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BWC Wades Stream, LLC
c/o BlueWave Solar
2.0 MW AC Ground-Mount Solar PV Development

Stormwater Management Report

2026-02-18

US-EI-3652230438

Document distribution

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Prepared for

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c/o BlueWave Solar

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Submitted to

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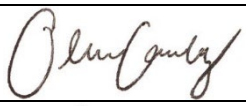
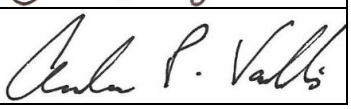
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Abbreviations and glossary

Abbreviations

Abbreviation	Description
AC	Alternating Current
BESS	Battery Energy Storage System
DC	Direct Current
DP	Design Point
HSG	Hydrologic Soil Group
IWPA	Interim Wellhead Protection Area
LOW	Limit of Work
LTPPP	Long-term Pollution Prevention Plan
LUHPPL	Land use with higher potential pollutant loads
MS4	Municipal Separate Storm Sewer System
MV	Medium Voltage
MW	Megawatt
O&M	Operation and maintenance
PV	Photovoltaic
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
UP	Utility pole
WSPD	Water Supply Protection District

Glossary of terms

Term	Explanation
Ephemeral stream	A watercourse that only flows during and shortly after rainfall events
Forested wetland	Inland wetland where the dominant vegetation consists of woody trees over 20 feet tall
Project area	The all-encompassing area within the limit of work and disturbance
Shallow marsh/fen wetland	A.K.A. Emergent Wetland; wetland in which the tallest life form is emergent plants (erect & rooted hydrophytes) covering at least 30% of the area
Property	Parcel of land which the Project is located on: Tax Map 407 Lot 28

Executive summary

WSP USA Inc. (WSP) performed a stormwater evaluation to assess the impacts of the proposed 2.0-megawatt (MW) alternating current (AC) solar photovoltaic (PV) development (the Project) being installed at 190 Ridge Road, Worthington, MA (the Property). Stormwater drainage plans are attached to this report for reference (Appendix G – Drainage Figures). The 29.15-acre project area includes proposed ground-mounted PV modules on tracker systems. The array will be surrounded by a woven wire fence. Existing vegetative borders shall be maintained as screening. An existing gravel driveway connects the Property to Ridge Road and will be widened to 20 feet near the apron and 16 feet up to the maintenance access intersection. A four-leg turnaround shall be added to the existing driveway to provide short access drives and parking areas for maintenance vehicles. The array will be connected through a series of inverters, switchboards, and transformers mounted on two approximately 2,000 square feet concrete pads adjacent to the access drives. Power from the transformer will run in underground Medium Voltage (MV) lines to a series of seven proposed utility poles along the driveway. Overhead MV lines will connect the array to an interconnection point at an existing utility pole near the intersection of the existing driveway and Ridge Road (UP #27-20-11). The array will also be accompanied by 1.0-3.0 MW of Battery Energy Storage System (BESS) equipment located on one of the aforementioned pads as well as an additional 2,000 square foot pad. The BESS will consist of the cabinet body, Lithium Iron Phosphate (LFP) battery system, temperature control system, and fire suppression system. All BESS components will be located outside of the Worthington Water Supply Protection District (WSPD) which overlaps with the field north of the driveway. To manage stormwater runoff from the northern portion of the Project area, a landscaped earthen berm will be constructed along the northeastern side of the Property, generally oriented in a north-south direction. The berm will intercept and redirect flow from the array area towards the south. Downslope and extending eastward from the southern end of the berm, a water quality swale will be constructed. The swale will collect runoff conveyed by the berm and direct the flow east and south. Four infiltration trenches will be installed to treat and recharge groundwater and attenuate the peak runoff rate from the Project. WSP has performed the analysis described in detail below to compare the existing (pre-construction) stormwater runoff volumes and rates to the proposed (post-construction) stormwater runoff volumes and rates.

1. Stormwater Modelling

1.1 Existing Conditions

The 71.6-acre Property's primary use is agricultural hay production. A gravel driveway provides access to some structures on Property and a gravelly pit area used for storage. There are three structures present on-site: a house, barn, and log cabin. A presumably domestic use well was identified during a field survey by SGC Engineering, LLC (SGC) in November 2023 within the northern hay field near the house. While the primary use of the Property is agricultural, approximately a third of the Property is forested. Watts Stream flows directly through the Property within the forested portion. Adjacent to the western side of the Property, there is a swath of permanently protected forested open space. This land is either owned by the Commonwealth, the Town, nonprofits, or is conserved under an Agricultural Preservation Restriction (APR) or Conservation Restriction (CR).

1.1.1 Soils

The Property is made up of soils rated as Hydrologic Soil Group (HSG) C and D with a slow to very slow infiltration rate. Soils near the house, barn and pit area are HSG C. Majority of the hay fields are HSG D and classified as either farmland of statewide importance or prime farmland. Farmland classification and HSG was obtained from publicly available United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) soil surveys at the Property (Appendix B – Soils Information). Soils within the Project area are primarily classified as fine sandy loam with an assumed conductivity of 0.17 inches per hour according to the 1982 Rawl's Rates referenced in the Massachusetts Stormwater Handbook (the Handbook).

1.1.2 Waters

1.1.2.1 Wetlands

Fleetwood Environmental Solutions, LLC (Fleetwood) performed a wetland and waterbody delineation field survey of the Property in Q2-3 of 2023 and delineated two wetlands near the Project area. These wetland systems will be referred to according to their relative location on the Property: west and southeast. Both wetlands are classified as bordering vegetated wetlands. The western wetland connects to Watts Stream through a series of ephemeral streams and their associated wetlands. Watts Stream flows through the Property and has corresponding forested and shallow marsh/fen wetlands. The southeastern wetland is downstream of a culvert under an overgrown driveway to the log cabin on the south side of the Property. An apparent man-made drainage swale provides a flow path for runoff from the culvert at the southern edge of the Property through the adjacent property to at least the edge of the forest surrounding Watts Stream.

1.1.2.2 Groundwater

The water table across the Project area is estimated 1.5 feet or more below the ground surface based on the USDA NRCS Web Soil Survey publicly available data (Appendix C – Groundwater Information). The

water table is where the soil is considered saturated, soils with higher water tables will infiltrate less water because they have less capacity for storage of water and, therefore, they also generate more runoff.

While publicly available data could not be found for the well on-site, multiple wells on adjacent properties have Well Driller Reports filed with the MA Executive Office of Energy & Environmental Affairs. These reports provide an estimated on-site depth to static water level of 20 feet and depth to bedrock approximately 15 feet below ground surface. Copies of the reports for three wells on properties adjacent to the Property are provided in Appendix C – Groundwater Information.

Approximately 22,560 square feet of an Interim Wellhead Protection Area (IWPA) falls within the Property and 20,304 square feet of that is within the Project limit of work. Approximately 350 feet from the Property is a transient non-community groundwater well which is considered a public water supply source. This well is identified as the Buffington Hill Partnership with ID 1349007-01G. Farther north along Ridge Road are ten wells which are community groundwater wells contributing to the public water supply of Worthington. These community groundwater wells are more than 1,000 feet from the Property. The area surrounding these wells and encompassing the associated IWPAs has been identified by Worthington as a Water Supply Protection District (WSPD). The northern portion of the Property falls within the WSPD, approximately 21 acres. The limit of work overlaps with the WSPD over approximately 19.6 acres. These wells and the WSPD have been taken into consideration when designing the Project layout and BMPs.

During the field assessments performed by Fleetwood in 2023, one of the Property owners, Timothy Sena, reported a historic drain tile system underlies both portions of the field divided by the driveway. To his knowledge, no surface outlet pipes beyond the fields exist and none were observed by Fleetwood.

1.1.2.3 Floodplain

Overlapping with Watts Stream is FEMA Flood Zone A, meaning it has a 1% annual chance of flooding (once every 100 years) and a base flood elevation has not been determined (Appendix D – FEMA Map). The Project has a significant buffer from the floodplain (> 300 feet).

1.1.3 Drainage Patterns

An on-the-ground existing conditions topographic survey was completed by SGC in November 2023. The field areas where trackers and modules will be installed have slopes primarily between 0% and 10%. Runoff from the fields runs primarily in two directions: west and east. Runoff flowing west takes a more direct route to Watts Stream and its corresponding bordering wetlands. Runoff flowing east combines into a roadside ditch along Ridge Road. This drainage channel has a high point parallel to the high point of Ridge Road, approximately 300 feet south of the Ridge Road and Buffington Hill Road Intersection. Runoff entering the drainage channel north of this highpoint will flow north to an existing culvert crossing under Ridge Road at the intersection mentioned above. This water continues in roadside channels for approximately 2,400 feet where it then flows into Wards Stream. Runoff entering the drainage channel south of the highpoint will flow south through culvert reaches under two driveways intersecting with Ridge Road. The southernmost culvert being the same one mentioned in Section 1.1.2.1 which flows into a man-made drainage swale leading to Watts Stream.

Watts Stream (sub-basin 4,075) and Wards Stream (sub-basin 4,072) combine south of Witt Hill Road into Little River. Little River drains into Westfield River which is controlled by Knightville Reservoir before continuing its flow southeast to the Connecticut River. Knightville Reservoir is a U.S. Army Corps of Engineers flood control facility consisting of a dam and large reservoir. It has a drainage area of approximately 162 square miles and a flood storage capacity of 49,000 acre-feet. Its primary function is to regulate the flows in the Westfield River to reduce flooding by gradually releasing stored water.

The Property is within the major watershed known as Westfield which is a sub-watershed of the Connecticut River Watershed. Both the Westfield (MA32-04) and Connecticut (MA34-05) basins have Massachusetts Statewide Total Maximum Daily Load (TMDL) for Pathogen-impaired Waterbodies (CN 515.1). Both are in reference to the pollutant E. Coli under pollutant group Pathogens. The Westfield River Basin TMDL is preventative while the Connecticut River Basin TMDL is restorative.

1.2 Proposed Conditions

The Project includes the installation of ground-mounted PV modules on tracker systems. The array will be surrounded by a woven wire fence. The total fenced area of the Project is approximately 25.3 acres. Much of the Property has an existing vegetative border which shall be maintained as screening. An existing gravel driveway connects the Property to Ridge Road. This driveway shall be improved and widened as necessary to provide a road width between 16 and 20 feet. A four-leg turnaround shall be added to the existing driveway to provide short access drives and parking areas for maintenance vehicles. The array will be connected through a series of inverters, switchboards, and transformers mounted on concrete pads adjacent to the short access drives. Three equipment pads will be installed, each approximately 2,000 square feet of concrete. Also housed on the equipment pads will be 1.0-3.0 MW of Battery Energy Storage System (BESS) equipment consisting of the cabinet body, Lithium Iron Phosphate (LFP) battery system, temperature control system, and fire suppression system. One equipment pad will contain only solar electrical equipment, one will support only the BESS equipment, and the third pad will accommodate both solar and BESS components. Power from the transformer will run in underground Medium Voltage (MV) lines to proposed utility poles along the existing driveway. A total of seven utility poles will be installed between the existing driveway and proposed fence. Overhead MV lines will connect the array to an interconnection point at an existing utility pole near the intersection of the existing driveway and Ridge Road (UP #27-20-11).

The Project is an agrivoltaics system which allows dual use of the farmland for solar energy and hay production. Throughout the design process, the owner and farmer of the land has been consulted to affirm the solar PV development does not remarkably decrease hay production nor impede the use of the property.

The Project has been designed to minimize the total increase in impervious area and disturbance to surrounding natural resources to the maximum extent practicable while accomplishing the Project design goals (Table 1.1). In totality, the project will disturb approximately 29.15 acres and introduce approximately 16,487 square feet of impervious area. Majority of the increase in impervious area accounts for the concrete equipment pads, driveway widening, and access drives off the existing driveway. The fence posts and utility poles introduce a negligible amount of impervious area comparatively.

Table 1.1 Land Disturbance Summary

Area Description	Area (square feet)
Limit of Work (LOW)	1,269,722
Existing Impervious Area	42,040
Proposed Impervious Area	59,995
Net Change in Impervious Area	17,955

1.2.1 Soils

Being an agrivoltaics system, nearly all of the farmland will continue producing hay post-construction. Permanent impacts to the prime and important farmland have been minimized to the maximum extent practicable while achieving the Project design goals.

Earthwork has been minimized to extent practicable; however, it is required for construction of BMPs, widening the access drive, and flattening areas for the equipment pads. The design aims to balance the volume of cut and fill such that the transport of soil to and from the site is minimized. The construction of the infiltration trenches and drives will require crushed stone deliveries to the site. A designated laydown area shall be used to store the stockpiles. Fertile soils/loam may be brought to the site to promote vegetative growth.

1.2.2 Waters

1.2.2.1 Wetlands

The Project has been designed with a significant buffer from Watts Stream (> 300 feet) and a 100-foot buffer the wetlands for work relevant to the solar installation. Farming improvements are exempt from Wetland Protection Act (WPA) regulations. The Applicant has filed a Request for Determination of Applicability (RDA) from the Conservation Commission to confirm there shall be no impacts to the wetlands on the Property. The Conservation Commission issued a Negative Determination on January 21, 2026, confirming that the proposed work is not within an area subject to WPA jurisdiction and thus, no Notice of Intent (NOI) is required. Portions of the wetland and wetland buffer are currently farmed, and the farmer intends to continue utilizing this area for hay production post construction. All construction activities will occur outside of jurisdictional wetlands and buffer areas in accordance with the RDA Determination. Temporary construction impacts will be controlled through best management practices as detailed in the erosion and sediment control plans and report section (Section 2.1).

1.2.2.2 Groundwater

Through installation of the proposed BMPs, properly treated groundwater recharge volume on-site shall increase. A negligible amount of impervious area shall be introduced within the IWPA at the northern edge of the Property. Recharge BMPs and earthwork in general shall not be within the IWPA. Within the more expansive WSPD falls much of the access drive and one of the equipment pads. This equipment pad within the WSPD shall house only solar electrical equipment such as transformers, switchboards

and inverters. The concrete pads which shall be used for BESS are outside of the WSPD and drain away from it (towards the southwest). The access road and equipment pads are placed central to the Property, significantly buffered from the IWPA.

No wastewater nor hazardous materials will be discharged on-site. All proposed measures ensure that groundwater will not be contaminated, under-recharged, or otherwise adversely impacted. Multiple structural water quality and infiltration BMPs are proposed within the WSPD. These practices include a water quality swale, vegetated filter strips, and infiltration trenches. By directing stormwater runoff through properly designed BMPs, the water will be treated in accordance with all applicable federal, state, and local stormwater management standards. By using infiltration-based BMPs, local groundwater availability within the WSPD will be maintained or increased. Returning treated runoff to the subsurface through infiltration enhances clean groundwater recharge in proximity to existing and future well systems.

1.2.2.3 Floodplain

The Project does not involve work within the floodplain and will not adversely impact the floodplain.

1.2.3 Drainage Patterns

Flow paths are primarily maintained in the central and southern portions of the Property, the main areas of alteration corresponding with the concrete equipment pads and driveway widening. The driveway shall be gently sloped to the south to promote runoff flow directly across the semi-pervious gravel. Existing culverts under the modified portion of the driveway will be removed and replaced during construction. Additionally, a new culvert shall be installed near the equipment pad north of the driveway, providing a flow path substitute to the south. At the outlets of these culverts, riprap aprons shall be installed in accordance with the U.S. Department of Transportation Federal Highway Administration Hydraulic Design of Energy Dissipators for Culverts and Channels to dissipate energy and prevent erosion. A grassed channel shall be installed parallel to the northern equipment pad edge to divert runoff east towards the existing culvert which, under pre-development conditions, conveys the associated flow. Similar to the culverts, this channel shall end with a riprap apron to dissipate energy and prevent erosion. Otherwise, grading around the equipment pad areas shall gently divert flow around the pads to then continue along existing flow patterns.

A landscaped screening berm shall be constructed along the northeastern side of the Property in a generally north-south orientation. This berm will intercept and redirect runoff from the northern Project area. Downslope and extending eastward from the southern end of the berm, a water quality swale will collect and convey flows east and south. Runoff from this northern area which under existing conditions flows north towards the intersection of Ridge Road and Buffington Hill Road to ultimately drain to Wards Stream, is redirected primarily south as part of the Watts Stream watershed. An additional culvert and depression grading along the access drive account for this increase in runoff. The swale will also provide pretreatment and aid in reducing runoff velocity.

To treat and infiltrate new runoff from the increase in impervious area and achieve a post-development peak runoff rate equal to or below the pre-development conditions, four infiltration trenches shall be installed. One trench shall be installed directly south of the northern solar equipment pad to specifically address runoff from the impervious concrete. Two shall be installed south of the driveway expansion and shall treat and infiltrate runoff from the gravel and much of the northern array as conveyed by culverts.

Each of these infiltration trenches has a corresponding pre-treatment vegetated filter strip to settle out sediment and debris. Short pervious overflow berms on the downstream side of each trench allow sufficient accumulation of water within the trenches to meet water quality and recharge volume requirements. As runoff ponds along the trenches during higher intensity storm events, excess shall overtop the berm as sheet flow.

The fourth infiltration trench is located downstream of the two BESS equipment pads. The pads will be poured concrete and shall be sloped to promote drainage towards the trench system which includes a pre-treatment pea gravel diaphragm. The combination of the pea gravel diaphragm, level spreader and infiltration trench can provide up to 80% TSS removal efficiency, 40% to 70% nitrogen and phosphorous removal efficiency, and up to 90% metal and pathogen removal efficiency. This trench system is located such that it captures and treats the first flush of runoff from the BESS pads upstream of the wetland and Watts Stream.

1.3 Hydrologic Analysis

A hydrologic analysis was performed using HydroCAD (Version 10.20-6a) for 24-hour, Type III, 2-, 10- and 100-year return frequency rainfall events for Worthington, MA. According to the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 10, Version 3, the storm events generate 3.29, 5.14, and 8.09 inches of precipitation respectively (Appendix E – Rainfall Data). HydroCAD is an industry accepted modelling software that combines the capabilities of the TR-20 and TR-55 methodology. The calculations confirm the Project meets the Massachusetts Stormwater Standards, as described in further detail in Section 4. Each rainfall event was analysed under two scenarios: the Existing Condition (pre-construction) and the Proposed Condition (post-construction). The detailed stormwater models are included in Appendix I – HydroCAD Reports.

The Site was analysed as two design points (DPs), the first being Watts Stream which flows through the Property to the west of the Project (DP-W) and the other being Wades Stream east of the Property (DP-E). Hydrologic analysis results show proposed conditions demonstrate a lower peak rate of runoff leaving the Site when compared to existing conditions (Table 1.2).

Table 1.2 Hydrologic Analysis Results

Design point	Rainfall event	Peak flow (cfs)		Runoff volume (cf)	
		Existing	Proposed	Existing	Proposed
DP-W	2-year	39.31	37.34	194,762	199,828
	10-year	84.59	79.88	410,063	416,449
	100-year	161.81	151.41	791,101	797,715
DP-E	2-year	9.75	9.47	39,235	31,252
	10-year	20.22	19.84	80,401	71,471
	100-year	37.80	36.48	152,236	143,405

2. Erosion and Sedimentation Control

2.1 During Construction

The Contractor shall be responsible for implementing and maintaining appropriate erosion and sedimentation controls to prevent sediment laden runoff from entering the existing stormwater management system. All controls shall be installed prior to beginning land disturbance and shall be maintained until the site is fully stabilized.

Sediment barriers (straw wattles, compost socks, or other appropriate best management practices (BMPs)) shall be placed around the perimeter of the proposed development area. Any disturbed area that are proposed to have vegetated ground cover will be restored to pre-construction conditions or seeded with similar vegetation to the maximum extent practicable. The area of disturbed soil exposed at any one time shall be minimized the extent practicable.

Temporary erosion control measures shall be implemented within 14 days of soil exposure or disturbance. Fast and effective measures include mulching and sprinkling for dust control. Reference manufacturer recommendations for mulching as well as the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas, 2003. The implementation of a stabilized construction entrance/exit will prevent tracking of mud and sediment onto public roadways. Any material stockpiles shall be maintained in one or more designated, centralized locations away from drainage features. Perimeter erosion control shall surround all stockpiles and will consist of sediment barriers sized and maintained to effectively contain sediment. On any disturbed areas with steep slopes (slopes exceeding 20%), erosion control blankets shall be installed to provide immediate soil stabilization.

The contractor shall inspect all erosion control devices a minimum of once weekly during construction and additionally following a major storm event. The contractor shall perform an inspection and any necessary repairs to achieve working order according to the original design. All temporary controls shall be maintained in working order until permanent stabilization is achieved.

The erosion prevention activities typically occur in the following sequence:

- Establish the Limits of Work (Surveying and staking the LOW boundary)
- Install Erosion and Sediment Controls
- Perform Clearing and Grubbing
- Conduct Necessary Site Grading
- Seed Disturbed Areas with Temporary Vegetation Mix
- Install Crushed Stone Access Road and BMPs
- Install Concrete Equipment Pad
- Install Perimeter Fence
- Perform Final Seeding and Landscaping (permanent stabilization of the site)

- Remove Temporary Erosion Controls Upon Close of Construction

2.2 Long-Term Pollution Prevention Plan

In accordance with EPA Standards, the development and implementation of suitable practices for source control and pollution prevention shall be incorporated in a Long-Term Pollution Prevention Plan (LTPPP). The primary focus of the LTPPP is to establish procedures and controls for limiting the potential sources of pollutants, including nutrients that may contribute to excessive contaminant levels in the site's stormwater runoff. To this end the following source controls and procedures will be in place at the site:

- Good housekeeping – The site shall be kept clean at all times. Refuse collection and disposal shall occur on a regular basis. All materials shall be disposed of in approved, designated locations in accordance with the relevant regulations.
- Storing material and waste products inside or under cover – No material storage shall take place outside at the site on paved or lawn surfaces. All materials and waste products stored on-site shall be stored in compliance with all local, state, and federal requirements for spill prevention and containment.
- Vehicle washing controls – Vehicle washing shall not occur at the site during construction. Any vehicle cleaning will be performed at an off-site facility with proper wastewater treatment. This prevents potentially harmful detergents, wash water or other associated pollutants from entering the stormwater BMPs. Standard farming equipment maintenance may require washing post-construction as may be typical pre-construction. The landowner/farmer shall be provided a copy of this report with the following recommendations for vehicle washing:
  - Use biodegradable, phosphate-free, water-based detergents.
  - Limit the amount of detergent used to only what is necessary.
  - Wash vehicles away from stormwater BMPs and wetlands.
  - Direct the wash water to pervious ground covers such as grassed areas.
- Requirement for routine inspections and maintenance of stormwater BMPs – All stormwater BMPs shall be inspected and maintained according to the Long-Term Operations and Maintenance (O&M) Plan (see Section 3).
- Spill prevention and response plans – A spill recovery kit shall always be readily accessible at the site. Emergency contact information for a certified cleanup vendor shall be visible and apparent at the site. All employees shall be briefed on clean-up response and procedures. All spills shall be documented and reported as required by law.
- Maintenance of lawns, gardens, and other landscaped areas – Landscaping activities shall be performed to avoid disturbing stabilized surfaces. Mowing shall be conducted in coordination with the farmer's hay production schedule and limited to only what is necessary to promote plant health.
- Requirements for storage and use of fertilizers, herbicides, and pesticides – Herbicide and pesticide use shall not take place during construction. If used post-construction, application shall be performed in accordance with product labels and applicable guidelines. Any fertilizer, herbicide, or pesticide

application shall be coordinated with the farmer's hay production practices to avoid impacts on crop quality and yield.

- Pet waste management provisions – Pets shall not be present on-site during construction or operation. Waste from livestock present for vegetative management shall be managed through manual removal and specific grazing schedules to avoid accumulation of waste.
- Provisions for operation and management of septic systems – No septic systems are proposed for the site. Temporary facilities present during construction shall be maintained according to the relevant regulations. It is unknown if the current residential building on the Property has a correlated septic system. If one exists, it is the owner's responsibility to properly manage and maintain the septic system.
- Provisions for solid waste management – Solid waste generated during construction shall be stored in designated locations in covered containers. Containers will be removed by a licensed vendor, in compliance with the applicable regulations. Minimal waste generation is expected post-construction, and any found shall be removed promptly during routine maintenance visits.
- Snow disposal and plowing plans relative to Wetland Resources Act – Where snow plowing is appropriate, snow shall be compiled in upland areas, away from wetland resources and structural BMPs, to prevent direct discharge of meltwater. Snow shall not be piled within 100 feet of wetland resources and structural BMPs.
- Winter Road Salt and/or Sand Use and Storage restrictions – De-icing chemicals will be used strategically to minimize environmental impacts. Mechanical snow removal shall be prioritized over chemical treatment when possible. Snow piles shall be located away from storm drains and BMPs.
- Street sweeping schedules – During construction, street sweeping shall occur after all significant sediment disturbances. Driveways and adjacent roads shall be inspected for sediment tracking at the end of each workday and swept if deemed necessary. Post-construction, street sweeping shall occur twice annually during routine maintenance inspections.
- Provisions for prevention of illicit discharges to the stormwater management system – There are no illicit discharges (i.e., wastewater, discharges of substance, oil, or grease) associated with the Project. Illicit discharge detection and elimination measures shall be implemented including signage and regular inspections. Any evidence of illicit discharge shall be addressed immediately.

No new discharges shall occur near critical areas nor from any LUHPPLs. All personnel responsible for maintenance, repair of stormwater controls, and/or implementation of the LTPPP must receive adequate training related to the scope of their job duties. This includes training on the proper procedures to follow with respect to the LTPPP requirements and understand the principles and practices of erosion and sediment control. The following contact(s) can be reached in case of any questions or emergencies surrounding implementation of the LTPPP:

BlueWave Asset Management
T +1 617-209-3122
assetmgmt@bluewave.energy

2.2.1 Total Maximum Daily Loads

As described in Section 1.1.3, the Property is within two major watershed which both have Massachusetts Statewide Total Maximum Daily Load (TMDL) for Pathogen-impaired Waterbodies (CN 515.1) in reference to the pollutant E. Coli. In accordance with these TMDLs, the development and implementation of suitable practices for source control and pollution prevention of pathogens shall be incorporated in this LTPPP. The Town of Worthington has no specific ordinances or bylaws pertaining to the TMDLs and is not within the regulated MS4 area.

For both the Westfield and Connecticut TMDLs, agricultural activities and wildlife waste have been identified as potential sources of pollution. These sources are applicable to the Property and its current and proposed use. Manure storage and spreading, if not well managed, can introduce pathogens to nearby waterbodies. It is recommended that any and all manure and fertilizer application is performed in accordance with applicable guidelines and in a conservative manner. Due to the large areas within the major watersheds dedicated to conservation and the wetlands throughout the watershed, wildlife waste can introduce pathogens pollution. Waterfowl are attracted to large open mowed areas near waterbodies, bringing with them a potential increase in bacteria levels. It is probable the solar PV development shall deter excessive waterfowl from the wetlands on the Property. By practicing the measures outlined in this LTPPP, pathogen pollution will be mitigated throughout construction and the life of the Project.

3. Operation and Maintenance

3.1 Responsible Party & Notification of Future Owners

Property Owner: Timothy J. Sena & Catherine Rude-Sena
Property Adress: 190 Ridge Road, Worthington, MA 01098
Mailing Address: P.O. Box 132 Worthington, MA 01098

The property owner noted above is the stormwater management system owner. Upon transfer of property, and therefore stormwater system ownership, the seller shall notify the buyer of the presence and location of all stormwater BMPs and the ongoing responsibility to maintain them in accordance with this plan. O&M requirements and contract details shall be included in property transaction documents when possible.

It is the responsibility of the operator of the solar PV development to implement this O&M plan as outlined in their agreement with the owner.

Energy Storage Facility Operator: BlueWave Asset Manager
Mailing Address: 116 Huntington Avenue, Suite 601, Boston, MA 02116
Phone: +1 617-209-3122
Email: assetmgmt@bluewave.energy

3.2 General Site Maintenance

General site-wide conditions may be inspected simultaneous with stormwater inspections. The site shall be checked for any eroded drainage paths and repaired, as necessary. Any loose debris on-site shall be removed and disposed of appropriately. If any significant sediment build-up occurs on the roadways or drives, it shall be removed by sweeping or other methods.

The array areas shall continue to be farmed post-construction as hay pastures by the landowner/farmer. Pesticides, fungicides and herbicides shall only be applied by the landowner/farmer in accordance with product labels and applicable guidelines. All landscaping and landscaping maintenance shall be performed by the landowner/farmer or a licensed subcontractor.

In general, maintenance of BMPs requiring earth disturbance should occur in late spring or summer, after spring rains have diminished, drier weather has set in, and when vegetation can re-establish itself through the growing season. Other times may be suitable if weather permits or if the potential for sediment transport is low. Any maintenance should occur with the intent to limit earth disturbance during times of high erosion potential. If earth disturbance occurs as part of maintenance activities, appropriate erosion and sediment controls shall be implemented.

The following maintenance procedures are necessary to ensure proper function of the stormwater management system and compliance with regulatory standards. The maintenance tasks are grouped by system component and summarized in the tables below. These actions, routine and corrective, shall be performed in a timely manner by the responsible party throughout the life of the system. At all times, across all activity relating to system O&M trash, sediment, and other debris that is removed from the

system shall be disposed of in accordance with applicable local, state and federal guidelines and regulations.

Based on the following O&M activities, the anticipated annual cost for full site-wide maintenance of the stormwater control system is estimated at $5,000.

3.2.1 Crushed Stone Access Road

The access road is a semi-permeable surface that can become unsafe if infiltration is not acceptable. Inspecting and repairing the access road in a timely manner is essential for overall system success. The surface of the crushed stone access road shall not be used to store soil or other materials that could clog the permeable stone surface.

Table 3.1 Routine O&M Activities – Crushed Stone Access Road

Activity	Details	Frequency
Inspect	Check for standing water, uneven surface, snowplow damage, and vegetation.	Twice a year or more often if needed, especially during winter.
Re-grade the stone	Redistribute and compact washed crushed stone to restore grades in original design.	As necessary
Remove vegetation	Manually remove vegetation that is growing within the road surface area.	Immediately when observed
Repair potholes and snowplow damage	Fill and compact potholes and other road damage with design specific material.	As necessary
Restore infiltration	If water remains on road surface >48 hours after storm, excavate, scarify the underlying topsoil, and replace the stone.	As necessary
Clean	Remove trash and debris from the road surface.	Immediately when observed

3.2.2 Drainage Channels

Vegetated drainage channels convey stormwater and allow for infiltration. Regular inspection and vegetation management are critical for channel flow.

Table 3.2 Routine O&M Activities – Drainage Channels

Activity	Details	Frequency
Inspect	Inspect channels to make sure vegetation is adequate and for signs of rilling and gullying. Repair rills and gullies. Replace dead vegetation.	Biannually
Mow	Grass height shall not exceed 6 inches.	As necessary
Remove sediment	Remove sediment and other debris manually.	At least once a year
Reseed	Reseed as necessary to ensure that vegetative cover is never below 80% across the channel.	As necessary

3.2.3 Vegetated Filter Strips

Efficiency of the vegetated filter strips shall benefit from the regular maintenance outlined below which shall ensure flow does not short-circuit the system and runoff is properly filtered.

Table 3.3 Routine O&M Activities – Vegetated Filter Strip

Activity	Details	Frequency
Inspect	Inspect for sediment buildup and signs of erosion. Check the vegetation for bare spots and overall health.	At least once a year
Mow	Grass height shall not exceed 6 inches.	As necessary
Remove sediment	Remove sediment and other debris manually.	At least once a year
Reseed	Reseed as necessary to ensure that vegetative cover is never below 80%.	As necessary

3.2.4 Pea Gravel Diaphragm

Maintenance of the pea gravel diaphragm is important for ensuring that void space is maintained to allow water capacity and proper outflow.

Table 3.4 Routine O&M Activities – Pea Gravel Diaphragm

Activity	Details	Frequency
Inspect	Inspect for sediment buildup and ponding.	Twice a year or more often if needed
Remove sediment	Remove sediment and other debris manually.	Twice a year or more often if needed
Unclog	If there is ponded water at the surface of the diaphragm, remove and replace the clogged pea gravel and filter fabric. This unclogging process requires removal and replacement of the stone aggregate and filter fabric.	As necessary

3.2.5 Infiltration Trenches

Strict maintenance of infiltration trenches is crucial in preventing their failure due to clogging. By routinely inspecting the trenches and performing preventative maintenance biannually, trenches can operate effectively for a decade or more before requiring rehabilitation.

Table 3.5 Routine O&M Activities – Infiltration Trenches

Activity	Details	Frequency
Inspect	Inspect for sediment buildup and ponding.	Twice a year or more often if needed
Remove sediment	Remove sediment and other debris manually.	Twice a year or more often if needed
Unclog	If there is ponded water at the surface of the trench, remove and replace the first layer of stone aggregate and the filter fabric. If water is ponded inside the trench, sediment must be removed from the trench before scarifying and tilling the bottom to induce infiltration. This unclogging process requires removal and replacement of the stone aggregate and filter fabric.	As necessary

3.2.6 Water Quality Swale

Swales are more likely to experience erosion during large storms than other BMPs such as trenches and therefore require routine inspections and regular maintenance to ensure the effectiveness of the water quality treatment these swales provide.

Table 3.6 Routine O&M Activities – Bioretention Basin

Activity	Details	Frequency
Inspect	Inspect for adequate vegetation, signs of erosion, rilling and gullying. Check for slope integrity, soil moisture, vegetative health, soil stability, soil compaction, soil erosion, ponding and sedimentation.	Biannually
Mow	Grass height shall not exceed 6 inches nor be shorter than 3 inches.	As necessary and at least once per year
Remove sediment	Remove sediment and other debris manually.	At least once a year
Reseed	Reseed as necessary to ensure that vegetative cover is never below 80%.	As necessary

3.2.7 Riprap Aprons

Riprap aprons shall be routinely inspected according to the outline below to ensure proper functionality and ability to dissipate energy.

Table 3.7 Routine O&M Activities – Riprap Aprons

Activity	Details	Frequency
Inspect	Check for damaged/misplaced stones, sediment accumulation, significant erosion, vegetation growth.	Twice a year
Clean	Remove trash, sediment, and other debris.	Twice a year or more often as necessary
Clear Vegetation	Manually remove vegetation from between or over the stones.	Immediately as observed
Replace Stone	Replace or reconfigure missing or dislodged stones to maintain original design functionality.	As necessary

3.3 Public Safety Features

The stormwater management system and energy storage facility shall have several features to ensure public safety, prevent unauthorized access to the Property, and ensure effective emergency response. The Project will be surrounded by a perimeter fence and will have a lockable gate at all entrances. The gate at the main entrance will include signage with operator identification and emergency contact information. A secure lockbox containing access key(s) shall be installed in case of emergency to provide full access to the Project for the local fire department. In accordance with the Worthington Protective Zoning Bylaws (the Bylaws) Section 8.5.6(A), “All means of shutting down the solar photovoltaic installation shall be clearly marked and approved by the Town fire chief.” In addition to gate and emergency shutoff signage, temporary and permanent signs may be installed near BMPs as is appropriate.

Aside from secondary protective measures to be implemented, the proposed BESS has several incorporated safety features to prevent emergency situations. The BESS is sealed and fabricated in a container before delivery. Any materials considered hazardous are enclosed in a secure storage container of an impervious material. The container is installed on an impervious concrete pad which is surrounded by gravel. A spill event is highly unlikely. O&M procedures are in place to maintain proper working order, 24/7 monitoring, and suppression systems. In the unlikely event of a spill from the storage container and concrete pad, downstream of each pad has been designed to be diverted towards areas of vegetative cover and much of the runoff from the impervious pads will be captured and treated by the designed BMPs. Furthermore, in the unlikely scenario of a spill, temporary flow barriers can be quickly and reliably implemented to block flow downstream and isolate the affected area. Such flow barriers can be kept on-site as part of the spill response kit and could include items such as hazardous material absorbent booms and socks or rapid-deployment dams.

4. Massachusetts Stormwater Management Standards

The Project has been designed in accordance with the Massachusetts Stormwater Management Standards.

4.1 Standard 1: No New Untreated Discharges

No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

Impervious areas as a result of the development include the concrete equipment pads, widening of the existing driveway and additional access drives extending from the driveway. Runoff rates and volumes would increase without mitigation due to the ground cover change from hay pasture to concrete and gravel. With the BMPs implemented on the site, the peak rate has been attenuated and the volume discharging to the wetlands on-site is reduced. Much of the runoff generated from impervious areas flows into the treatment vegetated filter strips and infiltration trenches which together provide 80% removal of Total Suspended Solids (TSS) as described in Volume 2 of the Handbook. New impervious areas which are not captured are treated through vegetative filtration through existing and natural stormwater conveyances strips which provide up to 45% TSS removal.

4.2 Standard 2: Peak Rate Attenuation

Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.

The post-development peak discharge rates have been attenuated to be less than or equal to the pre-development rates through design of the BMPs (see Table 1.2). The infiltration trenches help to control runoff release from much of the introduced impervious area by collecting and infiltrating potential runoff and limiting release through its overflow berm which can induce sheet flow.

4.3 Standard 3: Recharge

Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management

system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

The required recharge volume for the site was calculated as follows:

$$
\begin{aligned}
&Recharge\ Volume \\
&\quad = 0.15\ in.runoff\ \times total\ impervious\ area\ within\ HSG\ C \\
&\quad + 0.10\ in.runoff\ \times total\ impervious\ area\ within\ HSG\ D \\
&= 0.25\ in.runoff\left({}^{1\ ft}/_{12\ in.}\right) \times 50{,}070\ sf\ +\ 0.10\ in.runoff\left({}^{1\ ft}/_{12\ in.}\right) \times 9{,}923\ sf \\
&= 1{,}043\ cf\ runoff + 83\ cf\ runoff \\
&= 1{,}126\ cf\ runoff
\end{aligned}
$$

The infiltration trenches and water quality swale provide a combined recharge capacity of 2,543 cubic feet assuming a 40% void ratio for the trenches as recommended by the Volume 2 of the Handbook, meeting the standard. The infiltration trenches and swale are built over soil classified as HSG C and C/D which has moderate drainage and an assumed conductivity of 0.17 inches per hour according to the 1982 Rawl's Rates referenced in the Handbook. The bottom of each trench is more than two feet from the seasonal high-water table and bedrock and below the frost line which is at most 48" below the ground surface.

The Site is comprised solely of HSG soil types C and D, which have limited infiltration capacity. The proposed BMPs have been designed to meet the required recharge and water quality volumes to the maximum extent practicable. Furthermore, the BMPs which provide temporary detention have been sized to fully drain within 72 hours after the storm event to the maximum extent practicable. Due to the HSG soil types and conservative infiltration rate assumptions, calculations suggest the possibility of slightly longer detention times for infiltration trenches IT4 and IT5 in which they fully drain within 120 hours after the storm event. No standing water is anticipated above the surface any infiltration trench beyond 71 hours after a storm. Field geologic testing for infiltration rates has not yet been conducted, and actual rates may be higher than assumed, resulting in full drainage within 72 hours. To meet the water quality standard with the constraints of the slow infiltration rate, longer drainage time allowance is necessary.

4.4 Standard 4: Water Quality

Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;

b. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and

c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook

Approximately 20,304 square feet of the Property is within an IWPA and requires a water quality volume equal to 1.0 inch of runoff times the total impervious area of the post-development site. Within this area, an insignificant amount of impervious area (less than 3 square feet) shall be introduced through the installation of fence posts and the ground-mounted trackers. The remainder of the site does not meet any of the criteria requiring 1.0 inch of runoff and therefore 0.5 inches of runoff may be used instead.

The required water quality volume for the site was calculated as follows:

$$\begin{aligned} &Water\ Quality\ Volume \\ &\quad = 1.0\ in.runoff\ \times total\ impervious\ area\ within\ the\ IWPA \\ &\quad + 0.5\ in.runoff\ \times total\ impervious\ area\ of\ the\ post-development\ site \\ &= 1.0\ in.runoff\ \left({}^{1\ ft}/_{12\ in.}\right) \times 2\ sf + 0.5\ in.runoff\left({}^{1\ ft}/_{12\ in.}\right) \times 59{,}991\ sf \\ &= 2{,}500\ cf\ runoff \end{aligned}$$

The infiltration trenches and water quality swale have collectively been sized to capture and treat 2,543 cubic feet assuming a 40% void ratio as recommended by the Volume 2 of the Handbook. Trenches with vegetated filter strips account for 2,238 cubic feet of and the trench with a pea gravel diaphragm pre-treatment has capacity to treat 268 cubic feet. The combined system of the pre-treatment and infiltration trenches provides 80% removal of TSS as described in Volume 2 of the Handbook.

A TMDL does exist for two major watersheds the Property is within as discussed in Section 2.2.1. These TMDLs have been appropriately taken into account when designing the BMPs and the LTPPP is provided in Section 2.2. The TMDLs do not have explicit guidance on BMP selection for efficient removal of E. Coli. *Volume 2 Chapter 2: Structural BMP Specifications for the Massachusetts Stormwater Handbook* indicates infiltration trenches provide up to 90% pathogen pollutant removal efficiency including E. Coli.

4.5 Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The solar PV development is not considered a land use with higher potential pollutant loads (LUHPPL).

4.6 Standard 6: Critical Areas

Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

Critical areas protected under the Massachusetts stormwater handbook include the following areas:

- Outstanding Resource Waters (ORWs) as designated in 314 CMR 4.00
- Special Resource Waters (SRWs) as designated in 314 CMR 4.00
- Recharge areas for public water supplies as defined in 310 CMR 22.02 (Zone Is, Zone IIs and Interim Wellhead Protection Areas for groundwater sources and Zone As for surface water sources)
- Bathing beaches as defined in 105 CMR 445.000
- Cold-water fisheries as defined in 310 CMR 10.04 and 314 CMR 9.02
- Shellfish growing areas as defined in 310 CMR 10.04 and 314 CMR 9.02.

Based on a review of MassGIS and Massachusetts Department of Environmental Protection (MassDEP) data and mapping resources:

- There are no ORWs mapped within or near the Project area.
- The Property is in the Connecticut River Basin, an area that currently does not have any SRWs.
- The northern half of the Project area, north of the existing driveway, is within the Worthington WSPD. A small sliver at the northern edge of the Property is within an Interim Wellhead Protection Zone. For more information on the groundwater resources near the Property, see Section 1.1.2.2. The Project is not anticipated to significantly impact these areas and has a low likelihood of doing so, see Section 1.2.2.2 for more information. The Project will not have any discharges within Zone I, Zone II, or Zone A areas.
- There are no bathing beaches within or near the Property
- Both receiving streams of the Property's subcatchments are cold-water fisheries: Watts Stream (ID 3211150) and Wards Stream (ID 3211175). The Project does not include any changes which are likely to reduce the ability of these waters to support cold-water fish reproduction. The Project has been specifically designed to not significantly impact these streams.

- There are no shellfish growing areas within or near the Property.

By proximity there are critical areas near the Property, but there are no discharges which have a strong likelihood of a significant impact to these areas. Therefore, by definition, there is no discharge near a critical area

4.7 Standard 7: Redevelopments

A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

The Project is new development; therefore, this standard does not apply.

4.8 Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

The erosion and sediment control plan narrative is provided in Section 2 and is included in the Issued for Permitting (IFP) plan set which shows the locations of measures to be implemented and visualizations of prevention measures (Appendix F – Issued for Permitting Plan Set).

4.9 Standard 9: Operation and Maintenance Plan

A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

The operation and maintenance (O&M) plan is provided in Section 3.

4.10 Standard 10: Prohibition of Illicit Discharges

All illicit discharges to the stormwater management system are prohibited.

There are no illicit discharges (i.e., wastewater, discharges of substance, oil, or grease) associated with the Project. See Section 2.2 for the long-term pollution prevention plan detailing measures to prevent illicit discharges. An Illicit Discharge Compliance Statement shall be submitted prior to the discharge of any stormwater to post-construction BMPs.



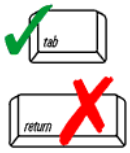
Appendix A – MA DEP Checklist for Stormwater Report

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

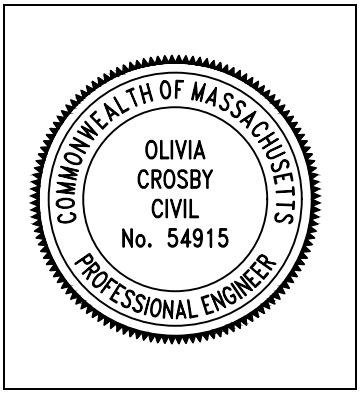
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



02/18/2026

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☒ New development

☐ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

☒ No disturbance to any Wetland Resource Areas

☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☐ Reduced Impervious Area (Redevelopment Only)

☒ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

- ☐ Credit 1
- ☐ Credit 2
- ☐ Credit 3

☐ Use of "country drainage" versus curb and gutter conveyance and pipe

☐ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☒ Water Quality Swale

☒ Grass Channel

☐ Green Roof

☒ Other (describe): Crushed stone access drive, vegated filter strips, infiltration trenches, pea gravel diaphragm

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☐ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

☒ Site is comprised solely of C and D soils and/or bedrock at the land surface

☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000

☐ Solid Waste Landfill pursuant to 310 CMR 19.000

☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☒ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☒ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☒ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs) Not Applicable

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☒ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable Not Applicable

☐ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☒ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☒ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☒ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

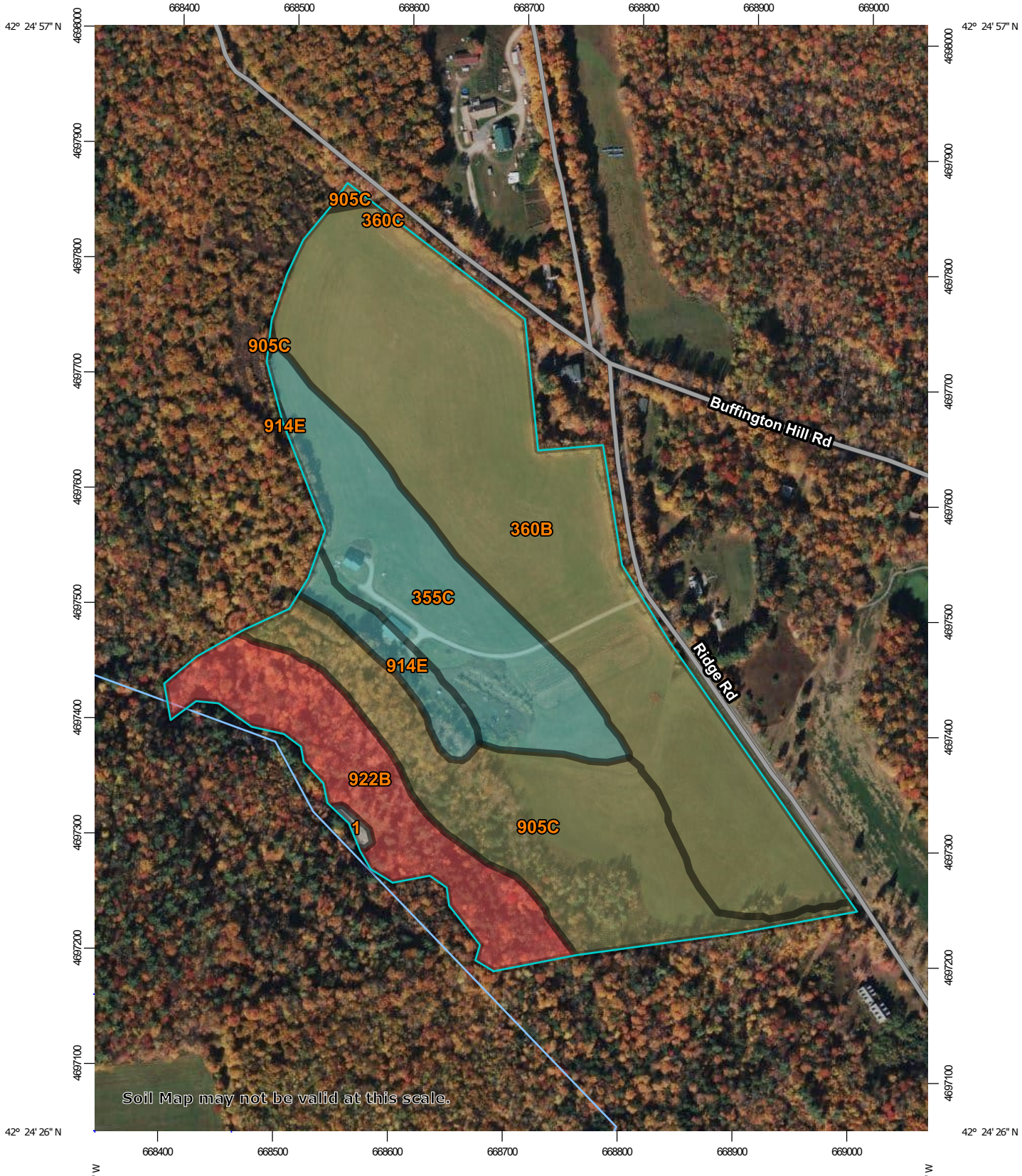
☐ An Illicit Discharge Compliance Statement is attached;

☒ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

Appendix B – Soils Information

USDA NRCS HSG Soil Map

Hydrologic Soil Group—Hampden and Hampshire Counties, Massachusetts, Western Part
(Ridge Rd SW Analysis Area)



Map Scale: 1:4,670 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

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: Hampden and Hampshire Counties, Massachusetts, Western Part
Survey Area Data: Version 20, Aug 27, 2024

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

Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water		0.1	0.2%
355C	Marlow fine sandy loam, 8 to 15 percent slopes	C	8.2	17.4%
360B	Peru fine sandy loam, 3 to 8 percent slopes	C/D	21.1	45.0%
360C	Peru fine sandy loam, 8 to 15 percent slopes	C/D	0.0	0.0%
905C	Peru-Marlow association, 3 to 15 percent slopes, extremely stony	C/D	9.8	20.8%
914E	Marlow-Berkshire association, 35 to 60 percent slopes, extremely stony	C	1.5	3.3%
922B	Pillsbury-Peacham-Wonsqueak association, 0 to 8 percent slopes, extremely stony	D	6.3	13.3%
Totals for Area of Interest			**47.0**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

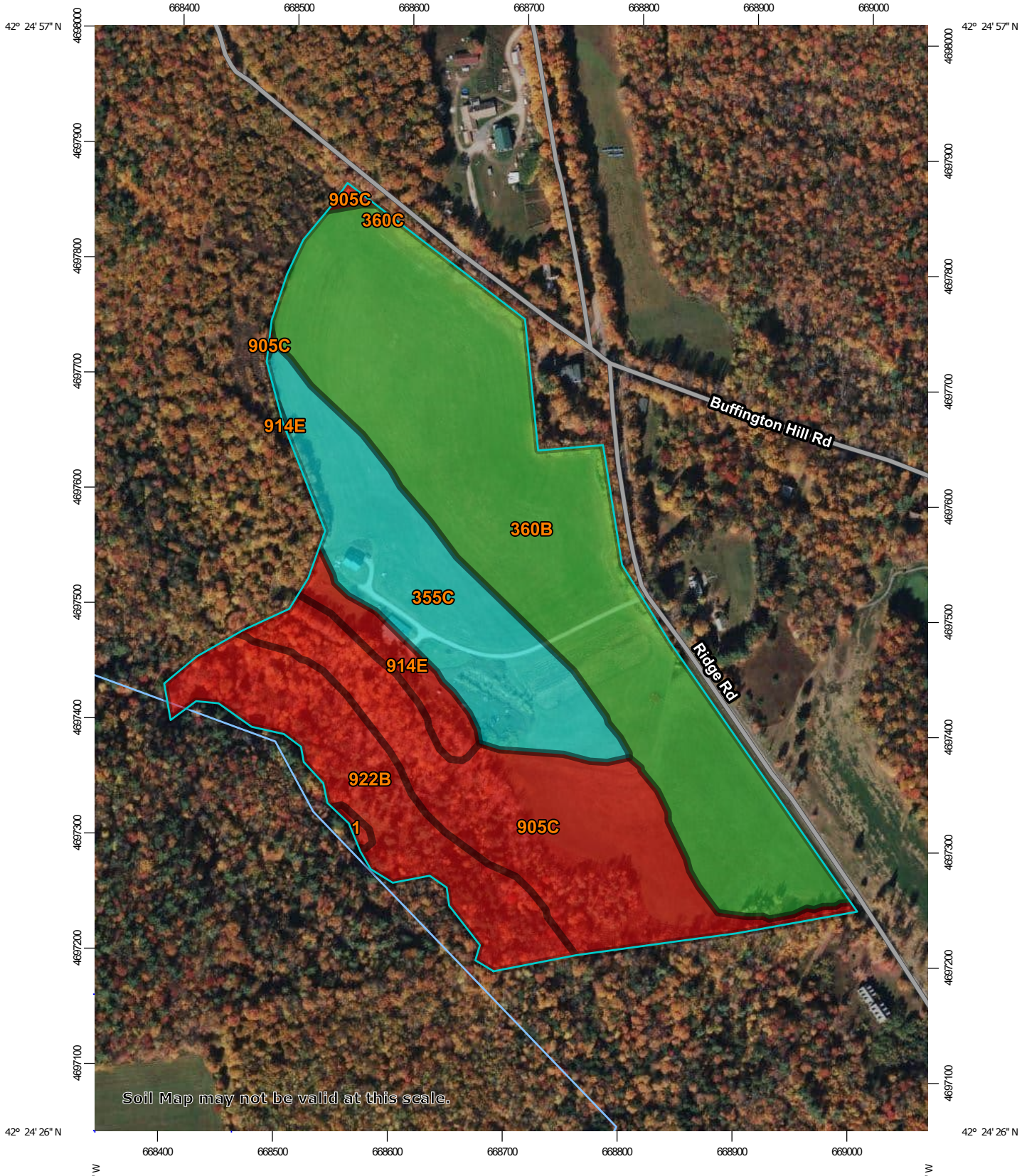
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

USDA NRCS Farmland Classification Map

Farmland Classification—Hampden and Hampshire Counties, Massachusetts, Western Part
(Ridge Rd SW Analysis Area)



Map Scale: 1:4,670 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

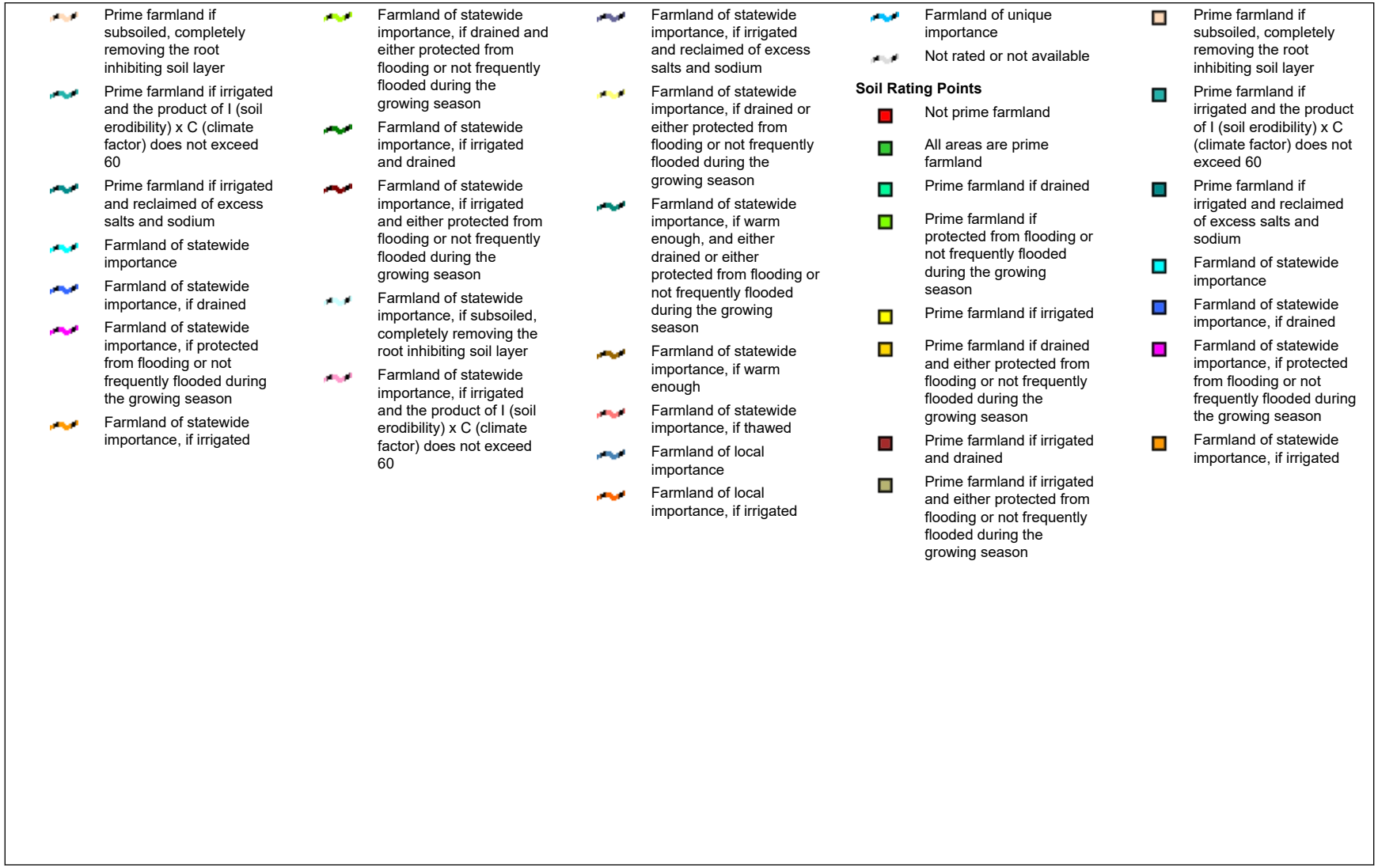
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:25,000.

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: Hampden and Hampshire Counties, Massachusetts, Western Part
Survey Area Data: Version 20, Aug 27, 2024

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

Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water	Not prime farmland	0.1	0.2%
355C	Marlow fine sandy loam, 8 to 15 percent slopes	Farmland of statewide importance	8.2	17.4%
360B	Peru fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland	21.1	45.0%
360C	Peru fine sandy loam, 8 to 15 percent slopes	Farmland of statewide importance	0.0	0.0%
905C	Peru-Marlow association, 3 to 15 percent slopes, extremely stony	Not prime farmland	9.8	20.8%
914E	Marlow-Berkshire association, 35 to 60 percent slopes, extremely stony	Not prime farmland	1.5	3.3%
922B	Pillsbury-Peacham-Wonsqueak association, 0 to 8 percent slopes, extremely stony	Not prime farmland	6.3	13.3%
Totals for Area of Interest			**47.0**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

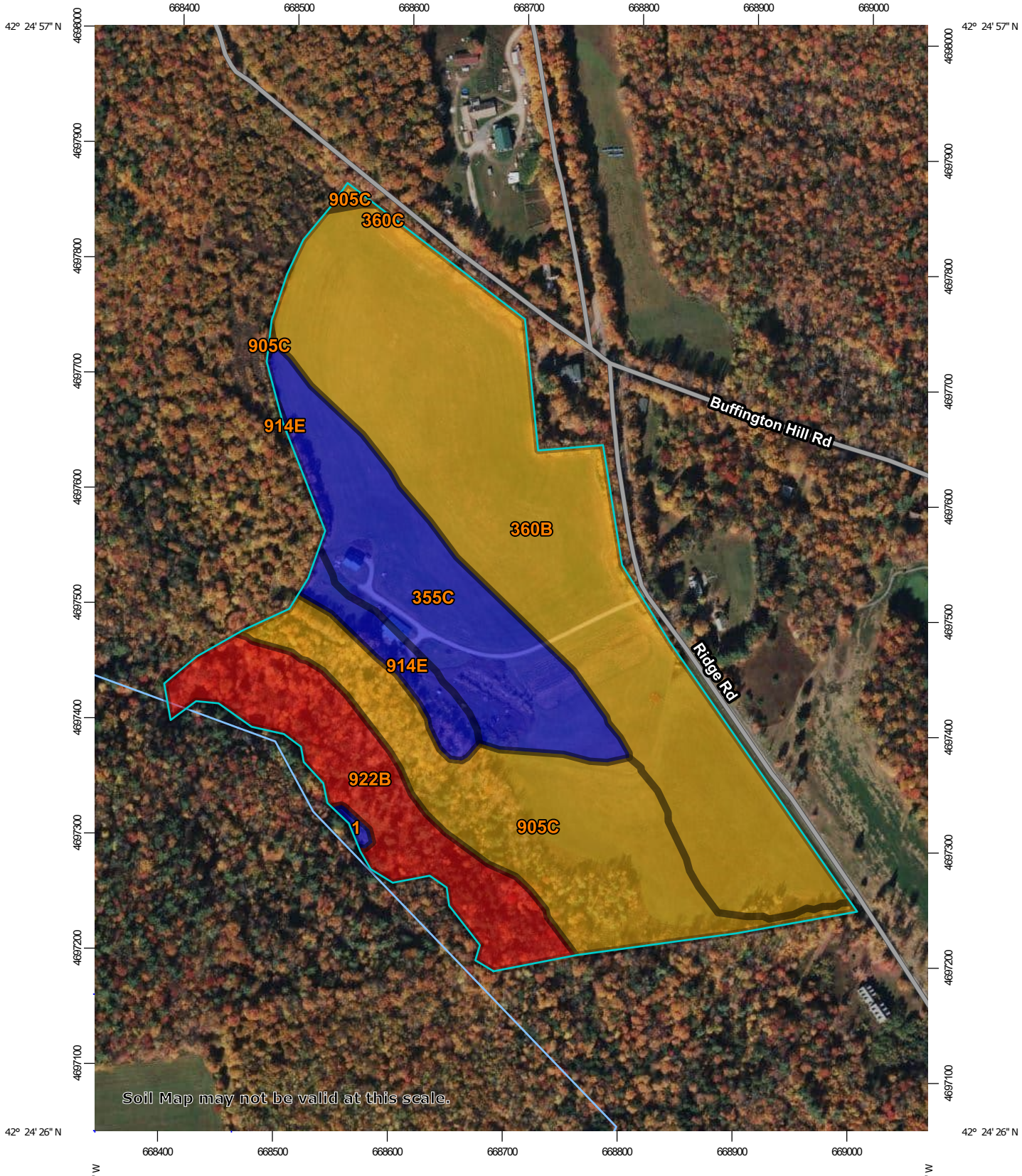
Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Appendix C – Groundwater Information

USGS NRCS Depth to Water Table Map

Depth to Water Table—Hampden and Hampshire Counties, Massachusetts, Western Part
(Ridge Rd SW Analysis Area)



Map Scale: 1:4,670 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

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

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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: Hampden and Hampshire Counties, Massachusetts, Western Part
Survey Area Data: Version 20, Aug 27, 2024

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

Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

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.

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
1	Water	>200	0.1	0.2%
355C	Marlow fine sandy loam, 8 to 15 percent slopes	>200	8.2	17.4%
360B	Peru fine sandy loam, 3 to 8 percent slopes	46	21.1	45.0%
360C	Peru fine sandy loam, 8 to 15 percent slopes	46	0.0	0.0%
905C	Peru-Marlow association, 3 to 15 percent slopes, extremely stony	46	9.8	20.8%
914E	Marlow-Berkshire association, 35 to 60 percent slopes, extremely stony	>200	1.5	3.3%
922B	Pillsbury-Peacham-Wonsqueak association, 0 to 8 percent slopes, extremely stony	15	6.3	13.3%
Totals for Area of Interest			**47.0**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Well Driller Reports for Adjacent Properties

MassDEP

Well Completion Report ID: 146467

eDEP Transmittal Number:

WELL LOCATION

GPS North: **GPS West:** **Assessors Map:**

Address: 141 Buffington Hill Road **Assessors Lot:**

Sub Division: **Permit Number:**

City/Town: WORTHINGTON **Date Issued:**

Board Of Health Permit Obtained: Y

Work Performed	Well Type	Drilling Method Overburden	Drilling Method Bedrock
New Well	Domestic	Air Rotary	Air Hammer

ADDITIONAL WELL INFORMATION

Developed: Yes

Disinfected: Yes

Total Well Depth: 140.00

Fracture Enhancement:

Well Seal Type:

Depth to Bedrock: 28.00

PERMANENT PUMP (IF AVAILABLE)

Pump Description:

Type:

Nominal Pump Capacity:

Intake Depth:

Horsepower:

Comments: Driveshoe well seal.

CASING

From(ft)	To(ft)	Type	Thickness	Diameter
0.00				
0.00	40.00	Steel	17#	6

SCREEN

From(ft)	To(ft)	Type	slotsize	Diameter

WELL SEAL / FILTER PACK / ABANDONMENT MATERIAL

From(ft)	To(ft)	Material Description	Purpose

STATIC WATER LEVEL(ALL WELLS)

Date Measured	Depth Below Ground Surface
08/01/2006	30.00

WELL TEST DATA (ALL SECTIONS MANDATORY FOR PRODUCTION WELLS)

Date	Method	Yield(GPM)	Time Pumped (hrs & min)	Pumping Level (Ft. BGS)	Time To Recoover (Hrs & min)	Recovery
08/01/2006	Air Lift	4.00	1:00	140	2:00	30

OVER BURDEN

From(ft)	To(ft)	Lithology	Color	Comment	Water Zone	Loss / Add of Fluid	Drill Stem Drop	Drill Rate
0.00	28.00	Till						

BEDROCK

From(ft)	To(ft)	Lithology	Comment	Water Zone	Drill Stem Drop	Extra Large	Drill Rate	Rust Stain	Loss / Add Of Fluid	# of Fract Per Ft
28	56	Gabbro								
56	60	Gneiss								
60	70	Gabbro		Yes						
70	140	Gneiss								

MassDEP

Well Completion Report ID: 649783

eDEP Transmittal Number:

WELL LOCATION

GPS North:

GPS West:

Assessors Map:

Address: Ridge Road

Assessors Lot:

Sub Division:

Permit Number:

City/Town: WORTHINGTON

Date Issued: 06/17/1996

Board Of Health Permit Obtained: Y

Work Performed	Well Type	Drilling Method Overburden	Drilling Method Bedrock
New Well	Domestic	Air Rotary	Air Rotary

ADDITIONAL WELL INFORMATION

Developed:

Disinfected:

Total Well Depth: 220.00

Fracture Enhancement:

Well Seal Type:

Depth to Bedrock: 18.00

PERMANENT PUMP (IF AVAILABLE)

Pump Description:

Type:

Nominal Pump Capacity:

Intake Depth:

Horsepower:

Comments: Geographic Description

Well is located 40ft SW of Ridge Road, .4 mi NW of intersection with Route 112

Water-bearing rock/unconsolidated material Description: Grey/Brown Rock

CASING

From(ft)	To(ft)	Type	Thickness	Diameter
0.00	60.00	Steel	17#	

SCREEN

From(ft)	To(ft)	Type	slotsize	Diameter

WELL SEAL / FILTER PACK / ABANDONMENT MATERIAL

From(ft)	To(ft)	Material Description	Purpose

STATIC WATER LEVEL(ALL WELLS)

Date Measured	Depth Below Ground Surface
06/20/1996	20.00

WELL TEST DATA (ALL SECTIONS MANDATORY FOR PRODUCTION WELLS)

Date	Method	Yield(GPM)	Time Pumped (hrs & min)	Pumping Level (Ft. BGS)	Time To Recoover (Hrs & min)	Recovery
06/20/1996	Air Blow with Drill Stem	20.00	00:30	220	00:30	60

OVER BURDEN

From(ft)	To(ft)	Lithology	Color	Comment	Water Zone	Loss / Add of Fluid	Drill Stem Drop	Drill Rate
0.00	18.00			Hard Pan				

BEDROCK

From(ft)	To(ft)	Lithology	Comment	Water Zone	Drill Stem Drop	Extra Large	Drill Rate	Rust Stain	Loss / Add Of Fluid	# of Fract Per Ft
18	48		Brown Soft Rock							
48	148		Grey Rock							
148	192		Grey Rock							
192	193		Grey/Brown Rock	Yes						
193	220		Grey Rock							

MassDEP

Well Completion Report ID: 649845

eDEP Transmittal Number:

WELL LOCATION

GPS North:

GPS West:

Assessors Map:

Address: Huntington Road

Assessors Lot:

Sub Division: Ives Lieou property

Permit Number:

City/Town: WORTHINGTON

Date Issued:

Board Of Health Permit Obtained: NR

Work Performed	Well Type	Drilling Method Overburden	Drilling Method Bedrock
New Well	Domestic	Air Rotary	Air Rotary

ADDITIONAL WELL INFORMATION

Developed:

Disinfected:

Total Well Depth: 419.00

Fracture Enhancement:

Well Seal Type: Cement/Bentonite

Depth to Bedrock: 8.00

PERMANENT PUMP (IF AVAILABLE)

Pump Description:

Type:

Nominal Pump Capacity:

Intake Depth:

Horsepower:

Comments: Geographic Description

Well is located 100ft E of Huntington Road, mi N of intersection with

Water-bearing rock/unconsolidated material Description: Black Granite

CASING

From(ft)	To(ft)	Type	Thickness	Diameter
0.00	61.00	Steel		

SCREEN

From(ft)	To(ft)	Type	slotsize	Diameter

WELL SEAL / FILTER PACK / ABANDONMENT MATERIAL

From(ft)	To(ft)	Material Description	Purpose

STATIC WATER LEVEL(ALL WELLS)

Date Measured	Depth Below Ground Surface
02/22/1991	20.00

WELL TEST DATA (ALL SECTIONS MANDATORY FOR PRODUCTION WELLS)

Date	Method	Yield(GPM)	Time Pumped (hrs & min)	Pumping Level (Ft. BGS)	Time To Recoover (Hrs & min)	Recovery
02/22/1991	Air Blow with Drill Stem	26.00	00:30	240	00:05	20

OVER BURDEN

From(ft)	To(ft)	Lithology	Color	Comment	Water Zone	Loss / Add of Fluid	Drill Stem Drop	Drill Rate
0.00	8.00			Top Soil				

BEDROCK

From(ft)	To(ft)	Lithology	Comment	Water Zone	Drill Stem Drop	Extra Large	Drill Rate	Rust Stain	Loss / Add Of Fluid	# of Fract Per Ft
8	108	Granite								
108	208	Granite								
208	308	Granite								
308	408	Granite								
408	419	Granite								

Appendix D – FEMA Map

JOINS PANEL 0006
JOINS PANEL 0005
JOINS PANEL 0009
JOINS PANEL 0016

ZONE AE
ZONE X
ZONE A
Worthington
State
Forest
Peru
State
Forest
MACCOMBER ROAD
LINDSAY HILL ROAD
BURRINGTON HILL ROAD
RIDGE ROAD
STARKWEATHER HILL ROAD
WEST STREET
MIDDLE BRANCH WESTFIELD RIVER
WESTFIELD RIVER
FULLER BROOK
Ware Stream
Walt Stream
RM 3

LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- **ZONE A** No base flood elevations determined.
- **ZONE AE** Base flood elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding; velocities also determined.
- **ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.
- **ZONE V** Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- **ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- **ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside 500-year floodplain.
- **ZONE D** Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

- Floodplain Boundary
- Floodway Boundary
- Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
- 513 — Base Flood Elevation line; Elevation in Feet*
- D — D — Cross Section Line
- (EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone*
- RM 7x — Elevation Reference Mark
- •M1.5 — River Mile

*Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for possible updated flood hazard information prior to use of this map for property purchase or construction purposes.

Coastal base flood elevations apply only landward of 0.0 NGVD, and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of special flood hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, and VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

Elevation reference marks are described in the Flood Insurance Study Report.

For adjoining map panels see separately printed Map Index.

MAP REPOSITORY

Town Clerk's Vault, Town Hall, Huntington Road, Worthington, Massachusetts 01098 (Maps available for reference only, not for distribution).

INITIAL IDENTIFICATION:
JUNE 28, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
APRIL 9, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:
JUNE 19, 1989

FLOOD INSURANCE RATE MAP REVISIONS:

Refer to the Flood Insurance Rate Map Effective date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE
400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
WORTHINGTON,
MASSACHUSETTS
HAMPSHIRE COUNTY

PANEL 8 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

COMMUNITY-PANEL NUMBER
250175 0008 B

EFFECTIVE DATE:
JUNE 19, 1989

Federal Emergency Management Agency

Appendix E – Rainfall Data

NOAA Atlas 14, Volume 10, Version 3
Location name: Worthington, Massachusetts, USA*
Latitude: 42.4107°, Longitude: -72.9484°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

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	**0.323** (0.248-0.415)	**0.377** (0.289-0.484)	**0.465** (0.355-0.599)	**0.538** (0.409-0.697)	**0.639** (0.471-0.861)	**0.715** (0.518-0.984)	**0.794** (0.558-1.13)	**0.879** (0.590-1.28)	**0.998** (0.646-1.51)	**1.09** (0.691-1.68)
10-min	**0.458** (0.351-0.587)	**0.534** (0.409-0.686)	**0.659** (0.503-0.849)	**0.762** (0.579-0.988)	**0.905** (0.667-1.22)	**1.01** (0.732-1.39)	**1.12** (0.790-1.60)	**1.25** (0.836-1.82)	**1.41** (0.915-2.14)	**1.55** (0.979-2.39)
15-min	**0.538** (0.413-0.691)	**0.628** (0.481-0.807)	**0.775** (0.592-0.999)	**0.896** (0.682-1.16)	**1.06** (0.785-1.44)	**1.19** (0.861-1.64)	**1.32** (0.929-1.88)	**1.46** (0.983-2.14)	**1.66** (1.08-2.51)	**1.82** (1.15-2.81)
30-min	**0.767** (0.589-0.985)	**0.891** (0.683-1.14)	**1.09** (0.835-1.41)	**1.26** (0.958-1.63)	**1.49** (1.10-2.01)	**1.67** (1.20-2.29)	**1.85** (1.29-2.61)	**2.03** (1.36-2.97)	**2.29** (1.48-3.46)	**2.49** (1.57-3.83)
60-min	**0.996** (0.764-1.28)	**1.15** (0.884-1.48)	**1.41** (1.08-1.82)	**1.62** (1.23-2.10)	**1.92** (1.41-2.58)	**2.14** (1.54-2.94)	**2.37** (1.66-3.35)	**2.60** (1.75-3.80)	**2.91** (1.89-4.40)	**3.15** (2.00-4.86)
2-hr	**1.29** (0.992-1.64)	**1.49** (1.15-1.90)	**1.82** (1.40-2.33)	**2.09** (1.60-2.69)	**2.47** (1.83-3.30)	**2.76** (2.00-3.76)	**3.05** (2.15-4.30)	**3.36** (2.27-4.88)	**3.80** (2.47-5.71)	**4.14** (2.63-6.36)
3-hr	**1.48** (1.14-1.88)	**1.72** (1.33-2.18)	**2.11** (1.62-2.69)	**2.43** (1.87-3.12)	**2.88** (2.14-3.85)	**3.22** (2.35-4.39)	**3.57** (2.53-5.04)	**3.96** (2.67-5.73)	**4.51** (2.93-6.75)	**4.96** (3.15-7.57)
6-hr	**1.84** (1.43-2.32)	**2.17** (1.69-2.75)	**2.72** (2.11-3.45)	**3.17** (2.45-4.04)	**3.80** (2.84-5.06)	**4.26** (3.13-5.80)	**4.76** (3.41-6.72)	**5.33** (3.61-7.67)	**6.18** (4.03-9.20)	**6.89** (4.39-10.5)
12-hr	**2.25** (1.76-2.82)	**2.72** (2.13-3.41)	**3.49** (2.72-4.39)	**4.12** (3.20-5.22)	**5.00** (3.77-6.64)	**5.65** (4.18-7.67)	**6.35** (4.59-8.99)	**7.20** (4.89-10.3)	**8.48** (5.55-12.6)	**9.58** (6.13-14.5)
24-hr	**2.67** (2.10-3.32)	**3.29** (2.59-4.10)	**4.30** (3.37-5.38)	**5.14** (4.01-6.47)	**6.30** (4.78-8.34)	**7.15** (5.34-9.69)	**8.09** (5.90-11.4)	**9.24** (6.30-13.2)	**11.0** (7.24-16.2)	**12.6** (8.08-18.9)
2-day	**3.08** (2.45-3.82)	**3.85** (3.04-4.76)	**5.09** (4.02-6.32)	**6.12** (4.80-7.65)	**7.54** (5.76-9.93)	**8.58** (6.45-11.6)	**9.73** (7.16-13.7)	**11.2** (7.65-15.8)	**13.5** (8.89-19.8)	**15.5** (10.0-23.2)
3-day	**3.38** (2.69-4.17)	**4.22** (3.35-5.21)	**5.60** (4.43-6.92)	**6.73** (5.30-8.38)	**8.30** (6.37-10.9)	**9.45** (7.13-12.7)	**10.7** (7.93-15.1)	**12.4** (8.46-17.4)	**15.0** (9.88-21.9)	**17.3** (11.2-25.7)
4-day	**3.65** (2.91-4.48)	**4.54** (3.62-5.59)	**6.01** (4.77-7.42)	**7.22** (5.70-8.97)	**8.90** (6.84-11.7)	**10.1** (7.65-13.6)	**11.5** (8.51-16.2)	**13.2** (9.08-18.6)	**16.1** (10.6-23.4)	**18.5** (12.0-27.5)
7-day	**4.39** (3.52-5.37)	**5.39** (4.32-6.60)	**7.03** (5.61-8.63)	**8.39** (6.65-10.4)	**10.3** (7.92-13.3)	**11.6** (8.82-15.5)	**13.1** (9.75-18.3)	**15.1** (10.4-21.1)	**18.1** (12.0-26.2)	**20.8** (13.5-30.7)
10-day	**5.14** (4.13-6.26)	**6.19** (4.97-7.55)	**7.91** (6.33-9.68)	**9.34** (7.42-11.5)	**11.3** (8.73-14.6)	**12.7** (9.66-16.9)	**14.3** (10.6-19.8)	**16.3** (11.2-22.7)	**19.4** (12.8-27.9)	**22.0** (14.3-32.3)
20-day	**7.45** (6.03-9.02)	**8.55** (6.90-10.4)	**10.3** (8.32-12.6)	**11.8** (9.46-14.5)	**13.9** (10.7-17.7)	**15.4** (11.7-20.1)	**17.0** (12.5-23.1)	**18.9** (13.1-26.1)	**21.7** (14.5-31.0)	**24.0** (15.6-35.1)
30-day	**9.37** (7.60-11.3)	**10.5** (8.51-12.7)	**12.3** (9.96-14.9)	**13.9** (11.1-16.9)	**16.0** (12.4-20.2)	**17.6** (13.3-22.7)	**19.2** (14.1-25.7)	**21.0** (14.6-28.9)	**23.5** (15.7-33.5)	**25.6** (16.6-37.2)
45-day	**11.7** (9.53-14.0)	**12.9** (10.5-15.5)	**14.9** (12.0-17.9)	**16.5** (13.3-20.0)	**18.7** (14.5-23.5)	**20.5** (15.5-26.2)	**22.2** (16.2-29.3)	**23.9** (16.7-32.7)	**26.2** (17.6-37.1)	**27.8** (18.2-40.3)
60-day	**13.6** (11.1-16.3)	**14.9** (12.2-17.9)	**17.0** (13.8-20.4)	**18.8** (15.1-22.7)	**21.2** (16.5-26.4)	**23.0** (17.5-29.3)	**24.9** (18.1-32.5)	**26.6** (18.6-36.2)	**28.7** (19.3-40.5)	**30.1** (19.7-43.5)

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

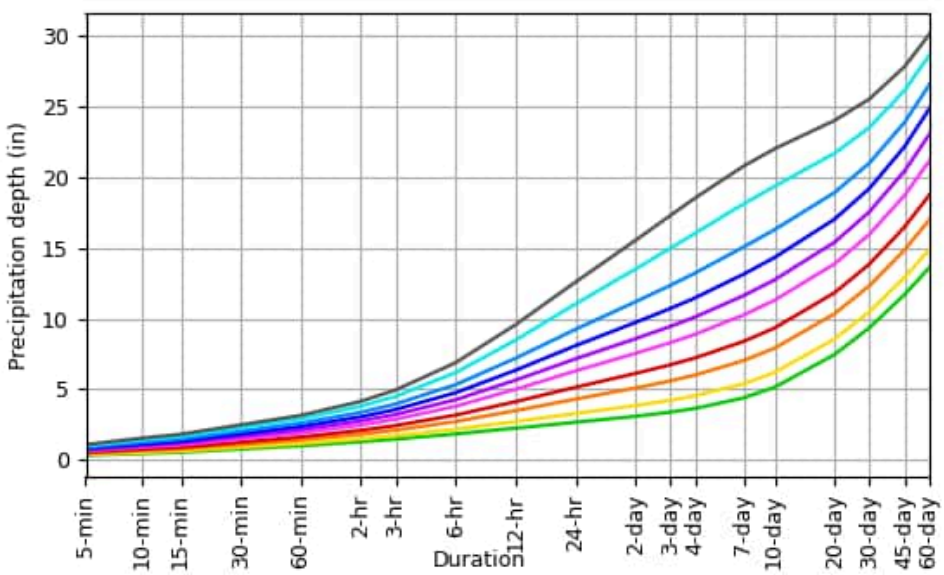
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper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

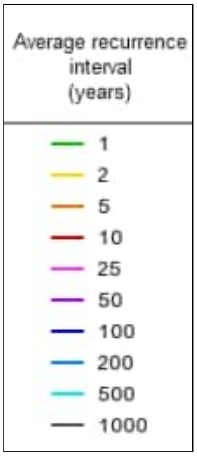
Please refer to NOAA Atlas 14 document for more information.

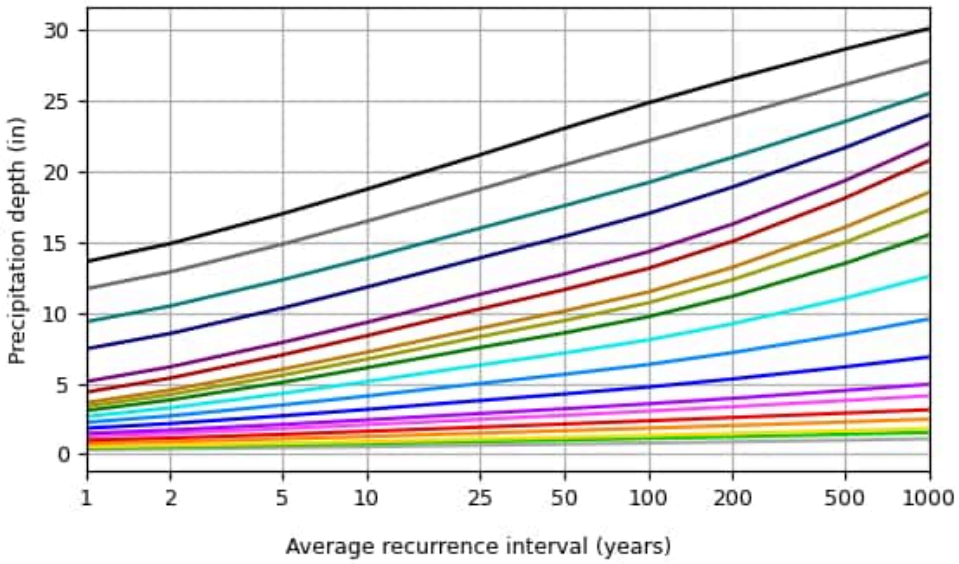
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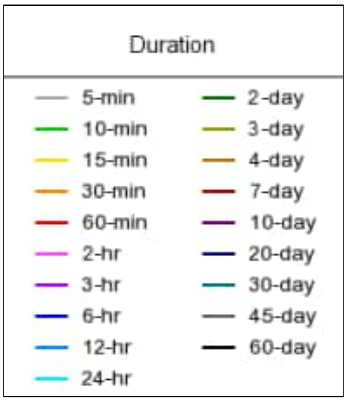
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 42.4107°, Longitude: -72.9484°







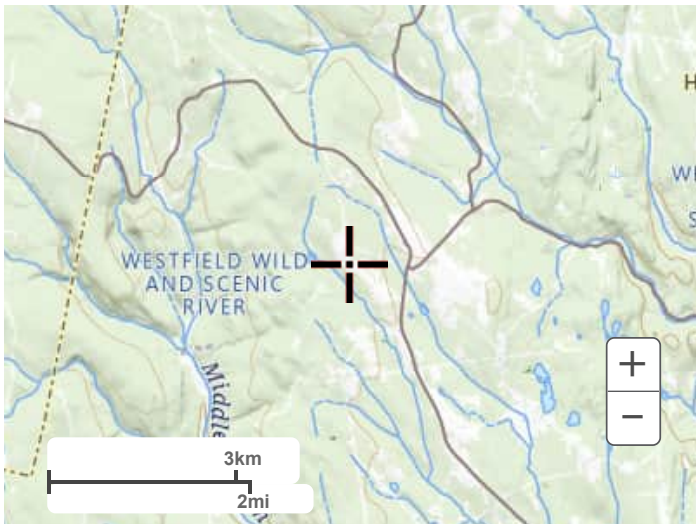


NOAA Atlas 14, Volume 10, Version 3 Created (GMT): Mon Aug 18 01:12:23 2025

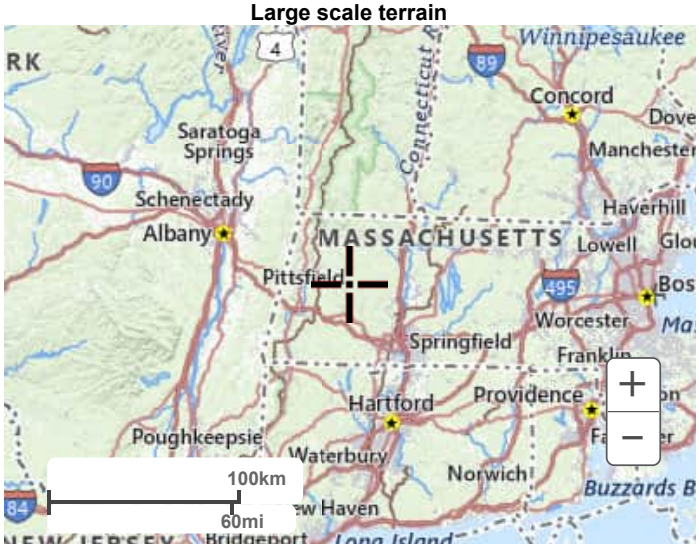
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Maps & aerials

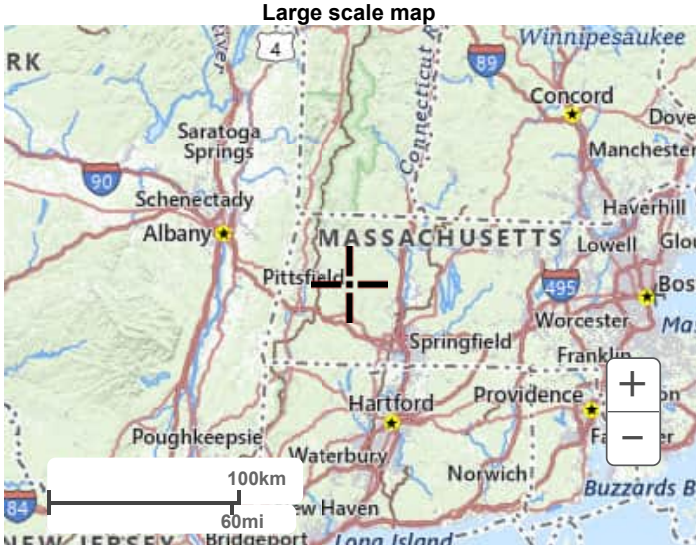
Small scale terrain



Large scale terrain



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

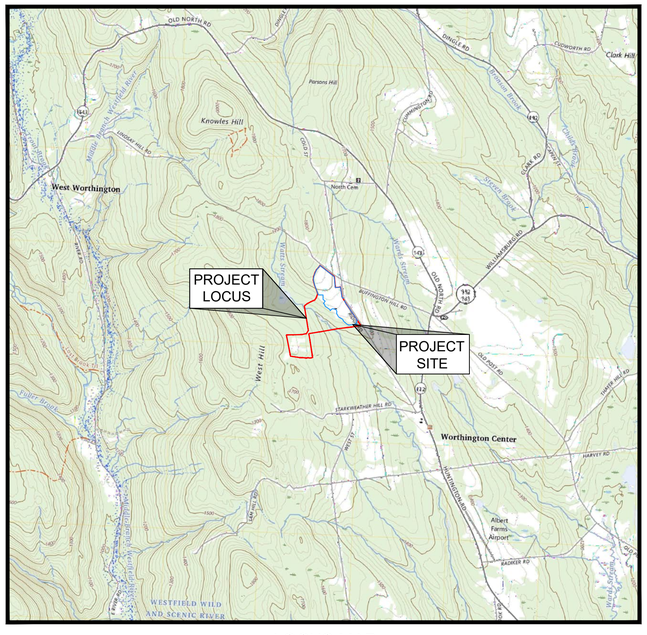
Disclaimer

Appendix F – Issued for Permitting Plan Set

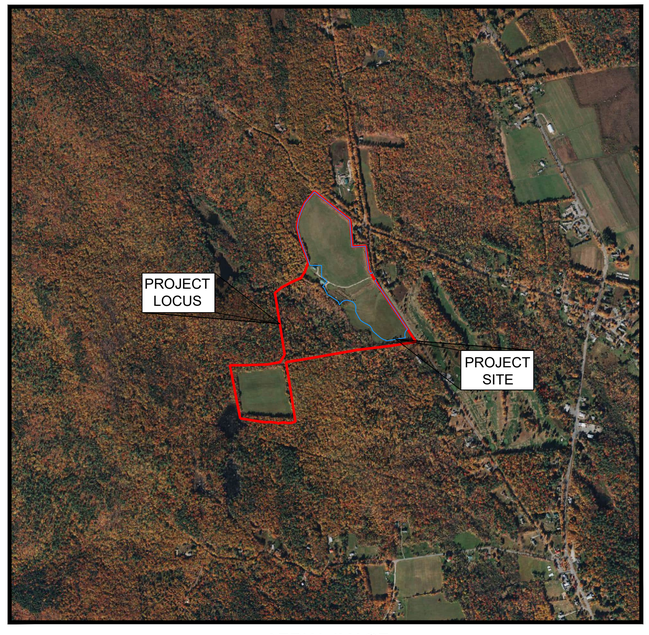
PROPRIETARY INFORMATION: THIS DRAWING IS THE PROPERTY OF WSP USA INC. AND IS NOT TO BE LOANED OR REPRODUCED IN ANY WAY WITHOUT THE PERMISSION OF WSP USA INC.

BWC WADES STREAM, LLC

2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098
SEPTEMBER 23, 2025
LAST REVISED FEBRUARY 18, 2026
ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION



LOCUS MAP
1"=2500'



AERIAL IMAGE
1"=1000'

DRAWING INDEX

SHEET NUMBER	DRAWING TITLE	DRAWING NUMBER
	COVER SHEET	
1	CONSTRUCTION, EROSION AND SEDIMENTATION CONTROL NOTES	G-001
2	EXISTING CONDITIONS	V-101
3	GRADING/EARTHWORK PLAN	C-101
4	PROPOSED CONDITIONS	C-102
5	WATER SUPPLY PROTECTION DISTRICT OVERLAY	C-103
6	ACCESS ROAD TOPOGRAPHIC PROFILE ANALYSIS	C-104
7	EQUIPMENT PADS	C-105
8	SHADOW ANALYSIS OF PROPOSED CONDITIONS	C-106
9	DETAILS (SHEET 1 OF 3)	C-501
10	DETAILS (SHEET 2 OF 3)	C-502
11	DETAILS (SHEET 3 OF 3)	C-503

PROPERTY OWNER

TIMOTHY J. SENA &
CATHERINE RUDE-SENA
PO BOX 132
WORTHINGTON, MA 01098

PREPARED BY

WSP USA INC.
100 APOLLO DRIVE SUITE 302
CHELMSFORD, MASSACHUSETTS 01824
T +1 978-692-9090
OLIVIA.CROSBY@WSP.COM

DEVELOPED BY

BWC WADES STREAM, LLC
116 HUNTINGTON AVE
BOSTON, MA 02116
T +1 617-209-3122
ASSETMGMT@BLUEWAVE.ENERGY

SITE PLAN REVIEW BY

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D:\BlueWave\US-EI-3652230437 - Ridge Rd Worthington\4 Permitting\Sheets\0 - Ridge Rd - G-000.dwg - G-000 - Feb. 18, 2026 5:52pm - USBL125074

MATERIAL SPECIFICATIONS AND PLACEMENT REQUIREMENTS:

1.1 ANGULAR ROCK FILL

ANGULAR ROCK FILL SHALL BE USED FOR THE CONSTRUCTION ENTRANCE AS SHOWN ON THE DRAWINGS, AND SHALL MEET THE GRADATION REQUIREMENTS LISTED BELOW.

U.S. STANDARD SIEVE	PERCENT PASSING
3 INCH	100
2 INCH	80 - 100
1 INCH	50 - 80
NO. 200	0 - 10

PRIOR TO USE, THE ANGULAR ROCK FILL SHALL BE TESTED FOR APPROVAL AS DESCRIBED IN SECTION 2.0 AND SHALL BE PLACED AS DESCRIBED IN SECTION 3.0.

1.2 DENSE GRADED CRUSHED STONE

DENSE GRADED CRUSHED STONE SHALL BE USED TO CONSTRUCT THE CRUSHED STONE ACCESS ROAD, AND SHALL MEET THE REQUIREMENTS OF A MATERIAL SUCH AS MASSDOT SPECIFICATION M2.01.7 CRUSHED STONE, OR APPROVED EQUAL. THIS MATERIAL SHALL BE PLACED AT A MINIMUM THICKNESS OF 6-INCHES AND SHALL BE IN DIRECT CONTACT WITH THE BALLAST BLOCKS. THIS MATERIAL SHALL CONSIST OF CLEAN, HARD, DURABLE CRUSHED ROCK OR CRUSHED GRAVEL STONE, FREE FROM LOAM AND CLAY AND DELETERIOUS MATERIAL AND NO MORE THAN 10 PERCENT PASSING THE U.S. NO. 200 SIEVE. THIS MATERIAL SHALL MEET THE FOLLOWING GRADATION:

SIEVE DESIGNATION	PERCENT PASSING
2-INCH	100
1.5-INCH	70-100
¾-INCH	50-85
NO. 4	30-55
NO. 50	8-24
NO. 200	3-10

PRIOR TO USE, THE DENSE GRADED CRUSHED STONE SHALL BE TESTED FOR APPROVAL AS DESCRIBED BELOW IN SECTION 2.0 AND SHALL BE PLACED AS DESCRIBED BELOW IN SECTION 3.0.

1.3 GRANULAR FILL MATERIAL

CLEAN GRANULAR FILL MAY BE USED FOR FILL OR GRADING MATERIAL. GRANULAR FILL SHALL CONSIST OF MASSDOT MATERIAL M1.03.0, GRAVEL BORROW, TYPE C, OR APPROVED EQUAL, AND MEET THE FOLLOWING GRADATION:

SIEVE DESIGNATION	PERCENT PASSING
2-INCH	100
½-INCH	50-85
NO. 4	40-75
NO. 50	8-28
NO. 200	0-10

PRIOR TO USE, THE GRANULAR FILL SHALL BE TESTED FOR APPROVAL AS DESCRIBED IN SECTION 2.0 AND SHALL BE PLACED AS DESCRIBED IN SECTION 3.0.

1.4 LOAM BORROW MATERIAL

THE LOAM BORROW SHALL CONFORM TO MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, DIVISION III - MATERIALS SPECIFICATIONS, SECTION M1.05.0 "LOAM BORROW". THE LOAM SHALL CONTAIN NOT LESS THAN 4% NOR MORE THAN 20% ORGANIC MATTER.

1.5 GEOTEXTILE FABRIC

FIBERS USED IN MANUFACTURING OF THE GEOTEXTILES SHALL CONSIST OF POLYPROPYLENE, POLYVINYL CHLORIDE, NYLON, POLYOLEFINS, POLYAMIDES, OR POLYESTER. THE FIBERS SHALL BE FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES. THE GEOTEXTILE SHALL CONTAIN STABILIZERS AND/OR INHIBITORS TO MAKE THE FIBERS RESISTANT TO DETERIORATION RESULTING FROM EXPOSURE TO SUNLIGHT, WATER, OR HEAT. THE GEOTEXTILE SHALL BE FREE OF DEFECTS OR FLAWS WHICH WILL AFFECT ITS PHYSICAL PROPERTIES. PROVIDE A GEOTEXTILE MEETING THE PROPERTIES LISTED IN TABLE 1:

TABLE 1

REQUIRED PHYSICAL PROPERTIES OF GEOTEXTILE FABRIC			
PROPERTY	TEST METHOD	NON-WOVEN	WOVEN
MASS PER UNIT AREA	D 5261	6	N/A
GRAB TENSILE STRENGTH (LBS)	D 4632	170	N/A
TENSILE STRENGTH (LBS/FT)	D 4595	N/A	7200
ELONGATION (%)	D 4632	50	N/A
PUNCTURE STRENGTH (LBS)	D 6241	435	N/A
TRAPEZOID TEAR (LBS)	D 4533	70	N/A
PERMITTIVITY (SEC^{-1})	D 4491	1.50	0.90
WATER FLOW RATE (GPM/FT^2)	D 4491	110	65
ULTRAVIOLET STABILITY (% FOR MIN 500 HRS)	D 4355	70	80
APPARENT OPENING SIZE (AOS) (STANDARD SIEVE)	D 4751	70	20

TABLE NOTES:

1. ALL NUMERICAL VALUES EXCEPT AOS AND ULTRAVIOLET STABILITY REPRESENT MINIMUM AVERAGE ROLL VALUES (MARV), IN THE WEAKER PRINCIPAL DIRECTION.
2. AOS VALUE IS A MAXIMUM AVERAGE ROLL VALUE OR MAXARV.
3. ULTRAVIOLET STABILITY IS MEASURED AS A MINIMUM AVERAGE PERCENTAGE.
4. SEE DETAILS ON DRAWING C-501 FOR LOCATIONS OF WOVEN AND NON-WOVEN GEOTEXTILES.

2.0 BORROW SOURCE TESTING REQUIREMENTS

PRIOR TO USE, BORROW SOURCE TESTING, INCLUDING GEOTECHNICAL CHARACTERIZATION REQUIREMENTS, SHALL BE CONDUCTED ON ALL SOIL MATERIALS PROPOSED FOR CONSTRUCTION AND SUBMITTED TO THE ENGINEER TO ASSESS CONFORMANCE TO MATERIAL SPECIFICATIONS.

3.0 MATERIAL PLACEMENT AND FIELD QUALITY CONTROL REQUIREMENTS

1. FILL MATERIAL SHALL NOT BE PLACED ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR ICE.
2. SURFACES ON WHICH THE GEOTEXTILE WILL BE PLACED SHALL BE PREPARED TO A RELATIVELY SMOOTH SURFACE CONDITION. SURFACES SHALL BE FREE FROM OBSTRUCTION, DEBRIS, DEPRESSIONS, EROSION FEATURE, OR VEGETATION. ANY IRREGULARITIES SHALL BE REMOVED SO AS TO ENSURE CONTINUOUS, INTIMATE CONTACT OF THE GEOTEXTILE WITH THE SURFACE. ANY LOOSE MATERIAL, OR SOFT OR LOW DENSITY POCKETS OF MATERIAL, SHALL BE REMOVED, FILLED WITH SUITABLE SUBGRADE FILL, AND COMPACTED. EROSION FEATURES SUCH AS RILLS AND GULLIES MUST BE GRADED OUT OF THE SURFACE BEFORE GEOTEXTILE PLACEMENT.
3. AT THE TIME OF INSTALLATION, FABRIC SHALL BE REJECTED IF IT HAS DEFECTS, RIPS, HOLES, FLAWS, DETERIORATION OR DAMAGE INCURRED DURING MANUFACTURE, TRANSPORT OR STORAGE.
4. FABRIC SHALL LAY SMOOTH AND BE FREE OF TENSION, STRESS, FOLDS, WRINKLES, OR CREASES.
5. CRUSHED STONE FOR ACCESS ROADS SHALL BE PLACED IN MAXIMUM 6-INCH LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY (MODIFIED PROCTOR (ASTM D 1557)).
6. LOAM BORROW FOR STORMWATER INFILTRATION BEST MANAGEMENT PRACTICES (BMPS) SHALL BE PLACED IN MAXIMUM 6-INCH LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 92% OF MAXIMUM DRY DENSITY (MODIFIED PROCTOR (ASTM D 1557)).

CONCEPTUAL CONSTRUCTION SEQUENCE:

1. ESTABLISHMENT OF LIMITS OF WORK;
2. PLACEMENT OF EROSION CONTROLS;
3. MINOR CLEARING AND GRUBBING AND SITE GRADING;
4. CONSTRUCTION OF ACCESS ROAD;
5. CONSTRUCTION OF THE SOLAR ARRAY AND APPURTENANT EQUIPMENT;
4. RESTORATION OF DISTURBED AREAS;
5. CONSTRUCTION OF STORMWATER INFILTRATION BMPS;
6. ERECTION OF THE PERIMETER FENCE; AND
7. FINAL STABILIZATION OF DISTURBED AREAS.

EROSION AND SEDIMENTATION CONTROL PLAN:

THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR CONTROLLING SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROPOSED PROJECT.

THIS PLAN IS BASED ON STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, 2003.

GENERAL EROSION AND SEDIMENTATION CONSTRUCTION DETAIL NOTES:

DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO SCHEDULE EARTHWORK OPERATIONS SUCH THAT THE AREA OF EXPOSED AND DISTURBED SOIL IS MINIMIZED. CONSTRUCTION SHALL BE PHASED TO MINIMIZE THE AREA OF DISTURBED SOIL THAT IS EXPOSED AT ANY ONE TIME. UPGRADIENT STORM WATER DIVERSION AND DISPERSION MEASURES SHALL BE INSTALLED WHERE APPROPRIATE. ALL CUT AND FILL SLOPES SHALL BE STABILIZED UPON COMPLETION. THE FOLLOWING MEASURES WILL BE UNDERTAKEN TO PROVIDE MAXIMUM PROTECTION TO THE SOIL, WATER, AND ABUTTING LANDS:

PRIOR TO GRUBBING OR ANY EARTH MOVING OPERATION, SEDIMENT BARRIERS, OR OTHER APPROPRIATE PERIMETER CONTROL BMPS SHALL BE INSTALLED ACROSS THE SLOPE ON THE CONTOUR AT THE DOWNHILL LIMIT OF THE WORK AS PROTECTION AGAINST CONSTRUCTION RELATED EROSION. INSTALL ALL NECESSARY STORMWATER DIVERSIONS AND DISPERSION MEASURES.

1. PERMANENT SOIL STABILIZATION MEASURES FOR ALL SLOPES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN CALENDAR DAYS AFTER FINAL GRADING HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE OR PRACTICAL TO PERMANENTLY STABILIZE DISTURBED LAND, TEMPORARY EROSION CONTROL MEASURES SHALL BE IMPLEMENTED ON DISTURBED AREAS (INCLUDING STOCKPILES) WITHIN FOURTEEN CALENDAR DAYS OF EXPOSURE OF SOIL OR FORMATION OF PILES, UNLESS THESE AREAS ARE TO BE SUBSEQUENTLY SURFACED WITH PERMANENT STRUCTURES. ALL DISTURBED AREAS SHALL BE MULCHED FOR EROSION CONTROL UPON COMPLETION OF ROUGH GRADING.
2. ANY EXPOSED SLOPES 3:1 OR GREATER SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS (NORTH AMERICAN GREEN C125BN OR APPROVED EQUAL) TO PREVENT EROSION DURING CONSTRUCTION AND TO FACILITATE REVEGETATION AFTER TOPSOILING AND SEEDING.
3. EXISTING TOPSOIL SHALL BE SAVED, STOCKPILED, AND REUSED AS MUCH AS POSSIBLE ON SITE. SEDIMENT BARRIER SHALL BE INSTALLED AT THE BASE OF STOCKPILES AT THE DOWNHILL LIMIT TO PROTECT AGAINST EROSION. STOCKPILES ANTICIPATED TO REMAIN FOR MORE THAN 14 CALENDAR DAYS SHALL BE STABILIZED BY SEEDING AND MULCHING UPON FORMATION OF THE PILES. UPGRADIENT OF THE STOCKPILES, STABILIZED DITCHES AND/OR BERMS SHALL BE CONSTRUCTED TO DIVERT STORMWATER RUNOFF AWAY FROM THE PILES.
4. INTERCEPTED SEDIMENT SHALL BE REMOVED WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SEDIMENT BARRIER, OR AS DIRECTED IN THE DRAWING DETAILS FOR OTHER BMPS, AND SHALL BE DEPOSITED IN AN AREA THAT SHALL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED. ALL DAMAGED EROSION CONTROL DEVICES SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY. DEVICES NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION SHALL ALSO BE REPAIRED AND/OR REPLACED AS REQUIRED.
5. ADDITIONAL EROSION CONTROL METHODS SHALL BE IMPLEMENTED IF CONSTRUCTION OCCURS BETWEEN NOVEMBER 1ST AND APRIL 15TH. ALL DISTURBED AREAS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE. PRIOR TO FREEZING, ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED AS APPROPRIATE. INSPECTION OF THESE EROSION CONTROL ITEMS SHALL BE FREQUENT, WITH PARTICULAR ATTENTION PAID TO WEATHER PREDICTIONS TO ENSURE THAT THESE MEASURES ARE PROPERLY IN PLACE TO HANDLE LARGE QUANTITIES OF RUNOFF RESULTING FROM HEAVY RAINS OR EXCESSIVE THAWS.
6. GENERAL EROSION AND SEDIMENTATION CONTROL ACTIONS SHALL BE EMPLOYED, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - MARK SOIL DISTURBANCE LIMITS
   - INSTALL SEDIMENT BARRIERS BEFORE DISTURBING ANY SOILS
   - DIVERT AND DISPERSE STORM WATER RUNOFF TO UNDISTURBED AREAS WHEREVER POSSIBLE
   - MULCH DISTURBED AREAS
   - PROTECT STEEP SLOPES
   - INSPECT AND REPAIR EROSION CONTROLS AND SEDIMENT BARRIERS

DUST CONTROL:

1. CONSTRUCTION ACTIVITIES SHALL BE SCHEDULED TO MINIMIZE THE AREA OF DISTURBED SOIL THAT IS EXPOSED AT ONE TIME.
2. DUST CONTROL SHALL BE USED ON CONSTRUCTION ROUTES AND OTHER DISTURBED AREAS SUBJECT TO SURFACE DUST MOVEMENT AND DUST BLOWING.
3. MAINTAIN DUST CONTROL MEASURES PROPERLY THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
4. DUST CONTROL METHODS SHALL BE APPROVED BY THE ENGINEER AND MAY INCLUDE VEGETATIVE COVER, MULCH (INCLUDING GRAVEL MULCH), SPRINKLING, STONE, AND BARRIERS.
5. VEGETATIVE COVER - FOR DISTURBED AREAS NOT SUBJECT TO TRAFFIC, VEGETATION PROVIDES THE MOST PRACTICAL METHOD OF DUST CONTROL.
6. MULCH (INCLUDING GRAVEL MULCH) - WHEN PROPERLY APPLIED, MULCH OFFERS A FAST, EFFECTIVE MEANS OF CONTROLLING DUST. SEE MANUFACTURER'S RECOMMENDATIONS OR THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, 2003 FOR APPLICATION RATES.
7. SPRINKLING - EXPOSED SOILS MAY BE SPRINKLED UNTIL THE SURFACE IS WET. SPRINKLING IS ESPECIALLY EFFECTIVE FOR DUST CONTROL ON HAUL ROADS AND OTHER TRAFFIC ROUTES.
8. STONE - USED TO STABILIZE CONSTRUCTION ROADS; CAN ALSO BE EFFECTIVE FOR DUST CONTROL.
9. BARRIERS - A BOARD FENCE, WIND FENCE, SEDIMENT FENCE, OR SIMILAR BARRIER CAN CONTROL AIR CURRENTS AND BLOWING SOIL. ALL OF THESE FENCES ARE NORMALLY CONSTRUCTED OF WOOD AND THEY PREVENT EROSION BY OBSTRUCTING THE WIND NEAR THE GROUND AND PREVENTING THE SOIL FROM BLOWING OFFSITE.

MONITORING PROGRAM:

1. EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.25 INCHES OR GREATER. DAILY RAINFALL SHALL BE MONITORED AND RECORDED BY THE CONTRACTOR. ALL STRUCTURES DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED OR REPLACED IMMEDIATELY, PRIOR TO CONTINUING THE CONSTRUCTION.
2. FOLLOWING THE FINAL SEEDING, THE SITE SHALL BE INSPECTED IN ACCORDANCE WITH THE SCHEDULE OUTLINED IN #1 ABOVE, TO ENSURE THAT THE VEGETATION HAS BEEN ESTABLISHED (90% COVER ACHIEVED). IN THE EVENT OF ANY UNSATISFACTORY GROWTH, RESEEDING WILL BE CARRIED OUT, WITH FOLLOW-UP INSPECTION.
3. AFTER THE CONSTRUCTION INSPECTOR HAS DETERMINED THAT THE PROJECT AREA HAS BEEN PERMANENTLY STABILIZED (70% COVER HAS BEEN ACHIVED OR NON-VEGETATED MEASURES HAVE BEEN IMPLEMENTED), THE CONTRACTOR SHALL REMOVE ALL SEDIMENT BARRIERS, TEMPORARY SEDIMENTATION CONTROL RISERS AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES.

SEEDING AND REVEGETATION PLAN:

IMMEDIATELY FOLLOWING THE COMPLETION OF TREE CLEARING, ALL DISTURBED AREAS SHALL BE TREATED AS STATED BELOW IN ORDER TO MINIMIZE CONSTRUCTION-PERIOD EROSION.

APPLY SEED/TACKIFIER MIX ACCORDING TO THE FOLLOWING SPECIFICATIONS:

1. SEED: ERNST SEEDS QUICK EROSION CONTROL COVER MIX CONSISTING OF (% BY WEIGHT):
   - 50% LOLIUM MULTIFLORUM (ANNUAL RYEGRASS)
   - 50% LOLIUM PERENNE, 'BIGLEAGUE' (PERENNIAL RYEGRASS, 'BIGLEAGUE')

   1.1. SEEDING RATE: 50 LBS PER ACRE
2. TACKIFIER: GEOPERM BONDED FIBER MATRIX (OR APPROVED EQUAL) APPLIED PER MANUFACTURER SPECIFICATIONS.

UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED WITHIN THE FENCED AREA SHALL BE TREATED AS STATED BELOW. THESE AREAS WILL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 90% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

1. TOPSOIL WILL BE SPREAD OVER ALL DISTURBED AREAS TO BE REVEGETATED AND SHALL BE GRADED TO A UNIFORM DEPTH OF FOUR (4) TO SIX (6) INCHES.
2. APPLY SEED AS DIRECTED BY THE OWNER AND FARMER OF THE LAND TO MAINTAIN HAY PRODUCTION AND RESTORE SITE TO PRE-EXISTING CONDITIONS TO THE MAXIMUM EXTENT PRACTICABLE.
3. SEEDING METHODS MAY BE DRILL SEEDINGS, BROADCASTS AND ROLLED, CULTIPACKED, OR TRACKED WITH A SMALL TRACK PIECE OF CONSTRUCTION EQUIPMENT, OR HYDRO-SEEDING, WITH SUBSEQUENT TRACKING.
4. WATERING MAY BE REQUIRED DURING DRY PERIODS, THE CONTRACTOR MUST CONSULT SEED MANUFACTURER'S INSTRUCTIONS.
5. INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEED IMMEDIATELY. CONDUCT A FOLLOW-UP SURVEY AFTER ONE YEAR AND RESEED WHERE NECESSARY.
6. ALL SEDIMENT CONTROL STRUCTURES LOCATED DOWN GRADIENT OF SOILS STABILIZED BY VEGETATIVE MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 70% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED OUTSIDE THE FENCED AREA SHALL BE TREATED AS STATED BELOW. THESE AREAS WILL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 90% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

1. APPLY SEED AS DIRECTED BELOW:

   (APRIL 1ST THROUGH OCTOBER 1ST)

   - SEED DISTURBED AREAS AT THE RATE OF 30 LBS PER ACRE OF ERNST SEEDS NORTHEAST SOLAR POLLINATOR 4' MIX CONSISTING OF (% BY WEIGHT):
     - 35% BOUTELOUA CURTIPENDULA, BUTTE (SIDEOATS GRAMA, BUTTE)
     - 35% SCHIZACHYRIUM SCOPARIUM, 'CAMPER' (LITTLE BLUESTEM, 'CAMPER')
     - 10% PANICUM SPHAERONCARPON (ROUNDSEED PANICGRASS)
     - 4% ASCLEPIAS TUBEROSA (BUTTERFLY MILKWEED)
     - 4% CHAMAECRISTA FASCICULATA, PA ECOTYPE (PARTRIDGE PEA, PA ECOTYPE)
     - 4% COREOPSIS LANCEOLATA (LANCELEAF COREOPSIS)
     - 4% RUDBECKIA HIRTA (BLACKEYED SUSAN)
     - 0.9% PYCNANTHEMUM TENUIFOLIUM (NARROWLEAF MOUNTAINMINT)
     - 0.7% ASTER OBLONGIFOLIUS, (AROMATIC ASTER, PA ECOTYPE)
     - 0.5% ASTER PRENANTHOIDES, PA ECOTYPE (ZIGZAG ASTER, PA ECOTYPE)
     - 0.5% PENSTEMON DIGITALIS (TALL WHITE BEARDTONGUE)
     - 0.5% TRADESCANTIA OHIENSIS (OHIO SPIDERWORT, PA ECOTYPE)
     - 0.5% ZIZIA AUREA (GOLDEN ALEXANDERS)
     - 0.3% OENOTHERA FRUTICOSA VAR. FRUTICOSA (SUNDROPS)
     - 0.1% SOLIDAGO NEMORALIS, PA ECOTYPE (GRAY GOLDENROD, PA ECOTYPE)
   - APPLY WOOD FIBER MULCH AT A RATE OF 2,000 LBS PER ACRE FOR MAXIMUM MOISTURE RETENTION.
   - SEEDING SHALL HAVE A MINIMUM GERMINATION PERCENTAGE OF 85%.

   (NOVEMBER 1ST THROUGH DECEMBER 15TH)

   - SEED DISTURBED AREAS AT THE RATE OF 3 LBS PER 1,000 SQ. FT. OF WINTER RYE
   - APPLY HAY MULCH AT THE RATE OF 100 LBS PER 1,000 SQ. FT.

   (AFTER DECEMBER 15TH)

   - DO NOT SEED.
   - APPLY HAY MULCH AT THE RATE OF 100 LBS PER 1,000 SQ. FT.
2. SEEDING METHODS MAY BE DRILL SEEDINGS, BROADCASTS AND ROLLED, CULTIPACKED, OR TRACKED WITH A SMALL TRACK PIECE OF CONSTRUCTION EQUIPMENT, OR HYDRO-SEEDING, WITH SUBSEQUENT TRACKING.
3. WATERING MAY BE REQUIRED DURING DRY PERIODS CONSULT SEED MANUFACTURER'S INSTRUCTIONS.
4. INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEED IMMEDIATELY. CONDUCT A FOLLOW-UP SURVEY AFTER ONE YEAR AND RESEED WHERE NECESSARY.
5. ALL SEDIMENT CONTROL STRUCTURES LOCATED DOWN GRADIENT OF SOILS STABILIZED BY VEGETATIVE MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 70% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

AGRIVOLTAICS SPECIFICS:

1. REMOVE TOPSOIL IN AREAS OF PROPOSED GRADING TO ACHIEVE REQUIRED RACKING SYSTEM SLOPES. STOCKPILE TOPSOIL SEPERATELY TO AVOID MIXING WITH OTHER SOILS AND INVERTING SOIL LAYERS. LOAM AND SEED DISTURBED AREAS WITH TEMPORARY SEEDING AND INSTALL INTERMEDIATE EROSION CONTROL MEASURES PARALLEL TO THE SLOPES IMMEDIATELY FOLLOWING COMPLETION OF GRADING.
2. TOPSOIL SHALL NOT BE MIXED WITH SUBGRADE MATERIALS. TOPSOIL SHALL NOT BE BURIED. NO TOPSOIL SHALL LEAVE THE SITE. CONTRACTOR SHALL EMPLOY BEST MANAGEMENT PRACTICES TO ENSURE NO INVERSION OF TOPSOIL AND PROVIDE DECOMPACTION FOR FUTURE SOIL PRESERVATION.
3. APPLY NPK FERTILIZER AND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT MANUFACTURER'S RECOMMENDED RATES. FINE GRADE, LOAM DISTURBED AREAS AS NECESSARY AND SEED SITE FOLLOWING INSTALLATION OF PANELS. DISTURBED AREAS SHALL BE TREATED WITH SUFFICIENT TOPSOIL/LOAM TO PROMOTE VEGETATION GROWTH FOR STABILIZATION IN ACCORDANCE WITH THE NOTES IN THIS PLAN. DISTURBED AREAS SHALL BE RAKED AND SURFACE STONES LARGER THAN 6" SHALL BE REMOVED PRIOR TO PLACEMENT OF SEED.
4. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED SHALL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:

   4.1. INTER-ROW AREAS SHALL BE DECOMPACTED TO A DEPTH OF 12", REMOVING STONES GREATER THAN 3" AND WOOD DEBRIS. ENSURE PROTECTIONS OF BURIED CONDUIT DURING DECOMPACTION.

   4.2. ANY TOPSOIL TO BE PLACED FOR REVEGETATION MEASURES (WHETHER SCREENED ON-SITE OR IMPORTED) SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS, AND SHALL BE PLACED TO A DEPTH OF FOUR (4) INCHES ON ALL LOAM AND SEED AREAS OR AS SPECIFIED ON THE DRAWINGS.

   4.3. APPLY FERTILIZER AND/OR LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT MANUFACTURER'S RECOMMENDED RATES.

   4.4. THE DESIGN MIXES FOR SEEDING SHALL BE IN ACCORDANCE WITH THE SEED MIX TABLES AS SHOWN IN THIS PLAN. THE SEED MIX SHALL BE INOCULATED WITHIN TWENTY-FOUR (24) HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY. (ALTERNATIVE SEED MIXES SHALL BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION).

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

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REVISION	DATE	ISSUE / REVISION DESCRIPTION	ISSUED	APPROVED
4	02/18/2026	RESPONSE TO COMMENTS	MRB	OAC
3	02/03/2026	RESPONSE TO COMMENTS	MRB	OAC
2	01/05/2026	RESPONSE TO COMMENTS	MRB	OAC
1	10/21/2025	RESVISED PER TOWN OF WORTHINGTON PLANNING BOARD COMMENTS	MRB	OAC
0	09/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
CONSTRUCTION, EROSION, AND SEDIMENTATION CONTROL NOTES

CLIENT:
BWC WADES STREAM, LLC

SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY CIVIL No. 54915 PROFESSIONAL ENGINEER
02/18/2026

DESIGNED BY:	DRAWN BY:
OAC	MRB
CHECKED BY:	SCALE:
APV	AS SHOWN

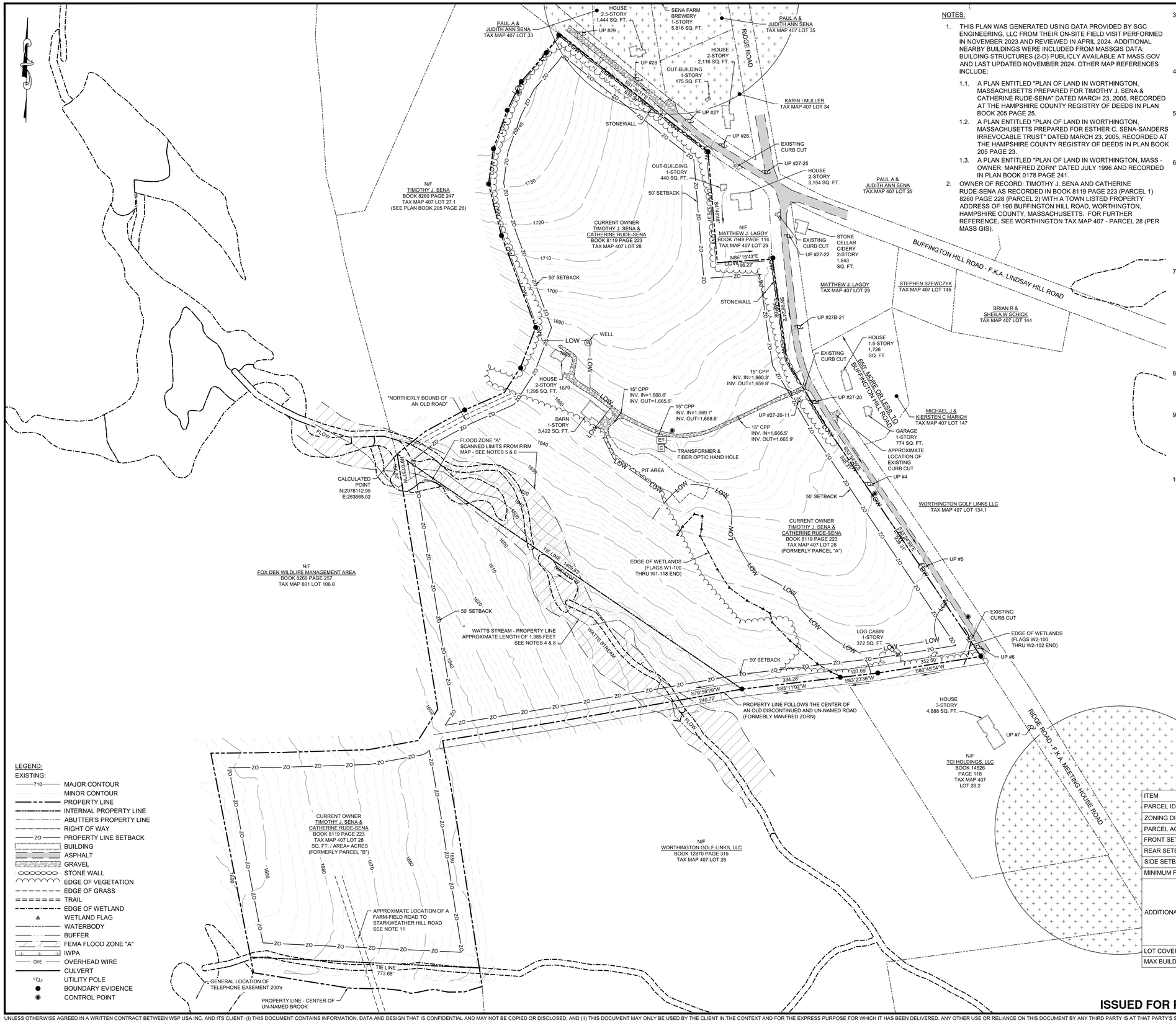
PROJECT NUMBER: US-EI-365230438

DRAWING NUMBER: **G-001**

SHEET NUMBER: **1 OF 11**

D:\Blue Vaves\US-EI-365220437 - Ridge Rd Worthington\Permitting\Sheets\1 - Ridge Rd - G-001.dwg - G-001 - Feb. 18, 2026 5:50pm - USBL 125074

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NOTES:

1. THIS PLAN WAS GENERATED USING DATA PROVIDED BY SGC ENGINEERING, LLC FROM THEIR ON-SITE FIELD VISIT PERFORMED IN NOVEMBER 2023 AND REVIEWED IN APRIL 2024. ADDITIONAL NEARBY BUILDINGS WERE INCLUDED FROM MASSGIS DATA: BUILDING STRUCTURES (2-D) PUBLICLY AVAILABLE AT MASS.GOV AND LAST UPDATED NOVEMBER 2024. OTHER MAP REFERENCES INCLUDE:
   - 1.1. A PLAN ENTITLED "PLAN OF LAND IN WORTHINGTON, MASSACHUSETTS PREPARED FOR TIMOTHY J. SENA & CATHERINE RUDE-SENA" DATED MARCH 23, 2005, RECORDED AT THE HAMPSHIRE COUNTY REGISTRY OF DEEDS IN PLAN BOOK 205 PAGE 25.
   - 1.2. A PLAN ENTITLED "PLAN OF LAND IN WORTHINGTON, MASSACHUSETTS PREPARED FOR ESTHER C. SENA-SANDERS IRREVOCABLE TRUST" DATED MARCH 23, 2005, RECORDED AT THE HAMPSHIRE COUNTY REGISTRY OF DEEDS IN PLAN BOOK 205 PAGE 23.
   - 1.3. A PLAN ENTITLED "PLAN OF LAND IN WORTHINGTON, MASS - OWNER: MANFRED ZORN" DATED JULY 1996 AND RECORDED IN PLAN BOOK 0178 PAGE 241.
2. OWNER OF RECORD: TIMOTHY J. SENA AND CATHERINE RUDE-SENA AS RECORDED IN BOOK 8119 PAGE 223 (PARCEL 1) 8260 PAGE 228 (PARCEL 2) WITH A TOWN LISTED PROPERTY ADDRESS OF 190 BUFFINGTON HILL ROAD, WORTHINGTON, HAMPSHIRE COUNTY, MASSACHUSETTS. FOR FURTHER REFERENCE, SEE WORTHINGTON TAX MAP 407 - PARCEL 28 (PER MASS GIS).
3. HORIZONTAL DATUM IS BASED ON MASSACHUSETTS STATE GRID COORDINATE SYSTEM NAD83 (2011 - MAINLAND). VERTICAL DATUM IS REFERENCED TO NAVD 88. TOPOGRAPHY SHOWN WAS DEVELOPED UTILIZING THE MOST UP TO DATE ONLINE ELECTRONIC LIDAR FILES FROM NGS, IN COMBINATION WITH ON THE GROUND DATA COLLECTION WITH SURVEY GRADE GPS AND OR ROBOTIC TOTAL STATION. CONTOUR INTERVAL SHOWN ON PLAN IS 2 FOOT.
4. BUILDING STORY HEIGHTS WERE OBTAINED FROM PUBLICLY AVAILABLE PROPERTY RECORD CARDS AND GOOGLE IMAGERY. AN AVERAGE STORY IS APPROXIMATELY 10 FEET TALL FLOOR TO FLOOR AND ROOFING CAN PROVIDE AN ADDITIONAL AVERAGE 3 TO 7 FEET TO THE TOTAL BUILDING HEIGHT.
5. THE WETLANDS SHOWN ON THIS PLAN WERE REVIEWED, DEFINED, AND FLAGGED BY OTHERS AND FIELD LOCATED BY SGC ENGINEERING DATED NOVEMBER 22, 2023. ADDITIONAL WETLANDS SHOWN WITHOUT BUFFERS WERE INCLUDED FROM MASSGIS DATA: NATIONAL WETLANDS INVENTORY PUBLICLY AVAILABLE AT MASS.GOV AND LAST UPDATED SEPTEMBER 2025.
6. A PREDOMINATE PORTION OF THE PROPERTY LIES WITHIN ZONE "X" AND THE PROPOSED SOLAR DEVELOPMENT IS NOT AFFECTED (SEE PLAN). A SMALL CENTRAL PORTION OF THE LOCUS PARCEL IS AFFECTED BY ZONE "A" AND IS CATEGORIZED AS A SPECIFIED FLOOD HAZARD ZONE. FOR FURTHER REFERENCE SEE F.I.R.M. - FLOOD INSURANCE RATE MAP - COMMUNITY PANEL NUMBER 250175 0008 SUFFIX B / MAP NUMBER 8 OF 25 FOR THE TOWN OF WORTHINGTON, HAMPSHIRE COUNTY (ALL JURISDICTIONS), MASSACHUSETTS, WITH AN EFFECTIVE DATE OF JUNE 19, 1989. ZONE "A" (WATTS STREAM SO-CALLED) IS DESCRIBED AS AN AREA THAT NO BASE FLOOD ELEVATION HAS BEEN DETERMINED. THE BASE FLOOD ELEVATION IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. ZONE "X" IS DETERMINED AS AREAS OUTSIDE 500 - YEAR FLOOD PLAIN.
7. NEITHER SGC ENGINEERING, LLC NOR WSP HAVE INDEPENDENTLY VERIFIED THE LOCATION, EXISTENCE, AND SERVICEABILITY OF ANY UTILITIES AND MAKE NO GUARANTEE TO THE COMPLETENESS OR THE ACCURACY OF ANY UTILITIES SHOWN ON THIS PLAN. UTILITIES SHOWN WERE FIELD LOCATED ABOVEGROUND AND VISUAL, AND OR REFERENCED FROM PLANS AND MAP REFERENCES. ADDITIONAL UTILITIES MAY EXIST IN THE FIELD, WHICH ARE NOT SHOWN ON THIS PLAN. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD PRIOR TO EXCAVATION OR OTHER CONSTRUCTION ACTIVITIES. CALL "DIG SAFE" AT 1-888-344-7233 OR DIAL 811. SGC ENGINEERING, LLC AND WSP USA INC. ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN ON THIS PLAN.
8. THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON, PERSONS, OR ENTITY NAMED IN THE CERTIFICATION AND TITLE BLOCK OF THIS PLAN. THIS SURVEY DOES NOT EXTEND TO ANY UNNAMED PERSON, PERSONS, OR ENTITY WITHOUT HAVING SGC ENGINEERING'S CONSENT IN WRITING.
9. THE LOCATIONS OF THE WATTS STREAM, WITHIN PARCEL "A" (SO CALLED), AND AN UN-NAMED BROOK, THAT DEMARCATES A WESTERLY BOUNDARY LINE OF PARCEL "B", ARE BOTH BASED ON PHYSICAL FIELD EVIDENCE, DEED CALLS, AND OR PLANS OF RECORD AT TIME OF SURVEY. BOTH WATTS STREAM AND THE UN-NAMED BROOK MAY OR MAY NOT AFFECT THE PRESENT - FUTURE PROPERTY DUE TO AVULSION, ACCRETION, AND/OR RELICTION.
10. OBSERVATIONS OF THE PREMISES BY SGC IN NOVEMBER 2023:
    - 10.a. LOCUS PARCEL HAS FREE AND CLEAR ACCESS, IN AND TO BUFFINGTON HILL ROAD AND RIDGE ROAD AS SHOWN ON PLAN. BOTH ROADS ARE DEDICATED AND PUBLIC WAYS OF VARIABLE WIDTHS.
    - 10.b. THE LOCUS PARCEL IS THE SAME LAND AS DESCRIBED IN THE TITLE COMMITMENT AS EXHIBIT "A".
    - 10.c. NO EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION, AND BUILDING ADDITIONS WERE OBSERVED ON SURVEYED PREMISES.
    - 10.d. THE PROPERTY COMPRISES A SINGLE TAX LOT - TOWN OF WORTHINGTON TAX MAP NUMBER 407 PARCEL 28.
    - 10.e. NO EVIDENCE WAS NOTICED OF THE SITE BEING USED AS A SOLID WASTE DUMP.

LEGEND:

EXISTING:

- 710 MAJOR CONTOUR
- MINOR CONTOUR
- PROPERTY LINE
- INTERNAL PROPERTY LINE
- ABUTTER'S PROPERTY LINE
- RIGHT OF WAY
- ZO PROPERTY LINE SETBACK
- BUILDING
- ASPHALT
- GRAVEL
- STONE WALL
- EDGE OF VEGETATION
- EDGE OF GRASS
- TRAIL
- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- OHE OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

ITEM	REQUIRED		PROPOSED
PARCEL ID NUMBER(S)	TAX MAP 407 0 28		
ZONING DISTRICT	RESIDENTIAL - AGRICULTURAL DISTRICT		
PARCEL ACREAGE	2.0		71.6
FRONT SETBACK (FT)	50		50
REAR SETBACK (FT)	50		>500
SIDE SETBACK (FT)	50		50
MINIMUM FRONTAGE (FT)	400		1542
ADDITIONAL SETBACKS	ACCESS TO SIDE-REAR (FT)	25	>400
	ACCESS EASEMENT (FT)	15	-
	UTILITY EASEMENT (FT)	20	-
	LEASE TO FENCE (FT)	25	-
	LEASE TO BASINS (FT)	15	-
	WETLANDS (FT)	100	-
LOT COVERAGE	<50%		7.7%
MAX BUILDING HEIGHT (FT)	35		10

0' 75' 150' 225'
1" = 150' WHEN PLOTTED 24" X 36"

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD MASSACHUSETTS 01824
TELEPHONE: (978) 692-9090
FAX: (978) 692-6633
WEB: WWW.WSP.COM

REVISION	DATE	ISSUE / REVISION DESCRIPTION	ISSUED	APPROVED
4	02/18/2026	RESPONSE TO COMMENTS	MRB	OAC
3	02/03/2026	RESPONSE TO COMMENTS	MRB	OAC
2	01/05/2026	RESPONSE TO COMMENTS	MRB	OAC
1	10/21/2025	RESVISED PER TOWN OF WORTHINGTON PLANNING BOARD COMMENTS	MRB	OAC
0	09/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
EXISTING CONDITIONS

CLIENT:
BWC WADES STREAM, LLC

SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY
CIVIL
No. 54915
PROFESSIONAL ENGINEER
DATE: 2/18/2026

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER:	US-EI-365230438
DRAWING NUMBER:	V-101
SHEET NUMBER:	2 OF 11

D:\Bluv\Waves\US-EI-365230437 - Ridge Rd Worthington\4 Permitting\Sheets\2 - Ridge Rd - V-101.dwg - V-101 - Feb. 18, 2026 5:53pm - USBL125074

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NOTES:

1. ALL AREAS WITHIN LIMIT OF DISTURBANCE TO BE SEEDED AS SPECIFIED IN THE SEEDING & REVEGETATION PLAN ON SHEET G-001.
2. PROPOSED EQUIPMENT PAD LOCATION TO BE GRADED TO A MAXIMUM 2% SLOPE.

LEGEND:

EXISTING:
- 710 MAJOR CONTOUR
- MINOR CONTOUR
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- RIGHT OF WAY
- ZO PROPERTY LINE SETBACK
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- EDGE OF GRASS
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- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- OHE OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

PROPOSED:
- LOW LIMIT OF WORK
- 1670 MAJOR CONTOUR
- MINOR CONTOUR
- SB SEDIMENT BARRIER (4 / C-501)
- EROSION CONTROL BLANKET (20 / C-503)
- EC ELECTRICAL CONDUIT (2 / C-501)
- ACCESS ROAD (1 / C-501)
- CONCRETE PAD (6 / C-501)
- SOLAR PV ARRAY (8 / C-501)
- CULVERT (3 / C-501)
- INFILTRATION TRENCH (14,15 / C-502)
- PERVIOUS BERM (14,15 / C-502)
- VEGETATED FILTER STRIP (14 / C-502)
- CONVEYANCE CHANNEL (16 / C-502)
- RIPRAP APRON (18,19 / C-503)
- LANDSCAPE SCREENING (21,22 / C-503)

N/F
TIMOTHY J. SENA
BOOK 8260 PAGE 247
TAX MAP 407 LOT 27.1
(SEE PLAN BOOK 205 PAGE 26)

CURRENT OWNER
TIMOTHY J. SENA &
CATHERINE RUDE-SENA
BOOK 8119 PAGE 223
TAX MAP 407 LOT 28

N/F
MATTHEW J. LAGOY
BOOK 7949 PAGE 114
TAX MAP 407 LOT 29

MATTHEW J. LAGOY
TAX MAP 407 LOT 29

MICHAEL J & KIERSTEN C MARICH
TAX MAP 407 LOT 147

HOUSE
2-STORY
2,116 SQ. FT.

OUT-BUILDING
1-STORY
440 SQ. FT.

HOUSE
2-STORY
3,154 SQ. FT.

HOUSE
2-STORY
1,295 SQ. FT.

BARN
1-STORY
3,422 SQ. FT.

HOUSE
1.5-STORY
1,726
SQ. FT.

GARAGE
1-STORY
774 SQ. FT.

WELL

UP #27
UP #26
UP #27-25
UP #27B-21
UP #27-20
UP #27-20-11
UP #4

EXISTING CURB CUT

50' SETBACK

STONEWALL

660' MORE OR LESS TO BURLINGTON HILL ROAD

APPROXIMATE LOCATION OF EXISTING CURB CUT

EROSION CONTROL BLANKET (TYP.)

LANDSCAPED SCREENING BERM

WATER QUALITY SWALE

SOLAR EQUIPMENT PAD (TRANSFORMER, SWITCHBOARD, INVERTER)

~0.5 ACRE LAYDOWN, LOADING, & UNLOADING AREA

46' 12" CPP
INV: 1664.0
OUTLET: 1663.6

46' 15" CPP
INV: 1660.8
OUTLET: 1660.0

2X 45' 15" CPP
INV: 1660.0
OUTLET: 1659.6

GRASSED CONVEYANCE CHANNEL

RIPRAP APRON

RIPRAP APRON (TYP.)

35' 12" CPP
INV: 1670
OUTLET: 1669.65

INFILTRATION TRENCH (IT1)

INFILTRATION TRENCHES (IT2-5)

INFILTRATION TRENCH (IT6)

ACCESS ROAD

VEGETATED FILTER STRIP (TYP.)

BESS AND SOLAR EQUIPMENT PAD (TRANSFORMER, SWITCHBOARD, INVERTER)

BESS PAD

TRANSFORMER & FIBER OPTIC HAND HOLE

PIT AREA

15" CPP
INV. IN=1,669.7'
INV. OUT=1,668.6'

15" CPP
INV. IN=1,668.6'
INV. OUT=1,665.5'

15" CPP
INV. IN=1,666.5'
INV. OUT=1,665.9'

N88°18'43"E
149.92'

S88°18'43"W
149.92'

WB-40 VEHICLE ROUTING

WB-67 VEHICLE ROUTING

0' 30' 60' 90'
1" = 60' WHEN PLOTTED 24" X 36"

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

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PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
GRADING/EARTHWORK PLAN

CLIENT:
BWC WADES STREAM, LLC

SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY
CIVIL
No. 54915
PROFESSIONAL ENGINEER
02/18/2026

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER:	US-EI-365230438
DRAWING NUMBER:	C-101
SHEET NUMBER:	3 OF 11

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN WSP USA INC. AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

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NOTES:

1. ELECTRICAL DESIGN, INCLUDING UTILITY POLES, PERFORMED BY OTHERS. ELECTRICAL EQUIPMENT AND COMPONENTS SHOWN TO ILLUSTRATE LOCATIONS ONLY. REFER TO ELECTRICAL DRAWINGS FOR DETAILED ELECTRICAL SYSTEM.
2. ALL AREAS WITHIN LIMIT OF DISTURBANCE TO BE SEEDED AS SPECIFIED IN THE SEEDING & REVEGETATION PLAN ON SHEET G-001.

LEGEND:

EXISTING:
- 710 MAJOR CONTOUR
- MINOR CONTOUR
- PROPERTY LINE
- INTERNAL PROPERTY LINE
- ABUTTER'S PROPERTY LINE
- RIGHT OF WAY
- ZO PROPERTY LINE SETBACK
- BUILDING
- ASPHALT
- GRAVEL
- STONE WALL
- EDGE OF VEGETATION
- EDGE OF GRASS
- TRAIL
- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- OHE OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

PROPOSED:
- LOW LIMIT OF WORK
- 1670 MAJOR CONTOUR
- MINOR CONTOUR
- FIXED KNOT GAME FENCE (10 C-501, 13 C-502)
- DOUBLE SWING GATE (7,11 C-501)
- SLIDING GATE (9 C-501)
- OHE OVERHEAD ELECTRIC
- SB SEDIMENT BARRIER (4 C-501)
- EROSION CONTROL BLANKET (20 C-503)
- EC ELECTRICAL CONDUIT (2 C-501)
- ACCESS ROAD (1 C-501)
- CONCRETE PAD (6 C-501)
- SOLAR PV ARRAY (8 C-501)
- UTILITY POLE
- CULVERT (3 C-501)
- INFILTRATION TRENCH (14,15 C-502)
- PERVIOUS BERM (14,15 C-502)
- VEGETATED FILTER STRIP (14 C-502)
- CONVEYANCE CHANNEL (16 C-502)
- RIPRAP APRON (18,19 C-503)
- LANDSCAPE SCREENING (21,22 C-503)

SYSTEM SIZE (MWDC; MWAC)	3.70 MWDC; 1.99 MWAC
PANEL COUNT (# OF PANELS)	6,372
PANEL SELECTION	HANWHA Q.CELL 580W
GROUND COVERAGE RATIO	31%
INTER-ROW SPACING (FT)	18.00
PITCH (FT)	25.93
PROPOSED PANEL HEIGHT (FT)	16.0
LIMIT OF WORK AREA (ACRES)	29.15
VEGETATION CLEARING AREA (ACRES)	0.00
FENCED AREA (ACRES)	25.28
TOTAL EXISTING IMPERVIOUS AREA (SQFT)	42,040
TOTAL PROPOSED IMPERVIOUS AREA (SQFT)	59,995
TOTAL PROPOSED GRAVEL ROAD AREA (SQFT)	14,341
TOTAL ACCESS ROAD LENGTH (FT)	653.52
UTILITY MV RUN LENGTH (FT)	605
EQUIPMENT PAD AREA (SQFT)	6,000
WETLAND IMPACTS (SQFT)	0
EXISTING LAND USE	AGRICULTURAL
PROPOSED DUAL USE	AGRICULTURAL / INDUSTRIAL

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

0' 50' 100' 150'
1" = 100' WHEN PLOTTED 24" X 36"

WSP USA INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD MASSACHUSETTS 01824
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0	09/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
PROPOSED CONDITIONS

CLIENT:
BWC WADES STREAM, LLC

SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY CIVIL No. 54915
PROFESSIONAL ENGINEER
02/18/2026

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER:	US-EI-365230438
DRAWING NUMBER:	C-102
SHEET NUMBER:	4 OF 11

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NOTES:

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2. ALL AREAS WITHIN LIMIT OF DISTURBANCE TO BE SEEDED AS SPECIFIED IN THE SEEDING & REVEGETATION PLAN ON SHEET G-001.

LEGEND:

EXISTING:
- 710 MAJOR CONTOUR
- MINOR CONTOUR
- PROPERTY LINE
- INTERNAL PROPERTY LINE
- ABUTTER'S PROPERTY LINE
- RIGHT OF WAY
- ZO PROPERTY LINE SETBACK
- BUILDING
- ASPHALT
- GRAVEL
- STONE WALL
- EDGE OF VEGETATION
- EDGE OF GRASS
- TRAIL
- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- WATER SUPPLY PROTECTION DISTRICT
- OHE OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

PROPOSED:
- LOW LIMIT OF WORK
- 1670 MAJOR CONTOUR
- MINOR CONTOUR
- FIXED KNOT GAME FENCE (10 C-501, 13 C-502)
- DOUBLE SWING GATE (7,11 C-501)
- SLIDING GATE (9 C-501)
- OHE OVERHEAD ELECTRIC
- SB SEDIMENT BARRIER (4 C-501)
- EROSION CONTROL BLANKET (20 C-503)
- EC ELECTRICAL CONDUIT (2 C-501)
- ACCESS ROAD (1 C-501)
- CONCRETE PAD (6 C-501)
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- UTILITY POLE
- CULVERT (3 C-501)
- INFILTRATION TRENCH (14,15 C-502)
- PERVIOUS BERM (14,15 C-502)
- VEGETATED FILTER STRIP (14 C-502)
- CONVEYANCE CHANNEL (16 C-502)
- RIPRAP APRON (18,19 C-503)
- LANDSCAPE SCREENING (21,22 C-503)

UP #29
HOUSE 2.5-STORY 1,444 SQ. FT.
SENA FARM BREWERY 1-STORY 5,816 SQ. FT.
PAUL A & JUDITH ANN SENA TAX MAP 407 LOT 35
PAUL A & JUDITH ANN SENA TAX MAP 407 LOT 33
KARIN I MULLER TAX MAP 407 LOT 34
RIDGE ROAD
UP #28
OUT-BUILDING 1-STORY 175 SQ. FT.
HOUSE 2-STORY 2,116 SQ. FT.
STONEWALL
UP #27
UP #26
EXISTING CURB CUT
UP #27-25
HOUSE 2-STORY 3,154 SQ. FT.
OUT-BUILDING 1-STORY 440 SQ. FT.
N/F TIMOTHY J. SENA BOOK 8260 PAGE 247 TAX MAP 407 LOT 27.1 (SEE PLAN BOOK 205 PAGE 26)
N/F MATTHEW J. LAGOY BOOK 7949 PAGE 114 TAX MAP 407 LOT 29
50' SETBACK
STONE CELLAR CIDERY 2-STORY 1,643 SQ. FT.
EXISTING CURB CUT
UP #27-22
STONEWALL
MATTHEW J. LAGOY TAX MAP 407 LOT 29
PAUL A & JUDITH ANN SENA TAX MAP 407 LOT 35
BUFFINGTON HILL ROAD - F.K.A. LINDSAY HILL ROAD
STEPHEN SZEWCZYK TAX MAP 407 LOT 145
BRIAN R & SHEILA W SCHICK TAX MAP 407 LOT 144
~0.5 ACRE LAYDOWN, LOADING, & UNLOADING AREA
UP #27B-21
2X 45" 15" CPP INV: 1660.0 OUTLET: 1659.6
46" 15" CPP INV: 1660.8 OUTLET: 1660.0
46" 12" CPP INV: 1664.0 OUTLET: 1663.6
GRASSED CONVEYANCE CHANNEL
HOUSE 1.5-STORY 1,726 SQ. FT.
EXISTING CURB CUT
BRO MOREORLESS TO BUFFINGTON HILL ROAD
UP #27-20
MICHAEL J & KIERSTEN C MARICH TAX MAP 407 LOT 147
APPROXIMATE LOCATION OF EXISTING CURB CUT
SHED 1-STORY 774 SQ. FT.
SOLAR EQUIPMENT PAD (TRANSFORMER, SWITCHBOARD, INVERTER)
RIPRAP APRON
35" 12" CPP INV: 1670 OUTLET: 1669.65
INFILTRATION TRENCH (IT1)
RIPRAP APRON (TYP.)
INFILTRATION TRENCHES (IT2-5)
ACCESS ROAD
VEGETATED FILTER STRIP (TYP.)
"NORTHERLY BOUND OF AN OLD ROAD"
BARN 1-STORY 1,422 SQ. FT.
HOUSE 2-STORY 1,295 SQ. FT.
CALCULATED POINT N:2978112.95 E:263665.02
FLOOD ZONE "A" SCANNED LIMITS FROM FIRM MAP - SEE NOTES 5 & 8
TRANSFORMER FIBER OPTIC HAND HOLE
PIT AREA
100' OFFSET FROM BESS
BESS AND SOLAR EQUIPMENT PAD (TRANSFORMER, SWITCHBOARD, INVERTER)
BESS PAD
INFILTRATION TRENCH (IT6)
30' MIN.
18.00' (TYP.)
WORTHINGTON GOLF LINKS LLC TAX MAP 407 LOT 134.1
50' SETBACK
UP #4
UP #5
50' MIN.
UP #6
EDGE OF WETLANDS (FLAGS W1-100 THRU W1-118 END)
TIE LINE - 1405.62' N58°42'47"W
WATTS STREAM - PROPERTY LINE APPROXIMATE LENGTH OF 1,385 FEET SEE NOTES 4 & 8
WATTS STREAM
LOG CABIN 1-STORY 372 SQ. FT.
EXISTING CURB CUT
EDGE OF WETLANDS (FLAGS W2-100 THRU W2-102 END)
S80°49'54"W 127.69'
S83°23'36"W 534.28'
S83°11'02"W 127.50'

0' 50' 100' 150'
1" = 100' WHEN PLOTTED 24" X 36"

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD MASSACHUSETTS 01824
TELEPHONE: (978) 692-9090
FAX: (978) 692-6633
WEB: WWW.WSP.COM

REVISION	DATE	ISSUE / REVISION DESCRIPTION	ISSUED	APPROVED
4	02/18/2026	RESPONSE TO COMMENTS	MRB	OAC
3	02/03/2026	RESPONSE TO COMMENTS	MRB	OAC
2	01/05/2026	RESPONSE TO COMMENTS	MRB	OAC
1	10/21/2025	RESVISED PER TOWN OF WORTHINGTON PLANNING BOARD COMMENTS	MRB	OAC
0	09/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
WATER SUPPLY PROTECTION DISTRICT OVERLAY

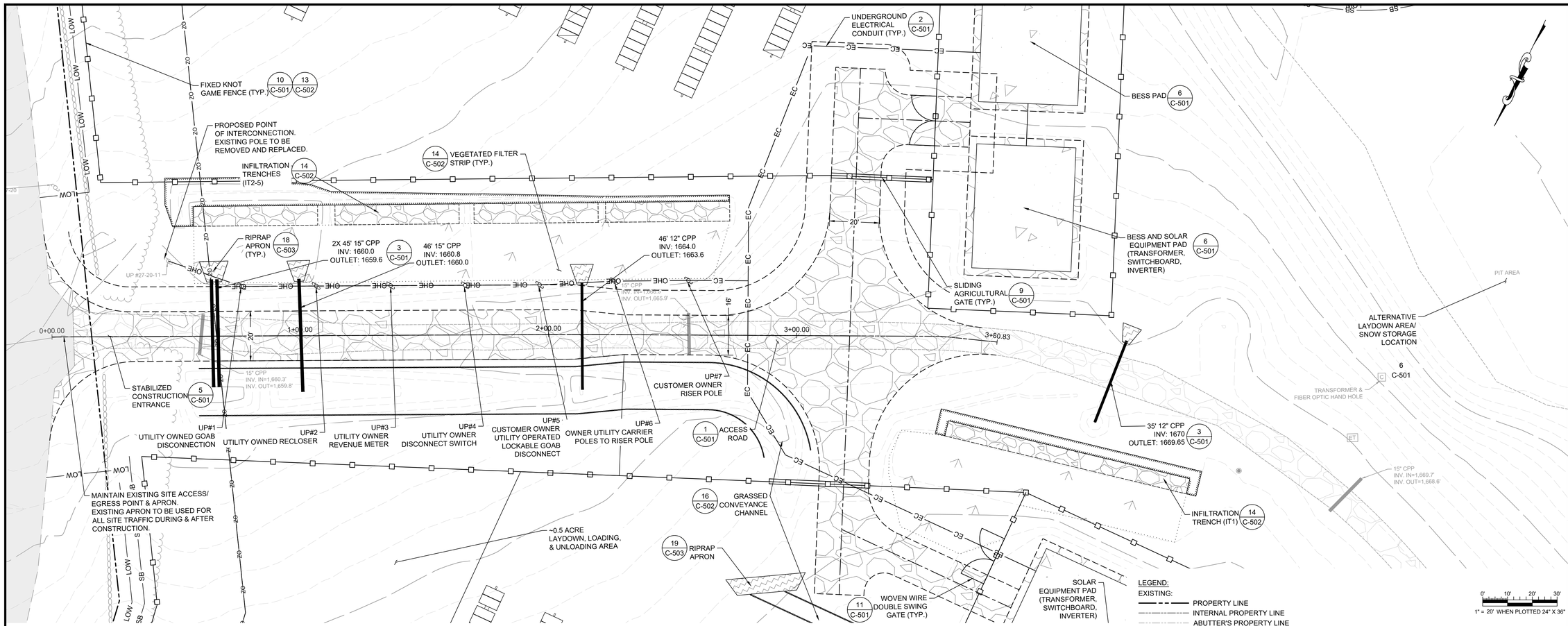
CLIENT:
BWC WADES STREAM, LLC

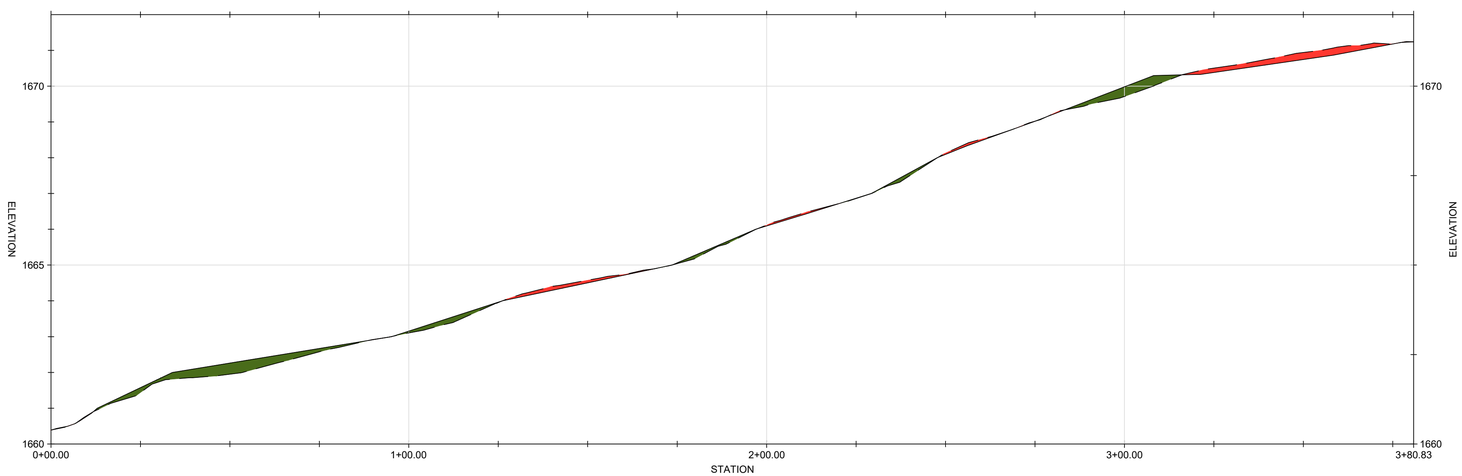
SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY CIVIL No. 54915
PROFESSIONAL ENGINEER
02/18/2026

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER:	US-EI-365230438
DRAWING NUMBER:	C-103
SHEET NUMBER:	5 OF 11

C:\Users\USBL.12~1\AppData\Local\Temp\AcPublish_31392\3-5 - Ridge Rd - C-101-3.dwg - C-103 - Feb. 18, 2026 5:47pm - USBL.125074

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PROFILE LEGEND:
- EXISTING ELEVATION
- PROPOSED ELEVATION
- CUT AREA
- FILL AREA

LEGEND:

EXISTING:
- PROPERTY LINE
- INTERNAL PROPERTY LINE
- ABUTTER'S PROPERTY LINE
- RIGHT OF WAY
- PROPERTY LINE SETBACK
- BUILDING
- ASPHALT
- GRAVEL
- STONE WALL
- EDGE OF VEGETATION
- EDGE OF GRASS
- TRAIL
- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

PROPOSED:
- LIMIT OF WORK
- MAJOR CONTOUR
- MINOR CONTOUR
- FIXED KNOT GAME FENCE 10 C-501 13 C-502
- DOUBLE SWING GATE 7,11 C-501
- SLIDING GATE 9 C-501
- OVERHEAD ELECTRIC
- SEDIMENT BARRIER 4 C-501
- EROSION CONTROL BLANKET 20 C-503
- ELECTRICAL CONDUIT 2 C-501
- ACCESS ROAD 1 C-501
- CONCRETE PAD 6 C-501
- SOLAR PV ARRAY 8 C-501
- UTILITY POLE
- CULVERT 3 C-501
- INFILTRATION TRENCH 14,15 C-502
- PERVIOUS BERM 14,15 C-502
- VEGETATED FILTER STRIP 14 C-502
- CONVEYANCE CHANNEL 16 C-502
- RIPRAP APRON 18,19 C-503
- LANDSCAPE SCREENING 21,22 C-503

NOTES:
1. ELECTRICAL DESIGN, INCLUDING UTILITY POLES, PERFORMED BY OTHERS. ELECTRICAL EQUIPMENT AND COMPONENTS SHOWN TO ILLUSTRATE LOCATIONS ONLY. REFER TO ELECTRICAL DRAWINGS FOR DETAILED ELECTRICAL SYSTEM.
2. ALL AREAS WITHIN LIMIT OF DISTURBANCE TO BE SEEDED AS SPECIFIED IN THE SEEDING & REVEGETATION PLAN ON SHEET G-001.
3. THE TOTAL GRADING CUT VOLUME FOR THE SITE IS 1,954.47 CUBIC YARDS. THE TOTAL GRADING FILL VOLUME IS 1,394.30 CUBIC YARDS. THE GRADING WILL RESULT IN A NET CUT VOLUME OF 560.18 CUBIC YARDS WHICH CAN BE DISPERSED ACROSS THE SITE AT THE OWNER'S DISCRETION.

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD MASSACHUSETTS 01824
TELEPHONE: (978) 692-9090
FAX: (978) 692-6633
WEB: WWW.WSP.COM

REVISION	DATE	ISSUE / REVISION DESCRIPTION	ISSUED	APPROVED
4	02/18/2026	RESPONSE TO COMMENTS	MRB	OAC
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0	09/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
ACCESS ROAD TOPOGRAPHIC PROFILE ANALYSIS

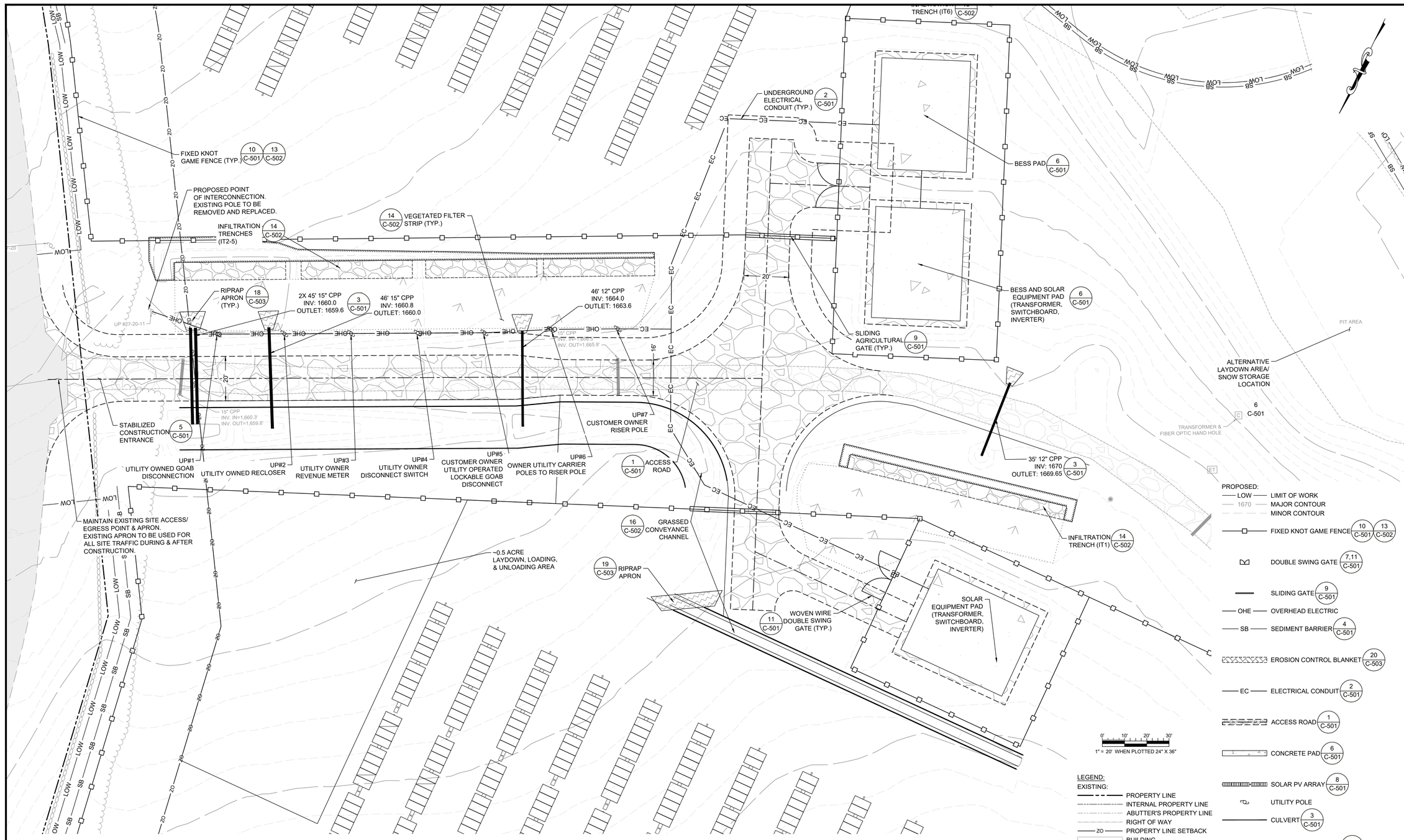
CLIENT:
BWC WADES STREAM, LLC

SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY
CIVIL
No. 54915
PROFESSIONAL ENGINEER
MAY 19 2026

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER: US-EI-365230438	
DRAWING NUMBER: **C-104**	
SHEET NUMBER: **6 OF 11**	

D:\BlueWave\US-EI-365230437 - Ridge Rd Worthington\4 Permitting\Sheets\6-7 - Ridge Rd - C-104-5.dwg - C-104 - Feb 18, 2026 5:57pm - USBL-125074

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LEGEND:

EXISTING:
- PROPERTY LINE
- INTERNAL PROPERTY LINE
- ABUTTER'S PROPERTY LINE
- RIGHT OF WAY
- ZO — PROPERTY LINE SETBACK
- BUILDING
- ASPHALT
- GRAVEL
- STONE WALL
- EDGE OF VEGETATION
- EDGE OF GRASS
- TRAIL
- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- OHE — OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

PROPOSED:
- LOW — LIMIT OF WORK
- 1670 — MAJOR CONTOUR
- MINOR CONTOUR
- FIXED KNOT GAME FENCE 10 C-501 13 C-502
- DOUBLE SWING GATE 7,11 C-501
- SLIDING GATE 9 C-501
- OHE — OVERHEAD ELECTRIC
- SB — SEDIMENT BARRIER 4 C-501
- EROSION CONTROL BLANKET 20 C-503
- EC — ELECTRICAL CONDUIT 2 C-501
- ACCESS ROAD 1 C-501
- CONCRETE PAD 6 C-501
- SOLAR PV ARRAY 8 C-501
- UTILITY POLE
- CULVERT 3 C-501
- INFILTRATION TRENCH 14,15 C-502
- PERVIOUS BERM 14,15 C-502
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- CONVEYANCE CHANNEL 16 C-502
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- LANDSCAPE SCREENING 21,22 C-503

NOTES:
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ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD MASSACHUSETTS 01824
TELEPHONE: (978) 692-9090
FAX: (978) 692-6633
WEB: WWW.WSP.COM

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0	09/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT: **2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT 190 RIDGE ROAD WORTHINGTON, MA 01098**

TITLE: **EQUIPMENT PADS**

CLIENT: BWC WADES STREAM, LLC

SEAL: COMMONWEALTH OF MASSACHUSETTS — OLIVIA CROSBY CIVIL No. 54915 — PROFESSIONAL ENGINEER — 02/18/2026

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER:	US-EI-365230438
DRAWING NUMBER:	C-105
SHEET NUMBER:	7 OF 11

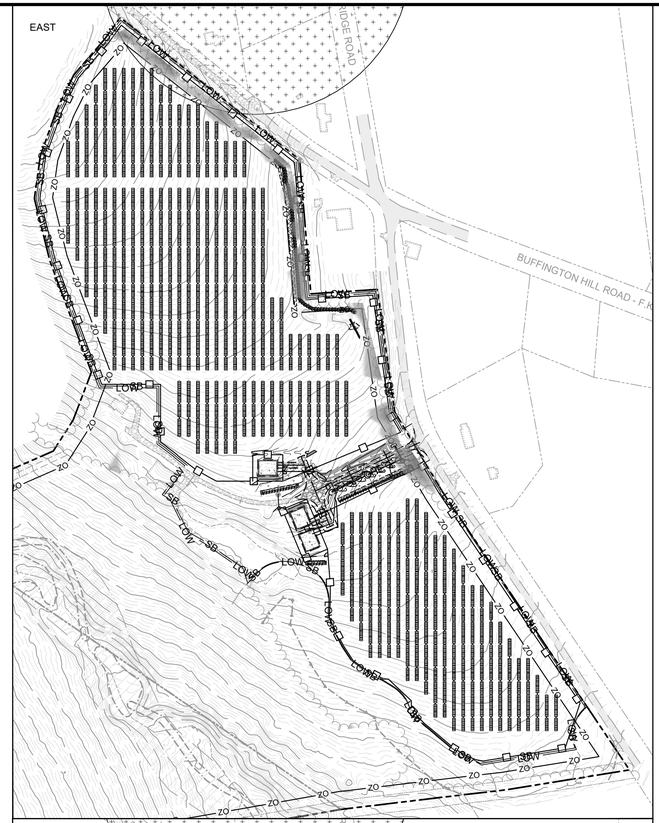
D:\BlueWorx\US-EI-365230437 - Ridge Rd Worthington\4 Permitting\Sheets\6-7 - Ridge Rd - C-104-5.dwg - C-105 - Feb. 18, 2026 5:58pm - USBL125074

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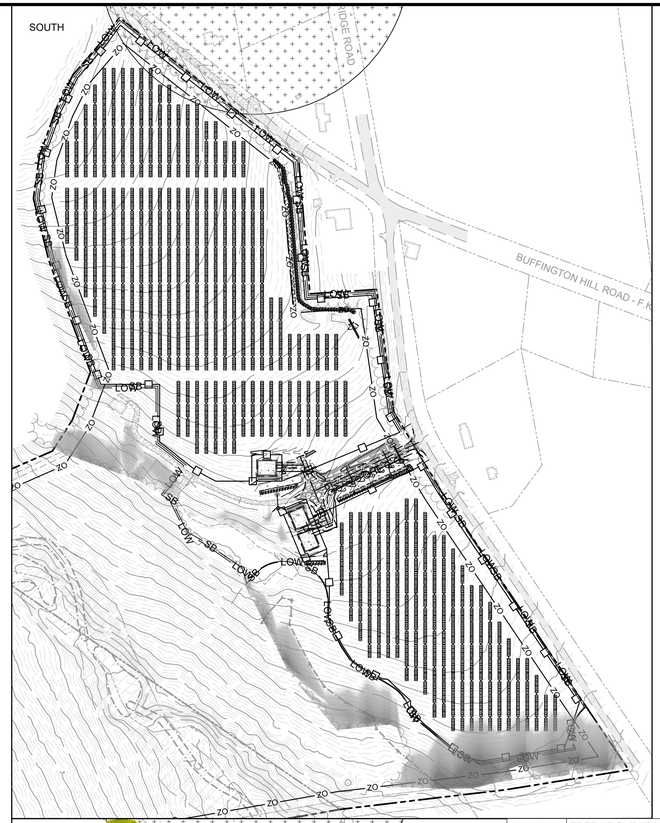
WEST



EAST



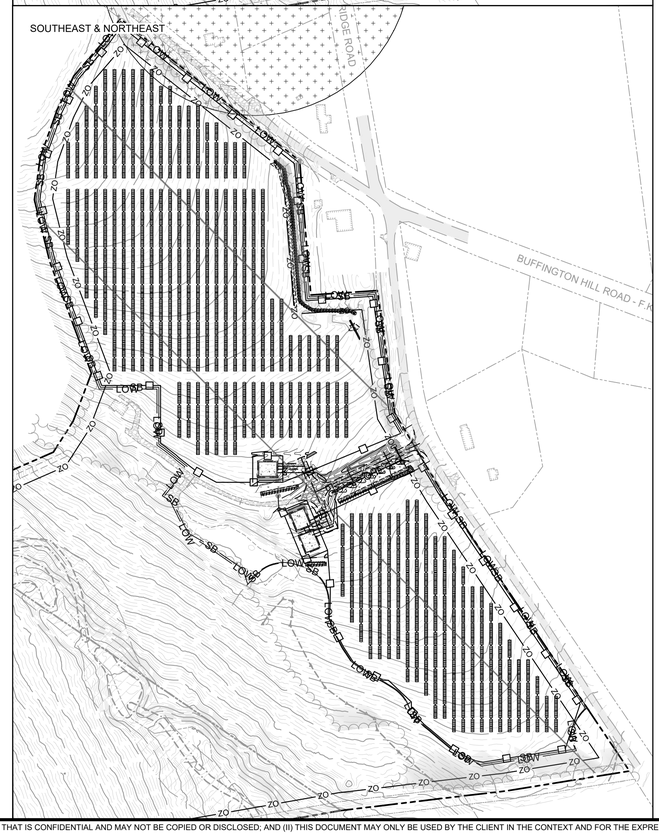
SOUTH



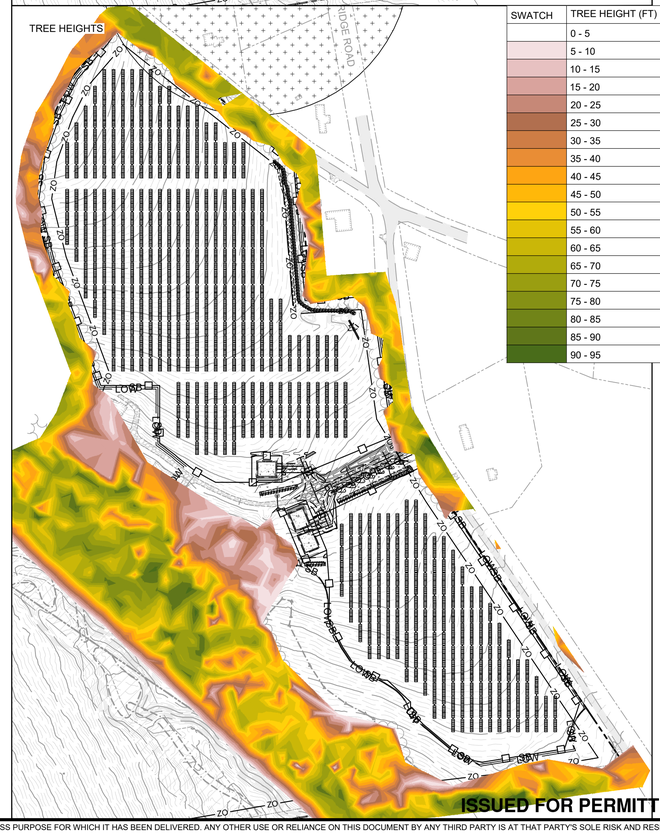
SOUTHWEST & NORTHWEST



SOUTHEAST & NORTHEAST



TREE HEIGHTS



SWATCH	TREE HEIGHT (FT)
	0 - 5
	5 - 10
	10 - 15
	15 - 20
	20 - 25
	25 - 30
	30 - 35
	35 - 40
	40 - 45
	45 - 50
	50 - 55
	55 - 60
	60 - 65
	65 - 70
	70 - 75
	75 - 80
	80 - 85
	85 - 90
	90 - 95

NOTES:

1. IDEAL SHADING SETBACKS:
   - 1.1. SOUTHERN TREES: 3X TREE HEIGHT
   - 1.2. EAST& WEST TREES: 2.5X TREE HEIGHT
   - 1.3. SOUTHWEST & SOUTHEAST TREES: 3X TREE HEIGHT
   - 1.4. NORTHWEST AND NORTHEAST TREES: 0.85X TREE HEIGHT

LEGEND:

EXISTING:
- 710 MAJOR CONTOUR
- MINOR CONTOUR
- PROPERTY LINE
- INTERNAL PROPERTY LINE
- ABUTTER'S PROPERTY LINE
- RIGHT OF WAY
- ZO PROPERTY LINE SETBACK
- BUILDING
- ASPHALT
- GRAVEL
- STONE WALL
- EDGE OF VEGETATION
- EDGE OF GRASS
- TRAIL
- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- OHE OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

PROPOSED:
- LOW LIMIT OF WORK
- 1670 MAJOR CONTOUR
- MINOR CONTOUR
- FIXED KNOT GAME FENCE (10 / C-501) (13 / C-502)
- DOUBLE SWING GATE (7,11 / C-501)
- SLIDING GATE (9 / C-501)
- OHE OVERHEAD ELECTRIC
- SB SEDIMENT BARRIER (4 / C-501)
- EROSION CONTROL BLANKET (20 / C-503)
- EC ELECTRICAL CONDUIT (2 / C-501)
- ACCESS ROAD (1 / C-501)
- CONCRETE PAD (6 / C-501)
- SOLAR PV ARRAY (8 / C-501)
- UTILITY POLE
- CULVERT (3 / C-501)
- INFILTRATION TRENCH (14,15 / C-502)
- PERVIOUS BERM (14,15 / C-502)
- VEGETATED FILTER STRIP (14 / C-502)
- CONVEYANCE CHANNEL (16 / C-502)
- RIPRAP APRON (18,19 / C-503)
- LANDSCAPE SCREENING (21,22 / C-503)

0' 100' 200' 300'
1" = 200' WHEN PLOTTED 24" X 36"

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD MASSACHUSETTS 01824
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PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
SHADOW ANALYSIS OF PROPOSED CONDITIONS

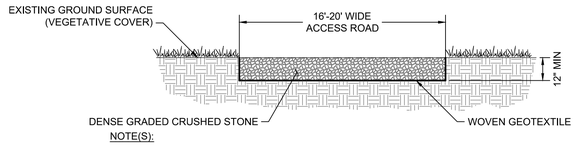
CLIENT:
BWC WADES STREAM, LLC

SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY
CIVIL
No. 54915
PROFESSIONAL ENGINEER
MAY 18, 2021

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER:	US-EI-365230438
DRAWING NUMBER:	C-106
SHEET NUMBER:	8 OF 11

D:\Blue\Wavelt\US-EI-365220437 - Ridge Rd Worthington\4 Permitting\Sheets\8 - Ridge Rd - C-106.dwg - C-105 - Feb. 18, 2026 6:05pm - USBL125074

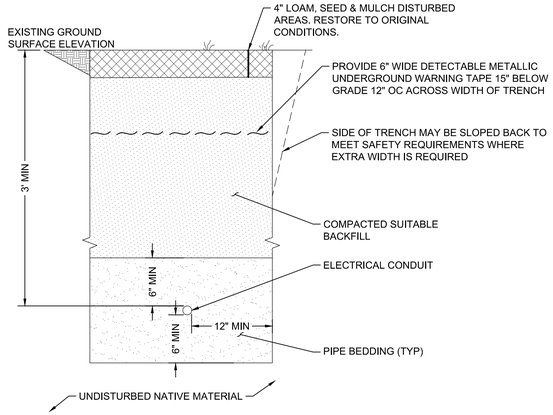
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NOTE(S):

1. ACCESS ROAD TO BE CONSTRUCTED OF A MINIMUM 6" OF DENSE GRADED CRUSHED STONE.
2. WOVEN GEOTEXTILE TO BE PLACED BETWEEN THE GROUND SURFACE AND THE CRUSHED STONE.
3. CRUSHED STONE SHALL BE COMPACTED TO A FIRM AND NON-YIELDING CONDITION.

