Memorandum

To: Encore Renewable Energy
50 Lakeside Avenue
Suite #110
Burlington, VT 05401

Date: September 13, 2024

Project #: 52789.01

From: Eric Gerade, PE
Tom D'Aguiar, PE

Re: Stormwater Management Memorandum
Encore Warner Solar

Stormwater Management Memorandum

Project Summary

The Applicant, Encore Renewable Energy, is proposing the construction of a ±5 MW AC Solar energy facility, associated electrical equipment, perimeter security fencing, and gravel site access roadway (the "Project"). The Site is located in Warner, New Hampshire (see Figure 1: Site Location Map) the project is located on a parcel that totals 241.7 acres and disturbs approximately 20 acres. The Site is located on an existing area of land bounded by a Poverty Plains Road to the north, US Route 89 to the south, and wetlands to the east and west. Wetland delineation was performed by the VHB Environmental Team in April 2024.

Existing Conditions

The Site is located on a parcel of land located on Poverty Plains Road, identified as Map 7 Lot 64, in Warner, New Hampshire. The lot is currently primarily undeveloped on areas that are outside natural resource constraints. The project area is currently an existing gravel and sand pit with varying stages of excavation. The sand/gravel remains exposed until excavated to allowable elevations and then is seeded with local plant species. Approximately half of the site is currently exposed sand and the remainder is formerly excavated areas that are now planted. The project is located within FEMA Flood Zones A and X, as shown on the attached National Flood Hazard Layer FIRMette. Underlying soils have been mapped by a Site Specific Soil Map showing all soils belonging to Hydrologic Soil Group A.

The project site is located on relatively flat plateau area with stormwater runoff primarily flowing to a low point within the site, and southeast to the wetlands if it were to reach an overflow elevation. In discussions with New Hampshire Department of Environmental Services (NHDES) Alteration of Terrain (AOT) Bureau, the site has been modeled as if it were reclaimed with seed and plantings as that is the requirement for AOT when gravel/sand pits are reclaimed after the material has been excavated and the pit ceases to operate. For this reason, the existing condition surface cover is primarily Pasture/Grassland/Range, Good, HSG A.

The existing conditions drainage area characteristics are summarized in Table 1 below.

Table 1 Existing Conditions Drainage Area Characteristics Summary

Discharge Point	Subcatchments	Area (Acres)	Tc (Min.)	CN
DP-1 Internal Gravel Pit	EX-1	33.904	21.5	36
DP-2 Wetland	EX-2	3.582	20.5	31

*Weighted CN value

Proposed Conditions

The proposed development includes the installation and operation of a ±5 MW AC Solar energy facility and will include a gravel access road, ancillary equipment including concrete transformer pads and perimeter security fencing.

Grades will be minimally altered and wherever possible in locations to provide grades to a 5% slope and existing drainage and grading patterns were maintained. Select areas were graded to a maximum 15% per the requirements of Env-Wq 1511.06 for stormwater calculations. The area beneath the solar panels will be revegetated with a tall grass mix and not mowed more than twice per year which will help to stabilize the topsoil from erosion and provide water quality treatment for stormwater runoff. Sheet flow from only the gravel access drives is directed to this area, and will provide stormwater treatment for the development's impervious areas. Additionally, an infiltration basin is proposed a the southeast corner of the project site to attenuate peak rates and provide additional treatment by allowing stormwater to infiltrate through the soil and recharge groundwater.

The hydrologic analysis was done per Env-Wq 1511.05 and 1511.06 in order to minimize stormwater runoff impacts from the project. The proposed surface cover was modeled as Pasture/Grassland/Range, Good, HSG A, as directed by NHDES AOT, since the surface cover in this area will likely be the same as the seeded portions of the existing site. Where slopes were between 5 and 15%, the solar panels were modeled as unconnected impervious, roofs, in order to properly account for the slopes in those areas (per Env-Wq 1511.06). The panels and grading are intended to allow the stormwater runoff to sheet flow for the first 100 feet of runoff before changing to shallow concentrated flow. Flow eventually reaches the proposed infiltration basin, where water is not expected to be noticeable up to the 50-YR storm event. In the 50-YR storm, the pond is expected to help contain the entire amount of runoff (34.8 acres) within the existing gravel pit limits with no overflow to the easterly wetland.

As part of the analysis, DP-1 was removed from the proposed design as the site was graded so that the low point was no longer in the middle of the former gravel/sand pit. Flow is now entirely directed to the infiltration pond, which would overflow to the eastern wetlands in storms greater than the 50-YR storm. DP-1 is still included in Table 2 for comparison purposes.

The proposed conditions drainage area characteristics are summarized in Table 2 below.

Table 2 Proposed Conditions Drainage Area Characteristics Summary

Discharge Point	Subcatchments	Area (Acres)	Tc (Min.)	CN
DP-1 Internal Gravel Pit	-	-	-	-
DP-2 Wetland	PR-1, PR-2	37.486	70.9	39

*Weighted CN value

Hydrologic Analysis

A hydrologic model, using TR-20 methodology, was developed to evaluate the existing and proposed drainage conditions on the Site. The results of the analyses indicate that there is no increase in peak discharge rates between the pre- and post-development conditions for the 2-, 10-, 25-, and 50-year storm events. These rainfall events are based on a 24-hour storm duration using a Type III distribution curve. Rainfall volumes used for this analysis were

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based on data provided by the Northeast Regional Climate Center's Extreme Precipitation Estimates; they were 2.78, , 4.03, 5.00, and 5.88 inches, respectively.

Table 3 summarizes the comparison of the predevelopment and post development peak rates of runoff.

Table 3 Peak Stormwater Runoff Rates Summary

Location	Condition	Peak Rate of Runoff (cfs)			
Discharge Point		**2-Year**	**10-Year**	**25-Year**	**50-Year**
DP-1	Existing	0.00	<0.1	0.49	1.65
	Proposed	-	-	-	-
DP-2	Existing	0.00	0.00	<0.1	<0.1
	Proposed	0.00	0.00	<0.1	<0.1

Conclusion

By improving the existing groundcover conditions with the solar array installation and following the guidance provided by NHDES in Env-Wq 1511, the proposed development can successfully mitigate its impacts on peak stormwater runoff rates. Additionally, the presence of the vegetated buffer within the panels and the proposed infiltration pond will provide stormwater treatment and groundwater recharge for the gravel access road and panels as required by NHDES AOT.

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Attachments

Memorandum

Figures

› Figure 1: Site Locus Map
› Figure 2: Existing Conditions Soil Map
› Figure 3: Proposed Conditions Soil Map
› Figure 4: Existing Conditions Drainage Plan
› Figure 5: Proposed Conditions Drainage Plan
› Figure 6: Slope Plan

0 1000 2000Feet

Site Location Map
Encore Solar
Warner, NH

Figure 1

June 2024

\\vhb.com\gbl\proj\Bedford\52789.01 Encore Poverty Plains Rd\cad\sh\Engl\Figure\52789-01-EX Soil Figure.dwg

Legend

LINETYPES

- DRAINAGE AREA BOUNDARY
- LIMITS OF SITE SPECIFIC SOIL SURVEY
- NRCS SOIL BOUNDARY
- HYDROLOGIC SOIL GROUP A
- IMPERVIOUS AREA

Figure 2: Existing Conditions Soil Map

Encore Warner Solar

Warner, NH

Source: **VHB**
Prepared for: **Alteration of Terrain Permit**
Date: **September 2024**

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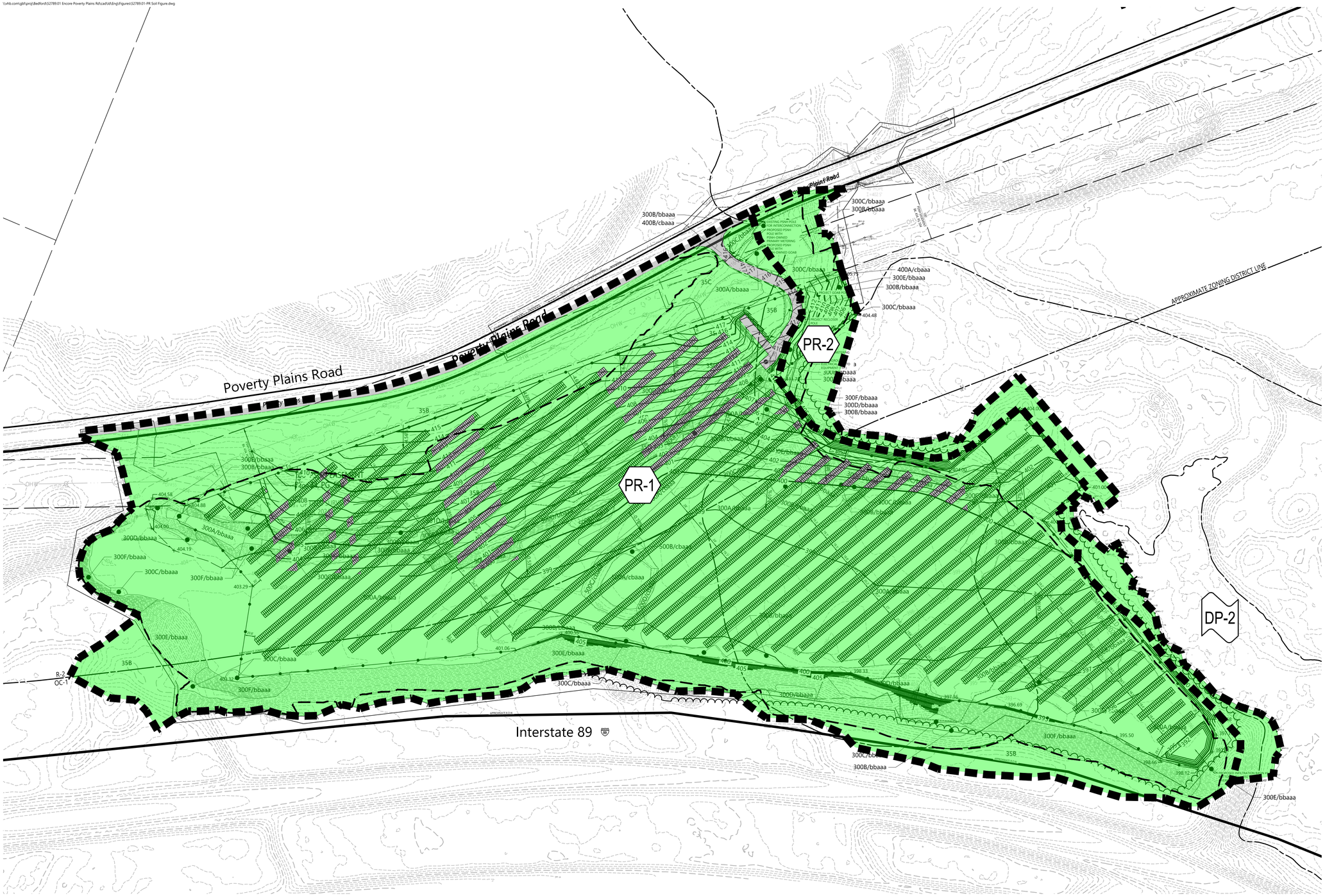

Legend

LINETYPES

- DRAINAGE AREA BOUNDARY
- LIMITS OF SITE SPECIFIC SOIL SURVEY
- NRCS SOIL BOUNDARY
- HYDROLOGIC SOIL GROUP A
- IMPERVIOUS AREA

Figure 3: Proposed Conditions Soil Map

Encore Warner Solar

Warner, NH

Source: **VHB**
Prepared for: **Alteration of Terrain Permit**
Date: **September 2024**

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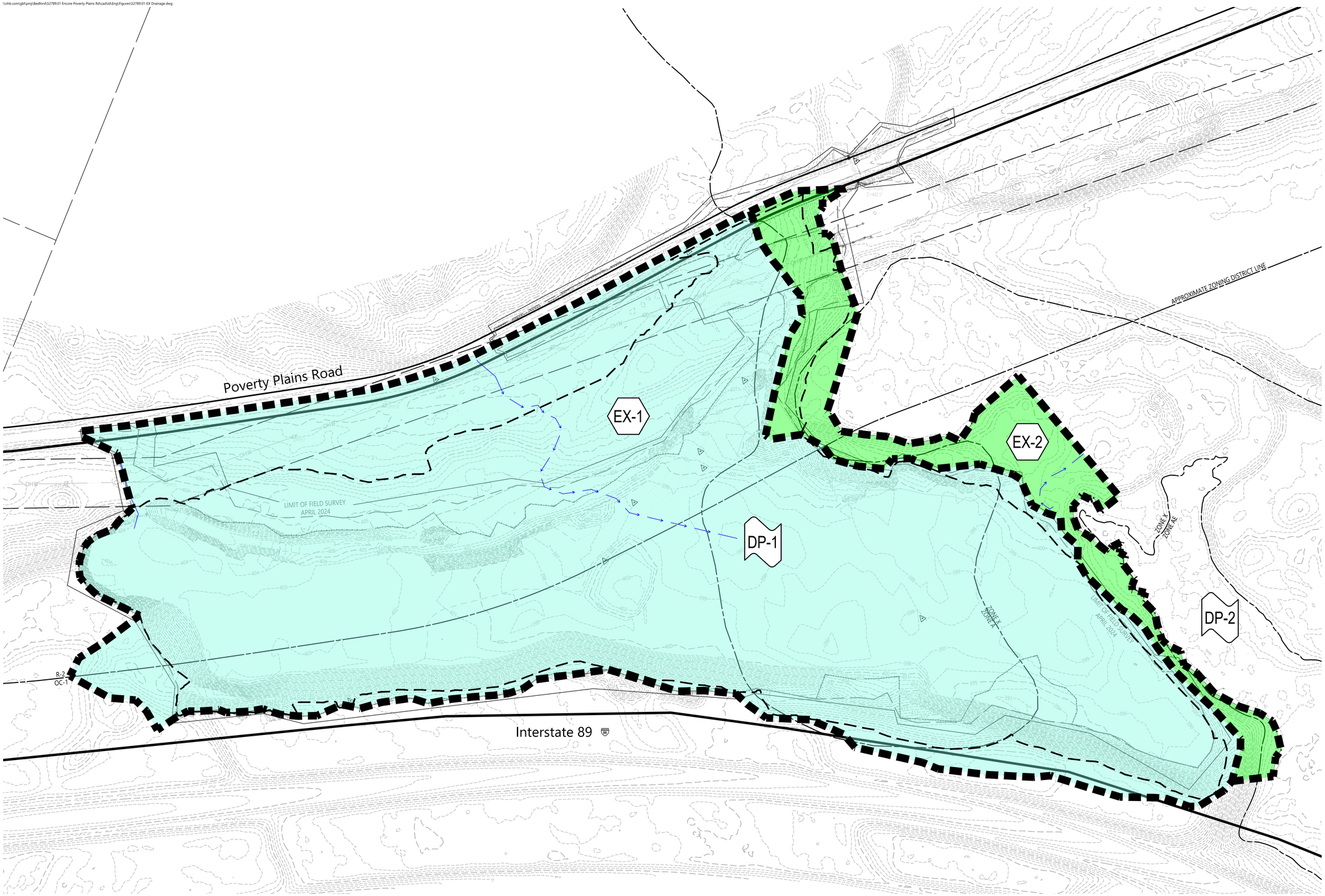

Legend

SYMBOLS

- X — DESIGN POINT
- X — DRAINAGE AREA BOUNDARY
- X — POND
- X — REACH

LINETYPES

- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION FLOW LINE
- NRCS SOIL TYPE BOUNDARY
- LIMITS OF SITE SPECIFIC SOIL SURVEY

Figure 4: Existing Conditions Drainage Plan

Encore Warner Solar

Warner, NH

Source: **VHB**
Prepared for: **Alteration of Terrain Permit**
Date: **September 2024**

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Legend

SYMBOLS

- DESIGN POINT
- DRAINAGE AREA BOUNDARY
- POND
- REACH

LINETYPES

- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION FLOW LINE
- NRCS SOIL TYPE BOUNDARY
- LIMITS OF SITE SPECIFIC SOIL SURVEY

Figure 5: Proposed Conditions Drainage Plan

Encore Warner Solar

Warner, NH

Source: **VHB**
Prepared for: **Alteration of Terrain Permit**
Date: **September 2024**

\\vhb.com\gbl\proj\Bedford\52789.01 Encore Poverty Plains Rd\cad\sh\Eng\Figure\52789-01-PR Slope Figure.dwg

Legend

LINETYPES

- DRAINAGE AREA BOUNDARY
- LIMITS OF SITE SPECIFIC SOIL SURVEY
- NRCS SOIL BOUNDARY
- SLOPES 0% - 5%
- SLOPES 5% - 15%
- SLOPES 15% OR GREATER

NOTE:
LIMIT OF WORK CONTAINS ONLY SOILS CLASSIFIED AS HYDROLOGIC SOIL GROUP A

Figure 6: Slope Plan

Encore Warner Solar

Warner, NH

Source: **VHB**
Prepared for: **Alteration of Terrain Permit**
Date: **September 2024**

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Appendix A: Support Data

- FEMA Map
- NRCS Soils Map
- Site Specific Soil Map and Report
- Rainfall Data
- NHB Datacheck
- NHDES AOT Screening Layers
- NHDES Surface Water Impairments
- USGS Map
- BMP Worksheet

National Flood Hazard Layer FIRMette

FEMA

71°45'46"W 43°16'N

71°45'9"W 43°15'34"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

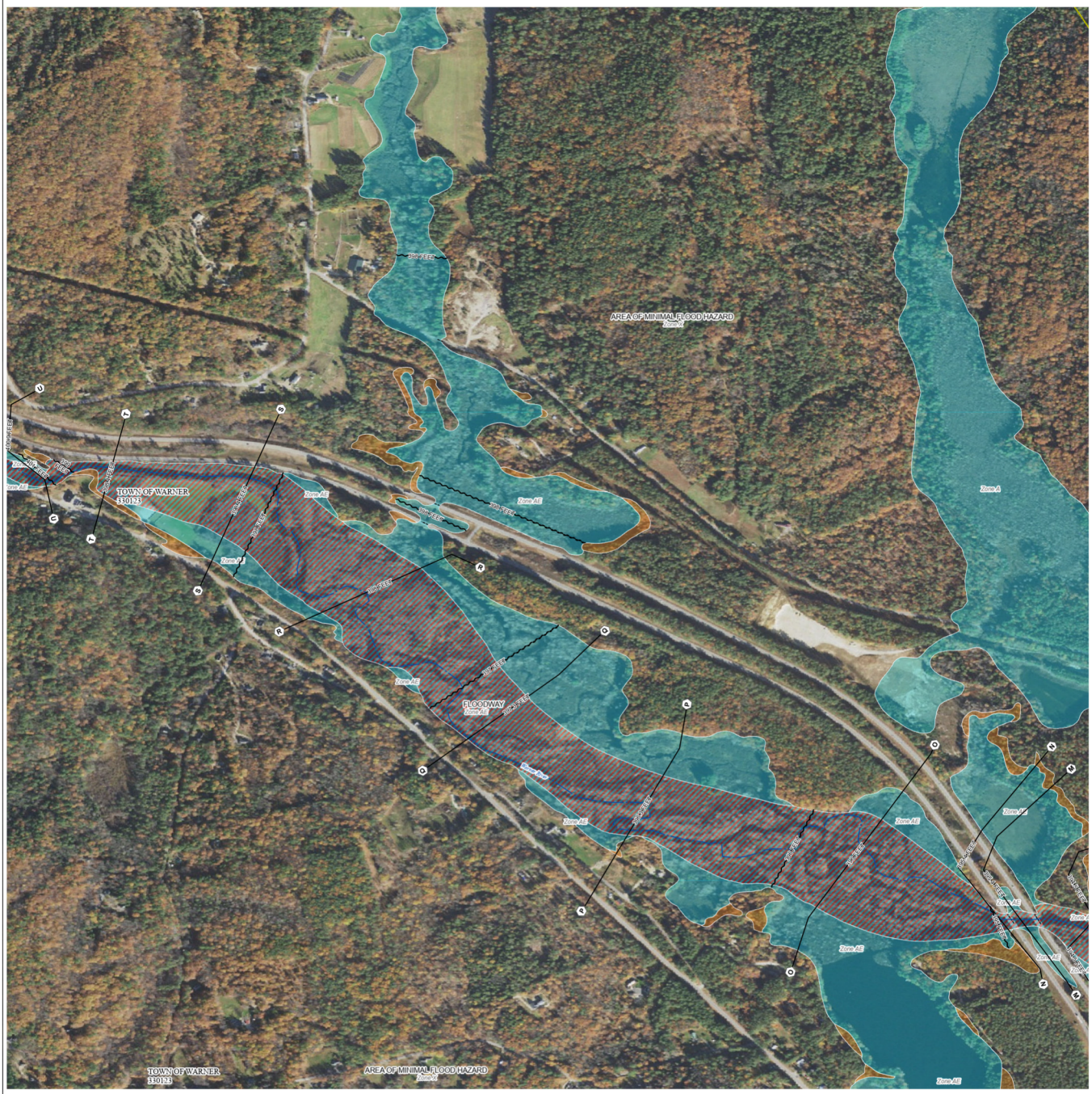
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/21/2024 at 11:57 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

71°46'52.93"W 43°16'59.12"N



71°44'59.58"W 43°14'53.44"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, 4599*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
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- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on 6/21/2024 11:59 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

Map Projection:
GCS. Geodetic Reference System 1980;
Vertical Datum: NAVD88
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

N

0 50 100 200 300 400 Meters

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

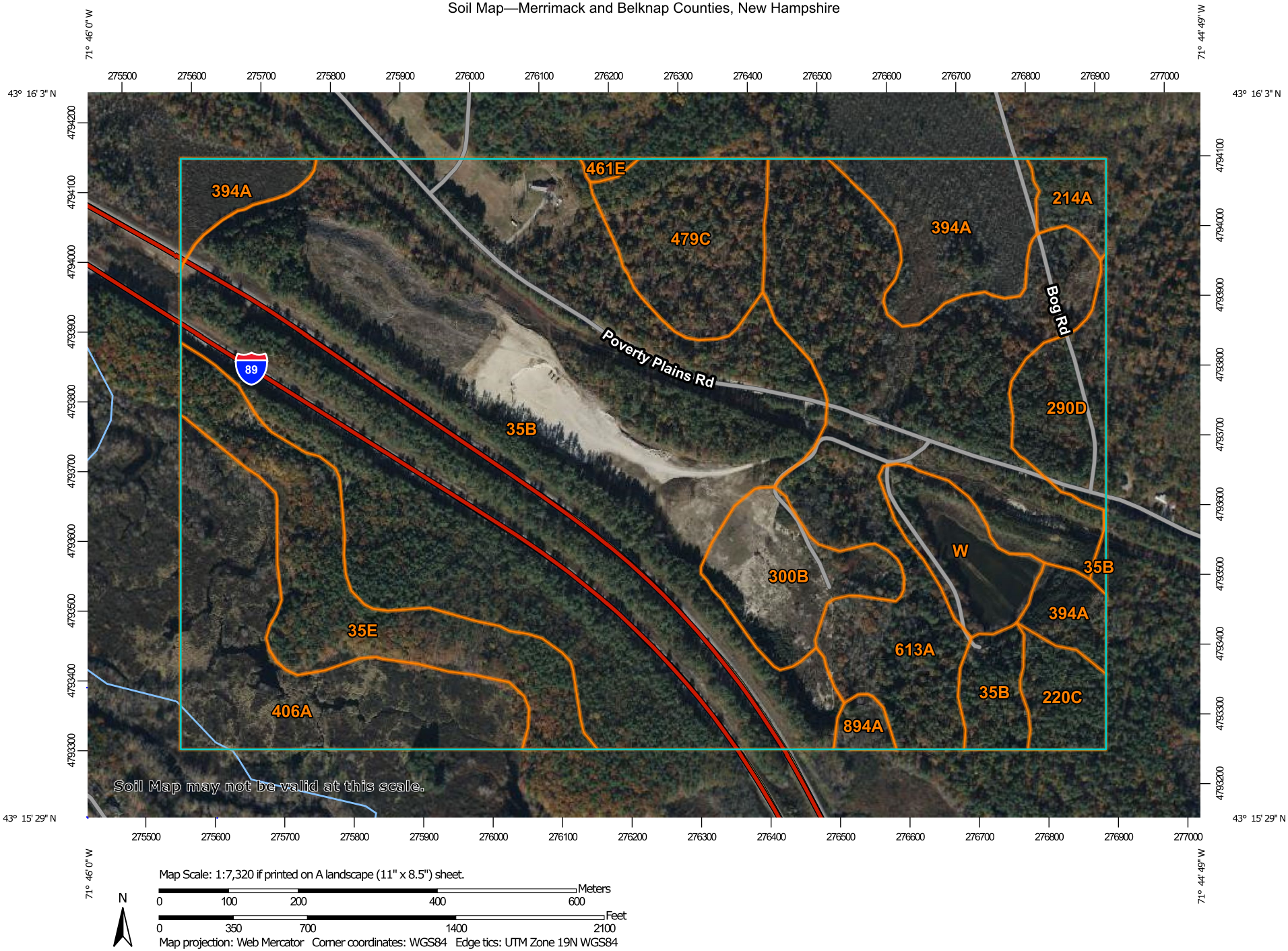
FLOOD INSURANCE RATE MAP

PANEL 294 OF 705

Panel Contains:

COMMUNITY	NUMBER	PANEL
TOWN OF WARNER	330123	0294
TOWN OF WEBSTER	330236	0294

MAP NUMBER
33013C0294E
EFFECTIVE DATE
April 19, 2010



Map Scale: 1:7,320 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 100 200 400 600

Feet
0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 29, Aug 22, 2023

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

Date(s) aerial images were photographed: Oct 6, 2022—Oct 22, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
35B	Champlain loamy fine sand, 3 to 8 percent slopes	124.1	44.4%
35E	Champlain loamy fine sand, 15 to 60 percent slopes	18.9	6.8%
214A	Naumburg loamy sand, 0 to 5 percent slopes	2.8	1.0%
220C	Boscawen fine sandy loam, 8 to 15 percent slopes	4.2	1.5%
290D	Champlain-Woodstock complex, 15 to 35 percent slopes	7.3	2.6%
300B	Udipsamments, 0 to 6 percent slopes	9.6	3.4%
394A	Chocorua mucky peat, 0 to 1 percent slopes	18.1	6.5%
406A	Medomak mucky silt loam, 0 to 2 percent slopes, frequently flooded	24.7	8.8%
461E	Woodstock-Millsite-Rock outcrop complex, 35 to 60 percent slopes	0.5	0.2%
479C	Gilmanton fine sandy loam, 8 to 15 percent slopes, very stony	12.4	4.4%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	48.7	17.4%
894A	Meadowsedge peat, 0 to 1 percent slopes	1.3	0.5%
W	Water	7.0	2.5%
Totals for Area of Interest		**279.8**	**100.0%**

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Suite 200
Bedford, NH 03110
603.391.3900

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR PROVIDING SOILS INFORMATION FOR DEVELOPMENT OF THE PROPERTY. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

Soil symbol	Soil series; Slope class
35A	Champlain, 0-3% slope
35B	Champlain, 3-8% slope
35C	Champlain, 8-15% slope
35D	Champlain,15-25% slope
300A/bbaaa	Udipsamments, 0-3% slope
300B/bbaaa	Udipsamments, 3-8% slope
300C/bbaaa	Udipsamments, 8-15% slope
300D/bbaaa	Udipsamments, 15-25%
300E/bbaaa	Udipsamments, 25-50%
300F/bbaaa	Udipsamments, >50%
500A/cbaaa	Udorthents, loamy, 0-3% slope
500B/cbaaa	Udorthents, loamy, 3-8% slope
500C/cbaaa	Udorthents, loamy, 8-15% slope
500D/cbaaa	Udorthents, loamy, 15-25% slope
500E/cbaaa	Udorthents, loamy, 25-50% slope
500F/cbaaa	Udorthents, loamy, >50% slope
400A/cbaaa	Udorthents, gravelly, 0-3% slope
400B/cbaaa	Udorthents, gravelly, 3-8% slope

0 50 100 200 Feet

Encore Warner Solar

Poverty Plains Road
Warner, New Hampshire

No.	Revision	Date	Appvd.

Designed by DJB | Checked by TMD

Issued for

Date

September 13, 2024

Drawing Title

Site Specific Soil Map

Drawing Number

SSSM

Sheet 1 of 1

Project Number

52789.01

SHERRIE REFFY
NH 0093
LICENSED SOIL SCIENTIST

Memorandum

To: Eric Gerade, PE

Date: June 24, 2024
Project #: 52789.01

From: Sherrie Trefry, CSS

Re: Site-Specific Soil Mapping Report

Vanasse Hangen Brustlin, Inc. (VHB) has prepared this Site-Specific Soil Mapping Report to accompany the soils map that was prepared for Encore Renewable Energy in Warner, New Hampshire. Certified Soil Scientist, Sherrie Trefry, CSS #93, developed a soils map on June 14th, 2024, to classify the soils within ~242 acres of Lot 64 on Tax Map 7. The property is being evaluated for a proposed 5± MWac Solar Array (the Project) on an approximately 20-acre portion of the parcel (Site). This Site-Site Specific Soil Map (SSSM) and Report were developed in accordance with Site-Specific Soil Mapping Standards For New Hampshire and Vermont, Special Publication No. 3, Version 7.0 (July 2021). The soils map was prepared on an existing condition plan at a scale of 1" = 100' Attachment 1.

The Site that was evaluated for solar development has been excavated to extract sand and gravel resources. There is an active excavation operation occurring on the northern portion of the site. VHB estimates that 10-20 feet of soil has been removed across the site based on the height of the slopes observed at the edges of the survey area. Based on observation of the height of reestablished vegetation, the operation has proceeded from the south to the north. On the southern end of the site, white pine regeneration is the dominant cover with saplings reaching up to 8 feet tall. The area in the middle of the site proximate to the southern access is dominated by herbs and shrubs. Despite the revegetation, bare soil is visible across much of the site. The observed soil is a combination of sand and small gravel measuring less than a half an inch. North of that area and south of the existing operation, the area has been recently restored with slope reduction and spreading of organic materials. The area contains several piles of topsoil that were stockpiles for future use in restoration.

Photo 1: View northwest of the Site

Photo 2: View southeast of the Site

The Site, as depicted on the SSSM, the site contains soils formed in glacial fluvial or glacio-lacustrine deposits. The Site is nearly level at elevation ~400 ft ABMSL. The soil outside of the excavation and within the slope cuts were

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P 603.391.3900

Memorandum

observed to confirm that the Champlain series mapped by the Natural Resource Conservation Service obtained from the Web Soil Survey was present. The Site was classified using disturbed soil classifications and modifiers to describe the current condition. The table below summarizes the observed soil series and characteristics identified on the soil map. Official soil descriptions are provided in Attachment 2.

Test Pit Observations:

Test Pit 1	Located in the southwest corner of the lot along a cut bank left from the excavation. Soil profile was located on a >50% cut slope face that was dug out. Somewhat excessively drained soils formed in glacio-fluvial or glacio-lacustrine materials. These sandy soils are very deep to bedrock. Soil classification: Champlain Seasonal high-water table: Not observed No observed bedrock, gravel/rocks, or surface stones	

Depth (inches)	Horizon	Color	Texture	Structure	Consistence	Redox	Other observations
0-1	Bw1	10YR 4/4	loamy fine sand	granular	very friable	none	many fine roots
1-8	Bw2	10YR 5/6	fine sand	granular	very friable	none	many fine roots
8-29	C1	2.5Y 6/4	fine sand	single grain	very friable	none	
29-40+	C2	2.5Y 7/3	fine sand	single grain	very friable	none	

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Memorandum

Auger observation 1	Located upslope of Test Pit 1 within a forested area that appears undisturbed. The auger observation was located on a 0-3% slope. Sample was taken to observe the O and A layers that appeared to be disturbed in Test Pit 1. The soils are very deep, somewhat excessively drained soils formed in glacio-fluvial or glacio-lacustrine materials. These sandy soils are very deep to bedrock. Soil classification: Champlain Seasonal high-water table: Not observed No observed bedrock, gravel/rocks, or surface stones	

Depth (inches)	Horizon	Color	Texture	Structure	Consistence	Redox	Other observations
2-0	Oi	7.5Y 2.5/3					
0-2	A	10YR 3/2	fine sandy loam	granular	very friable	none	
2-8	Bw1	10YR 4/4	loamy fine sand	granular	very friable	none	
8-22	Bw2	10YR 5/6	loamy fine sand	granular	very friable	none	
22-32	C1	2.5Y 7/4	fine sand	single grain	very friable	none	
32-43+	C2	2.5Y 7/3	fine sand	single grain	very friable	none	

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P 603.391.3900

Memorandum

Test Pit 2	Located within the center of the Site proposed for solar development. The pit was located on a 0-3% slope. Pit was representative of the disturbed soils on the site left after excavation. The soils are very deep, somewhat excessively drained soils formed in glacio-fluvial or glacio-lacustrine materials. These sandy soils are very deep to bedrock. Soil classification: Udipsamments Seasonal high-water table: Not observed Some gravel and larger cobble within the profile with organics No observed bedrock or surface stones	

Depth (inches)	Horizon	Color	Texture	Structure	Consistence	Redox	Other observations
0-11	1C	10 YR 4/4	coarse sand	granular	very friable	none	fine roots within 8 inches
11-12	2A	10YR 2/2	loamy sand	granular	friable	none	Some large gravel and small cobbles
12-25	3C1	2.5Y 6/4	coarse sand	granular	very friable	none	
25-40	3C2	2.5Y 6/3	fine sandy loam	Subangular blocky	friable	none	

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Memorandum

View and observations of topsoil stockpile in the middle of the Site

Views of topsoil stockpile along the northern boundary of the excavation

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Memorandum

Soil symbol	Soil series; Taxonomic class	Soil Unit Map Description
35A	Champlain; Mixed, frigid Typic Udipsamments	This map unit is characterized by loamy fine sand to sand textures derived from glacio-fluvial deposits. This soil is on a 0-3% slope and represents the soil within the undisturbed portion of the site south of Poverty Plains Road. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
35B	Champlain; Mixed, frigid Typic Udipsamments	This map unit is characterized by loamy fine sand to sand textures derived from glacio-fluvial deposits. This soil is on a 3-8% slope and represents the soil within the undisturbed portion of the site south of Poverty Plains Road. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
35C	Champlain; Mixed, frigid Typic Udipsamments	This map unit is characterized by loamy fine sand to sand textures derived from glacio-fluvial deposits. This soil is on a 8-15% slope and represents the soil within the undisturbed portion of the site south of Poverty Plains Road. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.

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Memorandum

35D	Champlain; Mixed, frigid Typic Udipsamments	This map unit is characterized by loamy fine sand to sand textures derived from glacio-fluvial deposits. This soil is on a 15-25% slope and represents the soil within the undisturbed portion of the site south of Poverty Plains Road. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
300A/bbaaa	Udipsamments; nearly level	This map unit is characterized by soil textures of loamy fine sand to coarse sand and gravel through the entire particle-size class control section (10 - 40 inches). This soil is on a 0-3% slope and represents the soil at the bottom of the excavation. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
300B/bbaaa	Udipsamments; nearly level	This map unit is characterized by soil textures of loamy fine sand to coarse sand and gravel through the entire particle-size class control section (10 - 40 inches). This soil is on a 3-8% slope and represents the soil at the bottom of the excavation. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
300C/bbaaa	Udipsamments; excavated slopes	This map unit is characterized by soil textures of loamy fine sand to coarse sand and gravel through the entire particle-size class control section (10 - 40 inches). This soil is on a 8-15% slope and represents the soil at the edges of the excavation. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
300D/bbaaa	Udipsamments; excavated slope	This map unit is characterized by soil textures of loamy fine sand to coarse sand and gravel through the entire particle-

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Memorandum

		size class control section (10 - 40 inches). This soil is on a 15-25% slope and represents the soil on the slopes of the excavation. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
300E/bbaaa	Udipsamments; excavated slope	This map unit is characterized by soil textures of loamy fine sand to coarse sand and gravel through the entire particle-size class control section (10 - 40 inches). This soil is on a 25-50% slope and represents the soil on the slopes of the excavation. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
300F/bbaaa	Udipsamments; excavated slope	This map unit is characterized by soil textures of loamy fine sand to coarse sand and gravel through the entire particle-size class control section (10 - 40 inches). This soil is on a >50% slope and represents the soil on the slopes of the excavation. Saturated hydraulic conductivity (Ksat) is high. Drainage class is somewhat excessively drained. The Hydrologic Soil Group (HSG) is A.
500A/cbaaa	Udorthents; loamy	This map unit is characterized by sandy loam soil textures within the particle size control section (10 – 40 inches). This soil is on a 0-3% slope. Saturated hydraulic conductivity (Ksat) is high. Drainage class is well drained. These areas represent stockpiled topsoil. Hydrologic Soil Group A.
500B/cbaaa	Udorthents; loamy	This map unit is characterized by sandy loam soil textures within the particle size control section (10 – 40 inches). This soil is on a 3-8% slope. Saturated hydraulic conductivity (Ksat) is high. Drainage class is well drained. These areas represent stockpiled topsoil. Hydrologic Soil Group A.

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500C/cbaaa	Udorthents; loamy	This map unit is characterized by sandy loam soil textures within the particle size control section (10 – 40 inches). This soil is on a 8-15% slope. Saturated hydraulic conductivity (Ksat) is high. Drainage class is well drained. These areas represent stockpiled topsoil. Hydrologic Soil Group A.
500D/cbaaa	Udorthents; loamy	This map unit is characterized by sandy loam soil textures within the particle size control section (10 – 40 inches). This soil is on a 15-25% slope. Saturated hydraulic conductivity (Ksat) is high. Drainage class is well drained. These areas represent stockpiled topsoil. Hydrologic Soil Group A.
500E/cbaaa	Udorthents; loamy	This map unit is characterized by sandy loam soil textures within the particle size control section (10 – 40 inches). This soil is on a 25-50% slope. Saturated hydraulic conductivity (Ksat) is high. Drainage class is well drained. These areas represent stockpiled topsoil. Hydrologic Soil Group A.
500F/cbaaa	Udorthents, loamy	This map unit is characterized by sandy loam soil textures within the particle size control section (10 – 40 inches). This soil is on a >50% slope. Saturated hydraulic conductivity (Ksat) is high. Drainage class is well drained. These areas represent stockpiled topsoil. Hydrologic Soil Group A.
400A/cbaaa	Udorthents, gravelly	This map unit is characterized by very deep, very gravelly (> 35%) sand or very gravelly loamy sand filled area associated with the entrance to the site. Gravel was likely spread on the entrance to fortify the soil for trucking. This soil is on a 0-3% slopes. Saturated hydraulic conductivity (Ksat) is high. Hydrologic Soil Group A.
400B/cbaaa	Udorthents, gravelly	This map unit is characterized by very deep, very gravelly (> 35%) sand or very gravelly loamy sand filled area associated with the entrance to the site. Gravel was likely spread on the entrance to fortify the soil for trucking. This soil is on a 3-8%

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Memorandum

		slopes. Saturated hydraulic conductivity (Ksat) is high. Hydrologic Soil Group A.

