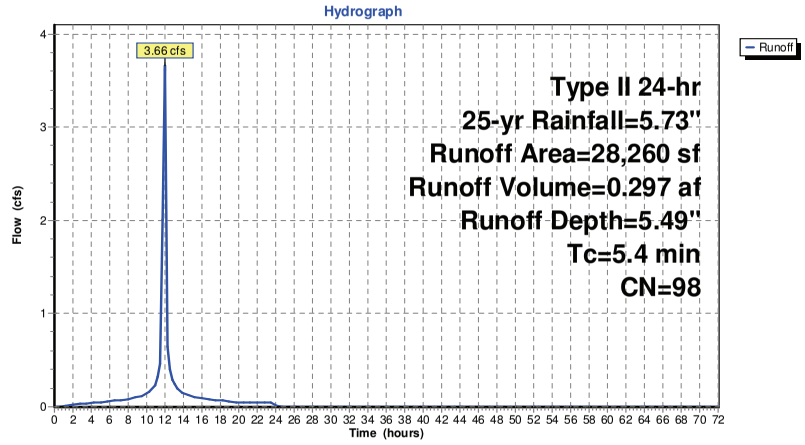
Runoff = 3.66 cfs @ 11.96 hrs, Volume= 0.297 af, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
28,260	98	Roofs, HSG B
28,260		100.00% Impervious Area

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

Subcatchment PRimpRG1: PR Imp - RG1



Hydrograph for Subcatchment PRimpRG1: PR Imp - RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	5.49	0.00
1.25	0.08	0.01	0.01	65.00	5.73	5.49	0.00
2.50	0.16	0.04	0.03	66.25	5.73	5.49	0.00
3.75	0.26	0.11	0.04	67.50	5.73	5.49	0.00
5.00	0.36	0.20	0.05	68.75	5.73	5.49	0.00
6.25	0.48	0.30	0.06	70.00	5.73	5.49	0.00
7.50	0.63	0.43	0.07	71.25	5.73	5.49	0.00
8.75	0.80	0.60	0.10				
10.00	1.04	0.83	0.14				
11.25	1.47	1.25	**0.32**				
12.50	4.21	3.98	**0.40**				
13.75	4.64	4.41	0.16				
15.00	4.89	4.65	0.11				
16.25	5.07	4.84	0.08				
17.50	5.22	4.99	0.07				
18.75	5.35	5.11	0.06				
20.00	5.45	5.22	0.05				
21.25	5.55	5.31	0.05				
22.50	5.63	5.39	0.04				
23.75	**5.71**	**5.48**	0.04				
25.00	**5.73**	**5.49**	0.00				
26.25	5.73	5.49	0.00				
27.50	5.73	5.49	0.00				
28.75	5.73	5.49	0.00				
30.00	5.73	5.49	0.00				
31.25	5.73	5.49	0.00				
32.50	5.73	5.49	0.00				
33.75	5.73	5.49	0.00				
35.00	5.73	5.49	0.00				
36.25	5.73	5.49	0.00				
37.50	5.73	5.49	0.00				
38.75	5.73	5.49	0.00				
40.00	5.73	5.49	0.00				
41.25	5.73	5.49	0.00				
42.50	5.73	5.49	0.00				
43.75	5.73	5.49	0.00				
45.00	5.73	5.49	0.00				
46.25	5.73	5.49	0.00				
47.50	5.73	5.49	0.00				
48.75	5.73	5.49	0.00				
50.00	5.73	5.49	0.00				
51.25	5.73	5.49	0.00				
52.50	5.73	5.49	0.00				
53.75	5.73	5.49	0.00				
55.00	5.73	5.49	0.00				
56.25	5.73	5.49	0.00				
57.50	5.73	5.49	0.00				
58.75	5.73	5.49	0.00				
60.00	5.73	5.49	0.00				
61.25	5.73	5.49	0.00				
62.50	5.73	5.49	0.00				

Summary for Subcatchment UD Bypass: UD By-Pass

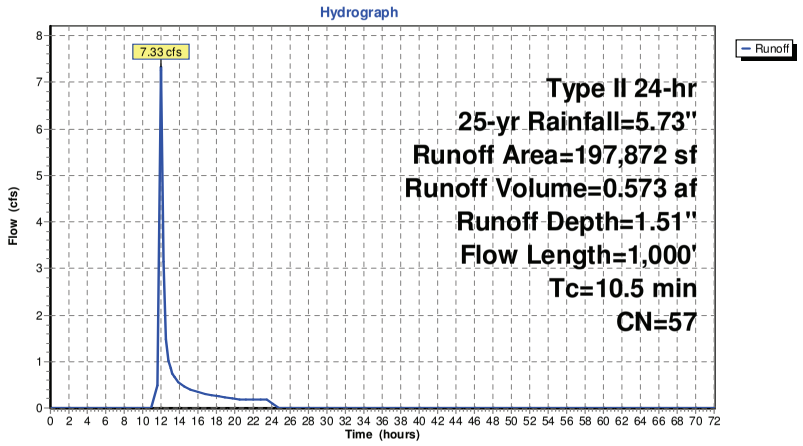
Runoff = 7.33 cfs @ 12.03 hrs, Volume= 0.573 af, Depth= 1.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
10,353	85	Gravel roads, HSG B
168,770	55	Woods, Good, HSG B
18,749	61	>75% Grass cover, Good, HSG B
197,872	57	Weighted Average
197,872		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2200	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
2.1	700	0.1140	5.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	200	0.0400	10.31	61.86	**Channel Flow,** Area= 6.0 sf Perim= 9.0' r= 0.67' n= 0.022 Earth, clean & straight
10.5	1,000	Total			

Subcatchment UD Bypass: UD By-Pass



Hydrograph for Subcatchment UD Bypass: UD By-Pass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.51	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.51	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.51	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.51	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.51	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.51	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.51	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.00	**0.00**				
12.50	4.21	0.71	**1.48**				
13.75	4.64	0.92	0.59				
15.00	4.89	1.05	0.43				
16.25	5.07	1.14	0.32				
17.50	5.22	1.23	0.28				
18.75	5.35	1.30	0.24				
20.00	5.45	1.36	0.20				
21.25	5.55	1.41	0.19				
22.50	5.63	1.46	0.18				
23.75	**5.71**	**1.51**	0.17				
25.00	**5.73**	**1.51**	0.00				
26.25	5.73	1.51	0.00				
27.50	5.73	1.51	0.00				
28.75	5.73	1.51	0.00				
30.00	5.73	1.51	0.00				
31.25	5.73	1.51	0.00				
32.50	5.73	1.51	0.00				
33.75	5.73	1.51	0.00				
35.00	5.73	1.51	0.00				
36.25	5.73	1.51	0.00				
37.50	5.73	1.51	0.00				
38.75	5.73	1.51	0.00				
40.00	5.73	1.51	0.00				
41.25	5.73	1.51	0.00				
42.50	5.73	1.51	0.00				
43.75	5.73	1.51	0.00				
45.00	5.73	1.51	0.00				
46.25	5.73	1.51	0.00				
47.50	5.73	1.51	0.00				
48.75	5.73	1.51	0.00				
50.00	5.73	1.51	0.00				
51.25	5.73	1.51	0.00				
52.50	5.73	1.51	0.00				
53.75	5.73	1.51	0.00				
55.00	5.73	1.51	0.00				
56.25	5.73	1.51	0.00				
57.50	5.73	1.51	0.00				
58.75	5.73	1.51	0.00				
60.00	5.73	1.51	0.00				
61.25	5.73	1.51	0.00				
62.50	5.73	1.51	0.00				

Summary for Subcatchment UD Gr: Undet Grass

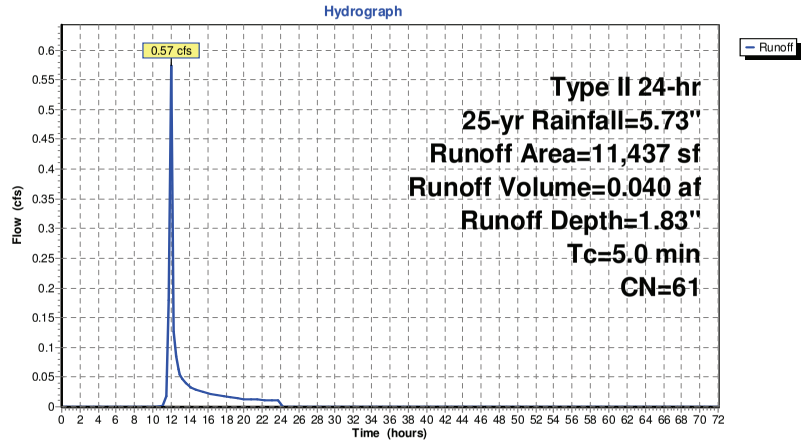
Runoff = 0.57 cfs @ 11.99 hrs, Volume= 0.040 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
11,437	61	>75% Grass cover, Good, HSG B
11,437		100.00% Pervious Area

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

Subcatchment UD Gr: Undet Grass



Hydrograph for Subcatchment UD Gr: Undet Grass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	1.83	0.00
1.25	0.08	0.00	0.00	65.00	5.73	1.83	0.00
2.50	0.16	0.00	0.00	66.25	5.73	1.83	0.00
3.75	0.26	0.00	0.00	67.50	5.73	1.83	0.00
5.00	0.36	0.00	0.00	68.75	5.73	1.83	0.00
6.25	0.48	0.00	0.00	70.00	5.73	1.83	0.00
7.50	0.63	0.00	0.00	71.25	5.73	1.83	0.00
8.75	0.80	0.00	0.00				
10.00	1.04	0.00	0.00				
11.25	1.47	0.01	**0.01**				
12.50	4.21	0.92	**0.08**				
13.75	4.64	1.16	0.04				
15.00	4.89	1.30	0.03				
16.25	5.07	1.41	0.02				
17.50	5.22	1.51	0.02				
18.75	5.35	1.58	0.02				
20.00	5.45	1.65	0.01				
21.25	5.55	1.71	0.01				
22.50	5.63	1.76	0.01				
23.75	**5.71**	**1.82**	0.01				
25.00	**5.73**	**1.83**	0.00				
26.25	5.73	1.83	0.00				
27.50	5.73	1.83	0.00				
28.75	5.73	1.83	0.00				
30.00	5.73	1.83	0.00				
31.25	5.73	1.83	0.00				
32.50	5.73	1.83	0.00				
33.75	5.73	1.83	0.00				
35.00	5.73	1.83	0.00				
36.25	5.73	1.83	0.00				
37.50	5.73	1.83	0.00				
38.75	5.73	1.83	0.00				
40.00	5.73	1.83	0.00				
41.25	5.73	1.83	0.00				
42.50	5.73	1.83	0.00				
43.75	5.73	1.83	0.00				
45.00	5.73	1.83	0.00				
46.25	5.73	1.83	0.00				
47.50	5.73	1.83	0.00				
48.75	5.73	1.83	0.00				
50.00	5.73	1.83	0.00				
51.25	5.73	1.83	0.00				
52.50	5.73	1.83	0.00				
53.75	5.73	1.83	0.00				
55.00	5.73	1.83	0.00				
56.25	5.73	1.83	0.00				
57.50	5.73	1.83	0.00				
58.75	5.73	1.83	0.00				
60.00	5.73	1.83	0.00				
61.25	5.73	1.83	0.00				
62.50	5.73	1.83	0.00				

Summary for Subcatchment UD Imp: Undet Imp

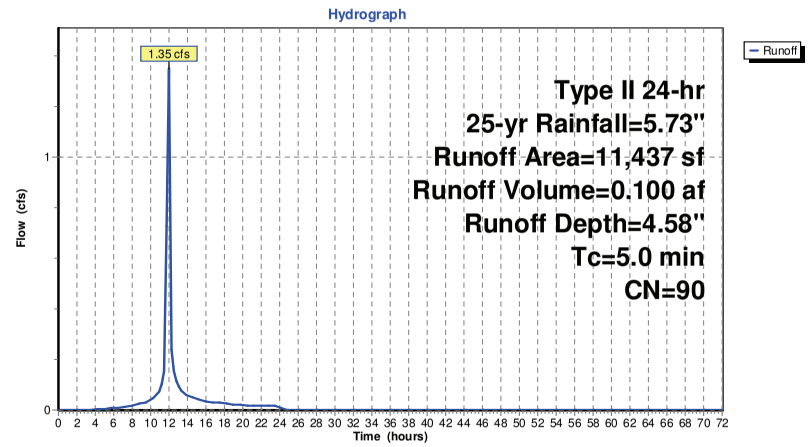
Runoff = 1.35 cfs @ 11.96 hrs, Volume= 0.100 af, Depth= 4.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 25-yr Rainfall=5.73"

Area (sf)	CN	Description
4,777	98	Paved parking, HSG B
6,660	85	Gravel roads, HSG B
11,437	90	Weighted Average
6,660		58.23% Pervious Area
4,777		41.77% Impervious Area

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

Subcatchment UD Imp: Undet Imp



Hydrograph for Subcatchment UD Imp: Undet Imp

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	5.73	4.58	0.00
1.25	0.08	0.00	0.00	65.00	5.73	4.58	0.00
2.50	0.16	0.00	0.00	66.25	5.73	4.58	0.00
3.75	0.26	0.00	0.00	67.50	5.73	4.58	0.00
5.00	0.36	0.02	0.00	68.75	5.73	4.58	0.00
6.25	0.48	0.05	0.01	70.00	5.73	4.58	0.00
7.50	0.63	0.11	0.01	71.25	5.73	4.58	0.00
8.75	0.80	0.20	0.02				
10.00	1.04	0.34	0.04				
11.25	1.47	0.66	**0.10**				
12.50	4.21	3.12	**0.15**				
13.75	4.64	3.53	0.06				
15.00	4.89	3.77	0.04				
16.25	5.07	3.95	0.03				
17.50	5.22	4.09	0.03				
18.75	5.35	4.22	0.02				
20.00	5.45	4.32	0.02				
21.25	5.55	4.40	0.02				
22.50	5.63	4.49	0.02				
23.75	**5.71**	**4.57**	0.02				
25.00	**5.73**	**4.58**	0.00				
26.25	5.73	4.58	0.00				
27.50	5.73	4.58	0.00				
28.75	5.73	4.58	0.00				
30.00	5.73	4.58	0.00				
31.25	5.73	4.58	0.00				
32.50	5.73	4.58	0.00				
33.75	5.73	4.58	0.00				
35.00	5.73	4.58	0.00				
36.25	5.73	4.58	0.00				
37.50	5.73	4.58	0.00				
38.75	5.73	4.58	0.00				
40.00	5.73	4.58	0.00				
41.25	5.73	4.58	0.00				
42.50	5.73	4.58	0.00				
43.75	5.73	4.58	0.00				
45.00	5.73	4.58	0.00				
46.25	5.73	4.58	0.00				
47.50	5.73	4.58	0.00				
48.75	5.73	4.58	0.00				
50.00	5.73	4.58	0.00				
51.25	5.73	4.58	0.00				
52.50	5.73	4.58	0.00				
53.75	5.73	4.58	0.00				
55.00	5.73	4.58	0.00				
56.25	5.73	4.58	0.00				
57.50	5.73	4.58	0.00				
58.75	5.73	4.58	0.00				
60.00	5.73	4.58	0.00				
61.25	5.73	4.58	0.00				
62.50	5.73	4.58	0.00				

Summary for Pond INF1: Inf Trench #1

Inflow Area = 0.389 ac, 37.20% Impervious, Inflow Depth = 3.19" for 25-yr event
Inflow = 1.34 cfs @ 11.97 hrs, Volume= 0.103 af
Outflow = 0.51 cfs @ 12.27 hrs, Volume= 0.103 af, Atten= 62%, Lag= 17.5 min
Primary = 0.51 cfs @ 12.27 hrs, Volume= 0.103 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.61' @ 12.32 hrs Surf.Area= 2,535 sf Storage= 2,117 cf

Plug-Flow detention time= 469.1 min calculated for 0.103 af (100% of inflow)
Center-of-Mass det. time= 474.9 min (1,258.4 - 783.4)

Volume	Invert	Avail.Storage	Storage Description
#1	384.00'	2,484 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	382.00'	77 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 768 cf Overall x 10.0% Voids
#3	380.00'	307 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 768 cf Overall x 40.0% Voids
		2,868 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
384.00	384	0	0
386.00	2,100	2,484	2,484

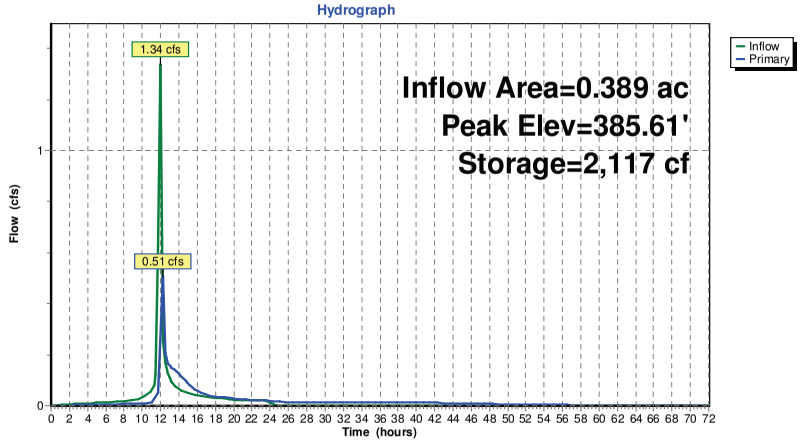
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
382.00	384	0	0
384.00	384	768	768

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	384	0	0
382.00	384	768	768

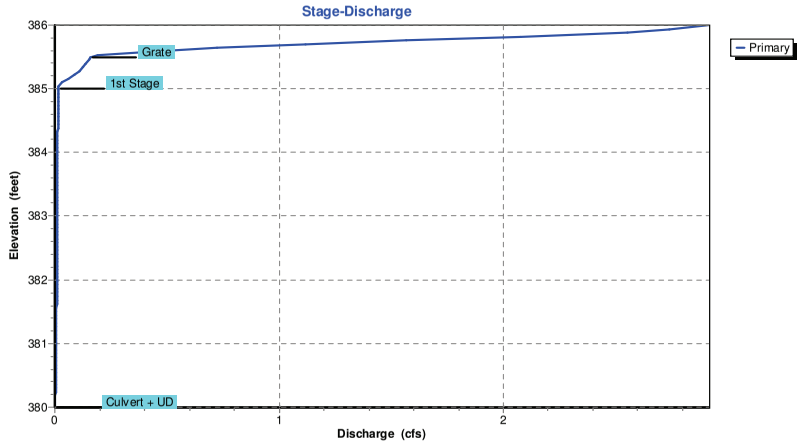
Device	Routing	Invert	Outlet Devices
#1	Primary	380.00'	**18.0" Round Culvert** L= 28.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 380.00' / 379.72' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	385.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	385.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	380.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.47 cfs @ 12.27 hrs HW=385.59' (Free Discharge)
└─**1=Culvert** (Passes 0.47 cfs of 18.73 cfs potential flow)
  ├─**2=Grate** (Weir Controls 0.30 cfs @ 1.00 fps)
  ├─**3=1st Stage** (Orifice Controls 0.16 cfs @ 3.30 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.37 fps)

Pond INF1: Inf Trench #1



Pond INF1: Inf Trench #1



Hydrograph for Pond INF1: Inf Trench #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	380.00	0.00
2.50	0.01	17	380.11	0.00
5.00	0.01	66	380.43	0.00
7.50	0.02	143	380.93	0.01
10.00	**0.03**	**278**	**381.81**	**0.01**
12.50	**0.17**	**1,965**	**385.52**	**0.21**
15.00	0.05	1,493	385.22	0.09
17.50	0.03	1,341	385.11	0.04
20.00	0.02	1,295	385.08	0.03
22.50	0.02	1,267	385.06	0.02
25.00	0.00	1,203	385.00	0.02
27.50	0.00	1,071	384.89	0.01
30.00	0.00	942	384.78	0.01
32.50	0.00	814	384.65	0.01
35.00	0.00	688	384.51	0.01
37.50	0.00	564	384.34	0.01
40.00	0.00	442	384.13	0.01
42.50	0.00	330	382.59	0.01
45.00	0.00	248	381.62	0.01
47.50	0.00	179	381.17	0.01
50.00	0.00	122	380.79	0.01
52.50	0.00	76	380.49	0.00
55.00	0.00	41	380.26	0.00
57.50	0.00	17	380.11	0.00
60.00	0.00	5	380.03	0.00
62.50	0.00	1	380.01	0.00
65.00	0.00	0	380.00	0.00
67.50	0.00	0	380.00	0.00
70.00	0.00	0	380.00	0.00

Stage-Discharge for Pond INF1: Inf Trench #1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
380.00	0.00	382.04	0.01	384.08	0.01
380.04	0.00	382.08	0.01	384.12	0.01
380.08	0.00	382.12	0.01	384.16	0.01
380.12	0.00	382.16	0.01	384.20	0.01
380.16	0.00	382.20	0.01	384.24	0.01
380.20	0.00	382.24	0.01	384.28	0.01
380.24	0.00	382.28	0.01	384.32	0.01
380.28	0.00	382.32	0.01	384.36	0.01
380.32	0.00	382.36	0.01	384.40	0.01
380.36	0.00	382.40	0.01	384.44	0.01
380.40	0.00	382.44	0.01	384.48	0.01
380.44	0.00	382.48	0.01	384.52	0.01
380.48	0.00	382.52	0.01	384.56	0.01
380.52	0.00	382.56	0.01	384.60	0.01
380.56	0.00	382.60	0.01	384.64	0.01
380.60	0.00	382.64	0.01	384.68	0.01
380.64	0.01	382.68	0.01	384.72	0.01
380.68	0.01	382.72	0.01	384.76	0.01
380.72	0.01	382.76	0.01	384.80	0.01
380.76	0.01	382.80	0.01	384.84	0.01
380.80	0.01	382.84	0.01	384.88	0.01
380.84	0.01	382.88	0.01	384.92	0.01
380.88	0.01	382.92	0.01	384.96	0.01
380.92	0.01	382.96	0.01	385.00	0.01
380.96	0.01	383.00	0.01	385.04	0.02
381.00	0.01	383.04	0.01	385.08	0.03
381.04	0.01	383.08	0.01	385.12	0.04
381.08	0.01	383.12	0.01	385.16	0.06
381.12	0.01	383.16	0.01	385.20	0.08
381.16	0.01	383.20	0.01	385.24	0.10
381.20	0.01	383.24	0.01	385.28	0.11
381.24	0.01	383.28	0.01	385.32	0.12
381.28	0.01	383.32	0.01	385.36	0.13
381.32	0.01	383.36	0.01	385.40	0.14
381.36	0.01	383.40	0.01	385.44	0.15
381.40	0.01	383.44	0.01	385.48	0.16
381.44	0.01	383.48	0.01	385.52	0.19
381.48	0.01	383.52	0.01	385.56	0.32
381.52	0.01	383.56	0.01	385.60	0.50
381.56	0.01	383.60	0.01	385.64	0.72
381.60	0.01	383.64	0.01	385.68	0.98
381.64	0.01	383.68	0.01	385.72	1.26
381.68	0.01	383.72	0.01	385.76	1.57
381.72	0.01	383.76	0.01	385.80	1.90
381.76	0.01	383.80	0.01	385.84	2.25
381.80	0.01	383.84	0.01	385.88	2.55
381.84	0.01	383.88	0.01	385.92	2.68
381.88	0.01	383.92	0.01	385.96	2.80
381.92	0.01	383.96	0.01	386.00	**2.91**
381.96	0.01	384.00	0.01		
382.00	0.01	384.04	0.01		

Summary for Pond INF2: Inf Trench #2

Inflow Area = 0.718 ac, 23.60% Impervious, Inflow Depth = 2.69" for 25-yr event
Inflow = 1.87 cfs @ 11.94 hrs, Volume= 0.161 af
Outflow = 1.21 cfs @ 12.17 hrs, Volume= 0.161 af, Atten= 36%, Lag= 13.5 min
Primary = 1.21 cfs @ 12.17 hrs, Volume= 0.161 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 384.72' @ 12.16 hrs Surf.Area= 2,665 sf Storage= 2,344 cf

Plug-Flow detention time= 335.0 min calculated for 0.161 af (100% of inflow)
Center-of-Mass det. time= 334.0 min (1,133.8 - 799.8)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	2,520 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	78 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 780 cf Overall x 10.0% Voids
#3	379.00'	312 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 780 cf Overall x 40.0% Voids
		2,910 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	390	0	0
385.00	2,130	2,520	2,520

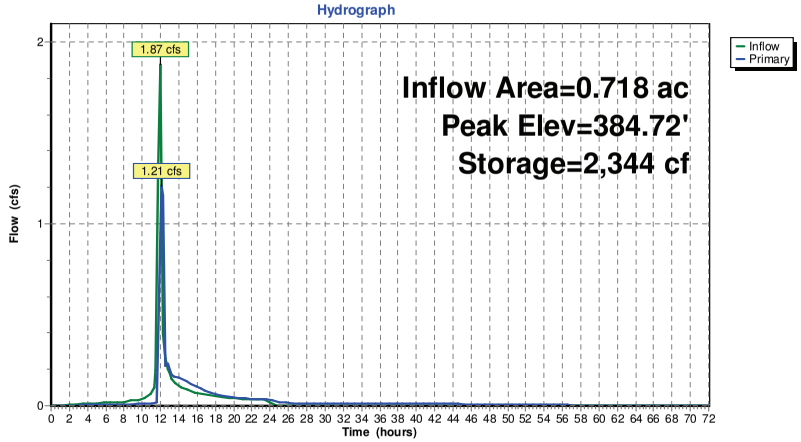
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	390	0	0
383.00	390	780	780

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	390	0	0
381.00	390	780	780

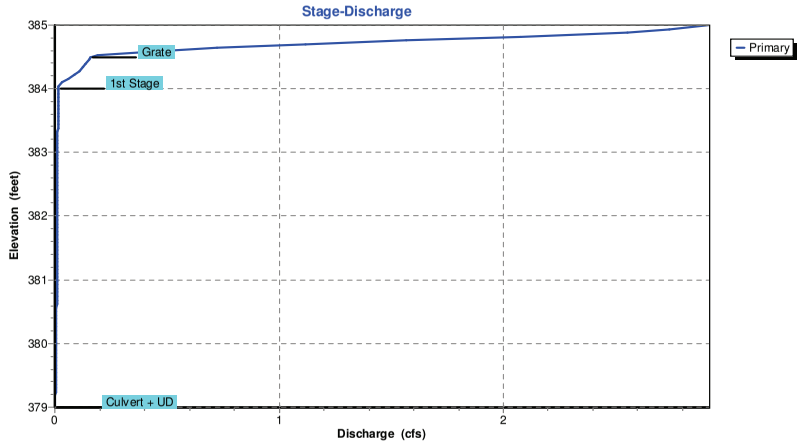
Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.89' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	384.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	384.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=1.08 cfs @ 12.17 hrs HW=384.69' (Free Discharge)
└─**1=Culvert** (Passes 1.08 cfs of 18.92 cfs potential flow)
  ├─**2=Grate** (Weir Controls 0.88 cfs @ 1.44 fps)
  ├─**3=1st Stage** (Orifice Controls 0.18 cfs @ 3.64 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.47 fps)

Pond INF2: Inf Trench #2



Pond INF2: Inf Trench #2



Hydrograph for Pond INF2: Inf Trench #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	379.00	0.00
2.50	0.01	20	379.13	0.00
5.00	0.01	80	379.51	0.00
7.50	0.02	173	380.11	0.01
10.00	**0.04**	**337**	**381.64**	**0.01**
12.50	**0.26**	**1,999**	**384.53**	**0.22**
15.00	0.09	1,719	384.36	0.13
17.50	0.06	1,455	384.18	0.07
20.00	0.04	1,382	384.13	0.05
22.50	0.04	1,354	384.11	0.04
25.00	0.00	1,260	384.03	0.02
27.50	0.00	1,124	383.93	0.01
30.00	0.00	994	383.81	0.01
32.50	0.00	865	383.69	0.01
35.00	0.00	739	383.55	0.01
37.50	0.00	614	383.40	0.01
40.00	0.00	492	383.21	0.01
42.50	0.00	373	382.56	0.01
45.00	0.00	282	380.81	0.01
47.50	0.00	208	380.34	0.01
50.00	0.00	146	379.94	0.01
52.50	0.00	95	379.61	0.01
55.00	0.00	55	379.36	0.00
57.50	0.00	27	379.17	0.00
60.00	0.00	10	379.06	0.00
62.50	0.00	3	379.02	0.00
65.00	0.00	1	379.01	0.00
67.50	0.00	0	379.00	0.00
70.00	0.00	0	379.00	0.00

Stage-Discharge for Pond INF2: Inf Trench #2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
379.00	0.00	381.04	0.01	383.08	0.01
379.04	0.00	381.08	0.01	383.12	0.01
379.08	0.00	381.12	0.01	383.16	0.01
379.12	0.00	381.16	0.01	383.20	0.01
379.16	0.00	381.20	0.01	383.24	0.01
379.20	0.00	381.24	0.01	383.28	0.01
379.24	0.00	381.28	0.01	383.32	0.01
379.28	0.00	381.32	0.01	383.36	0.01
379.32	0.00	381.36	0.01	383.40	0.01
379.36	0.00	381.40	0.01	383.44	0.01
379.40	0.00	381.44	0.01	383.48	0.01
379.44	0.00	381.48	0.01	383.52	0.01
379.48	0.00	381.52	0.01	383.56	0.01
379.52	0.00	381.56	0.01	383.60	0.01
379.56	0.00	381.60	0.01	383.64	0.01
379.60	0.00	381.64	0.01	383.68	0.01
379.64	0.01	381.68	0.01	383.72	0.01
379.68	0.01	381.72	0.01	383.76	0.01
379.72	0.01	381.76	0.01	383.80	0.01
379.76	0.01	381.80	0.01	383.84	0.01
379.80	0.01	381.84	0.01	383.88	0.01
379.84	0.01	381.88	0.01	383.92	0.01
379.88	0.01	381.92	0.01	383.96	0.01
379.92	0.01	381.96	0.01	384.00	0.01
379.96	0.01	382.00	0.01	384.04	0.02
380.00	0.01	382.04	0.01	384.08	0.03
380.04	0.01	382.08	0.01	384.12	0.04
380.08	0.01	382.12	0.01	384.16	0.06
380.12	0.01	382.16	0.01	384.20	0.08
380.16	0.01	382.20	0.01	384.24	0.10
380.20	0.01	382.24	0.01	384.28	0.11
380.24	0.01	382.28	0.01	384.32	0.12
380.28	0.01	382.32	0.01	384.36	0.13
380.32	0.01	382.36	0.01	384.40	0.14
380.36	0.01	382.40	0.01	384.44	0.15
380.40	0.01	382.44	0.01	384.48	0.16
380.44	0.01	382.48	0.01	384.52	0.19
380.48	0.01	382.52	0.01	384.56	0.32
380.52	0.01	382.56	0.01	384.60	0.50
380.56	0.01	382.60	0.01	384.64	0.72
380.60	0.01	382.64	0.01	384.68	0.98
380.64	0.01	382.68	0.01	384.72	1.26
380.68	0.01	382.72	0.01	384.76	1.57
380.72	0.01	382.76	0.01	384.80	1.90
380.76	0.01	382.80	0.01	384.84	2.25
380.80	0.01	382.84	0.01	384.88	2.55
380.84	0.01	382.88	0.01	384.92	2.68
380.88	0.01	382.92	0.01	384.96	2.80
380.92	0.01	382.96	0.01	385.00	**2.91**
380.96	0.01	383.00	0.01		
381.00	0.01	383.04	0.01		

Summary for Pond INF3: Inf Trench #3

Inflow Area = 0.309 ac, 30.75% Impervious, Inflow Depth = 2.95" for 25-yr event
Inflow = 0.99 cfs @ 11.98 hrs, Volume= 0.076 af
Outflow = 0.37 cfs @ 12.26 hrs, Volume= 0.076 af, Atten= 63%, Lag= 17.2 min
Primary = 0.37 cfs @ 12.26 hrs, Volume= 0.076 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 383.08' @ 12.32 hrs Surf.Area= 1,770 sf Storage= 1,456 cf

Plug-Flow detention time= 364.8 min calculated for 0.076 af (100% of inflow)
Center-of-Mass det. time= 368.7 min (1,160.2 - 791.5)

Volume	Invert	Avail.Storage	Storage Description
#1	381.50'	1,764 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	379.50'	53 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 528 cf Overall x 10.0% Voids
#3	377.50'	211 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 528 cf Overall x 40.0% Voids
		2,028 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.50	264	0	0
383.50	1,500	1,764	1,764

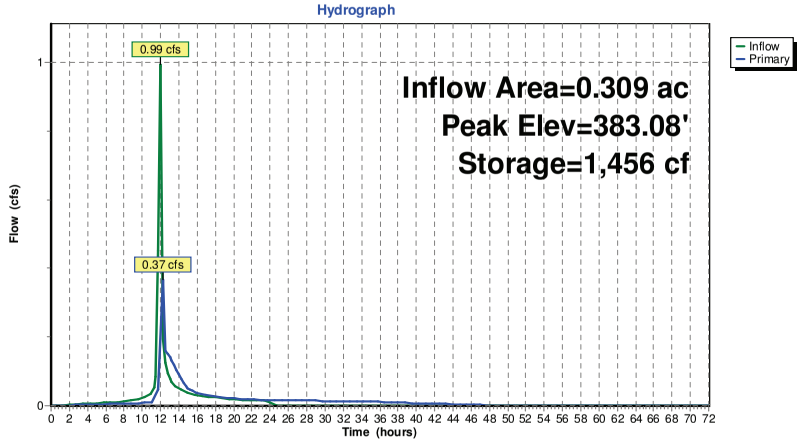
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.50	264	0	0
381.50	264	528	528

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
377.50	264	0	0
379.50	264	528	528

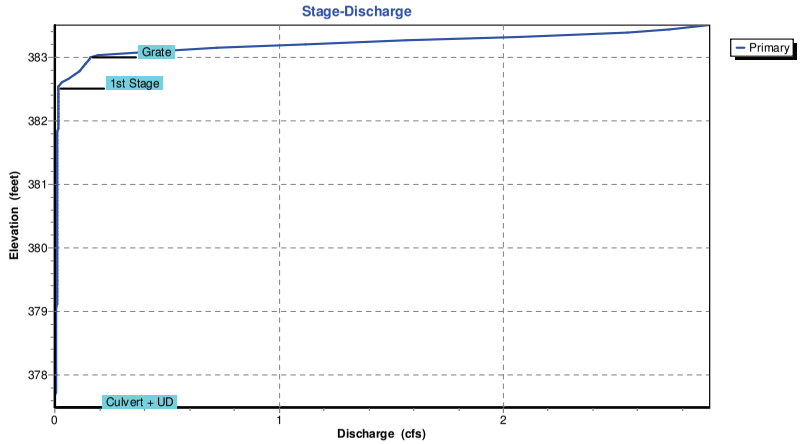
Device	Routing	Invert	Outlet Devices
#1	Primary	377.50'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 377.50' / 377.39' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	383.00'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	382.50'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	377.50'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.34 cfs @ 12.26 hrs HW=383.06' (Free Discharge)
└─**1=Culvert** (Passes 0.34 cfs of 18.67 cfs potential flow)
  ├─**2=Grate** (Weir Controls 0.17 cfs @ 0.83 fps)
  ├─**3=1st Stage** (Orifice Controls 0.16 cfs @ 3.19 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.34 fps)

Pond INF3: Inf Trench #3



Pond INF3: Inf Trench #3



Hydrograph for Pond INF3: Inf Trench #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	377.50	0.00
2.50	0.00	10	377.59	0.00
5.00	0.01	36	377.84	0.00
7.50	0.01	76	378.22	0.01
10.00	**0.02**	**150**	**378.92**	**0.01**
12.50	**0.13**	**1,347**	**382.99**	**0.16**
15.00	0.04	967	382.64	0.05
17.50	0.03	910	382.58	0.03
20.00	0.02	881	382.55	0.02
22.50	0.02	865	382.53	0.02
25.00	0.00	807	382.46	0.01
27.50	0.00	676	382.30	0.01
30.00	0.00	548	382.12	0.01
32.50	0.00	423	381.91	0.01
35.00	0.00	301	381.62	0.01
37.50	0.00	198	379.37	0.01
40.00	0.00	126	378.69	0.01
42.50	0.00	70	378.16	0.01
45.00	0.00	31	377.79	0.00
47.50	0.00	8	377.58	0.00
50.00	0.00	1	377.51	0.00
52.50	0.00	0	377.50	0.00
55.00	0.00	0	377.50	0.00
57.50	0.00	0	377.50	0.00
60.00	0.00	0	377.50	0.00
62.50	0.00	0	377.50	0.00
65.00	0.00	0	377.50	0.00
67.50	0.00	0	377.50	0.00
70.00	0.00	0	377.50	0.00

Stage-Discharge for Pond INF3: Inf Trench #3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
377.50	0.00	379.54	0.01	381.58	0.01
377.54	0.00	379.58	0.01	381.62	0.01
377.58	0.00	379.62	0.01	381.66	0.01
377.62	0.00	379.66	0.01	381.70	0.01
377.66	0.00	379.70	0.01	381.74	0.01
377.70	0.00	379.74	0.01	381.78	0.01
377.74	0.00	379.78	0.01	381.82	0.01
377.78	0.00	379.82	0.01	381.86	0.01
377.82	0.00	379.86	0.01	381.90	0.01
377.86	0.00	379.90	0.01	381.94	0.01
377.90	0.00	379.94	0.01	381.98	0.01
377.94	0.00	379.98	0.01	382.02	0.01
377.98	0.00	380.02	0.01	382.06	0.01
378.02	0.00	380.06	0.01	382.10	0.01
378.06	0.00	380.10	0.01	382.14	0.01
378.10	0.00	380.14	0.01	382.18	0.01
378.14	0.01	380.18	0.01	382.22	0.01
378.18	0.01	380.22	0.01	382.26	0.01
378.22	0.01	380.26	0.01	382.30	0.01
378.26	0.01	380.30	0.01	382.34	0.01
378.30	0.01	380.34	0.01	382.38	0.01
378.34	0.01	380.38	0.01	382.42	0.01
378.38	0.01	380.42	0.01	382.46	0.01
378.42	0.01	380.46	0.01	382.50	0.01
378.46	0.01	380.50	0.01	382.54	0.02
378.50	0.01	380.54	0.01	382.58	0.03
378.54	0.01	380.58	0.01	382.62	0.04
378.58	0.01	380.62	0.01	382.66	0.06
378.62	0.01	380.66	0.01	382.70	0.08
378.66	0.01	380.70	0.01	382.74	0.10
378.70	0.01	380.74	0.01	382.78	0.11
378.74	0.01	380.78	0.01	382.82	0.12
378.78	0.01	380.82	0.01	382.86	0.13
378.82	0.01	380.86	0.01	382.90	0.14
378.86	0.01	380.90	0.01	382.94	0.15
378.90	0.01	380.94	0.01	382.98	0.16
378.94	0.01	380.98	0.01	383.02	0.19
378.98	0.01	381.02	0.01	383.06	0.32
379.02	0.01	381.06	0.01	383.10	0.50
379.06	0.01	381.10	0.01	383.14	0.72
379.10	0.01	381.14	0.01	383.18	0.98
379.14	0.01	381.18	0.01	383.22	1.26
379.18	0.01	381.22	0.01	383.26	1.57
379.22	0.01	381.26	0.01	383.30	1.90
379.26	0.01	381.30	0.01	383.34	2.25
379.30	0.01	381.34	0.01	383.38	2.55
379.34	0.01	381.38	0.01	383.42	2.68
379.38	0.01	381.42	0.01	383.46	2.80
379.42	0.01	381.46	0.01	383.50	**2.91**
379.46	0.01	381.50	0.01		
379.50	0.01	381.54	0.01		

Summary for Pond RG1: Rain Garden #1

Inflow Area = 1.295 ac, 50.10% Impervious, Inflow Depth = 3.66" for 25-yr event
Inflow = 5.07 cfs @ 11.97 hrs, Volume= 0.395 af
Outflow = 4.13 cfs @ 12.04 hrs, Volume= 0.395 af, Atten= 19%, Lag= 4.0 min
Primary = 4.13 cfs @ 12.04 hrs, Volume= 0.395 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 400.31' @ 12.03 hrs Surf.Area= 2,609 sf Storage= 1,907 cf

Plug-Flow detention time= 86.0 min calculated for 0.394 af (100% of inflow)
Center-of-Mass det. time= 92.0 min (862.7 - 770.7)

Volume	Invert	Avail.Storage	Storage Description
#1	399.00'	4,709 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	397.00'	117 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 10.0% Voids
#3	395.00'	466 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 40.0% Voids
		5,292 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
399.00	583	0	0
402.00	2,556	4,709	4,709

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
397.00	583	0	0
399.00	583	1,166	1,166

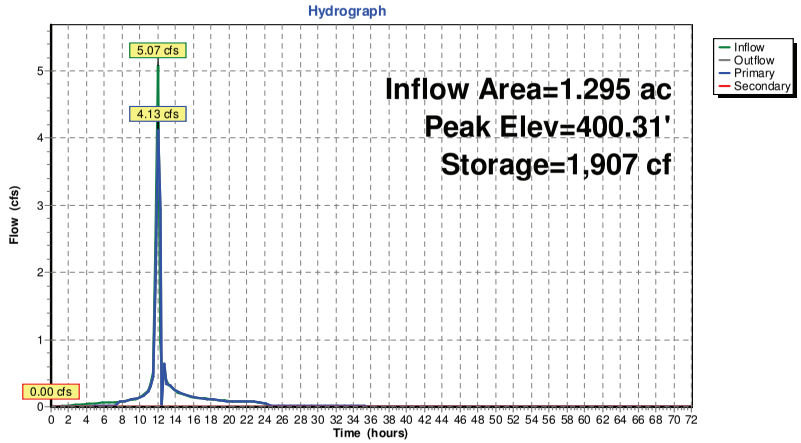
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	583	0	0
397.00	583	1,166	1,166

Device	Routing	Invert	Outlet Devices
#1	Primary	395.00'	**18.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 395.00' / 394.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	400.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	400.75'	**Spillway, C= 3.27** Offset (feet) 0.00 3.75 18.75 22.50 Height (feet) 1.25 0.00 0.00 1.25
#4	Device 1	399.33'	**24.0" W x 6.0" H Vert. 1st Stage** C= 0.600
#5	Device 1	395.00'	**0.5" Vert. UD** C= 0.600

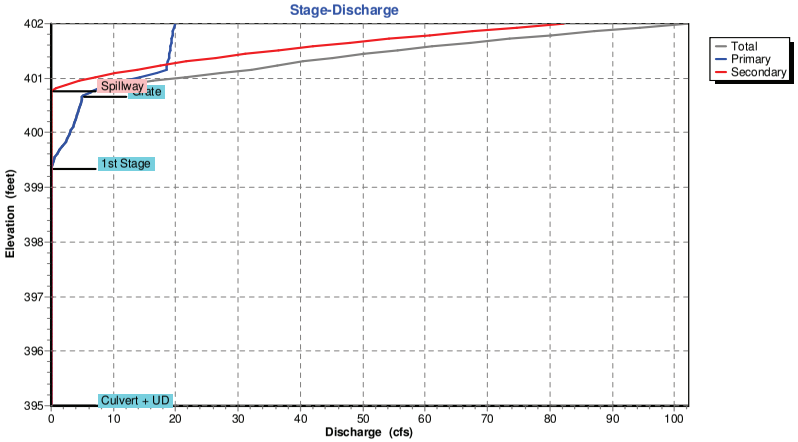
Primary OutFlow Max=3.93 cfs @ 12.04 hrs HW=400.25' (Free Discharge)
└─**1=Culvert** (Passes 3.93 cfs of 16.94 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=1st Stage** (Orifice Controls 3.92 cfs @ 3.92 fps)
  └─**5=UD** (Orifice Controls 0.02 cfs @ 11.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=395.00' (Free Discharge)
└─**3=Spillway** (Controls 0.00 cfs)

Pond RG1: Rain Garden #1



Pond RG1: Rain Garden #1



Hydrograph for Pond RG1: Rain Garden #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	395.00	0.00	0.00	**0.00**
2.50	0.03	85	395.37	0.00	0.00	0.00
5.00	0.05	379	396.62	0.01	0.01	0.00
7.50	0.07	822	399.34	0.03	0.03	0.00
10.00	**0.14**	**867**	**399.40**	**0.13**	**0.13**	0.00
12.50	**0.61**	**825**	**399.35**	**0.03**	**0.03**	0.00
15.00	0.18	884	399.42	0.18	0.18	0.00
17.50	0.12	861	399.39	0.12	0.12	0.00
20.00	0.08	845	399.37	0.08	0.08	0.00
22.50	0.07	841	399.37	0.07	0.07	0.00
25.00	0.00	780	399.29	0.01	0.01	0.00
27.50	0.00	659	399.12	0.01	0.01	0.00
30.00	0.00	543	398.31	0.01	0.01	0.00
32.50	0.00	450	396.93	0.01	0.01	0.00
35.00	0.00	372	396.60	0.01	0.01	0.00
37.50	0.00	302	396.29	0.01	0.01	0.00
40.00	0.00	239	396.02	0.01	0.01	0.00
42.50	0.00	183	395.79	0.01	0.01	0.00
45.00	0.00	135	395.58	0.00	0.00	0.00
47.50	0.00	95	395.41	0.00	0.00	0.00
50.00	0.00	62	395.27	0.00	0.00	0.00
52.50	0.00	37	395.16	0.00	0.00	0.00
55.00	0.00	19	395.08	0.00	0.00	0.00
57.50	0.00	8	395.04	0.00	0.00	0.00
60.00	0.00	4	395.02	0.00	0.00	0.00
62.50	0.00	2	395.01	0.00	0.00	0.00
65.00	0.00	1	395.00	0.00	0.00	0.00
67.50	0.00	0	395.00	0.00	0.00	0.00
70.00	0.00	0	395.00	0.00	0.00	0.00

Stage-Discharge for Pond RG1: Rain Garden #1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
395.00	0.00	0.00	0.00
395.10	0.00	0.00	0.00
395.20	0.00	0.00	0.00
395.30	0.00	0.00	0.00
395.40	0.00	0.00	0.00
395.50	0.00	0.00	0.00
395.60	0.00	0.00	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.01	0.01	0.00
396.20	0.01	0.01	0.00
396.30	0.01	0.01	0.00
396.40	0.01	0.01	0.00
396.50	0.01	0.01	0.00
396.60	0.01	0.01	0.00
396.70	0.01	0.01	0.00
396.80	0.01	0.01	0.00
396.90	0.01	0.01	0.00
397.00	0.01	0.01	0.00
397.10	0.01	0.01	0.00
397.20	0.01	0.01	0.00
397.30	0.01	0.01	0.00
397.40	0.01	0.01	0.00
397.50	0.01	0.01	0.00
397.60	0.01	0.01	0.00
397.70	0.01	0.01	0.00
397.80	0.01	0.01	0.00
397.90	0.01	0.01	0.00
398.00	0.01	0.01	0.00
398.10	0.01	0.01	0.00
398.20	0.01	0.01	0.00
398.30	0.01	0.01	0.00
398.40	0.01	0.01	0.00
398.50	0.01	0.01	0.00
398.60	0.01	0.01	0.00
398.70	0.01	0.01	0.00
398.80	0.01	0.01	0.00
398.90	0.01	0.01	0.00
399.00	0.01	0.01	0.00
399.10	0.01	0.01	0.00
399.20	0.01	0.01	0.00
399.30	0.01	0.01	0.00
399.40	0.13	0.13	0.00
399.50	0.46	0.46	0.00
399.60	0.91	0.91	0.00
399.70	1.46	1.46	0.00
399.80	2.08	2.08	0.00
399.90	2.66	2.66	0.00
400.00	3.09	3.09	0.00
400.10	3.45	3.45	0.00
400.20	3.78	3.78	0.00
400.30	4.08	4.08	0.00
400.40	4.36	4.36	0.00
400.50	4.62	4.62	0.00
400.60	4.87	4.87	0.00
400.70	5.52	5.52	0.00
400.80	8.07	7.52	0.55
400.90	13.17	10.25	2.92
401.00	19.93	13.56	6.38
401.10	28.06	17.33	10.73
401.20	34.43	18.56	15.87
401.30	40.49	18.72	21.77
401.40	47.26	18.88	28.38
401.50	54.72	19.04	35.68
401.60	62.86	19.20	43.67
401.70	71.67	19.35	52.32
401.80	81.15	19.51	61.64
401.90	91.28	19.66	71.62
402.00	**102.08**	**19.82**	**82.26**

Summary for Pond RG2: Rain Garden #2

Inflow Area =	5.565 ac,	47.16% Impervious,	Inflow Depth =	3.89"	for 25-yr event	
Inflow =	24.36 cfs @	11.98 hrs,	Volume=	1.803 af		
Outflow =	18.97 cfs @	12.04 hrs,	Volume=	1.786 af,	Atten= 22%,	Lag= 3.6 min
Primary =	18.97 cfs @	12.04 hrs,	Volume=	1.786 af		
Secondary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af		

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.91' @ 12.07 hrs Surf.Area= 6,255 sf Storage= 8,283 cf

Plug-Flow detention time= 59.5 min calculated for 1.780 af (99% of inflow)
Center-of-Mass det. time= 62.5 min (842.0 - 779.5)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	12,723 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	359 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 10.0% Voids
#3	379.00'	1,435 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 40.0% Voids
		14,517 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	1,794	0	0
388.00	3,295	12,723	12,723

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	1,794	0	0
383.00	1,794	3,588	3,588

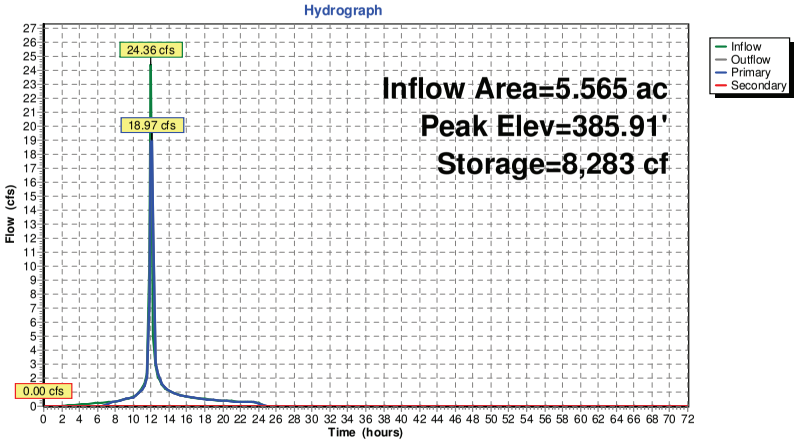
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	1,794	0	0
381.00	1,794	3,588	3,588

Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	386.60'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	386.70'	**Spillway, C= 3.27** Offset (feet) 0.00 3.90 58.90 62.80 Height (feet) 1.30 0.00 0.00 1.30
#4	Device 1	383.33'	**36.0" W x 8.0" H Vert. 1st stage** C= 0.600
#5	Device 1	385.33'	**24.0" W x 8.0" H Vert. 2nd Stage X 2.00** C= 0.600
#6	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

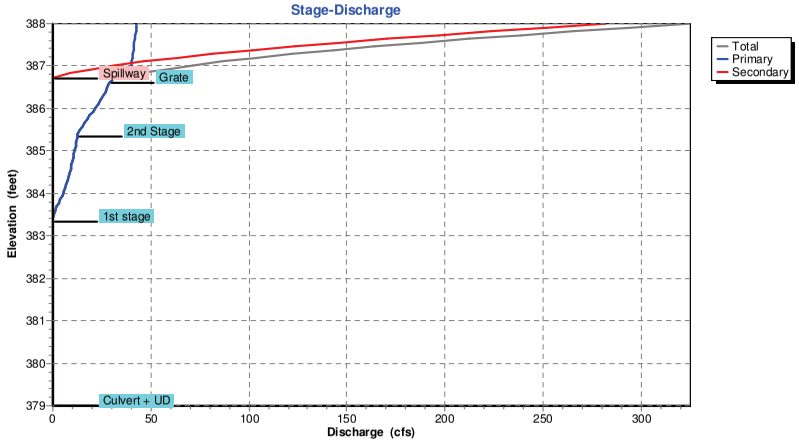
Primary OutFlow Max=17.65 cfs @ 12.04 hrs HW=385.77' (Free Discharge)
└─**1=Culvert** (Passes 17.65 cfs of 36.32 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=1st stage** (Orifice Controls 13.95 cfs @ 6.97 fps)
  ├─**5=2nd Stage** (Orifice Controls 3.69 cfs @ 2.12 fps)
  └─**6=UD** (Orifice Controls 0.02 cfs @ 12.50 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=379.00' (Free Discharge)
└─**3=Spillway** (Controls 0.00 cfs)

