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Draft Stormwater Management Design Report

for:

The Windham Mountain Sporting Club

Trailside Road, Town of Windham
Greene County, New York

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APPENDICES

1.0 INTRODUCTION

This report describes the proposed stormwater management plan for the Windham Mountain Sporting Club, ("WMSC", or "the Project"), and provides the criteria, methodologies and assumptions used to form the basis of the design. The WMSC is a proposed private sporting club development that will offer its members multiple recreational and amenity offerings as well as a variety of residential offerings including single-family homes, duplexes, townhouses and condominiums. The Project is proposed on 464.6 acres of land in the Town of Windham, NY, south of South Street and east of the Windham Mountain Ski Area.

The goal of the proposed stormwater management plan is to incorporate stormwater management as part of the overall project design. This includes protecting the site's natural resources and environmentally sensitive areas, minimizing development impacts and impervious areas by using effective site planning principles, and incorporating design features that effectively manage stormwater runoff such as bioretention areas and stormwater management ponds, and surface conveyances such as roadside swales. The plan utilizes these elements in order to achieve the primary goal of meeting water quality objectives, while at the same time mitigating potential impacts associated with increased stormwater runoff. Specifically, the objectives of the stormwater management plan are to enhance the quality of stormwater runoff to prevent water quality degradation, and preserve water quality in receiving water bodies within the New York City West of Hudson watershed, promote infiltration and evapotranspiration, and to prevent increased runoff from developed land to reduce the potential for downstream flooding, channel erosion and flood damage.

The management plan incorporates the design standards established in The New York State Department of Environmental Conservation Stormwater Management Design Manual, (SMDM), (August, 2010), and the Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its sources, 10 NYCRR §128-3.9.

2.0 PROJECT LOCATION

The WMSC is proposed in the Town of Windham which is located in central Greene County, in New York State. More specifically, the WMSC is proposed on 464.6 acres located south of South Street (Greene County Route (CR) 12) and to the east of Windham Mountain ski area. See Figures 1-1, State Location Map, and 1-2, Regional Location Map in Appendix A.

The project site is located within a region known as the Catskill Park. The Catskill Park is an area of approximately 1,100 square miles that is a mix of privately owned lands and publicly owned lands. The publicly owned lands in the Catskill Park include NYS Forest Preserve lands which comprise about 41% of the Park, and New York City owned watershed lands which comprise approximately 6% of the Park.

The project site is also located in the New York City Watershed, more specially, the West of Hudson Watershed. Figure 1-5, West of Hudson Watershed, shows the extent of the watershed and the location of

the project site. The project site is within the Schoharie Reservoir Drainage, approximately 15 miles from the reservoir when measured along Schoharie Creek and the Batavia Kill. Schoharie Reservoir is on New York State's 2010 (303(d)) list of impaired waters. The cause of the impairment is listed as silt/sediment and the source is listed as stream bank erosion.

Figure 1-3 in Appendix A, Site Location Map, shows the project site in relation to Windham, Hensonville, Ski Windham and the local road network.

3.0 PROJECT DESCRIPTION

The WMSC is a proposed private sporting club development that will offer its members multiple recreational and amenity offerings as well as a variety of residential offerings including single-family homes, duplexes, townhouses and condominiums. Amenities include a proposed Member's Lodge and Clubhouse with condominiums, underground parking and a restaurant and spa; a Wellness Center, which will offer recreational activities; and the East Base Lodge, with condominiums, a grill/restaurant, and underground and surface parking. There will also be two transport ski lifts that provide access from the Member's Lodge and East Base Lodge to the Windham Mountain Ski Area, however no ski trails are proposed. All the roads, sewer and water utilities and stormwater management infrastructure will be privately owned and maintained. See the Project Master Plan, sheet L1.01 in Appendix F of this report, for the overall Project location and design.

More specifically, the project includes the following:

- 139 Single Family Homes
- 24 Duplex Units
- 34 Townhome Units
- 81 Condominium Units
- Members Lodge and Clubhouse, that includes
    - Private Lounge
    - Restaurant
    - Bar
    - Kitchen
    - Ski Storage
    - Full Service Spa
    - Condominiums

  - Underground Parking
  - Adjacent Ski Lift “A” connecting to Windham Mountain
- Wellness Center, that includes
  - Tennis Courts
  - Swimming Pool
  - Indoor Exercise Area
  - Climbing Wall
  - Squash Courts
  - Aerobics/Pilates Area
  - Surface Parking
- East Village Lodge
  - Grill/Restaurant
  - Heated Pool & Hot Tub
  - Weight/Exercise Room
  - Locker Room
  - Underground and Surface Parking
  - Adjacent Ski Lift “B” connecting to Windham Mountain
- Privately constructed, owned and maintained project roads with project access from Trailside Road
- Privately constructed, owned and maintained central water and sewer collection systems with connection to existing Town of Windham systems in South Street.

The project residential components and amenities are proposed to be built in 3 phases with an anticipated timeframe for full project build out of approximately 15 years. (See Figure 1-7, Phasing Plan, in Appendix A).

4.0 EXISTING SITE CONDITIONS

4.1 Vegetation

The vegetation of the project site consists mainly of upland forests composed of sugar maple with smaller amounts of other hardwood trees. Smaller areas are covered with forest dominated by eastern hemlock and other trees. It is evident that these forests have been managed on a regular basis, for log skidder trails are found throughout, and the forest canopy is somewhat more open than would be expected in a forest allowed to grow naturally.

Evidence of previous agricultural activity on the site is present in the form of non-forested areas that vary from fields covered mainly with grasses and broadleaved herbs to areas dominated by shrubs and tree saplings. These areas were apparently cleared of forest to create pastures or hayfields, were later abandoned, and are in the process of ecological succession that will re-establish forest. Reportedly, such open areas in the eastern part of the property were once used for grazing sheep. Refer to Figure 3-10, Vegetation Covertypes, in Appendix A.

4.2 Soils

An on-site soil survey was performed on the WMSC property by a professional soil scientist in the fall of 2008. The soil survey included the excavation of a number of test pits on the property as well as shovel testing verification. Additional test pit information was collected in 2010 to determine soil conditions in areas considered for stormwater management practices. Soils mapping and test pit locations for the project site is shown on Figure 3-14 in Appendix A, and test pit data is summarized in Appendix E of this report.

The WMSC property is mostly shallow and moderately deep, very stony soils formed in glacial till soils derived from red shale and sand stone. There are some areas of deep glacial till soils that have a very firm fragipan. (A fragipan is a dense, natural subsurface layer of hard soil with relatively slow permeability to water, mostly because of its extreme density or compactness rather than its high clay content or cementation.) At the base of the mountain in a few areas there are some very gravelly glacial outwash soils and a few areas of the deep till without a fragipan.

The soil identification legend for the WMSC property is based on the published Soil Survey Report for Greene County issued in 1993. The published soil survey was prepared by the USDA Natural Resources Conservation Service and most of the field mapping was done from approximately 1975 to 1985.

All of the soils at the WMSC property fall into the “frigid” soil temperature regime. Soils in frigid temperature regimes have a shorter growing season then soils at lower elevations.

Most of the soils in the higher elevations of the Catskill Mountains is derived from red fine textured shale bedrock and the glacial till derived from the shale tends to be reddish colored and fine textured.

The following soil series have been mapped on the WMSC site.

Halcott soils are well drained shallow (<20 inches deep to bedrock) soils formed from red shale parent material. **Vly** soils are similar to Halcott soils but are moderately deep (20 to 40 inches deep over bedrock). On steep slopes both soils may have significant component of exposed bedrock outcrops.

Lewbeach soils are deep well drained soils formed in fine textured reddish brown glacial till. Lewbeach soils have a very firm fragipan typically 25 to 40 inches below the surface. **Willowemoc** soils are moderately well drained soil also formed in fine textured glacial till, typically on more gentle slopes with the very firm fragipan at 18 to 25 inches below the surface.

At the base of steep slopes, especially the very steep slopes with ledges and rock outcrops there are some area of very deep well drained soils that don't have a fragipan. These **Elka** soils typically have a large component for rock fragments mixed with the fine textured glacial till and tallus material.

Well drained **Tunkhannock** soils are at the base of the mountain and extend north to South Street and across to the golf course and continue to the edge of the Batavia Kill.

Lineal polygons on the soil map are areas that have been cleared and graded for access roads either for past agricultural or logging activities on the property. The soils mapped in those lineal polygons are most likely disturbed phases of the named soil.

The wetlands are complex areas of deep, somewhat poorly drained to poorly drained **Onteora** and very poorly drained **Suny** soils on nearly level to moderate slopes. Wetland soils with bedrock with 40 inches are poorly or very poorly drained **Tor** soils.

Based on the extensive soil investigations, mapping and test pit confirmations, fragipans, shallow depths to bedrock and seasonally high groundwater are limiting factors in the design of stormwater management facilities. However the moderately well drained and well drained soils do present limited opportunities for infiltration.

4.3 Hydrology

The project site is located in the West of Hudson portion of the New York City watershed. Figure 1-5 in Appendix A, West of Hudson Watershed Map, is a map showing the site within the watershed. The project site is also within the Schoharie Reservoir Drainage. On a more local scale, the WMSC property lies within the watershed of the Batavia Kill, which is a tributary of Schoharie Creek. Schoharie Creek is a tributary of the Mohawk River, a traditional navigable waterway.

The highpoint of the project site is along the southern property boundary. From here runoff either drains onto the property or flows north, or away from the property and flows south. There is a ridge in the center of the property which divides the larger watershed into two areas; the southeastern portion that drains to the southeast and the northwestern portion that drains to the northwest. This dividing "ridge line" is best described as the subcatchment divide between Subcatchments 2b and 3, as shown on the Existing Subcatchment Diagram, (sheet L-5.01), in the Appendix F. All existing drainage patterns on the site and adjacent areas are also illustrated on the Existing Subcatchment Diagram. Additionally, the same Watercourses Delineation Mapping for the site (but also including watercourse numbering) is shown on Figures 2-3a through 2-3c in Appendix A.

In the central portion of the southeast drainage area, most sheet flow runs overland about halfway down the project site, and then either collects into a series of intermittent drainages, a perennial drainage channel, or continues as sheet flow into a broad wetland complex in a corner along the eastern boundary. From here it leaves the site in a perennial drainage channel, (channel S-7 on the Watercourse Delineation Maps), and eventually crosses NYS Route 296 in Hensonville and drains to the Batavia Kill. The primary intermittent and perennial channels in this central portion are bouldery / cobbly channels with exposed bedrock in places, and rocky, vegetated banks. Secondary intermittent channels in this area are typically cobbly/gravelly channels with rocky/vegetated banks, or flow paths through densely vegetated grassy wetland areas. Detailed descriptions of channel conditions at each design point are located later in this report.

The central portion of the site lacks defined watercourses. Alpha Geoscience performed a hydrogeological analysis of the site in 2012 and found the following:

"The hydrogeology of the site is also typical of the Catskills. The bulk of the site lies in what Heisig (1998) refers to as an "unchanneled area" (Heisig, P.M., 1998, Water Resources of the Batavia Kill Basin at Windham, Greene County, New York, USGS Water Resources Investigation Report 98-4036, Troy, NY). Heisig states "The lack of channel development in unchanneled areas/valley areas, precludes surface flow to the local valley stream, thus, nearly all water in these areas becomes recharge for the local valley aquifer." Heisig (1998) observed a "stair- step pattern of alternating subsurface flow and surface discharge" on the hillside of Cave Mountain during wet conditions in April of 1991. This same pattern was observed by Alpha personnel on May 24, 2012 during the site reconnaissance. Significant precipitation events had occurred just days before the Alpha site visit. National Weather Service rain gauges at nearby Cairo and East Jewett received 1.44 inches and 1.49 inches of rainfall, respectively during May 22-23. Alpha observed this stair-step pattern of surface and shallow subsurface flow above an elevation of approximately 1,900 ft within the central portion of the site. Minimal to no flow was observed downslope from this elevation within the "unchanneled zone". Nearly all of the surface flow below approximately 1,900 ft elevation within the central portion of the site had infiltrated into more permeable deposits within the till or, eventually, into the permeable stratified drift deposits on the lower slope."

In the western part of the site, the area south of channel S-7 generally sheet flows to intermittent channels located close to the southeastern property boundary, (channel S-12 on the Watercourse Delineation Maps in Appendix A), which continue off site and become part of the same watershed that flows towards Hensonville. Intermittent drainages in this area are typically cobbly/gravelly channels with rocky/vegetated banks, or flow paths through densely vegetated grassy wetland areas.

The area north of perennial channel S-7 generally sheet flows to a flat wetland area. East of the wetland area two intermittent channels converge at the eastern property line, (channel S-6), and continue off site eventually draining to a DEC classified stream, (DEC classification 879-234, Class C), which also crosses under NYS Route 296 and drains to the Batavia Kill. (See Fig. 3-7, NYSDEC Mapped Streams, in Appendix A). These intermittent channels are cobbly / gravelly channels with vegetated banks.

There are also two smaller drainage areas north and south of channel S-6, that sheet flow across the eastern property line and eventually drain to the same DEC classified stream. .

In the northwest drainage basin, runoff primarily drains to three separate points. The first is a perennial stream located on the western edge of the site, (channel S-1 on the Watercourse Delineation Maps in Appendix A), that drains under Trailside Rd and leaves the site. After crossing under Trailside Rd., the stream becomes a NYSDEC classified stream, assigned a class and standards of C (6 NYCRR §879.6, item 231; waters index no. H-240-82-117-12a). This stream is a large bouldery channel with exposed bedrock in several places, and banks that are either bedrock, rocky/cobbly, and/or vegetated. Figure 3-7 in Appendix A, NYSDEC Mapped Streams, shows the location of this stream relative to the project site, the surrounding area, and the Batavia Kill. This perennial stream also collects runoff from the western portions of the site above the Wanderer Ski In this area, runoff flows overland and either collects in perennial/intermittent channels (channel S-1 and S-1.8), or is intercepted by the 'Wanderer' ski trail. Channel S-1 drains through two 72" culverts that cross under the ski trail and continue to flow northwest. The channel below Wanderer is a cobbly/bouldery channel with cobbly/vegetated banks. Runoff that is intercepted by Wanderer is typically collected in a manmade ditch or along the work road on the uphill side of the trail and conveyed across it by water bars to vegetated outlets. For a distance of approximately 500' up the trail from the 72" culverts, flow within the uphill ditch is not conveyed across the trail, but instead stays within the ditch and/or work road until it reaches a water bar that conveys the flow to the discharge point of the two culverts. Runoff from the central part of the western half of the property, below Wanderer and east of channel S-1, sheet flows into small wetland pockets and drainage ways, and collects in intermittent channels that converge with the perennial channel near the end of White Way. These intermittent channels are typically flow paths through densely vegetated grassy wetlands, or gravelly/cobbly channels with densely vegetated banks.

The second point that runoff drains to is the roadside ditch east of Trailside road, just south of South Street. This ditch collects runoff from the northern section of the property, where sheet flow collects into an intermittent drainage that runs along a portion of an existing logging road, before leaving the project site through a displaced 24" culvert at the northern property boundary (channel S-3 on the Watercourse Delineation Maps in Appendix A). The intermittent drainage is typically a cobbly/gravely channel with densely vegetated banks. Once offsite, the watercourse flows through a part of the field into the roadside ditch along Trailside, through a culvert under South Street and eventually to the Batavia Kill.

The third point is the intersection of Panorama Lane and Upper Panorama. This point collects runoff from the central and portion of the site, just west of the ridge that separates the northwestern drainage basin from the southeastern drainage basin. In this area, runoff sheet flows to the upper section of the main existing logging road (Upper Panorama), where it is collected in a roadside ditch and conveyed across the road via water bars to cobbly/gravelly channels. These channels flow to the lower section of Upper Panorama where it is again collected in a roadside ditch and conveyed across the road via water bars to cobbly/gravelly channels that flow off-site and become subsurface flow south of the cul-de-sac at the end of Panorama Lane. Sheet flow from the area south of the cul-de-sac is intercepted by a roadside ditch along lower Panorama which drains to a 24" culvert at the intersection of Panorama Lane and Upper Panorama. The culvert then drains into a channel that flows through a field to a roadside ditch along the west side of Panorama Lane, before dispersing back into the field where the channel disappears. These hydrologic patterns form the basis for the Existing Subcatchment Diagram, sheet L5.01 in Appendix F, which more specifically delineates the pre-development watersheds.

4.4 Topography

The elevation of the WMSC property ranges from a low of 1600 feet near the intersection of Panorama Lane and South Street to a high of 3060 feet near the top of Windham Mountain's east peak express quad lift. For reference, other elevations include 1660 feet where the property abuts the open field (Cammer property) to the north, the former meadow in the northeast corner of the property is around 2240 feet, the existing lean to on the property is at 2330 feet, and the bend in the Wanderer ski trail is at an elevation of 2630 feet.

Topography on the property can be considered typical of hillside areas in the Central Catskills – a series of alternating steeper slopes and flatter benches. This pattern is evidenced on the slope map of the WMSC property (See Figure 3-2 in Appendix A, Slope Mapping). Approximately 52% of the site is 25% slopes or greater, while 48% of the property has slopes less than 25%.

4.5 Resource Mapping

Detailed mapping of existing conditions and environmental resources is provided in the DEIS project plan set as noted in the sections above. This mapping forms the basis for the natural resource analysis performed during the site planning and stormwater management design process. In Appendix A see Figure 2-5, Composite Constraints, as well as an unnumbered figure dated February 15, 2010 and titled Potential Development Diagram.

5.0 METHODOLOGY

The Stormwater Management Plan was developed in accordance with the design standards established in The NYSDEC New York State Stormwater Management Design Manual, August, 2010 (SMDM), and the Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its sources, 10 NYCRR §128-3.9.

5.1 Stormwater Model and Analysis

Stormwater modeling was performed using the computer program HydroCAD (version 9.10) produced by HydroCAD Software Solutions, LLC, and all stormwater calculations were completed utilizing the SCS TR-20 and , TR-55 methods, widely accepted engineering practices, and recommended procedures listed in the SMDM.

5.2 Storm Events Analyzed

The Type II storm is synthetic rainfall distribution that SCS has mapped for the project site, based on available National Weather Service duration-frequency data. Type II represents the most intense, short duration rainfall of the four different distributions, and is the design storm utilized in the stormwater model.

The return interval storm events analyzed during the development of the plan are those specified in the August 2010 SMDM.

The storm events analyzed are:

1. The 90% rainfall event totaling **1.1** inches as per Figure 4.1 of the SMDM, used as the basis for the DEC **Water Quality Volume** treatment goals.

2. The 1-Year, Type II Design Storm having a 24-hour rainfall total of **3.0** inches as per Figure 4.4 of the Manual, used as the basis for **Channel Protection Volume** extended detention requirements. This storm event is also used to meet ***NYC DEP*** **Treatment Volume** treatment goals.

3. The 10-Year, Type II Design Storm having a 24-hour rainfall total of **5.0** inches, as per Figure 4.5 of the Manual, used as the basis for meeting the **Overbank Flood Control** Criteria.

4. The 100-Year, Type II Design Storm having a 24-hour rainfall total of **7.5** inches as per Figure 4.6 of the Manual, used as the basis for meeting the **Extreme Flood Control** criteria.

5.3 Design Process

Once an environmental resources analysis of the project site was complete, the stormwater management design process began with the identification of design points, which are typically points of confluence where flows can be easily measured, in locations that are down gradient of proposed development and as close as possible to the areas of proposed development. These design points were used to develop the pre-development subcatchment mapping. Once the subcatchment areas were defined, data was collected to determine initial quantity and quality requirements. Using this data, the site plan and stormwater design was then developed in accordance with the 5-step process outlined in the SMDM in order to meet the required treatment and attenuation goals. Throughout the process, extensive field investigations were performed in order to accurately represent predevelopment conditions.

The August 2010 SMDM includes a five-step process that integrates site planning and stormwater management, and requires the use of green infrastructure practices to treat stormwater. The five steps include;

1. Site planning to preserve natural features and reduce impervious cover,

2. Calculation of the initial Water Quality Volume for the site,

3. Providing Runoff Reduction by incorporation of green infrastructure techniques and standard stormwater management practices (SMP's) with Runoff Reduction Volume (RRv) capacity,

4. Using standard SMP's where applicable, to treat the portion of water quality volume (WQv) not addressed by green infrastructure techniques and standard SMP's with RRv capacity, and

5. Design of volume and peak rate control practices where required.

Recently, NYCDEP has more specifically defined a Design Point as "…a point where stormwater runoff enters a watercourse or wetland, or leaves the site." As a result, project design points have been adjusted and located at points where stormwater leaves a stormwater management practice and enters a watercourse. These new design points where used to refine the pre-development and post-development

subcatchment mapping. Data from the updated mapping was collected and the 5-step process was revisited using this data. Specific aspects of the design are included in more detail later in this report.

6.0 PRE-DEVELOPMENT MAPPING AND ANALYSIS

6.1 Design Points / Receiving Watercourse Analysis

In order to establish a baseline from which design goals can be developed, Design Points are selected based on analysis of existing conditions including wetland and watercourse mapping, hydrology, topography, the proposed site plan including stormwater management device locations, and field investigations.

Once established, initial subcatchment mapping was developed based on the design points and additional field verification was made to confirm detailed information. Field data was collected at each design point including channel size, substrate, composition, stability and bank characteristics. Downstream channel characteristics were also inventoried. For the locations of the Design Points, refer to the Existing Subcatchment Plan, sheet L5.01 in Appendix F. A description of each point is as follows.

Design Point 1 is a stable boulder/cobbly channel, with exposed bedrock in many places. The channel is well defined, with banks that are primarily cobbly with sparse woody vegetation and leaf litter. The channel is 7’ wide at the bed, 13’ wide at the top of banks and 24”-36” deep. The slope in this area ranges from 8% to 15%. Downstream of design point 1, the channel generally maintains the same characteristics, but is more bouldery with wider and deeper banks. The slope in this area is approximately 15%. This point collects runoff from the south eastern portion of the project site.

DP 1 looking downstream

DP 1 looking upstream

Design Point 1a is roughly 125’ west of design point 1, at a confluence of two drainage channels. The confluence is a stable, cobbly/gravelly channel with undefined or shallow banks that form an overflow area composed of dense grassy wetland vegetation, which is part of a larger wetland area. The channel is 3’ wide at the bed, roughly 13’ wide at the top of the overflow area (banks), and 8”-15” deep measured from the bed to the top of the overflow area. The slope in this area ranges from 5%-10%. This channel converges with a larger channel at Design Point 1 approximately 125’ to the east. This point collects runoff from areas south of the perennial watercourse in the eastern drainage basin.

DP 1A looking downstream

DP 1A looking upstream

Design Point 12 is on the southeastern edge of the property, west of design point 1a. The channel is a stable, cobbly/gravelly channel with undefined or shallow banks that form an overflow area. The channel is 3’ wide at the bed, roughly 8’ wide at the top of the overflow area (banks), and 18” deep measured from the bed to the top of the overflow area. Bank conditions vary from sparse woodland and herbaceous vegetation to dense grassy/shrub vegetation. The slope in this area is approximately 20%. The channel maintains these general conditions as it flows to the east, getting larger and broader as it flows downhill. This point collects runoff from the southernmost portions of the property.

DP 12 looking upstream

DP 12 looking downstream

Design Point 2 is a stable, cobbly/gravelly channel with some exposed bedrock, and moderately defined banks composed of shrubby and woody vegetation. The channel is 5’ wide at the bed, 7’ wide at the top of banks and 24” deep. The slope leading to design point 2 is approximately 20%. This point collects runoff from areas north of the perennial watercourse in the eastern drainage basin. Across the property line downstream of design point 2, the channel flattens winds and turns as it flows into an area that has recently been logged and disturbed. This area is densely vegetated with meadow grasses and shrubs, and is roughly 70’ wide. From here the channel enters an undisturbed wooded area and becomes broader. The bed in this area is 5’ wide, and the top of the bank is roughly 8’ wide. The channel bed is cobbly with moss and leaf litter, and the banks have sparse woodland vegetation. Flows that were present in the channel upstream are no longer consistently visible in many parts of the channel, assumed to flow subsurface, and re-emerge in places along the channel length. Roughly 550’ south of the property line/design point 2, the channel enters a steep, heavily disturbed area and disappears. This area is densely vegetated with meadow grasses and shrubby vegetation. At the bottom of the disturbed area roughly 200’ away, an extreme storm event, presumably hurricane Irene, has deposited large boulders, cobbles, gravels and sediment, and erosion is visible in small steep areas. Below the disturbed area, the channel abruptly reforms into a large, stable bouldery channel with an 8’ wide bed, 14’ wide bouldery/cobbly banks, and depth of 24”-36”. This is the beginning of a DEC classified stream, (DEC classification 879-234, Class C), and consequently becomes a first order stream. The channel maintains the same general size and characteristics described above as it flows north from the design point, under Route 296 towards the Batavia Kill.

DP 2 looking downstream

DP 2 looking upstream

Downstream from DP 2

First Order Stream, Downstream from DP 2, Looking Downstream

First Order Stream, Downstream from DP 2 looking upstream

Design Point 3 is a stable, cobbly/gravelly channel located at the switchback on the existing dirt road called Upper Panorama Lane. The channel is moderately defined, with an 18" wide bed, a 30" top of bank width and a depth of 12". There is a shallow, broad overflow area that is approximately 4' wide, with a total depth of 18". The banks are vegetated with shrubby and woodland vegetation. The channel flows down a 50% slope for approximately 150' and disperses and disappears in a flatter area at the toe of the slope. There was no erosion visible along this channel, and it does not re-form further down the slope.

DP 3 looking downstream

DP 3 looking upstream

Design Point 4 is a stable, boulder/cobbly channel with exposed bedrock in places, located west of design point 3 and immediately north of Upper Panorama. The channel is well defined with a 6' wide bed, a top of bank width of 10-15' and a depth of 3'. The banks are cobbly and boulder with sparse woodland vegetation. The channel flows down a 40%-50% slope to a flatter area at the toe of the slope where it appears to disperse and disappear. There is no evidence of the channel re-forming further down the slope. Prior to the installation of the water bars on Upper Panorama this channel received significant flows from a large portion of the site that's north of the sharp turn in the ski trail 'Wanderer'. This is evident from a large disfigured culvert removed from the road lying next to the channel, the presence of a bouldery conveyance channel immediately uphill from DP4, and the size and condition of the channel below the design point. This condition was also observed during early field visits to the site when the project was initiated. These channels collect runoff from the central portion of the site and the upper portions of Upper Panorama.

DP 4 looking downstream

Water bar and old culvert (right side of photo) above DP 4

Design Point 5 is an existing 24" culvert at the intersection of Panorama Lane and Upper Panorama. Downstream of the culvert is a cobbly/vegetated channel with a 3' wide bed, a top of bank width of 5' and a depth ranging from 18"-24". There is a broad overflow area approximately 10' wide, with an additional 6"-12" of depth. The banks and parts of the channel are densely vegetated with thick shrubby vegetation. The slope in this area is approximately 10%-15%. This channel collects runoff from the central portion of the site, and upper and lower portions of Upper Panorama. Some of the runoff is collected from a roadside ditch on the south side of upper stretch of Panorama Lane. Approximately 800' downstream of Design Point 5, the channel converges with a roadside ditch that flows briefly along Panorama Lane before draining into a flat area in an existing field west of Panorama Lane. At this point the channel disperses, disappears and does not reform. There is an existing grassy, roadside ditch along South Street adjacent to the field, however there is no visible connection to the upper channel, and no discharge from the roadside ditch under South Street.

DP 5 looking downstream

DP 5 looking upstream

Design Point 6 is a horizontal stretch along a part of the northern property line at the top of an existing field, west of Design Point 5. This area is densely vegetated with meadow grasses, and receives sheet flow from a small area between Upper Panorama and the property line. Below DP-6, runoff continues as sheet flow through the field to the north. The slope in this area is approximately 10%

Design Point 8 is a cobbly/vegetated channel at the discharge point of an existing culvert that has been displaced and is no longer functioning properly. This point collects runoff from the central northern portion of the site between Upper Panorama and Trailside Road. The channel here is well defined, with shallow broad banks that serve as an overflow area. The channel bed is 36" wide, with a top of bank width of 12' and a depth of 30". The channel and its banks are densely vegetated with meadow grasses and some shrubs. The slope in this area is approximately 10% or less. The channel flows into a field to the north where it quickly becomes larger and more densely vegetated with thick shrubs, (6' deep) before abruptly dispersing into a flat area. From here it appears to connect to a roadside ditch on the east side of Trailside road, but a defined channel and specific connection was not evident.

DP 8 (in field, deep channel)

Design Point 9 is an 18" culvert that discharges to a rip rap swale on the east side of Trailside Road. The swale has a 24" bed, a top of bank width of 7' and a depth of 30"-36". The slope in this area is 8%-10%. This swale collects runoff from portions of Trailside Road and the northwestern portion of the property. The swale runs north along Trailside, crosses under Trailside in a 24" culvert to a similar rip rap swale, and gets larger as it gets closer to South Street. At the intersection of South Street and Trailside, flow from the swale crosses under the road in a 30" culvert to a broad, cobbly/boulder channel that eventually drains to the Batavia Kill.

DP 9 looking downstream

Looking upstream to DP 9 at top of photo

Design Point 11.1 is the inlet of a pair of 72" culverts that collect runoff from a perennial channel and uphill portions of the site south of the ski trail 'Wanderer'. There is a 10' deep by 30' wide ponding area at the inlet of the culverts. The culverts cross under Wanderer and discharge over a bank to a flattish area. On the flat area there are accumulated gravels and cobbles that appear to have washed through the culvert from the upstream channel in a very large storm event, presumably Hurricane Irene. This area is surrounded by dense vegetation and leads to a large bouldery/cobbly channel with densely vegetated banks. The channel in this area has an 8' wide bed, a 14' top of bank width and a 30" depth. This channel converges with another perennial channel approximately 130' downstream, and is the location of design point 11.2. This is the primary perennial channel that drains to design point 11 in the northwestern corner of the site.

Below DP 11.1, culvert discharge point

Immediately downstream of culvert discharge below DP 11.1

Design Point 11.2 is a stable, boulder/cobbly channel at the confluence of two perennial streams. The bed in this location is 7'-8' wide, with a top of bank width of 14' and a depth of 30". The banks are densely vegetated with shrub, herbaceous and woody vegetation. In addition to the flow from design point 11.1, this channel also collects runoff from uphill portions of the site south of 'Wanderer', and a portion of the ski trail itself. This channel maintains these characteristics as it flows to design point 11.3 roughly 375' downstream.

DP 11.2 looking downstream

DP 11.2 looking upstream

Design Point 11.3 is a cobbly, gravelly/bouldery channel with exposed bedrock in places. The bed is 14' wide with a top of bank width of 20' and a depth of 3'. The banks are cobbly with woody and herbaceous woodland vegetation. This channel primarily collects runoff from design points 11.1 and 11.2 and maintains similar characteristics as it continues to flow to the north.

DP 11.3 looking downstream

DP 11.3 looking upstream

Design Point 11.4 is a gravelly/cobbly channel at the confluence of two intermittent channels. The channel is moderately defined with a broad shallow overflow area composed of dense grassy, herbaceous and shrubby vegetation. The channel bed is 12” wide with a 24” top of bank width and a 6” depth. The overflow area is 10’ wide with a 24” depth. The slope in this area is approximately 20%. This point collects runoff from portions of the site above and below Wanderer, and drains to the primary perennial channel approximately 130’ to the north and west.

DP 11.4

Design Point 11.5 is a gravelly/cobbly intermittent channel that flows through a wetland, and has the same general characteristics and size as design point 11.4. The channel is moderately defined with a broad shallow overflow area composed of dense grassy, herbaceous and shrubby vegetation. The channel bed is 12” wide with a 24” top of bank width and a 6” depth. The overflow area is 10’ wide with a 24” depth. The slope in this area is approximately 20%. This point collects runoff from a narrow drainage area below Wanderer. This channel maintains these characteristics, getting slightly larger, as it flows to the primary perennial channel approximately 450’ to the north and west. There are areas of the channel where primary flow appears to be subsurface, as surface flow disappears in locations along the channel.

DP 11.5 looking downstream

DP 11.5 looking upstream

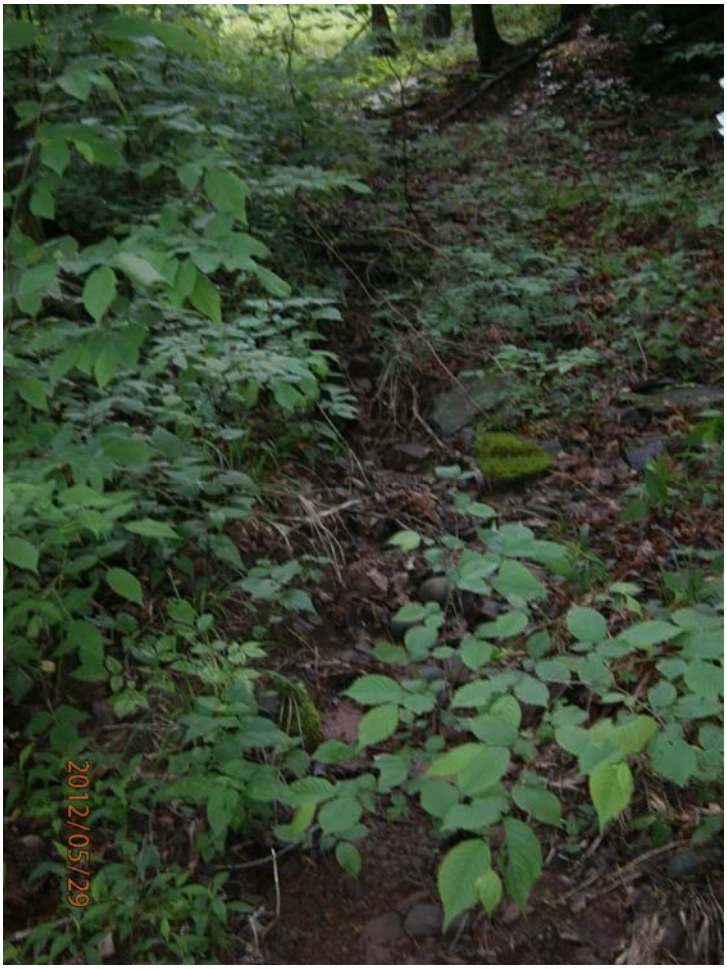
Design Point 11.6 is a poorly defined gravelly/cobbly intermittent channel that flows into and through a wetland where it becomes a slightly more defined channel. The channel has a broad shallow overflow area composed of dense grassy and herbaceous wetland vegetation. The channel bed is 24" wide with a 4' top of bank width and a 12" depth. The overflow area is approximately 15' wide with a 16" depth. The slope approaching the design point is approximately 30% with exposed bedrock and shrubby vegetation, and this flattens to 8%-10% as the channel enters the wetland. This point collects runoff from the central portion of the site north and south of the bend in Wanderer. This channel flows through the wetland area of dense grassy vegetation, into a steeper wooded area where the channel is cobbly/gravelly, before flowing into another grassy wetland area which is design point 11.7.

DP 11.6, looking downstream to wetland area

Wetland below DP 11.6

Design Point 11.7 is a poorly defined gravelly/cobbly intermittent channel that flows out from grassy wetland area to a wooded are along an existing logging trail. The channel has a broad shallow overflow area composed of herbaceous vegetation and small cobbles. The channel bed is 18” wide with a 24” top of bank width and a 6” depth. The overflow area is approximately 10’ wide with a 24” depth. The banks are vegetated with grassy, herbaceous and woodland vegetation. The slope at the design point is approximately 5%-10%. This point collects runoff from design point 11.6 and other upland areas to the west. Downstream, the channel becomes more defined and gets wider as it flows northwest, down steeper terrain, to the primary perennial channel approximately 950’ downstream adjacent to White Way.

DP 11.7 looking downstream



DP 11.7 looking upstream

Design Point 11 is a large, boulder/cobbly channel with exposed bedrock in places. The channel bed is 25’ wide, with a top of bank width of 25’-30’ and a minimum depth of 4’. The banks are rocky with herbaceous and woodland vegetation, and are eroded in some places. The slope in this area is 15%-20%. This point collects runoff from the entire western part of the property including watersheds contributing to design points 11.1-11.7. Approximately 300’ south and upstream, there are two culverts, 60” and 42”, which convey flows from above under Trailside Road. There is a 10’ by 30’ wide ponding area at the inlet to the culverts, and the bed is bouldery and exposed bedrock with bank conditions including bedrock, boulder/cobbly and vegetated to for a distance of roughly 800’ upstream. The design point is the beginning of a DEC classified stream, (DEC classification 879-231, Class C), and consequently becomes a first order stream. The channel maintains the same general size and characteristics described above as it flows north from the design point, under South Street tow the Batavia Kill.

DP 11 looking downstream

DP 11 looking upstream

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6.2 Cover Types

Areas of cover type are from the project site survey and vegetation community type mapping derived from field observation. These cover types were used to help determine runoff coefficients, and typically include impervious and vegetated areas.

6.3 Soils

Soils types and hydrologic soil groups are identified based on-site moderate intensity, second-order soils mapping and used in conjunction with the cover types to help determine runoff coefficients. Based on the collected soil data, Hydrologic Soil Group C is the primary soil type used throughout the existing analysis, with a small portion of Hydrologic Soil Group D in the wetland areas.

6.4 Time of Concentration Flow Paths

Time of concentration flow paths will begin with a sheet flow segment, transitioning to shallow concentrated flow and channel flow where these conditions exist. Specific flow paths and channel conditions are based on existing conditions mapping, survey and field observation.

6.5 Summary

The site is divided up into 23 subcatchments that total 458.60 acres. There is a small portion of off-site drainage area that is included adjacent to the western property boundary, but most of the watershed is located within the project site. The on-site watershed is primarily wooded and meadow cover types, on Hydrologic Group C soils, with some wetland areas and Hydrologic Group D soils. As a result a 'Woods/Grass combination' with a CN of 72 was utilized for a majority of the project site. There are also several areas within the project site where bedrock is exposed at the surface or present as steeper rock outcroppings. Even though the bedrock would be considered existing impervious area which would potentially increase pre-development runoff rates, as a conservative measure it is assumed to be a woods/grass combination in the existing HydroCAD modeling.

The existing subcatchments and their characteristics were entered into the HydoCAD model in order to create the pre-development condition that can be used as a baseline comparison for the post-development model. The existing peak discharge rates and volumes at each Design Point for the 10 and 100-yr storm events are summarized in Table 4 later in the report. The WQv and 1-yr storm events are analyzed separately in Tables 1-3, also found later in the report.

7.0 STORMWATER MANAGEMENT PLAN AND DESIGN PROCESS

7.1 Plan Overview

The plan is developed in accordance with the NYSDEC design criteria and process outlined in Section 5 above, and 10 NYCRR §128-3.9. Specific steps are described in detail later in the report.

The proposed project incorporates stormwater management as part of the overall project design. This includes protecting the site's natural resources and environmentally sensitive areas, minimizing development impacts and impervious areas by using effective site planning principles, and incorporating design features that effectively manage stormwater runoff such as green infrastructure practices. The plan utilizes these elements in order to achieve the primary goal of meeting water quality objectives, while at the same time mitigating potential impacts associated with increased stormwater runoff. Specifically, the objectives of the stormwater management plan are to:

- Enhance the quality of stormwater runoff to prevent water quality degradation, and preserve water quality in receiving water bodies within the New York City West of Hudson watershed,
- Promote infiltration and evapotranspiration,
- Prevent increased runoff from developed land to reduce the potential for flooding, downstream erosion and flood damage.

The stormwater management plan began with natural resources analyses and the application of site planning principles such as preserving large areas of open space, preserving existing watercourses and wetlands, and minimizing impervious areas in order to minimize potential stormwater impacts. The project's program requirements and opportunities for development were balanced with environmental resource protection and stormwater management opportunities in order to generate a site plan that was responsive to the site, addressed stormwater management goals and requirements, and fulfilled project development goals. Once the site planning and natural resource objectives were addressed, standard stormwater practices and green infrastructure practices were incorporated into the design, and considered as part of the integral design process along with roads, building locations and utility infrastructure.

In general, stormwater is conveyed through a series of stabilized rip rap and grassed swales, catch basins and storm pipes, and in some cases sheet flow. Open conveyances such as roadside swales are utilized as much as possible, where it is feasible and the grade allows. This provides opportunities for evaporation, infiltration and groundwater recharge, and mimics predevelopment conditions where existing logging roads intercept sheet flow from uphill areas allowing runoff to pond, evaporate and infiltrate.

Stormwater is collected, treated and attenuated in stormwater management ponds, bioretention areas and dry swales. In an effort to maximize the treatment of stormwater 'at the source', bioretention areas are incorporated at every proposed single family residential lot, most of the multi-family buildings and all of the common buildings. Even though site characteristics limit the ability to infiltrate, the extensive use of bioretention areas offers elevated treatment capabilities, and at least the opportunity for infiltration to occur as much as possible, which in turns helps to minimize stormwater flow volumes resulting from development. Standard stormwater ponds provide additional treatment and attenuation, while controlled release structures within the ponds regulate the rate at which stormwater is discharged. Where the opportunity exists for infiltration, an infiltration basin is used to take advantage of the well-drained soils. All stormwater discharges include appropriate stabilization such as stone outlet protection and flow spreaders, and discharge to stable locations. Stormwater management devices will be vegetated with plant species adapted to survive in fluctuating hydrologic conditions, and all conveyances will have sufficient erosion protection including stone, rolled erosion control products and/or grasses.

Existing hydrologic patterns of stormwater runoff from areas located above the proposed development areas are maintained to the maximum extent practicable. This is achieved by protecting existing watercourses and wetland areas, minimizing the amount of uphill run-off that is diverted away from their existing drainage areas, and allowing this runoff to bypass disturbed areas, and proposed stormwater management practices whenever feasible.

By implementing these practices and creating positive drainage with effective site grading within each of the drainage areas, the proposed stormwater management systems are capable of minimizing erosion potential, treating stormwater runoff and minimizing runoff volumes from developed project areas, and reducing post-development runoff rates from the 1, 10, and 100-year storm events.

7.2 Design Process

As mentioned earlier, there is a five-step process that integrates site planning and stormwater management, and requires the use of green infrastructure practices to manage stormwater. The five steps

outlined in the SMDM, (Site Planning to Preserve Natural Features, Water Quality Volume, Runoff Reduction Volume, Channel Protection Volume, and Overbank Flood and Extreme Flood Control) were implemented as part of the design process and are discussed in the following sections.

7.2.1 Site Planning to Preserve Natural Features

As part of the overall design process for WMSC, the project considered site planning strategies that can be beneficial to a stormwater management plan. Some of these are listed in Table 3.1 in Chapter 3 of the SMDM. There are two categories, Preservation of Natural Resources and Reduction of Impervious Cover.

Preservation of Natural Resources includes:

- Preservation of Undisturbed Areas
- Preservation of Buffers
- Reduction of Clearing and Grading
- Locating Development in Less Sensitive Areas
- Open Space Design
- Soil Restoration

Reduction of Impervious Cover includes:

- Roadway Reduction
- Sidewalk Reduction
- Driveway Reduction
- Cul-de-sac Reduction
- Building Footprint Reduction
- Parking Reduction

On a larger scale, the preservation of land is a primary design goal of the project, as the existing natural environment is one of the aspects that makes the project unique. The planning principles above help support this goal, and were included during the site design and concept refinement process. In addition, the planning principles above coupled with specific stormwater management strategies help to minimize the alteration of existing hydrologic patterns to the maximum extent practicable.

Based on the existing site conditions and natural resource analysis included in Section 4 above, areas that are more suitable for development were identified, along with natural areas that should be preserved. Development was then clustered in the more suitable areas, (such as the flatter plateaus within the topography), slopes steeper than 25% were avoided to the greatest extent practicable, and other natural resource areas such as wetland and streams were preserved. This allows for significant open space, made up of undeveloped natural areas which can support informal recreational activities such as hiking.

Overall the project as a whole would disturb up to about 141 acres out of 464 acres. This represents about 30% of the site. Approximately 323 acres, or 70% of the site, would remain undisturbed. These numbers can be considered worst case since they are based on vegetation being removed from most, if not all of the designated building envelope of each lot. This is not permitted by the Architectural Review Board (ARB), and the Design Guidelines for the project contain a number of conditions that limit the amount of

lot clearing to only that area needed to construct the residences, limit impervious areas and square footage of maintained lawn, and strongly encourage lot owners to minimize the removal of large massings of existing vegetation and minimize overall environmental intrusion on site. Professionally prepared individual grading/drainage plans and landscaping plans for each lot are required to be submitted by the lot owners and approved by the Architectural Review Board to ensure adherence to the extensive and detailed Architectural Review Board design guidelines (included in DEIS Appendix 17), conformance with permit requirements, and ensure that the character and existing environment is preserved to the maximum extent practicable.

Clusters of buildings, being the largest project components, are located in the flattest areas and designed to fit into the topography, to reduce as much as possible the necessary clearing and grading (See the unnumbered Figure, Potential Development Diagram in Appendix A). Roads were then strategically located to connect the developed areas, using the same principles of avoiding sensitive areas and minimizing grading as much as possible. One specific instance is the re-use of Upper Panorama Lane, an existing logging road that provides the primary access to the site. This corridor will be reused and widened as necessary to construct a road that meets design requirements. Earthwork associated with the road improvement is designed to cut into the existing hillside in locations where feasible and minimize the extent of downhill fill areas, which in turn minimizes the development envelope. There are also several existing logging roads within the site, and these existing corridors were also re-used as for road alignment as much as possible, helping to further minimize disturbance and the disruption of existing hydrologic patterns. Roadside swales are implemented along the proposed roads in these areas to collect uphill flow and convey it slowly at a gradual slope, so that the opportunity for infiltration, evapotranspiration and groundwater recharge is maximized. This replicates the patterns created by the existing logging roads throughout the property which intercept uphill runoff in the same way allowing it to pond. Potential impacts to wetlands and watercourses and their setbacks were also minimized by avoidance, spanning streams with bridges, and minimizing grading within buffer areas to the maximum extent practicable. Where feasible, stormwater ponds are located as close to the source as possible and green infrastructure practices are incorporated to treat stormwater at the source, so that redistribution of significant amounts of runoff is minimized. Soils with high or moderate capacity for infiltration are very limited on the site, and therefore were not a significant consideration during the site design process. However, in locations where infiltration opportunities exist, these areas are used primarily for stormwater management. Post-construction soil restoration is also specified as part of the stormwater pollution prevention plan (SWPPP), in order to alleviate impacts relating to compaction around the development areas.

As part of the same planning process, impervious areas were also minimized. The paved road widths are limited to 20 feet, and cul-de-sacs are minimized while still allowing for emergency access. Both the Member's Lodge and East Base Lodge, the two largest buildings in the project, incorporate almost all of their parking underground, within the footprint of the building. This alone represents a reduction of approximately 1.3 acres of impervious surface. Impervious surfaces on the residential lots, including the allowable building footprints, are also purposefully limited in the Project Design Guidelines so that existing pervious areas are preserved as much as possible. Additionally, driveway widths for residential units are limited to between 12 and 14 feet for single driveways, and 16 feet for shared driveways. And, single family homes are placed as close to the road as possible to limit the driveway length. Formal

sidewalks are not included as part of the site plan, to further limit the amount of impervious areas and the disturbance envelope. Instead it is envisioned that pedestrians will use the roadways (road speed limits are very minimal) and shoulders for walking.

7.2.2 Proposed Subcatchment Mapping

Subcatchment mapping of the proposed project area was developed based on the previously identified design points, the locations of proposed stormwater management devices, the existing subcatchment mapping, and the proposed hydrologic drainage patterns within the project design. The same methodology used in the development of the existing subcatchment mapping with regards to cover types, soils and time of concentration flow paths, were used for the proposed subcatchment mapping.

Cover types in the proposed conditions include woodlands, meadow and wetlands in the undisturbed areas, lawn areas, roads and paving, and roof area. The 'Woods/Grass combination' with a CN of 72 was again used to model the undisturbed areas of the site. Since soil restoration is specified as part of the SWPPP, the proposed lawn areas are modeled with a CN of 74 based on the existing Hydrologic Soil Group C. Time of concentration flow paths are based on a combination of the existing topography and proposed grading, and sheet flow is limited to a distance of 100'.

The site plan combined with the stormwater management strategy was designed to minimize the alteration of existing drainage patterns to the maximum extent practicable. Post-development drainage areas and their corresponding stormwater treatment devices are designed so that in most cases, the contributing acreages are substantially similar to the pre-development drainage areas at the project design points. The proposed watershed is divided into several subcatchments totaling approximately 462 acres, which is .34 acres more than the predevelopment watershed analysis. The additional acreage is a collection of small areas that were not analyzed as part of the pre-development watershed, but are included in the post development based on the proposed site design. The two primary locations where this occurs is the area between design points 1a and 12, and the area west of Trailside Road near design point 9.

Once the mapping was defined, all of the data related to the post development subcatchment areas were collected and entered into the HydroCAD model to be analyzed as part of the overall stormwater management design. See sheets L5.02-L5.06 in Appendix F for the proposed subcatchment mapping.

7.2.3 Water Quality Volume and Stormwater Treatment Volume Calculations

The required water quality volume (WQv) was calculated for each drainage area contributing to a design point, based on the proposed design and subcatchment mapping. The calculation was performed in accordance with the equation presented in Table 4.1 in Chapter 4 of the Manual, utilizing the 1.1 inch storm event required by NYSDEC. The resulting volumes typically determine the amount of treatment required, and are used as the basis for the Runoff Reduction Volume calculation also required by NYSDEC. A summary of the WQv required by drainage area is included in Tables 1 and 2 later in the report, and detailed supporting calculations can be found in the Water Quality Volume Calculation Table, in Appendix B.

NYCDEP requires greater treatment volumes above and beyond what is required by NYSDEC. NYC Watershed Regulations 18-39(c)(3), state that stormwater practices shall be designed to capture and treat

the greater of the volume of runoff generated by the 1-yr, 24-hr storm, (calculated using the HydroCAD model), or the Water Quality Volume (WQv), calculated in accordance with the NYSDEC requirements noted above . The required stormwater treatment volume was calculated for each drainage area contributing to a stormwater management practice using the HydroCAD model as outlined above, based on the proposed design, subcatchment mapping and associated data. In all cases the greater volume was the volume of runoff from the 1-yr, 24-hr storm calculated using the HydroCAD model. The required treatment volumes for each contributing drainage area and treatment device is included in Table 1 later in the report, and detailed supporting calculations can be found in the HydroCAD report, in Appendix D.

In addition to the treatment requirements above, section 18-39(c)(6) of the April 2010 DEP regulations states that if impervious surfaces cover 20% or more of a drainage area for which stormwater practices are designed, runoff from that drainage area shall be treated by two different types of stormwater management practices in series. This is another requirement above and beyond what is typically required by NYSDEC. It is our understanding, based on communications with NYCDEP, and the desire to treat stormwater at the source as much as possible, that this rule does not apply to green infrastructure practices such as rain gardens, bioretention areas and dry swales. Based on the above, all of the drainage areas in this project for which standard stormwater management practices are designed do not include impervious surfaces greater than 20% of the total drainage area. A summary of this information is in Table 2, DEP WQv summary, (later in the report) and supporting calculations can be found in the Water Quality Volume Calculation Table in Appendix B.

Throughout the project, WQv and Stormwater Treatment Volume are provided in green infrastructure practices such as bioretention areas and dry swales, and standard management practices such as wet extended detention ponds and in one location, an infiltration basin. In some cases, 100% of the required treatment is provided in a single device, such as a bioretention area or stormwater pond. In other cases, the required treatment is provided in a combination of two management practices, such as a bioretention area linked in series to a stormwater pond.

7.2.4 Runoff Reduction Volume Calculations (RRv)

Section 4.3 of the SMDM states the RRv requirement can be accomplished by application of on-site green infrastructure techniques, stormwater management practices with runoff reduction capacity and good operation and maintenance. If by using these techniques the calculated RRv is greater than the required WQv, the RRv requirement is met. If the RRv is less than the required WQv, then the design must at a minimum, reduce a percentage of the runoff from impervious areas to be constructed on the site. The percent reduction is based on the Hydrologic Soil Group of the site, and is determined by the Specific Reduction Factor (S). The Specific Reduction Factor (S) for this project is 0.30, based on the ‘C’ soils present.

Listed below are the green infrastructure techniques and standard stormwater management practices with runoff reduction capacity acceptable for runoff reduction, as noted in Tables 3.2 and 3.5 of the SMDM, and an evaluation of their use within this project.

A. Conservation of Natural Areas

As described in the Site Planning section above, there are several natural areas throughout and around the project site that that have been protected. These natural areas were identified early on in the planning stages and are a critical component of the design, from both an environmental standpoint and a stormwater management standpoint. These areas also provide context and setting for the Project as a whole, integrating it with the surrounding landscape. These preserved areas are clearly marked on the project plans, and designated for protection during construction as shown on the Erosion and Sediment Control Plans, sheets L3.01-3.05 in the DEIS plan set. While these areas are clearly protected and will be maintained by the Project, no conservation easements are planned. It is anticipated that local approvals of the project will include conditions that these lands be maintained as open space, precluded from future subdivision or development, and will be maintained as recreational open space under the control of the Homeowner's Association. With these measures in place, existing conditions and hydrologic flow patterns within these areas are maintained. Specifically, all the main drainage ways and the surrounding wetlands collecting runoff from the higher elevations (above proposed development) of the southeastern and southwestern portions of the site will remain. Once these conservation areas were identified, site plan components and stormwater management devices were jointly integrated to fit around the protected natural areas in strategic areas, balancing the needs of the project with the stormwater management goals and requirements.

B. Sheetflow to Riparian Buffers/Filter Strips

This technique is not used for treating stormwater in this project primarily due to the slope requirements and the maximum length of overland flow restrictions in the SMDM. The existing conditions on most portions of the project site where this technique could be applied are steeper than the allowable maximum contributing slope ranging from 6%-15%. Due to the existing slope conditions, all runoff from developed areas is typically treated and attenuated in stormwater management devices prior to being discharged.

C. Vegetated Open Swales

RRv is not applied for this technique due to site topography prohibiting the required design flows and flow depths, and in places exceeding slope requirements of 4 percent. However, vegetated swales are an integral part of the design with respect to stormwater conveyance. To the maximum extent practicable, runoff from areas above the proposed development is captured in vegetated swales with shallow slopes where it can be filtered and given the opportunity to infiltrate or evaporate.

D. Tree Planting/Tree Box

There are several natural areas with existing trees that are being preserved, and an extensive tree planting plan is included as part of this project, (see sheets L6.01-L6.09, Layout, Materials and Planting Plans in the DEIS plan set). The preservation of existing tree canopy, restrictions on lot buyers as to the amount of vegetation that can be disturbed, and the addition of new trees in disturbed areas will provide significant benefits as it relates to runoff and stormwater management, regardless of the slope conditions. However RRv is not applied for this technique due to NYSDEC's limiting slope requirements of 5% for proposed trees and 6%-15% for existing trees and distance limitations based on proximity to impervious areas. Not accounting for this technique in the RRv calculation is a conservative measure based on the existing wooded areas to be preserved and the extensive tree planting plan.

E. Disconnection of Rooftop Runoff

RRv is not applied for this technique due to the limiting infiltration capabilities of the project site soils. However, most rooftops are disconnected through use of Bioretention Areas.

F. Stream Daylighting

An impervious area reduction is not taken for this practice because the project does not qualify as a re-development project as defined in the SMDM, and therefore stream daylighting is not an applicable practice.

G. Rain Garden

RRv is not applied for this technique. Rain gardens are typically applied within small drainage areas with soils with high infiltration capacities. In many cases, the contributing drainage areas for proposed individual homes will exceed the maximum contributing area of 1,000 sf as recommended in the SMDM, and the soil characteristics will require an underdrain. Instead, Bioretention practices are incorporated as part of the plan. In addition to this practice being more appropriate for larger contributing drainage areas, this results in fewer practices for a larger area which can simplify operations and maintenance.

H. Green Roof

Green Roofs are not incorporated into this project, and therefore no RRv is applied for this technique. During the design process, it was determined that requiring a green roof as part of a residential offering would eliminate a majority of potential buyers due to the associated substantial cost increase, and concerns about maintenance and performance with regards to waterproofing, making the project infeasible. Additionally the proposed architectural philosophy of the project, designed to blend in with the historic mountain character present in many of the surrounding communities by using design elements outlined in the ARB Design Guidelines, does not readily facilitate a green roof. Classic historic structures utilized strong sheltering roof forms with deep overhangs, large covered porches, gable and shed dormers, divided light windows, substantial exposed beam and rafter tails and native materials. These elements and the historic forms in general result in a steeply sloping roof pitch, which cannot support a green roof. The unifying architectural character is critical to the success of the project as it seeks to compliment the surrounding environment. As a result, this architectural philosophy is consistent throughout the project on both residential and multi-use buildings.

I. Stormwater Planters

Stormwater Planters are more geared towards urban settings, as they can primarily be utilized in hardscape areas and building terraces, and adjacent to buildings and parking garages. The project as proposed minimizes areas of hardscape, such as patios, and does not include any substantial building terraces. Areas immediately surrounding the proposed buildings are not suited for planters, as one of the project goals is to incorporate natural plantings to compliment and blend in with the existing woodlands, and an artificial planter contradicts this design goal. For these reasons, this RRv technique is not utilized.

J. Rain Tanks/Cisterns

Rain Tanks and Cisterns were considered as part of the initial stormwater planning for the proposed single family homes. However after looking at the pros and cons relating to on-going maintenance, climate, size requirements and constructability, it was determined that using Bioretention areas instead was more in line with the project design goals, and easier to build and maintain.

K. Porous Pavement

The infiltration capacity of the existing soils is a limiting factor preventing the effective use of porous pavement on this project. Therefore RRv is not applied for this technique.

L. Bioretention

Bioretention is a primary treatment device used throughout the project, used to treat smaller drainage areas with high percentages of impervious areas and all of the residential building lots. The bioretention areas are designed and sized in accordance with DEC requirements, and in most cases provide 100% treatment of the DEP required Stormwater Treatment Volume. If a bioretention area cannot provide 100% treatment, it is connected to a downstream practice where the remaining treatment volume is accommodated. The bioretention areas are designed with a 6" maximum ponding depth, an overflow pipe, a 48" depth of soil filter media, a 12" gravel drainage layer and an underdrain. The filter media that will be specified as acceptable is a sandy loam or loamy sand textural class as described by the USDA. A minimum permeability of 1"/hr will be required, supported by testing that proves the rate is achievable. Based on this requirement, a proper conservative design value of 0.5" per hour should be used within the sizing calculation. However, to ensure enough credence is given to potential site impacts, a coefficient of permeability of 0.25" per hour is used within the sizing calculations for all proposed bioretention areas, in accordance with the SMDM. (It's important to note that the coefficient of permeability design values of 0.25" per hour, or 0.5' per day, listed in Appendix H of the SMDM is typical of a Silt Loam, and do not match what is typical of a sandy loam soil, (typically 1"-5" per hour), which is the industry standard for an acceptable filter media. As a result, it is expected that the bioretention areas will be re-sized prior to final permitting and construction, based on the minimum required permeability of the filter media to be used. The result will be a reduction in size of all bioretention areas.) The sizing calculations for all bioretention areas can be found in Appendix B.

In order to maximize the amount of stormwater that is treated at the source, bioretention areas are planned for every proposed residential lot. These bioretention areas are sized to provide treatment in accordance with NYCDEC sizing requirements, and utilize the maximum allowable impervious area and building footprint specified in the Design Guidelines for the development of each lot within the calculations. The installation of the bioretention area is required as part of the development of a residential lot, and is specified as part of the project Design Guidelines.

The bioretention areas receive stormwater from small drainage areas, all 2 acres or less in size, composed of adjacent roofs, driveways or small parking areas. Stormwater is collected directly from roof leaders or adjacent developed areas, and is not conveyed along a primary stormwater collection facility that conveys runoff from several areas. These scenarios are not typically designed as off-line practices, as they will not see significant inflows even during larger storm events. However all bioretention areas incorporate an overflow structure, such as a landscape grate inlet or standpipe, to safely convey larger storms through the bioretention area. Overflow from these events are typically routed to a downstream SMP for attenuation,

or discharged at a non-erosive velocity. Pre-treatment for bioretention areas help trap coarse sediment particles and reduce the maintenance burden on the treatment facility. The goal is to maximize the amount of pre-treatment to the extent practicable, based on practicality and site constraints. The type of pretreatment used is dependent on the type of inflow. For inflow at points of concentration such as a roof leader, splash blocks or stone flow spreaders distribute flows onto an adjacent grass filter strip prior to entering the device. This is the typical application for all residential applications. In scenarios where the contributing roof areas are larger, such as the townhome clusters or community buildings, a stone diaphragm with a 2"-6" drop is provided. Where catch basins are part of the conveyance systems, deep sumps are incorporated. For bioretention areas receiving sheet flow, typically from driveways or small parking areas, a stone drop/gravel diaphragm disperses flow to a grass filter strip prior to entering the facility. In all cases, a minimum of 3" of mulch is provided as a final pre-treatment method.

By using bioretention practices on 'C' soils, 40% of the provided WQv/Treatment Volume is applied towards the RRv. Since the Bioretention areas are sized to treat the runoff volume from the 1-yr storm, they are 'oversized' in relation to NYSDEC's required WQv. As a result, some of these practices meet the total RRv requirement for a specific drainage area.

M. Dry Swale

Dry Swales are used in limited locations throughout the project primarily to convey and treat a portion of the WQv and stormwater treatment volume associated with small driveways. The dry swales are designed with an 24" ponding depth at the end of the channel, a 30" depth of soil filter media, a 12" gravel drainage layer and an underdrain. In order to model the swale ponding conditions appropriately in HydroCAD, an average storage depth of 12" is used. Checkdams are used to create the storage capacity, and overflow from larger events is typically directed over a weir, (checkdam) and conveyed to a standard SMP for attenuation and additional treatment. The SMDM recommends a maximum ponding depth of 18" at the endpoint of the swale, however the swales have been oversized due to the additional treatment volume requirements from NYCDEP. Even with the inclusion of this larger size, the Dry Swales are not capable of providing the required treatment volume for an adjacent roadway, even if the contributing drainage areas do not include additional uphill flows. For this reason coupled with other site limitations, in most cases using this practice is either infeasible or an inefficient stormwater treatment method. It was determined that roadside swales would be of better use within the stormwater management plan if they were limited to conveyance of runoff from undisturbed areas, which can also offer opportunities for some infiltration during low flow conditions. Within the project Dry Swales are used in limited locations, such as next to small driveways or small watersheds, where their effectiveness is better utilized. As an open channel practice on 'C' soils, 20% of the provided WQv/Treatment Volume is applied towards the RRv.

7.2.4 RRv Summary

Based on the site conditions, feasibility and applicability, the appropriate green infrastructure practices incorporated as part of the stormwater management plan for which RRv credit is applied are Bioretention Areas and Dry Swales. Other green infrastructure practices such as Open Space Conservation, Vegetated Open Swales, and Tree Planting are also incorporated and play an important role in the overall management plan, even though no RRv credit is applied for these practices. The RRv goals and the minimum RRv requirements were calculated in accordance with the equations and methodologies

presented in Section 4.3 of the SMDM, utilizing the 1.1 inch storm event required by DEC. The RRv and WQV Summary worksheet in Appendix B presents a summary of the Runoff Reduction Volume and DEC Water Quality Volume calculations for the project site. The calculations show that the minimum RRv is met. Based on this information the project meets the RRv requirements listed in the SMDM.

7.2.5 Remaining Water Quality/Treatment Volume

Wet Extended Detention Ponds (P-3) are used to treat the remaining WQv/Treatment Volume from the drainage areas contributing to those practices. In all cases, both the NYSDEC WQv requirements and the NYCDEP Treatment Volume requirements are met. The ponds are typically designed with a forebay that provides treatment for 10% of the NYCDEP Treatment Volume, a permanent pool providing storage for 50% of the required Treatment Volume, and a controlled release structure that regulates discharge from the ponds. Emergency spillways or weirs are also provided. See sheet L8.02 in Appendix F for Pond details. Treated water is discharged from the ponds to conveyance swales or existing drainage channels at a controlled rate to ensure adequate attenuation. Table 1 presents a summary of the NYCDEP Stormwater Treatment Volume data. It also lists the percent of impervious area that drains to a specific stormwater management practice. Detailed supporting calculations listing required and provided WQv and Treatment Volumes can be found in Appendix B.

Table 1 NYCDEP Treatment Volume Summary

POND SUMMARY							Infiltration Basin			
DESCRIPTION	P1.1	P1.3	P2.1	P4.1	P8.2	P8.4	P8.5	P9.2	P11.1	P12.1
1 YR INFLOW (af)	1.239	2.104	1.445	2.204	1.260	1.544	0.257	1.339	1.480	0.665
REQUIRED Tv (cf)	53,971	91,650	62,944	96,006	54,886	67,257	11,195	58,327	64,469	28,967
Applied RRv (cf)	2,724	11,152	9,048	9,228	6,283	348	0	4,572	7,863	1,620
ADJUSTED Tv Req'd (cf)	51,247	80,499	53,896	86,778	48,602	66,909	11,195	53,755	56,606	27,347
PERMANENT POOL (50% min)	25,985	40,390	30,438	44,024	25,779	33,988		29,347	28,461	13,732
FOREBAY (10%, 25%)	5,125	8,050	5,390	8,678	4,860	6,691	2,799	5,375	5,661	2,735
EXTENDED DETENTION (cf)	32,588	49,845	36,970	43,173	27,733	41,045		36,198	35,122	16,802
PROVIDED Tv (cf)	58,573	90,235	67,408	87,197	53,512	75,033	12,746	65,545	63,583	30,534
% IMPERVIOUS	5.80	6.18	19.73	6.02	9.56	17.86	39.21	19.01	19.60	19.92
Infiltration Basin forebay sized to hold 25% of the Tv										

7.3 Volume and Peak Rate Control

7.3.1 Channel Protection Volume (CPv)

Stream Channel Protection Volume (CPv) requirements are designed to protect stream channels from erosion, by providing 24-hour extended detention of the one-year, 24-hour storm event. For this project, the 1-year event is **3.0 inches** as per Figure 4.4 of the SMDM. The required CPv is calculated utilizing the Plug Flow Calculation in HydroCAD (TR-20) or the figures and calculations, (TR-55) in Appendix B of the SMDM. Typically, CPv requirements are met using Wet Extended Detention Ponds with a controlled

release structure to provide the necessary attenuation. Since the DEP Stormwater Treatment Volume utilizes the 1-year 24 hr. storm event, in many cases the CPv requirements are inherently met through treatment volume sizing techniques. This is true for not only the stormwater ponds, but also for the independent bioretention areas proposed on each single family lot. A summary of the required and provided CPv can be found in Table 3. Detailed information is included with the HydroCAD calculations in Appendix D. Based on the plans and supporting calculations, the CPv requirements are met. In accordance with the NYSDEC SMDM, meeting CPv requirements ensures appropriate stormwater practices are in place to protect receiving watercourses from erosion.

Table 2 Channel Protection Volume Summary

CPv Summary

Requirement: Provide 24 Hours of Required Extended Detention

Wet Extended Detention Pond (P-3)

Drainage Area	SMP	Detention time (Hours)	CPv Provided
1a	P1.1	26.9	34,868
1	P1.3	25.0	55,822
2	P2.1	25.9	40,925
4	P4.1	25.5	43,646
8	P8.2	25.2	28,415
	P8.4	28.9	44,702
9	P9.2	30.8	37,086
11	P11.1	27.0	35,757
12	P12.1	24.2	17,860

Note: Detention Time is based on Plug Flow Detention Time in HydroCAD

Bioretention and Infiltration

Drainage Area	SMP	CPv Required	CPv Provided
6	P6.1	930	1,403
	P6.2	930	1,403
	P6.3	930	1,403
8	P8.5	8,035	12,746
11	P11.4	11,688	17,098
	P11.7	4,834	6,915
	P11.8	3,267	4,679
	P11.9	2,550	3,113
	P11.11	4,038	5,859

Note:
Bioretention Areas designed in series with downstream SMP's not shown.
In those cases, CPv is provided in downstream SMP.

7.3.2 Overbank Flood (Qp) and Extreme Flood (Qf) Control

The primary purpose of the Overbank Flood (Qp) control sizing criterion is to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by urban development. It requires storage and attenuation of the 10-year, 24-hour storm to ensure post-development peak discharge rates do not exceed the pre-development condition. For this project, the 10-yr event is **5.0 inches**, as per Figure 4.5 of the SMDM.

The intent of the Extreme Flood (Qf) criteria is to (a) prevent the increased risk of flood damage from large storm events, (b) maintain the boundaries of the pre-development 100-year floodplain, and (c) protect the physical integrity of stormwater management practices. It requires storage and attenuation of the 100-year, 24-hour storm to ensure post-development peak discharge rates do not exceed the pre-development condition. For this project, the 100-yr event is **7.5 inches** as per Figure 4.6 of the SMDM.

For this project, the Qp and Qf requirements listed above are met using Wet Extended Detention Ponds (P-3), to provide the attenuation necessary to match the pre-development conditions. Stormwater is routed by conveyance swales, closed system piping or overland sheet flow to these Detention Ponds where it is stored for a period of time and released at a controlled rate through a controlled release structure, and/or over a broad crested weir. Treated storm water is typically discharged at controlled rates from the ponds directly to existing drainage courses, or to constructed conveyance swales that distribute the runoff to existing drainage courses. In some cases, runoff is discharged as sheet flow over level spreaders to areas with moderate slopes. In all cases conveyance swales are constructed with a stabilized surface, such as grass, grass with turf reinforcement mat, cobbles or rip rap, designed to support anticipated velocities without experiencing erosion. The swale surface materials along with the proposed grading also helps to control flow rates.

All of the project data and calculations mentioned in previous sections of the report was collected and included in the HydroCAD model, to determine the peak rate flows at each of the design points in the post development condition. This information was then compared to the pre-development rates at each design point to ensure the pre-development peak discharge rates are not exceeded. Table 3 below presents a comparison of pre and post-development peak discharge rates and volumes.

Table 3 Rate and Volume Summary

Rate and Volume Summary Table
TYPE II DESIGN STORM USING DEC RAINFALL DATA
The Windham Mountain Sporting Club
Sept. 5, 2013

DESIGN POINT #	Areas (Ac.)		TYPE II DESIGN STORM USING DEC RAINFALL DATA					
			1 YEAR, 3.0"		10 YEAR, 5.0"		100 YEAR, 7.5"	
			PEAK	VOLUME	PEAK	VOLUME	PEAK	VOLUME
			cfs	af	cfs	af	cfs	af
1	55.51	PRE	41.49	3.82	124.10	10.30	243.62	19.87
	72.47	POST	30.81	5.59	102.14	14.27	240.69	26.93
1a	15.82	PRE	10.43	1.07	31.42	2.90	61.91	5.61
	16.48	POST	1.51	1.40	11.52	3.41	60.97	6.33
2	29.88	PRE	19.16	2.01	57.69	5.47	113.93	10.60
	31.10	POST	16.09	2.96	48.99	6.89	110.88	12.48
2a	3.22	PRE	3.67	0.22	10.51	0.59	20.30	1.14
	1.27	POST	1.51	0.09	4.33	0.23	8.36	0.45
2b	26.04	PRE	22.11	1.75	65.57	4.77	128.23	9.24
	4.69	POST	8.25	0.34	17.25	0.89	32.75	1.71
3	14.75	PRE	12.91	0.99	38.06	2.70	74.35	5.23
	2.42	POST	3.30	0.16	9.25	0.44	72.87	2.34
4	23.61	PRE	18.66	1.59	55.40	4.33	108.55	8.38
	32.80	POST	8.03	2.83	33.77	6.86	84.61	11.19
5	32.80	PRE	26.77	2.21	79.27	6.01	155.54	11.64
	25.19	POST	26.72	1.77	78.73	4.71	153.71	9.05
6	3.34	PRE	3.65	0.21	10.87	0.59	21.29	1.16
	2.08	POST	2.14	0.21	7.83	0.47	16.00	0.85
7	4.53	PRE	5.79	0.29	16.61	0.80	32.33	1.57
	2.43	POST	3.05	0.15	8.85	0.43	17.18	0.84
8	41.93	PRE	34.51	2.82	103.65	7.68	204.07	14.88
	53.38	POST	10.63	4.45	59.89	10.92	195.62	20.37
9	27.84	PRE	26.06	1.99	74.27	5.29	143.05	10.14
	29.88	POST	16.72	2.73	51.01	6.48	116.30	11.83
11	163.61	PRE	100.24	11.93	295.27	31.47	575.75	60.07
	168.03	POST	92.59	13.31	277.74	33.76	567.32	63.48
11.1	33.06	PRE	16.57	2.23	50.41	6.06	99.84	11.73
	35.27	POST	16.38	2.43	49.64	6.58	98.26	12.72
11.2	56.55	PRE	29.50	3.81	90.37	10.36	179.46	20.07
	57.34	POST	28.51	4.09	90.08	10.86	178.43	20.85
11.3	58.62	PRE	29.88	3.95	91.71	10.74	182.13	20.80
	58.92	POST	28.87	4.20	91.11	11.16	180.64	21.42
11.4	8.83	PRE	8.93	0.60	20.59	1.62	40.37	3.13
	14.03	POST	1.36	1.56	4.73	3.35	33.29	5.93
11.5	2.05	PRE	2.05	0.16	5.67	0.40	10.77	0.77
	1.65	POST	1.51	0.17	4.52	0.38	9.46	0.68
11.6	21.18	PRE	16.23	1.43	48.35	3.88	94.84	7.52
	5.54	POST	4.73	0.45	14.41	1.12	31.31	2.10
11.7	28.44	PRE	22.38	1.98	66.06	5.31	129.11	10.23
	28.30	POST	19.44	2.11	62.41	5.49	129.00	10.43
12	15.71	PRE	7.46	1.06	23.23	2.88	46.03	5.57
	19.29	POST	6.79	1.55	22.34	3.90	44.79	7.31
TOTAL ACRES	458.60	PRE						
	461.49	POST						

***Note: Design Points 11.1-11.7 represent smaller watersheds within the larger watershed draining to Design Point 11. In many cases, these smaller watersheds include runoff from other contributing watersheds above. For this reason, the contributing acreages listed in the table above for a specific design point may also include contributing acreages from another design point upstream. As a result, design points 11.1-11.7 are not included in the aggregate total acreage at the bottom of the table. Design Point 11 includes all contributing sub-drainage areas, and is represented in the total acreage at the bottom of the table.*

Based on the comparison presented in the table above, post-development peak discharge rates do not exceed the pre-development condition at any of the identified design points, and therefore the Qp and Qf requirements are met. Additionally, even though there are increases in post development flow volumes the analysis of conditions at each design point shows that the receiving channels are stable and have the capacity to support post development flows. Supporting HydroCAD data can be found in Appendix C and D.

In addition to the analysis presented above, a downstream analysis was performed at two points in accordance with the SMDM. These points were chosen during discussions with NYCDEP. The first is the beginning of the DEC classified stream in the east basin, (DEC classification 879-234, Class C), and the second is the beginning of the DEC classified stream located at design point 11, (DEC classification 879-231, Class C). (See Figure 3-7, NYSDEC Mapped Streams, in Appendix A) These are both first order streams located very close to the site, and as such do not have significant contributing watersheds outside of the project site. Both streams flow directly to the Batavia Kill. These points were analyzed using HydroCAD, and the same methodology used for the project's stormwater management plan. Results of the analysis show that peak flow rates do not increase in the post-development condition, which ensures that attenuation provided at the project site is appropriate. A comparison of pre vs. post development rates are shown in the Table 4 below. Additionally, channel conditions in these locations were inventoried and analyzed for stability. In both locations, the channels are large, stable channels lined with boulders, cobbles, and bedrock. A more detailed description is provided in Section 6 earlier in the report.

Table 4 Downstream Rate and Volume Summary

DESIGN POINT #	Areas (Ac.)		DESIGN STORM					
			1 YEAR, 3.0"		10 YEAR, 5.0"		100 YEAR, 7.5"	
			PEAK	VOLUME	PEAK	VOLUME	PEAK	VOLUME
			cfs	af	cfs	af	cfs	af
DOWNSTREAM (Below DP-2)		PRE	35.43	3.66	108.03	9.94	213.71	19.26
		POST	25.43	3.71	77.48	8.91	171.19	16.39
DOWNSTREAM (at DP-11)		PRE	100.24	11.93	295.27	31.47	575.75	60.07
		POST	92.59	13.31	277.74	33.76	567.32	63.48

7.4 Comprehensive Management Plan

Using the design process summary and methodology described above, the stormwater management plan is incorporated as part of the overall project design. The design is planned in two parts; the first are the residential lots, where stormwater treatment devices will be part of the lot development and the

responsibility of the lot purchaser, (with ARB oversight). The second is the 'Overall Development Project,' and includes the roads, common buildings, multi-family townhomes and all project infrastructure including stormwater management components. The Grading and Drainage Plans, supported by the Proposed Subcatchment mapping, (sheets L4.00-4.09 and L5.01-L5.06 in Appendix F), show how the specific components are integrated into the overall project. Specific descriptions are as follows.

7.4.1 Stormwater Management on Residential Lots

Almost all of the single family home residential lots and most of the multi-family (duplex) residential lots utilize bioretention areas to manage stormwater close to the source. The bioretention areas are sized based on the maximum allowable impervious area and building footprint specified in the Design Guidelines for the development of each lot. On a lot by lot basis, the Design Guidelines will specify the minimum square footage required for the bioretention area, and the performance standards and specifications with regards to construction methods and materials. The ARB will be responsible for review and approval of proposed bioretention areas based on the final design of the lot and home, to ensure conformance with project design and specifications, and any associated permit conditions. The Lot Worksheet in Appendix B lists the specific thresholds and minimum required sizes for each lot. This information is included in the Lot Design Matrix within the ARB Project Design Guidelines. Typically, the driveways for each house lot are designed to be treated as part of the stormwater management plan for the overall project, and are not included in the design of the bioretention area for a particular lot. Rooftop runoff from a proposed home will typically be conveyed to the bioretention area through roof leaders that discharge to a splash block or stone flow spreaders and then sheet flow to the practice. Overflow from larger storm events will discharge in different ways, depending on the specific lot. In some cases, overflow is conveyed through an overflow pipe or weir to an adjacent swale or channel that is part of the stormwater management infrastructure for the overall project. In other cases, overflow is conveyed over a long weir used as a level spreader, to a stone pad. The pad acts to further dissipate the flow, and to provide an opportunity for additional infiltration. Once conveyed across the stone pad as sheet flow runoff will enter the undisturbed forested area. Overflow discharge rates from the 10-yr and 100-yr storm events are non-erosive and in fact, very small, typically around 1 cfs / 1 fps even in the 100-yr event.

In order to analyze stormwater flows from individual lots, a "residential model" was created in HydroCAD so that pre and post development scenarios could be assessed. For the post-development condition, a typical lot was modeled using a maximum building footprint, a maximum impervious area in addition to the footprint to allow for things like a patio or additional driveway, and a permeable lawn area. Square footage thresholds were derived from the ARB Project Design Guidelines with regards to covertypes. Refer to the Lot Worksheet in Appendix B, and the Design Guidelines for specific thresholds and minimum sizes for each lot. A pre-development model was then created using the same total square footage used in the post development model, with an existing condition covertype of 'Woods/Grass combination', which is the same typical covertype assigned to the existing condition in the overall project model. The pre and post development models were used to determine the Stormwater Treatment Volumes based on runoff generated from the 1-yr 24-hr storm event, and to compare flow rates at pre and post - development conditions. The result of sizing the bioretention areas to meet NYCDEP treatment requirements is that inherently there is also attenuation provided. By meeting the sizing requirements, comparison of the pre and post development models show that post-development peak discharge rates do

not exceed the pre-development condition for any of the lot development scenarios, and therefore the Qp and Qf requirements are also met. The Lot Worksheet in Appendix B provides a summary of sizing requirements and flow rates for typical lot conditions based on the maximum thresholds presented in the design guidelines. Specific sizing calculations are also in Appendix B. The residential HydroCAD model is presented in Appendix C and D.

7.4.2 Stormwater Management for the Overall Development Project

The eastern half of the project site drains to design points, 1, 1a, 2, 2a, 2b and 12. On the easternmost portion in the drainage area for **Design Point 12**, runoff from a portion of Sunrise Terrace is collected in a combination of roadside swales and a closed system (catch basins and pipe conveyance), and conveyed to a Wet Extended Detention Pond 12.1 near design point 12, where it is treated and attenuated before being released through a controlled release structure with staged orifices to control flow rate. The pond discharges through a pipe to an existing drainage channel at design point 12. The existing channel at design point 12 is a stable, cobbly/gravelly channel documented in more detail earlier in the report. Comparisons of pre and post development conditions in the HydroCAD model show that there is no significant impact to the existing channel in the proposed condition. All single family homes within this watershed utilize bioretention areas to manage stormwater.

Design Point 1a collects runoff from developed portions of the site east of design point12. Runoff from Cave Mountain Rd. and a small portion of Sunrise Terrace is collected in catch basins, and conveyed to a wet extended detention pond (P1.1) west of design point 1a. The pond also collects runoff from undeveloped areas above (west of) the end of Sunrise Terrace. The pond discharges to a stone level spreader, which distributes sheet flow to an existing, densely vegetated wetland. The sheet flow drains through the wetland to an existing drainage channel that quickly converges with another channel at design point 1a. The existing channel is a stable, cobbly/gravelly channel with undefined or shallow banks that form an overflow area composed of dense grassy wetland vegetation. Comparisons of pre and post development conditions in the HydroCAD model show that there is no significant impact to the existing channel in the proposed condition. All single family homes within this watershed utilize bioretention areas to manage stormwater.

Design Point 1 collects runoff from the developed areas north and adjacent to the primary drainage channels in the eastern drainage basin. In this area, stormwater is primarily collected in catch basins and conveyed to Bioretention areas or a wet extended detention pond (P1.3) located east of the East Base Lodge. Specifically, runoff from Meadow Crossing South is collected in catch basins and conveyed through a pipe system to the pond for treatment and attenuation. The residential duplex buildings on Meadow Crossing South utilize individual bioretention areas to manage stormwater. Runoff from undeveloped areas above, (west of) Meadow Crossing South is collected in a gently sloped swale, where it has the opportunity to infiltrate in typical base flow conditions. During larger storm events, flow is conveyed from the swale to the stormwater pond through a pipe network. Runoff from the shared driveway east of Meadow Crossing South flows to an adjacent bioretention area for treatment. Overflow from the bioretention area is piped to the stormwater pond below for additional attenuation. At the East Base Lodge, roof runoff and runoff from the attached patio area is also collected and treated in an adjacent bioretention area. Overflow from larger events is piped to the stormwater pond for additional attenuation. Runoff from the parking area and roadway in front of the Lodge is collected in catch basins

and piped to the pond. All single family homes within this watershed utilize lot specific bioretention areas to manage stormwater. From the pond, stormwater is discharged through a controlled release structure to a proposed rip rap swale. The swale flows southeast and discharges to an existing channel at the property line adjacent to design point 1. The existing channel is a stable boulder/cobbly channel with exposed bedrock in many places, described in greater detail earlier in the report. Comparisons of pre and post development conditions in the HydroCAD model show that there is no significant impact to the existing channel in the proposed condition.

Design Point 2 collects runoff from the developed areas north of the design point 1 watershed. In this area, stormwater from a portion of Meadow Crossing North, Sunrise Terrace and a portion of Cave Mountain Rd and all adjacent driveways is collected in catch basins and conveyed in pipes to a wet extended detention pond (P2.1) north of the East Base Lodge for treatment and attenuation. From the pond, stormwater is discharged at a controlled rate through a structure and discharged into an existing channel at design point 2 on the property line. All single family homes within this watershed utilize lot specific bioretention areas to manage stormwater. Runoff from the undisturbed areas above (west) of the developed areas is collected in roadside swales. Flatter sections of the swales will be grassed, and will provide the opportunity for infiltration in typical low flow conditions. Steeper sections will be lined with turf reinforcement mats or rip rap to prevent erosion and dissipate flows. These swales flow to a culvert on Cave Mountain Rd, where flow is then directed to the pipe network from the stormwater pond that discharges at design point 2. The existing channel at design point 2 is a stable cobbly/gravelly channel with some exposed bedrock, and moderately defined banks composed of shrubby and woody vegetation. The channel is described in greater detail earlier in the report. At the design point, the HydroCAD model shows that there is no significant impact to the existing channel in the proposed condition.

Design Points 2a and 2b do not receive runoff from areas with proposed development. Runoff from these areas will sheet flow over the property line, just as it does in the pre-development condition.

The northern and western half of the project site drains to design points, 3-9 and 11.

Just north of the ‘ridge’ that separates the northwestern and southeastern halves of the project, stormwater runoff from portions of Cave Mountain Rd. and Meadow Crossing is collected in catch basins then conveyed via pipes to wet extended detention pond P4.1 for treatment and attenuation. Runoff from undisturbed areas above the proposed roads is again collected in roadside swales with gentle grades, which provide the opportunity for infiltration in typical low flow conditions. There is an overland rip rap conveyance swale that conveys stormwater from Meadow Crossing and uphill areas to a pipe that discharges into the pond. All single family homes within this watershed utilize lot specific bioretention areas to manage stormwater. The pond discharges stormwater through a controlled release structure to a pipe that discharges to a roadside swale on the south side of Sheridan Drive. The swale is directed to a culvert that flows under Sheridan Drive and discharges to an existing channel at **Design Point 4**. Design Point 4 is a stable, boulder/cobbly channel with exposed bedrock in places. The HydroCAD model shows that there is no significant impact to the existing channel in the proposed condition.

The overflow weir at pond 4.1 is directed to a rip rap swale that follows the alignment of an existing logging road before discharging to an existing drainage channel at **Design Point 3**. Design Point 3 is a stable, cobbly/gravelly channel that dissipates at the toe of the slope. Since post development acreages

contributing to design point 3 are less than in the predevelopment condition, directing additional stormwater to this location helps maintain the existing hydrologic patterns. The HydroCAD model shows that there is no significant impact to the existing channel in the proposed condition.

In the western most portion of the site south of the existing Wanderer ski trail is a private drive and four single family homes. The upper most portion of drive is collected in a dry swale where it is treated and released into an existing ephemeral channel that converges with a perennial channel at **Design Point 11.1**. Runoff from undeveloped areas above the road are collected in a roadside swale with a gentle grade and conveyed to the same ephemeral channel. Design point 11.1 is the inlet of a pair of 72" culverts that collect runoff from the perennial channel and large uphill portions of the site south of the Wanderer ski trail. The HydroCAD model shows that there is no significant impact to the existing channel downstream of the culverts in the proposed condition. The single family homes utilize lot specific bioretention areas to manage stormwater. The remaining portion of the private drive is collected in catch basins and conveyed through a pipe network to wet extended detention pond P11.1.

East of the private drive is the Member's Lodge. Roof runoff from the south half of the Lodge and stormwater from the drop off area in front is collected in a pair of bioretention areas on the south side of the Lodge. During larger storm events, overflow is collected in an outlet structure and discharged to a rip rap swale along the north edge of the ski trail that leads to an existing rocky channel, just south of **Design Point 11.2**. Runoff from undisturbed areas above the Member's Lodge and south of the ski trail will continue to be conveyed to design point 11.2 in an improved rip rap swale along the south edge of the ski trail. The new swale will improve and extend an existing swale that serves the same purpose. The new swale will convey runoff across the ski trail in the same location as an existing water bar and discharge to the existing rocky channel just south of design point 11.2. Design point 11.2 is a stable, bouldery/cobbly channel at the confluence of two perennial streams, which collect a large amount of runoff from uphill areas. The HydroCAD model shows that there is no significant impact to the existing channel in the proposed condition.

The portions of Sheridan Drive north and east of the Member's Lodge will be collected in catch basins and conveyed in pipes to wet extended detention pond 11.1. Runoff from the two lots with proposed Townhome buildings will be collected in adjacent bioretention areas for treatment, and any overflow will be collected in overflow structures and conveyed to the pipe network that discharges in pond 11.1. Runoff from the north side of the Member's Lodge roof will be discharged to rip rap swale leading to a stone level spreader, which distributes sheet flow to an existing wooded area. The sheet flow drains to a bioretention area for filtering. In larger storm events, overflow is discharged into the adjacent pond over a weir on the north side. Stormwater from Pond 11.1 discharges through a controlled release structure to a stone level spreader, which distributes sheet flow to an existing, densely vegetated wetland. The sheet flow drains through the wetland to a confluence of two existing drainage channels at **Design Point 11.4**. The existing channel is a stable, gravelly/cobbly channel that flows northwest to the primary perennial stream on the western part of the site. Based on the HydroCAD model, there is no significant impact to the existing channel in the proposed condition. Runoff from undisturbed areas above (south of) Townhome lot 4 and Sheridan Drive is collected in roadside swales. Flatter sections of the swales will be grassed, and will provide the opportunity for infiltration in typical low flow conditions. Steeper sections will be lined with turf reinforcement mats or rip rap to prevent erosion and dissipate flows. These swales flow to a culvert east of pond 11.1 and discharges over a rip rap apron to an existing, flat, densely

vegetated wetland. From here runoff will sheet flow through the wetland and wooded areas and eventually drain to **Design Point 11.7.**

North of pond 11.1 is a private drive with three single family lots. The single family homes utilize lot specific bioretention areas to manage stormwater. Stormwater from the driveway is collected in catch basins and discharged over a stone flow spreader that distributes sheet flow across a grassed area before entering a bioretention area. Any overflow from the bioretention area is collected in a structure and discharged at **Design Point 11.5** to a stable gravelly/cobbly channel that flows through a wetland. Based on the HydroCAD model, there is no significant impact to the existing channel in the proposed condition.

Stormwater from the portion of Sheridan Drive between pond 11.1 and the intersection with Meadow Crossing is collected in catch basins and discharged through a culvert to a wide stone apron with a 6" drop to a stone diaphragm, which drains to bioretention area 11.7. Overflow from the bioretention area drains to rip rap swale leading to an existing channel at **Design Point 11.6**. Design point 11.6 is a stable, poorly defined gravelly/cobbly intermittent channel that flows into and through a densely vegetated wetland where it becomes a slightly more defined channel. The HydroCAD model indicates there is no significant impact to the existing channel in the proposed condition.

North of bioretention area 11.7 are two private drives and single family homes. The single family homes utilize lot specific bioretention areas to manage stormwater. Runoff from the private drive immediately north of bioretention area 11.7 is collected in a roadside swale and conveyed through a culvert to bioretention area 11.9. Overflow is discharged to a rip rap swale that leads down a slope to another proposed swale that has minimal pitch, providing opportunities for infiltration, before discharging to an existing channel at **Design Point 11.7**. Runoff from the private drive north of bioretention area 11.9 is collected in a dry swale and conveyed to bioretention area 11.11. Overflow is discharged to the same swale with minimal pitch that leads to design point 7. The existing channel at design point 7 is a stable, poorly defined gravelly/cobbly intermittent channel that flows out from grassy wetland area to a wooded area along an existing logging trail. Based on the HydroCAD model, there is no significant impact to the existing channel in the proposed condition.

The Wellness Center is located in the central portion of the site. Stormwater from the Wellness Center, adjacent pool and tennis areas, adjacent Townhome lots and adjacent portion of Meadow Crossing is collected in roadside swales along Meadow Crossing and conveyed to a pipe network at Sheridan Drive. Runoff from the beginning of Cave Mtn Rd. and areas north of the Wellness Center are also collected in swales and conveyed to the pipe network at Sheridan Drive. All single family homes in this area utilize lot specific bioretention areas to manage stormwater. A large portion of Sheridan Drive including the areas leading up to, and past 'the switchback', is collected in catch basins and conveyed through the same pipe network to a flow splitter at the intersection of Sheridan Drive and Tuck Trail. The flow splitter directs flows from above almost equally to rip rap swales leading to two Wet Extended Detention Ponds to the north, Ponds P8.2 and P 8.4. The location of the splitter makes it easily accessible so it can be monitored and maintained as necessary to ensure it functions as designed. Runoff from two duplex buildings southeast of pond 8.2 is also discharged to the pond. Stormwater from the driveway accessing the duplexes is collected and treated in a dry swale, then discharged to pond 8.2. Stormwater is treated and attenuated in the ponds and discharged to an existing culvert inlet just south of **Design Point 8**. The existing culvert has been displaced and is no longer functioning properly, so a new culvert will be

installed in its place. Design point 8, at the outlet of the culvert, is a stable, cobbly/vegetated channel described in more detail earlier in the report. Based on the HydroCAD model, there is no significant impact to the existing channel in the proposed condition.

Stormwater runoff from the remaining portion of Sheridan Drive from the intersection of Tuck Trail to Trailside Rd is collected in catch basins and pipes and discharged to a rip rap roadside swale on the east side of Trailside road. Runoff from Batavia Lane and the connected driveway are also collected in catch basins and conveyed to the swale on Trailside Rd. This swale collects additional runoff from Trailside Rd, flows under Trailside in a culvert and is discharged to a Wet Extended Detention Pond, P9.2. All single family homes in this area utilize lot specific bioretention areas to manage stormwater. Runoff from undisturbed areas above this portion of Sheridan Drive is collected in roadside swales and conveyed to **Design Point 9**. Stormwater collected in Pond 9.2 is discharged through a controlled release structure and over a weir to a conveyance swale that flows to the existing roadside swale at Design Point 9. The existing swale is a stable, rip rap swale that runs along the lower portion of Trailside Rd. to the intersection with South Street. Based on the HydroCAD model, there is no significant impact to the existing swale in the proposed condition.

East of pond 8.2 are four additional duplex buildings and an adjacent driveway, accessed from Tuck Trail. Stormwater from Tuck Trail is collected on catch basins and conveyed to a swale on the south side of the driveway serving the duplexes. Runoff from the duplex south of the driveway is also collected in the swale, before it discharges to an Infiltration Basin, P8.5. Even though infiltration is limited on the site, a test pit adjacent to the basin found no boundary conditions to a depth of at least 7.5', and a suitable perc rate of 1.3"/hr. In larger storm events, overflow from the infiltration basin is conveyed through a controlled release structure to **Design Point 8**. The channel is a stable, cobbly/vegetated channel described in more detail earlier in the report. Roof runoff from the remaining 3 duplexes to the east is treated in individual bioretention areas adjacent to each structure. Any overflow from the bioretention areas will sheet flow over an overflow weir into the existing meadow below. This horizontal stretch at the property line is **Design Point 6**, and exists as a meadow with tall, dense grassy vegetation.

Design Point 5 collects runoff from a large, undisturbed area to the north of the intersection of Sheridan Drive and Cave Mountain Rd, from an undisturbed area between Sheridan Drive and the existing Panorama Lane, and from a small developed area between Tuck Trail and Sheridan Drive that includes four single family lots (26-29). Roof runoff from these lots is treated in lot specific bioretention areas. Overflow from the bioretention areas will be collected in a roadside swale on the south side of Tuck trail and conveyed to Design Point 5. Design Point 5 is an existing 24" culvert that discharges to a stable, densely vegetated channel with cobbles. According to the HydroCAD model, the existing culvert is undersized for the 10-yr event. The existing culvert will be replaced with a 48" culvert to safely convey the 10-yr storm to the channel below. After making this adjustment, The HydroCAD model shows there is no significant impact to the existing channel in the proposed condition.

8.0 POST-CONSTRUCTION MAINTENANCE REQUIREMENTS

All operational phase stormwater management practices will be maintained in accordance with the project Stormwater Pollution Prevention Plan required by NYSDEC. This includes, but is not limited to, cleaning of sediment from drainage inlet sumps, removal of sediment from SMPs, cleaning conveyance piping and channels of obstructions, and regular inspection and repair as necessary of any outlet control mechanisms. The Homeowners Association will be responsible for maintenance of all of the post-construction stormwater management practices onsite. Currently, the bylaws that will describe the responsibilities of the Homeowners Association are being drafted, and details of the maintenance of the post-construction stormwater management practices will be described therein. Subsection 6.15, "Drainage and Retention Easements", of the Draft Master Declaration of Covenants Conditions and Restrictions describes the access easements required for maintenance of stormwater management facilities.

Most of the proposed stormwater management facilities are in locations that are easily accessible using adjacent roadways, driveways and parking areas. In the event a stormwater management practice is not located adjacent to a proposed road or driveway, maintenance access for small equipment such as a skid steer or small backhoe will be provided as an "unimproved" trail. The trail will be a stable access path of sufficient size and stability for this type of equipment. These access paths are typically the same paths utilized for construction access.

On the proposed single family lots, lot owners will be responsible for maintenance of the post-construction stormwater management practices (i.e. bioretention practices) for the life of the systems. The maintenance of these stormwater practices on the individual lots will be enforced by the Homeowners Association Offering Plan that all of the individual lot owners will be responsible for signing and abiding by for the life of the lot. This Offering Plan is being drafted and will be finalized when it is accepted by the Attorney General. The Offering Plan will clearly state the maintenance requirements of the stormwater management practices on the individual lots and if the maintenance of these practices is not conducted appropriately, the Homeowners Association will conduct the required work at the expense of the individual lot owner. The Homeowners Association responsibilities regarding the individual lots with post-construction stormwater management practices located on the property will be clearly spelled out in the Offering Plan for the Homeowners Association.

9.0 CONCLUSION

The stormwater management goals and objectives for this project listed in the introductory paragraph, specifically meeting water quality objectives while at the same time mitigating potential impacts associated with increased stormwater runoff, have been met. The goals are met through the use of thoughtful and careful site planning, preservation of the site's natural resources and environmentally sensitive areas, minimizing development impacts and impervious areas, and incorporating design features such as green infrastructure techniques and standard stormwater management practices that effectively manage stormwater runoff and compliment the overall project design.

The analysis of the receiving streams and watercourses at each design point along with their downstream conditions show that the downstream channels are stable and have the capacity to adequately convey post construction stormwater flows, which minimizes potential impacts to channel conditions and downstream hydrology. Pre-development peak discharge rates are met or reduced at each design point in accordance with the regulations, and increases in flow volume are minimized to the maximum extent practicable through use of bioretention areas, an infiltration basin and roadside conveyance swales that provide opportunities for evapotranspiration, infiltration and groundwater recharge. The bioretention areas at each residential lot and at the common buildings treat a significant portion of the proposed impervious areas at the source, and again maximize opportunities, even if the soils are limited in some places, for infiltration.

The information presented above, supporting calculations and project plans demonstrate that the project and associated stormwater management plan has been developed in accordance with the New York State DEC Stormwater Management Design Manual, (August, 2010), and the Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its sources, 10 NYCRR §128-3.9.

10.0 REFERENCES

1. Urban Hydrology for Small Watersheds. Published by the U.S. Soil Conservation Service, Washington, D.C., June 1986.
2. HydroCAD (Version 9.10) Stormwater Modeling Software, by HydroCAD Software Solutions, LLC.
3. NYSDEC Stormwater Management Design Manual. Published by the New York State Department of Environmental Conservation, Updated August 2010.
4. Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its sources, 10 NYCRR §128-3.9.

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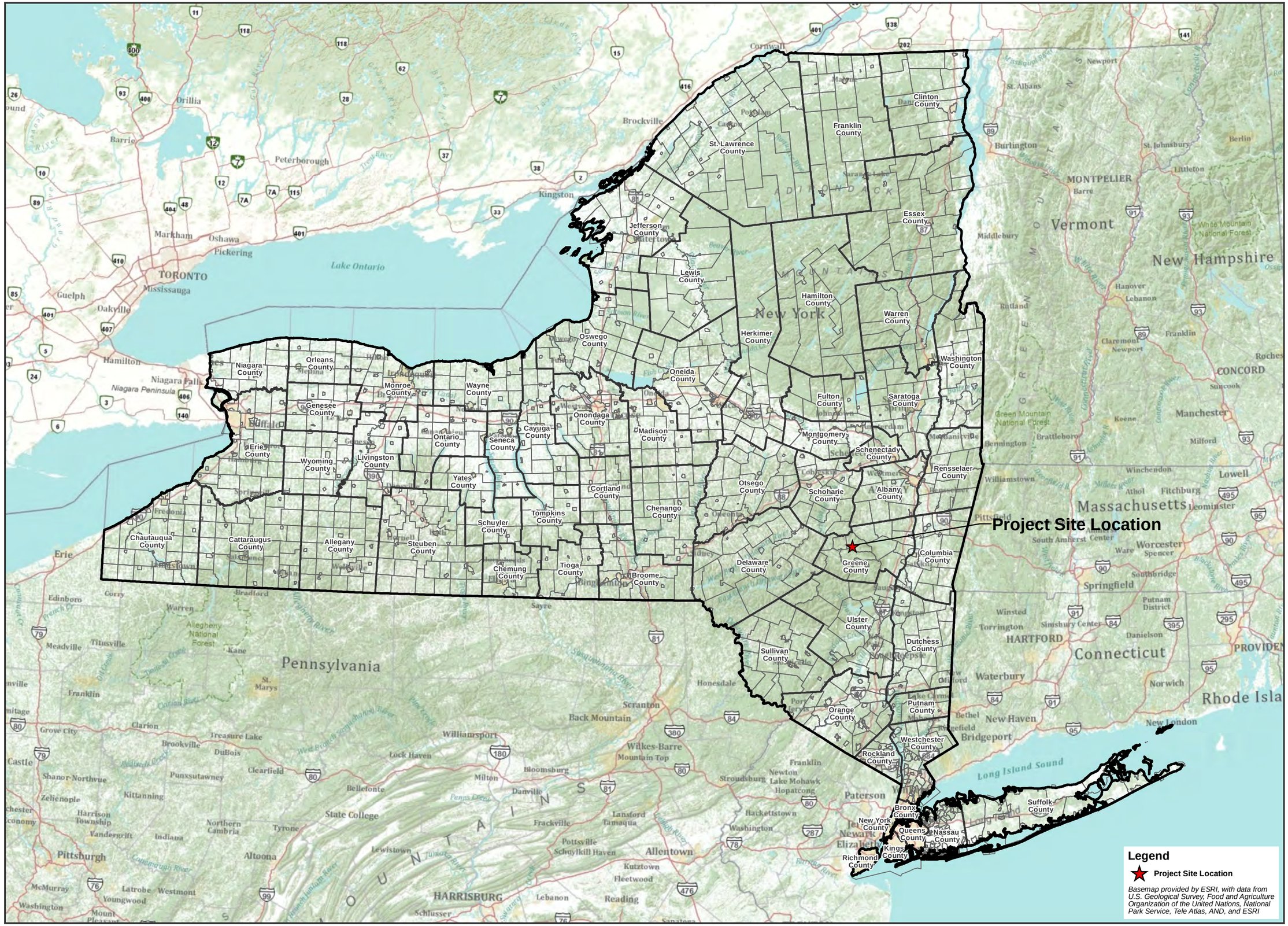
APPENDIX A

Figures



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34 SALISBURY ROAD
DARIEN, CT 06820

The Windham Mountain Sporting Club

Town of Windham, Greene County, New York

Title

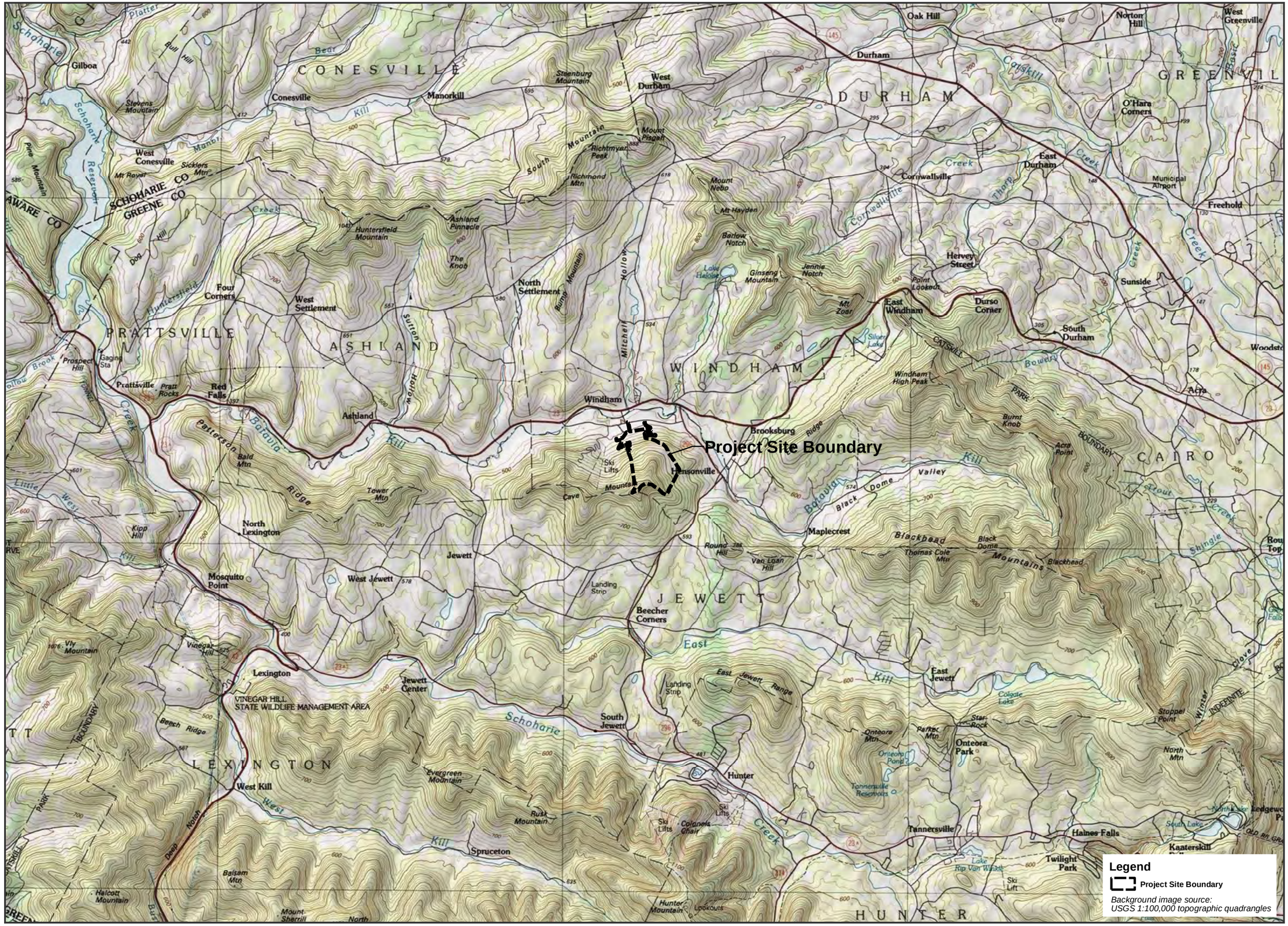
New York State Location Map

Project: 08077

Date: 11/30/2011

Figure:

1-1



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The Windham Mountain Sporting Club

Town of Windham, Greene County, New York

Title

Regional Location Map

0 0.5 1

Miles

Project: 08077

Date: 11/30/2011

Figure:

1-2

West of Hudson
Watershed Boundary
(Approximate)

Project Site Boundary

Legend

- Project Site Boundary
- West of Hudson Watershed Boundary

Watershed boundary based on NYC West of Hudson Watershed Townships map provided by the Catskill Watershed Corporation

Basemap image source: USGS 1:250,000 quadrangles

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Town of Windham, Greene County, New York

Title

West of Hudson Watershed Map

0 2.5 5

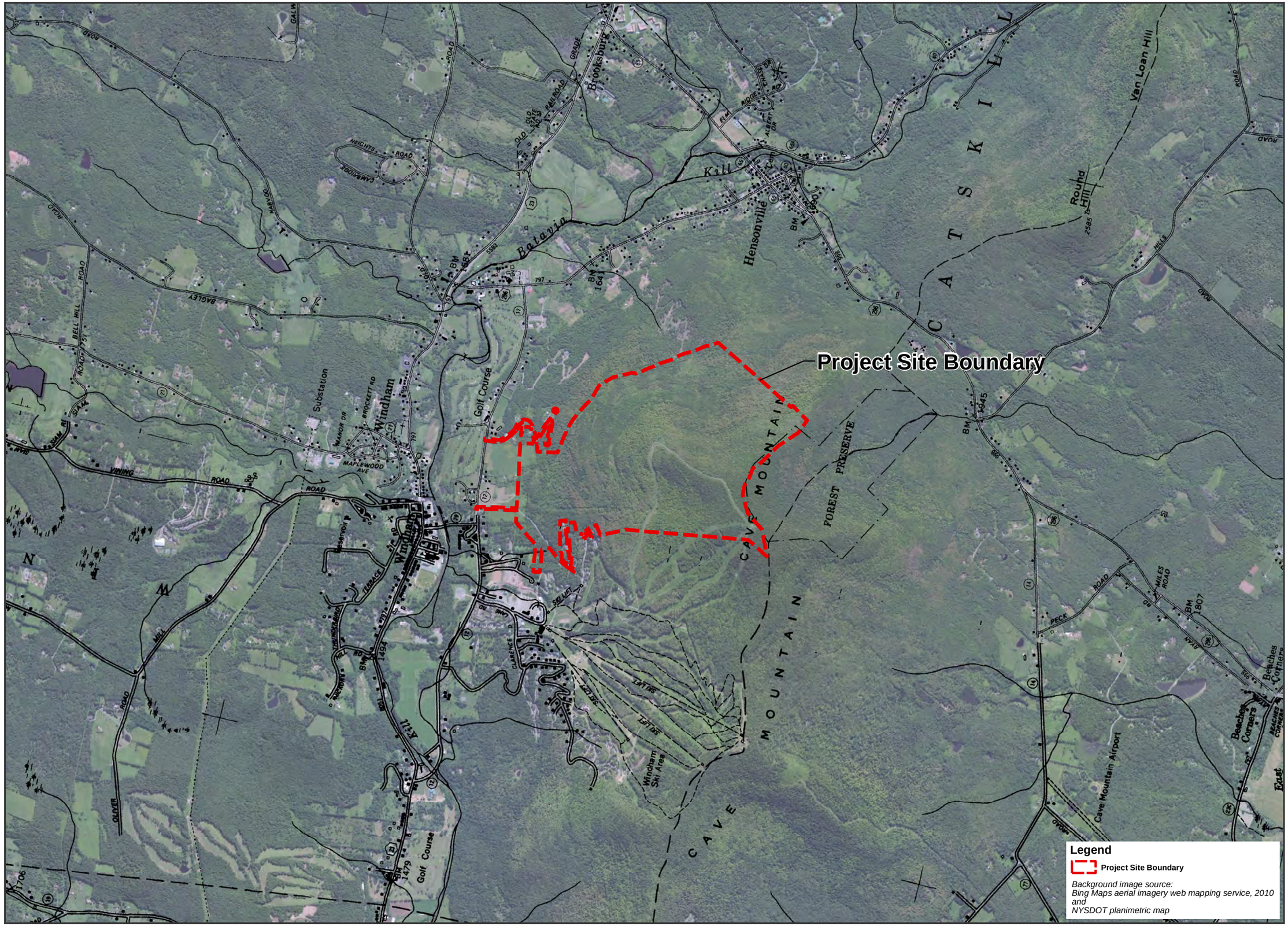
Miles

Project: 08077

Date: 11/30/2011

Figure:

1-5



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The Windham Mountain Sporting Club

Town of Windham, Greene County, New York

Title
Site Location Map

1" = 2,000'

0 1,000 2,000
Feet

Project: 08077
Date: 11/30/2011

Figure:
1-3

PHASING PLAN

PHASE I:

Total LF of roads - 13,705

74 Lots
12 Duplex
37 Townhomes
27 Condos

150 Total Units Phase I

PHASE II:

Total LF of roads - 7,383

45 Lots
12 Duplex
17 Townhomes
54 Condos

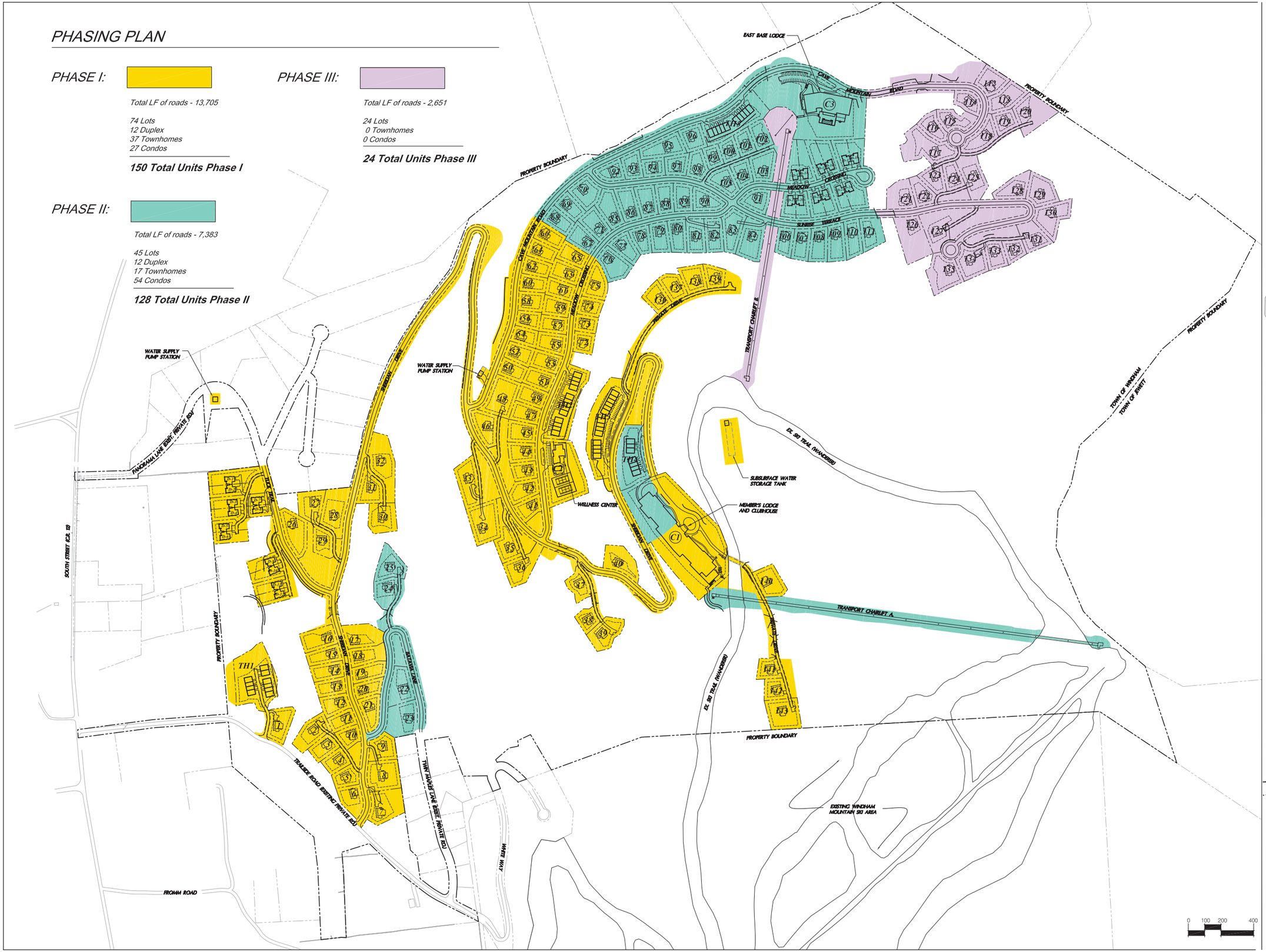
128 Total Units Phase II

PHASE III:

Total LF of roads - 2,651

24 Lots
0 Townhomes
0 Condos

24 Total Units Phase III



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Design MJT/JTS
Drawn MJT/JTS
Checked KJF/DRC

This drawing is not certified for the purposes of construction, unless it is specifically noted as issued for construction.

Submission:
FOR REGULATORY APPROVALS ONLY

PREPARED FOR:
TUCK EASTSIDE PARTNERS, L.P.
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DARIEN, CT 06820

The Windham Mountain Sporting Club
Town of Windham
Greene County, New York

Title: Phasing Plan

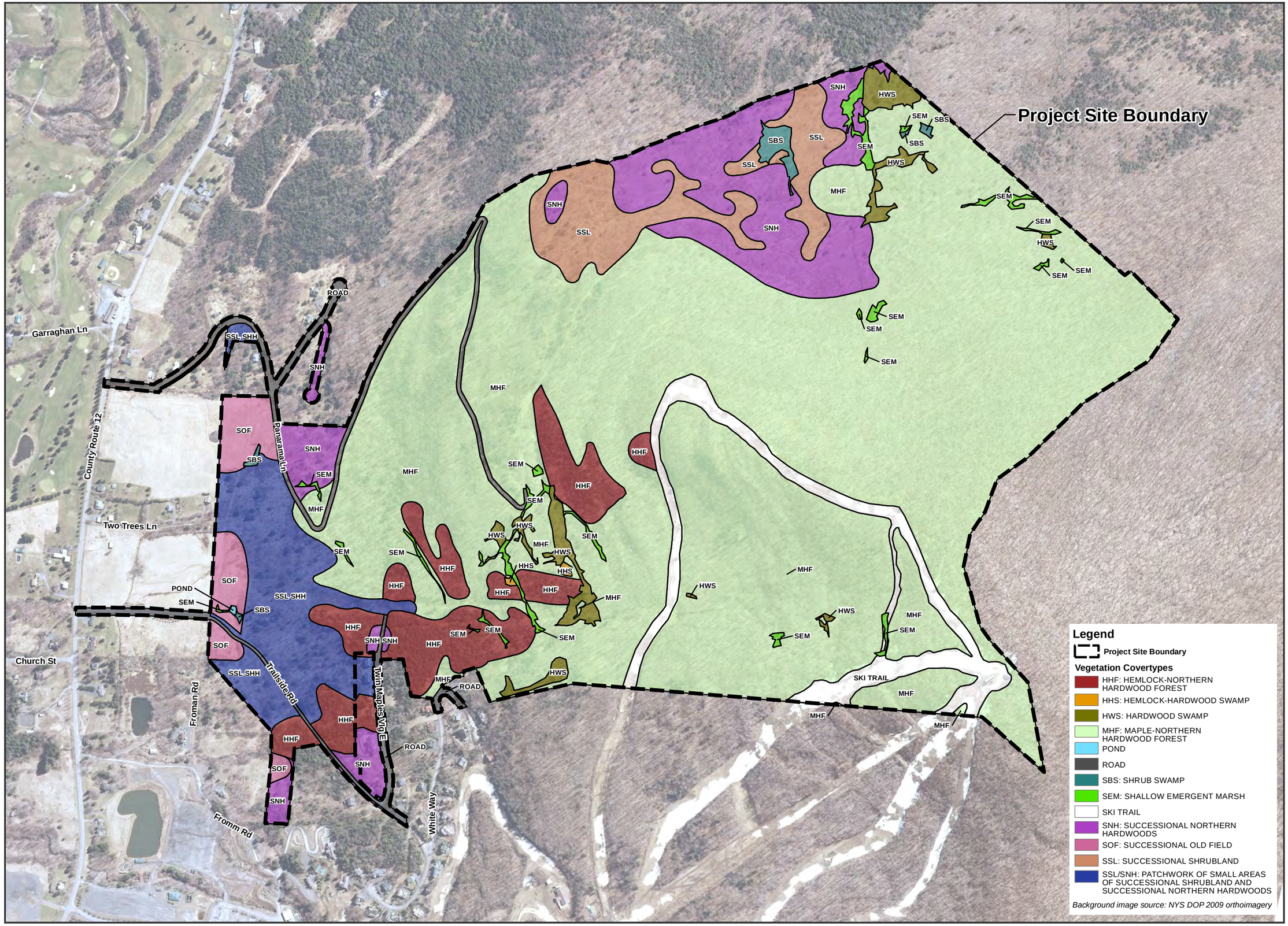
Key Plan

NORTH

Revisions

Project: 08077
Date: 11/23/2011

Drawing
1-7



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The Windham Mountain Sporting Club

Town of Windham, Greene County, New York

Title
Vegetation Covertypes

1" = 600'

0 300 600
Feet

Project: 08077
Date: 12/07/2011

Figure:
3-10

SOIL SERIES

	Soil	Slope
EKB	Elka silt loam	0-8%
EKC	Elka silt loam	8-15%
HRE	Halcott-Rock outcrop complex	25-35%
HRF	Halcott-Rock outcrop complex	>35%
HVB	Halcott-Vly complex	0-8%
HVD	Halcott-Vly complex	8-15%
HVE	Halcott-Vly complex	25-35%
LEB	Lewbeach silt loam, very stony	0-8%
LEC	Lewbeach silt loam, very stony	8-15%
LED	Lewbeach silt loam, very stony	15-25%
LEF	Lewbeach silt loam, very stony	>25%
OSB	Onteora-Suny soils, very stony	0-8%
TrB	Tor silt loam	9-5%
TuB	Tunkhannock very channery loam	0-8%
TuC	Tunkhannock very channery loam	8-15%
VHB	Vly-Halcott complex	0-8%
VHC	Vly-Halcott complex	8-15%
VHD	Vly-Halcott complex	15-25%
VHE	Vly-Halcott complex	25-35%
VHF	Vly-Halcott complex	>35%
VYB	Vly channery silt loam	0-8%
VYC	Vly channery silt loam	8-15%
VYD	Vly channery silt loam	15-25%
WLB	Willowemoc silt loam	0-8%
WLC	Willowemoc silt loam	8-15%

SOIL TEST PIT DATA

Date Performed	Peformed By	TP #	Series	Boundary Condition Depth (in)	Boundary Type	HSG
Oct-08	RJC	1	Lewbeach	25	hardpan	C
Oct-08	RJC	2	Lewbeach	31	hardpan	C
Oct-08	RJC	3	Halcott	19	bedrock	C/D
Oct-08	RJC	4	Vly	26	bedrock	C
Oct-08	RJC	5	Vly	31	bedrock	C
Oct-08	RJC	6	Vly	36	bedrock	C
Oct-08	RJC	7	Vly	30	bedrock	C
Oct-08	RJC	8	Vly	22	bedrock	C
Oct-08	RJC	9	Vly	40	bedrock	C
Oct-08	RJC	10	Onteora	16	hardpan	C
Oct-08	RJC	11	Halcott	15	bedrock	C/D
Oct-08	RJC	12	Elka	51	bedrock	C
Oct-08	RJC	13	Elka	57	bedrock	C
Oct-08	RJC	14	Elka	60	bedrock	C
Oct-08	RJC	15	Vly	40	bedrock	C
Oct-08	RJC	16	Vly	34	bedrock	C
Oct-08	RJC	17	Vly	29	bedrock	C
Oct-08	RJC	18	Lewbeach	29	hardpan	C
Oct-08	RJC	19	Elka	51	bedrock	C
Oct-08	RJC	20	Willowemoc	20	SHWT	C
Oct-08	RJC	21	Halcott	14	bedrock	C/D
Oct-08	RJC	22	Vly	30	bedrock	C
Oct-08	RJC	23	Lewbeach	26	hardpan	C
Oct-08	RJC	24	Halcott	12	bedrock	C/D
Oct-08	RJC	25	Vly	38	bedrock	C
Oct-08	RJC	26	Lewbeach	25	hardpan	C
Oct-08	RJC	27	Lewbeach	29	hardpan	C
Oct-08	RJC	28	Vly	26	bedrock	C
Oct-08	RJC	29	Lewbeach	25	hardpan	C
Oct-08	RJC	30	Halcott	12	bedrock	C/D
Oct-08	RJC	31	Vly	34	bedrock	C
Oct-08	RJC	32	Vly	29	bedrock	C
Oct-08	RJC	33	Lewbeach	26	hardpan	C
Oct-08	RJC	34	Lewbeach	25	hardpan	C
Oct-08	RJC	35	Vly	38	bedrock	C
Dec-10	WSB	36	Lewbeach	67	SHWT	C
Dec-10	WSB	37	Lewbeach	>90	None	C
Dec-10	WSB	38	Lewbeach	76	SHWT	C
Dec-10	WSB	39	Vly	26	bedrock	C
Dec-10	WSB	40	Vly	24	bedrock/SHWT	C

LEGEND — SYMBOL

- PROPERTY LINE
- ADJACENT PROP. BOUNDARIES
- EXISTING TREELINE
- WETLAND
- NYCDEP JURISDICTIONAL WATERCOURSE
- SOILS BOUNDARY
- TEST PIT LOCATION #

PROPERTY BOUNDARY

EXISTING SKI TRAIL

EXISTING WANDERER SKI TRAIL

EXISTING UPPER PENOBSCOT LANE

PANORAMA DRIVE (PRIVATE)

TRAIN SIDE ROAD (PRIVATE)

TWIN MAPLES LANE (PRIVATE)

WHITE WAY

TOWN OF WINDHAM

50' EASEMENT

ROCK OUTCROP

SOIL LIMITATIONS FOR DEVELOPMENT

Map Symbol	Series Name	buildings	roads & parking	underground utilities
ExB	Elka Silt Loam	slight - mod., slope	mxd., frost action	slight
ExC	Elka Silt Loam	mod.- severe, slope	mxd., frost action, slope	slight
HrE	Halcott _Rock Outcrop	severe, depth to rock	severe, depth to rock	severe, depth to rock
HrF	Halcott _Rock Outcrop	severe, depth to rock	severe, depth to rock	severe, depth to rock
HvB	Halcott-Vly Complex	mod.-severe, depth to rock	mxd.-severe, depth to rock	severe
HvD	Halcott-Vly Complex	severe, slope, rock	severe, slope, rock	severe
HvE	Halcott-Vly Complex	severe, slope, rock	severe, slope, rock	severe
LeB	Lewbeach Channery Silt Loam	mod.-severe, wetness	mxd., wetness, frost	slight
LeC	Lewbeach Channery Silt Loam	mod.-severe, wetness	mxd., wet, slope, frost	slight
LeD	Lewbeach Channery Silt Loam	severe, slope	severe, slope	slight
LeF	Lewbeach Channery Silt Loam	severe, slope	severe, slope	slight
OsB	Onteora-Suny Complex	severe, wetness	severe, wetness, frost	slight
TuB	Tunkhannock Very Channery Loam	mod, large stones	mxderate, large stones	slight
TuC	Tunkhannock Very Channery Loam	mod.-severe, stones, slope	mxd., stone, slopes	slight
TrB	Tor Silt Loam	severe, rock & wetness	severe, rock, wetness, frost	severe, roack and wet
VhB	Vly-Halcott Complex	mod.-severe, depth to rock	mxd., rock, frost	some depth to rock
VhC	Vly-Halcott Complex	mod.-severe, depth to rock	mxd.- severe, rock, frost, slope	some depth to rock
VhD	Vly-Halcott Complex	severe, rock, slope	severe, rock, slope	some depth to rock
VhE	Vly-Halcott Complex	severe, rock, slope	severe, rock, slope	some depth to rock
VhF	Vly-Halcott Complex	severe, rock, slope	severe, rock, slope	some depth to rock
VyB	Vly Channery Silt Loam	mod.-severe, depth to rock	severe, depth to rock	severe, depth to rock
VyC	Vly Channery Silt Loam	mod.-severe, depth to rock	severe, depth to rock	severe, depth to rock
VyD	Vly Channery Silt Loam	severe, rock, slope	severe, slope	severe, depth to rock
WlB	Willowemoc Channery Silt Loam	mod., wetness	severe, frost action	slight
WlC	Willowemoc Channery Silt Loam	mod., wetness	severe, frost action	slight

*Slight limitation indicates soil properties are generally favorable and any limitition is easy to overcome
*Moderate limitations are indicative of unfavorable soil and site features, but that limitations can be overcome or minimized by special planning and
*Sewere limitations are those where one or more soil properties or site features are so difficult to overcome that a major increase in construction effc special design, or intensive maintenance is required.

SOIL CHARACTERISTICS

Map Symbol	Series Name	Slope Range (%)	Hydrclogic Group	Clay Content (%)	Depth to Bedrock (in.)	Seasonal High Groundwater (ft.)	Erosion Potential (K)
ExB	Elka Silt Loam	0-8	C	7-15	>60	>6	0.24
ExC	Elka Silt Loam	8-15	C	7-15	>60	>6	0.24
HrE	Halcott _Rock Outcrop	25-35	C/D	7-27	0-20	>6	0.24
HrF	Halcott _Rock Outcrop	>35	C/D	7-27	0-20	>6	0.24
HvB	Halcott-Vly Complex	0-8	C/D	7-27	0-40	>6	0.20-0.24
HvD	Halcott-Vly Complex	15-25	C/D	7-27	0-40	>6	0.20-0.24
HvE	Halcott-Vly Complex	25-35	C/D	7-27	0-40	>6	0.20-0.24
LeB	Lewbeach Channery Silt Loam	0-8	C	1-18	>80	2-4 perched Mar-May	0.24
LeC	Lewbeach Channery Silt Loam	8-15	C	1-18	>60	2-4 perched Mar-May	0.24
LeD	Lewbeach Channery Silt Loam	15-25	C	1-18	>60	2-4 perched Mar-May	0.24
LeF	Lewbeach Channery Silt Loam	>25	C	1-18	>60	2-4 perched Mar-May	0.24
OsB	Onteora-Suny Complex	0-8	C/D	1-18	>60	0-1.5 perched Nov-Apr	0.24-0.28
TrB	Tor Silt Loam	0-3	D	7-27	10-20	0.5-1.0 perched Dec-June	0.24
TuB	Tunkhannock Very Channery Loam	0-8	A	10-20	>60	>6	0.24
TuC	Tunkhannock Very Channery Loam	8-15	A	10-20	>60	>6	0.24
VhB	Vly-Halcott Complex	0-8	C/D	7-27	0-40	>6	0.20-0.24
VhC	Vly-Halcott Complex	8-15	C/D	7-27	0-40	>6	0.20-0.24
VhD	Vly-Halcott Complex	15-25	C/D	7-27	0-40	>6	0.20-0.24
VhE	Vly-Halcott Complex	25-35	C/D	7-27	0-40	>6	0.20-0.24
VhF	Vly-Halcott Complex	>35	C/D	7-27	0-40	>6	0.20-0.24
VyB	Vly Channery Silt Loam	0-8	C	7-27	20-40	>6	0.2
VyC	Vly Channery Silt Loam	8-15	C	7-27	20-40	>6	0.2
VyD	Vly Channery Silt Loam	15-25	C	7-27	20-40	>6	0.24
WlB	Willowemoc Channery Silt Loam	0-8	C	1-18	>60	1.5-2 perched Oct-May	0.24
WlC	Willowemoc Channery Silt Loam	8-15	C	1-18	>80	1.5-2 perched Oct-May	0.24

An on-site soil survey was performed on the WMSC property by a professional soil scientist in the fall of 2008. The soil survey included the excavation of a number of test pits on the property as well as shovel testing verification. The logs of the test pits are in Appendix 15. Additional test pit information was collected in 2010 to determine soil conditions in areas considered for stormwater management practices. Descriptions of these test pits can also be found in Appendix 15.

Soils mapping shown on this plan is second-order soils mapping. Second-order surveys are made for intensive land uses that require detailed information about soil resources for making predictions of suitability for use and of treatment needs. The information can be used in planning for general agriculture, construction, urban development, and similar uses that require precise knowledge of the soils and their variability. Field procedures permit plotting of soil boundaries by observation and by interpretation of remotely sensed data. Boundaries are verified at closely spaced intervals, and the soils in each delineation are identified by traversing and in some map units by transecting. Map units are mostly consociations and complexes. Occasionally undifferentiated groups or associations are also used. Components of map units are phases of soil series or phases of miscellaneous areas; map units named at a categorical level above the series can be used. Delineations are variable in size with a minimum of 0.6 to 4 hectares (1.5 to 10 acres), depending on landscape complexity and survey objectives. Contrasting inclusions vary in size and amount within the limits permitted by the kind of map unit used.

0 100 200 400

SCALE: 1"=200'

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Landscape Architecture and Engineering, PC
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New York 12866
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Design

Drawn JTS

Checked KJF/DRC

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Submission:

FOR REGULATORY APPROVALS ONLY

PREPARED FOR:
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD
DARIEN, CT 06820

The Windham Mountain Sporting Club

Town of Windham
Greene County, New York

Soils Mapping

Key Plan

NORTH

Revisions

Project: 08077

Date: 11/23/2011

Drawing

3-14

DELINEATED WATERCOURSES

DESIGNATION	NUMBER	LENGTH	HYDROLOGICAL TYPE
S	1	2,936	Perennial
S	1.1	1,631	Intermittent
S	1.2	144	Intermittent
S	1.2.1	180	Intermittent
S	1.2.2	667	Intermittent
S	1.3	1,000	Intermittent
S	1.3.1	62	Intermittent
S	1.3.2	12	Intermittent
S	1.3.3	36	Intermittent
S	1.5	488	Intermittent
S	1.6	218	Intermittent
S	1.8	583	Perennial (?)
S	1.8.1	201	Intermittent
S	1.8.2	114	Intermittent
S	1.12	289	Perennial or Intermittent
S	1.12.2	646	Intermittent
S	3	63	Intermittent
S	3.1	766	Intermittent
S	3.1.2	729	Intermittent / ephemeral
S	3.1.3	529	Intermittent
S	3.2	694	Intermittent
S	6	44	Intermittent
S	6.1	204	Intermittent
S	6.2	187	Intermittent
S	7	1,614	Perennial in lower part, intermittent in upper part
S	7.1	99	Intermittent
S	7.2	84	Intermittent
S	7.3	114	Intermittent
S	7.4	564	Intermittent
S	7.6	559	Intermittent
S	8	27	Intermittent
S	12	422	Intermittent
S	12.1	229	Intermittent
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S	12.3	45	Intermittent
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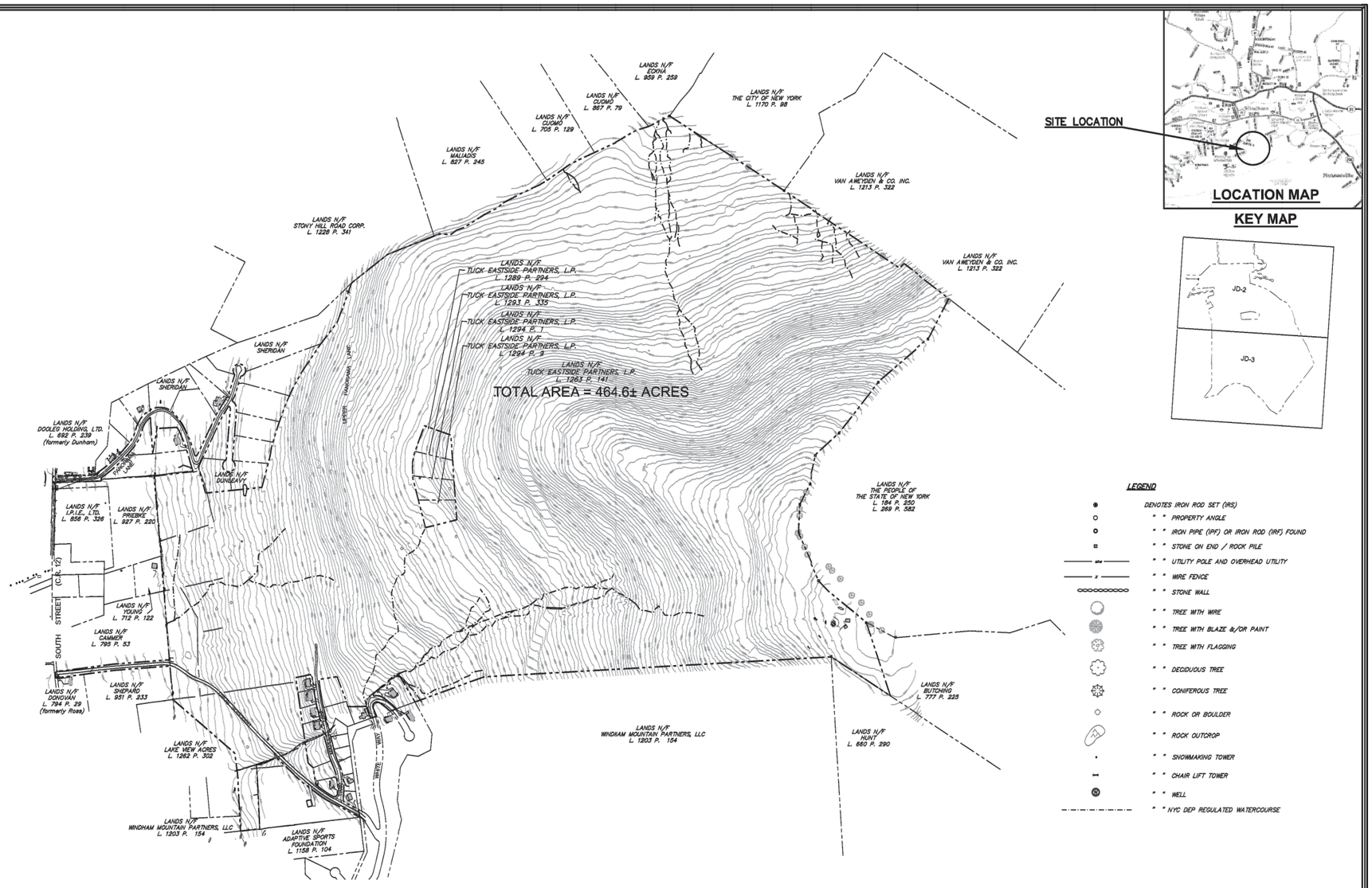
S	15	571	Intermittent
S	16	259	Intermittent
S-D	1	177	Intermittent
S-D	2	70	Intermittent
S-D	3	991	Intermittent
S-D	3.1	116'	Intermittent
S-D	3.2	476'	Intermittent
S-D	3.2.1	54	Intermittent
S-D	4	264	Intermittent
S-D	4.1	62	Intermittent
TOTAL LINEAR FEET OF WATER COURSE		19,551	



LOCATION MAP

KEY MAP

LEGEND

- ● DENOTES IRON ROD SET (IRS)
- ○ " " PROPERTY ANGLE
- ○ " " IRON PIPE (IPF) OR IRON ROD (IRF) FOUND
- ■ " " STONE ON END / ROCK PILE
- —— " " UTILITY POLE AND OVERHEAD UTILITY
- —x— " " WIRE FENCE
- " " STONE WALL
- " " TREE WITH WIRE
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- " " ROCK OR BOULDER
- " " ROCK OUTCROP
- " " SNOWMAKING TOWER
- " " CHAIR LIFT TOWER
- " " WELL
- " " NYC DEP REGULATED WATERCOURSE

WATERCOURSES ON THIS SITE WERE LOCATED IN THE FIELD BY KAATERSKILL ASSOCIATES, USING A TRIMBLE GEO XT HANDHELD GPS UNIT, AS DELINEATED BY LA GROUP, P.C.

INSPECTIONS OF THE PROPERTY WERE MADE BY NYCDEP PERSONNEL ON THE FOLLOWING DATES: NOVEMBER 14, 2008, MAY 18, 2010, MAY 28, 2010, JUNE 24, 2010, JUNE 28, 2010, JULY 26, 2010 JULY 28, 2010, SEPTEMBER 1, 2010, SEPTEMBER 17, 2010, OCTOBER 19, 2010 AND DECEMBER 11, 2010. CHANGES MADE TO THE MAPPING OF WATERCOURSES AS A RESULT OF THESE INSPECTIONS ARE INCLUDED ON THESE DRAWINGS.

GRAPHIC SCALE

400 0 200 400 800 1600

(IN FEET)

1 inch = 400 ft.