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Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing	Yes
State	New Hampshire
Location	New Hampshire, United States
Latitude	43.262 degrees North
Longitude	71.756 degrees West
Elevation	120 feet
Date/Time	Mon Aug 26 2024 13:37:56 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day
1yr	0.26	0.40	0.50	0.65	0.81	1.02	**1yr**	0.70	0.97	1.18	1.49	1.87	2.35	2.55	**1yr**	2.08	2.45
2yr	0.31	0.48	0.60	0.79	0.99	1.25	**2yr**	0.86	1.15	1.44	1.80	2.23	2.78	3.11	**2yr**	2.46	2.99
5yr	0.37	0.58	0.72	0.97	1.24	1.57	**5yr**	1.07	1.44	1.82	2.26	2.79	3.43	3.93	**5yr**	3.04	3.78
10yr	0.42	0.66	0.83	1.13	1.47	1.87	**10yr**	1.27	1.72	2.17	2.69	3.30	4.03	4.69	**10yr**	3.57	4.51
25yr	0.50	0.79	1.00	1.38	1.83	2.35	**25yr**	1.58	2.17	2.73	3.38	4.13	5.00	5.93	**25yr**	4.42	5.70
50yr	0.56	0.90	1.16	1.62	2.18	2.81	**50yr**	1.88	2.59	3.26	4.03	4.90	5.88	7.09	**50yr**	5.21	6.82
100yr	0.64	1.03	1.33	1.89	2.58	3.35	**100yr**	2.23	3.09	3.89	4.80	5.80	6.93	8.48	**100yr**	6.13	8.15
200yr	0.74	1.20	1.55	2.22	3.06	3.98	**200yr**	2.64	3.69	4.63	5.70	6.87	8.16	10.14	**200yr**	7.22	9.75
500yr	0.88	1.45	1.89	2.74	3.84	5.02	**500yr**	3.31	4.66	5.84	7.17	8.60	10.14	12.86	**500yr**	8.97	12.3

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day
1yr	0.24	0.37	0.45	0.61	0.75	0.88	**1yr**	0.64	0.86	0.95	1.29	1.57	1.88	2.27	**1yr**	1.66	2.19

NHB DataCheck Results Letter
NH Natural Heritage Bureau
Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

To: Kristopher Wilkes, Vanasse Hangen Brustlin, Inc.
2 Bedford Farms Dr., Suite 200
Bedford, NH 03110
kwilkes@vhb.com

From: NHB Review
NH Natural Heritage Bureau
Main Contact: Ashley Litwinenko - nhbreview@dncr.nh.gov

cc: NHFG Review

Date: 05/30/2024 (valid until 05/30/2025)
Re: DataCheck Review by NH Natural Heritage Bureau and NH Fish & Game
Permits: MUNICIPAL POR - Warner, NHDES - Alteration of Terrain Permit

NHB ID: NHB24-1596

Town: Warner
Location: Poverty Plains Road

Project Description: The Applicant is looking to pursue construction of a 5+/- MWac Solar Array on an approximately 20-acre area, located on a parcel of land located on Poverty Plains Road in Warner, NH. The project footprint will be sited within a previously disturbed and cleared area that was mined for gravel and sand. The project footprint is flat and entirely upland with no wetlands or vernal pools identified during recent field work. Existing access to the site off of Poverty Plains Road will be utilized. The site abuts Interstate 89 located to the west.

Next Steps for Applicant:

NHB's database has been searched for records of rare species and exemplary natural communities. Please carefully read the comments and consultation requirements below.

NHB Comments: No comments at this time.

NHFG Comments: Please refer to NHFG consultation requirements below.

NHB Consultation

If this NHB DataCheck letter includes records of rare plants and/or natural communities/systems, please contact NHB and provide any requested supplementary materials by emailing nhbreview@dncr.nh.gov.

If this NHB DataCheck letter DOES NOT include any records of rare plants and/or natural communities/systems, no further consultation with NHB is required.

NH Fish and Game Department Consultation

If this NHB DataCheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

If this NHB DataCheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Fish and Game Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to https://www.wildlife.nh.gov/wildlife-and-habitat/nongame-and-endangered-species/environmental-review. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail, and **must include the NHB DataCheck results letter number and "Fis 1004 consultation request" in the subject line**.

If the NHB DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Species of Special Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with NH Fish & Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required consultation under Fis 1004 (e.g., *statutory permit by notification, permit by rule, permit by notification, routine roadway registration, docking structure registration, or conditional authorization by rule*), coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes, and it is recommended you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with NH Fish and Game is requested, please email NHFGreview@wildlife.nh.gov, and include the NHB DataCheck results letter number and "review request" in the email subject line.
Contact NH Fish & Game at (603) 271-0467 with questions.

NHB Database Records:
The following record(s) have been documented in the vicinity of the proposed project.
Please see the map and detailed information about the record(s) on the following pages.

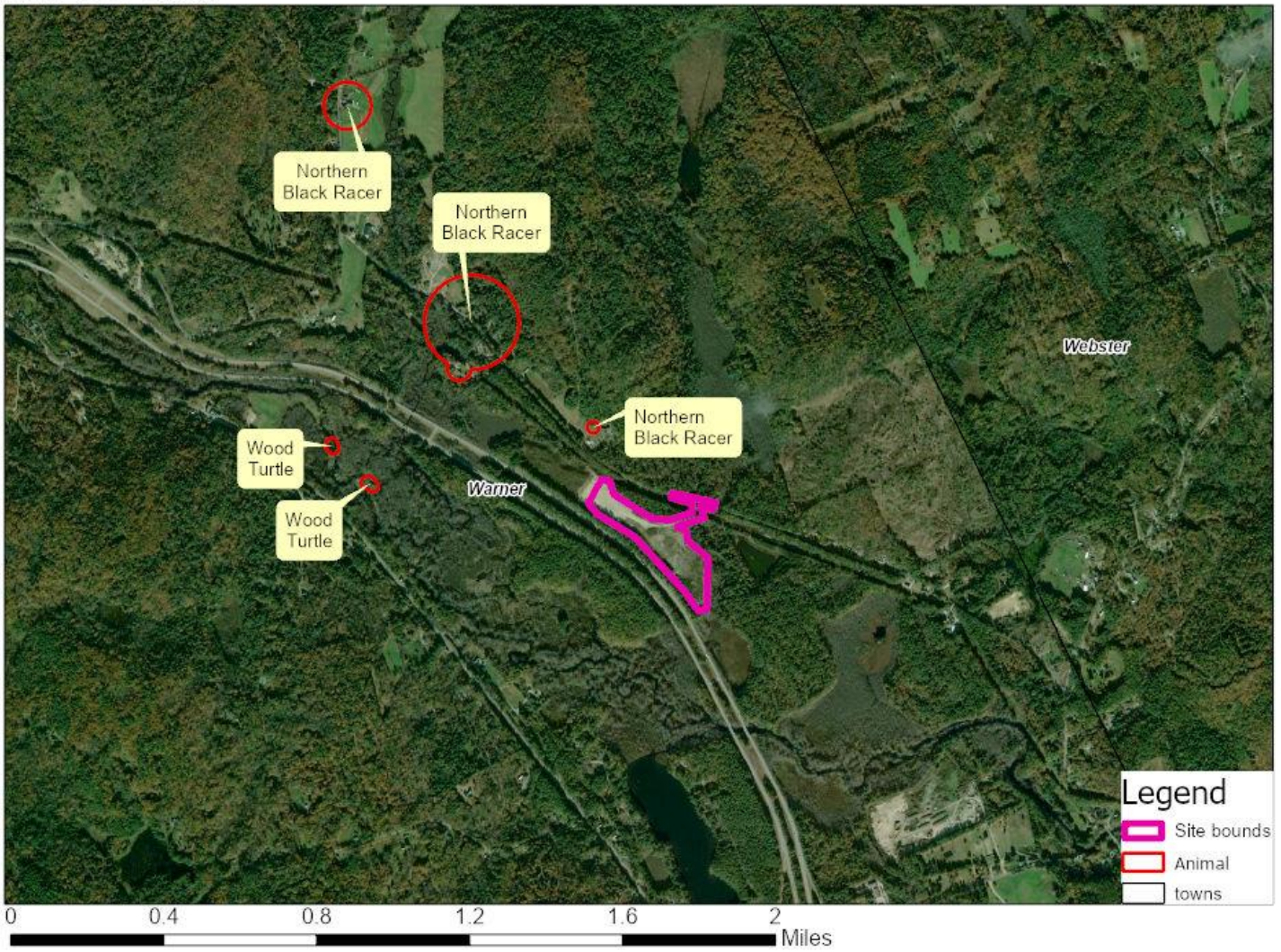
Vertebrate species	State[1]	Federal	Notes
Northern Black Racer (*Coluber constrictor constrictor*)	T	--	Contact the NH Fish & Game Dept (see above).
Wood Turtle (*Glyptemys insculpta*)	SC	--	Contact the NH Fish & Game Dept (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list.
An asterisk (*) indicates that the most recent report for that occurrence was 20 or more years ago.

For all animal reviews, refer to 'IMPORTANT: NHFG Consultation' section above.

Disclaimer: NHB's database can only tell you of known occurrences that have been reported to NHFG/NHB. Known occurrences are based on information gathered by qualified biologists or members of the public, reported to our offices, and verified by NHB/NHFG.
However, many areas have never been surveyed, or have only been surveyed for certain species.
NHB recommends surveys to determine what species/natural communities are present onsite.

NHB24-1596


Northern Black Racer
Northern Black Racer
Northern Black Racer
Wood Turtle
Wood Turtle
Warner
Webster
Legend
Site bounds
Animal
towns
0
0.4
0.8
1.2
1.6
2
Miles

NHB24-1596 EOCODE: ARADB0701D*031*NH

New Hampshire Natural Heritage Bureau - Animal Record

Northern Black Racer (*Coluber constrictor constrictor*)

Legal Status		**Conservation Status**	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Threatened	State:	Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank: --

Detailed Description: 2012: Area 13014: Collected shed skin of adult, 4' long. 2009: Area 12292: 1 observed. Area 12358: 1 observed. 2006: Area 11714: 1 adult seen.
General Area: 2012: Area 13014: Shed skin collected in garden of residential yard. 2009: Area 12292: In field, moving into dense cover (juniper/brush pile). Area 12358: Under wheellbarrow in structure. 2006: Area 11714: Under deck of house.
General Comments: --
Management Comments: --

Location

Survey Site Name: Poverty Plains Road, Warner
Managed By: Courser 3

County: Merrimack
Town(s): Warner
Size: 40.1 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2012: Area 13014: 374 Schoodac Road, Warner. 2009: Area 12292: Field on Poverty Plains Road, Warner. Area 12358: 114 Poverty Plains Road, Warner. 2006: Area 11714: Poverty Plains Road, Warner.

Dates documented

First reported: 2006-07-10 Last reported: 2012-07-21

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB24-1596 EOCODE: ARAAD02020*021*NH

New Hampshire Natural Heritage Bureau - Animal Record

Wood Turtle (*Glyptemys insculpta*)

Legal Status	Conservation Status
Federal: Not listed	Global: Imperiled due to rarity or vulnerability
State: Special Concern	State: Rare or uncommon

Description at this Location

Conservation Rank: Good quality, condition and landscape context ('B' on a scale of A-D).
Comments on Rank: --

Detailed Description: 2023: Bartlett Brook: One dead adult wood turtle observed next to mile marker 17.8 on I-89 south. Bagley Park: 11 turtles observed, 1 male, 5 females, and 5 juveniles, sex unknown. Stevens Brook: 3 turtles observed, 1 female and 2 juveniles, sex unknown. Telemetry data from 8 individuals. 2018: Area 14469: 1 individual observed, sex unknown. Area 14509: 1 adult male observed, dead on road. 2017: Area 14533: 1 juvenile observed, sex unknown. Area 14644: 1 adult observed, sex unknown. Area 14652: 1 juvenile observed, sex unknown. 2000: Area 1060: 1 adult male hit on road. 1997: 6 adults and young observed.

General Area: 2023: Bagley Park: Stream bottom, stream bank, and open and forested floodplains. Bartlett Brook: The Warner River and its associated floodplain and old oxbow lie between the northbound and southbound barrels of I-89 at this location. South of the highway is a sandpit. 2018: Area 14469: Roadside near stream. Area 14509: Warner River and nearby shrub floodplain. Grassy fields (mowed) on south side of road. 2017: Area 14533: Roadside. Area 14644: Residential yard. Area 14652: Edge of gravel road. Forested on both sides with houses nearby. 1997: Riverine corridor with cobble substrate, banks and bars of cobble, and some sand. Clear water with bank undercuts but near-zero instream cover. Excellent riparian habitat. Extensive floodplain.

General Comments: 1997: Observed by David Carroll.

Management Comments: 1997: ATV access to shoals and cobble bars at time of low water.

Location

Survey Site Name: Warner River, Stevens Brook
Managed By:

County: Merrimack
Town(s): Warner
Size: 24.9 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

NHB DataCheck Results Letter
NH Natural Heritage Bureau
Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

NHB24-1596 EOCODE: ARAAD02020*021*NH

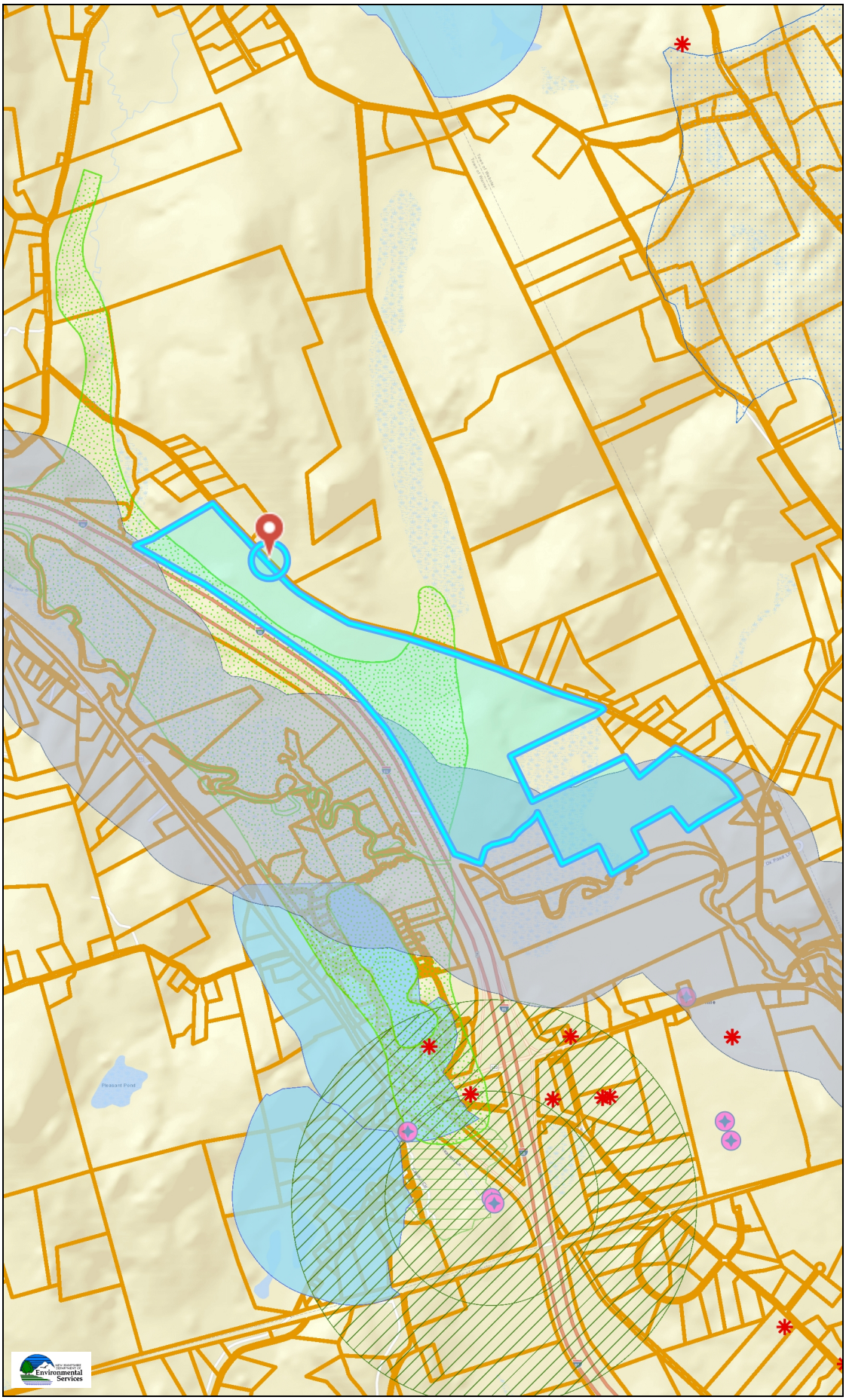
Directions: 2023: Bartlett Brook: Individual observed right next to the mile marker 17.8 on I-89 south (43 16'13.19"N , 71 48'8.40"W). 2018: Area 14469: North Village Road, Warner, near Silver Brook. Area 14509: Route 103, Warner, at bridge over Warner River. 2017: Area 14533: Bean Road, just north of the Chandler Reservation, Warner. Area 14644: 248 Bean Road, Warner. 2000: Area 1060: At Covered Bridge on Waterloo Rd. in Warner. 15 Plus years old. 1997: [From Warner, take Rte. 103 west for ca. 1.0 miles. Just before the I-89 overpass, park and follow Stevens Brook south.] Site is at confluence of Stevens Brook and Warner River, to ca. 150 meters downstream.

Dates documented

First reported:	1997-09	Last reported:	2023-10-16

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHDES AOT Screening Layers



Legend

- Remediation Sites
- Coastal and Great Bay Regi Communities
- Designated Rivers Quarterm Buffer
- Public Water Supply Wells
- Groundwater Classification / GA1
- Groundwater Classification / GA2
- Water Supply Intake Protect Areas
- Wellhead Protection Areas
- Class A Lakes with a Quarte Buffer
- Class A - All Features
- All Lakes, with a Quarter Mil Buffer
- Outstanding Resource Wate Watersheds
- Surface Waters with Impairn with Quarter Mile Buffer
- Watersheds with Chloride Impairments
- Parcels

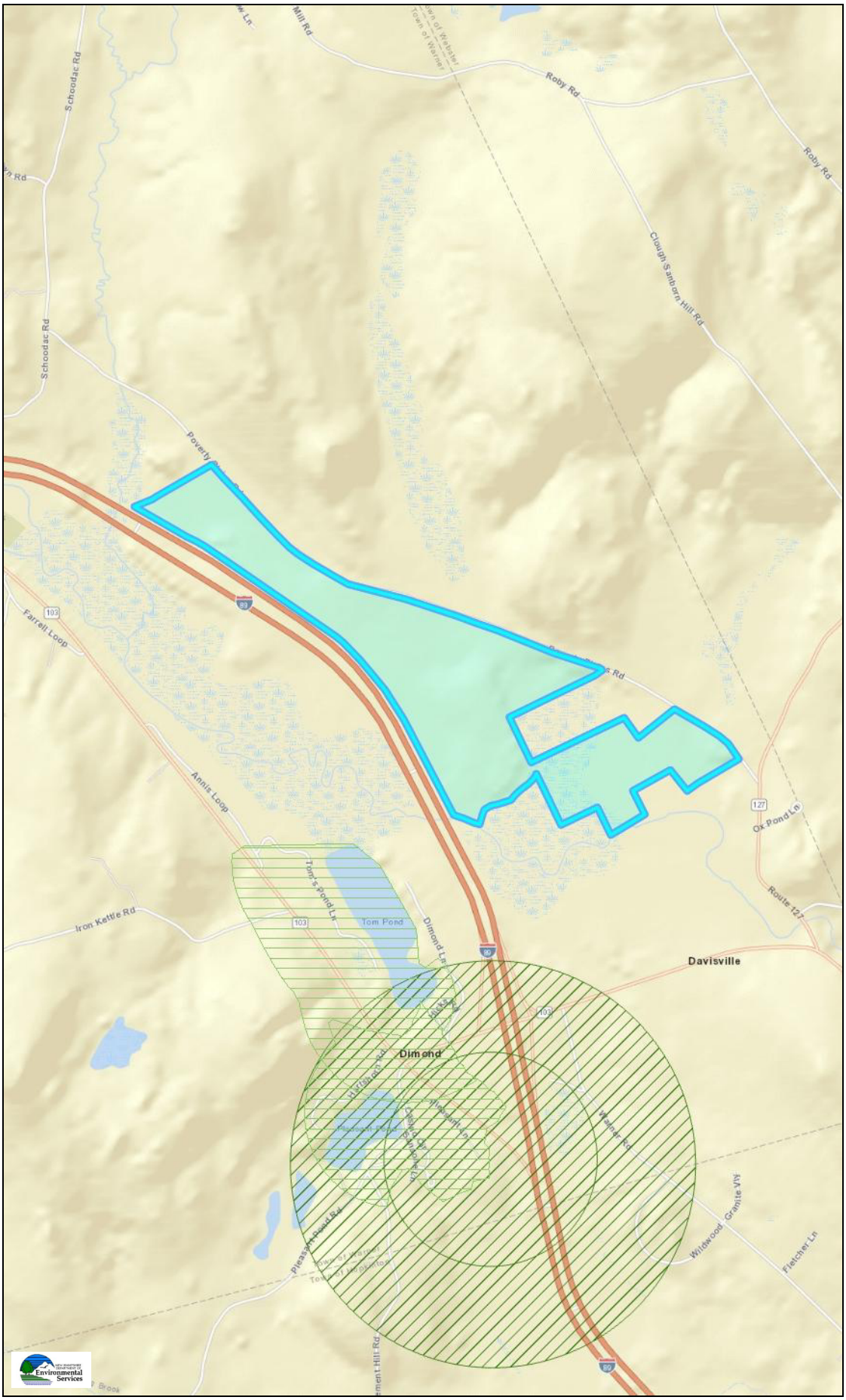
Map Scale

1: 24,000

Map Generated: 8/29/2024

Notes

Surface Water Impairments



Legend

- Surface Waters with Impairn with Quarter Mile Buffer
- Wellhead Protection Areas
- Water Supply Intake Protect Areas

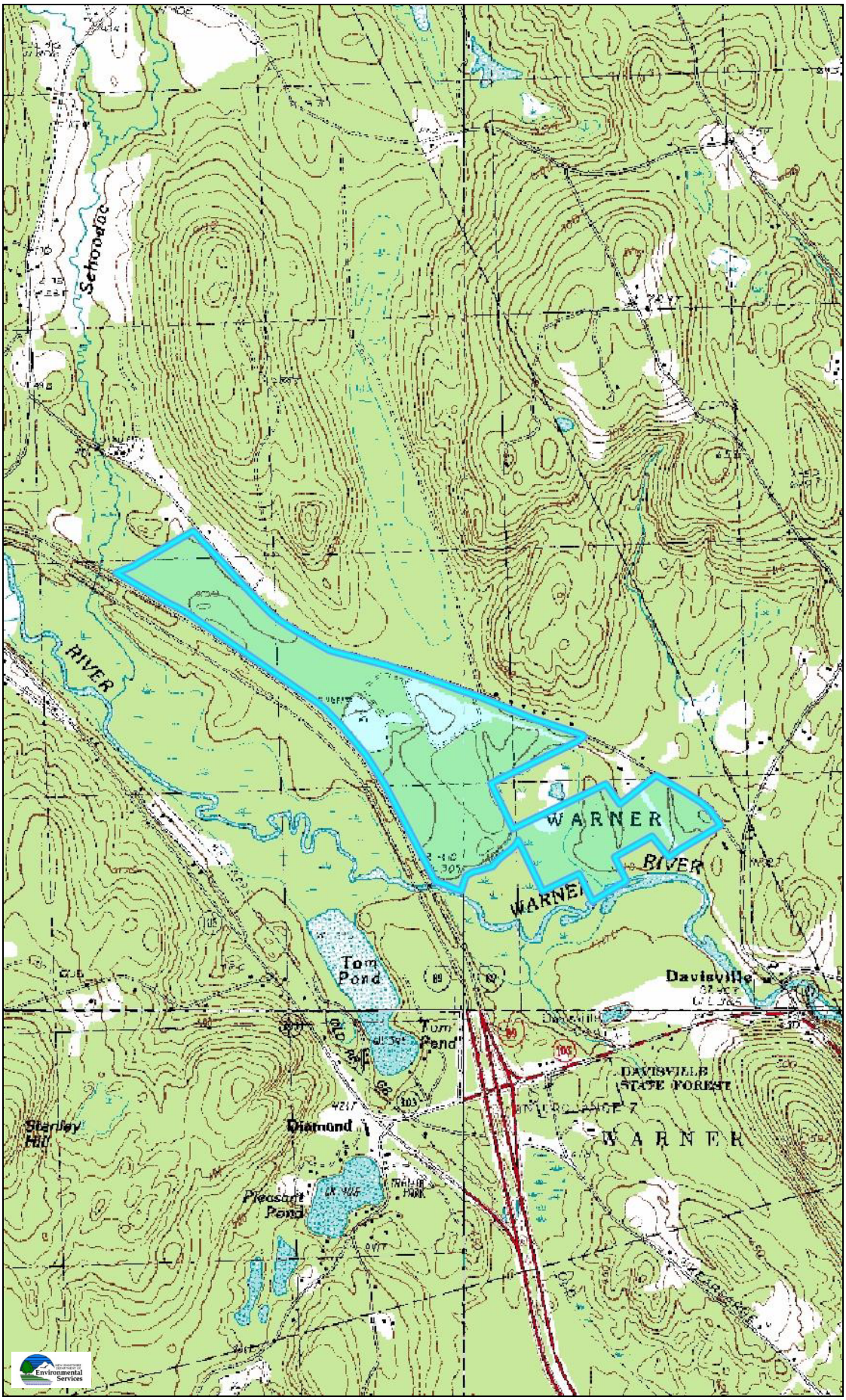
Map Scale

1: 24,000

Map Generated: 9/4/2024

Notes

USGS Map



Legend

Map Scale

1: 24,000

Map Generated: 9/4/2024

Notes

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.06)

Type/Node Name: **Infiltration Pond #1**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable.

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	← **yes**
34.84	ac	A = Area draining to the practice	
1.08	ac	A_I = Impervious area draining to the practice	
0.03	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.08	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
2.71	ac-in	WQV= 1" x Rv x A	
9,839	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
2,460	cf	25% x WQV (check calc for sediment forebay volume)	
Flow through panels		Method of pretreatment? (not required for clean or roof runoff)	
-	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ **25%WQV**
14,968	cf	V = Volume[1] (attach a stage-storage table)	≥ **WQV**
2,422	sf	A_{SA} = Surface area of the bottom of the pond	
5.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
9.7	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ **72-hrs**
392.00	feet	E_{BTM} = Elevation of the bottom of the basin	
389.00	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
389.00	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.00	feet	D_{SHWT} = Separation from SHWT	≥ *[3]
3.0	feet	D_{ROCK} = Separation from bedrock	≥ *[3]
2.0	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	≥ **24"**
-	ft	D_T = Depth of trench, if trench proposed	**4 - 10 ft**
-	Yes/No	If a trench or underground system is proposed, has observation well been provided?	←**yes**
-		If a trench is proposed, does materialmeet Env-Wq 1508.06(k)(2) requirements.[4]	← **yes**
Yes	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	← **yes**
3.0	:1	If a basin is proposed, pond side slopes.	≥**3:1**
392.01	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
395.47	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
395.49	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← **yes**
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← **yes**

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

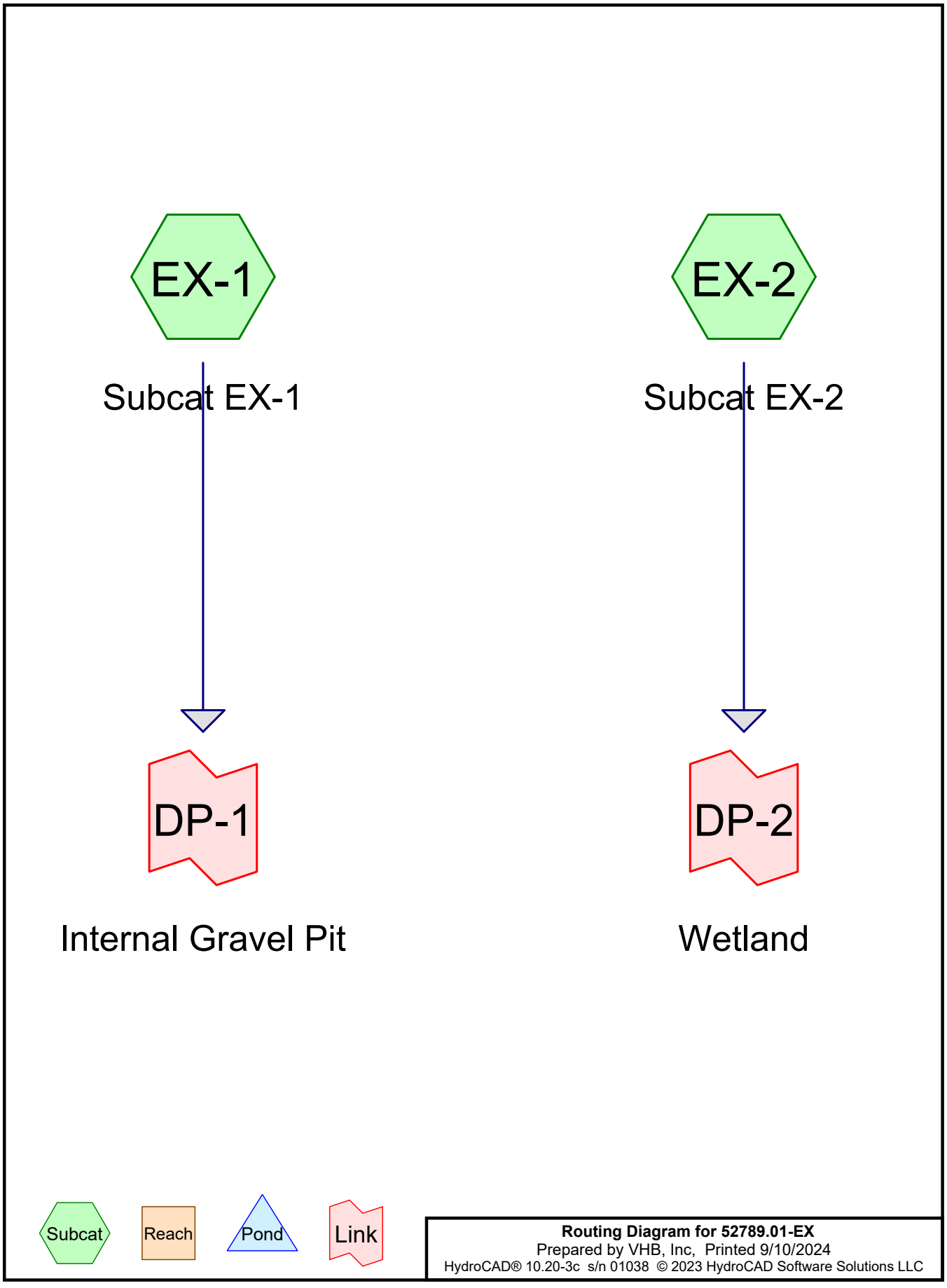
Designer's Notes: Only exfiltration to groundwater up to 50-YR storm event. At 50-YR storm, water collects in the meadow area with extremely high infiltration rates. Outflow does not reach adjacent wetland. All flows are less than 0.1 CFS on the site.

Note that WQV is not required for the panels but values have been provided here for reference. A decrease in gravel road of 0.04 AC is proposed.

Memorandum

Appendix B: Hydrologic Calculations

- Existing HydroCAD Report
- Proposed HydroCAD Report



Routing Diagram for 52789.01-EX
Prepared by VHB, Inc, Printed 9/10/2024

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	2.78	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.03	2
3	25-YR	Type III 24-hr		Default	24.00	1	5.00	2
4	50-YR	Type III 24-hr		Default	24.00	1	5.88	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.153	30	Brush, Good, HSG A (EX-1, EX-2)
0.256	96	Gravel surface, HSG A (EX-1)
22.221	39	Pasture/grassland/range, Good, HSG A (EX-1, EX-2)
11.856	30	Woods, Good, HSG A (EX-1, EX-2)
37.486	**36**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
37.486	HSG A	EX-1, EX-2
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
37.486		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
3.153	0.000	0.000	0.000	0.000	3.153	Brush, Good	EX-1, EX-2
0.256	0.000	0.000	0.000	0.000	0.256	Gravel surface	EX-1
22.221	0.000	0.000	0.000	0.000	22.221	Pasture/grassland/range, Good	EX-1, EX-2
11.856	0.000	0.000	0.000	0.000	11.856	Woods, Good	EX-1, EX-2
37.486	**0.000**	**0.000**	**0.000**	**0.000**	**37.486**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX-1: Subcat EX-1 Runoff Area=33.904 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=797' Tc=21.5 min CN=36 Runoff=0.00 cfs 0.000 af

Subcatchment EX-2: Subcat EX-2 Runoff Area=3.582 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=176' Tc=20.5 min CN=31 Runoff=0.00 cfs 0.000 af

Link DP-1: Internal Gravel Pit Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link DP-2: Wetland Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 37.486 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
100.00% Pervious = 37.486 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EX-1: Subcat EX-1

[45] Hint: Runoff=Zero

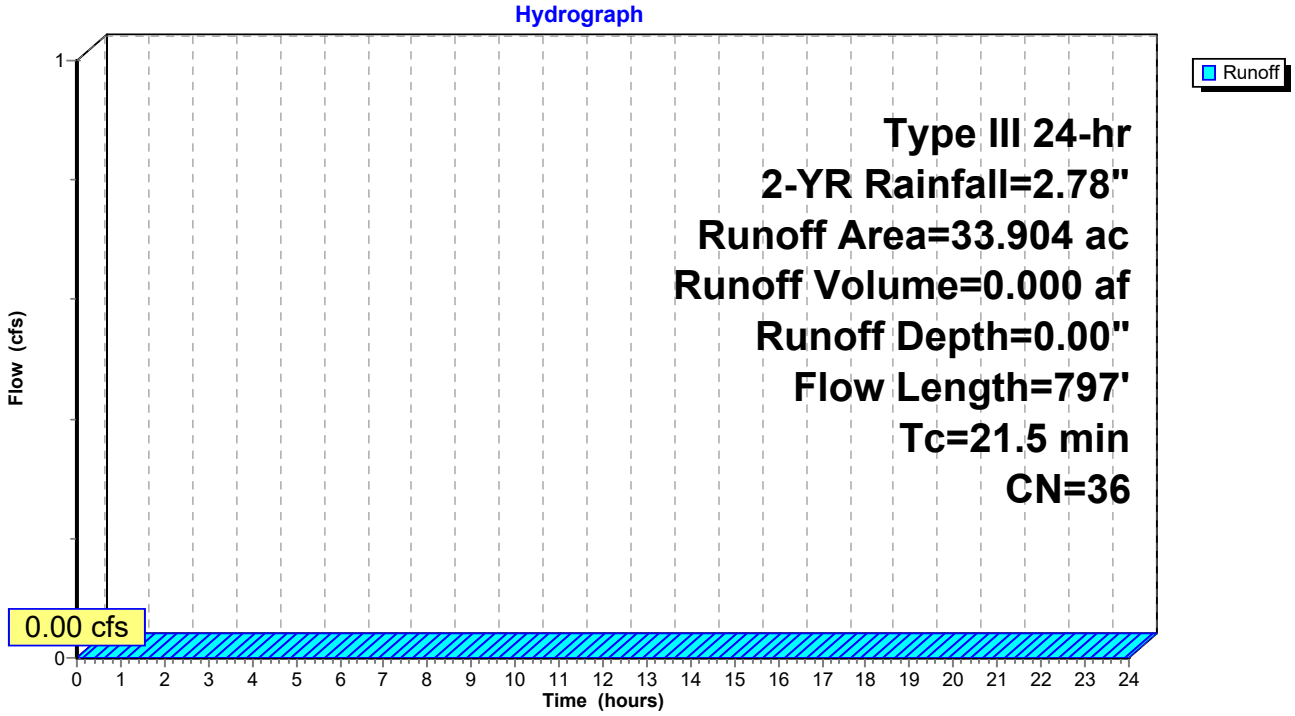
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link DP-1 : Internal Gravel Pit

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=2.78"

Area (ac)	CN	Description
1.000	39	Pasture/grassland/range, Good, HSG A
0.003	39	Pasture/grassland/range, Good, HSG A
20.940	39	Pasture/grassland/range, Good, HSG A
0.006	39	Pasture/grassland/range, Good, HSG A
0.091	30	Woods, Good, HSG A
5.493	30	Woods, Good, HSG A
2.828	30	Brush, Good, HSG A
0.256	96	Gravel surface, HSG A
0.001	30	Brush, Good, HSG A
0.055	30	Brush, Good, HSG A
0.271	30	Woods, Good, HSG A
2.930	30	Woods, Good, HSG A
0.030	30	Woods, Good, HSG A
33.904	36	Weighted Average
33.904		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0910	0.11		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.78"
8.7	436	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.4	311	0.0190	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.5	797	Total			

Subcatchment EX-1: Subcat EX-1



Hydrograph for Subcatchment EX-1: Subcat EX-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	**0.00**	**0.00**	13.00	2.09	0.00	0.00
0.25	0.01	0.00	0.00	13.25	2.13	0.00	0.00
0.50	0.01	0.00	0.00	13.50	2.18	0.00	0.00
0.75	0.02	0.00	0.00	13.75	2.22	0.00	0.00
1.00	0.03	0.00	0.00	14.00	2.25	0.00	0.00
1.25	0.03	0.00	0.00	14.25	2.29	0.00	0.00
1.50	0.04	0.00	0.00	14.50	2.32	0.00	0.00
1.75	0.05	0.00	0.00	14.75	2.35	0.00	0.00
2.00	0.06	0.00	0.00	15.00	2.37	0.00	0.00
2.25	0.06	0.00	0.00	15.25	2.40	0.00	0.00
2.50	0.07	0.00	0.00	15.50	2.42	0.00	0.00
2.75	0.08	0.00	0.00	15.75	2.44	0.00	0.00
3.00	0.09	0.00	0.00	16.00	2.46	0.00	0.00
3.25	0.09	0.00	0.00	16.25	2.48	0.00	0.00
3.50	0.10	0.00	0.00	16.50	2.50	0.00	0.00
3.75	0.11	0.00	0.00	16.75	2.51	0.00	0.00
4.00	0.12	0.00	0.00	17.00	2.53	0.00	0.00
4.25	0.13	0.00	0.00	17.25	2.54	0.00	0.00
4.50	0.14	0.00	0.00	17.50	2.56	0.00	0.00
4.75	0.15	0.00	0.00	17.75	2.57	0.00	0.00
5.00	0.16	0.00	0.00	18.00	2.58	0.00	0.00
5.25	0.17	0.00	0.00	18.25	2.59	0.00	0.00
5.50	0.18	0.00	0.00	18.50	2.60	0.00	0.00
5.75	0.19	0.00	0.00	18.75	2.61	0.00	0.00
6.00	0.20	0.00	0.00	19.00	2.62	0.00	0.00
6.25	0.21	0.00	0.00	19.25	2.63	0.00	0.00
6.50	0.22	0.00	0.00	19.50	2.64	0.00	0.00
6.75	0.24	0.00	0.00	19.75	2.65	0.00	0.00
7.00	0.25	0.00	0.00	20.00	2.66	0.00	0.00
7.25	0.27	0.00	0.00	20.25	2.67	0.00	0.00
7.50	0.28	0.00	0.00	20.50	2.68	0.00	0.00
7.75	0.30	0.00	0.00	20.75	2.69	0.00	0.00
8.00	0.32	0.00	0.00	21.00	2.70	0.00	0.00
8.25	0.34	0.00	0.00	21.25	2.70	0.00	0.00
8.50	0.36	0.00	0.00	21.50	2.71	0.00	0.00
8.75	0.38	0.00	0.00	21.75	2.72	0.00	0.00
9.00	0.41	0.00	0.00	22.00	2.73	0.00	0.00
9.25	0.43	0.00	0.00	22.25	2.73	0.00	0.00
9.50	0.46	0.00	0.00	22.50	2.74	0.00	0.00
9.75	0.49	0.00	0.00	22.75	2.75	0.00	0.00
10.00	0.53	0.00	0.00	23.00	2.75	0.00	0.00
10.25	0.56	0.00	0.00	23.25	2.76	0.00	0.00
10.50	0.60	0.00	0.00	23.50	2.77	0.00	0.00
10.75	0.65	0.00	0.00	23.75	2.77	0.00	0.00
11.00	0.70	0.00	0.00	24.00	**2.78**	0.00	0.00
11.25	0.75	0.00	0.00				
11.50	0.83	0.00	0.00				
11.75	0.99	0.00	0.00				
12.00	1.39	0.00	0.00				
12.25	1.79	0.00	0.00				
12.50	1.95	0.00	0.00				
12.75	2.03	0.00	0.00				