Pond RG2: Rain Garden #2



Pond RG2: Rain Garden #2



Hydrograph for Pond RG2: Rain Garden #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	379.00	0.00	0.00	**0.00**
2.50	0.04	52	379.07	0.00	0.00	0.00
5.00	0.17	944	380.32	0.01	0.01	0.00
7.50	0.31	2,583	383.42	0.31	0.31	0.00
10.00	**0.66**	**2,706**	**383.49**	**0.63**	**0.63**	0.00
12.50	**2.91**	**3,316**	**383.80**	**3.08**	**3.08**	0.00
15.00	0.83	2,774	383.52	0.84	0.84	0.00
17.50	0.53	2,672	383.47	0.54	0.54	0.00
20.00	0.37	2,608	383.44	0.37	0.37	0.00
22.50	0.33	2,591	383.43	0.33	0.33	0.00
25.00	0.00	2,384	383.32	0.01	0.01	0.00
27.50	0.00	2,262	383.26	0.01	0.01	0.00
30.00	0.00	2,141	383.19	0.01	0.01	0.00
32.50	0.00	2,021	383.13	0.01	0.01	0.00
35.00	0.00	1,902	383.06	0.01	0.01	0.00
37.50	0.00	1,784	382.94	0.01	0.01	0.00
40.00	0.00	1,671	382.32	0.01	0.01	0.00
42.50	0.00	1,569	381.75	0.01	0.01	0.00
45.00	0.00	1,476	381.23	0.01	0.01	0.00
47.50	0.00	1,392	380.94	0.01	0.01	0.00
50.00	0.00	1,312	380.83	0.01	0.01	0.00
52.50	0.00	1,234	380.72	0.01	0.01	0.00
55.00	0.00	1,158	380.61	0.01	0.01	0.00
57.50	0.00	1,084	380.51	0.01	0.01	0.00
60.00	0.00	1,014	380.41	0.01	0.01	0.00
62.50	0.00	945	380.32	0.01	0.01	0.00
65.00	0.00	879	380.22	0.01	0.01	0.00
67.50	0.00	815	380.14	0.01	0.01	0.00
70.00	0.00	754	380.05	0.01	0.01	0.00

Stage-Discharge for Pond RG2: Rain Garden #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
379.00	0.00	0.00	0.00
379.10	0.00	0.00	0.00
379.20	0.00	0.00	0.00
379.30	0.00	0.00	0.00
379.40	0.00	0.00	0.00
379.50	0.00	0.00	0.00
379.60	0.00	0.00	0.00
379.70	0.01	0.01	0.00
379.80	0.01	0.01	0.00
379.90	0.01	0.01	0.00
380.00	0.01	0.01	0.00
380.10	0.01	0.01	0.00
380.20	0.01	0.01	0.00
380.30	0.01	0.01	0.00
380.40	0.01	0.01	0.00
380.50	0.01	0.01	0.00
380.60	0.01	0.01	0.00
380.70	0.01	0.01	0.00
380.80	0.01	0.01	0.00
380.90	0.01	0.01	0.00
381.00	0.01	0.01	0.00
381.10	0.01	0.01	0.00
381.20	0.01	0.01	0.00
381.30	0.01	0.01	0.00
381.40	0.01	0.01	0.00
381.50	0.01	0.01	0.00
381.60	0.01	0.01	0.00
381.70	0.01	0.01	0.00
381.80	0.01	0.01	0.00
381.90	0.01	0.01	0.00
382.00	0.01	0.01	0.00
382.10	0.01	0.01	0.00
382.20	0.01	0.01	0.00
382.30	0.01	0.01	0.00
382.40	0.01	0.01	0.00
382.50	0.01	0.01	0.00
382.60	0.01	0.01	0.00
382.70	0.01	0.01	0.00
382.80	0.01	0.01	0.00
382.90	0.01	0.01	0.00
383.00	0.01	0.01	0.00
383.10	0.01	0.01	0.00
383.20	0.01	0.01	0.00
383.30	0.01	0.01	0.00
383.40	0.19	0.19	0.00
383.50	0.69	0.69	0.00
383.60	1.37	1.37	0.00
383.70	2.18	2.18	0.00
383.80	3.12	3.12	0.00
383.90	4.16	4.16	0.00
384.00	5.29	5.29	0.00
384.10	6.20	6.20	0.00
384.20	6.95	6.95	0.00
384.30	7.61	7.61	0.00
384.40	8.21	8.21	0.00
384.50	8.76	8.76	0.00
384.60	9.29	9.29	0.00
384.70	9.78	9.78	0.00
384.80	10.25	10.25	0.00
384.90	10.69	10.69	0.00
385.00	11.12	11.12	0.00
385.10	11.53	11.53	0.00
385.20	11.93	11.93	0.00
385.30	12.31	12.31	0.00
385.40	12.93	12.93	0.00
385.50	13.95	13.95	0.00
385.60	15.20	15.20	0.00
385.70	16.63	16.63	0.00
385.80	18.22	18.22	0.00
385.90	19.93	19.93	0.00
386.00	21.76	21.76	0.00
386.10	23.29	23.29	0.00
386.20	24.59	24.59	0.00
386.30	25.77	25.77	0.00
386.40	26.86	26.86	0.00
386.50	27.89	27.89	0.00
386.60	28.87	28.87	0.00
386.70	31.00	31.00	0.00
386.80	39.79	34.08	5.71
386.90	53.99	37.77	16.23
387.00	69.96	40.02	29.94
387.10	86.60	40.31	46.29
387.20	105.56	40.59	64.97
387.30	126.65	40.87	85.78
387.40	149.70	41.15	108.55
387.50	174.61	41.43	133.18
387.60	201.29	41.70	159.59
387.70	229.67	41.97	187.70
387.80	259.70	42.25	217.45
387.90	291.32	42.52	248.80
388.00	**324.49**	**42.78**	**281.70**

Summary for Pond RG3: Rain Garden #3

Inflow Area = 0.708 ac, 25.78% Impervious, Inflow Depth = 2.77" for 25-yr event
Inflow = 2.21 cfs @ 11.98 hrs, Volume= 0.164 af
Outflow = 1.97 cfs @ 12.05 hrs, Volume= 0.164 af, Atten= 11%, Lag= 3.8 min
Primary = 1.97 cfs @ 12.05 hrs, Volume= 0.164 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 396.54' @ 12.04 hrs Surf.Area= 1,817 sf Storage= 1,389 cf

Plug-Flow detention time= 203.0 min calculated for 0.164 af (100% of inflow)
Center-of-Mass det. time= 201.3 min (1,001.0 - 799.7)

Volume	Invert	Avail.Storage	Storage Description
#1	395.00'	2,978 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	393.50'	61 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 608 cf Overall x 10.0% Voids
#3	392.00'	243 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 608 cf Overall x 40.0% Voids
		3,281 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	405	0	0
398.00	1,580	2,978	2,978

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.50	405	0	0
395.00	405	608	608

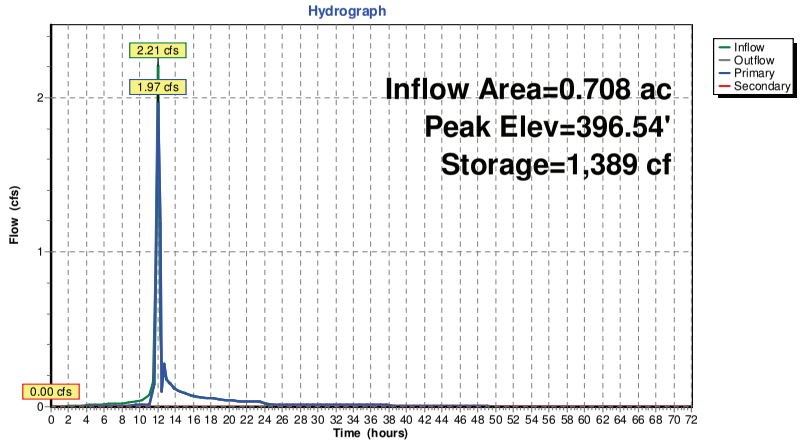
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
392.00	405	0	0
393.50	405	608	608

Device	Routing	Invert	Outlet Devices
#1	Primary	392.00'	**18.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 392.00' / 391.64' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	396.00'	**24.0" W x 4.0" H Vert. 1st Stage** C= 0.600
#3	Device 1	396.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	396.75'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 3.75 13.75 17.50 Height (feet) 1.25 0.00 0.00 1.25
#5	Device 1	391.00'	**0.5" Vert. UD** C= 0.600

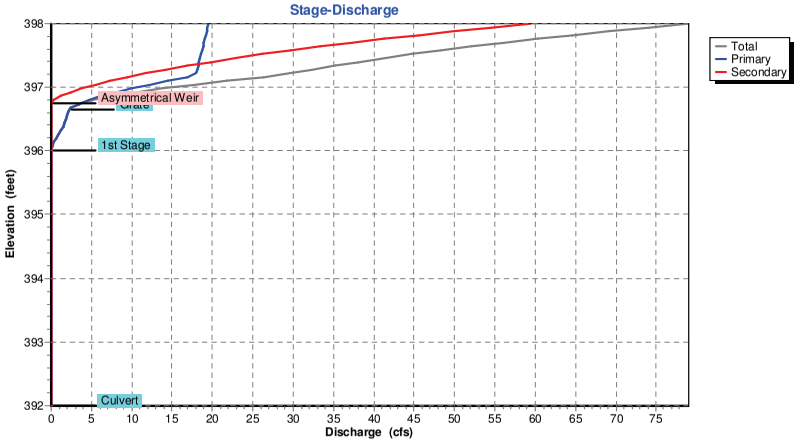
Primary OutFlow Max=1.82 cfs @ 12.05 hrs HW=396.49' (Free Discharge)
└─**1=Culvert** (Passes 1.82 cfs of 16.45 cfs potential flow)
  ├─**2=1st Stage** (Orifice Controls 1.80 cfs @ 2.71 fps)
  ├─**3=Grate** (Controls 0.00 cfs)
  └─**5=UD** (Orifice Controls 0.01 cfs @ 10.20 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' (Free Discharge)
└─**4=Asymmetrical Weir** (Controls 0.00 cfs)

Pond RG3: Rain Garden #3



Pond RG3: Rain Garden #3



Hydrograph for Pond RG3: Rain Garden #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
2.50	0.01	20	392.13	0.00	0.00	0.00
5.00	0.01	86	392.53	0.00	0.00	0.00
7.50	0.02	188	393.16	0.01	0.01	0.00
10.00	**0.04**	**359**	**395.13**	**0.01**	**0.01**	0.00
12.50	**0.29**	**945**	**396.05**	**0.09**	**0.09**	0.00
15.00	0.09	943	396.05	0.09	0.09	0.00
17.50	0.06	931	396.03	0.06	0.06	0.00
20.00	0.04	924	396.02	0.04	0.04	0.00
22.50	0.04	922	396.02	0.04	0.04	0.00
25.00	0.00	873	395.96	0.01	0.01	0.00
27.50	0.00	756	395.80	0.01	0.01	0.00
30.00	0.00	642	395.64	0.01	0.01	0.00
32.50	0.00	531	395.46	0.01	0.01	0.00
35.00	0.00	423	395.26	0.01	0.01	0.00
37.50	0.00	318	395.03	0.01	0.01	0.00
40.00	0.00	231	393.43	0.01	0.01	0.00
42.50	0.00	166	393.02	0.01	0.01	0.00
45.00	0.00	111	392.69	0.01	0.01	0.00
47.50	0.00	68	392.42	0.00	0.00	0.00
50.00	0.00	35	392.22	0.00	0.00	0.00
52.50	0.00	13	392.08	0.00	0.00	0.00
55.00	0.00	3	392.02	0.00	0.00	0.00
57.50	0.00	1	392.00	0.00	0.00	0.00
60.00	0.00	0	392.00	0.00	0.00	0.00
62.50	0.00	0	392.00	0.00	0.00	0.00
65.00	0.00	0	392.00	0.00	0.00	0.00
67.50	0.00	0	392.00	0.00	0.00	0.00
70.00	0.00	0	392.00	0.00	0.00	0.00

Stage-Discharge for Pond RG3: Rain Garden #3

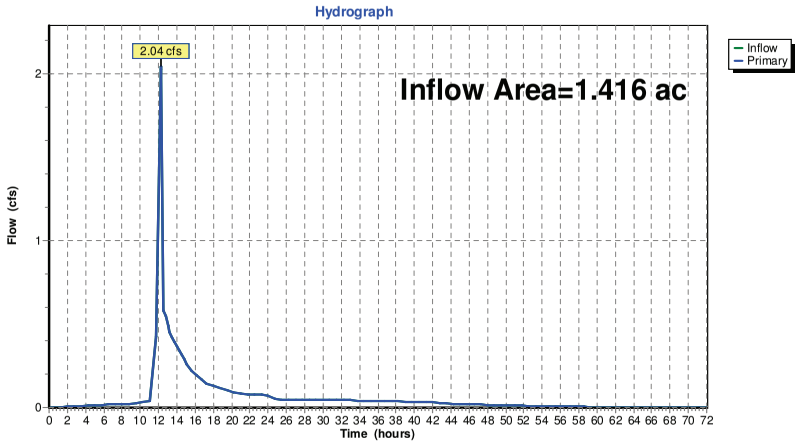
Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
392.00	0.00	0.00	0.00
392.10	0.00	0.00	0.00
392.20	0.00	0.00	0.00
392.30	0.00	0.00	0.00
392.40	0.00	0.00	0.00
392.50	0.00	0.00	0.00
392.60	0.01	0.01	0.00
392.70	0.01	0.01	0.00
392.80	0.01	0.01	0.00
392.90	0.01	0.01	0.00
393.00	0.01	0.01	0.00
393.10	0.01	0.01	0.00
393.20	0.01	0.01	0.00
393.30	0.01	0.01	0.00
393.40	0.01	0.01	0.00
393.50	0.01	0.01	0.00
393.60	0.01	0.01	0.00
393.70	0.01	0.01	0.00
393.80	0.01	0.01	0.00
393.90	0.01	0.01	0.00
394.00	0.01	0.01	0.00
394.10	0.01	0.01	0.00
394.20	0.01	0.01	0.00
394.30	0.01	0.01	0.00
394.40	0.01	0.01	0.00
394.50	0.01	0.01	0.00
394.60	0.01	0.01	0.00
394.70	0.01	0.01	0.00
394.80	0.01	0.01	0.00
394.90	0.01	0.01	0.00
395.00	0.01	0.01	0.00
395.10	0.01	0.01	0.00
395.20	0.01	0.01	0.00
395.30	0.01	0.01	0.00
395.40	0.01	0.01	0.00
395.50	0.01	0.01	0.00
395.60	0.01	0.01	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.22	0.22	0.00
396.20	0.59	0.59	0.00
396.30	1.07	1.07	0.00
396.40	1.53	1.53	0.00
396.50	1.85	1.85	0.00
396.60	2.11	2.11	0.00
396.70	2.77	2.77	0.00
396.80	5.12	4.75	0.37
396.90	9.44	7.47	1.97
397.00	15.08	10.75	4.33
397.10	21.84	14.50	7.34
397.20	28.89	17.95	10.94
397.30	33.25	18.15	15.10
397.40	38.16	18.35	19.81
397.50	43.61	18.54	25.06
397.60	49.59	18.74	30.85
397.70	56.11	18.93	37.18
397.80	63.17	19.12	44.05
397.90	70.77	19.31	51.46
398.00	**78.91**	**19.50**	**59.41**

Summary for Link 1L: INF Trench Collection

Inflow Area = 1.416 ac, 28.90% Impervious, Inflow Depth = 2.89" for 25-yr event
Inflow = 2.04 cfs @ 12.22 hrs, Volume= 0.341 af
Primary = 2.04 cfs @ 12.22 hrs, Volume= 0.341 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link 1L: INF Trench Collection



Hydrograph for Link 1L: INF Trench Collection

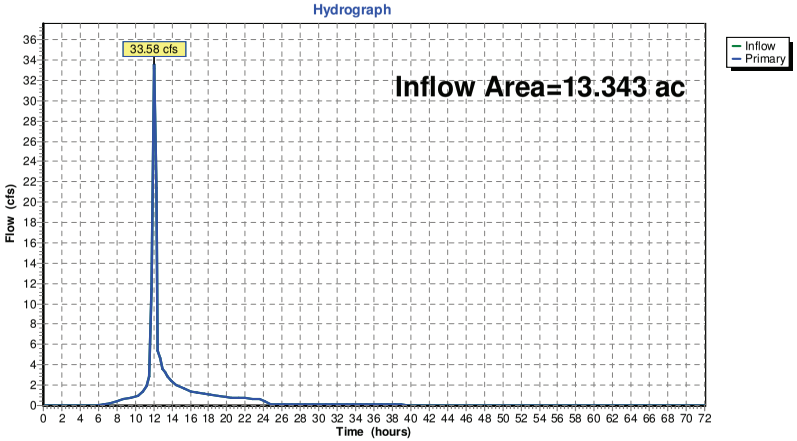
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.01	0.00	0.01	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.02	0.00	0.02	70.00	0.00	0.00	0.00
7.50	0.02	0.00	0.02	71.25	0.00	0.00	0.00
8.75	0.02	0.00	0.02				
10.00	0.03	0.00	0.03				
11.25	**0.04**	0.00	**0.04**				
12.50	**0.58**	0.00	**0.58**				
13.75	0.39	0.00	0.39				
15.00	0.27	0.00	0.27				
16.25	0.18	0.00	0.18				
17.50	0.14	0.00	0.14				
18.75	0.11	0.00	0.11				
20.00	0.09	0.00	0.09				
21.25	0.08	0.00	0.08				
22.50	0.08	0.00	0.08				
23.75	0.07	0.00	0.07				
25.00	0.05	0.00	0.05				
26.25	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.75	0.04	0.00	0.04				
30.00	0.04	0.00	0.04				
31.25	0.04	0.00	0.04				
32.50	0.04	0.00	0.04				
33.75	0.04	0.00	0.04				
35.00	0.04	0.00	0.04				
36.25	0.04	0.00	0.04				
37.50	0.04	0.00	0.04				
38.75	0.04	0.00	0.04				
40.00	0.03	0.00	0.03				
41.25	0.03	0.00	0.03				
42.50	0.03	0.00	0.03				
43.75	0.02	0.00	0.02				
45.00	0.02	0.00	0.02				
46.25	0.02	0.00	0.02				
47.50	0.02	0.00	0.02				
48.75	0.01	0.00	0.01				
50.00	0.01	0.00	0.01				
51.25	0.01	0.00	0.01				
52.50	0.01	0.00	0.01				
53.75	0.01	0.00	0.01				
55.00	0.01	0.00	0.01				
56.25	0.01	0.00	0.01				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link POI East: Prop POI East

Inflow Area = 13.343 ac, 28.42% Impervious, Inflow Depth > 2.91" for 25-yr event
Inflow = 33.58 cfs @ 12.04 hrs, Volume= 3.236 af
Primary = 33.58 cfs @ 12.04 hrs, Volume= 3.236 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link POI East: Prop POI East



Hydrograph for Link POI East: Prop POI East

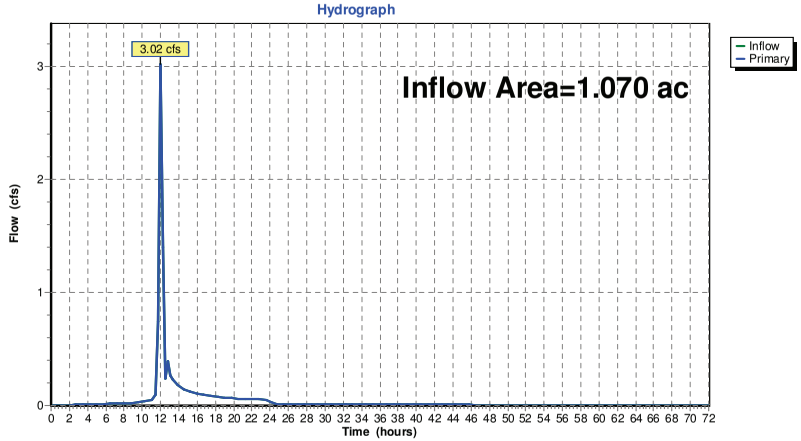
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.01	0.00	0.01
1.25	0.00	0.00	0.00	65.00	0.01	0.00	0.01
2.50	0.01	0.00	0.01	66.25	0.01	0.00	0.01
3.75	0.02	0.00	0.02	67.50	0.01	0.00	0.01
5.00	0.03	0.00	0.03	68.75	0.01	0.00	0.01
6.25	0.05	0.00	0.05	70.00	0.01	0.00	0.01
7.50	0.36	0.00	0.36	71.25	0.01	0.00	0.01
8.75	0.58	0.00	0.58				
10.00	0.83	0.00	0.83				
11.25	**1.96**	0.00	**1.96**				
12.50	**5.41**	0.00	**5.41**				
13.75	2.58	0.00	2.58				
15.00	1.79	0.00	1.79				
16.25	1.32	0.00	1.32				
17.50	1.13	0.00	1.13				
18.75	0.95	0.00	0.95				
20.00	0.78	0.00	0.78				
21.25	0.72	0.00	0.72				
22.50	0.69	0.00	0.69				
23.75	0.65	0.00	0.65				
25.00	0.07	0.00	0.07				
26.25	0.07	0.00	0.07				
27.50	0.07	0.00	0.07				
28.75	0.07	0.00	0.07				
30.00	0.07	0.00	0.07				
31.25	0.07	0.00	0.07				
32.50	0.06	0.00	0.06				
33.75	0.06	0.00	0.06				
35.00	0.06	0.00	0.06				
36.25	0.06	0.00	0.06				
37.50	0.06	0.00	0.06				
38.75	0.05	0.00	0.05				
40.00	0.05	0.00	0.05				
41.25	0.05	0.00	0.05				
42.50	0.04	0.00	0.04				
43.75	0.04	0.00	0.04				
45.00	0.04	0.00	0.04				
46.25	0.03	0.00	0.03				
47.50	0.03	0.00	0.03				
48.75	0.03	0.00	0.03				
50.00	0.02	0.00	0.02				
51.25	0.02	0.00	0.02				
52.50	0.02	0.00	0.02				
53.75	0.02	0.00	0.02				
55.00	0.02	0.00	0.02				
56.25	0.02	0.00	0.02				
57.50	0.01	0.00	0.01				
58.75	0.01	0.00	0.01				
60.00	0.01	0.00	0.01				
61.25	0.01	0.00	0.01				
62.50	0.01	0.00	0.01				

Summary for Link PR POI W: PR POI - West

Inflow Area = 1.070 ac, 25.17% Impervious, Inflow Depth = 2.75" for 25-yr event
Inflow = 3.02 cfs @ 12.02 hrs, Volume= 0.245 af
Primary = 3.02 cfs @ 12.02 hrs, Volume= 0.245 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link PR POI W: PR POI - West



Hydrograph for Link PR POI W: PR POI - West

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.01	0.00	0.01	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.01	0.00	0.01	70.00	0.00	0.00	0.00
7.50	0.02	0.00	0.02	71.25	0.00	0.00	0.00
8.75	0.02	0.00	0.02				
10.00	0.03	0.00	0.03				
11.25	**0.06**	0.00	**0.06**				
12.50	**0.24**	0.00	**0.24**				
13.75	0.19	0.00	0.19				
15.00	0.13	0.00	0.13				
16.25	0.10	0.00	0.10				
17.50	0.09	0.00	0.09				
18.75	0.07	0.00	0.07				
20.00	0.06	0.00	0.06				
21.25	0.06	0.00	0.06				
22.50	0.05	0.00	0.05				
23.75	0.05	0.00	0.05				
25.00	0.01	0.00	0.01				
26.25	0.01	0.00	0.01				
27.50	0.01	0.00	0.01				
28.75	0.01	0.00	0.01				
30.00	0.01	0.00	0.01				
31.25	0.01	0.00	0.01				
32.50	0.01	0.00	0.01				
33.75	0.01	0.00	0.01				
35.00	0.01	0.00	0.01				
36.25	0.01	0.00	0.01				
37.50	0.01	0.00	0.01				
38.75	0.01	0.00	0.01				
40.00	0.01	0.00	0.01				
41.25	0.01	0.00	0.01				
42.50	0.01	0.00	0.01				
43.75	0.01	0.00	0.01				
45.00	0.01	0.00	0.01				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment Gr 1-6: PR Grass (1-6)

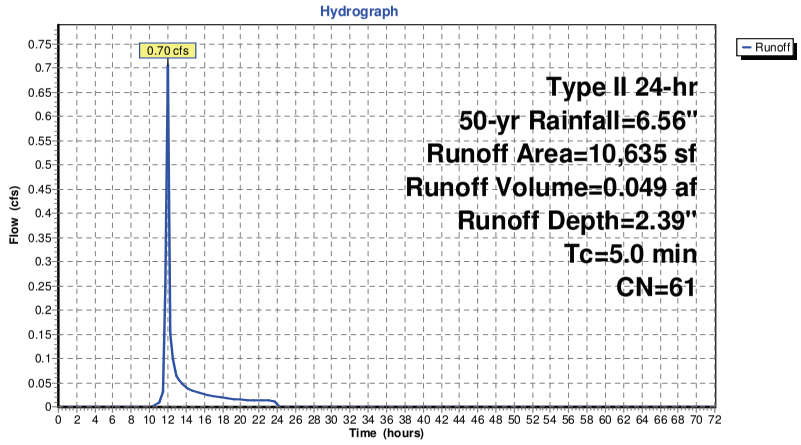
Runoff = 0.70 cfs @ 11.99 hrs, Volume= 0.049 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
10,635	61	>75% Grass cover, Good, HSG B
10,635		100.00% Pervious Area

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

Subcatchment Gr 1-6: PR Grass (1-6)



Hydrograph for Subcatchment Gr 1-6: PR Grass (1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.39	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.39	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.39	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.39	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.02	**0.01**				
12.50	4.82	1.26	**0.10**				
13.75	5.31	1.56	0.04				
15.00	5.60	1.74	0.03				
16.25	5.81	1.88	0.02				
17.50	5.98	1.99	0.02				
18.75	6.13	2.09	0.02				
20.00	6.25	2.17	0.01				
21.25	6.35	2.24	0.01				
22.50	6.45	2.31	0.01				
23.75	**6.54**	**2.38**	0.01				
25.00	**6.56**	**2.39**	0.00				
26.25	6.56	2.39	0.00				
27.50	6.56	2.39	0.00				
28.75	6.56	2.39	0.00				
30.00	6.56	2.39	0.00				
31.25	6.56	2.39	0.00				
32.50	6.56	2.39	0.00				
33.75	6.56	2.39	0.00				
35.00	6.56	2.39	0.00				
36.25	6.56	2.39	0.00				
37.50	6.56	2.39	0.00				
38.75	6.56	2.39	0.00				
40.00	6.56	2.39	0.00				
41.25	6.56	2.39	0.00				
42.50	6.56	2.39	0.00				
43.75	6.56	2.39	0.00				
45.00	6.56	2.39	0.00				
46.25	6.56	2.39	0.00				
47.50	6.56	2.39	0.00				
48.75	6.56	2.39	0.00				
50.00	6.56	2.39	0.00				
51.25	6.56	2.39	0.00				
52.50	6.56	2.39	0.00				
53.75	6.56	2.39	0.00				
55.00	6.56	2.39	0.00				
56.25	6.56	2.39	0.00				
57.50	6.56	2.39	0.00				
58.75	6.56	2.39	0.00				
60.00	6.56	2.39	0.00				
61.25	6.56	2.39	0.00				
62.50	6.56	2.39	0.00				

Summary for Subcatchment Gr 14-17: PR Grass (14-17)

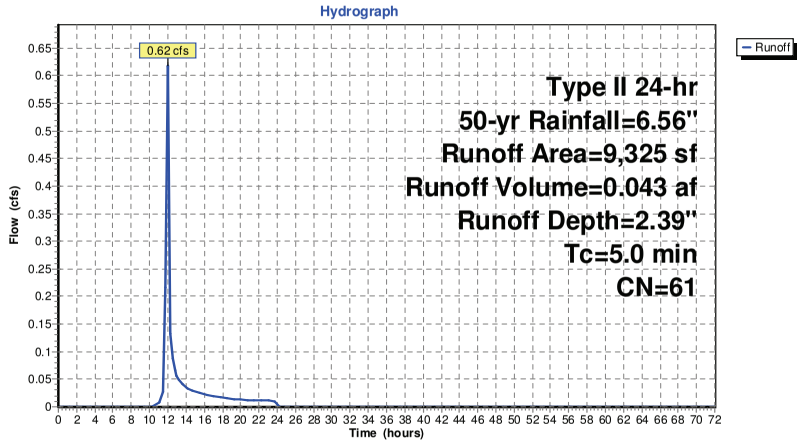
Runoff = 0.62 cfs @ 11.99 hrs, Volume= 0.043 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
9,325	61	>75% Grass cover, Good, HSG B
9,325		100.00% Pervious Area

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

Subcatchment Gr 14-17: PR Grass (14-17)



Hydrograph for Subcatchment Gr 14-17: PR Grass (14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.39	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.39	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.39	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.39	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.02	**0.01**				
12.50	4.82	1.26	**0.09**				
13.75	5.31	1.56	0.04				
15.00	5.60	1.74	0.03				
16.25	5.81	1.88	0.02				
17.50	5.98	1.99	0.02				
18.75	6.13	2.09	0.02				
20.00	6.25	2.17	0.01				
21.25	6.35	2.24	0.01				
22.50	6.45	2.31	0.01				
23.75	**6.54**	**2.38**	0.01				
25.00	**6.56**	**2.39**	0.00				
26.25	6.56	2.39	0.00				
27.50	6.56	2.39	0.00				
28.75	6.56	2.39	0.00				
30.00	6.56	2.39	0.00				
31.25	6.56	2.39	0.00				
32.50	6.56	2.39	0.00				
33.75	6.56	2.39	0.00				
35.00	6.56	2.39	0.00				
36.25	6.56	2.39	0.00				
37.50	6.56	2.39	0.00				
38.75	6.56	2.39	0.00				
40.00	6.56	2.39	0.00				
41.25	6.56	2.39	0.00				
42.50	6.56	2.39	0.00				
43.75	6.56	2.39	0.00				
45.00	6.56	2.39	0.00				
46.25	6.56	2.39	0.00				
47.50	6.56	2.39	0.00				
48.75	6.56	2.39	0.00				
50.00	6.56	2.39	0.00				
51.25	6.56	2.39	0.00				
52.50	6.56	2.39	0.00				
53.75	6.56	2.39	0.00				
55.00	6.56	2.39	0.00				
56.25	6.56	2.39	0.00				
57.50	6.56	2.39	0.00				
58.75	6.56	2.39	0.00				
60.00	6.56	2.39	0.00				
61.25	6.56	2.39	0.00				
62.50	6.56	2.39	0.00				

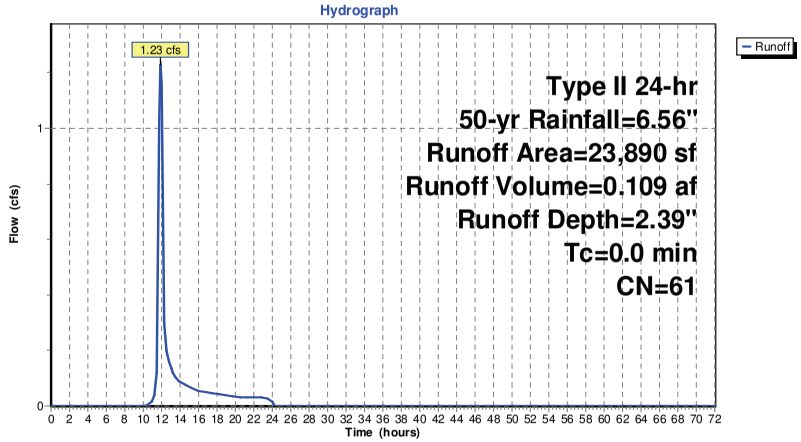
Summary for Subcatchment Gr 7-13: PR Grass (7-13)

Runoff = 1.23 cfs @ 11.91 hrs, Volume= 0.109 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
23,890	61	>75% Grass cover, Good, HSG B
23,890		100.00% Pervious Area

Subcatchment Gr 7-13: PR Grass (7-13)



Hydrograph for Subcatchment Gr 7-13: PR Grass (7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.39	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.39	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.39	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.39	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.02	**0.04**				
12.50	4.82	1.26	**0.20**				
13.75	5.31	1.56	0.10				
15.00	5.60	1.74	0.07				
16.25	5.81	1.88	0.05				
17.50	5.98	1.99	0.05				
18.75	6.13	2.09	0.04				
20.00	6.25	2.17	0.03				
21.25	6.35	2.24	0.03				
22.50	6.45	2.31	0.03				
23.75	**6.54**	**2.38**	0.03				
25.00	**6.56**	**2.39**	0.00				
26.25	6.56	2.39	0.00				
27.50	6.56	2.39	0.00				
28.75	6.56	2.39	0.00				
30.00	6.56	2.39	0.00				
31.25	6.56	2.39	0.00				
32.50	6.56	2.39	0.00				
33.75	6.56	2.39	0.00				
35.00	6.56	2.39	0.00				
36.25	6.56	2.39	0.00				
37.50	6.56	2.39	0.00				
38.75	6.56	2.39	0.00				
40.00	6.56	2.39	0.00				
41.25	6.56	2.39	0.00				
42.50	6.56	2.39	0.00				
43.75	6.56	2.39	0.00				
45.00	6.56	2.39	0.00				
46.25	6.56	2.39	0.00				
47.50	6.56	2.39	0.00				
48.75	6.56	2.39	0.00				
50.00	6.56	2.39	0.00				
51.25	6.56	2.39	0.00				
52.50	6.56	2.39	0.00				
53.75	6.56	2.39	0.00				
55.00	6.56	2.39	0.00				
56.25	6.56	2.39	0.00				
57.50	6.56	2.39	0.00				
58.75	6.56	2.39	0.00				
60.00	6.56	2.39	0.00				
61.25	6.56	2.39	0.00				
62.50	6.56	2.39	0.00				

Summary for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

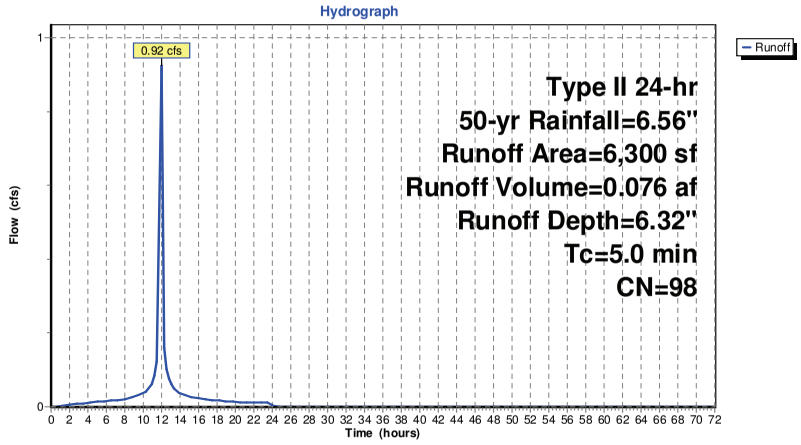
Runoff = 0.92 cfs @ 11.96 hrs, Volume= 0.076 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
6,300	98	Roofs, HSG B
6,300		100.00% Impervious Area

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

Subcatchment Imp 1-6: PR Imp (Roof 1-6)



Hydrograph for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	6.32	0.00
1.25	0.09	0.01	0.00	65.00	6.56	6.32	0.00
2.50	0.18	0.06	0.01	66.25	6.56	6.32	0.00
3.75	0.29	0.14	0.01	67.50	6.56	6.32	0.00
5.00	0.41	0.24	0.01	68.75	6.56	6.32	0.00
6.25	0.55	0.37	0.02	70.00	6.56	6.32	0.00
7.50	0.72	0.52	0.02	71.25	6.56	6.32	0.00
8.75	0.91	0.71	0.03				
10.00	1.19	0.97	0.04				
11.25	1.68	1.46	**0.08**				
12.50	4.82	4.59	**0.10**				
13.75	5.31	5.08	0.04				
15.00	5.60	5.36	0.03				
16.25	5.81	5.57	0.02				
17.50	5.98	5.74	0.02				
18.75	6.13	5.89	0.02				
20.00	6.25	6.01	0.01				
21.25	6.35	6.11	0.01				
22.50	6.45	6.21	0.01				
23.75	**6.54**	**6.30**	0.01				
25.00	**6.56**	**6.32**	0.00				
26.25	6.56	6.32	0.00				
27.50	6.56	6.32	0.00				
28.75	6.56	6.32	0.00				
30.00	6.56	6.32	0.00				
31.25	6.56	6.32	0.00				
32.50	6.56	6.32	0.00				
33.75	6.56	6.32	0.00				
35.00	6.56	6.32	0.00				
36.25	6.56	6.32	0.00				
37.50	6.56	6.32	0.00				
38.75	6.56	6.32	0.00				
40.00	6.56	6.32	0.00				
41.25	6.56	6.32	0.00				
42.50	6.56	6.32	0.00				
43.75	6.56	6.32	0.00				
45.00	6.56	6.32	0.00				
46.25	6.56	6.32	0.00				
47.50	6.56	6.32	0.00				
48.75	6.56	6.32	0.00				
50.00	6.56	6.32	0.00				
51.25	6.56	6.32	0.00				
52.50	6.56	6.32	0.00				
53.75	6.56	6.32	0.00				
55.00	6.56	6.32	0.00				
56.25	6.56	6.32	0.00				
57.50	6.56	6.32	0.00				
58.75	6.56	6.32	0.00				
60.00	6.56	6.32	0.00				
61.25	6.56	6.32	0.00				
62.50	6.56	6.32	0.00				

Summary for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

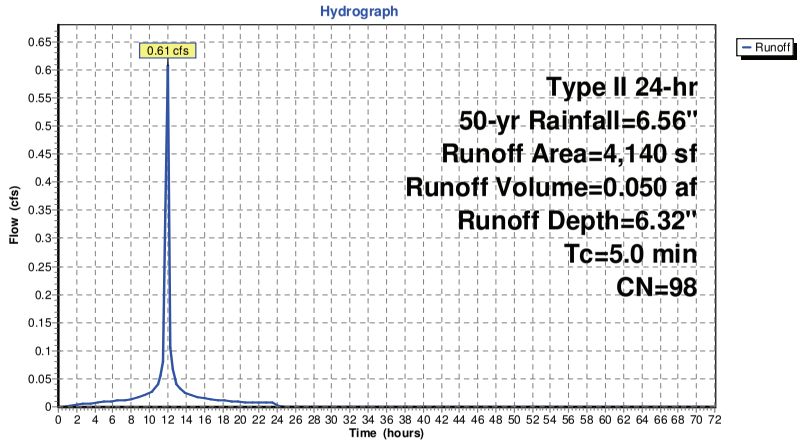
Runoff = 0.61 cfs @ 11.96 hrs, Volume= 0.050 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
4,140	98	Roofs, HSG B
4,140		100.00% Impervious Area

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

Subcatchment Imp 14-17: PR Imp (Roof 14-17)



Hydrograph for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	6.32	0.00
1.25	0.09	0.01	0.00	65.00	6.56	6.32	0.00
2.50	0.18	0.06	0.01	66.25	6.56	6.32	0.00
3.75	0.29	0.14	0.01	67.50	6.56	6.32	0.00
5.00	0.41	0.24	0.01	68.75	6.56	6.32	0.00
6.25	0.55	0.37	0.01	70.00	6.56	6.32	0.00
7.50	0.72	0.52	0.01	71.25	6.56	6.32	0.00
8.75	0.91	0.71	0.02				
10.00	1.19	0.97	0.02				
11.25	1.68	1.46	**0.05**				
12.50	4.82	4.59	**0.07**				
13.75	5.31	5.08	0.03				
15.00	5.60	5.36	0.02				
16.25	5.81	5.57	0.01				
17.50	5.98	5.74	0.01				
18.75	6.13	5.89	0.01				
20.00	6.25	6.01	0.01				
21.25	6.35	6.11	0.01				
22.50	6.45	6.21	0.01				
23.75	**6.54**	**6.30**	0.01				
25.00	**6.56**	**6.32**	0.00				
26.25	6.56	6.32	0.00				
27.50	6.56	6.32	0.00				
28.75	6.56	6.32	0.00				
30.00	6.56	6.32	0.00				
31.25	6.56	6.32	0.00				
32.50	6.56	6.32	0.00				
33.75	6.56	6.32	0.00				
35.00	6.56	6.32	0.00				
36.25	6.56	6.32	0.00				
37.50	6.56	6.32	0.00				
38.75	6.56	6.32	0.00				
40.00	6.56	6.32	0.00				
41.25	6.56	6.32	0.00				
42.50	6.56	6.32	0.00				
43.75	6.56	6.32	0.00				
45.00	6.56	6.32	0.00				
46.25	6.56	6.32	0.00				
47.50	6.56	6.32	0.00				
48.75	6.56	6.32	0.00				
50.00	6.56	6.32	0.00				
51.25	6.56	6.32	0.00				
52.50	6.56	6.32	0.00				
53.75	6.56	6.32	0.00				
55.00	6.56	6.32	0.00				
56.25	6.56	6.32	0.00				
57.50	6.56	6.32	0.00				
58.75	6.56	6.32	0.00				
60.00	6.56	6.32	0.00				
61.25	6.56	6.32	0.00				
62.50	6.56	6.32	0.00				

Summary for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

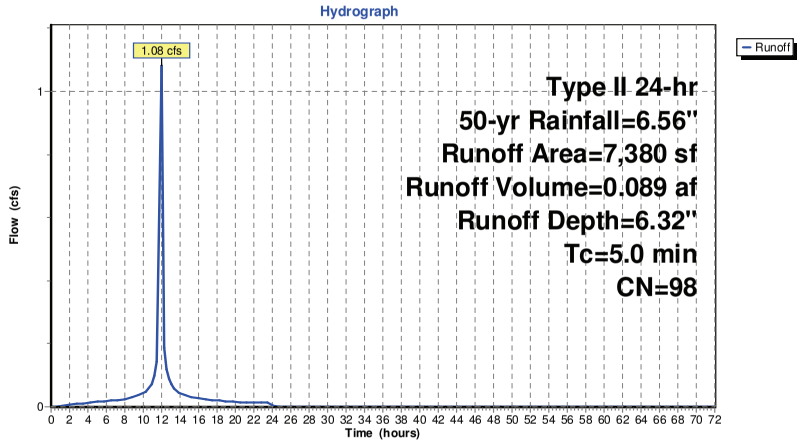
Runoff = 1.08 cfs @ 11.96 hrs, Volume= 0.089 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
7,380	98	Roofs, HSG B
7,380		100.00% Impervious Area

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

Subcatchment Imp 7-13: PR Imp (Roof 7-13)



Hydrograph for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	6.32	0.00
1.25	0.09	0.01	0.00	65.00	6.56	6.32	0.00
2.50	0.18	0.06	0.01	66.25	6.56	6.32	0.00
3.75	0.29	0.14	0.01	67.50	6.56	6.32	0.00
5.00	0.41	0.24	0.02	68.75	6.56	6.32	0.00
6.25	0.55	0.37	0.02	70.00	6.56	6.32	0.00
7.50	0.72	0.52	0.02	71.25	6.56	6.32	0.00
8.75	0.91	0.71	0.03				
10.00	1.19	0.97	0.04				
11.25	1.68	1.46	**0.10**				
12.50	4.82	4.59	**0.12**				
13.75	5.31	5.08	0.05				
15.00	5.60	5.36	0.03				
16.25	5.81	5.57	0.03				
17.50	5.98	5.74	0.02				
18.75	6.13	5.89	0.02				
20.00	6.25	6.01	0.01				
21.25	6.35	6.11	0.01				
22.50	6.45	6.21	0.01				
23.75	**6.54**	**6.30**	0.01				
25.00	**6.56**	**6.32**	0.00				
26.25	6.56	6.32	0.00				
27.50	6.56	6.32	0.00				
28.75	6.56	6.32	0.00				
30.00	6.56	6.32	0.00				
31.25	6.56	6.32	0.00				
32.50	6.56	6.32	0.00				
33.75	6.56	6.32	0.00				
35.00	6.56	6.32	0.00				
36.25	6.56	6.32	0.00				
37.50	6.56	6.32	0.00				
38.75	6.56	6.32	0.00				
40.00	6.56	6.32	0.00				
41.25	6.56	6.32	0.00				
42.50	6.56	6.32	0.00				
43.75	6.56	6.32	0.00				
45.00	6.56	6.32	0.00				
46.25	6.56	6.32	0.00				
47.50	6.56	6.32	0.00				
48.75	6.56	6.32	0.00				
50.00	6.56	6.32	0.00				
51.25	6.56	6.32	0.00				
52.50	6.56	6.32	0.00				
53.75	6.56	6.32	0.00				
55.00	6.56	6.32	0.00				
56.25	6.56	6.32	0.00				
57.50	6.56	6.32	0.00				
58.75	6.56	6.32	0.00				
60.00	6.56	6.32	0.00				
61.25	6.56	6.32	0.00				
62.50	6.56	6.32	0.00				

Summary for Subcatchment PR RG2 Gr: PR Grass RG2

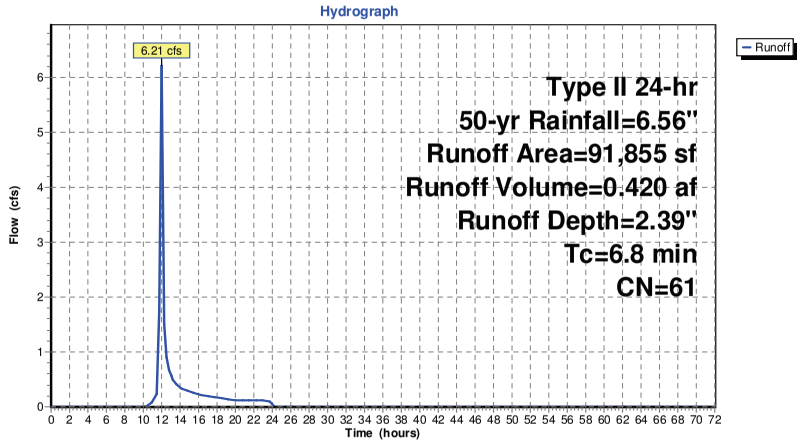
Runoff = 6.21 cfs @ 12.00 hrs, Volume= 0.420 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
91,855	61	>75% Grass cover, Good, HSG B
91,855		100.00% Pervious Area

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

Subcatchment PR RG2 Gr: PR Grass RG2



Hydrograph for Subcatchment PR RG2 Gr: PR Grass RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.39	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.39	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.39	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.39	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.02	**0.12**				
12.50	4.82	1.26	**0.90**				
13.75	5.31	1.56	0.38				
15.00	5.60	1.74	0.28				
16.25	5.81	1.88	0.21				
17.50	5.98	1.99	0.18				
18.75	6.13	2.09	0.15				
20.00	6.25	2.17	0.13				
21.25	6.35	2.24	0.12				
22.50	6.45	2.31	0.11				
23.75	**6.54**	**2.38**	0.11				
25.00	**6.56**	**2.39**	0.00				
26.25	6.56	2.39	0.00				
27.50	6.56	2.39	0.00				
28.75	6.56	2.39	0.00				
30.00	6.56	2.39	0.00				
31.25	6.56	2.39	0.00				
32.50	6.56	2.39	0.00				
33.75	6.56	2.39	0.00				
35.00	6.56	2.39	0.00				
36.25	6.56	2.39	0.00				
37.50	6.56	2.39	0.00				
38.75	6.56	2.39	0.00				
40.00	6.56	2.39	0.00				
41.25	6.56	2.39	0.00				
42.50	6.56	2.39	0.00				
43.75	6.56	2.39	0.00				
45.00	6.56	2.39	0.00				
46.25	6.56	2.39	0.00				
47.50	6.56	2.39	0.00				
48.75	6.56	2.39	0.00				
50.00	6.56	2.39	0.00				
51.25	6.56	2.39	0.00				
52.50	6.56	2.39	0.00				
53.75	6.56	2.39	0.00				
55.00	6.56	2.39	0.00				
56.25	6.56	2.39	0.00				
57.50	6.56	2.39	0.00				
58.75	6.56	2.39	0.00				
60.00	6.56	2.39	0.00				
61.25	6.56	2.39	0.00				
62.50	6.56	2.39	0.00				

Summary for Subcatchment PR RG2 Imp: PR Imp RG2

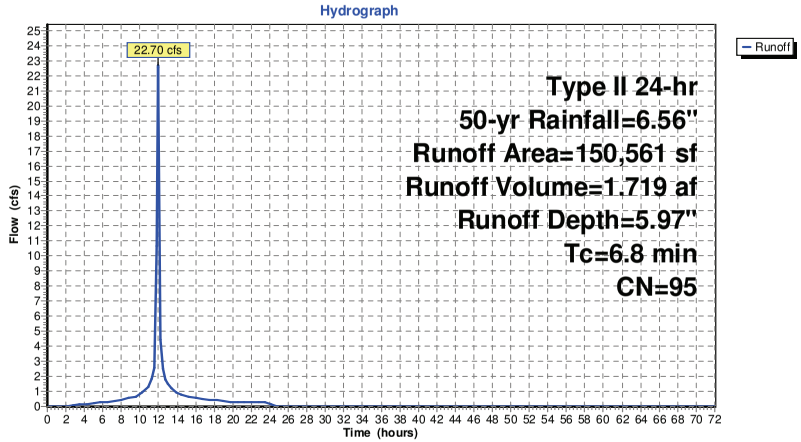
Runoff = 22.70 cfs @ 11.97 hrs, Volume= 1.719 af, Depth= 5.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
62,832	98	Paved roads w/curbs & sewers, HSG B
36,249	85	Gravel roads, HSG B
51,480	98	Roofs, HSG B
150,561	95	Weighted Average
36,249		24.08% Pervious Area
114,312		75.92% Impervious Area

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

Subcatchment PR RG2 Imp: PR Imp RG2



Hydrograph for Subcatchment PR RG2 Imp: PR Imp RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	5.97	0.00
1.25	0.09	0.00	0.00	65.00	6.56	5.97	0.00
2.50	0.18	0.01	0.06	66.25	6.56	5.97	0.00
3.75	0.29	0.05	0.14	67.50	6.56	5.97	0.00
5.00	0.41	0.11	0.21	68.75	6.56	5.97	0.00
6.25	0.55	0.21	0.29	70.00	6.56	5.97	0.00
7.50	0.72	0.33	0.37	71.25	6.56	5.97	0.00
8.75	0.91	0.49	0.55				
10.00	1.19	0.73	0.78				
11.25	1.68	1.18	**1.84**				
12.50	4.82	4.24	**2.53**				
13.75	5.31	4.73	1.00				
15.00	5.60	5.01	0.70				
16.25	5.81	5.22	0.51				
17.50	5.98	5.39	0.44				
18.75	6.13	5.54	0.37				
20.00	6.25	5.66	0.30				
21.25	6.35	5.76	0.28				
22.50	6.45	5.86	0.27				
23.75	**6.54**	**5.95**	0.25				
25.00	**6.56**	**5.97**	0.00				
26.25	6.56	5.97	0.00				
27.50	6.56	5.97	0.00				
28.75	6.56	5.97	0.00				
30.00	6.56	5.97	0.00				
31.25	6.56	5.97	0.00				
32.50	6.56	5.97	0.00				
33.75	6.56	5.97	0.00				
35.00	6.56	5.97	0.00				
36.25	6.56	5.97	0.00				
37.50	6.56	5.97	0.00				
38.75	6.56	5.97	0.00				
40.00	6.56	5.97	0.00				
41.25	6.56	5.97	0.00				
42.50	6.56	5.97	0.00				
43.75	6.56	5.97	0.00				
45.00	6.56	5.97	0.00				
46.25	6.56	5.97	0.00				
47.50	6.56	5.97	0.00				
48.75	6.56	5.97	0.00				
50.00	6.56	5.97	0.00				
51.25	6.56	5.97	0.00				
52.50	6.56	5.97	0.00				
53.75	6.56	5.97	0.00				
55.00	6.56	5.97	0.00				
56.25	6.56	5.97	0.00				
57.50	6.56	5.97	0.00				
58.75	6.56	5.97	0.00				
60.00	6.56	5.97	0.00				
61.25	6.56	5.97	0.00				
62.50	6.56	5.97	0.00				