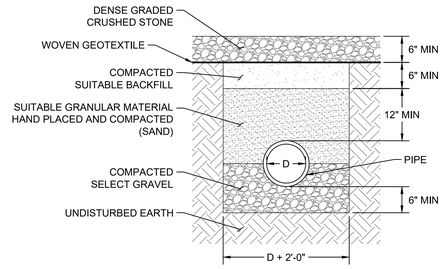
FLUSH CRUSHED STONE ACCESS ROAD 1
NOT TO SCALE



NOTE(S):

1. DETAIL SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ELECTRICAL ENGINEER TO CONFIRM REGULATORY AND CODE COMPLIANCE.

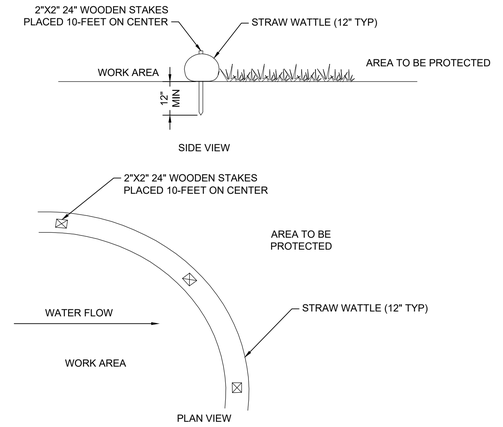
TYPICAL ELECTRICAL CONDUIT UTILITY TRENCH 2
NOT TO SCALE



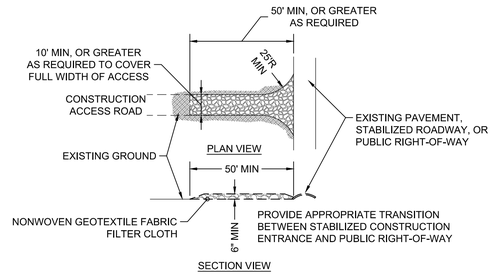
NOTE(S):

1. ALIGN CENTER OF PIPE WITH CENTERLINE OF DITCH AND BOTTOM OF PIPE WITH DITCH LINE.
2. PIPE EXTENDS A MINIMUM OF 3" BEYOND DENSE GRADED CRUSHED STONE AT INLET AND OUTLET.
3. PIPE SLOPE SHALL FOLLOW EXISTING DITCH LINE BUT BE NO LESS THAN 1.5% AND NO MORE THAN 10%.

TYPICAL CULVERT TRENCH 3
NOT TO SCALE



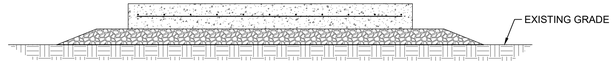
SEDIMENT BARRIER - STRAW WATTLE 4
NOT TO SCALE



NOTE(S):

1. STONE TO BE 1"-3" STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FT.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TEN (10) FT. MIN, BUT NOT LESS THAN THE FULL TRAVELED WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS OR BENEATH THE ENTRANCE.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. IF WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

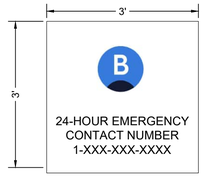
STABILIZED CONSTRUCTION ENTRANCE 5
NOT TO SCALE



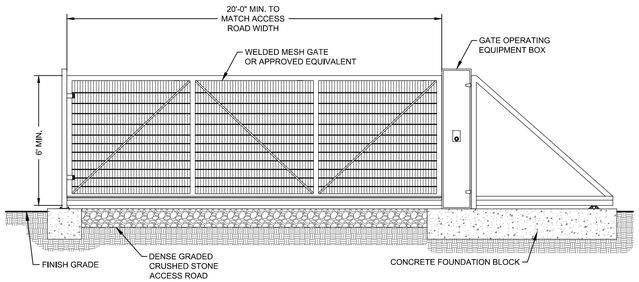
NOTE(S):

1. CONCRETE PAD SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. DESIGN TO BE FINALIZED AT LATER DATE.

TYPICAL CONCRETE EQUIPMENT PAD SECTION 6
NOT TO SCALE



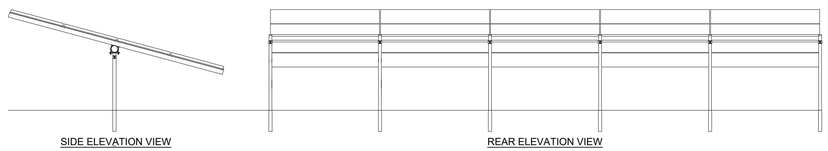
TYPICAL ENTRANCE SIGN 7
NOT TO SCALE



NOTE:

1. TYPICAL GATE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. DESIGN TO BE FINALIZED AT LATER DATE.

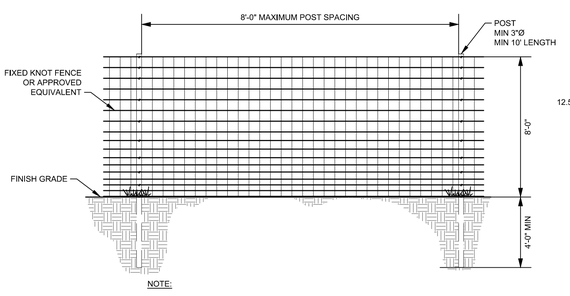
WELDED MESH ELECTRIC SLIDING GATE 9
NOT TO SCALE



NOTE(S):

1. DESIGN FOR FOUNDATIONS, RACKING, AND MODULES BY OTHERS. DETAILS SHOWN FOR ILLUSTRATION PURPOSES ONLY.

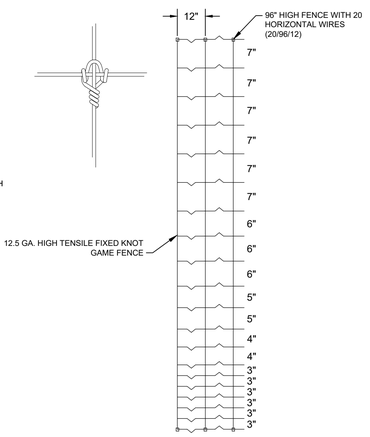
TRACKER SOLAR PV ARRAY 8
NOT TO SCALE

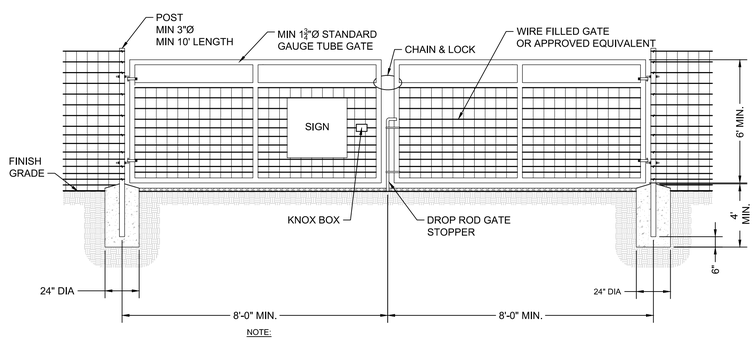


NOTE:

1. TYPICAL FENCE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. DESIGN TO BE FINALIZED AT LATER DATE.

WOVEN WIRE FENCE 10
NOT TO SCALE

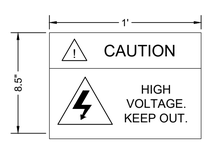




NOTE:

1. TYPICAL GATE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. DESIGN TO BE FINALIZED AT LATER DATE.

WOVEN WIRE DOUBLE SWING GATE 11
NOT TO SCALE



NOTES:

1. PLACE ALONG PERIMETER FENCING AT AN INTERVAL NO LESS THAN 100 FEET.
2. DETAIL SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. DESIGN TO BE FINALIZED AT LATER DATE.

HIGH VOLTAGE SIGN 12
NOT TO SCALE

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
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CHELMSFORD MASSACHUSETTS 01824
TELEPHONE: (978) 692-9090
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REVISION	DATE	ISSUE / REVISION DESCRIPTION	ISSUED	APPROVED
4	02/18/2026	RESPONSE TO COMMENTS	MRB	OAC
3	02/03/2026	RESPONSE TO COMMENTS	MRB	OAC
2	01/05/2026	RESPONSE TO COMMENTS	MRB	OAC
1	10/21/2025	RESVISED PER TOWN OF WORTHINGTON PLANNING BOARD COMMENTS	MRB	OAC
0	09/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
DETAILS (SHEET 1 OF 3)

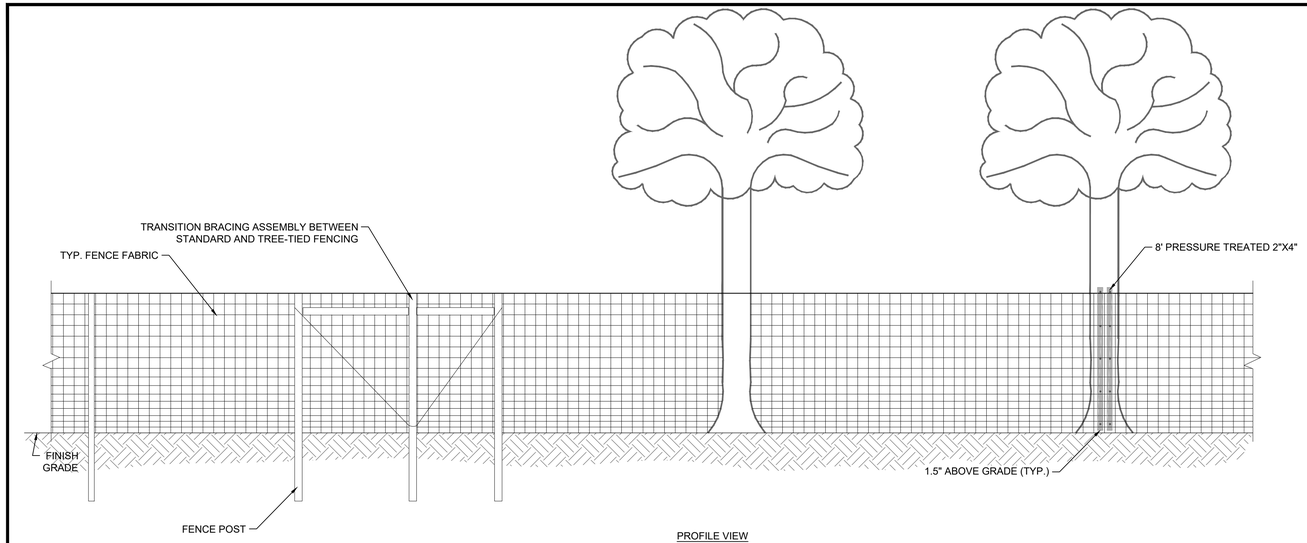
CLIENT:
BWC WADES STREAM, LLC

SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY CIVIL No. 54915
PROFESSIONAL ENGINEER
12/18/2026

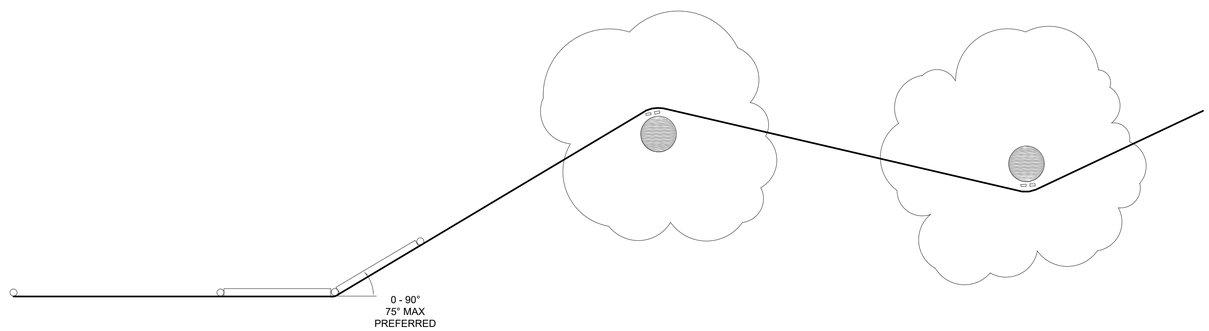
DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER: US-EI-365230438	
DRAWING NUMBER: **C-501**	
SHEET NUMBER: **9 OF 11**	

D:\Bim Vowel\US-EI-365220437 - Ridge Rd Worthington\Permitting\Sheets\9-11 - Ridge Rd - C-501-3.dwg - C-501 - Feb. 18, 2026 5:48pm - USBL 125074

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PROFILE VIEW

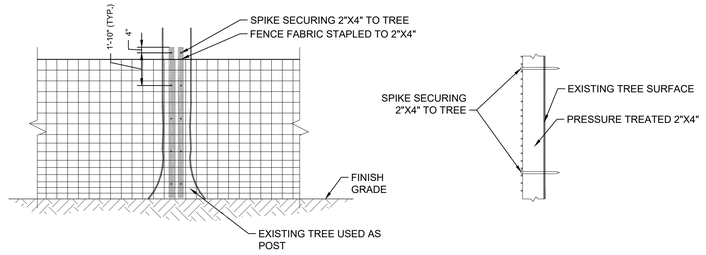


PLAN VIEW

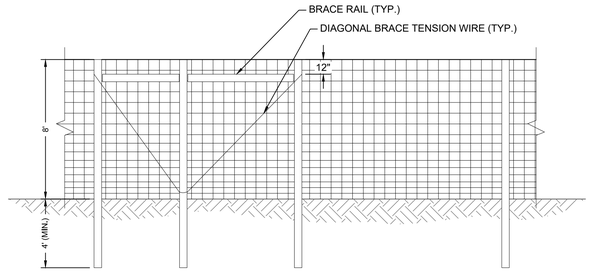
TREE-TIED WOVEN WIRE FENCE

NOT TO SCALE

13



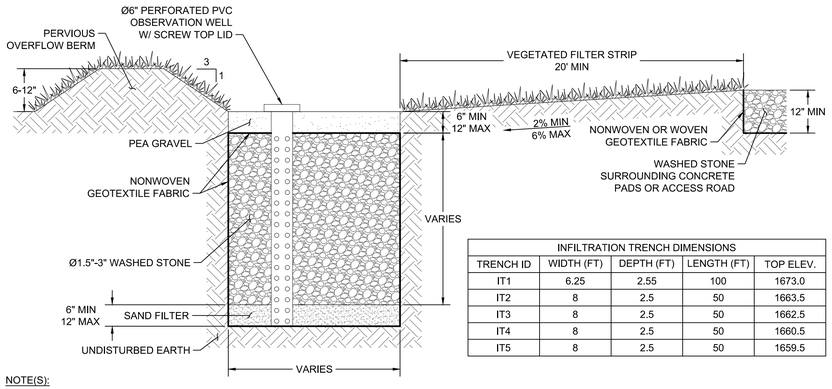
MOUNTING DETAIL



BRACING DETAIL

NOTE(S):

1. ALL FENCING AND HARDWARE SHALL BE GALVANIZED.
2. FIXED KNOT WIRE MESH TO BE BEKAERT SOLIDLOCK (R) PRO 30 (2096-3), 12.5AWG-16 HIGH TENSILE FIXED KNOT GAME FENCE OR APPROVED EQUIVALENT. INSTALLED AND BRACED PER MANUFACTURERS RECOMMENDATIONS. NOT TO EXCEED 2" GAP ABOVE GRADE.
3. ONLY SOUND, HEALTHY TREES GREATER THAN 6" DBH SPACED 10' - 40' APART SHALL BE USED.
4. ROUTE FENCE TO AVOID IMPINGING ON GROWTH OF ADJACENT TREES.
5. ADD 2"X4" SPACERS AS NEEDED BASED ON ANGLE AND DBH TO ENSURE FENCING DOES NOT CONTACT TREE.
6. OBSTRUCTIVE LIMBS TO BE CLIPPED FROM TRUNK OF TREE.



INFILTRATION TRENCH DIMENSIONS				
TRENCH ID	WIDTH (FT)	DEPTH (FT)	LENGTH (FT)	TOP ELEV.
IT1	6.25	2.55	100	1673.0
IT2	8	2.5	50	1663.5
IT3	8	2.5	50	1662.5
IT4	8	2.5	50	1660.5
IT5	8	2.5	50	1659.5

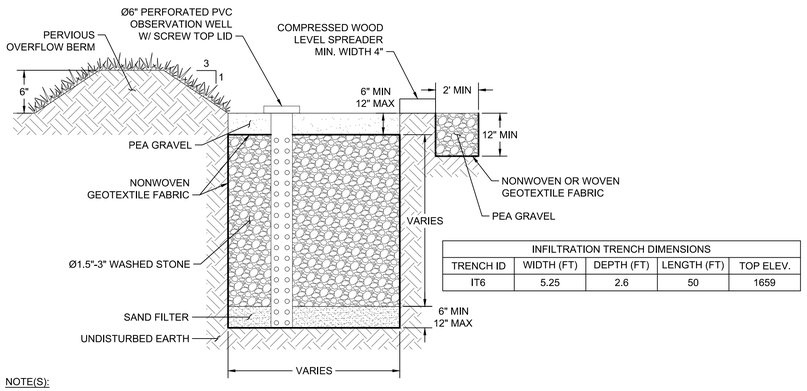
NOTE(S):

1. PERVIOUS BERM MAY VARY IN HEIGHT BETWEEN 6 TO 12 INCHES IN ORDER TO ACHEIVE A LEVEL ELEVATION ALONG THE TOP OF THE BERM TO THE MAXIMUM EXTENT POSSIBLE.
2. ONE SCREW TOP OBSERVATION WELL TO BE INSTALLED CENTRAL TO THE TRENCH LENGTH.

INFILTRATION TRENCH SYSTEMS #1, #2 & #3

NOT TO SCALE

14



INFILTRATION TRENCH DIMENSIONS				
TRENCH ID	WIDTH (FT)	DEPTH (FT)	LENGTH (FT)	TOP ELEV.
IT6	5.25	2.6	50	1659

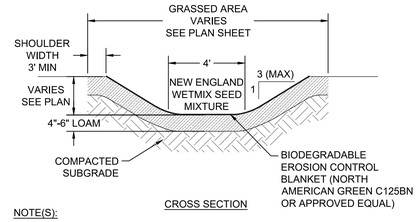
NOTE(S):

1. ONE SCREW TOP OBSERVATION WELL TO BE INSTALLED CENTRAL TO THE TRENCH LENGTH.

INFILTRATION TRENCH SYSTEM #4

NOT TO SCALE

15



CROSS SECTION

NOTE(S):

1. THE LONGITUDINAL SLOPE OF THE CHANNEL BOTTOM SHOULD BE AS FLAT AS POSSIBLE AND NO GREATER THAN 10%.
2. CHANNEL PORTIONS WITH A LONGITUDINAL SLOPE GREATER THAN 5% TO BE LINED WITH EROSION CONTROL BLANKETS OR EQUIVALENT EROSION CONTROL MEASURE AS APPROVED BY THE ENGINEER.

GRASSED CONVEYANCE CHANNEL

NOT TO SCALE

16

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
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REVISION	DATE	ISSUE / REVISION DESCRIPTION	ISSUED	APPROVED
4	02/18/2026	RESPONSE TO COMMENTS	MRB	OAC
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PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
DETAILS (SHEET 2 OF 3)

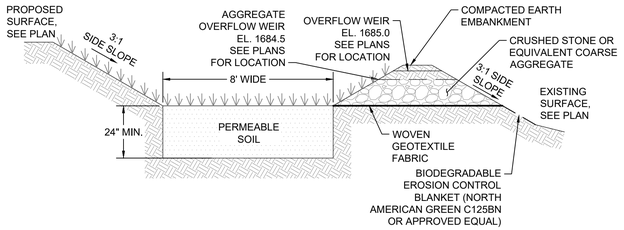
CLIENT:
BWC WADES STREAM, LLC

SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY
CIVIL
No. 54915
PROFESSIONAL ENGINEER
02/18/2026

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER:	US-EI-365230438
DRAWING NUMBER:	C-502
SHEET NUMBER:	10 OF 11

D:\BlueWave\US-EI-365220\437 - Ridge Rd Worthington\4 Permitting\Sheets\9-11 - Ridge Rd - C-501-3.dwg - C-502 - Feb. 18, 2026 6:07pm - USBL125074

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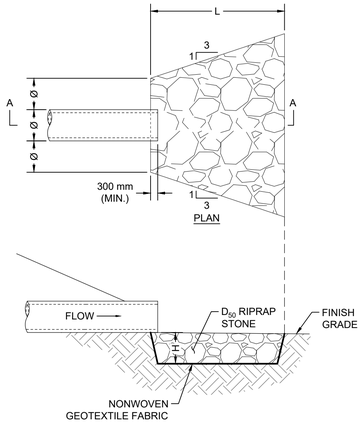


NOTE(S):

1. LONGITUDINAL SLOPE OF THE BOTTOM OF THE SWALE SHALL NOT EXCEED 5%.

WATER QUALITY DRY SWALE 17

NOT TO SCALE

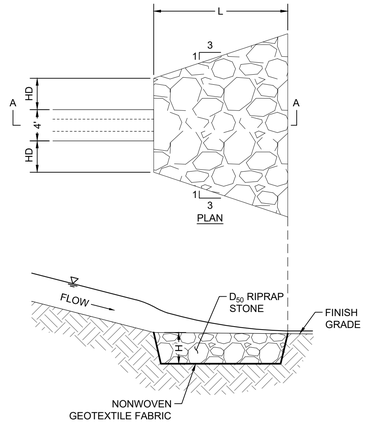


SECTION A-A

RIPRAP APRON DIMENSIONS				
PIPE Ø	CLASS	D_{50} (IN)	LENGTH L (FT)	HEIGHT H (IN)
12"	1	5	4	18
15"	1	5	5	18

RIPRAP APRON (PIPE) 18

NOT TO SCALE

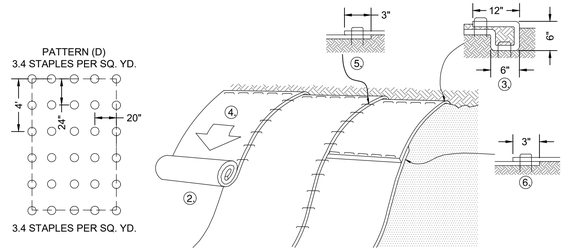


SECTION A-A

RIPRAP APRON DIMENSIONS				
HYDRAULIC DIAMETER (HD)	CLASS	D_{50} (IN)	LENGTH L (FT)	HEIGHT H (IN)
0.85'	3	10	4	24

RIPRAP APRON (CHANNEL) 19

NOT TO SCALE



STAPLE PATTERN GUIDE
6.67' WIDE ROLLS

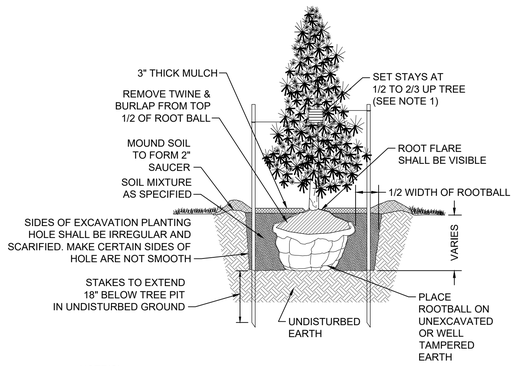
SLOPE INSTALLATION
(SEE STEPS BELOW)

NOTE(S):

1. THIS DETAIL REFERENCES PRODUCTS BY NORTH AMERICAN GREEN. EQUIVALENT PRODUCTS MAY BE USED AS APPROVED BY THE ENGINEER. EROSION CONTROL BLANKETS TO BE INSTALLATED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS.
2. EROSION CONTROL MATTING TO BE NORTH AMERICAN GREEN C125BN OR APPROVED EQUAL. INSTALL USING STAPLE PATTERN D.
3. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPs), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED (SEE DRAWING G-001).
4. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPs IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECPs BACK OVER SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPs.
5. ROLL THE RECPs DOWN THE SLOPE. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
6. THE EDGES OF PARALLEL RECPs MUST BE STAPLED WITH AN APPROXIMATE 3" OVERLAP.
7. CONSECUTIVE RECPs SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPs WIDTH.
8. STAPLES LONGER THAN 6 INCHES SHALL NOT BE USED WITHIN THE LIMIT OF WASTE TO AVOID PENETRATION INTO THE LANDFILL CAP.

EROSION CONTROL BLANKET INSTALLATION 20

NOT TO SCALE

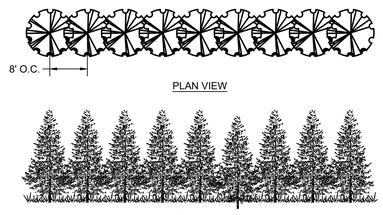


NOTE(S):

1. STAKE ALL TREES OVER 6 FEET TALL.
2. TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE (OR SLIGHTLY ABOVE).
3. NEVER CUT LEADERS.
4. PRUNE ONLY TO REMOVE DAMAGED OR BROKEN BRANCHES.
5. REMOVE ALL WIRE BRACKETS FROM ROOTBALL.
6. REMOVE ALL STAKES 1 YEAR AFTER PLANTING.

VEGETATIVE SCREENING PLANTING 21

NOT TO SCALE



PLAN VIEW

PROFILE VIEW

SPECIES	COMMON NAME	HEIGHT WHEN PLANTED	MATURE HEIGHT	MATURE WIDTH	ROOT
THUJA PLICATA X STANDISHII 'GREEN GIANT'	GREEN GIANT ARBORVITAE	6'-7'	30'-50'	10'-15'	BALLED & BURLAPED (B&B)

VEGETATIVE SCREENING PLANTING PLAN 22

NOT TO SCALE

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

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PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
DETAILS (SHEET 3 OF 3)

CLIENT:
BWC WADES STREAM, LLC

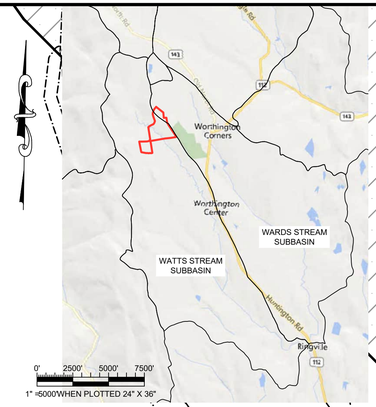
SEAL:
COMMONWEALTH OF MASSACHUSETTS
OLIVIA CROSBY CIVIL No. 54915
PROFESSIONAL ENGINEER
MAY 18, 2026

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER: US-EI-365230438	
DRAWING NUMBER: **C-503**	
SHEET NUMBER: **11 OF 11**	

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Appendix G – Drainage Figures



NOTES:

1. THIS PLAN WAS GENERATED USING DATA PROVIDED BY SGC ENGINEERING, LLC FROM THEIR ON-SITE FIELD VISIT PERFORMED IN NOVEMBER 2023 AND REVIEWED IN APRIL 2024. ADDITIONAL NEARBY BUILDINGS WERE INCLUDED FROM MASSGIS DATA: BUILDING STRUCTURES (2-D) PUBLICLY AVAILABLE AT MASS.GOV AND LAST UPDATED NOVEMBER 2024. OTHER MAP REFERENCES INCLUDE:
   - 1.1. A PLAN ENTITLED "PLAN OF LAND IN WORTHINGTON, MASSACHUSETTS PREPARED FOR TIMOTHY J. SENA & CATHERINE RUDE-SENA" DATED MARCH 23, 2005, RECORDED AT THE HAMPSHIRE COUNTY REGISTRY OF DEEDS IN PLAN BOOK 205 PAGE 25.
   - 1.2. A PLAN ENTITLED "PLAN OF LAND IN WORTHINGTON, MASSACHUSETTS PREPARED FOR ESTHER C. SENA-SANDERS IRREVOCABLE TRUST" DATED MARCH 23, 2005, RECORDED AT THE HAMPSHIRE COUNTY REGISTRY OF DEEDS IN PLAN BOOK 205 PAGE 23.
   - 1.3. A PLAN ENTITLED "PLAN OF LAND IN WORTHINGTON, MASS - OWNER: MANFRED ZORN" DATED JULY 1996 AND RECORDED IN PLAN BOOK 0178 PAGE 241
2. OWNER OF RECORD: TIMOTHY J. SENA AND CATHERINE RUDE-SENA AS RECORDED IN BOOK 8119 PAGE 223 (PARCEL 1) 8260 PAGE 228 (PARCEL 2) WITH A TOWN LISTED PROPERTY ADDRESS OF 190 BUFFINGTON HILL ROAD, WORTHINGTON, HAMPSHIRE COUNTY, MASSACHUSETTS. FOR FURTHER REFERENCE, SEE WORTHINGTON TAX MAP 407 - PARCEL 28 (PER MASS GIS).
3. HORIZONTAL DATUM IS BASED ON MASSACHUSETTS STATE GRID COORDINATE SYSTEM NAD83 (2011 - MAINLAND). VERTICAL DATUM IS REFERENCED TO NAVD 88. TOPOGRAPHY SHOWN WAS DEVELOPED UTILIZING THE MOST UP TO DATE ONLINE ELECTRONIC LIDAR FILES FROM NGS. IN COMBINATION WITH ON THE GROUND DATA COLLECTION WITH SURVEY GRADE GPS AND OR ROBOTIC TOTAL STATION. CONTOUR INTERVAL SHOWN ON PLAN IS 2 FOOT.
4. THE WETLANDS SHOWN ON THIS PLAN WERE REVIEWED, DEFINED, AND FLAGGED BY OTHERS AND FIELD LOCATED BY SGC ENGINEERING DATED NOVEMBER 22, 2023.
5. A PREDOMINATE PORTION OF THE PROPERTY LIES WITHIN ZONE "X" AND THE PROPOSED SOLAR DEVELOPMENT IS NOT AFFECTED (SEE PLAN). A SMALL CENTRAL PORTION OF THE LOCUS PARCEL IS AFFECTED BY ZONE "A" AND IS CATEGORIZED AS A SPECIFIED FLOOD HAZARD ZONE. FOR FURTHER REFERENCE SEE F.I.R.M. - FLOOD INSURANCE RATE MAP - COMMUNITY PANEL NUMBER 250175 0008 SUFFIX B / MAP NUMBER 8 OF 25 FOR THE TOWN OF WORTHINGTON, HAMPSHIRE COUNTY (ALL JURISDICTIONS), MASSACHUSETTS, WITH AN EFFECTIVE DATE OF JUNE 19, 1989. ZONE "A" (WATTS STREAM SO-CALLED) IS DESCRIBED AS AN AREA THAT NO BASE FLOOD ELEVATION HAS BEEN DETERMINED. THE BASE FLOOD ELEVATION IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. ZONE "X" IS DETERMINED AS AREAS OUTSIDE 500 - YEAR FLOOD PLAIN.
6. NEITHER SGC ENGINEERING, LLC NOR WSP HAVE INDEPENDENTLY VERIFIED THE LOCATION, EXISTENCE, AND SERVICEABILITY OF ANY UTILITIES AND MAKE NO GUARANTEE TO THE COMPLETENESS OR THE ACCURACY OF ANY UTILITIES SHOWN ON THIS PLAN. UTILITIES SHOWN WERE FIELD LOCATED ABOVEGROUND AND VISUAL, AND OR REFERENCED FROM PLANS AND MAP REFERENCES. ADDITIONAL UTILITIES MAY EXIST IN THE FIELD, WHICH ARE NOT SHOWN ON THIS PLAN. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD PRIOR TO EXCAVATION OR OTHER CONSTRUCTION ACTIVITIES. CALL "DIG SAFE" AT 1-888-344-7233 OR DIAL 811. SGC ENGINEERING, LLC AND WSP USA INC. ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN ON THIS PLAN.
7. THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON, PERSONS, OR ENTITY NAMED IN THE CERTIFICATION AND TITLE BLOCK OF THIS PLAN. THIS SURVEY DOES NOT EXTEND TO ANY UNNAMED PERSON, PERSONS, OR ENTITY WITHOUT HAVING SGC ENGINEERING'S CONSENT IN WRITING.
8. THE LOCATIONS OF THE WATTS STREAM, WITHIN PARCEL "A" (SO CALLED), AND AN UN-NAMED BROOK, THAT DEMARCATES A WESTERLY BOUNDARY LINE OF PARCEL "B", ARE BOTH BASED ON PHYSICAL FIELD EVIDENCE, DEED CALLS, AND OR PLANS OF RECORD AT TIME OF SURVEY. BOTH WATTS STREAM AND THE UN-NAMED BROOK MAY OR MAY NOT AFFECT THE PRESENT - FUTURE PROPERTY DUE TO AVULSION, ACCRETION, AND/OR RELICTION.
9. OBSERVATIONS OF THE PREMISES BY SGC IN NOVEMBER 2023:
   - 9.a. LOCUS PARCEL HAS FREE AND CLEAR ACCESS, IN AND TO BUFFINGTON HILL ROAD AND RIDGE ROAD AS SHOWN ON PLAN. BOTH ROADS ARE DEDICATED AND PUBLIC WAYS OF VARIABLE WIDTHS.
   - 9.b. THE LOCUS PARCEL IS THE SAME LAND AS DESCRIBED IN THE TITLE COMMITMENT AS EXHIBIT "A".
   - 9.c. NO EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION, AND BUILDING ADDITIONS WERE OBSERVED ON SURVEYED PREMISES.
   - 9.d. THE PROPERTY COMPRISES A SINGLE TAX LOT - TOWN OF WORTHINGTON TAX MAP NUMBER 407 PARCEL 28.
   - 9.e. NO EVIDENCE WAS NOTICED OF THE SITE BEING USED AS A SOLID WASTE DUMP.

LEGEND:

EXISTING:
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPERTY LINE
- INTERNAL PROPERTY LINE
- ABUTTER'S PROPERTY LINE
- RIGHT OF WAY
- ZO — PROPERTY LINE SETBACK
- BUILDING
- ASPHALT
- GRAVEL
- STONE WALL
- EDGE OF VEGETATION
- EDGE OF GRASS
- TRAIL
- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- WATER SUPPLY PROTECTION DISTRICT
- OHE — OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

HYDROLOGY:
- SUBCATCHMENT BOUNDARY
- TIME OF CONCENTRATION
- LAG PATH
- HSG C SOIL
- FARMLAND OF STATEWIDE IMPORTANCE
- IWPA
- LBL — POND
- LBL — SUBCATCHMENT
- LBL — REACH
- LBL — LINK

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD MASSACHUSETTS 01824
TELEPHONE: (978) 692-9090
FAX: (978) 692-6633
WEB: WWW.WSP.COM

REVISION	DATE	ISSUE / REVISION DESCRIPTION	ISSUED	APPROVED
1	02/18/2026	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC
0	08/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
EXISTING CONDITIONS DRAINAGE ANALYSIS

CLIENT:
BWC WADES STREAM, LLC

SEAL:
APPROVED NOT SEALED

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN
PROJECT NUMBER: US-EI-365230438	
DRAWING NUMBER: **D-101**	
SHEET NUMBER: **1 OF 2**	

D:\Bwo\Wave\US-EI-365220437 - Ridge Rd Worthington\4 Stormwater\SHEETS\Ridge Rd - D-101-2.dwg - D-101 - Feb. 18, 2026 5:41pm - wds_morgan.mcdonald

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NOTES:

1. ALL AREAS WITHIN LIMIT OF DISTURBANCE TO BE SEEDED AS SPECIFIED IN THE SEEDING & REVEGETATION PLAN ON SHEET G-001.
2. PROPOSED EQUIPMENT PAD LOCATION TO BE GRADED TO A MAXIMUM 4% SLOPE.

LEGEND:

EXISTING:
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPERTY LINE
- INTERNAL PROPERTY LINE
- ABUTTER'S PROPERTY LINE
- RIGHT OF WAY
- PROPERTY LINE SETBACK
- BUILDING
- ASPHALT
- GRAVEL
- STONE WALL
- EDGE OF VEGETATION
- EDGE OF GRASS
- TRAIL
- EDGE OF WETLAND
- WETLAND FLAG
- WATERBODY
- BUFFER
- FEMA FLOOD ZONE "A"
- IWPA
- WATER SUPPLY PROTECTION DISTRICT
- OVERHEAD WIRE
- CULVERT
- UTILITY POLE
- BOUNDARY EVIDENCE
- CONTROL POINT

PROPOSED:
- LOW — LIMIT OF WORK
- 1670 — MAJOR CONTOUR
- MINOR CONTOUR
- FIXED KNOT GAME FENCE
- DOUBLE SWING GATE
- SLIDING GATE
- OHE — OVERHEAD ELECTRIC
- SB — SEDIMENT BARRIER
- EROSION CONTROL BLANKET
- EC — ELECTRICAL CONDUIT
- ACCESS ROAD
- CONCRETE PAD
- SOLAR PV ARRAY
- UTILITY POLE
- CULVERT
- INFILTRATION TRENCH
- PERVIOUS BERM
- VEGETATED FILTER STRIP
- CONVEYANCE CHANNEL
- RIPRAP APRON
- LANDSCAPE SCREENING

HYDROLOGY:
- SUBCATCHMENT BOUNDARY
- TIME OF CONCENTRATION
- LAG PATH
- HSG C SOIL
- FARMLAND OF STATEWIDE IMPORTANCE
- IWPA
- LBL — POND
- LBL — SUBCATCHMENT
- LBL — REACH
- LBL — LINK

PAUL A & JUDITH ANN SENA TAX MAP 407 LOT 43

PAUL A & JUDITH ANN SENA TAX MAP 407 LOT 35

KARIN I MULLER TAX MAP 407 LOT 34

PAUL A & JUDITH ANN SENA TAX MAP 407 LOT 30

N/F TIMOTHY J. SENA BOOK 8260 PAGE 247 TAX MAP 407 LOT 27.1 (SEE PLAN BOOK 205 PAGE 26)

N/F MATTHEW J. LAGOY BOOK 7949 PAGE 114 TAX MAP 407 LOT 29

STEPHEN SZEWCZYK TAX MAP 407 LOT 145

MICHAEL J & KIERSTEN CHURCH TAX MAP 407 LOT 147

WORTHINGTON GOLF LINKS LLC TAX MAP 407 LOT 134.1

N/F FOX DEN WILDLIFE MANAGEMENT AREA BOOK 8260 PAGE 257 TAX MAP 801 LOT 106.8

N/F WORTHINGTON GOLF LINKS, LLC BOOK 12870 PAGE 315 TAX MAP 407 LOT 26

N/F TCI HOLDINGS, LLC BOOK 14526 PAGE 118 TAX MAP 407 LOT 26.2

BUFFINGTON HILL ROAD

RIDGE ROAD (F.K.A. MEETING HOUSE ROAD)

EROSION CONTROL BLANKET (TYP.)

LANDSCAPED SCREENING BERM

WATER QUALITY SWALE

0.5 ACRE LAYDOWN, LOADING, & UNLOADING AREA

46' 12" CPP INV: 1664.0 OUTLET: 1663.6

46' 15" CPP INV: 1660.8 OUTLET: 1660.0

2X 45' 15" CPP INV: 1660.0 OUTLET: 1659.6

RIPRAP APRON (TYP.)

GRASSED CONVEYANCE CHANNEL

SOLAR EQUIPMENT PAD (TRANSFORMER, SWITCHBOARD, INVERTER)

VEGETATED FILTER STRIP (TYP.)

INFILTRATION TRENCH (IT1)

35' 12" CPP INV: 1670 OUTLET: 1669.65

INFILTRATION TRENCHES (IT2-5)

ACCESS ROAD

INFILTRATION TRENCH (IT6)

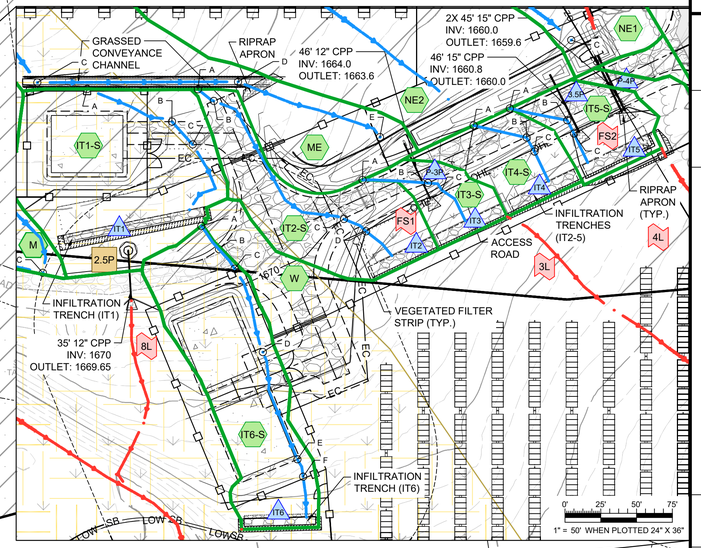
100' OFFSET FROM BESS

BESS AND SOLAR EQUIPMENT PAD (TRANSFORMER, SWITCHBOARD, INVERTER)

BESS PAD

INFILTRATION TRENCHES (IT2-5)

RIPRAP APRON (TYP.)



0' 75' 150' 225'
1" = 150' WHEN PLOTTED 24" X 36"

ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION

WSP USA INC.
100 APOLLO DRIVE, SUITE 302
CHELMSFORD MASSACHUSETTS 01824
TELEPHONE: (978) 692-9090
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WEB: WWW.WSP.COM

REVISION	DATE	ISSUE / REVISION DESCRIPTION	ISSUED	APPROVED
1	02/18/2026	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC
0	09/23/2025	ISSUED FOR PERMITTING/NOT FOR CONSTRUCTION	MRB	OAC

PROJECT:
2.0 MW AC GROUND-MOUNT SOLAR PV DEVELOPMENT
190 RIDGE ROAD
WORTHINGTON, MA 01098

TITLE:
PROPOSED CONDITIONS DRAINAGE ANALYSIS

CLIENT:
BWC WADES STREAM, LLC

SEAL:
APPROVED
NOT SEALED

DESIGNED BY: OAC	DRAWN BY: MRB
CHECKED BY: APV	SCALE: AS SHOWN

PROJECT NUMBER: US-EI-365230438

DRAWING NUMBER: **D-102**

SHEET NUMBER: **2 OF 2**

D:\Bid\Worwut\US-EI-365220\437 - Ridge Rd Worthington\d Stormwater\SHEETS\Ridge Rd - D-101-2.dwg - D-102 - Feb. 18, 2026 5:39pm - wds_morgan.mcdonald

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Appendix H – Operation & Maintenance Log Forms

Operation & Maintenance Log Form

Site: Add name

Address: Click or tap here to enter text.

Inspector: Add name

Company: Add name

Date: YYYY-MM-DD

Date of last inspection: YYYY-MM-DD

General Site Maintenance

Activity	Details	Performed?	Notes
Inspect	Inspect for any eroded drainage paths and repair as necessary.	☐ Y ☐ N	
Clean	Remove trash, leaves, and other debris.	☐ Y ☐ N	
Mow	Grass height shall not exceed 18 inches.	☐ Y ☐ N	
Sweep	Remove sediment build-up on roadways and drives.	☐ Y ☐ N	

Crushed Stone Access Road

Activity	Details	Performed?	Notes
Inspect	Check for standing water, uneven surface, snowplow damage, and vegetation.	☐ Y ☐ N	
Re-grade the stone	Redistribute and compact washed crushed stone to restore grades in original design.	☐ Y ☐ N	
Remove vegetation	Manually remove vegetation that is growing within the road surface area.	☐ Y ☐ N	

Activity	Details	Performed?	Notes
Repair potholes and snowplow damage	Fill and compact potholes and other road damage with design specific material.	☐ Y ☐ N	
Restore infiltration	If water remains on road surface >48 hours after storm, excavate, scarify the underlying topsoil, and replace the stone.	☐ Y ☐ N	
Clean	Remove trash and debris from the road surface.	☐ Y ☐ N	

Drainage Channels

Activity	Details	Performed?	Notes
Inspect	Inspect channels to make sure vegetation is adequate and for signs of rilling and gullying. Repair rills and gullies. Replace dead vegetation.	☐ Y ☐ N	
Mow	Grass height shall not exceed 6 inches.	☐ Y ☐ N	
Remove sediment	Remove sediment and other debris manually.	☐ Y ☐ N	
Reseed	Reseed as necessary to ensure that vegetative cover is never below 80% across the channel.	☐ Y ☐ N	

Vegetated Filter Strips

Activity	Details	Performed?	Notes
Inspect	Inspect for sediment buildup and signs of erosion. Check the vegetation for bare spots and overall health.	☐ Y ☐ N	

Activity	Details	Performed?	Notes
Mow	Grass height shall not exceed 6 inches.	☐ Y ☐ N	
Remove sediment	Remove sediment and other debris manually.	☐ Y ☐ N	

Pea Gravel Diaphragm

Activity	Details	Performed?	Notes
Inspect	Inspect for sediment buildup and ponding.	☐ Y ☐ N	
Remove sediment	Remove sediment and other debris manually.	☐ Y ☐ N	
Unclog	If there is ponded water at the surface of the diaphragm, remove and replace the clogged pea gravel and filter fabric. This unclogging process requires removal and replacement of the stone aggregate and filter fabric.	☐ Y ☐ N	

Infiltration Trenches

Activity	Details	Performed?	Notes
Inspect	Inspect for sediment buildup and ponding.	☐ Y ☐ N	
Remove sediment	Remove sediment and other debris manually.	☐ Y ☐ N	
Unclog	If there is ponded water at the surface of the trench, remove and replace the first layer of stone aggregate and the filter fabric. If water is ponded inside	☐ Y ☐ N	

Activity	Details	Performed?	Notes
	the trench, sediment must be removed from the trench before scarifying and tilling the bottom to induce infiltration. This unclogging process requires removal and replacement of the stone aggregate and filter fabric.		

Water Quality Swale

Activity	Details	Performed?	Notes
Inspect	Inspect for adequate vegetation, signs of erosion, rilling and gullying. Check for slope integrity, soil moisture, vegetative health, soil stability, soil compaction, soil erosion, ponding and sedimentation.	☐ Y ☐ N	
Mow	Grass height shall not exceed 6 inches nor be shorter than 3 inches.	☐ Y ☐ N	
Remove sediment	Remove sediment and other debris manually.	☐ Y ☐ N	
Reseed	Reseed as necessary to ensure that vegetative cover is never below 80%.	☐ Y ☐ N	

Riprap Aprons

Activity	Details	Performed?	Notes
Inspect	Check for damaged/misplaced stones, sediment accumulation,	☐ Y ☐ N	

Activity	Details	Performed?	Notes
	significant erosion, vegetation growth.		
Clean	Remove trash, sediment, and other debris.	☐ Y ☐ N	
Clear Vegetation	Manually remove vegetation from between or over the riprap stones.	☐ Y ☐ N	
Replace Stone	Replace or reconfigure missing or dislodged stones to maintain original design functionality.	☐ Y ☐ N	

Non-compliance/Corrective actions

Describe any incidents of non-compliance and corrective actions taken to address those not described above:

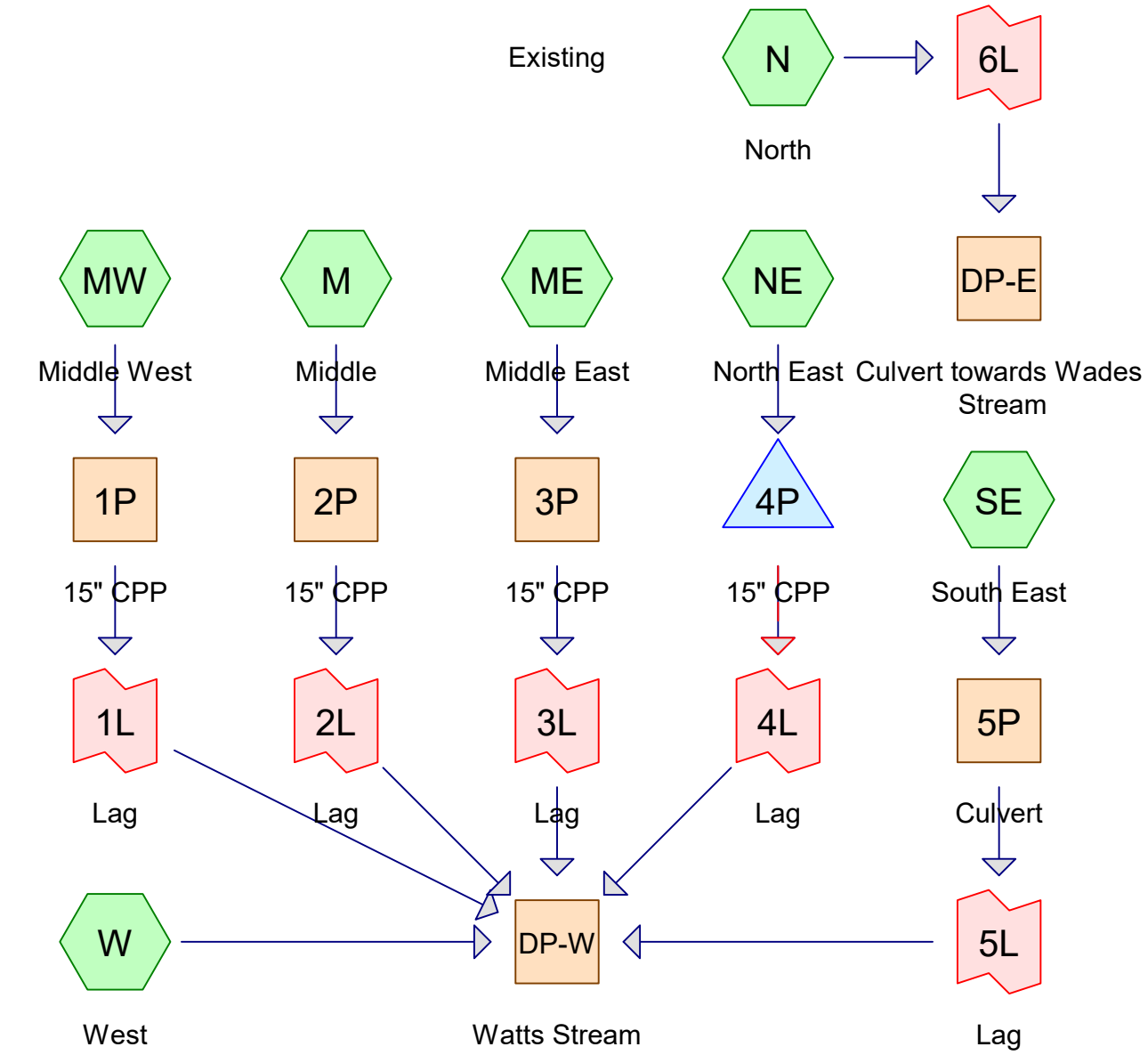
Print Name: Add name

Signature: Add name

Date: YYYY-MM-DD

Appendix I – HydroCAD Reports

Existing Conditions HydroCAD



Subcat Reach Pond Link

Routing Diagram for HydroCAD Ridge Rd
Prepared by WSP USA, Printed 2/18/2026
HydroCAD® 10.20-6a s/n 01336 © 2024 HydroCAD Software Solutions LLC

Summary for Subcatchment M: Middle

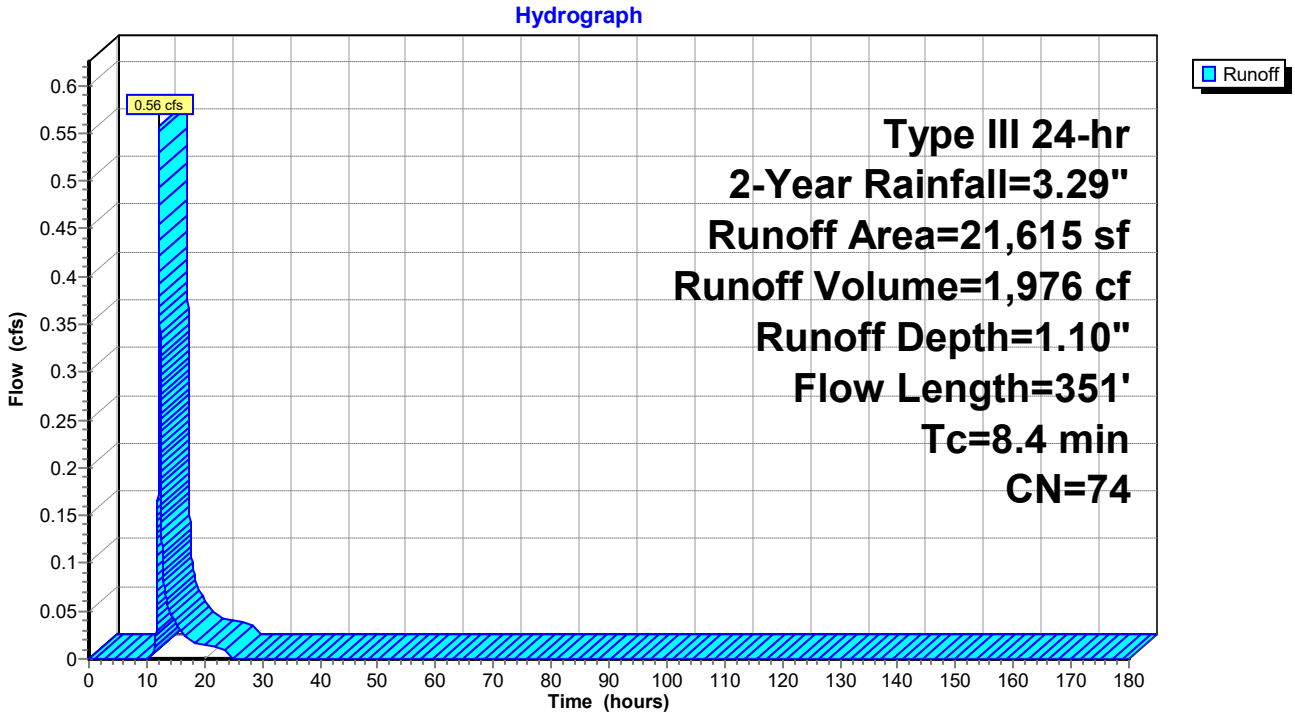
Runoff = 0.56 cfs @ 12.13 hrs, Volume= 1,976 cf, Depth= 1.10"
Routed to Reach 2P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
21,615	74	Pasture/grassland/range, Good, HSG C
21,615		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	95	0.0626	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
2.3	214	0.0510	1.58		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.9	42	0.0126	0.79		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
8.4	351	Total			

Subcatchment M: Middle



Hydrograph for Subcatchment M: Middle

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.00	0.00
12.00	1.64	0.20	**0.24**
14.00	2.67	0.71	**0.05**
16.00	2.91	0.85	0.03
18.00	3.05	0.94	0.02
20.00	3.15	1.00	0.01
22.00	3.23	1.06	0.01
24.00	**3.29**	**1.10**	0.01
26.00	3.29	1.10	0.00
28.00	3.29	1.10	0.00
30.00	3.29	1.10	0.00
32.00	3.29	1.10	0.00
34.00	3.29	1.10	0.00
36.00	3.29	1.10	0.00
38.00	3.29	1.10	0.00
40.00	3.29	1.10	0.00
42.00	3.29	1.10	0.00
44.00	3.29	1.10	0.00
46.00	3.29	1.10	0.00
48.00	3.29	1.10	0.00
50.00	3.29	1.10	0.00
52.00	3.29	1.10	0.00
54.00	3.29	1.10	0.00
56.00	3.29	1.10	0.00
58.00	3.29	1.10	0.00
60.00	3.29	1.10	0.00
62.00	3.29	1.10	0.00
64.00	3.29	1.10	0.00
66.00	3.29	1.10	0.00
68.00	3.29	1.10	0.00
70.00	3.29	1.10	0.00
72.00	3.29	1.10	0.00
74.00	3.29	1.10	0.00
76.00	3.29	1.10	0.00
78.00	3.29	1.10	0.00
80.00	3.29	1.10	0.00
82.00	3.29	1.10	0.00
84.00	3.29	1.10	0.00
86.00	3.29	1.10	0.00
88.00	3.29	1.10	0.00
90.00	3.29	1.10	0.00
92.00	3.29	1.10	0.00
94.00	3.29	1.10	0.00
96.00	3.29	1.10	0.00
98.00	3.29	1.10	0.00
100.00	3.29	1.10	0.00
102.00	3.29	1.10	0.00
104.00	3.29	1.10	0.00
106.00	3.29	1.10	0.00
108.00	3.29	1.10	0.00
110.00	3.29	1.10	0.00
112.00	3.29	1.10	0.00
114.00	3.29	1.10	0.00
116.00	3.29	1.10	0.00
118.00	3.29	1.10	0.00
120.00	3.29	1.10	0.00
122.00	3.29	1.10	0.00
124.00	3.29	1.10	0.00
126.00	3.29	1.10	0.00
128.00	3.29	1.10	0.00
130.00	3.29	1.10	0.00
132.00	3.29	1.10	0.00
134.00	3.29	1.10	0.00
136.00	3.29	1.10	0.00
138.00	3.29	1.10	0.00
140.00	3.29	1.10	0.00
142.00	3.29	1.10	0.00
144.00	3.29	1.10	0.00
146.00	3.29	1.10	0.00
148.00	3.29	1.10	0.00
150.00	3.29	1.10	0.00
152.00	3.29	1.10	0.00
154.00	3.29	1.10	0.00
156.00	3.29	1.10	0.00
158.00	3.29	1.10	0.00
160.00	3.29	1.10	0.00
162.00	3.29	1.10	0.00
164.00	3.29	1.10	0.00
166.00	3.29	1.10	0.00
168.00	3.29	1.10	0.00
170.00	3.29	1.10	0.00
172.00	3.29	1.10	0.00
174.00	3.29	1.10	0.00
176.00	3.29	1.10	0.00
178.00	3.29	1.10	0.00
180.00	3.29	1.10	0.00

Summary for Subcatchment ME: Middle East

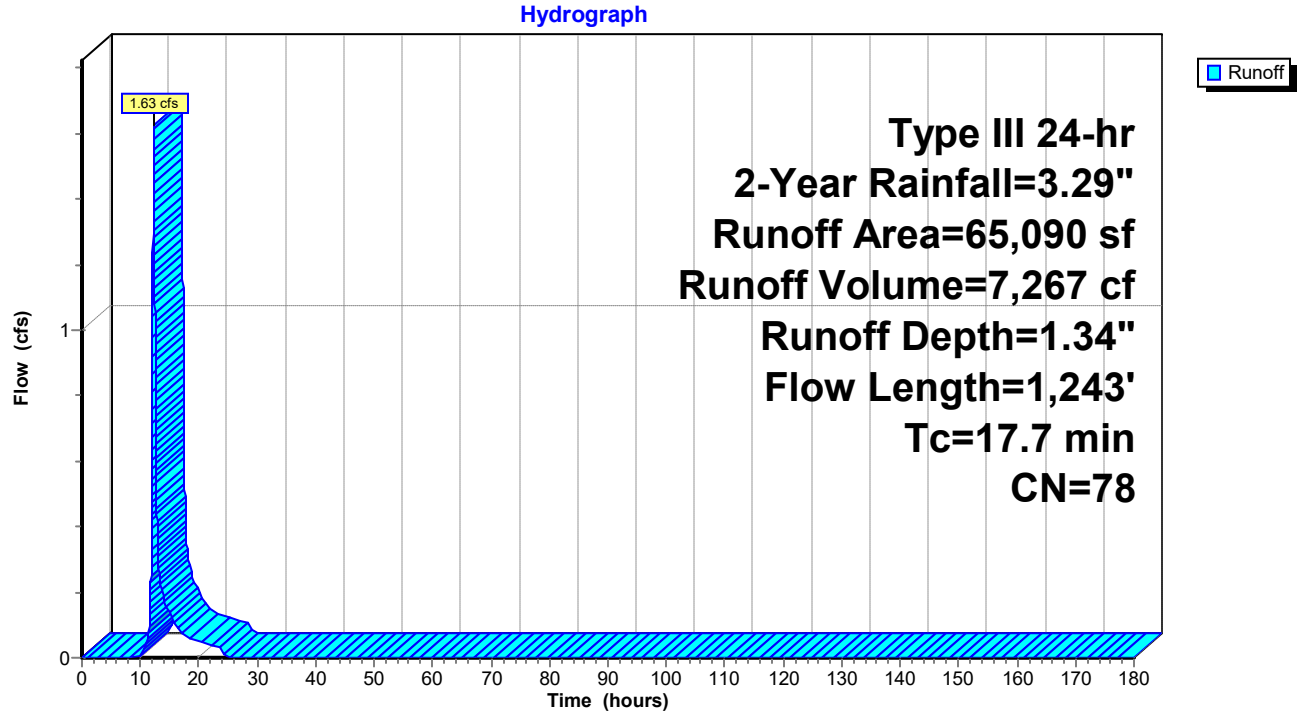
Runoff = 1.63 cfs @ 12.25 hrs, Volume= 7,267 cf, Depth= 1.34"
Routed to Reach 3P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
23,596	74	Pasture/grassland/range, Good, HSG C
41,494	80	Pasture/grassland/range, Good, HSG D
65,090	78	Weighted Average
65,090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	100	0.0678	0.32		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
7.1	708	0.0566	1.67		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
3.1	295	0.0513	1.59		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
2.2	140	0.0223	1.05		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
17.7	1,243	Total			

Subcatchment ME: Middle East



Hydrograph for Subcatchment ME: Middle East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	3.29	1.34	0.00
2.00	0.07	0.00	0.00	106.00	3.29	1.34	0.00
4.00	0.14	0.00	0.00	108.00	3.29	1.34	0.00
6.00	0.24	0.00	0.00	110.00	3.29	1.34	0.00
8.00	0.38	0.00	0.00	112.00	3.29	1.34	0.00
10.00	0.62	0.00	0.00	114.00	3.29	1.34	0.00
12.00	1.64	0.30	**0.55**	116.00	3.29	1.34	0.00
14.00	2.67	0.90	**0.18**	118.00	3.29	1.34	0.00
16.00	2.91	1.07	0.10	120.00	3.29	1.34	0.00
18.00	3.05	1.17	0.06	122.00	3.29	1.34	0.00
20.00	3.15	1.24	0.05	124.00	3.29	1.34	0.00
22.00	3.23	1.29	0.04	126.00	3.29	1.34	0.00
24.00	**3.29**	**1.34**	0.03	128.00	3.29	1.34	0.00
26.00	3.29	1.34	0.00	130.00	3.29	1.34	0.00
28.00	3.29	1.34	0.00	132.00	3.29	1.34	0.00
30.00	3.29	1.34	0.00	134.00	3.29	1.34	0.00
32.00	3.29	1.34	0.00	136.00	3.29	1.34	0.00
34.00	3.29	1.34	0.00	138.00	3.29	1.34	0.00
36.00	3.29	1.34	0.00	140.00	3.29	1.34	0.00
38.00	3.29	1.34	0.00	142.00	3.29	1.34	0.00
40.00	3.29	1.34	0.00	144.00	3.29	1.34	0.00
42.00	3.29	1.34	0.00	146.00	3.29	1.34	0.00
44.00	3.29	1.34	0.00	148.00	3.29	1.34	0.00
46.00	3.29	1.34	0.00	150.00	3.29	1.34	0.00
48.00	3.29	1.34	0.00	152.00	3.29	1.34	0.00
50.00	3.29	1.34	0.00	154.00	3.29	1.34	0.00
52.00	3.29	1.34	0.00	156.00	3.29	1.34	0.00
54.00	3.29	1.34	0.00	158.00	3.29	1.34	0.00
56.00	3.29	1.34	0.00	160.00	3.29	1.34	0.00
58.00	3.29	1.34	0.00	162.00	3.29	1.34	0.00
60.00	3.29	1.34	0.00	164.00	3.29	1.34	0.00
62.00	3.29	1.34	0.00	166.00	3.29	1.34	0.00
64.00	3.29	1.34	0.00	168.00	3.29	1.34	0.00
66.00	3.29	1.34	0.00	170.00	3.29	1.34	0.00
68.00	3.29	1.34	0.00	172.00	3.29	1.34	0.00
70.00	3.29	1.34	0.00	174.00	3.29	1.34	0.00
72.00	3.29	1.34	0.00	176.00	3.29	1.34	0.00
74.00	3.29	1.34	0.00	178.00	3.29	1.34	0.00
76.00	3.29	1.34	0.00	180.00	3.29	1.34	0.00
78.00	3.29	1.34	0.00				
80.00	3.29	1.34	0.00				
82.00	3.29	1.34	0.00				
84.00	3.29	1.34	0.00				
86.00	3.29	1.34	0.00				
88.00	3.29	1.34	0.00				
90.00	3.29	1.34	0.00				
92.00	3.29	1.34	0.00				
94.00	3.29	1.34	0.00				
96.00	3.29	1.34	0.00				
98.00	3.29	1.34	0.00				
100.00	3.29	1.34	0.00				
102.00	3.29	1.34	0.00				

Summary for Subcatchment MW: Middle West

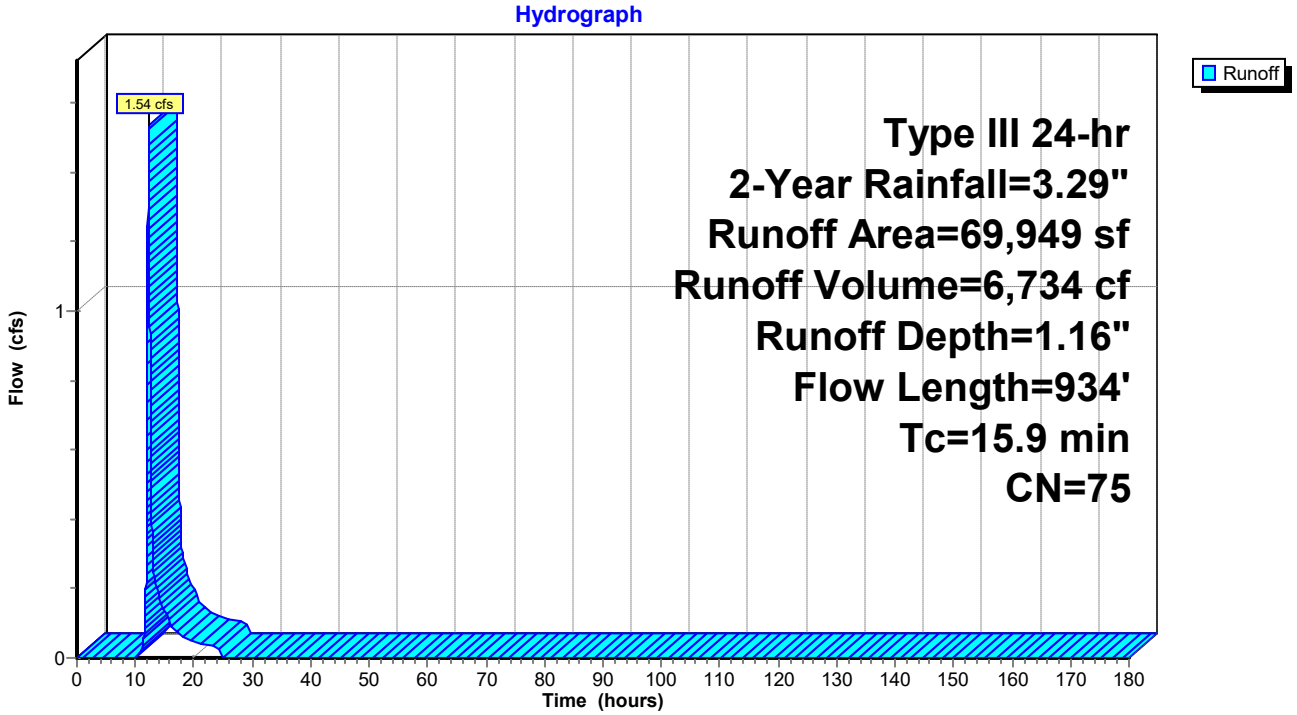
Runoff = 1.54 cfs @ 12.24 hrs, Volume= 6,734 cf, Depth= 1.16"
Routed to Reach 1P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
54,742	74	Pasture/grassland/range, Good, HSG C
15,207	80	Pasture/grassland/range, Good, HSG D
69,949	75	Weighted Average
69,949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.0582	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.2	695	0.0716	1.87		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
4.1	139	0.0066	0.57		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
15.9	934	Total			

Subcatchment MW: Middle West



Hydrograph for Subcatchment MW: Middle 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	104.00	3.29	1.16	0.00
2.00	0.07	0.00	0.00	106.00	3.29	1.16	0.00
4.00	0.14	0.00	0.00	108.00	3.29	1.16	0.00
6.00	0.24	0.00	0.00	110.00	3.29	1.16	0.00
8.00	0.38	0.00	0.00	112.00	3.29	1.16	0.00
10.00	0.62	0.00	0.00	114.00	3.29	1.16	0.00
12.00	1.64	0.22	**0.50**	116.00	3.29	1.16	0.00
14.00	2.67	0.75	**0.18**	118.00	3.29	1.16	0.00
16.00	2.91	0.91	0.10	120.00	3.29	1.16	0.00
18.00	3.05	1.00	0.06	122.00	3.29	1.16	0.00
20.00	3.15	1.06	0.05	124.00	3.29	1.16	0.00
22.00	3.23	1.11	0.04	126.00	3.29	1.16	0.00
24.00	**3.29**	**1.16**	0.03	128.00	3.29	1.16	0.00
26.00	3.29	1.16	0.00	130.00	3.29	1.16	0.00
28.00	3.29	1.16	0.00	132.00	3.29	1.16	0.00
30.00	3.29	1.16	0.00	134.00	3.29	1.16	0.00
32.00	3.29	1.16	0.00	136.00	3.29	1.16	0.00
34.00	3.29	1.16	0.00	138.00	3.29	1.16	0.00
36.00	3.29	1.16	0.00	140.00	3.29	1.16	0.00
38.00	3.29	1.16	0.00	142.00	3.29	1.16	0.00
40.00	3.29	1.16	0.00	144.00	3.29	1.16	0.00
42.00	3.29	1.16	0.00	146.00	3.29	1.16	0.00
44.00	3.29	1.16	0.00	148.00	3.29	1.16	0.00
46.00	3.29	1.16	0.00	150.00	3.29	1.16	0.00
48.00	3.29	1.16	0.00	152.00	3.29	1.16	0.00
50.00	3.29	1.16	0.00	154.00	3.29	1.16	0.00
52.00	3.29	1.16	0.00	156.00	3.29	1.16	0.00
54.00	3.29	1.16	0.00	158.00	3.29	1.16	0.00
56.00	3.29	1.16	0.00	160.00	3.29	1.16	0.00
58.00	3.29	1.16	0.00	162.00	3.29	1.16	0.00
60.00	3.29	1.16	0.00	164.00	3.29	1.16	0.00
62.00	3.29	1.16	0.00	166.00	3.29	1.16	0.00
64.00	3.29	1.16	0.00	168.00	3.29	1.16	0.00
66.00	3.29	1.16	0.00	170.00	3.29	1.16	0.00
68.00	3.29	1.16	0.00	172.00	3.29	1.16	0.00
70.00	3.29	1.16	0.00	174.00	3.29	1.16	0.00
72.00	3.29	1.16	0.00	176.00	3.29	1.16	0.00
74.00	3.29	1.16	0.00	178.00	3.29	1.16	0.00
76.00	3.29	1.16	0.00	180.00	3.29	1.16	0.00
78.00	3.29	1.16	0.00				
80.00	3.29	1.16	0.00				
82.00	3.29	1.16	0.00				
84.00	3.29	1.16	0.00				
86.00	3.29	1.16	0.00				
88.00	3.29	1.16	0.00				
90.00	3.29	1.16	0.00				
92.00	3.29	1.16	0.00				
94.00	3.29	1.16	0.00				
96.00	3.29	1.16	0.00				
98.00	3.29	1.16	0.00				
100.00	3.29	1.16	0.00				
102.00	3.29	1.16	0.00				

Summary for Subcatchment N: North

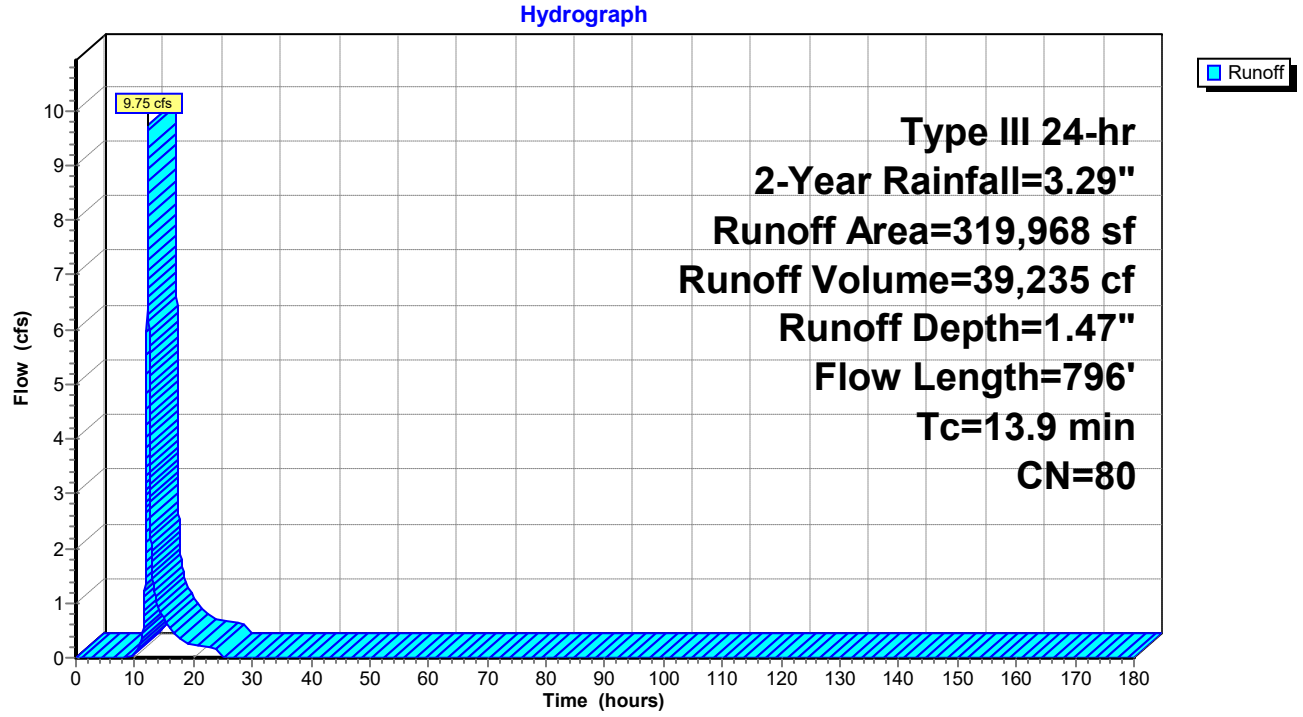
Runoff = 9.75 cfs @ 12.19 hrs, Volume= 39,235 cf, Depth= 1.47"
Routed to Link 6L :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
290,713	80	Pasture/grassland/range, Good, HSG D
29,255	77	Woods, Good, HSG D
319,968	80	Weighted Average
319,968		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0850	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.7	85	0.0656	0.30		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
6.5	689	0.0643	1.78		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	7	0.0590	1.21		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
13.9	796	Total			

Subcatchment N: North



Hydrograph for Subcatchment N: North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.01	0.08
12.00	1.64	0.36	**3.84**
14.00	2.67	1.01	**0.93**
16.00	2.91	1.19	0.51
18.00	3.05	1.29	0.31
20.00	3.15	1.36	0.25
22.00	3.23	1.42	0.21
24.00	**3.29**	**1.47**	0.17
26.00	3.29	1.47	0.00
28.00	3.29	1.47	0.00
30.00	3.29	1.47	0.00
32.00	3.29	1.47	0.00
34.00	3.29	1.47	0.00
36.00	3.29	1.47	0.00
38.00	3.29	1.47	0.00
40.00	3.29	1.47	0.00
42.00	3.29	1.47	0.00
44.00	3.29	1.47	0.00
46.00	3.29	1.47	0.00
48.00	3.29	1.47	0.00
50.00	3.29	1.47	0.00
52.00	3.29	1.47	0.00
54.00	3.29	1.47	0.00
56.00	3.29	1.47	0.00
58.00	3.29	1.47	0.00
60.00	3.29	1.47	0.00
62.00	3.29	1.47	0.00
64.00	3.29	1.47	0.00
66.00	3.29	1.47	0.00
68.00	3.29	1.47	0.00
70.00	3.29	1.47	0.00
72.00	3.29	1.47	0.00
74.00	3.29	1.47	0.00
76.00	3.29	1.47	0.00
78.00	3.29	1.47	0.00
80.00	3.29	1.47	0.00
82.00	3.29	1.47	0.00
84.00	3.29	1.47	0.00
86.00	3.29	1.47	0.00
88.00	3.29	1.47	0.00
90.00	3.29	1.47	0.00
92.00	3.29	1.47	0.00
94.00	3.29	1.47	0.00
96.00	3.29	1.47	0.00
98.00	3.29	1.47	0.00
100.00	3.29	1.47	0.00
102.00	3.29	1.47	0.00
104.00	3.29	1.47	0.00
106.00	3.29	1.47	0.00
108.00	3.29	1.47	0.00
110.00	3.29	1.47	0.00
112.00	3.29	1.47	0.00
114.00	3.29	1.47	0.00
116.00	3.29	1.47	0.00
118.00	3.29	1.47	0.00
120.00	3.29	1.47	0.00
122.00	3.29	1.47	0.00
124.00	3.29	1.47	0.00
126.00	3.29	1.47	0.00
128.00	3.29	1.47	0.00
130.00	3.29	1.47	0.00
132.00	3.29	1.47	0.00
134.00	3.29	1.47	0.00
136.00	3.29	1.47	0.00
138.00	3.29	1.47	0.00
140.00	3.29	1.47	0.00
142.00	3.29	1.47	0.00
144.00	3.29	1.47	0.00
146.00	3.29	1.47	0.00
148.00	3.29	1.47	0.00
150.00	3.29	1.47	0.00
152.00	3.29	1.47	0.00
154.00	3.29	1.47	0.00
156.00	3.29	1.47	0.00
158.00	3.29	1.47	0.00
160.00	3.29	1.47	0.00
162.00	3.29	1.47	0.00
164.00	3.29	1.47	0.00
166.00	3.29	1.47	0.00
168.00	3.29	1.47	0.00
170.00	3.29	1.47	0.00
172.00	3.29	1.47	0.00
174.00	3.29	1.47	0.00
176.00	3.29	1.47	0.00
178.00	3.29	1.47	0.00
180.00	3.29	1.47	0.00

Summary for Subcatchment NE: North East

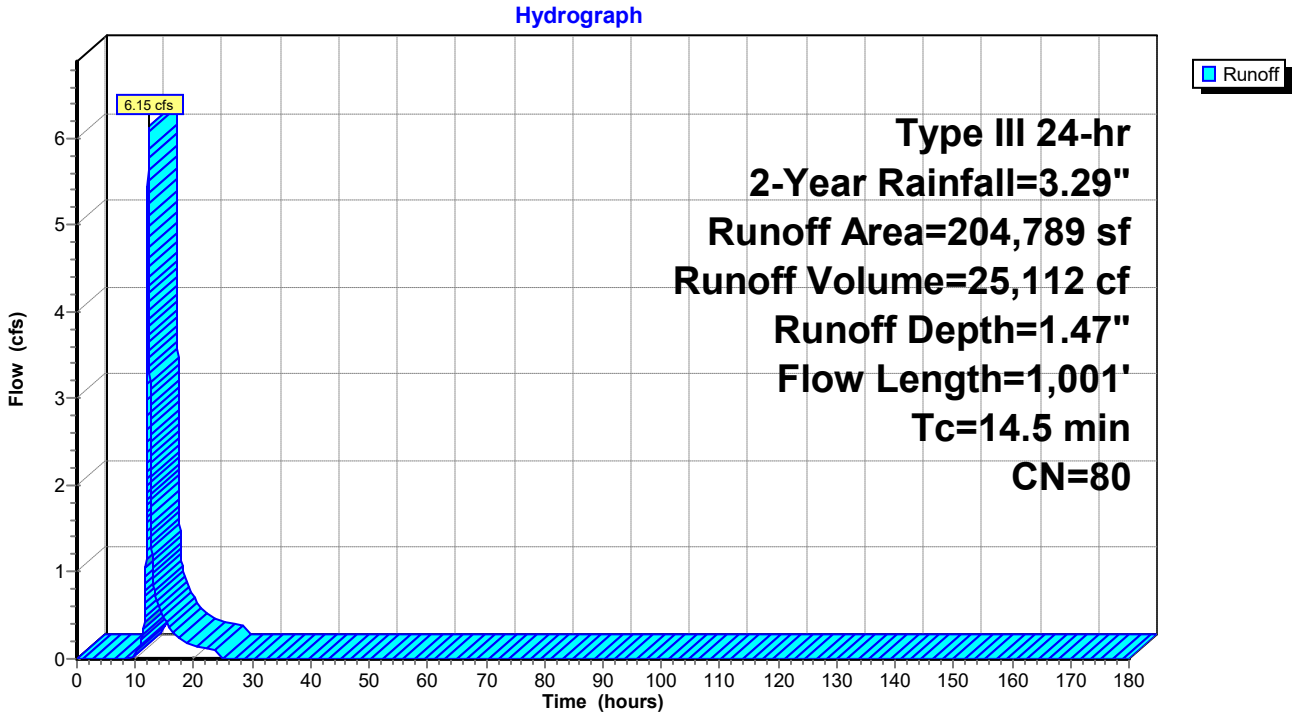
Runoff = 6.15 cfs @ 12.20 hrs, Volume= 25,112 cf, Depth= 1.47"
Routed to Pond 4P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
195,115	80	Pasture/grassland/range, Good, HSG D
9,674	77	Woods, Good, HSG D
204,789	80	Weighted Average
204,789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0558	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
8.8	901	0.0597	1.71		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
14.5	1,001	Total			

Subcatchment NE: North East



Hydrograph for Subcatchment NE: North East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.01	0.05
12.00	1.64	0.36	**2.38**
14.00	2.67	1.01	**0.60**
16.00	2.91	1.19	0.33
18.00	3.05	1.29	0.20
20.00	3.15	1.36	0.16
22.00	3.23	1.42	0.13
24.00	**3.29**	**1.47**	0.11
26.00	3.29	1.47	0.00
28.00	3.29	1.47	0.00
30.00	3.29	1.47	0.00
32.00	3.29	1.47	0.00
34.00	3.29	1.47	0.00
36.00	3.29	1.47	0.00
38.00	3.29	1.47	0.00
40.00	3.29	1.47	0.00
42.00	3.29	1.47	0.00
44.00	3.29	1.47	0.00
46.00	3.29	1.47	0.00
48.00	3.29	1.47	0.00
50.00	3.29	1.47	0.00
52.00	3.29	1.47	0.00
54.00	3.29	1.47	0.00
56.00	3.29	1.47	0.00
58.00	3.29	1.47	0.00
60.00	3.29	1.47	0.00
62.00	3.29	1.47	0.00
64.00	3.29	1.47	0.00
66.00	3.29	1.47	0.00
68.00	3.29	1.47	0.00
70.00	3.29	1.47	0.00
72.00	3.29	1.47	0.00
74.00	3.29	1.47	0.00
76.00	3.29	1.47	0.00
78.00	3.29	1.47	0.00
80.00	3.29	1.47	0.00
82.00	3.29	1.47	0.00
84.00	3.29	1.47	0.00
86.00	3.29	1.47	0.00
88.00	3.29	1.47	0.00
90.00	3.29	1.47	0.00
92.00	3.29	1.47	0.00
94.00	3.29	1.47	0.00
96.00	3.29	1.47	0.00
98.00	3.29	1.47	0.00
100.00	3.29	1.47	0.00
102.00	3.29	1.47	0.00
104.00	3.29	1.47	0.00
106.00	3.29	1.47	0.00
108.00	3.29	1.47	0.00
110.00	3.29	1.47	0.00
112.00	3.29	1.47	0.00
114.00	3.29	1.47	0.00
116.00	3.29	1.47	0.00
118.00	3.29	1.47	0.00
120.00	3.29	1.47	0.00
122.00	3.29	1.47	0.00
124.00	3.29	1.47	0.00
126.00	3.29	1.47	0.00
128.00	3.29	1.47	0.00
130.00	3.29	1.47	0.00
132.00	3.29	1.47	0.00
134.00	3.29	1.47	0.00
136.00	3.29	1.47	0.00
138.00	3.29	1.47	0.00
140.00	3.29	1.47	0.00
142.00	3.29	1.47	0.00
144.00	3.29	1.47	0.00
146.00	3.29	1.47	0.00
148.00	3.29	1.47	0.00
150.00	3.29	1.47	0.00
152.00	3.29	1.47	0.00
154.00	3.29	1.47	0.00
156.00	3.29	1.47	0.00
158.00	3.29	1.47	0.00
160.00	3.29	1.47	0.00
162.00	3.29	1.47	0.00
164.00	3.29	1.47	0.00
166.00	3.29	1.47	0.00
168.00	3.29	1.47	0.00
170.00	3.29	1.47	0.00
172.00	3.29	1.47	0.00
174.00	3.29	1.47	0.00
176.00	3.29	1.47	0.00
178.00	3.29	1.47	0.00
180.00	3.29	1.47	0.00

Summary for Subcatchment SE: South East

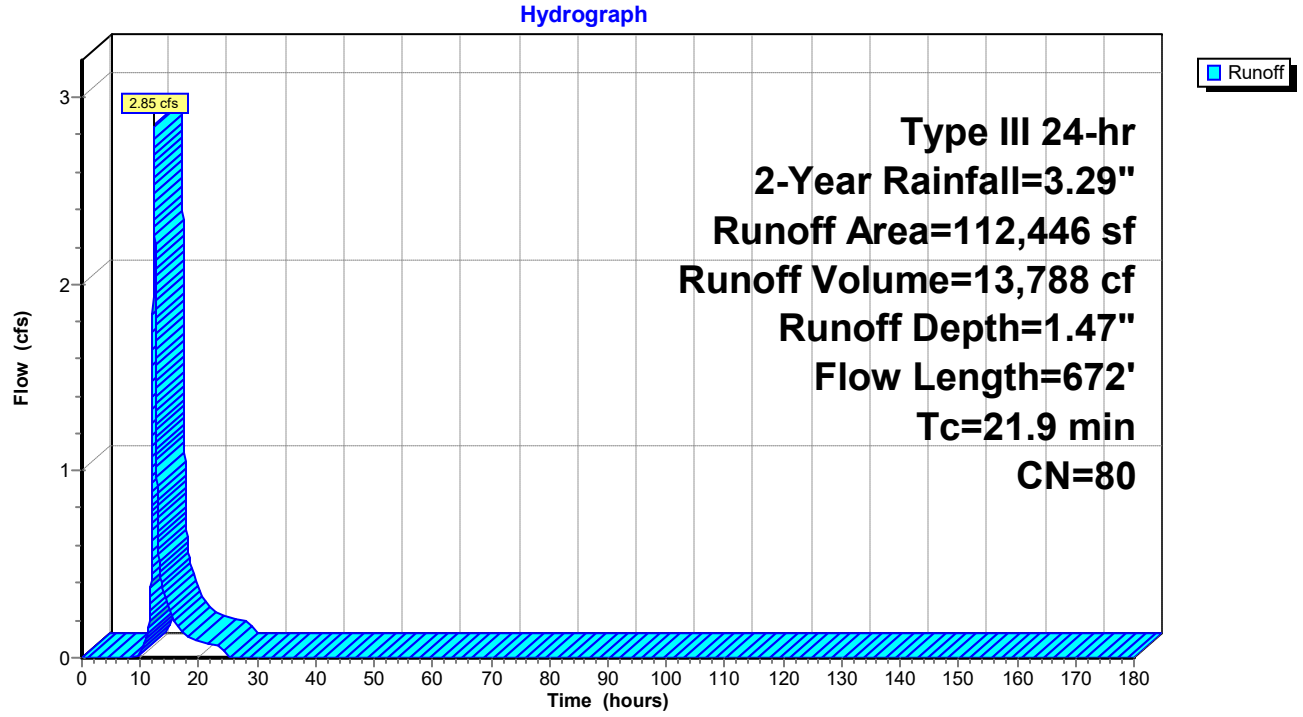
Runoff = 2.85 cfs @ 12.31 hrs, Volume= 13,788 cf, Depth= 1.47"
Routed to Reach 5P : Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

	Area (sf)	CN	Description
	110,724	80	Pasture/grassland/range, Good, HSG D
	1,536	77	Woods, Good, HSG D
*	186	96	Gravel surface
	112,446	80	Weighted Average
	112,446		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0428	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	521	0.0416	1.43		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.2	51	0.0277	3.86	17.37	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 10.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
21.9	672	Total			

Subcatchment SE: South East



Hydrograph for Subcatchment SE: South East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.01	0.02
12.00	1.64	0.36	**0.89**
14.00	2.67	1.01	**0.35**
16.00	2.91	1.19	0.19
18.00	3.05	1.29	0.11
20.00	3.15	1.36	0.09
22.00	3.23	1.42	0.07
24.00	**3.29**	**1.47**	0.06
26.00	3.29	1.47	0.00
28.00	3.29	1.47	0.00
30.00	3.29	1.47	0.00
32.00	3.29	1.47	0.00
34.00	3.29	1.47	0.00
36.00	3.29	1.47	0.00
38.00	3.29	1.47	0.00
40.00	3.29	1.47	0.00
42.00	3.29	1.47	0.00
44.00	3.29	1.47	0.00
46.00	3.29	1.47	0.00
48.00	3.29	1.47	0.00
50.00	3.29	1.47	0.00
52.00	3.29	1.47	0.00
54.00	3.29	1.47	0.00
56.00	3.29	1.47	0.00
58.00	3.29	1.47	0.00
60.00	3.29	1.47	0.00
62.00	3.29	1.47	0.00
64.00	3.29	1.47	0.00
66.00	3.29	1.47	0.00
68.00	3.29	1.47	0.00
70.00	3.29	1.47	0.00
72.00	3.29	1.47	0.00
74.00	3.29	1.47	0.00
76.00	3.29	1.47	0.00
78.00	3.29	1.47	0.00
80.00	3.29	1.47	0.00
82.00	3.29	1.47	0.00
84.00	3.29	1.47	0.00
86.00	3.29	1.47	0.00
88.00	3.29	1.47	0.00
90.00	3.29	1.47	0.00
92.00	3.29	1.47	0.00
94.00	3.29	1.47	0.00
96.00	3.29	1.47	0.00
98.00	3.29	1.47	0.00
100.00	3.29	1.47	0.00
102.00	3.29	1.47	0.00
104.00	3.29	1.47	0.00
106.00	3.29	1.47	0.00
108.00	3.29	1.47	0.00
110.00	3.29	1.47	0.00
112.00	3.29	1.47	0.00
114.00	3.29	1.47	0.00
116.00	3.29	1.47	0.00
118.00	3.29	1.47	0.00
120.00	3.29	1.47	0.00
122.00	3.29	1.47	0.00
124.00	3.29	1.47	0.00
126.00	3.29	1.47	0.00
128.00	3.29	1.47	0.00
130.00	3.29	1.47	0.00
132.00	3.29	1.47	0.00
134.00	3.29	1.47	0.00
136.00	3.29	1.47	0.00
138.00	3.29	1.47	0.00
140.00	3.29	1.47	0.00
142.00	3.29	1.47	0.00
144.00	3.29	1.47	0.00
146.00	3.29	1.47	0.00
148.00	3.29	1.47	0.00
150.00	3.29	1.47	0.00
152.00	3.29	1.47	0.00
154.00	3.29	1.47	0.00
156.00	3.29	1.47	0.00
158.00	3.29	1.47	0.00
160.00	3.29	1.47	0.00
162.00	3.29	1.47	0.00
164.00	3.29	1.47	0.00
166.00	3.29	1.47	0.00
168.00	3.29	1.47	0.00
170.00	3.29	1.47	0.00
172.00	3.29	1.47	0.00
174.00	3.29	1.47	0.00
176.00	3.29	1.47	0.00
178.00	3.29	1.47	0.00
180.00	3.29	1.47	0.00

Summary for Subcatchment W: West

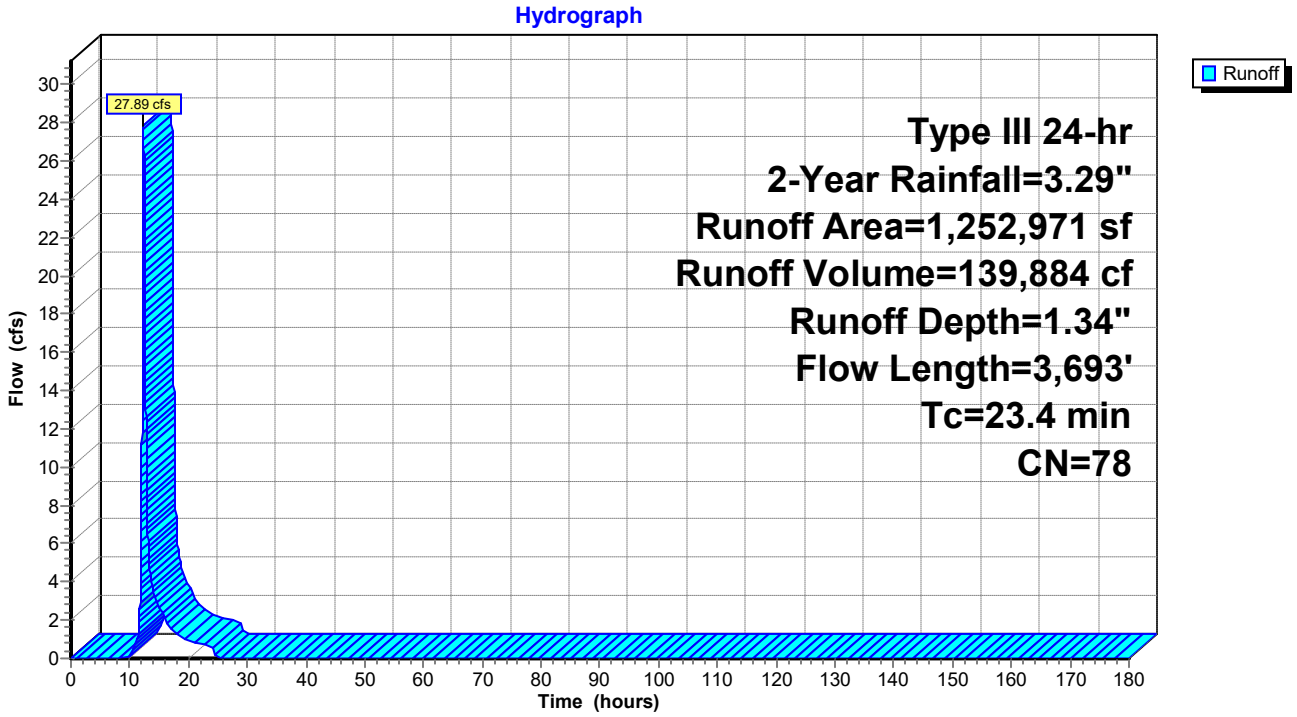
Runoff = 27.89 cfs @ 12.35 hrs, Volume= 139,884 cf, Depth= 1.34"
Routed to Reach DP-W : Watts Stream

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

	Area (sf)	CN	Description
	243,483	74	Pasture/grassland/range, Good, HSG C
	405,275	80	Pasture/grassland/range, Good, HSG D
	40,930	70	Woods, Good, HSG C
	521,429	77	Woods, Good, HSG D
*	36,764	96	Gravel surface
*	5,090	98	Impervious
	1,252,971	78	Weighted Average
	1,247,881		99.59% Pervious Area
	5,090		0.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0814	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	85	0.0623	0.29		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
5.9	685	0.0763	1.93		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	75	0.0926	10.68	128.14	**Trap/Vee/Rect Channel Flow, DE** Bot.W=4.00' D=1.00' Z= 8.0 '/' Top.W=20.00' n= 0.030 Earth, grassed & winding
1.1	187	0.1510	2.72		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
1.7	174	0.1201	1.73		**Shallow Concentrated Flow, FG** Woodland Kv= 5.0 fps
3.1	214	0.0525	1.15		**Shallow Concentrated Flow, GH** Woodland Kv= 5.0 fps
0.6	73	0.1513	1.94		**Shallow Concentrated Flow, HI** Woodland Kv= 5.0 fps
0.9	49	0.0338	0.92		**Shallow Concentrated Flow, IJ** Woodland Kv= 5.0 fps
2.6	2,136	0.0318	13.70	945.01	**Trap/Vee/Rect Channel Flow, JK** Bot.W=11.00' D=3.00' Z= 4.0 '/' Top.W=35.00' n= 0.030 Earth, grassed & winding
23.4	3,693	Total			

Subcatchment W: West



Hydrograph for Subcatchment W: West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.00	0.03
12.00	1.64	0.30	**7.85**
14.00	2.67	0.90	**3.65**
16.00	2.91	1.07	2.01
18.00	3.05	1.17	1.22
20.00	3.15	1.24	0.94
22.00	3.23	1.29	0.78
24.00	**3.29**	**1.34**	0.63
26.00	3.29	1.34	0.00
28.00	3.29	1.34	0.00
30.00	3.29	1.34	0.00
32.00	3.29	1.34	0.00
34.00	3.29	1.34	0.00
36.00	3.29	1.34	0.00
38.00	3.29	1.34	0.00
40.00	3.29	1.34	0.00
42.00	3.29	1.34	0.00
44.00	3.29	1.34	0.00
46.00	3.29	1.34	0.00
48.00	3.29	1.34	0.00
50.00	3.29	1.34	0.00
52.00	3.29	1.34	0.00
54.00	3.29	1.34	0.00
56.00	3.29	1.34	0.00
58.00	3.29	1.34	0.00
60.00	3.29	1.34	0.00
62.00	3.29	1.34	0.00
64.00	3.29	1.34	0.00
66.00	3.29	1.34	0.00
68.00	3.29	1.34	0.00
70.00	3.29	1.34	0.00
72.00	3.29	1.34	0.00
74.00	3.29	1.34	0.00
76.00	3.29	1.34	0.00
78.00	3.29	1.34	0.00
80.00	3.29	1.34	0.00
82.00	3.29	1.34	0.00
84.00	3.29	1.34	0.00
86.00	3.29	1.34	0.00
88.00	3.29	1.34	0.00
90.00	3.29	1.34	0.00
92.00	3.29	1.34	0.00
94.00	3.29	1.34	0.00
96.00	3.29	1.34	0.00
98.00	3.29	1.34	0.00
100.00	3.29	1.34	0.00
102.00	3.29	1.34	0.00
104.00	3.29	1.34	0.00
106.00	3.29	1.34	0.00
108.00	3.29	1.34	0.00
110.00	3.29	1.34	0.00
112.00	3.29	1.34	0.00
114.00	3.29	1.34	0.00
116.00	3.29	1.34	0.00
118.00	3.29	1.34	0.00
120.00	3.29	1.34	0.00
122.00	3.29	1.34	0.00
124.00	3.29	1.34	0.00
126.00	3.29	1.34	0.00
128.00	3.29	1.34	0.00
130.00	3.29	1.34	0.00
132.00	3.29	1.34	0.00
134.00	3.29	1.34	0.00
136.00	3.29	1.34	0.00
138.00	3.29	1.34	0.00
140.00	3.29	1.34	0.00
142.00	3.29	1.34	0.00
144.00	3.29	1.34	0.00
146.00	3.29	1.34	0.00
148.00	3.29	1.34	0.00
150.00	3.29	1.34	0.00
152.00	3.29	1.34	0.00
154.00	3.29	1.34	0.00
156.00	3.29	1.34	0.00
158.00	3.29	1.34	0.00
160.00	3.29	1.34	0.00
162.00	3.29	1.34	0.00
164.00	3.29	1.34	0.00
166.00	3.29	1.34	0.00
168.00	3.29	1.34	0.00
170.00	3.29	1.34	0.00
172.00	3.29	1.34	0.00
174.00	3.29	1.34	0.00
176.00	3.29	1.34	0.00
178.00	3.29	1.34	0.00
180.00	3.29	1.34	0.00

Summary for Reach 1P: 15" CPP

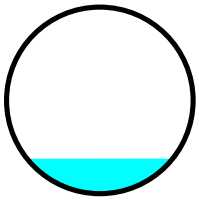
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 69,949 sf, 0.00% Impervious, Inflow Depth = 1.16" for 2-Year event
Inflow = 1.54 cfs @ 12.24 hrs, Volume= 6,734 cf
Outflow = 1.54 cfs @ 12.24 hrs, Volume= 6,734 cf, Atten= 0%, Lag= 0.1 min
Routed to Link 1L : Lag

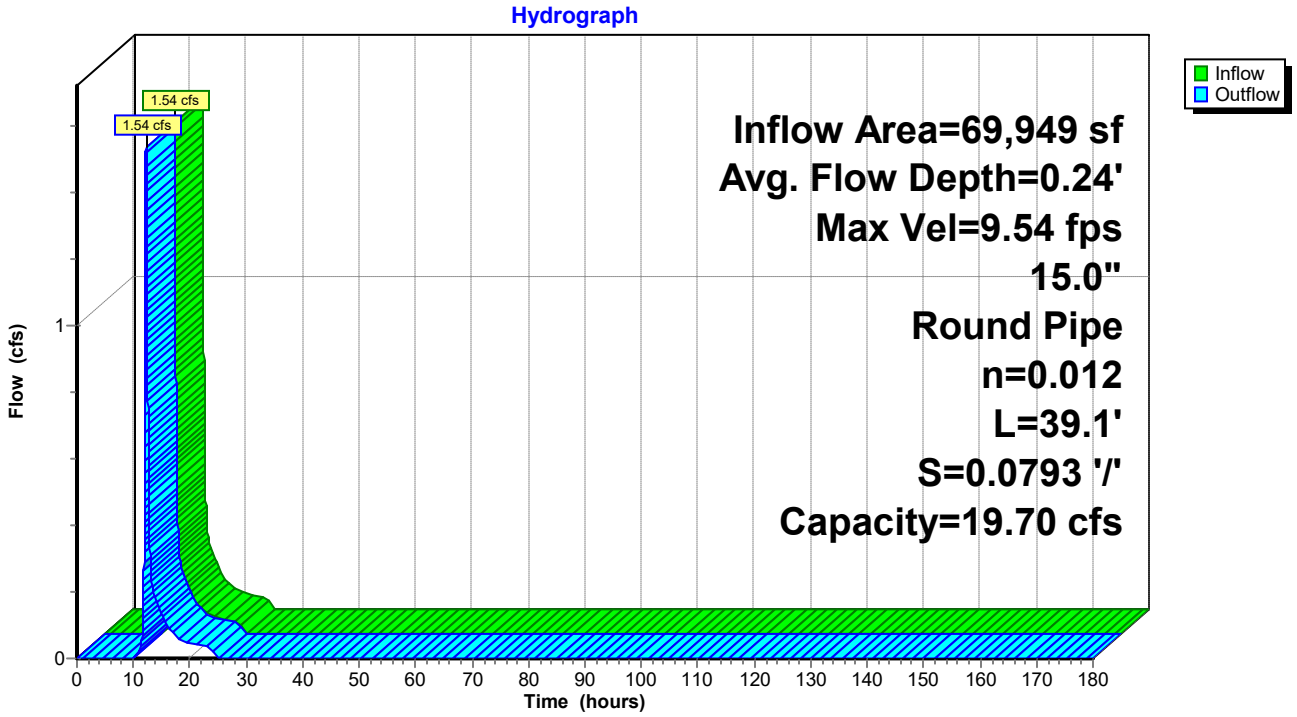
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.54 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.94 fps, Avg. Travel Time= 0.2 min

Peak Storage= 6 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.24' , Surface Width= 0.98'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 19.70 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 39.1' Slope= 0.0793 '/'
Inlet Invert= 1,668.60', Outlet Invert= 1,665.50'



Reach 1P: 15" CPP



Hydrograph for Reach 1P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,668.60	0.00
5.00	0.00	0	1,668.60	0.00
10.00	**0.00**	**0**	**1,668.60**	**0.00**
15.00	**0.13**	**1**	**1,668.67**	**0.13**
20.00	0.05	1	1,668.64	0.05
25.00	0.00	0	1,668.60	0.00
30.00	0.00	0	1,668.60	0.00
35.00	0.00	0	1,668.60	0.00
40.00	0.00	0	1,668.60	0.00
45.00	0.00	0	1,668.60	0.00
50.00	0.00	0	1,668.60	0.00
55.00	0.00	0	1,668.60	0.00
60.00	0.00	0	1,668.60	0.00
65.00	0.00	0	1,668.60	0.00
70.00	0.00	0	1,668.60	0.00
75.00	0.00	0	1,668.60	0.00
80.00	0.00	0	1,668.60	0.00
85.00	0.00	0	1,668.60	0.00
90.00	0.00	0	1,668.60	0.00
95.00	0.00	0	1,668.60	0.00
100.00	0.00	0	1,668.60	0.00
105.00	0.00	0	1,668.60	0.00
110.00	0.00	0	1,668.60	0.00
115.00	0.00	0	1,668.60	0.00
120.00	0.00	0	1,668.60	0.00
125.00	0.00	0	1,668.60	0.00
130.00	0.00	0	1,668.60	0.00
135.00	0.00	0	1,668.60	0.00
140.00	0.00	0	1,668.60	0.00
145.00	0.00	0	1,668.60	0.00
150.00	0.00	0	1,668.60	0.00
155.00	0.00	0	1,668.60	0.00
160.00	0.00	0	1,668.60	0.00
165.00	0.00	0	1,668.60	0.00
170.00	0.00	0	1,668.60	0.00
175.00	0.00	0	1,668.60	0.00
180.00	0.00	0	1,668.60	0.00

Summary for Reach 2P: 15" CPP

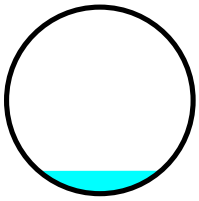
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 21,615 sf, 0.00% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 0.56 cfs @ 12.13 hrs, Volume= 1,976 cf
Outflow = 0.56 cfs @ 12.13 hrs, Volume= 1,976 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : Lag

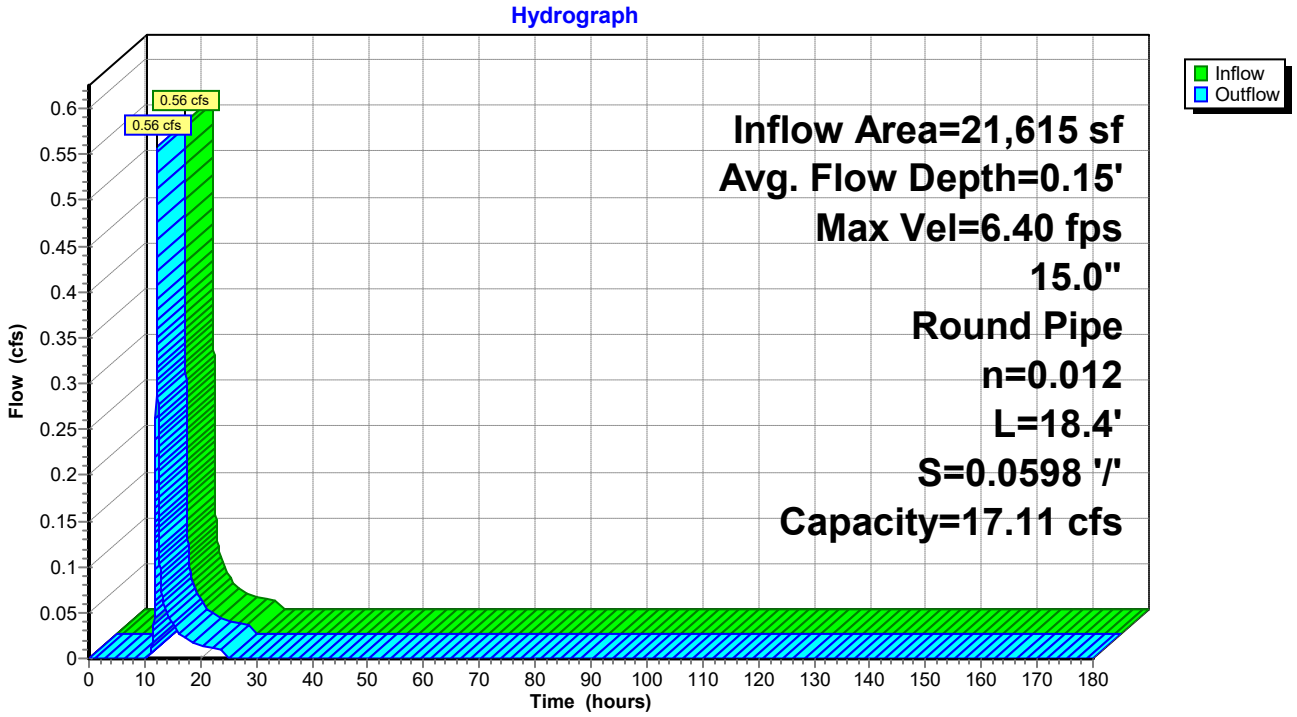
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.40 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.53 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.15' , Surface Width= 0.82'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.11 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 18.4' Slope= 0.0598 '/'
Inlet Invert= 1,669.70', Outlet Invert= 1,668.60'



Reach 2P: 15" CPP



Hydrograph for Reach 2P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,669.70	0.00
5.00	0.00	0	1,669.70	0.00
10.00	**0.00**	**0**	**1,669.70**	**0.00**
15.00	**0.04**	**0**	**1,669.74**	**0.04**
20.00	0.01	0	1,669.73	0.01
25.00	0.00	0	1,669.70	0.00
30.00	0.00	0	1,669.70	0.00
35.00	0.00	0	1,669.70	0.00
40.00	0.00	0	1,669.70	0.00
45.00	0.00	0	1,669.70	0.00
50.00	0.00	0	1,669.70	0.00
55.00	0.00	0	1,669.70	0.00
60.00	0.00	0	1,669.70	0.00
65.00	0.00	0	1,669.70	0.00
70.00	0.00	0	1,669.70	0.00
75.00	0.00	0	1,669.70	0.00
80.00	0.00	0	1,669.70	0.00
85.00	0.00	0	1,669.70	0.00
90.00	0.00	0	1,669.70	0.00
95.00	0.00	0	1,669.70	0.00
100.00	0.00	0	1,669.70	0.00
105.00	0.00	0	1,669.70	0.00
110.00	0.00	0	1,669.70	0.00
115.00	0.00	0	1,669.70	0.00
120.00	0.00	0	1,669.70	0.00
125.00	0.00	0	1,669.70	0.00
130.00	0.00	0	1,669.70	0.00
135.00	0.00	0	1,669.70	0.00
140.00	0.00	0	1,669.70	0.00
145.00	0.00	0	1,669.70	0.00
150.00	0.00	0	1,669.70	0.00
155.00	0.00	0	1,669.70	0.00
160.00	0.00	0	1,669.70	0.00
165.00	0.00	0	1,669.70	0.00
170.00	0.00	0	1,669.70	0.00
175.00	0.00	0	1,669.70	0.00
180.00	0.00	0	1,669.70	0.00

Summary for Reach 3P: 15" CPP

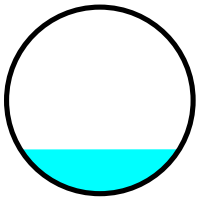
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 65,090 sf, 0.00% Impervious, Inflow Depth = 1.34" for 2-Year event
Inflow = 1.63 cfs @ 12.25 hrs, Volume= 7,267 cf
Outflow = 1.63 cfs @ 12.25 hrs, Volume= 7,267 cf, Atten= 0%, Lag= 0.1 min
Routed to Link 3L : Lag

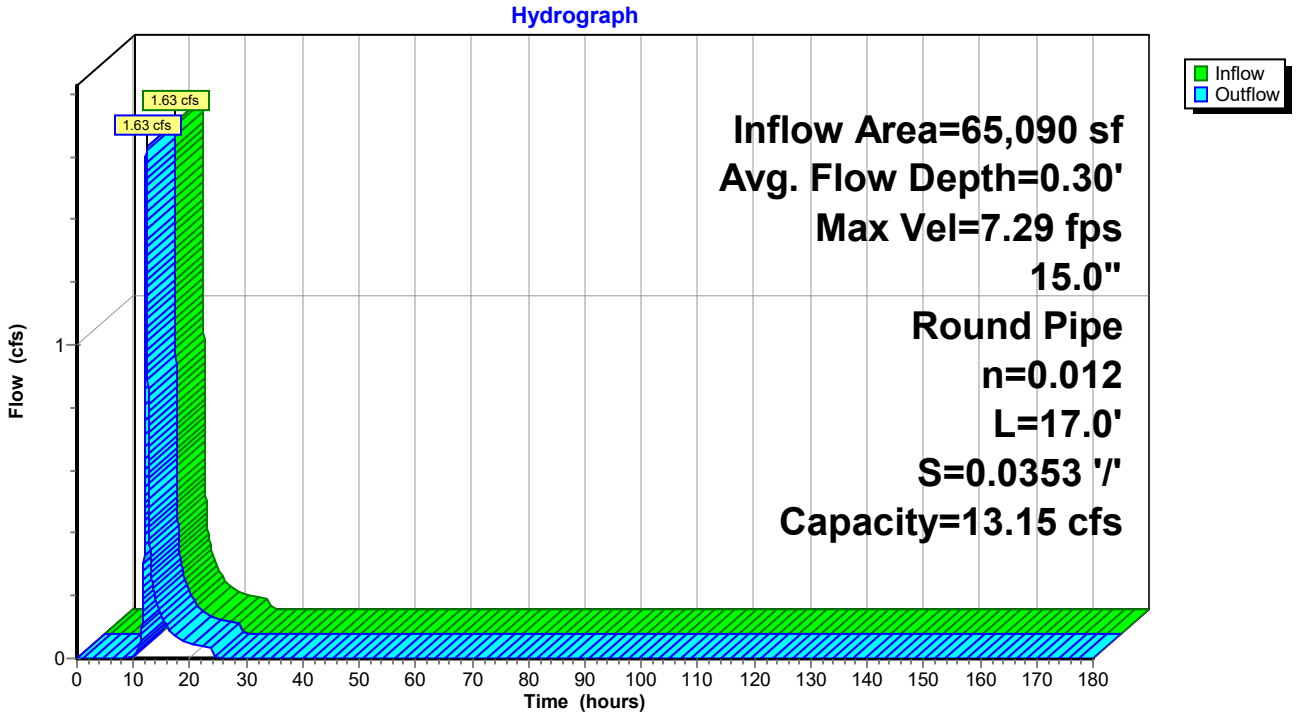
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 7.29 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.95 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.30' , Surface Width= 1.06'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 13.15 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 17.0' Slope= 0.0353 '/'
Inlet Invert= 1,666.50', Outlet Invert= 1,665.90'



Reach 3P: 15" CPP



Hydrograph for Reach 3P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,666.50	0.00
5.00	0.00	0	1,666.50	0.00
10.00	**0.00**	**0**	**1,666.51**	**0.00**
15.00	**0.14**	**1**	**1,666.59**	**0.14**
20.00	0.05	0	1,666.55	0.05
25.00	0.00	0	1,666.50	0.00
30.00	0.00	0	1,666.50	0.00
35.00	0.00	0	1,666.50	0.00
40.00	0.00	0	1,666.50	0.00
45.00	0.00	0	1,666.50	0.00
50.00	0.00	0	1,666.50	0.00
55.00	0.00	0	1,666.50	0.00
60.00	0.00	0	1,666.50	0.00
65.00	0.00	0	1,666.50	0.00
70.00	0.00	0	1,666.50	0.00
75.00	0.00	0	1,666.50	0.00
80.00	0.00	0	1,666.50	0.00
85.00	0.00	0	1,666.50	0.00
90.00	0.00	0	1,666.50	0.00
95.00	0.00	0	1,666.50	0.00
100.00	0.00	0	1,666.50	0.00
105.00	0.00	0	1,666.50	0.00
110.00	0.00	0	1,666.50	0.00
115.00	0.00	0	1,666.50	0.00
120.00	0.00	0	1,666.50	0.00
125.00	0.00	0	1,666.50	0.00
130.00	0.00	0	1,666.50	0.00
135.00	0.00	0	1,666.50	0.00
140.00	0.00	0	1,666.50	0.00
145.00	0.00	0	1,666.50	0.00
150.00	0.00	0	1,666.50	0.00
155.00	0.00	0	1,666.50	0.00
160.00	0.00	0	1,666.50	0.00
165.00	0.00	0	1,666.50	0.00
170.00	0.00	0	1,666.50	0.00
175.00	0.00	0	1,666.50	0.00
180.00	0.00	0	1,666.50	0.00

Summary for Reach 5P: Culvert

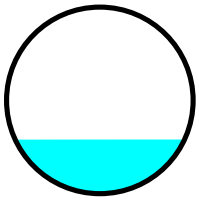
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 112,446 sf, 0.00% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 2.85 cfs @ 12.31 hrs, Volume= 13,788 cf
Outflow = 2.85 cfs @ 12.31 hrs, Volume= 13,788 cf, Atten= 0%, Lag= 0.1 min
Routed to Link 5L : Lag

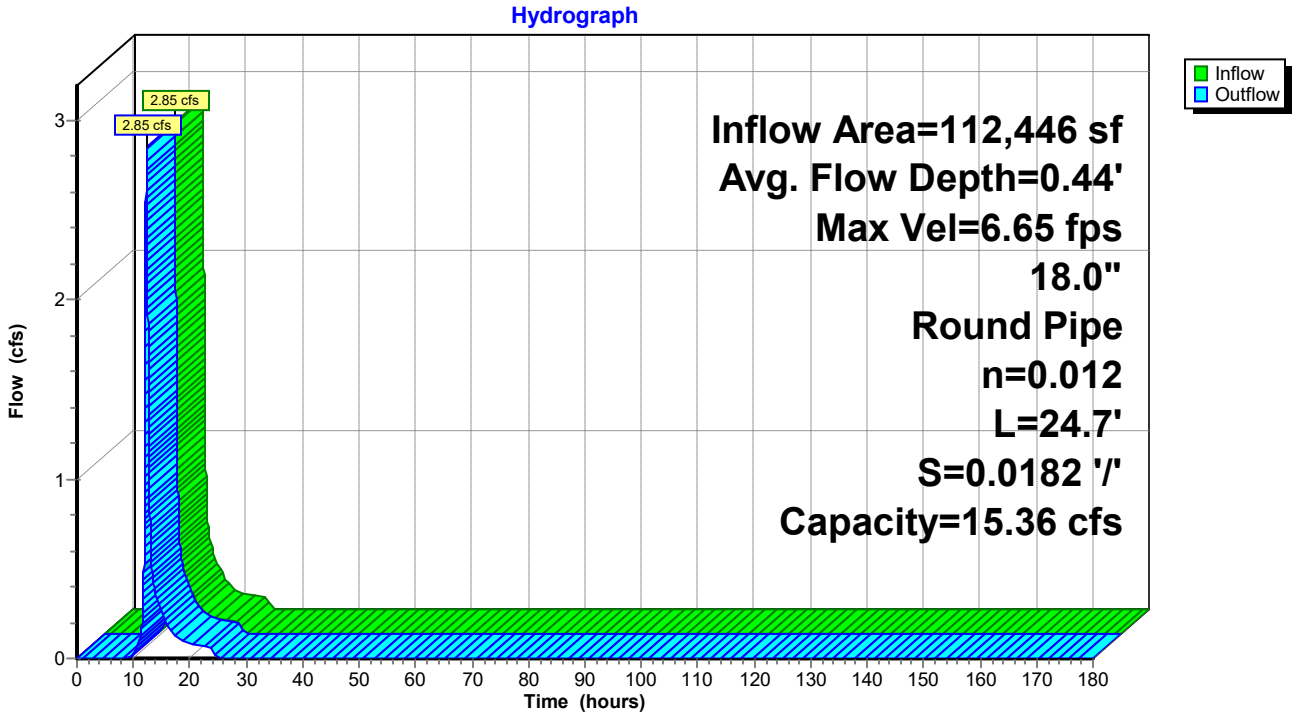
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.65 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.70 fps, Avg. Travel Time= 0.2 min

Peak Storage= 11 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.44' , Surface Width= 1.36'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.36 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 24.7' Slope= 0.0182 '/'
Inlet Invert= 1,620.00', Outlet Invert= 1,619.55'



Reach 5P: Culvert



Hydrograph for Reach 5P: Culvert

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,620.00	0.00
5.00	0.00	0	1,620.00	0.00
10.00	**0.02**	**0**	**1,620.04**	**0.02**
15.00	**0.26**	**2**	**1,620.14**	**0.26**
20.00	0.09	1	1,620.08	0.09
25.00	0.00	0	1,620.00	0.00
30.00	0.00	0	1,620.00	0.00
35.00	0.00	0	1,620.00	0.00
40.00	0.00	0	1,620.00	0.00
45.00	0.00	0	1,620.00	0.00
50.00	0.00	0	1,620.00	0.00
55.00	0.00	0	1,620.00	0.00
60.00	0.00	0	1,620.00	0.00
65.00	0.00	0	1,620.00	0.00
70.00	0.00	0	1,620.00	0.00
75.00	0.00	0	1,620.00	0.00
80.00	0.00	0	1,620.00	0.00
85.00	0.00	0	1,620.00	0.00
90.00	0.00	0	1,620.00	0.00
95.00	0.00	0	1,620.00	0.00
100.00	0.00	0	1,620.00	0.00
105.00	0.00	0	1,620.00	0.00
110.00	0.00	0	1,620.00	0.00
115.00	0.00	0	1,620.00	0.00
120.00	0.00	0	1,620.00	0.00
125.00	0.00	0	1,620.00	0.00
130.00	0.00	0	1,620.00	0.00
135.00	0.00	0	1,620.00	0.00
140.00	0.00	0	1,620.00	0.00
145.00	0.00	0	1,620.00	0.00
150.00	0.00	0	1,620.00	0.00
155.00	0.00	0	1,620.00	0.00
160.00	0.00	0	1,620.00	0.00
165.00	0.00	0	1,620.00	0.00
170.00	0.00	0	1,620.00	0.00
175.00	0.00	0	1,620.00	0.00
180.00	0.00	0	1,620.00	0.00

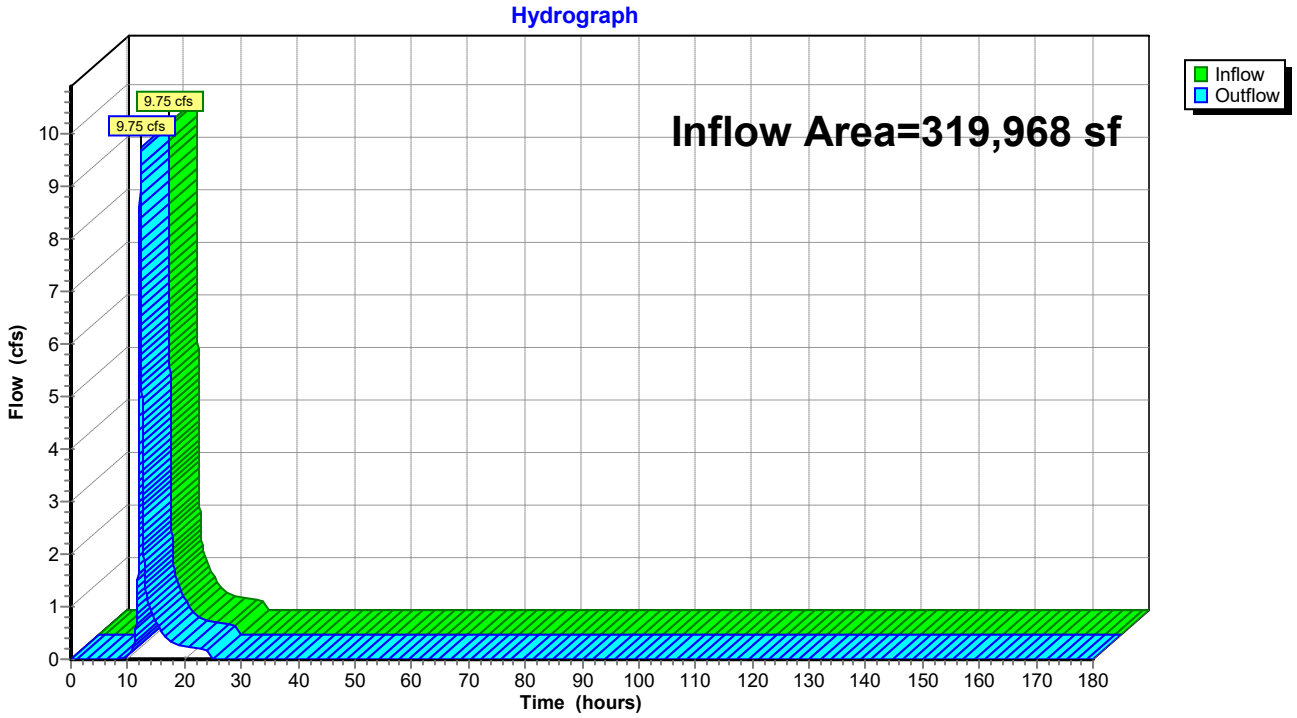
Summary for Reach DP-E: Culvert towards Wades Stream

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

Inflow Area = 319,968 sf, 0.00% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 9.75 cfs @ 12.21 hrs, Volume= 39,235 cf
Outflow = 9.75 cfs @ 12.21 hrs, Volume= 39,235 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach DP-E: Culvert towards Wades Stream



Hydrograph for Reach DP-E: Culvert towards Wades Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.00		0.00	112.00	0.00		0.00
10.00	0.07		0.07	114.00	0.00		0.00
12.00	**3.54**		**3.54**	116.00	0.00		0.00
14.00	**0.94**		**0.94**	118.00	0.00		0.00
16.00	0.52		0.52	120.00	0.00		0.00
18.00	0.32		0.32	122.00	0.00		0.00
20.00	0.25		0.25	124.00	0.00		0.00
22.00	0.21		0.21	126.00	0.00		0.00
24.00	0.17		0.17	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

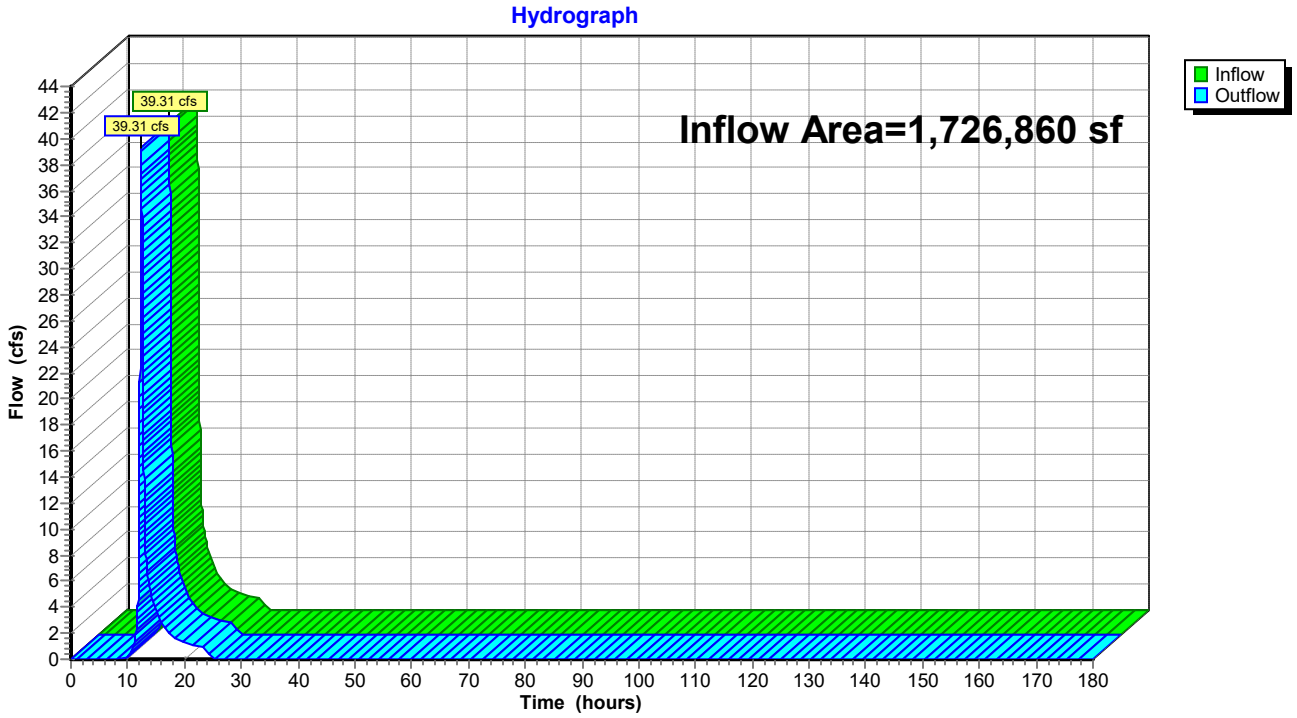
Summary for Reach DP-W: Watts Stream

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

Inflow Area = 1,726,860 sf, 0.29% Impervious, Inflow Depth = 1.35" for 2-Year event
Inflow = 39.31 cfs @ 12.39 hrs, Volume= 194,762 cf
Outflow = 39.31 cfs @ 12.39 hrs, Volume= 194,762 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach DP-W: Watts Stream



Hydrograph for Reach DP-W: Watts Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.00		0.00	112.00	0.00		0.00
10.00	0.08		0.08	114.00	0.00		0.00
12.00	**9.94**		**9.94**	116.00	0.00		0.00
14.00	**5.10**		**5.10**	118.00	0.00		0.00
16.00	2.81		2.81	120.00	0.00		0.00
18.00	1.69		1.69	122.00	0.00		0.00
20.00	1.30		1.30	124.00	0.00		0.00
22.00	1.08		1.08	126.00	0.00		0.00
24.00	0.87		0.87	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

Summary for Pond 4P: 15" CPP

Inflow Area = 204,789 sf, 0.00% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 6.15 cfs @ 12.20 hrs, Volume= 25,112 cf
Outflow = 6.14 cfs @ 12.21 hrs, Volume= 25,112 cf, Atten= 0%, Lag= 0.6 min
Primary = 5.93 cfs @ 12.21 hrs, Volume= 25,081 cf
Routed to Link 4L : Lag
Secondary = 0.21 cfs @ 12.21 hrs, Volume= 31 cf
Routed to Link 4L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,662.54' @ 12.21 hrs Surf.Area= 182 sf Storage= 147 cf

Plug-Flow detention time= 0.1 min calculated for 25,110 cf (100% of inflow)
Center-of-Mass det. time= 0.1 min (849.4 - 849.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.30'	837 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

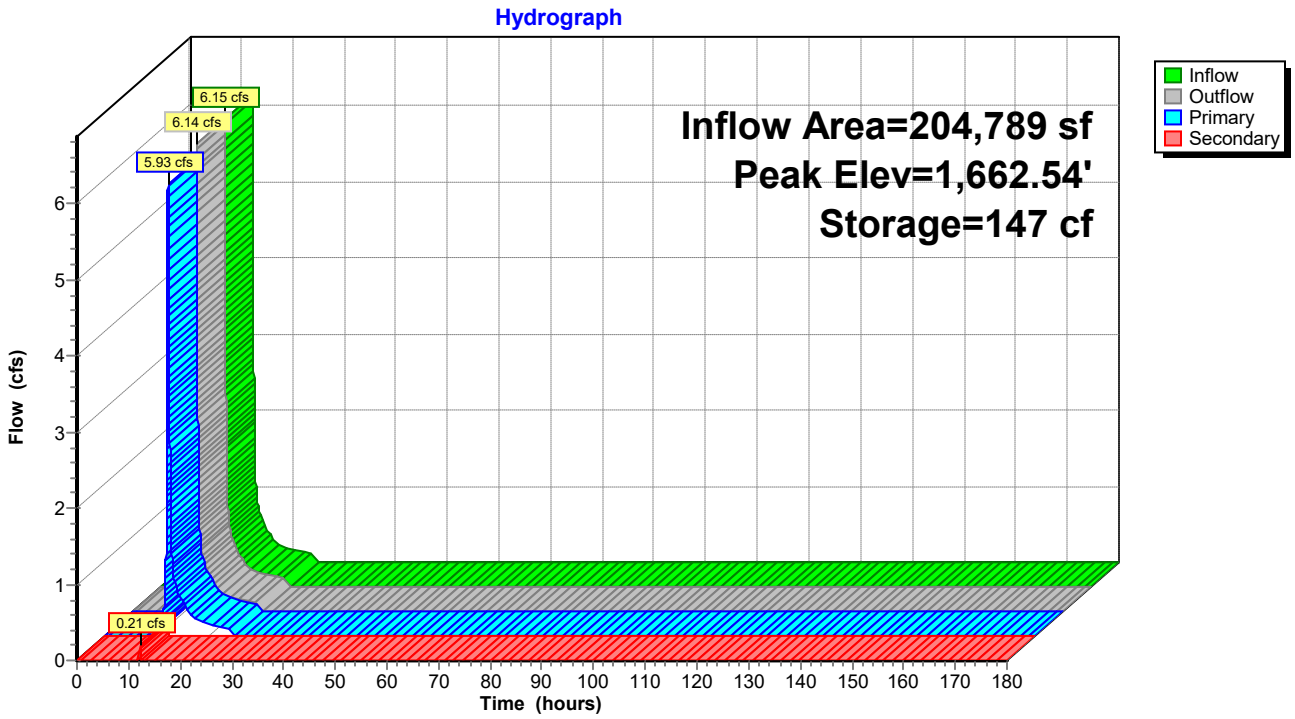
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.30	1	3.9	0	0	1
1,663.00	258	82.3	248	248	551
1,664.00	1,003	166.4	590	837	2,220

Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.30'	**15.0" Round Culvert** L= 16.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.30' / 1,659.80' S= 0.0305 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Secondary	1,662.50'	**8.0' long + 35.0 '/' SideZ x 13.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=5.93 cfs @ 12.21 hrs HW=1,662.54' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 5.93 cfs @ 4.83 fps)

Secondary OutFlow Max=0.20 cfs @ 12.21 hrs HW=1,662.54' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.20 cfs @ 0.51 fps)

Pond 4P: 15" CPP



Hydrograph for Pond 4P: 15" CPP

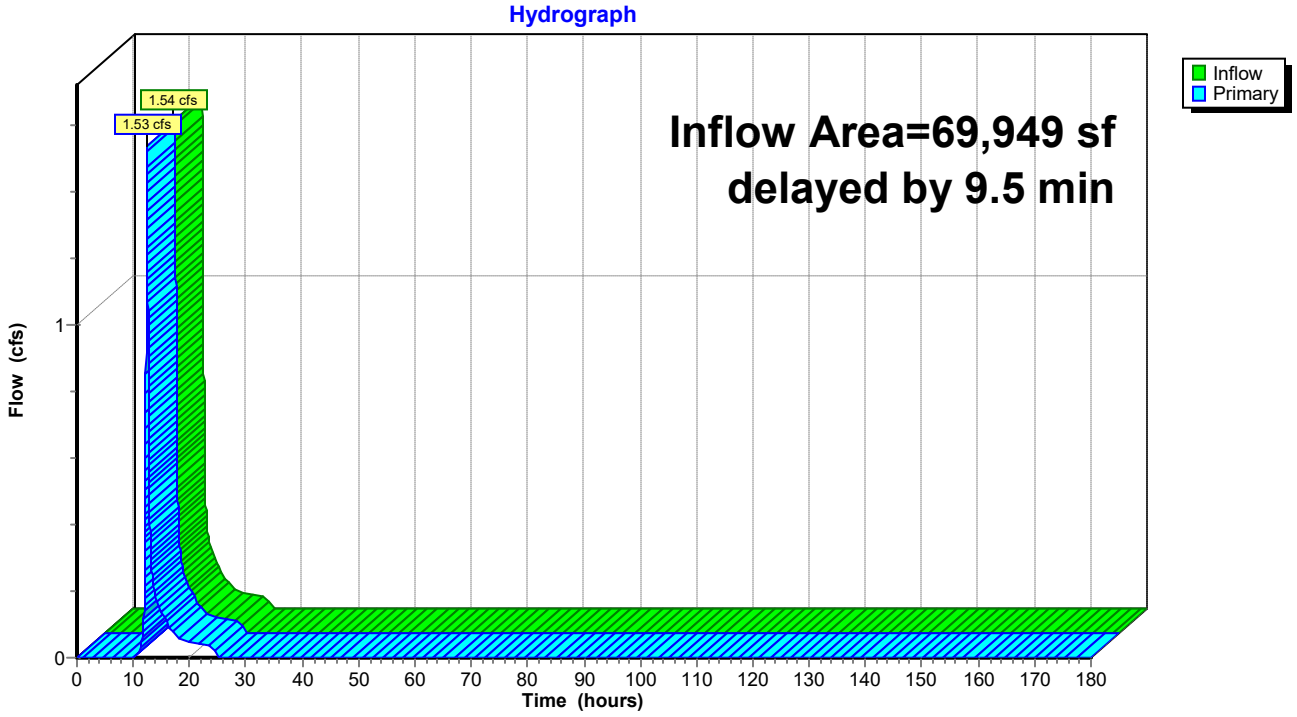
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.30	0.00	0.00	0.00
5.00	0.00	0	1,660.30	0.00	0.00	0.00
10.00	**0.05**	**0**	**1,660.41**	**0.05**	**0.05**	**0.00**
15.00	**0.45**	**2**	**1,660.65**	**0.45**	**0.45**	**0.00**
20.00	0.16	1	1,660.50	0.16	0.16	0.00
25.00	0.00	0	1,660.30	0.00	0.00	0.00
30.00	0.00	0	1,660.30	0.00	0.00	0.00
35.00	0.00	0	1,660.30	0.00	0.00	0.00
40.00	0.00	0	1,660.30	0.00	0.00	0.00
45.00	0.00	0	1,660.30	0.00	0.00	0.00
50.00	0.00	0	1,660.30	0.00	0.00	0.00
55.00	0.00	0	1,660.30	0.00	0.00	0.00
60.00	0.00	0	1,660.30	0.00	0.00	0.00
65.00	0.00	0	1,660.30	0.00	0.00	0.00
70.00	0.00	0	1,660.30	0.00	0.00	0.00
75.00	0.00	0	1,660.30	0.00	0.00	0.00
80.00	0.00	0	1,660.30	0.00	0.00	0.00
85.00	0.00	0	1,660.30	0.00	0.00	0.00
90.00	0.00	0	1,660.30	0.00	0.00	0.00
95.00	0.00	0	1,660.30	0.00	0.00	0.00
100.00	0.00	0	1,660.30	0.00	0.00	0.00
105.00	0.00	0	1,660.30	0.00	0.00	0.00
110.00	0.00	0	1,660.30	0.00	0.00	0.00
115.00	0.00	0	1,660.30	0.00	0.00	0.00
120.00	0.00	0	1,660.30	0.00	0.00	0.00
125.00	0.00	0	1,660.30	0.00	0.00	0.00
130.00	0.00	0	1,660.30	0.00	0.00	0.00
135.00	0.00	0	1,660.30	0.00	0.00	0.00
140.00	0.00	0	1,660.30	0.00	0.00	0.00
145.00	0.00	0	1,660.30	0.00	0.00	0.00
150.00	0.00	0	1,660.30	0.00	0.00	0.00
155.00	0.00	0	1,660.30	0.00	0.00	0.00
160.00	0.00	0	1,660.30	0.00	0.00	0.00
165.00	0.00	0	1,660.30	0.00	0.00	0.00
170.00	0.00	0	1,660.30	0.00	0.00	0.00
175.00	0.00	0	1,660.30	0.00	0.00	0.00
180.00	0.00	0	1,660.30	0.00	0.00	0.00

Summary for Link 1L: Lag

Inflow Area = 69,949 sf, 0.00% Impervious, Inflow Depth = 1.16" for 2-Year event
Inflow = 1.54 cfs @ 12.24 hrs, Volume= 6,734 cf
Primary = 1.53 cfs @ 12.39 hrs, Volume= 6,734 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 1L: Lag



Hydrograph for Link 1L: Lag

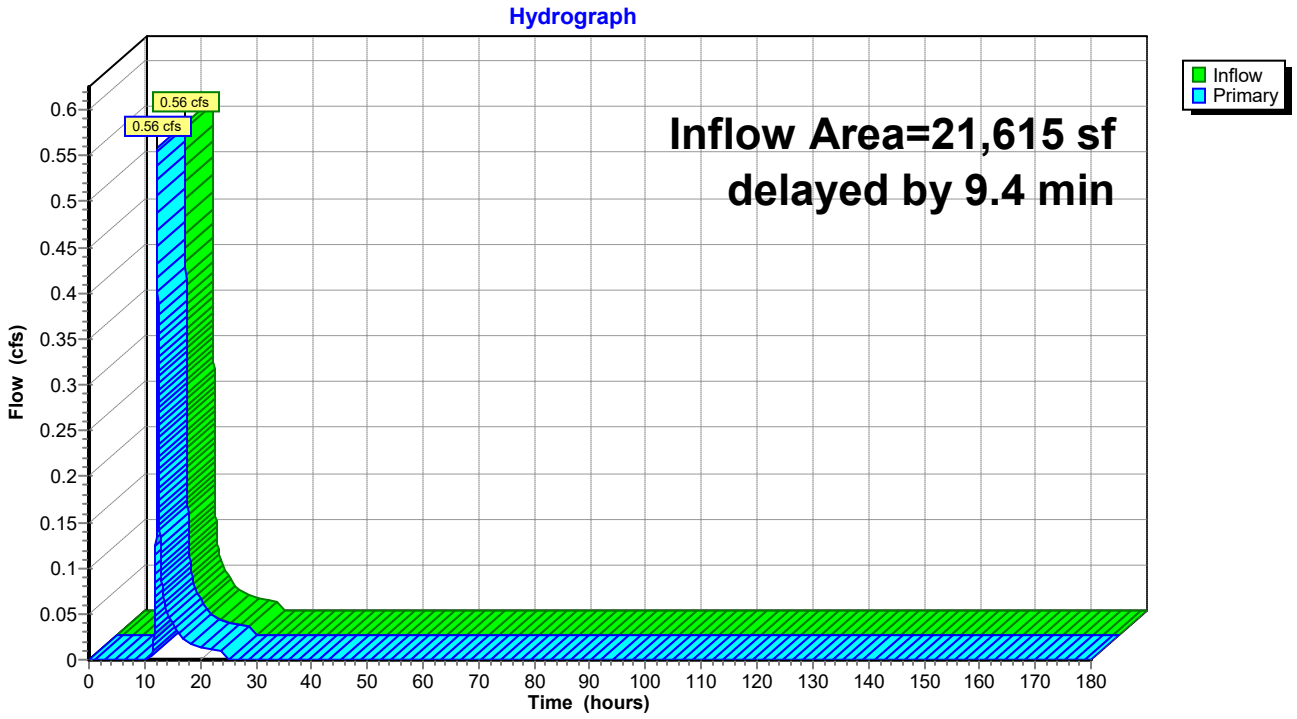
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.50**	0.00	**0.23**	116.00	0.00	0.00	0.00
14.00	**0.18**	0.00	**0.19**	118.00	0.00	0.00	0.00
16.00	0.10	0.00	0.10	120.00	0.00	0.00	0.00
18.00	0.06	0.00	0.06	122.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	124.00	0.00	0.00	0.00
22.00	0.04	0.00	0.04	126.00	0.00	0.00	0.00
24.00	0.03	0.00	0.03	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 2L: Lag

Inflow Area = 21,615 sf, 0.00% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 0.56 cfs @ 12.13 hrs, Volume= 1,976 cf
Primary = 0.56 cfs @ 12.28 hrs, Volume= 1,976 cf, Atten= 0%, Lag= 9.4 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 2L: Lag



Hydrograph for Link 2L: Lag

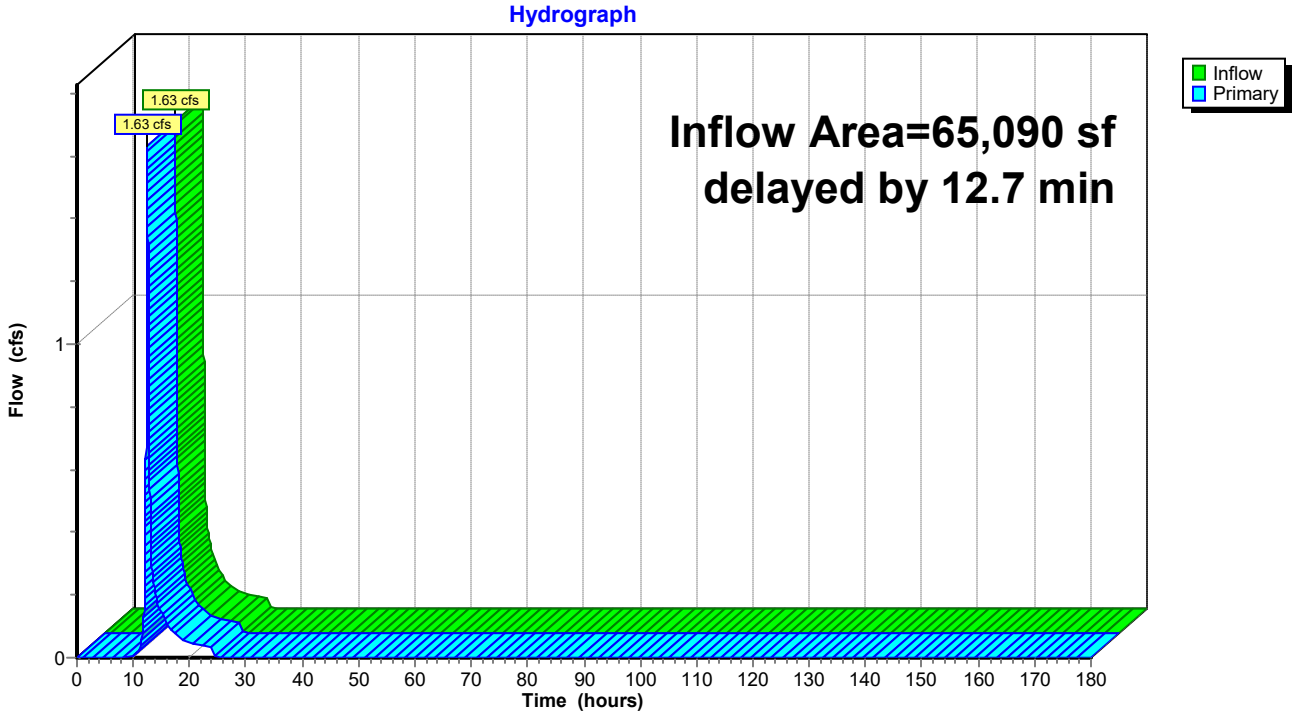
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.24**	0.00	**0.11**	116.00	0.00	0.00	0.00
14.00	**0.05**	0.00	**0.05**	118.00	0.00	0.00	0.00
16.00	0.03	0.00	0.03	120.00	0.00	0.00	0.00
18.00	0.02	0.00	0.02	122.00	0.00	0.00	0.00
20.00	0.01	0.00	0.01	124.00	0.00	0.00	0.00
22.00	0.01	0.00	0.01	126.00	0.00	0.00	0.00
24.00	0.01	0.00	0.01	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 3L: Lag

Inflow Area = 65,090 sf, 0.00% Impervious, Inflow Depth = 1.34" for 2-Year event
Inflow = 1.63 cfs @ 12.25 hrs, Volume= 7,267 cf
Primary = 1.63 cfs @ 12.47 hrs, Volume= 7,267 cf, Atten= 0%, Lag= 12.7 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 12.7 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 3L: Lag



Hydrograph for Link 3L: Lag

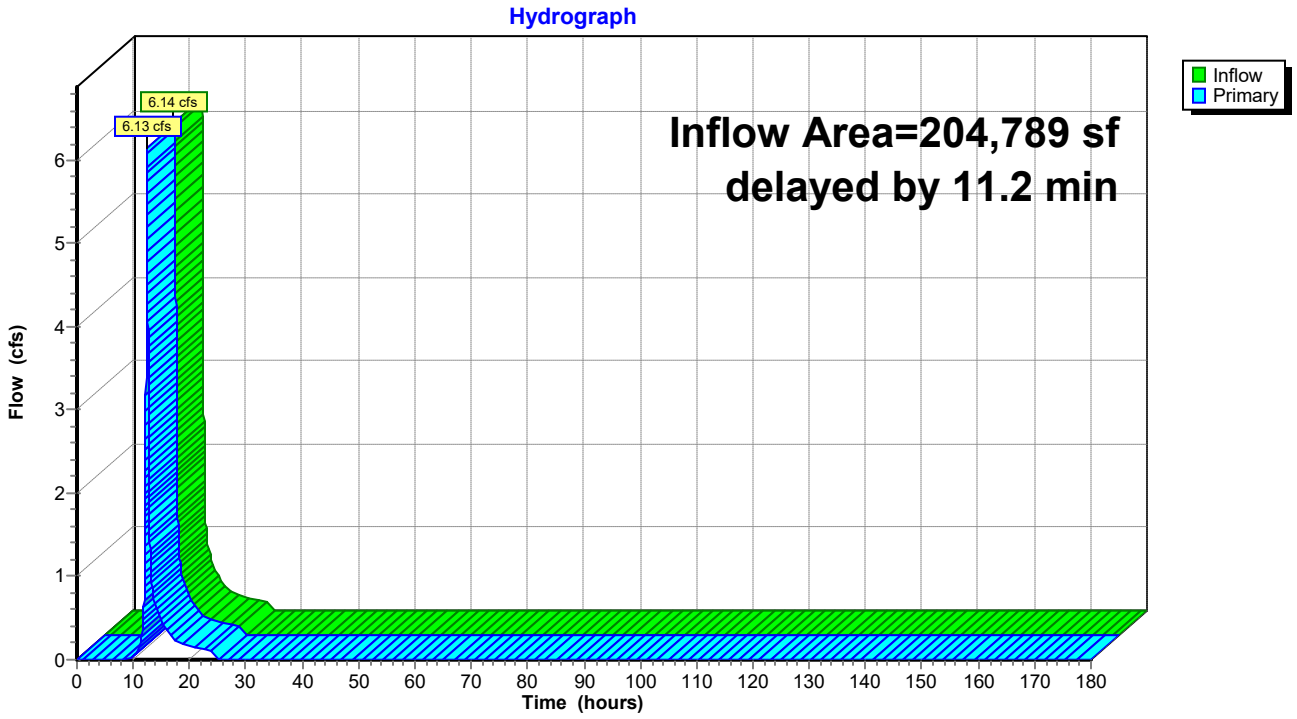
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.55**	0.00	**0.21**	116.00	0.00	0.00	0.00
14.00	**0.18**	0.00	**0.20**	118.00	0.00	0.00	0.00
16.00	0.10	0.00	0.11	120.00	0.00	0.00	0.00
18.00	0.06	0.00	0.07	122.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	124.00	0.00	0.00	0.00
22.00	0.04	0.00	0.04	126.00	0.00	0.00	0.00
24.00	0.03	0.00	0.03	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 4L: Lag

Inflow Area = 204,789 sf, 0.00% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 6.14 cfs @ 12.21 hrs, Volume= 25,112 cf
Primary = 6.13 cfs @ 12.40 hrs, Volume= 25,112 cf, Atten= 0%, Lag= 11.3 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 11.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 4L: Lag



Hydrograph for Link 4L: Lag

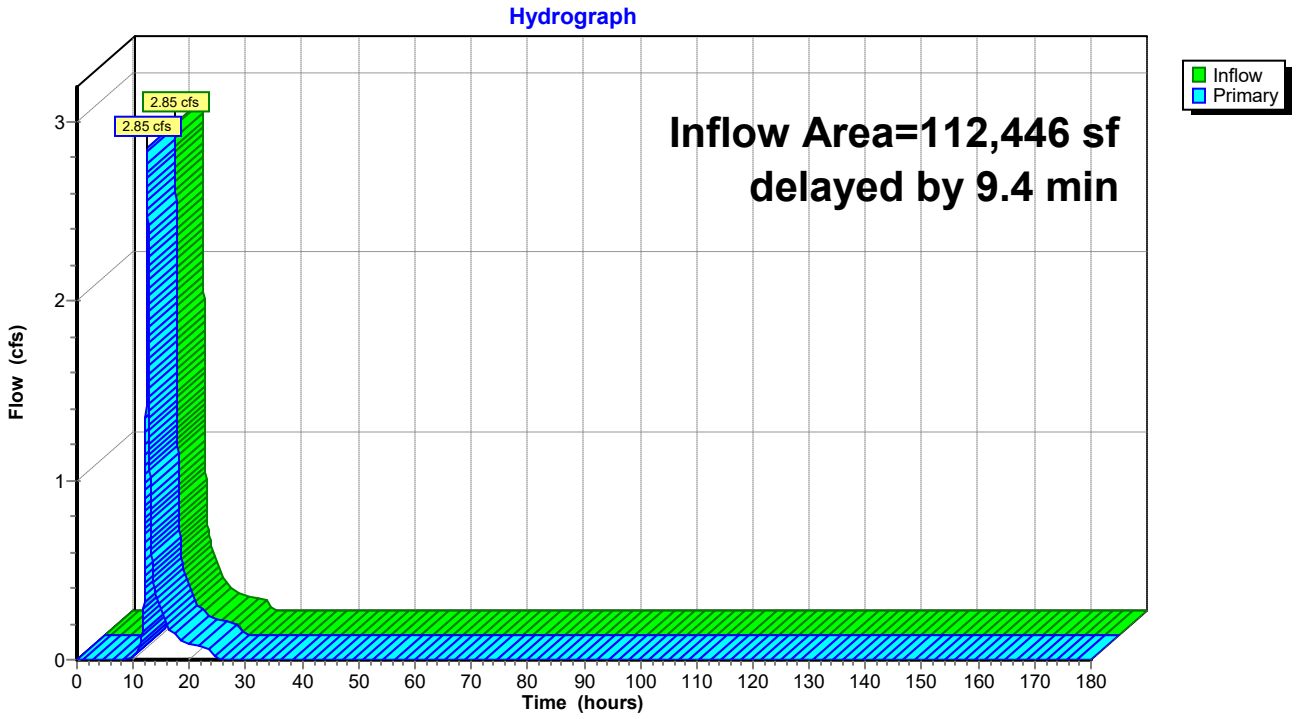
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.05	0.00	0.03	114.00	0.00	0.00	0.00
12.00	**2.35**	0.00	**1.08**	116.00	0.00	0.00	0.00
14.00	**0.60**	0.00	**0.65**	118.00	0.00	0.00	0.00
16.00	0.33	0.00	0.35	120.00	0.00	0.00	0.00
18.00	0.20	0.00	0.21	122.00	0.00	0.00	0.00
20.00	0.16	0.00	0.16	124.00	0.00	0.00	0.00
22.00	0.13	0.00	0.13	126.00	0.00	0.00	0.00
24.00	0.11	0.00	0.11	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 5L: Lag

Inflow Area = 112,446 sf, 0.00% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 2.85 cfs @ 12.31 hrs, Volume= 13,788 cf
Primary = 2.85 cfs @ 12.47 hrs, Volume= 13,788 cf, Atten= 0%, Lag= 9.4 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 5L: Lag



Hydrograph for Link 5L: Lag

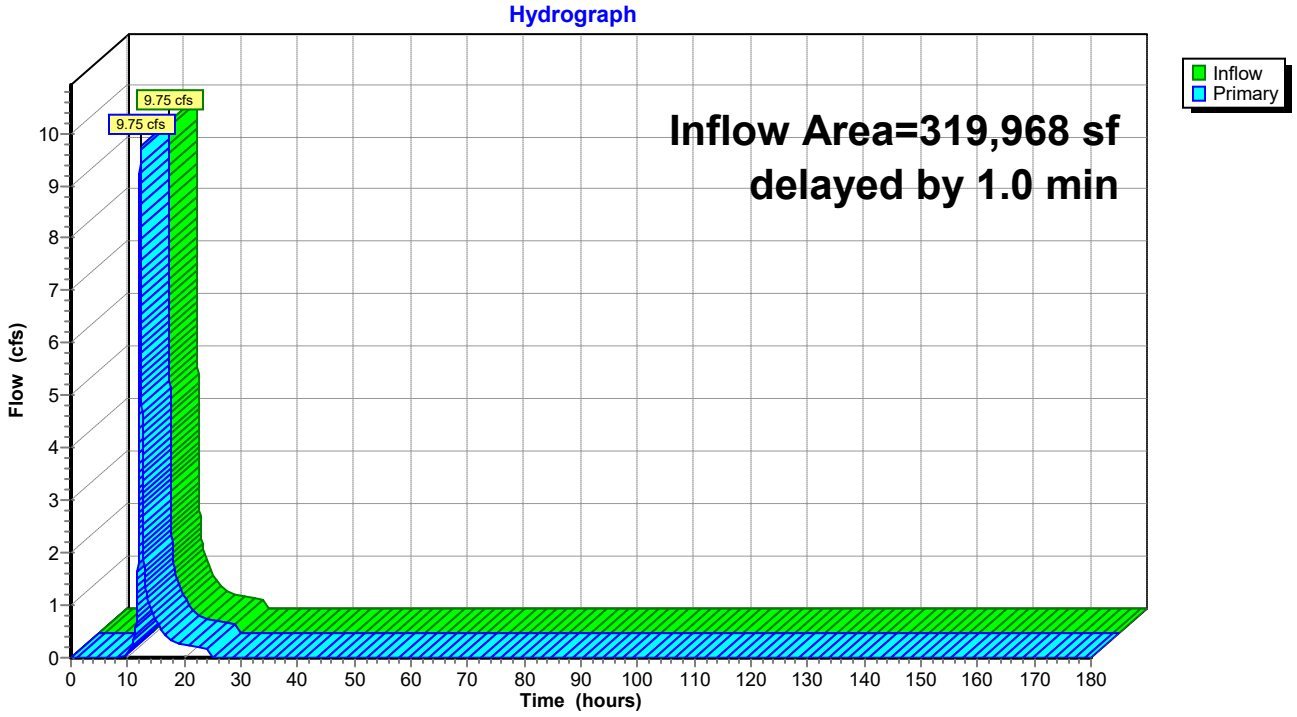
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.02	0.00	0.01	114.00	0.00	0.00	0.00
12.00	**0.89**	0.00	**0.46**	116.00	0.00	0.00	0.00
14.00	**0.35**	0.00	**0.37**	118.00	0.00	0.00	0.00
16.00	0.19	0.00	0.20	120.00	0.00	0.00	0.00
18.00	0.11	0.00	0.12	122.00	0.00	0.00	0.00
20.00	0.09	0.00	0.09	124.00	0.00	0.00	0.00
22.00	0.07	0.00	0.07	126.00	0.00	0.00	0.00
24.00	0.06	0.00	0.06	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 6L:

Inflow Area = 319,968 sf, 0.00% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 9.75 cfs @ 12.19 hrs, Volume= 39,235 cf
Primary = 9.75 cfs @ 12.21 hrs, Volume= 39,235 cf, Atten= 0%, Lag= 1.1 min
Routed to Reach DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 1.0 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 6L:



Hydrograph for Link 6L:

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.08	0.00	0.07	114.00	0.00	0.00	0.00
12.00	**3.84**	0.00	**3.54**	116.00	0.00	0.00	0.00
14.00	**0.93**	0.00	**0.94**	118.00	0.00	0.00	0.00
16.00	0.51	0.00	0.52	120.00	0.00	0.00	0.00
18.00	0.31	0.00	0.32	122.00	0.00	0.00	0.00
20.00	0.25	0.00	0.25	124.00	0.00	0.00	0.00
22.00	0.21	0.00	0.21	126.00	0.00	0.00	0.00
24.00	0.17	0.00	0.17	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Subcatchment M: Middle

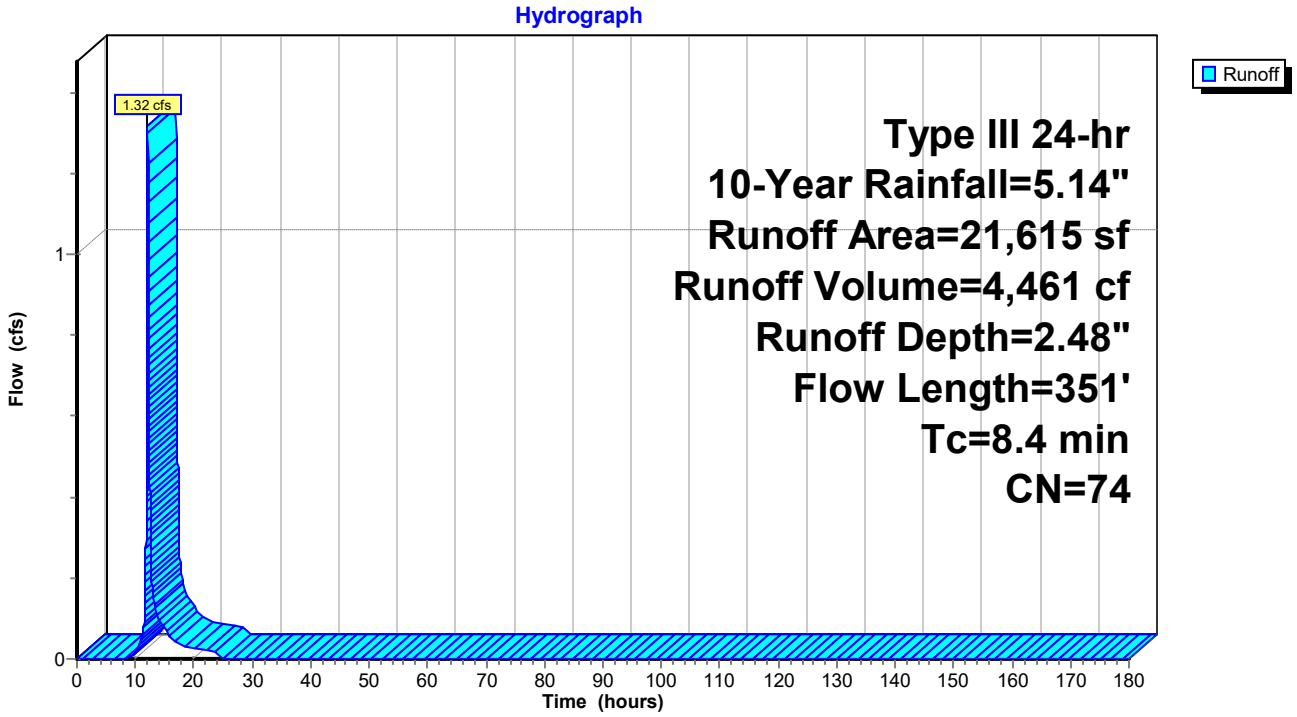
Runoff = 1.32 cfs @ 12.12 hrs, Volume= 4,461 cf, Depth= 2.48"
Routed to Reach 2P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
21,615	74	Pasture/grassland/range, Good, HSG C
21,615		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	95	0.0626	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
2.3	214	0.0510	1.58		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.9	42	0.0126	0.79		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
8.4	351	Total			

Subcatchment M: Middle



Hydrograph for Subcatchment M: Middle

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	5.14	2.48	0.00
2.00	0.10	0.00	0.00	106.00	5.14	2.48	0.00
4.00	0.22	0.00	0.00	108.00	5.14	2.48	0.00
6.00	0.37	0.00	0.00	110.00	5.14	2.48	0.00
8.00	0.59	0.00	0.00	112.00	5.14	2.48	0.00
10.00	0.97	0.02	0.01	114.00	5.14	2.48	0.00
12.00	2.57	0.65	**0.64**	116.00	5.14	2.48	0.00
14.00	4.17	1.72	**0.10**	118.00	5.14	2.48	0.00
16.00	4.55	2.01	0.05	120.00	5.14	2.48	0.00
18.00	4.77	2.18	0.03	122.00	5.14	2.48	0.00
20.00	4.92	2.30	0.03	124.00	5.14	2.48	0.00
22.00	5.04	2.40	0.02	126.00	5.14	2.48	0.00
24.00	**5.14**	**2.48**	0.02	128.00	5.14	2.48	0.00
26.00	5.14	2.48	0.00	130.00	5.14	2.48	0.00
28.00	5.14	2.48	0.00	132.00	5.14	2.48	0.00
30.00	5.14	2.48	0.00	134.00	5.14	2.48	0.00
32.00	5.14	2.48	0.00	136.00	5.14	2.48	0.00
34.00	5.14	2.48	0.00	138.00	5.14	2.48	0.00
36.00	5.14	2.48	0.00	140.00	5.14	2.48	0.00
38.00	5.14	2.48	0.00	142.00	5.14	2.48	0.00
40.00	5.14	2.48	0.00	144.00	5.14	2.48	0.00
42.00	5.14	2.48	0.00	146.00	5.14	2.48	0.00
44.00	5.14	2.48	0.00	148.00	5.14	2.48	0.00
46.00	5.14	2.48	0.00	150.00	5.14	2.48	0.00
48.00	5.14	2.48	0.00	152.00	5.14	2.48	0.00
50.00	5.14	2.48	0.00	154.00	5.14	2.48	0.00
52.00	5.14	2.48	0.00	156.00	5.14	2.48	0.00
54.00	5.14	2.48	0.00	158.00	5.14	2.48	0.00
56.00	5.14	2.48	0.00	160.00	5.14	2.48	0.00
58.00	5.14	2.48	0.00	162.00	5.14	2.48	0.00
60.00	5.14	2.48	0.00	164.00	5.14	2.48	0.00
62.00	5.14	2.48	0.00	166.00	5.14	2.48	0.00
64.00	5.14	2.48	0.00	168.00	5.14	2.48	0.00
66.00	5.14	2.48	0.00	170.00	5.14	2.48	0.00
68.00	5.14	2.48	0.00	172.00	5.14	2.48	0.00
70.00	5.14	2.48	0.00	174.00	5.14	2.48	0.00
72.00	5.14	2.48	0.00	176.00	5.14	2.48	0.00
74.00	5.14	2.48	0.00	178.00	5.14	2.48	0.00
76.00	5.14	2.48	0.00	180.00	5.14	2.48	0.00
78.00	5.14	2.48	0.00				
80.00	5.14	2.48	0.00				
82.00	5.14	2.48	0.00				
84.00	5.14	2.48	0.00				
86.00	5.14	2.48	0.00				
88.00	5.14	2.48	0.00				
90.00	5.14	2.48	0.00				
92.00	5.14	2.48	0.00				
94.00	5.14	2.48	0.00				
96.00	5.14	2.48	0.00				
98.00	5.14	2.48	0.00				
100.00	5.14	2.48	0.00				
102.00	5.14	2.48	0.00				

Summary for Subcatchment ME: Middle East

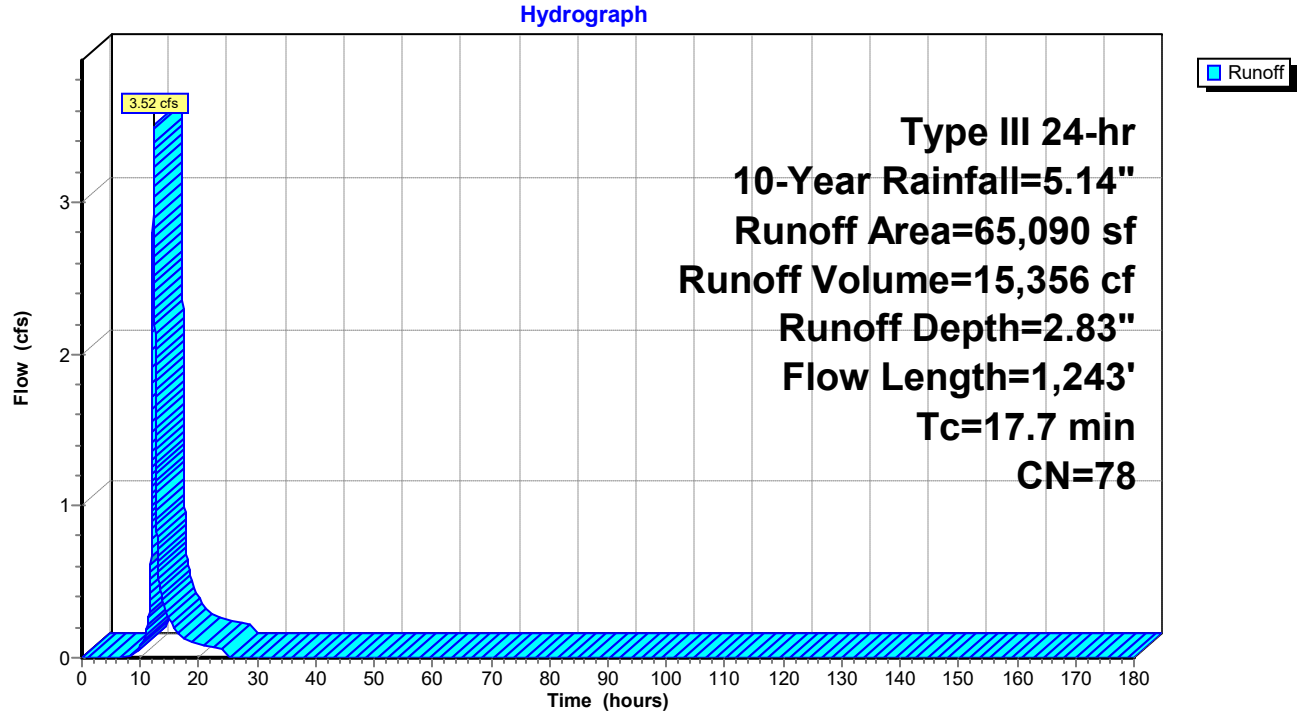
Runoff = 3.52 cfs @ 12.25 hrs, Volume= 15,356 cf, Depth= 2.83"
Routed to Reach 3P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
23,596	74	Pasture/grassland/range, Good, HSG C
41,494	80	Pasture/grassland/range, Good, HSG D
65,090	78	Weighted Average
65,090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	100	0.0678	0.32		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
7.1	708	0.0566	1.67		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
3.1	295	0.0513	1.59		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
2.2	140	0.0223	1.05		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
17.7	1,243	Total			

Subcatchment ME: Middle East



Hydrograph for Subcatchment ME: Middle East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.00
10.00	0.97	0.05	0.07
12.00	2.57	0.83	**1.36**
14.00	4.17	2.02	**0.35**
16.00	4.55	2.34	0.19
18.00	4.77	2.52	0.11
20.00	4.92	2.64	0.09
22.00	5.04	2.75	0.07
24.00	**5.14**	**2.83**	0.06
26.00	5.14	2.83	0.00
28.00	5.14	2.83	0.00
30.00	5.14	2.83	0.00
32.00	5.14	2.83	0.00
34.00	5.14	2.83	0.00
36.00	5.14	2.83	0.00
38.00	5.14	2.83	0.00
40.00	5.14	2.83	0.00
42.00	5.14	2.83	0.00
44.00	5.14	2.83	0.00
46.00	5.14	2.83	0.00
48.00	5.14	2.83	0.00
50.00	5.14	2.83	0.00
52.00	5.14	2.83	0.00
54.00	5.14	2.83	0.00
56.00	5.14	2.83	0.00
58.00	5.14	2.83	0.00
60.00	5.14	2.83	0.00
62.00	5.14	2.83	0.00
64.00	5.14	2.83	0.00
66.00	5.14	2.83	0.00
68.00	5.14	2.83	0.00
70.00	5.14	2.83	0.00
72.00	5.14	2.83	0.00
74.00	5.14	2.83	0.00
76.00	5.14	2.83	0.00
78.00	5.14	2.83	0.00
80.00	5.14	2.83	0.00
82.00	5.14	2.83	0.00
84.00	5.14	2.83	0.00
86.00	5.14	2.83	0.00
88.00	5.14	2.83	0.00
90.00	5.14	2.83	0.00
92.00	5.14	2.83	0.00
94.00	5.14	2.83	0.00
96.00	5.14	2.83	0.00
98.00	5.14	2.83	0.00
100.00	5.14	2.83	0.00
102.00	5.14	2.83	0.00
104.00	5.14	2.83	0.00
106.00	5.14	2.83	0.00
108.00	5.14	2.83	0.00
110.00	5.14	2.83	0.00
112.00	5.14	2.83	0.00
114.00	5.14	2.83	0.00
116.00	5.14	2.83	0.00
118.00	5.14	2.83	0.00
120.00	5.14	2.83	0.00
122.00	5.14	2.83	0.00
124.00	5.14	2.83	0.00
126.00	5.14	2.83	0.00
128.00	5.14	2.83	0.00
130.00	5.14	2.83	0.00
132.00	5.14	2.83	0.00
134.00	5.14	2.83	0.00
136.00	5.14	2.83	0.00
138.00	5.14	2.83	0.00
140.00	5.14	2.83	0.00
142.00	5.14	2.83	0.00
144.00	5.14	2.83	0.00
146.00	5.14	2.83	0.00
148.00	5.14	2.83	0.00
150.00	5.14	2.83	0.00
152.00	5.14	2.83	0.00
154.00	5.14	2.83	0.00
156.00	5.14	2.83	0.00
158.00	5.14	2.83	0.00
160.00	5.14	2.83	0.00
162.00	5.14	2.83	0.00
164.00	5.14	2.83	0.00
166.00	5.14	2.83	0.00
168.00	5.14	2.83	0.00
170.00	5.14	2.83	0.00
172.00	5.14	2.83	0.00
174.00	5.14	2.83	0.00
176.00	5.14	2.83	0.00
178.00	5.14	2.83	0.00
180.00	5.14	2.83	0.00

Summary for Subcatchment MW: Middle West

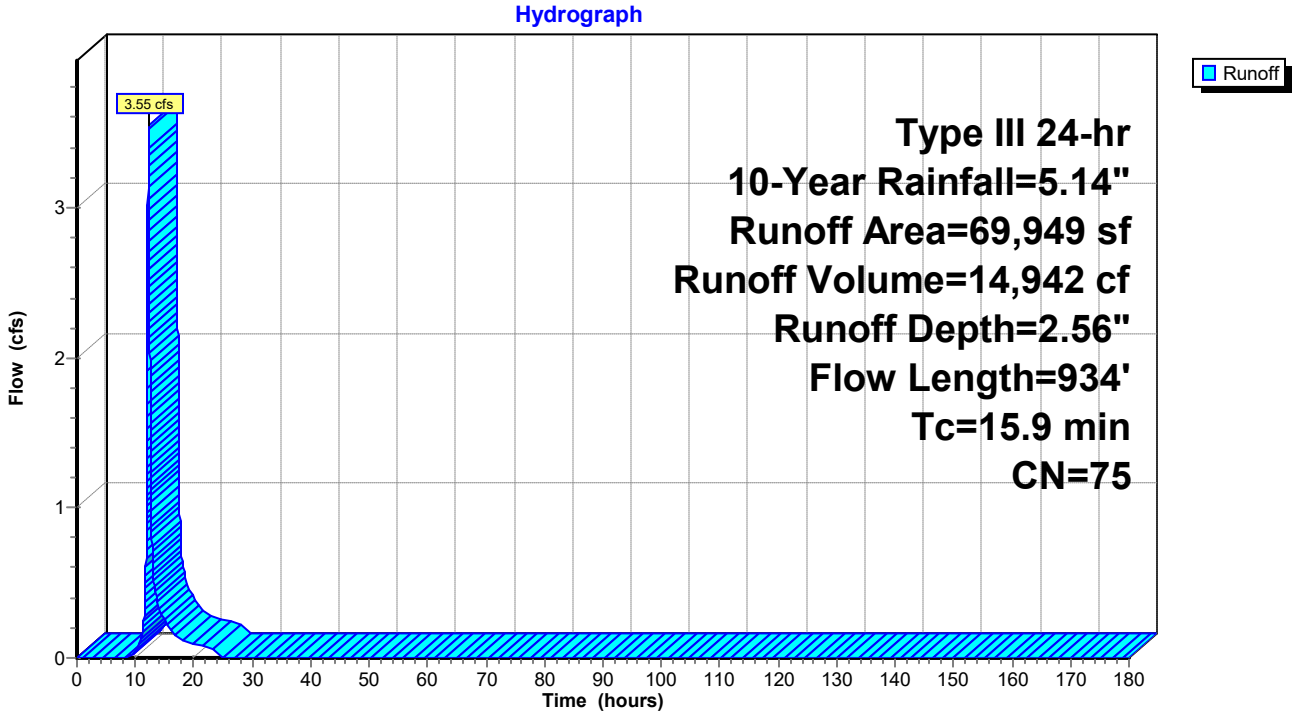
Runoff = 3.55 cfs @ 12.22 hrs, Volume= 14,942 cf, Depth= 2.56"
Routed to Reach 1P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
54,742	74	Pasture/grassland/range, Good, HSG C
15,207	80	Pasture/grassland/range, Good, HSG D
69,949	75	Weighted Average
69,949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.0582	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.2	695	0.0716	1.87		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
4.1	139	0.0066	0.57		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
15.9	934	Total			

Subcatchment MW: Middle West



Hydrograph for Subcatchment MW: Middle West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.00
10.00	0.97	0.03	0.05
12.00	2.57	0.69	**1.39**
14.00	4.17	1.79	**0.35**
16.00	4.55	2.09	0.19
18.00	4.77	2.26	0.11
20.00	4.92	2.38	0.09
22.00	5.04	2.48	0.07
24.00	**5.14**	**2.56**	0.06
26.00	5.14	2.56	0.00
28.00	5.14	2.56	0.00
30.00	5.14	2.56	0.00
32.00	5.14	2.56	0.00
34.00	5.14	2.56	0.00
36.00	5.14	2.56	0.00
38.00	5.14	2.56	0.00
40.00	5.14	2.56	0.00
42.00	5.14	2.56	0.00
44.00	5.14	2.56	0.00
46.00	5.14	2.56	0.00
48.00	5.14	2.56	0.00
50.00	5.14	2.56	0.00
52.00	5.14	2.56	0.00
54.00	5.14	2.56	0.00
56.00	5.14	2.56	0.00
58.00	5.14	2.56	0.00
60.00	5.14	2.56	0.00
62.00	5.14	2.56	0.00
64.00	5.14	2.56	0.00
66.00	5.14	2.56	0.00
68.00	5.14	2.56	0.00
70.00	5.14	2.56	0.00
72.00	5.14	2.56	0.00
74.00	5.14	2.56	0.00
76.00	5.14	2.56	0.00
78.00	5.14	2.56	0.00
80.00	5.14	2.56	0.00
82.00	5.14	2.56	0.00
84.00	5.14	2.56	0.00
86.00	5.14	2.56	0.00
88.00	5.14	2.56	0.00
90.00	5.14	2.56	0.00
92.00	5.14	2.56	0.00
94.00	5.14	2.56	0.00
96.00	5.14	2.56	0.00
98.00	5.14	2.56	0.00
100.00	5.14	2.56	0.00
102.00	5.14	2.56	0.00
104.00	5.14	2.56	0.00
106.00	5.14	2.56	0.00
108.00	5.14	2.56	0.00
110.00	5.14	2.56	0.00
112.00	5.14	2.56	0.00
114.00	5.14	2.56	0.00
116.00	5.14	2.56	0.00
118.00	5.14	2.56	0.00
120.00	5.14	2.56	0.00
122.00	5.14	2.56	0.00
124.00	5.14	2.56	0.00
126.00	5.14	2.56	0.00
128.00	5.14	2.56	0.00
130.00	5.14	2.56	0.00
132.00	5.14	2.56	0.00
134.00	5.14	2.56	0.00
136.00	5.14	2.56	0.00
138.00	5.14	2.56	0.00
140.00	5.14	2.56	0.00
142.00	5.14	2.56	0.00
144.00	5.14	2.56	0.00
146.00	5.14	2.56	0.00
148.00	5.14	2.56	0.00
150.00	5.14	2.56	0.00
152.00	5.14	2.56	0.00
154.00	5.14	2.56	0.00
156.00	5.14	2.56	0.00
158.00	5.14	2.56	0.00
160.00	5.14	2.56	0.00
162.00	5.14	2.56	0.00
164.00	5.14	2.56	0.00
166.00	5.14	2.56	0.00
168.00	5.14	2.56	0.00
170.00	5.14	2.56	0.00
172.00	5.14	2.56	0.00
174.00	5.14	2.56	0.00
176.00	5.14	2.56	0.00
178.00	5.14	2.56	0.00
180.00	5.14	2.56	0.00

Summary for Subcatchment N: North

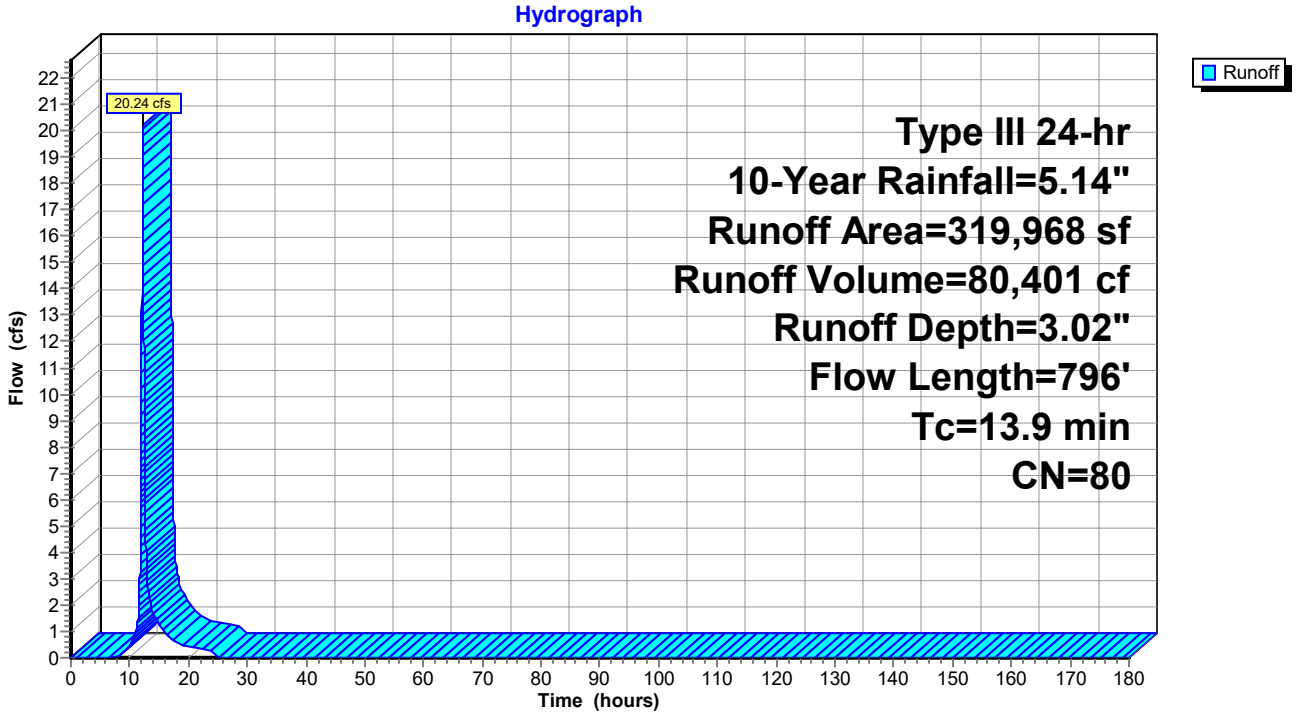
Runoff = 20.24 cfs @ 12.19 hrs, Volume= 80,401 cf, Depth= 3.02"
Routed to Link 6L :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
290,713	80	Pasture/grassland/range, Good, HSG D
29,255	77	Woods, Good, HSG D
319,968	80	Weighted Average
319,968		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0850	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.7	85	0.0656	0.30		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
6.5	689	0.0643	1.78		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	7	0.0590	1.21		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
13.9	796	Total			

Subcatchment N: North



Hydrograph for Subcatchment N: North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.04
10.00	0.97	0.07	0.47
12.00	2.57	0.94	**8.79**
14.00	4.17	2.18	**1.72**
16.00	4.55	2.51	0.92
18.00	4.77	2.69	0.56
20.00	4.92	2.82	0.44
22.00	5.04	2.93	0.37
24.00	**5.14**	**3.02**	0.29
26.00	5.14	3.02	0.00
28.00	5.14	3.02	0.00
30.00	5.14	3.02	0.00
32.00	5.14	3.02	0.00
34.00	5.14	3.02	0.00
36.00	5.14	3.02	0.00
38.00	5.14	3.02	0.00
40.00	5.14	3.02	0.00
42.00	5.14	3.02	0.00
44.00	5.14	3.02	0.00
46.00	5.14	3.02	0.00
48.00	5.14	3.02	0.00
50.00	5.14	3.02	0.00
52.00	5.14	3.02	0.00
54.00	5.14	3.02	0.00
56.00	5.14	3.02	0.00
58.00	5.14	3.02	0.00
60.00	5.14	3.02	0.00
62.00	5.14	3.02	0.00
64.00	5.14	3.02	0.00
66.00	5.14	3.02	0.00
68.00	5.14	3.02	0.00
70.00	5.14	3.02	0.00
72.00	5.14	3.02	0.00
74.00	5.14	3.02	0.00
76.00	5.14	3.02	0.00
78.00	5.14	3.02	0.00
80.00	5.14	3.02	0.00
82.00	5.14	3.02	0.00
84.00	5.14	3.02	0.00
86.00	5.14	3.02	0.00
88.00	5.14	3.02	0.00
90.00	5.14	3.02	0.00
92.00	5.14	3.02	0.00
94.00	5.14	3.02	0.00
96.00	5.14	3.02	0.00
98.00	5.14	3.02	0.00
100.00	5.14	3.02	0.00
102.00	5.14	3.02	0.00
104.00	5.14	3.02	0.00
106.00	5.14	3.02	0.00
108.00	5.14	3.02	0.00
110.00	5.14	3.02	0.00
112.00	5.14	3.02	0.00
114.00	5.14	3.02	0.00
116.00	5.14	3.02	0.00
118.00	5.14	3.02	0.00
120.00	5.14	3.02	0.00
122.00	5.14	3.02	0.00
124.00	5.14	3.02	0.00
126.00	5.14	3.02	0.00
128.00	5.14	3.02	0.00
130.00	5.14	3.02	0.00
132.00	5.14	3.02	0.00
134.00	5.14	3.02	0.00
136.00	5.14	3.02	0.00
138.00	5.14	3.02	0.00
140.00	5.14	3.02	0.00
142.00	5.14	3.02	0.00
144.00	5.14	3.02	0.00
146.00	5.14	3.02	0.00
148.00	5.14	3.02	0.00
150.00	5.14	3.02	0.00
152.00	5.14	3.02	0.00
154.00	5.14	3.02	0.00
156.00	5.14	3.02	0.00
158.00	5.14	3.02	0.00
160.00	5.14	3.02	0.00
162.00	5.14	3.02	0.00
164.00	5.14	3.02	0.00
166.00	5.14	3.02	0.00
168.00	5.14	3.02	0.00
170.00	5.14	3.02	0.00
172.00	5.14	3.02	0.00
174.00	5.14	3.02	0.00
176.00	5.14	3.02	0.00
178.00	5.14	3.02	0.00
180.00	5.14	3.02	0.00

Summary for Subcatchment NE: North East

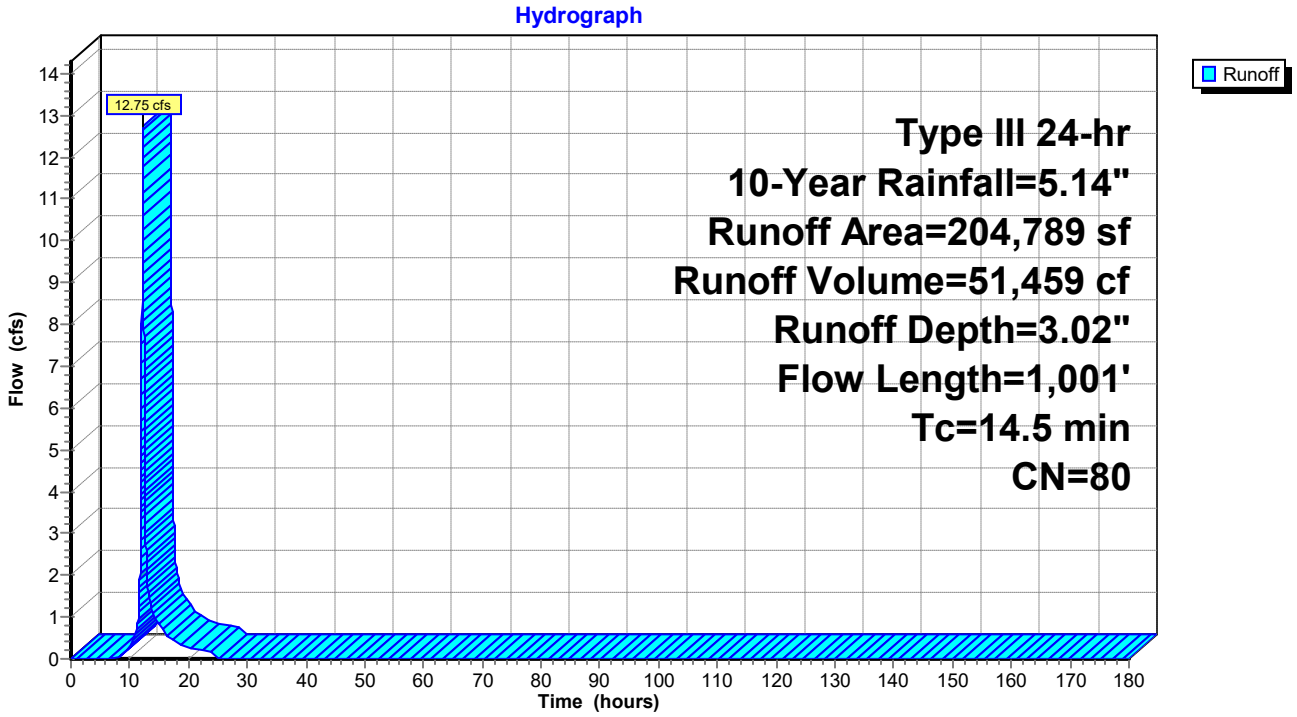
Runoff = 12.75 cfs @ 12.20 hrs, Volume= 51,459 cf, Depth= 3.02"
Routed to Pond 4P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
195,115	80	Pasture/grassland/range, Good, HSG D
9,674	77	Woods, Good, HSG D
204,789	80	Weighted Average
204,789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0558	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
8.8	901	0.0597	1.71		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
14.5	1,001	Total			

Subcatchment NE: North East



Hydrograph for Subcatchment NE: North East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.03
10.00	0.97	0.07	0.30
12.00	2.57	0.94	**5.46**
14.00	4.17	2.18	**1.10**
16.00	4.55	2.51	0.59
18.00	4.77	2.69	0.36
20.00	4.92	2.82	0.28
22.00	5.04	2.93	0.23
24.00	**5.14**	**3.02**	0.19
26.00	5.14	3.02	0.00
28.00	5.14	3.02	0.00
30.00	5.14	3.02	0.00
32.00	5.14	3.02	0.00
34.00	5.14	3.02	0.00
36.00	5.14	3.02	0.00
38.00	5.14	3.02	0.00
40.00	5.14	3.02	0.00
42.00	5.14	3.02	0.00
44.00	5.14	3.02	0.00
46.00	5.14	3.02	0.00
48.00	5.14	3.02	0.00
50.00	5.14	3.02	0.00
52.00	5.14	3.02	0.00
54.00	5.14	3.02	0.00
56.00	5.14	3.02	0.00
58.00	5.14	3.02	0.00
60.00	5.14	3.02	0.00
62.00	5.14	3.02	0.00
64.00	5.14	3.02	0.00
66.00	5.14	3.02	0.00
68.00	5.14	3.02	0.00
70.00	5.14	3.02	0.00
72.00	5.14	3.02	0.00
74.00	5.14	3.02	0.00
76.00	5.14	3.02	0.00
78.00	5.14	3.02	0.00
80.00	5.14	3.02	0.00
82.00	5.14	3.02	0.00
84.00	5.14	3.02	0.00
86.00	5.14	3.02	0.00
88.00	5.14	3.02	0.00
90.00	5.14	3.02	0.00
92.00	5.14	3.02	0.00
94.00	5.14	3.02	0.00
96.00	5.14	3.02	0.00
98.00	5.14	3.02	0.00
100.00	5.14	3.02	0.00
102.00	5.14	3.02	0.00
104.00	5.14	3.02	0.00
106.00	5.14	3.02	0.00
108.00	5.14	3.02	0.00
110.00	5.14	3.02	0.00
112.00	5.14	3.02	0.00
114.00	5.14	3.02	0.00
116.00	5.14	3.02	0.00
118.00	5.14	3.02	0.00
120.00	5.14	3.02	0.00
122.00	5.14	3.02	0.00
124.00	5.14	3.02	0.00
126.00	5.14	3.02	0.00
128.00	5.14	3.02	0.00
130.00	5.14	3.02	0.00
132.00	5.14	3.02	0.00
134.00	5.14	3.02	0.00
136.00	5.14	3.02	0.00
138.00	5.14	3.02	0.00
140.00	5.14	3.02	0.00
142.00	5.14	3.02	0.00
144.00	5.14	3.02	0.00
146.00	5.14	3.02	0.00
148.00	5.14	3.02	0.00
150.00	5.14	3.02	0.00
152.00	5.14	3.02	0.00
154.00	5.14	3.02	0.00
156.00	5.14	3.02	0.00
158.00	5.14	3.02	0.00
160.00	5.14	3.02	0.00
162.00	5.14	3.02	0.00
164.00	5.14	3.02	0.00
166.00	5.14	3.02	0.00
168.00	5.14	3.02	0.00
170.00	5.14	3.02	0.00
172.00	5.14	3.02	0.00
174.00	5.14	3.02	0.00
176.00	5.14	3.02	0.00
178.00	5.14	3.02	0.00
180.00	5.14	3.02	0.00

Summary for Subcatchment SE: South East

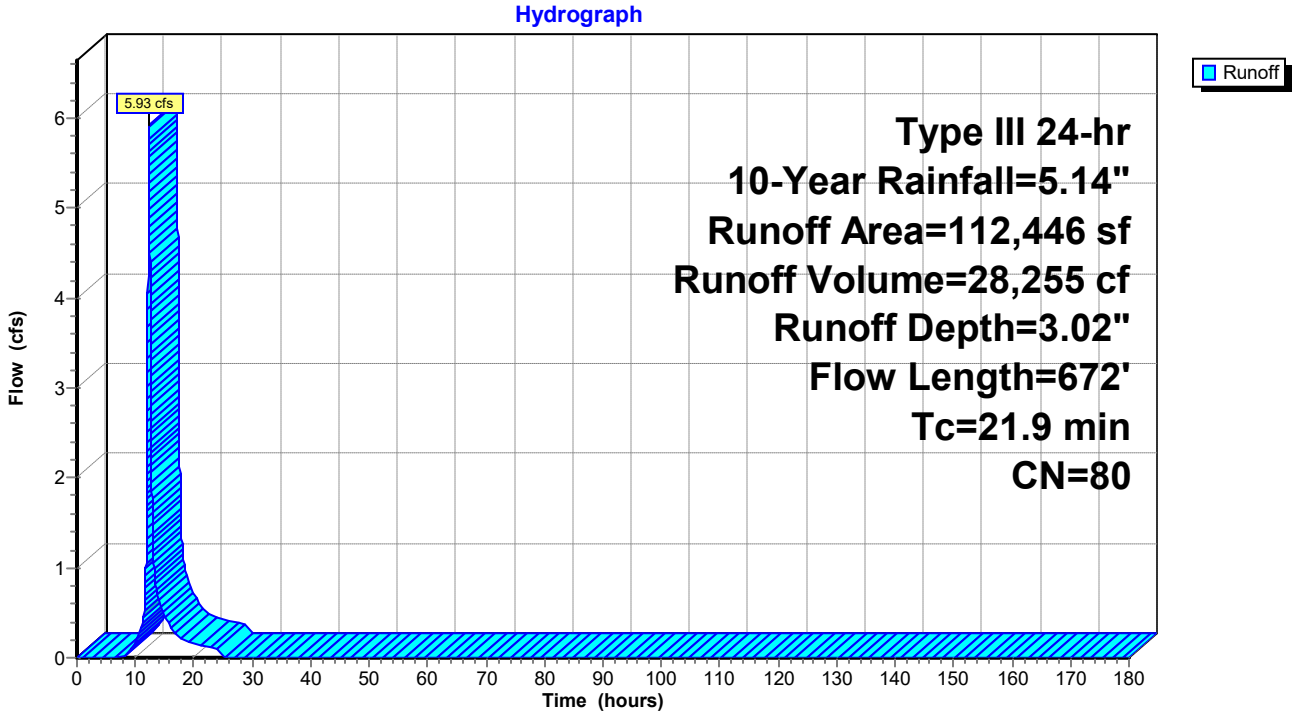
Runoff = 5.93 cfs @ 12.29 hrs, Volume= 28,255 cf, Depth= 3.02"
Routed to Reach 5P : Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

	Area (sf)	CN	Description
	110,724	80	Pasture/grassland/range, Good, HSG D
	1,536	77	Woods, Good, HSG D
*	186	96	Gravel surface
	112,446	80	Weighted Average
	112,446		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0428	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	521	0.0416	1.43		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.2	51	0.0277	3.86	17.37	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 10.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
21.9	672	Total			

Subcatchment SE: South East



Hydrograph for Subcatchment SE: South East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.01
10.00	0.97	0.07	0.15
12.00	2.57	0.94	**2.13**
14.00	4.17	2.18	**0.64**
16.00	4.55	2.51	0.34
18.00	4.77	2.69	0.20
20.00	4.92	2.82	0.16
22.00	5.04	2.93	0.13
24.00	**5.14**	**3.02**	0.10
26.00	5.14	3.02	0.00
28.00	5.14	3.02	0.00
30.00	5.14	3.02	0.00
32.00	5.14	3.02	0.00
34.00	5.14	3.02	0.00
36.00	5.14	3.02	0.00
38.00	5.14	3.02	0.00
40.00	5.14	3.02	0.00
42.00	5.14	3.02	0.00
44.00	5.14	3.02	0.00
46.00	5.14	3.02	0.00
48.00	5.14	3.02	0.00
50.00	5.14	3.02	0.00
52.00	5.14	3.02	0.00
54.00	5.14	3.02	0.00
56.00	5.14	3.02	0.00
58.00	5.14	3.02	0.00
60.00	5.14	3.02	0.00
62.00	5.14	3.02	0.00
64.00	5.14	3.02	0.00
66.00	5.14	3.02	0.00
68.00	5.14	3.02	0.00
70.00	5.14	3.02	0.00
72.00	5.14	3.02	0.00
74.00	5.14	3.02	0.00
76.00	5.14	3.02	0.00
78.00	5.14	3.02	0.00
80.00	5.14	3.02	0.00
82.00	5.14	3.02	0.00
84.00	5.14	3.02	0.00
86.00	5.14	3.02	0.00
88.00	5.14	3.02	0.00
90.00	5.14	3.02	0.00
92.00	5.14	3.02	0.00
94.00	5.14	3.02	0.00
96.00	5.14	3.02	0.00
98.00	5.14	3.02	0.00
100.00	5.14	3.02	0.00
102.00	5.14	3.02	0.00
104.00	5.14	3.02	0.00
106.00	5.14	3.02	0.00
108.00	5.14	3.02	0.00
110.00	5.14	3.02	0.00
112.00	5.14	3.02	0.00
114.00	5.14	3.02	0.00
116.00	5.14	3.02	0.00
118.00	5.14	3.02	0.00
120.00	5.14	3.02	0.00
122.00	5.14	3.02	0.00
124.00	5.14	3.02	0.00
126.00	5.14	3.02	0.00
128.00	5.14	3.02	0.00
130.00	5.14	3.02	0.00
132.00	5.14	3.02	0.00
134.00	5.14	3.02	0.00
136.00	5.14	3.02	0.00
138.00	5.14	3.02	0.00
140.00	5.14	3.02	0.00
142.00	5.14	3.02	0.00
144.00	5.14	3.02	0.00
146.00	5.14	3.02	0.00
148.00	5.14	3.02	0.00
150.00	5.14	3.02	0.00
152.00	5.14	3.02	0.00
154.00	5.14	3.02	0.00
156.00	5.14	3.02	0.00
158.00	5.14	3.02	0.00
160.00	5.14	3.02	0.00
162.00	5.14	3.02	0.00
164.00	5.14	3.02	0.00
166.00	5.14	3.02	0.00
168.00	5.14	3.02	0.00
170.00	5.14	3.02	0.00
172.00	5.14	3.02	0.00
174.00	5.14	3.02	0.00
176.00	5.14	3.02	0.00
178.00	5.14	3.02	0.00
180.00	5.14	3.02	0.00

Summary for Subcatchment W: West

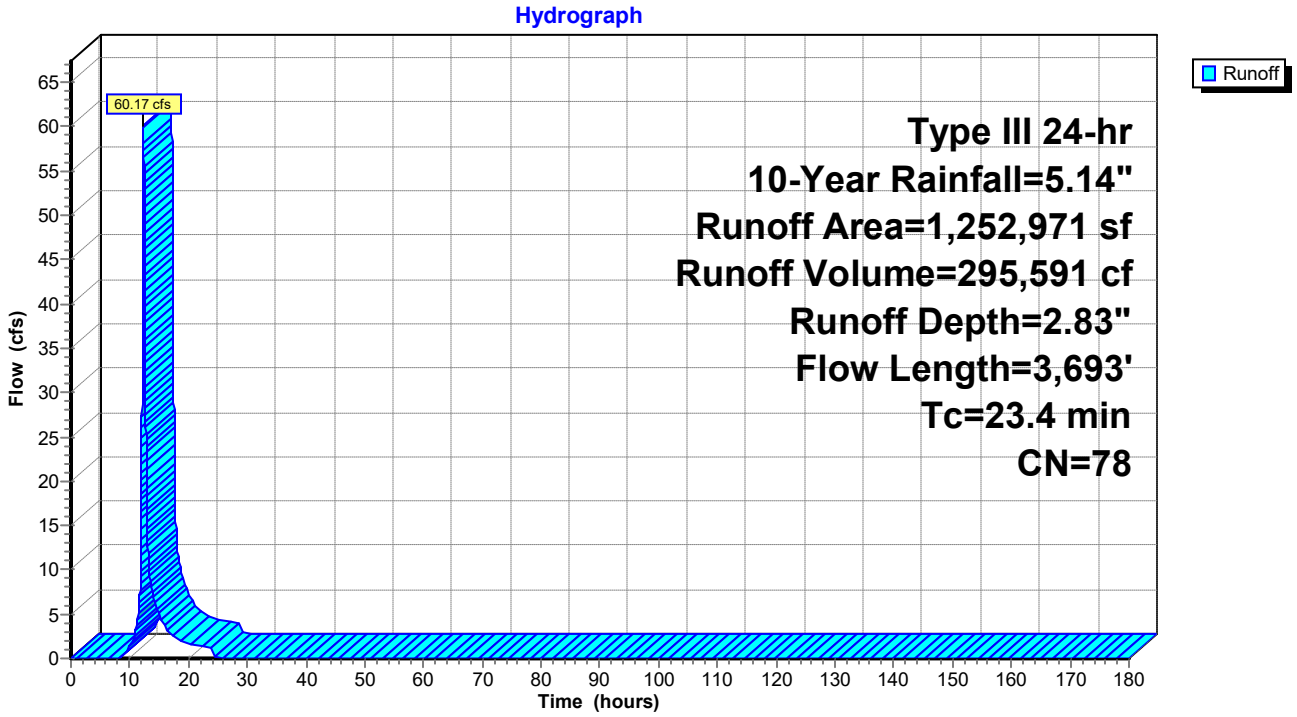
Runoff = 60.17 cfs @ 12.32 hrs, Volume= 295,591 cf, Depth= 2.83"
Routed to Reach DP-W : Watts Stream

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

	Area (sf)	CN	Description
	243,483	74	Pasture/grassland/range, Good, HSG C
	405,275	80	Pasture/grassland/range, Good, HSG D
	40,930	70	Woods, Good, HSG C
	521,429	77	Woods, Good, HSG D
*	36,764	96	Gravel surface
*	5,090	98	Impervious
	1,252,971	78	Weighted Average
	1,247,881		99.59% Pervious Area
	5,090		0.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0814	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	85	0.0623	0.29		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
5.9	685	0.0763	1.93		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	75	0.0926	10.68	128.14	**Trap/Vee/Rect Channel Flow, DE** Bot.W=4.00' D=1.00' Z= 8.0 '/' Top.W=20.00' n= 0.030 Earth, grassed & winding
1.1	187	0.1510	2.72		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
1.7	174	0.1201	1.73		**Shallow Concentrated Flow, FG** Woodland Kv= 5.0 fps
3.1	214	0.0525	1.15		**Shallow Concentrated Flow, GH** Woodland Kv= 5.0 fps
0.6	73	0.1513	1.94		**Shallow Concentrated Flow, HI** Woodland Kv= 5.0 fps
0.9	49	0.0338	0.92		**Shallow Concentrated Flow, IJ** Woodland Kv= 5.0 fps
2.6	2,136	0.0318	13.70	945.01	**Trap/Vee/Rect Channel Flow, JK** Bot.W=11.00' D=3.00' Z= 4.0 '/' Top.W=35.00' n= 0.030 Earth, grassed & winding
23.4	3,693	Total			

Subcatchment W: West



Hydrograph for Subcatchment W: West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.00
10.00	0.97	0.05	1.30
12.00	2.57	0.83	**20.17**
14.00	4.17	2.02	**6.89**
16.00	4.55	2.34	3.71
18.00	4.77	2.52	2.22
20.00	4.92	2.64	1.71
22.00	5.04	2.75	1.41
24.00	**5.14**	**2.83**	1.13
26.00	5.14	2.83	0.00
28.00	5.14	2.83	0.00
30.00	5.14	2.83	0.00
32.00	5.14	2.83	0.00
34.00	5.14	2.83	0.00
36.00	5.14	2.83	0.00
38.00	5.14	2.83	0.00
40.00	5.14	2.83	0.00
42.00	5.14	2.83	0.00
44.00	5.14	2.83	0.00
46.00	5.14	2.83	0.00
48.00	5.14	2.83	0.00
50.00	5.14	2.83	0.00
52.00	5.14	2.83	0.00
54.00	5.14	2.83	0.00
56.00	5.14	2.83	0.00
58.00	5.14	2.83	0.00
60.00	5.14	2.83	0.00
62.00	5.14	2.83	0.00
64.00	5.14	2.83	0.00
66.00	5.14	2.83	0.00
68.00	5.14	2.83	0.00
70.00	5.14	2.83	0.00
72.00	5.14	2.83	0.00
74.00	5.14	2.83	0.00
76.00	5.14	2.83	0.00
78.00	5.14	2.83	0.00
80.00	5.14	2.83	0.00
82.00	5.14	2.83	0.00
84.00	5.14	2.83	0.00
86.00	5.14	2.83	0.00
88.00	5.14	2.83	0.00
90.00	5.14	2.83	0.00
92.00	5.14	2.83	0.00
94.00	5.14	2.83	0.00
96.00	5.14	2.83	0.00
98.00	5.14	2.83	0.00
100.00	5.14	2.83	0.00
102.00	5.14	2.83	0.00
104.00	5.14	2.83	0.00
106.00	5.14	2.83	0.00
108.00	5.14	2.83	0.00
110.00	5.14	2.83	0.00
112.00	5.14	2.83	0.00
114.00	5.14	2.83	0.00
116.00	5.14	2.83	0.00
118.00	5.14	2.83	0.00
120.00	5.14	2.83	0.00
122.00	5.14	2.83	0.00
124.00	5.14	2.83	0.00
126.00	5.14	2.83	0.00
128.00	5.14	2.83	0.00
130.00	5.14	2.83	0.00
132.00	5.14	2.83	0.00
134.00	5.14	2.83	0.00
136.00	5.14	2.83	0.00
138.00	5.14	2.83	0.00
140.00	5.14	2.83	0.00
142.00	5.14	2.83	0.00
144.00	5.14	2.83	0.00
146.00	5.14	2.83	0.00
148.00	5.14	2.83	0.00
150.00	5.14	2.83	0.00
152.00	5.14	2.83	0.00
154.00	5.14	2.83	0.00
156.00	5.14	2.83	0.00
158.00	5.14	2.83	0.00
160.00	5.14	2.83	0.00
162.00	5.14	2.83	0.00
164.00	5.14	2.83	0.00
166.00	5.14	2.83	0.00
168.00	5.14	2.83	0.00
170.00	5.14	2.83	0.00
172.00	5.14	2.83	0.00
174.00	5.14	2.83	0.00
176.00	5.14	2.83	0.00
178.00	5.14	2.83	0.00
180.00	5.14	2.83	0.00

Summary for Reach 1P: 15" CPP

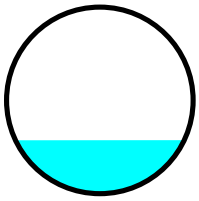
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 69,949 sf, 0.00% Impervious, Inflow Depth = 2.56" for 10-Year event
Inflow = 3.55 cfs @ 12.22 hrs, Volume= 14,942 cf
Outflow = 3.55 cfs @ 12.22 hrs, Volume= 14,942 cf, Atten= 0%, Lag= 0.1 min
Routed to Link 1L : Lag

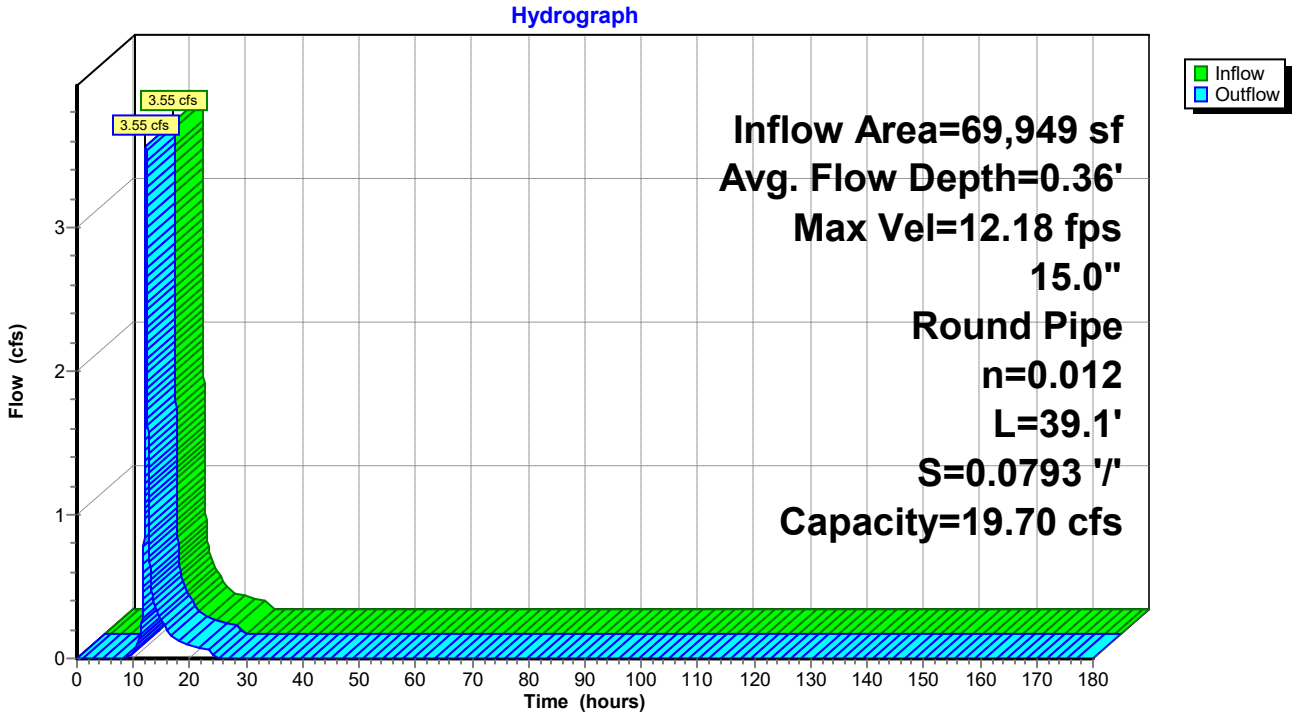
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 12.18 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.72 fps, Avg. Travel Time= 0.1 min

Peak Storage= 11 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.36' , Surface Width= 1.13'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 19.70 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 39.1' Slope= 0.0793 '/'
Inlet Invert= 1,668.60', Outlet Invert= 1,665.50'



Reach 1P: 15" CPP



Hydrograph for Reach 1P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,668.60	0.00
5.00	0.00	0	1,668.60	0.00
10.00	**0.05**	**1**	**1,668.65**	**0.05**
15.00	**0.26**	**2**	**1,668.70**	**0.26**
20.00	0.09	1	1,668.66	0.09
25.00	0.00	0	1,668.60	0.00
30.00	0.00	0	1,668.60	0.00
35.00	0.00	0	1,668.60	0.00
40.00	0.00	0	1,668.60	0.00
45.00	0.00	0	1,668.60	0.00
50.00	0.00	0	1,668.60	0.00
55.00	0.00	0	1,668.60	0.00
60.00	0.00	0	1,668.60	0.00
65.00	0.00	0	1,668.60	0.00
70.00	0.00	0	1,668.60	0.00
75.00	0.00	0	1,668.60	0.00
80.00	0.00	0	1,668.60	0.00
85.00	0.00	0	1,668.60	0.00
90.00	0.00	0	1,668.60	0.00
95.00	0.00	0	1,668.60	0.00
100.00	0.00	0	1,668.60	0.00
105.00	0.00	0	1,668.60	0.00
110.00	0.00	0	1,668.60	0.00
115.00	0.00	0	1,668.60	0.00
120.00	0.00	0	1,668.60	0.00
125.00	0.00	0	1,668.60	0.00
130.00	0.00	0	1,668.60	0.00
135.00	0.00	0	1,668.60	0.00
140.00	0.00	0	1,668.60	0.00
145.00	0.00	0	1,668.60	0.00
150.00	0.00	0	1,668.60	0.00
155.00	0.00	0	1,668.60	0.00
160.00	0.00	0	1,668.60	0.00
165.00	0.00	0	1,668.60	0.00
170.00	0.00	0	1,668.60	0.00
175.00	0.00	0	1,668.60	0.00
180.00	0.00	0	1,668.60	0.00

Summary for Reach 2P: 15" CPP

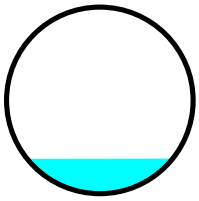
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 21,615 sf, 0.00% Impervious, Inflow Depth = 2.48" for 10-Year event
Inflow = 1.32 cfs @ 12.12 hrs, Volume= 4,461 cf
Outflow = 1.32 cfs @ 12.12 hrs, Volume= 4,461 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : Lag

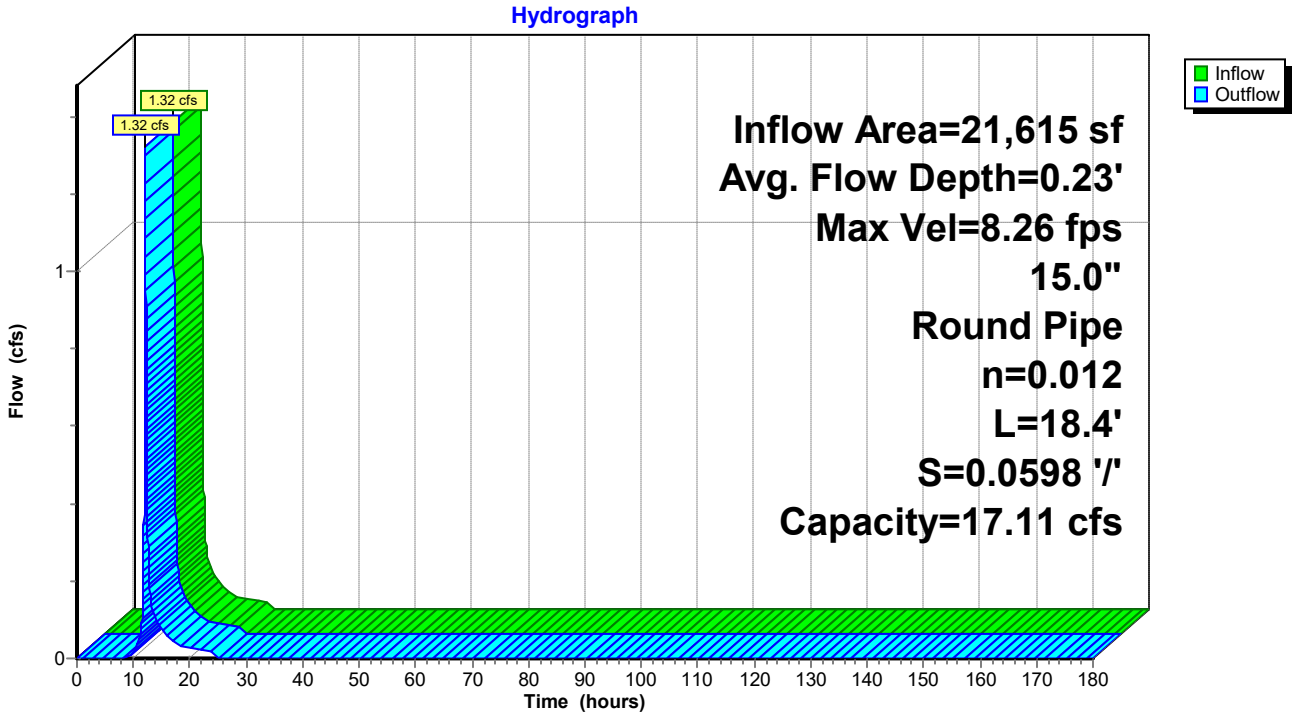
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.26 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.04 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.23' , Surface Width= 0.98'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.11 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 18.4' Slope= 0.0598 '/'
Inlet Invert= 1,669.70', Outlet Invert= 1,668.60'



Reach 2P: 15" CPP



Hydrograph for Reach 2P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,669.70	0.00
5.00	0.00	0	1,669.70	0.00
10.00	**0.01**	**0**	**1,669.73**	**0.01**
15.00	**0.08**	**0**	**1,669.76**	**0.08**
20.00	0.03	0	1,669.74	0.03
25.00	0.00	0	1,669.70	0.00
30.00	0.00	0	1,669.70	0.00
35.00	0.00	0	1,669.70	0.00
40.00	0.00	0	1,669.70	0.00
45.00	0.00	0	1,669.70	0.00
50.00	0.00	0	1,669.70	0.00
55.00	0.00	0	1,669.70	0.00
60.00	0.00	0	1,669.70	0.00
65.00	0.00	0	1,669.70	0.00
70.00	0.00	0	1,669.70	0.00
75.00	0.00	0	1,669.70	0.00
80.00	0.00	0	1,669.70	0.00
85.00	0.00	0	1,669.70	0.00
90.00	0.00	0	1,669.70	0.00
95.00	0.00	0	1,669.70	0.00
100.00	0.00	0	1,669.70	0.00
105.00	0.00	0	1,669.70	0.00
110.00	0.00	0	1,669.70	0.00
115.00	0.00	0	1,669.70	0.00
120.00	0.00	0	1,669.70	0.00
125.00	0.00	0	1,669.70	0.00
130.00	0.00	0	1,669.70	0.00
135.00	0.00	0	1,669.70	0.00
140.00	0.00	0	1,669.70	0.00
145.00	0.00	0	1,669.70	0.00
150.00	0.00	0	1,669.70	0.00
155.00	0.00	0	1,669.70	0.00
160.00	0.00	0	1,669.70	0.00
165.00	0.00	0	1,669.70	0.00
170.00	0.00	0	1,669.70	0.00
175.00	0.00	0	1,669.70	0.00
180.00	0.00	0	1,669.70	0.00

Summary for Reach 3P: 15" CPP

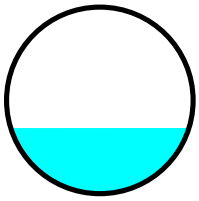
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 65,090 sf, 0.00% Impervious, Inflow Depth = 2.83" for 10-Year event
Inflow = 3.52 cfs @ 12.25 hrs, Volume= 15,356 cf
Outflow = 3.52 cfs @ 12.25 hrs, Volume= 15,356 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : Lag

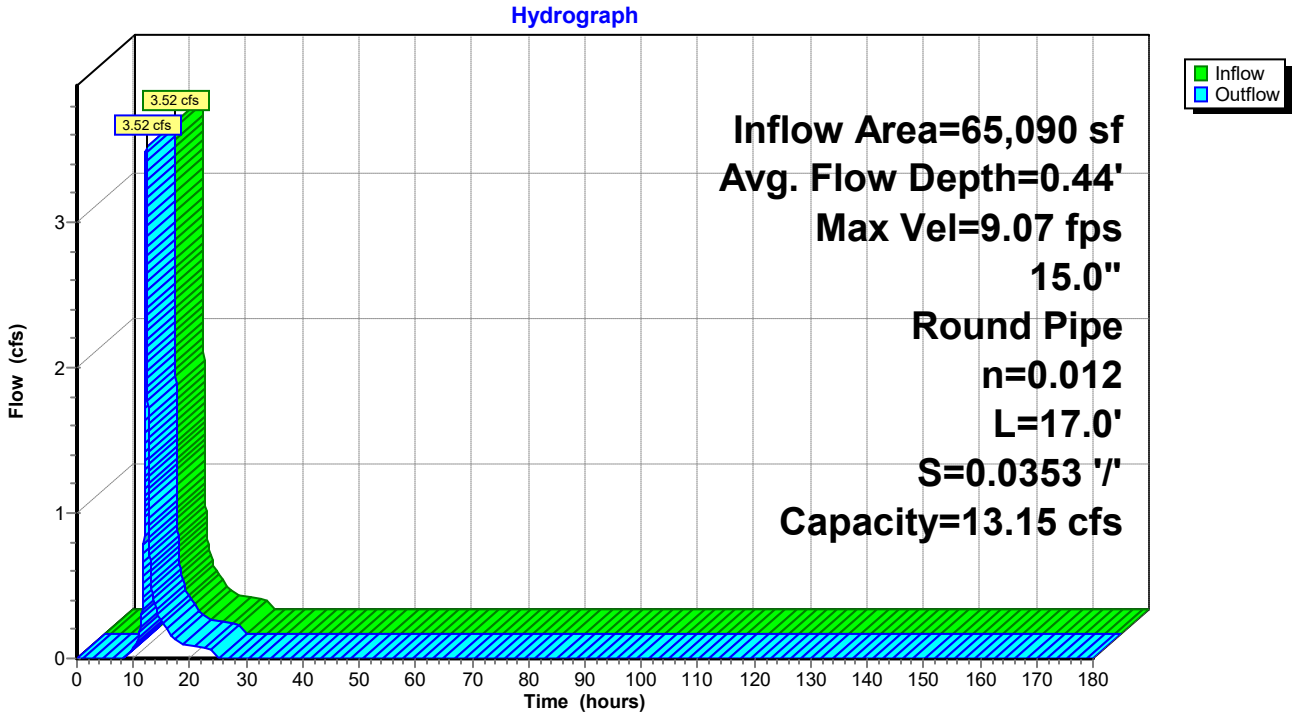
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.07 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.50 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.44' , Surface Width= 1.19'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 13.15 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 17.0' Slope= 0.0353 '/'
Inlet Invert= 1,666.50', Outlet Invert= 1,665.90'



Reach 3P: 15" CPP



Hydrograph for Reach 3P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,666.50	0.00
5.00	0.00	0	1,666.50	0.00
10.00	**0.07**	**0**	**1,666.57**	**0.07**
15.00	**0.26**	**1**	**1,666.62**	**0.26**
20.00	0.09	0	1,666.57	0.09
25.00	0.00	0	1,666.50	0.00
30.00	0.00	0	1,666.50	0.00
35.00	0.00	0	1,666.50	0.00
40.00	0.00	0	1,666.50	0.00
45.00	0.00	0	1,666.50	0.00
50.00	0.00	0	1,666.50	0.00
55.00	0.00	0	1,666.50	0.00
60.00	0.00	0	1,666.50	0.00
65.00	0.00	0	1,666.50	0.00
70.00	0.00	0	1,666.50	0.00
75.00	0.00	0	1,666.50	0.00
80.00	0.00	0	1,666.50	0.00
85.00	0.00	0	1,666.50	0.00
90.00	0.00	0	1,666.50	0.00
95.00	0.00	0	1,666.50	0.00
100.00	0.00	0	1,666.50	0.00
105.00	0.00	0	1,666.50	0.00
110.00	0.00	0	1,666.50	0.00
115.00	0.00	0	1,666.50	0.00
120.00	0.00	0	1,666.50	0.00
125.00	0.00	0	1,666.50	0.00
130.00	0.00	0	1,666.50	0.00
135.00	0.00	0	1,666.50	0.00
140.00	0.00	0	1,666.50	0.00
145.00	0.00	0	1,666.50	0.00
150.00	0.00	0	1,666.50	0.00
155.00	0.00	0	1,666.50	0.00
160.00	0.00	0	1,666.50	0.00
165.00	0.00	0	1,666.50	0.00
170.00	0.00	0	1,666.50	0.00
175.00	0.00	0	1,666.50	0.00
180.00	0.00	0	1,666.50	0.00

Summary for Reach 5P: Culvert

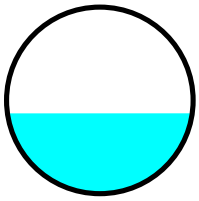
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 112,446 sf, 0.00% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 5.93 cfs @ 12.29 hrs, Volume= 28,255 cf
Outflow = 5.93 cfs @ 12.29 hrs, Volume= 28,255 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Lag

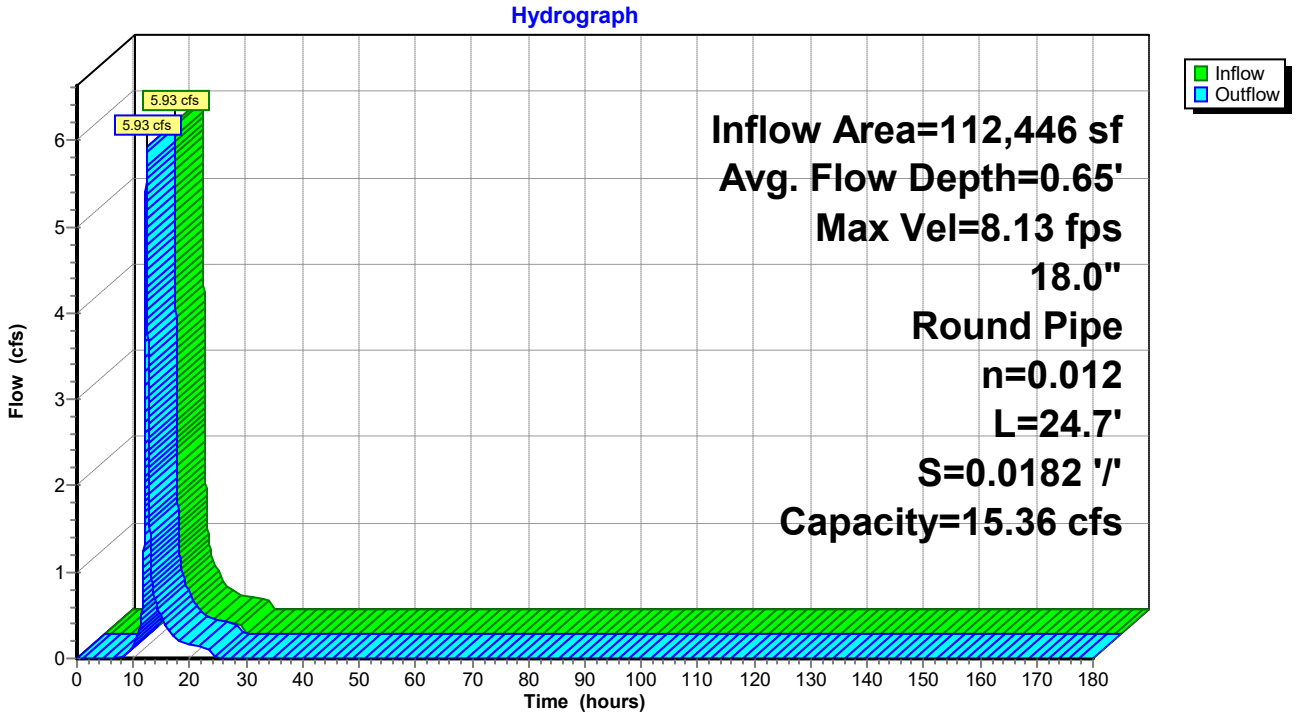
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.13 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.17 fps, Avg. Travel Time= 0.1 min

Peak Storage= 18 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.65' , Surface Width= 1.49'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.36 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 24.7' Slope= 0.0182 '/'
Inlet Invert= 1,620.00', Outlet Invert= 1,619.55'



Reach 5P: Culvert



Hydrograph for Reach 5P: Culvert

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,620.00	0.00
5.00	0.00	0	1,620.00	0.00
10.00	**0.15**	**1**	**1,620.11**	**0.15**
15.00	**0.47**	**3**	**1,620.18**	**0.47**
20.00	0.16	1	1,620.11	0.16
25.00	0.00	0	1,620.00	0.00
30.00	0.00	0	1,620.00	0.00
35.00	0.00	0	1,620.00	0.00
40.00	0.00	0	1,620.00	0.00
45.00	0.00	0	1,620.00	0.00
50.00	0.00	0	1,620.00	0.00
55.00	0.00	0	1,620.00	0.00
60.00	0.00	0	1,620.00	0.00
65.00	0.00	0	1,620.00	0.00
70.00	0.00	0	1,620.00	0.00
75.00	0.00	0	1,620.00	0.00
80.00	0.00	0	1,620.00	0.00
85.00	0.00	0	1,620.00	0.00
90.00	0.00	0	1,620.00	0.00
95.00	0.00	0	1,620.00	0.00
100.00	0.00	0	1,620.00	0.00
105.00	0.00	0	1,620.00	0.00
110.00	0.00	0	1,620.00	0.00
115.00	0.00	0	1,620.00	0.00
120.00	0.00	0	1,620.00	0.00
125.00	0.00	0	1,620.00	0.00
130.00	0.00	0	1,620.00	0.00
135.00	0.00	0	1,620.00	0.00
140.00	0.00	0	1,620.00	0.00
145.00	0.00	0	1,620.00	0.00
150.00	0.00	0	1,620.00	0.00
155.00	0.00	0	1,620.00	0.00
160.00	0.00	0	1,620.00	0.00
165.00	0.00	0	1,620.00	0.00
170.00	0.00	0	1,620.00	0.00
175.00	0.00	0	1,620.00	0.00
180.00	0.00	0	1,620.00	0.00

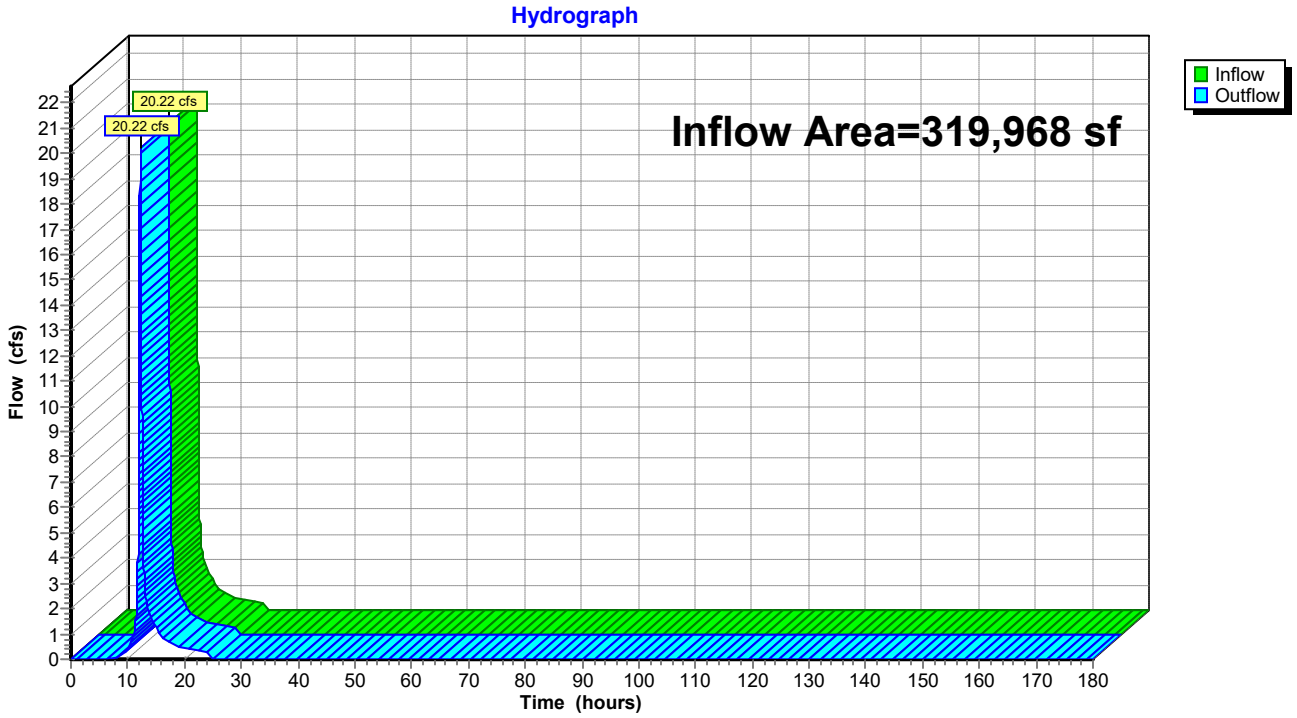
Summary for Reach DP-E: Culvert towards Wades Stream

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

Inflow Area = 319,968 sf, 0.00% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 20.22 cfs @ 12.21 hrs, Volume= 80,401 cf
Outflow = 20.22 cfs @ 12.21 hrs, Volume= 80,401 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach DP-E: Culvert towards Wades Stream



Hydrograph for Reach DP-E: Culvert towards Wades Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.04		0.04	112.00	0.00		0.00
10.00	0.47		0.47	114.00	0.00		0.00
12.00	**8.19**		**8.19**	116.00	0.00		0.00
14.00	**1.73**		**1.73**	118.00	0.00		0.00
16.00	0.93		0.93	120.00	0.00		0.00
18.00	0.56		0.56	122.00	0.00		0.00
20.00	0.44		0.44	124.00	0.00		0.00
22.00	0.37		0.37	126.00	0.00		0.00
24.00	0.29		0.29	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

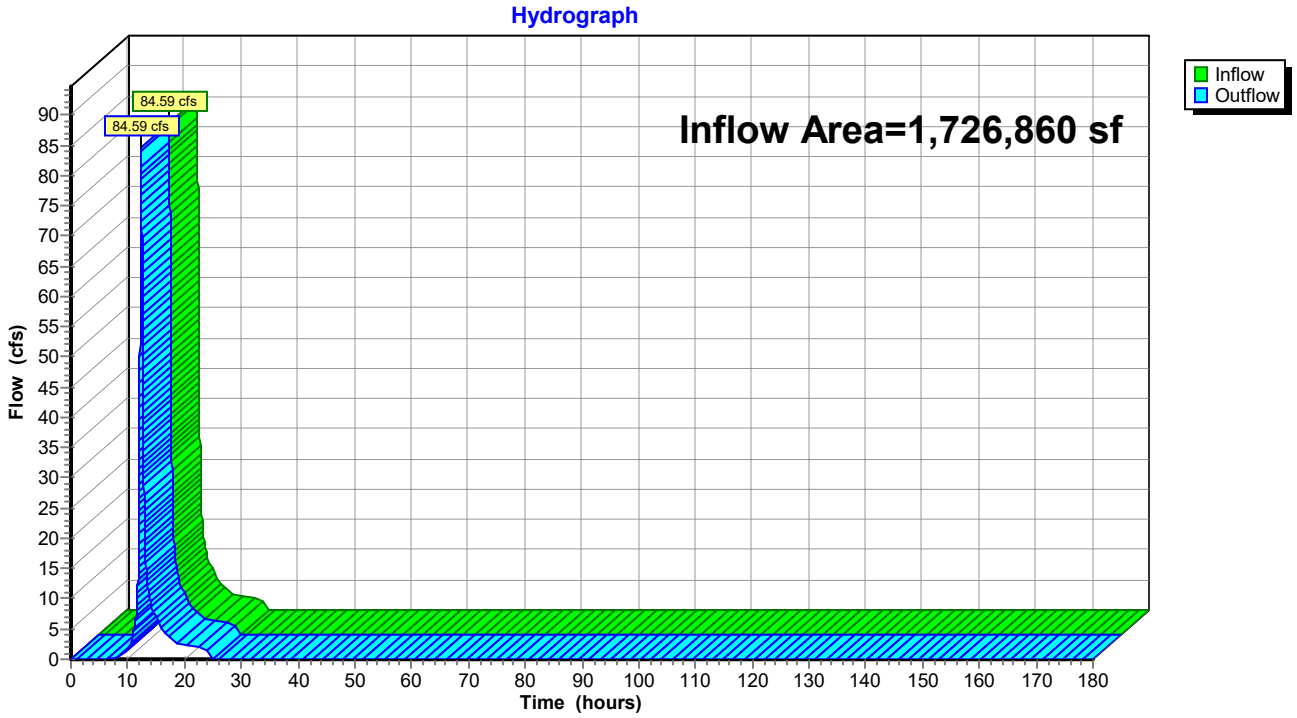
Summary for Reach DP-W: Watts Stream

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

Inflow Area = 1,726,860 sf, 0.29% Impervious, Inflow Depth = 2.85" for 10-Year event
Inflow = 84.59 cfs @ 12.36 hrs, Volume= 410,063 cf
Outflow = 84.59 cfs @ 12.36 hrs, Volume= 410,063 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach DP-W: Watts Stream



Hydrograph for Reach DP-W: Watts Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.02		0.02	112.00	0.00		0.00
10.00	1.81		1.81	114.00	0.00		0.00
12.00	**25.70**		**25.70**	116.00	0.00		0.00
14.00	**9.61**		**9.61**	118.00	0.00		0.00
16.00	5.17		5.17	120.00	0.00		0.00
18.00	3.09		3.09	122.00	0.00		0.00
20.00	2.36		2.36	124.00	0.00		0.00
22.00	1.96		1.96	126.00	0.00		0.00
24.00	1.57		1.57	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

Summary for Pond 4P: 15" CPP

Inflow Area = 204,789 sf, 0.00% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 12.75 cfs @ 12.20 hrs, Volume= 51,459 cf
Outflow = 12.75 cfs @ 12.20 hrs, Volume= 51,459 cf, Atten= 0%, Lag= 0.1 min
Primary = 6.36 cfs @ 12.20 hrs, Volume= 45,614 cf
Routed to Link 4L : Lag
Secondary = 6.39 cfs @ 12.20 hrs, Volume= 5,845 cf
Routed to Link 4L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,662.79' @ 12.20 hrs Surf.Area= 221 sf Storage= 196 cf

Plug-Flow detention time= 0.2 min calculated for 51,456 cf (100% of inflow)
Center-of-Mass det. time= 0.2 min (828.6 - 828.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.30'	837 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

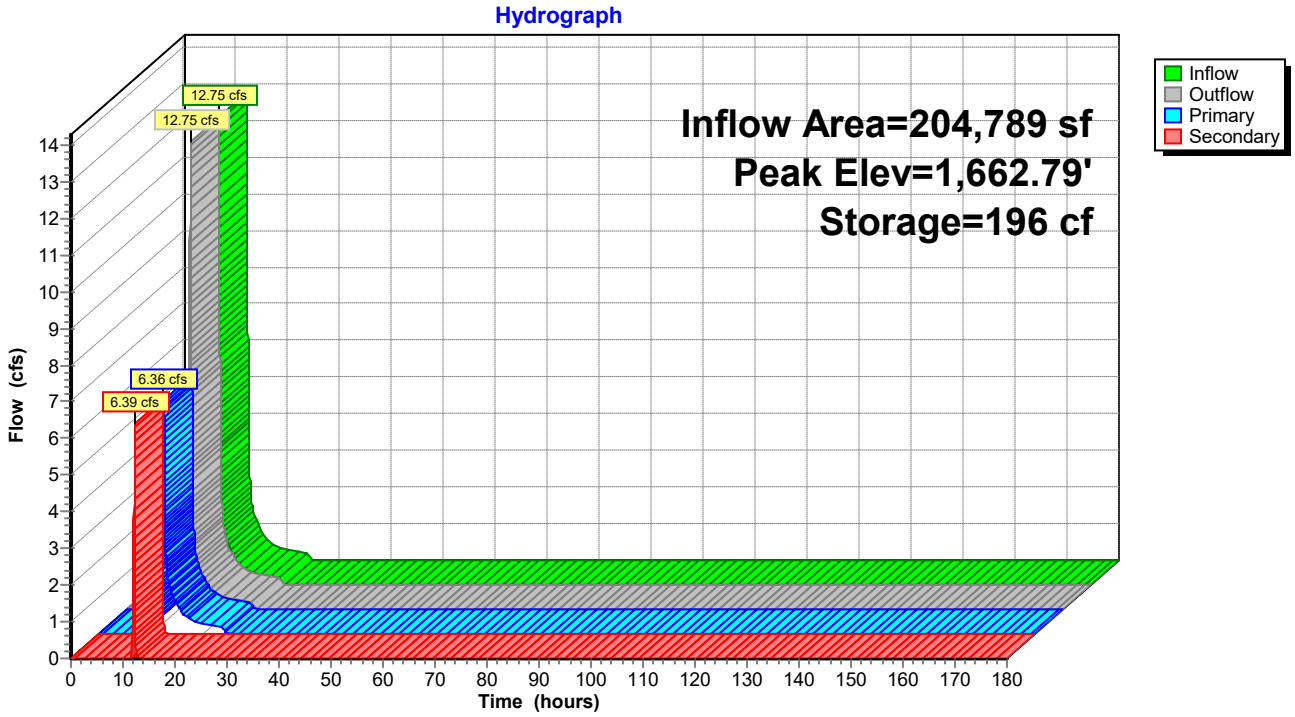
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.30	1	3.9	0	0	1
1,663.00	258	82.3	248	248	551
1,664.00	1,003	166.4	590	837	2,220

Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.30'	**15.0" Round Culvert** L= 16.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.30' / 1,659.80' S= 0.0305 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Secondary	1,662.50'	**8.0' long + 35.0 '/' SideZ x 13.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=6.36 cfs @ 12.20 hrs HW=1,662.79' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 6.36 cfs @ 5.18 fps)

Secondary OutFlow Max=6.39 cfs @ 12.20 hrs HW=1,662.79' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 6.39 cfs @ 1.24 fps)

Pond 4P: 15" CPP



Hydrograph for Pond 4P: 15" CPP

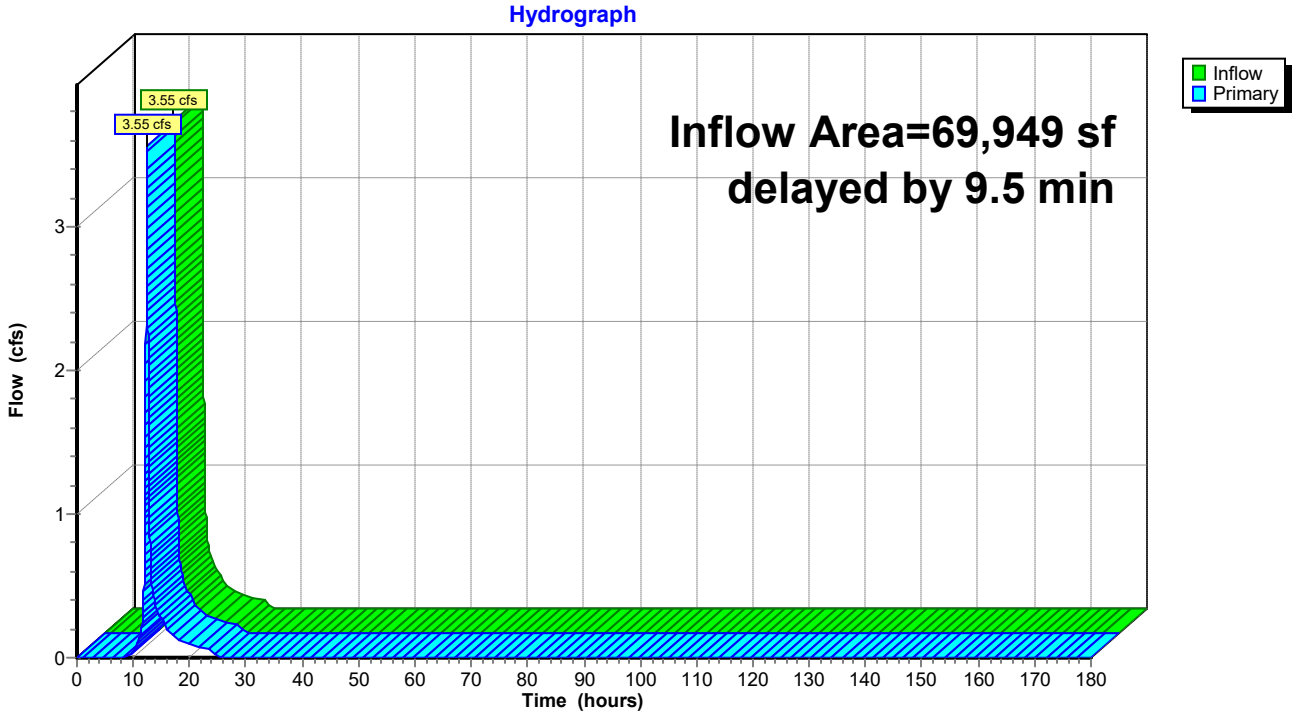
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.30	0.00	0.00	0.00
5.00	0.00	0	1,660.30	0.00	0.00	0.00
10.00	**0.30**	**1**	**1,660.58**	**0.30**	**0.30**	**0.00**
15.00	**0.83**	**3**	**1,660.79**	**0.83**	**0.83**	**0.00**
20.00	0.28	1	1,660.58	0.28	0.28	0.00
25.00	0.00	0	1,660.30	0.00	0.00	0.00
30.00	0.00	0	1,660.30	0.00	0.00	0.00
35.00	0.00	0	1,660.30	0.00	0.00	0.00
40.00	0.00	0	1,660.30	0.00	0.00	0.00
45.00	0.00	0	1,660.30	0.00	0.00	0.00
50.00	0.00	0	1,660.30	0.00	0.00	0.00
55.00	0.00	0	1,660.30	0.00	0.00	0.00
60.00	0.00	0	1,660.30	0.00	0.00	0.00
65.00	0.00	0	1,660.30	0.00	0.00	0.00
70.00	0.00	0	1,660.30	0.00	0.00	0.00
75.00	0.00	0	1,660.30	0.00	0.00	0.00
80.00	0.00	0	1,660.30	0.00	0.00	0.00
85.00	0.00	0	1,660.30	0.00	0.00	0.00
90.00	0.00	0	1,660.30	0.00	0.00	0.00
95.00	0.00	0	1,660.30	0.00	0.00	0.00
100.00	0.00	0	1,660.30	0.00	0.00	0.00
105.00	0.00	0	1,660.30	0.00	0.00	0.00
110.00	0.00	0	1,660.30	0.00	0.00	0.00
115.00	0.00	0	1,660.30	0.00	0.00	0.00
120.00	0.00	0	1,660.30	0.00	0.00	0.00
125.00	0.00	0	1,660.30	0.00	0.00	0.00
130.00	0.00	0	1,660.30	0.00	0.00	0.00
135.00	0.00	0	1,660.30	0.00	0.00	0.00
140.00	0.00	0	1,660.30	0.00	0.00	0.00
145.00	0.00	0	1,660.30	0.00	0.00	0.00
150.00	0.00	0	1,660.30	0.00	0.00	0.00
155.00	0.00	0	1,660.30	0.00	0.00	0.00
160.00	0.00	0	1,660.30	0.00	0.00	0.00
165.00	0.00	0	1,660.30	0.00	0.00	0.00
170.00	0.00	0	1,660.30	0.00	0.00	0.00
175.00	0.00	0	1,660.30	0.00	0.00	0.00
180.00	0.00	0	1,660.30	0.00	0.00	0.00

Summary for Link 1L: Lag

Inflow Area = 69,949 sf, 0.00% Impervious, Inflow Depth = 2.56" for 10-Year event
Inflow = 3.55 cfs @ 12.22 hrs, Volume= 14,942 cf
Primary = 3.55 cfs @ 12.38 hrs, Volume= 14,942 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 1L: Lag



Hydrograph for Link 1L: Lag

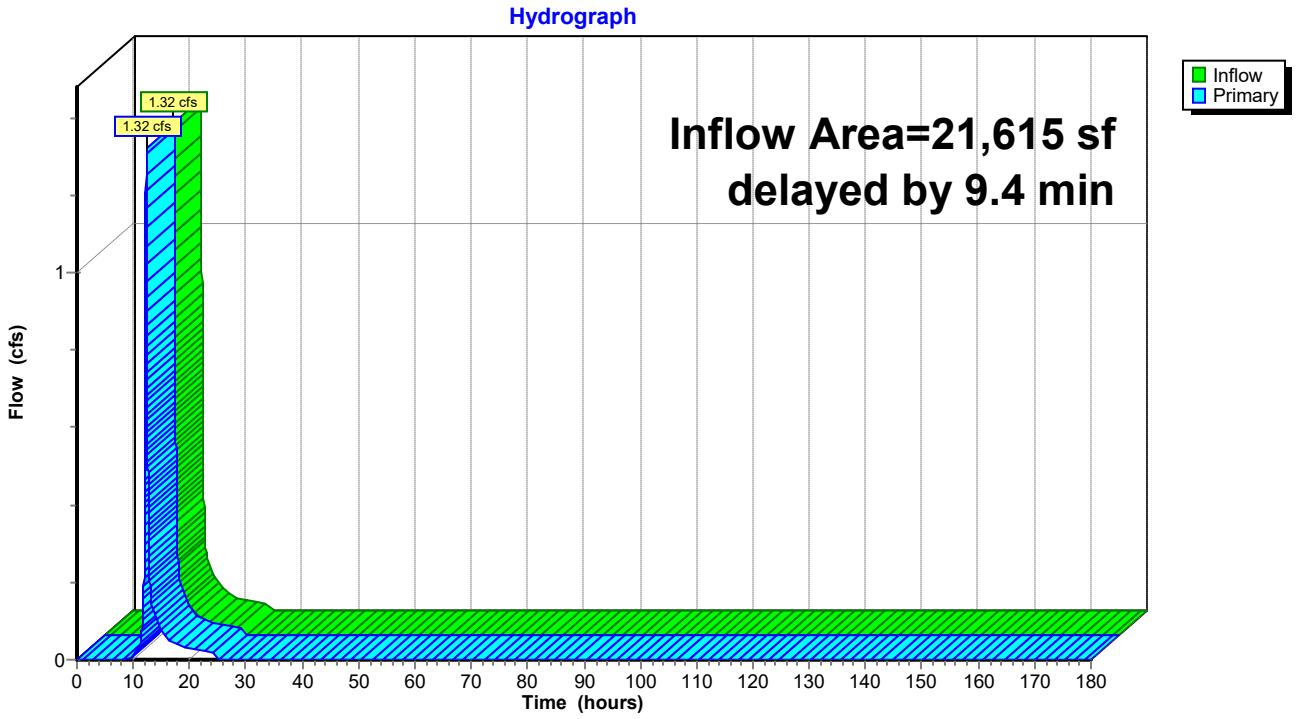
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.05	0.00	0.04	114.00	0.00	0.00	0.00
12.00	**1.38**	0.00	**0.74**	116.00	0.00	0.00	0.00
14.00	**0.35**	0.00	**0.37**	118.00	0.00	0.00	0.00
16.00	0.19	0.00	0.20	120.00	0.00	0.00	0.00
18.00	0.11	0.00	0.12	122.00	0.00	0.00	0.00
20.00	0.09	0.00	0.09	124.00	0.00	0.00	0.00
22.00	0.07	0.00	0.08	126.00	0.00	0.00	0.00
24.00	0.06	0.00	0.06	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 2L: Lag

Inflow Area = 21,615 sf, 0.00% Impervious, Inflow Depth = 2.48" for 10-Year event
Inflow = 1.32 cfs @ 12.12 hrs, Volume= 4,461 cf
Primary = 1.32 cfs @ 12.28 hrs, Volume= 4,461 cf, Atten= 0%, Lag= 9.4 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 2L: Lag



Hydrograph for Link 2L: Lag

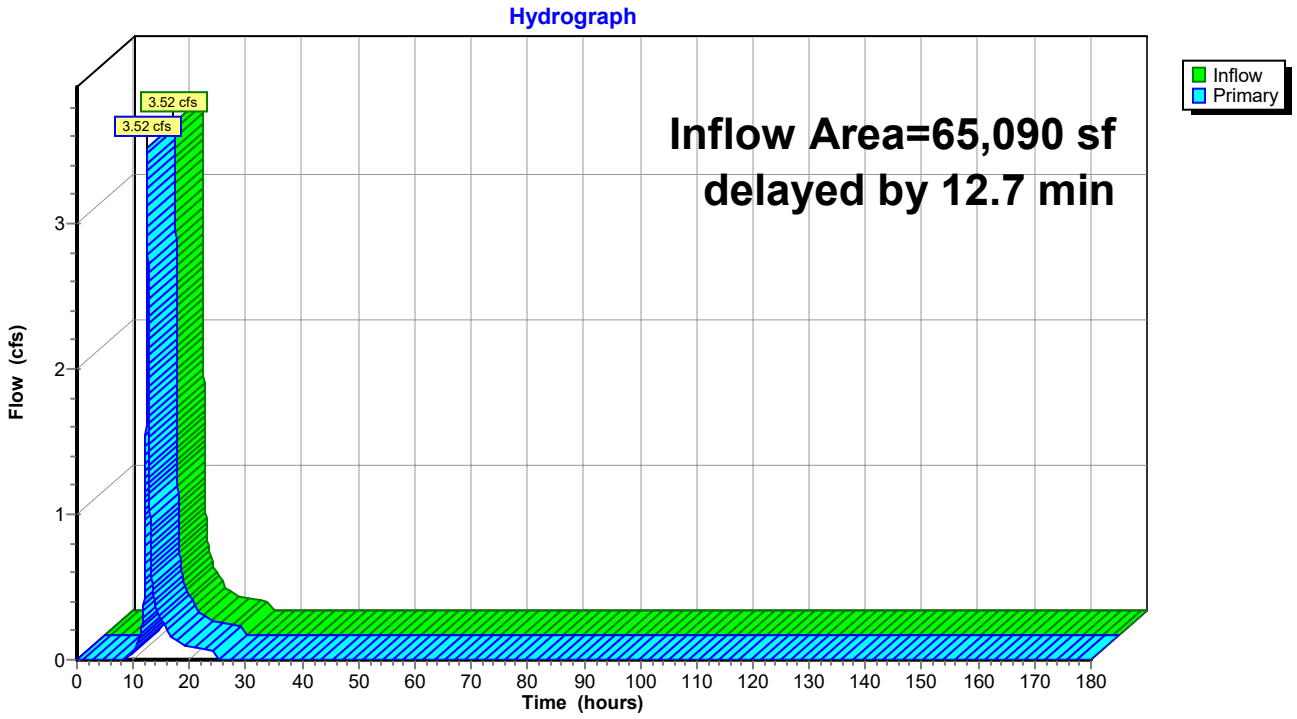
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.01	0.00	0.01	114.00	0.00	0.00	0.00
12.00	**0.64**	0.00	**0.33**	116.00	0.00	0.00	0.00
14.00	**0.10**	0.00	**0.11**	118.00	0.00	0.00	0.00
16.00	0.05	0.00	0.06	120.00	0.00	0.00	0.00
18.00	0.03	0.00	0.04	122.00	0.00	0.00	0.00
20.00	0.03	0.00	0.03	124.00	0.00	0.00	0.00
22.00	0.02	0.00	0.02	126.00	0.00	0.00	0.00
24.00	0.02	0.00	0.02	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 3L: Lag

Inflow Area = 65,090 sf, 0.00% Impervious, Inflow Depth = 2.83" for 10-Year event
Inflow = 3.52 cfs @ 12.25 hrs, Volume= 15,356 cf
Primary = 3.52 cfs @ 12.46 hrs, Volume= 15,356 cf, Atten= 0%, Lag= 12.7 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 12.7 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 3L: Lag



Hydrograph for Link 3L: Lag

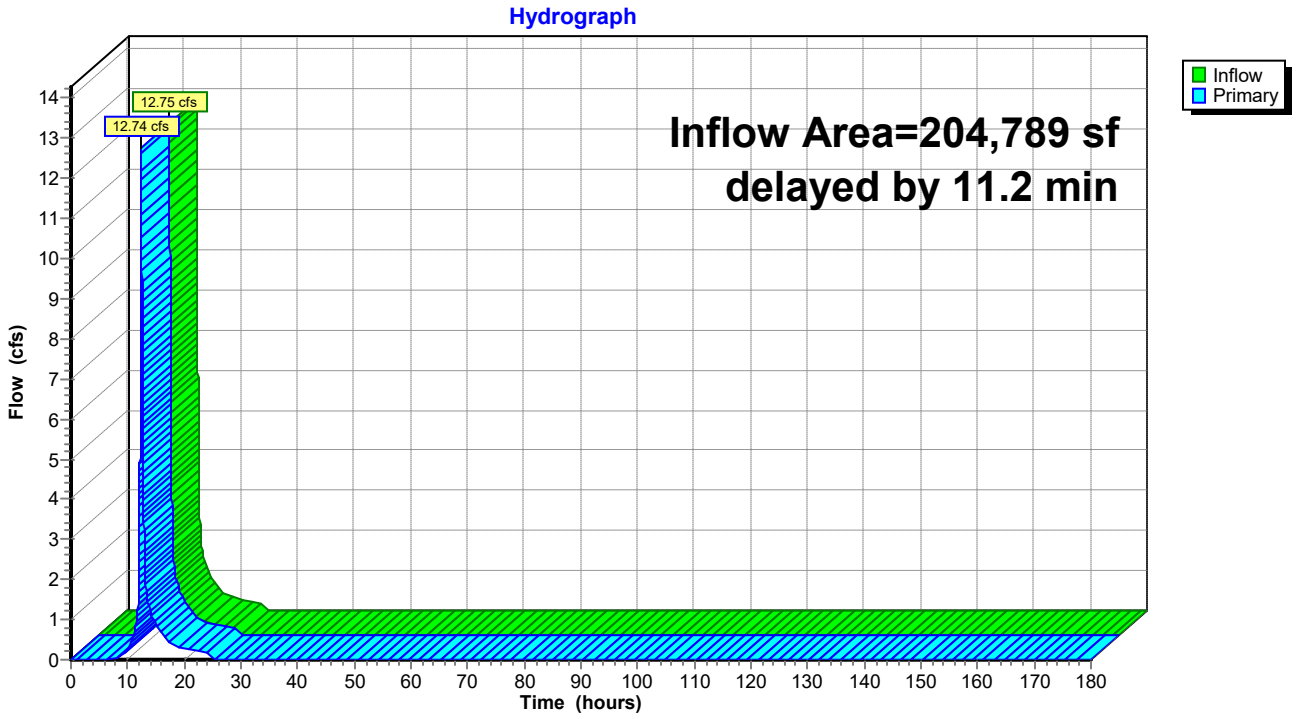
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.07	0.00	0.06	114.00	0.00	0.00	0.00
12.00	**1.36**	0.00	**0.59**	116.00	0.00	0.00	0.00
14.00	**0.35**	0.00	**0.38**	118.00	0.00	0.00	0.00
16.00	0.19	0.00	0.20	120.00	0.00	0.00	0.00
18.00	0.11	0.00	0.12	122.00	0.00	0.00	0.00
20.00	0.09	0.00	0.09	124.00	0.00	0.00	0.00
22.00	0.07	0.00	0.07	126.00	0.00	0.00	0.00
24.00	0.06	0.00	0.06	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 4L: Lag

Inflow Area = 204,789 sf, 0.00% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 12.75 cfs @ 12.20 hrs, Volume= 51,459 cf
Primary = 12.74 cfs @ 12.39 hrs, Volume= 51,459 cf, Atten= 0%, Lag= 11.2 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 11.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 4L: Lag



Hydrograph for Link 4L: Lag

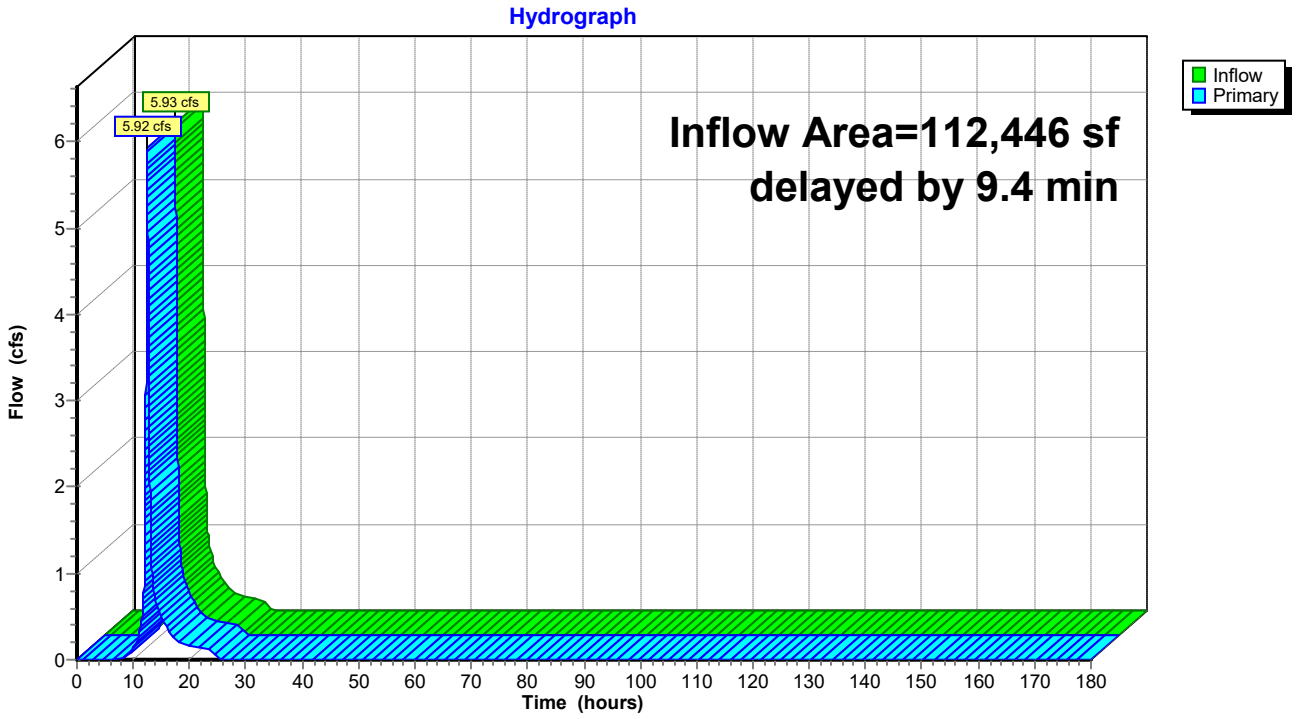
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.03	0.00	0.02	112.00	0.00	0.00	0.00
10.00	0.30	0.00	0.26	114.00	0.00	0.00	0.00
12.00	**5.16**	0.00	**2.69**	116.00	0.00	0.00	0.00
14.00	**1.10**	0.00	**1.19**	118.00	0.00	0.00	0.00
16.00	0.59	0.00	0.64	120.00	0.00	0.00	0.00
18.00	0.36	0.00	0.38	122.00	0.00	0.00	0.00
20.00	0.28	0.00	0.29	124.00	0.00	0.00	0.00
22.00	0.23	0.00	0.24	126.00	0.00	0.00	0.00
24.00	0.19	0.00	0.19	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 5L: Lag

Inflow Area = 112,446 sf, 0.00% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 5.93 cfs @ 12.29 hrs, Volume= 28,255 cf
Primary = 5.92 cfs @ 12.45 hrs, Volume= 28,255 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 5L: Lag



Hydrograph for Link 5L: Lag

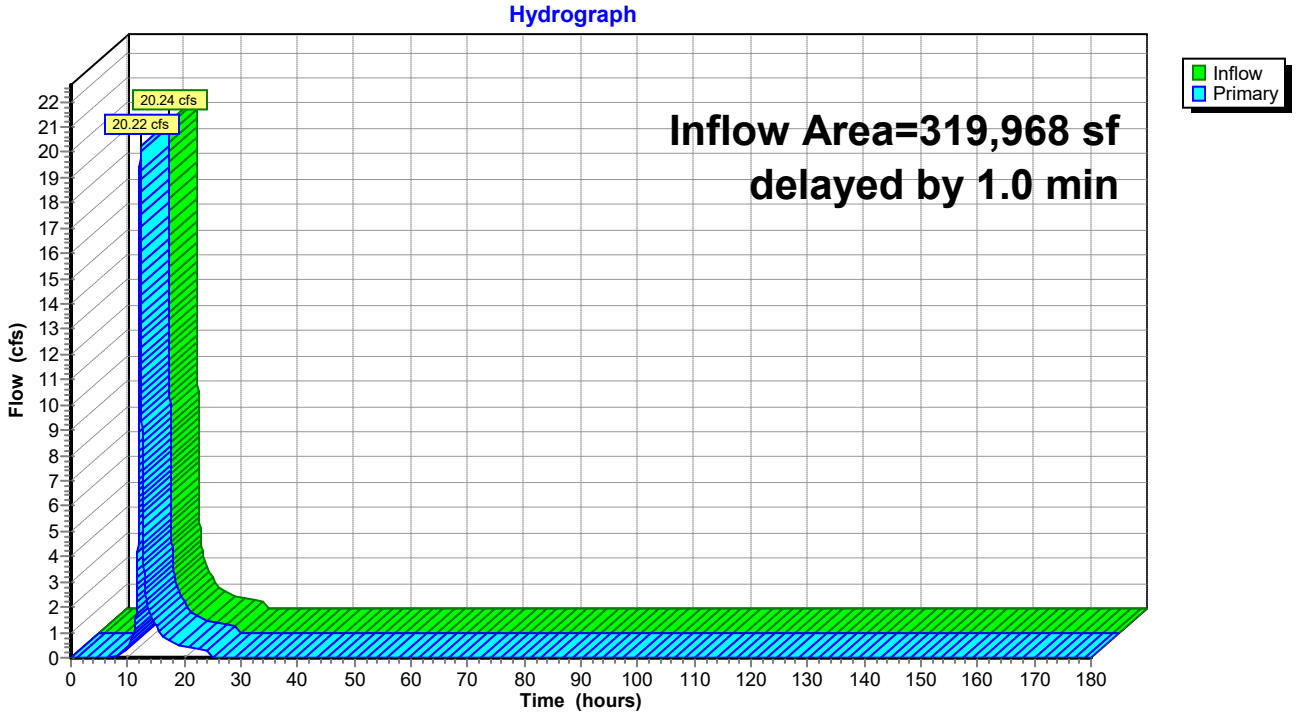
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	112.00	0.00	0.00	0.00
10.00	0.15	0.00	0.14	114.00	0.00	0.00	0.00
12.00	**2.12**	0.00	**1.17**	116.00	0.00	0.00	0.00
14.00	**0.64**	0.00	**0.68**	118.00	0.00	0.00	0.00
16.00	0.34	0.00	0.36	120.00	0.00	0.00	0.00
18.00	0.20	0.00	0.21	122.00	0.00	0.00	0.00
20.00	0.16	0.00	0.16	124.00	0.00	0.00	0.00
22.00	0.13	0.00	0.13	126.00	0.00	0.00	0.00
24.00	0.10	0.00	0.11	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 6L:

Inflow Area = 319,968 sf, 0.00% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 20.24 cfs @ 12.19 hrs, Volume= 80,401 cf
Primary = 20.22 cfs @ 12.21 hrs, Volume= 80,401 cf, Atten= 0%, Lag= 1.0 min
Routed to Reach DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 1.0 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 6L:



Hydrograph for Link 6L:

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.04	0.00	0.04	112.00	0.00	0.00	0.00
10.00	0.47	0.00	0.47	114.00	0.00	0.00	0.00
12.00	**8.79**	0.00	**8.19**	116.00	0.00	0.00	0.00
14.00	**1.72**	0.00	**1.73**	118.00	0.00	0.00	0.00
16.00	0.92	0.00	0.93	120.00	0.00	0.00	0.00
18.00	0.56	0.00	0.56	122.00	0.00	0.00	0.00
20.00	0.44	0.00	0.44	124.00	0.00	0.00	0.00
22.00	0.37	0.00	0.37	126.00	0.00	0.00	0.00
24.00	0.29	0.00	0.29	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Subcatchment M: Middle

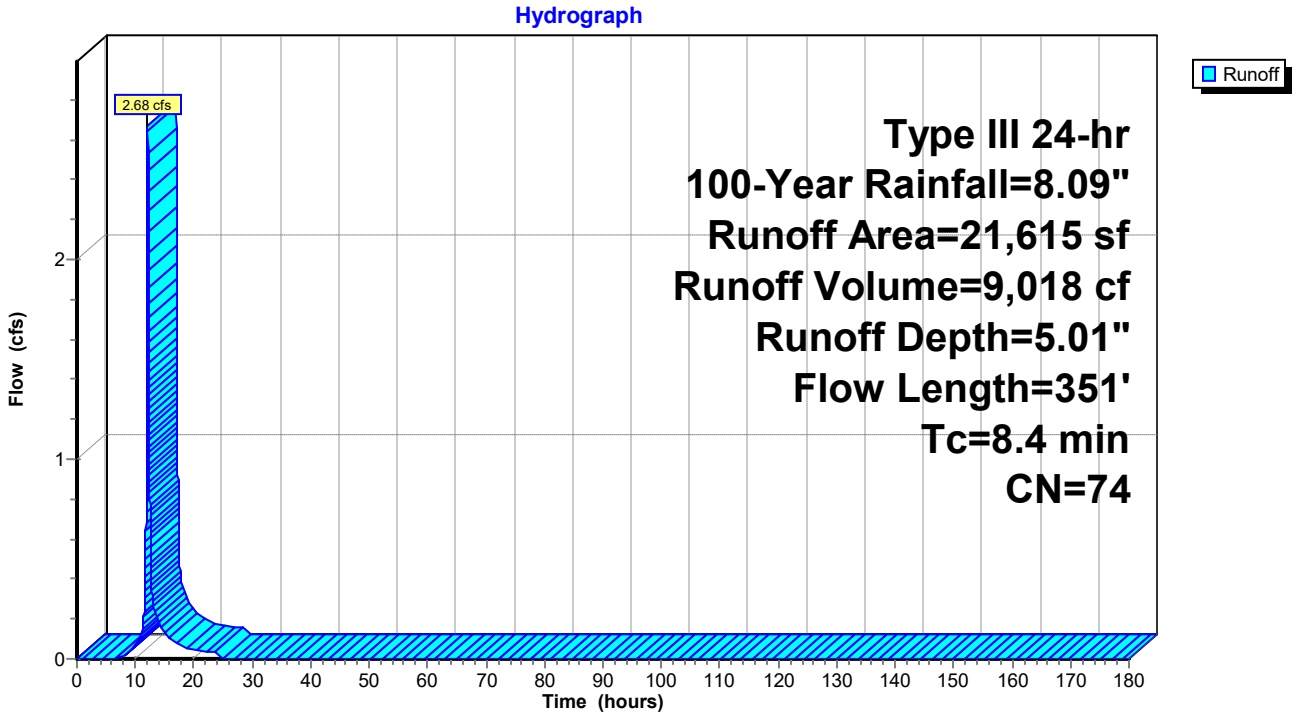
Runoff = 2.68 cfs @ 12.12 hrs, Volume= 9,018 cf, Depth= 5.01"
Routed to Reach 2P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
21,615	74	Pasture/grassland/range, Good, HSG C
21,615		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	95	0.0626	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
2.3	214	0.0510	1.58		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.9	42	0.0126	0.79		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
8.4	351	Total			

Subcatchment M: Middle



Hydrograph for Subcatchment M: Middle

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	8.09	5.01	0.00
2.00	0.16	0.00	0.00	106.00	8.09	5.01	0.00
4.00	0.35	0.00	0.00	108.00	8.09	5.01	0.00
6.00	0.58	0.00	0.00	110.00	8.09	5.01	0.00
8.00	0.92	0.01	0.01	112.00	8.09	5.01	0.00
10.00	1.53	0.16	0.06	114.00	8.09	5.01	0.00
12.00	4.04	1.63	**1.38**	116.00	8.09	5.01	0.00
14.00	6.56	3.66	**0.18**	118.00	8.09	5.01	0.00
16.00	7.17	4.19	0.10	120.00	8.09	5.01	0.00
18.00	7.51	4.49	0.06	122.00	8.09	5.01	0.00
20.00	7.74	4.70	0.05	124.00	8.09	5.01	0.00
22.00	7.93	4.87	0.04	126.00	8.09	5.01	0.00
24.00	**8.09**	**5.01**	0.03	128.00	8.09	5.01	0.00
26.00	8.09	5.01	0.00	130.00	8.09	5.01	0.00
28.00	8.09	5.01	0.00	132.00	8.09	5.01	0.00
30.00	8.09	5.01	0.00	134.00	8.09	5.01	0.00
32.00	8.09	5.01	0.00	136.00	8.09	5.01	0.00
34.00	8.09	5.01	0.00	138.00	8.09	5.01	0.00
36.00	8.09	5.01	0.00	140.00	8.09	5.01	0.00
38.00	8.09	5.01	0.00	142.00	8.09	5.01	0.00
40.00	8.09	5.01	0.00	144.00	8.09	5.01	0.00
42.00	8.09	5.01	0.00	146.00	8.09	5.01	0.00
44.00	8.09	5.01	0.00	148.00	8.09	5.01	0.00
46.00	8.09	5.01	0.00	150.00	8.09	5.01	0.00
48.00	8.09	5.01	0.00	152.00	8.09	5.01	0.00
50.00	8.09	5.01	0.00	154.00	8.09	5.01	0.00
52.00	8.09	5.01	0.00	156.00	8.09	5.01	0.00
54.00	8.09	5.01	0.00	158.00	8.09	5.01	0.00
56.00	8.09	5.01	0.00	160.00	8.09	5.01	0.00
58.00	8.09	5.01	0.00	162.00	8.09	5.01	0.00
60.00	8.09	5.01	0.00	164.00	8.09	5.01	0.00
62.00	8.09	5.01	0.00	166.00	8.09	5.01	0.00
64.00	8.09	5.01	0.00	168.00	8.09	5.01	0.00
66.00	8.09	5.01	0.00	170.00	8.09	5.01	0.00
68.00	8.09	5.01	0.00	172.00	8.09	5.01	0.00
70.00	8.09	5.01	0.00	174.00	8.09	5.01	0.00
72.00	8.09	5.01	0.00	176.00	8.09	5.01	0.00
74.00	8.09	5.01	0.00	178.00	8.09	5.01	0.00
76.00	8.09	5.01	0.00	180.00	8.09	5.01	0.00
78.00	8.09	5.01	0.00				
80.00	8.09	5.01	0.00				
82.00	8.09	5.01	0.00				
84.00	8.09	5.01	0.00				
86.00	8.09	5.01	0.00				
88.00	8.09	5.01	0.00				
90.00	8.09	5.01	0.00				
92.00	8.09	5.01	0.00				
94.00	8.09	5.01	0.00				
96.00	8.09	5.01	0.00				
98.00	8.09	5.01	0.00				
100.00	8.09	5.01	0.00				
102.00	8.09	5.01	0.00				

Summary for Subcatchment ME: Middle East

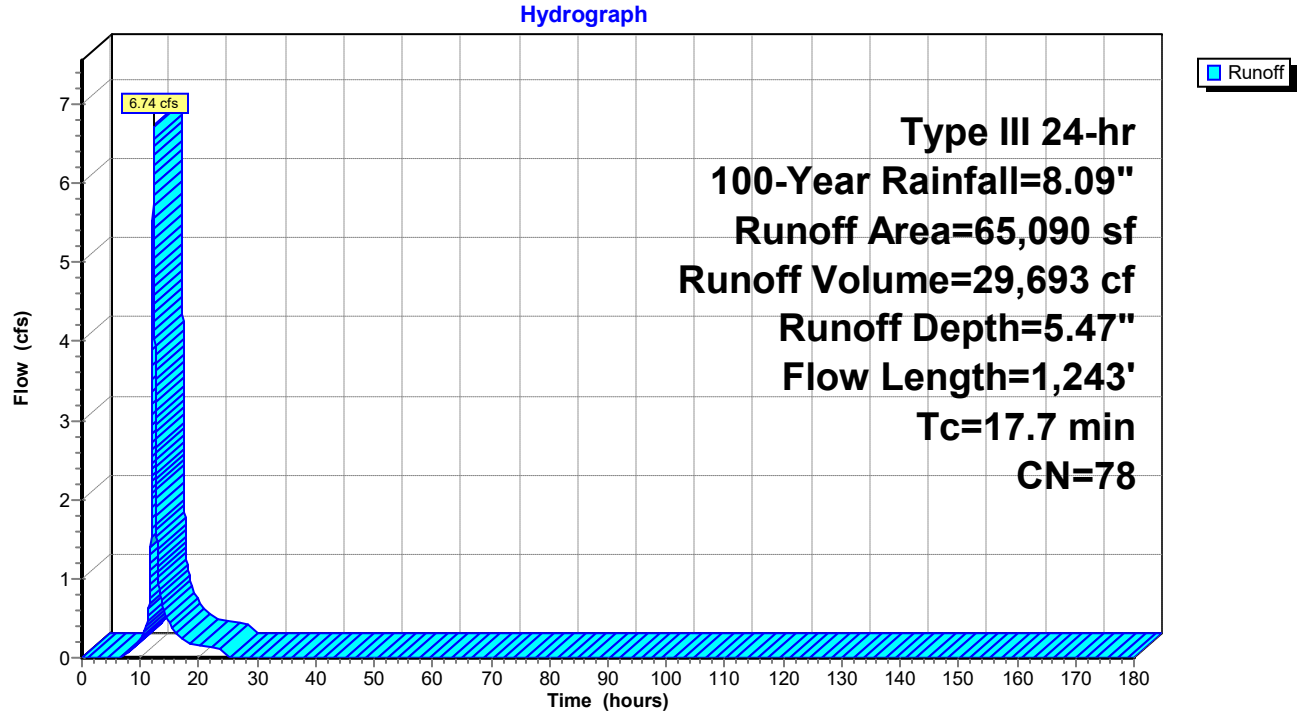
Runoff = 6.74 cfs @ 12.24 hrs, Volume= 29,693 cf, Depth= 5.47"
Routed to Reach 3P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
23,596	74	Pasture/grassland/range, Good, HSG C
41,494	80	Pasture/grassland/range, Good, HSG D
65,090	78	Weighted Average
65,090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	100	0.0678	0.32		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
7.1	708	0.0566	1.67		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
3.1	295	0.0513	1.59		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
2.2	140	0.0223	1.05		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
17.7	1,243	Total			

Subcatchment ME: Middle East



Hydrograph for Subcatchment ME: Middle East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	8.09	5.47	0.00
2.00	0.16	0.00	0.00	106.00	8.09	5.47	0.00
4.00	0.35	0.00	0.00	108.00	8.09	5.47	0.00
6.00	0.58	0.00	0.00	110.00	8.09	5.47	0.00
8.00	0.92	0.04	0.06	112.00	8.09	5.47	0.00
10.00	1.53	0.25	0.23	114.00	8.09	5.47	0.00
12.00	4.04	1.92	**2.84**	116.00	8.09	5.47	0.00
14.00	6.56	4.08	**0.61**	118.00	8.09	5.47	0.00
16.00	7.17	4.63	0.32	120.00	8.09	5.47	0.00
18.00	7.51	4.94	0.19	122.00	8.09	5.47	0.00
20.00	7.74	5.15	0.15	124.00	8.09	5.47	0.00
22.00	7.93	5.33	0.12	126.00	8.09	5.47	0.00
24.00	**8.09**	**5.47**	0.10	128.00	8.09	5.47	0.00
26.00	8.09	5.47	0.00	130.00	8.09	5.47	0.00
28.00	8.09	5.47	0.00	132.00	8.09	5.47	0.00
30.00	8.09	5.47	0.00	134.00	8.09	5.47	0.00
32.00	8.09	5.47	0.00	136.00	8.09	5.47	0.00
34.00	8.09	5.47	0.00	138.00	8.09	5.47	0.00
36.00	8.09	5.47	0.00	140.00	8.09	5.47	0.00
38.00	8.09	5.47	0.00	142.00	8.09	5.47	0.00
40.00	8.09	5.47	0.00	144.00	8.09	5.47	0.00
42.00	8.09	5.47	0.00	146.00	8.09	5.47	0.00
44.00	8.09	5.47	0.00	148.00	8.09	5.47	0.00
46.00	8.09	5.47	0.00	150.00	8.09	5.47	0.00
48.00	8.09	5.47	0.00	152.00	8.09	5.47	0.00
50.00	8.09	5.47	0.00	154.00	8.09	5.47	0.00
52.00	8.09	5.47	0.00	156.00	8.09	5.47	0.00
54.00	8.09	5.47	0.00	158.00	8.09	5.47	0.00
56.00	8.09	5.47	0.00	160.00	8.09	5.47	0.00
58.00	8.09	5.47	0.00	162.00	8.09	5.47	0.00
60.00	8.09	5.47	0.00	164.00	8.09	5.47	0.00
62.00	8.09	5.47	0.00	166.00	8.09	5.47	0.00
64.00	8.09	5.47	0.00	168.00	8.09	5.47	0.00
66.00	8.09	5.47	0.00	170.00	8.09	5.47	0.00
68.00	8.09	5.47	0.00	172.00	8.09	5.47	0.00
70.00	8.09	5.47	0.00	174.00	8.09	5.47	0.00
72.00	8.09	5.47	0.00	176.00	8.09	5.47	0.00
74.00	8.09	5.47	0.00	178.00	8.09	5.47	0.00
76.00	8.09	5.47	0.00	180.00	8.09	5.47	0.00
78.00	8.09	5.47	0.00				
80.00	8.09	5.47	0.00				
82.00	8.09	5.47	0.00				
84.00	8.09	5.47	0.00				
86.00	8.09	5.47	0.00				
88.00	8.09	5.47	0.00				
90.00	8.09	5.47	0.00				
92.00	8.09	5.47	0.00				
94.00	8.09	5.47	0.00				
96.00	8.09	5.47	0.00				
98.00	8.09	5.47	0.00				
100.00	8.09	5.47	0.00				
102.00	8.09	5.47	0.00				

Summary for Subcatchment MW: Middle West

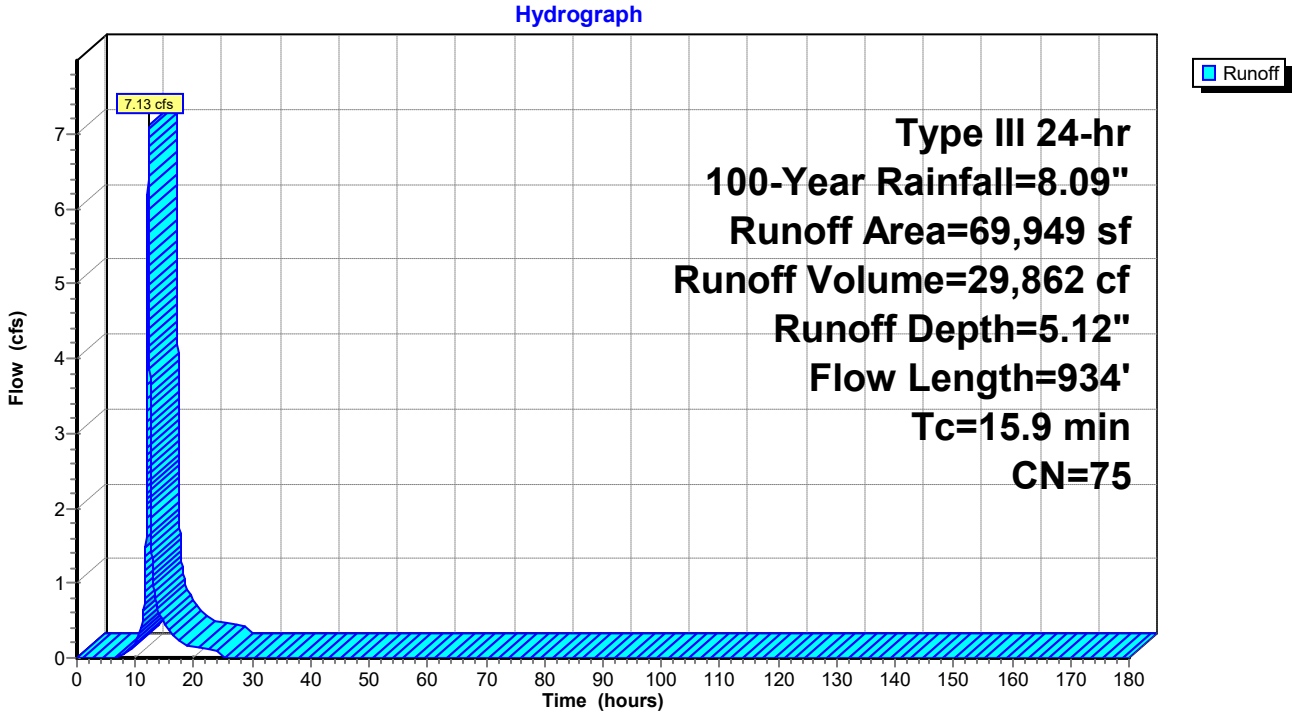
Runoff = 7.13 cfs @ 12.21 hrs, Volume= 29,862 cf, Depth= 5.12"
Routed to Reach 1P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
54,742	74	Pasture/grassland/range, Good, HSG C
15,207	80	Pasture/grassland/range, Good, HSG D
69,949	75	Weighted Average
69,949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.0582	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.2	695	0.0716	1.87		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
4.1	139	0.0066	0.57		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
15.9	934	Total			

Subcatchment MW: Middle West



Hydrograph for Subcatchment MW: Middle 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	104.00	8.09	5.12	0.00
2.00	0.16	0.00	0.00	106.00	8.09	5.12	0.00
4.00	0.35	0.00	0.00	108.00	8.09	5.12	0.00
6.00	0.58	0.00	0.00	110.00	8.09	5.12	0.00
8.00	0.92	0.02	0.04	112.00	8.09	5.12	0.00
10.00	1.53	0.18	0.21	114.00	8.09	5.12	0.00
12.00	4.04	1.70	**3.04**	116.00	8.09	5.12	0.00
14.00	6.56	3.77	**0.62**	118.00	8.09	5.12	0.00
16.00	7.17	4.30	0.33	120.00	8.09	5.12	0.00
18.00	7.51	4.60	0.20	122.00	8.09	5.12	0.00
20.00	7.74	4.81	0.16	124.00	8.09	5.12	0.00
22.00	7.93	4.98	0.13	126.00	8.09	5.12	0.00
24.00	**8.09**	**5.12**	0.10	128.00	8.09	5.12	0.00
26.00	8.09	5.12	0.00	130.00	8.09	5.12	0.00
28.00	8.09	5.12	0.00	132.00	8.09	5.12	0.00
30.00	8.09	5.12	0.00	134.00	8.09	5.12	0.00
32.00	8.09	5.12	0.00	136.00	8.09	5.12	0.00
34.00	8.09	5.12	0.00	138.00	8.09	5.12	0.00
36.00	8.09	5.12	0.00	140.00	8.09	5.12	0.00
38.00	8.09	5.12	0.00	142.00	8.09	5.12	0.00
40.00	8.09	5.12	0.00	144.00	8.09	5.12	0.00
42.00	8.09	5.12	0.00	146.00	8.09	5.12	0.00
44.00	8.09	5.12	0.00	148.00	8.09	5.12	0.00
46.00	8.09	5.12	0.00	150.00	8.09	5.12	0.00
48.00	8.09	5.12	0.00	152.00	8.09	5.12	0.00
50.00	8.09	5.12	0.00	154.00	8.09	5.12	0.00
52.00	8.09	5.12	0.00	156.00	8.09	5.12	0.00
54.00	8.09	5.12	0.00	158.00	8.09	5.12	0.00
56.00	8.09	5.12	0.00	160.00	8.09	5.12	0.00
58.00	8.09	5.12	0.00	162.00	8.09	5.12	0.00
60.00	8.09	5.12	0.00	164.00	8.09	5.12	0.00
62.00	8.09	5.12	0.00	166.00	8.09	5.12	0.00
64.00	8.09	5.12	0.00	168.00	8.09	5.12	0.00
66.00	8.09	5.12	0.00	170.00	8.09	5.12	0.00
68.00	8.09	5.12	0.00	172.00	8.09	5.12	0.00
70.00	8.09	5.12	0.00	174.00	8.09	5.12	0.00
72.00	8.09	5.12	0.00	176.00	8.09	5.12	0.00
74.00	8.09	5.12	0.00	178.00	8.09	5.12	0.00
76.00	8.09	5.12	0.00	180.00	8.09	5.12	0.00
78.00	8.09	5.12	0.00				
80.00	8.09	5.12	0.00				
82.00	8.09	5.12	0.00				
84.00	8.09	5.12	0.00				
86.00	8.09	5.12	0.00				
88.00	8.09	5.12	0.00				
90.00	8.09	5.12	0.00				
92.00	8.09	5.12	0.00				
94.00	8.09	5.12	0.00				
96.00	8.09	5.12	0.00				
98.00	8.09	5.12	0.00				
100.00	8.09	5.12	0.00				
102.00	8.09	5.12	0.00				

Summary for Subcatchment N: North

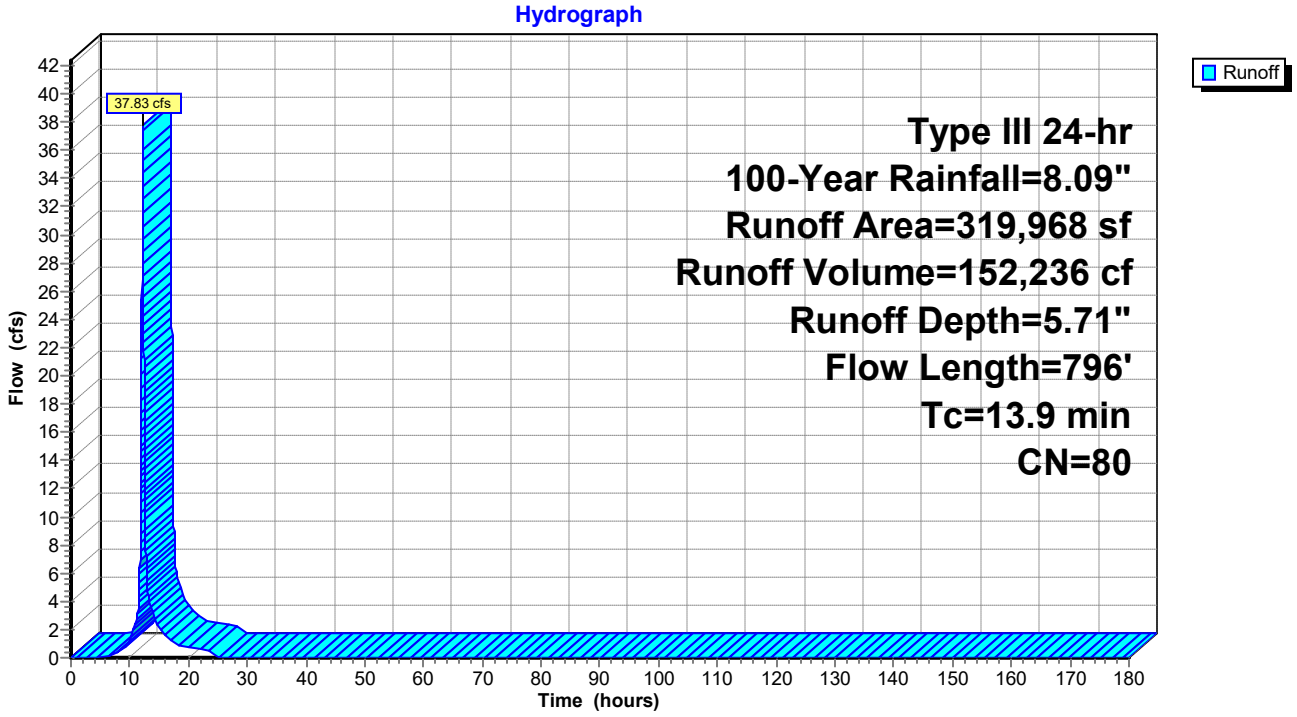
Runoff = 37.83 cfs @ 12.19 hrs, Volume= 152,236 cf, Depth= 5.71"
Routed to Link 6L :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
290,713	80	Pasture/grassland/range, Good, HSG D
29,255	77	Woods, Good, HSG D
319,968	80	Weighted Average
319,968		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0850	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.7	85	0.0656	0.30		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
6.5	689	0.0643	1.78		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	7	0.0590	1.21		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
13.9	796	Total			

Subcatchment N: North



Hydrograph for Subcatchment N: North

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.04
8.00	0.92	0.06	0.37
10.00	1.53	0.30	1.32
12.00	4.04	2.08	**17.45**
14.00	6.56	4.29	**2.96**
16.00	7.17	4.85	1.58
18.00	7.51	5.16	0.95
20.00	7.74	5.38	0.75
22.00	7.93	5.56	0.62
24.00	**8.09**	**5.71**	0.49
26.00	8.09	5.71	0.00
28.00	8.09	5.71	0.00
30.00	8.09	5.71	0.00
32.00	8.09	5.71	0.00
34.00	8.09	5.71	0.00
36.00	8.09	5.71	0.00
38.00	8.09	5.71	0.00
40.00	8.09	5.71	0.00
42.00	8.09	5.71	0.00
44.00	8.09	5.71	0.00
46.00	8.09	5.71	0.00
48.00	8.09	5.71	0.00
50.00	8.09	5.71	0.00
52.00	8.09	5.71	0.00
54.00	8.09	5.71	0.00
56.00	8.09	5.71	0.00
58.00	8.09	5.71	0.00
60.00	8.09	5.71	0.00
62.00	8.09	5.71	0.00
64.00	8.09	5.71	0.00
66.00	8.09	5.71	0.00
68.00	8.09	5.71	0.00
70.00	8.09	5.71	0.00
72.00	8.09	5.71	0.00
74.00	8.09	5.71	0.00
76.00	8.09	5.71	0.00
78.00	8.09	5.71	0.00
80.00	8.09	5.71	0.00
82.00	8.09	5.71	0.00
84.00	8.09	5.71	0.00
86.00	8.09	5.71	0.00
88.00	8.09	5.71	0.00
90.00	8.09	5.71	0.00
92.00	8.09	5.71	0.00
94.00	8.09	5.71	0.00
96.00	8.09	5.71	0.00
98.00	8.09	5.71	0.00
100.00	8.09	5.71	0.00
102.00	8.09	5.71	0.00
104.00	8.09	5.71	0.00
106.00	8.09	5.71	0.00
108.00	8.09	5.71	0.00
110.00	8.09	5.71	0.00
112.00	8.09	5.71	0.00
114.00	8.09	5.71	0.00
116.00	8.09	5.71	0.00
118.00	8.09	5.71	0.00
120.00	8.09	5.71	0.00
122.00	8.09	5.71	0.00
124.00	8.09	5.71	0.00
126.00	8.09	5.71	0.00
128.00	8.09	5.71	0.00
130.00	8.09	5.71	0.00
132.00	8.09	5.71	0.00
134.00	8.09	5.71	0.00
136.00	8.09	5.71	0.00
138.00	8.09	5.71	0.00
140.00	8.09	5.71	0.00
142.00	8.09	5.71	0.00
144.00	8.09	5.71	0.00
146.00	8.09	5.71	0.00
148.00	8.09	5.71	0.00
150.00	8.09	5.71	0.00
152.00	8.09	5.71	0.00
154.00	8.09	5.71	0.00
156.00	8.09	5.71	0.00
158.00	8.09	5.71	0.00
160.00	8.09	5.71	0.00
162.00	8.09	5.71	0.00
164.00	8.09	5.71	0.00
166.00	8.09	5.71	0.00
168.00	8.09	5.71	0.00
170.00	8.09	5.71	0.00
172.00	8.09	5.71	0.00
174.00	8.09	5.71	0.00
176.00	8.09	5.71	0.00
178.00	8.09	5.71	0.00
180.00	8.09	5.71	0.00

Summary for Subcatchment NE: North East

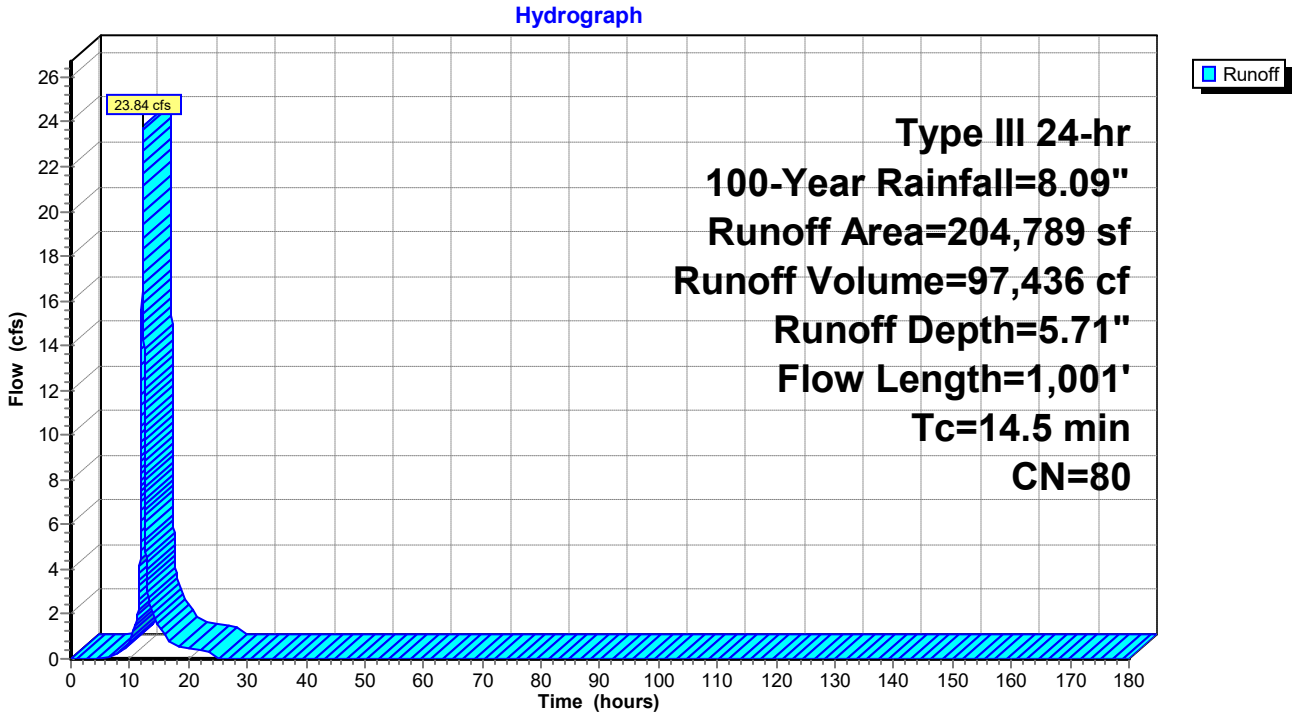
Runoff = 23.84 cfs @ 12.20 hrs, Volume= 97,436 cf, Depth= 5.71"
Routed to Pond 4P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
195,115	80	Pasture/grassland/range, Good, HSG D
9,674	77	Woods, Good, HSG D
204,789	80	Weighted Average
204,789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0558	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
8.8	901	0.0597	1.71		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
14.5	1,001	Total			

Subcatchment NE: North East



Hydrograph for Subcatchment NE: North East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.03
8.00	0.92	0.06	0.23
10.00	1.53	0.30	0.84
12.00	4.04	2.08	**10.86**
14.00	6.56	4.29	**1.90**
16.00	7.17	4.85	1.01
18.00	7.51	5.16	0.61
20.00	7.74	5.38	0.48
22.00	7.93	5.56	0.40
24.00	**8.09**	**5.71**	0.31
26.00	8.09	5.71	0.00
28.00	8.09	5.71	0.00
30.00	8.09	5.71	0.00
32.00	8.09	5.71	0.00
34.00	8.09	5.71	0.00
36.00	8.09	5.71	0.00
38.00	8.09	5.71	0.00
40.00	8.09	5.71	0.00
42.00	8.09	5.71	0.00
44.00	8.09	5.71	0.00
46.00	8.09	5.71	0.00
48.00	8.09	5.71	0.00
50.00	8.09	5.71	0.00
52.00	8.09	5.71	0.00
54.00	8.09	5.71	0.00
56.00	8.09	5.71	0.00
58.00	8.09	5.71	0.00
60.00	8.09	5.71	0.00
62.00	8.09	5.71	0.00
64.00	8.09	5.71	0.00
66.00	8.09	5.71	0.00
68.00	8.09	5.71	0.00
70.00	8.09	5.71	0.00
72.00	8.09	5.71	0.00
74.00	8.09	5.71	0.00
76.00	8.09	5.71	0.00
78.00	8.09	5.71	0.00
80.00	8.09	5.71	0.00
82.00	8.09	5.71	0.00
84.00	8.09	5.71	0.00
86.00	8.09	5.71	0.00
88.00	8.09	5.71	0.00
90.00	8.09	5.71	0.00
92.00	8.09	5.71	0.00
94.00	8.09	5.71	0.00
96.00	8.09	5.71	0.00
98.00	8.09	5.71	0.00
100.00	8.09	5.71	0.00
102.00	8.09	5.71	0.00
104.00	8.09	5.71	0.00
106.00	8.09	5.71	0.00
108.00	8.09	5.71	0.00
110.00	8.09	5.71	0.00
112.00	8.09	5.71	0.00
114.00	8.09	5.71	0.00
116.00	8.09	5.71	0.00
118.00	8.09	5.71	0.00
120.00	8.09	5.71	0.00
122.00	8.09	5.71	0.00
124.00	8.09	5.71	0.00
126.00	8.09	5.71	0.00
128.00	8.09	5.71	0.00
130.00	8.09	5.71	0.00
132.00	8.09	5.71	0.00
134.00	8.09	5.71	0.00
136.00	8.09	5.71	0.00
138.00	8.09	5.71	0.00
140.00	8.09	5.71	0.00
142.00	8.09	5.71	0.00
144.00	8.09	5.71	0.00
146.00	8.09	5.71	0.00
148.00	8.09	5.71	0.00
150.00	8.09	5.71	0.00
152.00	8.09	5.71	0.00
154.00	8.09	5.71	0.00
156.00	8.09	5.71	0.00
158.00	8.09	5.71	0.00
160.00	8.09	5.71	0.00
162.00	8.09	5.71	0.00
164.00	8.09	5.71	0.00
166.00	8.09	5.71	0.00
168.00	8.09	5.71	0.00
170.00	8.09	5.71	0.00
172.00	8.09	5.71	0.00
174.00	8.09	5.71	0.00
176.00	8.09	5.71	0.00
178.00	8.09	5.71	0.00
180.00	8.09	5.71	0.00

Summary for Subcatchment SE: South East

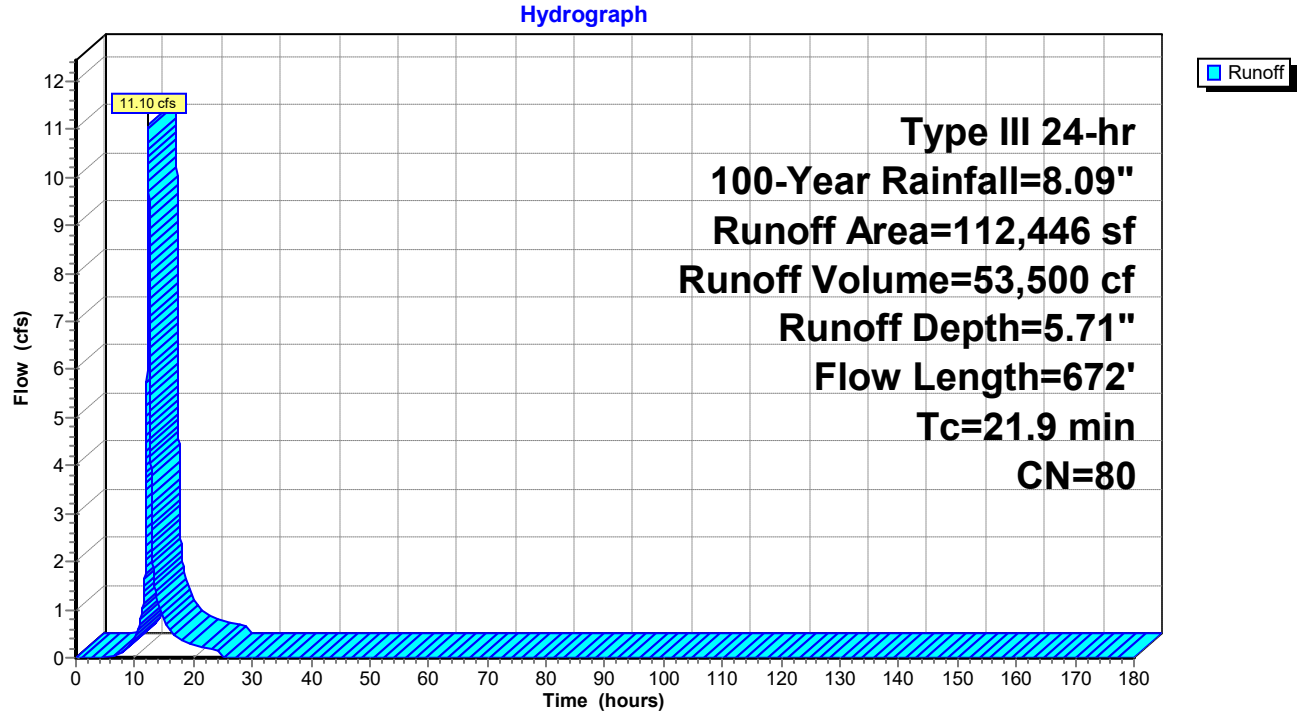
Runoff = 11.10 cfs @ 12.29 hrs, Volume= 53,500 cf, Depth= 5.71"
Routed to Reach 5P : Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

	Area (sf)	CN	Description
	110,724	80	Pasture/grassland/range, Good, HSG D
	1,536	77	Woods, Good, HSG D
*	186	96	Gravel surface
	112,446	80	Weighted Average
	112,446		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0428	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	521	0.0416	1.43		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.2	51	0.0277	3.86	17.37	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 10.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
21.9	672	Total			

Subcatchment SE: South East



Hydrograph for Subcatchment SE: South East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	8.09	5.71	0.00
2.00	0.16	0.00	0.00	106.00	8.09	5.71	0.00
4.00	0.35	0.00	0.00	108.00	8.09	5.71	0.00
6.00	0.58	0.00	0.01	110.00	8.09	5.71	0.00
8.00	0.92	0.06	0.12	112.00	8.09	5.71	0.00
10.00	1.53	0.30	0.44	114.00	8.09	5.71	0.00
12.00	4.04	2.08	**4.32**	116.00	8.09	5.71	0.00
14.00	6.56	4.29	**1.10**	118.00	8.09	5.71	0.00
16.00	7.17	4.85	0.58	120.00	8.09	5.71	0.00
18.00	7.51	5.16	0.35	122.00	8.09	5.71	0.00
20.00	7.74	5.38	0.27	124.00	8.09	5.71	0.00
22.00	7.93	5.56	0.22	126.00	8.09	5.71	0.00
24.00	**8.09**	**5.71**	0.18	128.00	8.09	5.71	0.00
26.00	8.09	5.71	0.00	130.00	8.09	5.71	0.00
28.00	8.09	5.71	0.00	132.00	8.09	5.71	0.00
30.00	8.09	5.71	0.00	134.00	8.09	5.71	0.00
32.00	8.09	5.71	0.00	136.00	8.09	5.71	0.00
34.00	8.09	5.71	0.00	138.00	8.09	5.71	0.00
36.00	8.09	5.71	0.00	140.00	8.09	5.71	0.00
38.00	8.09	5.71	0.00	142.00	8.09	5.71	0.00
40.00	8.09	5.71	0.00	144.00	8.09	5.71	0.00
42.00	8.09	5.71	0.00	146.00	8.09	5.71	0.00
44.00	8.09	5.71	0.00	148.00	8.09	5.71	0.00
46.00	8.09	5.71	0.00	150.00	8.09	5.71	0.00
48.00	8.09	5.71	0.00	152.00	8.09	5.71	0.00
50.00	8.09	5.71	0.00	154.00	8.09	5.71	0.00
52.00	8.09	5.71	0.00	156.00	8.09	5.71	0.00
54.00	8.09	5.71	0.00	158.00	8.09	5.71	0.00
56.00	8.09	5.71	0.00	160.00	8.09	5.71	0.00
58.00	8.09	5.71	0.00	162.00	8.09	5.71	0.00
60.00	8.09	5.71	0.00	164.00	8.09	5.71	0.00
62.00	8.09	5.71	0.00	166.00	8.09	5.71	0.00
64.00	8.09	5.71	0.00	168.00	8.09	5.71	0.00
66.00	8.09	5.71	0.00	170.00	8.09	5.71	0.00
68.00	8.09	5.71	0.00	172.00	8.09	5.71	0.00
70.00	8.09	5.71	0.00	174.00	8.09	5.71	0.00
72.00	8.09	5.71	0.00	176.00	8.09	5.71	0.00
74.00	8.09	5.71	0.00	178.00	8.09	5.71	0.00
76.00	8.09	5.71	0.00	180.00	8.09	5.71	0.00
78.00	8.09	5.71	0.00				
80.00	8.09	5.71	0.00				
82.00	8.09	5.71	0.00				
84.00	8.09	5.71	0.00				
86.00	8.09	5.71	0.00				
88.00	8.09	5.71	0.00				
90.00	8.09	5.71	0.00				
92.00	8.09	5.71	0.00				
94.00	8.09	5.71	0.00				
96.00	8.09	5.71	0.00				
98.00	8.09	5.71	0.00				
100.00	8.09	5.71	0.00				
102.00	8.09	5.71	0.00				

Summary for Subcatchment W: West

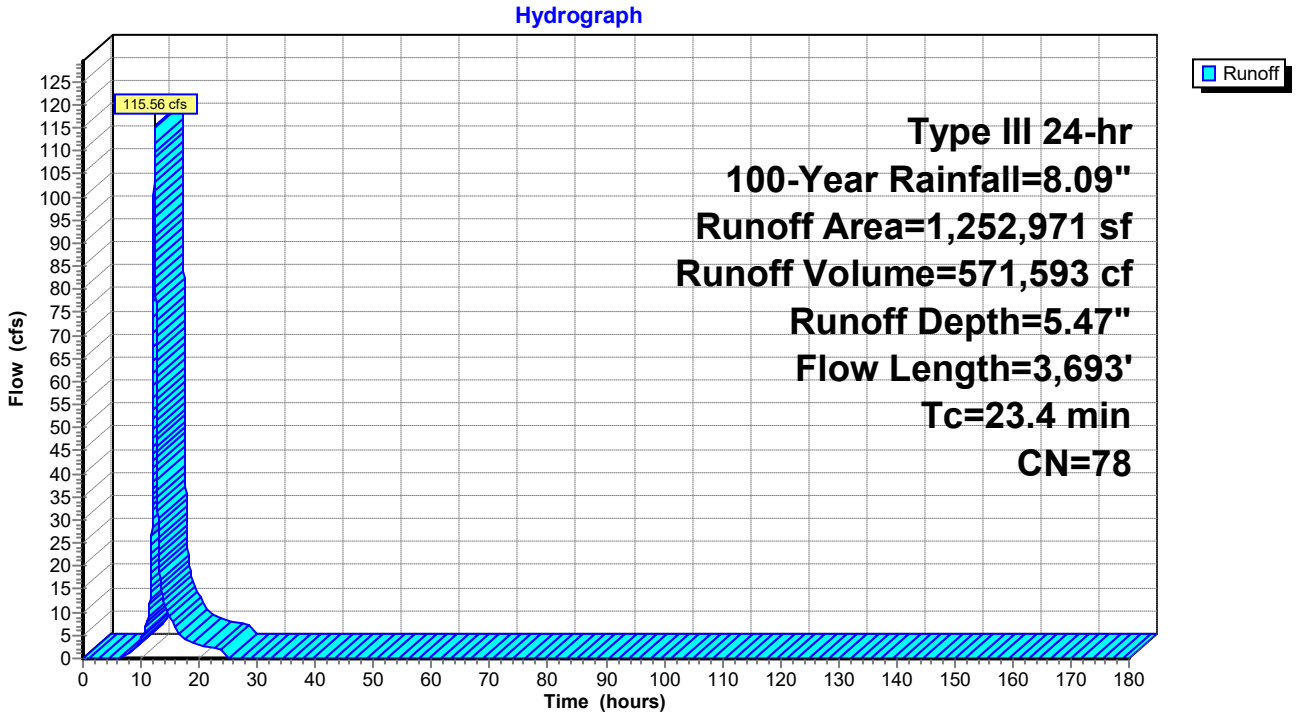
Runoff = 115.56 cfs @ 12.31 hrs, Volume= 571,593 cf, Depth= 5.47"
Routed to Reach DP-W : Watts Stream

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

	Area (sf)	CN	Description
	243,483	74	Pasture/grassland/range, Good, HSG C
	405,275	80	Pasture/grassland/range, Good, HSG D
	40,930	70	Woods, Good, HSG C
	521,429	77	Woods, Good, HSG D
*	36,764	96	Gravel surface
*	5,090	98	Impervious
	1,252,971	78	Weighted Average
	1,247,881		99.59% Pervious Area
	5,090		0.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0814	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	85	0.0623	0.29		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
5.9	685	0.0763	1.93		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	75	0.0926	10.68	128.14	**Trap/Vee/Rect Channel Flow, DE** Bot.W=4.00' D=1.00' Z= 8.0 '/' Top.W=20.00' n= 0.030 Earth, grassed & winding
1.1	187	0.1510	2.72		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
1.7	174	0.1201	1.73		**Shallow Concentrated Flow, FG** Woodland Kv= 5.0 fps
3.1	214	0.0525	1.15		**Shallow Concentrated Flow, GH** Woodland Kv= 5.0 fps
0.6	73	0.1513	1.94		**Shallow Concentrated Flow, HI** Woodland Kv= 5.0 fps
0.9	49	0.0338	0.92		**Shallow Concentrated Flow, IJ** Woodland Kv= 5.0 fps
2.6	2,136	0.0318	13.70	945.01	**Trap/Vee/Rect Channel Flow, JK** Bot.W=11.00' D=3.00' Z= 4.0 '/' Top.W=35.00' n= 0.030 Earth, grassed & winding
23.4	3,693	Total			

Subcatchment W: West



Hydrograph for Subcatchment W: West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.00
8.00	0.92	0.04	1.00
10.00	1.53	0.25	4.24
12.00	4.04	1.92	**42.70**
14.00	6.56	4.08	**12.10**
16.00	7.17	4.63	6.43
18.00	7.51	4.94	3.82
20.00	7.74	5.15	2.92
22.00	7.93	5.33	2.41
24.00	**8.09**	**5.47**	1.94
26.00	8.09	5.47	0.00
28.00	8.09	5.47	0.00
30.00	8.09	5.47	0.00
32.00	8.09	5.47	0.00
34.00	8.09	5.47	0.00
36.00	8.09	5.47	0.00
38.00	8.09	5.47	0.00
40.00	8.09	5.47	0.00
42.00	8.09	5.47	0.00
44.00	8.09	5.47	0.00
46.00	8.09	5.47	0.00
48.00	8.09	5.47	0.00
50.00	8.09	5.47	0.00
52.00	8.09	5.47	0.00
54.00	8.09	5.47	0.00
56.00	8.09	5.47	0.00
58.00	8.09	5.47	0.00
60.00	8.09	5.47	0.00
62.00	8.09	5.47	0.00
64.00	8.09	5.47	0.00
66.00	8.09	5.47	0.00
68.00	8.09	5.47	0.00
70.00	8.09	5.47	0.00
72.00	8.09	5.47	0.00
74.00	8.09	5.47	0.00
76.00	8.09	5.47	0.00
78.00	8.09	5.47	0.00
80.00	8.09	5.47	0.00
82.00	8.09	5.47	0.00
84.00	8.09	5.47	0.00
86.00	8.09	5.47	0.00
88.00	8.09	5.47	0.00
90.00	8.09	5.47	0.00
92.00	8.09	5.47	0.00
94.00	8.09	5.47	0.00
96.00	8.09	5.47	0.00
98.00	8.09	5.47	0.00
100.00	8.09	5.47	0.00
102.00	8.09	5.47	0.00
104.00	8.09	5.47	0.00
106.00	8.09	5.47	0.00
108.00	8.09	5.47	0.00
110.00	8.09	5.47	0.00
112.00	8.09	5.47	0.00
114.00	8.09	5.47	0.00
116.00	8.09	5.47	0.00
118.00	8.09	5.47	0.00
120.00	8.09	5.47	0.00
122.00	8.09	5.47	0.00
124.00	8.09	5.47	0.00
126.00	8.09	5.47	0.00
128.00	8.09	5.47	0.00
130.00	8.09	5.47	0.00
132.00	8.09	5.47	0.00
134.00	8.09	5.47	0.00
136.00	8.09	5.47	0.00
138.00	8.09	5.47	0.00
140.00	8.09	5.47	0.00
142.00	8.09	5.47	0.00
144.00	8.09	5.47	0.00
146.00	8.09	5.47	0.00
148.00	8.09	5.47	0.00
150.00	8.09	5.47	0.00
152.00	8.09	5.47	0.00
154.00	8.09	5.47	0.00
156.00	8.09	5.47	0.00
158.00	8.09	5.47	0.00
160.00	8.09	5.47	0.00
162.00	8.09	5.47	0.00
164.00	8.09	5.47	0.00
166.00	8.09	5.47	0.00
168.00	8.09	5.47	0.00
170.00	8.09	5.47	0.00
172.00	8.09	5.47	0.00
174.00	8.09	5.47	0.00
176.00	8.09	5.47	0.00
178.00	8.09	5.47	0.00
180.00	8.09	5.47	0.00

Summary for Reach 1P: 15" CPP

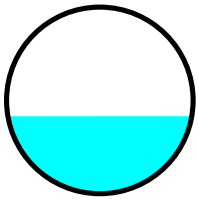
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 69,949 sf, 0.00% Impervious, Inflow Depth = 5.12" for 100-Year event
Inflow = 7.13 cfs @ 12.21 hrs, Volume= 29,862 cf
Outflow = 7.12 cfs @ 12.21 hrs, Volume= 29,862 cf, Atten= 0%, Lag= 0.1 min
Routed to Link 1L : Lag

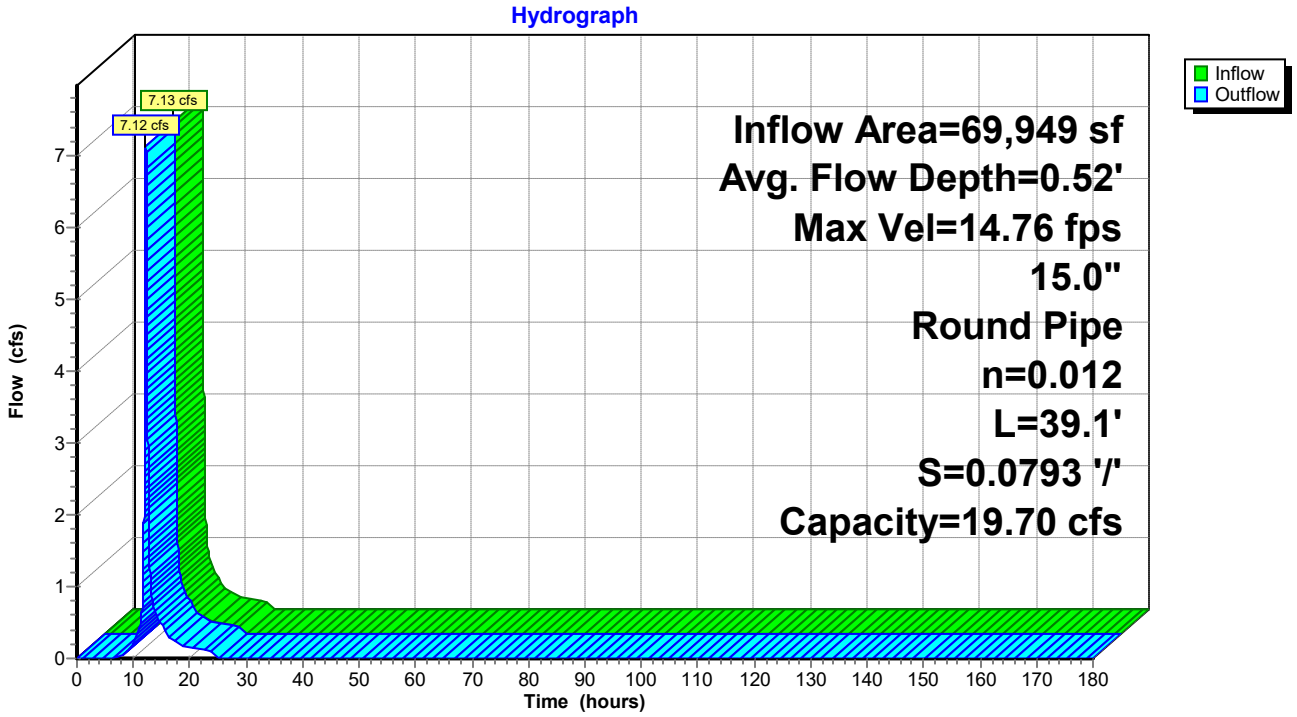
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 14.76 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 5.50 fps, Avg. Travel Time= 0.1 min

Peak Storage= 19 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.52' , Surface Width= 1.23'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 19.70 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 39.1' Slope= 0.0793 '/'
Inlet Invert= 1,668.60', Outlet Invert= 1,665.50'



Reach 1P: 15" CPP



Hydrograph for Reach 1P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,668.60	0.00
5.00	0.00	0	1,668.60	0.00
10.00	**0.21**	**2**	**1,668.69**	**0.21**
15.00	**0.46**	**3**	**1,668.73**	**0.46**
20.00	0.16	1	1,668.68	0.16
25.00	0.00	0	1,668.60	0.00
30.00	0.00	0	1,668.60	0.00
35.00	0.00	0	1,668.60	0.00
40.00	0.00	0	1,668.60	0.00
45.00	0.00	0	1,668.60	0.00
50.00	0.00	0	1,668.60	0.00
55.00	0.00	0	1,668.60	0.00
60.00	0.00	0	1,668.60	0.00
65.00	0.00	0	1,668.60	0.00
70.00	0.00	0	1,668.60	0.00
75.00	0.00	0	1,668.60	0.00
80.00	0.00	0	1,668.60	0.00
85.00	0.00	0	1,668.60	0.00
90.00	0.00	0	1,668.60	0.00
95.00	0.00	0	1,668.60	0.00
100.00	0.00	0	1,668.60	0.00
105.00	0.00	0	1,668.60	0.00
110.00	0.00	0	1,668.60	0.00
115.00	0.00	0	1,668.60	0.00
120.00	0.00	0	1,668.60	0.00
125.00	0.00	0	1,668.60	0.00
130.00	0.00	0	1,668.60	0.00
135.00	0.00	0	1,668.60	0.00
140.00	0.00	0	1,668.60	0.00
145.00	0.00	0	1,668.60	0.00
150.00	0.00	0	1,668.60	0.00
155.00	0.00	0	1,668.60	0.00
160.00	0.00	0	1,668.60	0.00
165.00	0.00	0	1,668.60	0.00
170.00	0.00	0	1,668.60	0.00
175.00	0.00	0	1,668.60	0.00
180.00	0.00	0	1,668.60	0.00

Summary for Reach 2P: 15" CPP

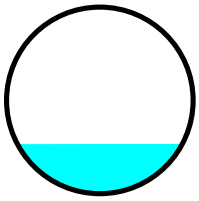
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 21,615 sf, 0.00% Impervious, Inflow Depth = 5.01" for 100-Year event
Inflow = 2.68 cfs @ 12.12 hrs, Volume= 9,018 cf
Outflow = 2.68 cfs @ 12.12 hrs, Volume= 9,018 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : Lag