Summary for Subcatchment EX-2: Subcat EX-2

[45] Hint: Runoff=Zero

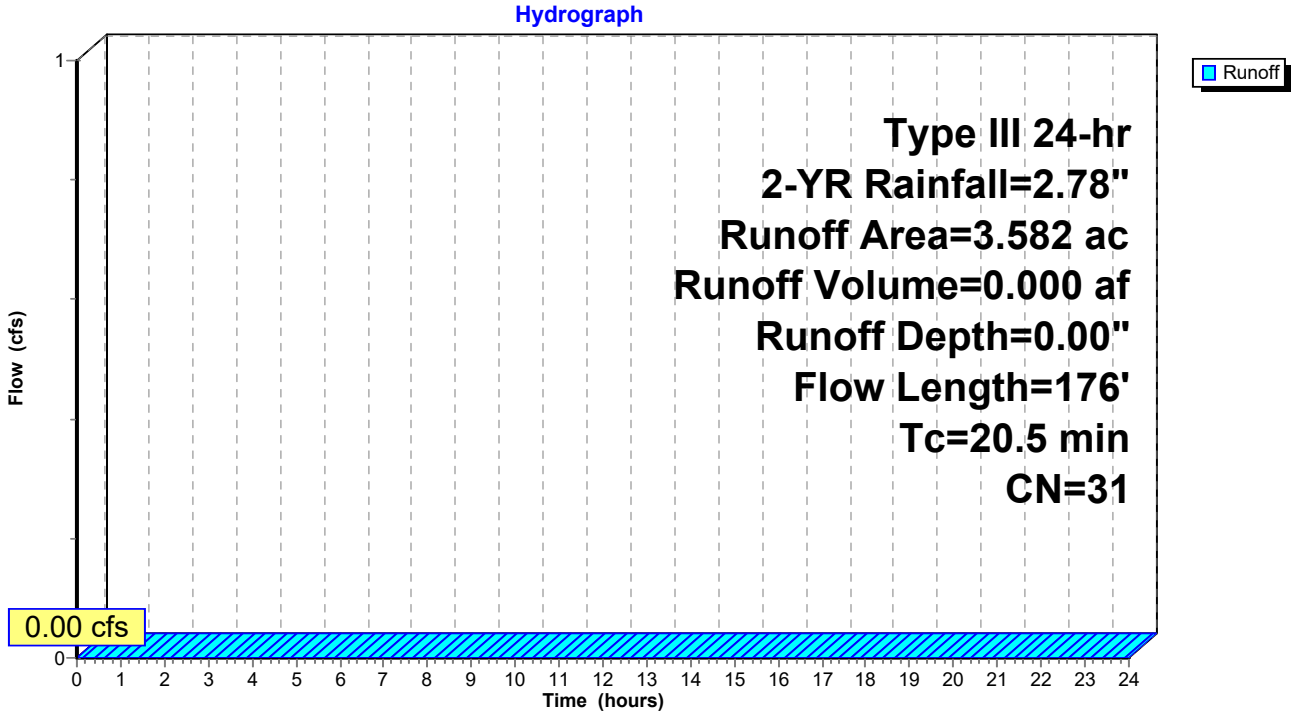
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link DP-2 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=2.78"

Area (ac)	CN	Description
0.118	39	Pasture/grassland/range, Good, HSG A
0.070	39	Pasture/grassland/range, Good, HSG A
0.083	39	Pasture/grassland/range, Good, HSG A
0.162	30	Woods, Good, HSG A
2.880	30	Woods, Good, HSG A
0.270	30	Brush, Good, HSG A
3.582	31	Weighted Average
3.582		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	50	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.78"
3.0	126	0.0198	0.70		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.5	176	Total			

Subcatchment EX-2: Subcat EX-2



Hydrograph for Subcatchment EX-2: Subcat EX-2

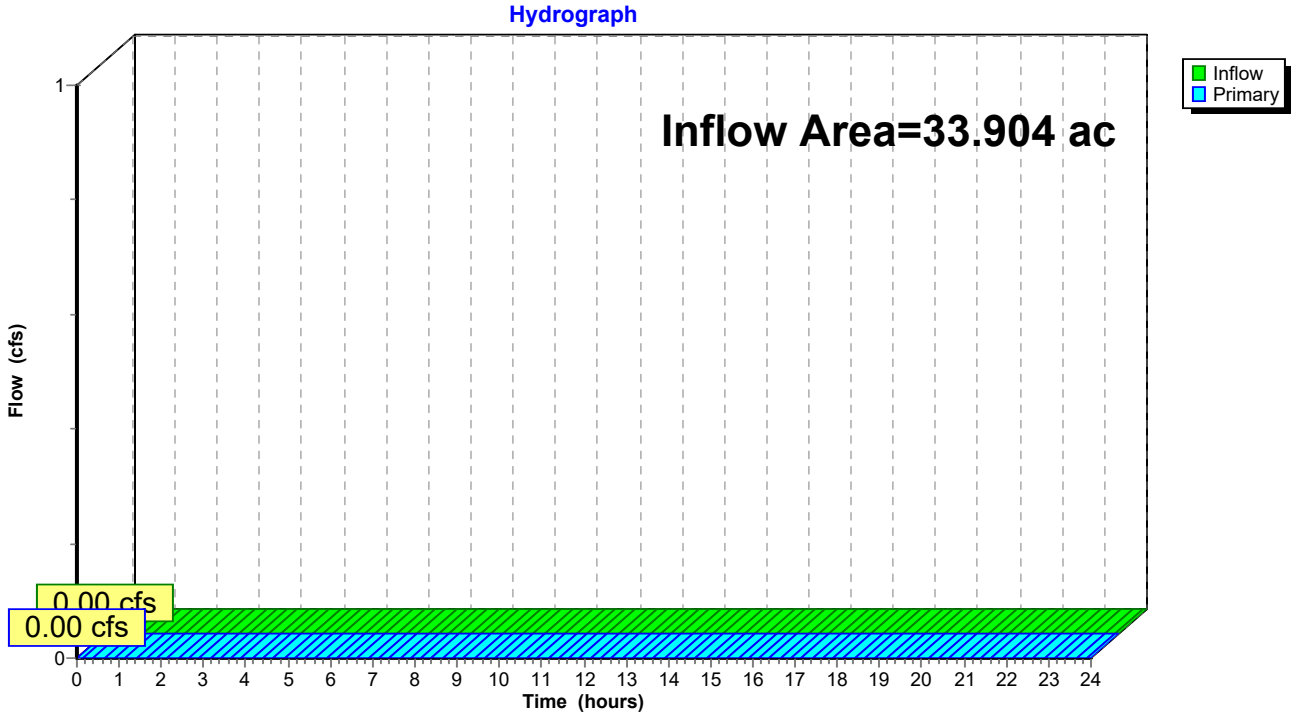
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	**0.00**	**0.00**	13.00	2.09	0.00	0.00
0.25	0.01	0.00	0.00	13.25	2.13	0.00	0.00
0.50	0.01	0.00	0.00	13.50	2.18	0.00	0.00
0.75	0.02	0.00	0.00	13.75	2.22	0.00	0.00
1.00	0.03	0.00	0.00	14.00	2.25	0.00	0.00
1.25	0.03	0.00	0.00	14.25	2.29	0.00	0.00
1.50	0.04	0.00	0.00	14.50	2.32	0.00	0.00
1.75	0.05	0.00	0.00	14.75	2.35	0.00	0.00
2.00	0.06	0.00	0.00	15.00	2.37	0.00	0.00
2.25	0.06	0.00	0.00	15.25	2.40	0.00	0.00
2.50	0.07	0.00	0.00	15.50	2.42	0.00	0.00
2.75	0.08	0.00	0.00	15.75	2.44	0.00	0.00
3.00	0.09	0.00	0.00	16.00	2.46	0.00	0.00
3.25	0.09	0.00	0.00	16.25	2.48	0.00	0.00
3.50	0.10	0.00	0.00	16.50	2.50	0.00	0.00
3.75	0.11	0.00	0.00	16.75	2.51	0.00	0.00
4.00	0.12	0.00	0.00	17.00	2.53	0.00	0.00
4.25	0.13	0.00	0.00	17.25	2.54	0.00	0.00
4.50	0.14	0.00	0.00	17.50	2.56	0.00	0.00
4.75	0.15	0.00	0.00	17.75	2.57	0.00	0.00
5.00	0.16	0.00	0.00	18.00	2.58	0.00	0.00
5.25	0.17	0.00	0.00	18.25	2.59	0.00	0.00
5.50	0.18	0.00	0.00	18.50	2.60	0.00	0.00
5.75	0.19	0.00	0.00	18.75	2.61	0.00	0.00
6.00	0.20	0.00	0.00	19.00	2.62	0.00	0.00
6.25	0.21	0.00	0.00	19.25	2.63	0.00	0.00
6.50	0.22	0.00	0.00	19.50	2.64	0.00	0.00
6.75	0.24	0.00	0.00	19.75	2.65	0.00	0.00
7.00	0.25	0.00	0.00	20.00	2.66	0.00	0.00
7.25	0.27	0.00	0.00	20.25	2.67	0.00	0.00
7.50	0.28	0.00	0.00	20.50	2.68	0.00	0.00
7.75	0.30	0.00	0.00	20.75	2.69	0.00	0.00
8.00	0.32	0.00	0.00	21.00	2.70	0.00	0.00
8.25	0.34	0.00	0.00	21.25	2.70	0.00	0.00
8.50	0.36	0.00	0.00	21.50	2.71	0.00	0.00
8.75	0.38	0.00	0.00	21.75	2.72	0.00	0.00
9.00	0.41	0.00	0.00	22.00	2.73	0.00	0.00
9.25	0.43	0.00	0.00	22.25	2.73	0.00	0.00
9.50	0.46	0.00	0.00	22.50	2.74	0.00	0.00
9.75	0.49	0.00	0.00	22.75	2.75	0.00	0.00
10.00	0.53	0.00	0.00	23.00	2.75	0.00	0.00
10.25	0.56	0.00	0.00	23.25	2.76	0.00	0.00
10.50	0.60	0.00	0.00	23.50	2.77	0.00	0.00
10.75	0.65	0.00	0.00	23.75	2.77	0.00	0.00
11.00	0.70	0.00	0.00	24.00	**2.78**	0.00	0.00
11.25	0.75	0.00	0.00				
11.50	0.83	0.00	0.00				
11.75	0.99	0.00	0.00				
12.00	1.39	0.00	0.00				
12.25	1.79	0.00	0.00				
12.50	1.95	0.00	0.00				
12.75	2.03	0.00	0.00				

Summary for Link DP-1: Internal Gravel Pit

Inflow Area = 33.904 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-1: Internal Gravel Pit



Hydrograph for Link DP-1: Internal Gravel Pit

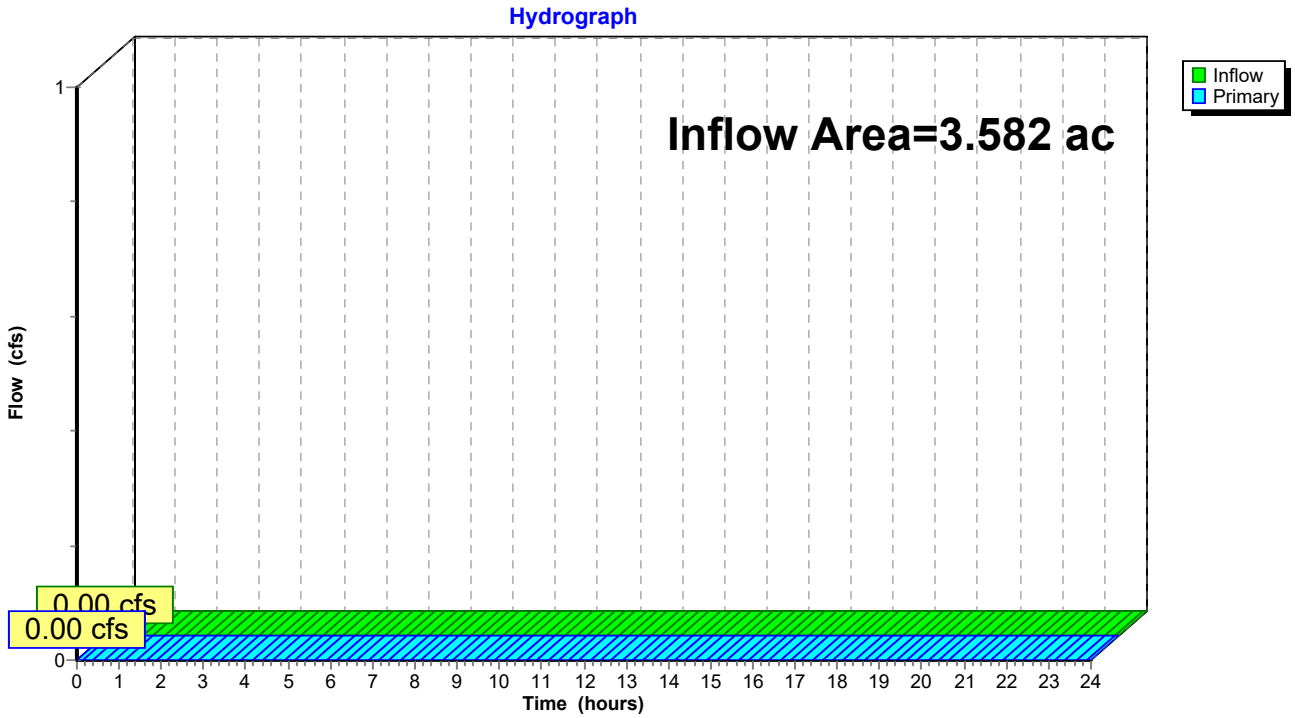
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.00	0.00	0.00
0.75	0.00	0.00	0.00	13.75	0.00	0.00	0.00
1.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00
1.25	0.00	0.00	0.00	14.25	0.00	0.00	0.00
1.50	0.00	0.00	0.00	14.50	0.00	0.00	0.00
1.75	0.00	0.00	0.00	14.75	0.00	0.00	0.00
2.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
2.25	0.00	0.00	0.00	15.25	0.00	0.00	0.00
2.50	0.00	0.00	0.00	15.50	0.00	0.00	0.00
2.75	0.00	0.00	0.00	15.75	0.00	0.00	0.00
3.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00
3.25	0.00	0.00	0.00	16.25	0.00	0.00	0.00
3.50	0.00	0.00	0.00	16.50	0.00	0.00	0.00
3.75	0.00	0.00	0.00	16.75	0.00	0.00	0.00
4.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00
4.25	0.00	0.00	0.00	17.25	0.00	0.00	0.00
4.50	0.00	0.00	0.00	17.50	0.00	0.00	0.00
4.75	0.00	0.00	0.00	17.75	0.00	0.00	0.00
5.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00
5.25	0.00	0.00	0.00	18.25	0.00	0.00	0.00
5.50	0.00	0.00	0.00	18.50	0.00	0.00	0.00
5.75	0.00	0.00	0.00	18.75	0.00	0.00	0.00
6.00	0.00	0.00	0.00	19.00	0.00	0.00	0.00
6.25	0.00	0.00	0.00	19.25	0.00	0.00	0.00
6.50	0.00	0.00	0.00	19.50	0.00	0.00	0.00
6.75	0.00	0.00	0.00	19.75	0.00	0.00	0.00
7.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
7.25	0.00	0.00	0.00	20.25	0.00	0.00	0.00
7.50	0.00	0.00	0.00	20.50	0.00	0.00	0.00
7.75	0.00	0.00	0.00	20.75	0.00	0.00	0.00
8.00	0.00	0.00	0.00	21.00	0.00	0.00	0.00
8.25	0.00	0.00	0.00	21.25	0.00	0.00	0.00
8.50	0.00	0.00	0.00	21.50	0.00	0.00	0.00
8.75	0.00	0.00	0.00	21.75	0.00	0.00	0.00
9.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00
9.25	0.00	0.00	0.00	22.25	0.00	0.00	0.00
9.50	0.00	0.00	0.00	22.50	0.00	0.00	0.00
9.75	0.00	0.00	0.00	22.75	0.00	0.00	0.00
10.00	0.00	0.00	0.00	23.00	0.00	0.00	0.00
10.25	0.00	0.00	0.00	23.25	0.00	0.00	0.00
10.50	0.00	0.00	0.00	23.50	0.00	0.00	0.00
10.75	0.00	0.00	0.00	23.75	0.00	0.00	0.00
11.00	0.00	0.00	0.00	24.00	0.00	0.00	0.00
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				

Summary for Link DP-2: Wetland

Inflow Area = 3.582 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-2: Wetland



Hydrograph for Link DP-2: Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.00	0.00	0.00
0.75	0.00	0.00	0.00	13.75	0.00	0.00	0.00
1.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00
1.25	0.00	0.00	0.00	14.25	0.00	0.00	0.00
1.50	0.00	0.00	0.00	14.50	0.00	0.00	0.00
1.75	0.00	0.00	0.00	14.75	0.00	0.00	0.00
2.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
2.25	0.00	0.00	0.00	15.25	0.00	0.00	0.00
2.50	0.00	0.00	0.00	15.50	0.00	0.00	0.00
2.75	0.00	0.00	0.00	15.75	0.00	0.00	0.00
3.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00
3.25	0.00	0.00	0.00	16.25	0.00	0.00	0.00
3.50	0.00	0.00	0.00	16.50	0.00	0.00	0.00
3.75	0.00	0.00	0.00	16.75	0.00	0.00	0.00
4.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00
4.25	0.00	0.00	0.00	17.25	0.00	0.00	0.00
4.50	0.00	0.00	0.00	17.50	0.00	0.00	0.00
4.75	0.00	0.00	0.00	17.75	0.00	0.00	0.00
5.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00
5.25	0.00	0.00	0.00	18.25	0.00	0.00	0.00
5.50	0.00	0.00	0.00	18.50	0.00	0.00	0.00
5.75	0.00	0.00	0.00	18.75	0.00	0.00	0.00
6.00	0.00	0.00	0.00	19.00	0.00	0.00	0.00
6.25	0.00	0.00	0.00	19.25	0.00	0.00	0.00
6.50	0.00	0.00	0.00	19.50	0.00	0.00	0.00
6.75	0.00	0.00	0.00	19.75	0.00	0.00	0.00
7.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
7.25	0.00	0.00	0.00	20.25	0.00	0.00	0.00
7.50	0.00	0.00	0.00	20.50	0.00	0.00	0.00
7.75	0.00	0.00	0.00	20.75	0.00	0.00	0.00
8.00	0.00	0.00	0.00	21.00	0.00	0.00	0.00
8.25	0.00	0.00	0.00	21.25	0.00	0.00	0.00
8.50	0.00	0.00	0.00	21.50	0.00	0.00	0.00
8.75	0.00	0.00	0.00	21.75	0.00	0.00	0.00
9.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00
9.25	0.00	0.00	0.00	22.25	0.00	0.00	0.00
9.50	0.00	0.00	0.00	22.50	0.00	0.00	0.00
9.75	0.00	0.00	0.00	22.75	0.00	0.00	0.00
10.00	0.00	0.00	0.00	23.00	0.00	0.00	0.00
10.25	0.00	0.00	0.00	23.25	0.00	0.00	0.00
10.50	0.00	0.00	0.00	23.50	0.00	0.00	0.00
10.75	0.00	0.00	0.00	23.75	0.00	0.00	0.00
11.00	0.00	0.00	0.00	24.00	0.00	0.00	0.00
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX-1: Subcat EX-1 Runoff Area=33.904 ac 0.00% Impervious Runoff Depth>0.01"
Flow Length=797' Tc=21.5 min CN=36 Runoff=0.06 cfs 0.033 af

Subcatchment EX-2: Subcat EX-2 Runoff Area=3.582 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=176' Tc=20.5 min CN=31 Runoff=0.00 cfs 0.000 af

Link DP-1: Internal Gravel Pit Inflow=0.06 cfs 0.033 af
Primary=0.06 cfs 0.033 af

Link DP-2: Wetland Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 37.486 ac Runoff Volume = 0.033 af Average Runoff Depth = 0.01"
100.00% Pervious = 37.486 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EX-1: Subcat EX-1

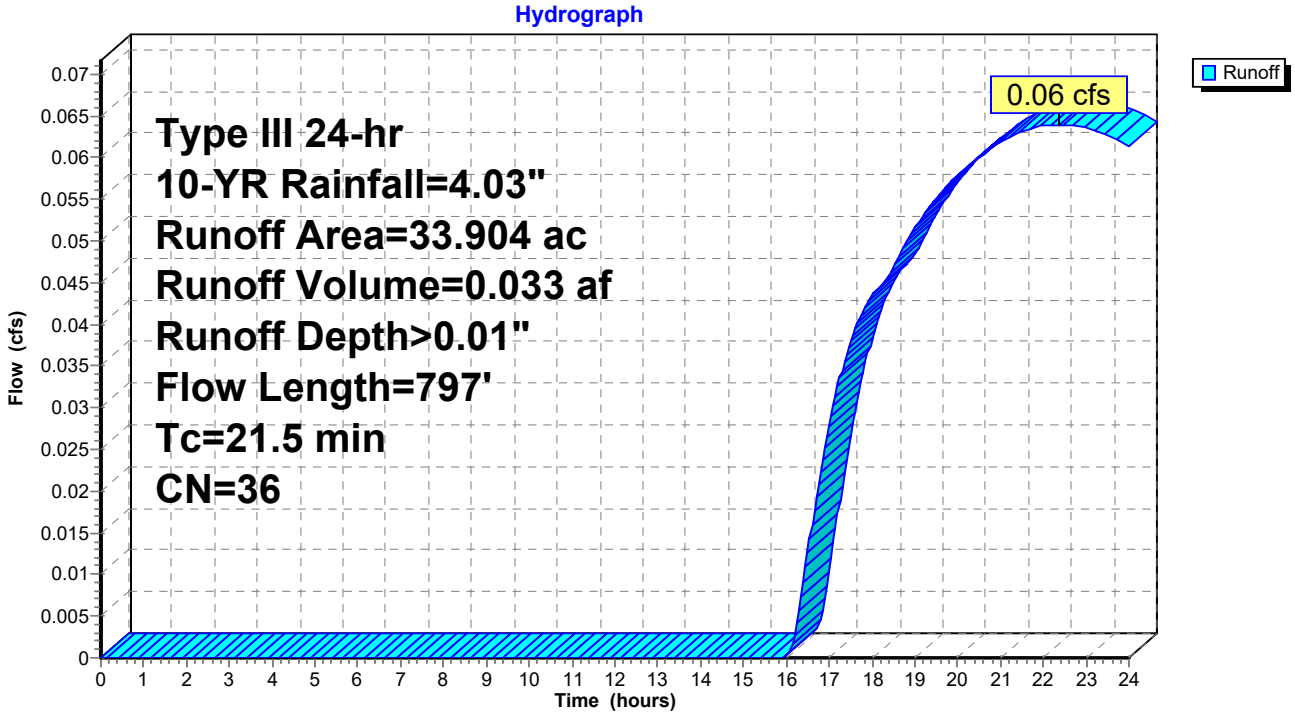
Runoff = 0.06 cfs @ 22.37 hrs, Volume= 0.033 af, Depth> 0.01"
Routed to Link DP-1 : Internal Gravel Pit

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.03"

Area (ac)	CN	Description
1.000	39	Pasture/grassland/range, Good, HSG A
0.003	39	Pasture/grassland/range, Good, HSG A
20.940	39	Pasture/grassland/range, Good, HSG A
0.006	39	Pasture/grassland/range, Good, HSG A
0.091	30	Woods, Good, HSG A
5.493	30	Woods, Good, HSG A
2.828	30	Brush, Good, HSG A
0.256	96	Gravel surface, HSG A
0.001	30	Brush, Good, HSG A
0.055	30	Brush, Good, HSG A
0.271	30	Woods, Good, HSG A
2.930	30	Woods, Good, HSG A
0.030	30	Woods, Good, HSG A
33.904	36	Weighted Average
33.904		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0910	0.11		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.78"
8.7	436	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.4	311	0.0190	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.5	797	Total			

Subcatchment EX-1: Subcat EX-1



Hydrograph for Subcatchment EX-1: Subcat EX-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.02	0.00	0.00
0.25	0.01	0.00	0.00	13.25	3.09	0.00	0.00
0.50	0.02	0.00	0.00	13.50	3.16	0.00	0.00
0.75	0.03	0.00	0.00	13.75	3.22	0.00	0.00
1.00	0.04	0.00	0.00	14.00	3.27	0.00	0.00
1.25	0.05	0.00	0.00	14.25	3.32	0.00	0.00
1.50	0.06	0.00	0.00	14.50	3.36	0.00	0.00
1.75	0.07	0.00	0.00	14.75	3.40	0.00	0.00
2.00	0.08	0.00	0.00	15.00	3.44	0.00	0.00
2.25	0.09	0.00	0.00	15.25	3.48	0.00	0.00
2.50	0.10	0.00	0.00	15.50	3.51	0.00	0.00
2.75	0.11	0.00	0.00	15.75	3.54	0.00	0.00
3.00	0.12	0.00	0.00	16.00	3.57	0.00	0.00
3.25	0.14	0.00	0.00	16.25	3.60	0.00	0.00
3.50	0.15	0.00	0.00	16.50	3.62	0.00	0.01
3.75	0.16	0.00	0.00	16.75	3.64	0.00	0.02
4.00	0.17	0.00	0.00	17.00	3.67	0.00	0.03
4.25	0.19	0.00	0.00	17.25	3.69	0.00	0.03
4.50	0.20	0.00	0.00	17.50	3.71	0.00	0.04
4.75	0.21	0.00	0.00	17.75	3.72	0.00	0.04
5.00	0.23	0.00	0.00	18.00	3.74	0.00	0.04
5.25	0.24	0.00	0.00	18.25	3.76	0.00	0.04
5.50	0.26	0.00	0.00	18.50	3.77	0.00	0.05
5.75	0.27	0.00	0.00	18.75	3.79	0.00	0.05
6.00	0.29	0.00	0.00	19.00	3.80	0.00	0.05
6.25	0.31	0.00	0.00	19.25	3.82	0.00	0.05
6.50	0.32	0.00	0.00	19.50	3.83	0.00	0.06
6.75	0.34	0.00	0.00	19.75	3.84	0.00	0.06
7.00	0.36	0.00	0.00	20.00	3.86	0.01	0.06
7.25	0.39	0.00	0.00	20.25	3.87	0.01	0.06
7.50	0.41	0.00	0.00	20.50	3.88	0.01	0.06
7.75	0.43	0.00	0.00	20.75	3.89	0.01	0.06
8.00	0.46	0.00	0.00	21.00	3.91	0.01	0.06
8.25	0.49	0.00	0.00	21.25	3.92	0.01	0.06
8.50	0.52	0.00	0.00	21.50	3.93	0.01	0.06
8.75	0.55	0.00	0.00	21.75	3.94	0.01	0.06
9.00	0.59	0.00	0.00	22.00	3.95	0.01	0.06
9.25	0.63	0.00	0.00	22.25	3.96	0.01	**0.06**
9.50	0.67	0.00	0.00	22.50	3.97	0.01	**0.06**
9.75	0.71	0.00	0.00	22.75	3.98	0.01	0.06
10.00	0.76	0.00	0.00	23.00	3.99	0.01	0.06
10.25	0.81	0.00	0.00	23.25	4.00	0.01	0.06
10.50	0.87	0.00	0.00	23.50	4.01	0.01	0.06
10.75	0.94	0.00	0.00	23.75	4.02	0.01	0.06
11.00	1.01	0.00	0.00	24.00	**4.03**	**0.01**	0.06
11.25	1.09	0.00	0.00				
11.50	1.20	0.00	0.00				
11.75	1.43	0.00	0.00				
12.00	2.01	0.00	0.00				
12.25	2.60	0.00	0.00				
12.50	2.83	0.00	0.00				
12.75	2.94	0.00	0.00				

Summary for Subcatchment EX-2: Subcat EX-2

[45] Hint: Runoff=Zero

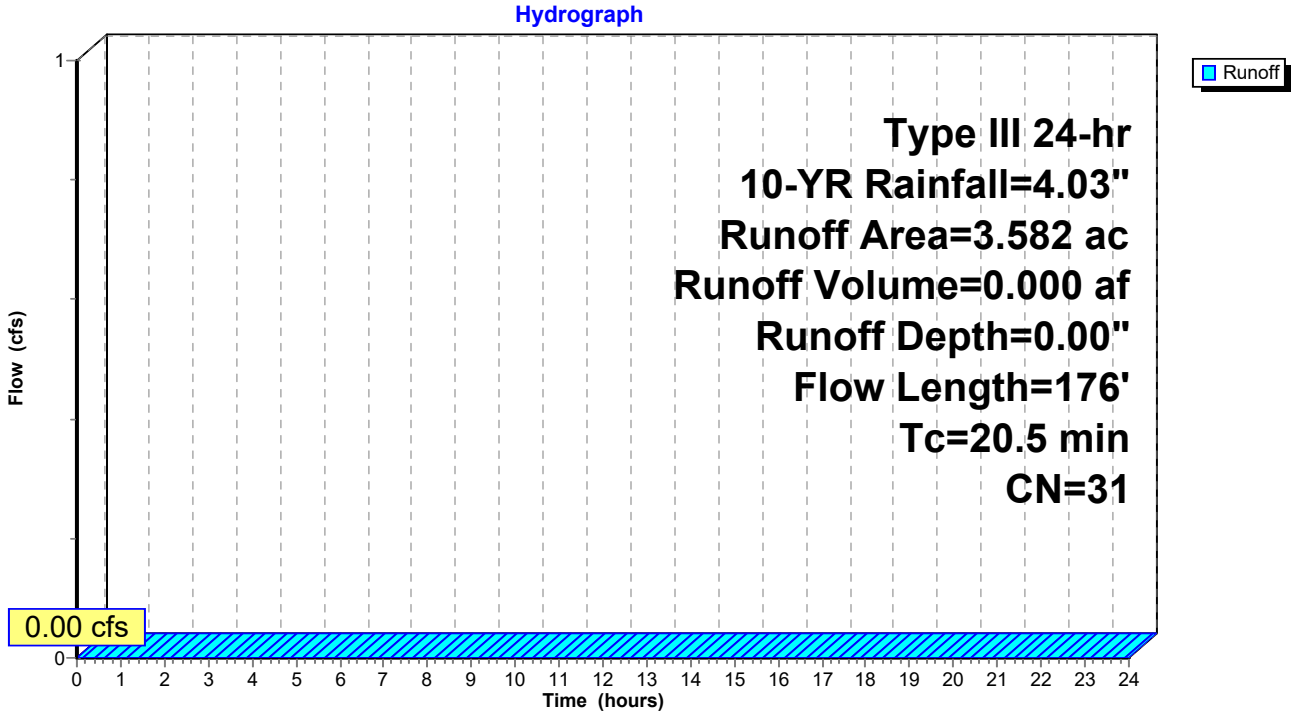
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link DP-2 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.03"

Area (ac)	CN	Description
0.118	39	Pasture/grassland/range, Good, HSG A
0.070	39	Pasture/grassland/range, Good, HSG A
0.083	39	Pasture/grassland/range, Good, HSG A
0.162	30	Woods, Good, HSG A
2.880	30	Woods, Good, HSG A
0.270	30	Brush, Good, HSG A
3.582	31	Weighted Average
3.582		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	50	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.78"
3.0	126	0.0198	0.70		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.5	176	Total			

Subcatchment EX-2: Subcat EX-2



Hydrograph for Subcatchment EX-2: Subcat EX-2

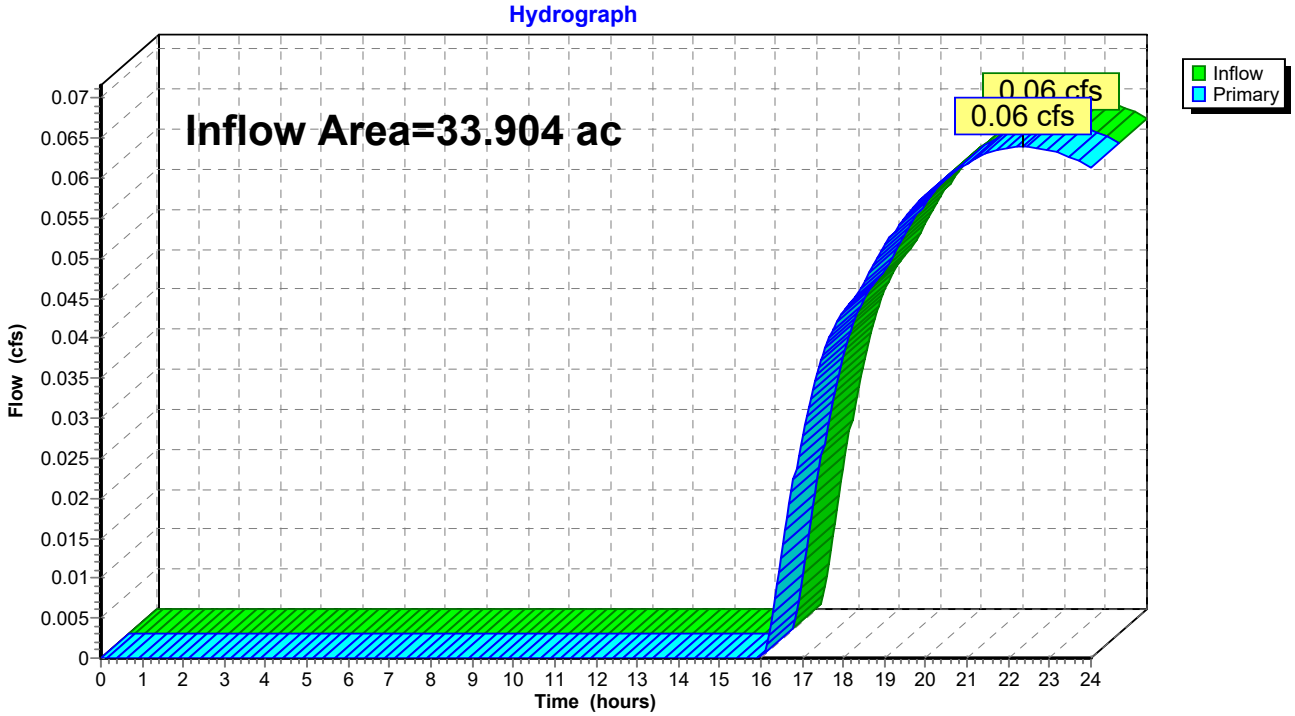
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	**0.00**	**0.00**	13.00	3.02	0.00	0.00
0.25	0.01	0.00	0.00	13.25	3.09	0.00	0.00
0.50	0.02	0.00	0.00	13.50	3.16	0.00	0.00
0.75	0.03	0.00	0.00	13.75	3.22	0.00	0.00
1.00	0.04	0.00	0.00	14.00	3.27	0.00	0.00
1.25	0.05	0.00	0.00	14.25	3.32	0.00	0.00
1.50	0.06	0.00	0.00	14.50	3.36	0.00	0.00
1.75	0.07	0.00	0.00	14.75	3.40	0.00	0.00
2.00	0.08	0.00	0.00	15.00	3.44	0.00	0.00
2.25	0.09	0.00	0.00	15.25	3.48	0.00	0.00
2.50	0.10	0.00	0.00	15.50	3.51	0.00	0.00
2.75	0.11	0.00	0.00	15.75	3.54	0.00	0.00
3.00	0.12	0.00	0.00	16.00	3.57	0.00	0.00
3.25	0.14	0.00	0.00	16.25	3.60	0.00	0.00
3.50	0.15	0.00	0.00	16.50	3.62	0.00	0.00
3.75	0.16	0.00	0.00	16.75	3.64	0.00	0.00
4.00	0.17	0.00	0.00	17.00	3.67	0.00	0.00
4.25	0.19	0.00	0.00	17.25	3.69	0.00	0.00
4.50	0.20	0.00	0.00	17.50	3.71	0.00	0.00
4.75	0.21	0.00	0.00	17.75	3.72	0.00	0.00
5.00	0.23	0.00	0.00	18.00	3.74	0.00	0.00
5.25	0.24	0.00	0.00	18.25	3.76	0.00	0.00
5.50	0.26	0.00	0.00	18.50	3.77	0.00	0.00
5.75	0.27	0.00	0.00	18.75	3.79	0.00	0.00
6.00	0.29	0.00	0.00	19.00	3.80	0.00	0.00
6.25	0.31	0.00	0.00	19.25	3.82	0.00	0.00
6.50	0.32	0.00	0.00	19.50	3.83	0.00	0.00
6.75	0.34	0.00	0.00	19.75	3.84	0.00	0.00
7.00	0.36	0.00	0.00	20.00	3.86	0.00	0.00
7.25	0.39	0.00	0.00	20.25	3.87	0.00	0.00
7.50	0.41	0.00	0.00	20.50	3.88	0.00	0.00
7.75	0.43	0.00	0.00	20.75	3.89	0.00	0.00
8.00	0.46	0.00	0.00	21.00	3.91	0.00	0.00
8.25	0.49	0.00	0.00	21.25	3.92	0.00	0.00
8.50	0.52	0.00	0.00	21.50	3.93	0.00	0.00
8.75	0.55	0.00	0.00	21.75	3.94	0.00	0.00
9.00	0.59	0.00	0.00	22.00	3.95	0.00	0.00
9.25	0.63	0.00	0.00	22.25	3.96	0.00	0.00
9.50	0.67	0.00	0.00	22.50	3.97	0.00	0.00
9.75	0.71	0.00	0.00	22.75	3.98	0.00	0.00
10.00	0.76	0.00	0.00	23.00	3.99	0.00	0.00
10.25	0.81	0.00	0.00	23.25	4.00	0.00	0.00
10.50	0.87	0.00	0.00	23.50	4.01	0.00	0.00
10.75	0.94	0.00	0.00	23.75	4.02	0.00	0.00
11.00	1.01	0.00	0.00	24.00	**4.03**	0.00	0.00
11.25	1.09	0.00	0.00				
11.50	1.20	0.00	0.00				
11.75	1.43	0.00	0.00				
12.00	2.01	0.00	0.00				
12.25	2.60	0.00	0.00				
12.50	2.83	0.00	0.00				
12.75	2.94	0.00	0.00				