NAD 83 - NY EAST ZONE

THIS SURVEY HAS BEEN PREPARED IN ACCORDANCE WITH THE CODE OF PRACTICE FOR LAND SURVEYS OF THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, DATED JULY 18, 1997.

KAATERSKILL ASSOCIATES
SURVEYORS, ARCHITECTS AND ENGINEERS
CAIRO, NY (518)622-9667

REV	DATE	DESCRIPTION	APP.
1	7/19/11	REVISE SCALE AND NUMBER OF SHEETS	JWV

REVISIONS

WINDHAM MOUNTAIN SPORTING CLUB SITE
DF LANDS OF
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD, DARIEN CT 06820
OFF SOUTH STREET
TOWN OF WINDHAM — GREENE COUNTY, NY

NYC DEP REGULATED WATERCOURSE DELINEATION

PROJECT:	164207.01
DATE:	6/14/2011
SCALE:	1"=400'
TAX MAP #:	95-1-28.1
DRAWN BY:	JWV
CHECKED BY:	CPV
FILE:	164207-01-NYC DEP JD Watercourse Sheet JD-1.dwg

CHRISTINE P. VALACHOVIC
NYS PLS #50368

DRAWING:
JD-1
SHEET 1 of 10

L:\2007\164207.01 Wilcox\dwg\WETLAND NYC DEP JD MAPPING\[16420701-NYC DEP JD Watercourse Sheet JD-1.dwg 7/19/2011 12:06:10 PM EDT

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F 518/587-0180
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Checked

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Submission:
FOR REGULATORY APPROVALS ONLY

PREPARED FOR:
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD
DARIEN, CT 06820

The Windham Mountain Sporting Club
Town of Windham
Greene County, New York.

Watercourses Map

Revisions

Project: 08077
Date: 11/23/2011

Drawing
2-3a

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DELINEATED WATERCOURSES

DESIGNATION	NUMBER	LENGTH	HYDROLOGICAL TYPE
S	1	2,936	Perennial
S	1.1	1,631	Intermittent
S	1.2	144	Intermittent
S	1.2.1	180	Intermittent
S	1.2.2	667	Intermittent
S	1.3	1,000	Intermittent
S	1.3.1	62	Intermittent
S	1.3.2	12	Intermittent
S	1.3.3	36	Intermittent
S	1.5	488	Intermittent
S	1.6	218	Intermittent
S	1.8	583	Perennial (?)
S	1.8.1	201	Intermittent
S	1.8.2	114	Intermittent
S	1.12	289	Perennial or Intermittent
S	1.12.2	646	Intermittent
S	3	63	Intermittent
S	3.1	766	Intermittent
S	3.1.2	729	Intermittent / ephemeral
S	3.1.3	529	Intermittent
S	3.2	694	Intermittent
S	6	44	Intermittent
S	6.1	204	Intermittent
S	6.2	187	Intermittent
S	7	1,614	Perennial in lower part, intermittent in upper part
S	7.1	99	Intermittent
S	7.2	84	Intermittent
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S	7.4	564	Intermittent
S	7.6	559	Intermittent
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S-D	3.2.1	54	Intermittent
S-D	4	264	Intermittent
S-D	4.1	62	Intermittent
TOTAL LINEAR FEET OF WATER COURSE		19,551	

LEGEND

- DENOTES IRON ROD SET (IRS)
- " " PROPERTY ANGLE
- " " IRON PIPE (IPF) OR IRON ROD (IRF) FOUND
- " " STONE ON END / ROCK PILE
- " " UTILITY POLE AND OVERHEAD UTILITY
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- " " STONE WALL
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- " " ROCK OUTCROP
- " " SNOWMAKING TOWER
- " " CHAIR LIFT TOWER
- " " WELL
- " " NYC DEP REGULATED WATERCOURSE

NAD 83 - NY EAST ZONE

GRAPHIC SCALE

300 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

CONTINUED ON SHEET JD-3

KAATERSKILL ASSOCIATES
SURVEYORS, ARCHITECTS AND ENGINEERS
CAIRO, NY (518)622-9667

REV	DATE	DESCRIPTION	APP.
1	7/19/11	REVISE SCALE AND NUMBER OF SHEETS	JWV

REVISIONS

WINDHAM MOUNTAIN SPORTING CLUB SITE
OF LANDS OF
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD, DARIEN CT 06820
OFF SOUTH STREET
TOWN OF WINDHAM — GREENE COUNTY, NY

NYC DEP REGULATED WATERCOURSE DELINEATION

PROJECT: 164207.01
DATE: 6/14/2011
SCALE: 1"=200'
TAX MAP #: 95-1-28.1
DRAWN BY: JWV
CHECKED BY: CPV
FILE: [illegible]

CHRISTINE P. VALACHOVIC
NYS PLS #50368

DRAWING:
JD-2
SHEET 2 of 3

L:\2007\164207.01 Wilcock\dwg\WETLAND NYC DEP JD MAPPING\16420701-NYC DEP JD Watercourse W-2 W-3 200scale.dwg 7/19/2011 11:08:40 AM EDT

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PREPARED FOR:
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD
DARIEN, CT 06820

The Windham Mountain Sporting Club
Town of Windham
Greene County, New York
Title: Watercourses Map

Revisions

Project: 08077
Date: 11/23/2011

Drawing
2-3b

LEGEND

- DENOTES IRON ROD SET (IRS)
- " " PROPERTY ANGLE
- " " IRON PIPE (IPF) OR IRON ROD (IRF) FOUND
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S-D	4	264	Intermittent
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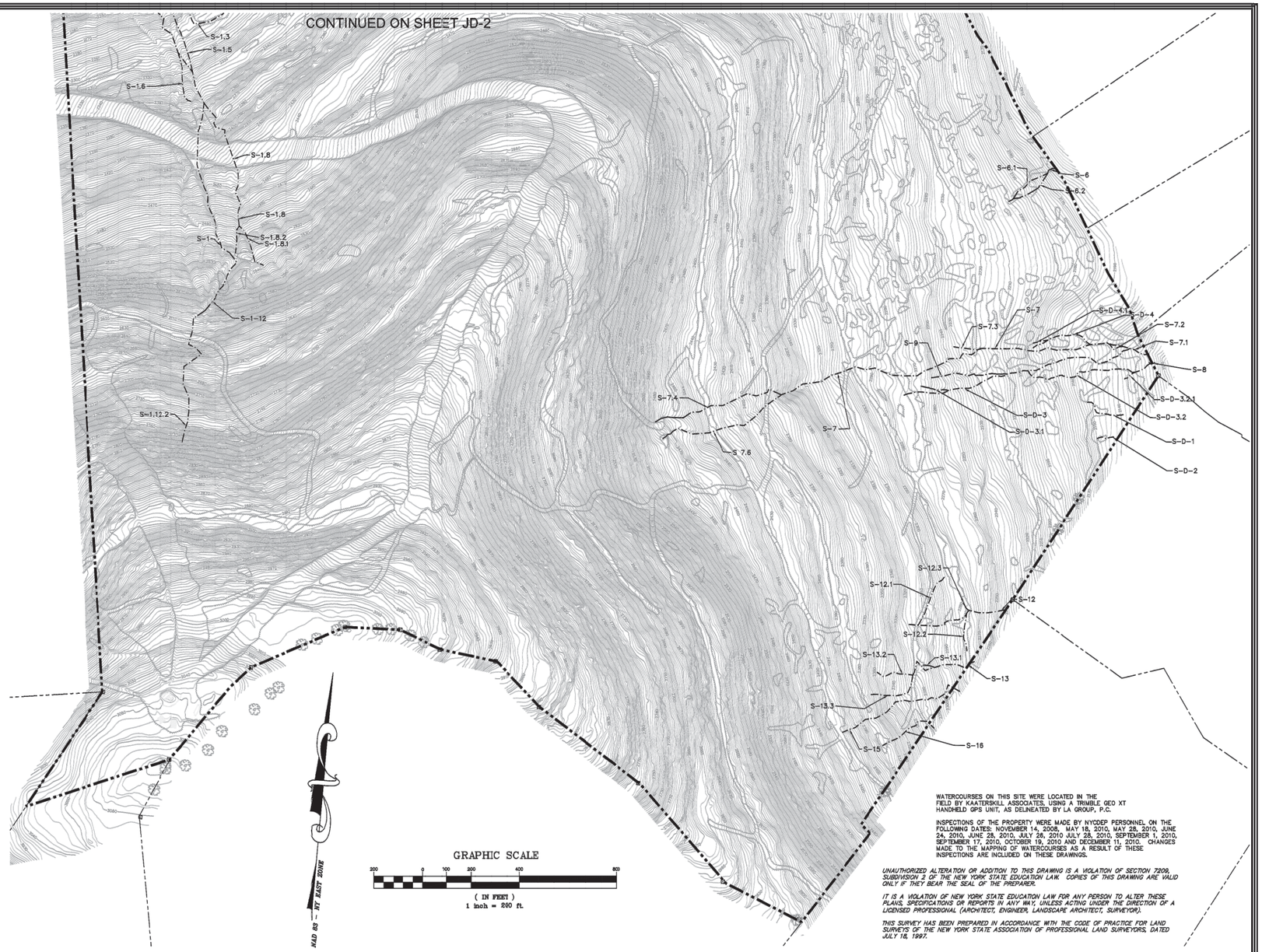
TOTAL LINEAR FEET OF WATER COURSE		19,551	

CONTINUED ON SHEET JD-2



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KAATERSKILL ASSOCIATES
SURVEYORS, ARCHITECTS AND ENGINEERS
CAIRO, NY (518)622-9667 CATSKILL, NY (518)943-1145 TANNERSVILLE, NY (518)589-3934

REV	DATE	DESCRIPTION	APP.
1	7/19/11	REVISE SCALE AND NUMBER OF SHEETS	JWV

REVISIONS

WINDHAM MOUNTAIN SPORTING CLUB SITE
OF LANDS OF
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OFF SOUTH STREET
TOWN OF WINDHAM — GREENE COUNTY, NY

NYC DEP REGULATED WATERCOURSE DELINEATION

PROJECT: 164207.01
DATE: 6/14/2011
SCALE: 1"=200'
TAX MAP #: 95-1-28.1
DRAWN BY: JWV
CHECKED BY: CPV
FILE: WATER-NYC DEP JD Watercourse W-2 W-3 200scale.dwg

CHRISTINE P. VALACHOVIC
NYS PLS #50368

DRAWING:
JD-3
SHEET 3 of 3

L:\2007\164207.01 Wilcock\dwg\WETLAND NYC DEP JD MAPPING\16420701-NYC DEP JD Watercourse W-2 W-3 200scale.dwg 7/19/2011 11:08:40 AM EDT

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Design
Drawn
Checked

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Submission:
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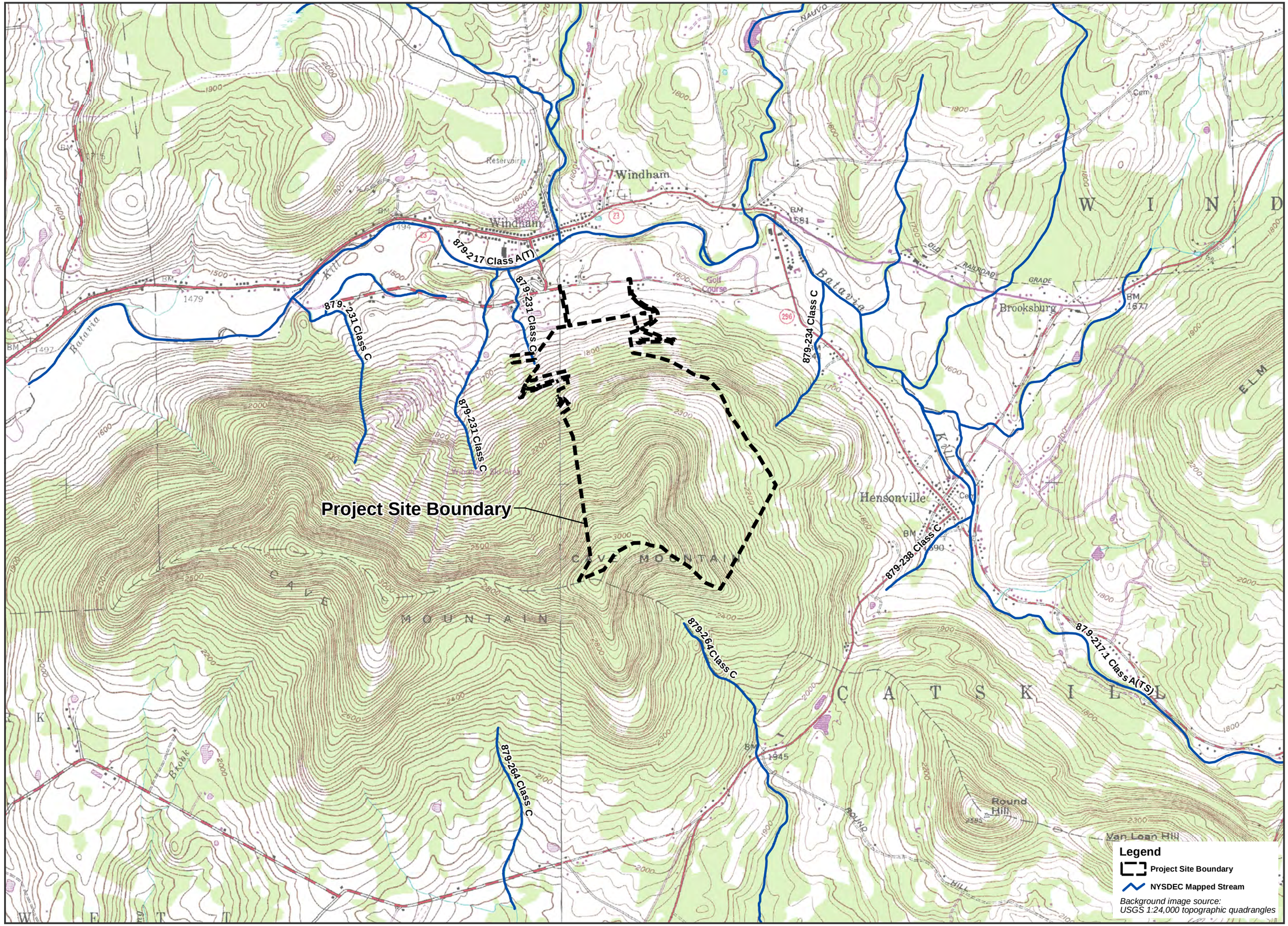
PREPARED FOR:
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD
DARIEN, CT 06820

The Windham Mountain Sporting Club
Town of Windham
Greene County, New York
Title: Watercourses Map

Revisions

Project: 08077
Date: 11/23/2011

Drawing
2-3c



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PREPARED FOR:
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD
DARIEN, CT 06820

The Windham Mountain Sporting Club
Town of Windham, Greene County, New York

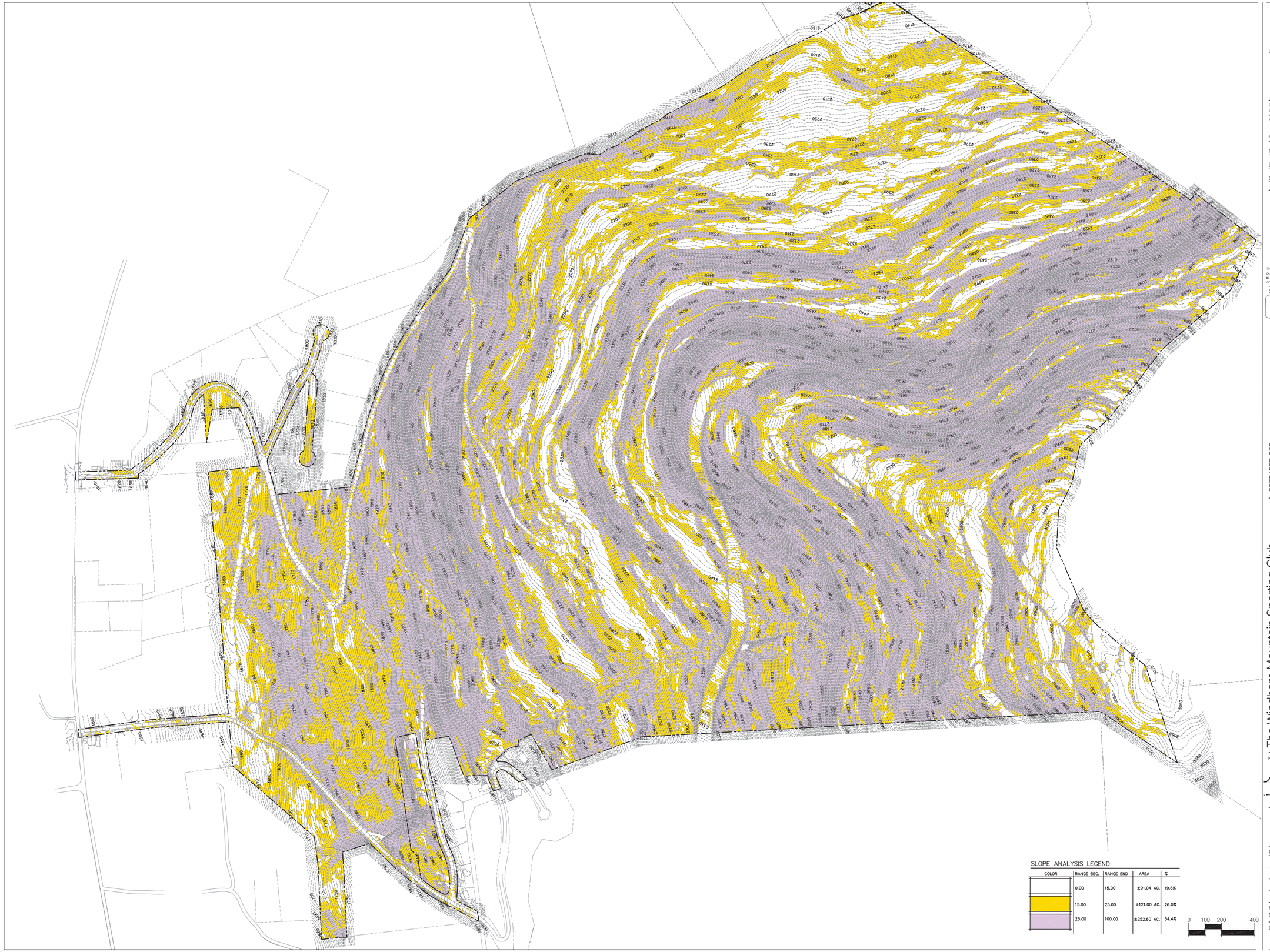
Title
NYSDEC Mapped Streams

1" = 2,000'

0 1,000 2,000
Feet

Project: 08077
Date: 12/07/2011

Figure:
3-7



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Design MJT/JTS

Drawn MJT/JTS

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This drawing is not certified for the purposes of construction, unless it is specifically noted as issued for construction.

Submission:

FOR REGULATORY APPROVALS ONLY

PREPARED FOR:
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD
DARIEN, CT 06820

The Windham Mountain Sporting Club

Town of Windham
Greene County, New York

Title: Slope Map

Key Plan

NORTH

Revisions

Project: 08077
Date: 11/23/2011

Drawing
3-2

the LA group
Landscape Architecture
and Engineering, PC

40 Long Alley
Saratoga Springs
New York 12866

P 518/587-8100
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Design MJT/JTS

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TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD
DARIEN, CT 06820

The Windham Mountain Sporting Club

Town of Windham
Greene County, New York

Title: Composite Constraints Map

LEGEND

PROPERTY BOUNDARY

FEDERAL WETLAND

NYCDEP JURISDICTIONAL WATERCOURSE

50' BUFFER
100' BUFFER

SLOPES > 25%

0 100 200 400

NORTH

Revisions

Project: 08077
Date: 11/23/2011

Drawing
2-5

POTENTIAL DEVELOPMENT DIAGRAM

Feb. 15, 2010

WINDHAM MOUNTAIN SPORTING CLUB

Town of Windham, Greene County, NY Tuck Eastside Partners, L.P.

0 300 600

SCALE: 1"=600'

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APPENDIX B

Supporting Calculations

Blank

The Windham Mountain Sporting Club

Table 5

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	DEC-1.1" Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.		Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP1a																				
TOTAL WQv AT DP (Area Contributing to SMPs)					686,464	15.76	65,230	1.50	9.50	1.1	0.14		0.20	**8,528**			0.45	**1,704**		
	No Area Reductions																			
	GI Practices																			
		Residential Bioret.	1.2L		10,750	0.25	10,750	0.25							2,654					
			1.6L		16,250	0.37	16,250	0.37							3,967					
				Total	27,000	0.62	27,000	0.62	100	1.1	0.95		0.05	**2,351**	6,621		0.19		2,648	2,351
		GI Practice Totals			**27,000**	**0.62**	**27,000**	**0.62**						**2,351**					**2,648**	**2,351**
	Standard Practices	P1.1	1.2		436,779	10.03	0	0.00												
			1.6		128,870	2.96	1,395	0.03												
			1.7		39,615	0.91	36,835	0.85												
			1.8		54,200	1.24	0	0.00												
				Total	**659,464**	**15.14**	**38,230**	**0.88**	**5.80**	**1.1**	**0.10**		**0.14**	**6,177**	**47,567**					
		Undisturbed Area	1.17		30,241	0.69	0	0.00												
		Bypassing SMPs		**Total**	30,241	0.69	0	0.00												
		Design Point Totals			716,705	16.45	65,230	1.50												

GI Summary

Total WQv Req'd	8,528
RRv Applied	2,351
Is RRv>WQv	**NO**
Balance	6,177
Min. RRv	1,704
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	1.50
% Imp. Area Reduced	41%

SMP+GI Summary

WQv provided in SMP	47,567
RRv Applied	2,351
Total RRv & WQv	49,918
Total WQv Req'd	8,528
WQv Req. Met?	**YES**
Extra WQv Provided	41,390
Extra WQv Provided (%)	485%

The Windham Mountain Sporting Club

Table 5 — **DEC-1.1"**

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.		Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP1																				
Total WQv at DP (Area Contributing to SMPs)					1,141,791	26.21	178,695	4.10	16	1.1	0.19		0.46	**19,976**			1.23	**4,668**		
	No Area Reductions																			
	GI Practices																			
		P1.2 - Bioretention	1.10		10,640	0.24	8,640	0.20												
				Total	10,640	0.24	8,640	0.20	81	1.1	0.78		0.02	762	2,125		0.06		850	762
		P1.4 - Bioretention	1.14		11,800	0.27	0	0.00												
			1.15		23,830	0.55	23,830	0.55												
			1.16		15,985	0.37	15,985	0.37												
				Total	51,615	1.18	39,815	0.91	77	1.1	0.74		0.08	3,521	10,094		0.27		4,038	3,521
		Residential Bioret.	1.5L		20,500	0.47	20,500	0.47							5,192					
			1.1L		11,250	0.26	11,250	0.26							1,546					
			1.3L		6,500	0.15	6,500	0.15							1,488					
			1.4L		6,500	0.15	6,500	0.15							1,692					
			1.9L		23,000	0.53	23,000	0.53							5,308					
				Total	67,750	1.56	67,750	1.56	100	1.1	0.95		0.14	**5,900**	15,225		0.47		6,090	5,900
		GI Practice Totals			**130,005**	**2.98**	**116,205**	**2.67**						**10,183**	**27,444**				**10,978**	**10,183**
	Standard																			
	Practices	P1.3 - P1 Pond	1.5		750,276	17.22	0	0.00												
			1.9		159,810	3.67	29,215	0.67												
			1.11		13,460	0.31	12,060	0.28												
			1.12		35,190	0.81	21,215	0.49												
			1.13		53,050	1.22	0	0.00												
				Total	**1,011,786**	**23.23**	**62,490**	**1.43**	**6**	**1.1**	**0.11**		**0.22**	**9,793**	**78,812**					
		Undisturbed Area	1.1		1,542,650	35.41	0	0.00												
		Bypassing SMPs	1.3		124,373	2.86	0	0.00												
			1.4		345,904	7.94	0	0.00												
				Total	2,012,927	46.21	0	0.00												
		Design Point Totals			3,154,718	**72.42**	178,695	4.10												

GI Summary

Total WQv Req'd	19,976
RRv Applied	10,183
Is RRv>WQv	**NO**
Balance	9,793
Min. RRv	4,668
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	4.10
% Imp. Area Reduced	65%

SMP+GI Summary

WQv provided in SMP	78,812
RRv Applied	10,183
Total RRv & WQv	88,995
Total WQv Req'd	19,976
WQv Req. Met?	**YES**
Extra WQv Provided	69,019
Extra WQv Provided (%)	346%

The Windham Mountain Sporting Club

Table 5

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	DEC-1.1" Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.		Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP2																				
Total WQv at DP (Area Contributing to SMPs)					542,091	12.44	188,020	4.32	35	1.1	0.36		0.41	**17,996**			1.29	**4,912**		
	No Area Reductions																			
	GI Practices																			
		Residential Bioret.																		
			2.1L		5,000	0.11	5,000	0.11							1,196					
			2.3L		9,500	0.22	9,500	0.22							2,246					
			2.6L		16,250	0.37	16,250	0.37							4,229					
			2.7L		16,750	0.38	16,750	0.38							4,229					
			2.8L		4,000	0.09	4,000	0.09							963					
			2.9L		25,250	0.58	25,250	0.58							6,329					
			2.10L		24,250	0.56	24,250	0.56							2,800					
				Total	101,000	2.32	101,000	2.32	100	1.1	0.95		0.20	**8,795**	21,992		0.70		8,797	8,795
		GI Practice Totals			**101,000**	**2.32**	**101,000**	**2.32**						**8,795**	**21,992**				**8,797**	**8,795**
	Standard	P2.1	2.1		262,081	6.02	0	0.00												
	Practices		2.2		63,870	1.47	63,870	1.47												
			2.3		91,990	2.11	0	0.00												
			2.4		15,150	0.35	15,150	0.35												
			2.5		8,000	0.18	8,000	0.18												
				Total	**441,091**	**10.13**	**87,020**	**2.00**	**20**	**1.1**	**0.23**		**0.21**	**9,201**	**44,213**					
		Undisturbed Area	2.6		229,805	5.28	0	0.00												
		Bypassing SMPs	2.7		108,393	2.49	0	0.00												
			2.8		28,100	0.65	0	0.00												
			2.9		138,145	3.17	0	0.00												
			2.10		302,226	6.94	3,185	0.07												
				Total	806,669	18.52	3,185	0.07												
		Design Point Totals			1,348,760	30.96	191,205	4.39												

GI Summary

Total WQv Req'd	17,996
RRv Applied	8,795
Is RRv>WQv	**NO**
Balance	9,201
Min. RRv	4,912
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	4.32
% Imp. Area Reduced	54%

SMP+GI Summary

WQv provided in SMP	44,213
RRv Applied	8,795
Total RRv & WQv	53,008
Total WQv Req'd	17,996
WQv Req. Met?	**YES**
Extra WQv Provided	35,012
Extra WQv Provided (%)	195%

The Windham Mountain Sporting Club

Table 5 — **DEC-1.1"**

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.	Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP4																			
Total WQv at DP (Area Contributing to SMPs)					1,155,245	26.52	153,885	3.53	13	1.1	0.17		0.41	**17,990**		1.06	**4,020**		
	No Area Reductions																		
	GI Practices																		
		Residential Bioret.																	
			4.1L		23,750	0.55	23,750	0.55							5,717				
			4.3L		55,500	1.27	55,500	1.27							14,058				
			4.4L		10,500	0.24	10,500	0.24							2,654				
				Total	89,750	2.06	89,750	2.06	100	1.1	0.95		0.18	**7,816**	22,429	0.62		8,972	7,816
		GI PracticeTotals			**89,750**	**2.06**	**89,750**	**2.06**						**7,816**	**22,429**			**8,972**	**7,816**
	Standard	P4.1	4.1		621,690	14.27	0	0.00											
	Practices		4.2		32,235	0.74	32,235	0.74											
			4.3		292,890	6.72	24,400	0.56											
			4.4		72,240	1.66	7,500	0.17											
			4.5		46,440	1.07	0	0.00											
				Total	**1,065,495**	**24.46**	**64,135**	**1.47**	**6**	**1.1**	**0.10**		**0.23**	**10,175**	**82,372**				
		Undisturbed Area	4.6		155,010	3.56	0	0.00											
		Bypassing SMPs	4.7		110,150	2.53	0	0.00											
			4.8		1,585	0.04	0	0.00											
				Total	266,745	6.12	0	0.00											
		Design Point Totals			1,421,990	32.64	153,885	3.53											

GI Summary

Total WQv Req'd	17,990
RRv Applied	7,816
Is RRv>WQv	**NO**
Balance	10,175
Min. RRv	4,020
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	3.53
% Imp. Area Reduced	58%

SMP+GI Summary

WQv provided in SMP	82,372
RRv Applied	7,816
Total RRv & WQv	90,188
Total WQv Req'd	17,990
WQv Req. Met?	**YES**
Extra WQv Provided	72,197
Extra WQv Provided (%)	401%

The Windham Mountain Sporting Club

Table 5 — **DEC-1.1"**

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.	Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP5																			
Total WQv at DP (Area Contributing to SMPs)					14,250	0.33	14,250	0.33	100	1.1	0.95		0.03	**1,241**		0.10	**372**		
	No Area Reductions																		
	GI Practices																		
		Bioretention Areas	5.2L		14,250	0.33	14,250	0.33							3,500				
				Total	14,250	0.33	14,250	0.33	100	1.1	0.95		0.03	1,241	3,500	0.10		1,400	1,241
		GI Practice Totals			**14,250**	**0.33**	**14,250**	**0.33**						**1,241**	**3,500**			**1,400**	**1,241**
		None/Undisturbed	5.1		553,165	12.70	0	0.00											
			5.2		147,335	3.38	0	0.00											
			5.3		382,265	8.78	0	0.00											
			total		1,082,765	24.86	0	0.00											
		Design Point Totals			1,097,015	25.18	14,250	0.33											
DP6																			
Total WQv at DP (Area Contributing to SMPs)					24,000	0.55	19,500	0.45	81	1.1	0.78		0.04	**1,719**		0.13	**509**		
	No Area Reductions																		
	GI Practices																		
		Bioretention Areas	6.1		8,000	0.18	6,500	0.15							1,488				
			6.2		8,000	0.18	6,500	0.15							1,488				
			6.3		8,000	0.18	6,500	0.15							1,488				
				Total	24,000	0.55	19,500	0.45	81	1.1	0.78		0.04	1,719	4,463	0.13		1,785	1,719
		GI Practice Totals			**24,000**	**0.55**	**19,500**	**0.45**						**1,719**	**4,463**			**1,785**	**1,719**
		Undisturbed Area	6.4		66,488	1.53	0	0.00											
		Bypassing SMPs		**Total**	66,488	1.53	0	0.00											
		Design Point Totals			90,488	2.08	19,500	0.45											

GI Summary

Total WQv Req'd	1,241
RRv Applied	1,241
Is RRv>WQv	**YES**
Balance	0
Min. RRv	372
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	0.33
% Imp. Area Reduced	100%

GI Summary

Total WQv Req'd	1,719
RRv Applied	1,719
Is RRv>WQv	**YES**
Balance	0
Min. RRv	509
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	0.45
% Imp. Area Reduced	100%

The Windham Mountain Sporting Club

Table 5

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	DEC-1.1" Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.	Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP8																			
Total WQv at DP (Area Contributing to SMPs)					1,441,041	33.08	341,378	7.84	24	1.1	0.26		0.80	**34,768**		2.35	**8,919**		
	No Area Reductions																		
	GI Practices																		
		P8.1 - Dry Swale	8.6		118,266	2.72	33,768	0.78											
				Total	118,266	2.72	33,768	0.78	29	1.1	0.31		0.08	3,328	2,041	0.23	882	408	408
		P8.3 - Dry Swale	8.3		49,890	1.15	8,440	0.19											
				Total	49,890	1.15	8,440	0.19	17	1.1	0.20		0.02	925	2,615	0.06	220	523	523
		P8.5-Infiltration																	
			8.17		102,463	2.35	40,180	0.92											
				Total	102,463	2.35	40,180	0.92	39	1.1	0.40		0.09	3,784	12,371	0.28	1,050	11,134	3,784
		Residential Bioret.																	
			8.1L		3,500	0.08	3,500	0.08							846			338	
			8.4L		12,250	0.28	12,250	0.28							3,004			1,202	
			8.5L		12,750	0.29	12,750	0.29							3,092			1,237	
			8.8L		9,500	0.22	9,500	0.22							2,392			957	
			8.10L		26,250	0.60	26,250	0.60							6,767			2,707	
			8.11L		3,500	0.08	3,500	0.08							846			338	
			8.15L		3,250	0.07	3,250	0.07							846			338	
				Total	71,000	1.63	71,000	1.63	100	1.1	0.95		0.14	6,183	17,792	0.49		7,117	6,183
		GI Practice Totals			**341,619**	**7.84**	**153,388**	**3.52**						**14,220**	**34,819**			**19,182**	**10,899**
	Standard Practices	P8.2	8.2		100,400	2.30	9,600	0.22											
				Total	100,400	2.30	9,600	0.22	10	1.1	0.14		0.03	1,252	51,524				
		P8.4																	
			8.4		224,571	5.16	7,416	0.17											
			8.7		174,248	4.00	56,624	1.30											
			8.8		67,318	1.55	0	0.00											
			8.9		31,465	0.72	22,800	0.52											
			8.10		212,018	4.87	17,810	0.41											
			8.11		121,400	2.79	0	0.00											
			8.12		27,016	0.62	17,800	0.41											
			8.13		26,292	0.60	17,600	0.40											
			8.15		94,118	2.16	32,140	0.74											
			8.16		20,576	0.47	6,200	0.14											
				Total	999,022	22.93	178,390	4.10	18	1.1	0.21		0.44	19,296	64,120				
		Standard Practice Totals		**Total**	**1,099,422**	**25.24**	**187,990**	**4.32**	**17**	**1.1**	**0.20**		**0.47**	**20,548**	**115,644**				
		Undisturbed Area	8.1		225,775	5.18	0	0.00											
		Bypassing SMPs	8.5		655,085	15.04	0	0.00											
				Total	880,860	20	0	0											
		Design Point Totals			2,321,901	53.30	341,378	7.84											

GI Summary

Total WQv Req'd	34,768
RRv Applied	10,899
Is RRv>WQv	**NO**
Balance	23,870
Min. RRv	8,919
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	7.84
% Imp. Area Reduced	45%

SMP+GI Summary

WQv provided in SMP	115,644
RRv Applied	10,899
Total RRv & WQv	126,543
Total WQv Req'd	34,768
WQv Req. Met?	**YES**
Extra WQv Provided	91,774
Extra WQv Provided (%)	264%

The Windham Mountain Sporting Club

Table 5 — **DEC-1.1"**

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.	Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP9																			
Total WQv at DP (Area Contributing to SMPs)					585,287	13.44	165,505	3.80	28	1.1	0.30		0.38	**16,337**		1.14	**4,324**		
	No Area Reductions																		
	GI Practices																		
		Residential Bioret.																	
			9.1L		10,000	0.23	10,000	0.23							2,538			1,015	
			9.5L		4,000	0.09	4,000	0.09							963			385	
			9.6L		22,750	0.52	22,750	0.52							5,921			2,368	
			910L		13,750	0.32	13,750	0.32							3,383			1,353	
			9.11L		16,500	0.38	16,500	0.38							4,229			1,692	
				Total	67,000	1.54	67,000	1.54	100	1.1	0.95		0.13	**5,835**	17,033	0.46		6,813	5,835
		GI Totals Totals			**67,000**	**1.54**	**67,000**	**1.54**						**5,835**	**17,033**			**6,813**	**5,835**
	Standard	P9.2	9.5		52,243	1.20	6,300	0.14											
	Practices		9.6		164,855	3.78	17,820	0.41											
			9.9		95,744	2.20	0	0.00											
			9.11		126,900	2.91	0	0.00											
			9.12		29,060	0.67	24,900	0.57											
			9.13		49,485	1.14	49,485	1.14											
				Total	**518,287**	**11.90**	**98,505**	**2.26**	**19**	**1.1**	**0.22**		**0.24**	**10,502**	**50,617**				
		Undisturbed Area	9.1		153,790	3.53	4,600	0.11											
		Bypassing SMPs	9.10		290,121	6.66	0	0.00											
			9.14		241,600	5.55	0	0.00											
				Total	685,511	15.74	4,600	0.11											
		Design Point Totals			1,270,798	29.17	170,105	3.91											

GI Summary

Total WQv Req'd	16,337
RRv Applied	5,835
Is RRv>WQv	**NO**
Balance	10,502
Min. RRv	4,324
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	3.80
% Imp. Area Reduced	40%

SMP+GI Summary

WQv provided in SMP	50,617
RRv Applied	5,835
Total RRv & WQv	56,452
Total WQv Req'd	16,337
WQv Req. Met?	**YES**
Extra WQv Provided	40,115
Extra WQv Provided (%)	246%

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Table 5 — **DEC-1.1"**

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.		Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP11																				
Total WQv at DP (Area Contributing to SMPs)					834,714	19.16	301,847	6.93	36	1.1	0.38		0.66	**28,728**			2.08	**7,886**		
	No Area Reductions																			
	GI Practices																			
		Residential Bioret.																		
11.3			11.3L		17,250	0.40	17,250	0.40							4,142					
11.6			11.14L		3,250	0.07	3,250	0.07							846					
11.2			11.18L		4,500	0.10	4,500	0.10							1,108					
11.7			11.25L		6,500	0.15	6,500	0.15							1,692					
11.7			11.33L		3,250	0.07	3,250	0.07							846					
				Total	34,750	0.80	34,750	0.80	100	1.1	0.95		0.07	**3,026**	8,633		0.24		3,453	**3,026**
11.1		P11.6 - Dry Swale	11.28		6,000	0.14	6,000	0.14												
				Total	6,000	0.14	6,000	0.14	100	1.1	0.950		0.01	523	1,404		0.04	157	281	**281**
11.2		P11.4-Bioretention	11.27		66,220	1.52	46,996	1.08												
				Total	66,220	1.52	46,996	1.08	71	1.1	0.689		0.10	4,181	11,688		0.32	1,228	4,675	**4,181**
11.4		P11.2-Bioretention	11.4		39,350	0.90	39,350	0.90												
			11.12		54,672	1.26	0	0.00												
				Total	94,022	2.16	39,350	0.90	42	1.1	0.427		0.08	3,677	11,156		0.27	1,028	4,463	**3,677**
		P11.12 - Bioretention	11.11		59,520	1.37	35,866	0.82												
				Total	59,520	1.37	35,866	0.82	60	1.1	0.592		0.07	3,232	4,250		0.25	937	1,700	**1,700**
		P11.14 - Bioretention	11.10		26,000	0.60	17,150	0.39												
				Total	26,000	0.60	17,150	0.39	66	1.1	0.644		0.04	1,534	4,250		0.12	448	1,700	**1,534**
11.5		P11.8 - Bioretention	11.17		15,901	0.37	12,430	0.29												
				Total	15,901	0.37	12,430	0.29	78	1.1	0.754		0.03	1,098	3,267		0.09	325	1,307	**1,098**
11.6		P11.7 - Bioretention	11.16		28,535	0.66	16,750	0.38												
				Total	28,535	0.66	16,750	0.38	59	1.1	0.578		0.03	1,513	4,834		0.12	438	1,934	**1,513**
11.7		P11.9 - Bioretention	11.24		25,034	0.57	5,620	0.13												
				Total	25,034	0.57	5,620	0.13	22	1.1	0.252		0.01	578	2,550		0.04	147	1,020	**578**
		P11.10 - Dry Swale	11.23		49,500	1.14	6,960	0.16	14	1.1	0.177		0.02	801	2,774		0.05	182	555	555
		P11.11 - Bioretention	11.29		21,107	0.48	0	0.00	0	1.1	0.050		0.00	97	4,038		0.00	0	1,615	97
				Total	70,607	0.48	6,960	0.16	33	1.1	0.347		0.02	671	6,812				2,170	**671**
		GI Practice Totals			**426,589**	**9.79**	**221,872**	**5.09**						**20,033**	**58,844**				**22,702**	**18,259**
11.4	**Standard**	P 11.1 - P-1	11.8		238,239	5.47	0	0.00												
	Practices		11.13		10,160	0.23	10,160	0.23												
			11.26		38,546	0.88	26,015	0.60												
			11.40		43,800	1.01	43,800	1.01												
			11.41		77,380	1.78	0	0.00												
				Total	408,125	9.37	79,975	1.84	20	1.1	0.23		0.19	8,469	48,757					

GI Summary

Total WQv Req'd	28,728
RRv Applied	18,259
Is RRv>WQv	**NO**
Balance	10,469
Min. RRv	7,886
Is RRv>Min RRv	**YES**
Total Imp.Area (ac)	6.93
% Imp. Area Reduced	74%

SMP+GI Summary

WQv provided in SMP	48,757
RRv Applied	18,259
Total RRv & WQv	67,016
Total WQv Req'd	28,728
WQv Req. Met?	**YES**
Extra WQv Provided	38,288
Extra WQv Provided (%)	133%

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Table 5

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	DEC-1.1" Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.	Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
11.1		Undisturbed Area	11.2		1,298,764	29.82	0	0.00											
		Bypassing SMPs	11.6		24,550	0.56	0	0.00											
			11.21		207,244	4.76	0	0.00											
				Total	1,530,558	35.14	0	0.00											
11.3			11.36		69,230	1.59	0	0.00											
				Total	69,230	1.59	0	0.00											
			11.18		496,244	11.39	0	0.00											
			11.19		365,755	8.40	0	0.00											
			11.20		28,250	0.65	0	0.00											
				Total	890,249	20.44	0	0.00											
11.4			11.35		23,266	0.53	0	0.00											
				Total	23,266	0.53	0	0.00											
11.5			11.34		56,117	1.29	0	0.00											
				Total	56,117	1.29	0	0.00											
11.6			11.14		195,163	4.48	0	0.00											
			11.38		14,250	0.33	0	0.00											
				Total	209,413	4.81	0	0.00											
11.7			11.25		68,850	1.58	0	0.00											
			11.33		115,090	2.64	0	0.00											
			11.5		243,794	5.60	0	0.00											
			11.7		66,763	1.53	0	0.00											
			11.9		87,870	2.02	0	0.00											
			11.15		45,543	1.05	0	0.00											
			11.32		236,106	5.42	0	0.00											
			11.39		21,350	0.49	0	0.00											
				Total	885,366	20.33	0	0.00											
11			11.3		2,817,597	64.68	257,243	5.91											
				Total	2,817,597	64.68	257,243	5.91											
		Undisturbed Totals		**Total**	6,481,796	148.80	257,243	5.91											
		Design Point Totals			7,316,510	167.96	559,090	12.83											

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Table 5 — **DEC-1.1"**

Supporting Water Quality Volume Calcs

DESIGN POINT	Summary	Storm Device	Contributing Subcatchments		total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.	Provided WQv Cu.Ft.	Ai (ac)	Min. RRv Cu.Ft.	RRv Cu.Ft.	RRv Applied Cu.Ft.
DP12																			
Total WQv at DP (Area Contributing to SMPs)					283,340	6.50	69,246	1.59	24	1.1	0.27		0.16	**7,011**		0.48	**1,809**		
	No Area Reductions																		
	GI Practices																		
		Bioretention Areas	12.2L		16,000	0.37	16,000	0.37							3,938				
				Total	16,000	0.37	16,000	0.37	100	1.1	0.95		0.03	1,393	**3,938**	0.11		1,575	1,393
		GI PracticeTotals			**16,000**	**0.37**	**16,000**	**0.37**						**1,393**	**3,938**			**1,575**	**1,393**
	Standard Practices																		
		P12.1 - P1	12.2		249,090	5.72	34,996	0.80											
		P12.1 - P1	12.3		18,250	0.42	18,250	0.42											
		Standard Practice Totals		**Total**	267,340	6.14	53,246	1.22	19.92	1.1	0.23		0.13	5,618	34,500				
		Undisturbed Area	12.1		555,875	12.76	0	0.00											
		Bypassing SMPs		**Total**	555,875	12.76	0	0.00											
		Design Point Totals			839,215	19.27	69,246	1.59											

GI Summary

Total WQv Req'd	7,011
RRv Applied	1,393
Is RRv>WQv	**NO**
Balance	5,618
Min. RRv	1,809
Is RRv>Min RRv	**NO**
Total Imp.Area (ac)	1.59
% Imp. Area Reduced	23%

SMP+GI Summary

WQv provided in SMP	34,500
RRv Applied	1,393
Total RRv & WQv	35,893
Total WQv Req'd	7,011
WQv Req. Met?	**YES**
Extra WQv Provided	28,882
Extra WQv Provided (%)	412%

WQv = [(P)(Rv)(A)]/12

Where:

Rv = 0.05 + 0.009(I)

I = impervious cover in percent

P = 90% rainfall (1.1", Fig 4.1 inDesign Manual)

A = site area in acres

Min. RRv = [(P)(Rv*)(Ai)]/12 (in acre feet)

Where:

Rv* = 0.05 + 0.009(I) where I is 100% imp.

Ai =(S)(Aic), where Ai=imp. Cover targeted for runoff reduction

Aic=total area of new impervious cover

S=HSG Specific reduction factor (S) : C Soil = 0.30

P = 90% rainfall (1.1", Fig 4.1 inDesign Manual)

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Table 6
WQv and RRv Summary

Drainage Area 1a	(cf)
DEC WQv req'd at Design Point	8,528
Additional Area reductions?	NO
DEC WQv req'd at Design Point	8,528
Minimum RRv	1,704
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	2,351
Bioretention Areas (common)	
Dry Swales	
Vegetated Swale	
Total Runoff Reduction	2,351
Is RRv>WQv?	NO
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**6,177**
WQv provided in standard practices	47,567
Total RRv and WQv provided	49,918

Drainage Area 1	(cf)
DEC WQv req'd at Design Point	19,976
Additional Area reductions?	NO
Adjusted DEC WQv req'd	19,976
Minimum RRv	4,668
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	5,900
Bioretention Areas (common)	4,283
Dry Swales	
Vegetated Swale	
Total Runoff Reduction	10,183
Is RRv>WQv?	NO
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**9,793**
WQv provided in standard practices	78,812
Total WQv provided	88,995

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Table 6
WQv and RRv Summary

Drainage Area 2	(cf)
DEC WQv req'd at Design Point	17,996
Additional Area reductions?	NO
Adjusted DEC WQv req'd	17,996
Minimum RRv	4,912
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	8,795
Bioretention Areas (common)	
Dry Swales	
Vegetated Swale	
Total Runoff Reduction	8,795
Is RRv>WQv?	NO
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**9,201**
WQv provided in standard practices	44,213
Total WQv provided	53,008

Drainage Area 4	(cf)
DEC WQv req'd at Design Point	17,990
Additional Area reductions?	NO
Adjusted DEC WQv req'd	17,990
Minimum RRv	4,020
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	7,816
Bioretention Areas (common)	
Dry Swales	
Vegetated Swale	
Total Runoff Reduction	7,816
Is RRv>WQv?	NO
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**10,175**
WQv provided in standard practices	82,372
Total WQv provided	90,188

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Table 6

WQv and RRv Summary

Drainage Area 5	(cf)
DEC WQv req'd at Design Point	1,241
Additional Area reductions?	NO
Adjusted DEC WQv req'd	1,241
Minimum RRv	372
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	1,241
Bioretention Areas (common)	
Dry Swales	
Vegetated Swale	
Total Runoff Reduction	1,241
Is RRv>WQv?	YES
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**0**
WQv provided in standard practices	0
Total WQv provided	1,241

Drainage Area 6	(cf)
DEC WQv req'd at Design Point	1,719
Additional Area reductions?	NO
Adjusted DEC WQv req'd	1,719
Minimum RRv	509
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	1,719
Bioretention Areas (common)	
Dry Swales	
Vegetated Swale	
Total Runoff Reduction	1,719
Is RRv>WQv?	YES
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**0**
WQv provided in standard practices	0
Total WQv provided	1,719

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Table 6
WQv and RRv Summary

Drainage Area 8	(cf)
DEC WQv req'd at Design Point	34,768
Additional Area reductions?	NO
Adjusted DEC WQv req'd	34,768
Minimum RRv	8,919
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	3,784
Bioretention Areas (residential)	6,183
Bioretention Areas (common)	0
Dry Swales	931
Vegetated Swale	
Total Runoff Reduction	10,899
Is RRv>WQv?	NO
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**23,870**
WQv provided in standard practices	115,644
Total WQv provided	126,543

Drainage Area 9	(cf)
DEC WQv req'd at Design Point	16,337
Additional Area reductions?	NO
Adjusted DEC WQv req'd	16,337
Minimum RRv	4,324
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	5,835
Bioretention Areas (common)	
Dry Swales	0
Vegetated Swale	
Total Runoff Reduction	5,835
Is RRv>WQv?	NO
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**10,502**
WQv provided in standard practices	50,617
Total WQv provided	56,452

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Table 6
WQv and RRv Summary

Drainage Area 11	(cf)
DEC WQv req'd at Design Point	28,728
Additional Area reductions?	NO
Adjusted DEC WQv req'd	28,728
Minimum RRv	7,886
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	3,026
Bioretention Areas (common)	14,952
Dry Swales	281
Vegetated Swale	
Total Runoff Reduction	18,259
Is RRv>WQv?	NO
Is RRv>minimum RRv?	YES
Total WQv remaining to be treated	**10,469**
WQv provided in standard practices	48,757
Total WQv provided	67,016

Drainage Area 12	(cf)
DEC WQv req'd at Design Point	7,011
Additional Area reductions?	NO
Adjusted DEC WQv req'd	7,011
Minimum RRv	1,809
Runoff Reduction Volumes by GI Techniques	
GI Practice	RRv (cf)
Rain Garden	
Green Roof	
Stormwater Planter (infiltration)	
Stormwater Planter (flow through)	
Cistern	
Permeable Pavement	
Infiltration Area	
Bioretention Areas (residential)	1,393
Bioretention Areas (common)	
Dry Swales	
Vegetated Swale	
Total Runoff Reduction	1,393
Is RRv>WQv?	NO
Is RRv>minimum RRv?	NO
Total WQv remaining to be treated	**5,618**
WQv provided in standard practices	34,500
Total WQv provided	35,893

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Table 7

Water Quality Volume Calcs for Single Family Homes and Duplexes

	total size (sf)	total size (ac)	total imp (sf)	total imp (ac)	I %	DEC P	Rv	Min. Rv	DEC-1.1" Req'd DEC WQv Acre Ft.	Req'd DEC WQv Cu.Ft.
Duplex	6,500	0.15	6,500	0.15	100	1.1	0.95		0.01	566
sing fam homes	1,500	0.03	1,500	0.03	100	1.1	0.95		0.00	131
	2,000	0.05	2,000	0.05	100	1.1	0.95		0.00	174
	2,500	0.06	2,500	0.06	100	1.1	0.95		0.00	218
	3,000	0.07	3,000	0.07	100	1.1	0.95		0.01	261
	3,500	0.08	3,500	0.08	100	1.1	0.95		0.01	305
	4,000	0.09	4,000	0.09	100	1.1	0.95		0.01	348
	4,500	0.10	4,500	0.10	100	1.1	0.95		0.01	392
	5,000	0.11	5,000	0.11	100	1.1	0.95		0.01	435
	5,500	0.13	5,500	0.13	100	1.1	0.95		0.01	479
	6,000	0.14	6,000	0.14	100	1.1	0.95		0.01	523

WQv = [(P)(Rv)(A)]/12

Where:

Rv = 0.05 + 0.009(I)

I = impervious cover in percent

P = 90% rainfall (Fig 4.1 inDesign Manual)

A = site area in acres

Min. RRv = [(P)(Rv*)(Ai)]/12 (in acre feet)

Where:

Rv* = 0.05 + 0.009(I) where I is 100% imp.

Ai =(S)(Aic), where Ai=imp. Cover targeted for runoff reduction

Aic=total area of new impervious cover

S=HSG Specific reduction factor (S)

P = 90% rainfall (see Figure 4.1 inDesign Manual)

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Table 7 - Impervious Area / RRv Summary

April 8, 2014

Design Point	Subcatchment	Residential Lots w/ RRv Practice	Description	Imp. Area to RRv Practice	Imp. Area to SMP	Total Imp. Area	% Imp. Area to RRv Practice
1a	1.2						
	1.2L	132,133, 134		10,750	0		
	1.6				1,395		
	1.6L	114, 115, 116, 117		16,250			
	1.7				36,835		
	1.8						
	1.17					0	
	Totals			27,000	38,230	65,230	41%
1	1.1				0		
	1.1L	126, 127, 135		11,250			
	1.3				0		
	1.3L	D17-18		6,500			
	1.4				0		
	1.4L	121, 122		6,500			
	1.5				0		
	1.5L	106, 107, 108, 109, 110, 111		20,500			
	1.9				29,215		
	1.9L	91, D19-20, D21-22, D23-24		23,000			
	1.10		Bioretention P1.2	8,640			
	1.11				12,060		
	1.12				21,215		
	1.13				0		
	1.14		Bioretention P1.4	0			
	1.15		Bioretention P1.4	23,830			
	1.16		Bioretention P1.4	15,985			
	Totals			116,205	62,490	178,695	65%
2	2.1				0		
	2.1L	84		5,000			
	2.2				63,870		
	2.3				0		
	2.3L	100, 101, 102		9,500			
	2.4				15,150		
	2.5				8,000		
	2.6						
	2.6L	79, 80, 81, 82, 83		16,250			
	2.7						
	2.7L	86, 87, 88, 89, 90		16,750			
	2.8						
	2.8L	85		4,000			
	2.9						
	2.9L	92, 93, 94, 95, 96, 97, 98, 99		25,250			
	2.10						
	2.10L	103, 104, 105, D13-14, D15-16		24,250			
	2.11						
	Totals			101,000	87,020	188,020	54%
4	4.1				0		
	4.1L	72, 73, 74, 75, 76, 77, 78		23,750			
	4.2				32,235		
	4.3				24,400		
	4.3L	52 - 68 (17 homes)		55,500			
	4.4				7,500		
	4.4L	69, 70, 71		10,500			
	4.5				0		
	4.6						
	4.7						
	4.8						
	Totals			89,750	64,135	153,885	58%
5	5.1						
	5.2						
	5.2L	26, 27, 28, 29		14,250			
	5.3						
	Totals			14,250	0	14,250	100%
6	6.1	D1, D2		6,500			
	6.2	D3, D4		6,500			
	6.3	D5, D6		6,500			
	Totals			19,500	0	19,500	100%

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Table 7 - Impervious Area / RRv Summary

April 8, 2014

Design Point	Subcatchment	Residential Lots w/ RRv Practice	Description	Imp. Area to RRv Practice	Imp. Area to SMP	Total Imp. Area	% Imp. Area to RRv Practice
8	8.1						
	8.1L	16		3,500			
	8.2				9,600		
	8.3		Dry Swale P8.3	8,440			
	8.4				7,416		
	8.4L	30, 32, 33		12,250			
	8.5						
	8.5L	24, 25, 34		12,750			
	8.6		Dry Swale P8.1	33,768			
	8.7				56,624		
	8.8				0		
	8.8L	41, 42, 43		9,500			
	8.9				22,800		
	8.10				17,810		
	8.10L	44, 45, 46, 47, 48, 49, 50, 51		26,250			
	8.11				0		
	8.11L	15		3,500			
	8.12				17,800		
	8.13				17,600		
	8.15				32,140		
	8.15L	31		3,250			
	8.16				6,200		
	8.17		Infiltration P8.5	40,180			
	Totals			153,388	187,990	341,378	45%
9	9.1						
	9.1L	1, 13, 14		10,000			
	9.5				6,300		
	9.5L	2		4,000			
	9.6				17,820		
	9.6L	3, 4, 5, 6, 10, 11, 12		22,750			
	9.9				0		
	9.10						
	9.10L	7, 8, 22, 23		13,750			
	9.11				0		
	9.11L	17, 18, 19, 20, 21		16,500			
	9.12				24,900		
	9.13				49,485		
	9.14						
	Totals			67,000	98,505	165,505	40%

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Table 7 - Impervious Area / RRv Summary

April 8, 2014

Design Point	Subcatchment	Residential Lots w/ RRv Practice	Description	Imp. Area to RRv Practice	Imp. Area to SMP	Total Imp. Area	% Imp. Area to RRv Practice
11	11.2						
	11.3						
	11.3L	38, 39, 141, 142, 143		17,250			
	11.4		Bioretention P11.2	39,350			
	11.5						
	11.6						
	11.7						
	11.8				0		
	11.9						
	11.10		Bioretention P11.14	17,150			
	11.11		Bioretention P11.12	35,866			
	11.12		Bioretention P11.2	0			
	11.13				10,160		
	11.14						
	11.14L	40		3,250			
	11.15						
	11.16		Bioretention P11.7	16,750			
	11.17		Bioretention P11.8	12,430			
	11.18						
	11.18L	140		4,500			
	11.19						
	11.20						
	11.21						
	11.23		Dry Swale P11.10	6,960			
	11.24		Bioretention P11.9	5,620			
	11.25						
	11.25L	35, 36		6,500			
	11.26				26,015		
	11.27		Bioretention P11.4	46,996			
	11.28		Dry Swale P11.6	6,000			
	11.29		Bioretention P11.11	0			
	11.32						
	11.33						
	11.33L	37		3,250			
	11.34						
	11.35						
	11.36						
	11.38						
	11.39						
	11.40				43,800		
	11.41				0		
	Totals			221,872	79,975	301,847	74%
12	12.1						
	12.2				34,996		
	12.2L	128, 129, 130, 131		16,000			
	12.3				18,250		
	Totals			16,000	53,246	69,246	23%

Notes:

1. Lot 9 does not have an RRv practice on the lot. Stormwater is managed in the larger site system.
2. Lots 112, 113, 119, 120, 123-125 do not drain to a design point.

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Channel Protection Volume Calculations

*Note: Refer to HydroCAD report for Plug Flow Detention Time / Channel Protection Volume for all Wet Extended Detention Ponds

P8.5 - INFILTRATION BASIN

Step 1: Determine Qu

P =	3	in. (1-yr. storm)
Area =	2.35	acres
CN =	83	
Ia =	0.410	
Ia/P =	0.14	
Tc =	0.1	Hrs.

Using Figure 4-II, TR-55 and Tc, determine Qu (csm/in)

Qu = 950 csm/in

Step 2: Determine Qo/Qi

Using Figure B-1, DEC Manual Appendix B for T = 24 hrs. and Qu, determine Qo/Qi

Qo/Qi = 0.04

Step 3: Determine Vs/Vr

Vs/Vr = 0.682 - 1.43(Qo/Qi) + 1.64 (Qo/Qi)^2 - 0.804 (Qo/Qi)^3

Vs/Vr = 0.627

Step 4: Determine Qd

Using Figure 2.1, TR-55 or SCS TR-16 and P, determine Qd (in of runoff)

Qd = 1.5 in

Step 5: Determine Cpv

Area = 2.35 acres

Cpv = Vs = (Vs/Vr) * Qd * A/12

Cpv = 0.184 ac-ft

Cpv = 8,035 ft^3

P6.1 - BIORETENTION

Step 1: Determine Qu

P =	3	in. (1-yr. storm)
Area =	0.18	acres
CN =	93	
Ia =	0.151	
Ia/P =	0.05	
Tc =	0.1	Hrs.

Using Figure 4-II, TR-55 and Tc, determine Qu (csm/in)

Qu = 1000 csm/in

Step 2: Determine Qo/Qi

Using Figure B-1, DEC Manual Appendix B for T = 24 hrs. and Qu, determine Qo/Qi

Qo/Qi = 0.025

Step 3: Determine Vs/Vr

Vs/Vr = 0.682 - 1.43(Qo/Qi) + 1.64 (Qo/Qi)^2 - 0.804 (Qo/Qi)^3

Vs/Vr = 0.647

Step 4: Determine Qd

Using Figure 2.1, TR-55 or SCS TR-16 and P, determine Qd (in of runoff)

Qd = 2.2 in

Step 5: Determine Cpv

Area = 0.18 acres

Cpv = Vs = (Vs/Vr) * Qd * A/12

Cpv = 0.021 ac-ft

Cpv = 930 ft^3

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Channel Protection Volume Calculations

*Note: Refer to HydroCAD report for Plug Flow Detention Time / Channel Protection Volume for all Wet Extended Detention Ponds

P11.4 - BIORETENTION

Step 1: Determine Qu

P =	3	in. (1-yr. storm)
Area =	1.52	acres
CN =	91	
Ia =	0.198	
Ia/P =	0.07	
Tc =	0.1	Hrs.

Using Figure 4-II, TR-55 and Tc, determine Qu (csm/in)

Qu = 1000 csm/in

Step 2: Determine Qo/Qi

Using Figure B-1, DEC Manual Appendix B for T = 24 hrs. and Qu, determine Qo/Qi

Qo/Qi = 0.04

Step 3: Determine Vs/Vr

Vs/Vr = 0.682 - 1.43(Qo/Qi) + 1.64 (Qo/Qi)^2 - 0.804 (Qo/Qi)^3

Vs/Vr = 0.627

Step 4: Determine Qd

Using Figure 2.1, TR-55 or SCS TR-16 and P, determine Qd (in of runoff)

Qd = 2 in

Step 5: Determine Cpv

Area = 1.52 acres

Cpv = Vs = (Vs/Vr) * Qd * A/12

Cpv = 0.159 ac-ft

Cpv = 6,924 ft^3

P11.7- BIORETENTION

Step 1: Determine Qu

P =	3	in. (1-yr. storm)
Area =	0.66	acres
CN =	88	
Ia =	0.273	
Ia/P =	0.09	
Tc =	0.1	Hrs.

Using Figure 4-II, TR-55 and Tc, determine Qu (csm/in)

Qu = 1000 csm/in

Step 2: Determine Qo/Qi

Using Figure B-1, DEC Manual Appendix B for T = 24 hrs. and Qu, determine Qo/Qi

Qo/Qi = 0.04

Step 3: Determine Vs/Vr

Vs/Vr = 0.682 - 1.43(Qo/Qi) + 1.64 (Qo/Qi)^2 - 0.804 (Qo/Qi)^3

Vs/Vr = 0.627

Step 4: Determine Qd

Using Figure 2.1, TR-55 or SCS TR-16 and P, determine Qd (in of runoff)

Qd = 1.8 in

Step 5: Determine Cpv

Area = 0.66 acres

Cpv = Vs = (Vs/Vr) * Qd * A/12

Cpv = 0.062 ac-ft

Cpv = 2,685 ft^3

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Channel Protection Volume Calculations

*Note: Refer to HydroCAD report for Plug Flow Detention Time / Channel Protection Volume for all Wet Extended Detention Ponds

Pond P11.8- BIORETENTION

Step 1: Determine Qu

P =	3	in. (1-yr. storm)
Area =	0.37	acres
CN =	93	
Ia =	0.151	
Ia/P =	0.05	
Tc =	0.1	Hrs.

Using Figure 4-II, TR-55 and Tc, determine Qu (csm/in)

Qu = 1000 csm/in

Step 2: Determine Qo/Qi

Using Figure B-1, DEC Manual Appendix B for T = 24 hrs. and Qu, determine Qo/Qi

Qo/Qi = 0.04

Step 3: Determine Vs/Vr

Vs/Vr = 0.682 - 1.43(Qo/Qi) + 1.64 (Qo/Qi)^2 - 0.804 (Qo/Qi)^3

Vs/Vr = 0.627

Step 4: Determine Qd

Using Figure 2.1, TR-55 or SCS TR-16 and P, determine Qd (in of runoff)

Qd = 2.2 in

Step 5: Determine Cpv

Area = 0.37 acres

Cpv = Vs = (Vs/Vr) * Qd * A/12

Cpv = 0.042 ac-ft

Cpv = 1,829 ft^3

Pond P11.9- BIORETENTION

Step 1: Determine Qu

P =	3	in. (1-yr. storm)
Area =	0.57	acres
CN =	79	
Ia =	0.532	
Ia/P =	0.18	
Tc =	0.1	Hrs.

Using Figure 4-II, TR-55 and Tc, determine Qu (csm/in)

Qu = 975 csm/in

Step 2: Determine Qo/Qi

Using Figure B-1, DEC Manual Appendix B for T = 24 hrs. and Qu, determine Qo/Qi

Qo/Qi = 0.035

Step 3: Determine Vs/Vr

Vs/Vr = 0.682 - 1.43(Qo/Qi) + 1.64 (Qo/Qi)^2 - 0.804 (Qo/Qi)^3

Vs/Vr = 0.634

Step 4: Determine Qd

Using Figure 2.1, TR-55 or SCS TR-16 and P, determine Qd (in of runoff)

Qd = 1.3 in

Step 5: Determine Cpv

Area = 0.57 acres

Cpv = Vs = (Vs/Vr) * Qd * A/12

Cpv = 0.039 ac-ft

Cpv = 1,719 ft^3

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Channel Protection Volume Calculations

*Note: Refer to HydroCAD report for Plug Flow Detention Time / Channel Protection Volume for all Wet Extended Detention Ponds

Pond 11.11- BIORETENTION

Step 1: Determine Qu

P =	3	in. (1-yr. storm)
Area =	1.62	acres
CN =	75	
Ia =	0.667	
Ia/P =	0.22	
Tc =	0.1	Hrs.

Using Figure 4-II, TR-55 and Tc, determine Qu (csm/in)

Qu = 975 csm/in

Step 2: Determine Qo/Qi

Using Figure B-1, DEC Manual Appendix B for T = 24 hrs. and Qu, determine Qo/Qi

Qo/Qi = 0.035

Step 3: Determine Vs/Vr

Vs/Vr = 0.682 - 1.43(Qo/Qi) + 1.64 (Qo/Qi)^2 - 0.804 (Qo/Qi)^3

Vs/Vr = 0.634

Step 4: Determine Qd

Using Figure 2.1, TR-55 or SCS TR-16 and P, determine Qd (in of runoff)

Qd = 1.0 in

Step 5: Determine Cpv

Area = 1.62 acres

Cpv = Vs = (Vs/Vr) * Qd * A/12

Cpv = 0.086 ac-ft

Cpv = 3,730 ft^3

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Bioretention Area Sizing Calculation

Location: Common Areas

BIORETENTION AREA:	1.2					
Inflow =	0.046 af	**Req'd. Tv=**	**2003.76** cf			
Required Surface Area						
Af=Tv*(df)/[k*(hf+df)(tf)]						
Tv=	Treatment Volume					
df =	depth of soil =		4 ft		48" min.	
k =	hydraulic conductivity =		0.5 ft/day		Assumed	
hf =	avg. ht of water above filter bed=		0.25 ft		(for 6" pond depth)	
tf =	Filter Time=		2 days		(48 hrs)	
DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit		
2,004	1,886 sf	2,000	2,125	956		

BIORETENTION AREA:	1.4					
Inflow =	0.228 af	**Req'd. Tv=**	**9931.68** cf			
Required Surface Area						
Af=Tv*(df)/[k*(hf+df)(tf)]						
Tv=	Treatment Volume					
df =	depth of soil =		4 ft		48" min.	
k =	hydraulic conductivity =		0.5 ft/day		Assumed	
hf =	avg. ht of water above filter bed=		0.25 ft		(for 6" pond depth)	
tf =	Filter Time=		2 days		(48 hrs)	
DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit		
9,932	9,347 sf	9,500	10,094	4,542		

BIORETENTION AREA:	11.2					
Inflow =	0.293 af	**Req'd. Tv=**	**12763.08** cf			
Required Surface Area						
Af=Tv*(df)/[k*(hf+df)(tf)]						
Tv=	Treatment Volume					
df =	depth of soil =		4 ft		48" min.	
k =	hydraulic conductivity =		0.5 ft/day		Assumed	
hf =	avg. ht of water above filter bed=		0.25 ft		(for 6" pond depth)	
tf =	Filter Time=		2 days		(48 hrs)	
DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit	Balance Needed	
12,763	12,012 sf	10,500	11,156	5,020	1,512	

BIORETENTION AREA:	11.4					
Inflow =	0.262 af	**Req'd. Tv=**	**11412.72** cf			
Required Surface Area						
Af=Tv*(df)/[k*(hf+df)(tf)]						
Tv=	Treatment Volume					
df =	depth of soil =		4 ft		48" min.	
k =	hydraulic conductivity =		0.5 ft/day		Assumed	
hf =	avg. ht of water above filter bed=		0.25 ft		(for 6" pond depth)	
tf =	Filter Time=		2 days		(48 hrs)	
DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit		
11,413	10,741 sf	11,000	11,688	5,259		

BIORETENTION:	11.7					
Inflow =	0.099 af	**Req'd. Tv=**	**4312.44** cf			
Required Surface Area						
Af=Tv*(df)/[k*(hf+df)(tf)]						
Tv=	Treatment Volume					
df =	depth of soil =		4 ft		48" min.	
k =	hydraulic conductivity =		0.5 ft/day		Assumed	
hf =	avg. ht of water above filter bed=		0.25 ft		(for 6" pond depth)	
tf =	Filter Time=		2 days		(48 hrs)	
DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit	Balance Needed	
4,312	4,059 sf	4,550	4,834	2,175	-491	

BIORETENTION: 11.8

Inflow = 0.069 af **Req'd. Tv= 3005.64** cf

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Tv=	Treatment Volume		
df =	depth of soil =	4 ft	48" min.
k =	hydraulic conductivity =	0.5 ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.25 ft	(for 6" pond depth)
tf =	Filter Time=	2 days	(48 hrs)

DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit	Balance Needed
3,006	2,829 sf	3,075	3,267	1,470	-246

BIORETENTION: 11.9

Inflow = 0.057 af **Req'd. Tv= 2482.92** cf

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Tv=	Treatment Volume		
df =	depth of soil =	4 ft	48" min.
k =	hydraulic conductivity =	0.5 ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.25 ft	(for 6" pond depth)
tf =	Filter Time=	2 days	(48 hrs)

DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit	Balance Needed
2,483	2,337 sf	2,400	2,550	1,148	-63

BIORETENTION: 11.11

Inflow = 0.129 af **Req'd. Tv= 5619.24** cf

Required Surface Area Tv Upstream(P11.10) 1912 cf

Af=Tv*(df)/[k*(hf+df)(tf)] **Net Tv Required 3707.24** cf

Tv=	Treatment Volume		
df =	depth of soil =	4 ft	48" min.
k =	hydraulic conductivity =	0.5 ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.25 ft	(for 6" pond depth)
tf =	Filter Time=	2 days	(48 hrs)

DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit	Balance Needed
3,707	3,489 sf	3,800	4,038	1,817	-311

BIORETENTION AREA: 11.12

Inflow = 0.207 af **Req'd. Tv= 9016.92** cf

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Tv=	Treatment Volume		
df =	depth of soil =	4 ft	48" min.
k =	hydraulic conductivity =	0.5 ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.25 ft	(for 6" pond depth)
tf =	Filter Time=	2 days	(48 hrs)

DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	RRv Credit	Balance Needed
9,017	8,487 sf	4,000	4,250	1,913	4,487

BIORETENTION: 11.14

Inflow = 0.099 af **Req'd. Tv= 4312.44 cf**

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Tv=	Treatment Volume		
df =	depth of soil =	4 ft	48" min.
k =	hydraulic conductivity =	0.5 ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.25 ft	(for 6" pond depth)
tf =	Filter Time=	2 days	(48 hrs)

DEP Req'd Tv	Required Surf Area	Provided Surf Area	WQv Provided	RRv Credit	Balance Needed
0	0 sf	4,000	4,250	1,913	-4,000

The Windham Mountain Sporting Club

Bioretention Area Sizing Calculations

Location: Single Family and Duplex Residential Lots

BIORETENTION AREA:		1500 sf Impervious			
Inflow =	0.008 af	**Req'd. Tv=**	**348** cf		
		WQv	**131** cf		
Required Surface Area					
Af=Tv*(df)/[k*(hf+df)(tf)]					
Where:					
Tv=	Treatment Volume				
df =	depth of soil =		2.5 ft		30" min.
k =	hydraulic conductivity =		1 ft/day		Assumed
hf =	avg. ht of water above filter bed=		0.5 ft		(for 12" pond depth)
tf =	Filter Time=		1 days		(24 hrs)

DEP Req'd Tv	Required Surf Area	Provided Surf Area	**Tv Provided**	Potential RRv
348	290 sf	300	**360**	144

BIORETENTION AREA:		2000 sf Impervious			
Inflow =	0.011 af	**Req'd. Tv=**	**479** cf		
		WQv	**174** cf		
Required Surface Area					
Af=Tv*(df)/[k*(hf+df)(tf)]					
Where:					
Tv=	Treatment Volume				
df =	depth of soil =		2.5 ft		30" min.
k =	hydraulic conductivity =		1 ft/day		Assumed
hf =	avg. ht of water above filter bed=		0.5 ft		(for 12" pond depth)
tf =	Filter Time=		1 days		(24 hrs)

DEP Req'd Tv	Required Surf Area	Provided Surf Area	**Tv Provided**	Potential RRv
479	399 sf	425	**510**	204

BIORETENTION AREA:		2500 sf Impervious			
Inflow =	0.013 af	**Req'd. Tv=**	**566** cf		
		WQv	**218** cf		
Required Surface Area					
Af=Tv*(df)/[k*(hf+df)(tf)]					
Where:					
Tv=	Treatment Volume				
df =	depth of soil =		2.5 ft		30" min.
k =	hydraulic conductivity =		1 ft/day		Assumed
hf =	avg. ht of water above filter bed=		0.5 ft		(for 12" pond depth)
tf =	Filter Time=		1 days		(24 hrs)

DEP Req'd Tv	Required Surf Area	Provided Surf Area	Tv Provided	Potential RRv
566	472 sf	500	600	240

BIORETENTION AREA:		3000 sf Impervious			
Inflow =	0.016 af	**Req'd. Tv=**	**697** cf		
		WQv	**261** cf		

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Where:

Tv=	Treatment Volume			
df =	depth of soil =	2.5	ft	30" min.
k =	hydraulic conductivity =	1	ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.5	ft	(for 12" pond depth)
tf =	Filter Time=	1	days	(24 hrs)

DEP Req'd Tv	Required Surf Area		Provided Surf Area	Tv Provided	Potential RRv
697	581	sf	600	720	288

BIORETENTION AREA:		3500 sf Impervious			
Inflow =	0.019 af	**Req'd. Tv=**	**828** cf		
		WQv	**305** cf		

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Where:

Tv=	Treatment Volume			
df =	depth of soil =	2.5	ft	30" min.
k =	hydraulic conductivity =	1	ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.5	ft	(for 12" pond depth)
tf =	Filter Time=	1	days	(24 hrs)

DEP Req'd Tv	Required Surf Area		Provided Surf Area	Tv Provided	Potential RRv
828	690	sf	725	870	348

BIORETENTION AREA:		4000 sf Impervious			
Inflow =	0.022 af	**Req'd. Tv=**	**958** cf		
		WQv	**348** cf		

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Where:

Tv=	Treatment Volume			
df =	depth of soil =	2.5	ft	30" min.
k =	hydraulic conductivity =	1	ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.5	ft	(for 12" pond depth)
tf =	Filter Time=	1	days	(24 hrs)

DEP Req'd Tv	Required Surf Area		Provided Surf Area	Tv Provided	Potential RRv
958	799	sf	825	990	396

BIORETENTION AREA:		4500 sf Impervious			
Inflow =	0.025 af	**Req'd. Tv=**	**1089** cf		
		WQv	**392** cf		

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Where:

Tv=	Treatment Volume			
df =	depth of soil =	2.5	ft	30" min.
k =	hydraulic conductivity =	1	ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.5	ft	(for 12" pond depth)
tf =	Filter Time=	1	days	(24 hrs)

DEP Req'd Tv	Required Surf Area		Provided Surf Area	Tv Provided	Potential RRv
1,089	908	sf	950	1,140	456

BIORETENTION AREA:		5000 sf Impervious			
Inflow =	0.027 af	**Req'd. Tv=**	**1176** cf		
		WQv	**435** cf		

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Where:

Tv=	Treatment Volume			
df =	depth of soil =	2.5	ft	30" min.
k =	hydraulic conductivity =	1	ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.5	ft	(for 12" pond depth)
tf =	Filter Time=	1	days	(24 hrs)

DEP Req'd Tv	Required Surf Area		Provided Surf Area	Tv Provided	Potential RRv
1,176	980	sf	1,025	1,230	492

BIORETENTION AREA:		5500 sf Impervious			
Inflow =	0.029 af	**Req'd. Tv=**	**1263** cf		
		WQv	**479** cf		

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Where:

Tv=	Treatment Volume			
df =	depth of soil =	2.5	ft	30" min.
k =	hydraulic conductivity =	1	ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.5	ft	(for 12" pond depth)
tf =	Filter Time=	1	days	(24 hrs)

DEP Req'd Tv	Required Surf Area		Provided Surf Area	Tv Provided	Potential RRv
1,263	1,053	sf	1,100	1,320	528

BIORETENTION AREA:		6000 sf Impervious			
Inflow =	0.032 af	**Req'd. Tv=**	**1394** cf		
		WQv	**523** cf		

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Where:

Tv=	Treatment Volume			
df =	depth of soil =	2.5	ft	30" min.
k =	hydraulic conductivity =	1	ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.5	ft	(for 12" pond depth)
tf =	Filter Time=	1	days	(24 hrs)

DEP Req'd Tv	Required Surf Area		Provided Surf Area	Tv Provided	Potential RRv
1,394	1,162	sf	1,200	1,440	576

BIORETENTION AREA:		2-Unit Duplex - 6500 sf Impervious			
Inflow =	0.034 af	**Req'd. Tv=**	**1481** cf		
		WQv	**566** cf		

Required Surface Area

Af=Tv*(df)/[k*(hf+df)(tf)]

Where:

Tv=	Treatment Volume			
df =	depth of soil =	2.5	ft	30" min.
k =	hydraulic conductivity =	1	ft/day	Assumed
hf =	avg. ht of water above filter bed=	0.5	ft	(for 12" pond depth)
tf =	Filter Time=	1	days	(24 hrs)

DEP Req'd Tv	Required Surf Area		Provided Surf Area	Tv Provided	Potential RRv
1,481	1,234	sf	1,275	1,530	612

Note: Inflow from 1-yr Storm event generated from HydroCad model for residential templates.

The Windham Mountain Sporting Club

Lot Worksheet for Bioretention Areas

Lot #	Max. Impervious Area (sf)	WQv Required (cf)	DEP Tv Required (cf)	Required Bio. Surface Area (sf)	Surface Area Provided (sf)	WQv/Tv Provided (cf)	DEC RRv Applied (cf)	DEP RRv Applied (cf)
1	3,500	305	828	709	725	846	305	828
2	4,000	348	958	821	825	963	348	958
3	3,250	305	828	709	725	846	305	828
4	3,250	305	828	709	725	846	305	828
5	3,250	305	828	709	725	846	305	828
6	3,250	305	828	709	725	846	305	828
7	3,500	305	828	709	725	846	305	828
8	3,500	305	828	709	725	846	305	828
9	3,500	305	828	709	725	846	305	828
10	3,250	305	828	709	725	846	305	828
11	3,250	305	828	709	725	846	305	828
12	3,250	305	828	709	725	846	305	828
13	3,250	305	828	709	725	846	305	828
14	3,250	305	828	709	725	846	305	828
15	3,500	305	828	709	725	846	305	828
16	3,500	305	828	709	725	846	305	828
17	3,250	305	828	709	725	846	305	828
18	3,250	305	828	709	725	846	305	828
19	3,250	305	828	709	725	846	305	828
20	3,250	305	828	709	725	846	305	828
21	3,500	305	828	709	725	846	305	828
22	3,250	305	828	709	725	846	305	828
23	3,500	305	828	709	725	846	305	828
24	3,500	305	828	709	725	846	305	828
25	3,250	305	828	709	725	846	305	828
26	3,500	305	828	709	725	846	305	828
27	3,500	305	828	709	725	846	305	828
28	4,000	348	958	821	825	963	348	958
29	3,250	305	828	709	725	846	305	828
30	4,000	348	958	821	825	963	348	958
31	3,250	305	828	709	725	846	305	828
32	3,250	305	828	709	725	846	305	828
33	5,000	435	1,176	1,008	1,025	1,196	435	1,176
34	6,000	523	1,394	1,195	1,200	1,400	523	1,394
35	3,250	305	828	709	725	846	305	828
36	3,250	305	828	709	725	846	305	828
37	3,250	305	828	709	725	846	305	828
38	3,000	261	697	597	600	700	261	697
39	3,250	305	828	709	725	846	305	828
40	3,250	305	828	709	725	846	305	828
41	3,250	305	828	709	725	846	305	828
42	3,250	305	828	709	725	846	305	828
43	3,000	261	697	597	600	700	261	697
44	3,250	305	828	709	725	846	305	828
45	3,500	305	828	709	725	846	305	828
46	3,250	305	828	709	725	846	305	828
47	3,250	305	828	709	725	846	305	828
48	3,250	305	828	709	725	846	305	828
49	3,250	305	828	709	725	846	305	828
50	3,250	305	828	709	725	846	305	828
51	3,250	305	828	709	725	846	305	828
52	3,250	305	828	709	725	846	305	828
53	3,250	305	828	709	725	846	305	828
54	3,000	261	697	597	600	700	261	697
55	3,250	305	828	709	725	846	305	828
56	3,000	261	697	597	600	700	261	697
57	3,250	305	828	709	725	846	305	828
58	3,250	305	828	709	725	846	305	828
59	3,250	305	828	709	725	846	305	828
60	3,000	261	697	597	600	700	261	697
61	3,250	305	828	709	725	846	305	828
62	3,250	305	828	709	725	846	305	828
63	3,250	305	828	709	725	846	305	828
64	3,250	305	828	709	725	846	305	828
65	3,500	305	828	709	725	846	305	828
66	3,250	305	828	709	725	846	305	828
67	4,000	348	958	821	825	963	348	958
68	3,250	305	828	709	725	846	305	828
69	3,250	305	828	709	725	846	305	828
70	3,250	305	828	709	725	846	305	828
71	4,000	348	958	821	825	963	348	958
72	3,000	261	697	597	600	700	261	697
73	3,000	261	697	597	600	700	261	697
74	3,000	261	697	597	600	700	261	697
75	4,000	348	958	821	825	963	348	958
76	4,000	348	958	821	825	963	348	958
77	3,500	305	828	709	725	846	305	828
78	3,250	305	828	709	725	846	305	828
79	3,250	305	828	709	725	846	305	828
80	3,250	305	828	709	725	846	305	828
81	3,250	305	828	709	725	846	305	828
82	3,250	305	828	709	725	846	305	828
83	3,250	305	828	709	725	846	305	828

The Windham Mountain Sporting Club

Lot Worksheet for Bioretention Areas

Lot #	Max. Impervious Area (sf)	WQv Required (cf)	DEP Tv Required (cf)	Required Bio. Surface Area (sf)	Surface Area Provided (sf)	WQv/Tv Provided (cf)	DEC RRv Applied (cf)	DEP RRv Applied (cf)
84	5,000	435	1,176	1,008	1,025	1,196	435	1,176
85	4,000	348	958	821	825	963	348	958
86	3,250	305	828	709	725	846	305	828
87	3,250	305	828	709	725	846	305	828
88	3,500	305	828	709	725	846	305	828
89	3,500	305	828	709	725	846	305	828
90	3,250	305	828	709	725	846	305	828
91	3,500	305	828	709	725	846	305	828
D19-20	6,500	566	1,481	1,269	1,275	1,488	566	1,481
D21-22	6,500	566	1,481	1,269	1,275	1,488	566	1,481
D23-24	6,500	566	1,481	1,269	1,275	1,488	566	1,481
92	3,000	261	697	597	600	700	261	697
93	3,250	305	828	709	725	846	305	828
94	3,000	261	697	597	600	700	261	697
95	3,250	305	828	709	725	846	305	828
96	3,250	305	828	709	725	846	305	828
97	3,250	305	828	709	725	846	305	828
98	3,250	305	828	709	725	846	305	828
99	3,000	261	697	597	600	700	261	697
100	3,000	261	697	597	600	700	261	697
101	3,000	261	697	597	600	700	261	697
102	3,500	305	828	709	725	846	305	828
103	3,500	305	828	709	725	846	305	828
104	3,250	305	828	709	725	846	305	828
105	4,500	392	1,089	933	950	1,108	392	1,089
106	3,250	305	828	709	725	846	305	828
107	3,250	305	828	709	725	846	305	828
108	3,250	305	828	709	725	846	305	828
109	4,000	348	958	821	825	963	348	958
110	3,500	305	828	709	725	846	305	828
111	3,250	305	828	709	725	846	305	828
112	3,250	305	828	709	725	846	305	828
113	3,250	305	828	1,008	1,025	1,196	305	828
114	3,250	305	828	709	725	846	305	828
115	4,000	348	958	821	825	963	348	958
116	4,000	348	958	821	825	963	348	958
117	5,000	435	1,176	1,008	1,025	1,196	435	1,176
118	5,000	435	1,176	709	725	846	435	846
119	3,250	305	828	709	725	846	305	828
120	3,250	305	828	709	725	846	305	828
121	3,250	305	828	709	725	846	305	828
122	3,250	305	828	709	725	846	305	828
123	3,250	305	828	709	725	846	305	828
124	3,500	305	828	709	725	846	305	828
125	3,250	305	828	709	725	846	305	828
D17-18	6,500	566	1,481	1,269	1,275	1,488	566	1,481
126	3,000	261	697	597	600	700	261	697
127	3,250	305	828	709	725	846	305	828
128	3,250	305	828	709	725	846	305	828
129	4,000	348	958	821	825	963	348	958
130	5,500	479	1,263	1,083	1,100	1,283	479	1,263
131	3,250	305	828	709	725	846	305	828
132	3,000	261	697	597	600	700	261	697
133	3,250	305	828	709	725	846	305	828
134	4,500	392	1,089	933	950	1,108	392	1,089
135	5,000	435	1,176	1,008	1,025	1,196	435	1,176
140	4,500	392	1,089	933	950	1,108	392	1,089
141	3,000	261	697	597	600	700	261	697
142	3,000	261	697	597	600	700	261	697
143	5,000	435	1,176	1,008	1,025	1,196	435	1,176
Total								

Notes:

The maximum impervious area and minimum bioretention surface area requirements listed above are provided in the ARB Design Guidelines for the WMSC.

The Windham Mountain Sporting Club

Pond Design Summary

DESCRIPTION	P1.1		P1.3		P2.1		P4.1		P8.2		P8.4		P9.2		P11.1		P12.1	
Pond Elevations	Elev.		Elev.		Elev.		Elev.		Elev.		Elev.		Elev.		Elev.		Elev.	
BOTTOM OF POND ELEV.	2156.00		2160.00		2180.00		2181.00		1674.00		1662.00		1666.00		2294.00		2294.00	
PERM. POOL ELEV.	2159.55		2164.10		2183.00		2185.50		1679.25		1665.50		1670.00		2298.40		2296.50	
DEP Tv ELEV.	2161.50		2166.20		2185.95		2187.70		1681.40		1667.70		1671.60		2300.40		2297.80	
CPv ELEV.	2162.06		2167.08		2185.44		2187.90		1681.72		1668.40		1672.28		2301.07		2298.24	
10-YR. EXT. DET. PEAK ELEV.	2163.39		2168.71		2186.79		2189.64		1683.01		1669.81		1673.59		2302.43		2299.41	
100-YR. EXT. DET. PEAK ELEV.	2164.68		2170.64		2188.54		2190.85		1683.99		1671.35		1675.00		2303.67		2300.97	
TOP OF BERM ELEV.	2166.00		2172.00		2190.00		2192.00		1686.00		1673.00		1677.50		2306.00		2304.00	
Pond Outlets	Elev.	Size	Elev.	Size	Elev.	Size	Elev.	Size	Elev.	Size	Elev.	Size	Elev.	Size	Elev.	Size	Elev.	Size
PRIMARY ORIFICE (DIA.)	2159.55	3.5"	2164.10	4.5"	2183.00	4"	2185.50	3"	1679.25	3"	1665.50	3.7"	1670.00	3.5"	2298.4	3.5"	2296.50	3"
SECONDARY ORIFICE	2162.00	24"x18"	2167.25	36"x12"	2185.50	18"x6"	2187.50	36"x24"	1681.50	36"x18"	1668.50	30"x24"	1672.50	24"x6"	2301.25	18"x6"	2298.75	18"x6"
FLOOD CONTROL WEIR IN PLATE					2186.00	30"x12"	2189.75	36"x12"					1673.50	24"x12"	2302.25	24"x12"		
FLOOD CONTROL INLET / RIM ELEV																		
BROAD CRESTED OVERFLOW WEIR (LENGTH)	2163.75	15'	2170.00	30'	2188.00	10'	2189.75	20'	1683.25	20'	1670.50	20'	1674.50	20'	2303.25	25'	2301.00	10'
OUTLET PIPE INVERT (DIA)	2158.50	24"	2162.00	36"	2183.00	36"	2181.00	30"	1678.00	36"	1663.75	30"	1668.00	24"	2295.50	24"	2294.00	24"

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APPENDIX C

HydroCAD Data – Existing Model –

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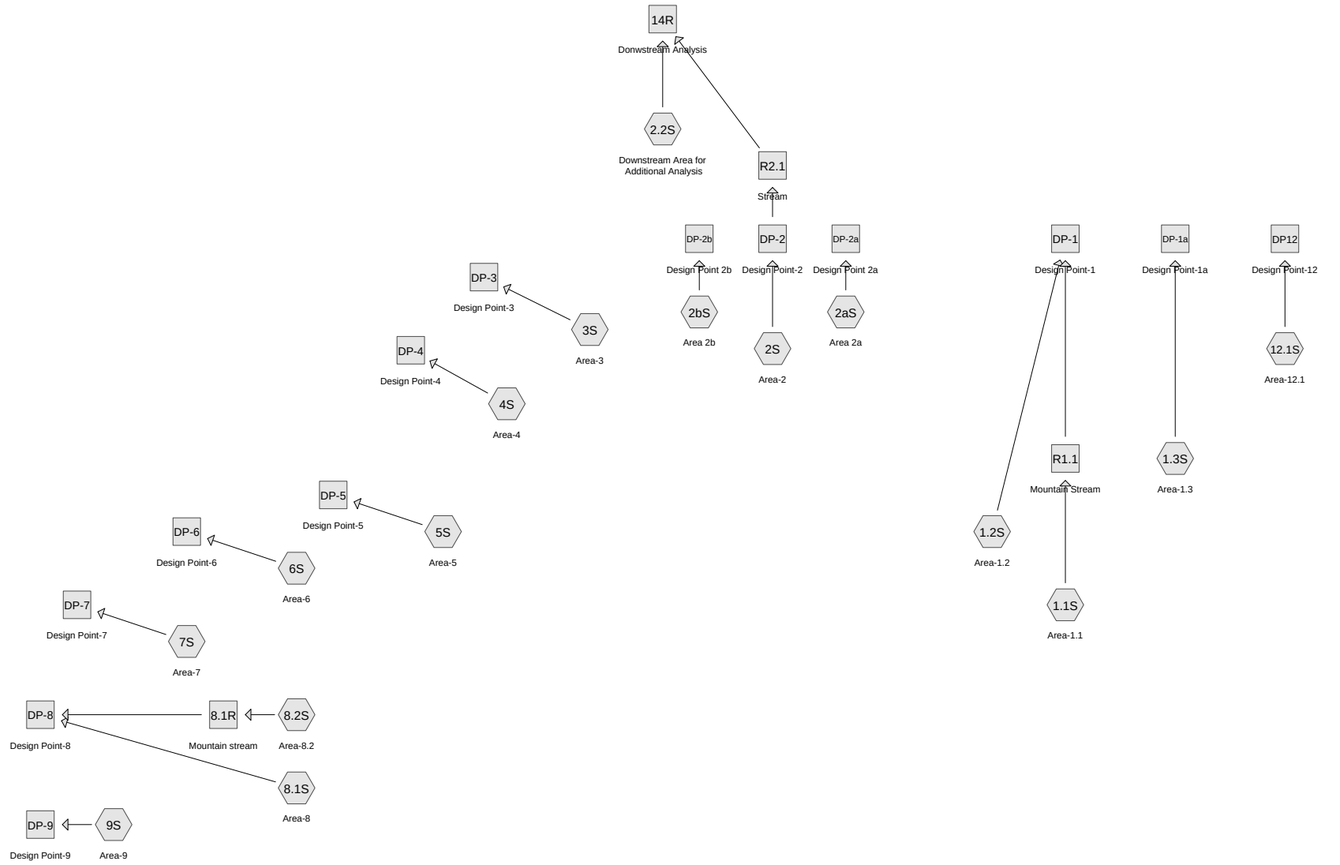

Subcat Reach Pond Link

Drainage Diagram for 08077_Existing

Prepared by Microsoft, Printed 8/7/2012

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
7.879	71	Meadow, non-grazed, HSG C (6S, 7S)
453.456	72	Woods/grass comb., Good, HSG C (1.1S, 1.2S, 1.3S, 2.2S, 2aS, 2bS, 2S, 3S, 4S, 5S, 8.1S, 8.2S, 9S, 11.1S, 11.2S, 11.3S, 11.4S, 11.6S, 11.7S, 11.8S, 11.9S, 12.1S)
1.847	74	>75% Grass cover, Good, HSG C (11.3S)
13.285	79	Woods/grass comb., Good, HSG D (1.1S, 1.2S, 1.3S, 2.2S, 2aS, 2S, 3S, 5S, 8.1S, 8.2S, 9S, 11.2S, 11.3S, 11.4S, 11.6S, 11.7S, 11.8S, 11.9S, 12.1S)
5.905	98	Paved parking & roofs (11.3S)
0.389	98	Paved parking, HSG C (9S)
0.232	98	Roofs, HSG C (9S)
482.994		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
463.803	HSG C	1.1S, 1.2S, 1.3S, 2.2S, 2aS, 2bS, 2S, 3S, 4S, 5S, 6S, 7S, 8.1S, 8.2S, 9S, 11.1S, 11.2S, 11.3S, 11.4S, 11.6S, 11.7S, 11.8S, 11.9S, 12.1S
13.285	HSG D	1.1S, 1.2S, 1.3S, 2.2S, 2aS, 2S, 3S, 5S, 8.1S, 8.2S, 9S, 11.2S, 11.3S, 11.4S, 11.6S, 11.7S, 11.8S, 11.9S, 12.1S
5.905	Other	11.3S
482.994		**TOTAL AREA**

Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: Area-1.1 Runoff Area=1,603,065 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=3,105' Tc=23.4 min CN=72 Runoff=26.94 cfs 2.478 af

Subcatchment1.2S: Area-1.2 Runoff Area=814,865 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=2,865' Tc=19.1 min CN=73 Runoff=16.79 cfs 1.337 af

Subcatchment1.3S: Area-1.3 Runoff Area=689,011 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,795' Tc=27.3 min CN=72 Runoff=10.43 cfs 1.065 af

Subcatchment2.2S: Downstream Area Runoff Area=1,062,635 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,280' Tc=22.5 min CN=72 Runoff=18.31 cfs 1.643 af

Subcatchment2aS: Area 2a Runoff Area=140,195 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=555' Tc=10.5 min CN=72 Runoff=3.67 cfs 0.217 af

Subcatchment2bS: Area 2b Runoff Area=1,134,520 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,290' Tc=18.5 min CN=72 Runoff=22.11 cfs 1.754 af

Subcatchment2S: Area-2 Runoff Area=1,301,430 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,860' Tc=28.5 min CN=72 Runoff=19.16 cfs 2.012 af

Subcatchment3S: Area-3 Runoff Area=642,385 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,185' Tc=17.7 min CN=72 Runoff=12.91 cfs 0.993 af

Subcatchment4S: Area-4 Runoff Area=1,028,610 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,755' Tc=20.9 min CN=72 Runoff=18.66 cfs 1.590 af

Subcatchment5S: Area-5 Runoff Area=1,428,845 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,625' Tc=19.8 min CN=72 Runoff=26.77 cfs 2.209 af

Subcatchment6S: Area-6 Runoff Area=145,690 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=510' Tc=9.6 min CN=71 Runoff=3.65 cfs 0.212 af

Subcatchment7S: Area-7 Runoff Area=197,522 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=408' Tc=5.9 min CN=71 Runoff=5.79 cfs 0.287 af

Subcatchment8.1S: Area-8 Runoff Area=649,150 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,705' Tc=16.1 min CN=72 Runoff=13.78 cfs 1.004 af

Subcatchment8.2S: Area-8.2 Runoff Area=1,177,420 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,880' Tc=18.8 min CN=72 Runoff=22.74 cfs 1.820 af

Subcatchment9S: Area-9 Runoff Area=1,212,872 sf 2.23% Impervious Runoff Depth=0.86"
Flow Length=1,705' Tc=17.9 min CN=73 Runoff=26.06 cfs 1.989 af

Subcatchment11.1S: Area-11.1 Runoff Area=1,023,137 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,640' Tc=26.8 min CN=72 Runoff=15.69 cfs 1.582 af

Subcatchment11.2S: Area-11.2 Runoff Area=1,440,006 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,720' Tc=40.3 min CN=72 Runoff=16.57 cfs 2.226 af

Subcatchment11.3S: Area-11.3 Runoff Area=2,860,947 sf 8.99% Impervious Runoff Depth=0.96"
Flow Length=5,405' Tc=32.9 min CN=75 Runoff=47.61 cfs 5.259 af

Subcatchment11.4S: Area-11.4 Runoff Area=922,517 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,606' Tc=21.9 min CN=72 Runoff=16.23 cfs 1.426 af

Subcatchment11.6S: Area-11.6 Runoff Area=316,135 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=1,490' Tc=15.2 min CN=74 Runoff=7.97 cfs 0.549 af

Subcatchment11.7S: Area-11.7 Runoff Area=384,600 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,793' Tc=21.1 min CN=72 Runoff=6.93 cfs 0.595 af

Subcatchment11.8S: Area-11.8 Runoff Area=90,160 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=750' Tc=11.9 min CN=72 Runoff=2.24 cfs 0.139 af

Subcatchment11.9S: Area-11.9 Runoff Area=89,354 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=1,084' Tc=18.0 min CN=74 Runoff=2.05 cfs 0.155 af

Subcatchment12.1S: Area-12.1 Runoff Area=684,140 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,995' Tc=42.0 min CN=72 Runoff=7.64 cfs 1.058 af

Reach 8.1R: Mountain stream Avg. Flow Depth=0.66' Max Vel=9.83 fps Inflow=22.74 cfs 1.820 af
n=0.040 L=850.0' S=0.1906 '/' Capacity=193.86 cfs Outflow=22.17 cfs 1.820 af

Reach 11.10R: Mountain stream Avg. Flow Depth=0.31' Max Vel=6.95 fps Inflow=53.78 cfs 6.673 af
n=0.040 L=393.0' S=0.1730 '/' Capacity=3,320.07 cfs Outflow=53.41 cfs 6.673 af

Reach 11.1aR: Mountain stream-DP Avg. Flow Depth=0.58' Max Vel=8.21 fps Inflow=22.38 cfs 1.975 af
n=0.040 L=950.0' S=0.1884 '/' Capacity=186.80 cfs Outflow=21.90 cfs 1.975 af

Reach 11.1R: Mountain stream-DP 11.6 Avg. Flow Depth=0.51' Max Vel=7.35 fps Inflow=16.23 cfs 1.426 af
n=0.040 L=310.0' S=0.1742 '/' Capacity=179.61 cfs Outflow=16.02 cfs 1.426 af

Reach 11.3aR: Bouldery stream Avg. Flow Depth=0.27' Max Vel=7.48 fps Inflow=16.56 cfs 2.226 af
n=0.050 L=142.0' S=0.4014 '/' Capacity=748.92 cfs Outflow=16.53 cfs 2.226 af

Reach 11.4aR: DP11.3 Avg. Flow Depth=0.41' Max Vel=8.96 fps Inflow=29.94 cfs 3.947 af
n=0.050 L=220.0' S=0.3636 '/' Capacity=858.32 cfs Outflow=29.88 cfs 3.947 af

Reach 11.4bR: DP11.4 Avg. Flow Depth=0.43' Max Vel=7.87 fps Inflow=6.93 cfs 0.595 af
n=0.040 L=145.0' S=0.2621 '/' Capacity=231.18 cfs Outflow=6.89 cfs 0.595 af

Reach 11.4R: DP-11.2 Avg. Flow Depth=0.51' Max Vel=6.58 fps Inflow=29.54 cfs 3.808 af
n=0.050 L=267.0' S=0.1498 '/' Capacity=558.40 cfs Outflow=29.39 cfs 3.808 af

Reach 11.5aR: DP11.5 Avg. Flow Depth=0.24' Max Vel=5.39 fps Inflow=2.05 cfs 0.155 af
n=0.040 L=620.0' S=0.2323 '/' Capacity=217.63 cfs Outflow=1.98 cfs 0.155 af

Reach 11.5R: Mountain stream Avg. Flow Depth=0.30' Max Vel=7.66 fps Inflow=34.61 cfs 4.542 af
n=0.040 L=455.0' S=0.2242 '/' Capacity=3,678.81 cfs Outflow=34.42 cfs 4.542 af

Reach 11.6aR: Mountain stream Avg. Flow Depth=0.47' Max Vel=10.61 fps Inflow=54.29 cfs 6.673 af
n=0.050 L=245.0' S=0.4000 '/' Capacity=3,987.80 cfs Outflow=54.17 cfs 6.673 af

Reach 11.6R: Mountain stream Avg. Flow Depth=0.42' Max Vel=7.85 fps Inflow=35.75 cfs 4.697 af
n=0.050 L=475.0' S=0.2505 '/' Capacity=3,155.95 cfs Outflow=35.56 cfs 4.697 af

Reach 11.8R: Mountain stream Avg. Flow Depth=0.40' Max Vel=8.78 fps Inflow=54.17 cfs 6.673 af
n=0.050 L=360.0' S=0.3139 '/' Capacity=13,400.37 cfs Outflow=53.98 cfs 6.673 af

Reach 14R: Donwstream Analysis Inflow=35.41 cfs 3.655 af
Outflow=35.41 cfs 3.655 af

Reach DP-1: Design Point-1 Avg. Flow Depth=0.59' Max Vel=9.26 fps Inflow=41.49 cfs 3.815 af
n=0.040 L=10.0' S=0.1500 '/' Capacity=670.80 cfs Outflow=41.49 cfs 3.815 af

Reach DP-11: Design Point-11 Inflow=100.36 cfs 11.931 af
Outflow=100.36 cfs 11.931 af

Reach DP-1a: Design Point-1a Avg. Flow Depth=0.42' Max Vel=5.31 fps Inflow=10.43 cfs 1.065 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=97.10 cfs Outflow=10.43 cfs 1.065 af

Reach DP-2: Design Point-2 Avg. Flow Depth=0.43' Max Vel=8.62 fps Inflow=19.16 cfs 2.012 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=233.42 cfs Outflow=19.16 cfs 2.012 af

Reach DP-2a: Design Point 2a Inflow=3.67 cfs 0.217 af
Outflow=3.67 cfs 0.217 af

Reach DP-2b: Design Point 2b Inflow=22.11 cfs 1.754 af
Outflow=22.11 cfs 1.754 af

Reach DP-3: Design Point-3 Inflow=12.91 cfs 0.993 af
Outflow=12.91 cfs 0.993 af

Reach DP-4: Design Point-4 Inflow=18.66 cfs 1.590 af
Outflow=18.66 cfs 1.590 af

Reach DP-5: Design Point-5 Inflow=26.77 cfs 2.209 af
Outflow=26.77 cfs 2.209 af

Reach DP-6: Design Point-6 Inflow=3.65 cfs 0.212 af
Outflow=3.65 cfs 0.212 af

Reach DP-7: Design Point-7 Inflow=5.79 cfs 0.287 af
Outflow=5.79 cfs 0.287 af

Reach DP-8: Design Point-8 Inflow=34.51 cfs 2.824 af
Outflow=34.51 cfs 2.824 af

Reach DP-9: Design Point-9 Inflow=26.06 cfs 1.989 af
Outflow=26.06 cfs 1.989 af

Reach DP12: Design Point-12 Avg. Flow Depth=0.32' Max Vel=6.86 fps Inflow=7.64 cfs 1.058 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=128.70 cfs Outflow=7.63 cfs 1.058 af

Reach R1.1: Mountain Stream Avg. Flow Depth=0.54' Max Vel=8.38 fps Inflow=26.94 cfs 2.478 af
n=0.040 L=610.0' S=0.1475 '/' Capacity=639.78 cfs Outflow=26.53 cfs 2.478 af

Reach R2.1: Stream Avg. Flow Depth=0.40' Max Vel=9.12 fps Inflow=19.16 cfs 2.012 af
n=0.040 L=680.0' S=0.2412 '/' Capacity=256.33 cfs Outflow=18.95 cfs 2.012 af

Pond 11.3R: DP-11.1 Peak Elev=2,411.00' Storage=304 cf Inflow=16.57 cfs 2.226 af
72.0" Round Culvert x 2.00 n=0.025 L=120.0' S=0.1333 '/' Outflow=16.56 cfs 2.226 af

Pond 11.7R: Culvert Peak Elev=1,892.82' Inflow=54.17 cfs 6.673 af
Outflow=54.17 cfs 6.673 af

Pond 11.9R: Culvert Peak Elev=1,775.04' Storage=1,718 cf Inflow=53.98 cfs 6.673 af
Outflow=53.78 cfs 6.673 af

Total Runoff Area = 482.994 ac Runoff Volume = 33.598 af Average Runoff Depth = 0.83"
98.65% Pervious = 476.467 ac 1.35% Impervious = 6.527 ac

Summary for Subcatchment 1.1S: Area-1.1

Runoff = 26.94 cfs @ 12.19 hrs, Volume= 2.478 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,590,610	72	Woods/grass comb., Good, HSG C
12,455	79	Woods/grass comb., Good, HSG D
1,603,065	72	Weighted Average
1,603,065		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	150	0.1200	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.4	1,350	0.3700	3.04		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.4	545	0.2000	24.25	698.34	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=4.50' D=3.00' Z= 1.7 '/' Top.W=14.70' n= 0.040 Mountain streams
0.6	1,060	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00' n= 0.040 Mountain streams
23.4	3,105	Total			

Summary for Subcatchment 1.2S: Area-1.2

Runoff = 16.79 cfs @ 12.14 hrs, Volume= 1.337 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
705,185	72	Woods/grass comb., Good, HSG C
109,680	79	Woods/grass comb., Good, HSG D
814,865	73	Weighted Average
814,865		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	150	0.5000	0.30		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	1,600	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.6	540	0.1800	15.23	141.68	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=5.00' D=1.33' Z= 1.5 '/' Top.W=8.99' n= 0.040 Mountain streams
0.6	575	0.0950	16.94	513.38	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=5.00' D=3.00' Z= 1.7 '/' Top.W=15.20'

n= 0.040 Mountain streams

19.1	2,865	Total

Summary for Subcatchment 1.3S: Area-1.3

Runoff = 10.43 cfs @ 12.24 hrs, Volume= 1.065 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
662,456	72	Woods/grass comb., Good, HSG C
26,555	79	Woods/grass comb., Good, HSG D
689,011	72	Weighted Average
689,011		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	150	0.3300	0.25		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
10.9	1,965	0.3600	3.00		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
3.0	140	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
3.0	370	0.1700	2.06		**Shallow Concentrated Flow, shallow concentrated flow: woods** Woodland Kv= 5.0 fps
0.4	170	0.1000	6.67	37.22	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=3.00' D=0.70' Z= 7.1 '/' Top.W=12.94' n= 0.040 Mountain streams
27.3	2,795	Total			

Summary for Subcatchment 2.2S: Downstream Area for Additional Analysis

Runoff = 18.31 cfs @ 12.18 hrs, Volume= 1.643 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
7,495	79	Woods/grass comb., Good, HSG D
1,055,140	72	Woods/grass comb., Good, HSG C
1,062,635	72	Weighted Average
1,062,635		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	150	0.5530	0.31		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
14.4	2,130	0.2430	2.46		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.5	2,280	Total			

Summary for Subcatchment 2aS: Area 2a

Runoff = 3.67 cfs @ 12.04 hrs, Volume= 0.217 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
132,700	72	Woods/grass comb., Good, HSG C
7,495	79	Woods/grass comb., Good, HSG D
140,195	72	Weighted Average
140,195		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	150	0.0860	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.7	405	0.1230	2.45		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	555	Total			

Summary for Subcatchment 2bS: Area 2b

Runoff = 22.11 cfs @ 12.13 hrs, Volume= 1.754 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,134,520	72	Woods/grass comb., Good, HSG C
1,134,520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.2800	0.23		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.8	1,140	0.2350	2.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.5	1,290	Total			

Summary for Subcatchment 2S: Area-2

Runoff = 19.16 cfs @ 12.26 hrs, Volume= 2.012 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,247,390	72	Woods/grass comb., Good, HSG C
54,040	79	Woods/grass comb., Good, HSG D
1,301,430	72	Weighted Average
1,301,430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	150	0.1467	0.18		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	1,360	0.3456	2.94		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.7	270	0.1600	6.00		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Grassed Waterway Kv= 15.0 fps
4.5	630	0.2200	2.35		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.3	175	0.1040	2.26		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.4	275	0.2100	12.35	49.41	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
28.5	2,860	Total			

Summary for Subcatchment 3S: Area-3

Runoff = 12.91 cfs @ 12.12 hrs, Volume= 0.993 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
636,540	72	Woods/grass comb., Good, HSG C
5,845	79	Woods/grass comb., Good, HSG D
642,385	72	Weighted Average
642,385		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	150	0.2200	0.32		**Sheet Flow, Sheet flow: meadow** Grass: Dense n= 0.240 P2= 3.00"
5.1	900	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated : woods** Woodland Kv= 5.0 fps
2.5	535	0.2500	3.50		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.1	400	0.4000	3.16		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.2	200	0.2000	18.83	84.73	**Trap/Vee/Rect Channel Flow, DITCH** Bot.W=1.50' D=1.50' Z= 1.0 '/' Top.W=4.50' n= 0.030 Earth, grassed & winding
17.7	2,185	Total			

Summary for Subcatchment 4S: Area-4

Runoff = 18.66 cfs @ 12.16 hrs, Volume= 1.590 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
537,225	72	Woods/grass comb., Good, HSG C
491,385	72	Woods/grass comb., Good, HSG C
1,028,610	72	Weighted Average
1,028,610		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	150	0.2700	0.35		**Sheet Flow, meadow** Grass: Dense n= 0.240 P2= 3.00"
2.6	520	0.2200	3.28		**Shallow Concentrated Flow, meadow** Short Grass Pasture Kv= 7.0 fps
10.9	1,885	0.3300	2.87		**Shallow Concentrated Flow, WOODS/MEADOW** Woodland Kv= 5.0 fps
0.2	200	0.2000	17.67	211.99	**Trap/Vee/Rect Channel Flow, EX DITCH** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
20.9	2,755	Total			

Summary for Subcatchment 5S: Area-5

Runoff = 26.77 cfs @ 12.15 hrs, Volume= 2.209 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,375,930	72	Woods/grass comb., Good, HSG C
52,915	79	Woods/grass comb., Good, HSG D
1,428,845	72	Weighted Average
1,428,845		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	150	0.3800	0.26		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
9.5	1,640	0.3300	2.87		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.9	835	0.1500	15.66	203.63	**Trap/Vee/Rect Channel Flow,** Bot.W=2.50' D=2.00' Z= 2.0 '/' Top.W=10.50' n= 0.040 Earth, cobble bottom, clean sides
19.8	2,625	Total			

Summary for Subcatchment 6S: Area-6

Runoff = 3.65 cfs @ 12.03 hrs, Volume= 0.212 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
145,690	71	Meadow, non-grazed, HSG C
145,690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	130	0.1600	0.27		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
0.4	130	0.1500	5.81		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Grassed Waterway Kv= 15.0 fps
1.3	250	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
9.6	510	Total			

Summary for Subcatchment 7S: Area-7

Runoff = 5.79 cfs @ 11.98 hrs, Volume= 0.287 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
197,522	71	Meadow, non-grazed, HSG C
197,522		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	58	0.1800	0.24		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
1.9	350	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.9	408	Total			

Summary for Subcatchment 8.1S: Area-8

Runoff = 13.78 cfs @ 12.10 hrs, Volume= 1.004 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
637,884	72	Woods/grass comb., Good, HSG C
11,266	79	Woods/grass comb., Good, HSG D
649,150	72	Weighted Average
649,150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	235	0.1900	3.05		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
1.8	1,320	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
16.1	1,705	Total			

Summary for Subcatchment 8.2S: Area-8.2

Runoff = 22.74 cfs @ 12.13 hrs, Volume= 1.820 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,158,336	72	Woods/grass comb., Good, HSG C
19,084	79	Woods/grass comb., Good, HSG D
1,177,420	72	Weighted Average
1,177,420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	150	0.2400	0.22		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
6.5	1,135	0.3400	2.92		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.9	595	0.0780	11.03	132.39	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
18.8	1,880	Total			

Summary for Subcatchment 9S: Area-9

Runoff = 26.06 cfs @ 12.12 hrs, Volume= 1.989 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
16,935	98	Paved parking, HSG C
10,120	98	Roofs, HSG C
1,179,597	72	Woods/grass comb., Good, HSG C
6,220	79	Woods/grass comb., Good, HSG D
1,212,872	73	Weighted Average
1,185,817		97.77% Pervious Area
27,055		2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	150	0.2900	0.24		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.9	170	0.4000	3.16		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
6.5	1,385	0.2600	3.57		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
17.9	1,705	Total			

Summary for Subcatchment 11.1S: Area-11.1

Runoff = 15.69 cfs @ 12.23 hrs, Volume= 1.582 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,023,137	72	Woods/grass comb., Good, HSG C
1,023,137		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	150	0.1800	0.20		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	200	0.2500	2.50		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
2.3	410	0.1800	2.97		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.1	1,358	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
2.3	380	0.1600	2.80		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.1	142	0.4000	36.21	2,230.45	**Trap/Vee/Rect Channel Flow,** Bot.W=15.00' D=4.00' Z= 0.1 '/' Top.W=15.80' n= 0.050 Mountain streams w/large boulders
26.8	2,640	Total			

Summary for Subcatchment 11.2S: Area-11.2

Runoff = 16.57 cfs @ 12.41 hrs, Volume= 2.226 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,420,796	72	Woods/grass comb., Good, HSG C
19,210	79	Woods/grass comb., Good, HSG D
1,440,006	72	Weighted Average
1,440,006		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.8	150	0.0933	0.09		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.8	500	0.0960	2.17		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.3	885	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	355	0.2817	3.72		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.8	830	0.2600	17.15	128.61	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Mountain streams
40.3	2,720	Total			

Summary for Subcatchment 11.3S: Area-11.3

Runoff = 47.61 cfs @ 12.30 hrs, Volume= 5.259 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
2,449,548	72	Woods/grass comb., Good, HSG C
80,446	74	>75% Grass cover, Good, HSG C
257,243	98	Paved parking & roofs
73,710	79	Woods/grass comb., Good, HSG D
2,860,947	75	Weighted Average
2,603,704		91.01% Pervious Area
257,243		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	150	0.1133	0.25		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
4.3	963	0.2800	3.70		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.9	1,412	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.8	127	0.1500	2.71		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.8	450	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.0	395	0.0250	2.17	23.92	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.070 Sluggish weedy reaches w/pools
0.8	300	0.0250	5.95	71.40	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.040 Winding stream, pools & shoals
1.2	720	0.0250	9.97	996.95	**Trap/Vee/Rect Channel Flow, stream** Bot.W=10.00' D=5.00' Z= 2.0 '/' Top.W=30.00' n= 0.050 Mountain streams w/large boulders
0.1	45	0.0500	13.29	167.02	**Pipe Channel, culvert** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.025 Corrugated metal
0.1	360	0.3100	53.27	13,317.10	**Trap/Vee/Rect Channel Flow, stream** Bot.W=15.00' D=10.00' Z= 1.0 '/' Top.W=35.00' n= 0.050 Mountain streams w/large boulders
0.1	90	0.0500	19.28	378.54	**Pipe Channel, culvert** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.020 Corrugated PE, corrugated interior
0.6	393	0.0280	10.52	1,068.46	**Trap/Vee/Rect Channel Flow,** Bot.W=25.00' D=4.00' Z= 0.1 '/' Top.W=25.80' n= 0.050 Mountain streams w/large boulders
32.9	5,405	Total			

Summary for Subcatchment 11.4S: Area-11.4

Runoff = 16.23 cfs @ 12.17 hrs, Volume= 1.426 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
886,711	72	Woods/grass comb., Good, HSG C
35,806	79	Woods/grass comb., Good, HSG D
922,517	72	Weighted Average
922,517		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	150	0.3200	0.25		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	255	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated:ski trail** Short Grass Pasture Kv= 7.0 fps
2.9	516	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated:woods** Woodland Kv= 5.0 fps
0.7	130	0.1800	2.97		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
6.3	1,055	0.3100	2.78		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	500	0.2300	15.72	206.39	**Trap/Vee/Rect Channel Flow, stream** Bot.W=2.00' D=1.50' Z= 4.5 '/' Top.W=15.50' n= 0.040 Mountain streams
21.9	2,606	Total			

Summary for Subcatchment 11.6S: Area-11.6

Runoff = 7.97 cfs @ 12.09 hrs, Volume= 0.549 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
239,255	72	Woods/grass comb., Good, HSG C
76,880	79	Woods/grass comb., Good, HSG D
316,135	74	Weighted Average
316,135		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	50	0.1700	0.34		**Sheet Flow, Sheet flow** Grass: Short n= 0.150 P2= 3.00"
3.8	50	0.4000	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
4.1	720	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.3	140	0.1200	1.73		**Shallow Concentrated Flow, Shallow concentrated: Wetland** Woodland Kv= 5.0 fps
3.5	530	0.2600	2.55		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
15.2	1,490	Total			

Summary for Subcatchment 11.7S: Area-11.7

Runoff = 6.93 cfs @ 12.16 hrs, Volume= 0.595 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
360,740	72	Woods/grass comb., Good, HSG C
23,860	79	Woods/grass comb., Good, HSG D
384,600	72	Weighted Average
384,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	360	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.0	200	0.2200	3.28		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
4.6	723	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	360	0.2300	11.54	126.95	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Mountain streams
21.1	1,793	Total			

Summary for Subcatchment 11.8S: Area-11.8

Runoff = 2.24 cfs @ 12.05 hrs, Volume= 0.139 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
88,780	72	Woods/grass comb., Good, HSG C
1,380	79	Woods/grass comb., Good, HSG D
90,160	72	Weighted Average
90,160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	150	0.1800	0.30		**Sheet Flow, Sheet flow: Woods** Grass: Dense n= 0.240 P2= 3.00"
3.3	500	0.2500	2.50		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	100	0.2500	12.03	132.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Winding stream, pools & shoals
11.9	750	Total			

Summary for Subcatchment 11.9S: Area-11.9

Runoff = 2.05 cfs @ 12.12 hrs, Volume= 0.155 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
69,494	72	Woods/grass comb., Good, HSG C
19,860	79	Woods/grass comb., Good, HSG D
89,354	74	Weighted Average
89,354		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
4.9	836	0.3300	2.87		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	98	0.2300	11.54	126.95	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Mountain streams
18.0	1,084	Total			

Summary for Subcatchment 12.1S: Area-12.1

Runoff = 7.64 cfs @ 12.44 hrs, Volume= 1.058 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
14,955	79	Woods/grass comb., Good, HSG D
669,185	72	Woods/grass comb., Good, HSG C
684,140	72	Weighted Average
684,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	150	0.1600	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
28.3	1,610	0.0360	0.95		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	235	0.1600	14.19	118.17	**Trap/Vee/Rect Channel Flow, stream/wetland** Bot.W=3.00' D=1.50' Z= 1.7 '/' Top.W=8.10' n= 0.040 Mountain streams
42.0	1,995	Total			

Summary for Reach 8.1R: Mountain stream

Inflow Area = 27.030 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 22.74 cfs @ 12.13 hrs, Volume= 1.820 af
Outflow = 22.17 cfs @ 12.18 hrs, Volume= 1.820 af, Atten= 3%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.83 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 3.38 fps, Avg. Travel Time= 4.2 min

Peak Storage= 1,957 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 193.86 cfs

2.50' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.5 '/' Top Width= 8.50'
Length= 850.0' Slope= 0.1906 '/'
Inlet Invert= 1,816.00', Outlet Invert= 1,654.00'

Summary for Reach 11.10R: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 53.78 cfs @ 12.32 hrs, Volume= 6.673 af
Outflow = 53.41 cfs @ 12.35 hrs, Volume= 6.673 af, Atten= 1%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.95 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 2.50 fps, Avg. Travel Time= 2.6 min

Peak Storage= 3,031 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 3,320.07 cfs

25.00' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.1 '/' Top Width= 25.80'
Length= 393.0' Slope= 0.1730 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,700.00'

Summary for Reach 11.1aR: Mountain stream-DP 11.7

Inflow Area = 28.436 ac, 0.00% Impervious, Inflow Depth = 0.83" for 1-Year event
Inflow = 22.38 cfs @ 12.15 hrs, Volume= 1.975 af
Outflow = 21.90 cfs @ 12.21 hrs, Volume= 1.975 af, Atten= 2%, Lag= 3.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.21 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 3.17 fps, Avg. Travel Time= 5.0 min

Peak Storage= 2,547 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 186.80 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 950.0' Slope= 0.1884 '/'
Inlet Invert= 2,169.00', Outlet Invert= 1,990.00'

‡

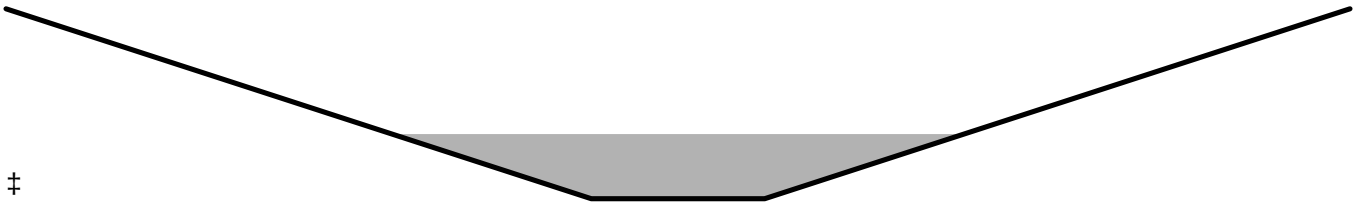
Summary for Reach 11.1R: Mountain stream-DP 11.6

Inflow Area = 21.178 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 16.23 cfs @ 12.17 hrs, Volume= 1.426 af
Outflow = 16.02 cfs @ 12.19 hrs, Volume= 1.426 af, Atten= 1%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.35 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.97 fps, Avg. Travel Time= 1.7 min

Peak Storage= 680 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.51'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 179.61 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 310.0' Slope= 0.1742 '/'
Inlet Invert= 2,224.00', Outlet Invert= 2,170.00'



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Summary for Reach 11.3aR: Bouldery stream

Inflow Area = 33.058 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 16.56 cfs @ 12.42 hrs, Volume= 2.226 af
Outflow = 16.53 cfs @ 12.42 hrs, Volume= 2.226 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.48 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.81 fps, Avg. Travel Time= 0.8 min

Peak Storage= 314 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.27'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 748.92 cfs

8.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.2 '/' Top Width= 14.00'
Length= 142.0' Slope= 0.4014 '/'
Inlet Invert= 2,390.00', Outlet Invert= 2,333.00'

Summary for Reach 11.4aR: DP11.3

Inflow Area = 58.616 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 29.94 cfs @ 12.33 hrs, Volume= 3.947 af
Outflow = 29.88 cfs @ 12.34 hrs, Volume= 3.947 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.96 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 3.40 fps, Avg. Travel Time= 1.1 min

Peak Storage= 734 cf @ 12.34 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 858.32 cfs

7.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.00'
Length= 220.0' Slope= 0.3636 '/'
Inlet Invert= 2,292.00', Outlet Invert= 2,212.00'

‡

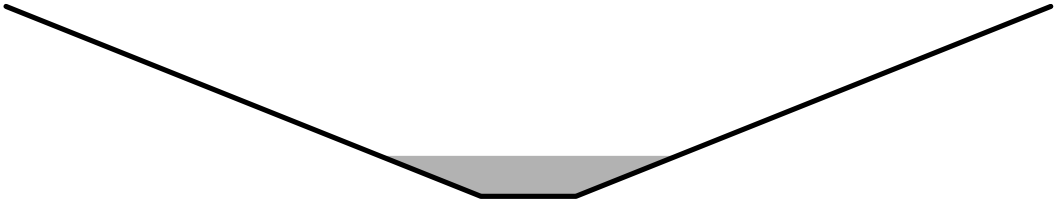
Summary for Reach 11.4bR: DP11.4

Inflow Area = 8.829 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 6.93 cfs @ 12.16 hrs, Volume= 0.595 af
Outflow = 6.89 cfs @ 12.17 hrs, Volume= 0.595 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.87 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.22 fps, Avg. Travel Time= 0.8 min

Peak Storage= 127 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 231.18 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 145.0' Slope= 0.2621 '/'
Inlet Invert= 2,250.00', Outlet Invert= 2,212.00'



Summary for Reach 11.4R: DP-11.2

Inflow Area = 56.546 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 29.54 cfs @ 12.32 hrs, Volume= 3.808 af
Outflow = 29.39 cfs @ 12.34 hrs, Volume= 3.808 af, Atten= 1%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.58 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.47 fps, Avg. Travel Time= 1.8 min

Peak Storage= 1,196 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.51'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 558.40 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.6 '/' Top Width= 20.50'
Length= 267.0' Slope= 0.1498 '/'
Inlet Invert= 2,332.00', Outlet Invert= 2,292.00'

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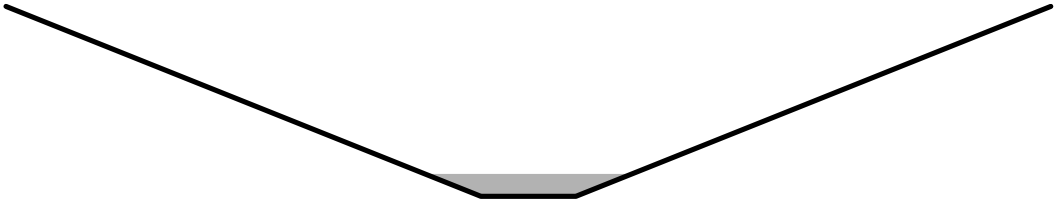
Summary for Reach 11.5aR: DP11.5

Inflow Area = 2.051 ac, 0.00% Impervious, Inflow Depth = 0.91" for 1-Year event
Inflow = 2.05 cfs @ 12.12 hrs, Volume= 0.155 af
Outflow = 1.98 cfs @ 12.18 hrs, Volume= 0.155 af, Atten= 3%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.39 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 2.00 fps, Avg. Travel Time= 5.2 min

Peak Storage= 232 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 217.63 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 620.0' Slope= 0.2323 '/'
Inlet Invert= 2,254.00', Outlet Invert= 2,110.00'



Summary for Reach 11.5R: Mountain stream

Inflow Area = 67.445 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 34.61 cfs @ 12.31 hrs, Volume= 4.542 af
Outflow = 34.42 cfs @ 12.34 hrs, Volume= 4.542 af, Atten= 1%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.66 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 2.98 fps, Avg. Travel Time= 2.5 min

Peak Storage= 2,055 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,678.81 cfs

15.00' x 5.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.7 '/' Top Width= 22.00'
Length= 455.0' Slope= 0.2242 '/'
Inlet Invert= 2,212.00', Outlet Invert= 2,110.00'

Summary for Reach 11.6aR: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 54.29 cfs @ 12.28 hrs, Volume= 6.673 af
Outflow = 54.17 cfs @ 12.30 hrs, Volume= 6.673 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.61 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 3.93 fps, Avg. Travel Time= 1.0 min

Peak Storage= 1,254 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,987.80 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 245.0' Slope= 0.4000 '/'
Inlet Invert= 1,990.00', Outlet Invert= 1,892.00'

Summary for Reach 11.6R: Mountain stream

Inflow Area = 69.496 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 35.75 cfs @ 12.32 hrs, Volume= 4.697 af
Outflow = 35.56 cfs @ 12.35 hrs, Volume= 4.697 af, Atten= 1%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.85 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 2.6 min

Peak Storage= 2,158 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,155.95 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 475.0' Slope= 0.2505 '/'
Inlet Invert= 2,109.00', Outlet Invert= 1,990.00'

Summary for Reach 11.8R: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 54.17 cfs @ 12.30 hrs, Volume= 6.673 af
Outflow = 53.98 cfs @ 12.32 hrs, Volume= 6.673 af, Atten= 0%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.78 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 3.90 fps, Avg. Travel Time= 1.5 min

Peak Storage= 2,223 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 13,400.37 cfs

15.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 35.00'
Length= 360.0' Slope= 0.3139 '/'
Inlet Invert= 1,887.00', Outlet Invert= 1,774.00'

Summary for Reach 14R: Donwstream Analysis

Inflow Area = 54.271 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 35.41 cfs @ 12.23 hrs, Volume= 3.655 af
Outflow = 35.41 cfs @ 12.23 hrs, Volume= 3.655 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1: Design Point-1

Inflow Area = 55.508 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 41.49 cfs @ 12.19 hrs, Volume= 3.815 af
Outflow = 41.49 cfs @ 12.19 hrs, Volume= 3.815 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.26 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.03 fps, Avg. Travel Time= 0.1 min

Peak Storage= 45 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 670.80 cfs

7.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1500 '/'
Inlet Invert= 0.00', Outlet Invert= -1.50'

Summary for Reach DP-11: Design Point-11

Inflow Area = 163.610 ac, 3.61% Impervious, Inflow Depth = 0.88" for 1-Year event
Inflow = 100.36 cfs @ 12.33 hrs, Volume= 11.931 af
Outflow = 100.36 cfs @ 12.33 hrs, Volume= 11.931 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1a: Design Point-1a

Inflow Area = 15.818 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 10.43 cfs @ 12.24 hrs, Volume= 1.065 af
Outflow = 10.43 cfs @ 12.24 hrs, Volume= 1.065 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.31 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.07 fps, Avg. Travel Time= 0.1 min

Peak Storage= 20 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 97.10 cfs

3.00' x 1.25' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

‡

Summary for Reach DP-2: Design Point-2

Inflow Area = 29.877 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 19.16 cfs @ 12.26 hrs, Volume= 2.012 af
Outflow = 19.16 cfs @ 12.26 hrs, Volume= 2.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.62 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.97 fps, Avg. Travel Time= 0.1 min

Peak Storage= 22 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 233.42 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-2a: Design Point 2a

Inflow Area = 3.218 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 3.67 cfs @ 12.04 hrs, Volume= 0.217 af
Outflow = 3.67 cfs @ 12.04 hrs, Volume= 0.217 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2b: Design Point 2b

Inflow Area = 26.045 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 22.11 cfs @ 12.13 hrs, Volume= 1.754 af
Outflow = 22.11 cfs @ 12.13 hrs, Volume= 1.754 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point-3

Inflow Area = 14.747 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 12.91 cfs @ 12.12 hrs, Volume= 0.993 af
Outflow = 12.91 cfs @ 12.12 hrs, Volume= 0.993 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point-4

Inflow Area = 23.614 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 18.66 cfs @ 12.16 hrs, Volume= 1.590 af
Outflow = 18.66 cfs @ 12.16 hrs, Volume= 1.590 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point-5

Inflow Area = 32.802 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 26.77 cfs @ 12.15 hrs, Volume= 2.209 af
Outflow = 26.77 cfs @ 12.15 hrs, Volume= 2.209 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point-6

Inflow Area = 3.345 ac, 0.00% Impervious, Inflow Depth = 0.76" for 1-Year event
Inflow = 3.65 cfs @ 12.03 hrs, Volume= 0.212 af
Outflow = 3.65 cfs @ 12.03 hrs, Volume= 0.212 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point-7

Inflow Area = 4.534 ac, 0.00% Impervious, Inflow Depth = 0.76" for 1-Year event
Inflow = 5.79 cfs @ 11.98 hrs, Volume= 0.287 af
Outflow = 5.79 cfs @ 11.98 hrs, Volume= 0.287 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point-8

Inflow Area = 41.932 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 34.51 cfs @ 12.15 hrs, Volume= 2.824 af
Outflow = 34.51 cfs @ 12.15 hrs, Volume= 2.824 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point-9

Inflow Area = 27.844 ac, 2.23% Impervious, Inflow Depth = 0.86" for 1-Year event
Inflow = 26.06 cfs @ 12.12 hrs, Volume= 1.989 af
Outflow = 26.06 cfs @ 12.12 hrs, Volume= 1.989 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP12: Design Point-12

Inflow Area = 15.706 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 7.64 cfs @ 12.44 hrs, Volume= 1.058 af
Outflow = 7.63 cfs @ 12.44 hrs, Volume= 1.058 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.86 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.68 fps, Avg. Travel Time= 0.1 min

Peak Storage= 11 cf @ 12.44 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 128.70 cfs

3.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.6 '/' Top Width= 7.80'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach R1.1: Mountain Stream

Inflow Area = 36.801 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 26.94 cfs @ 12.19 hrs, Volume= 2.478 af
Outflow = 26.53 cfs @ 12.23 hrs, Volume= 2.478 af, Atten= 2%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.38 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.88 fps, Avg. Travel Time= 3.5 min

Peak Storage= 1,958 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 639.78 cfs

5.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.7 '/' Top Width= 15.20'
Length= 610.0' Slope= 0.1475 '/'
Inlet Invert= 2,200.00', Outlet Invert= 2,110.00'

Summary for Reach R2.1: Stream

Inflow Area = 29.877 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 19.16 cfs @ 12.26 hrs, Volume= 2.012 af
Outflow = 18.95 cfs @ 12.29 hrs, Volume= 2.012 af, Atten= 1%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.12 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 3.11 fps, Avg. Travel Time= 3.6 min

Peak Storage= 1,423 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 256.33 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 680.0' Slope= 0.2412 '/'
Inlet Invert= 2,144.00', Outlet Invert= 1,980.00'

Summary for Pond 11.3R: DP-11.1

Inflow Area = 33.058 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 16.57 cfs @ 12.41 hrs, Volume= 2.226 af
Outflow = 16.56 cfs @ 12.42 hrs, Volume= 2.226 af, Atten= 0%, Lag= 0.2 min
Primary = 16.56 cfs @ 12.42 hrs, Volume= 2.226 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 2,411.00' @ 12.42 hrs Surf.Area= 310 sf Storage= 304 cf

Plug-Flow detention time= 0.7 min calculated for 2.225 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (902.7 - 901.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,410.00'	3,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,410.00	300	0	0
2,420.00	400	3,500	3,500

Device	Routing	Invert	Outlet Devices
#1	Primary	2,410.00'	**72.0" Round Culvert X 2.00** L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,410.00' / 2,394.00' S= 0.1333 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=16.49 cfs @ 12.42 hrs HW=2,410.99' (Free Discharge)
1=Culvert (Inlet Controls 16.49 cfs @ 2.68 fps)

Summary for Pond 11.7R: Culvert

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 54.17 cfs @ 12.30 hrs, Volume= 6.673 af
Outflow = 54.17 cfs @ 12.30 hrs, Volume= 6.673 af, Atten= 0%, Lag= 0.0 min
Primary = 54.17 cfs @ 12.30 hrs, Volume= 6.673 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,892.82' @ 12.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,890.00'	**48.0" Round Culvert** L= 45.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,890.00' / 1,888.00' S= 0.0444 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Primary	1,895.00'	**15.0' long x 35.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=54.10 cfs @ 12.30 hrs HW=1,892.82' (Free Discharge)
└**1=Culvert** (Inlet Controls 54.10 cfs @ 5.72 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 11.9R: Culvert

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 53.98 cfs @ 12.32 hrs, Volume= 6.673 af
Outflow = 53.78 cfs @ 12.32 hrs, Volume= 6.673 af, Atten= 0%, Lag= 0.3 min
Primary = 53.78 cfs @ 12.32 hrs, Volume= 6.673 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,775.04' @ 12.32 hrs Surf.Area= 882 sf Storage= 1,718 cf

Plug-Flow detention time= 1.2 min calculated for 6.670 af (100% of inflow)
Center-of-Mass det. time= 1.3 min (903.0 - 901.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,773.00'	10,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,773.00	800	0	0
1,783.00	1,200	10,000	10,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,773.00'	**60.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,773.00' / 1,767.00' S= 0.0667 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Primary	1,773.00'	**48.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,773.00' / 1,770.00' S= 0.0333 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=53.41 cfs @ 12.32 hrs HW=1,775.03' (Free Discharge)
└**1=Culvert** (Inlet Controls 28.78 cfs @ 3.83 fps)
└**2=Culvert** (Inlet Controls 24.63 cfs @ 3.83 fps)

Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: Area-1.1 Runoff Area=1,603,065 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=3,105' Tc=23.4 min CN=72 Runoff=80.66 cfs 6.740 af

Subcatchment1.2S: Area-1.2 Runoff Area=814,865 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=2,865' Tc=19.1 min CN=73 Runoff=48.13 cfs 3.555 af

Subcatchment1.3S: Area-1.3 Runoff Area=689,011 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,795' Tc=27.3 min CN=72 Runoff=31.42 cfs 2.897 af

Subcatchment2.2S: Downstream Area Runoff Area=1,062,635 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,280' Tc=22.5 min CN=72 Runoff=54.79 cfs 4.468 af

Subcatchment2aS: Area 2a Runoff Area=140,195 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=555' Tc=10.5 min CN=72 Runoff=10.51 cfs 0.589 af

Subcatchment2bS: Area 2b Runoff Area=1,134,520 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,290' Tc=18.5 min CN=72 Runoff=65.57 cfs 4.770 af

Subcatchment2S: Area-2 Runoff Area=1,301,430 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,860' Tc=28.5 min CN=72 Runoff=57.69 cfs 5.472 af

Subcatchment3S: Area-3 Runoff Area=642,385 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,185' Tc=17.7 min CN=72 Runoff=38.06 cfs 2.701 af

Subcatchment4S: Area-4 Runoff Area=1,028,610 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,755' Tc=20.9 min CN=72 Runoff=55.40 cfs 4.325 af

Subcatchment5S: Area-5 Runoff Area=1,428,845 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,625' Tc=19.8 min CN=72 Runoff=79.27 cfs 6.008 af

Subcatchment6S: Area-6 Runoff Area=145,690 sf 0.00% Impervious Runoff Depth=2.12"
Flow Length=510' Tc=9.6 min CN=71 Runoff=10.87 cfs 0.590 af

Subcatchment7S: Area-7 Runoff Area=197,522 sf 0.00% Impervious Runoff Depth=2.12"
Flow Length=408' Tc=5.9 min CN=71 Runoff=16.61 cfs 0.800 af

Subcatchment8.1S: Area-8 Runoff Area=649,150 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,705' Tc=16.1 min CN=72 Runoff=40.39 cfs 2.729 af

Subcatchment8.2S: Area-8.2 Runoff Area=1,177,420 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,880' Tc=18.8 min CN=72 Runoff=67.45 cfs 4.951 af

Subcatchment9S: Area-9 Runoff Area=1,212,872 sf 2.23% Impervious Runoff Depth=2.28"
Flow Length=1,705' Tc=17.9 min CN=73 Runoff=74.27 cfs 5.291 af

Subcatchment11.1S: Area-11.1 Runoff Area=1,023,137 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,640' Tc=26.8 min CN=72 Runoff=47.26 cfs 4.302 af

Subcatchment11.2S: Area-11.2 Runoff Area=1,440,006 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,720' Tc=40.3 min CN=72 Runoff=50.41 cfs 6.055 af