Summary for Subcatchment PR RG3 Gr: PR Grass RG3

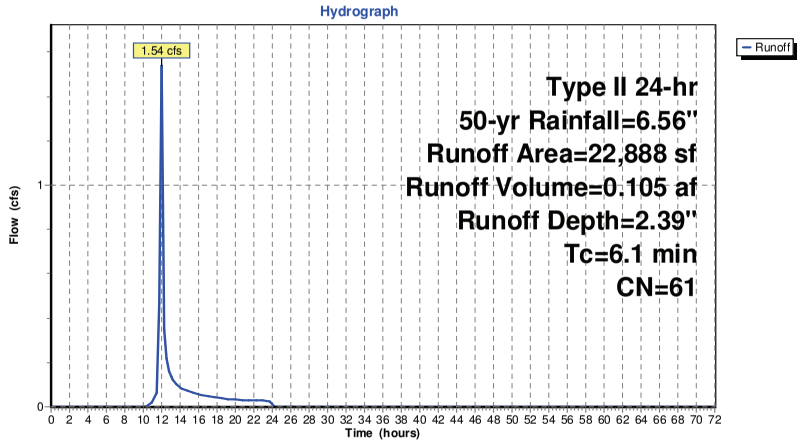
Runoff = 1.54 cfs @ 11.99 hrs, Volume= 0.105 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
22,888	61	>75% Grass cover, Good, HSG B
22,888		100.00% Pervious Area

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

Subcatchment PR RG3 Gr: PR Grass RG3



Hydrograph for Subcatchment PR RG3 Gr: PR Grass RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.39	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.39	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.39	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.39	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.02	**0.03**				
12.50	4.82	1.26	**0.22**				
13.75	5.31	1.56	0.09				
15.00	5.60	1.74	0.07				
16.25	5.81	1.88	0.05				
17.50	5.98	1.99	0.05				
18.75	6.13	2.09	0.04				
20.00	6.25	2.17	0.03				
21.25	6.35	2.24	0.03				
22.50	6.45	2.31	0.03				
23.75	**6.54**	**2.38**	0.03				
25.00	**6.56**	**2.39**	0.00				
26.25	6.56	2.39	0.00				
27.50	6.56	2.39	0.00				
28.75	6.56	2.39	0.00				
30.00	6.56	2.39	0.00				
31.25	6.56	2.39	0.00				
32.50	6.56	2.39	0.00				
33.75	6.56	2.39	0.00				
35.00	6.56	2.39	0.00				
36.25	6.56	2.39	0.00				
37.50	6.56	2.39	0.00				
38.75	6.56	2.39	0.00				
40.00	6.56	2.39	0.00				
41.25	6.56	2.39	0.00				
42.50	6.56	2.39	0.00				
43.75	6.56	2.39	0.00				
45.00	6.56	2.39	0.00				
46.25	6.56	2.39	0.00				
47.50	6.56	2.39	0.00				
48.75	6.56	2.39	0.00				
50.00	6.56	2.39	0.00				
51.25	6.56	2.39	0.00				
52.50	6.56	2.39	0.00				
53.75	6.56	2.39	0.00				
55.00	6.56	2.39	0.00				
56.25	6.56	2.39	0.00				
57.50	6.56	2.39	0.00				
58.75	6.56	2.39	0.00				
60.00	6.56	2.39	0.00				
61.25	6.56	2.39	0.00				
62.50	6.56	2.39	0.00				

Summary for Subcatchment PR RG3 Imp: PR Imp RG3

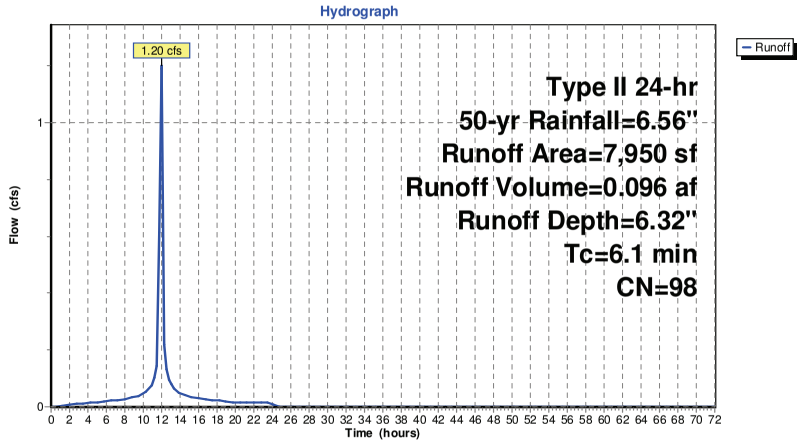
Runoff = 1.20 cfs @ 11.97 hrs, Volume= 0.096 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
7,950	98	Paved parking, HSG B
7,950		100.00% Impervious Area

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

Subcatchment PR RG3 Imp: PR Imp RG3



Hydrograph for Subcatchment PR RG3 Imp: PR Imp RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	6.32	0.00
1.25	0.09	0.01	0.00	65.00	6.56	6.32	0.00
2.50	0.18	0.06	0.01	66.25	6.56	6.32	0.00
3.75	0.29	0.14	0.01	67.50	6.56	6.32	0.00
5.00	0.41	0.24	0.02	68.75	6.56	6.32	0.00
6.25	0.55	0.37	0.02	70.00	6.56	6.32	0.00
7.50	0.72	0.52	0.02	71.25	6.56	6.32	0.00
8.75	0.91	0.71	0.03				
10.00	1.19	0.97	0.05				
11.25	1.68	1.46	**0.10**				
12.50	4.82	4.59	**0.13**				
13.75	5.31	5.08	0.05				
15.00	5.60	5.36	0.04				
16.25	5.81	5.57	0.03				
17.50	5.98	5.74	0.02				
18.75	6.13	5.89	0.02				
20.00	6.25	6.01	0.02				
21.25	6.35	6.11	0.01				
22.50	6.45	6.21	0.01				
23.75	**6.54**	**6.30**	0.01				
25.00	**6.56**	**6.32**	0.00				
26.25	6.56	6.32	0.00				
27.50	6.56	6.32	0.00				
28.75	6.56	6.32	0.00				
30.00	6.56	6.32	0.00				
31.25	6.56	6.32	0.00				
32.50	6.56	6.32	0.00				
33.75	6.56	6.32	0.00				
35.00	6.56	6.32	0.00				
36.25	6.56	6.32	0.00				
37.50	6.56	6.32	0.00				
38.75	6.56	6.32	0.00				
40.00	6.56	6.32	0.00				
41.25	6.56	6.32	0.00				
42.50	6.56	6.32	0.00				
43.75	6.56	6.32	0.00				
45.00	6.56	6.32	0.00				
46.25	6.56	6.32	0.00				
47.50	6.56	6.32	0.00				
48.75	6.56	6.32	0.00				
50.00	6.56	6.32	0.00				
51.25	6.56	6.32	0.00				
52.50	6.56	6.32	0.00				
53.75	6.56	6.32	0.00				
55.00	6.56	6.32	0.00				
56.25	6.56	6.32	0.00				
57.50	6.56	6.32	0.00				
58.75	6.56	6.32	0.00				
60.00	6.56	6.32	0.00				
61.25	6.56	6.32	0.00				
62.50	6.56	6.32	0.00				

Summary for Subcatchment PRGr RG1: PR Grass RG1

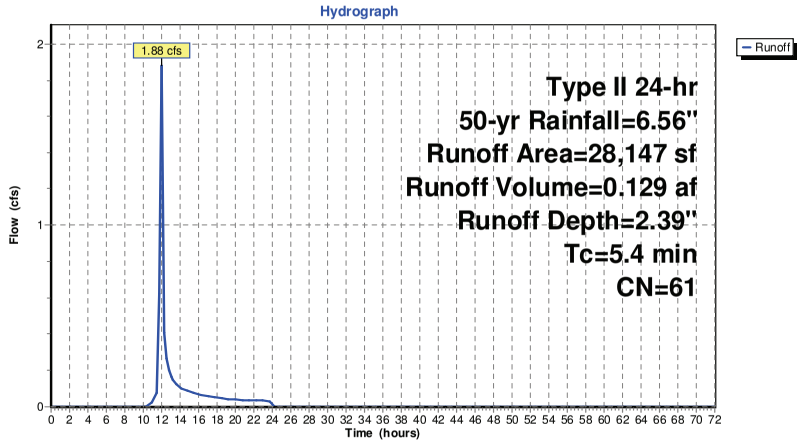
Runoff = 1.88 cfs @ 11.99 hrs, Volume= 0.129 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
28,147	61	>75% Grass cover, Good, HSG B
28,147		100.00% Pervious Area

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

Subcatchment PRGr RG1: PR Grass RG1



Hydrograph for Subcatchment PRGr RG1: PR Grass RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.39	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.39	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.39	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.39	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.02	**0.04**				
12.50	4.82	1.26	**0.27**				
13.75	5.31	1.56	0.12				
15.00	5.60	1.74	0.08				
16.25	5.81	1.88	0.06				
17.50	5.98	1.99	0.06				
18.75	6.13	2.09	0.05				
20.00	6.25	2.17	0.04				
21.25	6.35	2.24	0.04				
22.50	6.45	2.31	0.03				
23.75	**6.54**	**2.38**	0.03				
25.00	**6.56**	**2.39**	0.00				
26.25	6.56	2.39	0.00				
27.50	6.56	2.39	0.00				
28.75	6.56	2.39	0.00				
30.00	6.56	2.39	0.00				
31.25	6.56	2.39	0.00				
32.50	6.56	2.39	0.00				
33.75	6.56	2.39	0.00				
35.00	6.56	2.39	0.00				
36.25	6.56	2.39	0.00				
37.50	6.56	2.39	0.00				
38.75	6.56	2.39	0.00				
40.00	6.56	2.39	0.00				
41.25	6.56	2.39	0.00				
42.50	6.56	2.39	0.00				
43.75	6.56	2.39	0.00				
45.00	6.56	2.39	0.00				
46.25	6.56	2.39	0.00				
47.50	6.56	2.39	0.00				
48.75	6.56	2.39	0.00				
50.00	6.56	2.39	0.00				
51.25	6.56	2.39	0.00				
52.50	6.56	2.39	0.00				
53.75	6.56	2.39	0.00				
55.00	6.56	2.39	0.00				
56.25	6.56	2.39	0.00				
57.50	6.56	2.39	0.00				
58.75	6.56	2.39	0.00				
60.00	6.56	2.39	0.00				
61.25	6.56	2.39	0.00				
62.50	6.56	2.39	0.00				

Summary for Subcatchment PRGr-W: PR Grass - West

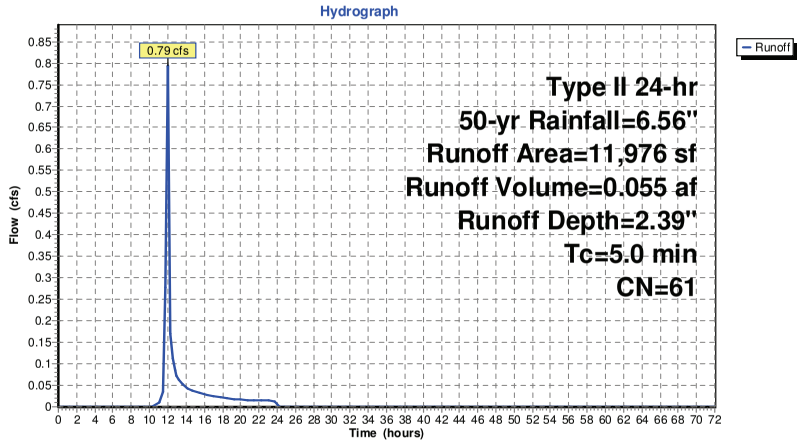
Runoff = 0.79 cfs @ 11.99 hrs, Volume= 0.055 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
11,976	61	>75% Grass cover, Good, HSG B
11,976		100.00% Pervious Area

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

Subcatchment PRGr-W: PR Grass - West



Hydrograph for Subcatchment PRGr-W: PR Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.39	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.39	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.39	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.39	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.02	**0.02**				
12.50	4.82	1.26	**0.11**				
13.75	5.31	1.56	0.05				
15.00	5.60	1.74	0.04				
16.25	5.81	1.88	0.03				
17.50	5.98	1.99	0.02				
18.75	6.13	2.09	0.02				
20.00	6.25	2.17	0.02				
21.25	6.35	2.24	0.02				
22.50	6.45	2.31	0.01				
23.75	**6.54**	**2.38**	0.01				
25.00	**6.56**	**2.39**	0.00				
26.25	6.56	2.39	0.00				
27.50	6.56	2.39	0.00				
28.75	6.56	2.39	0.00				
30.00	6.56	2.39	0.00				
31.25	6.56	2.39	0.00				
32.50	6.56	2.39	0.00				
33.75	6.56	2.39	0.00				
35.00	6.56	2.39	0.00				
36.25	6.56	2.39	0.00				
37.50	6.56	2.39	0.00				
38.75	6.56	2.39	0.00				
40.00	6.56	2.39	0.00				
41.25	6.56	2.39	0.00				
42.50	6.56	2.39	0.00				
43.75	6.56	2.39	0.00				
45.00	6.56	2.39	0.00				
46.25	6.56	2.39	0.00				
47.50	6.56	2.39	0.00				
48.75	6.56	2.39	0.00				
50.00	6.56	2.39	0.00				
51.25	6.56	2.39	0.00				
52.50	6.56	2.39	0.00				
53.75	6.56	2.39	0.00				
55.00	6.56	2.39	0.00				
56.25	6.56	2.39	0.00				
57.50	6.56	2.39	0.00				
58.75	6.56	2.39	0.00				
60.00	6.56	2.39	0.00				
61.25	6.56	2.39	0.00				
62.50	6.56	2.39	0.00				

Summary for Subcatchment PRImp-W: PR Imp - West

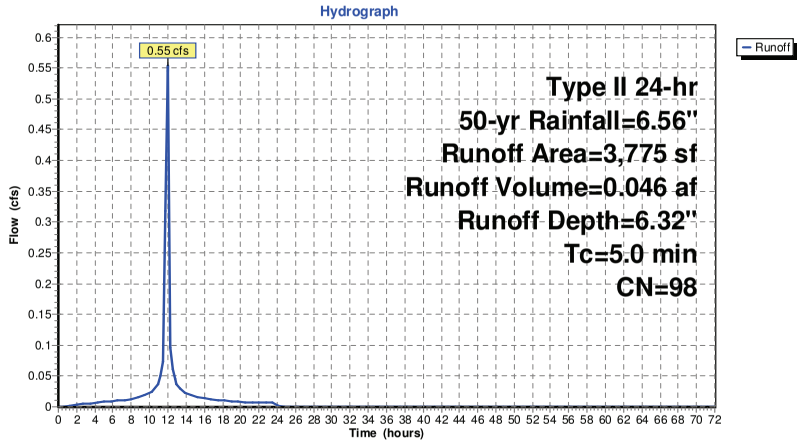
Runoff = 0.55 cfs @ 11.96 hrs, Volume= 0.046 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
3,775	98	Paved parking, HSG B
3,775		100.00% Impervious Area

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

Subcatchment PRImp-W: PR Imp - West



Hydrograph for Subcatchment PRImp-W: PR Imp - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	6.32	0.00
1.25	0.09	0.01	0.00	65.00	6.56	6.32	0.00
2.50	0.18	0.06	0.00	66.25	6.56	6.32	0.00
3.75	0.29	0.14	0.01	67.50	6.56	6.32	0.00
5.00	0.41	0.24	0.01	68.75	6.56	6.32	0.00
6.25	0.55	0.37	0.01	70.00	6.56	6.32	0.00
7.50	0.72	0.52	0.01	71.25	6.56	6.32	0.00
8.75	0.91	0.71	0.02				
10.00	1.19	0.97	0.02				
11.25	1.68	1.46	**0.05**				
12.50	4.82	4.59	**0.06**				
13.75	5.31	5.08	0.02				
15.00	5.60	5.36	0.02				
16.25	5.81	5.57	0.01				
17.50	5.98	5.74	0.01				
18.75	6.13	5.89	0.01				
20.00	6.25	6.01	0.01				
21.25	6.35	6.11	0.01				
22.50	6.45	6.21	0.01				
23.75	**6.54**	**6.30**	0.01				
25.00	**6.56**	**6.32**	0.00				
26.25	6.56	6.32	0.00				
27.50	6.56	6.32	0.00				
28.75	6.56	6.32	0.00				
30.00	6.56	6.32	0.00				
31.25	6.56	6.32	0.00				
32.50	6.56	6.32	0.00				
33.75	6.56	6.32	0.00				
35.00	6.56	6.32	0.00				
36.25	6.56	6.32	0.00				
37.50	6.56	6.32	0.00				
38.75	6.56	6.32	0.00				
40.00	6.56	6.32	0.00				
41.25	6.56	6.32	0.00				
42.50	6.56	6.32	0.00				
43.75	6.56	6.32	0.00				
45.00	6.56	6.32	0.00				
46.25	6.56	6.32	0.00				
47.50	6.56	6.32	0.00				
48.75	6.56	6.32	0.00				
50.00	6.56	6.32	0.00				
51.25	6.56	6.32	0.00				
52.50	6.56	6.32	0.00				
53.75	6.56	6.32	0.00				
55.00	6.56	6.32	0.00				
56.25	6.56	6.32	0.00				
57.50	6.56	6.32	0.00				
58.75	6.56	6.32	0.00				
60.00	6.56	6.32	0.00				
61.25	6.56	6.32	0.00				
62.50	6.56	6.32	0.00				

Summary for Subcatchment PRimpRG1: PR Imp - RG1

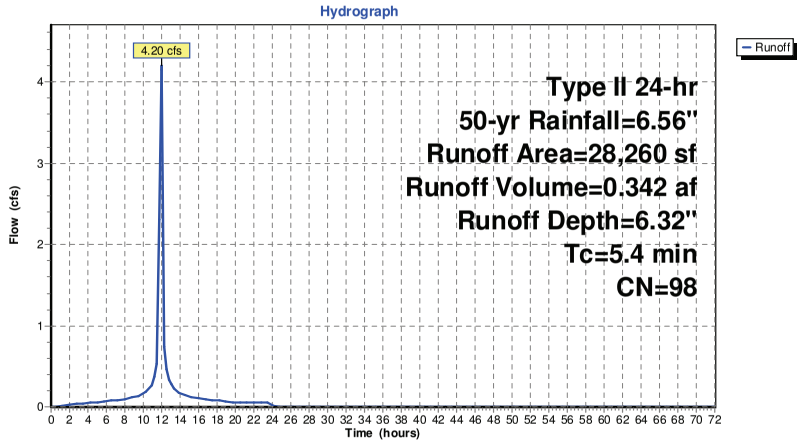
Runoff = 4.20 cfs @ 11.96 hrs, Volume= 0.342 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
28,260	98	Roofs, HSG B
28,260		100.00% Impervious Area

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

Subcatchment PRimpRG1: PR Imp - RG1



Hydrograph for Subcatchment PRimpRG1: PR Imp - RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	6.32	0.00
1.25	0.09	0.01	0.01	65.00	6.56	6.32	0.00
2.50	0.18	0.06	0.03	66.25	6.56	6.32	0.00
3.75	0.29	0.14	0.05	67.50	6.56	6.32	0.00
5.00	0.41	0.24	0.06	68.75	6.56	6.32	0.00
6.25	0.55	0.37	0.07	70.00	6.56	6.32	0.00
7.50	0.72	0.52	0.08	71.25	6.56	6.32	0.00
8.75	0.91	0.71	0.12				
10.00	1.19	0.97	0.16				
11.25	1.68	1.46	**0.37**				
12.50	4.82	4.59	**0.46**				
13.75	5.31	5.08	0.19				
15.00	5.60	5.36	0.13				
16.25	5.81	5.57	0.10				
17.50	5.98	5.74	0.08				
18.75	6.13	5.89	0.07				
20.00	6.25	6.01	0.06				
21.25	6.35	6.11	0.05				
22.50	6.45	6.21	0.05				
23.75	**6.54**	**6.30**	0.05				
25.00	**6.56**	**6.32**	0.00				
26.25	6.56	6.32	0.00				
27.50	6.56	6.32	0.00				
28.75	6.56	6.32	0.00				
30.00	6.56	6.32	0.00				
31.25	6.56	6.32	0.00				
32.50	6.56	6.32	0.00				
33.75	6.56	6.32	0.00				
35.00	6.56	6.32	0.00				
36.25	6.56	6.32	0.00				
37.50	6.56	6.32	0.00				
38.75	6.56	6.32	0.00				
40.00	6.56	6.32	0.00				
41.25	6.56	6.32	0.00				
42.50	6.56	6.32	0.00				
43.75	6.56	6.32	0.00				
45.00	6.56	6.32	0.00				
46.25	6.56	6.32	0.00				
47.50	6.56	6.32	0.00				
48.75	6.56	6.32	0.00				
50.00	6.56	6.32	0.00				
51.25	6.56	6.32	0.00				
52.50	6.56	6.32	0.00				
53.75	6.56	6.32	0.00				
55.00	6.56	6.32	0.00				
56.25	6.56	6.32	0.00				
57.50	6.56	6.32	0.00				
58.75	6.56	6.32	0.00				
60.00	6.56	6.32	0.00				
61.25	6.56	6.32	0.00				
62.50	6.56	6.32	0.00				

Summary for Subcatchment UD Bypass: UD By-Pass

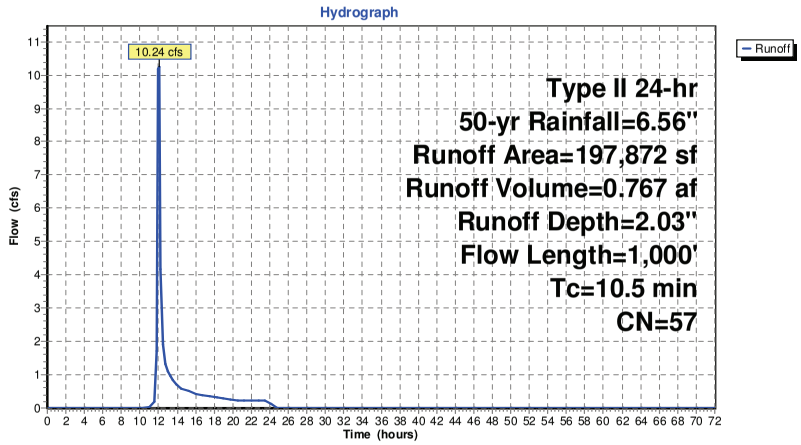
Runoff = 10.24 cfs @ 12.02 hrs, Volume= 0.767 af, Depth= 2.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
10,353	85	Gravel roads, HSG B
168,770	55	Woods, Good, HSG B
18,749	61	>75% Grass cover, Good, HSG B
197,872	57	Weighted Average
197,872		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2200	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
2.1	700	0.1140	5.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	200	0.0400	10.31	61.86	**Channel Flow,** Area= 6.0 sf Perim= 9.0' r= 0.67' n= 0.022 Earth, clean & straight
10.5	1,000	Total			

Subcatchment UD Bypass: UD By-Pass



Hydrograph for Subcatchment UD Bypass: UD By-Pass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.03	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.03	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.03	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.03	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.03	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.03	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.03	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.00	**0.06**				
12.50	4.82	1.01	**1.92**				
13.75	5.31	1.28	0.76				
15.00	5.60	1.44	0.54				
16.25	5.81	1.56	0.41				
17.50	5.98	1.66	0.36				
18.75	6.13	1.75	0.31				
20.00	6.25	1.83	0.25				
21.25	6.35	1.89	0.24				
22.50	6.45	1.95	0.23				
23.75	**6.54**	**2.01**	0.22				
25.00	**6.56**	**2.03**	0.00				
26.25	6.56	2.03	0.00				
27.50	6.56	2.03	0.00				
28.75	6.56	2.03	0.00				
30.00	6.56	2.03	0.00				
31.25	6.56	2.03	0.00				
32.50	6.56	2.03	0.00				
33.75	6.56	2.03	0.00				
35.00	6.56	2.03	0.00				
36.25	6.56	2.03	0.00				
37.50	6.56	2.03	0.00				
38.75	6.56	2.03	0.00				
40.00	6.56	2.03	0.00				
41.25	6.56	2.03	0.00				
42.50	6.56	2.03	0.00				
43.75	6.56	2.03	0.00				
45.00	6.56	2.03	0.00				
46.25	6.56	2.03	0.00				
47.50	6.56	2.03	0.00				
48.75	6.56	2.03	0.00				
50.00	6.56	2.03	0.00				
51.25	6.56	2.03	0.00				
52.50	6.56	2.03	0.00				
53.75	6.56	2.03	0.00				
55.00	6.56	2.03	0.00				
56.25	6.56	2.03	0.00				
57.50	6.56	2.03	0.00				
58.75	6.56	2.03	0.00				
60.00	6.56	2.03	0.00				
61.25	6.56	2.03	0.00				
62.50	6.56	2.03	0.00				

Summary for Subcatchment UD Gr: Undet Grass

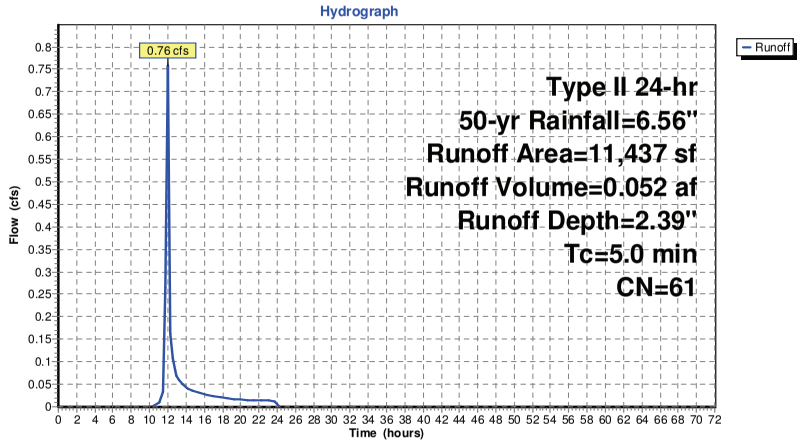
Runoff = 0.76 cfs @ 11.99 hrs, Volume= 0.052 af, Depth= 2.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
11,437	61	>75% Grass cover, Good, HSG B
11,437		100.00% Pervious Area

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

Subcatchment UD Gr: Undet Grass



Hydrograph for Subcatchment UD Gr: Undet Grass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	2.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	2.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	2.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	2.39	0.00
5.00	0.41	0.00	0.00	68.75	6.56	2.39	0.00
6.25	0.55	0.00	0.00	70.00	6.56	2.39	0.00
7.50	0.72	0.00	0.00	71.25	6.56	2.39	0.00
8.75	0.91	0.00	0.00				
10.00	1.19	0.00	0.00				
11.25	1.68	0.02	**0.02**				
12.50	4.82	1.26	**0.11**				
13.75	5.31	1.56	0.05				
15.00	5.60	1.74	0.03				
16.25	5.81	1.88	0.03				
17.50	5.98	1.99	0.02				
18.75	6.13	2.09	0.02				
20.00	6.25	2.17	0.02				
21.25	6.35	2.24	0.01				
22.50	6.45	2.31	0.01				
23.75	**6.54**	**2.38**	0.01				
25.00	**6.56**	**2.39**	0.00				
26.25	6.56	2.39	0.00				
27.50	6.56	2.39	0.00				
28.75	6.56	2.39	0.00				
30.00	6.56	2.39	0.00				
31.25	6.56	2.39	0.00				
32.50	6.56	2.39	0.00				
33.75	6.56	2.39	0.00				
35.00	6.56	2.39	0.00				
36.25	6.56	2.39	0.00				
37.50	6.56	2.39	0.00				
38.75	6.56	2.39	0.00				
40.00	6.56	2.39	0.00				
41.25	6.56	2.39	0.00				
42.50	6.56	2.39	0.00				
43.75	6.56	2.39	0.00				
45.00	6.56	2.39	0.00				
46.25	6.56	2.39	0.00				
47.50	6.56	2.39	0.00				
48.75	6.56	2.39	0.00				
50.00	6.56	2.39	0.00				
51.25	6.56	2.39	0.00				
52.50	6.56	2.39	0.00				
53.75	6.56	2.39	0.00				
55.00	6.56	2.39	0.00				
56.25	6.56	2.39	0.00				
57.50	6.56	2.39	0.00				
58.75	6.56	2.39	0.00				
60.00	6.56	2.39	0.00				
61.25	6.56	2.39	0.00				
62.50	6.56	2.39	0.00				

Summary for Subcatchment UD Imp: Undet Imp

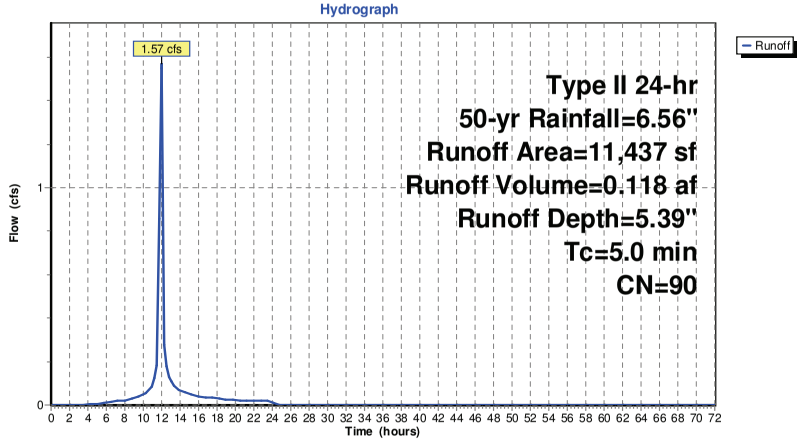
Runoff = 1.57 cfs @ 11.96 hrs, Volume= 0.118 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 50-yr Rainfall=6.56"

Area (sf)	CN	Description
4,777	98	Paved parking, HSG B
6,660	85	Gravel roads, HSG B
11,437	90	Weighted Average
6,660		58.23% Pervious Area
4,777		41.77% Impervious Area

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

Subcatchment UD Imp: Undet Imp



Hydrograph for Subcatchment UD Imp: Undet Imp

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	6.56	5.39	0.00
1.25	0.09	0.00	0.00	65.00	6.56	5.39	0.00
2.50	0.18	0.00	0.00	66.25	6.56	5.39	0.00
3.75	0.29	0.00	0.00	67.50	6.56	5.39	0.00
5.00	0.41	0.03	0.01	68.75	6.56	5.39	0.00
6.25	0.55	0.08	0.01	70.00	6.56	5.39	0.00
7.50	0.72	0.15	0.02	71.25	6.56	5.39	0.00
8.75	0.91	0.27	0.03				
10.00	1.19	0.45	0.05				
11.25	1.68	0.83	**0.12**				
12.50	4.82	3.70	**0.18**				
13.75	5.31	4.18	0.07				
15.00	5.60	4.46	0.05				
16.25	5.81	4.66	0.04				
17.50	5.98	4.83	0.03				
18.75	6.13	4.97	0.03				
20.00	6.25	5.08	0.02				
21.25	6.35	5.19	0.02				
22.50	6.45	5.28	0.02				
23.75	**6.54**	**5.37**	0.02				
25.00	**6.56**	**5.39**	0.00				
26.25	6.56	5.39	0.00				
27.50	6.56	5.39	0.00				
28.75	6.56	5.39	0.00				
30.00	6.56	5.39	0.00				
31.25	6.56	5.39	0.00				
32.50	6.56	5.39	0.00				
33.75	6.56	5.39	0.00				
35.00	6.56	5.39	0.00				
36.25	6.56	5.39	0.00				
37.50	6.56	5.39	0.00				
38.75	6.56	5.39	0.00				
40.00	6.56	5.39	0.00				
41.25	6.56	5.39	0.00				
42.50	6.56	5.39	0.00				
43.75	6.56	5.39	0.00				
45.00	6.56	5.39	0.00				
46.25	6.56	5.39	0.00				
47.50	6.56	5.39	0.00				
48.75	6.56	5.39	0.00				
50.00	6.56	5.39	0.00				
51.25	6.56	5.39	0.00				
52.50	6.56	5.39	0.00				
53.75	6.56	5.39	0.00				
55.00	6.56	5.39	0.00				
56.25	6.56	5.39	0.00				
57.50	6.56	5.39	0.00				
58.75	6.56	5.39	0.00				
60.00	6.56	5.39	0.00				
61.25	6.56	5.39	0.00				
62.50	6.56	5.39	0.00				

Summary for Pond INF1: Inf Trench #1

Inflow Area = 0.389 ac, 37.20% Impervious, Inflow Depth = 3.85" for 50-yr event
Inflow = 1.63 cfs @ 11.97 hrs, Volume= 0.125 af
Outflow = 1.06 cfs @ 12.24 hrs, Volume= 0.125 af, Atten= 35%, Lag= 16.2 min
Primary = 1.06 cfs @ 12.24 hrs, Volume= 0.125 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.69' @ 12.24 hrs Surf.Area= 2,604 sf Storage= 2,263 cf

Plug-Flow detention time= 399.7 min calculated for 0.124 af (100% of inflow)
Center-of-Mass det. time= 405.8 min (1,188.3 - 782.5)

Volume	Invert	Avail.Storage	Storage Description
#1	384.00'	2,484 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	382.00'	77 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 768 cf Overall x 10.0% Voids
#3	380.00'	307 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 768 cf Overall x 40.0% Voids
		2,868 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
384.00	384	0	0
386.00	2,100	2,484	2,484

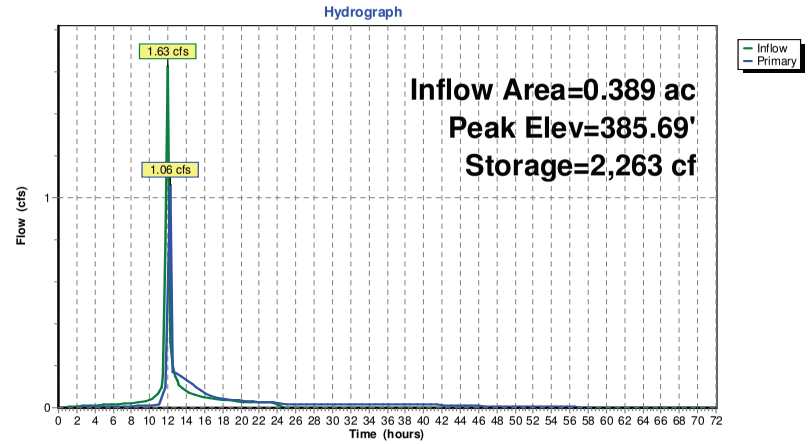
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
382.00	384	0	0
384.00	384	768	768

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	384	0	0
382.00	384	768	768

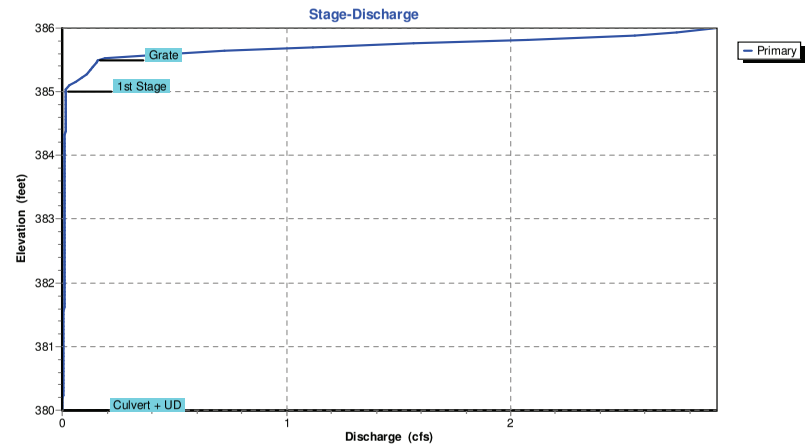
Device	Routing	Invert	Outlet Devices
#1	Primary	380.00'	**18.0" Round Culvert** L= 28.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 380.00' / 379.72' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	385.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	385.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	380.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=1.03 cfs @ 12.24 hrs HW=385.69' (Free Discharge)
└─**1=Culvert** (Passes 1.03 cfs of 18.91 cfs potential flow)
  ├─**2=Grate** (Weir Controls 0.84 cfs @ 1.42 fps)
  ├─**3=1st Stage** (Orifice Controls 0.18 cfs @ 3.61 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.46 fps)

Pond INF1: Inf Trench #1



Pond INF1: Inf Trench #1



Hydrograph for Pond INF1: Inf Trench #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	380.00	0.00
2.50	0.01	22	380.14	0.00
5.00	0.01	84	380.54	0.00
7.50	0.02	176	381.14	0.01
10.00	**0.04**	**335**	**382.72**	**0.01**
12.50	**0.20**	**1,937**	**385.51**	**0.17**
15.00	0.06	1,551	385.26	0.10
17.50	0.04	1,366	385.13	0.05
20.00	0.03	1,316	385.09	0.03
22.50	0.02	1,287	385.07	0.03
25.00	0.00	1,215	385.01	0.02
27.50	0.00	1,083	384.91	0.01
30.00	0.00	953	384.79	0.01
32.50	0.00	825	384.66	0.01
35.00	0.00	699	384.52	0.01
37.50	0.00	575	384.35	0.01
40.00	0.00	453	384.15	0.01
42.50	0.00	339	382.82	0.01
45.00	0.00	255	381.66	0.01
47.50	0.00	185	381.21	0.01
50.00	0.00	127	380.82	0.01
52.50	0.00	79	380.52	0.00
55.00	0.00	43	380.28	0.00
57.50	0.00	19	380.12	0.00
60.00	0.00	6	380.04	0.00
62.50	0.00	2	380.01	0.00
65.00	0.00	0	380.00	0.00
67.50	0.00	0	380.00	0.00
70.00	0.00	0	380.00	0.00

Stage-Discharge for Pond INF1: Inf Trench #1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
380.00	0.00	382.04	0.01	384.08	0.01
380.04	0.00	382.08	0.01	384.12	0.01
380.08	0.00	382.12	0.01	384.16	0.01
380.12	0.00	382.16	0.01	384.20	0.01
380.16	0.00	382.20	0.01	384.24	0.01
380.20	0.00	382.24	0.01	384.28	0.01
380.24	0.00	382.28	0.01	384.32	0.01
380.28	0.00	382.32	0.01	384.36	0.01
380.32	0.00	382.36	0.01	384.40	0.01
380.36	0.00	382.40	0.01	384.44	0.01
380.40	0.00	382.44	0.01	384.48	0.01
380.44	0.00	382.48	0.01	384.52	0.01
380.48	0.00	382.52	0.01	384.56	0.01
380.52	0.00	382.56	0.01	384.60	0.01
380.56	0.00	382.60	0.01	384.64	0.01
380.60	0.00	382.64	0.01	384.68	0.01
380.64	0.01	382.68	0.01	384.72	0.01
380.68	0.01	382.72	0.01	384.76	0.01
380.72	0.01	382.76	0.01	384.80	0.01
380.76	0.01	382.80	0.01	384.84	0.01
380.80	0.01	382.84	0.01	384.88	0.01
380.84	0.01	382.88	0.01	384.92	0.01
380.88	0.01	382.92	0.01	384.96	0.01
380.92	0.01	382.96	0.01	385.00	0.01
380.96	0.01	383.00	0.01	385.04	0.02
381.00	0.01	383.04	0.01	385.08	0.03
381.04	0.01	383.08	0.01	385.12	0.04
381.08	0.01	383.12	0.01	385.16	0.06
381.12	0.01	383.16	0.01	385.20	0.08
381.16	0.01	383.20	0.01	385.24	0.10
381.20	0.01	383.24	0.01	385.28	0.11
381.24	0.01	383.28	0.01	385.32	0.12
381.28	0.01	383.32	0.01	385.36	0.13
381.32	0.01	383.36	0.01	385.40	0.14
381.36	0.01	383.40	0.01	385.44	0.15
381.40	0.01	383.44	0.01	385.48	0.16
381.44	0.01	383.48	0.01	385.52	0.19
381.48	0.01	383.52	0.01	385.56	0.32
381.52	0.01	383.56	0.01	385.60	0.50
381.56	0.01	383.60	0.01	385.64	0.72
381.60	0.01	383.64	0.01	385.68	0.98
381.64	0.01	383.68	0.01	385.72	1.26
381.68	0.01	383.72	0.01	385.76	1.57
381.72	0.01	383.76	0.01	385.80	1.90
381.76	0.01	383.80	0.01	385.84	2.25
381.80	0.01	383.84	0.01	385.88	2.55
381.84	0.01	383.88	0.01	385.92	2.68
381.88	0.01	383.92	0.01	385.96	2.80
381.92	0.01	383.96	0.01	386.00	**2.91**
381.96	0.01	384.00	0.01		
382.00	0.01	384.04	0.01		

Summary for Pond INF2: Inf Trench #2

Inflow Area = 0.718 ac, 23.60% Impervious, Inflow Depth = 3.32" for 50-yr event
Inflow = 2.30 cfs @ 11.94 hrs, Volume= 0.198 af
Outflow = 1.94 cfs @ 12.06 hrs, Volume= 0.198 af, Atten= 16%, Lag= 7.1 min
Primary = 1.94 cfs @ 12.06 hrs, Volume= 0.198 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 384.83' @ 12.09 hrs Surf.Area= 2,764 sf Storage= 2,565 cf

Plug-Flow detention time= 273.8 min calculated for 0.198 af (100% of inflow)
Center-of-Mass det. time= 280.3 min (1,078.2 - 797.9)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	2,520 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	78 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 780 cf Overall x 10.0% Voids
#3	379.00'	312 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 780 cf Overall x 40.0% Voids
		2,910 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	390	0	0
385.00	2,130	2,520	2,520

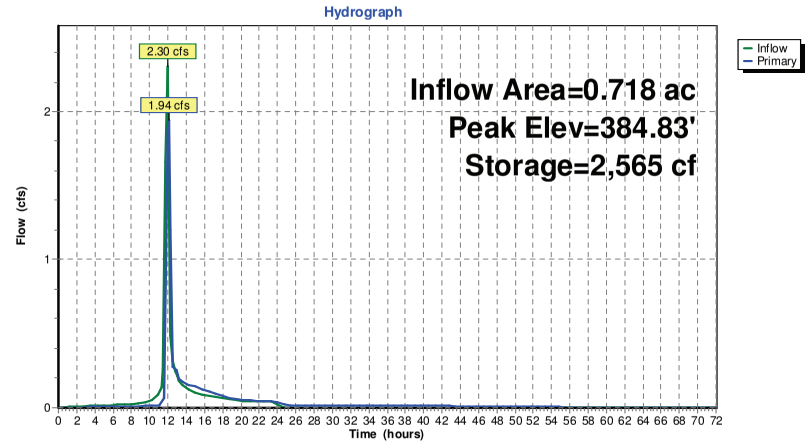
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	390	0	0
383.00	390	780	780

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	390	0	0
381.00	390	780	780

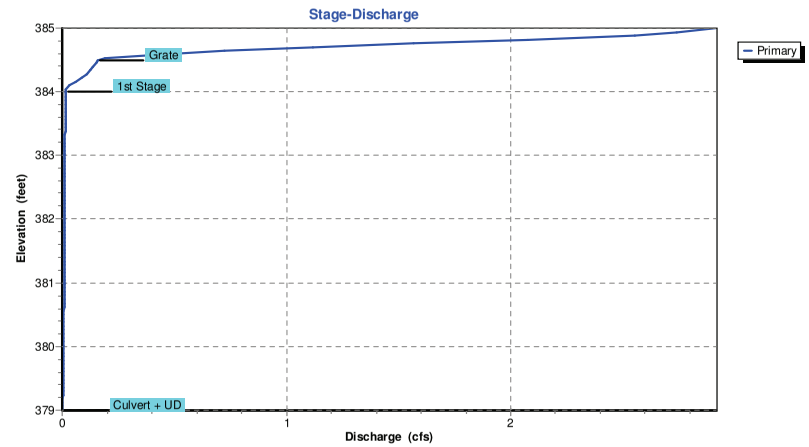
Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.89' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	384.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	384.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=1.71 cfs @ 12.06 hrs HW=384.78' (Free Discharge)
└─**1=Culvert** (Passes 1.71 cfs of 19.08 cfs potential flow)
  ├─**2=Grate** (Weir Controls 1.50 cfs @ 1.72 fps)
  ├─**3=1st Stage** (Orifice Controls 0.19 cfs @ 3.89 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.55 fps)

Pond INF2: Inf Trench #2



Pond INF2: Inf Trench #2



Hydrograph for Pond INF2: Inf Trench #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	379.00	0.00
2.50	0.01	26	379.17	0.00
5.00	0.02	101	379.65	0.01
7.50	0.02	213	380.36	0.01
10.00	**0.04**	**401**	**383.03**	**0.01**
12.50	**0.31**	**2,028**	**384.54**	**0.28**
15.00	0.10	1,810	384.41	0.14
17.50	0.07	1,515	384.22	0.09
20.00	0.05	1,412	384.15	0.06
22.50	0.04	1,378	384.12	0.04
25.00	0.00	1,271	384.04	0.02
27.50	0.00	1,133	383.93	0.01
30.00	0.00	1,003	383.82	0.01
32.50	0.00	874	383.70	0.01
35.00	0.00	747	383.56	0.01
37.50	0.00	622	383.41	0.01
40.00	0.00	500	383.22	0.01
42.50	0.00	380	382.75	0.01
45.00	0.00	287	380.84	0.01
47.50	0.00	213	380.36	0.01
50.00	0.00	150	379.96	0.01
52.50	0.00	98	379.63	0.01
55.00	0.00	58	379.37	0.00
57.50	0.00	28	379.18	0.00
60.00	0.00	10	379.07	0.00
62.50	0.00	3	379.02	0.00
65.00	0.00	1	379.01	0.00
67.50	0.00	0	379.00	0.00
70.00	0.00	0	379.00	0.00

Stage-Discharge for Pond INF2: Inf Trench #2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
379.00	0.00	381.04	0.01	383.08	0.01
379.04	0.00	381.08	0.01	383.12	0.01
379.08	0.00	381.12	0.01	383.16	0.01
379.12	0.00	381.16	0.01	383.20	0.01
379.16	0.00	381.20	0.01	383.24	0.01
379.20	0.00	381.24	0.01	383.28	0.01
379.24	0.00	381.28	0.01	383.32	0.01
379.28	0.00	381.32	0.01	383.36	0.01
379.32	0.00	381.36	0.01	383.40	0.01
379.36	0.00	381.40	0.01	383.44	0.01
379.40	0.00	381.44	0.01	383.48	0.01
379.44	0.00	381.48	0.01	383.52	0.01
379.48	0.00	381.52	0.01	383.56	0.01
379.52	0.00	381.56	0.01	383.60	0.01
379.56	0.00	381.60	0.01	383.64	0.01
379.60	0.00	381.64	0.01	383.68	0.01
379.64	0.01	381.68	0.01	383.72	0.01
379.68	0.01	381.72	0.01	383.76	0.01
379.72	0.01	381.76	0.01	383.80	0.01
379.76	0.01	381.80	0.01	383.84	0.01
379.80	0.01	381.84	0.01	383.88	0.01
379.84	0.01	381.88	0.01	383.92	0.01
379.88	0.01	381.92	0.01	383.96	0.01
379.92	0.01	381.96	0.01	384.00	0.01
379.96	0.01	382.00	0.01	384.04	0.02
380.00	0.01	382.04	0.01	384.08	0.03
380.04	0.01	382.08	0.01	384.12	0.04
380.08	0.01	382.12	0.01	384.16	0.06
380.12	0.01	382.16	0.01	384.20	0.08
380.16	0.01	382.20	0.01	384.24	0.10
380.20	0.01	382.24	0.01	384.28	0.11
380.24	0.01	382.28	0.01	384.32	0.12
380.28	0.01	382.32	0.01	384.36	0.13
380.32	0.01	382.36	0.01	384.40	0.14
380.36	0.01	382.40	0.01	384.44	0.15
380.40	0.01	382.44	0.01	384.48	0.16
380.44	0.01	382.48	0.01	384.52	0.19
380.48	0.01	382.52	0.01	384.56	0.32
380.52	0.01	382.56	0.01	384.60	0.50
380.56	0.01	382.60	0.01	384.64	0.72
380.60	0.01	382.64	0.01	384.68	0.98
380.64	0.01	382.68	0.01	384.72	1.26
380.68	0.01	382.72	0.01	384.76	1.57
380.72	0.01	382.76	0.01	384.80	1.90
380.76	0.01	382.80	0.01	384.84	2.25
380.80	0.01	382.84	0.01	384.88	2.55
380.84	0.01	382.88	0.01	384.92	2.68
380.88	0.01	382.92	0.01	384.96	2.80
380.92	0.01	382.96	0.01	385.00	**2.91**
380.96	0.01	383.00	0.01		
381.00	0.01	383.04	0.01		

Summary for Pond INF3: Inf Trench #3

Inflow Area = 0.309 ac, 30.75% Impervious, Inflow Depth = 3.60" for 50-yr event
Inflow = 1.22 cfs @ 11.97 hrs, Volume= 0.093 af
Outflow = 0.86 cfs @ 12.25 hrs, Volume= 0.093 af, Atten= 29%, Lag= 16.3 min
Primary = 0.86 cfs @ 12.25 hrs, Volume= 0.093 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 383.16' @ 12.22 hrs Surf.Area= 1,820 sf Storage= 1,559 cf

Plug-Flow detention time= 309.1 min calculated for 0.092 af (100% of inflow)
Center-of-Mass det. time= 313.1 min (1,103.5 - 790.4)

Volume	Invert	Avail.Storage	Storage Description
#1	381.50'	1,764 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	379.50'	53 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 528 cf Overall x 10.0% Voids
#3	377.50'	211 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 528 cf Overall x 40.0% Voids
		2,028 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.50	264	0	0
383.50	1,500	1,764	1,764

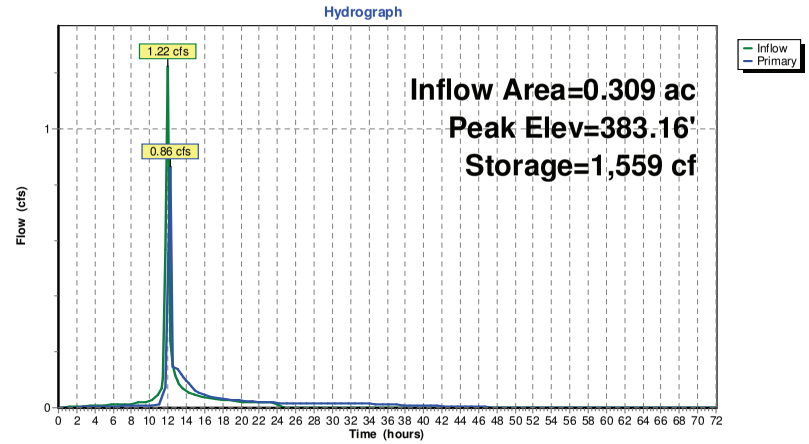
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.50	264	0	0
381.50	264	528	528

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
377.50	264	0	0
379.50	264	528	528

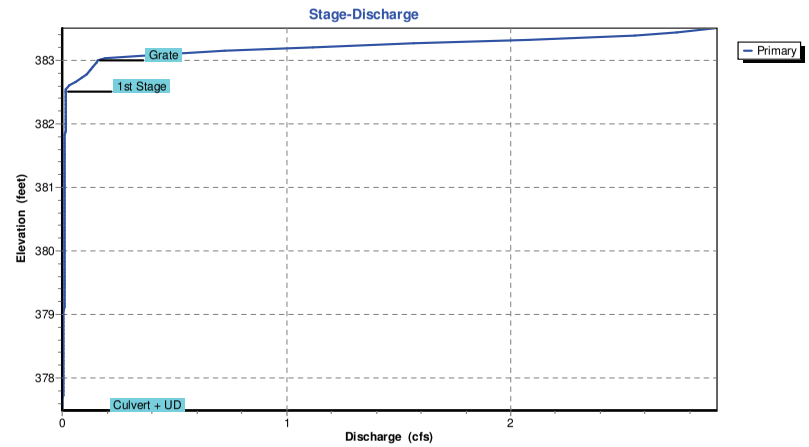
Device	Routing	Invert	Outlet Devices
#1	Primary	377.50'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 377.50' / 377.39' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	383.00'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	382.50'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	377.50'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.84 cfs @ 12.25 hrs HW=383.16' (Free Discharge)
└─**1=Culvert** (Passes 0.84 cfs of 18.85 cfs potential flow)
  ├─**2=Grate** (Weir Controls 0.65 cfs @ 1.31 fps)
  ├─**3=1st Stage** (Orifice Controls 0.17 cfs @ 3.52 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.43 fps)