Summary for Link DP-1: Internal Gravel Pit

Inflow Area = 33.904 ac, 0.00% Impervious, Inflow Depth > 0.01" for 10-YR event
Inflow = 0.06 cfs @ 22.37 hrs, Volume= 0.033 af
Primary = 0.06 cfs @ 22.37 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-1: Internal Gravel Pit



Hydrograph for Link DP-1: Internal Gravel Pit

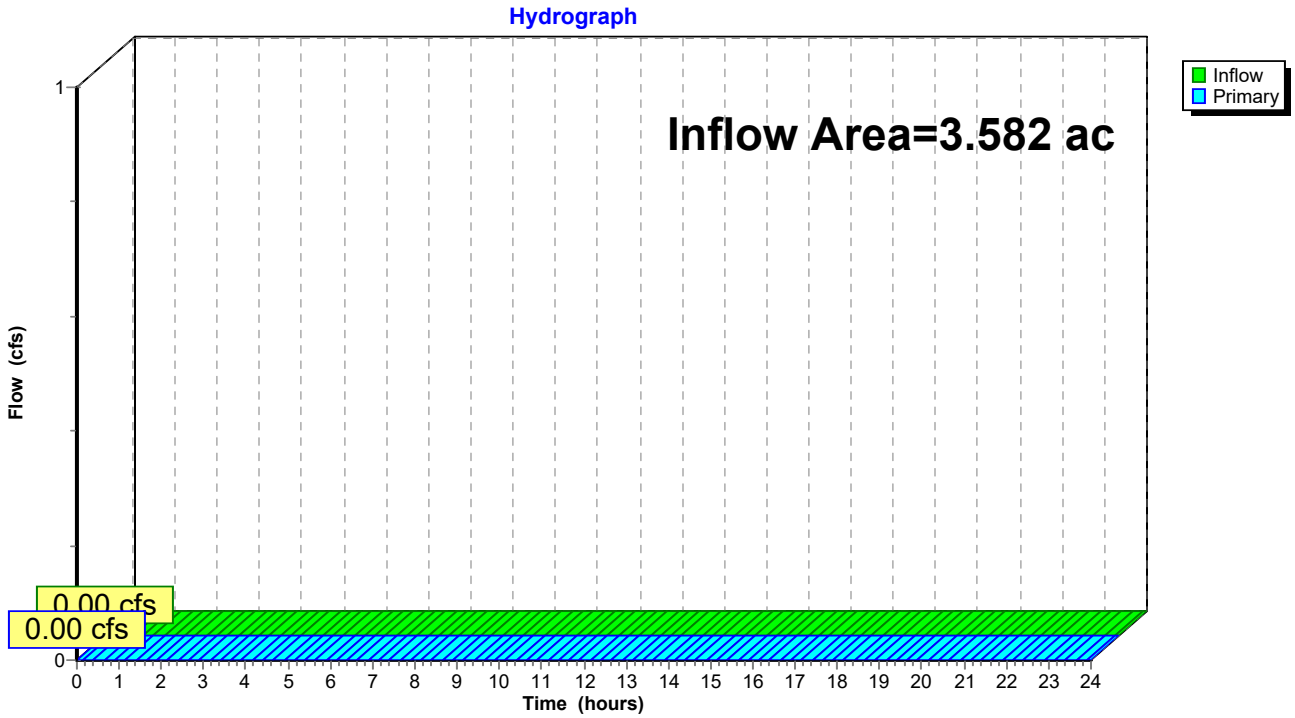
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.00	0.00	0.00
0.75	0.00	0.00	0.00	13.75	0.00	0.00	0.00
1.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00
1.25	0.00	0.00	0.00	14.25	0.00	0.00	0.00
1.50	0.00	0.00	0.00	14.50	0.00	0.00	0.00
1.75	0.00	0.00	0.00	14.75	0.00	0.00	0.00
2.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
2.25	0.00	0.00	0.00	15.25	0.00	0.00	0.00
2.50	0.00	0.00	0.00	15.50	0.00	0.00	0.00
2.75	0.00	0.00	0.00	15.75	0.00	0.00	0.00
3.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00
3.25	0.00	0.00	0.00	16.25	0.00	0.00	0.00
3.50	0.00	0.00	0.00	16.50	0.01	0.00	0.01
3.75	0.00	0.00	0.00	16.75	0.02	0.00	0.02
4.00	0.00	0.00	0.00	17.00	0.03	0.00	0.03
4.25	0.00	0.00	0.00	17.25	0.03	0.00	0.03
4.50	0.00	0.00	0.00	17.50	0.04	0.00	0.04
4.75	0.00	0.00	0.00	17.75	0.04	0.00	0.04
5.00	0.00	0.00	0.00	18.00	0.04	0.00	0.04
5.25	0.00	0.00	0.00	18.25	0.04	0.00	0.04
5.50	0.00	0.00	0.00	18.50	0.05	0.00	0.05
5.75	0.00	0.00	0.00	18.75	0.05	0.00	0.05
6.00	0.00	0.00	0.00	19.00	0.05	0.00	0.05
6.25	0.00	0.00	0.00	19.25	0.05	0.00	0.05
6.50	0.00	0.00	0.00	19.50	0.06	0.00	0.06
6.75	0.00	0.00	0.00	19.75	0.06	0.00	0.06
7.00	0.00	0.00	0.00	20.00	0.06	0.00	0.06
7.25	0.00	0.00	0.00	20.25	0.06	0.00	0.06
7.50	0.00	0.00	0.00	20.50	0.06	0.00	0.06
7.75	0.00	0.00	0.00	20.75	0.06	0.00	0.06
8.00	0.00	0.00	0.00	21.00	0.06	0.00	0.06
8.25	0.00	0.00	0.00	21.25	0.06	0.00	0.06
8.50	0.00	0.00	0.00	21.50	0.06	0.00	0.06
8.75	0.00	0.00	0.00	21.75	0.06	0.00	0.06
9.00	0.00	0.00	0.00	22.00	0.06	0.00	0.06
9.25	0.00	0.00	0.00	22.25	**0.06**	0.00	**0.06**
9.50	0.00	0.00	0.00	22.50	**0.06**	0.00	**0.06**
9.75	0.00	0.00	0.00	22.75	0.06	0.00	0.06
10.00	0.00	0.00	0.00	23.00	0.06	0.00	0.06
10.25	0.00	0.00	0.00	23.25	0.06	0.00	0.06
10.50	0.00	0.00	0.00	23.50	0.06	0.00	0.06
10.75	0.00	0.00	0.00	23.75	0.06	0.00	0.06
11.00	0.00	0.00	0.00	24.00	0.06	0.00	0.06
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				

Summary for Link DP-2: Wetland

Inflow Area = 3.582 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-2: Wetland



Hydrograph for Link DP-2: Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.00	0.00	0.00
0.75	0.00	0.00	0.00	13.75	0.00	0.00	0.00
1.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00
1.25	0.00	0.00	0.00	14.25	0.00	0.00	0.00
1.50	0.00	0.00	0.00	14.50	0.00	0.00	0.00
1.75	0.00	0.00	0.00	14.75	0.00	0.00	0.00
2.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
2.25	0.00	0.00	0.00	15.25	0.00	0.00	0.00
2.50	0.00	0.00	0.00	15.50	0.00	0.00	0.00
2.75	0.00	0.00	0.00	15.75	0.00	0.00	0.00
3.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00
3.25	0.00	0.00	0.00	16.25	0.00	0.00	0.00
3.50	0.00	0.00	0.00	16.50	0.00	0.00	0.00
3.75	0.00	0.00	0.00	16.75	0.00	0.00	0.00
4.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00
4.25	0.00	0.00	0.00	17.25	0.00	0.00	0.00
4.50	0.00	0.00	0.00	17.50	0.00	0.00	0.00
4.75	0.00	0.00	0.00	17.75	0.00	0.00	0.00
5.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00
5.25	0.00	0.00	0.00	18.25	0.00	0.00	0.00
5.50	0.00	0.00	0.00	18.50	0.00	0.00	0.00
5.75	0.00	0.00	0.00	18.75	0.00	0.00	0.00
6.00	0.00	0.00	0.00	19.00	0.00	0.00	0.00
6.25	0.00	0.00	0.00	19.25	0.00	0.00	0.00
6.50	0.00	0.00	0.00	19.50	0.00	0.00	0.00
6.75	0.00	0.00	0.00	19.75	0.00	0.00	0.00
7.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
7.25	0.00	0.00	0.00	20.25	0.00	0.00	0.00
7.50	0.00	0.00	0.00	20.50	0.00	0.00	0.00
7.75	0.00	0.00	0.00	20.75	0.00	0.00	0.00
8.00	0.00	0.00	0.00	21.00	0.00	0.00	0.00
8.25	0.00	0.00	0.00	21.25	0.00	0.00	0.00
8.50	0.00	0.00	0.00	21.50	0.00	0.00	0.00
8.75	0.00	0.00	0.00	21.75	0.00	0.00	0.00
9.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00
9.25	0.00	0.00	0.00	22.25	0.00	0.00	0.00
9.50	0.00	0.00	0.00	22.50	0.00	0.00	0.00
9.75	0.00	0.00	0.00	22.75	0.00	0.00	0.00
10.00	0.00	0.00	0.00	23.00	0.00	0.00	0.00
10.25	0.00	0.00	0.00	23.25	0.00	0.00	0.00
10.50	0.00	0.00	0.00	23.50	0.00	0.00	0.00
10.75	0.00	0.00	0.00	23.75	0.00	0.00	0.00
11.00	0.00	0.00	0.00	24.00	0.00	0.00	0.00
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX-1: Subcat EX-1 Runoff Area=33.904 ac 0.00% Impervious Runoff Depth>0.11"
Flow Length=797' Tc=21.5 min CN=36 Runoff=0.49 cfs 0.301 af

Subcatchment EX-2: Subcat EX-2 Runoff Area=3.582 ac 0.00% Impervious Runoff Depth>0.01"
Flow Length=176' Tc=20.5 min CN=31 Runoff=0.01 cfs 0.004 af

Link DP-1: Internal Gravel Pit Inflow=0.49 cfs 0.301 af
Primary=0.49 cfs 0.301 af

Link DP-2: Wetland Inflow=0.01 cfs 0.004 af
Primary=0.01 cfs 0.004 af

Total Runoff Area = 37.486 ac Runoff Volume = 0.305 af Average Runoff Depth = 0.10"
100.00% Pervious = 37.486 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EX-1: Subcat EX-1

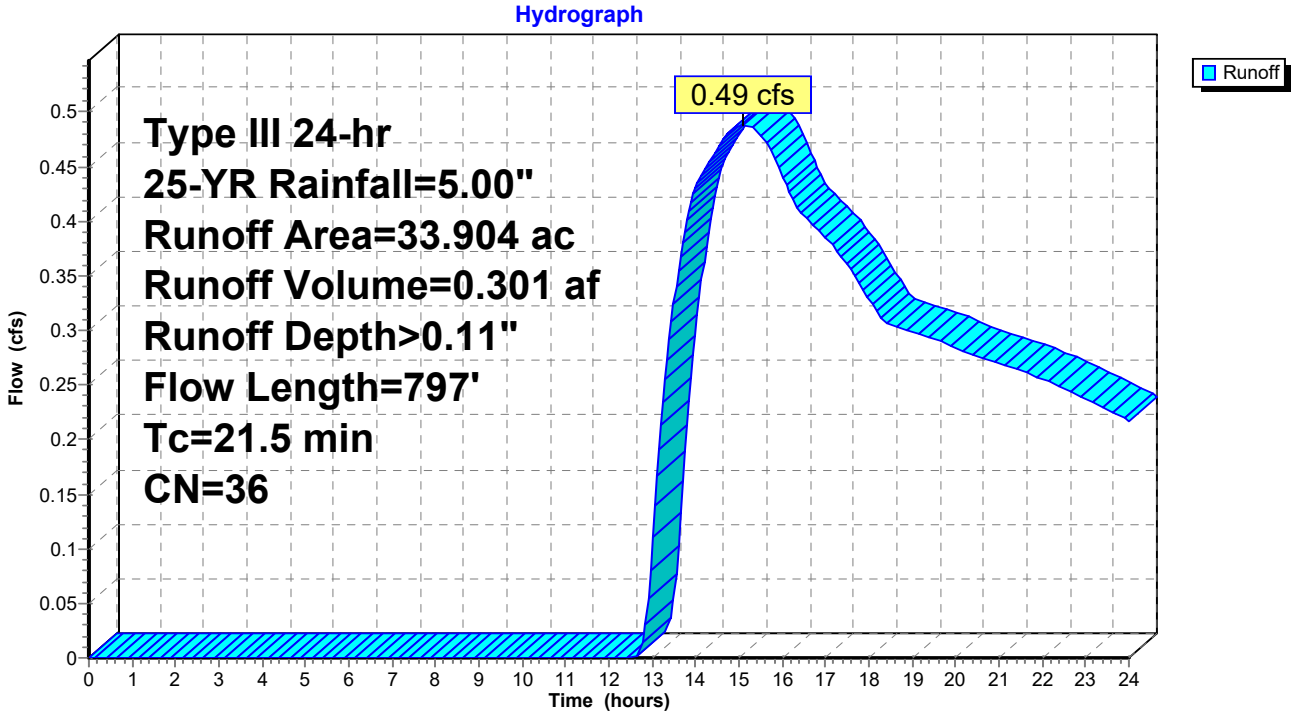
Runoff = 0.49 cfs @ 15.09 hrs, Volume= 0.301 af, Depth> 0.11"
Routed to Link DP-1 : Internal Gravel Pit

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.00"

Area (ac)	CN	Description
1.000	39	Pasture/grassland/range, Good, HSG A
0.003	39	Pasture/grassland/range, Good, HSG A
20.940	39	Pasture/grassland/range, Good, HSG A
0.006	39	Pasture/grassland/range, Good, HSG A
0.091	30	Woods, Good, HSG A
5.493	30	Woods, Good, HSG A
2.828	30	Brush, Good, HSG A
0.256	96	Gravel surface, HSG A
0.001	30	Brush, Good, HSG A
0.055	30	Brush, Good, HSG A
0.271	30	Woods, Good, HSG A
2.930	30	Woods, Good, HSG A
0.030	30	Woods, Good, HSG A
33.904	36	Weighted Average
33.904		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0910	0.11		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.78"
8.7	436	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.4	311	0.0190	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.5	797	Total			

Subcatchment EX-1: Subcat EX-1



Hydrograph for Subcatchment EX-1: Subcat EX-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	0.00	0.11
0.25	0.01	0.00	0.00	13.25	3.84	0.00	0.23
0.50	0.03	0.00	0.00	13.50	3.92	0.01	0.32
0.75	0.04	0.00	0.00	13.75	3.99	0.01	0.39
1.00	0.05	0.00	0.00	14.00	4.06	0.01	0.43
1.25	0.06	0.00	0.00	14.25	4.11	0.02	0.45
1.50	0.08	0.00	0.00	14.50	4.17	0.02	0.47
1.75	0.09	0.00	0.00	14.75	4.22	0.02	0.48
2.00	0.10	0.00	0.00	15.00	4.27	0.03	**0.49**
2.25	0.11	0.00	0.00	15.25	4.32	0.03	**0.49**
2.50	0.13	0.00	0.00	15.50	4.36	0.03	0.48
2.75	0.14	0.00	0.00	15.75	4.40	0.04	0.46
3.00	0.15	0.00	0.00	16.00	4.43	0.04	0.44
3.25	0.17	0.00	0.00	16.25	4.46	0.04	0.42
3.50	0.18	0.00	0.00	16.50	4.49	0.05	0.40
3.75	0.20	0.00	0.00	16.75	4.52	0.05	0.39
4.00	0.22	0.00	0.00	17.00	4.55	0.05	0.38
4.25	0.23	0.00	0.00	17.25	4.57	0.06	0.37
4.50	0.25	0.00	0.00	17.50	4.60	0.06	0.36
4.75	0.27	0.00	0.00	17.75	4.62	0.06	0.35
5.00	0.28	0.00	0.00	18.00	4.64	0.06	0.33
5.25	0.30	0.00	0.00	18.25	4.66	0.06	0.31
5.50	0.32	0.00	0.00	18.50	4.68	0.07	0.31
5.75	0.34	0.00	0.00	18.75	4.70	0.07	0.30
6.00	0.36	0.00	0.00	19.00	4.72	0.07	0.30
6.25	0.38	0.00	0.00	19.25	4.73	0.07	0.30
6.50	0.40	0.00	0.00	19.50	4.75	0.08	0.29
6.75	0.43	0.00	0.00	19.75	4.77	0.08	0.29
7.00	0.45	0.00	0.00	20.00	4.79	0.08	0.28
7.25	0.48	0.00	0.00	20.25	4.80	0.08	0.28
7.50	0.51	0.00	0.00	20.50	4.82	0.08	0.28
7.75	0.54	0.00	0.00	20.75	4.83	0.09	0.27
8.00	0.57	0.00	0.00	21.00	4.85	0.09	0.27
8.25	0.60	0.00	0.00	21.25	4.86	0.09	0.27
8.50	0.64	0.00	0.00	21.50	4.88	0.09	0.26
8.75	0.68	0.00	0.00	21.75	4.89	0.09	0.26
9.00	0.73	0.00	0.00	22.00	4.90	0.10	0.26
9.25	0.78	0.00	0.00	22.25	4.92	0.10	0.25
9.50	0.83	0.00	0.00	22.50	4.93	0.10	0.25
9.75	0.89	0.00	0.00	22.75	4.94	0.10	0.24
10.00	0.95	0.00	0.00	23.00	4.95	0.10	0.24
10.25	1.01	0.00	0.00	23.25	4.97	0.10	0.23
10.50	1.08	0.00	0.00	23.50	4.98	0.11	0.23
10.75	1.16	0.00	0.00	23.75	4.99	0.11	0.22
11.00	1.25	0.00	0.00	24.00	**5.00**	**0.11**	0.22
11.25	1.36	0.00	0.00				
11.50	1.49	0.00	0.00				
11.75	1.78	0.00	0.00				
12.00	2.50	0.00	0.00				
12.25	3.22	0.00	0.00				
12.50	3.51	0.00	0.00				
12.75	3.64	0.00	0.01				

Summary for Subcatchment EX-2: Subcat EX-2

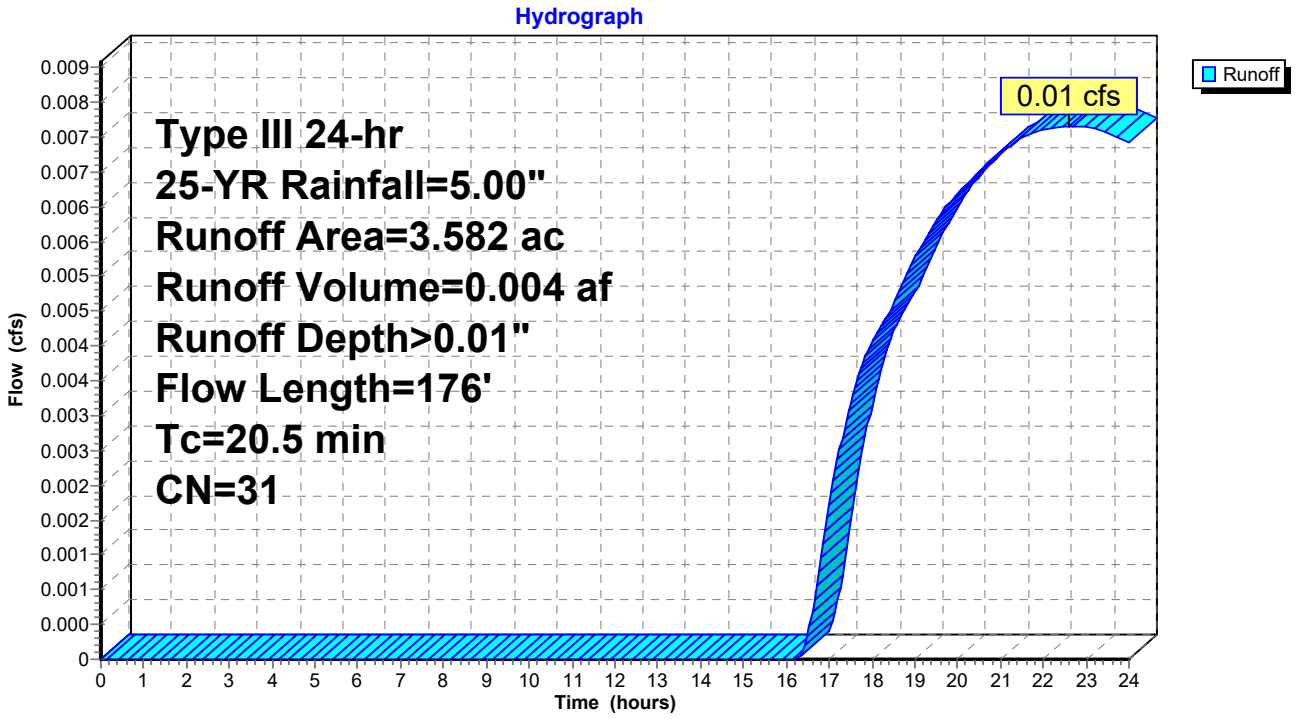
Runoff = 0.01 cfs @ 22.60 hrs, Volume= 0.004 af, Depth> 0.01"
Routed to Link DP-2 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.00"

Area (ac)	CN	Description
0.118	39	Pasture/grassland/range, Good, HSG A
0.070	39	Pasture/grassland/range, Good, HSG A
0.083	39	Pasture/grassland/range, Good, HSG A
0.162	30	Woods, Good, HSG A
2.880	30	Woods, Good, HSG A
0.270	30	Brush, Good, HSG A
3.582	31	Weighted Average
3.582		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	50	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.78"
3.0	126	0.0198	0.70		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.5	176	Total			

Subcatchment EX-2: Subcat EX-2



Hydrograph for Subcatchment EX-2: Subcat EX-2

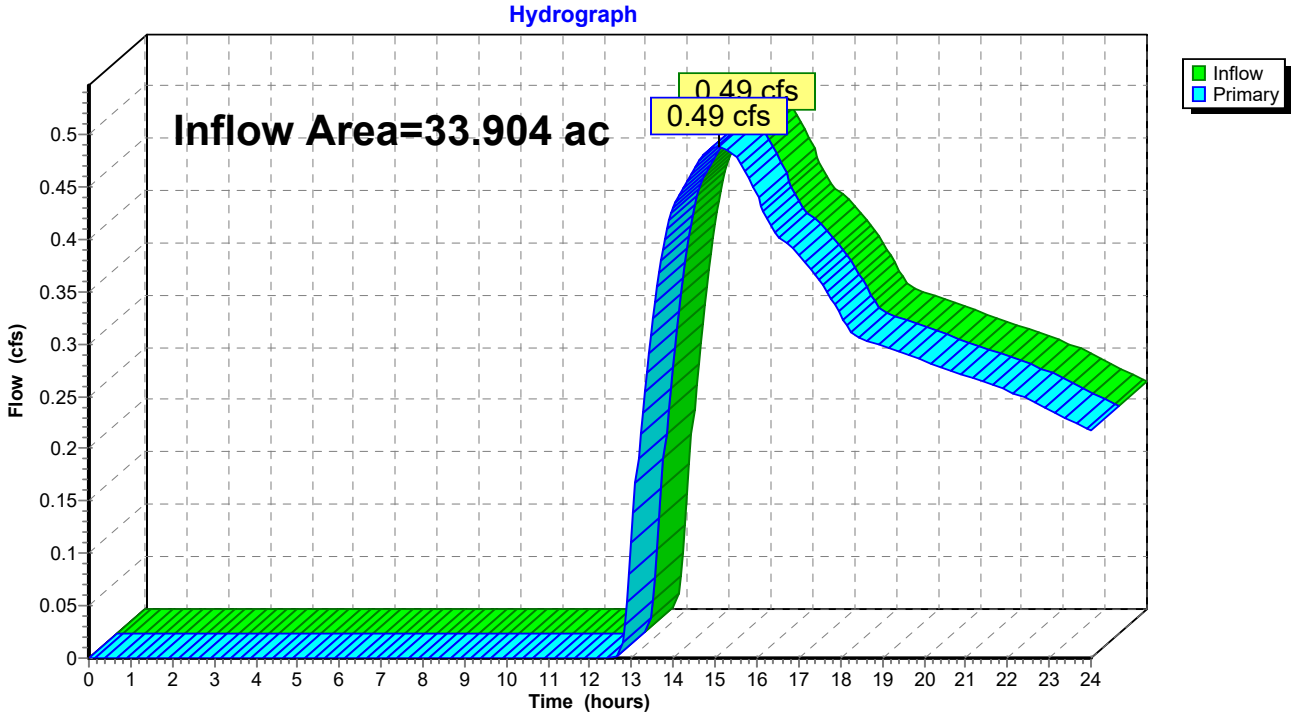
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	0.00	0.00
0.25	0.01	0.00	0.00	13.25	3.84	0.00	0.00
0.50	0.03	0.00	0.00	13.50	3.92	0.00	0.00
0.75	0.04	0.00	0.00	13.75	3.99	0.00	0.00
1.00	0.05	0.00	0.00	14.00	4.06	0.00	0.00
1.25	0.06	0.00	0.00	14.25	4.11	0.00	0.00
1.50	0.08	0.00	0.00	14.50	4.17	0.00	0.00
1.75	0.09	0.00	0.00	14.75	4.22	0.00	0.00
2.00	0.10	0.00	0.00	15.00	4.27	0.00	0.00
2.25	0.11	0.00	0.00	15.25	4.32	0.00	0.00
2.50	0.13	0.00	0.00	15.50	4.36	0.00	0.00
2.75	0.14	0.00	0.00	15.75	4.40	0.00	0.00
3.00	0.15	0.00	0.00	16.00	4.43	0.00	0.00
3.25	0.17	0.00	0.00	16.25	4.46	0.00	0.00
3.50	0.18	0.00	0.00	16.50	4.49	0.00	0.00
3.75	0.20	0.00	0.00	16.75	4.52	0.00	0.00
4.00	0.22	0.00	0.00	17.00	4.55	0.00	0.00
4.25	0.23	0.00	0.00	17.25	4.57	0.00	0.00
4.50	0.25	0.00	0.00	17.50	4.60	0.00	0.00
4.75	0.27	0.00	0.00	17.75	4.62	0.00	0.00
5.00	0.28	0.00	0.00	18.00	4.64	0.00	0.00
5.25	0.30	0.00	0.00	18.25	4.66	0.00	0.00
5.50	0.32	0.00	0.00	18.50	4.68	0.00	0.01
5.75	0.34	0.00	0.00	18.75	4.70	0.00	0.01
6.00	0.36	0.00	0.00	19.00	4.72	0.00	0.01
6.25	0.38	0.00	0.00	19.25	4.73	0.00	0.01
6.50	0.40	0.00	0.00	19.50	4.75	0.00	0.01
6.75	0.43	0.00	0.00	19.75	4.77	0.00	0.01
7.00	0.45	0.00	0.00	20.00	4.79	0.00	0.01
7.25	0.48	0.00	0.00	20.25	4.80	0.01	0.01
7.50	0.51	0.00	0.00	20.50	4.82	0.01	0.01
7.75	0.54	0.00	0.00	20.75	4.83	0.01	0.01
8.00	0.57	0.00	0.00	21.00	4.85	0.01	0.01
8.25	0.60	0.00	0.00	21.25	4.86	0.01	0.01
8.50	0.64	0.00	0.00	21.50	4.88	0.01	0.01
8.75	0.68	0.00	0.00	21.75	4.89	0.01	0.01
9.00	0.73	0.00	0.00	22.00	4.90	0.01	0.01
9.25	0.78	0.00	0.00	22.25	4.92	0.01	0.01
9.50	0.83	0.00	0.00	22.50	4.93	0.01	**0.01**
9.75	0.89	0.00	0.00	22.75	4.94	0.01	**0.01**
10.00	0.95	0.00	0.00	23.00	4.95	0.01	0.01
10.25	1.01	0.00	0.00	23.25	4.97	0.01	0.01
10.50	1.08	0.00	0.00	23.50	4.98	0.01	0.01
10.75	1.16	0.00	0.00	23.75	4.99	0.01	0.01
11.00	1.25	0.00	0.00	24.00	**5.00**	**0.01**	0.01
11.25	1.36	0.00	0.00				
11.50	1.49	0.00	0.00				
11.75	1.78	0.00	0.00				
12.00	2.50	0.00	0.00				
12.25	3.22	0.00	0.00				
12.50	3.51	0.00	0.00				
12.75	3.64	0.00	0.00				

Summary for Link DP-1: Internal Gravel Pit

Inflow Area = 33.904 ac, 0.00% Impervious, Inflow Depth > 0.11" for 25-YR event
Inflow = 0.49 cfs @ 15.09 hrs, Volume= 0.301 af
Primary = 0.49 cfs @ 15.09 hrs, Volume= 0.301 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-1: Internal Gravel Pit



Hydrograph for Link DP-1: Internal Gravel Pit

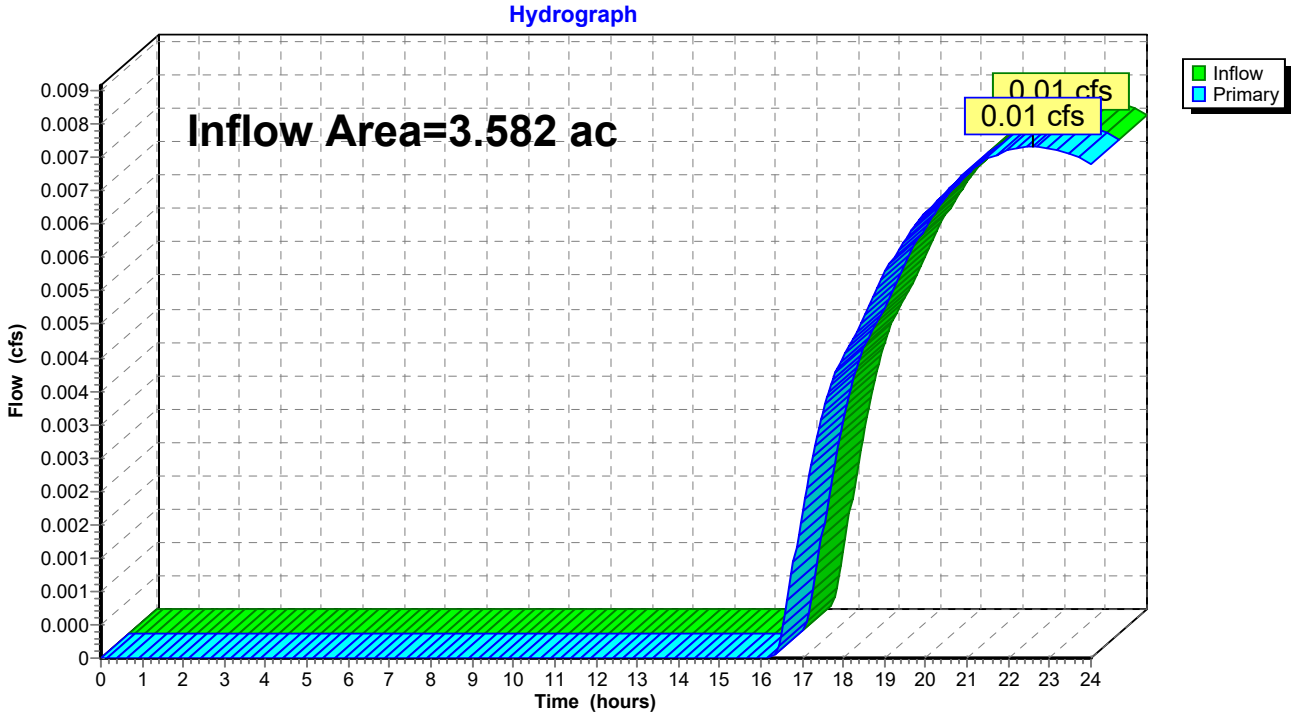
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	13.00	0.11	0.00	0.11
0.25	0.00	0.00	0.00	13.25	0.23	0.00	0.23
0.50	0.00	0.00	0.00	13.50	0.32	0.00	0.32
0.75	0.00	0.00	0.00	13.75	0.39	0.00	0.39
1.00	0.00	0.00	0.00	14.00	0.43	0.00	0.43
1.25	0.00	0.00	0.00	14.25	0.45	0.00	0.45
1.50	0.00	0.00	0.00	14.50	0.47	0.00	0.47
1.75	0.00	0.00	0.00	14.75	0.48	0.00	0.48
2.00	0.00	0.00	0.00	15.00	**0.49**	0.00	**0.49**
2.25	0.00	0.00	0.00	15.25	**0.49**	0.00	**0.49**
2.50	0.00	0.00	0.00	15.50	0.48	0.00	0.48
2.75	0.00	0.00	0.00	15.75	0.46	0.00	0.46
3.00	0.00	0.00	0.00	16.00	0.44	0.00	0.44
3.25	0.00	0.00	0.00	16.25	0.42	0.00	0.42
3.50	0.00	0.00	0.00	16.50	0.40	0.00	0.40
3.75	0.00	0.00	0.00	16.75	0.39	0.00	0.39
4.00	0.00	0.00	0.00	17.00	0.38	0.00	0.38
4.25	0.00	0.00	0.00	17.25	0.37	0.00	0.37
4.50	0.00	0.00	0.00	17.50	0.36	0.00	0.36
4.75	0.00	0.00	0.00	17.75	0.35	0.00	0.35
5.00	0.00	0.00	0.00	18.00	0.33	0.00	0.33
5.25	0.00	0.00	0.00	18.25	0.31	0.00	0.31
5.50	0.00	0.00	0.00	18.50	0.31	0.00	0.31
5.75	0.00	0.00	0.00	18.75	0.30	0.00	0.30
6.00	0.00	0.00	0.00	19.00	0.30	0.00	0.30
6.25	0.00	0.00	0.00	19.25	0.30	0.00	0.30
6.50	0.00	0.00	0.00	19.50	0.29	0.00	0.29
6.75	0.00	0.00	0.00	19.75	0.29	0.00	0.29
7.00	0.00	0.00	0.00	20.00	0.28	0.00	0.28
7.25	0.00	0.00	0.00	20.25	0.28	0.00	0.28
7.50	0.00	0.00	0.00	20.50	0.28	0.00	0.28
7.75	0.00	0.00	0.00	20.75	0.27	0.00	0.27
8.00	0.00	0.00	0.00	21.00	0.27	0.00	0.27
8.25	0.00	0.00	0.00	21.25	0.27	0.00	0.27
8.50	0.00	0.00	0.00	21.50	0.26	0.00	0.26
8.75	0.00	0.00	0.00	21.75	0.26	0.00	0.26
9.00	0.00	0.00	0.00	22.00	0.26	0.00	0.26
9.25	0.00	0.00	0.00	22.25	0.25	0.00	0.25
9.50	0.00	0.00	0.00	22.50	0.25	0.00	0.25
9.75	0.00	0.00	0.00	22.75	0.24	0.00	0.24
10.00	0.00	0.00	0.00	23.00	0.24	0.00	0.24
10.25	0.00	0.00	0.00	23.25	0.23	0.00	0.23
10.50	0.00	0.00	0.00	23.50	0.23	0.00	0.23
10.75	0.00	0.00	0.00	23.75	0.22	0.00	0.22
11.00	0.00	0.00	0.00	24.00	0.22	0.00	0.22
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.01	0.00	0.01				

Summary for Link DP-2: Wetland

Inflow Area = 3.582 ac, 0.00% Impervious, Inflow Depth > 0.01" for 25-YR event
Inflow = 0.01 cfs @ 22.60 hrs, Volume= 0.004 af
Primary = 0.01 cfs @ 22.60 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-2: Wetland



Hydrograph for Link DP-2: Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.00	0.00	0.00
0.75	0.00	0.00	0.00	13.75	0.00	0.00	0.00
1.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00
1.25	0.00	0.00	0.00	14.25	0.00	0.00	0.00
1.50	0.00	0.00	0.00	14.50	0.00	0.00	0.00
1.75	0.00	0.00	0.00	14.75	0.00	0.00	0.00
2.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
2.25	0.00	0.00	0.00	15.25	0.00	0.00	0.00
2.50	0.00	0.00	0.00	15.50	0.00	0.00	0.00
2.75	0.00	0.00	0.00	15.75	0.00	0.00	0.00
3.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00
3.25	0.00	0.00	0.00	16.25	0.00	0.00	0.00
3.50	0.00	0.00	0.00	16.50	0.00	0.00	0.00
3.75	0.00	0.00	0.00	16.75	0.00	0.00	0.00
4.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00
4.25	0.00	0.00	0.00	17.25	0.00	0.00	0.00
4.50	0.00	0.00	0.00	17.50	0.00	0.00	0.00
4.75	0.00	0.00	0.00	17.75	0.00	0.00	0.00
5.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00
5.25	0.00	0.00	0.00	18.25	0.00	0.00	0.00
5.50	0.00	0.00	0.00	18.50	0.01	0.00	0.01
5.75	0.00	0.00	0.00	18.75	0.01	0.00	0.01
6.00	0.00	0.00	0.00	19.00	0.01	0.00	0.01
6.25	0.00	0.00	0.00	19.25	0.01	0.00	0.01
6.50	0.00	0.00	0.00	19.50	0.01	0.00	0.01
6.75	0.00	0.00	0.00	19.75	0.01	0.00	0.01
7.00	0.00	0.00	0.00	20.00	0.01	0.00	0.01
7.25	0.00	0.00	0.00	20.25	0.01	0.00	0.01
7.50	0.00	0.00	0.00	20.50	0.01	0.00	0.01
7.75	0.00	0.00	0.00	20.75	0.01	0.00	0.01
8.00	0.00	0.00	0.00	21.00	0.01	0.00	0.01
8.25	0.00	0.00	0.00	21.25	0.01	0.00	0.01
8.50	0.00	0.00	0.00	21.50	0.01	0.00	0.01
8.75	0.00	0.00	0.00	21.75	0.01	0.00	0.01
9.00	0.00	0.00	0.00	22.00	0.01	0.00	0.01
9.25	0.00	0.00	0.00	22.25	0.01	0.00	0.01
9.50	0.00	0.00	0.00	22.50	**0.01**	0.00	**0.01**
9.75	0.00	0.00	0.00	22.75	**0.01**	0.00	**0.01**
10.00	0.00	0.00	0.00	23.00	0.01	0.00	0.01
10.25	0.00	0.00	0.00	23.25	0.01	0.00	0.01
10.50	0.00	0.00	0.00	23.50	0.01	0.00	0.01
10.75	0.00	0.00	0.00	23.75	0.01	0.00	0.01
11.00	0.00	0.00	0.00	24.00	0.01	0.00	0.01
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX-1: Subcat EX-1 Runoff Area=33.904 ac 0.00% Impervious Runoff Depth>0.27"
Flow Length=797' Tc=21.5 min CN=36 Runoff=1.65 cfs 0.750 af

Subcatchment EX-2: Subcat EX-2 Runoff Area=3.582 ac 0.00% Impervious Runoff Depth>0.08"
Flow Length=176' Tc=20.5 min CN=31 Runoff=0.04 cfs 0.025 af

Link DP-1: Internal Gravel Pit Inflow=1.65 cfs 0.750 af
Primary=1.65 cfs 0.750 af

Link DP-2: Wetland Inflow=0.04 cfs 0.025 af
Primary=0.04 cfs 0.025 af

Total Runoff Area = 37.486 ac Runoff Volume = 0.775 af Average Runoff Depth = 0.25"
100.00% Pervious = 37.486 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EX-1: Subcat EX-1