Subcatchment11.3S: Area-11.3 Runoff Area=2,860,947 sf 8.99% Impervious Runoff Depth=2.45"
Flow Length=5,405' Tc=32.9 min CN=75 Runoff=129.99 cfs 13.405 af

Subcatchment11.4S: Area-11.4 Runoff Area=922,517 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,606' Tc=21.9 min CN=72 Runoff=48.35 cfs 3.879 af

Subcatchment11.6S: Area-11.6 Runoff Area=316,135 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=1,490' Tc=15.2 min CN=74 Runoff=21.82 cfs 1.430 af

Subcatchment11.7S: Area-11.7 Runoff Area=384,600 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,793' Tc=21.1 min CN=72 Runoff=20.59 cfs 1.617 af

Subcatchment11.8S: Area-11.8 Runoff Area=90,160 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=750' Tc=11.9 min CN=72 Runoff=6.46 cfs 0.379 af

Subcatchment11.9S: Area-11.9 Runoff Area=89,354 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=1,084' Tc=18.0 min CN=74 Runoff=5.67 cfs 0.404 af

Subcatchment12.1S: Area-12.1 Runoff Area=684,140 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,995' Tc=42.0 min CN=72 Runoff=23.23 cfs 2.877 af

Reach 8.1R: Mountain stream Avg. Flow Depth=1.18' Max Vel=13.31 fps Inflow=67.45 cfs 4.951 af
n=0.040 L=850.0' S=0.1906 '/' Capacity=193.86 cfs Outflow=66.14 cfs 4.951 af

Reach 11.10R: Mountain stream Avg. Flow Depth=0.61' Max Vel=10.81 fps Inflow=166.49 cfs 18.066 af
n=0.040 L=393.0' S=0.1730 '/' Capacity=3,320.07 cfs Outflow=165.47 cfs 18.066 af

Reach 11.1aR: Mountain stream-DP Avg. Flow Depth=0.96' Max Vel=10.92 fps Inflow=66.06 cfs 5.309 af
n=0.040 L=950.0' S=0.1884 '/' Capacity=186.80 cfs Outflow=64.77 cfs 5.309 af

Reach 11.1R: Mountain stream-DP 11.6 Avg. Flow Depth=0.85' Max Vel=9.79 fps Inflow=48.35 cfs 3.879 af
n=0.040 L=310.0' S=0.1742 '/' Capacity=179.61 cfs Outflow=47.94 cfs 3.879 af

Reach 11.3aR: Bouldery stream Avg. Flow Depth=0.52' Max Vel=11.29 fps Inflow=50.40 cfs 6.055 af
n=0.050 L=142.0' S=0.4014 '/' Capacity=748.92 cfs Outflow=50.33 cfs 6.055 af

Reach 11.4aR: DP11.3 Avg. Flow Depth=0.77' Max Vel=12.92 fps Inflow=91.82 cfs 10.736 af
n=0.050 L=220.0' S=0.3636 '/' Capacity=858.32 cfs Outflow=91.66 cfs 10.736 af

Reach 11.4bR: DP11.4 Avg. Flow Depth=0.71' Max Vel=10.47 fps Inflow=20.59 cfs 1.617 af
n=0.040 L=145.0' S=0.2621 '/' Capacity=231.18 cfs Outflow=20.52 cfs 1.617 af

Reach 11.4R: DP-11.2 Avg. Flow Depth=0.96' Max Vel=9.46 fps Inflow=90.47 cfs 10.357 af
n=0.050 L=267.0' S=0.1498 '/' Capacity=558.40 cfs Outflow=90.23 cfs 10.357 af

Reach 11.5aR: DP11.5 Avg. Flow Depth=0.40' Max Vel=7.11 fps Inflow=5.67 cfs 0.404 af
n=0.040 L=620.0' S=0.2323 '/' Capacity=217.63 cfs Outflow=5.52 cfs 0.404 af

Reach 11.5R: Mountain stream Avg. Flow Depth=0.59' Max Vel=11.80 fps Inflow=106.86 cfs 12.354 af
n=0.040 L=455.0' S=0.2242 '/' Capacity=3,678.81 cfs Outflow=106.36 cfs 12.354 af

Reach 11.6aR: Mountain stream Avg. Flow Depth=0.91' Max Vel=15.68 fps Inflow=167.92 cfs 18.067 af
n=0.050 L=245.0' S=0.4000 '/' Capacity=3,987.80 cfs Outflow=167.62 cfs 18.067 af

Reach 11.6R: Mountain stream Avg. Flow Depth=0.81' Max Vel=11.65 fps Inflow=110.40 cfs 12.758 af
n=0.050 L=475.0' S=0.2505 '/' Capacity=3,155.95 cfs Outflow=109.89 cfs 12.758 af

Reach 11.8R: Mountain stream Avg. Flow Depth=0.79' Max Vel=13.43 fps Inflow=167.62 cfs 18.067 af
n=0.050 L=360.0' S=0.3139 '/' Capacity=13,400.37 cfs Outflow=167.13 cfs 18.067 af

Reach 14R: Donwstream Analysis Inflow=108.00 cfs 9.940 af
Outflow=108.00 cfs 9.940 af

Reach DP-1: Design Point-1 Avg. Flow Depth=1.13' Max Vel=13.43 fps Inflow=124.10 cfs 10.295 af
n=0.040 L=10.0' S=0.1500 '/' Capacity=670.80 cfs Outflow=124.08 cfs 10.295 af

Reach DP-11: Design Point-11 Inflow=295.46 cfs 31.472 af
Outflow=295.46 cfs 31.472 af

Reach DP-1a: Design Point-1a Avg. Flow Depth=0.73' Max Vel=7.20 fps Inflow=31.42 cfs 2.897 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=97.10 cfs Outflow=31.41 cfs 2.897 af

Reach DP-2: Design Point-2 Avg. Flow Depth=0.84' Max Vel=12.62 fps Inflow=57.69 cfs 5.472 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=233.42 cfs Outflow=57.68 cfs 5.472 af

Reach DP-2a: Design Point 2a Inflow=10.51 cfs 0.589 af
Outflow=10.51 cfs 0.589 af

Reach DP-2b: Design Point 2b Inflow=65.57 cfs 4.770 af
Outflow=65.57 cfs 4.770 af

Reach DP-3: Design Point-3 Inflow=38.06 cfs 2.701 af
Outflow=38.06 cfs 2.701 af

Reach DP-4: Design Point-4 Inflow=55.40 cfs 4.325 af
Outflow=55.40 cfs 4.325 af

Reach DP-5: Design Point-5 Inflow=79.27 cfs 6.008 af
Outflow=79.27 cfs 6.008 af

Reach DP-6: Design Point-6 Inflow=10.87 cfs 0.590 af
Outflow=10.87 cfs 0.590 af

Reach DP-7: Design Point-7 Inflow=16.61 cfs 0.800 af
Outflow=16.61 cfs 0.800 af

Reach DP-8: Design Point-8 Inflow=103.65 cfs 7.680 af
Outflow=103.65 cfs 7.680 af

Reach DP-9: Design Point-9 Inflow=74.27 cfs 5.291 af
Outflow=74.27 cfs 5.291 af

Reach DP12: Design Point-12 Avg. Flow Depth=0.60' Max Vel=9.77 fps Inflow=23.23 cfs 2.877 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=128.70 cfs Outflow=23.22 cfs 2.877 af

Reach R1.1: Mountain Stream Avg. Flow Depth=1.01' Max Vel=11.82 fps Inflow=80.66 cfs 6.740 af
n=0.040 L=610.0' S=0.1475 '/' Capacity=639.78 cfs Outflow=79.71 cfs 6.740 af

Reach R2.1: Stream Avg. Flow Depth=0.79' Max Vel=13.45 fps Inflow=57.68 cfs 5.472 af
n=0.040 L=680.0' S=0.2412 '/' Capacity=256.33 cfs Outflow=57.31 cfs 5.472 af

Pond 11.3R: DP-11.1 Peak Elev=2,411.78' Storage=550 cf Inflow=50.41 cfs 6.055 af
72.0" Round Culvert x 2.00 n=0.025 L=120.0' S=0.1333 '/' Outflow=50.40 cfs 6.055 af

Pond 11.7R: Culvert Peak Elev=1,896.09' Inflow=167.62 cfs 18.067 af
Outflow=167.62 cfs 18.067 af

Pond 11.9R: Culvert Peak Elev=1,777.17' Storage=3,686 cf Inflow=167.13 cfs 18.067 af
Outflow=166.49 cfs 18.066 af

Total Runoff Area = 482.994 ac Runoff Volume = 90.235 af Average Runoff Depth = 2.24"
98.65% Pervious = 476.467 ac 1.35% Impervious = 6.527 ac

Summary for Subcatchment 1.1S: Area-1.1

Runoff = 80.66 cfs @ 12.17 hrs, Volume= 6.740 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,590,610	72	Woods/grass comb., Good, HSG C
12,455	79	Woods/grass comb., Good, HSG D
1,603,065	72	Weighted Average
1,603,065		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	150	0.1200	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.4	1,350	0.3700	3.04		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.4	545	0.2000	24.25	698.34	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=4.50' D=3.00' Z= 1.7 '/' Top.W=14.70' n= 0.040 Mountain streams
0.6	1,060	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00' n= 0.040 Mountain streams
23.4	3,105	Total			

Summary for Subcatchment 1.2S: Area-1.2

Runoff = 48.13 cfs @ 12.12 hrs, Volume= 3.555 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
705,185	72	Woods/grass comb., Good, HSG C
109,680	79	Woods/grass comb., Good, HSG D
814,865	73	Weighted Average
814,865		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	150	0.5000	0.30		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	1,600	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.6	540	0.1800	15.23	141.68	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=5.00' D=1.33' Z= 1.5 '/' Top.W=8.99' n= 0.040 Mountain streams
0.6	575	0.0950	16.94	513.38	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=5.00' D=3.00' Z= 1.7 '/' Top.W=15.20'

n= 0.040 Mountain streams

19.1	2,865	Total

Summary for Subcatchment 1.3S: Area-1.3

Runoff = 31.42 cfs @ 12.22 hrs, Volume= 2.897 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
662,456	72	Woods/grass comb., Good, HSG C
26,555	79	Woods/grass comb., Good, HSG D
689,011	72	Weighted Average
689,011		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	150	0.3300	0.25		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
10.9	1,965	0.3600	3.00		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
3.0	140	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
3.0	370	0.1700	2.06		**Shallow Concentrated Flow, shallow concentrated flow: woods** Woodland Kv= 5.0 fps
0.4	170	0.1000	6.67	37.22	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=3.00' D=0.70' Z= 7.1 '/' Top.W=12.94' n= 0.040 Mountain streams
27.3	2,795	Total			

Summary for Subcatchment 2.2S: Downstream Area for Additional Analysis

Runoff = 54.79 cfs @ 12.16 hrs, Volume= 4.468 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
7,495	79	Woods/grass comb., Good, HSG D
1,055,140	72	Woods/grass comb., Good, HSG C
1,062,635	72	Weighted Average
1,062,635		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	150	0.5530	0.31		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
14.4	2,130	0.2430	2.46		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.5	2,280	Total			

Summary for Subcatchment 2aS: Area 2a

Runoff = 10.51 cfs @ 12.03 hrs, Volume= 0.589 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
132,700	72	Woods/grass comb., Good, HSG C
7,495	79	Woods/grass comb., Good, HSG D
140,195	72	Weighted Average
140,195		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	150	0.0860	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.7	405	0.1230	2.45		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	555	Total			

Summary for Subcatchment 2bS: Area 2b

Runoff = 65.57 cfs @ 12.12 hrs, Volume= 4.770 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,134,520	72	Woods/grass comb., Good, HSG C
1,134,520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.2800	0.23		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.8	1,140	0.2350	2.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.5	1,290	Total			

Summary for Subcatchment 2S: Area-2

Runoff = 57.69 cfs @ 12.23 hrs, Volume= 5.472 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,247,390	72	Woods/grass comb., Good, HSG C
54,040	79	Woods/grass comb., Good, HSG D
1,301,430	72	Weighted Average
1,301,430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	150	0.1467	0.18		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	1,360	0.3456	2.94		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.7	270	0.1600	6.00		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Grassed Waterway Kv= 15.0 fps
4.5	630	0.2200	2.35		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.3	175	0.1040	2.26		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.4	275	0.2100	12.35	49.41	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
28.5	2,860	Total			

Summary for Subcatchment 3S: Area-3

Runoff = 38.06 cfs @ 12.11 hrs, Volume= 2.701 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
636,540	72	Woods/grass comb., Good, HSG C
5,845	79	Woods/grass comb., Good, HSG D
642,385	72	Weighted Average
642,385		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	150	0.2200	0.32		**Sheet Flow, Sheet flow: meadow** Grass: Dense n= 0.240 P2= 3.00"
5.1	900	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated : woods** Woodland Kv= 5.0 fps
2.5	535	0.2500	3.50		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.1	400	0.4000	3.16		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.2	200	0.2000	18.83	84.73	**Trap/Vee/Rect Channel Flow, DITCH** Bot.W=1.50' D=1.50' Z= 1.0 '/' Top.W=4.50' n= 0.030 Earth, grassed & winding
17.7	2,185	Total			

Summary for Subcatchment 4S: Area-4

Runoff = 55.40 cfs @ 12.14 hrs, Volume= 4.325 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
537,225	72	Woods/grass comb., Good, HSG C
491,385	72	Woods/grass comb., Good, HSG C
1,028,610	72	Weighted Average
1,028,610		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	150	0.2700	0.35		**Sheet Flow, meadow** Grass: Dense n= 0.240 P2= 3.00"
2.6	520	0.2200	3.28		**Shallow Concentrated Flow, meadow** Short Grass Pasture Kv= 7.0 fps
10.9	1,885	0.3300	2.87		**Shallow Concentrated Flow, WOODS/MEADOW** Woodland Kv= 5.0 fps
0.2	200	0.2000	17.67	211.99	**Trap/Vee/Rect Channel Flow, EX DITCH** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
20.9	2,755	Total			

Summary for Subcatchment 5S: Area-5

Runoff = 79.27 cfs @ 12.13 hrs, Volume= 6.008 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,375,930	72	Woods/grass comb., Good, HSG C
52,915	79	Woods/grass comb., Good, HSG D
1,428,845	72	Weighted Average
1,428,845		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	150	0.3800	0.26		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
9.5	1,640	0.3300	2.87		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.9	835	0.1500	15.66	203.63	**Trap/Vee/Rect Channel Flow,** Bot.W=2.50' D=2.00' Z= 2.0 '/' Top.W=10.50' n= 0.040 Earth, cobble bottom, clean sides
19.8	2,625	Total			

Summary for Subcatchment 6S: Area-6

Runoff = 10.87 cfs @ 12.01 hrs, Volume= 0.590 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
145,690	71	Meadow, non-grazed, HSG C
145,690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	130	0.1600	0.27		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
0.4	130	0.1500	5.81		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Grassed Waterway Kv= 15.0 fps
1.3	250	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
9.6	510	Total			

Summary for Subcatchment 7S: Area-7

Runoff = 16.61 cfs @ 11.97 hrs, Volume= 0.800 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
197,522	71	Meadow, non-grazed, HSG C
197,522		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	58	0.1800	0.24		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
1.9	350	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.9	408	Total			

Summary for Subcatchment 8.1S: Area-8

Runoff = 40.39 cfs @ 12.09 hrs, Volume= 2.729 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
637,884	72	Woods/grass comb., Good, HSG C
11,266	79	Woods/grass comb., Good, HSG D
649,150	72	Weighted Average
649,150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	235	0.1900	3.05		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
1.8	1,320	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
16.1	1,705	Total			

Summary for Subcatchment 8.2S: Area-8.2

Runoff = 67.45 cfs @ 12.12 hrs, Volume= 4.951 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,158,336	72	Woods/grass comb., Good, HSG C
19,084	79	Woods/grass comb., Good, HSG D
1,177,420	72	Weighted Average
1,177,420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	150	0.2400	0.22		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
6.5	1,135	0.3400	2.92		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.9	595	0.0780	11.03	132.39	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
18.8	1,880	Total			

Summary for Subcatchment 9S: Area-9

Runoff = 74.27 cfs @ 12.11 hrs, Volume= 5.291 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
16,935	98	Paved parking, HSG C
10,120	98	Roofs, HSG C
1,179,597	72	Woods/grass comb., Good, HSG C
6,220	79	Woods/grass comb., Good, HSG D
1,212,872	73	Weighted Average
1,185,817		97.77% Pervious Area
27,055		2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	150	0.2900	0.24		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.9	170	0.4000	3.16		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
6.5	1,385	0.2600	3.57		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
17.9	1,705	Total			

Summary for Subcatchment 11.1S: Area-11.1

Runoff = 47.26 cfs @ 12.21 hrs, Volume= 4.302 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,023,137	72	Woods/grass comb., Good, HSG C
1,023,137		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	150	0.1800	0.20		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	200	0.2500	2.50		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
2.3	410	0.1800	2.97		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.1	1,358	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
2.3	380	0.1600	2.80		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.1	142	0.4000	36.21	2,230.45	**Trap/Vee/Rect Channel Flow,** Bot.W=15.00' D=4.00' Z= 0.1 '/' Top.W=15.80' n= 0.050 Mountain streams w/large boulders
26.8	2,640	Total			

Summary for Subcatchment 11.2S: Area-11.2

Runoff = 50.41 cfs @ 12.38 hrs, Volume= 6.055 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,420,796	72	Woods/grass comb., Good, HSG C
19,210	79	Woods/grass comb., Good, HSG D
1,440,006	72	Weighted Average
1,440,006		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.8	150	0.0933	0.09		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.8	500	0.0960	2.17		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.3	885	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	355	0.2817	3.72		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.8	830	0.2600	17.15	128.61	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Mountain streams
40.3	2,720	Total			

Summary for Subcatchment 11.3S: Area-11.3

Runoff = 129.99 cfs @ 12.28 hrs, Volume= 13.405 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
2,449,548	72	Woods/grass comb., Good, HSG C
80,446	74	>75% Grass cover, Good, HSG C
257,243	98	Paved parking & roofs
73,710	79	Woods/grass comb., Good, HSG D
2,860,947	75	Weighted Average
2,603,704		91.01% Pervious Area
257,243		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	150	0.1133	0.25		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
4.3	963	0.2800	3.70		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.9	1,412	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.8	127	0.1500	2.71		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.8	450	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.0	395	0.0250	2.17	23.92	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.070 Sluggish weedy reaches w/pools
0.8	300	0.0250	5.95	71.40	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.040 Winding stream, pools & shoals
1.2	720	0.0250	9.97	996.95	**Trap/Vee/Rect Channel Flow, stream** Bot.W=10.00' D=5.00' Z= 2.0 '/' Top.W=30.00' n= 0.050 Mountain streams w/large boulders
0.1	45	0.0500	13.29	167.02	**Pipe Channel, culvert** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.025 Corrugated metal
0.1	360	0.3100	53.27	13,317.10	**Trap/Vee/Rect Channel Flow, stream** Bot.W=15.00' D=10.00' Z= 1.0 '/' Top.W=35.00' n= 0.050 Mountain streams w/large boulders
0.1	90	0.0500	19.28	378.54	**Pipe Channel, culvert** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.020 Corrugated PE, corrugated interior
0.6	393	0.0280	10.52	1,068.46	**Trap/Vee/Rect Channel Flow,** Bot.W=25.00' D=4.00' Z= 0.1 '/' Top.W=25.80' n= 0.050 Mountain streams w/large boulders
32.9	5,405	Total			

Summary for Subcatchment 11.4S: Area-11.4

Runoff = 48.35 cfs @ 12.16 hrs, Volume= 3.879 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
886,711	72	Woods/grass comb., Good, HSG C
35,806	79	Woods/grass comb., Good, HSG D
922,517	72	Weighted Average
922,517		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	150	0.3200	0.25		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	255	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated:ski trail** Short Grass Pasture Kv= 7.0 fps
2.9	516	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated:woods** Woodland Kv= 5.0 fps
0.7	130	0.1800	2.97		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
6.3	1,055	0.3100	2.78		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	500	0.2300	15.72	206.39	**Trap/Vee/Rect Channel Flow, stream** Bot.W=2.00' D=1.50' Z= 4.5 '/' Top.W=15.50' n= 0.040 Mountain streams
21.9	2,606	Total			

Summary for Subcatchment 11.6S: Area-11.6

Runoff = 21.82 cfs @ 12.08 hrs, Volume= 1.430 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
239,255	72	Woods/grass comb., Good, HSG C
76,880	79	Woods/grass comb., Good, HSG D
316,135	74	Weighted Average
316,135		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	50	0.1700	0.34		**Sheet Flow, Sheet flow** Grass: Short n= 0.150 P2= 3.00"
3.8	50	0.4000	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
4.1	720	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.3	140	0.1200	1.73		**Shallow Concentrated Flow, Shallow concentrated: Wetland** Woodland Kv= 5.0 fps
3.5	530	0.2600	2.55		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
15.2	1,490	Total			

Summary for Subcatchment 11.7S: Area-11.7

Runoff = 20.59 cfs @ 12.15 hrs, Volume= 1.617 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
360,740	72	Woods/grass comb., Good, HSG C
23,860	79	Woods/grass comb., Good, HSG D
384,600	72	Weighted Average
384,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	360	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.0	200	0.2200	3.28		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
4.6	723	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	360	0.2300	11.54	126.95	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Mountain streams
21.1	1,793	Total			

Summary for Subcatchment 11.8S: Area-11.8

Runoff = 6.46 cfs @ 12.04 hrs, Volume= 0.379 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
88,780	72	Woods/grass comb., Good, HSG C
1,380	79	Woods/grass comb., Good, HSG D
90,160	72	Weighted Average
90,160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	150	0.1800	0.30		**Sheet Flow, Sheet flow: Woods** Grass: Dense n= 0.240 P2= 3.00"
3.3	500	0.2500	2.50		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	100	0.2500	12.03	132.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Winding stream, pools & shoals
11.9	750	Total			

Summary for Subcatchment 11.9S: Area-11.9

Runoff = 5.67 cfs @ 12.11 hrs, Volume= 0.404 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
69,494	72	Woods/grass comb., Good, HSG C
19,860	79	Woods/grass comb., Good, HSG D
89,354	74	Weighted Average
89,354		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
4.9	836	0.3300	2.87		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	98	0.2300	11.54	126.95	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Mountain streams
18.0	1,084	Total			

Summary for Subcatchment 12.1S: Area-12.1

Runoff = 23.23 cfs @ 12.41 hrs, Volume= 2.877 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
14,955	79	Woods/grass comb., Good, HSG D
669,185	72	Woods/grass comb., Good, HSG C
684,140	72	Weighted Average
684,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	150	0.1600	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
28.3	1,610	0.0360	0.95		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	235	0.1600	14.19	118.17	**Trap/Vee/Rect Channel Flow, stream/wetland** Bot.W=3.00' D=1.50' Z= 1.7 '/' Top.W=8.10' n= 0.040 Mountain streams
42.0	1,995	Total			

Summary for Reach 8.1R: Mountain stream

Inflow Area = 27.030 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 67.45 cfs @ 12.12 hrs, Volume= 4.951 af
Outflow = 66.14 cfs @ 12.15 hrs, Volume= 4.951 af, Atten= 2%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.31 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 4.32 fps, Avg. Travel Time= 3.3 min

Peak Storage= 4,274 cf @ 12.13 hrs
Average Depth at Peak Storage= 1.18'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 193.86 cfs

2.50' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.5 '/' Top Width= 8.50'
Length= 850.0' Slope= 0.1906 '/'
Inlet Invert= 1,816.00', Outlet Invert= 1,654.00'

Summary for Reach 11.10R: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 166.49 cfs @ 12.27 hrs, Volume= 18.066 af
Outflow = 165.47 cfs @ 12.28 hrs, Volume= 18.066 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.81 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 3.23 fps, Avg. Travel Time= 2.0 min

Peak Storage= 6,042 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.61'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 3,320.07 cfs

25.00' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.1 '/' Top Width= 25.80'
Length= 393.0' Slope= 0.1730 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,700.00'

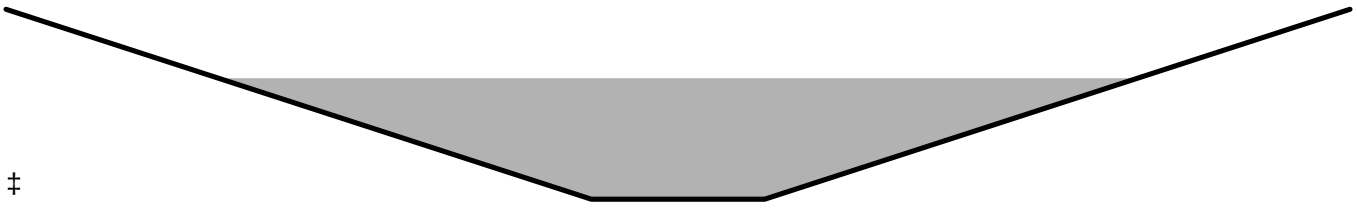
Summary for Reach 11.1aR: Mountain stream-DP 11.7

Inflow Area = 28.436 ac, 0.00% Impervious, Inflow Depth = 2.24" for 10-Year event
Inflow = 66.06 cfs @ 12.14 hrs, Volume= 5.309 af
Outflow = 64.77 cfs @ 12.18 hrs, Volume= 5.309 af, Atten= 2%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.92 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 3.89 fps, Avg. Travel Time= 4.1 min

Peak Storage= 5,722 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.96'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 186.80 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 950.0' Slope= 0.1884 '/'
Inlet Invert= 2,169.00', Outlet Invert= 1,990.00'



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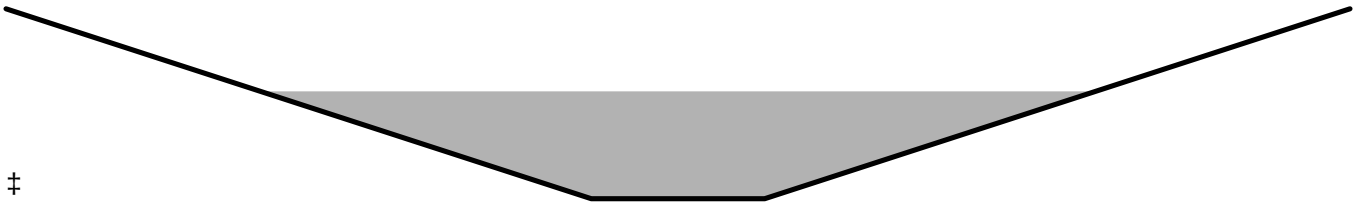
Summary for Reach 11.1R: Mountain stream-DP 11.6

Inflow Area = 21.178 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 48.35 cfs @ 12.16 hrs, Volume= 3.879 af
Outflow = 47.94 cfs @ 12.17 hrs, Volume= 3.879 af, Atten= 1%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.79 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 3.70 fps, Avg. Travel Time= 1.4 min

Peak Storage= 1,529 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.85'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 179.61 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 310.0' Slope= 0.1742 '/'
Inlet Invert= 2,224.00', Outlet Invert= 2,170.00'



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Summary for Reach 11.3aR: Bouldery stream

Inflow Area = 33.058 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 50.40 cfs @ 12.39 hrs, Volume= 6.055 af
Outflow = 50.33 cfs @ 12.39 hrs, Volume= 6.055 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.29 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.68 fps, Avg. Travel Time= 0.6 min

Peak Storage= 634 cf @ 12.39 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 748.92 cfs

8.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.2 '/' Top Width= 14.00'
Length= 142.0' Slope= 0.4014 '/'
Inlet Invert= 2,390.00', Outlet Invert= 2,333.00'

Summary for Reach 11.4aR: DP11.3

Inflow Area = 58.616 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 91.82 cfs @ 12.30 hrs, Volume= 10.736 af
Outflow = 91.66 cfs @ 12.31 hrs, Volume= 10.736 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.92 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 4.40 fps, Avg. Travel Time= 0.8 min

Peak Storage= 1,563 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.77'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 858.32 cfs

7.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.00'
Length= 220.0' Slope= 0.3636 '/'
Inlet Invert= 2,292.00', Outlet Invert= 2,212.00'

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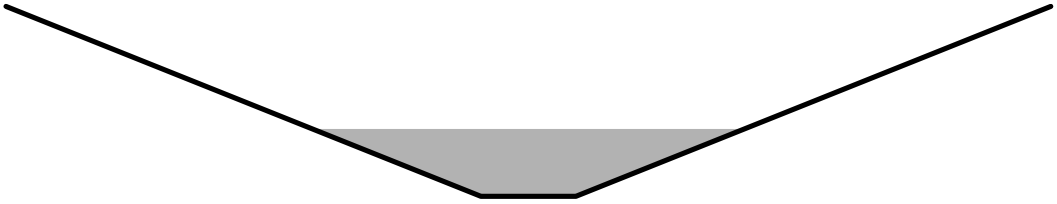
Summary for Reach 11.4bR: DP11.4

Inflow Area = 8.829 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 20.59 cfs @ 12.15 hrs, Volume= 1.617 af
Outflow = 20.52 cfs @ 12.15 hrs, Volume= 1.617 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.47 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 4.01 fps, Avg. Travel Time= 0.6 min

Peak Storage= 285 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.71'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 231.18 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 145.0' Slope= 0.2621 '/'
Inlet Invert= 2,250.00', Outlet Invert= 2,212.00'



Summary for Reach 11.4R: DP-11.2

Inflow Area = 56.546 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 90.47 cfs @ 12.29 hrs, Volume= 10.357 af
Outflow = 90.23 cfs @ 12.30 hrs, Volume= 10.357 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.46 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 3.21 fps, Avg. Travel Time= 1.4 min

Peak Storage= 2,554 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.96'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 558.40 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.6 '/' Top Width= 20.50'
Length= 267.0' Slope= 0.1498 '/'
Inlet Invert= 2,332.00', Outlet Invert= 2,292.00'

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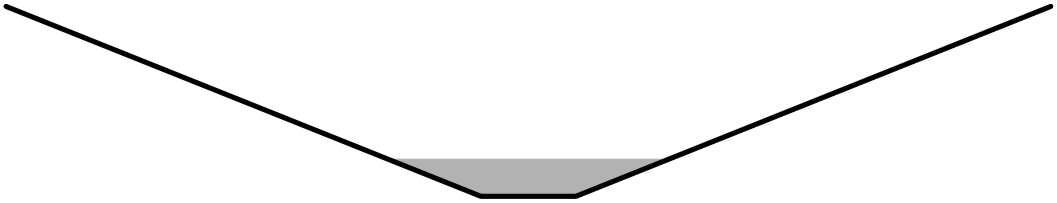
Summary for Reach 11.5aR: DP11.5

Inflow Area = 2.051 ac, 0.00% Impervious, Inflow Depth = 2.36" for 10-Year event
Inflow = 5.67 cfs @ 12.11 hrs, Volume= 0.404 af
Outflow = 5.52 cfs @ 12.15 hrs, Volume= 0.404 af, Atten= 3%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.11 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 2.48 fps, Avg. Travel Time= 4.2 min

Peak Storage= 487 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 217.63 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 620.0' Slope= 0.2323 '/'
Inlet Invert= 2,254.00', Outlet Invert= 2,110.00'



Summary for Reach 11.5R: Mountain stream

Inflow Area = 67.445 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 106.86 cfs @ 12.27 hrs, Volume= 12.354 af
Outflow = 106.36 cfs @ 12.29 hrs, Volume= 12.354 af, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.80 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 3.84 fps, Avg. Travel Time= 2.0 min

Peak Storage= 4,113 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,678.81 cfs

15.00' x 5.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.7 '/' Top Width= 22.00'
Length= 455.0' Slope= 0.2242 '/'
Inlet Invert= 2,212.00', Outlet Invert= 2,110.00'

Summary for Reach 11.6aR: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 167.92 cfs @ 12.24 hrs, Volume= 18.067 af
Outflow = 167.62 cfs @ 12.25 hrs, Volume= 18.067 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.68 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 5.01 fps, Avg. Travel Time= 0.8 min

Peak Storage= 2,624 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.91'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,987.80 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 245.0' Slope= 0.4000 '/'
Inlet Invert= 1,990.00', Outlet Invert= 1,892.00'

Summary for Reach 11.6R: Mountain stream

Inflow Area = 69.496 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 110.40 cfs @ 12.27 hrs, Volume= 12.758 af
Outflow = 109.89 cfs @ 12.30 hrs, Volume= 12.758 af, Atten= 0%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.65 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 3.83 fps, Avg. Travel Time= 2.1 min

Peak Storage= 4,492 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.81'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,155.95 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 475.0' Slope= 0.2505 '/'
Inlet Invert= 2,109.00', Outlet Invert= 1,990.00'

Summary for Reach 11.8R: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 167.62 cfs @ 12.25 hrs, Volume= 18.067 af
Outflow = 167.13 cfs @ 12.26 hrs, Volume= 18.067 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.43 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 4.51 fps, Avg. Travel Time= 1.3 min

Peak Storage= 4,492 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 13,400.37 cfs

15.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 35.00'
Length= 360.0' Slope= 0.3139 '/'
Inlet Invert= 1,887.00', Outlet Invert= 1,774.00'

Summary for Reach 14R: Donwstream Analysis

Inflow Area = 54.271 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 108.00 cfs @ 12.21 hrs, Volume= 9.940 af
Outflow = 108.00 cfs @ 12.21 hrs, Volume= 9.940 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1: Design Point-1

Inflow Area = 55.508 ac, 0.00% Impervious, Inflow Depth = 2.23" for 10-Year event
Inflow = 124.10 cfs @ 12.17 hrs, Volume= 10.295 af
Outflow = 124.08 cfs @ 12.17 hrs, Volume= 10.295 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.43 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.93 fps, Avg. Travel Time= 0.0 min

Peak Storage= 92 cf @ 12.17 hrs
Average Depth at Peak Storage= 1.13'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 670.80 cfs

7.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1500 '/'
Inlet Invert= 0.00', Outlet Invert= -1.50'

Summary for Reach DP-11: Design Point-11

Inflow Area = 163.610 ac, 3.61% Impervious, Inflow Depth = 2.31" for 10-Year event
Inflow = 295.46 cfs @ 12.28 hrs, Volume= 31.472 af
Outflow = 295.46 cfs @ 12.28 hrs, Volume= 31.472 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1a: Design Point-1a

Inflow Area = 15.818 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 31.42 cfs @ 12.22 hrs, Volume= 2.897 af
Outflow = 31.41 cfs @ 12.22 hrs, Volume= 2.897 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.20 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.63 fps, Avg. Travel Time= 0.1 min

Peak Storage= 44 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.73'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 97.10 cfs

3.00' x 1.25' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

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Summary for Reach DP-2: Design Point-2

Inflow Area = 29.877 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 57.69 cfs @ 12.23 hrs, Volume= 5.472 af
Outflow = 57.68 cfs @ 12.24 hrs, Volume= 5.472 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.62 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.90 fps, Avg. Travel Time= 0.0 min

Peak Storage= 46 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.84'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 233.42 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-2a: Design Point 2a

Inflow Area = 3.218 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 10.51 cfs @ 12.03 hrs, Volume= 0.589 af
Outflow = 10.51 cfs @ 12.03 hrs, Volume= 0.589 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2b: Design Point 2b

Inflow Area = 26.045 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 65.57 cfs @ 12.12 hrs, Volume= 4.770 af
Outflow = 65.57 cfs @ 12.12 hrs, Volume= 4.770 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point-3

Inflow Area = 14.747 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 38.06 cfs @ 12.11 hrs, Volume= 2.701 af
Outflow = 38.06 cfs @ 12.11 hrs, Volume= 2.701 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point-4

Inflow Area = 23.614 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 55.40 cfs @ 12.14 hrs, Volume= 4.325 af
Outflow = 55.40 cfs @ 12.14 hrs, Volume= 4.325 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point-5

Inflow Area = 32.802 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 79.27 cfs @ 12.13 hrs, Volume= 6.008 af
Outflow = 79.27 cfs @ 12.13 hrs, Volume= 6.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point-6

Inflow Area = 3.345 ac, 0.00% Impervious, Inflow Depth = 2.12" for 10-Year event
Inflow = 10.87 cfs @ 12.01 hrs, Volume= 0.590 af
Outflow = 10.87 cfs @ 12.01 hrs, Volume= 0.590 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point-7

Inflow Area = 4.534 ac, 0.00% Impervious, Inflow Depth = 2.12" for 10-Year event
Inflow = 16.61 cfs @ 11.97 hrs, Volume= 0.800 af
Outflow = 16.61 cfs @ 11.97 hrs, Volume= 0.800 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point-8

Inflow Area = 41.932 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 103.65 cfs @ 12.12 hrs, Volume= 7.680 af
Outflow = 103.65 cfs @ 12.12 hrs, Volume= 7.680 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point-9

Inflow Area = 27.844 ac, 2.23% Impervious, Inflow Depth = 2.28" for 10-Year event
Inflow = 74.27 cfs @ 12.11 hrs, Volume= 5.291 af
Outflow = 74.27 cfs @ 12.11 hrs, Volume= 5.291 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP12: Design Point-12

Inflow Area = 15.706 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 23.23 cfs @ 12.41 hrs, Volume= 2.877 af
Outflow = 23.22 cfs @ 12.41 hrs, Volume= 2.877 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.77 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.47 fps, Avg. Travel Time= 0.0 min

Peak Storage= 24 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 128.70 cfs

3.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.6 '/' Top Width= 7.80'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach R1.1: Mountain Stream

Inflow Area = 36.801 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 80.66 cfs @ 12.17 hrs, Volume= 6.740 af
Outflow = 79.71 cfs @ 12.20 hrs, Volume= 6.740 af, Atten= 1%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.82 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 3.73 fps, Avg. Travel Time= 2.7 min

Peak Storage= 4,142 cf @ 12.18 hrs
Average Depth at Peak Storage= 1.01'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 639.78 cfs

5.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.7 '/' Top Width= 15.20'
Length= 610.0' Slope= 0.1475 '/'
Inlet Invert= 2,200.00', Outlet Invert= 2,110.00'

Summary for Reach R2.1: Stream

Inflow Area = 29.877 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 57.68 cfs @ 12.24 hrs, Volume= 5.472 af
Outflow = 57.31 cfs @ 12.26 hrs, Volume= 5.472 af, Atten= 1%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.45 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 4.07 fps, Avg. Travel Time= 2.8 min

Peak Storage= 2,916 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 256.33 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 680.0' Slope= 0.2412 '/'
Inlet Invert= 2,144.00', Outlet Invert= 1,980.00'

Summary for Pond 11.3R: DP-11.1

Inflow Area = 33.058 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 50.41 cfs @ 12.38 hrs, Volume= 6.055 af
Outflow = 50.40 cfs @ 12.39 hrs, Volume= 6.055 af, Atten= 0%, Lag= 0.1 min
Primary = 50.40 cfs @ 12.39 hrs, Volume= 6.055 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 2,411.78' @ 12.39 hrs Surf.Area= 318 sf Storage= 550 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.4 min (871.5 - 871.0)

Volume	Invert	Avail.Storage	Storage Description
#1	2,410.00'	3,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,410.00	300	0	0
2,420.00	400	3,500	3,500

Device	Routing	Invert	Outlet Devices
#1	Primary	2,410.00'	**72.0" Round Culvert X 2.00** L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,410.00' / 2,394.00' S= 0.1333 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=50.21 cfs @ 12.39 hrs HW=2,411.78' (Free Discharge)
1=Culvert (Inlet Controls 50.21 cfs @ 3.58 fps)

Summary for Pond 11.7R: Culvert

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 167.62 cfs @ 12.25 hrs, Volume= 18.067 af
Outflow = 167.62 cfs @ 12.25 hrs, Volume= 18.067 af, Atten= 0%, Lag= 0.0 min
Primary = 167.62 cfs @ 12.25 hrs, Volume= 18.067 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,896.09' @ 12.25 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,890.00'	**48.0" Round Culvert** L= 45.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,890.00' / 1,888.00' S= 0.0444 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Primary	1,895.00'	**15.0' long x 35.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=167.35 cfs @ 12.25 hrs HW=1,896.09' (Free Discharge)
└**1=Culvert** (Inlet Controls 122.37 cfs @ 9.74 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 44.98 cfs @ 2.75 fps)

Summary for Pond 11.9R: Culvert

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 167.13 cfs @ 12.26 hrs, Volume= 18.067 af
Outflow = 166.49 cfs @ 12.27 hrs, Volume= 18.066 af, Atten= 0%, Lag= 0.4 min
Primary = 166.49 cfs @ 12.27 hrs, Volume= 18.066 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,777.17' @ 12.27 hrs Surf.Area= 967 sf Storage= 3,686 cf

Plug-Flow detention time= 0.8 min calculated for 18.060 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (868.5 - 867.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,773.00'	10,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,773.00	800	0	0
1,783.00	1,200	10,000	10,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,773.00'	**60.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,773.00' / 1,767.00' S= 0.0667 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Primary	1,773.00'	**48.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,773.00' / 1,770.00' S= 0.0333 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=165.52 cfs @ 12.27 hrs HW=1,777.15' (Free Discharge)
└**1=Culvert** (Inlet Controls 95.45 cfs @ 5.48 fps)
└**2=Culvert** (Inlet Controls 70.07 cfs @ 5.58 fps)

Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: Area-1.1 Runoff Area=1,603,065 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=3,105' Tc=23.4 min CN=72 Runoff=158.50 cfs 13.060 af

Subcatchment1.2S: Area-1.2 Runoff Area=814,865 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=2,865' Tc=19.1 min CN=73 Runoff=92.84 cfs 6.812 af

Subcatchment1.3S: Area-1.3 Runoff Area=689,011 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,795' Tc=27.3 min CN=72 Runoff=61.91 cfs 5.613 af

Subcatchment2.2S: Downstream Area Runoff Area=1,062,635 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,280' Tc=22.5 min CN=72 Runoff=107.55 cfs 8.657 af

Subcatchment2aS: Area 2a Runoff Area=140,195 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=555' Tc=10.5 min CN=72 Runoff=20.30 cfs 1.142 af

Subcatchment2bS: Area 2b Runoff Area=1,134,520 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,290' Tc=18.5 min CN=72 Runoff=128.23 cfs 9.243 af

Subcatchment2S: Area-2 Runoff Area=1,301,430 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,860' Tc=28.5 min CN=72 Runoff=113.93 cfs 10.603 af

Subcatchment3S: Area-3 Runoff Area=642,385 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,185' Tc=17.7 min CN=72 Runoff=74.35 cfs 5.233 af

Subcatchment4S: Area-4 Runoff Area=1,028,610 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,755' Tc=20.9 min CN=72 Runoff=108.55 cfs 8.380 af

Subcatchment5S: Area-5 Runoff Area=1,428,845 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,625' Tc=19.8 min CN=72 Runoff=155.54 cfs 11.641 af

Subcatchment6S: Area-6 Runoff Area=145,690 sf 0.00% Impervious Runoff Depth=4.15"
Flow Length=510' Tc=9.6 min CN=71 Runoff=21.29 cfs 1.156 af

Subcatchment7S: Area-7 Runoff Area=197,522 sf 0.00% Impervious Runoff Depth=4.15"
Flow Length=408' Tc=5.9 min CN=71 Runoff=32.33 cfs 1.567 af

Subcatchment8.1S: Area-8 Runoff Area=649,150 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,705' Tc=16.1 min CN=72 Runoff=78.69 cfs 5.289 af

Subcatchment8.2S: Area-8.2 Runoff Area=1,177,420 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,880' Tc=18.8 min CN=72 Runoff=131.96 cfs 9.592 af

Subcatchment9S: Area-9 Runoff Area=1,212,872 sf 2.23% Impervious Runoff Depth=4.37"
Flow Length=1,705' Tc=17.9 min CN=73 Runoff=143.05 cfs 10.139 af

Subcatchment11.1S: Area-11.1 Runoff Area=1,023,137 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,640' Tc=26.8 min CN=72 Runoff=93.08 cfs 8.335 af

Subcatchment11.2S: Area-11.2 Runoff Area=1,440,006 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,720' Tc=40.3 min CN=72 Runoff=99.84 cfs 11.732 af

Subcatchment11.3S: Area-11.3 Runoff Area=2,860,947 sf 8.99% Impervious Runoff Depth=4.59"
Flow Length=5,405' Tc=32.9 min CN=75 Runoff=246.33 cfs 25.138 af

Subcatchment11.4S: Area-11.4 Runoff Area=922,517 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,606' Tc=21.9 min CN=72 Runoff=94.84 cfs 7.516 af

Subcatchment11.6S: Area-11.6 Runoff Area=316,135 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=1,490' Tc=15.2 min CN=74 Runoff=41.38 cfs 2.710 af

Subcatchment11.7S: Area-11.7 Runoff Area=384,600 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,793' Tc=21.1 min CN=72 Runoff=40.37 cfs 3.133 af

Subcatchment11.8S: Area-11.8 Runoff Area=90,160 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=750' Tc=11.9 min CN=72 Runoff=12.51 cfs 0.735 af

Subcatchment11.9S: Area-11.9 Runoff Area=89,354 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=1,084' Tc=18.0 min CN=74 Runoff=10.77 cfs 0.766 af

Subcatchment12.1S: Area-12.1 Runoff Area=684,140 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,995' Tc=42.0 min CN=72 Runoff=46.03 cfs 5.574 af

Reach 8.1R: Mountain stream Avg. Flow Depth=1.66' Max Vel=15.87 fps Inflow=131.96 cfs 9.592 af
n=0.040 L=850.0' S=0.1906 '/' Capacity=193.86 cfs Outflow=129.65 cfs 9.592 af

Reach 11.10R: Mountain stream Avg. Flow Depth=0.93' Max Vel=14.11 fps Inflow=330.89 cfs 34.927 af
n=0.040 L=393.0' S=0.1730 '/' Capacity=3,320.07 cfs Outflow=329.84 cfs 34.927 af

Reach 11.1aR: Mountain stream-DP Avg. Flow Depth=1.28' Max Vel=12.95 fps Inflow=129.11 cfs 10.226 af
n=0.040 L=950.0' S=0.1884 '/' Capacity=186.80 cfs Outflow=127.24 cfs 10.226 af

Reach 11.1R: Mountain stream-DP 11.6 Avg. Flow Depth=1.14' Max Vel=11.64 fps Inflow=94.84 cfs 7.516 af
n=0.040 L=310.0' S=0.1742 '/' Capacity=179.61 cfs Outflow=94.22 cfs 7.516 af

Reach 11.3aR: Bouldery stream Avg. Flow Depth=0.78' Max Vel=14.35 fps Inflow=99.83 cfs 11.732 af
n=0.050 L=142.0' S=0.4014 '/' Capacity=748.92 cfs Outflow=99.73 cfs 11.732 af

Reach 11.4aR: DP11.3 Avg. Flow Depth=1.13' Max Vel=15.90 fps Inflow=182.28 cfs 20.802 af
n=0.050 L=220.0' S=0.3636 '/' Capacity=858.32 cfs Outflow=182.03 cfs 20.802 af

Reach 11.4bR: DP11.4 Avg. Flow Depth=0.96' Max Vel=12.42 fps Inflow=40.37 cfs 3.133 af
n=0.040 L=145.0' S=0.2621 '/' Capacity=231.18 cfs Outflow=40.25 cfs 3.133 af

Reach 11.4R: DP-11.2 Avg. Flow Depth=1.39' Max Vel=11.60 fps Inflow=179.59 cfs 20.068 af
n=0.050 L=267.0' S=0.1498 '/' Capacity=558.40 cfs Outflow=179.17 cfs 20.068 af

Reach 11.5aR: DP11.5 Avg. Flow Depth=0.54' Max Vel=8.43 fps Inflow=10.77 cfs 0.766 af
n=0.040 L=620.0' S=0.2323 '/' Capacity=217.63 cfs Outflow=10.51 cfs 0.766 af

Reach 11.5R: Mountain stream Avg. Flow Depth=0.89' Max Vel=15.29 fps Inflow=212.72 cfs 23.936 af
n=0.040 L=455.0' S=0.2242 '/' Capacity=3,678.81 cfs Outflow=212.13 cfs 23.936 af

Reach 11.6aR: Mountain stream Avg. Flow Depth=1.35' Max Vel=19.58 fps Inflow=334.75 cfs 34.928 af
n=0.050 L=245.0' S=0.4000 '/' Capacity=3,987.80 cfs Outflow=334.13 cfs 34.928 af

Reach 11.6R: Mountain stream Avg. Flow Depth=1.21' Max Vel=14.62 fps Inflow=219.81 cfs 24.702 af
n=0.050 L=475.0' S=0.2505 '/' Capacity=3,155.95 cfs Outflow=219.14 cfs 24.702 af

Reach 11.8R: Mountain stream Avg. Flow Depth=1.19' Max Vel=17.21 fps Inflow=334.13 cfs 34.928 af
n=0.050 L=360.0' S=0.3139 '/' Capacity=13,400.37 cfs Outflow=332.52 cfs 34.928 af

Reach 14R: Donwstream Analysis Inflow=213.65 cfs 19.260 af
Outflow=213.65 cfs 19.260 af

Reach DP-1: Design Point-1 Avg. Flow Depth=1.69' Max Vel=16.64 fps Inflow=243.62 cfs 19.872 af
n=0.040 L=10.0' S=0.1500 '/' Capacity=670.80 cfs Outflow=243.58 cfs 19.872 af

Reach DP-11: Design Point-11 Inflow=576.00 cfs 60.065 af
Outflow=576.00 cfs 60.065 af

Reach DP-1a: Design Point-1a Avg. Flow Depth=1.02' Max Vel=8.63 fps Inflow=61.91 cfs 5.613 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=97.10 cfs Outflow=61.90 cfs 5.613 af

Reach DP-2: Design Point-2 Avg. Flow Depth=1.28' Max Vel=15.68 fps Inflow=113.93 cfs 10.603 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=233.42 cfs Outflow=113.73 cfs 10.603 af

Reach DP-2a: Design Point 2a Inflow=20.30 cfs 1.142 af
Outflow=20.30 cfs 1.142 af

Reach DP-2b: Design Point 2b Inflow=128.23 cfs 9.243 af
Outflow=128.23 cfs 9.243 af

Reach DP-3: Design Point-3 Inflow=74.35 cfs 5.233 af
Outflow=74.35 cfs 5.233 af

Reach DP-4: Design Point-4 Inflow=108.55 cfs 8.380 af
Outflow=108.55 cfs 8.380 af

Reach DP-5: Design Point-5 Inflow=155.54 cfs 11.641 af
Outflow=155.54 cfs 11.641 af

Reach DP-6: Design Point-6 Inflow=21.29 cfs 1.156 af
Outflow=21.29 cfs 1.156 af

Reach DP-7: Design Point-7 Inflow=32.33 cfs 1.567 af
Outflow=32.33 cfs 1.567 af

Reach DP-8: Design Point-8 Inflow=204.07 cfs 14.881 af
Outflow=204.07 cfs 14.881 af

Reach DP-9: Design Point-9 Inflow=143.05 cfs 10.139 af
Outflow=143.05 cfs 10.139 af

Reach DP12: Design Point-12 Avg. Flow Depth=0.87' Max Vel=11.96 fps Inflow=46.03 cfs 5.574 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=128.70 cfs Outflow=46.03 cfs 5.574 af

Reach R1.1: Mountain Stream Avg. Flow Depth=1.46' Max Vel=14.39 fps Inflow=158.50 cfs 13.060 af
n=0.040 L=610.0' S=0.1475 '/' Capacity=639.78 cfs Outflow=156.79 cfs 13.060 af

Reach R2.1: Stream Avg. Flow Depth=1.21' Max Vel=16.74 fps Inflow=113.73 cfs 10.603 af
n=0.040 L=680.0' S=0.2412 '/' Capacity=256.33 cfs Outflow=113.10 cfs 10.603 af

Pond 11.3R: DP-11.1 Peak Elev=2,412.57' Storage=805 cf Inflow=99.84 cfs 11.732 af
72.0" Round Culvert x 2.00 n=0.025 L=120.0' S=0.1333 '/' Outflow=99.83 cfs 11.732 af

Pond 11.7R: Culvert Peak Elev=1,897.83' Inflow=334.13 cfs 34.928 af
Outflow=334.13 cfs 34.928 af

Pond 11.9R: Culvert Peak Elev=1,782.61' Storage=9,540 cf Inflow=332.52 cfs 34.928 af
Outflow=330.89 cfs 34.927 af

Total Runoff Area = 482.994 ac Runoff Volume = 173.766 af Average Runoff Depth = 4.32"
98.65% Pervious = 476.467 ac 1.35% Impervious = 6.527 ac

Summary for Subcatchment 1.1S: Area-1.1

Runoff = 158.50 cfs @ 12.17 hrs, Volume= 13.060 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,590,610	72	Woods/grass comb., Good, HSG C
12,455	79	Woods/grass comb., Good, HSG D
1,603,065	72	Weighted Average
1,603,065		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	150	0.1200	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.4	1,350	0.3700	3.04		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.4	545	0.2000	24.25	698.34	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=4.50' D=3.00' Z= 1.7 '/' Top.W=14.70' n= 0.040 Mountain streams
0.6	1,060	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00' n= 0.040 Mountain streams
23.4	3,105	Total			

Summary for Subcatchment 1.2S: Area-1.2

Runoff = 92.84 cfs @ 12.12 hrs, Volume= 6.812 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
705,185	72	Woods/grass comb., Good, HSG C
109,680	79	Woods/grass comb., Good, HSG D
814,865	73	Weighted Average
814,865		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	150	0.5000	0.30		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	1,600	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.6	540	0.1800	15.23	141.68	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=5.00' D=1.33' Z= 1.5 '/' Top.W=8.99' n= 0.040 Mountain streams
0.6	575	0.0950	16.94	513.38	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=5.00' D=3.00' Z= 1.7 '/' Top.W=15.20'

n= 0.040 Mountain streams

19.1	2,865	Total

Summary for Subcatchment 1.3S: Area-1.3

Runoff = 61.91 cfs @ 12.21 hrs, Volume= 5.613 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
662,456	72	Woods/grass comb., Good, HSG C
26,555	79	Woods/grass comb., Good, HSG D
689,011	72	Weighted Average
689,011		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	150	0.3300	0.25		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
10.9	1,965	0.3600	3.00		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
3.0	140	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
3.0	370	0.1700	2.06		**Shallow Concentrated Flow, shallow concentrated flow: woods** Woodland Kv= 5.0 fps
0.4	170	0.1000	6.67	37.22	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=3.00' D=0.70' Z= 7.1 '/' Top.W=12.94' n= 0.040 Mountain streams
27.3	2,795	Total			

Summary for Subcatchment 2.2S: Downstream Area for Additional Analysis

Runoff = 107.55 cfs @ 12.16 hrs, Volume= 8.657 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
7,495	79	Woods/grass comb., Good, HSG D
1,055,140	72	Woods/grass comb., Good, HSG C
1,062,635	72	Weighted Average
1,062,635		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	150	0.5530	0.31		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
14.4	2,130	0.2430	2.46		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.5	2,280	Total			

Summary for Subcatchment 2aS: Area 2a

Runoff = 20.30 cfs @ 12.02 hrs, Volume= 1.142 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
132,700	72	Woods/grass comb., Good, HSG C
7,495	79	Woods/grass comb., Good, HSG D
140,195	72	Weighted Average
140,195		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	150	0.0860	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.7	405	0.1230	2.45		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	555	Total			

Summary for Subcatchment 2bS: Area 2b

Runoff = 128.23 cfs @ 12.11 hrs, Volume= 9.243 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,134,520	72	Woods/grass comb., Good, HSG C
1,134,520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.2800	0.23		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.8	1,140	0.2350	2.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.5	1,290	Total			

Summary for Subcatchment 2S: Area-2

Runoff = 113.93 cfs @ 12.22 hrs, Volume= 10.603 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,247,390	72	Woods/grass comb., Good, HSG C
54,040	79	Woods/grass comb., Good, HSG D
1,301,430	72	Weighted Average
1,301,430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	150	0.1467	0.18		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	1,360	0.3456	2.94		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.7	270	0.1600	6.00		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Grassed Waterway Kv= 15.0 fps
4.5	630	0.2200	2.35		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.3	175	0.1040	2.26		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.4	275	0.2100	12.35	49.41	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
28.5	2,860	Total			

Summary for Subcatchment 3S: Area-3

Runoff = 74.35 cfs @ 12.10 hrs, Volume= 5.233 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
636,540	72	Woods/grass comb., Good, HSG C
5,845	79	Woods/grass comb., Good, HSG D
642,385	72	Weighted Average
642,385		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	150	0.2200	0.32		**Sheet Flow, Sheet flow: meadow** Grass: Dense n= 0.240 P2= 3.00"
5.1	900	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated : woods** Woodland Kv= 5.0 fps
2.5	535	0.2500	3.50		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.1	400	0.4000	3.16		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.2	200	0.2000	18.83	84.73	**Trap/Vee/Rect Channel Flow, DITCH** Bot.W=1.50' D=1.50' Z= 1.0 '/' Top.W=4.50' n= 0.030 Earth, grassed & winding
17.7	2,185	Total			

Summary for Subcatchment 4S: Area-4

Runoff = 108.55 cfs @ 12.14 hrs, Volume= 8.380 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
537,225	72	Woods/grass comb., Good, HSG C
491,385	72	Woods/grass comb., Good, HSG C
1,028,610	72	Weighted Average
1,028,610		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	150	0.2700	0.35		**Sheet Flow, meadow** Grass: Dense n= 0.240 P2= 3.00"
2.6	520	0.2200	3.28		**Shallow Concentrated Flow, meadow** Short Grass Pasture Kv= 7.0 fps
10.9	1,885	0.3300	2.87		**Shallow Concentrated Flow, WOODS/MEADOW** Woodland Kv= 5.0 fps
0.2	200	0.2000	17.67	211.99	**Trap/Vee/Rect Channel Flow, EX DITCH** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
20.9	2,755	Total			

Summary for Subcatchment 5S: Area-5

Runoff = 155.54 cfs @ 12.12 hrs, Volume= 11.641 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,375,930	72	Woods/grass comb., Good, HSG C
52,915	79	Woods/grass comb., Good, HSG D
1,428,845	72	Weighted Average
1,428,845		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	150	0.3800	0.26		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
9.5	1,640	0.3300	2.87		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.9	835	0.1500	15.66	203.63	**Trap/Vee/Rect Channel Flow,** Bot.W=2.50' D=2.00' Z= 2.0 '/' Top.W=10.50' n= 0.040 Earth, cobble bottom, clean sides
19.8	2,625	Total			

Summary for Subcatchment 6S: Area-6

Runoff = 21.29 cfs @ 12.01 hrs, Volume= 1.156 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
145,690	71	Meadow, non-grazed, HSG C
145,690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	130	0.1600	0.27		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
0.4	130	0.1500	5.81		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Grassed Waterway Kv= 15.0 fps
1.3	250	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
9.6	510	Total			

Summary for Subcatchment 7S: Area-7

Runoff = 32.33 cfs @ 11.97 hrs, Volume= 1.567 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
197,522	71	Meadow, non-grazed, HSG C
197,522		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	58	0.1800	0.24		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
1.9	350	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.9	408	Total			

Summary for Subcatchment 8.1S: Area-8

Runoff = 78.69 cfs @ 12.08 hrs, Volume= 5.289 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
637,884	72	Woods/grass comb., Good, HSG C
11,266	79	Woods/grass comb., Good, HSG D
649,150	72	Weighted Average
649,150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	235	0.1900	3.05		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
1.8	1,320	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
16.1	1,705	Total			

Summary for Subcatchment 8.2S: Area-8.2

Runoff = 131.96 cfs @ 12.11 hrs, Volume= 9.592 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,158,336	72	Woods/grass comb., Good, HSG C
19,084	79	Woods/grass comb., Good, HSG D
1,177,420	72	Weighted Average
1,177,420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	150	0.2400	0.22		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
6.5	1,135	0.3400	2.92		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.9	595	0.0780	11.03	132.39	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
18.8	1,880	Total			

Summary for Subcatchment 9S: Area-9

Runoff = 143.05 cfs @ 12.10 hrs, Volume= 10.139 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
16,935	98	Paved parking, HSG C
10,120	98	Roofs, HSG C
1,179,597	72	Woods/grass comb., Good, HSG C
6,220	79	Woods/grass comb., Good, HSG D
1,212,872	73	Weighted Average
1,185,817		97.77% Pervious Area
27,055		2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	150	0.2900	0.24		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.9	170	0.4000	3.16		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
6.5	1,385	0.2600	3.57		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
17.9	1,705	Total			

Summary for Subcatchment 11.1S: Area-11.1

Runoff = 93.08 cfs @ 12.21 hrs, Volume= 8.335 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,023,137	72	Woods/grass comb., Good, HSG C
1,023,137		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	150	0.1800	0.20		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	200	0.2500	2.50		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
2.3	410	0.1800	2.97		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.1	1,358	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
2.3	380	0.1600	2.80		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.1	142	0.4000	36.21	2,230.45	**Trap/Vee/Rect Channel Flow,** Bot.W=15.00' D=4.00' Z= 0.1 '/' Top.W=15.80' n= 0.050 Mountain streams w/large boulders
26.8	2,640	Total			

Summary for Subcatchment 11.2S: Area-11.2

Runoff = 99.84 cfs @ 12.37 hrs, Volume= 11.732 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,420,796	72	Woods/grass comb., Good, HSG C
19,210	79	Woods/grass comb., Good, HSG D
1,440,006	72	Weighted Average
1,440,006		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.8	150	0.0933	0.09		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.8	500	0.0960	2.17		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.3	885	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	355	0.2817	3.72		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
0.8	830	0.2600	17.15	128.61	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Mountain streams
40.3	2,720	Total			

Summary for Subcatchment 11.3S: Area-11.3

Runoff = 246.33 cfs @ 12.27 hrs, Volume= 25.138 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
2,449,548	72	Woods/grass comb., Good, HSG C
80,446	74	>75% Grass cover, Good, HSG C
257,243	98	Paved parking & roofs
73,710	79	Woods/grass comb., Good, HSG D
2,860,947	75	Weighted Average
2,603,704		91.01% Pervious Area
257,243		8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	150	0.1133	0.25		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
4.3	963	0.2800	3.70		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.9	1,412	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.8	127	0.1500	2.71		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.8	450	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.0	395	0.0250	2.17	23.92	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.070 Sluggish weedy reaches w/pools
0.8	300	0.0250	5.95	71.40	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.040 Winding stream, pools & shoals
1.2	720	0.0250	9.97	996.95	**Trap/Vee/Rect Channel Flow, stream** Bot.W=10.00' D=5.00' Z= 2.0 '/' Top.W=30.00' n= 0.050 Mountain streams w/large boulders
0.1	45	0.0500	13.29	167.02	**Pipe Channel, culvert** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.025 Corrugated metal
0.1	360	0.3100	53.27	13,317.10	**Trap/Vee/Rect Channel Flow, stream** Bot.W=15.00' D=10.00' Z= 1.0 '/' Top.W=35.00' n= 0.050 Mountain streams w/large boulders
0.1	90	0.0500	19.28	378.54	**Pipe Channel, culvert** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.020 Corrugated PE, corrugated interior
0.6	393	0.0280	10.52	1,068.46	**Trap/Vee/Rect Channel Flow,** Bot.W=25.00' D=4.00' Z= 0.1 '/' Top.W=25.80' n= 0.050 Mountain streams w/large boulders
32.9	5,405	Total			

Summary for Subcatchment 11.4S: Area-11.4

Runoff = 94.84 cfs @ 12.15 hrs, Volume= 7.516 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
886,711	72	Woods/grass comb., Good, HSG C
35,806	79	Woods/grass comb., Good, HSG D
922,517	72	Weighted Average
922,517		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	150	0.3200	0.25		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	255	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated:ski trail** Short Grass Pasture Kv= 7.0 fps
2.9	516	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated:woods** Woodland Kv= 5.0 fps
0.7	130	0.1800	2.97		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
6.3	1,055	0.3100	2.78		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	500	0.2300	15.72	206.39	**Trap/Vee/Rect Channel Flow, stream** Bot.W=2.00' D=1.50' Z= 4.5 '/' Top.W=15.50' n= 0.040 Mountain streams
21.9	2,606	Total			

Summary for Subcatchment 11.6S: Area-11.6

Runoff = 41.38 cfs @ 12.07 hrs, Volume= 2.710 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
239,255	72	Woods/grass comb., Good, HSG C
76,880	79	Woods/grass comb., Good, HSG D
316,135	74	Weighted Average
316,135		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	50	0.1700	0.34		**Sheet Flow, Sheet flow** Grass: Short n= 0.150 P2= 3.00"
3.8	50	0.4000	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
4.1	720	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.3	140	0.1200	1.73		**Shallow Concentrated Flow, Shallow concentrated: Wetland** Woodland Kv= 5.0 fps
3.5	530	0.2600	2.55		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
15.2	1,490	Total			

Summary for Subcatchment 11.7S: Area-11.7

Runoff = 40.37 cfs @ 12.14 hrs, Volume= 3.133 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
360,740	72	Woods/grass comb., Good, HSG C
23,860	79	Woods/grass comb., Good, HSG D
384,600	72	Weighted Average
384,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	360	0.3500	2.96		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.0	200	0.2200	3.28		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
4.6	723	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	360	0.2300	11.54	126.95	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Mountain streams
21.1	1,793	Total			

Summary for Subcatchment 11.8S: Area-11.8

Runoff = 12.51 cfs @ 12.04 hrs, Volume= 0.735 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
88,780	72	Woods/grass comb., Good, HSG C
1,380	79	Woods/grass comb., Good, HSG D
90,160	72	Weighted Average
90,160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	150	0.1800	0.30		**Sheet Flow, Sheet flow: Woods** Grass: Dense n= 0.240 P2= 3.00"
3.3	500	0.2500	2.50		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	100	0.2500	12.03	132.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Winding stream, pools & shoals
11.9	750	Total			

Summary for Subcatchment 11.9S: Area-11.9

Runoff = 10.77 cfs @ 12.10 hrs, Volume= 0.766 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
69,494	72	Woods/grass comb., Good, HSG C
19,860	79	Woods/grass comb., Good, HSG D
89,354	74	Weighted Average
89,354		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	150	0.1700	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
4.9	836	0.3300	2.87		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	98	0.2300	11.54	126.95	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.040 Mountain streams
18.0	1,084	Total			

Summary for Subcatchment 12.1S: Area-12.1

Runoff = 46.03 cfs @ 12.39 hrs, Volume= 5.574 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
14,955	79	Woods/grass comb., Good, HSG D
669,185	72	Woods/grass comb., Good, HSG C
684,140	72	Weighted Average
684,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	150	0.1600	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
28.3	1,610	0.0360	0.95		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	235	0.1600	14.19	118.17	**Trap/Vee/Rect Channel Flow, stream/wetland** Bot.W=3.00' D=1.50' Z= 1.7 '/' Top.W=8.10' n= 0.040 Mountain streams
42.0	1,995	Total			

Summary for Reach 8.1R: Mountain stream

Inflow Area = 27.030 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 131.96 cfs @ 12.11 hrs, Volume= 9.592 af
Outflow = 129.65 cfs @ 12.14 hrs, Volume= 9.592 af, Atten= 2%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.87 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 5.07 fps, Avg. Travel Time= 2.8 min

Peak Storage= 7,013 cf @ 12.12 hrs
Average Depth at Peak Storage= 1.66'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 193.86 cfs

2.50' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.5 '/' Top Width= 8.50'
Length= 850.0' Slope= 0.1906 '/'
Inlet Invert= 1,816.00', Outlet Invert= 1,654.00'

Summary for Reach 11.10R: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 4.28" for 100-Year event
Inflow = 330.89 cfs @ 12.25 hrs, Volume= 34.927 af
Outflow = 329.84 cfs @ 12.26 hrs, Volume= 34.927 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.11 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 3.82 fps, Avg. Travel Time= 1.7 min

Peak Storage= 9,216 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.93'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 3,320.07 cfs

25.00' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.1 '/' Top Width= 25.80'
Length= 393.0' Slope= 0.1730 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,700.00'

Summary for Reach 11.1aR: Mountain stream-DP 11.7

Inflow Area = 28.436 ac, 0.00% Impervious, Inflow Depth = 4.32" for 100-Year event
Inflow = 129.11 cfs @ 12.13 hrs, Volume= 10.226 af
Outflow = 127.24 cfs @ 12.17 hrs, Volume= 10.226 af, Atten= 1%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.95 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 4.47 fps, Avg. Travel Time= 3.5 min

Peak Storage= 9,441 cf @ 12.15 hrs
Average Depth at Peak Storage= 1.28'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 186.80 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 950.0' Slope= 0.1884 '/'
Inlet Invert= 2,169.00', Outlet Invert= 1,990.00'

‡

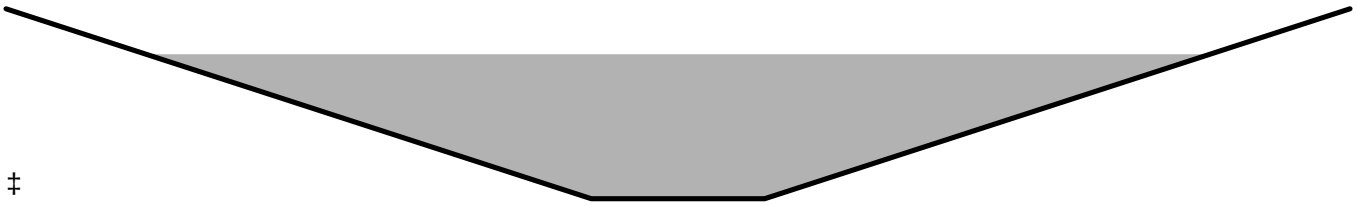
Summary for Reach 11.1R: Mountain stream-DP 11.6

Inflow Area = 21.178 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 94.84 cfs @ 12.15 hrs, Volume= 7.516 af
Outflow = 94.22 cfs @ 12.16 hrs, Volume= 7.516 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.64 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 4.25 fps, Avg. Travel Time= 1.2 min

Peak Storage= 2,526 cf @ 12.15 hrs
Average Depth at Peak Storage= 1.14'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 179.61 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 310.0' Slope= 0.1742 '/'
Inlet Invert= 2,224.00', Outlet Invert= 2,170.00'



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Summary for Reach 11.3aR: Bouldery stream

Inflow Area = 33.058 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 99.83 cfs @ 12.37 hrs, Volume= 11.732 af
Outflow = 99.73 cfs @ 12.38 hrs, Volume= 11.732 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.35 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 4.38 fps, Avg. Travel Time= 0.5 min

Peak Storage= 987 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.78'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 748.92 cfs

8.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.2 '/' Top Width= 14.00'
Length= 142.0' Slope= 0.4014 '/'
Inlet Invert= 2,390.00', Outlet Invert= 2,333.00'

Summary for Reach 11.4aR: DP11.3

Inflow Area = 58.616 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 182.28 cfs @ 12.28 hrs, Volume= 20.802 af
Outflow = 182.03 cfs @ 12.29 hrs, Volume= 20.802 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.90 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 5.21 fps, Avg. Travel Time= 0.7 min

Peak Storage= 2,521 cf @ 12.29 hrs
Average Depth at Peak Storage= 1.13'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 858.32 cfs

7.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.00'
Length= 220.0' Slope= 0.3636 '/'
Inlet Invert= 2,292.00', Outlet Invert= 2,212.00'

‡

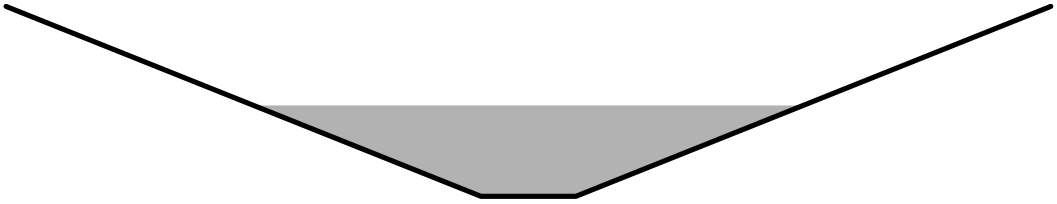
Summary for Reach 11.4bR: DP11.4

Inflow Area = 8.829 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 40.37 cfs @ 12.14 hrs, Volume= 3.133 af
Outflow = 40.25 cfs @ 12.15 hrs, Volume= 3.133 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.42 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 4.60 fps, Avg. Travel Time= 0.5 min

Peak Storage= 471 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.96'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 231.18 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 145.0' Slope= 0.2621 '/'
Inlet Invert= 2,250.00', Outlet Invert= 2,212.00'



Summary for Reach 11.4R: DP-11.2

Inflow Area = 56.546 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 179.59 cfs @ 12.28 hrs, Volume= 20.068 af
Outflow = 179.17 cfs @ 12.29 hrs, Volume= 20.068 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.60 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 3.79 fps, Avg. Travel Time= 1.2 min

Peak Storage= 4,129 cf @ 12.28 hrs
Average Depth at Peak Storage= 1.39'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 558.40 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.6 '/' Top Width= 20.50'
Length= 267.0' Slope= 0.1498 '/'
Inlet Invert= 2,332.00', Outlet Invert= 2,292.00'

‡

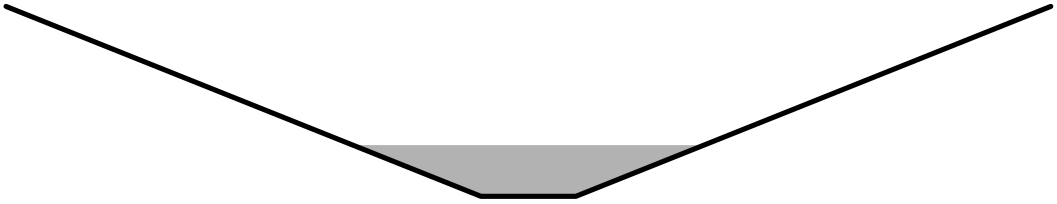
Summary for Reach 11.5aR: DP11.5

Inflow Area = 2.051 ac, 0.00% Impervious, Inflow Depth = 4.48" for 100-Year event
Inflow = 10.77 cfs @ 12.10 hrs, Volume= 0.766 af
Outflow = 10.51 cfs @ 12.14 hrs, Volume= 0.766 af, Atten= 2%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.43 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.85 fps, Avg. Travel Time= 3.6 min

Peak Storage= 785 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 217.63 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 620.0' Slope= 0.2323 '/'
Inlet Invert= 2,254.00', Outlet Invert= 2,110.00'



Summary for Reach 11.5R: Mountain stream

Inflow Area = 67.445 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 212.72 cfs @ 12.25 hrs, Volume= 23.936 af
Outflow = 212.13 cfs @ 12.27 hrs, Volume= 23.936 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.29 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 4.52 fps, Avg. Travel Time= 1.7 min

Peak Storage= 6,330 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.89'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,678.81 cfs

15.00' x 5.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.7 '/' Top Width= 22.00'
Length= 455.0' Slope= 0.2242 '/'
Inlet Invert= 2,212.00', Outlet Invert= 2,110.00'

Summary for Reach 11.6aR: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 4.28" for 100-Year event
Inflow = 334.75 cfs @ 12.22 hrs, Volume= 34.928 af
Outflow = 334.13 cfs @ 12.22 hrs, Volume= 34.928 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 19.58 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 5.91 fps, Avg. Travel Time= 0.7 min

Peak Storage= 4,182 cf @ 12.22 hrs
Average Depth at Peak Storage= 1.35'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,987.80 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 245.0' Slope= 0.4000 '/'
Inlet Invert= 1,990.00', Outlet Invert= 1,892.00'

Summary for Reach 11.6R: Mountain stream

Inflow Area = 69.496 ac, 0.00% Impervious, Inflow Depth = 4.27" for 100-Year event
Inflow = 219.81 cfs @ 12.26 hrs, Volume= 24.702 af
Outflow = 219.14 cfs @ 12.27 hrs, Volume= 24.702 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.62 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 4.52 fps, Avg. Travel Time= 1.8 min

Peak Storage= 7,137 cf @ 12.26 hrs
Average Depth at Peak Storage= 1.21'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,155.95 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 475.0' Slope= 0.2505 '/'
Inlet Invert= 2,109.00', Outlet Invert= 1,990.00'

Summary for Reach 11.8R: Mountain stream

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 4.28" for 100-Year event
Inflow = 334.13 cfs @ 12.22 hrs, Volume= 34.928 af
Outflow = 332.52 cfs @ 12.24 hrs, Volume= 34.928 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 17.21 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 5.24 fps, Avg. Travel Time= 1.1 min

Peak Storage= 6,965 cf @ 12.23 hrs
Average Depth at Peak Storage= 1.19'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 13,400.37 cfs

15.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 35.00'
Length= 360.0' Slope= 0.3139 '/'
Inlet Invert= 1,887.00', Outlet Invert= 1,774.00'

Summary for Reach 14R: Donwstream Analysis

Inflow Area = 54.271 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 213.65 cfs @ 12.20 hrs, Volume= 19.260 af
Outflow = 213.65 cfs @ 12.20 hrs, Volume= 19.260 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1: Design Point-1

Inflow Area = 55.508 ac, 0.00% Impervious, Inflow Depth = 4.30" for 100-Year event
Inflow = 243.62 cfs @ 12.16 hrs, Volume= 19.872 af
Outflow = 243.58 cfs @ 12.16 hrs, Volume= 19.872 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 16.64 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.67 fps, Avg. Travel Time= 0.0 min

Peak Storage= 146 cf @ 12.16 hrs
Average Depth at Peak Storage= 1.69'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 670.80 cfs

7.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1500 '/'
Inlet Invert= 0.00', Outlet Invert= -1.50'

Summary for Reach DP-11: Design Point-11

Inflow Area = 163.610 ac, 3.61% Impervious, Inflow Depth = 4.41" for 100-Year event
Inflow = 576.00 cfs @ 12.27 hrs, Volume= 60.065 af
Outflow = 576.00 cfs @ 12.27 hrs, Volume= 60.065 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1a: Design Point-1a

Inflow Area = 15.818 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 61.91 cfs @ 12.21 hrs, Volume= 5.613 af
Outflow = 61.90 cfs @ 12.21 hrs, Volume= 5.613 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.63 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.07 fps, Avg. Travel Time= 0.1 min

Peak Storage= 72 cf @ 12.21 hrs
Average Depth at Peak Storage= 1.02'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 97.10 cfs

3.00' x 1.25' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

‡

Summary for Reach DP-2: Design Point-2

Inflow Area = 29.877 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 113.93 cfs @ 12.22 hrs, Volume= 10.603 af
Outflow = 113.73 cfs @ 12.23 hrs, Volume= 10.603 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.68 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.65 fps, Avg. Travel Time= 0.0 min

Peak Storage= 72 cf @ 12.23 hrs
Average Depth at Peak Storage= 1.28'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 233.42 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-2a: Design Point 2a

Inflow Area = 3.218 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 20.30 cfs @ 12.02 hrs, Volume= 1.142 af
Outflow = 20.30 cfs @ 12.02 hrs, Volume= 1.142 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2b: Design Point 2b

Inflow Area = 26.045 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 128.23 cfs @ 12.11 hrs, Volume= 9.243 af
Outflow = 128.23 cfs @ 12.11 hrs, Volume= 9.243 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point-3

Inflow Area = 14.747 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 74.35 cfs @ 12.10 hrs, Volume= 5.233 af
Outflow = 74.35 cfs @ 12.10 hrs, Volume= 5.233 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-4: Design Point-4

Inflow Area = 23.614 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 108.55 cfs @ 12.14 hrs, Volume= 8.380 af
Outflow = 108.55 cfs @ 12.14 hrs, Volume= 8.380 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-5: Design Point-5

Inflow Area = 32.802 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 155.54 cfs @ 12.12 hrs, Volume= 11.641 af
Outflow = 155.54 cfs @ 12.12 hrs, Volume= 11.641 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-6: Design Point-6

Inflow Area = 3.345 ac, 0.00% Impervious, Inflow Depth = 4.15" for 100-Year event
Inflow = 21.29 cfs @ 12.01 hrs, Volume= 1.156 af
Outflow = 21.29 cfs @ 12.01 hrs, Volume= 1.156 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point-7

Inflow Area = 4.534 ac, 0.00% Impervious, Inflow Depth = 4.15" for 100-Year event
Inflow = 32.33 cfs @ 11.97 hrs, Volume= 1.567 af
Outflow = 32.33 cfs @ 11.97 hrs, Volume= 1.567 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point-8

Inflow Area = 41.932 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 204.07 cfs @ 12.12 hrs, Volume= 14.881 af
Outflow = 204.07 cfs @ 12.12 hrs, Volume= 14.881 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-9: Design Point-9

Inflow Area = 27.844 ac, 2.23% Impervious, Inflow Depth = 4.37" for 100-Year event
Inflow = 143.05 cfs @ 12.10 hrs, Volume= 10.139 af
Outflow = 143.05 cfs @ 12.10 hrs, Volume= 10.139 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP12: Design Point-12

Inflow Area = 15.706 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 46.03 cfs @ 12.39 hrs, Volume= 5.574 af
Outflow = 46.03 cfs @ 12.39 hrs, Volume= 5.574 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.96 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.10 fps, Avg. Travel Time= 0.0 min

Peak Storage= 38 cf @ 12.39 hrs
Average Depth at Peak Storage= 0.87'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 128.70 cfs

3.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.6 '/' Top Width= 7.80'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach R1.1: Mountain Stream

Inflow Area = 36.801 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 158.50 cfs @ 12.17 hrs, Volume= 13.060 af
Outflow = 156.79 cfs @ 12.19 hrs, Volume= 13.060 af, Atten= 1%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.39 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 4.41 fps, Avg. Travel Time= 2.3 min

Peak Storage= 6,690 cf @ 12.17 hrs
Average Depth at Peak Storage= 1.46'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 639.78 cfs

5.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.7 '/' Top Width= 15.20'
Length= 610.0' Slope= 0.1475 '/'
Inlet Invert= 2,200.00', Outlet Invert= 2,110.00'

Summary for Reach R2.1: Stream

Inflow Area = 29.877 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 113.73 cfs @ 12.23 hrs, Volume= 10.603 af
Outflow = 113.10 cfs @ 12.25 hrs, Volume= 10.603 af, Atten= 1%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 16.74 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 4.85 fps, Avg. Travel Time= 2.3 min

Peak Storage= 4,613 cf @ 12.23 hrs
Average Depth at Peak Storage= 1.21'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 256.33 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 680.0' Slope= 0.2412 '/'
Inlet Invert= 2,144.00', Outlet Invert= 1,980.00'

Summary for Pond 11.3R: DP-11.1

Inflow Area = 33.058 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 99.84 cfs @ 12.37 hrs, Volume= 11.732 af
Outflow = 99.83 cfs @ 12.37 hrs, Volume= 11.732 af, Atten= 0%, Lag= 0.1 min
Primary = 99.83 cfs @ 12.37 hrs, Volume= 11.732 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 2,412.57' @ 12.37 hrs Surf.Area= 326 sf Storage= 805 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.3 min (852.4 - 852.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,410.00'	3,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,410.00	300	0	0
2,420.00	400	3,500	3,500

Device	Routing	Invert	Outlet Devices
#1	Primary	2,410.00'	**72.0" Round Culvert X 2.00** L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,410.00' / 2,394.00' S= 0.1333 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=99.40 cfs @ 12.37 hrs HW=2,412.57' (Free Discharge)
1=Culvert (Inlet Controls 99.40 cfs @ 4.31 fps)

Summary for Pond 11.7R: Culvert

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 4.28" for 100-Year event
Inflow = 334.13 cfs @ 12.22 hrs, Volume= 34.928 af
Outflow = 334.13 cfs @ 12.22 hrs, Volume= 34.928 af, Atten= 0%, Lag= 0.0 min
Primary = 334.13 cfs @ 12.22 hrs, Volume= 34.928 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,897.83' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,890.00'	**48.0" Round Culvert** L= 45.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,890.00' / 1,888.00' S= 0.0444 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Primary	1,895.00'	**15.0' long x 35.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=331.60 cfs @ 12.22 hrs HW=1,897.81' (Free Discharge)
└**1=Culvert** (Inlet Controls 145.84 cfs @ 11.61 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 185.76 cfs @ 4.41 fps)

Summary for Pond 11.9R: Culvert

Inflow Area = 97.932 ac, 0.00% Impervious, Inflow Depth = 4.28" for 100-Year event
Inflow = 332.52 cfs @ 12.24 hrs, Volume= 34.928 af
Outflow = 330.89 cfs @ 12.25 hrs, Volume= 34.927 af, Atten= 0%, Lag= 1.0 min
Primary = 330.89 cfs @ 12.25 hrs, Volume= 34.927 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,782.61' @ 12.25 hrs Surf.Area= 1,185 sf Storage= 9,540 cf

Plug-Flow detention time= 0.7 min calculated for 34.915 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (847.9 - 847.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,773.00'	10,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,773.00	800	0	0
1,783.00	1,200	10,000	10,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,773.00'	**60.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,773.00' / 1,767.00' S= 0.0667 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Primary	1,773.00'	**48.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,773.00' / 1,770.00' S= 0.0333 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=330.66 cfs @ 12.25 hrs HW=1,782.60' (Free Discharge)
└**1=Culvert** (Inlet Controls 198.93 cfs @ 10.13 fps)
└**2=Culvert** (Inlet Controls 131.72 cfs @ 10.48 fps)

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APPENDIX D

HydroCAD Data – Proposed Model

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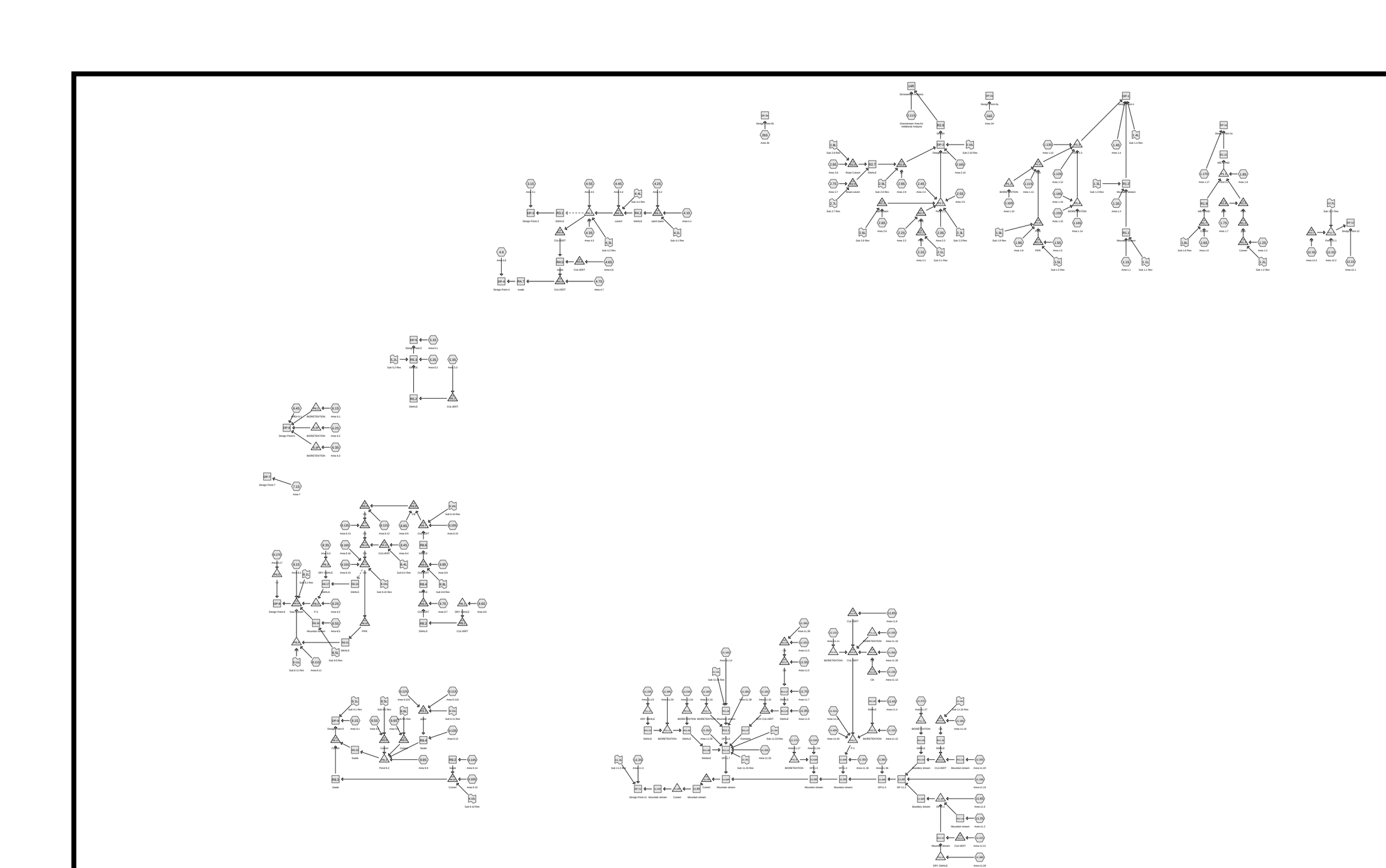

Subcat

Reach

Pond

Link

Drainage Diagram for 08077_Proposed

Prepared by Microsoft, Printed 8/7/2012

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.888	71	Meadow, non-grazed, HSG C (1.10S, 1.14S, 7.1S, 8.17S, 8.2S, 11.27S, 11.29S, 11.39S, 11.41S)
351.869	72	Woods/grass comb., Good, HSG C (1.17S, 1.1S, 1.2S, 1.3S, 1.4S, 1.5S, 1.6S, 1.8S, 1.9S, 2.10S, 2.11S, 2.1S, 2.3S, 2.6S, 2.7S, 2.8S, 2.9S, 2aS, 2bS, 3.1S, 4.1S, 4.3S, 4.4S, 4.6S, 4.7S, 4.8, 5.1S, 5.2S, 5.3S, 6.1S, 6.2S, 6.3S, 6.4S, 8.10S, 8.11S, 8.15S, 8.16S, 8.1S, 8.2S, 8.3S, 8.4S, 8.5S, 8.6S, 8.7S, 8.8S, 9.10S, 9.11S, 9.14S, 9.1S, 9.5S, 9.6S, 9.9S, 11.12S, 11.14S, 11.15S, 11.18S, 11.19S, 11.20S, 11.21S, 11.23S, 11.24S, 11.25S, 11.29S, 11.2S, 11.32S, 11.33S, 11.34S, 11.35S, 11.36S, 11.38S, 11.3S, 11.41S, 11.5S, 11.6S, 11.7S, 11.8S, 11.9S, 12.1S, 12.2S)
0.783	72	Woods/grass comb., Good, HSG D (11.14S)
62.328	74	>75% Grass cover, Good, HSG C (1.11S, 1.12S, 1.13S, 1.17S, 1.1S, 1.2S, 1.4S, 1.5S, 1.6S, 1.7S, 1.8S, 1.9S, 2.10S, 2.11S, 2.1S, 2.3S, 2.6S, 2.7S, 2.8S, 2.9S, 2aS, 2bS, 4.1S, 4.3S, 4.4S, 4.5S, 4.6S, 4.7S, 5.2S, 5.3S, 8.10S, 8.11S, 8.12S, 8.13S, 8.15S, 8.16S, 8.17S, 8.1S, 8.3S, 8.4S, 8.5S, 8.6S, 8.7S, 8.8S, 8.9S, 9.10S, 9.11S, 9.12S, 9.1S, 9.5S, 9.6S, 9.9S, 11.10S, 11.11S, 11.14S, 11.15S, 11.16S, 11.17S, 11.18S, 11.19S, 11.20S, 11.21S, 11.23S, 11.24S, 11.25S, 11.26S, 11.27S, 11.29S, 11.2S, 11.33S, 11.34S, 11.38S, 11.39S, 11.3S, 11.5S, 11.6S, 11.7S, 11.8S, 11.9S, 12.2S)
9.444	79	Woods/grass comb., Good, HSG D (1.17S, 1.1S, 1.4S, 1.5S, 1.6S, 1.8S, 2.10S, 5.2S, 8.1S, 8.5S, 9.11S, 9.1S, 11.15S, 11.25S, 11.2S, 11.33S, 11.34S, 11.35S, 11.36S, 11.38S, 11.3S, 12.1S)
0.138	98	Driveway, extra imperv., HSG C (6.1S, 6.2S, 6.3S)
5.905	98	Paved parking & roofs (11.3S)
18.675	98	Paved parking, HSG C (1.10S, 1.11S, 1.12S, 1.15S, 1.6S, 1.7S, 1.9S, 2.10S, 2.2S, 2.4S, 2.5S, 4.2S, 4.3S, 4.4S, 8.10S, 8.12S, 8.13S, 8.15S, 8.16S, 8.17S, 8.3S, 8.4S, 8.6S, 8.7S, 8.9S, 9.12S, 9.13S, 9.1S, 9.5S, 9.6S, 11.10S, 11.11S, 11.13S, 11.16S, 11.17S, 11.23S, 11.24S, 11.26S, 11.27S, 11.28S, 11.40S, 12.2S, 12.3S)
4.538	98	Roofs, HSG C (1.12S, 1.15S, 1.16S, 6.1S, 6.2S, 6.3S, 8.17S, 8.2S, 8.6S, 8.7S, 9.13S, 11.10S, 11.11S, 11.17S, 11.27S, 11.4S)
0.622	98	Unconnected roofs, HSG C (9.10S)
461.192		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
445.059	HSG C	1.10S, 1.11S, 1.12S, 1.13S, 1.14S, 1.15S, 1.16S, 1.17S, 1.1S, 1.2S, 1.3S, 1.4S, 1.5S, 1.6S, 1.7S, 1.8S, 1.9S, 2.10S, 2.11S, 2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S, 2.7S, 2.8S, 2.9S, 2aS, 2bS, 3.1S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 4.6S, 4.7S, 4.8, 5.1S, 5.2S, 5.3S, 6.1S, 6.2S, 6.3S, 6.4S, 7.1S, 8.10S, 8.11S, 8.12S, 8.13S, 8.15S, 8.16S, 8.17S, 8.1S, 8.2S, 8.3S, 8.4S, 8.5S, 8.6S, 8.7S, 8.8S, 8.9S, 9.10S, 9.11S, 9.12S, 9.13S, 9.14S, 9.1S, 9.5S, 9.6S, 9.9S, 11.10S, 11.11S, 11.12S, 11.13S, 11.14S, 11.15S, 11.16S, 11.17S, 11.18S, 11.19S, 11.20S, 11.21S, 11.23S, 11.24S, 11.25S, 11.26S, 11.27S, 11.28S, 11.29S, 11.2S, 11.32S, 11.33S, 11.34S, 11.35S, 11.36S, 11.38S, 11.39S, 11.3S, 11.40S, 11.41S, 11.4S, 11.5S, 11.6S, 11.7S, 11.8S, 11.9S, 12.1S, 12.2S, 12.3S
10.228	HSG D	1.17S, 1.1S, 1.4S, 1.5S, 1.6S, 1.8S, 2.10S, 5.2S, 8.1S, 8.5S, 9.11S, 9.1S, 11.14S, 11.15S, 11.25S, 11.2S, 11.33S, 11.34S, 11.35S, 11.36S, 11.38S, 11.3S, 12.1S
5.905	Other	11.3S
461.192		**TOTAL AREA**

Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.10S: Area 1.10 Runoff Area=10,640 sf 81.20% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=93 Runoff=0.90 cfs 0.046 af

Subcatchment1.11S: Area 1.11 Runoff Area=13,460 sf 89.60% Impervious Runoff Depth=2.55"
Flow Length=230' Tc=8.0 min CN=96 Runoff=1.17 cfs 0.066 af

Subcatchment1.12S: Area 1.12 Runoff Area=35,190 sf 60.29% Impervious Runoff Depth=1.82"
Flow Length=641' Tc=12.4 min CN=88 Runoff=2.04 cfs 0.122 af

Subcatchment1.13S: Area 1.13 Runoff Area=53,050 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=50' Slope=0.2500 '/' Tc=6.0 min CN=74 Runoff=1.90 cfs 0.092 af

Subcatchment1.14S: Area 1.14 Runoff Area=11,800 sf 0.00% Impervious Runoff Depth=0.76"
Tc=6.0 min CN=71 Runoff=0.35 cfs 0.017 af

Subcatchment1.15S: Area 1.15 Runoff Area=23,830 sf 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=2.25 cfs 0.126 af

Subcatchment1.16S: Area 1.16 Runoff Area=15,985 sf 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=1.51 cfs 0.085 af

Subcatchment1.17S: Area 1.17 Runoff Area=30,241 sf 0.00% Impervious Runoff Depth=1.07"
Flow Length=465' Tc=6.0 min CN=77 Runoff=1.29 cfs 0.062 af

Subcatchment1.1S: Area-1.1 Runoff Area=1,542,650 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,295' Tc=22.9 min CN=72 Runoff=26.28 cfs 2.385 af

Subcatchment1.2S: Area 1.2 Runoff Area=436,779 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,510' Tc=14.2 min CN=72 Runoff=9.88 cfs 0.675 af

Subcatchment1.3S: Area-1.3 Runoff Area=124,373 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=750' Tc=16.5 min CN=72 Runoff=2.61 cfs 0.192 af

Subcatchment1.4S: Area 1.4 Runoff Area=345,904 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=1,361' Tc=11.4 min CN=74 Runoff=10.06 cfs 0.601 af

Subcatchment1.5S: Area 1.5 Runoff Area=750,276 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,965' Tc=19.9 min CN=72 Runoff=14.02 cfs 1.160 af

Subcatchment1.6S: Area 1.6 Runoff Area=128,870 sf 1.08% Impervious Runoff Depth=0.91"
Flow Length=465' Tc=6.0 min CN=74 Runoff=4.60 cfs 0.224 af

Subcatchment1.7S: Area 1.7 Runoff Area=39,615 sf 92.98% Impervious Runoff Depth=2.55"
Flow Length=1,245' Tc=6.0 min CN=96 Runoff=3.61 cfs 0.193 af

Subcatchment1.8S: Area 1.8 Runoff Area=54,200 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=140' Tc=6.0 min CN=74 Runoff=1.94 cfs 0.094 af

Subcatchment1.9S: Area 1.9 Runoff Area=159,810 sf 18.28% Impervious Runoff Depth=1.07"
Flow Length=730' Tc=6.0 min CN=77 Runoff=6.82 cfs 0.327 af

Subcatchment2.10S: Area 2.10 Runoff Area=303,225 sf 1.05% Impervious Runoff Depth=0.96"
Flow Length=965' Tc=15.2 min CN=75 Runoff=8.17 cfs 0.557 af

Subcatchment2.11S: Downstream Area Runoff Area=480,170 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=860' Tc=7.4 min CN=72 Runoff=14.33 cfs 0.742 af

Subcatchment2.1S: Area 2.1 Runoff Area=262,081 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,585' Tc=16.7 min CN=72 Runoff=5.45 cfs 0.405 af

Subcatchment2.2S: Area 2.2 Runoff Area=63,870 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=1,910' Tc=6.0 min CN=98 Runoff=6.04 cfs 0.338 af

Subcatchment2.3S: Area 2.3 Runoff Area=91,990 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=208' Tc=6.0 min CN=73 Runoff=3.08 cfs 0.151 af

Subcatchment2.4S: Area 2.4 Runoff Area=15,150 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=885' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=1.43 cfs 0.080 af

Subcatchment2.5S: Area 2.5 Runoff Area=8,000 sf 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=0.76 cfs 0.042 af

Subcatchment2.6S: Area 2.6 Runoff Area=229,805 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=862' Tc=11.3 min CN=73 Runoff=6.27 cfs 0.377 af

Subcatchment2.7S: Area 2.7 Runoff Area=108,393 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=715' Tc=6.0 min CN=73 Runoff=3.63 cfs 0.178 af

Subcatchment2.8S: Area 2.8 Runoff Area=28,100 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=365' Tc=6.0 min CN=73 Runoff=0.94 cfs 0.046 af

Subcatchment2.9S: Area 2.9 Runoff Area=138,145 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=680' Tc=9.4 min CN=73 Runoff=4.04 cfs 0.227 af

Subcatchment2aS: Area 2A Runoff Area=55,140 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=190' Tc=9.3 min CN=72 Runoff=1.51 cfs 0.085 af

Subcatchment2bS: Area 2b Runoff Area=204,120 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=160' Tc=8.4 min CN=73 Runoff=6.25 cfs 0.335 af

Subcatchment3.1S: Area 3.1 Runoff Area=105,215 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=595' Tc=6.0 min CN=72 Runoff=3.30 cfs 0.163 af

Subcatchment4.1S: Area 4.1 Runoff Area=621,690 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,390' Tc=13.6 min CN=72 Runoff=14.44 cfs 0.961 af

Subcatchment4.2S: Area 4.2 Runoff Area=32,235 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=40' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=3.05 cfs 0.171 af

Subcatchment4.3S: Area 4.3 Runoff Area=292,890 sf 8.33% Impervious Runoff Depth=0.96"
Flow Length=1,060' Tc=7.2 min CN=75 Runoff=10.71 cfs 0.538 af

Subcatchment 4.4S: Area 4.4 Runoff Area=72,240 sf 10.38% Impervious Runoff Depth=1.02"
Flow Length=380' Tc=6.9 min CN=76 Runoff=2.83 cfs 0.140 af

Subcatchment 4.5S: Area 4.5 Runoff Area=46,440 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=30' Slope=0.1250 '/' Tc=6.0 min CN=74 Runoff=1.66 cfs 0.081 af

Subcatchment 4.6S: Area-4.6 Runoff Area=155,010 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=900' Slope=0.1000 '/' Tc=6.0 min CN=73 Runoff=5.20 cfs 0.254 af

Subcatchment 4.7S: Area-4.7 Runoff Area=110,150 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=320' Tc=8.1 min CN=72 Runoff=3.19 cfs 0.170 af

Subcatchment 4.8: Area-4.8 Runoff Area=1,585 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=100' Slope=0.2200 '/' Tc=14.8 min CN=72 Runoff=0.04 cfs 0.002 af

Subcatchment 5.1S: Area-5.1 Runoff Area=553,165 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,200' Tc=12.2 min CN=72 Runoff=13.58 cfs 0.855 af

Subcatchment 5.2S: Area-5.2 Runoff Area=147,335 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=695' Tc=9.9 min CN=73 Runoff=4.22 cfs 0.242 af

Subcatchment 5.3S: Area 5.3 Runoff Area=382,265 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,528' Tc=9.7 min CN=72 Runoff=10.28 cfs 0.591 af

Subcatchment 6.1S: Area 6.1 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=93 Runoff=0.67 cfs 0.034 af

Subcatchment 6.2S: Area 6.2 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=93 Runoff=0.67 cfs 0.034 af

Subcatchment 6.3S: Area 6.3 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=93 Runoff=0.67 cfs 0.034 af

Subcatchment 6.4S: AREA 6.1 Runoff Area=66,488 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=380' Tc=6.0 min CN=72 Runoff=2.08 cfs 0.103 af

Subcatchment 7.1S: Area-7 Runoff Area=105,675 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=150' Tc=6.4 min CN=71 Runoff=3.05 cfs 0.154 af

Subcatchment 8.10S: Area 8.10 Runoff Area=212,018 sf 8.40% Impervious Runoff Depth=0.96"
Flow Length=762' Tc=7.4 min CN=75 Runoff=7.70 cfs 0.390 af

Subcatchment 8.11S: Area-8.11 Runoff Area=121,400 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=585' Tc=6.4 min CN=73 Runoff=4.02 cfs 0.199 af

Subcatchment 8.12S: Area 8.12 Runoff Area=27,016 sf 65.89% Impervious Runoff Depth=1.98"
Flow Length=865' Tc=6.0 min CN=90 Runoff=2.06 cfs 0.103 af

Subcatchment 8.13S: Area 8.13 Runoff Area=26,292 sf 66.94% Impervious Runoff Depth=1.98"
Flow Length=795' Tc=6.0 min CN=90 Runoff=2.01 cfs 0.100 af

Subcatchment 8.15S: Area 8.15 Runoff Area=94,118 sf 34.15% Impervious Runoff Depth=1.38"
Flow Length=1,597' Tc=6.0 min CN=82 Runoff=5.14 cfs 0.248 af

Subcatchment 8.16S: Area 8.16 Runoff Area=20,576 sf 30.13% Impervious Runoff Depth=1.31"
Tc=6.0 min CN=81 Runoff=1.08 cfs 0.052 af

Subcatchment 8.17S: Area 8.17 Runoff Area=102,463 sf 39.21% Impervious Runoff Depth=1.45"
Flow Length=1,330' Tc=6.0 min CN=83 Runoff=5.86 cfs 0.284 af

Subcatchment 8.1S: Area-8.1 Runoff Area=226,675 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,117' Tc=10.1 min CN=72 Runoff=6.01 cfs 0.350 af

Subcatchment 8.2S: Area 8.2 Runoff Area=100,400 sf 9.56% Impervious Runoff Depth=0.91"
Flow Length=450' Slope=0.3000 '/' Tc=8.7 min CN=74 Runoff=3.24 cfs 0.174 af

Subcatchment 8.3S: Area 8.3 Runoff Area=49,890 sf 16.92% Impervious Runoff Depth=1.13"
Flow Length=415' Slope=0.0300 '/' Tc=6.0 min CN=78 Runoff=2.25 cfs 0.108 af

Subcatchment 8.4S: Area 8.4 Runoff Area=224,571 sf 3.30% Impervious Runoff Depth=0.86"
Flow Length=890' Tc=10.5 min CN=73 Runoff=6.30 cfs 0.368 af

Subcatchment 8.5S: Area-8.5 Runoff Area=655,085 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,768' Tc=32.1 min CN=72 Runoff=8.88 cfs 1.013 af

Subcatchment 8.6S: Area 8.6 Runoff Area=118,266 sf 28.55% Impervious Runoff Depth=1.25"
Flow Length=737' Tc=13.3 min CN=80 Runoff=4.58 cfs 0.283 af

Subcatchment 8.7S: Area 8.7 Runoff Area=174,248 sf 32.50% Impervious Runoff Depth=1.31"
Flow Length=910' Tc=9.8 min CN=81 Runoff=8.01 cfs 0.438 af

Subcatchment 8.8S: Area 8.8 Runoff Area=67,318 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=524' Slope=0.0850 '/' Tc=6.0 min CN=73 Runoff=2.26 cfs 0.110 af

Subcatchment 8.9S: Area 8.9 Runoff Area=31,465 sf 72.46% Impervious Runoff Depth=2.07"
Flow Length=1,125' Tc=6.0 min CN=91 Runoff=2.49 cfs 0.125 af

Subcatchment 9.10S: Area 9.10 Runoff Area=317,221 sf 8.54% Impervious Runoff Depth=0.91"
Flow Length=1,240' Slope=0.1000 '/' Tc=6.0 min UI Adjusted CN=74 Runoff=11.33 cfs 0.551 af

Subcatchment 9.11S: Area 9.11S Runoff Area=126,900 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=975' Tc=14.2 min CN=73 Runoff=3.09 cfs 0.208 af

Subcatchment 9.12S: Area 9.12S Runoff Area=29,060 sf 85.68% Impervious Runoff Depth=2.45"
Flow Length=925' Tc=6.0 min CN=95 Runoff=2.59 cfs 0.136 af

Subcatchment 9.13S: Area 9.13 Runoff Area=49,485 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=1,695' Tc=6.0 min CN=98 Runoff=4.68 cfs 0.262 af

Subcatchment 9.14S: Area 9.14 Runoff Area=241,600 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=890' Tc=9.7 min CN=72 Runoff=6.50 cfs 0.373 af

Subcatchment 9.1S: Area 9.1 Runoff Area=153,790 sf 2.99% Impervious Runoff Depth=0.86"
Flow Length=760' Tc=8.1 min CN=73 Runoff=4.77 cfs 0.252 af

Subcatchment 9.5S: Area 9.5 Runoff Area=52,243 sf 12.06% Impervious Runoff Depth=0.96"
Flow Length=412' Slope=0.2000 '/' Tc=10.3 min CN=75 Runoff=1.68 cfs 0.096 af

Subcatchment 9.6S: Area 9.6 Runoff Area=164,855 sf 10.81% Impervious Runoff Depth=1.02"
Flow Length=543' Slope=0.1000 '/' Tc=6.0 min CN=76 Runoff=6.64 cfs 0.320 af

Subcatchment 9.9S: Area 9.9 Runoff Area=95,744 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=300' Tc=6.0 min CN=73 Runoff=3.21 cfs 0.157 af

Subcatchment 11.10S: Area-11.10 Runoff Area=26,000 sf 65.96% Impervious Runoff Depth=1.98"
Flow Length=220' Tc=6.0 min CN=90 Runoff=1.99 cfs 0.099 af

Subcatchment 11.11S: Area-11.11 Runoff Area=59,520 sf 60.26% Impervious Runoff Depth=1.82"
Flow Length=497' Tc=6.0 min CN=88 Runoff=4.22 cfs 0.207 af

Subcatchment 11.12S: Area-11.12 Runoff Area=54,672 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=284' Tc=7.4 min CN=72 Runoff=1.63 cfs 0.085 af

Subcatchment 11.13S: Area-11.13 Runoff Area=10,160 sf 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=0.96 cfs 0.054 af

Subcatchment 11.14S: Area-11.14 Runoff Area=195,163 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=520' Tc=13.7 min CN=72 Runoff=4.52 cfs 0.302 af

Subcatchment 11.15S: Area-11.15 Runoff Area=45,543 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=836' Tc=14.9 min CN=74 Runoff=1.16 cfs 0.079 af

Subcatchment 11.16S: Area-11.16 Runoff Area=28,535 sf 58.70% Impervious Runoff Depth=1.82"
Flow Length=690' Tc=6.0 min CN=88 Runoff=2.02 cfs 0.099 af

Subcatchment 11.17S: Area-11.17 Runoff Area=15,901 sf 78.17% Impervious Runoff Depth=2.25"
Flow Length=520' Slope=0.0250 '/' Tc=6.0 min CN=93 Runoff=1.34 cfs 0.069 af

Subcatchment 11.18S: Area-11.18 Runoff Area=496,244 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,750' Tc=20.7 min CN=72 Runoff=9.05 cfs 0.767 af

Subcatchment 11.19S: Area-11.19 Runoff Area=365,755 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,586' Tc=23.3 min CN=72 Runoff=6.16 cfs 0.565 af

Subcatchment 11.20S: Area-11.20 Runoff Area=28,250 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=497' Tc=6.0 min CN=72 Runoff=0.89 cfs 0.044 af

Subcatchment 11.21S: Area-11.21 Runoff Area=227,244 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,506' Tc=15.2 min CN=72 Runoff=4.97 cfs 0.351 af

Subcatchment 11.23S: Area 11.23 Runoff Area=49,500 sf 14.06% Impervious Runoff Depth=1.02"
Flow Length=490' Tc=6.0 min CN=76 Runoff=1.99 cfs 0.096 af

Subcatchment 11.24S: Area 11.24 Runoff Area=25,034 sf 22.45% Impervious Runoff Depth=1.19"
Flow Length=475' Tc=6.0 min CN=79 Runoff=1.19 cfs 0.057 af

Subcatchment11.25S: Area 11.25 Runoff Area=68,850 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=455' Tc=8.7 min CN=73 Runoff=2.08 cfs 0.113 af

Subcatchment11.26S: Area-11.26 Runoff Area=38,546 sf 67.49% Impervious Runoff Depth=1.98"
Flow Length=490' Tc=6.0 min CN=90 Runoff=2.94 cfs 0.146 af

Subcatchment11.27S: Area-11.27 Runoff Area=66,220 sf 70.97% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=91 Runoff=5.24 cfs 0.262 af

Subcatchment11.28S: Area-11.28 Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=20' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=0.57 cfs 0.032 af

Subcatchment11.29S: Area 11.29 Runoff Area=21,107 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=195' Tc=6.0 min CN=72 Runoff=0.66 cfs 0.033 af

Subcatchment11.2S: Area-11.2 Runoff Area=1,298,764 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,720' Tc=40.5 min CN=72 Runoff=14.89 cfs 2.008 af

Subcatchment11.32S: Area-11.5 Runoff Area=236,106 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,303' Tc=21.6 min CN=72 Runoff=4.19 cfs 0.365 af

Subcatchment11.33S: Area-11.33 Runoff Area=115,090 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=670' Tc=23.1 min CN=74 Runoff=2.26 cfs 0.200 af

Subcatchment11.34S: Area-11.34 Runoff Area=56,117 sf 0.00% Impervious Runoff Depth=0.91"
Flow Length=575' Tc=14.1 min CN=74 Runoff=1.47 cfs 0.098 af

Subcatchment11.35S: Area-11.35 Runoff Area=23,266 sf 0.00% Impervious Runoff Depth=1.13"
Flow Length=370' Slope=0.1500 '/' Tc=6.0 min CN=78 Runoff=1.05 cfs 0.050 af

Subcatchment11.36S: Area-11.36 Runoff Area=69,230 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=590' Tc=9.1 min CN=73 Runoff=2.05 cfs 0.114 af

Subcatchment11.38S: Area-11.38 Runoff Area=14,250 sf 0.00% Impervious Runoff Depth=1.02"
Flow Length=185' Slope=0.2500 '/' Tc=6.0 min CN=76 Runoff=0.57 cfs 0.028 af

Subcatchment11.39S: Area-11.39 Runoff Area=21,350 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=435' Tc=7.6 min CN=71 Runoff=0.59 cfs 0.031 af

Subcatchment11.3S: Area-11.3 Runoff Area=2,817,597 sf 9.13% Impervious Runoff Depth=0.96"
Flow Length=5,405' Tc=32.9 min CN=75 Runoff=46.89 cfs 5.179 af

Subcatchment11.40S: Area-11.40 Runoff Area=43,800 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=2,190' Tc=6.0 min CN=98 Runoff=4.14 cfs 0.232 af

Subcatchment11.41S: Area-11.41 Runoff Area=77,380 sf 0.00% Impervious Runoff Depth=0.76"
Flow Length=355' Tc=8.9 min CN=71 Runoff=2.01 cfs 0.113 af

Subcatchment11.4S: Area-11.4 Runoff Area=39,350 sf 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=3.72 cfs 0.208 af

Subcatchment11.5S: Area-11.5 Runoff Area=243,794 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=950' Tc=10.4 min CN=72 Runoff=6.40 cfs 0.377 af

Subcatchment 11.6S: Area-11.6 Runoff Area=24,550 sf 0.00% Impervious Runoff Depth=0.86"
Tc=6.0 min CN=73 Runoff=0.82 cfs 0.040 af

Subcatchment 11.7S: Area-11.7 Runoff Area=66,763 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=810' Tc=6.0 min CN=73 Runoff=2.24 cfs 0.110 af

Subcatchment 11.8S: Area-11.8 Runoff Area=238,239 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,367' Tc=15.3 min CN=72 Runoff=5.19 cfs 0.368 af

Subcatchment 11.9S: Area-11.9 Runoff Area=87,870 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=805' Tc=9.5 min CN=73 Runoff=2.56 cfs 0.144 af

Subcatchment 12.1S: Area-12.1 Runoff Area=555,875 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=1,995' Tc=39.2 min CN=72 Runoff=6.52 cfs 0.859 af

Subcatchment 12.2S: Area-12.2 Runoff Area=249,685 sf 14.15% Impervious Runoff Depth=1.07"
Flow Length=480' Tc=11.2 min CN=77 Runoff=8.80 cfs 0.512 af

Subcatchment 12.3S: Area-12.3 Runoff Area=18,250 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=380' Tc=6.0 min CN=98 Runoff=1.72 cfs 0.097 af

Reach 11.10R: Mountain stream Avg. Flow Depth=0.28' Max Vel=6.58 fps Inflow=46.76 cfs 8.034 af
n=0.040 L=393.0' S=0.1730 '/' Capacity=3,320.07 cfs Outflow=46.53 cfs 8.034 af

Reach 11.3aR: Bouldery stream Avg. Flow Depth=0.18' Max Vel=5.99 fps Inflow=16.37 cfs 2.424 af
n=0.050 L=142.0' S=0.4014 '/' Capacity=2,234.38 cfs Outflow=16.35 cfs 2.424 af

Reach 11.4aR: DP11.3 Avg. Flow Depth=0.40' Max Vel=8.84 fps Inflow=28.87 cfs 4.200 af
n=0.050 L=220.0' S=0.3636 '/' Capacity=858.32 cfs Outflow=28.76 cfs 4.200 af

Reach 11.4bR: DP11.4 Avg. Flow Depth=0.18' Max Vel=5.01 fps Inflow=1.36 cfs 1.560 af
n=0.040 L=145.0' S=0.2621 '/' Capacity=231.18 cfs Outflow=1.33 cfs 1.560 af

Reach 11.4R: DP-11.2 Avg. Flow Depth=0.50' Max Vel=6.47 fps Inflow=28.51 cfs 4.087 af
n=0.050 L=267.0' S=0.1498 '/' Capacity=575.36 cfs Outflow=28.44 cfs 4.087 af

Reach 11.5aR: DP11.5 Avg. Flow Depth=0.20' Max Vel=4.92 fps Inflow=1.51 cfs 0.166 af
n=0.040 L=620.0' S=0.2323 '/' Capacity=217.63 cfs Outflow=1.44 cfs 0.166 af

Reach 11.5R: Mountain stream Avg. Flow Depth=0.31' Max Vel=6.27 fps Inflow=29.32 cfs 5.760 af
n=0.050 L=455.0' S=0.2242 '/' Capacity=2,943.05 cfs Outflow=29.21 cfs 5.760 af

Reach 11.6aR: Mountain stream Avg. Flow Depth=0.43' Max Vel=10.12 fps Inflow=47.66 cfs 8.033 af
n=0.050 L=245.0' S=0.4000 '/' Capacity=3,987.80 cfs Outflow=47.52 cfs 8.033 af

Reach 11.6R: Mountain stream Avg. Flow Depth=0.38' Max Vel=7.36 fps Inflow=29.94 cfs 5.926 af
n=0.050 L=475.0' S=0.2505 '/' Capacity=3,155.95 cfs Outflow=29.77 cfs 5.926 af

Reach 11.8R: Mountain stream Avg. Flow Depth=0.37' Max Vel=8.37 fps Inflow=47.52 cfs 8.033 af
n=0.050 L=360.0' S=0.3139 '/' Capacity=13,400.37 cfs Outflow=47.07 cfs 8.033 af

Reach 14R: Donwstream Analysis Inflow=25.43 cfs 3.706 af
Outflow=25.43 cfs 3.706 af

Reach DP-1: Design Point-1 Avg. Flow Depth=0.49' Max Vel=8.33 fps Inflow=30.81 cfs 5.586 af
n=0.040 L=10.0' S=0.1500 '/' Capacity=670.80 cfs Outflow=30.81 cfs 5.586 af

Reach DP-11: Design Point-11 Inflow=92.59 cfs 13.313 af
Outflow=92.59 cfs 13.313 af

Reach DP-12: Design Point-12 Avg. Flow Depth=0.30' Max Vel=6.59 fps Inflow=6.79 cfs 1.552 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=128.70 cfs Outflow=6.78 cfs 1.552 af

Reach DP-1a: Design Point-1a Avg. Flow Depth=0.14' Max Vel=2.90 fps Inflow=1.51 cfs 1.396 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=97.10 cfs Outflow=1.50 cfs 1.396 af

Reach DP-2: Design Point-2 Avg. Flow Depth=0.38' Max Vel=8.05 fps Inflow=16.09 cfs 2.964 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=233.42 cfs Outflow=16.08 cfs 2.964 af

Reach DP-2a: Design Point-2a Inflow=1.51 cfs 0.085 af
Outflow=1.51 cfs 0.085 af

Reach DP-2b: Design Point-2b Inflow=6.25 cfs 0.335 af
Outflow=6.25 cfs 0.335 af

Reach DP-3: Design Point-3 Avg. Flow Depth=0.25' Max Vel=7.89 fps Inflow=3.30 cfs 0.163 af
n=0.040 L=150.0' S=0.4000 '/' Capacity=79.12 cfs Outflow=3.25 cfs 0.163 af

Reach DP-4: Design Point-4 Avg. Flow Depth=0.21' Max Vel=6.24 fps Inflow=8.03 cfs 2.827 af
n=0.050 L=10.0' S=0.4000 '/' Capacity=768.66 cfs Outflow=8.02 cfs 2.827 af

Reach DP-5: Design Point-5 Avg. Flow Depth=0.74' Max Vel=8.88 fps Inflow=26.72 cfs 1.765 af
n=0.035 L=10.0' S=0.1000 '/' Capacity=273.11 cfs Outflow=26.70 cfs 1.765 af

Reach DP-6: Design Point 6 Inflow=2.14 cfs 0.206 af
Outflow=2.14 cfs 0.206 af

Reach DP-7: Design Point-7 Inflow=3.05 cfs 0.154 af
Outflow=3.05 cfs 0.154 af

Reach DP-8: Design Point-8 Avg. Flow Depth=0.46' Max Vel=5.97 fps Inflow=10.63 cfs 4.453 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=277.01 cfs Outflow=10.63 cfs 4.453 af

Reach DP-9: Design Point-9 Avg. Flow Depth=0.79' Max Vel=7.58 fps Inflow=16.72 cfs 2.729 af
n=0.040 L=100.0' S=0.1000 '/' Capacity=152.56 cfs Outflow=16.45 cfs 2.729 af

Reach R1.1: Mountain Stream Avg. Flow Depth=0.35' Max Vel=6.54 fps Inflow=26.32 cfs 2.448 af
n=0.040 L=805.0' S=0.1342 '/' Capacity=1,947.63 cfs Outflow=25.85 cfs 2.448 af

Reach R1.12: WETLAND Avg. Flow Depth=0.02' Max Vel=2.02 fps Inflow=0.61 cfs 1.334 af
n=0.035 L=200.0' S=0.6000 '/' Capacity=206.27 cfs Outflow=0.61 cfs 1.334 af

Reach R1.2: Mountain Stream Avg. Flow Depth=0.55' Max Vel=8.41 fps Inflow=27.52 cfs 2.675 af
n=0.040 L=616.0' S=0.1461 '/' Capacity=636.66 cfs Outflow=27.20 cfs 2.675 af

Reach R1.8: WETLAND Avg. Flow Depth=0.09' Max Vel=2.43 fps Inflow=4.65 cfs 0.311 af
n=0.070 L=120.0' S=0.3083 '/' Capacity=73.93 cfs Outflow=4.45 cfs 0.311 af

Reach R11.1: DP11.6 Avg. Flow Depth=0.37' Max Vel=3.50 fps Inflow=4.73 cfs 0.447 af
n=0.070 L=310.0' S=0.1742 '/' Capacity=102.63 cfs Outflow=4.58 cfs 0.447 af

Reach R11.12: Mountain stream Avg. Flow Depth=0.32' Max Vel=8.42 fps Inflow=4.98 cfs 0.383 af
n=0.040 L=200.0' S=0.3350 '/' Capacity=678.27 cfs Outflow=4.93 cfs 0.383 af

Reach R11.13: Mountain stream Avg. Flow Depth=0.20' Max Vel=6.07 fps Inflow=14.89 cfs 2.008 af
n=0.050 L=180.0' S=0.3611 '/' Capacity=5,898.94 cfs Outflow=14.85 cfs 2.008 af

Reach R11.14: Mountain stream Avg. Flow Depth=0.09' Max Vel=3.09 fps Inflow=0.89 cfs 0.044 af
n=0.040 L=140.0' S=0.2071 '/' Capacity=989.43 cfs Outflow=0.85 cfs 0.044 af

Reach R11.16: SWALE Avg. Flow Depth=0.54' Max Vel=6.58 fps Inflow=9.06 cfs 0.791 af
n=0.040 L=450.0' S=0.1111 '/' Capacity=160.81 cfs Outflow=8.89 cfs 0.791 af

Reach R11.1A: DP11.7 Avg. Flow Depth=0.54' Max Vel=7.91 fps Inflow=19.44 cfs 2.107 af
n=0.040 L=950.0' S=0.1884 '/' Capacity=186.80 cfs Outflow=18.92 cfs 2.107 af

Reach R11.1B: Mountain stream Avg. Flow Depth=0.25' Max Vel=5.87 fps Inflow=4.53 cfs 0.320 af
n=0.040 L=200.0' S=0.2500 '/' Capacity=215.17 cfs Outflow=4.44 cfs 0.320 af

Reach R11.25: SWALE Avg. Flow Depth=0.72' Max Vel=5.25 fps Inflow=13.13 cfs 1.027 af
n=0.040 L=350.0' S=0.0543 '/' Capacity=110.44 cfs Outflow=12.74 cfs 1.027 af

Reach R11.27: Overland Avg. Flow Depth=0.05' Max Vel=2.65 fps Inflow=13.88 cfs 1.106 af
n=0.035 L=640.0' S=0.2156 '/' Capacity=620.34 cfs Outflow=12.84 cfs 1.106 af

Reach R11.30: SWALE Avg. Flow Depth=0.08' Max Vel=0.62 fps Inflow=0.11 cfs 0.186 af
n=0.040 L=325.0' S=0.0092 '/' Capacity=24.23 cfs Outflow=0.11 cfs 0.186 af

Reach R11.31: SWALE Avg. Flow Depth=0.14' Max Vel=1.80 fps Inflow=0.53 cfs 0.096 af
n=0.040 L=140.0' S=0.0393 '/' Capacity=49.99 cfs Outflow=0.51 cfs 0.096 af

Reach R11.33: Bouldery stream Avg. Flow Depth=0.26' Max Vel=4.58 fps Inflow=9.21 cfs 1.097 af
n=0.050 L=190.0' S=0.1579 '/' Capacity=454.15 cfs Outflow=9.13 cfs 1.097 af

Reach R11.37: SWALE Avg. Flow Depth=0.63' Max Vel=6.78 fps Inflow=11.29 cfs 0.882 af
n=0.040 L=600.0' S=0.1000 '/' Capacity=96.77 cfs Outflow=10.88 cfs 0.882 af

Reach R11.38: Wetland Avg. Flow Depth=0.02' Max Vel=0.16 fps Inflow=0.11 cfs 0.186 af
n=0.100 L=306.0' S=0.0163 '/' Capacity=14.90 cfs Outflow=0.10 cfs 0.186 af

Reach R11.39: SWALE Avg. Flow Depth=0.06' Max Vel=1.58 fps Inflow=0.20 cfs 0.262 af
n=0.040 L=310.0' S=0.0806 '/' Capacity=49.35 cfs Outflow=0.20 cfs 0.262 af

Reach R11.40: SWALE Avg. Flow Depth=0.22' Max Vel=6.71 fps Inflow=3.72 cfs 0.208 af
n=0.040 L=310.0' S=0.3226 '/' Capacity=143.25 cfs Outflow=3.62 cfs 0.208 af

Reach R2.7: SWALE Avg. Flow Depth=0.46' Max Vel=3.03 fps Inflow=4.64 cfs 0.338 af
n=0.040 L=705.0' S=0.0298 '/' Capacity=81.81 cfs Outflow=3.91 cfs 0.338 af

Reach R2.9: Stream Avg. Flow Depth=0.36' Max Vel=8.52 fps Inflow=16.08 cfs 2.964 af
n=0.040 L=680.0' S=0.2412 '/' Capacity=256.33 cfs Outflow=15.56 cfs 2.964 af

Reach R3.1: SWALE Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=420.0' S=0.2381 '/' Capacity=123.06 cfs Outflow=0.00 cfs 0.000 af

Reach R4.2: SWALE Avg. Flow Depth=0.34' Max Vel=7.02 fps Inflow=16.03 cfs 1.267 af
n=0.040 L=350.0' S=0.1771 '/' Capacity=219.76 cfs Outflow=15.63 cfs 1.267 af

Reach R4.5: swale Avg. Flow Depth=0.40' Max Vel=5.51 fps Inflow=5.42 cfs 2.654 af
n=0.040 L=560.0' S=0.1071 '/' Capacity=100.17 cfs Outflow=4.97 cfs 2.654 af

Reach R4.7: swale Avg. Flow Depth=0.31' Max Vel=9.88 fps Inflow=8.05 cfs 2.825 af
n=0.040 L=60.0' S=0.4833 '/' Capacity=329.55 cfs Outflow=8.00 cfs 2.825 af

Reach R5.2: SWALE Avg. Flow Depth=0.57' Max Vel=6.98 fps Inflow=10.28 cfs 0.591 af
n=0.040 L=640.0' S=0.1187 '/' Capacity=105.45 cfs Outflow=9.70 cfs 0.591 af

Reach R5.3: SWALE Avg. Flow Depth=0.81' Max Vel=4.64 fps Inflow=13.69 cfs 0.909 af
n=0.040 L=187.0' S=0.0374 '/' Capacity=151.95 cfs Outflow=13.26 cfs 0.909 af

Reach R8.16: SWALE Avg. Flow Depth=0.38' Max Vel=7.96 fps Inflow=14.27 cfs 1.064 af
n=0.040 L=315.0' S=0.2159 '/' Capacity=178.88 cfs Outflow=13.85 cfs 1.064 af

Reach R8.17: SWALE Avg. Flow Depth=0.38' Max Vel=7.93 fps Inflow=14.43 cfs 1.171 af
n=0.040 L=280.0' S=0.2107 '/' Capacity=176.73 cfs Outflow=14.16 cfs 1.171 af

Reach R8.18: Mountain stream Avg. Flow Depth=0.57' Max Vel=4.26 fps Inflow=8.92 cfs 1.082 af
n=0.080 L=870.0' S=0.1736 '/' Capacity=109.52 cfs Outflow=8.73 cfs 1.082 af

Reach R8.2: SWALE Avg. Flow Depth=0.39' Max Vel=4.42 fps Inflow=4.19 cfs 0.283 af
n=0.040 L=407.0' S=0.0713 '/' Capacity=46.39 cfs Outflow=4.04 cfs 0.283 af

Reach R8.21: SWALE Avg. Flow Depth=0.42' Max Vel=9.58 fps Inflow=19.45 cfs 1.441 af
n=0.040 L=520.0' S=0.2788 '/' Capacity=203.30 cfs Outflow=18.57 cfs 1.441 af

Reach R8.4: SWALE Avg. Flow Depth=0.59' Max Vel=6.12 fps Inflow=9.53 cfs 0.720 af
n=0.040 L=525.0' S=0.0876 '/' Capacity=51.44 cfs Outflow=9.23 cfs 0.720 af

Reach R8.6: SWALE Avg. Flow Depth=0.57' Max Vel=6.91 fps Inflow=10.10 cfs 0.886 af
n=0.040 L=345.0' S=0.1159 '/' Capacity=59.17 cfs Outflow=9.99 cfs 0.886 af

Reach R9.10: Swale Avg. Flow Depth=0.10' Max Vel=2.15 fps Inflow=0.48 cfs 1.423 af
n=0.040 L=170.0' S=0.0824 '/' Capacity=136.03 cfs Outflow=0.48 cfs 1.423 af

Reach R9.2: Swale Avg. Flow Depth=0.40' Max Vel=5.21 fps Inflow=6.50 cfs 0.373 af
n=0.040 L=1,250.0' S=0.1016 '/' Capacity=80.39 cfs Outflow=5.64 cfs 0.373 af

Reach R9.3: Swale Avg. Flow Depth=0.58' Max Vel=6.73 fps Inflow=13.42 cfs 0.999 af
n=0.040 L=1,000.0' S=0.1120 '/' Capacity=158.64 cfs Outflow=12.49 cfs 0.999 af

Reach R9.4: Swale Avg. Flow Depth=0.51' Max Vel=5.91 fps Inflow=9.34 cfs 0.699 af
n=0.040 L=540.0' S=0.0981 '/' Capacity=148.51 cfs Outflow=8.83 cfs 0.699 af

Pond 6.2P: BIORETENTION Peak Elev=1,686.51' Storage=1,561 cf Inflow=0.67 cfs 0.034 af
Outflow=0.04 cfs 0.034 af

Pond 6.3P: BIORETENTION Peak Elev=1,686.51' Storage=1,561 cf Inflow=0.67 cfs 0.034 af
Outflow=0.04 cfs 0.034 af

Pond 11.3R: DP11.1 Peak Elev=2,411.99' Storage=617 cf Inflow=16.38 cfs 2.431 af
72.0" Round Culvert x 2.00 n=0.025 L=120.0' S=0.1333 '/' Outflow=16.37 cfs 2.424 af

Pond 11.7R: Culvert Peak Elev=1,892.60' Inflow=47.52 cfs 8.033 af
Outflow=47.52 cfs 8.033 af

Pond 11.9R: Culvert Peak Elev=1,774.89' Storage=1,584 cf Inflow=47.07 cfs 8.033 af
Outflow=46.76 cfs 8.034 af

Pond P1.1: Pond 1.1 Peak Elev=2,162.06' Storage=60,853 cf Inflow=17.56 cfs 1.335 af
Outflow=0.61 cfs 1.334 af

Pond P1.2: BIORETENTION Peak Elev=2,227.48' Storage=3,063 cf Inflow=0.90 cfs 0.046 af
Outflow=0.03 cfs 0.046 af

Pond P1.3: Pond 1.3 Peak Elev=2,167.08' Storage=96,212 cf Inflow=19.60 cfs 2.277 af
Outflow=0.89 cfs 2.273 af

Pond P1.4: BIORETENTION Peak Elev=2,214.51' Storage=14,500 cf Inflow=4.09 cfs 0.228 af
Outflow=0.14 cfs 0.228 af

Pond P11.1: P-1 Peak Elev=2,301.07' Storage=60,534 cf Inflow=13.88 cfs 1.512 af
Outflow=0.51 cfs 1.509 af

Pond P11.10: DRY SWALE Peak Elev=2,193.08' Storage=1,554 cf Inflow=1.99 cfs 0.096 af
Outflow=0.53 cfs 0.096 af

Pond P11.11: BIORETENTION Peak Elev=2,182.52' Storage=5,859 cf Inflow=0.67 cfs 0.129 af
Outflow=0.07 cfs 0.129 af

Pond P11.12: BIORETENTION Peak Elev=2,411.90' Storage=7,928 cf Inflow=4.22 cfs 0.207 af
Outflow=0.65 cfs 0.207 af

Pond P11.14: BIORETENTION Peak Elev=2,411.53' Storage=6,252 cf Inflow=1.99 cfs 0.099 af
Outflow=0.09 cfs 0.099 af

Pond P11.2: BIORETENTION Peak Elev=2,372.55' Storage=16,551 cf Inflow=5.23 cfs 0.293 af
Outflow=0.27 cfs 0.293 af

Pond P11.4: BIORETENTION Peak Elev=2,458.53' Storage=17,098 cf Inflow=5.24 cfs 0.262 af
Outflow=0.20 cfs 0.262 af

Pond P11.6: DRY SWALE Peak Elev=2,482.97' Storage=969 cf Inflow=0.57 cfs 0.032 af
Outflow=0.01 cfs 0.032 af

Pond P11.7: BIORETENTION Peak Elev=2,248.50' Storage=6,915 cf Inflow=2.02 cfs 0.099 af
Outflow=0.06 cfs 0.099 af

Pond P11.8: BIORETENTION Peak Elev=2,260.50' Storage=4,679 cf Inflow=1.34 cfs 0.069 af
Outflow=0.04 cfs 0.069 af

Pond P11.9: BIORETENTION Peak Elev=2,219.51' Storage=3,113 cf Inflow=1.19 cfs 0.057 af
Outflow=0.06 cfs 0.057 af

Pond P12.1: Pond 12.1 Peak Elev=2,298.24' Storage=31,592 cf Inflow=10.07 cfs 0.696 af
Outflow=0.30 cfs 0.693 af

Pond P2.1: Pond 2.1 Peak Elev=2,185.44' Storage=71,363 cf Inflow=19.97 cfs 1.569 af
Outflow=0.63 cfs 1.564 af

Pond P4.1: P-1 Peak Elev=2,187.90' Storage=85,421 cf Inflow=28.36 cfs 2.402 af
Primary=2.84 cfs 2.400 af Secondary=0.00 cfs 0.000 af Outflow=2.84 cfs 2.400 af

Pond P6.1: BIORETENTION Peak Elev=1,686.51' Storage=1,561 cf Inflow=0.67 cfs 0.034 af
Outflow=0.04 cfs 0.034 af

Pond P8.1: DRY SWALE Peak Elev=2,309.33' Storage=2,277 cf Inflow=4.58 cfs 0.283 af
Outflow=4.19 cfs 0.283 af

Pond P8.2: P-3 Peak Elev=1,681.72' Storage=54,194 cf Inflow=17.15 cfs 1.346 af
Outflow=1.35 cfs 1.345 af

Pond P8.3: DRY SWALE Peak Elev=1,756.13' Storage=1,598 cf Inflow=2.25 cfs 0.108 af
Outflow=1.05 cfs 0.108 af

Pond P8.4: P-3 Peak Elev=1,668.40' Storage=76,810 cf Inflow=22.28 cfs 1.658 af
Primary=0.60 cfs 1.658 af Secondary=0.00 cfs 0.000 af Outflow=0.60 cfs 1.658 af

Pond P8.5: I-2 Peak Elev=1,677.22' Storage=7,710 cf Inflow=5.86 cfs 0.284 af
Discarded=0.14 cfs 0.284 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.284 af

Pond P9.2: Pond 9.2 Peak Elev=1,672.36' Storage=64,568 cf Inflow=19.89 cfs 1.423 af
Outflow=0.48 cfs 1.423 af

Pond R1.10: PIPE Peak Elev=2,261.55' Inflow=15.67 cfs 1.723 af
36.0" Round Culvert n=0.020 L=1,125.0' S=0.0667 '/' Outflow=15.67 cfs 1.723 af

Pond R1.11: Pipe Peak Elev=2,191.42' Inflow=16.24 cfs 1.835 af
48.0" Round Culvert n=0.020 L=230.0' S=0.0435 '/' Outflow=16.24 cfs 1.835 af

Pond R1.3: Culvert Peak Elev=2,401.29' Inflow=9.92 cfs 0.736 af
36.0" Round Culvert n=0.013 L=1,255.0' S=0.0653 '/' Outflow=9.92 cfs 0.736 af

Pond R1.4: pipe Peak Elev=2,301.21' Inflow=9.92 cfs 0.736 af
36.0" Round Culvert n=0.020 L=950.0' S=0.0926 '/' Outflow=9.92 cfs 0.736 af

Pond R1.5: Pipe Peak Elev=2,196.32' Inflow=11.74 cfs 0.930 af
36.0" Round Culvert n=0.020 L=120.0' S=0.1250 '/' Outflow=11.74 cfs 0.930 af

Pond R1.6: pipe Peak Elev=2,208.07' Inflow=3.61 cfs 0.193 af
24.0" Round Culvert n=0.020 L=260.0' S=0.0050 '/' Outflow=3.61 cfs 0.193 af

Pond R1.7: Culvert Peak Elev=2,206.44' Inflow=4.65 cfs 0.311 af
60.0" x 36.0" Box Culvert n=0.013 L=50.0' S=0.0200 '/' Outflow=4.65 cfs 0.311 af

Pond R1.9: PIPE Peak Elev=2,296.46' Inflow=14.09 cfs 1.274 af
36.0" Round Culvert n=0.020 L=350.0' S=0.0943 '/' Outflow=14.09 cfs 1.274 af

Pond R11.11: CULVERT Peak Elev=2,478.95' Inflow=4.97 cfs 0.351 af
30.0" Round Culvert n=0.020 L=35.0' S=0.2286 '/' Outflow=4.97 cfs 0.351 af

Pond R11.15: CB Peak Elev=2,453.32' Inflow=9.06 cfs 0.791 af
36.0" Round Culvert n=0.020 L=110.0' S=0.0091 '/' Outflow=9.06 cfs 0.791 af