Pond INF3: Inf Trench #3



Pond INF3: Inf Trench #3



Hydrograph for Pond INF3: Inf Trench #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	377.50	0.00
2.50	0.01	13	377.62	0.00
5.00	0.01	46	377.93	0.00
7.50	0.01	94	378.39	0.01
10.00	**0.02**	**183**	**379.23**	**0.01**
12.50	**0.15**	**1,278**	**382.93**	**0.15**
15.00	0.05	987	382.66	0.06
17.50	0.03	926	382.60	0.03
20.00	0.02	895	382.56	0.02
22.50	0.02	879	382.55	0.02
25.00	0.00	822	382.48	0.01
27.50	0.00	691	382.32	0.01
30.00	0.00	563	382.14	0.01
32.50	0.00	437	381.93	0.01
35.00	0.00	315	381.66	0.01
37.50	0.00	207	379.46	0.01
40.00	0.00	133	378.76	0.01
42.50	0.00	76	378.22	0.01
45.00	0.00	35	377.83	0.00
47.50	0.00	10	377.60	0.00
50.00	0.00	2	377.52	0.00
52.50	0.00	0	377.50	0.00
55.00	0.00	0	377.50	0.00
57.50	0.00	0	377.50	0.00
60.00	0.00	0	377.50	0.00
62.50	0.00	0	377.50	0.00
65.00	0.00	0	377.50	0.00
67.50	0.00	0	377.50	0.00
70.00	0.00	0	377.50	0.00

Stage-Discharge for Pond INF3: Inf Trench #3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
377.50	0.00	379.54	0.01	381.58	0.01
377.54	0.00	379.58	0.01	381.62	0.01
377.58	0.00	379.62	0.01	381.66	0.01
377.62	0.00	379.66	0.01	381.70	0.01
377.66	0.00	379.70	0.01	381.74	0.01
377.70	0.00	379.74	0.01	381.78	0.01
377.74	0.00	379.78	0.01	381.82	0.01
377.78	0.00	379.82	0.01	381.86	0.01
377.82	0.00	379.86	0.01	381.90	0.01
377.86	0.00	379.90	0.01	381.94	0.01
377.90	0.00	379.94	0.01	381.98	0.01
377.94	0.00	379.98	0.01	382.02	0.01
377.98	0.00	380.02	0.01	382.06	0.01
378.02	0.00	380.06	0.01	382.10	0.01
378.06	0.00	380.10	0.01	382.14	0.01
378.10	0.00	380.14	0.01	382.18	0.01
378.14	0.01	380.18	0.01	382.22	0.01
378.18	0.01	380.22	0.01	382.26	0.01
378.22	0.01	380.26	0.01	382.30	0.01
378.26	0.01	380.30	0.01	382.34	0.01
378.30	0.01	380.34	0.01	382.38	0.01
378.34	0.01	380.38	0.01	382.42	0.01
378.38	0.01	380.42	0.01	382.46	0.01
378.42	0.01	380.46	0.01	382.50	0.01
378.46	0.01	380.50	0.01	382.54	0.02
378.50	0.01	380.54	0.01	382.58	0.03
378.54	0.01	380.58	0.01	382.62	0.04
378.58	0.01	380.62	0.01	382.66	0.06
378.62	0.01	380.66	0.01	382.70	0.08
378.66	0.01	380.70	0.01	382.74	0.10
378.70	0.01	380.74	0.01	382.78	0.11
378.74	0.01	380.78	0.01	382.82	0.12
378.78	0.01	380.82	0.01	382.86	0.13
378.82	0.01	380.86	0.01	382.90	0.14
378.86	0.01	380.90	0.01	382.94	0.15
378.90	0.01	380.94	0.01	382.98	0.16
378.94	0.01	380.98	0.01	383.02	0.19
378.98	0.01	381.02	0.01	383.06	0.32
379.02	0.01	381.06	0.01	383.10	0.50
379.06	0.01	381.10	0.01	383.14	0.72
379.10	0.01	381.14	0.01	383.18	0.98
379.14	0.01	381.18	0.01	383.22	1.26
379.18	0.01	381.22	0.01	383.26	1.57
379.22	0.01	381.26	0.01	383.30	1.90
379.26	0.01	381.30	0.01	383.34	2.25
379.30	0.01	381.34	0.01	383.38	2.55
379.34	0.01	381.38	0.01	383.42	2.68
379.38	0.01	381.42	0.01	383.46	2.80
379.42	0.01	381.46	0.01	383.50	**2.91**
379.46	0.01	381.50	0.01		
379.50	0.01	381.54	0.01		

Summary for Pond RG1: Rain Garden #1

Inflow Area =	1.295 ac,	50.10% Impervious,	Inflow Depth =	4.36"	for 50-yr event	
Inflow =	6.07 cfs @	11.97 hrs,	Volume=	0.470 af		
Outflow =	4.70 cfs @	12.05 hrs,	Volume=	0.470 af,	Atten= 22%,	Lag= 4.8 min
Primary =	4.70 cfs @	12.05 hrs,	Volume=	0.470 af		
Secondary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af		

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 400.52' @ 12.04 hrs Surf.Area= 2,748 sf Storage= 2,228 cf

Plug-Flow detention time= 73.6 min calculated for 0.469 af (100% of inflow)
Center-of-Mass det. time= 79.5 min (849.3 - 769.9)

Volume	Invert	Avail.Storage	Storage Description
#1	399.00'	4,709 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	397.00'	117 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 10.0% Voids
#3	395.00'	466 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 40.0% Voids
		5,292 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
399.00	583	0	0
402.00	2,556	4,709	4,709

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
397.00	583	0	0
399.00	583	1,166	1,166

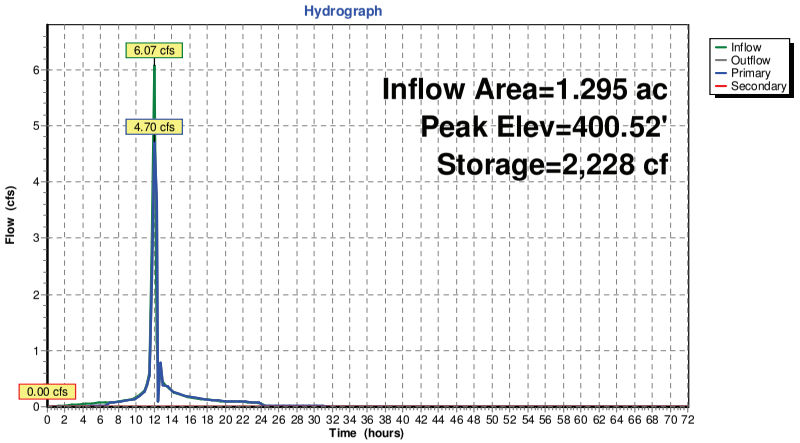
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	583	0	0
397.00	583	1,166	1,166

Device	Routing	Invert	Outlet Devices
#1	Primary	395.00'	**18.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 395.00' / 394.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	400.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	400.75'	**Spillway, C= 3.27** Offset (feet) 0.00 3.75 18.75 22.50 Height (feet) 1.25 0.00 0.00 1.25
#4	Device 1	399.33'	**24.0" W x 6.0" H Vert. 1st Stage** C= 0.600
#5	Device 1	395.00'	**0.5" Vert. UD** C= 0.600

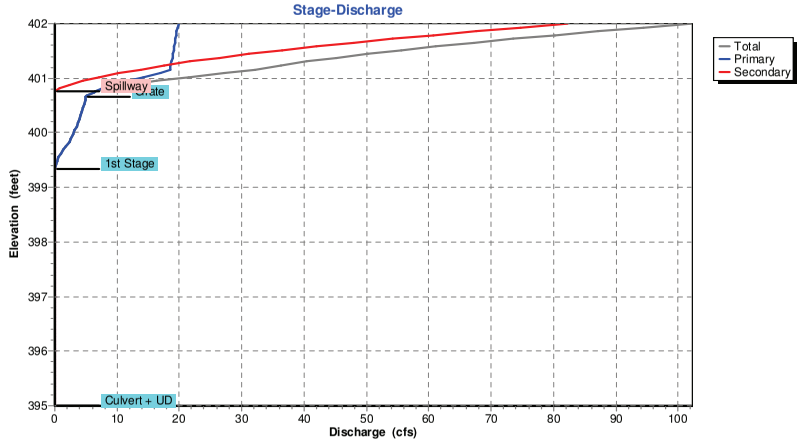
Primary OutFlow Max=4.45 cfs @ 12.05 hrs HW=400.44' (Free Discharge)
- **1=Culvert** (Passes 4.45 cfs of 17.27 cfs potential flow)
  - **2=Grate** (Controls 0.00 cfs)
  - **4=1st Stage** (Orifice Controls 4.44 cfs @ 4.44 fps)
  - **5=UD** (Orifice Controls 0.02 cfs @ 11.20 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=395.00' (Free Discharge)
- **3=Spillway** (Controls 0.00 cfs)

Pond RG1: Rain Garden #1



Pond RG1: Rain Garden #1



Hydrograph for Pond RG1: Rain Garden #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	395.00	0.00	0.00	**0.00**
2.50	0.03	115	395.49	0.00	0.00	0.00
5.00	0.06	471	397.09	0.01	0.01	0.00
7.50	0.08	846	399.37	0.08	0.08	0.00
10.00	**0.16**	**875**	**399.41**	**0.15**	**0.15**	0.00
12.50	**0.72**	**854**	**399.38**	**0.10**	**0.10**	0.00
15.00	0.22	893	399.43	0.22	0.22	0.00
17.50	0.14	870	399.40	0.14	0.14	0.00
20.00	0.10	852	399.38	0.10	0.10	0.00
22.50	0.09	847	399.37	0.09	0.09	0.00
25.00	0.00	780	399.29	0.01	0.01	0.00
27.50	0.00	659	399.12	0.01	0.01	0.00
30.00	0.00	543	398.31	0.01	0.01	0.00
32.50	0.00	450	396.93	0.01	0.01	0.00
35.00	0.00	372	396.60	0.01	0.01	0.00
37.50	0.00	302	396.29	0.01	0.01	0.00
40.00	0.00	239	396.02	0.01	0.01	0.00
42.50	0.00	183	395.79	0.01	0.01	0.00
45.00	0.00	135	395.58	0.00	0.00	0.00
47.50	0.00	95	395.41	0.00	0.00	0.00
50.00	0.00	62	395.27	0.00	0.00	0.00
52.50	0.00	37	395.16	0.00	0.00	0.00
55.00	0.00	19	395.08	0.00	0.00	0.00
57.50	0.00	8	395.04	0.00	0.00	0.00
60.00	0.00	4	395.02	0.00	0.00	0.00
62.50	0.00	2	395.01	0.00	0.00	0.00
65.00	0.00	1	395.00	0.00	0.00	0.00
67.50	0.00	0	395.00	0.00	0.00	0.00
70.00	0.00	0	395.00	0.00	0.00	0.00

Stage-Discharge for Pond RG1: Rain Garden #1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
395.00	0.00	0.00	0.00
395.10	0.00	0.00	0.00
395.20	0.00	0.00	0.00
395.30	0.00	0.00	0.00
395.40	0.00	0.00	0.00
395.50	0.00	0.00	0.00
395.60	0.00	0.00	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.01	0.01	0.00
396.20	0.01	0.01	0.00
396.30	0.01	0.01	0.00
396.40	0.01	0.01	0.00
396.50	0.01	0.01	0.00
396.60	0.01	0.01	0.00
396.70	0.01	0.01	0.00
396.80	0.01	0.01	0.00
396.90	0.01	0.01	0.00
397.00	0.01	0.01	0.00
397.10	0.01	0.01	0.00
397.20	0.01	0.01	0.00
397.30	0.01	0.01	0.00
397.40	0.01	0.01	0.00
397.50	0.01	0.01	0.00
397.60	0.01	0.01	0.00
397.70	0.01	0.01	0.00
397.80	0.01	0.01	0.00
397.90	0.01	0.01	0.00
398.00	0.01	0.01	0.00
398.10	0.01	0.01	0.00
398.20	0.01	0.01	0.00
398.30	0.01	0.01	0.00
398.40	0.01	0.01	0.00
398.50	0.01	0.01	0.00
398.60	0.01	0.01	0.00
398.70	0.01	0.01	0.00
398.80	0.01	0.01	0.00
398.90	0.01	0.01	0.00
399.00	0.01	0.01	0.00
399.10	0.01	0.01	0.00
399.20	0.01	0.01	0.00
399.30	0.01	0.01	0.00
399.40	0.13	0.13	0.00
399.50	0.46	0.46	0.00
399.60	0.91	0.91	0.00
399.70	1.46	1.46	0.00
399.80	2.08	2.08	0.00
399.90	2.66	2.66	0.00
400.00	3.09	3.09	0.00
400.10	3.45	3.45	0.00
400.20	3.78	3.78	0.00
400.30	4.08	4.08	0.00
400.40	4.36	4.36	0.00
400.50	4.62	4.62	0.00
400.60	4.87	4.87	0.00
400.70	5.52	5.52	0.00
400.80	8.07	7.52	0.55
400.90	13.17	10.25	2.92
401.00	19.93	13.56	6.38
401.10	28.06	17.33	10.73
401.20	34.43	18.56	15.87
401.30	40.49	18.72	21.77
401.40	47.26	18.88	28.38
401.50	54.72	19.04	35.68
401.60	62.86	19.20	43.67
401.70	71.67	19.35	52.32
401.80	81.15	19.51	61.64
401.90	91.28	19.66	71.62
402.00	**102.08**	**19.82**	**82.26**

Summary for Pond RG2: Rain Garden #2

Inflow Area = 5.565 ac, 47.16% Impervious, Inflow Depth = 4.61" for 50-yr event
Inflow = 28.87 cfs @ 11.98 hrs, Volume= 2.139 af
Outflow = 23.61 cfs @ 12.03 hrs, Volume= 2.123 af, Atten= 18%, Lag= 3.0 min
Primary = 23.61 cfs @ 12.03 hrs, Volume= 2.123 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 386.17' @ 12.06 hrs Surf.Area= 6,334 sf Storage= 8,996 cf

Plug-Flow detention time= 50.5 min calculated for 2.115 af (99% of inflow)
Center-of-Mass det. time= 54.2 min (831.1 - 776.9)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	12,723 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	359 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 10.0% Voids
#3	379.00'	1,435 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 40.0% Voids
		14,517 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	1,794	0	0
388.00	3,295	12,723	12,723

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	1,794	0	0
383.00	1,794	3,588	3,588

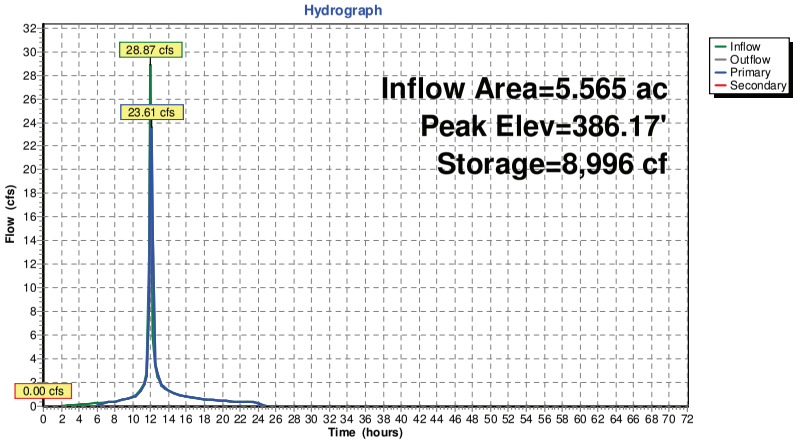
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	1,794	0	0
381.00	1,794	3,588	3,588

Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	386.60'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	386.70'	**Spillway, C= 3.27** Offset (feet) 0.00 3.90 58.90 62.80 Height (feet) 1.30 0.00 0.00 1.30
#4	Device 1	383.33'	**36.0" W x 8.0" H Vert. 1st stage** C= 0.600
#5	Device 1	385.33'	**24.0" W x 8.0" H Vert. 2nd Stage X 2.00** C= 0.600
#6	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

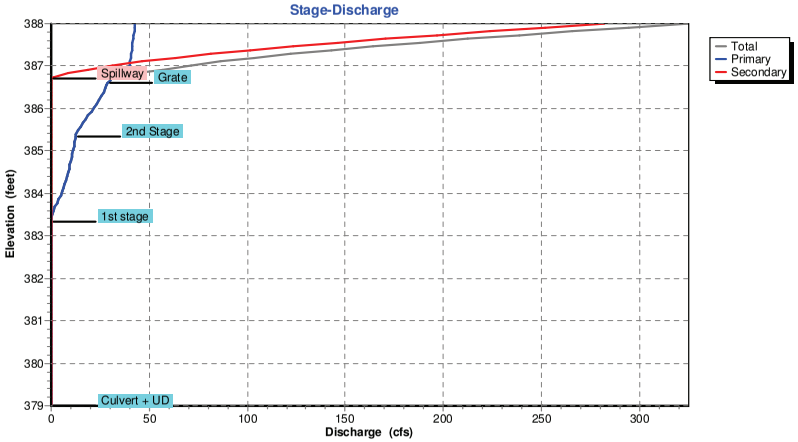
Primary OutFlow Max=22.47 cfs @ 12.03 hrs HW=386.04' (Free Discharge)
└─**1=Culvert** (Passes 22.47 cfs of 37.19 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=1st stage** (Orifice Controls 14.85 cfs @ 7.42 fps)
  ├─**5=2nd Stage** (Orifice Controls 7.61 cfs @ 2.85 fps)
  └─**6=UD** (Orifice Controls 0.02 cfs @ 12.76 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=379.00' (Free Discharge)
└─**3=Spillway** (Controls 0.00 cfs)

Pond RG2: Rain Garden #2



Pond RG2: Rain Garden #2



Hydrograph for Pond RG2: Rain Garden #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	379.00	0.00	0.00	**0.00**
2.50	0.06	104	379.14	0.00	0.00	0.00
5.00	0.21	1,293	380.80	0.01	0.01	0.00
7.50	0.37	2,605	383.44	0.36	0.36	0.00
10.00	**0.78**	**2,746**	**383.51**	**0.75**	**0.75**	0.00
12.50	**3.43**	**3,409**	**383.84**	**3.54**	**3.54**	0.00
15.00	0.97	2,817	383.55	0.99	0.99	0.00
17.50	0.62	2,707	383.49	0.63	0.63	0.00
20.00	0.43	2,632	383.45	0.44	0.44	0.00
22.50	0.38	2,613	383.44	0.38	0.38	0.00
25.00	0.00	2,386	383.32	0.01	0.01	0.00
27.50	0.00	2,263	383.26	0.01	0.01	0.00
30.00	0.00	2,142	383.19	0.01	0.01	0.00
32.50	0.00	2,022	383.13	0.01	0.01	0.00
35.00	0.00	1,903	383.06	0.01	0.01	0.00
37.50	0.00	1,785	382.95	0.01	0.01	0.00
40.00	0.00	1,672	382.32	0.01	0.01	0.00
42.50	0.00	1,570	381.75	0.01	0.01	0.00
45.00	0.00	1,477	381.23	0.01	0.01	0.00
47.50	0.00	1,393	380.94	0.01	0.01	0.00
50.00	0.00	1,313	380.83	0.01	0.01	0.00
52.50	0.00	1,234	380.72	0.01	0.01	0.00
55.00	0.00	1,158	380.61	0.01	0.01	0.00
57.50	0.00	1,085	380.51	0.01	0.01	0.00
60.00	0.00	1,014	380.41	0.01	0.01	0.00
62.50	0.00	946	380.32	0.01	0.01	0.00
65.00	0.00	880	380.23	0.01	0.01	0.00
67.50	0.00	816	380.14	0.01	0.01	0.00
70.00	0.00	755	380.05	0.01	0.01	0.00

Stage-Discharge for Pond RG2: Rain Garden #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
379.00	0.00	0.00	0.00
379.10	0.00	0.00	0.00
379.20	0.00	0.00	0.00
379.30	0.00	0.00	0.00
379.40	0.00	0.00	0.00
379.50	0.00	0.00	0.00
379.60	0.00	0.00	0.00
379.70	0.01	0.01	0.00
379.80	0.01	0.01	0.00
379.90	0.01	0.01	0.00
380.00	0.01	0.01	0.00
380.10	0.01	0.01	0.00
380.20	0.01	0.01	0.00
380.30	0.01	0.01	0.00
380.40	0.01	0.01	0.00
380.50	0.01	0.01	0.00
380.60	0.01	0.01	0.00
380.70	0.01	0.01	0.00
380.80	0.01	0.01	0.00
380.90	0.01	0.01	0.00
381.00	0.01	0.01	0.00
381.10	0.01	0.01	0.00
381.20	0.01	0.01	0.00
381.30	0.01	0.01	0.00
381.40	0.01	0.01	0.00
381.50	0.01	0.01	0.00
381.60	0.01	0.01	0.00
381.70	0.01	0.01	0.00
381.80	0.01	0.01	0.00
381.90	0.01	0.01	0.00
382.00	0.01	0.01	0.00
382.10	0.01	0.01	0.00
382.20	0.01	0.01	0.00
382.30	0.01	0.01	0.00
382.40	0.01	0.01	0.00
382.50	0.01	0.01	0.00
382.60	0.01	0.01	0.00
382.70	0.01	0.01	0.00
382.80	0.01	0.01	0.00
382.90	0.01	0.01	0.00
383.00	0.01	0.01	0.00
383.10	0.01	0.01	0.00
383.20	0.01	0.01	0.00
383.30	0.01	0.01	0.00
383.40	0.19	0.19	0.00
383.50	0.69	0.69	0.00
383.60	1.37	1.37	0.00
383.70	2.18	2.18	0.00
383.80	3.12	3.12	0.00
383.90	4.16	4.16	0.00
384.00	5.29	5.29	0.00
384.10	6.20	6.20	0.00
384.20	6.95	6.95	0.00
384.30	7.61	7.61	0.00
384.40	8.21	8.21	0.00
384.50	8.76	8.76	0.00
384.60	9.29	9.29	0.00
384.70	9.78	9.78	0.00
384.80	10.25	10.25	0.00
384.90	10.69	10.69	0.00
385.00	11.12	11.12	0.00
385.10	11.53	11.53	0.00
385.20	11.93	11.93	0.00
385.30	12.31	12.31	0.00
385.40	12.93	12.93	0.00
385.50	13.95	13.95	0.00
385.60	15.20	15.20	0.00
385.70	16.63	16.63	0.00
385.80	18.22	18.22	0.00
385.90	19.93	19.93	0.00
386.00	21.76	21.76	0.00
386.10	23.29	23.29	0.00
386.20	24.59	24.59	0.00
386.30	25.77	25.77	0.00
386.40	26.86	26.86	0.00
386.50	27.89	27.89	0.00
386.60	28.87	28.87	0.00
386.70	31.00	31.00	0.00
386.80	39.79	34.08	5.71
386.90	53.99	37.77	16.23
387.00	69.96	40.02	29.94
387.10	86.60	40.31	46.29
387.20	105.56	40.59	64.97
387.30	126.65	40.87	85.78
387.40	149.70	41.15	108.55
387.50	174.61	41.43	133.18
387.60	201.29	41.70	159.59
387.70	229.67	41.97	187.70
387.80	259.70	42.25	217.45
387.90	291.32	42.52	248.80
388.00	**324.49**	**42.78**	**281.70**

Summary for Pond RG3: Rain Garden #3

Inflow Area =	0.708 ac,	25.78% Impervious,	Inflow Depth =	3.40"	for 50-yr event
Inflow =	2.74 cfs @	11.98 hrs,	Volume=	0.201 af	
Outflow =	2.25 cfs @	12.05 hrs,	Volume=	0.201 af,	Atten= 18%, Lag= 4.1 min
Primary =	2.25 cfs @	12.05 hrs,	Volume=	0.201 af	
Secondary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 396.65' @ 12.04 hrs Surf.Area= 1,859 sf Storage= 1,500 cf

Plug-Flow detention time= 169.7 min calculated for 0.201 af (100% of inflow)
Center-of-Mass det. time= 168.0 min (966.1 - 798.1)

Volume	Invert	Avail.Storage	Storage Description
#1	395.00'	2,978 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	393.50'	61 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 608 cf Overall x 10.0% Voids
#3	392.00'	243 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 608 cf Overall x 40.0% Voids
		3,281 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	405	0	0
398.00	1,580	2,978	2,978

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.50	405	0	0
395.00	405	608	608

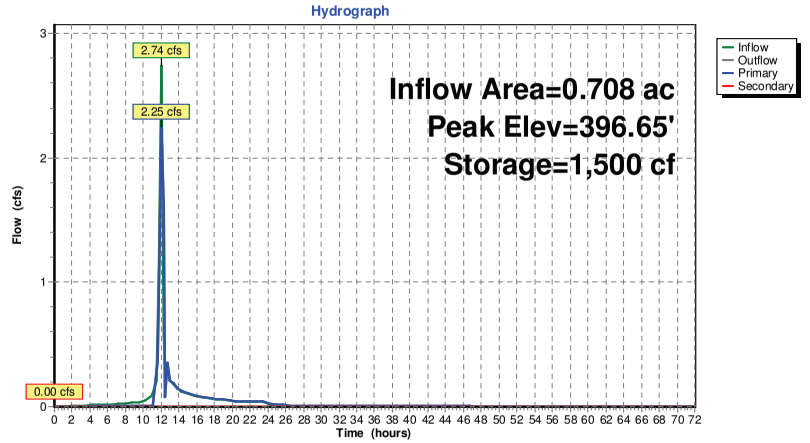
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
392.00	405	0	0
393.50	405	608	608

Device	Routing	Invert	Outlet Devices
#1	Primary	392.00'	**18.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 392.00' / 391.64' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	396.00'	**24.0" W x 4.0" H Vert. 1st Stage** C= 0.600
#3	Device 1	396.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	396.75'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 3.75 13.75 17.50 Height (feet) 1.25 0.00 0.00 1.25
#5	Device 1	391.00'	**0.5" Vert. UD** C= 0.600

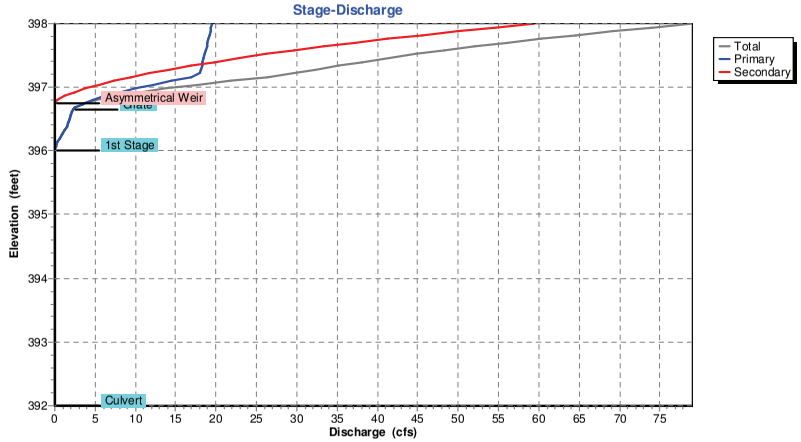
Primary OutFlow Max=2.10 cfs @ 12.05 hrs HW=396.59' (Free Discharge)
└─**1=Culvert** (Passes 2.10 cfs of 16.68 cfs potential flow)
  ├─**2=1st Stage** (Orifice Controls 2.08 cfs @ 3.12 fps)
  ├─**3=Grate** (Controls 0.00 cfs)
  └─**5=UD** (Orifice Controls 0.01 cfs @ 10.32 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' (Free Discharge)
└─**4=Asymmetrical Weir** (Controls 0.00 cfs)

Pond RG3: Rain Garden #3



Pond RG3: Rain Garden #3



Hydrograph for Pond RG3: Rain Garden #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
2.50	0.01	27	392.17	0.00	0.00	0.00
5.00	0.02	108	392.67	0.01	0.01	0.00
7.50	0.02	231	393.43	0.01	0.01	0.00
10.00	**0.05**	**430**	**395.27**	**0.01**	**0.01**	0.00
12.50	**0.35**	**938**	**396.04**	**0.08**	**0.08**	0.00
15.00	0.11	950	396.06	0.11	0.11	0.00
17.50	0.07	935	396.04	0.07	0.07	0.00
20.00	0.05	927	396.03	0.05	0.05	0.00
22.50	0.04	925	396.03	0.04	0.04	0.00
25.00	0.00	874	395.96	0.01	0.01	0.00
27.50	0.00	757	395.81	0.01	0.01	0.00
30.00	0.00	643	395.64	0.01	0.01	0.00
32.50	0.00	532	395.46	0.01	0.01	0.00
35.00	0.00	423	395.26	0.01	0.01	0.00
37.50	0.00	318	395.04	0.01	0.01	0.00
40.00	0.00	231	393.43	0.01	0.01	0.00
42.50	0.00	166	393.03	0.01	0.01	0.00
45.00	0.00	112	392.69	0.01	0.01	0.00
47.50	0.00	68	392.42	0.00	0.00	0.00
50.00	0.00	35	392.22	0.00	0.00	0.00
52.50	0.00	13	392.08	0.00	0.00	0.00
55.00	0.00	3	392.02	0.00	0.00	0.00
57.50	0.00	1	392.00	0.00	0.00	0.00
60.00	0.00	0	392.00	0.00	0.00	0.00
62.50	0.00	0	392.00	0.00	0.00	0.00
65.00	0.00	0	392.00	0.00	0.00	0.00
67.50	0.00	0	392.00	0.00	0.00	0.00
70.00	0.00	0	392.00	0.00	0.00	0.00

Stage-Discharge for Pond RG3: Rain Garden #3

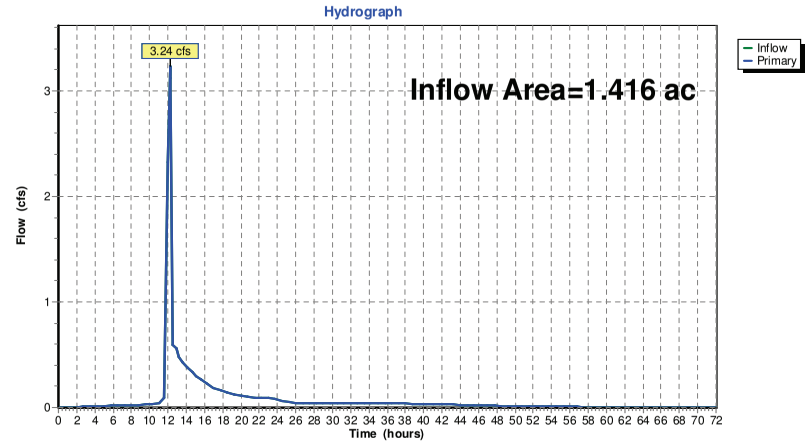
Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
392.00	0.00	0.00	0.00
392.10	0.00	0.00	0.00
392.20	0.00	0.00	0.00
392.30	0.00	0.00	0.00
392.40	0.00	0.00	0.00
392.50	0.00	0.00	0.00
392.60	0.01	0.01	0.00
392.70	0.01	0.01	0.00
392.80	0.01	0.01	0.00
392.90	0.01	0.01	0.00
393.00	0.01	0.01	0.00
393.10	0.01	0.01	0.00
393.20	0.01	0.01	0.00
393.30	0.01	0.01	0.00
393.40	0.01	0.01	0.00
393.50	0.01	0.01	0.00
393.60	0.01	0.01	0.00
393.70	0.01	0.01	0.00
393.80	0.01	0.01	0.00
393.90	0.01	0.01	0.00
394.00	0.01	0.01	0.00
394.10	0.01	0.01	0.00
394.20	0.01	0.01	0.00
394.30	0.01	0.01	0.00
394.40	0.01	0.01	0.00
394.50	0.01	0.01	0.00
394.60	0.01	0.01	0.00
394.70	0.01	0.01	0.00
394.80	0.01	0.01	0.00
394.90	0.01	0.01	0.00
395.00	0.01	0.01	0.00
395.10	0.01	0.01	0.00
395.20	0.01	0.01	0.00
395.30	0.01	0.01	0.00
395.40	0.01	0.01	0.00
395.50	0.01	0.01	0.00
395.60	0.01	0.01	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.22	0.22	0.00
396.20	0.59	0.59	0.00
396.30	1.07	1.07	0.00
396.40	1.53	1.53	0.00
396.50	1.85	1.85	0.00
396.60	2.11	2.11	0.00
396.70	2.77	2.77	0.00
396.80	5.12	4.75	0.37
396.90	9.44	7.47	1.97
397.00	15.08	10.75	4.33
397.10	21.84	14.50	7.34
397.20	28.89	17.95	10.94
397.30	33.25	18.15	15.10
397.40	38.16	18.35	19.81
397.50	43.61	18.54	25.06
397.60	49.59	18.74	30.85
397.70	56.11	18.93	37.18
397.80	63.17	19.12	44.05
397.90	70.77	19.31	51.46
398.00	**78.91**	**19.50**	**59.41**

Summary for Link 1L: INF Trench Collection

Inflow Area = 1.416 ac, 28.90% Impervious, Inflow Depth = 3.53" for 50-yr event
Inflow = 3.24 cfs @ 12.18 hrs, Volume= 0.416 af
Primary = 3.24 cfs @ 12.18 hrs, Volume= 0.416 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link 1L: INF Trench Collection



Hydrograph for Link 1L: INF Trench Collection

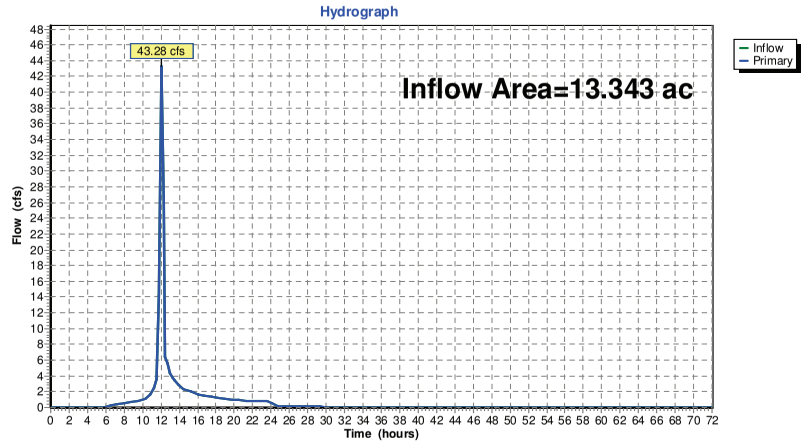
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.01	0.00	0.01	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.02	0.00	0.02	70.00	0.00	0.00	0.00
7.50	0.02	0.00	0.02	71.25	0.00	0.00	0.00
8.75	0.02	0.00	0.02				
10.00	0.03	0.00	0.03				
11.25	**0.04**	0.00	**0.04**				
12.50	**0.59**	0.00	**0.59**				
13.75	0.42	0.00	0.42				
15.00	0.30	0.00	0.30				
16.25	0.22	0.00	0.22				
17.50	0.17	0.00	0.17				
18.75	0.14	0.00	0.14				
20.00	0.11	0.00	0.11				
21.25	0.10	0.00	0.10				
22.50	0.09	0.00	0.09				
23.75	0.09	0.00	0.09				
25.00	0.05	0.00	0.05				
26.25	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.75	0.04	0.00	0.04				
30.00	0.04	0.00	0.04				
31.25	0.04	0.00	0.04				
32.50	0.04	0.00	0.04				
33.75	0.04	0.00	0.04				
35.00	0.04	0.00	0.04				
36.25	0.04	0.00	0.04				
37.50	0.04	0.00	0.04				
38.75	0.04	0.00	0.04				
40.00	0.03	0.00	0.03				
41.25	0.03	0.00	0.03				
42.50	0.03	0.00	0.03				
43.75	0.02	0.00	0.02				
45.00	0.02	0.00	0.02				
46.25	0.02	0.00	0.02				
47.50	0.02	0.00	0.02				
48.75	0.01	0.00	0.01				
50.00	0.01	0.00	0.01				
51.25	0.01	0.00	0.01				
52.50	0.01	0.00	0.01				
53.75	0.01	0.00	0.01				
55.00	0.01	0.00	0.01				
56.25	0.01	0.00	0.01				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link POI East: Prop POI East

Inflow Area = 13.343 ac, 28.42% Impervious, Inflow Depth > 3.55" for 50-yr event
Inflow = 43.28 cfs @ 12.03 hrs, Volume= 3.946 af
Primary = 43.28 cfs @ 12.03 hrs, Volume= 3.946 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link POI East: Prop POI East



Hydrograph for Link POI East: Prop POI East

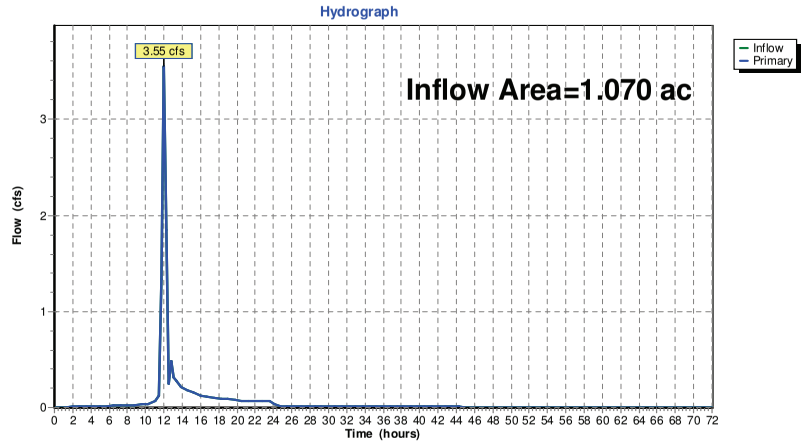
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.01	0.00	0.01
1.25	0.00	0.00	0.00	65.00	0.01	0.00	0.01
2.50	0.01	0.00	0.01	66.25	0.01	0.00	0.01
3.75	0.03	0.00	0.03	67.50	0.01	0.00	0.01
5.00	0.04	0.00	0.04	68.75	0.01	0.00	0.01
6.25	0.06	0.00	0.06	70.00	0.01	0.00	0.01
7.50	0.49	0.00	0.49	71.25	0.01	0.00	0.01
8.75	0.69	0.00	0.69				
10.00	0.98	0.00	0.98				
11.25	**2.43**	0.00	**2.43**				
12.50	**6.44**	0.00	**6.44**				
13.75	3.04	0.00	3.04				
15.00	2.14	0.00	2.14				
16.25	1.58	0.00	1.58				
17.50	1.36	0.00	1.36				
18.75	1.14	0.00	1.14				
20.00	0.93	0.00	0.93				
21.25	0.86	0.00	0.86				
22.50	0.82	0.00	0.82				
23.75	0.78	0.00	0.78				
25.00	0.08	0.00	0.08				
26.25	0.07	0.00	0.07				
27.50	0.07	0.00	0.07				
28.75	0.07	0.00	0.07				
30.00	0.07	0.00	0.07				
31.25	0.07	0.00	0.07				
32.50	0.06	0.00	0.06				
33.75	0.06	0.00	0.06				
35.00	0.06	0.00	0.06				
36.25	0.06	0.00	0.06				
37.50	0.06	0.00	0.06				
38.75	0.05	0.00	0.05				
40.00	0.05	0.00	0.05				
41.25	0.05	0.00	0.05				
42.50	0.05	0.00	0.05				
43.75	0.04	0.00	0.04				
45.00	0.04	0.00	0.04				
46.25	0.03	0.00	0.03				
47.50	0.03	0.00	0.03				
48.75	0.03	0.00	0.03				
50.00	0.02	0.00	0.02				
51.25	0.02	0.00	0.02				
52.50	0.02	0.00	0.02				
53.75	0.02	0.00	0.02				
55.00	0.02	0.00	0.02				
56.25	0.02	0.00	0.02				
57.50	0.01	0.00	0.01				
58.75	0.01	0.00	0.01				
60.00	0.01	0.00	0.01				
61.25	0.01	0.00	0.01				
62.50	0.01	0.00	0.01				

Summary for Link PR POI W: PR POI - West

Inflow Area = 1.070 ac, 25.17% Impervious, Inflow Depth = 3.38" for 50-yr event
Inflow = 3.55 cfs @ 12.02 hrs, Volume= 0.301 af
Primary = 3.55 cfs @ 12.02 hrs, Volume= 0.301 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link PR POI W: PR POI - West



Hydrograph for Link PR POI W: PR POI - West

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.01	0.00	0.01	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01	68.75	0.00	0.00	0.00
6.25	0.02	0.00	0.02	70.00	0.00	0.00	0.00
7.50	0.02	0.00	0.02	71.25	0.00	0.00	0.00
8.75	0.03	0.00	0.03				
10.00	0.03	0.00	0.03				
11.25	**0.08**	0.00	**0.08**				
12.50	**0.25**	0.00	**0.25**				
13.75	0.23	0.00	0.23				
15.00	0.16	0.00	0.16				
16.25	0.12	0.00	0.12				
17.50	0.10	0.00	0.10				
18.75	0.09	0.00	0.09				
20.00	0.07	0.00	0.07				
21.25	0.07	0.00	0.07				
22.50	0.06	0.00	0.06				
23.75	0.06	0.00	0.06				
25.00	0.01	0.00	0.01				
26.25	0.01	0.00	0.01				
27.50	0.01	0.00	0.01				
28.75	0.01	0.00	0.01				
30.00	0.01	0.00	0.01				
31.25	0.01	0.00	0.01				
32.50	0.01	0.00	0.01				
33.75	0.01	0.00	0.01				
35.00	0.01	0.00	0.01				
36.25	0.01	0.00	0.01				
37.50	0.01	0.00	0.01				
38.75	0.01	0.00	0.01				
40.00	0.01	0.00	0.01				
41.25	0.01	0.00	0.01				
42.50	0.01	0.00	0.01				
43.75	0.01	0.00	0.01				
45.00	0.01	0.00	0.01				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Subcatchment Gr 1-6: PR Grass (1-6)

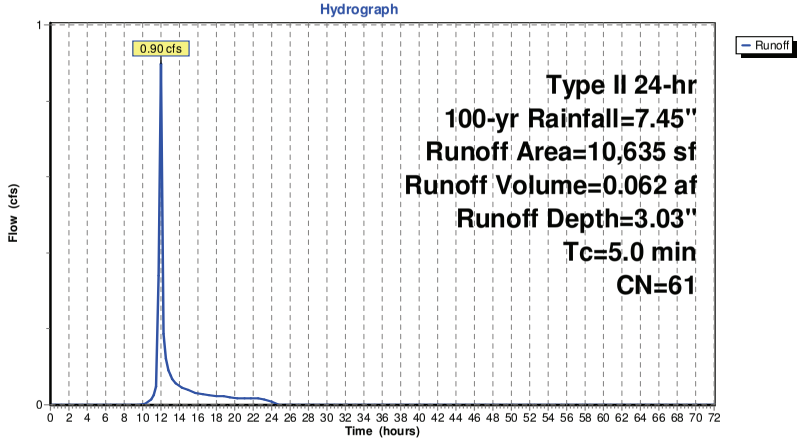
Runoff = 0.90 cfs @ 11.98 hrs, Volume= 0.062 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
10,635	61	>75% Grass cover, Good, HSG B
10,635		100.00% Pervious Area

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

Subcatchment Gr 1-6: PR Grass (1-6)



Hydrograph for Subcatchment Gr 1-6: PR Grass (1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	3.03	0.00
1.25	0.10	0.00	0.00	65.00	7.45	3.03	0.00
2.50	0.21	0.00	0.00	66.25	7.45	3.03	0.00
3.75	0.33	0.00	0.00	67.50	7.45	3.03	0.00
5.00	0.47	0.00	0.00	68.75	7.45	3.03	0.00
6.25	0.63	0.00	0.00	70.00	7.45	3.03	0.00
7.50	0.81	0.00	0.00	71.25	7.45	3.03	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.00				
11.25	1.91	0.06	**0.03**				
12.50	5.48	1.66	**0.12**				
13.75	6.04	2.03	0.05				
15.00	6.36	2.25	0.04				
16.25	6.60	2.42	0.03				
17.50	6.79	2.55	0.03				
18.75	6.96	2.67	0.02				
20.00	7.09	2.77	0.02				
21.25	7.21	2.85	0.02				
22.50	7.32	2.94	0.02				
23.75	**7.43**	**3.02**	0.02				
25.00	**7.45**	**3.03**	0.00				
26.25	7.45	3.03	0.00				
27.50	7.45	3.03	0.00				
28.75	7.45	3.03	0.00				
30.00	7.45	3.03	0.00				
31.25	7.45	3.03	0.00				
32.50	7.45	3.03	0.00				
33.75	7.45	3.03	0.00				
35.00	7.45	3.03	0.00				
36.25	7.45	3.03	0.00				
37.50	7.45	3.03	0.00				
38.75	7.45	3.03	0.00				
40.00	7.45	3.03	0.00				
41.25	7.45	3.03	0.00				
42.50	7.45	3.03	0.00				
43.75	7.45	3.03	0.00				
45.00	7.45	3.03	0.00				
46.25	7.45	3.03	0.00				
47.50	7.45	3.03	0.00				
48.75	7.45	3.03	0.00				
50.00	7.45	3.03	0.00				
51.25	7.45	3.03	0.00				
52.50	7.45	3.03	0.00				
53.75	7.45	3.03	0.00				
55.00	7.45	3.03	0.00				
56.25	7.45	3.03	0.00				
57.50	7.45	3.03	0.00				
58.75	7.45	3.03	0.00				
60.00	7.45	3.03	0.00				
61.25	7.45	3.03	0.00				
62.50	7.45	3.03	0.00				

Summary for Subcatchment Gr 14-17: PR Grass (14-17)

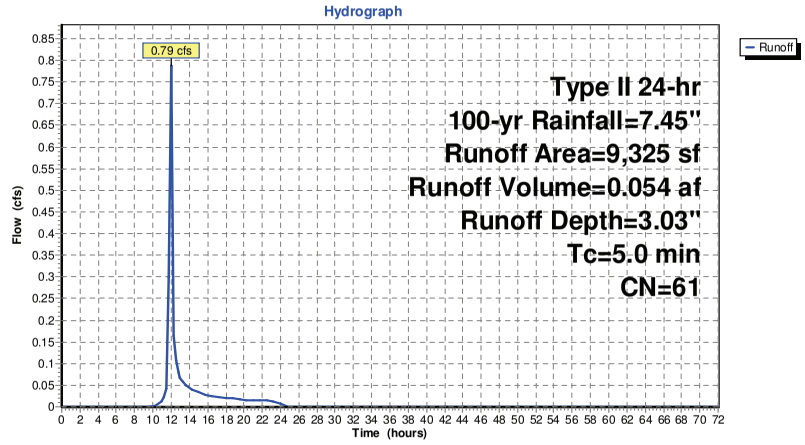
Runoff = 0.79 cfs @ 11.98 hrs, Volume= 0.054 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
9,325	61	>75% Grass cover, Good, HSG B
9,325		100.00% Pervious Area

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

Subcatchment Gr 14-17: PR Grass (14-17)



Hydrograph for Subcatchment Gr 14-17: PR Grass (14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	3.03	0.00
1.25	0.10	0.00	0.00	65.00	7.45	3.03	0.00
2.50	0.21	0.00	0.00	66.25	7.45	3.03	0.00
3.75	0.33	0.00	0.00	67.50	7.45	3.03	0.00
5.00	0.47	0.00	0.00	68.75	7.45	3.03	0.00
6.25	0.63	0.00	0.00	70.00	7.45	3.03	0.00
7.50	0.81	0.00	0.00	71.25	7.45	3.03	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.00				
11.25	1.91	0.06	**0.02**				
12.50	5.48	1.66	**0.11**				
13.75	6.04	2.03	0.05				
15.00	6.36	2.25	0.03				
16.25	6.60	2.42	0.03				
17.50	6.79	2.55	0.02				
18.75	6.96	2.67	0.02				
20.00	7.09	2.77	0.02				
21.25	7.21	2.85	0.01				
22.50	7.32	2.94	0.01				
23.75	**7.43**	**3.02**	0.01				
25.00	**7.45**	**3.03**	0.00				
26.25	7.45	3.03	0.00				
27.50	7.45	3.03	0.00				
28.75	7.45	3.03	0.00				
30.00	7.45	3.03	0.00				
31.25	7.45	3.03	0.00				
32.50	7.45	3.03	0.00				
33.75	7.45	3.03	0.00				
35.00	7.45	3.03	0.00				
36.25	7.45	3.03	0.00				
37.50	7.45	3.03	0.00				
38.75	7.45	3.03	0.00				
40.00	7.45	3.03	0.00				
41.25	7.45	3.03	0.00				
42.50	7.45	3.03	0.00				
43.75	7.45	3.03	0.00				
45.00	7.45	3.03	0.00				
46.25	7.45	3.03	0.00				
47.50	7.45	3.03	0.00				
48.75	7.45	3.03	0.00				
50.00	7.45	3.03	0.00				
51.25	7.45	3.03	0.00				
52.50	7.45	3.03	0.00				
53.75	7.45	3.03	0.00				
55.00	7.45	3.03	0.00				
56.25	7.45	3.03	0.00				
57.50	7.45	3.03	0.00				
58.75	7.45	3.03	0.00				
60.00	7.45	3.03	0.00				
61.25	7.45	3.03	0.00				
62.50	7.45	3.03	0.00				

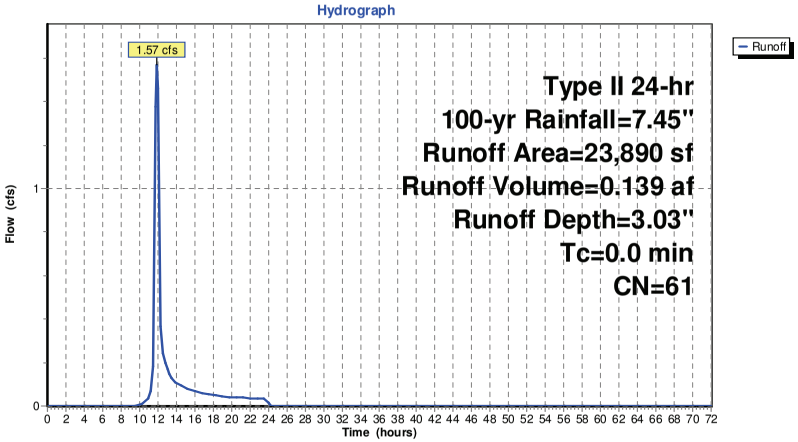
Summary for Subcatchment Gr 7-13: PR Grass (7-13)

Runoff = 1.57 cfs @ 11.89 hrs, Volume= 0.139 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
23,890	61	>75% Grass cover, Good, HSG B
23,890		100.00% Pervious Area

Subcatchment Gr 7-13: PR Grass (7-13)



Hydrograph for Subcatchment Gr 7-13: PR Grass (7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	3.03	0.00
1.25	0.10	0.00	0.00	65.00	7.45	3.03	0.00
2.50	0.21	0.00	0.00	66.25	7.45	3.03	0.00
3.75	0.33	0.00	0.00	67.50	7.45	3.03	0.00
5.00	0.47	0.00	0.00	68.75	7.45	3.03	0.00
6.25	0.63	0.00	0.00	70.00	7.45	3.03	0.00
7.50	0.81	0.00	0.00	71.25	7.45	3.03	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.00				
11.25	1.91	0.06	**0.07**				
12.50	5.48	1.66	**0.24**				
13.75	6.04	2.03	0.12				
15.00	6.36	2.25	0.09				
16.25	6.60	2.42	0.06				
17.50	6.79	2.55	0.06				
18.75	6.96	2.67	0.05				
20.00	7.09	2.77	0.04				
21.25	7.21	2.85	0.04				
22.50	7.32	2.94	0.04				
23.75	**7.43**	**3.02**	0.03				
25.00	**7.45**	**3.03**	0.00				
26.25	7.45	3.03	0.00				
27.50	7.45	3.03	0.00				
28.75	7.45	3.03	0.00				
30.00	7.45	3.03	0.00				
31.25	7.45	3.03	0.00				
32.50	7.45	3.03	0.00				
33.75	7.45	3.03	0.00				
35.00	7.45	3.03	0.00				
36.25	7.45	3.03	0.00				
37.50	7.45	3.03	0.00				
38.75	7.45	3.03	0.00				
40.00	7.45	3.03	0.00				
41.25	7.45	3.03	0.00				
42.50	7.45	3.03	0.00				
43.75	7.45	3.03	0.00				
45.00	7.45	3.03	0.00				
46.25	7.45	3.03	0.00				
47.50	7.45	3.03	0.00				
48.75	7.45	3.03	0.00				
50.00	7.45	3.03	0.00				
51.25	7.45	3.03	0.00				
52.50	7.45	3.03	0.00				
53.75	7.45	3.03	0.00				
55.00	7.45	3.03	0.00				
56.25	7.45	3.03	0.00				
57.50	7.45	3.03	0.00				
58.75	7.45	3.03	0.00				
60.00	7.45	3.03	0.00				
61.25	7.45	3.03	0.00				
62.50	7.45	3.03	0.00				