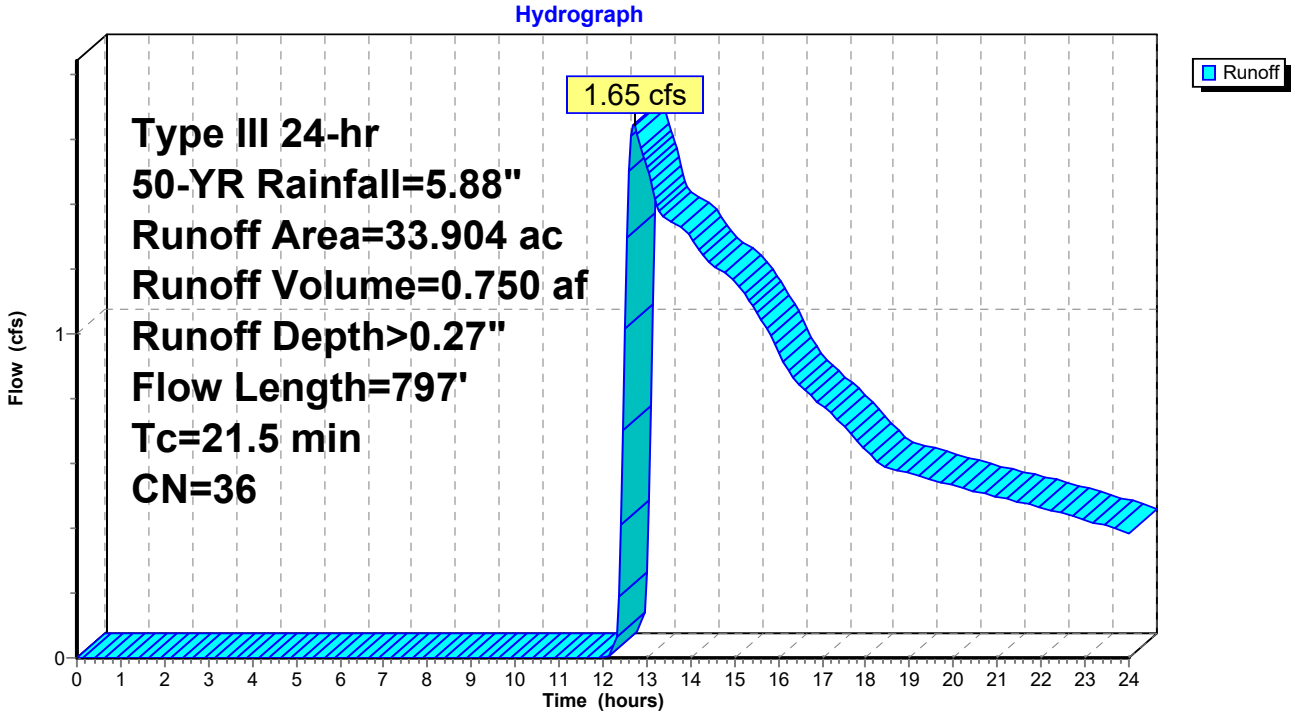
Runoff = 1.65 cfs @ 12.71 hrs, Volume= 0.750 af, Depth> 0.27"
Routed to Link DP-1 : Internal Gravel Pit

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR Rainfall=5.88"

Area (ac)	CN	Description
1.000	39	Pasture/grassland/range, Good, HSG A
0.003	39	Pasture/grassland/range, Good, HSG A
20.940	39	Pasture/grassland/range, Good, HSG A
0.006	39	Pasture/grassland/range, Good, HSG A
0.091	30	Woods, Good, HSG A
5.493	30	Woods, Good, HSG A
2.828	30	Brush, Good, HSG A
0.256	96	Gravel surface, HSG A
0.001	30	Brush, Good, HSG A
0.055	30	Brush, Good, HSG A
0.271	30	Woods, Good, HSG A
2.930	30	Woods, Good, HSG A
0.030	30	Woods, Good, HSG A
33.904	36	Weighted Average
33.904		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0910	0.11		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.78"
8.7	436	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.4	311	0.0190	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.5	797	Total			

Subcatchment EX-1: Subcat EX-1



Hydrograph for Subcatchment EX-1: Subcat EX-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	4.41	0.04	1.52
0.25	0.01	0.00	0.00	13.25	4.51	0.05	1.40
0.50	0.03	0.00	0.00	13.50	4.61	0.06	1.35
0.75	0.04	0.00	0.00	13.75	4.69	0.07	1.33
1.00	0.06	0.00	0.00	14.00	4.77	0.08	1.30
1.25	0.07	0.00	0.00	14.25	4.84	0.09	1.25
1.50	0.09	0.00	0.00	14.50	4.90	0.10	1.21
1.75	0.10	0.00	0.00	14.75	4.97	0.10	1.19
2.00	0.12	0.00	0.00	15.00	5.02	0.11	1.16
2.25	0.13	0.00	0.00	15.25	5.08	0.12	1.12
2.50	0.15	0.00	0.00	15.50	5.12	0.13	1.07
2.75	0.16	0.00	0.00	15.75	5.17	0.13	1.01
3.00	0.18	0.00	0.00	16.00	5.21	0.14	0.95
3.25	0.20	0.00	0.00	16.25	5.25	0.15	0.88
3.50	0.22	0.00	0.00	16.50	5.28	0.15	0.84
3.75	0.23	0.00	0.00	16.75	5.32	0.16	0.81
4.00	0.25	0.00	0.00	17.00	5.35	0.16	0.78
4.25	0.27	0.00	0.00	17.25	5.38	0.17	0.75
4.50	0.29	0.00	0.00	17.50	5.41	0.17	0.71
4.75	0.31	0.00	0.00	17.75	5.43	0.18	0.68
5.00	0.33	0.00	0.00	18.00	5.46	0.18	0.64
5.25	0.36	0.00	0.00	18.25	5.48	0.19	0.61
5.50	0.38	0.00	0.00	18.50	5.50	0.19	0.59
5.75	0.40	0.00	0.00	18.75	5.52	0.20	0.58
6.00	0.42	0.00	0.00	19.00	5.55	0.20	0.57
6.25	0.45	0.00	0.00	19.25	5.57	0.20	0.56
6.50	0.47	0.00	0.00	19.50	5.59	0.21	0.55
6.75	0.50	0.00	0.00	19.75	5.61	0.21	0.54
7.00	0.53	0.00	0.00	20.00	5.63	0.22	0.53
7.25	0.56	0.00	0.00	20.25	5.65	0.22	0.52
7.50	0.60	0.00	0.00	20.50	5.66	0.22	0.51
7.75	0.63	0.00	0.00	20.75	5.68	0.23	0.50
8.00	0.67	0.00	0.00	21.00	5.70	0.23	0.50
8.25	0.71	0.00	0.00	21.25	5.72	0.23	0.49
8.50	0.76	0.00	0.00	21.50	5.73	0.24	0.48
8.75	0.80	0.00	0.00	21.75	5.75	0.24	0.47
9.00	0.86	0.00	0.00	22.00	5.77	0.24	0.46
9.25	0.91	0.00	0.00	22.25	5.78	0.25	0.45
9.50	0.98	0.00	0.00	22.50	5.80	0.25	0.45
9.75	1.04	0.00	0.00	22.75	5.81	0.25	0.44
10.00	1.11	0.00	0.00	23.00	5.83	0.26	0.43
10.25	1.19	0.00	0.00	23.25	5.84	0.26	0.42
10.50	1.27	0.00	0.00	23.50	5.85	0.26	0.41
10.75	1.37	0.00	0.00	23.75	5.87	0.27	0.40
11.00	1.47	0.00	0.00	24.00	**5.88**	**0.27**	0.39
11.25	1.59	0.00	0.00				
11.50	1.75	0.00	0.00				
11.75	2.09	0.00	0.00				
12.00	2.94	0.00	0.00				
12.25	3.79	0.00	0.01				
12.50	4.13	0.02	**1.02**				
12.75	4.29	0.03	**1.63**				

Summary for Subcatchment EX-2: Subcat EX-2

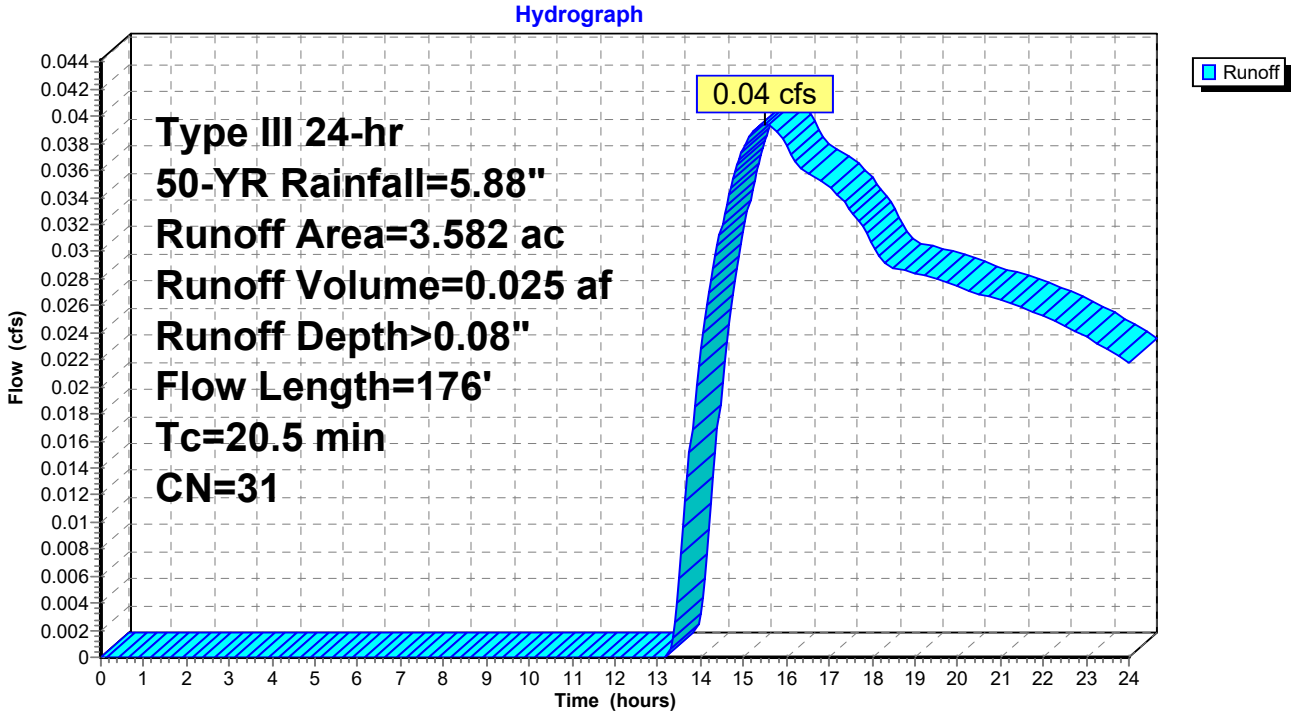
Runoff = 0.04 cfs @ 15.51 hrs, Volume= 0.025 af, Depth> 0.08"
Routed to Link DP-2 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR Rainfall=5.88"

Area (ac)	CN	Description
0.118	39	Pasture/grassland/range, Good, HSG A
0.070	39	Pasture/grassland/range, Good, HSG A
0.083	39	Pasture/grassland/range, Good, HSG A
0.162	30	Woods, Good, HSG A
2.880	30	Woods, Good, HSG A
0.270	30	Brush, Good, HSG A
3.582	31	Weighted Average
3.582		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	50	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.78"
3.0	126	0.0198	0.70		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.5	176	Total			

Subcatchment EX-2: Subcat EX-2



Hydrograph for Subcatchment EX-2: Subcat EX-2

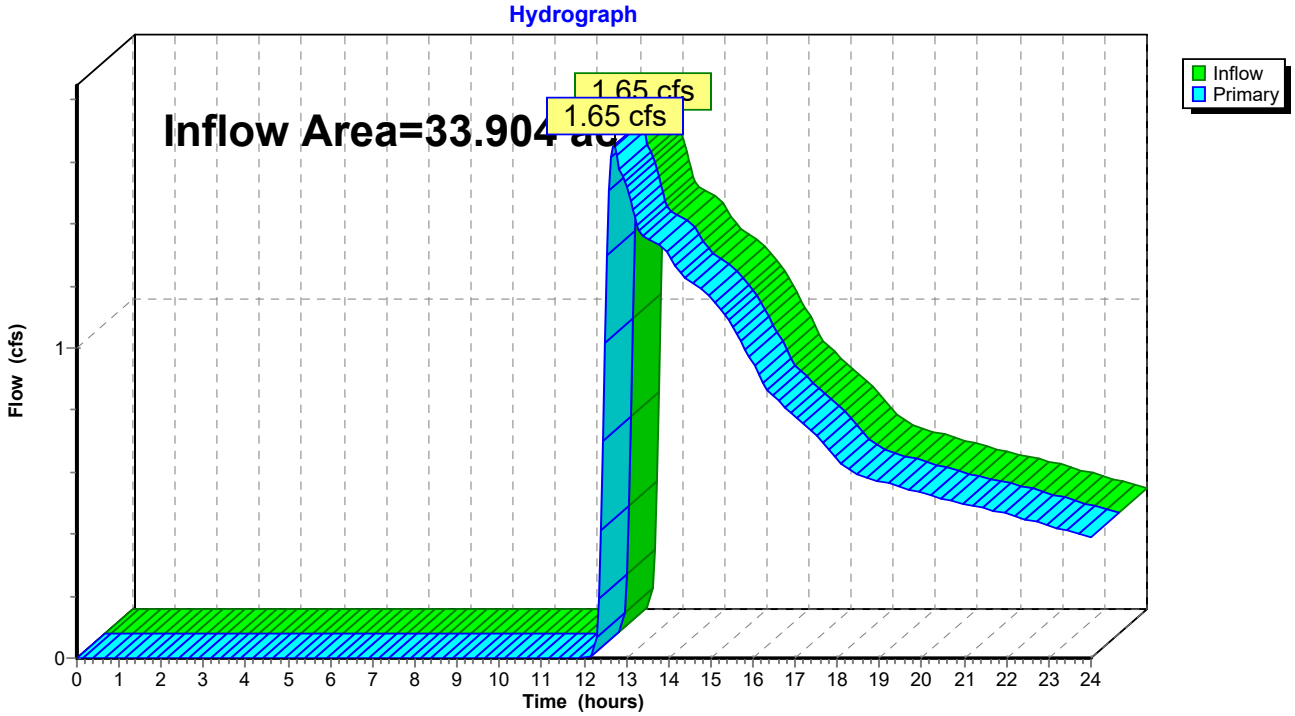
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	4.41	0.00	0.00
0.25	0.01	0.00	0.00	13.25	4.51	0.00	0.00
0.50	0.03	0.00	0.00	13.50	4.61	0.00	0.01
0.75	0.04	0.00	0.00	13.75	4.69	0.00	0.02
1.00	0.06	0.00	0.00	14.00	4.77	0.00	0.02
1.25	0.07	0.00	0.00	14.25	4.84	0.01	0.03
1.50	0.09	0.00	0.00	14.50	4.90	0.01	0.03
1.75	0.10	0.00	0.00	14.75	4.97	0.01	0.04
2.00	0.12	0.00	0.00	15.00	5.02	0.01	0.04
2.25	0.13	0.00	0.00	15.25	5.08	0.02	0.04
2.50	0.15	0.00	0.00	15.50	5.12	0.02	**0.04**
2.75	0.16	0.00	0.00	15.75	5.17	0.02	0.04
3.00	0.18	0.00	0.00	16.00	5.21	0.02	0.04
3.25	0.20	0.00	0.00	16.25	5.25	0.03	0.04
3.50	0.22	0.00	0.00	16.50	5.28	0.03	0.04
3.75	0.23	0.00	0.00	16.75	5.32	0.03	0.04
4.00	0.25	0.00	0.00	17.00	5.35	0.03	0.03
4.25	0.27	0.00	0.00	17.25	5.38	0.04	0.03
4.50	0.29	0.00	0.00	17.50	5.41	0.04	0.03
4.75	0.31	0.00	0.00	17.75	5.43	0.04	0.03
5.00	0.33	0.00	0.00	18.00	5.46	0.04	0.03
5.25	0.36	0.00	0.00	18.25	5.48	0.05	0.03
5.50	0.38	0.00	0.00	18.50	5.50	0.05	0.03
5.75	0.40	0.00	0.00	18.75	5.52	0.05	0.03
6.00	0.42	0.00	0.00	19.00	5.55	0.05	0.03
6.25	0.45	0.00	0.00	19.25	5.57	0.05	0.03
6.50	0.47	0.00	0.00	19.50	5.59	0.06	0.03
6.75	0.50	0.00	0.00	19.75	5.61	0.06	0.03
7.00	0.53	0.00	0.00	20.00	5.63	0.06	0.03
7.25	0.56	0.00	0.00	20.25	5.65	0.06	0.03
7.50	0.60	0.00	0.00	20.50	5.66	0.06	0.03
7.75	0.63	0.00	0.00	20.75	5.68	0.06	0.03
8.00	0.67	0.00	0.00	21.00	5.70	0.07	0.03
8.25	0.71	0.00	0.00	21.25	5.72	0.07	0.03
8.50	0.76	0.00	0.00	21.50	5.73	0.07	0.03
8.75	0.80	0.00	0.00	21.75	5.75	0.07	0.03
9.00	0.86	0.00	0.00	22.00	5.77	0.07	0.03
9.25	0.91	0.00	0.00	22.25	5.78	0.08	0.02
9.50	0.98	0.00	0.00	22.50	5.80	0.08	0.02
9.75	1.04	0.00	0.00	22.75	5.81	0.08	0.02
10.00	1.11	0.00	0.00	23.00	5.83	0.08	0.02
10.25	1.19	0.00	0.00	23.25	5.84	0.08	0.02
10.50	1.27	0.00	0.00	23.50	5.85	0.08	0.02
10.75	1.37	0.00	0.00	23.75	5.87	0.08	0.02
11.00	1.47	0.00	0.00	24.00	**5.88**	**0.09**	0.02
11.25	1.59	0.00	0.00				
11.50	1.75	0.00	0.00				
11.75	2.09	0.00	0.00				
12.00	2.94	0.00	0.00				
12.25	3.79	0.00	0.00				
12.50	4.13	0.00	0.00				
12.75	4.29	0.00	0.00				

Summary for Link DP-1: Internal Gravel Pit

Inflow Area = 33.904 ac, 0.00% Impervious, Inflow Depth > 0.27" for 50-YR event
Inflow = 1.65 cfs @ 12.71 hrs, Volume= 0.750 af
Primary = 1.65 cfs @ 12.71 hrs, Volume= 0.750 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-1: Internal Gravel Pit



Hydrograph for Link DP-1: Internal Gravel Pit

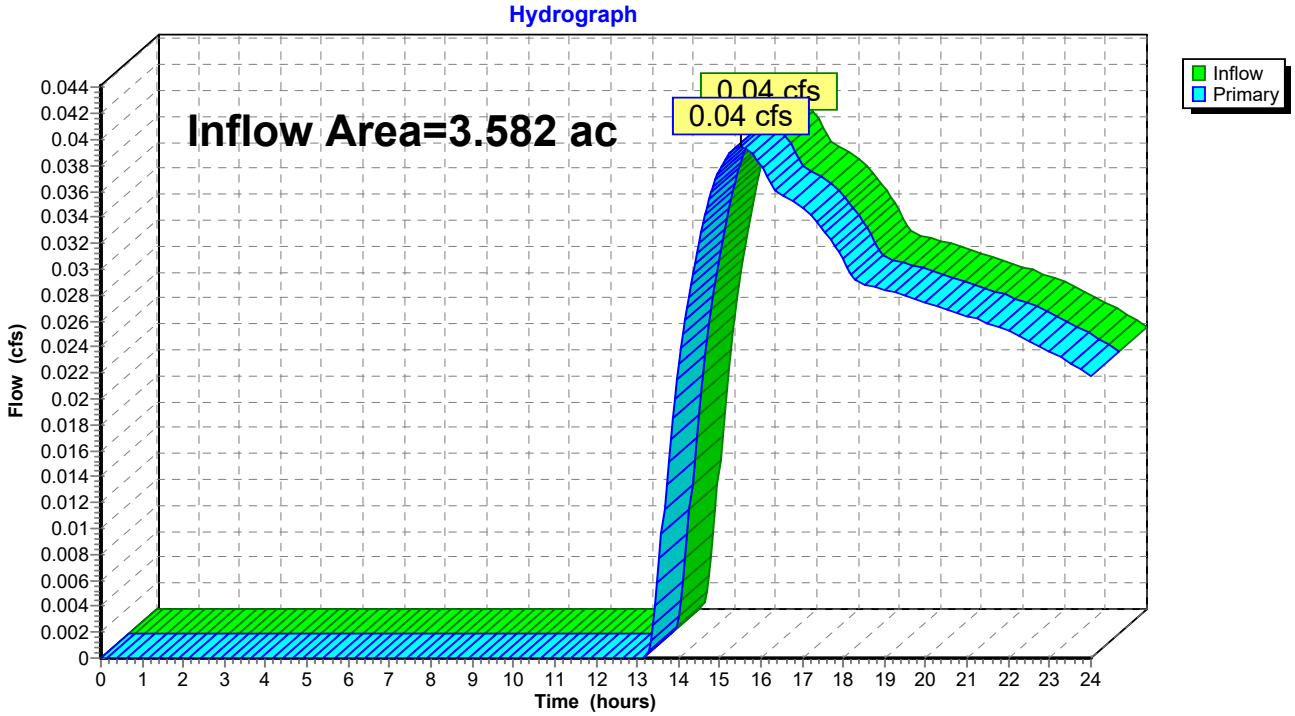
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	13.00	1.52	0.00	1.52
0.25	0.00	0.00	0.00	13.25	1.40	0.00	1.40
0.50	0.00	0.00	0.00	13.50	1.35	0.00	1.35
0.75	0.00	0.00	0.00	13.75	1.33	0.00	1.33
1.00	0.00	0.00	0.00	14.00	1.30	0.00	1.30
1.25	0.00	0.00	0.00	14.25	1.25	0.00	1.25
1.50	0.00	0.00	0.00	14.50	1.21	0.00	1.21
1.75	0.00	0.00	0.00	14.75	1.19	0.00	1.19
2.00	0.00	0.00	0.00	15.00	1.16	0.00	1.16
2.25	0.00	0.00	0.00	15.25	1.12	0.00	1.12
2.50	0.00	0.00	0.00	15.50	1.07	0.00	1.07
2.75	0.00	0.00	0.00	15.75	1.01	0.00	1.01
3.00	0.00	0.00	0.00	16.00	0.95	0.00	0.95
3.25	0.00	0.00	0.00	16.25	0.88	0.00	0.88
3.50	0.00	0.00	0.00	16.50	0.84	0.00	0.84
3.75	0.00	0.00	0.00	16.75	0.81	0.00	0.81
4.00	0.00	0.00	0.00	17.00	0.78	0.00	0.78
4.25	0.00	0.00	0.00	17.25	0.75	0.00	0.75
4.50	0.00	0.00	0.00	17.50	0.71	0.00	0.71
4.75	0.00	0.00	0.00	17.75	0.68	0.00	0.68
5.00	0.00	0.00	0.00	18.00	0.64	0.00	0.64
5.25	0.00	0.00	0.00	18.25	0.61	0.00	0.61
5.50	0.00	0.00	0.00	18.50	0.59	0.00	0.59
5.75	0.00	0.00	0.00	18.75	0.58	0.00	0.58
6.00	0.00	0.00	0.00	19.00	0.57	0.00	0.57
6.25	0.00	0.00	0.00	19.25	0.56	0.00	0.56
6.50	0.00	0.00	0.00	19.50	0.55	0.00	0.55
6.75	0.00	0.00	0.00	19.75	0.54	0.00	0.54
7.00	0.00	0.00	0.00	20.00	0.53	0.00	0.53
7.25	0.00	0.00	0.00	20.25	0.52	0.00	0.52
7.50	0.00	0.00	0.00	20.50	0.51	0.00	0.51
7.75	0.00	0.00	0.00	20.75	0.50	0.00	0.50
8.00	0.00	0.00	0.00	21.00	0.50	0.00	0.50
8.25	0.00	0.00	0.00	21.25	0.49	0.00	0.49
8.50	0.00	0.00	0.00	21.50	0.48	0.00	0.48
8.75	0.00	0.00	0.00	21.75	0.47	0.00	0.47
9.00	0.00	0.00	0.00	22.00	0.46	0.00	0.46
9.25	0.00	0.00	0.00	22.25	0.45	0.00	0.45
9.50	0.00	0.00	0.00	22.50	0.45	0.00	0.45
9.75	0.00	0.00	0.00	22.75	0.44	0.00	0.44
10.00	0.00	0.00	0.00	23.00	0.43	0.00	0.43
10.25	0.00	0.00	0.00	23.25	0.42	0.00	0.42
10.50	0.00	0.00	0.00	23.50	0.41	0.00	0.41
10.75	0.00	0.00	0.00	23.75	0.40	0.00	0.40
11.00	0.00	0.00	0.00	24.00	0.39	0.00	0.39
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.01	0.00	0.01				
12.50	**1.02**	0.00	**1.02**				
12.75	**1.63**	0.00	**1.63**				

Summary for Link DP-2: Wetland

Inflow Area = 3.582 ac, 0.00% Impervious, Inflow Depth > 0.08" for 50-YR event
Inflow = 0.04 cfs @ 15.51 hrs, Volume= 0.025 af
Primary = 0.04 cfs @ 15.51 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min

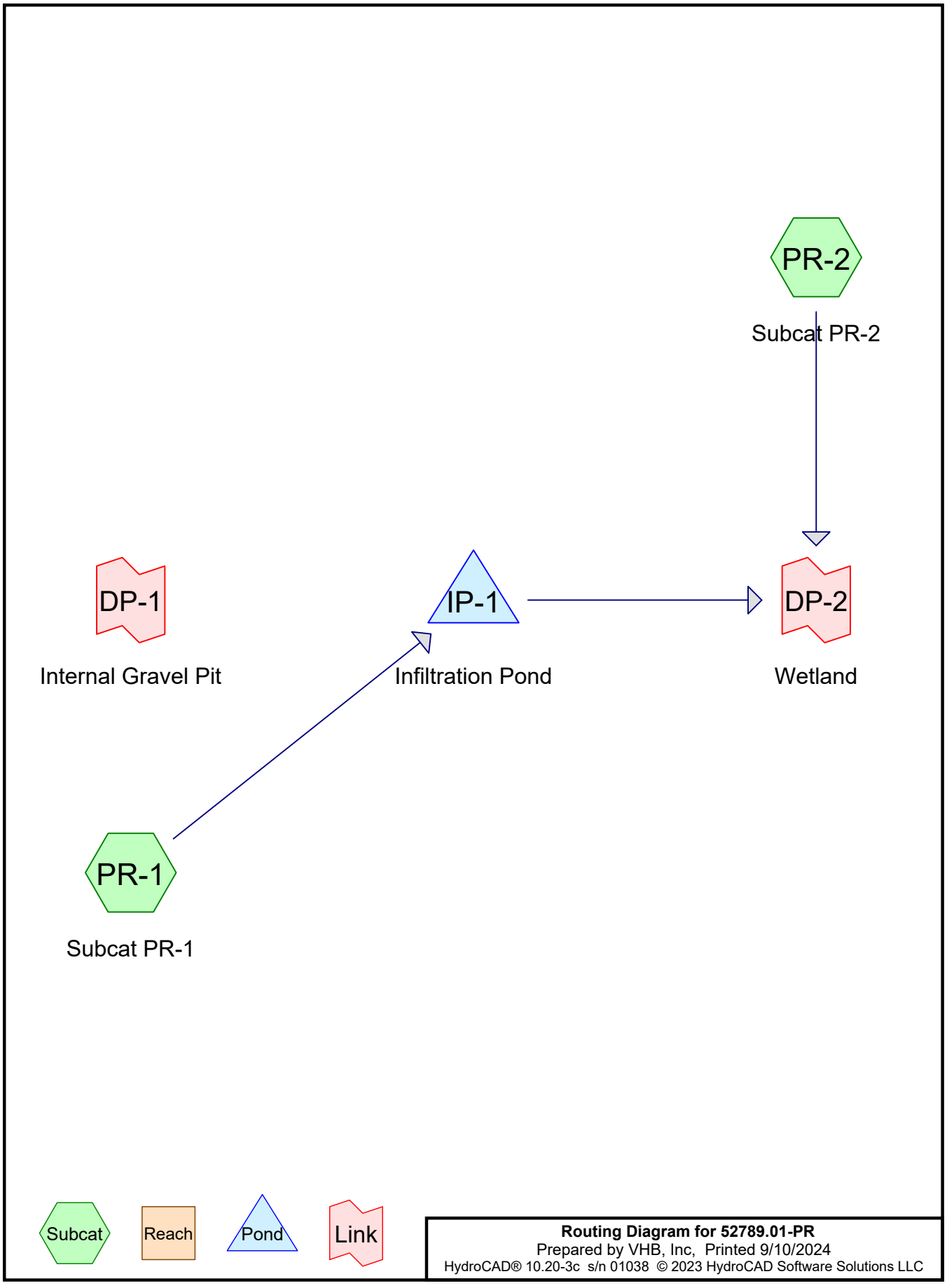
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-2: Wetland



Hydrograph for Link DP-2: Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.01	0.00	0.01
0.75	0.00	0.00	0.00	13.75	0.02	0.00	0.02
1.00	0.00	0.00	0.00	14.00	0.02	0.00	0.02
1.25	0.00	0.00	0.00	14.25	0.03	0.00	0.03
1.50	0.00	0.00	0.00	14.50	0.03	0.00	0.03
1.75	0.00	0.00	0.00	14.75	0.04	0.00	0.04
2.00	0.00	0.00	0.00	15.00	0.04	0.00	0.04
2.25	0.00	0.00	0.00	15.25	0.04	0.00	0.04
2.50	0.00	0.00	0.00	15.50	**0.04**	0.00	**0.04**
2.75	0.00	0.00	0.00	15.75	0.04	0.00	0.04
3.00	0.00	0.00	0.00	16.00	0.04	0.00	0.04
3.25	0.00	0.00	0.00	16.25	0.04	0.00	0.04
3.50	0.00	0.00	0.00	16.50	0.04	0.00	0.04
3.75	0.00	0.00	0.00	16.75	0.04	0.00	0.04
4.00	0.00	0.00	0.00	17.00	0.03	0.00	0.03
4.25	0.00	0.00	0.00	17.25	0.03	0.00	0.03
4.50	0.00	0.00	0.00	17.50	0.03	0.00	0.03
4.75	0.00	0.00	0.00	17.75	0.03	0.00	0.03
5.00	0.00	0.00	0.00	18.00	0.03	0.00	0.03
5.25	0.00	0.00	0.00	18.25	0.03	0.00	0.03
5.50	0.00	0.00	0.00	18.50	0.03	0.00	0.03
5.75	0.00	0.00	0.00	18.75	0.03	0.00	0.03
6.00	0.00	0.00	0.00	19.00	0.03	0.00	0.03
6.25	0.00	0.00	0.00	19.25	0.03	0.00	0.03
6.50	0.00	0.00	0.00	19.50	0.03	0.00	0.03
6.75	0.00	0.00	0.00	19.75	0.03	0.00	0.03
7.00	0.00	0.00	0.00	20.00	0.03	0.00	0.03
7.25	0.00	0.00	0.00	20.25	0.03	0.00	0.03
7.50	0.00	0.00	0.00	20.50	0.03	0.00	0.03
7.75	0.00	0.00	0.00	20.75	0.03	0.00	0.03
8.00	0.00	0.00	0.00	21.00	0.03	0.00	0.03
8.25	0.00	0.00	0.00	21.25	0.03	0.00	0.03
8.50	0.00	0.00	0.00	21.50	0.03	0.00	0.03
8.75	0.00	0.00	0.00	21.75	0.03	0.00	0.03
9.00	0.00	0.00	0.00	22.00	0.03	0.00	0.03
9.25	0.00	0.00	0.00	22.25	0.02	0.00	0.02
9.50	0.00	0.00	0.00	22.50	0.02	0.00	0.02
9.75	0.00	0.00	0.00	22.75	0.02	0.00	0.02
10.00	0.00	0.00	0.00	23.00	0.02	0.00	0.02
10.25	0.00	0.00	0.00	23.25	0.02	0.00	0.02
10.50	0.00	0.00	0.00	23.50	0.02	0.00	0.02
10.75	0.00	0.00	0.00	23.75	0.02	0.00	0.02
11.00	0.00	0.00	0.00	24.00	0.02	0.00	0.02
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				



Routing Diagram for 52789.01-PR
Prepared by VHB, Inc, Printed 9/10/2024

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	2.78	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.03	2
3	25-YR	Type III 24-hr		Default	24.00	1	5.00	2
4	50-YR	Type III 24-hr		Default	24.00	1	5.88	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.165	30	Brush, Good, HSG A (PR-1, PR-2)
0.242	96	Gravel surface, HSG A (PR-1)
30.370	39	Pasture/grassland/range, Good, HSG A (PR-1, PR-2)
1.076	98	Unconnected roofs, HSG A (PR-1)
2.633	30	Woods, Good, HSG A (PR-1, PR-2)
37.486	**40**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
37.486	HSG A	PR-1, PR-2
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
37.486		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
3.165	0.000	0.000	0.000	0.000	3.165	Brush, Good	PR-1, PR-2
0.242	0.000	0.000	0.000	0.000	0.242	Gravel surface	PR-1
30.370	0.000	0.000	0.000	0.000	30.370	Pasture/grassland/range, Good	PR-1, PR-2
1.076	0.000	0.000	0.000	0.000	1.076	Unconnected roofs	PR-1
2.633	0.000	0.000	0.000	0.000	2.633	Woods, Good	PR-1, PR-2
37.486	**0.000**	**0.000**	**0.000**	**0.000**	**37.486**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PR-1: Subcat PR-1 Runoff Area=34.841 ac 3.09% Impervious Runoff Depth=0.00"
Flow Length=2,200' Tc=70.9 min UI Adjusted CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment PR-2: Subcat PR-2 Runoff Area=2.645 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=86' Tc=10.7 min CN=34 Runoff=0.00 cfs 0.000 af

Pond IP-1: Infiltration Pond Peak Elev=392.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Link DP-1: Internal Gravel Pit
Primary=0.00 cfs 0.000 af

Link DP-2: Wetland Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 37.486 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
97.13% Pervious = 36.410 ac 2.87% Impervious = 1.076 ac

Summary for Subcatchment PR-1: Subcat PR-1

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond IP-1 : Infiltration Pond

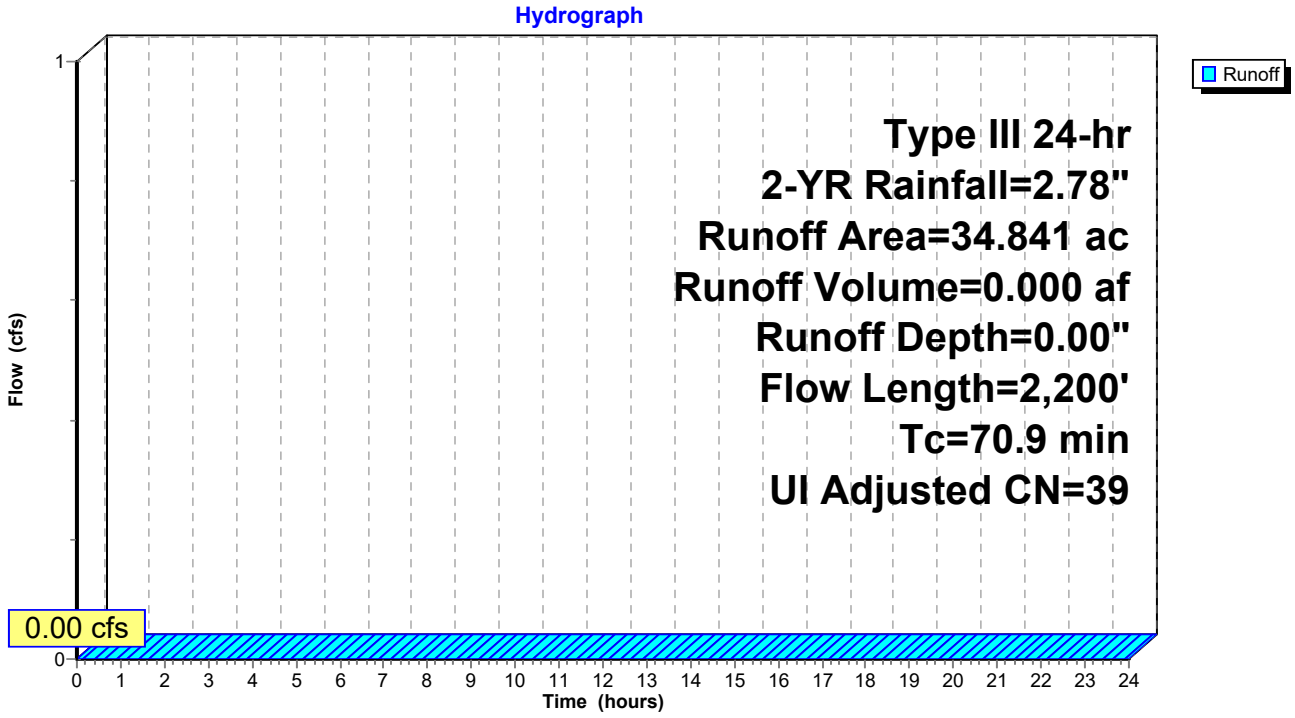
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=2.78"

Area (ac)	CN	Adj	Description
0.895	39		Pasture/grassland/range, Good, HSG A
0.003	39		Pasture/grassland/range, Good, HSG A
28.267	39		Pasture/grassland/range, Good, HSG A
0.089	39		Pasture/grassland/range, Good, HSG A
0.091	30		Woods, Good, HSG A
2.835	30		Brush, Good, HSG A
0.242	96		Gravel surface, HSG A
0.002	98		Unconnected roofs, HSG A
0.014	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.017	98		Unconnected roofs, HSG A
0.019	98		Unconnected roofs, HSG A
0.021	98		Unconnected roofs, HSG A
0.023	98		Unconnected roofs, HSG A
0.025	98		Unconnected roofs, HSG A
0.029	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.007	98		Unconnected roofs, HSG A
0.020	98		Unconnected roofs, HSG A
0.073	98		Unconnected roofs, HSG A
0.091	98		Unconnected roofs, HSG A
0.089	98		Unconnected roofs, HSG A
0.086	98		Unconnected roofs, HSG A
0.068	98		Unconnected roofs, HSG A
0.039	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.002	98		Unconnected roofs, HSG A
0.030	98		Unconnected roofs, HSG A
0.041	98		Unconnected roofs, HSG A
0.040	98		Unconnected roofs, HSG A
0.039	98		Unconnected roofs, HSG A
0.038	98		Unconnected roofs, HSG A
0.037	98		Unconnected roofs, HSG A
0.036	98		Unconnected roofs, HSG A
0.036	98		Unconnected roofs, HSG A
0.001	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.002	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.016	98		Unconnected roofs, HSG A