Pond R11.17: CB Peak Elev=2,436.20' Inflow=9.78 cfs 0.773 af
36.0" Round Culvert n=0.020 L=290.0' S=0.0862 '/' Outflow=9.78 cfs 0.773 af

Pond R11.19: CB Peak Elev=2,420.73' Inflow=3.90 cfs 0.200 af
36.0" Round Culvert n=0.020 L=290.0' S=0.0862 '/' Outflow=3.90 cfs 0.200 af

Pond R11.20: CULVERT Peak Elev=2,459.91' Inflow=5.19 cfs 0.368 af
30.0" Round Culvert n=0.020 L=900.0' S=0.0722 '/' Outflow=5.19 cfs 0.368 af

Pond R11.21: CULVERT Peak Elev=2,395.08' Inflow=8.09 cfs 0.874 af
36.0" Round Culvert n=0.020 L=900.0' S=0.0733 '/' Outflow=8.09 cfs 0.874 af

Pond R11.22: CB Peak Elev=2,460.39' Inflow=0.96 cfs 0.054 af
36.0" Round Culvert n=0.020 L=770.0' S=0.0130 '/' Outflow=0.96 cfs 0.054 af

Pond R11.24: CB Peak Elev=2,486.88' Inflow=4.36 cfs 0.396 af
30.0" Round Culvert n=0.020 L=695.0' S=0.0719 '/' Outflow=4.36 cfs 0.396 af

Pond R11.26: BOX CULVERT Peak Elev=2,310.99' Inflow=13.88 cfs 1.106 af
60.0" x 36.0" Box Culvert n=0.020 L=50.0' S=0.0200 '/' Outflow=13.88 cfs 1.106 af

Pond R11.32: CULVERT Peak Elev=2,435.31' Inflow=9.08 cfs 0.835 af
36.0" Round Culvert n=0.020 L=110.0' S=0.0818 '/' Outflow=9.08 cfs 0.835 af

Pond R12.1: CB Peak Elev=2,309.92' Inflow=1.72 cfs 0.097 af
24.0" Round Culvert n=0.020 L=630.0' S=0.0100 '/' Outflow=1.72 cfs 0.097 af

Pond R2.1: PIPE Peak Elev=2,288.88' Inflow=5.47 cfs 0.432 af
36.0" Round Culvert n=0.020 L=1,185.0' S=0.0616 '/' Outflow=5.47 cfs 0.432 af

Pond R2.2: PIPE Peak Elev=2,214.15' Inflow=9.18 cfs 0.770 af
36.0" Round Culvert n=0.020 L=795.0' S=0.0289 '/' Outflow=9.18 cfs 0.770 af

Pond R2.3: catch basin Peak Elev=2,265.10' Inflow=6.32 cfs 0.470 af
Outflow=6.32 cfs 0.470 af

Pond R2.5: Road culvert Peak Elev=2,229.76' Inflow=3.69 cfs 0.270 af
36.0" Round Culvert n=0.020 L=75.0' S=0.0400 '/' Outflow=3.69 cfs 0.270 af

Pond R2.6: Road Culvert Peak Elev=2,216.47' Inflow=0.95 cfs 0.067 af
18.0" Round Culvert n=0.020 L=30.0' S=0.0333 '/' Outflow=0.95 cfs 0.067 af

Pond R2.8: cb Peak Elev=2,188.04' Inflow=7.58 cfs 0.713 af
36.0" Round Culvert n=0.020 L=450.0' S=0.0600 '/' Outflow=7.58 cfs 0.713 af

Pond R4.1: catch basin Peak Elev=2,288.62' Inflow=16.03 cfs 1.267 af
Outflow=16.03 cfs 1.267 af

Pond R4.3: culvert Peak Elev=2,209.78' Inflow=17.47 cfs 1.465 af
Outflow=17.47 cfs 1.465 af

Pond R4.4: CULVERT Peak Elev=2,181.46' Inflow=2.84 cfs 2.400 af
36.0" Round Culvert n=0.020 L=580.0' S=0.1962 '/' Outflow=2.84 cfs 2.400 af

Pond R4.6: CULVERT Peak Elev=2,005.15' Inflow=8.05 cfs 2.825 af
36.0" Round Culvert n=0.020 L=50.0' S=0.0200 '/' Outflow=8.05 cfs 2.825 af

Pond R4.8: CULVERT Peak Elev=2,093.06' Inflow=5.20 cfs 0.254 af
24.0" Round Culvert n=0.020 L=150.0' S=0.1667 '/' Outflow=5.20 cfs 0.254 af

Pond R5.1: CULVERT Peak Elev=1,905.36' Inflow=10.28 cfs 0.591 af
33.0" Round Culvert n=0.020 L=810.0' S=0.1000 '/' Outflow=10.28 cfs 0.591 af

Pond R8.1: CULVERT Peak Elev=2,308.94' Inflow=4.19 cfs 0.283 af
24.0" Round Culvert n=0.020 L=275.0' S=0.0145 '/' Outflow=4.19 cfs 0.283 af

Pond R8.10: CB Peak Elev=1,977.71' Inflow=21.76 cfs 1.751 af
45.0" Round Culvert n=0.020 L=765.0' S=0.1007 '/' Outflow=21.76 cfs 1.751 af

Pond R8.12: CULVERT Peak Elev=1,903.08' Inflow=6.34 cfs 0.435 af
30.0" Round Culvert n=0.020 L=40.0' S=0.0750 '/' Outflow=6.34 cfs 0.435 af

Pond R8.13: CB Peak Elev=1,897.91' Inflow=27.84 cfs 2.186 af
48.0" Round Culvert n=0.020 L=835.0' S=0.0862 '/' Outflow=27.84 cfs 2.186 af

Pond R8.15: CB Peak Elev=1,822.57' Inflow=33.71 cfs 2.504 af
Primary=19.45 cfs 1.441 af Secondary=14.27 cfs 1.064 af Outflow=33.71 cfs 2.504 af

Pond R8.20: PIPE Peak Elev=1,817.14' Inflow=19.45 cfs 1.441 af
42.0" Round Culvert n=0.020 L=220.0' S=0.0045 '/' Outflow=19.45 cfs 1.441 af

Pond R8.22: New Culvert Peak Elev=1,664.05' Inflow=10.63 cfs 4.453 af
Outflow=10.63 cfs 4.453 af

Pond R8.3: CULVERT Peak Elev=2,273.26' Inflow=9.53 cfs 0.720 af
Outflow=9.53 cfs 0.720 af

Pond R8.5: CULVERT Peak Elev=2,223.30' Inflow=10.10 cfs 0.886 af
Outflow=10.10 cfs 0.886 af

Pond R8.7: CULVERT Peak Elev=2,179.57' Inflow=15.82 cfs 1.424 af
42.0" Round Culvert n=0.020 L=200.0' S=0.0750 '/' Outflow=15.82 cfs 1.424 af

Pond R8.8: CB Peak Elev=2,161.58' Inflow=18.08 cfs 1.549 af
42.0" Round Culvert n=0.020 L=880.0' S=0.0943 '/' Outflow=18.08 cfs 1.549 af

Pond R8.9: CB Peak Elev=2,075.67' Inflow=19.92 cfs 1.652 af
42.0" Round Culvert n=0.020 L=900.0' S=0.1056 '/' Outflow=19.92 cfs 1.652 af

Pond R9.1: pipes Peak Elev=1,816.94' Inflow=4.89 cfs 0.437 af
Outflow=4.89 cfs 0.437 af

Pond R9.11: Culvert Peak Elev=1,659.39' Inflow=12.82 cfs 2.421 af
36.0" Round Culvert n=0.020 L=50.0' S=0.0400 '/' Outflow=12.82 cfs 2.421 af

Pond R9.2A: Culvert Peak Elev=1,773.28' Inflow=13.42 cfs 0.999 af
48.0" Round Culvert n=0.020 L=40.0' S=0.0500 '/' Outflow=13.42 cfs 0.999 af

Pond R9.5: Culvert Peak Elev=1,714.86' Inflow=6.72 cfs 0.450 af
54.0" Round Culvert n=0.020 L=60.0' S=0.0667 '/' Outflow=6.72 cfs 0.450 af

Pond R9.6: Culvert Peak Elev=1,684.59' Inflow=1.69 cfs 0.117 af
18.0" Round Culvert n=0.020 L=100.0' S=0.0200 '/' Outflow=1.69 cfs 0.117 af

Link 8077_Tuck_Wi ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.1~Link 1.1L.hce Inflow=0.05 cfs 0.064 af
Area= 0.275 ac 100.00% Imperv. Primary=0.05 cfs 0.064 af

Link 8077_Tuck_Wi ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.2~Link 1.2L.hce Inflow=0.04 cfs 0.061 af
Area= 0.264 ac 100.00% Imperv. Primary=0.04 cfs 0.061 af

Link 8077_Tuck_Wi ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.3~Link 1.3L.hce Inflow=0.04 cfs 0.034 af
Area= 0.149 ac 100.00% Imperv. Primary=0.04 cfs 0.034 af

Link 8077_Tuck_Wi ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.4~Link 1.4L.hce Inflow=0.02 cfs 0.037 af
Area= 0.161 ac 100.00% Imperv. Primary=0.02 cfs 0.037 af

Link 8077_Tuck_Wi ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.5~Link 1.5L.hce Inflow=0.07 cfs 0.114 af
Area= 0.494 ac 100.00% Imperv. Primary=0.07 cfs 0.114 af

Link 8077_Tuck_Wi ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.6~Link 1.6L.hce Inflow=0.06 cfs 0.087 af
Area= 0.379 ac 100.00% Imperv. Primary=0.06 cfs 0.087 af

Link 8077_Tuck_Wi ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.9~Link 1.9L.hce Inflow=0.13 cfs 0.122 af
Area= 0.528 ac 100.00% Imperv. Primary=0.13 cfs 0.122 af

Link 77_Tuck_Wi ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.10~Link 2.10L.hce Inflow=0.12 cfs 0.130 af
Area= 0.562 ac 100.00% Imperv. Primary=0.12 cfs 0.130 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.1~Link 2.1L.hce Inflow=0.02 cfs 0.026 af
Area= 0.115 ac 100.00% Imperv. Primary=0.02 cfs 0.026 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.3~Link 2.3L.hce Inflow=0.03 cfs 0.056 af
Area= 0.241 ac 100.00% Imperv. Primary=0.03 cfs 0.056 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.6~Link 2.6L.hce Inflow=0.06 cfs 0.093 af
Area= 0.402 ac 100.00% Imperv. Primary=0.06 cfs 0.093 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.7~Link 2.7L.hce Inflow=0.06 cfs 0.093 af
Area= 0.402 ac 100.00% Imperv. Primary=0.06 cfs 0.093 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.8~Link 2.8L.hce Inflow=0.01 cfs 0.021 af
Area= 0.092 ac 100.00% Imperv. Primary=0.01 cfs 0.021 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.9~Link 2.9L.hce Inflow=0.09 cfs 0.148 af
Area= 0.643 ac 100.00% Imperv. Primary=0.09 cfs 0.148 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.1~Link 4.1L.hce Inflow=0.08 cfs 0.135 af
Area= 0.585 ac 100.00% Imperv. Primary=0.08 cfs 0.135 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.3~Link 4.3L.hce Inflow=0.20 cfs 0.318 af
Area= 1.377 ac 100.00% Imperv. Primary=0.20 cfs 0.318 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.4~Link 4.4L.hce Inflow=0.04 cfs 0.058 af
Area= 0.253 ac 100.00% Imperv. Primary=0.04 cfs 0.058 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 5.2~Link 5.2L.hce Inflow=0.05 cfs 0.077 af
Area= 0.333 ac 100.00% Imperv. Primary=0.05 cfs 0.077 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.10~Link 8.10L.hce Inflow=0.09 cfs 0.148 af
Area= 0.643 ac 100.00% Imperv. Primary=0.09 cfs 0.148 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.11~Link 8.11L.hce Inflow=0.01 cfs 0.019 af
Area= 0.080 ac 100.00% Imperv. Primary=0.01 cfs 0.019 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.15~Link 8.15L.hce Inflow=0.01 cfs 0.019 af
Area= 0.080 ac 100.00% Imperv. Primary=0.01 cfs 0.019 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.1~Link 8.1L.hce Inflow=0.01 cfs 0.019 af
Area= 0.080 ac 100.00% Imperv. Primary=0.01 cfs 0.019 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.4~Link 8.4L.hce Inflow=0.05 cfs 0.066 af
Area= 0.287 ac 100.00% Imperv. Primary=0.05 cfs 0.066 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.5~Link 8.5L.hce Inflow=0.04 cfs 0.069 af
Area= 0.298 ac 100.00% Imperv. Primary=0.04 cfs 0.069 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.8~Link 8.8L.hce Inflow=0.03 cfs 0.056 af
Area= 0.241 ac 100.00% Imperv. Primary=0.03 cfs 0.056 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.10~Link 9.10L.hce Inflow=0.05 cfs 0.074 af
Area= 0.321 ac 100.00% Imperv. Primary=0.05 cfs 0.074 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.11~Link 9.11L.hce Inflow=0.06 cfs 0.093 af
Link Area= 0.402 ac 100.00% Imperv. Primary=0.06 cfs 0.093 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.1~Link 9.1L.hce Inflow=0.03 cfs 0.056 af
Link Area= 0.241 ac 100.00% Imperv. Primary=0.03 cfs 0.056 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.5~Link 9.5L.hce Inflow=0.01 cfs 0.021 af
Link Area= 0.092 ac 100.00% Imperv. Primary=0.01 cfs 0.021 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.6~Link 9.6L.hce Inflow=0.08 cfs 0.130 af
Link Area= 0.562 ac 100.00% Imperv. Primary=0.08 cfs 0.130 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.14~Link 11.14L.hce Inflow=0.01 cfs 0.019 af
Link Area= 0.080 ac 100.00% Imperv. Primary=0.01 cfs 0.019 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.18~Link 11.18L.hce Inflow=0.01 cfs 0.024 af
Link Area= 0.103 ac 100.00% Imperv. Primary=0.01 cfs 0.024 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.25~Link 11.25L.hce Inflow=0.02 cfs 0.037 af
Link Area= 0.161 ac 100.00% Imperv. Primary=0.02 cfs 0.037 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.33~Link 11.33L.hce Inflow=0.01 cfs 0.019 af
Link Area= 0.080 ac 100.00% Imperv. Primary=0.01 cfs 0.019 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.3~Link 11.3L.hce Inflow=0.07 cfs 0.101 af
Link Area= 0.436 ac 100.00% Imperv. Primary=0.07 cfs 0.101 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 12.2~Link 12.2L.hce Inflow=0.08 cfs 0.087 af
Link Area= 0.379 ac 100.00% Imperv. Primary=0.08 cfs 0.087 af

Total Runoff Area = 461.192 ac Runoff Volume = 35.852 af Average Runoff Depth = 0.93"
93.52% Pervious = 431.313 ac 6.48% Impervious = 29.879 ac

Summary for Subcatchment 1.10S: Area 1.10

Runoff = 0.90 cfs @ 11.96 hrs, Volume= 0.046 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
8,640	98	Paved parking, HSG C
2,000	71	Meadow, non-grazed, HSG C
10,640	93	Weighted Average
2,000		18.80% Pervious Area
8,640		81.20% Impervious Area

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

Summary for Subcatchment 1.11S: Area 1.11

Runoff = 1.17 cfs @ 11.99 hrs, Volume= 0.066 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
12,060	98	Paved parking, HSG C
1,400	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
13,460	96	Weighted Average
1,400		10.40% Pervious Area
12,060		89.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	62	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	38	0.0300	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	130	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.0	230	Total			

Summary for Subcatchment 1.12S: Area 1.12

Runoff = 2.04 cfs @ 12.04 hrs, Volume= 0.122 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
17,805	98	Paved parking, HSG C
3,410	98	Roofs, HSG C
13,975	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
35,190	88	Weighted Average
13,975		39.71% Pervious Area
21,215		60.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	96	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	545	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.4	641	Total			

Summary for Subcatchment 1.13S: Area 1.13

Runoff = 1.90 cfs @ 11.98 hrs, Volume= 0.092 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
53,050	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
53,050	74	Weighted Average
53,050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	50	0.2500	0.39		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.1	50	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.14S: Area 1.14

Runoff = 0.35 cfs @ 11.98 hrs, Volume= 0.017 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
11,800	71	Meadow, non-grazed, HSG C
11,800		100.00% Pervious Area

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

Summary for Subcatchment 1.15S: Area 1.15

Runoff = 2.25 cfs @ 11.96 hrs, Volume= 0.126 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
8,040	98	Paved parking, HSG C
15,790	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
23,830	98	Weighted Average
23,830		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**
5.0	0	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.16S: Area 1.16

Runoff = 1.51 cfs @ 11.96 hrs, Volume= 0.085 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
15,985	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
15,985	98	Weighted Average
15,985		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**
5.0	0	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.17S: Area 1.17

Runoff = 1.29 cfs @ 11.98 hrs, Volume= 0.062 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
8,217	72	Woods/grass comb., Good, HSG C
2,400	74	>75% Grass cover, Good, HSG C
19,624	79	Woods/grass comb., Good, HSG D
30,241	77	Weighted Average
30,241		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	90	0.2500	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.1	15	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	360	0.1000	6.67	37.22	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=0.70' Z= 7.1 '/' Top.W=12.94' n= 0.040 Mountain streams
4.4	465	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.1S: Area-1.1

Runoff = 26.28 cfs @ 12.18 hrs, Volume= 2.385 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,500,780	72	Woods/grass comb., Good, HSG C
11,590	79	Woods/grass comb., Good, HSG D
30,280	74	>75% Grass cover, Good, HSG C
1,542,650	72	Weighted Average
1,542,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	150	0.1200	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.4	1,350	0.3700	3.04		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.4	545	0.2000	24.25	698.34	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=4.50' D=3.00' Z= 1.7 '/' Top.W=14.70' n= 0.040 Mountain streams
0.1	250	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00'

n= 0.040 Mountain streams

22.9	2,295	Total

Summary for Subcatchment 1.2S: Area 1.2

Runoff = 9.88 cfs @ 12.08 hrs, Volume= 0.675 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
41,210	74	>75% Grass cover, Good, HSG C
395,569	72	Woods/grass comb., Good, HSG C
0	79	Woods/grass comb., Good, HSG D
436,779	72	Weighted Average
436,779		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.3300	0.23		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
6.4	1,150	0.3600	3.00		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	260	0.0500	7.40	38.86	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
14.2	1,510	Total			

Summary for Subcatchment 1.3S: Area-1.3

Runoff = 2.61 cfs @ 12.11 hrs, Volume= 0.192 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
124,373	72	Woods/grass comb., Good, HSG C
124,373		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0750	0.13		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
3.3	385	0.1500	1.94		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	265	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00' n= 0.040 Mountain streams
16.5	750	Total			

Summary for Subcatchment 1.4S: Area 1.4

Runoff = 10.06 cfs @ 12.04 hrs, Volume= 0.601 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
33,624	74	>75% Grass cover, Good, HSG C
77,608	79	Woods/grass comb., Good, HSG D
234,672	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
345,904	74	Weighted Average
345,904		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	94	0.1100	1.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.4	100	0.0750	0.68		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
3.9	450	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	617	0.0950	22.37	1,509.82	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=5.00' D=5.00' Z= 1.7 '/' Top.W=22.00' n= 0.040 Mountain streams
11.4	1,361	Total			

Summary for Subcatchment 1.5S: Area 1.5

Runoff = 14.02 cfs @ 12.15 hrs, Volume= 1.160 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
702,889	72	Woods/grass comb., Good, HSG C
39,952	74	>75% Grass cover, Good, HSG C
0	98	Roofs, HSG C
7,435	79	Woods/grass comb., Good, HSG D
750,276	72	Weighted Average
750,276		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.1400	0.16		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
8.7	1,525	0.3400	2.92		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	120	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	220	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
19.9	1,965	Total			

Summary for Subcatchment 1.6S: Area 1.6

Runoff = 4.60 cfs @ 11.98 hrs, Volume= 0.224 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,395	98	Paved parking, HSG C
0	98	Roofs, HSG C
65,620	74	>75% Grass cover, Good, HSG C
16,160	79	Woods/grass comb., Good, HSG D
45,695	72	Woods/grass comb., Good, HSG C
128,870	74	Weighted Average
127,475		98.92% Pervious Area
1,395		1.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.1000	2.21		**Shallow Concentrated Flow, lawn** Short Grass Pasture Kv= 7.0 fps
1.8	225	0.1800	2.12		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
1.3	140	0.1300	1.80		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
3.9	465	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.7S: Area 1.7

Runoff = 3.61 cfs @ 11.96 hrs, Volume= 0.193 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
36,835	98	Paved parking, HSG C
0	98	Roofs, HSG C
2,780	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
39,615	96	Weighted Average
2,780		7.02% Pervious Area
36,835		92.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	55	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	1,090	0.1000	22.77	71.54	**Pipe Channel, Road culvert** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
1.9	1,245	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.8S: Area 1.8

Runoff = 1.94 cfs @ 11.98 hrs, Volume= 0.094 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
5,915	72	Woods/grass comb., Good, HSG C
44,225	74	>75% Grass cover, Good, HSG C
4,060	79	Woods/grass comb., Good, HSG D
54,200	74	Weighted Average
54,200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	60	0.3600	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.5	40	0.1100	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	40	0.1100	2.32		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.9	140	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.9S: Area 1.9

Runoff = 6.82 cfs @ 11.98 hrs, Volume= 0.327 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
29,215	98	Paved parking, HSG C
0	98	Roofs, HSG C
50,280	74	>75% Grass cover, Good, HSG C
80,315	72	Woods/grass comb., Good, HSG C
159,810	77	Weighted Average
130,595		81.72% Pervious Area
29,215		18.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.1500	1.94		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	55	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	575	0.0200	5.08	20.33	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
3.1	730	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.10S: Area 2.10

Runoff = 8.17 cfs @ 12.09 hrs, Volume= 0.557 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
3,185	98	Paved parking, HSG C
152,040	74	>75% Grass cover, Good, HSG C
54,755	79	Woods/grass comb., Good, HSG D
93,245	72	Woods/grass comb., Good, HSG C
303,225	75	Weighted Average
300,040		98.95% Pervious Area
3,185		1.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2500	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
6.9	625	0.0900	1.50		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
0.2	240	0.2000	19.45	233.42	**Trap/Vee/Rect Channel Flow, Point 45** Bot.W=5.00' D=2.00' Z= 0.5 '/' Top.W=7.00' n= 0.040 Mountain streams
15.2	965	Total			

Summary for Subcatchment 2.11S: Downstream Area for Additional Analysis

Runoff = 14.33 cfs @ 12.00 hrs, Volume= 0.742 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
42,335	74	>75% Grass cover, Good, HSG C
437,835	72	Woods/grass comb., Good, HSG C
480,170	72	Weighted Average
480,170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	50	0.3500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	50	0.3500	4.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	760	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.4	860	Total			

Summary for Subcatchment 2.1S: Area 2.1

Runoff = 5.45 cfs @ 12.11 hrs, Volume= 0.405 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
22,900	74	>75% Grass cover, Good, HSG C
239,181	72	Woods/grass comb., Good, HSG C
262,081	72	Weighted Average
262,081		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	100	0.2200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.5	1,300	0.3300	2.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	120	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	65	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
16.7	1,585	Total			

Summary for Subcatchment 2.2S: Area 2.2

Runoff = 6.04 cfs @ 11.96 hrs, Volume= 0.338 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
63,870	98	Paved parking, HSG C
63,870		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	350	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	1,550	0.0600	13.30	65.31	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.020 Corrugated PE, corrugated interior
3.3	1,910	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.3S: Area 2.3

Runoff = 3.08 cfs @ 11.98 hrs, Volume= 0.151 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
66,110	74	>75% Grass cover, Good, HSG C
25,880	72	Woods/grass comb., Good, HSG C
91,990	73	Weighted Average
91,990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1800	0.40		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	108	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.8	208	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.4S: Area 2.4

Runoff = 1.43 cfs @ 11.96 hrs, Volume= 0.080 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
15,150	98	Paved parking, HSG C
0	98	Roofs, HSG C
15,150	98	Weighted Average
15,150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.0	350	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	525	0.0200	8.67	61.31	**Pipe Channel,** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.020 Corrugated PE, corrugated interior
3.2	885	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.5S: Area 2.5

Runoff = 0.76 cfs @ 11.96 hrs, Volume= 0.042 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
8,000	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,000	98	Weighted Average
8,000		100.00% Impervious Area

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

Summary for Subcatchment 2.6S: Area 2.6

Runoff = 6.27 cfs @ 12.04 hrs, Volume= 0.377 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
76,450	74	>75% Grass cover, Good, HSG C
153,355	72	Woods/grass comb., Good, HSG C
229,805	73	Weighted Average
229,805		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.3200	0.23		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.3	580	0.3500	2.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	120	0.2500	3.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	62	0.0470	8.56	102.77	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
11.3	862	Total			

Summary for Subcatchment 2.7S: Area 2.7

Runoff = 3.63 cfs @ 11.98 hrs, Volume= 0.178 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
52,563	74	>75% Grass cover, Good, HSG C
55,830	72	Woods/grass comb., Good, HSG C
108,393	73	Weighted Average
108,393		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2200	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.1	25	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	590	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow, roadside swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
5.0	715	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.8S: Area 2.8

Runoff = 0.94 cfs @ 11.98 hrs, Volume= 0.046 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
9,160	74	>75% Grass cover, Good, HSG C
18,940	72	Woods/grass comb., Good, HSG C
28,100	73	Weighted Average
28,100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.2800	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.8	265	0.2300	2.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	365	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.9S: Area 2.9

Runoff = 4.04 cfs @ 12.02 hrs, Volume= 0.227 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
78,865	74	>75% Grass cover, Good, HSG C
59,280	72	Woods/grass comb., Good, HSG C
138,145	73	Weighted Average
138,145		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.1	50	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	55	0.1800	2.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	525	0.0200	5.59	67.04	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
9.4	680	Total			

Summary for Subcatchment 2aS: Area 2A

Runoff = 1.51 cfs @ 12.02 hrs, Volume= 0.085 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
45,425	72	Woods/grass comb., Good, HSG C
9,715	74	>75% Grass cover, Good, HSG C
55,140	72	Weighted Average
55,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.5	90	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.3	190	Total			

Summary for Subcatchment 2bS: Area 2b

Runoff = 6.25 cfs @ 12.01 hrs, Volume= 0.335 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
52,600	74	>75% Grass cover, Good, HSG C
151,520	72	Woods/grass comb., Good, HSG C
204,120	73	Weighted Average
204,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	20	0.2500	0.33		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
6.8	80	0.2500	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.6	60	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.4	160	Total			

Summary for Subcatchment 3.1S: Area 3.1

Runoff = 3.30 cfs @ 11.98 hrs, Volume= 0.163 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
105,215	72	Woods/grass comb., Good, HSG C
105,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.7	100	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	395	0.1100	11.15	83.65	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.0	595	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.1S: Area 4.1

Runoff = 14.44 cfs @ 12.07 hrs, Volume= 0.961 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
89,715	74	>75% Grass cover, Good, HSG C
531,975	72	Woods/grass comb., Good, HSG C
621,690	72	Weighted Average
621,690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	100	0.2000	0.28		**Sheet Flow, ski trail** Grass: Dense n= 0.240 P2= 3.00"
7.4	1,175	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	115	0.0350	6.61	59.47	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=1.50' Z= 2.0 '/' Top.W=9.00' n= 0.040 Earth, cobble bottom, clean sides
13.6	1,390	Total			

Summary for Subcatchment 4.2S: Area 4.2

Runoff = 3.05 cfs @ 11.96 hrs, Volume= 0.171 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
32,235	98	Paved parking, HSG C
32,235		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	40	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.3S: Area 4.3

Runoff = 10.71 cfs @ 11.99 hrs, Volume= 0.538 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
24,400	98	Paved parking, HSG C
0	98	Roofs, HSG C
159,890	74	>75% Grass cover, Good, HSG C
108,600	72	Woods/grass comb., Good, HSG C
292,890	75	Weighted Average
268,490		91.67% Pervious Area
24,400		8.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.6	260	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.5	135	0.0100	4.48	33.63	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
1.4	565	0.0200	6.62	20.80	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
7.2	1,060	Total			

Summary for Subcatchment 4.4S: Area 4.4

Runoff = 2.83 cfs @ 11.99 hrs, Volume= 0.140 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
7,500	98	Paved parking, HSG C
0	98	Roofs, HSG C
31,290	74	>75% Grass cover, Good, HSG C
33,450	72	Woods/grass comb., Good, HSG C
72,240	76	Weighted Average
64,740		89.62% Pervious Area
7,500		10.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1200	0.34		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.3	160	0.1800	2.12		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.7	120	0.1500	2.71		**Shallow Concentrated Flow, grass** Short Grass Pasture Kv= 7.0 fps
6.9	380	Total			

Summary for Subcatchment 4.5S: Area 4.5

Runoff = 1.66 cfs @ 11.98 hrs, Volume= 0.081 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
46,440	74	>75% Grass cover, Good, HSG C
46,440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	30	0.1250	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.9	30	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.6S: Area-4.6

Runoff = 5.20 cfs @ 11.98 hrs, Volume= 0.254 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
87,875	72	Woods/grass comb., Good, HSG C
67,135	74	>75% Grass cover, Good, HSG C
155,010	73	Weighted Average
155,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	900	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, roadside swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
1.2	900	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.7S: Area-4.7

Runoff = 3.19 cfs @ 12.01 hrs, Volume= 0.170 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
88,830	72	Woods/grass comb., Good, HSG C
21,320	74	>75% Grass cover, Good, HSG C
110,150	72	Weighted Average
110,150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.3400	0.23		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	220	0.5200	3.61		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
8.1	320	Total			

Summary for Subcatchment 4.8: Area-4.8

Runoff = 0.04 cfs @ 12.09 hrs, Volume= 0.002 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,585	72	Woods/grass comb., Good, HSG C
1,585		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	100	0.2200	0.11		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"

Summary for Subcatchment 5.1S: Area-5.1

Runoff = 13.58 cfs @ 12.05 hrs, Volume= 0.855 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
553,165	72	Woods/grass comb., Good, HSG C
553,165		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.3200	0.23		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.6	280	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	910	0.0900	9.72	48.60	**Channel Flow, Grassed/Roadside Swale** Area= 5.0 sf Perim= 7.5' r= 0.67' n= 0.035 Earth, dense weeds
1.7	910	0.0800	9.09	18.18	**Trap/Vee/Rect Channel Flow, DITCH** Bot.W=1.00' D=1.00' Z= 1.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
12.2	2,200	Total			

Summary for Subcatchment 5.2S: Area-5.2

Runoff = 4.22 cfs @ 12.03 hrs, Volume= 0.242 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
55,210	74	>75% Grass cover, Good, HSG C
4,470	79	Woods/grass comb., Good, HSG D
87,655	72	Woods/grass comb., Good, HSG C
147,335	73	Weighted Average
147,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	50	0.2000	0.16		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
4.2	225	0.1300	0.90		**Shallow Concentrated Flow, WETLAND FLOW** Forest w/Heavy Litter Kv= 2.5 fps
0.6	420	0.1100	10.98	57.63	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.9	695	Total			

Summary for Subcatchment 5.3S: Area 5.3

Runoff = 10.28 cfs @ 12.03 hrs, Volume= 0.591 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
23,664	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
358,601	72	Woods/grass comb., Good, HSG C
382,265	72	Weighted Average
382,265		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.4000	0.25		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	238	0.4000	3.16		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
1.7	1,190	0.1200	11.47	60.20	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.7	1,528	Total			

Summary for Subcatchment 6.1S: Area 6.1

Runoff = 0.67 cfs @ 11.96 hrs, Volume= 0.034 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.2S: Area 6.2

Runoff = 0.67 cfs @ 11.96 hrs, Volume= 0.034 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.3S: Area 6.3

Runoff = 0.67 cfs @ 11.96 hrs, Volume= 0.034 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.4S: AREA 6.1

Runoff = 2.08 cfs @ 11.98 hrs, Volume= 0.103 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
66,488	72	Woods/grass comb., Good, HSG C
66,488	72	Weighted Average
66,488		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.1600	0.42		**Sheet Flow, meadow** Range n= 0.130 P2= 3.00"
1.7	280	0.1500	2.71		**Shallow Concentrated Flow, meadow** Short Grass Pasture Kv= 7.0 fps
5.6	380	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 7.1S: Area-7

Runoff = 3.05 cfs @ 11.99 hrs, Volume= 0.154 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
105,675	71	Meadow, non-grazed, HSG C
105,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
0.3	50	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
6.4	150	Total			

Summary for Subcatchment 8.10S: Area 8.10

Runoff = 7.70 cfs @ 12.00 hrs, Volume= 0.390 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
17,810	98	Paved parking, HSG C
0	98	Roofs, HSG C
106,562	74	>75% Grass cover, Good, HSG C
87,646	72	Woods/grass comb., Good, HSG C
212,018	75	Weighted Average
194,208		91.60% Pervious Area
17,810		8.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1200	0.34		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.7	250	0.2500	2.50		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.8	412	0.0600	8.11	42.57	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
7.4	762	Total			

Summary for Subcatchment 8.11S: Area-8.11

Runoff = 4.02 cfs @ 11.99 hrs, Volume= 0.199 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
48,233	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
73,167	72	Woods/grass comb., Good, HSG C
121,400	73	Weighted Average
121,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	100	0.2000	0.41		**Sheet Flow, field** Grass: Short n= 0.150 P2= 3.00"
2.0	210	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	275	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
6.4	585	Total			

Summary for Subcatchment 8.12S: Area 8.12

Runoff = 2.06 cfs @ 11.97 hrs, Volume= 0.103 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
17,800	98	Paved parking, HSG C
0	98	Roofs, HSG C
9,216	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
27,016	90	Weighted Average
9,216		34.11% Pervious Area
17,800		65.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	265	0.1300	7.32		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
0.7	580	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
1.6	865	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.13S: Area 8.13

Runoff = 2.01 cfs @ 11.97 hrs, Volume= 0.100 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
17,600	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,692	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
26,292	90	Weighted Average
8,692		33.06% Pervious Area
17,600		66.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.8	275	0.0800	5.74		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
0.6	500	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
1.7	795	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.15S: Area 8.15

Runoff = 5.14 cfs @ 11.97 hrs, Volume= 0.248 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
32,140	98	Paved parking, HSG C
0	98	Roofs, HSG C
39,800	74	>75% Grass cover, Good, HSG C
22,178	72	Woods/grass comb., Good, HSG C
94,118	82	Weighted Average
61,978		65.85% Pervious Area
32,140		34.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	270	0.1200	7.03		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
1.6	1,307	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
2.5	1,597	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.16S: Area 8.16

Runoff = 1.08 cfs @ 11.98 hrs, Volume= 0.052 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
6,200	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,876	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
5,500	72	Woods/grass comb., Good, HSG C
20,576	81	Weighted Average
14,376		69.87% Pervious Area
6,200		30.13% Impervious Area

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

Summary for Subcatchment 8.17S: Area 8.17

Runoff = 5.86 cfs @ 11.97 hrs, Volume= 0.284 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
33,680	98	Paved parking, HSG C
6,500	98	Roofs, HSG C
27,455	71	Meadow, non-grazed, HSG C
34,828	74	>75% Grass cover, Good, HSG C
102,463	83	Weighted Average
62,283		60.79% Pervious Area
40,180		39.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	250	0.1200	7.03		**Shallow Concentrated Flow, road/curb** Paved Kv= 20.3 fps
0.9	610	0.0800	10.93	19.31	**Pipe Channel, pipe system** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.020 Corrugated PE, corrugated interior
0.7	450	0.1090	11.10	83.27	**Trap/Vee/Rect Channel Flow, Roadside swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
2.5	1,330	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.1S: Area-8.1

Runoff = 6.01 cfs @ 12.03 hrs, Volume= 0.350 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
18,421	74	>75% Grass cover, Good, HSG C
6,750	79	Woods/grass comb., Good, HSG D
201,504	72	Woods/grass comb., Good, HSG C
226,675	72	Weighted Average
226,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	100	0.2000	0.28		**Sheet Flow, field** Grass: Dense n= 0.240 P2= 3.00"
1.4	210	0.1200	2.42		**Shallow Concentrated Flow, wetland** Short Grass Pasture Kv= 7.0 fps
2.8	807	0.0800	4.76	35.67	**Trap/Vee/Rect Channel Flow, STREAM** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.080 Earth, long dense weeds
10.1	1,117	Total			

Summary for Subcatchment 8.2S: Area 8.2

Runoff = 3.24 cfs @ 12.01 hrs, Volume= 0.174 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
69,295	71	Meadow, non-grazed, HSG C
21,505	72	Woods/grass comb., Good, HSG C
9,600	98	Roofs, HSG C
100,400	74	Weighted Average
90,800		90.44% Pervious Area
9,600		9.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	40	0.3000	0.41		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.00"
5.0	60	0.3000	0.20		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	350	0.3000	2.74		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
8.7	450	Total			

Summary for Subcatchment 8.3S: Area 8.3

Runoff = 2.25 cfs @ 11.98 hrs, Volume= 0.108 af, Depth= 1.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
8,440	98	Paved parking, HSG C
0	98	Roofs, HSG C
32,950	74	>75% Grass cover, Good, HSG C
8,500	72	Woods/grass comb., Good, HSG C
49,890	78	Weighted Average
41,450		83.08% Pervious Area
8,440		16.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	415	0.0300	4.69	14.06	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.040 Earth, cobble bottom, clean sides
1.5	415	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.4S: Area 8.4

Runoff = 6.30 cfs @ 12.03 hrs, Volume= 0.368 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
7,416	98	Paved parking, HSG C
0	98	Roofs, HSG C
25,680	74	>75% Grass cover, Good, HSG C
191,475	72	Woods/grass comb., Good, HSG C
224,571	73	Weighted Average
217,155		96.70% Pervious Area
7,416		3.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.4	450	0.4000	3.16		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	340	0.0800	9.36	49.15	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
10.5	890	Total			

Summary for Subcatchment 8.5S: Area-8.5

Runoff = 8.88 cfs @ 12.30 hrs, Volume= 1.013 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
21,540	74	>75% Grass cover, Good, HSG C
7,015	79	Woods/grass comb., Good, HSG D
626,530	72	Woods/grass comb., Good, HSG C
655,085	72	Weighted Average
655,085		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0800	0.13		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	117	0.2200	2.35		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
17.8	1,036	0.1500	0.97		**Shallow Concentrated Flow, wetland flow** Forest w/Heavy Litter Kv= 2.5 fps
0.8	515	0.1700	11.11	44.45	**Trap/Vee/Rect Channel Flow, STREAM** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
32.1	1,768	Total			

Summary for Subcatchment 8.6S: Area 8.6

Runoff = 4.58 cfs @ 12.06 hrs, Volume= 0.283 af, Depth= 1.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
21,368	98	Paved parking, HSG C
12,400	98	Roofs, HSG C
38,886	74	>75% Grass cover, Good, HSG C
45,612	72	Woods/grass comb., Good, HSG C
118,266	80	Weighted Average
84,498		71.45% Pervious Area
33,768		28.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1200	0.15		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	194	0.4000	3.16		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.8	193	0.0700	3.97		**Shallow Concentrated Flow, grass** Grassed Waterway Kv= 15.0 fps
0.7	250	0.0200	6.34	47.56	**Trap/Vee/Rect Channel Flow, dry swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
13.3	737	Total			

Summary for Subcatchment 8.7S: Area 8.7

Runoff = 8.01 cfs @ 12.02 hrs, Volume= 0.438 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
46,184	98	Paved parking, HSG C
10,440	98	Roofs, HSG C
42,927	74	>75% Grass cover, Good, HSG C
74,697	72	Woods/grass comb., Good, HSG C
174,248	81	Weighted Average
117,624		67.50% Pervious Area
56,624		32.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.3100	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	140	0.3100	2.78		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.4	70	0.2000	3.13		**Shallow Concentrated Flow, grass** Short Grass Pasture Kv= 7.0 fps
0.2	50	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	92	0.0200	6.34	47.56	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
0.1	50	0.0400	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
0.7	408	0.0800	9.36	49.15	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.8	910	Total			

Summary for Subcatchment 8.8S: Area 8.8

Runoff = 2.26 cfs @ 11.98 hrs, Volume= 0.110 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
19,048	74	>75% Grass cover, Good, HSG C
48,270	72	Woods/grass comb., Good, HSG C
67,318	73	Weighted Average
67,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	524	0.0850	7.89	23.66	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.040 Earth, cobble bottom, clean sides
1.1	524	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.9S: Area 8.9

Runoff = 2.49 cfs @ 11.97 hrs, Volume= 0.125 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
22,800	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,665	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
31,465	91	Weighted Average
8,665		27.54% Pervious Area
22,800		72.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.68		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	210	0.0750	5.56		**Shallow Concentrated Flow, road** Paved Kv= 20.3 fps
1.2	895	0.0700	12.38	38.90	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
2.0	1,125	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.10S: Area 9.10

Runoff = 11.33 cfs @ 11.98 hrs, Volume= 0.551 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
27,100	98	Unconnected roofs, HSG C
132,286	74	>75% Grass cover, Good, HSG C
157,835	72	Woods/grass comb., Good, HSG C
317,221	75	Weighted Average, UI Adjusted CN = 74
290,121		91.46% Pervious Area
27,100		8.54% Impervious Area
27,100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	1,240	0.1000	12.10	96.77	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 1.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
1.7	1,240	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.11S: Area 9.11S

Runoff = 3.09 cfs @ 12.08 hrs, Volume= 0.208 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
56,160	74	>75% Grass cover, Good, HSG C
2,590	79	Woods/grass comb., Good, HSG D
68,150	72	Woods/grass comb., Good, HSG C
126,900	73	Weighted Average
126,900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
0.1	20	0.2500	2.50		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.9	40	0.0800	0.71		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
0.9	115	0.2000	2.24		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.5	700	0.0100	3.36	25.22	**Trap/Vee/Rect Channel Flow, swale w/ checkdams** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
14.2	975	Total			

Summary for Subcatchment 9.12S: Area 9.12S

Runoff = 2.59 cfs @ 11.96 hrs, Volume= 0.136 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
24,900	98	Paved parking, HSG C
4,160	74	>75% Grass cover, Good, HSG C
29,060	95	Weighted Average
4,160		14.32% Pervious Area
24,900		85.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0250	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.5	260	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	565	0.0200	6.62	20.80	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
4.0	925	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.13S: Area 9.13

Runoff = 4.68 cfs @ 11.96 hrs, Volume= 0.262 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
45,985	98	Paved parking, HSG C
3,500	98	Roofs, HSG C
0	72	Woods/grass comb., Good, HSG C
49,485	98	Weighted Average
49,485		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.92		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	380	0.0950	6.26		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	1,215	0.1000	14.80	46.50	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
3.3	1,695	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.14S: Area 9.14

Runoff = 6.50 cfs @ 12.03 hrs, Volume= 0.373 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
241,600	72	Woods/grass comb., Good, HSG C
241,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.3500	0.24		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	375	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	415	0.0800	10.82	86.55	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 1.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
9.7	890	Total			

Summary for Subcatchment 9.1S: Area 9.1

Runoff = 4.77 cfs @ 12.00 hrs, Volume= 0.252 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
4,600	98	Paved parking, HSG C
0	98	Roofs, HSG C
10,062	74	>75% Grass cover, Good, HSG C
132,908	72	Woods/grass comb., Good, HSG C
6,220	79	Woods/grass comb., Good, HSG D
153,790	73	Weighted Average
149,190		97.01% Pervious Area
4,600		2.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1800	0.40		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
2.1	490	0.3000	3.83		**Shallow Concentrated Flow, field** Short Grass Pasture Kv= 7.0 fps
1.5	130	0.0800	1.41		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
0.3	40	0.0200	2.64	26.37	**Trap/Vee/Rect Channel Flow, ditch** Bot.W=1.00' D=2.00' Z= 2.0 '/' Top.W=9.00' n= 0.080 Earth, long dense weeds
8.1	760	Total			

Summary for Subcatchment 9.5S: Area 9.5

Runoff = 1.68 cfs @ 12.03 hrs, Volume= 0.096 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
6,300	98	Paved parking, HSG C
0	98	Roofs, HSG C
5,500	74	>75% Grass cover, Good, HSG C
40,443	72	Woods/grass comb., Good, HSG C
52,243	75	Weighted Average
45,943		87.94% Pervious Area
6,300		12.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.1	150	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	162	0.2000	6.71		**Shallow Concentrated Flow, grass** Grassed Waterway Kv= 15.0 fps
10.3	412	Total			

Summary for Subcatchment 9.6S: Area 9.6

Runoff = 6.64 cfs @ 11.98 hrs, Volume= 0.320 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
17,820	98	Paved parking, HSG C
0	98	Roofs, HSG C
70,795	74	>75% Grass cover, Good, HSG C
76,240	72	Woods/grass comb., Good, HSG C
164,855	76	Weighted Average
147,035		89.19% Pervious Area
17,820		10.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	543	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
0.7	543	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.9S: Area 9.9

Runoff = 3.21 cfs @ 11.98 hrs, Volume= 0.157 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
45,220	74	>75% Grass cover, Good, HSG C
50,524	72	Woods/grass comb., Good, HSG C
95,744	73	Weighted Average
95,744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2200	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	200	0.3000	3.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.8	300	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.10S: Area-11.10

Runoff = 1.99 cfs @ 11.97 hrs, Volume= 0.099 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
7,150	98	Paved parking, HSG C
10,000	98	Roofs, HSG C
8,850	74	>75% Grass cover, Good, HSG C
26,000	90	Weighted Average
8,850		34.04% Pervious Area
17,150		65.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	60	0.0500	1.73		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.4	160	0.0300	6.22	24.90	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
1.0	220	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.11S: Area-11.11

Runoff = 4.22 cfs @ 11.97 hrs, Volume= 0.207 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
17,000	98	Paved parking, HSG C
18,866	98	Roofs, HSG C
23,654	74	>75% Grass cover, Good, HSG C
59,520	88	Weighted Average
23,654		39.74% Pervious Area
35,866		60.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.3000	0.41		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow, parking lot** Smooth surfaces n= 0.011 P2= 3.00"
0.4	100	0.0350	3.80		**Shallow Concentrated Flow, parking lot** Paved Kv= 20.3 fps
0.8	320	0.0500	6.59	5.18	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
3.5	497	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.12S: Area-11.12

Runoff = 1.63 cfs @ 12.00 hrs, Volume= 0.085 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
54,672	72	Woods/grass comb., Good, HSG C
54,672	72	Weighted Average
54,672		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.5000	0.27		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	184	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.4	284	Total			

Summary for Subcatchment 11.13S: Area-11.13

Runoff = 0.96 cfs @ 11.96 hrs, Volume= 0.054 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
10,160	98	Paved parking, HSG C
10,160	98	Weighted Average
10,160		100.00% Impervious Area

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

Summary for Subcatchment 11.14S: Area-11.14

Runoff = 4.52 cfs @ 12.07 hrs, Volume= 0.302 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

	Area (sf)	CN	Description
	8,100	74	>75% Grass cover, Good, HSG C
*	34,123	72	Woods/grass comb., Good, HSG D
	152,940	72	Woods/grass comb., Good, HSG C
	0	98	Paved parking, HSG C
	195,163	72	Weighted Average
	195,163		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.4000	0.25		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.7	120	0.3300	2.87		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
6.3	300	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
13.7	520	Total			

Summary for Subcatchment 11.15S: Area-11.15

Runoff = 1.16 cfs @ 12.08 hrs, Volume= 0.079 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
12,000	74	>75% Grass cover, Good, HSG C
6,478	79	Woods/grass comb., Good, HSG D
27,065	72	Woods/grass comb., Good, HSG C
45,543	74	Weighted Average
45,543		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.2700	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	91	0.2500	3.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	175	0.1000	0.79		**Shallow Concentrated Flow, WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
3.0	470	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.9	836	Total			

Summary for Subcatchment 11.16S: Area-11.16

Runoff = 2.02 cfs @ 11.97 hrs, Volume= 0.099 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
11,785	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
16,750	98	Paved parking, HSG C
28,535	88	Weighted Average
11,785		41.30% Pervious Area
16,750		58.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.01		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.7	225	0.0800	5.74		**Shallow Concentrated Flow, curb/gutter** Paved Kv= 20.3 fps
0.9	440	0.0800	8.34	6.55	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
2.0	690	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.17S: Area-11.17

Runoff = 1.34 cfs @ 11.96 hrs, Volume= 0.069 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
8,930	98	Paved parking, HSG C
3,500	98	Roofs, HSG C
3,471	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
15,901	93	Weighted Average
3,471		21.83% Pervious Area
12,430		78.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0250	1.06		**Sheet Flow, gravel drive** Smooth surfaces n= 0.011 P2= 3.00"
3.3	500	0.0250	2.55		**Shallow Concentrated Flow, gravel drive** Unpaved Kv= 16.1 fps
3.6	520	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.18S: Area-11.18

Runoff = 9.05 cfs @ 12.16 hrs, Volume= 0.767 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
21,949	74	>75% Grass cover, Good, HSG C
474,295	72	Woods/grass comb., Good, HSG C
496,244	72	Weighted Average
496,244		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.1000	0.14		**Sheet Flow, grass** Woods: Light underbrush n= 0.400 P2= 3.00"
8.5	1,400	0.3000	2.74		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
0.5	250	0.0650	8.57	64.30	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
20.7	1,750	Total			

Summary for Subcatchment 11.19S: Area-11.19

Runoff = 6.16 cfs @ 12.19 hrs, Volume= 0.565 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
28,500	74	>75% Grass cover, Good, HSG C
337,255	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
365,755	72	Weighted Average
365,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	200	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	1,082	0.1800	2.97		**Shallow Concentrated Flow, SKI TRAIL** Short Grass Pasture Kv= 7.0 fps
6.4	1,054	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	150	0.1500	10.44	41.76	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
23.3	2,586	Total			

Summary for Subcatchment 11.20S: Area-11.20

Runoff = 0.89 cfs @ 11.98 hrs, Volume= 0.044 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
2,400	74	>75% Grass cover, Good, HSG C
25,850	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
28,250	72	Weighted Average
28,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.3000	0.41		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow, parking lot** Smooth surfaces n= 0.011 P2= 3.00"
0.4	100	0.0350	3.80		**Shallow Concentrated Flow, parking lot** Paved Kv= 20.3 fps
0.8	320	0.0500	6.59	5.18	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
3.5	497	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.21S: Area-11.21

Runoff = 4.97 cfs @ 12.09 hrs, Volume= 0.351 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
223,944	72	Woods/grass comb., Good, HSG C
3,300	74	>75% Grass cover, Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
227,244	72	Weighted Average
227,244		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.7	350	0.2400	3.43		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
5.8	1,000	0.3300	2.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	56	0.0300	5.82	43.69	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Mountain streams
15.2	1,506	Total			

Summary for Subcatchment 11.23S: Area 11.23

Runoff = 1.99 cfs @ 11.98 hrs, Volume= 0.096 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

	Area (sf)	CN	Description
	6,960	98	Paved parking, HSG C
	0	98	Roofs, HSG C
*	18,113	74	>75% Grass cover, Good, HSG C
	24,427	72	Woods/grass comb., Good, HSG C
	49,500	76	Weighted Average
	42,540		85.94% Pervious Area
	6,960		14.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.01		**Sheet Flow, driveway** Smooth surfaces n= 0.011 P2= 3.00"
0.9	465	0.0400	8.83	46.34	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.030 Earth, grassed & winding
1.3	490	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.24S: Area 11.24

Runoff = 1.19 cfs @ 11.98 hrs, Volume= 0.057 af, Depth= 1.19"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

	Area (sf)	CN	Description
	5,620	98	Paved parking, HSG C
	0	98	Roofs, HSG C
	16,892	74	>75% Grass cover, Good, HSG C
	2,522	72	Woods/grass comb., Good, HSG C
	25,034	79	Weighted Average
	19,414		77.55% Pervious Area
	5,620		22.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0400	1.38		**Sheet Flow, DRIVEWAY** Smooth surfaces n= 0.011 P2= 3.00"
0.1	15	0.0500	3.35		**Shallow Concentrated Flow, GRASS** Grassed Waterway Kv= 15.0 fps
0.5	270	0.0900	9.93	52.13	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
0.9	160	0.0100	2.95	2.32	**Pipe Channel, culvert** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
1.9	475	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.25S: Area 11.25

Runoff = 2.08 cfs @ 12.01 hrs, Volume= 0.113 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,360	74	>75% Grass cover, Good, HSG C
57,735	72	Woods/grass comb., Good, HSG C
7,755	79	Woods/grass comb., Good, HSG D
68,850	73	Weighted Average
68,850		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	75	0.3600	0.23		**Sheet Flow, GRASS** Woods: Light underbrush n= 0.400 P2= 3.00"
1.8	25	0.1000	0.24		**Sheet Flow, wetland** Grass: Short n= 0.150 P2= 3.00"
0.3	140	0.2800	7.94		**Shallow Concentrated Flow, wetland** Grassed Waterway Kv= 15.0 fps
1.1	215	0.0100	3.36	25.22	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
8.7	455	Total			

Summary for Subcatchment 11.26S: Area-11.26

Runoff = 2.94 cfs @ 11.97 hrs, Volume= 0.146 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
26,015	98	Paved parking, HSG C
0	98	Roofs, HSG C
12,531	74	>75% Grass cover, Good, HSG C
38,546	90	Weighted Average
12,531		32.51% Pervious Area
26,015		67.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow, ROAD** Smooth surfaces n= 0.011 P2= 3.00"
2.1	440	0.0300	3.52		**Shallow Concentrated Flow, CURB/GUTTER** Paved Kv= 20.3 fps
2.8	490	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.27S: Area-11.27

Runoff = 5.24 cfs @ 11.97 hrs, Volume= 0.262 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
12,146	98	Paved parking, HSG C
34,850	98	Roofs, HSG C
9,400	71	Meadow, non-grazed, HSG C
9,824	74	>75% Grass cover, Good, HSG C
66,220	91	Weighted Average
19,224		29.03% Pervious Area
46,996		70.97% Impervious Area

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

Summary for Subcatchment 11.28S: Area-11.28

Runoff = 0.57 cfs @ 11.96 hrs, Volume= 0.032 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
6,000	98	Paved parking, HSG C
6,000	98	Weighted Average
6,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, paved** Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.29S: Area 11.29

Runoff = 0.66 cfs @ 11.98 hrs, Volume= 0.033 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

	Area (sf)	CN	Description
	0	98	Paved parking, HSG C
	0	98	Roofs, HSG C
*	4,200	74	>75% Grass cover, Good, HSG C
	13,044	72	Woods/grass comb., Good, HSG C
	3,863	71	Meadow, non-grazed, HSG C
	21,107	72	Weighted Average
	21,107		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	50	0.4000	0.48		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	50	0.4000	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	95	0.0400	6.73	50.44	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.8	195	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.2S: Area-11.2

Runoff = 14.89 cfs @ 12.42 hrs, Volume= 2.008 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
2,200	74	>75% Grass cover, Good, HSG C
1,277,237	72	Woods/grass comb., Good, HSG C
19,327	79	Woods/grass comb., Good, HSG D
1,298,764	72	Weighted Average
1,298,764		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.8	150	0.0933	0.09		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.8	500	0.0960	2.17		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.3	885	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	355	0.2817	3.72		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
1.0	830	0.2600	13.74	54.98	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
40.5	2,720	Total			

Summary for Subcatchment 11.32S: Area-11.5

Runoff = 4.19 cfs @ 12.17 hrs, Volume= 0.365 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
236,106	72	Woods/grass comb., Good, HSG C
236,106		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, Sheet flow: Ski Trail** Grass: Dense n= 0.240 P2= 3.00"
2.2	400	0.1800	2.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.2	720	0.0330	0.91		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	83	0.1800	14.27	107.01	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
21.6	1,303	Total			

Summary for Subcatchment 11.33S: Area-11.33

Runoff = 2.26 cfs @ 12.18 hrs, Volume= 0.200 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
8,845	74	>75% Grass cover, Good, HSG C
24,220	79	Woods/grass comb., Good, HSG D
82,025	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
115,090	74	Weighted Average
115,090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
11.7	50	0.1000	0.07		**Sheet Flow, wetland** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	140	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
2.7	430	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	670	Total			

Summary for Subcatchment 11.34S: Area-11.34

Runoff = 1.47 cfs @ 12.07 hrs, Volume= 0.098 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
6,615	74	>75% Grass cover, Good, HSG C
14,006	79	Woods/grass comb., Good, HSG D
35,496	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
56,117	74	Weighted Average
56,117		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	75	0.2000	0.39		**Sheet Flow, woods** Grass: Short n= 0.150 P2= 3.00"
7.3	25	0.0800	0.06		**Sheet Flow, wetland** Woods: Dense underbrush n= 0.800 P2= 3.00"
2.9	150	0.1200	0.87		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
0.7	325	0.0800	7.62	30.50	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
14.1	575	Total			

Summary for Subcatchment 11.35S: Area-11.35

Runoff = 1.05 cfs @ 11.98 hrs, Volume= 0.050 af, Depth= 1.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
19,566	79	Woods/grass comb., Good, HSG D
3,700	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
23,266	78	Weighted Average
23,266		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	370	0.1500	7.29	87.45	**Trap/Vee/Rect Channel Flow, swale** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.080 Earth, long dense weeds
0.8	370	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.36S: Area-11.36

Runoff = 2.05 cfs @ 12.02 hrs, Volume= 0.114 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
5,035	79	Woods/grass comb., Good, HSG D
64,195	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
69,230	73	Weighted Average
69,230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.3100	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	230	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	260	0.1500	15.88	575.72	**Trap/Vee/Rect Channel Flow, swale** Bot.W=7.50' D=2.50' Z= 2.8 '/' Top.W=21.50' n= 0.050 Mountain streams w/large boulders
9.1	590	Total			

Summary for Subcatchment 11.38S: Area-11.38

Runoff = 0.57 cfs @ 11.98 hrs, Volume= 0.028 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
2,275	74	>75% Grass cover, Good, HSG C
8,026	79	Woods/grass comb., Good, HSG D
3,949	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
14,250	76	Weighted Average
14,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	185	0.2500	9.37	122.96	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 4.5 '/' Top.W=15.50' n= 0.070 Sluggish weedy reaches w/pools
0.3	185	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.39S: Area-11.39

Runoff = 0.59 cfs @ 12.00 hrs, Volume= 0.031 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
1,950	74	>75% Grass cover, Good, HSG C
19,400	71	Meadow, non-grazed, HSG C
21,350	71	Weighted Average
21,350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, ski trail** Grass: Dense n= 0.240 P2= 3.00"
1.0	200	0.2500	3.50		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
0.5	135	0.0200	4.76	35.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
7.6	435	Total			

Summary for Subcatchment 11.3S: Area-11.3

Runoff = 46.89 cfs @ 12.30 hrs, Volume= 5.179 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
2,455,128	72	Woods/grass comb., Good, HSG C
31,516	74	>75% Grass cover, Good, HSG C
257,243	98	Paved parking & roofs
73,710	79	Woods/grass comb., Good, HSG D
2,817,597	75	Weighted Average
2,560,354		90.87% Pervious Area
257,243		9.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	150	0.1133	0.25		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
4.3	963	0.2800	3.70		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.9	1,412	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.8	127	0.1500	2.71		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.8	450	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.0	395	0.0250	2.17	23.92	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.070 Sluggish weedy reaches w/pools
0.8	300	0.0250	5.95	71.40	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.040 Winding stream, pools & shoals
1.2	720	0.0250	9.97	996.95	**Trap/Vee/Rect Channel Flow, stream** Bot.W=10.00' D=5.00' Z= 2.0 '/' Top.W=30.00' n= 0.050 Mountain streams w/large boulders
0.1	45	0.0500	13.29	167.02	**Pipe Channel, culvert** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.025 Corrugated metal
0.1	360	0.3100	53.27	13,317.10	**Trap/Vee/Rect Channel Flow, stream** Bot.W=15.00' D=10.00' Z= 1.0 '/' Top.W=35.00' n= 0.050 Mountain streams w/large boulders
0.1	90	0.0500	19.28	378.54	**Pipe Channel, culvert** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.020 Corrugated PE, corrugated interior
0.6	393	0.0280	10.52	1,068.46	**Trap/Vee/Rect Channel Flow,** Bot.W=25.00' D=4.00' Z= 0.1 '/' Top.W=25.80' n= 0.050 Mountain streams w/large boulders
32.9	5,405	Total			

Summary for Subcatchment 11.40S: Area-11.40

Runoff = 4.14 cfs @ 11.96 hrs, Volume= 0.232 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
43,800	98	Paved parking, HSG C
43,800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
1.0	240	0.0375	3.93		**Shallow Concentrated Flow, asphalt curb** Paved Kv= 20.3 fps
2.0	1,940	0.0700	16.23	114.70	**Pipe Channel, closed pipe system** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.020 Corrugated PE, corrugated interior
3.2	2,190	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.41S: Area-11.41

Runoff = 2.01 cfs @ 12.02 hrs, Volume= 0.113 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
51,164	71	Meadow, non-grazed, HSG C
26,216	72	Woods/grass comb., Good, HSG C
77,380	71	Weighted Average
77,380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2500	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.6	110	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	145	0.0900	10.09	75.67	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
8.9	355	Total			

Summary for Subcatchment 11.4S: Area-11.4

Runoff = 3.72 cfs @ 11.96 hrs, Volume= 0.208 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
39,350	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
39,350	98	Weighted Average
39,350		100.00% Impervious Area

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

Summary for Subcatchment 11.5S: Area-11.5

Runoff = 6.40 cfs @ 12.03 hrs, Volume= 0.377 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
24,776	74	>75% Grass cover, Good, HSG C
219,018	72	Woods/grass comb., Good, HSG C
243,794	72	Weighted Average
243,794		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	100	0.2100	0.29		**Sheet Flow, Sheet flow: Woods** Grass: Dense n= 0.240 P2= 3.00"
4.1	700	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	150	0.0300	4.67	18.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
10.4	950	Total			

Summary for Subcatchment 11.6S: Area-11.6

Runoff = 0.82 cfs @ 11.98 hrs, Volume= 0.040 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
6,780	74	>75% Grass cover, Good, HSG C
17,770	72	Woods/grass comb., Good, HSG C
24,550	73	Weighted Average
24,550		100.00% Pervious Area

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

Summary for Subcatchment 11.7S: Area-11.7

Runoff = 2.24 cfs @ 11.98 hrs, Volume= 0.110 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
38,978	74	>75% Grass cover, Good, HSG C
27,785	72	Woods/grass comb., Good, HSG C
66,763	73	Weighted Average
66,763		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	70	0.2200	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.1	740	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.3	810	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.8S: Area-11.8

Runoff = 5.19 cfs @ 12.09 hrs, Volume= 0.368 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
7,422	74	>75% Grass cover, Good, HSG C
230,817	72	Woods/grass comb., Good, HSG C
238,239	72	Weighted Average
238,239		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, Woods / Meadow** Woods: Light underbrush n= 0.400 P2= 3.00"
7.3	1,132	0.2700	2.60		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.5	135	0.0300	4.67	18.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
15.3	1,367	Total			

Summary for Subcatchment 11.9S: Area-11.9

Runoff = 2.56 cfs @ 12.02 hrs, Volume= 0.144 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
36,375	74	>75% Grass cover, Good, HSG C
51,495	72	Woods/grass comb., Good, HSG C
87,870	73	Weighted Average
87,870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.2700	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	65	0.0375	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	640	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
9.5	805	Total			

Summary for Subcatchment 12.1S: Area-12.1

Runoff = 6.52 cfs @ 12.40 hrs, Volume= 0.859 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
14,995	79	Woods/grass comb., Good, HSG D
540,880	72	Woods/grass comb., Good, HSG C
555,875	72	Weighted Average
555,875		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1600	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
29.2	1,660	0.0360	0.95		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	235	0.1600	14.19	118.17	**Trap/Vee/Rect Channel Flow, stream/wetland** Bot.W=3.00' D=1.50' Z= 1.7 '/' Top.W=8.10' n= 0.040 Mountain streams
39.2	1,995	Total			

Summary for Subcatchment 12.2S: Area-12.2

Runoff = 8.80 cfs @ 12.04 hrs, Volume= 0.512 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
35,335	98	Paved parking, HSG C
0	98	Roofs, HSG C
133,625	74	>75% Grass cover, Good, HSG C
0	86	Woods/grass comb., Poor, HSG D
80,725	72	Woods/grass comb., Good, HSG C
249,685	77	Weighted Average
214,350		85.85% Pervious Area
35,335		14.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	35	0.2000	2.24		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
1.3	210	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	135	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.2	480	Total			

Summary for Subcatchment 12.3S: Area-12.3

Runoff = 1.72 cfs @ 11.96 hrs, Volume= 0.097 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=3.00"

Area (sf)	CN	Description
18,250	98	Paved parking, HSG C
18,250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.76		**Sheet Flow, Sheet flow: Woods** Smooth surfaces n= 0.011 P2= 3.00"
0.8	280	0.0850	5.92		**Shallow Concentrated Flow, pavement** Paved Kv= 20.3 fps
1.7	380	Total, Increased to minimum Tc = 6.0 min			

Summary for Reach 11.10R: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 0.93" for 1-Year event
Inflow = 46.76 cfs @ 12.33 hrs, Volume= 8.034 af
Outflow = 46.53 cfs @ 12.36 hrs, Volume= 8.034 af, Atten= 0%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.58 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.91 fps, Avg. Travel Time= 3.4 min

Peak Storage= 2,792 cf @ 12.34 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 3,320.07 cfs

25.00' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.1 '/' Top Width= 25.80'
Length= 393.0' Slope= 0.1730 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,700.00'

Summary for Reach 11.3aR: Bouldery stream

Inflow Area = 35.734 ac, 0.39% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 16.37 cfs @ 12.41 hrs, Volume= 2.424 af
Outflow = 16.35 cfs @ 12.42 hrs, Volume= 2.424 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.99 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.29 fps, Avg. Travel Time= 1.0 min

Peak Storage= 388 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 2,234.38 cfs

15.00' x 4.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.1 '/' Top Width= 15.80'
Length= 142.0' Slope= 0.4014 '/'
Inlet Invert= 2,390.00', Outlet Invert= 2,333.00'

Summary for Reach 11.4aR: DP11.3

Inflow Area = 59.384 ac, 2.22% Impervious, Inflow Depth = 0.85" for 1-Year event
Inflow = 28.87 cfs @ 12.27 hrs, Volume= 4.200 af
Outflow = 28.76 cfs @ 12.28 hrs, Volume= 4.200 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.84 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.95 fps, Avg. Travel Time= 1.9 min

Peak Storage= 717 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 858.32 cfs

7.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.00'
Length= 220.0' Slope= 0.3636 '/'
Inlet Invert= 2,292.00', Outlet Invert= 2,212.00'

‡

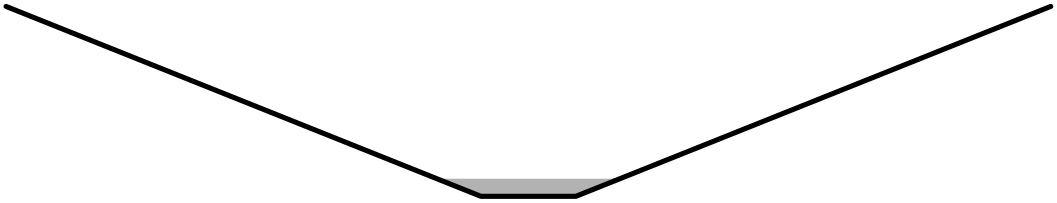
Summary for Reach 11.4bR: DP11.4

Inflow Area = 14.025 ac, 28.21% Impervious, Inflow Depth = 1.33" for 1-Year event
Inflow = 1.36 cfs @ 11.98 hrs, Volume= 1.560 af
Outflow = 1.33 cfs @ 11.99 hrs, Volume= 1.560 af, Atten= 2%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.01 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.14 fps, Avg. Travel Time= 1.1 min

Peak Storage= 39 cf @ 11.99 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 231.18 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 145.0' Slope= 0.2621 '/'
Inlet Invert= 2,250.00', Outlet Invert= 2,212.00'



Summary for Reach 11.4R: DP-11.2

Inflow Area = 57.794 ac, 2.28% Impervious, Inflow Depth = 0.85" for 1-Year event
Inflow = 28.51 cfs @ 12.25 hrs, Volume= 4.087 af
Outflow = 28.44 cfs @ 12.27 hrs, Volume= 4.087 af, Atten= 0%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.47 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 3.4 min

Peak Storage= 1,177 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 575.36 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.50'
Length= 267.0' Slope= 0.1498 '/'
Inlet Invert= 2,332.00', Outlet Invert= 2,292.00'

‡

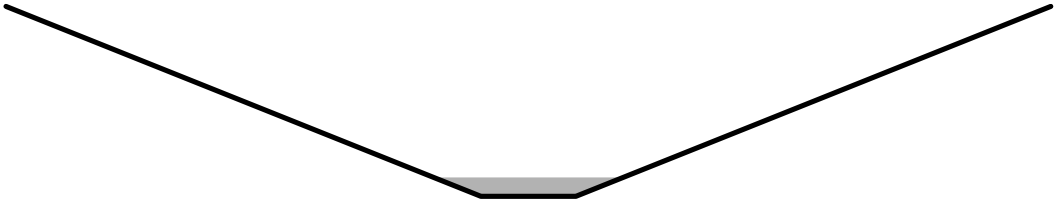
Summary for Reach 11.5aR: DP11.5

Inflow Area = 1.653 ac, 17.26% Impervious, Inflow Depth = 1.21" for 1-Year event
Inflow = 1.51 cfs @ 12.07 hrs, Volume= 0.166 af
Outflow = 1.44 cfs @ 12.14 hrs, Volume= 0.166 af, Atten= 5%, Lag= 3.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.92 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 1.72 fps, Avg. Travel Time= 6.0 min

Peak Storage= 186 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 217.63 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 620.0' Slope= 0.2323 '/'
Inlet Invert= 2,254.00', Outlet Invert= 2,110.00'



Summary for Reach 11.5R: Mountain stream

Inflow Area = 73.409 ac, 7.19% Impervious, Inflow Depth = 0.94" for 1-Year event
Inflow = 29.32 cfs @ 12.28 hrs, Volume= 5.760 af
Outflow = 29.21 cfs @ 12.32 hrs, Volume= 5.760 af, Atten= 0%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.27 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.00 fps, Avg. Travel Time= 3.8 min

Peak Storage= 2,127 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 2,943.05 cfs

15.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.7 '/' Top Width= 22.00'
Length= 455.0' Slope= 0.2242 '/'
Inlet Invert= 2,212.00', Outlet Invert= 2,110.00'

Summary for Reach 11.6aR: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 0.93" for 1-Year event
Inflow = 47.66 cfs @ 12.29 hrs, Volume= 8.033 af
Outflow = 47.52 cfs @ 12.30 hrs, Volume= 8.033 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.12 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.73 fps, Avg. Travel Time= 1.5 min

Peak Storage= 1,154 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,987.80 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 245.0' Slope= 0.4000 '/'
Inlet Invert= 1,990.00', Outlet Invert= 1,892.00'

Summary for Reach 11.6R: Mountain stream

Inflow Area = 75.062 ac, 7.41% Impervious, Inflow Depth = 0.95" for 1-Year event
Inflow = 29.94 cfs @ 12.31 hrs, Volume= 5.926 af
Outflow = 29.77 cfs @ 12.34 hrs, Volume= 5.926 af, Atten= 1%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.36 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 2.15 fps, Avg. Travel Time= 3.7 min

Peak Storage= 1,929 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,155.95 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 475.0' Slope= 0.2505 '/'
Inlet Invert= 2,109.00', Outlet Invert= 1,990.00'

Summary for Reach 11.8R: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 0.93" for 1-Year event
Inflow = 47.52 cfs @ 12.30 hrs, Volume= 8.033 af
Outflow = 47.07 cfs @ 12.32 hrs, Volume= 8.033 af, Atten= 1%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 8.37 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 3.60 fps, Avg. Travel Time= 1.7 min

Peak Storage= 2,034 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 13,400.37 cfs

15.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 35.00'
Length= 360.0' Slope= 0.3139 '/'
Inlet Invert= 1,887.00', Outlet Invert= 1,774.00'

Summary for Reach 14R: Donwstream Analysis

Inflow Area = 42.147 ac, 10.74% Impervious, Inflow Depth = 1.06" for 1-Year event
Inflow = 25.43 cfs @ 12.04 hrs, Volume= 3.706 af
Outflow = 25.43 cfs @ 12.04 hrs, Volume= 3.706 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1: Design Point-1

Inflow Area = 72.474 ac, 5.73% Impervious, Inflow Depth = 0.92" for 1-Year event
Inflow = 30.81 cfs @ 12.26 hrs, Volume= 5.586 af
Outflow = 30.81 cfs @ 12.26 hrs, Volume= 5.586 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.33 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.66 fps, Avg. Travel Time= 0.1 min

Peak Storage= 37 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 670.80 cfs

7.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1500 '/'
Inlet Invert= 0.00', Outlet Invert= -1.50'

Summary for Reach DP-11: Design Point-11

Inflow Area = 168.486 ac, 7.66% Impervious, Inflow Depth = 0.95" for 1-Year event
Inflow = 92.59 cfs @ 12.34 hrs, Volume= 13.313 af
Outflow = 92.59 cfs @ 12.34 hrs, Volume= 13.313 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-12: Design Point-12

Inflow Area = 19.291 ac, 8.34% Impervious, Inflow Depth = 0.97" for 1-Year event
Inflow = 6.79 cfs @ 12.40 hrs, Volume= 1.552 af
Outflow = 6.78 cfs @ 12.40 hrs, Volume= 1.552 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.59 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 0.1 min

Peak Storage= 10 cf @ 12.40 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 128.70 cfs

3.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.6 '/' Top Width= 7.80'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-1a: Design Point-1a

Inflow Area = 16.476 ac, 9.23% Impervious, Inflow Depth > 1.02" for 1-Year event
Inflow = 1.51 cfs @ 11.98 hrs, Volume= 1.396 af
Outflow = 1.50 cfs @ 11.98 hrs, Volume= 1.396 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 2.90 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.98 fps, Avg. Travel Time= 0.2 min

Peak Storage= 5 cf @ 11.98 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 97.10 cfs

3.00' x 1.25' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

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Summary for Reach DP-2: Design Point-2

Inflow Area = 31.124 ac, 14.55% Impervious, Inflow Depth = 1.14" for 1-Year event
Inflow = 16.09 cfs @ 12.07 hrs, Volume= 2.964 af
Outflow = 16.08 cfs @ 12.07 hrs, Volume= 2.964 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.05 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.55 fps, Avg. Travel Time= 0.1 min

Peak Storage= 20 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 233.42 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-2a: Design Point-2a

Inflow Area = 1.266 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 1.51 cfs @ 12.02 hrs, Volume= 0.085 af
Outflow = 1.51 cfs @ 12.02 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2b: Design Point-2b

Inflow Area = 4.686 ac, 0.00% Impervious, Inflow Depth = 0.86" for 1-Year event
Inflow = 6.25 cfs @ 12.01 hrs, Volume= 0.335 af
Outflow = 6.25 cfs @ 12.01 hrs, Volume= 0.335 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

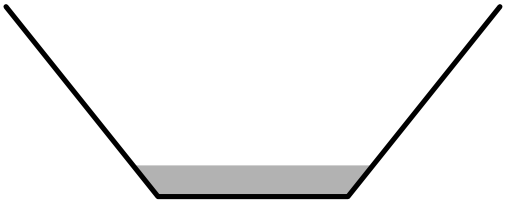
Summary for Reach DP-3: Design Point-3

Inflow Area = 2.415 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 3.30 cfs @ 11.98 hrs, Volume= 0.163 af
Outflow = 3.25 cfs @ 11.99 hrs, Volume= 0.163 af, Atten= 2%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.89 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.26 fps, Avg. Travel Time= 1.1 min

Peak Storage= 63 cf @ 11.99 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 79.12 cfs

1.50' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.8 '/' Top Width= 3.90'
Length= 150.0' Slope= 0.4000 '/'
Inlet Invert= 0.00', Outlet Invert= -60.00'



Summary for Reach DP-4: Design Point-4

Inflow Area = 32.799 ac, 11.24% Impervious, Inflow Depth > 1.03" for 1-Year event
Inflow = 8.03 cfs @ 12.02 hrs, Volume= 2.827 af
Outflow = 8.02 cfs @ 12.02 hrs, Volume= 2.827 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.24 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.96 fps, Avg. Travel Time= 0.1 min

Peak Storage= 13 cf @ 12.02 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 768.66 cfs

6.00' x 3.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 10.0' Slope= 0.4000 '/'
Inlet Invert= 0.00', Outlet Invert= -4.00'

Summary for Reach DP-5: Design Point-5

Inflow Area = 25.190 ac, 1.32% Impervious, Inflow Depth = 0.84" for 1-Year event
Inflow = 26.72 cfs @ 12.06 hrs, Volume= 1.765 af
Outflow = 26.70 cfs @ 12.07 hrs, Volume= 1.765 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.88 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.96 fps, Avg. Travel Time= 0.1 min

Peak Storage= 30 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.74'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 273.11 cfs

3.00' x 2.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.4 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 1,736.00', Outlet Invert= 1,735.00'

Summary for Reach DP-6: Design Point 6

Inflow Area = 2.077 ac, 21.55% Impervious, Inflow Depth = 1.19" for 1-Year event
Inflow = 2.14 cfs @ 11.98 hrs, Volume= 0.206 af
Outflow = 2.14 cfs @ 11.98 hrs, Volume= 0.206 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point-7

Inflow Area = 2.426 ac, 0.00% Impervious, Inflow Depth = 0.76" for 1-Year event
Inflow = 3.05 cfs @ 11.99 hrs, Volume= 0.154 af
Outflow = 3.05 cfs @ 11.99 hrs, Volume= 0.154 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point-8

Inflow Area = 53.405 ac, 14.83% Impervious, Inflow Depth = 1.00" for 1-Year event
Inflow = 10.63 cfs @ 12.39 hrs, Volume= 4.453 af
Outflow = 10.63 cfs @ 12.39 hrs, Volume= 4.453 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.97 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 0.1 min

Peak Storage= 18 cf @ 12.39 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 277.01 cfs

3.00' x 2.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.8 '/' Top Width= 12.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

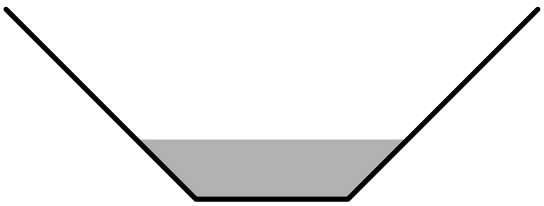
Summary for Reach DP-9: Design Point-9

Inflow Area = 29.876 ac, 15.42% Impervious, Inflow Depth = 1.10" for 1-Year event
Inflow = 16.72 cfs @ 12.05 hrs, Volume= 2.729 af
Outflow = 16.45 cfs @ 12.06 hrs, Volume= 2.729 af, Atten= 2%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 7.58 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.46 fps, Avg. Travel Time= 1.1 min

Peak Storage= 219 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 152.56 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 7.00'
Length= 100.0' Slope= 0.1000 '/'
Inlet Invert= 1,655.00', Outlet Invert= 1,645.00'



Summary for Reach R1.1: Mountain Stream

Inflow Area = 35.690 ac, 0.77% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 26.32 cfs @ 12.18 hrs, Volume= 2.448 af
Outflow = 25.85 cfs @ 12.24 hrs, Volume= 2.448 af, Atten= 2%, Lag= 3.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.54 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 1.95 fps, Avg. Travel Time= 6.9 min

Peak Storage= 3,215 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 4.50', Capacity at Bank-Full= 1,947.63 cfs

11.00' x 4.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 20.00'
Length= 805.0' Slope= 0.1342 '/'
Inlet Invert= 2,308.00', Outlet Invert= 2,200.00'

Summary for Reach R1.12: WETLAND

Inflow Area = 15.782 ac, 9.63% Impervious, Inflow Depth > 1.01" for 1-Year event
Inflow = 0.61 cfs @ 17.65 hrs, Volume= 1.334 af
Outflow = 0.61 cfs @ 17.69 hrs, Volume= 1.334 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.02 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 1.16 fps, Avg. Travel Time= 2.9 min

Peak Storage= 61 cf @ 17.66 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 206.27 cfs

20.00' x 0.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 200.0' Slope= 0.6000 '/'
Inlet Invert= 2,256.00', Outlet Invert= 2,136.00'

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Summary for Reach R1.2: Mountain Stream

Inflow Area = 38.694 ac, 1.10% Impervious, Inflow Depth = 0.83" for 1-Year event
Inflow = 27.52 cfs @ 12.23 hrs, Volume= 2.675 af
Outflow = 27.20 cfs @ 12.27 hrs, Volume= 2.675 af, Atten= 1%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.41 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.09 fps, Avg. Travel Time= 4.9 min

Peak Storage= 2,013 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 636.66 cfs

5.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.7 '/' Top Width= 15.20'
Length= 616.0' Slope= 0.1461 '/'
Inlet Invert= 2,200.00', Outlet Invert= 2,110.00'

Summary for Reach R1.8: WETLAND

Inflow Area = 3.337 ac, 12.31% Impervious, Inflow Depth = 1.12" for 1-Year event
Inflow = 4.65 cfs @ 11.98 hrs, Volume= 0.311 af
Outflow = 4.45 cfs @ 12.00 hrs, Volume= 0.311 af, Atten= 4%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.43 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 0.50 fps, Avg. Travel Time= 4.0 min

Peak Storage= 229 cf @ 11.99 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 73.93 cfs

20.00' x 0.50' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 120.0' Slope= 0.3083 '/'
Inlet Invert= 2,205.00', Outlet Invert= 2,168.00'

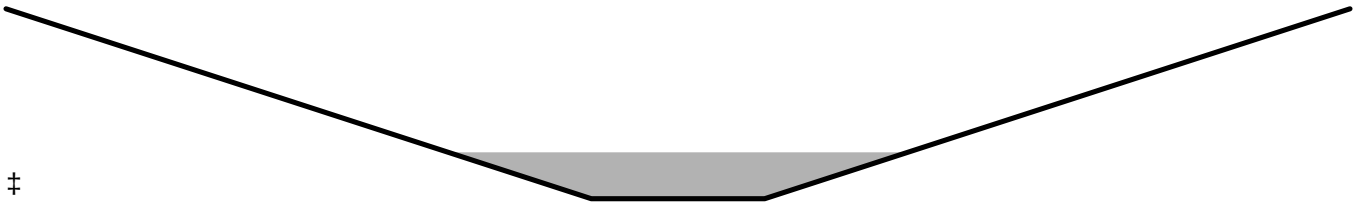
Summary for Reach R11.1: DP11.6

Inflow Area = 5.543 ac, 8.39% Impervious, Inflow Depth = 0.97" for 1-Year event
Inflow = 4.73 cfs @ 12.08 hrs, Volume= 0.447 af
Outflow = 4.58 cfs @ 12.12 hrs, Volume= 0.447 af, Atten= 3%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.50 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.02 fps, Avg. Travel Time= 5.0 min

Peak Storage= 415 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 102.63 cfs

2.00' x 1.50' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 310.0' Slope= 0.1742 '/'
Inlet Invert= 2,224.00', Outlet Invert= 2,170.00'



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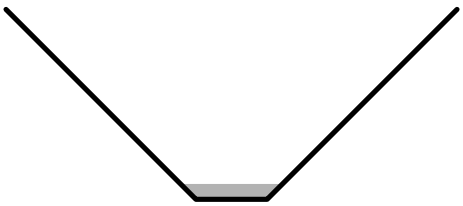
Summary for Reach R11.12: Mountain stream

Inflow Area = 5.355 ac, 2.57% Impervious, Inflow Depth = 0.86" for 1-Year event
Inflow = 4.98 cfs @ 12.09 hrs, Volume= 0.383 af
Outflow = 4.93 cfs @ 12.10 hrs, Volume= 0.383 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.42 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.55 fps, Avg. Travel Time= 1.3 min

Peak Storage= 118 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 678.27 cfs

1.50' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 9.50'
Length= 200.0' Slope= 0.3350 '/'
Inlet Invert= 2,468.00', Outlet Invert= 2,401.00'



Summary for Reach R11.13: Mountain stream

Inflow Area = 29.816 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 14.89 cfs @ 12.42 hrs, Volume= 2.008 af
Outflow = 14.85 cfs @ 12.43 hrs, Volume= 2.008 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.07 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 3.91 fps, Avg. Travel Time= 0.8 min

Peak Storage= 441 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 5,898.94 cfs

12.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.1 '/' Top Width= 14.00'
Length= 180.0' Slope= 0.3611 '/'
Inlet Invert= 2,466.00', Outlet Invert= 2,401.00'

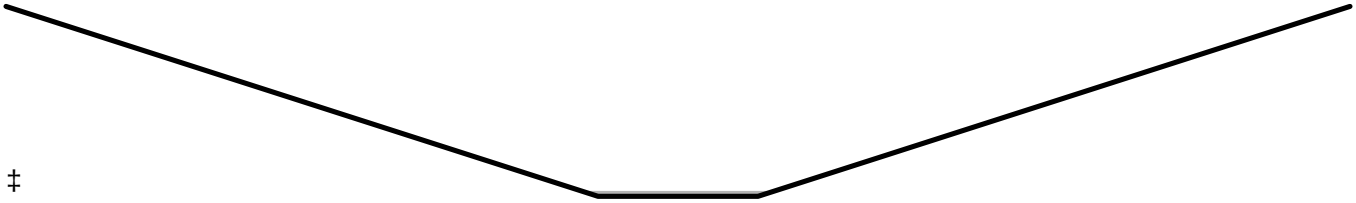
Summary for Reach R11.14: Mountain stream

Inflow Area = 0.649 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 0.89 cfs @ 11.98 hrs, Volume= 0.044 af
Outflow = 0.85 cfs @ 12.00 hrs, Volume= 0.044 af, Atten= 4%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.09 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 1.4 min

Peak Storage= 40 cf @ 11.99 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 989.43 cfs

3.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 3.7 '/' Top Width= 25.20'
Length= 140.0' Slope= 0.2071 '/'
Inlet Invert= 2,464.00', Outlet Invert= 2,435.00'



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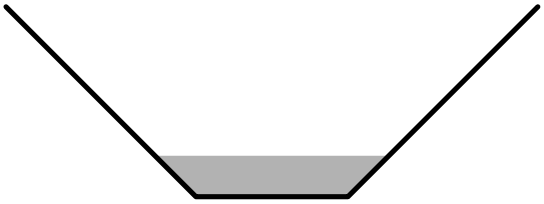
Summary for Reach R11.16: SWALE

Inflow Area = 11.496 ac, 0.90% Impervious, Inflow Depth = 0.83" for 1-Year event
Inflow = 9.06 cfs @ 12.16 hrs, Volume= 0.791 af
Outflow = 8.89 cfs @ 12.19 hrs, Volume= 0.791 af, Atten= 2%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.58 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.69 fps, Avg. Travel Time= 4.4 min

Peak Storage= 617 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 160.81 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 7.00'
Length= 450.0' Slope= 0.1111 '/'
Inlet Invert= 2,450.00', Outlet Invert= 2,400.00'



Summary for Reach R11.1A: DP11.7

Inflow Area = 28.305 ac, 3.51% Impervious, Inflow Depth = 0.89" for 1-Year event
Inflow = 19.44 cfs @ 12.20 hrs, Volume= 2.107 af
Outflow = 18.92 cfs @ 12.26 hrs, Volume= 2.107 af, Atten= 3%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.91 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 10.4 min

Peak Storage= 2,297 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 186.80 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 950.0' Slope= 0.1884 '/'
Inlet Invert= 2,169.00', Outlet Invert= 1,990.00'

‡

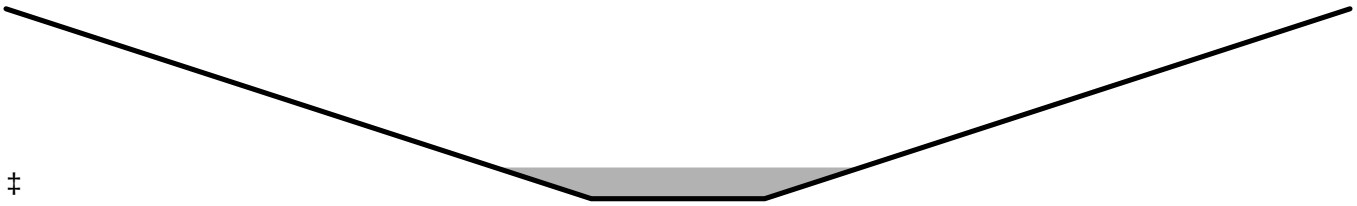
Summary for Reach R11.1B: Mountain stream

Inflow Area = 4.561 ac, 1.76% Impervious, Inflow Depth = 0.84" for 1-Year event
Inflow = 4.53 cfs @ 12.07 hrs, Volume= 0.320 af
Outflow = 4.44 cfs @ 12.09 hrs, Volume= 0.320 af, Atten= 2%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.87 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.58 fps, Avg. Travel Time= 2.1 min

Peak Storage= 153 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 215.17 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 200.0' Slope= 0.2500 '/'
Inlet Invert= 2,276.00', Outlet Invert= 2,226.00'



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Summary for Reach R11.25: SWALE

Inflow Area = 15.057 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 13.13 cfs @ 12.07 hrs, Volume= 1.027 af
Outflow = 12.74 cfs @ 12.10 hrs, Volume= 1.027 af, Atten= 3%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.25 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.88 fps, Avg. Travel Time= 3.1 min

Peak Storage= 863 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.72'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 110.44 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 350.0' Slope= 0.0543 '/'
Inlet Invert= 2,330.00', Outlet Invert= 2,311.00'

Summary for Reach R11.27: Overland

Inflow Area = 16.103 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 13.88 cfs @ 12.10 hrs, Volume= 1.106 af
Outflow = 12.84 cfs @ 12.22 hrs, Volume= 1.106 af, Atten= 7%, Lag= 6.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.65 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 0.80 fps, Avg. Travel Time= 13.4 min

Peak Storage= 3,153 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 620.34 cfs

100.00' x 0.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 101.00'
Length= 640.0' Slope= 0.2156 '/'
Inlet Invert= 2,308.00', Outlet Invert= 2,170.00'

Summary for Reach R11.30: SWALE

Inflow Area = 2.196 ac, 13.15% Impervious, Inflow Depth = 1.01" for 1-Year event
Inflow = 0.11 cfs @ 13.36 hrs, Volume= 0.186 af
Outflow = 0.11 cfs @ 13.63 hrs, Volume= 0.186 af, Atten= 1%, Lag= 16.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.62 fps, Min. Travel Time= 8.7 min
Avg. Velocity = 0.36 fps, Avg. Travel Time= 15.2 min

Peak Storage= 55 cf @ 13.48 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 24.23 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 325.0' Slope= 0.0092 '/'
Inlet Invert= 2,183.00', Outlet Invert= 2,180.00'

Summary for Reach R11.31: SWALE

Inflow Area = 1.136 ac, 14.06% Impervious, Inflow Depth = 1.01" for 1-Year event
Inflow = 0.53 cfs @ 12.13 hrs, Volume= 0.096 af
Outflow = 0.51 cfs @ 12.19 hrs, Volume= 0.096 af, Atten= 4%, Lag= 3.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.80 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 0.50 fps, Avg. Travel Time= 4.6 min

Peak Storage= 44 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 49.99 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 140.0' Slope= 0.0393 '/'
Inlet Invert= 2,189.50', Outlet Invert= 2,184.00'

Summary for Reach R11.33: Bouldery stream

Inflow Area = 13.664 ac, 8.65% Impervious, Inflow Depth = 0.96" for 1-Year event
Inflow = 9.21 cfs @ 12.19 hrs, Volume= 1.097 af
Outflow = 9.13 cfs @ 12.21 hrs, Volume= 1.097 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.58 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 2.4 min

Peak Storage= 382 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 454.15 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.3 '/' Top Width= 14.00'
Length= 190.0' Slope= 0.1579 '/'
Inlet Invert= 2,420.00', Outlet Invert= 2,390.00'

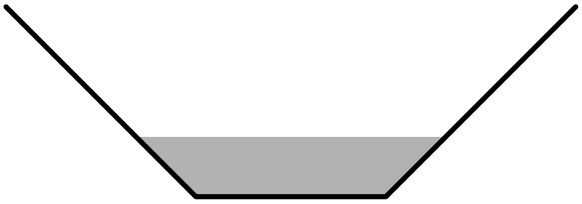
Summary for Reach R11.37: SWALE

Inflow Area = 13.040 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 11.29 cfs @ 12.04 hrs, Volume= 0.882 af
Outflow = 10.88 cfs @ 12.08 hrs, Volume= 0.882 af, Atten= 4%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.78 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 2.30 fps, Avg. Travel Time= 4.4 min

Peak Storage= 995 cf @ 12.06 hrs
Average Depth at Peak Storage= 0.63'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 96.77 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 600.0' Slope= 0.1000 '/'
Inlet Invert= 2,405.00', Outlet Invert= 2,345.00'



Summary for Reach R11.38: Wetland

Inflow Area = 2.196 ac, 13.15% Impervious, Inflow Depth = 1.01" for 1-Year event
Inflow = 0.11 cfs @ 13.63 hrs, Volume= 0.186 af
Outflow = 0.10 cfs @ 14.56 hrs, Volume= 0.186 af, Atten= 6%, Lag= 55.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.16 fps, Min. Travel Time= 31.6 min
Avg. Velocity = 0.09 fps, Avg. Travel Time= 57.2 min

Peak Storage= 189 cf @ 14.03 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 14.90 cfs

25.00' x 0.50' deep channel, n= 0.100 Very weedy reaches w/pools
Side Slope Z-value= 1.0 '/' Top Width= 26.00'
Length= 306.0' Slope= 0.0163 '/'
Inlet Invert= 2,180.00', Outlet Invert= 2,175.00'

‡

Summary for Reach R11.39: SWALE

Inflow Area = 1.520 ac, 70.97% Impervious, Inflow Depth = 2.07" for 1-Year event
Inflow = 0.20 cfs @ 13.58 hrs, Volume= 0.262 af
Outflow = 0.20 cfs @ 13.67 hrs, Volume= 0.262 af, Atten= 0%, Lag= 5.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.58 fps, Min. Travel Time= 3.3 min
Avg. Velocity = 1.25 fps, Avg. Travel Time= 4.1 min

Peak Storage= 39 cf @ 13.61 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 49.35 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 310.0' Slope= 0.0806 '/'
Inlet Invert= 2,446.00', Outlet Invert= 2,421.00'

Summary for Reach R11.40: SWALE

Inflow Area = 0.903 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 3.72 cfs @ 11.96 hrs, Volume= 0.208 af
Outflow = 3.62 cfs @ 11.98 hrs, Volume= 0.208 af, Atten= 3%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.71 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.63 fps, Avg. Travel Time= 3.2 min

Peak Storage= 168 cf @ 11.97 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 143.25 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 310.0' Slope= 0.3226 '/'
Inlet Invert= 2,430.00', Outlet Invert= 2,330.00'

Summary for Reach R2.7: SWALE

Inflow Area = 3.627 ac, 13.61% Impervious, Inflow Depth = 1.12" for 1-Year event
Inflow = 4.64 cfs @ 11.98 hrs, Volume= 0.338 af
Outflow = 3.91 cfs @ 12.09 hrs, Volume= 0.338 af, Atten= 16%, Lag= 6.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.03 fps, Min. Travel Time= 3.9 min
Avg. Velocity = 0.82 fps, Avg. Travel Time= 14.4 min

Peak Storage= 934 cf @ 12.02 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 81.81 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 705.0' Slope= 0.0298 '/'
Inlet Invert= 2,213.00', Outlet Invert= 2,192.00'

Summary for Reach R2.9: Stream

Inflow Area = 31.124 ac, 14.55% Impervious, Inflow Depth = 1.14" for 1-Year event
Inflow = 16.08 cfs @ 12.07 hrs, Volume= 2.964 af
Outflow = 15.56 cfs @ 12.11 hrs, Volume= 2.964 af, Atten= 3%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.52 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.68 fps, Avg. Travel Time= 6.7 min

Peak Storage= 1,265 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 256.33 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 680.0' Slope= 0.2412 '/'
Inlet Invert= 2,144.00', Outlet Invert= 1,980.00'

Summary for Reach R3.1: SWALE

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 123.06 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 420.0' Slope= 0.2381 '/'
Inlet Invert= 2,179.99', Outlet Invert= 2,080.00'

Summary for Reach R4.2: SWALE

Inflow Area = 15.597 ac, 8.50% Impervious, Inflow Depth = 0.97" for 1-Year event
Inflow = 16.03 cfs @ 12.05 hrs, Volume= 1.267 af
Outflow = 15.63 cfs @ 12.08 hrs, Volume= 1.267 af, Atten= 2%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.02 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.54 fps, Avg. Travel Time= 3.8 min

Peak Storage= 795 cf @ 12.06 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 219.76 cfs

6.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 12.00'
Length= 350.0' Slope= 0.1771 '/'
Inlet Invert= 2,280.00', Outlet Invert= 2,218.00'

‡

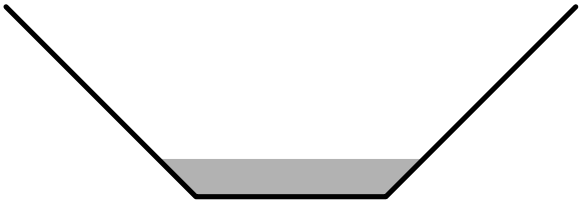
Summary for Reach R4.5: swale

Inflow Area = 30.234 ac, 12.20% Impervious, Inflow Depth > 1.05" for 1-Year event
Inflow = 5.42 cfs @ 11.98 hrs, Volume= 2.654 af
Outflow = 4.97 cfs @ 12.03 hrs, Volume= 2.654 af, Atten= 8%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.51 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 1.44 fps, Avg. Travel Time= 6.5 min

Peak Storage= 533 cf @ 12.00 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 100.17 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 560.0' Slope= 0.1071 '/'
Inlet Invert= 2,065.00', Outlet Invert= 2,005.00'



Summary for Reach R4.7: swale

Inflow Area = 32.763 ac, 11.26% Impervious, Inflow Depth > 1.03" for 1-Year event
Inflow = 8.05 cfs @ 12.02 hrs, Volume= 2.825 af
Outflow = 8.00 cfs @ 12.02 hrs, Volume= 2.825 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.88 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.55 fps, Avg. Travel Time= 0.4 min

Peak Storage= 49 cf @ 12.02 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 329.55 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 60.0' Slope= 0.4833 '/'
Inlet Invert= 2,001.00', Outlet Invert= 1,972.00'

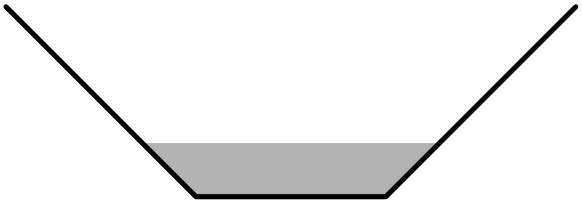
Summary for Reach R5.2: SWALE

Inflow Area = 8.776 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 10.28 cfs @ 12.03 hrs, Volume= 0.591 af
Outflow = 9.70 cfs @ 12.07 hrs, Volume= 0.591 af, Atten= 6%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.98 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 2.14 fps, Avg. Travel Time= 5.0 min

Peak Storage= 928 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 105.45 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 640.0' Slope= 0.1187 '/'
Inlet Invert= 1,822.00', Outlet Invert= 1,746.00'



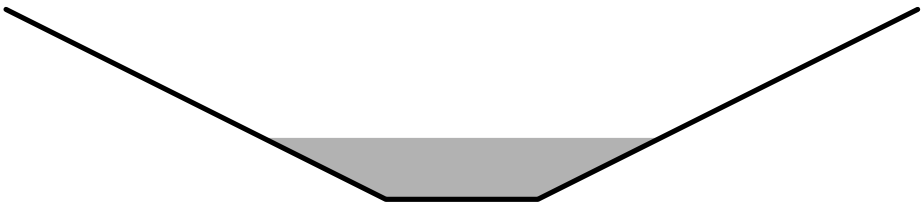
Summary for Reach R5.3: SWALE

Inflow Area = 12.491 ac, 2.66% Impervious, Inflow Depth = 0.87" for 1-Year event
Inflow = 13.69 cfs @ 12.06 hrs, Volume= 0.909 af
Outflow = 13.26 cfs @ 12.08 hrs, Volume= 0.909 af, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.64 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 2.8 min

Peak Storage= 548 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.81'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 151.95 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 12.00'
Length= 187.0' Slope= 0.0374 '/'
Inlet Invert= 1,745.00', Outlet Invert= 1,738.00'



Summary for Reach R8.16: SWALE

Inflow = 14.27 cfs @ 12.00 hrs, Volume= 1.064 af
Outflow = 13.85 cfs @ 12.02 hrs, Volume= 1.064 af, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.96 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.48 fps, Avg. Travel Time= 3.6 min

Peak Storage= 561 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 178.88 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 315.0' Slope= 0.2159 '/'
Inlet Invert= 1,810.00', Outlet Invert= 1,742.00'

Summary for Reach R8.17: SWALE

Inflow Area = 1.145 ac, 16.92% Impervious, Inflow Depth = 12.27" for 1-Year event
Inflow = 14.43 cfs @ 12.03 hrs, Volume= 1.171 af
Outflow = 14.16 cfs @ 12.05 hrs, Volume= 1.171 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.93 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 3.1 min

Peak Storage= 507 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 176.73 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 280.0' Slope= 0.2107 '/'
Inlet Invert= 1,741.00', Outlet Invert= 1,682.00'

Summary for Reach R8.18: Mountain stream

Inflow Area = 15.337 ac, 1.95% Impervious, Inflow Depth = 0.85" for 1-Year event
Inflow = 8.92 cfs @ 12.30 hrs, Volume= 1.082 af
Outflow = 8.73 cfs @ 12.41 hrs, Volume= 1.082 af, Atten= 2%, Lag= 6.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.26 fps, Min. Travel Time= 3.4 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 13.0 min

Peak Storage= 1,788 cf @ 12.35 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 109.52 cfs

2.50' x 2.00' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 10.50'
Length= 870.0' Slope= 0.1736 '/'
Inlet Invert= 1,818.00', Outlet Invert= 1,667.00'

Summary for Reach R8.2: SWALE

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 1.25" for 1-Year event
Inflow = 4.19 cfs @ 12.11 hrs, Volume= 0.283 af
Outflow = 4.04 cfs @ 12.16 hrs, Volume= 0.283 af, Atten= 4%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.42 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 7.9 min

Peak Storage= 382 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 46.39 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 407.0' Slope= 0.0713 '/'
Inlet Invert= 2,303.00', Outlet Invert= 2,274.00'

Summary for Reach R8.21: SWALE

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 0.72" for 1-Year event
Inflow = 19.45 cfs @ 12.00 hrs, Volume= 1.441 af
Outflow = 18.57 cfs @ 12.03 hrs, Volume= 1.441 af, Atten= 5%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.58 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.75 fps, Avg. Travel Time= 4.9 min

Peak Storage= 1,044 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 203.30 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 520.0' Slope= 0.2788 '/'
Inlet Invert= 1,815.00', Outlet Invert= 1,670.00'

Summary for Reach R8.4: SWALE

Inflow Area = 6.715 ac, 30.90% Impervious, Inflow Depth = 1.29" for 1-Year event
Inflow = 9.53 cfs @ 12.06 hrs, Volume= 0.720 af
Outflow = 9.23 cfs @ 12.10 hrs, Volume= 0.720 af, Atten= 3%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.12 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.15 fps, Avg. Travel Time= 7.6 min

Peak Storage= 803 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 51.44 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 525.0' Slope= 0.0876 '/'
Inlet Invert= 2,270.00', Outlet Invert= 2,224.00'

Summary for Reach R8.6: SWALE

Inflow Area = 8.502 ac, 27.24% Impervious, Inflow Depth = 1.25" for 1-Year event
Inflow = 10.10 cfs @ 12.08 hrs, Volume= 0.886 af
Outflow = 9.99 cfs @ 12.11 hrs, Volume= 0.886 af, Atten= 1%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.91 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.28 fps, Avg. Travel Time= 4.5 min

Peak Storage= 503 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 59.17 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 345.0' Slope= 0.1159 '/'
Inlet Invert= 2,220.00', Outlet Invert= 2,180.00'

Summary for Reach R9.10: Swale

Inflow Area = 12.954 ac, 25.61% Impervious, Inflow Depth > 1.32" for 1-Year event
Inflow = 0.48 cfs @ 19.87 hrs, Volume= 1.423 af
Outflow = 0.48 cfs @ 19.91 hrs, Volume= 1.423 af, Atten= 0%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 2.15 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.15 fps, Avg. Travel Time= 2.5 min

Peak Storage= 38 cf @ 19.89 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 136.03 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 170.0' Slope= 0.0824 '/'
Inlet Invert= 1,672.00', Outlet Invert= 1,658.00'

Summary for Reach R9.2: Swale

Inflow Area = 5.546 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 6.50 cfs @ 12.03 hrs, Volume= 0.373 af
Outflow = 5.64 cfs @ 12.14 hrs, Volume= 0.373 af, Atten= 13%, Lag= 6.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.21 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 1.57 fps, Avg. Travel Time= 13.3 min

Peak Storage= 1,389 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 80.39 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 1,250.0' Slope= 0.1016 '/'
Inlet Invert= 1,900.00', Outlet Invert= 1,773.00'

Summary for Reach R9.3: Swale

Inflow Area = 13.150 ac, 7.18% Impervious, Inflow Depth = 0.91" for 1-Year event
Inflow = 13.42 cfs @ 12.00 hrs, Volume= 0.999 af
Outflow = 12.49 cfs @ 12.07 hrs, Volume= 0.999 af, Atten= 7%, Lag= 4.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.73 fps, Min. Travel Time= 2.5 min
Avg. Velocity = 1.66 fps, Avg. Travel Time= 10.1 min

Peak Storage= 1,853 cf @ 12.03 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 158.64 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 1,000.0' Slope= 0.1120 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,656.00'

Summary for Reach R9.4: Swale

Inflow Area = 5.118 ac, 41.21% Impervious, Inflow Depth = 1.64" for 1-Year event
Inflow = 9.34 cfs @ 11.98 hrs, Volume= 0.699 af
Outflow = 8.83 cfs @ 12.03 hrs, Volume= 0.699 af, Atten= 5%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.91 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 5.9 min

Peak Storage= 839 cf @ 12.00 hrs
Average Depth at Peak Storage= 0.51'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 148.51 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 540.0' Slope= 0.0981 '/'
Inlet Invert= 1,769.00', Outlet Invert= 1,716.00'

Summary for Pond 6.2P: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 2.25" for 1-Year event
Inflow = 0.67 cfs @ 11.96 hrs, Volume= 0.034 af
Outflow = 0.04 cfs @ 12.79 hrs, Volume= 0.034 af, Atten= 94%, Lag= 49.6 min
Primary = 0.04 cfs @ 12.79 hrs, Volume= 0.034 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.51' @ 12.79 hrs Surf.Area= 3,191 sf Storage= 1,561 cf (763 cf above start)

Plug-Flow detention time= 857.3 min calculated for 0.016 af (47% of inflow)
Center-of-Mass det. time= 378.9 min (1,170.6 - 791.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=0.03 cfs @ 12.79 hrs HW=1,686.51' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.26 fps)

Summary for Pond 6.3P: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 2.25" for 1-Year event
Inflow = 0.67 cfs @ 11.96 hrs, Volume= 0.034 af
Outflow = 0.04 cfs @ 12.79 hrs, Volume= 0.034 af, Atten= 94%, Lag= 49.6 min
Primary = 0.04 cfs @ 12.79 hrs, Volume= 0.034 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.51' @ 12.79 hrs Surf.Area= 3,191 sf Storage= 1,561 cf (763 cf above start)

Plug-Flow detention time= 857.3 min calculated for 0.016 af (47% of inflow)
Center-of-Mass det. time= 378.9 min (1,170.6 - 791.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=0.03 cfs @ 12.79 hrs HW=1,686.51' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.26 fps)

Summary for Pond 11.3R: DP11.1

Inflow Area = 35.734 ac, 0.39% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 16.38 cfs @ 12.41 hrs, Volume= 2.431 af
Outflow = 16.37 cfs @ 12.41 hrs, Volume= 2.424 af, Atten= 0%, Lag= 0.2 min
Primary = 16.37 cfs @ 12.41 hrs, Volume= 2.424 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 2,411.99' @ 12.41 hrs Surf.Area= 320 sf Storage= 617 cf

Plug-Flow detention time= 8.3 min calculated for 2.423 af (100% of inflow)
Center-of-Mass det. time= 1.6 min (915.2 - 913.6)

Volume	Invert	Avail.Storage	Storage Description
#1	2,410.00'	3,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,410.00	300	0	0
2,420.00	400	3,500	3,500

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.00'	**72.0" Round Culvert X 2.00** L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,411.00' / 2,395.00' S= 0.1333 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=16.32 cfs @ 12.41 hrs HW=2,411.99' (Free Discharge)
└**1=Culvert** (Inlet Controls 16.32 cfs @ 2.67 fps)

Summary for Pond 11.7R: Culvert

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 0.93" for 1-Year event
Inflow = 47.52 cfs @ 12.30 hrs, Volume= 8.033 af
Outflow = 47.52 cfs @ 12.30 hrs, Volume= 8.033 af, Atten= 0%, Lag= 0.0 min
Primary = 47.52 cfs @ 12.30 hrs, Volume= 8.033 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,892.60' @ 12.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,890.00'	**48.0" Round Culvert** L= 45.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,890.00' / 1,888.00' S= 0.0444 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Primary	1,895.00'	**15.0' long x 35.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=47.45 cfs @ 12.30 hrs HW=1,892.60' (Free Discharge)
├**1=Culvert** (Inlet Controls 47.45 cfs @ 5.49 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 11.9R: Culvert

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 0.93" for 1-Year event
Inflow = 47.07 cfs @ 12.32 hrs, Volume= 8.033 af
Outflow = 46.76 cfs @ 12.33 hrs, Volume= 8.034 af, Atten= 1%, Lag= 0.4 min
Primary = 46.76 cfs @ 12.33 hrs, Volume= 8.034 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,774.89' @ 12.33 hrs Surf.Area= 876 sf Storage= 1,584 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.9 min (1,133.8 - 1,131.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,773.00'	10,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,773.00	800	0	0
1,783.00	1,200	10,000	10,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,773.00'	**60.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 1,773.00' / 1,767.00' S= 0.0667 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

#2 Primary 1,773.00' **48.0" Round Culvert**
L= 90.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 1,773.00' / 1,770.00' S= 0.0333 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=46.50 cfs @ 12.33 hrs HW=1,774.89' (Free Discharge)
1=Culvert (Inlet Controls 25.00 cfs @ 3.69 fps)
2=Culvert (Inlet Controls 21.50 cfs @ 3.69 fps)

Summary for Pond P1.1: Pond 1.1

Inflow Area = 15.782 ac, 9.63% Impervious, Inflow Depth = 1.02" for 1-Year event
Inflow = 17.56 cfs @ 12.02 hrs, Volume= 1.335 af
Outflow = 0.61 cfs @ 17.65 hrs, Volume= 1.334 af, Atten= 97%, Lag= 337.8 min
Primary = 0.61 cfs @ 17.65 hrs, Volume= 1.334 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,159.55' Surf.Area= 11,012 sf Storage= 25,985 cf
Peak Elev= 2,162.06' @ 17.65 hrs Surf.Area= 16,822 sf Storage= 60,853 cf (34,868 cf above start)

Plug-Flow detention time= 1,615.4 min calculated for 0.737 af (55% of inflow)
Center-of-Mass det. time= 908.3 min (1,791.2 - 882.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2,156.00'	120,626 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,156.00	3,831	0	0
2,158.00	7,673	11,504	11,504
2,160.00	11,982	19,655	31,159
2,162.00	16,663	28,645	59,804
2,164.00	21,746	38,409	98,213
2,165.00	23,079	22,413	120,626

Device	Routing	Invert	Outlet Devices
#1	Primary	2,158.50'	**24.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,158.50' / 2,157.65' S= 0.0170 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,159.55'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	2,162.00'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,163.75'	**15.0' 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

Primary OutFlow Max=0.60 cfs @ 17.65 hrs HW=2,162.06' (Free Discharge)
- **1=Culvert** (Passes 0.49 cfs of 22.70 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.49 cfs @ 7.41 fps)
- **3=Orifice/Grate** (Orifice Controls 0.10 cfs @ 0.80 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P1.2: BIORETENTION

Inflow Area = 0.244 ac, 81.20% Impervious, Inflow Depth = 2.25" for 1-Year event
Inflow = 0.90 cfs @ 11.96 hrs, Volume= 0.046 af
Outflow = 0.03 cfs @ 13.95 hrs, Volume= 0.046 af, Atten= 97%, Lag= 119.2 min
Primary = 0.03 cfs @ 13.95 hrs, Volume= 0.046 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,226.99' Surf.Area= 4,000 sf Storage= 1,997 cf
Peak Elev= 2,227.48' @ 13.95 hrs Surf.Area= 6,388 sf Storage= 3,063 cf (1,066 cf above start)

Plug-Flow detention time= 1,535.9 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 375.4 min (1,167.1 - 791.7)

Volume	Invert	Avail.Storage	Storage Description
#1	2,222.00'	800 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 2,000 cf Overall x 40.0% Voids
#2	2,223.00'	1,200 cf	**filter media (Prismatic)**Listed below (Recalc) 8,000 cf Overall x 15.0% Voids
#3	2,227.00'	5,600 cf	**surface storage (Prismatic)**Listed below (Recalc)
		7,600 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,222.00	2,000	0	0
2,223.00	2,000	2,000	2,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,223.00	2,000	0	0
2,227.00	2,000	8,000	8,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,227.00	2,000	0	0
2,229.00	3,600	5,600	5,600

Device	Routing	Invert	Outlet Devices
#1	Primary	2,226.99'	**0.500 in/hr Exfiltration over Surface area above 2,226.99'** Excluded Surface area = 4,000 sf
#2	Primary	2,227.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 13.95 hrs HW=2,227.48' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond P1.3: Pond 1.3

Inflow Area = 25.678 ac, 13.90% Impervious, Inflow Depth = 1.06" for 1-Year event
Inflow = 19.60 cfs @ 12.04 hrs, Volume= 2.277 af
Outflow = 0.89 cfs @ 19.67 hrs, Volume= 2.273 af, Atten= 95%, Lag= 458.3 min
Primary = 0.89 cfs @ 19.67 hrs, Volume= 2.273 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,164.09' Surf.Area= 14,529 sf Storage= 40,390 cf
Peak Elev= 2,167.08' @ 19.67 hrs Surf.Area= 23,022 sf Storage= 96,212 cf (55,822 cf above start)

Plug-Flow detention time= 1,500.6 min calculated for 1.346 af (59% of inflow)
Center-of-Mass det. time= 846.7 min (1,771.1 - 924.3)

Volume	Invert	Avail.Storage	Storage Description
#1	2,160.00'	209,531 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,160.00	5,797	0	0
2,162.00	9,507	15,304	15,304
2,164.00	14,282	23,789	39,093
2,166.00	19,778	34,060	73,153
2,168.00	25,800	45,578	118,731
2,170.00	32,000	57,800	176,531
2,171.00	34,000	33,000	209,531

Device	Routing	Invert	Outlet Devices
#1	Primary	2,162.00'	**36.0" Round Culvert** L= 1.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,162.00' / 2,162.00' S= 0.0000 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,164.10'	**4.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,167.25'	**36.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,170.00'	**30.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.89 cfs @ 19.67 hrs HW=2,167.08' (Free Discharge)
└**1=Culvert** (Passes 0.89 cfs of 64.37 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.89 cfs @ 8.04 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P1.4: BIORETENTION

Inflow Area = 1.185 ac, 77.14% Impervious, Inflow Depth = 2.31" for 1-Year event
Inflow = 4.09 cfs @ 11.96 hrs, Volume= 0.228 af
Outflow = 0.14 cfs @ 13.80 hrs, Volume= 0.228 af, Atten= 97%, Lag= 109.9 min
Primary = 0.14 cfs @ 13.80 hrs, Volume= 0.228 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,213.99' Surf.Area= 19,000 sf Storage= 9,486 cf
Peak Elev= 2,214.51' @ 13.80 hrs Surf.Area= 29,099 sf Storage= 14,500 cf (5,014 cf above start)

Plug-Flow detention time= 1,539.0 min calculated for 0.010 af (4% of inflow)
Center-of-Mass det. time= 375.2 min (1,138.1 - 762.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,209.00'	3,800 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 9,500 cf Overall x 40.0% Voids
#2	2,210.00'	5,700 cf	**filter media (Prismatic)**Listed below (Recalc) 38,000 cf Overall x 15.0% Voids
#3	2,214.00'	21,350 cf	**surface storage (Prismatic)**Listed below (Recalc)
		30,850 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,209.00	9,500	0	0
2,210.00	9,500	9,500	9,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,210.00	9,500	0	0
2,214.00	9,500	38,000	38,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,214.00	9,500	0	0
2,216.00	11,850	21,350	21,350

Device	Routing	Invert	Outlet Devices
#1	Primary	2,209.00'	**18.0" Round Culvert** L= 325.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,209.00' / 2,208.50' S= 0.0015 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,213.99'	**0.500 in/hr Exfiltration over Surface area above 2,213.99'** Excluded Surface area = 19,000 sf
#3	Device 1	2,214.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,215.50'	**25.0' 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

Primary OutFlow Max=0.13 cfs @ 13.80 hrs HW=2,214.51' (Free Discharge)
- **1=Culvert** (Passes 0.01 cfs of 7.63 cfs potential flow)
  - **3=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.33 fps)
- **2=Exfiltration** (Exfiltration Controls 0.12 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.1: P-1

Inflow Area = 13.491 ac, 29.33% Impervious, Inflow Depth = 1.34" for 1-Year event
Inflow = 13.88 cfs @ 12.00 hrs, Volume= 1.512 af
Outflow = 0.51 cfs @ 19.59 hrs, Volume= 1.509 af, Atten= 96%, Lag= 455.3 min
Primary = 0.51 cfs @ 19.59 hrs, Volume= 1.509 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,298.39' Surf.Area= 9,776 sf Storage= 24,777 cf
Peak Elev= 2,301.07' @ 19.59 hrs Surf.Area= 17,271 sf Storage= 60,534 cf (35,757 cf above start)

Plug-Flow detention time= 1,618.5 min calculated for 0.940 af (62% of inflow)
Center-of-Mass det. time= 916.0 min (1,870.8 - 954.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2,294.00'	153,289 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,294.00	2,442	0	0
2,296.00	4,967	7,409	7,409
2,298.00	8,782	13,749	21,158
2,300.00	13,877	22,659	43,817
2,302.00	20,200	34,077	77,894
2,304.00	26,926	47,126	125,020
2,305.00	29,612	28,269	153,289

Device	Routing	Invert	Outlet Devices
#1	Primary	2,295.50'	**24.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,295.50' / 2,292.50' S= 0.0500 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,298.40'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,301.25'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,302.25'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	2,303.25'	**25.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.51 cfs @ 19.59 hrs HW=2,301.07' (Free Discharge)
- **1=Culvert** (Passes 0.51 cfs of 32.35 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.51 cfs @ 7.65 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.10: DRY SWALE

Inflow Area = 1.136 ac, 14.06% Impervious, Inflow Depth = 1.02" for 1-Year event
Inflow = 1.99 cfs @ 11.98 hrs, Volume= 0.096 af
Outflow = 0.53 cfs @ 12.13 hrs, Volume= 0.096 af, Atten= 73%, Lag= 9.0 min
Primary = 0.53 cfs @ 12.13 hrs, Volume= 0.096 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,193.08' @ 12.13 hrs Surf.Area= 2,178 sf Storage= 1,554 cf

Plug-Flow detention time= 646.4 min calculated for 0.096 af (100% of inflow)
Center-of-Mass det. time= 646.0 min (1,502.1 - 856.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,192.00'	2,580 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,192.00	690	0	0
2,193.50	2,750	2,580	2,580

Device	Routing	Invert	Outlet Devices
#1	Primary	2,192.00'	**0.250 in/hr Exfiltration over Surface area**
#2	Primary	2,193.00'	**8.0' 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

Primary OutFlow Max=0.52 cfs @ 12.13 hrs HW=2,193.08' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.01 cfs)
- **2=Broad-Crested Rectangular Weir** (Weir Controls 0.51 cfs @ 0.77 fps)

Summary for Pond P11.11: BIORETENTION

Inflow Area = 1.621 ac, 9.86% Impervious, Inflow Depth = 0.95" for 1-Year event
Inflow = 0.67 cfs @ 11.98 hrs, Volume= 0.129 af
Outflow = 0.07 cfs @ 16.50 hrs, Volume= 0.129 af, Atten= 90%, Lag= 270.8 min
Primary = 0.07 cfs @ 16.50 hrs, Volume= 0.129 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2

Starting Elev= 2,181.99' Surf.Area= 7,600 sf Storage= 3,794 cf
Peak Elev= 2,182.52' @ 16.50 hrs Surf.Area= 11,700 sf Storage= 5,859 cf (2,065 cf above start)

Plug-Flow detention time= 1,883.6 min calculated for 0.042 af (32% of inflow)
Center-of-Mass det. time= 389.9 min (1,735.4 - 1,345.5)

Volume	Invert	Avail.Storage	Storage Description
#1	2,177.00'	1,520 cf	**gravel underdrain (Prismatic)**Listed below (Recalc) 3,800 cf Overall x 40.0% Voids
#2	2,178.00'	2,280 cf	**filter media (Prismatic)**Listed below (Recalc) 15,200 cf Overall x 15.0% Voids
#3	2,182.00'	8,750 cf	**surface storage (Prismatic)**Listed below (Recalc)
		12,550 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,177.00	3,800	0	0
2,178.00	3,800	3,800	3,800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,178.00	3,800	0	0
2,182.00	3,800	15,200	15,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,182.00	3,800	0	0
2,184.00	4,950	8,750	8,750

Device	Routing	Invert	Outlet Devices
#1	Primary	2,181.99'	**0.500 in/hr Exfiltration over Surface area above 2,181.99'** Excluded Surface area = 7,600 sf
#2	Primary	2,182.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	2,183.50'	**15.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.06 cfs @ 16.50 hrs HW=2,182.52' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.05 cfs)
- **2=Orifice/Grate** (Weir Controls 0.02 cfs @ 0.48 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.12: BIORETENTION

Inflow Area = 1.366 ac, 60.26% Impervious, Inflow Depth = 1.82" for 1-Year event
Inflow = 4.22 cfs @ 11.97 hrs, Volume= 0.207 af
Outflow = 0.65 cfs @ 12.21 hrs, Volume= 0.207 af, Atten= 85%, Lag= 14.2 min
Primary = 0.65 cfs @ 12.21 hrs, Volume= 0.207 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,410.99' Surf.Area= 8,000 sf Storage= 3,994 cf
Peak Elev= 2,411.90' @ 12.21 hrs Surf.Area= 12,721 sf Storage= 7,928 cf (3,934 cf above start)

Plug-Flow detention time= 656.3 min calculated for 0.115 af (56% of inflow)
Center-of-Mass det. time= 273.0 min (1,087.6 - 814.7)

Volume	Invert	Avail.Storage	Storage Description
#1	2,406.00'	1,600 cf	**DRAINAGE LAYER (Prismatic)**Listed below (Recalc) 4,000 cf Overall x 40.0% Voids
#2	2,407.00'	2,400 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 16,000 cf Overall x 15.0% Voids
#3	2,411.00'	4,400 cf	**surface storage (Prismatic)**Listed below (Recalc)
		8,400 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,406.00	4,000	0	0
2,407.00	4,000	4,000	4,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,407.00	4,000	0	0
2,411.00	4,000	16,000	16,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,411.00	4,000	0	0
2,412.00	4,800	4,400	4,400

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,410.99'	**0.500 in/hr Exfiltration over Surface area above 2,410.99'** Excluded Surface area = 8,000 sf

Primary OutFlow Max=0.65 cfs @ 12.21 hrs HW=2,411.90' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.60 cfs @ 3.05 fps)
└**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Summary for Pond P11.14: BIORETENTION

Inflow Area = 0.597 ac, 65.96% Impervious, Inflow Depth = 1.98" for 1-Year event
Inflow = 1.99 cfs @ 11.97 hrs, Volume= 0.099 af
Outflow = 0.09 cfs @ 13.25 hrs, Volume= 0.099 af, Atten= 95%, Lag= 77.0 min
Primary = 0.09 cfs @ 13.25 hrs, Volume= 0.099 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2

Starting Elev= 2,410.99' Surf.Area= 8,000 sf Storage= 3,994 cf
Peak Elev= 2,411.53' @ 13.25 hrs Surf.Area= 12,427 sf Storage= 6,252 cf (2,258 cf above start)

Plug-Flow detention time= 1,288.7 min calculated for 0.007 af (7% of inflow)
Center-of-Mass det. time= 404.2 min (1,210.6 - 806.3)

Volume	Invert	Avail.Storage	Storage Description
#1	2,406.00'	1,600 cf	**DRAINAGE LAYER (Prismatic)**Listed below (Recalc) 4,000 cf Overall x 40.0% Voids
#2	2,407.00'	2,400 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 16,000 cf Overall x 15.0% Voids
#3	2,411.00'	4,400 cf	**surface storage (Prismatic)**Listed below (Recalc)
		8,400 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,406.00	4,000	0	0
2,407.00	4,000	4,000	4,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,407.00	4,000	0	0
2,411.00	4,000	16,000	16,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,411.00	4,000	0	0
2,412.00	4,800	4,400	4,400

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,410.99'	**0.500 in/hr Exfiltration over Surface area above 2,410.99'** Excluded Surface area = 8,000 sf

Primary OutFlow Max=0.08 cfs @ 13.25 hrs HW=2,411.53' (Free Discharge)
└**1=Orifice/Grate** (Weir Controls 0.03 cfs @ 0.61 fps)
└**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Summary for Pond P11.2: BIORETENTION

Inflow Area = 2.158 ac, 41.85% Impervious, Inflow Depth = 1.63" for 1-Year event
Inflow = 5.23 cfs @ 11.99 hrs, Volume= 0.293 af
Outflow = 0.27 cfs @ 13.20 hrs, Volume= 0.293 af, Atten= 95%, Lag= 72.4 min
Primary = 0.27 cfs @ 13.20 hrs, Volume= 0.293 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,371.99' Surf.Area= 21,000 sf Storage= 10,484 cf
Peak Elev= 2,372.55' @ 13.20 hrs Surf.Area= 32,431 sf Storage= 16,551 cf (6,067 cf above start)

Plug-Flow detention time= 1,267.2 min calculated for 0.052 af (18% of inflow)

Center-of-Mass det. time= 380.5 min (1,170.3 - 789.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2,367.00'	4,200 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 10,500 cf Overall x 40.0% Voids
#2	2,368.00'	6,300 cf	**filter media (Prismatic)**Listed below (Recalc) 42,000 cf Overall x 15.0% Voids
#3	2,372.00'	24,376 cf	**surface storage (Prismatic)**Listed below (Recalc)
		34,876 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,367.00	10,500	0	0
2,368.00	10,500	10,500	10,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,368.00	10,500	0	0
2,372.00	10,500	42,000	42,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,372.00	10,500	0	0
2,374.00	13,876	24,376	24,376

Device	Routing	Invert	Outlet Devices
#1	Primary	2,367.00'	**12.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,367.00' / 2,366.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,371.99'	**0.500 in/hr Exfiltration over Surface area above 2,371.99'** Excluded Surface area = 21,000 sf
#3	Device 1	2,372.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,373.25'	**15.0' 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

Primary OutFlow Max=0.25 cfs @ 13.20 hrs HW=2,372.55' (Free Discharge)
- **1=Culvert** (Passes 0.25 cfs of 6.50 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.13 cfs)
  - **3=Orifice/Grate** (Weir Controls 0.12 cfs @ 0.74 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.4: BIORETENTION

Inflow Area = 1.520 ac, 70.97% Impervious, Inflow Depth = 2.07" for 1-Year event
Inflow = 5.24 cfs @ 11.97 hrs, Volume= 0.262 af
Outflow = 0.20 cfs @ 13.58 hrs, Volume= 0.262 af, Atten= 96%, Lag= 96.9 min
Primary = 0.20 cfs @ 13.58 hrs, Volume= 0.262 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,457.99' Surf.Area= 22,000 sf Storage= 10,983 cf
Peak Elev= 2,458.53' @ 13.58 hrs Surf.Area= 33,951 sf Storage= 17,098 cf (6,115 cf above start)

Plug-Flow detention time= 1,373.1 min calculated for 0.010 af (4% of inflow)
Center-of-Mass det. time= 409.3 min (1,211.2 - 801.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2,453.00'	4,400 cf	**STONE LAYER (Prismatic)**Listed below (Recalc) 11,000 cf Overall x 40.0% Voids
#2	2,454.00'	6,600 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 44,000 cf Overall x 15.0% Voids
#3	2,458.00'	25,580 cf	**surface storage (Prismatic)**Listed below (Recalc)
		36,580 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,453.00	11,000	0	0
2,454.00	11,000	11,000	11,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,454.00	11,000	0	0
2,458.00	11,000	44,000	44,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,458.00	11,000	0	0
2,460.00	14,580	25,580	25,580

Device	Routing	Invert	Outlet Devices
#1	Primary	2,453.00'	**12.0" Round Culvert** L= 175.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,453.00' / 2,447.00' S= 0.0343 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,458.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	2,457.99'	**0.500 in/hr Exfiltration over Surface area above 2,457.99'** Excluded Surface area = 22,000 sf

Primary OutFlow Max=0.20 cfs @ 13.58 hrs HW=2,458.53' (Free Discharge)
└**1=Culvert** (Passes 0.20 cfs of 5.37 cfs potential flow)
  ├**2=Orifice/Grate** (Weir Controls 0.06 cfs @ 0.58 fps)
  └**3=Exfiltration** (Exfiltration Controls 0.14 cfs)

Summary for Pond P11.6: DRY SWALE

Inflow Area = 0.138 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.57 cfs @ 11.96 hrs, Volume= 0.032 af
Outflow = 0.01 cfs @ 16.92 hrs, Volume= 0.032 af, Atten= 98%, Lag= 297.3 min
Primary = 0.01 cfs @ 16.92 hrs, Volume= 0.032 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,482.97' @ 16.92 hrs Surf.Area= 1,500 sf Storage= 969 cf

Plug-Flow detention time= 1,238.2 min calculated for 0.032 af (100% of inflow)
Center-of-Mass det. time= 1,238.0 min (1,992.0 - 753.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,482.00'	1,911 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,482.00	500	0	0
2,483.50	2,048	1,911	1,911

Device	Routing	Invert	Outlet Devices
#1	Primary	2,482.00'	**0.250 in/hr Exfiltration over Surface area**
#2	Primary	2,483.00'	**10.0' 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

Primary OutFlow Max=0.01 cfs @ 16.92 hrs HW=2,482.97' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.7: BIORETENTION

Inflow Area = 0.655 ac, 58.70% Impervious, Inflow Depth = 1.82" for 1-Year event
Inflow = 2.02 cfs @ 11.97 hrs, Volume= 0.099 af
Outflow = 0.06 cfs @ 14.46 hrs, Volume= 0.099 af, Atten= 97%, Lag= 149.3 min
Primary = 0.06 cfs @ 14.46 hrs, Volume= 0.099 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,247.99' Surf.Area= 9,100 sf Storage= 4,543 cf
Peak Elev= 2,248.50' @ 14.46 hrs Surf.Area= 13,964 sf Storage= 6,915 cf (2,372 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= 425.6 min (1,240.3 - 814.7)

Volume	Invert	Avail.Storage	Storage Description
#1	2,243.00'	1,820 cf	**gravel drainage layer (Prismatic)**Listed below (Recalc) 4,550 cf Overall x 40.0% Voids
#2	2,244.00'	2,730 cf	**filter media (Prismatic)**Listed below (Recalc) 18,200 cf Overall x 15.0% Voids
#3	2,248.00'	10,350 cf	**surface storage (Prismatic)**Listed below (Recalc)
		14,900 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,243.00	4,550	0	0
2,244.00	4,550	4,550	4,550

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,244.00	4,550	0	0
2,248.00	4,550	18,200	18,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,248.00	4,550	0	0
2,250.00	5,800	10,350	10,350

Device	Routing	Invert	Outlet Devices
#1	Primary	2,243.00'	**18.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,243.00' / 2,240.00' S= 0.0600 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,247.99'	**0.500 in/hr Exfiltration over Surface area above 2,247.99'** Excluded Surface area = 9,100 sf
#3	Device 1	2,248.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,249.00'	**25.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.06 cfs @ 14.46 hrs HW=2,248.50' (Free Discharge)
- **1=Culvert** (Passes 0.06 cfs of 18.55 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.06 cfs)
  - **3=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.16 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.8: BIORETENTION

Inflow Area = 0.365 ac, 78.17% Impervious, Inflow Depth = 2.25" for 1-Year event
Inflow = 1.34 cfs @ 11.96 hrs, Volume= 0.069 af
Outflow = 0.04 cfs @ 14.02 hrs, Volume= 0.069 af, Atten= 97%, Lag= 123.3 min
Primary = 0.04 cfs @ 14.02 hrs, Volume= 0.069 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,259.99' Surf.Area= 6,150 sf Storage= 3,070 cf
Peak Elev= 2,260.50' @ 14.02 hrs Surf.Area= 9,470 sf Storage= 4,679 cf (1,609 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= 399.2 min (1,190.9 - 791.7)

Volume	Invert	Avail.Storage	Storage Description
#1	2,255.00'	1,230 cf	**gravel underdrain (Prismatic)**Listed below (Recalc) 3,075 cf Overall x 40.0% Voids
#2	2,256.00'	1,845 cf	**filter media (Prismatic)**Listed below (Recalc) 12,300 cf Overall x 15.0% Voids
#3	2,260.00'	7,125 cf	**surface storage (Prismatic)**Listed below (Recalc)
		10,200 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,255.00	3,075	0	0
2,256.00	3,075	3,075	3,075

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,256.00	3,075	0	0
2,260.00	3,075	12,300	12,300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,260.00	3,075	0	0
2,262.00	4,050	7,125	7,125

Device	Routing	Invert	Outlet Devices
#1	Primary	2,255.00'	**12.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,255.00' / 2,254.50' S= 0.0100 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,259.99'	**0.500 in/hr Exfiltration over Surface area above 2,259.99'** Excluded Surface area = 6,150 sf
#3	Device 1	2,260.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,261.00'	**15.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.04 cfs @ 14.02 hrs HW=2,260.50' (Free Discharge)
- **1=Culvert** (Passes 0.04 cfs of 6.17 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.04 cfs)
  - **3=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.13 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.9: BIORETENTION

Inflow Area = 0.575 ac, 22.45% Impervious, Inflow Depth = 1.19" for 1-Year event
Inflow = 1.19 cfs @ 11.98 hrs, Volume= 0.057 af
Outflow = 0.06 cfs @ 13.36 hrs, Volume= 0.057 af, Atten= 95%, Lag= 82.8 min
Primary = 0.06 cfs @ 13.36 hrs, Volume= 0.057 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,218.99' Surf.Area= 3,680 sf Storage= 1,837 cf
Peak Elev= 2,219.51' @ 13.36 hrs Surf.Area= 6,308 sf Storage= 3,113 cf (1,276 cf above start)

Plug-Flow detention time= 1,084.9 min calculated for 0.015 af (26% of inflow)
Center-of-Mass det. time= 439.7 min (1,285.9 - 846.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,214.00'	736 cf	**gravel drainage layer (Prismatic)**Listed below (Recalc) 1,840 cf Overall x 40.0% Voids
#2	2,215.00'	1,104 cf	**filter media (Prismatic)**Listed below (Recalc) 7,360 cf Overall x 15.0% Voids
#3	2,219.00'	5,700 cf	**surface storage (Prismatic)**Listed below (Recalc)
		7,540 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,214.00	1,840	0	0
2,215.00	1,840	1,840	1,840

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,215.00	1,840	0	0
2,219.00	1,840	7,360	7,360

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,219.00	2,400	0	0
2,221.00	3,300	5,700	5,700

Device	Routing	Invert	Outlet Devices
#1	Primary	2,218.99'	**0.500 in/hr Exfiltration over Surface area above 2,218.99'** Excluded Surface area = 3,680 sf
#2	Primary	2,219.50'	**10.0' 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

Primary OutFlow Max=0.04 cfs @ 13.36 hrs HW=2,219.51' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.22 fps)

Summary for Pond P12.1: Pond 12.1

Inflow Area = 6.530 ac, 24.64% Impervious, Inflow Depth = 1.28" for 1-Year event
Inflow = 10.07 cfs @ 12.02 hrs, Volume= 0.696 af
Outflow = 0.30 cfs @ 17.45 hrs, Volume= 0.693 af, Atten= 97%, Lag= 325.8 min
Primary = 0.30 cfs @ 17.45 hrs, Volume= 0.693 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,296.49' Surf.Area= 8,129 sf Storage= 13,732 cf
Peak Elev= 2,298.24' @ 17.45 hrs Surf.Area= 12,341 sf Storage= 31,592 cf (17,861 cf above start)

Plug-Flow detention time= 1,454.0 min calculated for 0.377 af (54% of inflow)
Center-of-Mass det. time= 801.0 min (1,672.6 - 871.6)

Volume	Invert	Avail.Storage	Storage Description
#1	2,294.00'	120,048 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,294.00	3,070	0	0
2,296.00	6,964	10,034	10,034
2,298.00	11,720	18,684	28,718
2,300.00	16,919	28,639	57,357
2,302.00	22,520	39,439	96,796
2,303.00	23,983	23,252	120,048

Device	Routing	Invert	Outlet Devices
#1	Primary	2,294.00'	**24.0" Round Culvert** L= 350.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,294.00' / 2,276.00' S= 0.0514 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,296.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,298.75'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,301.00'	**10.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.30 cfs @ 17.45 hrs HW=2,298.24' (Free Discharge)
- **1=Culvert** (Passes 0.30 cfs of 27.22 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.30 cfs @ 6.12 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P2.1: Pond 2.1

Inflow Area = 16.159 ac, 17.05% Impervious, Inflow Depth = 1.16" for 1-Year event
Inflow = 19.97 cfs @ 12.00 hrs, Volume= 1.569 af
Outflow = 0.63 cfs @ 18.13 hrs, Volume= 1.564 af, Atten= 97%, Lag= 367.4 min
Primary = 0.63 cfs @ 18.13 hrs, Volume= 1.564 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,182.99' Surf.Area= 13,676 sf Storage= 30,438 cf
Peak Elev= 2,185.44' @ 18.13 hrs Surf.Area= 19,845 sf Storage= 71,363 cf (40,924 cf above start)

Plug-Flow detention time= 1,553.0 min calculated for 0.865 af (55% of inflow)
Center-of-Mass det. time= 870.1 min (1,732.0 - 861.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,180.00'	159,675 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,180.00	6,775	0	0
2,182.00	11,300	18,075	18,075
2,184.00	16,100	27,400	45,475
2,186.00	21,300	37,400	82,875
2,188.00	27,000	48,300	131,175
2,189.00	30,000	28,500	159,675

Device	Routing	Invert	Outlet Devices
#1	Primary	2,183.00'	**36.0" Round Culvert** L= 200.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,183.00' / 2,180.00' S= 0.0150 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,183.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,185.50'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,186.00'	**30.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	2,188.00'	**10.0' 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