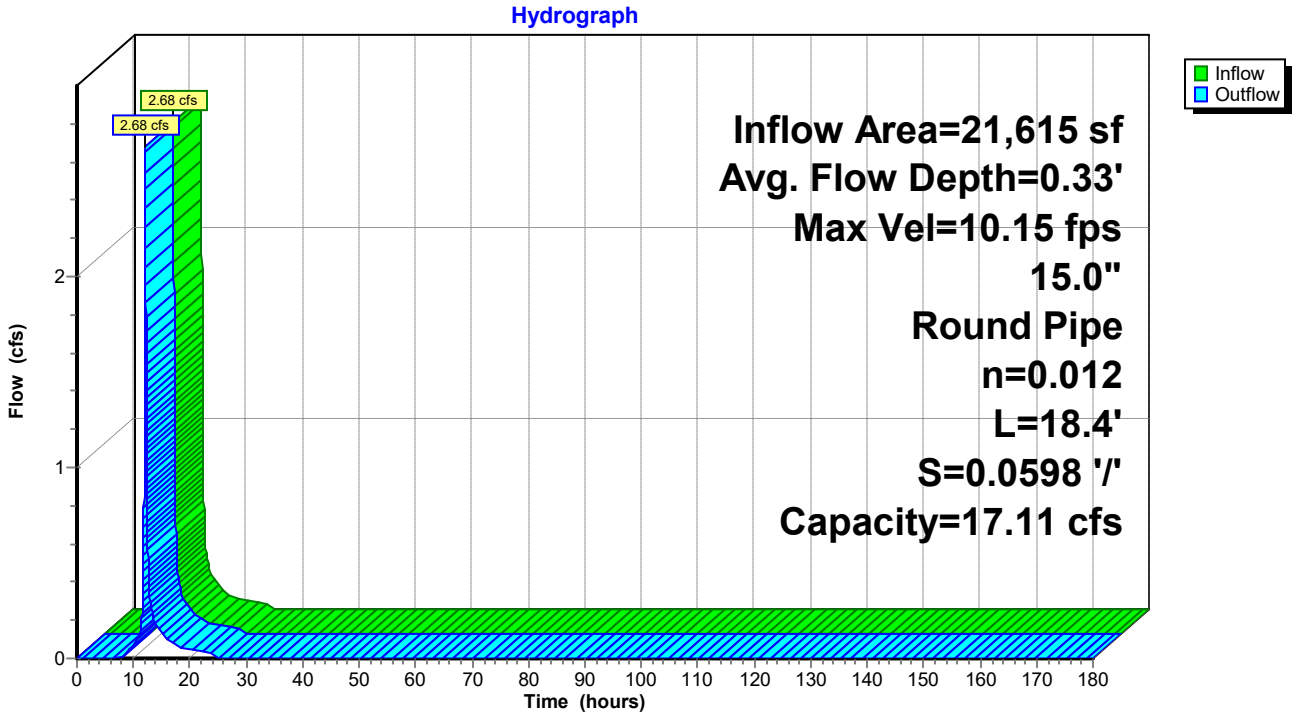
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 10.15 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.56 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.33' , Surface Width= 1.11'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.11 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 18.4' Slope= 0.0598 '/'
Inlet Invert= 1,669.70', Outlet Invert= 1,668.60'



Reach 2P: 15" CPP



Hydrograph for Reach 2P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,669.70	0.00
5.00	0.00	0	1,669.70	0.00
10.00	**0.06**	**0**	**1,669.75**	**0.06**
15.00	**0.14**	**1**	**1,669.78**	**0.14**
20.00	0.05	0	1,669.75	0.05
25.00	0.00	0	1,669.70	0.00
30.00	0.00	0	1,669.70	0.00
35.00	0.00	0	1,669.70	0.00
40.00	0.00	0	1,669.70	0.00
45.00	0.00	0	1,669.70	0.00
50.00	0.00	0	1,669.70	0.00
55.00	0.00	0	1,669.70	0.00
60.00	0.00	0	1,669.70	0.00
65.00	0.00	0	1,669.70	0.00
70.00	0.00	0	1,669.70	0.00
75.00	0.00	0	1,669.70	0.00
80.00	0.00	0	1,669.70	0.00
85.00	0.00	0	1,669.70	0.00
90.00	0.00	0	1,669.70	0.00
95.00	0.00	0	1,669.70	0.00
100.00	0.00	0	1,669.70	0.00
105.00	0.00	0	1,669.70	0.00
110.00	0.00	0	1,669.70	0.00
115.00	0.00	0	1,669.70	0.00
120.00	0.00	0	1,669.70	0.00
125.00	0.00	0	1,669.70	0.00
130.00	0.00	0	1,669.70	0.00
135.00	0.00	0	1,669.70	0.00
140.00	0.00	0	1,669.70	0.00
145.00	0.00	0	1,669.70	0.00
150.00	0.00	0	1,669.70	0.00
155.00	0.00	0	1,669.70	0.00
160.00	0.00	0	1,669.70	0.00
165.00	0.00	0	1,669.70	0.00
170.00	0.00	0	1,669.70	0.00
175.00	0.00	0	1,669.70	0.00
180.00	0.00	0	1,669.70	0.00

Summary for Reach 3P: 15" CPP

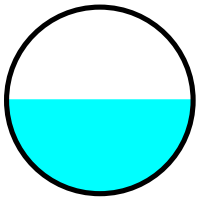
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 65,090 sf, 0.00% Impervious, Inflow Depth = 5.47" for 100-Year event
Inflow = 6.74 cfs @ 12.24 hrs, Volume= 29,693 cf
Outflow = 6.74 cfs @ 12.24 hrs, Volume= 29,693 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : Lag

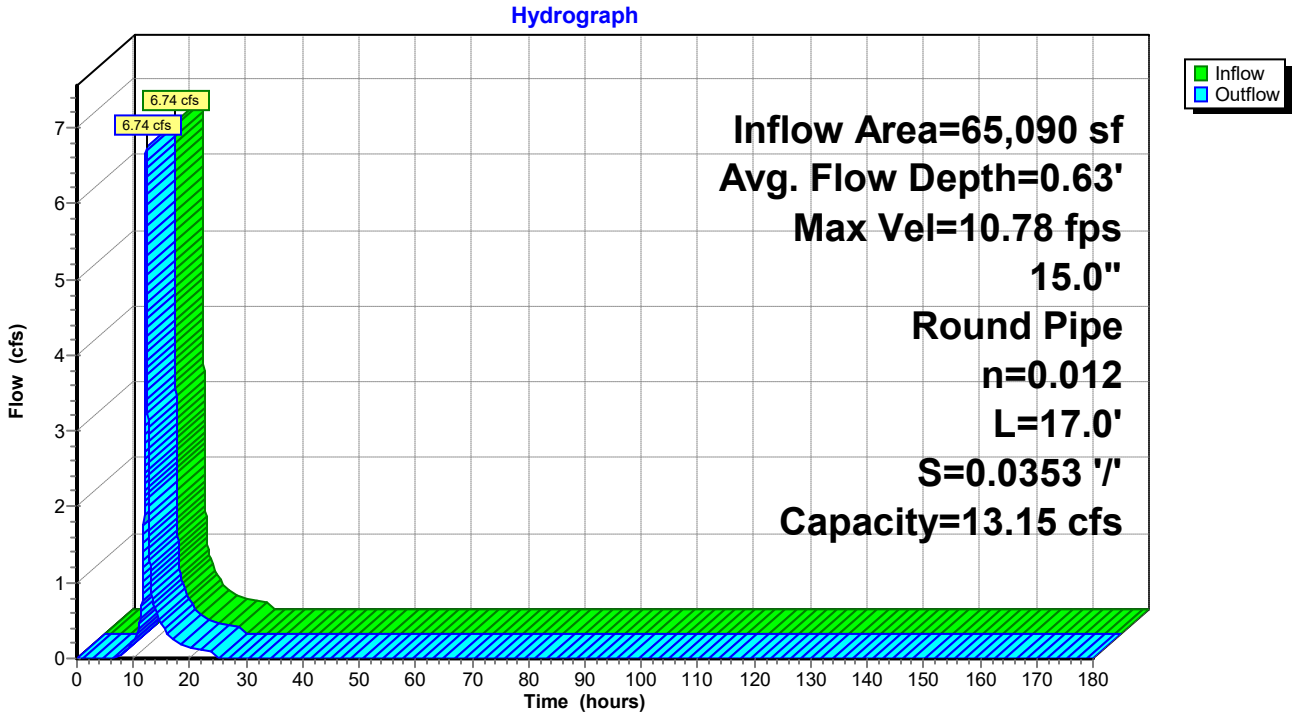
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 10.78 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.05 fps, Avg. Travel Time= 0.1 min

Peak Storage= 11 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.63' , Surface Width= 1.25'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 13.15 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 17.0' Slope= 0.0353 '/'
Inlet Invert= 1,666.50', Outlet Invert= 1,665.90'



Reach 3P: 15" CPP



Hydrograph for Reach 3P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,666.50	0.00
5.00	0.00	0	1,666.50	0.00
10.00	**0.23**	**1**	**1,666.61**	**0.23**
15.00	**0.45**	**2**	**1,666.66**	**0.45**
20.00	0.15	1	1,666.59	0.15
25.00	0.00	0	1,666.50	0.00
30.00	0.00	0	1,666.50	0.00
35.00	0.00	0	1,666.50	0.00
40.00	0.00	0	1,666.50	0.00
45.00	0.00	0	1,666.50	0.00
50.00	0.00	0	1,666.50	0.00
55.00	0.00	0	1,666.50	0.00
60.00	0.00	0	1,666.50	0.00
65.00	0.00	0	1,666.50	0.00
70.00	0.00	0	1,666.50	0.00
75.00	0.00	0	1,666.50	0.00
80.00	0.00	0	1,666.50	0.00
85.00	0.00	0	1,666.50	0.00
90.00	0.00	0	1,666.50	0.00
95.00	0.00	0	1,666.50	0.00
100.00	0.00	0	1,666.50	0.00
105.00	0.00	0	1,666.50	0.00
110.00	0.00	0	1,666.50	0.00
115.00	0.00	0	1,666.50	0.00
120.00	0.00	0	1,666.50	0.00
125.00	0.00	0	1,666.50	0.00
130.00	0.00	0	1,666.50	0.00
135.00	0.00	0	1,666.50	0.00
140.00	0.00	0	1,666.50	0.00
145.00	0.00	0	1,666.50	0.00
150.00	0.00	0	1,666.50	0.00
155.00	0.00	0	1,666.50	0.00
160.00	0.00	0	1,666.50	0.00
165.00	0.00	0	1,666.50	0.00
170.00	0.00	0	1,666.50	0.00
175.00	0.00	0	1,666.50	0.00
180.00	0.00	0	1,666.50	0.00

Summary for Reach 5P: Culvert

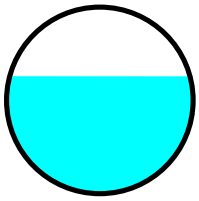
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 112,446 sf, 0.00% Impervious, Inflow Depth = 5.71" for 100-Year event
Inflow = 11.10 cfs @ 12.29 hrs, Volume= 53,500 cf
Outflow = 11.10 cfs @ 12.29 hrs, Volume= 53,500 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Lag

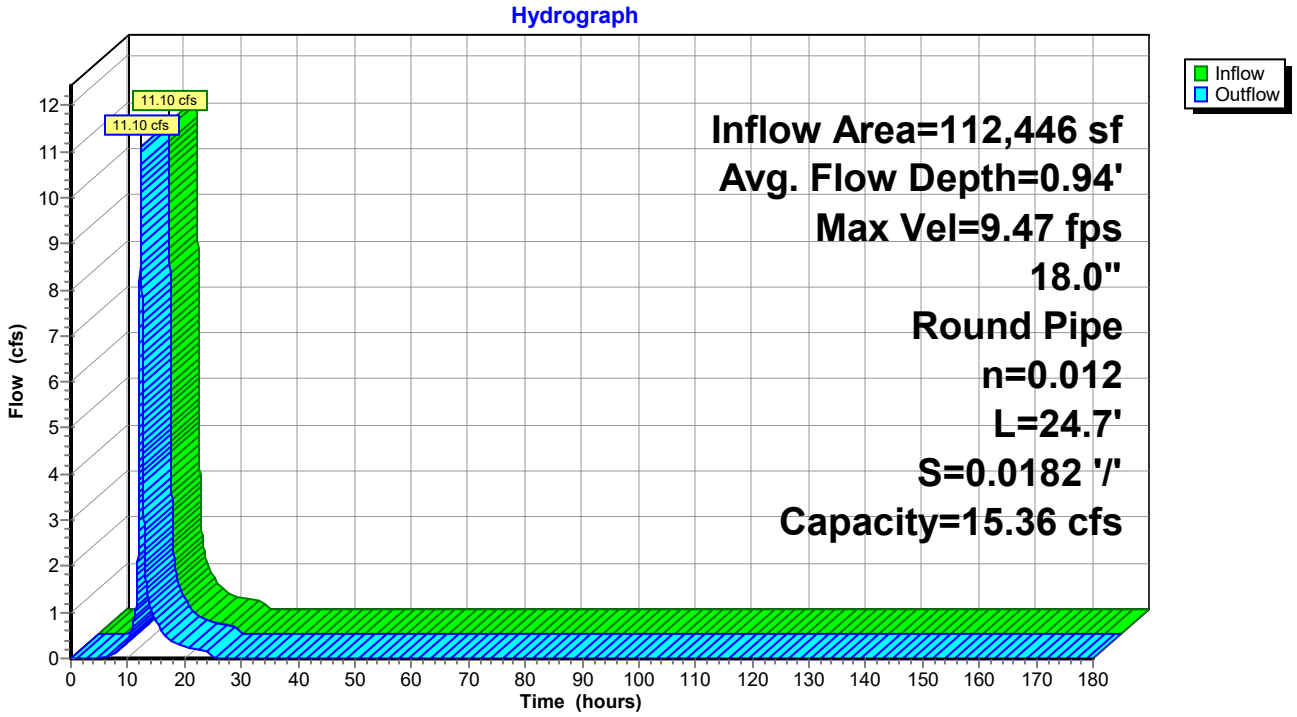
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.47 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.66 fps, Avg. Travel Time= 0.1 min

Peak Storage= 29 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.94' , Surface Width= 1.45'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.36 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 24.7' Slope= 0.0182 '/'
Inlet Invert= 1,620.00', Outlet Invert= 1,619.55'



Reach 5P: Culvert



Hydrograph for Reach 5P: Culvert

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,620.00	0.00
5.00	0.00	0	1,620.00	0.00
10.00	**0.44**	**3**	**1,620.17**	**0.44**
15.00	**0.80**	**4**	**1,620.23**	**0.80**
20.00	0.27	2	1,620.14	0.27
25.00	0.00	0	1,620.00	0.00
30.00	0.00	0	1,620.00	0.00
35.00	0.00	0	1,620.00	0.00
40.00	0.00	0	1,620.00	0.00
45.00	0.00	0	1,620.00	0.00
50.00	0.00	0	1,620.00	0.00
55.00	0.00	0	1,620.00	0.00
60.00	0.00	0	1,620.00	0.00
65.00	0.00	0	1,620.00	0.00
70.00	0.00	0	1,620.00	0.00
75.00	0.00	0	1,620.00	0.00
80.00	0.00	0	1,620.00	0.00
85.00	0.00	0	1,620.00	0.00
90.00	0.00	0	1,620.00	0.00
95.00	0.00	0	1,620.00	0.00
100.00	0.00	0	1,620.00	0.00
105.00	0.00	0	1,620.00	0.00
110.00	0.00	0	1,620.00	0.00
115.00	0.00	0	1,620.00	0.00
120.00	0.00	0	1,620.00	0.00
125.00	0.00	0	1,620.00	0.00
130.00	0.00	0	1,620.00	0.00
135.00	0.00	0	1,620.00	0.00
140.00	0.00	0	1,620.00	0.00
145.00	0.00	0	1,620.00	0.00
150.00	0.00	0	1,620.00	0.00
155.00	0.00	0	1,620.00	0.00
160.00	0.00	0	1,620.00	0.00
165.00	0.00	0	1,620.00	0.00
170.00	0.00	0	1,620.00	0.00
175.00	0.00	0	1,620.00	0.00
180.00	0.00	0	1,620.00	0.00

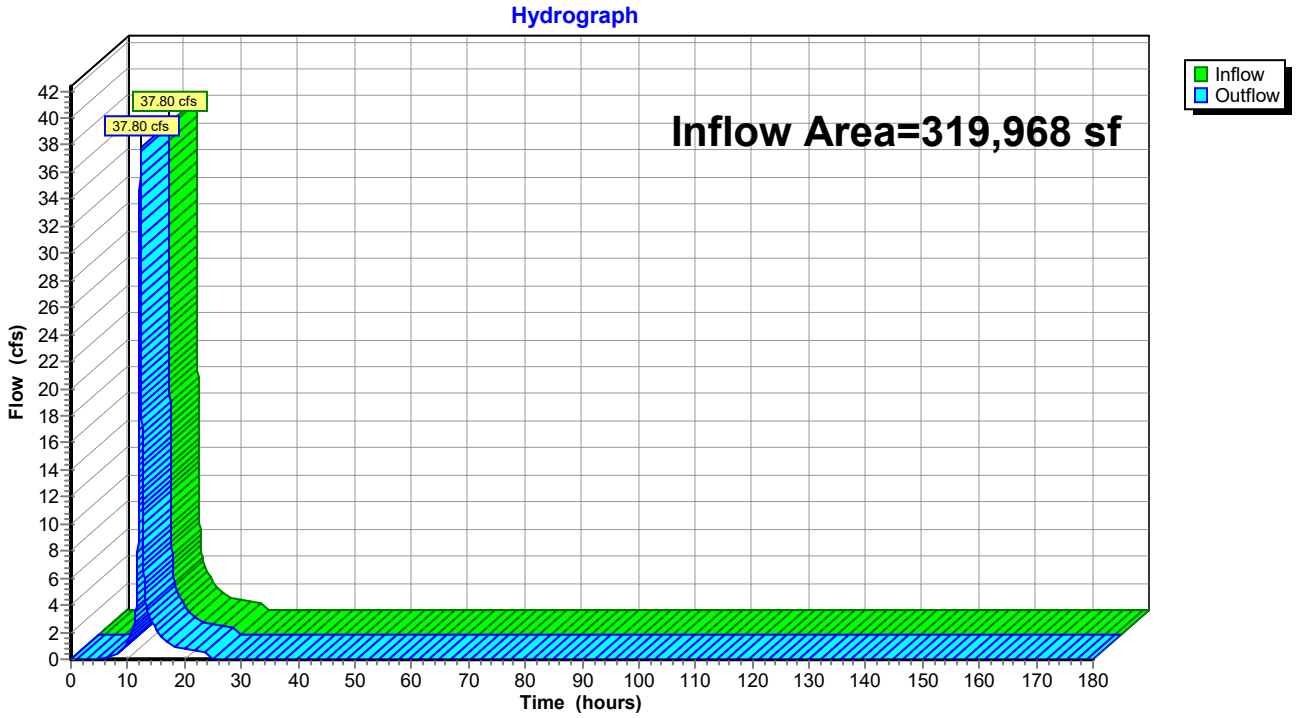
Summary for Reach DP-E: Culvert towards Wades Stream

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

Inflow Area = 319,968 sf, 0.00% Impervious, Inflow Depth = 5.71" for 100-Year event
Inflow = 37.80 cfs @ 12.20 hrs, Volume= 152,236 cf
Outflow = 37.80 cfs @ 12.20 hrs, Volume= 152,236 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach DP-E: Culvert towards Wades Stream



Hydrograph for Reach DP-E: Culvert towards Wades Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.04		0.04	110.00	0.00		0.00
8.00	0.36		0.36	112.00	0.00		0.00
10.00	1.31		1.31	114.00	0.00		0.00
12.00	**16.35**		**16.35**	116.00	0.00		0.00
14.00	**2.98**		**2.98**	118.00	0.00		0.00
16.00	1.59		1.59	120.00	0.00		0.00
18.00	0.96		0.96	122.00	0.00		0.00
20.00	0.75		0.75	124.00	0.00		0.00
22.00	0.62		0.62	126.00	0.00		0.00
24.00	0.49		0.49	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

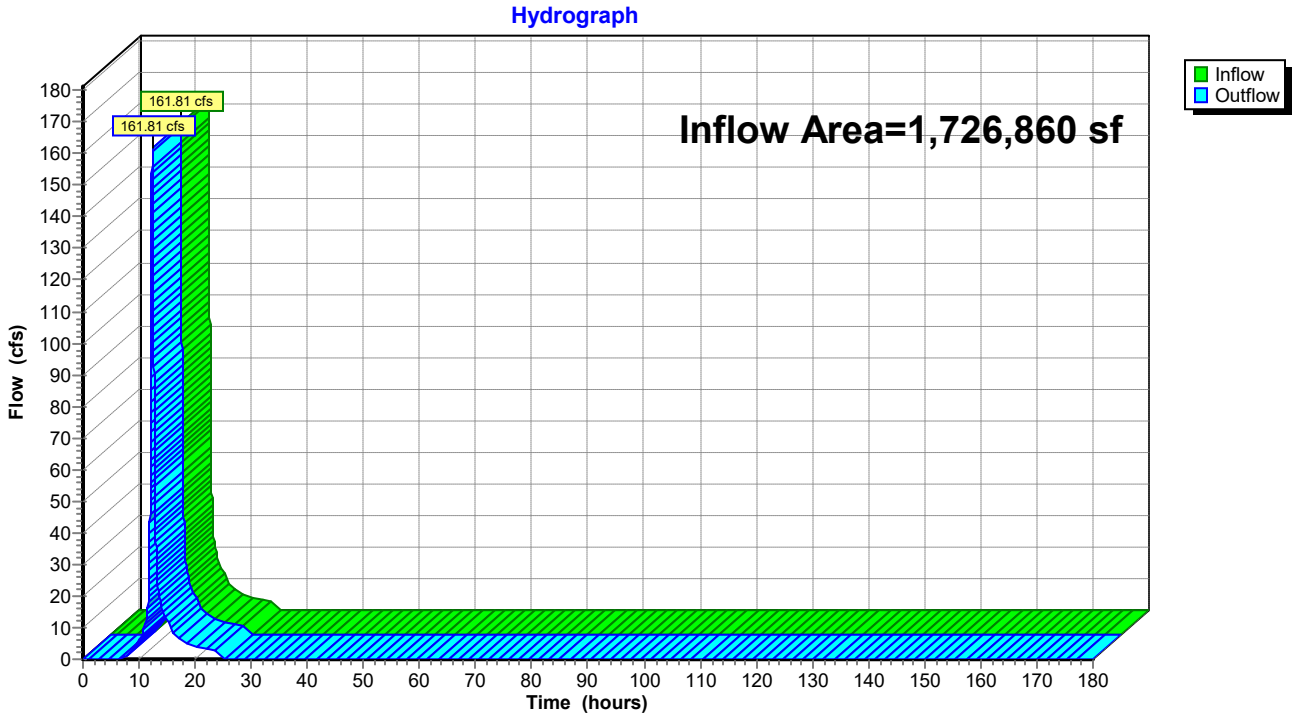
Summary for Reach DP-W: Watts Stream

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

Inflow Area = 1,726,860 sf, 0.29% Impervious, Inflow Depth = 5.50" for 100-Year event
Inflow = 161.81 cfs @ 12.35 hrs, Volume= 791,101 cf
Outflow = 161.81 cfs @ 12.35 hrs, Volume= 791,101 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach DP-W: Watts Stream



Hydrograph for Reach DP-W: Watts Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.02		0.02	110.00	0.00		0.00
8.00	1.40		1.40	112.00	0.00		0.00
10.00	5.86		5.86	114.00	0.00		0.00
12.00	**54.30**		**54.30**	116.00	0.00		0.00
14.00	**16.85**		**16.85**	118.00	0.00		0.00
16.00	8.95		8.95	120.00	0.00		0.00
18.00	5.31		5.31	122.00	0.00		0.00
20.00	4.04		4.04	124.00	0.00		0.00
22.00	3.34		3.34	126.00	0.00		0.00
24.00	2.68		2.68	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

Summary for Pond 4P: 15" CPP

Inflow Area = 204,789 sf, 0.00% Impervious, Inflow Depth = 5.71" for 100-Year event
Inflow = 23.84 cfs @ 12.20 hrs, Volume= 97,436 cf
Outflow = 23.84 cfs @ 12.20 hrs, Volume= 97,436 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.65 cfs @ 12.20 hrs, Volume= 74,803 cf
Routed to Link 4L : Lag
Secondary = 17.18 cfs @ 12.20 hrs, Volume= 22,633 cf
Routed to Link 4L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,662.96' @ 12.20 hrs Surf.Area= 251 sf Storage= 237 cf

Plug-Flow detention time= 0.2 min calculated for 97,430 cf (100% of inflow)
Center-of-Mass det. time= 0.2 min (810.5 - 810.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.30'	837 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

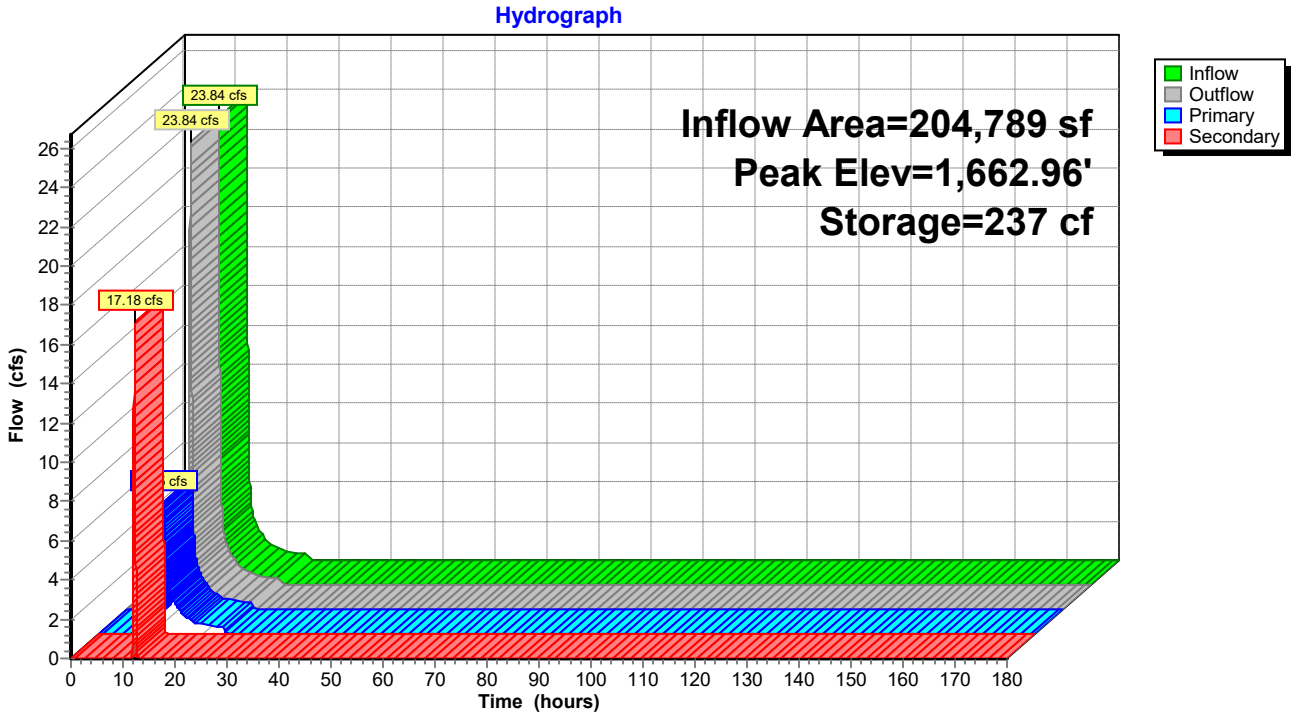
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.30	1	3.9	0	0	1
1,663.00	258	82.3	248	248	551
1,664.00	1,003	166.4	590	837	2,220

Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.30'	**15.0" Round Culvert** L= 16.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.30' / 1,659.80' S= 0.0305 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Secondary	1,662.50'	**8.0' long + 35.0 '/' SideZ x 13.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=6.65 cfs @ 12.20 hrs HW=1,662.96' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 6.65 cfs @ 5.42 fps)

Secondary OutFlow Max=17.16 cfs @ 12.20 hrs HW=1,662.96' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 17.16 cfs @ 1.56 fps)

Pond 4P: 15" CPP



Hydrograph for Pond 4P: 15" CPP

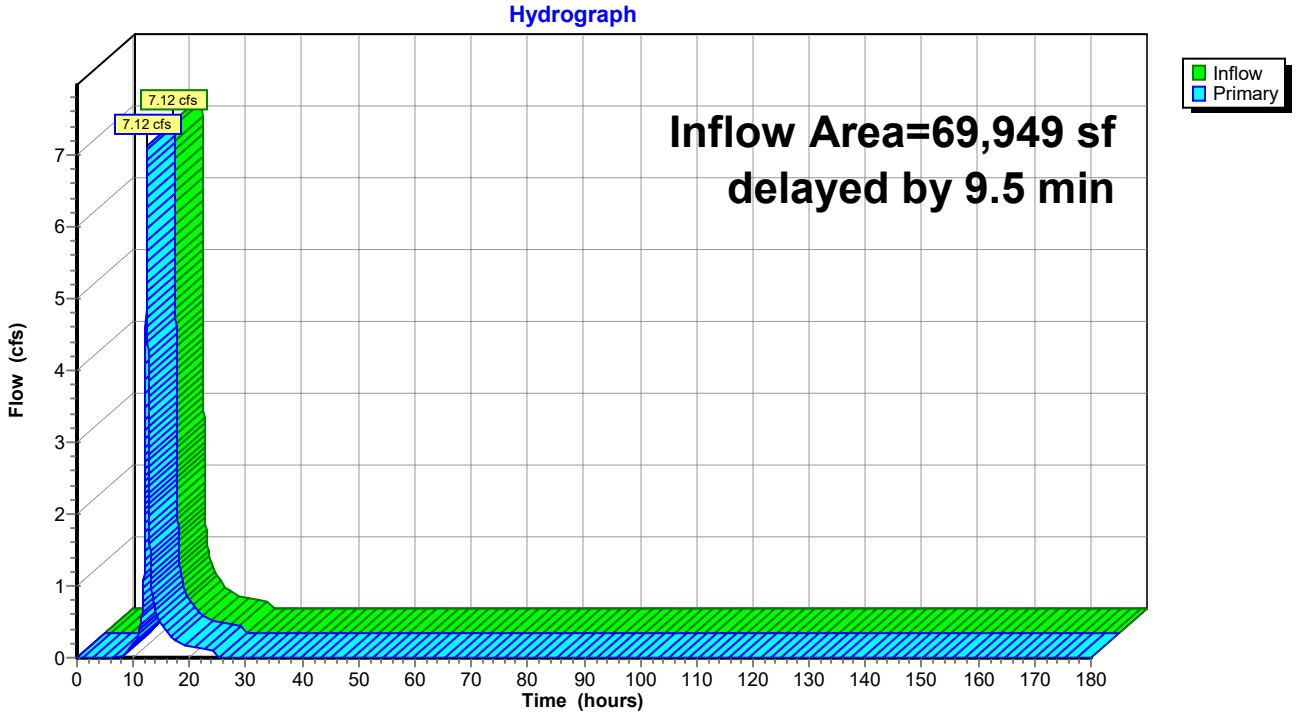
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.30	0.00	0.00	0.00
5.00	0.00	0	1,660.30	0.00	0.00	0.00
10.00	**0.84**	**3**	**1,660.79**	**0.84**	**0.84**	**0.00**
15.00	**1.41**	**6**	**1,660.95**	**1.42**	**1.42**	**0.00**
20.00	0.48	2	1,660.66	0.48	0.48	0.00
25.00	0.00	0	1,660.30	0.00	0.00	0.00
30.00	0.00	0	1,660.30	0.00	0.00	0.00
35.00	0.00	0	1,660.30	0.00	0.00	0.00
40.00	0.00	0	1,660.30	0.00	0.00	0.00
45.00	0.00	0	1,660.30	0.00	0.00	0.00
50.00	0.00	0	1,660.30	0.00	0.00	0.00
55.00	0.00	0	1,660.30	0.00	0.00	0.00
60.00	0.00	0	1,660.30	0.00	0.00	0.00
65.00	0.00	0	1,660.30	0.00	0.00	0.00
70.00	0.00	0	1,660.30	0.00	0.00	0.00
75.00	0.00	0	1,660.30	0.00	0.00	0.00
80.00	0.00	0	1,660.30	0.00	0.00	0.00
85.00	0.00	0	1,660.30	0.00	0.00	0.00
90.00	0.00	0	1,660.30	0.00	0.00	0.00
95.00	0.00	0	1,660.30	0.00	0.00	0.00
100.00	0.00	0	1,660.30	0.00	0.00	0.00
105.00	0.00	0	1,660.30	0.00	0.00	0.00
110.00	0.00	0	1,660.30	0.00	0.00	0.00
115.00	0.00	0	1,660.30	0.00	0.00	0.00
120.00	0.00	0	1,660.30	0.00	0.00	0.00
125.00	0.00	0	1,660.30	0.00	0.00	0.00
130.00	0.00	0	1,660.30	0.00	0.00	0.00
135.00	0.00	0	1,660.30	0.00	0.00	0.00
140.00	0.00	0	1,660.30	0.00	0.00	0.00
145.00	0.00	0	1,660.30	0.00	0.00	0.00
150.00	0.00	0	1,660.30	0.00	0.00	0.00
155.00	0.00	0	1,660.30	0.00	0.00	0.00
160.00	0.00	0	1,660.30	0.00	0.00	0.00
165.00	0.00	0	1,660.30	0.00	0.00	0.00
170.00	0.00	0	1,660.30	0.00	0.00	0.00
175.00	0.00	0	1,660.30	0.00	0.00	0.00
180.00	0.00	0	1,660.30	0.00	0.00	0.00

Summary for Link 1L: Lag

Inflow Area = 69,949 sf, 0.00% Impervious, Inflow Depth = 5.12" for 100-Year event
Inflow = 7.12 cfs @ 12.21 hrs, Volume= 29,862 cf
Primary = 7.12 cfs @ 12.37 hrs, Volume= 29,862 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 1L: Lag



Hydrograph for Link 1L: Lag

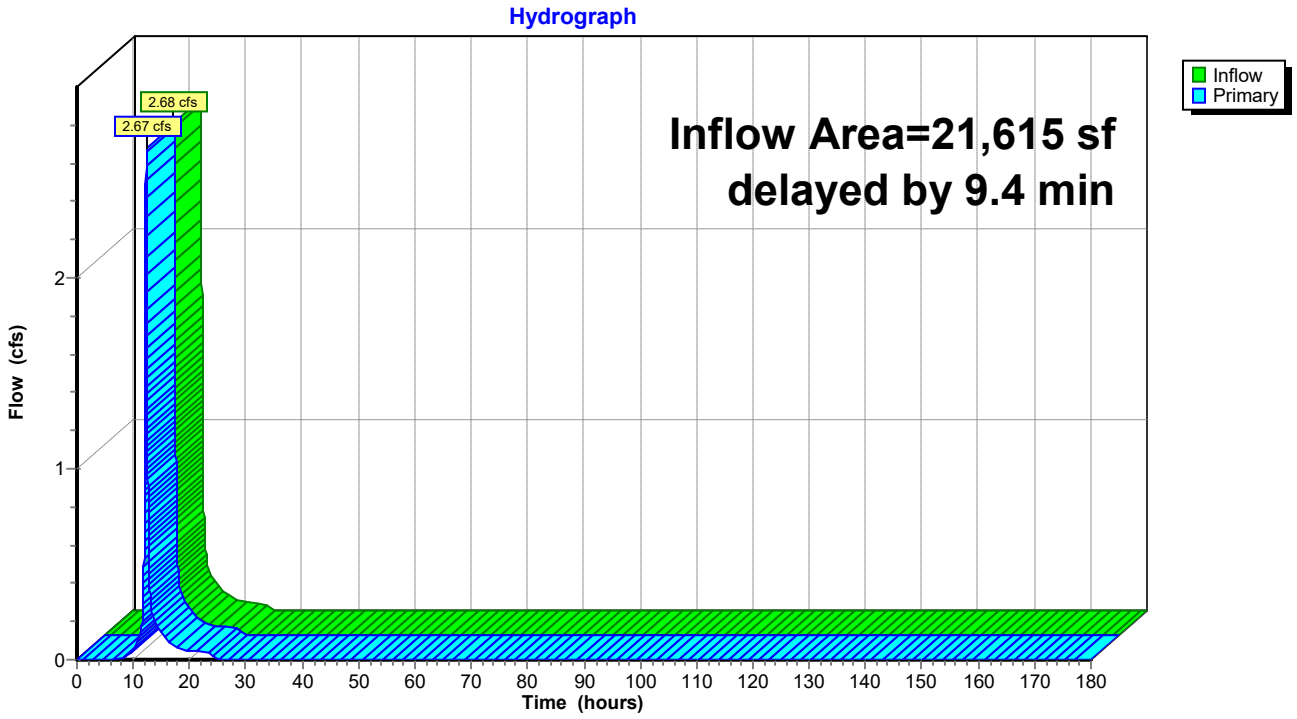
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.04	0.00	0.03	112.00	0.00	0.00	0.00
10.00	0.21	0.00	0.19	114.00	0.00	0.00	0.00
12.00	**3.03**	0.00	**1.71**	116.00	0.00	0.00	0.00
14.00	**0.62**	0.00	**0.66**	118.00	0.00	0.00	0.00
16.00	0.33	0.00	0.35	120.00	0.00	0.00	0.00
18.00	0.20	0.00	0.21	122.00	0.00	0.00	0.00
20.00	0.16	0.00	0.16	124.00	0.00	0.00	0.00
22.00	0.13	0.00	0.13	126.00	0.00	0.00	0.00
24.00	0.10	0.00	0.11	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 2L: Lag

Inflow Area = 21,615 sf, 0.00% Impervious, Inflow Depth = 5.01" for 100-Year event
Inflow = 2.68 cfs @ 12.12 hrs, Volume= 9,018 cf
Primary = 2.67 cfs @ 12.28 hrs, Volume= 9,018 cf, Atten= 0%, Lag= 9.4 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 2L: Lag



Hydrograph for Link 2L: Lag

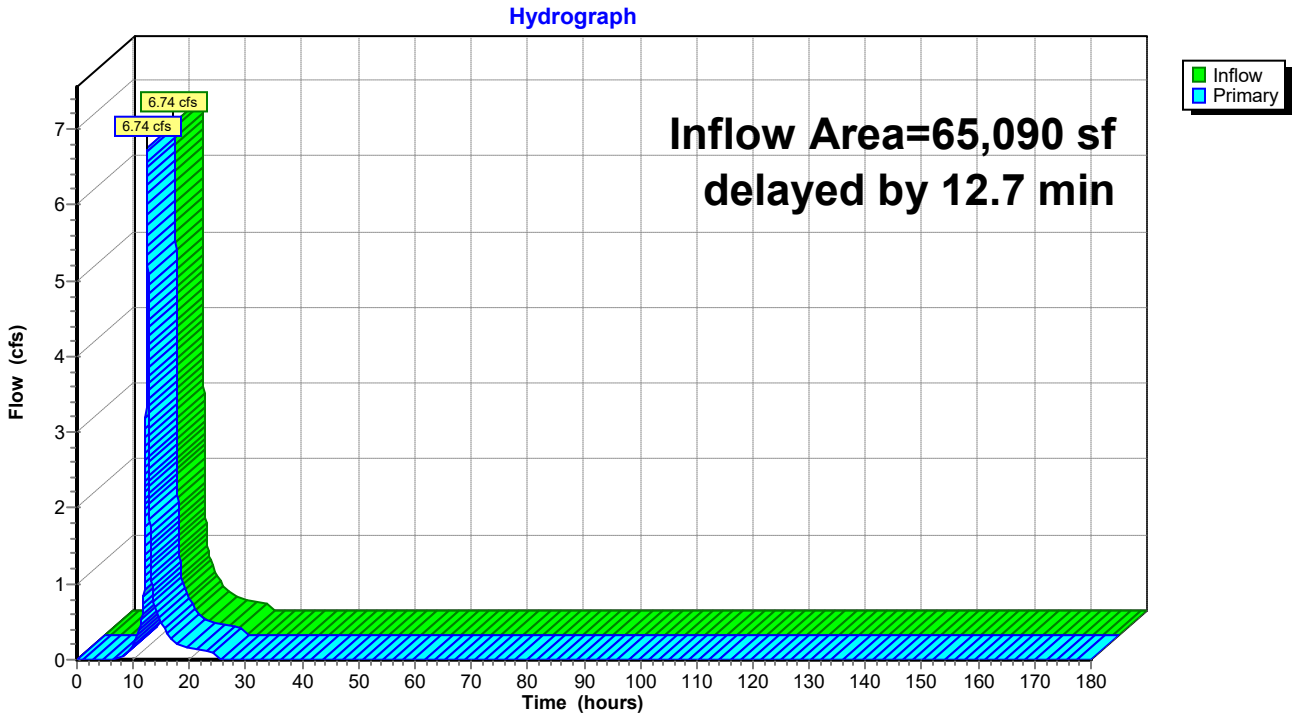
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	112.00	0.00	0.00	0.00
10.00	0.06	0.00	0.06	114.00	0.00	0.00	0.00
12.00	**1.37**	0.00	**0.76**	116.00	0.00	0.00	0.00
14.00	**0.18**	0.00	**0.19**	118.00	0.00	0.00	0.00
16.00	0.10	0.00	0.10	120.00	0.00	0.00	0.00
18.00	0.06	0.00	0.06	122.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	124.00	0.00	0.00	0.00
22.00	0.04	0.00	0.04	126.00	0.00	0.00	0.00
24.00	0.03	0.00	0.03	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 3L: Lag

Inflow Area = 65,090 sf, 0.00% Impervious, Inflow Depth = 5.47" for 100-Year event
Inflow = 6.74 cfs @ 12.24 hrs, Volume= 29,693 cf
Primary = 6.74 cfs @ 12.45 hrs, Volume= 29,693 cf, Atten= 0%, Lag= 12.7 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 12.7 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 3L: Lag



Hydrograph for Link 3L: Lag

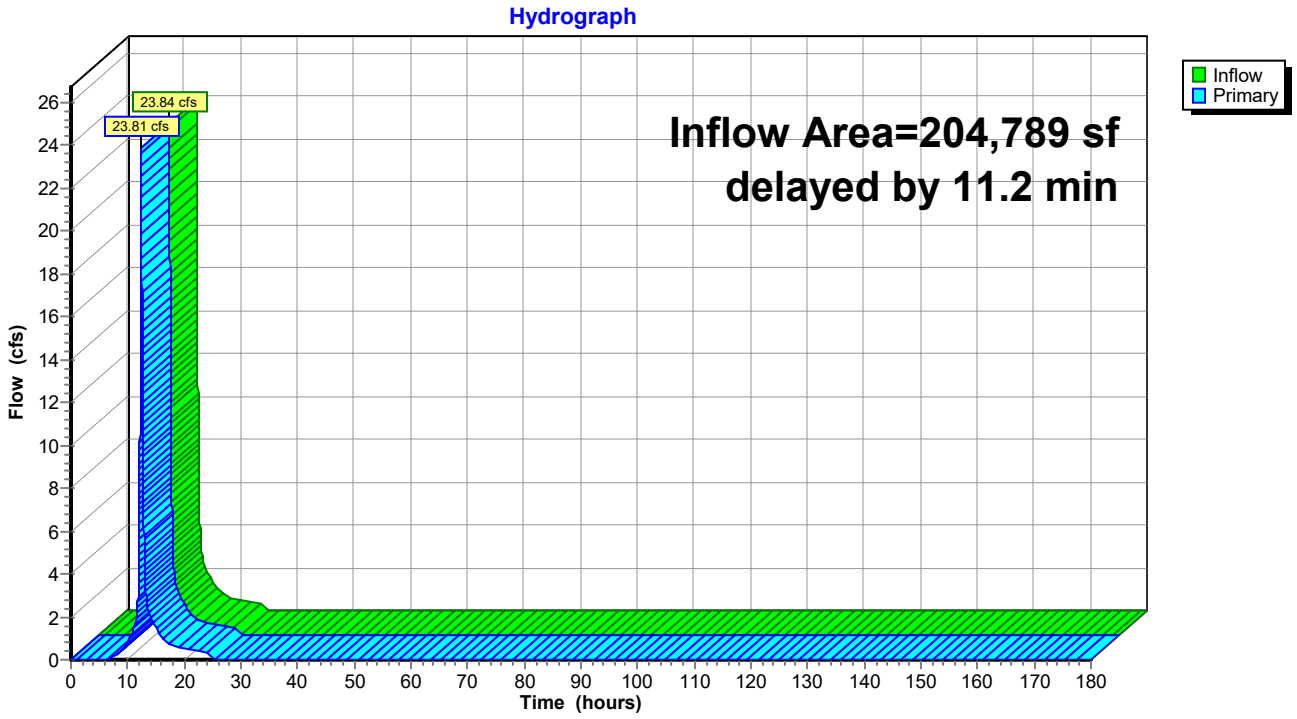
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.06	0.00	0.05	112.00	0.00	0.00	0.00
10.00	0.23	0.00	0.21	114.00	0.00	0.00	0.00
12.00	**2.83**	0.00	**1.31**	116.00	0.00	0.00	0.00
14.00	**0.61**	0.00	**0.66**	118.00	0.00	0.00	0.00
16.00	0.32	0.00	0.35	120.00	0.00	0.00	0.00
18.00	0.19	0.00	0.21	122.00	0.00	0.00	0.00
20.00	0.15	0.00	0.15	124.00	0.00	0.00	0.00
22.00	0.12	0.00	0.13	126.00	0.00	0.00	0.00
24.00	0.10	0.00	0.10	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 4L: Lag

Inflow Area = 204,789 sf, 0.00% Impervious, Inflow Depth = 5.71" for 100-Year event
Inflow = 23.84 cfs @ 12.20 hrs, Volume= 97,436 cf
Primary = 23.81 cfs @ 12.38 hrs, Volume= 97,436 cf, Atten= 0%, Lag= 11.2 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 11.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 4L: Lag



Hydrograph for Link 4L: Lag

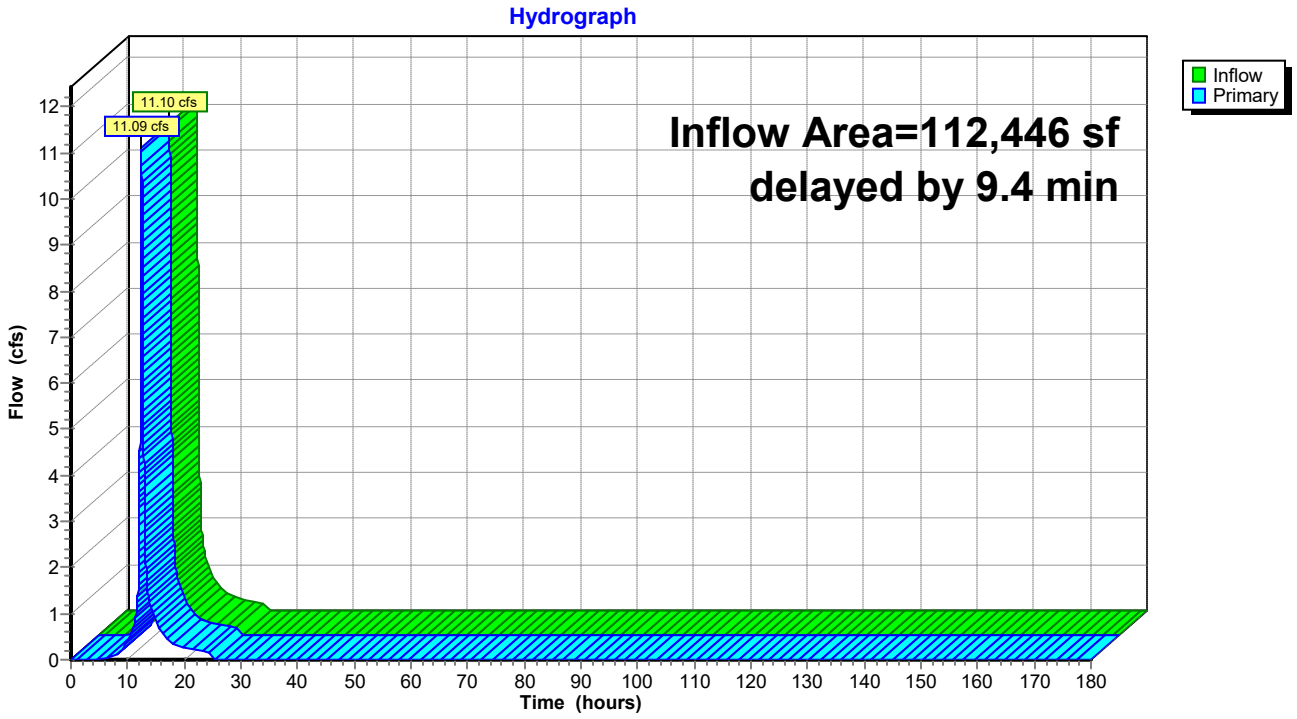
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.03	0.00	0.01	110.00	0.00	0.00	0.00
8.00	0.23	0.00	0.21	112.00	0.00	0.00	0.00
10.00	0.84	0.00	0.77	114.00	0.00	0.00	0.00
12.00	**10.79**	0.00	**5.34**	116.00	0.00	0.00	0.00
14.00	**1.91**	0.00	**2.06**	118.00	0.00	0.00	0.00
16.00	1.01	0.00	1.09	120.00	0.00	0.00	0.00
18.00	0.61	0.00	0.64	122.00	0.00	0.00	0.00
20.00	0.48	0.00	0.49	124.00	0.00	0.00	0.00
22.00	0.40	0.00	0.40	126.00	0.00	0.00	0.00
24.00	0.31	0.00	0.32	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 5L: Lag

Inflow Area = 112,446 sf, 0.00% Impervious, Inflow Depth = 5.71" for 100-Year event
Inflow = 11.10 cfs @ 12.29 hrs, Volume= 53,500 cf
Primary = 11.09 cfs @ 12.45 hrs, Volume= 53,500 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 5L: Lag



Hydrograph for Link 5L: Lag

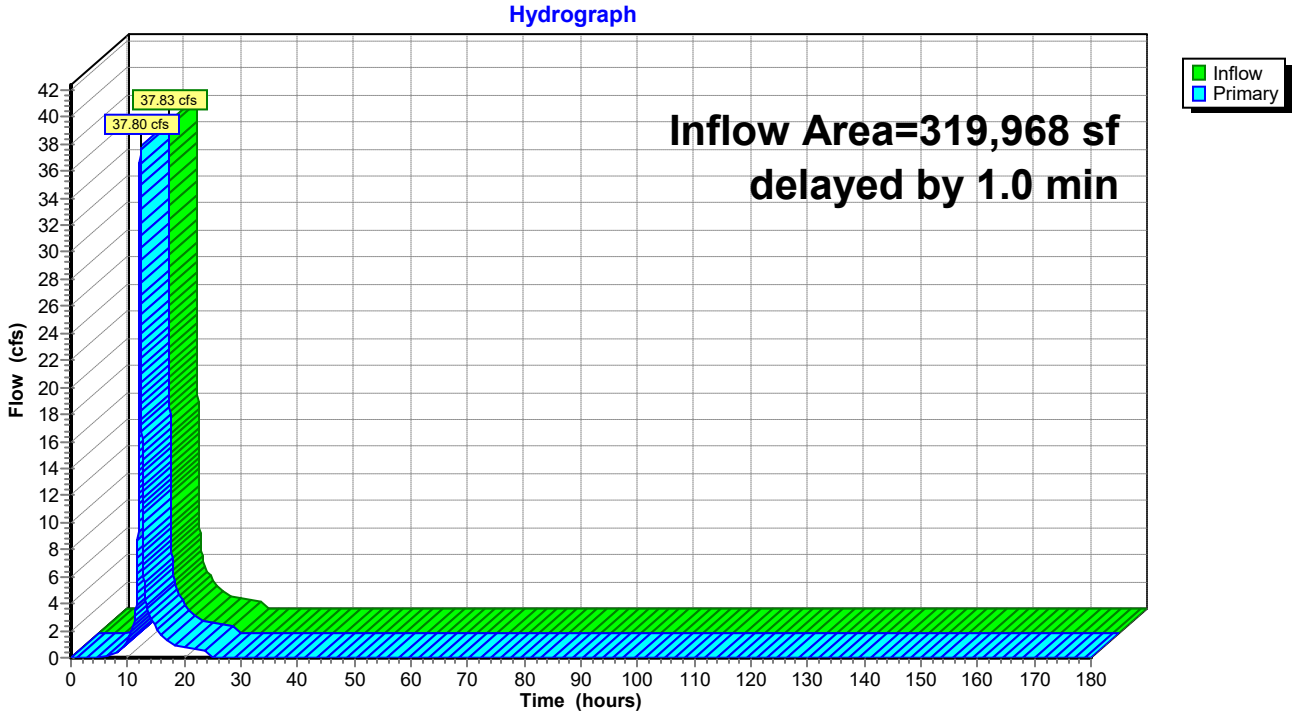
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	110.00	0.00	0.00	0.00
8.00	0.12	0.00	0.11	112.00	0.00	0.00	0.00
10.00	0.44	0.00	0.40	114.00	0.00	0.00	0.00
12.00	**4.31**	0.00	**2.48**	116.00	0.00	0.00	0.00
14.00	**1.10**	0.00	**1.17**	118.00	0.00	0.00	0.00
16.00	0.58	0.00	0.62	120.00	0.00	0.00	0.00
18.00	0.35	0.00	0.36	122.00	0.00	0.00	0.00
20.00	0.27	0.00	0.27	124.00	0.00	0.00	0.00
22.00	0.22	0.00	0.22	126.00	0.00	0.00	0.00
24.00	0.18	0.00	0.18	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 6L:

Inflow Area = 319,968 sf, 0.00% Impervious, Inflow Depth = 5.71" for 100-Year event
Inflow = 37.83 cfs @ 12.19 hrs, Volume= 152,236 cf
Primary = 37.80 cfs @ 12.20 hrs, Volume= 152,236 cf, Atten= 0%, Lag= 1.0 min
Routed to Reach DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 1.0 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

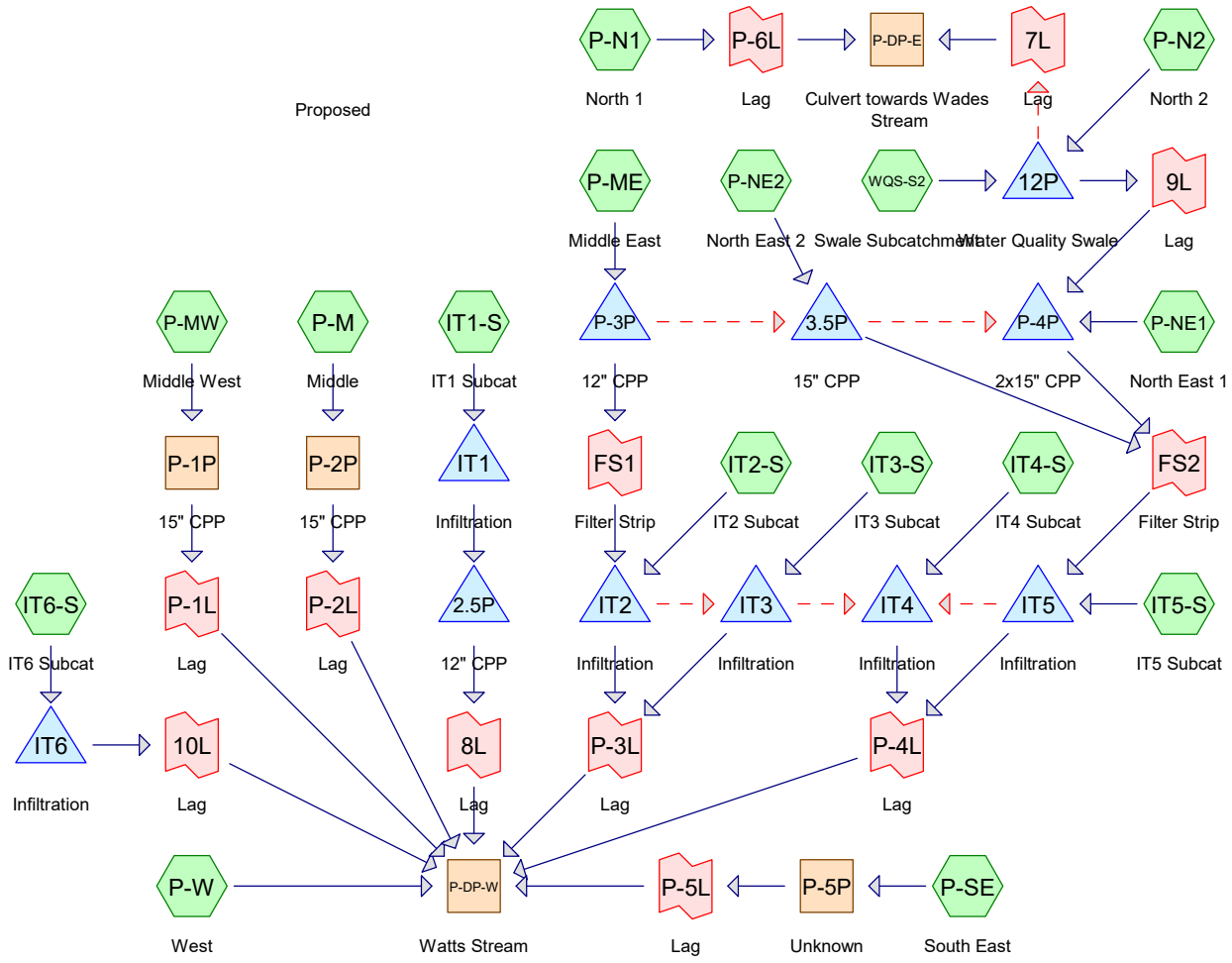
Link 6L:



Hydrograph for Link 6L:

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.04	0.00	0.04	110.00	0.00	0.00	0.00
8.00	0.37	0.00	0.36	112.00	0.00	0.00	0.00
10.00	1.32	0.00	1.31	114.00	0.00	0.00	0.00
12.00	**17.45**	0.00	**16.35**	116.00	0.00	0.00	0.00
14.00	**2.96**	0.00	**2.98**	118.00	0.00	0.00	0.00
16.00	1.58	0.00	1.59	120.00	0.00	0.00	0.00
18.00	0.95	0.00	0.96	122.00	0.00	0.00	0.00
20.00	0.75	0.00	0.75	124.00	0.00	0.00	0.00
22.00	0.62	0.00	0.62	126.00	0.00	0.00	0.00
24.00	0.49	0.00	0.49	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Proposed Conditions HydroCAD



Subcat Reach Pond Link

Routing Diagram for HydroCAD Ridge Rd
Prepared by WSP USA, Printed 2/18/2026
HydroCAD® 10.20-6a s/n 01336 © 2024 HydroCAD Software Solutions LLC

Summary for Subcatchment IT1-S: IT1 Subcat

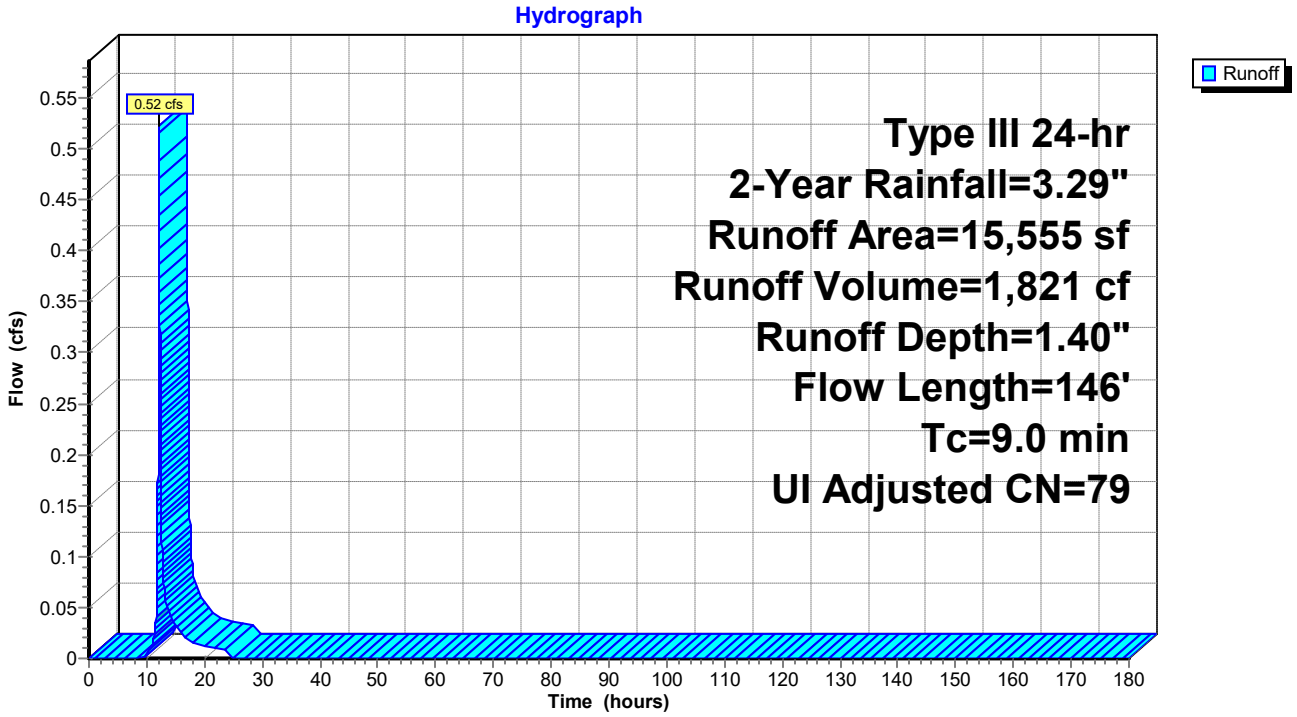
Runoff = 0.52 cfs @ 12.13 hrs, Volume= 1,821 cf, Depth= 1.40"
Routed to Pond IT1 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Adj	Description
10,246	74		Pasture/grassland/range, Good, HSG C
1,152	80		Pasture/grassland/range, Good, HSG D
625	98		Water Surface, 0% imp, HSG C
1,098	96		Gravel surface, HSG C
432	96		Gravel surface, HSG C
2,002	98		Unconnected pavement, HSG C
15,555	81	79	Weighted Average, UI Adjusted
13,553			87.13% Pervious Area
2,002			12.87% Impervious Area
2,002			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	64	0.0776	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
0.3	22	0.0232	1.09		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
5.2	60	0.0251	0.19		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
9.0	146	Total			

Subcatchment IT1-S: IT1 Subcat



Hydrograph for Subcatchment IT1-S: IT1 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.00	0.00
12.00	1.64	0.33	**0.24**
14.00	2.67	0.95	**0.04**
16.00	2.91	1.13	0.02
18.00	3.05	1.23	0.01
20.00	3.15	1.30	0.01
22.00	3.23	1.36	0.01
24.00	**3.29**	**1.40**	0.01
26.00	3.29	1.40	0.00
28.00	3.29	1.40	0.00
30.00	3.29	1.40	0.00
32.00	3.29	1.40	0.00
34.00	3.29	1.40	0.00
36.00	3.29	1.40	0.00
38.00	3.29	1.40	0.00
40.00	3.29	1.40	0.00
42.00	3.29	1.40	0.00
44.00	3.29	1.40	0.00
46.00	3.29	1.40	0.00
48.00	3.29	1.40	0.00
50.00	3.29	1.40	0.00
52.00	3.29	1.40	0.00
54.00	3.29	1.40	0.00
56.00	3.29	1.40	0.00
58.00	3.29	1.40	0.00
60.00	3.29	1.40	0.00
62.00	3.29	1.40	0.00
64.00	3.29	1.40	0.00
66.00	3.29	1.40	0.00
68.00	3.29	1.40	0.00
70.00	3.29	1.40	0.00
72.00	3.29	1.40	0.00
74.00	3.29	1.40	0.00
76.00	3.29	1.40	0.00
78.00	3.29	1.40	0.00
80.00	3.29	1.40	0.00
82.00	3.29	1.40	0.00
84.00	3.29	1.40	0.00
86.00	3.29	1.40	0.00
88.00	3.29	1.40	0.00
90.00	3.29	1.40	0.00
92.00	3.29	1.40	0.00
94.00	3.29	1.40	0.00
96.00	3.29	1.40	0.00
98.00	3.29	1.40	0.00
100.00	3.29	1.40	0.00
102.00	3.29	1.40	0.00
104.00	3.29	1.40	0.00
106.00	3.29	1.40	0.00
108.00	3.29	1.40	0.00
110.00	3.29	1.40	0.00
112.00	3.29	1.40	0.00
114.00	3.29	1.40	0.00
116.00	3.29	1.40	0.00
118.00	3.29	1.40	0.00
120.00	3.29	1.40	0.00
122.00	3.29	1.40	0.00
124.00	3.29	1.40	0.00
126.00	3.29	1.40	0.00
128.00	3.29	1.40	0.00
130.00	3.29	1.40	0.00
132.00	3.29	1.40	0.00
134.00	3.29	1.40	0.00
136.00	3.29	1.40	0.00
138.00	3.29	1.40	0.00
140.00	3.29	1.40	0.00
142.00	3.29	1.40	0.00
144.00	3.29	1.40	0.00
146.00	3.29	1.40	0.00
148.00	3.29	1.40	0.00
150.00	3.29	1.40	0.00
152.00	3.29	1.40	0.00
154.00	3.29	1.40	0.00
156.00	3.29	1.40	0.00
158.00	3.29	1.40	0.00
160.00	3.29	1.40	0.00
162.00	3.29	1.40	0.00
164.00	3.29	1.40	0.00
166.00	3.29	1.40	0.00
168.00	3.29	1.40	0.00
170.00	3.29	1.40	0.00
172.00	3.29	1.40	0.00
174.00	3.29	1.40	0.00
176.00	3.29	1.40	0.00
178.00	3.29	1.40	0.00
180.00	3.29	1.40	0.00

Summary for Subcatchment IT2-S: IT2 Subcat

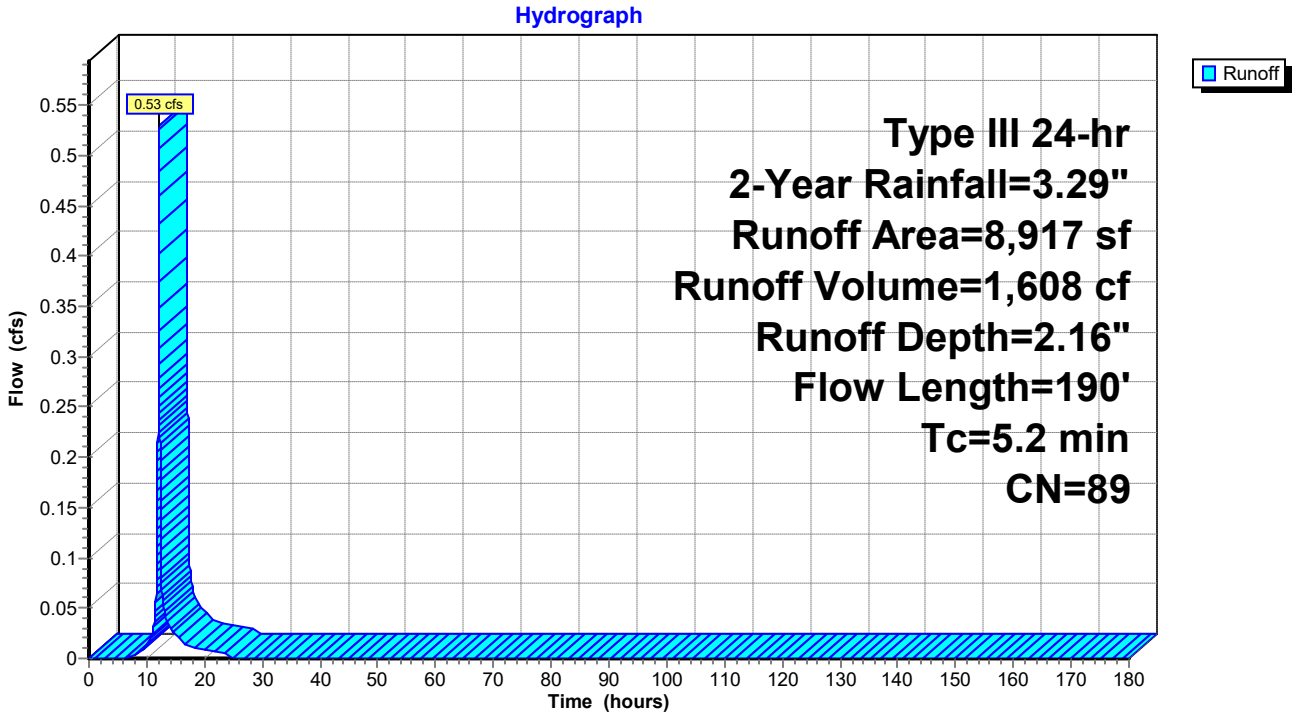
Runoff = 0.53 cfs @ 12.08 hrs, Volume= 1,608 cf, Depth= 2.16"
Routed to Pond IT2 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
42	74	Pasture/grassland/range, Good, HSG C
3,833	80	Pasture/grassland/range, Good, HSG D
286	96	Gravel surface, HSG C
4,354	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
8,917	89	Weighted Average
8,915		99.98% Pervious Area
2		0.02% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	14	0.0362	0.17		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
1.0	133	0.0527	2.18		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
0.8	18	0.2217	0.36		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
2.0	25	0.0500	0.21		**Sheet Flow, DE** Range n= 0.130 P2= 3.29"
5.2	190	Total			

Subcatchment IT2-S: IT2 Subcat



Hydrograph for Subcatchment IT2-S: IT2 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.01	0.00
10.00	0.62	0.09	0.01
12.00	1.64	0.74	**0.34**
14.00	2.67	1.60	**0.03**
16.00	2.91	1.82	0.02
18.00	3.05	1.95	0.01
20.00	3.15	2.03	0.01
22.00	3.23	2.11	0.01
24.00	**3.29**	**2.16**	0.01
26.00	3.29	2.16	0.00
28.00	3.29	2.16	0.00
30.00	3.29	2.16	0.00
32.00	3.29	2.16	0.00
34.00	3.29	2.16	0.00
36.00	3.29	2.16	0.00
38.00	3.29	2.16	0.00
40.00	3.29	2.16	0.00
42.00	3.29	2.16	0.00
44.00	3.29	2.16	0.00
46.00	3.29	2.16	0.00
48.00	3.29	2.16	0.00
50.00	3.29	2.16	0.00
52.00	3.29	2.16	0.00
54.00	3.29	2.16	0.00
56.00	3.29	2.16	0.00
58.00	3.29	2.16	0.00
60.00	3.29	2.16	0.00
62.00	3.29	2.16	0.00
64.00	3.29	2.16	0.00
66.00	3.29	2.16	0.00
68.00	3.29	2.16	0.00
70.00	3.29	2.16	0.00
72.00	3.29	2.16	0.00
74.00	3.29	2.16	0.00
76.00	3.29	2.16	0.00
78.00	3.29	2.16	0.00
80.00	3.29	2.16	0.00
82.00	3.29	2.16	0.00
84.00	3.29	2.16	0.00
86.00	3.29	2.16	0.00
88.00	3.29	2.16	0.00
90.00	3.29	2.16	0.00
92.00	3.29	2.16	0.00
94.00	3.29	2.16	0.00
96.00	3.29	2.16	0.00
98.00	3.29	2.16	0.00
100.00	3.29	2.16	0.00
102.00	3.29	2.16	0.00
104.00	3.29	2.16	0.00
106.00	3.29	2.16	0.00
108.00	3.29	2.16	0.00
110.00	3.29	2.16	0.00
112.00	3.29	2.16	0.00
114.00	3.29	2.16	0.00
116.00	3.29	2.16	0.00
118.00	3.29	2.16	0.00
120.00	3.29	2.16	0.00
122.00	3.29	2.16	0.00
124.00	3.29	2.16	0.00
126.00	3.29	2.16	0.00
128.00	3.29	2.16	0.00
130.00	3.29	2.16	0.00
132.00	3.29	2.16	0.00
134.00	3.29	2.16	0.00
136.00	3.29	2.16	0.00
138.00	3.29	2.16	0.00
140.00	3.29	2.16	0.00
142.00	3.29	2.16	0.00
144.00	3.29	2.16	0.00
146.00	3.29	2.16	0.00
148.00	3.29	2.16	0.00
150.00	3.29	2.16	0.00
152.00	3.29	2.16	0.00
154.00	3.29	2.16	0.00
156.00	3.29	2.16	0.00
158.00	3.29	2.16	0.00
160.00	3.29	2.16	0.00
162.00	3.29	2.16	0.00
164.00	3.29	2.16	0.00
166.00	3.29	2.16	0.00
168.00	3.29	2.16	0.00
170.00	3.29	2.16	0.00
172.00	3.29	2.16	0.00
174.00	3.29	2.16	0.00
176.00	3.29	2.16	0.00
178.00	3.29	2.16	0.00
180.00	3.29	2.16	0.00

Summary for Subcatchment IT3-S: IT3 Subcat

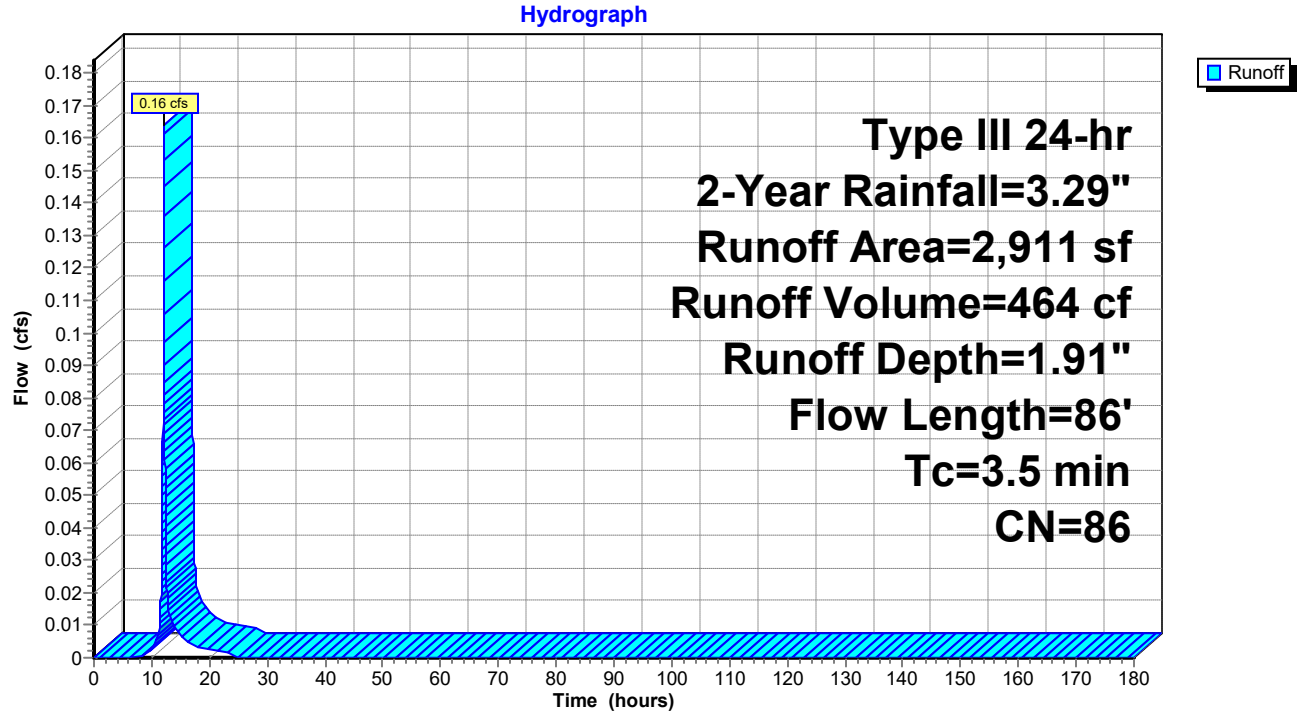
Runoff = 0.16 cfs @ 12.05 hrs, Volume= 464 cf, Depth= 1.91"
Routed to Pond IT3 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
1,890	80	Pasture/grassland/range, Good, HSG D
621	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
0	98	Unconnected pavement, HSG D
2,911	86	Weighted Average
2,911		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	46	0.0491	1.71		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.6	12	0.2044	0.32		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.5	28	0.0359	0.19		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.5	86	Total			

Subcatchment IT3-S: IT3 Subcat



Hydrograph for Subcatchment IT3-S: IT3 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.05	0.00
12.00	1.64	0.59	**0.12**
14.00	2.67	1.38	**0.01**
16.00	2.91	1.59	0.01
18.00	3.05	1.71	0.00
20.00	3.15	1.79	0.00
22.00	3.23	1.86	0.00
24.00	**3.29**	**1.91**	0.00
26.00	3.29	1.91	0.00
28.00	3.29	1.91	0.00
30.00	3.29	1.91	0.00
32.00	3.29	1.91	0.00
34.00	3.29	1.91	0.00
36.00	3.29	1.91	0.00
38.00	3.29	1.91	0.00
40.00	3.29	1.91	0.00
42.00	3.29	1.91	0.00
44.00	3.29	1.91	0.00
46.00	3.29	1.91	0.00
48.00	3.29	1.91	0.00
50.00	3.29	1.91	0.00
52.00	3.29	1.91	0.00
54.00	3.29	1.91	0.00
56.00	3.29	1.91	0.00
58.00	3.29	1.91	0.00
60.00	3.29	1.91	0.00
62.00	3.29	1.91	0.00
64.00	3.29	1.91	0.00
66.00	3.29	1.91	0.00
68.00	3.29	1.91	0.00
70.00	3.29	1.91	0.00
72.00	3.29	1.91	0.00
74.00	3.29	1.91	0.00
76.00	3.29	1.91	0.00
78.00	3.29	1.91	0.00
80.00	3.29	1.91	0.00
82.00	3.29	1.91	0.00
84.00	3.29	1.91	0.00
86.00	3.29	1.91	0.00
88.00	3.29	1.91	0.00
90.00	3.29	1.91	0.00
92.00	3.29	1.91	0.00
94.00	3.29	1.91	0.00
96.00	3.29	1.91	0.00
98.00	3.29	1.91	0.00
100.00	3.29	1.91	0.00
102.00	3.29	1.91	0.00
104.00	3.29	1.91	0.00
106.00	3.29	1.91	0.00
108.00	3.29	1.91	0.00
110.00	3.29	1.91	0.00
112.00	3.29	1.91	0.00
114.00	3.29	1.91	0.00
116.00	3.29	1.91	0.00
118.00	3.29	1.91	0.00
120.00	3.29	1.91	0.00
122.00	3.29	1.91	0.00
124.00	3.29	1.91	0.00
126.00	3.29	1.91	0.00
128.00	3.29	1.91	0.00
130.00	3.29	1.91	0.00
132.00	3.29	1.91	0.00
134.00	3.29	1.91	0.00
136.00	3.29	1.91	0.00
138.00	3.29	1.91	0.00
140.00	3.29	1.91	0.00
142.00	3.29	1.91	0.00
144.00	3.29	1.91	0.00
146.00	3.29	1.91	0.00
148.00	3.29	1.91	0.00
150.00	3.29	1.91	0.00
152.00	3.29	1.91	0.00
154.00	3.29	1.91	0.00
156.00	3.29	1.91	0.00
158.00	3.29	1.91	0.00
160.00	3.29	1.91	0.00
162.00	3.29	1.91	0.00
164.00	3.29	1.91	0.00
166.00	3.29	1.91	0.00
168.00	3.29	1.91	0.00
170.00	3.29	1.91	0.00
172.00	3.29	1.91	0.00
174.00	3.29	1.91	0.00
176.00	3.29	1.91	0.00
178.00	3.29	1.91	0.00
180.00	3.29	1.91	0.00

Summary for Subcatchment IT4-S: IT4 Subcat

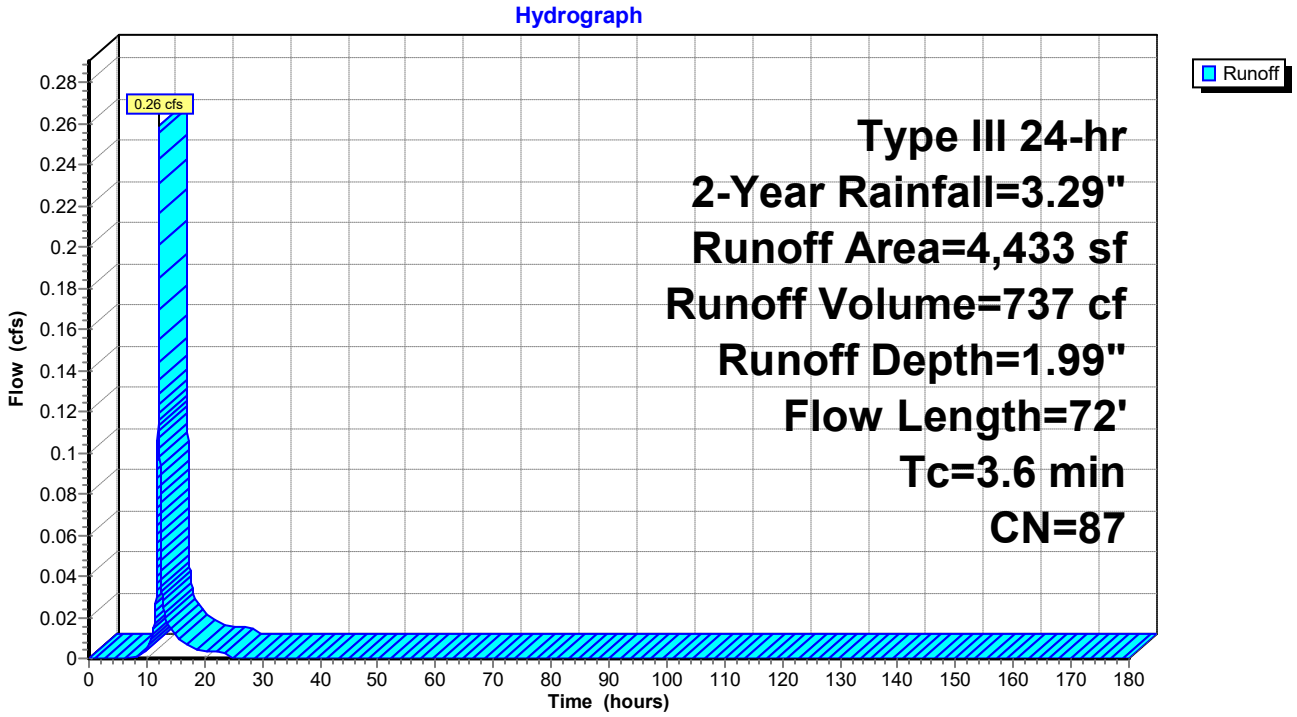
Runoff = 0.26 cfs @ 12.05 hrs, Volume= 737 cf, Depth= 1.99"
Routed to Pond IT4 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
2,578	80	Pasture/grassland/range, Good, HSG D
1,453	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
4,433	87	Weighted Average
4,431		99.95% Pervious Area
2		0.05% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0263	1.28		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.5	11	0.2684	0.35		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.6	23	0.0217	0.15		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.6	72	Total			

Subcatchment IT4-S: IT4 Subcat



Hydrograph for Subcatchment IT4-S: IT4 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	3.29	1.99	0.00
2.00	0.07	0.00	0.00	106.00	3.29	1.99	0.00
4.00	0.14	0.00	0.00	108.00	3.29	1.99	0.00
6.00	0.24	0.00	0.00	110.00	3.29	1.99	0.00
8.00	0.38	0.00	0.00	112.00	3.29	1.99	0.00
10.00	0.62	0.06	0.01	114.00	3.29	1.99	0.00
12.00	1.64	0.64	**0.19**	116.00	3.29	1.99	0.00
14.00	2.67	1.45	**0.01**	118.00	3.29	1.99	0.00
16.00	2.91	1.67	0.01	120.00	3.29	1.99	0.00
18.00	3.05	1.79	0.00	122.00	3.29	1.99	0.00
20.00	3.15	1.87	0.00	124.00	3.29	1.99	0.00
22.00	3.23	1.94	0.00	126.00	3.29	1.99	0.00
24.00	**3.29**	**1.99**	0.00	128.00	3.29	1.99	0.00
26.00	3.29	1.99	0.00	130.00	3.29	1.99	0.00
28.00	3.29	1.99	0.00	132.00	3.29	1.99	0.00
30.00	3.29	1.99	0.00	134.00	3.29	1.99	0.00
32.00	3.29	1.99	0.00	136.00	3.29	1.99	0.00
34.00	3.29	1.99	0.00	138.00	3.29	1.99	0.00
36.00	3.29	1.99	0.00	140.00	3.29	1.99	0.00
38.00	3.29	1.99	0.00	142.00	3.29	1.99	0.00
40.00	3.29	1.99	0.00	144.00	3.29	1.99	0.00
42.00	3.29	1.99	0.00	146.00	3.29	1.99	0.00
44.00	3.29	1.99	0.00	148.00	3.29	1.99	0.00
46.00	3.29	1.99	0.00	150.00	3.29	1.99	0.00
48.00	3.29	1.99	0.00	152.00	3.29	1.99	0.00
50.00	3.29	1.99	0.00	154.00	3.29	1.99	0.00
52.00	3.29	1.99	0.00	156.00	3.29	1.99	0.00
54.00	3.29	1.99	0.00	158.00	3.29	1.99	0.00
56.00	3.29	1.99	0.00	160.00	3.29	1.99	0.00
58.00	3.29	1.99	0.00	162.00	3.29	1.99	0.00
60.00	3.29	1.99	0.00	164.00	3.29	1.99	0.00
62.00	3.29	1.99	0.00	166.00	3.29	1.99	0.00
64.00	3.29	1.99	0.00	168.00	3.29	1.99	0.00
66.00	3.29	1.99	0.00	170.00	3.29	1.99	0.00
68.00	3.29	1.99	0.00	172.00	3.29	1.99	0.00
70.00	3.29	1.99	0.00	174.00	3.29	1.99	0.00
72.00	3.29	1.99	0.00	176.00	3.29	1.99	0.00
74.00	3.29	1.99	0.00	178.00	3.29	1.99	0.00
76.00	3.29	1.99	0.00	180.00	3.29	1.99	0.00
78.00	3.29	1.99	0.00				
80.00	3.29	1.99	0.00				
82.00	3.29	1.99	0.00				
84.00	3.29	1.99	0.00				
86.00	3.29	1.99	0.00				
88.00	3.29	1.99	0.00				
90.00	3.29	1.99	0.00				
92.00	3.29	1.99	0.00				
94.00	3.29	1.99	0.00				
96.00	3.29	1.99	0.00				
98.00	3.29	1.99	0.00				
100.00	3.29	1.99	0.00				
102.00	3.29	1.99	0.00				

Summary for Subcatchment IT5-S: IT5 Subcat

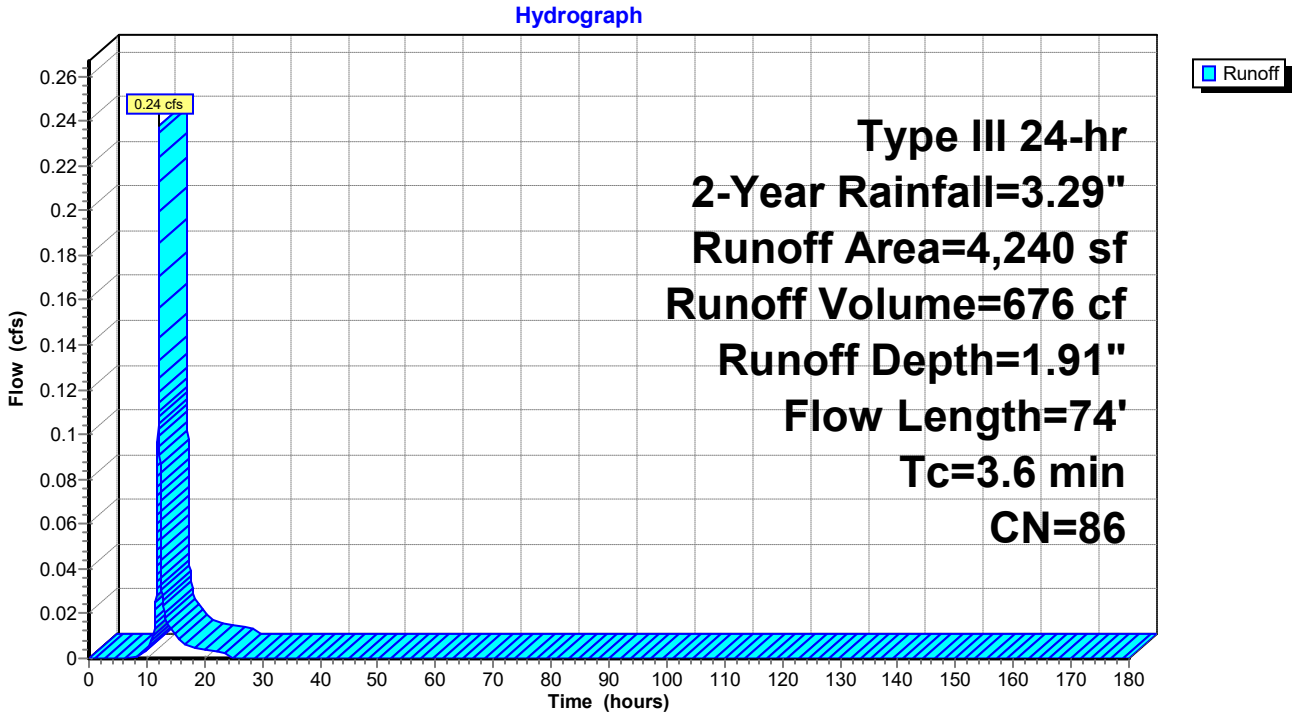
Runoff = 0.24 cfs @ 12.05 hrs, Volume= 676 cf, Depth= 1.91"
Routed to Pond IT5 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
2,739	80	Pasture/grassland/range, Good, HSG D
1,099	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
4,240	86	Weighted Average
4,238		99.95% Pervious Area
2		0.05% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	41	0.0366	1.49		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.5	10	0.2883	0.35		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.6	23	0.0222	0.15		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.6	74	Total			

Subcatchment IT5-S: IT5 Subcat



Hydrograph for Subcatchment IT5-S: IT5 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.05	0.00
12.00	1.64	0.59	**0.17**
14.00	2.67	1.38	**0.01**
16.00	2.91	1.59	0.01
18.00	3.05	1.71	0.00
20.00	3.15	1.79	0.00
22.00	3.23	1.86	0.00
24.00	**3.29**	**1.91**	0.00
26.00	3.29	1.91	0.00
28.00	3.29	1.91	0.00
30.00	3.29	1.91	0.00
32.00	3.29	1.91	0.00
34.00	3.29	1.91	0.00
36.00	3.29	1.91	0.00
38.00	3.29	1.91	0.00
40.00	3.29	1.91	0.00
42.00	3.29	1.91	0.00
44.00	3.29	1.91	0.00
46.00	3.29	1.91	0.00
48.00	3.29	1.91	0.00
50.00	3.29	1.91	0.00
52.00	3.29	1.91	0.00
54.00	3.29	1.91	0.00
56.00	3.29	1.91	0.00
58.00	3.29	1.91	0.00
60.00	3.29	1.91	0.00
62.00	3.29	1.91	0.00
64.00	3.29	1.91	0.00
66.00	3.29	1.91	0.00
68.00	3.29	1.91	0.00
70.00	3.29	1.91	0.00
72.00	3.29	1.91	0.00
74.00	3.29	1.91	0.00
76.00	3.29	1.91	0.00
78.00	3.29	1.91	0.00
80.00	3.29	1.91	0.00
82.00	3.29	1.91	0.00
84.00	3.29	1.91	0.00
86.00	3.29	1.91	0.00
88.00	3.29	1.91	0.00
90.00	3.29	1.91	0.00
92.00	3.29	1.91	0.00
94.00	3.29	1.91	0.00
96.00	3.29	1.91	0.00
98.00	3.29	1.91	0.00
100.00	3.29	1.91	0.00
102.00	3.29	1.91	0.00
104.00	3.29	1.91	0.00
106.00	3.29	1.91	0.00
108.00	3.29	1.91	0.00
110.00	3.29	1.91	0.00
112.00	3.29	1.91	0.00
114.00	3.29	1.91	0.00
116.00	3.29	1.91	0.00
118.00	3.29	1.91	0.00
120.00	3.29	1.91	0.00
122.00	3.29	1.91	0.00
124.00	3.29	1.91	0.00
126.00	3.29	1.91	0.00
128.00	3.29	1.91	0.00
130.00	3.29	1.91	0.00
132.00	3.29	1.91	0.00
134.00	3.29	1.91	0.00
136.00	3.29	1.91	0.00
138.00	3.29	1.91	0.00
140.00	3.29	1.91	0.00
142.00	3.29	1.91	0.00
144.00	3.29	1.91	0.00
146.00	3.29	1.91	0.00
148.00	3.29	1.91	0.00
150.00	3.29	1.91	0.00
152.00	3.29	1.91	0.00
154.00	3.29	1.91	0.00
156.00	3.29	1.91	0.00
158.00	3.29	1.91	0.00
160.00	3.29	1.91	0.00
162.00	3.29	1.91	0.00
164.00	3.29	1.91	0.00
166.00	3.29	1.91	0.00
168.00	3.29	1.91	0.00
170.00	3.29	1.91	0.00
172.00	3.29	1.91	0.00
174.00	3.29	1.91	0.00
176.00	3.29	1.91	0.00
178.00	3.29	1.91	0.00
180.00	3.29	1.91	0.00

Summary for Subcatchment IT6-S: IT6 Subcat

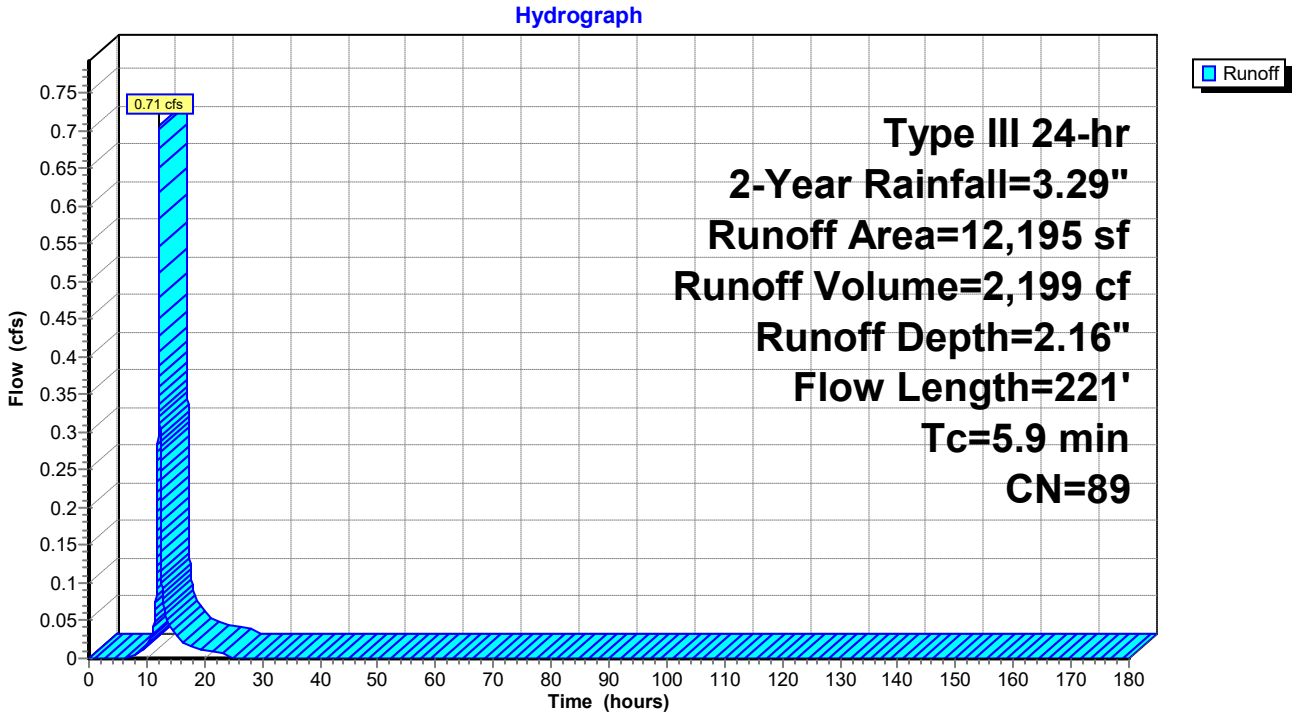
Runoff = 0.71 cfs @ 12.09 hrs, Volume= 2,199 cf, Depth= 2.16"
Routed to Pond IT6 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
6,134	80	Pasture/grassland/range, Good, HSG D
1,949	96	Gravel surface, HSG D
111	98	Water Surface, 0% imp, HSG D
4,001	98	Unconnected pavement, HSG D
12,195	89	Weighted Average
8,194		67.19% Pervious Area
4,001		32.81% Impervious Area
4,001		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	20	0.1106	0.28		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
0.3	18	0.0284	1.14		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
3.6	62	0.0669	0.28		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
0.4	80	0.0389	3.18		**Shallow Concentrated Flow, DE** Unpaved Kv= 16.1 fps
0.1	13	0.1529	2.74		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
0.3	28	0.0705	1.86		**Shallow Concentrated Flow, FG** Short Grass Pasture Kv= 7.0 fps
5.9	221	Total			

Subcatchment IT6-S: IT6 Subcat



Hydrograph for Subcatchment IT6-S: IT6 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.01	0.00
10.00	0.62	0.09	0.02
12.00	1.64	0.74	**0.42**
14.00	2.67	1.60	**0.04**
16.00	2.91	1.82	0.02
18.00	3.05	1.95	0.01
20.00	3.15	2.03	0.01
22.00	3.23	2.11	0.01
24.00	**3.29**	**2.16**	0.01
26.00	3.29	2.16	0.00
28.00	3.29	2.16	0.00
30.00	3.29	2.16	0.00
32.00	3.29	2.16	0.00
34.00	3.29	2.16	0.00
36.00	3.29	2.16	0.00
38.00	3.29	2.16	0.00
40.00	3.29	2.16	0.00
42.00	3.29	2.16	0.00
44.00	3.29	2.16	0.00
46.00	3.29	2.16	0.00
48.00	3.29	2.16	0.00
50.00	3.29	2.16	0.00
52.00	3.29	2.16	0.00
54.00	3.29	2.16	0.00
56.00	3.29	2.16	0.00
58.00	3.29	2.16	0.00
60.00	3.29	2.16	0.00
62.00	3.29	2.16	0.00
64.00	3.29	2.16	0.00
66.00	3.29	2.16	0.00
68.00	3.29	2.16	0.00
70.00	3.29	2.16	0.00
72.00	3.29	2.16	0.00
74.00	3.29	2.16	0.00
76.00	3.29	2.16	0.00
78.00	3.29	2.16	0.00
80.00	3.29	2.16	0.00
82.00	3.29	2.16	0.00
84.00	3.29	2.16	0.00
86.00	3.29	2.16	0.00
88.00	3.29	2.16	0.00
90.00	3.29	2.16	0.00
92.00	3.29	2.16	0.00
94.00	3.29	2.16	0.00
96.00	3.29	2.16	0.00
98.00	3.29	2.16	0.00
100.00	3.29	2.16	0.00
102.00	3.29	2.16	0.00
104.00	3.29	2.16	0.00
106.00	3.29	2.16	0.00
108.00	3.29	2.16	0.00
110.00	3.29	2.16	0.00
112.00	3.29	2.16	0.00
114.00	3.29	2.16	0.00
116.00	3.29	2.16	0.00
118.00	3.29	2.16	0.00
120.00	3.29	2.16	0.00
122.00	3.29	2.16	0.00
124.00	3.29	2.16	0.00
126.00	3.29	2.16	0.00
128.00	3.29	2.16	0.00
130.00	3.29	2.16	0.00
132.00	3.29	2.16	0.00
134.00	3.29	2.16	0.00
136.00	3.29	2.16	0.00
138.00	3.29	2.16	0.00
140.00	3.29	2.16	0.00
142.00	3.29	2.16	0.00
144.00	3.29	2.16	0.00
146.00	3.29	2.16	0.00
148.00	3.29	2.16	0.00
150.00	3.29	2.16	0.00
152.00	3.29	2.16	0.00
154.00	3.29	2.16	0.00
156.00	3.29	2.16	0.00
158.00	3.29	2.16	0.00
160.00	3.29	2.16	0.00
162.00	3.29	2.16	0.00
164.00	3.29	2.16	0.00
166.00	3.29	2.16	0.00
168.00	3.29	2.16	0.00
170.00	3.29	2.16	0.00
172.00	3.29	2.16	0.00
174.00	3.29	2.16	0.00
176.00	3.29	2.16	0.00
178.00	3.29	2.16	0.00
180.00	3.29	2.16	0.00

Summary for Subcatchment P-M: Middle

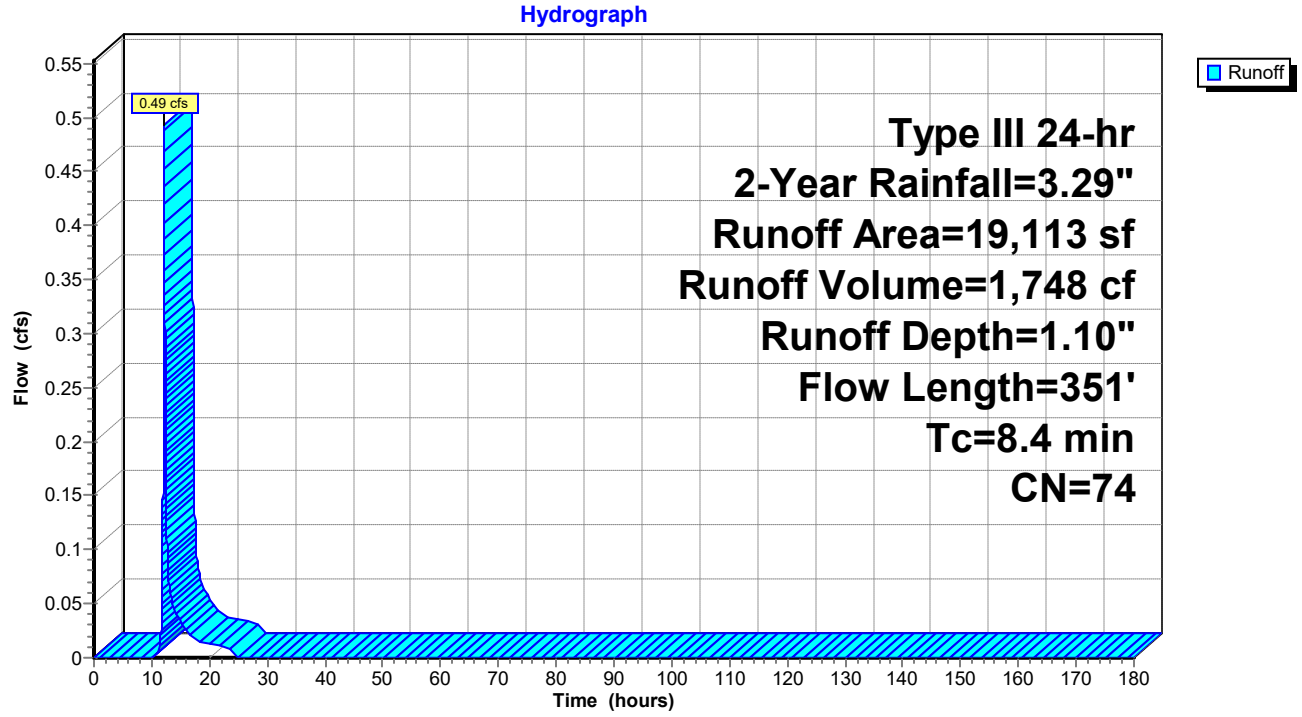
Runoff = 0.49 cfs @ 12.13 hrs, Volume= 1,748 cf, Depth= 1.10"
Routed to Reach P-2P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
19,109	74	Pasture/grassland/range, Good, HSG C
4	98	Unconnected pavement, HSG C
19,113	74	Weighted Average
19,109		99.98% Pervious Area
4		0.02% Impervious Area
4		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	95	0.0626	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
2.3	214	0.0510	1.58		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.9	42	0.0126	0.79		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
8.4	351	Total			

Subcatchment P-M: Middle



Hydrograph for Subcatchment P-M: Middle

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.00	0.00
12.00	1.64	0.20	**0.21**
14.00	2.67	0.71	**0.04**
16.00	2.91	0.85	0.02
18.00	3.05	0.94	0.02
20.00	3.15	1.00	0.01
22.00	3.23	1.06	0.01
24.00	**3.29**	**1.10**	0.01
26.00	3.29	1.10	0.00
28.00	3.29	1.10	0.00
30.00	3.29	1.10	0.00
32.00	3.29	1.10	0.00
34.00	3.29	1.10	0.00
36.00	3.29	1.10	0.00
38.00	3.29	1.10	0.00
40.00	3.29	1.10	0.00
42.00	3.29	1.10	0.00
44.00	3.29	1.10	0.00
46.00	3.29	1.10	0.00
48.00	3.29	1.10	0.00
50.00	3.29	1.10	0.00
52.00	3.29	1.10	0.00
54.00	3.29	1.10	0.00
56.00	3.29	1.10	0.00
58.00	3.29	1.10	0.00
60.00	3.29	1.10	0.00
62.00	3.29	1.10	0.00
64.00	3.29	1.10	0.00
66.00	3.29	1.10	0.00
68.00	3.29	1.10	0.00
70.00	3.29	1.10	0.00
72.00	3.29	1.10	0.00
74.00	3.29	1.10	0.00
76.00	3.29	1.10	0.00
78.00	3.29	1.10	0.00
80.00	3.29	1.10	0.00
82.00	3.29	1.10	0.00
84.00	3.29	1.10	0.00
86.00	3.29	1.10	0.00
88.00	3.29	1.10	0.00
90.00	3.29	1.10	0.00
92.00	3.29	1.10	0.00
94.00	3.29	1.10	0.00
96.00	3.29	1.10	0.00
98.00	3.29	1.10	0.00
100.00	3.29	1.10	0.00
102.00	3.29	1.10	0.00
104.00	3.29	1.10	0.00
106.00	3.29	1.10	0.00
108.00	3.29	1.10	0.00
110.00	3.29	1.10	0.00
112.00	3.29	1.10	0.00
114.00	3.29	1.10	0.00
116.00	3.29	1.10	0.00
118.00	3.29	1.10	0.00
120.00	3.29	1.10	0.00
122.00	3.29	1.10	0.00
124.00	3.29	1.10	0.00
126.00	3.29	1.10	0.00
128.00	3.29	1.10	0.00
130.00	3.29	1.10	0.00
132.00	3.29	1.10	0.00
134.00	3.29	1.10	0.00
136.00	3.29	1.10	0.00
138.00	3.29	1.10	0.00
140.00	3.29	1.10	0.00
142.00	3.29	1.10	0.00
144.00	3.29	1.10	0.00
146.00	3.29	1.10	0.00
148.00	3.29	1.10	0.00
150.00	3.29	1.10	0.00
152.00	3.29	1.10	0.00
154.00	3.29	1.10	0.00
156.00	3.29	1.10	0.00
158.00	3.29	1.10	0.00
160.00	3.29	1.10	0.00
162.00	3.29	1.10	0.00
164.00	3.29	1.10	0.00
166.00	3.29	1.10	0.00
168.00	3.29	1.10	0.00
170.00	3.29	1.10	0.00
172.00	3.29	1.10	0.00
174.00	3.29	1.10	0.00
176.00	3.29	1.10	0.00
178.00	3.29	1.10	0.00
180.00	3.29	1.10	0.00

Summary for Subcatchment P-ME: Middle East

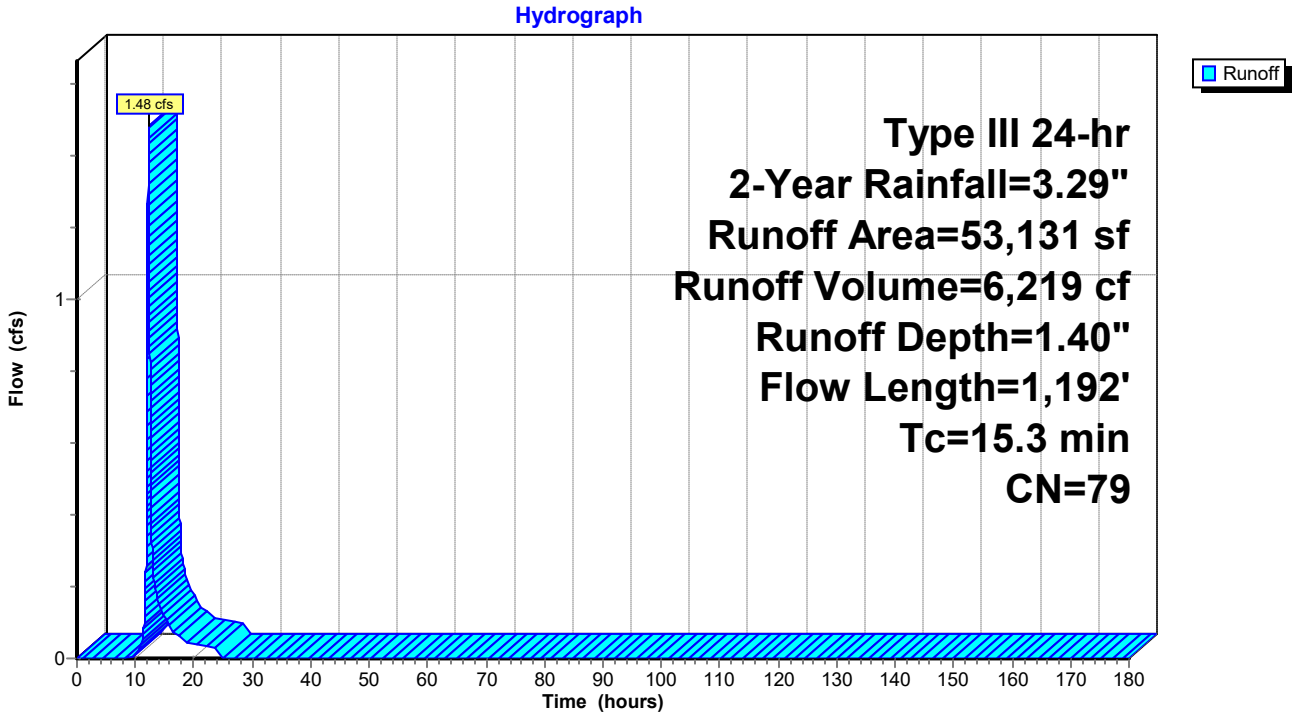
Runoff = 1.48 cfs @ 12.22 hrs, Volume= 6,219 cf, Depth= 1.40"
Routed to Pond P-3P : 12" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
10,238	74	Pasture/grassland/range, Good, HSG C
42,873	80	Pasture/grassland/range, Good, HSG D
4	98	Unconnected pavement, HSG C
16	98	Unconnected pavement, HSG D
53,131	79	Weighted Average
53,111		99.96% Pervious Area
20		0.04% Impervious Area
20		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	100	0.0678	0.32		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
8.5	844	0.0563	1.66		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.5	140	0.0339	4.82	13.25	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 3.0 '/' Top.W=7.00' n= 0.030 Earth, grassed & winding
1.0	108	0.0650	1.78		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
15.3	1,192	Total			

Subcatchment P-ME: Middle East



Hydrograph for Subcatchment P-ME: Middle East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	3.29	1.40	0.00
2.00	0.07	0.00	0.00	106.00	3.29	1.40	0.00
4.00	0.14	0.00	0.00	108.00	3.29	1.40	0.00
6.00	0.24	0.00	0.00	110.00	3.29	1.40	0.00
8.00	0.38	0.00	0.00	112.00	3.29	1.40	0.00
10.00	0.62	0.00	0.01	114.00	3.29	1.40	0.00
12.00	1.64	0.33	**0.55**	116.00	3.29	1.40	0.00
14.00	2.67	0.95	**0.15**	118.00	3.29	1.40	0.00
16.00	2.91	1.13	0.08	120.00	3.29	1.40	0.00
18.00	3.05	1.23	0.05	122.00	3.29	1.40	0.00
20.00	3.15	1.30	0.04	124.00	3.29	1.40	0.00
22.00	3.23	1.36	0.03	126.00	3.29	1.40	0.00
24.00	**3.29**	**1.40**	0.03	128.00	3.29	1.40	0.00
26.00	3.29	1.40	0.00	130.00	3.29	1.40	0.00
28.00	3.29	1.40	0.00	132.00	3.29	1.40	0.00
30.00	3.29	1.40	0.00	134.00	3.29	1.40	0.00
32.00	3.29	1.40	0.00	136.00	3.29	1.40	0.00
34.00	3.29	1.40	0.00	138.00	3.29	1.40	0.00
36.00	3.29	1.40	0.00	140.00	3.29	1.40	0.00
38.00	3.29	1.40	0.00	142.00	3.29	1.40	0.00
40.00	3.29	1.40	0.00	144.00	3.29	1.40	0.00
42.00	3.29	1.40	0.00	146.00	3.29	1.40	0.00
44.00	3.29	1.40	0.00	148.00	3.29	1.40	0.00
46.00	3.29	1.40	0.00	150.00	3.29	1.40	0.00
48.00	3.29	1.40	0.00	152.00	3.29	1.40	0.00
50.00	3.29	1.40	0.00	154.00	3.29	1.40	0.00
52.00	3.29	1.40	0.00	156.00	3.29	1.40	0.00
54.00	3.29	1.40	0.00	158.00	3.29	1.40	0.00
56.00	3.29	1.40	0.00	160.00	3.29	1.40	0.00
58.00	3.29	1.40	0.00	162.00	3.29	1.40	0.00
60.00	3.29	1.40	0.00	164.00	3.29	1.40	0.00
62.00	3.29	1.40	0.00	166.00	3.29	1.40	0.00
64.00	3.29	1.40	0.00	168.00	3.29	1.40	0.00
66.00	3.29	1.40	0.00	170.00	3.29	1.40	0.00
68.00	3.29	1.40	0.00	172.00	3.29	1.40	0.00
70.00	3.29	1.40	0.00	174.00	3.29	1.40	0.00
72.00	3.29	1.40	0.00	176.00	3.29	1.40	0.00
74.00	3.29	1.40	0.00	178.00	3.29	1.40	0.00
76.00	3.29	1.40	0.00	180.00	3.29	1.40	0.00
78.00	3.29	1.40	0.00				
80.00	3.29	1.40	0.00				
82.00	3.29	1.40	0.00				
84.00	3.29	1.40	0.00				
86.00	3.29	1.40	0.00				
88.00	3.29	1.40	0.00				
90.00	3.29	1.40	0.00				
92.00	3.29	1.40	0.00				
94.00	3.29	1.40	0.00				
96.00	3.29	1.40	0.00				
98.00	3.29	1.40	0.00				
100.00	3.29	1.40	0.00				
102.00	3.29	1.40	0.00				

Summary for Subcatchment P-MW: Middle West

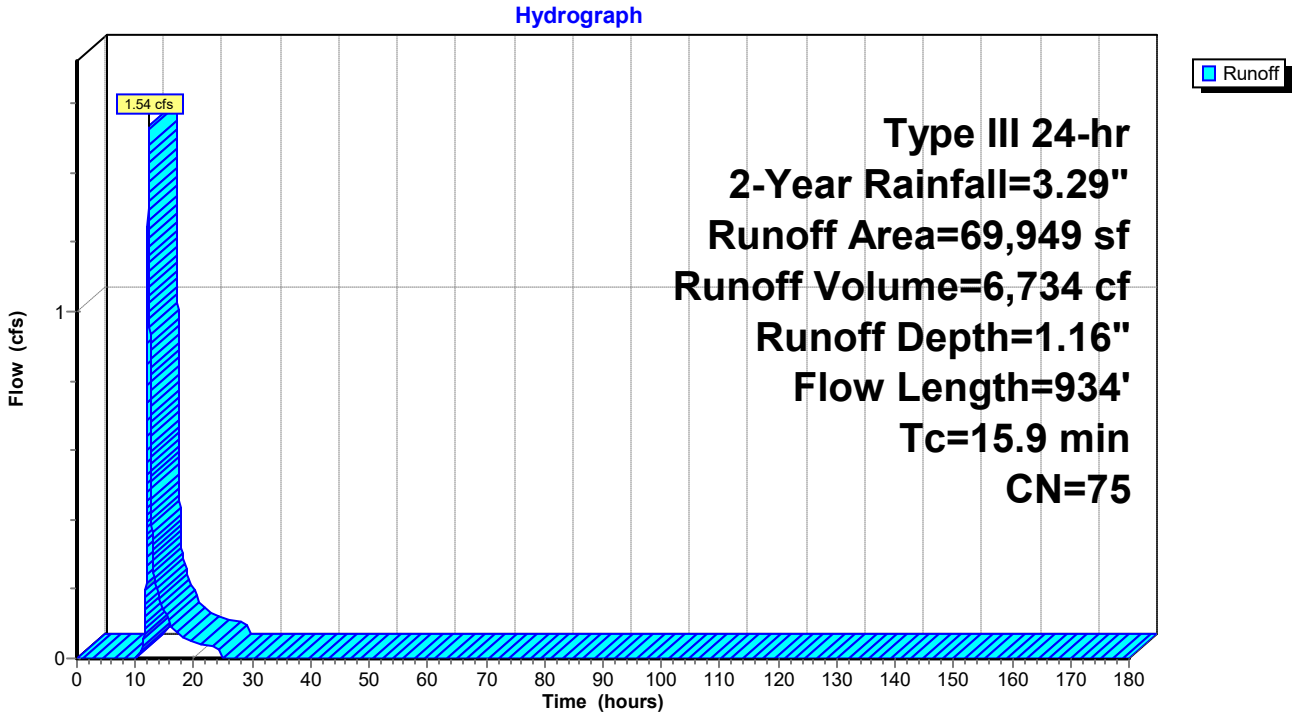
Runoff = 1.54 cfs @ 12.24 hrs, Volume= 6,734 cf, Depth= 1.16"
Routed to Reach P-1P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
54,727	74	Pasture/grassland/range, Good, HSG C
15,200	80	Pasture/grassland/range, Good, HSG D
15	98	Unconnected pavement, HSG C
7	98	Unconnected pavement, HSG D
69,949	75	Weighted Average
69,927		99.97% Pervious Area
22		0.03% Impervious Area
22		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.0582	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.2	695	0.0716	1.87		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
4.1	139	0.0066	0.57		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
15.9	934	Total			

Subcatchment P-MW: Middle West



Hydrograph for Subcatchment P-MW: Middle 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	104.00	3.29	1.16	0.00
2.00	0.07	0.00	0.00	106.00	3.29	1.16	0.00
4.00	0.14	0.00	0.00	108.00	3.29	1.16	0.00
6.00	0.24	0.00	0.00	110.00	3.29	1.16	0.00
8.00	0.38	0.00	0.00	112.00	3.29	1.16	0.00
10.00	0.62	0.00	0.00	114.00	3.29	1.16	0.00
12.00	1.64	0.22	**0.50**	116.00	3.29	1.16	0.00
14.00	2.67	0.75	**0.18**	118.00	3.29	1.16	0.00
16.00	2.91	0.91	0.10	120.00	3.29	1.16	0.00
18.00	3.05	1.00	0.06	122.00	3.29	1.16	0.00
20.00	3.15	1.06	0.05	124.00	3.29	1.16	0.00
22.00	3.23	1.11	0.04	126.00	3.29	1.16	0.00
24.00	**3.29**	**1.16**	0.03	128.00	3.29	1.16	0.00
26.00	3.29	1.16	0.00	130.00	3.29	1.16	0.00
28.00	3.29	1.16	0.00	132.00	3.29	1.16	0.00
30.00	3.29	1.16	0.00	134.00	3.29	1.16	0.00
32.00	3.29	1.16	0.00	136.00	3.29	1.16	0.00
34.00	3.29	1.16	0.00	138.00	3.29	1.16	0.00
36.00	3.29	1.16	0.00	140.00	3.29	1.16	0.00
38.00	3.29	1.16	0.00	142.00	3.29	1.16	0.00
40.00	3.29	1.16	0.00	144.00	3.29	1.16	0.00
42.00	3.29	1.16	0.00	146.00	3.29	1.16	0.00
44.00	3.29	1.16	0.00	148.00	3.29	1.16	0.00
46.00	3.29	1.16	0.00	150.00	3.29	1.16	0.00
48.00	3.29	1.16	0.00	152.00	3.29	1.16	0.00
50.00	3.29	1.16	0.00	154.00	3.29	1.16	0.00
52.00	3.29	1.16	0.00	156.00	3.29	1.16	0.00
54.00	3.29	1.16	0.00	158.00	3.29	1.16	0.00
56.00	3.29	1.16	0.00	160.00	3.29	1.16	0.00
58.00	3.29	1.16	0.00	162.00	3.29	1.16	0.00
60.00	3.29	1.16	0.00	164.00	3.29	1.16	0.00
62.00	3.29	1.16	0.00	166.00	3.29	1.16	0.00
64.00	3.29	1.16	0.00	168.00	3.29	1.16	0.00
66.00	3.29	1.16	0.00	170.00	3.29	1.16	0.00
68.00	3.29	1.16	0.00	172.00	3.29	1.16	0.00
70.00	3.29	1.16	0.00	174.00	3.29	1.16	0.00
72.00	3.29	1.16	0.00	176.00	3.29	1.16	0.00
74.00	3.29	1.16	0.00	178.00	3.29	1.16	0.00
76.00	3.29	1.16	0.00	180.00	3.29	1.16	0.00
78.00	3.29	1.16	0.00				
80.00	3.29	1.16	0.00				
82.00	3.29	1.16	0.00				
84.00	3.29	1.16	0.00				
86.00	3.29	1.16	0.00				
88.00	3.29	1.16	0.00				
90.00	3.29	1.16	0.00				
92.00	3.29	1.16	0.00				
94.00	3.29	1.16	0.00				
96.00	3.29	1.16	0.00				
98.00	3.29	1.16	0.00				
100.00	3.29	1.16	0.00				
102.00	3.29	1.16	0.00				

Summary for Subcatchment P-N1: North 1

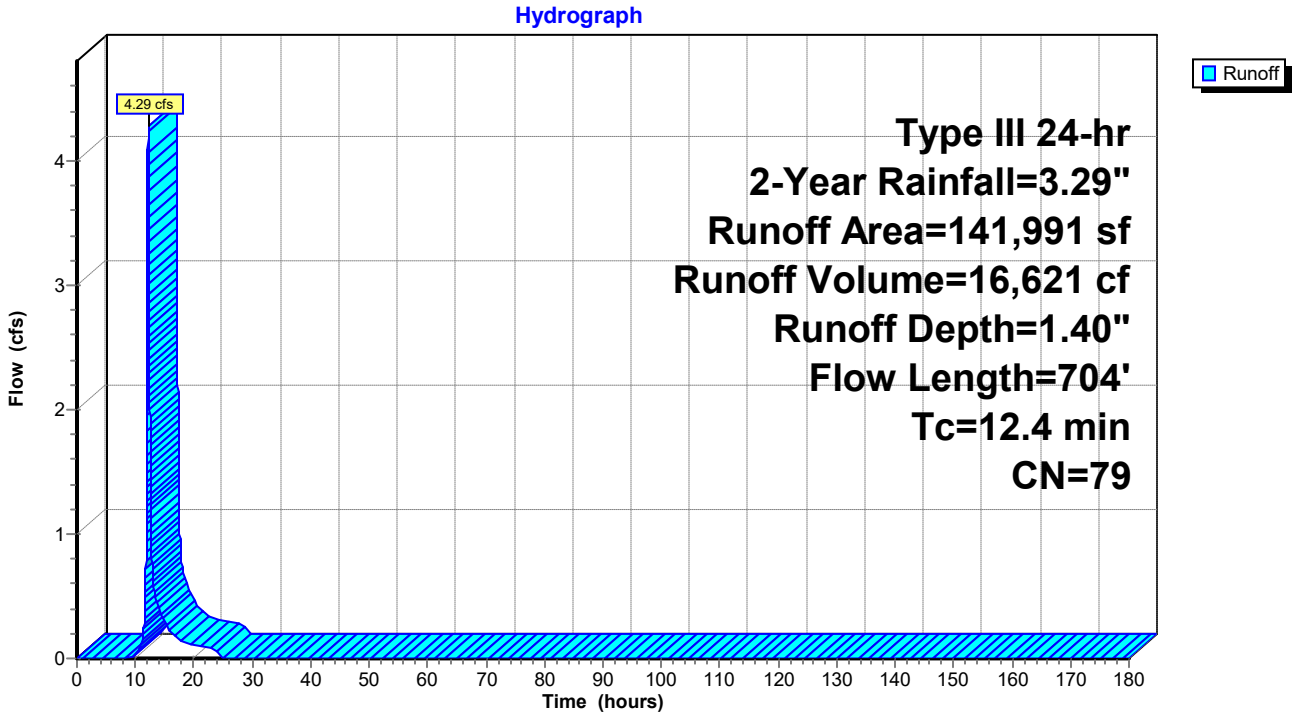
Runoff = 4.29 cfs @ 12.18 hrs, Volume= 16,621 cf, Depth= 1.40"
Routed to Link P-6L : Lag

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
114,081	80	Pasture/grassland/range, Good, HSG D
27,872	77	Woods, Good, HSG D
38	98	Unconnected pavement, HSG D
141,991	79	Weighted Average
141,953		99.97% Pervious Area
38		0.03% Impervious Area
38		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	10	0.0949	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	90	0.0691	0.31		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
4.2	481	0.0745	1.91		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
1.6	123	0.0667	1.29		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
12.4	704	Total			

Subcatchment P-N1: North 1



Hydrograph for Subcatchment P-N1: North 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.00	0.02
12.00	1.64	0.33	**1.73**
14.00	2.67	0.95	**0.40**
16.00	2.91	1.13	0.22
18.00	3.05	1.23	0.13
20.00	3.15	1.30	0.11
22.00	3.23	1.36	0.09
24.00	**3.29**	**1.40**	0.07
26.00	3.29	1.40	0.00
28.00	3.29	1.40	0.00
30.00	3.29	1.40	0.00
32.00	3.29	1.40	0.00
34.00	3.29	1.40	0.00
36.00	3.29	1.40	0.00
38.00	3.29	1.40	0.00
40.00	3.29	1.40	0.00
42.00	3.29	1.40	0.00
44.00	3.29	1.40	0.00
46.00	3.29	1.40	0.00
48.00	3.29	1.40	0.00
50.00	3.29	1.40	0.00
52.00	3.29	1.40	0.00
54.00	3.29	1.40	0.00
56.00	3.29	1.40	0.00
58.00	3.29	1.40	0.00
60.00	3.29	1.40	0.00
62.00	3.29	1.40	0.00
64.00	3.29	1.40	0.00
66.00	3.29	1.40	0.00
68.00	3.29	1.40	0.00
70.00	3.29	1.40	0.00
72.00	3.29	1.40	0.00
74.00	3.29	1.40	0.00
76.00	3.29	1.40	0.00
78.00	3.29	1.40	0.00
80.00	3.29	1.40	0.00
82.00	3.29	1.40	0.00
84.00	3.29	1.40	0.00
86.00	3.29	1.40	0.00
88.00	3.29	1.40	0.00
90.00	3.29	1.40	0.00
92.00	3.29	1.40	0.00
94.00	3.29	1.40	0.00
96.00	3.29	1.40	0.00
98.00	3.29	1.40	0.00
100.00	3.29	1.40	0.00
102.00	3.29	1.40	0.00
104.00	3.29	1.40	0.00
106.00	3.29	1.40	0.00
108.00	3.29	1.40	0.00
110.00	3.29	1.40	0.00
112.00	3.29	1.40	0.00
114.00	3.29	1.40	0.00
116.00	3.29	1.40	0.00
118.00	3.29	1.40	0.00
120.00	3.29	1.40	0.00
122.00	3.29	1.40	0.00
124.00	3.29	1.40	0.00
126.00	3.29	1.40	0.00
128.00	3.29	1.40	0.00
130.00	3.29	1.40	0.00
132.00	3.29	1.40	0.00
134.00	3.29	1.40	0.00
136.00	3.29	1.40	0.00
138.00	3.29	1.40	0.00
140.00	3.29	1.40	0.00
142.00	3.29	1.40	0.00
144.00	3.29	1.40	0.00
146.00	3.29	1.40	0.00
148.00	3.29	1.40	0.00
150.00	3.29	1.40	0.00
152.00	3.29	1.40	0.00
154.00	3.29	1.40	0.00
156.00	3.29	1.40	0.00
158.00	3.29	1.40	0.00
160.00	3.29	1.40	0.00
162.00	3.29	1.40	0.00
164.00	3.29	1.40	0.00
166.00	3.29	1.40	0.00
168.00	3.29	1.40	0.00
170.00	3.29	1.40	0.00
172.00	3.29	1.40	0.00
174.00	3.29	1.40	0.00
176.00	3.29	1.40	0.00
178.00	3.29	1.40	0.00
180.00	3.29	1.40	0.00

Summary for Subcatchment P-N2: North 2

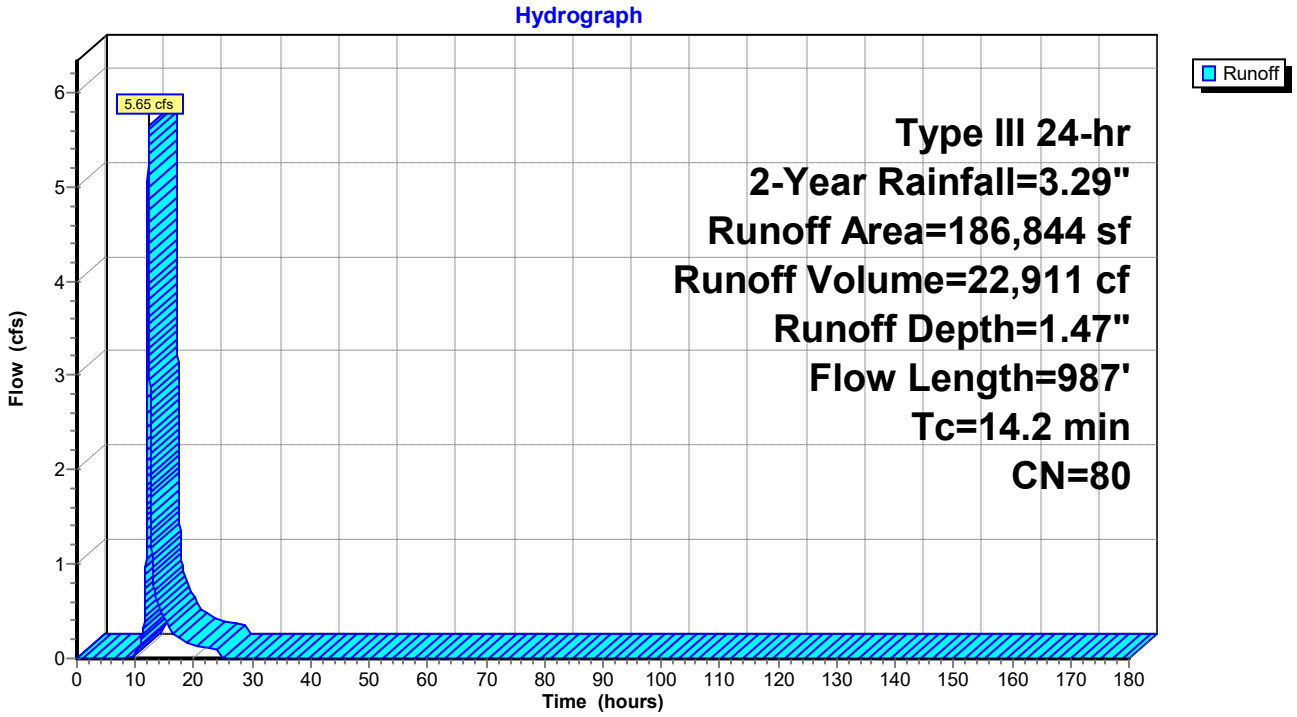
Runoff = 5.65 cfs @ 12.20 hrs, Volume= 22,911 cf, Depth= 1.47"
Routed to Pond 12P : Water Quality Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
185,396	80	Pasture/grassland/range, Good, HSG D
1,382	77	Woods, Good, HSG D
66	98	Unconnected pavement, HSG D
186,844	80	Weighted Average
186,778		99.96% Pervious Area
66		0.04% Impervious Area
66		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0849	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.7	85	0.0656	0.30		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
6.1	651	0.0636	1.77		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.6	153	0.0043	4.04	24.24	**Parabolic Channel, DE** W=6.00' D=1.50' Area=6.0 sf Perim=6.9' n= 0.022 Earth, clean & straight
0.2	69	0.0145	5.93	23.74	**Parabolic Channel, EF** W=6.00' D=1.00' Area=4.0 sf Perim=6.4' n= 0.022 Earth, clean & straight
0.0	14	0.0990	15.51	62.02	**Parabolic Channel, FG** W=6.00' D=1.00' Area=4.0 sf Perim=6.4' n= 0.022 Earth, clean & straight
14.2	987	Total			

Subcatchment P-N2: North 2



Hydrograph for Subcatchment P-N2: North 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	3.29	1.47	0.00
2.00	0.07	0.00	0.00	106.00	3.29	1.47	0.00
4.00	0.14	0.00	0.00	108.00	3.29	1.47	0.00
6.00	0.24	0.00	0.00	110.00	3.29	1.47	0.00
8.00	0.38	0.00	0.00	112.00	3.29	1.47	0.00
10.00	0.62	0.01	0.04	114.00	3.29	1.47	0.00
12.00	1.64	0.36	**2.20**	116.00	3.29	1.47	0.00
14.00	2.67	1.01	**0.55**	118.00	3.29	1.47	0.00
16.00	2.91	1.19	0.30	120.00	3.29	1.47	0.00
18.00	3.05	1.29	0.18	122.00	3.29	1.47	0.00
20.00	3.15	1.36	0.14	124.00	3.29	1.47	0.00
22.00	3.23	1.42	0.12	126.00	3.29	1.47	0.00
24.00	**3.29**	**1.47**	0.10	128.00	3.29	1.47	0.00
26.00	3.29	1.47	0.00	130.00	3.29	1.47	0.00
28.00	3.29	1.47	0.00	132.00	3.29	1.47	0.00
30.00	3.29	1.47	0.00	134.00	3.29	1.47	0.00
32.00	3.29	1.47	0.00	136.00	3.29	1.47	0.00
34.00	3.29	1.47	0.00	138.00	3.29	1.47	0.00
36.00	3.29	1.47	0.00	140.00	3.29	1.47	0.00
38.00	3.29	1.47	0.00	142.00	3.29	1.47	0.00
40.00	3.29	1.47	0.00	144.00	3.29	1.47	0.00
42.00	3.29	1.47	0.00	146.00	3.29	1.47	0.00
44.00	3.29	1.47	0.00	148.00	3.29	1.47	0.00
46.00	3.29	1.47	0.00	150.00	3.29	1.47	0.00
48.00	3.29	1.47	0.00	152.00	3.29	1.47	0.00
50.00	3.29	1.47	0.00	154.00	3.29	1.47	0.00
52.00	3.29	1.47	0.00	156.00	3.29	1.47	0.00
54.00	3.29	1.47	0.00	158.00	3.29	1.47	0.00
56.00	3.29	1.47	0.00	160.00	3.29	1.47	0.00
58.00	3.29	1.47	0.00	162.00	3.29	1.47	0.00
60.00	3.29	1.47	0.00	164.00	3.29	1.47	0.00
62.00	3.29	1.47	0.00	166.00	3.29	1.47	0.00
64.00	3.29	1.47	0.00	168.00	3.29	1.47	0.00
66.00	3.29	1.47	0.00	170.00	3.29	1.47	0.00
68.00	3.29	1.47	0.00	172.00	3.29	1.47	0.00
70.00	3.29	1.47	0.00	174.00	3.29	1.47	0.00
72.00	3.29	1.47	0.00	176.00	3.29	1.47	0.00
74.00	3.29	1.47	0.00	178.00	3.29	1.47	0.00
76.00	3.29	1.47	0.00	180.00	3.29	1.47	0.00
78.00	3.29	1.47	0.00				
80.00	3.29	1.47	0.00				
82.00	3.29	1.47	0.00				
84.00	3.29	1.47	0.00				
86.00	3.29	1.47	0.00				
88.00	3.29	1.47	0.00				
90.00	3.29	1.47	0.00				
92.00	3.29	1.47	0.00				
94.00	3.29	1.47	0.00				
96.00	3.29	1.47	0.00				
98.00	3.29	1.47	0.00				
100.00	3.29	1.47	0.00				
102.00	3.29	1.47	0.00				

Summary for Subcatchment P-NE1: North East 1

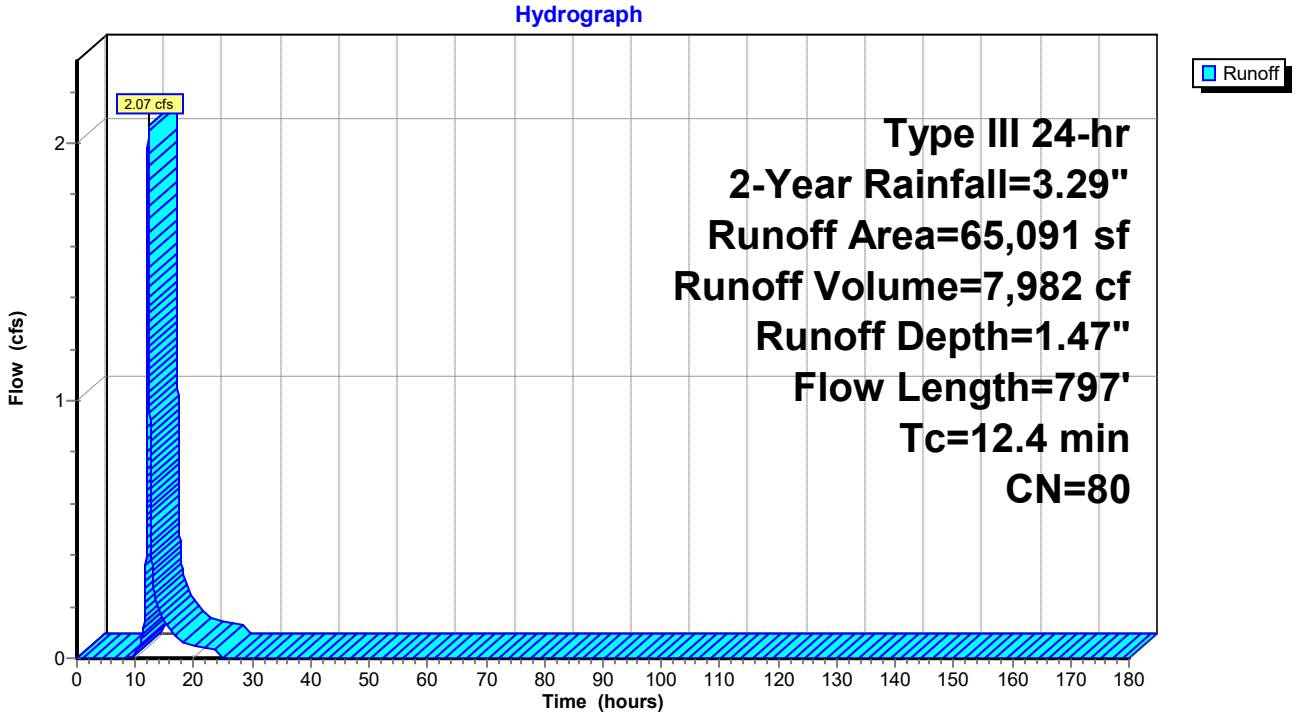
Runoff = 2.07 cfs @ 12.17 hrs, Volume= 7,982 cf, Depth= 1.47"
Routed to Pond P-4P : 2x15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
55,615	80	Pasture/grassland/range, Good, HSG D
9,465	77	Woods, Good, HSG D
11	98	Unconnected pavement, HSG D
65,091	80	Weighted Average
65,080		99.98% Pervious Area
11		0.02% Impervious Area
11		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	100	0.0539	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.6	697	0.0626	1.75		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
12.4	797	Total			

Subcatchment P-NE1: North East 1



Hydrograph for Subcatchment P-NE1: North East 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	3.29	1.47	0.00
2.00	0.07	0.00	0.00	106.00	3.29	1.47	0.00
4.00	0.14	0.00	0.00	108.00	3.29	1.47	0.00
6.00	0.24	0.00	0.00	110.00	3.29	1.47	0.00
8.00	0.38	0.00	0.00	112.00	3.29	1.47	0.00
10.00	0.62	0.01	0.02	114.00	3.29	1.47	0.00
12.00	1.64	0.36	**0.85**	116.00	3.29	1.47	0.00
14.00	2.67	1.01	**0.19**	118.00	3.29	1.47	0.00
16.00	2.91	1.19	0.10	120.00	3.29	1.47	0.00
18.00	3.05	1.29	0.06	122.00	3.29	1.47	0.00
20.00	3.15	1.36	0.05	124.00	3.29	1.47	0.00
22.00	3.23	1.42	0.04	126.00	3.29	1.47	0.00
24.00	**3.29**	**1.47**	0.03	128.00	3.29	1.47	0.00
26.00	3.29	1.47	0.00	130.00	3.29	1.47	0.00
28.00	3.29	1.47	0.00	132.00	3.29	1.47	0.00
30.00	3.29	1.47	0.00	134.00	3.29	1.47	0.00
32.00	3.29	1.47	0.00	136.00	3.29	1.47	0.00
34.00	3.29	1.47	0.00	138.00	3.29	1.47	0.00
36.00	3.29	1.47	0.00	140.00	3.29	1.47	0.00
38.00	3.29	1.47	0.00	142.00	3.29	1.47	0.00
40.00	3.29	1.47	0.00	144.00	3.29	1.47	0.00
42.00	3.29	1.47	0.00	146.00	3.29	1.47	0.00
44.00	3.29	1.47	0.00	148.00	3.29	1.47	0.00
46.00	3.29	1.47	0.00	150.00	3.29	1.47	0.00
48.00	3.29	1.47	0.00	152.00	3.29	1.47	0.00
50.00	3.29	1.47	0.00	154.00	3.29	1.47	0.00
52.00	3.29	1.47	0.00	156.00	3.29	1.47	0.00
54.00	3.29	1.47	0.00	158.00	3.29	1.47	0.00
56.00	3.29	1.47	0.00	160.00	3.29	1.47	0.00
58.00	3.29	1.47	0.00	162.00	3.29	1.47	0.00
60.00	3.29	1.47	0.00	164.00	3.29	1.47	0.00
62.00	3.29	1.47	0.00	166.00	3.29	1.47	0.00
64.00	3.29	1.47	0.00	168.00	3.29	1.47	0.00
66.00	3.29	1.47	0.00	170.00	3.29	1.47	0.00
68.00	3.29	1.47	0.00	172.00	3.29	1.47	0.00
70.00	3.29	1.47	0.00	174.00	3.29	1.47	0.00
72.00	3.29	1.47	0.00	176.00	3.29	1.47	0.00
74.00	3.29	1.47	0.00	178.00	3.29	1.47	0.00
76.00	3.29	1.47	0.00	180.00	3.29	1.47	0.00
78.00	3.29	1.47	0.00				
80.00	3.29	1.47	0.00				
82.00	3.29	1.47	0.00				
84.00	3.29	1.47	0.00				
86.00	3.29	1.47	0.00				
88.00	3.29	1.47	0.00				
90.00	3.29	1.47	0.00				
92.00	3.29	1.47	0.00				
94.00	3.29	1.47	0.00				
96.00	3.29	1.47	0.00				
98.00	3.29	1.47	0.00				
100.00	3.29	1.47	0.00				
102.00	3.29	1.47	0.00				

Summary for Subcatchment P-NE2: North East 2

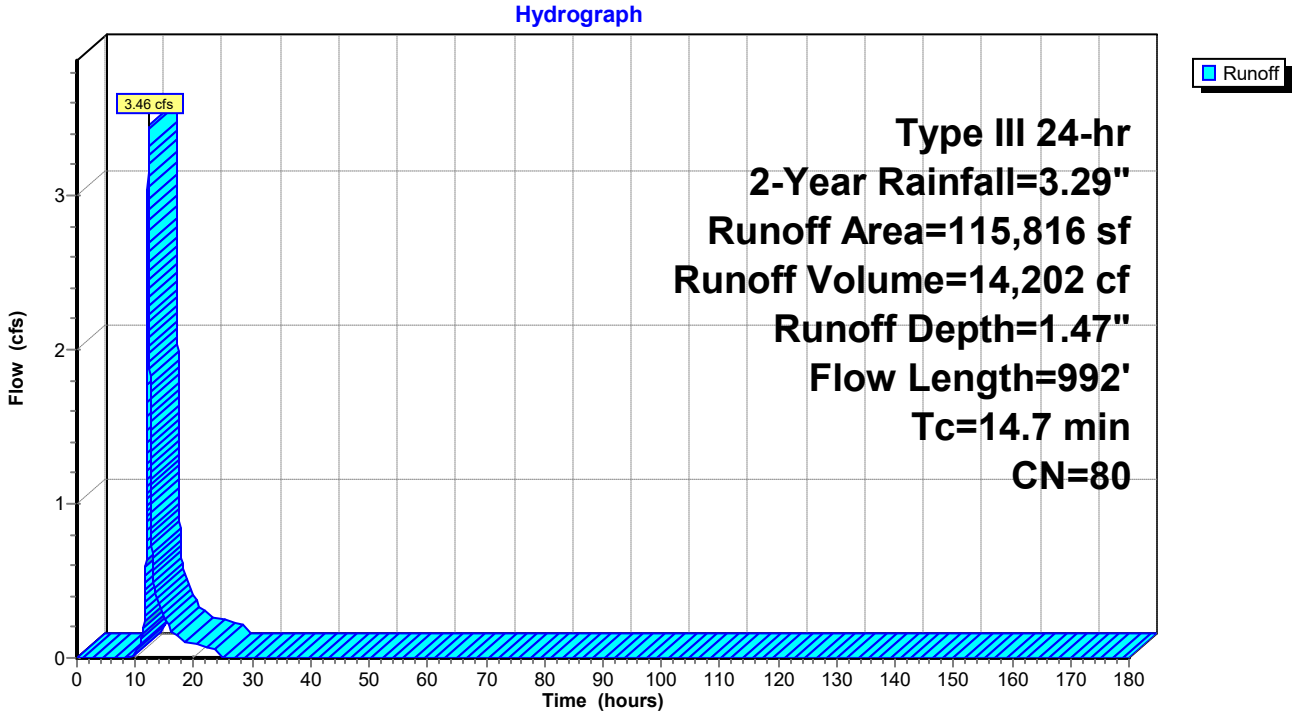
Runoff = 3.46 cfs @ 12.20 hrs, Volume= 14,202 cf, Depth= 1.47"
Routed to Pond 3.5P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
115,767	80	Pasture/grassland/range, Good, HSG D
49	98	Unconnected pavement, HSG D
115,816	80	Weighted Average
115,767		99.96% Pervious Area
49		0.04% Impervious Area
49		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0558	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
9.0	892	0.0554	1.65		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
14.7	992	Total			

Subcatchment P-NE2: North East 2



Hydrograph for Subcatchment P-NE2: North East 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.01	0.03
12.00	1.64	0.36	**1.33**
14.00	2.67	1.01	**0.34**
16.00	2.91	1.19	0.19
18.00	3.05	1.29	0.11
20.00	3.15	1.36	0.09
22.00	3.23	1.42	0.07
24.00	**3.29**	**1.47**	0.06
26.00	3.29	1.47	0.00
28.00	3.29	1.47	0.00
30.00	3.29	1.47	0.00
32.00	3.29	1.47	0.00
34.00	3.29	1.47	0.00
36.00	3.29	1.47	0.00
38.00	3.29	1.47	0.00
40.00	3.29	1.47	0.00
42.00	3.29	1.47	0.00
44.00	3.29	1.47	0.00
46.00	3.29	1.47	0.00
48.00	3.29	1.47	0.00
50.00	3.29	1.47	0.00
52.00	3.29	1.47	0.00
54.00	3.29	1.47	0.00
56.00	3.29	1.47	0.00
58.00	3.29	1.47	0.00
60.00	3.29	1.47	0.00
62.00	3.29	1.47	0.00
64.00	3.29	1.47	0.00
66.00	3.29	1.47	0.00
68.00	3.29	1.47	0.00
70.00	3.29	1.47	0.00
72.00	3.29	1.47	0.00
74.00	3.29	1.47	0.00
76.00	3.29	1.47	0.00
78.00	3.29	1.47	0.00
80.00	3.29	1.47	0.00
82.00	3.29	1.47	0.00
84.00	3.29	1.47	0.00
86.00	3.29	1.47	0.00
88.00	3.29	1.47	0.00
90.00	3.29	1.47	0.00
92.00	3.29	1.47	0.00
94.00	3.29	1.47	0.00
96.00	3.29	1.47	0.00
98.00	3.29	1.47	0.00
100.00	3.29	1.47	0.00
102.00	3.29	1.47	0.00
104.00	3.29	1.47	0.00
106.00	3.29	1.47	0.00
108.00	3.29	1.47	0.00
110.00	3.29	1.47	0.00
112.00	3.29	1.47	0.00
114.00	3.29	1.47	0.00
116.00	3.29	1.47	0.00
118.00	3.29	1.47	0.00
120.00	3.29	1.47	0.00
122.00	3.29	1.47	0.00
124.00	3.29	1.47	0.00
126.00	3.29	1.47	0.00
128.00	3.29	1.47	0.00
130.00	3.29	1.47	0.00
132.00	3.29	1.47	0.00
134.00	3.29	1.47	0.00
136.00	3.29	1.47	0.00
138.00	3.29	1.47	0.00
140.00	3.29	1.47	0.00
142.00	3.29	1.47	0.00
144.00	3.29	1.47	0.00
146.00	3.29	1.47	0.00
148.00	3.29	1.47	0.00
150.00	3.29	1.47	0.00
152.00	3.29	1.47	0.00
154.00	3.29	1.47	0.00
156.00	3.29	1.47	0.00
158.00	3.29	1.47	0.00
160.00	3.29	1.47	0.00
162.00	3.29	1.47	0.00
164.00	3.29	1.47	0.00
166.00	3.29	1.47	0.00
168.00	3.29	1.47	0.00
170.00	3.29	1.47	0.00
172.00	3.29	1.47	0.00
174.00	3.29	1.47	0.00
176.00	3.29	1.47	0.00
178.00	3.29	1.47	0.00
180.00	3.29	1.47	0.00

Summary for Subcatchment P-SE: South East

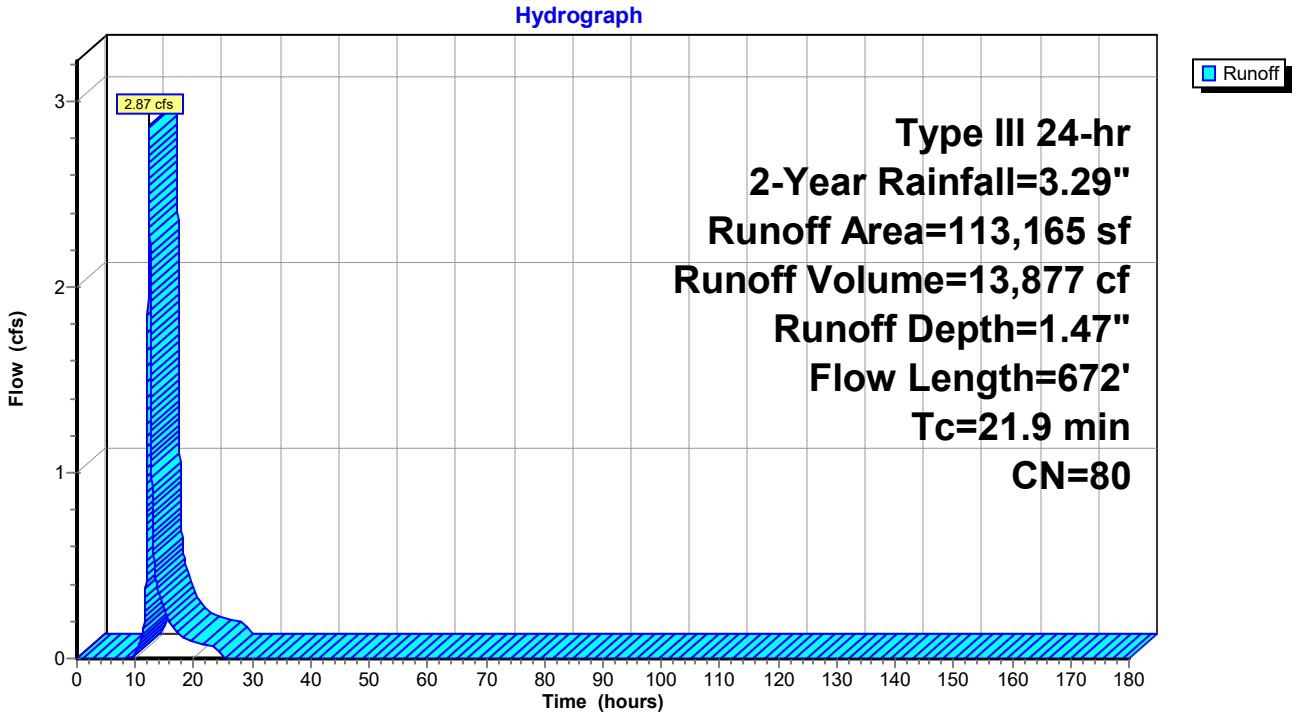
Runoff = 2.87 cfs @ 12.31 hrs, Volume= 13,877 cf, Depth= 1.47"
Routed to Reach P-5P : Unknown

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
110,691	80	Pasture/grassland/range, Good, HSG D
1,612	77	Woods, Good, HSG D
828	96	Gravel surface, HSG D
34	98	Unconnected pavement, HSG D
113,165	80	Weighted Average
113,131		99.97% Pervious Area
34		0.03% Impervious Area
34		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0428	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	521	0.0416	1.43		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.2	51	0.0277	3.86	17.37	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 10.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
21.9	672	Total			

Subcatchment P-SE: South East



Hydrograph for Subcatchment P-SE: South East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.00	0.00
6.00	0.24	0.00	0.00
8.00	0.38	0.00	0.00
10.00	0.62	0.01	0.02
12.00	1.64	0.36	**0.90**
14.00	2.67	1.01	**0.35**
16.00	2.91	1.19	0.19
18.00	3.05	1.29	0.11
20.00	3.15	1.36	0.09
22.00	3.23	1.42	0.07
24.00	**3.29**	**1.47**	0.06
26.00	3.29	1.47	0.00
28.00	3.29	1.47	0.00
30.00	3.29	1.47	0.00
32.00	3.29	1.47	0.00
34.00	3.29	1.47	0.00
36.00	3.29	1.47	0.00
38.00	3.29	1.47	0.00
40.00	3.29	1.47	0.00
42.00	3.29	1.47	0.00
44.00	3.29	1.47	0.00
46.00	3.29	1.47	0.00
48.00	3.29	1.47	0.00
50.00	3.29	1.47	0.00
52.00	3.29	1.47	0.00
54.00	3.29	1.47	0.00
56.00	3.29	1.47	0.00
58.00	3.29	1.47	0.00
60.00	3.29	1.47	0.00
62.00	3.29	1.47	0.00
64.00	3.29	1.47	0.00
66.00	3.29	1.47	0.00
68.00	3.29	1.47	0.00
70.00	3.29	1.47	0.00
72.00	3.29	1.47	0.00
74.00	3.29	1.47	0.00
76.00	3.29	1.47	0.00
78.00	3.29	1.47	0.00
80.00	3.29	1.47	0.00
82.00	3.29	1.47	0.00
84.00	3.29	1.47	0.00
86.00	3.29	1.47	0.00
88.00	3.29	1.47	0.00
90.00	3.29	1.47	0.00
92.00	3.29	1.47	0.00
94.00	3.29	1.47	0.00
96.00	3.29	1.47	0.00
98.00	3.29	1.47	0.00
100.00	3.29	1.47	0.00
102.00	3.29	1.47	0.00
104.00	3.29	1.47	0.00
106.00	3.29	1.47	0.00
108.00	3.29	1.47	0.00
110.00	3.29	1.47	0.00
112.00	3.29	1.47	0.00
114.00	3.29	1.47	0.00
116.00	3.29	1.47	0.00
118.00	3.29	1.47	0.00
120.00	3.29	1.47	0.00
122.00	3.29	1.47	0.00
124.00	3.29	1.47	0.00
126.00	3.29	1.47	0.00
128.00	3.29	1.47	0.00
130.00	3.29	1.47	0.00
132.00	3.29	1.47	0.00
134.00	3.29	1.47	0.00
136.00	3.29	1.47	0.00
138.00	3.29	1.47	0.00
140.00	3.29	1.47	0.00
142.00	3.29	1.47	0.00
144.00	3.29	1.47	0.00
146.00	3.29	1.47	0.00
148.00	3.29	1.47	0.00
150.00	3.29	1.47	0.00
152.00	3.29	1.47	0.00
154.00	3.29	1.47	0.00
156.00	3.29	1.47	0.00
158.00	3.29	1.47	0.00
160.00	3.29	1.47	0.00
162.00	3.29	1.47	0.00
164.00	3.29	1.47	0.00
166.00	3.29	1.47	0.00
168.00	3.29	1.47	0.00
170.00	3.29	1.47	0.00
172.00	3.29	1.47	0.00
174.00	3.29	1.47	0.00
176.00	3.29	1.47	0.00
178.00	3.29	1.47	0.00
180.00	3.29	1.47	0.00

Summary for Subcatchment P-W: West

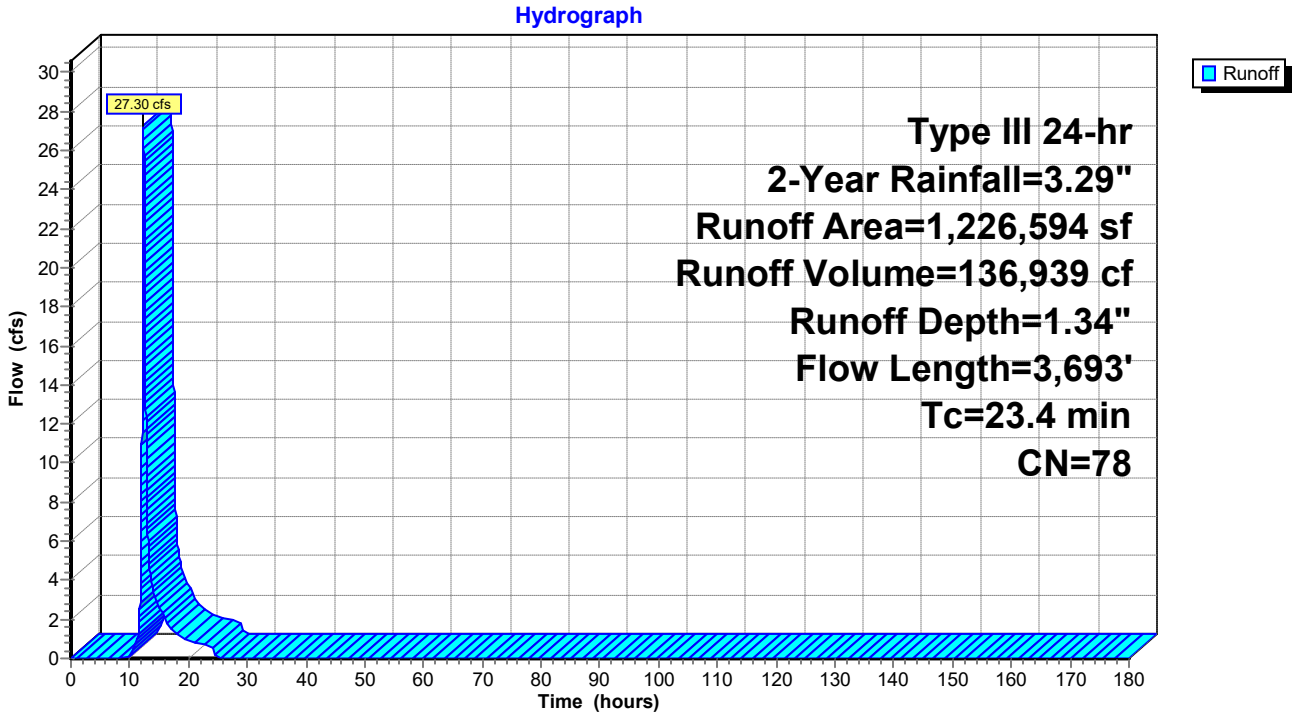
Runoff = 27.30 cfs @ 12.35 hrs, Volume= 136,939 cf, Depth= 1.34"
Routed to Reach P-DP-W : Watts Stream

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
230,227	74	Pasture/grassland/range, Good, HSG C
392,386	80	Pasture/grassland/range, Good, HSG D
40,930	70	Woods, Good, HSG C
521,429	77	Woods, Good, HSG D
35,945	96	Gravel surface, HSG C
444	96	Gravel surface, HSG D
4,766	98	Unconnected pavement, HSG C
467	98	Unconnected pavement, HSG D
1,226,594	78	Weighted Average
1,221,361		99.57% Pervious Area
5,233		0.43% Impervious Area
5,233		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0814	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	85	0.0623	0.29		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
5.9	685	0.0763	1.93		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	75	0.0926	10.68	128.14	**Trap/Vee/Rect Channel Flow, DE** Bot.W=4.00' D=1.00' Z= 8.0 '/' Top.W=20.00' n= 0.030 Earth, grassed & winding
1.1	187	0.1510	2.72		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
1.7	174	0.1201	1.73		**Shallow Concentrated Flow, FG** Woodland Kv= 5.0 fps
3.1	214	0.0525	1.15		**Shallow Concentrated Flow, GH** Woodland Kv= 5.0 fps
0.6	73	0.1513	1.94		**Shallow Concentrated Flow, HI** Woodland Kv= 5.0 fps
0.9	49	0.0338	0.92		**Shallow Concentrated Flow, IJ** Woodland Kv= 5.0 fps
2.6	2,136	0.0318	13.70	945.01	**Trap/Vee/Rect Channel Flow, JK** Bot.W=11.00' D=3.00' Z= 4.0 '/' Top.W=35.00' n= 0.030 Earth, grassed & winding
23.4	3,693	Total			

Subcatchment P-W: West



Hydrograph for Subcatchment P-W: 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	104.00	3.29	1.34	0.00
2.00	0.07	0.00	0.00	106.00	3.29	1.34	0.00
4.00	0.14	0.00	0.00	108.00	3.29	1.34	0.00
6.00	0.24	0.00	0.00	110.00	3.29	1.34	0.00
8.00	0.38	0.00	0.00	112.00	3.29	1.34	0.00
10.00	0.62	0.00	0.03	114.00	3.29	1.34	0.00
12.00	1.64	0.30	**7.68**	116.00	3.29	1.34	0.00
14.00	2.67	0.90	**3.57**	118.00	3.29	1.34	0.00
16.00	2.91	1.07	1.97	120.00	3.29	1.34	0.00
18.00	3.05	1.17	1.19	122.00	3.29	1.34	0.00
20.00	3.15	1.24	0.92	124.00	3.29	1.34	0.00
22.00	3.23	1.29	0.76	126.00	3.29	1.34	0.00
24.00	**3.29**	**1.34**	0.62	128.00	3.29	1.34	0.00
26.00	3.29	1.34	0.00	130.00	3.29	1.34	0.00
28.00	3.29	1.34	0.00	132.00	3.29	1.34	0.00
30.00	3.29	1.34	0.00	134.00	3.29	1.34	0.00
32.00	3.29	1.34	0.00	136.00	3.29	1.34	0.00
34.00	3.29	1.34	0.00	138.00	3.29	1.34	0.00
36.00	3.29	1.34	0.00	140.00	3.29	1.34	0.00
38.00	3.29	1.34	0.00	142.00	3.29	1.34	0.00
40.00	3.29	1.34	0.00	144.00	3.29	1.34	0.00
42.00	3.29	1.34	0.00	146.00	3.29	1.34	0.00
44.00	3.29	1.34	0.00	148.00	3.29	1.34	0.00
46.00	3.29	1.34	0.00	150.00	3.29	1.34	0.00
48.00	3.29	1.34	0.00	152.00	3.29	1.34	0.00
50.00	3.29	1.34	0.00	154.00	3.29	1.34	0.00
52.00	3.29	1.34	0.00	156.00	3.29	1.34	0.00
54.00	3.29	1.34	0.00	158.00	3.29	1.34	0.00
56.00	3.29	1.34	0.00	160.00	3.29	1.34	0.00
58.00	3.29	1.34	0.00	162.00	3.29	1.34	0.00
60.00	3.29	1.34	0.00	164.00	3.29	1.34	0.00
62.00	3.29	1.34	0.00	166.00	3.29	1.34	0.00
64.00	3.29	1.34	0.00	168.00	3.29	1.34	0.00
66.00	3.29	1.34	0.00	170.00	3.29	1.34	0.00
68.00	3.29	1.34	0.00	172.00	3.29	1.34	0.00
70.00	3.29	1.34	0.00	174.00	3.29	1.34	0.00
72.00	3.29	1.34	0.00	176.00	3.29	1.34	0.00
74.00	3.29	1.34	0.00	178.00	3.29	1.34	0.00
76.00	3.29	1.34	0.00	180.00	3.29	1.34	0.00
78.00	3.29	1.34	0.00				
80.00	3.29	1.34	0.00				
82.00	3.29	1.34	0.00				
84.00	3.29	1.34	0.00				
86.00	3.29	1.34	0.00				
88.00	3.29	1.34	0.00				
90.00	3.29	1.34	0.00				
92.00	3.29	1.34	0.00				
94.00	3.29	1.34	0.00				
96.00	3.29	1.34	0.00				
98.00	3.29	1.34	0.00				
100.00	3.29	1.34	0.00				
102.00	3.29	1.34	0.00				