0.016	98		Unconnected roofs, HSG A
0.001	98		Unconnected roofs, HSG A
0.061	30		Brush, Good, HSG A
0.001	30		Woods, Good, HSG A
1.253	30		Woods, Good, HSG A
0.030	30		Woods, Good, HSG A
34.841	40	39	Weighted Average, UI Adjusted
33.765			96.91% Pervious Area
1.076			3.09% Impervious Area
1.076			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0500	0.10		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.78"
54.6	2,100	0.0084	0.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
70.9	2,200	Total			

Subcatchment PR-1: Subcat PR-1



Hydrograph for Subcatchment PR-1: Subcat PR-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	**0.00**	**0.00**	13.00	2.09	0.00	0.00
0.25	0.01	0.00	0.00	13.25	2.13	0.00	0.00
0.50	0.01	0.00	0.00	13.50	2.18	0.00	0.00
0.75	0.02	0.00	0.00	13.75	2.22	0.00	0.00
1.00	0.03	0.00	0.00	14.00	2.25	0.00	0.00
1.25	0.03	0.00	0.00	14.25	2.29	0.00	0.00
1.50	0.04	0.00	0.00	14.50	2.32	0.00	0.00
1.75	0.05	0.00	0.00	14.75	2.35	0.00	0.00
2.00	0.06	0.00	0.00	15.00	2.37	0.00	0.00
2.25	0.06	0.00	0.00	15.25	2.40	0.00	0.00
2.50	0.07	0.00	0.00	15.50	2.42	0.00	0.00
2.75	0.08	0.00	0.00	15.75	2.44	0.00	0.00
3.00	0.09	0.00	0.00	16.00	2.46	0.00	0.00
3.25	0.09	0.00	0.00	16.25	2.48	0.00	0.00
3.50	0.10	0.00	0.00	16.50	2.50	0.00	0.00
3.75	0.11	0.00	0.00	16.75	2.51	0.00	0.00
4.00	0.12	0.00	0.00	17.00	2.53	0.00	0.00
4.25	0.13	0.00	0.00	17.25	2.54	0.00	0.00
4.50	0.14	0.00	0.00	17.50	2.56	0.00	0.00
4.75	0.15	0.00	0.00	17.75	2.57	0.00	0.00
5.00	0.16	0.00	0.00	18.00	2.58	0.00	0.00
5.25	0.17	0.00	0.00	18.25	2.59	0.00	0.00
5.50	0.18	0.00	0.00	18.50	2.60	0.00	0.00
5.75	0.19	0.00	0.00	18.75	2.61	0.00	0.00
6.00	0.20	0.00	0.00	19.00	2.62	0.00	0.00
6.25	0.21	0.00	0.00	19.25	2.63	0.00	0.00
6.50	0.22	0.00	0.00	19.50	2.64	0.00	0.00
6.75	0.24	0.00	0.00	19.75	2.65	0.00	0.00
7.00	0.25	0.00	0.00	20.00	2.66	0.00	0.00
7.25	0.27	0.00	0.00	20.25	2.67	0.00	0.00
7.50	0.28	0.00	0.00	20.50	2.68	0.00	0.00
7.75	0.30	0.00	0.00	20.75	2.69	0.00	0.00
8.00	0.32	0.00	0.00	21.00	2.70	0.00	0.00
8.25	0.34	0.00	0.00	21.25	2.70	0.00	0.00
8.50	0.36	0.00	0.00	21.50	2.71	0.00	0.00
8.75	0.38	0.00	0.00	21.75	2.72	0.00	0.00
9.00	0.41	0.00	0.00	22.00	2.73	0.00	0.00
9.25	0.43	0.00	0.00	22.25	2.73	0.00	0.00
9.50	0.46	0.00	0.00	22.50	2.74	0.00	0.00
9.75	0.49	0.00	0.00	22.75	2.75	0.00	0.00
10.00	0.53	0.00	0.00	23.00	2.75	0.00	0.00
10.25	0.56	0.00	0.00	23.25	2.76	0.00	0.00
10.50	0.60	0.00	0.00	23.50	2.77	0.00	0.00
10.75	0.65	0.00	0.00	23.75	2.77	0.00	0.00
11.00	0.70	0.00	0.00	24.00	**2.78**	0.00	0.00
11.25	0.75	0.00	0.00				
11.50	0.83	0.00	0.00				
11.75	0.99	0.00	0.00				
12.00	1.39	0.00	0.00				
12.25	1.79	0.00	0.00				
12.50	1.95	0.00	0.00				
12.75	2.03	0.00	0.00				

Summary for Subcatchment PR-2: Subcat PR-2

[45] Hint: Runoff=Zero

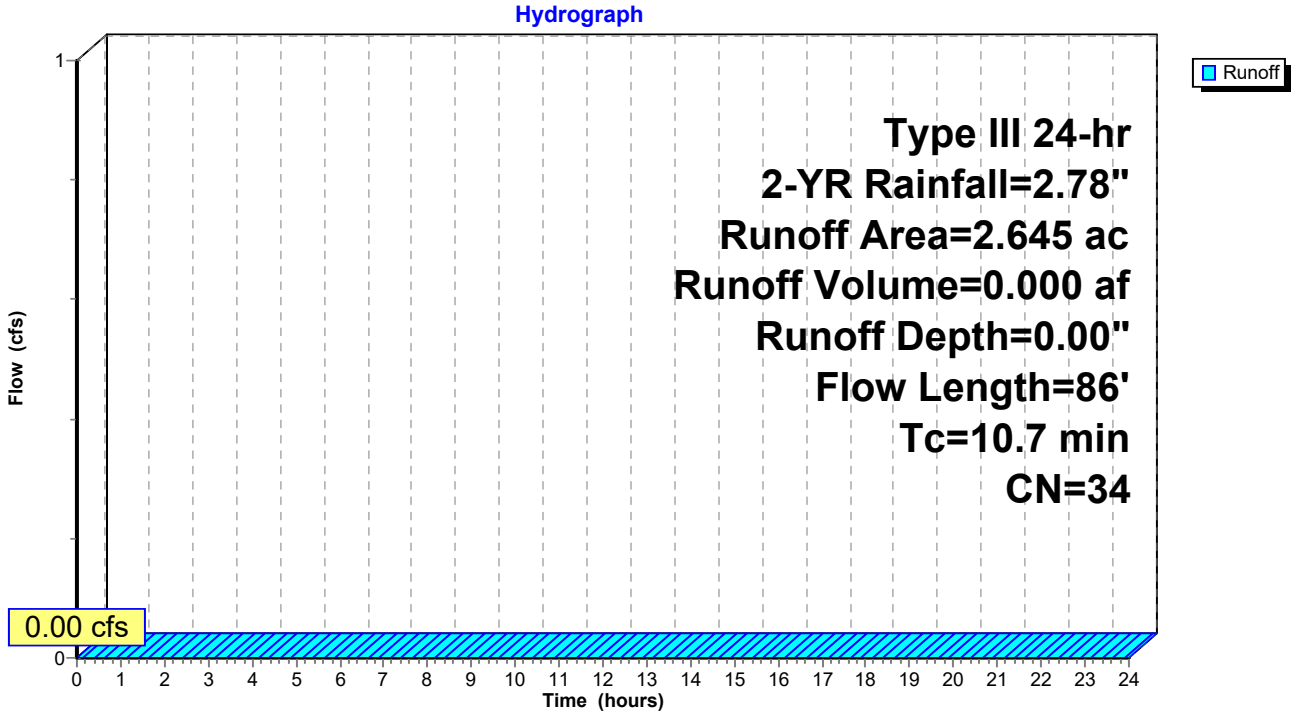
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link DP-2 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=2.78"

Area (ac)	CN	Description
0.118	39	Pasture/grassland/range, Good, HSG A
0.342	39	Pasture/grassland/range, Good, HSG A
0.656	39	Pasture/grassland/range, Good, HSG A
0.162	30	Woods, Good, HSG A
1.097	30	Woods, Good, HSG A
0.270	30	Brush, Good, HSG A
2.645	34	Weighted Average
2.645		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	50	0.0380	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.78"
0.5	36	0.0640	1.26		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.7	86	Total			

Subcatchment PR-2: Subcat PR-2



Hydrograph for Subcatchment PR-2: Subcat PR-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	**0.00**	**0.00**	13.00	2.09	0.00	0.00
0.25	0.01	0.00	0.00	13.25	2.13	0.00	0.00
0.50	0.01	0.00	0.00	13.50	2.18	0.00	0.00
0.75	0.02	0.00	0.00	13.75	2.22	0.00	0.00
1.00	0.03	0.00	0.00	14.00	2.25	0.00	0.00
1.25	0.03	0.00	0.00	14.25	2.29	0.00	0.00
1.50	0.04	0.00	0.00	14.50	2.32	0.00	0.00
1.75	0.05	0.00	0.00	14.75	2.35	0.00	0.00
2.00	0.06	0.00	0.00	15.00	2.37	0.00	0.00
2.25	0.06	0.00	0.00	15.25	2.40	0.00	0.00
2.50	0.07	0.00	0.00	15.50	2.42	0.00	0.00
2.75	0.08	0.00	0.00	15.75	2.44	0.00	0.00
3.00	0.09	0.00	0.00	16.00	2.46	0.00	0.00
3.25	0.09	0.00	0.00	16.25	2.48	0.00	0.00
3.50	0.10	0.00	0.00	16.50	2.50	0.00	0.00
3.75	0.11	0.00	0.00	16.75	2.51	0.00	0.00
4.00	0.12	0.00	0.00	17.00	2.53	0.00	0.00
4.25	0.13	0.00	0.00	17.25	2.54	0.00	0.00
4.50	0.14	0.00	0.00	17.50	2.56	0.00	0.00
4.75	0.15	0.00	0.00	17.75	2.57	0.00	0.00
5.00	0.16	0.00	0.00	18.00	2.58	0.00	0.00
5.25	0.17	0.00	0.00	18.25	2.59	0.00	0.00
5.50	0.18	0.00	0.00	18.50	2.60	0.00	0.00
5.75	0.19	0.00	0.00	18.75	2.61	0.00	0.00
6.00	0.20	0.00	0.00	19.00	2.62	0.00	0.00
6.25	0.21	0.00	0.00	19.25	2.63	0.00	0.00
6.50	0.22	0.00	0.00	19.50	2.64	0.00	0.00
6.75	0.24	0.00	0.00	19.75	2.65	0.00	0.00
7.00	0.25	0.00	0.00	20.00	2.66	0.00	0.00
7.25	0.27	0.00	0.00	20.25	2.67	0.00	0.00
7.50	0.28	0.00	0.00	20.50	2.68	0.00	0.00
7.75	0.30	0.00	0.00	20.75	2.69	0.00	0.00
8.00	0.32	0.00	0.00	21.00	2.70	0.00	0.00
8.25	0.34	0.00	0.00	21.25	2.70	0.00	0.00
8.50	0.36	0.00	0.00	21.50	2.71	0.00	0.00
8.75	0.38	0.00	0.00	21.75	2.72	0.00	0.00
9.00	0.41	0.00	0.00	22.00	2.73	0.00	0.00
9.25	0.43	0.00	0.00	22.25	2.73	0.00	0.00
9.50	0.46	0.00	0.00	22.50	2.74	0.00	0.00
9.75	0.49	0.00	0.00	22.75	2.75	0.00	0.00
10.00	0.53	0.00	0.00	23.00	2.75	0.00	0.00
10.25	0.56	0.00	0.00	23.25	2.76	0.00	0.00
10.50	0.60	0.00	0.00	23.50	2.77	0.00	0.00
10.75	0.65	0.00	0.00	23.75	2.77	0.00	0.00
11.00	0.70	0.00	0.00	24.00	**2.78**	0.00	0.00
11.25	0.75	0.00	0.00				
11.50	0.83	0.00	0.00				
11.75	0.99	0.00	0.00				
12.00	1.39	0.00	0.00				
12.25	1.79	0.00	0.00				
12.50	1.95	0.00	0.00				
12.75	2.03	0.00	0.00				

Summary for Pond IP-1: Infiltration Pond

Inflow Area = 34.841 ac, 3.09% Impervious, Inflow Depth = 0.00" for 2-YR event
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
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-2 : Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 392.00' @ 0.00 hrs Surf.Area= 2,422 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	392.00'	25,237 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

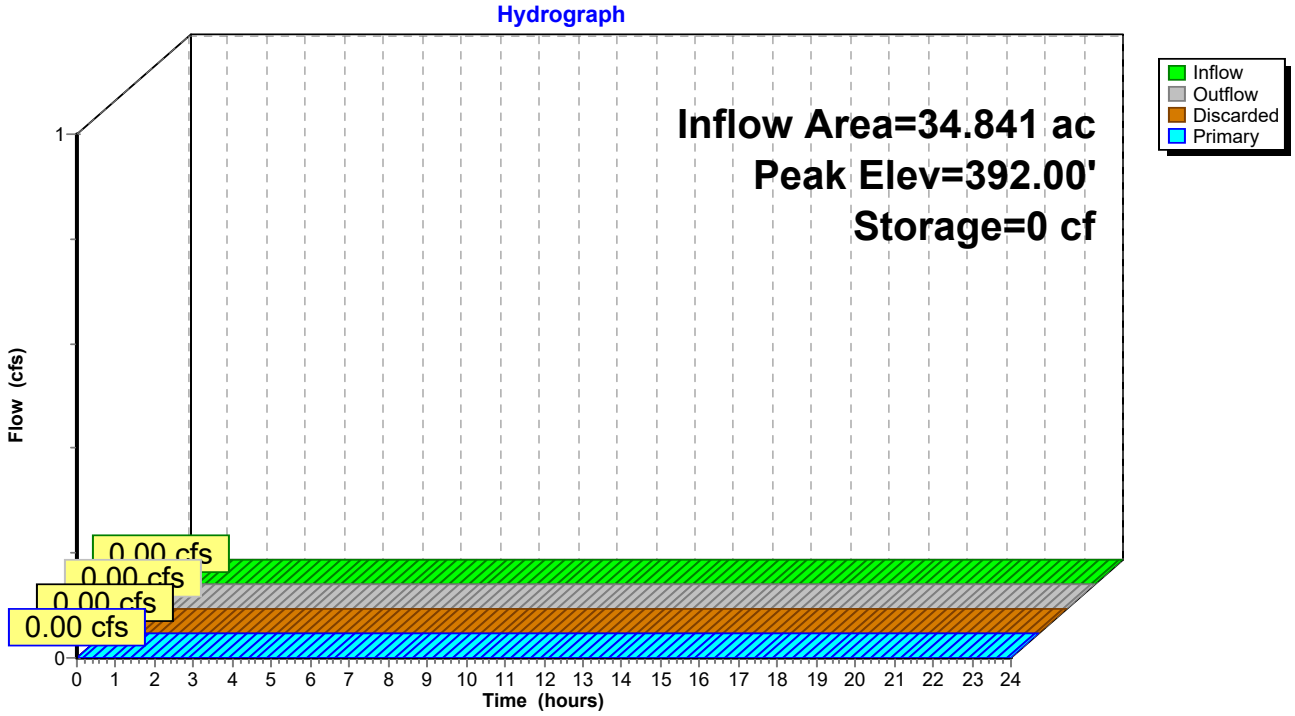
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
392.00	2,422	214.7	0.0	0	0	2,422
395.00	4,713	294.5	100.0	10,514	10,514	5,745
396.00	27,974	754.0	100.0	14,723	25,237	44,087

Device	Routing	Invert	Outlet Devices
#1	Discarded	392.00'	**5.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	395.49'	**20.0' long x 10.0' 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) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP-1: Infiltration Pond



Hydrograph for Pond IP-1: Infiltration Pond

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	**0.00**	**392.00**	**0.00**	**0.00**	**0.00**
0.50	0.00	392.00	0.00	0.00	0.00
1.00	0.00	392.00	0.00	0.00	0.00
1.50	0.00	392.00	0.00	0.00	0.00
2.00	0.00	392.00	0.00	0.00	0.00
2.50	0.00	392.00	0.00	0.00	0.00
3.00	0.00	392.00	0.00	0.00	0.00
3.50	0.00	392.00	0.00	0.00	0.00
4.00	0.00	392.00	0.00	0.00	0.00
4.50	0.00	392.00	0.00	0.00	0.00
5.00	0.00	392.00	0.00	0.00	0.00
5.50	0.00	392.00	0.00	0.00	0.00
6.00	0.00	392.00	0.00	0.00	0.00
6.50	0.00	392.00	0.00	0.00	0.00
7.00	0.00	392.00	0.00	0.00	0.00
7.50	0.00	392.00	0.00	0.00	0.00
8.00	0.00	392.00	0.00	0.00	0.00
8.50	0.00	392.00	0.00	0.00	0.00
9.00	0.00	392.00	0.00	0.00	0.00
9.50	0.00	392.00	0.00	0.00	0.00
10.00	0.00	392.00	0.00	0.00	0.00
10.50	0.00	392.00	0.00	0.00	0.00
11.00	0.00	392.00	0.00	0.00	0.00
11.50	0.00	392.00	0.00	0.00	0.00
12.00	0.00	392.00	0.00	0.00	0.00
12.50	0.00	392.00	0.00	0.00	0.00
13.00	0.00	392.00	0.00	0.00	0.00
13.50	0.00	392.00	0.00	0.00	0.00
14.00	0.00	392.00	0.00	0.00	0.00
14.50	0.00	392.00	0.00	0.00	0.00
15.00	0.00	392.00	0.00	0.00	0.00
15.50	0.00	392.00	0.00	0.00	0.00
16.00	0.00	392.00	0.00	0.00	0.00
16.50	0.00	392.00	0.00	0.00	0.00
17.00	0.00	392.00	0.00	0.00	0.00
17.50	0.00	392.00	0.00	0.00	0.00
18.00	0.00	392.00	0.00	0.00	0.00
18.50	0.00	392.00	0.00	0.00	0.00
19.00	0.00	392.00	0.00	0.00	0.00
19.50	0.00	392.00	0.00	0.00	0.00
20.00	0.00	392.00	0.00	0.00	0.00
20.50	0.00	392.00	0.00	0.00	0.00
21.00	0.00	392.00	0.00	0.00	0.00
21.50	0.00	392.00	0.00	0.00	0.00
22.00	0.00	392.00	0.00	0.00	0.00
22.50	0.00	392.00	0.00	0.00	0.00
23.00	0.00	392.00	0.00	0.00	0.00
23.50	0.00	392.00	0.00	0.00	0.00
24.00	0.00	392.00	0.00	0.00	0.00

Stage-Discharge for Pond IP-1: Infiltration Pond

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
392.00	0.00	0.00	0.00
392.05	0.28	0.28	0.00
392.10	0.29	0.29	0.00
392.15	0.29	0.29	0.00
392.20	0.30	0.30	0.00
392.25	0.30	0.30	0.00
392.30	0.30	0.30	0.00
392.35	0.31	0.31	0.00
392.40	0.31	0.31	0.00
392.45	0.31	0.31	0.00
392.50	0.32	0.32	0.00
392.55	0.32	0.32	0.00
392.60	0.33	0.33	0.00
392.65	0.33	0.33	0.00
392.70	0.33	0.33	0.00
392.75	0.34	0.34	0.00
392.80	0.34	0.34	0.00
392.85	0.35	0.35	0.00
392.90	0.35	0.35	0.00
392.95	0.35	0.35	0.00
393.00	0.36	0.36	0.00
393.05	0.36	0.36	0.00
393.10	0.37	0.37	0.00
393.15	0.37	0.37	0.00
393.20	0.38	0.38	0.00
393.25	0.38	0.38	0.00
393.30	0.38	0.38	0.00
393.35	0.39	0.39	0.00
393.40	0.39	0.39	0.00
393.45	0.40	0.40	0.00
393.50	0.40	0.40	0.00
393.55	0.41	0.41	0.00
393.60	0.41	0.41	0.00
393.65	0.42	0.42	0.00
393.70	0.42	0.42	0.00
393.75	0.42	0.42	0.00
393.80	0.43	0.43	0.00
393.85	0.43	0.43	0.00
393.90	0.44	0.44	0.00
393.95	0.44	0.44	0.00
394.00	0.45	0.45	0.00
394.05	0.45	0.45	0.00
394.10	0.46	0.46	0.00
394.15	0.46	0.46	0.00
394.20	0.47	0.47	0.00
394.25	0.47	0.47	0.00
394.30	0.48	0.48	0.00
394.35	0.48	0.48	0.00
394.40	0.49	0.49	0.00
394.45	0.49	0.49	0.00
394.50	0.50	0.50	0.00
394.55	0.50	0.50	0.00
394.60	0.51	0.51	0.00
394.65	0.51	0.51	0.00
394.70	0.52	0.52	0.00
394.75	0.52	0.52	0.00
394.80	0.53	0.53	0.00
394.85	0.53	0.53	0.00
394.90	0.54	0.54	0.00
394.95	0.54	0.54	0.00
395.00	0.55	0.55	0.00
395.05	0.63	0.63	0.00
395.10	0.71	0.71	0.00
395.15	0.81	0.81	0.00
395.20	0.90	0.90	0.00
395.25	1.01	1.01	0.00
395.30	1.12	1.12	0.00
395.35	1.23	1.23	0.00
395.40	1.35	1.35	0.00
395.45	1.48	1.48	0.00
395.50	1.66	1.61	0.05
395.55	2.48	1.75	0.73
395.60	3.71	1.89	1.82
395.65	5.23	2.04	3.19
395.70	6.99	2.19	4.80
395.75	9.01	2.35	6.66
395.80	11.25	2.52	8.73
395.85	13.69	2.69	11.00
395.90	16.35	2.87	13.48
395.95	19.29	3.05	16.24
396.00	**22.45**	**3.24**	**19.21**

Stage-Area-Storage for Pond IP-1: Infiltration Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
392.00	2,422	0
392.05	2,454	122
392.10	2,486	245
392.15	2,519	371
392.20	2,551	497
392.25	2,584	626
392.30	2,617	756
392.35	2,650	887
392.40	2,684	1,021
392.45	2,717	1,156
392.50	2,751	1,292
392.55	2,785	1,431
392.60	2,820	1,571
392.65	2,854	1,713
392.70	2,889	1,856
392.75	2,924	2,002
392.80	2,959	2,149
392.85	2,994	2,298
392.90	3,030	2,448
392.95	3,066	2,601
393.00	3,102	2,755
393.05	3,138	2,911
393.10	3,174	3,069
393.15	3,211	3,228
393.20	3,248	3,390
393.25	3,285	3,553
393.30	3,322	3,718
393.35	3,359	3,885
393.40	3,397	4,054
393.45	3,435	4,225
393.50	3,473	4,398
393.55	3,511	4,572
393.60	3,550	4,749
393.65	3,589	4,927
393.70	3,627	5,108
393.75	3,667	5,290
393.80	3,706	5,474
393.85	3,745	5,661
393.90	3,785	5,849
393.95	3,825	6,039
394.00	3,865	6,231
394.05	3,906	6,426
394.10	3,946	6,622
394.15	3,987	6,820
394.20	4,028	7,021
394.25	4,069	7,223
394.30	4,111	7,428
394.35	4,152	7,634
394.40	4,194	7,843
394.45	4,236	8,054
394.50	4,279	8,267
394.55	4,321	8,482
394.60	4,364	8,699
394.65	4,407	8,918
394.70	4,450	9,139
394.75	4,493	9,363
394.80	4,537	9,589
394.85	4,581	9,817
394.90	4,624	10,047
394.95	4,669	10,279
395.00	4,713	10,514
395.05	5,414	10,767
395.10	6,164	11,056
395.15	6,963	11,384
395.20	7,810	11,753
395.25	8,705	12,166
395.30	9,650	12,624
395.35	10,642	13,131
395.40	11,684	13,689
395.45	12,774	14,301
395.50	13,913	14,968
395.55	15,100	15,693
395.60	16,336	16,478
395.65	17,621	17,327
395.70	18,954	18,241
395.75	20,336	19,223
395.80	21,766	20,276
395.85	23,245	21,401
395.90	24,773	22,601
395.95	26,349	23,879
396.00	**27,974**	**25,237**

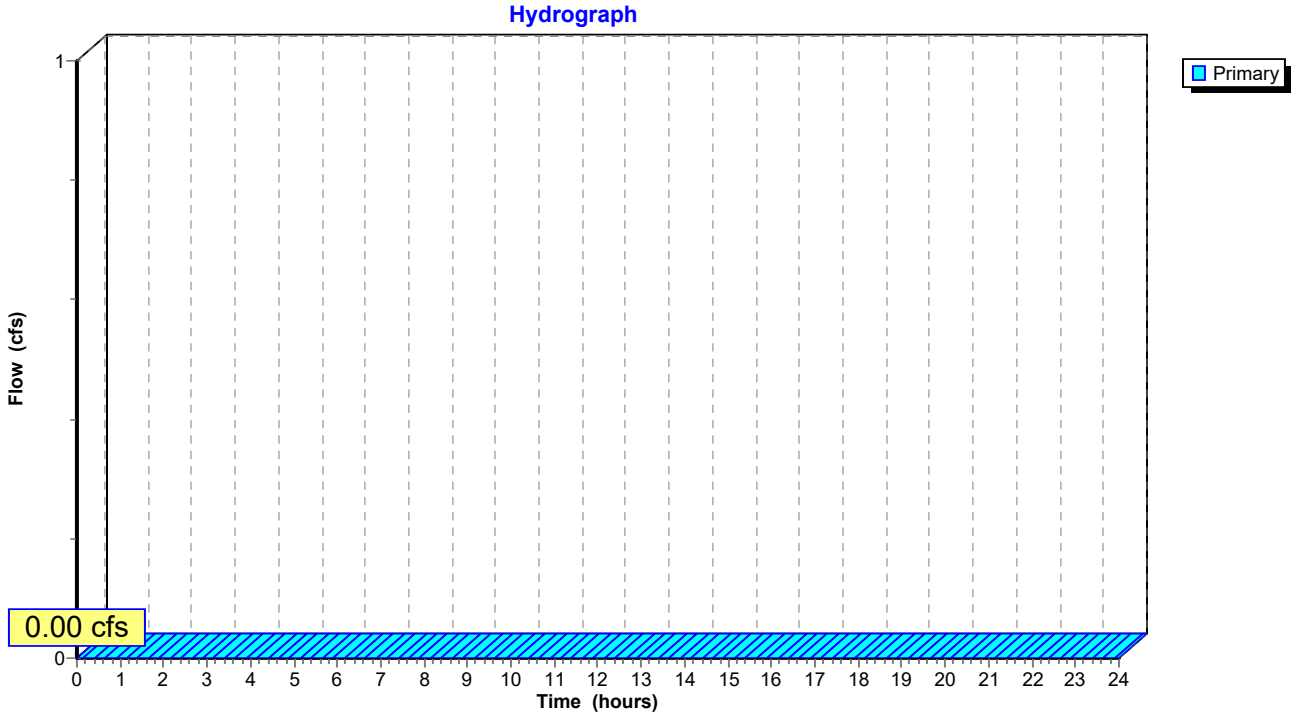
Summary for Link DP-1: Internal Gravel Pit

[43] Hint: Has no inflow (Outflow=Zero)

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-1: Internal Gravel Pit



Hydrograph for Link DP-1: Internal Gravel Pit

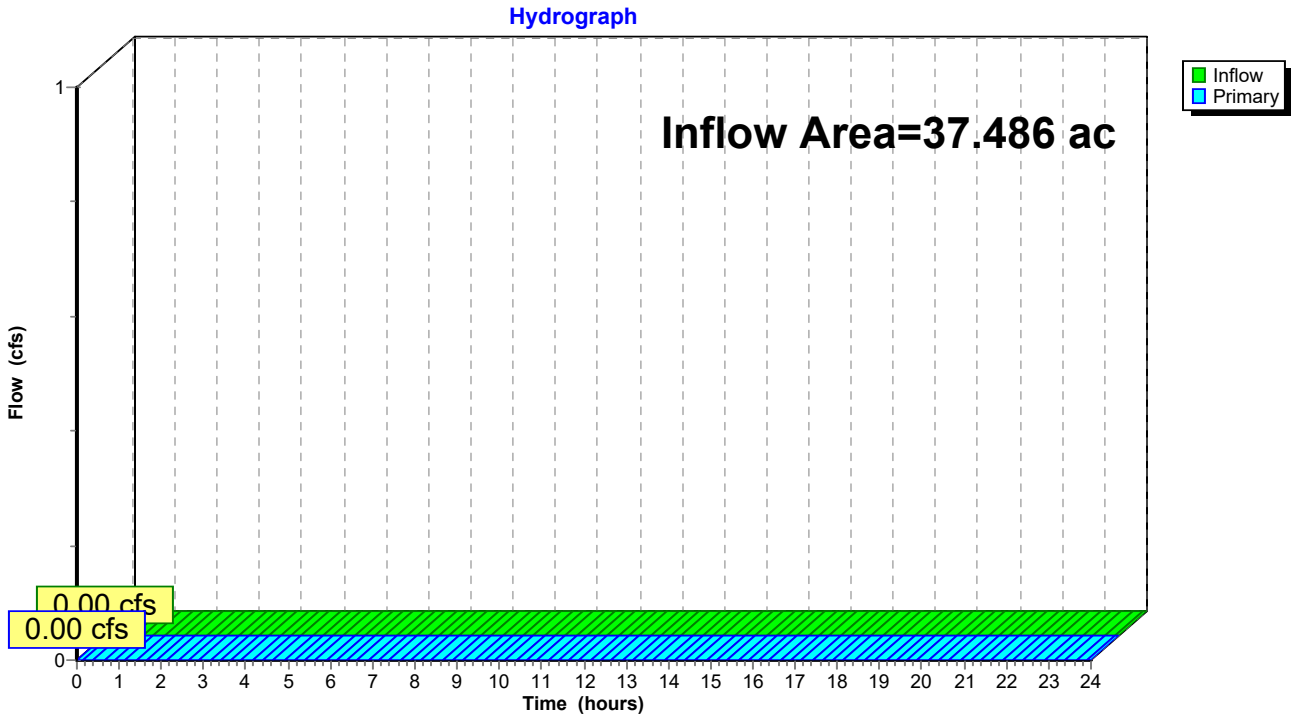
Time (hours)	Elevation (feet)	Primary (cfs)	Time (hours)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	13.00	0.00	0.00
0.25	0.00	0.00	13.25	0.00	0.00
0.50	0.00	0.00	13.50	0.00	0.00
0.75	0.00	0.00	13.75	0.00	0.00
1.00	0.00	0.00	14.00	0.00	0.00
1.25	0.00	0.00	14.25	0.00	0.00
1.50	0.00	0.00	14.50	0.00	0.00
1.75	0.00	0.00	14.75	0.00	0.00
2.00	0.00	0.00	15.00	0.00	0.00
2.25	0.00	0.00	15.25	0.00	0.00
2.50	0.00	0.00	15.50	0.00	0.00
2.75	0.00	0.00	15.75	0.00	0.00
3.00	0.00	0.00	16.00	0.00	0.00
3.25	0.00	0.00	16.25	0.00	0.00
3.50	0.00	0.00	16.50	0.00	0.00
3.75	0.00	0.00	16.75	0.00	0.00
4.00	0.00	0.00	17.00	0.00	0.00
4.25	0.00	0.00	17.25	0.00	0.00
4.50	0.00	0.00	17.50	0.00	0.00
4.75	0.00	0.00	17.75	0.00	0.00
5.00	0.00	0.00	18.00	0.00	0.00
5.25	0.00	0.00	18.25	0.00	0.00
5.50	0.00	0.00	18.50	0.00	0.00
5.75	0.00	0.00	18.75	0.00	0.00
6.00	0.00	0.00	19.00	0.00	0.00
6.25	0.00	0.00	19.25	0.00	0.00
6.50	0.00	0.00	19.50	0.00	0.00
6.75	0.00	0.00	19.75	0.00	0.00
7.00	0.00	0.00	20.00	0.00	0.00
7.25	0.00	0.00	20.25	0.00	0.00
7.50	0.00	0.00	20.50	0.00	0.00
7.75	0.00	0.00	20.75	0.00	0.00
8.00	0.00	0.00	21.00	0.00	0.00
8.25	0.00	0.00	21.25	0.00	0.00
8.50	0.00	0.00	21.50	0.00	0.00
8.75	0.00	0.00	21.75	0.00	0.00
9.00	0.00	0.00	22.00	0.00	0.00
9.25	0.00	0.00	22.25	0.00	0.00
9.50	0.00	0.00	22.50	0.00	0.00
9.75	0.00	0.00	22.75	0.00	0.00
10.00	0.00	0.00	23.00	0.00	0.00
10.25	0.00	0.00	23.25	0.00	0.00
10.50	0.00	0.00	23.50	0.00	0.00
10.75	0.00	0.00	23.75	0.00	0.00
11.00	0.00	0.00	24.00	0.00	0.00
11.25	0.00	0.00			
11.50	0.00	0.00			
11.75	0.00	0.00			
12.00	0.00	0.00			
12.25	0.00	0.00			
12.50	0.00	0.00			
12.75	0.00	0.00			

Summary for Link DP-2: Wetland

Inflow Area = 37.486 ac, 2.87% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-2: Wetland



Hydrograph for Link DP-2: Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	**0.00**	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.00	0.00	0.00
0.75	0.00	0.00	0.00	13.75	0.00	0.00	0.00
1.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00
1.25	0.00	0.00	0.00	14.25	0.00	0.00	0.00
1.50	0.00	0.00	0.00	14.50	0.00	0.00	0.00
1.75	0.00	0.00	0.00	14.75	0.00	0.00	0.00
2.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
2.25	0.00	0.00	0.00	15.25	0.00	0.00	0.00
2.50	0.00	0.00	0.00	15.50	0.00	0.00	0.00
2.75	0.00	0.00	0.00	15.75	0.00	0.00	0.00
3.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00
3.25	0.00	0.00	0.00	16.25	0.00	0.00	0.00
3.50	0.00	0.00	0.00	16.50	0.00	0.00	0.00
3.75	0.00	0.00	0.00	16.75	0.00	0.00	0.00
4.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00
4.25	0.00	0.00	0.00	17.25	0.00	0.00	0.00
4.50	0.00	0.00	0.00	17.50	0.00	0.00	0.00
4.75	0.00	0.00	0.00	17.75	0.00	0.00	0.00
5.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00
5.25	0.00	0.00	0.00	18.25	0.00	0.00	0.00
5.50	0.00	0.00	0.00	18.50	0.00	0.00	0.00
5.75	0.00	0.00	0.00	18.75	0.00	0.00	0.00
6.00	0.00	0.00	0.00	19.00	0.00	0.00	0.00
6.25	0.00	0.00	0.00	19.25	0.00	0.00	0.00
6.50	0.00	0.00	0.00	19.50	0.00	0.00	0.00
6.75	0.00	0.00	0.00	19.75	0.00	0.00	0.00
7.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
7.25	0.00	0.00	0.00	20.25	0.00	0.00	0.00
7.50	0.00	0.00	0.00	20.50	0.00	0.00	0.00
7.75	0.00	0.00	0.00	20.75	0.00	0.00	0.00
8.00	0.00	0.00	0.00	21.00	0.00	0.00	0.00
8.25	0.00	0.00	0.00	21.25	0.00	0.00	0.00
8.50	0.00	0.00	0.00	21.50	0.00	0.00	0.00
8.75	0.00	0.00	0.00	21.75	0.00	0.00	0.00
9.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00
9.25	0.00	0.00	0.00	22.25	0.00	0.00	0.00
9.50	0.00	0.00	0.00	22.50	0.00	0.00	0.00
9.75	0.00	0.00	0.00	22.75	0.00	0.00	0.00
10.00	0.00	0.00	0.00	23.00	0.00	0.00	0.00
10.25	0.00	0.00	0.00	23.25	0.00	0.00	0.00
10.50	0.00	0.00	0.00	23.50	0.00	0.00	0.00
10.75	0.00	0.00	0.00	23.75	0.00	0.00	0.00
11.00	0.00	0.00	0.00	24.00	0.00	0.00	0.00
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PR-1: Subcat PR-1 Runoff Area=34.841 ac 3.09% Impervious Runoff Depth>0.05"
Flow Length=2,200' Tc=70.9 min UI Adjusted CN=39 Runoff=0.20 cfs 0.131 af

Subcatchment PR-2: Subcat PR-2 Runoff Area=2.645 ac 0.00% Impervious Runoff Depth>0.00"
Flow Length=86' Tc=10.7 min CN=34 Runoff=0.00 cfs 0.000 af

Pond IP-1: Infiltration Pond Peak Elev=392.01' Storage=18 cf Inflow=0.20 cfs 0.131 af
Discarded=0.20 cfs 0.130 af Primary=0.00 cfs 0.000 af Outflow=0.20 cfs 0.130 af

Link DP-1: Internal Gravel Pit
Primary=0.00 cfs 0.000 af

Link DP-2: Wetland Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 37.486 ac Runoff Volume = 0.131 af Average Runoff Depth = 0.04"
97.13% Pervious = 36.410 ac 2.87% Impervious = 1.076 ac

Summary for Subcatchment PR-1: Subcat PR-1

Runoff = 0.20 cfs @ 16.63 hrs, Volume= 0.131 af, Depth> 0.05"
Routed to Pond IP-1 : Infiltration Pond

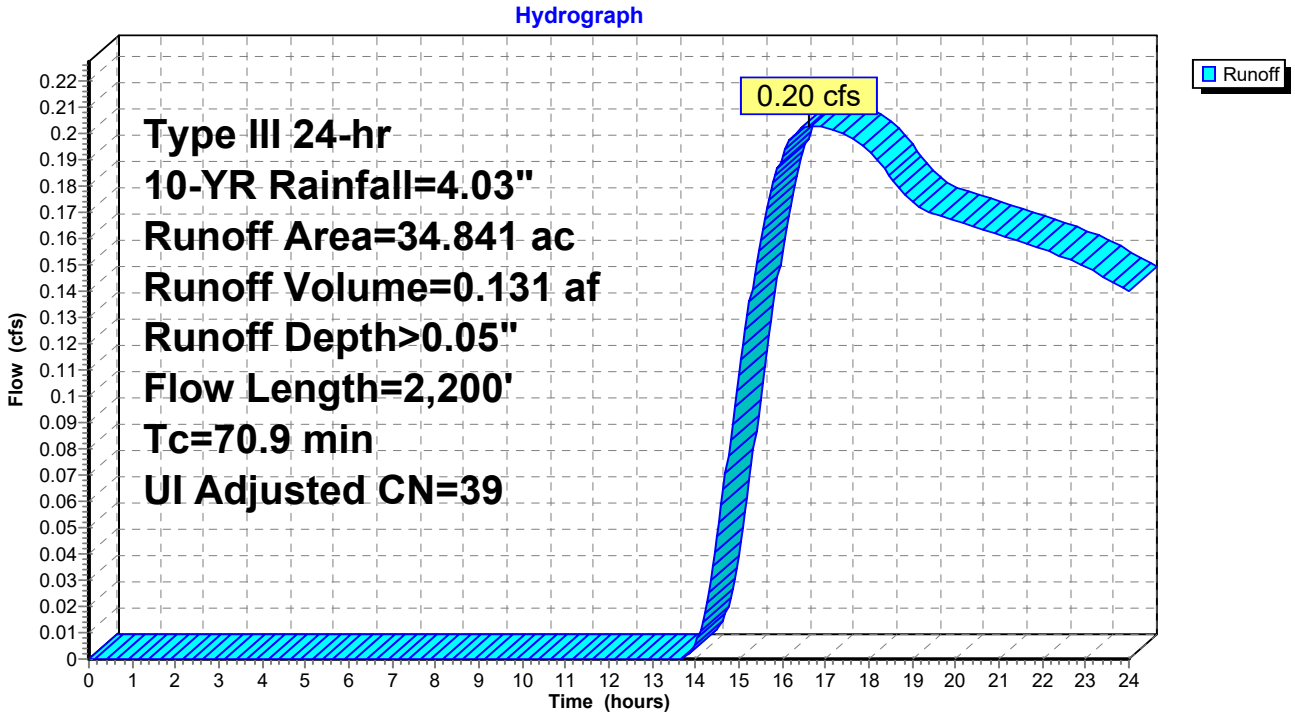
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.03"