Primary OutFlow Max=0.63 cfs @ 18.13 hrs HW=2,185.44' (Free Discharge)
- **1=Culvert** (Passes 0.63 cfs of 32.63 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.63 cfs @ 7.26 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P4.1: P-1

Inflow Area = 26.676 ac, 13.82% Impervious, Inflow Depth = 1.08" for 1-Year event
Inflow = 28.36 cfs @ 12.02 hrs, Volume= 2.402 af
Outflow = 2.84 cfs @ 13.11 hrs, Volume= 2.400 af, Atten= 90%, Lag= 65.8 min
Primary = 2.84 cfs @ 13.11 hrs, Volume= 2.400 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,185.50' Surf.Area= 14,800 sf Storage= 41,775 cf
Peak Elev= 2,187.90' @ 13.11 hrs Surf.Area= 21,623 sf Storage= 85,421 cf (43,646 cf above start)

Plug-Flow detention time= 1,528.7 min calculated for 1.441 af (60% of inflow)
Center-of-Mass det. time= 801.3 min (1,708.5 - 907.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,181.00'	168,440 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,181.00	4,390	0	0
2,182.00	6,270	5,330	5,330
2,184.00	10,900	17,170	22,500
2,186.00	16,100	27,000	49,500
2,188.00	21,900	38,000	87,500
2,190.00	28,500	50,400	137,900
2,191.00	32,580	30,540	168,440

Device	Routing	Invert	Outlet Devices
#1	Primary	2,181.00'	**30.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,181.00' / 2,180.85' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,185.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,187.50'	**36.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,189.75'	**36.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Secondary	2,189.75'	**20.0' 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

Primary OutFlow Max=2.83 cfs @ 13.11 hrs HW=2,187.90' (Free Discharge)
└**1=Culvert** (Passes 2.83 cfs of 56.20 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.36 cfs @ 7.27 fps)
  ├**3=Orifice/Grate** (Orifice Controls 2.48 cfs @ 2.04 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=2,185.50' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P6.1: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 2.25" for 1-Year event
Inflow = 0.67 cfs @ 11.96 hrs, Volume= 0.034 af
Outflow = 0.04 cfs @ 12.79 hrs, Volume= 0.034 af, Atten= 94%, Lag= 49.6 min
Primary = 0.04 cfs @ 12.79 hrs, Volume= 0.034 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.51' @ 12.79 hrs Surf.Area= 3,191 sf Storage= 1,561 cf (763 cf above start)

Plug-Flow detention time= 857.3 min calculated for 0.016 af (47% of inflow)
Center-of-Mass det. time= 378.9 min (1,170.6 - 791.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=0.03 cfs @ 12.79 hrs HW=1,686.51' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.26 fps)

Summary for Pond P8.1: DRY SWALE

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 1.25" for 1-Year event
Inflow = 4.58 cfs @ 12.06 hrs, Volume= 0.283 af
Outflow = 4.19 cfs @ 12.11 hrs, Volume= 0.283 af, Atten= 9%, Lag= 2.9 min
Primary = 4.19 cfs @ 12.11 hrs, Volume= 0.283 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,309.33' @ 12.11 hrs Surf.Area= 2,678 sf Storage= 2,277 cf

Plug-Flow detention time= 168.2 min calculated for 0.282 af (100% of inflow)
Center-of-Mass det. time= 168.1 min (1,017.7 - 849.6)

Volume	Invert	Avail.Storage	Storage Description
#1	2,308.00'	2,746 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,308.00	740	0	0
2,309.50	2,921	2,746	2,746

Device	Routing	Invert	Outlet Devices
#1	Primary	2,309.00'	**8.0' 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
#2	Primary	2,308.00'	**0.500 in/hr Exfiltration over Surface area**

Primary OutFlow Max=4.15 cfs @ 12.11 hrs HW=2,309.33' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 4.12 cfs @ 1.56 fps)
└**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Pond P8.2: P-3

Inflow Area = 3.450 ac, 12.00% Impervious, Inflow Depth = 4.68" for 1-Year event
Inflow = 17.15 cfs @ 12.04 hrs, Volume= 1.346 af
Outflow = 1.35 cfs @ 13.58 hrs, Volume= 1.345 af, Atten= 92%, Lag= 92.1 min
Primary = 1.35 cfs @ 13.58 hrs, Volume= 1.345 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,679.25' Surf.Area= 9,045 sf Storage= 25,779 cf
Peak Elev= 1,681.72' @ 13.58 hrs Surf.Area= 14,063 sf Storage= 54,194 cf (28,415 cf above start)

Plug-Flow detention time= 1,513.4 min calculated for 0.753 af (56% of inflow)
Center-of-Mass det. time= 759.5 min (1,678.3 - 918.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,674.00'	112,698 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,674.00	1,790	0	0
1,676.00	3,789	5,579	5,579
1,678.00	6,620	10,409	15,988
1,680.00	10,500	17,120	33,108
1,682.00	14,650	25,150	58,258
1,684.00	19,510	34,160	92,418
1,685.00	21,050	20,280	112,698

Device	Routing	Invert	Outlet Devices
#1	Primary	1,678.00'	**36.0" Round Culvert** L= 93.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,678.00' / 1,677.00' S= 0.0108 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,679.25'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,681.50'	**36.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	1,683.25'	**20.0' 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

Primary OutFlow Max=1.33 cfs @ 13.58 hrs HW=1,681.72' (Free Discharge)
- **1=Culvert** (Passes 1.33 cfs of 45.63 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.36 cfs @ 7.37 fps)
  - **3=Orifice/Grate** (Orifice Controls 0.97 cfs @ 1.49 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P8.3: DRY SWALE

Inflow Area = 1.145 ac, 16.92% Impervious, Inflow Depth = 1.13" for 1-Year event
Inflow = 2.25 cfs @ 11.98 hrs, Volume= 0.108 af
Outflow = 1.05 cfs @ 12.08 hrs, Volume= 0.108 af, Atten= 53%, Lag= 6.1 min
Primary = 1.05 cfs @ 12.08 hrs, Volume= 0.108 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,756.13' @ 12.08 hrs Surf.Area= 2,165 sf Storage= 1,598 cf

Plug-Flow detention time= 384.2 min calculated for 0.107 af (100% of inflow)
Center-of-Mass det. time= 383.4 min (1,232.8 - 849.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,755.00'	2,487 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,755.00	660	0	0
1,756.50	2,656	2,487	2,487

Device	Routing	Invert	Outlet Devices
#1	Primary	1,756.00'	**8.0' 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
#2	Primary	1,755.00'	**0.500 in/hr Exfiltration over Surface area**

Primary OutFlow Max=1.01 cfs @ 12.08 hrs HW=1,756.13' (Free Discharge)
- **1=Broad-Crested Rectangular Weir** (Weir Controls 0.98 cfs @ 0.96 fps)
- **2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Pond P8.4: P-3

Inflow Area = 26.981 ac, 22.99% Impervious, Inflow Depth = 0.74" for 1-Year event
Inflow = 22.28 cfs @ 12.02 hrs, Volume= 1.658 af
Outflow = 0.60 cfs @ 19.50 hrs, Volume= 1.658 af, Atten= 97%, Lag= 449.0 min
Primary = 0.60 cfs @ 19.50 hrs, Volume= 1.658 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,665.50' Surf.Area= 12,392 sf Storage= 32,108 cf
Peak Elev= 1,668.40' @ 19.50 hrs Surf.Area= 18,675 sf Storage= 76,810 cf (44,702 cf above start)

Plug-Flow detention time= 1,736.2 min calculated for 0.921 af (56% of inflow)
Center-of-Mass det. time= 985.9 min (1,885.1 - 899.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	160,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,662.00	5,962	0	0
1,664.00	9,630	15,592	15,592
1,666.00	13,312	22,942	38,534
1,668.00	17,713	31,025	69,559
1,670.00	22,540	40,253	109,812
1,672.00	27,748	50,288	160,100

Device	Routing	Invert	Outlet Devices
#1	Primary	1,663.75'	**30.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,663.75' / 1,663.50' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,665.50'	**3.7" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,668.50'	**30.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Secondary	1,670.50'	**20.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.60 cfs @ 19.50 hrs HW=1,668.40' (Free Discharge)
└**1=Culvert** (Passes 0.60 cfs of 37.87 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.60 cfs @ 7.98 fps)
  └**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,665.50' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P8.5: I-2

Inflow Area = 2.352 ac, 39.21% Impervious, Inflow Depth = 1.45" for 1-Year event
Inflow = 5.86 cfs @ 11.97 hrs, Volume= 0.284 af
Outflow = 0.14 cfs @ 15.75 hrs, Volume= 0.284 af, Atten= 98%, Lag= 226.7 min
Discarded = 0.14 cfs @ 15.75 hrs, Volume= 0.284 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,677.22' @ 15.75 hrs Surf.Area= 4,475 sf Storage= 7,710 cf

Plug-Flow detention time= 714.6 min calculated for 0.283 af (100% of inflow)
Center-of-Mass det. time= 714.9 min (1,547.7 - 832.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,674.00'	34,944 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,674.00	465	0	0
1,676.00	2,800	3,265	3,265
1,678.00	5,541	8,341	11,606
1,680.00	8,686	14,227	25,833
1,681.00	9,535	9,111	34,944

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,674.00'	**1.340 in/hr Exfiltration over Surface area**
#2	Primary	1,674.00'	**24.0" Round Culvert** L= 500.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,674.00' / 1,662.50' S= 0.0230 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#3	Device 2	1,678.20'	**2.0" Vert. Orifice/Grate** C= 0.600
#4	Device 2	1,679.50'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Primary	1,680.00'	**20.0' 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=0.14 cfs @ 15.75 hrs HW=1,677.22' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,674.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Orifice/Grate** (Controls 0.00 cfs)
└**4=Orifice/Grate** (Controls 0.00 cfs)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P9.2: Pond 9.2

Inflow Area = 12.954 ac, 25.61% Impervious, Inflow Depth = 1.32" for 1-Year event
Inflow = 19.89 cfs @ 12.00 hrs, Volume= 1.423 af
Outflow = 0.48 cfs @ 19.87 hrs, Volume= 1.423 af, Atten= 98%, Lag= 472.5 min
Primary = 0.48 cfs @ 19.87 hrs, Volume= 1.423 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,670.00' Surf.Area= 13,607 sf Storage= 25,872 cf
Peak Elev= 1,672.36' @ 19.87 hrs Surf.Area= 19,196 sf Storage= 64,568 cf (38,696 cf above start)

Plug-Flow detention time= 1,818.9 min calculated for 0.828 af (58% of inflow)
Center-of-Mass det. time= 1,070.8 min (1,945.2 - 874.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,666.00'	166,295 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,666.00	3,085	0	0
1,668.00	4,590	7,675	7,675
1,670.00	13,607	18,197	25,872
1,672.00	18,274	31,881	57,753
1,674.00	23,344	41,618	99,371
1,676.00	28,815	52,159	151,530
1,676.50	30,246	14,765	166,295

Device	Routing	Invert	Outlet Devices
#1	Primary	1,668.00'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,668.00' / 1,666.00' S= 0.0364 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,670.00'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,672.50'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	1,673.50'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	1,674.50'	**20.0' 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

Primary OutFlow Max=0.48 cfs @ 19.87 hrs HW=1,672.36' (Free Discharge)
- **1=Culvert** (Passes 0.48 cfs of 27.74 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.48 cfs @ 7.17 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond R1.10: PIPE

Inflow Area = 21.914 ac, 7.72% Impervious, Inflow Depth = 0.94" for 1-Year event
Inflow = 15.67 cfs @ 12.12 hrs, Volume= 1.723 af
Outflow = 15.67 cfs @ 12.12 hrs, Volume= 1.723 af, Atten= 0%, Lag= 0.0 min
Primary = 15.67 cfs @ 12.12 hrs, Volume= 1.723 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,261.55' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,260.00'	**36.0" Round Culvert** L= 1,125.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,260.00' / 2,185.00' S= 0.0667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=15.62 cfs @ 12.12 hrs HW=2,261.55' (Free Discharge)
1=Culvert (Inlet Controls 15.62 cfs @ 4.24 fps)

Summary for Pond R1.11: Pipe

Inflow Area = 22.468 ac, 9.65% Impervious, Inflow Depth = 0.98" for 1-Year event
Inflow = 16.24 cfs @ 12.08 hrs, Volume= 1.835 af
Outflow = 16.24 cfs @ 12.08 hrs, Volume= 1.835 af, Atten= 0%, Lag= 0.0 min
Primary = 16.24 cfs @ 12.08 hrs, Volume= 1.835 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,191.42' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,190.00'	**48.0" Round Culvert** L= 230.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,190.00' / 2,180.00' S= 0.0435 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=16.20 cfs @ 12.08 hrs HW=2,191.42' (Free Discharge)
1=Culvert (Inlet Controls 16.20 cfs @ 4.06 fps)

Summary for Pond R1.3: Culvert

Inflow Area = 10.291 ac, 2.57% Impervious, Inflow Depth = 0.86" for 1-Year event
Inflow = 9.92 cfs @ 12.08 hrs, Volume= 0.736 af
Outflow = 9.92 cfs @ 12.08 hrs, Volume= 0.736 af, Atten= 0%, Lag= 0.0 min
Primary = 9.92 cfs @ 12.08 hrs, Volume= 0.736 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,401.29' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,400.00'	**36.0" Round Culvert** L= 1,255.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 2,400.00' / 2,318.00' S= 0.0653 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=9.71 cfs @ 12.08 hrs HW=2,401.28' (Free Discharge)
1=Culvert (Inlet Controls 9.71 cfs @ 3.39 fps)

Summary for Pond R1.4: pipe

Inflow Area = 10.291 ac, 2.57% Impervious, Inflow Depth = 0.86" for 1-Year event
Inflow = 9.92 cfs @ 12.08 hrs, Volume= 0.736 af
Outflow = 9.92 cfs @ 12.08 hrs, Volume= 0.736 af, Atten= 0%, Lag= 0.0 min
Primary = 9.92 cfs @ 12.08 hrs, Volume= 0.736 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,301.21' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,300.00'	**36.0" Round Culvert**
			L= 950.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,300.00' / 2,212.00' S= 0.0926 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.71 cfs @ 12.08 hrs HW=2,301.19' (Free Discharge)
1=Culvert (Inlet Controls 9.71 cfs @ 3.72 fps)

Summary for Pond R1.5: Pipe

Inflow Area = 11.201 ac, 9.91% Impervious, Inflow Depth = 1.00" for 1-Year event
Inflow = 11.74 cfs @ 12.05 hrs, Volume= 0.930 af
Outflow = 11.74 cfs @ 12.05 hrs, Volume= 0.930 af, Atten= 0%, Lag= 0.0 min
Primary = 11.74 cfs @ 12.05 hrs, Volume= 0.930 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,196.32' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,195.00'	**36.0" Round Culvert**
			L= 120.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,195.00' / 2,180.00' S= 0.1250 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=11.70 cfs @ 12.05 hrs HW=2,196.32' (Free Discharge)
1=Culvert (Inlet Controls 11.70 cfs @ 3.91 fps)

Summary for Pond R1.6: pipe

Inflow Area = 0.909 ac, 92.98% Impervious, Inflow Depth = 2.55" for 1-Year event
Inflow = 3.61 cfs @ 11.96 hrs, Volume= 0.193 af
Outflow = 3.61 cfs @ 11.96 hrs, Volume= 0.193 af, Atten= 0%, Lag= 0.0 min
Primary = 3.61 cfs @ 11.96 hrs, Volume= 0.193 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,208.07' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,207.00'	**24.0" Round Culvert** L= 260.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,207.00' / 2,205.70' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=3.52 cfs @ 11.96 hrs HW=2,208.06' (Free Discharge)
└**1=Culvert** (Barrel Controls 3.52 cfs @ 3.03 fps)

Summary for Pond R1.7: Culvert

Inflow Area = 3.337 ac, 12.31% Impervious, Inflow Depth = 1.12" for 1-Year event
Inflow = 4.65 cfs @ 11.98 hrs, Volume= 0.311 af
Outflow = 4.65 cfs @ 11.98 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min
Primary = 4.65 cfs @ 11.98 hrs, Volume= 0.311 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,206.44' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,206.00'	**60.0" W x 36.0" H Box Culvert** L= 50.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,206.00' / 2,205.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete, trowel finish

Primary OutFlow Max=4.45 cfs @ 11.98 hrs HW=2,206.43' (Free Discharge)
└**1=Culvert** (Inlet Controls 4.45 cfs @ 2.09 fps)

Summary for Pond R1.9: PIPE

Inflow Area = 17.718 ac, 2.79% Impervious, Inflow Depth = 0.86" for 1-Year event
Inflow = 14.09 cfs @ 12.15 hrs, Volume= 1.274 af
Outflow = 14.09 cfs @ 12.15 hrs, Volume= 1.274 af, Atten= 0%, Lag= 0.0 min
Primary = 14.09 cfs @ 12.15 hrs, Volume= 1.274 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,296.46' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,295.00'	**36.0" Round Culvert** L= 350.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,295.00' / 2,262.00' S= 0.0943 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=14.05 cfs @ 12.15 hrs HW=2,296.46' (Free Discharge)
└**1=Culvert** (Inlet Controls 14.05 cfs @ 4.11 fps)

Summary for Pond R11.11: CULVERT

Inflow Area = 5.217 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 4.97 cfs @ 12.09 hrs, Volume= 0.351 af
Outflow = 4.97 cfs @ 12.09 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min
Primary = 4.97 cfs @ 12.09 hrs, Volume= 0.351 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,478.95' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,478.00'	**30.0" Round Culvert** L= 35.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,478.00' / 2,470.00' S= 0.2286 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=4.91 cfs @ 12.09 hrs HW=2,478.94' (Free Discharge)
1=Culvert (Inlet Controls 4.91 cfs @ 2.91 fps)

Summary for Pond R11.15: CB

Inflow Area = 11.496 ac, 0.90% Impervious, Inflow Depth = 0.83" for 1-Year event
Inflow = 9.06 cfs @ 12.16 hrs, Volume= 0.791 af
Outflow = 9.06 cfs @ 12.16 hrs, Volume= 0.791 af, Atten= 0%, Lag= 0.0 min
Primary = 9.06 cfs @ 12.16 hrs, Volume= 0.791 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,453.32' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,452.00'	**36.0" Round Culvert** L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,452.00' / 2,451.00' S= 0.0091 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.00 cfs @ 12.16 hrs HW=2,453.32' (Free Discharge)
1=Culvert (Barrel Controls 9.00 cfs @ 4.44 fps)

Summary for Pond R11.17: CB

Inflow Area = 11.507 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 9.78 cfs @ 12.06 hrs, Volume= 0.773 af
Outflow = 9.78 cfs @ 12.06 hrs, Volume= 0.773 af, Atten= 0%, Lag= 0.0 min
Primary = 9.78 cfs @ 12.06 hrs, Volume= 0.773 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,436.20' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,435.00'	**36.0" Round Culvert** L= 290.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 2,435.00' / 2,410.00' S= 0.0862 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.69 cfs @ 12.06 hrs HW=2,436.19' (Free Discharge)
└**1=Culvert** (Inlet Controls 9.69 cfs @ 3.71 fps)

Summary for Pond R11.19: CB

Inflow Area = 1.118 ac, 74.27% Impervious, Inflow Depth = 2.15" for 1-Year event
Inflow = 3.90 cfs @ 11.97 hrs, Volume= 0.200 af
Outflow = 3.90 cfs @ 11.97 hrs, Volume= 0.200 af, Atten= 0%, Lag= 0.0 min
Primary = 3.90 cfs @ 11.97 hrs, Volume= 0.200 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,420.73' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,420.00'	**36.0" Round Culvert** L= 290.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,420.00' / 2,395.00' S= 0.0862 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=3.79 cfs @ 11.97 hrs HW=2,420.72' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.79 cfs @ 2.89 fps)

Summary for Pond R11.20: CULVERT

Inflow Area = 5.469 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 5.19 cfs @ 12.09 hrs, Volume= 0.368 af
Outflow = 5.19 cfs @ 12.09 hrs, Volume= 0.368 af, Atten= 0%, Lag= 0.0 min
Primary = 5.19 cfs @ 12.09 hrs, Volume= 0.368 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,459.91' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,459.00'	**30.0" Round Culvert** L= 900.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 2,459.00' / 2,394.00' S= 0.0722 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=5.13 cfs @ 12.09 hrs HW=2,459.90' (Free Discharge)
└**1=Culvert** (Inlet Controls 5.13 cfs @ 3.23 fps)

Summary for Pond R11.21: CULVERT

Inflow Area = 8.551 ac, 23.95% Impervious, Inflow Depth = 1.23" for 1-Year event
Inflow = 8.09 cfs @ 12.02 hrs, Volume= 0.874 af
Outflow = 8.09 cfs @ 12.02 hrs, Volume= 0.874 af, Atten= 0%, Lag= 0.0 min
Primary = 8.09 cfs @ 12.02 hrs, Volume= 0.874 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,395.08' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,394.00'	**36.0" Round Culvert** L= 900.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,394.00' / 2,328.00' S= 0.0733 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=7.90 cfs @ 12.02 hrs HW=2,395.06' (Free Discharge)
1=Culvert (Inlet Controls 7.90 cfs @ 3.51 fps)

Summary for Pond R11.22: CB

Inflow Area = 0.233 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.96 cfs @ 11.96 hrs, Volume= 0.054 af
Outflow = 0.96 cfs @ 11.96 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.96 cfs @ 11.96 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,460.39' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,460.00'	**36.0" Round Culvert** L= 770.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,460.00' / 2,450.00' S= 0.0130 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=0.94 cfs @ 11.96 hrs HW=2,460.38' (Free Discharge)
1=Culvert (Barrel Controls 0.94 cfs @ 2.71 fps)

Summary for Pond R11.24: CB

Inflow Area = 5.910 ac, 0.00% Impervious, Inflow Depth = 0.80" for 1-Year event
Inflow = 4.36 cfs @ 12.16 hrs, Volume= 0.396 af
Outflow = 4.36 cfs @ 12.16 hrs, Volume= 0.396 af, Atten= 0%, Lag= 0.0 min
Primary = 4.36 cfs @ 12.16 hrs, Volume= 0.396 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,486.88' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,486.00'	**30.0" Round Culvert** L= 695.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,486.00' / 2,436.00' S= 0.0719 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=4.32 cfs @ 12.16 hrs HW=2,486.88' (Free Discharge)
1=Culvert (Inlet Controls 4.32 cfs @ 2.81 fps)

Summary for Pond R11.26: BOX CULVERT

Inflow Area = 16.103 ac, 0.00% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 13.88 cfs @ 12.10 hrs, Volume= 1.106 af
Outflow = 13.88 cfs @ 12.10 hrs, Volume= 1.106 af, Atten= 0%, Lag= 0.0 min
Primary = 13.88 cfs @ 12.10 hrs, Volume= 1.106 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,310.99' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,310.00'	**60.0" W x 36.0" H Box Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,310.00' / 2,309.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=13.81 cfs @ 12.10 hrs HW=2,310.98' (Free Discharge)
1=Culvert (Inlet Controls 13.81 cfs @ 2.81 fps)

Summary for Pond R11.32: CULVERT

Inflow Area = 12.144 ac, 0.85% Impervious, Inflow Depth = 0.82" for 1-Year event
Inflow = 9.08 cfs @ 12.19 hrs, Volume= 0.835 af
Outflow = 9.08 cfs @ 12.19 hrs, Volume= 0.835 af, Atten= 0%, Lag= 0.0 min
Primary = 9.08 cfs @ 12.19 hrs, Volume= 0.835 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,435.31' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,434.00'	**36.0" Round Culvert** L= 110.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,434.00' / 2,425.00' S= 0.0818 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.00 cfs @ 12.19 hrs HW=2,435.30' (Free Discharge)
1=Culvert (Inlet Controls 9.00 cfs @ 3.07 fps)

Summary for Pond R12.1: CB

Inflow Area = 0.419 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 1.72 cfs @ 11.96 hrs, Volume= 0.097 af
Outflow = 1.72 cfs @ 11.96 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Primary = 1.72 cfs @ 11.96 hrs, Volume= 0.097 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,309.92' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,309.30'	**24.0" Round Culvert** L= 630.0' CMP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 2,309.30' / 2,303.00' S= 0.0100 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=1.68 cfs @ 11.96 hrs HW=2,309.91' (Free Discharge)
└**1=Culvert** (Barrel Controls 1.68 cfs @ 3.10 fps)

Summary for Pond R2.1: PIPE

Inflow Area = 6.131 ac, 1.87% Impervious, Inflow Depth = 0.84" for 1-Year event
Inflow = 5.47 cfs @ 12.11 hrs, Volume= 0.432 af
Outflow = 5.47 cfs @ 12.11 hrs, Volume= 0.432 af, Atten= 0%, Lag= 0.0 min
Primary = 5.47 cfs @ 12.11 hrs, Volume= 0.432 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,288.88' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,288.00'	**36.0" Round Culvert** L= 1,185.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,288.00' / 2,215.00' S= 0.0616 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=5.41 cfs @ 12.11 hrs HW=2,288.87' (Free Discharge)
└**1=Culvert** (Inlet Controls 5.41 cfs @ 3.18 fps)

Summary for Pond R2.2: PIPE

Inflow Area = 7.598 ac, 20.81% Impervious, Inflow Depth = 1.22" for 1-Year event
Inflow = 9.18 cfs @ 12.00 hrs, Volume= 0.770 af
Outflow = 9.18 cfs @ 12.00 hrs, Volume= 0.770 af, Atten= 0%, Lag= 0.0 min
Primary = 9.18 cfs @ 12.00 hrs, Volume= 0.770 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,214.15' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,213.00'	**36.0" Round Culvert** L= 795.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,213.00' / 2,190.00' S= 0.0289 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.17 cfs @ 12.00 hrs HW=2,214.15' (Free Discharge)
└**1=Culvert** (Inlet Controls 9.17 cfs @ 3.66 fps)

Summary for Pond R2.3: catch basin

Inflow Area = 5.677 ac, 7.08% Impervious, Inflow Depth = 0.99" for 1-Year event
Inflow = 6.32 cfs @ 12.04 hrs, Volume= 0.470 af
Outflow = 6.32 cfs @ 12.04 hrs, Volume= 0.470 af, Atten= 0%, Lag= 0.0 min
Primary = 6.32 cfs @ 12.04 hrs, Volume= 0.470 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,265.10' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,270.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,264.00'	**24.0" Round Culvert** L= 1,755.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,264.00' / 2,191.00' S= 0.0416 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=6.23 cfs @ 12.04 hrs HW=2,265.09' (Free Discharge)
└**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Culvert** (Inlet Controls 6.23 cfs @ 3.56 fps)

Summary for Pond R2.5: Road culvert

Inflow Area = 2.890 ac, 13.90% Impervious, Inflow Depth = 1.12" for 1-Year event
Inflow = 3.69 cfs @ 11.98 hrs, Volume= 0.270 af
Outflow = 3.69 cfs @ 11.98 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 3.69 cfs @ 11.98 hrs, Volume= 0.270 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,229.76' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,229.00'	**36.0" Round Culvert** L= 75.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,229.00' / 2,226.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=3.53 cfs @ 11.98 hrs HW=2,229.74' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.53 cfs @ 2.59 fps)

Summary for Pond R2.6: Road Culvert

Inflow Area = 0.737 ac, 12.46% Impervious, Inflow Depth = 1.10" for 1-Year event
Inflow = 0.95 cfs @ 11.98 hrs, Volume= 0.067 af
Outflow = 0.95 cfs @ 11.98 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
Primary = 0.95 cfs @ 11.98 hrs, Volume= 0.067 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,216.47' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,216.00'	**18.0" Round Culvert** L= 30.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,216.00' / 2,215.00' S= 0.0333 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=0.91 cfs @ 11.98 hrs HW=2,216.45' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.91 cfs @ 2.02 fps)

Summary for Pond R2.8: cb

Inflow Area = 7.441 ac, 15.27% Impervious, Inflow Depth = 1.15" for 1-Year event
Inflow = 7.58 cfs @ 12.05 hrs, Volume= 0.713 af
Outflow = 7.58 cfs @ 12.05 hrs, Volume= 0.713 af, Atten= 0%, Lag= 0.0 min
Primary = 7.58 cfs @ 12.05 hrs, Volume= 0.713 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,188.04' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,187.00'	**36.0" Round Culvert** L= 450.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,187.00' / 2,160.00' S= 0.0600 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=7.56 cfs @ 12.05 hrs HW=2,188.04' (Free Discharge)
└**1=Culvert** (Inlet Controls 7.56 cfs @ 3.47 fps)

Summary for Pond R4.1: catch basin

Inflow Area = 15.597 ac, 8.50% Impervious, Inflow Depth = 0.97" for 1-Year event
Inflow = 16.03 cfs @ 12.05 hrs, Volume= 1.267 af
Outflow = 16.03 cfs @ 12.05 hrs, Volume= 1.267 af, Atten= 0%, Lag= 0.0 min
Primary = 16.03 cfs @ 12.05 hrs, Volume= 1.267 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,288.62' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,284.00'	**36.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,284.00' / 2,283.50' S= 0.0100 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,288.00'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=15.92 cfs @ 12.05 hrs HW=2,288.62' (Free Discharge)
└**1=Culvert** (Passes 15.92 cfs of 53.76 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 15.92 cfs @ 2.57 fps)

Summary for Pond R4.3: culvert

Inflow Area = 17.508 ac, 10.00% Impervious, Inflow Depth = 1.00" for 1-Year event
Inflow = 17.47 cfs @ 12.06 hrs, Volume= 1.465 af
Outflow = 17.47 cfs @ 12.06 hrs, Volume= 1.465 af, Atten= 0%, Lag= 0.0 min
Primary = 17.47 cfs @ 12.06 hrs, Volume= 1.465 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,209.78' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,213.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,208.00'	**36.0" Round Culvert** L= 210.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,208.00' / 2,192.00' S= 0.0762 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=17.24 cfs @ 12.06 hrs HW=2,209.76' (Free Discharge)
└**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Culvert** (Inlet Controls 17.24 cfs @ 3.99 fps)

Summary for Pond R4.4: CULVERT

Inflow Area = 26.676 ac, 13.82% Impervious, Inflow Depth > 1.08" for 1-Year event
Inflow = 2.84 cfs @ 13.11 hrs, Volume= 2.400 af
Outflow = 2.84 cfs @ 13.11 hrs, Volume= 2.400 af, Atten= 0%, Lag= 0.0 min
Primary = 2.84 cfs @ 13.11 hrs, Volume= 2.400 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,181.46' @ 13.11 hrs
Flood Elev= 2,085.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	2,180.80'	**36.0" Round Culvert** L= 580.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,180.80' / 2,067.00' S= 0.1962 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=2.84 cfs @ 13.11 hrs HW=2,181.46' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.84 cfs @ 2.45 fps)

Summary for Pond R4.6: CULVERT

Inflow Area = 32.763 ac, 11.26% Impervious, Inflow Depth > 1.03" for 1-Year event
Inflow = 8.05 cfs @ 12.02 hrs, Volume= 2.825 af
Outflow = 8.05 cfs @ 12.02 hrs, Volume= 2.825 af, Atten= 0%, Lag= 0.0 min
Primary = 8.05 cfs @ 12.02 hrs, Volume= 2.825 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Peak Elev= 2,005.15' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,004.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,004.00' / 2,003.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=7.79 cfs @ 12.02 hrs HW=2,005.13' (Free Discharge)
1=Culvert (Inlet Controls 7.79 cfs @ 3.19 fps)

Summary for Pond R4.8: CULVERT

Inflow Area = 3.559 ac, 0.00% Impervious, Inflow Depth = 0.86" for 1-Year event
Inflow = 5.20 cfs @ 11.98 hrs, Volume= 0.254 af
Outflow = 5.20 cfs @ 11.98 hrs, Volume= 0.254 af, Atten= 0%, Lag= 0.0 min
Primary = 5.20 cfs @ 11.98 hrs, Volume= 0.254 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,093.06' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,092.00'	**24.0" Round Culvert** L= 150.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,092.00' / 2,067.00' S= 0.1667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=4.97 cfs @ 11.98 hrs HW=2,093.03' (Free Discharge)
1=Culvert (Inlet Controls 4.97 cfs @ 3.05 fps)

Summary for Pond R5.1: CULVERT

Inflow Area = 8.776 ac, 0.00% Impervious, Inflow Depth = 0.81" for 1-Year event
Inflow = 10.28 cfs @ 12.03 hrs, Volume= 0.591 af
Outflow = 10.28 cfs @ 12.03 hrs, Volume= 0.591 af, Atten= 0%, Lag= 0.0 min
Primary = 10.28 cfs @ 12.03 hrs, Volume= 0.591 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,905.36' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,904.00'	**33.0" Round Culvert** L= 810.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,904.00' / 1,823.00' S= 0.1000 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.95 cfs @ 12.03 hrs HW=1,905.34' (Free Discharge)
1=Culvert (Inlet Controls 9.95 cfs @ 3.47 fps)

Summary for Pond R8.1: CULVERT

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 1.25" for 1-Year event
Inflow = 4.19 cfs @ 12.11 hrs, Volume= 0.283 af
Outflow = 4.19 cfs @ 12.11 hrs, Volume= 0.283 af, Atten= 0%, Lag= 0.0 min
Primary = 4.19 cfs @ 12.11 hrs, Volume= 0.283 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,308.94' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,308.00'	**24.0" Round Culvert** L= 275.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,308.00' / 2,304.00' S= 0.0145 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=4.15 cfs @ 12.11 hrs HW=2,308.93' (Free Discharge)
1=Culvert (Inlet Controls 4.15 cfs @ 2.90 fps)

Summary for Pond R8.10: CB

Inflow Area = 15.958 ac, 29.48% Impervious, Inflow Depth = 1.32" for 1-Year event
Inflow = 21.76 cfs @ 12.00 hrs, Volume= 1.751 af
Outflow = 21.76 cfs @ 12.00 hrs, Volume= 1.751 af, Atten= 0%, Lag= 0.0 min
Primary = 21.76 cfs @ 12.00 hrs, Volume= 1.751 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,977.71' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,976.00'	**45.0" Round Culvert** L= 765.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,976.00' / 1,899.00' S= 0.1007 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=21.58 cfs @ 12.00 hrs HW=1,977.70' (Free Discharge)
1=Culvert (Inlet Controls 21.58 cfs @ 4.44 fps)

Summary for Pond R8.12: CULVERT

Inflow Area = 5.442 ac, 8.40% Impervious, Inflow Depth = 0.96" for 1-Year event
Inflow = 6.34 cfs @ 12.03 hrs, Volume= 0.435 af
Outflow = 6.34 cfs @ 12.03 hrs, Volume= 0.435 af, Atten= 0%, Lag= 0.0 min
Primary = 6.34 cfs @ 12.03 hrs, Volume= 0.435 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,903.08' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,902.00'	**30.0" Round Culvert** L= 40.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 1,902.00' / 1,899.00' S= 0.0750 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=6.17 cfs @ 12.03 hrs HW=1,903.06' (Free Discharge)
└**1=Culvert** (Inlet Controls 6.17 cfs @ 3.10 fps)

Summary for Pond R8.13: CB

Inflow Area = 21.400 ac, 24.12% Impervious, Inflow Depth = 1.23" for 1-Year event
Inflow = 27.84 cfs @ 12.01 hrs, Volume= 2.186 af
Outflow = 27.84 cfs @ 12.01 hrs, Volume= 2.186 af, Atten= 0%, Lag= 0.0 min
Primary = 27.84 cfs @ 12.01 hrs, Volume= 2.186 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,897.91' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,896.00'	**48.0" Round Culvert** L= 835.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,896.00' / 1,824.00' S= 0.0862 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=27.29 cfs @ 12.01 hrs HW=1,897.89' (Free Discharge)
└**1=Culvert** (Inlet Controls 27.29 cfs @ 4.68 fps)

Summary for Pond R8.15: CB

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 1.25" for 1-Year event
Inflow = 33.71 cfs @ 12.00 hrs, Volume= 2.504 af
Outflow = 33.71 cfs @ 12.00 hrs, Volume= 2.504 af, Atten= 0%, Lag= 0.0 min
Primary = 19.45 cfs @ 12.00 hrs, Volume= 1.441 af
Secondary = 14.27 cfs @ 12.00 hrs, Volume= 1.064 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,822.57' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,821.00'	**48.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,821.00' / 1,818.00' S= 0.0300 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Secondary	1,821.00'	**36.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,821.00' / 1,820.00' S= 0.0154 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=19.36 cfs @ 12.00 hrs HW=1,822.56' (Free Discharge)
└**1=Culvert** (Inlet Controls 19.36 cfs @ 4.26 fps)

Secondary OutFlow Max=14.21 cfs @ 12.00 hrs HW=1,822.56' (Free Discharge)
└**2=Culvert** (Barrel Controls 14.21 cfs @ 5.55 fps)

Summary for Pond R8.20: PIPE

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 0.72" for 1-Year event
Inflow = 19.45 cfs @ 12.00 hrs, Volume= 1.441 af
Outflow = 19.45 cfs @ 12.00 hrs, Volume= 1.441 af, Atten= 0%, Lag= 0.0 min
Primary = 19.45 cfs @ 12.00 hrs, Volume= 1.441 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,817.14' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,815.00'	**42.0" Round PIPE** L= 220.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,815.00' / 1,814.00' S= 0.0045 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=19.36 cfs @ 12.00 hrs HW=1,817.13' (Free Discharge)
└**1=PIPE** (Barrel Controls 19.36 cfs @ 4.52 fps)

Summary for Pond R8.22: New Culvert

Inflow Area = 51.052 ac, 13.70% Impervious, Inflow Depth = 1.05" for 1-Year event
Inflow = 10.63 cfs @ 12.39 hrs, Volume= 4.453 af
Outflow = 10.63 cfs @ 12.39 hrs, Volume= 4.453 af, Atten= 0%, Lag= 0.0 min
Primary = 10.63 cfs @ 12.39 hrs, Volume= 4.453 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,664.05' @ 12.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,663.00'	**24.0" Round Culvert X 2.00** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,663.00' / 1,662.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Primary	1,670.00'	**20.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=10.61 cfs @ 12.39 hrs HW=1,664.05' (Free Discharge)
├**1=Culvert** (Barrel Controls 10.61 cfs @ 4.64 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond R8.3: CULVERT

Inflow Area = 6.715 ac, 30.90% Impervious, Inflow Depth = 1.29" for 1-Year event
Inflow = 9.53 cfs @ 12.06 hrs, Volume= 0.720 af
Outflow = 9.53 cfs @ 12.06 hrs, Volume= 0.720 af, Atten= 0%, Lag= 0.0 min
Primary = 9.53 cfs @ 12.06 hrs, Volume= 0.720 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Peak Elev= 2,273.26' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,272.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,272.00' / 2,271.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,274.00'	**10.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.40 cfs @ 12.06 hrs HW=2,273.25' (Free Discharge)
1=Culvert (Inlet Controls 9.40 cfs @ 3.36 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond R8.5: CULVERT

Inflow Area = 8.502 ac, 27.24% Impervious, Inflow Depth = 1.25" for 1-Year event
Inflow = 10.10 cfs @ 12.08 hrs, Volume= 0.886 af
Outflow = 10.10 cfs @ 12.08 hrs, Volume= 0.886 af, Atten= 0%, Lag= 0.0 min
Primary = 10.10 cfs @ 12.08 hrs, Volume= 0.886 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,223.30' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,222.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,222.00' / 2,220.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,224.00'	**10.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.99 cfs @ 12.08 hrs HW=2,223.30' (Free Discharge)
1=Culvert (Inlet Controls 9.99 cfs @ 3.42 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond R8.7: CULVERT

Inflow Area = 14.012 ac, 24.04% Impervious, Inflow Depth = 1.22" for 1-Year event
Inflow = 15.82 cfs @ 12.03 hrs, Volume= 1.424 af
Outflow = 15.82 cfs @ 12.03 hrs, Volume= 1.424 af, Atten= 0%, Lag= 0.0 min
Primary = 15.82 cfs @ 12.03 hrs, Volume= 1.424 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,179.57' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,178.00'	**42.0" Round Culvert** L= 200.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 2,178.00' / 2,163.00' S= 0.0750 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=15.58 cfs @ 12.03 hrs HW=2,179.56' (Free Discharge)
└**1=Culvert** (Inlet Controls 15.58 cfs @ 3.75 fps)

Summary for Pond R8.8: CB

Inflow Area = 14.734 ac, 26.41% Impervious, Inflow Depth = 1.26" for 1-Year event
Inflow = 18.08 cfs @ 12.01 hrs, Volume= 1.549 af
Outflow = 18.08 cfs @ 12.01 hrs, Volume= 1.549 af, Atten= 0%, Lag= 0.0 min
Primary = 18.08 cfs @ 12.01 hrs, Volume= 1.549 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,161.58' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,160.00'	**42.0" Round Culvert**
			L= 880.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,160.00' / 2,077.00' S= 0.0943 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=17.66 cfs @ 12.01 hrs HW=2,161.56' (Free Discharge)
└**1=Culvert** (Inlet Controls 17.66 cfs @ 4.25 fps)

Summary for Pond R8.9: CB

Inflow Area = 15.354 ac, 28.00% Impervious, Inflow Depth = 1.29" for 1-Year event
Inflow = 19.92 cfs @ 12.01 hrs, Volume= 1.652 af
Outflow = 19.92 cfs @ 12.01 hrs, Volume= 1.652 af, Atten= 0%, Lag= 0.0 min
Primary = 19.92 cfs @ 12.01 hrs, Volume= 1.652 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,075.67' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,074.00'	**42.0" Round Culvert**
			L= 900.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,074.00' / 1,979.00' S= 0.1056 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=19.59 cfs @ 12.01 hrs HW=2,075.65' (Free Discharge)
└**1=Culvert** (Inlet Controls 19.59 cfs @ 4.38 fps)

Summary for Pond R9.1: pipes

Inflow Area = 3.982 ac, 24.44% Impervious, Inflow Depth = 1.32" for 1-Year event
Inflow = 4.89 cfs @ 12.01 hrs, Volume= 0.437 af
Outflow = 4.89 cfs @ 12.01 hrs, Volume= 0.437 af, Atten= 0%, Lag= 0.0 min
Primary = 4.89 cfs @ 12.01 hrs, Volume= 0.437 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,816.94' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,816.00'	**30.0" Round Culvert** L= 560.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,816.00' / 1,770.00' S= 0.0821 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	1,820.00'	**40.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.82 cfs @ 12.01 hrs HW=1,816.93' (Free Discharge)
└**1=Culvert** (Inlet Controls 4.82 cfs @ 2.90 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond R9.11: Culvert

Inflow Area = 26.104 ac, 16.32% Impervious, Inflow Depth = 1.11" for 1-Year event
Inflow = 12.82 cfs @ 12.07 hrs, Volume= 2.421 af
Outflow = 12.82 cfs @ 12.07 hrs, Volume= 2.421 af, Atten= 0%, Lag= 0.0 min
Primary = 12.82 cfs @ 12.07 hrs, Volume= 2.421 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,659.39' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,658.00'	**36.0" Round Culvert** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,658.00' / 1,656.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=12.47 cfs @ 12.07 hrs HW=1,659.37' (Free Discharge)
└**1=Culvert** (Inlet Controls 12.47 cfs @ 3.98 fps)

Summary for Pond R9.2A: Culvert

Inflow Area = 13.150 ac, 7.18% Impervious, Inflow Depth = 0.91" for 1-Year event
Inflow = 13.42 cfs @ 12.00 hrs, Volume= 0.999 af
Outflow = 13.42 cfs @ 12.00 hrs, Volume= 0.999 af, Atten= 0%, Lag= 0.0 min
Primary = 13.42 cfs @ 12.00 hrs, Volume= 0.999 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,773.28' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,772.00'	**48.0" Round Culvert** L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,772.00' / 1,770.00' S= 0.0500 '/' Cc= 0.900

n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=13.29 cfs @ 12.00 hrs HW=1,773.28' (Free Discharge)
1=Culvert (Inlet Controls 13.29 cfs @ 3.85 fps)

Summary for Pond R9.5: Culvert

Inflow Area = 4.347 ac, 22.35% Impervious, Inflow Depth = 1.24" for 1-Year event
Inflow = 6.72 cfs @ 11.98 hrs, Volume= 0.450 af
Outflow = 6.72 cfs @ 11.98 hrs, Volume= 0.450 af, Atten= 0%, Lag= 0.0 min
Primary = 6.72 cfs @ 11.98 hrs, Volume= 0.450 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,714.86' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,714.00'	**54.0" Round Culvert** L= 60.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,714.00' / 1,710.00' S= 0.0667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=6.42 cfs @ 11.98 hrs HW=1,714.84' (Free Discharge)
1=Culvert (Inlet Controls 6.42 cfs @ 3.12 fps)

Summary for Pond R9.6: Culvert

Inflow Area = 1.291 ac, 18.31% Impervious, Inflow Depth = 1.09" for 1-Year event
Inflow = 1.69 cfs @ 12.03 hrs, Volume= 0.117 af
Outflow = 1.69 cfs @ 12.03 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Primary = 1.69 cfs @ 12.03 hrs, Volume= 0.117 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,684.59' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,684.00'	**18.0" Round Culvert** L= 100.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,684.00' / 1,682.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=1.64 cfs @ 12.03 hrs HW=1,684.58' (Free Discharge)
1=Culvert (Inlet Controls 1.64 cfs @ 2.60 fps)

Summary for Link 1.1L: Sub 1.1 Res

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.05 cfs @ 13.02 hrs, Volume= 0.064 af
Primary = 0.05 cfs @ 13.02 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 1.2L: Sub 1.2 Res

Inflow Area = 0.264 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.04 cfs @ 13.60 hrs, Volume= 0.061 af
Primary = 0.04 cfs @ 13.60 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 1.3L: Sub 1.3 Res

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.04 cfs @ 12.62 hrs, Volume= 0.034 af
Primary = 0.04 cfs @ 12.62 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 1.4L: Sub 1.4 Res

Inflow Area = 0.161 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.02 cfs @ 13.57 hrs, Volume= 0.037 af
Primary = 0.02 cfs @ 13.57 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 1.5L: Sub 1.5 Res

Inflow Area = 0.494 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.07 cfs @ 13.58 hrs, Volume= 0.114 af
Primary = 0.07 cfs @ 13.58 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 1.6L: Sub 1.6 Res

Inflow Area = 0.379 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.06 cfs @ 13.02 hrs, Volume= 0.087 af
Primary = 0.06 cfs @ 13.02 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 1.9L: Sub 1.9 Res

Inflow Area = 0.528 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.13 cfs @ 12.62 hrs, Volume= 0.122 af
Primary = 0.13 cfs @ 12.62 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 2.10L: Sub 2.10 Res

Inflow Area = 0.562 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.12 cfs @ 12.62 hrs, Volume= 0.130 af
Primary = 0.12 cfs @ 12.62 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 2.1L: Sub 2.1 Res

Inflow Area = 0.115 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.02 cfs @ 13.02 hrs, Volume= 0.026 af
Primary = 0.02 cfs @ 13.02 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 2.3L: Sub 2.3 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.03 cfs @ 13.57 hrs, Volume= 0.056 af
Primary = 0.03 cfs @ 13.57 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 2.6L: Sub 2.6 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.06 cfs @ 13.57 hrs, Volume= 0.093 af
Primary = 0.06 cfs @ 13.57 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 2.7L: Sub 2.7 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.06 cfs @ 13.57 hrs, Volume= 0.093 af
Primary = 0.06 cfs @ 13.57 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 2.8L: Sub 2.8 Res

Inflow Area = 0.092 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.01 cfs @ 13.65 hrs, Volume= 0.021 af
Primary = 0.01 cfs @ 13.65 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 2.9L: Sub 2.9 Res

Inflow Area = 0.643 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.09 cfs @ 13.57 hrs, Volume= 0.148 af
Primary = 0.09 cfs @ 13.57 hrs, Volume= 0.148 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 4.1L: Sub 4.1 Res

Inflow Area = 0.585 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.08 cfs @ 13.59 hrs, Volume= 0.135 af
Primary = 0.08 cfs @ 13.59 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 4.3L: Sub 4.3 Res

Inflow Area = 1.377 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.20 cfs @ 13.58 hrs, Volume= 0.318 af
Primary = 0.20 cfs @ 13.58 hrs, Volume= 0.318 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 4.4L: Sub 4.4 Res

Inflow Area = 0.253 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.04 cfs @ 13.59 hrs, Volume= 0.058 af
Primary = 0.04 cfs @ 13.59 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 5.2L: Sub 5.2 Res

Inflow Area = 0.333 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.05 cfs @ 13.59 hrs, Volume= 0.077 af
Primary = 0.05 cfs @ 13.59 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 8.10L: Sub 8.10 Res

Inflow Area = 0.643 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.09 cfs @ 13.57 hrs, Volume= 0.148 af
Primary = 0.09 cfs @ 13.57 hrs, Volume= 0.148 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 8.11L: Sub 8.11 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af
Primary = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 8.15L: Sub 8.15 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af
Primary = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 8.1L: Sub 8.1 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af
Primary = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 8.4L: Sub 8.4 Res

Inflow Area = 0.287 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.05 cfs @ 13.02 hrs, Volume= 0.066 af
Primary = 0.05 cfs @ 13.02 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 8.5L: Sub 8.5 Res

Inflow Area = 0.298 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.04 cfs @ 13.64 hrs, Volume= 0.069 af
Primary = 0.04 cfs @ 13.64 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 8.8L: Sub 8.8 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.03 cfs @ 13.57 hrs, Volume= 0.056 af
Primary = 0.03 cfs @ 13.57 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 9.10L: Sub 9.10 Res

Inflow Area = 0.321 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.05 cfs @ 13.57 hrs, Volume= 0.074 af
Primary = 0.05 cfs @ 13.57 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 9.11L: Sub 9.11 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.06 cfs @ 13.57 hrs, Volume= 0.093 af
Primary = 0.06 cfs @ 13.57 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 9.1L: Sub 9.1 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.03 cfs @ 13.57 hrs, Volume= 0.056 af
Primary = 0.03 cfs @ 13.57 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 9.5L: Sub 8.5 Res

Inflow Area = 0.092 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.01 cfs @ 13.65 hrs, Volume= 0.021 af
Primary = 0.01 cfs @ 13.65 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 9.6L: Sub 9.6 Res

Inflow Area = 0.562 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.08 cfs @ 13.57 hrs, Volume= 0.130 af
Primary = 0.08 cfs @ 13.57 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 11.14L: Sub 11.14 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af
Primary = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 11.18L: Sub 11.18 Res

Inflow Area = 0.103 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.01 cfs @ 13.63 hrs, Volume= 0.024 af
Primary = 0.01 cfs @ 13.63 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 11.25L: Sub 11.25 Res

Inflow Area = 0.161 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.02 cfs @ 13.57 hrs, Volume= 0.037 af
Primary = 0.02 cfs @ 13.57 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 11.33L: Sub 11.33 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af
Primary = 0.01 cfs @ 13.57 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 11.3L: Sub 11.3 Res

Inflow Area = 0.436 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.07 cfs @ 13.02 hrs, Volume= 0.101 af
Primary = 0.07 cfs @ 13.02 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Summary for Link 12.2L: Sub 12.2 Res

Inflow Area = 0.379 ac,100.00% Impervious, Inflow Depth = 2.77" for 1-Year event
Inflow = 0.08 cfs @ 12.48 hrs, Volume= 0.087 af
Primary = 0.08 cfs @ 12.48 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

1-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchm

Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.10S: Area 1.10 Runoff Area=10,640 sf 81.20% Impervious Runoff Depth=4.20"
Tc=6.0 min CN=93 Runoff=1.61 cfs 0.085 af

Subcatchment1.11S: Area 1.11 Runoff Area=13,460 sf 89.60% Impervious Runoff Depth=4.53"
Flow Length=230' Tc=8.0 min CN=96 Runoff=2.01 cfs 0.117 af

Subcatchment1.12S: Area 1.12 Runoff Area=35,190 sf 60.29% Impervious Runoff Depth=3.67"
Flow Length=641' Tc=12.4 min CN=88 Runoff=4.01 cfs 0.247 af

Subcatchment1.13S: Area 1.13 Runoff Area=53,050 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=50' Slope=0.2500 '/' Tc=6.0 min CN=74 Runoff=4.96 cfs 0.240 af

Subcatchment1.14S: Area 1.14 Runoff Area=11,800 sf 0.00% Impervious Runoff Depth=2.12"
Tc=6.0 min CN=71 Runoff=1.00 cfs 0.048 af

Subcatchment1.15S: Area 1.15 Runoff Area=23,830 sf 100.00% Impervious Runoff Depth=4.76"
Tc=6.0 min CN=98 Runoff=3.79 cfs 0.217 af

Subcatchment1.16S: Area 1.16 Runoff Area=15,985 sf 100.00% Impervious Runoff Depth=4.76"
Tc=6.0 min CN=98 Runoff=2.54 cfs 0.146 af

Subcatchment1.17S: Area 1.17 Runoff Area=30,241 sf 0.00% Impervious Runoff Depth=2.62"
Flow Length=465' Tc=6.0 min CN=77 Runoff=3.13 cfs 0.152 af

Subcatchment1.1S: Area-1.1 Runoff Area=1,542,650 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,295' Tc=22.9 min CN=72 Runoff=78.67 cfs 6.486 af

Subcatchment1.2S: Area 1.2 Runoff Area=436,779 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,510' Tc=14.2 min CN=72 Runoff=28.93 cfs 1.837 af

Subcatchment1.3S: Area-1.3 Runoff Area=124,373 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=750' Tc=16.5 min CN=72 Runoff=7.65 cfs 0.523 af

Subcatchment1.4S: Area 1.4 Runoff Area=345,904 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=1,361' Tc=11.4 min CN=74 Runoff=27.17 cfs 1.565 af

Subcatchment1.5S: Area 1.5 Runoff Area=750,276 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,965' Tc=19.9 min CN=72 Runoff=41.52 cfs 3.155 af

Subcatchment1.6S: Area 1.6 Runoff Area=128,870 sf 1.08% Impervious Runoff Depth=2.36"
Flow Length=465' Tc=6.0 min CN=74 Runoff=12.06 cfs 0.583 af

Subcatchment1.7S: Area 1.7 Runoff Area=39,615 sf 92.98% Impervious Runoff Depth=4.53"
Flow Length=1,245' Tc=6.0 min CN=96 Runoff=6.20 cfs 0.344 af

Subcatchment1.8S: Area 1.8 Runoff Area=54,200 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=140' Tc=6.0 min CN=74 Runoff=5.07 cfs 0.245 af

Subcatchment1.9S: Area 1.9 Runoff Area=159,810 sf 18.28% Impervious Runoff Depth=2.62"
Flow Length=730' Tc=6.0 min CN=77 Runoff=16.53 cfs 0.802 af

Subcatchment2.10S: Area 2.10 Runoff Area=303,225 sf 1.05% Impervious Runoff Depth=2.45"
Flow Length=965' Tc=15.2 min CN=75 Runoff=21.70 cfs 1.421 af

Subcatchment2.11S: Downstream Area Runoff Area=480,170 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=860' Tc=7.4 min CN=72 Runoff=40.54 cfs 2.019 af

Subcatchment2.1S: Area 2.1 Runoff Area=262,081 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,585' Tc=16.7 min CN=72 Runoff=16.02 cfs 1.102 af

Subcatchment2.2S: Area 2.2 Runoff Area=63,870 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=1,910' Tc=6.0 min CN=98 Runoff=10.15 cfs 0.582 af

Subcatchment2.3S: Area 2.3 Runoff Area=91,990 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=208' Tc=6.0 min CN=73 Runoff=8.31 cfs 0.401 af

Subcatchment2.4S: Area 2.4 Runoff Area=15,150 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=885' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=2.41 cfs 0.138 af

Subcatchment2.5S: Area 2.5 Runoff Area=8,000 sf 100.00% Impervious Runoff Depth=4.76"
Tc=6.0 min CN=98 Runoff=1.27 cfs 0.073 af

Subcatchment2.6S: Area 2.6 Runoff Area=229,805 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=862' Tc=11.3 min CN=73 Runoff=17.45 cfs 1.003 af

Subcatchment2.7S: Area 2.7 Runoff Area=108,393 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=715' Tc=6.0 min CN=73 Runoff=9.79 cfs 0.473 af

Subcatchment2.8S: Area 2.8 Runoff Area=28,100 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=365' Tc=6.0 min CN=73 Runoff=2.54 cfs 0.123 af

Subcatchment2.9S: Area 2.9 Runoff Area=138,145 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=680' Tc=9.4 min CN=73 Runoff=11.22 cfs 0.603 af

Subcatchment2aS: Area 2A Runoff Area=55,140 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=190' Tc=9.3 min CN=72 Runoff=4.33 cfs 0.232 af

Subcatchment2bS: Area 2b Runoff Area=204,120 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=160' Tc=8.4 min CN=73 Runoff=17.25 cfs 0.891 af

Subcatchment3.1S: Area 3.1 Runoff Area=105,215 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=595' Tc=6.0 min CN=72 Runoff=9.25 cfs 0.442 af

Subcatchment4.1S: Area 4.1 Runoff Area=621,690 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,390' Tc=13.6 min CN=72 Runoff=42.06 cfs 2.614 af

Subcatchment4.2S: Area 4.2 Runoff Area=32,235 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=40' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=5.12 cfs 0.294 af

Subcatchment4.3S: Area 4.3 Runoff Area=292,890 sf 8.33% Impervious Runoff Depth=2.45"
Flow Length=1,060' Tc=7.2 min CN=75 Runoff=27.70 cfs 1.372 af

Subcatchment 4.4S: Area 4.4 Runoff Area=72,240 sf 10.38% Impervious Runoff Depth=2.54"
Flow Length=380' Tc=6.9 min CN=76 Runoff=7.12 cfs 0.350 af

Subcatchment 4.5S: Area 4.5 Runoff Area=46,440 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=30' Slope=0.1250 '/' Tc=6.0 min CN=74 Runoff=4.35 cfs 0.210 af

Subcatchment 4.6S: Area-4.6 Runoff Area=155,010 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=900' Slope=0.1000 '/' Tc=6.0 min CN=73 Runoff=14.00 cfs 0.676 af

Subcatchment 4.7S: Area-4.7 Runoff Area=110,150 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=320' Tc=8.1 min CN=72 Runoff=9.07 cfs 0.463 af

Subcatchment 4.8: Area-4.8 Runoff Area=1,585 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=100' Slope=0.2200 '/' Tc=14.8 min CN=72 Runoff=0.10 cfs 0.007 af

Subcatchment 5.1S: Area-5.1 Runoff Area=553,165 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,200' Tc=12.2 min CN=72 Runoff=39.27 cfs 2.326 af

Subcatchment 5.2S: Area-5.2 Runoff Area=147,335 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=695' Tc=9.9 min CN=73 Runoff=11.73 cfs 0.643 af

Subcatchment 5.3S: Area 5.3 Runoff Area=382,265 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,528' Tc=9.7 min CN=72 Runoff=29.52 cfs 1.607 af

Subcatchment 6.1S: Area 6.1 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=4.20"
Tc=6.0 min CN=93 Runoff=1.21 cfs 0.064 af

Subcatchment 6.2S: Area 6.2 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=4.20"
Tc=6.0 min CN=93 Runoff=1.21 cfs 0.064 af

Subcatchment 6.3S: Area 6.3 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=4.20"
Tc=6.0 min CN=93 Runoff=1.21 cfs 0.064 af

Subcatchment 6.4S: AREA 6.1 Runoff Area=66,488 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=380' Tc=6.0 min CN=72 Runoff=5.84 cfs 0.280 af

Subcatchment 7.1S: Area-7 Runoff Area=105,675 sf 0.00% Impervious Runoff Depth=2.12"
Flow Length=150' Tc=6.4 min CN=71 Runoff=8.85 cfs 0.428 af

Subcatchment 8.10S: Area 8.10 Runoff Area=212,018 sf 8.40% Impervious Runoff Depth=2.45"
Flow Length=762' Tc=7.4 min CN=75 Runoff=19.92 cfs 0.993 af

Subcatchment 8.11S: Area-8.11 Runoff Area=121,400 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=585' Tc=6.4 min CN=73 Runoff=10.95 cfs 0.530 af

Subcatchment 8.12S: Area 8.12 Runoff Area=27,016 sf 65.89% Impervious Runoff Depth=3.88"
Flow Length=865' Tc=6.0 min CN=90 Runoff=3.88 cfs 0.200 af

Subcatchment 8.13S: Area 8.13 Runoff Area=26,292 sf 66.94% Impervious Runoff Depth=3.88"
Flow Length=795' Tc=6.0 min CN=90 Runoff=3.78 cfs 0.195 af

Subcatchment 8.15S: Area 8.15 Runoff Area=94,118 sf 34.15% Impervious Runoff Depth=3.08"
Flow Length=1,597' Tc=6.0 min CN=82 Runoff=11.27 cfs 0.554 af

Subcatchment 8.16S: Area 8.16 Runoff Area=20,576 sf 30.13% Impervious Runoff Depth=2.99"
Tc=6.0 min CN=81 Runoff=2.40 cfs 0.118 af

Subcatchment 8.17S: Area 8.17 Runoff Area=102,463 sf 39.21% Impervious Runoff Depth=3.17"
Flow Length=1,330' Tc=6.0 min CN=83 Runoff=12.60 cfs 0.622 af

Subcatchment 8.1S: Area-8.1 Runoff Area=226,675 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,117' Tc=10.1 min CN=72 Runoff=17.23 cfs 0.953 af

Subcatchment 8.2S: Area 8.2 Runoff Area=100,400 sf 9.56% Impervious Runoff Depth=2.36"
Flow Length=450' Slope=0.3000 '/' Tc=8.7 min CN=74 Runoff=8.69 cfs 0.454 af

Subcatchment 8.3S: Area 8.3 Runoff Area=49,890 sf 16.92% Impervious Runoff Depth=2.71"
Flow Length=415' Slope=0.0300 '/' Tc=6.0 min CN=78 Runoff=5.32 cfs 0.259 af

Subcatchment 8.4S: Area 8.4 Runoff Area=224,571 sf 3.30% Impervious Runoff Depth=2.28"
Flow Length=890' Tc=10.5 min CN=73 Runoff=17.49 cfs 0.980 af

Subcatchment 8.5S: Area-8.5 Runoff Area=655,085 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,768' Tc=32.1 min CN=72 Runoff=26.85 cfs 2.754 af

Subcatchment 8.6S: Area 8.6 Runoff Area=118,266 sf 28.55% Impervious Runoff Depth=2.89"
Flow Length=737' Tc=13.3 min CN=80 Runoff=10.66 cfs 0.655 af

Subcatchment 8.7S: Area 8.7 Runoff Area=174,248 sf 32.50% Impervious Runoff Depth=2.99"
Flow Length=910' Tc=9.8 min CN=81 Runoff=18.09 cfs 0.995 af

Subcatchment 8.8S: Area 8.8 Runoff Area=67,318 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=524' Slope=0.0850 '/' Tc=6.0 min CN=73 Runoff=6.08 cfs 0.294 af

Subcatchment 8.9S: Area 8.9 Runoff Area=31,465 sf 72.46% Impervious Runoff Depth=3.98"
Flow Length=1,125' Tc=6.0 min CN=91 Runoff=4.60 cfs 0.240 af

Subcatchment 9.10S: Area 9.10 Runoff Area=317,221 sf 8.54% Impervious Runoff Depth=2.36"
Flow Length=1,240' Slope=0.1000 '/' Tc=6.0 min UI Adjusted CN=74 Runoff=29.68 cfs 1.435 af

Subcatchment 9.11S: Area 9.11S Runoff Area=126,900 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=975' Tc=14.2 min CN=73 Runoff=8.74 cfs 0.554 af

Subcatchment 9.12S: Area 9.12S Runoff Area=29,060 sf 85.68% Impervious Runoff Depth=4.42"
Flow Length=925' Tc=6.0 min CN=95 Runoff=4.50 cfs 0.246 af

Subcatchment 9.13S: Area 9.13 Runoff Area=49,485 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=1,695' Tc=6.0 min CN=98 Runoff=7.86 cfs 0.451 af

Subcatchment 9.14S: Area 9.14 Runoff Area=241,600 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=890' Tc=9.7 min CN=72 Runoff=18.66 cfs 1.016 af

Subcatchment 9.1S: Area 9.1 Runoff Area=153,790 sf 2.99% Impervious Runoff Depth=2.28"
Flow Length=760' Tc=8.1 min CN=73 Runoff=13.14 cfs 0.671 af

Subcatchment 9.5S: Area 9.5 Runoff Area=52,243 sf 12.06% Impervious Runoff Depth=2.45"
Flow Length=412' Slope=0.2000 '/' Tc=10.3 min CN=75 Runoff=4.40 cfs 0.245 af

Subcatchment 9.6S: Area 9.6 Runoff Area=164,855 sf 10.81% Impervious Runoff Depth=2.54"
Flow Length=543' Slope=0.1000 '/' Tc=6.0 min CN=76 Runoff=16.51 cfs 0.800 af

Subcatchment 9.9S: Area 9.9 Runoff Area=95,744 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=300' Tc=6.0 min CN=73 Runoff=8.65 cfs 0.418 af

Subcatchment 11.10S: Area-11.10 Runoff Area=26,000 sf 65.96% Impervious Runoff Depth=3.88"
Flow Length=220' Tc=6.0 min CN=90 Runoff=3.74 cfs 0.193 af

Subcatchment 11.11S: Area-11.11 Runoff Area=59,520 sf 60.26% Impervious Runoff Depth=3.67"
Flow Length=497' Tc=6.0 min CN=88 Runoff=8.22 cfs 0.418 af

Subcatchment 11.12S: Area-11.12 Runoff Area=54,672 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=284' Tc=7.4 min CN=72 Runoff=4.62 cfs 0.230 af

Subcatchment 11.13S: Area-11.13 Runoff Area=10,160 sf 100.00% Impervious Runoff Depth=4.76"
Tc=6.0 min CN=98 Runoff=1.61 cfs 0.093 af

Subcatchment 11.14S: Area-11.14 Runoff Area=195,163 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=520' Tc=13.7 min CN=72 Runoff=13.16 cfs 0.821 af

Subcatchment 11.15S: Area-11.15 Runoff Area=45,543 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=836' Tc=14.9 min CN=74 Runoff=3.18 cfs 0.206 af

Subcatchment 11.16S: Area-11.16 Runoff Area=28,535 sf 58.70% Impervious Runoff Depth=3.67"
Flow Length=690' Tc=6.0 min CN=88 Runoff=3.94 cfs 0.200 af

Subcatchment 11.17S: Area-11.17 Runoff Area=15,901 sf 78.17% Impervious Runoff Depth=4.20"
Flow Length=520' Slope=0.0250 '/' Tc=6.0 min CN=93 Runoff=2.40 cfs 0.128 af

Subcatchment 11.18S: Area-11.18 Runoff Area=496,244 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,750' Tc=20.7 min CN=72 Runoff=26.86 cfs 2.087 af

Subcatchment 11.19S: Area-11.19 Runoff Area=365,755 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,586' Tc=23.3 min CN=72 Runoff=18.45 cfs 1.538 af

Subcatchment 11.20S: Area-11.20 Runoff Area=28,250 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=497' Tc=6.0 min CN=72 Runoff=2.48 cfs 0.119 af

Subcatchment 11.21S: Area-11.21 Runoff Area=227,244 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,506' Tc=15.2 min CN=72 Runoff=14.53 cfs 0.955 af

Subcatchment 11.23S: Area 11.23 Runoff Area=49,500 sf 14.06% Impervious Runoff Depth=2.54"
Flow Length=490' Tc=6.0 min CN=76 Runoff=4.96 cfs 0.240 af

Subcatchment 11.24S: Area 11.24 Runoff Area=25,034 sf 22.45% Impervious Runoff Depth=2.80"
Flow Length=475' Tc=6.0 min CN=79 Runoff=2.75 cfs 0.134 af

Subcatchment11.25S: Area 11.25 Runoff Area=68,850 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=455' Tc=8.7 min CN=73 Runoff=5.75 cfs 0.300 af

Subcatchment11.26S: Area-11.26 Runoff Area=38,546 sf 67.49% Impervious Runoff Depth=3.88"
Flow Length=490' Tc=6.0 min CN=90 Runoff=5.54 cfs 0.286 af

Subcatchment11.27S: Area-11.27 Runoff Area=66,220 sf 70.97% Impervious Runoff Depth=3.98"
Tc=6.0 min CN=91 Runoff=9.69 cfs 0.504 af

Subcatchment11.28S: Area-11.28 Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=20' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=0.95 cfs 0.055 af

Subcatchment11.29S: Area 11.29 Runoff Area=21,107 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=195' Tc=6.0 min CN=72 Runoff=1.86 cfs 0.089 af

Subcatchment11.2S: Area-11.2 Runoff Area=1,298,764 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=2,720' Tc=40.5 min CN=72 Runoff=45.28 cfs 5.461 af

Subcatchment11.32S: Area-11.5 Runoff Area=236,106 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,303' Tc=21.6 min CN=72 Runoff=12.48 cfs 0.993 af

Subcatchment11.33S: Area-11.33 Runoff Area=115,090 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=670' Tc=23.1 min CN=74 Runoff=6.32 cfs 0.521 af

Subcatchment11.34S: Area-11.34 Runoff Area=56,117 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=575' Tc=14.1 min CN=74 Runoff=4.03 cfs 0.254 af

Subcatchment11.35S: Area-11.35 Runoff Area=23,266 sf 0.00% Impervious Runoff Depth=2.71"
Flow Length=370' Slope=0.1500 '/' Tc=6.0 min CN=78 Runoff=2.48 cfs 0.121 af

Subcatchment11.36S: Area-11.36 Runoff Area=69,230 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=590' Tc=9.1 min CN=73 Runoff=5.69 cfs 0.302 af

Subcatchment11.38S: Area-11.38 Runoff Area=14,250 sf 0.00% Impervious Runoff Depth=2.54"
Flow Length=185' Slope=0.2500 '/' Tc=6.0 min CN=76 Runoff=1.43 cfs 0.069 af

Subcatchment11.39S: Area-11.39 Runoff Area=21,350 sf 0.00% Impervious Runoff Depth=2.12"
Flow Length=435' Tc=7.6 min CN=71 Runoff=1.72 cfs 0.086 af

Subcatchment11.3S: Area-11.3 Runoff Area=2,817,597 sf 9.13% Impervious Runoff Depth=2.45"
Flow Length=5,405' Tc=32.9 min CN=75 Runoff=128.02 cfs 13.202 af

Subcatchment11.40S: Area-11.40 Runoff Area=43,800 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=2,190' Tc=6.0 min CN=98 Runoff=6.96 cfs 0.399 af

Subcatchment11.41S: Area-11.41 Runoff Area=77,380 sf 0.00% Impervious Runoff Depth=2.12"
Flow Length=355' Tc=8.9 min CN=71 Runoff=5.94 cfs 0.313 af

Subcatchment11.4S: Area-11.4 Runoff Area=39,350 sf 100.00% Impervious Runoff Depth=4.76"
Tc=6.0 min CN=98 Runoff=6.25 cfs 0.359 af

Subcatchment11.5S: Area-11.5 Runoff Area=243,794 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=950' Tc=10.4 min CN=72 Runoff=18.32 cfs 1.025 af

Subcatchment 11.6S: Area-11.6 Runoff Area=24,550 sf 0.00% Impervious Runoff Depth=2.28"
Tc=6.0 min CN=73 Runoff=2.22 cfs 0.107 af

Subcatchment 11.7S: Area-11.7 Runoff Area=66,763 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=810' Tc=6.0 min CN=73 Runoff=6.03 cfs 0.291 af

Subcatchment 11.8S: Area-11.8 Runoff Area=238,239 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,367' Tc=15.3 min CN=72 Runoff=15.18 cfs 1.002 af

Subcatchment 11.9S: Area-11.9 Runoff Area=87,870 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=805' Tc=9.5 min CN=73 Runoff=7.11 cfs 0.383 af

Subcatchment 12.1S: Area-12.1 Runoff Area=555,875 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=1,995' Tc=39.2 min CN=72 Runoff=19.83 cfs 2.337 af

Subcatchment 12.2S: Area-12.2 Runoff Area=249,685 sf 14.15% Impervious Runoff Depth=2.62"
Flow Length=480' Tc=11.2 min CN=77 Runoff=21.88 cfs 1.253 af

Subcatchment 12.3S: Area-12.3 Runoff Area=18,250 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=380' Tc=6.0 min CN=98 Runoff=2.90 cfs 0.166 af

Reach 11.10R: Mountain stream Avg. Flow Depth=0.58' Max Vel=10.40 fps Inflow=149.88 cfs 20.388 af
n=0.040 L=393.0' S=0.1730 '/' Capacity=3,320.07 cfs Outflow=149.26 cfs 20.388 af

Reach 11.3aR: Bouldery stream Avg. Flow Depth=0.36' Max Vel=9.21 fps Inflow=49.64 cfs 6.572 af
n=0.050 L=142.0' S=0.4014 '/' Capacity=2,234.38 cfs Outflow=49.60 cfs 6.572 af

Reach 11.4aR: DP11.3 Avg. Flow Depth=0.77' Max Vel=12.87 fps Inflow=91.11 cfs 11.163 af
n=0.050 L=220.0' S=0.3636 '/' Capacity=858.32 cfs Outflow=90.79 cfs 11.163 af

Reach 11.4bR: DP11.4 Avg. Flow Depth=0.35' Max Vel=7.12 fps Inflow=4.73 cfs 3.354 af
n=0.040 L=145.0' S=0.2621 '/' Capacity=231.18 cfs Outflow=4.73 cfs 3.354 af

Reach 11.4R: DP-11.2 Avg. Flow Depth=0.95' Max Vel=9.34 fps Inflow=90.08 cfs 10.860 af
n=0.050 L=267.0' S=0.1498 '/' Capacity=575.36 cfs Outflow=89.63 cfs 10.860 af

Reach 11.5aR: DP11.5 Avg. Flow Depth=0.35' Max Vel=6.70 fps Inflow=4.52 cfs 0.381 af
n=0.040 L=620.0' S=0.2323 '/' Capacity=217.63 cfs Outflow=4.36 cfs 0.381 af

Reach 11.5R: Mountain stream Avg. Flow Depth=0.62' Max Vel=9.80 fps Inflow=94.08 cfs 14.517 af
n=0.050 L=455.0' S=0.2242 '/' Capacity=2,943.05 cfs Outflow=93.79 cfs 14.517 af

Reach 11.6aR: Mountain stream Avg. Flow Depth=0.86' Max Vel=15.17 fps Inflow=152.64 cfs 20.385 af
n=0.050 L=245.0' S=0.4000 '/' Capacity=3,987.80 cfs Outflow=152.22 cfs 20.385 af

Reach 11.6R: Mountain stream Avg. Flow Depth=0.75' Max Vel=11.14 fps Inflow=96.49 cfs 14.898 af
n=0.050 L=475.0' S=0.2505 '/' Capacity=3,155.95 cfs Outflow=96.18 cfs 14.898 af

Reach 11.8R: Mountain stream Avg. Flow Depth=0.74' Max Vel=12.92 fps Inflow=152.22 cfs 20.385 af
n=0.050 L=360.0' S=0.3139 '/' Capacity=13,400.37 cfs Outflow=150.48 cfs 20.388 af

Reach 14R: Donwstream Analysis Inflow=77.48 cfs 8.908 af
Outflow=77.48 cfs 8.908 af

Reach DP-1: Design Point-1 Avg. Flow Depth=1.01' Max Vel=12.60 fps Inflow=102.14 cfs 14.265 af
n=0.040 L=10.0' S=0.1500 '/' Capacity=670.80 cfs Outflow=102.13 cfs 14.265 af

Reach DP-11: Design Point-11 Inflow=277.74 cfs 33.763 af
Outflow=277.74 cfs 33.763 af

Reach DP-12: Design Point-12 Avg. Flow Depth=0.59' Max Vel=9.65 fps Inflow=22.34 cfs 3.904 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=128.70 cfs Outflow=22.34 cfs 3.904 af

Reach DP-1a: Design Point-1a Avg. Flow Depth=0.44' Max Vel=5.46 fps Inflow=11.52 cfs 3.414 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=97.10 cfs Outflow=11.52 cfs 3.414 af

Reach DP-2: Design Point-2 Avg. Flow Depth=0.76' Max Vel=11.94 fps Inflow=48.99 cfs 6.889 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=233.42 cfs Outflow=48.96 cfs 6.889 af

Reach DP-2a: Design Point-2a Inflow=4.33 cfs 0.232 af
Outflow=4.33 cfs 0.232 af

Reach DP-2b: Design Point-2b Inflow=17.25 cfs 0.891 af
Outflow=17.25 cfs 0.891 af

Reach DP-3: Design Point-3 Avg. Flow Depth=0.46' Max Vel=10.84 fps Inflow=9.25 cfs 0.442 af
n=0.040 L=150.0' S=0.4000 '/' Capacity=79.12 cfs Outflow=9.16 cfs 0.442 af

Reach DP-4: Design Point-4 Avg. Flow Depth=0.49' Max Vel=10.68 fps Inflow=33.77 cfs 6.864 af
n=0.050 L=10.0' S=0.4000 '/' Capacity=768.66 cfs Outflow=33.77 cfs 6.864 af

Reach DP-5: Design Point-5 Avg. Flow Depth=1.34' Max Vel=12.11 fps Inflow=78.73 cfs 4.708 af
n=0.035 L=10.0' S=0.1000 '/' Capacity=273.11 cfs Outflow=78.69 cfs 4.708 af

Reach DP-6: Design Point 6 Inflow=7.83 cfs 0.472 af
Outflow=7.83 cfs 0.472 af

Reach DP-7: Design Point-7 Inflow=8.85 cfs 0.428 af
Outflow=8.85 cfs 0.428 af

Reach DP-8: Design Point-8 Avg. Flow Depth=1.18' Max Vel=9.87 fps Inflow=59.89 cfs 10.916 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=277.01 cfs Outflow=59.88 cfs 10.916 af

Reach DP-9: Design Point-9 Avg. Flow Depth=1.44' Max Vel=10.25 fps Inflow=51.01 cfs 6.476 af
n=0.040 L=100.0' S=0.1000 '/' Capacity=152.56 cfs Outflow=50.50 cfs 6.476 af

Reach R1.1: Mountain Stream Avg. Flow Depth=0.68' Max Vel=9.85 fps Inflow=79.28 cfs 6.596 af
n=0.040 L=805.0' S=0.1342 '/' Capacity=1,947.63 cfs Outflow=78.04 cfs 6.596 af

Reach R1.12: WETLAND Avg. Flow Depth=0.09' Max Vel=6.41 fps Inflow=11.18 cfs 3.262 af
n=0.035 L=200.0' S=0.6000 '/' Capacity=206.27 cfs Outflow=11.17 cfs 3.262 af

Reach R1.2: Mountain Stream Avg. Flow Depth=1.04' Max Vel=11.94 fps Inflow=83.82 cfs 7.178 af
n=0.040 L=616.0' S=0.1461 '/' Capacity=636.66 cfs Outflow=82.98 cfs 7.178 af

Reach R1.8: WETLAND Avg. Flow Depth=0.17' Max Vel=3.59 fps Inflow=12.51 cfs 0.733 af
n=0.070 L=120.0' S=0.3083 '/' Capacity=73.93 cfs Outflow=12.21 cfs 0.733 af

Reach R11.1: DP11.6 Avg. Flow Depth=0.63' Max Vel=4.71 fps Inflow=14.41 cfs 1.122 af
n=0.070 L=310.0' S=0.1742 '/' Capacity=102.63 cfs Outflow=14.04 cfs 1.122 af

Reach R11.12: Mountain stream Avg. Flow Depth=0.61' Max Vel=11.62 fps Inflow=15.12 cfs 1.010 af
n=0.040 L=200.0' S=0.3350 '/' Capacity=678.27 cfs Outflow=14.96 cfs 1.010 af

Reach R11.13: Mountain stream Avg. Flow Depth=0.40' Max Vel=9.35 fps Inflow=45.28 cfs 5.461 af
n=0.050 L=180.0' S=0.3611 '/' Capacity=5,898.94 cfs Outflow=45.25 cfs 5.461 af

Reach R11.14: Mountain stream Avg. Flow Depth=0.16' Max Vel=4.39 fps Inflow=2.48 cfs 0.119 af
n=0.040 L=140.0' S=0.2071 '/' Capacity=989.43 cfs Outflow=2.43 cfs 0.119 af

Reach R11.16: SWALE Avg. Flow Depth=1.00' Max Vel=9.02 fps Inflow=27.09 cfs 2.128 af
n=0.040 L=450.0' S=0.1111 '/' Capacity=160.81 cfs Outflow=26.76 cfs 2.128 af

Reach R11.1A: DP11.7 Avg. Flow Depth=0.93' Max Vel=10.75 fps Inflow=62.41 cfs 5.487 af
n=0.040 L=950.0' S=0.1884 '/' Capacity=186.80 cfs Outflow=60.83 cfs 5.487 af

Reach R11.1B: Mountain stream Avg. Flow Depth=0.43' Max Vel=7.96 fps Inflow=13.35 cfs 0.853 af
n=0.040 L=200.0' S=0.2500 '/' Capacity=215.17 cfs Outflow=13.14 cfs 0.853 af

Reach R11.25: SWALE Avg. Flow Depth=1.24' Max Vel=7.04 fps Inflow=39.12 cfs 2.779 af
n=0.040 L=350.0' S=0.0543 '/' Capacity=110.44 cfs Outflow=38.18 cfs 2.779 af

Reach R11.27: Overland Avg. Flow Depth=0.10' Max Vel=4.16 fps Inflow=41.36 cfs 2.985 af
n=0.035 L=640.0' S=0.2156 '/' Capacity=620.34 cfs Outflow=40.03 cfs 2.985 af

Reach R11.30: SWALE Avg. Flow Depth=0.47' Max Vel=1.73 fps Inflow=2.69 cfs 0.463 af
n=0.040 L=325.0' S=0.0092 '/' Capacity=24.23 cfs Outflow=2.37 cfs 0.463 af

Reach R11.31: SWALE Avg. Flow Depth=0.45' Max Vel=3.46 fps Inflow=4.54 cfs 0.240 af
n=0.040 L=140.0' S=0.0393 '/' Capacity=49.99 cfs Outflow=4.37 cfs 0.240 af

Reach R11.33: Bouldery stream Avg. Flow Depth=0.51' Max Vel=6.99 fps Inflow=29.37 cfs 2.751 af
n=0.050 L=190.0' S=0.1579 '/' Capacity=454.15 cfs Outflow=29.11 cfs 2.751 af

Reach R11.37: SWALE Avg. Flow Depth=1.15' Max Vel=9.17 fps Inflow=33.58 cfs 2.396 af
n=0.040 L=600.0' S=0.1000 '/' Capacity=96.77 cfs Outflow=32.65 cfs 2.396 af

Reach R11.38: Wetland Avg. Flow Depth=0.13' Max Vel=0.49 fps Inflow=2.37 cfs 0.463 af
n=0.100 L=306.0' S=0.0163 '/' Capacity=14.90 cfs Outflow=1.60 cfs 0.463 af

Reach R11.39: SWALE Avg. Flow Depth=0.25' Max Vel=3.71 fps Inflow=2.09 cfs 0.505 af
n=0.040 L=310.0' S=0.0806 '/' Capacity=49.35 cfs Outflow=2.08 cfs 0.505 af

Reach R11.40: SWALE Avg. Flow Depth=0.30' Max Vel=7.92 fps Inflow=6.25 cfs 0.359 af
n=0.040 L=310.0' S=0.3226 '/' Capacity=143.25 cfs Outflow=6.10 cfs 0.359 af

Reach R2.7: SWALE Avg. Flow Depth=0.80' Max Vel=4.11 fps Inflow=12.72 cfs 0.791 af
n=0.040 L=705.0' S=0.0298 '/' Capacity=81.81 cfs Outflow=11.74 cfs 0.791 af

Reach R2.9: Stream Avg. Flow Depth=0.72' Max Vel=12.61 fps Inflow=48.96 cfs 6.889 af
n=0.040 L=680.0' S=0.2412 '/' Capacity=256.33 cfs Outflow=47.65 cfs 6.889 af

Reach R3.1: SWALE Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=420.0' S=0.2381 '/' Capacity=123.06 cfs Outflow=0.00 cfs 0.000 af

Reach R4.2: SWALE Avg. Flow Depth=0.63' Max Vel=10.08 fps Inflow=46.19 cfs 3.140 af
n=0.040 L=350.0' S=0.1771 '/' Capacity=219.76 cfs Outflow=45.35 cfs 3.140 af

Reach R4.5: swale Avg. Flow Depth=1.11' Max Vel=9.33 fps Inflow=32.21 cfs 6.394 af
n=0.040 L=560.0' S=0.1071 '/' Capacity=100.17 cfs Outflow=32.14 cfs 6.394 af

Reach R4.7: swale Avg. Flow Depth=0.67' Max Vel=15.11 fps Inflow=33.73 cfs 6.857 af
n=0.040 L=60.0' S=0.4833 '/' Capacity=329.55 cfs Outflow=33.72 cfs 6.857 af

Reach R5.2: SWALE Avg. Flow Depth=1.02' Max Vel=9.39 fps Inflow=29.52 cfs 1.607 af
n=0.040 L=640.0' S=0.1187 '/' Capacity=105.45 cfs Outflow=28.31 cfs 1.607 af

Reach R5.3: SWALE Avg. Flow Depth=1.37' Max Vel=6.19 fps Inflow=40.33 cfs 2.382 af
n=0.040 L=187.0' S=0.0374 '/' Capacity=151.95 cfs Outflow=39.55 cfs 2.382 af

Reach R8.16: SWALE Avg. Flow Depth=0.63' Max Vel=10.64 fps Inflow=35.20 cfs 2.410 af
n=0.040 L=315.0' S=0.2159 '/' Capacity=178.88 cfs Outflow=34.51 cfs 2.410 af

Reach R8.17: SWALE Avg. Flow Depth=0.67' Max Vel=10.88 fps Inflow=39.38 cfs 2.669 af
n=0.040 L=280.0' S=0.2107 '/' Capacity=176.73 cfs Outflow=38.63 cfs 2.669 af

Reach R8.18: Mountain stream Avg. Flow Depth=1.02' Max Vel=5.84 fps Inflow=27.29 cfs 2.873 af
n=0.080 L=870.0' S=0.1736 '/' Capacity=109.52 cfs Outflow=26.95 cfs 2.873 af

Reach R8.2: SWALE Avg. Flow Depth=0.64' Max Vel=5.74 fps Inflow=9.74 cfs 0.645 af
n=0.040 L=407.0' S=0.0713 '/' Capacity=46.39 cfs Outflow=9.36 cfs 0.645 af

Reach R8.21: SWALE Avg. Flow Depth=0.73' Max Vel=13.11 fps Inflow=52.56 cfs 3.301 af
n=0.040 L=520.0' S=0.2788 '/' Capacity=203.30 cfs Outflow=50.96 cfs 3.301 af

Reach R8.4: SWALE Avg. Flow Depth=1.04' Max Vel=8.16 fps Inflow=25.93 cfs 1.641 af
n=0.040 L=525.0' S=0.0876 '/' Capacity=51.44 cfs Outflow=25.08 cfs 1.641 af

Reach R8.6: SWALE Avg. Flow Depth=1.03' Max Vel=9.35 fps Inflow=29.26 cfs 2.030 af
n=0.040 L=345.0' S=0.1159 '/' Capacity=59.17 cfs Outflow=28.82 cfs 2.030 af

Reach R9.10: Swale Avg. Flow Depth=0.41' Max Vel=4.79 fps Inflow=5.53 cfs 3.131 af
n=0.040 L=170.0' S=0.0824 '/' Capacity=136.03 cfs Outflow=5.53 cfs 3.131 af

Reach R9.2: Swale Avg. Flow Depth=0.71' Max Vel=7.17 fps Inflow=18.66 cfs 1.016 af
n=0.040 L=1,250.0' S=0.1016 '/' Capacity=80.39 cfs Outflow=17.49 cfs 1.016 af

Reach R9.3: Swale Avg. Flow Depth=1.04' Max Vel=9.18 fps Inflow=40.23 cfs 2.578 af
n=0.040 L=1,000.0' S=0.1120 '/' Capacity=158.64 cfs Outflow=38.11 cfs 2.578 af

Reach R9.4: Swale Avg. Flow Depth=0.75' Max Vel=7.23 fps Inflow=19.22 cfs 1.410 af
n=0.040 L=540.0' S=0.0981 '/' Capacity=148.51 cfs Outflow=18.42 cfs 1.410 af

Pond 6.2P: BIORETENTION Peak Elev=1,686.65' Storage=1,793 cf Inflow=1.21 cfs 0.064 af
Outflow=0.83 cfs 0.064 af

Pond 6.3P: BIORETENTION Peak Elev=1,686.65' Storage=1,793 cf Inflow=1.21 cfs 0.064 af
Outflow=0.83 cfs 0.064 af

Pond 11.3R: DP11.1 Peak Elev=2,412.77' Storage=868 cf Inflow=49.64 cfs 6.578 af
72.0" Round Culvert x 2.00 n=0.025 L=120.0' S=0.1333 '/' Outflow=49.64 cfs 6.572 af

Pond 11.7R: Culvert Peak Elev=1,895.89' Inflow=152.22 cfs 20.385 af
Outflow=152.22 cfs 20.385 af

Pond 11.9R: Culvert Peak Elev=1,776.83' Storage=3,355 cf Inflow=150.48 cfs 20.388 af
Outflow=149.88 cfs 20.388 af

Pond P1.1: Pond 1.1 Peak Elev=2,163.39' Storage=85,487 cf Inflow=47.81 cfs 3.263 af
Outflow=11.18 cfs 3.262 af

Pond P1.2: BIORETENTION Peak Elev=2,227.66' Storage=3,505 cf Inflow=1.61 cfs 0.085 af
Outflow=0.72 cfs 0.085 af

Pond P1.3: Pond 1.3 Peak Elev=2,168.71' Storage=137,692 cf Inflow=59.33 cfs 5.462 af
Outflow=15.06 cfs 5.458 af

Pond P1.4: BIORETENTION Peak Elev=2,214.77' Storage=17,132 cf Inflow=7.31 cfs 0.411 af
Outflow=1.55 cfs 0.411 af

Pond P11.1: P-1 Peak Elev=2,302.43' Storage=86,832 cf Inflow=37.55 cfs 3.236 af
Outflow=4.60 cfs 3.234 af

Pond P11.10: DRY SWALE Peak Elev=2,193.35' Storage=2,187 cf Inflow=4.96 cfs 0.240 af
Outflow=4.54 cfs 0.240 af

Pond P11.11: BIORETENTION Peak Elev=2,183.19' Storage=8,724 cf Inflow=6.04 cfs 0.329 af
Outflow=0.84 cfs 0.329 af

Pond P11.12: BIORETENTION Peak Elev=2,440.24' Storage=8,400 cf Inflow=8.22 cfs 0.418 af
Outflow=5.15 cfs 0.362 af

Pond P11.14: BIORETENTION Peak Elev=2,411.87' Storage=7,786 cf Inflow=3.74 cfs 0.193 af
Outflow=0.63 cfs 0.193 af

Pond P11.2: BIORETENTION Peak Elev=2,372.92' Storage=20,831 cf Inflow=10.70 cfs 0.588 af
Outflow=2.58 cfs 0.588 af

Pond P11.4: BIORETENTION Peak Elev=2,458.83' Storage=20,770 cf Inflow=9.69 cfs 0.504 af
Outflow=2.09 cfs 0.505 af

Pond P11.6: DRY SWALE Peak Elev=2,483.08' Storage=1,145 cf Inflow=0.95 cfs 0.055 af
Outflow=0.64 cfs 0.055 af

Pond P11.7: BIORETENTION Peak Elev=2,248.82' Storage=8,487 cf Inflow=3.94 cfs 0.200 af
Outflow=0.59 cfs 0.200 af

Pond P11.8: BIORETENTION Peak Elev=2,260.75' Storage=5,519 cf Inflow=2.40 cfs 0.128 af
Outflow=0.51 cfs 0.128 af

Pond P11.9: BIORETENTION Peak Elev=2,219.68' Storage=3,582 cf Inflow=2.75 cfs 0.134 af
Outflow=2.13 cfs 0.134 af

Pond P12.1: Pond 12.1 Peak Elev=2,299.41' Storage=47,844 cf Inflow=24.86 cfs 1.570 af
Outflow=2.67 cfs 1.566 af

Pond P2.1: Pond 2.1 Peak Elev=2,186.79' Storage=100,664 cf Inflow=50.37 cfs 3.600 af
Outflow=10.15 cfs 3.595 af

Pond P4.1: P-1 Peak Elev=2,189.64' Storage=127,923 cf Inflow=79.75 cfs 5.720 af
Primary=30.14 cfs 5.718 af Secondary=0.00 cfs 0.000 af Outflow=30.14 cfs 5.718 af

Pond P6.1: BIORETENTION Peak Elev=1,686.65' Storage=1,793 cf Inflow=1.21 cfs 0.064 af
Outflow=0.83 cfs 0.064 af

Pond P8.1: DRY SWALE Peak Elev=2,309.58' Storage=2,746 cf Inflow=10.66 cfs 0.655 af
Outflow=9.74 cfs 0.645 af

Pond P8.2: P-3 Peak Elev=1,683.01' Storage=74,260 cf Inflow=47.19 cfs 3.123 af
Outflow=18.26 cfs 3.121 af

Pond P8.3: DRY SWALE Peak Elev=1,756.37' Storage=2,155 cf Inflow=5.32 cfs 0.259 af
Outflow=4.93 cfs 0.259 af

Pond P8.4: P-3 Peak Elev=1,669.81' Storage=105,587 cf Inflow=61.06 cfs 3.863 af
Primary=12.78 cfs 3.863 af Secondary=0.00 cfs 0.000 af Outflow=12.78 cfs 3.863 af

Pond P8.5: I-2 Peak Elev=1,678.96' Storage=17,622 cf Inflow=12.60 cfs 0.622 af
Discarded=0.22 cfs 0.548 af Primary=0.09 cfs 0.074 af Outflow=0.30 cfs 0.622 af

Pond P9.2: Pond 9.2 Peak Elev=1,673.65' Storage=91,334 cf Inflow=47.14 cfs 3.132 af
Outflow=5.53 cfs 3.131 af

Pond R1.10: PIPE Peak Elev=2,263.58' Inflow=49.11 cfs 4.362 af
36.0" Round Culvert n=0.020 L=1,125.0' S=0.0667 '/' Outflow=49.11 cfs 4.362 af

Pond R1.11: Pipe Peak Elev=2,192.72' Inflow=51.16 cfs 4.565 af
48.0" Round Culvert n=0.020 L=230.0' S=0.0435 '/' Outflow=51.16 cfs 4.565 af

Pond R1.3: Culvert Peak Elev=2,402.48' Inflow=29.58 cfs 1.941 af
36.0" Round Culvert n=0.013 L=1,255.0' S=0.0653 '/' Outflow=29.58 cfs 1.941 af

Pond R1.4: pipe Peak Elev=2,302.28' Inflow=29.58 cfs 1.941 af
36.0" Round Culvert n=0.020 L=950.0' S=0.0926 '/' Outflow=29.58 cfs 1.941 af

Pond R1.5: Pipe Peak Elev=2,197.44' Inflow=32.80 cfs 2.285 af
36.0" Round Culvert n=0.020 L=120.0' S=0.1250 '/' Outflow=32.80 cfs 2.285 af

Pond R1.6: pipe Peak Elev=2,208.46' Inflow=6.20 cfs 0.344 af
24.0" Round Culvert n=0.020 L=260.0' S=0.0050 '/' Outflow=6.20 cfs 0.344 af

Pond R1.7: Culvert Peak Elev=2,206.85' Inflow=12.51 cfs 0.733 af
60.0" x 36.0" Box Culvert n=0.013 L=50.0' S=0.0200 '/' Outflow=12.51 cfs 0.733 af

Pond R1.9: PIPE Peak Elev=2,298.07' Inflow=42.66 cfs 3.351 af
36.0" Round Culvert n=0.020 L=350.0' S=0.0943 '/' Outflow=42.66 cfs 3.351 af

Pond R11.11: CULVERT Peak Elev=2,479.75' Inflow=14.53 cfs 0.955 af
30.0" Round Culvert n=0.020 L=35.0' S=0.2286 '/' Outflow=14.53 cfs 0.955 af

Pond R11.15: CB Peak Elev=2,454.51' Inflow=27.09 cfs 2.128 af
36.0" Round Culvert n=0.020 L=110.0' S=0.0091 '/' Outflow=27.09 cfs 2.128 af

Pond R11.17: CB Peak Elev=2,437.25' Inflow=29.04 cfs 2.104 af
36.0" Round Culvert n=0.020 L=290.0' S=0.0862 '/' Outflow=29.04 cfs 2.104 af

Pond R11.19: CB Peak Elev=2,421.01' Inflow=7.15 cfs 0.378 af
36.0" Round Culvert n=0.020 L=290.0' S=0.0862 '/' Outflow=7.15 cfs 0.378 af

Pond R11.20: CULVERT Peak Elev=2,460.66' Inflow=15.18 cfs 1.002 af
30.0" Round Culvert n=0.020 L=900.0' S=0.0722 '/' Outflow=15.18 cfs 1.002 af

Pond R11.21: CULVERT Peak Elev=2,395.99' Inflow=23.95 cfs 1.935 af
36.0" Round Culvert n=0.020 L=900.0' S=0.0733 '/' Outflow=23.95 cfs 1.935 af

Pond R11.22: CB Peak Elev=2,460.50' Inflow=1.61 cfs 0.093 af
36.0" Round Culvert n=0.020 L=770.0' S=0.0130 '/' Outflow=1.61 cfs 0.093 af

Pond R11.24: CB Peak Elev=2,487.63' Inflow=12.97 cfs 1.079 af
30.0" Round Culvert n=0.020 L=695.0' S=0.0719 '/' Outflow=12.97 cfs 1.079 af

Pond R11.26: BOX CULVERT Peak Elev=2,312.04' Inflow=41.36 cfs 2.985 af
60.0" x 36.0" Box Culvert n=0.020 L=50.0' S=0.0200 '/' Outflow=41.36 cfs 2.985 af

Pond R11.32: CULVERT Peak Elev=2,436.54' Inflow=27.29 cfs 2.246 af
36.0" Round Culvert n=0.020 L=110.0' S=0.0818 '/' Outflow=27.29 cfs 2.246 af

Pond R12.1: CB Peak Elev=2,310.11' Inflow=2.90 cfs 0.166 af
24.0" Round Culvert n=0.020 L=630.0' S=0.0100 '/' Outflow=2.90 cfs 0.166 af

Pond R2.1: PIPE Peak Elev=2,289.59' Inflow=16.38 cfs 1.148 af
36.0" Round Culvert n=0.020 L=1,185.0' S=0.0616 '/' Outflow=16.38 cfs 1.148 af

Pond R2.2: PIPE Peak Elev=2,214.88' Inflow=21.84 cfs 1.730 af
36.0" Round Culvert n=0.020 L=795.0' S=0.0289 '/' Outflow=21.84 cfs 1.730 af

Pond R2.3: catch basin Peak Elev=2,266.46' Inflow=18.28 cfs 1.162 af
Outflow=18.28 cfs 1.162 af

Pond R2.5: Road culvert Peak Elev=2,230.30' Inflow=10.10 cfs 0.632 af
36.0" Round Culvert n=0.020 L=75.0' S=0.0400 '/' Outflow=10.10 cfs 0.632 af

Pond R2.6: Road Culvert Peak Elev=2,216.81' Inflow=2.62 cfs 0.159 af
18.0" Round Culvert n=0.020 L=30.0' S=0.0333 '/' Outflow=2.62 cfs 0.159 af

Pond R2.8: cb Peak Elev=2,188.97' Inflow=23.59 cfs 1.649 af
36.0" Round Culvert n=0.020 L=450.0' S=0.0600 '/' Outflow=23.59 cfs 1.649 af

Pond R4.1: catch basin Peak Elev=2,290.36' Inflow=46.19 cfs 3.140 af
Outflow=46.19 cfs 3.140 af

Pond R4.3: culvert Peak Elev=2,212.33' Inflow=50.54 cfs 3.591 af
Outflow=50.54 cfs 3.591 af

Pond R4.4: CULVERT Peak Elev=2,183.31' Inflow=30.14 cfs 5.718 af
36.0" Round Culvert n=0.020 L=580.0' S=0.1962 '/' Outflow=30.14 cfs 5.718 af

Pond R4.6: CULVERT Peak Elev=2,006.74' Inflow=33.73 cfs 6.857 af
36.0" Round Culvert n=0.020 L=50.0' S=0.0200 '/' Outflow=33.73 cfs 6.857 af

Pond R4.8: CULVERT Peak Elev=2,094.09' Inflow=14.00 cfs 0.676 af
24.0" Round Culvert n=0.020 L=150.0' S=0.1667 '/' Outflow=14.00 cfs 0.676 af

Pond R5.1: CULVERT Peak Elev=1,906.72' Inflow=29.52 cfs 1.607 af
33.0" Round Culvert n=0.020 L=810.0' S=0.1000 '/' Outflow=29.52 cfs 1.607 af

Pond R8.1: CULVERT Peak Elev=2,309.55' Inflow=9.74 cfs 0.645 af
24.0" Round Culvert n=0.020 L=275.0' S=0.0145 '/' Outflow=9.74 cfs 0.645 af

Pond R8.10: CB Peak Elev=1,979.06' Inflow=57.35 cfs 3.914 af
45.0" Round Culvert n=0.020 L=765.0' S=0.1007 '/' Outflow=57.35 cfs 3.914 af

Pond R8.12: CULVERT Peak Elev=1,904.02' Inflow=18.15 cfs 1.094 af
30.0" Round Culvert n=0.020 L=40.0' S=0.0750 '/' Outflow=18.15 cfs 1.094 af

Pond R8.13: CB Peak Elev=1,899.53' Inflow=75.11 cfs 5.007 af
48.0" Round Culvert n=0.020 L=835.0' S=0.0862 '/' Outflow=75.11 cfs 5.007 af

Pond R8.15: CB Peak Elev=1,823.77' Inflow=87.76 cfs 5.711 af
Primary=52.56 cfs 3.301 af Secondary=35.20 cfs 2.410 af Outflow=87.76 cfs 5.711 af

Pond R8.20: PIPE Peak Elev=1,819.17' Inflow=52.56 cfs 3.301 af
42.0" Round Culvert n=0.020 L=220.0' S=0.0045 '/' Outflow=52.56 cfs 3.301 af

Pond R8.22: New Culvert Peak Elev=1,667.91' Inflow=59.84 cfs 10.842 af
Outflow=59.84 cfs 10.842 af

Pond R8.3: CULVERT Peak Elev=2,274.17' Inflow=25.93 cfs 1.641 af
Outflow=25.93 cfs 1.641 af

Pond R8.5: CULVERT Peak Elev=2,224.26' Inflow=29.26 cfs 2.030 af
Outflow=29.26 cfs 2.030 af

Pond R8.7: CULVERT Peak Elev=2,181.05' Inflow=46.72 cfs 3.279 af
42.0" Round Culvert n=0.020 L=200.0' S=0.0750 '/' Outflow=46.72 cfs 3.279 af

Pond R8.8: CB Peak Elev=2,162.95' Inflow=50.57 cfs 3.518 af
42.0" Round Culvert n=0.020 L=880.0' S=0.0943 '/' Outflow=50.57 cfs 3.518 af

Pond R8.9: CB Peak Elev=2,077.10' Inflow=53.96 cfs 3.719 af
42.0" Round Culvert n=0.020 L=900.0' S=0.1056 '/' Outflow=53.96 cfs 3.719 af

Pond R9.1: pipes Peak Elev=1,817.57' Inflow=12.28 cfs 0.959 af
Outflow=12.28 cfs 0.959 af

Pond R9.11: Culvert Peak Elev=1,660.83' Inflow=39.59 cfs 5.709 af
36.0" Round Culvert n=0.020 L=50.0' S=0.0400 '/' Outflow=39.59 cfs 5.709 af

Pond R9.2A: Culvert Peak Elev=1,774.36' Inflow=40.23 cfs 2.578 af
48.0" Round Culvert n=0.020 L=40.0' S=0.0500 '/' Outflow=40.23 cfs 2.578 af

Pond R9.5: Culvert Peak Elev=1,715.40' Inflow=16.93 cfs 1.023 af
54.0" Round Culvert n=0.020 L=60.0' S=0.0667 '/' Outflow=16.93 cfs 1.023 af

Pond R9.6: Culvert Peak Elev=1,685.04' Inflow=4.57 cfs 0.281 af
18.0" Round Culvert n=0.020 L=100.0' S=0.0200 '/' Outflow=4.57 cfs 0.281 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.1~Link 1.1L.hce Inflow=0.77 cfs 0.109 af
Area= 0.275 ac 100.00% Imperv. Primary=0.77 cfs 0.109 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.2~Link 1.2L.hce Inflow=0.66 cfs 0.105 af
Area= 0.264 ac 100.00% Imperv. Primary=0.66 cfs 0.105 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.3~Link 1.3L.hce Inflow=0.85 cfs 0.059 af
Area= 0.149 ac 100.00% Imperv. Primary=0.85 cfs 0.059 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.4~Link 1.4L.hce Inflow=0.40 cfs 0.064 af
Area= 0.161 ac 100.00% Imperv. Primary=0.40 cfs 0.064 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.5~Link 1.5L.hce Inflow=1.24 cfs 0.196 af
Area= 0.494 ac 100.00% Imperv. Primary=1.24 cfs 0.196 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.6~Link 1.6L.hce Inflow=1.04 cfs 0.150 af
Area= 0.379 ac 100.00% Imperv. Primary=1.04 cfs 0.150 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.9~Link 1.9L.hce Inflow=2.67 cfs 0.210 af
Area= 0.528 ac 100.00% Imperv. Primary=2.67 cfs 0.210 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.10~Link 2.10L.hce Inflow=2.12 cfs 0.223 af
Area= 0.562 ac 100.00% Imperv. Primary=2.12 cfs 0.223 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.1~Link 2.1L.hce Inflow=0.38 cfs 0.046 af
Area= 0.115 ac 100.00% Imperv. Primary=0.38 cfs 0.046 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.3~Link 2.3L.hce Inflow=0.60 cfs 0.096 af
Area= 0.241 ac 100.00% Imperv. Primary=0.60 cfs 0.096 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.6~Link 2.6L.hce Inflow=1.01 cfs 0.160 af
Area= 0.402 ac 100.00% Imperv. Primary=1.01 cfs 0.160 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.7~Link 2.7L.hce Inflow=1.01 cfs 0.160 af
Area= 0.402 ac 100.00% Imperv. Primary=1.01 cfs 0.160 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.8~Link 2.8L.hce Inflow=0.24 cfs 0.036 af
Area= 0.092 ac 100.00% Imperv. Primary=0.24 cfs 0.036 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.9~Link 2.9L.hce Inflow=1.61 cfs 0.255 af
Area= 0.643 ac 100.00% Imperv. Primary=1.61 cfs 0.255 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.1~Link 4.1L.hce Inflow=1.48 cfs 0.232 af
Area= 0.585 ac 100.00% Imperv. Primary=1.48 cfs 0.232 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.3~Link 4.3L.hce Inflow=3.46 cfs 0.547 af
Area= 1.377 ac 100.00% Imperv. Primary=3.46 cfs 0.547 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.4~Link 4.4L.hce Inflow=0.64 cfs 0.100 af
Area= 0.253 ac 100.00% Imperv. Primary=0.64 cfs 0.100 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 5.2~Link 5.2L.hce Inflow=0.84 cfs 0.132 af
Area= 0.333 ac 100.00% Imperv. Primary=0.84 cfs 0.132 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.10~Link 8.10L.hce Inflow=1.61 cfs 0.255 af
Area= 0.643 ac 100.00% Imperv. Primary=1.61 cfs 0.255 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.11~Link 8.11L.hce Inflow=0.20 cfs 0.032 af
Area= 0.080 ac 100.00% Imperv. Primary=0.20 cfs 0.032 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.15~Link 8.15L.hce Inflow=0.20 cfs 0.032 af
Area= 0.080 ac 100.00% Imperv. Primary=0.20 cfs 0.032 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.1~Link 8.1L.hce Inflow=0.20 cfs 0.032 af
Area= 0.080 ac 100.00% Imperv. Primary=0.20 cfs 0.032 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.4~Link 8.4L.hce Inflow=0.80 cfs 0.114 af
Area= 0.287 ac 100.00% Imperv. Primary=0.80 cfs 0.114 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.5~Link 8.5L.hce Inflow=0.75 cfs 0.118 af
Area= 0.298 ac 100.00% Imperv. Primary=0.75 cfs 0.118 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.8~Link 8.8L.hce Inflow=0.60 cfs 0.096 af
Area= 0.241 ac 100.00% Imperv. Primary=0.60 cfs 0.096 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.10~Link 9.10L.hce Inflow=0.81 cfs 0.128 af
Area= 0.321 ac 100.00% Imperv. Primary=0.81 cfs 0.128 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.11~Link 9.11L.hce Inflow=1.01 cfs 0.160 af
Link Area= 0.402 ac 100.00% Imperv. Primary=1.01 cfs 0.160 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.1~Link 9.1L.hce Inflow=0.60 cfs 0.096 af
Link Area= 0.241 ac 100.00% Imperv. Primary=0.60 cfs 0.096 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.5~Link 9.5L.hce Inflow=0.24 cfs 0.036 af
Link Area= 0.092 ac 100.00% Imperv. Primary=0.24 cfs 0.036 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.6~Link 9.6L.hce Inflow=1.41 cfs 0.223 af
Link Area= 0.562 ac 100.00% Imperv. Primary=1.41 cfs 0.223 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.14~Link 11.14L.hce Inflow=0.20 cfs 0.032 af
Link Area= 0.080 ac 100.00% Imperv. Primary=0.20 cfs 0.032 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.18~Link 11.18L.hce Inflow=0.26 cfs 0.041 af
Link Area= 0.103 ac 100.00% Imperv. Primary=0.26 cfs 0.041 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.25~Link 11.25L.hce Inflow=0.40 cfs 0.064 af
Link Area= 0.161 ac 100.00% Imperv. Primary=0.40 cfs 0.064 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.33~Link 11.33L.hce Inflow=0.20 cfs 0.032 af
Link Area= 0.080 ac 100.00% Imperv. Primary=0.20 cfs 0.032 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.3~Link 11.3L.hce Inflow=1.17 cfs 0.173 af
Link Area= 0.436 ac 100.00% Imperv. Primary=1.17 cfs 0.173 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 12.2~Link 12.2L.hce Inflow=1.08 cfs 0.150 af
Link Area= 0.379 ac 100.00% Imperv. Primary=1.08 cfs 0.150 af

Total Runoff Area = 461.192 ac Runoff Volume = 91.623 af Average Runoff Depth = 2.38"
93.52% Pervious = 431.313 ac 6.48% Impervious = 29.879 ac

Summary for Subcatchment 1.10S: Area 1.10

Runoff = 1.61 cfs @ 11.96 hrs, Volume= 0.085 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
8,640	98	Paved parking, HSG C
2,000	71	Meadow, non-grazed, HSG C
10,640	93	Weighted Average
2,000		18.80% Pervious Area
8,640		81.20% Impervious Area

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

Summary for Subcatchment 1.11S: Area 1.11

Runoff = 2.01 cfs @ 11.99 hrs, Volume= 0.117 af, Depth= 4.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
12,060	98	Paved parking, HSG C
1,400	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
13,460	96	Weighted Average
1,400		10.40% Pervious Area
12,060		89.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	62	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	38	0.0300	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	130	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.0	230	Total			

Summary for Subcatchment 1.12S: Area 1.12

Runoff = 4.01 cfs @ 12.04 hrs, Volume= 0.247 af, Depth= 3.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
17,805	98	Paved parking, HSG C
3,410	98	Roofs, HSG C
13,975	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
35,190	88	Weighted Average
13,975		39.71% Pervious Area
21,215		60.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	96	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	545	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.4	641	Total			

Summary for Subcatchment 1.13S: Area 1.13

Runoff = 4.96 cfs @ 11.97 hrs, Volume= 0.240 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
53,050	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
53,050	74	Weighted Average
53,050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	50	0.2500	0.39		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.1	50	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.14S: Area 1.14

Runoff = 1.00 cfs @ 11.98 hrs, Volume= 0.048 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
11,800	71	Meadow, non-grazed, HSG C
11,800		100.00% Pervious Area

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

Summary for Subcatchment 1.15S: Area 1.15

Runoff = 3.79 cfs @ 11.96 hrs, Volume= 0.217 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
8,040	98	Paved parking, HSG C
15,790	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
23,830	98	Weighted Average
23,830		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**
5.0	0	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.16S: Area 1.16

Runoff = 2.54 cfs @ 11.96 hrs, Volume= 0.146 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
15,985	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
15,985	98	Weighted Average
15,985		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**
5.0	0	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.17S: Area 1.17

Runoff = 3.13 cfs @ 11.97 hrs, Volume= 0.152 af, Depth= 2.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
8,217	72	Woods/grass comb., Good, HSG C
2,400	74	>75% Grass cover, Good, HSG C
19,624	79	Woods/grass comb., Good, HSG D
30,241	77	Weighted Average
30,241		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	90	0.2500	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.1	15	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	360	0.1000	6.67	37.22	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=0.70' Z= 7.1 '/' Top.W=12.94' n= 0.040 Mountain streams
4.4	465	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.1S: Area-1.1

Runoff = 78.67 cfs @ 12.17 hrs, Volume= 6.486 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,500,780	72	Woods/grass comb., Good, HSG C
11,590	79	Woods/grass comb., Good, HSG D
30,280	74	>75% Grass cover, Good, HSG C
1,542,650	72	Weighted Average
1,542,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	150	0.1200	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.4	1,350	0.3700	3.04		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.4	545	0.2000	24.25	698.34	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=4.50' D=3.00' Z= 1.7 '/' Top.W=14.70' n= 0.040 Mountain streams
0.1	250	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00'

n= 0.040 Mountain streams

22.9	2,295	Total

Summary for Subcatchment 1.2S: Area 1.2

Runoff = 28.93 cfs @ 12.07 hrs, Volume= 1.837 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
41,210	74	>75% Grass cover, Good, HSG C
395,569	72	Woods/grass comb., Good, HSG C
0	79	Woods/grass comb., Good, HSG D
436,779	72	Weighted Average
436,779		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.3300	0.23		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
6.4	1,150	0.3600	3.00		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	260	0.0500	7.40	38.86	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
14.2	1,510	Total			

Summary for Subcatchment 1.3S: Area-1.3

Runoff = 7.65 cfs @ 12.09 hrs, Volume= 0.523 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
124,373	72	Woods/grass comb., Good, HSG C
124,373		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0750	0.13		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
3.3	385	0.1500	1.94		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	265	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00' n= 0.040 Mountain streams
16.5	750	Total			

Summary for Subcatchment 1.4S: Area 1.4

Runoff = 27.17 cfs @ 12.04 hrs, Volume= 1.565 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
33,624	74	>75% Grass cover, Good, HSG C
77,608	79	Woods/grass comb., Good, HSG D
234,672	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
345,904	74	Weighted Average
345,904		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	94	0.1100	1.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.4	100	0.0750	0.68		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
3.9	450	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	617	0.0950	22.37	1,509.82	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=5.00' D=5.00' Z= 1.7 '/' Top.W=22.00' n= 0.040 Mountain streams
11.4	1,361	Total			

Summary for Subcatchment 1.5S: Area 1.5

Runoff = 41.52 cfs @ 12.13 hrs, Volume= 3.155 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
702,889	72	Woods/grass comb., Good, HSG C
39,952	74	>75% Grass cover, Good, HSG C
0	98	Roofs, HSG C
7,435	79	Woods/grass comb., Good, HSG D
750,276	72	Weighted Average
750,276		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.1400	0.16		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
8.7	1,525	0.3400	2.92		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	120	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	220	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
19.9	1,965	Total			

Summary for Subcatchment 1.6S: Area 1.6

Runoff = 12.06 cfs @ 11.97 hrs, Volume= 0.583 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,395	98	Paved parking, HSG C
0	98	Roofs, HSG C
65,620	74	>75% Grass cover, Good, HSG C
16,160	79	Woods/grass comb., Good, HSG D
45,695	72	Woods/grass comb., Good, HSG C
128,870	74	Weighted Average
127,475		98.92% Pervious Area
1,395		1.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.1000	2.21		**Shallow Concentrated Flow, lawn** Short Grass Pasture Kv= 7.0 fps
1.8	225	0.1800	2.12		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
1.3	140	0.1300	1.80		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
3.9	465	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.7S: Area 1.7

Runoff = 6.20 cfs @ 11.96 hrs, Volume= 0.344 af, Depth= 4.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
36,835	98	Paved parking, HSG C
0	98	Roofs, HSG C
2,780	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
39,615	96	Weighted Average
2,780		7.02% Pervious Area
36,835		92.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	55	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	1,090	0.1000	22.77	71.54	**Pipe Channel, Road culvert** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
1.9	1,245	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.8S: Area 1.8

Runoff = 5.07 cfs @ 11.97 hrs, Volume= 0.245 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
5,915	72	Woods/grass comb., Good, HSG C
44,225	74	>75% Grass cover, Good, HSG C
4,060	79	Woods/grass comb., Good, HSG D
54,200	74	Weighted Average
54,200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	60	0.3600	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.5	40	0.1100	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	40	0.1100	2.32		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.9	140	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.9S: Area 1.9

Runoff = 16.53 cfs @ 11.97 hrs, Volume= 0.802 af, Depth= 2.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
29,215	98	Paved parking, HSG C
0	98	Roofs, HSG C
50,280	74	>75% Grass cover, Good, HSG C
80,315	72	Woods/grass comb., Good, HSG C
159,810	77	Weighted Average
130,595		81.72% Pervious Area
29,215		18.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.1500	1.94		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	55	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	575	0.0200	5.08	20.33	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
3.1	730	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.10S: Area 2.10

Runoff = 21.70 cfs @ 12.08 hrs, Volume= 1.421 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
3,185	98	Paved parking, HSG C
152,040	74	>75% Grass cover, Good, HSG C
54,755	79	Woods/grass comb., Good, HSG D
93,245	72	Woods/grass comb., Good, HSG C
303,225	75	Weighted Average
300,040		98.95% Pervious Area
3,185		1.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2500	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
6.9	625	0.0900	1.50		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
0.2	240	0.2000	19.45	233.42	**Trap/Vee/Rect Channel Flow, Point 45** Bot.W=5.00' D=2.00' Z= 0.5 '/' Top.W=7.00' n= 0.040 Mountain streams
15.2	965	Total			

Summary for Subcatchment 2.11S: Downstream Area for Additional Analysis

Runoff = 40.54 cfs @ 11.99 hrs, Volume= 2.019 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
42,335	74	>75% Grass cover, Good, HSG C
437,835	72	Woods/grass comb., Good, HSG C
480,170	72	Weighted Average
480,170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	50	0.3500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	50	0.3500	4.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	760	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.4	860	Total			

Summary for Subcatchment 2.1S: Area 2.1

Runoff = 16.02 cfs @ 12.10 hrs, Volume= 1.102 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
22,900	74	>75% Grass cover, Good, HSG C
239,181	72	Woods/grass comb., Good, HSG C
262,081	72	Weighted Average
262,081		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	100	0.2200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.5	1,300	0.3300	2.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	120	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	65	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
16.7	1,585	Total			

Summary for Subcatchment 2.2S: Area 2.2

Runoff = 10.15 cfs @ 11.96 hrs, Volume= 0.582 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
63,870	98	Paved parking, HSG C
63,870		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	350	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	1,550	0.0600	13.30	65.31	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.020 Corrugated PE, corrugated interior
3.3	1,910	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.3S: Area 2.3

Runoff = 8.31 cfs @ 11.97 hrs, Volume= 0.401 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
66,110	74	>75% Grass cover, Good, HSG C
25,880	72	Woods/grass comb., Good, HSG C
91,990	73	Weighted Average
91,990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1800	0.40		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	108	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.8	208	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.4S: Area 2.4

Runoff = 2.41 cfs @ 11.96 hrs, Volume= 0.138 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
15,150	98	Paved parking, HSG C
0	98	Roofs, HSG C
15,150	98	Weighted Average
15,150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.0	350	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	525	0.0200	8.67	61.31	**Pipe Channel,** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.020 Corrugated PE, corrugated interior
3.2	885	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.5S: Area 2.5

Runoff = 1.27 cfs @ 11.96 hrs, Volume= 0.073 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
8,000	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,000	98	Weighted Average
8,000		100.00% Impervious Area

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

Summary for Subcatchment 2.6S: Area 2.6

Runoff = 17.45 cfs @ 12.03 hrs, Volume= 1.003 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
76,450	74	>75% Grass cover, Good, HSG C
153,355	72	Woods/grass comb., Good, HSG C
229,805	73	Weighted Average
229,805		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.3200	0.23		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.3	580	0.3500	2.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	120	0.2500	3.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	62	0.0470	8.56	102.77	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
11.3	862	Total			

Summary for Subcatchment 2.7S: Area 2.7

Runoff = 9.79 cfs @ 11.97 hrs, Volume= 0.473 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
52,563	74	>75% Grass cover, Good, HSG C
55,830	72	Woods/grass comb., Good, HSG C
108,393	73	Weighted Average
108,393		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2200	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.1	25	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	590	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow, roadside swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
5.0	715	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.8S: Area 2.8

Runoff = 2.54 cfs @ 11.97 hrs, Volume= 0.123 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
9,160	74	>75% Grass cover, Good, HSG C
18,940	72	Woods/grass comb., Good, HSG C
28,100	73	Weighted Average
28,100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.2800	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.8	265	0.2300	2.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	365	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.9S: Area 2.9

Runoff = 11.22 cfs @ 12.01 hrs, Volume= 0.603 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
78,865	74	>75% Grass cover, Good, HSG C
59,280	72	Woods/grass comb., Good, HSG C
138,145	73	Weighted Average
138,145		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.1	50	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	55	0.1800	2.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	525	0.0200	5.59	67.04	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
9.4	680	Total			

Summary for Subcatchment 2aS: Area 2A

Runoff = 4.33 cfs @ 12.01 hrs, Volume= 0.232 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
45,425	72	Woods/grass comb., Good, HSG C
9,715	74	>75% Grass cover, Good, HSG C
55,140	72	Weighted Average
55,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.5	90	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.3	190	Total			

Summary for Subcatchment 2bS: Area 2b

Runoff = 17.25 cfs @ 12.00 hrs, Volume= 0.891 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
52,600	74	>75% Grass cover, Good, HSG C
151,520	72	Woods/grass comb., Good, HSG C
204,120	73	Weighted Average
204,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	20	0.2500	0.33		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
6.8	80	0.2500	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.6	60	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.4	160	Total			

Summary for Subcatchment 3.1S: Area 3.1

Runoff = 9.25 cfs @ 11.98 hrs, Volume= 0.442 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
105,215	72	Woods/grass comb., Good, HSG C
105,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.7	100	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	395	0.1100	11.15	83.65	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.0	595	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.1S: Area 4.1

Runoff = 42.06 cfs @ 12.06 hrs, Volume= 2.614 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
89,715	74	>75% Grass cover, Good, HSG C
531,975	72	Woods/grass comb., Good, HSG C
621,690	72	Weighted Average
621,690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	100	0.2000	0.28		**Sheet Flow, ski trail** Grass: Dense n= 0.240 P2= 3.00"
7.4	1,175	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	115	0.0350	6.61	59.47	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=1.50' Z= 2.0 '/' Top.W=9.00' n= 0.040 Earth, cobble bottom, clean sides
13.6	1,390	Total			

Summary for Subcatchment 4.2S: Area 4.2

Runoff = 5.12 cfs @ 11.96 hrs, Volume= 0.294 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
32,235	98	Paved parking, HSG C
32,235		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	40	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.3S: Area 4.3

Runoff = 27.70 cfs @ 11.99 hrs, Volume= 1.372 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
24,400	98	Paved parking, HSG C
0	98	Roofs, HSG C
159,890	74	>75% Grass cover, Good, HSG C
108,600	72	Woods/grass comb., Good, HSG C
292,890	75	Weighted Average
268,490		91.67% Pervious Area
24,400		8.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.6	260	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.5	135	0.0100	4.48	33.63	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
1.4	565	0.0200	6.62	20.80	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
7.2	1,060	Total			

Summary for Subcatchment 4.4S: Area 4.4

Runoff = 7.12 cfs @ 11.98 hrs, Volume= 0.350 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
7,500	98	Paved parking, HSG C
0	98	Roofs, HSG C
31,290	74	>75% Grass cover, Good, HSG C
33,450	72	Woods/grass comb., Good, HSG C
72,240	76	Weighted Average
64,740		89.62% Pervious Area
7,500		10.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1200	0.34		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.3	160	0.1800	2.12		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.7	120	0.1500	2.71		**Shallow Concentrated Flow, grass** Short Grass Pasture Kv= 7.0 fps
6.9	380	Total			

Summary for Subcatchment 4.5S: Area 4.5

Runoff = 4.35 cfs @ 11.97 hrs, Volume= 0.210 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
46,440	74	>75% Grass cover, Good, HSG C
46,440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	30	0.1250	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.9	30	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.6S: Area-4.6

Runoff = 14.00 cfs @ 11.97 hrs, Volume= 0.676 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
87,875	72	Woods/grass comb., Good, HSG C
67,135	74	>75% Grass cover, Good, HSG C
155,010	73	Weighted Average
155,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	900	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, roadside swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
1.2	900	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.7S: Area-4.7

Runoff = 9.07 cfs @ 12.00 hrs, Volume= 0.463 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
88,830	72	Woods/grass comb., Good, HSG C
21,320	74	>75% Grass cover, Good, HSG C
110,150	72	Weighted Average
110,150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.3400	0.23		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	220	0.5200	3.61		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
8.1	320	Total			

Summary for Subcatchment 4.8: Area-4.8

Runoff = 0.10 cfs @ 12.07 hrs, Volume= 0.007 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,585	72	Woods/grass comb., Good, HSG C
1,585		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	100	0.2200	0.11		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"

Summary for Subcatchment 5.1S: Area-5.1

Runoff = 39.27 cfs @ 12.05 hrs, Volume= 2.326 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
553,165	72	Woods/grass comb., Good, HSG C
553,165		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.3200	0.23		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.6	280	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	910	0.0900	9.72	48.60	**Channel Flow, Grassed/Roadside Swale** Area= 5.0 sf Perim= 7.5' r= 0.67' n= 0.035 Earth, dense weeds
1.7	910	0.0800	9.09	18.18	**Trap/Vee/Rect Channel Flow, DITCH** Bot.W=1.00' D=1.00' Z= 1.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
12.2	2,200	Total			

Summary for Subcatchment 5.2S: Area-5.2

Runoff = 11.73 cfs @ 12.02 hrs, Volume= 0.643 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
55,210	74	>75% Grass cover, Good, HSG C
4,470	79	Woods/grass comb., Good, HSG D
87,655	72	Woods/grass comb., Good, HSG C
147,335	73	Weighted Average
147,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	50	0.2000	0.16		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
4.2	225	0.1300	0.90		**Shallow Concentrated Flow, WETLAND FLOW** Forest w/Heavy Litter Kv= 2.5 fps
0.6	420	0.1100	10.98	57.63	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.9	695	Total			

Summary for Subcatchment 5.3S: Area 5.3

Runoff = 29.52 cfs @ 12.02 hrs, Volume= 1.607 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
23,664	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
358,601	72	Woods/grass comb., Good, HSG C
382,265	72	Weighted Average
382,265		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.4000	0.25		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	238	0.4000	3.16		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
1.7	1,190	0.1200	11.47	60.20	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.7	1,528	Total			

Summary for Subcatchment 6.1S: Area 6.1

Runoff = 1.21 cfs @ 11.96 hrs, Volume= 0.064 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.2S: Area 6.2

Runoff = 1.21 cfs @ 11.96 hrs, Volume= 0.064 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.3S: Area 6.3

Runoff = 1.21 cfs @ 11.96 hrs, Volume= 0.064 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.4S: AREA 6.1

Runoff = 5.84 cfs @ 11.98 hrs, Volume= 0.280 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
	0	98	Roofs, HSG C
	0	74	>75% Grass cover, Good, HSG C
	66,488	72	Woods/grass comb., Good, HSG C
	66,488	72	Weighted Average
	66,488		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.1600	0.42		**Sheet Flow, meadow** Range n= 0.130 P2= 3.00"
1.7	280	0.1500	2.71		**Shallow Concentrated Flow, meadow** Short Grass Pasture Kv= 7.0 fps
5.6	380	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 7.1S: Area-7

Runoff = 8.85 cfs @ 11.98 hrs, Volume= 0.428 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
105,675	71	Meadow, non-grazed, HSG C
105,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
0.3	50	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
6.4	150	Total			

Summary for Subcatchment 8.10S: Area 8.10

Runoff = 19.92 cfs @ 11.99 hrs, Volume= 0.993 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
17,810	98	Paved parking, HSG C
0	98	Roofs, HSG C
106,562	74	>75% Grass cover, Good, HSG C
87,646	72	Woods/grass comb., Good, HSG C
212,018	75	Weighted Average
194,208		91.60% Pervious Area
17,810		8.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1200	0.34		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.7	250	0.2500	2.50		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.8	412	0.0600	8.11	42.57	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
7.4	762	Total			

Summary for Subcatchment 8.11S: Area-8.11

Runoff = 10.95 cfs @ 11.98 hrs, Volume= 0.530 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
48,233	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
73,167	72	Woods/grass comb., Good, HSG C
121,400	73	Weighted Average
121,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	100	0.2000	0.41		**Sheet Flow, field** Grass: Short n= 0.150 P2= 3.00"
2.0	210	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	275	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
6.4	585	Total			

Summary for Subcatchment 8.12S: Area 8.12

Runoff = 3.88 cfs @ 11.96 hrs, Volume= 0.200 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
17,800	98	Paved parking, HSG C
0	98	Roofs, HSG C
9,216	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
27,016	90	Weighted Average
9,216		34.11% Pervious Area
17,800		65.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	265	0.1300	7.32		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
0.7	580	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
1.6	865	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.13S: Area 8.13

Runoff = 3.78 cfs @ 11.96 hrs, Volume= 0.195 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
17,600	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,692	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
26,292	90	Weighted Average
8,692		33.06% Pervious Area
17,600		66.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.8	275	0.0800	5.74		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
0.6	500	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
1.7	795	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.15S: Area 8.15

Runoff = 11.27 cfs @ 11.97 hrs, Volume= 0.554 af, Depth= 3.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
32,140	98	Paved parking, HSG C
0	98	Roofs, HSG C
39,800	74	>75% Grass cover, Good, HSG C
22,178	72	Woods/grass comb., Good, HSG C
94,118	82	Weighted Average
61,978		65.85% Pervious Area
32,140		34.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	270	0.1200	7.03		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
1.6	1,307	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
2.5	1,597	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.16S: Area 8.16

Runoff = 2.40 cfs @ 11.97 hrs, Volume= 0.118 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
6,200	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,876	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
5,500	72	Woods/grass comb., Good, HSG C
20,576	81	Weighted Average
14,376		69.87% Pervious Area
6,200		30.13% Impervious Area

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

Summary for Subcatchment 8.17S: Area 8.17

Runoff = 12.60 cfs @ 11.97 hrs, Volume= 0.622 af, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
33,680	98	Paved parking, HSG C
6,500	98	Roofs, HSG C
27,455	71	Meadow, non-grazed, HSG C
34,828	74	>75% Grass cover, Good, HSG C
102,463	83	Weighted Average
62,283		60.79% Pervious Area
40,180		39.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	250	0.1200	7.03		**Shallow Concentrated Flow, road/curb** Paved Kv= 20.3 fps
0.9	610	0.0800	10.93	19.31	**Pipe Channel, pipe system** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.020 Corrugated PE, corrugated interior
0.7	450	0.1090	11.10	83.27	**Trap/Vee/Rect Channel Flow, Roadside swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
2.5	1,330	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.1S: Area-8.1

Runoff = 17.23 cfs @ 12.02 hrs, Volume= 0.953 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
18,421	74	>75% Grass cover, Good, HSG C
6,750	79	Woods/grass comb., Good, HSG D
201,504	72	Woods/grass comb., Good, HSG C
226,675	72	Weighted Average
226,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	100	0.2000	0.28		**Sheet Flow, field** Grass: Dense n= 0.240 P2= 3.00"
1.4	210	0.1200	2.42		**Shallow Concentrated Flow, wetland** Short Grass Pasture Kv= 7.0 fps
2.8	807	0.0800	4.76	35.67	**Trap/Vee/Rect Channel Flow, STREAM** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.080 Earth, long dense weeds
10.1	1,117	Total			

Summary for Subcatchment 8.2S: Area 8.2

Runoff = 8.69 cfs @ 12.00 hrs, Volume= 0.454 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
69,295	71	Meadow, non-grazed, HSG C
21,505	72	Woods/grass comb., Good, HSG C
9,600	98	Roofs, HSG C
100,400	74	Weighted Average
90,800		90.44% Pervious Area
9,600		9.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	40	0.3000	0.41		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.00"
5.0	60	0.3000	0.20		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	350	0.3000	2.74		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
8.7	450	Total			

Summary for Subcatchment 8.3S: Area 8.3

Runoff = 5.32 cfs @ 11.97 hrs, Volume= 0.259 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
8,440	98	Paved parking, HSG C
0	98	Roofs, HSG C
32,950	74	>75% Grass cover, Good, HSG C
8,500	72	Woods/grass comb., Good, HSG C
49,890	78	Weighted Average
41,450		83.08% Pervious Area
8,440		16.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	415	0.0300	4.69	14.06	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.040 Earth, cobble bottom, clean sides
1.5	415	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.4S: Area 8.4

Runoff = 17.49 cfs @ 12.03 hrs, Volume= 0.980 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
7,416	98	Paved parking, HSG C
0	98	Roofs, HSG C
25,680	74	>75% Grass cover, Good, HSG C
191,475	72	Woods/grass comb., Good, HSG C
224,571	73	Weighted Average
217,155		96.70% Pervious Area
7,416		3.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.4	450	0.4000	3.16		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	340	0.0800	9.36	49.15	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
10.5	890	Total			

Summary for Subcatchment 8.5S: Area-8.5

Runoff = 26.85 cfs @ 12.28 hrs, Volume= 2.754 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
21,540	74	>75% Grass cover, Good, HSG C
7,015	79	Woods/grass comb., Good, HSG D
626,530	72	Woods/grass comb., Good, HSG C
655,085	72	Weighted Average
655,085		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0800	0.13		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	117	0.2200	2.35		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
17.8	1,036	0.1500	0.97		**Shallow Concentrated Flow, wetland flow** Forest w/Heavy Litter Kv= 2.5 fps
0.8	515	0.1700	11.11	44.45	**Trap/Vee/Rect Channel Flow, STREAM** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
32.1	1,768	Total			

Summary for Subcatchment 8.6S: Area 8.6

Runoff = 10.66 cfs @ 12.05 hrs, Volume= 0.655 af, Depth= 2.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
21,368	98	Paved parking, HSG C
12,400	98	Roofs, HSG C
38,886	74	>75% Grass cover, Good, HSG C
45,612	72	Woods/grass comb., Good, HSG C
118,266	80	Weighted Average
84,498		71.45% Pervious Area
33,768		28.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1200	0.15		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	194	0.4000	3.16		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.8	193	0.0700	3.97		**Shallow Concentrated Flow, grass** Grassed Waterway Kv= 15.0 fps
0.7	250	0.0200	6.34	47.56	**Trap/Vee/Rect Channel Flow, dry swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
13.3	737	Total			

Summary for Subcatchment 8.7S: Area 8.7

Runoff = 18.09 cfs @ 12.01 hrs, Volume= 0.995 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
46,184	98	Paved parking, HSG C
10,440	98	Roofs, HSG C
42,927	74	>75% Grass cover, Good, HSG C
74,697	72	Woods/grass comb., Good, HSG C
174,248	81	Weighted Average
117,624		67.50% Pervious Area
56,624		32.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.3100	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	140	0.3100	2.78		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.4	70	0.2000	3.13		**Shallow Concentrated Flow, grass** Short Grass Pasture Kv= 7.0 fps
0.2	50	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	92	0.0200	6.34	47.56	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
0.1	50	0.0400	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
0.7	408	0.0800	9.36	49.15	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.8	910	Total			

Summary for Subcatchment 8.8S: Area 8.8

Runoff = 6.08 cfs @ 11.97 hrs, Volume= 0.294 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Roofs, HSG C
19,048	74	>75% Grass cover, Good, HSG C
48,270	72	Woods/grass comb., Good, HSG C
67,318	73	Weighted Average
67,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	524	0.0850	7.89	23.66	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.040 Earth, cobble bottom, clean sides
1.1	524	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.9S: Area 8.9

Runoff = 4.60 cfs @ 11.96 hrs, Volume= 0.240 af, Depth= 3.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
22,800	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,665	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
31,465	91	Weighted Average
8,665		27.54% Pervious Area
22,800		72.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.68		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	210	0.0750	5.56		**Shallow Concentrated Flow, road** Paved Kv= 20.3 fps
1.2	895	0.0700	12.38	38.90	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
2.0	1,125	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.10S: Area 9.10

Runoff = 29.68 cfs @ 11.97 hrs, Volume= 1.435 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
27,100	98	Unconnected roofs, HSG C
132,286	74	>75% Grass cover, Good, HSG C
157,835	72	Woods/grass comb., Good, HSG C
317,221	75	Weighted Average, UI Adjusted CN = 74
290,121		91.46% Pervious Area
27,100		8.54% Impervious Area
27,100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	1,240	0.1000	12.10	96.77	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 1.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
1.7	1,240	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.11S: Area 9.11S

Runoff = 8.74 cfs @ 12.07 hrs, Volume= 0.554 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
56,160	74	>75% Grass cover, Good, HSG C
2,590	79	Woods/grass comb., Good, HSG D
68,150	72	Woods/grass comb., Good, HSG C
126,900	73	Weighted Average
126,900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
0.1	20	0.2500	2.50		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.9	40	0.0800	0.71		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
0.9	115	0.2000	2.24		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.5	700	0.0100	3.36	25.22	**Trap/Vee/Rect Channel Flow, swale w/ checkdams** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
14.2	975	Total			

Summary for Subcatchment 9.12S: Area 9.12S

Runoff = 4.50 cfs @ 11.96 hrs, Volume= 0.246 af, Depth= 4.42"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
24,900	98	Paved parking, HSG C
4,160	74	>75% Grass cover, Good, HSG C
29,060	95	Weighted Average
4,160		14.32% Pervious Area
24,900		85.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0250	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.5	260	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	565	0.0200	6.62	20.80	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
4.0	925	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.13S: Area 9.13

Runoff = 7.86 cfs @ 11.96 hrs, Volume= 0.451 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
45,985	98	Paved parking, HSG C
3,500	98	Roofs, HSG C
0	72	Woods/grass comb., Good, HSG C
49,485	98	Weighted Average
49,485		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.92		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	380	0.0950	6.26		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	1,215	0.1000	14.80	46.50	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
3.3	1,695	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.14S: Area 9.14

Runoff = 18.66 cfs @ 12.02 hrs, Volume= 1.016 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
241,600	72	Woods/grass comb., Good, HSG C
241,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.3500	0.24		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	375	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	415	0.0800	10.82	86.55	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 1.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
9.7	890	Total			