Summary for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

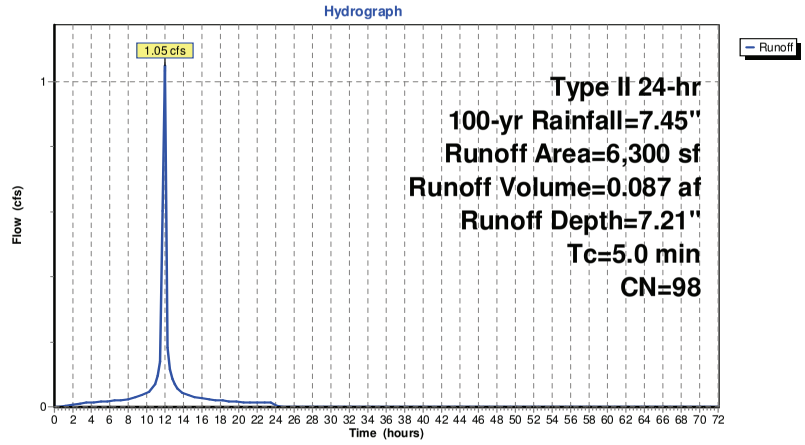
Runoff = 1.05 cfs @ 11.96 hrs, Volume= 0.087 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
6,300	98	Roofs, HSG B
6,300		100.00% Impervious Area

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

Subcatchment Imp 1-6: PR Imp (Roof 1-6)



Hydrograph for Subcatchment Imp 1-6: PR Imp (Roof 1-6)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	7.21	0.00
1.25	0.10	0.01	0.00	65.00	7.45	7.21	0.00
2.50	0.21	0.08	0.01	66.25	7.45	7.21	0.00
3.75	0.33	0.17	0.01	67.50	7.45	7.21	0.00
5.00	0.47	0.29	0.02	68.75	7.45	7.21	0.00
6.25	0.63	0.44	0.02	70.00	7.45	7.21	0.00
7.50	0.81	0.61	0.02	71.25	7.45	7.21	0.00
8.75	1.04	0.83	0.03				
10.00	1.35	1.13	0.04				
11.25	1.91	1.68	**0.10**				
12.50	5.48	5.24	**0.11**				
13.75	6.04	5.80	0.05				
15.00	6.36	6.12	0.03				
16.25	6.60	6.36	0.02				
17.50	6.79	6.55	0.02				
18.75	6.96	6.72	0.02				
20.00	7.09	6.85	0.01				
21.25	7.21	6.97	0.01				
22.50	7.32	7.08	0.01				
23.75	**7.43**	**7.19**	0.01				
25.00	**7.45**	**7.21**	0.00				
26.25	7.45	7.21	0.00				
27.50	7.45	7.21	0.00				
28.75	7.45	7.21	0.00				
30.00	7.45	7.21	0.00				
31.25	7.45	7.21	0.00				
32.50	7.45	7.21	0.00				
33.75	7.45	7.21	0.00				
35.00	7.45	7.21	0.00				
36.25	7.45	7.21	0.00				
37.50	7.45	7.21	0.00				
38.75	7.45	7.21	0.00				
40.00	7.45	7.21	0.00				
41.25	7.45	7.21	0.00				
42.50	7.45	7.21	0.00				
43.75	7.45	7.21	0.00				
45.00	7.45	7.21	0.00				
46.25	7.45	7.21	0.00				
47.50	7.45	7.21	0.00				
48.75	7.45	7.21	0.00				
50.00	7.45	7.21	0.00				
51.25	7.45	7.21	0.00				
52.50	7.45	7.21	0.00				
53.75	7.45	7.21	0.00				
55.00	7.45	7.21	0.00				
56.25	7.45	7.21	0.00				
57.50	7.45	7.21	0.00				
58.75	7.45	7.21	0.00				
60.00	7.45	7.21	0.00				
61.25	7.45	7.21	0.00				
62.50	7.45	7.21	0.00				

Summary for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

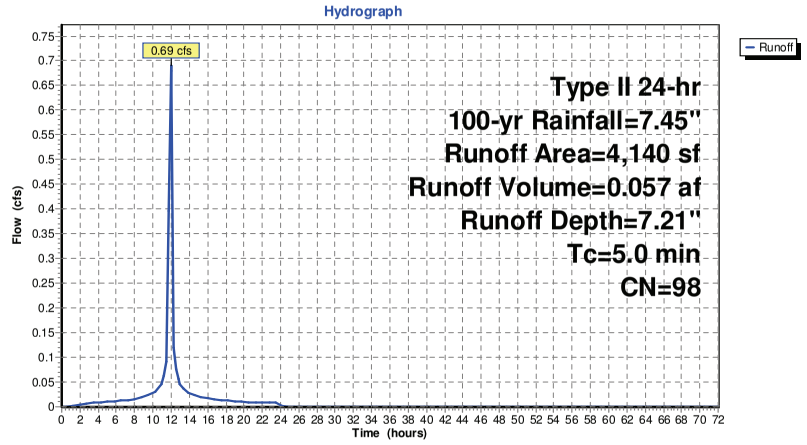
Runoff = 0.69 cfs @ 11.96 hrs, Volume= 0.057 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
4,140	98	Roofs, HSG B
4,140		100.00% Impervious Area

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

Subcatchment Imp 14-17: PR Imp (Roof 14-17)



Hydrograph for Subcatchment Imp 14-17: PR Imp (Roof 14-17)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	7.21	0.00
1.25	0.10	0.01	0.00	65.00	7.45	7.21	0.00
2.50	0.21	0.08	0.01	66.25	7.45	7.21	0.00
3.75	0.33	0.17	0.01	67.50	7.45	7.21	0.00
5.00	0.47	0.29	0.01	68.75	7.45	7.21	0.00
6.25	0.63	0.44	0.01	70.00	7.45	7.21	0.00
7.50	0.81	0.61	0.01	71.25	7.45	7.21	0.00
8.75	1.04	0.83	0.02				
10.00	1.35	1.13	0.03				
11.25	1.91	1.68	**0.06**				
12.50	5.48	5.24	**0.08**				
13.75	6.04	5.80	0.03				
15.00	6.36	6.12	0.02				
16.25	6.60	6.36	0.02				
17.50	6.79	6.55	0.01				
18.75	6.96	6.72	0.01				
20.00	7.09	6.85	0.01				
21.25	7.21	6.97	0.01				
22.50	7.32	7.08	0.01				
23.75	**7.43**	**7.19**	0.01				
25.00	**7.45**	**7.21**	0.00				
26.25	7.45	7.21	0.00				
27.50	7.45	7.21	0.00				
28.75	7.45	7.21	0.00				
30.00	7.45	7.21	0.00				
31.25	7.45	7.21	0.00				
32.50	7.45	7.21	0.00				
33.75	7.45	7.21	0.00				
35.00	7.45	7.21	0.00				
36.25	7.45	7.21	0.00				
37.50	7.45	7.21	0.00				
38.75	7.45	7.21	0.00				
40.00	7.45	7.21	0.00				
41.25	7.45	7.21	0.00				
42.50	7.45	7.21	0.00				
43.75	7.45	7.21	0.00				
45.00	7.45	7.21	0.00				
46.25	7.45	7.21	0.00				
47.50	7.45	7.21	0.00				
48.75	7.45	7.21	0.00				
50.00	7.45	7.21	0.00				
51.25	7.45	7.21	0.00				
52.50	7.45	7.21	0.00				
53.75	7.45	7.21	0.00				
55.00	7.45	7.21	0.00				
56.25	7.45	7.21	0.00				
57.50	7.45	7.21	0.00				
58.75	7.45	7.21	0.00				
60.00	7.45	7.21	0.00				
61.25	7.45	7.21	0.00				
62.50	7.45	7.21	0.00				

Summary for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

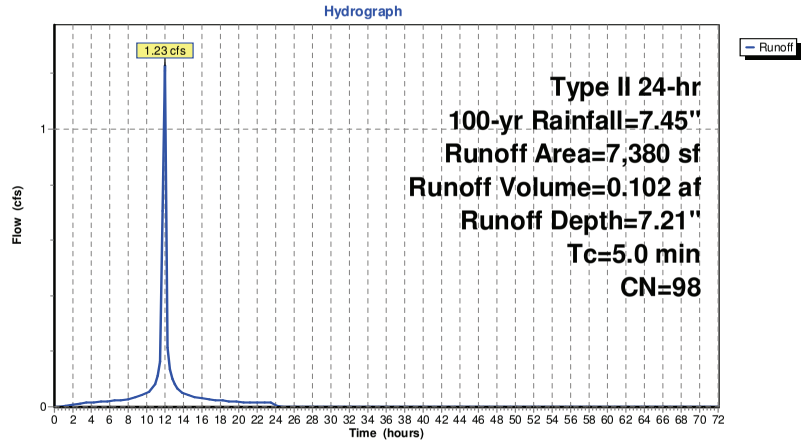
Runoff = 1.23 cfs @ 11.96 hrs, Volume= 0.102 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
7,380	98	Roofs, HSG B
7,380		100.00% Impervious Area

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

Subcatchment Imp 7-13: PR Imp (Roof 7-13)



Hydrograph for Subcatchment Imp 7-13: PR Imp (Roof 7-13)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	7.21	0.00
1.25	0.10	0.01	0.01	65.00	7.45	7.21	0.00
2.50	0.21	0.08	0.01	66.25	7.45	7.21	0.00
3.75	0.33	0.17	0.01	67.50	7.45	7.21	0.00
5.00	0.47	0.29	0.02	68.75	7.45	7.21	0.00
6.25	0.63	0.44	0.02	70.00	7.45	7.21	0.00
7.50	0.81	0.61	0.03	71.25	7.45	7.21	0.00
8.75	1.04	0.83	0.04				
10.00	1.35	1.13	0.05				
11.25	1.91	1.68	**0.11**				
12.50	5.48	5.24	**0.13**				
13.75	6.04	5.80	0.06				
15.00	6.36	6.12	0.04				
16.25	6.60	6.36	0.03				
17.50	6.79	6.55	0.02				
18.75	6.96	6.72	0.02				
20.00	7.09	6.85	0.02				
21.25	7.21	6.97	0.02				
22.50	7.32	7.08	0.01				
23.75	**7.43**	**7.19**	0.01				
25.00	**7.45**	**7.21**	0.00				
26.25	7.45	7.21	0.00				
27.50	7.45	7.21	0.00				
28.75	7.45	7.21	0.00				
30.00	7.45	7.21	0.00				
31.25	7.45	7.21	0.00				
32.50	7.45	7.21	0.00				
33.75	7.45	7.21	0.00				
35.00	7.45	7.21	0.00				
36.25	7.45	7.21	0.00				
37.50	7.45	7.21	0.00				
38.75	7.45	7.21	0.00				
40.00	7.45	7.21	0.00				
41.25	7.45	7.21	0.00				
42.50	7.45	7.21	0.00				
43.75	7.45	7.21	0.00				
45.00	7.45	7.21	0.00				
46.25	7.45	7.21	0.00				
47.50	7.45	7.21	0.00				
48.75	7.45	7.21	0.00				
50.00	7.45	7.21	0.00				
51.25	7.45	7.21	0.00				
52.50	7.45	7.21	0.00				
53.75	7.45	7.21	0.00				
55.00	7.45	7.21	0.00				
56.25	7.45	7.21	0.00				
57.50	7.45	7.21	0.00				
58.75	7.45	7.21	0.00				
60.00	7.45	7.21	0.00				
61.25	7.45	7.21	0.00				
62.50	7.45	7.21	0.00				

Summary for Subcatchment PR RG2 Gr: PR Grass RG2

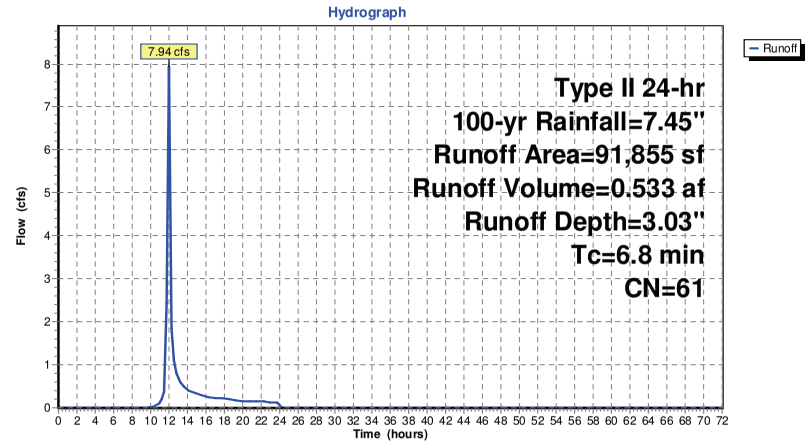
Runoff = 7.94 cfs @ 11.99 hrs, Volume= 0.533 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
91,855	61	>75% Grass cover, Good, HSG B
91,855		100.00% Pervious Area

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

Subcatchment PR RG2 Gr: PR Grass RG2



Hydrograph for Subcatchment PR RG2 Gr: PR Grass RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	3.03	0.00
1.25	0.10	0.00	0.00	65.00	7.45	3.03	0.00
2.50	0.21	0.00	0.00	66.25	7.45	3.03	0.00
3.75	0.33	0.00	0.00	67.50	7.45	3.03	0.00
5.00	0.47	0.00	0.00	68.75	7.45	3.03	0.00
6.25	0.63	0.00	0.00	70.00	7.45	3.03	0.00
7.50	0.81	0.00	0.00	71.25	7.45	3.03	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.01				
11.25	1.91	0.06	**0.21**				
12.50	5.48	1.66	**1.11**				
13.75	6.04	2.03	0.47				
15.00	6.36	2.25	0.34				
16.25	6.60	2.42	0.25				
17.50	6.79	2.55	0.22				
18.75	6.96	2.67	0.19				
20.00	7.09	2.77	0.15				
21.25	7.21	2.85	0.14				
22.50	7.32	2.94	0.14				
23.75	**7.43**	**3.02**	0.13				
25.00	**7.45**	**3.03**	0.00				
26.25	7.45	3.03	0.00				
27.50	7.45	3.03	0.00				
28.75	7.45	3.03	0.00				
30.00	7.45	3.03	0.00				
31.25	7.45	3.03	0.00				
32.50	7.45	3.03	0.00				
33.75	7.45	3.03	0.00				
35.00	7.45	3.03	0.00				
36.25	7.45	3.03	0.00				
37.50	7.45	3.03	0.00				
38.75	7.45	3.03	0.00				
40.00	7.45	3.03	0.00				
41.25	7.45	3.03	0.00				
42.50	7.45	3.03	0.00				
43.75	7.45	3.03	0.00				
45.00	7.45	3.03	0.00				
46.25	7.45	3.03	0.00				
47.50	7.45	3.03	0.00				
48.75	7.45	3.03	0.00				
50.00	7.45	3.03	0.00				
51.25	7.45	3.03	0.00				
52.50	7.45	3.03	0.00				
53.75	7.45	3.03	0.00				
55.00	7.45	3.03	0.00				
56.25	7.45	3.03	0.00				
57.50	7.45	3.03	0.00				
58.75	7.45	3.03	0.00				
60.00	7.45	3.03	0.00				
61.25	7.45	3.03	0.00				
62.50	7.45	3.03	0.00				

Summary for Subcatchment PR RG2 Imp: PR Imp RG2

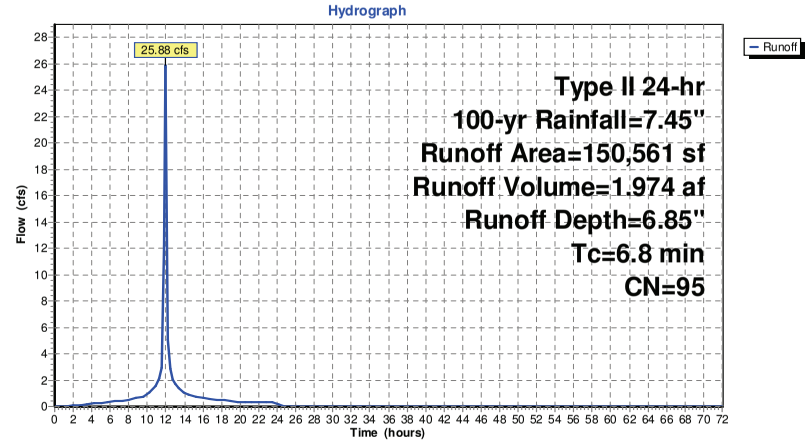
Runoff = 25.88 cfs @ 11.97 hrs, Volume= 1.974 af, Depth= 6.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
62,832	98	Paved roads w/curbs & sewers, HSG B
36,249	85	Gravel roads, HSG B
51,480	98	Roofs, HSG B
150,561	95	Weighted Average
36,249		24.08% Pervious Area
114,312		75.92% Impervious Area

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

Subcatchment PR RG2 Imp: PR Imp RG2



Hydrograph for Subcatchment PR RG2 Imp: PR Imp RG2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	6.85	0.00
1.25	0.10	0.00	0.00	65.00	7.45	6.85	0.00
2.50	0.21	0.02	0.09	66.25	7.45	6.85	0.00
3.75	0.33	0.07	0.18	67.50	7.45	6.85	0.00
5.00	0.47	0.15	0.26	68.75	7.45	6.85	0.00
6.25	0.63	0.26	0.35	70.00	7.45	6.85	0.00
7.50	0.81	0.41	0.44	71.25	7.45	6.85	0.00
8.75	1.04	0.60	0.64				
10.00	1.35	0.87	0.90				
11.25	1.91	1.39	**2.11**				
12.50	5.48	4.89	**2.87**				
13.75	6.04	5.45	1.14				
15.00	6.36	5.77	0.79				
16.25	6.60	6.01	0.58				
17.50	6.79	6.20	0.50				
18.75	6.96	6.36	0.42				
20.00	7.09	6.50	0.34				
21.25	7.21	6.62	0.32				
22.50	7.32	6.73	0.31				
23.75	**7.43**	**6.83**	0.29				
25.00	**7.45**	**6.85**	0.00				
26.25	7.45	6.85	0.00				
27.50	7.45	6.85	0.00				
28.75	7.45	6.85	0.00				
30.00	7.45	6.85	0.00				
31.25	7.45	6.85	0.00				
32.50	7.45	6.85	0.00				
33.75	7.45	6.85	0.00				
35.00	7.45	6.85	0.00				
36.25	7.45	6.85	0.00				
37.50	7.45	6.85	0.00				
38.75	7.45	6.85	0.00				
40.00	7.45	6.85	0.00				
41.25	7.45	6.85	0.00				
42.50	7.45	6.85	0.00				
43.75	7.45	6.85	0.00				
45.00	7.45	6.85	0.00				
46.25	7.45	6.85	0.00				
47.50	7.45	6.85	0.00				
48.75	7.45	6.85	0.00				
50.00	7.45	6.85	0.00				
51.25	7.45	6.85	0.00				
52.50	7.45	6.85	0.00				
53.75	7.45	6.85	0.00				
55.00	7.45	6.85	0.00				
56.25	7.45	6.85	0.00				
57.50	7.45	6.85	0.00				
58.75	7.45	6.85	0.00				
60.00	7.45	6.85	0.00				
61.25	7.45	6.85	0.00				
62.50	7.45	6.85	0.00				

Summary for Subcatchment PR RG3 Gr: PR Grass RG3

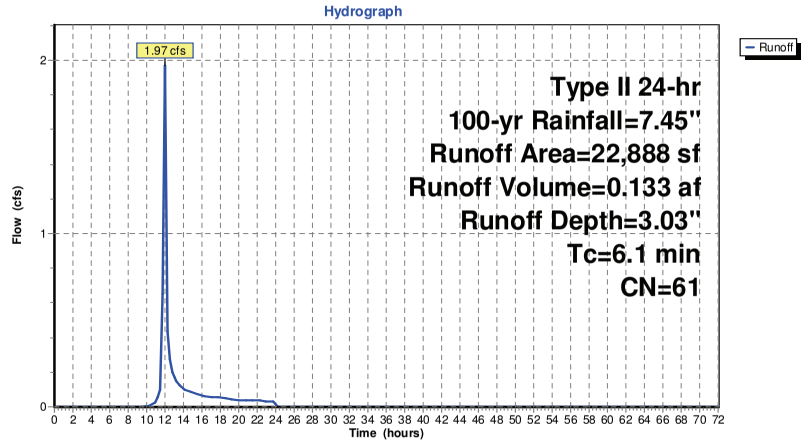
Runoff = 1.97 cfs @ 11.99 hrs, Volume= 0.133 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
22,888	61	>75% Grass cover, Good, HSG B
22,888		100.00% Pervious Area

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

Subcatchment PR RG3 Gr: PR Grass RG3



Hydrograph for Subcatchment PR RG3 Gr: PR Grass RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	3.03	0.00
1.25	0.10	0.00	0.00	65.00	7.45	3.03	0.00
2.50	0.21	0.00	0.00	66.25	7.45	3.03	0.00
3.75	0.33	0.00	0.00	67.50	7.45	3.03	0.00
5.00	0.47	0.00	0.00	68.75	7.45	3.03	0.00
6.25	0.63	0.00	0.00	70.00	7.45	3.03	0.00
7.50	0.81	0.00	0.00	71.25	7.45	3.03	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.00				
11.25	1.91	0.06	**0.05**				
12.50	5.48	1.66	**0.27**				
13.75	6.04	2.03	0.12				
15.00	6.36	2.25	0.08				
16.25	6.60	2.42	0.06				
17.50	6.79	2.55	0.05				
18.75	6.96	2.67	0.05				
20.00	7.09	2.77	0.04				
21.25	7.21	2.85	0.04				
22.50	7.32	2.94	0.03				
23.75	**7.43**	**3.02**	0.03				
25.00	**7.45**	**3.03**	0.00				
26.25	7.45	3.03	0.00				
27.50	7.45	3.03	0.00				
28.75	7.45	3.03	0.00				
30.00	7.45	3.03	0.00				
31.25	7.45	3.03	0.00				
32.50	7.45	3.03	0.00				
33.75	7.45	3.03	0.00				
35.00	7.45	3.03	0.00				
36.25	7.45	3.03	0.00				
37.50	7.45	3.03	0.00				
38.75	7.45	3.03	0.00				
40.00	7.45	3.03	0.00				
41.25	7.45	3.03	0.00				
42.50	7.45	3.03	0.00				
43.75	7.45	3.03	0.00				
45.00	7.45	3.03	0.00				
46.25	7.45	3.03	0.00				
47.50	7.45	3.03	0.00				
48.75	7.45	3.03	0.00				
50.00	7.45	3.03	0.00				
51.25	7.45	3.03	0.00				
52.50	7.45	3.03	0.00				
53.75	7.45	3.03	0.00				
55.00	7.45	3.03	0.00				
56.25	7.45	3.03	0.00				
57.50	7.45	3.03	0.00				
58.75	7.45	3.03	0.00				
60.00	7.45	3.03	0.00				
61.25	7.45	3.03	0.00				
62.50	7.45	3.03	0.00				

Summary for Subcatchment PR RG3 Imp: PR Imp RG3

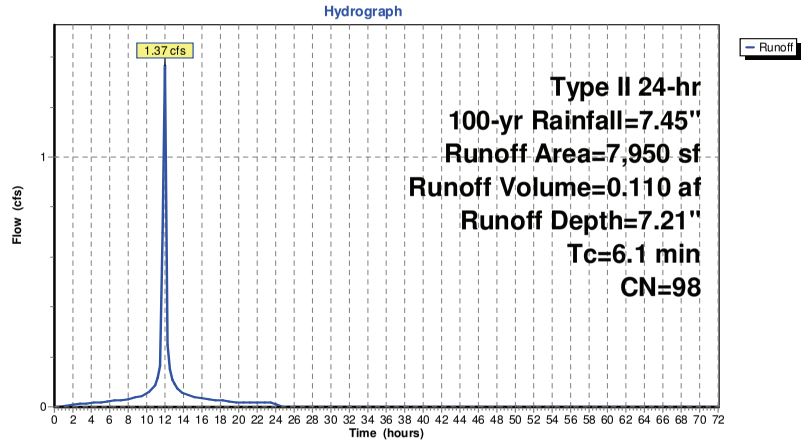
Runoff = 1.37 cfs @ 11.97 hrs, Volume= 0.110 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
7,950	98	Paved parking, HSG B
7,950		100.00% Impervious Area

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

Subcatchment PR RG3 Imp: PR Imp RG3



Hydrograph for Subcatchment PR RG3 Imp: PR Imp RG3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	7.21	0.00
1.25	0.10	0.01	0.01	65.00	7.45	7.21	0.00
2.50	0.21	0.08	0.01	66.25	7.45	7.21	0.00
3.75	0.33	0.17	0.02	67.50	7.45	7.21	0.00
5.00	0.47	0.29	0.02	68.75	7.45	7.21	0.00
6.25	0.63	0.44	0.02	70.00	7.45	7.21	0.00
7.50	0.81	0.61	0.03	71.25	7.45	7.21	0.00
8.75	1.04	0.83	0.04				
10.00	1.35	1.13	0.05				
11.25	1.91	1.68	**0.12**				
12.50	5.48	5.24	**0.15**				
13.75	6.04	5.80	0.06				
15.00	6.36	6.12	0.04				
16.25	6.60	6.36	0.03				
17.50	6.79	6.55	0.03				
18.75	6.96	6.72	0.02				
20.00	7.09	6.85	0.02				
21.25	7.21	6.97	0.02				
22.50	7.32	7.08	0.02				
23.75	**7.43**	**7.19**	0.02				
25.00	**7.45**	**7.21**	0.00				
26.25	7.45	7.21	0.00				
27.50	7.45	7.21	0.00				
28.75	7.45	7.21	0.00				
30.00	7.45	7.21	0.00				
31.25	7.45	7.21	0.00				
32.50	7.45	7.21	0.00				
33.75	7.45	7.21	0.00				
35.00	7.45	7.21	0.00				
36.25	7.45	7.21	0.00				
37.50	7.45	7.21	0.00				
38.75	7.45	7.21	0.00				
40.00	7.45	7.21	0.00				
41.25	7.45	7.21	0.00				
42.50	7.45	7.21	0.00				
43.75	7.45	7.21	0.00				
45.00	7.45	7.21	0.00				
46.25	7.45	7.21	0.00				
47.50	7.45	7.21	0.00				
48.75	7.45	7.21	0.00				
50.00	7.45	7.21	0.00				
51.25	7.45	7.21	0.00				
52.50	7.45	7.21	0.00				
53.75	7.45	7.21	0.00				
55.00	7.45	7.21	0.00				
56.25	7.45	7.21	0.00				
57.50	7.45	7.21	0.00				
58.75	7.45	7.21	0.00				
60.00	7.45	7.21	0.00				
61.25	7.45	7.21	0.00				
62.50	7.45	7.21	0.00				

Summary for Subcatchment PRGr RG1: PR Grass RG1

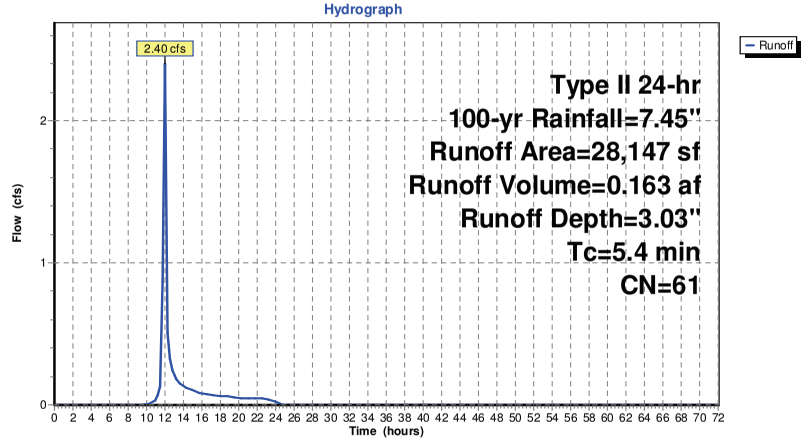
Runoff = 2.40 cfs @ 11.99 hrs, Volume= 0.163 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
28,147	61	>75% Grass cover, Good, HSG B
28,147		100.00% Pervious Area

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

Subcatchment PRGr RG1: PR Grass RG1



Hydrograph for Subcatchment PRGr RG1: PR Grass RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	3.03	0.00
1.25	0.10	0.00	0.00	65.00	7.45	3.03	0.00
2.50	0.21	0.00	0.00	66.25	7.45	3.03	0.00
3.75	0.33	0.00	0.00	67.50	7.45	3.03	0.00
5.00	0.47	0.00	0.00	68.75	7.45	3.03	0.00
6.25	0.63	0.00	0.00	70.00	7.45	3.03	0.00
7.50	0.81	0.00	0.00	71.25	7.45	3.03	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.00				
11.25	1.91	0.06	**0.07**				
12.50	5.48	1.66	**0.33**				
13.75	6.04	2.03	0.14				
15.00	6.36	2.25	0.10				
16.25	6.60	2.42	0.08				
17.50	6.79	2.55	0.07				
18.75	6.96	2.67	0.06				
20.00	7.09	2.77	0.05				
21.25	7.21	2.85	0.04				
22.50	7.32	2.94	0.04				
23.75	**7.43**	**3.02**	0.04				
25.00	**7.45**	**3.03**	0.00				
26.25	7.45	3.03	0.00				
27.50	7.45	3.03	0.00				
28.75	7.45	3.03	0.00				
30.00	7.45	3.03	0.00				
31.25	7.45	3.03	0.00				
32.50	7.45	3.03	0.00				
33.75	7.45	3.03	0.00				
35.00	7.45	3.03	0.00				
36.25	7.45	3.03	0.00				
37.50	7.45	3.03	0.00				
38.75	7.45	3.03	0.00				
40.00	7.45	3.03	0.00				
41.25	7.45	3.03	0.00				
42.50	7.45	3.03	0.00				
43.75	7.45	3.03	0.00				
45.00	7.45	3.03	0.00				
46.25	7.45	3.03	0.00				
47.50	7.45	3.03	0.00				
48.75	7.45	3.03	0.00				
50.00	7.45	3.03	0.00				
51.25	7.45	3.03	0.00				
52.50	7.45	3.03	0.00				
53.75	7.45	3.03	0.00				
55.00	7.45	3.03	0.00				
56.25	7.45	3.03	0.00				
57.50	7.45	3.03	0.00				
58.75	7.45	3.03	0.00				
60.00	7.45	3.03	0.00				
61.25	7.45	3.03	0.00				
62.50	7.45	3.03	0.00				

Summary for Subcatchment PRGr-W: PR Grass - West

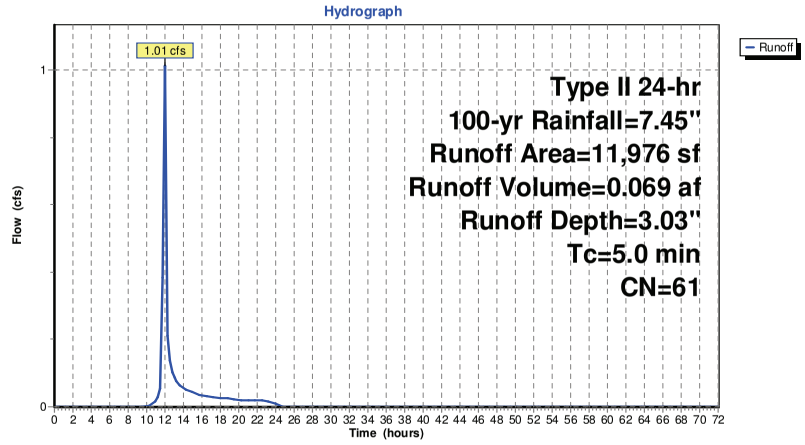
Runoff = 1.01 cfs @ 11.98 hrs, Volume= 0.069 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
11,976	61	>75% Grass cover, Good, HSG B
11,976		100.00% Pervious Area

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

Subcatchment PRGr-W: PR Grass - West



Hydrograph for Subcatchment PRGr-W: PR Grass - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	3.03	0.00
1.25	0.10	0.00	0.00	65.00	7.45	3.03	0.00
2.50	0.21	0.00	0.00	66.25	7.45	3.03	0.00
3.75	0.33	0.00	0.00	67.50	7.45	3.03	0.00
5.00	0.47	0.00	0.00	68.75	7.45	3.03	0.00
6.25	0.63	0.00	0.00	70.00	7.45	3.03	0.00
7.50	0.81	0.00	0.00	71.25	7.45	3.03	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.00				
11.25	1.91	0.06	**0.03**				
12.50	5.48	1.66	**0.14**				
13.75	6.04	2.03	0.06				
15.00	6.36	2.25	0.04				
16.25	6.60	2.42	0.03				
17.50	6.79	2.55	0.03				
18.75	6.96	2.67	0.02				
20.00	7.09	2.77	0.02				
21.25	7.21	2.85	0.02				
22.50	7.32	2.94	0.02				
23.75	**7.43**	**3.02**	0.02				
25.00	**7.45**	**3.03**	0.00				
26.25	7.45	3.03	0.00				
27.50	7.45	3.03	0.00				
28.75	7.45	3.03	0.00				
30.00	7.45	3.03	0.00				
31.25	7.45	3.03	0.00				
32.50	7.45	3.03	0.00				
33.75	7.45	3.03	0.00				
35.00	7.45	3.03	0.00				
36.25	7.45	3.03	0.00				
37.50	7.45	3.03	0.00				
38.75	7.45	3.03	0.00				
40.00	7.45	3.03	0.00				
41.25	7.45	3.03	0.00				
42.50	7.45	3.03	0.00				
43.75	7.45	3.03	0.00				
45.00	7.45	3.03	0.00				
46.25	7.45	3.03	0.00				
47.50	7.45	3.03	0.00				
48.75	7.45	3.03	0.00				
50.00	7.45	3.03	0.00				
51.25	7.45	3.03	0.00				
52.50	7.45	3.03	0.00				
53.75	7.45	3.03	0.00				
55.00	7.45	3.03	0.00				
56.25	7.45	3.03	0.00				
57.50	7.45	3.03	0.00				
58.75	7.45	3.03	0.00				
60.00	7.45	3.03	0.00				
61.25	7.45	3.03	0.00				
62.50	7.45	3.03	0.00				

Summary for Subcatchment PRImp-W: PR Imp - West

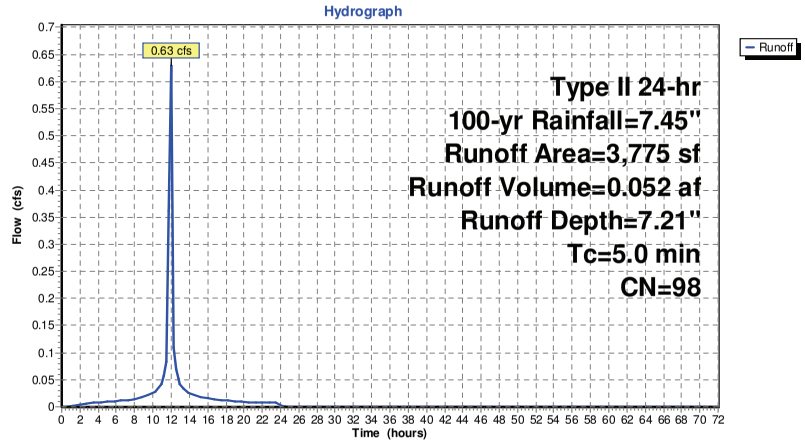
Runoff = 0.63 cfs @ 11.96 hrs, Volume= 0.052 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
3,775	98	Paved parking, HSG B
3,775		100.00% Impervious Area

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

Subcatchment PRImp-W: PR Imp - West



Hydrograph for Subcatchment PRImp-W: PR Imp - West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	7.21	0.00
1.25	0.10	0.01	0.00	65.00	7.45	7.21	0.00
2.50	0.21	0.08	0.01	66.25	7.45	7.21	0.00
3.75	0.33	0.17	0.01	67.50	7.45	7.21	0.00
5.00	0.47	0.29	0.01	68.75	7.45	7.21	0.00
6.25	0.63	0.44	0.01	70.00	7.45	7.21	0.00
7.50	0.81	0.61	0.01	71.25	7.45	7.21	0.00
8.75	1.04	0.83	0.02				
10.00	1.35	1.13	0.02				
11.25	1.91	1.68	**0.06**				
12.50	5.48	5.24	**0.07**				
13.75	6.04	5.80	0.03				
15.00	6.36	6.12	0.02				
16.25	6.60	6.36	0.01				
17.50	6.79	6.55	0.01				
18.75	6.96	6.72	0.01				
20.00	7.09	6.85	0.01				
21.25	7.21	6.97	0.01				
22.50	7.32	7.08	0.01				
23.75	**7.43**	**7.19**	0.01				
25.00	**7.45**	**7.21**	0.00				
26.25	7.45	7.21	0.00				
27.50	7.45	7.21	0.00				
28.75	7.45	7.21	0.00				
30.00	7.45	7.21	0.00				
31.25	7.45	7.21	0.00				
32.50	7.45	7.21	0.00				
33.75	7.45	7.21	0.00				
35.00	7.45	7.21	0.00				
36.25	7.45	7.21	0.00				
37.50	7.45	7.21	0.00				
38.75	7.45	7.21	0.00				
40.00	7.45	7.21	0.00				
41.25	7.45	7.21	0.00				
42.50	7.45	7.21	0.00				
43.75	7.45	7.21	0.00				
45.00	7.45	7.21	0.00				
46.25	7.45	7.21	0.00				
47.50	7.45	7.21	0.00				
48.75	7.45	7.21	0.00				
50.00	7.45	7.21	0.00				
51.25	7.45	7.21	0.00				
52.50	7.45	7.21	0.00				
53.75	7.45	7.21	0.00				
55.00	7.45	7.21	0.00				
56.25	7.45	7.21	0.00				
57.50	7.45	7.21	0.00				
58.75	7.45	7.21	0.00				
60.00	7.45	7.21	0.00				
61.25	7.45	7.21	0.00				
62.50	7.45	7.21	0.00				

Summary for Subcatchment PRimpRG1: PR Imp - RG1

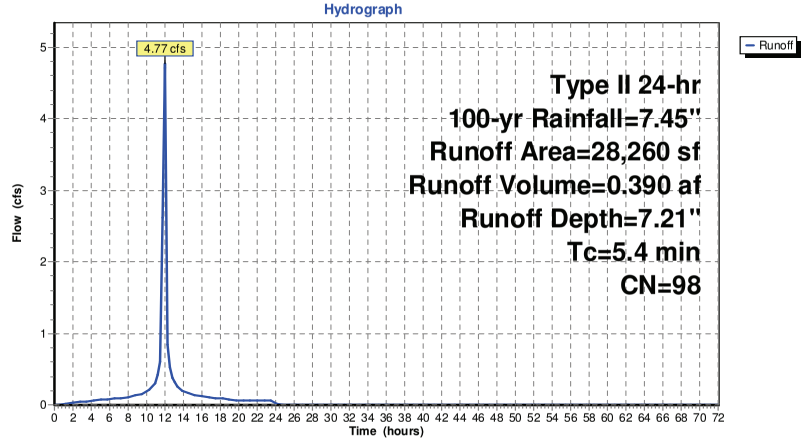
Runoff = 4.77 cfs @ 11.96 hrs, Volume= 0.390 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
28,260	98	Roofs, HSG B
28,260		100.00% Impervious Area

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

Subcatchment PRimpRG1: PR Imp - RG1



Hydrograph for Subcatchment PRimpRG1: PR Imp - RG1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	7.21	0.00
1.25	0.10	0.01	0.02	65.00	7.45	7.21	0.00
2.50	0.21	0.08	0.04	66.25	7.45	7.21	0.00
3.75	0.33	0.17	0.05	67.50	7.45	7.21	0.00
5.00	0.47	0.29	0.07	68.75	7.45	7.21	0.00
6.25	0.63	0.44	0.08	70.00	7.45	7.21	0.00
7.50	0.81	0.61	0.10	71.25	7.45	7.21	0.00
8.75	1.04	0.83	0.14				
10.00	1.35	1.13	0.19				
11.25	1.91	1.68	**0.42**				
12.50	5.48	5.24	**0.52**				
13.75	6.04	5.80	0.21				
15.00	6.36	6.12	0.15				
16.25	6.60	6.36	0.11				
17.50	6.79	6.55	0.09				
18.75	6.96	6.72	0.08				
20.00	7.09	6.85	0.06				
21.25	7.21	6.97	0.06				
22.50	7.32	7.08	0.06				
23.75	**7.43**	**7.19**	0.05				
25.00	**7.45**	**7.21**	0.00				
26.25	7.45	7.21	0.00				
27.50	7.45	7.21	0.00				
28.75	7.45	7.21	0.00				
30.00	7.45	7.21	0.00				
31.25	7.45	7.21	0.00				
32.50	7.45	7.21	0.00				
33.75	7.45	7.21	0.00				
35.00	7.45	7.21	0.00				
36.25	7.45	7.21	0.00				
37.50	7.45	7.21	0.00				
38.75	7.45	7.21	0.00				
40.00	7.45	7.21	0.00				
41.25	7.45	7.21	0.00				
42.50	7.45	7.21	0.00				
43.75	7.45	7.21	0.00				
45.00	7.45	7.21	0.00				
46.25	7.45	7.21	0.00				
47.50	7.45	7.21	0.00				
48.75	7.45	7.21	0.00				
50.00	7.45	7.21	0.00				
51.25	7.45	7.21	0.00				
52.50	7.45	7.21	0.00				
53.75	7.45	7.21	0.00				
55.00	7.45	7.21	0.00				
56.25	7.45	7.21	0.00				
57.50	7.45	7.21	0.00				
58.75	7.45	7.21	0.00				
60.00	7.45	7.21	0.00				
61.25	7.45	7.21	0.00				
62.50	7.45	7.21	0.00				

Summary for Subcatchment UD Bypass: UD By-Pass

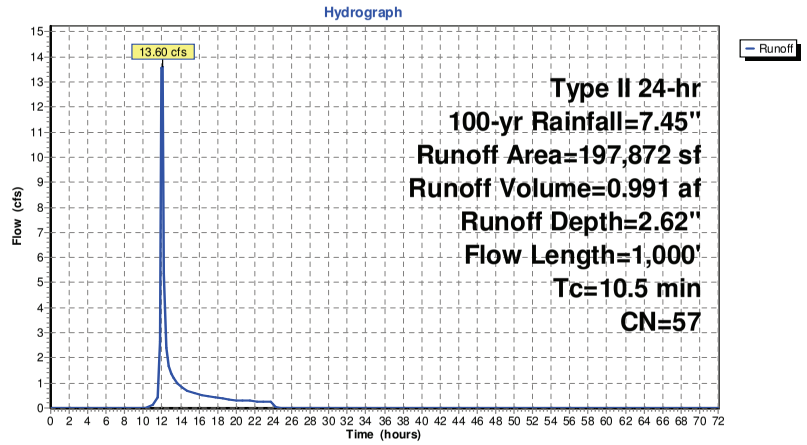
Runoff = 13.60 cfs @ 12.02 hrs, Volume= 0.991 af, Depth= 2.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
10,353	85	Gravel roads, HSG B
168,770	55	Woods, Good, HSG B
18,749	61	>75% Grass cover, Good, HSG B
197,872	57	Weighted Average
197,872		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2200	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
2.1	700	0.1140	5.44		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	200	0.0400	10.31	61.86	**Channel Flow,** Area= 6.0 sf Perim= 9.0' r= 0.67' n= 0.022 Earth, clean & straight
10.5	1,000	Total			

Subcatchment UD Bypass: UD By-Pass



Hydrograph for Subcatchment UD Bypass: UD By-Pass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	2.62	0.00
1.25	0.10	0.00	0.00	65.00	7.45	2.62	0.00
2.50	0.21	0.00	0.00	66.25	7.45	2.62	0.00
3.75	0.33	0.00	0.00	67.50	7.45	2.62	0.00
5.00	0.47	0.00	0.00	68.75	7.45	2.62	0.00
6.25	0.63	0.00	0.00	70.00	7.45	2.62	0.00
7.50	0.81	0.00	0.00	71.25	7.45	2.62	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.00				
11.25	1.91	0.02	**0.21**				
12.50	5.48	1.37	**2.42**				
13.75	6.04	1.70	0.94				
15.00	6.36	1.90	0.67				
16.25	6.60	2.05	0.50				
17.50	6.79	2.18	0.44				
18.75	6.96	2.28	0.37				
20.00	7.09	2.37	0.31				
21.25	7.21	2.45	0.29				
22.50	7.32	2.53	0.27				
23.75	**7.43**	**2.60**	0.26				
25.00	**7.45**	**2.62**	0.00				
26.25	7.45	2.62	0.00				
27.50	7.45	2.62	0.00				
28.75	7.45	2.62	0.00				
30.00	7.45	2.62	0.00				
31.25	7.45	2.62	0.00				
32.50	7.45	2.62	0.00				
33.75	7.45	2.62	0.00				
35.00	7.45	2.62	0.00				
36.25	7.45	2.62	0.00				
37.50	7.45	2.62	0.00				
38.75	7.45	2.62	0.00				
40.00	7.45	2.62	0.00				
41.25	7.45	2.62	0.00				
42.50	7.45	2.62	0.00				
43.75	7.45	2.62	0.00				
45.00	7.45	2.62	0.00				
46.25	7.45	2.62	0.00				
47.50	7.45	2.62	0.00				
48.75	7.45	2.62	0.00				
50.00	7.45	2.62	0.00				
51.25	7.45	2.62	0.00				
52.50	7.45	2.62	0.00				
53.75	7.45	2.62	0.00				
55.00	7.45	2.62	0.00				
56.25	7.45	2.62	0.00				
57.50	7.45	2.62	0.00				
58.75	7.45	2.62	0.00				
60.00	7.45	2.62	0.00				
61.25	7.45	2.62	0.00				
62.50	7.45	2.62	0.00				

Summary for Subcatchment UD Gr: Undet Grass

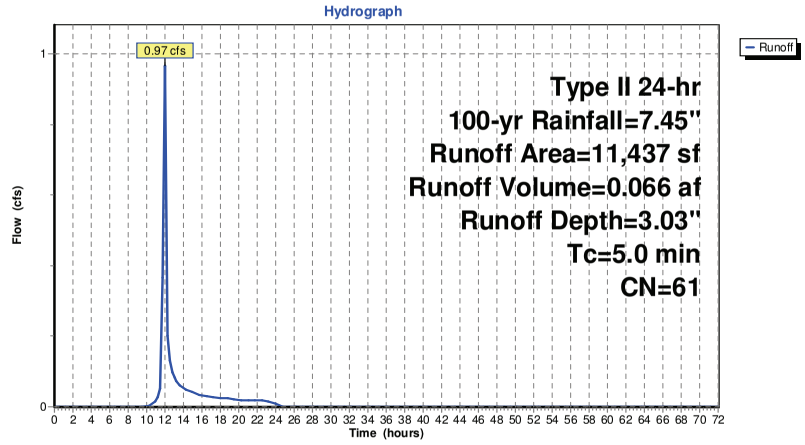
Runoff = 0.97 cfs @ 11.98 hrs, Volume= 0.066 af, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
11,437	61	>75% Grass cover, Good, HSG B
11,437		100.00% Pervious Area

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

Subcatchment UD Gr: Undet Grass



Hydrograph for Subcatchment UD Gr: Undet Grass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	3.03	0.00
1.25	0.10	0.00	0.00	65.00	7.45	3.03	0.00
2.50	0.21	0.00	0.00	66.25	7.45	3.03	0.00
3.75	0.33	0.00	0.00	67.50	7.45	3.03	0.00
5.00	0.47	0.00	0.00	68.75	7.45	3.03	0.00
6.25	0.63	0.00	0.00	70.00	7.45	3.03	0.00
7.50	0.81	0.00	0.00	71.25	7.45	3.03	0.00
8.75	1.04	0.00	0.00				
10.00	1.35	0.00	0.00				
11.25	1.91	0.06	**0.03**				
12.50	5.48	1.66	**0.13**				
13.75	6.04	2.03	0.06				
15.00	6.36	2.25	0.04				
16.25	6.60	2.42	0.03				
17.50	6.79	2.55	0.03				
18.75	6.96	2.67	0.02				
20.00	7.09	2.77	0.02				
21.25	7.21	2.85	0.02				
22.50	7.32	2.94	0.02				
23.75	**7.43**	**3.02**	0.02				
25.00	**7.45**	**3.03**	0.00				
26.25	7.45	3.03	0.00				
27.50	7.45	3.03	0.00				
28.75	7.45	3.03	0.00				
30.00	7.45	3.03	0.00				
31.25	7.45	3.03	0.00				
32.50	7.45	3.03	0.00				
33.75	7.45	3.03	0.00				
35.00	7.45	3.03	0.00				
36.25	7.45	3.03	0.00				
37.50	7.45	3.03	0.00				
38.75	7.45	3.03	0.00				
40.00	7.45	3.03	0.00				
41.25	7.45	3.03	0.00				
42.50	7.45	3.03	0.00				
43.75	7.45	3.03	0.00				
45.00	7.45	3.03	0.00				
46.25	7.45	3.03	0.00				
47.50	7.45	3.03	0.00				
48.75	7.45	3.03	0.00				
50.00	7.45	3.03	0.00				
51.25	7.45	3.03	0.00				
52.50	7.45	3.03	0.00				
53.75	7.45	3.03	0.00				
55.00	7.45	3.03	0.00				
56.25	7.45	3.03	0.00				
57.50	7.45	3.03	0.00				
58.75	7.45	3.03	0.00				
60.00	7.45	3.03	0.00				
61.25	7.45	3.03	0.00				
62.50	7.45	3.03	0.00				

Summary for Subcatchment UD Imp: Undet Imp

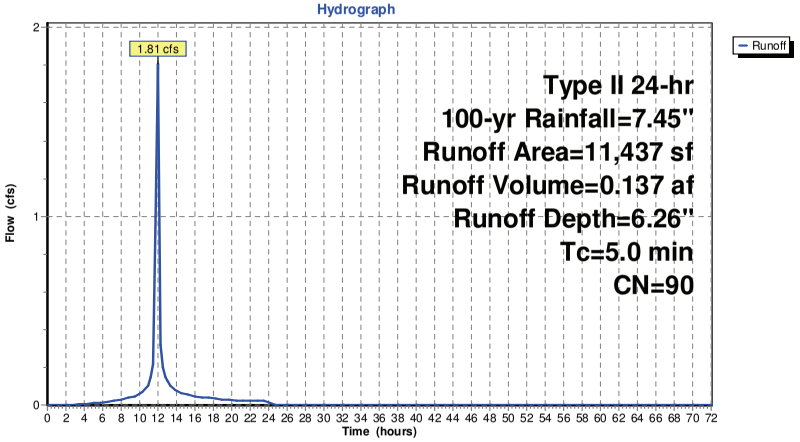
Runoff = 1.81 cfs @ 11.96 hrs, Volume= 0.137 af, Depth= 6.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Type II 24-hr 100-yr Rainfall=7.45"

Area (sf)	CN	Description
4,777	98	Paved parking, HSG B
6,660	85	Gravel roads, HSG B
11,437	90	Weighted Average
6,660		58.23% Pervious Area
4,777		41.77% Impervious Area