Summary for Subcatchment WQS-S2: Swale Subcatchment

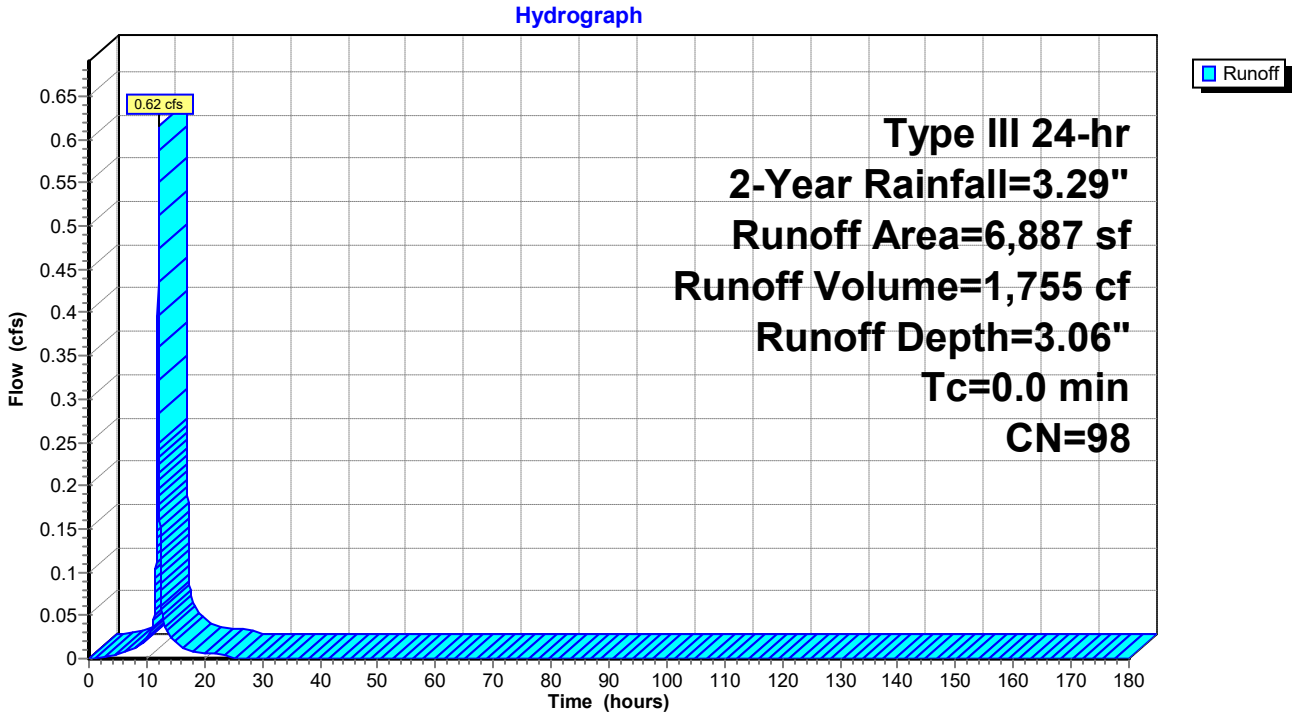
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.62 cfs @ 12.00 hrs, Volume= 1,755 cf, Depth= 3.06"
Routed to Pond 12P : Water Quality Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.29"

Area (sf)	CN	Description
6,887	98	Water Surface, 0% imp, HSG D
6,887		100.00% Pervious Area

Subcatchment WQS-S2: Swale Subcatchment



Hydrograph for Subcatchment WQS-S2: Swale Subcatchment

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.07	0.00	0.00
4.00	0.14	0.03	0.00
6.00	0.24	0.10	0.01
8.00	0.38	0.21	0.01
10.00	0.62	0.43	0.02
12.00	1.64	1.42	**0.62**
14.00	2.67	2.44	0.03
16.00	2.91	2.68	0.01
18.00	3.05	2.82	0.01
20.00	3.15	2.92	0.01
22.00	3.23	2.99	0.01
24.00	**3.29**	**3.06**	0.00
26.00	3.29	3.06	0.00
28.00	3.29	3.06	0.00
30.00	3.29	3.06	0.00
32.00	3.29	3.06	0.00
34.00	3.29	3.06	0.00
36.00	3.29	3.06	0.00
38.00	3.29	3.06	0.00
40.00	3.29	3.06	0.00
42.00	3.29	3.06	0.00
44.00	3.29	3.06	0.00
46.00	3.29	3.06	0.00
48.00	3.29	3.06	0.00
50.00	3.29	3.06	0.00
52.00	3.29	3.06	0.00
54.00	3.29	3.06	0.00
56.00	3.29	3.06	0.00
58.00	3.29	3.06	0.00
60.00	3.29	3.06	0.00
62.00	3.29	3.06	0.00
64.00	3.29	3.06	0.00
66.00	3.29	3.06	0.00
68.00	3.29	3.06	0.00
70.00	3.29	3.06	0.00
72.00	3.29	3.06	0.00
74.00	3.29	3.06	0.00
76.00	3.29	3.06	0.00
78.00	3.29	3.06	0.00
80.00	3.29	3.06	0.00
82.00	3.29	3.06	0.00
84.00	3.29	3.06	0.00
86.00	3.29	3.06	0.00
88.00	3.29	3.06	0.00
90.00	3.29	3.06	0.00
92.00	3.29	3.06	0.00
94.00	3.29	3.06	0.00
96.00	3.29	3.06	0.00
98.00	3.29	3.06	0.00
100.00	3.29	3.06	0.00
102.00	3.29	3.06	0.00
104.00	3.29	3.06	0.00
106.00	3.29	3.06	0.00
108.00	3.29	3.06	0.00
110.00	3.29	3.06	0.00
112.00	3.29	3.06	0.00
114.00	3.29	3.06	0.00
116.00	3.29	3.06	0.00
118.00	3.29	3.06	0.00
120.00	3.29	3.06	0.00
122.00	3.29	3.06	0.00
124.00	3.29	3.06	0.00
126.00	3.29	3.06	0.00
128.00	3.29	3.06	0.00
130.00	3.29	3.06	0.00
132.00	3.29	3.06	0.00
134.00	3.29	3.06	0.00
136.00	3.29	3.06	0.00
138.00	3.29	3.06	0.00
140.00	3.29	3.06	0.00
142.00	3.29	3.06	0.00
144.00	3.29	3.06	0.00
146.00	3.29	3.06	0.00
148.00	3.29	3.06	0.00
150.00	3.29	3.06	0.00
152.00	3.29	3.06	0.00
154.00	3.29	3.06	0.00
156.00	3.29	3.06	0.00
158.00	3.29	3.06	0.00
160.00	3.29	3.06	0.00
162.00	3.29	3.06	0.00
164.00	3.29	3.06	0.00
166.00	3.29	3.06	0.00
168.00	3.29	3.06	0.00
170.00	3.29	3.06	0.00
172.00	3.29	3.06	0.00
174.00	3.29	3.06	0.00
176.00	3.29	3.06	0.00
178.00	3.29	3.06	0.00
180.00	3.29	3.06	0.00

Summary for Reach P-1P: 15" CPP

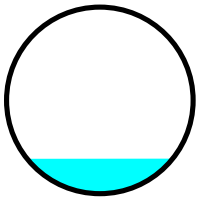
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 69,949 sf, 0.03% Impervious, Inflow Depth = 1.16" for 2-Year event
Inflow = 1.54 cfs @ 12.24 hrs, Volume= 6,734 cf
Outflow = 1.54 cfs @ 12.24 hrs, Volume= 6,734 cf, Atten= 0%, Lag= 0.1 min
Routed to Link P-1L : Lag

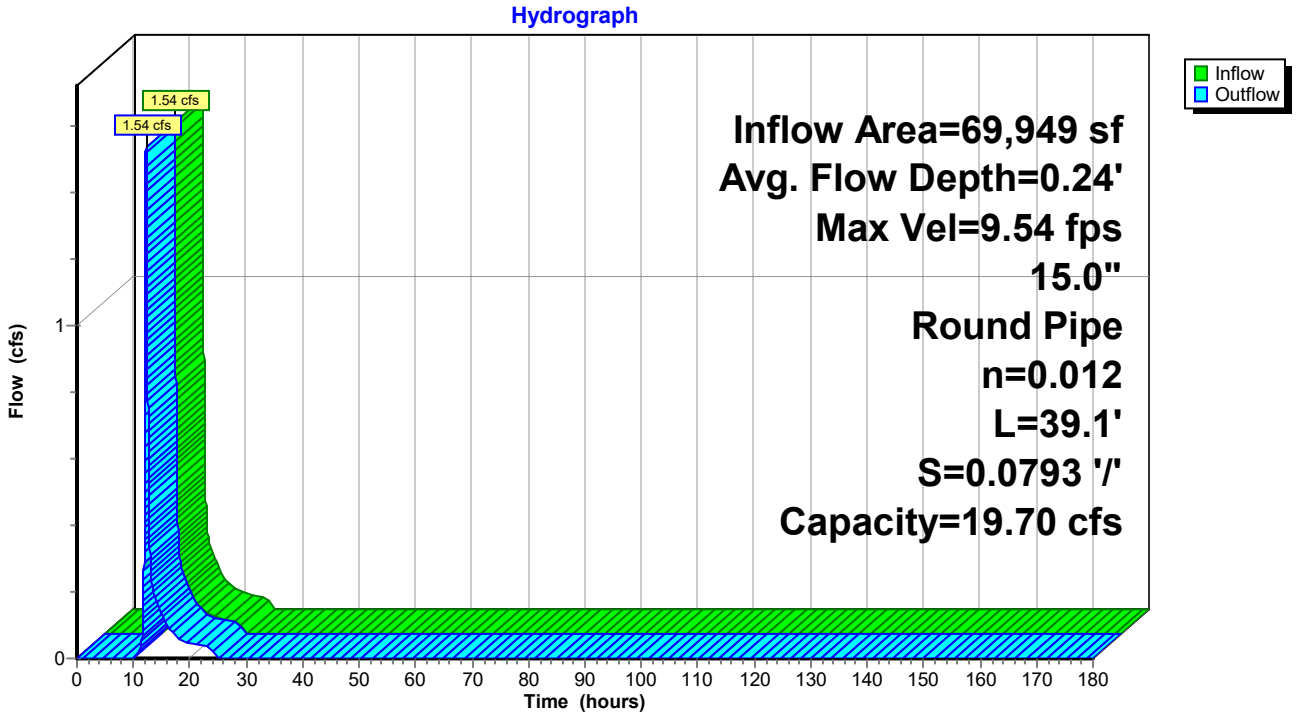
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.54 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.94 fps, Avg. Travel Time= 0.2 min

Peak Storage= 6 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.24' , Surface Width= 0.98'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 19.70 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 39.1' Slope= 0.0793 '/'
Inlet Invert= 1,668.60', Outlet Invert= 1,665.50'



Reach P-1P: 15" CPP



Hydrograph for Reach P-1P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,668.60	0.00
5.00	0.00	0	1,668.60	0.00
10.00	**0.00**	**0**	**1,668.60**	**0.00**
15.00	**0.13**	**1**	**1,668.67**	**0.13**
20.00	0.05	1	1,668.64	0.05
25.00	0.00	0	1,668.60	0.00
30.00	0.00	0	1,668.60	0.00
35.00	0.00	0	1,668.60	0.00
40.00	0.00	0	1,668.60	0.00
45.00	0.00	0	1,668.60	0.00
50.00	0.00	0	1,668.60	0.00
55.00	0.00	0	1,668.60	0.00
60.00	0.00	0	1,668.60	0.00
65.00	0.00	0	1,668.60	0.00
70.00	0.00	0	1,668.60	0.00
75.00	0.00	0	1,668.60	0.00
80.00	0.00	0	1,668.60	0.00
85.00	0.00	0	1,668.60	0.00
90.00	0.00	0	1,668.60	0.00
95.00	0.00	0	1,668.60	0.00
100.00	0.00	0	1,668.60	0.00
105.00	0.00	0	1,668.60	0.00
110.00	0.00	0	1,668.60	0.00
115.00	0.00	0	1,668.60	0.00
120.00	0.00	0	1,668.60	0.00
125.00	0.00	0	1,668.60	0.00
130.00	0.00	0	1,668.60	0.00
135.00	0.00	0	1,668.60	0.00
140.00	0.00	0	1,668.60	0.00
145.00	0.00	0	1,668.60	0.00
150.00	0.00	0	1,668.60	0.00
155.00	0.00	0	1,668.60	0.00
160.00	0.00	0	1,668.60	0.00
165.00	0.00	0	1,668.60	0.00
170.00	0.00	0	1,668.60	0.00
175.00	0.00	0	1,668.60	0.00
180.00	0.00	0	1,668.60	0.00

Summary for Reach P-2P: 15" CPP

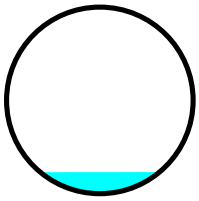
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 19,113 sf, 0.02% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 0.49 cfs @ 12.13 hrs, Volume= 1,748 cf
Outflow = 0.49 cfs @ 12.13 hrs, Volume= 1,748 cf, Atten= 0%, Lag= 0.0 min
Routed to Link P-2L : Lag

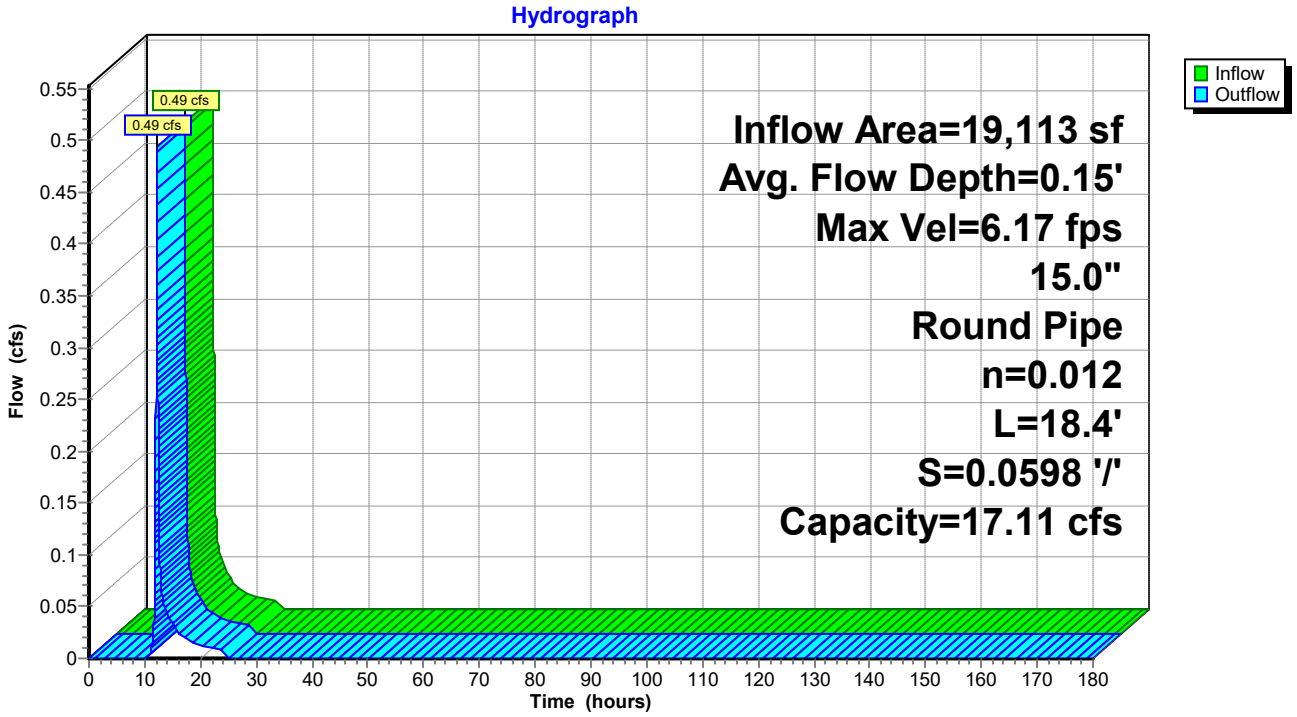
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.17 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.44 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.15' , Surface Width= 0.80'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.11 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 18.4' Slope= 0.0598 '/'
Inlet Invert= 1,669.70', Outlet Invert= 1,668.60'



Reach P-2P: 15" CPP



Hydrograph for Reach P-2P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,669.70	0.00
5.00	0.00	0	1,669.70	0.00
10.00	**0.00**	**0**	**1,669.70**	**0.00**
15.00	**0.03**	**0**	**1,669.74**	**0.03**
20.00	0.01	0	1,669.73	0.01
25.00	0.00	0	1,669.70	0.00
30.00	0.00	0	1,669.70	0.00
35.00	0.00	0	1,669.70	0.00
40.00	0.00	0	1,669.70	0.00
45.00	0.00	0	1,669.70	0.00
50.00	0.00	0	1,669.70	0.00
55.00	0.00	0	1,669.70	0.00
60.00	0.00	0	1,669.70	0.00
65.00	0.00	0	1,669.70	0.00
70.00	0.00	0	1,669.70	0.00
75.00	0.00	0	1,669.70	0.00
80.00	0.00	0	1,669.70	0.00
85.00	0.00	0	1,669.70	0.00
90.00	0.00	0	1,669.70	0.00
95.00	0.00	0	1,669.70	0.00
100.00	0.00	0	1,669.70	0.00
105.00	0.00	0	1,669.70	0.00
110.00	0.00	0	1,669.70	0.00
115.00	0.00	0	1,669.70	0.00
120.00	0.00	0	1,669.70	0.00
125.00	0.00	0	1,669.70	0.00
130.00	0.00	0	1,669.70	0.00
135.00	0.00	0	1,669.70	0.00
140.00	0.00	0	1,669.70	0.00
145.00	0.00	0	1,669.70	0.00
150.00	0.00	0	1,669.70	0.00
155.00	0.00	0	1,669.70	0.00
160.00	0.00	0	1,669.70	0.00
165.00	0.00	0	1,669.70	0.00
170.00	0.00	0	1,669.70	0.00
175.00	0.00	0	1,669.70	0.00
180.00	0.00	0	1,669.70	0.00

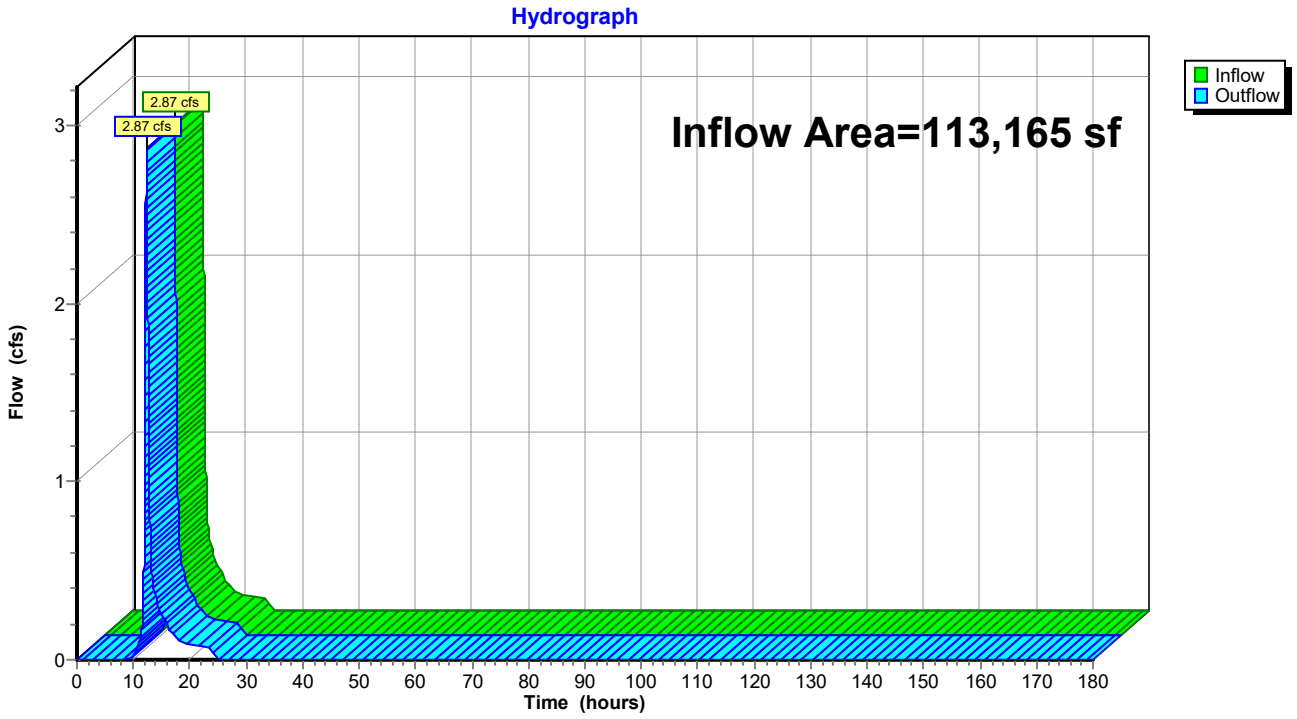
Summary for Reach P-5P: Unknown

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

Inflow Area = 113,165 sf, 0.03% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 2.87 cfs @ 12.31 hrs, Volume= 13,877 cf
Outflow = 2.87 cfs @ 12.31 hrs, Volume= 13,877 cf, Atten= 0%, Lag= 0.0 min
Routed to Link P-5L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-5P: Unknown



Hydrograph for Reach P-5P: Unknown

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.00		0.00	112.00	0.00		0.00
10.00	0.02		0.02	114.00	0.00		0.00
12.00	**0.90**		**0.90**	116.00	0.00		0.00
14.00	**0.35**		**0.35**	118.00	0.00		0.00
16.00	0.19		0.19	120.00	0.00		0.00
18.00	0.11		0.11	122.00	0.00		0.00
20.00	0.09		0.09	124.00	0.00		0.00
22.00	0.07		0.07	126.00	0.00		0.00
24.00	0.06		0.06	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

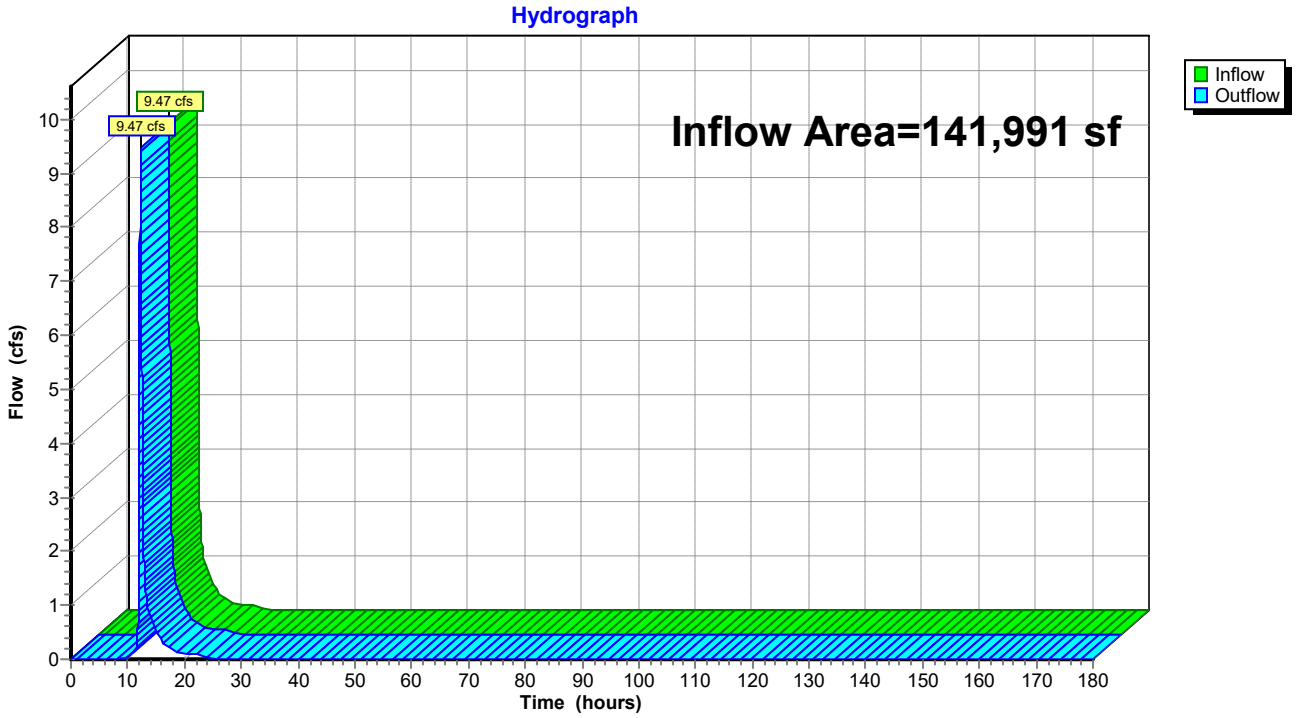
Summary for Reach P-DP-E: Culvert towards Wades Stream

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

Inflow Area = 141,991 sf, 0.03% Impervious, Inflow Depth = 2.64" for 2-Year event
Inflow = 9.47 cfs @ 12.24 hrs, Volume= 31,252 cf
Outflow = 9.47 cfs @ 12.24 hrs, Volume= 31,252 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-DP-E: Culvert towards Wades Stream



Hydrograph for Reach P-DP-E: Culvert towards Wades Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00
2.00	0.00		0.00
4.00	0.00		0.00
6.00	0.00		0.00
8.00	0.00		0.00
10.00	0.02		0.02
12.00	**3.18**		**3.18**
14.00	**0.79**		**0.79**
16.00	0.35		0.35
18.00	0.14		0.14
20.00	0.11		0.11
22.00	0.09		0.09
24.00	0.07		0.07
26.00	0.00		0.00
28.00	0.00		0.00
30.00	0.00		0.00
32.00	0.00		0.00
34.00	0.00		0.00
36.00	0.00		0.00
38.00	0.00		0.00
40.00	0.00		0.00
42.00	0.00		0.00
44.00	0.00		0.00
46.00	0.00		0.00
48.00	0.00		0.00
50.00	0.00		0.00
52.00	0.00		0.00
54.00	0.00		0.00
56.00	0.00		0.00
58.00	0.00		0.00
60.00	0.00		0.00
62.00	0.00		0.00
64.00	0.00		0.00
66.00	0.00		0.00
68.00	0.00		0.00
70.00	0.00		0.00
72.00	0.00		0.00
74.00	0.00		0.00
76.00	0.00		0.00
78.00	0.00		0.00
80.00	0.00		0.00
82.00	0.00		0.00
84.00	0.00		0.00
86.00	0.00		0.00
88.00	0.00		0.00
90.00	0.00		0.00
92.00	0.00		0.00
94.00	0.00		0.00
96.00	0.00		0.00
98.00	0.00		0.00
100.00	0.00		0.00
102.00	0.00		0.00
104.00	0.00		0.00
106.00	0.00		0.00
108.00	0.00		0.00
110.00	0.00		0.00
112.00	0.00		0.00
114.00	0.00		0.00
116.00	0.00		0.00
118.00	0.00		0.00
120.00	0.00		0.00
122.00	0.00		0.00
124.00	0.00		0.00
126.00	0.00		0.00
128.00	0.00		0.00
130.00	0.00		0.00
132.00	0.00		0.00
134.00	0.00		0.00
136.00	0.00		0.00
138.00	0.00		0.00
140.00	0.00		0.00
142.00	0.00		0.00
144.00	0.00		0.00
146.00	0.00		0.00
148.00	0.00		0.00
150.00	0.00		0.00
152.00	0.00		0.00
154.00	0.00		0.00
156.00	0.00		0.00
158.00	0.00		0.00
160.00	0.00		0.00
162.00	0.00		0.00
164.00	0.00		0.00
166.00	0.00		0.00
168.00	0.00		0.00
170.00	0.00		0.00
172.00	0.00		0.00
174.00	0.00		0.00
176.00	0.00		0.00
178.00	0.00		0.00
180.00	0.00		0.00

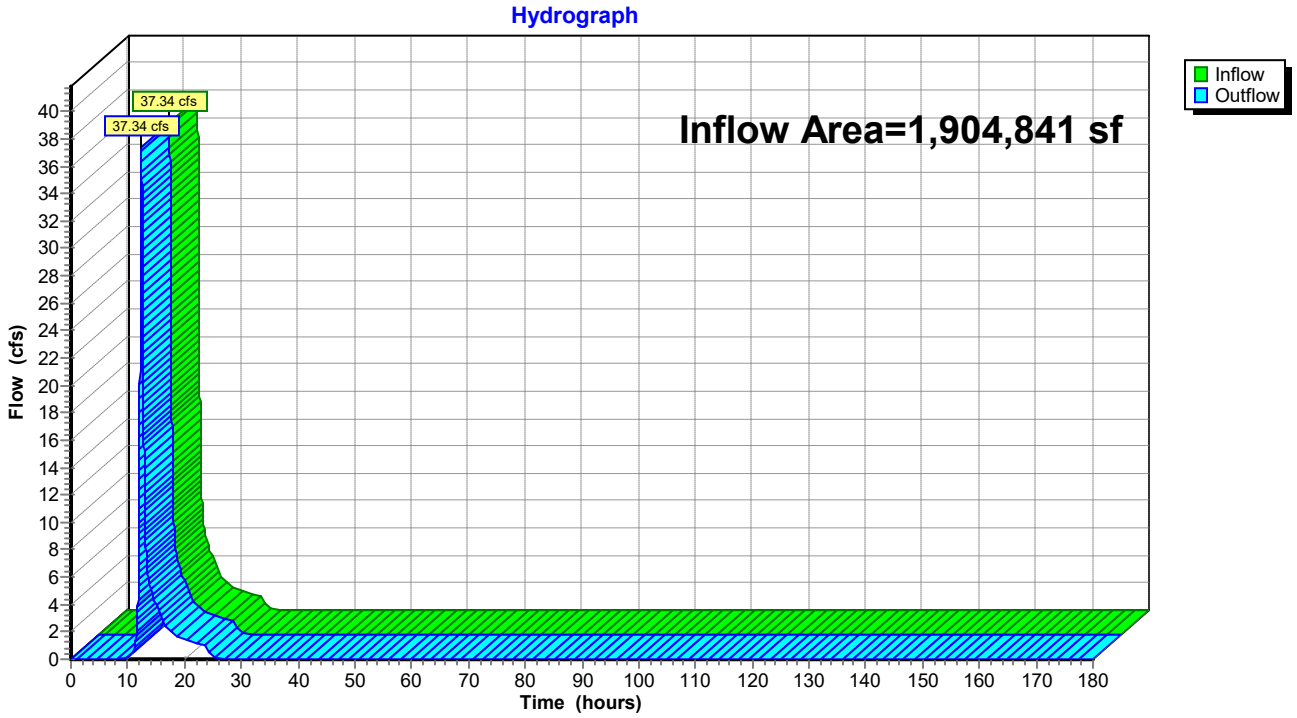
Summary for Reach P-DP-W: Watts Stream

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

Inflow Area = 1,904,841 sf, 0.60% Impervious, Inflow Depth = 1.26" for 2-Year event
Inflow = 37.34 cfs @ 12.40 hrs, Volume= 199,828 cf
Outflow = 37.34 cfs @ 12.40 hrs, Volume= 199,828 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-DP-W: Watts Stream



Hydrograph for Reach P-DP-W: Watts Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.00		0.00	112.00	0.00		0.00
10.00	0.05		0.05	114.00	0.00		0.00
12.00	**9.15**		**9.15**	116.00	0.00		0.00
14.00	**5.29**		**5.29**	118.00	0.00		0.00
16.00	2.99		2.99	120.00	0.00		0.00
18.00	1.87		1.87	122.00	0.00		0.00
20.00	1.46		1.46	124.00	0.00		0.00
22.00	1.22		1.22	126.00	0.00		0.00
24.00	0.99		0.99	128.00	0.00		0.00
26.00	0.06		0.06	130.00	0.00		0.00
28.00	0.01		0.01	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

Summary for Pond 2.5P: 12" CPP

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 0.50" for 2-Year event
Inflow = 0.07 cfs @ 12.88 hrs, Volume= 649 cf
Outflow = 0.07 cfs @ 12.88 hrs, Volume= 649 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 12.88 hrs, Volume= 0 cf
Primary = 0.07 cfs @ 12.88 hrs, Volume= 649 cf
Routed to Link 8L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,670.14' @ 12.88 hrs Surf.Area= 1 sf Storage= 0 cf
Flood Elev= 1,672.00' Surf.Area= 123 sf Storage= 84 cf

Plug-Flow detention time= 0.0 min calculated for 649 cf (100% of inflow)
Center-of-Mass det. time= 0.0 min (953.7 - 953.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,670.00'	84 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

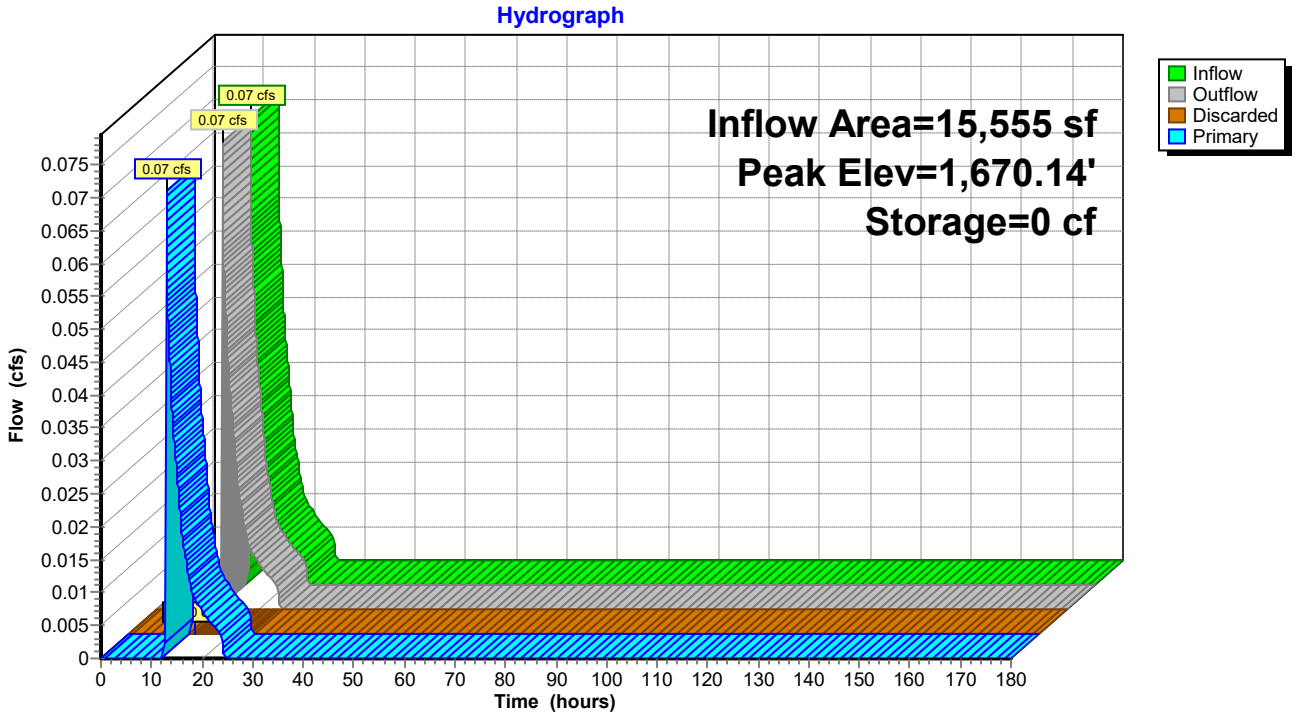
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,670.00	0	1.6	0	0	0
1,671.00	33	20.4	11	11	35
1,672.00	123	39.3	73	84	129

Device	Routing	Invert	Outlet Devices
#1	Primary	1,670.00'	**12.0" Round Culvert** L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,670.00' / 1,669.65' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Discarded	1,670.00'	**0.170 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.00 cfs @ 12.88 hrs HW=1,670.14' (Free Discharge)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.07 cfs @ 12.88 hrs HW=1,670.14' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.07 cfs @ 1.02 fps)

Pond 2.5P: 12" CPP



Hydrograph for Pond 2.5P: 12" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,670.00	0.00	0.00	0.00
5.00	0.00	0	1,670.00	0.00	0.00	0.00
10.00	**0.00**	**0**	**1,670.00**	**0.00**	**0.00**	**0.00**
15.00	**0.03**	**0**	**1,670.09**	**0.03**	**0.00**	**0.03**
20.00	0.01	0	1,670.04	0.01	0.00	0.01
25.00	0.00	0	1,670.00	0.00	0.00	0.00
30.00	0.00	0	1,670.00	0.00	0.00	0.00
35.00	0.00	0	1,670.00	0.00	0.00	0.00
40.00	0.00	0	1,670.00	0.00	0.00	0.00
45.00	0.00	0	1,670.00	0.00	0.00	0.00
50.00	0.00	0	1,670.00	0.00	0.00	0.00
55.00	0.00	0	1,670.00	0.00	0.00	0.00
60.00	0.00	0	1,670.00	0.00	0.00	0.00
65.00	0.00	0	1,670.00	0.00	0.00	0.00
70.00	0.00	0	1,670.00	0.00	0.00	0.00
75.00	0.00	0	1,670.00	0.00	0.00	0.00
80.00	0.00	0	1,670.00	0.00	0.00	0.00
85.00	0.00	0	1,670.00	0.00	0.00	0.00
90.00	0.00	0	1,670.00	0.00	0.00	0.00
95.00	0.00	0	1,670.00	0.00	0.00	0.00
100.00	0.00	0	1,670.00	0.00	0.00	0.00
105.00	0.00	0	1,670.00	0.00	0.00	0.00
110.00	0.00	0	1,670.00	0.00	0.00	0.00
115.00	0.00	0	1,670.00	0.00	0.00	0.00
120.00	0.00	0	1,670.00	0.00	0.00	0.00
125.00	0.00	0	1,670.00	0.00	0.00	0.00
130.00	0.00	0	1,670.00	0.00	0.00	0.00
135.00	0.00	0	1,670.00	0.00	0.00	0.00
140.00	0.00	0	1,670.00	0.00	0.00	0.00
145.00	0.00	0	1,670.00	0.00	0.00	0.00
150.00	0.00	0	1,670.00	0.00	0.00	0.00
155.00	0.00	0	1,670.00	0.00	0.00	0.00
160.00	0.00	0	1,670.00	0.00	0.00	0.00
165.00	0.00	0	1,670.00	0.00	0.00	0.00
170.00	0.00	0	1,670.00	0.00	0.00	0.00
175.00	0.00	0	1,670.00	0.00	0.00	0.00
180.00	0.00	0	1,670.00	0.00	0.00	0.00

Summary for Pond 3.5P: 15" CPP

Inflow Area = 115,816 sf, 0.04% Impervious, Inflow Depth = 1.61" for 2-Year event
Inflow = 3.70 cfs @ 12.21 hrs, Volume= 15,547 cf
Outflow = 3.66 cfs @ 12.23 hrs, Volume= 15,547 cf, Atten= 1%, Lag= 1.4 min
Discarded = 0.00 cfs @ 12.23 hrs, Volume= 25 cf
Primary = 3.03 cfs @ 12.23 hrs, Volume= 9,254 cf
Routed to Link FS2 : Filter Strip
Secondary = 0.63 cfs @ 12.23 hrs, Volume= 6,267 cf
Routed to Pond P-4P : 2x15" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,661.85' @ 12.23 hrs Surf.Area= 333 sf Storage= 175 cf
Flood Elev= 1,663.00' Surf.Area= 1,038 sf Storage= 932 cf

Plug-Flow detention time= 0.9 min calculated for 15,546 cf (100% of inflow)
Center-of-Mass det. time= 0.9 min (853.3 - 852.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.50'	2,300 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.50	7	10.9	0	0	7
1,661.00	72	38.7	17	17	117
1,662.00	400	120.2	214	231	1,151
1,662.75	866	168.8	464	694	2,274
1,663.00	1,038	206.2	238	932	3,391
1,664.00	1,727	261.7	1,368	2,300	5,471

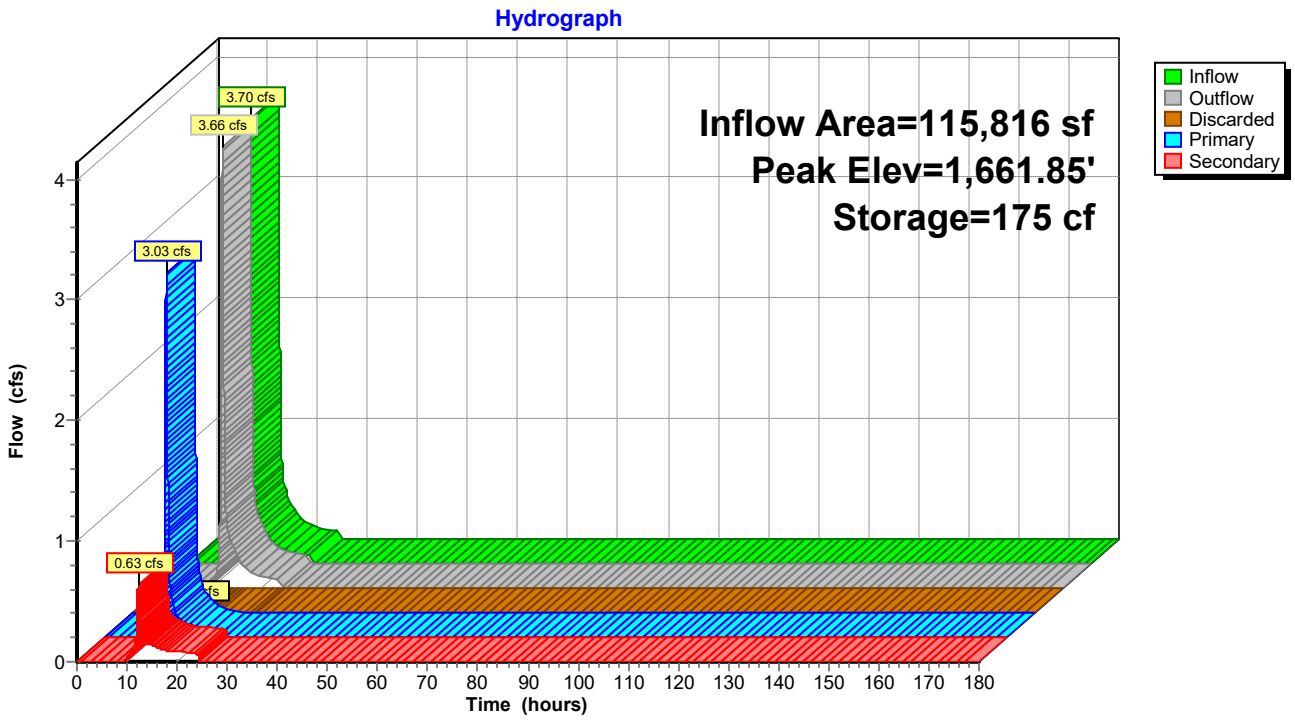
Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.80'	**15.0" Round Culvert** L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.80' / 1,660.00' S= 0.0174 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Discarded	1,660.50'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,663.00'	**Road Overflow, C= 3.27** Offset (feet) 0.00 30.23 30.23 Height (feet) 1.00 0.00 1.00
#4	Secondary	1,660.50'	**4.00' long x 14.50' breadth x 2.25' high Rock Fill** Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#5	Secondary	1,662.75'	**17.4' long + 3.0 '/' SideZ x 1.0' breadth Check Dam** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 12.23 hrs HW=1,661.85' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=3.03 cfs @ 12.23 hrs HW=1,661.85' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 3.03 cfs @ 2.75 fps)
└**3=Road Overflow** (Controls 0.00 cfs)

Secondary OutFlow Max=0.63 cfs @ 12.23 hrs HW=1,661.85' TW=1,660.65' (Dynamic Tailwater)
├**4=Rock Fill** (Rockfill Controls 0.63 cfs @ 0.21 fps)
└**5=Check Dam** (Controls 0.00 cfs)

Pond 3.5P: 15" CPP



Hydrograph for Pond 3.5P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
5.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
10.00	**0.03**	**2**	**1,660.68**	**0.03**	**0.00**	**0.00**	**0.03**
15.00	**0.28**	**17**	**1,661.00**	**0.29**	**0.00**	**0.15**	**0.13**
20.00	0.10	9	1,660.87	0.10	0.00	0.02	0.08
25.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
30.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
35.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
40.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
45.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
50.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
55.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
60.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
65.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
70.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
75.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
80.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
85.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
90.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
95.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
100.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
105.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
110.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
115.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
120.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
125.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
130.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
135.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
140.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
145.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
150.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
155.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
160.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
165.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
170.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
175.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
180.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00

Summary for Pond 12P: Water Quality Swale

Inflow Area = 193,731 sf, 0.03% Impervious, Inflow Depth = 1.53" for 2-Year event
Inflow = 5.85 cfs @ 12.20 hrs, Volume= 24,666 cf
Outflow = 5.78 cfs @ 12.22 hrs, Volume= 24,666 cf, Atten= 1%, Lag= 1.3 min
Discarded = 0.01 cfs @ 12.22 hrs, Volume= 534 cf
Primary = 0.24 cfs @ 12.22 hrs, Volume= 9,501 cf
Routed to Link 9L : Lag
Secondary = 5.52 cfs @ 12.22 hrs, Volume= 14,631 cf
Routed to Link 7L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,684.44' @ 12.22 hrs Surf.Area= 1,582 sf Storage= 2,244 cf

Plug-Flow detention time= 54.8 min calculated for 24,665 cf (100% of inflow)
Center-of-Mass det. time= 54.9 min (896.8 - 841.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	5,676 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,681.00	25	20.6	0	0	25
1,682.00	297	70.4	136	136	388
1,683.00	717	120.3	492	628	1,152
1,683.50	984	145.2	423	1,051	1,682
1,684.00	1,285	170.2	566	1,617	2,314
1,684.50	1,626	195.1	726	2,343	3,044
1,685.00	2,005	220.1	906	3,249	3,876
1,686.00	2,874	269.9	2,426	5,676	5,834

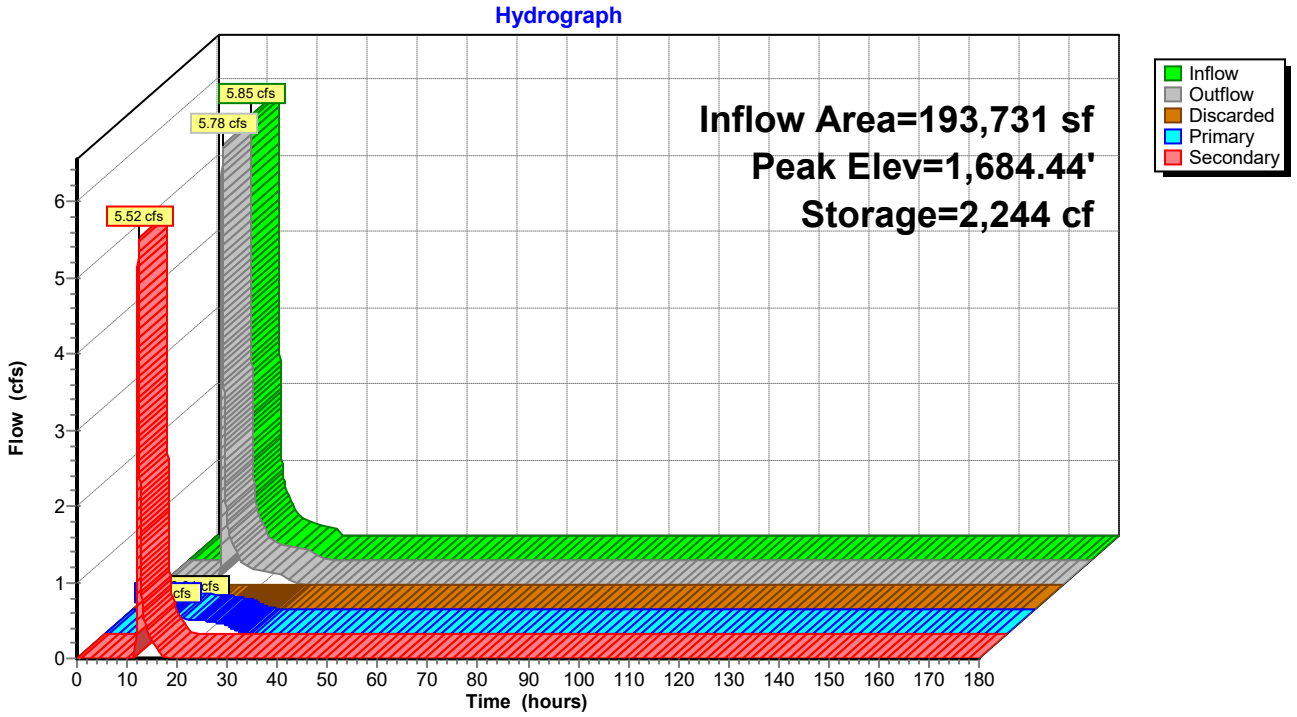
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,681.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,681.50'	**1.00' long x 57.23' breadth x 3.00' high Rock Fill** Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#3	Primary	1,684.50'	**1.0' long + 3.0 '/' SideZ x 15.0' breadth Weir DP-W** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#4	Secondary	1,684.00'	**6.0' long + 3.0 '/' SideZ x 18.0' breadth Weir DP-E** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=0.01 cfs @ 12.22 hrs HW=1,684.44' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.24 cfs @ 12.22 hrs HW=1,684.44' TW=0.00' (Dynamic Tailwater)
├**2=Rock Fill** (Rockfill Controls 0.24 cfs @ 0.17 fps)
└**3=Weir DP-W** (Controls 0.00 cfs)

Secondary OutFlow Max=5.52 cfs @ 12.22 hrs HW=1,684.44' TW=0.00' (Dynamic Tailwater)
└**4=Weir DP-E** (Weir Controls 5.52 cfs @ 1.72 fps)

Pond 12P: Water Quality Swale



Hydrograph for Pond 12P: Water Quality Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
5.00	0.01	31	1,681.48	0.00	0.00	0.00	0.00
10.00	**0.07**	**166**	**1,682.10**	**0.02**	**0.00**	**0.02**	**0.00**
15.00	**0.43**	**1,693**	**1,684.06**	**0.44**	**0.01**	**0.20**	**0.23**
20.00	0.15	1,446	1,683.86	0.18	0.01	0.17	0.00
25.00	0.00	633	1,683.01	0.09	0.00	0.09	0.00
30.00	0.00	62	1,681.69	0.00	0.00	0.00	0.00
35.00	0.00	34	1,681.50	0.00	0.00	0.00	0.00
40.00	0.00	24	1,681.41	0.00	0.00	0.00	0.00
45.00	0.00	16	1,681.32	0.00	0.00	0.00	0.00
50.00	0.00	10	1,681.23	0.00	0.00	0.00	0.00
55.00	0.00	5	1,681.15	0.00	0.00	0.00	0.00
60.00	0.00	2	1,681.07	0.00	0.00	0.00	0.00
65.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
70.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
75.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
80.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00

Summary for Pond IT1: Infiltration

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 1.40" for 2-Year event
Inflow = 0.52 cfs @ 12.13 hrs, Volume= 1,821 cf
Outflow = 0.08 cfs @ 12.88 hrs, Volume= 1,821 cf, Atten= 86%, Lag= 44.7 min
Discarded = 0.00 cfs @ 12.30 hrs, Volume= 1,172 cf
Primary = 0.07 cfs @ 12.88 hrs, Volume= 649 cf
Routed to Pond 2.5P : 12" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,673.50' @ 12.88 hrs Surf.Area= 625 sf Storage= 953 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1,359.9 min (2,207.2 - 847.3)

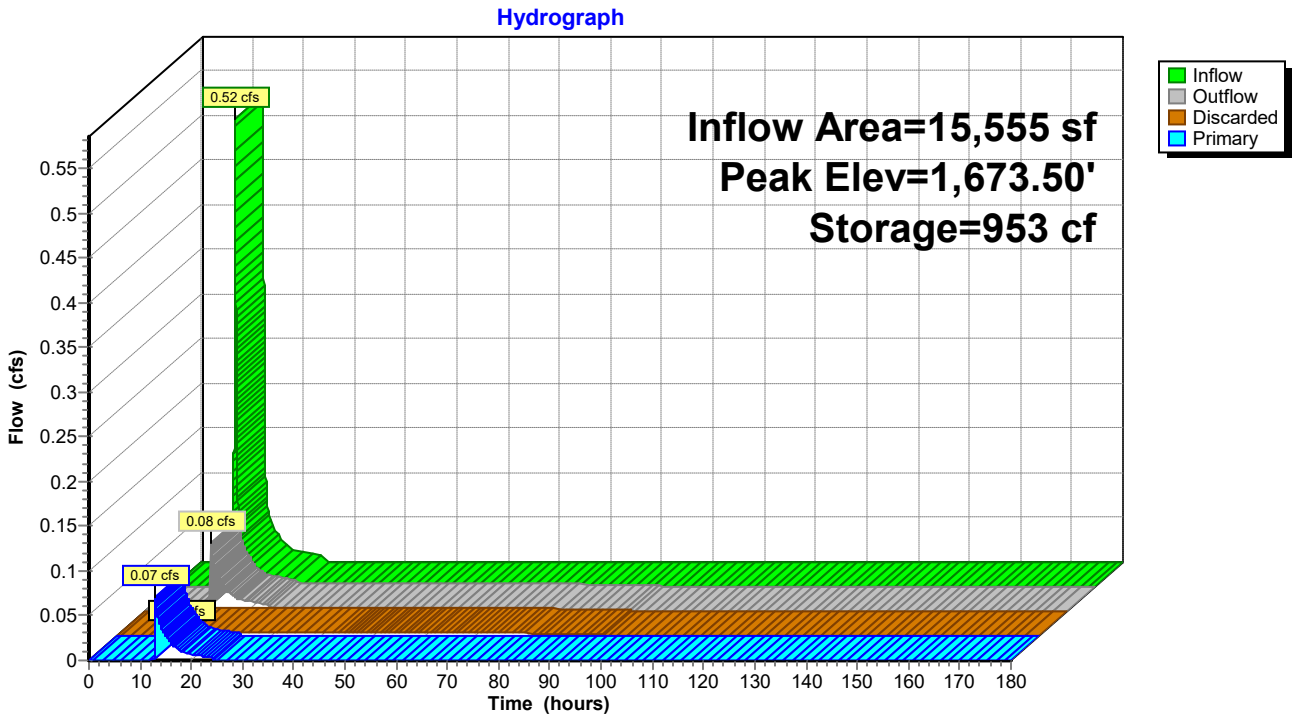
Volume	Invert	Avail.Storage	Storage Description
#1	1,670.45'	637 cf	**6.25'W x 100.00'L x 2.55'H Prismatoid** 1,594 cf Overall x 40.0% Voids
#2	1,673.00'	625 cf	**6.25'W x 100.00'L x 1.00'H Overflow Storage** -Impervious
		1,262 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,670.45'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,673.50'	**100.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 12.30 hrs HW=1,673.02' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.07 cfs @ 12.88 hrs HW=1,673.50' TW=1,670.14' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 0.07 cfs @ 0.17 fps)

Pond IT1: Infiltration



Hydrograph for Pond IT1: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,670.45	0.00	0.00	0.00
5.00	0.00	0	1,670.45	0.00	0.00	0.00
10.00	**0.00**	**0**	**1,670.45**	**0.00**	**0.00**	**0.00**
15.00	**0.03**	**951**	**1,673.50**	**0.03**	**0.00**	**0.03**
20.00	0.01	951	1,673.50	0.01	0.00	0.01
25.00	0.00	937	1,673.48	0.00	0.00	0.00
30.00	0.00	854	1,673.35	0.00	0.00	0.00
35.00	0.00	771	1,673.21	0.00	0.00	0.00
40.00	0.00	689	1,673.08	0.00	0.00	0.00
45.00	0.00	606	1,672.87	0.00	0.00	0.00
50.00	0.00	528	1,672.56	0.00	0.00	0.00
55.00	0.00	454	1,672.27	0.00	0.00	0.00
60.00	0.00	385	1,671.99	0.00	0.00	0.00
65.00	0.00	319	1,671.73	0.00	0.00	0.00
70.00	0.00	258	1,671.48	0.00	0.00	0.00
75.00	0.00	199	1,671.25	0.00	0.00	0.00
80.00	0.00	145	1,671.03	0.00	0.00	0.00
85.00	0.00	93	1,670.82	0.00	0.00	0.00
90.00	0.00	45	1,670.63	0.00	0.00	0.00
95.00	0.00	0	1,670.45	0.00	0.00	0.00
100.00	0.00	0	1,670.45	0.00	0.00	0.00
105.00	0.00	0	1,670.45	0.00	0.00	0.00
110.00	0.00	0	1,670.45	0.00	0.00	0.00
115.00	0.00	0	1,670.45	0.00	0.00	0.00
120.00	0.00	0	1,670.45	0.00	0.00	0.00
125.00	0.00	0	1,670.45	0.00	0.00	0.00
130.00	0.00	0	1,670.45	0.00	0.00	0.00
135.00	0.00	0	1,670.45	0.00	0.00	0.00
140.00	0.00	0	1,670.45	0.00	0.00	0.00
145.00	0.00	0	1,670.45	0.00	0.00	0.00
150.00	0.00	0	1,670.45	0.00	0.00	0.00
155.00	0.00	0	1,670.45	0.00	0.00	0.00
160.00	0.00	0	1,670.45	0.00	0.00	0.00
165.00	0.00	0	1,670.45	0.00	0.00	0.00
170.00	0.00	0	1,670.45	0.00	0.00	0.00
175.00	0.00	0	1,670.45	0.00	0.00	0.00
180.00	0.00	0	1,670.45	0.00	0.00	0.00

Summary for Pond IT2: Infiltration

Inflow Area = 62,048 sf, 0.04% Impervious, Inflow Depth = 1.25" for 2-Year event
Inflow = 1.48 cfs @ 12.24 hrs, Volume= 6,478 cf
Outflow = 1.48 cfs @ 12.25 hrs, Volume= 6,478 cf, Atten= 0%, Lag= 0.5 min
Discarded = 0.00 cfs @ 11.71 hrs, Volume= 556 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link P-3L : Lag
Secondary = 1.47 cfs @ 12.25 hrs, Volume= 5,922 cf
Routed to Pond IT3 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,663.67' @ 12.25 hrs Surf.Area= 400 sf Storage= 469 cf

Plug-Flow detention time= 140.9 min calculated for 6,478 cf (100% of inflow)
Center-of-Mass det. time= 141.0 min (978.2 - 837.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,661.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,663.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

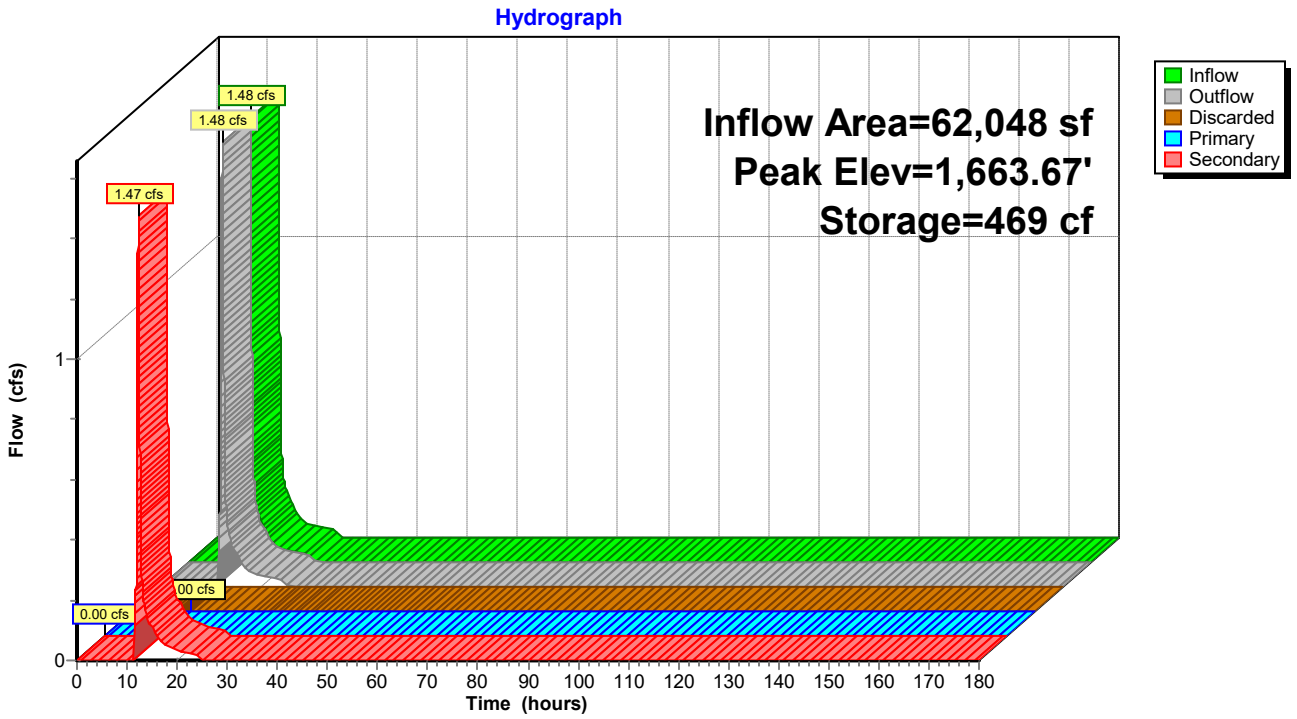
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,661.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,664.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,663.50'	**8.0' long + 3.0 '/' SideZ x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.00 cfs @ 11.71 hrs HW=1,663.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,661.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=1.47 cfs @ 12.25 hrs HW=1,663.67' TW=1,662.68' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 1.47 cfs @ 1.00 fps)

Pond IT2: Infiltration



Hydrograph for Pond IT2: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,661.00	0.00	0.00	**0.00**	0.00
5.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
10.00	**0.02**	**45**	**1,661.28**	**0.00**	**0.00**	0.00	**0.00**
15.00	**0.11**	**413**	**1,663.53**	**0.11**	**0.00**	0.00	**0.11**
20.00	0.04	406	1,663.51	0.04	0.00	0.00	0.03
25.00	0.00	395	1,663.47	0.00	0.00	0.00	0.00
30.00	0.00	348	1,663.17	0.00	0.00	0.00	0.00
35.00	0.00	303	1,662.89	0.00	0.00	0.00	0.00
40.00	0.00	260	1,662.62	0.00	0.00	0.00	0.00
45.00	0.00	219	1,662.37	0.00	0.00	0.00	0.00
50.00	0.00	181	1,662.13	0.00	0.00	0.00	0.00
55.00	0.00	144	1,661.90	0.00	0.00	0.00	0.00
60.00	0.00	109	1,661.68	0.00	0.00	0.00	0.00
65.00	0.00	76	1,661.48	0.00	0.00	0.00	0.00
70.00	0.00	45	1,661.28	0.00	0.00	0.00	0.00
75.00	0.00	15	1,661.09	0.00	0.00	0.00	0.00
80.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00

Summary for Pond IT3: Infiltration

Inflow Area = 2,911 sf, 0.00% Impervious, Inflow Depth = 26.33" for 2-Year event
Inflow = 1.54 cfs @ 12.24 hrs, Volume= 6,387 cf
Outflow = 1.54 cfs @ 12.25 hrs, Volume= 6,387 cf, Atten= 0%, Lag= 0.5 min
Discarded = 0.00 cfs @ 11.98 hrs, Volume= 543 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link P-3L : Lag
Secondary = 1.54 cfs @ 12.25 hrs, Volume= 5,844 cf
Routed to Pond IT4 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,662.68' @ 12.25 hrs Surf.Area= 400 sf Storage= 472 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 139.7 min (984.7 - 844.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,662.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

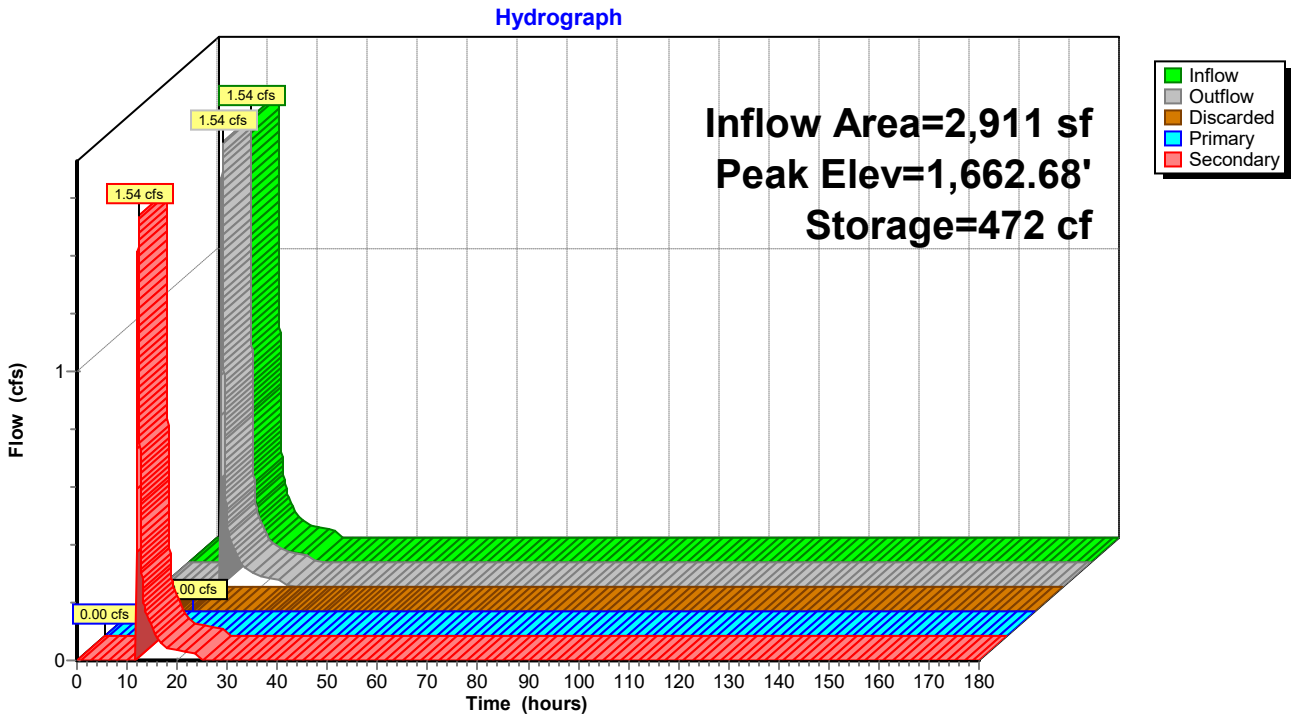
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,660.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,663.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,662.50'	**8.0' long + 3.0 '/' SideZ x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.00 cfs @ 11.98 hrs HW=1,662.53' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,660.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=1.54 cfs @ 12.25 hrs HW=1,662.68' TW=1,661.07' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 1.54 cfs @ 0.99 fps)

Pond IT3: Infiltration



Hydrograph for Pond IT3: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.00	0.00	0.00	**0.00**	0.00
5.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
10.00	**0.00**	**2**	**1,660.01**	**0.00**	**0.00**	0.00	**0.00**
15.00	**0.12**	**413**	**1,662.53**	**0.12**	**0.00**	0.00	**0.11**
20.00	0.04	406	1,662.51	0.04	0.00	0.00	0.03
25.00	0.00	395	1,662.47	0.00	0.00	0.00	0.00
30.00	0.00	348	1,662.17	0.00	0.00	0.00	0.00
35.00	0.00	303	1,661.89	0.00	0.00	0.00	0.00
40.00	0.00	260	1,661.62	0.00	0.00	0.00	0.00
45.00	0.00	219	1,661.37	0.00	0.00	0.00	0.00
50.00	0.00	181	1,661.13	0.00	0.00	0.00	0.00
55.00	0.00	144	1,660.90	0.00	0.00	0.00	0.00
60.00	0.00	109	1,660.68	0.00	0.00	0.00	0.00
65.00	0.00	76	1,660.47	0.00	0.00	0.00	0.00
70.00	0.00	45	1,660.28	0.00	0.00	0.00	0.00
75.00	0.00	15	1,660.09	0.00	0.00	0.00	0.00
80.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00

Summary for Pond IT4: Infiltration

Inflow Area = 4,433 sf, 0.05% Impervious, Inflow Depth = 28.41" for 2-Year event
Inflow = 2.33 cfs @ 12.24 hrs, Volume= 10,495 cf
Outflow = 2.33 cfs @ 12.24 hrs, Volume= 10,495 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 11.97 hrs, Volume= 786 cf
Primary = 2.33 cfs @ 12.24 hrs, Volume= 9,708 cf
Routed to Link P-4L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,661.07' @ 12.24 hrs Surf.Area= 400 sf Storage= 627 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 171.7 min (1,049.3 - 877.6)

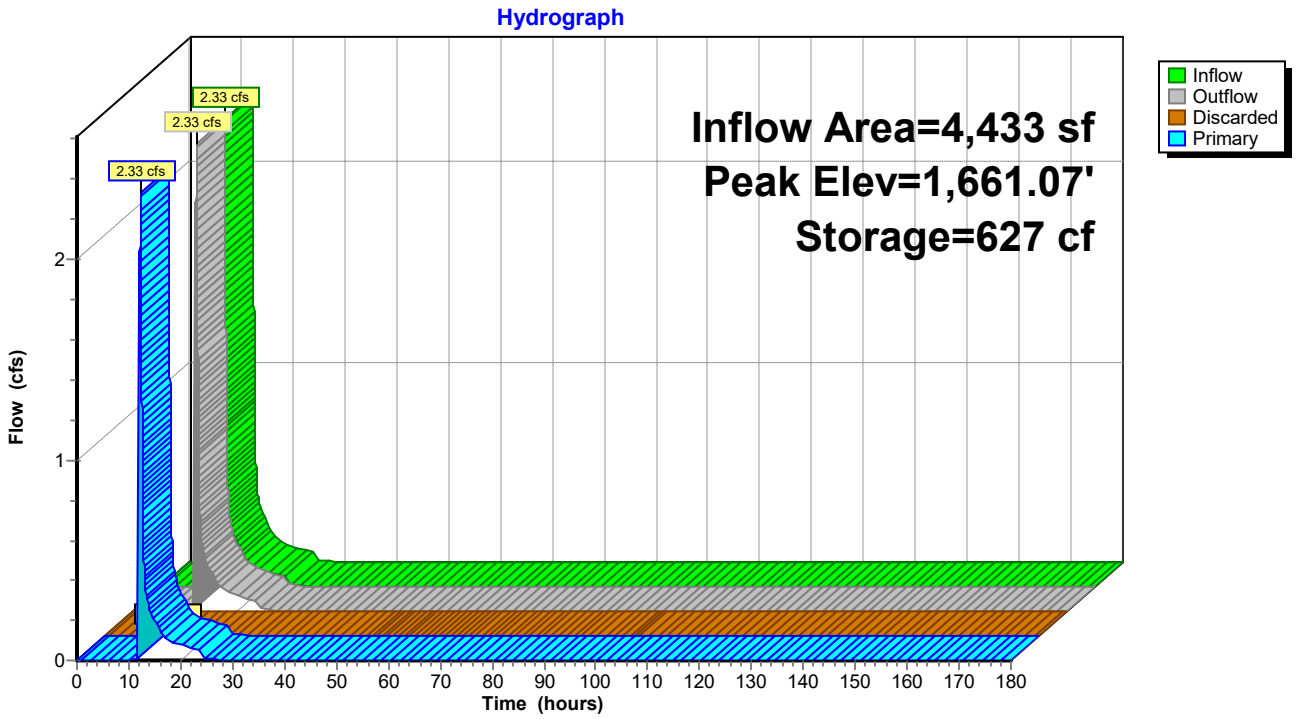
Volume	Invert	Avail.Storage	Storage Description
#1	1,658.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,660.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,658.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,661.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 11.97 hrs HW=1,660.51' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=2.33 cfs @ 12.24 hrs HW=1,661.07' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 2.33 cfs @ 0.69 fps)

Pond IT4: Infiltration



Hydrograph for Pond IT4: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,658.00	0.00	0.00	0.00
5.00	0.00	0	1,658.00	0.00	0.00	0.00
10.00	**0.01**	**8**	**1,658.05**	**0.00**	**0.00**	**0.00**
15.00	**0.20**	**605**	**1,661.01**	**0.20**	**0.00**	**0.20**
20.00	0.08	603	1,661.01	0.08	0.00	0.08
25.00	0.01	601	1,661.00	0.01	0.00	0.01
30.00	0.00	586	1,660.96	0.00	0.00	0.00
35.00	0.00	537	1,660.84	0.00	0.00	0.00
40.00	0.00	488	1,660.72	0.00	0.00	0.00
45.00	0.00	439	1,660.60	0.00	0.00	0.00
50.00	0.00	391	1,660.44	0.00	0.00	0.00
55.00	0.00	343	1,660.15	0.00	0.00	0.00
60.00	0.00	299	1,659.87	0.00	0.00	0.00
65.00	0.00	256	1,659.60	0.00	0.00	0.00
70.00	0.00	216	1,659.35	0.00	0.00	0.00
75.00	0.00	177	1,659.11	0.00	0.00	0.00
80.00	0.00	141	1,658.88	0.00	0.00	0.00
85.00	0.00	106	1,658.66	0.00	0.00	0.00
90.00	0.00	73	1,658.46	0.00	0.00	0.00
95.00	0.00	42	1,658.26	0.00	0.00	0.00
100.00	0.00	12	1,658.08	0.00	0.00	0.00
105.00	0.00	0	1,658.00	0.00	0.00	0.00
110.00	0.00	0	1,658.00	0.00	0.00	0.00
115.00	0.00	0	1,658.00	0.00	0.00	0.00
120.00	0.00	0	1,658.00	0.00	0.00	0.00
125.00	0.00	0	1,658.00	0.00	0.00	0.00
130.00	0.00	0	1,658.00	0.00	0.00	0.00
135.00	0.00	0	1,658.00	0.00	0.00	0.00
140.00	0.00	0	1,658.00	0.00	0.00	0.00
145.00	0.00	0	1,658.00	0.00	0.00	0.00
150.00	0.00	0	1,658.00	0.00	0.00	0.00
155.00	0.00	0	1,658.00	0.00	0.00	0.00
160.00	0.00	0	1,658.00	0.00	0.00	0.00
165.00	0.00	0	1,658.00	0.00	0.00	0.00
170.00	0.00	0	1,658.00	0.00	0.00	0.00
175.00	0.00	0	1,658.00	0.00	0.00	0.00
180.00	0.00	0	1,658.00	0.00	0.00	0.00

Summary for Pond IT5: Infiltration

Inflow Area = 378,878 sf, 0.03% Impervious, Inflow Depth = 1.07" for 2-Year event
Inflow = 5.98 cfs @ 12.23 hrs, Volume= 33,636 cf
Outflow = 5.98 cfs @ 12.24 hrs, Volume= 33,636 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 10.71 hrs, Volume= 1,230 cf
Primary = 5.28 cfs @ 12.24 hrs, Volume= 28,492 cf
Routed to Link P-4L : Lag
Secondary = 0.70 cfs @ 12.23 hrs, Volume= 3,914 cf
Routed to Pond IT4 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,661.12' @ 12.24 hrs Surf.Area= 400 sf Storage= 1,046 cf

Plug-Flow detention time= 130.7 min calculated for 33,634 cf (100% of inflow)
Center-of-Mass det. time= 131.1 min (1,046.9 - 915.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,657.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,659.50'	800 cf	**8.00'W x 50.00'L x 2.00'H Overflow Storage** -Impervious
		1,200 cf	Total Available Storage

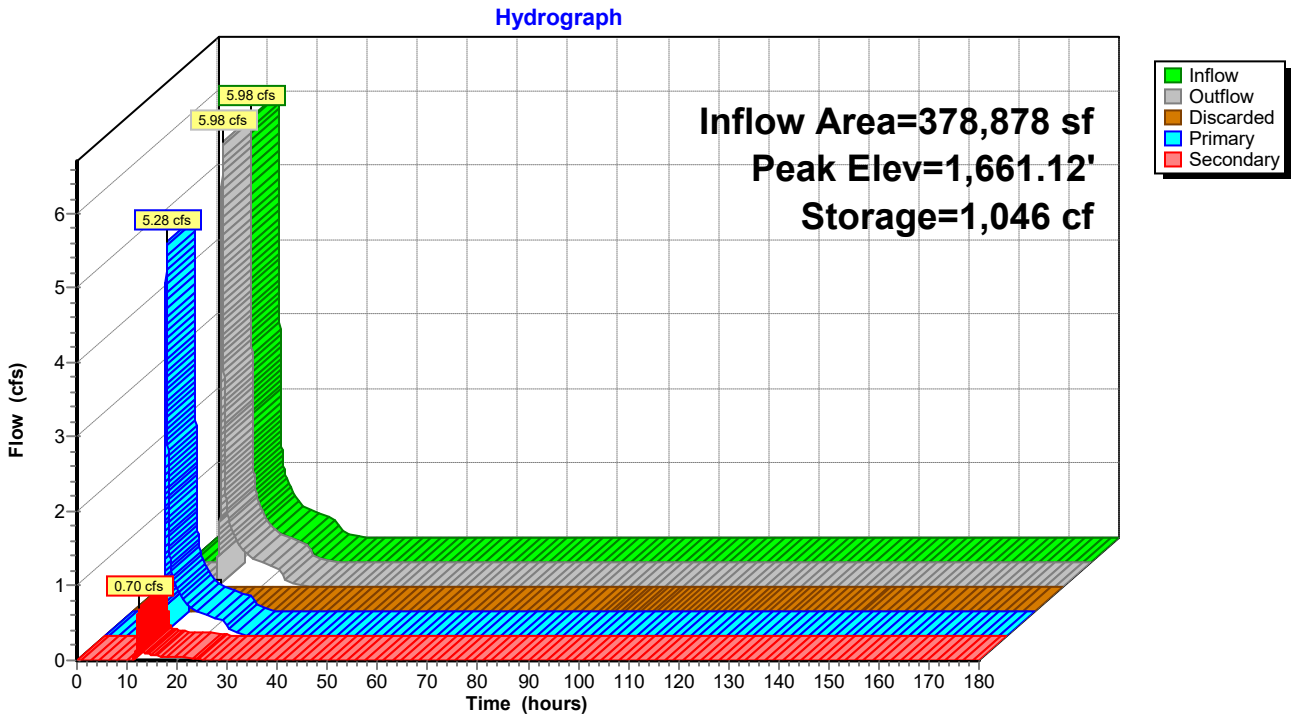
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,657.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,661.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,661.00'	**8.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 10.71 hrs HW=1,659.51' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=5.28 cfs @ 12.24 hrs HW=1,661.12' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 5.28 cfs @ 0.91 fps)

Secondary OutFlow Max=0.70 cfs @ 12.23 hrs HW=1,661.12' TW=1,661.07' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 0.70 cfs @ 0.73 fps)

Pond IT5: Infiltration



Hydrograph for Pond IT5: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
5.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
10.00	**0.06**	**120**	**1,657.75**	**0.00**	**0.00**	**0.00**	**0.00**
15.00	**0.64**	**1,010**	**1,661.03**	**0.64**	**0.00**	**0.56**	**0.08**
20.00	0.33	1,007	1,661.02	0.33	0.00	0.29	0.04
25.00	0.09	1,003	1,661.01	0.09	0.00	0.08	0.01
30.00	0.00	1,000	1,661.00	0.00	0.00	0.00	0.00
35.00	0.00	965	1,660.91	0.00	0.00	0.00	0.00
40.00	0.00	916	1,660.79	0.00	0.00	0.00	0.00
45.00	0.00	867	1,660.67	0.00	0.00	0.00	0.00
50.00	0.00	818	1,660.54	0.00	0.00	0.00	0.00
55.00	0.00	769	1,660.42	0.00	0.00	0.00	0.00
60.00	0.00	720	1,660.30	0.00	0.00	0.00	0.00
65.00	0.00	671	1,660.18	0.00	0.00	0.00	0.00
70.00	0.00	622	1,660.06	0.00	0.00	0.00	0.00
75.00	0.00	574	1,659.93	0.00	0.00	0.00	0.00
80.00	0.00	525	1,659.81	0.00	0.00	0.00	0.00
85.00	0.00	476	1,659.69	0.00	0.00	0.00	0.00
90.00	0.00	427	1,659.57	0.00	0.00	0.00	0.00
95.00	0.00	378	1,659.36	0.00	0.00	0.00	0.00
100.00	0.00	332	1,659.07	0.00	0.00	0.00	0.00
105.00	0.00	288	1,658.80	0.00	0.00	0.00	0.00
110.00	0.00	246	1,658.53	0.00	0.00	0.00	0.00
115.00	0.00	206	1,658.29	0.00	0.00	0.00	0.00
120.00	0.00	168	1,658.05	0.00	0.00	0.00	0.00
125.00	0.00	132	1,657.82	0.00	0.00	0.00	0.00
130.00	0.00	98	1,657.61	0.00	0.00	0.00	0.00
135.00	0.00	65	1,657.41	0.00	0.00	0.00	0.00
140.00	0.00	34	1,657.21	0.00	0.00	0.00	0.00
145.00	0.00	5	1,657.03	0.00	0.00	0.00	0.00
150.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00

Summary for Pond IT6: Infiltration

Inflow Area = 12,195 sf, 32.81% Impervious, Inflow Depth = 2.16" for 2-Year event
Inflow = 0.71 cfs @ 12.09 hrs, Volume= 2,199 cf
Outflow = 0.71 cfs @ 12.09 hrs, Volume= 2,199 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 11.64 hrs, Volume= 519 cf
Primary = 0.71 cfs @ 12.09 hrs, Volume= 1,680 cf
Routed to Link 10L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,659.53' @ 12.09 hrs Surf.Area= 263 sf Storage= 407 cf

Plug-Flow detention time= 456.0 min calculated for 2,199 cf (100% of inflow)
Center-of-Mass det. time= 456.2 min (1,266.1 - 809.9)

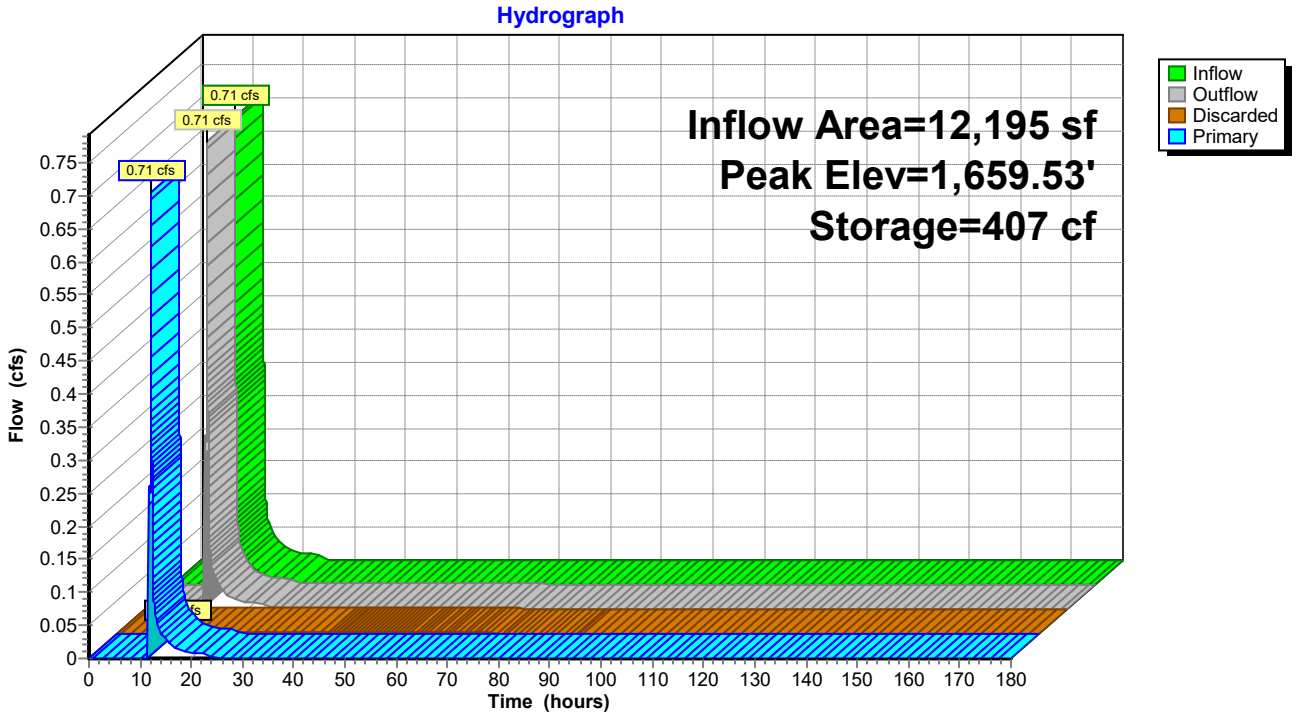
Volume	Invert	Avail.Storage	Storage Description
#1	1,656.45'	268 cf	**5.25'W x 50.00'L x 2.55'H Prismatoid** 669 cf Overall x 40.0% Voids
#2	1,659.00'	263 cf	**5.25'W x 50.00'L x 1.00'H Overflow Storage** -Impervious
		530 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,656.45'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,659.50'	**50.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 11.64 hrs HW=1,659.01' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.70 cfs @ 12.09 hrs HW=1,659.53' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 0.70 cfs @ 0.47 fps)

Pond IT6: Infiltration



Hydrograph for Pond IT6: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,656.45	0.00	0.00	0.00
5.00	0.00	0	1,656.45	0.00	0.00	0.00
10.00	**0.02**	**69**	**1,657.11**	**0.00**	**0.00**	**0.00**
15.00	**0.03**	**400**	**1,659.50**	**0.03**	**0.00**	**0.03**
20.00	0.01	399	1,659.50	0.01	0.00	0.01
25.00	0.00	392	1,659.48	0.00	0.00	0.00
30.00	0.00	354	1,659.33	0.00	0.00	0.00
35.00	0.00	315	1,659.18	0.00	0.00	0.00
40.00	0.00	277	1,659.03	0.00	0.00	0.00
45.00	0.00	239	1,658.73	0.00	0.00	0.00
50.00	0.00	204	1,658.39	0.00	0.00	0.00
55.00	0.00	171	1,658.08	0.00	0.00	0.00
60.00	0.00	141	1,657.79	0.00	0.00	0.00
65.00	0.00	113	1,657.53	0.00	0.00	0.00
70.00	0.00	87	1,657.28	0.00	0.00	0.00
75.00	0.00	63	1,657.05	0.00	0.00	0.00
80.00	0.00	40	1,656.84	0.00	0.00	0.00
85.00	0.00	20	1,656.64	0.00	0.00	0.00
90.00	0.00	0	1,656.45	0.00	0.00	0.00
95.00	0.00	0	1,656.45	0.00	0.00	0.00
100.00	0.00	0	1,656.45	0.00	0.00	0.00
105.00	0.00	0	1,656.45	0.00	0.00	0.00
110.00	0.00	0	1,656.45	0.00	0.00	0.00
115.00	0.00	0	1,656.45	0.00	0.00	0.00
120.00	0.00	0	1,656.45	0.00	0.00	0.00
125.00	0.00	0	1,656.45	0.00	0.00	0.00
130.00	0.00	0	1,656.45	0.00	0.00	0.00
135.00	0.00	0	1,656.45	0.00	0.00	0.00
140.00	0.00	0	1,656.45	0.00	0.00	0.00
145.00	0.00	0	1,656.45	0.00	0.00	0.00
150.00	0.00	0	1,656.45	0.00	0.00	0.00
155.00	0.00	0	1,656.45	0.00	0.00	0.00
160.00	0.00	0	1,656.45	0.00	0.00	0.00
165.00	0.00	0	1,656.45	0.00	0.00	0.00
170.00	0.00	0	1,656.45	0.00	0.00	0.00
175.00	0.00	0	1,656.45	0.00	0.00	0.00
180.00	0.00	0	1,656.45	0.00	0.00	0.00

Summary for Pond P-3P: 12" CPP

Inflow Area = 53,131 sf, 0.04% Impervious, Inflow Depth = 1.40" for 2-Year event
Inflow = 1.48 cfs @ 12.22 hrs, Volume= 6,219 cf
Outflow = 1.48 cfs @ 12.22 hrs, Volume= 6,219 cf, Atten= 0%, Lag= 0.4 min
Discarded = 0.00 cfs @ 12.22 hrs, Volume= 4 cf
Primary = 1.24 cfs @ 12.22 hrs, Volume= 4,870 cf
Routed to Link FS1 : Filter Strip
Secondary = 0.24 cfs @ 12.22 hrs, Volume= 1,345 cf
Routed to Pond 3.5P : 15" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,664.67' @ 12.22 hrs Surf.Area= 87 sf Storage= 25 cf
Flood Elev= 1,666.50' Surf.Area= 673 sf Storage= 677 cf

Plug-Flow detention time= 0.2 min calculated for 6,219 cf (100% of inflow)
Center-of-Mass det. time= 0.2 min (853.4 - 853.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,664.00'	1,065 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,664.00	4	10.1	0	0	4
1,665.00	166	57.3	65	65	259
1,665.50	320	88.1	119	185	618
1,666.00	493	98.7	202	386	782
1,667.00	882	152.5	678	1,065	1,865

Device	Routing	Invert	Outlet Devices
#1	Primary	1,664.00'	**12.0" Round Culvert** L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,664.00' / 1,663.60' S= 0.0087 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Discarded	1,664.00'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,666.50'	**Road Overflow, C= 3.27** Offset (feet) 0.00 16.30 16.30 Height (feet) 0.50 0.00 0.50
#4	Secondary	1,664.00'	**4.00' long x 11.00' breadth x 1.50' high Rock Fill** Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#5	Secondary	1,665.50'	**13.8' long + 3.0 '/' SideZ x 1.0' breadth Check Dam** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

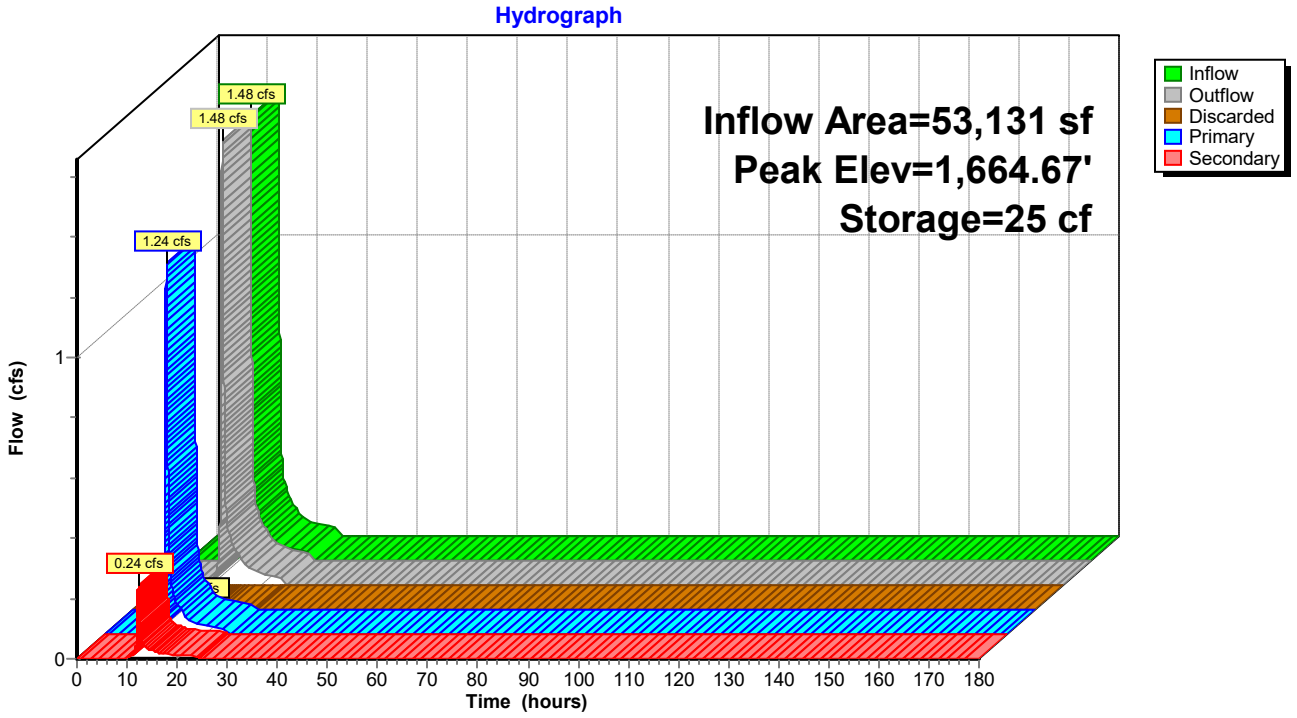
Discarded OutFlow Max=0.00 cfs @ 12.22 hrs HW=1,664.67' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=1.24 cfs @ 12.22 hrs HW=1,664.67' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 1.24 cfs @ 2.20 fps)
└**3=Road Overflow** (Controls 0.00 cfs)

Secondary OutFlow Max=0.24 cfs @ 12.22 hrs HW=1,664.67' TW=1,661.85' (Dynamic Tailwater)
├**4=Rock Fill** (Rockfill Controls 0.24 cfs @ 0.18 fps)
└**5=Check Dam** (Controls 0.00 cfs)

Pond P-3P: 12" CPP

Hydrograph



Hydrograph for Pond P-3P: 12" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
5.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
10.00	**0.01**	**0**	**1,664.04**	**0.01**	**0.00**	**0.00**	**0.00**
15.00	**0.11**	**1**	**1,664.16**	**0.12**	**0.00**	**0.09**	**0.03**
20.00	0.04	1	1,664.09	0.04	0.00	0.03	0.01
25.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
30.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
35.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
40.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
45.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
50.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
55.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
60.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
65.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
70.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
75.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
80.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00

Summary for Pond P-4P: 2x15" CPP

Inflow Area = 258,822 sf, 0.03% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 2.91 cfs @ 12.19 hrs, Volume= 23,750 cf
Outflow = 2.90 cfs @ 12.19 hrs, Volume= 23,750 cf, Atten= 0%, Lag= 0.4 min
Discarded = 0.00 cfs @ 12.19 hrs, Volume= 44 cf
Primary = 2.90 cfs @ 12.19 hrs, Volume= 23,706 cf
Routed to Link FS2 : Filter Strip

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,660.66' @ 12.19 hrs Surf.Area= 185 sf Storage= 89 cf
Flood Elev= 1,662.50' Surf.Area= 592 sf Storage= 782 cf

Plug-Flow detention time= 1.0 min calculated for 23,749 cf (100% of inflow)
Center-of-Mass det. time= 1.0 min (965.7 - 964.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.00'	1,109 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

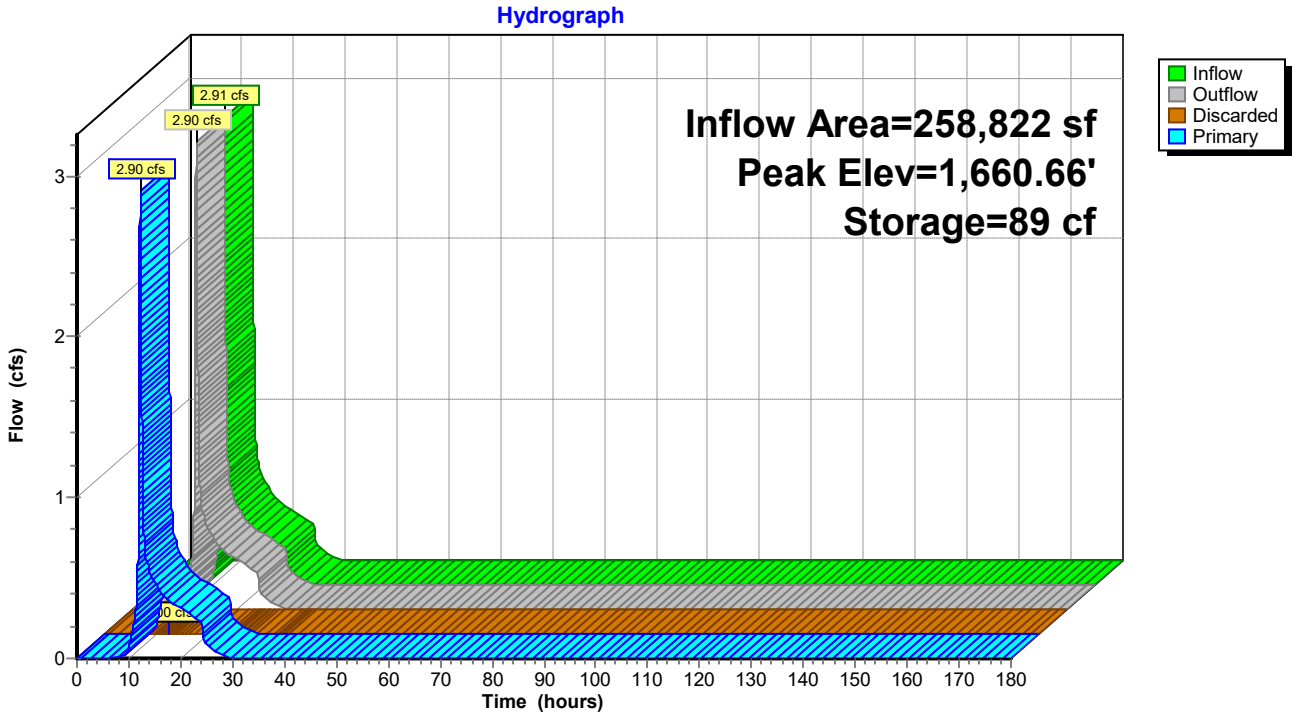
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.00	88	41.6	0	0	88
1,661.00	247	64.3	161	161	286
1,662.00	475	87.0	355	516	570
1,663.00	721	107.4	594	1,109	900

Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.00'	**15.0" Round Culvert X 2.00** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.00' / 1,659.60' S= 0.0089 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Discarded	1,660.00'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,662.50'	**Road Overflow, C= 3.27** Offset (feet) 0.00 18.61 20.86 35.05 Height (feet) 0.50 0.00 0.00 0.50

Discarded OutFlow Max=0.00 cfs @ 12.19 hrs HW=1,660.66' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=2.90 cfs @ 12.19 hrs HW=1,660.66' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 2.90 cfs @ 2.19 fps)
└**3=Road Overflow** (Controls 0.00 cfs)

Pond P-4P: 2x15" CPP



Hydrograph for Pond P-4P: 2x15" CPP

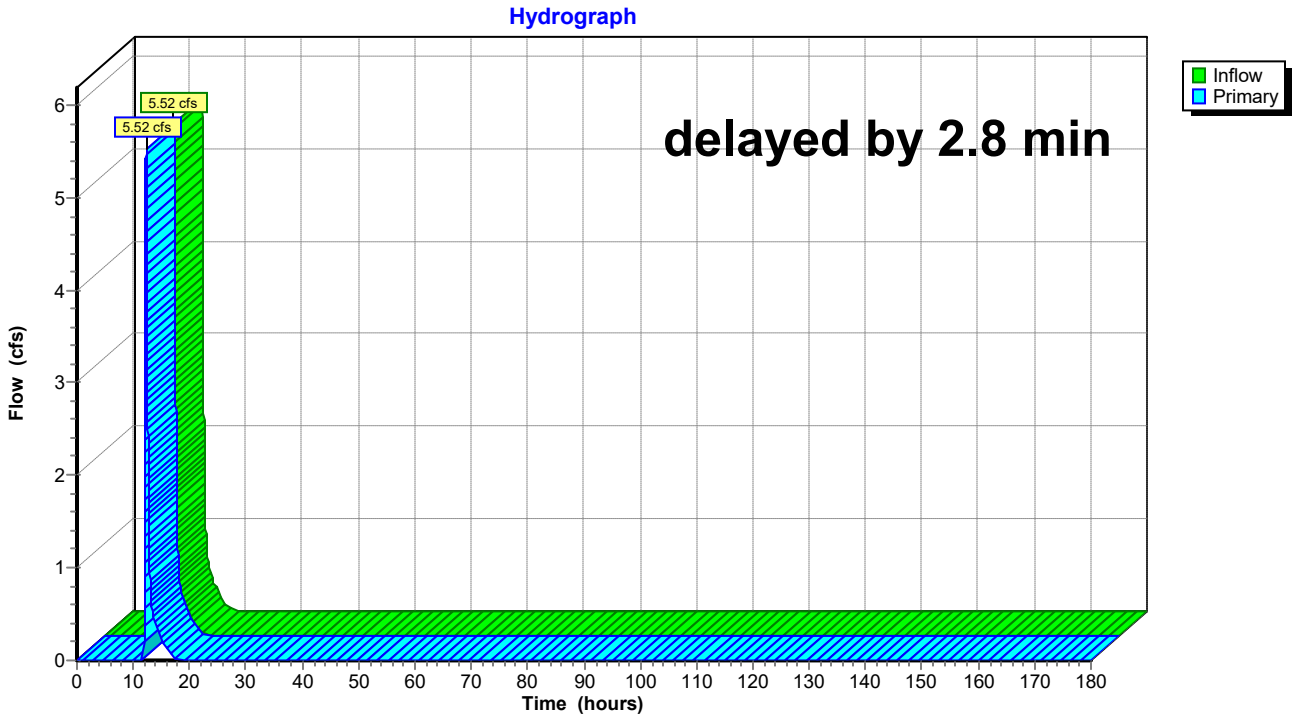
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,660.00	0.00	0.00	0.00
5.00	0.00	0	1,660.00	0.00	0.00	0.00
10.00	**0.06**	**8**	**1,660.09**	**0.06**	**0.00**	**0.06**
15.00	**0.47**	**26**	**1,660.25**	**0.48**	**0.00**	**0.47**
20.00	0.31	20	1,660.20	0.31	0.00	0.31
25.00	0.09	10	1,660.11	0.09	0.00	0.09
30.00	0.00	2	1,660.02	0.00	0.00	0.00
35.00	0.00	0	1,660.00	0.00	0.00	0.00
40.00	0.00	0	1,660.00	0.00	0.00	0.00
45.00	0.00	0	1,660.00	0.00	0.00	0.00
50.00	0.00	0	1,660.00	0.00	0.00	0.00
55.00	0.00	0	1,660.00	0.00	0.00	0.00
60.00	0.00	0	1,660.00	0.00	0.00	0.00
65.00	0.00	0	1,660.00	0.00	0.00	0.00
70.00	0.00	0	1,660.00	0.00	0.00	0.00
75.00	0.00	0	1,660.00	0.00	0.00	0.00
80.00	0.00	0	1,660.00	0.00	0.00	0.00
85.00	0.00	0	1,660.00	0.00	0.00	0.00
90.00	0.00	0	1,660.00	0.00	0.00	0.00
95.00	0.00	0	1,660.00	0.00	0.00	0.00
100.00	0.00	0	1,660.00	0.00	0.00	0.00
105.00	0.00	0	1,660.00	0.00	0.00	0.00
110.00	0.00	0	1,660.00	0.00	0.00	0.00
115.00	0.00	0	1,660.00	0.00	0.00	0.00
120.00	0.00	0	1,660.00	0.00	0.00	0.00
125.00	0.00	0	1,660.00	0.00	0.00	0.00
130.00	0.00	0	1,660.00	0.00	0.00	0.00
135.00	0.00	0	1,660.00	0.00	0.00	0.00
140.00	0.00	0	1,660.00	0.00	0.00	0.00
145.00	0.00	0	1,660.00	0.00	0.00	0.00
150.00	0.00	0	1,660.00	0.00	0.00	0.00
155.00	0.00	0	1,660.00	0.00	0.00	0.00
160.00	0.00	0	1,660.00	0.00	0.00	0.00
165.00	0.00	0	1,660.00	0.00	0.00	0.00
170.00	0.00	0	1,660.00	0.00	0.00	0.00
175.00	0.00	0	1,660.00	0.00	0.00	0.00
180.00	0.00	0	1,660.00	0.00	0.00	0.00

Summary for Link 7L: Lag

Inflow = 5.52 cfs @ 12.22 hrs, Volume= 14,631 cf
Primary = 5.52 cfs @ 12.27 hrs, Volume= 14,631 cf, Atten= 0%, Lag= 2.8 min
Routed to Reach P-DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 2.8 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 7L: Lag



Hydrograph for Link 7L: Lag

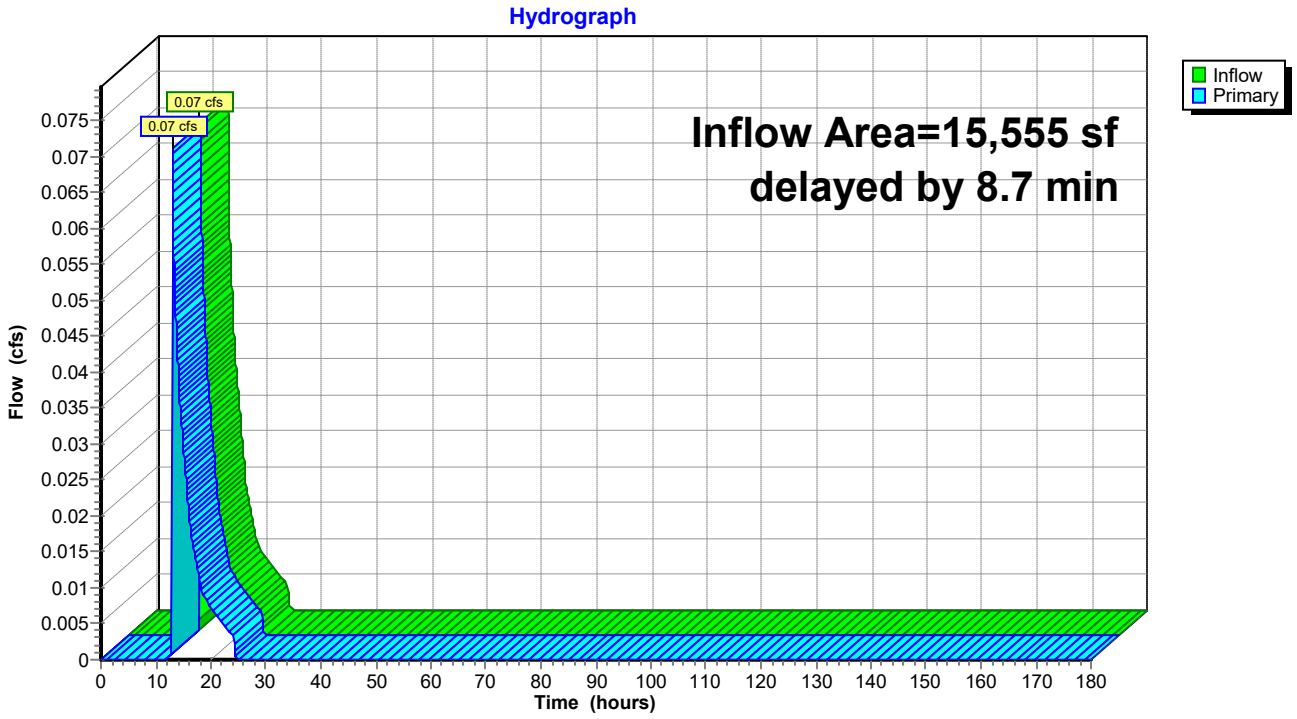
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**2.21**	0.00	**1.62**	116.00	0.00	0.00	0.00
14.00	**0.38**	0.00	**0.39**	118.00	0.00	0.00	0.00
16.00	0.12	0.00	0.12	120.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	122.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	124.00	0.00	0.00	0.00
22.00	0.00	0.00	0.00	126.00	0.00	0.00	0.00
24.00	0.00	0.00	0.00	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 8L: Lag

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 0.50" for 2-Year event
Inflow = 0.07 cfs @ 12.88 hrs, Volume= 649 cf
Primary = 0.07 cfs @ 13.02 hrs, Volume= 649 cf, Atten= 0%, Lag= 8.8 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 8.7 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 8L: Lag



Hydrograph for Link 8L: Lag

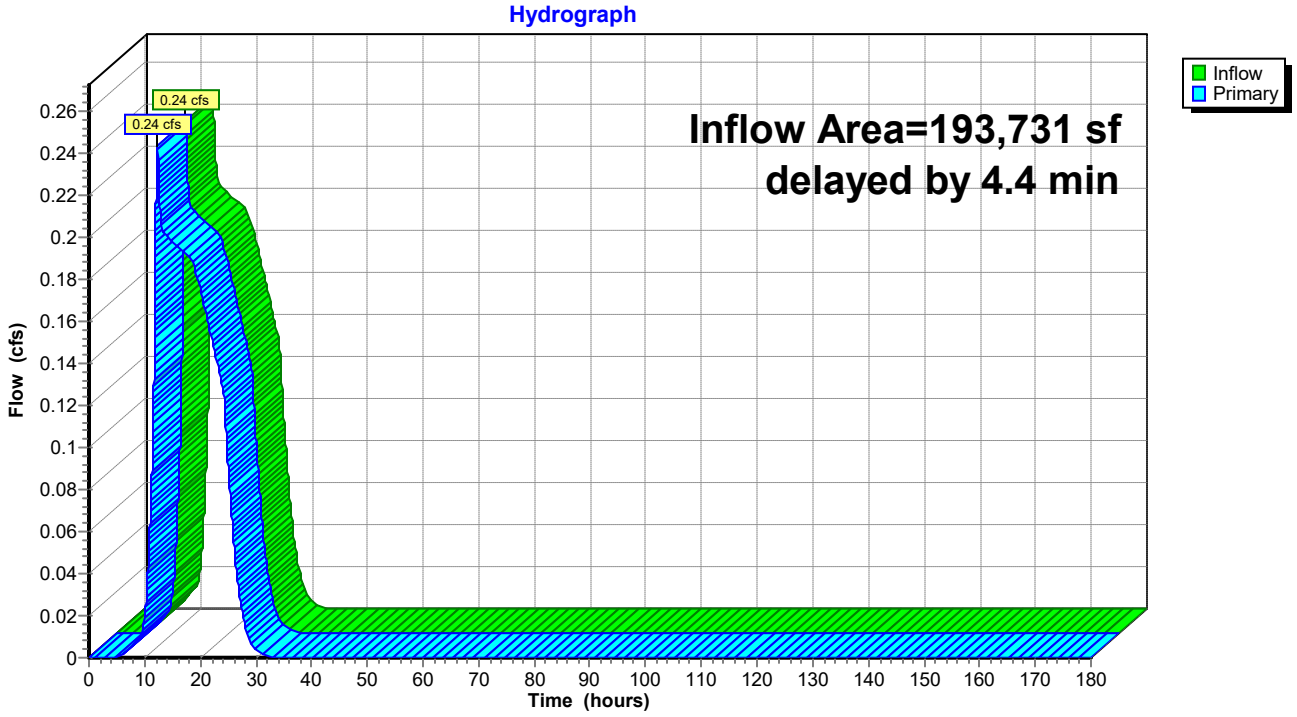
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.00**	0.00	**0.00**	116.00	0.00	0.00	0.00
14.00	**0.04**	0.00	**0.04**	118.00	0.00	0.00	0.00
16.00	0.02	0.00	0.02	120.00	0.00	0.00	0.00
18.00	0.01	0.00	0.01	122.00	0.00	0.00	0.00
20.00	0.01	0.00	0.01	124.00	0.00	0.00	0.00
22.00	0.01	0.00	0.01	126.00	0.00	0.00	0.00
24.00	0.00	0.00	0.00	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 9L: Lag

Inflow Area = 193,731 sf, 0.03% Impervious, Inflow Depth = 0.59" for 2-Year event
Inflow = 0.24 cfs @ 12.22 hrs, Volume= 9,501 cf
Primary = 0.24 cfs @ 12.29 hrs, Volume= 9,501 cf, Atten= 0%, Lag= 4.4 min
Routed to Pond P-4P : 2x15" CPP

Primary outflow = Inflow delayed by 4.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 9L: Lag



Hydrograph for Link 9L: Lag

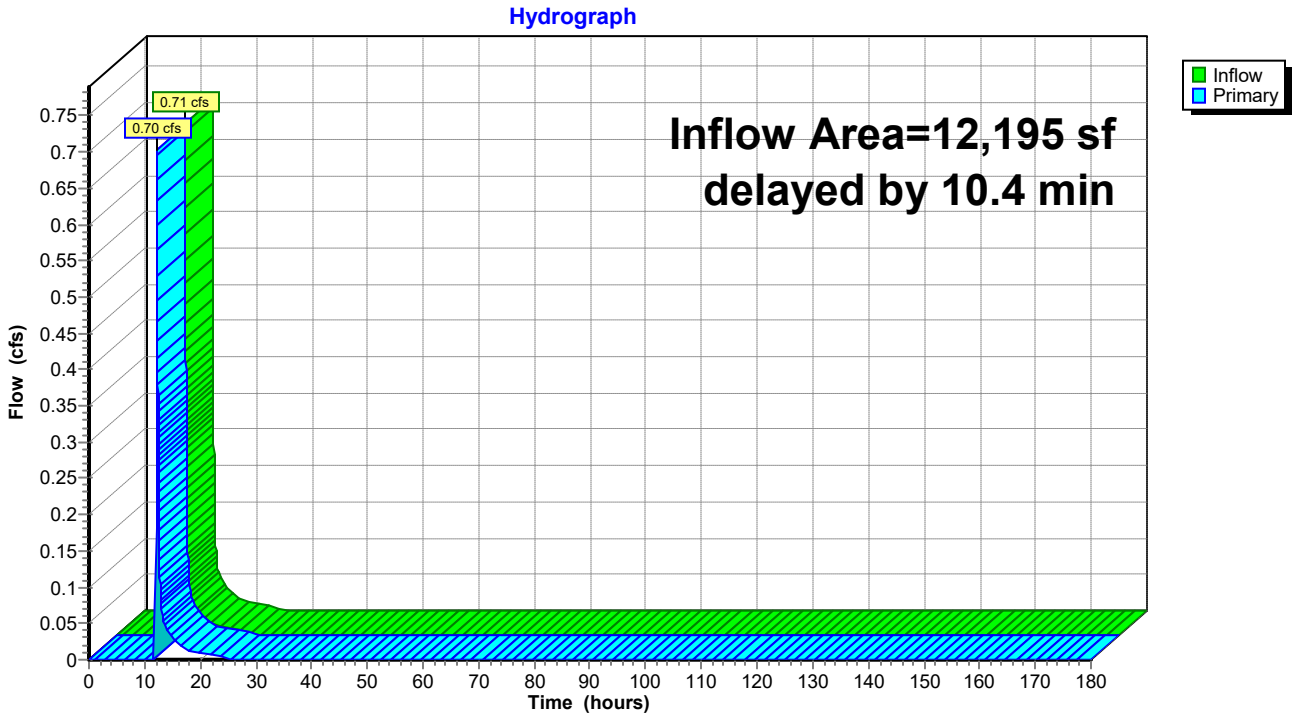
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	112.00	0.00	0.00	0.00
10.00	0.02	0.00	0.02	114.00	0.00	0.00	0.00
12.00	**0.22**	0.00	**0.21**	116.00	0.00	0.00	0.00
14.00	**0.20**	0.00	**0.20**	118.00	0.00	0.00	0.00
16.00	0.19	0.00	0.19	120.00	0.00	0.00	0.00
18.00	0.19	0.00	0.19	122.00	0.00	0.00	0.00
20.00	0.17	0.00	0.18	124.00	0.00	0.00	0.00
22.00	0.15	0.00	0.15	126.00	0.00	0.00	0.00
24.00	0.13	0.00	0.13	128.00	0.00	0.00	0.00
26.00	0.05	0.00	0.06	130.00	0.00	0.00	0.00
28.00	0.02	0.00	0.02	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 10L: Lag

Inflow Area = 12,195 sf, 32.81% Impervious, Inflow Depth = 1.65" for 2-Year event
Inflow = 0.71 cfs @ 12.09 hrs, Volume= 1,680 cf
Primary = 0.70 cfs @ 12.26 hrs, Volume= 1,680 cf, Atten= 0%, Lag= 10.4 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 10.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 10L: Lag



Hydrograph for Link 10L: Lag

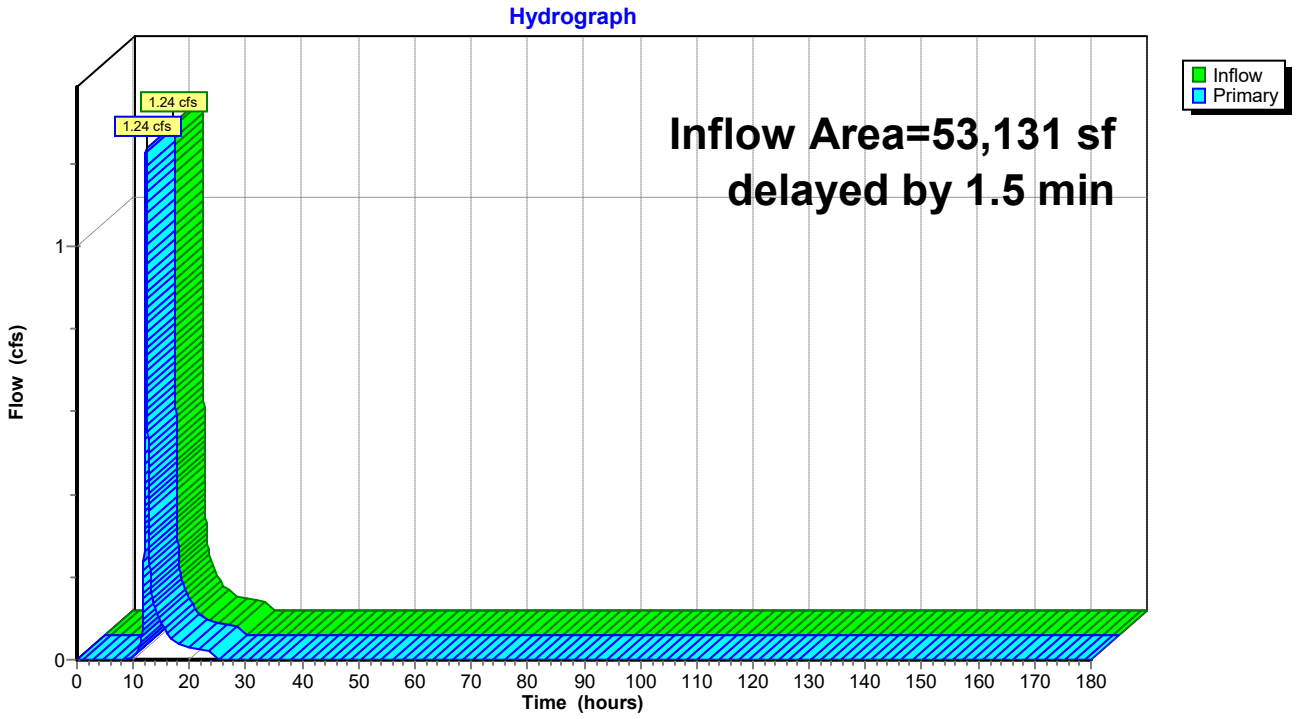
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.41**	0.00	**0.00**	116.00	0.00	0.00	0.00
14.00	**0.04**	0.00	**0.04**	118.00	0.00	0.00	0.00
16.00	0.02	0.00	0.02	120.00	0.00	0.00	0.00
18.00	0.01	0.00	0.01	122.00	0.00	0.00	0.00
20.00	0.01	0.00	0.01	124.00	0.00	0.00	0.00
22.00	0.01	0.00	0.01	126.00	0.00	0.00	0.00
24.00	0.01	0.00	0.01	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link FS1: Filter Strip

Inflow Area = 53,131 sf, 0.04% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 1.24 cfs @ 12.22 hrs, Volume= 4,870 cf
Primary = 1.24 cfs @ 12.25 hrs, Volume= 4,870 cf, Atten= 0%, Lag= 1.5 min
Routed to Pond IT2 : Infiltration

Primary outflow = Inflow delayed by 1.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link FS1: Filter Strip



Hydrograph for Link FS1: Filter Strip

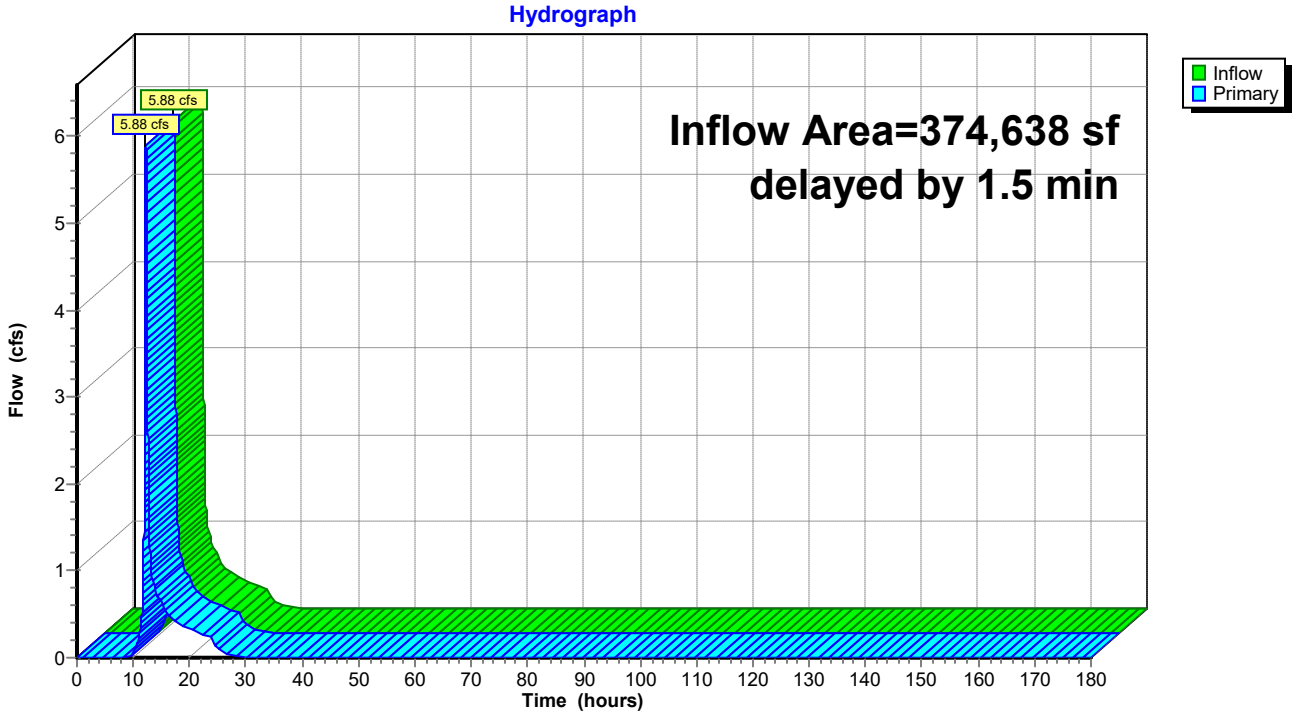
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.44**	0.00	**0.39**	116.00	0.00	0.00	0.00
14.00	**0.12**	0.00	**0.12**	118.00	0.00	0.00	0.00
16.00	0.06	0.00	0.06	120.00	0.00	0.00	0.00
18.00	0.04	0.00	0.04	122.00	0.00	0.00	0.00
20.00	0.03	0.00	0.03	124.00	0.00	0.00	0.00
22.00	0.02	0.00	0.02	126.00	0.00	0.00	0.00
24.00	0.02	0.00	0.02	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link FS2: Filter Strip

Inflow Area = 374,638 sf, 0.03% Impervious, Inflow Depth = 1.06" for 2-Year event
Inflow = 5.88 cfs @ 12.21 hrs, Volume= 32,960 cf
Primary = 5.88 cfs @ 12.24 hrs, Volume= 32,960 cf, Atten= 0%, Lag= 1.5 min
Routed to Pond IT5 : Infiltration

Primary outflow = Inflow delayed by 1.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link FS2: Filter Strip



Hydrograph for Link FS2: Filter Strip

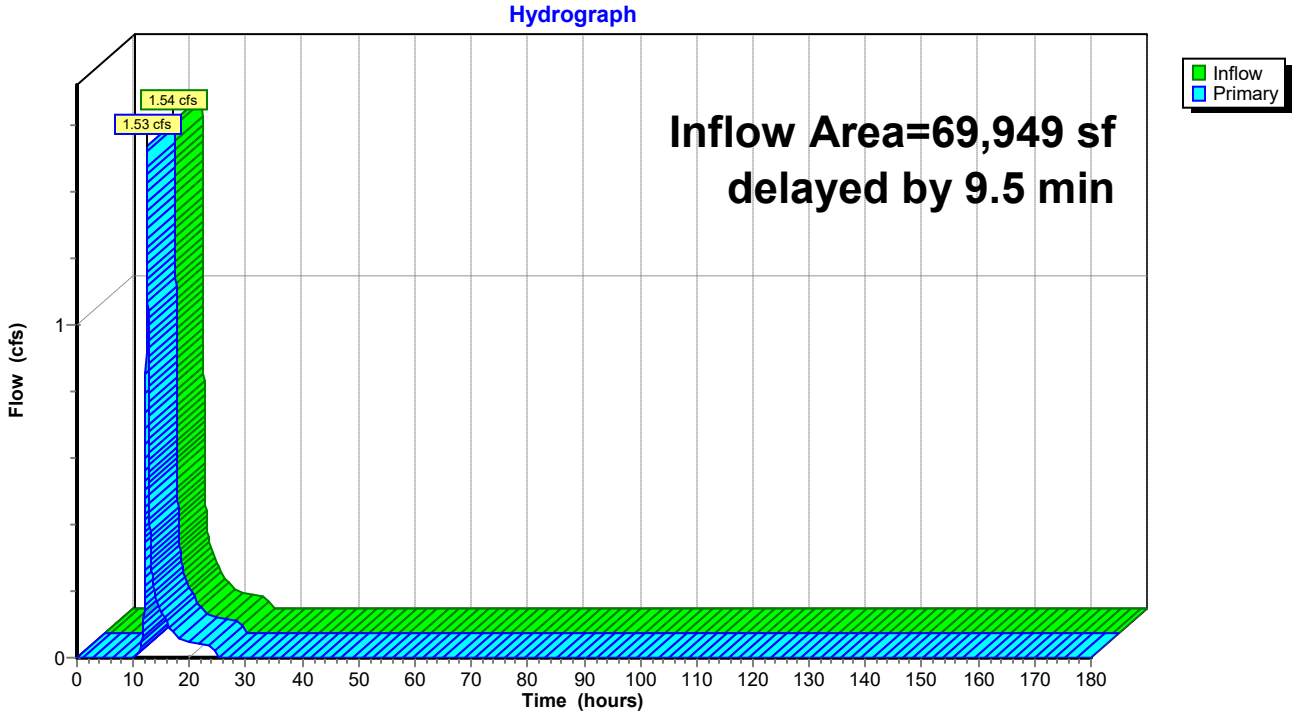
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	112.00	0.00	0.00	0.00
10.00	0.06	0.00	0.06	114.00	0.00	0.00	0.00
12.00	**2.38**	0.00	**2.15**	116.00	0.00	0.00	0.00
14.00	**0.76**	0.00	**0.77**	118.00	0.00	0.00	0.00
16.00	0.51	0.00	0.51	120.00	0.00	0.00	0.00
18.00	0.38	0.00	0.38	122.00	0.00	0.00	0.00
20.00	0.33	0.00	0.33	124.00	0.00	0.00	0.00
22.00	0.28	0.00	0.28	126.00	0.00	0.00	0.00
24.00	0.23	0.00	0.23	128.00	0.00	0.00	0.00
26.00	0.06	0.00	0.06	130.00	0.00	0.00	0.00
28.00	0.02	0.00	0.02	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-1L: Lag

Inflow Area = 69,949 sf, 0.03% Impervious, Inflow Depth = 1.16" for 2-Year event
Inflow = 1.54 cfs @ 12.24 hrs, Volume= 6,734 cf
Primary = 1.53 cfs @ 12.39 hrs, Volume= 6,734 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-1L: Lag



Hydrograph for Link P-1L: Lag

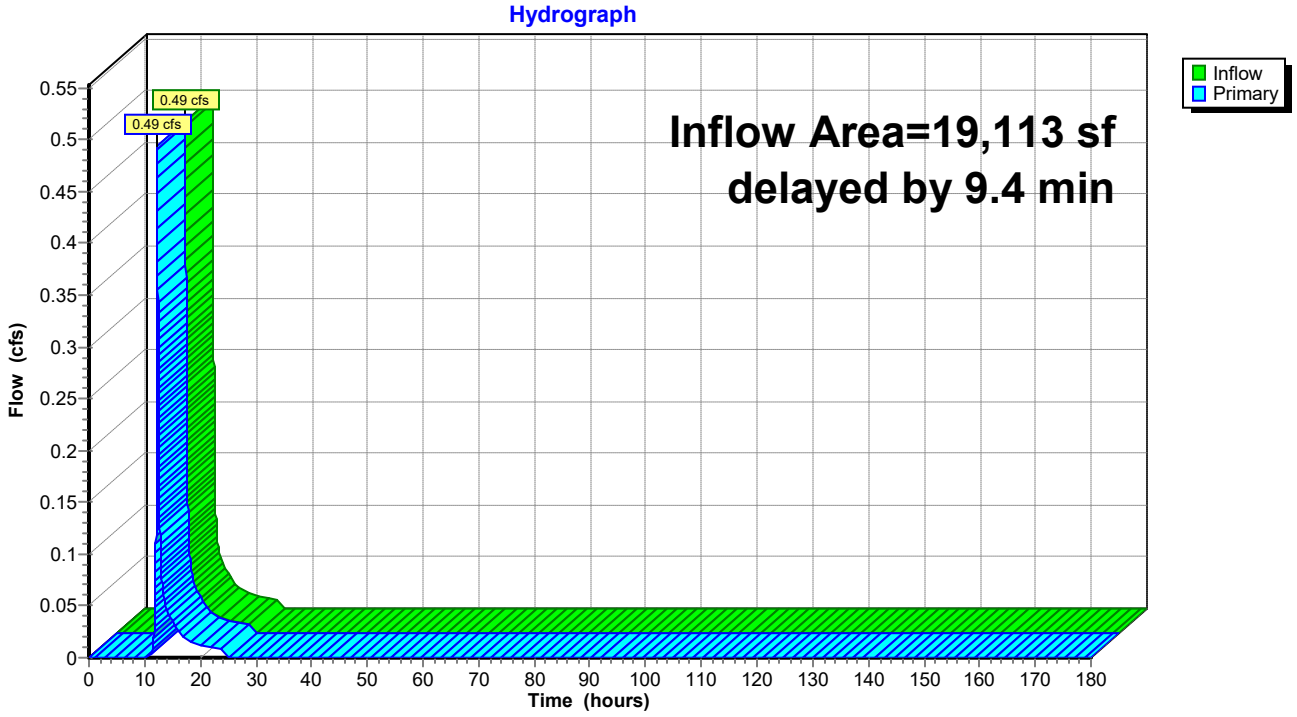
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.50**	0.00	**0.23**	116.00	0.00	0.00	0.00
14.00	**0.18**	0.00	**0.19**	118.00	0.00	0.00	0.00
16.00	0.10	0.00	0.10	120.00	0.00	0.00	0.00
18.00	0.06	0.00	0.06	122.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	124.00	0.00	0.00	0.00
22.00	0.04	0.00	0.04	126.00	0.00	0.00	0.00
24.00	0.03	0.00	0.03	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-2L: Lag

Inflow Area = 19,113 sf, 0.02% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 0.49 cfs @ 12.13 hrs, Volume= 1,748 cf
Primary = 0.49 cfs @ 12.28 hrs, Volume= 1,748 cf, Atten= 0%, Lag= 9.4 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-2L: Lag



Hydrograph for Link P-2L: Lag

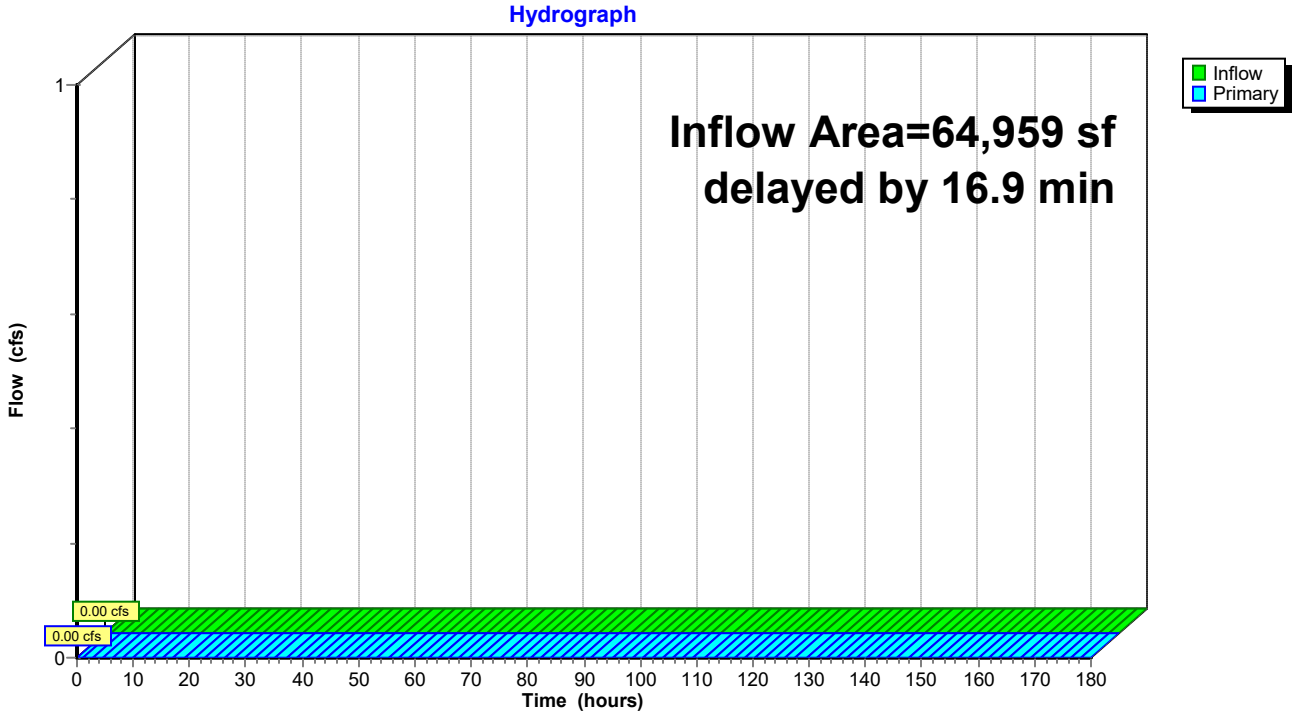
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.21**	0.00	**0.09**	116.00	0.00	0.00	0.00
14.00	**0.04**	0.00	**0.05**	118.00	0.00	0.00	0.00
16.00	0.02	0.00	0.03	120.00	0.00	0.00	0.00
18.00	0.02	0.00	0.02	122.00	0.00	0.00	0.00
20.00	0.01	0.00	0.01	124.00	0.00	0.00	0.00
22.00	0.01	0.00	0.01	126.00	0.00	0.00	0.00
24.00	0.01	0.00	0.01	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-3L: Lag

Inflow Area = 64,959 sf, 0.03% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 16.9 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-3L: Lag



Hydrograph for Link P-3L: Lag

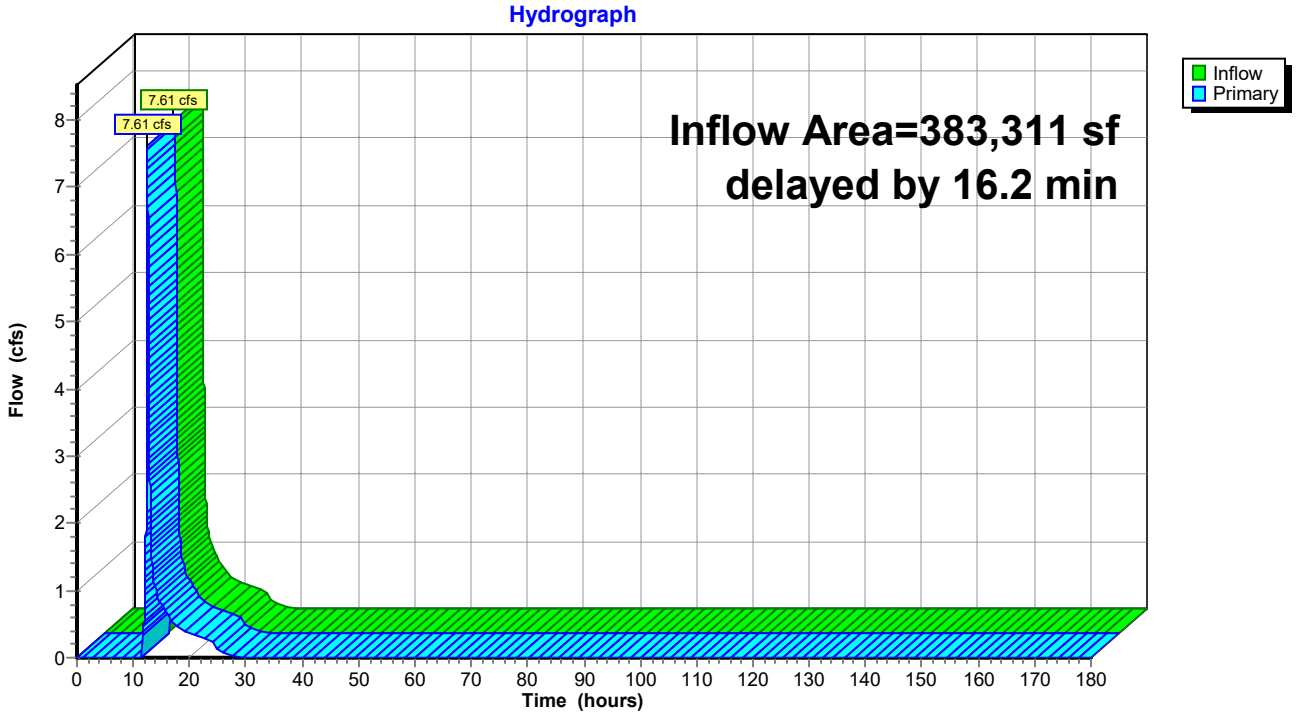
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	116.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	118.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	120.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	122.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	124.00	0.00	0.00	0.00
22.00	0.00	0.00	0.00	126.00	0.00	0.00	0.00
24.00	0.00	0.00	0.00	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-4L: Lag

Inflow Area = 383,311 sf, 0.03% Impervious, Inflow Depth = 1.20" for 2-Year event
Inflow = 7.61 cfs @ 12.24 hrs, Volume= 38,201 cf
Primary = 7.61 cfs @ 12.51 hrs, Volume= 38,201 cf, Atten= 0%, Lag= 16.2 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 16.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-4L: Lag



Hydrograph for Link P-4L: Lag

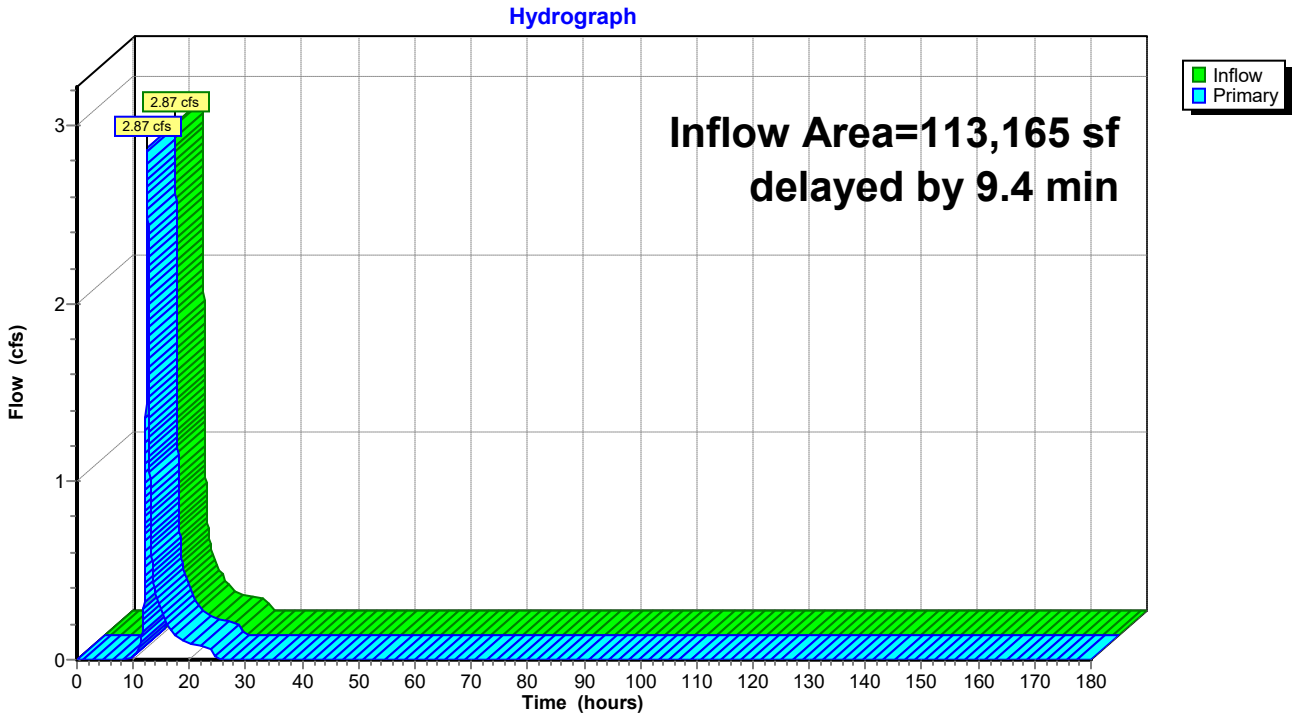
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**1.98**	0.00	**0.67**	116.00	0.00	0.00	0.00
14.00	**0.95**	0.00	**1.03**	118.00	0.00	0.00	0.00
16.00	0.60	0.00	0.64	120.00	0.00	0.00	0.00
18.00	0.43	0.00	0.45	122.00	0.00	0.00	0.00
20.00	0.36	0.00	0.37	124.00	0.00	0.00	0.00
22.00	0.31	0.00	0.32	126.00	0.00	0.00	0.00
24.00	0.25	0.00	0.26	128.00	0.00	0.00	0.00
26.00	0.05	0.00	0.06	130.00	0.00	0.00	0.00
28.00	0.01	0.00	0.01	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-5L: Lag

Inflow Area = 113,165 sf, 0.03% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 2.87 cfs @ 12.31 hrs, Volume= 13,877 cf
Primary = 2.87 cfs @ 12.47 hrs, Volume= 13,877 cf, Atten= 0%, Lag= 9.4 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-5L: Lag



Hydrograph for Link P-5L: Lag

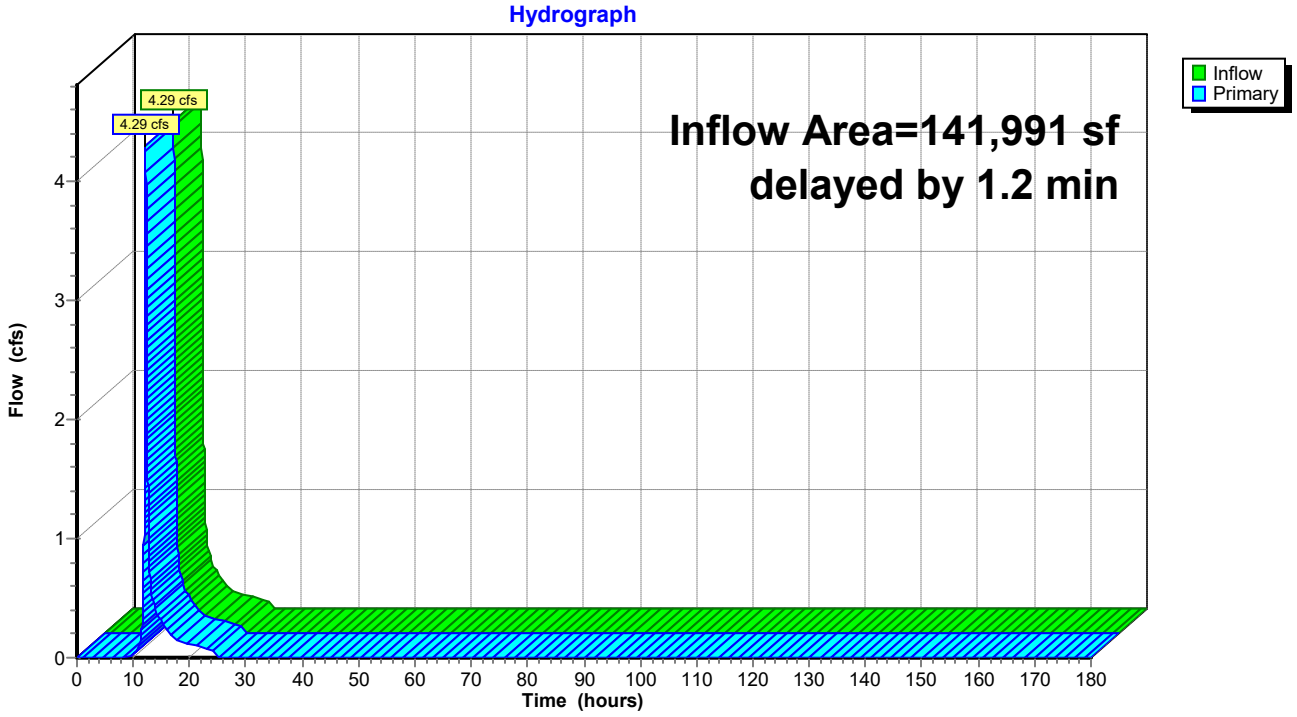
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.02	0.00	0.01	114.00	0.00	0.00	0.00
12.00	**0.90**	0.00	**0.47**	116.00	0.00	0.00	0.00
14.00	**0.35**	0.00	**0.37**	118.00	0.00	0.00	0.00
16.00	0.19	0.00	0.20	120.00	0.00	0.00	0.00
18.00	0.11	0.00	0.12	122.00	0.00	0.00	0.00
20.00	0.09	0.00	0.09	124.00	0.00	0.00	0.00
22.00	0.07	0.00	0.07	126.00	0.00	0.00	0.00
24.00	0.06	0.00	0.06	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-6L: Lag

Inflow Area = 141,991 sf, 0.03% Impervious, Inflow Depth = 1.40" for 2-Year event
Inflow = 4.29 cfs @ 12.18 hrs, Volume= 16,621 cf
Primary = 4.29 cfs @ 12.20 hrs, Volume= 16,621 cf, Atten= 0%, Lag= 1.2 min
Routed to Reach P-DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 1.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-6L: Lag



Hydrograph for Link P-6L: Lag

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.02	0.00	0.02	114.00	0.00	0.00	0.00
12.00	**1.73**	0.00	**1.56**	116.00	0.00	0.00	0.00
14.00	**0.40**	0.00	**0.40**	118.00	0.00	0.00	0.00
16.00	0.22	0.00	0.22	120.00	0.00	0.00	0.00
18.00	0.13	0.00	0.14	122.00	0.00	0.00	0.00
20.00	0.11	0.00	0.11	124.00	0.00	0.00	0.00
22.00	0.09	0.00	0.09	126.00	0.00	0.00	0.00
24.00	0.07	0.00	0.07	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Subcatchment IT1-S: IT1 Subcat

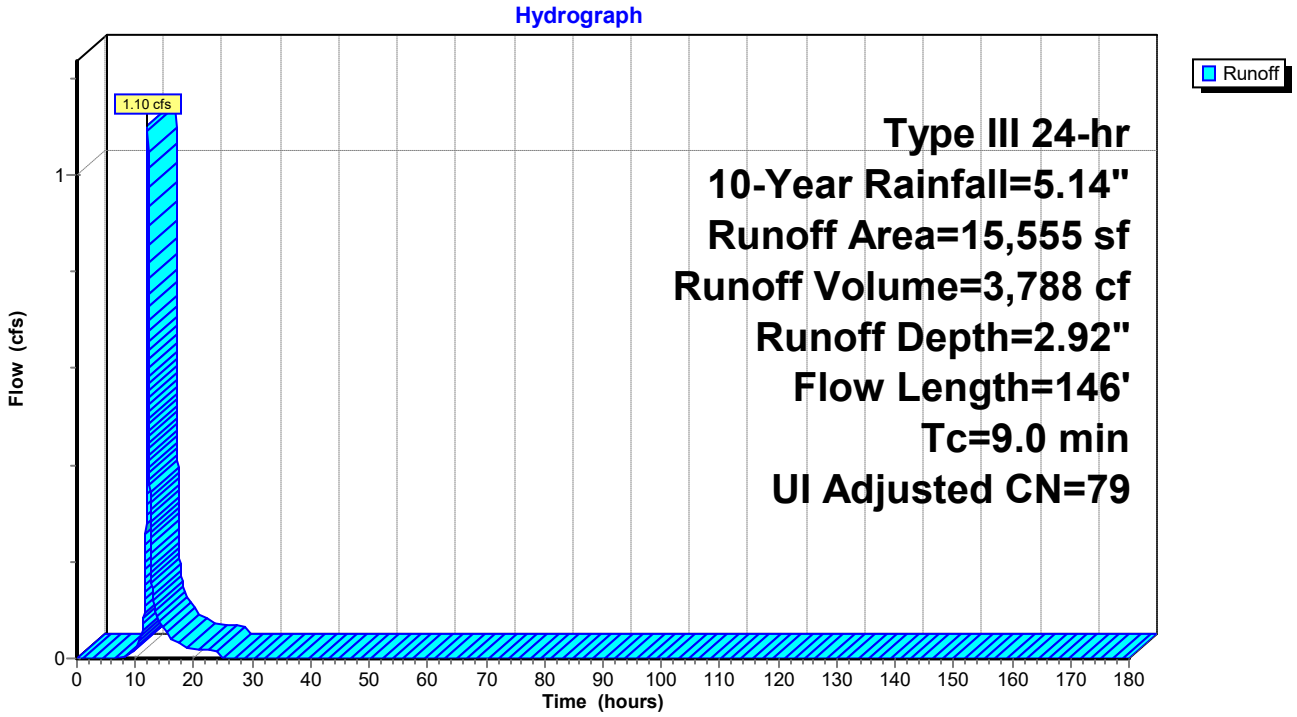
Runoff = 1.10 cfs @ 12.13 hrs, Volume= 3,788 cf, Depth= 2.92"
Routed to Pond IT1 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Adj	Description
10,246	74		Pasture/grassland/range, Good, HSG C
1,152	80		Pasture/grassland/range, Good, HSG D
625	98		Water Surface, 0% imp, HSG C
1,098	96		Gravel surface, HSG C
432	96		Gravel surface, HSG C
2,002	98		Unconnected pavement, HSG C
15,555	81	79	Weighted Average, UI Adjusted
13,553			87.13% Pervious Area
2,002			12.87% Impervious Area
2,002			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	64	0.0776	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
0.3	22	0.0232	1.09		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
5.2	60	0.0251	0.19		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
9.0	146	Total			

Subcatchment IT1-S: IT1 Subcat



Hydrograph for Subcatchment IT1-S: IT1 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.00
10.00	0.97	0.06	0.02
12.00	2.57	0.88	**0.54**
14.00	4.17	2.10	**0.08**
16.00	4.55	2.42	0.04
18.00	4.77	2.60	0.03
20.00	4.92	2.73	0.02
22.00	5.04	2.84	0.02
24.00	**5.14**	**2.92**	0.01
26.00	5.14	2.92	0.00
28.00	5.14	2.92	0.00
30.00	5.14	2.92	0.00
32.00	5.14	2.92	0.00
34.00	5.14	2.92	0.00
36.00	5.14	2.92	0.00
38.00	5.14	2.92	0.00
40.00	5.14	2.92	0.00
42.00	5.14	2.92	0.00
44.00	5.14	2.92	0.00
46.00	5.14	2.92	0.00
48.00	5.14	2.92	0.00
50.00	5.14	2.92	0.00
52.00	5.14	2.92	0.00
54.00	5.14	2.92	0.00
56.00	5.14	2.92	0.00
58.00	5.14	2.92	0.00
60.00	5.14	2.92	0.00
62.00	5.14	2.92	0.00
64.00	5.14	2.92	0.00
66.00	5.14	2.92	0.00
68.00	5.14	2.92	0.00
70.00	5.14	2.92	0.00
72.00	5.14	2.92	0.00
74.00	5.14	2.92	0.00
76.00	5.14	2.92	0.00
78.00	5.14	2.92	0.00
80.00	5.14	2.92	0.00
82.00	5.14	2.92	0.00
84.00	5.14	2.92	0.00
86.00	5.14	2.92	0.00
88.00	5.14	2.92	0.00
90.00	5.14	2.92	0.00
92.00	5.14	2.92	0.00
94.00	5.14	2.92	0.00
96.00	5.14	2.92	0.00
98.00	5.14	2.92	0.00
100.00	5.14	2.92	0.00
102.00	5.14	2.92	0.00
104.00	5.14	2.92	0.00
106.00	5.14	2.92	0.00
108.00	5.14	2.92	0.00
110.00	5.14	2.92	0.00
112.00	5.14	2.92	0.00
114.00	5.14	2.92	0.00
116.00	5.14	2.92	0.00
118.00	5.14	2.92	0.00
120.00	5.14	2.92	0.00
122.00	5.14	2.92	0.00
124.00	5.14	2.92	0.00
126.00	5.14	2.92	0.00
128.00	5.14	2.92	0.00
130.00	5.14	2.92	0.00
132.00	5.14	2.92	0.00
134.00	5.14	2.92	0.00
136.00	5.14	2.92	0.00
138.00	5.14	2.92	0.00
140.00	5.14	2.92	0.00
142.00	5.14	2.92	0.00
144.00	5.14	2.92	0.00
146.00	5.14	2.92	0.00
148.00	5.14	2.92	0.00
150.00	5.14	2.92	0.00
152.00	5.14	2.92	0.00
154.00	5.14	2.92	0.00
156.00	5.14	2.92	0.00
158.00	5.14	2.92	0.00
160.00	5.14	2.92	0.00
162.00	5.14	2.92	0.00
164.00	5.14	2.92	0.00
166.00	5.14	2.92	0.00
168.00	5.14	2.92	0.00
170.00	5.14	2.92	0.00
172.00	5.14	2.92	0.00
174.00	5.14	2.92	0.00
176.00	5.14	2.92	0.00
178.00	5.14	2.92	0.00
180.00	5.14	2.92	0.00

Summary for Subcatchment IT2-S: IT2 Subcat

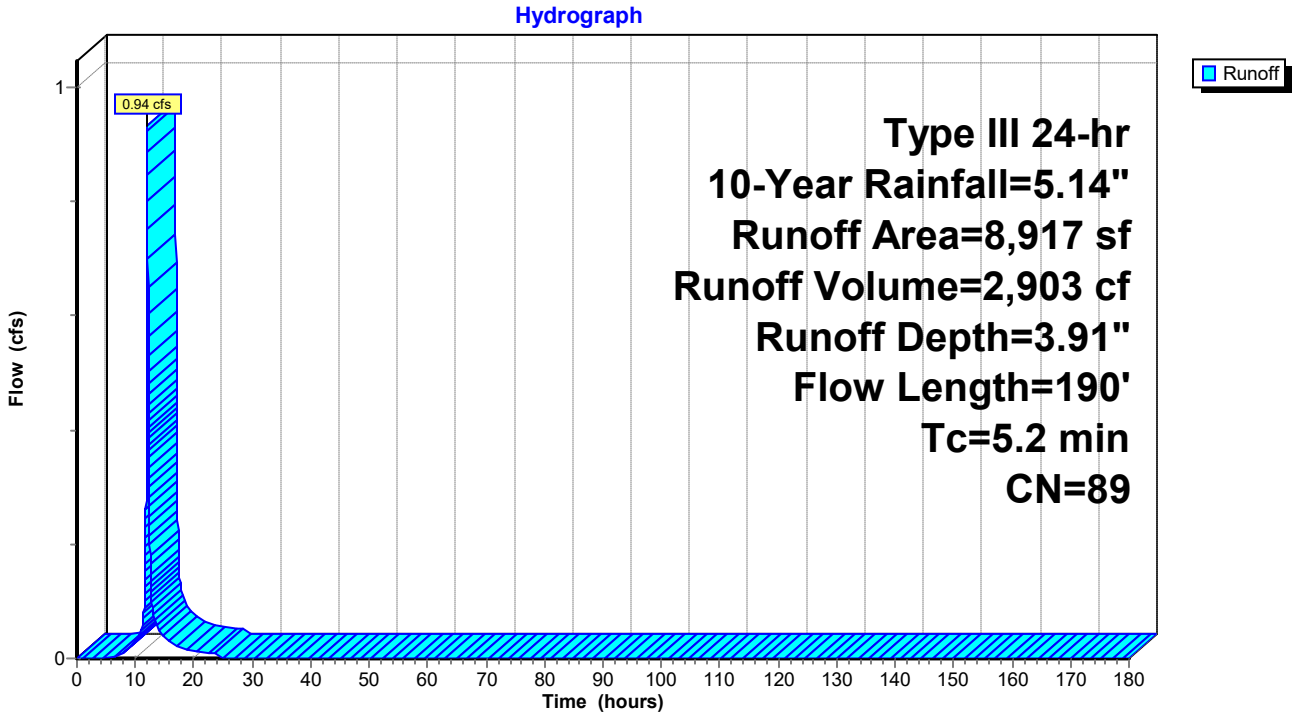
Runoff = 0.94 cfs @ 12.07 hrs, Volume= 2,903 cf, Depth= 3.91"
Routed to Pond IT2 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
42	74	Pasture/grassland/range, Good, HSG C
3,833	80	Pasture/grassland/range, Good, HSG D
286	96	Gravel surface, HSG C
4,354	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
8,917	89	Weighted Average
8,915		99.98% Pervious Area
2		0.02% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	14	0.0362	0.17		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
1.0	133	0.0527	2.18		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
0.8	18	0.2217	0.36		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
2.0	25	0.0500	0.21		**Sheet Flow, DE** Range n= 0.130 P2= 3.29"
5.2	190	Total			

Subcatchment IT2-S: IT2 Subcat



Hydrograph for Subcatchment IT2-S: IT2 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.01	0.00
8.00	0.59	0.07	0.01
10.00	0.97	0.27	0.03
12.00	2.57	1.52	**0.61**
14.00	4.17	2.98	**0.05**
16.00	4.55	3.35	0.03
18.00	4.77	3.55	0.02
20.00	4.92	3.69	0.01
22.00	5.04	3.81	0.01
24.00	**5.14**	**3.91**	0.01
26.00	5.14	3.91	0.00
28.00	5.14	3.91	0.00
30.00	5.14	3.91	0.00
32.00	5.14	3.91	0.00
34.00	5.14	3.91	0.00
36.00	5.14	3.91	0.00
38.00	5.14	3.91	0.00
40.00	5.14	3.91	0.00
42.00	5.14	3.91	0.00
44.00	5.14	3.91	0.00
46.00	5.14	3.91	0.00
48.00	5.14	3.91	0.00
50.00	5.14	3.91	0.00
52.00	5.14	3.91	0.00
54.00	5.14	3.91	0.00
56.00	5.14	3.91	0.00
58.00	5.14	3.91	0.00
60.00	5.14	3.91	0.00
62.00	5.14	3.91	0.00
64.00	5.14	3.91	0.00
66.00	5.14	3.91	0.00
68.00	5.14	3.91	0.00
70.00	5.14	3.91	0.00
72.00	5.14	3.91	0.00
74.00	5.14	3.91	0.00
76.00	5.14	3.91	0.00
78.00	5.14	3.91	0.00
80.00	5.14	3.91	0.00
82.00	5.14	3.91	0.00
84.00	5.14	3.91	0.00
86.00	5.14	3.91	0.00
88.00	5.14	3.91	0.00
90.00	5.14	3.91	0.00
92.00	5.14	3.91	0.00
94.00	5.14	3.91	0.00
96.00	5.14	3.91	0.00
98.00	5.14	3.91	0.00
100.00	5.14	3.91	0.00
102.00	5.14	3.91	0.00
104.00	5.14	3.91	0.00
106.00	5.14	3.91	0.00
108.00	5.14	3.91	0.00
110.00	5.14	3.91	0.00
112.00	5.14	3.91	0.00
114.00	5.14	3.91	0.00
116.00	5.14	3.91	0.00
118.00	5.14	3.91	0.00
120.00	5.14	3.91	0.00
122.00	5.14	3.91	0.00
124.00	5.14	3.91	0.00
126.00	5.14	3.91	0.00
128.00	5.14	3.91	0.00
130.00	5.14	3.91	0.00
132.00	5.14	3.91	0.00
134.00	5.14	3.91	0.00
136.00	5.14	3.91	0.00
138.00	5.14	3.91	0.00
140.00	5.14	3.91	0.00
142.00	5.14	3.91	0.00
144.00	5.14	3.91	0.00
146.00	5.14	3.91	0.00
148.00	5.14	3.91	0.00
150.00	5.14	3.91	0.00
152.00	5.14	3.91	0.00
154.00	5.14	3.91	0.00
156.00	5.14	3.91	0.00
158.00	5.14	3.91	0.00
160.00	5.14	3.91	0.00
162.00	5.14	3.91	0.00
164.00	5.14	3.91	0.00
166.00	5.14	3.91	0.00
168.00	5.14	3.91	0.00
170.00	5.14	3.91	0.00
172.00	5.14	3.91	0.00
174.00	5.14	3.91	0.00
176.00	5.14	3.91	0.00
178.00	5.14	3.91	0.00
180.00	5.14	3.91	0.00

Summary for Subcatchment IT3-S: IT3 Subcat

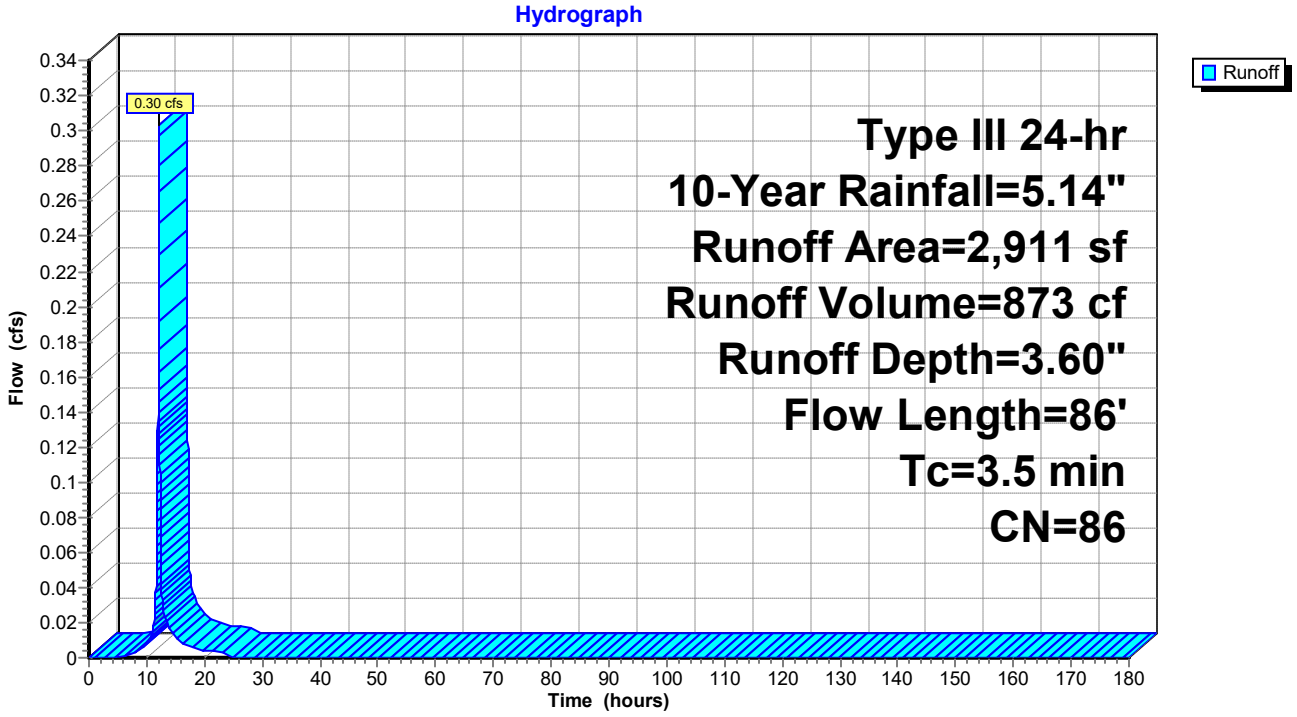
Runoff = 0.30 cfs @ 12.05 hrs, Volume= 873 cf, Depth= 3.60"
Routed to Pond IT3 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
1,890	80	Pasture/grassland/range, Good, HSG D
621	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
0	98	Unconnected pavement, HSG D
2,911	86	Weighted Average
2,911		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	46	0.0491	1.71		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.6	12	0.2044	0.32		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.5	28	0.0359	0.19		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.5	86	Total			