Area (ac)	CN	Adj	Description
0.895	39		Pasture/grassland/range, Good, HSG A
0.003	39		Pasture/grassland/range, Good, HSG A
28.267	39		Pasture/grassland/range, Good, HSG A
0.089	39		Pasture/grassland/range, Good, HSG A
0.091	30		Woods, Good, HSG A
2.835	30		Brush, Good, HSG A
0.242	96		Gravel surface, HSG A
0.002	98		Unconnected roofs, HSG A
0.014	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.017	98		Unconnected roofs, HSG A
0.019	98		Unconnected roofs, HSG A
0.021	98		Unconnected roofs, HSG A
0.023	98		Unconnected roofs, HSG A
0.025	98		Unconnected roofs, HSG A
0.029	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.007	98		Unconnected roofs, HSG A
0.020	98		Unconnected roofs, HSG A
0.073	98		Unconnected roofs, HSG A
0.091	98		Unconnected roofs, HSG A
0.089	98		Unconnected roofs, HSG A
0.086	98		Unconnected roofs, HSG A
0.068	98		Unconnected roofs, HSG A
0.039	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.002	98		Unconnected roofs, HSG A
0.030	98		Unconnected roofs, HSG A
0.041	98		Unconnected roofs, HSG A
0.040	98		Unconnected roofs, HSG A
0.039	98		Unconnected roofs, HSG A
0.038	98		Unconnected roofs, HSG A
0.037	98		Unconnected roofs, HSG A
0.036	98		Unconnected roofs, HSG A
0.036	98		Unconnected roofs, HSG A
0.001	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.002	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.016	98		Unconnected roofs, HSG A

0.016	98		Unconnected roofs, HSG A
0.001	98		Unconnected roofs, HSG A
0.061	30		Brush, Good, HSG A
0.001	30		Woods, Good, HSG A
1.253	30		Woods, Good, HSG A
0.030	30		Woods, Good, HSG A
34.841	40	39	Weighted Average, UI Adjusted
33.765			96.91% Pervious Area
1.076			3.09% Impervious Area
1.076			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0500	0.10		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.78"
54.6	2,100	0.0084	0.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
70.9	2,200	Total			

Subcatchment PR-1: Subcat PR-1



Hydrograph for Subcatchment PR-1: Subcat PR-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.02	0.00	0.00
0.25	0.01	0.00	0.00	13.25	3.09	0.00	0.00
0.50	0.02	0.00	0.00	13.50	3.16	0.00	0.00
0.75	0.03	0.00	0.00	13.75	3.22	0.00	0.00
1.00	0.04	0.00	0.00	14.00	3.27	0.00	0.01
1.25	0.05	0.00	0.00	14.25	3.32	0.00	0.02
1.50	0.06	0.00	0.00	14.50	3.36	0.00	0.05
1.75	0.07	0.00	0.00	14.75	3.40	0.00	0.08
2.00	0.08	0.00	0.00	15.00	3.44	0.01	0.11
2.25	0.09	0.00	0.00	15.25	3.48	0.01	0.14
2.50	0.10	0.00	0.00	15.50	3.51	0.01	0.16
2.75	0.11	0.00	0.00	15.75	3.54	0.01	0.18
3.00	0.12	0.00	0.00	16.00	3.57	0.01	0.19
3.25	0.14	0.00	0.00	16.25	3.60	0.01	0.20
3.50	0.15	0.00	0.00	16.50	3.62	0.02	**0.20**
3.75	0.16	0.00	0.00	16.75	3.64	0.02	**0.20**
4.00	0.17	0.00	0.00	17.00	3.67	0.02	0.20
4.25	0.19	0.00	0.00	17.25	3.69	0.02	0.20
4.50	0.20	0.00	0.00	17.50	3.71	0.02	0.20
4.75	0.21	0.00	0.00	17.75	3.72	0.02	0.20
5.00	0.23	0.00	0.00	18.00	3.74	0.02	0.19
5.25	0.24	0.00	0.00	18.25	3.76	0.02	0.19
5.50	0.26	0.00	0.00	18.50	3.77	0.03	0.18
5.75	0.27	0.00	0.00	18.75	3.79	0.03	0.18
6.00	0.29	0.00	0.00	19.00	3.80	0.03	0.17
6.25	0.31	0.00	0.00	19.25	3.82	0.03	0.17
6.50	0.32	0.00	0.00	19.50	3.83	0.03	0.17
6.75	0.34	0.00	0.00	19.75	3.84	0.03	0.17
7.00	0.36	0.00	0.00	20.00	3.86	0.03	0.17
7.25	0.39	0.00	0.00	20.25	3.87	0.03	0.17
7.50	0.41	0.00	0.00	20.50	3.88	0.03	0.16
7.75	0.43	0.00	0.00	20.75	3.89	0.04	0.16
8.00	0.46	0.00	0.00	21.00	3.91	0.04	0.16
8.25	0.49	0.00	0.00	21.25	3.92	0.04	0.16
8.50	0.52	0.00	0.00	21.50	3.93	0.04	0.16
8.75	0.55	0.00	0.00	21.75	3.94	0.04	0.16
9.00	0.59	0.00	0.00	22.00	3.95	0.04	0.16
9.25	0.63	0.00	0.00	22.25	3.96	0.04	0.15
9.50	0.67	0.00	0.00	22.50	3.97	0.04	0.15
9.75	0.71	0.00	0.00	22.75	3.98	0.04	0.15
10.00	0.76	0.00	0.00	23.00	3.99	0.05	0.15
10.25	0.81	0.00	0.00	23.25	4.00	0.05	0.15
10.50	0.87	0.00	0.00	23.50	4.01	0.05	0.14
10.75	0.94	0.00	0.00	23.75	4.02	0.05	0.14
11.00	1.01	0.00	0.00	24.00	**4.03**	**0.05**	0.14
11.25	1.09	0.00	0.00				
11.50	1.20	0.00	0.00				
11.75	1.43	0.00	0.00				
12.00	2.01	0.00	0.00				
12.25	2.60	0.00	0.00				
12.50	2.83	0.00	0.00				
12.75	2.94	0.00	0.00				

Summary for Subcatchment PR-2: Subcat PR-2

[73] Warning: Peak may fall outside time span

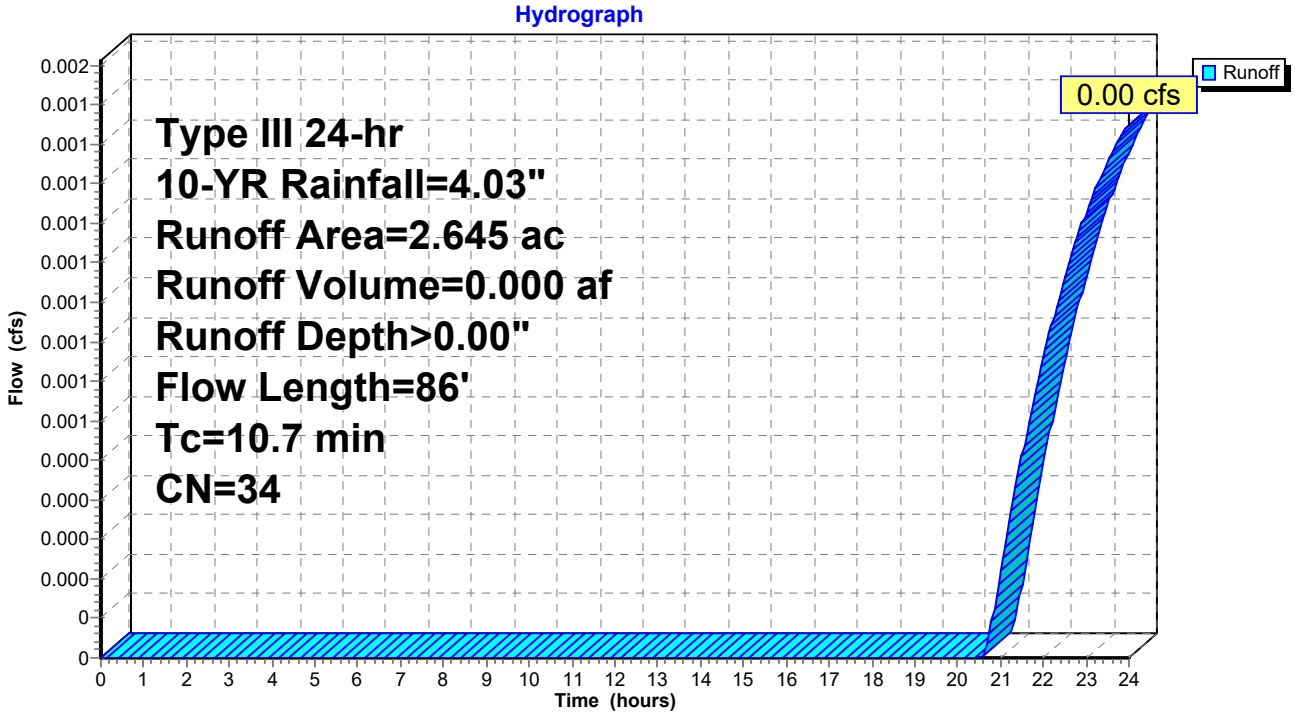
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth> 0.00"
Routed to Link DP-2 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.03"

Area (ac)	CN	Description
0.118	39	Pasture/grassland/range, Good, HSG A
0.342	39	Pasture/grassland/range, Good, HSG A
0.656	39	Pasture/grassland/range, Good, HSG A
0.162	30	Woods, Good, HSG A
1.097	30	Woods, Good, HSG A
0.270	30	Brush, Good, HSG A
2.645	34	Weighted Average
2.645		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	50	0.0380	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.78"
0.5	36	0.0640	1.26		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.7	86	Total			

Subcatchment PR-2: Subcat PR-2



Hydrograph for Subcatchment PR-2: Subcat PR-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.02	0.00	0.00
0.25	0.01	0.00	0.00	13.25	3.09	0.00	0.00
0.50	0.02	0.00	0.00	13.50	3.16	0.00	0.00
0.75	0.03	0.00	0.00	13.75	3.22	0.00	0.00
1.00	0.04	0.00	0.00	14.00	3.27	0.00	0.00
1.25	0.05	0.00	0.00	14.25	3.32	0.00	0.00
1.50	0.06	0.00	0.00	14.50	3.36	0.00	0.00
1.75	0.07	0.00	0.00	14.75	3.40	0.00	0.00
2.00	0.08	0.00	0.00	15.00	3.44	0.00	0.00
2.25	0.09	0.00	0.00	15.25	3.48	0.00	0.00
2.50	0.10	0.00	0.00	15.50	3.51	0.00	0.00
2.75	0.11	0.00	0.00	15.75	3.54	0.00	0.00
3.00	0.12	0.00	0.00	16.00	3.57	0.00	0.00
3.25	0.14	0.00	0.00	16.25	3.60	0.00	0.00
3.50	0.15	0.00	0.00	16.50	3.62	0.00	0.00
3.75	0.16	0.00	0.00	16.75	3.64	0.00	0.00
4.00	0.17	0.00	0.00	17.00	3.67	0.00	0.00
4.25	0.19	0.00	0.00	17.25	3.69	0.00	0.00
4.50	0.20	0.00	0.00	17.50	3.71	0.00	0.00
4.75	0.21	0.00	0.00	17.75	3.72	0.00	0.00
5.00	0.23	0.00	0.00	18.00	3.74	0.00	0.00
5.25	0.24	0.00	0.00	18.25	3.76	0.00	0.00
5.50	0.26	0.00	0.00	18.50	3.77	0.00	0.00
5.75	0.27	0.00	0.00	18.75	3.79	0.00	0.00
6.00	0.29	0.00	0.00	19.00	3.80	0.00	0.00
6.25	0.31	0.00	0.00	19.25	3.82	0.00	0.00
6.50	0.32	0.00	0.00	19.50	3.83	0.00	0.00
6.75	0.34	0.00	0.00	19.75	3.84	0.00	0.00
7.00	0.36	0.00	0.00	20.00	3.86	0.00	0.00
7.25	0.39	0.00	0.00	20.25	3.87	0.00	0.00
7.50	0.41	0.00	0.00	20.50	3.88	0.00	0.00
7.75	0.43	0.00	0.00	20.75	3.89	0.00	0.00
8.00	0.46	0.00	0.00	21.00	3.91	0.00	0.00
8.25	0.49	0.00	0.00	21.25	3.92	0.00	0.00
8.50	0.52	0.00	0.00	21.50	3.93	0.00	0.00
8.75	0.55	0.00	0.00	21.75	3.94	0.00	0.00
9.00	0.59	0.00	0.00	22.00	3.95	0.00	0.00
9.25	0.63	0.00	0.00	22.25	3.96	0.00	0.00
9.50	0.67	0.00	0.00	22.50	3.97	0.00	0.00
9.75	0.71	0.00	0.00	22.75	3.98	0.00	0.00
10.00	0.76	0.00	0.00	23.00	3.99	0.00	0.00
10.25	0.81	0.00	0.00	23.25	4.00	0.00	0.00
10.50	0.87	0.00	0.00	23.50	4.01	0.00	0.00
10.75	0.94	0.00	0.00	23.75	4.02	0.00	0.00
11.00	1.01	0.00	0.00	24.00	**4.03**	**0.00**	**0.00**
11.25	1.09	0.00	0.00				
11.50	1.20	0.00	0.00				
11.75	1.43	0.00	0.00				
12.00	2.01	0.00	0.00				
12.25	2.60	0.00	0.00				
12.50	2.83	0.00	0.00				
12.75	2.94	0.00	0.00				

Summary for Pond IP-1: Infiltration Pond

Inflow Area = 34.841 ac, 3.09% Impervious, Inflow Depth > 0.05" for 10-YR event
Inflow = 0.20 cfs @ 16.63 hrs, Volume= 0.131 af
Outflow = 0.20 cfs @ 16.66 hrs, Volume= 0.130 af, Atten= 0%, Lag= 1.6 min
Discarded = 0.20 cfs @ 16.66 hrs, Volume= 0.130 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-2 : Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 392.01' @ 16.66 hrs Surf.Area= 2,427 sf Storage= 18 cf

Plug-Flow detention time= 1.4 min calculated for 0.130 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (1,151.3 - 1,150.4)

Volume	Invert	Avail.Storage	Storage Description
#1	392.00'	25,237 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

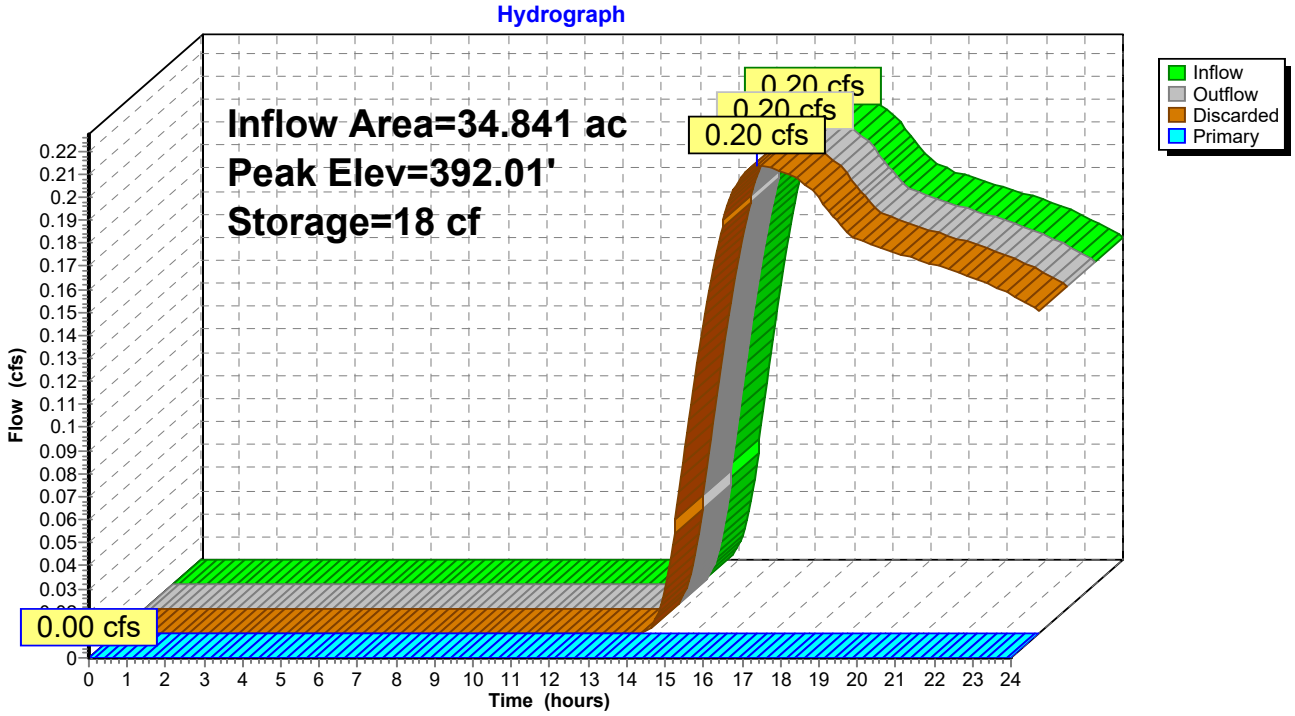
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
392.00	2,422	214.7	0.0	0	0	2,422
395.00	4,713	294.5	100.0	10,514	10,514	5,745
396.00	27,974	754.0	100.0	14,723	25,237	44,087

Device	Routing	Invert	Outlet Devices
#1	Discarded	392.00'	**5.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	395.49'	**20.0' long x 10.0' 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) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.20 cfs @ 16.66 hrs HW=392.01' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP-1: Infiltration Pond



Hydrograph for Pond IP-1: Infiltration Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
0.50	0.00	0	392.00	0.00	0.00	0.00
1.00	0.00	0	392.00	0.00	0.00	0.00
1.50	0.00	0	392.00	0.00	0.00	0.00
2.00	0.00	0	392.00	0.00	0.00	0.00
2.50	0.00	0	392.00	0.00	0.00	0.00
3.00	0.00	0	392.00	0.00	0.00	0.00
3.50	0.00	0	392.00	0.00	0.00	0.00
4.00	0.00	0	392.00	0.00	0.00	0.00
4.50	0.00	0	392.00	0.00	0.00	0.00
5.00	0.00	0	392.00	0.00	0.00	0.00
5.50	0.00	0	392.00	0.00	0.00	0.00
6.00	0.00	0	392.00	0.00	0.00	0.00
6.50	0.00	0	392.00	0.00	0.00	0.00
7.00	0.00	0	392.00	0.00	0.00	0.00
7.50	0.00	0	392.00	0.00	0.00	0.00
8.00	0.00	0	392.00	0.00	0.00	0.00
8.50	0.00	0	392.00	0.00	0.00	0.00
9.00	0.00	0	392.00	0.00	0.00	0.00
9.50	0.00	0	392.00	0.00	0.00	0.00
10.00	0.00	0	392.00	0.00	0.00	0.00
10.50	0.00	0	392.00	0.00	0.00	0.00
11.00	0.00	0	392.00	0.00	0.00	0.00
11.50	0.00	0	392.00	0.00	0.00	0.00
12.00	0.00	0	392.00	0.00	0.00	0.00
12.50	0.00	0	392.00	0.00	0.00	0.00
13.00	0.00	0	392.00	0.00	0.00	0.00
13.50	0.00	0	392.00	0.00	0.00	0.00
14.00	0.01	0	392.00	0.01	0.01	0.00
14.50	0.05	4	392.00	0.04	0.04	0.00
15.00	0.11	9	392.00	0.11	0.11	0.00
15.50	0.16	14	392.01	0.16	0.16	0.00
16.00	0.19	16	392.01	0.19	0.19	0.00
16.50	**0.20**	**17**	**392.01**	**0.20**	**0.20**	0.00
17.00	**0.20**	**17**	**392.01**	**0.20**	**0.20**	0.00
17.50	0.20	17	392.01	0.20	0.20	0.00
18.00	0.19	17	392.01	0.19	0.19	0.00
18.50	0.18	16	392.01	0.18	0.18	0.00
19.00	0.17	15	392.01	0.17	0.17	0.00
19.50	0.17	15	392.01	0.17	0.17	0.00
20.00	0.17	14	392.01	0.17	0.17	0.00
20.50	0.16	14	392.01	0.16	0.16	0.00
21.00	0.16	14	392.01	0.16	0.16	0.00
21.50	0.16	14	392.01	0.16	0.16	0.00
22.00	0.16	13	392.01	0.16	0.16	0.00
22.50	0.15	13	392.01	0.15	0.15	0.00
23.00	0.15	13	392.01	0.15	0.15	0.00
23.50	0.14	13	392.01	0.14	0.14	0.00
24.00	0.14	12	392.00	0.14	0.14	0.00

Stage-Discharge for Pond IP-1: Infiltration Pond

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
392.00	0.00	0.00	0.00
392.05	0.28	0.28	0.00
392.10	0.29	0.29	0.00
392.15	0.29	0.29	0.00
392.20	0.30	0.30	0.00
392.25	0.30	0.30	0.00
392.30	0.30	0.30	0.00
392.35	0.31	0.31	0.00
392.40	0.31	0.31	0.00
392.45	0.31	0.31	0.00
392.50	0.32	0.32	0.00
392.55	0.32	0.32	0.00
392.60	0.33	0.33	0.00
392.65	0.33	0.33	0.00
392.70	0.33	0.33	0.00
392.75	0.34	0.34	0.00
392.80	0.34	0.34	0.00
392.85	0.35	0.35	0.00
392.90	0.35	0.35	0.00
392.95	0.35	0.35	0.00
393.00	0.36	0.36	0.00
393.05	0.36	0.36	0.00
393.10	0.37	0.37	0.00
393.15	0.37	0.37	0.00
393.20	0.38	0.38	0.00
393.25	0.38	0.38	0.00
393.30	0.38	0.38	0.00
393.35	0.39	0.39	0.00
393.40	0.39	0.39	0.00
393.45	0.40	0.40	0.00
393.50	0.40	0.40	0.00
393.55	0.41	0.41	0.00
393.60	0.41	0.41	0.00
393.65	0.42	0.42	0.00
393.70	0.42	0.42	0.00
393.75	0.42	0.42	0.00
393.80	0.43	0.43	0.00
393.85	0.43	0.43	0.00
393.90	0.44	0.44	0.00
393.95	0.44	0.44	0.00
394.00	0.45	0.45	0.00
394.05	0.45	0.45	0.00
394.10	0.46	0.46	0.00
394.15	0.46	0.46	0.00
394.20	0.47	0.47	0.00
394.25	0.47	0.47	0.00
394.30	0.48	0.48	0.00
394.35	0.48	0.48	0.00
394.40	0.49	0.49	0.00
394.45	0.49	0.49	0.00
394.50	0.50	0.50	0.00
394.55	0.50	0.50	0.00
394.60	0.51	0.51	0.00
394.65	0.51	0.51	0.00
394.70	0.52	0.52	0.00
394.75	0.52	0.52	0.00
394.80	0.53	0.53	0.00
394.85	0.53	0.53	0.00
394.90	0.54	0.54	0.00
394.95	0.54	0.54	0.00
395.00	0.55	0.55	0.00
395.05	0.63	0.63	0.00
395.10	0.71	0.71	0.00
395.15	0.81	0.81	0.00
395.20	0.90	0.90	0.00
395.25	1.01	1.01	0.00
395.30	1.12	1.12	0.00
395.35	1.23	1.23	0.00
395.40	1.35	1.35	0.00
395.45	1.48	1.48	0.00
395.50	1.66	1.61	0.05
395.55	2.48	1.75	0.73
395.60	3.71	1.89	1.82
395.65	5.23	2.04	3.19
395.70	6.99	2.19	4.80
395.75	9.01	2.35	6.66
395.80	11.25	2.52	8.73
395.85	13.69	2.69	11.00
395.90	16.35	2.87	13.48
395.95	19.29	3.05	16.24
396.00	**22.45**	**3.24**	**19.21**

Stage-Area-Storage for Pond IP-1: Infiltration Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
392.00	2,422	0
392.05	2,454	122
392.10	2,486	245
392.15	2,519	371
392.20	2,551	497
392.25	2,584	626
392.30	2,617	756
392.35	2,650	887
392.40	2,684	1,021
392.45	2,717	1,156
392.50	2,751	1,292
392.55	2,785	1,431
392.60	2,820	1,571
392.65	2,854	1,713
392.70	2,889	1,856
392.75	2,924	2,002
392.80	2,959	2,149
392.85	2,994	2,298
392.90	3,030	2,448
392.95	3,066	2,601
393.00	3,102	2,755
393.05	3,138	2,911
393.10	3,174	3,069
393.15	3,211	3,228
393.20	3,248	3,390
393.25	3,285	3,553
393.30	3,322	3,718
393.35	3,359	3,885
393.40	3,397	4,054
393.45	3,435	4,225
393.50	3,473	4,398
393.55	3,511	4,572
393.60	3,550	4,749
393.65	3,589	4,927
393.70	3,627	5,108
393.75	3,667	5,290
393.80	3,706	5,474
393.85	3,745	5,661
393.90	3,785	5,849
393.95	3,825	6,039
394.00	3,865	6,231
394.05	3,906	6,426
394.10	3,946	6,622
394.15	3,987	6,820
394.20	4,028	7,021
394.25	4,069	7,223
394.30	4,111	7,428
394.35	4,152	7,634
394.40	4,194	7,843
394.45	4,236	8,054
394.50	4,279	8,267
394.55	4,321	8,482
394.60	4,364	8,699
394.65	4,407	8,918
394.70	4,450	9,139
394.75	4,493	9,363
394.80	4,537	9,589
394.85	4,581	9,817
394.90	4,624	10,047
394.95	4,669	10,279
395.00	4,713	10,514
395.05	5,414	10,767
395.10	6,164	11,056
395.15	6,963	11,384
395.20	7,810	11,753
395.25	8,705	12,166
395.30	9,650	12,624
395.35	10,642	13,131
395.40	11,684	13,689
395.45	12,774	14,301
395.50	13,913	14,968
395.55	15,100	15,693
395.60	16,336	16,478
395.65	17,621	17,327
395.70	18,954	18,241
395.75	20,336	19,223
395.80	21,766	20,276
395.85	23,245	21,401
395.90	24,773	22,601
395.95	26,349	23,879
396.00	**27,974**	**25,237**

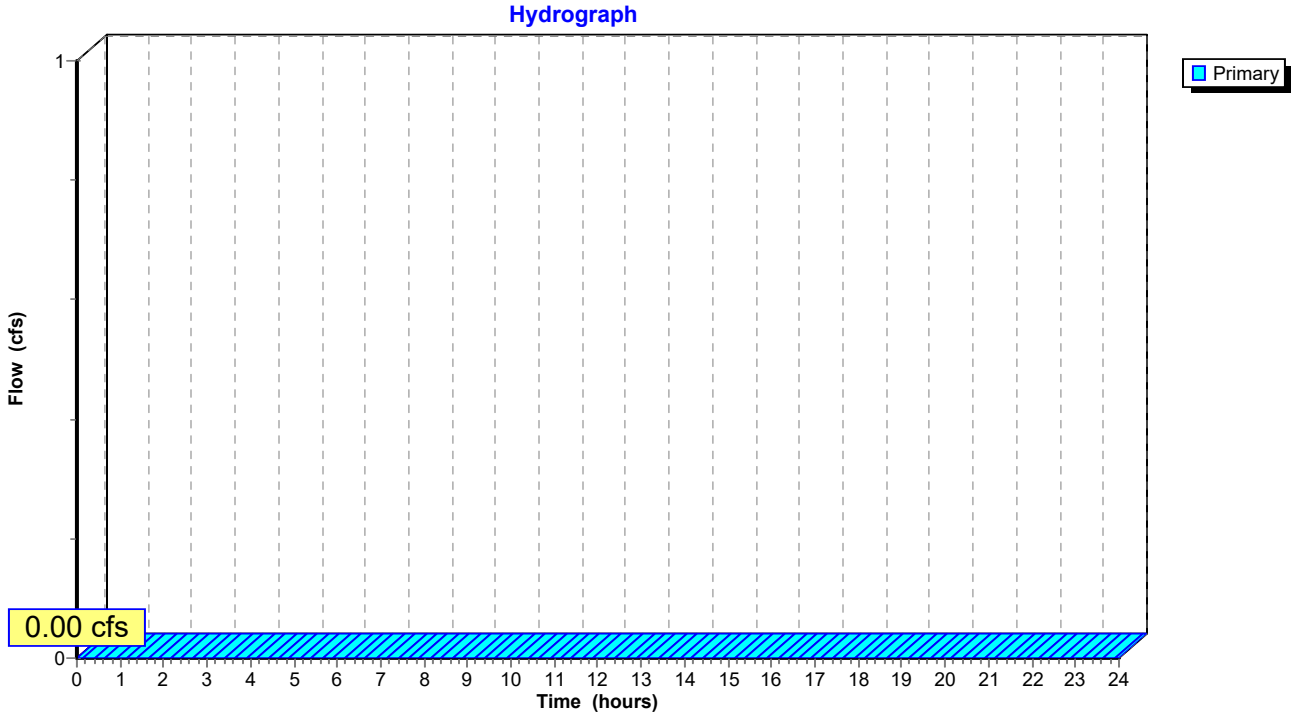
Summary for Link DP-1: Internal Gravel Pit

[43] Hint: Has no inflow (Outflow=Zero)

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-1: Internal Gravel Pit



Hydrograph for Link DP-1: Internal Gravel Pit

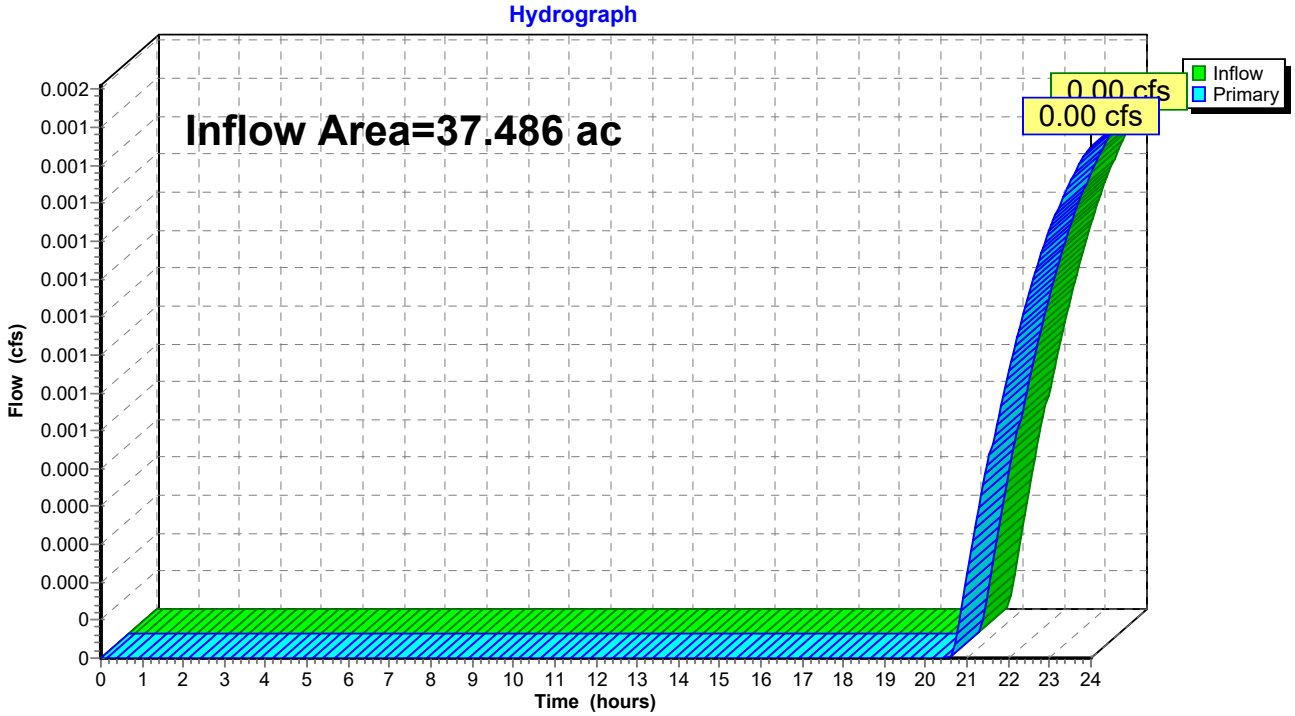
Time (hours)	Elevation (feet)	Primary (cfs)	Time (hours)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	13.00	0.00	0.00
0.25	0.00	0.00	13.25	0.00	0.00
0.50	0.00	0.00	13.50	0.00	0.00
0.75	0.00	0.00	13.75	0.00	0.00
1.00	0.00	0.00	14.00	0.00	0.00
1.25	0.00	0.00	14.25	0.00	0.00
1.50	0.00	0.00	14.50	0.00	0.00
1.75	0.00	0.00	14.75	0.00	0.00
2.00	0.00	0.00	15.00	0.00	0.00
2.25	0.00	0.00	15.25	0.00	0.00
2.50	0.00	0.00	15.50	0.00	0.00
2.75	0.00	0.00	15.75	0.00	0.00
3.00	0.00	0.00	16.00	0.00	0.00
3.25	0.00	0.00	16.25	0.00	0.00
3.50	0.00	0.00	16.50	0.00	0.00
3.75	0.00	0.00	16.75	0.00	0.00
4.00	0.00	0.00	17.00	0.00	0.00
4.25	0.00	0.00	17.25	0.00	0.00
4.50	0.00	0.00	17.50	0.00	0.00
4.75	0.00	0.00	17.75	0.00	0.00
5.00	0.00	0.00	18.00	0.00	0.00
5.25	0.00	0.00	18.25	0.00	0.00
5.50	0.00	0.00	18.50	0.00	0.00
5.75	0.00	0.00	18.75	0.00	0.00
6.00	0.00	0.00	19.00	0.00	0.00
6.25	0.00	0.00	19.25	0.00	0.00
6.50	0.00	0.00	19.50	0.00	0.00
6.75	0.00	0.00	19.75	0.00	0.00
7.00	0.00	0.00	20.00	0.00	0.00
7.25	0.00	0.00	20.25	0.00	0.00
7.50	0.00	0.00	20.50	0.00	0.00
7.75	0.00	0.00	20.75	0.00	0.00
8.00	0.00	0.00	21.00	0.00	0.00
8.25	0.00	0.00	21.25	0.00	0.00
8.50	0.00	0.00	21.50	0.00	0.00
8.75	0.00	0.00	21.75	0.00	0.00
9.00	0.00	0.00	22.00	0.00	0.00
9.25	0.00	0.00	22.25	0.00	0.00
9.50	0.00	0.00	22.50	0.00	0.00
9.75	0.00	0.00	22.75	0.00	0.00
10.00	0.00	0.00	23.00	0.00	0.00
10.25	0.00	0.00	23.25	0.00	0.00
10.50	0.00	0.00	23.50	0.00	0.00
10.75	0.00	0.00	23.75	0.00	0.00
11.00	0.00	0.00	24.00	0.00	0.00
11.25	0.00	0.00			
11.50	0.00	0.00			
11.75	0.00	0.00			
12.00	0.00	0.00			
12.25	0.00	0.00			
12.50	0.00	0.00			
12.75	0.00	0.00			

Summary for Link DP-2: Wetland

Inflow Area = 37.486 ac, 2.87% Impervious, Inflow Depth > 0.00" for 10-YR event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-2: Wetland



Hydrograph for Link DP-2: Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.00	0.00	0.00
0.75	0.00	0.00	0.00	13.75	0.00	0.00	0.00
1.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00
1.25	0.00	0.00	0.00	14.25	0.00	0.00	0.00
1.50	0.00	0.00	0.00	14.50	0.00	0.00	0.00
1.75	0.00	0.00	0.00	14.75	0.00	0.00	0.00
2.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
2.25	0.00	0.00	0.00	15.25	0.00	0.00	0.00
2.50	0.00	0.00	0.00	15.50	0.00	0.00	0.00
2.75	0.00	0.00	0.00	15.75	0.00	0.00	0.00
3.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00
3.25	0.00	0.00	0.00	16.25	0.00	0.00	0.00
3.50	0.00	0.00	0.00	16.50	0.00	0.00	0.00
3.75	0.00	0.00	0.00	16.75	0.00	0.00	0.00
4.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00
4.25	0.00	0.00	0.00	17.25	0.00	0.00	0.00
4.50	0.00	0.00	0.00	17.50	0.00	0.00	0.00
4.75	0.00	0.00	0.00	17.75	0.00	0.00	0.00
5.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00
5.25	0.00	0.00	0.00	18.25	0.00	0.00	0.00
5.50	0.00	0.00	0.00	18.50	0.00	0.00	0.00
5.75	0.00	0.00	0.00	18.75	0.00	0.00	0.00
6.00	0.00	0.00	0.00	19.00	0.00	0.00	0.00
6.25	0.00	0.00	0.00	19.25	0.00	0.00	0.00
6.50	0.00	0.00	0.00	19.50	0.00	0.00	0.00
6.75	0.00	0.00	0.00	19.75	0.00	0.00	0.00
7.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
7.25	0.00	0.00	0.00	20.25	0.00	0.00	0.00
7.50	0.00	0.00	0.00	20.50	0.00	0.00	0.00
7.75	0.00	0.00	0.00	20.75	0.00	0.00	0.00
8.00	0.00	0.00	0.00	21.00	0.00	0.00	0.00
8.25	0.00	0.00	0.00	21.25	0.00	0.00	0.00
8.50	0.00	0.00	0.00	21.50	0.00	0.00	0.00
8.75	0.00	0.00	0.00	21.75	0.00	0.00	0.00
9.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00
9.25	0.00	0.00	0.00	22.25	0.00	0.00	0.00
9.50	0.00	0.00	0.00	22.50	0.00	0.00	0.00
9.75	0.00	0.00	0.00	22.75	0.00	0.00	0.00
10.00	0.00	0.00	0.00	23.00	0.00	0.00	0.00
10.25	0.00	0.00	0.00	23.25	0.00	0.00	0.00
10.50	0.00	0.00	0.00	23.50	0.00	0.00	0.00
10.75	0.00	0.00	0.00	23.75	0.00	0.00	0.00
11.00	0.00	0.00	0.00	24.00	**0.00**	0.00	**0.00**
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PR-1: Subcat PR-1 Runoff Area=34.841 ac 3.09% Impervious Runoff Depth>0.19"
Flow Length=2,200' Tc=70.9 min UI Adjusted CN=39 Runoff=0.96 cfs 0.552 af

Subcatchment PR-2: Subcat PR-2 Runoff Area=2.645 ac 0.00% Impervious Runoff Depth>0.06"
Flow Length=86' Tc=10.7 min CN=34 Runoff=0.02 cfs 0.013 af

Pond IP-1: Infiltration Pond Peak Elev=394.35' Storage=7,622 cf Inflow=0.96 cfs 0.552 af
Discarded=0.48 cfs 0.403 af Primary=0.00 cfs 0.000 af Outflow=0.48 cfs 0.403 af