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

Subcatchment UD Imp: Undet Imp



Hydrograph for Subcatchment UD Imp: Undet Imp

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	63.75	7.45	6.26	0.00
1.25	0.10	0.00	0.00	65.00	7.45	6.26	0.00
2.50	0.21	0.00	0.00	66.25	7.45	6.26	0.00
3.75	0.33	0.01	0.00	67.50	7.45	6.26	0.00
5.00	0.47	0.04	0.01	68.75	7.45	6.26	0.00
6.25	0.63	0.11	0.02	70.00	7.45	6.26	0.00
7.50	0.81	0.21	0.02	71.25	7.45	6.26	0.00
8.75	1.04	0.35	0.04				
10.00	1.35	0.57	0.06				
11.25	1.91	1.02	**0.15**				
12.50	5.48	4.34	**0.20**				
13.75	6.04	4.88	0.08				
15.00	6.36	5.20	0.06				
16.25	6.60	5.43	0.04				
17.50	6.79	5.62	0.04				
18.75	6.96	5.78	0.03				
20.00	7.09	5.91	0.03				
21.25	7.21	6.03	0.02				
22.50	7.32	6.14	0.02				
23.75	**7.43**	**6.24**	0.02				
25.00	**7.45**	**6.26**	0.00				
26.25	7.45	6.26	0.00				
27.50	7.45	6.26	0.00				
28.75	7.45	6.26	0.00				
30.00	7.45	6.26	0.00				
31.25	7.45	6.26	0.00				
32.50	7.45	6.26	0.00				
33.75	7.45	6.26	0.00				
35.00	7.45	6.26	0.00				
36.25	7.45	6.26	0.00				
37.50	7.45	6.26	0.00				
38.75	7.45	6.26	0.00				
40.00	7.45	6.26	0.00				
41.25	7.45	6.26	0.00				
42.50	7.45	6.26	0.00				
43.75	7.45	6.26	0.00				
45.00	7.45	6.26	0.00				
46.25	7.45	6.26	0.00				
47.50	7.45	6.26	0.00				
48.75	7.45	6.26	0.00				
50.00	7.45	6.26	0.00				
51.25	7.45	6.26	0.00				
52.50	7.45	6.26	0.00				
53.75	7.45	6.26	0.00				
55.00	7.45	6.26	0.00				
56.25	7.45	6.26	0.00				
57.50	7.45	6.26	0.00				
58.75	7.45	6.26	0.00				
60.00	7.45	6.26	0.00				
61.25	7.45	6.26	0.00				
62.50	7.45	6.26	0.00				

Summary for Pond INF1: Inf Trench #1

Inflow Area = 0.389 ac, 37.20% Impervious, Inflow Depth = 4.59" for 100-yr event
Inflow = 1.95 cfs @ 11.97 hrs, Volume= 0.149 af
Outflow = 1.27 cfs @ 12.20 hrs, Volume= 0.149 af, Atten= 35%, Lag= 13.5 min
Primary = 1.27 cfs @ 12.20 hrs, Volume= 0.149 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 385.73' @ 12.18 hrs Surf.Area= 2,632 sf Storage= 2,324 cf

Plug-Flow detention time= 352.3 min calculated for 0.149 af (100% of inflow)
Center-of-Mass det. time= 351.3 min (1,132.6 - 781.4)

Volume	Invert	Avail.Storage	Storage Description
#1	384.00'	2,484 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	382.00'	77 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 768 cf Overall x 10.0% Voids
#3	380.00'	307 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 768 cf Overall x 40.0% Voids
		2,868 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
384.00	384	0	0
386.00	2,100	2,484	2,484

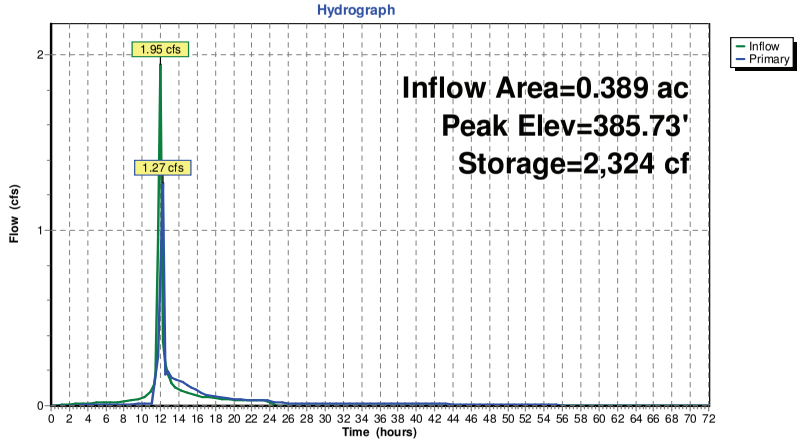
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
382.00	384	0	0
384.00	384	768	768

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	384	0	0
382.00	384	768	768

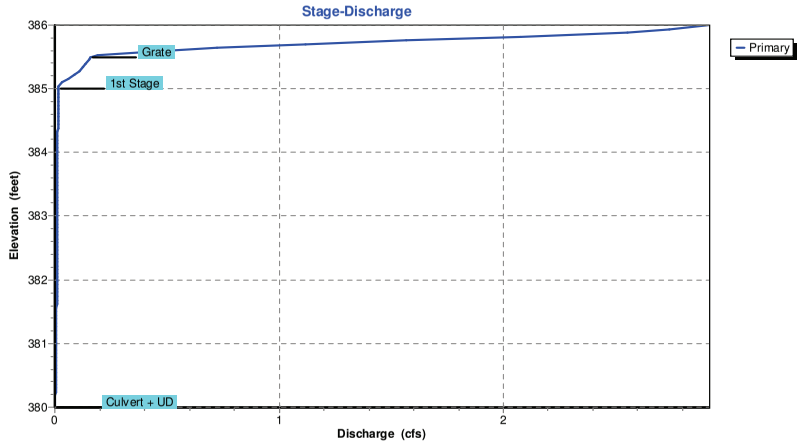
Device	Routing	Invert	Outlet Devices
#1	Primary	380.00'	**18.0" Round Culvert** L= 28.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 380.00' / 379.72' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	385.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	385.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	380.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=1.13 cfs @ 12.20 hrs HW=385.70' (Free Discharge)
└─**1=Culvert** (Passes 1.13 cfs of 18.94 cfs potential flow)
  ├─**2=Grate** (Weir Controls 0.94 cfs @ 1.47 fps)
  ├─**3=1st Stage** (Orifice Controls 0.18 cfs @ 3.66 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.48 fps)

Pond INF1: Inf Trench #1



Pond INF1: Inf Trench #1



Hydrograph for Pond INF1: Inf Trench #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	380.00	0.00
2.50	0.01	29	380.19	0.00
5.00	0.02	103	380.67	0.01
7.50	0.02	212	381.38	0.01
10.00	**0.04**	**394**	**384.02**	**0.01**
12.50	**0.24**	**1,944**	**385.51**	**0.18**
15.00	0.07	1,616	385.31	0.12
17.50	0.05	1,393	385.15	0.06
20.00	0.03	1,334	385.11	0.04
22.50	0.03	1,307	385.09	0.03
25.00	0.00	1,227	385.02	0.02
27.50	0.00	1,094	384.91	0.01
30.00	0.00	964	384.80	0.01
32.50	0.00	836	384.67	0.01
35.00	0.00	709	384.53	0.01
37.50	0.00	585	384.37	0.01
40.00	0.00	463	384.17	0.01
42.50	0.00	347	383.03	0.01
45.00	0.00	261	381.70	0.01
47.50	0.00	190	381.24	0.01
50.00	0.00	131	380.85	0.01
52.50	0.00	83	380.54	0.00
55.00	0.00	46	380.30	0.00
57.50	0.00	20	380.13	0.00
60.00	0.00	7	380.04	0.00
62.50	0.00	2	380.01	0.00
65.00	0.00	1	380.00	0.00
67.50	0.00	0	380.00	0.00
70.00	0.00	0	380.00	0.00

Stage-Discharge for Pond INF1: Inf Trench #1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
380.00	0.00	382.04	0.01	384.08	0.01
380.04	0.00	382.08	0.01	384.12	0.01
380.08	0.00	382.12	0.01	384.16	0.01
380.12	0.00	382.16	0.01	384.20	0.01
380.16	0.00	382.20	0.01	384.24	0.01
380.20	0.00	382.24	0.01	384.28	0.01
380.24	0.00	382.28	0.01	384.32	0.01
380.28	0.00	382.32	0.01	384.36	0.01
380.32	0.00	382.36	0.01	384.40	0.01
380.36	0.00	382.40	0.01	384.44	0.01
380.40	0.00	382.44	0.01	384.48	0.01
380.44	0.00	382.48	0.01	384.52	0.01
380.48	0.00	382.52	0.01	384.56	0.01
380.52	0.00	382.56	0.01	384.60	0.01
380.56	0.00	382.60	0.01	384.64	0.01
380.60	0.00	382.64	0.01	384.68	0.01
380.64	0.01	382.68	0.01	384.72	0.01
380.68	0.01	382.72	0.01	384.76	0.01
380.72	0.01	382.76	0.01	384.80	0.01
380.76	0.01	382.80	0.01	384.84	0.01
380.80	0.01	382.84	0.01	384.88	0.01
380.84	0.01	382.88	0.01	384.92	0.01
380.88	0.01	382.92	0.01	384.96	0.01
380.92	0.01	382.96	0.01	385.00	0.01
380.96	0.01	383.00	0.01	385.04	0.02
381.00	0.01	383.04	0.01	385.08	0.03
381.04	0.01	383.08	0.01	385.12	0.04
381.08	0.01	383.12	0.01	385.16	0.06
381.12	0.01	383.16	0.01	385.20	0.08
381.16	0.01	383.20	0.01	385.24	0.10
381.20	0.01	383.24	0.01	385.28	0.11
381.24	0.01	383.28	0.01	385.32	0.12
381.28	0.01	383.32	0.01	385.36	0.13
381.32	0.01	383.36	0.01	385.40	0.14
381.36	0.01	383.40	0.01	385.44	0.15
381.40	0.01	383.44	0.01	385.48	0.16
381.44	0.01	383.48	0.01	385.52	0.19
381.48	0.01	383.52	0.01	385.56	0.32
381.52	0.01	383.56	0.01	385.60	0.50
381.56	0.01	383.60	0.01	385.64	0.72
381.60	0.01	383.64	0.01	385.68	0.98
381.64	0.01	383.68	0.01	385.72	1.26
381.68	0.01	383.72	0.01	385.76	1.57
381.72	0.01	383.76	0.01	385.80	1.90
381.76	0.01	383.80	0.01	385.84	2.25
381.80	0.01	383.84	0.01	385.88	2.55
381.84	0.01	383.88	0.01	385.92	2.68
381.88	0.01	383.92	0.01	385.96	2.80
381.92	0.01	383.96	0.01	386.00	**2.91**
381.96	0.01	384.00	0.01		
382.00	0.01	384.04	0.01		

Summary for Pond INF2: Inf Trench #2

Inflow Area = 0.718 ac, 23.60% Impervious, Inflow Depth = 4.02" for 100-yr event
Inflow = 2.78 cfs @ 11.93 hrs, Volume= 0.240 af
Outflow = 2.80 cfs @ 12.04 hrs, Volume= 0.240 af, Atten= 0%, Lag= 6.4 min
Primary = 2.80 cfs @ 12.04 hrs, Volume= 0.240 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 384.96' @ 12.04 hrs Surf.Area= 2,872 sf Storage= 2,817 cf

Plug-Flow detention time= 240.7 min calculated for 0.240 af (100% of inflow)
Center-of-Mass det. time= 239.7 min (1,035.6 - 795.9)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	2,520 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	78 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 780 cf Overall x 10.0% Voids
#3	379.00'	312 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 780 cf Overall x 40.0% Voids
		2,910 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	390	0	0
385.00	2,130	2,520	2,520

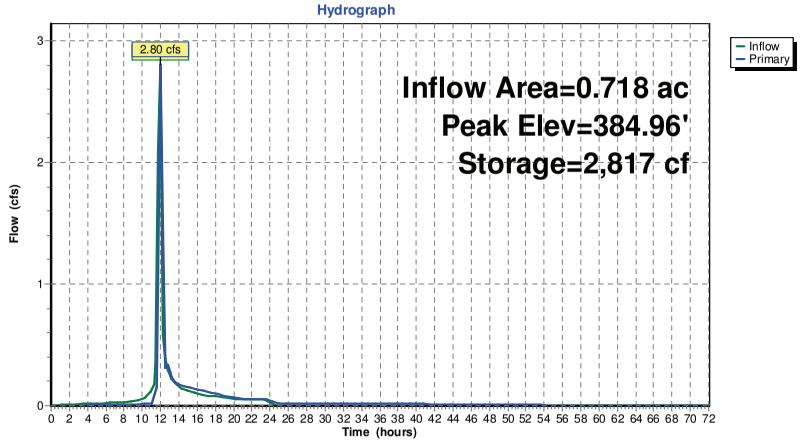
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	390	0	0
383.00	390	780	780

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	390	0	0
381.00	390	780	780

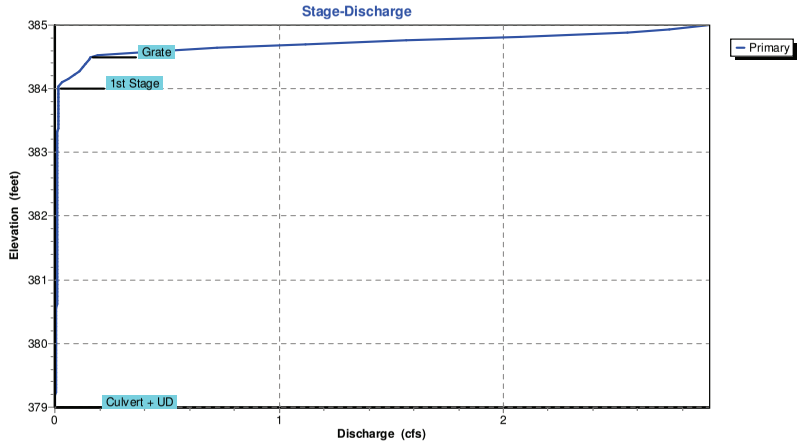
Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.89' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	384.50'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	384.00'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=2.67 cfs @ 12.04 hrs HW=384.92' (Free Discharge)
└─**1=Culvert** (Passes 2.67 cfs of 19.34 cfs potential flow)
  ├─**2=Grate** (Orifice Controls 2.44 cfs @ 3.11 fps)
  ├─**3=1st Stage** (Orifice Controls 0.21 cfs @ 4.29 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.69 fps)

Pond INF2: Inf Trench #2



Pond INF2: Inf Trench #2



Hydrograph for Pond INF2: Inf Trench #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	379.00	0.00
2.50	0.01	34	379.22	0.00
5.00	0.02	124	379.80	0.01
7.50	0.03	256	380.64	0.01
10.00	**0.05**	**472**	**383.18**	**0.01**
12.50	**0.38**	**2,043**	**384.55**	**0.31**
15.00	0.12	1,890	384.46	0.15
17.50	0.08	1,593	384.27	0.11
20.00	0.06	1,446	384.17	0.07
22.50	0.05	1,405	384.14	0.05
25.00	0.00	1,282	384.05	0.02
27.50	0.00	1,140	383.94	0.01
30.00	0.00	1,010	383.83	0.01
32.50	0.00	881	383.70	0.01
35.00	0.00	754	383.57	0.01
37.50	0.00	629	383.42	0.01
40.00	0.00	507	383.24	0.01
42.50	0.00	387	382.93	0.01
45.00	0.00	292	380.87	0.01
47.50	0.00	217	380.39	0.01
50.00	0.00	153	379.98	0.01
52.50	0.00	101	379.65	0.01
55.00	0.00	60	379.38	0.00
57.50	0.00	30	379.19	0.00
60.00	0.00	11	379.07	0.00
62.50	0.00	3	379.02	0.00
65.00	0.00	1	379.01	0.00
67.50	0.00	0	379.00	0.00
70.00	0.00	0	379.00	0.00

Stage-Discharge for Pond INF2: Inf Trench #2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
379.00	0.00	381.04	0.01	383.08	0.01
379.04	0.00	381.08	0.01	383.12	0.01
379.08	0.00	381.12	0.01	383.16	0.01
379.12	0.00	381.16	0.01	383.20	0.01
379.16	0.00	381.20	0.01	383.24	0.01
379.20	0.00	381.24	0.01	383.28	0.01
379.24	0.00	381.28	0.01	383.32	0.01
379.28	0.00	381.32	0.01	383.36	0.01
379.32	0.00	381.36	0.01	383.40	0.01
379.36	0.00	381.40	0.01	383.44	0.01
379.40	0.00	381.44	0.01	383.48	0.01
379.44	0.00	381.48	0.01	383.52	0.01
379.48	0.00	381.52	0.01	383.56	0.01
379.52	0.00	381.56	0.01	383.60	0.01
379.56	0.00	381.60	0.01	383.64	0.01
379.60	0.00	381.64	0.01	383.68	0.01
379.64	0.01	381.68	0.01	383.72	0.01
379.68	0.01	381.72	0.01	383.76	0.01
379.72	0.01	381.76	0.01	383.80	0.01
379.76	0.01	381.80	0.01	383.84	0.01
379.80	0.01	381.84	0.01	383.88	0.01
379.84	0.01	381.88	0.01	383.92	0.01
379.88	0.01	381.92	0.01	383.96	0.01
379.92	0.01	381.96	0.01	384.00	0.01
379.96	0.01	382.00	0.01	384.04	0.02
380.00	0.01	382.04	0.01	384.08	0.03
380.04	0.01	382.08	0.01	384.12	0.04
380.08	0.01	382.12	0.01	384.16	0.06
380.12	0.01	382.16	0.01	384.20	0.08
380.16	0.01	382.20	0.01	384.24	0.10
380.20	0.01	382.24	0.01	384.28	0.11
380.24	0.01	382.28	0.01	384.32	0.12
380.28	0.01	382.32	0.01	384.36	0.13
380.32	0.01	382.36	0.01	384.40	0.14
380.36	0.01	382.40	0.01	384.44	0.15
380.40	0.01	382.44	0.01	384.48	0.16
380.44	0.01	382.48	0.01	384.52	0.19
380.48	0.01	382.52	0.01	384.56	0.32
380.52	0.01	382.56	0.01	384.60	0.50
380.56	0.01	382.60	0.01	384.64	0.72
380.60	0.01	382.64	0.01	384.68	0.98
380.64	0.01	382.68	0.01	384.72	1.26
380.68	0.01	382.72	0.01	384.76	1.57
380.72	0.01	382.76	0.01	384.80	1.90
380.76	0.01	382.80	0.01	384.84	2.25
380.80	0.01	382.84	0.01	384.88	2.55
380.84	0.01	382.88	0.01	384.92	2.68
380.88	0.01	382.92	0.01	384.96	2.80
380.92	0.01	382.96	0.01	385.00	**2.91**
380.96	0.01	383.00	0.01		
381.00	0.01	383.04	0.01		

Summary for Pond INF3: Inf Trench #3

Inflow Area = 0.309 ac, 30.75% Impervious, Inflow Depth = 4.32" for 100-yr event
Inflow = 1.48 cfs @ 11.97 hrs, Volume= 0.111 af
Outflow = 0.99 cfs @ 12.20 hrs, Volume= 0.111 af, Atten= 33%, Lag= 13.4 min
Primary = 0.99 cfs @ 12.20 hrs, Volume= 0.111 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 383.19' @ 12.17 hrs Surf.Area= 1,837 sf Storage= 1,594 cf

Plug-Flow detention time= 271.6 min calculated for 0.111 af (100% of inflow)
Center-of-Mass det. time= 269.4 min (1,058.4 - 789.0)

Volume	Invert	Avail.Storage	Storage Description
#1	381.50'	1,764 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	379.50'	53 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 528 cf Overall x 10.0% Voids
#3	377.50'	211 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 528 cf Overall x 40.0% Voids
		2,028 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.50	264	0	0
383.50	1,500	1,764	1,764

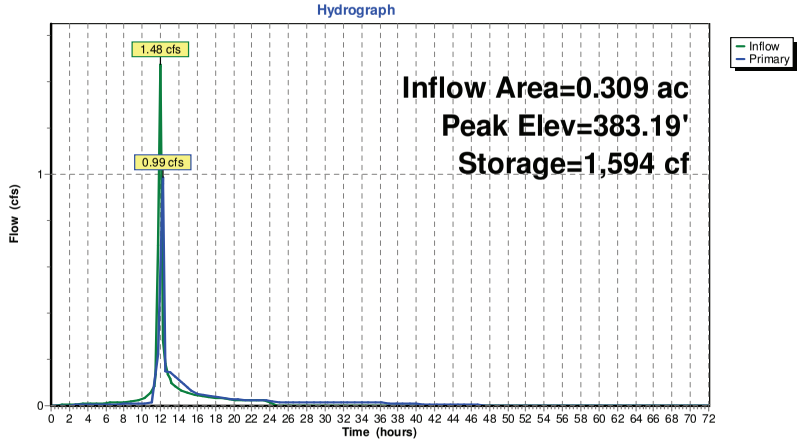
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.50	264	0	0
381.50	264	528	528

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
377.50	264	0	0
379.50	264	528	528

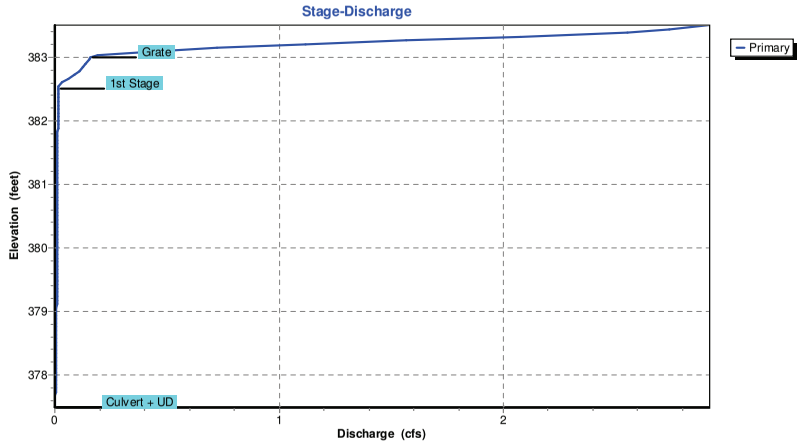
Device	Routing	Invert	Outlet Devices
#1	Primary	377.50'	**18.0" Round Culvert** L= 11.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 377.50' / 377.39' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	383.00'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	382.50'	**3.0" Vert. 1st Stage** C= 0.600
#4	Device 1	377.50'	**0.5" Vert. UD** C= 0.600

Primary OutFlow Max=0.88 cfs @ 12.20 hrs HW=383.17' (Free Discharge)
└─**1=Culvert** (Passes 0.88 cfs of 18.86 cfs potential flow)
  ├─**2=Grate** (Weir Controls 0.69 cfs @ 1.33 fps)
  ├─**3=1st Stage** (Orifice Controls 0.17 cfs @ 3.54 fps)
  └─**4=UD** (Orifice Controls 0.02 cfs @ 11.44 fps)

Pond INF3: Inf Trench #3



Pond INF3: Inf Trench #3



Hydrograph for Pond INF3: Inf Trench #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	377.50	0.00
2.50	0.01	17	377.66	0.00
5.00	0.01	57	378.04	0.00
7.50	0.01	115	378.59	0.01
10.00	**0.03**	**219**	**379.80**	**0.01**
12.50	**0.18**	**1,286**	**382.94**	**0.15**
15.00	0.06	1,015	382.69	0.07
17.50	0.04	940	382.61	0.04
20.00	0.02	909	382.58	0.03
22.50	0.02	891	382.56	0.02
25.00	0.00	830	382.49	0.01
27.50	0.00	699	382.33	0.01
30.00	0.00	571	382.16	0.01
32.50	0.00	445	381.95	0.01
35.00	0.00	322	381.68	0.01
37.50	0.00	213	379.55	0.01
40.00	0.00	137	378.80	0.01
42.50	0.00	79	378.25	0.01
45.00	0.00	37	377.85	0.00
47.50	0.00	11	377.61	0.00
50.00	0.00	2	377.52	0.00
52.50	0.00	0	377.50	0.00
55.00	0.00	0	377.50	0.00
57.50	0.00	0	377.50	0.00
60.00	0.00	0	377.50	0.00
62.50	0.00	0	377.50	0.00
65.00	0.00	0	377.50	0.00
67.50	0.00	0	377.50	0.00
70.00	0.00	0	377.50	0.00

Stage-Discharge for Pond INF3: Inf Trench #3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
377.50	0.00	379.54	0.01	381.58	0.01
377.54	0.00	379.58	0.01	381.62	0.01
377.58	0.00	379.62	0.01	381.66	0.01
377.62	0.00	379.66	0.01	381.70	0.01
377.66	0.00	379.70	0.01	381.74	0.01
377.70	0.00	379.74	0.01	381.78	0.01
377.74	0.00	379.78	0.01	381.82	0.01
377.78	0.00	379.82	0.01	381.86	0.01
377.82	0.00	379.86	0.01	381.90	0.01
377.86	0.00	379.90	0.01	381.94	0.01
377.90	0.00	379.94	0.01	381.98	0.01
377.94	0.00	379.98	0.01	382.02	0.01
377.98	0.00	380.02	0.01	382.06	0.01
378.02	0.00	380.06	0.01	382.10	0.01
378.06	0.00	380.10	0.01	382.14	0.01
378.10	0.00	380.14	0.01	382.18	0.01
378.14	0.01	380.18	0.01	382.22	0.01
378.18	0.01	380.22	0.01	382.26	0.01
378.22	0.01	380.26	0.01	382.30	0.01
378.26	0.01	380.30	0.01	382.34	0.01
378.30	0.01	380.34	0.01	382.38	0.01
378.34	0.01	380.38	0.01	382.42	0.01
378.38	0.01	380.42	0.01	382.46	0.01
378.42	0.01	380.46	0.01	382.50	0.01
378.46	0.01	380.50	0.01	382.54	0.02
378.50	0.01	380.54	0.01	382.58	0.03
378.54	0.01	380.58	0.01	382.62	0.04
378.58	0.01	380.62	0.01	382.66	0.06
378.62	0.01	380.66	0.01	382.70	0.08
378.66	0.01	380.70	0.01	382.74	0.10
378.70	0.01	380.74	0.01	382.78	0.11
378.74	0.01	380.78	0.01	382.82	0.12
378.78	0.01	380.82	0.01	382.86	0.13
378.82	0.01	380.86	0.01	382.90	0.14
378.86	0.01	380.90	0.01	382.94	0.15
378.90	0.01	380.94	0.01	382.98	0.16
378.94	0.01	380.98	0.01	383.02	0.19
378.98	0.01	381.02	0.01	383.06	0.32
379.02	0.01	381.06	0.01	383.10	0.50
379.06	0.01	381.10	0.01	383.14	0.72
379.10	0.01	381.14	0.01	383.18	0.98
379.14	0.01	381.18	0.01	383.22	1.26
379.18	0.01	381.22	0.01	383.26	1.57
379.22	0.01	381.26	0.01	383.30	1.90
379.26	0.01	381.30	0.01	383.34	2.25
379.30	0.01	381.34	0.01	383.38	2.55
379.34	0.01	381.38	0.01	383.42	2.68
379.38	0.01	381.42	0.01	383.46	2.80
379.42	0.01	381.46	0.01	383.50	**2.91**
379.46	0.01	381.50	0.01		
379.50	0.01	381.54	0.01		

Summary for Pond RG1: Rain Garden #1

Inflow Area = 1.295 ac, 50.10% Impervious, Inflow Depth = 5.13" for 100-yr event
Inflow = 7.16 cfs @ 11.97 hrs, Volume= 0.553 af
Outflow = 5.48 cfs @ 12.05 hrs, Volume= 0.553 af, Atten= 24%, Lag= 4.7 min
Primary = 5.48 cfs @ 12.05 hrs, Volume= 0.553 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 400.71' @ 12.05 hrs Surf.Area= 2,873 sf Storage= 2,540 cf

Plug-Flow detention time= 70.9 min calculated for 0.553 af (100% of inflow)
Center-of-Mass det. time= 69.4 min (838.3 - 768.9)

Volume	Invert	Avail.Storage	Storage Description
#1	399.00'	4,709 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	397.00'	117 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 10.0% Voids
#3	395.00'	466 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 1,166 cf Overall x 40.0% Voids
		5,292 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
399.00	583	0	0
402.00	2,556	4,709	4,709

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
397.00	583	0	0
399.00	583	1,166	1,166

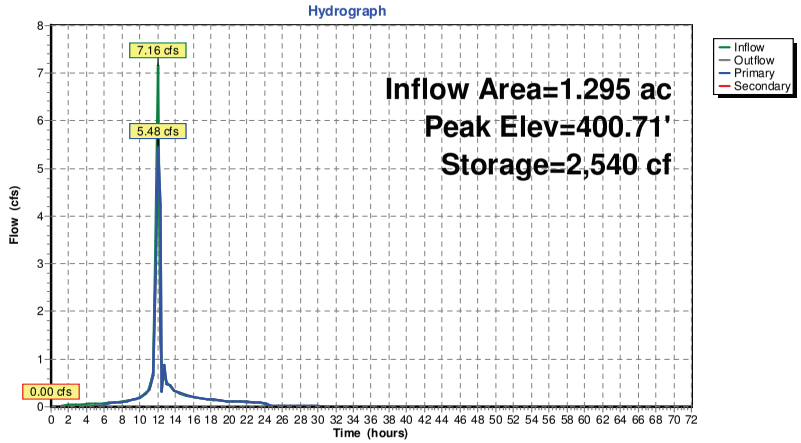
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	583	0	0
397.00	583	1,166	1,166

Device	Routing	Invert	Outlet Devices
#1	Primary	395.00'	**18.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 395.00' / 394.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	400.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	400.75'	**Spillway, C= 3.27** Offset (feet) 0.00 3.75 18.75 22.50 Height (feet) 1.25 0.00 0.00 1.25
#4	Device 1	399.33'	**24.0" W x 6.0" H Vert. 1st Stage** C= 0.600
#5	Device 1	395.00'	**0.5" Vert. UD** C= 0.600

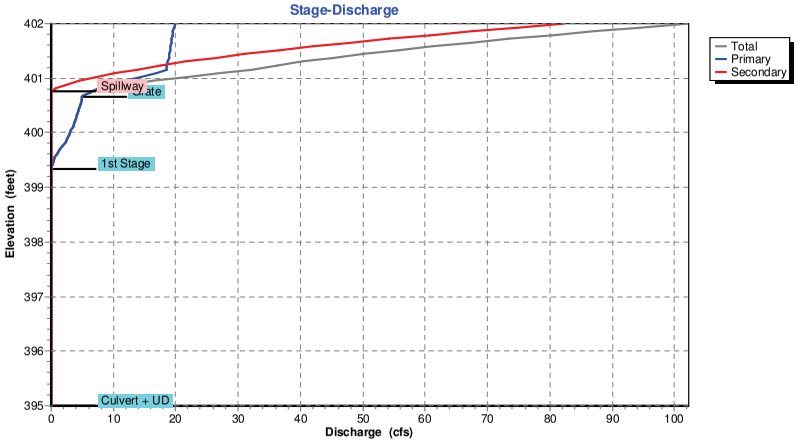
Primary OutFlow Max=4.92 cfs @ 12.05 hrs HW=400.62' (Free Discharge)
└─**1=Culvert** (Passes 4.92 cfs of 17.59 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=1st Stage** (Orifice Controls 4.90 cfs @ 4.90 fps)
  └─**5=UD** (Orifice Controls 0.02 cfs @ 11.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=395.00' (Free Discharge)
└─**3=Spillway** (Controls 0.00 cfs)

Pond RG1: Rain Garden #1



Pond RG1: Rain Garden #1



Hydrograph for Pond RG1: Rain Garden #1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	395.00	0.00	0.00	**0.00**
2.50	0.04	150	395.64	0.01	0.01	0.00
5.00	0.07	572	398.82	0.01	0.01	0.00
7.50	0.10	851	399.38	0.10	0.10	0.00
10.00	**0.19**	**883**	**399.42**	**0.18**	**0.18**	0.00
12.50	**0.85**	**918**	**399.46**	**0.31**	**0.31**	0.00
15.00	0.25	903	399.44	0.26	0.26	0.00
17.50	0.16	878	399.41	0.16	0.16	0.00
20.00	0.11	858	399.39	0.11	0.11	0.00
22.50	0.10	853	399.38	0.10	0.10	0.00
25.00	0.00	780	399.29	0.01	0.01	0.00
27.50	0.00	659	399.12	0.01	0.01	0.00
30.00	0.00	542	398.30	0.01	0.01	0.00
32.50	0.00	450	396.93	0.01	0.01	0.00
35.00	0.00	372	396.60	0.01	0.01	0.00
37.50	0.00	302	396.29	0.01	0.01	0.00
40.00	0.00	239	396.02	0.01	0.01	0.00
42.50	0.00	183	395.79	0.01	0.01	0.00
45.00	0.00	135	395.58	0.00	0.00	0.00
47.50	0.00	95	395.41	0.00	0.00	0.00
50.00	0.00	62	395.27	0.00	0.00	0.00
52.50	0.00	37	395.16	0.00	0.00	0.00
55.00	0.00	19	395.08	0.00	0.00	0.00
57.50	0.00	8	395.04	0.00	0.00	0.00
60.00	0.00	4	395.02	0.00	0.00	0.00
62.50	0.00	2	395.01	0.00	0.00	0.00
65.00	0.00	1	395.00	0.00	0.00	0.00
67.50	0.00	0	395.00	0.00	0.00	0.00
70.00	0.00	0	395.00	0.00	0.00	0.00

Stage-Discharge for Pond RG1: Rain Garden #1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
395.00	0.00	0.00	0.00
395.10	0.00	0.00	0.00
395.20	0.00	0.00	0.00
395.30	0.00	0.00	0.00
395.40	0.00	0.00	0.00
395.50	0.00	0.00	0.00
395.60	0.00	0.00	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.01	0.01	0.00
396.20	0.01	0.01	0.00
396.30	0.01	0.01	0.00
396.40	0.01	0.01	0.00
396.50	0.01	0.01	0.00
396.60	0.01	0.01	0.00
396.70	0.01	0.01	0.00
396.80	0.01	0.01	0.00
396.90	0.01	0.01	0.00
397.00	0.01	0.01	0.00
397.10	0.01	0.01	0.00
397.20	0.01	0.01	0.00
397.30	0.01	0.01	0.00
397.40	0.01	0.01	0.00
397.50	0.01	0.01	0.00
397.60	0.01	0.01	0.00
397.70	0.01	0.01	0.00
397.80	0.01	0.01	0.00
397.90	0.01	0.01	0.00
398.00	0.01	0.01	0.00
398.10	0.01	0.01	0.00
398.20	0.01	0.01	0.00
398.30	0.01	0.01	0.00
398.40	0.01	0.01	0.00
398.50	0.01	0.01	0.00
398.60	0.01	0.01	0.00
398.70	0.01	0.01	0.00
398.80	0.01	0.01	0.00
398.90	0.01	0.01	0.00
399.00	0.01	0.01	0.00
399.10	0.01	0.01	0.00
399.20	0.01	0.01	0.00
399.30	0.01	0.01	0.00
399.40	0.13	0.13	0.00
399.50	0.46	0.46	0.00
399.60	0.91	0.91	0.00
399.70	1.46	1.46	0.00
399.80	2.08	2.08	0.00
399.90	2.66	2.66	0.00
400.00	3.09	3.09	0.00
400.10	3.45	3.45	0.00
400.20	3.78	3.78	0.00
400.30	4.08	4.08	0.00
400.40	4.36	4.36	0.00
400.50	4.62	4.62	0.00
400.60	4.87	4.87	0.00
400.70	5.52	5.52	0.00
400.80	8.07	7.52	0.55
400.90	13.17	10.25	2.92
401.00	19.93	13.56	6.38
401.10	28.06	17.33	10.73
401.20	34.43	18.56	15.87
401.30	40.49	18.72	21.77
401.40	47.26	18.88	28.38
401.50	54.72	19.04	35.68
401.60	62.86	19.20	43.67
401.70	71.67	19.35	52.32
401.80	81.15	19.51	61.64
401.90	91.28	19.66	71.62
402.00	**102.08**	**19.82**	**82.26**

Summary for Pond RG2: Rain Garden #2

Inflow Area = 5.565 ac, 47.16% Impervious, Inflow Depth = 5.41" for 100-yr event
Inflow = 33.79 cfs @ 11.98 hrs, Volume= 2.507 af
Outflow = 28.29 cfs @ 12.03 hrs, Volume= 2.491 af, Atten= 16%, Lag= 3.1 min
Primary = 28.29 cfs @ 12.03 hrs, Volume= 2.491 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 386.56' @ 12.05 hrs Surf.Area= 6,452 sf Storage= 10,094 cf

Plug-Flow detention time= 43.3 min calculated for 2.482 af (99% of inflow)
Center-of-Mass det. time= 47.5 min (822.1 - 774.6)

Volume	Invert	Avail.Storage	Storage Description
#1	383.00'	12,723 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	381.00'	359 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 10.0% Voids
#3	379.00'	1,435 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 3,588 cf Overall x 40.0% Voids
		14,517 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
383.00	1,794	0	0
388.00	3,295	12,723	12,723

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
381.00	1,794	0	0
383.00	1,794	3,588	3,588

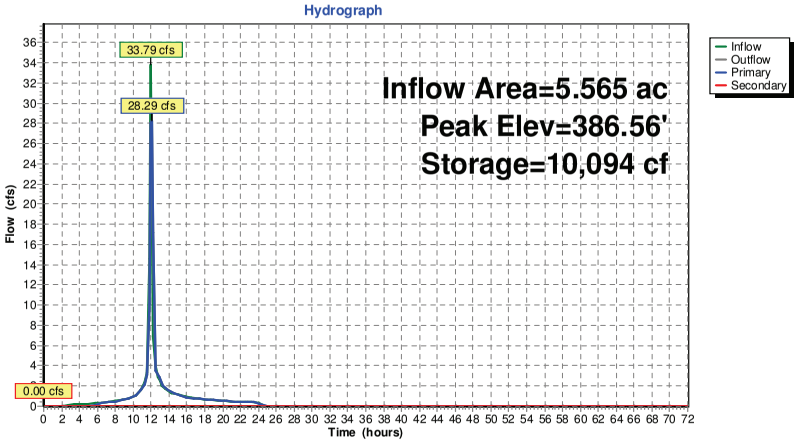
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
379.00	1,794	0	0
381.00	1,794	3,588	3,588

Device	Routing	Invert	Outlet Devices
#1	Primary	379.00'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 379.00' / 378.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	386.60'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	386.70'	**Spillway, C= 3.27** Offset (feet) 0.00 3.90 58.90 62.80 Height (feet) 1.30 0.00 0.00 1.30
#4	Device 1	383.33'	**36.0" W x 8.0" H Vert. 1st stage** C= 0.600
#5	Device 1	385.33'	**24.0" W x 8.0" H Vert. 2nd Stage X 2.00** C= 0.600
#6	Device 1	379.00'	**0.5" Vert. UD** C= 0.600

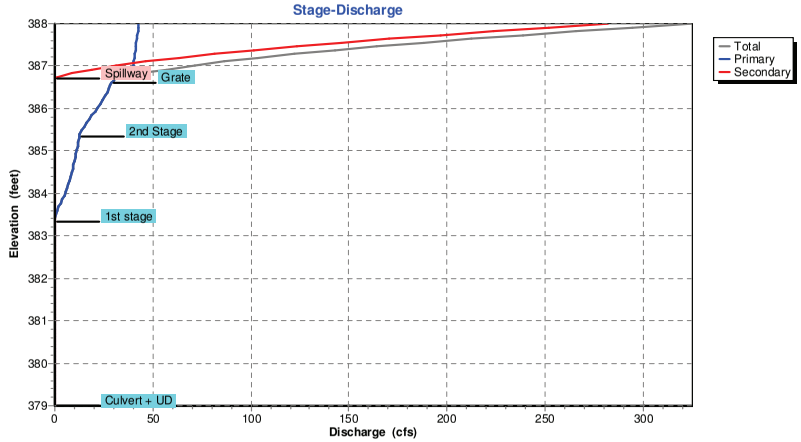
Primary OutFlow Max=27.09 cfs @ 12.03 hrs HW=386.42' (Free Discharge)
- **1=Culvert** (Passes 27.09 cfs of 38.33 cfs potential flow)
  - **2=Grate** (Controls 0.00 cfs)
  - **4=1st stage** (Orifice Controls 15.98 cfs @ 7.99 fps)
  - **5=2nd Stage** (Orifice Controls 11.09 cfs @ 4.16 fps)
  - **6=UD** (Orifice Controls 0.02 cfs @ 13.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=379.00' (Free Discharge)
- **3=Spillway** (Controls 0.00 cfs)

Pond RG2: Rain Garden #2



Pond RG2: Rain Garden #2



Hydrograph for Pond RG2: Rain Garden #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	379.00	0.00	0.00	**0.00**
2.50	0.09	178	379.25	0.00	0.00	0.00
5.00	0.26	1,703	382.49	0.01	0.01	0.00
7.50	0.44	2,631	383.45	0.43	0.43	0.00
10.00	**0.91**	**2,783**	**383.53**	**0.87**	**0.87**	0.00
12.50	**3.99**	**3,403**	**383.84**	**3.51**	**3.51**	0.00
15.00	1.13	2,863	383.57	1.15	1.15	0.00
17.50	0.72	2,741	383.51	0.73	0.73	0.00
20.00	0.50	2,659	383.46	0.50	0.50	0.00
22.50	0.44	2,636	383.45	0.44	0.44	0.00
25.00	0.00	2,387	383.32	0.01	0.01	0.00
27.50	0.00	2,265	383.26	0.01	0.01	0.00
30.00	0.00	2,143	383.19	0.01	0.01	0.00
32.50	0.00	2,023	383.13	0.01	0.01	0.00
35.00	0.00	1,904	383.06	0.01	0.01	0.00
37.50	0.00	1,786	382.95	0.01	0.01	0.00
40.00	0.00	1,673	382.33	0.01	0.01	0.00
42.50	0.00	1,571	381.76	0.01	0.01	0.00
45.00	0.00	1,478	381.24	0.01	0.01	0.00
47.50	0.00	1,394	380.94	0.01	0.01	0.00
50.00	0.00	1,313	380.83	0.01	0.01	0.00
52.50	0.00	1,235	380.72	0.01	0.01	0.00
55.00	0.00	1,159	380.62	0.01	0.01	0.00
57.50	0.00	1,086	380.51	0.01	0.01	0.00
60.00	0.00	1,015	380.41	0.01	0.01	0.00
62.50	0.00	946	380.32	0.01	0.01	0.00
65.00	0.00	880	380.23	0.01	0.01	0.00
67.50	0.00	817	380.14	0.01	0.01	0.00
70.00	0.00	755	380.05	0.01	0.01	0.00

Stage-Discharge for Pond RG2: Rain Garden #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
379.00	0.00	0.00	0.00
379.10	0.00	0.00	0.00
379.20	0.00	0.00	0.00
379.30	0.00	0.00	0.00
379.40	0.00	0.00	0.00
379.50	0.00	0.00	0.00
379.60	0.00	0.00	0.00
379.70	0.01	0.01	0.00
379.80	0.01	0.01	0.00
379.90	0.01	0.01	0.00
380.00	0.01	0.01	0.00
380.10	0.01	0.01	0.00
380.20	0.01	0.01	0.00
380.30	0.01	0.01	0.00
380.40	0.01	0.01	0.00
380.50	0.01	0.01	0.00
380.60	0.01	0.01	0.00
380.70	0.01	0.01	0.00
380.80	0.01	0.01	0.00
380.90	0.01	0.01	0.00
381.00	0.01	0.01	0.00
381.10	0.01	0.01	0.00
381.20	0.01	0.01	0.00
381.30	0.01	0.01	0.00
381.40	0.01	0.01	0.00
381.50	0.01	0.01	0.00
381.60	0.01	0.01	0.00
381.70	0.01	0.01	0.00
381.80	0.01	0.01	0.00
381.90	0.01	0.01	0.00
382.00	0.01	0.01	0.00
382.10	0.01	0.01	0.00
382.20	0.01	0.01	0.00
382.30	0.01	0.01	0.00
382.40	0.01	0.01	0.00
382.50	0.01	0.01	0.00
382.60	0.01	0.01	0.00
382.70	0.01	0.01	0.00
382.80	0.01	0.01	0.00
382.90	0.01	0.01	0.00
383.00	0.01	0.01	0.00
383.10	0.01	0.01	0.00
383.20	0.01	0.01	0.00
383.30	0.01	0.01	0.00
383.40	0.19	0.19	0.00
383.50	0.69	0.69	0.00
383.60	1.37	1.37	0.00
383.70	2.18	2.18	0.00
383.80	3.12	3.12	0.00
383.90	4.16	4.16	0.00
384.00	5.29	5.29	0.00
384.10	6.20	6.20	0.00
384.20	6.95	6.95	0.00
384.30	7.61	7.61	0.00
384.40	8.21	8.21	0.00
384.50	8.76	8.76	0.00
384.60	9.29	9.29	0.00
384.70	9.78	9.78	0.00
384.80	10.25	10.25	0.00
384.90	10.69	10.69	0.00
385.00	11.12	11.12	0.00
385.10	11.53	11.53	0.00
385.20	11.93	11.93	0.00
385.30	12.31	12.31	0.00
385.40	12.93	12.93	0.00
385.50	13.95	13.95	0.00
385.60	15.20	15.20	0.00
385.70	16.63	16.63	0.00
385.80	18.22	18.22	0.00
385.90	19.93	19.93	0.00
386.00	21.76	21.76	0.00
386.10	23.29	23.29	0.00
386.20	24.59	24.59	0.00
386.30	25.77	25.77	0.00
386.40	26.86	26.86	0.00
386.50	27.89	27.89	0.00
386.60	28.87	28.87	0.00
386.70	31.00	31.00	0.00
386.80	39.79	34.08	5.71
386.90	53.99	37.77	16.23
387.00	69.96	40.02	29.94
387.10	86.60	40.31	46.29
387.20	105.56	40.59	64.97
387.30	126.65	40.87	85.78
387.40	149.70	41.15	108.55
387.50	174.61	41.43	133.18
387.60	201.29	41.70	159.59
387.70	229.67	41.97	187.70
387.80	259.70	42.25	217.45
387.90	291.32	42.52	248.80
388.00	**324.49**	**42.78**	**281.70**

Summary for Pond RG3: Rain Garden #3

Inflow Area = 0.708 ac, 25.78% Impervious, Inflow Depth = 4.11" for 100-yr event
Inflow = 3.33 cfs @ 11.98 hrs, Volume= 0.242 af
Outflow = 2.78 cfs @ 12.03 hrs, Volume= 0.242 af, Atten= 17%, Lag= 3.1 min
Primary = 2.78 cfs @ 12.03 hrs, Volume= 0.242 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs
Peak Elev= 396.70' @ 12.04 hrs Surf.Area= 1,882 sf Storage= 1,561 cf

Plug-Flow detention time= 137.2 min calculated for 0.242 af (100% of inflow)
Center-of-Mass det. time= 142.6 min (939.0 - 796.4)

Volume	Invert	Avail.Storage	Storage Description
#1	395.00'	2,978 cf	**Surface Storage (Prismatic)** Listed below (Recalc)
#2	393.50'	61 cf	**Amended Soil (Prismatic)** Listed below (Recalc) 608 cf Overall x 10.0% Voids
#3	392.00'	243 cf	**Stone Bed (Prismatic)** Listed below (Recalc) 608 cf Overall x 40.0% Voids
		3,281 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
395.00	405	0	0
398.00	1,580	2,978	2,978

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
393.50	405	0	0
395.00	405	608	608

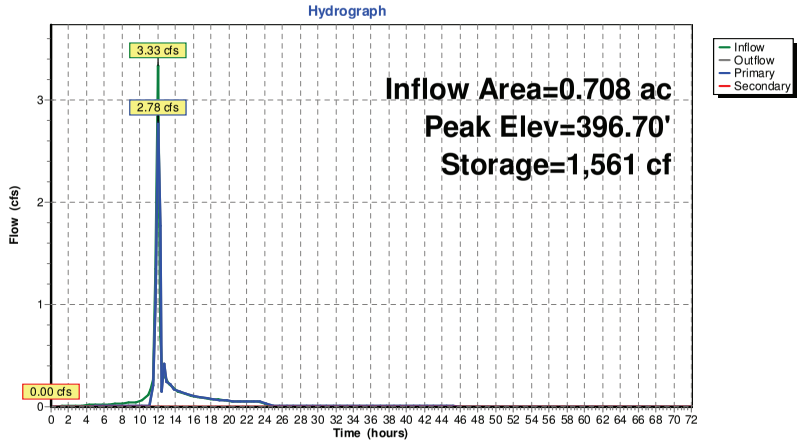
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
392.00	405	0	0
393.50	405	608	608

Device	Routing	Invert	Outlet Devices
#1	Primary	392.00'	**18.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 392.00' / 391.64' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	396.00'	**24.0" W x 4.0" H Vert. 1st Stage** C= 0.600
#3	Device 1	396.65'	**24.0" x 45.2" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	396.75'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 3.75 13.75 17.50 Height (feet) 1.25 0.00 0.00 1.25
#5	Device 1	391.00'	**0.5" Vert. UD** C= 0.600

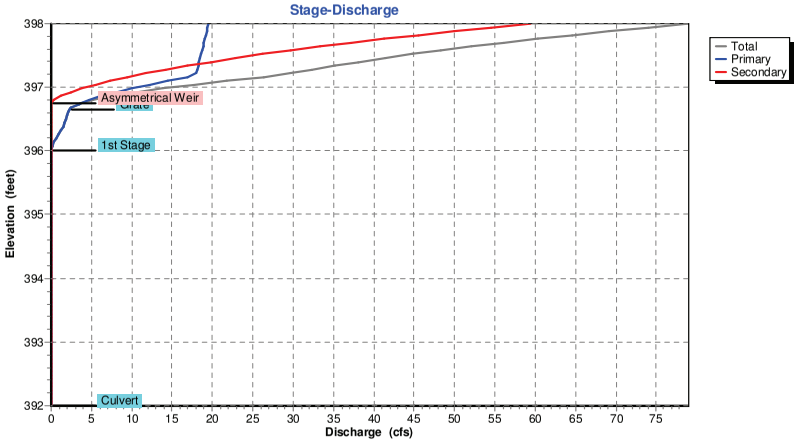
Primary OutFlow Max=2.34 cfs @ 12.03 hrs HW=396.67' (Free Discharge)
└─**1=Culvert** (Passes 2.34 cfs of 16.84 cfs potential flow)
  ├─**2=1st Stage** (Orifice Controls 2.26 cfs @ 3.38 fps)
  ├─**3=Grate** (Weir Controls 0.07 cfs @ 0.41 fps)
  └─**5=UD** (Orifice Controls 0.01 cfs @ 10.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' (Free Discharge)
└─**4=Asymmetrical Weir** (Controls 0.00 cfs)

Pond RG3: Rain Garden #3



Pond RG3: Rain Garden #3



Hydrograph for Pond RG3: Rain Garden #3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
2.50	0.01	36	392.22	0.00	0.00	0.00
5.00	0.02	134	392.83	0.01	0.01	0.00
7.50	0.03	277	394.34	0.01	0.01	0.00
10.00	**0.05**	**510**	**395.42**	**0.01**	**0.01**	0.00
12.50	**0.42**	**964**	**396.07**	**0.14**	**0.14**	0.00
15.00	0.13	958	396.07	0.13	0.13	0.00
17.50	0.08	940	396.04	0.08	0.08	0.00
20.00	0.06	931	396.03	0.06	0.06	0.00
22.50	0.05	928	396.03	0.05	0.05	0.00
25.00	0.00	874	395.96	0.01	0.01	0.00
27.50	0.00	758	395.81	0.01	0.01	0.00
30.00	0.00	644	395.64	0.01	0.01	0.00
32.50	0.00	533	395.46	0.01	0.01	0.00
35.00	0.00	424	395.26	0.01	0.01	0.00
37.50	0.00	319	395.04	0.01	0.01	0.00
40.00	0.00	232	393.43	0.01	0.01	0.00
42.50	0.00	167	393.03	0.01	0.01	0.00
45.00	0.00	112	392.69	0.01	0.01	0.00
47.50	0.00	68	392.42	0.00	0.00	0.00
50.00	0.00	35	392.22	0.00	0.00	0.00
52.50	0.00	13	392.08	0.00	0.00	0.00
55.00	0.00	3	392.02	0.00	0.00	0.00
57.50	0.00	1	392.00	0.00	0.00	0.00
60.00	0.00	0	392.00	0.00	0.00	0.00
62.50	0.00	0	392.00	0.00	0.00	0.00
65.00	0.00	0	392.00	0.00	0.00	0.00
67.50	0.00	0	392.00	0.00	0.00	0.00
70.00	0.00	0	392.00	0.00	0.00	0.00