Subcatchment IT3-S: IT3 Subcat



Hydrograph for Subcatchment IT3-S: IT3 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.04	0.00
10.00	0.97	0.18	0.01
12.00	2.57	1.30	**0.23**
14.00	4.17	2.70	**0.02**
16.00	4.55	3.05	0.01
18.00	4.77	3.25	0.01
20.00	4.92	3.39	0.00
22.00	5.04	3.51	0.00
24.00	**5.14**	**3.60**	0.00
26.00	5.14	3.60	0.00
28.00	5.14	3.60	0.00
30.00	5.14	3.60	0.00
32.00	5.14	3.60	0.00
34.00	5.14	3.60	0.00
36.00	5.14	3.60	0.00
38.00	5.14	3.60	0.00
40.00	5.14	3.60	0.00
42.00	5.14	3.60	0.00
44.00	5.14	3.60	0.00
46.00	5.14	3.60	0.00
48.00	5.14	3.60	0.00
50.00	5.14	3.60	0.00
52.00	5.14	3.60	0.00
54.00	5.14	3.60	0.00
56.00	5.14	3.60	0.00
58.00	5.14	3.60	0.00
60.00	5.14	3.60	0.00
62.00	5.14	3.60	0.00
64.00	5.14	3.60	0.00
66.00	5.14	3.60	0.00
68.00	5.14	3.60	0.00
70.00	5.14	3.60	0.00
72.00	5.14	3.60	0.00
74.00	5.14	3.60	0.00
76.00	5.14	3.60	0.00
78.00	5.14	3.60	0.00
80.00	5.14	3.60	0.00
82.00	5.14	3.60	0.00
84.00	5.14	3.60	0.00
86.00	5.14	3.60	0.00
88.00	5.14	3.60	0.00
90.00	5.14	3.60	0.00
92.00	5.14	3.60	0.00
94.00	5.14	3.60	0.00
96.00	5.14	3.60	0.00
98.00	5.14	3.60	0.00
100.00	5.14	3.60	0.00
102.00	5.14	3.60	0.00
104.00	5.14	3.60	0.00
106.00	5.14	3.60	0.00
108.00	5.14	3.60	0.00
110.00	5.14	3.60	0.00
112.00	5.14	3.60	0.00
114.00	5.14	3.60	0.00
116.00	5.14	3.60	0.00
118.00	5.14	3.60	0.00
120.00	5.14	3.60	0.00
122.00	5.14	3.60	0.00
124.00	5.14	3.60	0.00
126.00	5.14	3.60	0.00
128.00	5.14	3.60	0.00
130.00	5.14	3.60	0.00
132.00	5.14	3.60	0.00
134.00	5.14	3.60	0.00
136.00	5.14	3.60	0.00
138.00	5.14	3.60	0.00
140.00	5.14	3.60	0.00
142.00	5.14	3.60	0.00
144.00	5.14	3.60	0.00
146.00	5.14	3.60	0.00
148.00	5.14	3.60	0.00
150.00	5.14	3.60	0.00
152.00	5.14	3.60	0.00
154.00	5.14	3.60	0.00
156.00	5.14	3.60	0.00
158.00	5.14	3.60	0.00
160.00	5.14	3.60	0.00
162.00	5.14	3.60	0.00
164.00	5.14	3.60	0.00
166.00	5.14	3.60	0.00
168.00	5.14	3.60	0.00
170.00	5.14	3.60	0.00
172.00	5.14	3.60	0.00
174.00	5.14	3.60	0.00
176.00	5.14	3.60	0.00
178.00	5.14	3.60	0.00
180.00	5.14	3.60	0.00

Summary for Subcatchment IT4-S: IT4 Subcat

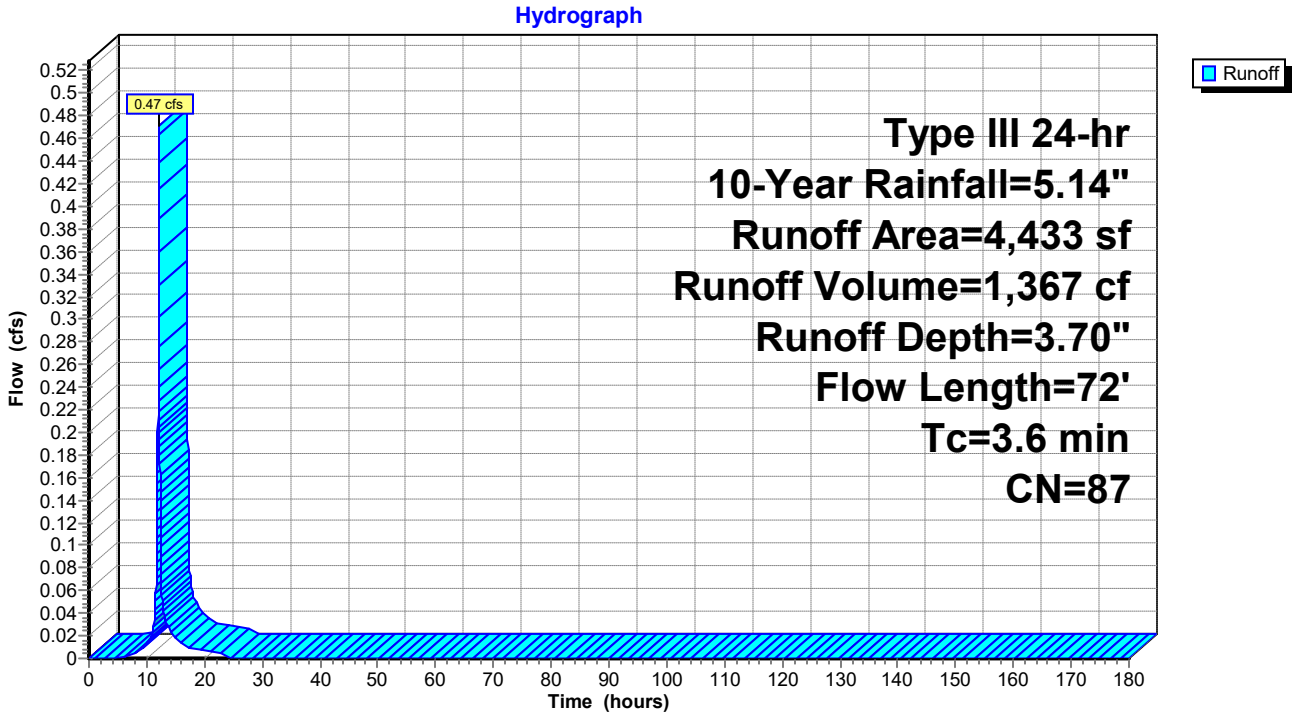
Runoff = 0.47 cfs @ 12.05 hrs, Volume= 1,367 cf, Depth= 3.70"
Routed to Pond IT4 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
2,578	80	Pasture/grassland/range, Good, HSG D
1,453	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
4,433	87	Weighted Average
4,431		99.95% Pervious Area
2		0.05% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0263	1.28		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.5	11	0.2684	0.35		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.6	23	0.0217	0.15		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.6	72	Total			

Subcatchment IT4-S: IT4 Subcat



Hydrograph for Subcatchment IT4-S: IT4 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.05	0.00
10.00	0.97	0.21	0.01
12.00	2.57	1.37	**0.35**
14.00	4.17	2.79	**0.02**
16.00	4.55	3.15	0.01
18.00	4.77	3.35	0.01
20.00	4.92	3.49	0.01
22.00	5.04	3.61	0.01
24.00	**5.14**	**3.70**	0.00
26.00	5.14	3.70	0.00
28.00	5.14	3.70	0.00
30.00	5.14	3.70	0.00
32.00	5.14	3.70	0.00
34.00	5.14	3.70	0.00
36.00	5.14	3.70	0.00
38.00	5.14	3.70	0.00
40.00	5.14	3.70	0.00
42.00	5.14	3.70	0.00
44.00	5.14	3.70	0.00
46.00	5.14	3.70	0.00
48.00	5.14	3.70	0.00
50.00	5.14	3.70	0.00
52.00	5.14	3.70	0.00
54.00	5.14	3.70	0.00
56.00	5.14	3.70	0.00
58.00	5.14	3.70	0.00
60.00	5.14	3.70	0.00
62.00	5.14	3.70	0.00
64.00	5.14	3.70	0.00
66.00	5.14	3.70	0.00
68.00	5.14	3.70	0.00
70.00	5.14	3.70	0.00
72.00	5.14	3.70	0.00
74.00	5.14	3.70	0.00
76.00	5.14	3.70	0.00
78.00	5.14	3.70	0.00
80.00	5.14	3.70	0.00
82.00	5.14	3.70	0.00
84.00	5.14	3.70	0.00
86.00	5.14	3.70	0.00
88.00	5.14	3.70	0.00
90.00	5.14	3.70	0.00
92.00	5.14	3.70	0.00
94.00	5.14	3.70	0.00
96.00	5.14	3.70	0.00
98.00	5.14	3.70	0.00
100.00	5.14	3.70	0.00
102.00	5.14	3.70	0.00
104.00	5.14	3.70	0.00
106.00	5.14	3.70	0.00
108.00	5.14	3.70	0.00
110.00	5.14	3.70	0.00
112.00	5.14	3.70	0.00
114.00	5.14	3.70	0.00
116.00	5.14	3.70	0.00
118.00	5.14	3.70	0.00
120.00	5.14	3.70	0.00
122.00	5.14	3.70	0.00
124.00	5.14	3.70	0.00
126.00	5.14	3.70	0.00
128.00	5.14	3.70	0.00
130.00	5.14	3.70	0.00
132.00	5.14	3.70	0.00
134.00	5.14	3.70	0.00
136.00	5.14	3.70	0.00
138.00	5.14	3.70	0.00
140.00	5.14	3.70	0.00
142.00	5.14	3.70	0.00
144.00	5.14	3.70	0.00
146.00	5.14	3.70	0.00
148.00	5.14	3.70	0.00
150.00	5.14	3.70	0.00
152.00	5.14	3.70	0.00
154.00	5.14	3.70	0.00
156.00	5.14	3.70	0.00
158.00	5.14	3.70	0.00
160.00	5.14	3.70	0.00
162.00	5.14	3.70	0.00
164.00	5.14	3.70	0.00
166.00	5.14	3.70	0.00
168.00	5.14	3.70	0.00
170.00	5.14	3.70	0.00
172.00	5.14	3.70	0.00
174.00	5.14	3.70	0.00
176.00	5.14	3.70	0.00
178.00	5.14	3.70	0.00
180.00	5.14	3.70	0.00

Summary for Subcatchment IT5-S: IT5 Subcat

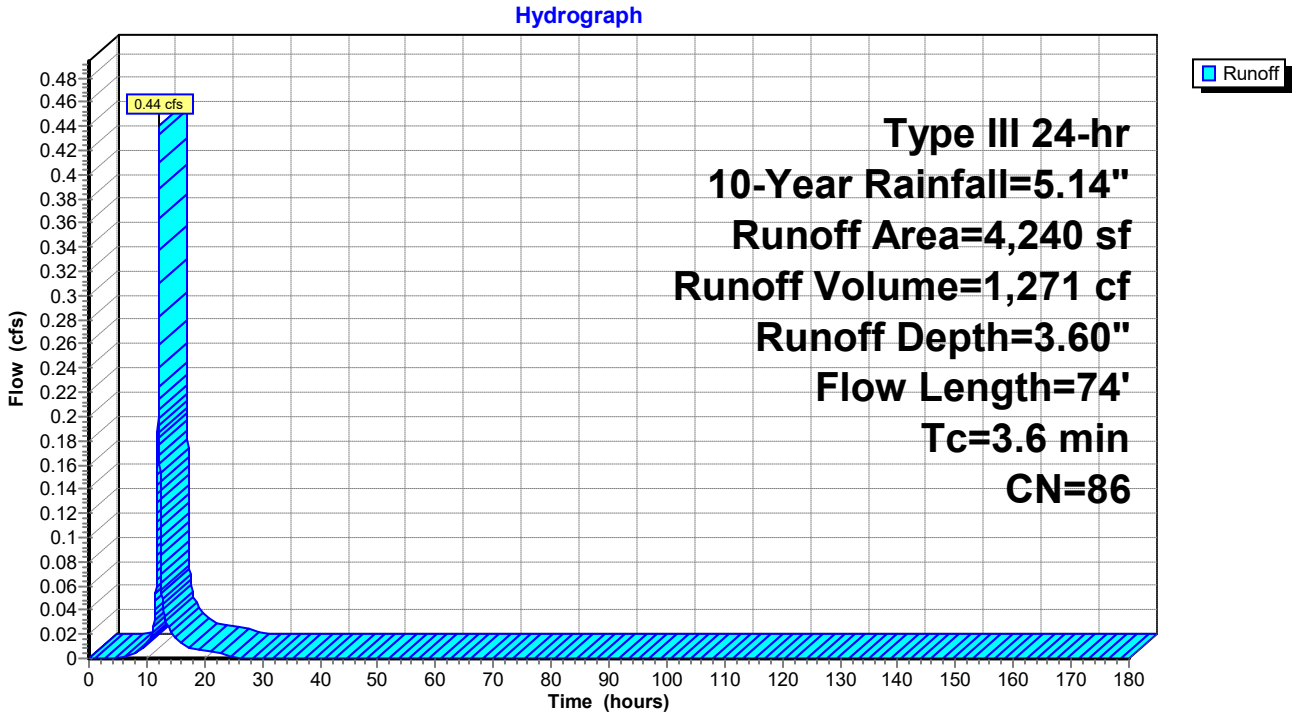
Runoff = 0.44 cfs @ 12.05 hrs, Volume= 1,271 cf, Depth= 3.60"
Routed to Pond IT5 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
2,739	80	Pasture/grassland/range, Good, HSG D
1,099	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
4,240	86	Weighted Average
4,238		99.95% Pervious Area
2		0.05% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	41	0.0366	1.49		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.5	10	0.2883	0.35		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.6	23	0.0222	0.15		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.6	74	Total			

Subcatchment IT5-S: IT5 Subcat



Hydrograph for Subcatchment IT5-S: IT5 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.04	0.00
10.00	0.97	0.18	0.01
12.00	2.57	1.30	**0.33**
14.00	4.17	2.70	**0.02**
16.00	4.55	3.05	0.01
18.00	4.77	3.25	0.01
20.00	4.92	3.39	0.01
22.00	5.04	3.51	0.01
24.00	**5.14**	**3.60**	0.00
26.00	5.14	3.60	0.00
28.00	5.14	3.60	0.00
30.00	5.14	3.60	0.00
32.00	5.14	3.60	0.00
34.00	5.14	3.60	0.00
36.00	5.14	3.60	0.00
38.00	5.14	3.60	0.00
40.00	5.14	3.60	0.00
42.00	5.14	3.60	0.00
44.00	5.14	3.60	0.00
46.00	5.14	3.60	0.00
48.00	5.14	3.60	0.00
50.00	5.14	3.60	0.00
52.00	5.14	3.60	0.00
54.00	5.14	3.60	0.00
56.00	5.14	3.60	0.00
58.00	5.14	3.60	0.00
60.00	5.14	3.60	0.00
62.00	5.14	3.60	0.00
64.00	5.14	3.60	0.00
66.00	5.14	3.60	0.00
68.00	5.14	3.60	0.00
70.00	5.14	3.60	0.00
72.00	5.14	3.60	0.00
74.00	5.14	3.60	0.00
76.00	5.14	3.60	0.00
78.00	5.14	3.60	0.00
80.00	5.14	3.60	0.00
82.00	5.14	3.60	0.00
84.00	5.14	3.60	0.00
86.00	5.14	3.60	0.00
88.00	5.14	3.60	0.00
90.00	5.14	3.60	0.00
92.00	5.14	3.60	0.00
94.00	5.14	3.60	0.00
96.00	5.14	3.60	0.00
98.00	5.14	3.60	0.00
100.00	5.14	3.60	0.00
102.00	5.14	3.60	0.00
104.00	5.14	3.60	0.00
106.00	5.14	3.60	0.00
108.00	5.14	3.60	0.00
110.00	5.14	3.60	0.00
112.00	5.14	3.60	0.00
114.00	5.14	3.60	0.00
116.00	5.14	3.60	0.00
118.00	5.14	3.60	0.00
120.00	5.14	3.60	0.00
122.00	5.14	3.60	0.00
124.00	5.14	3.60	0.00
126.00	5.14	3.60	0.00
128.00	5.14	3.60	0.00
130.00	5.14	3.60	0.00
132.00	5.14	3.60	0.00
134.00	5.14	3.60	0.00
136.00	5.14	3.60	0.00
138.00	5.14	3.60	0.00
140.00	5.14	3.60	0.00
142.00	5.14	3.60	0.00
144.00	5.14	3.60	0.00
146.00	5.14	3.60	0.00
148.00	5.14	3.60	0.00
150.00	5.14	3.60	0.00
152.00	5.14	3.60	0.00
154.00	5.14	3.60	0.00
156.00	5.14	3.60	0.00
158.00	5.14	3.60	0.00
160.00	5.14	3.60	0.00
162.00	5.14	3.60	0.00
164.00	5.14	3.60	0.00
166.00	5.14	3.60	0.00
168.00	5.14	3.60	0.00
170.00	5.14	3.60	0.00
172.00	5.14	3.60	0.00
174.00	5.14	3.60	0.00
176.00	5.14	3.60	0.00
178.00	5.14	3.60	0.00
180.00	5.14	3.60	0.00

Summary for Subcatchment IT6-S: IT6 Subcat

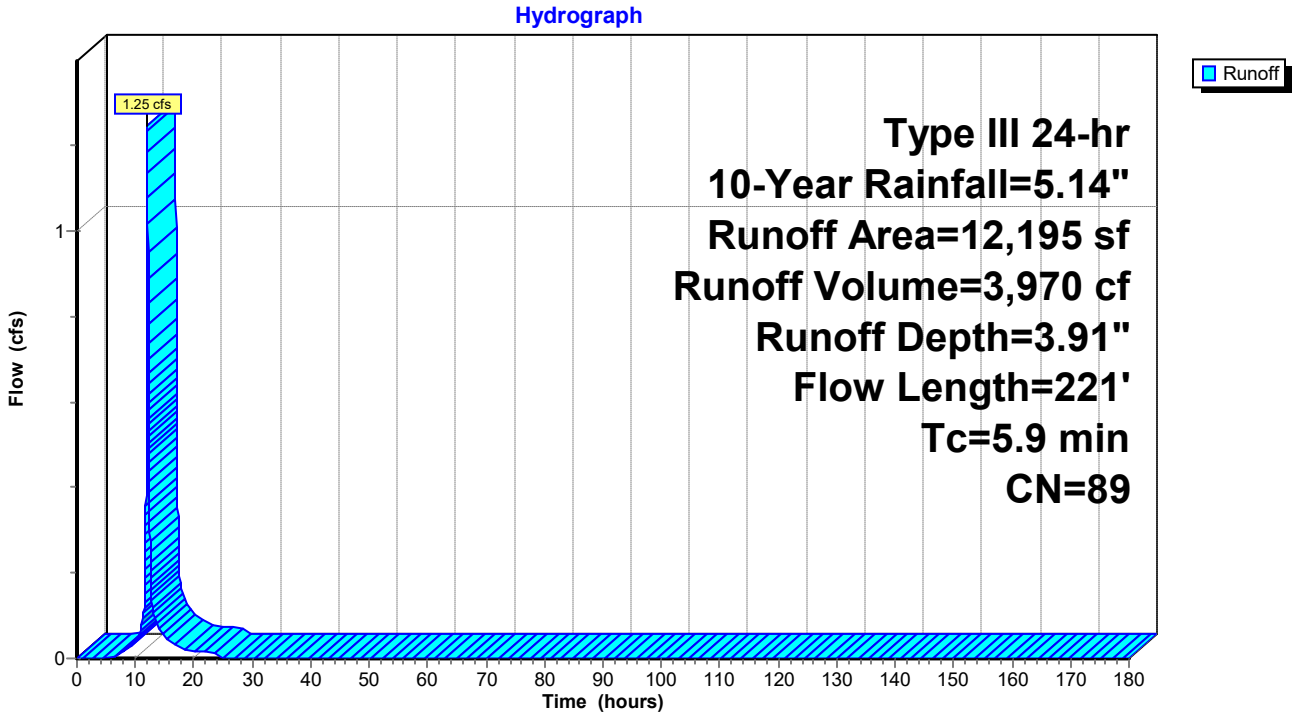
Runoff = 1.25 cfs @ 12.08 hrs, Volume= 3,970 cf, Depth= 3.91"
Routed to Pond IT6 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
6,134	80	Pasture/grassland/range, Good, HSG D
1,949	96	Gravel surface, HSG D
111	98	Water Surface, 0% imp, HSG D
4,001	98	Unconnected pavement, HSG D
12,195	89	Weighted Average
8,194		67.19% Pervious Area
4,001		32.81% Impervious Area
4,001		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	20	0.1106	0.28		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
0.3	18	0.0284	1.14		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
3.6	62	0.0669	0.28		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
0.4	80	0.0389	3.18		**Shallow Concentrated Flow, DE** Unpaved Kv= 16.1 fps
0.1	13	0.1529	2.74		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
0.3	28	0.0705	1.86		**Shallow Concentrated Flow, FG** Short Grass Pasture Kv= 7.0 fps
5.9	221	Total			

Subcatchment IT6-S: IT6 Subcat



Hydrograph for Subcatchment IT6-S: IT6 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.01	0.00
8.00	0.59	0.07	0.01
10.00	0.97	0.27	0.04
12.00	2.57	1.52	**0.77**
14.00	4.17	2.98	**0.07**
16.00	4.55	3.35	0.04
18.00	4.77	3.55	0.02
20.00	4.92	3.69	0.02
22.00	5.04	3.81	0.02
24.00	**5.14**	**3.91**	0.01
26.00	5.14	3.91	0.00
28.00	5.14	3.91	0.00
30.00	5.14	3.91	0.00
32.00	5.14	3.91	0.00
34.00	5.14	3.91	0.00
36.00	5.14	3.91	0.00
38.00	5.14	3.91	0.00
40.00	5.14	3.91	0.00
42.00	5.14	3.91	0.00
44.00	5.14	3.91	0.00
46.00	5.14	3.91	0.00
48.00	5.14	3.91	0.00
50.00	5.14	3.91	0.00
52.00	5.14	3.91	0.00
54.00	5.14	3.91	0.00
56.00	5.14	3.91	0.00
58.00	5.14	3.91	0.00
60.00	5.14	3.91	0.00
62.00	5.14	3.91	0.00
64.00	5.14	3.91	0.00
66.00	5.14	3.91	0.00
68.00	5.14	3.91	0.00
70.00	5.14	3.91	0.00
72.00	5.14	3.91	0.00
74.00	5.14	3.91	0.00
76.00	5.14	3.91	0.00
78.00	5.14	3.91	0.00
80.00	5.14	3.91	0.00
82.00	5.14	3.91	0.00
84.00	5.14	3.91	0.00
86.00	5.14	3.91	0.00
88.00	5.14	3.91	0.00
90.00	5.14	3.91	0.00
92.00	5.14	3.91	0.00
94.00	5.14	3.91	0.00
96.00	5.14	3.91	0.00
98.00	5.14	3.91	0.00
100.00	5.14	3.91	0.00
102.00	5.14	3.91	0.00
104.00	5.14	3.91	0.00
106.00	5.14	3.91	0.00
108.00	5.14	3.91	0.00
110.00	5.14	3.91	0.00
112.00	5.14	3.91	0.00
114.00	5.14	3.91	0.00
116.00	5.14	3.91	0.00
118.00	5.14	3.91	0.00
120.00	5.14	3.91	0.00
122.00	5.14	3.91	0.00
124.00	5.14	3.91	0.00
126.00	5.14	3.91	0.00
128.00	5.14	3.91	0.00
130.00	5.14	3.91	0.00
132.00	5.14	3.91	0.00
134.00	5.14	3.91	0.00
136.00	5.14	3.91	0.00
138.00	5.14	3.91	0.00
140.00	5.14	3.91	0.00
142.00	5.14	3.91	0.00
144.00	5.14	3.91	0.00
146.00	5.14	3.91	0.00
148.00	5.14	3.91	0.00
150.00	5.14	3.91	0.00
152.00	5.14	3.91	0.00
154.00	5.14	3.91	0.00
156.00	5.14	3.91	0.00
158.00	5.14	3.91	0.00
160.00	5.14	3.91	0.00
162.00	5.14	3.91	0.00
164.00	5.14	3.91	0.00
166.00	5.14	3.91	0.00
168.00	5.14	3.91	0.00
170.00	5.14	3.91	0.00
172.00	5.14	3.91	0.00
174.00	5.14	3.91	0.00
176.00	5.14	3.91	0.00
178.00	5.14	3.91	0.00
180.00	5.14	3.91	0.00

Summary for Subcatchment P-M: Middle

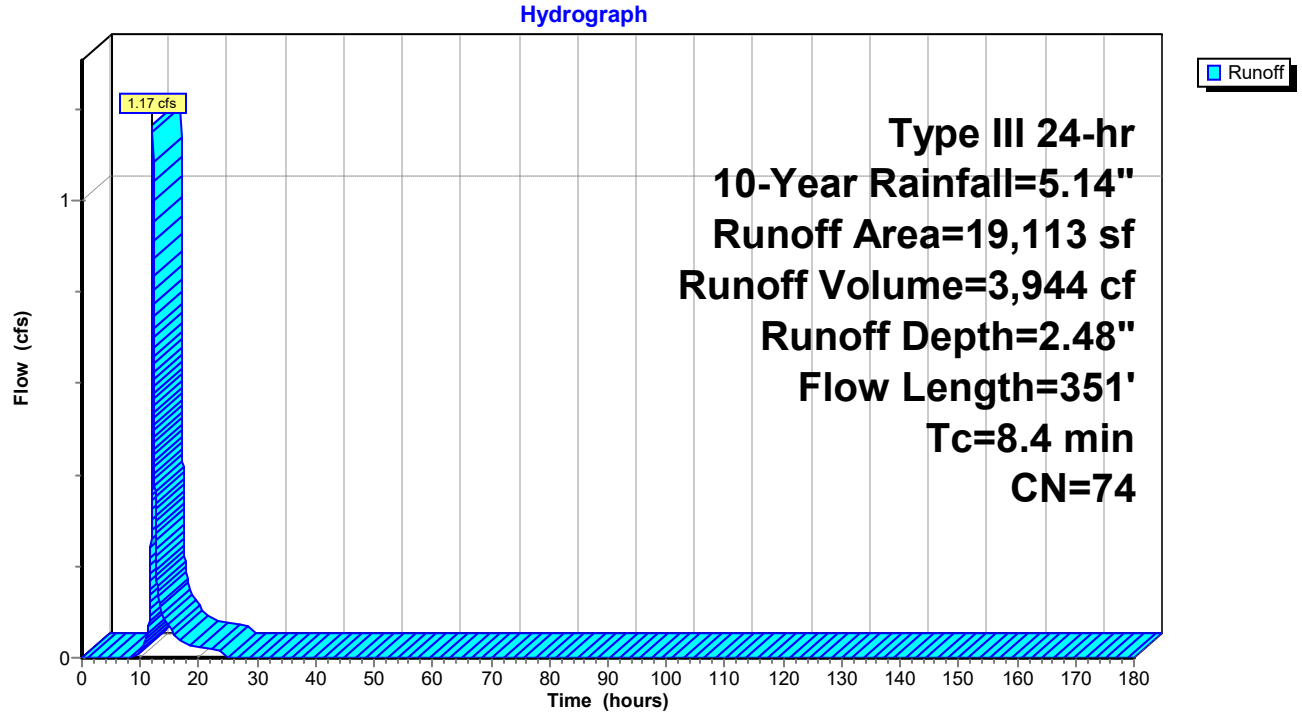
Runoff = 1.17 cfs @ 12.12 hrs, Volume= 3,944 cf, Depth= 2.48"
Routed to Reach P-2P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
19,109	74	Pasture/grassland/range, Good, HSG C
4	98	Unconnected pavement, HSG C
19,113	74	Weighted Average
19,109		99.98% Pervious Area
4		0.02% Impervious Area
4		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	95	0.0626	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
2.3	214	0.0510	1.58		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.9	42	0.0126	0.79		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
8.4	351	Total			

Subcatchment P-M: Middle



Hydrograph for Subcatchment P-M: Middle

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.00
10.00	0.97	0.02	0.01
12.00	2.57	0.65	**0.57**
14.00	4.17	1.72	**0.09**
16.00	4.55	2.01	0.05
18.00	4.77	2.18	0.03
20.00	4.92	2.30	0.02
22.00	5.04	2.40	0.02
24.00	**5.14**	**2.48**	0.02
26.00	5.14	2.48	0.00
28.00	5.14	2.48	0.00
30.00	5.14	2.48	0.00
32.00	5.14	2.48	0.00
34.00	5.14	2.48	0.00
36.00	5.14	2.48	0.00
38.00	5.14	2.48	0.00
40.00	5.14	2.48	0.00
42.00	5.14	2.48	0.00
44.00	5.14	2.48	0.00
46.00	5.14	2.48	0.00
48.00	5.14	2.48	0.00
50.00	5.14	2.48	0.00
52.00	5.14	2.48	0.00
54.00	5.14	2.48	0.00
56.00	5.14	2.48	0.00
58.00	5.14	2.48	0.00
60.00	5.14	2.48	0.00
62.00	5.14	2.48	0.00
64.00	5.14	2.48	0.00
66.00	5.14	2.48	0.00
68.00	5.14	2.48	0.00
70.00	5.14	2.48	0.00
72.00	5.14	2.48	0.00
74.00	5.14	2.48	0.00
76.00	5.14	2.48	0.00
78.00	5.14	2.48	0.00
80.00	5.14	2.48	0.00
82.00	5.14	2.48	0.00
84.00	5.14	2.48	0.00
86.00	5.14	2.48	0.00
88.00	5.14	2.48	0.00
90.00	5.14	2.48	0.00
92.00	5.14	2.48	0.00
94.00	5.14	2.48	0.00
96.00	5.14	2.48	0.00
98.00	5.14	2.48	0.00
100.00	5.14	2.48	0.00
102.00	5.14	2.48	0.00
104.00	5.14	2.48	0.00
106.00	5.14	2.48	0.00
108.00	5.14	2.48	0.00
110.00	5.14	2.48	0.00
112.00	5.14	2.48	0.00
114.00	5.14	2.48	0.00
116.00	5.14	2.48	0.00
118.00	5.14	2.48	0.00
120.00	5.14	2.48	0.00
122.00	5.14	2.48	0.00
124.00	5.14	2.48	0.00
126.00	5.14	2.48	0.00
128.00	5.14	2.48	0.00
130.00	5.14	2.48	0.00
132.00	5.14	2.48	0.00
134.00	5.14	2.48	0.00
136.00	5.14	2.48	0.00
138.00	5.14	2.48	0.00
140.00	5.14	2.48	0.00
142.00	5.14	2.48	0.00
144.00	5.14	2.48	0.00
146.00	5.14	2.48	0.00
148.00	5.14	2.48	0.00
150.00	5.14	2.48	0.00
152.00	5.14	2.48	0.00
154.00	5.14	2.48	0.00
156.00	5.14	2.48	0.00
158.00	5.14	2.48	0.00
160.00	5.14	2.48	0.00
162.00	5.14	2.48	0.00
164.00	5.14	2.48	0.00
166.00	5.14	2.48	0.00
168.00	5.14	2.48	0.00
170.00	5.14	2.48	0.00
172.00	5.14	2.48	0.00
174.00	5.14	2.48	0.00
176.00	5.14	2.48	0.00
178.00	5.14	2.48	0.00
180.00	5.14	2.48	0.00

Summary for Subcatchment P-ME: Middle East

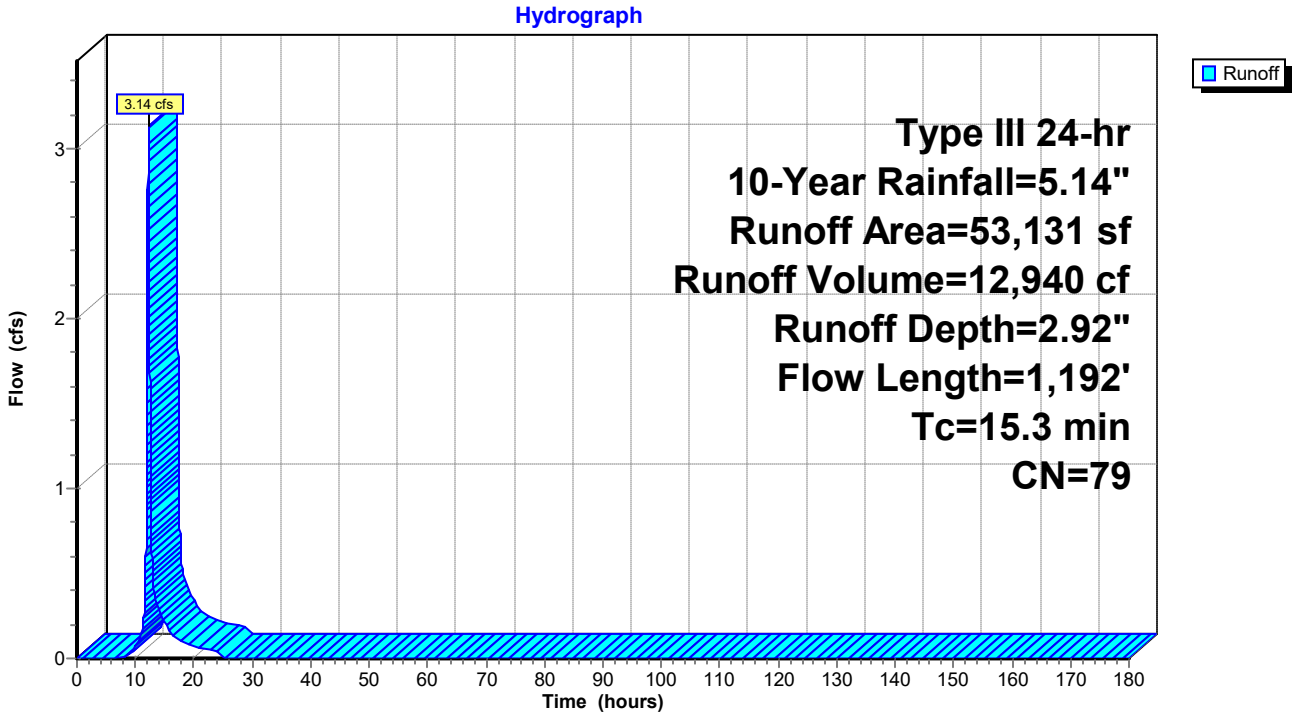
Runoff = 3.14 cfs @ 12.21 hrs, Volume= 12,940 cf, Depth= 2.92"
Routed to Pond P-3P : 12" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
10,238	74	Pasture/grassland/range, Good, HSG C
42,873	80	Pasture/grassland/range, Good, HSG D
4	98	Unconnected pavement, HSG C
16	98	Unconnected pavement, HSG D
53,131	79	Weighted Average
53,111		99.96% Pervious Area
20		0.04% Impervious Area
20		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	100	0.0678	0.32		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
8.5	844	0.0563	1.66		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.5	140	0.0339	4.82	13.25	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 3.0 '/' Top.W=7.00' n= 0.030 Earth, grassed & winding
1.0	108	0.0650	1.78		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
15.3	1,192	Total			

Subcatchment P-ME: Middle East



Hydrograph for Subcatchment P-ME: Middle East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.00
10.00	0.97	0.06	0.07
12.00	2.57	0.88	**1.30**
14.00	4.17	2.10	**0.28**
16.00	4.55	2.42	0.15
18.00	4.77	2.60	0.09
20.00	4.92	2.73	0.07
22.00	5.04	2.84	0.06
24.00	**5.14**	**2.92**	0.05
26.00	5.14	2.92	0.00
28.00	5.14	2.92	0.00
30.00	5.14	2.92	0.00
32.00	5.14	2.92	0.00
34.00	5.14	2.92	0.00
36.00	5.14	2.92	0.00
38.00	5.14	2.92	0.00
40.00	5.14	2.92	0.00
42.00	5.14	2.92	0.00
44.00	5.14	2.92	0.00
46.00	5.14	2.92	0.00
48.00	5.14	2.92	0.00
50.00	5.14	2.92	0.00
52.00	5.14	2.92	0.00
54.00	5.14	2.92	0.00
56.00	5.14	2.92	0.00
58.00	5.14	2.92	0.00
60.00	5.14	2.92	0.00
62.00	5.14	2.92	0.00
64.00	5.14	2.92	0.00
66.00	5.14	2.92	0.00
68.00	5.14	2.92	0.00
70.00	5.14	2.92	0.00
72.00	5.14	2.92	0.00
74.00	5.14	2.92	0.00
76.00	5.14	2.92	0.00
78.00	5.14	2.92	0.00
80.00	5.14	2.92	0.00
82.00	5.14	2.92	0.00
84.00	5.14	2.92	0.00
86.00	5.14	2.92	0.00
88.00	5.14	2.92	0.00
90.00	5.14	2.92	0.00
92.00	5.14	2.92	0.00
94.00	5.14	2.92	0.00
96.00	5.14	2.92	0.00
98.00	5.14	2.92	0.00
100.00	5.14	2.92	0.00
102.00	5.14	2.92	0.00
104.00	5.14	2.92	0.00
106.00	5.14	2.92	0.00
108.00	5.14	2.92	0.00
110.00	5.14	2.92	0.00
112.00	5.14	2.92	0.00
114.00	5.14	2.92	0.00
116.00	5.14	2.92	0.00
118.00	5.14	2.92	0.00
120.00	5.14	2.92	0.00
122.00	5.14	2.92	0.00
124.00	5.14	2.92	0.00
126.00	5.14	2.92	0.00
128.00	5.14	2.92	0.00
130.00	5.14	2.92	0.00
132.00	5.14	2.92	0.00
134.00	5.14	2.92	0.00
136.00	5.14	2.92	0.00
138.00	5.14	2.92	0.00
140.00	5.14	2.92	0.00
142.00	5.14	2.92	0.00
144.00	5.14	2.92	0.00
146.00	5.14	2.92	0.00
148.00	5.14	2.92	0.00
150.00	5.14	2.92	0.00
152.00	5.14	2.92	0.00
154.00	5.14	2.92	0.00
156.00	5.14	2.92	0.00
158.00	5.14	2.92	0.00
160.00	5.14	2.92	0.00
162.00	5.14	2.92	0.00
164.00	5.14	2.92	0.00
166.00	5.14	2.92	0.00
168.00	5.14	2.92	0.00
170.00	5.14	2.92	0.00
172.00	5.14	2.92	0.00
174.00	5.14	2.92	0.00
176.00	5.14	2.92	0.00
178.00	5.14	2.92	0.00
180.00	5.14	2.92	0.00

Summary for Subcatchment P-MW: Middle West

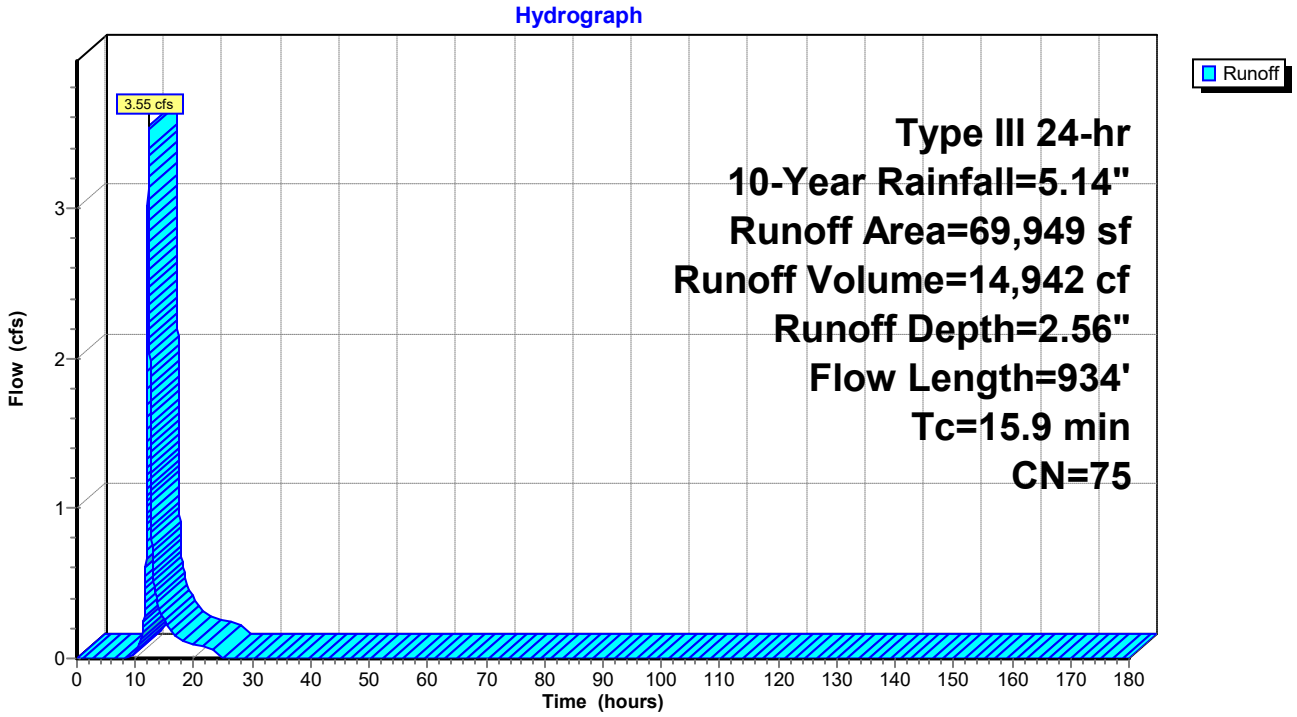
Runoff = 3.55 cfs @ 12.22 hrs, Volume= 14,942 cf, Depth= 2.56"
Routed to Reach P-1P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
54,727	74	Pasture/grassland/range, Good, HSG C
15,200	80	Pasture/grassland/range, Good, HSG D
15	98	Unconnected pavement, HSG C
7	98	Unconnected pavement, HSG D
69,949	75	Weighted Average
69,927		99.97% Pervious Area
22		0.03% Impervious Area
22		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.0582	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.2	695	0.0716	1.87		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
4.1	139	0.0066	0.57		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
15.9	934	Total			

Subcatchment P-MW: Middle West



Hydrograph for Subcatchment P-MW: Middle West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.00
10.00	0.97	0.03	0.05
12.00	2.57	0.69	**1.39**
14.00	4.17	1.79	**0.35**
16.00	4.55	2.09	0.19
18.00	4.77	2.26	0.11
20.00	4.92	2.38	0.09
22.00	5.04	2.48	0.07
24.00	**5.14**	**2.56**	0.06
26.00	5.14	2.56	0.00
28.00	5.14	2.56	0.00
30.00	5.14	2.56	0.00
32.00	5.14	2.56	0.00
34.00	5.14	2.56	0.00
36.00	5.14	2.56	0.00
38.00	5.14	2.56	0.00
40.00	5.14	2.56	0.00
42.00	5.14	2.56	0.00
44.00	5.14	2.56	0.00
46.00	5.14	2.56	0.00
48.00	5.14	2.56	0.00
50.00	5.14	2.56	0.00
52.00	5.14	2.56	0.00
54.00	5.14	2.56	0.00
56.00	5.14	2.56	0.00
58.00	5.14	2.56	0.00
60.00	5.14	2.56	0.00
62.00	5.14	2.56	0.00
64.00	5.14	2.56	0.00
66.00	5.14	2.56	0.00
68.00	5.14	2.56	0.00
70.00	5.14	2.56	0.00
72.00	5.14	2.56	0.00
74.00	5.14	2.56	0.00
76.00	5.14	2.56	0.00
78.00	5.14	2.56	0.00
80.00	5.14	2.56	0.00
82.00	5.14	2.56	0.00
84.00	5.14	2.56	0.00
86.00	5.14	2.56	0.00
88.00	5.14	2.56	0.00
90.00	5.14	2.56	0.00
92.00	5.14	2.56	0.00
94.00	5.14	2.56	0.00
96.00	5.14	2.56	0.00
98.00	5.14	2.56	0.00
100.00	5.14	2.56	0.00
102.00	5.14	2.56	0.00
104.00	5.14	2.56	0.00
106.00	5.14	2.56	0.00
108.00	5.14	2.56	0.00
110.00	5.14	2.56	0.00
112.00	5.14	2.56	0.00
114.00	5.14	2.56	0.00
116.00	5.14	2.56	0.00
118.00	5.14	2.56	0.00
120.00	5.14	2.56	0.00
122.00	5.14	2.56	0.00
124.00	5.14	2.56	0.00
126.00	5.14	2.56	0.00
128.00	5.14	2.56	0.00
130.00	5.14	2.56	0.00
132.00	5.14	2.56	0.00
134.00	5.14	2.56	0.00
136.00	5.14	2.56	0.00
138.00	5.14	2.56	0.00
140.00	5.14	2.56	0.00
142.00	5.14	2.56	0.00
144.00	5.14	2.56	0.00
146.00	5.14	2.56	0.00
148.00	5.14	2.56	0.00
150.00	5.14	2.56	0.00
152.00	5.14	2.56	0.00
154.00	5.14	2.56	0.00
156.00	5.14	2.56	0.00
158.00	5.14	2.56	0.00
160.00	5.14	2.56	0.00
162.00	5.14	2.56	0.00
164.00	5.14	2.56	0.00
166.00	5.14	2.56	0.00
168.00	5.14	2.56	0.00
170.00	5.14	2.56	0.00
172.00	5.14	2.56	0.00
174.00	5.14	2.56	0.00
176.00	5.14	2.56	0.00
178.00	5.14	2.56	0.00
180.00	5.14	2.56	0.00

Summary for Subcatchment P-N1: North 1

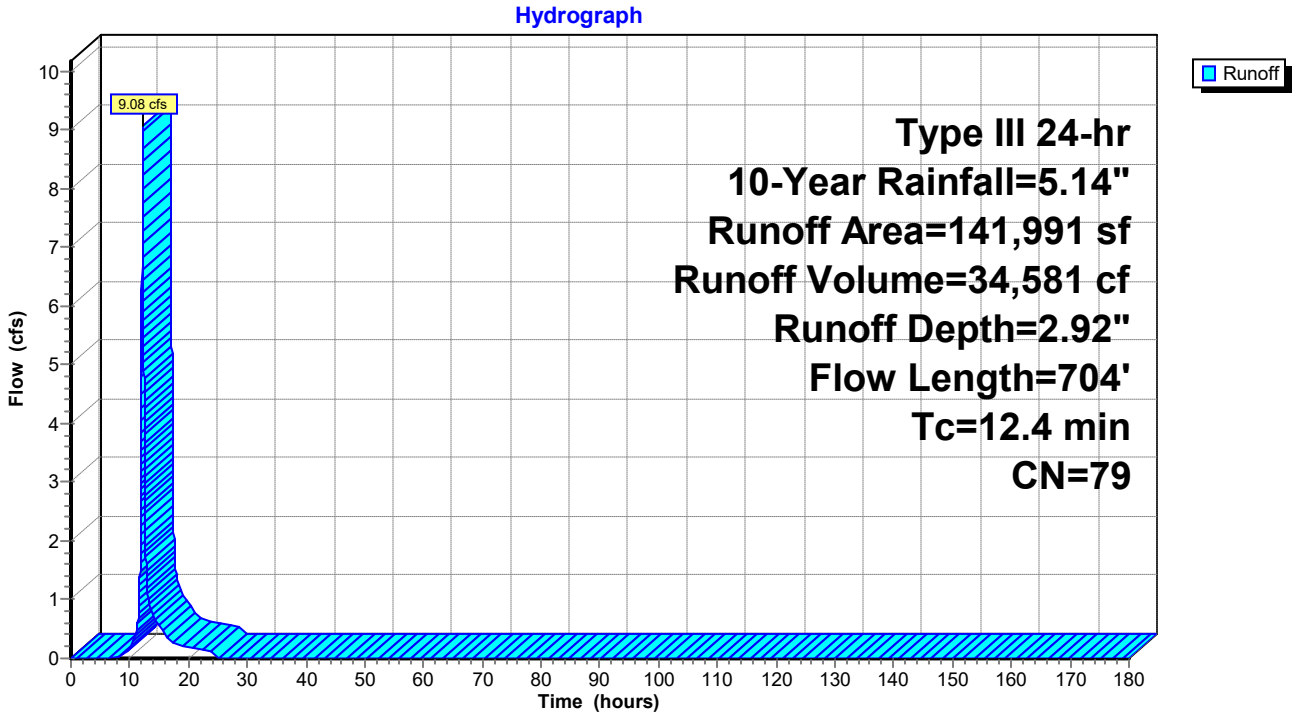
Runoff = 9.08 cfs @ 12.17 hrs, Volume= 34,581 cf, Depth= 2.92"
Routed to Link P-6L : Lag

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
114,081	80	Pasture/grassland/range, Good, HSG D
27,872	77	Woods, Good, HSG D
38	98	Unconnected pavement, HSG D
141,991	79	Weighted Average
141,953		99.97% Pervious Area
38		0.03% Impervious Area
38		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	10	0.0949	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	90	0.0691	0.31		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
4.2	481	0.0745	1.91		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
1.6	123	0.0667	1.29		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
12.4	704	Total			

Subcatchment P-N1: North 1



Hydrograph for Subcatchment P-N1: North 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.01
10.00	0.97	0.06	0.19
12.00	2.57	0.88	**4.04**
14.00	4.17	2.10	**0.74**
16.00	4.55	2.42	0.40
18.00	4.77	2.60	0.24
20.00	4.92	2.73	0.19
22.00	5.04	2.84	0.16
24.00	**5.14**	**2.92**	0.13
26.00	5.14	2.92	0.00
28.00	5.14	2.92	0.00
30.00	5.14	2.92	0.00
32.00	5.14	2.92	0.00
34.00	5.14	2.92	0.00
36.00	5.14	2.92	0.00
38.00	5.14	2.92	0.00
40.00	5.14	2.92	0.00
42.00	5.14	2.92	0.00
44.00	5.14	2.92	0.00
46.00	5.14	2.92	0.00
48.00	5.14	2.92	0.00
50.00	5.14	2.92	0.00
52.00	5.14	2.92	0.00
54.00	5.14	2.92	0.00
56.00	5.14	2.92	0.00
58.00	5.14	2.92	0.00
60.00	5.14	2.92	0.00
62.00	5.14	2.92	0.00
64.00	5.14	2.92	0.00
66.00	5.14	2.92	0.00
68.00	5.14	2.92	0.00
70.00	5.14	2.92	0.00
72.00	5.14	2.92	0.00
74.00	5.14	2.92	0.00
76.00	5.14	2.92	0.00
78.00	5.14	2.92	0.00
80.00	5.14	2.92	0.00
82.00	5.14	2.92	0.00
84.00	5.14	2.92	0.00
86.00	5.14	2.92	0.00
88.00	5.14	2.92	0.00
90.00	5.14	2.92	0.00
92.00	5.14	2.92	0.00
94.00	5.14	2.92	0.00
96.00	5.14	2.92	0.00
98.00	5.14	2.92	0.00
100.00	5.14	2.92	0.00
102.00	5.14	2.92	0.00
104.00	5.14	2.92	0.00
106.00	5.14	2.92	0.00
108.00	5.14	2.92	0.00
110.00	5.14	2.92	0.00
112.00	5.14	2.92	0.00
114.00	5.14	2.92	0.00
116.00	5.14	2.92	0.00
118.00	5.14	2.92	0.00
120.00	5.14	2.92	0.00
122.00	5.14	2.92	0.00
124.00	5.14	2.92	0.00
126.00	5.14	2.92	0.00
128.00	5.14	2.92	0.00
130.00	5.14	2.92	0.00
132.00	5.14	2.92	0.00
134.00	5.14	2.92	0.00
136.00	5.14	2.92	0.00
138.00	5.14	2.92	0.00
140.00	5.14	2.92	0.00
142.00	5.14	2.92	0.00
144.00	5.14	2.92	0.00
146.00	5.14	2.92	0.00
148.00	5.14	2.92	0.00
150.00	5.14	2.92	0.00
152.00	5.14	2.92	0.00
154.00	5.14	2.92	0.00
156.00	5.14	2.92	0.00
158.00	5.14	2.92	0.00
160.00	5.14	2.92	0.00
162.00	5.14	2.92	0.00
164.00	5.14	2.92	0.00
166.00	5.14	2.92	0.00
168.00	5.14	2.92	0.00
170.00	5.14	2.92	0.00
172.00	5.14	2.92	0.00
174.00	5.14	2.92	0.00
176.00	5.14	2.92	0.00
178.00	5.14	2.92	0.00
180.00	5.14	2.92	0.00

Summary for Subcatchment P-N2: North 2

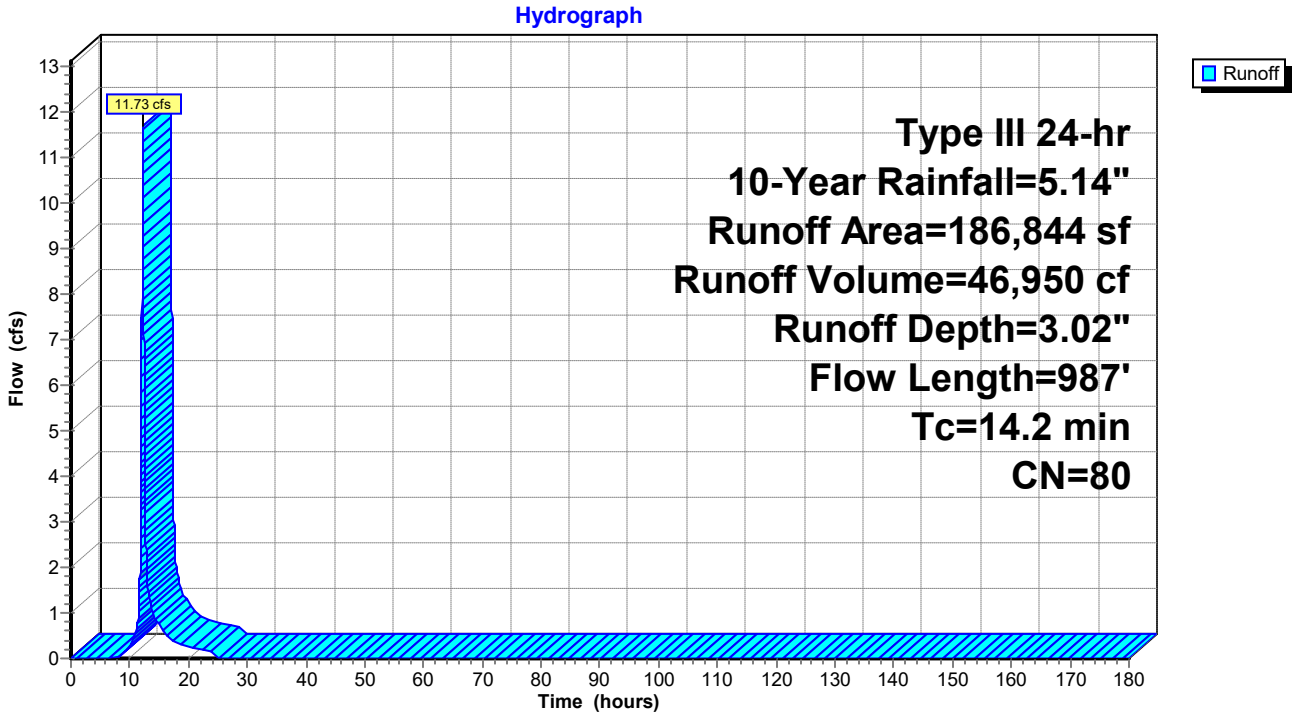
Runoff = 11.73 cfs @ 12.20 hrs, Volume= 46,950 cf, Depth= 3.02"
Routed to Pond 12P : Water Quality Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
185,396	80	Pasture/grassland/range, Good, HSG D
1,382	77	Woods, Good, HSG D
66	98	Unconnected pavement, HSG D
186,844	80	Weighted Average
186,778		99.96% Pervious Area
66		0.04% Impervious Area
66		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0849	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.7	85	0.0656	0.30		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
6.1	651	0.0636	1.77		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.6	153	0.0043	4.04	24.24	**Parabolic Channel, DE** W=6.00' D=1.50' Area=6.0 sf Perim=6.9' n= 0.022 Earth, clean & straight
0.2	69	0.0145	5.93	23.74	**Parabolic Channel, EF** W=6.00' D=1.00' Area=4.0 sf Perim=6.4' n= 0.022 Earth, clean & straight
0.0	14	0.0990	15.51	62.02	**Parabolic Channel, FG** W=6.00' D=1.00' Area=4.0 sf Perim=6.4' n= 0.022 Earth, clean & straight
14.2	987	Total			

Subcatchment P-N2: North 2



Hydrograph for Subcatchment P-N2: North 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.02
10.00	0.97	0.07	0.27
12.00	2.57	0.94	**5.06**
14.00	4.17	2.18	**1.00**
16.00	4.55	2.51	0.54
18.00	4.77	2.69	0.33
20.00	4.92	2.82	0.26
22.00	5.04	2.93	0.21
24.00	**5.14**	**3.02**	0.17
26.00	5.14	3.02	0.00
28.00	5.14	3.02	0.00
30.00	5.14	3.02	0.00
32.00	5.14	3.02	0.00
34.00	5.14	3.02	0.00
36.00	5.14	3.02	0.00
38.00	5.14	3.02	0.00
40.00	5.14	3.02	0.00
42.00	5.14	3.02	0.00
44.00	5.14	3.02	0.00
46.00	5.14	3.02	0.00
48.00	5.14	3.02	0.00
50.00	5.14	3.02	0.00
52.00	5.14	3.02	0.00
54.00	5.14	3.02	0.00
56.00	5.14	3.02	0.00
58.00	5.14	3.02	0.00
60.00	5.14	3.02	0.00
62.00	5.14	3.02	0.00
64.00	5.14	3.02	0.00
66.00	5.14	3.02	0.00
68.00	5.14	3.02	0.00
70.00	5.14	3.02	0.00
72.00	5.14	3.02	0.00
74.00	5.14	3.02	0.00
76.00	5.14	3.02	0.00
78.00	5.14	3.02	0.00
80.00	5.14	3.02	0.00
82.00	5.14	3.02	0.00
84.00	5.14	3.02	0.00
86.00	5.14	3.02	0.00
88.00	5.14	3.02	0.00
90.00	5.14	3.02	0.00
92.00	5.14	3.02	0.00
94.00	5.14	3.02	0.00
96.00	5.14	3.02	0.00
98.00	5.14	3.02	0.00
100.00	5.14	3.02	0.00
102.00	5.14	3.02	0.00
104.00	5.14	3.02	0.00
106.00	5.14	3.02	0.00
108.00	5.14	3.02	0.00
110.00	5.14	3.02	0.00
112.00	5.14	3.02	0.00
114.00	5.14	3.02	0.00
116.00	5.14	3.02	0.00
118.00	5.14	3.02	0.00
120.00	5.14	3.02	0.00
122.00	5.14	3.02	0.00
124.00	5.14	3.02	0.00
126.00	5.14	3.02	0.00
128.00	5.14	3.02	0.00
130.00	5.14	3.02	0.00
132.00	5.14	3.02	0.00
134.00	5.14	3.02	0.00
136.00	5.14	3.02	0.00
138.00	5.14	3.02	0.00
140.00	5.14	3.02	0.00
142.00	5.14	3.02	0.00
144.00	5.14	3.02	0.00
146.00	5.14	3.02	0.00
148.00	5.14	3.02	0.00
150.00	5.14	3.02	0.00
152.00	5.14	3.02	0.00
154.00	5.14	3.02	0.00
156.00	5.14	3.02	0.00
158.00	5.14	3.02	0.00
160.00	5.14	3.02	0.00
162.00	5.14	3.02	0.00
164.00	5.14	3.02	0.00
166.00	5.14	3.02	0.00
168.00	5.14	3.02	0.00
170.00	5.14	3.02	0.00
172.00	5.14	3.02	0.00
174.00	5.14	3.02	0.00
176.00	5.14	3.02	0.00
178.00	5.14	3.02	0.00
180.00	5.14	3.02	0.00

Summary for Subcatchment P-NE1: North East 1

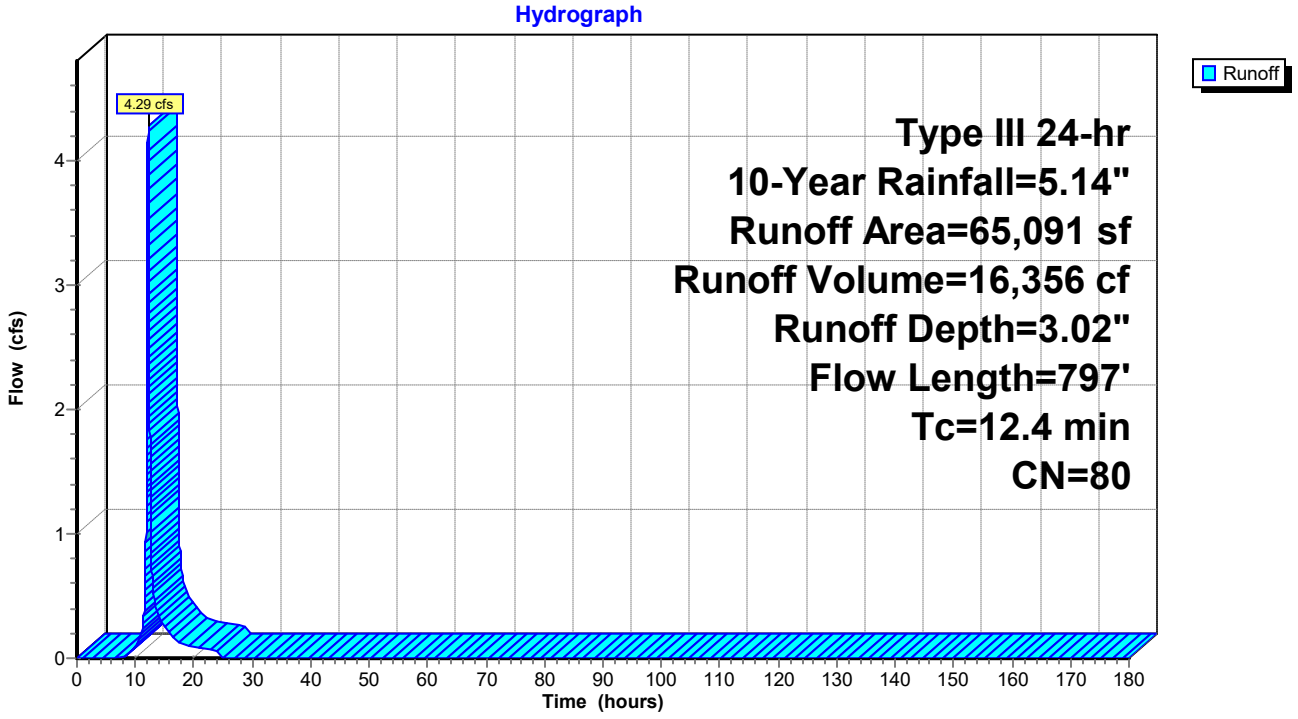
Runoff = 4.29 cfs @ 12.17 hrs, Volume= 16,356 cf, Depth= 3.02"
Routed to Pond P-4P : 2x15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
55,615	80	Pasture/grassland/range, Good, HSG D
9,465	77	Woods, Good, HSG D
11	98	Unconnected pavement, HSG D
65,091	80	Weighted Average
65,080		99.98% Pervious Area
11		0.02% Impervious Area
11		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	100	0.0539	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.6	697	0.0626	1.75		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
12.4	797	Total			

Subcatchment P-NE1: North East 1



Hydrograph for Subcatchment P-NE1: North East 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.01
10.00	0.97	0.07	0.10
12.00	2.57	0.94	**1.93**
14.00	4.17	2.18	**0.35**
16.00	4.55	2.51	0.19
18.00	4.77	2.69	0.11
20.00	4.92	2.82	0.09
22.00	5.04	2.93	0.07
24.00	**5.14**	**3.02**	0.06
26.00	5.14	3.02	0.00
28.00	5.14	3.02	0.00
30.00	5.14	3.02	0.00
32.00	5.14	3.02	0.00
34.00	5.14	3.02	0.00
36.00	5.14	3.02	0.00
38.00	5.14	3.02	0.00
40.00	5.14	3.02	0.00
42.00	5.14	3.02	0.00
44.00	5.14	3.02	0.00
46.00	5.14	3.02	0.00
48.00	5.14	3.02	0.00
50.00	5.14	3.02	0.00
52.00	5.14	3.02	0.00
54.00	5.14	3.02	0.00
56.00	5.14	3.02	0.00
58.00	5.14	3.02	0.00
60.00	5.14	3.02	0.00
62.00	5.14	3.02	0.00
64.00	5.14	3.02	0.00
66.00	5.14	3.02	0.00
68.00	5.14	3.02	0.00
70.00	5.14	3.02	0.00
72.00	5.14	3.02	0.00
74.00	5.14	3.02	0.00
76.00	5.14	3.02	0.00
78.00	5.14	3.02	0.00
80.00	5.14	3.02	0.00
82.00	5.14	3.02	0.00
84.00	5.14	3.02	0.00
86.00	5.14	3.02	0.00
88.00	5.14	3.02	0.00
90.00	5.14	3.02	0.00
92.00	5.14	3.02	0.00
94.00	5.14	3.02	0.00
96.00	5.14	3.02	0.00
98.00	5.14	3.02	0.00
100.00	5.14	3.02	0.00
102.00	5.14	3.02	0.00
104.00	5.14	3.02	0.00
106.00	5.14	3.02	0.00
108.00	5.14	3.02	0.00
110.00	5.14	3.02	0.00
112.00	5.14	3.02	0.00
114.00	5.14	3.02	0.00
116.00	5.14	3.02	0.00
118.00	5.14	3.02	0.00
120.00	5.14	3.02	0.00
122.00	5.14	3.02	0.00
124.00	5.14	3.02	0.00
126.00	5.14	3.02	0.00
128.00	5.14	3.02	0.00
130.00	5.14	3.02	0.00
132.00	5.14	3.02	0.00
134.00	5.14	3.02	0.00
136.00	5.14	3.02	0.00
138.00	5.14	3.02	0.00
140.00	5.14	3.02	0.00
142.00	5.14	3.02	0.00
144.00	5.14	3.02	0.00
146.00	5.14	3.02	0.00
148.00	5.14	3.02	0.00
150.00	5.14	3.02	0.00
152.00	5.14	3.02	0.00
154.00	5.14	3.02	0.00
156.00	5.14	3.02	0.00
158.00	5.14	3.02	0.00
160.00	5.14	3.02	0.00
162.00	5.14	3.02	0.00
164.00	5.14	3.02	0.00
166.00	5.14	3.02	0.00
168.00	5.14	3.02	0.00
170.00	5.14	3.02	0.00
172.00	5.14	3.02	0.00
174.00	5.14	3.02	0.00
176.00	5.14	3.02	0.00
178.00	5.14	3.02	0.00
180.00	5.14	3.02	0.00

Summary for Subcatchment P-NE2: North East 2

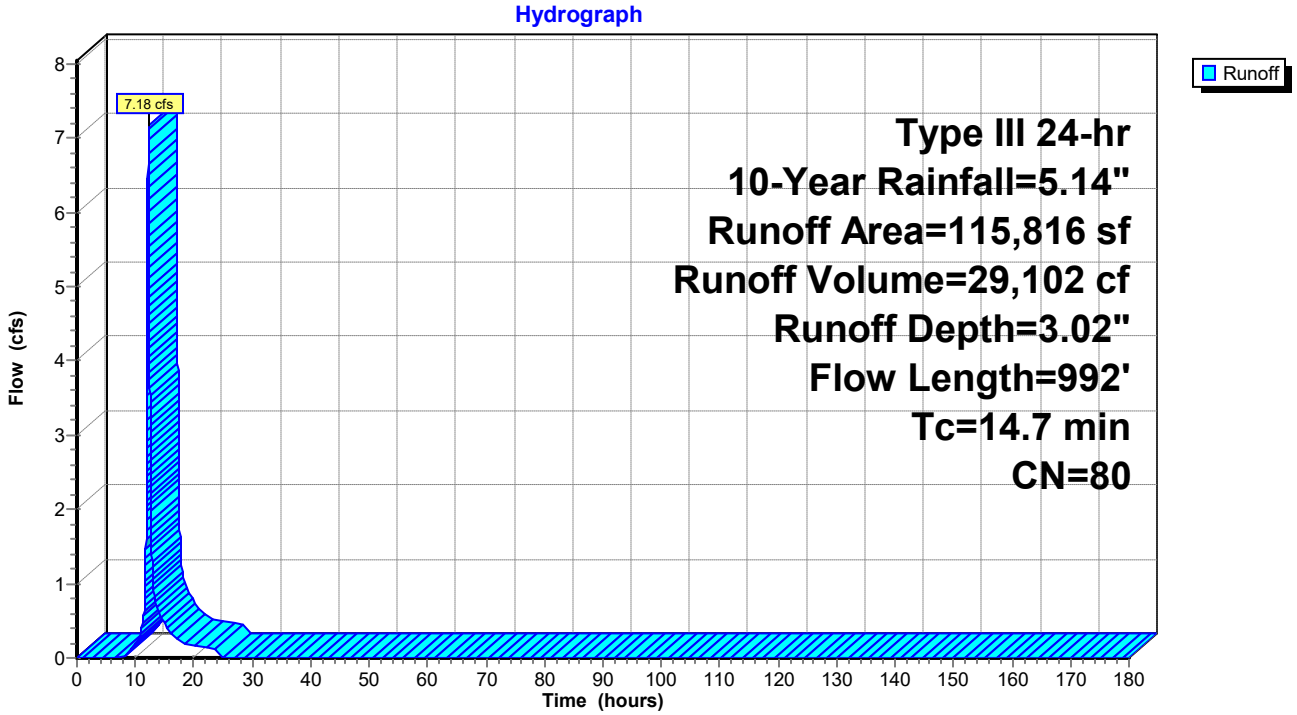
Runoff = 7.18 cfs @ 12.20 hrs, Volume= 29,102 cf, Depth= 3.02"
Routed to Pond 3.5P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
115,767	80	Pasture/grassland/range, Good, HSG D
49	98	Unconnected pavement, HSG D
115,816	80	Weighted Average
115,767		99.96% Pervious Area
49		0.04% Impervious Area
49		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0558	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
9.0	892	0.0554	1.65		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
14.7	992	Total			

Subcatchment P-NE2: North East 2



Hydrograph for Subcatchment P-NE2: North East 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.02
10.00	0.97	0.07	0.17
12.00	2.57	0.94	**3.06**
14.00	4.17	2.18	**0.62**
16.00	4.55	2.51	0.34
18.00	4.77	2.69	0.20
20.00	4.92	2.82	0.16
22.00	5.04	2.93	0.13
24.00	**5.14**	**3.02**	0.11
26.00	5.14	3.02	0.00
28.00	5.14	3.02	0.00
30.00	5.14	3.02	0.00
32.00	5.14	3.02	0.00
34.00	5.14	3.02	0.00
36.00	5.14	3.02	0.00
38.00	5.14	3.02	0.00
40.00	5.14	3.02	0.00
42.00	5.14	3.02	0.00
44.00	5.14	3.02	0.00
46.00	5.14	3.02	0.00
48.00	5.14	3.02	0.00
50.00	5.14	3.02	0.00
52.00	5.14	3.02	0.00
54.00	5.14	3.02	0.00
56.00	5.14	3.02	0.00
58.00	5.14	3.02	0.00
60.00	5.14	3.02	0.00
62.00	5.14	3.02	0.00
64.00	5.14	3.02	0.00
66.00	5.14	3.02	0.00
68.00	5.14	3.02	0.00
70.00	5.14	3.02	0.00
72.00	5.14	3.02	0.00
74.00	5.14	3.02	0.00
76.00	5.14	3.02	0.00
78.00	5.14	3.02	0.00
80.00	5.14	3.02	0.00
82.00	5.14	3.02	0.00
84.00	5.14	3.02	0.00
86.00	5.14	3.02	0.00
88.00	5.14	3.02	0.00
90.00	5.14	3.02	0.00
92.00	5.14	3.02	0.00
94.00	5.14	3.02	0.00
96.00	5.14	3.02	0.00
98.00	5.14	3.02	0.00
100.00	5.14	3.02	0.00
102.00	5.14	3.02	0.00
104.00	5.14	3.02	0.00
106.00	5.14	3.02	0.00
108.00	5.14	3.02	0.00
110.00	5.14	3.02	0.00
112.00	5.14	3.02	0.00
114.00	5.14	3.02	0.00
116.00	5.14	3.02	0.00
118.00	5.14	3.02	0.00
120.00	5.14	3.02	0.00
122.00	5.14	3.02	0.00
124.00	5.14	3.02	0.00
126.00	5.14	3.02	0.00
128.00	5.14	3.02	0.00
130.00	5.14	3.02	0.00
132.00	5.14	3.02	0.00
134.00	5.14	3.02	0.00
136.00	5.14	3.02	0.00
138.00	5.14	3.02	0.00
140.00	5.14	3.02	0.00
142.00	5.14	3.02	0.00
144.00	5.14	3.02	0.00
146.00	5.14	3.02	0.00
148.00	5.14	3.02	0.00
150.00	5.14	3.02	0.00
152.00	5.14	3.02	0.00
154.00	5.14	3.02	0.00
156.00	5.14	3.02	0.00
158.00	5.14	3.02	0.00
160.00	5.14	3.02	0.00
162.00	5.14	3.02	0.00
164.00	5.14	3.02	0.00
166.00	5.14	3.02	0.00
168.00	5.14	3.02	0.00
170.00	5.14	3.02	0.00
172.00	5.14	3.02	0.00
174.00	5.14	3.02	0.00
176.00	5.14	3.02	0.00
178.00	5.14	3.02	0.00
180.00	5.14	3.02	0.00

Summary for Subcatchment P-SE: South East

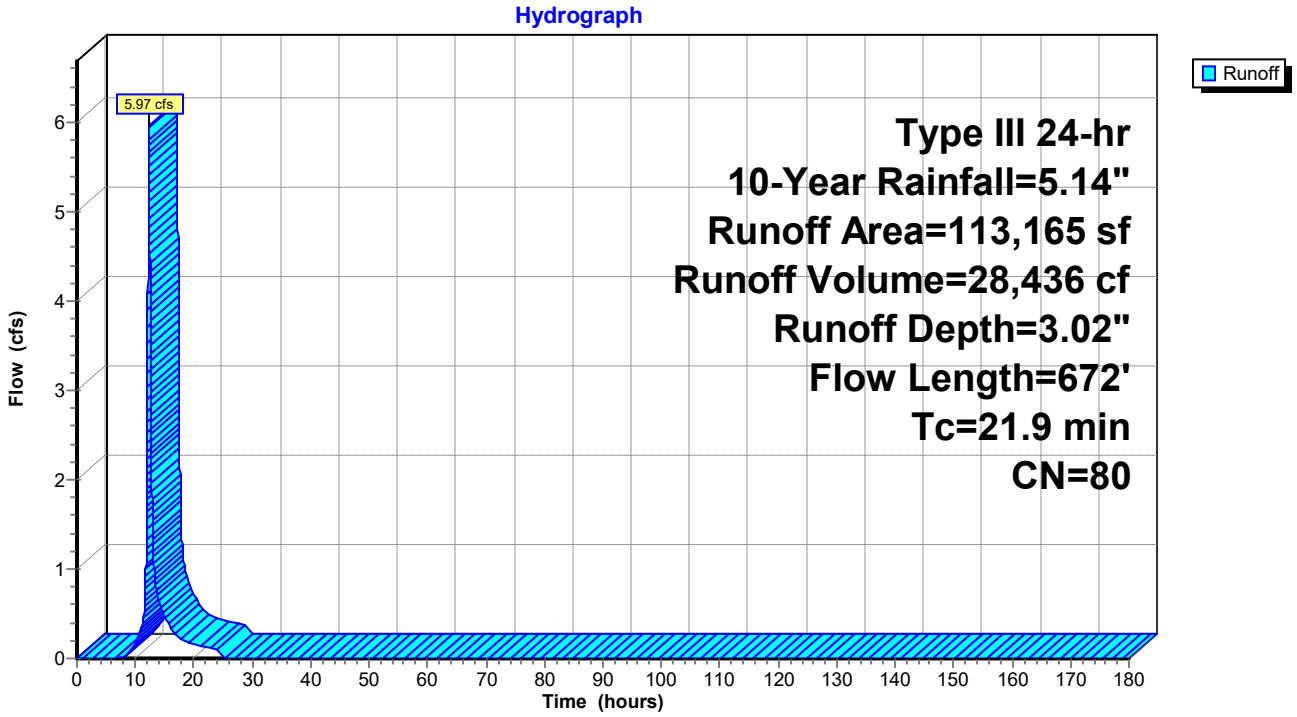
Runoff = 5.97 cfs @ 12.29 hrs, Volume= 28,436 cf, Depth= 3.02"
Routed to Reach P-5P : Unknown

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
110,691	80	Pasture/grassland/range, Good, HSG D
1,612	77	Woods, Good, HSG D
828	96	Gravel surface, HSG D
34	98	Unconnected pavement, HSG D
113,165	80	Weighted Average
113,131		99.97% Pervious Area
34		0.03% Impervious Area
34		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0428	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	521	0.0416	1.43		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.2	51	0.0277	3.86	17.37	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 10.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
21.9	672	Total			

Subcatchment P-SE: South East



Hydrograph for Subcatchment P-SE: South East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.01
10.00	0.97	0.07	0.15
12.00	2.57	0.94	**2.14**
14.00	4.17	2.18	**0.64**
16.00	4.55	2.51	0.34
18.00	4.77	2.69	0.21
20.00	4.92	2.82	0.16
22.00	5.04	2.93	0.13
24.00	**5.14**	**3.02**	0.10
26.00	5.14	3.02	0.00
28.00	5.14	3.02	0.00
30.00	5.14	3.02	0.00
32.00	5.14	3.02	0.00
34.00	5.14	3.02	0.00
36.00	5.14	3.02	0.00
38.00	5.14	3.02	0.00
40.00	5.14	3.02	0.00
42.00	5.14	3.02	0.00
44.00	5.14	3.02	0.00
46.00	5.14	3.02	0.00
48.00	5.14	3.02	0.00
50.00	5.14	3.02	0.00
52.00	5.14	3.02	0.00
54.00	5.14	3.02	0.00
56.00	5.14	3.02	0.00
58.00	5.14	3.02	0.00
60.00	5.14	3.02	0.00
62.00	5.14	3.02	0.00
64.00	5.14	3.02	0.00
66.00	5.14	3.02	0.00
68.00	5.14	3.02	0.00
70.00	5.14	3.02	0.00
72.00	5.14	3.02	0.00
74.00	5.14	3.02	0.00
76.00	5.14	3.02	0.00
78.00	5.14	3.02	0.00
80.00	5.14	3.02	0.00
82.00	5.14	3.02	0.00
84.00	5.14	3.02	0.00
86.00	5.14	3.02	0.00
88.00	5.14	3.02	0.00
90.00	5.14	3.02	0.00
92.00	5.14	3.02	0.00
94.00	5.14	3.02	0.00
96.00	5.14	3.02	0.00
98.00	5.14	3.02	0.00
100.00	5.14	3.02	0.00
102.00	5.14	3.02	0.00
104.00	5.14	3.02	0.00
106.00	5.14	3.02	0.00
108.00	5.14	3.02	0.00
110.00	5.14	3.02	0.00
112.00	5.14	3.02	0.00
114.00	5.14	3.02	0.00
116.00	5.14	3.02	0.00
118.00	5.14	3.02	0.00
120.00	5.14	3.02	0.00
122.00	5.14	3.02	0.00
124.00	5.14	3.02	0.00
126.00	5.14	3.02	0.00
128.00	5.14	3.02	0.00
130.00	5.14	3.02	0.00
132.00	5.14	3.02	0.00
134.00	5.14	3.02	0.00
136.00	5.14	3.02	0.00
138.00	5.14	3.02	0.00
140.00	5.14	3.02	0.00
142.00	5.14	3.02	0.00
144.00	5.14	3.02	0.00
146.00	5.14	3.02	0.00
148.00	5.14	3.02	0.00
150.00	5.14	3.02	0.00
152.00	5.14	3.02	0.00
154.00	5.14	3.02	0.00
156.00	5.14	3.02	0.00
158.00	5.14	3.02	0.00
160.00	5.14	3.02	0.00
162.00	5.14	3.02	0.00
164.00	5.14	3.02	0.00
166.00	5.14	3.02	0.00
168.00	5.14	3.02	0.00
170.00	5.14	3.02	0.00
172.00	5.14	3.02	0.00
174.00	5.14	3.02	0.00
176.00	5.14	3.02	0.00
178.00	5.14	3.02	0.00
180.00	5.14	3.02	0.00

Summary for Subcatchment P-W: West

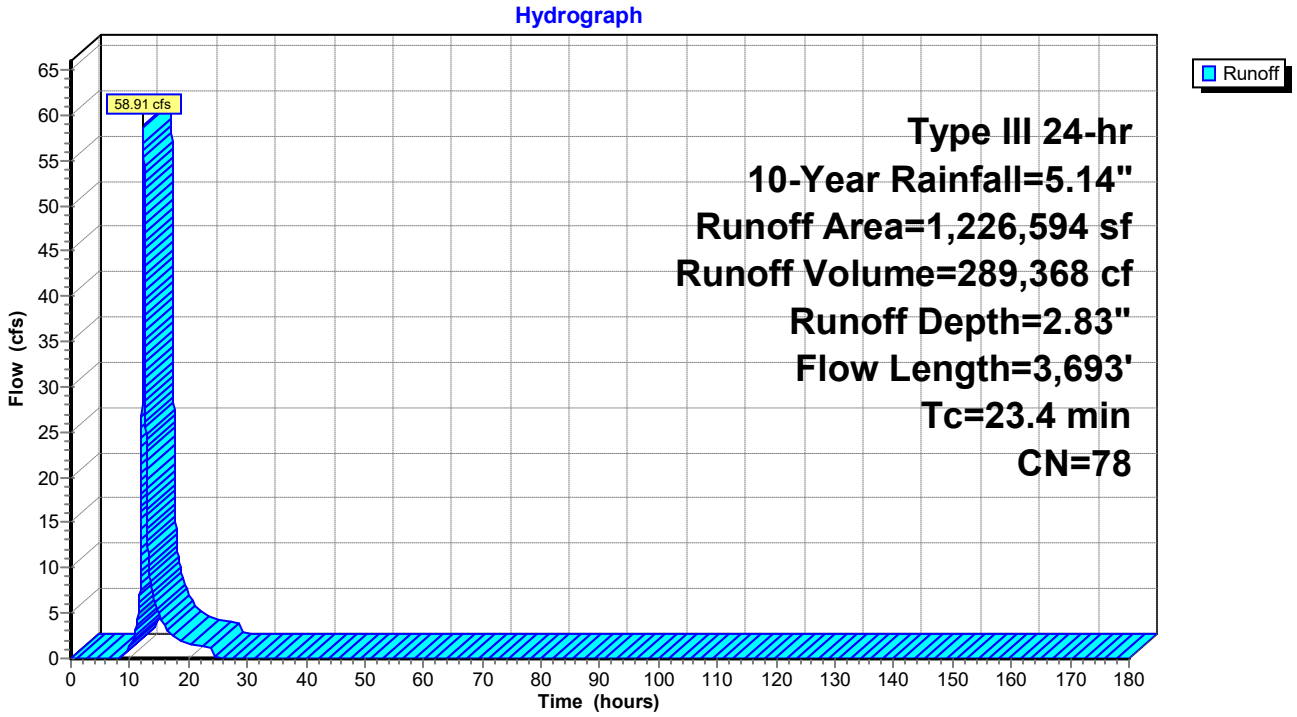
Runoff = 58.91 cfs @ 12.32 hrs, Volume= 289,368 cf, Depth= 2.83"
Routed to Reach P-DP-W : Watts Stream

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
230,227	74	Pasture/grassland/range, Good, HSG C
392,386	80	Pasture/grassland/range, Good, HSG D
40,930	70	Woods, Good, HSG C
521,429	77	Woods, Good, HSG D
35,945	96	Gravel surface, HSG C
444	96	Gravel surface, HSG D
4,766	98	Unconnected pavement, HSG C
467	98	Unconnected pavement, HSG D
1,226,594	78	Weighted Average
1,221,361		99.57% Pervious Area
5,233		0.43% Impervious Area
5,233		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0814	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	85	0.0623	0.29		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
5.9	685	0.0763	1.93		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	75	0.0926	10.68	128.14	**Trap/Vee/Rect Channel Flow, DE** Bot.W=4.00' D=1.00' Z= 8.0 '/' Top.W=20.00' n= 0.030 Earth, grassed & winding
1.1	187	0.1510	2.72		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
1.7	174	0.1201	1.73		**Shallow Concentrated Flow, FG** Woodland Kv= 5.0 fps
3.1	214	0.0525	1.15		**Shallow Concentrated Flow, GH** Woodland Kv= 5.0 fps
0.6	73	0.1513	1.94		**Shallow Concentrated Flow, HI** Woodland Kv= 5.0 fps
0.9	49	0.0338	0.92		**Shallow Concentrated Flow, IJ** Woodland Kv= 5.0 fps
2.6	2,136	0.0318	13.70	945.01	**Trap/Vee/Rect Channel Flow, JK** Bot.W=11.00' D=3.00' Z= 4.0 '/' Top.W=35.00' n= 0.030 Earth, grassed & winding
23.4	3,693	Total			

Subcatchment P-W: West



Hydrograph for Subcatchment P-W: West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.00	0.00
4.00	0.22	0.00	0.00
6.00	0.37	0.00	0.00
8.00	0.59	0.00	0.00
10.00	0.97	0.05	1.27
12.00	2.57	0.83	**19.75**
14.00	4.17	2.02	**6.75**
16.00	4.55	2.34	3.63
18.00	4.77	2.52	2.18
20.00	4.92	2.64	1.67
22.00	5.04	2.75	1.38
24.00	**5.14**	**2.83**	1.11
26.00	5.14	2.83	0.00
28.00	5.14	2.83	0.00
30.00	5.14	2.83	0.00
32.00	5.14	2.83	0.00
34.00	5.14	2.83	0.00
36.00	5.14	2.83	0.00
38.00	5.14	2.83	0.00
40.00	5.14	2.83	0.00
42.00	5.14	2.83	0.00
44.00	5.14	2.83	0.00
46.00	5.14	2.83	0.00
48.00	5.14	2.83	0.00
50.00	5.14	2.83	0.00
52.00	5.14	2.83	0.00
54.00	5.14	2.83	0.00
56.00	5.14	2.83	0.00
58.00	5.14	2.83	0.00
60.00	5.14	2.83	0.00
62.00	5.14	2.83	0.00
64.00	5.14	2.83	0.00
66.00	5.14	2.83	0.00
68.00	5.14	2.83	0.00
70.00	5.14	2.83	0.00
72.00	5.14	2.83	0.00
74.00	5.14	2.83	0.00
76.00	5.14	2.83	0.00
78.00	5.14	2.83	0.00
80.00	5.14	2.83	0.00
82.00	5.14	2.83	0.00
84.00	5.14	2.83	0.00
86.00	5.14	2.83	0.00
88.00	5.14	2.83	0.00
90.00	5.14	2.83	0.00
92.00	5.14	2.83	0.00
94.00	5.14	2.83	0.00
96.00	5.14	2.83	0.00
98.00	5.14	2.83	0.00
100.00	5.14	2.83	0.00
102.00	5.14	2.83	0.00
104.00	5.14	2.83	0.00
106.00	5.14	2.83	0.00
108.00	5.14	2.83	0.00
110.00	5.14	2.83	0.00
112.00	5.14	2.83	0.00
114.00	5.14	2.83	0.00
116.00	5.14	2.83	0.00
118.00	5.14	2.83	0.00
120.00	5.14	2.83	0.00
122.00	5.14	2.83	0.00
124.00	5.14	2.83	0.00
126.00	5.14	2.83	0.00
128.00	5.14	2.83	0.00
130.00	5.14	2.83	0.00
132.00	5.14	2.83	0.00
134.00	5.14	2.83	0.00
136.00	5.14	2.83	0.00
138.00	5.14	2.83	0.00
140.00	5.14	2.83	0.00
142.00	5.14	2.83	0.00
144.00	5.14	2.83	0.00
146.00	5.14	2.83	0.00
148.00	5.14	2.83	0.00
150.00	5.14	2.83	0.00
152.00	5.14	2.83	0.00
154.00	5.14	2.83	0.00
156.00	5.14	2.83	0.00
158.00	5.14	2.83	0.00
160.00	5.14	2.83	0.00
162.00	5.14	2.83	0.00
164.00	5.14	2.83	0.00
166.00	5.14	2.83	0.00
168.00	5.14	2.83	0.00
170.00	5.14	2.83	0.00
172.00	5.14	2.83	0.00
174.00	5.14	2.83	0.00
176.00	5.14	2.83	0.00
178.00	5.14	2.83	0.00
180.00	5.14	2.83	0.00

Summary for Subcatchment WQS-S2: Swale Subcatchment

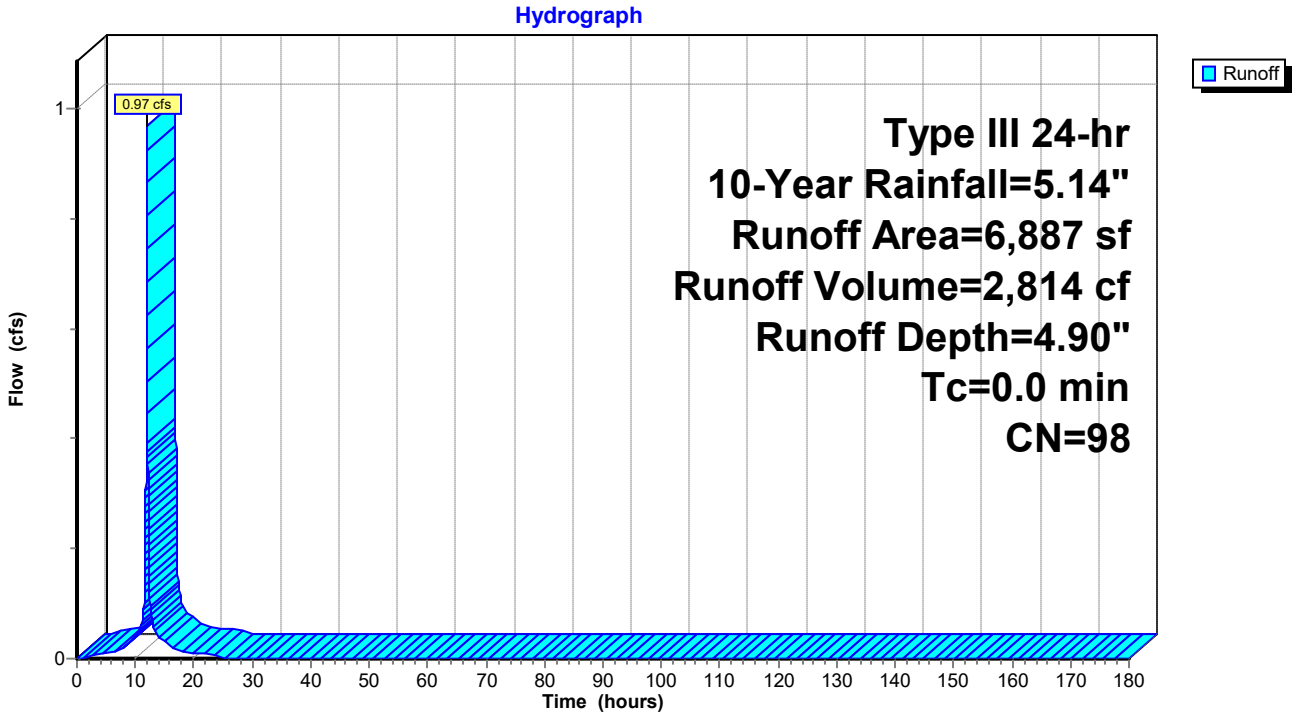
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.97 cfs @ 12.00 hrs, Volume= 2,814 cf, Depth= 4.90"
Routed to Pond 12P : Water Quality Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.14"

Area (sf)	CN	Description
6,887	98	Water Surface, 0% imp, HSG D
6,887		100.00% Pervious Area

Subcatchment WQS-S2: Swale Subcatchment



Hydrograph for Subcatchment WQS-S2: Swale Subcatchment

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.10	0.01	0.00
4.00	0.22	0.08	0.01
6.00	0.37	0.20	0.01
8.00	0.59	0.40	0.02
10.00	0.97	0.76	0.04
12.00	2.57	2.34	**0.97**
14.00	4.17	3.93	0.04
16.00	4.55	4.32	0.02
18.00	4.77	4.53	0.01
20.00	4.92	4.68	0.01
22.00	5.04	4.80	0.01
24.00	**5.14**	**4.90**	0.00
26.00	5.14	4.90	0.00
28.00	5.14	4.90	0.00
30.00	5.14	4.90	0.00
32.00	5.14	4.90	0.00
34.00	5.14	4.90	0.00
36.00	5.14	4.90	0.00
38.00	5.14	4.90	0.00
40.00	5.14	4.90	0.00
42.00	5.14	4.90	0.00
44.00	5.14	4.90	0.00
46.00	5.14	4.90	0.00
48.00	5.14	4.90	0.00
50.00	5.14	4.90	0.00
52.00	5.14	4.90	0.00
54.00	5.14	4.90	0.00
56.00	5.14	4.90	0.00
58.00	5.14	4.90	0.00
60.00	5.14	4.90	0.00
62.00	5.14	4.90	0.00
64.00	5.14	4.90	0.00
66.00	5.14	4.90	0.00
68.00	5.14	4.90	0.00
70.00	5.14	4.90	0.00
72.00	5.14	4.90	0.00
74.00	5.14	4.90	0.00
76.00	5.14	4.90	0.00
78.00	5.14	4.90	0.00
80.00	5.14	4.90	0.00
82.00	5.14	4.90	0.00
84.00	5.14	4.90	0.00
86.00	5.14	4.90	0.00
88.00	5.14	4.90	0.00
90.00	5.14	4.90	0.00
92.00	5.14	4.90	0.00
94.00	5.14	4.90	0.00
96.00	5.14	4.90	0.00
98.00	5.14	4.90	0.00
100.00	5.14	4.90	0.00
102.00	5.14	4.90	0.00
104.00	5.14	4.90	0.00
106.00	5.14	4.90	0.00
108.00	5.14	4.90	0.00
110.00	5.14	4.90	0.00
112.00	5.14	4.90	0.00
114.00	5.14	4.90	0.00
116.00	5.14	4.90	0.00
118.00	5.14	4.90	0.00
120.00	5.14	4.90	0.00
122.00	5.14	4.90	0.00
124.00	5.14	4.90	0.00
126.00	5.14	4.90	0.00
128.00	5.14	4.90	0.00
130.00	5.14	4.90	0.00
132.00	5.14	4.90	0.00
134.00	5.14	4.90	0.00
136.00	5.14	4.90	0.00
138.00	5.14	4.90	0.00
140.00	5.14	4.90	0.00
142.00	5.14	4.90	0.00
144.00	5.14	4.90	0.00
146.00	5.14	4.90	0.00
148.00	5.14	4.90	0.00
150.00	5.14	4.90	0.00
152.00	5.14	4.90	0.00
154.00	5.14	4.90	0.00
156.00	5.14	4.90	0.00
158.00	5.14	4.90	0.00
160.00	5.14	4.90	0.00
162.00	5.14	4.90	0.00
164.00	5.14	4.90	0.00
166.00	5.14	4.90	0.00
168.00	5.14	4.90	0.00
170.00	5.14	4.90	0.00
172.00	5.14	4.90	0.00
174.00	5.14	4.90	0.00
176.00	5.14	4.90	0.00
178.00	5.14	4.90	0.00
180.00	5.14	4.90	0.00

Summary for Reach P-1P: 15" CPP

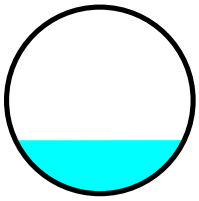
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 69,949 sf, 0.03% Impervious, Inflow Depth = 2.56" for 10-Year event
Inflow = 3.55 cfs @ 12.22 hrs, Volume= 14,942 cf
Outflow = 3.55 cfs @ 12.22 hrs, Volume= 14,942 cf, Atten= 0%, Lag= 0.1 min
Routed to Link P-1L : Lag

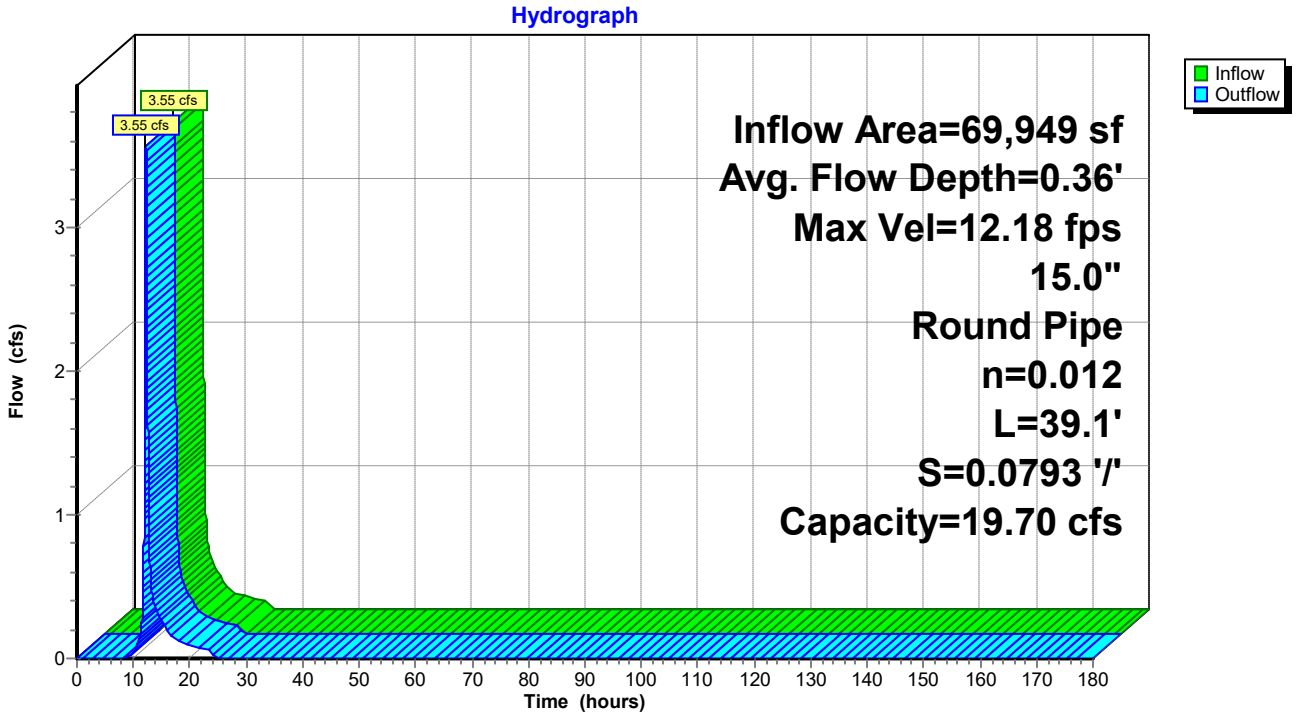
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 12.18 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.72 fps, Avg. Travel Time= 0.1 min

Peak Storage= 11 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.36' , Surface Width= 1.13'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 19.70 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 39.1' Slope= 0.0793 '/'
Inlet Invert= 1,668.60', Outlet Invert= 1,665.50'



Reach P-1P: 15" CPP



Hydrograph for Reach P-1P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,668.60	0.00
5.00	0.00	0	1,668.60	0.00
10.00	**0.05**	**1**	**1,668.65**	**0.05**
15.00	**0.26**	**2**	**1,668.70**	**0.26**
20.00	0.09	1	1,668.66	0.09
25.00	0.00	0	1,668.60	0.00
30.00	0.00	0	1,668.60	0.00
35.00	0.00	0	1,668.60	0.00
40.00	0.00	0	1,668.60	0.00
45.00	0.00	0	1,668.60	0.00
50.00	0.00	0	1,668.60	0.00
55.00	0.00	0	1,668.60	0.00
60.00	0.00	0	1,668.60	0.00
65.00	0.00	0	1,668.60	0.00
70.00	0.00	0	1,668.60	0.00
75.00	0.00	0	1,668.60	0.00
80.00	0.00	0	1,668.60	0.00
85.00	0.00	0	1,668.60	0.00
90.00	0.00	0	1,668.60	0.00
95.00	0.00	0	1,668.60	0.00
100.00	0.00	0	1,668.60	0.00
105.00	0.00	0	1,668.60	0.00
110.00	0.00	0	1,668.60	0.00
115.00	0.00	0	1,668.60	0.00
120.00	0.00	0	1,668.60	0.00
125.00	0.00	0	1,668.60	0.00
130.00	0.00	0	1,668.60	0.00
135.00	0.00	0	1,668.60	0.00
140.00	0.00	0	1,668.60	0.00
145.00	0.00	0	1,668.60	0.00
150.00	0.00	0	1,668.60	0.00
155.00	0.00	0	1,668.60	0.00
160.00	0.00	0	1,668.60	0.00
165.00	0.00	0	1,668.60	0.00
170.00	0.00	0	1,668.60	0.00
175.00	0.00	0	1,668.60	0.00
180.00	0.00	0	1,668.60	0.00

Summary for Reach P-2P: 15" CPP

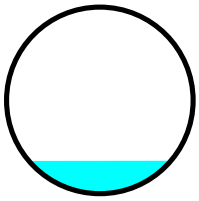
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 19,113 sf, 0.02% Impervious, Inflow Depth = 2.48" for 10-Year event
Inflow = 1.17 cfs @ 12.12 hrs, Volume= 3,944 cf
Outflow = 1.17 cfs @ 12.12 hrs, Volume= 3,944 cf, Atten= 0%, Lag= 0.0 min
Routed to Link P-2L : Lag

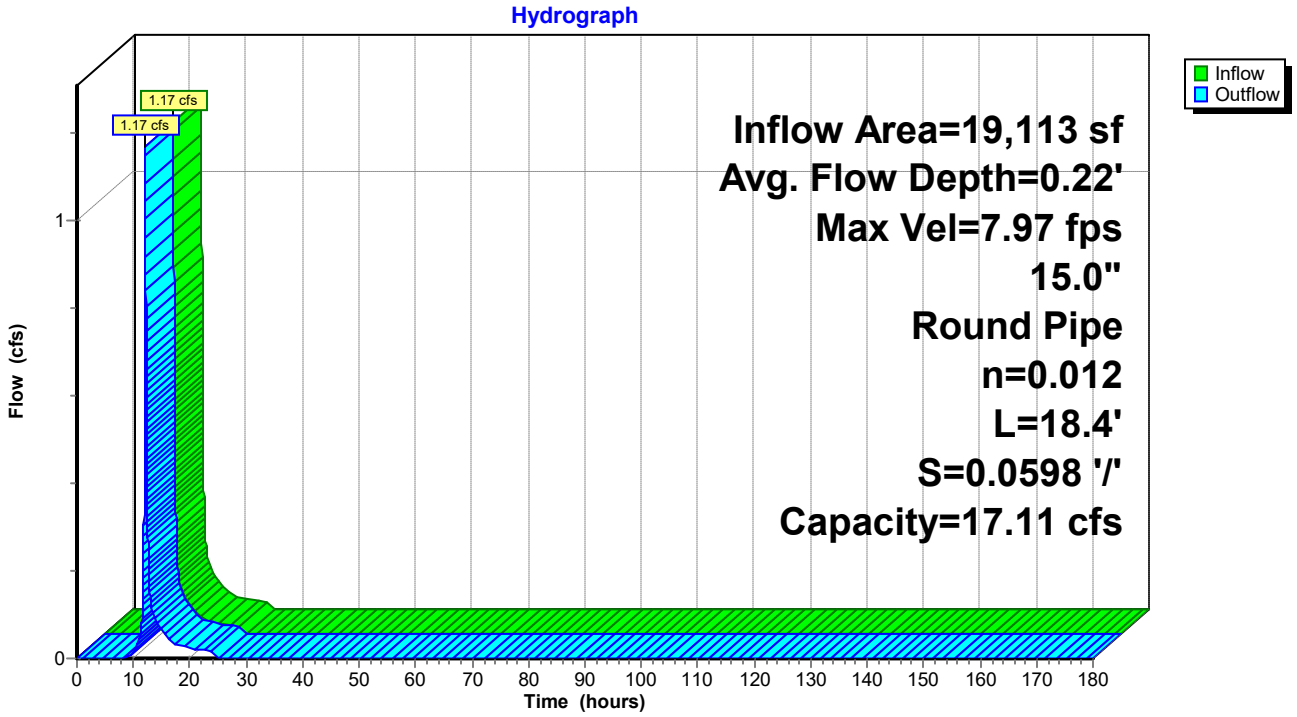
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 7.97 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.93 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.22' , Surface Width= 0.95'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.11 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 18.4' Slope= 0.0598 '/'
Inlet Invert= 1,669.70', Outlet Invert= 1,668.60'



Reach P-2P: 15" CPP



Hydrograph for Reach P-2P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,669.70	0.00
5.00	0.00	0	1,669.70	0.00
10.00	**0.01**	**0**	**1,669.73**	**0.01**
15.00	**0.07**	**0**	**1,669.76**	**0.07**
20.00	0.02	0	1,669.73	0.02
25.00	0.00	0	1,669.70	0.00
30.00	0.00	0	1,669.70	0.00
35.00	0.00	0	1,669.70	0.00
40.00	0.00	0	1,669.70	0.00
45.00	0.00	0	1,669.70	0.00
50.00	0.00	0	1,669.70	0.00
55.00	0.00	0	1,669.70	0.00
60.00	0.00	0	1,669.70	0.00
65.00	0.00	0	1,669.70	0.00
70.00	0.00	0	1,669.70	0.00
75.00	0.00	0	1,669.70	0.00
80.00	0.00	0	1,669.70	0.00
85.00	0.00	0	1,669.70	0.00
90.00	0.00	0	1,669.70	0.00
95.00	0.00	0	1,669.70	0.00
100.00	0.00	0	1,669.70	0.00
105.00	0.00	0	1,669.70	0.00
110.00	0.00	0	1,669.70	0.00
115.00	0.00	0	1,669.70	0.00
120.00	0.00	0	1,669.70	0.00
125.00	0.00	0	1,669.70	0.00
130.00	0.00	0	1,669.70	0.00
135.00	0.00	0	1,669.70	0.00
140.00	0.00	0	1,669.70	0.00
145.00	0.00	0	1,669.70	0.00
150.00	0.00	0	1,669.70	0.00
155.00	0.00	0	1,669.70	0.00
160.00	0.00	0	1,669.70	0.00
165.00	0.00	0	1,669.70	0.00
170.00	0.00	0	1,669.70	0.00
175.00	0.00	0	1,669.70	0.00
180.00	0.00	0	1,669.70	0.00

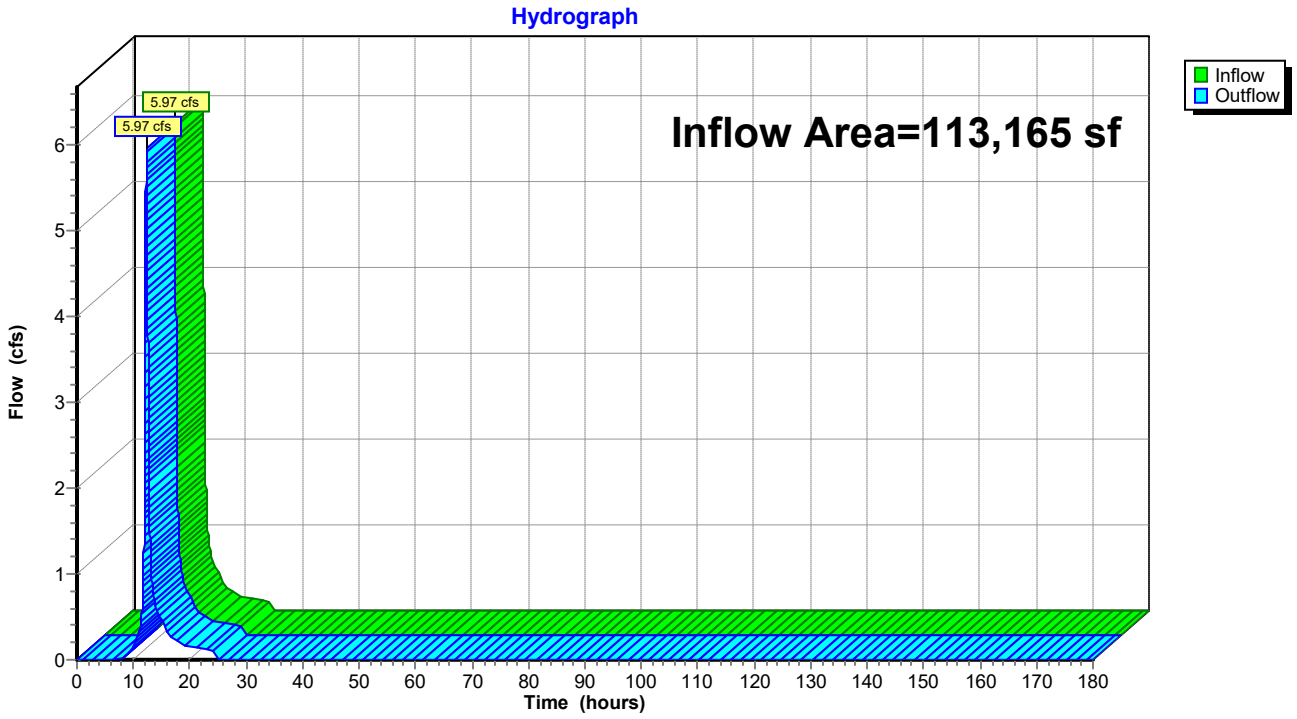
Summary for Reach P-5P: Unknown

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

Inflow Area = 113,165 sf, 0.03% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 5.97 cfs @ 12.29 hrs, Volume= 28,436 cf
Outflow = 5.97 cfs @ 12.29 hrs, Volume= 28,436 cf, Atten= 0%, Lag= 0.0 min
Routed to Link P-5L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-5P: Unknown



Hydrograph for Reach P-5P: Unknown

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.01		0.01	112.00	0.00		0.00
10.00	0.15		0.15	114.00	0.00		0.00
12.00	**2.14**		**2.14**	116.00	0.00		0.00
14.00	**0.64**		**0.64**	118.00	0.00		0.00
16.00	0.34		0.34	120.00	0.00		0.00
18.00	0.21		0.21	122.00	0.00		0.00
20.00	0.16		0.16	124.00	0.00		0.00
22.00	0.13		0.13	126.00	0.00		0.00
24.00	0.10		0.10	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

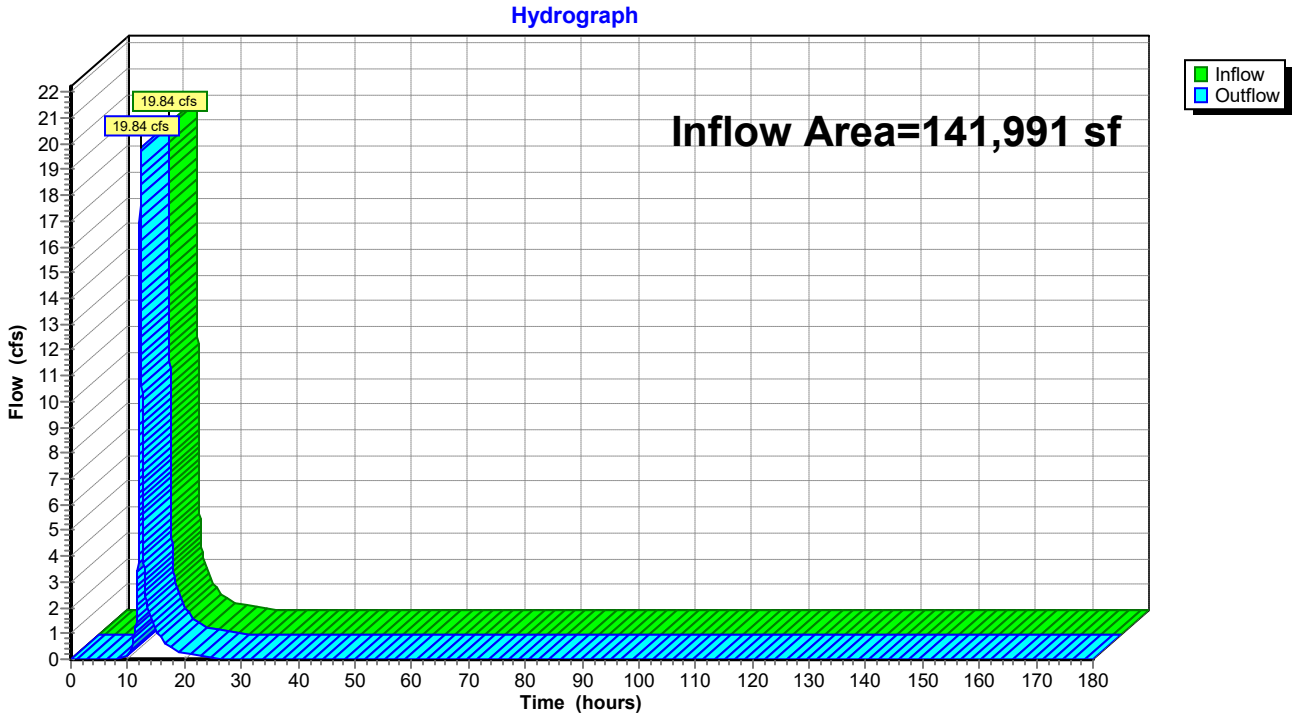
Summary for Reach P-DP-E: Culvert towards Wades Stream

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

Inflow Area = 141,991 sf, 0.03% Impervious, Inflow Depth = 6.04" for 10-Year event
Inflow = 19.84 cfs @ 12.23 hrs, Volume= 71,471 cf
Outflow = 19.84 cfs @ 12.23 hrs, Volume= 71,471 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-DP-E: Culvert towards Wades Stream



Hydrograph for Reach P-DP-E: Culvert towards Wades Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.01		0.01	112.00	0.00		0.00
10.00	0.19		0.19	114.00	0.00		0.00
12.00	**7.93**		**7.93**	116.00	0.00		0.00
14.00	**1.61**		**1.61**	118.00	0.00		0.00
16.00	0.78		0.78	120.00	0.00		0.00
18.00	0.39		0.39	122.00	0.00		0.00
20.00	0.26		0.26	124.00	0.00		0.00
22.00	0.19		0.19	126.00	0.00		0.00
24.00	0.13		0.13	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

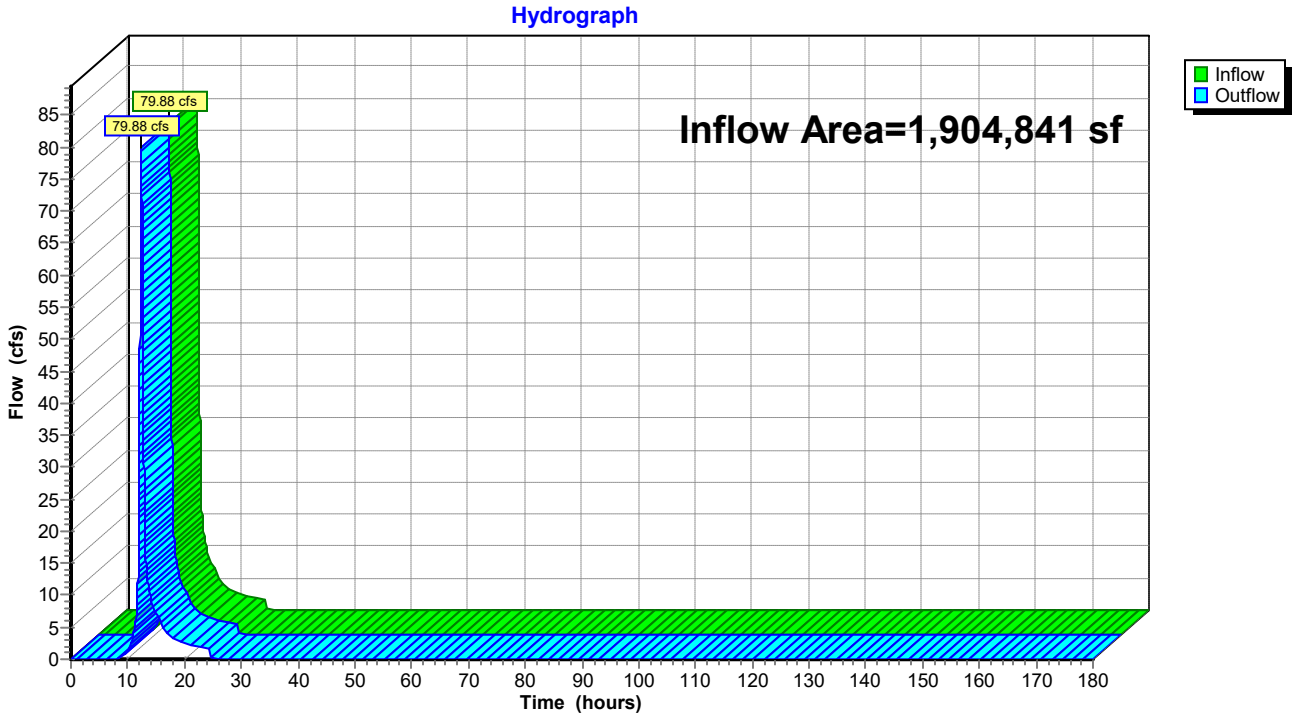
Summary for Reach P-DP-W: Watts Stream

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

Inflow Area = 1,904,841 sf, 0.60% Impervious, Inflow Depth = 2.62" for 10-Year event
Inflow = 79.88 cfs @ 12.36 hrs, Volume= 416,449 cf
Outflow = 79.88 cfs @ 12.36 hrs, Volume= 416,449 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-DP-W: Watts Stream



Hydrograph for Reach P-DP-W: Watts Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.00		0.00	110.00	0.00		0.00
8.00	0.01		0.01	112.00	0.00		0.00
10.00	1.73		1.73	114.00	0.00		0.00
12.00	**24.86**		**24.86**	116.00	0.00		0.00
14.00	**9.78**		**9.78**	118.00	0.00		0.00
16.00	5.34		5.34	120.00	0.00		0.00
18.00	3.26		3.26	122.00	0.00		0.00
20.00	2.52		2.52	124.00	0.00		0.00
22.00	2.12		2.12	126.00	0.00		0.00
24.00	1.73		1.73	128.00	0.00		0.00
26.00	0.10		0.10	130.00	0.00		0.00
28.00	0.03		0.03	132.00	0.00		0.00
30.00	0.01		0.01	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

Summary for Pond 2.5P: 12" CPP

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 2.00" for 10-Year event
Inflow = 1.20 cfs @ 12.11 hrs, Volume= 2,596 cf
Outflow = 1.19 cfs @ 12.11 hrs, Volume= 2,596 cf, Atten= 1%, Lag= 0.1 min
Discarded = 0.00 cfs @ 12.11 hrs, Volume= 0 cf
Primary = 1.19 cfs @ 12.11 hrs, Volume= 2,595 cf
Routed to Link 8L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,670.64' @ 12.11 hrs Surf.Area= 13 sf Storage= 3 cf
Flood Elev= 1,672.00' Surf.Area= 123 sf Storage= 84 cf

Plug-Flow detention time= 0.0 min calculated for 2,595 cf (100% of inflow)
Center-of-Mass det. time= 0.0 min (858.4 - 858.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,670.00'	84 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

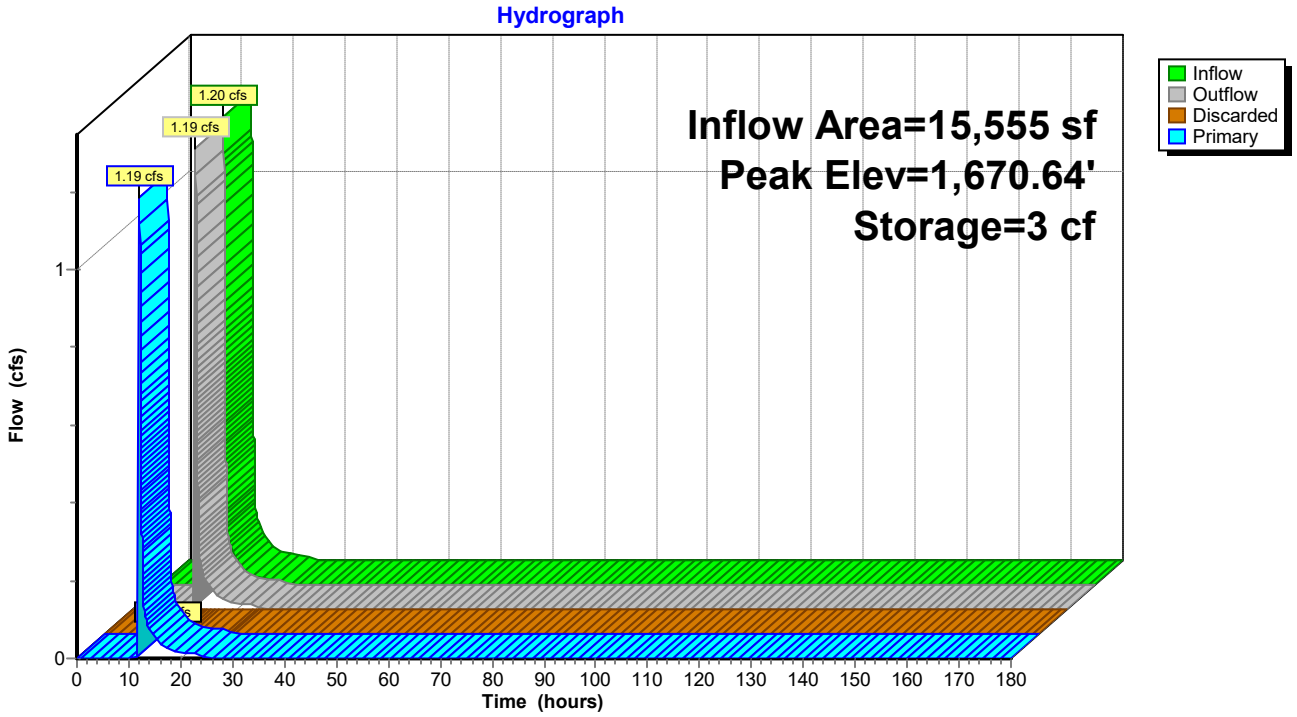
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,670.00	0	1.6	0	0	0
1,671.00	33	20.4	11	11	35
1,672.00	123	39.3	73	84	129

Device	Routing	Invert	Outlet Devices
#1	Primary	1,670.00'	**12.0" Round Culvert** L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,670.00' / 1,669.65' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Discarded	1,670.00'	**0.170 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.00 cfs @ 12.11 hrs HW=1,670.63' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=1.12 cfs @ 12.11 hrs HW=1,670.63' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.12 cfs @ 2.14 fps)

Pond 2.5P: 12" CPP



Hydrograph for Pond 2.5P: 12" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,670.00	0.00	0.00	0.00
5.00	0.00	0	1,670.00	0.00	0.00	0.00
10.00	**0.00**	**0**	**1,670.00**	**0.00**	**0.00**	**0.00**
15.00	**0.06**	**0**	**1,670.13**	**0.06**	**0.00**	**0.06**
20.00	0.02	0	1,670.07	0.02	0.00	0.02
25.00	0.00	0	1,670.00	0.00	0.00	0.00
30.00	0.00	0	1,670.00	0.00	0.00	0.00
35.00	0.00	0	1,670.00	0.00	0.00	0.00
40.00	0.00	0	1,670.00	0.00	0.00	0.00
45.00	0.00	0	1,670.00	0.00	0.00	0.00
50.00	0.00	0	1,670.00	0.00	0.00	0.00
55.00	0.00	0	1,670.00	0.00	0.00	0.00
60.00	0.00	0	1,670.00	0.00	0.00	0.00
65.00	0.00	0	1,670.00	0.00	0.00	0.00
70.00	0.00	0	1,670.00	0.00	0.00	0.00
75.00	0.00	0	1,670.00	0.00	0.00	0.00
80.00	0.00	0	1,670.00	0.00	0.00	0.00
85.00	0.00	0	1,670.00	0.00	0.00	0.00
90.00	0.00	0	1,670.00	0.00	0.00	0.00
95.00	0.00	0	1,670.00	0.00	0.00	0.00
100.00	0.00	0	1,670.00	0.00	0.00	0.00
105.00	0.00	0	1,670.00	0.00	0.00	0.00
110.00	0.00	0	1,670.00	0.00	0.00	0.00
115.00	0.00	0	1,670.00	0.00	0.00	0.00
120.00	0.00	0	1,670.00	0.00	0.00	0.00
125.00	0.00	0	1,670.00	0.00	0.00	0.00
130.00	0.00	0	1,670.00	0.00	0.00	0.00
135.00	0.00	0	1,670.00	0.00	0.00	0.00
140.00	0.00	0	1,670.00	0.00	0.00	0.00
145.00	0.00	0	1,670.00	0.00	0.00	0.00
150.00	0.00	0	1,670.00	0.00	0.00	0.00
155.00	0.00	0	1,670.00	0.00	0.00	0.00
160.00	0.00	0	1,670.00	0.00	0.00	0.00
165.00	0.00	0	1,670.00	0.00	0.00	0.00
170.00	0.00	0	1,670.00	0.00	0.00	0.00
175.00	0.00	0	1,670.00	0.00	0.00	0.00
180.00	0.00	0	1,670.00	0.00	0.00	0.00

Summary for Pond 3.5P: 15" CPP

Inflow Area = 115,816 sf, 0.04% Impervious, Inflow Depth = 3.29" for 10-Year event
Inflow = 7.75 cfs @ 12.20 hrs, Volume= 31,712 cf
Outflow = 7.55 cfs @ 12.24 hrs, Volume= 31,712 cf, Atten= 3%, Lag= 2.1 min
Discarded = 0.01 cfs @ 12.24 hrs, Volume= 44 cf
Primary = 5.48 cfs @ 12.24 hrs, Volume= 21,544 cf
Routed to Link FS2 : Filter Strip
Secondary = 2.06 cfs @ 12.24 hrs, Volume= 10,123 cf
Routed to Pond P-4P : 2x15" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,662.81' @ 12.24 hrs Surf.Area= 903 sf Storage= 744 cf
Flood Elev= 1,663.00' Surf.Area= 1,038 sf Storage= 932 cf

Plug-Flow detention time= 1.0 min calculated for 31,710 cf (100% of inflow)
Center-of-Mass det. time= 1.0 min (831.7 - 830.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.50'	2,300 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.50	7	10.9	0	0	7
1,661.00	72	38.7	17	17	117
1,662.00	400	120.2	214	231	1,151
1,662.75	866	168.8	464	694	2,274
1,663.00	1,038	206.2	238	932	3,391
1,664.00	1,727	261.7	1,368	2,300	5,471

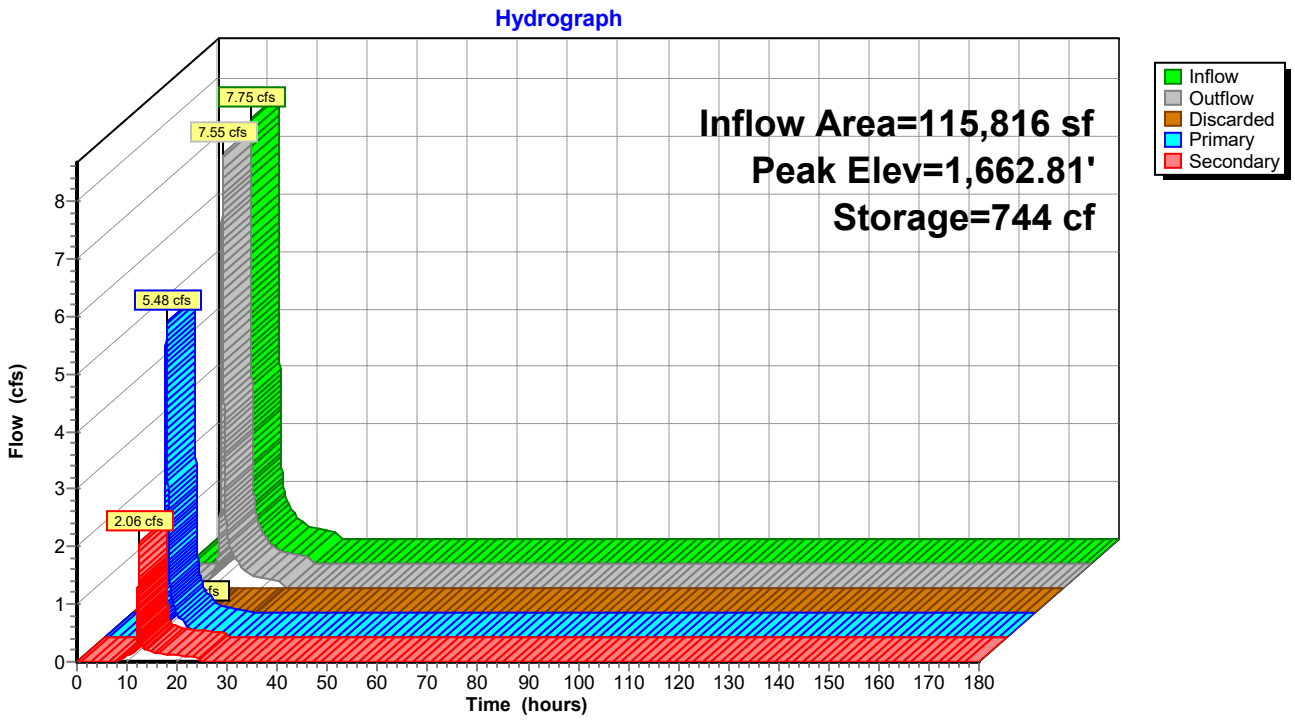
Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.80'	**15.0" Round Culvert** L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.80' / 1,660.00' S= 0.0174 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Discarded	1,660.50'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,663.00'	**Road Overflow, C= 3.27** Offset (feet) 0.00 30.23 30.23 Height (feet) 1.00 0.00 1.00
#4	Secondary	1,660.50'	**4.00' long x 14.50' breadth x 2.25' high Rock Fill** Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#5	Secondary	1,662.75'	**17.4' long + 3.0 '/' SideZ x 1.0' breadth Check Dam** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.01 cfs @ 12.24 hrs HW=1,662.81' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=5.48 cfs @ 12.24 hrs HW=1,662.81' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 5.48 cfs @ 4.47 fps)
└**3=Road Overflow** (Controls 0.00 cfs)

Secondary OutFlow Max=2.05 cfs @ 12.24 hrs HW=1,662.81' TW=1,661.08' (Dynamic Tailwater)
├**4=Rock Fill** (Rockfill Controls 1.44 cfs @ 0.25 fps)
└**5=Check Dam** (Weir Controls 0.62 cfs @ 0.63 fps)

Pond 3.5P: 15" CPP



Hydrograph for Pond 3.5P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
5.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
10.00	**0.19**	**13**	**1,660.94**	**0.19**	**0.00**	**0.07**	**0.11**
15.00	**0.51**	**25**	**1,661.10**	**0.51**	**0.00**	**0.34**	**0.18**
20.00	0.18	13	1,660.93	0.18	0.00	0.07	0.11
25.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
30.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
35.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
40.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
45.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
50.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
55.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
60.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
65.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
70.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
75.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
80.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
85.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
90.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
95.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
100.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
105.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
110.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
115.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
120.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
125.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
130.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
135.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
140.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
145.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
150.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
155.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
160.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
165.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
170.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
175.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
180.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00

Summary for Pond 12P: Water Quality Swale

Inflow Area = 193,731 sf, 0.03% Impervious, Inflow Depth = 3.08" for 10-Year event
Inflow = 12.04 cfs @ 12.19 hrs, Volume= 49,764 cf
Outflow = 11.95 cfs @ 12.21 hrs, Volume= 49,764 cf, Atten= 1%, Lag= 0.9 min
Discarded = 0.01 cfs @ 12.21 hrs, Volume= 654 cf
Primary = 0.55 cfs @ 12.21 hrs, Volume= 12,221 cf
Routed to Link 9L : Lag
Secondary = 11.39 cfs @ 12.21 hrs, Volume= 36,889 cf
Routed to Link 7L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,684.68' @ 12.21 hrs Surf.Area= 1,756 sf Storage= 2,644 cf

Plug-Flow detention time= 34.9 min calculated for 49,761 cf (100% of inflow)
Center-of-Mass det. time= 35.0 min (858.4 - 823.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	5,676 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,681.00	25	20.6	0	0	25
1,682.00	297	70.4	136	136	388
1,683.00	717	120.3	492	628	1,152
1,683.50	984	145.2	423	1,051	1,682
1,684.00	1,285	170.2	566	1,617	2,314
1,684.50	1,626	195.1	726	2,343	3,044
1,685.00	2,005	220.1	906	3,249	3,876
1,686.00	2,874	269.9	2,426	5,676	5,834

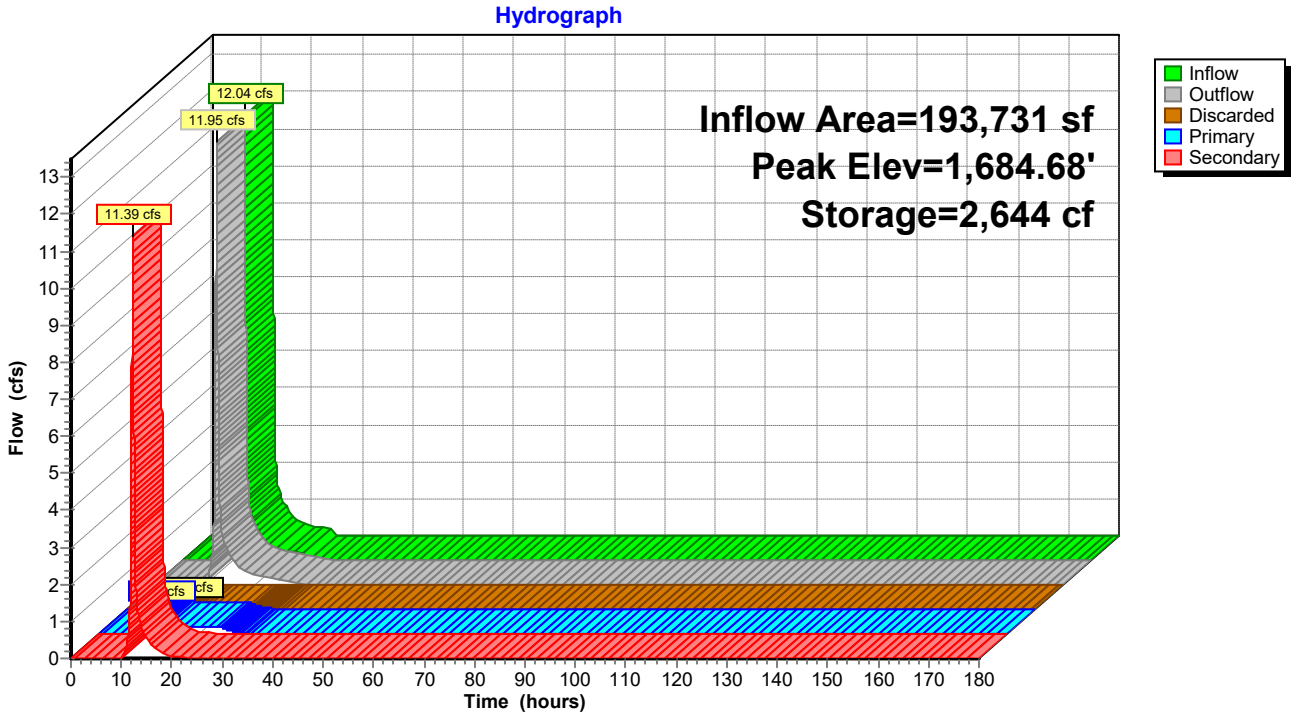
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,681.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,681.50'	**1.00' long x 57.23' breadth x 3.00' high Rock Fill**
			Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#3	Primary	1,684.50'	**1.0' long + 3.0 '/' SideZ x 15.0' breadth Weir DP-W**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#4	Secondary	1,684.00'	**6.0' long + 3.0 '/' SideZ x 18.0' breadth Weir DP-E**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=0.01 cfs @ 12.21 hrs HW=1,684.68' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.54 cfs @ 12.21 hrs HW=1,684.68' TW=0.00' (Dynamic Tailwater)
├**2=Rock Fill** (Rockfill Controls 0.26 cfs @ 0.17 fps)
└**3=Weir DP-W** (Weir Controls 0.29 cfs @ 1.05 fps)

Secondary OutFlow Max=11.39 cfs @ 12.21 hrs HW=1,684.68' TW=0.00' (Dynamic Tailwater)
└**4=Weir DP-E** (Weir Controls 11.39 cfs @ 2.09 fps)

Pond 12P: Water Quality Swale



Hydrograph for Pond 12P: Water Quality Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
5.00	0.01	63	1,681.69	0.00	0.00	0.00	0.00
10.00	**0.31**	**845**	**1,683.28**	**0.12**	**0.01**	**0.11**	**0.00**
15.00	**0.78**	**1,757**	**1,684.11**	**0.79**	**0.01**	**0.20**	**0.58**
20.00	0.27	1,651	1,684.03	0.27	0.01	0.19	0.07
25.00	0.00	1,088	1,683.54	0.15	0.01	0.14	0.00
30.00	0.00	87	1,681.81	0.01	0.00	0.01	0.00
35.00	0.00	36	1,681.52	0.00	0.00	0.00	0.00
40.00	0.00	26	1,681.43	0.00	0.00	0.00	0.00
45.00	0.00	17	1,681.34	0.00	0.00	0.00	0.00
50.00	0.00	11	1,681.25	0.00	0.00	0.00	0.00
55.00	0.00	6	1,681.17	0.00	0.00	0.00	0.00
60.00	0.00	3	1,681.09	0.00	0.00	0.00	0.00
65.00	0.00	0	1,681.01	0.00	0.00	0.00	0.00
70.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
75.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
80.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00

Summary for Pond IT1: Infiltration

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 2.92" for 10-Year event
Inflow = 1.10 cfs @ 12.13 hrs, Volume= 3,788 cf
Outflow = 1.21 cfs @ 12.11 hrs, Volume= 3,788 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 11.98 hrs, Volume= 1,193 cf
Primary = 1.20 cfs @ 12.11 hrs, Volume= 2,596 cf
Routed to Pond 2.5P : 12" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,673.53' @ 12.11 hrs Surf.Area= 625 sf Storage= 967 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 663.4 min (1,489.4 - 826.0)

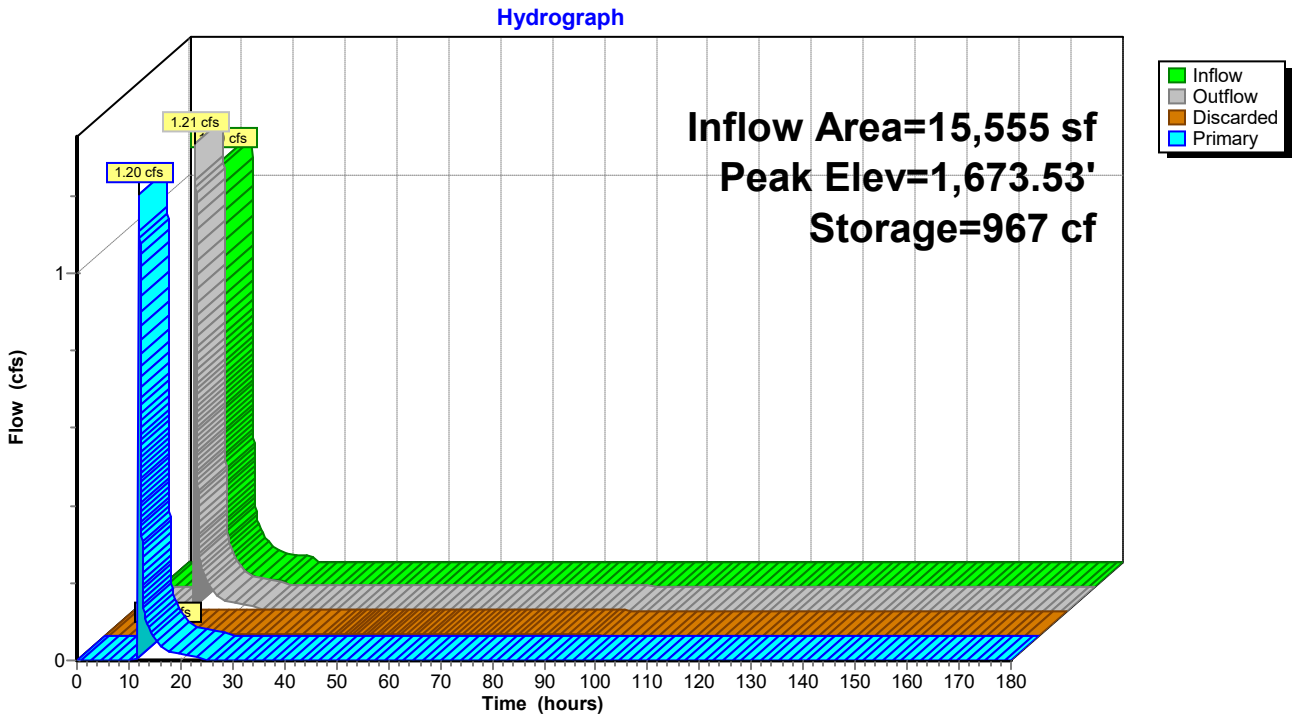
Volume	Invert	Avail.Storage	Storage Description
#1	1,670.45'	637 cf	**6.25'W x 100.00'L x 2.55'H Prismatoid** 1,594 cf Overall x 40.0% Voids
#2	1,673.00'	625 cf	**6.25'W x 100.00'L x 1.00'H Overflow Storage** -Impervious
		1,262 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,670.45'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,673.50'	**100.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 11.98 hrs HW=1,673.02' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=1.14 cfs @ 12.11 hrs HW=1,673.53' TW=1,670.63' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 1.14 cfs @ 0.44 fps)

Pond IT1: Infiltration



Hydrograph for Pond IT1: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,670.45	0.00	0.00	0.00
5.00	0.00	0	1,670.45	0.00	0.00	0.00
10.00	**0.02**	**51**	**1,670.66**	**0.00**	**0.00**	**0.00**
15.00	**0.06**	**952**	**1,673.50**	**0.06**	**0.00**	**0.06**
20.00	0.02	951	1,673.50	0.02	0.00	0.02
25.00	0.00	937	1,673.48	0.00	0.00	0.00
30.00	0.00	854	1,673.35	0.00	0.00	0.00
35.00	0.00	772	1,673.21	0.00	0.00	0.00
40.00	0.00	689	1,673.08	0.00	0.00	0.00
45.00	0.00	607	1,672.88	0.00	0.00	0.00
50.00	0.00	528	1,672.56	0.00	0.00	0.00
55.00	0.00	455	1,672.27	0.00	0.00	0.00
60.00	0.00	385	1,671.99	0.00	0.00	0.00
65.00	0.00	320	1,671.73	0.00	0.00	0.00
70.00	0.00	258	1,671.48	0.00	0.00	0.00
75.00	0.00	200	1,671.25	0.00	0.00	0.00
80.00	0.00	145	1,671.03	0.00	0.00	0.00
85.00	0.00	94	1,670.83	0.00	0.00	0.00
90.00	0.00	45	1,670.63	0.00	0.00	0.00
95.00	0.00	0	1,670.45	0.00	0.00	0.00
100.00	0.00	0	1,670.45	0.00	0.00	0.00
105.00	0.00	0	1,670.45	0.00	0.00	0.00
110.00	0.00	0	1,670.45	0.00	0.00	0.00
115.00	0.00	0	1,670.45	0.00	0.00	0.00
120.00	0.00	0	1,670.45	0.00	0.00	0.00
125.00	0.00	0	1,670.45	0.00	0.00	0.00
130.00	0.00	0	1,670.45	0.00	0.00	0.00
135.00	0.00	0	1,670.45	0.00	0.00	0.00
140.00	0.00	0	1,670.45	0.00	0.00	0.00
145.00	0.00	0	1,670.45	0.00	0.00	0.00
150.00	0.00	0	1,670.45	0.00	0.00	0.00
155.00	0.00	0	1,670.45	0.00	0.00	0.00
160.00	0.00	0	1,670.45	0.00	0.00	0.00
165.00	0.00	0	1,670.45	0.00	0.00	0.00
170.00	0.00	0	1,670.45	0.00	0.00	0.00
175.00	0.00	0	1,670.45	0.00	0.00	0.00
180.00	0.00	0	1,670.45	0.00	0.00	0.00

Summary for Pond IT2: Infiltration

Inflow Area = 62,048 sf, 0.04% Impervious, Inflow Depth = 2.56" for 10-Year event
Inflow = 2.91 cfs @ 12.25 hrs, Volume= 13,226 cf
Outflow = 2.91 cfs @ 12.25 hrs, Volume= 13,226 cf, Atten= 0%, Lag= 0.4 min
Discarded = 0.00 cfs @ 10.31 hrs, Volume= 574 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link P-3L : Lag
Secondary = 2.91 cfs @ 12.25 hrs, Volume= 12,652 cf
Routed to Pond IT3 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,663.76' @ 12.25 hrs Surf.Area= 400 sf Storage= 506 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 72.6 min (893.1 - 820.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,661.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,663.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

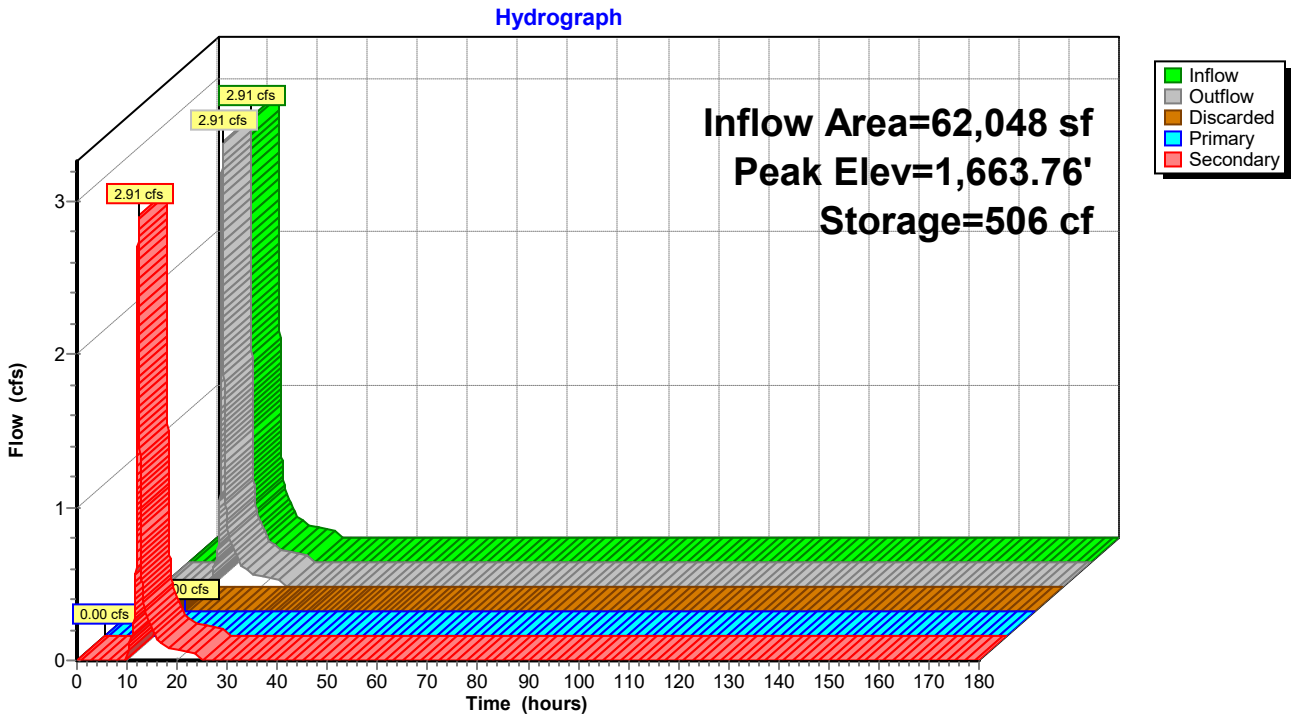
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,661.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,664.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,663.50'	**8.0' long + 3.0 '/' SideZ x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.00 cfs @ 10.31 hrs HW=1,663.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,661.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=2.91 cfs @ 12.25 hrs HW=1,663.76' TW=1,662.77' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 2.91 cfs @ 1.25 fps)

Pond IT2: Infiltration



Hydrograph for Pond IT2: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,661.00	0.00	0.00	**0.00**	0.00
5.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
10.00	**0.08**	**304**	**1,662.90**	**0.00**	**0.00**	0.00	**0.00**
15.00	**0.21**	**419**	**1,663.55**	**0.21**	**0.00**	0.00	**0.20**
20.00	0.07	409	1,663.52	0.07	0.00	0.00	0.06
25.00	0.00	396	1,663.47	0.00	0.00	0.00	0.00
30.00	0.00	348	1,663.18	0.00	0.00	0.00	0.00
35.00	0.00	303	1,662.90	0.00	0.00	0.00	0.00
40.00	0.00	260	1,662.63	0.00	0.00	0.00	0.00
45.00	0.00	220	1,662.37	0.00	0.00	0.00	0.00
50.00	0.00	181	1,662.13	0.00	0.00	0.00	0.00
55.00	0.00	145	1,661.90	0.00	0.00	0.00	0.00
60.00	0.00	110	1,661.69	0.00	0.00	0.00	0.00
65.00	0.00	77	1,661.48	0.00	0.00	0.00	0.00
70.00	0.00	45	1,661.28	0.00	0.00	0.00	0.00
75.00	0.00	15	1,661.10	0.00	0.00	0.00	0.00
80.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00

Summary for Pond IT3: Infiltration

Inflow Area = 2,911 sf, 0.00% Impervious, Inflow Depth = 55.75" for 10-Year event
Inflow = 3.03 cfs @ 12.25 hrs, Volume= 13,525 cf
Outflow = 3.03 cfs @ 12.25 hrs, Volume= 13,525 cf, Atten= 0%, Lag= 0.4 min
Discarded = 0.00 cfs @ 11.06 hrs, Volume= 559 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link P-3L : Lag
Secondary = 3.02 cfs @ 12.25 hrs, Volume= 12,966 cf
Routed to Pond IT4 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,662.77' @ 12.25 hrs Surf.Area= 400 sf Storage= 510 cf

Plug-Flow detention time= 68.5 min calculated for 13,524 cf (100% of inflow)
Center-of-Mass det. time= 68.7 min (895.3 - 826.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,662.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

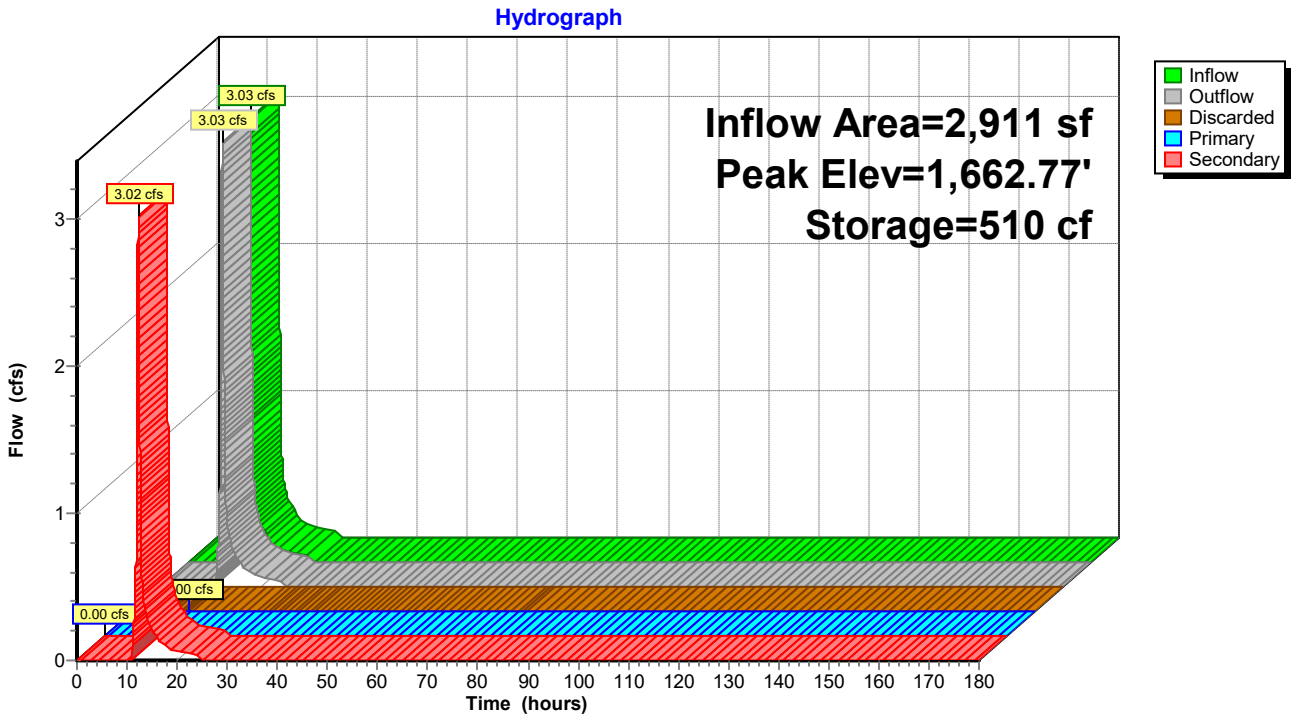
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,660.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,663.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,662.50'	**8.0' long + 3.0 '/' SideZ x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.00 cfs @ 11.06 hrs HW=1,662.51' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,660.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=3.02 cfs @ 12.25 hrs HW=1,662.77' TW=1,661.11' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 3.02 cfs @ 1.25 fps)

Pond IT3: Infiltration



Hydrograph for Pond IT3: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.00	0.00	0.00	**0.00**	0.00
5.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
10.00	**0.01**	**24**	**1,660.15**	**0.00**	**0.00**	0.00	**0.00**
15.00	**0.22**	**420**	**1,662.55**	**0.22**	**0.00**	0.00	**0.21**
20.00	0.07	409	1,662.52	0.07	0.00	0.00	0.07
25.00	0.00	396	1,662.47	0.00	0.00	0.00	0.00
30.00	0.00	348	1,662.18	0.00	0.00	0.00	0.00
35.00	0.00	303	1,661.89	0.00	0.00	0.00	0.00
40.00	0.00	260	1,661.63	0.00	0.00	0.00	0.00
45.00	0.00	220	1,661.37	0.00	0.00	0.00	0.00
50.00	0.00	181	1,661.13	0.00	0.00	0.00	0.00
55.00	0.00	144	1,660.90	0.00	0.00	0.00	0.00
60.00	0.00	110	1,660.68	0.00	0.00	0.00	0.00
65.00	0.00	76	1,660.48	0.00	0.00	0.00	0.00
70.00	0.00	45	1,660.28	0.00	0.00	0.00	0.00
75.00	0.00	15	1,660.09	0.00	0.00	0.00	0.00
80.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00

Summary for Pond IT4: Infiltration

Inflow Area = 4,433 sf, 0.05% Impervious, Inflow Depth = 58.11" for 10-Year event
Inflow = 4.62 cfs @ 12.26 hrs, Volume= 21,468 cf
Outflow = 4.62 cfs @ 12.26 hrs, Volume= 21,468 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 10.90 hrs, Volume= 813 cf
Primary = 4.61 cfs @ 12.26 hrs, Volume= 20,655 cf
Routed to Link P-4L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,661.11' @ 12.26 hrs Surf.Area= 400 sf Storage= 642 cf

Plug-Flow detention time= 87.7 min calculated for 21,467 cf (100% of inflow)
Center-of-Mass det. time= 87.9 min (936.0 - 848.1)

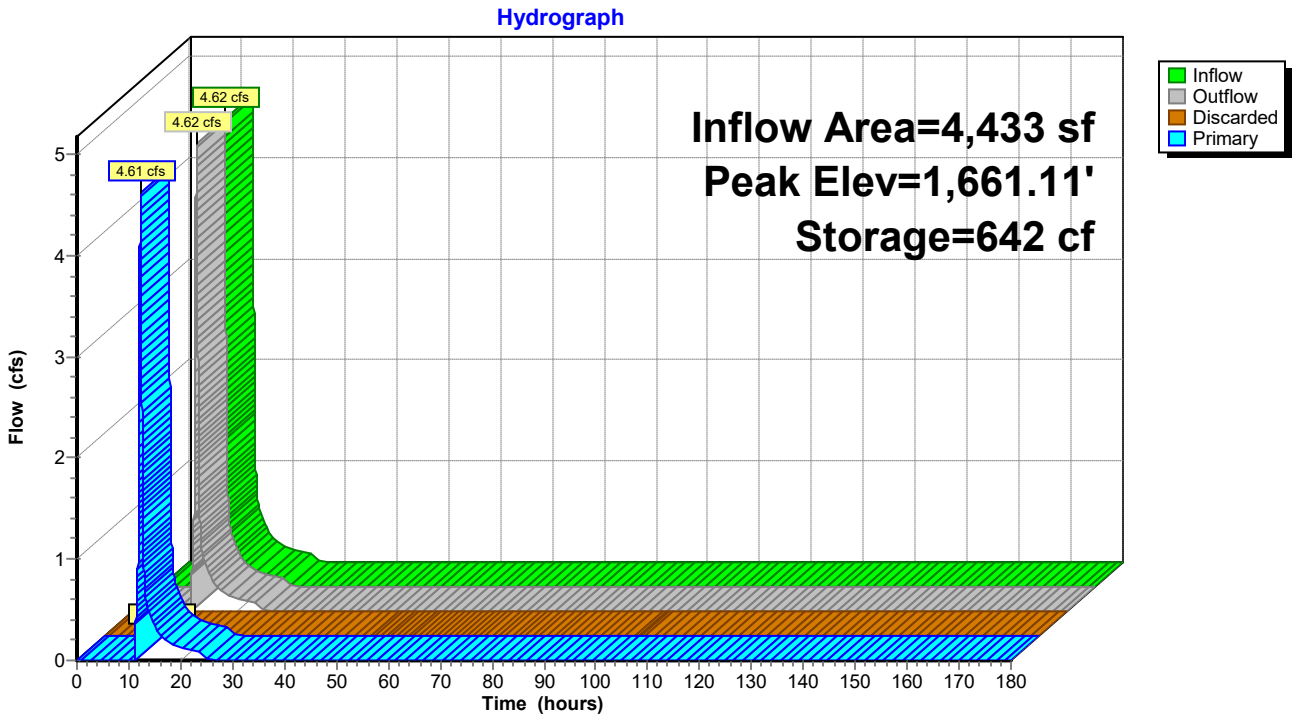
Volume	Invert	Avail.Storage	Storage Description
#1	1,658.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,660.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,658.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,661.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 10.90 hrs HW=1,660.50' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=4.61 cfs @ 12.26 hrs HW=1,661.11' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 4.61 cfs @ 0.87 fps)

Pond IT4: Infiltration



Hydrograph for Pond IT4: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,658.00	0.00	0.00	0.00
5.00	0.00	0	1,658.00	0.00	0.00	0.00
10.00	**0.07**	**102**	**1,658.64**	**0.00**	**0.00**	**0.00**
15.00	**0.35**	**608**	**1,661.02**	**0.35**	**0.00**	**0.35**
20.00	0.13	604	1,661.01	0.13	0.00	0.13
25.00	0.02	601	1,661.00	0.02	0.00	0.02
30.00	0.00	595	1,660.99	0.00	0.00	0.00
35.00	0.00	548	1,660.87	0.00	0.00	0.00
40.00	0.00	499	1,660.75	0.00	0.00	0.00
45.00	0.00	450	1,660.62	0.00	0.00	0.00
50.00	0.00	401	1,660.50	0.00	0.00	0.00
55.00	0.00	353	1,660.21	0.00	0.00	0.00
60.00	0.00	308	1,659.92	0.00	0.00	0.00
65.00	0.00	265	1,659.66	0.00	0.00	0.00
70.00	0.00	224	1,659.40	0.00	0.00	0.00
75.00	0.00	185	1,659.16	0.00	0.00	0.00
80.00	0.00	148	1,658.93	0.00	0.00	0.00
85.00	0.00	113	1,658.71	0.00	0.00	0.00
90.00	0.00	80	1,658.50	0.00	0.00	0.00
95.00	0.00	48	1,658.30	0.00	0.00	0.00
100.00	0.00	18	1,658.11	0.00	0.00	0.00
105.00	0.00	0	1,658.00	0.00	0.00	0.00
110.00	0.00	0	1,658.00	0.00	0.00	0.00
115.00	0.00	0	1,658.00	0.00	0.00	0.00
120.00	0.00	0	1,658.00	0.00	0.00	0.00
125.00	0.00	0	1,658.00	0.00	0.00	0.00
130.00	0.00	0	1,658.00	0.00	0.00	0.00
135.00	0.00	0	1,658.00	0.00	0.00	0.00
140.00	0.00	0	1,658.00	0.00	0.00	0.00
145.00	0.00	0	1,658.00	0.00	0.00	0.00
150.00	0.00	0	1,658.00	0.00	0.00	0.00
155.00	0.00	0	1,658.00	0.00	0.00	0.00
160.00	0.00	0	1,658.00	0.00	0.00	0.00
165.00	0.00	0	1,658.00	0.00	0.00	0.00
170.00	0.00	0	1,658.00	0.00	0.00	0.00
175.00	0.00	0	1,658.00	0.00	0.00	0.00
180.00	0.00	0	1,658.00	0.00	0.00	0.00

Summary for Pond IT5: Infiltration

Inflow Area = 378,878 sf, 0.03% Impervious, Inflow Depth = 1.95" for 10-Year event
Inflow = 11.97 cfs @ 12.26 hrs, Volume= 61,465 cf
Outflow = 11.96 cfs @ 12.26 hrs, Volume= 61,465 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 8.99 hrs, Volume= 1,258 cf
Primary = 10.54 cfs @ 12.26 hrs, Volume= 53,071 cf
Routed to Link P-4L : Lag
Secondary = 1.42 cfs @ 12.26 hrs, Volume= 7,135 cf
Routed to Pond IT4 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,661.18' @ 12.26 hrs Surf.Area= 400 sf Storage= 1,073 cf

Plug-Flow detention time= 74.1 min calculated for 61,461 cf (100% of inflow)
Center-of-Mass det. time= 74.5 min (952.5 - 878.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,657.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,659.50'	800 cf	**8.00'W x 50.00'L x 2.00'H Overflow Storage** -Impervious
		1,200 cf	Total Available Storage

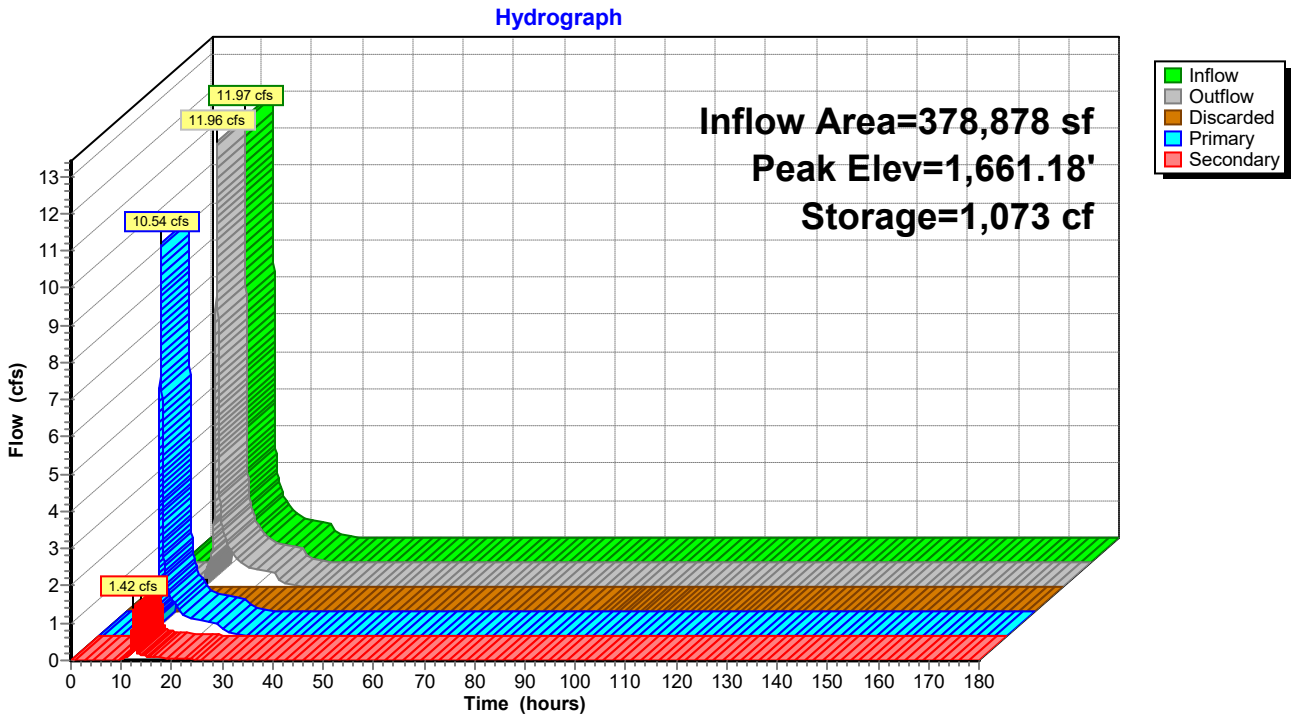
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,657.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,661.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,661.00'	**8.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 8.99 hrs HW=1,659.51' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=10.53 cfs @ 12.26 hrs HW=1,661.18' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 10.53 cfs @ 1.14 fps)

Secondary OutFlow Max=1.42 cfs @ 12.26 hrs HW=1,661.18' TW=1,661.11' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 1.42 cfs @ 0.91 fps)