Summary for Subcatchment 9.1S: Area 9.1

Runoff = 13.14 cfs @ 12.00 hrs, Volume= 0.671 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
4,600	98	Paved parking, HSG C
0	98	Roofs, HSG C
10,062	74	>75% Grass cover, Good, HSG C
132,908	72	Woods/grass comb., Good, HSG C
6,220	79	Woods/grass comb., Good, HSG D
153,790	73	Weighted Average
149,190		97.01% Pervious Area
4,600		2.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1800	0.40		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
2.1	490	0.3000	3.83		**Shallow Concentrated Flow, field** Short Grass Pasture Kv= 7.0 fps
1.5	130	0.0800	1.41		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
0.3	40	0.0200	2.64	26.37	**Trap/Vee/Rect Channel Flow, ditch** Bot.W=1.00' D=2.00' Z= 2.0 '/' Top.W=9.00' n= 0.080 Earth, long dense weeds
8.1	760	Total			

Summary for Subcatchment 9.5S: Area 9.5

Runoff = 4.40 cfs @ 12.02 hrs, Volume= 0.245 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
6,300	98	Paved parking, HSG C
0	98	Roofs, HSG C
5,500	74	>75% Grass cover, Good, HSG C
40,443	72	Woods/grass comb., Good, HSG C
52,243	75	Weighted Average
45,943		87.94% Pervious Area
6,300		12.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.1	150	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	162	0.2000	6.71		**Shallow Concentrated Flow, grass** Grassed Waterway Kv= 15.0 fps
10.3	412	Total			

Summary for Subcatchment 9.6S: Area 9.6

Runoff = 16.51 cfs @ 11.97 hrs, Volume= 0.800 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
17,820	98	Paved parking, HSG C
0	98	Roofs, HSG C
70,795	74	>75% Grass cover, Good, HSG C
76,240	72	Woods/grass comb., Good, HSG C
164,855	76	Weighted Average
147,035		89.19% Pervious Area
17,820		10.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	543	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
0.7	543	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.9S: Area 9.9

Runoff = 8.65 cfs @ 11.97 hrs, Volume= 0.418 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
45,220	74	>75% Grass cover, Good, HSG C
50,524	72	Woods/grass comb., Good, HSG C
95,744	73	Weighted Average
95,744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2200	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	200	0.3000	3.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.8	300	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.10S: Area-11.10

Runoff = 3.74 cfs @ 11.96 hrs, Volume= 0.193 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
7,150	98	Paved parking, HSG C
10,000	98	Roofs, HSG C
8,850	74	>75% Grass cover, Good, HSG C
26,000	90	Weighted Average
8,850		34.04% Pervious Area
17,150		65.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	60	0.0500	1.73		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.4	160	0.0300	6.22	24.90	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
1.0	220	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.11S: Area-11.11

Runoff = 8.22 cfs @ 11.97 hrs, Volume= 0.418 af, Depth= 3.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
17,000	98	Paved parking, HSG C
18,866	98	Roofs, HSG C
23,654	74	>75% Grass cover, Good, HSG C
59,520	88	Weighted Average
23,654		39.74% Pervious Area
35,866		60.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.3000	0.41		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow, parking lot** Smooth surfaces n= 0.011 P2= 3.00"
0.4	100	0.0350	3.80		**Shallow Concentrated Flow, parking lot** Paved Kv= 20.3 fps
0.8	320	0.0500	6.59	5.18	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
3.5	497	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.12S: Area-11.12

Runoff = 4.62 cfs @ 11.99 hrs, Volume= 0.230 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
54,672	72	Woods/grass comb., Good, HSG C
54,672	72	Weighted Average
54,672		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.5000	0.27		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	184	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.4	284	Total			

Summary for Subcatchment 11.13S: Area-11.13

Runoff = 1.61 cfs @ 11.96 hrs, Volume= 0.093 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
10,160	98	Paved parking, HSG C
10,160	98	Weighted Average
10,160		100.00% Impervious Area

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

Summary for Subcatchment 11.14S: Area-11.14

Runoff = 13.16 cfs @ 12.06 hrs, Volume= 0.821 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
	8,100	74	>75% Grass cover, Good, HSG C
*	34,123	72	Woods/grass comb., Good, HSG D
	152,940	72	Woods/grass comb., Good, HSG C
	0	98	Paved parking, HSG C
	195,163	72	Weighted Average
	195,163		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.4000	0.25		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.7	120	0.3300	2.87		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
6.3	300	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
13.7	520	Total			

Summary for Subcatchment 11.15S: Area-11.15

Runoff = 3.18 cfs @ 12.07 hrs, Volume= 0.206 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
12,000	74	>75% Grass cover, Good, HSG C
6,478	79	Woods/grass comb., Good, HSG D
27,065	72	Woods/grass comb., Good, HSG C
45,543	74	Weighted Average
45,543		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.2700	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	91	0.2500	3.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	175	0.1000	0.79		**Shallow Concentrated Flow, WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
3.0	470	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.9	836	Total			

Summary for Subcatchment 11.16S: Area-11.16

Runoff = 3.94 cfs @ 11.97 hrs, Volume= 0.200 af, Depth= 3.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
11,785	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
16,750	98	Paved parking, HSG C
28,535	88	Weighted Average
11,785		41.30% Pervious Area
16,750		58.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.01		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.7	225	0.0800	5.74		**Shallow Concentrated Flow, curb/gutter** Paved Kv= 20.3 fps
0.9	440	0.0800	8.34	6.55	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
2.0	690	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.17S: Area-11.17

Runoff = 2.40 cfs @ 11.96 hrs, Volume= 0.128 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
8,930	98	Paved parking, HSG C
3,500	98	Roofs, HSG C
3,471	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
15,901	93	Weighted Average
3,471		21.83% Pervious Area
12,430		78.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0250	1.06		**Sheet Flow, gravel drive** Smooth surfaces n= 0.011 P2= 3.00"
3.3	500	0.0250	2.55		**Shallow Concentrated Flow, gravel drive** Unpaved Kv= 16.1 fps
3.6	520	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.18S: Area-11.18

Runoff = 26.86 cfs @ 12.14 hrs, Volume= 2.087 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
21,949	74	>75% Grass cover, Good, HSG C
474,295	72	Woods/grass comb., Good, HSG C
496,244	72	Weighted Average
496,244		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.1000	0.14		**Sheet Flow, grass** Woods: Light underbrush n= 0.400 P2= 3.00"
8.5	1,400	0.3000	2.74		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
0.5	250	0.0650	8.57	64.30	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
20.7	1,750	Total			

Summary for Subcatchment 11.19S: Area-11.19

Runoff = 18.45 cfs @ 12.17 hrs, Volume= 1.538 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
28,500	74	>75% Grass cover, Good, HSG C
337,255	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
365,755	72	Weighted Average
365,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	200	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	1,082	0.1800	2.97		**Shallow Concentrated Flow, SKI TRAIL** Short Grass Pasture Kv= 7.0 fps
6.4	1,054	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	150	0.1500	10.44	41.76	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
23.3	2,586	Total			

Summary for Subcatchment 11.20S: Area-11.20

Runoff = 2.48 cfs @ 11.98 hrs, Volume= 0.119 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
2,400	74	>75% Grass cover, Good, HSG C
25,850	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
28,250	72	Weighted Average
28,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.3000	0.41		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow, parking lot** Smooth surfaces n= 0.011 P2= 3.00"
0.4	100	0.0350	3.80		**Shallow Concentrated Flow, parking lot** Paved Kv= 20.3 fps
0.8	320	0.0500	6.59	5.18	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
3.5	497	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.21S: Area-11.21

Runoff = 14.53 cfs @ 12.08 hrs, Volume= 0.955 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
223,944	72	Woods/grass comb., Good, HSG C
3,300	74	>75% Grass cover, Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
227,244	72	Weighted Average
227,244		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.7	350	0.2400	3.43		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
5.8	1,000	0.3300	2.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	56	0.0300	5.82	43.69	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Mountain streams
15.2	1,506	Total			

Summary for Subcatchment 11.23S: Area 11.23

Runoff = 4.96 cfs @ 11.97 hrs, Volume= 0.240 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
	6,960	98	Paved parking, HSG C
	0	98	Roofs, HSG C
*	18,113	74	>75% Grass cover, Good, HSG C
	24,427	72	Woods/grass comb., Good, HSG C
	49,500	76	Weighted Average
	42,540		85.94% Pervious Area
	6,960		14.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.01		**Sheet Flow, driveway** Smooth surfaces n= 0.011 P2= 3.00"
0.9	465	0.0400	8.83	46.34	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.030 Earth, grassed & winding
1.3	490	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.24S: Area 11.24

Runoff = 2.75 cfs @ 11.97 hrs, Volume= 0.134 af, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
5,620	98	Paved parking, HSG C
0	98	Roofs, HSG C
16,892	74	>75% Grass cover, Good, HSG C
2,522	72	Woods/grass comb., Good, HSG C
25,034	79	Weighted Average
19,414		77.55% Pervious Area
5,620		22.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0400	1.38		**Sheet Flow, DRIVEWAY** Smooth surfaces n= 0.011 P2= 3.00"
0.1	15	0.0500	3.35		**Shallow Concentrated Flow, GRASS** Grassed Waterway Kv= 15.0 fps
0.5	270	0.0900	9.93	52.13	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
0.9	160	0.0100	2.95	2.32	**Pipe Channel, culvert** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
1.9	475	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.25S: Area 11.25

Runoff = 5.75 cfs @ 12.00 hrs, Volume= 0.300 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,360	74	>75% Grass cover, Good, HSG C
57,735	72	Woods/grass comb., Good, HSG C
7,755	79	Woods/grass comb., Good, HSG D
68,850	73	Weighted Average
68,850		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	75	0.3600	0.23		**Sheet Flow, GRASS** Woods: Light underbrush n= 0.400 P2= 3.00"
1.8	25	0.1000	0.24		**Sheet Flow, wetland** Grass: Short n= 0.150 P2= 3.00"
0.3	140	0.2800	7.94		**Shallow Concentrated Flow, wetland** Grassed Waterway Kv= 15.0 fps
1.1	215	0.0100	3.36	25.22	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
8.7	455	Total			

Summary for Subcatchment 11.26S: Area-11.26

Runoff = 5.54 cfs @ 11.96 hrs, Volume= 0.286 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
26,015	98	Paved parking, HSG C
0	98	Roofs, HSG C
12,531	74	>75% Grass cover, Good, HSG C
38,546	90	Weighted Average
12,531		32.51% Pervious Area
26,015		67.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow, ROAD** Smooth surfaces n= 0.011 P2= 3.00"
2.1	440	0.0300	3.52		**Shallow Concentrated Flow, CURB/GUTTER** Paved Kv= 20.3 fps
2.8	490	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.27S: Area-11.27

Runoff = 9.69 cfs @ 11.96 hrs, Volume= 0.504 af, Depth= 3.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
12,146	98	Paved parking, HSG C
34,850	98	Roofs, HSG C
9,400	71	Meadow, non-grazed, HSG C
9,824	74	>75% Grass cover, Good, HSG C
66,220	91	Weighted Average
19,224		29.03% Pervious Area
46,996		70.97% Impervious Area

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

Summary for Subcatchment 11.28S: Area-11.28

Runoff = 0.95 cfs @ 11.96 hrs, Volume= 0.055 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
6,000	98	Paved parking, HSG C
6,000	98	Weighted Average
6,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, paved** Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.29S: Area 11.29

Runoff = 1.86 cfs @ 11.98 hrs, Volume= 0.089 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
	0	98	Paved parking, HSG C
	0	98	Roofs, HSG C
*	4,200	74	>75% Grass cover, Good, HSG C
	13,044	72	Woods/grass comb., Good, HSG C
	3,863	71	Meadow, non-grazed, HSG C
	21,107	72	Weighted Average
	21,107		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	50	0.4000	0.48		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	50	0.4000	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	95	0.0400	6.73	50.44	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.8	195	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.2S: Area-11.2

Runoff = 45.28 cfs @ 12.39 hrs, Volume= 5.461 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
2,200	74	>75% Grass cover, Good, HSG C
1,277,237	72	Woods/grass comb., Good, HSG C
19,327	79	Woods/grass comb., Good, HSG D
1,298,764	72	Weighted Average
1,298,764		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.8	150	0.0933	0.09		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.8	500	0.0960	2.17		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.3	885	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	355	0.2817	3.72		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
1.0	830	0.2600	13.74	54.98	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
40.5	2,720	Total			

Summary for Subcatchment 11.32S: Area-11.5

Runoff = 12.48 cfs @ 12.15 hrs, Volume= 0.993 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
236,106	72	Woods/grass comb., Good, HSG C
236,106		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, Sheet flow: Ski Trail** Grass: Dense n= 0.240 P2= 3.00"
2.2	400	0.1800	2.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.2	720	0.0330	0.91		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	83	0.1800	14.27	107.01	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
21.6	1,303	Total			

Summary for Subcatchment 11.33S: Area-11.33

Runoff = 6.32 cfs @ 12.17 hrs, Volume= 0.521 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
8,845	74	>75% Grass cover, Good, HSG C
24,220	79	Woods/grass comb., Good, HSG D
82,025	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
115,090	74	Weighted Average
115,090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
11.7	50	0.1000	0.07		**Sheet Flow, wetland** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	140	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
2.7	430	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	670	Total			

Summary for Subcatchment 11.34S: Area-11.34

Runoff = 4.03 cfs @ 12.06 hrs, Volume= 0.254 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
6,615	74	>75% Grass cover, Good, HSG C
14,006	79	Woods/grass comb., Good, HSG D
35,496	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
56,117	74	Weighted Average
56,117		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	75	0.2000	0.39		**Sheet Flow, woods** Grass: Short n= 0.150 P2= 3.00"
7.3	25	0.0800	0.06		**Sheet Flow, wetland** Woods: Dense underbrush n= 0.800 P2= 3.00"
2.9	150	0.1200	0.87		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
0.7	325	0.0800	7.62	30.50	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
14.1	575	Total			

Summary for Subcatchment 11.35S: Area-11.35

Runoff = 2.48 cfs @ 11.97 hrs, Volume= 0.121 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
19,566	79	Woods/grass comb., Good, HSG D
3,700	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
23,266	78	Weighted Average
23,266		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	370	0.1500	7.29	87.45	**Trap/Vee/Rect Channel Flow, swale** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.080 Earth, long dense weeds
0.8	370	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.36S: Area-11.36

Runoff = 5.69 cfs @ 12.01 hrs, Volume= 0.302 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
5,035	79	Woods/grass comb., Good, HSG D
64,195	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
69,230	73	Weighted Average
69,230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.3100	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	230	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	260	0.1500	15.88	575.72	**Trap/Vee/Rect Channel Flow, swale** Bot.W=7.50' D=2.50' Z= 2.8 '/' Top.W=21.50' n= 0.050 Mountain streams w/large boulders
9.1	590	Total			

Summary for Subcatchment 11.38S: Area-11.38

Runoff = 1.43 cfs @ 11.97 hrs, Volume= 0.069 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
2,275	74	>75% Grass cover, Good, HSG C
8,026	79	Woods/grass comb., Good, HSG D
3,949	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
14,250	76	Weighted Average
14,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	185	0.2500	9.37	122.96	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 4.5 '/' Top.W=15.50' n= 0.070 Sluggish weedy reaches w/pools
0.3	185	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.39S: Area-11.39

Runoff = 1.72 cfs @ 11.99 hrs, Volume= 0.086 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
1,950	74	>75% Grass cover, Good, HSG C
19,400	71	Meadow, non-grazed, HSG C
21,350	71	Weighted Average
21,350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, ski trail** Grass: Dense n= 0.240 P2= 3.00"
1.0	200	0.2500	3.50		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
0.5	135	0.0200	4.76	35.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
7.6	435	Total			

Summary for Subcatchment 11.3S: Area-11.3

Runoff = 128.02 cfs @ 12.28 hrs, Volume= 13.202 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
2,455,128	72	Woods/grass comb., Good, HSG C
31,516	74	>75% Grass cover, Good, HSG C
257,243	98	Paved parking & roofs
73,710	79	Woods/grass comb., Good, HSG D
2,817,597	75	Weighted Average
2,560,354		90.87% Pervious Area
257,243		9.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	150	0.1133	0.25		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
4.3	963	0.2800	3.70		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.9	1,412	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.8	127	0.1500	2.71		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.8	450	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.0	395	0.0250	2.17	23.92	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.070 Sluggish weedy reaches w/pools
0.8	300	0.0250	5.95	71.40	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.040 Winding stream, pools & shoals
1.2	720	0.0250	9.97	996.95	**Trap/Vee/Rect Channel Flow, stream** Bot.W=10.00' D=5.00' Z= 2.0 '/' Top.W=30.00' n= 0.050 Mountain streams w/large boulders
0.1	45	0.0500	13.29	167.02	**Pipe Channel, culvert** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.025 Corrugated metal
0.1	360	0.3100	53.27	13,317.10	**Trap/Vee/Rect Channel Flow, stream** Bot.W=15.00' D=10.00' Z= 1.0 '/' Top.W=35.00' n= 0.050 Mountain streams w/large boulders
0.1	90	0.0500	19.28	378.54	**Pipe Channel, culvert** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.020 Corrugated PE, corrugated interior
0.6	393	0.0280	10.52	1,068.46	**Trap/Vee/Rect Channel Flow,** Bot.W=25.00' D=4.00' Z= 0.1 '/' Top.W=25.80' n= 0.050 Mountain streams w/large boulders
32.9	5,405	Total			

Summary for Subcatchment 11.40S: Area-11.40

Runoff = 6.96 cfs @ 11.96 hrs, Volume= 0.399 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
43,800	98	Paved parking, HSG C
43,800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
1.0	240	0.0375	3.93		**Shallow Concentrated Flow, asphalt curb** Paved Kv= 20.3 fps
2.0	1,940	0.0700	16.23	114.70	**Pipe Channel, closed pipe system** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.020 Corrugated PE, corrugated interior
3.2	2,190	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.41S: Area-11.41

Runoff = 5.94 cfs @ 12.01 hrs, Volume= 0.313 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
51,164	71	Meadow, non-grazed, HSG C
26,216	72	Woods/grass comb., Good, HSG C
77,380	71	Weighted Average
77,380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2500	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.6	110	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	145	0.0900	10.09	75.67	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
8.9	355	Total			

Summary for Subcatchment 11.4S: Area-11.4

Runoff = 6.25 cfs @ 11.96 hrs, Volume= 0.359 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
39,350	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
39,350	98	Weighted Average
39,350		100.00% Impervious Area

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

Summary for Subcatchment 11.5S: Area-11.5

Runoff = 18.32 cfs @ 12.02 hrs, Volume= 1.025 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
24,776	74	>75% Grass cover, Good, HSG C
219,018	72	Woods/grass comb., Good, HSG C
243,794	72	Weighted Average
243,794		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	100	0.2100	0.29		**Sheet Flow, Sheet flow: Woods** Grass: Dense n= 0.240 P2= 3.00"
4.1	700	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	150	0.0300	4.67	18.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
10.4	950	Total			

Summary for Subcatchment 11.6S: Area-11.6

Runoff = 2.22 cfs @ 11.97 hrs, Volume= 0.107 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
6,780	74	>75% Grass cover, Good, HSG C
17,770	72	Woods/grass comb., Good, HSG C
24,550	73	Weighted Average
24,550		100.00% Pervious Area

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

Summary for Subcatchment 11.7S: Area-11.7

Runoff = 6.03 cfs @ 11.97 hrs, Volume= 0.291 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
38,978	74	>75% Grass cover, Good, HSG C
27,785	72	Woods/grass comb., Good, HSG C
66,763	73	Weighted Average
66,763		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	70	0.2200	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.1	740	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.3	810	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.8S: Area-11.8

Runoff = 15.18 cfs @ 12.08 hrs, Volume= 1.002 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
7,422	74	>75% Grass cover, Good, HSG C
230,817	72	Woods/grass comb., Good, HSG C
238,239	72	Weighted Average
238,239		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, Woods / Meadow** Woods: Light underbrush n= 0.400 P2= 3.00"
7.3	1,132	0.2700	2.60		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.5	135	0.0300	4.67	18.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
15.3	1,367	Total			

Summary for Subcatchment 11.9S: Area-11.9

Runoff = 7.11 cfs @ 12.01 hrs, Volume= 0.383 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
36,375	74	>75% Grass cover, Good, HSG C
51,495	72	Woods/grass comb., Good, HSG C
87,870	73	Weighted Average
87,870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.2700	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	65	0.0375	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	640	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
9.5	805	Total			

Summary for Subcatchment 12.1S: Area-12.1

Runoff = 19.83 cfs @ 12.37 hrs, Volume= 2.337 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
14,995	79	Woods/grass comb., Good, HSG D
540,880	72	Woods/grass comb., Good, HSG C
555,875	72	Weighted Average
555,875		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1600	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
29.2	1,660	0.0360	0.95		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	235	0.1600	14.19	118.17	**Trap/Vee/Rect Channel Flow, stream/wetland** Bot.W=3.00' D=1.50' Z= 1.7 '/' Top.W=8.10' n= 0.040 Mountain streams
39.2	1,995	Total			

Summary for Subcatchment 12.2S: Area-12.2

Runoff = 21.88 cfs @ 12.03 hrs, Volume= 1.253 af, Depth= 2.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
35,335	98	Paved parking, HSG C
0	98	Roofs, HSG C
133,625	74	>75% Grass cover, Good, HSG C
0	86	Woods/grass comb., Poor, HSG D
80,725	72	Woods/grass comb., Good, HSG C
249,685	77	Weighted Average
214,350		85.85% Pervious Area
35,335		14.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	35	0.2000	2.24		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
1.3	210	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	135	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.2	480	Total			

Summary for Subcatchment 12.3S: Area-12.3

Runoff = 2.90 cfs @ 11.96 hrs, Volume= 0.166 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
18,250	98	Paved parking, HSG C
18,250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.76		**Sheet Flow, Sheet flow: Woods** Smooth surfaces n= 0.011 P2= 3.00"
0.8	280	0.0850	5.92		**Shallow Concentrated Flow, pavement** Paved Kv= 20.3 fps
1.7	380	Total, Increased to minimum Tc = 6.0 min			

Summary for Reach 11.10R: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 2.37" for 10-Year event
Inflow = 149.88 cfs @ 12.24 hrs, Volume= 20.388 af
Outflow = 149.26 cfs @ 12.26 hrs, Volume= 20.388 af, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.40 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 2.03 fps, Avg. Travel Time= 3.2 min

Peak Storage= 5,668 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 3,320.07 cfs

25.00' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.1 '/' Top Width= 25.80'
Length= 393.0' Slope= 0.1730 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,700.00'

Summary for Reach 11.3aR: Bouldery stream

Inflow Area = 35.734 ac, 0.39% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 49.64 cfs @ 12.37 hrs, Volume= 6.572 af
Outflow = 49.60 cfs @ 12.37 hrs, Volume= 6.572 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.21 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.47 fps, Avg. Travel Time= 1.0 min

Peak Storage= 765 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 2,234.38 cfs

15.00' x 4.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.1 '/' Top Width= 15.80'
Length= 142.0' Slope= 0.4014 '/'
Inlet Invert= 2,390.00', Outlet Invert= 2,333.00'

Summary for Reach 11.4aR: DP11.3

Inflow Area = 59.384 ac, 2.22% Impervious, Inflow Depth = 2.26" for 10-Year event
Inflow = 91.11 cfs @ 12.22 hrs, Volume= 11.163 af
Outflow = 90.79 cfs @ 12.23 hrs, Volume= 11.163 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.87 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.22 fps, Avg. Travel Time= 1.7 min

Peak Storage= 1,555 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.77'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 858.32 cfs

7.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.00'
Length= 220.0' Slope= 0.3636 '/'
Inlet Invert= 2,292.00', Outlet Invert= 2,212.00'

‡

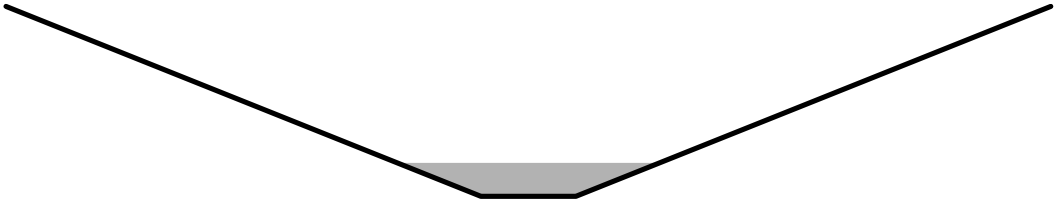
Summary for Reach 11.4bR: DP11.4

Inflow Area = 14.025 ac, 28.21% Impervious, Inflow Depth = 2.87" for 10-Year event
Inflow = 4.73 cfs @ 13.01 hrs, Volume= 3.354 af
Outflow = 4.73 cfs @ 13.02 hrs, Volume= 3.354 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.12 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.38 fps, Avg. Travel Time= 1.0 min

Peak Storage= 96 cf @ 13.01 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 231.18 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 145.0' Slope= 0.2621 '/'
Inlet Invert= 2,250.00', Outlet Invert= 2,212.00'



Summary for Reach 11.4R: DP-11.2

Inflow Area = 57.794 ac, 2.28% Impervious, Inflow Depth = 2.25" for 10-Year event
Inflow = 90.08 cfs @ 12.21 hrs, Volume= 10.860 af
Outflow = 89.63 cfs @ 12.23 hrs, Volume= 10.860 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.34 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.51 fps, Avg. Travel Time= 2.9 min

Peak Storage= 2,572 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.95'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 575.36 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.50'
Length= 267.0' Slope= 0.1498 '/'
Inlet Invert= 2,332.00', Outlet Invert= 2,292.00'

‡

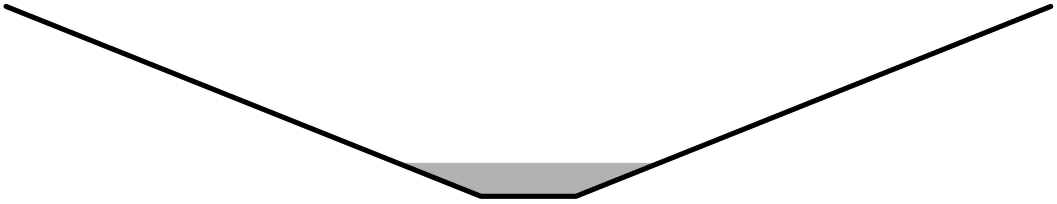
Summary for Reach 11.5aR: DP11.5

Inflow Area = 1.653 ac, 17.26% Impervious, Inflow Depth = 2.77" for 10-Year event
Inflow = 4.52 cfs @ 12.07 hrs, Volume= 0.381 af
Outflow = 4.36 cfs @ 12.12 hrs, Volume= 0.381 af, Atten= 4%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.70 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.94 fps, Avg. Travel Time= 5.3 min

Peak Storage= 411 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 217.63 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 620.0' Slope= 0.2323 '/'
Inlet Invert= 2,254.00', Outlet Invert= 2,110.00'



Summary for Reach 11.5R: Mountain stream

Inflow Area = 73.409 ac, 7.19% Impervious, Inflow Depth = 2.37" for 10-Year event
Inflow = 94.08 cfs @ 12.24 hrs, Volume= 14.517 af
Outflow = 93.79 cfs @ 12.26 hrs, Volume= 14.517 af, Atten= 0%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.80 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 2.12 fps, Avg. Travel Time= 3.6 min

Peak Storage= 4,366 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.62'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 2,943.05 cfs

15.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.7 '/' Top Width= 22.00'
Length= 455.0' Slope= 0.2242 '/'
Inlet Invert= 2,212.00', Outlet Invert= 2,110.00'

Summary for Reach 11.6aR: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 2.37" for 10-Year event
Inflow = 152.64 cfs @ 12.21 hrs, Volume= 20.385 af
Outflow = 152.22 cfs @ 12.22 hrs, Volume= 20.385 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.17 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.92 fps, Avg. Travel Time= 1.4 min

Peak Storage= 2,462 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.86'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,987.80 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 245.0' Slope= 0.4000 '/'
Inlet Invert= 1,990.00', Outlet Invert= 1,892.00'

Summary for Reach 11.6R: Mountain stream

Inflow Area = 75.062 ac, 7.41% Impervious, Inflow Depth = 2.38" for 10-Year event
Inflow = 96.49 cfs @ 12.25 hrs, Volume= 14.898 af
Outflow = 96.18 cfs @ 12.27 hrs, Volume= 14.898 af, Atten= 0%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.14 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.29 fps, Avg. Travel Time= 3.5 min

Peak Storage= 4,114 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.75'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,155.95 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 475.0' Slope= 0.2505 '/'
Inlet Invert= 2,109.00', Outlet Invert= 1,990.00'

Summary for Reach 11.8R: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 2.37" for 10-Year event
Inflow = 152.22 cfs @ 12.22 hrs, Volume= 20.385 af
Outflow = 150.48 cfs @ 12.24 hrs, Volume= 20.388 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 12.92 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 3.72 fps, Avg. Travel Time= 1.6 min

Peak Storage= 4,203 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.74'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 13,400.37 cfs

15.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 35.00'
Length= 360.0' Slope= 0.3139 '/'
Inlet Invert= 1,887.00', Outlet Invert= 1,774.00'

Summary for Reach 14R: Donwstream Analysis

Inflow Area = 42.147 ac, 10.74% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 77.48 cfs @ 12.03 hrs, Volume= 8.908 af
Outflow = 77.48 cfs @ 12.03 hrs, Volume= 8.908 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1: Design Point-1

Inflow Area = 72.474 ac, 5.73% Impervious, Inflow Depth = 2.36" for 10-Year event
Inflow = 102.14 cfs @ 12.22 hrs, Volume= 14.265 af
Outflow = 102.13 cfs @ 12.22 hrs, Volume= 14.265 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.60 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 0.1 min

Peak Storage= 81 cf @ 12.22 hrs
Average Depth at Peak Storage= 1.01'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 670.80 cfs

7.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1500 '/'
Inlet Invert= 0.00', Outlet Invert= -1.50'

Summary for Reach DP-11: Design Point-11

Inflow Area = 168.486 ac, 7.66% Impervious, Inflow Depth = 2.40" for 10-Year event
Inflow = 277.74 cfs @ 12.27 hrs, Volume= 33.763 af
Outflow = 277.74 cfs @ 12.27 hrs, Volume= 33.763 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-12: Design Point-12

Inflow Area = 19.291 ac, 8.34% Impervious, Inflow Depth = 2.43" for 10-Year event
Inflow = 22.34 cfs @ 12.38 hrs, Volume= 3.904 af
Outflow = 22.34 cfs @ 12.38 hrs, Volume= 3.904 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.65 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.52 fps, Avg. Travel Time= 0.1 min

Peak Storage= 23 cf @ 12.38 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 128.70 cfs

3.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.6 '/' Top Width= 7.80'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-1a: Design Point-1a

Inflow Area = 16.476 ac, 9.23% Impervious, Inflow Depth = 2.49" for 10-Year event
Inflow = 11.52 cfs @ 12.37 hrs, Volume= 3.414 af
Outflow = 11.52 cfs @ 12.37 hrs, Volume= 3.414 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 5.46 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.10 fps, Avg. Travel Time= 0.2 min

Peak Storage= 21 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.44'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 97.10 cfs

3.00' x 1.25' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

‡

Summary for Reach DP-2: Design Point-2

Inflow Area = 31.124 ac, 14.55% Impervious, Inflow Depth = 2.66" for 10-Year event
Inflow = 48.99 cfs @ 12.06 hrs, Volume= 6.889 af
Outflow = 48.96 cfs @ 12.06 hrs, Volume= 6.889 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.94 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.73 fps, Avg. Travel Time= 0.1 min

Peak Storage= 41 cf @ 12.06 hrs
Average Depth at Peak Storage= 0.76'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 233.42 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-2a: Design Point-2a

Inflow Area = 1.266 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 4.33 cfs @ 12.01 hrs, Volume= 0.232 af
Outflow = 4.33 cfs @ 12.01 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2b: Design Point-2b

Inflow Area = 4.686 ac, 0.00% Impervious, Inflow Depth = 2.28" for 10-Year event
Inflow = 17.25 cfs @ 12.00 hrs, Volume= 0.891 af
Outflow = 17.25 cfs @ 12.00 hrs, Volume= 0.891 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

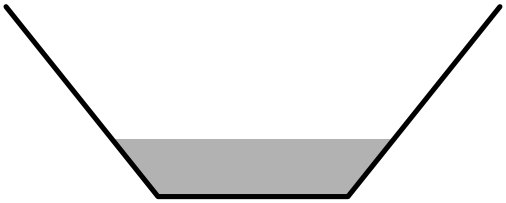
Summary for Reach DP-3: Design Point-3

Inflow Area = 2.415 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 9.25 cfs @ 11.98 hrs, Volume= 0.442 af
Outflow = 9.16 cfs @ 11.98 hrs, Volume= 0.442 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.84 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.95 fps, Avg. Travel Time= 0.8 min

Peak Storage= 127 cf @ 11.98 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 79.12 cfs

1.50' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.8 '/' Top Width= 3.90'
Length= 150.0' Slope= 0.4000 '/'
Inlet Invert= 0.00', Outlet Invert= -60.00'



Summary for Reach DP-4: Design Point-4

Inflow Area = 32.799 ac, 11.24% Impervious, Inflow Depth = 2.51" for 10-Year event
Inflow = 33.77 cfs @ 12.25 hrs, Volume= 6.864 af
Outflow = 33.77 cfs @ 12.25 hrs, Volume= 6.864 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.68 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.09 fps, Avg. Travel Time= 0.1 min

Peak Storage= 32 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 768.66 cfs

6.00' x 3.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 10.0' Slope= 0.4000 '/'
Inlet Invert= 0.00', Outlet Invert= -4.00'

Summary for Reach DP-5: Design Point-5

Inflow Area = 25.190 ac, 1.32% Impervious, Inflow Depth = 2.24" for 10-Year event
Inflow = 78.73 cfs @ 12.05 hrs, Volume= 4.708 af
Outflow = 78.69 cfs @ 12.05 hrs, Volume= 4.708 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.11 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.35 fps, Avg. Travel Time= 0.1 min

Peak Storage= 65 cf @ 12.05 hrs
Average Depth at Peak Storage= 1.34'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 273.11 cfs

3.00' x 2.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.4 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 1,736.00', Outlet Invert= 1,735.00'

Summary for Reach DP-6: Design Point 6

Inflow Area = 2.077 ac, 21.55% Impervious, Inflow Depth = 2.73" for 10-Year event
Inflow = 7.83 cfs @ 12.00 hrs, Volume= 0.472 af
Outflow = 7.83 cfs @ 12.00 hrs, Volume= 0.472 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point-7

Inflow Area = 2.426 ac, 0.00% Impervious, Inflow Depth = 2.12" for 10-Year event
Inflow = 8.85 cfs @ 11.98 hrs, Volume= 0.428 af
Outflow = 8.85 cfs @ 11.98 hrs, Volume= 0.428 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point-8

Inflow Area = 53.405 ac, 14.83% Impervious, Inflow Depth = 2.45" for 10-Year event
Inflow = 59.89 cfs @ 12.31 hrs, Volume= 10.916 af
Outflow = 59.88 cfs @ 12.31 hrs, Volume= 10.916 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.87 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.67 fps, Avg. Travel Time= 0.1 min

Peak Storage= 61 cf @ 12.31 hrs
Average Depth at Peak Storage= 1.18'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 277.01 cfs

3.00' x 2.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.8 '/' Top Width= 12.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

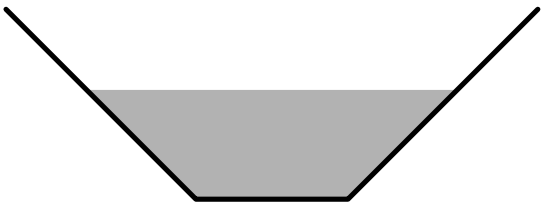
Summary for Reach DP-9: Design Point-9

Inflow Area = 29.876 ac, 15.42% Impervious, Inflow Depth = 2.60" for 10-Year event
Inflow = 51.01 cfs @ 12.04 hrs, Volume= 6.476 af
Outflow = 50.50 cfs @ 12.04 hrs, Volume= 6.476 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 10.25 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.64 fps, Avg. Travel Time= 1.0 min

Peak Storage= 495 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.44'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 152.56 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 7.00'
Length= 100.0' Slope= 0.1000 '/'
Inlet Invert= 1,655.00', Outlet Invert= 1,645.00'



Summary for Reach R1.1: Mountain Stream

Inflow Area = 35.690 ac, 0.77% Impervious, Inflow Depth = 2.22" for 10-Year event
Inflow = 79.28 cfs @ 12.17 hrs, Volume= 6.596 af
Outflow = 78.04 cfs @ 12.21 hrs, Volume= 6.596 af, Atten= 2%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.85 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 2.28 fps, Avg. Travel Time= 5.9 min

Peak Storage= 6,430 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.68'
Bank-Full Depth= 4.50', Capacity at Bank-Full= 1,947.63 cfs

11.00' x 4.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 20.00'
Length= 805.0' Slope= 0.1342 '/'
Inlet Invert= 2,308.00', Outlet Invert= 2,200.00'

Summary for Reach R1.12: WETLAND

Inflow Area = 15.782 ac, 9.63% Impervious, Inflow Depth = 2.48" for 10-Year event
Inflow = 11.18 cfs @ 12.36 hrs, Volume= 3.262 af
Outflow = 11.17 cfs @ 12.37 hrs, Volume= 3.262 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.41 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.28 fps, Avg. Travel Time= 2.6 min

Peak Storage= 348 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 206.27 cfs

20.00' x 0.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 200.0' Slope= 0.6000 '/'
Inlet Invert= 2,256.00', Outlet Invert= 2,136.00'

Summary for Reach R1.2: Mountain Stream

Inflow Area = 38.694 ac, 1.10% Impervious, Inflow Depth = 2.23" for 10-Year event
Inflow = 83.82 cfs @ 12.20 hrs, Volume= 7.178 af
Outflow = 82.98 cfs @ 12.22 hrs, Volume= 7.178 af, Atten= 1%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.94 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 2.52 fps, Avg. Travel Time= 4.1 min

Peak Storage= 4,319 cf @ 12.21 hrs
Average Depth at Peak Storage= 1.04'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 636.66 cfs

5.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.7 '/' Top Width= 15.20'
Length= 616.0' Slope= 0.1461 '/'
Inlet Invert= 2,200.00', Outlet Invert= 2,110.00'

Summary for Reach R1.8: WETLAND

Inflow Area = 3.337 ac, 12.31% Impervious, Inflow Depth = 2.64" for 10-Year event
Inflow = 12.51 cfs @ 11.98 hrs, Volume= 0.733 af
Outflow = 12.21 cfs @ 11.99 hrs, Volume= 0.733 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.59 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.59 fps, Avg. Travel Time= 3.4 min

Peak Storage= 416 cf @ 11.99 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 73.93 cfs

20.00' x 0.50' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 120.0' Slope= 0.3083 '/'
Inlet Invert= 2,205.00', Outlet Invert= 2,168.00'

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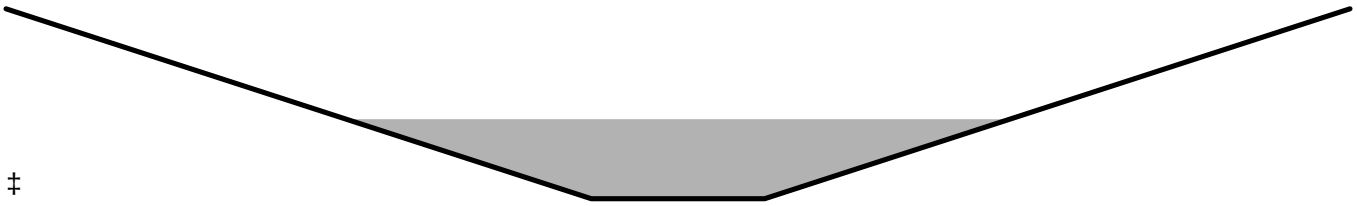
Summary for Reach R11.1: DP11.6

Inflow Area = 5.543 ac, 8.39% Impervious, Inflow Depth = 2.43" for 10-Year event
Inflow = 14.41 cfs @ 12.07 hrs, Volume= 1.122 af
Outflow = 14.04 cfs @ 12.10 hrs, Volume= 1.122 af, Atten= 3%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.71 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.21 fps, Avg. Travel Time= 4.3 min

Peak Storage= 938 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.63'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 102.63 cfs

2.00' x 1.50' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 310.0' Slope= 0.1742 '/'
Inlet Invert= 2,224.00', Outlet Invert= 2,170.00'



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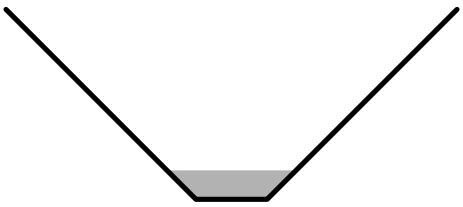
Summary for Reach R11.12: Mountain stream

Inflow Area = 5.355 ac, 2.57% Impervious, Inflow Depth = 2.26" for 10-Year event
Inflow = 15.12 cfs @ 12.07 hrs, Volume= 1.010 af
Outflow = 14.96 cfs @ 12.08 hrs, Volume= 1.010 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.62 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.73 fps, Avg. Travel Time= 1.2 min

Peak Storage= 258 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.61'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 678.27 cfs

1.50' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 9.50'
Length= 200.0' Slope= 0.3350 '/'
Inlet Invert= 2,468.00', Outlet Invert= 2,401.00'



Summary for Reach R11.13: Mountain stream

Inflow Area = 29.816 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 45.28 cfs @ 12.39 hrs, Volume= 5.461 af
Outflow = 45.25 cfs @ 12.40 hrs, Volume= 5.461 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.35 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 4.15 fps, Avg. Travel Time= 0.7 min

Peak Storage= 873 cf @ 12.39 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 5,898.94 cfs

12.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.1 '/' Top Width= 14.00'
Length= 180.0' Slope= 0.3611 '/'
Inlet Invert= 2,466.00', Outlet Invert= 2,401.00'

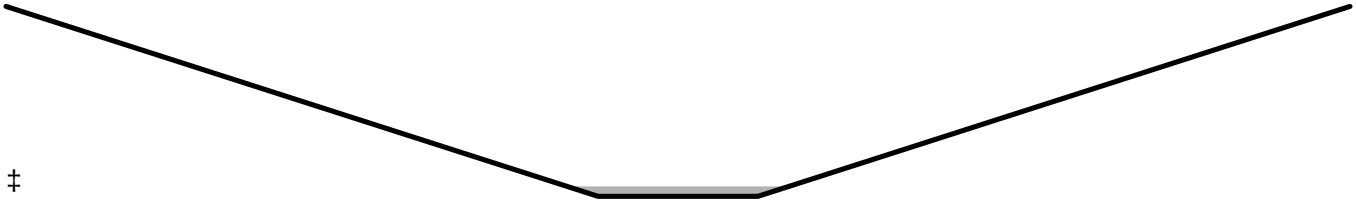
Summary for Reach R11.14: Mountain stream

Inflow Area = 0.649 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 2.48 cfs @ 11.98 hrs, Volume= 0.119 af
Outflow = 2.43 cfs @ 11.99 hrs, Volume= 0.119 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.39 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.67 fps, Avg. Travel Time= 1.4 min

Peak Storage= 79 cf @ 11.98 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 989.43 cfs

3.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 3.7 '/' Top Width= 25.20'
Length= 140.0' Slope= 0.2071 '/'
Inlet Invert= 2,464.00', Outlet Invert= 2,435.00'



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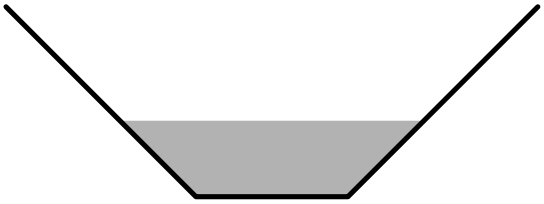
Summary for Reach R11.16: SWALE

Inflow Area = 11.496 ac, 0.90% Impervious, Inflow Depth = 2.22" for 10-Year event
Inflow = 27.09 cfs @ 12.14 hrs, Volume= 2.128 af
Outflow = 26.76 cfs @ 12.17 hrs, Volume= 2.128 af, Atten= 1%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.02 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 2.02 fps, Avg. Travel Time= 3.7 min

Peak Storage= 1,351 cf @ 12.15 hrs
Average Depth at Peak Storage= 1.00'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 160.81 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 7.00'
Length= 450.0' Slope= 0.1111 '/'
Inlet Invert= 2,450.00', Outlet Invert= 2,400.00'



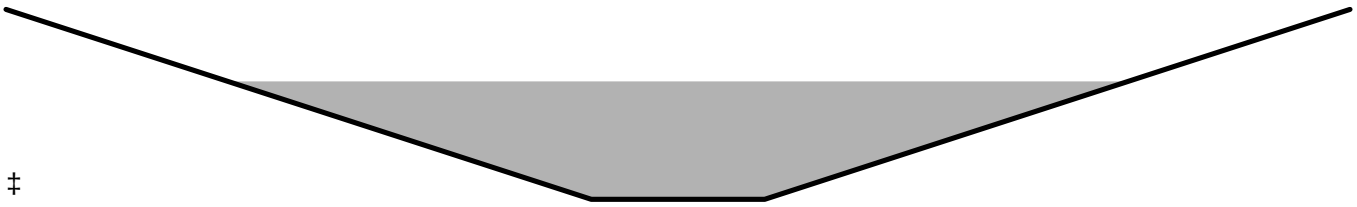
Summary for Reach R11.1A: DP11.7

Inflow Area = 28.305 ac, 3.51% Impervious, Inflow Depth = 2.33" for 10-Year event
Inflow = 62.41 cfs @ 12.13 hrs, Volume= 5.487 af
Outflow = 60.83 cfs @ 12.18 hrs, Volume= 5.487 af, Atten= 3%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.75 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.78 fps, Avg. Travel Time= 8.9 min

Peak Storage= 5,476 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.93'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 186.80 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 950.0' Slope= 0.1884 '/'
Inlet Invert= 2,169.00', Outlet Invert= 1,990.00'



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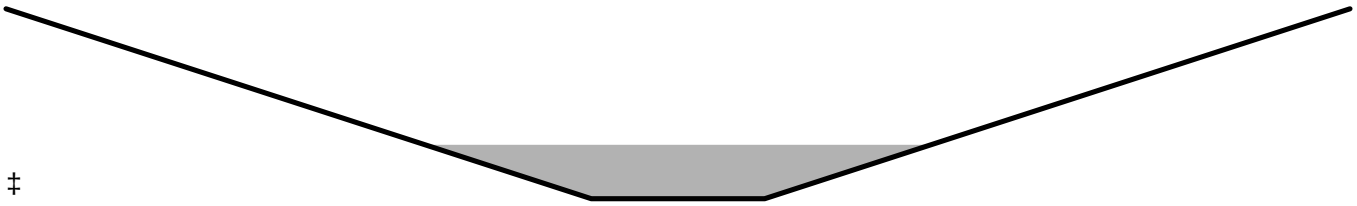
Summary for Reach R11.1B: Mountain stream

Inflow Area = 4.561 ac, 1.76% Impervious, Inflow Depth = 2.24" for 10-Year event
Inflow = 13.35 cfs @ 12.06 hrs, Volume= 0.853 af
Outflow = 13.14 cfs @ 12.07 hrs, Volume= 0.853 af, Atten= 2%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.96 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 1.8 min

Peak Storage= 334 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 215.17 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 200.0' Slope= 0.2500 '/'
Inlet Invert= 2,276.00', Outlet Invert= 2,226.00'



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Summary for Reach R11.25: SWALE

Inflow Area = 15.057 ac, 0.00% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 39.12 cfs @ 12.05 hrs, Volume= 2.779 af
Outflow = 38.18 cfs @ 12.07 hrs, Volume= 2.779 af, Atten= 2%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.04 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 2.36 fps, Avg. Travel Time= 2.5 min

Peak Storage= 1,937 cf @ 12.06 hrs
Average Depth at Peak Storage= 1.24'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 110.44 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 350.0' Slope= 0.0543 '/'
Inlet Invert= 2,330.00', Outlet Invert= 2,311.00'

Summary for Reach R11.27: Overland

Inflow Area = 16.103 ac, 0.00% Impervious, Inflow Depth = 2.22" for 10-Year event
Inflow = 41.36 cfs @ 12.07 hrs, Volume= 2.985 af
Outflow = 40.03 cfs @ 12.15 hrs, Volume= 2.985 af, Atten= 3%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.16 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 10.4 min

Peak Storage= 6,220 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 620.34 cfs

100.00' x 0.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 101.00'
Length= 640.0' Slope= 0.2156 '/'
Inlet Invert= 2,308.00', Outlet Invert= 2,170.00'

Summary for Reach R11.30: SWALE

Inflow Area = 2.196 ac, 13.15% Impervious, Inflow Depth = 2.53" for 10-Year event
Inflow = 2.69 cfs @ 12.05 hrs, Volume= 0.463 af
Outflow = 2.37 cfs @ 12.15 hrs, Volume= 0.463 af, Atten= 12%, Lag= 6.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.73 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.42 fps, Avg. Travel Time= 13.0 min

Peak Storage= 448 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 24.23 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 325.0' Slope= 0.0092 '/'
Inlet Invert= 2,183.00', Outlet Invert= 2,180.00'

Summary for Reach R11.31: SWALE

Inflow Area = 1.136 ac, 14.06% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 4.54 cfs @ 12.00 hrs, Volume= 0.240 af
Outflow = 4.37 cfs @ 12.02 hrs, Volume= 0.240 af, Atten= 4%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.46 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.55 fps, Avg. Travel Time= 4.2 min

Peak Storage= 181 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 49.99 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 140.0' Slope= 0.0393 '/'
Inlet Invert= 2,189.50', Outlet Invert= 2,184.00'

Summary for Reach R11.33: Bouldery stream

Inflow Area = 13.664 ac, 8.65% Impervious, Inflow Depth = 2.42" for 10-Year event
Inflow = 29.37 cfs @ 12.16 hrs, Volume= 2.751 af
Outflow = 29.11 cfs @ 12.18 hrs, Volume= 2.751 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.99 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 2.1 min

Peak Storage= 797 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.51'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 454.15 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.3 '/' Top Width= 14.00'
Length= 190.0' Slope= 0.1579 '/'
Inlet Invert= 2,420.00', Outlet Invert= 2,390.00'

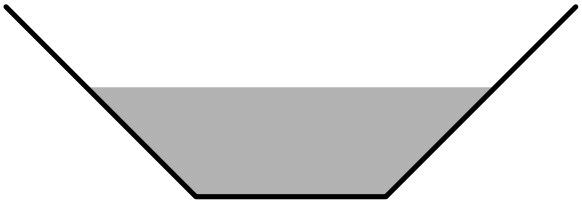
Summary for Reach R11.37: SWALE

Inflow Area = 13.040 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 33.58 cfs @ 12.02 hrs, Volume= 2.396 af
Outflow = 32.65 cfs @ 12.06 hrs, Volume= 2.396 af, Atten= 3%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.17 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 2.93 fps, Avg. Travel Time= 3.4 min

Peak Storage= 2,178 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.15'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 96.77 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 600.0' Slope= 0.1000 '/'
Inlet Invert= 2,405.00', Outlet Invert= 2,345.00'



Summary for Reach R11.38: Wetland

Inflow Area = 2.196 ac, 13.15% Impervious, Inflow Depth = 2.53" for 10-Year event
Inflow = 2.37 cfs @ 12.15 hrs, Volume= 0.463 af
Outflow = 1.60 cfs @ 12.47 hrs, Volume= 0.463 af, Atten= 32%, Lag= 18.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.49 fps, Min. Travel Time= 10.5 min
Avg. Velocity = 0.11 fps, Avg. Travel Time= 48.0 min

Peak Storage= 1,009 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 14.90 cfs

25.00' x 0.50' deep channel, n= 0.100 Very weedy reaches w/pools
Side Slope Z-value= 1.0 '/' Top Width= 26.00'
Length= 306.0' Slope= 0.0163 '/'
Inlet Invert= 2,180.00', Outlet Invert= 2,175.00'

Summary for Reach R11.39: SWALE

Inflow Area = 1.520 ac, 70.97% Impervious, Inflow Depth = 3.98" for 10-Year event
Inflow = 2.09 cfs @ 12.14 hrs, Volume= 0.505 af
Outflow = 2.08 cfs @ 12.19 hrs, Volume= 0.505 af, Atten= 1%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.71 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 3.7 min

Peak Storage= 175 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 49.35 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 310.0' Slope= 0.0806 '/'
Inlet Invert= 2,446.00', Outlet Invert= 2,421.00'

Summary for Reach R11.40: SWALE

Inflow Area = 0.903 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 6.25 cfs @ 11.96 hrs, Volume= 0.359 af
Outflow = 6.10 cfs @ 11.98 hrs, Volume= 0.359 af, Atten= 2%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.92 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.94 fps, Avg. Travel Time= 2.7 min

Peak Storage= 240 cf @ 11.97 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 143.25 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 310.0' Slope= 0.3226 '/'
Inlet Invert= 2,430.00', Outlet Invert= 2,330.00'

Summary for Reach R2.7: SWALE

Inflow Area = 3.627 ac, 13.61% Impervious, Inflow Depth = 2.62" for 10-Year event
Inflow = 12.72 cfs @ 11.98 hrs, Volume= 0.791 af
Outflow = 11.74 cfs @ 12.06 hrs, Volume= 0.791 af, Atten= 8%, Lag= 4.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.11 fps, Min. Travel Time= 2.9 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 12.2 min

Peak Storage= 2,021 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 81.81 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 705.0' Slope= 0.0298 '/'
Inlet Invert= 2,213.00', Outlet Invert= 2,192.00'

Summary for Reach R2.9: Stream

Inflow Area = 31.124 ac, 14.55% Impervious, Inflow Depth = 2.66" for 10-Year event
Inflow = 48.96 cfs @ 12.06 hrs, Volume= 6.889 af
Outflow = 47.65 cfs @ 12.09 hrs, Volume= 6.889 af, Atten= 3%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.61 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.87 fps, Avg. Travel Time= 6.1 min

Peak Storage= 2,609 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.72'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 256.33 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 680.0' Slope= 0.2412 '/'
Inlet Invert= 2,144.00', Outlet Invert= 1,980.00'

Summary for Reach R3.1: SWALE

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 123.06 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 420.0' Slope= 0.2381 '/'
Inlet Invert= 2,179.99', Outlet Invert= 2,080.00'

Summary for Reach R4.2: SWALE

Inflow Area = 15.597 ac, 8.50% Impervious, Inflow Depth = 2.42" for 10-Year event
Inflow = 46.19 cfs @ 12.05 hrs, Volume= 3.140 af
Outflow = 45.35 cfs @ 12.07 hrs, Volume= 3.140 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.08 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 3.2 min

Peak Storage= 1,599 cf @ 12.06 hrs
Average Depth at Peak Storage= 0.63'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 219.76 cfs

6.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 12.00'
Length= 350.0' Slope= 0.1771 '/'
Inlet Invert= 2,280.00', Outlet Invert= 2,218.00'

‡

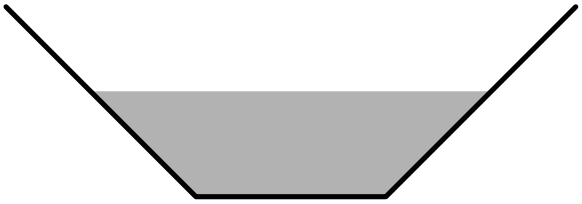
Summary for Reach R4.5: swale

Inflow Area = 30.234 ac, 12.20% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 32.21 cfs @ 12.23 hrs, Volume= 6.394 af
Outflow = 32.14 cfs @ 12.26 hrs, Volume= 6.394 af, Atten= 0%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.33 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 5.8 min

Peak Storage= 1,933 cf @ 12.24 hrs
Average Depth at Peak Storage= 1.11'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 100.17 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 560.0' Slope= 0.1071 '/'
Inlet Invert= 2,065.00', Outlet Invert= 2,005.00'



Summary for Reach R4.7: swale

Inflow Area = 32.763 ac, 11.26% Impervious, Inflow Depth = 2.51" for 10-Year event
Inflow = 33.73 cfs @ 12.25 hrs, Volume= 6.857 af
Outflow = 33.72 cfs @ 12.25 hrs, Volume= 6.857 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.11 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.79 fps, Avg. Travel Time= 0.4 min

Peak Storage= 134 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.67'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 329.55 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 60.0' Slope= 0.4833 '/'
Inlet Invert= 2,001.00', Outlet Invert= 1,972.00'

Summary for Reach R5.2: SWALE

Inflow Area = 8.776 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 29.52 cfs @ 12.02 hrs, Volume= 1.607 af
Outflow = 28.31 cfs @ 12.05 hrs, Volume= 1.607 af, Atten= 4%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.39 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 2.76 fps, Avg. Travel Time= 3.9 min

Peak Storage= 1,980 cf @ 12.03 hrs
Average Depth at Peak Storage= 1.02'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 105.45 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 640.0' Slope= 0.1187 '/'
Inlet Invert= 1,822.00', Outlet Invert= 1,746.00'

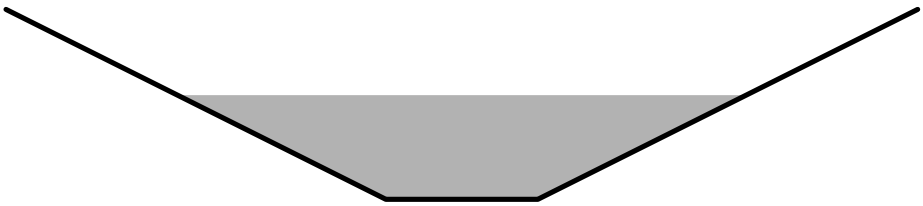
Summary for Reach R5.3: SWALE

Inflow Area = 12.491 ac, 2.66% Impervious, Inflow Depth = 2.29" for 10-Year event
Inflow = 40.33 cfs @ 12.04 hrs, Volume= 2.382 af
Outflow = 39.55 cfs @ 12.06 hrs, Volume= 2.382 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.19 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.33 fps, Avg. Travel Time= 2.4 min

Peak Storage= 1,216 cf @ 12.05 hrs
Average Depth at Peak Storage= 1.37'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 151.95 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 12.00'
Length= 187.0' Slope= 0.0374 '/'
Inlet Invert= 1,745.00', Outlet Invert= 1,738.00'



Summary for Reach R8.16: SWALE

Inflow = 35.20 cfs @ 12.00 hrs, Volume= 2.410 af
Outflow = 34.51 cfs @ 12.02 hrs, Volume= 2.410 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.64 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.74 fps, Avg. Travel Time= 3.0 min

Peak Storage= 1,039 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.63'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 178.88 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 315.0' Slope= 0.2159 '/'
Inlet Invert= 1,810.00', Outlet Invert= 1,742.00'

Summary for Reach R8.17: SWALE

Inflow Area = 1.145 ac, 16.92% Impervious, Inflow Depth = 27.96" for 10-Year event
Inflow = 39.38 cfs @ 12.01 hrs, Volume= 2.669 af
Outflow = 38.63 cfs @ 12.03 hrs, Volume= 2.669 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.88 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.78 fps, Avg. Travel Time= 2.6 min

Peak Storage= 1,007 cf @ 12.02 hrs
Average Depth at Peak Storage= 0.67'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 176.73 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 280.0' Slope= 0.2107 '/'
Inlet Invert= 1,741.00', Outlet Invert= 1,682.00'

Summary for Reach R8.18: Mountain stream

Inflow Area = 15.337 ac, 1.95% Impervious, Inflow Depth = 2.25" for 10-Year event
Inflow = 27.29 cfs @ 12.28 hrs, Volume= 2.873 af
Outflow = 26.95 cfs @ 12.35 hrs, Volume= 2.873 af, Atten= 1%, Lag= 4.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.84 fps, Min. Travel Time= 2.5 min
Avg. Velocity = 1.35 fps, Avg. Travel Time= 10.7 min

Peak Storage= 4,029 cf @ 12.31 hrs
Average Depth at Peak Storage= 1.02'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 109.52 cfs

2.50' x 2.00' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 10.50'
Length= 870.0' Slope= 0.1736 '/'
Inlet Invert= 1,818.00', Outlet Invert= 1,667.00'

Summary for Reach R8.2: SWALE

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 2.85" for 10-Year event
Inflow = 9.74 cfs @ 12.05 hrs, Volume= 0.645 af
Outflow = 9.36 cfs @ 12.09 hrs, Volume= 0.645 af, Atten= 4%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.74 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 6.8 min

Peak Storage= 686 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.64'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 46.39 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 407.0' Slope= 0.0713 '/'
Inlet Invert= 2,303.00', Outlet Invert= 2,274.00'

Summary for Reach R8.21: SWALE

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 1.64" for 10-Year event
Inflow = 52.56 cfs @ 12.00 hrs, Volume= 3.301 af
Outflow = 50.96 cfs @ 12.02 hrs, Volume= 3.301 af, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.11 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.09 fps, Avg. Travel Time= 4.2 min

Peak Storage= 2,069 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.73'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 203.30 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 520.0' Slope= 0.2788 '/'
Inlet Invert= 1,815.00', Outlet Invert= 1,670.00'

Summary for Reach R8.4: SWALE

Inflow Area = 6.715 ac, 30.90% Impervious, Inflow Depth = 2.93" for 10-Year event
Inflow = 25.93 cfs @ 12.03 hrs, Volume= 1.641 af
Outflow = 25.08 cfs @ 12.06 hrs, Volume= 1.641 af, Atten= 3%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.16 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.37 fps, Avg. Travel Time= 6.4 min

Peak Storage= 1,658 cf @ 12.05 hrs
Average Depth at Peak Storage= 1.04'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 51.44 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 525.0' Slope= 0.0876 '/'
Inlet Invert= 2,270.00', Outlet Invert= 2,224.00'

Summary for Reach R8.6: SWALE

Inflow Area = 8.502 ac, 27.24% Impervious, Inflow Depth = 2.87" for 10-Year event
Inflow = 29.26 cfs @ 12.04 hrs, Volume= 2.030 af
Outflow = 28.82 cfs @ 12.06 hrs, Volume= 2.030 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.35 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.55 fps, Avg. Travel Time= 3.7 min

Peak Storage= 1,078 cf @ 12.05 hrs
Average Depth at Peak Storage= 1.03'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 59.17 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 345.0' Slope= 0.1159 '/'
Inlet Invert= 2,220.00', Outlet Invert= 2,180.00'

Summary for Reach R9.10: Swale

Inflow Area = 12.954 ac, 25.61% Impervious, Inflow Depth = 2.90" for 10-Year event
Inflow = 5.53 cfs @ 12.58 hrs, Volume= 3.131 af
Outflow = 5.53 cfs @ 12.60 hrs, Volume= 3.131 af, Atten= 0%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 4.79 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 2.2 min

Peak Storage= 196 cf @ 12.59 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 136.03 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 170.0' Slope= 0.0824 '/'
Inlet Invert= 1,672.00', Outlet Invert= 1,658.00'

Summary for Reach R9.2: Swale

Inflow Area = 5.546 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 18.66 cfs @ 12.02 hrs, Volume= 1.016 af
Outflow = 17.49 cfs @ 12.10 hrs, Volume= 1.016 af, Atten= 6%, Lag= 5.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.17 fps, Min. Travel Time= 2.9 min
Avg. Velocity = 2.01 fps, Avg. Travel Time= 10.4 min

Peak Storage= 3,059 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.71'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 80.39 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 1,250.0' Slope= 0.1016 '/'
Inlet Invert= 1,900.00', Outlet Invert= 1,773.00'

Summary for Reach R9.3: Swale

Inflow Area = 13.150 ac, 7.18% Impervious, Inflow Depth = 2.35" for 10-Year event
Inflow = 40.23 cfs @ 12.00 hrs, Volume= 2.578 af
Outflow = 38.11 cfs @ 12.05 hrs, Volume= 2.578 af, Atten= 5%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.18 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 1.96 fps, Avg. Travel Time= 8.5 min

Peak Storage= 4,246 cf @ 12.02 hrs
Average Depth at Peak Storage= 1.04'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 158.64 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 1,000.0' Slope= 0.1120 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,656.00'

Summary for Reach R9.4: Swale

Inflow Area = 5.118 ac, 41.21% Impervious, Inflow Depth = 3.31" for 10-Year event
Inflow = 19.22 cfs @ 11.99 hrs, Volume= 1.410 af
Outflow = 18.42 cfs @ 12.03 hrs, Volume= 1.410 af, Atten= 4%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.23 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.75 fps, Avg. Travel Time= 5.1 min

Peak Storage= 1,417 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.75'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 148.51 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 540.0' Slope= 0.0981 '/'
Inlet Invert= 1,769.00', Outlet Invert= 1,716.00'

Summary for Pond 6.2P: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 4.20" for 10-Year event
Inflow = 1.21 cfs @ 11.96 hrs, Volume= 0.064 af
Outflow = 0.83 cfs @ 12.04 hrs, Volume= 0.064 af, Atten= 31%, Lag= 4.6 min
Primary = 0.83 cfs @ 12.04 hrs, Volume= 0.064 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.65' @ 12.04 hrs Surf.Area= 3,245 sf Storage= 1,793 cf (994 cf above start)

Plug-Flow detention time= 509.7 min calculated for 0.046 af (72% of inflow)
Center-of-Mass det. time= 259.7 min (1,034.5 - 774.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=0.80 cfs @ 12.04 hrs HW=1,686.65' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.78 cfs @ 1.04 fps)

Summary for Pond 6.3P: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 4.20" for 10-Year event
Inflow = 1.21 cfs @ 11.96 hrs, Volume= 0.064 af
Outflow = 0.83 cfs @ 12.04 hrs, Volume= 0.064 af, Atten= 31%, Lag= 4.6 min
Primary = 0.83 cfs @ 12.04 hrs, Volume= 0.064 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.65' @ 12.04 hrs Surf.Area= 3,245 sf Storage= 1,793 cf (994 cf above start)

Plug-Flow detention time= 509.7 min calculated for 0.046 af (72% of inflow)
Center-of-Mass det. time= 259.7 min (1,034.5 - 774.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=0.80 cfs @ 12.04 hrs HW=1,686.65' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.78 cfs @ 1.04 fps)

Summary for Pond 11.3R: DP11.1

Inflow Area = 35.734 ac, 0.39% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 49.64 cfs @ 12.37 hrs, Volume= 6.578 af
Outflow = 49.64 cfs @ 12.37 hrs, Volume= 6.572 af, Atten= 0%, Lag= 0.1 min
Primary = 49.64 cfs @ 12.37 hrs, Volume= 6.572 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 2,412.77' @ 12.37 hrs Surf.Area= 328 sf Storage= 868 cf

Plug-Flow detention time= 3.6 min calculated for 6.572 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (875.0 - 874.2)

Volume	Invert	Avail.Storage	Storage Description
#1	2,410.00'	3,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,410.00	300	0	0
2,420.00	400	3,500	3,500

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.00'	**72.0" Round Culvert X 2.00** L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,411.00' / 2,395.00' S= 0.1333 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=49.46 cfs @ 12.37 hrs HW=2,412.76' (Free Discharge)
└**1=Culvert** (Inlet Controls 49.46 cfs @ 3.57 fps)

Summary for Pond 11.7R: Culvert

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 2.37" for 10-Year event
Inflow = 152.22 cfs @ 12.22 hrs, Volume= 20.385 af
Outflow = 152.22 cfs @ 12.22 hrs, Volume= 20.385 af, Atten= 0%, Lag= 0.0 min
Primary = 152.22 cfs @ 12.22 hrs, Volume= 20.385 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,895.89' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,890.00'	**48.0" Round Culvert** L= 45.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,890.00' / 1,888.00' S= 0.0444 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Primary	1,895.00'	**15.0' long x 35.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=150.88 cfs @ 12.22 hrs HW=1,895.87' (Free Discharge)
├**1=Culvert** (Inlet Controls 118.98 cfs @ 9.47 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 31.90 cfs @ 2.45 fps)

Summary for Pond 11.9R: Culvert

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 2.37" for 10-Year event
Inflow = 150.48 cfs @ 12.24 hrs, Volume= 20.388 af
Outflow = 149.88 cfs @ 12.24 hrs, Volume= 20.388 af, Atten= 0%, Lag= 0.4 min
Primary = 149.88 cfs @ 12.24 hrs, Volume= 20.388 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,776.83' @ 12.24 hrs Surf.Area= 953 sf Storage= 3,355 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.1 min (986.5 - 985.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,773.00'	10,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,773.00	800	0	0
1,783.00	1,200	10,000	10,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,773.00'	**60.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 1,773.00' / 1,767.00' S= 0.0667 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

#2 Primary 1,773.00' **48.0" Round Culvert**
L= 90.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 1,773.00' / 1,770.00' S= 0.0333 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=149.51 cfs @ 12.24 hrs HW=1,776.82' (Free Discharge)
└**1=Culvert** (Inlet Controls 84.55 cfs @ 5.25 fps)
└**2=Culvert** (Inlet Controls 64.96 cfs @ 5.25 fps)

Summary for Pond P1.1: Pond 1.1

Inflow Area = 15.782 ac, 9.63% Impervious, Inflow Depth = 2.48" for 10-Year event
Inflow = 47.81 cfs @ 12.02 hrs, Volume= 3.263 af
Outflow = 11.18 cfs @ 12.36 hrs, Volume= 3.262 af, Atten= 77%, Lag= 20.6 min
Primary = 11.18 cfs @ 12.36 hrs, Volume= 3.262 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,159.55' Surf.Area= 11,012 sf Storage= 25,985 cf
Peak Elev= 2,163.39' @ 12.36 hrs Surf.Area= 20,204 sf Storage= 85,487 cf (59,502 cf above start)

Plug-Flow detention time= 657.5 min calculated for 2.666 af (82% of inflow)
Center-of-Mass det. time= 440.4 min (1,289.3 - 848.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,156.00'	120,626 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,156.00	3,831	0	0
2,158.00	7,673	11,504	11,504
2,160.00	11,982	19,655	31,159
2,162.00	16,663	28,645	59,804
2,164.00	21,746	38,409	98,213
2,165.00	23,079	22,413	120,626

Device	Routing	Invert	Outlet Devices
#1	Primary	2,158.50'	**24.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,158.50' / 2,157.65' S= 0.0170 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,159.55'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	2,162.00'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,163.75'	**15.0' 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

Primary OutFlow Max=11.16 cfs @ 12.36 hrs HW=2,163.39' (Free Discharge)
- **1=Culvert** (Passes 0.62 cfs of 28.28 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.62 cfs @ 9.26 fps)
- **3=Orifice/Grate** (Orifice Controls 10.54 cfs @ 3.79 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P1.2: BIORETENTION

Inflow Area = 0.244 ac, 81.20% Impervious, Inflow Depth = 4.20" for 10-Year event
Inflow = 1.61 cfs @ 11.96 hrs, Volume= 0.085 af
Outflow = 0.72 cfs @ 12.07 hrs, Volume= 0.085 af, Atten= 55%, Lag= 6.7 min
Primary = 0.72 cfs @ 12.07 hrs, Volume= 0.085 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,226.99' Surf.Area= 4,000 sf Storage= 1,997 cf
Peak Elev= 2,227.66' @ 12.07 hrs Surf.Area= 6,532 sf Storage= 3,505 cf (1,508 cf above start)

Plug-Flow detention time= 785.0 min calculated for 0.040 af (46% of inflow)
Center-of-Mass det. time= 275.7 min (1,050.6 - 774.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,222.00'	800 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 2,000 cf Overall x 40.0% Voids
#2	2,223.00'	1,200 cf	**filter media (Prismatic)**Listed below (Recalc) 8,000 cf Overall x 15.0% Voids
#3	2,227.00'	5,600 cf	**surface storage (Prismatic)**Listed below (Recalc)
		7,600 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,222.00	2,000	0	0
2,223.00	2,000	2,000	2,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,223.00	2,000	0	0
2,227.00	2,000	8,000	8,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,227.00	2,000	0	0
2,229.00	3,600	5,600	5,600

Device	Routing	Invert	Outlet Devices
#1	Primary	2,226.99'	**0.500 in/hr Exfiltration over Surface area above 2,226.99'** Excluded Surface area = 4,000 sf
#2	Primary	2,227.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 12.07 hrs HW=2,227.66' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)
└**2=Orifice/Grate** (Weir Controls 0.65 cfs @ 1.30 fps)

Summary for Pond P1.3: Pond 1.3

Inflow Area = 25.678 ac, 13.90% Impervious, Inflow Depth = 2.55" for 10-Year event
Inflow = 59.33 cfs @ 12.05 hrs, Volume= 5.462 af
Outflow = 15.06 cfs @ 12.55 hrs, Volume= 5.458 af, Atten= 75%, Lag= 30.0 min
Primary = 15.06 cfs @ 12.55 hrs, Volume= 5.458 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,164.09' Surf.Area= 14,529 sf Storage= 40,390 cf
Peak Elev= 2,168.71' @ 12.55 hrs Surf.Area= 27,986 sf Storage= 137,692 cf (97,302 cf above start)

Plug-Flow detention time= 680.9 min calculated for 4.531 af (83% of inflow)
Center-of-Mass det. time= 458.9 min (1,331.8 - 872.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,160.00'	209,531 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,160.00	5,797	0	0
2,162.00	9,507	15,304	15,304
2,164.00	14,282	23,789	39,093
2,166.00	19,778	34,060	73,153
2,168.00	25,800	45,578	118,731
2,170.00	32,000	57,800	176,531
2,171.00	34,000	33,000	209,531

Device	Routing	Invert	Outlet Devices
#1	Primary	2,162.00'	**36.0" Round Culvert** L= 1.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,162.00' / 2,162.00' S= 0.0000 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,164.10'	**4.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,167.25'	**36.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,170.00'	**30.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=15.06 cfs @ 12.55 hrs HW=2,168.70' (Free Discharge)
└**1=Culvert** (Passes 15.06 cfs of 77.65 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 1.12 cfs @ 10.12 fps)
└**3=Orifice/Grate** (Orifice Controls 13.94 cfs @ 4.65 fps)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P1.4: BIORETENTION

Inflow Area = 1.185 ac, 77.14% Impervious, Inflow Depth = 4.16" for 10-Year event
Inflow = 7.31 cfs @ 11.96 hrs, Volume= 0.411 af
Outflow = 1.55 cfs @ 12.14 hrs, Volume= 0.411 af, Atten= 79%, Lag= 10.8 min
Primary = 1.55 cfs @ 12.14 hrs, Volume= 0.411 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,213.99' Surf.Area= 19,000 sf Storage= 9,486 cf
Peak Elev= 2,214.77' @ 12.14 hrs Surf.Area= 29,401 sf Storage= 17,132 cf (7,647 cf above start)

Plug-Flow detention time= 812.7 min calculated for 0.193 af (47% of inflow)
Center-of-Mass det. time= 281.6 min (1,036.9 - 755.3)

Volume	Invert	Avail.Storage	Storage Description
#1	2,209.00'	3,800 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 9,500 cf Overall x 40.0% Voids
#2	2,210.00'	5,700 cf	**filter media (Prismatic)**Listed below (Recalc) 38,000 cf Overall x 15.0% Voids
#3	2,214.00'	21,350 cf	**surface storage (Prismatic)**Listed below (Recalc)
		30,850 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,209.00	9,500	0	0
2,210.00	9,500	9,500	9,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,210.00	9,500	0	0
2,214.00	9,500	38,000	38,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,214.00	9,500	0	0
2,216.00	11,850	21,350	21,350

Device	Routing	Invert	Outlet Devices
#1	Primary	2,209.00'	**18.0" Round Culvert** L= 325.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,209.00' / 2,208.50' S= 0.0015 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,213.99'	**0.500 in/hr Exfiltration over Surface area above 2,213.99'** Excluded Surface area = 19,000 sf
#3	Device 1	2,214.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,215.50'	**25.0' 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

Primary OutFlow Max=1.53 cfs @ 12.14 hrs HW=2,214.77' (Free Discharge)
- **1=Culvert** (Passes 1.41 cfs of 7.85 cfs potential flow)
  - **3=Orifice/Grate** (Weir Controls 1.41 cfs @ 1.69 fps)
- **2=Exfiltration** (Exfiltration Controls 0.12 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.1: P-1

Inflow Area = 13.491 ac, 29.33% Impervious, Inflow Depth = 2.88" for 10-Year event
Inflow = 37.55 cfs @ 12.00 hrs, Volume= 3.236 af
Outflow = 4.60 cfs @ 13.04 hrs, Volume= 3.234 af, Atten= 88%, Lag= 62.4 min
Primary = 4.60 cfs @ 13.04 hrs, Volume= 3.234 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,298.39' Surf.Area= 9,776 sf Storage= 24,777 cf
Peak Elev= 2,302.43' @ 13.04 hrs Surf.Area= 21,637 sf Storage= 86,832 cf (62,055 cf above start)

Plug-Flow detention time= 854.6 min calculated for 2.665 af (82% of inflow)
Center-of-Mass det. time= 576.1 min (1,464.8 - 888.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2,294.00'	153,289 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,294.00	2,442	0	0
2,296.00	4,967	7,409	7,409
2,298.00	8,782	13,749	21,158
2,300.00	13,877	22,659	43,817
2,302.00	20,200	34,077	77,894
2,304.00	26,926	47,126	125,020
2,305.00	29,612	28,269	153,289

Device	Routing	Invert	Outlet Devices
#1	Primary	2,295.50'	**24.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,295.50' / 2,292.50' S= 0.0500 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,298.40'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,301.25'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,302.25'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	2,303.25'	**25.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.58 cfs @ 13.04 hrs HW=2,302.43' (Free Discharge)
- **1=Culvert** (Passes 4.58 cfs of 36.83 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.63 cfs @ 9.49 fps)
  - **3=Orifice/Grate** (Orifice Controls 3.47 cfs @ 4.62 fps)
  - **4=Orifice/Grate** (Orifice Controls 0.48 cfs @ 1.35 fps)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.10: DRY SWALE

Inflow Area = 1.136 ac, 14.06% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 4.96 cfs @ 11.97 hrs, Volume= 0.240 af
Outflow = 4.54 cfs @ 12.00 hrs, Volume= 0.240 af, Atten= 8%, Lag= 1.9 min
Primary = 4.54 cfs @ 12.00 hrs, Volume= 0.240 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,193.35' @ 12.00 hrs Surf.Area= 2,546 sf Storage= 2,187 cf

Plug-Flow detention time= 263.9 min calculated for 0.240 af (100% of inflow)
Center-of-Mass det. time= 266.1 min (1,095.3 - 829.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,192.00'	2,580 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,192.00	690	0	0
2,193.50	2,750	2,580	2,580

Device	Routing	Invert	Outlet Devices
#1	Primary	2,192.00'	**0.250 in/hr Exfiltration over Surface area**
#2	Primary	2,193.00'	**8.0' 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

Primary OutFlow Max=4.49 cfs @ 12.00 hrs HW=2,193.35' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.01 cfs)
- **2=Broad-Crested Rectangular Weir** (Weir Controls 4.48 cfs @ 1.60 fps)

Summary for Pond P11.11: BIORETENTION

Inflow Area = 1.621 ac, 9.86% Impervious, Inflow Depth = 2.44" for 10-Year event
Inflow = 6.04 cfs @ 12.01 hrs, Volume= 0.329 af
Outflow = 0.84 cfs @ 12.42 hrs, Volume= 0.329 af, Atten= 86%, Lag= 24.6 min
Primary = 0.84 cfs @ 12.42 hrs, Volume= 0.329 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2

Starting Elev= 2,181.99' Surf.Area= 7,600 sf Storage= 3,794 cf
Peak Elev= 2,183.19' @ 12.42 hrs Surf.Area= 12,084 sf Storage= 8,724 cf (4,929 cf above start)

Plug-Flow detention time= 632.8 min calculated for 0.242 af (74% of inflow)
Center-of-Mass det. time= 202.7 min (1,230.9 - 1,028.2)

Volume	Invert	Avail.Storage	Storage Description
#1	2,177.00'	1,520 cf	**gravel underdrain (Prismatic)**Listed below (Recalc) 3,800 cf Overall x 40.0% Voids
#2	2,178.00'	2,280 cf	**filter media (Prismatic)**Listed below (Recalc) 15,200 cf Overall x 15.0% Voids
#3	2,182.00'	8,750 cf	**surface storage (Prismatic)**Listed below (Recalc)
		12,550 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,177.00	3,800	0	0
2,178.00	3,800	3,800	3,800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,178.00	3,800	0	0
2,182.00	3,800	15,200	15,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,182.00	3,800	0	0
2,184.00	4,950	8,750	8,750

Device	Routing	Invert	Outlet Devices
#1	Primary	2,181.99'	**0.500 in/hr Exfiltration over Surface area above 2,181.99'** Excluded Surface area = 7,600 sf
#2	Primary	2,182.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	2,183.50'	**15.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.84 cfs @ 12.42 hrs HW=2,183.19' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.05 cfs)
- **2=Orifice/Grate** (Orifice Controls 0.78 cfs @ 4.00 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.12: BIORETENTION

Inflow Area = 1.366 ac, 60.26% Impervious, Inflow Depth = 3.67" for 10-Year event
Inflow = 8.22 cfs @ 11.97 hrs, Volume= 0.418 af
Outflow = 5.15 cfs @ 11.97 hrs, Volume= 0.362 af, Atten= 37%, Lag= 0.0 min
Primary = 5.15 cfs @ 11.97 hrs, Volume= 0.362 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,410.99' Surf.Area= 8,000 sf Storage= 3,994 cf
Peak Elev= 2,440.24' @ 11.96 hrs Surf.Area= 12,800 sf Storage= 8,400 cf (4,406 cf above start)

Plug-Flow detention time= 398.0 min calculated for 0.271 af (65% of inflow)
Center-of-Mass det. time= 191.0 min (985.7 - 794.7)

Volume	Invert	Avail.Storage	Storage Description
#1	2,406.00'	1,600 cf	**DRAINAGE LAYER (Prismatic)**Listed below (Recalc) 4,000 cf Overall x 40.0% Voids
#2	2,407.00'	2,400 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 16,000 cf Overall x 15.0% Voids
#3	2,411.00'	4,400 cf	**surface storage (Prismatic)**Listed below (Recalc)
		8,400 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,406.00	4,000	0	0
2,407.00	4,000	4,000	4,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,407.00	4,000	0	0
2,411.00	4,000	16,000	16,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,411.00	4,000	0	0
2,412.00	4,800	4,400	4,400

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,410.99'	**0.500 in/hr Exfiltration over Surface area above 2,410.99'** Excluded Surface area = 8,000 sf

Primary OutFlow Max=4.93 cfs @ 11.97 hrs HW=2,438.03' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 4.87 cfs @ 24.80 fps)
└**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Summary for Pond P11.14: BIORETENTION

Inflow Area = 0.597 ac, 65.96% Impervious, Inflow Depth = 3.88" for 10-Year event
Inflow = 3.74 cfs @ 11.96 hrs, Volume= 0.193 af
Outflow = 0.63 cfs @ 12.17 hrs, Volume= 0.193 af, Atten= 83%, Lag= 12.5 min
Primary = 0.63 cfs @ 12.17 hrs, Volume= 0.193 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2

Starting Elev= 2,410.99' Surf.Area= 8,000 sf Storage= 3,994 cf
Peak Elev= 2,411.87' @ 12.17 hrs Surf.Area= 12,697 sf Storage= 7,786 cf (3,792 cf above start)

Plug-Flow detention time= 693.5 min calculated for 0.101 af (52% of inflow)
Center-of-Mass det. time= 274.6 min (1,062.1 - 787.5)

Volume	Invert	Avail.Storage	Storage Description
#1	2,406.00'	1,600 cf	**DRAINAGE LAYER (Prismatic)**Listed below (Recalc) 4,000 cf Overall x 40.0% Voids
#2	2,407.00'	2,400 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 16,000 cf Overall x 15.0% Voids
#3	2,411.00'	4,400 cf	**surface storage (Prismatic)**Listed below (Recalc)
		8,400 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,406.00	4,000	0	0
2,407.00	4,000	4,000	4,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,407.00	4,000	0	0
2,411.00	4,000	16,000	16,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,411.00	4,000	0	0
2,412.00	4,800	4,400	4,400

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,410.99'	**0.500 in/hr Exfiltration over Surface area above 2,410.99'** Excluded Surface area = 8,000 sf

Primary OutFlow Max=0.63 cfs @ 12.17 hrs HW=2,411.87' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.57 cfs @ 2.93 fps)
└**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Summary for Pond P11.2: BIORETENTION

Inflow Area = 2.158 ac, 41.85% Impervious, Inflow Depth = 3.27" for 10-Year event
Inflow = 10.70 cfs @ 11.99 hrs, Volume= 0.588 af
Outflow = 2.58 cfs @ 12.16 hrs, Volume= 0.588 af, Atten= 76%, Lag= 10.7 min
Primary = 2.58 cfs @ 12.16 hrs, Volume= 0.588 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,371.99' Surf.Area= 21,000 sf Storage= 10,484 cf
Peak Elev= 2,372.92' @ 12.16 hrs Surf.Area= 33,047 sf Storage= 20,831 cf (10,346 cf above start)

Plug-Flow detention time= 621.1 min calculated for 0.348 af (59% of inflow)

Center-of-Mass det. time= 252.6 min (1,035.7 - 783.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,367.00'	4,200 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 10,500 cf Overall x 40.0% Voids
#2	2,368.00'	6,300 cf	**filter media (Prismatic)**Listed below (Recalc) 42,000 cf Overall x 15.0% Voids
#3	2,372.00'	24,376 cf	**surface storage (Prismatic)**Listed below (Recalc)
		34,876 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,367.00	10,500	0	0
2,368.00	10,500	10,500	10,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,368.00	10,500	0	0
2,372.00	10,500	42,000	42,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,372.00	10,500	0	0
2,374.00	13,876	24,376	24,376

Device	Routing	Invert	Outlet Devices
#1	Primary	2,367.00'	**12.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,367.00' / 2,366.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,371.99'	**0.500 in/hr Exfiltration over Surface area above 2,371.99'** Excluded Surface area = 21,000 sf
#3	Device 1	2,372.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,373.25'	**15.0' 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

Primary OutFlow Max=2.57 cfs @ 12.16 hrs HW=2,372.91' (Free Discharge)
- **1=Culvert** (Passes 2.57 cfs of 6.71 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.14 cfs)
  - **3=Orifice/Grate** (Orifice Controls 2.43 cfs @ 3.10 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.4: BIORETENTION

Inflow Area = 1.520 ac, 70.97% Impervious, Inflow Depth = 3.98" for 10-Year event
Inflow = 9.69 cfs @ 11.96 hrs, Volume= 0.504 af
Outflow = 2.09 cfs @ 12.14 hrs, Volume= 0.505 af, Atten= 78%, Lag= 10.6 min
Primary = 2.09 cfs @ 12.14 hrs, Volume= 0.505 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,457.99' Surf.Area= 22,000 sf Storage= 10,983 cf
Peak Elev= 2,458.83' @ 12.14 hrs Surf.Area= 34,489 sf Storage= 20,770 cf (9,786 cf above start)

Plug-Flow detention time= 737.8 min calculated for 0.252 af (50% of inflow)
Center-of-Mass det. time= 282.6 min (1,066.1 - 783.6)

Volume	Invert	Avail.Storage	Storage Description
#1	2,453.00'	4,400 cf	**STONE LAYER (Prismatic)**Listed below (Recalc) 11,000 cf Overall x 40.0% Voids
#2	2,454.00'	6,600 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 44,000 cf Overall x 15.0% Voids
#3	2,458.00'	25,580 cf	**surface storage (Prismatic)**Listed below (Recalc)
		36,580 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,453.00	11,000	0	0
2,454.00	11,000	11,000	11,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,454.00	11,000	0	0
2,458.00	11,000	44,000	44,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,458.00	11,000	0	0
2,460.00	14,580	25,580	25,580

Device	Routing	Invert	Outlet Devices
#1	Primary	2,453.00'	**12.0" Round Culvert** L= 175.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,453.00' / 2,447.00' S= 0.0343 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,458.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	2,457.99'	**0.500 in/hr Exfiltration over Surface area above 2,457.99'** Excluded Surface area = 22,000 sf

Primary OutFlow Max=2.10 cfs @ 12.14 hrs HW=2,458.83' (Free Discharge)
└**1=Culvert** (Passes 2.10 cfs of 5.45 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 1.96 cfs @ 1.88 fps)
└**3=Exfiltration** (Exfiltration Controls 0.14 cfs)

Summary for Pond P11.6: DRY SWALE

Inflow Area = 0.138 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.95 cfs @ 11.96 hrs, Volume= 0.055 af
Outflow = 0.64 cfs @ 12.05 hrs, Volume= 0.055 af, Atten= 33%, Lag= 5.0 min
Primary = 0.64 cfs @ 12.05 hrs, Volume= 0.055 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,483.08' @ 12.05 hrs Surf.Area= 1,616 sf Storage= 1,145 cf

Plug-Flow detention time= 853.2 min calculated for 0.055 af (100% of inflow)
Center-of-Mass det. time= 853.0 min (1,596.9 - 743.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,482.00'	1,911 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,482.00	500	0	0
2,483.50	2,048	1,911	1,911

Device	Routing	Invert	Outlet Devices
#1	Primary	2,482.00'	**0.250 in/hr Exfiltration over Surface area**
#2	Primary	2,483.00'	**10.0' 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

Primary OutFlow Max=0.63 cfs @ 12.05 hrs HW=2,483.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.62 cfs @ 0.76 fps)

Summary for Pond P11.7: BIORETENTION

Inflow Area = 0.655 ac, 58.70% Impervious, Inflow Depth = 3.67" for 10-Year event
Inflow = 3.94 cfs @ 11.97 hrs, Volume= 0.200 af
Outflow = 0.59 cfs @ 12.20 hrs, Volume= 0.200 af, Atten= 85%, Lag= 14.2 min
Primary = 0.59 cfs @ 12.20 hrs, Volume= 0.200 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,247.99' Surf.Area= 9,100 sf Storage= 4,543 cf
Peak Elev= 2,248.82' @ 12.20 hrs Surf.Area= 14,162 sf Storage= 8,487 cf (3,944 cf above start)

Plug-Flow detention time= 772.4 min calculated for 0.096 af (48% of inflow)
Center-of-Mass det. time= 291.6 min (1,086.4 - 794.7)

Volume	Invert	Avail.Storage	Storage Description
#1	2,243.00'	1,820 cf	**gravel drainage layer (Prismatic)**Listed below (Recalc) 4,550 cf Overall x 40.0% Voids
#2	2,244.00'	2,730 cf	**filter media (Prismatic)**Listed below (Recalc) 18,200 cf Overall x 15.0% Voids
#3	2,248.00'	10,350 cf	**surface storage (Prismatic)**Listed below (Recalc)
		14,900 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,243.00	4,550	0	0
2,244.00	4,550	4,550	4,550

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,244.00	4,550	0	0
2,248.00	4,550	18,200	18,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,248.00	4,550	0	0
2,250.00	5,800	10,350	10,350

Device	Routing	Invert	Outlet Devices
#1	Primary	2,243.00'	**18.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,243.00' / 2,240.00' S= 0.0600 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,247.99'	**0.500 in/hr Exfiltration over Surface area above 2,247.99'** Excluded Surface area = 9,100 sf
#3	Device 1	2,248.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,249.00'	**25.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.59 cfs @ 12.20 hrs HW=2,248.82' (Free Discharge)
- **1=Culvert** (Passes 0.59 cfs of 19.16 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.06 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.53 cfs @ 2.72 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.8: BIORETENTION

Inflow Area = 0.365 ac, 78.17% Impervious, Inflow Depth = 4.20" for 10-Year event
Inflow = 2.40 cfs @ 11.96 hrs, Volume= 0.128 af
Outflow = 0.51 cfs @ 12.14 hrs, Volume= 0.128 af, Atten= 79%, Lag= 10.6 min
Primary = 0.51 cfs @ 12.14 hrs, Volume= 0.128 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,259.99' Surf.Area= 6,150 sf Storage= 3,070 cf
Peak Elev= 2,260.75' @ 12.14 hrs Surf.Area= 9,591 sf Storage= 5,519 cf (2,449 cf above start)

Plug-Flow detention time= 818.4 min calculated for 0.057 af (45% of inflow)
Center-of-Mass det. time= 286.2 min (1,061.0 - 774.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,255.00'	1,230 cf	**gravel underdrain (Prismatic)**Listed below (Recalc) 3,075 cf Overall x 40.0% Voids
#2	2,256.00'	1,845 cf	**filter media (Prismatic)**Listed below (Recalc) 12,300 cf Overall x 15.0% Voids
#3	2,260.00'	7,125 cf	**surface storage (Prismatic)**Listed below (Recalc)
		10,200 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,255.00	3,075	0	0
2,256.00	3,075	3,075	3,075

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,256.00	3,075	0	0
2,260.00	3,075	12,300	12,300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,260.00	3,075	0	0
2,262.00	4,050	7,125	7,125

Device	Routing	Invert	Outlet Devices
#1	Primary	2,255.00'	**12.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,255.00' / 2,254.50' S= 0.0100 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,259.99'	**0.500 in/hr Exfiltration over Surface area above 2,259.99'** Excluded Surface area = 6,150 sf
#3	Device 1	2,260.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,261.00'	**15.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.51 cfs @ 12.14 hrs HW=2,260.75' (Free Discharge)
- **1=Culvert** (Passes 0.51 cfs of 6.32 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.04 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.47 cfs @ 2.41 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.9: BIORETENTION

Inflow Area = 0.575 ac, 22.45% Impervious, Inflow Depth = 2.80" for 10-Year event
Inflow = 2.75 cfs @ 11.97 hrs, Volume= 0.134 af
Outflow = 2.13 cfs @ 12.04 hrs, Volume= 0.134 af, Atten= 23%, Lag= 3.9 min
Primary = 2.13 cfs @ 12.04 hrs, Volume= 0.134 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,218.99' Surf.Area= 3,680 sf Storage= 1,837 cf
Peak Elev= 2,219.68' @ 12.03 hrs Surf.Area= 6,387 sf Storage= 3,582 cf (1,745 cf above start)

Plug-Flow detention time= 502.9 min calculated for 0.092 af (69% of inflow)
Center-of-Mass det. time= 238.4 min (1,059.7 - 821.4)

Volume	Invert	Avail.Storage	Storage Description
#1	2,214.00'	736 cf	**gravel drainage layer (Prismatic)**Listed below (Recalc) 1,840 cf Overall x 40.0% Voids
#2	2,215.00'	1,104 cf	**filter media (Prismatic)**Listed below (Recalc) 7,360 cf Overall x 15.0% Voids
#3	2,219.00'	5,700 cf	**surface storage (Prismatic)**Listed below (Recalc)
		7,540 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,214.00	1,840	0	0
2,215.00	1,840	1,840	1,840

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,215.00	1,840	0	0
2,219.00	1,840	7,360	7,360

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,219.00	2,400	0	0
2,221.00	3,300	5,700	5,700

Device	Routing	Invert	Outlet Devices
#1	Primary	2,218.99'	**0.500 in/hr Exfiltration over Surface area above 2,218.99'** Excluded Surface area = 3,680 sf
#2	Primary	2,219.50'	**10.0' 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

Primary OutFlow Max=2.05 cfs @ 12.04 hrs HW=2,219.68' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 2.01 cfs @ 1.13 fps)

Summary for Pond P12.1: Pond 12.1

Inflow Area = 6.530 ac, 24.64% Impervious, Inflow Depth = 2.88" for 10-Year event
Inflow = 24.86 cfs @ 12.02 hrs, Volume= 1.570 af
Outflow = 2.67 cfs @ 12.62 hrs, Volume= 1.566 af, Atten= 89%, Lag= 35.4 min
Primary = 2.67 cfs @ 12.62 hrs, Volume= 1.566 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,296.49' Surf.Area= 8,129 sf Storage= 13,732 cf
Peak Elev= 2,299.41' @ 12.62 hrs Surf.Area= 15,388 sf Storage= 47,844 cf (34,112 cf above start)

Plug-Flow detention time= 896.5 min calculated for 1.251 af (80% of inflow)
Center-of-Mass det. time= 619.9 min (1,460.1 - 840.2)

Volume	Invert	Avail.Storage	Storage Description
#1	2,294.00'	120,048 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,294.00	3,070	0	0
2,296.00	6,964	10,034	10,034
2,298.00	11,720	18,684	28,718
2,300.00	16,919	28,639	57,357
2,302.00	22,520	39,439	96,796
2,303.00	23,983	23,252	120,048

Device	Routing	Invert	Outlet Devices
#1	Primary	2,294.00'	**24.0" Round Culvert** L= 350.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,294.00' / 2,276.00' S= 0.0514 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,296.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,298.75'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,301.00'	**10.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.67 cfs @ 12.62 hrs HW=2,299.41' (Free Discharge)
- **1=Culvert** (Passes 2.67 cfs of 31.77 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.39 cfs @ 8.04 fps)
  - **3=Orifice/Grate** (Orifice Controls 2.28 cfs @ 3.03 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P2.1: Pond 2.1

Inflow Area = 16.159 ac, 17.05% Impervious, Inflow Depth = 2.67" for 10-Year event
Inflow = 50.37 cfs @ 12.01 hrs, Volume= 3.600 af
Outflow = 10.15 cfs @ 12.42 hrs, Volume= 3.595 af, Atten= 80%, Lag= 24.7 min
Primary = 10.15 cfs @ 12.42 hrs, Volume= 3.595 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,182.99' Surf.Area= 13,676 sf Storage= 30,438 cf
Peak Elev= 2,186.79' @ 12.42 hrs Surf.Area= 23,560 sf Storage= 100,664 cf (70,226 cf above start)

Plug-Flow detention time= 732.8 min calculated for 2.896 af (80% of inflow)
Center-of-Mass det. time= 492.2 min (1,329.7 - 837.5)

Volume	Invert	Avail.Storage	Storage Description
#1	2,180.00'	159,675 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,180.00	6,775	0	0
2,182.00	11,300	18,075	18,075
2,184.00	16,100	27,400	45,475
2,186.00	21,300	37,400	82,875
2,188.00	27,000	48,300	131,175
2,189.00	30,000	28,500	159,675

Device	Routing	Invert	Outlet Devices
#1	Primary	2,183.00'	**36.0" Round Culvert** L= 200.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,183.00' / 2,180.00' S= 0.0150 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,183.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,185.50'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,186.00'	**30.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	2,188.00'	**10.0' 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

Primary OutFlow Max=10.13 cfs @ 12.42 hrs HW=2,186.79' (Free Discharge)
- **1=Culvert** (Passes 10.13 cfs of 51.52 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.80 cfs @ 9.17 fps)
  - **3=Orifice/Grate** (Orifice Controls 3.68 cfs @ 4.90 fps)
  - **4=Orifice/Grate** (Orifice Controls 5.65 cfs @ 2.86 fps)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P4.1: P-1

Inflow Area = 26.676 ac, 13.82% Impervious, Inflow Depth = 2.57" for 10-Year event
Inflow = 79.75 cfs @ 12.02 hrs, Volume= 5.720 af
Outflow = 30.14 cfs @ 12.25 hrs, Volume= 5.718 af, Atten= 62%, Lag= 13.6 min
Primary = 30.14 cfs @ 12.25 hrs, Volume= 5.718 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,185.50' Surf.Area= 14,800 sf Storage= 41,775 cf
Peak Elev= 2,189.64' @ 12.25 hrs Surf.Area= 27,320 sf Storage= 127,923 cf (86,148 cf above start)

Plug-Flow detention time= 594.4 min calculated for 4.759 af (83% of inflow)
Center-of-Mass det. time= 389.3 min (1,255.3 - 866.0)

Volume	Invert	Avail.Storage	Storage Description
#1	2,181.00'	168,440 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,181.00	4,390	0	0
2,182.00	6,270	5,330	5,330
2,184.00	10,900	17,170	22,500
2,186.00	16,100	27,000	49,500
2,188.00	21,900	38,000	87,500
2,190.00	28,500	50,400	137,900
2,191.00	32,580	30,540	168,440

Device	Routing	Invert	Outlet Devices
#1	Primary	2,181.00'	**30.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,181.00' / 2,180.85' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,185.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,187.50'	**36.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,189.75'	**36.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Secondary	2,189.75'	**20.0' 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

Primary OutFlow Max=30.13 cfs @ 12.25 hrs HW=2,189.64' (Free Discharge)
└**1=Culvert** (Passes 30.13 cfs of 64.26 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.47 cfs @ 9.65 fps)
  ├**3=Orifice/Grate** (Orifice Controls 29.66 cfs @ 4.94 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=2,185.50' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P6.1: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 4.20" for 10-Year event
Inflow = 1.21 cfs @ 11.96 hrs, Volume= 0.064 af
Outflow = 0.83 cfs @ 12.04 hrs, Volume= 0.064 af, Atten= 31%, Lag= 4.6 min
Primary = 0.83 cfs @ 12.04 hrs, Volume= 0.064 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.65' @ 12.04 hrs Surf.Area= 3,245 sf Storage= 1,793 cf (994 cf above start)

Plug-Flow detention time= 509.7 min calculated for 0.046 af (72% of inflow)
Center-of-Mass det. time= 259.7 min (1,034.5 - 774.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=0.80 cfs @ 12.04 hrs HW=1,686.65' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.78 cfs @ 1.04 fps)

Summary for Pond P8.1: DRY SWALE

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 2.89" for 10-Year event
Inflow = 10.66 cfs @ 12.05 hrs, Volume= 0.655 af
Outflow = 9.74 cfs @ 12.05 hrs, Volume= 0.645 af, Atten= 9%, Lag= 0.0 min
Primary = 9.74 cfs @ 12.05 hrs, Volume= 0.645 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,309.58' @ 12.05 hrs Surf.Area= 2,921 sf Storage= 2,746 cf

Plug-Flow detention time= 90.0 min calculated for 0.645 af (99% of inflow)
Center-of-Mass det. time= 81.4 min (906.9 - 825.5)

Volume	Invert	Avail.Storage	Storage Description
#1	2,308.00'	2,746 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,308.00	740	0	0
2,309.50	2,921	2,746	2,746

Device	Routing	Invert	Outlet Devices
#1	Primary	2,309.00'	**8.0' 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
#2	Primary	2,308.00'	**0.500 in/hr Exfiltration over Surface area**

Primary OutFlow Max=9.71 cfs @ 12.05 hrs HW=2,309.58' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 9.68 cfs @ 2.09 fps)
└**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Pond P8.2: P-3

Inflow Area = 3.450 ac, 12.00% Impervious, Inflow Depth = 10.86" for 10-Year event
Inflow = 47.19 cfs @ 12.02 hrs, Volume= 3.123 af
Outflow = 18.26 cfs @ 12.22 hrs, Volume= 3.121 af, Atten= 61%, Lag= 12.2 min
Primary = 18.26 cfs @ 12.22 hrs, Volume= 3.121 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,679.25' Surf.Area= 9,045 sf Storage= 25,779 cf
Peak Elev= 1,683.01' @ 12.22 hrs Surf.Area= 17,099 sf Storage= 74,260 cf (48,481 cf above start)

Plug-Flow detention time= 587.3 min calculated for 2.530 af (81% of inflow)
Center-of-Mass det. time= 364.2 min (1,228.5 - 864.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,674.00'	112,698 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,674.00	1,790	0	0
1,676.00	3,789	5,579	5,579
1,678.00	6,620	10,409	15,988
1,680.00	10,500	17,120	33,108
1,682.00	14,650	25,150	58,258
1,684.00	19,510	34,160	92,418
1,685.00	21,050	20,280	112,698

Device	Routing	Invert	Outlet Devices
#1	Primary	1,678.00'	**36.0" Round Culvert** L= 93.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,678.00' / 1,677.00' S= 0.0108 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,679.25'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,681.50'	**36.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	1,683.25'	**20.0' 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

Primary OutFlow Max=18.14 cfs @ 12.22 hrs HW=1,683.00' (Free Discharge)
- **1=Culvert** (Passes 18.14 cfs of 55.82 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.45 cfs @ 9.17 fps)
  - **3=Orifice/Grate** (Orifice Controls 17.69 cfs @ 3.93 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P8.3: DRY SWALE

Inflow Area = 1.145 ac, 16.92% Impervious, Inflow Depth = 2.71" for 10-Year event
Inflow = 5.32 cfs @ 11.97 hrs, Volume= 0.259 af
Outflow = 4.93 cfs @ 12.00 hrs, Volume= 0.259 af, Atten= 7%, Lag= 1.7 min
Primary = 4.93 cfs @ 12.00 hrs, Volume= 0.259 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,756.37' @ 12.00 hrs Surf.Area= 2,484 sf Storage= 2,155 cf

Plug-Flow detention time= 166.4 min calculated for 0.259 af (100% of inflow)
Center-of-Mass det. time= 166.9 min (990.9 - 824.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,755.00'	2,487 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,755.00	660	0	0
1,756.50	2,656	2,487	2,487

Device	Routing	Invert	Outlet Devices
#1	Primary	1,756.00'	**8.0' 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
#2	Primary	1,755.00'	**0.500 in/hr Exfiltration over Surface area**

Primary OutFlow Max=4.93 cfs @ 12.00 hrs HW=1,756.37' (Free Discharge)
- **1=Broad-Crested Rectangular Weir** (Weir Controls 4.90 cfs @ 1.65 fps)
- **2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Pond P8.4: P-3

Inflow Area = 26.981 ac, 22.99% Impervious, Inflow Depth = 1.72" for 10-Year event
Inflow = 61.06 cfs @ 12.01 hrs, Volume= 3.863 af
Outflow = 12.78 cfs @ 12.36 hrs, Volume= 3.863 af, Atten= 79%, Lag= 21.1 min
Primary = 12.78 cfs @ 12.36 hrs, Volume= 3.863 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,665.50' Surf.Area= 12,392 sf Storage= 32,108 cf
Peak Elev= 1,669.81' @ 12.36 hrs Surf.Area= 22,083 sf Storage= 105,587 cf (73,479 cf above start)

Plug-Flow detention time= 777.3 min calculated for 3.125 af (81% of inflow)
Center-of-Mass det. time= 524.5 min (1,378.3 - 853.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	160,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,662.00	5,962	0	0
1,664.00	9,630	15,592	15,592
1,666.00	13,312	22,942	38,534
1,668.00	17,713	31,025	69,559
1,670.00	22,540	40,253	109,812
1,672.00	27,748	50,288	160,100

Device	Routing	Invert	Outlet Devices
#1	Primary	1,663.75'	**30.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,663.75' / 1,663.50' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,665.50'	**3.7" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,668.50'	**30.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Secondary	1,670.50'	**20.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=12.75 cfs @ 12.36 hrs HW=1,669.81' (Free Discharge)
└**1=Culvert** (Passes 12.75 cfs of 47.72 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.73 cfs @ 9.81 fps)
└**3=Orifice/Grate** (Orifice Controls 12.02 cfs @ 3.67 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,665.50' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P8.5: I-2

Inflow Area = 2.352 ac, 39.21% Impervious, Inflow Depth = 3.17" for 10-Year event
Inflow = 12.60 cfs @ 11.97 hrs, Volume= 0.622 af
Outflow = 0.30 cfs @ 15.21 hrs, Volume= 0.622 af, Atten= 98%, Lag= 194.5 min
Discarded = 0.22 cfs @ 15.21 hrs, Volume= 0.548 af
Primary = 0.09 cfs @ 15.21 hrs, Volume= 0.074 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,678.96' @ 15.21 hrs Surf.Area= 7,044 sf Storage= 17,622 cf

Plug-Flow detention time= 878.1 min calculated for 0.622 af (100% of inflow)
Center-of-Mass det. time= 878.7 min (1,689.0 - 810.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,674.00'	34,944 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,674.00	465	0	0
1,676.00	2,800	3,265	3,265
1,678.00	5,541	8,341	11,606
1,680.00	8,686	14,227	25,833
1,681.00	9,535	9,111	34,944

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,674.00'	**1.340 in/hr Exfiltration over Surface area**
#2	Primary	1,674.00'	**24.0" Round Culvert** L= 500.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,674.00' / 1,662.50' S= 0.0230 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#3	Device 2	1,678.20'	**2.0" Vert. Orifice/Grate** C= 0.600
#4	Device 2	1,679.50'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Primary	1,680.00'	**20.0' 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=0.22 cfs @ 15.21 hrs HW=1,678.96' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.22 cfs)

Primary OutFlow Max=0.09 cfs @ 15.21 hrs HW=1,678.96' (Free Discharge)
└**2=Culvert** (Passes 0.09 cfs of 23.78 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 0.09 cfs @ 3.95 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P9.2: Pond 9.2

Inflow Area = 12.954 ac, 25.61% Impervious, Inflow Depth = 2.90" for 10-Year event
Inflow = 47.14 cfs @ 11.99 hrs, Volume= 3.132 af
Outflow = 5.53 cfs @ 12.58 hrs, Volume= 3.131 af, Atten= 88%, Lag= 35.4 min
Primary = 5.53 cfs @ 12.58 hrs, Volume= 3.131 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,670.00' Surf.Area= 13,607 sf Storage= 25,872 cf
Peak Elev= 1,673.65' @ 12.58 hrs Surf.Area= 22,454 sf Storage= 91,334 cf (65,462 cf above start)

Plug-Flow detention time= 905.9 min calculated for 2.537 af (81% of inflow)
Center-of-Mass det. time= 629.8 min (1,474.9 - 845.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,666.00'	166,295 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,666.00	3,085	0	0
1,668.00	4,590	7,675	7,675
1,670.00	13,607	18,197	25,872
1,672.00	18,274	31,881	57,753
1,674.00	23,344	41,618	99,371
1,676.00	28,815	52,159	151,530
1,676.50	30,246	14,765	166,295

Device	Routing	Invert	Outlet Devices
#1	Primary	1,668.00'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,668.00' / 1,666.00' S= 0.0364 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,670.00'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,672.50'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	1,673.50'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	1,674.50'	**20.0' 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

Primary OutFlow Max=5.52 cfs @ 12.58 hrs HW=1,673.65' (Free Discharge)
- **1=Culvert** (Passes 5.52 cfs of 32.61 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.60 cfs @ 9.01 fps)
  - **3=Orifice/Grate** (Orifice Controls 4.55 cfs @ 4.55 fps)
  - **4=Orifice/Grate** (Orifice Controls 0.37 cfs @ 1.24 fps)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond R1.10: PIPE

Inflow Area = 21.914 ac, 7.72% Impervious, Inflow Depth = 2.39" for 10-Year event
Inflow = 49.11 cfs @ 12.07 hrs, Volume= 4.362 af
Outflow = 49.11 cfs @ 12.07 hrs, Volume= 4.362 af, Atten= 0%, Lag= 0.0 min
Primary = 49.11 cfs @ 12.07 hrs, Volume= 4.362 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,263.58' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,260.00'	**36.0" Round Culvert** L= 1,125.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,260.00' / 2,185.00' S= 0.0667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=48.73 cfs @ 12.07 hrs HW=2,263.55' (Free Discharge)
1=Culvert (Inlet Controls 48.73 cfs @ 6.89 fps)

Summary for Pond R1.11: Pipe

Inflow Area = 22.468 ac, 9.65% Impervious, Inflow Depth = 2.44" for 10-Year event
Inflow = 51.16 cfs @ 12.07 hrs, Volume= 4.565 af
Outflow = 51.16 cfs @ 12.07 hrs, Volume= 4.565 af, Atten= 0%, Lag= 0.0 min
Primary = 51.16 cfs @ 12.07 hrs, Volume= 4.565 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,192.72' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,190.00'	**48.0" Round Culvert** L= 230.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,190.00' / 2,180.00' S= 0.0435 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=50.77 cfs @ 12.07 hrs HW=2,192.71' (Free Discharge)
1=Culvert (Inlet Controls 50.77 cfs @ 5.60 fps)

Summary for Pond R1.3: Culvert

Inflow Area = 10.291 ac, 2.57% Impervious, Inflow Depth = 2.26" for 10-Year event
Inflow = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af
Outflow = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af, Atten= 0%, Lag= 0.0 min
Primary = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,402.48' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,400.00'	**36.0" Round Culvert** L= 1,255.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 2,400.00' / 2,318.00' S= 0.0653 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=28.95 cfs @ 12.07 hrs HW=2,402.44' (Free Discharge)
└**1=Culvert** (Inlet Controls 28.95 cfs @ 4.70 fps)

Summary for Pond R1.4: pipe

Inflow Area = 10.291 ac, 2.57% Impervious, Inflow Depth = 2.26" for 10-Year event
Inflow = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af
Outflow = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af, Atten= 0%, Lag= 0.0 min
Primary = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,302.28' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,300.00'	**36.0" Round Culvert**
			L= 950.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,300.00' / 2,212.00' S= 0.0926 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=28.95 cfs @ 12.07 hrs HW=2,302.25' (Free Discharge)
└**1=Culvert** (Inlet Controls 28.95 cfs @ 5.10 fps)

Summary for Pond R1.5: Pipe

Inflow Area = 11.201 ac, 9.91% Impervious, Inflow Depth = 2.45" for 10-Year event
Inflow = 32.80 cfs @ 12.05 hrs, Volume= 2.285 af
Outflow = 32.80 cfs @ 12.05 hrs, Volume= 2.285 af, Atten= 0%, Lag= 0.0 min
Primary = 32.80 cfs @ 12.05 hrs, Volume= 2.285 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,197.44' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,195.00'	**36.0" Round Culvert**
			L= 120.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,195.00' / 2,180.00' S= 0.1250 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=32.78 cfs @ 12.05 hrs HW=2,197.44' (Free Discharge)
└**1=Culvert** (Inlet Controls 32.78 cfs @ 5.32 fps)

Summary for Pond R1.6: pipe

Inflow Area = 0.909 ac, 92.98% Impervious, Inflow Depth = 4.53" for 10-Year event
Inflow = 6.20 cfs @ 11.96 hrs, Volume= 0.344 af
Outflow = 6.20 cfs @ 11.96 hrs, Volume= 0.344 af, Atten= 0%, Lag= 0.0 min
Primary = 6.20 cfs @ 11.96 hrs, Volume= 0.344 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,208.46' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,207.00'	**24.0" Round Culvert** L= 260.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,207.00' / 2,205.70' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=6.05 cfs @ 11.96 hrs HW=2,208.44' (Free Discharge)
└**1=Culvert** (Barrel Controls 6.05 cfs @ 3.50 fps)

Summary for Pond R1.7: Culvert

Inflow Area = 3.337 ac, 12.31% Impervious, Inflow Depth = 2.64" for 10-Year event
Inflow = 12.51 cfs @ 11.98 hrs, Volume= 0.733 af
Outflow = 12.51 cfs @ 11.98 hrs, Volume= 0.733 af, Atten= 0%, Lag= 0.0 min
Primary = 12.51 cfs @ 11.98 hrs, Volume= 0.733 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,206.85' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,206.00'	**60.0" W x 36.0" H Box Culvert** L= 50.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,206.00' / 2,205.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete, trowel finish

Primary OutFlow Max=12.02 cfs @ 11.98 hrs HW=2,206.82' (Free Discharge)
└**1=Culvert** (Inlet Controls 12.02 cfs @ 2.91 fps)

Summary for Pond R1.9: PIPE

Inflow Area = 17.718 ac, 2.79% Impervious, Inflow Depth = 2.27" for 10-Year event
Inflow = 42.66 cfs @ 12.13 hrs, Volume= 3.351 af
Outflow = 42.66 cfs @ 12.13 hrs, Volume= 3.351 af, Atten= 0%, Lag= 0.0 min
Primary = 42.66 cfs @ 12.13 hrs, Volume= 3.351 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,298.07' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,295.00'	**36.0" Round Culvert** L= 350.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,295.00' / 2,262.00' S= 0.0943 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=42.14 cfs @ 12.13 hrs HW=2,298.03' (Free Discharge)
└**1=Culvert** (Inlet Controls 42.14 cfs @ 5.96 fps)

Summary for Pond R11.11: CULVERT

Inflow Area = 5.217 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 14.53 cfs @ 12.08 hrs, Volume= 0.955 af
Outflow = 14.53 cfs @ 12.08 hrs, Volume= 0.955 af, Atten= 0%, Lag= 0.0 min
Primary = 14.53 cfs @ 12.08 hrs, Volume= 0.955 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,479.75' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,478.00'	**30.0" Round Culvert** L= 35.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,478.00' / 2,470.00' S= 0.2286 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=14.26 cfs @ 12.08 hrs HW=2,479.73' (Free Discharge)
1=Culvert (Inlet Controls 14.26 cfs @ 3.95 fps)

Summary for Pond R11.15: CB

Inflow Area = 11.496 ac, 0.90% Impervious, Inflow Depth = 2.22" for 10-Year event
Inflow = 27.09 cfs @ 12.14 hrs, Volume= 2.128 af
Outflow = 27.09 cfs @ 12.14 hrs, Volume= 2.128 af, Atten= 0%, Lag= 0.0 min
Primary = 27.09 cfs @ 12.14 hrs, Volume= 2.128 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,454.51' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,452.00'	**36.0" Round Culvert** L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,452.00' / 2,451.00' S= 0.0091 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=26.90 cfs @ 12.14 hrs HW=2,454.49' (Free Discharge)
1=Culvert (Barrel Controls 26.90 cfs @ 5.80 fps)

Summary for Pond R11.17: CB

Inflow Area = 11.507 ac, 0.00% Impervious, Inflow Depth = 2.19" for 10-Year event
Inflow = 29.04 cfs @ 12.05 hrs, Volume= 2.104 af
Outflow = 29.04 cfs @ 12.05 hrs, Volume= 2.104 af, Atten= 0%, Lag= 0.0 min
Primary = 29.04 cfs @ 12.05 hrs, Volume= 2.104 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,437.25' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,435.00'	**36.0" Round Culvert** L= 290.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 2,435.00' / 2,410.00' S= 0.0862 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=28.85 cfs @ 12.05 hrs HW=2,437.24' (Free Discharge)
1=Culvert (Inlet Controls 28.85 cfs @ 5.10 fps)

Summary for Pond R11.19: CB

Inflow Area = 1.118 ac, 74.27% Impervious, Inflow Depth = 4.06" for 10-Year event
Inflow = 7.15 cfs @ 11.96 hrs, Volume= 0.378 af
Outflow = 7.15 cfs @ 11.96 hrs, Volume= 0.378 af, Atten= 0%, Lag= 0.0 min
Primary = 7.15 cfs @ 11.96 hrs, Volume= 0.378 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,421.01' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,420.00'	**36.0" Round Culvert** L= 290.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,420.00' / 2,395.00' S= 0.0862 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=6.96 cfs @ 11.96 hrs HW=2,421.00' (Free Discharge)
1=Culvert (Inlet Controls 6.96 cfs @ 3.40 fps)

Summary for Pond R11.20: CULVERT

Inflow Area = 5.469 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 15.18 cfs @ 12.08 hrs, Volume= 1.002 af
Outflow = 15.18 cfs @ 12.08 hrs, Volume= 1.002 af, Atten= 0%, Lag= 0.0 min
Primary = 15.18 cfs @ 12.08 hrs, Volume= 1.002 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,460.66' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,459.00'	**30.0" Round Culvert** L= 900.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 2,459.00' / 2,394.00' S= 0.0722 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=14.90 cfs @ 12.08 hrs HW=2,460.64' (Free Discharge)
1=Culvert (Inlet Controls 14.90 cfs @ 4.36 fps)

Summary for Pond R11.21: CULVERT

Inflow Area = 8.551 ac, 23.95% Impervious, Inflow Depth = 2.72" for 10-Year event
Inflow = 23.95 cfs @ 12.00 hrs, Volume= 1.935 af
Outflow = 23.95 cfs @ 12.00 hrs, Volume= 1.935 af, Atten= 0%, Lag= 0.0 min
Primary = 23.95 cfs @ 12.00 hrs, Volume= 1.935 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,395.99' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,394.00'	**36.0" Round Culvert** L= 900.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,394.00' / 2,328.00' S= 0.0733 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=23.92 cfs @ 12.00 hrs HW=2,395.99' (Free Discharge)
1=Culvert (Inlet Controls 23.92 cfs @ 4.80 fps)

Summary for Pond R11.22: CB

Inflow Area = 0.233 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.61 cfs @ 11.96 hrs, Volume= 0.093 af
Outflow = 1.61 cfs @ 11.96 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min
Primary = 1.61 cfs @ 11.96 hrs, Volume= 0.093 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,460.50' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,460.00'	**36.0" Round Culvert** L= 770.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,460.00' / 2,450.00' S= 0.0130 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=1.57 cfs @ 11.96 hrs HW=2,460.49' (Free Discharge)
1=Culvert (Barrel Controls 1.57 cfs @ 3.16 fps)

Summary for Pond R11.24: CB

Inflow Area = 5.910 ac, 0.00% Impervious, Inflow Depth = 2.19" for 10-Year event
Inflow = 12.97 cfs @ 12.14 hrs, Volume= 1.079 af
Outflow = 12.97 cfs @ 12.14 hrs, Volume= 1.079 af, Atten= 0%, Lag= 0.0 min
Primary = 12.97 cfs @ 12.14 hrs, Volume= 1.079 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,487.63' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,486.00'	**30.0" Round Culvert** L= 695.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,486.00' / 2,436.00' S= 0.0719 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=12.91 cfs @ 12.14 hrs HW=2,487.62' (Free Discharge)
1=Culvert (Inlet Controls 12.91 cfs @ 3.83 fps)

Summary for Pond R11.26: BOX CULVERT

Inflow Area = 16.103 ac, 0.00% Impervious, Inflow Depth = 2.22" for 10-Year event
Inflow = 41.36 cfs @ 12.07 hrs, Volume= 2.985 af
Outflow = 41.36 cfs @ 12.07 hrs, Volume= 2.985 af, Atten= 0%, Lag= 0.0 min
Primary = 41.36 cfs @ 12.07 hrs, Volume= 2.985 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,312.04' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,310.00'	**60.0" W x 36.0" H Box Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,310.00' / 2,309.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=40.51 cfs @ 12.07 hrs HW=2,312.02' (Free Discharge)
1=Culvert (Inlet Controls 40.51 cfs @ 4.02 fps)

Summary for Pond R11.32: CULVERT

Inflow Area = 12.144 ac, 0.85% Impervious, Inflow Depth = 2.22" for 10-Year event
Inflow = 27.29 cfs @ 12.16 hrs, Volume= 2.246 af
Outflow = 27.29 cfs @ 12.16 hrs, Volume= 2.246 af, Atten= 0%, Lag= 0.0 min
Primary = 27.29 cfs @ 12.16 hrs, Volume= 2.246 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,436.54' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,434.00'	**36.0" Round Culvert** L= 110.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,434.00' / 2,425.00' S= 0.0818 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=27.05 cfs @ 12.16 hrs HW=2,436.52' (Free Discharge)
1=Culvert (Inlet Controls 27.05 cfs @ 4.27 fps)

Summary for Pond R12.1: CB

Inflow Area = 0.419 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 2.90 cfs @ 11.96 hrs, Volume= 0.166 af
Outflow = 2.90 cfs @ 11.96 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.0 min
Primary = 2.90 cfs @ 11.96 hrs, Volume= 0.166 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,310.11' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,309.30'	**24.0" Round Culvert** L= 630.0' CMP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 2,309.30' / 2,303.00' S= 0.0100 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=2.83 cfs @ 11.96 hrs HW=2,310.10' (Free Discharge)
└**1=Culvert** (Barrel Controls 2.83 cfs @ 3.59 fps)

Summary for Pond R2.1: PIPE

Inflow Area = 6.131 ac, 1.87% Impervious, Inflow Depth = 2.25" for 10-Year event
Inflow = 16.38 cfs @ 12.10 hrs, Volume= 1.148 af
Outflow = 16.38 cfs @ 12.10 hrs, Volume= 1.148 af, Atten= 0%, Lag= 0.0 min
Primary = 16.38 cfs @ 12.10 hrs, Volume= 1.148 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,289.59' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,288.00'	**36.0" Round Culvert** L= 1,185.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,288.00' / 2,215.00' S= 0.0616 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=16.27 cfs @ 12.10 hrs HW=2,289.59' (Free Discharge)
└**1=Culvert** (Inlet Controls 16.27 cfs @ 4.29 fps)

Summary for Pond R2.2: PIPE

Inflow Area = 7.598 ac, 20.81% Impervious, Inflow Depth = 2.73" for 10-Year event
Inflow = 21.84 cfs @ 12.02 hrs, Volume= 1.730 af
Outflow = 21.84 cfs @ 12.02 hrs, Volume= 1.730 af, Atten= 0%, Lag= 0.0 min
Primary = 21.84 cfs @ 12.02 hrs, Volume= 1.730 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,214.88' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,213.00'	**36.0" Round Culvert** L= 795.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,213.00' / 2,190.00' S= 0.0289 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=21.45 cfs @ 12.02 hrs HW=2,214.86' (Free Discharge)
└**1=Culvert** (Inlet Controls 21.45 cfs @ 4.65 fps)

Summary for Pond R2.3: catch basin

Inflow Area = 5.677 ac, 7.08% Impervious, Inflow Depth = 2.46" for 10-Year event
Inflow = 18.28 cfs @ 12.04 hrs, Volume= 1.162 af
Outflow = 18.28 cfs @ 12.04 hrs, Volume= 1.162 af, Atten= 0%, Lag= 0.0 min
Primary = 18.28 cfs @ 12.04 hrs, Volume= 1.162 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,266.46' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,270.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,264.00'	**24.0" Round Culvert** L= 1,755.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,264.00' / 2,191.00' S= 0.0416 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=17.93 cfs @ 12.04 hrs HW=2,266.41' (Free Discharge)
└**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Culvert** (Inlet Controls 17.93 cfs @ 5.71 fps)

Summary for Pond R2.5: Road culvert

Inflow Area = 2.890 ac, 13.90% Impervious, Inflow Depth = 2.63" for 10-Year event
Inflow = 10.10 cfs @ 11.98 hrs, Volume= 0.632 af
Outflow = 10.10 cfs @ 11.98 hrs, Volume= 0.632 af, Atten= 0%, Lag= 0.0 min
Primary = 10.10 cfs @ 11.98 hrs, Volume= 0.632 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,230.30' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,229.00'	**36.0" Round Culvert** L= 75.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,229.00' / 2,226.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.72 cfs @ 11.98 hrs HW=2,230.28' (Free Discharge)
└**1=Culvert** (Inlet Controls 9.72 cfs @ 3.39 fps)

Summary for Pond R2.6: Road Culvert

Inflow Area = 0.737 ac, 12.46% Impervious, Inflow Depth = 2.59" for 10-Year event
Inflow = 2.62 cfs @ 11.98 hrs, Volume= 0.159 af
Outflow = 2.62 cfs @ 11.98 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min
Primary = 2.62 cfs @ 11.98 hrs, Volume= 0.159 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,216.81' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,216.00'	**18.0" Round Culvert** L= 30.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,216.00' / 2,215.00' S= 0.0333 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=2.52 cfs @ 11.98 hrs HW=2,216.79' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.52 cfs @ 2.67 fps)

Summary for Pond R2.8: cb

Inflow Area = 7.441 ac, 15.27% Impervious, Inflow Depth = 2.66" for 10-Year event
Inflow = 23.59 cfs @ 12.04 hrs, Volume= 1.649 af
Outflow = 23.59 cfs @ 12.04 hrs, Volume= 1.649 af, Atten= 0%, Lag= 0.0 min
Primary = 23.59 cfs @ 12.04 hrs, Volume= 1.649 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,188.97' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,187.00'	**36.0" Round Culvert** L= 450.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,187.00' / 2,160.00' S= 0.0600 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=23.18 cfs @ 12.04 hrs HW=2,188.95' (Free Discharge)
└**1=Culvert** (Inlet Controls 23.18 cfs @ 4.76 fps)

Summary for Pond R4.1: catch basin

Inflow Area = 15.597 ac, 8.50% Impervious, Inflow Depth = 2.42" for 10-Year event
Inflow = 46.19 cfs @ 12.05 hrs, Volume= 3.140 af
Outflow = 46.19 cfs @ 12.05 hrs, Volume= 3.140 af, Atten= 0%, Lag= 0.0 min
Primary = 46.19 cfs @ 12.05 hrs, Volume= 3.140 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,290.36' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,284.00'	**36.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,284.00' / 2,283.50' S= 0.0100 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,288.00'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=46.01 cfs @ 12.05 hrs HW=2,290.34' (Free Discharge)
└**1=Culvert** (Passes 46.01 cfs of 72.35 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 46.01 cfs @ 7.36 fps)

Summary for Pond R4.3: culvert

Inflow Area = 17.508 ac, 10.00% Impervious, Inflow Depth = 2.46" for 10-Year event
Inflow = 50.54 cfs @ 12.06 hrs, Volume= 3.591 af
Outflow = 50.54 cfs @ 12.06 hrs, Volume= 3.591 af, Atten= 0%, Lag= 0.0 min
Primary = 50.54 cfs @ 12.06 hrs, Volume= 3.591 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,212.33' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,213.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,208.00'	**36.0" Round Culvert** L= 210.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,208.00' / 2,192.00' S= 0.0762 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=50.17 cfs @ 12.06 hrs HW=2,212.29' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)
2=Culvert (Inlet Controls 50.17 cfs @ 7.10 fps)

Summary for Pond R4.4: CULVERT

Inflow Area = 26.676 ac, 13.82% Impervious, Inflow Depth = 2.57" for 10-Year event
Inflow = 30.14 cfs @ 12.25 hrs, Volume= 5.718 af
Outflow = 30.14 cfs @ 12.25 hrs, Volume= 5.718 af, Atten= 0%, Lag= 0.0 min
Primary = 30.14 cfs @ 12.25 hrs, Volume= 5.718 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,183.31' @ 12.25 hrs
Flood Elev= 2,085.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	2,180.80'	**36.0" Round Culvert** L= 580.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,180.80' / 2,067.00' S= 0.1962 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=30.12 cfs @ 12.25 hrs HW=2,183.31' (Free Discharge)
1=Culvert (Inlet Controls 30.12 cfs @ 4.76 fps)

Summary for Pond R4.6: CULVERT

Inflow Area = 32.763 ac, 11.26% Impervious, Inflow Depth = 2.51" for 10-Year event
Inflow = 33.73 cfs @ 12.25 hrs, Volume= 6.857 af
Outflow = 33.73 cfs @ 12.25 hrs, Volume= 6.857 af, Atten= 0%, Lag= 0.0 min
Primary = 33.73 cfs @ 12.25 hrs, Volume= 6.857 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Peak Elev= 2,006.74' @ 12.25 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,004.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,004.00' / 2,003.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=33.70 cfs @ 12.25 hrs HW=2,006.74' (Free Discharge)
1=Culvert (Inlet Controls 33.70 cfs @ 4.98 fps)

Summary for Pond R4.8: CULVERT

Inflow Area = 3.559 ac, 0.00% Impervious, Inflow Depth = 2.28" for 10-Year event
Inflow = 14.00 cfs @ 11.97 hrs, Volume= 0.676 af
Outflow = 14.00 cfs @ 11.97 hrs, Volume= 0.676 af, Atten= 0%, Lag= 0.0 min
Primary = 14.00 cfs @ 11.97 hrs, Volume= 0.676 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,094.09' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,092.00'	**24.0" Round Culvert** L= 150.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,092.00' / 2,067.00' S= 0.1667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=13.54 cfs @ 11.97 hrs HW=2,094.03' (Free Discharge)
1=Culvert (Inlet Controls 13.54 cfs @ 4.31 fps)

Summary for Pond R5.1: CULVERT

Inflow Area = 8.776 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 29.52 cfs @ 12.02 hrs, Volume= 1.607 af
Outflow = 29.52 cfs @ 12.02 hrs, Volume= 1.607 af, Atten= 0%, Lag= 0.0 min
Primary = 29.52 cfs @ 12.02 hrs, Volume= 1.607 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,906.72' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,904.00'	**33.0" Round Culvert** L= 810.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,904.00' / 1,823.00' S= 0.1000 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=28.78 cfs @ 12.02 hrs HW=1,906.66' (Free Discharge)
1=Culvert (Inlet Controls 28.78 cfs @ 4.90 fps)

Summary for Pond R8.1: CULVERT

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 2.85" for 10-Year event
Inflow = 9.74 cfs @ 12.05 hrs, Volume= 0.645 af
Outflow = 9.74 cfs @ 12.05 hrs, Volume= 0.645 af, Atten= 0%, Lag= 0.0 min
Primary = 9.74 cfs @ 12.05 hrs, Volume= 0.645 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,309.55' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,308.00'	**24.0" Round Culvert** L= 275.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,308.00' / 2,304.00' S= 0.0145 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.71 cfs @ 12.05 hrs HW=2,309.54' (Free Discharge)
1=Culvert (Inlet Controls 9.71 cfs @ 3.73 fps)

Summary for Pond R8.10: CB

Inflow Area = 15.958 ac, 29.48% Impervious, Inflow Depth = 2.94" for 10-Year event
Inflow = 57.35 cfs @ 12.01 hrs, Volume= 3.914 af
Outflow = 57.35 cfs @ 12.01 hrs, Volume= 3.914 af, Atten= 0%, Lag= 0.0 min
Primary = 57.35 cfs @ 12.01 hrs, Volume= 3.914 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,979.06' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,976.00'	**45.0" Round Culvert** L= 765.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,976.00' / 1,899.00' S= 0.1007 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=56.70 cfs @ 12.01 hrs HW=1,979.03' (Free Discharge)
1=Culvert (Inlet Controls 56.70 cfs @ 5.93 fps)

Summary for Pond R8.12: CULVERT

Inflow Area = 5.442 ac, 8.40% Impervious, Inflow Depth = 2.41" for 10-Year event
Inflow = 18.15 cfs @ 12.03 hrs, Volume= 1.094 af
Outflow = 18.15 cfs @ 12.03 hrs, Volume= 1.094 af, Atten= 0%, Lag= 0.0 min
Primary = 18.15 cfs @ 12.03 hrs, Volume= 1.094 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,904.02' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,902.00'	**30.0" Round Culvert** L= 40.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 1,902.00' / 1,899.00' S= 0.0750 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=17.63 cfs @ 12.03 hrs HW=1,903.98' (Free Discharge)
└**1=Culvert** (Inlet Controls 17.63 cfs @ 4.23 fps)

Summary for Pond R8.13: CB

Inflow Area = 21.400 ac, 24.12% Impervious, Inflow Depth = 2.81" for 10-Year event
Inflow = 75.11 cfs @ 12.01 hrs, Volume= 5.007 af
Outflow = 75.11 cfs @ 12.01 hrs, Volume= 5.007 af, Atten= 0%, Lag= 0.0 min
Primary = 75.11 cfs @ 12.01 hrs, Volume= 5.007 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,899.53' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,896.00'	**48.0" Round Culvert** L= 835.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,896.00' / 1,824.00' S= 0.0862 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=73.70 cfs @ 12.01 hrs HW=1,899.48' (Free Discharge)
└**1=Culvert** (Inlet Controls 73.70 cfs @ 6.35 fps)

Summary for Pond R8.15: CB

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 2.84" for 10-Year event
Inflow = 87.76 cfs @ 12.00 hrs, Volume= 5.711 af
Outflow = 87.76 cfs @ 12.00 hrs, Volume= 5.711 af, Atten= 0%, Lag= 0.0 min
Primary = 52.56 cfs @ 12.00 hrs, Volume= 3.301 af
Secondary = 35.20 cfs @ 12.00 hrs, Volume= 2.410 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,823.77' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,821.00'	**48.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,821.00' / 1,818.00' S= 0.0300 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Secondary	1,821.00'	**36.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,821.00' / 1,820.00' S= 0.0154 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=52.21 cfs @ 12.00 hrs HW=1,823.76' (Free Discharge)
└**1=Culvert** (Inlet Controls 52.21 cfs @ 5.65 fps)

Secondary OutFlow Max=34.99 cfs @ 12.00 hrs HW=1,823.76' (Free Discharge)
└**2=Culvert** (Barrel Controls 34.99 cfs @ 6.74 fps)

Summary for Pond R8.20: PIPE

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 1.64" for 10-Year event
Inflow = 52.56 cfs @ 12.00 hrs, Volume= 3.301 af
Outflow = 52.56 cfs @ 12.00 hrs, Volume= 3.301 af, Atten= 0%, Lag= 0.0 min
Primary = 52.56 cfs @ 12.00 hrs, Volume= 3.301 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,819.17' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,815.00'	**42.0" Round PIPE** L= 220.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,815.00' / 1,814.00' S= 0.0045 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=52.27 cfs @ 12.00 hrs HW=1,819.15' (Free Discharge)
└**1=PIPE** (Barrel Controls 52.27 cfs @ 5.79 fps)

Summary for Pond R8.22: New Culvert

Inflow Area = 51.052 ac, 13.70% Impervious, Inflow Depth = 2.55" for 10-Year event
Inflow = 59.84 cfs @ 12.31 hrs, Volume= 10.842 af
Outflow = 59.84 cfs @ 12.31 hrs, Volume= 10.842 af, Atten= 0%, Lag= 0.0 min
Primary = 59.84 cfs @ 12.31 hrs, Volume= 10.842 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,667.91' @ 12.31 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,663.00'	**24.0" Round Culvert X 2.00** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,663.00' / 1,662.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Primary	1,670.00'	**20.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=59.68 cfs @ 12.31 hrs HW=1,667.89' (Free Discharge)
├**1=Culvert** (Inlet Controls 59.68 cfs @ 9.50 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond R8.3: CULVERT

Inflow Area = 6.715 ac, 30.90% Impervious, Inflow Depth = 2.93" for 10-Year event
Inflow = 25.93 cfs @ 12.03 hrs, Volume= 1.641 af
Outflow = 25.93 cfs @ 12.03 hrs, Volume= 1.641 af, Atten= 0%, Lag= 0.0 min
Primary = 25.93 cfs @ 12.03 hrs, Volume= 1.641 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Peak Elev= 2,274.17' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,272.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,272.00' / 2,271.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,274.00'	**10.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=25.36 cfs @ 12.03 hrs HW=2,274.15' (Free Discharge)
└**1=Culvert** (Inlet Controls 23.84 cfs @ 4.40 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 1.52 cfs @ 1.03 fps)

Summary for Pond R8.5: CULVERT

Inflow Area = 8.502 ac, 27.24% Impervious, Inflow Depth = 2.87" for 10-Year event
Inflow = 29.26 cfs @ 12.04 hrs, Volume= 2.030 af
Outflow = 29.26 cfs @ 12.04 hrs, Volume= 2.030 af, Atten= 0%, Lag= 0.0 min
Primary = 29.26 cfs @ 12.04 hrs, Volume= 2.030 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,224.26' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,222.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,222.00' / 2,220.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,224.00'	**10.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=29.03 cfs @ 12.04 hrs HW=2,224.25' (Free Discharge)
└**1=Culvert** (Inlet Controls 25.65 cfs @ 4.51 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 3.38 cfs @ 1.35 fps)

Summary for Pond R8.7: CULVERT

Inflow Area = 14.012 ac, 24.04% Impervious, Inflow Depth = 2.81" for 10-Year event
Inflow = 46.72 cfs @ 12.02 hrs, Volume= 3.279 af
Outflow = 46.72 cfs @ 12.02 hrs, Volume= 3.279 af, Atten= 0%, Lag= 0.0 min
Primary = 46.72 cfs @ 12.02 hrs, Volume= 3.279 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,181.05' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,178.00'	**42.0" Round Culvert** L= 200.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 2,178.00' / 2,163.00' S= 0.0750 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=45.61 cfs @ 12.02 hrs HW=2,181.00' (Free Discharge)
└**1=Culvert** (Inlet Controls 45.61 cfs @ 5.20 fps)