Stage-Discharge for Pond RG3: Rain Garden #3

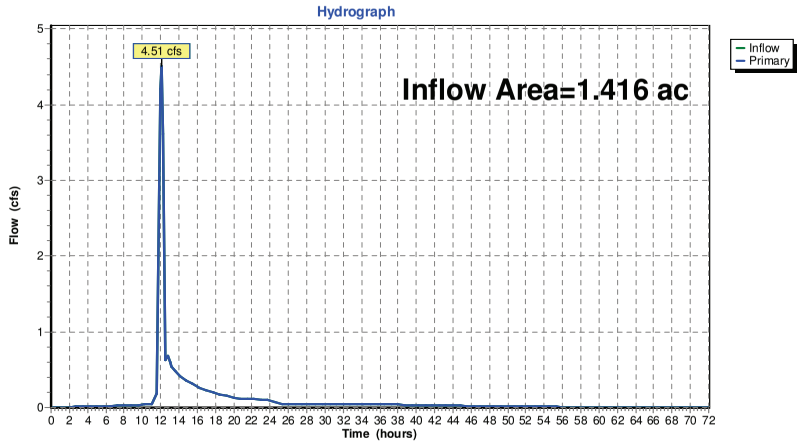
Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
392.00	0.00	0.00	0.00
392.10	0.00	0.00	0.00
392.20	0.00	0.00	0.00
392.30	0.00	0.00	0.00
392.40	0.00	0.00	0.00
392.50	0.00	0.00	0.00
392.60	0.01	0.01	0.00
392.70	0.01	0.01	0.00
392.80	0.01	0.01	0.00
392.90	0.01	0.01	0.00
393.00	0.01	0.01	0.00
393.10	0.01	0.01	0.00
393.20	0.01	0.01	0.00
393.30	0.01	0.01	0.00
393.40	0.01	0.01	0.00
393.50	0.01	0.01	0.00
393.60	0.01	0.01	0.00
393.70	0.01	0.01	0.00
393.80	0.01	0.01	0.00
393.90	0.01	0.01	0.00
394.00	0.01	0.01	0.00
394.10	0.01	0.01	0.00
394.20	0.01	0.01	0.00
394.30	0.01	0.01	0.00
394.40	0.01	0.01	0.00
394.50	0.01	0.01	0.00
394.60	0.01	0.01	0.00
394.70	0.01	0.01	0.00
394.80	0.01	0.01	0.00
394.90	0.01	0.01	0.00
395.00	0.01	0.01	0.00
395.10	0.01	0.01	0.00
395.20	0.01	0.01	0.00
395.30	0.01	0.01	0.00
395.40	0.01	0.01	0.00
395.50	0.01	0.01	0.00
395.60	0.01	0.01	0.00
395.70	0.01	0.01	0.00
395.80	0.01	0.01	0.00
395.90	0.01	0.01	0.00
396.00	0.01	0.01	0.00
396.10	0.22	0.22	0.00
396.20	0.59	0.59	0.00
396.30	1.07	1.07	0.00
396.40	1.53	1.53	0.00
396.50	1.85	1.85	0.00
396.60	2.11	2.11	0.00
396.70	2.77	2.77	0.00
396.80	5.12	4.75	0.37
396.90	9.44	7.47	1.97
397.00	15.08	10.75	4.33
397.10	21.84	14.50	7.34
397.20	28.89	17.95	10.94
397.30	33.25	18.15	15.10
397.40	38.16	18.35	19.81
397.50	43.61	18.54	25.06
397.60	49.59	18.74	30.85
397.70	56.11	18.93	37.18
397.80	63.17	19.12	44.05
397.90	70.77	19.31	51.46
398.00	**78.91**	**19.50**	**59.41**

Summary for Link 1L: INF Trench Collection

Inflow Area = 1.416 ac, 28.90% Impervious, Inflow Depth = 4.24" for 100-yr event
Inflow = 4.51 cfs @ 12.09 hrs, Volume= 0.500 af
Primary = 4.51 cfs @ 12.09 hrs, Volume= 0.500 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link 1L: INF Trench Collection



Hydrograph for Link 1L: INF Trench Collection

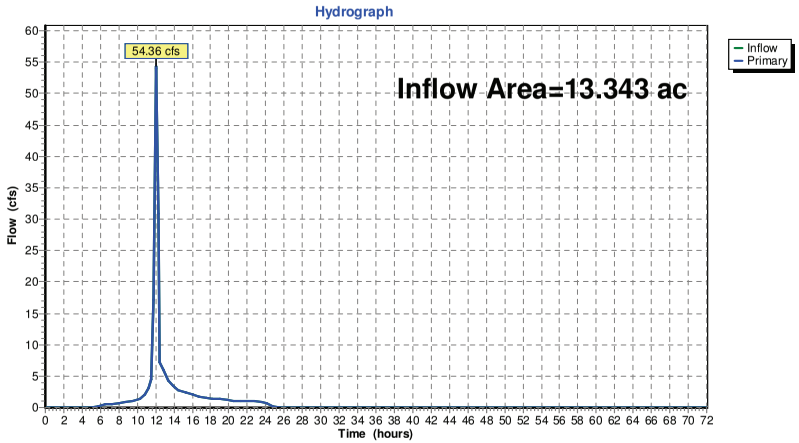
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.01	0.00	0.01	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.02	0.00	0.02	68.75	0.00	0.00	0.00
6.25	0.02	0.00	0.02	70.00	0.00	0.00	0.00
7.50	0.02	0.00	0.02	71.25	0.00	0.00	0.00
8.75	0.03	0.00	0.03				
10.00	0.04	0.00	0.04				
11.25	**0.04**	0.00	**0.04**				
12.50	**0.63**	0.00	**0.63**				
13.75	0.46	0.00	0.46				
15.00	0.34	0.00	0.34				
16.25	0.26	0.00	0.26				
17.50	0.20	0.00	0.20				
18.75	0.16	0.00	0.16				
20.00	0.13	0.00	0.13				
21.25	0.11	0.00	0.11				
22.50	0.11	0.00	0.11				
23.75	0.10	0.00	0.10				
25.00	0.05	0.00	0.05				
26.25	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.75	0.04	0.00	0.04				
30.00	0.04	0.00	0.04				
31.25	0.04	0.00	0.04				
32.50	0.04	0.00	0.04				
33.75	0.04	0.00	0.04				
35.00	0.04	0.00	0.04				
36.25	0.04	0.00	0.04				
37.50	0.04	0.00	0.04				
38.75	0.04	0.00	0.04				
40.00	0.03	0.00	0.03				
41.25	0.03	0.00	0.03				
42.50	0.03	0.00	0.03				
43.75	0.02	0.00	0.02				
45.00	0.02	0.00	0.02				
46.25	0.02	0.00	0.02				
47.50	0.02	0.00	0.02				
48.75	0.01	0.00	0.01				
50.00	0.01	0.00	0.01				
51.25	0.01	0.00	0.01				
52.50	0.01	0.00	0.01				
53.75	0.01	0.00	0.01				
55.00	0.01	0.00	0.01				
56.25	0.01	0.00	0.01				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

Summary for Link POI East: Prop POI East

Inflow Area = 13.343 ac, 28.42% Impervious, Inflow Depth > 4.26" for 100-yr event
Inflow = 54.36 cfs @ 12.03 hrs, Volume= 4.738 af
Primary = 54.36 cfs @ 12.03 hrs, Volume= 4.738 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link POI East: Prop POI East



Hydrograph for Link POI East: Prop POI East

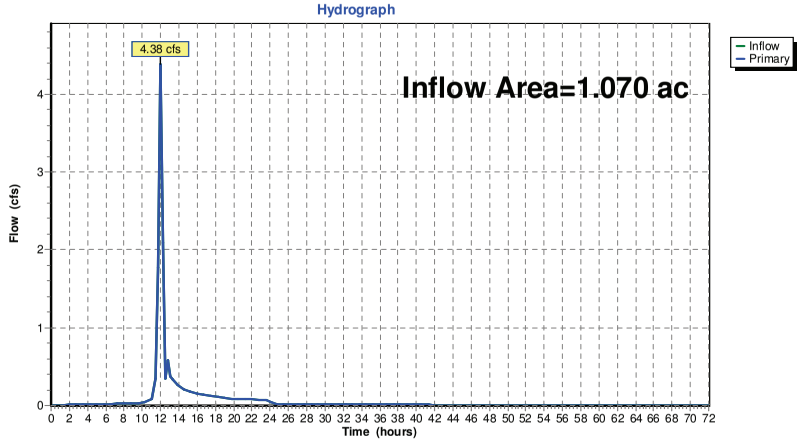
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.01	0.00	0.01
1.25	0.00	0.00	0.00	65.00	0.01	0.00	0.01
2.50	0.02	0.00	0.02	66.25	0.01	0.00	0.01
3.75	0.03	0.00	0.03	67.50	0.01	0.00	0.01
5.00	0.05	0.00	0.05	68.75	0.01	0.00	0.01
6.25	0.44	0.00	0.44	70.00	0.01	0.00	0.01
7.50	0.57	0.00	0.57	71.25	0.01	0.00	0.01
8.75	0.81	0.00	0.81				
10.00	1.15	0.00	1.15				
11.25	**3.05**	0.00	**3.05**				
12.50	**7.20**	0.00	**7.20**				
13.75	3.57	0.00	3.57				
15.00	2.51	0.00	2.51				
16.25	1.87	0.00	1.87				
17.50	1.60	0.00	1.60				
18.75	1.35	0.00	1.35				
20.00	1.10	0.00	1.10				
21.25	1.02	0.00	1.02				
22.50	0.97	0.00	0.97				
23.75	0.92	0.00	0.92				
25.00	0.08	0.00	0.08				
26.25	0.07	0.00	0.07				
27.50	0.07	0.00	0.07				
28.75	0.07	0.00	0.07				
30.00	0.07	0.00	0.07				
31.25	0.07	0.00	0.07				
32.50	0.06	0.00	0.06				
33.75	0.06	0.00	0.06				
35.00	0.06	0.00	0.06				
36.25	0.06	0.00	0.06				
37.50	0.06	0.00	0.06				
38.75	0.05	0.00	0.05				
40.00	0.05	0.00	0.05				
41.25	0.05	0.00	0.05				
42.50	0.05	0.00	0.05				
43.75	0.04	0.00	0.04				
45.00	0.04	0.00	0.04				
46.25	0.03	0.00	0.03				
47.50	0.03	0.00	0.03				
48.75	0.03	0.00	0.03				
50.00	0.02	0.00	0.02				
51.25	0.02	0.00	0.02				
52.50	0.02	0.00	0.02				
53.75	0.02	0.00	0.02				
55.00	0.02	0.00	0.02				
56.25	0.02	0.00	0.02				
57.50	0.01	0.00	0.01				
58.75	0.01	0.00	0.01				
60.00	0.01	0.00	0.01				
61.25	0.01	0.00	0.01				
62.50	0.01	0.00	0.01				

Summary for Link PR POI W: PR POI - West

Inflow Area = 1.070 ac, 25.17% Impervious, Inflow Depth = 4.08" for 100-yr event
Inflow = 4.38 cfs @ 12.01 hrs, Volume= 0.364 af
Primary = 4.38 cfs @ 12.01 hrs, Volume= 0.364 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.25 hrs

Link PR POI W: PR POI - West



Hydrograph for Link PR POI W: PR POI - West

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	63.75	0.00	0.00	0.00
1.25	0.00	0.00	0.00	65.00	0.00	0.00	0.00
2.50	0.01	0.00	0.01	66.25	0.00	0.00	0.00
3.75	0.01	0.00	0.01	67.50	0.00	0.00	0.00
5.00	0.02	0.00	0.02	68.75	0.00	0.00	0.00
6.25	0.02	0.00	0.02	70.00	0.00	0.00	0.00
7.50	0.02	0.00	0.02	71.25	0.00	0.00	0.00
8.75	0.03	0.00	0.03				
10.00	0.04	0.00	0.04				
11.25	**0.10**	0.00	**0.10**				
12.50	**0.35**	0.00	**0.35**				
13.75	0.27	0.00	0.27				
15.00	0.19	0.00	0.19				
16.25	0.14	0.00	0.14				
17.50	0.12	0.00	0.12				
18.75	0.10	0.00	0.10				
20.00	0.09	0.00	0.09				
21.25	0.08	0.00	0.08				
22.50	0.08	0.00	0.08				
23.75	0.07	0.00	0.07				
25.00	0.01	0.00	0.01				
26.25	0.01	0.00	0.01				
27.50	0.01	0.00	0.01				
28.75	0.01	0.00	0.01				
30.00	0.01	0.00	0.01				
31.25	0.01	0.00	0.01				
32.50	0.01	0.00	0.01				
33.75	0.01	0.00	0.01				
35.00	0.01	0.00	0.01				
36.25	0.01	0.00	0.01				
37.50	0.01	0.00	0.01				
38.75	0.01	0.00	0.01				
40.00	0.01	0.00	0.01				
41.25	0.01	0.00	0.01				
42.50	0.01	0.00	0.01				
43.75	0.01	0.00	0.01				
45.00	0.01	0.00	0.01				
46.25	0.00	0.00	0.00				
47.50	0.00	0.00	0.00				
48.75	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.25	0.00	0.00	0.00				
52.50	0.00	0.00	0.00				
53.75	0.00	0.00	0.00				
55.00	0.00	0.00	0.00				
56.25	0.00	0.00	0.00				
57.50	0.00	0.00	0.00				
58.75	0.00	0.00	0.00				
60.00	0.00	0.00	0.00				
61.25	0.00	0.00	0.00				
62.50	0.00	0.00	0.00				

IV. SUPPORTING DOCUMENTS

NPDES Worksheets
E&S Rip-Rap & Channel Design Calculations
Spillway Calculations
Land Use Information Questions
PNDI Project Environmental Review Receipt
USGS Quad Map
FEMA Map
USDA Soil Map
NOAA Atlas 14
Plan Preparer Record of Training & Experience
Criteria and Credits for BMP 5.6.1 Minimize Total Disturbed Area – Grading

Appendix D. Worksheets

Worksheet 1. General Site Information

INSTRUCTIONS: Fill out Worksheet 1 for each watershed

Date: 10/3/2018

Project Name: Malin Road Development

Municipality: East Whiteland Township

County: Chester County

Total Area (acres): 13.7

Major River Basin: Schuylkill River

Watershed: Lower Schuylkill River

Sub-Basin: Delaware

Nearest Surface Water(s) to Receive Runoff: Little Valley Creek

Chapter 93 – Designated Water Use/Existing Water Use: EV, MF

Impaired according to Category 4 or 5 of the Integrated Water Quality Monitoring and Assessment Report? Yes ☒ No ☐

List Causes of Impairment: Cat. 4c: Urban Runoff/Storm Sewers - Water/Flow Variability
Habitat Modifications - Other Habitat Alterations
Cat. 5: Urban Runoff/Storm Sewers - Siltation, cause unknown; Source Unknown - Pathogens

Is there an established TMDL that applies: Yes ☐ No ☒

Total Maximum Daily Loads (TMDLS)

Is project subject to, or part of:

Municipal Separate Storm Sewer System (MS4) Requirements? Yes ☒ No ☐

Existing or planned drinking water supply? Yes ☐ No ☒

If yes, distance from proposed discharge (miles):

Approved Act 167 Plan? Yes ☒ No ☐

Existing River Conservation Plan? Yes ☒ No ☐

Worksheet 2. Sensitive Natural Resources from PA Stormwater Best Management Practices Chapter 5

INSTRUCTIONS

1. Provide Sensitive Resources Map according to non-structural BMP 5.4.1 in Chapter 5. This map should identify wetlands, woodlands, natural drainage ways, steep slopes, and other sensitive natural areas.

2. Summarize the existing extent of each sensitive resource in the Existing Sensitive Resources Table (below, using Acres). If none present, insert 0.

3. Summarize Total Protected Area as defined under BMPs in Chapter 5.

4. Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once.

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? Yes/no/n/a	TOTAL AREA (Ac.)	PROTECTED AREA (Ac.)
Waterbodies	See Natural Drainage Ways	-	-
Floodplains	Yes	0.77	0.77
Riparian Areas	Yes	1.88	1.88
Wetlands	Yes	0.55	0.55
Woodlands	Yes	1.63	0.84
Natural Drainage Ways	Yes (Creek)	0.11	0.11
Steep Slopes, 15% - 25%	Yes	1.36	0.59
Steep Slopes, over 25%	Yes	1.30	0.33
Other:			
Other:			
TOTAL EXISTING:			

Worksheet 4. Change in Runoff Volume for 2-YR Storm Event

Project	Malin Road Development		By	MMT	Date	9/20/2018
Drainage Area	East	acres				
2-Year Rainfall	3.23	inches				
Total Site Area	13.60	acres				
Protected Site Area	0.00	acres				
Managed Area	9.55	acres				

Existing Condition:

Cover Type / Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff 1 (in)	Runoff Volume 2 (cf)
Woods, Good	B	32,333	0.74	55	8.18	1.64	0.26	700
Woods, Good	C	5,752	0.13	70	4.29	0.86	0.85	405
Meadow, Good	B	32,333	0.74	58	7.24	1.45	0.35	948
Meadow, Good	C	33	0.00	71	4.08	0.82	0.90	2
Impervious	-	257,801	5.92	98	0.20	0.04	3.00	64,394
Meadow, Good (20% imp)	B	64,450	1.48	58	7.24	1.45	0.35	1,890
Total		**392,702**	**9.02**					**68,339**

Developed Condition:

Cover Type / Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff (1) (in)	Runoff Volume (2) (CF)
Open Space, Good	B	204,063	4.68	61	6.39	1.28	0.46	7,759
Open Space, Good	C	342	0.01	74	3.51	0.70	1.06	30
Impervious	-	172,818	3.97	98	0.20	0.04	3.00	43,167
Diveway/parking area	B	37,017	0.85	85	1.76	0.35	1.78	5,501
Woods	C	1,692	0.04	70	4.29	0.86	0.85	119
Total		**415,932**	**9.55**					**56,576**

2-Year Storm Event Runoff Volume Increase (CF): **-11,763**

2-Year Volume Decrease = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

(1) Runoff (in) = Q = (P-0.2S)^2 / (P+0.8S) where
P = 2-Year Rainfall (in)
S = (1000 / CN) - 10
(2) Runoff Volume (cf) = Q x Area x 1/12
Q = Runoff (in)
Area = Land use area (sq. ft.)

Note: Runoff Volume must be calculated for EACH land use type/condition and HSGI.
The use of a weighted CN value for volume calculations is not acceptable.

Worksheet 4. Change in Runoff Volume for 2-YR Storm Event

Project	Malin Road Development		By	MMT	Date	9/20/2018
Drainage Area	West	acres				
2-Year Rainfall	3.23	inches				
Total Site Area	13.60	acres				
Protected Site Area	0.00	acres				
Managed Area	1.07	acres				

Existing Condition:

Cover Type / Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff 1 (in)	Runoff Volume 2 (cf)
Meadow, Good	B	22,281	0.51	58	7.24	1.45	0.35	653
Impervious	-	17,548	0.40	98	0.20	0.04	3.00	4,383
Meadow, Good (20% imp)	B	4,387	0.10	58	7.24	1.45	0.35	129
Total		**44,216**	**1.02**					**5,165**

Developed Condition:

Cover Type / Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff (1) (in)	Runoff Volume (2) (CF)
Open Space, Good	B	34,864	0.80	61	6.39	1.28	0.46	1,326
Impervious	-	11,725	0.27	98	0.20	0.04	3.00	2,929
Total		**46,589**	**1.07**					**4,254**

2-Year Storm Event Runoff Volume Increase (CF): **-911**

2-Year Volume Decrease = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

(1) Runoff (in) = Q = (P-0.2S)^2 / (P+0.8S) where
P = 2-Year Rainfall (in)
S = (1000 / CN) - 10
(2) Runoff Volume (cf) = Q x Area x 1/12
Q = Runoff (in)
Area = Land use area (sq. ft.)

Note: Runoff Volume must be calculated for EACH land use type/condition and HSGI.
The use of a weighted CN value for volume calculations is not acceptable.

Worksheet 5. Structural BMP Volume Credits

Project Malin Road Development Date 9/20/2018
Sub-Basin POI - East

Required Control Volume (cf) - from Worksheet 4:		-11,763
Non-structural Volume Credit (cf) - from Worksheet 3:	-	0
Structural Volume Reqmt (cf) *(Required Control Volume minus Non-Structural Credit)*		-11,763

	Proposed BMP	Area (SF)	Managed Volume (CF)	Volume Reduction Permanently Removed (CF)
6.4.1	Porous Pavement			
6.4.2	Infiltration Basin			
6.4.3	Infiltration Bed			
6.4.4	Infiltration Trench			
6.4.5	Rain Garden/Bioretention			
6.4.6	Dry Well / Seepage Pit			
6.4.7	Constructed Filter			
6.4.8	Vegetated Swale			
6.4.9	Vegetated Filter Strip			
6.4.10	Berm			
6.5.1	Vegetated Roof			
6.5.2	Capture and Re-use			
6.6.1	Constructed Wetlands			
6.6.2	Wet Pond / Retention Basin			
6.6.3	Dry Extended Detention Basin			
6.6.4	Water Quality Filters			
6.7.1	Riparian Buffer Restoration			
6.7.2	Landscape Restoration / Reforestation			
6.7.3	Soil Amendment			
6.8.1	Level Spreader			
6.8.2	Special Storage Area			
Other				

Total Structural Volume (cf):	0
Structural Volume Requirement (cf)	-11,763
DIFFERENCE	**11763**

Item	Description
Other	Deciduous Trees (359 @ 6 cf = 2,154 cf)
	Evergreen Trees (167 @ 10 cf = 1,670 cf)

Worksheet 5. Structural BMP Volume Credits

Project Malin Road Development Date 9/20/2018
Sub-Basin POI - West

Required Control Volume (cf) - from Worksheet 4:		-911
Non-structural Volume Credit (cf) - from Worksheet 3:	-	0
Structural Volume Reqmt (cf)		-911
(Required Control Volume minus Non-Structural Credit)		

	Proposed BMP	Area (SF)	Managed Volume (CF)	Volume Reduction Permanently Removed (CF)
6.4.1	Porous Pavement			
6.4.2	Infiltration Basin			
6.4.3	Infiltration Bed			
6.4.4	Infiltration Trench			
6.4.5	Rain Garden/Bioretention			
6.4.6	Dry Well / Seepage Pit			
6.4.7	Constructed Filter			
6.4.8	Vegetated Swale			
6.4.9	Vegetated Filter Strip			
6.4.10	Berm			
6.5.1	Vegetated Roof			
6.5.2	Capture and Re-use			
6.6.1	Constructed Wetlands			
6.6.2	Wet Pond / Retention Basin			
6.6.3	Dry Extended Detention Basin			
6.6.4	Water Quality Filters			
6.7.1	Riparian Buffer Restoration			
6.7.2	Landscape Restoration / Reforestation			
6.7.3	Soil Amendment			
6.8.1	Level Spreader			
6.8.2	Special Storage Area			
Other				

Total Structural Volume (cf):	0
Structural Volume Requirement (cf)	-911
DIFFERENCE	**911**

Worksheet 10 – Water Quality Compliance for Nitrate

Does the site design incorporate the following BMPs to address nitrate pollution? A summary "yes" rating is achieved if at least 2 Primary BMPs for nitrate are provided across the site or 4 secondary BMPs for nitrate are provided across the site (or the equivalent) "provided across the site" is taken to mean the specifications for that BMP set forward in Sections 5 and 6 are satisfied.

	POI E		POI W	
	Yes	No	Yes	No
Yes No Primary BMPs for Nitrate:				
NS BMP 5.4.2 – Protect/Conserve/Enhance Riparian Buffers	X			X
NS BMP 5.5.4 – Cluster Uses at Each Site		X		X
NS BMP 5.6.1 – Minimize Total Disturbed Area	X		X	
NS BMP 5.6.3 – Re-Vegetate/Re-Forest Disturbed Areas (Native Species)	X		X	
NS BMP 5.9.1 – Street Sweeping/Vacuuming		X		X
Structural BMP 6.7.1 – Riparian Buffer Restoration		X		X
Structural BMP 6.7.2 – Landscape Restoration		X		X
Secondary BMPs for Nitrate:				
NS BMP 5.4.1 – Protect Sensitive/Special Value Features	X			X
NS BMP 5.4.3 – Protect/Utilize Natural Drainage Features		X		X
NS BMP 5.6.2 – Minimize Soil Compaction		X		X
Structural BMP 6.4.5 – Rain Garden/Bioretention	X		X	
Structural BMP 6.4.8 – Vegetated Swale		X		X
Structural BMP 6.4.9 – Vegetated Filter Strip		X		X
Structural BMP 6.6.1 – Constructed Wetland		X		X
Structural BMP 6.7.1 – Riparian Buffer Restoration		X		X
Structural BMP 6.7.2 – Landscape Restoration		X		X
Structural BMP 6.7.3 – Soils Amendment/Restoration		X		X

Worksheet 14 - Water Quality Analysis of Pollutant Loading from Disturbance in Buffer Area

Total Disturbed Area (AC)	0.56
Disturbed Area Controlled by this BMP's (AC)	0.56

Existing Condition

		Pollutant					Pollutant Load		
	Land Cover Classification	TSS EMC (mg/l)	TP EMC (mg/l)	Nitrate-Nitrate EMC (mg/l as N)	Cover (Acres)	Runoff Volume (AF)	TSS** (LBS)	TP** (LBS)	NO3 (LBS)
	Forest	39	0.15	0.17					
	Meadow	47	0.19	0.30	0.560	0.016	2.08	0.008	0.013
						TOTAL LOAD	2.08	0.008	0.013

Proposed Condition

		Pollutant					Pollutant Load		
	Land Cover Classification	TSS EMC (mg/l)	TP EMC (mg/l)	Nitrate-Nitrate EMC (mg/l as N)	Cover (Acres)	Runoff Volume (AF)	TSS** (LBS)	TP** (LBS)	NO3 (LBS)
Pervious Surfaces	Forest	39	0.15	0.17	0.49	0.0144	1.51	0.006	0.007
	Meadow	47	0.19	0.30					
	Fertilized Planting Area	55	1.34	0.73					
	Native Planting Area	55	0.4	0.33					
	Lawn, Low-Input	180	0.40	0.44	0.017	0.0006	0.31	0.001	0.001
	Lawn, High-Input	180	2.22	1.46					
	Golf Course Fairway/Green	305	1.07	1.84					
	Grassed Athletic Field	200	1.07	1.01					
Impervious Surfaces	Rooftop	21	0.13	0.32					
	High Traffic Street/Highway	261	0.40	0.83					
	Medium Traffic Street	113	0.33	0.58					
	Low Traffic/Residential Street	86	0.36	0.47	0.053	0.0132	3.07	0.013	0.017
	Res. Driveway, Play Courts, etc.	60	0.46	0.47					
	High Traffic Parking Lot	120	0.39	0.60					
	Low Traffic Parking Lot	58	0.15	0.39					
						TOTAL LOAD	4.90	0.019	0.024
						Pollutant Load Increase (LBS) =	2.82	0.011	0.011

Pollutant Load Increase (LBS) = Post development load - Pre-development load

* Pollutant Load = [EMC, mg/l] X [Volume, AF] X [2.7, Unit Conversion]

Worksheet 15 - Pollutant Reduction Through BMP Applications*

* Fill this worksheet out for each BMP type with diffferent pollutant removal efficiencies. Sum pollutant reduction achieved for all BMP types on final sheet.

BMP Type: Porous Paving (Emergency Access Road)

Disturbed Area Controlled by this BMPs (AC)	0.053

Disturbed Area Controlled by this BMPs:

		Pollutant					Pollutant Load**		
	Land Cover Classification	**TSS EMC (mg/l)**	**TP EMC (mg/l)**	**Nitrate-Nitrate EMC (mg/l as N)**	**Cover (Acres)**	**Runoff Volume (AF)**	**TSS** (LBS)**	**TP** (LBS)**	**NO3 (LBS)**
Pervious Surfaces	Forest	39	0.15	0.17					
	Meadow	47	0.19	0.30					
	Fertilized Planting Area	55	1.34	0.73					
	Native Planting Area	55	0.4	0.33					
	Lawn, Low-Input	180	0.40	0.44					
	Lawn, High-Input	180	2.22	1.46					
	Golf Course Fairway/Green	305	1.07	1.84					
	Grassed Athletic Field	200	1.07	1.01					
Impervious Surfaces	Rooftop	21	0.13	0.32					
	High Traffic Street/Highway	261	0.40	0.83					
	Medium Traffic Street	113	0.33	0.58					
	Low Traffic/Residential Street	86	0.36	0.47	0.053	0.0132	3.07	0.013	0.017
	Res. Driveway, Play Courts, etc.	60	0.46	0.47					
	High Traffic Parking Lot	120	0.39	0.60					
	Low Traffic Parking Lot	58	0.15	0.39					
	TOTAL LOAD TO THIS BMP TYPE						3.07	0.013	0.017
	POLLUTANT REMOVAL EFFICIENCIES FROM APPENDIX A, STORMWATER MANUAL (%)						85%	85%	30%
	POLLUTANT REDUCTION ACHIEVED BY THIS BMP TYPE (LBS)						2.61	0.011	0.005

POLLUTANT REDUCTION ACHIEVED BY ALL BMP TYPES (LBS)			
REQUIRED REDUCTION from WS14 (LBS)	2.82	0.011	0.011

* Pollutant Load = [EMC, mg/l] X [Volume, AF] X [2.7, Unit Conversion]

Worksheet 15 - Pollutant Reduction Through BMP Applications*

* Fill this worksheet out for each BMP type with diffferent pollutant removal efficiencies. Sum pollutant reduction achieved for all BMP types on final sheet.

BMP Type: Undetained through Riparian Buffer

Disturbed Area Controlled by this BMPs (AC)	0.66

Disturbed Area Controlled by this BMPs:

		Pollutant					Pollutant Load**		
	Land Cover Classification	**TSS EMC (mg/l)**	**TP EMC (mg/l)**	**Nitrate-Nitrate EMC (mg/l as N)**	**Cover (Acres)**	**Runoff Volume (AF)**	**TSS** (LBS)**	**TP** (LBS)**	**NO3 (LBS)**
Pervious Surfaces	Forest	39	0.15	0.17					
	Meadow	47	0.19	0.30	0.490	0.0144	1.82	0.007	0.012
	Fertilized Planting Area	55	1.34	0.73					
	Native Planting Area	55	0.4	0.33					
	Lawn, Low-Input	180	0.40	0.44	0.017	0.0006	0.31	0.001	0.001
	Lawn, High-Input	180	2.22	1.46					
	Golf Course Fairway/Green	305	1.07	1.84					
	Grassed Athletic Field	200	1.07	1.01					
Impervious Surfaces	Rooftop	21	0.13	0.32					
	High Traffic Street/Highway	261	0.40	0.83					
	Medium Traffic Street	113	0.33	0.58					
	Low Traffic/Residential Street	86	0.36	0.47					
	Res. Driveway, Play Courts, etc.	60	0.46	0.47					
	High Traffic Parking Lot	120	0.39	0.60					
	Low Traffic Parking Lot	58	0.15	0.39					
	TOTAL LOAD TO THIS BMP TYPE						2.14	0.008	0.012
	POLLUTANT REMOVAL EFFICIENCIES FROM APPENDIX A, STORMWATER MANUAL (%)						65%	50%	50%
	POLLUTANT REDUCTION ACHIEVED BY THIS BMP TYPE (LBS)						1.39	0.004	0.006
	POLLUTANT REDUCTION ACHIEVED BY ALL BMP TYPES (LBS)						**4.00**	**0.015**	**0.011**
	REQUIRED REDUCTION from WS14 (LBS)						2.82	0.011	0.011

* Pollutant Load = [EMC, mg/l] X [Volume, AF] X [2.7, Unit Conversion]

STANDARD E&S WORKSHEET # 11
Channel Design Data

PROJECT NAME: Malin Road Development
LOCATION: 1 Malin Road, East Whiteland Twp., Chester Co.
PREPARED BY: M. Warnock DATE: 10/5/18
CHECKED BY: M. Thompson DATE: 10/5/18

CHANNEL OR CHANNEL SECTION						
TEMPORARY OR PERMANENT?	(T OR P)	P				
DESIGN STORM	(2, 5, OR 10 YR)	10				
ACRES	(AC)	4.15				
MULTIPLIER	(1.6, 2.25, or 2.75)[1]	2.75				
Q_r (REQUIRED CAPACITY)	(CFS)	11.4				
Q (CALCULATED AT FLOW DEPTH d)	(CFS)	5.11	(Q calculated in TR-55, see attachment)			
PROTECTIVE LINING[2]	NAG-	ERONET	P300			
n (MANNING'S COEFFICIENT)[2]		0.034				
V_a (ALLOWABLE VELOCITY)	(FPS)	16.0				
V (CALCULATED AT FLOW DEPTH d)	(FPS)	2.73				
τ_a (MAX ALLOWABLE SHEAR STRESS)	(LB/FT^2)	8.0				
τ_d (CALC'D SHEAR STRESS AT FLOW DEPTH d)	(LB/FT^2)	0.67				
CHANNEL BOTTOM WIDTH	(FT)	3.0				
CHANNEL SIDE SLOPES	(H:V)	Left 25:1 Right 3:1				
D (TOTAL DEPTH)	(FT)	0.8				
CHANNEL TOP WIDTH @ D	(FT)	17.4				
d (CALCULATED FLOW DEPTH)	(FT)	0.27				
CHANNEL TOP WIDTH @ FLOW DEPTH d	(FT)	7.6				
BOTTOM WIDTH: FLOW DEPTH RATIO	(12:1 MAX)	11.1:1				
d_{50} STONE SIZE	(IN)	N/A				
A (CROSS-SECTIONAL AREA)	(SQ. FT.)	1.87				
R (HYDRAULIC RADIUS)		0.17				
S (BED SLOPE)[3]	(FT/FT)	0.040				
S_c (CRITICAL SLOPE)	(FT/FT)	0.300				
$.7S_c$	(FT/FT)	0.021				
$1.3S_c$	(FT/FT)	0.039				
STABLE FLOW?	(Y/N)	Y				
FREEBOARD BASED ON UNSTABLE FLOW	(FT)	N/A				
FREEBOARD BASED ON STABLE FLOW	(FT)	0.53				
MINIMUM REQUIRED FREEBOARD[4]	(FT)	0.5				
DESIGN METHOD FOR PROTECTIVE LINING[5] PERMISSIBLE VELOCITY (V) OR SHEAR STRESS (S)		V				

1. Use 1.6 for Temporary Channels; 2.25 for Temporary Channels in Special Protection (HQ or EV) Watersheds; 2.75 for Permanent Channels. For Rational Method, enter "N/A" and attach E&S Worksheets 9 and 10. For TR-55 enter "N/A" and attach appropriate Worksheets.
2. Adjust "n" value for changes in channel liner and flow depth. For vegetated channels, provide data for manufactured linings without vegetation and with vegetation in separate columns.
3. Slopes may not be averaged.
4. Minimum Freeboard is 0.5 ft. or ¼ Total Channel Depth, whichever is greater
5. Permissible velocity lining design method is not acceptable for channels with a bed slope of 10% or greater. Shear stress lining design method is required for channels with a bed slope of 10% or greater. Shear stress lining design method may be used for any channel bed slope.

Worksheet for Trapezoidal Channel - 1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.034	
Channel Slope	0.04000	ft/ft
Left Side Slope	25.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Bottom Width	3.00	ft
Discharge	5.11	ft^3/s

Results

Normal Depth	0.27	ft
Flow Area	1.87	ft^2
Wetted Perimeter	10.72	ft
Hydraulic Radius	0.17	ft
Top Width	10.67	ft
Critical Depth	0.29	ft
Critical Slope	0.02969	ft/ft
Velocity	2.73	ft/s
Velocity Head	0.12	ft
Specific Energy	0.39	ft
Froude Number	1.15	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.27	ft
Critical Depth	0.29	ft
Channel Slope	0.04000	ft/ft

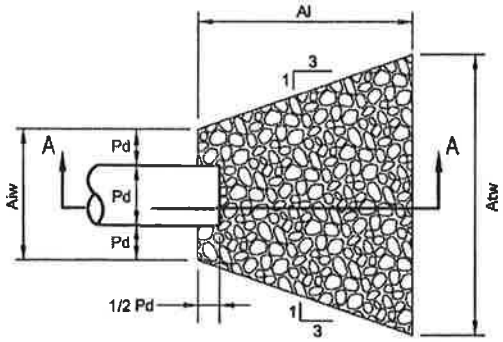
Worksheet for Trapezoidal Channel - 1

GVF Output Data

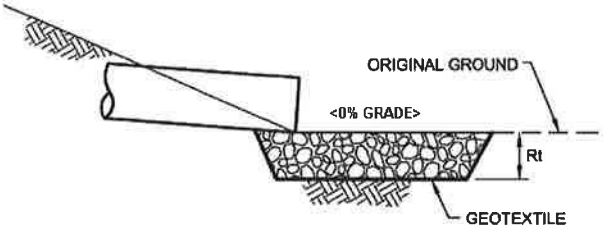
Critical Slope	0.02969	ft/ft

STANDARD E&S WORKSHEET # 20
Riprap Apron Outlet Protection

PROJECT NAME: Malin Road Development
LOCATION: 1 Malin Road, East Whiteland Twp., Chester Co.
PREPARED BY: M. Warnock DATE: 10/5/18
CHECKED BY: M. Thompson DATE: 10/5/18



PLAN VIEW

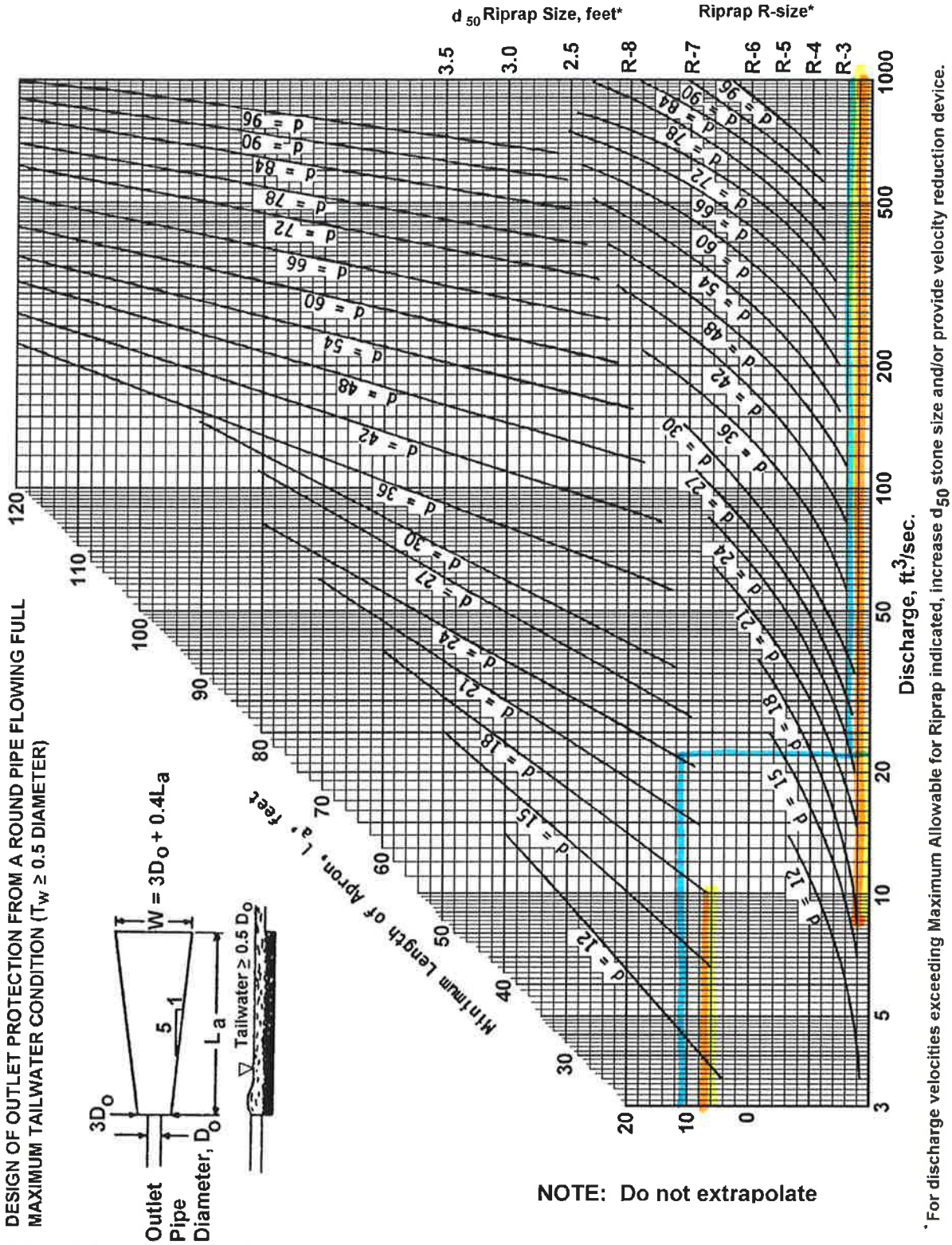


SECTION A - A

	NO.	PIPE DIA. Do (in.)	TAIL WATER COND. (Max or Min)	MAN. "n" FOR PIPE	PIPE SLOPE (FT/FT)	Q (CFS)	V* (FPS)	RIPRAP SIZE	Rt (in)	Al (ft)	Aiw (ft)	Atw (ft)
HW#102	RG#1	18	Max	0.012	0.031	5.02	8.54	R-3	12	7	4.5	7.3
	RG#2	24	Max	0.012	0.040	23.45	14.4	R-3	12	11	6	10.4
HW#305	RG#3	18	Max	0.012	0.055	2.16	8.06	R-3	12	7	4.5	7.3
HW#412	POI 'E'	36	Min.	0.012	0.010	58.35	8.25	R-5	18	21	9	30

***:The anticipated velocity (V) should not exceed the maximum permissible shown in Table 6.6 for the proposed riprap protection. Adjust for less than full pipe flow. Use Manning's equation to calculate velocity for pipe slopes ≥ 0.05 ft/ft.**

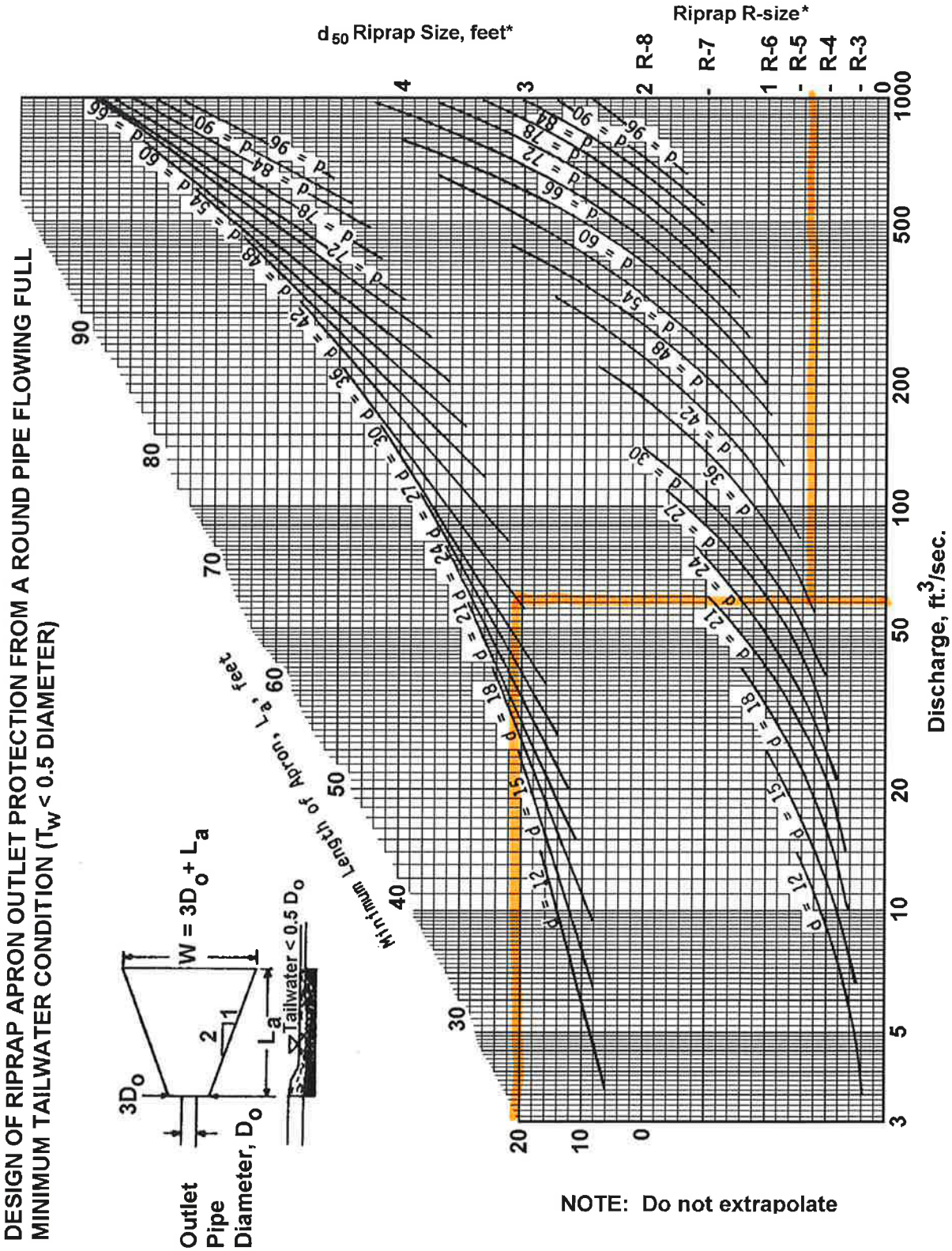
FIGURE 9.4
Riprap Apron Design, Maximum Tailwater Condition



Adapted from USDA - NRCS

Not to be used for Box Culverts

FIGURE 9.3
Riprap Apron Design, Minimum Tailwater Condition



* For discharge velocities exceeding Maximum Allowable for Riprap indicated, increase d_{50} stone size and/or provide velocity reduction device.

Adapted from USDA - NRCS

Not to be used for Box Culverts

Spillway Design Calculations

<u>Rain Garden #1</u>
Top of berm elevation = 402.00 ft-NAVD
100-year water surface elevation = 400.71 ft-NAVD
100-year basin inflow = 7.08 cfs
Design proposes a 20-foot spillway with a crest elevation of 400.75 ft-NAVD

Calculated depth over the proposed spillway is as follows:

$$\text{Weir Equation,} \quad Q = C \times L \times H^{3/2}$$

or

$$\therefore \quad H = \left(\frac{Q}{C \times L}\right)^{2/3}$$

where:

Q = 100-year basin inflow = 7.08 cfs
C = broad crested weir coefficient = 3.0
L = length of spillway = 20 feet
H = head above spillway crest (in feet)

$$H = \left(\frac{7.08}{3.0 \times 20}\right)^{2/3}$$

$$H = 0.24$$

The depth of flow over the spillway (0.24 feet) plus the crest elevation of the spillway (400.75 ft-NAVD) results in a maximum water surface elevation over the spillway of 400.99 ft-NAVD. The top of berm elevation is 402.00 ft-NAVD, thus providing the 1.0 feet of freeboard as required.

Spillway Design Calculations

<u>Rain Garden #2</u>
Top of berm elevation = 388.00 ft-NAVD
100-year water surface elevation = 386.61 ft-NAVD
100-year basin inflow = 32.50 cfs
Design proposes a 70-foot spillway with a crest elevation of 386.70 ft-NAVD

Calculated depth over the proposed spillway is as follows:

$$\text{Weir Equation,} \quad Q = C \times L \times H^{3/2}$$

or

$$\therefore \quad H = \left(\frac{Q}{C \times L}\right)^{2/3}$$

where:

Q = 100-year basin inflow = 32.50 cfs
C = broad crested weir coefficient = 3.0
L = length of spillway = 70 feet
H = head above spillway crest (in feet)

$$H = \left(\frac{32.50}{3.0 \times 70}\right)^{2/3}$$

$$H = 0.29$$

The depth of flow over the spillway (0.29 feet) plus the crest elevation of the spillway (386.70 ft-NAVD) results in a maximum water surface elevation over the spillway of 386.99 ft-NAVD. The top of berm elevation is 388.00 ft-NAVD, thus providing the 1.0 feet of freeboard as required.

Spillway Design Calculations

<u>Rain Garden #3</u>
Top of berm elevation = 398.00 ft-NAVD
100-year water surface elevation = 396.70 ft-NAVD
100-year basin inflow = 3.25 cfs
Design proposes a 10-foot spillway with a crest elevation of 396.75 ft-NAVD

Calculated depth over the proposed spillway is as follows:

$$\text{Weir Equation,} \quad Q = C \times L \times H^{3/2}$$

or

$$\therefore \quad H = \left(\frac{Q}{C \times L}\right)^{2/3}$$

where:

Q = 100-year basin inflow = 3.25 cfs
C = broad crested weir coefficient = 3.0
L = length of spillway = 10 feet
H = head above spillway crest (in feet)

$$H = \left(\frac{3.25}{3.0 \times 10}\right)^{2/3}$$

$$H = 0.23$$

The depth of flow over the spillway (0.23 feet) plus the crest elevation of the spillway (396.75 ft-NAVD) results in a maximum water surface elevation over the spillway of 396.98 ft-NAVD. The top of berm elevation is 398.00 ft-NAVD, thus providing the 1.0 feet of freeboard as required.

APPENDIX A

Land Use Information Questions

Responses to the following questions are required to determine applicability of DEP's Land Use Policy for Permitting of Infrastructure and Facilities.

Note: Applicants are encouraged to submit copies of local zoning approvals with their authorization application.

LAND USE INFORMATION		
1.	Is there an adopted county or multi-county comprehensive plan?	Yes ☒ No ☐
2.	Is there an adopted municipal or multi-municipal comprehensive plan?	Yes ☒ No ☐
3.	Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance?	Yes ☒ No ☐
If the applicant answers NO to either Question 1, 2, <u>or</u> 3, <u>the provisions of the PA MPC are not applicable and the applicant does not need to respond to questions 4 and 5 below</u>. *If the applicant answers YES to questions 1, 2 <u>and</u> 3, the applicant should respond to questions 4 and 5 below.*		
4.	Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? *If zoning approval has been received, attach documentation.*	Yes ☒ No ☐
5.	Have you attached Municipal and County Land Use Letters for the project?	Yes ☐ No ☒

1. PROJECT INFORMATION

Project Name: **Malin Rd Development**
Date of Review: **9/17/2018 11:11:44 AM**
Project Category: **Development, Residential, Subdivision containing more than 2 lots and/or 2 single-family units**
Project Area: **37.24 acres**
County(s): **Chester**
Township/Municipality(s): **EAST WHITELAND**
ZIP Code: **19355**
Quadrangle Name(s): **MALVERN**
Watersheds HUC 8: **Schuylkill**
Watersheds HUC 12: **Little Valley Creek-Valley Creek**
Decimal Degrees: **40.039524, -75.536549**
Degrees Minutes Seconds: **40° 2' 22.2873" N, 75° 32' 11.5764" W**

This is a draft receipt for information only. It has not been submitted to jurisdictional agencies for review.

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	**Potential Impact**	**MORE INFORMATION REQUIRED, See Agency Response**

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 must comply with the bog turtle habitat screening requirements of the PASPGP.