Pond IT5: Infiltration



Hydrograph for Pond IT5: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
5.00	0.00	1	1,657.01	0.00	**0.00**	0.00	0.00
10.00	**0.39**	**1,007**	**1,661.02**	**0.39**	**0.00**	**0.34**	**0.05**
15.00	**1.00**	**1,014**	**1,661.03**	**1.00**	0.00	**0.88**	**0.12**
20.00	0.47	1,008	1,661.02	0.47	0.00	0.41	0.06
25.00	0.15	1,004	1,661.01	0.15	0.00	0.12	0.02
30.00	0.01	1,000	1,661.00	0.01	0.00	0.01	0.00
35.00	0.00	975	1,660.94	0.00	0.00	0.00	0.00
40.00	0.00	926	1,660.82	0.00	0.00	0.00	0.00
45.00	0.00	877	1,660.69	0.00	0.00	0.00	0.00
50.00	0.00	828	1,660.57	0.00	0.00	0.00	0.00
55.00	0.00	780	1,660.45	0.00	0.00	0.00	0.00
60.00	0.00	731	1,660.33	0.00	0.00	0.00	0.00
65.00	0.00	682	1,660.20	0.00	0.00	0.00	0.00
70.00	0.00	633	1,660.08	0.00	0.00	0.00	0.00
75.00	0.00	584	1,659.96	0.00	0.00	0.00	0.00
80.00	0.00	535	1,659.84	0.00	0.00	0.00	0.00
85.00	0.00	486	1,659.72	0.00	0.00	0.00	0.00
90.00	0.00	437	1,659.59	0.00	0.00	0.00	0.00
95.00	0.00	389	1,659.43	0.00	0.00	0.00	0.00
100.00	0.00	342	1,659.13	0.00	0.00	0.00	0.00
105.00	0.00	297	1,658.86	0.00	0.00	0.00	0.00
110.00	0.00	254	1,658.59	0.00	0.00	0.00	0.00
115.00	0.00	214	1,658.34	0.00	0.00	0.00	0.00
120.00	0.00	176	1,658.10	0.00	0.00	0.00	0.00
125.00	0.00	139	1,657.87	0.00	0.00	0.00	0.00
130.00	0.00	105	1,657.65	0.00	0.00	0.00	0.00
135.00	0.00	72	1,657.45	0.00	0.00	0.00	0.00
140.00	0.00	41	1,657.25	0.00	0.00	0.00	0.00
145.00	0.00	11	1,657.07	0.00	0.00	0.00	0.00
150.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00

Summary for Pond IT6: Infiltration

Inflow Area = 12,195 sf, 32.81% Impervious, Inflow Depth = 3.91" for 10-Year event
Inflow = 1.25 cfs @ 12.08 hrs, Volume= 3,970 cf
Outflow = 1.25 cfs @ 12.09 hrs, Volume= 3,970 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 10.24 hrs, Volume= 533 cf
Primary = 1.25 cfs @ 12.09 hrs, Volume= 3,437 cf
Routed to Link 10L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,659.54' @ 12.09 hrs Surf.Area= 263 sf Storage= 411 cf

Plug-Flow detention time= 261.8 min calculated for 3,969 cf (100% of inflow)
Center-of-Mass det. time= 262.0 min (1,055.4 - 793.3)

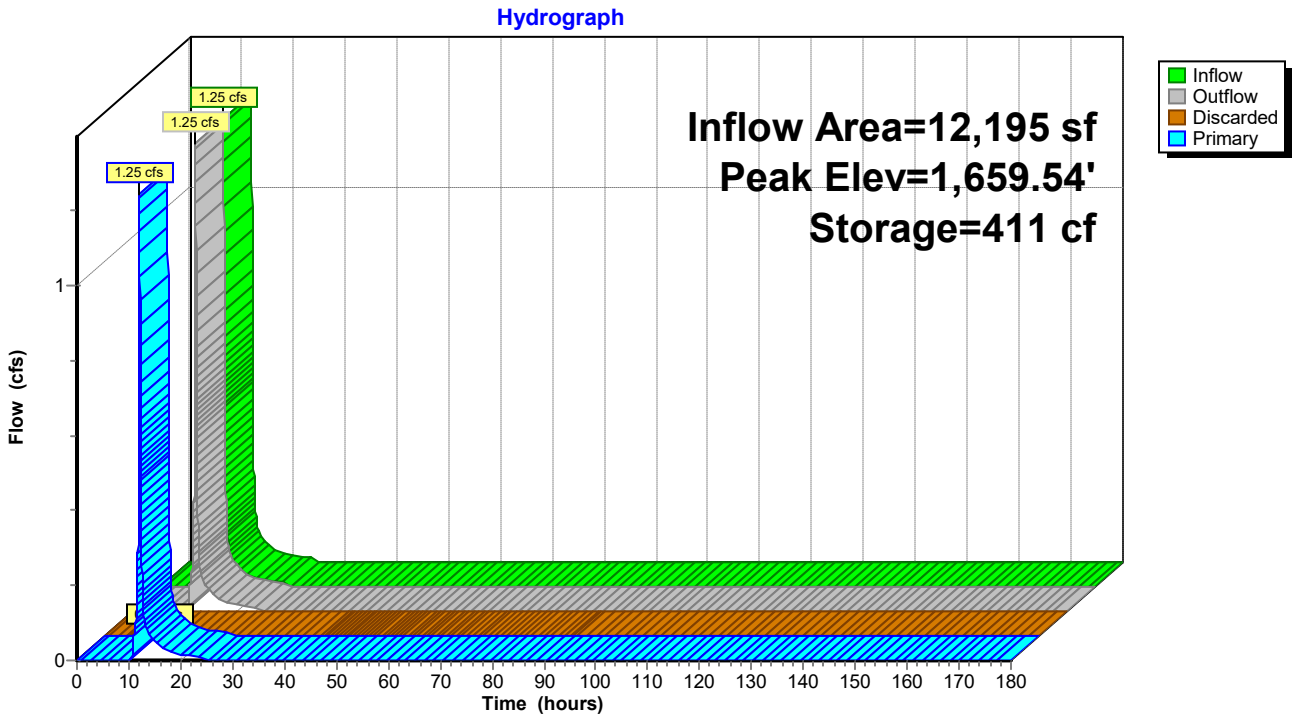
Volume	Invert	Avail.Storage	Storage Description
#1	1,656.45'	268 cf	**5.25'W x 50.00'L x 2.55'H Prismatoid** 669 cf Overall x 40.0% Voids
#2	1,659.00'	263 cf	**5.25'W x 50.00'L x 1.00'H Overflow Storage** -Impervious
		530 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,656.45'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,659.50'	**50.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 10.24 hrs HW=1,659.01' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=1.24 cfs @ 12.09 hrs HW=1,659.54' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 1.24 cfs @ 0.56 fps)

Pond IT6: Infiltration



Hydrograph for Pond IT6: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,656.45	0.00	0.00	0.00
5.00	0.00	0	1,656.45	0.00	0.00	0.00
10.00	**0.04**	**234**	**1,658.68**	**0.00**	**0.00**	**0.00**
15.00	**0.05**	**400**	**1,659.51**	**0.05**	**0.00**	**0.05**
20.00	0.02	400	1,659.50	0.02	0.00	0.02
25.00	0.00	393	1,659.48	0.00	0.00	0.00
30.00	0.00	354	1,659.33	0.00	0.00	0.00
35.00	0.00	316	1,659.18	0.00	0.00	0.00
40.00	0.00	277	1,659.04	0.00	0.00	0.00
45.00	0.00	239	1,658.73	0.00	0.00	0.00
50.00	0.00	204	1,658.39	0.00	0.00	0.00
55.00	0.00	172	1,658.08	0.00	0.00	0.00
60.00	0.00	141	1,657.80	0.00	0.00	0.00
65.00	0.00	113	1,657.53	0.00	0.00	0.00
70.00	0.00	87	1,657.28	0.00	0.00	0.00
75.00	0.00	63	1,657.05	0.00	0.00	0.00
80.00	0.00	41	1,656.84	0.00	0.00	0.00
85.00	0.00	20	1,656.64	0.00	0.00	0.00
90.00	0.00	0	1,656.45	0.00	0.00	0.00
95.00	0.00	0	1,656.45	0.00	0.00	0.00
100.00	0.00	0	1,656.45	0.00	0.00	0.00
105.00	0.00	0	1,656.45	0.00	0.00	0.00
110.00	0.00	0	1,656.45	0.00	0.00	0.00
115.00	0.00	0	1,656.45	0.00	0.00	0.00
120.00	0.00	0	1,656.45	0.00	0.00	0.00
125.00	0.00	0	1,656.45	0.00	0.00	0.00
130.00	0.00	0	1,656.45	0.00	0.00	0.00
135.00	0.00	0	1,656.45	0.00	0.00	0.00
140.00	0.00	0	1,656.45	0.00	0.00	0.00
145.00	0.00	0	1,656.45	0.00	0.00	0.00
150.00	0.00	0	1,656.45	0.00	0.00	0.00
155.00	0.00	0	1,656.45	0.00	0.00	0.00
160.00	0.00	0	1,656.45	0.00	0.00	0.00
165.00	0.00	0	1,656.45	0.00	0.00	0.00
170.00	0.00	0	1,656.45	0.00	0.00	0.00
175.00	0.00	0	1,656.45	0.00	0.00	0.00
180.00	0.00	0	1,656.45	0.00	0.00	0.00

Summary for Pond P-3P: 12" CPP

Inflow Area = 53,131 sf, 0.04% Impervious, Inflow Depth = 2.92" for 10-Year event
Inflow = 3.14 cfs @ 12.21 hrs, Volume= 12,940 cf
Outflow = 3.10 cfs @ 12.23 hrs, Volume= 12,940 cf, Atten= 1%, Lag= 1.2 min
Discarded = 0.00 cfs @ 12.23 hrs, Volume= 7 cf
Primary = 2.51 cfs @ 12.23 hrs, Volume= 10,323 cf
Routed to Link FS1 : Filter Strip
Secondary = 0.59 cfs @ 12.23 hrs, Volume= 2,610 cf
Routed to Pond 3.5P : 15" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,665.21' @ 12.23 hrs Surf.Area= 224 sf Storage= 106 cf
Flood Elev= 1,666.50' Surf.Area= 673 sf Storage= 677 cf

Plug-Flow detention time= 0.3 min calculated for 12,939 cf (100% of inflow)
Center-of-Mass det. time= 0.3 min (832.2 - 831.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,664.00'	1,065 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,664.00	4	10.1	0	0	4
1,665.00	166	57.3	65	65	259
1,665.50	320	88.1	119	185	618
1,666.00	493	98.7	202	386	782
1,667.00	882	152.5	678	1,065	1,865

Device	Routing	Invert	Outlet Devices
#1	Primary	1,664.00'	**12.0" Round Culvert** L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,664.00' / 1,663.60' S= 0.0087 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Discarded	1,664.00'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,666.50'	**Road Overflow, C= 3.27** Offset (feet) 0.00 16.30 16.30 Height (feet) 0.50 0.00 0.50
#4	Secondary	1,664.00'	**4.00' long x 11.00' breadth x 1.50' high Rock Fill** Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#5	Secondary	1,665.50'	**13.8' long + 3.0 '/' SideZ x 1.0' breadth Check Dam** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

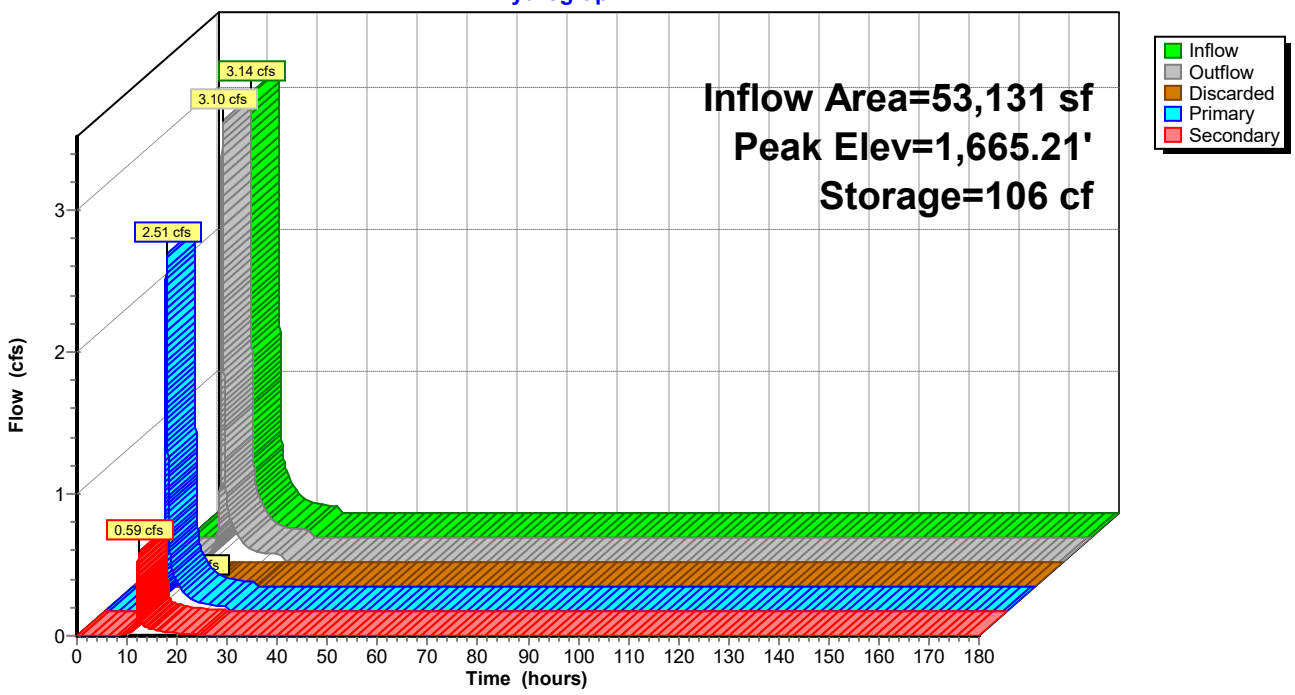
Discarded OutFlow Max=0.00 cfs @ 12.23 hrs HW=1,665.21' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=2.51 cfs @ 12.23 hrs HW=1,665.21' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 2.51 cfs @ 3.20 fps)
└**3=Road Overflow** (Controls 0.00 cfs)

Secondary OutFlow Max=0.59 cfs @ 12.23 hrs HW=1,665.21' TW=1,662.80' (Dynamic Tailwater)
├**4=Rock Fill** (Rockfill Controls 0.59 cfs @ 0.24 fps)
└**5=Check Dam** (Controls 0.00 cfs)

Pond P-3P: 12" CPP

Hydrograph



Hydrograph for Pond P-3P: 12" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
5.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
10.00	**0.07**	**1**	**1,664.12**	**0.07**	**0.00**	**0.05**	**0.02**
15.00	**0.21**	**2**	**1,664.22**	**0.21**	**0.00**	**0.17**	**0.05**
20.00	0.07	1	1,664.12	0.07	0.00	0.05	0.02
25.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
30.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
35.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
40.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
45.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
50.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
55.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
60.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
65.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
70.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
75.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
80.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00

Summary for Pond P-4P: 2x15" CPP

Inflow Area = 258,822 sf, 0.03% Impervious, Inflow Depth = 1.79" for 10-Year event
Inflow = 6.38 cfs @ 12.23 hrs, Volume= 38,700 cf
Outflow = 6.33 cfs @ 12.24 hrs, Volume= 38,700 cf, Atten= 1%, Lag= 0.6 min
Discarded = 0.00 cfs @ 12.24 hrs, Volume= 51 cf
Primary = 6.33 cfs @ 12.24 hrs, Volume= 38,649 cf
Routed to Link FS2 : Filter Strip

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,661.08' @ 12.24 hrs Surf.Area= 263 sf Storage= 182 cf
Flood Elev= 1,662.50' Surf.Area= 592 sf Storage= 782 cf

Plug-Flow detention time= 0.8 min calculated for 38,698 cf (100% of inflow)
Center-of-Mass det. time= 0.8 min (921.0 - 920.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.00'	1,109 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

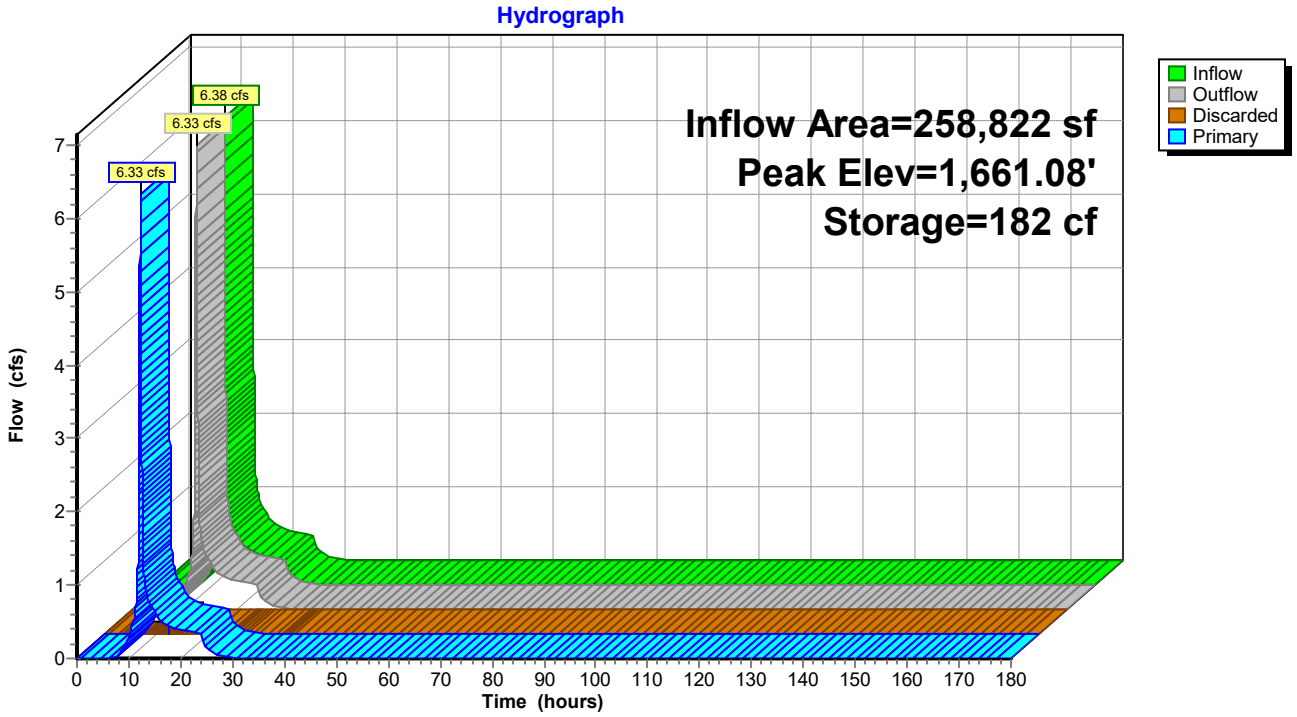
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.00	88	41.6	0	0	88
1,661.00	247	64.3	161	161	286
1,662.00	475	87.0	355	516	570
1,663.00	721	107.4	594	1,109	900

Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.00'	**15.0" Round Culvert X 2.00** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.00' / 1,659.60' S= 0.0089 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Discarded	1,660.00'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,662.50'	**Road Overflow, C= 3.27** Offset (feet) 0.00 18.61 20.86 35.05 Height (feet) 0.50 0.00 0.00 0.50

Discarded OutFlow Max=0.00 cfs @ 12.24 hrs HW=1,661.08' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=6.33 cfs @ 12.24 hrs HW=1,661.08' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 6.33 cfs @ 2.80 fps)
└**3=Road Overflow** (Controls 0.00 cfs)

Pond P-4P: 2x15" CPP



Hydrograph for Pond P-4P: 2x15" CPP

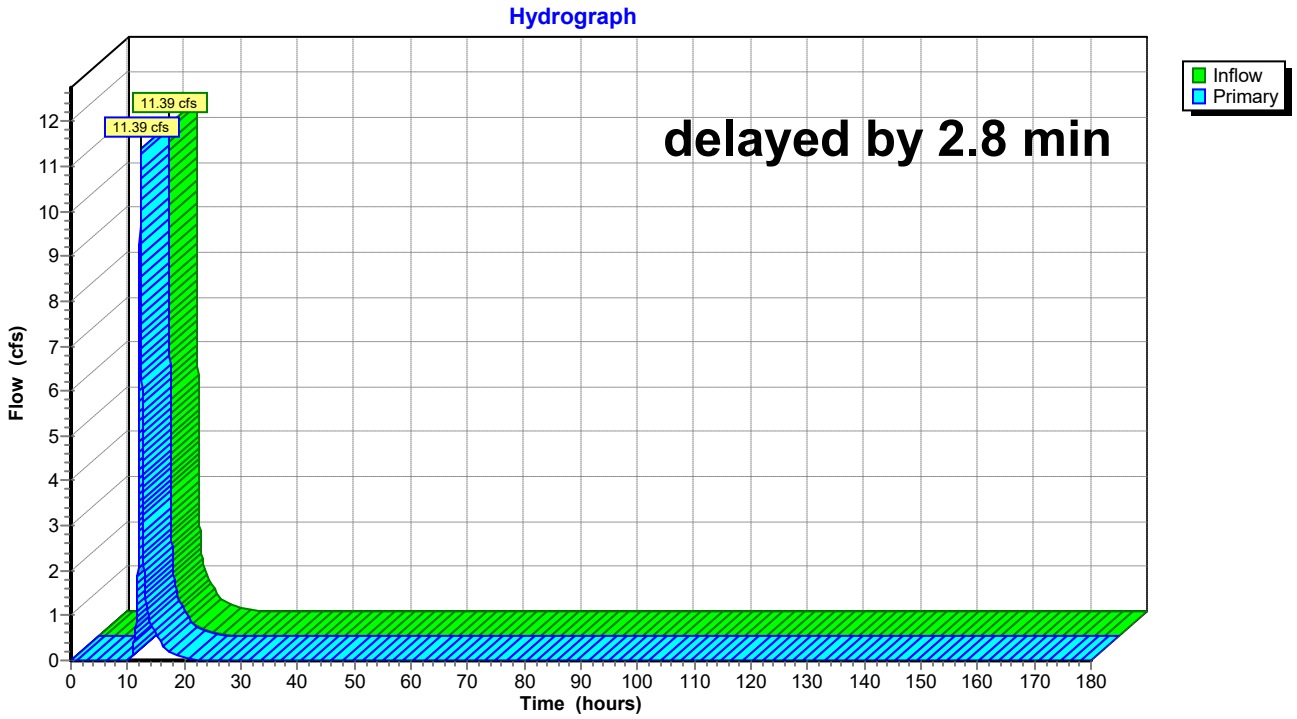
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,660.00	0.00	0.00	0.00
5.00	0.00	2	1,660.02	0.00	0.00	0.00
10.00	**0.32**	**20**	**1,660.20**	**0.31**	**0.00**	**0.31**
15.00	**0.64**	**31**	**1,660.29**	**0.64**	**0.00**	**0.64**
20.00	0.39	23	1,660.23	0.39	0.00	0.39
25.00	0.14	13	1,660.14	0.14	0.00	0.14
30.00	0.01	3	1,660.03	0.01	0.00	0.01
35.00	0.00	0	1,660.00	0.00	0.00	0.00
40.00	0.00	0	1,660.00	0.00	0.00	0.00
45.00	0.00	0	1,660.00	0.00	0.00	0.00
50.00	0.00	0	1,660.00	0.00	0.00	0.00
55.00	0.00	0	1,660.00	0.00	0.00	0.00
60.00	0.00	0	1,660.00	0.00	0.00	0.00
65.00	0.00	0	1,660.00	0.00	0.00	0.00
70.00	0.00	0	1,660.00	0.00	0.00	0.00
75.00	0.00	0	1,660.00	0.00	0.00	0.00
80.00	0.00	0	1,660.00	0.00	0.00	0.00
85.00	0.00	0	1,660.00	0.00	0.00	0.00
90.00	0.00	0	1,660.00	0.00	0.00	0.00
95.00	0.00	0	1,660.00	0.00	0.00	0.00
100.00	0.00	0	1,660.00	0.00	0.00	0.00
105.00	0.00	0	1,660.00	0.00	0.00	0.00
110.00	0.00	0	1,660.00	0.00	0.00	0.00
115.00	0.00	0	1,660.00	0.00	0.00	0.00
120.00	0.00	0	1,660.00	0.00	0.00	0.00
125.00	0.00	0	1,660.00	0.00	0.00	0.00
130.00	0.00	0	1,660.00	0.00	0.00	0.00
135.00	0.00	0	1,660.00	0.00	0.00	0.00
140.00	0.00	0	1,660.00	0.00	0.00	0.00
145.00	0.00	0	1,660.00	0.00	0.00	0.00
150.00	0.00	0	1,660.00	0.00	0.00	0.00
155.00	0.00	0	1,660.00	0.00	0.00	0.00
160.00	0.00	0	1,660.00	0.00	0.00	0.00
165.00	0.00	0	1,660.00	0.00	0.00	0.00
170.00	0.00	0	1,660.00	0.00	0.00	0.00
175.00	0.00	0	1,660.00	0.00	0.00	0.00
180.00	0.00	0	1,660.00	0.00	0.00	0.00

Summary for Link 7L: Lag

Inflow = 11.39 cfs @ 12.21 hrs, Volume= 36,889 cf
Primary = 11.39 cfs @ 12.26 hrs, Volume= 36,889 cf, Atten= 0%, Lag= 2.8 min
Routed to Reach P-DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 2.8 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 7L: Lag



Hydrograph for Link 7L: Lag

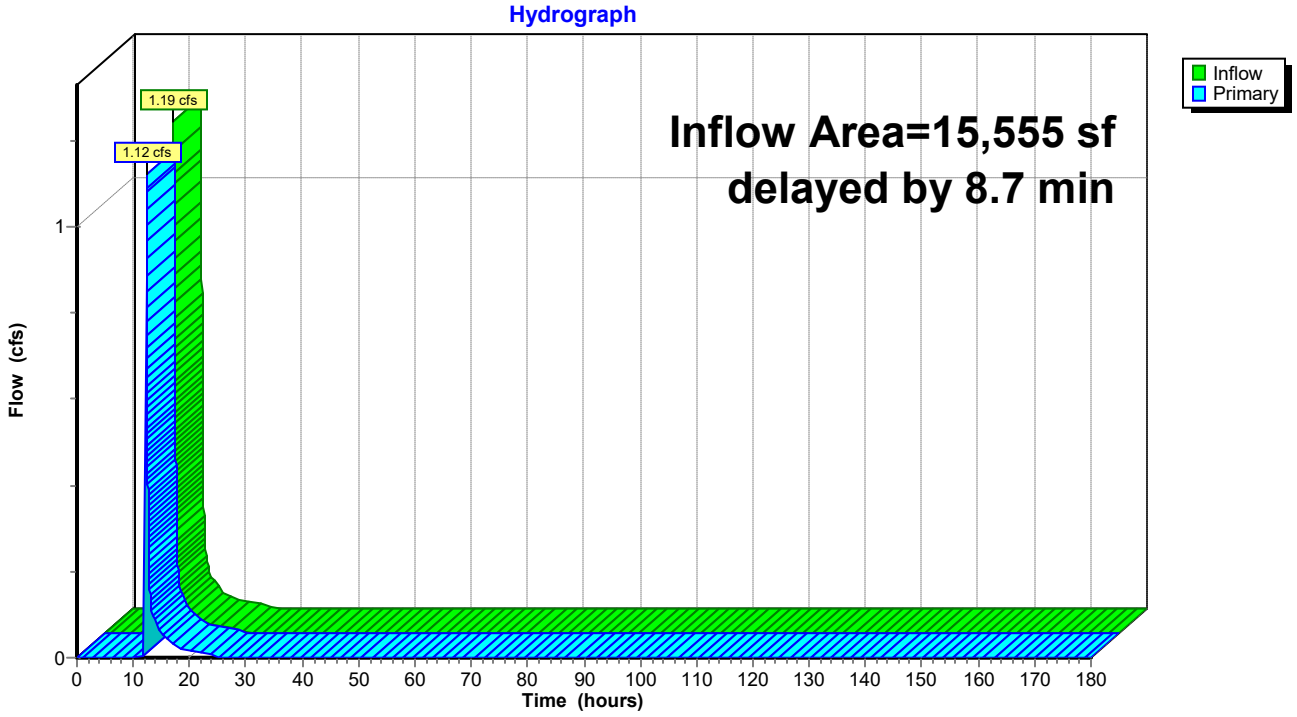
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**5.25**	0.00	**4.24**	116.00	0.00	0.00	0.00
14.00	**0.85**	0.00	**0.87**	118.00	0.00	0.00	0.00
16.00	0.36	0.00	0.37	120.00	0.00	0.00	0.00
18.00	0.14	0.00	0.15	122.00	0.00	0.00	0.00
20.00	0.07	0.00	0.07	124.00	0.00	0.00	0.00
22.00	0.02	0.00	0.03	126.00	0.00	0.00	0.00
24.00	0.00	0.00	0.00	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 8L: Lag

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 2.00" for 10-Year event
Inflow = 1.19 cfs @ 12.11 hrs, Volume= 2,595 cf
Primary = 1.12 cfs @ 12.26 hrs, Volume= 2,595 cf, Atten= 6%, Lag= 8.7 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 8.7 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 8L: Lag



Hydrograph for Link 8L: Lag

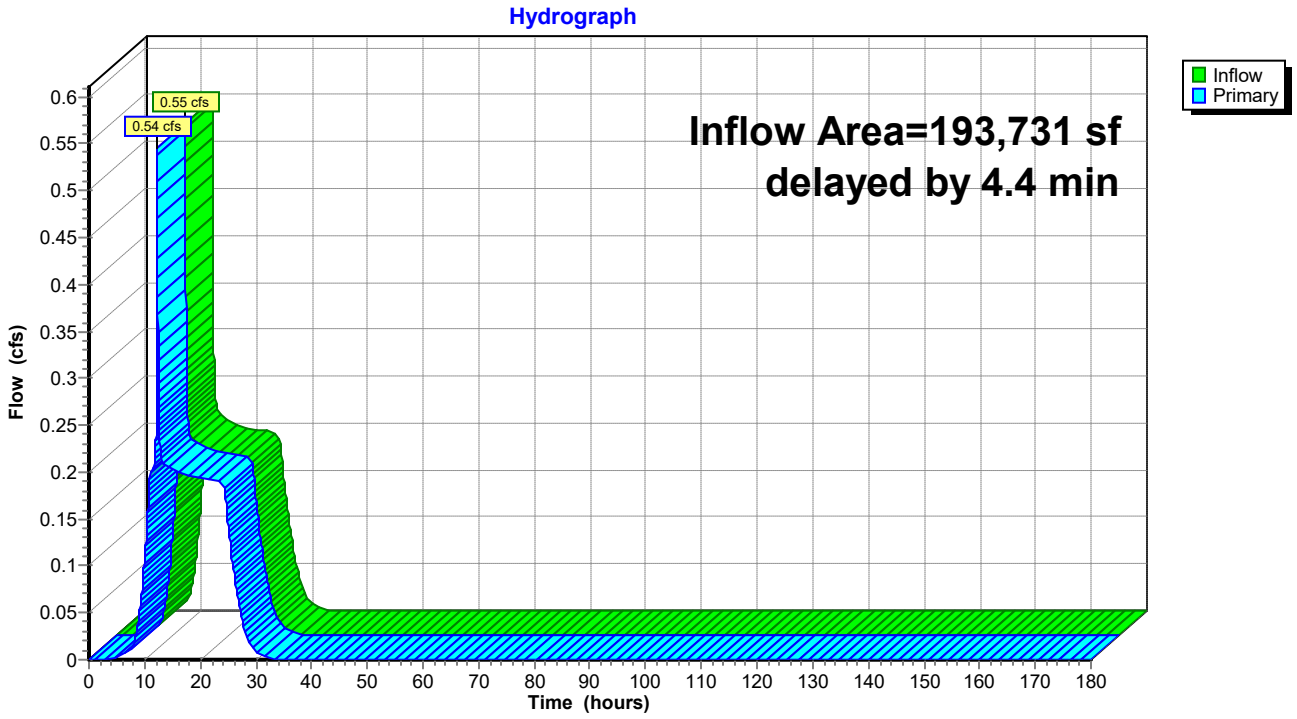
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.00**	0.00	**0.00**	116.00	0.00	0.00	0.00
14.00	**0.08**	0.00	**0.08**	118.00	0.00	0.00	0.00
16.00	0.04	0.00	0.04	120.00	0.00	0.00	0.00
18.00	0.02	0.00	0.02	122.00	0.00	0.00	0.00
20.00	0.02	0.00	0.02	124.00	0.00	0.00	0.00
22.00	0.01	0.00	0.01	126.00	0.00	0.00	0.00
24.00	0.01	0.00	0.01	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 9L: Lag

Inflow Area = 193,731 sf, 0.03% Impervious, Inflow Depth = 0.76" for 10-Year event
Inflow = 0.55 cfs @ 12.21 hrs, Volume= 12,221 cf
Primary = 0.54 cfs @ 12.28 hrs, Volume= 12,221 cf, Atten= 0%, Lag= 4.4 min
Routed to Pond P-4P : 2x15" CPP

Primary outflow = Inflow delayed by 4.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 9L: Lag



Hydrograph for Link 9L: Lag

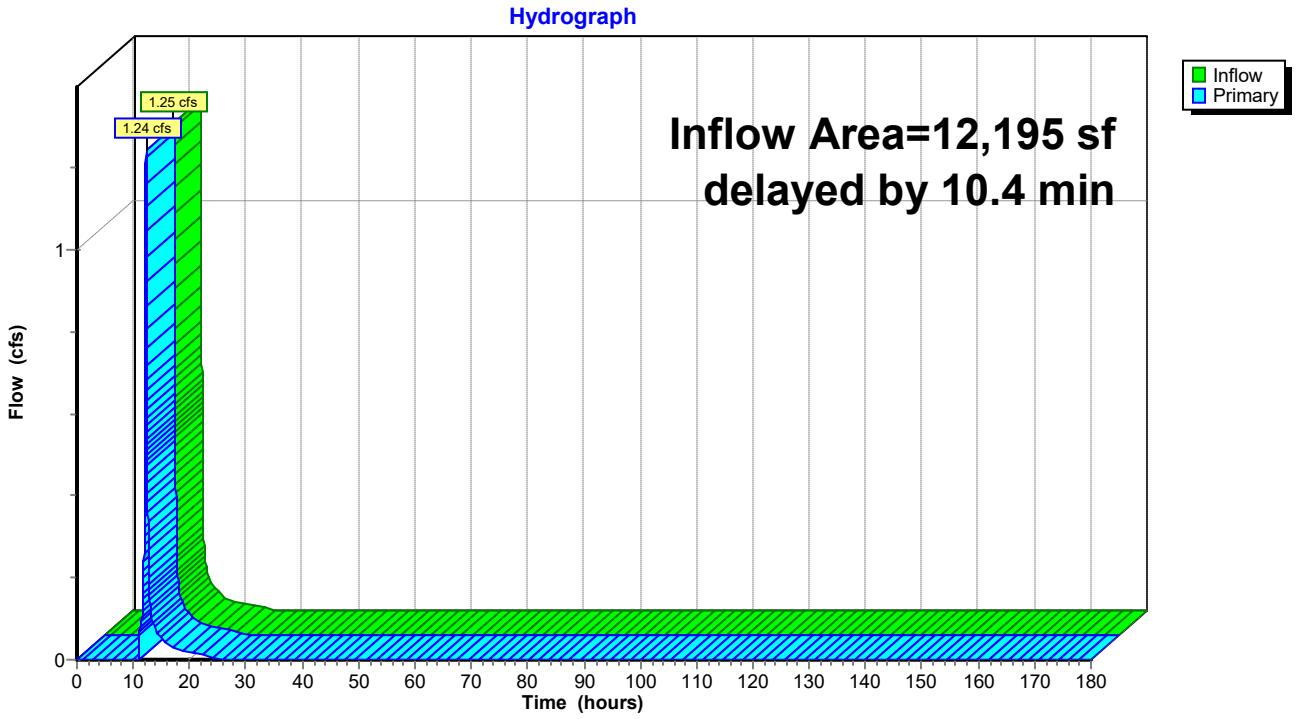
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	110.00	0.00	0.00	0.00
8.00	0.02	0.00	0.01	112.00	0.00	0.00	0.00
10.00	0.11	0.00	0.11	114.00	0.00	0.00	0.00
12.00	**0.24**	0.00	**0.23**	116.00	0.00	0.00	0.00
14.00	**0.21**	0.00	**0.21**	118.00	0.00	0.00	0.00
16.00	0.20	0.00	0.20	120.00	0.00	0.00	0.00
18.00	0.20	0.00	0.20	122.00	0.00	0.00	0.00
20.00	0.19	0.00	0.19	124.00	0.00	0.00	0.00
22.00	0.19	0.00	0.19	126.00	0.00	0.00	0.00
24.00	0.19	0.00	0.19	128.00	0.00	0.00	0.00
26.00	0.09	0.00	0.09	130.00	0.00	0.00	0.00
28.00	0.03	0.00	0.03	132.00	0.00	0.00	0.00
30.00	0.01	0.00	0.01	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 10L: Lag

Inflow Area = 12,195 sf, 32.81% Impervious, Inflow Depth = 3.38" for 10-Year event
Inflow = 1.25 cfs @ 12.09 hrs, Volume= 3,437 cf
Primary = 1.24 cfs @ 12.26 hrs, Volume= 3,437 cf, Atten= 0%, Lag= 10.4 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 10.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 10L: Lag



Hydrograph for Link 10L: Lag

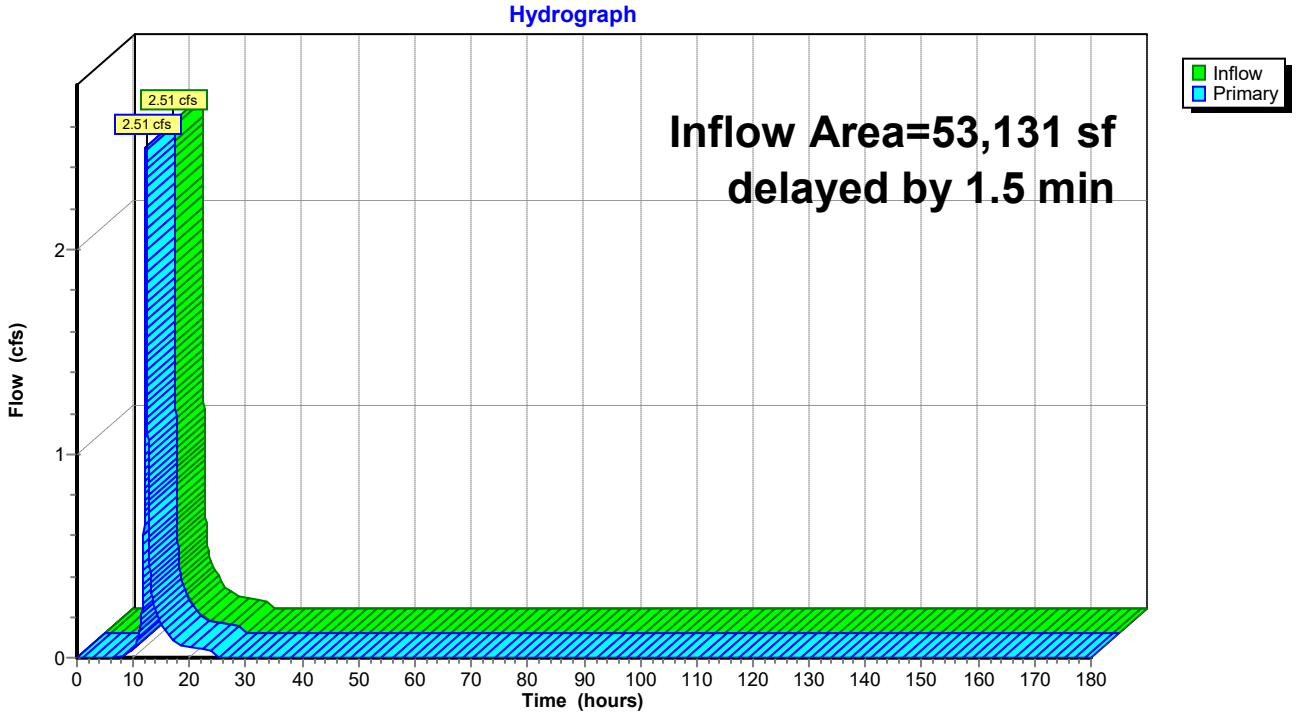
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**0.75**	0.00	**0.38**	116.00	0.00	0.00	0.00
14.00	**0.07**	0.00	**0.07**	118.00	0.00	0.00	0.00
16.00	0.04	0.00	0.04	120.00	0.00	0.00	0.00
18.00	0.02	0.00	0.02	122.00	0.00	0.00	0.00
20.00	0.02	0.00	0.02	124.00	0.00	0.00	0.00
22.00	0.01	0.00	0.01	126.00	0.00	0.00	0.00
24.00	0.01	0.00	0.01	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link FS1: Filter Strip

Inflow Area = 53,131 sf, 0.04% Impervious, Inflow Depth = 2.33" for 10-Year event
Inflow = 2.51 cfs @ 12.23 hrs, Volume= 10,323 cf
Primary = 2.51 cfs @ 12.26 hrs, Volume= 10,323 cf, Atten= 0%, Lag= 1.5 min
Routed to Pond IT2 : Infiltration

Primary outflow = Inflow delayed by 1.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link FS1: Filter Strip



Hydrograph for Link FS1: Filter Strip

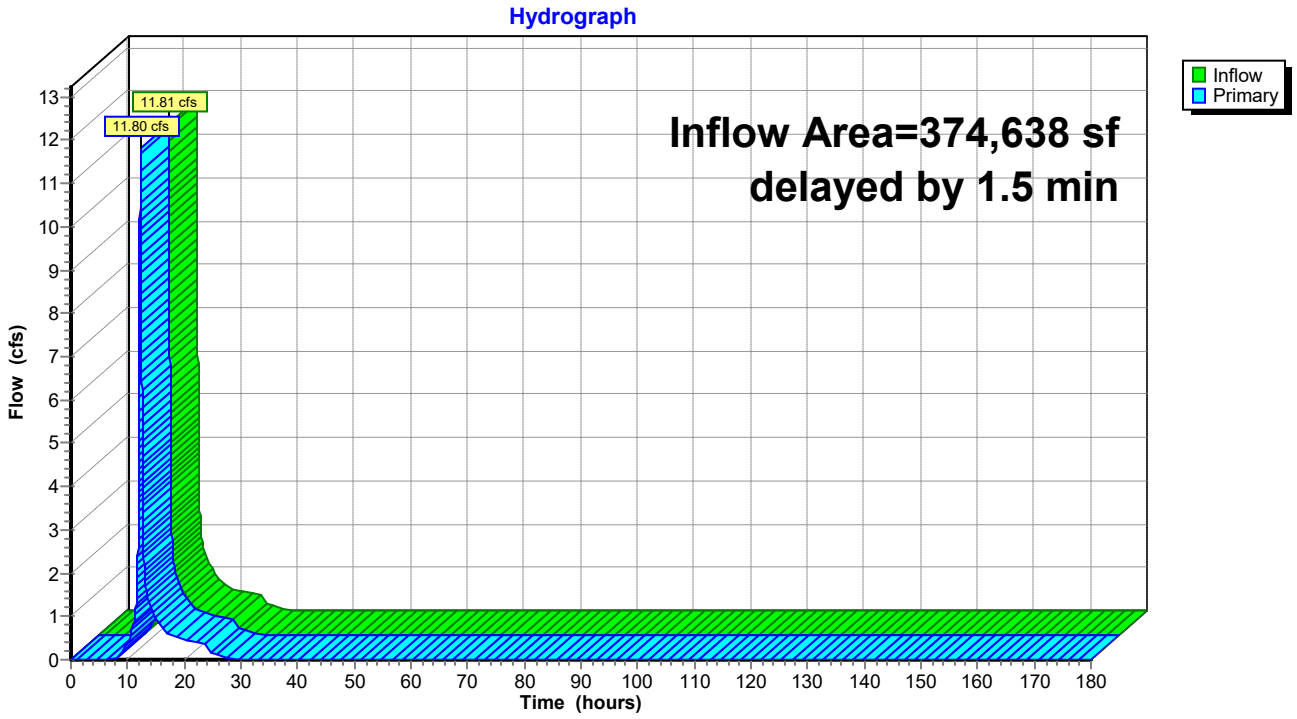
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.05	0.00	0.05	114.00	0.00	0.00	0.00
12.00	**1.06**	0.00	**0.96**	116.00	0.00	0.00	0.00
14.00	**0.22**	0.00	**0.23**	118.00	0.00	0.00	0.00
16.00	0.12	0.00	0.12	120.00	0.00	0.00	0.00
18.00	0.07	0.00	0.07	122.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	124.00	0.00	0.00	0.00
22.00	0.04	0.00	0.04	126.00	0.00	0.00	0.00
24.00	0.03	0.00	0.03	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link FS2: Filter Strip

Inflow Area = 374,638 sf, 0.03% Impervious, Inflow Depth = 1.93" for 10-Year event
Inflow = 11.81 cfs @ 12.24 hrs, Volume= 60,194 cf
Primary = 11.80 cfs @ 12.26 hrs, Volume= 60,194 cf, Atten= 0%, Lag= 1.5 min
Routed to Pond IT5 : Infiltration

Primary outflow = Inflow delayed by 1.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link FS2: Filter Strip



Hydrograph for Link FS2: Filter Strip

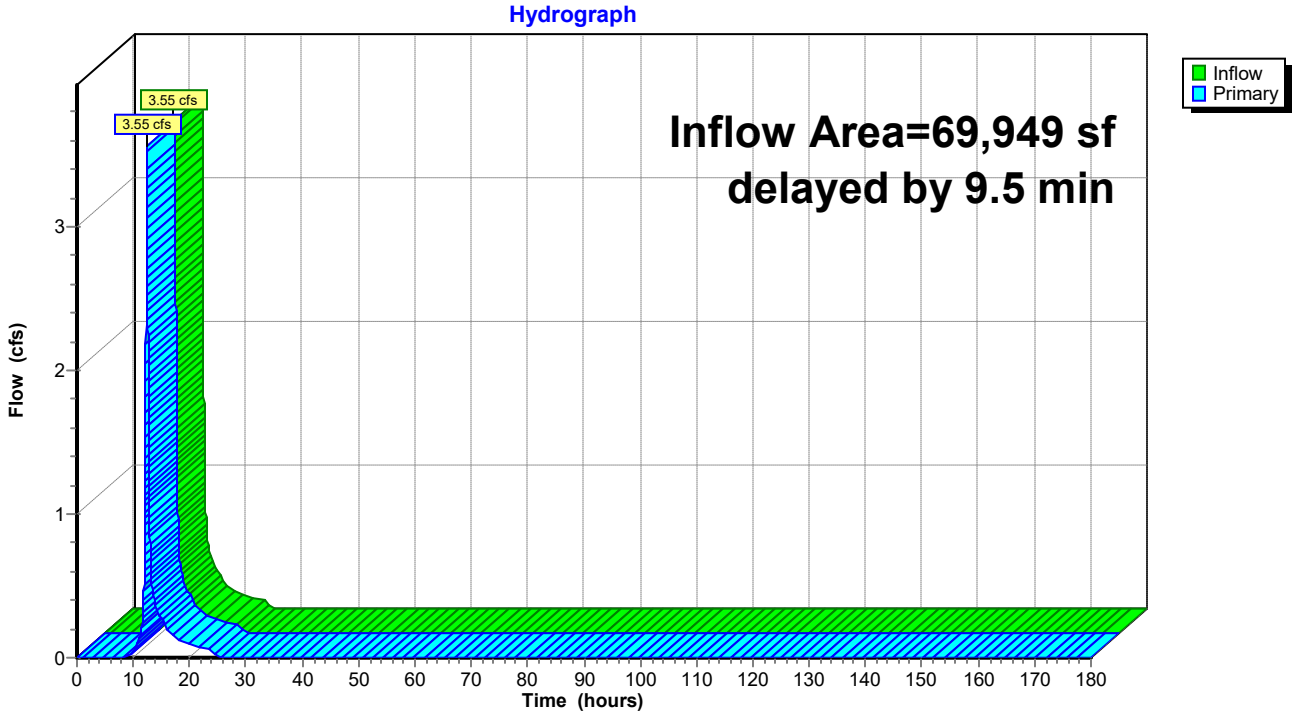
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	110.00	0.00	0.00	0.00
8.00	0.04	0.00	0.03	112.00	0.00	0.00	0.00
10.00	0.39	0.00	0.38	114.00	0.00	0.00	0.00
12.00	**5.17**	0.00	**4.72**	116.00	0.00	0.00	0.00
14.00	**1.24**	0.00	**1.25**	118.00	0.00	0.00	0.00
16.00	0.76	0.00	0.76	120.00	0.00	0.00	0.00
18.00	0.54	0.00	0.54	122.00	0.00	0.00	0.00
20.00	0.46	0.00	0.46	124.00	0.00	0.00	0.00
22.00	0.41	0.00	0.41	126.00	0.00	0.00	0.00
24.00	0.37	0.00	0.37	128.00	0.00	0.00	0.00
26.00	0.09	0.00	0.10	130.00	0.00	0.00	0.00
28.00	0.03	0.00	0.03	132.00	0.00	0.00	0.00
30.00	0.01	0.00	0.01	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-1L: Lag

Inflow Area = 69,949 sf, 0.03% Impervious, Inflow Depth = 2.56" for 10-Year event
Inflow = 3.55 cfs @ 12.22 hrs, Volume= 14,942 cf
Primary = 3.55 cfs @ 12.38 hrs, Volume= 14,942 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-1L: Lag



Hydrograph for Link P-1L: Lag

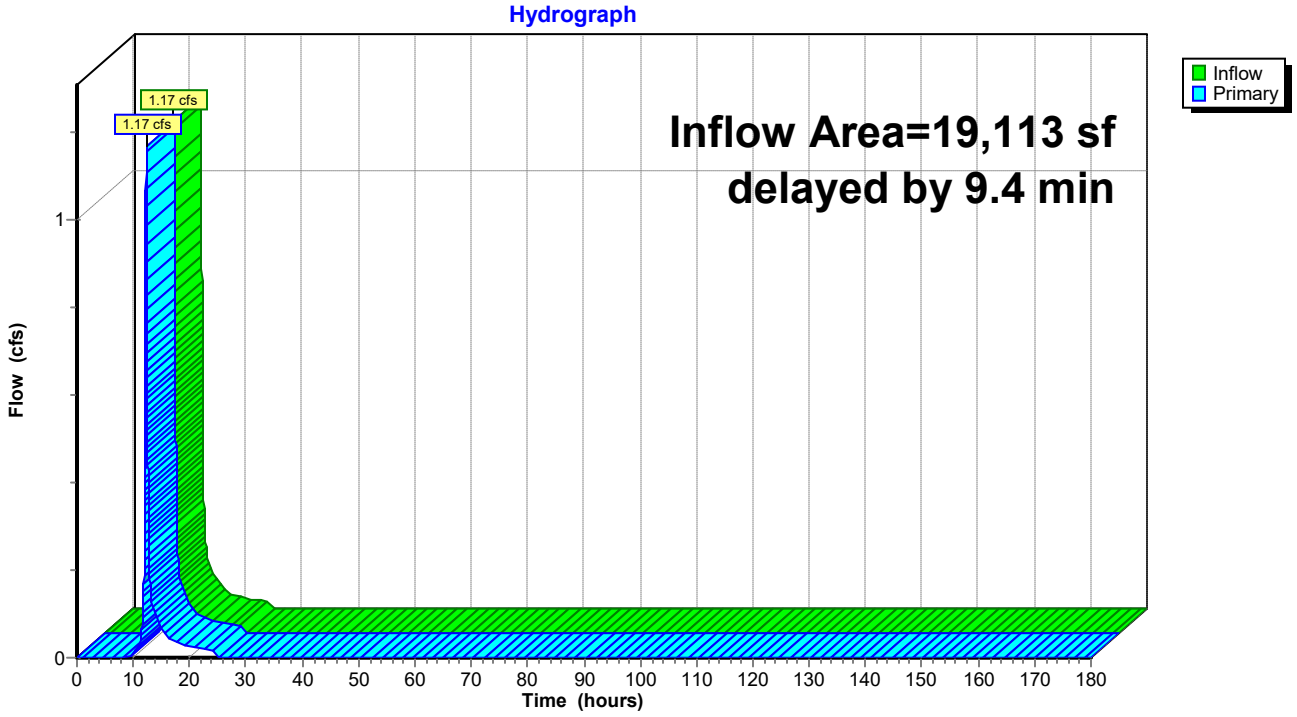
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.05	0.00	0.04	114.00	0.00	0.00	0.00
12.00	**1.38**	0.00	**0.74**	116.00	0.00	0.00	0.00
14.00	**0.35**	0.00	**0.37**	118.00	0.00	0.00	0.00
16.00	0.19	0.00	0.20	120.00	0.00	0.00	0.00
18.00	0.11	0.00	0.12	122.00	0.00	0.00	0.00
20.00	0.09	0.00	0.09	124.00	0.00	0.00	0.00
22.00	0.07	0.00	0.08	126.00	0.00	0.00	0.00
24.00	0.06	0.00	0.06	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-2L: Lag

Inflow Area = 19,113 sf, 0.02% Impervious, Inflow Depth = 2.48" for 10-Year event
Inflow = 1.17 cfs @ 12.12 hrs, Volume= 3,944 cf
Primary = 1.17 cfs @ 12.28 hrs, Volume= 3,944 cf, Atten= 0%, Lag= 9.4 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-2L: Lag



Hydrograph for Link P-2L: Lag

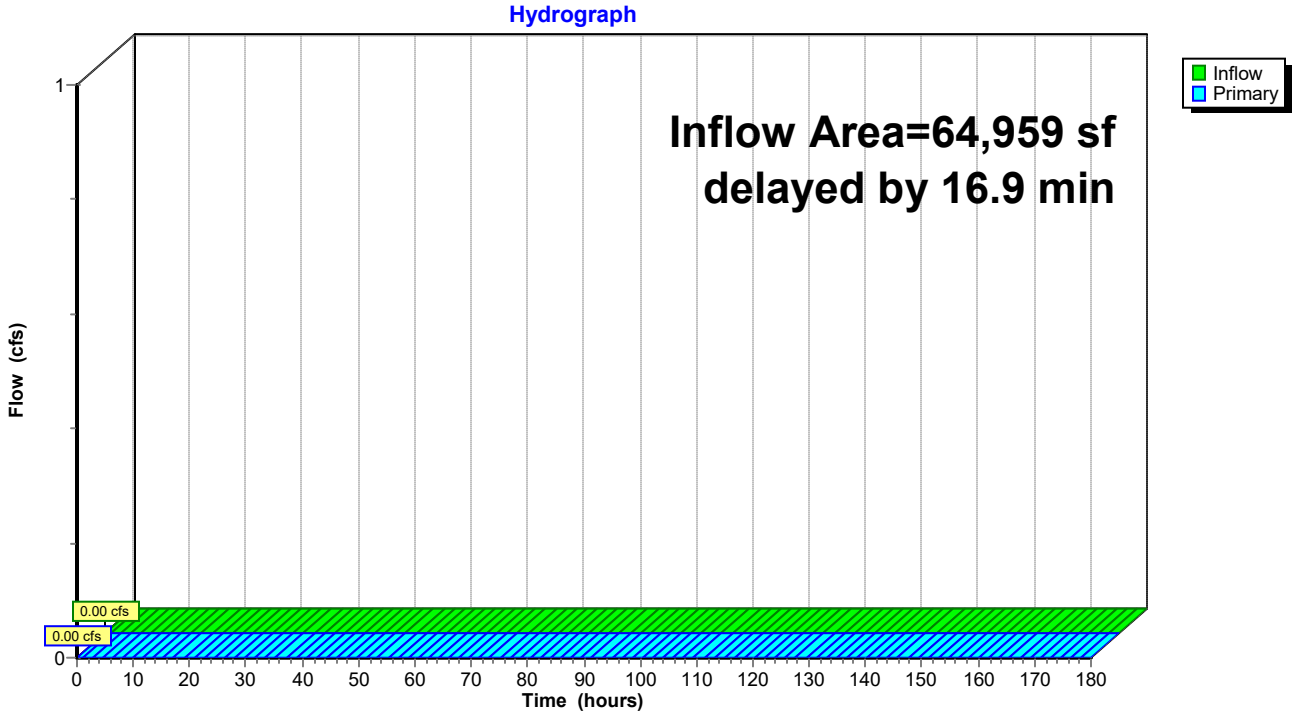
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.01	0.00	0.01	114.00	0.00	0.00	0.00
12.00	**0.56**	0.00	**0.29**	116.00	0.00	0.00	0.00
14.00	**0.09**	0.00	**0.09**	118.00	0.00	0.00	0.00
16.00	0.05	0.00	0.05	120.00	0.00	0.00	0.00
18.00	0.03	0.00	0.03	122.00	0.00	0.00	0.00
20.00	0.02	0.00	0.02	124.00	0.00	0.00	0.00
22.00	0.02	0.00	0.02	126.00	0.00	0.00	0.00
24.00	0.02	0.00	0.02	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-3L: Lag

Inflow Area = 64,959 sf, 0.03% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 16.9 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-3L: Lag



Hydrograph for Link P-3L: Lag

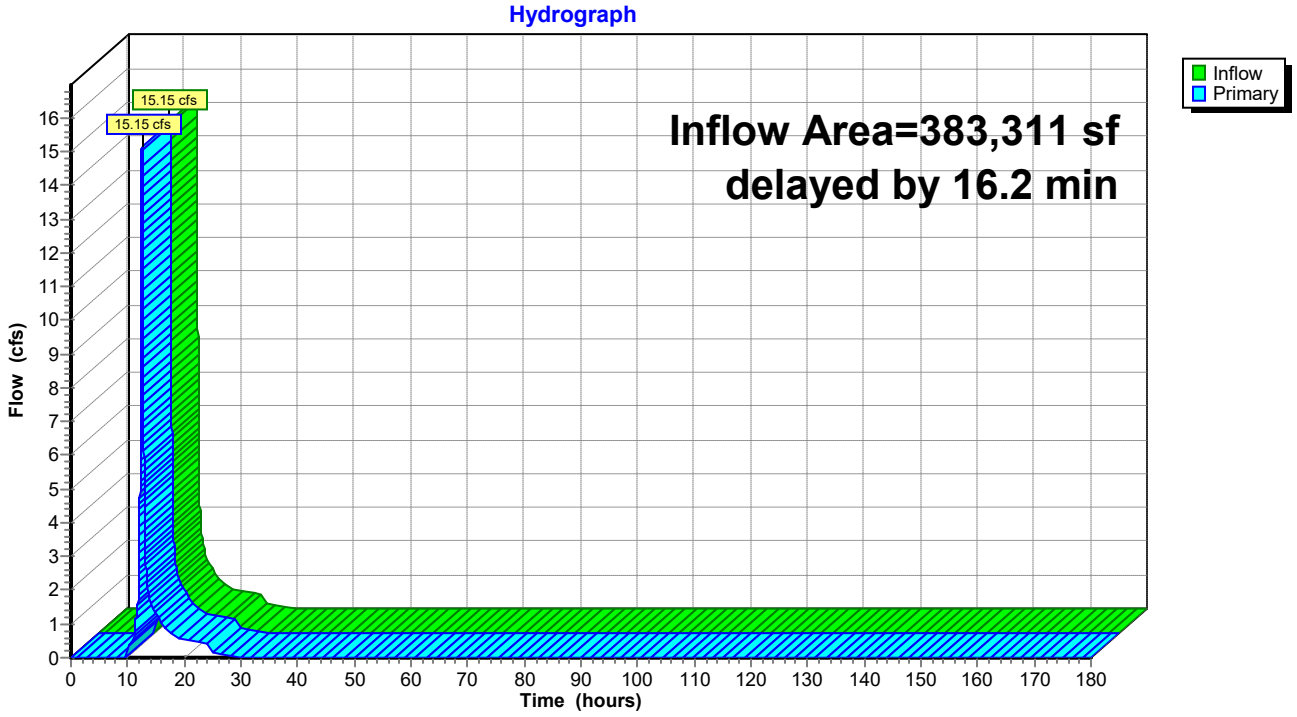
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	116.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	118.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	120.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	122.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	124.00	0.00	0.00	0.00
22.00	0.00	0.00	0.00	126.00	0.00	0.00	0.00
24.00	0.00	0.00	0.00	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-4L: Lag

Inflow Area = 383,311 sf, 0.03% Impervious, Inflow Depth = 2.31" for 10-Year event
Inflow = 15.15 cfs @ 12.26 hrs, Volume= 73,726 cf
Primary = 15.15 cfs @ 12.53 hrs, Volume= 73,726 cf, Atten= 0%, Lag= 16.2 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 16.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-4L: Lag



Hydrograph for Link P-4L: Lag

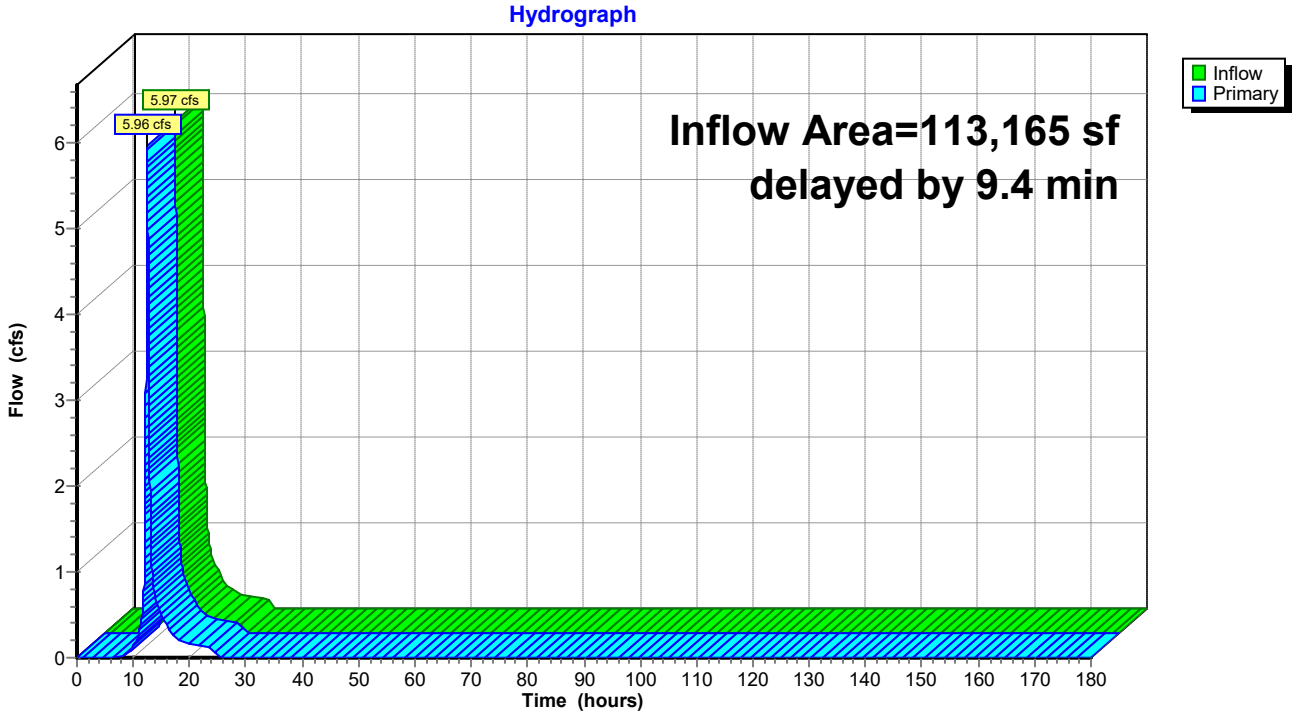
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.34	0.00	0.27	114.00	0.00	0.00	0.00
12.00	**6.97**	0.00	**2.52**	116.00	0.00	0.00	0.00
14.00	**1.59**	0.00	**1.74**	118.00	0.00	0.00	0.00
16.00	0.94	0.00	1.02	120.00	0.00	0.00	0.00
18.00	0.64	0.00	0.67	122.00	0.00	0.00	0.00
20.00	0.54	0.00	0.55	124.00	0.00	0.00	0.00
22.00	0.47	0.00	0.48	126.00	0.00	0.00	0.00
24.00	0.41	0.00	0.42	128.00	0.00	0.00	0.00
26.00	0.09	0.00	0.10	130.00	0.00	0.00	0.00
28.00	0.03	0.00	0.03	132.00	0.00	0.00	0.00
30.00	0.01	0.00	0.01	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-5L: Lag

Inflow Area = 113,165 sf, 0.03% Impervious, Inflow Depth = 3.02" for 10-Year event
Inflow = 5.97 cfs @ 12.29 hrs, Volume= 28,436 cf
Primary = 5.96 cfs @ 12.45 hrs, Volume= 28,436 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-5L: Lag



Hydrograph for Link P-5L: Lag

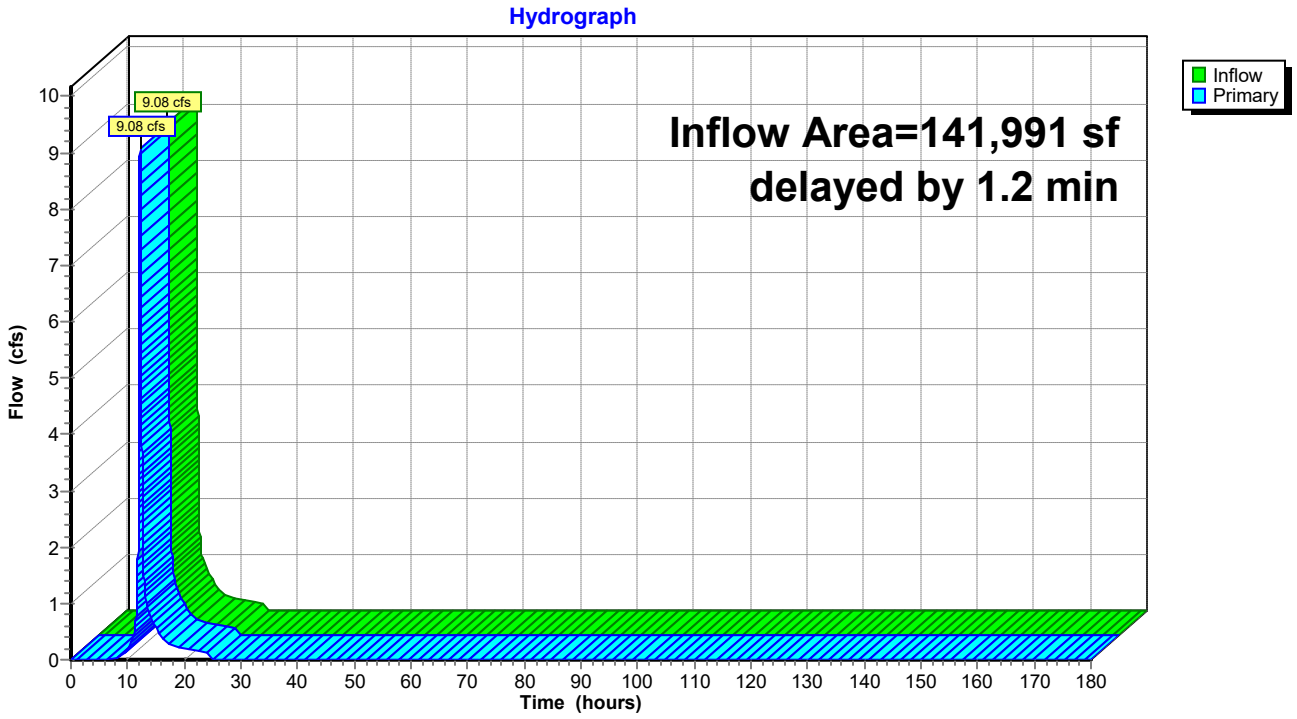
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	112.00	0.00	0.00	0.00
10.00	0.15	0.00	0.14	114.00	0.00	0.00	0.00
12.00	**2.14**	0.00	**1.19**	116.00	0.00	0.00	0.00
14.00	**0.64**	0.00	**0.68**	118.00	0.00	0.00	0.00
16.00	0.34	0.00	0.36	120.00	0.00	0.00	0.00
18.00	0.21	0.00	0.21	122.00	0.00	0.00	0.00
20.00	0.16	0.00	0.16	124.00	0.00	0.00	0.00
22.00	0.13	0.00	0.13	126.00	0.00	0.00	0.00
24.00	0.10	0.00	0.11	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-6L: Lag

Inflow Area = 141,991 sf, 0.03% Impervious, Inflow Depth = 2.92" for 10-Year event
Inflow = 9.08 cfs @ 12.17 hrs, Volume= 34,581 cf
Primary = 9.08 cfs @ 12.19 hrs, Volume= 34,581 cf, Atten= 0%, Lag= 1.2 min
Routed to Reach P-DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 1.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-6L: Lag



Hydrograph for Link P-6L: Lag

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	112.00	0.00	0.00	0.00
10.00	0.19	0.00	0.19	114.00	0.00	0.00	0.00
12.00	**4.04**	0.00	**3.69**	116.00	0.00	0.00	0.00
14.00	**0.74**	0.00	**0.75**	118.00	0.00	0.00	0.00
16.00	0.40	0.00	0.40	120.00	0.00	0.00	0.00
18.00	0.24	0.00	0.25	122.00	0.00	0.00	0.00
20.00	0.19	0.00	0.19	124.00	0.00	0.00	0.00
22.00	0.16	0.00	0.16	126.00	0.00	0.00	0.00
24.00	0.13	0.00	0.13	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Subcatchment IT1-S: IT1 Subcat

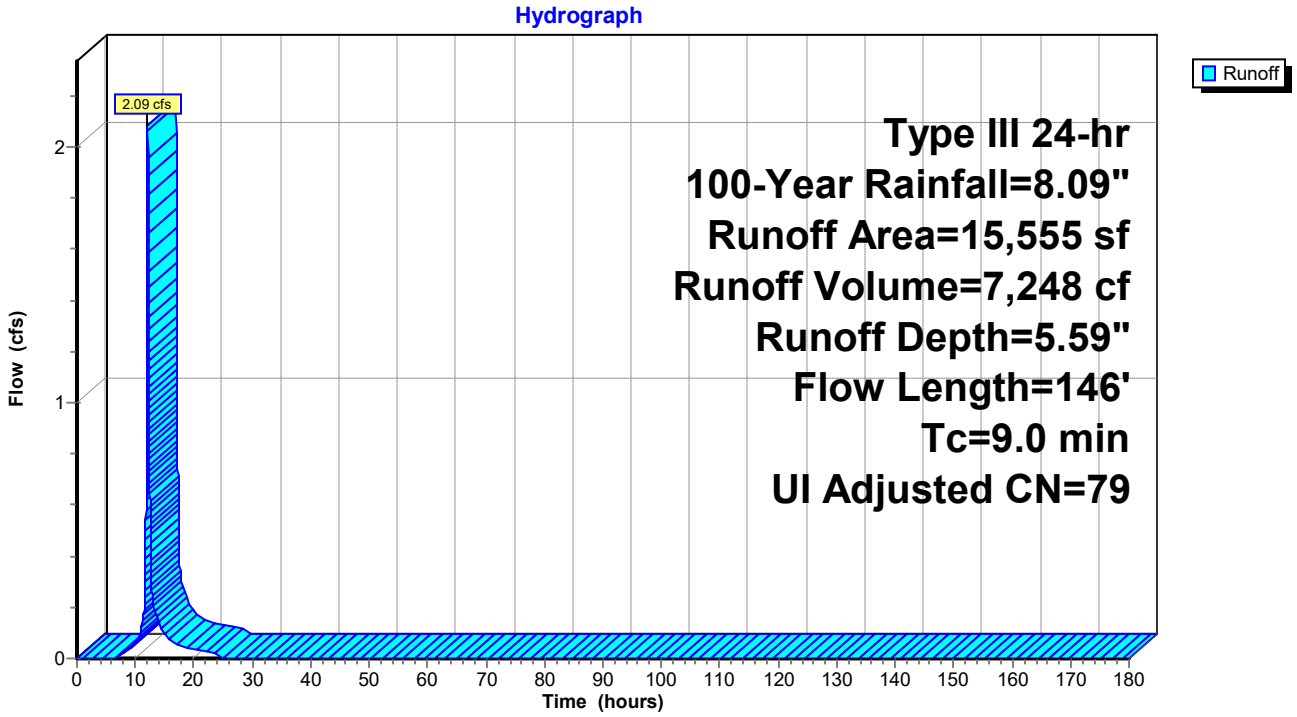
Runoff = 2.09 cfs @ 12.13 hrs, Volume= 7,248 cf, Depth= 5.59"
Routed to Pond IT1 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Adj	Description
10,246	74		Pasture/grassland/range, Good, HSG C
1,152	80		Pasture/grassland/range, Good, HSG D
625	98		Water Surface, 0% imp, HSG C
1,098	96		Gravel surface, HSG C
432	96		Gravel surface, HSG C
2,002	98		Unconnected pavement, HSG C
15,555	81	79	Weighted Average, UI Adjusted
13,553			87.13% Pervious Area
2,002			12.87% Impervious Area
2,002			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	64	0.0776	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
0.3	22	0.0232	1.09		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
5.2	60	0.0251	0.19		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
9.0	146	Total			

Subcatchment IT1-S: IT1 Subcat



Hydrograph for Subcatchment IT1-S: IT1 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.00
8.00	0.92	0.05	0.02
10.00	1.53	0.27	0.06
12.00	4.04	2.00	**1.08**
14.00	6.56	4.18	**0.14**
16.00	7.17	4.74	0.07
18.00	7.51	5.05	0.04
20.00	7.74	5.27	0.04
22.00	7.93	5.45	0.03
24.00	**8.09**	**5.59**	0.02
26.00	8.09	5.59	0.00
28.00	8.09	5.59	0.00
30.00	8.09	5.59	0.00
32.00	8.09	5.59	0.00
34.00	8.09	5.59	0.00
36.00	8.09	5.59	0.00
38.00	8.09	5.59	0.00
40.00	8.09	5.59	0.00
42.00	8.09	5.59	0.00
44.00	8.09	5.59	0.00
46.00	8.09	5.59	0.00
48.00	8.09	5.59	0.00
50.00	8.09	5.59	0.00
52.00	8.09	5.59	0.00
54.00	8.09	5.59	0.00
56.00	8.09	5.59	0.00
58.00	8.09	5.59	0.00
60.00	8.09	5.59	0.00
62.00	8.09	5.59	0.00
64.00	8.09	5.59	0.00
66.00	8.09	5.59	0.00
68.00	8.09	5.59	0.00
70.00	8.09	5.59	0.00
72.00	8.09	5.59	0.00
74.00	8.09	5.59	0.00
76.00	8.09	5.59	0.00
78.00	8.09	5.59	0.00
80.00	8.09	5.59	0.00
82.00	8.09	5.59	0.00
84.00	8.09	5.59	0.00
86.00	8.09	5.59	0.00
88.00	8.09	5.59	0.00
90.00	8.09	5.59	0.00
92.00	8.09	5.59	0.00
94.00	8.09	5.59	0.00
96.00	8.09	5.59	0.00
98.00	8.09	5.59	0.00
100.00	8.09	5.59	0.00
102.00	8.09	5.59	0.00
104.00	8.09	5.59	0.00
106.00	8.09	5.59	0.00
108.00	8.09	5.59	0.00
110.00	8.09	5.59	0.00
112.00	8.09	5.59	0.00
114.00	8.09	5.59	0.00
116.00	8.09	5.59	0.00
118.00	8.09	5.59	0.00
120.00	8.09	5.59	0.00
122.00	8.09	5.59	0.00
124.00	8.09	5.59	0.00
126.00	8.09	5.59	0.00
128.00	8.09	5.59	0.00
130.00	8.09	5.59	0.00
132.00	8.09	5.59	0.00
134.00	8.09	5.59	0.00
136.00	8.09	5.59	0.00
138.00	8.09	5.59	0.00
140.00	8.09	5.59	0.00
142.00	8.09	5.59	0.00
144.00	8.09	5.59	0.00
146.00	8.09	5.59	0.00
148.00	8.09	5.59	0.00
150.00	8.09	5.59	0.00
152.00	8.09	5.59	0.00
154.00	8.09	5.59	0.00
156.00	8.09	5.59	0.00
158.00	8.09	5.59	0.00
160.00	8.09	5.59	0.00
162.00	8.09	5.59	0.00
164.00	8.09	5.59	0.00
166.00	8.09	5.59	0.00
168.00	8.09	5.59	0.00
170.00	8.09	5.59	0.00
172.00	8.09	5.59	0.00
174.00	8.09	5.59	0.00
176.00	8.09	5.59	0.00
178.00	8.09	5.59	0.00
180.00	8.09	5.59	0.00

Summary for Subcatchment IT2-S: IT2 Subcat

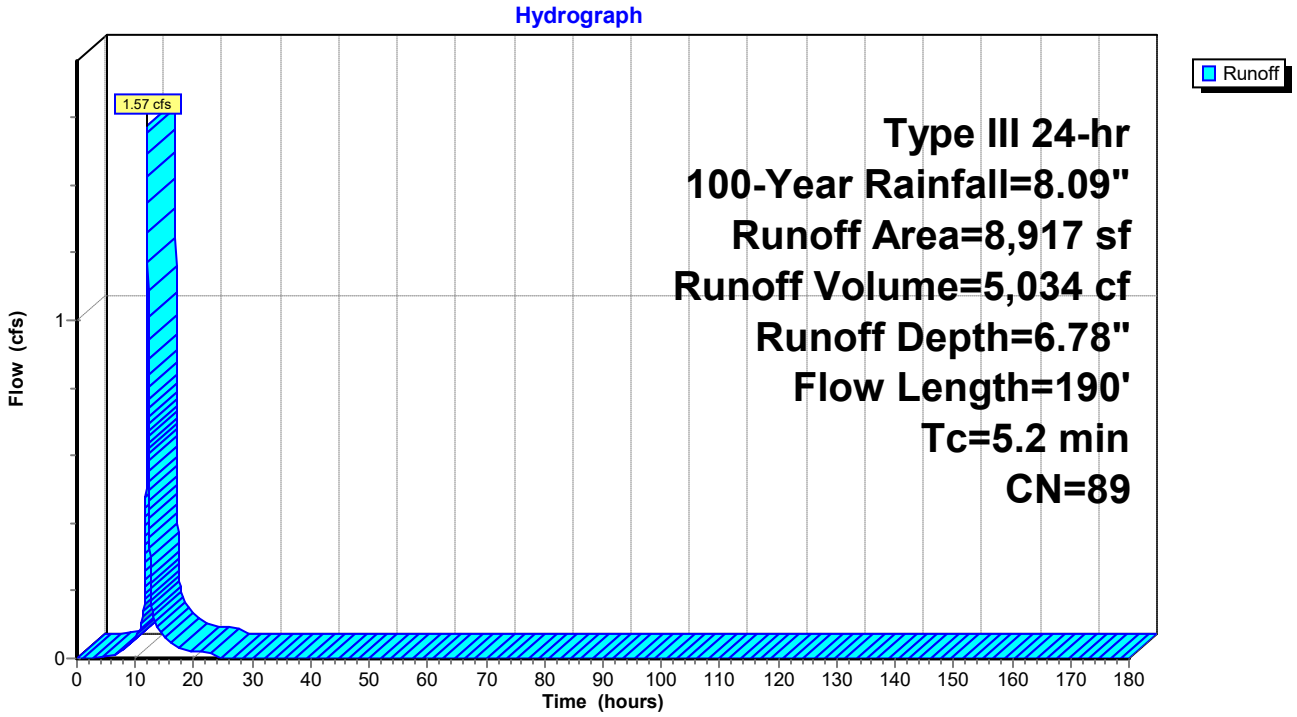
Runoff = 1.57 cfs @ 12.07 hrs, Volume= 5,034 cf, Depth= 6.78"
Routed to Pond IT2 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
42	74	Pasture/grassland/range, Good, HSG C
3,833	80	Pasture/grassland/range, Good, HSG D
286	96	Gravel surface, HSG C
4,354	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
8,917	89	Weighted Average
8,915		99.98% Pervious Area
2		0.02% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	14	0.0362	0.17		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
1.0	133	0.0527	2.18		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
0.8	18	0.2217	0.36		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
2.0	25	0.0500	0.21		**Sheet Flow, DE** Range n= 0.130 P2= 3.29"
5.2	190	Total			

Subcatchment IT2-S: IT2 Subcat



Hydrograph for Subcatchment IT2-S: IT2 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.01	0.00
6.00	0.58	0.07	0.01
8.00	0.92	0.24	0.02
10.00	1.53	0.65	0.06
12.00	4.04	2.87	**1.03**
14.00	6.56	5.28	**0.08**
16.00	7.17	5.87	0.04
18.00	7.51	6.20	0.03
20.00	7.74	6.43	0.02
22.00	7.93	6.62	0.02
24.00	**8.09**	**6.78**	0.01
26.00	8.09	6.78	0.00
28.00	8.09	6.78	0.00
30.00	8.09	6.78	0.00
32.00	8.09	6.78	0.00
34.00	8.09	6.78	0.00
36.00	8.09	6.78	0.00
38.00	8.09	6.78	0.00
40.00	8.09	6.78	0.00
42.00	8.09	6.78	0.00
44.00	8.09	6.78	0.00
46.00	8.09	6.78	0.00
48.00	8.09	6.78	0.00
50.00	8.09	6.78	0.00
52.00	8.09	6.78	0.00
54.00	8.09	6.78	0.00
56.00	8.09	6.78	0.00
58.00	8.09	6.78	0.00
60.00	8.09	6.78	0.00
62.00	8.09	6.78	0.00
64.00	8.09	6.78	0.00
66.00	8.09	6.78	0.00
68.00	8.09	6.78	0.00
70.00	8.09	6.78	0.00
72.00	8.09	6.78	0.00
74.00	8.09	6.78	0.00
76.00	8.09	6.78	0.00
78.00	8.09	6.78	0.00
80.00	8.09	6.78	0.00
82.00	8.09	6.78	0.00
84.00	8.09	6.78	0.00
86.00	8.09	6.78	0.00
88.00	8.09	6.78	0.00
90.00	8.09	6.78	0.00
92.00	8.09	6.78	0.00
94.00	8.09	6.78	0.00
96.00	8.09	6.78	0.00
98.00	8.09	6.78	0.00
100.00	8.09	6.78	0.00
102.00	8.09	6.78	0.00
104.00	8.09	6.78	0.00
106.00	8.09	6.78	0.00
108.00	8.09	6.78	0.00
110.00	8.09	6.78	0.00
112.00	8.09	6.78	0.00
114.00	8.09	6.78	0.00
116.00	8.09	6.78	0.00
118.00	8.09	6.78	0.00
120.00	8.09	6.78	0.00
122.00	8.09	6.78	0.00
124.00	8.09	6.78	0.00
126.00	8.09	6.78	0.00
128.00	8.09	6.78	0.00
130.00	8.09	6.78	0.00
132.00	8.09	6.78	0.00
134.00	8.09	6.78	0.00
136.00	8.09	6.78	0.00
138.00	8.09	6.78	0.00
140.00	8.09	6.78	0.00
142.00	8.09	6.78	0.00
144.00	8.09	6.78	0.00
146.00	8.09	6.78	0.00
148.00	8.09	6.78	0.00
150.00	8.09	6.78	0.00
152.00	8.09	6.78	0.00
154.00	8.09	6.78	0.00
156.00	8.09	6.78	0.00
158.00	8.09	6.78	0.00
160.00	8.09	6.78	0.00
162.00	8.09	6.78	0.00
164.00	8.09	6.78	0.00
166.00	8.09	6.78	0.00
168.00	8.09	6.78	0.00
170.00	8.09	6.78	0.00
172.00	8.09	6.78	0.00
174.00	8.09	6.78	0.00
176.00	8.09	6.78	0.00
178.00	8.09	6.78	0.00
180.00	8.09	6.78	0.00

Summary for Subcatchment IT3-S: IT3 Subcat

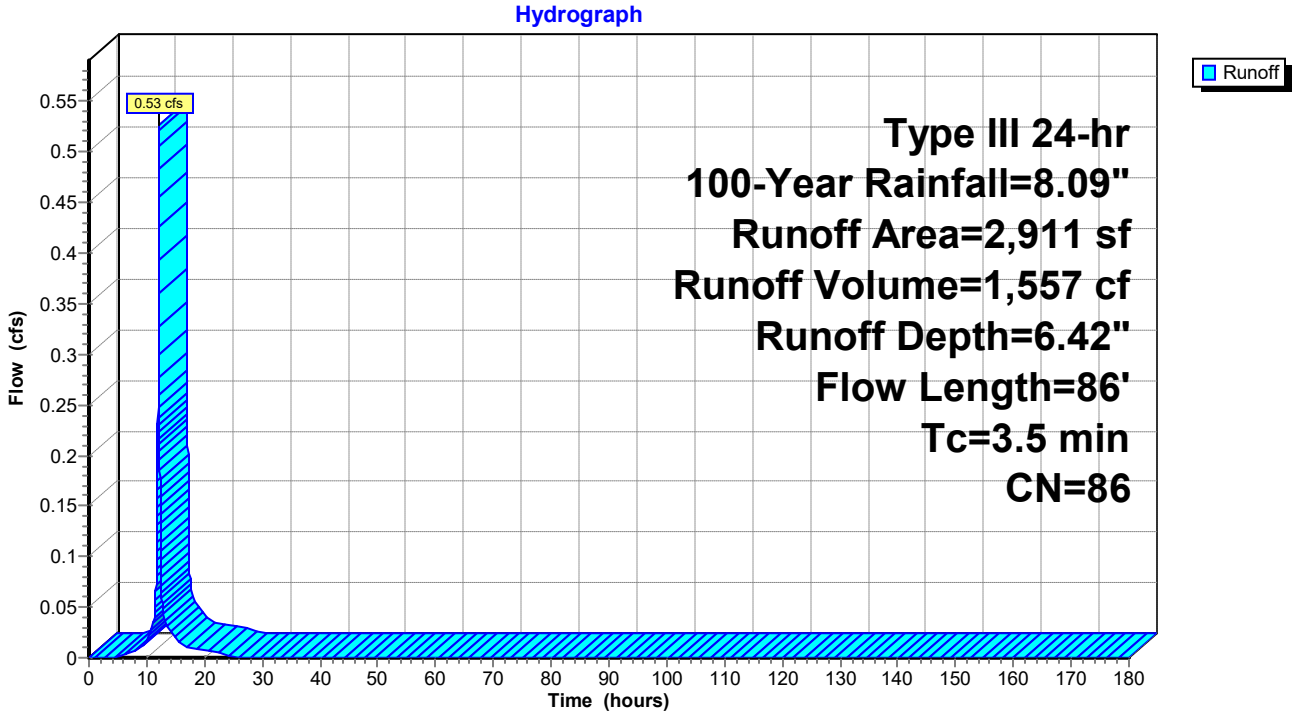
Runoff = 0.53 cfs @ 12.05 hrs, Volume= 1,557 cf, Depth= 6.42"
Routed to Pond IT3 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
1,890	80	Pasture/grassland/range, Good, HSG D
621	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
0	98	Unconnected pavement, HSG D
2,911	86	Weighted Average
2,911		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	46	0.0491	1.71		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.6	12	0.2044	0.32		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.5	28	0.0359	0.19		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.5	86	Total			

Subcatchment IT3-S: IT3 Subcat



Hydrograph for Subcatchment IT3-S: IT3 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	8.09	6.42	0.00
2.00	0.16	0.00	0.00	106.00	8.09	6.42	0.00
4.00	0.35	0.00	0.00	108.00	8.09	6.42	0.00
6.00	0.58	0.04	0.00	110.00	8.09	6.42	0.00
8.00	0.92	0.16	0.01	112.00	8.09	6.42	0.00
10.00	1.53	0.51	0.02	114.00	8.09	6.42	0.00
12.00	4.04	2.59	**0.40**	116.00	8.09	6.42	0.00
14.00	6.56	4.94	**0.03**	118.00	8.09	6.42	0.00
16.00	7.17	5.53	0.01	120.00	8.09	6.42	0.00
18.00	7.51	5.85	0.01	122.00	8.09	6.42	0.00
20.00	7.74	6.08	0.01	124.00	8.09	6.42	0.00
22.00	7.93	6.27	0.01	126.00	8.09	6.42	0.00
24.00	**8.09**	**6.42**	0.00	128.00	8.09	6.42	0.00
26.00	8.09	6.42	0.00	130.00	8.09	6.42	0.00
28.00	8.09	6.42	0.00	132.00	8.09	6.42	0.00
30.00	8.09	6.42	0.00	134.00	8.09	6.42	0.00
32.00	8.09	6.42	0.00	136.00	8.09	6.42	0.00
34.00	8.09	6.42	0.00	138.00	8.09	6.42	0.00
36.00	8.09	6.42	0.00	140.00	8.09	6.42	0.00
38.00	8.09	6.42	0.00	142.00	8.09	6.42	0.00
40.00	8.09	6.42	0.00	144.00	8.09	6.42	0.00
42.00	8.09	6.42	0.00	146.00	8.09	6.42	0.00
44.00	8.09	6.42	0.00	148.00	8.09	6.42	0.00
46.00	8.09	6.42	0.00	150.00	8.09	6.42	0.00
48.00	8.09	6.42	0.00	152.00	8.09	6.42	0.00
50.00	8.09	6.42	0.00	154.00	8.09	6.42	0.00
52.00	8.09	6.42	0.00	156.00	8.09	6.42	0.00
54.00	8.09	6.42	0.00	158.00	8.09	6.42	0.00
56.00	8.09	6.42	0.00	160.00	8.09	6.42	0.00
58.00	8.09	6.42	0.00	162.00	8.09	6.42	0.00
60.00	8.09	6.42	0.00	164.00	8.09	6.42	0.00
62.00	8.09	6.42	0.00	166.00	8.09	6.42	0.00
64.00	8.09	6.42	0.00	168.00	8.09	6.42	0.00
66.00	8.09	6.42	0.00	170.00	8.09	6.42	0.00
68.00	8.09	6.42	0.00	172.00	8.09	6.42	0.00
70.00	8.09	6.42	0.00	174.00	8.09	6.42	0.00
72.00	8.09	6.42	0.00	176.00	8.09	6.42	0.00
74.00	8.09	6.42	0.00	178.00	8.09	6.42	0.00
76.00	8.09	6.42	0.00	180.00	8.09	6.42	0.00
78.00	8.09	6.42	0.00				
80.00	8.09	6.42	0.00				
82.00	8.09	6.42	0.00				
84.00	8.09	6.42	0.00				
86.00	8.09	6.42	0.00				
88.00	8.09	6.42	0.00				
90.00	8.09	6.42	0.00				
92.00	8.09	6.42	0.00				
94.00	8.09	6.42	0.00				
96.00	8.09	6.42	0.00				
98.00	8.09	6.42	0.00				
100.00	8.09	6.42	0.00				
102.00	8.09	6.42	0.00				

Summary for Subcatchment IT4-S: IT4 Subcat

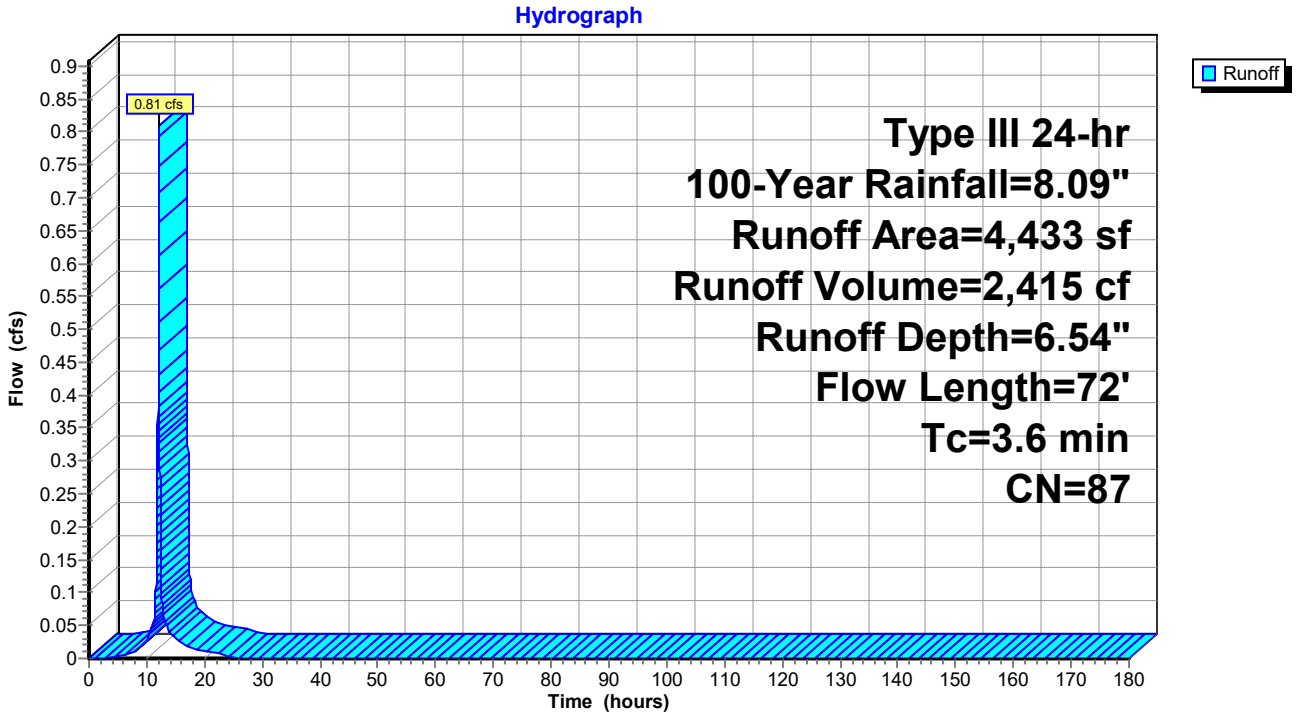
Runoff = 0.81 cfs @ 12.05 hrs, Volume= 2,415 cf, Depth= 6.54"
Routed to Pond IT4 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
2,578	80	Pasture/grassland/range, Good, HSG D
1,453	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
4,433	87	Weighted Average
4,431		99.95% Pervious Area
2		0.05% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0263	1.28		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.5	11	0.2684	0.35		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.6	23	0.0217	0.15		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.6	72	Total			

Subcatchment IT4-S: IT4 Subcat



Hydrograph for Subcatchment IT4-S: IT4 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.05	0.00
8.00	0.92	0.18	0.01
10.00	1.53	0.56	0.03
12.00	4.04	2.68	**0.61**
14.00	6.56	5.06	**0.04**
16.00	7.17	5.64	0.02
18.00	7.51	5.97	0.01
20.00	7.74	6.20	0.01
22.00	7.93	6.39	0.01
24.00	**8.09**	**6.54**	0.01
26.00	8.09	6.54	0.00
28.00	8.09	6.54	0.00
30.00	8.09	6.54	0.00
32.00	8.09	6.54	0.00
34.00	8.09	6.54	0.00
36.00	8.09	6.54	0.00
38.00	8.09	6.54	0.00
40.00	8.09	6.54	0.00
42.00	8.09	6.54	0.00
44.00	8.09	6.54	0.00
46.00	8.09	6.54	0.00
48.00	8.09	6.54	0.00
50.00	8.09	6.54	0.00
52.00	8.09	6.54	0.00
54.00	8.09	6.54	0.00
56.00	8.09	6.54	0.00
58.00	8.09	6.54	0.00
60.00	8.09	6.54	0.00
62.00	8.09	6.54	0.00
64.00	8.09	6.54	0.00
66.00	8.09	6.54	0.00
68.00	8.09	6.54	0.00
70.00	8.09	6.54	0.00
72.00	8.09	6.54	0.00
74.00	8.09	6.54	0.00
76.00	8.09	6.54	0.00
78.00	8.09	6.54	0.00
80.00	8.09	6.54	0.00
82.00	8.09	6.54	0.00
84.00	8.09	6.54	0.00
86.00	8.09	6.54	0.00
88.00	8.09	6.54	0.00
90.00	8.09	6.54	0.00
92.00	8.09	6.54	0.00
94.00	8.09	6.54	0.00
96.00	8.09	6.54	0.00
98.00	8.09	6.54	0.00
100.00	8.09	6.54	0.00
102.00	8.09	6.54	0.00
104.00	8.09	6.54	0.00
106.00	8.09	6.54	0.00
108.00	8.09	6.54	0.00
110.00	8.09	6.54	0.00
112.00	8.09	6.54	0.00
114.00	8.09	6.54	0.00
116.00	8.09	6.54	0.00
118.00	8.09	6.54	0.00
120.00	8.09	6.54	0.00
122.00	8.09	6.54	0.00
124.00	8.09	6.54	0.00
126.00	8.09	6.54	0.00
128.00	8.09	6.54	0.00
130.00	8.09	6.54	0.00
132.00	8.09	6.54	0.00
134.00	8.09	6.54	0.00
136.00	8.09	6.54	0.00
138.00	8.09	6.54	0.00
140.00	8.09	6.54	0.00
142.00	8.09	6.54	0.00
144.00	8.09	6.54	0.00
146.00	8.09	6.54	0.00
148.00	8.09	6.54	0.00
150.00	8.09	6.54	0.00
152.00	8.09	6.54	0.00
154.00	8.09	6.54	0.00
156.00	8.09	6.54	0.00
158.00	8.09	6.54	0.00
160.00	8.09	6.54	0.00
162.00	8.09	6.54	0.00
164.00	8.09	6.54	0.00
166.00	8.09	6.54	0.00
168.00	8.09	6.54	0.00
170.00	8.09	6.54	0.00
172.00	8.09	6.54	0.00
174.00	8.09	6.54	0.00
176.00	8.09	6.54	0.00
178.00	8.09	6.54	0.00
180.00	8.09	6.54	0.00

Summary for Subcatchment IT5-S: IT5 Subcat

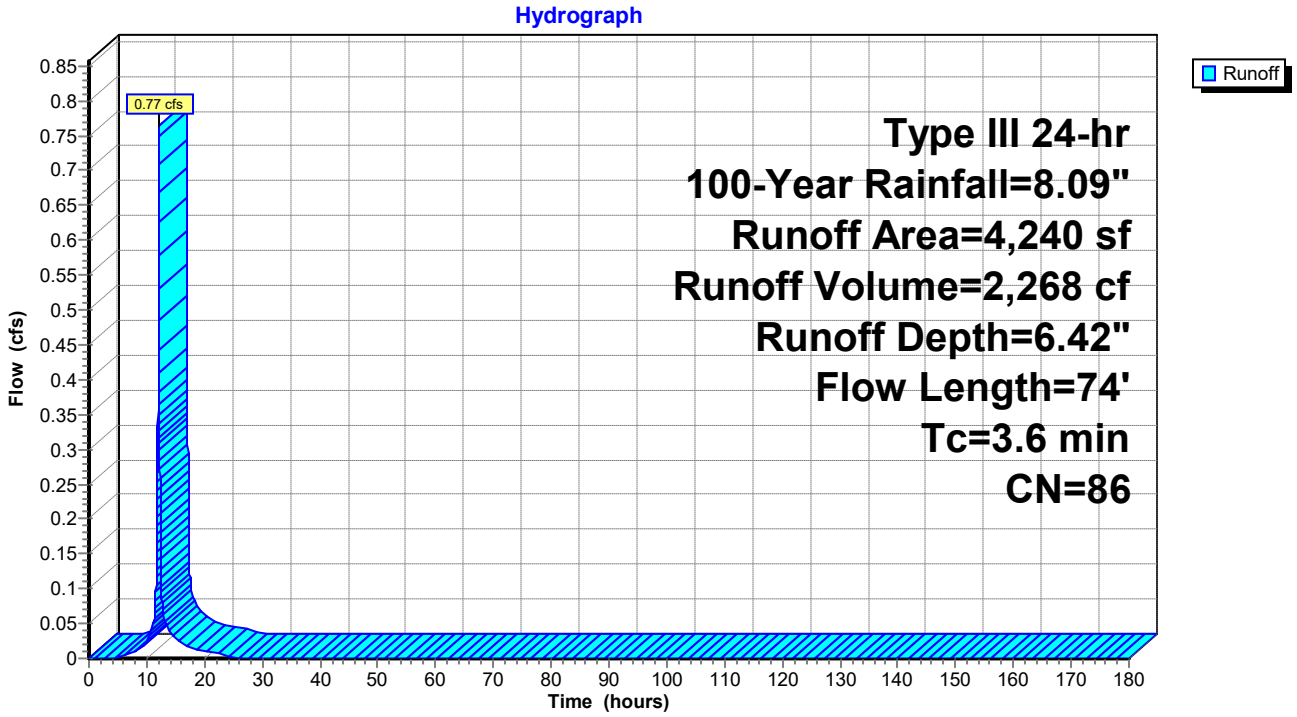
Runoff = 0.77 cfs @ 12.05 hrs, Volume= 2,268 cf, Depth= 6.42"
Routed to Pond IT5 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
2,739	80	Pasture/grassland/range, Good, HSG D
1,099	96	Gravel surface, HSG D
400	98	Water Surface, 0% imp, HSG D
2	98	Unconnected pavement, HSG D
4,240	86	Weighted Average
4,238		99.95% Pervious Area
2		0.05% Impervious Area
2		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	41	0.0366	1.49		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.29"
0.5	10	0.2883	0.35		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
2.6	23	0.0222	0.15		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
3.6	74	Total			

Subcatchment IT5-S: IT5 Subcat



Hydrograph for Subcatchment IT5-S: IT5 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.04	0.00
8.00	0.92	0.16	0.01
10.00	1.53	0.51	0.03
12.00	4.04	2.59	**0.57**
14.00	6.56	4.94	**0.04**
16.00	7.17	5.53	0.02
18.00	7.51	5.85	0.01
20.00	7.74	6.08	0.01
22.00	7.93	6.27	0.01
24.00	**8.09**	**6.42**	0.01
26.00	8.09	6.42	0.00
28.00	8.09	6.42	0.00
30.00	8.09	6.42	0.00
32.00	8.09	6.42	0.00
34.00	8.09	6.42	0.00
36.00	8.09	6.42	0.00
38.00	8.09	6.42	0.00
40.00	8.09	6.42	0.00
42.00	8.09	6.42	0.00
44.00	8.09	6.42	0.00
46.00	8.09	6.42	0.00
48.00	8.09	6.42	0.00
50.00	8.09	6.42	0.00
52.00	8.09	6.42	0.00
54.00	8.09	6.42	0.00
56.00	8.09	6.42	0.00
58.00	8.09	6.42	0.00
60.00	8.09	6.42	0.00
62.00	8.09	6.42	0.00
64.00	8.09	6.42	0.00
66.00	8.09	6.42	0.00
68.00	8.09	6.42	0.00
70.00	8.09	6.42	0.00
72.00	8.09	6.42	0.00
74.00	8.09	6.42	0.00
76.00	8.09	6.42	0.00
78.00	8.09	6.42	0.00
80.00	8.09	6.42	0.00
82.00	8.09	6.42	0.00
84.00	8.09	6.42	0.00
86.00	8.09	6.42	0.00
88.00	8.09	6.42	0.00
90.00	8.09	6.42	0.00
92.00	8.09	6.42	0.00
94.00	8.09	6.42	0.00
96.00	8.09	6.42	0.00
98.00	8.09	6.42	0.00
100.00	8.09	6.42	0.00
102.00	8.09	6.42	0.00
104.00	8.09	6.42	0.00
106.00	8.09	6.42	0.00
108.00	8.09	6.42	0.00
110.00	8.09	6.42	0.00
112.00	8.09	6.42	0.00
114.00	8.09	6.42	0.00
116.00	8.09	6.42	0.00
118.00	8.09	6.42	0.00
120.00	8.09	6.42	0.00
122.00	8.09	6.42	0.00
124.00	8.09	6.42	0.00
126.00	8.09	6.42	0.00
128.00	8.09	6.42	0.00
130.00	8.09	6.42	0.00
132.00	8.09	6.42	0.00
134.00	8.09	6.42	0.00
136.00	8.09	6.42	0.00
138.00	8.09	6.42	0.00
140.00	8.09	6.42	0.00
142.00	8.09	6.42	0.00
144.00	8.09	6.42	0.00
146.00	8.09	6.42	0.00
148.00	8.09	6.42	0.00
150.00	8.09	6.42	0.00
152.00	8.09	6.42	0.00
154.00	8.09	6.42	0.00
156.00	8.09	6.42	0.00
158.00	8.09	6.42	0.00
160.00	8.09	6.42	0.00
162.00	8.09	6.42	0.00
164.00	8.09	6.42	0.00
166.00	8.09	6.42	0.00
168.00	8.09	6.42	0.00
170.00	8.09	6.42	0.00
172.00	8.09	6.42	0.00
174.00	8.09	6.42	0.00
176.00	8.09	6.42	0.00
178.00	8.09	6.42	0.00
180.00	8.09	6.42	0.00

Summary for Subcatchment IT6-S: IT6 Subcat

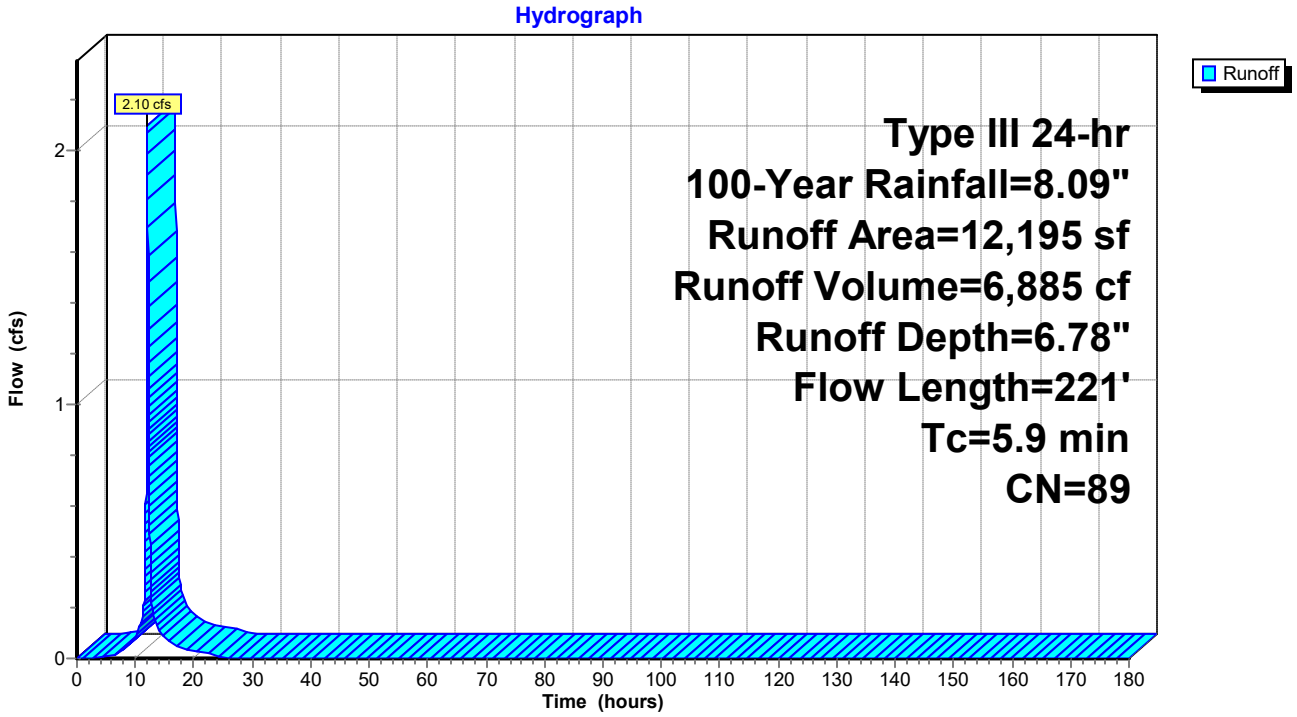
Runoff = 2.10 cfs @ 12.08 hrs, Volume= 6,885 cf, Depth= 6.78"
Routed to Pond IT6 : Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
6,134	80	Pasture/grassland/range, Good, HSG D
1,949	96	Gravel surface, HSG D
111	98	Water Surface, 0% imp, HSG D
4,001	98	Unconnected pavement, HSG D
12,195	89	Weighted Average
8,194		67.19% Pervious Area
4,001		32.81% Impervious Area
4,001		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	20	0.1106	0.28		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
0.3	18	0.0284	1.14		**Sheet Flow, BC** Smooth surfaces n= 0.011 P2= 3.29"
3.6	62	0.0669	0.28		**Sheet Flow, CD** Range n= 0.130 P2= 3.29"
0.4	80	0.0389	3.18		**Shallow Concentrated Flow, DE** Unpaved Kv= 16.1 fps
0.1	13	0.1529	2.74		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
0.3	28	0.0705	1.86		**Shallow Concentrated Flow, FG** Short Grass Pasture Kv= 7.0 fps
5.9	221	Total			

Subcatchment IT6-S: IT6 Subcat



Hydrograph for Subcatchment IT6-S: IT6 Subcat

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.01	0.00
6.00	0.58	0.07	0.01
8.00	0.92	0.24	0.03
10.00	1.53	0.65	0.08
12.00	4.04	2.87	**1.31**
14.00	6.56	5.28	**0.11**
16.00	7.17	5.87	0.06
18.00	7.51	6.20	0.04
20.00	7.74	6.43	0.03
22.00	7.93	6.62	0.02
24.00	**8.09**	**6.78**	0.02
26.00	8.09	6.78	0.00
28.00	8.09	6.78	0.00
30.00	8.09	6.78	0.00
32.00	8.09	6.78	0.00
34.00	8.09	6.78	0.00
36.00	8.09	6.78	0.00
38.00	8.09	6.78	0.00
40.00	8.09	6.78	0.00
42.00	8.09	6.78	0.00
44.00	8.09	6.78	0.00
46.00	8.09	6.78	0.00
48.00	8.09	6.78	0.00
50.00	8.09	6.78	0.00
52.00	8.09	6.78	0.00
54.00	8.09	6.78	0.00
56.00	8.09	6.78	0.00
58.00	8.09	6.78	0.00
60.00	8.09	6.78	0.00
62.00	8.09	6.78	0.00
64.00	8.09	6.78	0.00
66.00	8.09	6.78	0.00
68.00	8.09	6.78	0.00
70.00	8.09	6.78	0.00
72.00	8.09	6.78	0.00
74.00	8.09	6.78	0.00
76.00	8.09	6.78	0.00
78.00	8.09	6.78	0.00
80.00	8.09	6.78	0.00
82.00	8.09	6.78	0.00
84.00	8.09	6.78	0.00
86.00	8.09	6.78	0.00
88.00	8.09	6.78	0.00
90.00	8.09	6.78	0.00
92.00	8.09	6.78	0.00
94.00	8.09	6.78	0.00
96.00	8.09	6.78	0.00
98.00	8.09	6.78	0.00
100.00	8.09	6.78	0.00
102.00	8.09	6.78	0.00
104.00	8.09	6.78	0.00
106.00	8.09	6.78	0.00
108.00	8.09	6.78	0.00
110.00	8.09	6.78	0.00
112.00	8.09	6.78	0.00
114.00	8.09	6.78	0.00
116.00	8.09	6.78	0.00
118.00	8.09	6.78	0.00
120.00	8.09	6.78	0.00
122.00	8.09	6.78	0.00
124.00	8.09	6.78	0.00
126.00	8.09	6.78	0.00
128.00	8.09	6.78	0.00
130.00	8.09	6.78	0.00
132.00	8.09	6.78	0.00
134.00	8.09	6.78	0.00
136.00	8.09	6.78	0.00
138.00	8.09	6.78	0.00
140.00	8.09	6.78	0.00
142.00	8.09	6.78	0.00
144.00	8.09	6.78	0.00
146.00	8.09	6.78	0.00
148.00	8.09	6.78	0.00
150.00	8.09	6.78	0.00
152.00	8.09	6.78	0.00
154.00	8.09	6.78	0.00
156.00	8.09	6.78	0.00
158.00	8.09	6.78	0.00
160.00	8.09	6.78	0.00
162.00	8.09	6.78	0.00
164.00	8.09	6.78	0.00
166.00	8.09	6.78	0.00
168.00	8.09	6.78	0.00
170.00	8.09	6.78	0.00
172.00	8.09	6.78	0.00
174.00	8.09	6.78	0.00
176.00	8.09	6.78	0.00
178.00	8.09	6.78	0.00
180.00	8.09	6.78	0.00

Summary for Subcatchment P-M: Middle

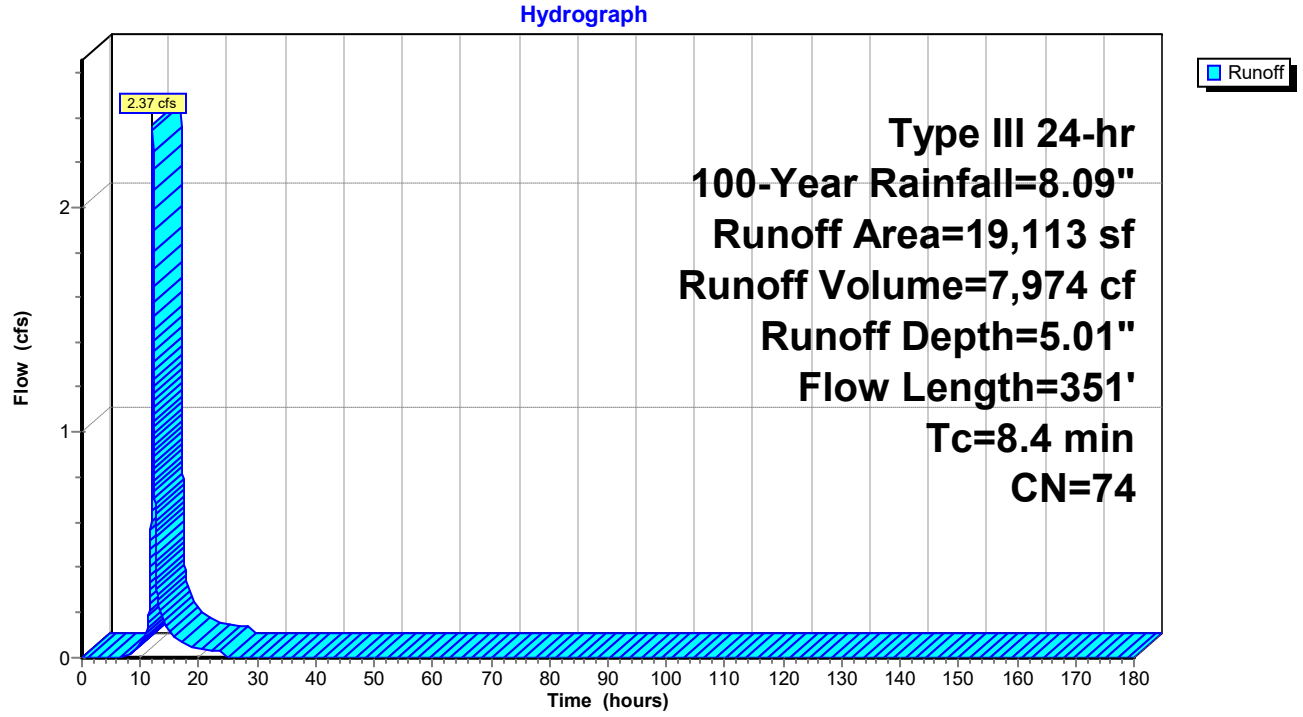
Runoff = 2.37 cfs @ 12.12 hrs, Volume= 7,974 cf, Depth= 5.01"
Routed to Reach P-2P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
19,109	74	Pasture/grassland/range, Good, HSG C
4	98	Unconnected pavement, HSG C
19,113	74	Weighted Average
19,109		99.98% Pervious Area
4		0.02% Impervious Area
4		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	95	0.0626	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
2.3	214	0.0510	1.58		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.9	42	0.0126	0.79		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
8.4	351	Total			

Subcatchment P-M: Middle



Hydrograph for Subcatchment P-M: Middle

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.00
8.00	0.92	0.01	0.01
10.00	1.53	0.16	0.06
12.00	4.04	1.63	**1.22**
14.00	6.56	3.66	**0.16**
16.00	7.17	4.19	0.09
18.00	7.51	4.49	0.05
20.00	7.74	4.70	0.04
22.00	7.93	4.87	0.03
24.00	**8.09**	**5.01**	0.03
26.00	8.09	5.01	0.00
28.00	8.09	5.01	0.00
30.00	8.09	5.01	0.00
32.00	8.09	5.01	0.00
34.00	8.09	5.01	0.00
36.00	8.09	5.01	0.00
38.00	8.09	5.01	0.00
40.00	8.09	5.01	0.00
42.00	8.09	5.01	0.00
44.00	8.09	5.01	0.00
46.00	8.09	5.01	0.00
48.00	8.09	5.01	0.00
50.00	8.09	5.01	0.00
52.00	8.09	5.01	0.00
54.00	8.09	5.01	0.00
56.00	8.09	5.01	0.00
58.00	8.09	5.01	0.00
60.00	8.09	5.01	0.00
62.00	8.09	5.01	0.00
64.00	8.09	5.01	0.00
66.00	8.09	5.01	0.00
68.00	8.09	5.01	0.00
70.00	8.09	5.01	0.00
72.00	8.09	5.01	0.00
74.00	8.09	5.01	0.00
76.00	8.09	5.01	0.00
78.00	8.09	5.01	0.00
80.00	8.09	5.01	0.00
82.00	8.09	5.01	0.00
84.00	8.09	5.01	0.00
86.00	8.09	5.01	0.00
88.00	8.09	5.01	0.00
90.00	8.09	5.01	0.00
92.00	8.09	5.01	0.00
94.00	8.09	5.01	0.00
96.00	8.09	5.01	0.00
98.00	8.09	5.01	0.00
100.00	8.09	5.01	0.00
102.00	8.09	5.01	0.00
104.00	8.09	5.01	0.00
106.00	8.09	5.01	0.00
108.00	8.09	5.01	0.00
110.00	8.09	5.01	0.00
112.00	8.09	5.01	0.00
114.00	8.09	5.01	0.00
116.00	8.09	5.01	0.00
118.00	8.09	5.01	0.00
120.00	8.09	5.01	0.00
122.00	8.09	5.01	0.00
124.00	8.09	5.01	0.00
126.00	8.09	5.01	0.00
128.00	8.09	5.01	0.00
130.00	8.09	5.01	0.00
132.00	8.09	5.01	0.00
134.00	8.09	5.01	0.00
136.00	8.09	5.01	0.00
138.00	8.09	5.01	0.00
140.00	8.09	5.01	0.00
142.00	8.09	5.01	0.00
144.00	8.09	5.01	0.00
146.00	8.09	5.01	0.00
148.00	8.09	5.01	0.00
150.00	8.09	5.01	0.00
152.00	8.09	5.01	0.00
154.00	8.09	5.01	0.00
156.00	8.09	5.01	0.00
158.00	8.09	5.01	0.00
160.00	8.09	5.01	0.00
162.00	8.09	5.01	0.00
164.00	8.09	5.01	0.00
166.00	8.09	5.01	0.00
168.00	8.09	5.01	0.00
170.00	8.09	5.01	0.00
172.00	8.09	5.01	0.00
174.00	8.09	5.01	0.00
176.00	8.09	5.01	0.00
178.00	8.09	5.01	0.00
180.00	8.09	5.01	0.00

Summary for Subcatchment P-ME: Middle East

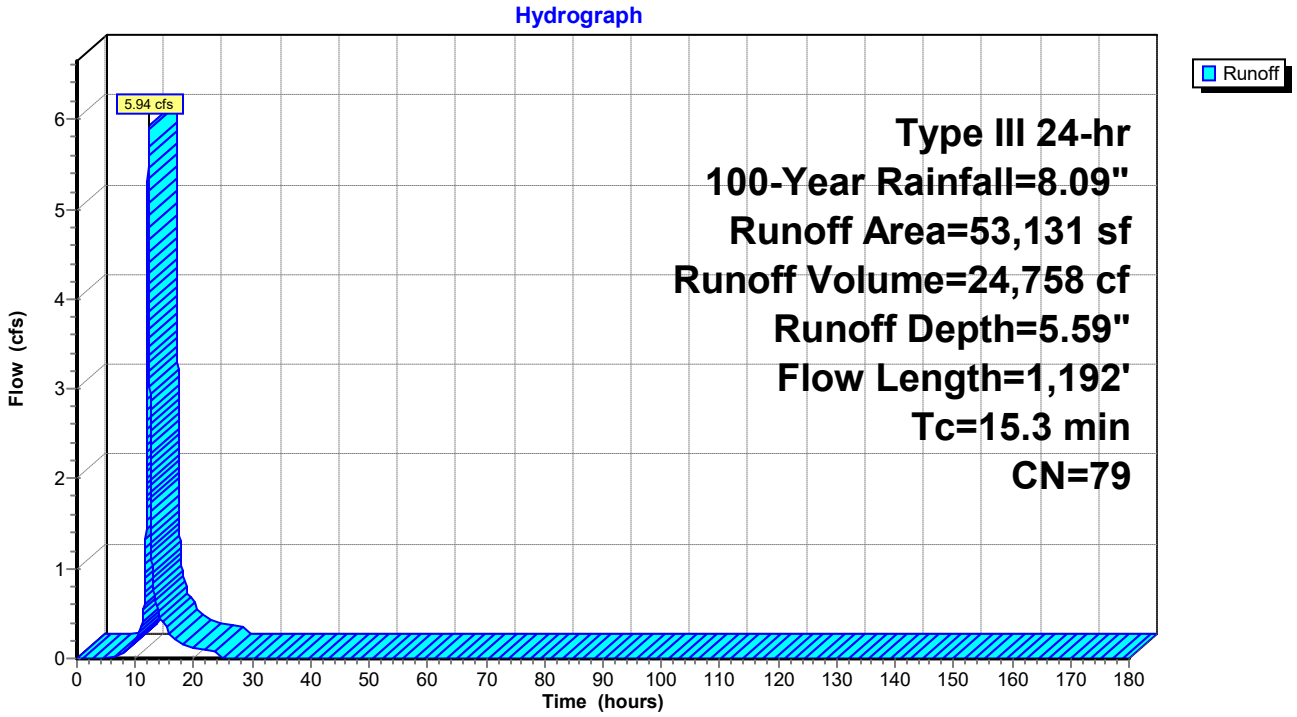
Runoff = 5.94 cfs @ 12.21 hrs, Volume= 24,758 cf, Depth= 5.59"
Routed to Pond P-3P : 12" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
10,238	74	Pasture/grassland/range, Good, HSG C
42,873	80	Pasture/grassland/range, Good, HSG D
4	98	Unconnected pavement, HSG C
16	98	Unconnected pavement, HSG D
53,131	79	Weighted Average
53,111		99.96% Pervious Area
20		0.04% Impervious Area
20		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	100	0.0678	0.32		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
8.5	844	0.0563	1.66		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.5	140	0.0339	4.82	13.25	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 3.0 '/' Top.W=7.00' n= 0.030 Earth, grassed & winding
1.0	108	0.0650	1.78		**Shallow Concentrated Flow, DE** Short Grass Pasture Kv= 7.0 fps
15.3	1,192	Total			

Subcatchment P-ME: Middle East



Hydrograph for Subcatchment P-ME: Middle East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	8.09	5.59	0.00
2.00	0.16	0.00	0.00	106.00	8.09	5.59	0.00
4.00	0.35	0.00	0.00	108.00	8.09	5.59	0.00
6.00	0.58	0.00	0.00	110.00	8.09	5.59	0.00
8.00	0.92	0.05	0.05	112.00	8.09	5.59	0.00
10.00	1.53	0.27	0.20	114.00	8.09	5.59	0.00
12.00	4.04	2.00	**2.65**	116.00	8.09	5.59	0.00
14.00	6.56	4.18	**0.49**	118.00	8.09	5.59	0.00
16.00	7.17	4.74	0.26	120.00	8.09	5.59	0.00
18.00	7.51	5.05	0.16	122.00	8.09	5.59	0.00
20.00	7.74	5.27	0.12	124.00	8.09	5.59	0.00
22.00	7.93	5.45	0.10	126.00	8.09	5.59	0.00
24.00	**8.09**	**5.59**	0.08	128.00	8.09	5.59	0.00
26.00	8.09	5.59	0.00	130.00	8.09	5.59	0.00
28.00	8.09	5.59	0.00	132.00	8.09	5.59	0.00
30.00	8.09	5.59	0.00	134.00	8.09	5.59	0.00
32.00	8.09	5.59	0.00	136.00	8.09	5.59	0.00
34.00	8.09	5.59	0.00	138.00	8.09	5.59	0.00
36.00	8.09	5.59	0.00	140.00	8.09	5.59	0.00
38.00	8.09	5.59	0.00	142.00	8.09	5.59	0.00
40.00	8.09	5.59	0.00	144.00	8.09	5.59	0.00
42.00	8.09	5.59	0.00	146.00	8.09	5.59	0.00
44.00	8.09	5.59	0.00	148.00	8.09	5.59	0.00
46.00	8.09	5.59	0.00	150.00	8.09	5.59	0.00
48.00	8.09	5.59	0.00	152.00	8.09	5.59	0.00
50.00	8.09	5.59	0.00	154.00	8.09	5.59	0.00
52.00	8.09	5.59	0.00	156.00	8.09	5.59	0.00
54.00	8.09	5.59	0.00	158.00	8.09	5.59	0.00
56.00	8.09	5.59	0.00	160.00	8.09	5.59	0.00
58.00	8.09	5.59	0.00	162.00	8.09	5.59	0.00
60.00	8.09	5.59	0.00	164.00	8.09	5.59	0.00
62.00	8.09	5.59	0.00	166.00	8.09	5.59	0.00
64.00	8.09	5.59	0.00	168.00	8.09	5.59	0.00
66.00	8.09	5.59	0.00	170.00	8.09	5.59	0.00
68.00	8.09	5.59	0.00	172.00	8.09	5.59	0.00
70.00	8.09	5.59	0.00	174.00	8.09	5.59	0.00
72.00	8.09	5.59	0.00	176.00	8.09	5.59	0.00
74.00	8.09	5.59	0.00	178.00	8.09	5.59	0.00
76.00	8.09	5.59	0.00	180.00	8.09	5.59	0.00
78.00	8.09	5.59	0.00				
80.00	8.09	5.59	0.00				
82.00	8.09	5.59	0.00				
84.00	8.09	5.59	0.00				
86.00	8.09	5.59	0.00				
88.00	8.09	5.59	0.00				
90.00	8.09	5.59	0.00				
92.00	8.09	5.59	0.00				
94.00	8.09	5.59	0.00				
96.00	8.09	5.59	0.00				
98.00	8.09	5.59	0.00				
100.00	8.09	5.59	0.00				
102.00	8.09	5.59	0.00				

Summary for Subcatchment P-MW: Middle West

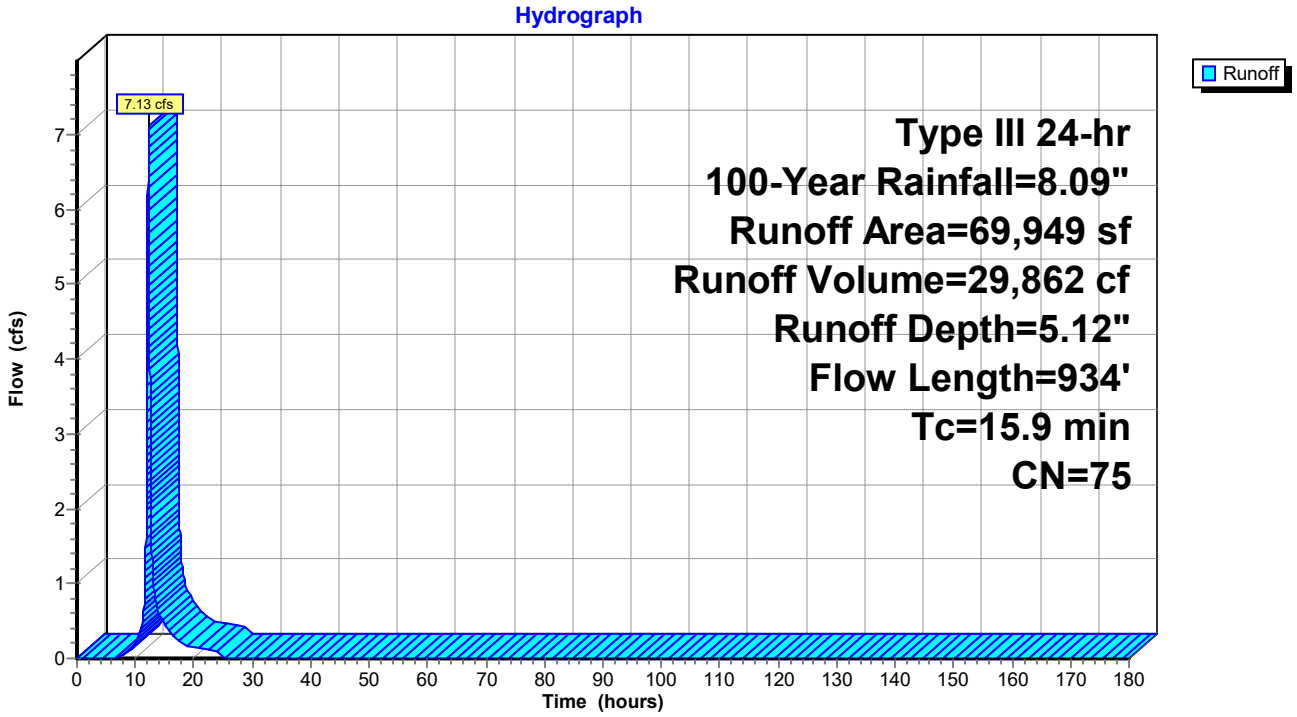
Runoff = 7.13 cfs @ 12.21 hrs, Volume= 29,862 cf, Depth= 5.12"
Routed to Reach P-1P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
54,727	74	Pasture/grassland/range, Good, HSG C
15,200	80	Pasture/grassland/range, Good, HSG D
15	98	Unconnected pavement, HSG C
7	98	Unconnected pavement, HSG D
69,949	75	Weighted Average
69,927		99.97% Pervious Area
22		0.03% Impervious Area
22		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.0582	0.30		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.2	695	0.0716	1.87		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
4.1	139	0.0066	0.57		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
15.9	934	Total			

Subcatchment P-MW: Middle West



Hydrograph for Subcatchment P-MW: Middle West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.00
8.00	0.92	0.02	0.04
10.00	1.53	0.18	0.21
12.00	4.04	1.70	**3.04**
14.00	6.56	3.77	**0.62**
16.00	7.17	4.30	0.33
18.00	7.51	4.60	0.20
20.00	7.74	4.81	0.16
22.00	7.93	4.98	0.13
24.00	**8.09**	**5.12**	0.10
26.00	8.09	5.12	0.00
28.00	8.09	5.12	0.00
30.00	8.09	5.12	0.00
32.00	8.09	5.12	0.00
34.00	8.09	5.12	0.00
36.00	8.09	5.12	0.00
38.00	8.09	5.12	0.00
40.00	8.09	5.12	0.00
42.00	8.09	5.12	0.00
44.00	8.09	5.12	0.00
46.00	8.09	5.12	0.00
48.00	8.09	5.12	0.00
50.00	8.09	5.12	0.00
52.00	8.09	5.12	0.00
54.00	8.09	5.12	0.00
56.00	8.09	5.12	0.00
58.00	8.09	5.12	0.00
60.00	8.09	5.12	0.00
62.00	8.09	5.12	0.00
64.00	8.09	5.12	0.00
66.00	8.09	5.12	0.00
68.00	8.09	5.12	0.00
70.00	8.09	5.12	0.00
72.00	8.09	5.12	0.00
74.00	8.09	5.12	0.00
76.00	8.09	5.12	0.00
78.00	8.09	5.12	0.00
80.00	8.09	5.12	0.00
82.00	8.09	5.12	0.00
84.00	8.09	5.12	0.00
86.00	8.09	5.12	0.00
88.00	8.09	5.12	0.00
90.00	8.09	5.12	0.00
92.00	8.09	5.12	0.00
94.00	8.09	5.12	0.00
96.00	8.09	5.12	0.00
98.00	8.09	5.12	0.00
100.00	8.09	5.12	0.00
102.00	8.09	5.12	0.00
104.00	8.09	5.12	0.00
106.00	8.09	5.12	0.00
108.00	8.09	5.12	0.00
110.00	8.09	5.12	0.00
112.00	8.09	5.12	0.00
114.00	8.09	5.12	0.00
116.00	8.09	5.12	0.00
118.00	8.09	5.12	0.00
120.00	8.09	5.12	0.00
122.00	8.09	5.12	0.00
124.00	8.09	5.12	0.00
126.00	8.09	5.12	0.00
128.00	8.09	5.12	0.00
130.00	8.09	5.12	0.00
132.00	8.09	5.12	0.00
134.00	8.09	5.12	0.00
136.00	8.09	5.12	0.00
138.00	8.09	5.12	0.00
140.00	8.09	5.12	0.00
142.00	8.09	5.12	0.00
144.00	8.09	5.12	0.00
146.00	8.09	5.12	0.00
148.00	8.09	5.12	0.00
150.00	8.09	5.12	0.00
152.00	8.09	5.12	0.00
154.00	8.09	5.12	0.00
156.00	8.09	5.12	0.00
158.00	8.09	5.12	0.00
160.00	8.09	5.12	0.00
162.00	8.09	5.12	0.00
164.00	8.09	5.12	0.00
166.00	8.09	5.12	0.00
168.00	8.09	5.12	0.00
170.00	8.09	5.12	0.00
172.00	8.09	5.12	0.00
174.00	8.09	5.12	0.00
176.00	8.09	5.12	0.00
178.00	8.09	5.12	0.00
180.00	8.09	5.12	0.00

Summary for Subcatchment P-N1: North 1

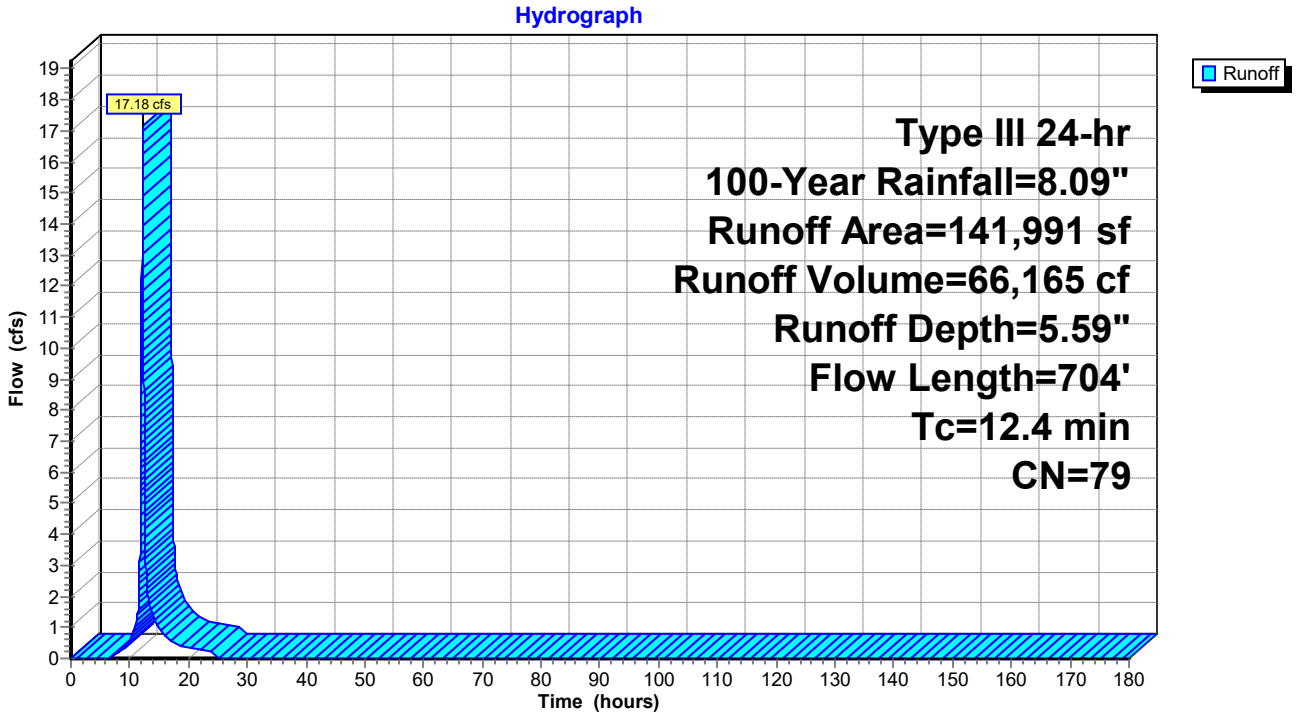
Runoff = 17.18 cfs @ 12.17 hrs, Volume= 66,165 cf, Depth= 5.59"
Routed to Link P-6L : Lag

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
114,081	80	Pasture/grassland/range, Good, HSG D
27,872	77	Woods, Good, HSG D
38	98	Unconnected pavement, HSG D
141,991	79	Weighted Average
141,953		99.97% Pervious Area
38		0.03% Impervious Area
38		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	10	0.0949	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	90	0.0691	0.31		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
4.2	481	0.0745	1.91		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
1.6	123	0.0667	1.29		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
12.4	704	Total			

Subcatchment P-N1: North 1



Hydrograph for Subcatchment P-N1: North 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.01
8.00	0.92	0.05	0.15
10.00	1.53	0.27	0.56
12.00	4.04	2.00	**8.12**
14.00	6.56	4.18	**1.29**
16.00	7.17	4.74	0.69
18.00	7.51	5.05	0.42
20.00	7.74	5.27	0.33
22.00	7.93	5.45	0.27
24.00	**8.09**	**5.59**	0.22
26.00	8.09	5.59	0.00
28.00	8.09	5.59	0.00
30.00	8.09	5.59	0.00
32.00	8.09	5.59	0.00
34.00	8.09	5.59	0.00
36.00	8.09	5.59	0.00
38.00	8.09	5.59	0.00
40.00	8.09	5.59	0.00
42.00	8.09	5.59	0.00
44.00	8.09	5.59	0.00
46.00	8.09	5.59	0.00
48.00	8.09	5.59	0.00
50.00	8.09	5.59	0.00
52.00	8.09	5.59	0.00
54.00	8.09	5.59	0.00
56.00	8.09	5.59	0.00
58.00	8.09	5.59	0.00
60.00	8.09	5.59	0.00
62.00	8.09	5.59	0.00
64.00	8.09	5.59	0.00
66.00	8.09	5.59	0.00
68.00	8.09	5.59	0.00
70.00	8.09	5.59	0.00
72.00	8.09	5.59	0.00
74.00	8.09	5.59	0.00
76.00	8.09	5.59	0.00
78.00	8.09	5.59	0.00
80.00	8.09	5.59	0.00
82.00	8.09	5.59	0.00
84.00	8.09	5.59	0.00
86.00	8.09	5.59	0.00
88.00	8.09	5.59	0.00
90.00	8.09	5.59	0.00
92.00	8.09	5.59	0.00
94.00	8.09	5.59	0.00
96.00	8.09	5.59	0.00
98.00	8.09	5.59	0.00
100.00	8.09	5.59	0.00
102.00	8.09	5.59	0.00
104.00	8.09	5.59	0.00
106.00	8.09	5.59	0.00
108.00	8.09	5.59	0.00
110.00	8.09	5.59	0.00
112.00	8.09	5.59	0.00
114.00	8.09	5.59	0.00
116.00	8.09	5.59	0.00
118.00	8.09	5.59	0.00
120.00	8.09	5.59	0.00
122.00	8.09	5.59	0.00
124.00	8.09	5.59	0.00
126.00	8.09	5.59	0.00
128.00	8.09	5.59	0.00
130.00	8.09	5.59	0.00
132.00	8.09	5.59	0.00
134.00	8.09	5.59	0.00
136.00	8.09	5.59	0.00
138.00	8.09	5.59	0.00
140.00	8.09	5.59	0.00
142.00	8.09	5.59	0.00
144.00	8.09	5.59	0.00
146.00	8.09	5.59	0.00
148.00	8.09	5.59	0.00
150.00	8.09	5.59	0.00
152.00	8.09	5.59	0.00
154.00	8.09	5.59	0.00
156.00	8.09	5.59	0.00
158.00	8.09	5.59	0.00
160.00	8.09	5.59	0.00
162.00	8.09	5.59	0.00
164.00	8.09	5.59	0.00
166.00	8.09	5.59	0.00
168.00	8.09	5.59	0.00
170.00	8.09	5.59	0.00
172.00	8.09	5.59	0.00
174.00	8.09	5.59	0.00
176.00	8.09	5.59	0.00
178.00	8.09	5.59	0.00
180.00	8.09	5.59	0.00

Summary for Subcatchment P-N2: North 2

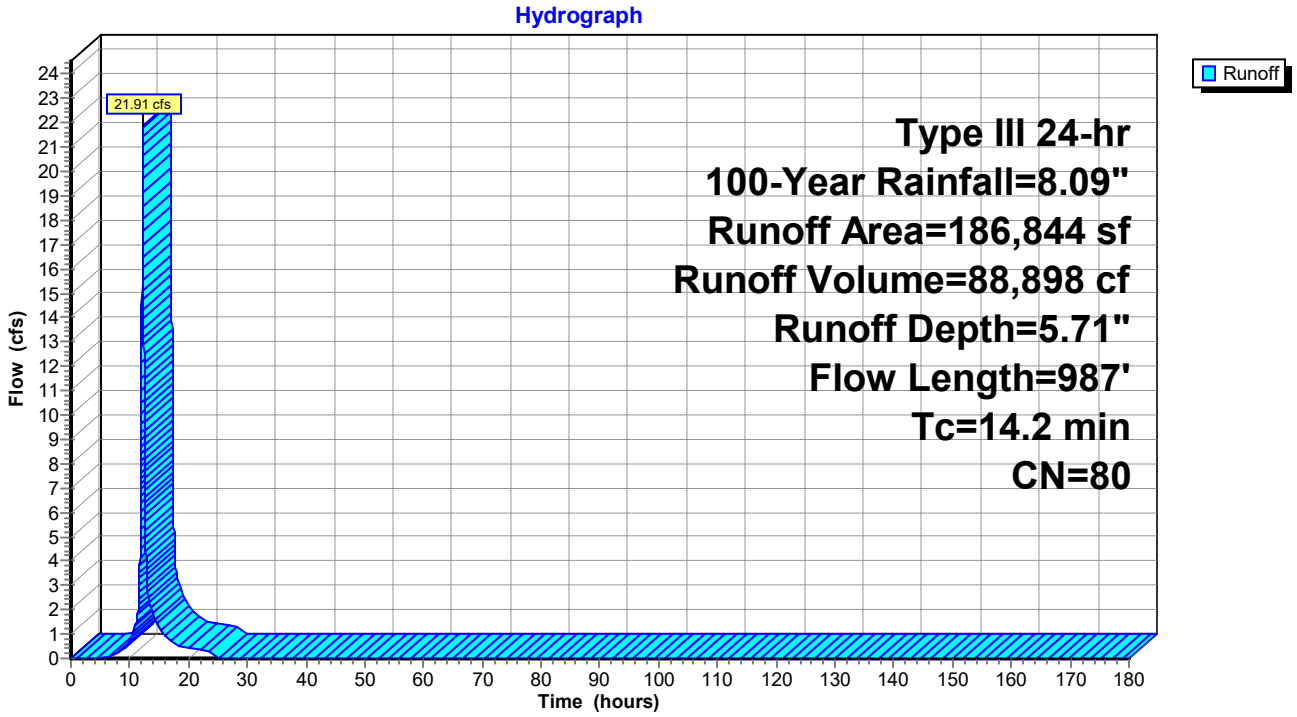
Runoff = 21.91 cfs @ 12.19 hrs, Volume= 88,898 cf, Depth= 5.71"
Routed to Pond 12P : Water Quality Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
185,396	80	Pasture/grassland/range, Good, HSG D
1,382	77	Woods, Good, HSG D
66	98	Unconnected pavement, HSG D
186,844	80	Weighted Average
186,778		99.96% Pervious Area
66		0.04% Impervious Area
66		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0849	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.7	85	0.0656	0.30		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
6.1	651	0.0636	1.77		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.6	153	0.0043	4.04	24.24	**Parabolic Channel, DE** W=6.00' D=1.50' Area=6.0 sf Perim=6.9' n= 0.022 Earth, clean & straight
0.2	69	0.0145	5.93	23.74	**Parabolic Channel, EF** W=6.00' D=1.00' Area=4.0 sf Perim=6.4' n= 0.022 Earth, clean & straight
0.0	14	0.0990	15.51	62.02	**Parabolic Channel, FG** W=6.00' D=1.00' Area=4.0 sf Perim=6.4' n= 0.022 Earth, clean & straight
14.2	987	Total			

Subcatchment P-N2: North 2



Hydrograph for Subcatchment P-N2: North 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.02
8.00	0.92	0.06	0.21
10.00	1.53	0.30	0.77
12.00	4.04	2.08	**10.05**
14.00	6.56	4.29	**1.73**
16.00	7.17	4.85	0.92
18.00	7.51	5.16	0.56
20.00	7.74	5.38	0.44
22.00	7.93	5.56	0.36
24.00	**8.09**	**5.71**	0.29
26.00	8.09	5.71	0.00
28.00	8.09	5.71	0.00
30.00	8.09	5.71	0.00
32.00	8.09	5.71	0.00
34.00	8.09	5.71	0.00
36.00	8.09	5.71	0.00
38.00	8.09	5.71	0.00
40.00	8.09	5.71	0.00
42.00	8.09	5.71	0.00
44.00	8.09	5.71	0.00
46.00	8.09	5.71	0.00
48.00	8.09	5.71	0.00
50.00	8.09	5.71	0.00
52.00	8.09	5.71	0.00
54.00	8.09	5.71	0.00
56.00	8.09	5.71	0.00
58.00	8.09	5.71	0.00
60.00	8.09	5.71	0.00
62.00	8.09	5.71	0.00
64.00	8.09	5.71	0.00
66.00	8.09	5.71	0.00
68.00	8.09	5.71	0.00
70.00	8.09	5.71	0.00
72.00	8.09	5.71	0.00
74.00	8.09	5.71	0.00
76.00	8.09	5.71	0.00
78.00	8.09	5.71	0.00
80.00	8.09	5.71	0.00
82.00	8.09	5.71	0.00
84.00	8.09	5.71	0.00
86.00	8.09	5.71	0.00
88.00	8.09	5.71	0.00
90.00	8.09	5.71	0.00
92.00	8.09	5.71	0.00
94.00	8.09	5.71	0.00
96.00	8.09	5.71	0.00
98.00	8.09	5.71	0.00
100.00	8.09	5.71	0.00
102.00	8.09	5.71	0.00
104.00	8.09	5.71	0.00
106.00	8.09	5.71	0.00
108.00	8.09	5.71	0.00
110.00	8.09	5.71	0.00
112.00	8.09	5.71	0.00
114.00	8.09	5.71	0.00
116.00	8.09	5.71	0.00
118.00	8.09	5.71	0.00
120.00	8.09	5.71	0.00
122.00	8.09	5.71	0.00
124.00	8.09	5.71	0.00
126.00	8.09	5.71	0.00
128.00	8.09	5.71	0.00
130.00	8.09	5.71	0.00
132.00	8.09	5.71	0.00
134.00	8.09	5.71	0.00
136.00	8.09	5.71	0.00
138.00	8.09	5.71	0.00
140.00	8.09	5.71	0.00
142.00	8.09	5.71	0.00
144.00	8.09	5.71	0.00
146.00	8.09	5.71	0.00
148.00	8.09	5.71	0.00
150.00	8.09	5.71	0.00
152.00	8.09	5.71	0.00
154.00	8.09	5.71	0.00
156.00	8.09	5.71	0.00
158.00	8.09	5.71	0.00
160.00	8.09	5.71	0.00
162.00	8.09	5.71	0.00
164.00	8.09	5.71	0.00
166.00	8.09	5.71	0.00
168.00	8.09	5.71	0.00
170.00	8.09	5.71	0.00
172.00	8.09	5.71	0.00
174.00	8.09	5.71	0.00
176.00	8.09	5.71	0.00
178.00	8.09	5.71	0.00
180.00	8.09	5.71	0.00

Summary for Subcatchment P-NE1: North East 1

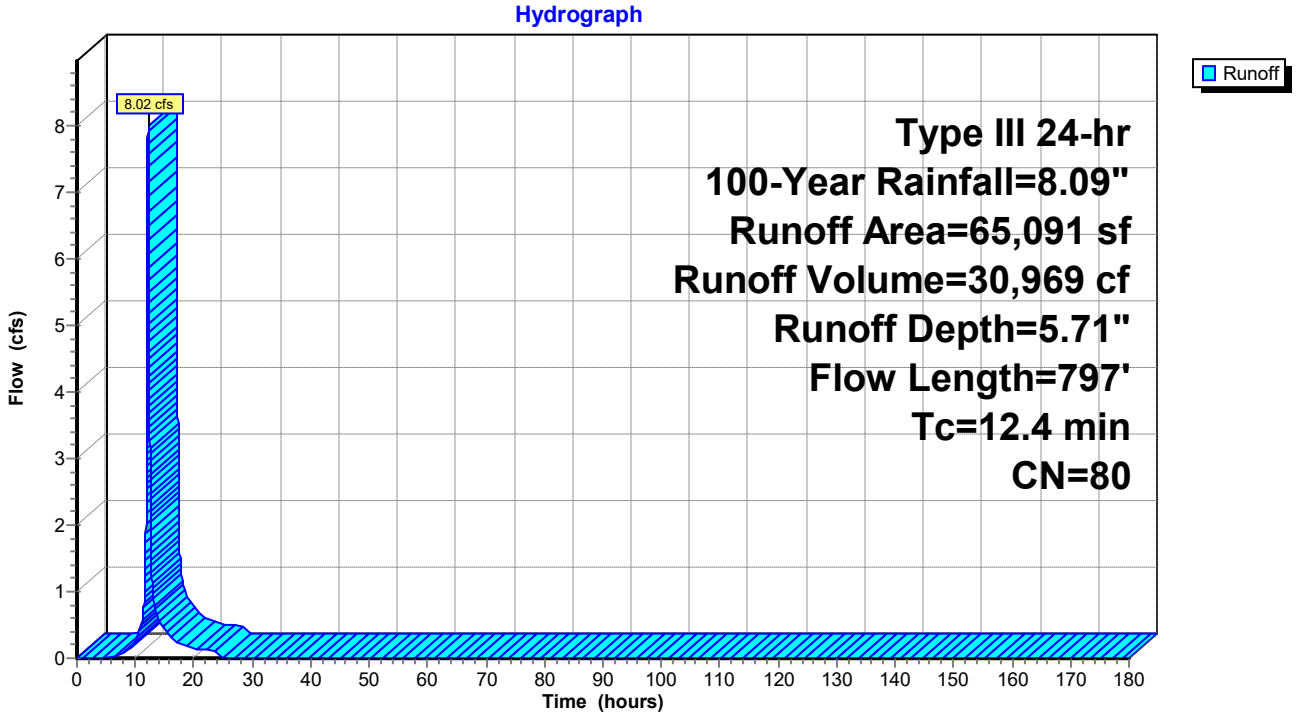
Runoff = 8.02 cfs @ 12.17 hrs, Volume= 30,969 cf, Depth= 5.71"
Routed to Pond P-4P : 2x15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
55,615	80	Pasture/grassland/range, Good, HSG D
9,465	77	Woods, Good, HSG D
11	98	Unconnected pavement, HSG D
65,091	80	Weighted Average
65,080		99.98% Pervious Area
11		0.02% Impervious Area
11		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	100	0.0539	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
6.6	697	0.0626	1.75		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
12.4	797	Total			

Subcatchment P-NE1: North East 1



Hydrograph for Subcatchment P-NE1: North East 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	104.00	8.09	5.71	0.00
2.00	0.16	0.00	0.00	106.00	8.09	5.71	0.00
4.00	0.35	0.00	0.00	108.00	8.09	5.71	0.00
6.00	0.58	0.00	0.01	110.00	8.09	5.71	0.00
8.00	0.92	0.06	0.08	112.00	8.09	5.71	0.00
10.00	1.53	0.30	0.27	114.00	8.09	5.71	0.00
12.00	4.04	2.08	**3.81**	116.00	8.09	5.71	0.00
14.00	6.56	4.29	**0.60**	118.00	8.09	5.71	0.00
16.00	7.17	4.85	0.32	120.00	8.09	5.71	0.00
18.00	7.51	5.16	0.19	122.00	8.09	5.71	0.00
20.00	7.74	5.38	0.15	124.00	8.09	5.71	0.00
22.00	7.93	5.56	0.13	126.00	8.09	5.71	0.00
24.00	**8.09**	**5.71**	0.10	128.00	8.09	5.71	0.00
26.00	8.09	5.71	0.00	130.00	8.09	5.71	0.00
28.00	8.09	5.71	0.00	132.00	8.09	5.71	0.00
30.00	8.09	5.71	0.00	134.00	8.09	5.71	0.00
32.00	8.09	5.71	0.00	136.00	8.09	5.71	0.00
34.00	8.09	5.71	0.00	138.00	8.09	5.71	0.00
36.00	8.09	5.71	0.00	140.00	8.09	5.71	0.00
38.00	8.09	5.71	0.00	142.00	8.09	5.71	0.00
40.00	8.09	5.71	0.00	144.00	8.09	5.71	0.00
42.00	8.09	5.71	0.00	146.00	8.09	5.71	0.00
44.00	8.09	5.71	0.00	148.00	8.09	5.71	0.00
46.00	8.09	5.71	0.00	150.00	8.09	5.71	0.00
48.00	8.09	5.71	0.00	152.00	8.09	5.71	0.00
50.00	8.09	5.71	0.00	154.00	8.09	5.71	0.00
52.00	8.09	5.71	0.00	156.00	8.09	5.71	0.00
54.00	8.09	5.71	0.00	158.00	8.09	5.71	0.00
56.00	8.09	5.71	0.00	160.00	8.09	5.71	0.00
58.00	8.09	5.71	0.00	162.00	8.09	5.71	0.00
60.00	8.09	5.71	0.00	164.00	8.09	5.71	0.00
62.00	8.09	5.71	0.00	166.00	8.09	5.71	0.00
64.00	8.09	5.71	0.00	168.00	8.09	5.71	0.00
66.00	8.09	5.71	0.00	170.00	8.09	5.71	0.00
68.00	8.09	5.71	0.00	172.00	8.09	5.71	0.00
70.00	8.09	5.71	0.00	174.00	8.09	5.71	0.00
72.00	8.09	5.71	0.00	176.00	8.09	5.71	0.00
74.00	8.09	5.71	0.00	178.00	8.09	5.71	0.00
76.00	8.09	5.71	0.00	180.00	8.09	5.71	0.00
78.00	8.09	5.71	0.00				
80.00	8.09	5.71	0.00				
82.00	8.09	5.71	0.00				
84.00	8.09	5.71	0.00				
86.00	8.09	5.71	0.00				
88.00	8.09	5.71	0.00				
90.00	8.09	5.71	0.00				
92.00	8.09	5.71	0.00				
94.00	8.09	5.71	0.00				
96.00	8.09	5.71	0.00				
98.00	8.09	5.71	0.00				
100.00	8.09	5.71	0.00				
102.00	8.09	5.71	0.00				

Summary for Subcatchment P-NE2: North East 2

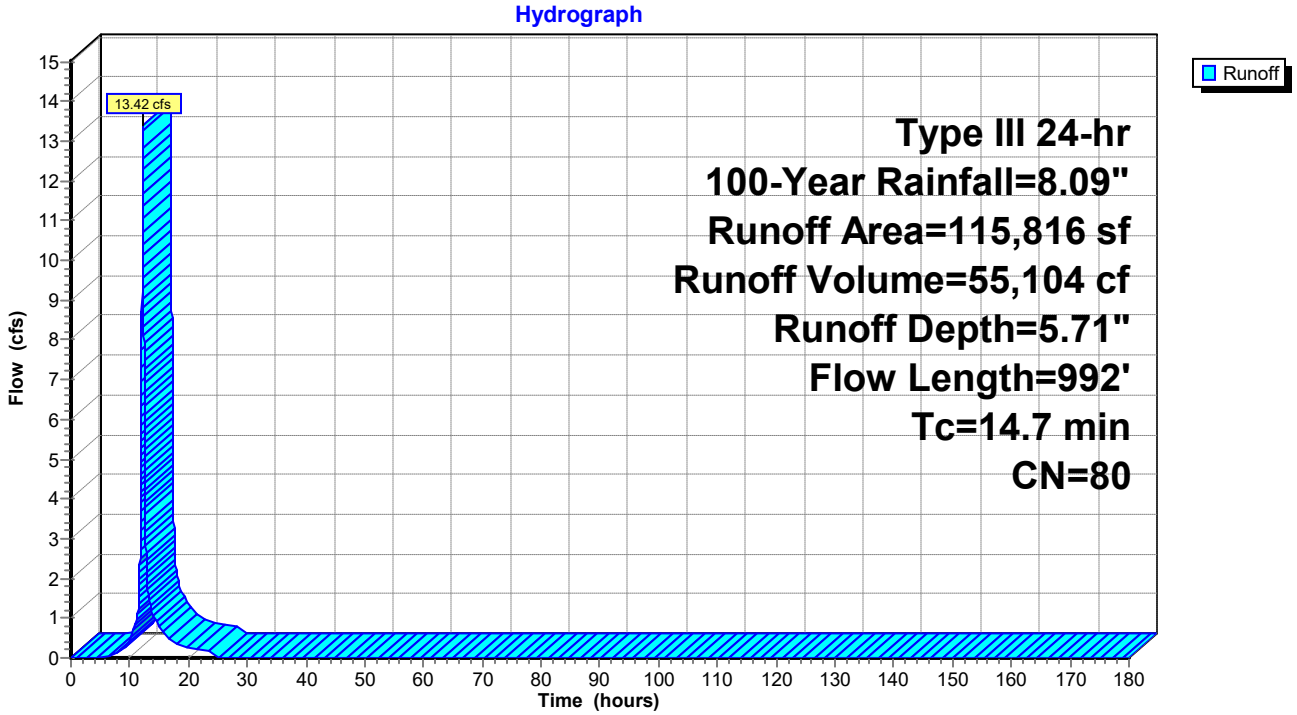
Runoff = 13.42 cfs @ 12.20 hrs, Volume= 55,104 cf, Depth= 5.71"
Routed to Pond 3.5P : 15" CPP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
115,767	80	Pasture/grassland/range, Good, HSG D
49	98	Unconnected pavement, HSG D
115,816	80	Weighted Average
115,767		99.96% Pervious Area
49		0.04% Impervious Area
49		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0558	0.29		**Sheet Flow, AB** Range n= 0.130 P2= 3.29"
9.0	892	0.0554	1.65		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
14.7	992	Total			

Subcatchment P-NE2: North East 2



Hydrograph for Subcatchment P-NE2: North East 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.01
8.00	0.92	0.06	0.13
10.00	1.53	0.30	0.48
12.00	4.04	2.08	**6.09**
14.00	6.56	4.29	**1.08**
16.00	7.17	4.85	0.57
18.00	7.51	5.16	0.35
20.00	7.74	5.38	0.27
22.00	7.93	5.56	0.22
24.00	**8.09**	**5.71**	0.18
26.00	8.09	5.71	0.00
28.00	8.09	5.71	0.00
30.00	8.09	5.71	0.00
32.00	8.09	5.71	0.00
34.00	8.09	5.71	0.00
36.00	8.09	5.71	0.00
38.00	8.09	5.71	0.00
40.00	8.09	5.71	0.00
42.00	8.09	5.71	0.00
44.00	8.09	5.71	0.00
46.00	8.09	5.71	0.00
48.00	8.09	5.71	0.00
50.00	8.09	5.71	0.00
52.00	8.09	5.71	0.00
54.00	8.09	5.71	0.00
56.00	8.09	5.71	0.00
58.00	8.09	5.71	0.00
60.00	8.09	5.71	0.00
62.00	8.09	5.71	0.00
64.00	8.09	5.71	0.00
66.00	8.09	5.71	0.00
68.00	8.09	5.71	0.00
70.00	8.09	5.71	0.00
72.00	8.09	5.71	0.00
74.00	8.09	5.71	0.00
76.00	8.09	5.71	0.00
78.00	8.09	5.71	0.00
80.00	8.09	5.71	0.00
82.00	8.09	5.71	0.00
84.00	8.09	5.71	0.00
86.00	8.09	5.71	0.00
88.00	8.09	5.71	0.00
90.00	8.09	5.71	0.00
92.00	8.09	5.71	0.00
94.00	8.09	5.71	0.00
96.00	8.09	5.71	0.00
98.00	8.09	5.71	0.00
100.00	8.09	5.71	0.00
102.00	8.09	5.71	0.00
104.00	8.09	5.71	0.00
106.00	8.09	5.71	0.00
108.00	8.09	5.71	0.00
110.00	8.09	5.71	0.00
112.00	8.09	5.71	0.00
114.00	8.09	5.71	0.00
116.00	8.09	5.71	0.00
118.00	8.09	5.71	0.00
120.00	8.09	5.71	0.00
122.00	8.09	5.71	0.00
124.00	8.09	5.71	0.00
126.00	8.09	5.71	0.00
128.00	8.09	5.71	0.00
130.00	8.09	5.71	0.00
132.00	8.09	5.71	0.00
134.00	8.09	5.71	0.00
136.00	8.09	5.71	0.00
138.00	8.09	5.71	0.00
140.00	8.09	5.71	0.00
142.00	8.09	5.71	0.00
144.00	8.09	5.71	0.00
146.00	8.09	5.71	0.00
148.00	8.09	5.71	0.00
150.00	8.09	5.71	0.00
152.00	8.09	5.71	0.00
154.00	8.09	5.71	0.00
156.00	8.09	5.71	0.00
158.00	8.09	5.71	0.00
160.00	8.09	5.71	0.00
162.00	8.09	5.71	0.00
164.00	8.09	5.71	0.00
166.00	8.09	5.71	0.00
168.00	8.09	5.71	0.00
170.00	8.09	5.71	0.00
172.00	8.09	5.71	0.00
174.00	8.09	5.71	0.00
176.00	8.09	5.71	0.00
178.00	8.09	5.71	0.00
180.00	8.09	5.71	0.00

Summary for Subcatchment P-SE: South East

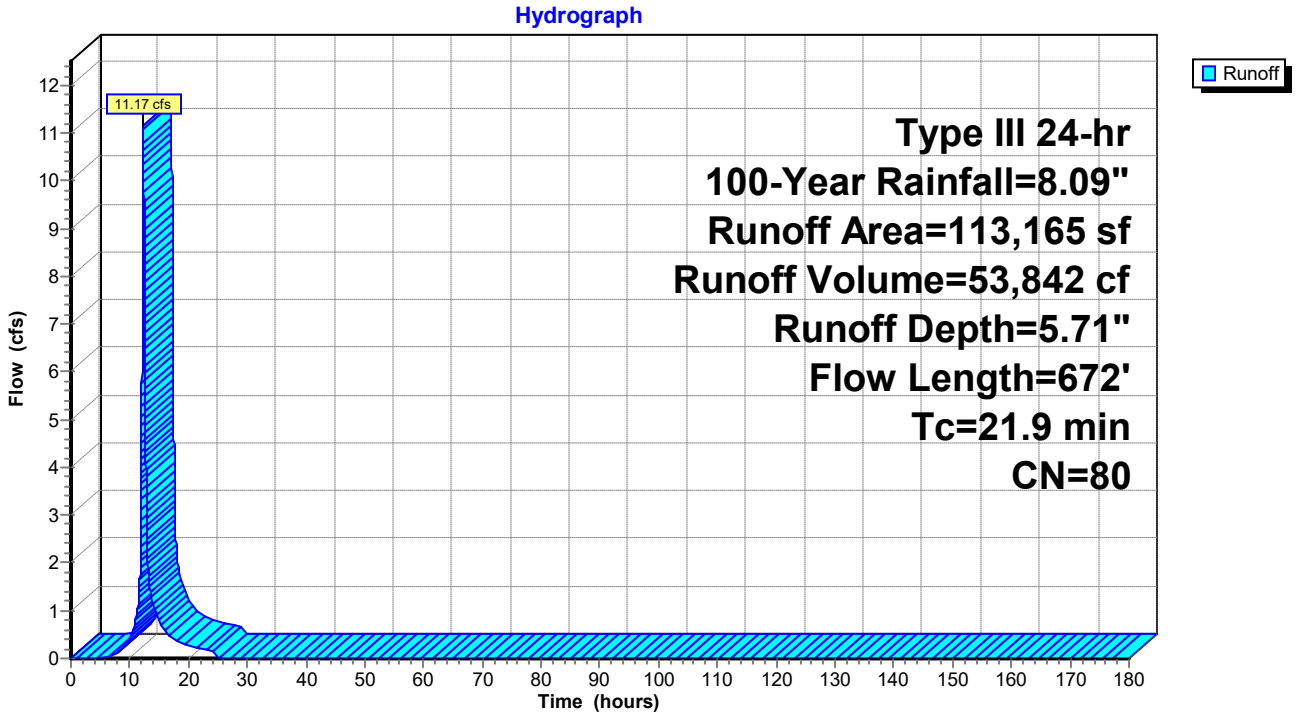
Runoff = 11.17 cfs @ 12.29 hrs, Volume= 53,842 cf, Depth= 5.71"
Routed to Reach P-5P : Unknown

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
110,691	80	Pasture/grassland/range, Good, HSG D
1,612	77	Woods, Good, HSG D
828	96	Gravel surface, HSG D
34	98	Unconnected pavement, HSG D
113,165	80	Weighted Average
113,131		99.97% Pervious Area
34		0.03% Impervious Area
34		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0428	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	521	0.0416	1.43		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.2	51	0.0277	3.86	17.37	**Trap/Vee/Rect Channel Flow, CD** Bot.W=4.00' D=0.50' Z= 10.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
21.9	672	Total			