Summary for Pond R8.8: CB

Inflow Area = 14.734 ac, 26.41% Impervious, Inflow Depth = 2.87" for 10-Year event
Inflow = 50.57 cfs @ 12.01 hrs, Volume= 3.518 af
Outflow = 50.57 cfs @ 12.01 hrs, Volume= 3.518 af, Atten= 0%, Lag= 0.0 min
Primary = 50.57 cfs @ 12.01 hrs, Volume= 3.518 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,162.95' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,160.00'	**42.0" Round Culvert**
			L= 880.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,160.00' / 2,077.00' S= 0.0943 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=49.50 cfs @ 12.01 hrs HW=2,162.90' (Free Discharge)
└**1=Culvert** (Inlet Controls 49.50 cfs @ 5.80 fps)

Summary for Pond R8.9: CB

Inflow Area = 15.354 ac, 28.00% Impervious, Inflow Depth = 2.91" for 10-Year event
Inflow = 53.96 cfs @ 12.01 hrs, Volume= 3.719 af
Outflow = 53.96 cfs @ 12.01 hrs, Volume= 3.719 af, Atten= 0%, Lag= 0.0 min
Primary = 53.96 cfs @ 12.01 hrs, Volume= 3.719 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,077.10' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,074.00'	**42.0" Round Culvert**
			L= 900.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,074.00' / 1,979.00' S= 0.1056 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=53.07 cfs @ 12.01 hrs HW=2,077.06' (Free Discharge)
└**1=Culvert** (Inlet Controls 53.07 cfs @ 5.95 fps)

Summary for Pond R9.1: pipes

Inflow Area = 3.982 ac, 24.44% Impervious, Inflow Depth = 2.89" for 10-Year event
Inflow = 12.28 cfs @ 12.03 hrs, Volume= 0.959 af
Outflow = 12.28 cfs @ 12.03 hrs, Volume= 0.959 af, Atten= 0%, Lag= 0.0 min
Primary = 12.28 cfs @ 12.03 hrs, Volume= 0.959 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,817.57' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,816.00'	**30.0" Round Culvert** L= 560.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,816.00' / 1,770.00' S= 0.0821 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	1,820.00'	**40.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=12.08 cfs @ 12.03 hrs HW=1,817.56' (Free Discharge)
└**1=Culvert** (Inlet Controls 12.08 cfs @ 3.75 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond R9.11: Culvert

Inflow Area = 26.104 ac, 16.32% Impervious, Inflow Depth = 2.62" for 10-Year event
Inflow = 39.59 cfs @ 12.06 hrs, Volume= 5.709 af
Outflow = 39.59 cfs @ 12.06 hrs, Volume= 5.709 af, Atten= 0%, Lag= 0.0 min
Primary = 39.59 cfs @ 12.06 hrs, Volume= 5.709 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,660.83' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,658.00'	**36.0" Round Culvert** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,658.00' / 1,656.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=39.04 cfs @ 12.06 hrs HW=1,660.79' (Free Discharge)
└**1=Culvert** (Inlet Controls 39.04 cfs @ 5.69 fps)

Summary for Pond R9.2A: Culvert

Inflow Area = 13.150 ac, 7.18% Impervious, Inflow Depth = 2.35" for 10-Year event
Inflow = 40.23 cfs @ 12.00 hrs, Volume= 2.578 af
Outflow = 40.23 cfs @ 12.00 hrs, Volume= 2.578 af, Atten= 0%, Lag= 0.0 min
Primary = 40.23 cfs @ 12.00 hrs, Volume= 2.578 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,774.36' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,772.00'	**48.0" Round Culvert** L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,772.00' / 1,770.00' S= 0.0500 '/' Cc= 0.900

n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=39.84 cfs @ 12.00 hrs HW=1,774.34' (Free Discharge)
1=Culvert (Inlet Controls 39.84 cfs @ 5.21 fps)

Summary for Pond R9.5: Culvert

Inflow Area = 4.347 ac, 22.35% Impervious, Inflow Depth = 2.82" for 10-Year event
Inflow = 16.93 cfs @ 11.98 hrs, Volume= 1.023 af
Outflow = 16.93 cfs @ 11.98 hrs, Volume= 1.023 af, Atten= 0%, Lag= 0.0 min
Primary = 16.93 cfs @ 11.98 hrs, Volume= 1.023 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,715.40' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,714.00'	**54.0" Round Culvert** L= 60.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,714.00' / 1,710.00' S= 0.0667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=16.28 cfs @ 11.98 hrs HW=1,715.37' (Free Discharge)
1=Culvert (Inlet Controls 16.28 cfs @ 3.98 fps)

Summary for Pond R9.6: Culvert

Inflow Area = 1.291 ac, 18.31% Impervious, Inflow Depth = 2.61" for 10-Year event
Inflow = 4.57 cfs @ 12.03 hrs, Volume= 0.281 af
Outflow = 4.57 cfs @ 12.03 hrs, Volume= 0.281 af, Atten= 0%, Lag= 0.0 min
Primary = 4.57 cfs @ 12.03 hrs, Volume= 0.281 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,685.04' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,684.00'	**18.0" Round Culvert** L= 100.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,684.00' / 1,682.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=4.44 cfs @ 12.03 hrs HW=1,685.03' (Free Discharge)
1=Culvert (Inlet Controls 4.44 cfs @ 3.45 fps)

Summary for Link 1.1L: Sub 1.1 Res

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.77 cfs @ 12.08 hrs, Volume= 0.109 af
Primary = 0.77 cfs @ 12.08 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 1.2L: Sub 1.2 Res

Inflow Area = 0.264 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.66 cfs @ 12.10 hrs, Volume= 0.105 af
Primary = 0.66 cfs @ 12.10 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 1.3L: Sub 1.3 Res

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth = 4.77" for 10-Year event
Inflow = 0.85 cfs @ 12.02 hrs, Volume= 0.059 af
Primary = 0.85 cfs @ 12.02 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 1.4L: Sub 1.4 Res

Inflow Area = 0.161 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.40 cfs @ 12.10 hrs, Volume= 0.064 af
Primary = 0.40 cfs @ 12.10 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 1.5L: Sub 1.5 Res

Inflow Area = 0.494 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.24 cfs @ 12.09 hrs, Volume= 0.196 af
Primary = 1.24 cfs @ 12.09 hrs, Volume= 0.196 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 1.6L: Sub 1.6 Res

Inflow Area = 0.379 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.04 cfs @ 12.09 hrs, Volume= 0.150 af
Primary = 1.04 cfs @ 12.09 hrs, Volume= 0.150 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 1.9L: Sub 1.9 Res

Inflow Area = 0.528 ac,100.00% Impervious, Inflow Depth = 4.77" for 10-Year event
Inflow = 2.67 cfs @ 12.02 hrs, Volume= 0.210 af
Primary = 2.67 cfs @ 12.02 hrs, Volume= 0.210 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 2.10L: Sub 2.10 Res

Inflow Area = 0.562 ac,100.00% Impervious, Inflow Depth = 4.77" for 10-Year event
Inflow = 2.12 cfs @ 12.04 hrs, Volume= 0.223 af
Primary = 2.12 cfs @ 12.04 hrs, Volume= 0.223 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 2.1L: Sub 2.1 Res

Inflow Area = 0.115 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.38 cfs @ 12.07 hrs, Volume= 0.046 af
Primary = 0.38 cfs @ 12.07 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 2.3L: Sub 2.3 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.60 cfs @ 12.10 hrs, Volume= 0.096 af
Primary = 0.60 cfs @ 12.10 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 2.6L: Sub 2.6 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.01 cfs @ 12.10 hrs, Volume= 0.160 af
Primary = 1.01 cfs @ 12.10 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 2.7L: Sub 2.7 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.01 cfs @ 12.10 hrs, Volume= 0.160 af
Primary = 1.01 cfs @ 12.10 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 2.8L: Sub 2.8 Res

Inflow Area = 0.092 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.036 af
Primary = 0.24 cfs @ 12.09 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 2.9L: Sub 2.9 Res

Inflow Area = 0.643 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.61 cfs @ 12.10 hrs, Volume= 0.255 af
Primary = 1.61 cfs @ 12.10 hrs, Volume= 0.255 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 4.1L: Sub 4.1 Res

Inflow Area = 0.585 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.48 cfs @ 12.09 hrs, Volume= 0.232 af
Primary = 1.48 cfs @ 12.09 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 4.3L: Sub 4.3 Res

Inflow Area = 1.377 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 3.46 cfs @ 12.10 hrs, Volume= 0.547 af
Primary = 3.46 cfs @ 12.10 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 4.4L: Sub 4.4 Res

Inflow Area = 0.253 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.64 cfs @ 12.09 hrs, Volume= 0.100 af
Primary = 0.64 cfs @ 12.09 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 5.2L: Sub 5.2 Res

Inflow Area = 0.333 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.84 cfs @ 12.09 hrs, Volume= 0.132 af
Primary = 0.84 cfs @ 12.09 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 8.10L: Sub 8.10 Res

Inflow Area = 0.643 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.61 cfs @ 12.10 hrs, Volume= 0.255 af
Primary = 1.61 cfs @ 12.10 hrs, Volume= 0.255 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 8.11L: Sub 8.11 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af
Primary = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 8.15L: Sub 8.15 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af
Primary = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 8.1L: Sub 8.1 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af
Primary = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 8.4L: Sub 8.4 Res

Inflow Area = 0.287 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.80 cfs @ 12.08 hrs, Volume= 0.114 af
Primary = 0.80 cfs @ 12.08 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 8.5L: Sub 8.5 Res

Inflow Area = 0.298 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.75 cfs @ 12.09 hrs, Volume= 0.118 af
Primary = 0.75 cfs @ 12.09 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 8.8L: Sub 8.8 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.60 cfs @ 12.10 hrs, Volume= 0.096 af
Primary = 0.60 cfs @ 12.10 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 9.10L: Sub 9.10 Res

Inflow Area = 0.321 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.81 cfs @ 12.10 hrs, Volume= 0.128 af
Primary = 0.81 cfs @ 12.10 hrs, Volume= 0.128 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 9.11L: Sub 9.11 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.01 cfs @ 12.10 hrs, Volume= 0.160 af
Primary = 1.01 cfs @ 12.10 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 9.1L: Sub 9.1 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.60 cfs @ 12.10 hrs, Volume= 0.096 af
Primary = 0.60 cfs @ 12.10 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 9.5L: Sub 8.5 Res

Inflow Area = 0.092 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.036 af
Primary = 0.24 cfs @ 12.09 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 9.6L: Sub 9.6 Res

Inflow Area = 0.562 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.41 cfs @ 12.10 hrs, Volume= 0.223 af
Primary = 1.41 cfs @ 12.10 hrs, Volume= 0.223 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 11.14L: Sub 11.14 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af
Primary = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 11.18L: Sub 11.18 Res

Inflow Area = 0.103 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.26 cfs @ 12.10 hrs, Volume= 0.041 af
Primary = 0.26 cfs @ 12.10 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 11.25L: Sub 11.25 Res

Inflow Area = 0.161 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.40 cfs @ 12.10 hrs, Volume= 0.064 af
Primary = 0.40 cfs @ 12.10 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 11.33L: Sub 11.33 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af
Primary = 0.20 cfs @ 12.10 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 11.3L: Sub 11.3 Res

Inflow Area = 0.436 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.17 cfs @ 12.09 hrs, Volume= 0.173 af
Primary = 1.17 cfs @ 12.09 hrs, Volume= 0.173 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Summary for Link 12.2L: Sub 12.2 Res

Inflow Area = 0.379 ac,100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 1.08 cfs @ 12.09 hrs, Volume= 0.150 af
Primary = 1.08 cfs @ 12.09 hrs, Volume= 0.150 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

10-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchr

Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.10S: Area 1.10 Runoff Area=10,640 sf 81.20% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=93 Runoff=2.48 cfs 0.136 af

Subcatchment1.11S: Area 1.11 Runoff Area=13,460 sf 89.60% Impervious Runoff Depth=7.02"
Flow Length=230' Tc=8.0 min CN=96 Runoff=3.04 cfs 0.181 af

Subcatchment1.12S: Area 1.12 Runoff Area=35,190 sf 60.29% Impervious Runoff Depth=6.08"
Flow Length=641' Tc=12.4 min CN=88 Runoff=6.47 cfs 0.409 af

Subcatchment1.13S: Area 1.13 Runoff Area=53,050 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=50' Slope=0.2500 '/' Tc=6.0 min CN=74 Runoff=9.28 cfs 0.455 af

Subcatchment1.14S: Area 1.14 Runoff Area=11,800 sf 0.00% Impervious Runoff Depth=4.15"
Tc=6.0 min CN=71 Runoff=1.92 cfs 0.094 af

Subcatchment1.15S: Area 1.15 Runoff Area=23,830 sf 100.00% Impervious Runoff Depth=7.26"
Tc=6.0 min CN=98 Runoff=5.70 cfs 0.331 af

Subcatchment1.16S: Area 1.16 Runoff Area=15,985 sf 100.00% Impervious Runoff Depth=7.26"
Tc=6.0 min CN=98 Runoff=3.82 cfs 0.222 af

Subcatchment1.17S: Area 1.17 Runoff Area=30,241 sf 0.00% Impervious Runoff Depth=4.82"
Flow Length=465' Tc=6.0 min CN=77 Runoff=5.63 cfs 0.279 af

Subcatchment1.1S: Area-1.1 Runoff Area=1,542,650 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,295' Tc=22.9 min CN=72 Runoff=154.50 cfs 12.568 af

Subcatchment1.2S: Area 1.2 Runoff Area=436,779 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,510' Tc=14.2 min CN=72 Runoff=56.27 cfs 3.558 af

Subcatchment1.3S: Area-1.3 Runoff Area=124,373 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=750' Tc=16.5 min CN=72 Runoff=14.91 cfs 1.013 af

Subcatchment1.4S: Area 1.4 Runoff Area=345,904 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=1,361' Tc=11.4 min CN=74 Runoff=51.12 cfs 2.965 af

Subcatchment1.5S: Area 1.5 Runoff Area=750,276 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,965' Tc=19.9 min CN=72 Runoff=81.29 cfs 6.112 af

Subcatchment1.6S: Area 1.6 Runoff Area=128,870 sf 1.08% Impervious Runoff Depth=4.48"
Flow Length=465' Tc=6.0 min CN=74 Runoff=22.54 cfs 1.105 af

Subcatchment1.7S: Area 1.7 Runoff Area=39,615 sf 92.98% Impervious Runoff Depth=7.02"
Flow Length=1,245' Tc=6.0 min CN=96 Runoff=9.40 cfs 0.532 af

Subcatchment1.8S: Area 1.8 Runoff Area=54,200 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=140' Tc=6.0 min CN=74 Runoff=9.48 cfs 0.465 af

Subcatchment1.9S: Area 1.9 Runoff Area=159,810 sf 18.28% Impervious Runoff Depth=4.82"
Flow Length=730' Tc=6.0 min CN=77 Runoff=29.77 cfs 1.473 af

Subcatchment2.10S: Area 2.10 Runoff Area=303,225 sf 1.05% Impervious Runoff Depth=4.59"
Flow Length=965' Tc=15.2 min CN=75 Runoff=40.62 cfs 2.664 af

Subcatchment2.11S: Downstream Area Runoff Area=480,170 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=860' Tc=7.4 min CN=72 Runoff=77.79 cfs 3.912 af

Subcatchment2.1S: Area 2.1 Runoff Area=262,081 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,585' Tc=16.7 min CN=72 Runoff=31.24 cfs 2.135 af

Subcatchment2.2S: Area 2.2 Runoff Area=63,870 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=1,910' Tc=6.0 min CN=98 Runoff=15.27 cfs 0.887 af

Subcatchment2.3S: Area 2.3 Runoff Area=91,990 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=208' Tc=6.0 min CN=73 Runoff=15.73 cfs 0.769 af

Subcatchment2.4S: Area 2.4 Runoff Area=15,150 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=885' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=3.62 cfs 0.210 af

Subcatchment2.5S: Area 2.5 Runoff Area=8,000 sf 100.00% Impervious Runoff Depth=7.26"
Tc=6.0 min CN=98 Runoff=1.91 cfs 0.111 af

Subcatchment2.6S: Area 2.6 Runoff Area=229,805 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=862' Tc=11.3 min CN=73 Runoff=33.28 cfs 1.921 af

Subcatchment2.7S: Area 2.7 Runoff Area=108,393 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=715' Tc=6.0 min CN=73 Runoff=18.53 cfs 0.906 af

Subcatchment2.8S: Area 2.8 Runoff Area=28,100 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=365' Tc=6.0 min CN=73 Runoff=4.80 cfs 0.235 af

Subcatchment2.9S: Area 2.9 Runoff Area=138,145 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=680' Tc=9.4 min CN=73 Runoff=21.36 cfs 1.155 af

Subcatchment2aS: Area 2A Runoff Area=55,140 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=190' Tc=9.3 min CN=72 Runoff=8.36 cfs 0.449 af

Subcatchment2bS: Area 2b Runoff Area=204,120 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=160' Tc=8.4 min CN=73 Runoff=32.75 cfs 1.706 af

Subcatchment3.1S: Area 3.1 Runoff Area=105,215 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=595' Tc=6.0 min CN=72 Runoff=17.57 cfs 0.857 af

Subcatchment4.1S: Area 4.1 Runoff Area=621,690 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,390' Tc=13.6 min CN=72 Runoff=81.72 cfs 5.065 af

Subcatchment4.2S: Area 4.2 Runoff Area=32,235 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=40' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=7.71 cfs 0.448 af

Subcatchment4.3S: Area 4.3 Runoff Area=292,890 sf 8.33% Impervious Runoff Depth=4.59"
Flow Length=1,060' Tc=7.2 min CN=75 Runoff=51.06 cfs 2.573 af

Subcatchment 4.4S: Area 4.4 Runoff Area=72,240 sf 10.38% Impervious Runoff Depth=4.71"
Flow Length=380' Tc=6.9 min CN=76 Runoff=12.96 cfs 0.650 af

Subcatchment 4.5S: Area 4.5 Runoff Area=46,440 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=30' Slope=0.1250 '/' Tc=6.0 min CN=74 Runoff=8.12 cfs 0.398 af

Subcatchment 4.6S: Area-4.6 Runoff Area=155,010 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=900' Slope=0.1000 '/' Tc=6.0 min CN=73 Runoff=26.50 cfs 1.296 af

Subcatchment 4.7S: Area-4.7 Runoff Area=110,150 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=320' Tc=8.1 min CN=72 Runoff=17.44 cfs 0.897 af

Subcatchment 4.8: Area-4.8 Runoff Area=1,585 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=100' Slope=0.2200 '/' Tc=14.8 min CN=72 Runoff=0.20 cfs 0.013 af

Subcatchment 5.1S: Area-5.1 Runoff Area=553,165 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,200' Tc=12.2 min CN=72 Runoff=76.06 cfs 4.507 af

Subcatchment 5.2S: Area-5.2 Runoff Area=147,335 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=695' Tc=9.9 min CN=73 Runoff=22.35 cfs 1.232 af

Subcatchment 5.3S: Area 5.3 Runoff Area=382,265 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,528' Tc=9.7 min CN=72 Runoff=57.03 cfs 3.114 af

Subcatchment 6.1S: Area 6.1 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=93 Runoff=1.86 cfs 0.102 af

Subcatchment 6.2S: Area 6.2 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=93 Runoff=1.86 cfs 0.102 af

Subcatchment 6.3S: Area 6.3 Runoff Area=8,000 sf 81.25% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=93 Runoff=1.86 cfs 0.102 af

Subcatchment 6.4S: AREA 6.1 Runoff Area=66,488 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=380' Tc=6.0 min CN=72 Runoff=11.11 cfs 0.542 af

Subcatchment 7.1S: Area-7 Runoff Area=105,675 sf 0.00% Impervious Runoff Depth=4.15"
Flow Length=150' Tc=6.4 min CN=71 Runoff=17.18 cfs 0.839 af

Subcatchment 8.10S: Area 8.10 Runoff Area=212,018 sf 8.40% Impervious Runoff Depth=4.59"
Flow Length=762' Tc=7.4 min CN=75 Runoff=36.75 cfs 1.863 af

Subcatchment 8.11S: Area-8.11 Runoff Area=121,400 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=585' Tc=6.4 min CN=73 Runoff=20.68 cfs 1.015 af

Subcatchment 8.12S: Area 8.12 Runoff Area=27,016 sf 65.89% Impervious Runoff Depth=6.31"
Flow Length=865' Tc=6.0 min CN=90 Runoff=6.13 cfs 0.326 af

Subcatchment 8.13S: Area 8.13 Runoff Area=26,292 sf 66.94% Impervious Runoff Depth=6.31"
Flow Length=795' Tc=6.0 min CN=90 Runoff=5.96 cfs 0.318 af

Subcatchment 8.15S: Area 8.15 Runoff Area=94,118 sf 34.15% Impervious Runoff Depth=5.39"
Flow Length=1,597' Tc=6.0 min CN=82 Runoff=19.19 cfs 0.970 af

Subcatchment 8.16S: Area 8.16 Runoff Area=20,576 sf 30.13% Impervious Runoff Depth=5.27"
Tc=6.0 min CN=81 Runoff=4.13 cfs 0.208 af

Subcatchment 8.17S: Area 8.17 Runoff Area=102,463 sf 39.21% Impervious Runoff Depth=5.50"
Flow Length=1,330' Tc=6.0 min CN=83 Runoff=21.23 cfs 1.078 af

Subcatchment 8.1S: Area-8.1 Runoff Area=226,675 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,117' Tc=10.1 min CN=72 Runoff=33.31 cfs 1.847 af

Subcatchment 8.2S: Area 8.2 Runoff Area=100,400 sf 9.56% Impervious Runoff Depth=4.48"
Flow Length=450' Slope=0.3000 '/' Tc=8.7 min CN=74 Runoff=16.31 cfs 0.861 af

Subcatchment 8.3S: Area 8.3 Runoff Area=49,890 sf 16.92% Impervious Runoff Depth=4.93"
Flow Length=415' Slope=0.0300 '/' Tc=6.0 min CN=78 Runoff=9.48 cfs 0.471 af

Subcatchment 8.4S: Area 8.4 Runoff Area=224,571 sf 3.30% Impervious Runoff Depth=4.37"
Flow Length=890' Tc=10.5 min CN=73 Runoff=33.31 cfs 1.877 af

Subcatchment 8.5S: Area-8.5 Runoff Area=655,085 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,768' Tc=32.1 min CN=72 Runoff=53.11 cfs 5.337 af

Subcatchment 8.6S: Area 8.6 Runoff Area=118,266 sf 28.55% Impervious Runoff Depth=5.16"
Flow Length=737' Tc=13.3 min CN=80 Runoff=18.68 cfs 1.167 af

Subcatchment 8.7S: Area 8.7 Runoff Area=174,248 sf 32.50% Impervious Runoff Depth=5.27"
Flow Length=910' Tc=9.8 min CN=81 Runoff=31.26 cfs 1.757 af

Subcatchment 8.8S: Area 8.8 Runoff Area=67,318 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=524' Slope=0.0850 '/' Tc=6.0 min CN=73 Runoff=11.51 cfs 0.563 af

Subcatchment 8.9S: Area 8.9 Runoff Area=31,465 sf 72.46% Impervious Runoff Depth=6.43"
Flow Length=1,125' Tc=6.0 min CN=91 Runoff=7.21 cfs 0.387 af

Subcatchment 9.10S: Area 9.10 Runoff Area=317,221 sf 8.54% Impervious Runoff Depth=4.48"
Flow Length=1,240' Slope=0.1000 '/' Tc=6.0 min UI Adjusted CN=74 Runoff=55.48 cfs 2.719 af

Subcatchment 9.11S: Area 9.11S Runoff Area=126,900 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=975' Tc=14.2 min CN=73 Runoff=16.76 cfs 1.061 af

Subcatchment 9.12S: Area 9.12S Runoff Area=29,060 sf 85.68% Impervious Runoff Depth=6.90"
Flow Length=925' Tc=6.0 min CN=95 Runoff=6.86 cfs 0.384 af

Subcatchment 9.13S: Area 9.13 Runoff Area=49,485 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=1,695' Tc=6.0 min CN=98 Runoff=11.83 cfs 0.687 af

Subcatchment 9.14S: Area 9.14 Runoff Area=241,600 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=890' Tc=9.7 min CN=72 Runoff=36.05 cfs 1.968 af

Subcatchment 9.1S: Area 9.1 Runoff Area=153,790 sf 2.99% Impervious Runoff Depth=4.37"
Flow Length=760' Tc=8.1 min CN=73 Runoff=24.93 cfs 1.286 af

Subcatchment 9.5S: Area 9.5 Runoff Area=52,243 sf 12.06% Impervious Runoff Depth=4.59"
Flow Length=412' Slope=0.2000 '/' Tc=10.3 min CN=75 Runoff=8.17 cfs 0.459 af

Subcatchment 9.6S: Area 9.6 Runoff Area=164,855 sf 10.81% Impervious Runoff Depth=4.71"
Flow Length=543' Slope=0.1000 '/' Tc=6.0 min CN=76 Runoff=30.09 cfs 1.484 af

Subcatchment 9.9S: Area 9.9 Runoff Area=95,744 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=300' Tc=6.0 min CN=73 Runoff=16.37 cfs 0.800 af

Subcatchment 11.10S: Area-11.10 Runoff Area=26,000 sf 65.96% Impervious Runoff Depth=6.31"
Flow Length=220' Tc=6.0 min CN=90 Runoff=5.90 cfs 0.314 af

Subcatchment 11.11S: Area-11.11 Runoff Area=59,520 sf 60.26% Impervious Runoff Depth=6.08"
Flow Length=497' Tc=6.0 min CN=88 Runoff=13.21 cfs 0.692 af

Subcatchment 11.12S: Area-11.12 Runoff Area=54,672 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=284' Tc=7.4 min CN=72 Runoff=8.86 cfs 0.445 af

Subcatchment 11.13S: Area-11.13 Runoff Area=10,160 sf 100.00% Impervious Runoff Depth=7.26"
Tc=6.0 min CN=98 Runoff=2.43 cfs 0.141 af

Subcatchment 11.14S: Area-11.14 Runoff Area=195,163 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=520' Tc=13.7 min CN=72 Runoff=25.57 cfs 1.590 af

Subcatchment 11.15S: Area-11.15 Runoff Area=45,543 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=836' Tc=14.9 min CN=74 Runoff=6.02 cfs 0.390 af

Subcatchment 11.16S: Area-11.16 Runoff Area=28,535 sf 58.70% Impervious Runoff Depth=6.08"
Flow Length=690' Tc=6.0 min CN=88 Runoff=6.33 cfs 0.332 af

Subcatchment 11.17S: Area-11.17 Runoff Area=15,901 sf 78.17% Impervious Runoff Depth=6.67"
Flow Length=520' Slope=0.0250 '/' Tc=6.0 min CN=93 Runoff=3.70 cfs 0.203 af

Subcatchment 11.18S: Area-11.18 Runoff Area=496,244 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,750' Tc=20.7 min CN=72 Runoff=52.63 cfs 4.043 af

Subcatchment 11.19S: Area-11.19 Runoff Area=365,755 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,586' Tc=23.3 min CN=72 Runoff=36.26 cfs 2.980 af

Subcatchment 11.20S: Area-11.20 Runoff Area=28,250 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=497' Tc=6.0 min CN=72 Runoff=4.72 cfs 0.230 af

Subcatchment 11.21S: Area-11.21 Runoff Area=227,244 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,506' Tc=15.2 min CN=72 Runoff=28.32 cfs 1.851 af

Subcatchment 11.23S: Area 11.23 Runoff Area=49,500 sf 14.06% Impervious Runoff Depth=4.71"
Flow Length=490' Tc=6.0 min CN=76 Runoff=9.04 cfs 0.446 af

Subcatchment 11.24S: Area 11.24 Runoff Area=25,034 sf 22.45% Impervious Runoff Depth=5.04"
Flow Length=475' Tc=6.0 min CN=79 Runoff=4.85 cfs 0.242 af

Subcatchment11.25S: Area 11.25 Runoff Area=68,850 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=455' Tc=8.7 min CN=73 Runoff=10.93 cfs 0.576 af

Subcatchment11.26S: Area-11.26 Runoff Area=38,546 sf 67.49% Impervious Runoff Depth=6.31"
Flow Length=490' Tc=6.0 min CN=90 Runoff=8.74 cfs 0.466 af

Subcatchment11.27S: Area-11.27 Runoff Area=66,220 sf 70.97% Impervious Runoff Depth=6.43"
Tc=6.0 min CN=91 Runoff=15.17 cfs 0.815 af

Subcatchment11.28S: Area-11.28 Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=20' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=1.43 cfs 0.083 af

Subcatchment11.29S: Area 11.29 Runoff Area=21,107 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=195' Tc=6.0 min CN=72 Runoff=3.53 cfs 0.172 af

Subcatchment11.2S: Area-11.2 Runoff Area=1,298,764 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=2,720' Tc=40.5 min CN=72 Runoff=89.82 cfs 10.581 af

Subcatchment11.32S: Area-11.5 Runoff Area=236,106 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,303' Tc=21.6 min CN=72 Runoff=24.47 cfs 1.924 af

Subcatchment11.33S: Area-11.33 Runoff Area=115,090 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=670' Tc=23.1 min CN=74 Runoff=12.06 cfs 0.987 af

Subcatchment11.34S: Area-11.34 Runoff Area=56,117 sf 0.00% Impervious Runoff Depth=4.48"
Flow Length=575' Tc=14.1 min CN=74 Runoff=7.61 cfs 0.481 af

Subcatchment11.35S: Area-11.35 Runoff Area=23,266 sf 0.00% Impervious Runoff Depth=4.93"
Flow Length=370' Slope=0.1500 '/' Tc=6.0 min CN=78 Runoff=4.42 cfs 0.219 af

Subcatchment11.36S: Area-11.36 Runoff Area=69,230 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=590' Tc=9.1 min CN=73 Runoff=10.83 cfs 0.579 af

Subcatchment11.38S: Area-11.38 Runoff Area=14,250 sf 0.00% Impervious Runoff Depth=4.71"
Flow Length=185' Slope=0.2500 '/' Tc=6.0 min CN=76 Runoff=2.60 cfs 0.128 af

Subcatchment11.39S: Area-11.39 Runoff Area=21,350 sf 0.00% Impervious Runoff Depth=4.15"
Flow Length=435' Tc=7.6 min CN=71 Runoff=3.36 cfs 0.169 af

Subcatchment11.3S: Area-11.3 Runoff Area=2,817,597 sf 9.13% Impervious Runoff Depth=4.59"
Flow Length=5,405' Tc=32.9 min CN=75 Runoff=242.60 cfs 24.757 af

Subcatchment11.40S: Area-11.40 Runoff Area=43,800 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=2,190' Tc=6.0 min CN=98 Runoff=10.47 cfs 0.608 af

Subcatchment11.41S: Area-11.41 Runoff Area=77,380 sf 0.00% Impervious Runoff Depth=4.15"
Flow Length=355' Tc=8.9 min CN=71 Runoff=11.61 cfs 0.614 af

Subcatchment11.4S: Area-11.4 Runoff Area=39,350 sf 100.00% Impervious Runoff Depth=7.26"
Tc=6.0 min CN=98 Runoff=9.41 cfs 0.547 af

Subcatchment11.5S: Area-11.5 Runoff Area=243,794 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=950' Tc=10.4 min CN=72 Runoff=35.43 cfs 1.986 af

Subcatchment 11.6S: Area-11.6 Runoff Area=24,550 sf 0.00% Impervious Runoff Depth=4.37"
Tc=6.0 min CN=73 Runoff=4.20 cfs 0.205 af

Subcatchment 11.7S: Area-11.7 Runoff Area=66,763 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=810' Tc=6.0 min CN=73 Runoff=11.42 cfs 0.558 af

Subcatchment 11.8S: Area-11.8 Runoff Area=238,239 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,367' Tc=15.3 min CN=72 Runoff=29.58 cfs 1.941 af

Subcatchment 11.9S: Area-11.9 Runoff Area=87,870 sf 0.00% Impervious Runoff Depth=4.37"
Flow Length=805' Tc=9.5 min CN=73 Runoff=13.54 cfs 0.735 af

Subcatchment 12.1S: Area-12.1 Runoff Area=555,875 sf 0.00% Impervious Runoff Depth=4.26"
Flow Length=1,995' Tc=39.2 min CN=72 Runoff=39.28 cfs 4.529 af

Subcatchment 12.2S: Area-12.2 Runoff Area=249,685 sf 14.15% Impervious Runoff Depth=4.82"
Flow Length=480' Tc=11.2 min CN=77 Runoff=39.62 cfs 2.301 af

Subcatchment 12.3S: Area-12.3 Runoff Area=18,250 sf 100.00% Impervious Runoff Depth=7.26"
Flow Length=380' Tc=6.0 min CN=98 Runoff=4.36 cfs 0.253 af

Reach 11.10R: Mountain stream Avg. Flow Depth=0.93' Max Vel=14.02 fps Inflow=326.05 cfs 38.461 af
n=0.040 L=393.0' S=0.1730 '/' Capacity=3,320.07 cfs Outflow=324.94 cfs 38.461 af

Reach 11.3aR: Bouldery stream Avg. Flow Depth=0.54' Max Vel=12.00 fps Inflow=98.24 cfs 12.715 af
n=0.050 L=142.0' S=0.4014 '/' Capacity=2,234.38 cfs Outflow=98.10 cfs 12.715 af

Reach 11.4aR: DP11.3 Avg. Flow Depth=1.12' Max Vel=15.86 fps Inflow=180.64 cfs 21.423 af
n=0.050 L=220.0' S=0.3636 '/' Capacity=858.32 cfs Outflow=180.41 cfs 21.423 af

Reach 11.4bR: DP11.4 Avg. Flow Depth=0.88' Max Vel=11.83 fps Inflow=33.29 cfs 5.930 af
n=0.040 L=145.0' S=0.2621 '/' Capacity=231.18 cfs Outflow=33.25 cfs 5.930 af

Reach 11.4R: DP-11.2 Avg. Flow Depth=1.37' Max Vel=11.46 fps Inflow=178.43 cfs 20.845 af
n=0.050 L=267.0' S=0.1498 '/' Capacity=575.36 cfs Outflow=178.08 cfs 20.845 af

Reach 11.5aR: DP11.5 Avg. Flow Depth=0.50' Max Vel=8.12 fps Inflow=9.46 cfs 0.684 af
n=0.040 L=620.0' S=0.2323 '/' Capacity=217.63 cfs Outflow=9.01 cfs 0.684 af

Reach 11.5R: Mountain stream Avg. Flow Depth=1.02' Max Vel=13.28 fps Inflow=213.65 cfs 27.354 af
n=0.050 L=455.0' S=0.2242 '/' Capacity=2,943.05 cfs Outflow=212.09 cfs 27.354 af

Reach 11.6aR: Mountain stream Avg. Flow Depth=1.34' Max Vel=19.56 fps Inflow=331.90 cfs 38.462 af
n=0.050 L=245.0' S=0.4000 '/' Capacity=3,987.80 cfs Outflow=331.29 cfs 38.462 af

Reach 11.6R: Mountain stream Avg. Flow Depth=1.20' Max Vel=14.57 fps Inflow=218.39 cfs 28.037 af
n=0.050 L=475.0' S=0.2505 '/' Capacity=3,155.95 cfs Outflow=216.96 cfs 28.037 af

Reach 11.8R: Mountain stream Avg. Flow Depth=1.19' Max Vel=17.17 fps Inflow=331.29 cfs 38.462 af
n=0.050 L=360.0' S=0.3139 '/' Capacity=13,400.37 cfs Outflow=328.86 cfs 38.462 af

Reach 14R: Donwstream Analysis Inflow=171.19 cfs 16.388 af
Outflow=171.19 cfs 16.388 af

Reach DP-1: Design Point-1 Avg. Flow Depth=1.67' Max Vel=16.54 fps Inflow=240.69 cfs 26.930 af
n=0.040 L=10.0' S=0.1500 '/' Capacity=670.80 cfs Outflow=240.64 cfs 26.930 af

Reach DP-11: Design Point-11 Inflow=567.32 cfs 63.482 af
Outflow=567.32 cfs 63.482 af

Reach DP-12: Design Point-12 Avg. Flow Depth=0.86' Max Vel=11.87 fps Inflow=44.79 cfs 7.309 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=128.70 cfs Outflow=44.79 cfs 7.309 af

Reach DP-1a: Design Point-1a Avg. Flow Depth=1.01' Max Vel=8.60 fps Inflow=60.97 cfs 6.327 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=97.10 cfs Outflow=60.95 cfs 6.329 af

Reach DP-2: Design Point-2 Avg. Flow Depth=1.26' Max Vel=15.59 fps Inflow=110.88 cfs 12.477 af
n=0.040 L=10.0' S=0.2000 '/' Capacity=233.42 cfs Outflow=110.86 cfs 12.477 af

Reach DP-2a: Design Point-2a Inflow=8.36 cfs 0.449 af
Outflow=8.36 cfs 0.449 af

Reach DP-2b: Design Point-2b Inflow=32.75 cfs 1.706 af
Outflow=32.75 cfs 1.706 af

Reach DP-3: Design Point-3 Avg. Flow Depth=1.44' Max Vel=19.12 fps Inflow=72.87 cfs 2.343 af
n=0.040 L=150.0' S=0.4000 '/' Capacity=79.12 cfs Outflow=72.78 cfs 2.343 af

Reach DP-4: Design Point-4 Avg. Flow Depth=0.84' Max Vel=14.63 fps Inflow=84.61 cfs 11.193 af
n=0.050 L=10.0' S=0.4000 '/' Capacity=768.66 cfs Outflow=84.59 cfs 11.193 af

Reach DP-5: Design Point-5 Avg. Flow Depth=1.88' Max Vel=14.47 fps Inflow=153.71 cfs 9.054 af
n=0.035 L=10.0' S=0.1000 '/' Capacity=273.11 cfs Outflow=153.66 cfs 9.054 af

Reach DP-6: Design Point 6 Inflow=16.00 cfs 0.848 af
Outflow=16.00 cfs 0.848 af

Reach DP-7: Design Point-7 Inflow=17.18 cfs 0.839 af
Outflow=17.18 cfs 0.839 af

Reach DP-8: Design Point-8 Avg. Flow Depth=2.12' Max Vel=13.50 fps Inflow=195.62 cfs 20.370 af
n=0.040 L=10.0' S=0.1000 '/' Capacity=277.01 cfs Outflow=195.62 cfs 20.370 af

Reach DP-9: Design Point-9 Avg. Flow Depth=2.19' Max Vel=12.65 fps Inflow=116.30 cfs 11.828 af
n=0.040 L=100.0' S=0.1000 '/' Capacity=152.56 cfs Outflow=115.55 cfs 11.829 af

Reach R1.1: Mountain Stream Avg. Flow Depth=1.03' Max Vel=12.54 fps Inflow=155.89 cfs 12.735 af
n=0.040 L=805.0' S=0.1342 '/' Capacity=1,947.63 cfs Outflow=153.66 cfs 12.735 af

Reach R1.12: WETLAND Avg. Flow Depth=0.24' Max Vel=12.46 fps Inflow=60.47 cfs 6.048 af
n=0.035 L=200.0' S=0.6000 '/' Capacity=206.27 cfs Outflow=59.87 cfs 6.048 af

Reach R1.2: Mountain Stream Avg. Flow Depth=1.50' Max Vel=14.56 fps Inflow=165.39 cfs 13.838 af
n=0.040 L=616.0' S=0.1461 '/' Capacity=636.66 cfs Outflow=164.10 cfs 13.838 af

Reach R1.8: WETLAND Avg. Flow Depth=0.26' Max Vel=4.65 fps Inflow=24.49 cfs 1.334 af
n=0.070 L=120.0' S=0.3083 '/' Capacity=73.93 cfs Outflow=24.18 cfs 1.334 af

Reach R11.1: DP11.6 Avg. Flow Depth=0.90' Max Vel=5.76 fps Inflow=31.31 cfs 2.099 af
n=0.070 L=310.0' S=0.1742 '/' Capacity=102.63 cfs Outflow=30.28 cfs 2.099 af

Reach R11.12: Mountain stream Avg. Flow Depth=0.88' Max Vel=13.93 fps Inflow=29.26 cfs 1.935 af
n=0.040 L=200.0' S=0.3350 '/' Capacity=678.27 cfs Outflow=29.03 cfs 1.935 af

Reach R11.13: Mountain stream Avg. Flow Depth=0.61' Max Vel=12.12 fps Inflow=89.82 cfs 10.581 af
n=0.050 L=180.0' S=0.3611 '/' Capacity=5,898.94 cfs Outflow=89.60 cfs 10.581 af

Reach R11.14: Mountain stream Avg. Flow Depth=0.23' Max Vel=5.41 fps Inflow=4.72 cfs 0.230 af
n=0.040 L=140.0' S=0.2071 '/' Capacity=989.43 cfs Outflow=4.67 cfs 0.230 af

Reach R11.16: SWALE Avg. Flow Depth=1.43' Max Vel=10.79 fps Inflow=53.14 cfs 4.105 af
n=0.040 L=450.0' S=0.1111 '/' Capacity=160.81 cfs Outflow=52.62 cfs 4.105 af

Reach R11.1A: DP11.7 Avg. Flow Depth=1.28' Max Vel=12.90 fps Inflow=129.00 cfs 10.425 af
n=0.040 L=950.0' S=0.1884 '/' Capacity=186.80 cfs Outflow=126.20 cfs 10.425 af

Reach R11.1B: Mountain stream Avg. Flow Depth=0.59' Max Vel=9.53 fps Inflow=26.07 cfs 1.639 af
n=0.040 L=200.0' S=0.2500 '/' Capacity=215.17 cfs Outflow=25.75 cfs 1.639 af

Reach R11.25: SWALE Avg. Flow Depth=1.69' Max Vel=8.38 fps Inflow=76.60 cfs 5.372 af
n=0.040 L=350.0' S=0.0543 '/' Capacity=110.44 cfs Outflow=75.25 cfs 5.372 af

Reach R11.27: Overland Avg. Flow Depth=0.15' Max Vel=5.44 fps Inflow=81.26 cfs 5.762 af
n=0.035 L=640.0' S=0.2156 '/' Capacity=620.34 cfs Outflow=78.64 cfs 5.762 af

Reach R11.30: SWALE Avg. Flow Depth=1.02' Max Vel=2.62 fps Inflow=11.62 cfs 0.856 af
n=0.040 L=325.0' S=0.0092 '/' Capacity=24.23 cfs Outflow=10.28 cfs 0.856 af

Reach R11.31: SWALE Avg. Flow Depth=0.60' Max Vel=4.08 fps Inflow=7.86 cfs 0.442 af
n=0.040 L=140.0' S=0.0393 '/' Capacity=49.99 cfs Outflow=7.80 cfs 0.442 af

Reach R11.33: Bouldery stream Avg. Flow Depth=0.76' Max Vel=8.83 fps Inflow=57.15 cfs 5.150 af
n=0.050 L=190.0' S=0.1579 '/' Capacity=454.15 cfs Outflow=56.86 cfs 5.150 af

Reach R11.37: SWALE Avg. Flow Depth=1.64' Max Vel=10.92 fps Inflow=65.68 cfs 4.637 af
n=0.040 L=600.0' S=0.1000 '/' Capacity=96.77 cfs Outflow=64.06 cfs 4.637 af

Reach R11.38: Wetland Avg. Flow Depth=0.37' Max Vel=0.95 fps Inflow=10.28 cfs 0.856 af
n=0.100 L=306.0' S=0.0163 '/' Capacity=14.90 cfs Outflow=8.70 cfs 0.856 af

Reach R11.39: SWALE Avg. Flow Depth=0.34' Max Vel=4.40 fps Inflow=3.52 cfs 0.815 af
n=0.040 L=310.0' S=0.0806 '/' Capacity=49.35 cfs Outflow=3.52 cfs 0.815 af

Reach R11.40: SWALE Avg. Flow Depth=0.37' Max Vel=8.98 fps Inflow=9.41 cfs 0.547 af
n=0.040 L=310.0' S=0.3226 '/' Capacity=143.25 cfs Outflow=9.21 cfs 0.547 af

Reach R2.7: SWALE Avg. Flow Depth=1.15' Max Vel=5.02 fps Inflow=26.11 cfs 1.440 af
n=0.040 L=705.0' S=0.0298 '/' Capacity=81.81 cfs Outflow=24.20 cfs 1.440 af

Reach R2.9: Stream Avg. Flow Depth=1.19' Max Vel=16.61 fps Inflow=110.86 cfs 12.477 af
n=0.040 L=680.0' S=0.2412 '/' Capacity=256.33 cfs Outflow=109.15 cfs 12.477 af

Reach R3.1: SWALE Avg. Flow Depth=1.14' Max Vel=14.12 fps Inflow=69.63 cfs 1.486 af
n=0.040 L=420.0' S=0.2381 '/' Capacity=123.06 cfs Outflow=68.37 cfs 1.486 af

Reach R4.2: SWALE Avg. Flow Depth=0.92' Max Vel=12.46 fps Inflow=89.62 cfs 5.867 af
n=0.040 L=350.0' S=0.1771 '/' Capacity=219.76 cfs Outflow=88.45 cfs 5.867 af

Reach R4.5: swale Avg. Flow Depth=1.67' Max Vel=11.44 fps Inflow=71.15 cfs 10.283 af
n=0.040 L=560.0' S=0.1071 '/' Capacity=100.17 cfs Outflow=69.68 cfs 10.283 af

Reach R4.7: swale Avg. Flow Depth=1.06' Max Vel=19.31 fps Inflow=84.48 cfs 11.180 af
n=0.040 L=60.0' S=0.4833 '/' Capacity=329.55 cfs Outflow=84.41 cfs 11.180 af

Reach R5.2: SWALE Avg. Flow Depth=1.46' Max Vel=11.15 fps Inflow=57.03 cfs 3.114 af
n=0.040 L=640.0' S=0.1187 '/' Capacity=105.45 cfs Outflow=55.00 cfs 3.114 af

Reach R5.3: SWALE Avg. Flow Depth=1.87' Max Vel=7.34 fps Inflow=78.74 cfs 4.547 af
n=0.040 L=187.0' S=0.0374 '/' Capacity=151.95 cfs Outflow=77.68 cfs 4.547 af

Reach R8.16: SWALE Avg. Flow Depth=0.84' Max Vel=12.51 fps Inflow=60.34 cfs 4.194 af
n=0.040 L=315.0' S=0.2159 '/' Capacity=178.88 cfs Outflow=59.08 cfs 4.194 af

Reach R8.17: SWALE Avg. Flow Depth=0.90' Max Vel=12.80 fps Inflow=67.08 cfs 4.661 af
n=0.040 L=280.0' S=0.2107 '/' Capacity=176.73 cfs Outflow=66.27 cfs 4.661 af

Reach R8.18: Mountain stream Avg. Flow Depth=1.43' Max Vel=7.01 fps Inflow=54.08 cfs 5.518 af
n=0.080 L=870.0' S=0.1736 '/' Capacity=109.52 cfs Outflow=53.37 cfs 5.518 af

Reach R8.2: SWALE Avg. Flow Depth=0.89' Max Vel=6.80 fps Inflow=17.60 cfs 1.139 af
n=0.040 L=407.0' S=0.0713 '/' Capacity=46.39 cfs Outflow=17.02 cfs 1.139 af

Reach R8.21: SWALE Avg. Flow Depth=1.06' Max Vel=16.07 fps Inflow=104.12 cfs 5.971 af
n=0.040 L=520.0' S=0.2788 '/' Capacity=203.30 cfs Outflow=102.07 cfs 5.971 af

Reach R8.4: SWALE Avg. Flow Depth=1.42' Max Vel=9.51 fps Inflow=46.20 cfs 2.896 af
n=0.040 L=525.0' S=0.0876 '/' Capacity=51.44 cfs Outflow=45.04 cfs 2.896 af

Reach R8.6: SWALE Avg. Flow Depth=1.43' Max Vel=11.00 fps Inflow=54.02 cfs 3.605 af
n=0.040 L=345.0' S=0.1159 '/' Capacity=59.17 cfs Outflow=53.43 cfs 3.605 af

Reach R9.10: Swale Avg. Flow Depth=1.10' Max Vel=8.13 fps Inflow=37.93 cfs 5.514 af
n=0.040 L=170.0' S=0.0824 '/' Capacity=136.03 cfs Outflow=37.31 cfs 5.514 af

Reach R9.2: Swale Avg. Flow Depth=1.00' Max Vel=8.59 fps Inflow=36.05 cfs 1.968 af
n=0.040 L=1,250.0' S=0.1016 '/' Capacity=80.39 cfs Outflow=33.74 cfs 1.968 af

Reach R9.3: Swale Avg. Flow Depth=1.45' Max Vel=11.05 fps Inflow=80.33 cfs 4.882 af
n=0.040 L=1,000.0' S=0.1120 '/' Capacity=158.64 cfs Outflow=76.27 cfs 4.882 af

Reach R9.4: Swale Avg. Flow Depth=1.00' Max Vel=8.46 fps Inflow=34.24 cfs 2.375 af
n=0.040 L=540.0' S=0.0981 '/' Capacity=148.51 cfs Outflow=33.06 cfs 2.375 af

Pond 6.2P: BIORETENTION Peak Elev=1,686.75' Storage=1,948 cf Inflow=1.86 cfs 0.102 af
Outflow=1.66 cfs 0.102 af

Pond 6.3P: BIORETENTION Peak Elev=1,686.75' Storage=1,948 cf Inflow=1.86 cfs 0.102 af
Outflow=1.66 cfs 0.102 af

Pond 11.3R: DP11.1 Peak Elev=2,413.55' Storage=1,128 cf Inflow=98.26 cfs 12.721 af
72.0" Round Culvert x 2.00 n=0.025 L=120.0' S=0.1333 '/' Outflow=98.24 cfs 12.715 af

Pond 11.7R: Culvert Peak Elev=1,897.81' Inflow=331.29 cfs 38.462 af
Outflow=331.29 cfs 38.462 af

Pond 11.9R: Culvert Peak Elev=1,782.40' Storage=9,287 cf Inflow=328.86 cfs 38.462 af
Outflow=326.05 cfs 38.461 af

Pond P1.1: Pond 1.1 Peak Elev=2,164.68' Storage=113,394 cf Inflow=92.02 cfs 6.049 af
Outflow=60.47 cfs 6.048 af

Pond P1.2: BIORETENTION Peak Elev=2,227.81' Storage=3,895 cf Inflow=2.48 cfs 0.136 af
Outflow=1.84 cfs 0.136 af

Pond P1.3: Pond 1.3 Peak Elev=2,170.64' Storage=197,488 cf Inflow=115.36 cfs 10.031 af
Outflow=66.20 cfs 10.029 af

Pond P1.4: BIORETENTION Peak Elev=2,215.15' Storage=21,247 cf Inflow=11.43 cfs 0.647 af
Outflow=3.18 cfs 0.647 af

Pond P11.1: P-1 Peak Elev=2,303.67' Storage=116,206 cf Inflow=73.91 cfs 5.713 af
Outflow=32.65 cfs 5.711 af

Pond P11.10: DRY SWALE Peak Elev=2,193.50' Storage=2,580 cf Inflow=9.04 cfs 0.446 af
Outflow=7.86 cfs 0.442 af

Pond P11.11: BIORETENTION Peak Elev=2,183.81' Storage=11,622 cf Inflow=11.18 cfs 0.614 af
Outflow=7.84 cfs 0.614 af

Pond P11.12: BIORETENTION Peak Elev=2,592.81' Storage=8,400 cf Inflow=13.21 cfs 0.692 af
Outflow=12.81 cfs 0.668 af

Pond P11.14: BIORETENTION Peak Elev=2,419.90' Storage=8,400 cf Inflow=5.90 cfs 0.314 af
Outflow=2.88 cfs 0.283 af

Pond P11.2: BIORETENTION Peak Elev=2,373.45' Storage=27,470 cf Inflow=18.05 cfs 0.992 af
Outflow=7.38 cfs 0.992 af

Pond P11.4: BIORETENTION Peak Elev=2,459.29' Storage=26,705 cf Inflow=15.17 cfs 0.815 af
Outflow=3.52 cfs 0.815 af

Pond P11.6: DRY SWALE Peak Elev=2,483.14' Storage=1,232 cf Inflow=1.43 cfs 0.083 af
Outflow=1.35 cfs 0.083 af

Pond P11.7: BIORETENTION Peak Elev=2,249.14' Storage=10,142 cf Inflow=6.33 cfs 0.332 af
Outflow=4.20 cfs 0.332 af

Pond P11.8: BIORETENTION Peak Elev=2,261.09' Storage=6,733 cf Inflow=3.70 cfs 0.203 af
Outflow=1.86 cfs 0.202 af

Pond P11.9: BIORETENTION Peak Elev=2,219.80' Storage=3,911 cf Inflow=4.85 cfs 0.242 af
Outflow=4.54 cfs 0.242 af

Pond P12.1: Pond 12.1 Peak Elev=2,300.97' Storage=75,082 cf Inflow=45.08 cfs 2.784 af
Outflow=5.56 cfs 2.781 af

Pond P2.1: Pond 2.1 Peak Elev=2,188.54' Storage=146,103 cf Inflow=95.16 cfs 6.492 af
Outflow=34.93 cfs 6.488 af

Pond P4.1: P-1 Peak Elev=2,190.85' Storage=163,489 cf Inflow=159.31 cfs 10.475 af
Primary=55.20 cfs 8.987 af Secondary=69.63 cfs 1.486 af Outflow=124.83 cfs 10.473 af

Pond P6.1: BIORETENTION Peak Elev=1,686.75' Storage=1,948 cf Inflow=1.86 cfs 0.102 af
Outflow=1.66 cfs 0.102 af

Pond P8.1: DRY SWALE Peak Elev=2,309.84' Storage=2,746 cf Inflow=18.68 cfs 1.167 af
Outflow=17.60 cfs 1.139 af

Pond P8.2: P-3 Peak Elev=1,683.99' Storage=92,279 cf Inflow=82.43 cfs 5.522 af
Outflow=65.04 cfs 5.521 af

Pond P8.3: DRY SWALE Peak Elev=1,756.54' Storage=2,487 cf Inflow=9.48 cfs 0.471 af
Outflow=8.71 cfs 0.468 af

Pond P8.4: P-3 Peak Elev=1,671.35' Storage=142,640 cf Inflow=121.83 cfs 7.034 af
Primary=33.20 cfs 6.271 af Secondary=40.86 cfs 0.763 af Outflow=74.06 cfs 7.034 af

Pond P8.5: I-2 Peak Elev=1,679.81' Storage=24,239 cf Inflow=21.23 cfs 1.078 af
Discarded=0.26 cfs 0.676 af Primary=4.72 cfs 0.403 af Outflow=4.98 cfs 1.079 af

Pond P9.2: Pond 9.2 Peak Elev=1,675.02' Storage=124,518 cf Inflow=88.88 cfs 5.514 af
Outflow=37.93 cfs 5.514 af

Pond R1.10: PIPE Peak Elev=2,269.43' Inflow=95.82 cfs 8.204 af
36.0" Round Culvert n=0.020 L=1,125.0' S=0.0667 '/' Outflow=95.82 cfs 8.204 af

Pond R1.11: Pipe Peak Elev=2,194.72' Inflow=99.76 cfs 8.520 af
48.0" Round Culvert n=0.020 L=230.0' S=0.0435 '/' Outflow=99.76 cfs 8.520 af

Pond R1.3: Culvert Peak Elev=2,405.20' Inflow=57.82 cfs 3.718 af
36.0" Round Culvert n=0.013 L=1,255.0' S=0.0653 '/' Outflow=57.82 cfs 3.718 af

Pond R1.4: pipe Peak Elev=2,304.38' Inflow=57.82 cfs 3.718 af
36.0" Round Culvert n=0.020 L=950.0' S=0.0926 '/' Outflow=57.82 cfs 3.718 af

Pond R1.5: Pipe Peak Elev=2,199.92' Inflow=62.96 cfs 4.250 af
36.0" Round Culvert n=0.020 L=120.0' S=0.1250 '/' Outflow=62.96 cfs 4.250 af

Pond R1.6: pipe Peak Elev=2,208.91' Inflow=9.40 cfs 0.532 af
24.0" Round Culvert n=0.020 L=260.0' S=0.0050 '/' Outflow=9.40 cfs 0.532 af

Pond R1.7: Culvert Peak Elev=2,207.33' Inflow=24.49 cfs 1.334 af
60.0" x 36.0" Box Culvert n=0.013 L=50.0' S=0.0200 '/' Outflow=24.49 cfs 1.334 af

Pond R1.9: PIPE Peak Elev=2,302.61' Inflow=84.23 cfs 6.411 af
36.0" Round Culvert n=0.020 L=350.0' S=0.0943 '/' Outflow=84.23 cfs 6.411 af

Pond R11.11: CULVERT Peak Elev=2,481.09' Inflow=28.32 cfs 1.851 af
30.0" Round Culvert n=0.020 L=35.0' S=0.2286 '/' Outflow=28.32 cfs 1.851 af

Pond R11.15: CB Peak Elev=2,456.97' Inflow=53.14 cfs 4.105 af
36.0" Round Culvert n=0.020 L=110.0' S=0.0091 '/' Outflow=53.14 cfs 4.105 af

Pond R11.17: CB Peak Elev=2,439.29' Inflow=56.84 cfs 4.079 af
36.0" Round Culvert n=0.020 L=290.0' S=0.0862 '/' Outflow=56.84 cfs 4.079 af

Pond R11.19: CB Peak Elev=2,421.29' Inflow=11.17 cfs 0.607 af
36.0" Round Culvert n=0.020 L=290.0' S=0.0862 '/' Outflow=11.17 cfs 0.607 af

Pond R11.20: CULVERT Peak Elev=2,461.81' Inflow=29.58 cfs 1.941 af
30.0" Round Culvert n=0.020 L=900.0' S=0.0722 '/' Outflow=29.58 cfs 1.941 af

Pond R11.21: CULVERT Peak Elev=2,397.59' Inflow=49.21 cfs 3.499 af
36.0" Round Culvert n=0.020 L=900.0' S=0.0733 '/' Outflow=49.21 cfs 3.499 af

Pond R11.22: CB Peak Elev=2,460.61' Inflow=2.43 cfs 0.141 af
36.0" Round Culvert n=0.020 L=770.0' S=0.0130 '/' Outflow=2.43 cfs 0.141 af

Pond R11.24: CB Peak Elev=2,488.74' Inflow=25.47 cfs 2.093 af
30.0" Round Culvert n=0.020 L=695.0' S=0.0719 '/' Outflow=25.47 cfs 2.093 af

Pond R11.26: BOX CULVERT Peak Elev=2,313.25' Inflow=81.26 cfs 5.762 af
60.0" x 36.0" Box Culvert n=0.020 L=50.0' S=0.0200 '/' Outflow=81.26 cfs 5.762 af

Pond R11.32: CULVERT Peak Elev=2,439.49' Inflow=53.64 cfs 4.336 af
36.0" Round Culvert n=0.020 L=110.0' S=0.0818 '/' Outflow=53.64 cfs 4.336 af

Pond R12.1: CB Peak Elev=2,310.30' Inflow=4.36 cfs 0.253 af
24.0" Round Culvert n=0.020 L=630.0' S=0.0100 '/' Outflow=4.36 cfs 0.253 af

Pond R2.1: PIPE Peak Elev=2,290.39' Inflow=31.83 cfs 2.205 af
36.0" Round Culvert n=0.020 L=1,185.0' S=0.0616 '/' Outflow=31.83 cfs 2.205 af

Pond R2.2: PIPE Peak Elev=2,215.84' Inflow=39.78 cfs 3.092 af
36.0" Round Culvert n=0.020 L=795.0' S=0.0289 '/' Outflow=39.78 cfs 3.092 af

Pond R2.3: catch basin Peak Elev=2,270.52' Inflow=35.76 cfs 2.164 af
Outflow=35.76 cfs 2.164 af

Pond R2.5: Road culvert Peak Elev=2,230.98' Inflow=20.82 cfs 1.149 af
36.0" Round Culvert n=0.020 L=75.0' S=0.0400 '/' Outflow=20.82 cfs 1.149 af

Pond R2.6: Road Culvert Peak Elev=2,217.25' Inflow=5.29 cfs 0.290 af
18.0" Round Culvert n=0.020 L=30.0' S=0.0333 '/' Outflow=5.29 cfs 0.290 af

Pond R2.8: cb Peak Elev=2,190.53' Inflow=48.62 cfs 2.984 af
36.0" Round Culvert n=0.020 L=450.0' S=0.0600 '/' Outflow=48.62 cfs 2.984 af

Pond R4.1: catch basin Peak Elev=2,296.87' Inflow=89.62 cfs 5.867 af
Outflow=89.62 cfs 5.867 af

Pond R4.3: culvert Peak Elev=2,213.94' Inflow=98.77 cfs 6.670 af
Outflow=98.77 cfs 6.670 af

Pond R4.4: CULVERT Peak Elev=2,185.68' Inflow=55.20 cfs 8.987 af
36.0" Round Culvert n=0.020 L=580.0' S=0.1962 '/' Outflow=55.20 cfs 8.987 af

Pond R4.6: CULVERT Peak Elev=2,013.40' Inflow=84.48 cfs 11.180 af
36.0" Round Culvert n=0.020 L=50.0' S=0.0200 '/' Outflow=84.48 cfs 11.180 af

Pond R4.8: CULVERT Peak Elev=2,096.92' Inflow=26.50 cfs 1.296 af
24.0" Round Culvert n=0.020 L=150.0' S=0.1667 '/' Outflow=26.50 cfs 1.296 af

Pond R5.1: CULVERT Peak Elev=1,910.47' Inflow=57.03 cfs 3.114 af
33.0" Round Culvert n=0.020 L=810.0' S=0.1000 '/' Outflow=57.03 cfs 3.114 af

Pond R8.1: CULVERT Peak Elev=2,310.78' Inflow=17.60 cfs 1.139 af
24.0" Round Culvert n=0.020 L=275.0' S=0.0145 '/' Outflow=17.60 cfs 1.139 af

Pond R8.10: CB Peak Elev=1,981.99' Inflow=107.82 cfs 6.888 af
45.0" Round Culvert n=0.020 L=765.0' S=0.1007 '/' Outflow=107.82 cfs 6.888 af

Pond R8.12: CULVERT Peak Elev=1,906.04' Inflow=34.90 cfs 2.051 af
30.0" Round Culvert n=0.020 L=40.0' S=0.0750 '/' Outflow=34.90 cfs 2.051 af

Pond R8.13: CB Peak Elev=1,903.53' Inflow=142.27 cfs 8.939 af
48.0" Round Culvert n=0.020 L=835.0' S=0.0862 '/' Outflow=142.27 cfs 8.939 af

Pond R8.15: CB Peak Elev=1,825.96' Inflow=164.46 cfs 10.165 af
Primary=104.12 cfs 5.971 af Secondary=60.34 cfs 4.194 af Outflow=164.46 cfs 10.165 af

Pond R8.20: PIPE Peak Elev=1,825.82' Inflow=104.12 cfs 5.971 af
42.0" Round Culvert n=0.020 L=220.0' S=0.0045 '/' Outflow=104.12 cfs 5.971 af

Pond R8.22: New Culvert Peak Elev=1,671.61' Inflow=190.81 cfs 19.968 af
Outflow=190.81 cfs 19.968 af

Pond R8.3: CULVERT Peak Elev=2,274.65' Inflow=46.20 cfs 2.896 af
Outflow=46.20 cfs 2.896 af

Pond R8.5: CULVERT Peak Elev=2,224.81' Inflow=54.02 cfs 3.605 af
Outflow=54.02 cfs 3.605 af

Pond R8.7: CULVERT Peak Elev=2,184.64' Inflow=90.42 cfs 5.857 af
42.0" Round Culvert n=0.020 L=200.0' S=0.0750 '/' Outflow=90.42 cfs 5.857 af

Pond R8.8: CB Peak Elev=2,166.11' Inflow=96.79 cfs 6.244 af
42.0" Round Culvert n=0.020 L=880.0' S=0.0943 '/' Outflow=96.79 cfs 6.244 af

Pond R8.9: CB Peak Elev=2,080.63' Inflow=102.34 cfs 6.570 af
42.0" Round Culvert n=0.020 L=900.0' S=0.1056 '/' Outflow=102.34 cfs 6.570 af

Pond R9.1: pipes Peak Elev=1,818.52' Inflow=23.64 cfs 1.688 af
Outflow=23.64 cfs 1.688 af

Pond R9.11: Culvert Peak Elev=1,667.69' Inflow=97.45 cfs 10.396 af
36.0" Round Culvert n=0.020 L=50.0' S=0.0400 '/' Outflow=97.45 cfs 10.396 af

Pond R9.2A: Culvert Peak Elev=1,775.73' Inflow=80.33 cfs 4.882 af
48.0" Round Culvert n=0.020 L=40.0' S=0.0500 '/' Outflow=80.33 cfs 4.882 af

Pond R9.5: Culvert Peak Elev=1,716.02' Inflow=33.28 cfs 1.824 af
54.0" Round Culvert n=0.020 L=60.0' S=0.0667 '/' Outflow=33.28 cfs 1.824 af

Pond R9.6: Culvert Peak Elev=1,685.79' Inflow=8.69 cfs 0.515 af
18.0" Round Culvert n=0.020 L=100.0' S=0.0200 '/' Outflow=8.69 cfs 0.515 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.1~Link 1.1L.hce Inflow=1.60 cfs 0.167 af
Area= 0.275 ac 100.00% Imperv. Primary=1.60 cfs 0.167 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.2~Link 1.2L.hce Inflow=1.54 cfs 0.160 af
Area= 0.264 ac 100.00% Imperv. Primary=1.54 cfs 0.160 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.3~Link 1.3L.hce Inflow=1.47 cfs 0.090 af
Area= 0.149 ac 100.00% Imperv. Primary=1.47 cfs 0.090 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.4~Link 1.4L.hce Inflow=1.00 cfs 0.097 af
Area= 0.161 ac 100.00% Imperv. Primary=1.00 cfs 0.097 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.5~Link 1.5L.hce Inflow=3.02 cfs 0.299 af
Area= 0.494 ac 100.00% Imperv. Primary=3.02 cfs 0.299 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.6~Link 1.6L.hce Inflow=2.16 cfs 0.229 af
Area= 0.379 ac 100.00% Imperv. Primary=2.16 cfs 0.229 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 1.9~Link 1.9L.hce Inflow=4.87 cfs 0.320 af
Area= 0.528 ac 100.00% Imperv. Primary=4.87 cfs 0.320 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.10~Link 2.10L.hce Inflow=4.38 cfs 0.340 af
Area= 0.562 ac 100.00% Imperv. Primary=4.38 cfs 0.340 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.1~Link 2.1L.hce Inflow=0.60 cfs 0.069 af
Area= 0.115 ac 100.00% Imperv. Primary=0.60 cfs 0.069 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.3~Link 2.3L.hce Inflow=1.49 cfs 0.146 af
Area= 0.241 ac 100.00% Imperv. Primary=1.49 cfs 0.146 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.6~Link 2.6L.hce Inflow=2.49 cfs 0.243 af
Area= 0.402 ac 100.00% Imperv. Primary=2.49 cfs 0.243 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.7~Link 2.7L.hce Inflow=2.49 cfs 0.243 af
Area= 0.402 ac 100.00% Imperv. Primary=2.49 cfs 0.243 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.8~Link 2.8L.hce Inflow=0.53 cfs 0.056 af
Area= 0.092 ac 100.00% Imperv. Primary=0.53 cfs 0.056 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 2.9~Link 2.9L.hce Inflow=3.99 cfs 0.389 af
Area= 0.643 ac 100.00% Imperv. Primary=3.99 cfs 0.389 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.1~Link 4.1L.hce Inflow=3.55 cfs 0.354 af
Area= 0.585 ac 100.00% Imperv. Primary=3.55 cfs 0.354 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.3~Link 4.3L.hce Inflow=8.50 cfs 0.834 af
Area= 1.377 ac 100.00% Imperv. Primary=8.50 cfs 0.834 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 4.4~Link 4.4L.hce Inflow=1.53 cfs 0.153 af
Area= 0.253 ac 100.00% Imperv. Primary=1.53 cfs 0.153 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 5.2~Link 5.2L.hce Inflow=2.03 cfs 0.201 af
Area= 0.333 ac 100.00% Imperv. Primary=2.03 cfs 0.201 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.10~Link 8.10L.hce Inflow=3.99 cfs 0.389 af
Area= 0.643 ac 100.00% Imperv. Primary=3.99 cfs 0.389 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.11~Link 8.11L.hce Inflow=0.50 cfs 0.049 af
Area= 0.080 ac 100.00% Imperv. Primary=0.50 cfs 0.049 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.15~Link 8.15L.hce Inflow=0.50 cfs 0.049 af
Area= 0.080 ac 100.00% Imperv. Primary=0.50 cfs 0.049 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.1~Link 8.1L.hce Inflow=0.50 cfs 0.049 af
Area= 0.080 ac 100.00% Imperv. Primary=0.50 cfs 0.049 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.4~Link 8.4L.hce Inflow=1.63 cfs 0.174 af
Area= 0.287 ac 100.00% Imperv. Primary=1.63 cfs 0.174 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.5~Link 8.5L.hce Inflow=1.62 cfs 0.181 af
Area= 0.298 ac 100.00% Imperv. Primary=1.62 cfs 0.181 af

8077_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 8.8~Link 8.8L.hce Inflow=1.49 cfs 0.146 af
Area= 0.241 ac 100.00% Imperv. Primary=1.49 cfs 0.146 af

77_Tuck_Wi**Link**ham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.10~Link 9.10L.hce Inflow=1.99 cfs 0.195 af
Area= 0.321 ac 100.00% Imperv. Primary=1.99 cfs 0.195 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.11~Link 9.11L.hce Inflow=2.49 cfs 0.243 af
Link Area= 0.402 ac 100.00% Imperv. Primary=2.49 cfs 0.243 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.1~Link 9.1L.hce Inflow=1.49 cfs 0.146 af
Link Area= 0.241 ac 100.00% Imperv. Primary=1.49 cfs 0.146 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.5~Link 9.5L.hce Inflow=0.53 cfs 0.056 af
Link Area= 0.092 ac 100.00% Imperv. Primary=0.53 cfs 0.056 af

8077_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 9.6~Link 9.6L.hce Inflow=3.49 cfs 0.340 af
Link Area= 0.562 ac 100.00% Imperv. Primary=3.49 cfs 0.340 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.14~Link 11.14L.hce Inflow=0.50 cfs 0.049 af
Link Area= 0.080 ac 100.00% Imperv. Primary=0.50 cfs 0.049 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.18~Link 11.18L.hce Inflow=0.55 cfs 0.063 af
Link Area= 0.103 ac 100.00% Imperv. Primary=0.55 cfs 0.063 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.25~Link 11.25L.hce Inflow=1.00 cfs 0.097 af
Link Area= 0.161 ac 100.00% Imperv. Primary=1.00 cfs 0.097 af

_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.33~Link 11.33L.hce Inflow=0.50 cfs 0.049 af
Link Area= 0.080 ac 100.00% Imperv. Primary=0.50 cfs 0.049 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 11.3~Link 11.3L.hce Inflow=2.59 cfs 0.264 af
Link Area= 0.436 ac 100.00% Imperv. Primary=2.59 cfs 0.264 af

77_Tuck_Windham\08077HydroCad\Residential Lot Subcatchments\08077_Sub 12.2~Link 12.2L.hce Inflow=2.17 cfs 0.229 af
Link Area= 0.379 ac 100.00% Imperv. Primary=2.17 cfs 0.229 af

Total Runoff Area = 461.192 ac Runoff Volume = 172.701 af Average Runoff Depth = 4.49"
93.52% Pervious = 431.313 ac 6.48% Impervious = 29.879 ac

Summary for Subcatchment 1.10S: Area 1.10

Runoff = 2.48 cfs @ 11.96 hrs, Volume= 0.136 af, Depth= 6.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
8,640	98	Paved parking, HSG C
2,000	71	Meadow, non-grazed, HSG C
10,640	93	Weighted Average
2,000		18.80% Pervious Area
8,640		81.20% Impervious Area

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

Summary for Subcatchment 1.11S: Area 1.11

Runoff = 3.04 cfs @ 11.99 hrs, Volume= 0.181 af, Depth= 7.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
12,060	98	Paved parking, HSG C
1,400	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
13,460	96	Weighted Average
1,400		10.40% Pervious Area
12,060		89.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	62	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	38	0.0300	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	130	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.0	230	Total			

Summary for Subcatchment 1.12S: Area 1.12

Runoff = 6.47 cfs @ 12.04 hrs, Volume= 0.409 af, Depth= 6.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
17,805	98	Paved parking, HSG C
3,410	98	Roofs, HSG C
13,975	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
35,190	88	Weighted Average
13,975		39.71% Pervious Area
21,215		60.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	96	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	545	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.4	641	Total			

Summary for Subcatchment 1.13S: Area 1.13

Runoff = 9.28 cfs @ 11.97 hrs, Volume= 0.455 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
53,050	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
53,050	74	Weighted Average
53,050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	50	0.2500	0.39		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.1	50	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.14S: Area 1.14

Runoff = 1.92 cfs @ 11.97 hrs, Volume= 0.094 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
11,800	71	Meadow, non-grazed, HSG C
11,800		100.00% Pervious Area

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

Summary for Subcatchment 1.15S: Area 1.15

Runoff = 5.70 cfs @ 11.96 hrs, Volume= 0.331 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
8,040	98	Paved parking, HSG C
15,790	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
23,830	98	Weighted Average
23,830		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**
5.0	0	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.16S: Area 1.16

Runoff = 3.82 cfs @ 11.96 hrs, Volume= 0.222 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
15,985	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
15,985	98	Weighted Average
15,985		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**
5.0	0	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.17S: Area 1.17

Runoff = 5.63 cfs @ 11.97 hrs, Volume= 0.279 af, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
8,217	72	Woods/grass comb., Good, HSG C
2,400	74	>75% Grass cover, Good, HSG C
19,624	79	Woods/grass comb., Good, HSG D
30,241	77	Weighted Average
30,241		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	90	0.2500	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.1	15	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	360	0.1000	6.67	37.22	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=0.70' Z= 7.1 '/' Top.W=12.94' n= 0.040 Mountain streams
4.4	465	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.1S: Area-1.1

Runoff = 154.50 cfs @ 12.16 hrs, Volume= 12.568 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,500,780	72	Woods/grass comb., Good, HSG C
11,590	79	Woods/grass comb., Good, HSG D
30,280	74	>75% Grass cover, Good, HSG C
1,542,650	72	Weighted Average
1,542,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	150	0.1200	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
7.4	1,350	0.3700	3.04		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.4	545	0.2000	24.25	698.34	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=4.50' D=3.00' Z= 1.7 '/' Top.W=14.70' n= 0.040 Mountain streams
0.1	250	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00'

n= 0.040 Mountain streams

22.9	2,295	Total

Summary for Subcatchment 1.2S: Area 1.2

Runoff = 56.27 cfs @ 12.06 hrs, Volume= 3.558 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Roofs, HSG C
41,210	74	>75% Grass cover, Good, HSG C
395,569	72	Woods/grass comb., Good, HSG C
0	79	Woods/grass comb., Good, HSG D
436,779	72	Weighted Average
436,779		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.3300	0.23		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
6.4	1,150	0.3600	3.00		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	260	0.0500	7.40	38.86	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
14.2	1,510	Total			

Summary for Subcatchment 1.3S: Area-1.3

Runoff = 14.91 cfs @ 12.09 hrs, Volume= 1.013 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
124,373	72	Woods/grass comb., Good, HSG C
124,373		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0750	0.13		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
3.3	385	0.1500	1.94		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	265	0.1600	30.49	2,126.93	**Trap/Vee/Rect Channel Flow, mountain stream** Bot.W=11.00' D=4.50' Z= 1.0 '/' Top.W=20.00' n= 0.040 Mountain streams
16.5	750	Total			

Summary for Subcatchment 1.4S: Area 1.4

Runoff = 51.12 cfs @ 12.03 hrs, Volume= 2.965 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
33,624	74	>75% Grass cover, Good, HSG C
77,608	79	Woods/grass comb., Good, HSG D
234,672	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
345,904	74	Weighted Average
345,904		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	94	0.1100	1.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.4	100	0.0750	0.68		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
3.9	450	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	617	0.0950	22.37	1,509.82	**Trap/Vee/Rect Channel Flow, Mountain Stream** Bot.W=5.00' D=5.00' Z= 1.7 '/' Top.W=22.00' n= 0.040 Mountain streams
11.4	1,361	Total			

Summary for Subcatchment 1.5S: Area 1.5

Runoff = 81.29 cfs @ 12.13 hrs, Volume= 6.112 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
702,889	72	Woods/grass comb., Good, HSG C
39,952	74	>75% Grass cover, Good, HSG C
0	98	Roofs, HSG C
7,435	79	Woods/grass comb., Good, HSG D
750,276	72	Weighted Average
750,276		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.1400	0.16		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
8.7	1,525	0.3400	2.92		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	120	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	220	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Mountain streams
19.9	1,965	Total			

Summary for Subcatchment 1.6S: Area 1.6

Runoff = 22.54 cfs @ 11.97 hrs, Volume= 1.105 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,395	98	Paved parking, HSG C
0	98	Roofs, HSG C
65,620	74	>75% Grass cover, Good, HSG C
16,160	79	Woods/grass comb., Good, HSG D
45,695	72	Woods/grass comb., Good, HSG C
128,870	74	Weighted Average
127,475		98.92% Pervious Area
1,395		1.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.1000	2.21		**Shallow Concentrated Flow, lawn** Short Grass Pasture Kv= 7.0 fps
1.8	225	0.1800	2.12		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
1.3	140	0.1300	1.80		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
3.9	465	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.7S: Area 1.7

Runoff = 9.40 cfs @ 11.96 hrs, Volume= 0.532 af, Depth= 7.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
36,835	98	Paved parking, HSG C
0	98	Roofs, HSG C
2,780	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
39,615	96	Weighted Average
2,780		7.02% Pervious Area
36,835		92.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	55	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	1,090	0.1000	22.77	71.54	**Pipe Channel, Road culvert** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
1.9	1,245	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.8S: Area 1.8

Runoff = 9.48 cfs @ 11.97 hrs, Volume= 0.465 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
5,915	72	Woods/grass comb., Good, HSG C
44,225	74	>75% Grass cover, Good, HSG C
4,060	79	Woods/grass comb., Good, HSG D
54,200	74	Weighted Average
54,200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	60	0.3600	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.5	40	0.1100	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	40	0.1100	2.32		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.9	140	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.9S: Area 1.9

Runoff = 29.77 cfs @ 11.97 hrs, Volume= 1.473 af, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
29,215	98	Paved parking, HSG C
0	98	Roofs, HSG C
50,280	74	>75% Grass cover, Good, HSG C
80,315	72	Woods/grass comb., Good, HSG C
159,810	77	Weighted Average
130,595		81.72% Pervious Area
29,215		18.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.1500	1.94		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	55	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	575	0.0200	5.08	20.33	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
3.1	730	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.10S: Area 2.10

Runoff = 40.62 cfs @ 12.07 hrs, Volume= 2.664 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
3,185	98	Paved parking, HSG C
152,040	74	>75% Grass cover, Good, HSG C
54,755	79	Woods/grass comb., Good, HSG D
93,245	72	Woods/grass comb., Good, HSG C
303,225	75	Weighted Average
300,040		98.95% Pervious Area
3,185		1.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2500	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
6.9	625	0.0900	1.50		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
0.2	240	0.2000	19.45	233.42	**Trap/Vee/Rect Channel Flow, Point 45** Bot.W=5.00' D=2.00' Z= 0.5 '/' Top.W=7.00' n= 0.040 Mountain streams
15.2	965	Total			

Summary for Subcatchment 2.11S: Downstream Area for Additional Analysis

Runoff = 77.79 cfs @ 11.99 hrs, Volume= 3.912 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
42,335	74	>75% Grass cover, Good, HSG C
437,835	72	Woods/grass comb., Good, HSG C
480,170	72	Weighted Average
480,170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	50	0.3500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	50	0.3500	4.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	760	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.4	860	Total			

Summary for Subcatchment 2.1S: Area 2.1

Runoff = 31.24 cfs @ 12.09 hrs, Volume= 2.135 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
22,900	74	>75% Grass cover, Good, HSG C
239,181	72	Woods/grass comb., Good, HSG C
262,081	72	Weighted Average
262,081		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	100	0.2200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.5	1,300	0.3300	2.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	120	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	65	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
16.7	1,585	Total			

Summary for Subcatchment 2.2S: Area 2.2

Runoff = 15.27 cfs @ 11.96 hrs, Volume= 0.887 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
63,870	98	Paved parking, HSG C
63,870		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	350	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	1,550	0.0600	13.30	65.31	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.020 Corrugated PE, corrugated interior
3.3	1,910	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.3S: Area 2.3

Runoff = 15.73 cfs @ 11.97 hrs, Volume= 0.769 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
66,110	74	>75% Grass cover, Good, HSG C
25,880	72	Woods/grass comb., Good, HSG C
91,990	73	Weighted Average
91,990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1800	0.40		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	108	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.8	208	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.4S: Area 2.4

Runoff = 3.62 cfs @ 11.96 hrs, Volume= 0.210 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
15,150	98	Paved parking, HSG C
0	98	Roofs, HSG C
15,150	98	Weighted Average
15,150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.0	350	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	525	0.0200	8.67	61.31	**Pipe Channel,** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.020 Corrugated PE, corrugated interior
3.2	885	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.5S: Area 2.5

Runoff = 1.91 cfs @ 11.96 hrs, Volume= 0.111 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
8,000	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,000	98	Weighted Average
8,000		100.00% Impervious Area

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

Summary for Subcatchment 2.6S: Area 2.6

Runoff = 33.28 cfs @ 12.03 hrs, Volume= 1.921 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
76,450	74	>75% Grass cover, Good, HSG C
153,355	72	Woods/grass comb., Good, HSG C
229,805	73	Weighted Average
229,805		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.3200	0.23		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.3	580	0.3500	2.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	120	0.2500	3.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	62	0.0470	8.56	102.77	**Trap/Vee/Rect Channel Flow, roadside channel** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
11.3	862	Total			

Summary for Subcatchment 2.7S: Area 2.7

Runoff = 18.53 cfs @ 11.97 hrs, Volume= 0.906 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
52,563	74	>75% Grass cover, Good, HSG C
55,830	72	Woods/grass comb., Good, HSG C
108,393	73	Weighted Average
108,393		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2200	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.1	25	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	590	0.0600	9.68	116.11	**Trap/Vee/Rect Channel Flow, roadside swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
5.0	715	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.8S: Area 2.8

Runoff = 4.80 cfs @ 11.97 hrs, Volume= 0.235 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Roofs, HSG C
9,160	74	>75% Grass cover, Good, HSG C
18,940	72	Woods/grass comb., Good, HSG C
28,100	73	Weighted Average
28,100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.2800	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.8	265	0.2300	2.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	365	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 2.9S: Area 2.9

Runoff = 21.36 cfs @ 12.01 hrs, Volume= 1.155 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
78,865	74	>75% Grass cover, Good, HSG C
59,280	72	Woods/grass comb., Good, HSG C
138,145	73	Weighted Average
138,145		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.1	50	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	55	0.1800	2.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	525	0.0200	5.59	67.04	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
9.4	680	Total			

Summary for Subcatchment 2aS: Area 2A

Runoff = 8.36 cfs @ 12.01 hrs, Volume= 0.449 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
45,425	72	Woods/grass comb., Good, HSG C
9,715	74	>75% Grass cover, Good, HSG C
55,140	72	Weighted Average
55,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.5	90	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.3	190	Total			

Summary for Subcatchment 2bS: Area 2b

Runoff = 32.75 cfs @ 12.00 hrs, Volume= 1.706 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
52,600	74	>75% Grass cover, Good, HSG C
151,520	72	Woods/grass comb., Good, HSG C
204,120	73	Weighted Average
204,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	20	0.2500	0.33		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
6.8	80	0.2500	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.6	60	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.4	160	Total			

Summary for Subcatchment 3.1S: Area 3.1

Runoff = 17.57 cfs @ 11.97 hrs, Volume= 0.857 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
105,215	72	Woods/grass comb., Good, HSG C
105,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.7	100	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	395	0.1100	11.15	83.65	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.0	595	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.1S: Area 4.1

Runoff = 81.72 cfs @ 12.06 hrs, Volume= 5.065 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Roofs, HSG C
89,715	74	>75% Grass cover, Good, HSG C
531,975	72	Woods/grass comb., Good, HSG C
621,690	72	Weighted Average
621,690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	100	0.2000	0.28		**Sheet Flow, ski trail** Grass: Dense n= 0.240 P2= 3.00"
7.4	1,175	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	115	0.0350	6.61	59.47	**Trap/Vee/Rect Channel Flow,** Bot.W=3.00' D=1.50' Z= 2.0 '/' Top.W=9.00' n= 0.040 Earth, cobble bottom, clean sides
13.6	1,390	Total			

Summary for Subcatchment 4.2S: Area 4.2

Runoff = 7.71 cfs @ 11.96 hrs, Volume= 0.448 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
32,235	98	Paved parking, HSG C
32,235		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	40	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.3S: Area 4.3

Runoff = 51.06 cfs @ 11.98 hrs, Volume= 2.573 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
24,400	98	Paved parking, HSG C
0	98	Roofs, HSG C
159,890	74	>75% Grass cover, Good, HSG C
108,600	72	Woods/grass comb., Good, HSG C
292,890	75	Weighted Average
268,490		91.67% Pervious Area
24,400		8.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	100	0.2500	0.45		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.6	260	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.5	135	0.0100	4.48	33.63	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
1.4	565	0.0200	6.62	20.80	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
7.2	1,060	Total			

Summary for Subcatchment 4.4S: Area 4.4

Runoff = 12.96 cfs @ 11.98 hrs, Volume= 0.650 af, Depth= 4.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
7,500	98	Paved parking, HSG C
0	98	Roofs, HSG C
31,290	74	>75% Grass cover, Good, HSG C
33,450	72	Woods/grass comb., Good, HSG C
72,240	76	Weighted Average
64,740		89.62% Pervious Area
7,500		10.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1200	0.34		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.3	160	0.1800	2.12		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.7	120	0.1500	2.71		**Shallow Concentrated Flow, grass** Short Grass Pasture Kv= 7.0 fps
6.9	380	Total			

Summary for Subcatchment 4.5S: Area 4.5

Runoff = 8.12 cfs @ 11.97 hrs, Volume= 0.398 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
46,440	74	>75% Grass cover, Good, HSG C
46,440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	30	0.1250	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.9	30	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.6S: Area-4.6

Runoff = 26.50 cfs @ 11.97 hrs, Volume= 1.296 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
87,875	72	Woods/grass comb., Good, HSG C
67,135	74	>75% Grass cover, Good, HSG C
155,010	73	Weighted Average
155,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	900	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, roadside swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
1.2	900	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 4.7S: Area-4.7

Runoff = 17.44 cfs @ 11.99 hrs, Volume= 0.897 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
88,830	72	Woods/grass comb., Good, HSG C
21,320	74	>75% Grass cover, Good, HSG C
110,150	72	Weighted Average
110,150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.3400	0.23		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	220	0.5200	3.61		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
8.1	320	Total			

Summary for Subcatchment 4.8: Area-4.8

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 0.013 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,585	72	Woods/grass comb., Good, HSG C
1,585		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	100	0.2200	0.11		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"

Summary for Subcatchment 5.1S: Area-5.1

Runoff = 76.06 cfs @ 12.04 hrs, Volume= 4.507 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
553,165	72	Woods/grass comb., Good, HSG C
553,165		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.3200	0.23		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.6	280	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	910	0.0900	9.72	48.60	**Channel Flow, Grassed/Roadside Swale** Area= 5.0 sf Perim= 7.5' r= 0.67' n= 0.035 Earth, dense weeds
1.7	910	0.0800	9.09	18.18	**Trap/Vee/Rect Channel Flow, DITCH** Bot.W=1.00' D=1.00' Z= 1.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
12.2	2,200	Total			

Summary for Subcatchment 5.2S: Area-5.2

Runoff = 22.35 cfs @ 12.01 hrs, Volume= 1.232 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
55,210	74	>75% Grass cover, Good, HSG C
4,470	79	Woods/grass comb., Good, HSG D
87,655	72	Woods/grass comb., Good, HSG C
147,335	73	Weighted Average
147,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	50	0.2000	0.16		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
4.2	225	0.1300	0.90		**Shallow Concentrated Flow, WETLAND FLOW** Forest w/Heavy Litter Kv= 2.5 fps
0.6	420	0.1100	10.98	57.63	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.9	695	Total			

Summary for Subcatchment 5.3S: Area 5.3

Runoff = 57.03 cfs @ 12.01 hrs, Volume= 3.114 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
23,664	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
358,601	72	Woods/grass comb., Good, HSG C
382,265	72	Weighted Average
382,265		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.4000	0.25		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	238	0.4000	3.16		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
1.7	1,190	0.1200	11.47	60.20	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.7	1,528	Total			

Summary for Subcatchment 6.1S: Area 6.1

Runoff = 1.86 cfs @ 11.96 hrs, Volume= 0.102 af, Depth= 6.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.2S: Area 6.2

Runoff = 1.86 cfs @ 11.96 hrs, Volume= 0.102 af, Depth= 6.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.3S: Area 6.3

Runoff = 1.86 cfs @ 11.96 hrs, Volume= 0.102 af, Depth= 6.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

	Area (sf)	CN	Description
	4,500	98	Roofs, HSG C
*	2,000	98	Driveway, extra imperv., HSG C
	1,500	72	Woods/grass comb., Good, HSG C
	8,000	93	Weighted Average
	1,500		18.75% Pervious Area
	6,500		81.25% Impervious Area

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

Summary for Subcatchment 6.4S: AREA 6.1

Runoff = 11.11 cfs @ 11.97 hrs, Volume= 0.542 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

	Area (sf)	CN	Description
	0	98	Roofs, HSG C
	0	74	>75% Grass cover, Good, HSG C
	66,488	72	Woods/grass comb., Good, HSG C
	66,488	72	Weighted Average
	66,488		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.1600	0.42		**Sheet Flow, meadow** Range n= 0.130 P2= 3.00"
1.7	280	0.1500	2.71		**Shallow Concentrated Flow, meadow** Short Grass Pasture Kv= 7.0 fps
5.6	380	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 7.1S: Area-7

Runoff = 17.18 cfs @ 11.98 hrs, Volume= 0.839 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
105,675	71	Meadow, non-grazed, HSG C
105,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
0.3	50	0.2000	3.13		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
6.4	150	Total			

Summary for Subcatchment 8.10S: Area 8.10

Runoff = 36.75 cfs @ 11.99 hrs, Volume= 1.863 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
17,810	98	Paved parking, HSG C
0	98	Roofs, HSG C
106,562	74	>75% Grass cover, Good, HSG C
87,646	72	Woods/grass comb., Good, HSG C
212,018	75	Weighted Average
194,208		91.60% Pervious Area
17,810		8.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1200	0.34		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
1.7	250	0.2500	2.50		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.8	412	0.0600	8.11	42.57	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
7.4	762	Total			

Summary for Subcatchment 8.11S: Area-8.11

Runoff = 20.68 cfs @ 11.98 hrs, Volume= 1.015 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
48,233	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
73,167	72	Woods/grass comb., Good, HSG C
121,400	73	Weighted Average
121,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	100	0.2000	0.41		**Sheet Flow, field** Grass: Short n= 0.150 P2= 3.00"
2.0	210	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	275	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
6.4	585	Total			

Summary for Subcatchment 8.12S: Area 8.12

Runoff = 6.13 cfs @ 11.96 hrs, Volume= 0.326 af, Depth= 6.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
17,800	98	Paved parking, HSG C
0	98	Roofs, HSG C
9,216	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
27,016	90	Weighted Average
9,216		34.11% Pervious Area
17,800		65.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	265	0.1300	7.32		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
0.7	580	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
1.6	865	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.13S: Area 8.13

Runoff = 5.96 cfs @ 11.96 hrs, Volume= 0.318 af, Depth= 6.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
17,600	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,692	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
26,292	90	Weighted Average
8,692		33.06% Pervious Area
17,600		66.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.8	275	0.0800	5.74		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
0.6	500	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
1.7	795	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.15S: Area 8.15

Runoff = 19.19 cfs @ 11.97 hrs, Volume= 0.970 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
32,140	98	Paved parking, HSG C
0	98	Roofs, HSG C
39,800	74	>75% Grass cover, Good, HSG C
22,178	72	Woods/grass comb., Good, HSG C
94,118	82	Weighted Average
61,978		65.85% Pervious Area
32,140		34.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	270	0.1200	7.03		**Shallow Concentrated Flow, road/gutter** Paved Kv= 20.3 fps
1.6	1,307	0.0800	13.24	41.59	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
2.5	1,597	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.16S: Area 8.16

Runoff = 4.13 cfs @ 11.97 hrs, Volume= 0.208 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
6,200	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,876	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
5,500	72	Woods/grass comb., Good, HSG C
20,576	81	Weighted Average
14,376		69.87% Pervious Area
6,200		30.13% Impervious Area

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

Summary for Subcatchment 8.17S: Area 8.17

Runoff = 21.23 cfs @ 11.97 hrs, Volume= 1.078 af, Depth= 5.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
33,680	98	Paved parking, HSG C
6,500	98	Roofs, HSG C
27,455	71	Meadow, non-grazed, HSG C
34,828	74	>75% Grass cover, Good, HSG C
102,463	83	Weighted Average
62,283		60.79% Pervious Area
40,180		39.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	250	0.1200	7.03		**Shallow Concentrated Flow, road/curb** Paved Kv= 20.3 fps
0.9	610	0.0800	10.93	19.31	**Pipe Channel, pipe system** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.020 Corrugated PE, corrugated interior
0.7	450	0.1090	11.10	83.27	**Trap/Vee/Rect Channel Flow, Roadside swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
2.5	1,330	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.1S: Area-8.1

Runoff = 33.31 cfs @ 12.02 hrs, Volume= 1.847 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
18,421	74	>75% Grass cover, Good, HSG C
6,750	79	Woods/grass comb., Good, HSG D
201,504	72	Woods/grass comb., Good, HSG C
226,675	72	Weighted Average
226,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	100	0.2000	0.28		**Sheet Flow, field** Grass: Dense n= 0.240 P2= 3.00"
1.4	210	0.1200	2.42		**Shallow Concentrated Flow, wetland** Short Grass Pasture Kv= 7.0 fps
2.8	807	0.0800	4.76	35.67	**Trap/Vee/Rect Channel Flow, STREAM** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.080 Earth, long dense weeds
10.1	1,117	Total			

Summary for Subcatchment 8.2S: Area 8.2

Runoff = 16.31 cfs @ 12.00 hrs, Volume= 0.861 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
69,295	71	Meadow, non-grazed, HSG C
21,505	72	Woods/grass comb., Good, HSG C
9,600	98	Roofs, HSG C
100,400	74	Weighted Average
90,800		90.44% Pervious Area
9,600		9.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	40	0.3000	0.41		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.00"
5.0	60	0.3000	0.20		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	350	0.3000	2.74		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
8.7	450	Total			

Summary for Subcatchment 8.3S: Area 8.3

Runoff = 9.48 cfs @ 11.97 hrs, Volume= 0.471 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
8,440	98	Paved parking, HSG C
0	98	Roofs, HSG C
32,950	74	>75% Grass cover, Good, HSG C
8,500	72	Woods/grass comb., Good, HSG C
49,890	78	Weighted Average
41,450		83.08% Pervious Area
8,440		16.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	415	0.0300	4.69	14.06	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.040 Earth, cobble bottom, clean sides
1.5	415	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.4S: Area 8.4

Runoff = 33.31 cfs @ 12.02 hrs, Volume= 1.877 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
7,416	98	Paved parking, HSG C
0	98	Roofs, HSG C
25,680	74	>75% Grass cover, Good, HSG C
191,475	72	Woods/grass comb., Good, HSG C
224,571	73	Weighted Average
217,155		96.70% Pervious Area
7,416		3.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.4	450	0.4000	3.16		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.6	340	0.0800	9.36	49.15	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
10.5	890	Total			

Summary for Subcatchment 8.5S: Area-8.5

Runoff = 53.11 cfs @ 12.27 hrs, Volume= 5.337 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
21,540	74	>75% Grass cover, Good, HSG C
7,015	79	Woods/grass comb., Good, HSG D
626,530	72	Woods/grass comb., Good, HSG C
655,085	72	Weighted Average
655,085		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0800	0.13		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	117	0.2200	2.35		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
17.8	1,036	0.1500	0.97		**Shallow Concentrated Flow, wetland flow** Forest w/Heavy Litter Kv= 2.5 fps
0.8	515	0.1700	11.11	44.45	**Trap/Vee/Rect Channel Flow, STREAM** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
32.1	1,768	Total			

Summary for Subcatchment 8.6S: Area 8.6

Runoff = 18.68 cfs @ 12.05 hrs, Volume= 1.167 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
21,368	98	Paved parking, HSG C
12,400	98	Roofs, HSG C
38,886	74	>75% Grass cover, Good, HSG C
45,612	72	Woods/grass comb., Good, HSG C
118,266	80	Weighted Average
84,498		71.45% Pervious Area
33,768		28.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1200	0.15		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	194	0.4000	3.16		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.8	193	0.0700	3.97		**Shallow Concentrated Flow, grass** Grassed Waterway Kv= 15.0 fps
0.7	250	0.0200	6.34	47.56	**Trap/Vee/Rect Channel Flow, dry swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
13.3	737	Total			

Summary for Subcatchment 8.7S: Area 8.7

Runoff = 31.26 cfs @ 12.01 hrs, Volume= 1.757 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
46,184	98	Paved parking, HSG C
10,440	98	Roofs, HSG C
42,927	74	>75% Grass cover, Good, HSG C
74,697	72	Woods/grass comb., Good, HSG C
174,248	81	Weighted Average
117,624		67.50% Pervious Area
56,624		32.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.3100	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	140	0.3100	2.78		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.4	70	0.2000	3.13		**Shallow Concentrated Flow, grass** Short Grass Pasture Kv= 7.0 fps
0.2	50	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	92	0.0200	6.34	47.56	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
0.1	50	0.0400	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
0.7	408	0.0800	9.36	49.15	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
9.8	910	Total			

Summary for Subcatchment 8.8S: Area 8.8

Runoff = 11.51 cfs @ 11.97 hrs, Volume= 0.563 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Roofs, HSG C
19,048	74	>75% Grass cover, Good, HSG C
48,270	72	Woods/grass comb., Good, HSG C
67,318	73	Weighted Average
67,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	524	0.0850	7.89	23.66	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 1.0 '/' Top.W=4.00' n= 0.040 Earth, cobble bottom, clean sides
1.1	524	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 8.9S: Area 8.9

Runoff = 7.21 cfs @ 11.96 hrs, Volume= 0.387 af, Depth= 6.43"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
22,800	98	Paved parking, HSG C
0	98	Roofs, HSG C
8,665	74	>75% Grass cover, Good, HSG C
0	72	Woods/grass comb., Good, HSG C
31,465	91	Weighted Average
8,665		27.54% Pervious Area
22,800		72.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.68		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.6	210	0.0750	5.56		**Shallow Concentrated Flow, road** Paved Kv= 20.3 fps
1.2	895	0.0700	12.38	38.90	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
2.0	1,125	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.10S: Area 9.10

Runoff = 55.48 cfs @ 11.97 hrs, Volume= 2.719 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
27,100	98	Unconnected roofs, HSG C
132,286	74	>75% Grass cover, Good, HSG C
157,835	72	Woods/grass comb., Good, HSG C
317,221	75	Weighted Average, UI Adjusted CN = 74
290,121		91.46% Pervious Area
27,100		8.54% Impervious Area
27,100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	1,240	0.1000	12.10	96.77	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 1.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
1.7	1,240	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.11S: Area 9.11S

Runoff = 16.76 cfs @ 12.06 hrs, Volume= 1.061 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
56,160	74	>75% Grass cover, Good, HSG C
2,590	79	Woods/grass comb., Good, HSG D
68,150	72	Woods/grass comb., Good, HSG C
126,900	73	Weighted Average
126,900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.00"
0.1	20	0.2500	2.50		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.9	40	0.0800	0.71		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
0.9	115	0.2000	2.24		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.5	700	0.0100	3.36	25.22	**Trap/Vee/Rect Channel Flow, swale w/ checkdams** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
14.2	975	Total			

Summary for Subcatchment 9.12S: Area 9.12S

Runoff = 6.86 cfs @ 11.96 hrs, Volume= 0.384 af, Depth= 6.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
24,900	98	Paved parking, HSG C
4,160	74	>75% Grass cover, Good, HSG C
29,060	95	Weighted Average
4,160		14.32% Pervious Area
24,900		85.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0250	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.5	260	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	565	0.0200	6.62	20.80	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
4.0	925	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.13S: Area 9.13

Runoff = 11.83 cfs @ 11.96 hrs, Volume= 0.687 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
45,985	98	Paved parking, HSG C
3,500	98	Roofs, HSG C
0	72	Woods/grass comb., Good, HSG C
49,485	98	Weighted Average
49,485		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.92		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	380	0.0950	6.26		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	1,215	0.1000	14.80	46.50	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.020 Corrugated PE, corrugated interior
3.3	1,695	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.14S: Area 9.14

Runoff = 36.05 cfs @ 12.01 hrs, Volume= 1.968 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
241,600	72	Woods/grass comb., Good, HSG C
241,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.3500	0.24		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	375	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	415	0.0800	10.82	86.55	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=2.00' Z= 1.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
9.7	890	Total			

Summary for Subcatchment 9.1S: Area 9.1

Runoff = 24.93 cfs @ 11.99 hrs, Volume= 1.286 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
4,600	98	Paved parking, HSG C
0	98	Roofs, HSG C
10,062	74	>75% Grass cover, Good, HSG C
132,908	72	Woods/grass comb., Good, HSG C
6,220	79	Woods/grass comb., Good, HSG D
153,790	73	Weighted Average
149,190		97.01% Pervious Area
4,600		2.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1800	0.40		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
2.1	490	0.3000	3.83		**Shallow Concentrated Flow, field** Short Grass Pasture Kv= 7.0 fps
1.5	130	0.0800	1.41		**Shallow Concentrated Flow, wetland** Woodland Kv= 5.0 fps
0.3	40	0.0200	2.64	26.37	**Trap/Vee/Rect Channel Flow, ditch** Bot.W=1.00' D=2.00' Z= 2.0 '/' Top.W=9.00' n= 0.080 Earth, long dense weeds
8.1	760	Total			

Summary for Subcatchment 9.5S: Area 9.5

Runoff = 8.17 cfs @ 12.02 hrs, Volume= 0.459 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
6,300	98	Paved parking, HSG C
0	98	Roofs, HSG C
5,500	74	>75% Grass cover, Good, HSG C
40,443	72	Woods/grass comb., Good, HSG C
52,243	75	Weighted Average
45,943		87.94% Pervious Area
6,300		12.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.1	150	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	162	0.2000	6.71		**Shallow Concentrated Flow, grass** Grassed Waterway Kv= 15.0 fps
10.3	412	Total			

Summary for Subcatchment 9.6S: Area 9.6

Runoff = 30.09 cfs @ 11.97 hrs, Volume= 1.484 af, Depth= 4.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
17,820	98	Paved parking, HSG C
0	98	Roofs, HSG C
70,795	74	>75% Grass cover, Good, HSG C
76,240	72	Woods/grass comb., Good, HSG C
164,855	76	Weighted Average
147,035		89.19% Pervious Area
17,820		10.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	543	0.1000	12.49	149.90	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.040 Earth, cobble bottom, clean sides
0.7	543	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 9.9S: Area 9.9

Runoff = 16.37 cfs @ 11.97 hrs, Volume= 0.800 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
45,220	74	>75% Grass cover, Good, HSG C
50,524	72	Woods/grass comb., Good, HSG C
95,744	73	Weighted Average
95,744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2200	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	200	0.3000	3.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.8	300	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.10S: Area-11.10

Runoff = 5.90 cfs @ 11.96 hrs, Volume= 0.314 af, Depth= 6.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
7,150	98	Paved parking, HSG C
10,000	98	Roofs, HSG C
8,850	74	>75% Grass cover, Good, HSG C
26,000	90	Weighted Average
8,850		34.04% Pervious Area
17,150		65.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	60	0.0500	1.73		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.4	160	0.0300	6.22	24.90	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
1.0	220	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.11S: Area-11.11

Runoff = 13.21 cfs @ 11.96 hrs, Volume= 0.692 af, Depth= 6.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
17,000	98	Paved parking, HSG C
18,866	98	Roofs, HSG C
23,654	74	>75% Grass cover, Good, HSG C
59,520	88	Weighted Average
23,654		39.74% Pervious Area
35,866		60.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.3000	0.41		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow, parking lot** Smooth surfaces n= 0.011 P2= 3.00"
0.4	100	0.0350	3.80		**Shallow Concentrated Flow, parking lot** Paved Kv= 20.3 fps
0.8	320	0.0500	6.59	5.18	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
3.5	497	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.12S: Area-11.12

Runoff = 8.86 cfs @ 11.99 hrs, Volume= 0.445 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
54,672	72	Woods/grass comb., Good, HSG C
54,672	72	Weighted Average
54,672		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.5000	0.27		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	184	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.4	284	Total			

Summary for Subcatchment 11.13S: Area-11.13

Runoff = 2.43 cfs @ 11.96 hrs, Volume= 0.141 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
10,160	98	Paved parking, HSG C
10,160	98	Weighted Average
10,160		100.00% Impervious Area

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

Summary for Subcatchment 11.14S: Area-11.14

Runoff = 25.57 cfs @ 12.06 hrs, Volume= 1.590 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

	Area (sf)	CN	Description
	8,100	74	>75% Grass cover, Good, HSG C
*	34,123	72	Woods/grass comb., Good, HSG D
	152,940	72	Woods/grass comb., Good, HSG C
	0	98	Paved parking, HSG C
	195,163	72	Weighted Average
	195,163		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.4000	0.25		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.7	120	0.3300	2.87		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
6.3	300	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
13.7	520	Total			

Summary for Subcatchment 11.15S: Area-11.15

Runoff = 6.02 cfs @ 12.07 hrs, Volume= 0.390 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
12,000	74	>75% Grass cover, Good, HSG C
6,478	79	Woods/grass comb., Good, HSG D
27,065	72	Woods/grass comb., Good, HSG C
45,543	74	Weighted Average
45,543		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.2700	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	91	0.2500	3.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	175	0.1000	0.79		**Shallow Concentrated Flow, WETLAND** Forest w/Heavy Litter Kv= 2.5 fps
3.0	470	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.9	836	Total			

Summary for Subcatchment 11.16S: Area-11.16

Runoff = 6.33 cfs @ 11.96 hrs, Volume= 0.332 af, Depth= 6.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
11,785	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
16,750	98	Paved parking, HSG C
28,535	88	Weighted Average
11,785		41.30% Pervious Area
16,750		58.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.01		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
0.7	225	0.0800	5.74		**Shallow Concentrated Flow, curb/gutter** Paved Kv= 20.3 fps
0.9	440	0.0800	8.34	6.55	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
2.0	690	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.17S: Area-11.17

Runoff = 3.70 cfs @ 11.96 hrs, Volume= 0.203 af, Depth= 6.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
8,930	98	Paved parking, HSG C
3,500	98	Roofs, HSG C
3,471	74	>75% Grass cover, Good, HSG C
0	79	Woods/grass comb., Good, HSG D
0	72	Woods/grass comb., Good, HSG C
15,901	93	Weighted Average
3,471		21.83% Pervious Area
12,430		78.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0250	1.06		**Sheet Flow, gravel drive** Smooth surfaces n= 0.011 P2= 3.00"
3.3	500	0.0250	2.55		**Shallow Concentrated Flow, gravel drive** Unpaved Kv= 16.1 fps
3.6	520	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.18S: Area-11.18

Runoff = 52.63 cfs @ 12.14 hrs, Volume= 4.043 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
21,949	74	>75% Grass cover, Good, HSG C
474,295	72	Woods/grass comb., Good, HSG C
496,244	72	Weighted Average
496,244		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.1000	0.14		**Sheet Flow, grass** Woods: Light underbrush n= 0.400 P2= 3.00"
8.5	1,400	0.3000	2.74		**Shallow Concentrated Flow, WOODS** Woodland Kv= 5.0 fps
0.5	250	0.0650	8.57	64.30	**Trap/Vee/Rect Channel Flow, SWALE** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
20.7	1,750	Total			

Summary for Subcatchment 11.19S: Area-11.19

Runoff = 36.26 cfs @ 12.16 hrs, Volume= 2.980 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
28,500	74	>75% Grass cover, Good, HSG C
337,255	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
365,755	72	Weighted Average
365,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	200	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	1,082	0.1800	2.97		**Shallow Concentrated Flow, SKI TRAIL** Short Grass Pasture Kv= 7.0 fps
6.4	1,054	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	150	0.1500	10.44	41.76	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
23.3	2,586	Total			

Summary for Subcatchment 11.20S: Area-11.20

Runoff = 4.72 cfs @ 11.97 hrs, Volume= 0.230 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
2,400	74	>75% Grass cover, Good, HSG C
25,850	72	Woods/grass comb., Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
28,250	72	Weighted Average
28,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.3000	0.41		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow, parking lot** Smooth surfaces n= 0.011 P2= 3.00"
0.4	100	0.0350	3.80		**Shallow Concentrated Flow, parking lot** Paved Kv= 20.3 fps
0.8	320	0.0500	6.59	5.18	**Pipe Channel, closed pipe system** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
3.5	497	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.21S: Area-11.21

Runoff = 28.32 cfs @ 12.07 hrs, Volume= 1.851 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
223,944	72	Woods/grass comb., Good, HSG C
3,300	74	>75% Grass cover, Good, HSG C
0	98	Roofs, HSG C
0	98	Paved parking, HSG C
227,244	72	Weighted Average
227,244		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.7	350	0.2400	3.43		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
5.8	1,000	0.3300	2.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	56	0.0300	5.82	43.69	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Mountain streams
15.2	1,506	Total			

Summary for Subcatchment 11.23S: Area 11.23

Runoff = 9.04 cfs @ 11.97 hrs, Volume= 0.446 af, Depth= 4.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

	Area (sf)	CN	Description
	6,960	98	Paved parking, HSG C
	0	98	Roofs, HSG C
*	18,113	74	>75% Grass cover, Good, HSG C
	24,427	72	Woods/grass comb., Good, HSG C
	49,500	76	Weighted Average
	42,540		85.94% Pervious Area
	6,960		14.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.01		**Sheet Flow, driveway** Smooth surfaces n= 0.011 P2= 3.00"
0.9	465	0.0400	8.83	46.34	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.030 Earth, grassed & winding
1.3	490	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.24S: Area 11.24

Runoff = 4.85 cfs @ 11.97 hrs, Volume= 0.242 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

	Area (sf)	CN	Description
	5,620	98	Paved parking, HSG C
	0	98	Roofs, HSG C
	16,892	74	>75% Grass cover, Good, HSG C
	2,522	72	Woods/grass comb., Good, HSG C
	25,034	79	Weighted Average
	19,414		77.55% Pervious Area
	5,620		22.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0400	1.38		**Sheet Flow, DRIVEWAY** Smooth surfaces n= 0.011 P2= 3.00"
0.1	15	0.0500	3.35		**Shallow Concentrated Flow, GRASS** Grassed Waterway Kv= 15.0 fps
0.5	270	0.0900	9.93	52.13	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 1.0 '/' Top.W=5.00' n= 0.040 Earth, cobble bottom, clean sides
0.9	160	0.0100	2.95	2.32	**Pipe Channel, culvert** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.020 Corrugated PE, corrugated interior
1.9	475	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.25S: Area 11.25

Runoff = 10.93 cfs @ 12.00 hrs, Volume= 0.576 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,360	74	>75% Grass cover, Good, HSG C
57,735	72	Woods/grass comb., Good, HSG C
7,755	79	Woods/grass comb., Good, HSG D
68,850	73	Weighted Average
68,850		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	75	0.3600	0.23		**Sheet Flow, GRASS** Woods: Light underbrush n= 0.400 P2= 3.00"
1.8	25	0.1000	0.24		**Sheet Flow, wetland** Grass: Short n= 0.150 P2= 3.00"
0.3	140	0.2800	7.94		**Shallow Concentrated Flow, wetland** Grassed Waterway Kv= 15.0 fps
1.1	215	0.0100	3.36	25.22	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
8.7	455	Total			

Summary for Subcatchment 11.26S: Area-11.26

Runoff = 8.74 cfs @ 11.96 hrs, Volume= 0.466 af, Depth= 6.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
26,015	98	Paved parking, HSG C
0	98	Roofs, HSG C
12,531	74	>75% Grass cover, Good, HSG C
38,546	90	Weighted Average
12,531		32.51% Pervious Area
26,015		67.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow, ROAD** Smooth surfaces n= 0.011 P2= 3.00"
2.1	440	0.0300	3.52		**Shallow Concentrated Flow, CURB/GUTTER** Paved Kv= 20.3 fps
2.8	490	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.27S: Area-11.27

Runoff = 15.17 cfs @ 11.96 hrs, Volume= 0.815 af, Depth= 6.43"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
12,146	98	Paved parking, HSG C
34,850	98	Roofs, HSG C
9,400	71	Meadow, non-grazed, HSG C
9,824	74	>75% Grass cover, Good, HSG C
66,220	91	Weighted Average
19,224		29.03% Pervious Area
46,996		70.97% Impervious Area

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

Summary for Subcatchment 11.28S: Area-11.28

Runoff = 1.43 cfs @ 11.96 hrs, Volume= 0.083 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
6,000	98	Paved parking, HSG C
6,000	98	Weighted Average
6,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.97		**Sheet Flow, paved**
					Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.29S: Area 11.29

Runoff = 3.53 cfs @ 11.97 hrs, Volume= 0.172 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

	Area (sf)	CN	Description
	0	98	Paved parking, HSG C
	0	98	Roofs, HSG C
*	4,200	74	>75% Grass cover, Good, HSG C
	13,044	72	Woods/grass comb., Good, HSG C
	3,863	71	Meadow, non-grazed, HSG C
	21,107	72	Weighted Average
	21,107		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	50	0.4000	0.48		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	50	0.4000	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	95	0.0400	6.73	50.44	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.8	195	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.2S: Area-11.2

Runoff = 89.82 cfs @ 12.37 hrs, Volume= 10.581 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
2,200	74	>75% Grass cover, Good, HSG C
1,277,237	72	Woods/grass comb., Good, HSG C
19,327	79	Woods/grass comb., Good, HSG D
1,298,764	72	Weighted Average
1,298,764		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.8	150	0.0933	0.09		**Sheet Flow, Sheet flow: Woods** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.8	500	0.0960	2.17		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
5.3	885	0.3110	2.79		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
1.6	355	0.2817	3.72		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
1.0	830	0.2600	13.74	54.98	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Mountain streams
40.5	2,720	Total			

Summary for Subcatchment 11.32S: Area-11.5

Runoff = 24.47 cfs @ 12.15 hrs, Volume= 1.924 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
236,106	72	Woods/grass comb., Good, HSG C
236,106		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, Sheet flow: Ski Trail** Grass: Dense n= 0.240 P2= 3.00"
2.2	400	0.1800	2.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.2	720	0.0330	0.91		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.1	83	0.1800	14.27	107.01	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
21.6	1,303	Total			

Summary for Subcatchment 11.33S: Area-11.33

Runoff = 12.06 cfs @ 12.16 hrs, Volume= 0.987 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
8,845	74	>75% Grass cover, Good, HSG C
24,220	79	Woods/grass comb., Good, HSG D
82,025	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
115,090	74	Weighted Average
115,090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1500	0.15		**Sheet Flow, woods** Woods: Light underbrush n= 0.400 P2= 3.00"
11.7	50	0.1000	0.07		**Sheet Flow, wetland** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	140	0.1000	0.79		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
2.7	430	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	670	Total			

Summary for Subcatchment 11.34S: Area-11.34

Runoff = 7.61 cfs @ 12.06 hrs, Volume= 0.481 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
6,615	74	>75% Grass cover, Good, HSG C
14,006	79	Woods/grass comb., Good, HSG D
35,496	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
56,117	74	Weighted Average
56,117		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	75	0.2000	0.39		**Sheet Flow, woods** Grass: Short n= 0.150 P2= 3.00"
7.3	25	0.0800	0.06		**Sheet Flow, wetland** Woods: Dense underbrush n= 0.800 P2= 3.00"
2.9	150	0.1200	0.87		**Shallow Concentrated Flow, wetland** Forest w/Heavy Litter Kv= 2.5 fps
0.7	325	0.0800	7.62	30.50	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
14.1	575	Total			

Summary for Subcatchment 11.35S: Area-11.35

Runoff = 4.42 cfs @ 11.97 hrs, Volume= 0.219 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
19,566	79	Woods/grass comb., Good, HSG D
3,700	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
23,266	78	Weighted Average
23,266		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	370	0.1500	7.29	87.45	**Trap/Vee/Rect Channel Flow, swale** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.080 Earth, long dense weeds
0.8	370	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.36S: Area-11.36

Runoff = 10.83 cfs @ 12.00 hrs, Volume= 0.579 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
5,035	79	Woods/grass comb., Good, HSG D
64,195	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
69,230	73	Weighted Average
69,230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.3100	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	230	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	260	0.1500	15.88	575.72	**Trap/Vee/Rect Channel Flow, swale** Bot.W=7.50' D=2.50' Z= 2.8 '/' Top.W=21.50' n= 0.050 Mountain streams w/large boulders
9.1	590	Total			

Summary for Subcatchment 11.38S: Area-11.38

Runoff = 2.60 cfs @ 11.97 hrs, Volume= 0.128 af, Depth= 4.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
2,275	74	>75% Grass cover, Good, HSG C
8,026	79	Woods/grass comb., Good, HSG D
3,949	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
14,250	76	Weighted Average
14,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	185	0.2500	9.37	122.96	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 4.5 '/' Top.W=15.50' n= 0.070 Sluggish weedy reaches w/pools
0.3	185	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.39S: Area-11.39

Runoff = 3.36 cfs @ 11.99 hrs, Volume= 0.169 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
1,950	74	>75% Grass cover, Good, HSG C
19,400	71	Meadow, non-grazed, HSG C
21,350	71	Weighted Average
21,350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.1800	0.27		**Sheet Flow, ski trail** Grass: Dense n= 0.240 P2= 3.00"
1.0	200	0.2500	3.50		**Shallow Concentrated Flow, ski trail** Short Grass Pasture Kv= 7.0 fps
0.5	135	0.0200	4.76	35.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
7.6	435	Total			

Summary for Subcatchment 11.3S: Area-11.3

Runoff = 242.60 cfs @ 12.27 hrs, Volume= 24.757 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
2,455,128	72	Woods/grass comb., Good, HSG C
31,516	74	>75% Grass cover, Good, HSG C
257,243	98	Paved parking & roofs
73,710	79	Woods/grass comb., Good, HSG D
2,817,597	75	Weighted Average
2,560,354		90.87% Pervious Area
257,243		9.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	150	0.1133	0.25		**Sheet Flow, Sheet flow: Meadow** Grass: Dense n= 0.240 P2= 3.00"
4.3	963	0.2800	3.70		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
8.9	1,412	0.2800	2.65		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.8	127	0.1500	2.71		**Shallow Concentrated Flow, Shallow concentrated: Meadow** Short Grass Pasture Kv= 7.0 fps
2.8	450	0.2800	2.65		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
3.0	395	0.0250	2.17	23.92	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=1.00' Z= 10.0 '/' Top.W=21.00' n= 0.070 Sluggish weedy reaches w/pools
0.8	300	0.0250	5.95	71.40	**Trap/Vee/Rect Channel Flow, stream** Bot.W=1.00' D=2.00' Z= 2.5 '/' Top.W=11.00' n= 0.040 Winding stream, pools & shoals
1.2	720	0.0250	9.97	996.95	**Trap/Vee/Rect Channel Flow, stream** Bot.W=10.00' D=5.00' Z= 2.0 '/' Top.W=30.00' n= 0.050 Mountain streams w/large boulders
0.1	45	0.0500	13.29	167.02	**Pipe Channel, culvert** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.025 Corrugated metal
0.1	360	0.3100	53.27	13,317.10	**Trap/Vee/Rect Channel Flow, stream** Bot.W=15.00' D=10.00' Z= 1.0 '/' Top.W=35.00' n= 0.050 Mountain streams w/large boulders
0.1	90	0.0500	19.28	378.54	**Pipe Channel, culvert** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.020 Corrugated PE, corrugated interior
0.6	393	0.0280	10.52	1,068.46	**Trap/Vee/Rect Channel Flow,** Bot.W=25.00' D=4.00' Z= 0.1 '/' Top.W=25.80' n= 0.050 Mountain streams w/large boulders
32.9	5,405	Total			

Summary for Subcatchment 11.40S: Area-11.40

Runoff = 10.47 cfs @ 11.96 hrs, Volume= 0.608 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
43,800	98	Paved parking, HSG C
43,800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.84		**Sheet Flow, road** Smooth surfaces n= 0.011 P2= 3.00"
1.0	240	0.0375	3.93		**Shallow Concentrated Flow, asphalt curb** Paved Kv= 20.3 fps
2.0	1,940	0.0700	16.23	114.70	**Pipe Channel, closed pipe system** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.020 Corrugated PE, corrugated interior
3.2	2,190	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.41S: Area-11.41

Runoff = 11.61 cfs @ 12.00 hrs, Volume= 0.614 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
51,164	71	Meadow, non-grazed, HSG C
26,216	72	Woods/grass comb., Good, HSG C
77,380	71	Weighted Average
77,380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2500	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.6	110	0.2000	3.13		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	145	0.0900	10.09	75.67	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
8.9	355	Total			

Summary for Subcatchment 11.4S: Area-11.4

Runoff = 9.41 cfs @ 11.96 hrs, Volume= 0.547 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
39,350	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
39,350	98	Weighted Average
39,350		100.00% Impervious Area

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

Summary for Subcatchment 11.5S: Area-11.5

Runoff = 35.43 cfs @ 12.02 hrs, Volume= 1.986 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
24,776	74	>75% Grass cover, Good, HSG C
219,018	72	Woods/grass comb., Good, HSG C
243,794	72	Weighted Average
243,794		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	100	0.2100	0.29		**Sheet Flow, Sheet flow: Woods** Grass: Dense n= 0.240 P2= 3.00"
4.1	700	0.3200	2.83		**Shallow Concentrated Flow, Shallow concentrated: Woods** Woodland Kv= 5.0 fps
0.5	150	0.0300	4.67	18.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
10.4	950	Total			

Summary for Subcatchment 11.6S: Area-11.6

Runoff = 4.20 cfs @ 11.97 hrs, Volume= 0.205 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
6,780	74	>75% Grass cover, Good, HSG C
17,770	72	Woods/grass comb., Good, HSG C
24,550	73	Weighted Average
24,550		100.00% Pervious Area

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

Summary for Subcatchment 11.7S: Area-11.7

Runoff = 11.42 cfs @ 11.97 hrs, Volume= 0.558 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
0	98	Paved parking, HSG C
0	98	Roofs, HSG C
38,978	74	>75% Grass cover, Good, HSG C
27,785	72	Woods/grass comb., Good, HSG C
66,763	73	Weighted Average
66,763		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	70	0.2200	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.1	740	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
5.3	810	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 11.8S: Area-11.8

Runoff = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
7,422	74	>75% Grass cover, Good, HSG C
230,817	72	Woods/grass comb., Good, HSG C
238,239	72	Weighted Average
238,239		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3000	0.22		**Sheet Flow, Woods / Meadow** Woods: Light underbrush n= 0.400 P2= 3.00"
7.3	1,132	0.2700	2.60		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.5	135	0.0300	4.67	18.67	**Trap/Vee/Rect Channel Flow, swale** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.040 Earth, cobble bottom, clean sides
15.3	1,367	Total			

Summary for Subcatchment 11.9S: Area-11.9

Runoff = 13.54 cfs @ 12.01 hrs, Volume= 0.735 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
36,375	74	>75% Grass cover, Good, HSG C
51,495	72	Woods/grass comb., Good, HSG C
87,870	73	Weighted Average
87,870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.2700	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	65	0.0375	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	640	0.1200	11.65	87.37	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.50' Z= 2.0 '/' Top.W=8.00' n= 0.040 Earth, cobble bottom, clean sides
9.5	805	Total			

Summary for Subcatchment 12.1S: Area-12.1

Runoff = 39.28 cfs @ 12.36 hrs, Volume= 4.529 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
14,995	79	Woods/grass comb., Good, HSG D
540,880	72	Woods/grass comb., Good, HSG C
555,875	72	Weighted Average
555,875		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.1600	0.17		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
29.2	1,660	0.0360	0.95		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
0.3	235	0.1600	14.19	118.17	**Trap/Vee/Rect Channel Flow, stream/wetland** Bot.W=3.00' D=1.50' Z= 1.7 '/' Top.W=8.10' n= 0.040 Mountain streams
39.2	1,995	Total			

Summary for Subcatchment 12.2S: Area-12.2

Runoff = 39.62 cfs @ 12.03 hrs, Volume= 2.301 af, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
35,335	98	Paved parking, HSG C
0	98	Roofs, HSG C
133,625	74	>75% Grass cover, Good, HSG C
0	86	Woods/grass comb., Poor, HSG D
80,725	72	Woods/grass comb., Good, HSG C
249,685	77	Weighted Average
214,350		85.85% Pervious Area
35,335		14.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		**Sheet Flow, Sheet flow: Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	35	0.2000	2.24		**Shallow Concentrated Flow, woods** Woodland Kv= 5.0 fps
1.3	210	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	135	0.3000	2.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.2	480	Total			

Summary for Subcatchment 12.3S: Area-12.3

Runoff = 4.36 cfs @ 11.96 hrs, Volume= 0.253 af, Depth= 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=7.50"

Area (sf)	CN	Description
18,250	98	Paved parking, HSG C
18,250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.76		**Sheet Flow, Sheet flow: Woods** Smooth surfaces n= 0.011 P2= 3.00"
0.8	280	0.0850	5.92		**Shallow Concentrated Flow, pavement** Paved Kv= 20.3 fps
1.7	380	Total, Increased to minimum Tc = 6.0 min			

Summary for Reach 11.10R: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 4.46" for 100-Year event
Inflow = 326.05 cfs @ 12.23 hrs, Volume= 38.461 af
Outflow = 324.94 cfs @ 12.24 hrs, Volume= 38.461 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.02 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.15 fps, Avg. Travel Time= 3.0 min

Peak Storage= 9,134 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.93'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 3,320.07 cfs

25.00' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.1 '/' Top Width= 25.80'
Length= 393.0' Slope= 0.1730 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,700.00'

Summary for Reach 11.3aR: Bouldery stream

Inflow Area = 35.734 ac, 0.39% Impervious, Inflow Depth = 4.27" for 100-Year event
Inflow = 98.24 cfs @ 12.35 hrs, Volume= 12.715 af
Outflow = 98.10 cfs @ 12.36 hrs, Volume= 12.715 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.00 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.66 fps, Avg. Travel Time= 0.9 min

Peak Storage= 1,162 cf @ 12.35 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 2,234.38 cfs

15.00' x 4.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.1 '/' Top Width= 15.80'
Length= 142.0' Slope= 0.4014 '/'
Inlet Invert= 2,390.00', Outlet Invert= 2,333.00'

Summary for Reach 11.4aR: DP11.3

Inflow Area = 59.384 ac, 2.22% Impervious, Inflow Depth = 4.33" for 100-Year event
Inflow = 180.64 cfs @ 12.21 hrs, Volume= 21.423 af
Outflow = 180.41 cfs @ 12.21 hrs, Volume= 21.423 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.86 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.51 fps, Avg. Travel Time= 1.5 min

Peak Storage= 2,506 cf @ 12.21 hrs
Average Depth at Peak Storage= 1.12'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 858.32 cfs

7.00' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.00'
Length= 220.0' Slope= 0.3636 '/'
Inlet Invert= 2,292.00', Outlet Invert= 2,212.00'

‡

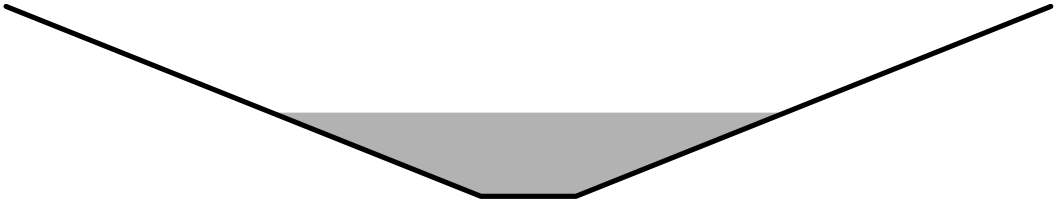
Summary for Reach 11.4bR: DP11.4

Inflow Area = 14.025 ac, 28.21% Impervious, Inflow Depth = 5.07" for 100-Year event
Inflow = 33.29 cfs @ 12.21 hrs, Volume= 5.930 af
Outflow = 33.25 cfs @ 12.22 hrs, Volume= 5.930 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.83 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.52 fps, Avg. Travel Time= 1.0 min

Peak Storage= 409 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.88'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 231.18 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 145.0' Slope= 0.2621 '/'
Inlet Invert= 2,250.00', Outlet Invert= 2,212.00'



Summary for Reach 11.4R: DP-11.2

Inflow Area = 57.794 ac, 2.28% Impervious, Inflow Depth = 4.33" for 100-Year event
Inflow = 178.43 cfs @ 12.20 hrs, Volume= 20.845 af
Outflow = 178.08 cfs @ 12.21 hrs, Volume= 20.845 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.46 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.72 fps, Avg. Travel Time= 2.6 min

Peak Storage= 4,159 cf @ 12.20 hrs
Average Depth at Peak Storage= 1.37'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 575.36 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.8 '/' Top Width= 21.50'
Length= 267.0' Slope= 0.1498 '/'
Inlet Invert= 2,332.00', Outlet Invert= 2,292.00'

‡

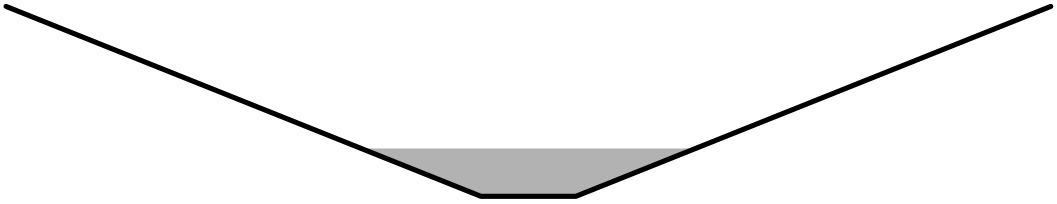
Summary for Reach 11.5aR: DP11.5

Inflow Area = 1.653 ac, 17.26% Impervious, Inflow Depth = 4.96" for 100-Year event
Inflow = 9.46 cfs @ 12.06 hrs, Volume= 0.684 af
Outflow = 9.01 cfs @ 12.10 hrs, Volume= 0.684 af, Atten= 5%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.12 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 2.14 fps, Avg. Travel Time= 4.8 min

Peak Storage= 705 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 217.63 cfs

1.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
Side Slope Z-value= 2.5 '/' Top Width= 11.00'
Length= 620.0' Slope= 0.2323 '/'
Inlet Invert= 2,254.00', Outlet Invert= 2,110.00'



Summary for Reach 11.5R: Mountain stream

Inflow Area = 73.409 ac, 7.19% Impervious, Inflow Depth = 4.47" for 100-Year event
Inflow = 213.65 cfs @ 12.21 hrs, Volume= 27.354 af
Outflow = 212.09 cfs @ 12.23 hrs, Volume= 27.354 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.28 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 2.24 fps, Avg. Travel Time= 3.4 min

Peak Storage= 7,314 cf @ 12.22 hrs
Average Depth at Peak Storage= 1.02'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 2,943.05 cfs

15.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.7 '/' Top Width= 22.00'
Length= 455.0' Slope= 0.2242 '/'
Inlet Invert= 2,212.00', Outlet Invert= 2,110.00'

Summary for Reach 11.6aR: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 4.47" for 100-Year event
Inflow = 331.90 cfs @ 12.20 hrs, Volume= 38.462 af
Outflow = 331.29 cfs @ 12.20 hrs, Volume= 38.462 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 19.56 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.11 fps, Avg. Travel Time= 1.3 min

Peak Storage= 4,158 cf @ 12.20 hrs
Average Depth at Peak Storage= 1.34'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,987.80 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 245.0' Slope= 0.4000 '/'
Inlet Invert= 1,990.00', Outlet Invert= 1,892.00'

Summary for Reach 11.6R: Mountain stream

Inflow Area = 75.062 ac, 7.41% Impervious, Inflow Depth = 4.48" for 100-Year event
Inflow = 218.39 cfs @ 12.22 hrs, Volume= 28.037 af
Outflow = 216.96 cfs @ 12.24 hrs, Volume= 28.037 af, Atten= 1%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.57 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.43 fps, Avg. Travel Time= 3.3 min

Peak Storage= 7,092 cf @ 12.23 hrs
Average Depth at Peak Storage= 1.20'
Bank-Full Depth= 5.00', Capacity at Bank-Full= 3,155.95 cfs

10.00' x 5.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 2.0 '/' Top Width= 30.00'
Length= 475.0' Slope= 0.2505 '/'
Inlet Invert= 2,109.00', Outlet Invert= 1,990.00'

Summary for Reach 11.8R: Mountain stream

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 4.47" for 100-Year event
Inflow = 331.29 cfs @ 12.20 hrs, Volume= 38.462 af
Outflow = 328.86 cfs @ 12.21 hrs, Volume= 38.462 af, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 17.17 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.87 fps, Avg. Travel Time= 1.6 min

Peak Storage= 6,917 cf @ 12.21 hrs
Average Depth at Peak Storage= 1.19'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 13,400.37 cfs

15.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 35.00'
Length= 360.0' Slope= 0.3139 '/'
Inlet Invert= 1,887.00', Outlet Invert= 1,774.00'

Summary for Reach 14R: Donwstream Analysis

Inflow Area = 42.147 ac, 10.74% Impervious, Inflow Depth = 4.67" for 100-Year event
Inflow = 171.19 cfs @ 12.02 hrs, Volume= 16.388 af
Outflow = 171.19 cfs @ 12.02 hrs, Volume= 16.388 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-1: Design Point-1

Inflow Area = 72.474 ac, 5.73% Impervious, Inflow Depth = 4.46" for 100-Year event
Inflow = 240.69 cfs @ 12.22 hrs, Volume= 26.930 af
Outflow = 240.64 cfs @ 12.22 hrs, Volume= 26.930 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 16.54 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.99 fps, Avg. Travel Time= 0.1 min

Peak Storage= 145 cf @ 12.22 hrs
Average Depth at Peak Storage= 1.67'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 670.80 cfs

7.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1500 '/'
Inlet Invert= 0.00', Outlet Invert= -1.50'

Summary for Reach DP-11: Design Point-11

Inflow Area = 168.486 ac, 7.66% Impervious, Inflow Depth = 4.52" for 100-Year event
Inflow = 567.32 cfs @ 12.26 hrs, Volume= 63.482 af
Outflow = 567.32 cfs @ 12.26 hrs, Volume= 63.482 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-12: Design Point-12

Inflow Area = 19.291 ac, 8.34% Impervious, Inflow Depth = 4.55" for 100-Year event
Inflow = 44.79 cfs @ 12.36 hrs, Volume= 7.309 af
Outflow = 44.79 cfs @ 12.36 hrs, Volume= 7.309 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.87 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.66 fps, Avg. Travel Time= 0.1 min

Peak Storage= 38 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.86'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 128.70 cfs

3.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.6 '/' Top Width= 7.80'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-1a: Design Point-1a

Inflow Area = 16.476 ac, 9.23% Impervious, Inflow Depth = 4.61" for 100-Year event
Inflow = 60.97 cfs @ 12.14 hrs, Volume= 6.327 af
Outflow = 60.95 cfs @ 12.15 hrs, Volume= 6.329 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 8.60 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.18 fps, Avg. Travel Time= 0.1 min

Peak Storage= 71 cf @ 12.14 hrs
Average Depth at Peak Storage= 1.01'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 97.10 cfs

3.00' x 1.25' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.0 '/' Top Width= 13.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

‡

Summary for Reach DP-2: Design Point-2

Inflow Area = 31.124 ac, 14.55% Impervious, Inflow Depth = 4.81" for 100-Year event
Inflow = 110.88 cfs @ 12.05 hrs, Volume= 12.477 af
Outflow = 110.86 cfs @ 12.05 hrs, Volume= 12.477 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.59 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.88 fps, Avg. Travel Time= 0.1 min

Peak Storage= 71 cf @ 12.05 hrs
Average Depth at Peak Storage= 1.26'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 233.42 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 10.0' Slope= 0.2000 '/'
Inlet Invert= 0.00', Outlet Invert= -2.00'

Summary for Reach DP-2a: Design Point-2a

Inflow Area = 1.266 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 8.36 cfs @ 12.01 hrs, Volume= 0.449 af
Outflow = 8.36 cfs @ 12.01 hrs, Volume= 0.449 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-2b: Design Point-2b

Inflow Area = 4.686 ac, 0.00% Impervious, Inflow Depth = 4.37" for 100-Year event
Inflow = 32.75 cfs @ 12.00 hrs, Volume= 1.706 af
Outflow = 32.75 cfs @ 12.00 hrs, Volume= 1.706 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-3: Design Point-3

Inflow Area = 2.415 ac, 0.00% Impervious, Inflow Depth = 11.64" for 100-Year event
Inflow = 72.87 cfs @ 12.11 hrs, Volume= 2.343 af
Outflow = 72.78 cfs @ 12.11 hrs, Volume= 2.343 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 19.12 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.72 fps, Avg. Travel Time= 0.7 min

Peak Storage= 573 cf @ 12.11 hrs
Average Depth at Peak Storage= 1.44'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 79.12 cfs

1.50' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.8 '/' Top Width= 3.90'
Length= 150.0' Slope= 0.4000 '/'
Inlet Invert= 0.00', Outlet Invert= -60.00'

Summary for Reach DP-4: Design Point-4

Inflow Area = 32.799 ac, 11.24% Impervious, Inflow Depth = 4.10" for 100-Year event
Inflow = 84.61 cfs @ 12.04 hrs, Volume= 11.193 af
Outflow = 84.59 cfs @ 12.04 hrs, Volume= 11.193 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.63 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.20 fps, Avg. Travel Time= 0.1 min

Peak Storage= 58 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.84'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 768.66 cfs

6.00' x 3.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 10.0' Slope= 0.4000 '/'
Inlet Invert= 0.00', Outlet Invert= -4.00'

Summary for Reach DP-5: Design Point-5

Inflow Area = 25.190 ac, 1.32% Impervious, Inflow Depth = 4.31" for 100-Year event
Inflow = 153.71 cfs @ 12.04 hrs, Volume= 9.054 af
Outflow = 153.66 cfs @ 12.04 hrs, Volume= 9.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.47 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.74 fps, Avg. Travel Time= 0.1 min

Peak Storage= 106 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.88'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 273.11 cfs

3.00' x 2.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.4 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 1,736.00', Outlet Invert= 1,735.00'