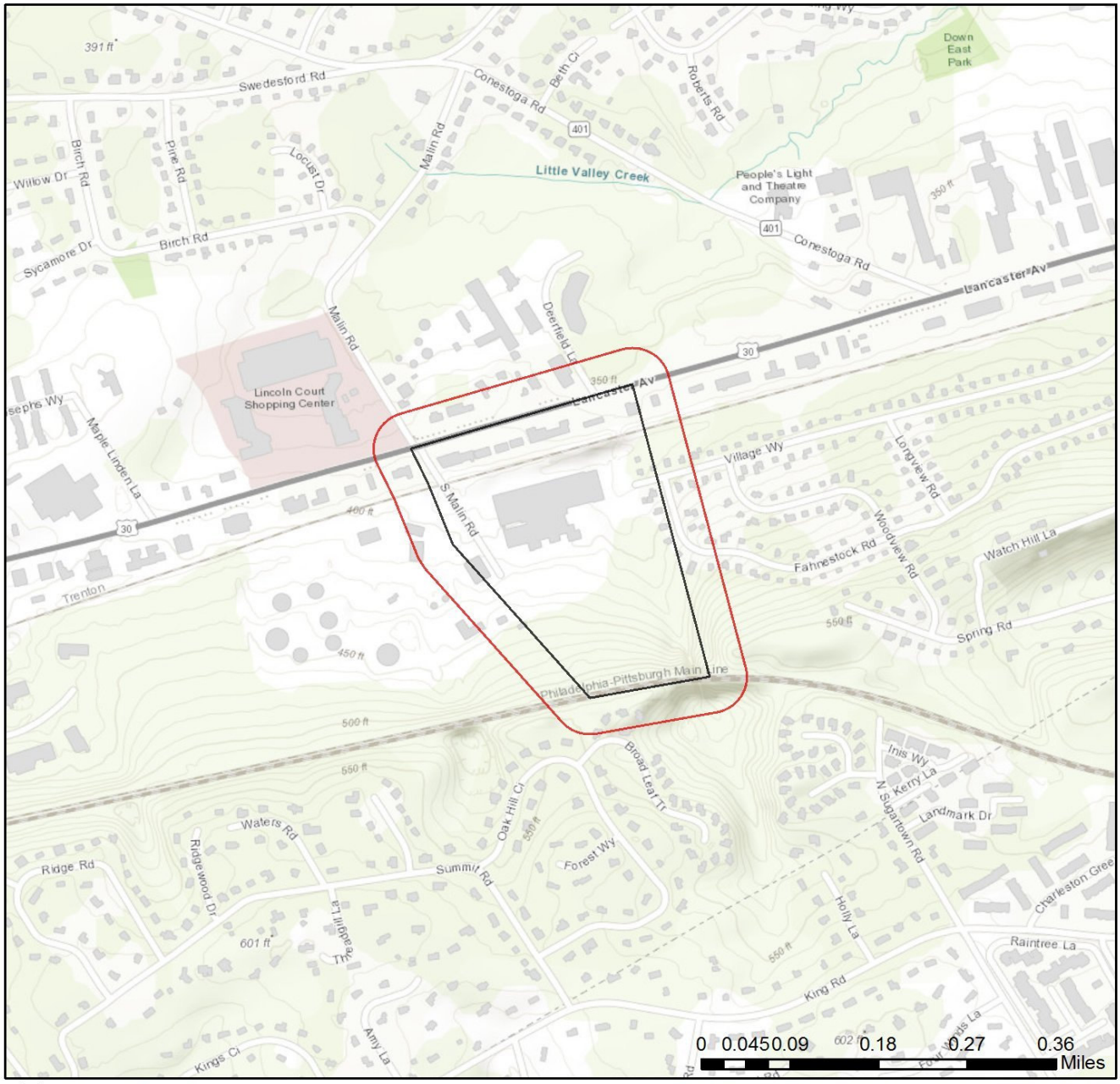
Malin Rd Development

Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

Malin Rd Development



Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS,

RESPONSE TO QUESTION(S) ASKED

Q1: Which of the following closest describes the proposed project?
Your answer is: The proposed project will be connected to, and entirely serviced by, an existing, off-site water delivery and supply line (e.g., operated by a municipality or water company).

Q2: Are there any perennial or intermittent waterways (rivers, streams, creeks, tributaries) in or near the project area, or on the land parcel?
Your answer is: Yes

Q3: Describe how wastewater (effluent) will be handled (select one). For the purpose of this question, wastewater/effluent does not include stormwater runoff. If the project involves solely the renewal or modification of an existing discharge permit (e.g., NPDES permit), select from options 3, 4, 5, or 6 below.
Your answer is: All wastewater/effluent from this project/activity will be routed to an existing municipal wastewater treatment plant.

Q4: Accurately describe what is known about wetland presence in the project area or on the land parcel by selecting ONE of the following. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.
Your answer is: The project area (or land parcel) has not been investigated by someone qualified to identify and delineate wetlands, or it is currently unknown if the project or project activities will affect wetlands.

Q5: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).
Your answer is: The project will affect 1 to 39 acres of forests, woodlots and trees.

Q6: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?
Your answer is: No

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission
RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service
RESPONSE:
Information Request: Conduct a Bog Turtle Habitat (Phase 1) Survey in accordance with USFWS Guidelines for Bog Turtle Surveys (April 2006). Evaluate all wetlands within 300 feet of the project area, which includes all areas that will be impacted by earth disturbance or project features (e.g., roads, structures, utility lines, lawns, detention basins, staging areas, etc.). IF THE PHASE 1 SURVEY IS DONE BY A QUALIFIED BOG TURTLE SURVEYOR (see https://www.fws.gov/northeast/pafo/endangered/surveys.html): 1) Send positive results to USFWS for concurrence, along with a project description documenting how impacts will be avoided. OR, conduct a Phase 2 survey and send Phase 1 and 2 results to USFWS for concurrence. 2) Send a courtesy copy of negative results to USFWS (label as "Negative Phase 1 Survey Results by Qualified Bog Turtle Surveyor: USFWS Courtesy Copy"). USFWS approval of negative results is not necessary when a qualified surveyor does the survey in full accordance with USFWS guidelines. IF THE PHASE 1 SURVEY IS NOT DONE BY A QUALIFIED SURVEYOR: Send ALL Phase 1 results to USFWS for concurrence, and if potential habitat is found, also send a project description documenting how impacts will be avoided. As a qualified bog turtle surveyor, I _____ (name) certify that I conducted a Phase 1 survey of all wetlands in and within 300 feet of the project area on _____(date) and determined that bog turtle habitat is absent.
_____ (Signature)

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email* the following information to the agency(s). Instructions for uploading project materials can be found here. This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies. Alternatively, applicants may email or mail their project materials (see AGENCY CONTACT INFORMATION).
***Note:** U.S.Fish and Wildlife Service requires applicants to mail project materials to the USFWS PA field office (see AGENCY CONTACT INFORMATION). USFWS will not accept project materials submitted electronically (by upload or email).

Check-list of Minimum Materials to be submitted:
____Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____A map with the project boundary and/or a basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
In addition to the materials listed above, USFWS REQUIRES the following
____**SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

DRAFT
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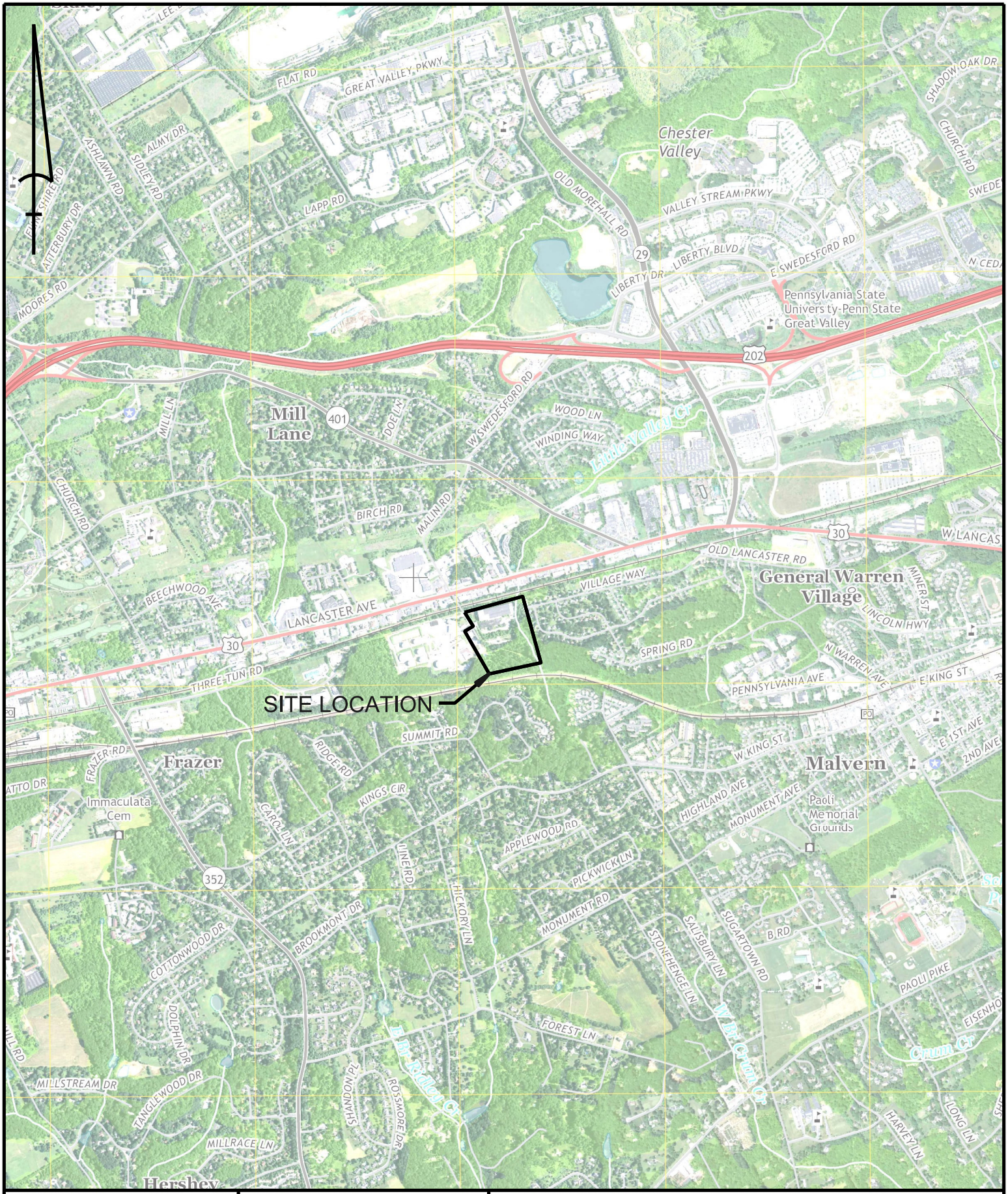
5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

DRAFT
NOT FOR ACTUAL USE



U.S.G.S. QUAD MAP (MALVERN)	PROJECT No.: 06476 MALIN ROAD DEVELOPMENT EAST WHITELAND TOWNSHIP CHESTER COUNTY, PENNSYLVANIA	Taylor Wiseman & Taylor ENGINEERS / SURVEYORS / SCIENTISTS 5 VALLEY SQUARE, SUITE 100, BLUE BELL, PA 19422 TELEPHONE: (267) 956-1020 FAX: (267) 956-1019 www.taylorwiseman.com
OCTOBER, 2018	SCALE: 1" = 2,000'	

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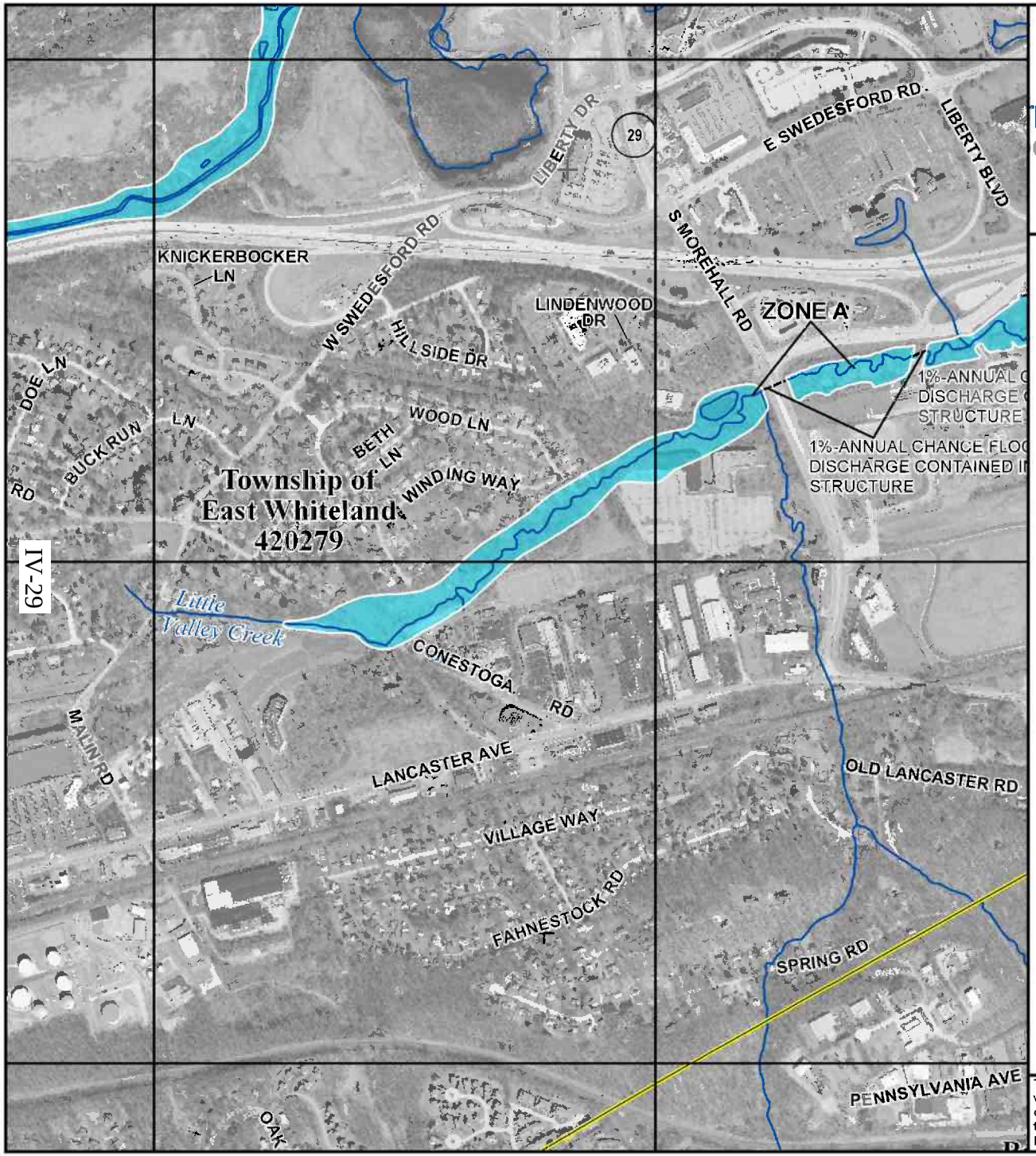


TIONAL FLOOD INSURANCE PROGRAM

OD INSURANCE RATE MAP

ONAL FLOOD INSURANCE PROGRAM
OD INSURANCE RATE MAP

STER COUNTY, PENNSYLVANIA
Jurisdictions)

160 of 380

FEMA

Contains:

MUNITY	NUMBER	PANEL	SUFFIX
GOSHEN, TOWNSHIP	420277	0160	G
WHITELAND, SHIP OF	420279	0160	G
ERN, BOROUGH OF	420281	0160	G
PPING, TOWNSHIP	420291	0160	G
STOWN, TOWNSHIP	422282	0160	G

VERSION NUMBER
2.3.2.3

MAP NUMBER
42029C0160G

MAP REVISED
SEPTEMBER 29, 2017

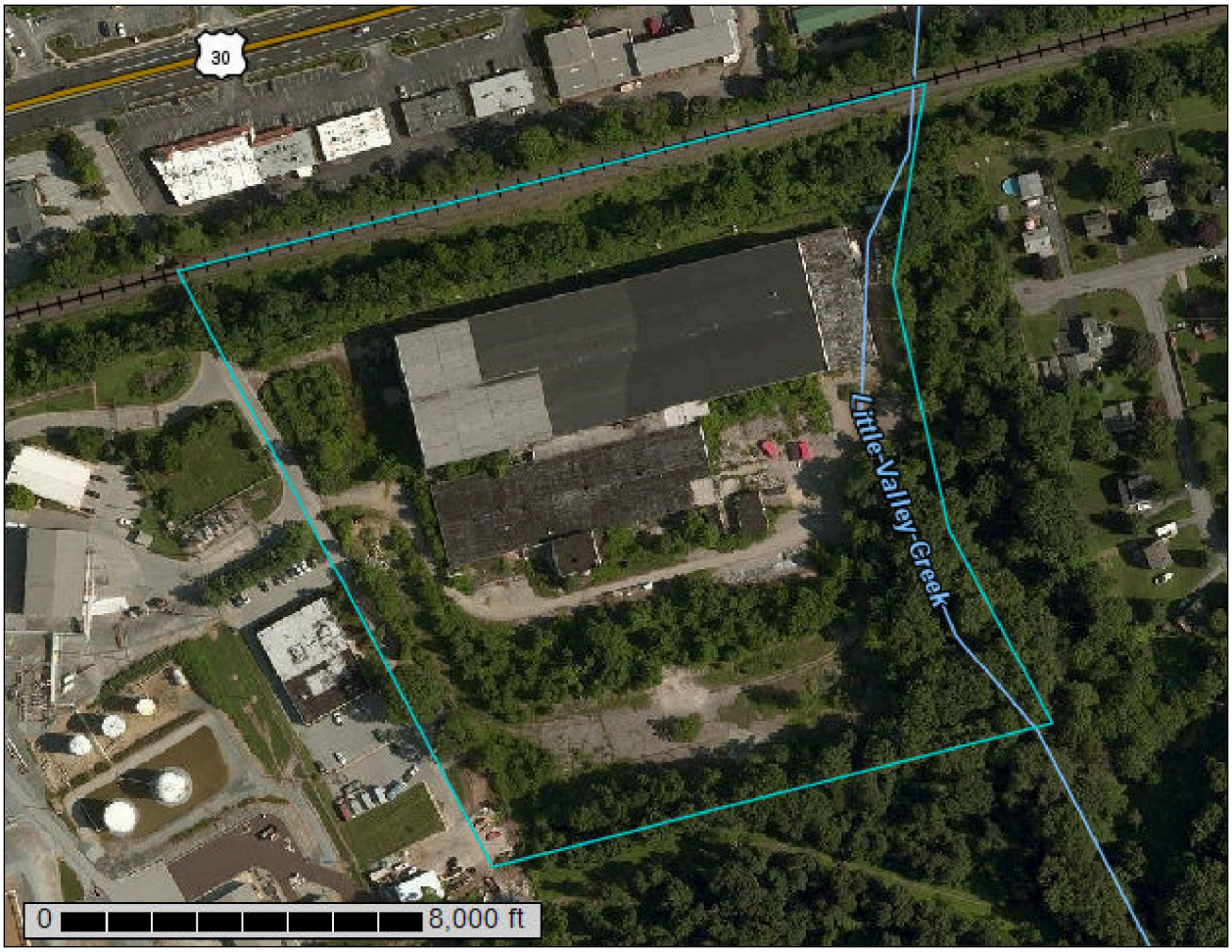
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Chester County, Pennsylvania



September 19, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,460 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 35, 70, 140, 210

Feet: 0, 100, 200, 400, 600

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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

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: Chester County, Pennsylvania
Survey Area Data: Version 9, Oct 3, 2017

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

Date(s) aerial images were photographed: Jul 25, 2014—Aug 11, 2014

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MaD	Manor loam, 15 to 25 percent slopes	2.2	15.8%
UrgD	Urban land-Conestoga complex, 8 to 25 percent slopes	11.7	83.1%
UugD	Urban land-Udorthents, schist and gneiss complex, 8 to 25 percent slopes	0.2	1.1%
Totals for Area of Interest		**14.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Chester County, Pennsylvania

MaD—Manor loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2tmcg
Elevation: 250 to 1,000 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: Not prime farmland

Map Unit Composition

Manor and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manor

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from mica schist

Typical profile

A1 - 0 to 2 inches: loam
A2 - 2 to 6 inches: sandy loam
Bw1 - 6 to 13 inches: fine sandy loam
Bw2 - 13 to 22 inches: fine sandy loam
C1 - 22 to 30 inches: fine sandy loam
C2 - 30 to 44 inches: channery coarse sand
C3 - 44 to 53 inches: loamy sand
C4 - 53 to 83 inches: channery loamy sand
Cr - 83 to 108 inches: bedrock
R - 108 to 138 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: 59 to 100 inches to paralithic bedrock; 100 to 128 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.07 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Glenville

Percent of map unit: 5 percent
Landform: Drainageways, swales
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Base slope, head slope, interfluve
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Mt. airy

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Blocktown

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

UrgD—Urban land-Conestoga complex, 8 to 25 percent slopes

Map Unit Setting

National map unit symbol: pjn8
Elevation: 400 to 1,600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 170 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent
Conestoga and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Hills

Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Parent material: Variable

Typical profile

C - 0 to 6 inches: variable

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: 10 to 99 inches to lithic bedrock
Available water storage in profile: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Description of Conestoga

Setting

Landform: Hillsides
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone and/or residuum weathered from schist

Typical profile

A - 0 to 8 inches: silt loam
Bt - 8 to 40 inches: silty clay loam
C - 40 to 60 inches: channery fine sandy loam

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: 60 to 99 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

UugD—Urban land-Udorthents, schist and gneiss complex, 8 to 25 percent slopes

Map Unit Setting

National map unit symbol: pjnz
Elevation: 200 to 2,000 feet
Mean annual precipitation: 35 to 55 inches
Mean annual air temperature: 45 to 61 degrees F
Frost-free period: 110 to 235 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 80 percent
Udorthents, schist and gneiss, and similar soils: 15 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Parent material: Pavement, buildings and other artifically covered areas

Typical profile

C - 0 to 6 inches: variable

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: 10 to 99 inches to lithic bedrock
Available water storage in profile: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Description of Udorthents, Schist And Gneiss

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Parent material: Graded areas of schist and/or gneiss

Typical profile

Ap - 0 to 6 inches: loam
C - 6 to 40 inches: silty clay loam
R - 40 to 60 inches: bedrock

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: 20 to 70 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 60 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Edgemont

Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountaintop
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Glenville

Percent of map unit: 1 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope, head slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

Baile

Percent of map unit: 1 percent
Landform: Depressions
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Gladstone

Percent of map unit: 1 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, side slope

Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Glenelg

Percent of map unit: 1 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

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NOAA Atlas 14, Volume 2, Version 3
Location name: East Whiteland Twp, Pennsylvania, USA*
Latitude: 40.04°, Longitude: -75.5371°
Elevation: 389.16 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	0.350 (0.322-0.381)	0.417 (0.383-0.455)	0.487 (0.447-0.530)	0.536 (0.491-0.584)	0.593 (0.540-0.645)	0.631 (0.571-0.686)	0.668 (0.602-0.727)	0.700 (0.627-0.763)	0.734 (0.653-0.803)	0.760 (0.671-0.834)
10-min	0.559 (0.514-0.609)	0.667 (0.613-0.727)	0.780 (0.716-0.849)	0.858 (0.785-0.934)	0.944 (0.860-1.03)	1.00 (0.909-1.09)	1.06 (0.957-1.16)	1.11 (0.994-1.21)	1.16 (1.03-1.27)	1.20 (1.06-1.31)
15-min	0.698 (0.643-0.762)	0.839 (0.771-0.914)	0.987 (0.905-1.07)	1.09 (0.993-1.18)	1.20 (1.09-1.30)	1.27 (1.15-1.38)	1.34 (1.21-1.46)	1.40 (1.25-1.53)	1.46 (1.30-1.60)	1.50 (1.33-1.65)
30-min	0.958 (0.881-1.04)	1.16 (1.07-1.26)	1.40 (1.29-1.53)	1.57 (1.44-1.71)	1.77 (1.62-1.93)	1.92 (1.73-2.08)	2.06 (1.85-2.24)	2.18 (1.95-2.38)	2.33 (2.07-2.55)	2.43 (2.15-2.67)
60-min	1.19 (1.10-1.30)	1.45 (1.34-1.58)	1.80 (1.65-1.96)	2.05 (1.87-2.23)	2.36 (2.15-2.57)	2.60 (2.35-2.82)	2.83 (2.55-3.08)	3.06 (2.74-3.33)	3.34 (2.97-3.65)	3.55 (3.14-3.90)
2-hr	1.43 (1.30-1.57)	1.73 (1.58-1.90)	2.15 (1.96-2.37)	2.47 (2.25-2.71)	2.90 (2.61-3.17)	3.23 (2.89-3.54)	3.56 (3.17-3.90)	3.89 (3.44-4.26)	4.33 (3.79-4.76)	4.66 (4.04-5.14)
3-hr	1.55 (1.41-1.71)	1.88 (1.71-2.07)	2.34 (2.13-2.57)	2.69 (2.44-2.96)	3.16 (2.85-3.46)	3.52 (3.16-3.86)	3.89 (3.46-4.26)	4.26 (3.76-4.67)	4.74 (4.14-5.23)	5.12 (4.42-5.65)
6-hr	1.92 (1.75-2.11)	2.31 (2.11-2.55)	2.87 (2.61-3.17)	3.33 (3.02-3.66)	3.95 (3.56-4.34)	4.45 (3.97-4.88)	4.97 (4.40-5.46)	5.52 (4.84-6.06)	6.27 (5.41-6.91)	6.87 (5.84-7.59)
12-hr	2.33 (2.11-2.59)	2.81 (2.55-3.13)	3.50 (3.18-3.90)	4.08 (3.69-4.54)	4.92 (4.39-5.44)	5.61 (4.97-6.20)	6.36 (5.57-7.03)	7.17 (6.19-7.93)	8.32 (7.05-9.22)	9.27 (7.72-10.3)
24-hr	2.69 (2.46-2.95)	3.23 (2.96-3.55)	4.06 (3.70-4.45)	4.74 (4.31-5.20)	5.73 (5.19-6.26)	6.56 (5.91-7.17)	7.45 (6.68-8.13)	8.41 (7.49-9.17)	9.81 (8.65-10.7)	11.0 (9.58-12.0)
2-day	3.10 (2.83-3.42)	3.75 (3.42-4.13)	4.70 (4.29-5.18)	5.48 (4.98-6.03)	6.59 (5.96-7.23)	7.50 (6.76-8.23)	8.47 (7.60-9.30)	9.51 (8.47-10.4)	11.0 (9.70-12.1)	12.2 (10.7-13.4)
3-day	3.27 (2.99-3.61)	3.95 (3.60-4.35)	4.94 (4.51-5.45)	5.75 (5.24-6.33)	6.90 (6.25-7.58)	7.85 (7.08-8.62)	8.86 (7.95-9.72)	9.92 (8.85-10.9)	11.4 (10.1-12.6)	12.7 (11.1-13.9)
4-day	3.45 (3.14-3.80)	4.15 (3.79-4.58)	5.19 (4.73-5.72)	6.03 (5.49-6.63)	7.22 (6.55-7.94)	8.20 (7.40-9.00)	9.24 (8.30-10.1)	10.3 (9.24-11.3)	11.9 (10.5-13.1)	13.2 (11.6-14.5)
7-day	4.02 (3.70-4.39)	4.82 (4.44-5.26)	5.95 (5.48-6.51)	6.89 (6.32-7.52)	8.22 (7.51-8.97)	9.32 (8.48-10.1)	10.5 (9.49-11.4)	11.7 (10.6-12.8)	13.5 (12.0-14.7)	14.9 (13.2-16.3)
10-day	4.56 (4.23-4.94)	5.45 (5.05-5.91)	6.65 (6.15-7.20)	7.60 (7.02-8.23)	8.94 (8.22-9.66)	10.0 (9.18-10.8)	11.1 (10.2-12.0)	12.3 (11.2-13.3)	13.9 (12.5-15.1)	15.2 (13.6-16.5)
20-day	6.17 (5.74-6.64)	7.32 (6.81-7.87)	8.72 (8.11-9.39)	9.83 (9.14-10.6)	11.3 (10.5-12.2)	12.5 (11.6-13.4)	13.7 (12.6-14.7)	14.9 (13.7-16.0)	16.5 (15.0-17.7)	17.7 (16.1-19.1)
30-day	7.67 (7.21-8.15)	9.04 (8.49-9.61)	10.5 (9.90-11.2)	11.7 (11.0-12.4)	13.2 (12.4-14.0)	14.4 (13.4-15.3)	15.5 (14.5-16.5)	16.6 (15.5-17.7)	18.1 (16.7-19.3)	19.2 (17.6-20.4)
45-day	9.72 (9.20-10.3)	11.4 (10.8-12.1)	13.1 (12.4-13.9)	14.4 (13.6-15.3)	16.0 (15.1-17.0)	17.2 (16.3-18.3)	18.4 (17.3-19.5)	19.4 (18.3-20.6)	20.8 (19.5-22.0)	21.7 (20.3-23.1)
60-day	11.6 (11.1-12.3)	13.6 (12.9-14.4)	15.6 (14.8-16.4)	17.0 (16.1-17.9)	18.8 (17.8-19.8)	20.1 (19.0-21.2)	21.3 (20.1-22.5)	22.4 (21.2-23.6)	23.8 (22.4-25.1)	24.7 (23.3-26.1)

[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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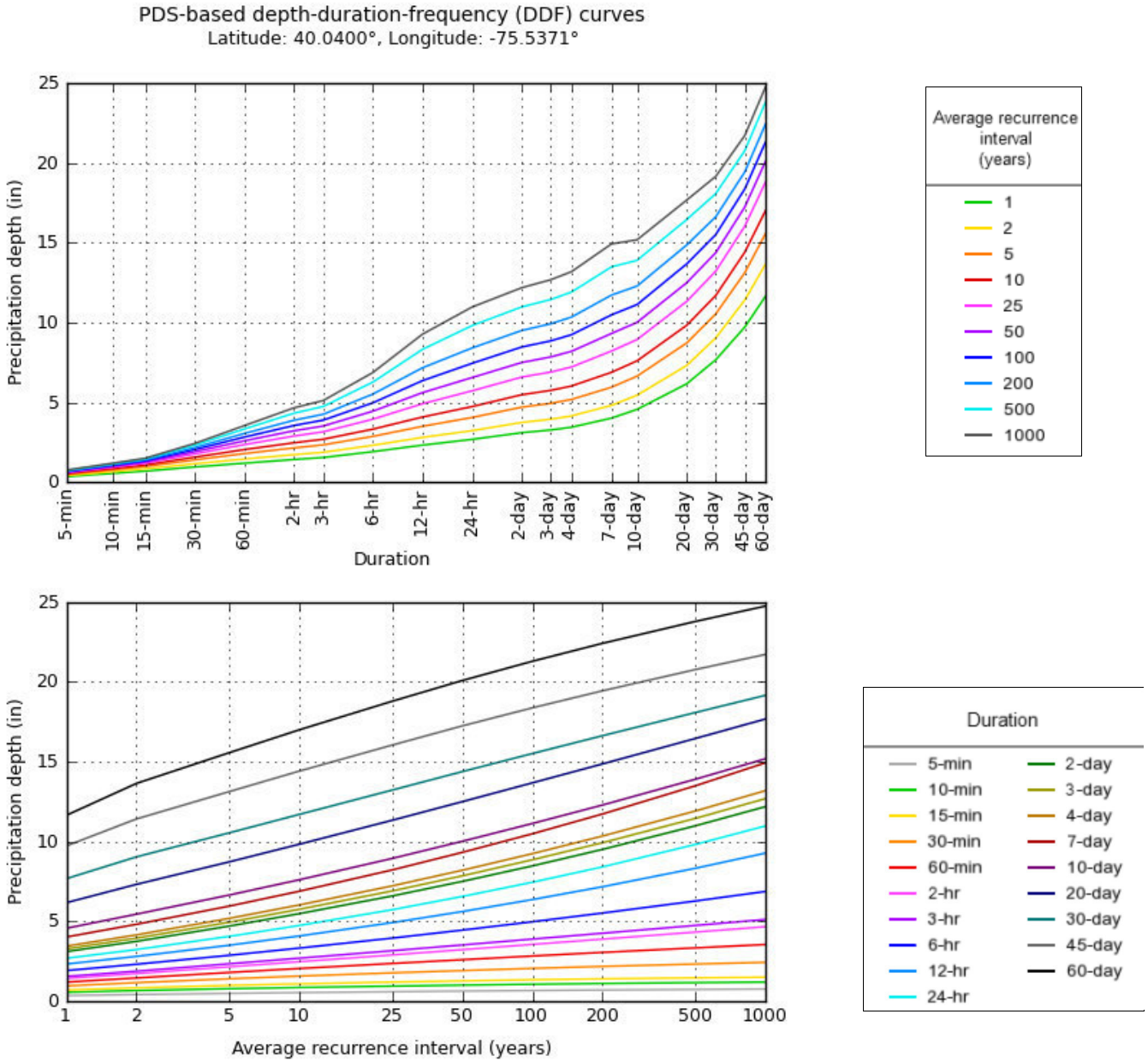
PF graphical



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Created (GMT): Thu Sep 20 19:11:39 2018

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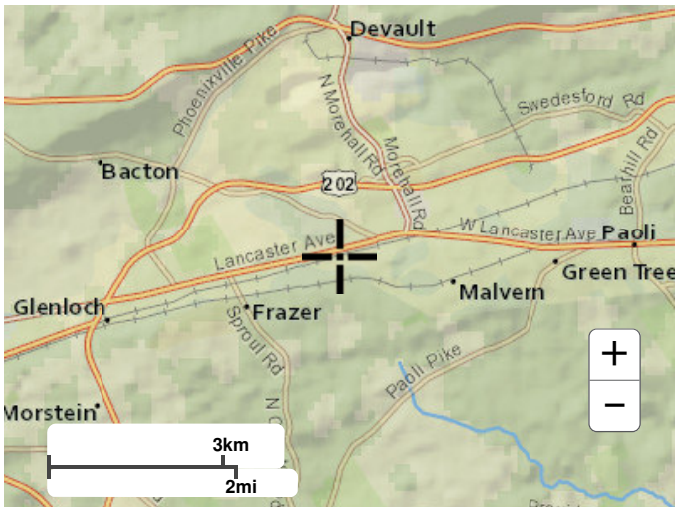
Maps & aerials

Small scale terrain



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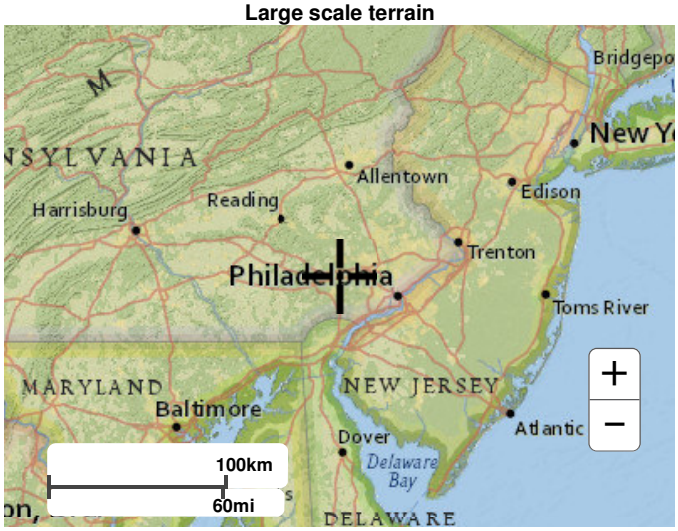
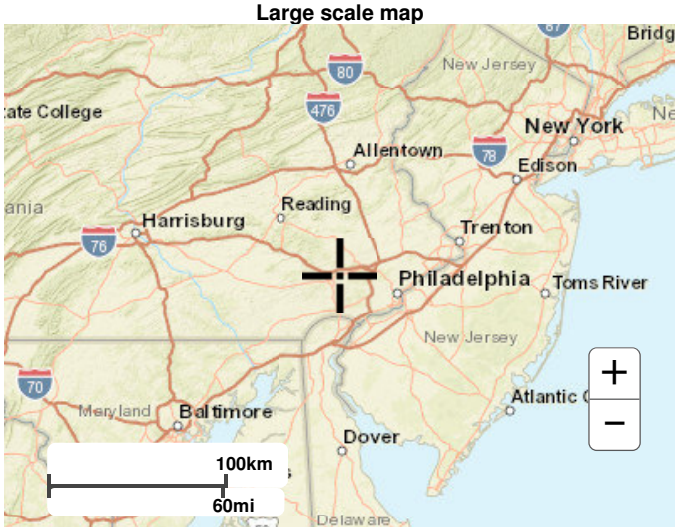
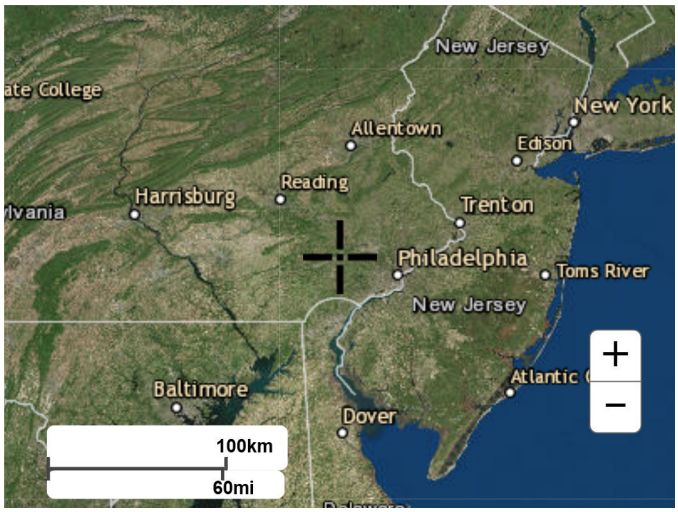


Large scale map



Large scale aerial



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US Department of Commerce
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

PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN STORMWATER MANAGEMENT METHODS AND TECHNIQUES

NAME OF PLAN PREPARER: Mark M. Thompson, PE

FORMAL EDUCATION:

Name of College or Technical Institute: Drexel University

Curriculum or Program: Civil Engineering

Dates of Attendance: **From:** 1996 **To:** 2001

Degree Received Bachelors of Science

OTHER TRAINING:

Name of Training:	Stormwater Management - Low Impact Development	Soil Erosion & Sedimentation Control
Presented By:	Red Vector	Rutgers University, Cook College
Date:	August 2011	April 2005

EMPLOYMENT HISTORY:

Current Employer: Taylor Wiseman & Taylor

Telephone: (267) 956-1020

Former Employer: N/A

Telephone:

RECENT PLANS PREPARED:

Name of Project:	Uptown Worthington	Hampton Inn & Suites	Sav A Tree
County:	Chester	Bucks	Montgomery
Municipality:	East Whiteland	Bensalem	Conshohocken
Permit Number:	PAI011506098R	PAG0200912074	PAI014614004
Approving Agency:	CCCD	BCCD	MCCD

Criteria and Credits for BMP 5.6.1 Minimize Total Disturbed Area - Grading

To receive credit, areas of Minimized Disturbance/Grading must meet the following criteria:

- ☒ Area shall not be subject to grading or movement of existing soils.
- ☒ Existing native vegetation in a healthy condition may not be removed.
- ☒ Invasive non-native vegetation may be removed.
- ☒ Pruning or other required maintenance of vegetation is permitted. Additional planting is permitted.
- ☒ Area shall be protected by having the limits of disturbance clearly shown on all construction drawings and delineated in the field.
- ☒ The area not subject to grading shall be clearly delineated on the Stormwater Management Plan. If future grading or disturbance of this area occurs, subsequent stormwater management must be provided to address disturbance.
- ☒ Shall be located on the development project.

CREDITS

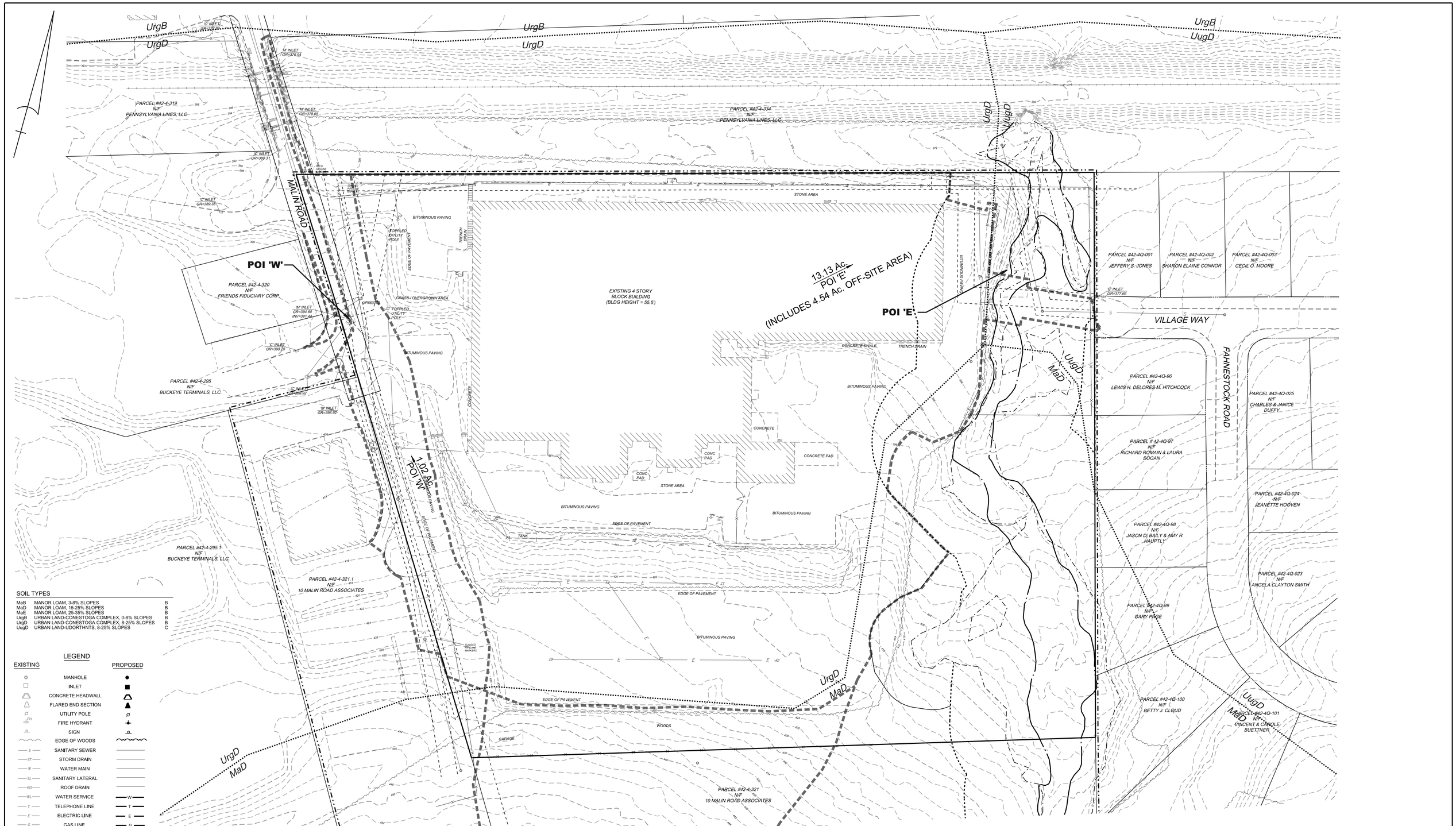
Volume and Quality

Protected Area is not to be included in Runoff Volume calculation or Water Quality volume

Mitigation Area = (Total Area – Protected Area)

Peak Rate and Channel Protection

Runoff from the Protected Area (area not subject to grading) may be excluded from Peak Rate calculations and Channel Protection calculations for rate control, provided that the runoff from the protected area is not conveyed to and/or through stormwater management control structures. If necessary, runoff from Protected Areas should be directed around BMPs and stormwater pipes and inlets by means of vegetated swales or low berms that direct flow to natural drainage ways.



SOIL TYPES

MaB	MANOR LOAM, 3-8% SLOPES	B
MaD	MANOR LOAM, 15-25% SLOPES	B
MaE	MANOR LOAM, 25-35% SLOPES	B
UrgB	URBAN LAND-CONESTOGA COMPLEX, 0-8% SLOPES	B
UrgD	URBAN LAND-CONESTOGA COMPLEX, 8-25% SLOPES	B
UugD	URBAN LAND-UDORTHNTS, 8-25% SLOPES	C

LEGEND

EXISTING		PROPOSED
	MANHOLE	
	INLET	
	CONCRETE HEADWALL	
	FLARED END SECTION	
	UTILITY POLE	
	FIRE HYDRANT	
	SIGN	
	EDGE OF WOODS	
S	SANITARY SEWER	
ST	STORM DRAIN	
W	WATER MAIN	
SL	SANITARY LATERAL	
RD	ROOF DRAIN	
WL	WATER SERVICE	W
T	TELEPHONE LINE	T
E	ELECTRIC LINE	E
G	GAS LINE	G
WV	GATE VALVE	
	TEE	
	PLUG(CAP)	
00	CONTOUR LINE	00
00X00	GRADE	00X00
N/A	MEET EXISTING GRADE	(00X00)
K38.50	TOP OF CURB ELEVATION	K38.50
G38.00	GUTTER ELEVATION	G38.00
H	HANDICAP RAMP	H
=====	CONCRETE CURB	
- - - -	EDGE OF PAVEMENT	
N/A	CONCRETE	

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
STOP CALL BEFORE YOU DIG!

SITE ID: 20182813492

THE CONTRACTOR AND/OR OWNER SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING STRUCTURES AND UTILITIES, WHICH HE DEEMS NECESSARY, BOTH ABOVE AND BELOW THE GROUND SURFACE BEFORE HEAVY EQUIPMENT ENTERS THE CONSTRUCTION SITE.

FINAL INQUIRIES TO PENNSYLVANIA ONE CALL SYSTEM INC.~ (PHONE #: 1-800-242-1776) SHALL BE MADE BY THE CONTRACTOR AND/OR OWNER WITHIN SEVEN (7) DAYS OF ENTERING THE SITE. THE CONTRACTOR AND/OR OWNER SHALL COORDINATE AND VERIFY THE METHOD OF UTILITY LOCATION WITH THE APPROPRIATE UTILITY COMPANIES.

IN GENERAL, THE VERTICAL DESIGN OF PROPOSED GRAVITY UTILITIES, AS SHOWN, ARE INFLUENCED BY THE EXISTING GRAVITY UTILITIES ONLY, WHICH MAY NECESSITATE THE RELOCATIONS OF OTHER UTILITIES.

UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE, AND BASED ON EXISTING INFORMATION RECEIVED FROM UTILITY COMPANIES.

40 20 0 40 80 120 160

GRAPHIC SCALE

DESIGNED: MJW	DRAWN: JAS	CHECKED: MMT	EXISTING CONDITIONS DRAINAGE AREA PLAN
DATE SIGNED:		REVISIONS NO. / DATE	MALIN ROAD DEVELOPMENT 1 MALIN ROAD EAST WHITELAND TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MARK M. THOMPSON			Taylor Wiseman & Taylor ENGINEERS / SURVEYORS / SCIENTISTS 5 VALLEY SQUARE, SUITE 100, BLUE BELL, PA 19422 TELEPHONE: (267) 956-1020 FAX: (267) 956-1019 www.taylorwiseman.com
PA. PROFESSIONAL ENGINEER NO. PE073278			SCALE: 1" = 40' / DATE: SEPTEMBER 22, 2018 / DRAWING NO. 018-06476-LD / SHEET: 1 OF 1

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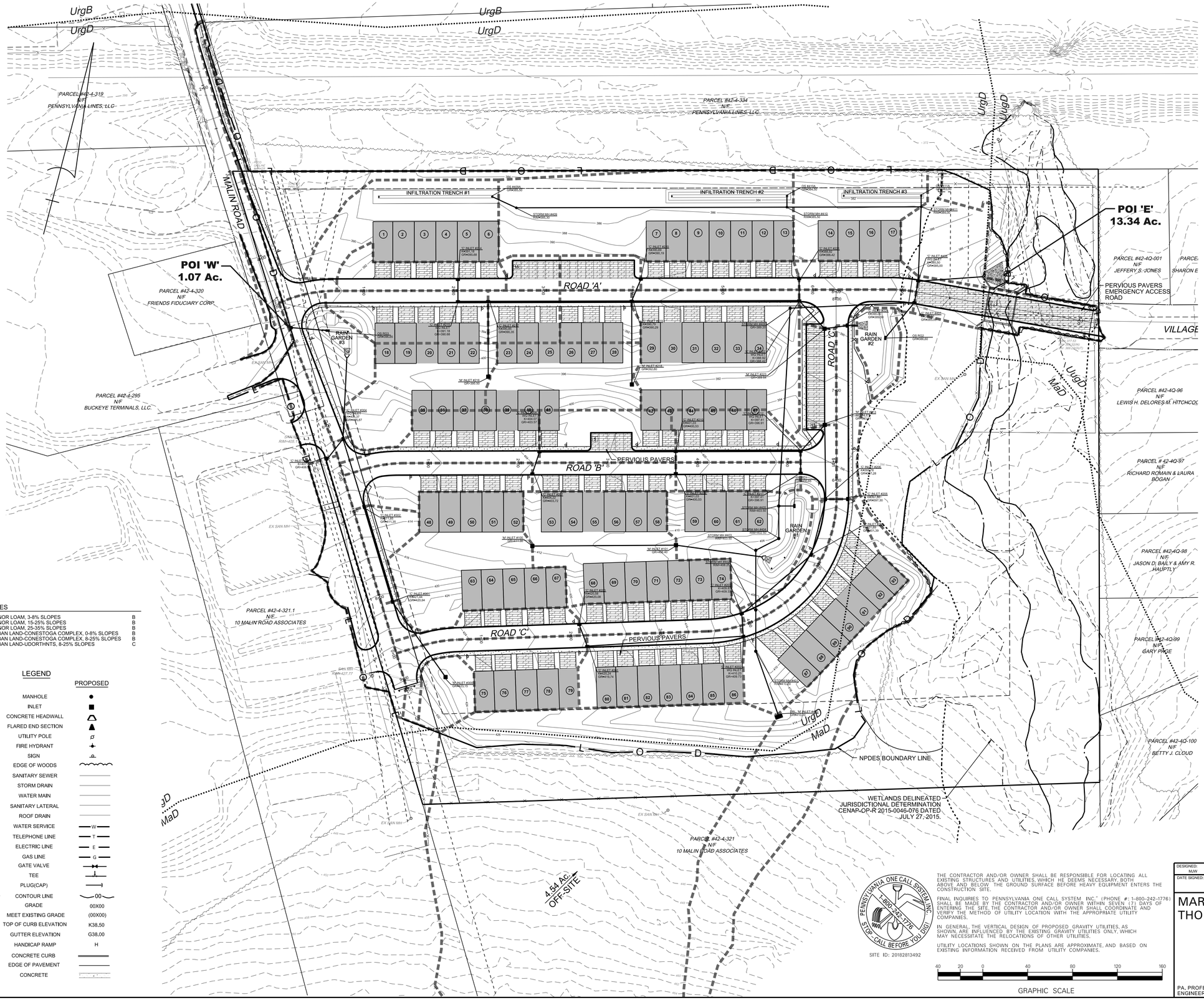

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UugD	URBAN LAND-UDORTHNTS, 8-25% SLOPES	C

LEGEND

EXISTING		PROPOSED
	MANHOLE	
	INLET	
	CONCRETE HEADWALL	
	FLARED END SECTION	
	UTILITY POLE	
FH	FIRE HYDRANT	
	SIGN	
	EDGE OF WOODS	
S	SANITARY SEWER	
ST	STORM DRAIN	
W	WATER MAIN	
SL	SANITARY LATERAL	
RD	ROOF DRAIN	
WL	WATER SERVICE	W
T	TELEPHONE LINE	T
E	ELECTRIC LINE	E
G	GAS LINE	G
WV	GATE VALVE	
	TEE	
	PLUG(CAP)	
00	CONTOUR LINE	00
00X00	GRADE	00X00
N/A	MEET EXISTING GRADE	(00X00)
K38.50	TOP OF CURB ELEVATION	K38.50
G38.00	GUTTER ELEVATION	G38.00
H	HANDICAP RAMP	H
	CONCRETE CURB	
	EDGE OF PAVEMENT	
N/A	CONCRETE	

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
STOP CALL BEFORE YOU DIG!
SITE ID: 20182813492

THE CONTRACTOR AND/OR OWNER SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING STRUCTURES AND UTILITIES, WHICH HE DEEMS NECESSARY, BOTH ABOVE AND BELOW THE GROUND SURFACE BEFORE HEAVY EQUIPMENT ENTERS THE CONSTRUCTION SITE.

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UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE, AND BASED ON EXISTING INFORMATION RECEIVED FROM UTILITY COMPANIES.

40 20 0 40 80 120 160
GRAPHIC SCALE

DESIGNED: MJW | DRAWN: JAS | CHECKED: MMT
DATE SIGNED:

MARK M. THOMPSON
PA. PROFESSIONAL ENGINEER NO. PE073278

REVISIONS

NO.	DATE

POST CONDITIONS DRAINAGE AREA PLAN

MALIN ROAD DEVELOPMENT
1 MALIN ROAD
EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

Taylor Wiseman & Taylor
ENGINEERS / SURVEYORS / SCIENTISTS
5 VALLEY SQUARE, SUITE 100, BLUE BELL, PA 19422
TELEPHONE: (267) 956-1020 FAX: (267) 956-1019
www.taylorwiseman.com

SCALE:	DATE:	DRAWING NO.	SHEET:
1" = 40'	SEPTEMBER 22, 2018	018-06476-LD	2 OF 2

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