Subcatchment P-SE: South East



Hydrograph for Subcatchment P-SE: South East

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.01
8.00	0.92	0.06	0.12
10.00	1.53	0.30	0.44
12.00	4.04	2.08	**4.35**
14.00	6.56	4.29	**1.10**
16.00	7.17	4.85	0.59
18.00	7.51	5.16	0.35
20.00	7.74	5.38	0.27
22.00	7.93	5.56	0.22
24.00	**8.09**	**5.71**	0.18
26.00	8.09	5.71	0.00
28.00	8.09	5.71	0.00
30.00	8.09	5.71	0.00
32.00	8.09	5.71	0.00
34.00	8.09	5.71	0.00
36.00	8.09	5.71	0.00
38.00	8.09	5.71	0.00
40.00	8.09	5.71	0.00
42.00	8.09	5.71	0.00
44.00	8.09	5.71	0.00
46.00	8.09	5.71	0.00
48.00	8.09	5.71	0.00
50.00	8.09	5.71	0.00
52.00	8.09	5.71	0.00
54.00	8.09	5.71	0.00
56.00	8.09	5.71	0.00
58.00	8.09	5.71	0.00
60.00	8.09	5.71	0.00
62.00	8.09	5.71	0.00
64.00	8.09	5.71	0.00
66.00	8.09	5.71	0.00
68.00	8.09	5.71	0.00
70.00	8.09	5.71	0.00
72.00	8.09	5.71	0.00
74.00	8.09	5.71	0.00
76.00	8.09	5.71	0.00
78.00	8.09	5.71	0.00
80.00	8.09	5.71	0.00
82.00	8.09	5.71	0.00
84.00	8.09	5.71	0.00
86.00	8.09	5.71	0.00
88.00	8.09	5.71	0.00
90.00	8.09	5.71	0.00
92.00	8.09	5.71	0.00
94.00	8.09	5.71	0.00
96.00	8.09	5.71	0.00
98.00	8.09	5.71	0.00
100.00	8.09	5.71	0.00
102.00	8.09	5.71	0.00
104.00	8.09	5.71	0.00
106.00	8.09	5.71	0.00
108.00	8.09	5.71	0.00
110.00	8.09	5.71	0.00
112.00	8.09	5.71	0.00
114.00	8.09	5.71	0.00
116.00	8.09	5.71	0.00
118.00	8.09	5.71	0.00
120.00	8.09	5.71	0.00
122.00	8.09	5.71	0.00
124.00	8.09	5.71	0.00
126.00	8.09	5.71	0.00
128.00	8.09	5.71	0.00
130.00	8.09	5.71	0.00
132.00	8.09	5.71	0.00
134.00	8.09	5.71	0.00
136.00	8.09	5.71	0.00
138.00	8.09	5.71	0.00
140.00	8.09	5.71	0.00
142.00	8.09	5.71	0.00
144.00	8.09	5.71	0.00
146.00	8.09	5.71	0.00
148.00	8.09	5.71	0.00
150.00	8.09	5.71	0.00
152.00	8.09	5.71	0.00
154.00	8.09	5.71	0.00
156.00	8.09	5.71	0.00
158.00	8.09	5.71	0.00
160.00	8.09	5.71	0.00
162.00	8.09	5.71	0.00
164.00	8.09	5.71	0.00
166.00	8.09	5.71	0.00
168.00	8.09	5.71	0.00
170.00	8.09	5.71	0.00
172.00	8.09	5.71	0.00
174.00	8.09	5.71	0.00
176.00	8.09	5.71	0.00
178.00	8.09	5.71	0.00
180.00	8.09	5.71	0.00

Summary for Subcatchment P-W: West

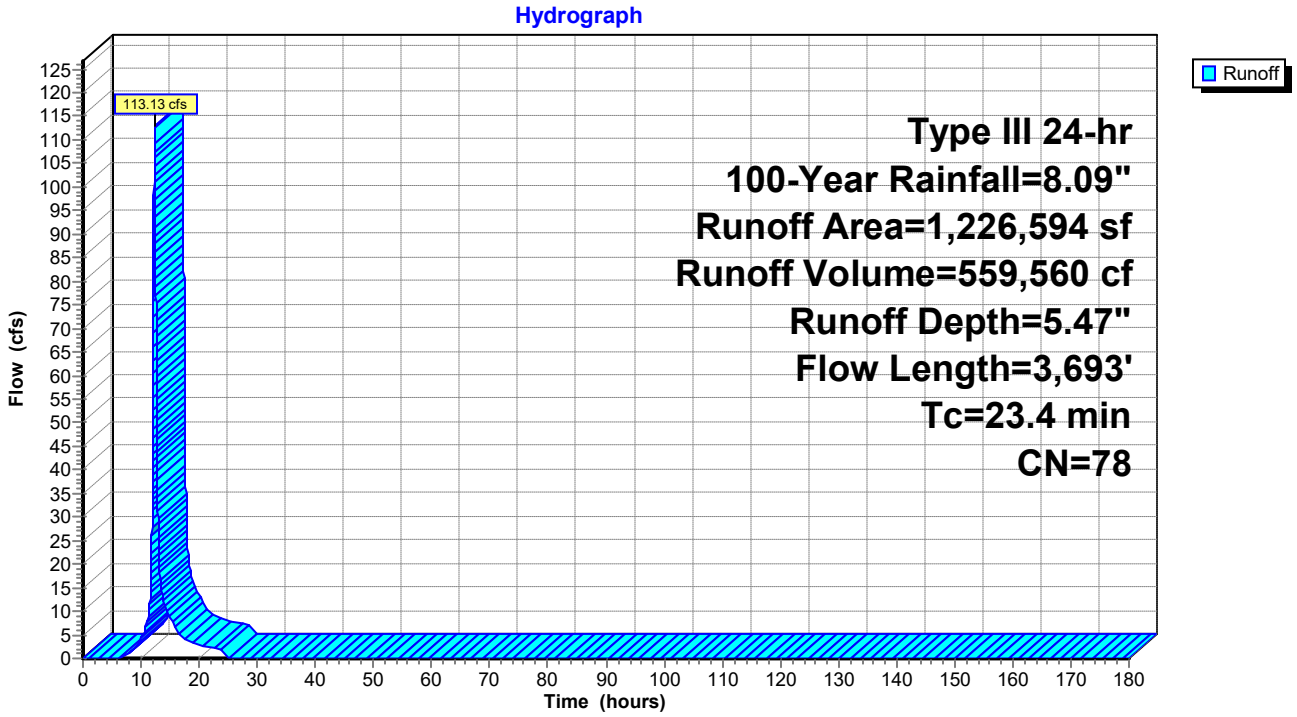
Runoff = 113.13 cfs @ 12.31 hrs, Volume= 559,560 cf, Depth= 5.47"
Routed to Reach P-DP-W : Watts Stream

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
230,227	74	Pasture/grassland/range, Good, HSG C
392,386	80	Pasture/grassland/range, Good, HSG D
40,930	70	Woods, Good, HSG C
521,429	77	Woods, Good, HSG D
35,945	96	Gravel surface, HSG C
444	96	Gravel surface, HSG D
4,766	98	Unconnected pavement, HSG C
467	98	Unconnected pavement, HSG D
1,226,594	78	Weighted Average
1,221,361		99.57% Pervious Area
5,233		0.43% Impervious Area
5,233		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	15	0.0814	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.29"
4.8	85	0.0623	0.29		**Sheet Flow, BC** Range n= 0.130 P2= 3.29"
5.9	685	0.0763	1.93		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
0.1	75	0.0926	10.68	128.14	**Trap/Vee/Rect Channel Flow, DE** Bot.W=4.00' D=1.00' Z= 8.0 '/' Top.W=20.00' n= 0.030 Earth, grassed & winding
1.1	187	0.1510	2.72		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
1.7	174	0.1201	1.73		**Shallow Concentrated Flow, FG** Woodland Kv= 5.0 fps
3.1	214	0.0525	1.15		**Shallow Concentrated Flow, GH** Woodland Kv= 5.0 fps
0.6	73	0.1513	1.94		**Shallow Concentrated Flow, HI** Woodland Kv= 5.0 fps
0.9	49	0.0338	0.92		**Shallow Concentrated Flow, IJ** Woodland Kv= 5.0 fps
2.6	2,136	0.0318	13.70	945.01	**Trap/Vee/Rect Channel Flow, JK** Bot.W=11.00' D=3.00' Z= 4.0 '/' Top.W=35.00' n= 0.030 Earth, grassed & winding
23.4	3,693	Total			

Subcatchment P-W: West



Hydrograph for Subcatchment P-W: West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.00	0.00
4.00	0.35	0.00	0.00
6.00	0.58	0.00	0.00
8.00	0.92	0.04	0.98
10.00	1.53	0.25	4.15
12.00	4.04	1.92	**41.80**
14.00	6.56	4.08	**11.85**
16.00	7.17	4.63	6.30
18.00	7.51	4.94	3.74
20.00	7.74	5.15	2.86
22.00	7.93	5.33	2.36
24.00	**8.09**	**5.47**	1.89
26.00	8.09	5.47	0.00
28.00	8.09	5.47	0.00
30.00	8.09	5.47	0.00
32.00	8.09	5.47	0.00
34.00	8.09	5.47	0.00
36.00	8.09	5.47	0.00
38.00	8.09	5.47	0.00
40.00	8.09	5.47	0.00
42.00	8.09	5.47	0.00
44.00	8.09	5.47	0.00
46.00	8.09	5.47	0.00
48.00	8.09	5.47	0.00
50.00	8.09	5.47	0.00
52.00	8.09	5.47	0.00
54.00	8.09	5.47	0.00
56.00	8.09	5.47	0.00
58.00	8.09	5.47	0.00
60.00	8.09	5.47	0.00
62.00	8.09	5.47	0.00
64.00	8.09	5.47	0.00
66.00	8.09	5.47	0.00
68.00	8.09	5.47	0.00
70.00	8.09	5.47	0.00
72.00	8.09	5.47	0.00
74.00	8.09	5.47	0.00
76.00	8.09	5.47	0.00
78.00	8.09	5.47	0.00
80.00	8.09	5.47	0.00
82.00	8.09	5.47	0.00
84.00	8.09	5.47	0.00
86.00	8.09	5.47	0.00
88.00	8.09	5.47	0.00
90.00	8.09	5.47	0.00
92.00	8.09	5.47	0.00
94.00	8.09	5.47	0.00
96.00	8.09	5.47	0.00
98.00	8.09	5.47	0.00
100.00	8.09	5.47	0.00
102.00	8.09	5.47	0.00
104.00	8.09	5.47	0.00
106.00	8.09	5.47	0.00
108.00	8.09	5.47	0.00
110.00	8.09	5.47	0.00
112.00	8.09	5.47	0.00
114.00	8.09	5.47	0.00
116.00	8.09	5.47	0.00
118.00	8.09	5.47	0.00
120.00	8.09	5.47	0.00
122.00	8.09	5.47	0.00
124.00	8.09	5.47	0.00
126.00	8.09	5.47	0.00
128.00	8.09	5.47	0.00
130.00	8.09	5.47	0.00
132.00	8.09	5.47	0.00
134.00	8.09	5.47	0.00
136.00	8.09	5.47	0.00
138.00	8.09	5.47	0.00
140.00	8.09	5.47	0.00
142.00	8.09	5.47	0.00
144.00	8.09	5.47	0.00
146.00	8.09	5.47	0.00
148.00	8.09	5.47	0.00
150.00	8.09	5.47	0.00
152.00	8.09	5.47	0.00
154.00	8.09	5.47	0.00
156.00	8.09	5.47	0.00
158.00	8.09	5.47	0.00
160.00	8.09	5.47	0.00
162.00	8.09	5.47	0.00
164.00	8.09	5.47	0.00
166.00	8.09	5.47	0.00
168.00	8.09	5.47	0.00
170.00	8.09	5.47	0.00
172.00	8.09	5.47	0.00
174.00	8.09	5.47	0.00
176.00	8.09	5.47	0.00
178.00	8.09	5.47	0.00
180.00	8.09	5.47	0.00

Summary for Subcatchment WQS-S2: Swale Subcatchment

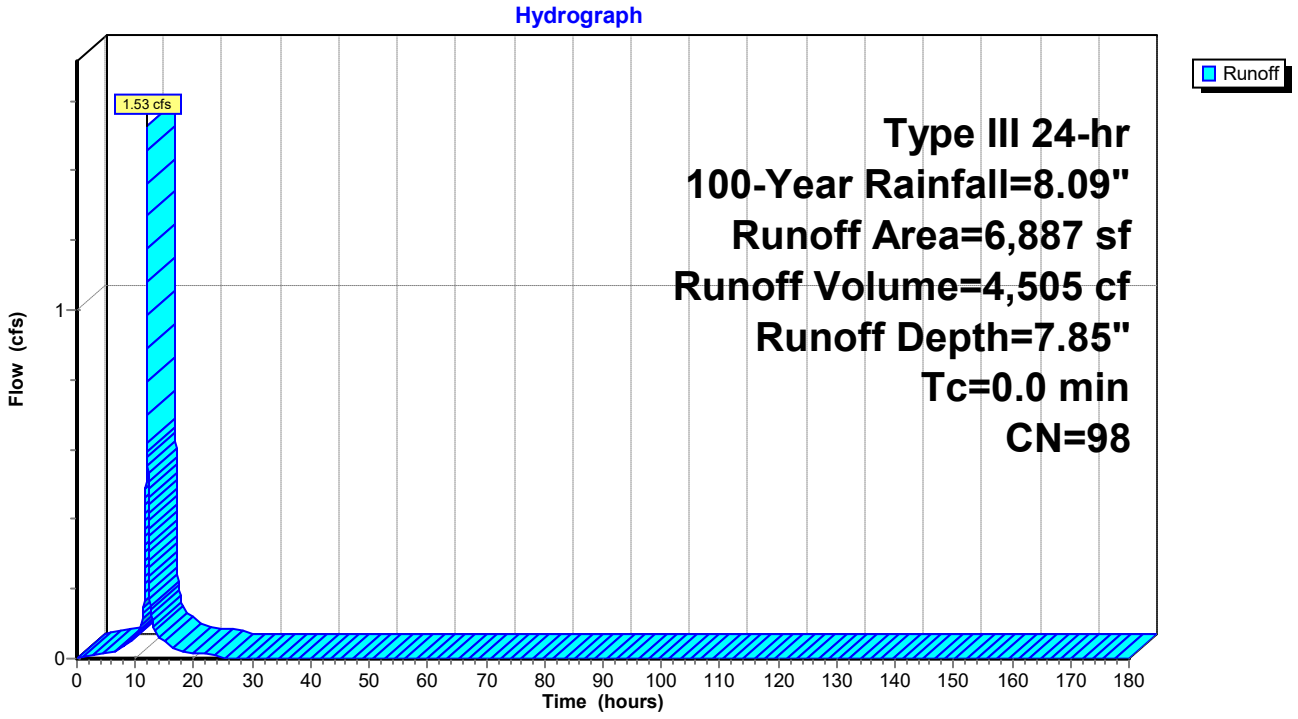
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 1.53 cfs @ 12.00 hrs, Volume= 4,505 cf, Depth= 7.85"
Routed to Pond 12P : Water Quality Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.09"

Area (sf)	CN	Description
6,887	98	Water Surface, 0% imp, HSG D
6,887		100.00% Pervious Area

Subcatchment WQS-S2: Swale Subcatchment



Hydrograph for Subcatchment WQS-S2: Swale Subcatchment

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.00	0.16	0.05	0.01
4.00	0.35	0.18	0.01
6.00	0.58	0.39	0.02
8.00	0.92	0.72	0.03
10.00	1.53	1.31	0.06
12.00	4.04	3.81	**1.53**
14.00	6.56	6.32	0.06
16.00	7.17	6.93	0.03
18.00	7.51	7.27	0.02
20.00	7.74	7.50	0.02
22.00	7.93	7.69	0.01
24.00	**8.09**	**7.85**	0.01
26.00	8.09	7.85	0.00
28.00	8.09	7.85	0.00
30.00	8.09	7.85	0.00
32.00	8.09	7.85	0.00
34.00	8.09	7.85	0.00
36.00	8.09	7.85	0.00
38.00	8.09	7.85	0.00
40.00	8.09	7.85	0.00
42.00	8.09	7.85	0.00
44.00	8.09	7.85	0.00
46.00	8.09	7.85	0.00
48.00	8.09	7.85	0.00
50.00	8.09	7.85	0.00
52.00	8.09	7.85	0.00
54.00	8.09	7.85	0.00
56.00	8.09	7.85	0.00
58.00	8.09	7.85	0.00
60.00	8.09	7.85	0.00
62.00	8.09	7.85	0.00
64.00	8.09	7.85	0.00
66.00	8.09	7.85	0.00
68.00	8.09	7.85	0.00
70.00	8.09	7.85	0.00
72.00	8.09	7.85	0.00
74.00	8.09	7.85	0.00
76.00	8.09	7.85	0.00
78.00	8.09	7.85	0.00
80.00	8.09	7.85	0.00
82.00	8.09	7.85	0.00
84.00	8.09	7.85	0.00
86.00	8.09	7.85	0.00
88.00	8.09	7.85	0.00
90.00	8.09	7.85	0.00
92.00	8.09	7.85	0.00
94.00	8.09	7.85	0.00
96.00	8.09	7.85	0.00
98.00	8.09	7.85	0.00
100.00	8.09	7.85	0.00
102.00	8.09	7.85	0.00
104.00	8.09	7.85	0.00
106.00	8.09	7.85	0.00
108.00	8.09	7.85	0.00
110.00	8.09	7.85	0.00
112.00	8.09	7.85	0.00
114.00	8.09	7.85	0.00
116.00	8.09	7.85	0.00
118.00	8.09	7.85	0.00
120.00	8.09	7.85	0.00
122.00	8.09	7.85	0.00
124.00	8.09	7.85	0.00
126.00	8.09	7.85	0.00
128.00	8.09	7.85	0.00
130.00	8.09	7.85	0.00
132.00	8.09	7.85	0.00
134.00	8.09	7.85	0.00
136.00	8.09	7.85	0.00
138.00	8.09	7.85	0.00
140.00	8.09	7.85	0.00
142.00	8.09	7.85	0.00
144.00	8.09	7.85	0.00
146.00	8.09	7.85	0.00
148.00	8.09	7.85	0.00
150.00	8.09	7.85	0.00
152.00	8.09	7.85	0.00
154.00	8.09	7.85	0.00
156.00	8.09	7.85	0.00
158.00	8.09	7.85	0.00
160.00	8.09	7.85	0.00
162.00	8.09	7.85	0.00
164.00	8.09	7.85	0.00
166.00	8.09	7.85	0.00
168.00	8.09	7.85	0.00
170.00	8.09	7.85	0.00
172.00	8.09	7.85	0.00
174.00	8.09	7.85	0.00
176.00	8.09	7.85	0.00
178.00	8.09	7.85	0.00
180.00	8.09	7.85	0.00

Summary for Reach P-1P: 15" CPP

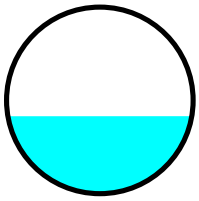
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 69,949 sf, 0.03% Impervious, Inflow Depth = 5.12" for 100-Year event
Inflow = 7.13 cfs @ 12.21 hrs, Volume= 29,862 cf
Outflow = 7.12 cfs @ 12.21 hrs, Volume= 29,862 cf, Atten= 0%, Lag= 0.1 min
Routed to Link P-1L : Lag

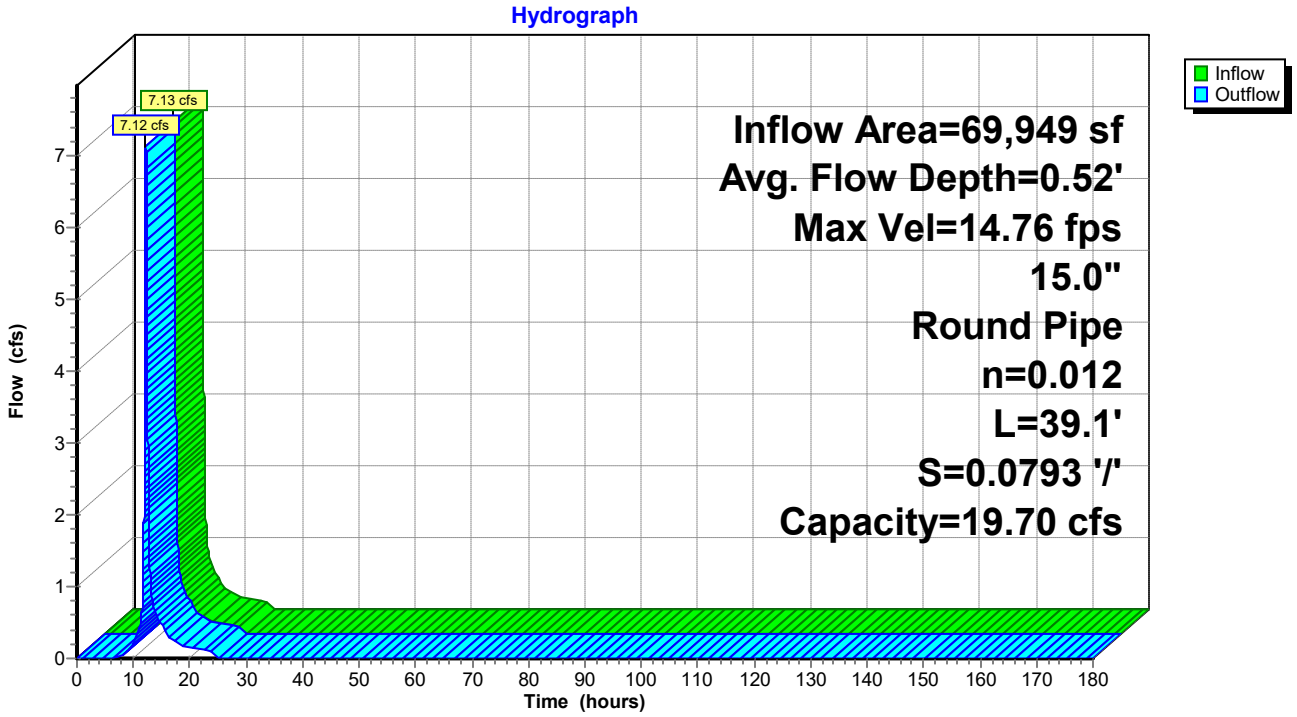
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 14.76 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 5.50 fps, Avg. Travel Time= 0.1 min

Peak Storage= 19 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.52' , Surface Width= 1.23'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 19.70 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 39.1' Slope= 0.0793 '/'
Inlet Invert= 1,668.60', Outlet Invert= 1,665.50'



Reach P-1P: 15" CPP



Hydrograph for Reach P-1P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,668.60	0.00
5.00	0.00	0	1,668.60	0.00
10.00	**0.21**	**2**	**1,668.69**	**0.21**
15.00	**0.46**	**3**	**1,668.73**	**0.46**
20.00	0.16	1	1,668.68	0.16
25.00	0.00	0	1,668.60	0.00
30.00	0.00	0	1,668.60	0.00
35.00	0.00	0	1,668.60	0.00
40.00	0.00	0	1,668.60	0.00
45.00	0.00	0	1,668.60	0.00
50.00	0.00	0	1,668.60	0.00
55.00	0.00	0	1,668.60	0.00
60.00	0.00	0	1,668.60	0.00
65.00	0.00	0	1,668.60	0.00
70.00	0.00	0	1,668.60	0.00
75.00	0.00	0	1,668.60	0.00
80.00	0.00	0	1,668.60	0.00
85.00	0.00	0	1,668.60	0.00
90.00	0.00	0	1,668.60	0.00
95.00	0.00	0	1,668.60	0.00
100.00	0.00	0	1,668.60	0.00
105.00	0.00	0	1,668.60	0.00
110.00	0.00	0	1,668.60	0.00
115.00	0.00	0	1,668.60	0.00
120.00	0.00	0	1,668.60	0.00
125.00	0.00	0	1,668.60	0.00
130.00	0.00	0	1,668.60	0.00
135.00	0.00	0	1,668.60	0.00
140.00	0.00	0	1,668.60	0.00
145.00	0.00	0	1,668.60	0.00
150.00	0.00	0	1,668.60	0.00
155.00	0.00	0	1,668.60	0.00
160.00	0.00	0	1,668.60	0.00
165.00	0.00	0	1,668.60	0.00
170.00	0.00	0	1,668.60	0.00
175.00	0.00	0	1,668.60	0.00
180.00	0.00	0	1,668.60	0.00

Summary for Reach P-2P: 15" CPP

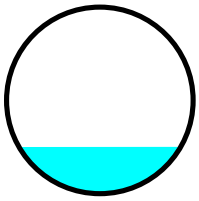
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 19,113 sf, 0.02% Impervious, Inflow Depth = 5.01" for 100-Year event
Inflow = 2.37 cfs @ 12.12 hrs, Volume= 7,974 cf
Outflow = 2.37 cfs @ 12.12 hrs, Volume= 7,974 cf, Atten= 0%, Lag= 0.0 min
Routed to Link P-2L : Lag

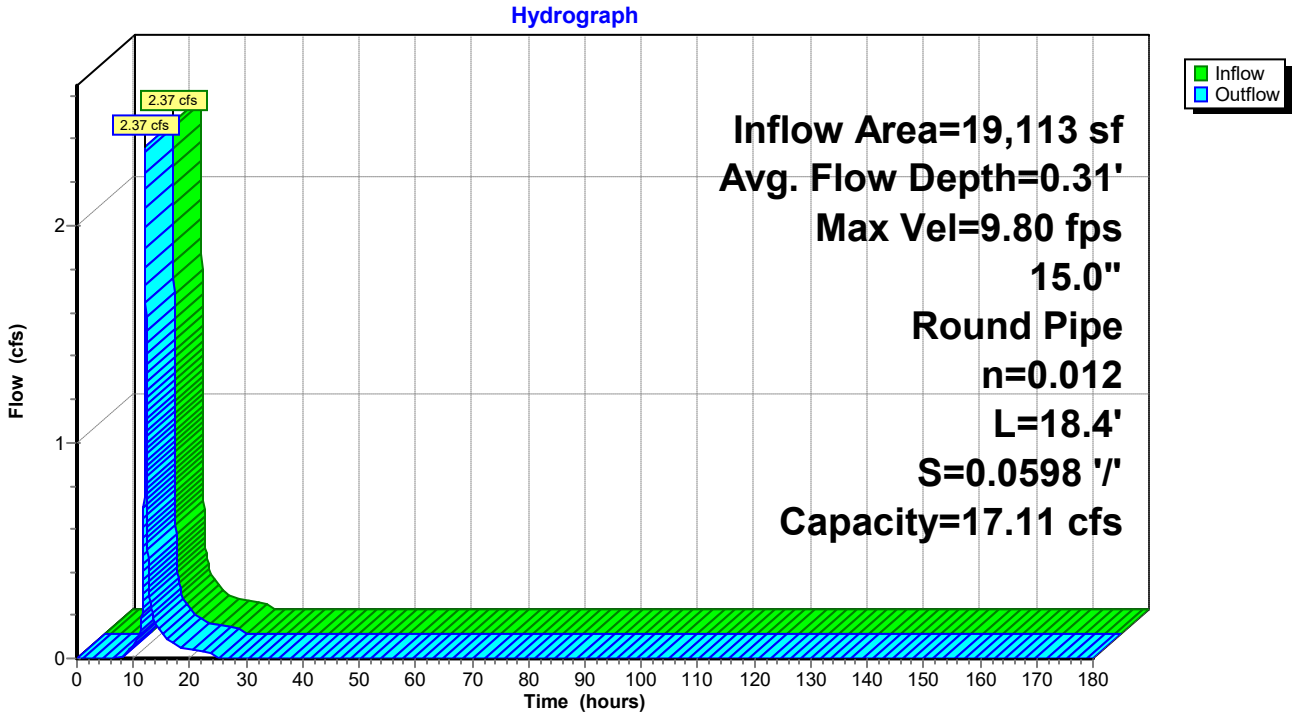
Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.80 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.43 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.31' , Surface Width= 1.08'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.11 cfs

15.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 18.4' Slope= 0.0598 '/'
Inlet Invert= 1,669.70', Outlet Invert= 1,668.60'



Reach P-2P: 15" CPP



Hydrograph for Reach P-2P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	1,669.70	0.00
5.00	0.00	0	1,669.70	0.00
10.00	**0.06**	**0**	**1,669.75**	**0.06**
15.00	**0.12**	**1**	**1,669.78**	**0.12**
20.00	0.04	0	1,669.75	0.04
25.00	0.00	0	1,669.70	0.00
30.00	0.00	0	1,669.70	0.00
35.00	0.00	0	1,669.70	0.00
40.00	0.00	0	1,669.70	0.00
45.00	0.00	0	1,669.70	0.00
50.00	0.00	0	1,669.70	0.00
55.00	0.00	0	1,669.70	0.00
60.00	0.00	0	1,669.70	0.00
65.00	0.00	0	1,669.70	0.00
70.00	0.00	0	1,669.70	0.00
75.00	0.00	0	1,669.70	0.00
80.00	0.00	0	1,669.70	0.00
85.00	0.00	0	1,669.70	0.00
90.00	0.00	0	1,669.70	0.00
95.00	0.00	0	1,669.70	0.00
100.00	0.00	0	1,669.70	0.00
105.00	0.00	0	1,669.70	0.00
110.00	0.00	0	1,669.70	0.00
115.00	0.00	0	1,669.70	0.00
120.00	0.00	0	1,669.70	0.00
125.00	0.00	0	1,669.70	0.00
130.00	0.00	0	1,669.70	0.00
135.00	0.00	0	1,669.70	0.00
140.00	0.00	0	1,669.70	0.00
145.00	0.00	0	1,669.70	0.00
150.00	0.00	0	1,669.70	0.00
155.00	0.00	0	1,669.70	0.00
160.00	0.00	0	1,669.70	0.00
165.00	0.00	0	1,669.70	0.00
170.00	0.00	0	1,669.70	0.00
175.00	0.00	0	1,669.70	0.00
180.00	0.00	0	1,669.70	0.00

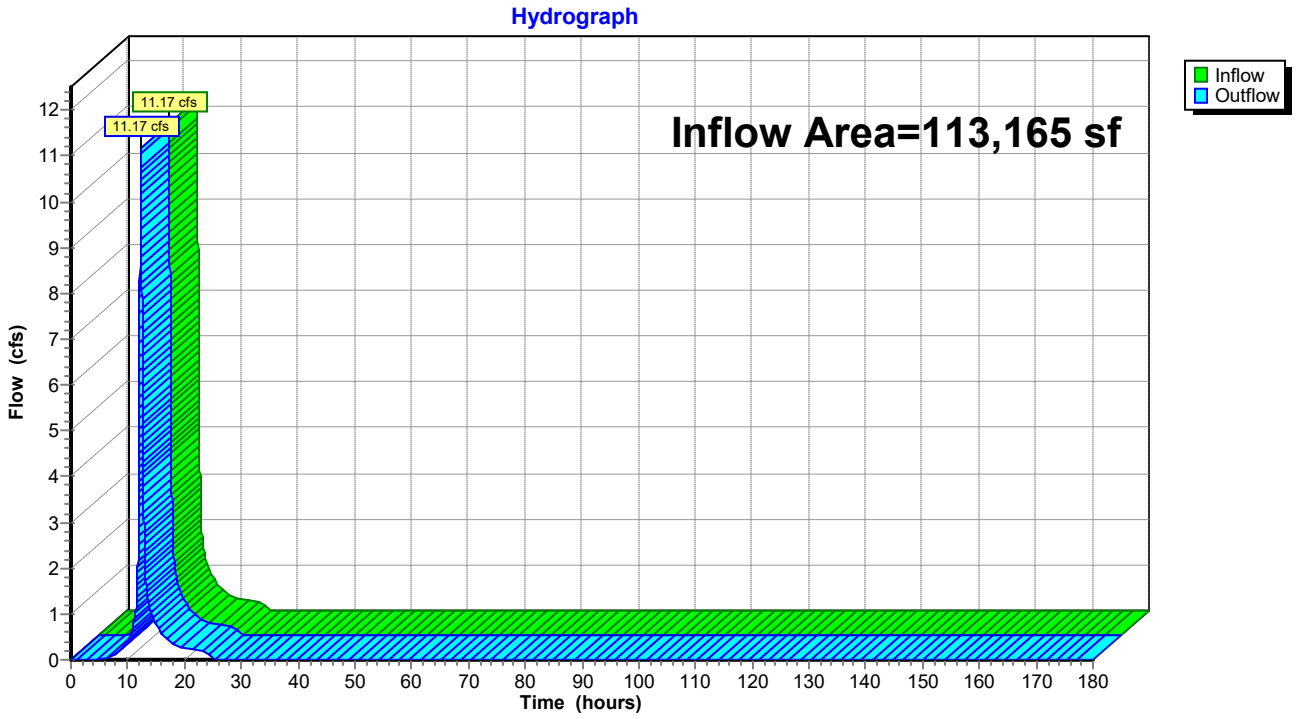
Summary for Reach P-5P: Unknown

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

Inflow Area = 113,165 sf, 0.03% Impervious, Inflow Depth = 5.71" for 100-Year event
Inflow = 11.17 cfs @ 12.29 hrs, Volume= 53,842 cf
Outflow = 11.17 cfs @ 12.29 hrs, Volume= 53,842 cf, Atten= 0%, Lag= 0.0 min
Routed to Link P-5L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-5P: Unknown



Hydrograph for Reach P-5P: Unknown

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.01		0.01	110.00	0.00		0.00
8.00	0.12		0.12	112.00	0.00		0.00
10.00	0.44		0.44	114.00	0.00		0.00
12.00	**4.35**		**4.35**	116.00	0.00		0.00
14.00	**1.10**		**1.10**	118.00	0.00		0.00
16.00	0.59		0.59	120.00	0.00		0.00
18.00	0.35		0.35	122.00	0.00		0.00
20.00	0.27		0.27	124.00	0.00		0.00
22.00	0.22		0.22	126.00	0.00		0.00
24.00	0.18		0.18	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

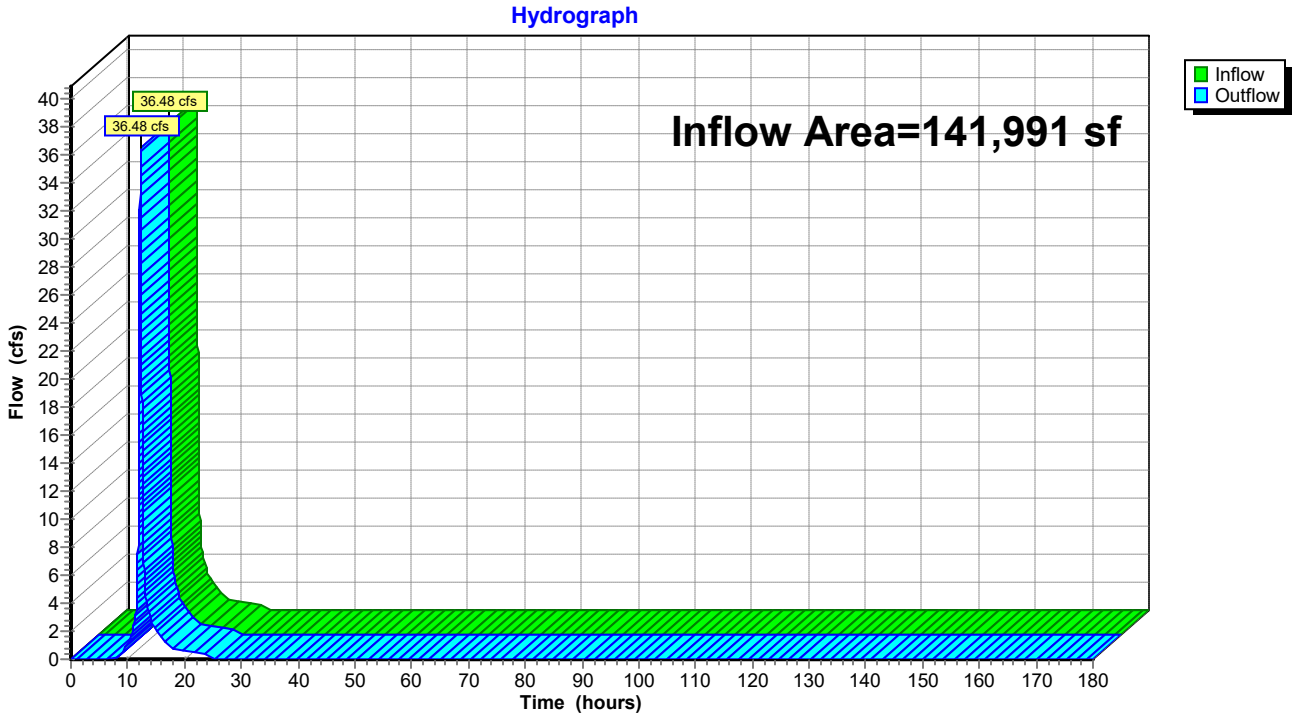
Summary for Reach P-DP-E: Culvert towards Wades Stream

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

Inflow Area = 141,991 sf, 0.03% Impervious, Inflow Depth = 12.12" for 100-Year event
Inflow = 36.48 cfs @ 12.22 hrs, Volume= 143,405 cf
Outflow = 36.48 cfs @ 12.22 hrs, Volume= 143,405 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-DP-E: Culvert towards Wades Stream



Hydrograph for Reach P-DP-E: Culvert towards Wades Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	104.00	0.00		0.00
2.00	0.00		0.00	106.00	0.00		0.00
4.00	0.00		0.00	108.00	0.00		0.00
6.00	0.01		0.01	110.00	0.00		0.00
8.00	0.14		0.14	112.00	0.00		0.00
10.00	1.14		1.14	114.00	0.00		0.00
12.00	**16.14**		**16.14**	116.00	0.00		0.00
14.00	**2.93**		**2.93**	118.00	0.00		0.00
16.00	1.47		1.47	120.00	0.00		0.00
18.00	0.80		0.80	122.00	0.00		0.00
20.00	0.58		0.58	124.00	0.00		0.00
22.00	0.44		0.44	126.00	0.00		0.00
24.00	0.32		0.32	128.00	0.00		0.00
26.00	0.00		0.00	130.00	0.00		0.00
28.00	0.00		0.00	132.00	0.00		0.00
30.00	0.00		0.00	134.00	0.00		0.00
32.00	0.00		0.00	136.00	0.00		0.00
34.00	0.00		0.00	138.00	0.00		0.00
36.00	0.00		0.00	140.00	0.00		0.00
38.00	0.00		0.00	142.00	0.00		0.00
40.00	0.00		0.00	144.00	0.00		0.00
42.00	0.00		0.00	146.00	0.00		0.00
44.00	0.00		0.00	148.00	0.00		0.00
46.00	0.00		0.00	150.00	0.00		0.00
48.00	0.00		0.00	152.00	0.00		0.00
50.00	0.00		0.00	154.00	0.00		0.00
52.00	0.00		0.00	156.00	0.00		0.00
54.00	0.00		0.00	158.00	0.00		0.00
56.00	0.00		0.00	160.00	0.00		0.00
58.00	0.00		0.00	162.00	0.00		0.00
60.00	0.00		0.00	164.00	0.00		0.00
62.00	0.00		0.00	166.00	0.00		0.00
64.00	0.00		0.00	168.00	0.00		0.00
66.00	0.00		0.00	170.00	0.00		0.00
68.00	0.00		0.00	172.00	0.00		0.00
70.00	0.00		0.00	174.00	0.00		0.00
72.00	0.00		0.00	176.00	0.00		0.00
74.00	0.00		0.00	178.00	0.00		0.00
76.00	0.00		0.00	180.00	0.00		0.00
78.00	0.00		0.00				
80.00	0.00		0.00				
82.00	0.00		0.00				
84.00	0.00		0.00				
86.00	0.00		0.00				
88.00	0.00		0.00				
90.00	0.00		0.00				
92.00	0.00		0.00				
94.00	0.00		0.00				
96.00	0.00		0.00				
98.00	0.00		0.00				
100.00	0.00		0.00				
102.00	0.00		0.00				

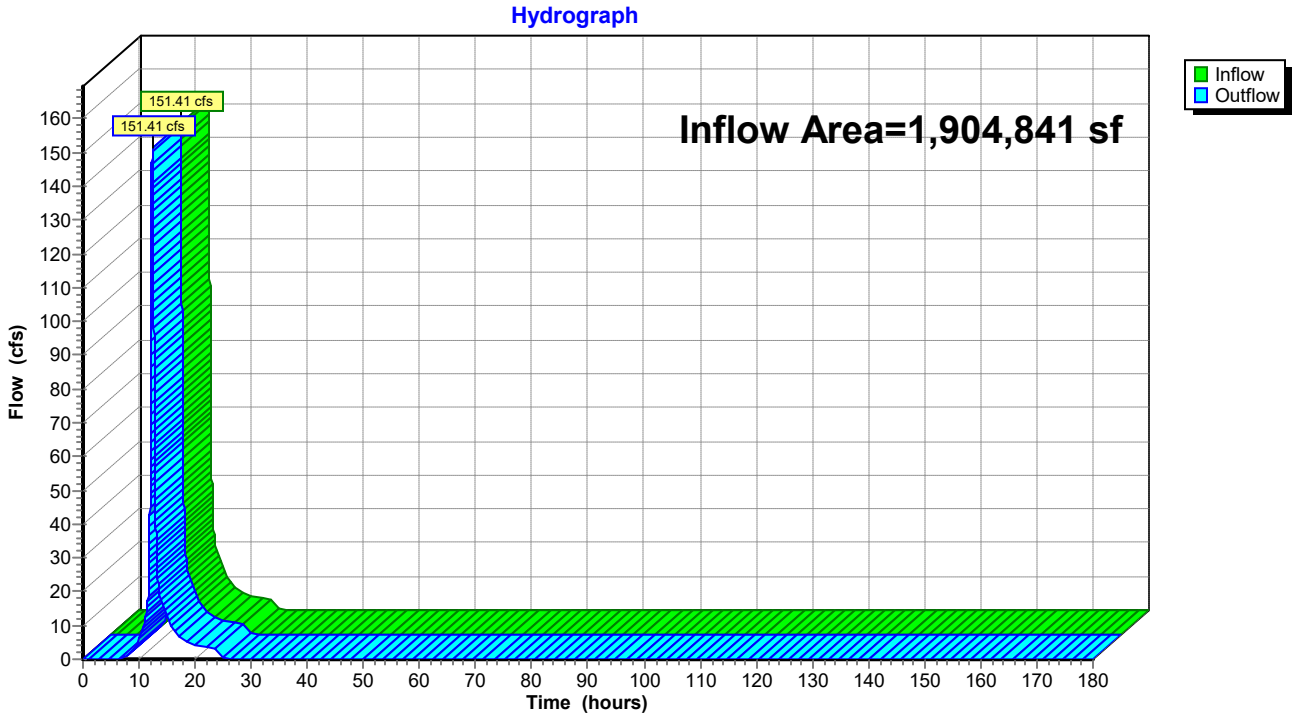
Summary for Reach P-DP-W: Watts Stream

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

Inflow Area = 1,904,841 sf, 0.60% Impervious, Inflow Depth = 5.03" for 100-Year event
Inflow = 151.41 cfs @ 12.35 hrs, Volume= 797,715 cf
Outflow = 151.41 cfs @ 12.35 hrs, Volume= 797,715 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Reach P-DP-W: Watts Stream



Hydrograph for Reach P-DP-W: Watts Stream

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00
2.00	0.00		0.00
4.00	0.00		0.00
6.00	0.01		0.01
8.00	1.12		1.12
10.00	5.99		5.99
12.00	**53.05**		**53.05**
14.00	**17.00**		**17.00**
16.00	9.10		9.10
18.00	5.47		5.47
20.00	4.20		4.20
22.00	3.49		3.49
24.00	2.84		2.84
26.00	0.11		0.11
28.00	0.04		0.04
30.00	0.01		0.01
32.00	0.00		0.00
34.00	0.00		0.00
36.00	0.00		0.00
38.00	0.00		0.00
40.00	0.00		0.00
42.00	0.00		0.00
44.00	0.00		0.00
46.00	0.00		0.00
48.00	0.00		0.00
50.00	0.00		0.00
52.00	0.00		0.00
54.00	0.00		0.00
56.00	0.00		0.00
58.00	0.00		0.00
60.00	0.00		0.00
62.00	0.00		0.00
64.00	0.00		0.00
66.00	0.00		0.00
68.00	0.00		0.00
70.00	0.00		0.00
72.00	0.00		0.00
74.00	0.00		0.00
76.00	0.00		0.00
78.00	0.00		0.00
80.00	0.00		0.00
82.00	0.00		0.00
84.00	0.00		0.00
86.00	0.00		0.00
88.00	0.00		0.00
90.00	0.00		0.00
92.00	0.00		0.00
94.00	0.00		0.00
96.00	0.00		0.00
98.00	0.00		0.00
100.00	0.00		0.00
102.00	0.00		0.00
104.00	0.00		0.00
106.00	0.00		0.00
108.00	0.00		0.00
110.00	0.00		0.00
112.00	0.00		0.00
114.00	0.00		0.00
116.00	0.00		0.00
118.00	0.00		0.00
120.00	0.00		0.00
122.00	0.00		0.00
124.00	0.00		0.00
126.00	0.00		0.00
128.00	0.00		0.00
130.00	0.00		0.00
132.00	0.00		0.00
134.00	0.00		0.00
136.00	0.00		0.00
138.00	0.00		0.00
140.00	0.00		0.00
142.00	0.00		0.00
144.00	0.00		0.00
146.00	0.00		0.00
148.00	0.00		0.00
150.00	0.00		0.00
152.00	0.00		0.00
154.00	0.00		0.00
156.00	0.00		0.00
158.00	0.00		0.00
160.00	0.00		0.00
162.00	0.00		0.00
164.00	0.00		0.00
166.00	0.00		0.00
168.00	0.00		0.00
170.00	0.00		0.00
172.00	0.00		0.00
174.00	0.00		0.00
176.00	0.00		0.00
178.00	0.00		0.00
180.00	0.00		0.00

Summary for Pond 2.5P: 12" CPP

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 4.65" for 100-Year event
Inflow = 2.08 cfs @ 12.13 hrs, Volume= 6,027 cf
Outflow = 2.08 cfs @ 12.13 hrs, Volume= 6,027 cf, Atten= 0%, Lag= 0.3 min
Discarded = 0.00 cfs @ 12.13 hrs, Volume= 0 cf
Primary = 2.08 cfs @ 12.13 hrs, Volume= 6,026 cf
Routed to Link 8L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,670.98' @ 12.13 hrs Surf.Area= 32 sf Storage= 10 cf
Flood Elev= 1,672.00' Surf.Area= 123 sf Storage= 84 cf

Plug-Flow detention time= 0.0 min calculated for 6,026 cf (100% of inflow)
Center-of-Mass det. time= 0.0 min (830.3 - 830.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,670.00'	84 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

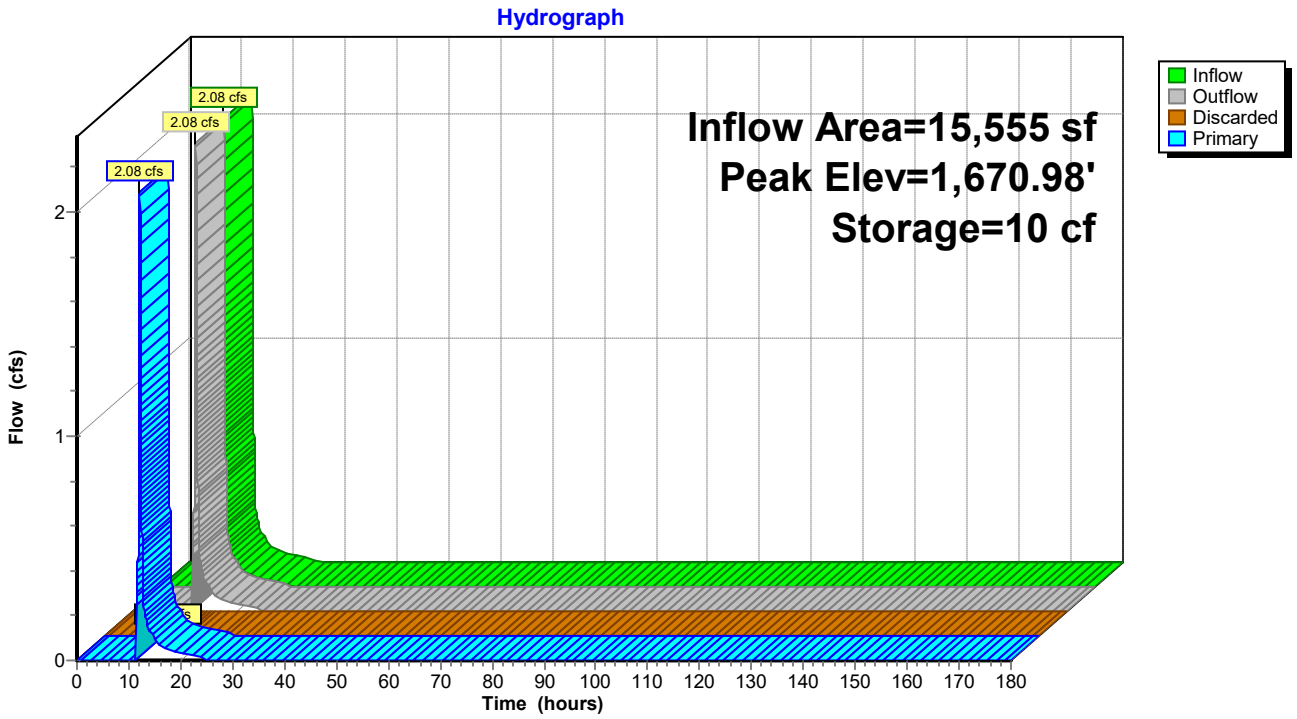
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,670.00	0	1.6	0	0	0
1,671.00	33	20.4	11	11	35
1,672.00	123	39.3	73	84	129

Device	Routing	Invert	Outlet Devices
#1	Primary	1,670.00'	**12.0" Round Culvert** L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,670.00' / 1,669.65' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Discarded	1,670.00'	**0.170 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.00 cfs @ 12.13 hrs HW=1,670.98' (Free Discharge)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=2.08 cfs @ 12.13 hrs HW=1,670.98' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.08 cfs @ 2.66 fps)

Pond 2.5P: 12" CPP



Hydrograph for Pond 2.5P: 12" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,670.00	0.00	0.00	0.00
5.00	0.00	0	1,670.00	0.00	0.00	0.00
10.00	**0.00**	**0**	**1,670.00**	**0.00**	**0.00**	**0.00**
15.00	**0.10**	**0**	**1,670.17**	**0.10**	**0.00**	**0.10**
20.00	0.03	0	1,670.09	0.03	0.00	0.03
25.00	0.00	0	1,670.00	0.00	0.00	0.00
30.00	0.00	0	1,670.00	0.00	0.00	0.00
35.00	0.00	0	1,670.00	0.00	0.00	0.00
40.00	0.00	0	1,670.00	0.00	0.00	0.00
45.00	0.00	0	1,670.00	0.00	0.00	0.00
50.00	0.00	0	1,670.00	0.00	0.00	0.00
55.00	0.00	0	1,670.00	0.00	0.00	0.00
60.00	0.00	0	1,670.00	0.00	0.00	0.00
65.00	0.00	0	1,670.00	0.00	0.00	0.00
70.00	0.00	0	1,670.00	0.00	0.00	0.00
75.00	0.00	0	1,670.00	0.00	0.00	0.00
80.00	0.00	0	1,670.00	0.00	0.00	0.00
85.00	0.00	0	1,670.00	0.00	0.00	0.00
90.00	0.00	0	1,670.00	0.00	0.00	0.00
95.00	0.00	0	1,670.00	0.00	0.00	0.00
100.00	0.00	0	1,670.00	0.00	0.00	0.00
105.00	0.00	0	1,670.00	0.00	0.00	0.00
110.00	0.00	0	1,670.00	0.00	0.00	0.00
115.00	0.00	0	1,670.00	0.00	0.00	0.00
120.00	0.00	0	1,670.00	0.00	0.00	0.00
125.00	0.00	0	1,670.00	0.00	0.00	0.00
130.00	0.00	0	1,670.00	0.00	0.00	0.00
135.00	0.00	0	1,670.00	0.00	0.00	0.00
140.00	0.00	0	1,670.00	0.00	0.00	0.00
145.00	0.00	0	1,670.00	0.00	0.00	0.00
150.00	0.00	0	1,670.00	0.00	0.00	0.00
155.00	0.00	0	1,670.00	0.00	0.00	0.00
160.00	0.00	0	1,670.00	0.00	0.00	0.00
165.00	0.00	0	1,670.00	0.00	0.00	0.00
170.00	0.00	0	1,670.00	0.00	0.00	0.00
175.00	0.00	0	1,670.00	0.00	0.00	0.00
180.00	0.00	0	1,670.00	0.00	0.00	0.00

Summary for Pond 3.5P: 15" CPP

[58] Hint: Peaked 0.08' above defined flood level

Inflow Area = 115,816 sf, 0.04% Impervious, Inflow Depth = 6.33" for 100-Year event
Inflow = 16.16 cfs @ 12.20 hrs, Volume= 61,091 cf
Outflow = 16.11 cfs @ 12.21 hrs, Volume= 61,091 cf, Atten= 0%, Lag= 0.5 min
Discarded = 0.01 cfs @ 12.21 hrs, Volume= 73 cf
Primary = 6.07 cfs @ 12.21 hrs, Volume= 39,017 cf
Routed to Link FS2 : Filter Strip
Secondary = 10.02 cfs @ 12.21 hrs, Volume= 22,001 cf
Routed to Pond P-4P : 2x15" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,663.08' @ 12.21 hrs Surf.Area= 1,086 sf Storage= 1,016 cf
Flood Elev= 1,663.00' Surf.Area= 1,038 sf Storage= 932 cf

Plug-Flow detention time= 1.0 min calculated for 61,088 cf (100% of inflow)
Center-of-Mass det. time= 1.0 min (811.3 - 810.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.50'	2,300 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.50	7	10.9	0	0	7
1,661.00	72	38.7	17	17	117
1,662.00	400	120.2	214	231	1,151
1,662.75	866	168.8	464	694	2,274
1,663.00	1,038	206.2	238	932	3,391
1,664.00	1,727	261.7	1,368	2,300	5,471

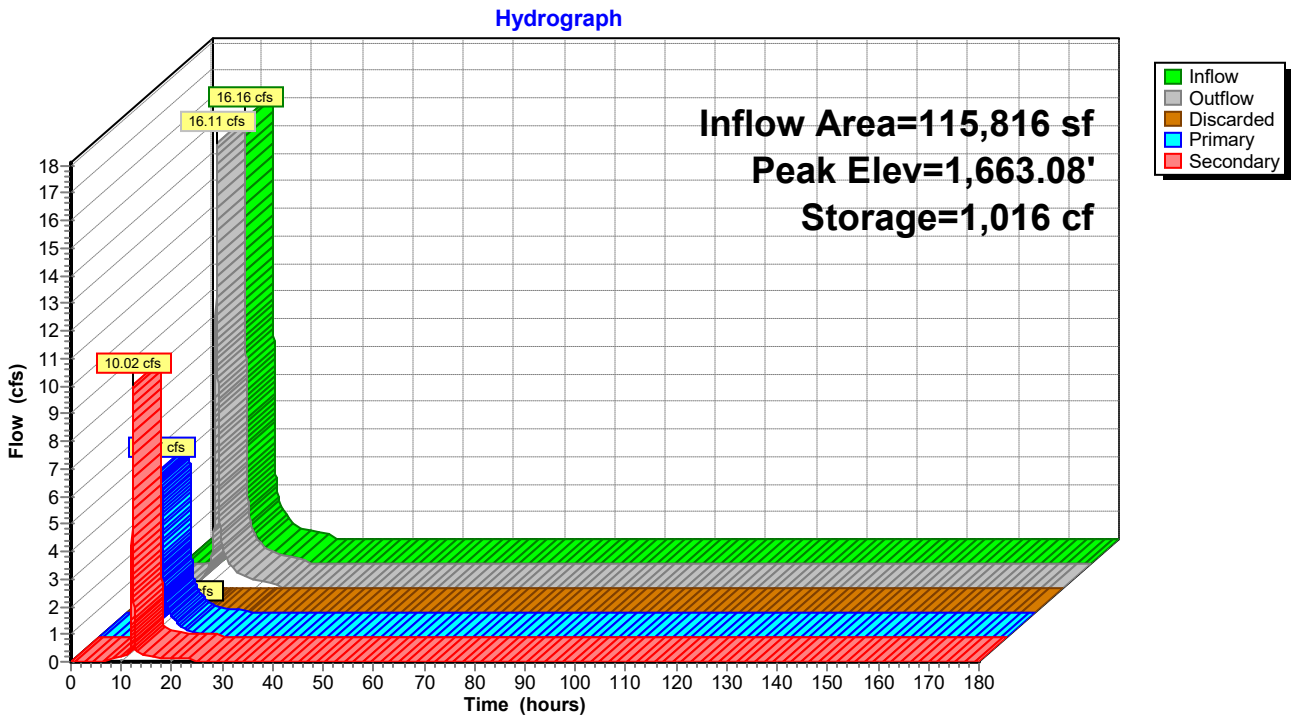
Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.80'	**15.0" Round Culvert** L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.80' / 1,660.00' S= 0.0174 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Discarded	1,660.50'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,663.00'	**Road Overflow, C= 3.27** Offset (feet) 0.00 30.23 30.23 Height (feet) 1.00 0.00 1.00
#4	Secondary	1,660.50'	**4.00' long x 14.50' breadth x 2.25' high Rock Fill** Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#5	Secondary	1,662.75'	**17.4' long + 3.0 '/' SideZ x 1.0' breadth Check Dam** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.01 cfs @ 12.21 hrs HW=1,663.08' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=6.07 cfs @ 12.21 hrs HW=1,663.08' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 6.00 cfs @ 4.89 fps)
└**3=Road Overflow** (Weir Controls 0.07 cfs @ 0.37 fps)

Secondary OutFlow Max=10.00 cfs @ 12.21 hrs HW=1,663.08' TW=1,662.80' (Dynamic Tailwater)
├**4=Rock Fill** (Rockfill Controls 0.90 cfs @ 0.10 fps)
└**5=Check Dam** (Weir Controls 9.10 cfs @ 1.50 fps)

Pond 3.5P: 15" CPP



Hydrograph for Pond 3.5P: 15" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
5.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
10.00	**0.52**	**25**	**1,661.10**	**0.52**	**0.00**	**0.34**	**0.18**
15.00	**0.87**	**38**	**1,661.22**	**0.87**	**0.00**	**0.64**	**0.24**
20.00	0.30	17	1,661.01	0.30	0.00	0.16	0.14
25.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
30.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
35.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
40.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
45.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
50.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
55.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
60.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
65.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
70.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
75.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
80.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
85.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
90.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
95.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
100.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
105.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
110.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
115.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
120.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
125.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
130.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
135.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
140.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
145.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
150.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
155.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
160.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
165.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
170.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
175.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00
180.00	0.00	0	1,660.50	0.00	0.00	0.00	0.00

Summary for Pond 12P: Water Quality Swale

Inflow Area = 193,731 sf, 0.03% Impervious, Inflow Depth = 5.79" for 100-Year event
Inflow = 22.41 cfs @ 12.19 hrs, Volume= 93,403 cf
Outflow = 22.32 cfs @ 12.20 hrs, Volume= 93,403 cf, Atten= 0%, Lag= 0.7 min
Discarded = 0.01 cfs @ 12.20 hrs, Volume= 736 cf
Primary = 1.99 cfs @ 12.20 hrs, Volume= 15,427 cf
Routed to Link 9L : Lag
Secondary = 20.32 cfs @ 12.20 hrs, Volume= 77,240 cf
Routed to Link 7L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,684.95' @ 12.20 hrs Surf.Area= 1,968 sf Storage= 3,157 cf

Plug-Flow detention time= 21.5 min calculated for 93,398 cf (100% of inflow)
Center-of-Mass det. time= 21.6 min (828.1 - 806.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	5,676 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,681.00	25	20.6	0	0	25
1,682.00	297	70.4	136	136	388
1,683.00	717	120.3	492	628	1,152
1,683.50	984	145.2	423	1,051	1,682
1,684.00	1,285	170.2	566	1,617	2,314
1,684.50	1,626	195.1	726	2,343	3,044
1,685.00	2,005	220.1	906	3,249	3,876
1,686.00	2,874	269.9	2,426	5,676	5,834

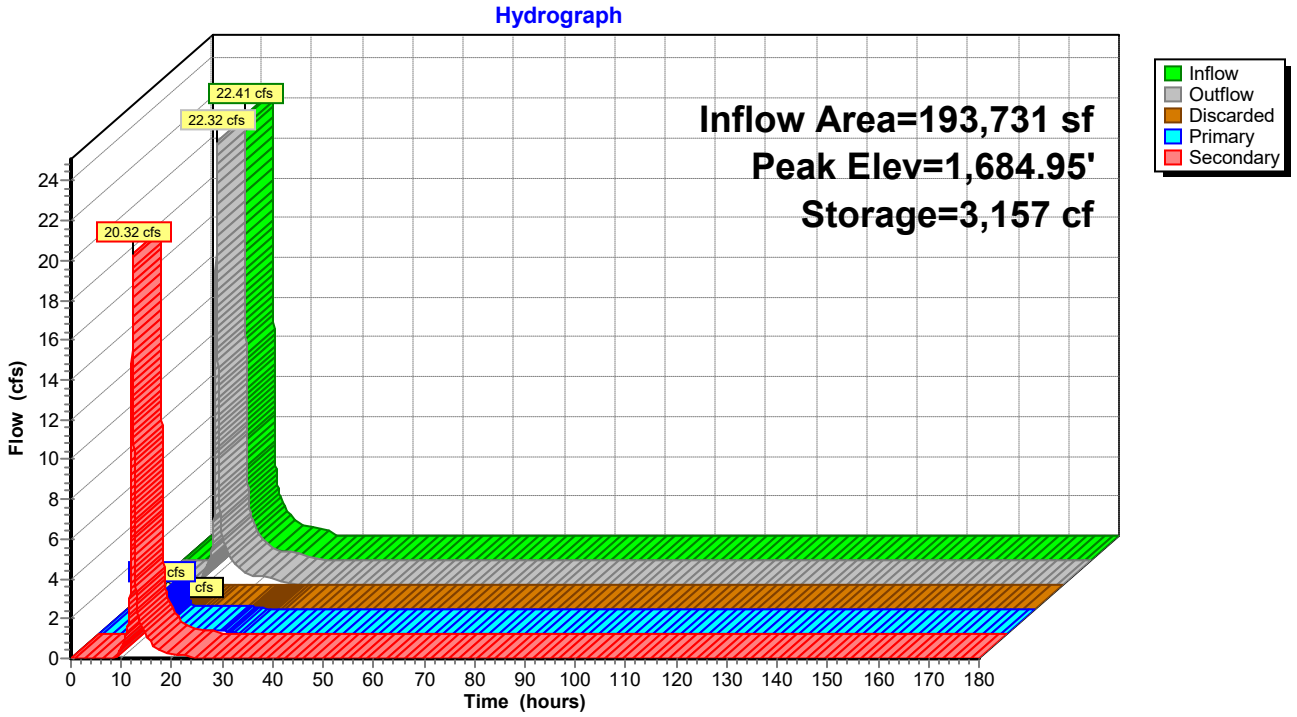
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,681.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,681.50'	**1.00' long x 57.23' breadth x 3.00' high Rock Fill**
			Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#3	Primary	1,684.50'	**1.0' long + 3.0 '/' SideZ x 15.0' breadth Weir DP-W**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#4	Secondary	1,684.00'	**6.0' long + 3.0 '/' SideZ x 18.0' breadth Weir DP-E**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=0.01 cfs @ 12.20 hrs HW=1,684.95' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.99 cfs @ 12.20 hrs HW=1,684.95' TW=0.00' (Dynamic Tailwater)
├**2=Rock Fill** (Rockfill Controls 0.27 cfs @ 0.18 fps)
└**3=Weir DP-W** (Weir Controls 1.72 cfs @ 1.61 fps)

Secondary OutFlow Max=20.31 cfs @ 12.20 hrs HW=1,684.95' TW=0.00' (Dynamic Tailwater)
└**4=Weir DP-E** (Weir Controls 20.31 cfs @ 2.40 fps)

Pond 12P: Water Quality Swale



Hydrograph for Pond 12P: Water Quality Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
5.00	0.02	100	1,681.87	0.01	0.00	0.01	0.00
10.00	**0.83**	**1,761**	**1,684.11**	**0.82**	**0.01**	**0.20**	**0.60**
15.00	**1.34**	**1,835**	**1,684.16**	**1.35**	**0.01**	**0.21**	**1.13**
20.00	0.45	1,697	1,684.06	0.46	0.01	0.20	0.25
25.00	0.00	1,167	1,683.61	0.15	0.01	0.15	0.00
30.00	0.00	92	1,681.83	0.01	0.00	0.01	0.00
35.00	0.00	36	1,681.52	0.00	0.00	0.00	0.00
40.00	0.00	26	1,681.43	0.00	0.00	0.00	0.00
45.00	0.00	18	1,681.34	0.00	0.00	0.00	0.00
50.00	0.00	11	1,681.25	0.00	0.00	0.00	0.00
55.00	0.00	6	1,681.17	0.00	0.00	0.00	0.00
60.00	0.00	3	1,681.09	0.00	0.00	0.00	0.00
65.00	0.00	0	1,681.01	0.00	0.00	0.00	0.00
70.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
75.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
80.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,681.00	0.00	0.00	0.00	0.00

Summary for Pond IT1: Infiltration

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 5.59" for 100-Year event
Inflow = 2.09 cfs @ 12.13 hrs, Volume= 7,248 cf
Outflow = 2.09 cfs @ 12.13 hrs, Volume= 7,248 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 11.15 hrs, Volume= 1,222 cf
Primary = 2.08 cfs @ 12.13 hrs, Volume= 6,027 cf
Routed to Pond 2.5P : 12" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,673.54' @ 12.13 hrs Surf.Area= 625 sf Storage= 974 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 356.1 min (1,163.7 - 807.6)

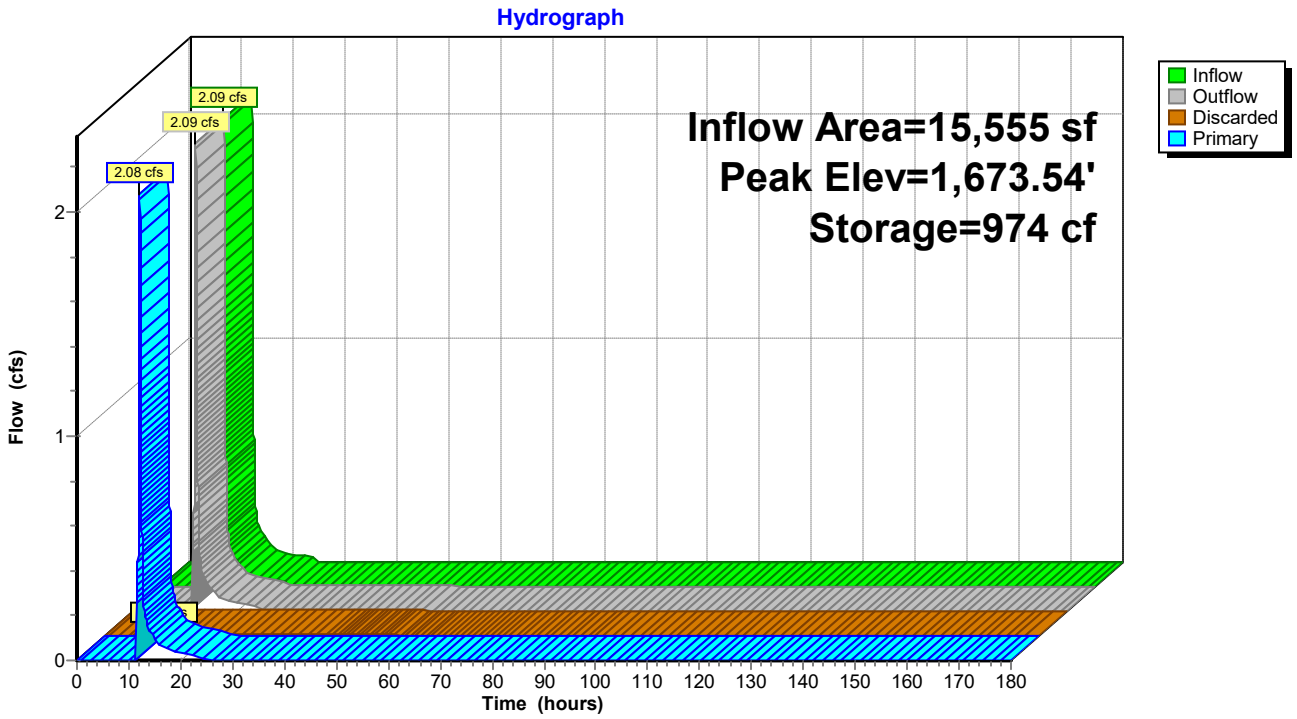
Volume	Invert	Avail.Storage	Storage Description
#1	1,670.45'	637 cf	**6.25'W x 100.00'L x 2.55'H Prismatoid** 1,594 cf Overall x 40.0% Voids
#2	1,673.00'	625 cf	**6.25'W x 100.00'L x 1.00'H Overflow Storage** -Impervious
		1,262 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,670.45'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,673.50'	**100.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 11.15 hrs HW=1,673.01' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=2.08 cfs @ 12.13 hrs HW=1,673.54' TW=1,670.98' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 2.08 cfs @ 0.53 fps)

Pond IT1: Infiltration



Hydrograph for Pond IT1: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,670.45	0.00	0.00	0.00
5.00	0.00	0	1,670.45	0.00	0.00	0.00
10.00	**0.06**	**282**	**1,671.58**	**0.00**	**0.00**	**0.00**
15.00	**0.10**	**953**	**1,673.51**	**0.10**	**0.00**	**0.10**
20.00	0.04	951	1,673.50	0.04	0.00	0.03
25.00	0.00	938	1,673.48	0.00	0.00	0.00
30.00	0.00	855	1,673.35	0.00	0.00	0.00
35.00	0.00	772	1,673.22	0.00	0.00	0.00
40.00	0.00	690	1,673.08	0.00	0.00	0.00
45.00	0.00	607	1,672.88	0.00	0.00	0.00
50.00	0.00	529	1,672.57	0.00	0.00	0.00
55.00	0.00	455	1,672.27	0.00	0.00	0.00
60.00	0.00	385	1,671.99	0.00	0.00	0.00
65.00	0.00	320	1,671.73	0.00	0.00	0.00
70.00	0.00	258	1,671.48	0.00	0.00	0.00
75.00	0.00	200	1,671.25	0.00	0.00	0.00
80.00	0.00	146	1,671.03	0.00	0.00	0.00
85.00	0.00	94	1,670.83	0.00	0.00	0.00
90.00	0.00	46	1,670.63	0.00	0.00	0.00
95.00	0.00	0	1,670.45	0.00	0.00	0.00
100.00	0.00	0	1,670.45	0.00	0.00	0.00
105.00	0.00	0	1,670.45	0.00	0.00	0.00
110.00	0.00	0	1,670.45	0.00	0.00	0.00
115.00	0.00	0	1,670.45	0.00	0.00	0.00
120.00	0.00	0	1,670.45	0.00	0.00	0.00
125.00	0.00	0	1,670.45	0.00	0.00	0.00
130.00	0.00	0	1,670.45	0.00	0.00	0.00
135.00	0.00	0	1,670.45	0.00	0.00	0.00
140.00	0.00	0	1,670.45	0.00	0.00	0.00
145.00	0.00	0	1,670.45	0.00	0.00	0.00
150.00	0.00	0	1,670.45	0.00	0.00	0.00
155.00	0.00	0	1,670.45	0.00	0.00	0.00
160.00	0.00	0	1,670.45	0.00	0.00	0.00
165.00	0.00	0	1,670.45	0.00	0.00	0.00
170.00	0.00	0	1,670.45	0.00	0.00	0.00
175.00	0.00	0	1,670.45	0.00	0.00	0.00
180.00	0.00	0	1,670.45	0.00	0.00	0.00

Summary for Pond IT2: Infiltration

Inflow Area = 62,048 sf, 0.04% Impervious, Inflow Depth = 4.60" for 100-Year event
Inflow = 4.28 cfs @ 12.13 hrs, Volume= 23,792 cf
Outflow = 4.27 cfs @ 12.13 hrs, Volume= 23,792 cf, Atten= 0%, Lag= 0.3 min
Discarded = 0.00 cfs @ 8.55 hrs, Volume= 591 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link P-3L : Lag
Secondary = 4.27 cfs @ 12.13 hrs, Volume= 23,201 cf
Routed to Pond IT3 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,663.83' @ 12.13 hrs Surf.Area= 400 sf Storage= 533 cf

Plug-Flow detention time= 42.5 min calculated for 23,791 cf (100% of inflow)
Center-of-Mass det. time= 42.7 min (851.6 - 808.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,661.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,663.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

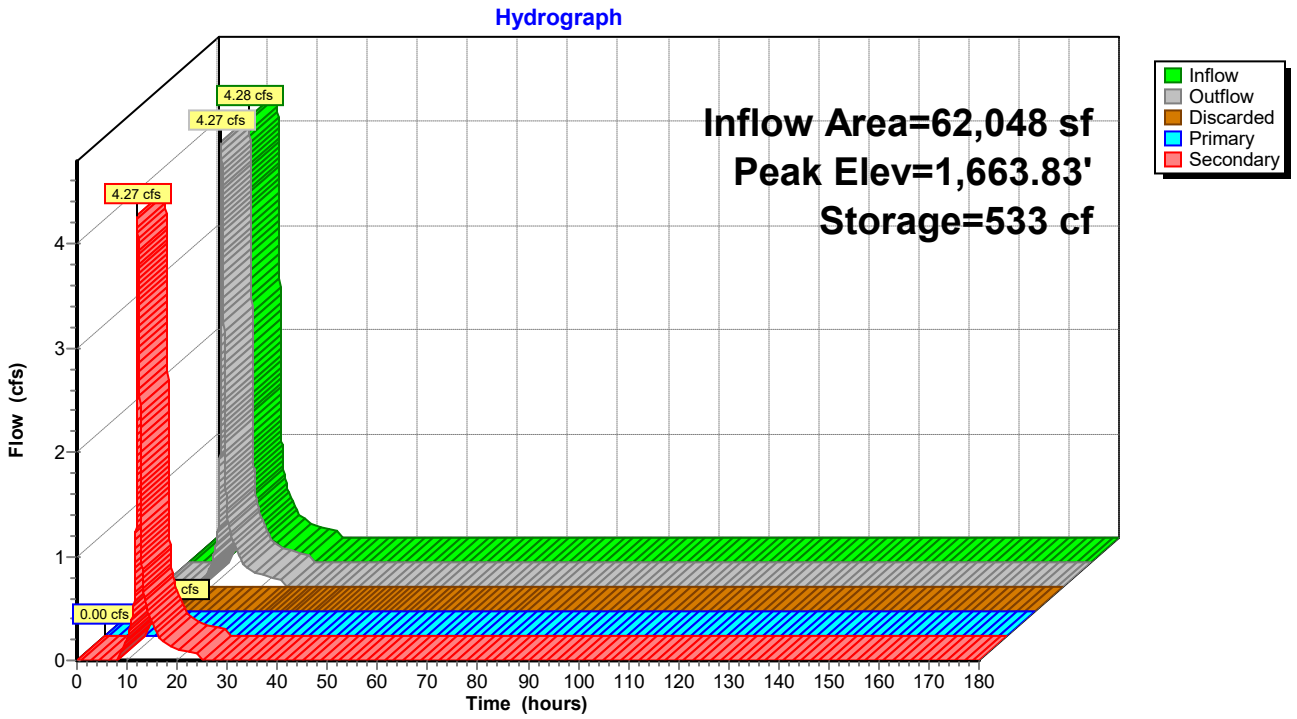
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,661.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,664.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,663.50'	**8.0' long + 3.0 '/' SideZ x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.00 cfs @ 8.55 hrs HW=1,663.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,661.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=4.27 cfs @ 12.13 hrs HW=1,663.83' TW=1,662.85' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 4.27 cfs @ 1.43 fps)

Pond IT2: Infiltration



Hydrograph for Pond IT2: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,661.00	0.00	0.00	**0.00**	0.00
5.00	0.01	12	1,661.07	0.00	**0.00**	0.00	0.00
10.00	**0.22**	**420**	**1,663.55**	**0.22**	**0.00**	0.00	**0.21**
15.00	**0.36**	**427**	**1,663.57**	**0.36**	0.00	0.00	**0.36**
20.00	0.12	413	1,663.53	0.12	0.00	0.00	0.11
25.00	0.00	396	1,663.48	0.00	0.00	0.00	0.00
30.00	0.00	349	1,663.18	0.00	0.00	0.00	0.00
35.00	0.00	304	1,662.90	0.00	0.00	0.00	0.00
40.00	0.00	261	1,662.63	0.00	0.00	0.00	0.00
45.00	0.00	220	1,662.38	0.00	0.00	0.00	0.00
50.00	0.00	182	1,662.14	0.00	0.00	0.00	0.00
55.00	0.00	145	1,661.91	0.00	0.00	0.00	0.00
60.00	0.00	110	1,661.69	0.00	0.00	0.00	0.00
65.00	0.00	77	1,661.48	0.00	0.00	0.00	0.00
70.00	0.00	45	1,661.28	0.00	0.00	0.00	0.00
75.00	0.00	16	1,661.10	0.00	0.00	0.00	0.00
80.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,661.00	0.00	0.00	0.00	0.00

Summary for Pond IT3: Infiltration

Inflow Area = 2,911 sf, 0.00% Impervious, Inflow Depth = 102.06" for 100-Year event
Inflow = 4.62 cfs @ 12.11 hrs, Volume= 24,758 cf
Outflow = 4.61 cfs @ 12.12 hrs, Volume= 24,758 cf, Atten= 0%, Lag= 0.3 min
Discarded = 0.00 cfs @ 9.38 hrs, Volume= 577 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link P-3L : Lag
Secondary = 4.61 cfs @ 12.12 hrs, Volume= 24,181 cf
Routed to Pond IT4 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,662.85' @ 12.12 hrs Surf.Area= 400 sf Storage= 541 cf

Plug-Flow detention time= 39.4 min calculated for 24,757 cf (100% of inflow)
Center-of-Mass det. time= 39.6 min (853.2 - 813.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,662.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

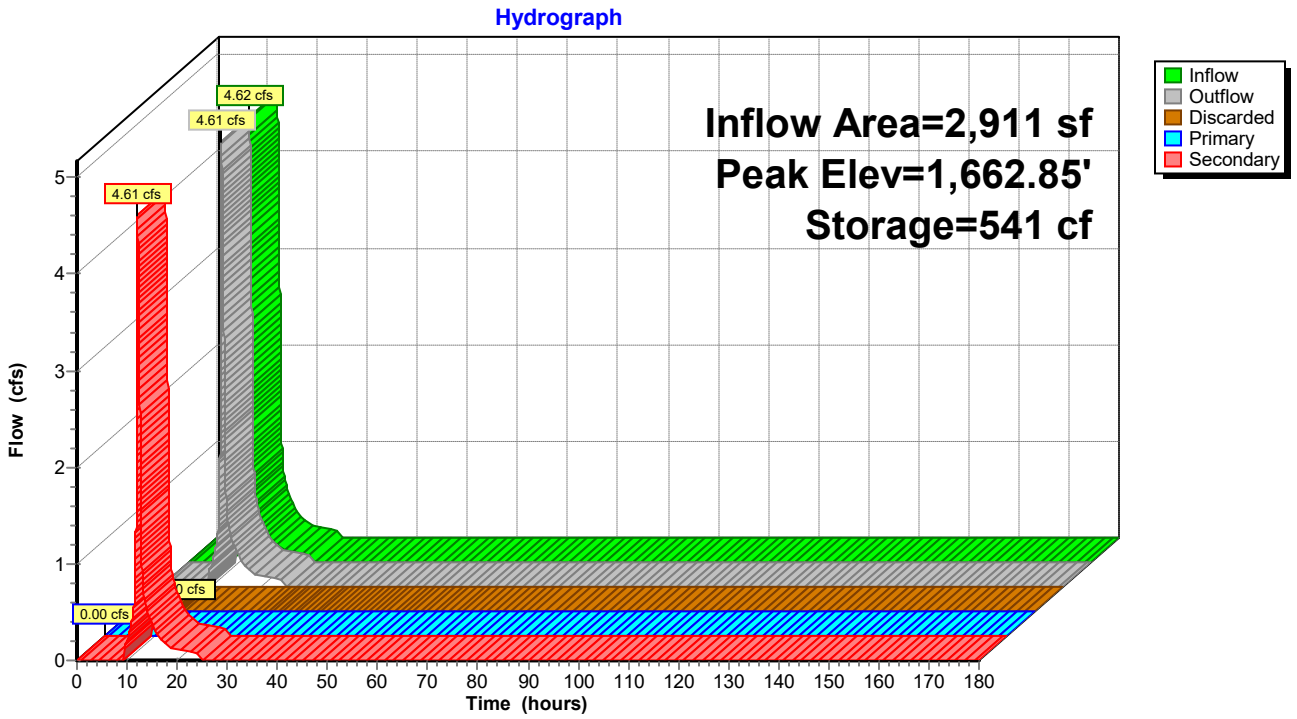
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,660.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,663.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,662.50'	**8.0' long + 3.0 '/' SideZ x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.00 cfs @ 9.38 hrs HW=1,662.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,660.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=4.61 cfs @ 12.12 hrs HW=1,662.85' TW=1,661.14' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 4.61 cfs @ 1.44 fps)

Pond IT3: Infiltration



Hydrograph for Pond IT3: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,660.00	0.00	0.00	**0.00**	0.00
5.00	0.00	0	1,660.00	0.00	**0.00**	0.00	0.00
10.00	**0.23**	**421**	**1,662.55**	**0.23**	**0.00**	0.00	**0.23**
15.00	**0.38**	**429**	**1,662.57**	**0.38**	0.00	0.00	**0.38**
20.00	0.12	413	1,662.53	0.12	0.00	0.00	0.12
25.00	0.00	396	1,662.48	0.00	0.00	0.00	0.00
30.00	0.00	349	1,662.18	0.00	0.00	0.00	0.00
35.00	0.00	304	1,661.90	0.00	0.00	0.00	0.00
40.00	0.00	261	1,661.63	0.00	0.00	0.00	0.00
45.00	0.00	220	1,661.38	0.00	0.00	0.00	0.00
50.00	0.00	181	1,661.13	0.00	0.00	0.00	0.00
55.00	0.00	145	1,660.90	0.00	0.00	0.00	0.00
60.00	0.00	110	1,660.69	0.00	0.00	0.00	0.00
65.00	0.00	77	1,660.48	0.00	0.00	0.00	0.00
70.00	0.00	45	1,660.28	0.00	0.00	0.00	0.00
75.00	0.00	15	1,660.10	0.00	0.00	0.00	0.00
80.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,660.00	0.00	0.00	0.00	0.00

Summary for Pond IT4: Infiltration

Inflow Area = 4,433 sf, 0.05% Impervious, Inflow Depth = 106.86" for 100-Year event
Inflow = 7.73 cfs @ 12.21 hrs, Volume= 39,475 cf
Outflow = 7.73 cfs @ 12.22 hrs, Volume= 39,475 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 9.18 hrs, Volume= 833 cf
Primary = 7.72 cfs @ 12.22 hrs, Volume= 38,642 cf
Routed to Link P-4L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,661.15' @ 12.22 hrs Surf.Area= 400 sf Storage= 659 cf

Plug-Flow detention time= 49.4 min calculated for 39,473 cf (100% of inflow)
Center-of-Mass det. time= 49.6 min (873.2 - 823.6)

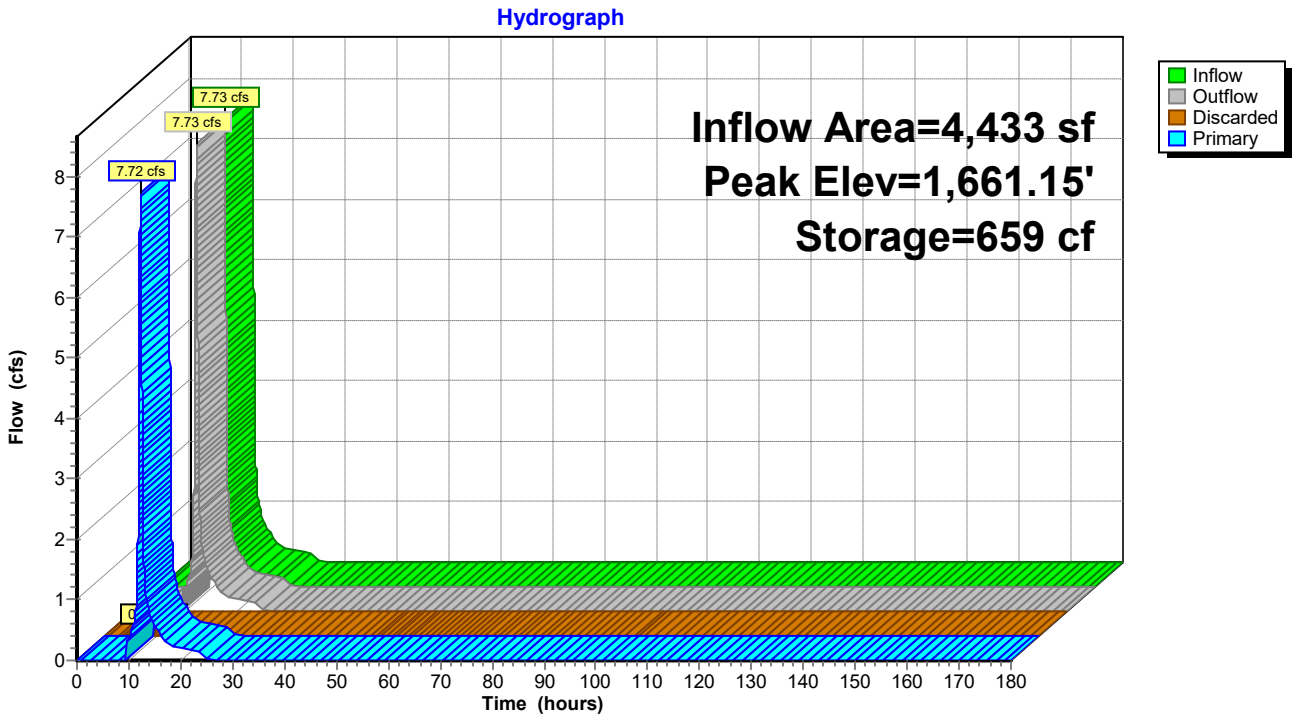
Volume	Invert	Avail.Storage	Storage Description
#1	1,658.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,660.50'	600 cf	**8.00'W x 50.00'L x 1.50'H Overflow Storage** -Impervious
		1,000 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,658.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,661.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 9.18 hrs HW=1,660.51' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=7.72 cfs @ 12.22 hrs HW=1,661.15' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 7.72 cfs @ 1.03 fps)

Pond IT4: Infiltration



Hydrograph for Pond IT4: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,658.00	0.00	0.00	0.00
5.00	0.00	0	1,658.00	0.00	**0.00**	0.00
10.00	**0.37**	**608**	**1,661.02**	**0.37**	**0.00**	**0.37**
15.00	**0.59**	**611**	**1,661.03**	**0.59**	0.00	**0.59**
20.00	0.21	605	1,661.01	0.21	0.00	0.20
25.00	0.02	601	1,661.00	0.02	0.00	0.02
30.00	0.00	596	1,660.99	0.00	0.00	0.00
35.00	0.00	549	1,660.87	0.00	0.00	0.00
40.00	0.00	500	1,660.75	0.00	0.00	0.00
45.00	0.00	451	1,660.63	0.00	0.00	0.00
50.00	0.00	402	1,660.51	0.00	0.00	0.00
55.00	0.00	355	1,660.22	0.00	0.00	0.00
60.00	0.00	309	1,659.93	0.00	0.00	0.00
65.00	0.00	266	1,659.66	0.00	0.00	0.00
70.00	0.00	225	1,659.41	0.00	0.00	0.00
75.00	0.00	186	1,659.16	0.00	0.00	0.00
80.00	0.00	149	1,658.93	0.00	0.00	0.00
85.00	0.00	114	1,658.71	0.00	0.00	0.00
90.00	0.00	81	1,658.51	0.00	0.00	0.00
95.00	0.00	49	1,658.31	0.00	0.00	0.00
100.00	0.00	19	1,658.12	0.00	0.00	0.00
105.00	0.00	0	1,658.00	0.00	0.00	0.00
110.00	0.00	0	1,658.00	0.00	0.00	0.00
115.00	0.00	0	1,658.00	0.00	0.00	0.00
120.00	0.00	0	1,658.00	0.00	0.00	0.00
125.00	0.00	0	1,658.00	0.00	0.00	0.00
130.00	0.00	0	1,658.00	0.00	0.00	0.00
135.00	0.00	0	1,658.00	0.00	0.00	0.00
140.00	0.00	0	1,658.00	0.00	0.00	0.00
145.00	0.00	0	1,658.00	0.00	0.00	0.00
150.00	0.00	0	1,658.00	0.00	0.00	0.00
155.00	0.00	0	1,658.00	0.00	0.00	0.00
160.00	0.00	0	1,658.00	0.00	0.00	0.00
165.00	0.00	0	1,658.00	0.00	0.00	0.00
170.00	0.00	0	1,658.00	0.00	0.00	0.00
175.00	0.00	0	1,658.00	0.00	0.00	0.00
180.00	0.00	0	1,658.00	0.00	0.00	0.00

Summary for Pond IT5: Infiltration

Inflow Area = 378,878 sf, 0.03% Impervious, Inflow Depth = 3.47" for 100-Year event
Inflow = 25.52 cfs @ 12.23 hrs, Volume= 109,624 cf
Outflow = 25.52 cfs @ 12.23 hrs, Volume= 109,624 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 7.04 hrs, Volume= 1,276 cf
Primary = 22.26 cfs @ 12.23 hrs, Volume= 95,470 cf
Routed to Link P-4L : Lag
Secondary = 3.26 cfs @ 12.23 hrs, Volume= 12,879 cf
Routed to Pond IT4 : Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,661.30' @ 12.23 hrs Surf.Area= 400 sf Storage= 1,119 cf

Plug-Flow detention time= 42.6 min calculated for 109,618 cf (100% of inflow)
Center-of-Mass det. time= 43.0 min (879.8 - 836.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,657.00'	400 cf	**8.00'W x 50.00'L x 2.50'H Prismatoid** 1,000 cf Overall x 40.0% Voids
#2	1,659.50'	800 cf	**8.00'W x 50.00'L x 2.00'H Overflow Storage** -Impervious
		1,200 cf	Total Available Storage

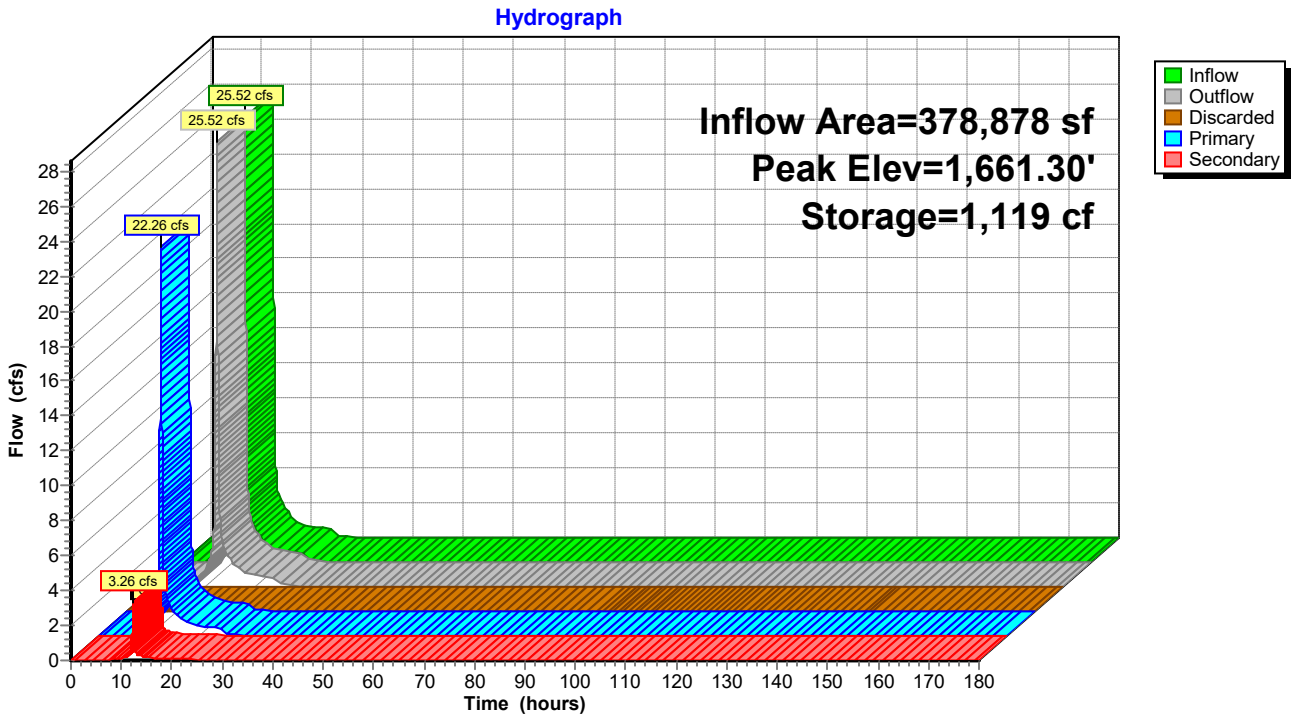
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,657.00'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,661.00'	**50.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Secondary	1,661.00'	**8.0' long + 3.0 '/' SideZ x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 7.04 hrs HW=1,659.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=22.24 cfs @ 12.23 hrs HW=1,661.30' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 22.24 cfs @ 1.47 fps)

Secondary OutFlow Max=3.26 cfs @ 12.23 hrs HW=1,661.30' TW=1,661.15' (Dynamic Tailwater)
3=Broad-Crested Rectangular Weir (Weir Controls 3.26 cfs @ 1.23 fps)

Pond IT5: Infiltration



Hydrograph for Pond IT5: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
5.00	0.01	31	1,657.20	0.00	**0.00**	0.00	0.00
10.00	**1.00**	**1,014**	**1,661.04**	**1.00**	**0.00**	**0.88**	**0.12**
15.00	**1.57**	**1,019**	**1,661.05**	**1.57**	0.00	**1.38**	**0.18**
20.00	0.66	1,011	1,661.03	0.66	0.00	0.58	0.08
25.00	0.15	1,004	1,661.01	0.15	0.00	0.13	0.02
30.00	0.01	1,000	1,661.00	0.01	0.00	0.01	0.00
35.00	0.00	976	1,660.94	0.00	0.00	0.00	0.00
40.00	0.00	928	1,660.82	0.00	0.00	0.00	0.00
45.00	0.00	879	1,660.70	0.00	0.00	0.00	0.00
50.00	0.00	830	1,660.57	0.00	0.00	0.00	0.00
55.00	0.00	781	1,660.45	0.00	0.00	0.00	0.00
60.00	0.00	732	1,660.33	0.00	0.00	0.00	0.00
65.00	0.00	683	1,660.21	0.00	0.00	0.00	0.00
70.00	0.00	634	1,660.09	0.00	0.00	0.00	0.00
75.00	0.00	585	1,659.96	0.00	0.00	0.00	0.00
80.00	0.00	537	1,659.84	0.00	0.00	0.00	0.00
85.00	0.00	488	1,659.72	0.00	0.00	0.00	0.00
90.00	0.00	439	1,659.60	0.00	0.00	0.00	0.00
95.00	0.00	390	1,659.44	0.00	0.00	0.00	0.00
100.00	0.00	343	1,659.14	0.00	0.00	0.00	0.00
105.00	0.00	298	1,658.86	0.00	0.00	0.00	0.00
110.00	0.00	256	1,658.60	0.00	0.00	0.00	0.00
115.00	0.00	215	1,658.34	0.00	0.00	0.00	0.00
120.00	0.00	177	1,658.10	0.00	0.00	0.00	0.00
125.00	0.00	140	1,657.88	0.00	0.00	0.00	0.00
130.00	0.00	106	1,657.66	0.00	0.00	0.00	0.00
135.00	0.00	73	1,657.45	0.00	0.00	0.00	0.00
140.00	0.00	41	1,657.26	0.00	0.00	0.00	0.00
145.00	0.00	12	1,657.07	0.00	0.00	0.00	0.00
150.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,657.00	0.00	0.00	0.00	0.00

Summary for Pond IT6: Infiltration

Inflow Area = 12,195 sf, 32.81% Impervious, Inflow Depth = 6.78" for 100-Year event
Inflow = 2.10 cfs @ 12.08 hrs, Volume= 6,885 cf
Outflow = 2.10 cfs @ 12.08 hrs, Volume= 6,885 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.00 cfs @ 8.47 hrs, Volume= 546 cf
Primary = 2.10 cfs @ 12.08 hrs, Volume= 6,339 cf
Routed to Link 10L : Lag

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,659.56' @ 12.08 hrs Surf.Area= 263 sf Storage= 415 cf

Plug-Flow detention time= 157.4 min calculated for 6,885 cf (100% of inflow)
Center-of-Mass det. time= 157.6 min (936.3 - 778.6)

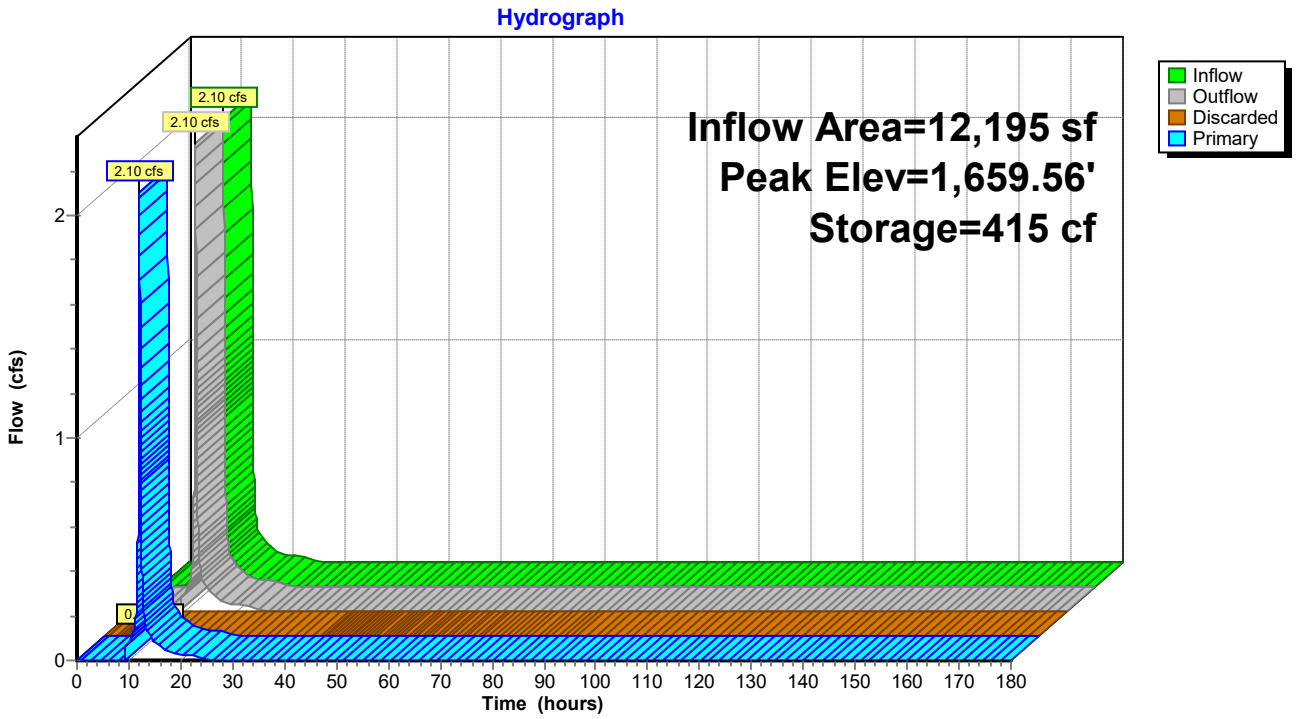
Volume	Invert	Avail.Storage	Storage Description
#1	1,656.45'	268 cf	**5.25'W x 50.00'L x 2.55'H Prismatoid** 669 cf Overall x 40.0% Voids
#2	1,659.00'	263 cf	**5.25'W x 50.00'L x 1.00'H Overflow Storage** -Impervious
		530 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,656.45'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	1,659.50'	**50.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 8.47 hrs HW=1,659.01' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=2.09 cfs @ 12.08 hrs HW=1,659.56' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 2.09 cfs @ 0.67 fps)

Pond IT6: Infiltration



Hydrograph for Pond IT6: Infiltration

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,656.45	0.00	0.00	0.00
5.00	0.01	22	1,656.66	0.00	**0.00**	0.00
10.00	**0.08**	**401**	**1,659.51**	**0.08**	**0.00**	**0.08**
15.00	**0.09**	**401**	**1,659.51**	**0.09**	0.00	**0.08**
20.00	0.03	400	1,659.50	0.03	0.00	0.03
25.00	0.00	393	1,659.48	0.00	0.00	0.00
30.00	0.00	354	1,659.33	0.00	0.00	0.00
35.00	0.00	316	1,659.18	0.00	0.00	0.00
40.00	0.00	277	1,659.04	0.00	0.00	0.00
45.00	0.00	239	1,658.73	0.00	0.00	0.00
50.00	0.00	204	1,658.40	0.00	0.00	0.00
55.00	0.00	172	1,658.08	0.00	0.00	0.00
60.00	0.00	141	1,657.80	0.00	0.00	0.00
65.00	0.00	113	1,657.53	0.00	0.00	0.00
70.00	0.00	87	1,657.28	0.00	0.00	0.00
75.00	0.00	63	1,657.05	0.00	0.00	0.00
80.00	0.00	41	1,656.84	0.00	0.00	0.00
85.00	0.00	20	1,656.64	0.00	0.00	0.00
90.00	0.00	0	1,656.45	0.00	0.00	0.00
95.00	0.00	0	1,656.45	0.00	0.00	0.00
100.00	0.00	0	1,656.45	0.00	0.00	0.00
105.00	0.00	0	1,656.45	0.00	0.00	0.00
110.00	0.00	0	1,656.45	0.00	0.00	0.00
115.00	0.00	0	1,656.45	0.00	0.00	0.00
120.00	0.00	0	1,656.45	0.00	0.00	0.00
125.00	0.00	0	1,656.45	0.00	0.00	0.00
130.00	0.00	0	1,656.45	0.00	0.00	0.00
135.00	0.00	0	1,656.45	0.00	0.00	0.00
140.00	0.00	0	1,656.45	0.00	0.00	0.00
145.00	0.00	0	1,656.45	0.00	0.00	0.00
150.00	0.00	0	1,656.45	0.00	0.00	0.00
155.00	0.00	0	1,656.45	0.00	0.00	0.00
160.00	0.00	0	1,656.45	0.00	0.00	0.00
165.00	0.00	0	1,656.45	0.00	0.00	0.00
170.00	0.00	0	1,656.45	0.00	0.00	0.00
175.00	0.00	0	1,656.45	0.00	0.00	0.00
180.00	0.00	0	1,656.45	0.00	0.00	0.00

Summary for Pond P-3P: 12" CPP

Inflow Area = 53,131 sf, 0.04% Impervious, Inflow Depth = 5.59" for 100-Year event
Inflow = 5.94 cfs @ 12.21 hrs, Volume= 24,758 cf
Outflow = 5.94 cfs @ 12.21 hrs, Volume= 24,758 cf, Atten= 0%, Lag= 0.2 min
Discarded = 0.00 cfs @ 12.21 hrs, Volume= 13 cf
Primary = 3.18 cfs @ 12.21 hrs, Volume= 18,758 cf
Routed to Link FS1 : Filter Strip
Secondary = 2.75 cfs @ 12.21 hrs, Volume= 5,988 cf
Routed to Pond 3.5P : 15" CPP

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,665.64' @ 12.21 hrs Surf.Area= 363 sf Storage= 231 cf
Flood Elev= 1,666.50' Surf.Area= 673 sf Storage= 677 cf

Plug-Flow detention time= 0.4 min calculated for 24,757 cf (100% of inflow)
Center-of-Mass det. time= 0.4 min (813.8 - 813.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,664.00'	1,065 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,664.00	4	10.1	0	0	4
1,665.00	166	57.3	65	65	259
1,665.50	320	88.1	119	185	618
1,666.00	493	98.7	202	386	782
1,667.00	882	152.5	678	1,065	1,865

Device	Routing	Invert	Outlet Devices
#1	Primary	1,664.00'	**12.0" Round Culvert** L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,664.00' / 1,663.60' S= 0.0087 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Discarded	1,664.00'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,666.50'	**Road Overflow, C= 3.27** Offset (feet) 0.00 16.30 16.30 Height (feet) 0.50 0.00 0.50
#4	Secondary	1,664.00'	**4.00' long x 11.00' breadth x 1.50' high Rock Fill** Rock Diam.= 5.000", S.D.= 2.500", Voids= 40.0%
#5	Secondary	1,665.50'	**13.8' long + 3.0 '/' SideZ x 1.0' breadth Check Dam** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

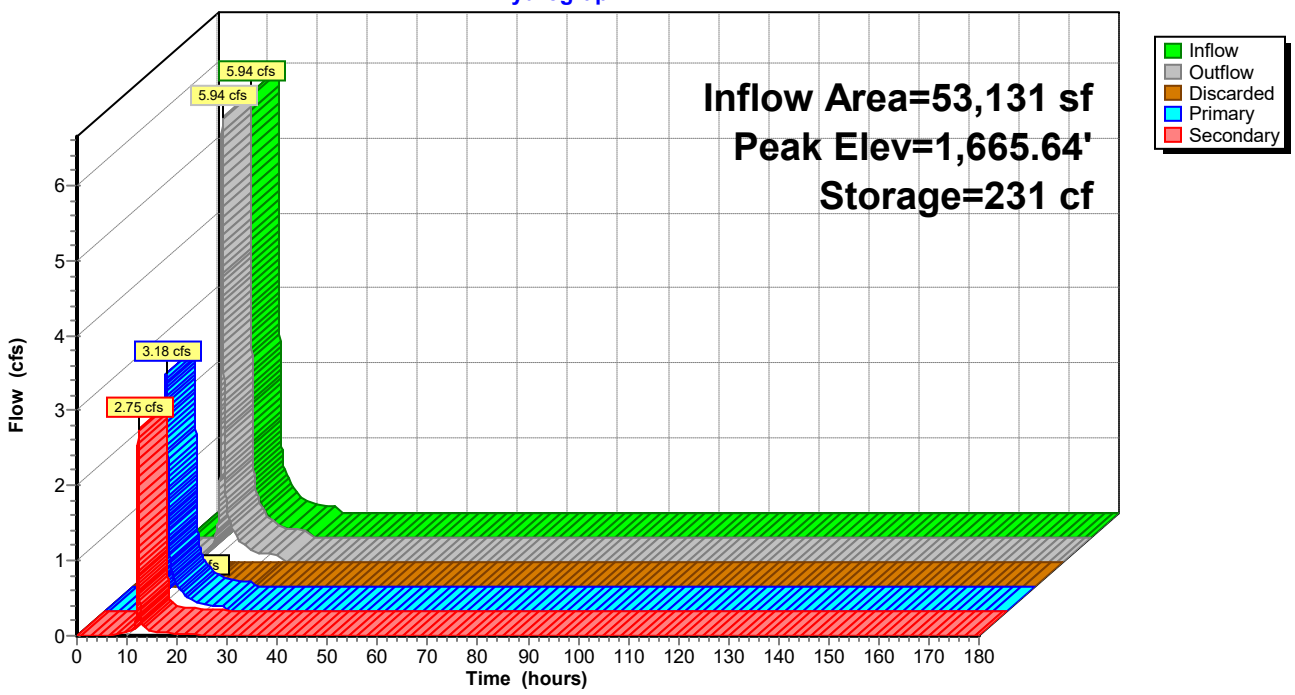
Discarded OutFlow Max=0.00 cfs @ 12.21 hrs HW=1,665.64' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=3.18 cfs @ 12.21 hrs HW=1,665.64' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 3.18 cfs @ 4.05 fps)
└**3=Road Overflow** (Controls 0.00 cfs)

Secondary OutFlow Max=2.75 cfs @ 12.21 hrs HW=1,665.64' TW=1,663.08' (Dynamic Tailwater)
├**4=Rock Fill** (Rockfill Controls 0.85 cfs @ 0.28 fps)
└**5=Check Dam** (Weir Controls 1.90 cfs @ 0.99 fps)

Pond P-3P: 12" CPP

Hydrograph



Hydrograph for Pond P-3P: 12" CPP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
5.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
10.00	**0.20**	**2**	**1,664.22**	**0.20**	**0.00**	**0.16**	**0.04**
15.00	**0.36**	**4**	**1,664.30**	**0.37**	**0.00**	**0.29**	**0.07**
20.00	0.12	1	1,664.17	0.12	0.00	0.09	0.03
25.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
30.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
35.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
40.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
45.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
50.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
55.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
60.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
65.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
70.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
75.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
80.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
85.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
90.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
95.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
100.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
105.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
110.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
115.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
120.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
125.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
130.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
135.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
140.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
145.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
150.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
155.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
160.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
165.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
170.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
175.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00
180.00	0.00	0	1,664.00	0.00	0.00	0.00	0.00

Summary for Pond P-4P: 2x15" CPP

[58] Hint: Peaked 0.30' above defined flood level

Inflow Area = 258,822 sf, 0.03% Impervious, Inflow Depth = 3.17" for 100-Year event
Inflow = 19.18 cfs @ 12.20 hrs, Volume= 68,397 cf
Outflow = 19.17 cfs @ 12.21 hrs, Volume= 68,397 cf, Atten= 0%, Lag= 0.3 min
Discarded = 0.00 cfs @ 12.21 hrs, Volume= 58 cf
Primary = 19.17 cfs @ 12.21 hrs, Volume= 68,339 cf
Routed to Link FS2 : Filter Strip

Routing by Dyn-Stor-Ind method, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs
Peak Elev= 1,662.80' @ 12.21 hrs Surf.Area= 668 sf Storage= 970 cf
Flood Elev= 1,662.50' Surf.Area= 592 sf Storage= 782 cf

Plug-Flow detention time= 0.8 min calculated for 68,393 cf (100% of inflow)
Center-of-Mass det. time= 0.8 min (853.5 - 852.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,660.00'	1,109 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

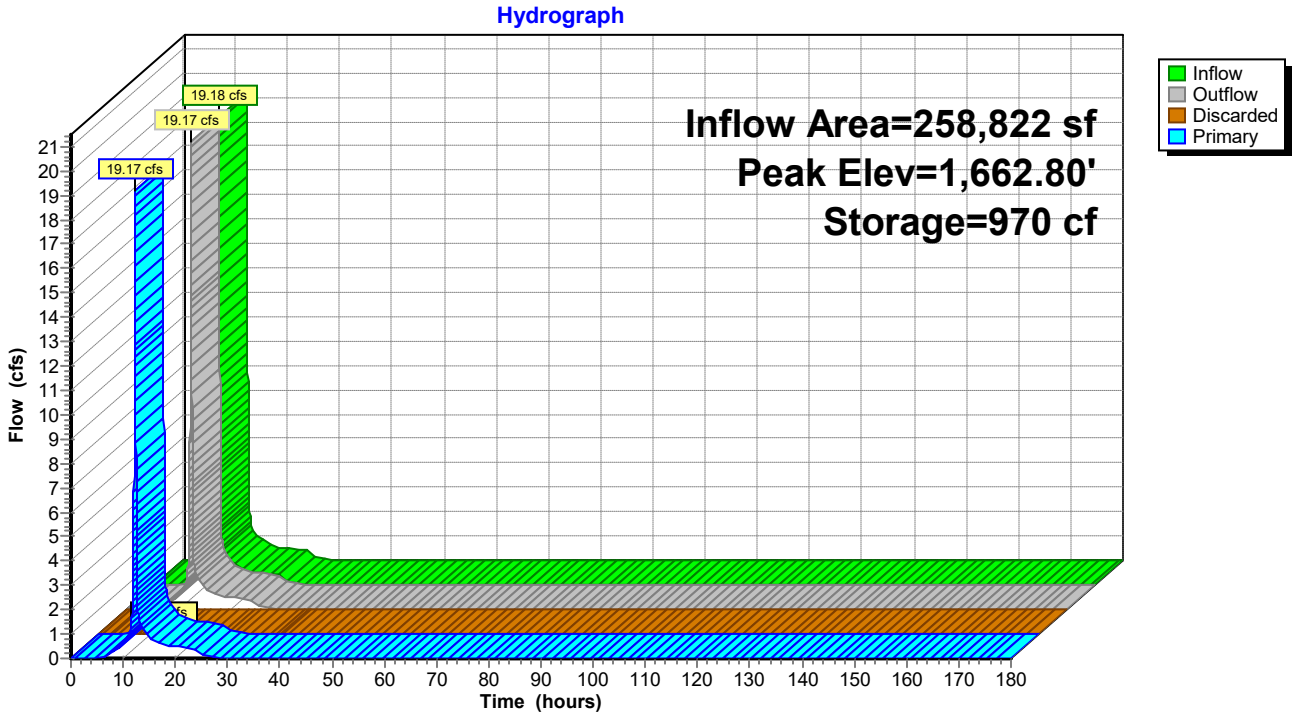
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,660.00	88	41.6	0	0	88
1,661.00	247	64.3	161	161	286
1,662.00	475	87.0	355	516	570
1,663.00	721	107.4	594	1,109	900

Device	Routing	Invert	Outlet Devices
#1	Primary	1,660.00'	**15.0" Round Culvert X 2.00** L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,660.00' / 1,659.60' S= 0.0089 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Discarded	1,660.00'	**0.170 in/hr Exfiltration over Wetted area**
#3	Primary	1,662.50'	**Road Overflow, C= 3.27** Offset (feet) 0.00 18.61 20.86 35.05 Height (feet) 0.50 0.00 0.00 0.50

Discarded OutFlow Max=0.00 cfs @ 12.21 hrs HW=1,662.80' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=19.16 cfs @ 12.21 hrs HW=1,662.80' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Inlet Controls 13.76 cfs @ 5.60 fps)
└**3=Road Overflow** (Weir Controls 5.40 cfs @ 0.83 fps)

Pond P-4P: 2x15" CPP



Hydrograph for Pond P-4P: 2x15" CPP

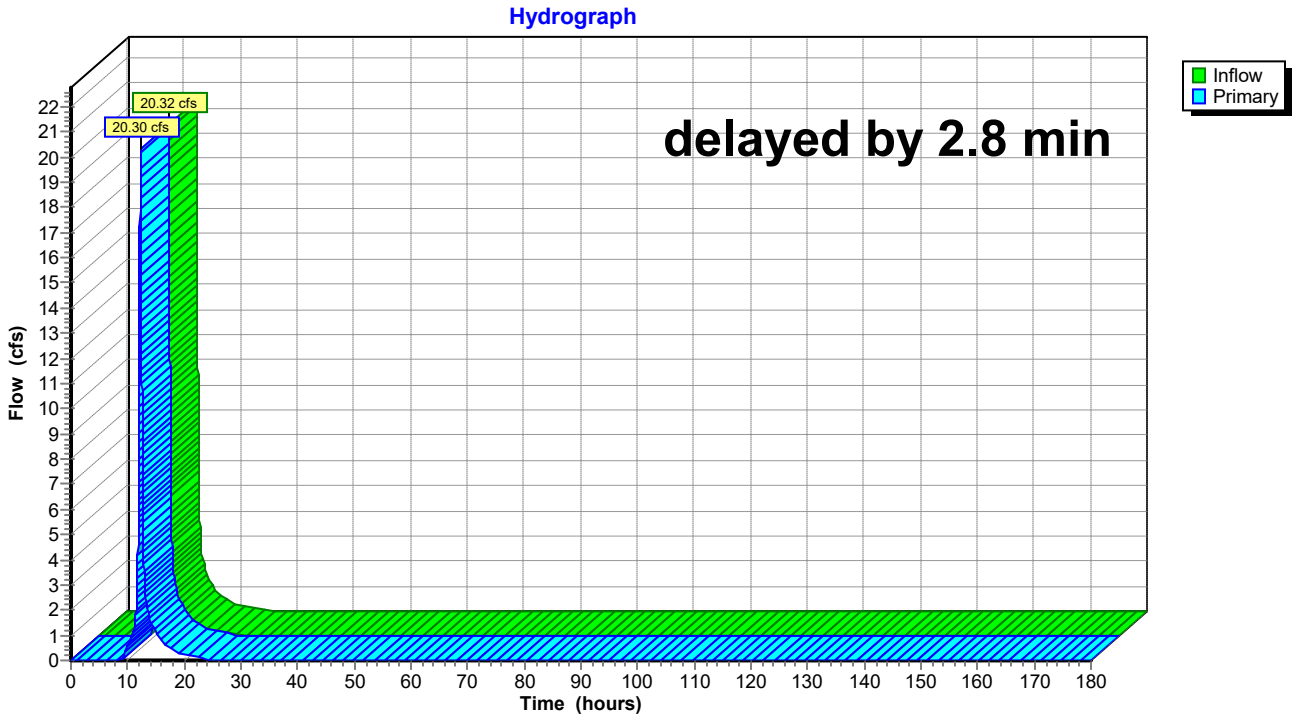
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	1,660.00	0.00	0.00	0.00
5.00	0.01	3	1,660.03	0.01	0.00	0.01
10.00	**0.65**	**32**	**1,660.30**	**0.65**	**0.00**	**0.65**
15.00	**0.89**	**39**	**1,660.35**	**0.89**	**0.00**	**0.89**
20.00	0.49	26	1,660.25	0.49	0.00	0.49
25.00	0.15	14	1,660.14	0.15	0.00	0.15
30.00	0.01	3	1,660.03	0.01	0.00	0.01
35.00	0.00	0	1,660.00	0.00	0.00	0.00
40.00	0.00	0	1,660.00	0.00	0.00	0.00
45.00	0.00	0	1,660.00	0.00	0.00	0.00
50.00	0.00	0	1,660.00	0.00	0.00	0.00
55.00	0.00	0	1,660.00	0.00	0.00	0.00
60.00	0.00	0	1,660.00	0.00	0.00	0.00
65.00	0.00	0	1,660.00	0.00	0.00	0.00
70.00	0.00	0	1,660.00	0.00	0.00	0.00
75.00	0.00	0	1,660.00	0.00	0.00	0.00
80.00	0.00	0	1,660.00	0.00	0.00	0.00
85.00	0.00	0	1,660.00	0.00	0.00	0.00
90.00	0.00	0	1,660.00	0.00	0.00	0.00
95.00	0.00	0	1,660.00	0.00	0.00	0.00
100.00	0.00	0	1,660.00	0.00	0.00	0.00
105.00	0.00	0	1,660.00	0.00	0.00	0.00
110.00	0.00	0	1,660.00	0.00	0.00	0.00
115.00	0.00	0	1,660.00	0.00	0.00	0.00
120.00	0.00	0	1,660.00	0.00	0.00	0.00
125.00	0.00	0	1,660.00	0.00	0.00	0.00
130.00	0.00	0	1,660.00	0.00	0.00	0.00
135.00	0.00	0	1,660.00	0.00	0.00	0.00
140.00	0.00	0	1,660.00	0.00	0.00	0.00
145.00	0.00	0	1,660.00	0.00	0.00	0.00
150.00	0.00	0	1,660.00	0.00	0.00	0.00
155.00	0.00	0	1,660.00	0.00	0.00	0.00
160.00	0.00	0	1,660.00	0.00	0.00	0.00
165.00	0.00	0	1,660.00	0.00	0.00	0.00
170.00	0.00	0	1,660.00	0.00	0.00	0.00
175.00	0.00	0	1,660.00	0.00	0.00	0.00
180.00	0.00	0	1,660.00	0.00	0.00	0.00

Summary for Link 7L: Lag

Inflow = 20.32 cfs @ 12.20 hrs, Volume= 77,240 cf
Primary = 20.30 cfs @ 12.25 hrs, Volume= 77,240 cf, Atten= 0%, Lag= 2.8 min
Routed to Reach P-DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 2.8 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 7L: Lag



Hydrograph for Link 7L: Lag

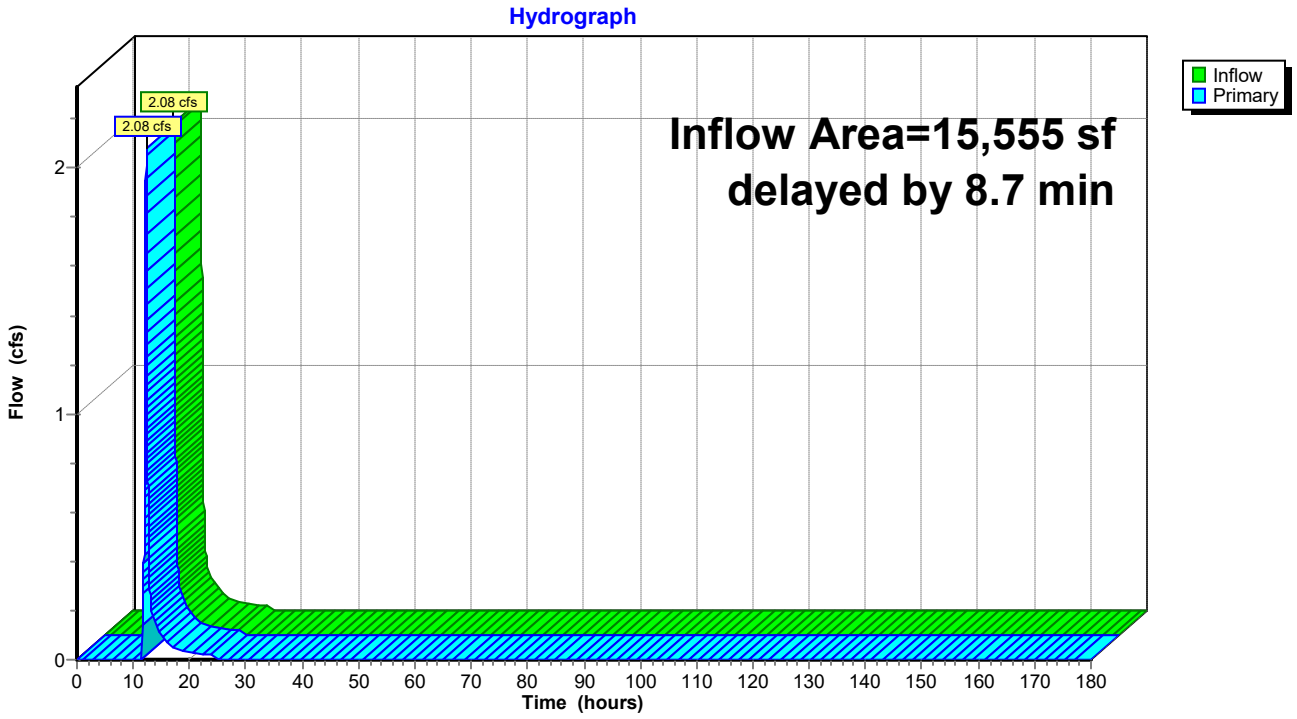
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.60	0.00	0.58	114.00	0.00	0.00	0.00
12.00	**10.38**	0.00	**8.68**	116.00	0.00	0.00	0.00
14.00	**1.60**	0.00	**1.63**	118.00	0.00	0.00	0.00
16.00	0.76	0.00	0.77	120.00	0.00	0.00	0.00
18.00	0.38	0.00	0.38	122.00	0.00	0.00	0.00
20.00	0.25	0.00	0.25	124.00	0.00	0.00	0.00
22.00	0.17	0.00	0.17	126.00	0.00	0.00	0.00
24.00	0.10	0.00	0.10	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 8L: Lag

Inflow Area = 15,555 sf, 12.87% Impervious, Inflow Depth = 4.65" for 100-Year event
Inflow = 2.08 cfs @ 12.13 hrs, Volume= 6,026 cf
Primary = 2.08 cfs @ 12.28 hrs, Volume= 6,026 cf, Atten= 0%, Lag= 8.7 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 8.7 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 8L: Lag



Hydrograph for Link 8L: Lag

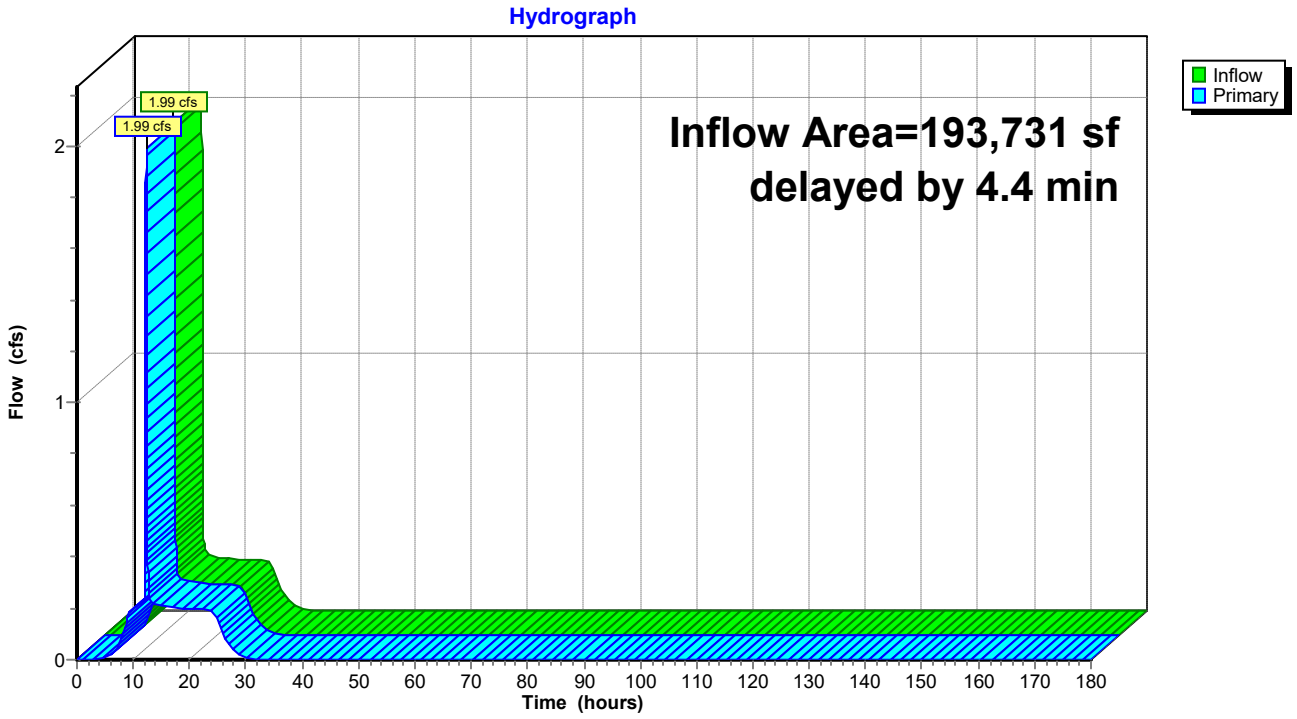
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	**1.05**	0.00	**0.63**	116.00	0.00	0.00	0.00
14.00	**0.13**	0.00	**0.14**	118.00	0.00	0.00	0.00
16.00	0.07	0.00	0.07	120.00	0.00	0.00	0.00
18.00	0.04	0.00	0.04	122.00	0.00	0.00	0.00
20.00	0.03	0.00	0.03	124.00	0.00	0.00	0.00
22.00	0.02	0.00	0.03	126.00	0.00	0.00	0.00
24.00	0.02	0.00	0.02	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 9L: Lag

Inflow Area = 193,731 sf, 0.03% Impervious, Inflow Depth = 0.96" for 100-Year event
Inflow = 1.99 cfs @ 12.20 hrs, Volume= 15,427 cf
Primary = 1.99 cfs @ 12.28 hrs, Volume= 15,427 cf, Atten= 0%, Lag= 4.4 min
Routed to Pond P-4P : 2x15" CPP

Primary outflow = Inflow delayed by 4.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 9L: Lag



Hydrograph for Link 9L: Lag

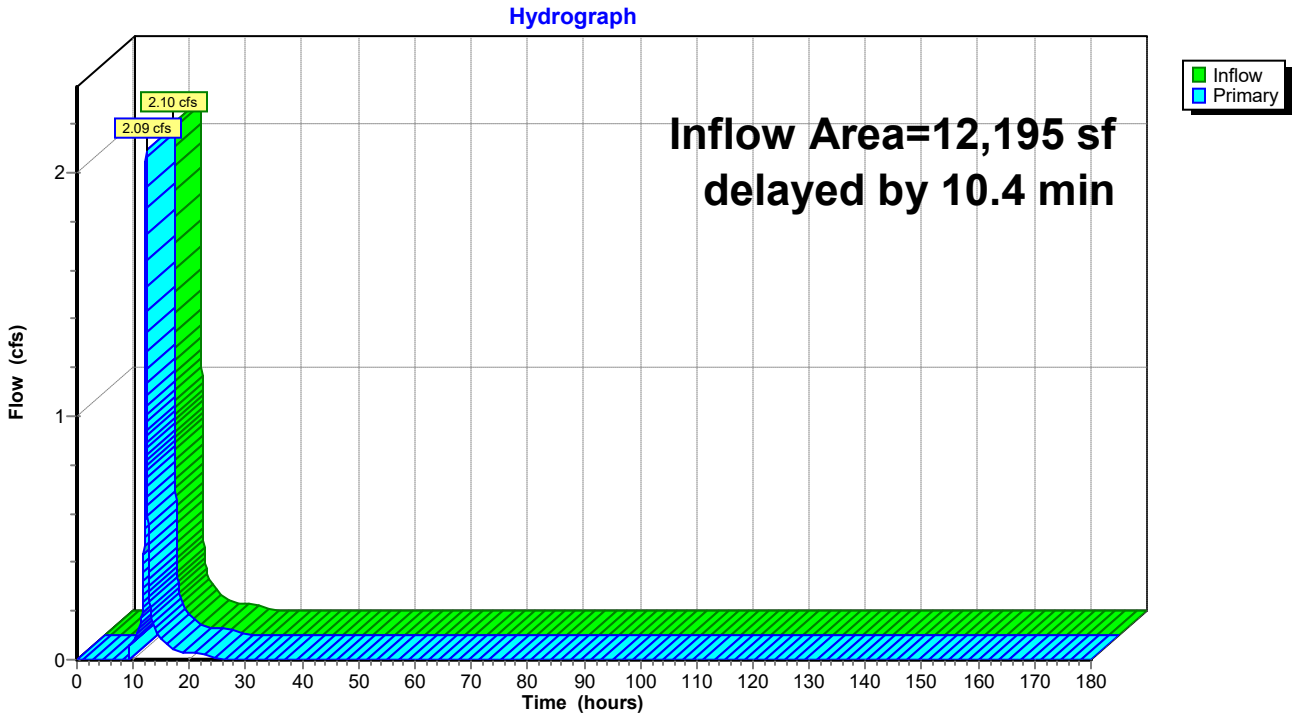
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.01	0.00	0.01	108.00	0.00	0.00	0.00
6.00	0.02	0.00	0.02	110.00	0.00	0.00	0.00
8.00	0.10	0.00	0.09	112.00	0.00	0.00	0.00
10.00	0.20	0.00	0.20	114.00	0.00	0.00	0.00
12.00	**0.44**	0.00	**0.28**	116.00	0.00	0.00	0.00
14.00	**0.21**	0.00	**0.21**	118.00	0.00	0.00	0.00
16.00	0.21	0.00	0.21	120.00	0.00	0.00	0.00
18.00	0.20	0.00	0.20	122.00	0.00	0.00	0.00
20.00	0.20	0.00	0.20	124.00	0.00	0.00	0.00
22.00	0.20	0.00	0.20	126.00	0.00	0.00	0.00
24.00	0.19	0.00	0.19	128.00	0.00	0.00	0.00
26.00	0.10	0.00	0.10	130.00	0.00	0.00	0.00
28.00	0.03	0.00	0.04	132.00	0.00	0.00	0.00
30.00	0.01	0.00	0.01	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link 10L: Lag

Inflow Area = 12,195 sf, 32.81% Impervious, Inflow Depth = 6.24" for 100-Year event
Inflow = 2.10 cfs @ 12.08 hrs, Volume= 6,339 cf
Primary = 2.09 cfs @ 12.26 hrs, Volume= 6,339 cf, Atten= 0%, Lag= 10.4 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 10.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link 10L: Lag



Hydrograph for Link 10L: Lag

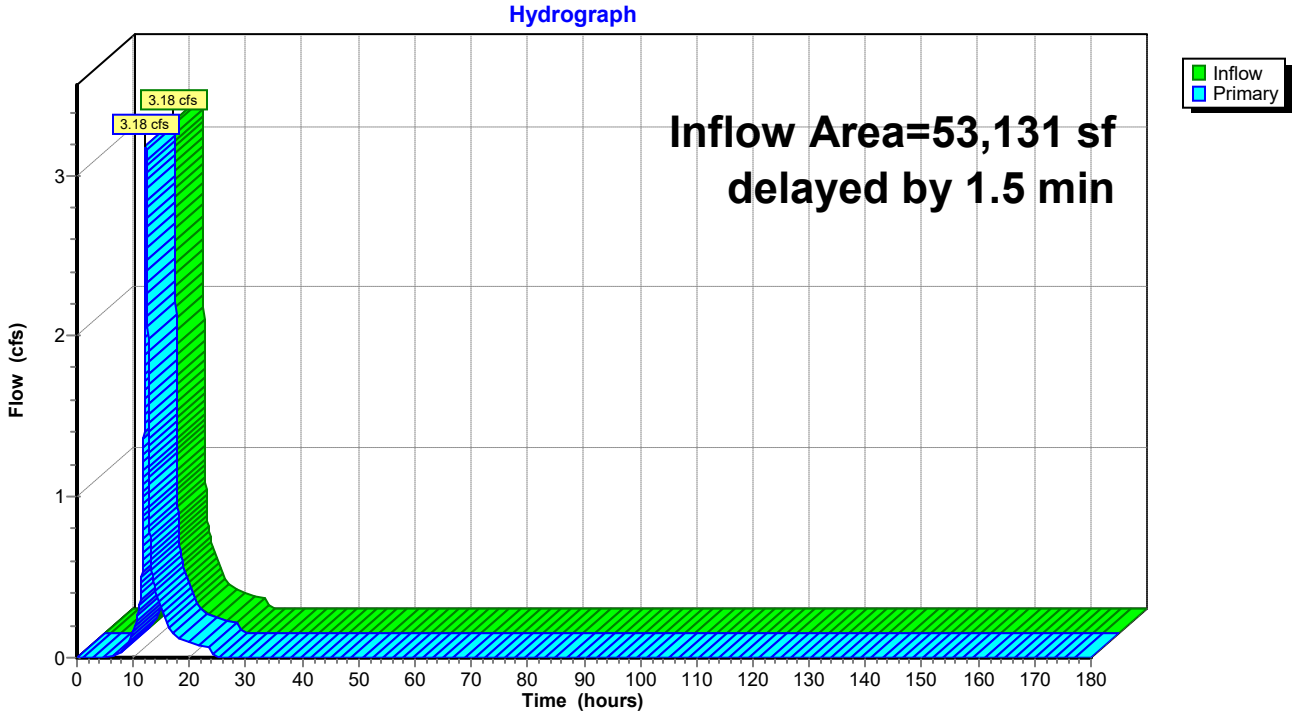
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.08	0.00	0.08	114.00	0.00	0.00	0.00
12.00	**1.29**	0.00	**0.66**	116.00	0.00	0.00	0.00
14.00	**0.11**	0.00	**0.12**	118.00	0.00	0.00	0.00
16.00	0.06	0.00	0.06	120.00	0.00	0.00	0.00
18.00	0.03	0.00	0.04	122.00	0.00	0.00	0.00
20.00	0.03	0.00	0.03	124.00	0.00	0.00	0.00
22.00	0.02	0.00	0.02	126.00	0.00	0.00	0.00
24.00	0.02	0.00	0.02	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link FS1: Filter Strip

Inflow Area = 53,131 sf, 0.04% Impervious, Inflow Depth = 4.24" for 100-Year event
Inflow = 3.18 cfs @ 12.21 hrs, Volume= 18,758 cf
Primary = 3.18 cfs @ 12.23 hrs, Volume= 18,758 cf, Atten= 0%, Lag= 1.5 min
Routed to Pond IT2 : Infiltration

Primary outflow = Inflow delayed by 1.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link FS1: Filter Strip



Hydrograph for Link FS1: Filter Strip

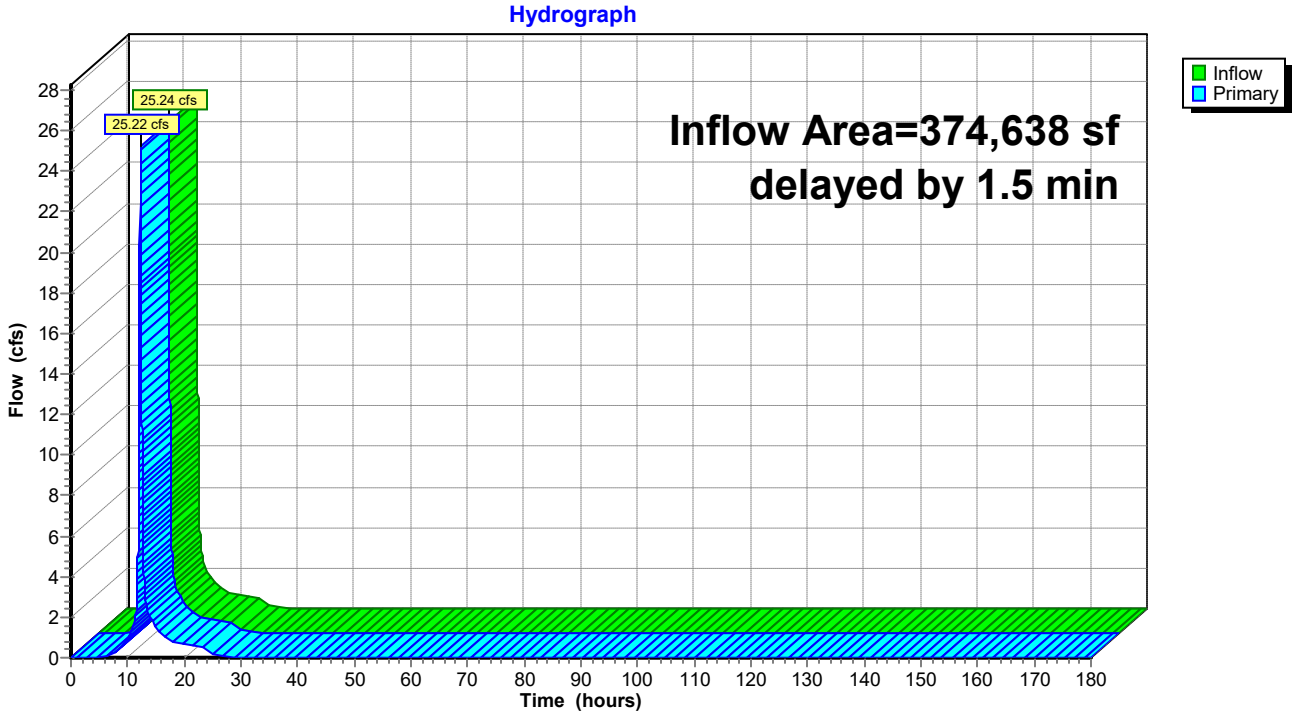
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.04	0.00	0.04	112.00	0.00	0.00	0.00
10.00	0.16	0.00	0.16	114.00	0.00	0.00	0.00
12.00	**2.08**	0.00	**1.94**	116.00	0.00	0.00	0.00
14.00	**0.40**	0.00	**0.40**	118.00	0.00	0.00	0.00
16.00	0.21	0.00	0.21	120.00	0.00	0.00	0.00
18.00	0.12	0.00	0.12	122.00	0.00	0.00	0.00
20.00	0.09	0.00	0.09	124.00	0.00	0.00	0.00
22.00	0.08	0.00	0.08	126.00	0.00	0.00	0.00
24.00	0.06	0.00	0.06	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link FS2: Filter Strip

Inflow Area = 374,638 sf, 0.03% Impervious, Inflow Depth = 3.44" for 100-Year event
Inflow = 25.24 cfs @ 12.21 hrs, Volume= 107,356 cf
Primary = 25.22 cfs @ 12.23 hrs, Volume= 107,356 cf, Atten= 0%, Lag= 1.5 min
Routed to Pond IT5 : Infiltration

Primary outflow = Inflow delayed by 1.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link FS2: Filter Strip



Hydrograph for Link FS2: Filter Strip

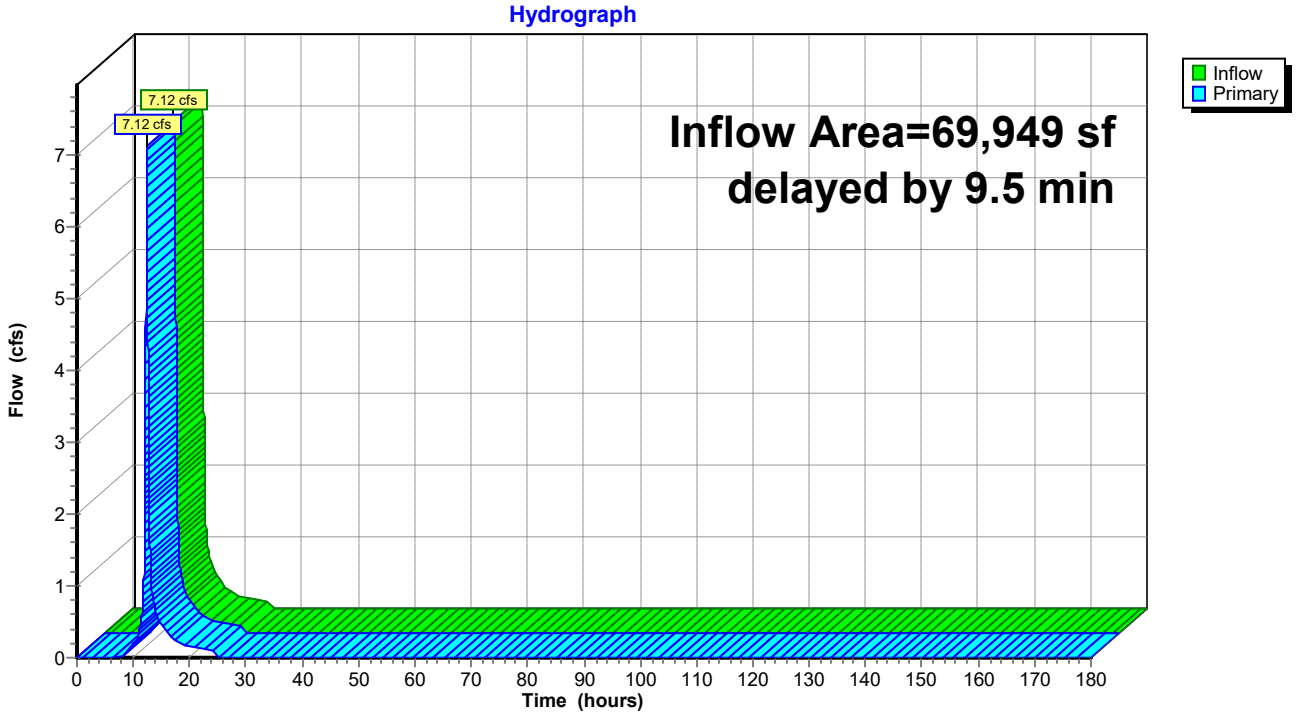
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.01	0.00	0.01	108.00	0.00	0.00	0.00
6.00	0.04	0.00	0.03	110.00	0.00	0.00	0.00
8.00	0.31	0.00	0.31	112.00	0.00	0.00	0.00
10.00	0.99	0.00	0.98	114.00	0.00	0.00	0.00
12.00	**9.59**	0.00	**8.87**	116.00	0.00	0.00	0.00
14.00	**1.99**	0.00	**2.01**	118.00	0.00	0.00	0.00
16.00	1.15	0.00	1.16	120.00	0.00	0.00	0.00
18.00	0.77	0.00	0.78	122.00	0.00	0.00	0.00
20.00	0.65	0.00	0.65	124.00	0.00	0.00	0.00
22.00	0.57	0.00	0.57	126.00	0.00	0.00	0.00
24.00	0.49	0.00	0.49	128.00	0.00	0.00	0.00
26.00	0.10	0.00	0.10	130.00	0.00	0.00	0.00
28.00	0.04	0.00	0.04	132.00	0.00	0.00	0.00
30.00	0.01	0.00	0.01	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-1L: Lag

Inflow Area = 69,949 sf, 0.03% Impervious, Inflow Depth = 5.12" for 100-Year event
Inflow = 7.12 cfs @ 12.21 hrs, Volume= 29,862 cf
Primary = 7.12 cfs @ 12.37 hrs, Volume= 29,862 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.5 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-1L: Lag



Hydrograph for Link P-1L: Lag

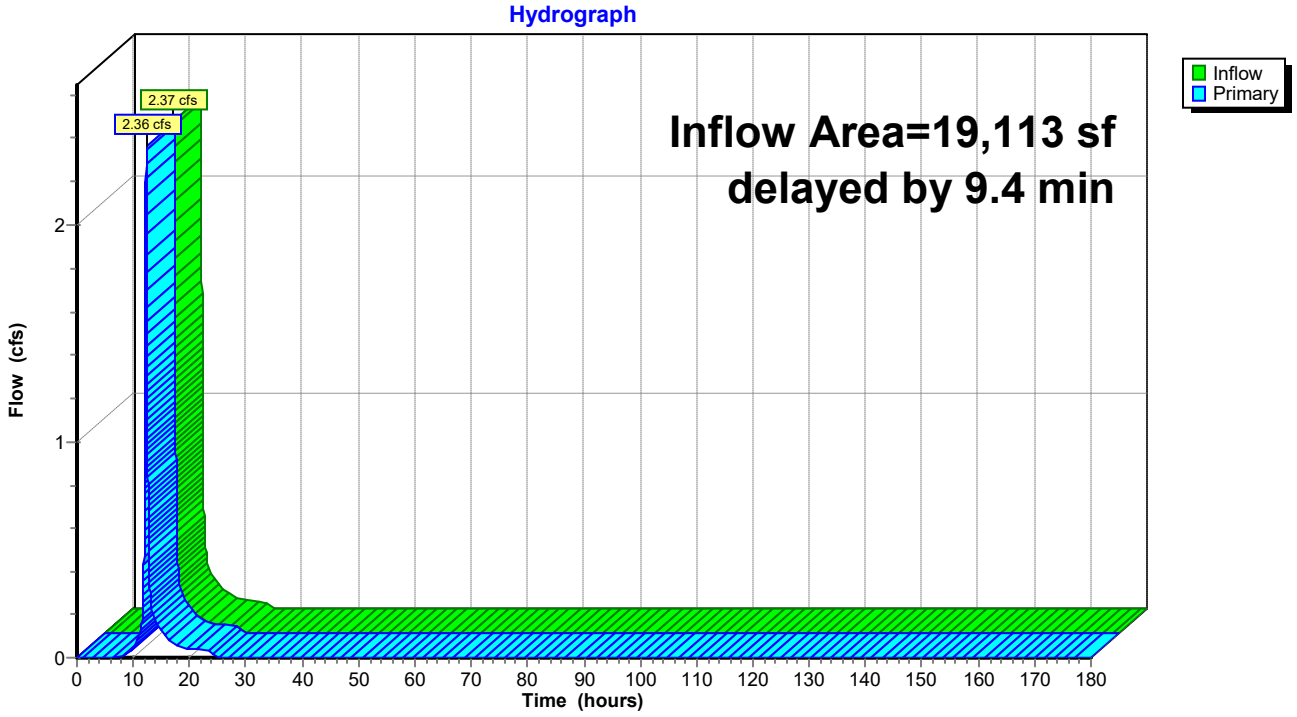
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.04	0.00	0.03	112.00	0.00	0.00	0.00
10.00	0.21	0.00	0.19	114.00	0.00	0.00	0.00
12.00	**3.03**	0.00	**1.71**	116.00	0.00	0.00	0.00
14.00	**0.62**	0.00	**0.66**	118.00	0.00	0.00	0.00
16.00	0.33	0.00	0.35	120.00	0.00	0.00	0.00
18.00	0.20	0.00	0.21	122.00	0.00	0.00	0.00
20.00	0.16	0.00	0.16	124.00	0.00	0.00	0.00
22.00	0.13	0.00	0.13	126.00	0.00	0.00	0.00
24.00	0.10	0.00	0.11	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-2L: Lag

Inflow Area = 19,113 sf, 0.02% Impervious, Inflow Depth = 5.01" for 100-Year event
Inflow = 2.37 cfs @ 12.12 hrs, Volume= 7,974 cf
Primary = 2.36 cfs @ 12.28 hrs, Volume= 7,974 cf, Atten= 0%, Lag= 9.4 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-2L: Lag



Hydrograph for Link P-2L: Lag

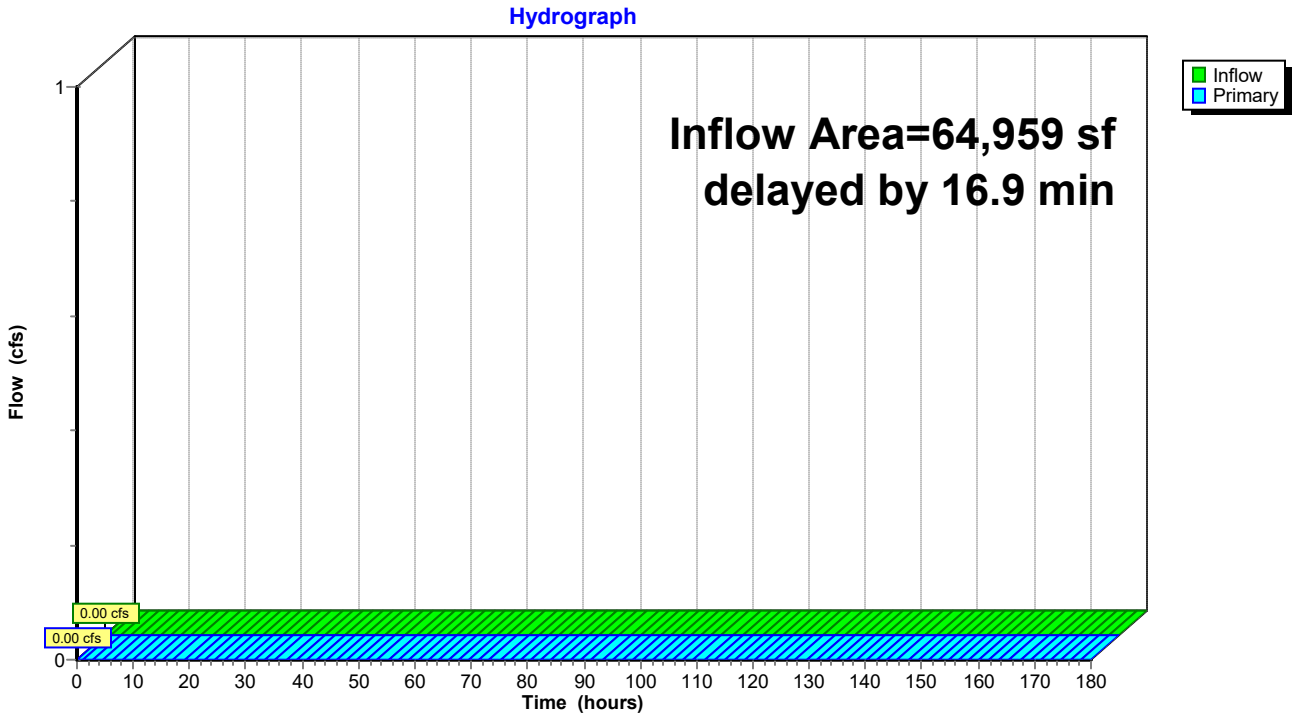
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	112.00	0.00	0.00	0.00
10.00	0.06	0.00	0.05	114.00	0.00	0.00	0.00
12.00	**1.21**	0.00	**0.67**	116.00	0.00	0.00	0.00
14.00	**0.16**	0.00	**0.17**	118.00	0.00	0.00	0.00
16.00	0.09	0.00	0.09	120.00	0.00	0.00	0.00
18.00	0.05	0.00	0.06	122.00	0.00	0.00	0.00
20.00	0.04	0.00	0.04	124.00	0.00	0.00	0.00
22.00	0.03	0.00	0.04	126.00	0.00	0.00	0.00
24.00	0.03	0.00	0.03	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-3L: Lag

Inflow Area = 64,959 sf, 0.03% Impervious, Inflow Depth = 0.00" for 100-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 16.9 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-3L: Lag



Hydrograph for Link P-3L: Lag

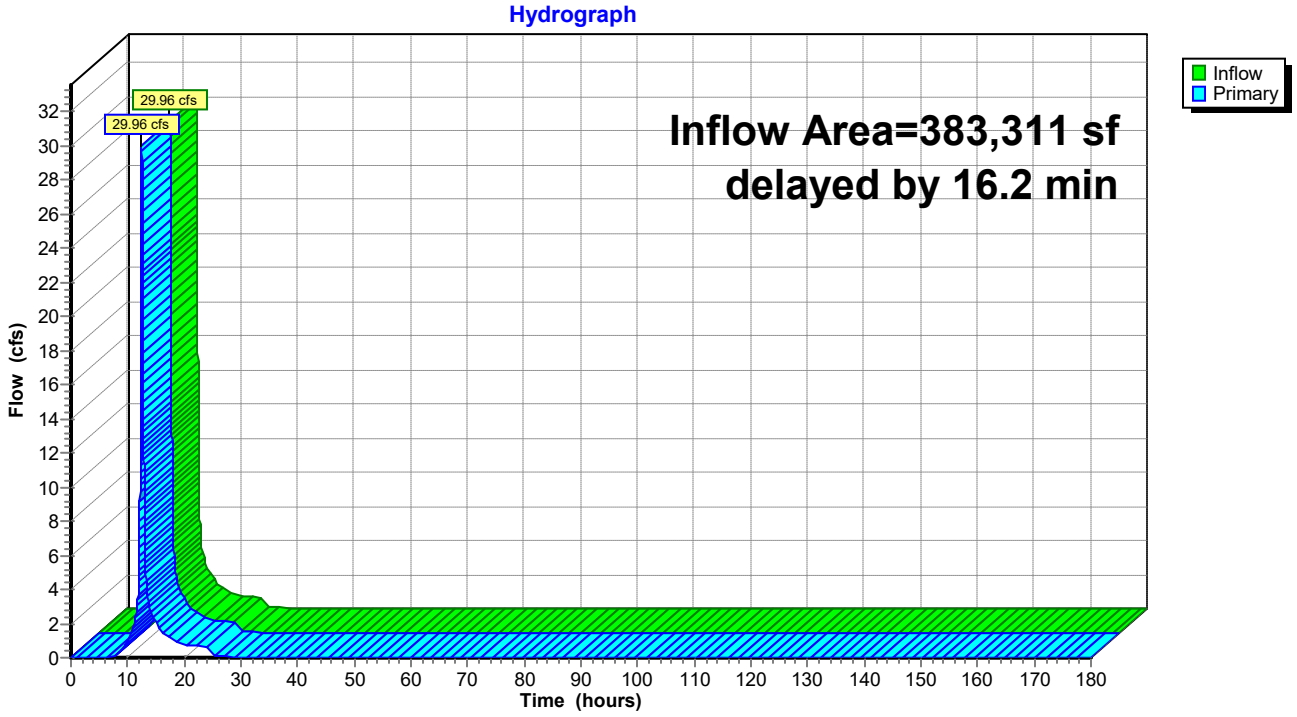
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	112.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	114.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	116.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	118.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	120.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	122.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	124.00	0.00	0.00	0.00
22.00	0.00	0.00	0.00	126.00	0.00	0.00	0.00
24.00	0.00	0.00	0.00	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-4L: Lag

Inflow Area = 383,311 sf, 0.03% Impervious, Inflow Depth = 4.20" for 100-Year event
Inflow = 29.96 cfs @ 12.23 hrs, Volume= 134,111 cf
Primary = 29.96 cfs @ 12.50 hrs, Volume= 134,111 cf, Atten= 0%, Lag= 16.2 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 16.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-4L: Lag



Hydrograph for Link P-4L: Lag

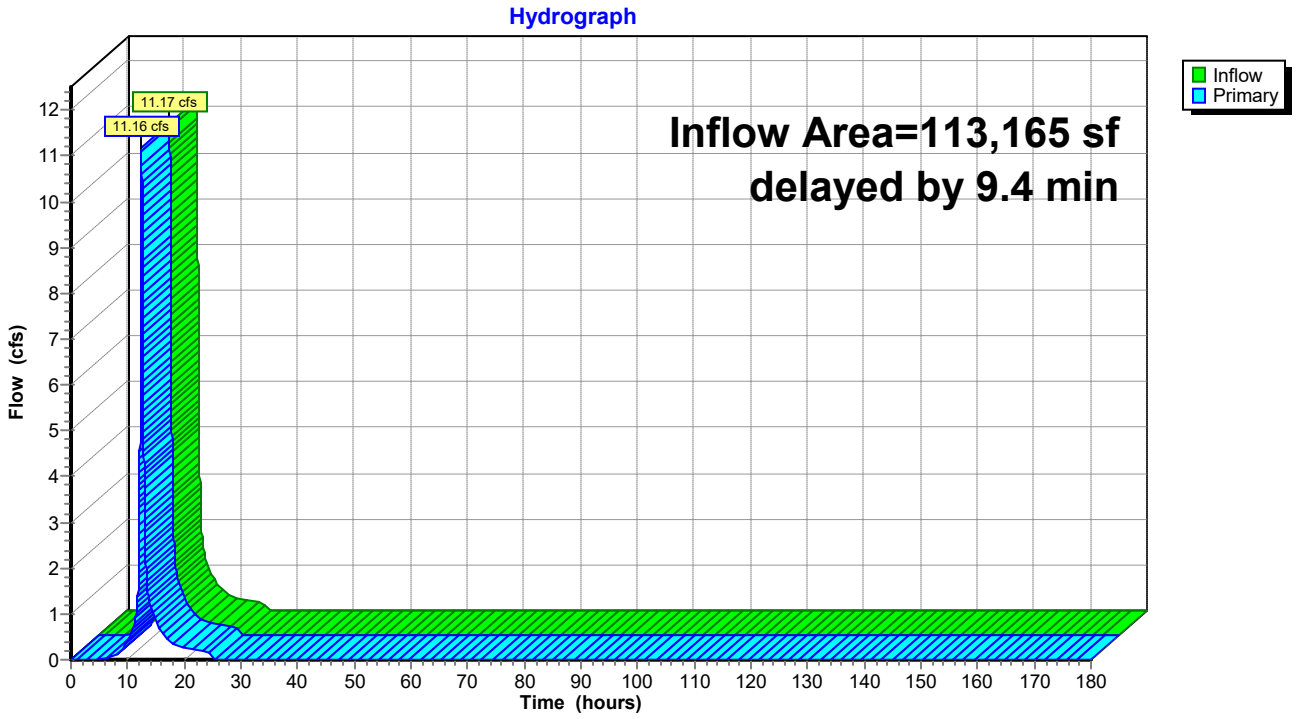
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00
8.00	0.27	0.00	0.00	112.00	0.00	0.00	0.00
10.00	1.25	0.00	1.12	114.00	0.00	0.00	0.00
12.00	**13.13**	0.00	**5.07**	116.00	0.00	0.00	0.00
14.00	**2.60**	0.00	**2.87**	118.00	0.00	0.00	0.00
16.00	1.47	0.00	1.60	120.00	0.00	0.00	0.00
18.00	0.95	0.00	1.01	122.00	0.00	0.00	0.00
20.00	0.78	0.00	0.80	124.00	0.00	0.00	0.00
22.00	0.68	0.00	0.69	126.00	0.00	0.00	0.00
24.00	0.58	0.00	0.59	128.00	0.00	0.00	0.00
26.00	0.10	0.00	0.11	130.00	0.00	0.00	0.00
28.00	0.03	0.00	0.04	132.00	0.00	0.00	0.00
30.00	0.01	0.00	0.01	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-5L: Lag

Inflow Area = 113,165 sf, 0.03% Impervious, Inflow Depth = 5.71" for 100-Year event
Inflow = 11.17 cfs @ 12.29 hrs, Volume= 53,842 cf
Primary = 11.16 cfs @ 12.45 hrs, Volume= 53,842 cf, Atten= 0%, Lag= 9.5 min
Routed to Reach P-DP-W : Watts Stream

Primary outflow = Inflow delayed by 9.4 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-5L: Lag



Hydrograph for Link P-5L: Lag

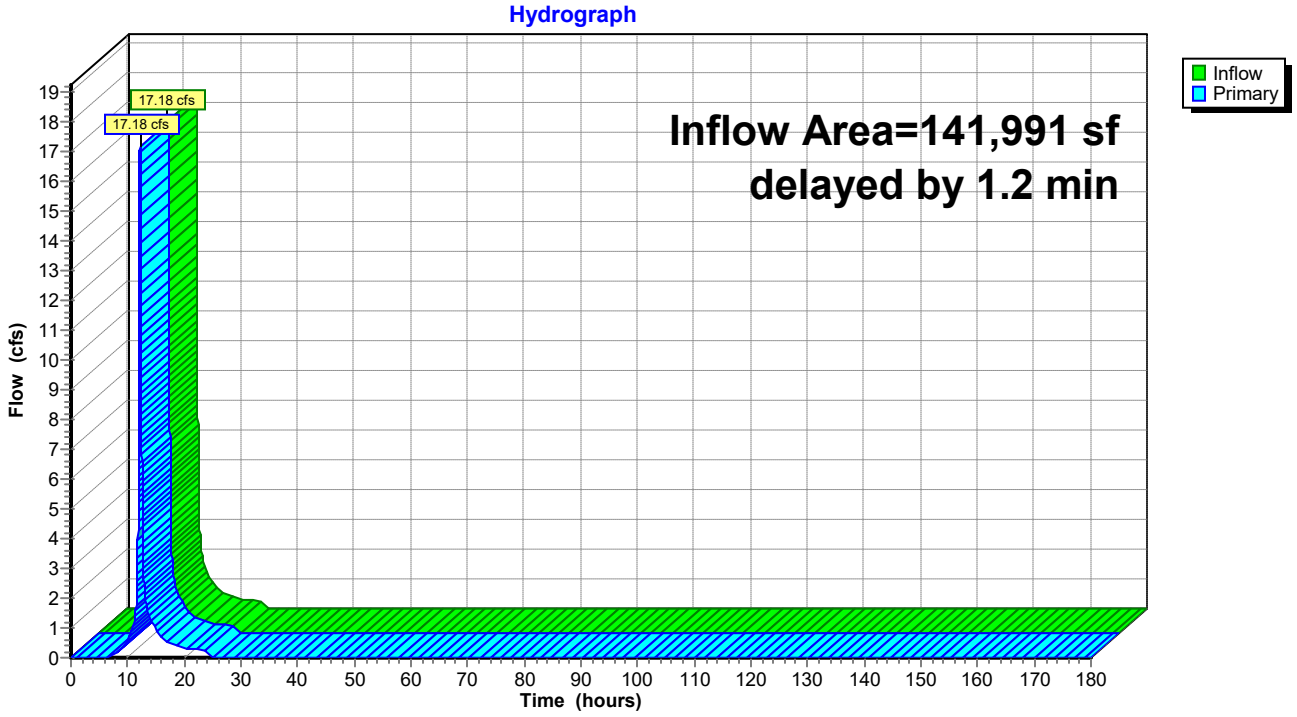
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	110.00	0.00	0.00	0.00
8.00	0.12	0.00	0.11	112.00	0.00	0.00	0.00
10.00	0.44	0.00	0.41	114.00	0.00	0.00	0.00
12.00	**4.35**	0.00	**2.50**	116.00	0.00	0.00	0.00
14.00	**1.10**	0.00	**1.18**	118.00	0.00	0.00	0.00
16.00	0.59	0.00	0.62	120.00	0.00	0.00	0.00
18.00	0.35	0.00	0.36	122.00	0.00	0.00	0.00
20.00	0.27	0.00	0.27	124.00	0.00	0.00	0.00
22.00	0.22	0.00	0.22	126.00	0.00	0.00	0.00
24.00	0.18	0.00	0.18	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

Summary for Link P-6L: Lag

Inflow Area = 141,991 sf, 0.03% Impervious, Inflow Depth = 5.59" for 100-Year event
Inflow = 17.18 cfs @ 12.17 hrs, Volume= 66,165 cf
Primary = 17.18 cfs @ 12.19 hrs, Volume= 66,165 cf, Atten= 0%, Lag= 1.2 min
Routed to Reach P-DP-E : Culvert towards Wades Stream

Primary outflow = Inflow delayed by 1.2 min, Time Span= 0.00-180.00 hrs, dt= 0.01 hrs

Link P-6L: Lag



Hydrograph for Link P-6L: Lag

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	104.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	108.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	110.00	0.00	0.00	0.00
8.00	0.15	0.00	0.14	112.00	0.00	0.00	0.00
10.00	0.56	0.00	0.55	114.00	0.00	0.00	0.00
12.00	**8.12**	0.00	**7.47**	116.00	0.00	0.00	0.00
14.00	**1.29**	0.00	**1.30**	118.00	0.00	0.00	0.00
16.00	0.69	0.00	0.69	120.00	0.00	0.00	0.00
18.00	0.42	0.00	0.42	122.00	0.00	0.00	0.00
20.00	0.33	0.00	0.33	124.00	0.00	0.00	0.00
22.00	0.27	0.00	0.27	126.00	0.00	0.00	0.00
24.00	0.22	0.00	0.22	128.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	130.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	132.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	136.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	138.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	140.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	144.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
44.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00
46.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00	152.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	154.00	0.00	0.00	0.00
52.00	0.00	0.00	0.00	156.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00	158.00	0.00	0.00	0.00
56.00	0.00	0.00	0.00	160.00	0.00	0.00	0.00
58.00	0.00	0.00	0.00	162.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	164.00	0.00	0.00	0.00
62.00	0.00	0.00	0.00	166.00	0.00	0.00	0.00
64.00	0.00	0.00	0.00	168.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00	170.00	0.00	0.00	0.00
68.00	0.00	0.00	0.00	172.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	174.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00	176.00	0.00	0.00	0.00
74.00	0.00	0.00	0.00	178.00	0.00	0.00	0.00
76.00	0.00	0.00	0.00	180.00	0.00	0.00	0.00
78.00	0.00	0.00	0.00				
80.00	0.00	0.00	0.00				
82.00	0.00	0.00	0.00				
84.00	0.00	0.00	0.00				
86.00	0.00	0.00	0.00				
88.00	0.00	0.00	0.00				
90.00	0.00	0.00	0.00				
92.00	0.00	0.00	0.00				
94.00	0.00	0.00	0.00				
96.00	0.00	0.00	0.00				
98.00	0.00	0.00	0.00				
100.00	0.00	0.00	0.00				
102.00	0.00	0.00	0.00				

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