Summary for Reach DP-6: Design Point 6

Inflow Area = 2.077 ac, 21.55% Impervious, Inflow Depth = 4.90" for 100-Year event
Inflow = 16.00 cfs @ 11.98 hrs, Volume= 0.848 af
Outflow = 16.00 cfs @ 11.98 hrs, Volume= 0.848 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-7: Design Point-7

Inflow Area = 2.426 ac, 0.00% Impervious, Inflow Depth = 4.15" for 100-Year event
Inflow = 17.18 cfs @ 11.98 hrs, Volume= 0.839 af
Outflow = 17.18 cfs @ 11.98 hrs, Volume= 0.839 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Summary for Reach DP-8: Design Point-8

Inflow Area = 53.405 ac, 14.83% Impervious, Inflow Depth = 4.58" for 100-Year event
Inflow = 195.62 cfs @ 12.11 hrs, Volume= 20.370 af
Outflow = 195.62 cfs @ 12.11 hrs, Volume= 20.370 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.50 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.80 fps, Avg. Travel Time= 0.1 min

Peak Storage= 145 cf @ 12.11 hrs
Average Depth at Peak Storage= 2.12'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 277.01 cfs

3.00' x 2.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.8 '/' Top Width= 12.00'
Length= 10.0' Slope= 0.1000 '/'
Inlet Invert= 0.00', Outlet Invert= -1.00'

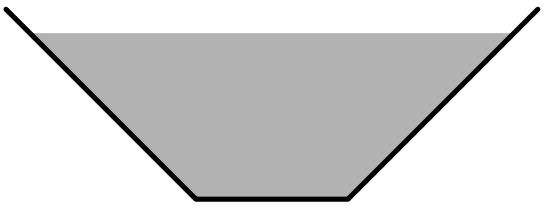
Summary for Reach DP-9: Design Point-9

Inflow Area = 29.876 ac, 15.42% Impervious, Inflow Depth = 4.75" for 100-Year event
Inflow = 116.30 cfs @ 12.06 hrs, Volume= 11.828 af
Outflow = 115.55 cfs @ 12.06 hrs, Volume= 11.829 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 12.65 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.77 fps, Avg. Travel Time= 0.9 min

Peak Storage= 915 cf @ 12.06 hrs
Average Depth at Peak Storage= 2.19'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 152.56 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 7.00'
Length= 100.0' Slope= 0.1000 '/'
Inlet Invert= 1,655.00', Outlet Invert= 1,645.00'



Summary for Reach R1.1: Mountain Stream

Inflow Area = 35.690 ac, 0.77% Impervious, Inflow Depth = 4.28" for 100-Year event
Inflow = 155.89 cfs @ 12.16 hrs, Volume= 12.735 af
Outflow = 153.66 cfs @ 12.19 hrs, Volume= 12.735 af, Atten= 1%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.54 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 2.58 fps, Avg. Travel Time= 5.2 min

Peak Storage= 9,951 cf @ 12.17 hrs
Average Depth at Peak Storage= 1.03'
Bank-Full Depth= 4.50', Capacity at Bank-Full= 1,947.63 cfs

11.00' x 4.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 20.00'
Length= 805.0' Slope= 0.1342 '/'
Inlet Invert= 2,308.00', Outlet Invert= 2,200.00'

Summary for Reach R1.12: WETLAND

Inflow Area = 15.782 ac, 9.63% Impervious, Inflow Depth = 4.60" for 100-Year event
Inflow = 60.47 cfs @ 12.14 hrs, Volume= 6.048 af
Outflow = 59.87 cfs @ 12.15 hrs, Volume= 6.048 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.46 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.37 fps, Avg. Travel Time= 2.4 min

Peak Storage= 965 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 206.27 cfs

20.00' x 0.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 200.0' Slope= 0.6000 '/'
Inlet Invert= 2,256.00', Outlet Invert= 2,136.00'

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Summary for Reach R1.2: Mountain Stream

Inflow Area = 38.694 ac, 1.10% Impervious, Inflow Depth = 4.29" for 100-Year event
Inflow = 165.39 cfs @ 12.18 hrs, Volume= 13.838 af
Outflow = 164.10 cfs @ 12.20 hrs, Volume= 13.838 af, Atten= 1%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.56 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.93 fps, Avg. Travel Time= 3.5 min

Peak Storage= 6,992 cf @ 12.19 hrs
Average Depth at Peak Storage= 1.50'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 636.66 cfs

5.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.7 '/' Top Width= 15.20'
Length= 616.0' Slope= 0.1461 '/'
Inlet Invert= 2,200.00', Outlet Invert= 2,110.00'

Summary for Reach R1.8: WETLAND

Inflow Area = 3.337 ac, 12.31% Impervious, Inflow Depth = 4.80" for 100-Year event
Inflow = 24.49 cfs @ 11.97 hrs, Volume= 1.334 af
Outflow = 24.18 cfs @ 11.98 hrs, Volume= 1.334 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.65 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.68 fps, Avg. Travel Time= 2.9 min

Peak Storage= 628 cf @ 11.98 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 73.93 cfs

20.00' x 0.50' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 1.0 '/' Top Width= 21.00'
Length= 120.0' Slope= 0.3083 '/'
Inlet Invert= 2,205.00', Outlet Invert= 2,168.00'

‡

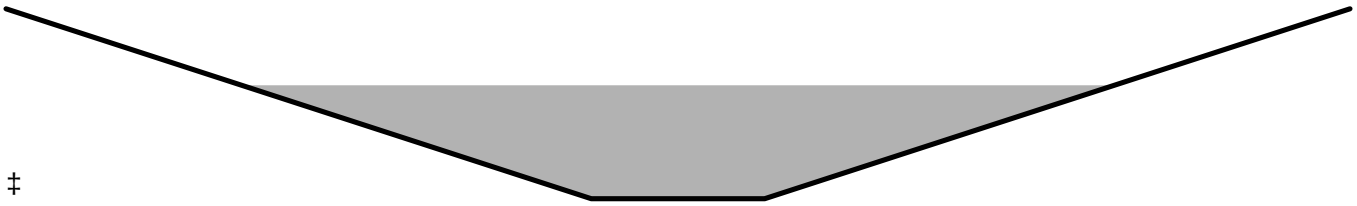
Summary for Reach R11.1: DP11.6

Inflow Area = 5.543 ac, 8.39% Impervious, Inflow Depth = 4.54" for 100-Year event
Inflow = 31.31 cfs @ 12.05 hrs, Volume= 2.099 af
Outflow = 30.28 cfs @ 12.08 hrs, Volume= 2.099 af, Atten= 3%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.76 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.38 fps, Avg. Travel Time= 3.7 min

Peak Storage= 1,675 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 102.63 cfs

2.00' x 1.50' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 310.0' Slope= 0.1742 '/'
Inlet Invert= 2,224.00', Outlet Invert= 2,170.00'



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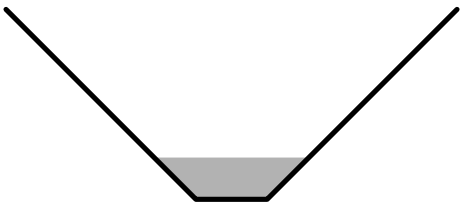
Summary for Reach R11.12: Mountain stream

Inflow Area = 5.355 ac, 2.57% Impervious, Inflow Depth = 4.34" for 100-Year event
Inflow = 29.26 cfs @ 12.07 hrs, Volume= 1.935 af
Outflow = 29.03 cfs @ 12.08 hrs, Volume= 1.935 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.93 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.91 fps, Avg. Travel Time= 1.1 min

Peak Storage= 418 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.88'
Bank-Full Depth= 4.00', Capacity at Bank-Full= 678.27 cfs

1.50' x 4.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 1.0 '/' Top Width= 9.50'
Length= 200.0' Slope= 0.3350 '/'
Inlet Invert= 2,468.00', Outlet Invert= 2,401.00'



Summary for Reach R11.13: Mountain stream

Inflow Area = 29.816 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 89.82 cfs @ 12.37 hrs, Volume= 10.581 af
Outflow = 89.60 cfs @ 12.38 hrs, Volume= 10.581 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.12 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 4.41 fps, Avg. Travel Time= 0.7 min

Peak Storage= 1,332 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.61'
Bank-Full Depth= 10.00', Capacity at Bank-Full= 5,898.94 cfs

12.00' x 10.00' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 0.1 '/' Top Width= 14.00'
Length= 180.0' Slope= 0.3611 '/'
Inlet Invert= 2,466.00', Outlet Invert= 2,401.00'

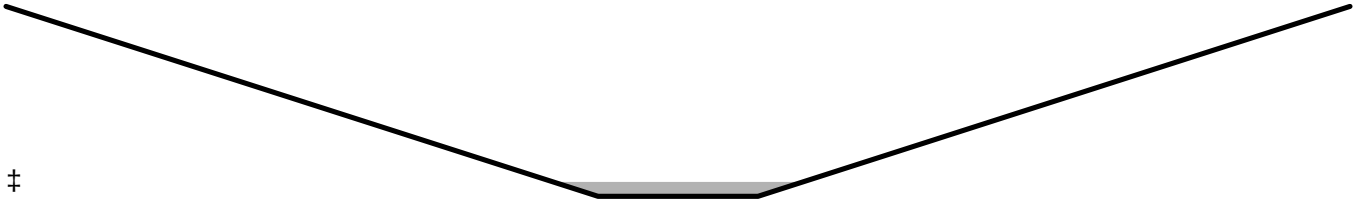
Summary for Reach R11.14: Mountain stream

Inflow Area = 0.649 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 4.72 cfs @ 11.97 hrs, Volume= 0.230 af
Outflow = 4.67 cfs @ 11.98 hrs, Volume= 0.230 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.41 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.73 fps, Avg. Travel Time= 1.3 min

Peak Storage= 122 cf @ 11.98 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 3.00', Capacity at Bank-Full= 989.43 cfs

3.00' x 3.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 3.7 '/' Top Width= 25.20'
Length= 140.0' Slope= 0.2071 '/'
Inlet Invert= 2,464.00', Outlet Invert= 2,435.00'



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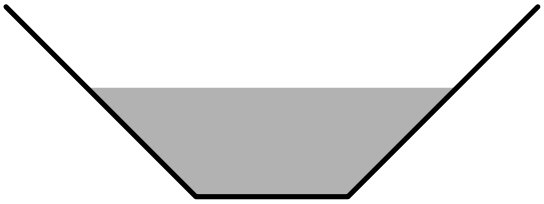
Summary for Reach R11.16: SWALE

Inflow Area = 11.496 ac, 0.90% Impervious, Inflow Depth = 4.29" for 100-Year event
Inflow = 53.14 cfs @ 12.13 hrs, Volume= 4.105 af
Outflow = 52.62 cfs @ 12.16 hrs, Volume= 4.105 af, Atten= 1%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.79 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.35 fps, Avg. Travel Time= 3.2 min

Peak Storage= 2,216 cf @ 12.14 hrs
Average Depth at Peak Storage= 1.43'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 160.81 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 7.00'
Length= 450.0' Slope= 0.1111 '/'
Inlet Invert= 2,450.00', Outlet Invert= 2,400.00'



Summary for Reach R11.1A: DP11.7

Inflow Area = 28.305 ac, 3.51% Impervious, Inflow Depth = 4.42" for 100-Year event
Inflow = 129.00 cfs @ 12.11 hrs, Volume= 10.425 af
Outflow = 126.20 cfs @ 12.15 hrs, Volume= 10.425 af, Atten= 2%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.90 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.01 fps, Avg. Travel Time= 7.9 min

Peak Storage= 9,419 cf @ 12.12 hrs
Average Depth at Peak Storage= 1.28'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 186.80 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 950.0' Slope= 0.1884 '/'
Inlet Invert= 2,169.00', Outlet Invert= 1,990.00'

‡

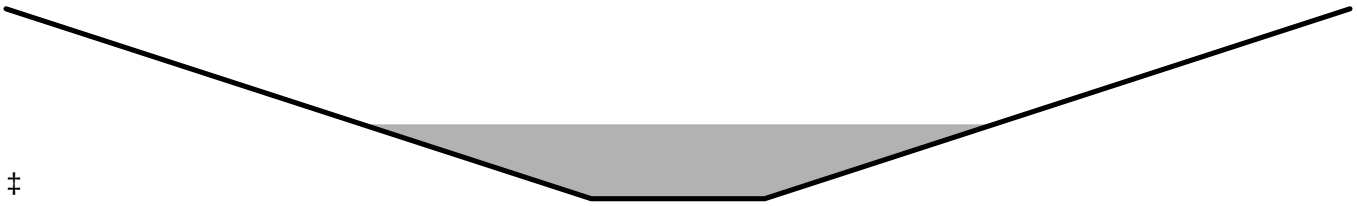
Summary for Reach R11.1B: Mountain stream

Inflow Area = 4.561 ac, 1.76% Impervious, Inflow Depth = 4.31" for 100-Year event
Inflow = 26.07 cfs @ 12.06 hrs, Volume= 1.639 af
Outflow = 25.75 cfs @ 12.07 hrs, Volume= 1.639 af, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.53 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.09 fps, Avg. Travel Time= 1.6 min

Peak Storage= 546 cf @ 12.06 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 215.17 cfs

2.00' x 1.50' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 4.5 '/' Top Width= 15.50'
Length= 200.0' Slope= 0.2500 '/'
Inlet Invert= 2,276.00', Outlet Invert= 2,226.00'



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Summary for Reach R11.25: SWALE

Inflow Area = 15.057 ac, 0.00% Impervious, Inflow Depth = 4.28" for 100-Year event
Inflow = 76.60 cfs @ 12.04 hrs, Volume= 5.372 af
Outflow = 75.25 cfs @ 12.06 hrs, Volume= 5.372 af, Atten= 2%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.38 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.74 fps, Avg. Travel Time= 2.1 min

Peak Storage= 3,195 cf @ 12.05 hrs
Average Depth at Peak Storage= 1.69'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 110.44 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 350.0' Slope= 0.0543 '/'
Inlet Invert= 2,330.00', Outlet Invert= 2,311.00'

Summary for Reach R11.27: Overland

Inflow Area = 16.103 ac, 0.00% Impervious, Inflow Depth = 4.29" for 100-Year event
Inflow = 81.26 cfs @ 12.06 hrs, Volume= 5.762 af
Outflow = 78.64 cfs @ 12.12 hrs, Volume= 5.762 af, Atten= 3%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.44 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 1.22 fps, Avg. Travel Time= 8.7 min

Peak Storage= 9,363 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 620.34 cfs

100.00' x 0.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 101.00'
Length= 640.0' Slope= 0.2156 '/'
Inlet Invert= 2,308.00', Outlet Invert= 2,170.00'

Summary for Reach R11.30: SWALE

Inflow Area = 2.196 ac, 13.15% Impervious, Inflow Depth = 4.68" for 100-Year event
Inflow = 11.62 cfs @ 12.06 hrs, Volume= 0.856 af
Outflow = 10.28 cfs @ 12.13 hrs, Volume= 0.856 af, Atten= 12%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.62 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.45 fps, Avg. Travel Time= 11.9 min

Peak Storage= 1,338 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.02'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 24.23 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 325.0' Slope= 0.0092 '/'
Inlet Invert= 2,183.00', Outlet Invert= 2,180.00'

Summary for Reach R11.31: SWALE

Inflow Area = 1.136 ac, 14.06% Impervious, Inflow Depth = 4.67" for 100-Year event
Inflow = 7.86 cfs @ 11.99 hrs, Volume= 0.442 af
Outflow = 7.80 cfs @ 12.01 hrs, Volume= 0.442 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.60 fps, Avg. Travel Time= 3.9 min

Peak Storage= 272 cf @ 12.00 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 49.99 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 140.0' Slope= 0.0393 '/'
Inlet Invert= 2,189.50', Outlet Invert= 2,184.00'

Summary for Reach R11.33: Bouldery stream

Inflow Area = 13.664 ac, 8.65% Impervious, Inflow Depth = 4.52" for 100-Year event
Inflow = 57.15 cfs @ 12.15 hrs, Volume= 5.150 af
Outflow = 56.86 cfs @ 12.16 hrs, Volume= 5.150 af, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.83 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.75 fps, Avg. Travel Time= 1.8 min

Peak Storage= 1,229 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.76'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 454.15 cfs

7.50' x 2.50' deep channel, n= 0.050 Mountain streams w/large boulders
Side Slope Z-value= 1.3 '/' Top Width= 14.00'
Length= 190.0' Slope= 0.1579 '/'
Inlet Invert= 2,420.00', Outlet Invert= 2,390.00'

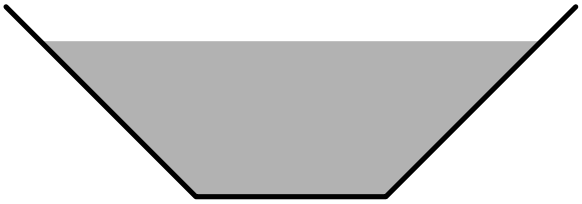
Summary for Reach R11.37: SWALE

Inflow Area = 13.040 ac, 0.00% Impervious, Inflow Depth = 4.27" for 100-Year event
Inflow = 65.68 cfs @ 12.02 hrs, Volume= 4.637 af
Outflow = 64.06 cfs @ 12.05 hrs, Volume= 4.637 af, Atten= 2%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.92 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 3.43 fps, Avg. Travel Time= 2.9 min

Peak Storage= 3,574 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.64'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 96.77 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 600.0' Slope= 0.1000 '/'
Inlet Invert= 2,405.00', Outlet Invert= 2,345.00'



Summary for Reach R11.38: Wetland

Inflow Area = 2.196 ac, 13.15% Impervious, Inflow Depth = 4.68" for 100-Year event
Inflow = 10.28 cfs @ 12.13 hrs, Volume= 0.856 af
Outflow = 8.70 cfs @ 12.28 hrs, Volume= 0.856 af, Atten= 15%, Lag= 8.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.95 fps, Min. Travel Time= 5.3 min
Avg. Velocity = 0.12 fps, Avg. Travel Time= 43.2 min

Peak Storage= 2,841 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 14.90 cfs

25.00' x 0.50' deep channel, n= 0.100 Very weedy reaches w/pools
Side Slope Z-value= 1.0 '/' Top Width= 26.00'
Length= 306.0' Slope= 0.0163 '/'
Inlet Invert= 2,180.00', Outlet Invert= 2,175.00'

‡

Summary for Reach R11.39: SWALE

Inflow Area = 1.520 ac, 70.97% Impervious, Inflow Depth = 6.43" for 100-Year event
Inflow = 3.52 cfs @ 12.13 hrs, Volume= 0.815 af
Outflow = 3.52 cfs @ 12.17 hrs, Volume= 0.815 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.40 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 3.4 min

Peak Storage= 248 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 49.35 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 310.0' Slope= 0.0806 '/'
Inlet Invert= 2,446.00', Outlet Invert= 2,421.00'

Summary for Reach R11.40: SWALE

Inflow Area = 0.903 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 9.41 cfs @ 11.96 hrs, Volume= 0.547 af
Outflow = 9.21 cfs @ 11.98 hrs, Volume= 0.547 af, Atten= 2%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.98 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 2.24 fps, Avg. Travel Time= 2.3 min

Peak Storage= 319 cf @ 11.97 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 143.25 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 310.0' Slope= 0.3226 '/'
Inlet Invert= 2,430.00', Outlet Invert= 2,330.00'

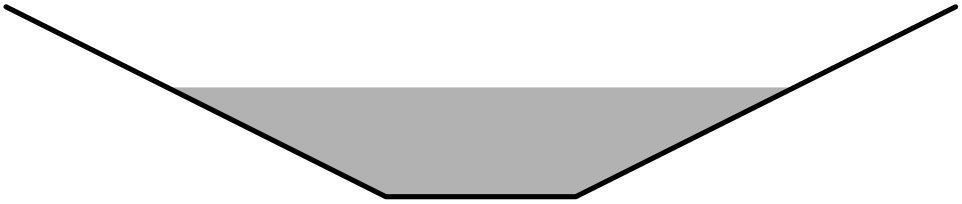
Summary for Reach R2.7: SWALE

Inflow Area = 3.627 ac, 13.61% Impervious, Inflow Depth = 4.76" for 100-Year event
Inflow = 26.11 cfs @ 11.97 hrs, Volume= 1.440 af
Outflow = 24.20 cfs @ 12.04 hrs, Volume= 1.440 af, Atten= 7%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.02 fps, Min. Travel Time= 2.3 min
Avg. Velocity = 1.09 fps, Avg. Travel Time= 10.8 min

Peak Storage= 3,494 cf @ 12.00 hrs
Average Depth at Peak Storage= 1.15'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 81.81 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 705.0' Slope= 0.0298 '/'
Inlet Invert= 2,213.00', Outlet Invert= 2,192.00'



Summary for Reach R2.9: Stream

Inflow Area = 31.124 ac, 14.55% Impervious, Inflow Depth = 4.81" for 100-Year event
Inflow = 110.86 cfs @ 12.05 hrs, Volume= 12.477 af
Outflow = 109.15 cfs @ 12.07 hrs, Volume= 12.477 af, Atten= 2%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 16.61 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.02 fps, Avg. Travel Time= 5.6 min

Peak Storage= 4,536 cf @ 12.06 hrs
Average Depth at Peak Storage= 1.19'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 256.33 cfs

5.00' x 2.00' deep channel, n= 0.040 Mountain streams
Side Slope Z-value= 0.5 '/' Top Width= 7.00'
Length= 680.0' Slope= 0.2412 '/'
Inlet Invert= 2,144.00', Outlet Invert= 1,980.00'

Summary for Reach R3.1: SWALE

Inflow = 69.63 cfs @ 12.10 hrs, Volume= 1.486 af
Outflow = 68.37 cfs @ 12.12 hrs, Volume= 1.486 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.12 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 5.24 fps, Avg. Travel Time= 1.3 min

Peak Storage= 2,059 cf @ 12.11 hrs
Average Depth at Peak Storage= 1.14'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 123.06 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 420.0' Slope= 0.2381 '/'
Inlet Invert= 2,179.99', Outlet Invert= 2,080.00'

Summary for Reach R4.2: SWALE

Inflow Area = 15.597 ac, 8.50% Impervious, Inflow Depth = 4.51" for 100-Year event
Inflow = 89.62 cfs @ 12.05 hrs, Volume= 5.867 af
Outflow = 88.45 cfs @ 12.06 hrs, Volume= 5.867 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.46 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.14 fps, Avg. Travel Time= 2.7 min

Peak Storage= 2,514 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.92'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 219.76 cfs

6.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 12.00'
Length= 350.0' Slope= 0.1771 '/'
Inlet Invert= 2,280.00', Outlet Invert= 2,218.00'

‡

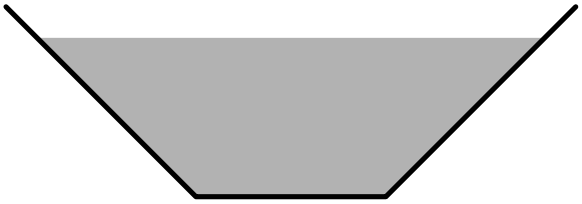
Summary for Reach R4.5: swale

Inflow Area = 30.234 ac, 12.20% Impervious, Inflow Depth = 4.08" for 100-Year event
Inflow = 71.15 cfs @ 12.02 hrs, Volume= 10.283 af
Outflow = 69.68 cfs @ 12.05 hrs, Volume= 10.283 af, Atten= 2%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.44 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.72 fps, Avg. Travel Time= 5.4 min

Peak Storage= 3,443 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.67'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 100.17 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 560.0' Slope= 0.1071 '/'
Inlet Invert= 2,065.00', Outlet Invert= 2,005.00'



Summary for Reach R4.7: swale

Inflow Area = 32.763 ac, 11.26% Impervious, Inflow Depth = 4.09" for 100-Year event
Inflow = 84.48 cfs @ 12.03 hrs, Volume= 11.180 af
Outflow = 84.41 cfs @ 12.03 hrs, Volume= 11.180 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 19.31 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.97 fps, Avg. Travel Time= 0.3 min

Peak Storage= 262 cf @ 12.03 hrs
Average Depth at Peak Storage= 1.06'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 329.55 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 60.0' Slope= 0.4833 '/'
Inlet Invert= 2,001.00', Outlet Invert= 1,972.00'

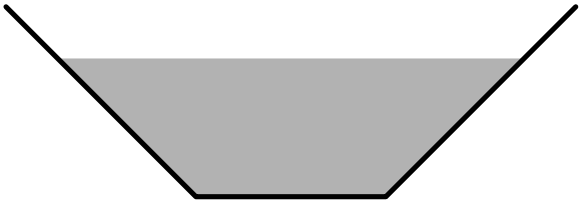
Summary for Reach R5.2: SWALE

Inflow Area = 8.776 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 57.03 cfs @ 12.01 hrs, Volume= 3.114 af
Outflow = 55.00 cfs @ 12.04 hrs, Volume= 3.114 af, Atten= 4%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.15 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 3.24 fps, Avg. Travel Time= 3.3 min

Peak Storage= 3,215 cf @ 12.03 hrs
Average Depth at Peak Storage= 1.46'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 105.45 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 6.00'
Length= 640.0' Slope= 0.1187 '/'
Inlet Invert= 1,822.00', Outlet Invert= 1,746.00'



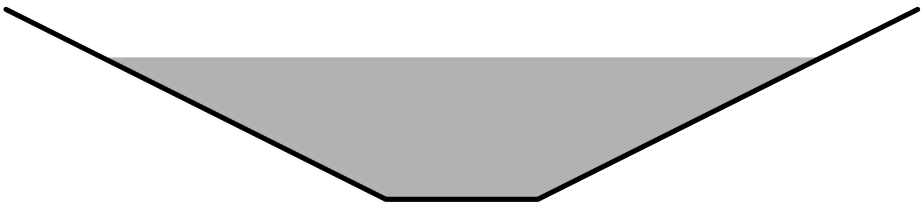
Summary for Reach R5.3: SWALE

Inflow Area = 12.491 ac, 2.66% Impervious, Inflow Depth = 4.37" for 100-Year event
Inflow = 78.74 cfs @ 12.03 hrs, Volume= 4.547 af
Outflow = 77.68 cfs @ 12.04 hrs, Volume= 4.547 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.34 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 2.0 min

Peak Storage= 2,002 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.87'
Bank-Full Depth= 2.50', Capacity at Bank-Full= 151.95 cfs

2.00' x 2.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 12.00'
Length= 187.0' Slope= 0.0374 '/'
Inlet Invert= 1,745.00', Outlet Invert= 1,738.00'



Summary for Reach R8.16: SWALE

Inflow = 60.34 cfs @ 12.00 hrs, Volume= 4.194 af
Outflow = 59.08 cfs @ 12.01 hrs, Volume= 4.194 af, Atten= 2%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.51 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.01 fps, Avg. Travel Time= 2.6 min

Peak Storage= 1,510 cf @ 12.00 hrs
Average Depth at Peak Storage= 0.84'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 178.88 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 315.0' Slope= 0.2159 '/'
Inlet Invert= 1,810.00', Outlet Invert= 1,742.00'

Summary for Reach R8.17: SWALE

Inflow Area = 1.145 ac, 16.92% Impervious, Inflow Depth = 48.84" for 100-Year event
Inflow = 67.08 cfs @ 12.01 hrs, Volume= 4.661 af
Outflow = 66.27 cfs @ 12.01 hrs, Volume= 4.661 af, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.80 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.06 fps, Avg. Travel Time= 2.3 min

Peak Storage= 1,465 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 176.73 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 280.0' Slope= 0.2107 '/'
Inlet Invert= 1,741.00', Outlet Invert= 1,682.00'

Summary for Reach R8.18: Mountain stream

Inflow Area = 15.337 ac, 1.95% Impervious, Inflow Depth = 4.32" for 100-Year event
Inflow = 54.08 cfs @ 12.27 hrs, Volume= 5.518 af
Outflow = 53.37 cfs @ 12.33 hrs, Volume= 5.518 af, Atten= 1%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.01 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 1.58 fps, Avg. Travel Time= 9.2 min

Peak Storage= 6,666 cf @ 12.29 hrs
Average Depth at Peak Storage= 1.43'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 109.52 cfs

2.50' x 2.00' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 10.50'
Length= 870.0' Slope= 0.1736 '/'
Inlet Invert= 1,818.00', Outlet Invert= 1,667.00'

Summary for Reach R8.2: SWALE

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 5.03" for 100-Year event
Inflow = 17.60 cfs @ 12.05 hrs, Volume= 1.139 af
Outflow = 17.02 cfs @ 12.08 hrs, Volume= 1.139 af, Atten= 3%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.80 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.13 fps, Avg. Travel Time= 6.0 min

Peak Storage= 1,044 cf @ 12.06 hrs
Average Depth at Peak Storage= 0.89'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 46.39 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 407.0' Slope= 0.0713 '/'
Inlet Invert= 2,303.00', Outlet Invert= 2,274.00'

Summary for Reach R8.21: SWALE

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 2.97" for 100-Year event
Inflow = 104.12 cfs @ 12.00 hrs, Volume= 5.971 af
Outflow = 102.07 cfs @ 12.01 hrs, Volume= 5.971 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 16.07 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.42 fps, Avg. Travel Time= 3.6 min

Peak Storage= 3,371 cf @ 12.01 hrs
Average Depth at Peak Storage= 1.06'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 203.30 cfs

4.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 520.0' Slope= 0.2788 '/'
Inlet Invert= 1,815.00', Outlet Invert= 1,670.00'

Summary for Reach R8.4: SWALE

Inflow Area = 6.715 ac, 30.90% Impervious, Inflow Depth = 5.18" for 100-Year event
Inflow = 46.20 cfs @ 12.03 hrs, Volume= 2.896 af
Outflow = 45.04 cfs @ 12.05 hrs, Volume= 2.896 af, Atten= 3%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.51 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.58 fps, Avg. Travel Time= 5.5 min

Peak Storage= 2,540 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.42'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 51.44 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 525.0' Slope= 0.0876 '/'
Inlet Invert= 2,270.00', Outlet Invert= 2,224.00'

Summary for Reach R8.6: SWALE

Inflow Area = 8.502 ac, 27.24% Impervious, Inflow Depth = 5.09" for 100-Year event
Inflow = 54.02 cfs @ 12.03 hrs, Volume= 3.605 af
Outflow = 53.43 cfs @ 12.05 hrs, Volume= 3.605 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.00 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.82 fps, Avg. Travel Time= 3.2 min

Peak Storage= 1,694 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.43'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 59.17 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 1.0 '/' Top Width= 5.00'
Length= 345.0' Slope= 0.1159 '/'
Inlet Invert= 2,220.00', Outlet Invert= 2,180.00'

Summary for Reach R9.10: Swale

Inflow Area = 12.954 ac, 25.61% Impervious, Inflow Depth = 5.11" for 100-Year event
Inflow = 37.93 cfs @ 12.16 hrs, Volume= 5.514 af
Outflow = 37.31 cfs @ 12.17 hrs, Volume= 5.514 af, Atten= 2%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 8.13 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.39 fps, Avg. Travel Time= 2.0 min

Peak Storage= 784 cf @ 12.17 hrs
Average Depth at Peak Storage= 1.10'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 136.03 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 170.0' Slope= 0.0824 '/'
Inlet Invert= 1,672.00', Outlet Invert= 1,658.00'

Summary for Reach R9.2: Swale

Inflow Area = 5.546 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 36.05 cfs @ 12.01 hrs, Volume= 1.968 af
Outflow = 33.74 cfs @ 12.08 hrs, Volume= 1.968 af, Atten= 6%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.59 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 2.36 fps, Avg. Travel Time= 8.8 min

Peak Storage= 5,009 cf @ 12.04 hrs
Average Depth at Peak Storage= 1.00'
Bank-Full Depth= 1.50', Capacity at Bank-Full= 80.39 cfs

2.00' x 1.50' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 1,250.0' Slope= 0.1016 '/'
Inlet Invert= 1,900.00', Outlet Invert= 1,773.00'

Summary for Reach R9.3: Swale

Inflow Area = 13.150 ac, 7.18% Impervious, Inflow Depth = 4.46" for 100-Year event
Inflow = 80.33 cfs @ 11.99 hrs, Volume= 4.882 af
Outflow = 76.27 cfs @ 12.04 hrs, Volume= 4.882 af, Atten= 5%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.05 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 2.26 fps, Avg. Travel Time= 7.4 min

Peak Storage= 7,133 cf @ 12.01 hrs
Average Depth at Peak Storage= 1.45'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 158.64 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 1,000.0' Slope= 0.1120 '/'
Inlet Invert= 1,768.00', Outlet Invert= 1,656.00'

Summary for Reach R9.4: Swale

Inflow Area = 5.118 ac, 41.21% Impervious, Inflow Depth = 5.57" for 100-Year event
Inflow = 34.24 cfs @ 11.99 hrs, Volume= 2.375 af
Outflow = 33.06 cfs @ 12.02 hrs, Volume= 2.375 af, Atten= 3%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.46 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.96 fps, Avg. Travel Time= 4.6 min

Peak Storage= 2,172 cf @ 12.01 hrs
Average Depth at Peak Storage= 1.00'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 148.51 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 540.0' Slope= 0.0981 '/'
Inlet Invert= 1,769.00', Outlet Invert= 1,716.00'

Summary for Pond 6.2P: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 6.67" for 100-Year event
Inflow = 1.86 cfs @ 11.96 hrs, Volume= 0.102 af
Outflow = 1.66 cfs @ 12.00 hrs, Volume= 0.102 af, Atten= 11%, Lag= 2.3 min
Primary = 1.66 cfs @ 12.00 hrs, Volume= 0.102 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.75' @ 12.00 hrs Surf.Area= 3,280 sf Storage= 1,948 cf (1,149 cf above start)

Plug-Flow detention time= 350.5 min calculated for 0.084 af (82% of inflow)
Center-of-Mass det. time= 192.7 min (956.0 - 763.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=1.65 cfs @ 12.00 hrs HW=1,686.74' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 1.63 cfs @ 1.33 fps)

Summary for Pond 6.3P: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 6.67" for 100-Year event
Inflow = 1.86 cfs @ 11.96 hrs, Volume= 0.102 af
Outflow = 1.66 cfs @ 12.00 hrs, Volume= 0.102 af, Atten= 11%, Lag= 2.3 min
Primary = 1.66 cfs @ 12.00 hrs, Volume= 0.102 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.75' @ 12.00 hrs Surf.Area= 3,280 sf Storage= 1,948 cf (1,149 cf above start)

Plug-Flow detention time= 350.5 min calculated for 0.084 af (82% of inflow)
Center-of-Mass det. time= 192.7 min (956.0 - 763.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=1.65 cfs @ 12.00 hrs HW=1,686.74' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 1.63 cfs @ 1.33 fps)

Summary for Pond 11.3R: DP11.1

Inflow Area = 35.734 ac, 0.39% Impervious, Inflow Depth = 4.27" for 100-Year event
Inflow = 98.26 cfs @ 12.35 hrs, Volume= 12.721 af
Outflow = 98.24 cfs @ 12.35 hrs, Volume= 12.715 af, Atten= 0%, Lag= 0.1 min
Primary = 98.24 cfs @ 12.35 hrs, Volume= 12.715 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 2,413.55' @ 12.35 hrs Surf.Area= 335 sf Storage= 1,128 cf

Plug-Flow detention time= 1.6 min calculated for 12.710 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (852.7 - 852.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,410.00'	3,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,410.00	300	0	0
2,420.00	400	3,500	3,500

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.00'	**72.0" Round Culvert X 2.00** L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,411.00' / 2,395.00' S= 0.1333 '/' Cc= 0.900 n= 0.025 Corrugated metal

Primary OutFlow Max=98.18 cfs @ 12.35 hrs HW=2,413.55' (Free Discharge)
└**1=Culvert** (Inlet Controls 98.18 cfs @ 4.29 fps)

Summary for Pond 11.7R: Culvert

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 4.47" for 100-Year event
Inflow = 331.29 cfs @ 12.20 hrs, Volume= 38.462 af
Outflow = 331.29 cfs @ 12.20 hrs, Volume= 38.462 af, Atten= 0%, Lag= 0.0 min
Primary = 331.29 cfs @ 12.20 hrs, Volume= 38.462 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,897.81' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,890.00'	**48.0" Round Culvert** L= 45.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,890.00' / 1,888.00' S= 0.0444 '/' Cc= 0.900 n= 0.025 Corrugated metal
#2	Primary	1,895.00'	**15.0' long x 35.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=330.74 cfs @ 12.20 hrs HW=1,897.80' (Free Discharge)
├**1=Culvert** (Inlet Controls 145.74 cfs @ 11.60 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 185.00 cfs @ 4.40 fps)

Summary for Pond 11.9R: Culvert

Inflow Area = 103.367 ac, 6.34% Impervious, Inflow Depth = 4.47" for 100-Year event
Inflow = 328.86 cfs @ 12.21 hrs, Volume= 38.462 af
Outflow = 326.05 cfs @ 12.23 hrs, Volume= 38.461 af, Atten= 1%, Lag= 0.9 min
Primary = 326.05 cfs @ 12.23 hrs, Volume= 38.461 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,782.40' @ 12.23 hrs Surf.Area= 1,176 sf Storage= 9,287 cf

Plug-Flow detention time= 1.0 min calculated for 38.448 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (915.6 - 914.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,773.00'	10,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,773.00	800	0	0
1,783.00	1,200	10,000	10,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,773.00'	**60.0" Round Culvert** L= 90.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 1,773.00' / 1,767.00' S= 0.0667 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

#2 Primary 1,773.00' **48.0" Round Culvert**
L= 90.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 1,773.00' / 1,770.00' S= 0.0333 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=324.07 cfs @ 12.23 hrs HW=1,782.32' (Free Discharge)
1=Culvert (Inlet Controls 194.86 cfs @ 9.92 fps)
2=Culvert (Inlet Controls 129.21 cfs @ 10.28 fps)

Summary for Pond P1.1: Pond 1.1

Inflow Area = 15.782 ac, 9.63% Impervious, Inflow Depth = 4.60" for 100-Year event
Inflow = 92.02 cfs @ 12.01 hrs, Volume= 6.049 af
Outflow = 60.47 cfs @ 12.14 hrs, Volume= 6.048 af, Atten= 34%, Lag= 7.8 min
Primary = 60.47 cfs @ 12.14 hrs, Volume= 6.048 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,159.55' Surf.Area= 11,012 sf Storage= 25,985 cf
Peak Elev= 2,164.68' @ 12.14 hrs Surf.Area= 22,658 sf Storage= 113,394 cf (87,409 cf above start)

Plug-Flow detention time= 360.2 min calculated for 5.450 af (90% of inflow)
Center-of-Mass det. time= 262.2 min (1,089.2 - 827.0)

Volume	Invert	Avail.Storage	Storage Description
#1	2,156.00'	120,626 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,156.00	3,831	0	0
2,158.00	7,673	11,504	11,504
2,160.00	11,982	19,655	31,159
2,162.00	16,663	28,645	59,804
2,164.00	21,746	38,409	98,213
2,165.00	23,079	22,413	120,626

Device	Routing	Invert	Outlet Devices
#1	Primary	2,158.50'	**24.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,158.50' / 2,157.65' S= 0.0170 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,159.55'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Primary	2,162.00'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,163.75'	**15.0' 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

Primary OutFlow Max=59.74 cfs @ 12.14 hrs HW=2,164.67' (Free Discharge)
- **1=Culvert** (Passes 0.72 cfs of 32.77 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.72 cfs @ 10.74 fps)
- **3=Orifice/Grate** (Orifice Controls 19.91 cfs @ 6.64 fps)
- **4=Broad-Crested Rectangular Weir** (Weir Controls 39.11 cfs @ 2.82 fps)

Summary for Pond P1.2: BIORETENTION

Inflow Area = 0.244 ac, 81.20% Impervious, Inflow Depth = 6.67" for 100-Year event
Inflow = 2.48 cfs @ 11.96 hrs, Volume= 0.136 af
Outflow = 1.84 cfs @ 12.03 hrs, Volume= 0.136 af, Atten= 26%, Lag= 3.9 min
Primary = 1.84 cfs @ 12.03 hrs, Volume= 0.136 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,226.99' Surf.Area= 4,000 sf Storage= 1,997 cf
Peak Elev= 2,227.81' @ 12.03 hrs Surf.Area= 6,652 sf Storage= 3,895 cf (1,898 cf above start)

Plug-Flow detention time= 473.5 min calculated for 0.090 af (66% of inflow)
Center-of-Mass det. time= 207.2 min (970.5 - 763.3)

Volume	Invert	Avail.Storage	Storage Description
#1	2,222.00'	800 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 2,000 cf Overall x 40.0% Voids
#2	2,223.00'	1,200 cf	**filter media (Prismatic)**Listed below (Recalc) 8,000 cf Overall x 15.0% Voids
#3	2,227.00'	5,600 cf	**surface storage (Prismatic)**Listed below (Recalc)
		7,600 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,222.00	2,000	0	0
2,223.00	2,000	2,000	2,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,223.00	2,000	0	0
2,227.00	2,000	8,000	8,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,227.00	2,000	0	0
2,229.00	3,600	5,600	5,600

Device	Routing	Invert	Outlet Devices
#1	Primary	2,226.99'	**0.500 in/hr Exfiltration over Surface area above 2,226.99'** Excluded Surface area = 4,000 sf
#2	Primary	2,227.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.80 cfs @ 12.03 hrs HW=2,227.81' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)
└**2=Orifice/Grate** (Weir Controls 1.77 cfs @ 1.82 fps)

Summary for Pond P1.3: Pond 1.3

Inflow Area = 25.678 ac, 13.90% Impervious, Inflow Depth = 4.69" for 100-Year event
Inflow = 115.36 cfs @ 12.03 hrs, Volume= 10.031 af
Outflow = 66.20 cfs @ 12.28 hrs, Volume= 10.029 af, Atten= 43%, Lag= 15.1 min
Primary = 66.20 cfs @ 12.28 hrs, Volume= 10.029 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,164.09' Surf.Area= 14,529 sf Storage= 40,390 cf
Peak Elev= 2,170.64' @ 12.28 hrs Surf.Area= 33,284 sf Storage= 197,488 cf (157,098 cf above start)

Plug-Flow detention time= 384.5 min calculated for 9.098 af (91% of inflow)
Center-of-Mass det. time= 281.5 min (1,125.3 - 843.7)

Volume	Invert	Avail.Storage	Storage Description
#1	2,160.00'	209,531 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,160.00	5,797	0	0
2,162.00	9,507	15,304	15,304
2,164.00	14,282	23,789	39,093
2,166.00	19,778	34,060	73,153
2,168.00	25,800	45,578	118,731
2,170.00	32,000	57,800	176,531
2,171.00	34,000	33,000	209,531

Device	Routing	Invert	Outlet Devices
#1	Primary	2,162.00'	**36.0" Round Culvert** L= 1.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,162.00' / 2,162.00' S= 0.0000 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,164.10'	**4.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,167.25'	**36.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,170.00'	**30.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=65.49 cfs @ 12.28 hrs HW=2,170.64' (Free Discharge)
└**1=Culvert** (Passes 25.85 cfs of 90.92 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 1.34 cfs @ 12.13 fps)
└**3=Orifice/Grate** (Orifice Controls 24.51 cfs @ 8.17 fps)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 39.64 cfs @ 2.08 fps)

Summary for Pond P1.4: BIORETENTION

Inflow Area = 1.185 ac, 77.14% Impervious, Inflow Depth = 6.55" for 100-Year event
Inflow = 11.43 cfs @ 11.96 hrs, Volume= 0.647 af
Outflow = 3.18 cfs @ 12.11 hrs, Volume= 0.647 af, Atten= 72%, Lag= 9.1 min
Primary = 3.18 cfs @ 12.11 hrs, Volume= 0.647 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,213.99' Surf.Area= 19,000 sf Storage= 9,486 cf
Peak Elev= 2,215.15' @ 12.11 hrs Surf.Area= 29,856 sf Storage= 21,247 cf (11,761 cf above start)

Plug-Flow detention time= 502.9 min calculated for 0.429 af (66% of inflow)
Center-of-Mass det. time= 218.1 min (968.2 - 750.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,209.00'	3,800 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 9,500 cf Overall x 40.0% Voids
#2	2,210.00'	5,700 cf	**filter media (Prismatic)**Listed below (Recalc) 38,000 cf Overall x 15.0% Voids
#3	2,214.00'	21,350 cf	**surface storage (Prismatic)**Listed below (Recalc)
		30,850 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,209.00	9,500	0	0
2,210.00	9,500	9,500	9,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,210.00	9,500	0	0
2,214.00	9,500	38,000	38,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,214.00	9,500	0	0
2,216.00	11,850	21,350	21,350

Device	Routing	Invert	Outlet Devices
#1	Primary	2,209.00'	**18.0" Round Culvert** L= 325.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,209.00' / 2,208.50' S= 0.0015 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,213.99'	**0.500 in/hr Exfiltration over Surface area above 2,213.99'** Excluded Surface area = 19,000 sf
#3	Device 1	2,214.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,215.50'	**25.0' 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

Primary OutFlow Max=3.17 cfs @ 12.11 hrs HW=2,215.15' (Free Discharge)
- **1=Culvert** (Passes 3.05 cfs of 8.16 cfs potential flow)
  - **3=Orifice/Grate** (Orifice Controls 3.05 cfs @ 3.88 fps)
- **2=Exfiltration** (Exfiltration Controls 0.13 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P11.1: P-1

Inflow Area = 13.491 ac, 29.33% Impervious, Inflow Depth = 5.08" for 100-Year event
Inflow = 73.91 cfs @ 12.00 hrs, Volume= 5.713 af
Outflow = 32.65 cfs @ 12.21 hrs, Volume= 5.711 af, Atten= 56%, Lag= 13.0 min
Primary = 32.65 cfs @ 12.21 hrs, Volume= 5.711 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,298.39' Surf.Area= 9,776 sf Storage= 24,777 cf
Peak Elev= 2,303.67' @ 12.21 hrs Surf.Area= 25,802 sf Storage= 116,206 cf (91,429 cf above start)

Plug-Flow detention time= 498.6 min calculated for 5.142 af (90% of inflow)
Center-of-Mass det. time= 364.1 min (1,214.2 - 850.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2,294.00'	153,289 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,294.00	2,442	0	0
2,296.00	4,967	7,409	7,409
2,298.00	8,782	13,749	21,158
2,300.00	13,877	22,659	43,817
2,302.00	20,200	34,077	77,894
2,304.00	26,926	47,126	125,020
2,305.00	29,612	28,269	153,289

Device	Routing	Invert	Outlet Devices
#1	Primary	2,295.50'	**24.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,295.50' / 2,292.50' S= 0.0500 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,298.40'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,301.25'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,302.25'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	2,303.25'	**25.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=32.18 cfs @ 12.21 hrs HW=2,303.66' (Free Discharge)
- **1=Culvert** (Passes 15.09 cfs of 40.47 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.73 cfs @ 10.89 fps)
  - **3=Orifice/Grate** (Orifice Controls 5.30 cfs @ 7.07 fps)
  - **4=Orifice/Grate** (Orifice Controls 9.06 cfs @ 4.53 fps)
- **5=Broad-Crested Rectangular Weir** (Weir Controls 17.09 cfs @ 1.67 fps)

Summary for Pond P11.10: DRY SWALE

Inflow Area = 1.136 ac, 14.06% Impervious, Inflow Depth = 4.71" for 100-Year event
Inflow = 9.04 cfs @ 11.97 hrs, Volume= 0.446 af
Outflow = 7.86 cfs @ 11.99 hrs, Volume= 0.442 af, Atten= 13%, Lag= 1.2 min
Primary = 7.86 cfs @ 11.99 hrs, Volume= 0.442 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,193.50' @ 11.99 hrs Surf.Area= 2,750 sf Storage= 2,580 cf

Plug-Flow detention time= 157.5 min calculated for 0.442 af (99% of inflow)
Center-of-Mass det. time= 152.6 min (964.1 - 811.5)

Volume	Invert	Avail.Storage	Storage Description
#1	2,192.00'	2,580 cf	**surface storage (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,192.00	690	0	0
2,193.50	2,750	2,580	2,580

Device	Routing	Invert	Outlet Devices
#1	Primary	2,192.00'	**0.250 in/hr Exfiltration over Surface area**
#2	Primary	2,193.00'	**8.0' 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

Primary OutFlow Max=7.74 cfs @ 11.99 hrs HW=2,193.50' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.02 cfs)
- **2=Broad-Crested Rectangular Weir** (Weir Controls 7.72 cfs @ 1.93 fps)

Summary for Pond P11.11: BIORETENTION

Inflow Area = 1.621 ac, 9.86% Impervious, Inflow Depth = 4.55" for 100-Year event
Inflow = 11.18 cfs @ 11.99 hrs, Volume= 0.614 af
Outflow = 7.84 cfs @ 12.08 hrs, Volume= 0.614 af, Atten= 30%, Lag= 5.1 min
Primary = 7.84 cfs @ 12.08 hrs, Volume= 0.614 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2

Starting Elev= 2,181.99' Surf.Area= 7,600 sf Storage= 3,794 cf
Peak Elev= 2,183.81' @ 12.08 hrs Surf.Area= 12,441 sf Storage= 11,622 cf (7,828 cf above start)

Plug-Flow detention time= 330.3 min calculated for 0.527 af (86% of inflow)
Center-of-Mass det. time= 128.7 min (1,054.1 - 925.3)

Volume	Invert	Avail.Storage	Storage Description
#1	2,177.00'	1,520 cf	**gravel underdrain (Prismatic)**Listed below (Recalc) 3,800 cf Overall x 40.0% Voids
#2	2,178.00'	2,280 cf	**filter media (Prismatic)**Listed below (Recalc) 15,200 cf Overall x 15.0% Voids
#3	2,182.00'	8,750 cf	**surface storage (Prismatic)**Listed below (Recalc)
		12,550 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,177.00	3,800	0	0
2,178.00	3,800	3,800	3,800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,178.00	3,800	0	0
2,182.00	3,800	15,200	15,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,182.00	3,800	0	0
2,184.00	4,950	8,750	8,750

Device	Routing	Invert	Outlet Devices
#1	Primary	2,181.99'	**0.500 in/hr Exfiltration over Surface area above 2,181.99'** Excluded Surface area = 7,600 sf
#2	Primary	2,182.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	2,183.50'	**15.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.58 cfs @ 12.08 hrs HW=2,183.80' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.06 cfs)
- **2=Orifice/Grate** (Orifice Controls 1.08 cfs @ 5.50 fps)
- **3=Broad-Crested Rectangular Weir** (Weir Controls 6.45 cfs @ 1.42 fps)

Summary for Pond P11.12: BIORETENTION

Inflow Area = 1.366 ac, 60.26% Impervious, Inflow Depth = 6.08" for 100-Year event
Inflow = 13.21 cfs @ 11.96 hrs, Volume= 0.692 af
Outflow = 12.81 cfs @ 11.96 hrs, Volume= 0.668 af, Atten= 3%, Lag= 0.0 min
Primary = 12.81 cfs @ 11.96 hrs, Volume= 0.668 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,410.99' Surf.Area= 8,000 sf Storage= 3,994 cf
Peak Elev= 2,592.81' @ 11.96 hrs Surf.Area= 12,800 sf Storage= 8,400 cf (4,406 cf above start)

Plug-Flow detention time= 229.5 min calculated for 0.576 af (83% of inflow)
Center-of-Mass det. time= 114.8 min (895.6 - 780.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2,406.00'	1,600 cf	**DRAINAGE LAYER (Prismatic)**Listed below (Recalc) 4,000 cf Overall x 40.0% Voids
#2	2,407.00'	2,400 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 16,000 cf Overall x 15.0% Voids
#3	2,411.00'	4,400 cf	**surface storage (Prismatic)**Listed below (Recalc)
		8,400 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,406.00	4,000	0	0
2,407.00	4,000	4,000	4,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,407.00	4,000	0	0
2,411.00	4,000	16,000	16,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,411.00	4,000	0	0
2,412.00	4,800	4,400	4,400

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,410.99'	**0.500 in/hr Exfiltration over Surface area above 2,410.99'** Excluded Surface area = 8,000 sf

Primary OutFlow Max=12.47 cfs @ 11.96 hrs HW=2,583.88' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 12.41 cfs @ 63.22 fps)
└**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Summary for Pond P11.14: BIORETENTION

Inflow Area = 0.597 ac, 65.96% Impervious, Inflow Depth = 6.31" for 100-Year event
Inflow = 5.90 cfs @ 11.96 hrs, Volume= 0.314 af
Outflow = 2.88 cfs @ 11.97 hrs, Volume= 0.283 af, Atten= 51%, Lag= 0.3 min
Primary = 2.88 cfs @ 11.97 hrs, Volume= 0.283 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2

Starting Elev= 2,410.99' Surf.Area= 8,000 sf Storage= 3,994 cf
Peak Elev= 2,419.90' @ 11.96 hrs Surf.Area= 12,800 sf Storage= 8,400 cf (4,406 cf above start)

Plug-Flow detention time= 489.1 min calculated for 0.192 af (61% of inflow)
Center-of-Mass det. time= 224.5 min (998.9 - 774.4)

Volume	Invert	Avail.Storage	Storage Description
#1	2,406.00'	1,600 cf	**DRAINAGE LAYER (Prismatic)**Listed below (Recalc) 4,000 cf Overall x 40.0% Voids
#2	2,407.00'	2,400 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 16,000 cf Overall x 15.0% Voids
#3	2,411.00'	4,400 cf	**surface storage (Prismatic)**Listed below (Recalc)
		8,400 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,406.00	4,000	0	0
2,407.00	4,000	4,000	4,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,407.00	4,000	0	0
2,411.00	4,000	16,000	16,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,411.00	4,000	0	0
2,412.00	4,800	4,400	4,400

Device	Routing	Invert	Outlet Devices
#1	Primary	2,411.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,410.99'	**0.500 in/hr Exfiltration over Surface area above 2,410.99'** Excluded Surface area = 8,000 sf

Primary OutFlow Max=2.61 cfs @ 11.97 hrs HW=2,418.78' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 2.55 cfs @ 12.99 fps)
└**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Summary for Pond P11.2: BIORETENTION

Inflow Area = 2.158 ac, 41.85% Impervious, Inflow Depth = 5.51" for 100-Year event
Inflow = 18.05 cfs @ 11.98 hrs, Volume= 0.992 af
Outflow = 7.38 cfs @ 12.11 hrs, Volume= 0.992 af, Atten= 59%, Lag= 7.7 min
Primary = 7.38 cfs @ 12.11 hrs, Volume= 0.992 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,371.99' Surf.Area= 21,000 sf Storage= 10,484 cf
Peak Elev= 2,373.45' @ 12.11 hrs Surf.Area= 33,944 sf Storage= 27,470 cf (16,985 cf above start)

Plug-Flow detention time= 377.3 min calculated for 0.751 af (76% of inflow)

Center-of-Mass det. time= 177.8 min (954.4 - 776.6)

Volume	Invert	Avail.Storage	Storage Description
#1	2,367.00'	4,200 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 10,500 cf Overall x 40.0% Voids
#2	2,368.00'	6,300 cf	**filter media (Prismatic)**Listed below (Recalc) 42,000 cf Overall x 15.0% Voids
#3	2,372.00'	24,376 cf	**surface storage (Prismatic)**Listed below (Recalc)
		34,876 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,367.00	10,500	0	0
2,368.00	10,500	10,500	10,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,368.00	10,500	0	0
2,372.00	10,500	42,000	42,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,372.00	10,500	0	0
2,374.00	13,876	24,376	24,376

Device	Routing	Invert	Outlet Devices
#1	Primary	2,367.00'	**12.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,367.00' / 2,366.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,371.99'	**0.500 in/hr Exfiltration over Surface area above 2,371.99'** Excluded Surface area = 21,000 sf
#3	Device 1	2,372.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,373.25'	**15.0' 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

Primary OutFlow Max=7.21 cfs @ 12.11 hrs HW=2,373.44' (Free Discharge)
- **1=Culvert** (Passes 3.82 cfs of 7.00 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.15 cfs)
  - **3=Orifice/Grate** (Orifice Controls 3.67 cfs @ 4.67 fps)
- **4=Broad-Crested Rectangular Weir** (Weir Controls 3.39 cfs @ 1.18 fps)

Summary for Pond P11.4: BIORETENTION

Inflow Area = 1.520 ac, 70.97% Impervious, Inflow Depth = 6.43" for 100-Year event
Inflow = 15.17 cfs @ 11.96 hrs, Volume= 0.815 af
Outflow = 3.52 cfs @ 12.13 hrs, Volume= 0.815 af, Atten= 77%, Lag= 9.8 min
Primary = 3.52 cfs @ 12.13 hrs, Volume= 0.815 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,457.99' Surf.Area= 22,000 sf Storage= 10,983 cf
Peak Elev= 2,459.29' @ 12.13 hrs Surf.Area= 35,313 sf Storage= 26,705 cf (15,722 cf above start)

Plug-Flow detention time= 454.4 min calculated for 0.562 af (69% of inflow)
Center-of-Mass det. time= 213.3 min (984.2 - 770.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,453.00'	4,400 cf	**STONE LAYER (Prismatic)**Listed below (Recalc) 11,000 cf Overall x 40.0% Voids
#2	2,454.00'	6,600 cf	**FILTER MEDIA (Prismatic)**Listed below (Recalc) 44,000 cf Overall x 15.0% Voids
#3	2,458.00'	25,580 cf	**surface storage (Prismatic)**Listed below (Recalc)
		36,580 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,453.00	11,000	0	0
2,454.00	11,000	11,000	11,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,454.00	11,000	0	0
2,458.00	11,000	44,000	44,000

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,458.00	11,000	0	0
2,460.00	14,580	25,580	25,580

Device	Routing	Invert	Outlet Devices
#1	Primary	2,453.00'	**12.0" Round Culvert** L= 175.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,453.00' / 2,447.00' S= 0.0343 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,458.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	2,457.99'	**0.500 in/hr Exfiltration over Surface area above 2,457.99'** Excluded Surface area = 22,000 sf

Primary OutFlow Max=3.52 cfs @ 12.13 hrs HW=2,459.29' (Free Discharge)
└**1=Culvert** (Passes 3.52 cfs of 5.56 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 3.36 cfs @ 4.28 fps)
  └**3=Exfiltration** (Exfiltration Controls 0.15 cfs)

Summary for Pond P11.6: DRY SWALE

Inflow Area = 0.138 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.43 cfs @ 11.96 hrs, Volume= 0.083 af
Outflow = 1.35 cfs @ 11.99 hrs, Volume= 0.083 af, Atten= 6%, Lag= 1.7 min
Primary = 1.35 cfs @ 11.99 hrs, Volume= 0.083 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,483.14' @ 11.99 hrs Surf.Area= 1,671 sf Storage= 1,232 cf

Plug-Flow detention time= 583.6 min calculated for 0.083 af (100% of inflow)
Center-of-Mass det. time= 584.6 min (1,322.4 - 737.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2,482.00'	1,911 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,482.00	500	0	0
2,483.50	2,048	1,911	1,911

Device	Routing	Invert	Outlet Devices
#1	Primary	2,482.00'	**0.250 in/hr Exfiltration over Surface area**
#2	Primary	2,483.00'	**10.0' 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

Primary OutFlow Max=1.31 cfs @ 11.99 hrs HW=2,483.13' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 1.31 cfs @ 0.98 fps)

Summary for Pond P11.7: BIORETENTION

Inflow Area = 0.655 ac, 58.70% Impervious, Inflow Depth = 6.08" for 100-Year event
Inflow = 6.33 cfs @ 11.96 hrs, Volume= 0.332 af
Outflow = 4.20 cfs @ 12.05 hrs, Volume= 0.332 af, Atten= 34%, Lag= 5.1 min
Primary = 4.20 cfs @ 12.05 hrs, Volume= 0.332 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,247.99' Surf.Area= 9,100 sf Storage= 4,543 cf
Peak Elev= 2,249.14' @ 12.05 hrs Surf.Area= 14,362 sf Storage= 10,142 cf (5,598 cf above start)

Plug-Flow detention time= 454.2 min calculated for 0.228 af (69% of inflow)
Center-of-Mass det. time= 211.0 min (991.8 - 780.8)

Volume	Invert	Avail.Storage	Storage Description
#1	2,243.00'	1,820 cf	**gravel drainage layer (Prismatic)**Listed below (Recalc) 4,550 cf Overall x 40.0% Voids
#2	2,244.00'	2,730 cf	**filter media (Prismatic)**Listed below (Recalc) 18,200 cf Overall x 15.0% Voids
#3	2,248.00'	10,350 cf	**surface storage (Prismatic)**Listed below (Recalc)
		14,900 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,243.00	4,550	0	0
2,244.00	4,550	4,550	4,550

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,244.00	4,550	0	0
2,248.00	4,550	18,200	18,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,248.00	4,550	0	0
2,250.00	5,800	10,350	10,350

Device	Routing	Invert	Outlet Devices
#1	Primary	2,243.00'	**18.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,243.00' / 2,240.00' S= 0.0600 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,247.99'	**0.500 in/hr Exfiltration over Surface area above 2,247.99'** Excluded Surface area = 9,100 sf
#3	Device 1	2,248.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,249.00'	**25.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.10 cfs @ 12.05 hrs HW=2,249.14' (Free Discharge)
- **1=Culvert** (Passes 0.82 cfs of 19.75 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.06 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.76 cfs @ 3.85 fps)
- **4=Broad-Crested Rectangular Weir** (Weir Controls 3.28 cfs @ 0.95 fps)

Summary for Pond P11.8: BIORETENTION

Inflow Area = 0.365 ac, 78.17% Impervious, Inflow Depth = 6.67" for 100-Year event
Inflow = 3.70 cfs @ 11.96 hrs, Volume= 0.203 af
Outflow = 1.86 cfs @ 12.07 hrs, Volume= 0.202 af, Atten= 50%, Lag= 6.4 min
Primary = 1.86 cfs @ 12.07 hrs, Volume= 0.202 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,259.99' Surf.Area= 6,150 sf Storage= 3,070 cf
Peak Elev= 2,261.09' @ 12.07 hrs Surf.Area= 9,759 sf Storage= 6,733 cf (3,663 cf above start)

Plug-Flow detention time= 497.9 min calculated for 0.132 af (65% of inflow)
Center-of-Mass det. time= 220.0 min (983.3 - 763.3)

Volume	Invert	Avail.Storage	Storage Description
#1	2,255.00'	1,230 cf	**gravel underdrain (Prismatic)**Listed below (Recalc) 3,075 cf Overall x 40.0% Voids
#2	2,256.00'	1,845 cf	**filter media (Prismatic)**Listed below (Recalc) 12,300 cf Overall x 15.0% Voids
#3	2,260.00'	7,125 cf	**surface storage (Prismatic)**Listed below (Recalc)
		10,200 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,255.00	3,075	0	0
2,256.00	3,075	3,075	3,075

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,256.00	3,075	0	0
2,260.00	3,075	12,300	12,300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,260.00	3,075	0	0
2,262.00	4,050	7,125	7,125

Device	Routing	Invert	Outlet Devices
#1	Primary	2,255.00'	**12.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,255.00' / 2,254.50' S= 0.0100 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,259.99'	**0.500 in/hr Exfiltration over Surface area above 2,259.99'** Excluded Surface area = 6,150 sf
#3	Device 1	2,260.50'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	2,261.00'	**15.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.72 cfs @ 12.07 hrs HW=2,261.09' (Free Discharge)
- **1=Culvert** (Passes 0.77 cfs of 6.52 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.04 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.72 cfs @ 3.68 fps)
- **4=Broad-Crested Rectangular Weir** (Weir Controls 0.95 cfs @ 0.74 fps)

Summary for Pond P11.9: BIORETENTION

Inflow Area = 0.575 ac, 22.45% Impervious, Inflow Depth = 5.04" for 100-Year event
Inflow = 4.85 cfs @ 11.97 hrs, Volume= 0.242 af
Outflow = 4.54 cfs @ 12.00 hrs, Volume= 0.242 af, Atten= 6%, Lag= 1.9 min
Primary = 4.54 cfs @ 12.00 hrs, Volume= 0.242 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,218.99' Surf.Area= 3,680 sf Storage= 1,837 cf
Peak Elev= 2,219.80' @ 12.00 hrs Surf.Area= 6,441 sf Storage= 3,911 cf (2,074 cf above start)

Plug-Flow detention time= 272.4 min calculated for 0.199 af (83% of inflow)
Center-of-Mass det. time= 140.0 min (944.6 - 804.6)

Volume	Invert	Avail.Storage	Storage Description
#1	2,214.00'	736 cf	**gravel drainage layer (Prismatic)**Listed below (Recalc) 1,840 cf Overall x 40.0% Voids
#2	2,215.00'	1,104 cf	**filter media (Prismatic)**Listed below (Recalc) 7,360 cf Overall x 15.0% Voids
#3	2,219.00'	5,700 cf	**surface storage (Prismatic)**Listed below (Recalc)
		7,540 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,214.00	1,840	0	0
2,215.00	1,840	1,840	1,840

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,215.00	1,840	0	0
2,219.00	1,840	7,360	7,360

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,219.00	2,400	0	0
2,221.00	3,300	5,700	5,700

Device	Routing	Invert	Outlet Devices
#1	Primary	2,218.99'	**0.500 in/hr Exfiltration over Surface area above 2,218.99'** Excluded Surface area = 3,680 sf
#2	Primary	2,219.50'	**10.0' 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

Primary OutFlow Max=4.51 cfs @ 12.00 hrs HW=2,219.80' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 4.48 cfs @ 1.49 fps)

Summary for Pond P12.1: Pond 12.1

Inflow Area = 6.530 ac, 24.64% Impervious, Inflow Depth = 5.12" for 100-Year event
Inflow = 45.08 cfs @ 12.02 hrs, Volume= 2.784 af
Outflow = 5.56 cfs @ 12.51 hrs, Volume= 2.781 af, Atten= 88%, Lag= 29.5 min
Primary = 5.56 cfs @ 12.51 hrs, Volume= 2.781 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,296.49' Surf.Area= 8,129 sf Storage= 13,732 cf
Peak Elev= 2,300.97' @ 12.51 hrs Surf.Area= 19,635 sf Storage= 75,082 cf (61,350 cf above start)

Plug-Flow detention time= 544.3 min calculated for 2.466 af (89% of inflow)
Center-of-Mass det. time= 411.4 min (1,230.4 - 819.0)

Volume	Invert	Avail.Storage	Storage Description
#1	2,294.00'	120,048 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,294.00	3,070	0	0
2,296.00	6,964	10,034	10,034
2,298.00	11,720	18,684	28,718
2,300.00	16,919	28,639	57,357
2,302.00	22,520	39,439	96,796
2,303.00	23,983	23,252	120,048

Device	Routing	Invert	Outlet Devices
#1	Primary	2,294.00'	**24.0" Round Culvert** L= 350.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,294.00' / 2,276.00' S= 0.0514 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,296.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,298.75'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	2,301.00'	**10.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.56 cfs @ 12.51 hrs HW=2,300.97' (Free Discharge)
- **1=Culvert** (Passes 5.56 cfs of 35.14 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.49 cfs @ 10.04 fps)
  - **3=Orifice/Grate** (Orifice Controls 5.06 cfs @ 6.75 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P2.1: Pond 2.1

Inflow Area = 16.159 ac, 17.05% Impervious, Inflow Depth = 4.82" for 100-Year event
Inflow = 95.16 cfs @ 12.01 hrs, Volume= 6.492 af
Outflow = 34.93 cfs @ 12.25 hrs, Volume= 6.488 af, Atten= 63%, Lag= 14.4 min
Primary = 34.93 cfs @ 12.25 hrs, Volume= 6.488 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 2,182.99' Surf.Area= 13,676 sf Storage= 30,438 cf
Peak Elev= 2,188.54' @ 12.25 hrs Surf.Area= 28,611 sf Storage= 146,103 cf (115,665 cf above start)

Plug-Flow detention time= 424.1 min calculated for 5.790 af (89% of inflow)
Center-of-Mass det. time= 308.5 min (1,127.5 - 818.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,180.00'	159,675 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,180.00	6,775	0	0
2,182.00	11,300	18,075	18,075
2,184.00	16,100	27,400	45,475
2,186.00	21,300	37,400	82,875
2,188.00	27,000	48,300	131,175
2,189.00	30,000	28,500	159,675

Device	Routing	Invert	Outlet Devices
#1	Primary	2,183.00'	**36.0" Round Culvert** L= 200.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,183.00' / 2,180.00' S= 0.0150 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,183.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,185.50'	**18.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,186.00'	**30.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	2,188.00'	**10.0' 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

Primary OutFlow Max=34.87 cfs @ 12.25 hrs HW=2,188.54' (Free Discharge)
- **1=Culvert** (Passes 24.13 cfs of 60.07 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.97 cfs @ 11.16 fps)
  - **3=Orifice/Grate** (Orifice Controls 6.03 cfs @ 8.03 fps)
  - **4=Orifice/Grate** (Orifice Controls 17.13 cfs @ 6.85 fps)
- **5=Broad-Crested Rectangular Weir** (Weir Controls 10.74 cfs @ 2.01 fps)

Summary for Pond P4.1: P-1

Inflow Area = 26.676 ac, 13.82% Impervious, Inflow Depth = 4.71" for 100-Year event
Inflow = 159.31 cfs @ 12.01 hrs, Volume= 10.475 af
Outflow = 124.83 cfs @ 12.10 hrs, Volume= 10.473 af, Atten= 22%, Lag= 5.6 min
Primary = 55.20 cfs @ 12.10 hrs, Volume= 8.987 af
Secondary = 69.63 cfs @ 12.10 hrs, Volume= 1.486 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 2,185.50' Surf.Area= 14,800 sf Storage= 41,775 cf
Peak Elev= 2,190.85' @ 12.10 hrs Surf.Area= 31,954 sf Storage= 163,489 cf (121,714 cf above start)

Plug-Flow detention time= 331.9 min calculated for 9.510 af (91% of inflow)
Center-of-Mass det. time= 235.9 min (1,073.8 - 837.9)

Volume	Invert	Avail.Storage	Storage Description
#1	2,181.00'	168,440 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,181.00	4,390	0	0
2,182.00	6,270	5,330	5,330
2,184.00	10,900	17,170	22,500
2,186.00	16,100	27,000	49,500
2,188.00	21,900	38,000	87,500
2,190.00	28,500	50,400	137,900
2,191.00	32,580	30,540	168,440

Device	Routing	Invert	Outlet Devices
#1	Primary	2,181.00'	**30.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,181.00' / 2,180.85' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,185.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	2,187.50'	**36.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	2,189.75'	**36.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Secondary	2,189.75'	**20.0' 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

Primary OutFlow Max=55.09 cfs @ 12.10 hrs HW=2,190.84' (Free Discharge)
└**1=Culvert** (Passes 55.09 cfs of 69.27 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.54 cfs @ 11.00 fps)
  ├**3=Orifice/Grate** (Orifice Controls 43.85 cfs @ 7.31 fps)
  └**4=Orifice/Grate** (Orifice Controls 10.71 cfs @ 3.57 fps)

Secondary OutFlow Max=68.97 cfs @ 12.10 hrs HW=2,190.84' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Weir Controls 68.97 cfs @ 3.16 fps)

Summary for Pond P6.1: BIORETENTION

Inflow Area = 0.184 ac, 81.25% Impervious, Inflow Depth = 6.67" for 100-Year event
Inflow = 1.86 cfs @ 11.96 hrs, Volume= 0.102 af
Outflow = 1.66 cfs @ 12.00 hrs, Volume= 0.102 af, Atten= 11%, Lag= 2.3 min
Primary = 1.66 cfs @ 12.00 hrs, Volume= 0.102 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 1,685.99' Surf.Area= 1,600 sf Storage= 799 cf
Peak Elev= 1,686.75' @ 12.00 hrs Surf.Area= 3,280 sf Storage= 1,948 cf (1,149 cf above start)

Plug-Flow detention time= 350.5 min calculated for 0.084 af (82% of inflow)
Center-of-Mass det. time= 192.7 min (956.0 - 763.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,681.00'	320 cf	**stone underdrain (Prismatic)**Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	1,682.00'	480 cf	**filter media (Prismatic)**Listed below (Recalc) 3,200 cf Overall x 15.0% Voids
#3	1,686.00'	3,550 cf	**surface storage (Prismatic)**Listed below (Recalc)
		4,350 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,681.00	800	0	0
1,682.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,682.00	800	0	0
1,686.00	800	3,200	3,200

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,686.00	1,400	0	0
1,688.00	2,150	3,550	3,550

Device	Routing	Invert	Outlet Devices
#1	Primary	1,685.99'	**0.500 in/hr Exfiltration over Surface area above 1,685.99'** Excluded Surface area = 1,600 sf
#2	Primary	1,686.50'	**5.0' 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

Primary OutFlow Max=1.65 cfs @ 12.00 hrs HW=1,686.74' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 1.63 cfs @ 1.33 fps)

Summary for Pond P8.1: DRY SWALE

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 5.16" for 100-Year event
Inflow = 18.68 cfs @ 12.05 hrs, Volume= 1.167 af
Outflow = 17.60 cfs @ 12.05 hrs, Volume= 1.139 af, Atten= 6%, Lag= 0.0 min
Primary = 17.60 cfs @ 12.05 hrs, Volume= 1.139 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,309.84' @ 12.05 hrs Surf.Area= 2,921 sf Storage= 2,746 cf

Plug-Flow detention time= 66.9 min calculated for 1.139 af (98% of inflow)
Center-of-Mass det. time= 52.1 min (861.1 - 809.0)

Volume	Invert	Avail.Storage	Storage Description
#1	2,308.00'	2,746 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2,308.00	740	0	0
2,309.50	2,921	2,746	2,746

Device	Routing	Invert	Outlet Devices
#1	Primary	2,309.00'	**8.0' 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
#2	Primary	2,308.00'	**0.500 in/hr Exfiltration over Surface area**

Primary OutFlow Max=17.54 cfs @ 12.05 hrs HW=2,309.83' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 17.51 cfs @ 2.62 fps)
└**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Pond P8.2: P-3

Inflow Area = 3.450 ac, 12.00% Impervious, Inflow Depth = 19.21" for 100-Year event
Inflow = 82.43 cfs @ 12.01 hrs, Volume= 5.522 af
Outflow = 65.04 cfs @ 12.10 hrs, Volume= 5.521 af, Atten= 21%, Lag= 5.2 min
Primary = 65.04 cfs @ 12.10 hrs, Volume= 5.521 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,679.25' Surf.Area= 9,045 sf Storage= 25,779 cf
Peak Elev= 1,683.99' @ 12.10 hrs Surf.Area= 19,493 sf Storage= 92,279 cf (66,500 cf above start)

Plug-Flow detention time= 334.3 min calculated for 4.929 af (89% of inflow)
Center-of-Mass det. time= 223.9 min (1,060.8 - 836.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,674.00'	112,698 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,674.00	1,790	0	0
1,676.00	3,789	5,579	5,579
1,678.00	6,620	10,409	15,988
1,680.00	10,500	17,120	33,108
1,682.00	14,650	25,150	58,258
1,684.00	19,510	34,160	92,418
1,685.00	21,050	20,280	112,698

Device	Routing	Invert	Outlet Devices
#1	Primary	1,678.00'	**36.0" Round Culvert** L= 93.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,678.00' / 1,677.00' S= 0.0108 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,679.25'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,681.50'	**36.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	1,683.25'	**20.0' 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

Primary OutFlow Max=64.73 cfs @ 12.10 hrs HW=1,683.99' (Free Discharge)
- **1=Culvert** (Passes 28.86 cfs of 64.37 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.51 cfs @ 10.34 fps)
  - **3=Orifice/Grate** (Orifice Controls 28.35 cfs @ 6.30 fps)
- **4=Broad-Crested Rectangular Weir** (Weir Controls 35.87 cfs @ 2.43 fps)

Summary for Pond P8.3: DRY SWALE

Inflow Area = 1.145 ac, 16.92% Impervious, Inflow Depth = 4.93" for 100-Year event
Inflow = 9.48 cfs @ 11.97 hrs, Volume= 0.471 af
Outflow = 8.71 cfs @ 11.97 hrs, Volume= 0.468 af, Atten= 8%, Lag= 0.1 min
Primary = 8.71 cfs @ 11.97 hrs, Volume= 0.468 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,756.54' @ 11.97 hrs Surf.Area= 2,656 sf Storage= 2,487 cf

Plug-Flow detention time= 104.2 min calculated for 0.468 af (99% of inflow)
Center-of-Mass det. time= 100.1 min (907.0 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,755.00'	2,487 cf	**surface storage (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,755.00	660	0	0
1,756.50	2,656	2,487	2,487

Device	Routing	Invert	Outlet Devices
#1	Primary	1,756.00'	**8.0' 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
#2	Primary	1,755.00'	**0.500 in/hr Exfiltration over Surface area**

Primary OutFlow Max=8.35 cfs @ 11.97 hrs HW=1,756.52' (Free Discharge)
- **1=Broad-Crested Rectangular Weir** (Weir Controls 8.32 cfs @ 1.98 fps)
- **2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Pond P8.4: P-3

Inflow Area = 26.981 ac, 22.99% Impervious, Inflow Depth = 3.13" for 100-Year event
Inflow = 121.83 cfs @ 12.00 hrs, Volume= 7.034 af
Outflow = 74.06 cfs @ 12.12 hrs, Volume= 7.034 af, Atten= 39%, Lag= 7.0 min
Primary = 33.20 cfs @ 12.12 hrs, Volume= 6.271 af
Secondary = 40.86 cfs @ 12.12 hrs, Volume= 0.763 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,665.50' Surf.Area= 12,392 sf Storage= 32,108 cf
Peak Elev= 1,671.35' @ 12.12 hrs Surf.Area= 26,058 sf Storage= 142,640 cf (110,532 cf above start)

Plug-Flow detention time= 428.4 min calculated for 6.297 af (90% of inflow)
Center-of-Mass det. time= 313.4 min (1,139.3 - 825.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	160,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,662.00	5,962	0	0
1,664.00	9,630	15,592	15,592
1,666.00	13,312	22,942	38,534
1,668.00	17,713	31,025	69,559
1,670.00	22,540	40,253	109,812
1,672.00	27,748	50,288	160,100

Device	Routing	Invert	Outlet Devices
#1	Primary	1,663.75'	**30.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,663.75' / 1,663.50' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,665.50'	**3.7" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,668.50'	**30.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Secondary	1,670.50'	**20.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=32.92 cfs @ 12.12 hrs HW=1,671.32' (Free Discharge)
└**1=Culvert** (Passes 32.92 cfs of 56.41 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.86 cfs @ 11.46 fps)
└**3=Orifice/Grate** (Orifice Controls 32.06 cfs @ 6.41 fps)

Secondary OutFlow Max=38.89 cfs @ 12.12 hrs HW=1,671.32' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 38.89 cfs @ 2.36 fps)

Summary for Pond P8.5: I-2

Inflow Area = 2.352 ac, 39.21% Impervious, Inflow Depth = 5.50" for 100-Year event
Inflow = 21.23 cfs @ 11.97 hrs, Volume= 1.078 af
Outflow = 4.98 cfs @ 12.13 hrs, Volume= 1.079 af, Atten= 77%, Lag= 9.9 min
Discarded = 0.26 cfs @ 12.13 hrs, Volume= 0.676 af
Primary = 4.72 cfs @ 12.13 hrs, Volume= 0.403 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,679.81' @ 12.13 hrs Surf.Area= 8,393 sf Storage= 24,239 cf

Plug-Flow detention time= 688.5 min calculated for 1.078 af (100% of inflow)
Center-of-Mass det. time= 690.2 min (1,485.0 - 794.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,674.00'	34,944 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,674.00	465	0	0
1,676.00	2,800	3,265	3,265
1,678.00	5,541	8,341	11,606
1,680.00	8,686	14,227	25,833
1,681.00	9,535	9,111	34,944

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,674.00'	**1.340 in/hr Exfiltration over Surface area**
#2	Primary	1,674.00'	**24.0" Round Culvert** L= 500.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,674.00' / 1,662.50' S= 0.0230 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#3	Device 2	1,678.20'	**2.0" Vert. Orifice/Grate** C= 0.600
#4	Device 2	1,679.50'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Primary	1,680.00'	**20.0' 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=0.26 cfs @ 12.13 hrs HW=1,679.81' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=4.65 cfs @ 12.13 hrs HW=1,679.81' (Free Discharge)
└**2=Culvert** (Passes 4.65 cfs of 24.47 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 0.13 cfs @ 5.95 fps)
  └**4=Orifice/Grate** (Weir Controls 4.52 cfs @ 1.82 fps)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P9.2: Pond 9.2

Inflow Area = 12.954 ac, 25.61% Impervious, Inflow Depth = 5.11" for 100-Year event
Inflow = 88.88 cfs @ 11.99 hrs, Volume= 5.514 af
Outflow = 37.93 cfs @ 12.16 hrs, Volume= 5.514 af, Atten= 57%, Lag= 10.3 min
Primary = 37.93 cfs @ 12.16 hrs, Volume= 5.514 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Starting Elev= 1,670.00' Surf.Area= 13,607 sf Storage= 25,872 cf
Peak Elev= 1,675.02' @ 12.16 hrs Surf.Area= 26,125 sf Storage= 124,518 cf (98,646 cf above start)

Plug-Flow detention time= 525.5 min calculated for 4.918 af (89% of inflow)
Center-of-Mass det. time= 396.3 min (1,218.4 - 822.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,666.00'	166,295 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,666.00	3,085	0	0
1,668.00	4,590	7,675	7,675
1,670.00	13,607	18,197	25,872
1,672.00	18,274	31,881	57,753
1,674.00	23,344	41,618	99,371
1,676.00	28,815	52,159	151,530
1,676.50	30,246	14,765	166,295

Device	Routing	Invert	Outlet Devices
#1	Primary	1,668.00'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,668.00' / 1,666.00' S= 0.0364 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	1,670.00'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	1,672.50'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	1,673.50'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	1,674.50'	**20.0' 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

Primary OutFlow Max=37.42 cfs @ 12.16 hrs HW=1,675.01' (Free Discharge)
- **1=Culvert** (Passes 17.52 cfs of 37.08 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.71 cfs @ 10.62 fps)
  - **3=Orifice/Grate** (Orifice Controls 7.23 cfs @ 7.23 fps)
  - **4=Orifice/Grate** (Orifice Controls 9.57 cfs @ 4.79 fps)
- **5=Broad-Crested Rectangular Weir** (Weir Controls 19.91 cfs @ 1.95 fps)

Summary for Pond R1.10: PIPE

Inflow Area = 21.914 ac, 7.72% Impervious, Inflow Depth = 4.49" for 100-Year event
Inflow = 95.82 cfs @ 12.07 hrs, Volume= 8.204 af
Outflow = 95.82 cfs @ 12.07 hrs, Volume= 8.204 af, Atten= 0%, Lag= 0.0 min
Primary = 95.82 cfs @ 12.07 hrs, Volume= 8.204 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,269.43' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,260.00'	**36.0" Round Culvert** L= 1,125.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,260.00' / 2,185.00' S= 0.0667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=95.31 cfs @ 12.07 hrs HW=2,269.34' (Free Discharge)
1=Culvert (Inlet Controls 95.31 cfs @ 13.48 fps)

Summary for Pond R1.11: Pipe

Inflow Area = 22.468 ac, 9.65% Impervious, Inflow Depth = 4.55" for 100-Year event
Inflow = 99.76 cfs @ 12.06 hrs, Volume= 8.520 af
Outflow = 99.76 cfs @ 12.06 hrs, Volume= 8.520 af, Atten= 0%, Lag= 0.0 min
Primary = 99.76 cfs @ 12.06 hrs, Volume= 8.520 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,194.72' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,190.00'	**48.0" Round Culvert** L= 230.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,190.00' / 2,180.00' S= 0.0435 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=99.49 cfs @ 12.06 hrs HW=2,194.70' (Free Discharge)
1=Culvert (Inlet Controls 99.49 cfs @ 7.92 fps)

Summary for Pond R1.3: Culvert

Inflow Area = 10.291 ac, 2.57% Impervious, Inflow Depth = 4.34" for 100-Year event
Inflow = 57.82 cfs @ 12.06 hrs, Volume= 3.718 af
Outflow = 57.82 cfs @ 12.06 hrs, Volume= 3.718 af, Atten= 0%, Lag= 0.0 min
Primary = 57.82 cfs @ 12.06 hrs, Volume= 3.718 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,405.20' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,400.00'	**36.0" Round Culvert** L= 1,255.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 2,400.00' / 2,318.00' S= 0.0653 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=56.94 cfs @ 12.06 hrs HW=2,405.10' (Free Discharge)
└**1=Culvert** (Inlet Controls 56.94 cfs @ 8.06 fps)

Summary for Pond R1.4: pipe

Inflow Area = 10.291 ac, 2.57% Impervious, Inflow Depth = 4.34" for 100-Year event
Inflow = 57.82 cfs @ 12.06 hrs, Volume= 3.718 af
Outflow = 57.82 cfs @ 12.06 hrs, Volume= 3.718 af, Atten= 0%, Lag= 0.0 min
Primary = 57.82 cfs @ 12.06 hrs, Volume= 3.718 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,304.38' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,300.00'	**36.0" Round Culvert**
			L= 950.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,300.00' / 2,212.00' S= 0.0926 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=56.94 cfs @ 12.06 hrs HW=2,304.30' (Free Discharge)
└**1=Culvert** (Inlet Controls 56.94 cfs @ 8.06 fps)

Summary for Pond R1.5: Pipe

Inflow Area = 11.201 ac, 9.91% Impervious, Inflow Depth = 4.55" for 100-Year event
Inflow = 62.96 cfs @ 12.05 hrs, Volume= 4.250 af
Outflow = 62.96 cfs @ 12.05 hrs, Volume= 4.250 af, Atten= 0%, Lag= 0.0 min
Primary = 62.96 cfs @ 12.05 hrs, Volume= 4.250 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,199.92' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,195.00'	**36.0" Round Culvert**
			L= 120.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 2,195.00' / 2,180.00' S= 0.1250 '/' Cc= 0.900
			n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=62.64 cfs @ 12.05 hrs HW=2,199.89' (Free Discharge)
└**1=Culvert** (Inlet Controls 62.64 cfs @ 8.86 fps)

Summary for Pond R1.6: pipe

Inflow Area = 0.909 ac, 92.98% Impervious, Inflow Depth = 7.02" for 100-Year event
Inflow = 9.40 cfs @ 11.96 hrs, Volume= 0.532 af
Outflow = 9.40 cfs @ 11.96 hrs, Volume= 0.532 af, Atten= 0%, Lag= 0.0 min
Primary = 9.40 cfs @ 11.96 hrs, Volume= 0.532 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,208.91' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,207.00'	**24.0" Round Culvert** L= 260.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,207.00' / 2,205.70' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=9.18 cfs @ 11.96 hrs HW=2,208.88' (Free Discharge)
└**1=Culvert** (Barrel Controls 9.18 cfs @ 3.87 fps)

Summary for Pond R1.7: Culvert

Inflow Area = 3.337 ac, 12.31% Impervious, Inflow Depth = 4.80" for 100-Year event
Inflow = 24.49 cfs @ 11.97 hrs, Volume= 1.334 af
Outflow = 24.49 cfs @ 11.97 hrs, Volume= 1.334 af, Atten= 0%, Lag= 0.0 min
Primary = 24.49 cfs @ 11.97 hrs, Volume= 1.334 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,207.33' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,206.00'	**60.0" W x 36.0" H Box Culvert** L= 50.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,206.00' / 2,205.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete, trowel finish

Primary OutFlow Max=23.70 cfs @ 11.97 hrs HW=2,207.30' (Free Discharge)
└**1=Culvert** (Inlet Controls 23.70 cfs @ 3.66 fps)

Summary for Pond R1.9: PIPE

Inflow Area = 17.718 ac, 2.79% Impervious, Inflow Depth = 4.34" for 100-Year event
Inflow = 84.23 cfs @ 12.12 hrs, Volume= 6.411 af
Outflow = 84.23 cfs @ 12.12 hrs, Volume= 6.411 af, Atten= 0%, Lag= 0.0 min
Primary = 84.23 cfs @ 12.12 hrs, Volume= 6.411 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,302.61' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,295.00'	**36.0" Round Culvert** L= 350.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,295.00' / 2,262.00' S= 0.0943 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=83.05 cfs @ 12.12 hrs HW=2,302.45' (Free Discharge)
└**1=Culvert** (Inlet Controls 83.05 cfs @ 11.75 fps)

Summary for Pond R11.11: CULVERT

Inflow Area = 5.217 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 28.32 cfs @ 12.07 hrs, Volume= 1.851 af
Outflow = 28.32 cfs @ 12.07 hrs, Volume= 1.851 af, Atten= 0%, Lag= 0.0 min
Primary = 28.32 cfs @ 12.07 hrs, Volume= 1.851 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,481.09' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,478.00'	**30.0" Round Culvert** L= 35.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,478.00' / 2,470.00' S= 0.2286 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=27.77 cfs @ 12.07 hrs HW=2,481.02' (Free Discharge)
1=Culvert (Inlet Controls 27.77 cfs @ 5.66 fps)

Summary for Pond R11.15: CB

Inflow Area = 11.496 ac, 0.90% Impervious, Inflow Depth = 4.29" for 100-Year event
Inflow = 53.14 cfs @ 12.13 hrs, Volume= 4.105 af
Outflow = 53.14 cfs @ 12.13 hrs, Volume= 4.105 af, Atten= 0%, Lag= 0.0 min
Primary = 53.14 cfs @ 12.13 hrs, Volume= 4.105 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,456.97' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,452.00'	**36.0" Round Culvert** L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,452.00' / 2,451.00' S= 0.0091 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=52.59 cfs @ 12.13 hrs HW=2,456.91' (Free Discharge)
1=Culvert (Barrel Controls 52.59 cfs @ 7.44 fps)

Summary for Pond R11.17: CB

Inflow Area = 11.507 ac, 0.00% Impervious, Inflow Depth = 4.25" for 100-Year event
Inflow = 56.84 cfs @ 12.04 hrs, Volume= 4.079 af
Outflow = 56.84 cfs @ 12.04 hrs, Volume= 4.079 af, Atten= 0%, Lag= 0.0 min
Primary = 56.84 cfs @ 12.04 hrs, Volume= 4.079 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,439.29' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,435.00'	**36.0" Round Culvert** L= 290.0' CPP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 2,435.00' / 2,410.00' S= 0.0862 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=56.20 cfs @ 12.04 hrs HW=2,439.23' (Free Discharge)
└**1=Culvert** (Inlet Controls 56.20 cfs @ 7.95 fps)

Summary for Pond R11.19: CB

Inflow Area = 1.118 ac, 74.27% Impervious, Inflow Depth = 6.51" for 100-Year event
Inflow = 11.17 cfs @ 11.96 hrs, Volume= 0.607 af
Outflow = 11.17 cfs @ 11.96 hrs, Volume= 0.607 af, Atten= 0%, Lag= 0.0 min
Primary = 11.17 cfs @ 11.96 hrs, Volume= 0.607 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,421.29' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,420.00'	**36.0" Round Culvert** L= 290.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,420.00' / 2,395.00' S= 0.0862 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=10.89 cfs @ 11.96 hrs HW=2,421.27' (Free Discharge)
└**1=Culvert** (Inlet Controls 10.89 cfs @ 3.83 fps)

Summary for Pond R11.20: CULVERT

Inflow Area = 5.469 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af
Outflow = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af, Atten= 0%, Lag= 0.0 min
Primary = 29.58 cfs @ 12.07 hrs, Volume= 1.941 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,461.81' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,459.00'	**30.0" Round Culvert** L= 900.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 2,459.00' / 2,394.00' S= 0.0722 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=29.02 cfs @ 12.07 hrs HW=2,461.76' (Free Discharge)
└**1=Culvert** (Inlet Controls 29.02 cfs @ 5.91 fps)

Summary for Pond R11.21: CULVERT

Inflow Area = 8.551 ac, 23.95% Impervious, Inflow Depth = 4.91" for 100-Year event
Inflow = 49.21 cfs @ 12.00 hrs, Volume= 3.499 af
Outflow = 49.21 cfs @ 12.00 hrs, Volume= 3.499 af, Atten= 0%, Lag= 0.0 min
Primary = 49.21 cfs @ 12.00 hrs, Volume= 3.499 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,397.59' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,394.00'	**36.0" Round Culvert** L= 900.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,394.00' / 2,328.00' S= 0.0733 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=48.90 cfs @ 12.00 hrs HW=2,397.56' (Free Discharge)
1=Culvert (Inlet Controls 48.90 cfs @ 6.92 fps)

Summary for Pond R11.22: CB

Inflow Area = 0.233 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 2.43 cfs @ 11.96 hrs, Volume= 0.141 af
Outflow = 2.43 cfs @ 11.96 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Primary = 2.43 cfs @ 11.96 hrs, Volume= 0.141 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,460.61' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,460.00'	**36.0" Round Culvert** L= 770.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,460.00' / 2,450.00' S= 0.0130 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=2.37 cfs @ 11.96 hrs HW=2,460.60' (Free Discharge)
1=Culvert (Inlet Controls 2.37 cfs @ 2.33 fps)

Summary for Pond R11.24: CB

Inflow Area = 5.910 ac, 0.00% Impervious, Inflow Depth = 4.25" for 100-Year event
Inflow = 25.47 cfs @ 12.13 hrs, Volume= 2.093 af
Outflow = 25.47 cfs @ 12.13 hrs, Volume= 2.093 af, Atten= 0%, Lag= 0.0 min
Primary = 25.47 cfs @ 12.13 hrs, Volume= 2.093 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,488.74' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,486.00'	**30.0" Round Culvert** L= 695.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,486.00' / 2,436.00' S= 0.0719 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=25.25 cfs @ 12.13 hrs HW=2,488.72' (Free Discharge)
1=Culvert (Inlet Controls 25.25 cfs @ 5.14 fps)

Summary for Pond R11.26: BOX CULVERT

Inflow Area = 16.103 ac, 0.00% Impervious, Inflow Depth = 4.29" for 100-Year event
Inflow = 81.26 cfs @ 12.06 hrs, Volume= 5.762 af
Outflow = 81.26 cfs @ 12.06 hrs, Volume= 5.762 af, Atten= 0%, Lag= 0.0 min
Primary = 81.26 cfs @ 12.06 hrs, Volume= 5.762 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,313.25' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,310.00'	**60.0" W x 36.0" H Box Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,310.00' / 2,309.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=80.07 cfs @ 12.06 hrs HW=2,313.21' (Free Discharge)
1=Culvert (Inlet Controls 80.07 cfs @ 5.34 fps)

Summary for Pond R11.32: CULVERT

Inflow Area = 12.144 ac, 0.85% Impervious, Inflow Depth = 4.28" for 100-Year event
Inflow = 53.64 cfs @ 12.15 hrs, Volume= 4.336 af
Outflow = 53.64 cfs @ 12.15 hrs, Volume= 4.336 af, Atten= 0%, Lag= 0.0 min
Primary = 53.64 cfs @ 12.15 hrs, Volume= 4.336 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,439.49' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,434.00'	**36.0" Round Culvert** L= 110.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 2,434.00' / 2,425.00' S= 0.0818 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=53.58 cfs @ 12.15 hrs HW=2,439.48' (Free Discharge)
1=Culvert (Inlet Controls 53.58 cfs @ 7.58 fps)

Summary for Pond R12.1: CB

Inflow Area = 0.419 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 4.36 cfs @ 11.96 hrs, Volume= 0.253 af
Outflow = 4.36 cfs @ 11.96 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min
Primary = 4.36 cfs @ 11.96 hrs, Volume= 0.253 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,310.30' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,309.30'	**24.0" Round Culvert** L= 630.0' CMP, square edge headwall, Ke= 0.500

Inlet / Outlet Invert= 2,309.30' / 2,303.00' S= 0.0100 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=4.26 cfs @ 11.96 hrs HW=2,310.29' (Free Discharge)
└**1=Culvert** (Barrel Controls 4.26 cfs @ 4.02 fps)

Summary for Pond R2.1: PIPE

Inflow Area = 6.131 ac, 1.87% Impervious, Inflow Depth = 4.31" for 100-Year event
Inflow = 31.83 cfs @ 12.09 hrs, Volume= 2.205 af
Outflow = 31.83 cfs @ 12.09 hrs, Volume= 2.205 af, Atten= 0%, Lag= 0.0 min
Primary = 31.83 cfs @ 12.09 hrs, Volume= 2.205 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,290.39' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,288.00'	**36.0" Round Culvert** L= 1,185.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,288.00' / 2,215.00' S= 0.0616 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=31.48 cfs @ 12.09 hrs HW=2,290.37' (Free Discharge)
└**1=Culvert** (Inlet Controls 31.48 cfs @ 5.25 fps)

Summary for Pond R2.2: PIPE

Inflow Area = 7.598 ac, 20.81% Impervious, Inflow Depth = 4.88" for 100-Year event
Inflow = 39.78 cfs @ 12.02 hrs, Volume= 3.092 af
Outflow = 39.78 cfs @ 12.02 hrs, Volume= 3.092 af, Atten= 0%, Lag= 0.0 min
Primary = 39.78 cfs @ 12.02 hrs, Volume= 3.092 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,215.84' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,213.00'	**36.0" Round Culvert** L= 795.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,213.00' / 2,190.00' S= 0.0289 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=39.11 cfs @ 12.02 hrs HW=2,215.80' (Free Discharge)
└**1=Culvert** (Inlet Controls 39.11 cfs @ 5.70 fps)

Summary for Pond R2.3: catch basin

Inflow Area = 5.677 ac, 7.08% Impervious, Inflow Depth = 4.57" for 100-Year event
Inflow = 35.76 cfs @ 12.03 hrs, Volume= 2.164 af
Outflow = 35.76 cfs @ 12.03 hrs, Volume= 2.164 af, Atten= 0%, Lag= 0.0 min
Primary = 35.76 cfs @ 12.03 hrs, Volume= 2.164 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,270.52' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,270.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,264.00'	**24.0" Round Culvert** L= 1,755.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,264.00' / 2,191.00' S= 0.0416 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=34.87 cfs @ 12.03 hrs HW=2,270.31' (Free Discharge)
└**1=Orifice/Grate** (Weir Controls 4.50 cfs @ 1.82 fps)
└**2=Culvert** (Barrel Controls 30.37 cfs @ 9.67 fps)

Summary for Pond R2.5: Road culvert

Inflow Area = 2.890 ac, 13.90% Impervious, Inflow Depth = 4.77" for 100-Year event
Inflow = 20.82 cfs @ 11.97 hrs, Volume= 1.149 af
Outflow = 20.82 cfs @ 11.97 hrs, Volume= 1.149 af, Atten= 0%, Lag= 0.0 min
Primary = 20.82 cfs @ 11.97 hrs, Volume= 1.149 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,230.98' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,229.00'	**36.0" Round Culvert** L= 75.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,229.00' / 2,226.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=20.11 cfs @ 11.97 hrs HW=2,230.93' (Free Discharge)
└**1=Culvert** (Inlet Controls 20.11 cfs @ 4.18 fps)

Summary for Pond R2.6: Road Culvert

Inflow Area = 0.737 ac, 12.46% Impervious, Inflow Depth = 4.73" for 100-Year event
Inflow = 5.29 cfs @ 11.97 hrs, Volume= 0.290 af
Outflow = 5.29 cfs @ 11.97 hrs, Volume= 0.290 af, Atten= 0%, Lag= 0.0 min
Primary = 5.29 cfs @ 11.97 hrs, Volume= 0.290 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,217.25' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,216.00'	**18.0" Round Culvert** L= 30.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,216.00' / 2,215.00' S= 0.0333 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=5.11 cfs @ 11.97 hrs HW=2,217.22' (Free Discharge)
└**1=Culvert** (Inlet Controls 5.11 cfs @ 3.32 fps)

Summary for Pond R2.8: cb

Inflow Area = 7.441 ac, 15.27% Impervious, Inflow Depth = 4.81" for 100-Year event
Inflow = 48.62 cfs @ 12.03 hrs, Volume= 2.984 af
Outflow = 48.62 cfs @ 12.03 hrs, Volume= 2.984 af, Atten= 0%, Lag= 0.0 min
Primary = 48.62 cfs @ 12.03 hrs, Volume= 2.984 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 2,190.53' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,187.00'	**36.0" Round Culvert** L= 450.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,187.00' / 2,160.00' S= 0.0600 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=47.29 cfs @ 12.03 hrs HW=2,190.43' (Free Discharge)
└**1=Culvert** (Inlet Controls 47.29 cfs @ 6.69 fps)

Summary for Pond R4.1: catch basin

Inflow Area = 15.597 ac, 8.50% Impervious, Inflow Depth = 4.51" for 100-Year event
Inflow = 89.62 cfs @ 12.05 hrs, Volume= 5.867 af
Outflow = 89.62 cfs @ 12.05 hrs, Volume= 5.867 af, Atten= 0%, Lag= 0.0 min
Primary = 89.62 cfs @ 12.05 hrs, Volume= 5.867 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,296.87' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,284.00'	**36.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,284.00' / 2,283.50' S= 0.0100 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Device 1	2,288.00'	**30.0" x 30.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=89.21 cfs @ 12.05 hrs HW=2,296.79' (Free Discharge)
└**1=Culvert** (Passes 89.21 cfs of 114.35 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 89.21 cfs @ 14.27 fps)

Summary for Pond R4.3: culvert

Inflow Area = 17.508 ac, 10.00% Impervious, Inflow Depth = 4.57" for 100-Year event
Inflow = 98.77 cfs @ 12.05 hrs, Volume= 6.670 af
Outflow = 98.77 cfs @ 12.05 hrs, Volume= 6.670 af, Atten= 0%, Lag= 0.0 min
Primary = 98.77 cfs @ 12.05 hrs, Volume= 6.670 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,213.94' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,213.00'	**36.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	2,208.00'	**36.0" Round Culvert** L= 210.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,208.00' / 2,192.00' S= 0.0762 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=98.22 cfs @ 12.05 hrs HW=2,213.93' (Free Discharge)
└**1=Orifice/Grate** (Weir Controls 35.03 cfs @ 3.15 fps)
└**2=Culvert** (Inlet Controls 63.19 cfs @ 8.94 fps)

Summary for Pond R4.4: CULVERT

Inflow Area = 26.676 ac, 13.82% Impervious, Inflow Depth = 4.04" for 100-Year event
Inflow = 55.20 cfs @ 12.10 hrs, Volume= 8.987 af
Outflow = 55.20 cfs @ 12.10 hrs, Volume= 8.987 af, Atten= 0%, Lag= 0.0 min
Primary = 55.20 cfs @ 12.10 hrs, Volume= 8.987 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,185.68' @ 12.10 hrs
Flood Elev= 2,085.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	2,180.80'	**36.0" Round Culvert** L= 580.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,180.80' / 2,067.00' S= 0.1962 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=55.07 cfs @ 12.10 hrs HW=2,185.66' (Free Discharge)
└**1=Culvert** (Inlet Controls 55.07 cfs @ 7.79 fps)

Summary for Pond R4.6: CULVERT

Inflow Area = 32.763 ac, 11.26% Impervious, Inflow Depth = 4.09" for 100-Year event
Inflow = 84.48 cfs @ 12.03 hrs, Volume= 11.180 af
Outflow = 84.48 cfs @ 12.03 hrs, Volume= 11.180 af, Atten= 0%, Lag= 0.0 min
Primary = 84.48 cfs @ 12.03 hrs, Volume= 11.180 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Peak Elev= 2,013.40' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,004.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,004.00' / 2,003.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=83.28 cfs @ 12.03 hrs HW=2,013.19' (Free Discharge)
1=Culvert (Inlet Controls 83.28 cfs @ 11.78 fps)

Summary for Pond R4.8: CULVERT

Inflow Area = 3.559 ac, 0.00% Impervious, Inflow Depth = 4.37" for 100-Year event
Inflow = 26.50 cfs @ 11.97 hrs, Volume= 1.296 af
Outflow = 26.50 cfs @ 11.97 hrs, Volume= 1.296 af, Atten= 0%, Lag= 0.0 min
Primary = 26.50 cfs @ 11.97 hrs, Volume= 1.296 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,096.92' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,092.00'	**24.0" Round Culvert** L= 150.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,092.00' / 2,067.00' S= 0.1667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=25.67 cfs @ 11.97 hrs HW=2,096.70' (Free Discharge)
1=Culvert (Inlet Controls 25.67 cfs @ 8.17 fps)

Summary for Pond R5.1: CULVERT

Inflow Area = 8.776 ac, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event
Inflow = 57.03 cfs @ 12.01 hrs, Volume= 3.114 af
Outflow = 57.03 cfs @ 12.01 hrs, Volume= 3.114 af, Atten= 0%, Lag= 0.0 min
Primary = 57.03 cfs @ 12.01 hrs, Volume= 3.114 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,910.47' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,904.00'	**33.0" Round Culvert** L= 810.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,904.00' / 1,823.00' S= 0.1000 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=55.85 cfs @ 12.01 hrs HW=1,910.27' (Free Discharge)
1=Culvert (Inlet Controls 55.85 cfs @ 9.40 fps)

Summary for Pond R8.1: CULVERT

Inflow Area = 2.715 ac, 28.55% Impervious, Inflow Depth = 5.03" for 100-Year event
Inflow = 17.60 cfs @ 12.05 hrs, Volume= 1.139 af
Outflow = 17.60 cfs @ 12.05 hrs, Volume= 1.139 af, Atten= 0%, Lag= 0.0 min
Primary = 17.60 cfs @ 12.05 hrs, Volume= 1.139 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,310.78' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,308.00'	**24.0" Round Culvert** L= 275.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,308.00' / 2,304.00' S= 0.0145 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=17.58 cfs @ 12.05 hrs HW=2,310.77' (Free Discharge)
1=Culvert (Barrel Controls 17.58 cfs @ 5.60 fps)

Summary for Pond R8.10: CB

Inflow Area = 15.958 ac, 29.48% Impervious, Inflow Depth = 5.18" for 100-Year event
Inflow = 107.82 cfs @ 12.00 hrs, Volume= 6.888 af
Outflow = 107.82 cfs @ 12.00 hrs, Volume= 6.888 af, Atten= 0%, Lag= 0.0 min
Primary = 107.82 cfs @ 12.00 hrs, Volume= 6.888 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,981.99' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,976.00'	**45.0" Round Culvert** L= 765.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,976.00' / 1,899.00' S= 0.1007 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=107.67 cfs @ 12.00 hrs HW=1,981.97' (Free Discharge)
1=Culvert (Inlet Controls 107.67 cfs @ 9.75 fps)

Summary for Pond R8.12: CULVERT

Inflow Area = 5.442 ac, 8.40% Impervious, Inflow Depth = 4.52" for 100-Year event
Inflow = 34.90 cfs @ 12.02 hrs, Volume= 2.051 af
Outflow = 34.90 cfs @ 12.02 hrs, Volume= 2.051 af, Atten= 0%, Lag= 0.0 min
Primary = 34.90 cfs @ 12.02 hrs, Volume= 2.051 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,906.04' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,902.00'	**30.0" Round Culvert** L= 40.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 1,902.00' / 1,899.00' S= 0.0750 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=34.04 cfs @ 12.02 hrs HW=1,905.91' (Free Discharge)
└**1=Culvert** (Inlet Controls 34.04 cfs @ 6.93 fps)

Summary for Pond R8.13: CB

Inflow Area = 21.400 ac, 24.12% Impervious, Inflow Depth = 5.01" for 100-Year event
Inflow = 142.27 cfs @ 12.01 hrs, Volume= 8.939 af
Outflow = 142.27 cfs @ 12.01 hrs, Volume= 8.939 af, Atten= 0%, Lag= 0.0 min
Primary = 142.27 cfs @ 12.01 hrs, Volume= 8.939 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,903.53' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,896.00'	**48.0" Round Culvert** L= 835.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,896.00' / 1,824.00' S= 0.0862 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=140.83 cfs @ 12.01 hrs HW=1,903.42' (Free Discharge)
└**1=Culvert** (Inlet Controls 140.83 cfs @ 11.21 fps)

Summary for Pond R8.15: CB

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 5.06" for 100-Year event
Inflow = 164.46 cfs @ 12.00 hrs, Volume= 10.165 af
Outflow = 164.46 cfs @ 12.00 hrs, Volume= 10.165 af, Atten= 0%, Lag= 0.0 min
Primary = 104.12 cfs @ 12.00 hrs, Volume= 5.971 af
Secondary = 60.34 cfs @ 12.00 hrs, Volume= 4.194 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,825.96' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,821.00'	**48.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,821.00' / 1,818.00' S= 0.0300 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Secondary	1,821.00'	**36.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,821.00' / 1,820.00' S= 0.0154 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=103.75 cfs @ 12.00 hrs HW=1,825.94' (Free Discharge)
└**1=Culvert** (Inlet Controls 103.75 cfs @ 8.26 fps)

Secondary OutFlow Max=60.13 cfs @ 12.00 hrs HW=1,825.94' (Free Discharge)
└**2=Culvert** (Barrel Controls 60.13 cfs @ 8.51 fps)

Summary for Pond R8.20: PIPE

Inflow Area = 24.114 ac, 25.39% Impervious, Inflow Depth = 2.97" for 100-Year event
Inflow = 104.12 cfs @ 12.00 hrs, Volume= 5.971 af
Outflow = 104.12 cfs @ 12.00 hrs, Volume= 5.971 af, Atten= 0%, Lag= 0.0 min
Primary = 104.12 cfs @ 12.00 hrs, Volume= 5.971 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 1,825.82' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,815.00'	**42.0" Round PIPE** L= 220.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,815.00' / 1,814.00' S= 0.0045 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=103.75 cfs @ 12.00 hrs HW=1,825.77' (Free Discharge)
└**1=PIPE** (Barrel Controls 103.75 cfs @ 10.78 fps)

Summary for Pond R8.22: New Culvert

Inflow Area = 51.052 ac, 13.70% Impervious, Inflow Depth = 4.69" for 100-Year event
Inflow = 190.81 cfs @ 12.11 hrs, Volume= 19.968 af
Outflow = 190.81 cfs @ 12.11 hrs, Volume= 19.968 af, Atten= 0%, Lag= 0.0 min
Primary = 190.81 cfs @ 12.11 hrs, Volume= 19.968 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,671.61' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,663.00'	**24.0" Round Culvert X 2.00** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,663.00' / 1,662.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Primary	1,670.00'	**20.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=188.33 cfs @ 12.11 hrs HW=1,671.59' (Free Discharge)
├**1=Culvert** (Inlet Controls 83.32 cfs @ 13.26 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 105.01 cfs @ 3.31 fps)

Summary for Pond R8.3: CULVERT

Inflow Area = 6.715 ac, 30.90% Impervious, Inflow Depth = 5.18" for 100-Year event
Inflow = 46.20 cfs @ 12.03 hrs, Volume= 2.896 af
Outflow = 46.20 cfs @ 12.03 hrs, Volume= 2.896 af, Atten= 0%, Lag= 0.0 min
Primary = 46.20 cfs @ 12.03 hrs, Volume= 2.896 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Peak Elev= 2,274.65' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,272.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,272.00' / 2,271.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,274.00'	**10.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=45.13 cfs @ 12.03 hrs HW=2,274.62' (Free Discharge)
└**1=Culvert** (Inlet Controls 31.89 cfs @ 4.87 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 13.24 cfs @ 2.13 fps)

Summary for Pond R8.5: CULVERT

Inflow Area = 8.502 ac, 27.24% Impervious, Inflow Depth = 5.09" for 100-Year event
Inflow = 54.02 cfs @ 12.03 hrs, Volume= 3.605 af
Outflow = 54.02 cfs @ 12.03 hrs, Volume= 3.605 af, Atten= 0%, Lag= 0.0 min
Primary = 54.02 cfs @ 12.03 hrs, Volume= 3.605 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,224.81' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,222.00'	**36.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 2,222.00' / 2,220.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	2,224.00'	**10.0' long x 30.0' 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) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=53.08 cfs @ 12.03 hrs HW=2,224.79' (Free Discharge)
└**1=Culvert** (Inlet Controls 34.42 cfs @ 5.02 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 18.66 cfs @ 2.35 fps)

Summary for Pond R8.7: CULVERT

Inflow Area = 14.012 ac, 24.04% Impervious, Inflow Depth = 5.02" for 100-Year event
Inflow = 90.42 cfs @ 12.01 hrs, Volume= 5.857 af
Outflow = 90.42 cfs @ 12.01 hrs, Volume= 5.857 af, Atten= 0%, Lag= 0.0 min
Primary = 90.42 cfs @ 12.01 hrs, Volume= 5.857 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,184.64' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,178.00'	**42.0" Round Culvert** L= 200.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 2,178.00' / 2,163.00' S= 0.0750 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=88.78 cfs @ 12.01 hrs HW=2,184.47' (Free Discharge)
└**1=Culvert** (Inlet Controls 88.78 cfs @ 9.23 fps)

Summary for Pond R8.8: CB

Inflow Area = 14.734 ac, 26.41% Impervious, Inflow Depth = 5.09" for 100-Year event
Inflow = 96.79 cfs @ 12.01 hrs, Volume= 6.244 af
Outflow = 96.79 cfs @ 12.01 hrs, Volume= 6.244 af, Atten= 0%, Lag= 0.0 min
Primary = 96.79 cfs @ 12.01 hrs, Volume= 6.244 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,166.11' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,160.00'	**42.0" Round Culvert** L= 880.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,160.00' / 2,077.00' S= 0.0943 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=95.60 cfs @ 12.01 hrs HW=2,166.01' (Free Discharge)
└**1=Culvert** (Inlet Controls 95.60 cfs @ 9.94 fps)

Summary for Pond R8.9: CB

Inflow Area = 15.354 ac, 28.00% Impervious, Inflow Depth = 5.14" for 100-Year event
Inflow = 102.34 cfs @ 12.00 hrs, Volume= 6.570 af
Outflow = 102.34 cfs @ 12.00 hrs, Volume= 6.570 af, Atten= 0%, Lag= 0.0 min
Primary = 102.34 cfs @ 12.00 hrs, Volume= 6.570 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 2,080.63' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2,074.00'	**42.0" Round Culvert** L= 900.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2,074.00' / 1,979.00' S= 0.1056 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=101.64 cfs @ 12.00 hrs HW=2,080.56' (Free Discharge)
└**1=Culvert** (Inlet Controls 101.64 cfs @ 10.56 fps)

Summary for Pond R9.1: pipes

Inflow Area = 3.982 ac, 24.44% Impervious, Inflow Depth = 5.09" for 100-Year event
Inflow = 23.64 cfs @ 12.02 hrs, Volume= 1.688 af
Outflow = 23.64 cfs @ 12.02 hrs, Volume= 1.688 af, Atten= 0%, Lag= 0.0 min
Primary = 23.64 cfs @ 12.02 hrs, Volume= 1.688 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,818.52' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,816.00'	**30.0" Round Culvert** L= 560.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,816.00' / 1,770.00' S= 0.0821 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior
#2	Primary	1,820.00'	**40.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=23.20 cfs @ 12.02 hrs HW=1,818.48' (Free Discharge)
└**1=Culvert** (Inlet Controls 23.20 cfs @ 4.73 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond R9.11: Culvert

Inflow Area = 26.104 ac, 16.32% Impervious, Inflow Depth = 4.78" for 100-Year event
Inflow = 97.45 cfs @ 12.09 hrs, Volume= 10.396 af
Outflow = 97.45 cfs @ 12.09 hrs, Volume= 10.396 af, Atten= 0%, Lag= 0.0 min
Primary = 97.45 cfs @ 12.09 hrs, Volume= 10.396 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,667.69' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,658.00'	**36.0" Round Culvert** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,658.00' / 1,656.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=96.35 cfs @ 12.09 hrs HW=1,667.51' (Free Discharge)
└**1=Culvert** (Inlet Controls 96.35 cfs @ 13.63 fps)

Summary for Pond R9.2A: Culvert

Inflow Area = 13.150 ac, 7.18% Impervious, Inflow Depth = 4.46" for 100-Year event
Inflow = 80.33 cfs @ 11.99 hrs, Volume= 4.882 af
Outflow = 80.33 cfs @ 11.99 hrs, Volume= 4.882 af, Atten= 0%, Lag= 0.0 min
Primary = 80.33 cfs @ 11.99 hrs, Volume= 4.882 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,775.73' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,772.00'	**48.0" Round Culvert** L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,772.00' / 1,770.00' S= 0.0500 '/' Cc= 0.900

n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=79.04 cfs @ 11.99 hrs HW=1,775.68' (Free Discharge)
1=Culvert (Inlet Controls 79.04 cfs @ 6.53 fps)

Summary for Pond R9.5: Culvert

Inflow Area = 4.347 ac, 22.35% Impervious, Inflow Depth = 5.04" for 100-Year event
Inflow = 33.28 cfs @ 11.97 hrs, Volume= 1.824 af
Outflow = 33.28 cfs @ 11.97 hrs, Volume= 1.824 af, Atten= 0%, Lag= 0.0 min
Primary = 33.28 cfs @ 11.97 hrs, Volume= 1.824 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,716.02' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,714.00'	**54.0" Round Culvert** L= 60.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,714.00' / 1,710.00' S= 0.0667 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=32.16 cfs @ 11.97 hrs HW=1,715.98' (Free Discharge)
1=Culvert (Inlet Controls 32.16 cfs @ 4.79 fps)

Summary for Pond R9.6: Culvert

Inflow Area = 1.291 ac, 18.31% Impervious, Inflow Depth = 4.78" for 100-Year event
Inflow = 8.69 cfs @ 12.02 hrs, Volume= 0.515 af
Outflow = 8.69 cfs @ 12.02 hrs, Volume= 0.515 af, Atten= 0%, Lag= 0.0 min
Primary = 8.69 cfs @ 12.02 hrs, Volume= 0.515 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 1,685.79' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,684.00'	**18.0" Round Culvert** L= 100.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,684.00' / 1,682.00' S= 0.0200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior

Primary OutFlow Max=8.48 cfs @ 12.02 hrs HW=1,685.74' (Free Discharge)
1=Culvert (Inlet Controls 8.48 cfs @ 4.80 fps)

Summary for Link 1.1L: Sub 1.1 Res

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.60 cfs @ 12.05 hrs, Volume= 0.167 af
Primary = 1.60 cfs @ 12.05 hrs, Volume= 0.167 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 1.2L: Sub 1.2 Res

Inflow Area = 0.264 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.54 cfs @ 12.05 hrs, Volume= 0.160 af
Primary = 1.54 cfs @ 12.05 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 1.3L: Sub 1.3 Res

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.47 cfs @ 11.99 hrs, Volume= 0.090 af
Primary = 1.47 cfs @ 11.99 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 1.4L: Sub 1.4 Res

Inflow Area = 0.161 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.00 cfs @ 12.05 hrs, Volume= 0.097 af
Primary = 1.00 cfs @ 12.05 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 1.5L: Sub 1.5 Res

Inflow Area = 0.494 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 3.02 cfs @ 12.05 hrs, Volume= 0.299 af
Primary = 3.02 cfs @ 12.05 hrs, Volume= 0.299 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 1.6L: Sub 1.6 Res

Inflow Area = 0.379 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 2.16 cfs @ 12.06 hrs, Volume= 0.229 af
Primary = 2.16 cfs @ 12.06 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 1.9L: Sub 1.9 Res

Inflow Area = 0.528 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 4.87 cfs @ 11.99 hrs, Volume= 0.320 af
Primary = 4.87 cfs @ 11.99 hrs, Volume= 0.320 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 2.10L: Sub 2.10 Res

Inflow Area = 0.562 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 4.38 cfs @ 12.00 hrs, Volume= 0.340 af
Primary = 4.38 cfs @ 12.00 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 2.1L: Sub 2.1 Res

Inflow Area = 0.115 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.60 cfs @ 12.06 hrs, Volume= 0.069 af
Primary = 0.60 cfs @ 12.06 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 2.3L: Sub 2.3 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.49 cfs @ 12.05 hrs, Volume= 0.146 af
Primary = 1.49 cfs @ 12.05 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 2.6L: Sub 2.6 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 2.49 cfs @ 12.05 hrs, Volume= 0.243 af
Primary = 2.49 cfs @ 12.05 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 2.7L: Sub 2.7 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 2.49 cfs @ 12.05 hrs, Volume= 0.243 af
Primary = 2.49 cfs @ 12.05 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 2.8L: Sub 2.8 Res

Inflow Area = 0.092 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.53 cfs @ 12.06 hrs, Volume= 0.056 af
Primary = 0.53 cfs @ 12.06 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 2.9L: Sub 2.9 Res

Inflow Area = 0.643 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 3.99 cfs @ 12.05 hrs, Volume= 0.389 af
Primary = 3.99 cfs @ 12.05 hrs, Volume= 0.389 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 4.1L: Sub 4.1 Res

Inflow Area = 0.585 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 3.55 cfs @ 12.05 hrs, Volume= 0.354 af
Primary = 3.55 cfs @ 12.05 hrs, Volume= 0.354 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 4.3L: Sub 4.3 Res

Inflow Area = 1.377 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 8.50 cfs @ 12.05 hrs, Volume= 0.834 af
Primary = 8.50 cfs @ 12.05 hrs, Volume= 0.834 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 4.4L: Sub 4.4 Res

Inflow Area = 0.253 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.53 cfs @ 12.05 hrs, Volume= 0.153 af
Primary = 1.53 cfs @ 12.05 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 5.2L: Sub 5.2 Res

Inflow Area = 0.333 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 2.03 cfs @ 12.05 hrs, Volume= 0.201 af
Primary = 2.03 cfs @ 12.05 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 8.10L: Sub 8.10 Res

Inflow Area = 0.643 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 3.99 cfs @ 12.05 hrs, Volume= 0.389 af
Primary = 3.99 cfs @ 12.05 hrs, Volume= 0.389 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 8.11L: Sub 8.11 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af
Primary = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 8.15L: Sub 8.15 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af
Primary = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 8.1L: Sub 8.1 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af
Primary = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 8.4L: Sub 8.4 Res

Inflow Area = 0.287 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.63 cfs @ 12.06 hrs, Volume= 0.174 af
Primary = 1.63 cfs @ 12.06 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 8.5L: Sub 8.5 Res

Inflow Area = 0.298 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.62 cfs @ 12.06 hrs, Volume= 0.181 af
Primary = 1.62 cfs @ 12.06 hrs, Volume= 0.181 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 8.8L: Sub 8.8 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.49 cfs @ 12.05 hrs, Volume= 0.146 af
Primary = 1.49 cfs @ 12.05 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 9.10L: Sub 9.10 Res

Inflow Area = 0.321 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.99 cfs @ 12.05 hrs, Volume= 0.195 af
Primary = 1.99 cfs @ 12.05 hrs, Volume= 0.195 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 9.11L: Sub 9.11 Res

Inflow Area = 0.402 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 2.49 cfs @ 12.05 hrs, Volume= 0.243 af
Primary = 2.49 cfs @ 12.05 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 9.1L: Sub 9.1 Res

Inflow Area = 0.241 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.49 cfs @ 12.05 hrs, Volume= 0.146 af
Primary = 1.49 cfs @ 12.05 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 9.5L: Sub 8.5 Res

Inflow Area = 0.092 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.53 cfs @ 12.06 hrs, Volume= 0.056 af
Primary = 0.53 cfs @ 12.06 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 9.6L: Sub 9.6 Res

Inflow Area = 0.562 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 3.49 cfs @ 12.05 hrs, Volume= 0.340 af
Primary = 3.49 cfs @ 12.05 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 11.14L: Sub 11.14 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af
Primary = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 11.18L: Sub 11.18 Res

Inflow Area = 0.103 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.55 cfs @ 12.06 hrs, Volume= 0.063 af
Primary = 0.55 cfs @ 12.06 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 11.25L: Sub 11.25 Res

Inflow Area = 0.161 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 1.00 cfs @ 12.05 hrs, Volume= 0.097 af
Primary = 1.00 cfs @ 12.05 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 11.33L: Sub 11.33 Res

Inflow Area = 0.080 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af
Primary = 0.50 cfs @ 12.05 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 11.3L: Sub 11.3 Res

Inflow Area = 0.436 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 2.59 cfs @ 12.05 hrs, Volume= 0.264 af
Primary = 2.59 cfs @ 12.05 hrs, Volume= 0.264 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

Summary for Link 12.2L: Sub 12.2 Res

Inflow Area = 0.379 ac,100.00% Impervious, Inflow Depth = 7.26" for 100-Year event
Inflow = 2.17 cfs @ 12.06 hrs, Volume= 0.229 af
Primary = 2.17 cfs @ 12.06 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

100-Year Primary Outflow Imported from G:\Proj-08\08077_Tuck_Windham\08077HydroCad\Residential Lot Subcatch

APPENDIX E

Soil Test Pit Logs

Blank

Windham Mountain Sporting Club

Test Pit Summary

Date Performed	Performed By	TP #	Series	Boundary Condition Depth (in)	Boundary Type	Perc Rate	Depth of Perc (in)	HSG	Notes
Oct-08	RJC	1	Lewbeach	25	hardpan			C	
Oct-08	RJC	2	Lewbeach	31	hardpan			C	
Oct-08	RJC	3	Halcott	19	bedrock			C/D	
Oct-08	RJC	4	Vly	26	bedrock			C	
Oct-08	RJC	5	Vly	31	bedrock			C	
Oct-08	RJC	6	Vly	36	bedrock			C	
Oct-08	RJC	7	Vly	30	bedrock			C	
Oct-08	RJC	8	Vly	22	bedrock			C	
Oct-08	RJC	9	Vly	40	bedrock			C	
Oct-08	RJC	10	Onteora	16	hardpan			C	Hydric Soil
Oct-08	RJC	11	Halcott	15	bedrock			C/D	
Oct-08	RJC	12	Elka	51	bedrock			C	
Oct-08	RJC	13	Elka	57	bedrock			C	
Oct-08	RJC	14	Elka	60	bedrock			C	
Oct-08	RJC	15	Vly	40	bedrock			C	
Oct-08	RJC	16	Vly	34	bedrock			C	
Oct-08	RJC	17	Vly	29	bedrock			C	
Oct-08	RJC	18	Lewbeach	29	hardpan			C	
Oct-08	RJC	19	Elka	51	bedrock			C	
Oct-08	RJC	20	Willowemoc	20	SHWT			C	
Oct-08	RJC	21	Halcott	14	bedrock			C/D	
Oct-08	RJC	22	Vly	30	bedrock			C	
Oct-08	RJC	23	Lewbeach	26	hardpan			C	
Oct-08	RJC	24	Halcott	12	bedrock			C/D	
Oct-08	RJC	25	Vly	38	bedrock			C	
Oct-08	RJC	26	Lewbeach	25	hardpan			C	
Oct-08	RJC	27	Lewbeach	29	hardpan			C	
Oct-08	RJC	28	Vly	26	bedrock			C	
Oct-08	RJC	29	Lewbeach	25	hardpan			C	
Oct-08	RJC	30	Halcott	12	bedrock			C/D	
Oct-08	RJC	31	Vly	34	bedrock			C	
Oct-08	RJC	32	Vly	29	bedrock			C	
Oct-08	RJC	33	Lewbeach	26	hardpan			C	
Oct-08	RJC	34	Lewbeach	25	hardpan			C	
Oct-08	RJC	35	Vly	38	bedrock			C	
Oct-08	RJC	N/A	Tor					D	
Oct-08	RJC	N/A	Tunkhannock					A	
Dec-10	WSB	36 (1)	Lewbeach	67	SHWT	36	24	C	
Dec-10	WSB	37 (2)	Lewbeach	>90	None	45	24	C	
Dec-10	WSB	38 (3)	Lewbeach	76	SHWT	47	24	C	
Dec-10	WSB	39 (4)	Vly	26	bedrock	none		C	
Dec-10	WSB	40 (5)	Vly	24	bedrock/SHWT	none		C	

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THE LA GROUP
40 Long Alley, Saratoga Springs, New York 12866

To: Kevin Franke

From: Roger J. Case, Soil Scientist

Re: Deep Soil Test pits @ Windham Resort (revised 12/17/2009)

On October 2008 the following deep soil test pits were observed.

Test pit #1: 0 to 4 inches, dark reddish brown silt loam
4 to 25 inches, yellowish red gravelly silt loam
25 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 25 inches, restrictive layer

Test pit #2: 0 to 4 inches, dark reddish brown silt loam
4 to 31 inches, yellowish red gravelly silt loam
31 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 31 inches, restrictive layer

Test pit #3: 0 to 4 inches, dark reddish brown silt loam
4 to 19 inches, yellowish red gravelly silt loam
19 inches, hard bedrock ledge

Soil type: Halcott silt loam
Boundary condition @ 19 inches, impervious layer

Test pit #4: 0 to 4 inches, dark reddish brown silt loam
4 to 26 inches, yellowish red gravelly silt loam
26 inches, hard bedrock ledge

Soil type: Vly silt loam
Boundary condition @ 26 inches, impervious layer

Test pit #5: 0 to 5 inches, dark reddish brown silt loam
5 to 31 inches, reddish brown very gravelly silt loam
31 inches, rippable red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 31 inches, impervious layer

Test pit #6: 0 to 5 inches, dark reddish brown silt loam
5 to 36 inches, reddish brown very gravelly silt loam
36 inches, rippable red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 36 inches, impervious layer

Test pit #7: 0 to 5 inches, dark reddish brown silt loam
5 to 30 inches, reddish brown, silty clay loam
30 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 30 inches, impervious layer

Test pit #8: 0 to 5 inches, dark reddish brown silt loam
5 to 22 inches, reddish brown, gravelly silt loam
22 inches, hard bedrock

Soil type: Vly silt loam
Boundary condition @ 22 inches, impervious layer

Test pit #9: 0 to 5 inches, dark reddish brown silt loam
5 to 40 inches, reddish brown, gravelly silt loam
40 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 40 inches, impervious layer

Test pit #10: 0 to 5 inches, dark reddish brown silt loam
5 to 16 inches, reddish brown, gravelly silt loam
16 to 36 inches, mottled reddish brown , gravelly silt loam
Refusal

Soil type: Onteora silt loam
Boundary condition @ 16 inches, seasonal high water table

Test pit #11: 0 to 4 inches, dark reddish brown silt loam
4 to 15 inches, yellowish red gravelly silt loam
15 inches, hard bedrock ledge

Soil type: Halcott silt loam
Boundary condition @ 15 inches, impervious layer

Test pit #12: 0 to 5 inches, dark reddish brown, gravelly (channery) silt loam
5 to 36 inches, reddish brown, very channery silt loam
36 to 51 inches, reddish brown, slightly firm, unconsolidated shale fragments
51 inches, reddish brown shale bedrock

Soil type: Elka channery silt loam
Boundary condition @ 51 inches, impervious layer

Test pit #13: 0 to 5 inches, dark reddish brown, gravelly (channery) silt loam
5 to 40 inches, reddish brown, very channery silt loam
40 to 57 inches, reddish brown, slightly firm, unconsolidated shale fragments
57 inches, reddish brown shale bedrock

Soil type: Elka channery silt loam
Boundary condition @ 57 inches, impervious layer

Test pit #14: 0 to 5 inches, dark reddish brown, gravelly (channery) silt loam
5 to 36 inches, reddish brown, very channery silt loam
36 to 60 inches, reddish brown, firm, unconsolidated shale fragments
60+ inches, reddish brown shale bedrock

Soil type: Elka channery silt loam
Boundary condition @ 60 inches, impervious layer

Test pit #15: 0 to 5 inches, dark reddish brown silt loam
5 to 25 inches, reddish brown, gravelly silt loam
25 to 40 inches, angular very gravelly aggregate
40 inches, hard bedrock

Soil type: Vly silt loam
Boundary condition @ 40 inches, impervious layer

Test pit #16: 0 to 5 inches, dark reddish brown silt loam
5 to 34 inches, reddish brown, gravelly silt loam
34 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 34 inches, impervious layer

Test pit #17: 0 to 5 inches, dark reddish brown silt loam
5 to 29 inches, reddish brown, gravelly silt loam
29 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 29 inches, impervious layer

Test pit #18: 0 to 4 inches, dark reddish brown silt loam
4 to 29 inches, yellowish red gravelly silt loam
29 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 29 inches, restrictive layer

Test pit #19: 0 to 5 inches, dark reddish brown, gravelly (channery) silt loam
5 to 45 inches, reddish brown, very channery silt loam
45 to 51 inches, reddish brown, slightly firm, unconsolidated shale fragments with strong seeps in the upper part
51 inches, reddish brown shale bedrock

Soil type: Elka channery silt loam
Boundary condition @ 45 inches, seasonal high water table

Test pit #20: 0 to 4 inches, dark reddish brown silt loam
4 to 20 inches, yellowish red gravelly silt loam
20 to 29 inches, mottled, reddish brown gravelly fine sandy loam
29 to 72+ inches, reddish brown gravelly silt loam

Soil type: Willowemoc silt loam
Boundary condition @ 20 inches, seasonal high water table

Test pit #21: 0 to 4 inches, dark reddish brown silt loam
4 to 14 inches, yellowish red gravelly silt loam
14 inches, hard bedrock ledge

Soil type: Halcott silt loam
Boundary condition @ 14 inches, impervious layer

Test pit #22: 0 to 5 inches, dark reddish brown silt loam
5 to 30 inches, reddish brown, gravelly silt loam
30 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 30 inches, impervious layer

Test pit #23: 0 to 4 inches, dark reddish brown silt loam
4 to 26 inches, yellowish red gravelly silt loam
26 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 26 inches, restrictive layer

Test pit #24: 0 to 4 inches, dark reddish brown silt loam
4 to 12 inches, yellowish red gravelly silt loam
12 inches, hard bedrock ledge

Soil type: Halcott silt loam
Boundary condition @ 12 inches, impervious layer

Test pit #25: 0 to 5 inches, dark reddish brown silt loam
5 to 38 inches, reddish brown, gravelly silt loam
38 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 38 inches, impervious layer

Test pit #26: 0 to 4 inches, dark reddish brown silt loam
4 to 25 inches, yellowish red gravelly silt loam
25 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 25 inches, restrictive layer

Test pit #27: 0 to 4 inches, dark reddish brown silt loam
4 to 29 inches, yellowish red gravelly silt loam
29 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 29 inches, restrictive layer

Test pit #28: 0 to 5 inches, dark reddish brown silt loam
5 to 26 inches, reddish brown, gravelly silt loam
26 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 26 inches, impervious layer

Test pit #29: 0 to 4 inches, dark reddish brown silt loam
4 to 25 inches, yellowish red gravelly silt loam
25 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 25 inches, restrictive layer

Test pit #30 0 to 4 inches, dark reddish brown silt loam
4 to 12 inches, yellowish red gravelly silt loam
12 inches, hard bedrock ledge

Soil type: Halcott silt loam
Boundary condition @ 12 inches, impervious layer

Test pit #31: 0 to 5 inches, dark reddish brown silt loam
5 to 34 inches, reddish brown, gravelly silt loam
34 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 34 inches, impervious layer

Test pit #32: 0 to 5 inches, dark reddish brown silt loam
5 to 29 inches, reddish brown, gravelly silt loam
29 inches, fractured bedrock

Soil type: Vly silt loam
Boundary condition @ 29 inches, impervious layer

Test pit #33: 0 to 4 inches, dark reddish brown silt loam
4 to 26 inches, yellowish red gravelly silt loam
26 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 26 inches, restrictive layer

Test pit #34: 0 to 5 inches, dark reddish brown silt loam
5 to 25 inches, yellowish red gravelly silt loam
25 to 70+ inches, very firm, reddish gray gravelly fine sandy loam

Soil type: Lewbeach silt loam
Boundary condition @ 25 inches, restrictive layer

Test pit #35: 0 to 5 inches, dark reddish brown silt loam
5 to 38 inches, reddish brown, gravelly silt loam
38 inches, hard red shale bedrock

Soil type: Vly silt loam
Boundary condition @ 38 inches, impervious layer

Every test pit witnessed at the property had a boundary condition. Where the boundary condition is bedrock it is described as an impervious layer. The restrictive layer is used to indicate the upper limits of a hardpan in a deep soil and seasonal high water table indicates mottling or seeps.

MEMO

TO: Kevin Franke, Mark Taber

FROM: Will Buetow

DATE: December 13, 2010

RE: Windham Test Pit and Percolation Tests Results

On December 10, 2010, I went to the Windham site to evaluate deep hole test pits and perform percolation tests for stormwater suitability determinations. The locations of five deep hole test pits were determined in the office and loaded onto a GPS unit so they could be located in the field. Five deep hole test pits were evaluated and three percolation tests were performed and GPS points were collected at each location. John from Katterskill was also present and performed all of the other percolation tests. The results from the deep hole test pits are as follows:

TP1-12/10/10
This site is located to the west of Trail Side Road close to the road edge. The slope at this location is approximately 12%.

A 0"-7" (5YR 3/4)dark red brown, gravelly silt loam, strong, fine, granular structure, friable.
B 7"-32" (5YR 4/3) red brown, gravelly fine silt loam, moderate, fine subangular blocky structure, friable.
B/Cd 32"-48" (2.5YR 4/3) red brown, gravelly silt loam, weak, fine subangular blocky structure, moderately firm.

This pit was dug to 8' with no bedrock encountered. A fast flowing seep was observed at 67" which is representative of the water table. A percolation test was performed at a 24" depth resulting in a stabilized percolation rate of 36 minutes per inch of fall. This soil is most like the Lewbeach soil series.

TP2-12/10/2010
This site is located just off of a dirt road onsite in the northern most portion of the site and immediately south of an offsite house. The slope at this location is approximately 12%.

A 0"-7" (5YR 3/4) dark red brown, gravelly silt loam, strong, fine, granular structure, friable, many large rocks at the soil surface.
B 7"-32" (5YR 4/3) red brown, gravelly fine silt loam, moderate, fine subangular blocky structure, friable.
B/Cd 32"-48" (2.5YR 5/3) red brown, gravelly silt loam, weak, fine subangular blocky structure, moderately firm.

This pit was dug to 9’ with no bedrock indication of groundwater. A percolation test was performed at a 24” depth resulting in a stabilized percolation rate of 45 minutes per inch of fall. This soil is most like the Lewbeech soil series.

TP3-12/10/10

This pit is located in the northern portion of the site just to the west of a switchback onsite. The slope at this location is approximately 17%.

A 0”-5” (5YR 3/4) dark red brown, gravelly silt loam, strong, fine, granular structure, friable, many large pieces of shale at the soil surface.

B 5”-29” (5YR 4/3) red brown, gravelly fine silt loam, strong, fine subangular blocky structure, friable.

B/Cd 32”-48” (2.5YR 5/3) red brown, gravelly silt loam, very weak, fine subangular blocky structure, moderately firm.

This pit was dug to 8’ with no bedrock encountered. Flowing seeps were observed at 76” depth which are indicative of groundwater. A percolation test performed at a 24” depth resulted in a stabilized percolation rate of 47 minutes per inch of fall. This soil is most like the Lewbeach soil series.

TP4-12/10/10

This pit is located in the central portion of the site just to the east of the Wanderer Ski Slope. The slope at this location is approximately 8%. This area is a terrace which has bedrock exposed throughout the terrace face. This pit was dug to 26” and rippable shale was encountered. At 28” depth, hard bedrock was encountered. No percolation test was performed. This soil is most like the Vly soil series.

TP5-12/10/10

This pit is located in the southeastern portion of the property close to the eastern property boundary. The slope at this location is approximately 10%. Bedrock ledge and flowing seeps were encountered at a 24” depth. Numerous other pits were dug in the area with similar results. No percolation test were performed at this location. This soil is most like the Halcott and Vly soil series.

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APPENDIX F

PROJECT PLANS AND MAPPING

NO PLANS ATTACHED

REFER TO DEIS PLAN SET

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