Link DP-1: Internal Gravel Pit
Primary=0.00 cfs 0.000 af

Link DP-2: Wetland Inflow=0.02 cfs 0.013 af
Primary=0.02 cfs 0.013 af

Total Runoff Area = 37.486 ac Runoff Volume = 0.565 af Average Runoff Depth = 0.18"
97.13% Pervious = 36.410 ac 2.87% Impervious = 1.076 ac

Summary for Subcatchment PR-1: Subcat PR-1

Runoff = 0.96 cfs @ 14.56 hrs, Volume= 0.552 af, Depth> 0.19"
Routed to Pond IP-1 : Infiltration Pond

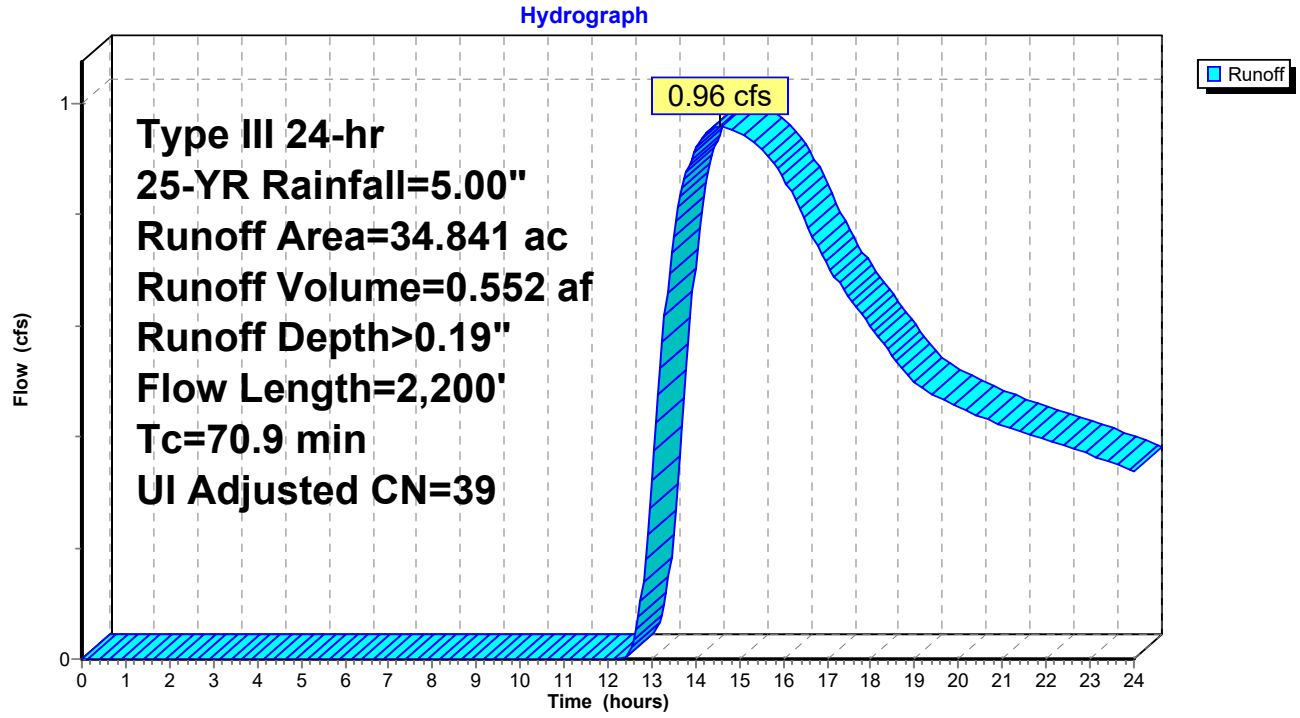
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.00"

Area (ac)	CN	Adj	Description
0.895	39		Pasture/grassland/range, Good, HSG A
0.003	39		Pasture/grassland/range, Good, HSG A
28.267	39		Pasture/grassland/range, Good, HSG A
0.089	39		Pasture/grassland/range, Good, HSG A
0.091	30		Woods, Good, HSG A
2.835	30		Brush, Good, HSG A
0.242	96		Gravel surface, HSG A
0.002	98		Unconnected roofs, HSG A
0.014	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.017	98		Unconnected roofs, HSG A
0.019	98		Unconnected roofs, HSG A
0.021	98		Unconnected roofs, HSG A
0.023	98		Unconnected roofs, HSG A
0.025	98		Unconnected roofs, HSG A
0.029	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.007	98		Unconnected roofs, HSG A
0.020	98		Unconnected roofs, HSG A
0.073	98		Unconnected roofs, HSG A
0.091	98		Unconnected roofs, HSG A
0.089	98		Unconnected roofs, HSG A
0.086	98		Unconnected roofs, HSG A
0.068	98		Unconnected roofs, HSG A
0.039	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.002	98		Unconnected roofs, HSG A
0.030	98		Unconnected roofs, HSG A
0.041	98		Unconnected roofs, HSG A
0.040	98		Unconnected roofs, HSG A
0.039	98		Unconnected roofs, HSG A
0.038	98		Unconnected roofs, HSG A
0.037	98		Unconnected roofs, HSG A
0.036	98		Unconnected roofs, HSG A
0.036	98		Unconnected roofs, HSG A
0.001	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.002	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.016	98		Unconnected roofs, HSG A

0.016	98		Unconnected roofs, HSG A
0.001	98		Unconnected roofs, HSG A
0.061	30		Brush, Good, HSG A
0.001	30		Woods, Good, HSG A
1.253	30		Woods, Good, HSG A
0.030	30		Woods, Good, HSG A
34.841	40	39	Weighted Average, UI Adjusted
33.765			96.91% Pervious Area
1.076			3.09% Impervious Area
1.076			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0500	0.10		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.78"
54.6	2,100	0.0084	0.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
70.9	2,200	Total			

Subcatchment PR-1: Subcat PR-1



Hydrograph for Subcatchment PR-1: Subcat PR-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	0.02	0.32
0.25	0.01	0.00	0.00	13.25	3.84	0.03	0.57
0.50	0.03	0.00	0.00	13.50	3.92	0.04	0.76
0.75	0.04	0.00	0.00	13.75	3.99	0.05	0.86
1.00	0.05	0.00	0.00	14.00	4.06	0.05	0.92
1.25	0.06	0.00	0.00	14.25	4.11	0.06	0.95
1.50	0.08	0.00	0.00	14.50	4.17	0.07	**0.96**
1.75	0.09	0.00	0.00	14.75	4.22	0.07	**0.96**
2.00	0.10	0.00	0.00	15.00	4.27	0.08	0.95
2.25	0.11	0.00	0.00	15.25	4.32	0.08	0.93
2.50	0.13	0.00	0.00	15.50	4.36	0.09	0.92
2.75	0.14	0.00	0.00	15.75	4.40	0.10	0.89
3.00	0.15	0.00	0.00	16.00	4.43	0.10	0.87
3.25	0.17	0.00	0.00	16.25	4.46	0.10	0.83
3.50	0.18	0.00	0.00	16.50	4.49	0.11	0.79
3.75	0.20	0.00	0.00	16.75	4.52	0.11	0.75
4.00	0.22	0.00	0.00	17.00	4.55	0.12	0.71
4.25	0.23	0.00	0.00	17.25	4.57	0.12	0.68
4.50	0.25	0.00	0.00	17.50	4.60	0.13	0.65
4.75	0.27	0.00	0.00	17.75	4.62	0.13	0.62
5.00	0.28	0.00	0.00	18.00	4.64	0.13	0.60
5.25	0.30	0.00	0.00	18.25	4.66	0.14	0.57
5.50	0.32	0.00	0.00	18.50	4.68	0.14	0.54
5.75	0.34	0.00	0.00	18.75	4.70	0.14	0.52
6.00	0.36	0.00	0.00	19.00	4.72	0.15	0.50
6.25	0.38	0.00	0.00	19.25	4.73	0.15	0.48
6.50	0.40	0.00	0.00	19.50	4.75	0.15	0.47
6.75	0.43	0.00	0.00	19.75	4.77	0.16	0.46
7.00	0.45	0.00	0.00	20.00	4.79	0.16	0.45
7.25	0.48	0.00	0.00	20.25	4.80	0.16	0.44
7.50	0.51	0.00	0.00	20.50	4.82	0.16	0.44
7.75	0.54	0.00	0.00	20.75	4.83	0.17	0.43
8.00	0.57	0.00	0.00	21.00	4.85	0.17	0.42
8.25	0.60	0.00	0.00	21.25	4.86	0.17	0.41
8.50	0.64	0.00	0.00	21.50	4.88	0.18	0.41
8.75	0.68	0.00	0.00	21.75	4.89	0.18	0.40
9.00	0.73	0.00	0.00	22.00	4.90	0.18	0.40
9.25	0.78	0.00	0.00	22.25	4.92	0.18	0.39
9.50	0.83	0.00	0.00	22.50	4.93	0.19	0.38
9.75	0.89	0.00	0.00	22.75	4.94	0.19	0.37
10.00	0.95	0.00	0.00	23.00	4.95	0.19	0.37
10.25	1.01	0.00	0.00	23.25	4.97	0.19	0.36
10.50	1.08	0.00	0.00	23.50	4.98	0.20	0.35
10.75	1.16	0.00	0.00	23.75	4.99	0.20	0.35
11.00	1.25	0.00	0.00	24.00	**5.00**	**0.20**	0.34
11.25	1.36	0.00	0.00				
11.50	1.49	0.00	0.00				
11.75	1.78	0.00	0.00				
12.00	2.50	0.00	0.00				
12.25	3.22	0.00	0.00				
12.50	3.51	0.01	0.01				
12.75	3.64	0.02	0.10				

Summary for Subcatchment PR-2: Subcat PR-2

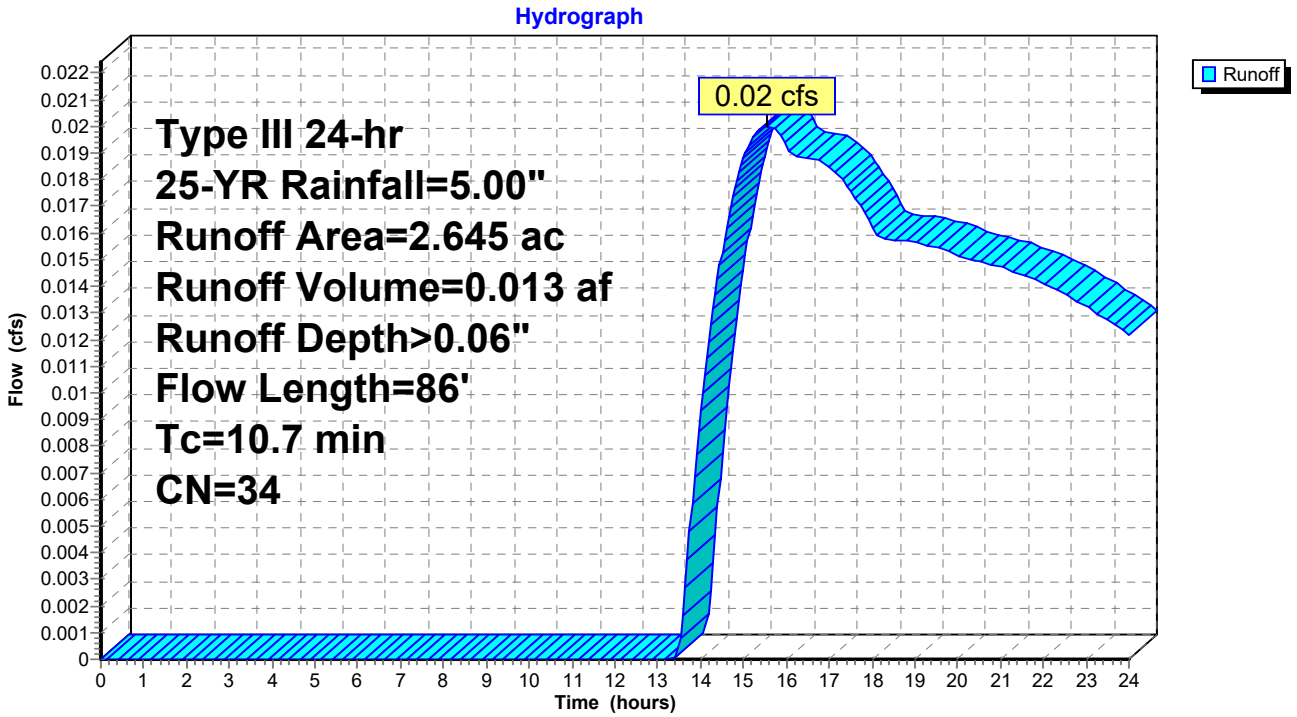
Runoff = 0.02 cfs @ 15.56 hrs, Volume= 0.013 af, Depth> 0.06"
Routed to Link DP-2 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.00"

Area (ac)	CN	Description
0.118	39	Pasture/grassland/range, Good, HSG A
0.342	39	Pasture/grassland/range, Good, HSG A
0.656	39	Pasture/grassland/range, Good, HSG A
0.162	30	Woods, Good, HSG A
1.097	30	Woods, Good, HSG A
0.270	30	Brush, Good, HSG A
2.645	34	Weighted Average
2.645		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	50	0.0380	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.78"
0.5	36	0.0640	1.26		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.7	86	Total			

Subcatchment PR-2: Subcat PR-2



Hydrograph for Subcatchment PR-2: Subcat PR-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	3.75	0.00	0.00
0.25	0.01	0.00	0.00	13.25	3.84	0.00	0.00
0.50	0.03	0.00	0.00	13.50	3.92	0.00	0.00
0.75	0.04	0.00	0.00	13.75	3.99	0.00	0.00
1.00	0.05	0.00	0.00	14.00	4.06	0.00	0.01
1.25	0.06	0.00	0.00	14.25	4.11	0.00	0.01
1.50	0.08	0.00	0.00	14.50	4.17	0.00	0.02
1.75	0.09	0.00	0.00	14.75	4.22	0.01	0.02
2.00	0.10	0.00	0.00	15.00	4.27	0.01	0.02
2.25	0.11	0.00	0.00	15.25	4.32	0.01	0.02
2.50	0.13	0.00	0.00	15.50	4.36	0.01	**0.02**
2.75	0.14	0.00	0.00	15.75	4.40	0.01	**0.02**
3.00	0.15	0.00	0.00	16.00	4.43	0.02	0.02
3.25	0.17	0.00	0.00	16.25	4.46	0.02	0.02
3.50	0.18	0.00	0.00	16.50	4.49	0.02	0.02
3.75	0.20	0.00	0.00	16.75	4.52	0.02	0.02
4.00	0.22	0.00	0.00	17.00	4.55	0.02	0.02
4.25	0.23	0.00	0.00	17.25	4.57	0.02	0.02
4.50	0.25	0.00	0.00	17.50	4.60	0.03	0.02
4.75	0.27	0.00	0.00	17.75	4.62	0.03	0.02
5.00	0.28	0.00	0.00	18.00	4.64	0.03	0.02
5.25	0.30	0.00	0.00	18.25	4.66	0.03	0.02
5.50	0.32	0.00	0.00	18.50	4.68	0.03	0.02
5.75	0.34	0.00	0.00	18.75	4.70	0.03	0.02
6.00	0.36	0.00	0.00	19.00	4.72	0.03	0.02
6.25	0.38	0.00	0.00	19.25	4.73	0.04	0.02
6.50	0.40	0.00	0.00	19.50	4.75	0.04	0.02
6.75	0.43	0.00	0.00	19.75	4.77	0.04	0.02
7.00	0.45	0.00	0.00	20.00	4.79	0.04	0.02
7.25	0.48	0.00	0.00	20.25	4.80	0.04	0.02
7.50	0.51	0.00	0.00	20.50	4.82	0.04	0.01
7.75	0.54	0.00	0.00	20.75	4.83	0.04	0.01
8.00	0.57	0.00	0.00	21.00	4.85	0.05	0.01
8.25	0.60	0.00	0.00	21.25	4.86	0.05	0.01
8.50	0.64	0.00	0.00	21.50	4.88	0.05	0.01
8.75	0.68	0.00	0.00	21.75	4.89	0.05	0.01
9.00	0.73	0.00	0.00	22.00	4.90	0.05	0.01
9.25	0.78	0.00	0.00	22.25	4.92	0.05	0.01
9.50	0.83	0.00	0.00	22.50	4.93	0.05	0.01
9.75	0.89	0.00	0.00	22.75	4.94	0.05	0.01
10.00	0.95	0.00	0.00	23.00	4.95	0.06	0.01
10.25	1.01	0.00	0.00	23.25	4.97	0.06	0.01
10.50	1.08	0.00	0.00	23.50	4.98	0.06	0.01
10.75	1.16	0.00	0.00	23.75	4.99	0.06	0.01
11.00	1.25	0.00	0.00	24.00	**5.00**	**0.06**	0.01
11.25	1.36	0.00	0.00				
11.50	1.49	0.00	0.00				
11.75	1.78	0.00	0.00				
12.00	2.50	0.00	0.00				
12.25	3.22	0.00	0.00				
12.50	3.51	0.00	0.00				
12.75	3.64	0.00	0.00				

Summary for Pond IP-1: Infiltration Pond

Inflow Area = 34.841 ac, 3.09% Impervious, Inflow Depth > 0.19" for 25-YR event
Inflow = 0.96 cfs @ 14.56 hrs, Volume= 0.552 af
Outflow = 0.48 cfs @ 19.30 hrs, Volume= 0.403 af, Atten= 50%, Lag= 284.3 min
Discarded = 0.48 cfs @ 19.30 hrs, Volume= 0.403 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-2 : Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 394.35' @ 19.30 hrs Surf.Area= 4,150 sf Storage= 7,622 cf

Plug-Flow detention time= 169.3 min calculated for 0.403 af (73% of inflow)
Center-of-Mass det. time= 76.6 min (1,125.8 - 1,049.2)

Volume	Invert	Avail.Storage	Storage Description
#1	392.00'	25,237 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

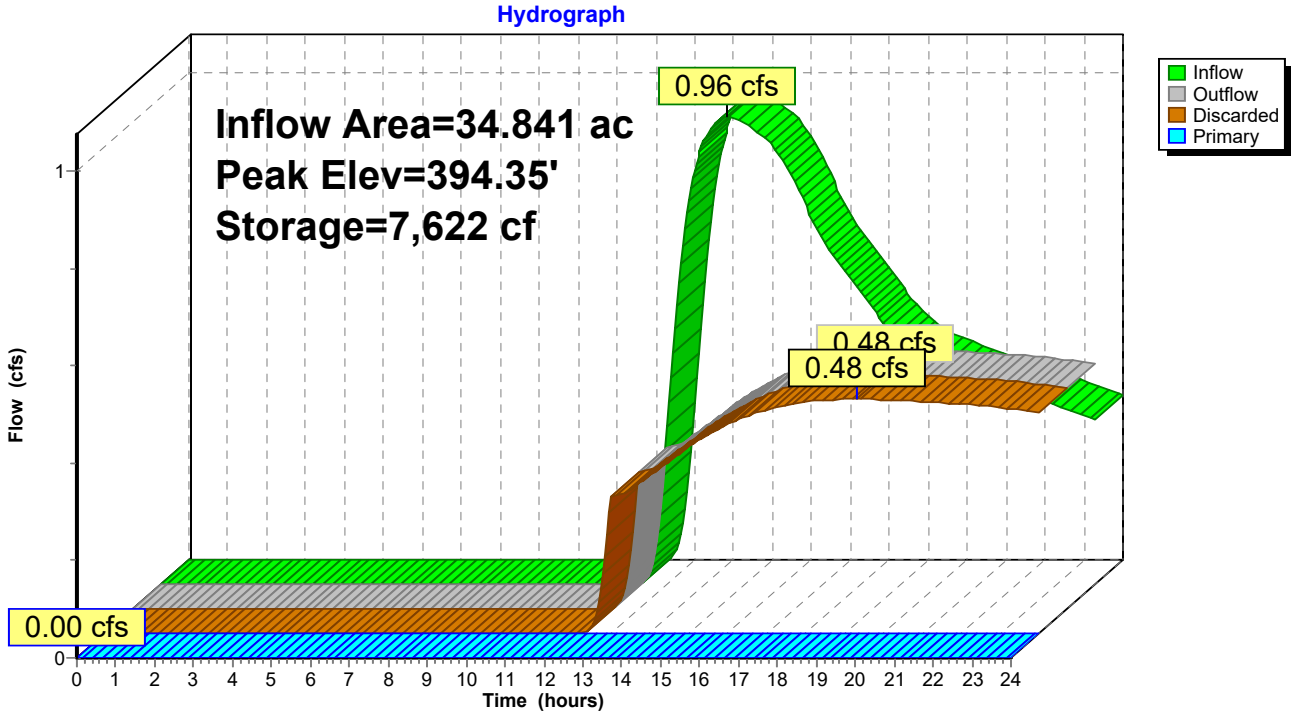
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
392.00	2,422	214.7	0.0	0	0	2,422
395.00	4,713	294.5	100.0	10,514	10,514	5,745
396.00	27,974	754.0	100.0	14,723	25,237	44,087

Device	Routing	Invert	Outlet Devices
#1	Discarded	392.00'	**5.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	395.49'	**20.0' long x 10.0' 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) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.48 cfs @ 19.30 hrs HW=394.35' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.48 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP-1: Infiltration Pond



Hydrograph for Pond IP-1: Infiltration Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
0.50	0.00	0	392.00	0.00	0.00	0.00
1.00	0.00	0	392.00	0.00	0.00	0.00
1.50	0.00	0	392.00	0.00	0.00	0.00
2.00	0.00	0	392.00	0.00	0.00	0.00
2.50	0.00	0	392.00	0.00	0.00	0.00
3.00	0.00	0	392.00	0.00	0.00	0.00
3.50	0.00	0	392.00	0.00	0.00	0.00
4.00	0.00	0	392.00	0.00	0.00	0.00
4.50	0.00	0	392.00	0.00	0.00	0.00
5.00	0.00	0	392.00	0.00	0.00	0.00
5.50	0.00	0	392.00	0.00	0.00	0.00
6.00	0.00	0	392.00	0.00	0.00	0.00
6.50	0.00	0	392.00	0.00	0.00	0.00
7.00	0.00	0	392.00	0.00	0.00	0.00
7.50	0.00	0	392.00	0.00	0.00	0.00
8.00	0.00	0	392.00	0.00	0.00	0.00
8.50	0.00	0	392.00	0.00	0.00	0.00
9.00	0.00	0	392.00	0.00	0.00	0.00
9.50	0.00	0	392.00	0.00	0.00	0.00
10.00	0.00	0	392.00	0.00	0.00	0.00
10.50	0.00	0	392.00	0.00	0.00	0.00
11.00	0.00	0	392.00	0.00	0.00	0.00
11.50	0.00	0	392.00	0.00	0.00	0.00
12.00	0.00	0	392.00	0.00	0.00	0.00
12.50	0.01	1	392.00	0.01	0.01	0.00
13.00	0.32	27	392.01	0.28	0.28	0.00
13.50	0.76	521	392.21	0.30	0.30	0.00
14.00	0.92	1,505	392.58	0.32	0.32	0.00
14.50	**0.96**	2,594	392.95	0.35	0.35	0.00
15.00	**0.95**	3,649	393.28	0.38	0.38	0.00
15.50	0.92	4,616	393.56	0.41	0.41	0.00
16.00	0.87	5,471	393.80	0.43	0.43	0.00
16.50	0.79	6,175	393.99	0.45	0.45	0.00
17.00	0.71	6,708	394.12	0.46	0.46	0.00
17.50	0.65	7,096	394.22	0.47	0.47	0.00
18.00	0.60	7,372	394.29	0.47	0.47	0.00
18.50	0.54	7,541	394.33	0.48	0.48	0.00
19.00	0.50	**7,613**	**394.34**	**0.48**	**0.48**	0.00
19.50	0.47	**7,619**	**394.35**	**0.48**	**0.48**	0.00
20.00	0.45	7,586	394.34	0.48	0.48	0.00
20.50	0.44	7,523	394.32	0.48	0.48	0.00
21.00	0.42	7,436	394.30	0.48	0.48	0.00
21.50	0.41	7,327	394.28	0.47	0.47	0.00
22.00	0.40	7,200	394.24	0.47	0.47	0.00
22.50	0.38	7,055	394.21	0.47	0.47	0.00
23.00	0.37	6,892	394.17	0.46	0.46	0.00
23.50	0.35	6,711	394.12	0.46	0.46	0.00
24.00	0.34	6,511	394.07	0.45	0.45	0.00

Stage-Discharge for Pond IP-1: Infiltration Pond

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
392.00	0.00	0.00	0.00
392.05	0.28	0.28	0.00
392.10	0.29	0.29	0.00
392.15	0.29	0.29	0.00
392.20	0.30	0.30	0.00
392.25	0.30	0.30	0.00
392.30	0.30	0.30	0.00
392.35	0.31	0.31	0.00
392.40	0.31	0.31	0.00
392.45	0.31	0.31	0.00
392.50	0.32	0.32	0.00
392.55	0.32	0.32	0.00
392.60	0.33	0.33	0.00
392.65	0.33	0.33	0.00
392.70	0.33	0.33	0.00
392.75	0.34	0.34	0.00
392.80	0.34	0.34	0.00
392.85	0.35	0.35	0.00
392.90	0.35	0.35	0.00
392.95	0.35	0.35	0.00
393.00	0.36	0.36	0.00
393.05	0.36	0.36	0.00
393.10	0.37	0.37	0.00
393.15	0.37	0.37	0.00
393.20	0.38	0.38	0.00
393.25	0.38	0.38	0.00
393.30	0.38	0.38	0.00
393.35	0.39	0.39	0.00
393.40	0.39	0.39	0.00
393.45	0.40	0.40	0.00
393.50	0.40	0.40	0.00
393.55	0.41	0.41	0.00
393.60	0.41	0.41	0.00
393.65	0.42	0.42	0.00
393.70	0.42	0.42	0.00
393.75	0.42	0.42	0.00
393.80	0.43	0.43	0.00
393.85	0.43	0.43	0.00
393.90	0.44	0.44	0.00
393.95	0.44	0.44	0.00
394.00	0.45	0.45	0.00
394.05	0.45	0.45	0.00
394.10	0.46	0.46	0.00
394.15	0.46	0.46	0.00
394.20	0.47	0.47	0.00
394.25	0.47	0.47	0.00
394.30	0.48	0.48	0.00
394.35	0.48	0.48	0.00
394.40	0.49	0.49	0.00
394.45	0.49	0.49	0.00
394.50	0.50	0.50	0.00
394.55	0.50	0.50	0.00
394.60	0.51	0.51	0.00
394.65	0.51	0.51	0.00
394.70	0.52	0.52	0.00
394.75	0.52	0.52	0.00
394.80	0.53	0.53	0.00
394.85	0.53	0.53	0.00
394.90	0.54	0.54	0.00
394.95	0.54	0.54	0.00
395.00	0.55	0.55	0.00
395.05	0.63	0.63	0.00
395.10	0.71	0.71	0.00
395.15	0.81	0.81	0.00
395.20	0.90	0.90	0.00
395.25	1.01	1.01	0.00
395.30	1.12	1.12	0.00
395.35	1.23	1.23	0.00
395.40	1.35	1.35	0.00
395.45	1.48	1.48	0.00
395.50	1.66	1.61	0.05
395.55	2.48	1.75	0.73
395.60	3.71	1.89	1.82
395.65	5.23	2.04	3.19
395.70	6.99	2.19	4.80
395.75	9.01	2.35	6.66
395.80	11.25	2.52	8.73
395.85	13.69	2.69	11.00
395.90	16.35	2.87	13.48
395.95	19.29	3.05	16.24
396.00	**22.45**	**3.24**	**19.21**

Stage-Area-Storage for Pond IP-1: Infiltration Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
392.00	2,422	0
392.05	2,454	122
392.10	2,486	245
392.15	2,519	371
392.20	2,551	497
392.25	2,584	626
392.30	2,617	756
392.35	2,650	887
392.40	2,684	1,021
392.45	2,717	1,156
392.50	2,751	1,292
392.55	2,785	1,431
392.60	2,820	1,571
392.65	2,854	1,713
392.70	2,889	1,856
392.75	2,924	2,002
392.80	2,959	2,149
392.85	2,994	2,298
392.90	3,030	2,448
392.95	3,066	2,601
393.00	3,102	2,755
393.05	3,138	2,911
393.10	3,174	3,069
393.15	3,211	3,228
393.20	3,248	3,390
393.25	3,285	3,553
393.30	3,322	3,718
393.35	3,359	3,885
393.40	3,397	4,054
393.45	3,435	4,225
393.50	3,473	4,398
393.55	3,511	4,572
393.60	3,550	4,749
393.65	3,589	4,927
393.70	3,627	5,108
393.75	3,667	5,290
393.80	3,706	5,474
393.85	3,745	5,661
393.90	3,785	5,849
393.95	3,825	6,039
394.00	3,865	6,231
394.05	3,906	6,426
394.10	3,946	6,622
394.15	3,987	6,820
394.20	4,028	7,021
394.25	4,069	7,223
394.30	4,111	7,428
394.35	4,152	7,634
394.40	4,194	7,843
394.45	4,236	8,054
394.50	4,279	8,267
394.55	4,321	8,482
394.60	4,364	8,699
394.65	4,407	8,918
394.70	4,450	9,139
394.75	4,493	9,363
394.80	4,537	9,589
394.85	4,581	9,817
394.90	4,624	10,047
394.95	4,669	10,279
395.00	4,713	10,514
395.05	5,414	10,767
395.10	6,164	11,056
395.15	6,963	11,384
395.20	7,810	11,753
395.25	8,705	12,166
395.30	9,650	12,624
395.35	10,642	13,131
395.40	11,684	13,689
395.45	12,774	14,301
395.50	13,913	14,968
395.55	15,100	15,693
395.60	16,336	16,478
395.65	17,621	17,327
395.70	18,954	18,241
395.75	20,336	19,223
395.80	21,766	20,276
395.85	23,245	21,401
395.90	24,773	22,601
395.95	26,349	23,879
396.00	**27,974**	**25,237**

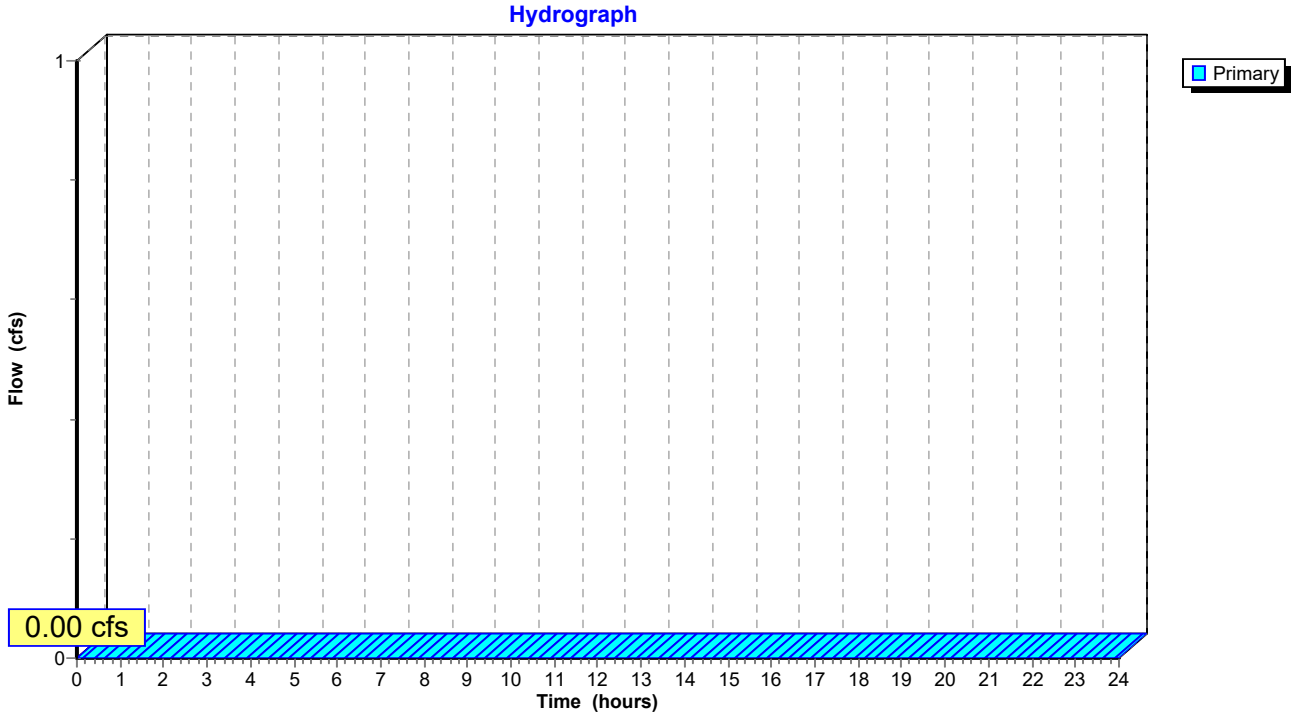
Summary for Link DP-1: Internal Gravel Pit

[43] Hint: Has no inflow (Outflow=Zero)

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-1: Internal Gravel Pit



Hydrograph for Link DP-1: Internal Gravel Pit

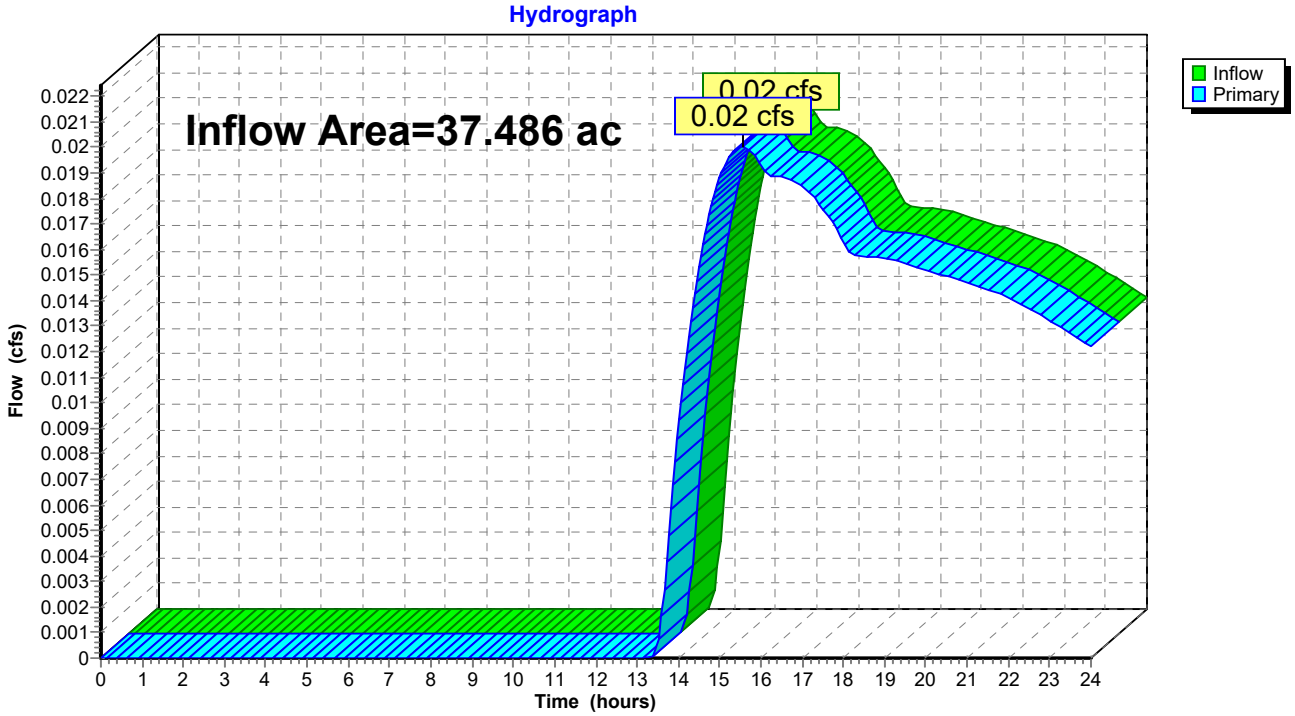
Time (hours)	Elevation (feet)	Primary (cfs)	Time (hours)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	13.00	0.00	0.00
0.25	0.00	0.00	13.25	0.00	0.00
0.50	0.00	0.00	13.50	0.00	0.00
0.75	0.00	0.00	13.75	0.00	0.00
1.00	0.00	0.00	14.00	0.00	0.00
1.25	0.00	0.00	14.25	0.00	0.00
1.50	0.00	0.00	14.50	0.00	0.00
1.75	0.00	0.00	14.75	0.00	0.00
2.00	0.00	0.00	15.00	0.00	0.00
2.25	0.00	0.00	15.25	0.00	0.00
2.50	0.00	0.00	15.50	0.00	0.00
2.75	0.00	0.00	15.75	0.00	0.00
3.00	0.00	0.00	16.00	0.00	0.00
3.25	0.00	0.00	16.25	0.00	0.00
3.50	0.00	0.00	16.50	0.00	0.00
3.75	0.00	0.00	16.75	0.00	0.00
4.00	0.00	0.00	17.00	0.00	0.00
4.25	0.00	0.00	17.25	0.00	0.00
4.50	0.00	0.00	17.50	0.00	0.00
4.75	0.00	0.00	17.75	0.00	0.00
5.00	0.00	0.00	18.00	0.00	0.00
5.25	0.00	0.00	18.25	0.00	0.00
5.50	0.00	0.00	18.50	0.00	0.00
5.75	0.00	0.00	18.75	0.00	0.00
6.00	0.00	0.00	19.00	0.00	0.00
6.25	0.00	0.00	19.25	0.00	0.00
6.50	0.00	0.00	19.50	0.00	0.00
6.75	0.00	0.00	19.75	0.00	0.00
7.00	0.00	0.00	20.00	0.00	0.00
7.25	0.00	0.00	20.25	0.00	0.00
7.50	0.00	0.00	20.50	0.00	0.00
7.75	0.00	0.00	20.75	0.00	0.00
8.00	0.00	0.00	21.00	0.00	0.00
8.25	0.00	0.00	21.25	0.00	0.00
8.50	0.00	0.00	21.50	0.00	0.00
8.75	0.00	0.00	21.75	0.00	0.00
9.00	0.00	0.00	22.00	0.00	0.00
9.25	0.00	0.00	22.25	0.00	0.00
9.50	0.00	0.00	22.50	0.00	0.00
9.75	0.00	0.00	22.75	0.00	0.00
10.00	0.00	0.00	23.00	0.00	0.00
10.25	0.00	0.00	23.25	0.00	0.00
10.50	0.00	0.00	23.50	0.00	0.00
10.75	0.00	0.00	23.75	0.00	0.00
11.00	0.00	0.00	24.00	0.00	0.00
11.25	0.00	0.00			
11.50	0.00	0.00			
11.75	0.00	0.00			
12.00	0.00	0.00			
12.25	0.00	0.00			
12.50	0.00	0.00			
12.75	0.00	0.00			

Summary for Link DP-2: Wetland

Inflow Area = 37.486 ac, 2.87% Impervious, Inflow Depth > 0.00" for 25-YR event
Inflow = 0.02 cfs @ 15.56 hrs, Volume= 0.013 af
Primary = 0.02 cfs @ 15.56 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-2: Wetland



Hydrograph for Link DP-2: Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	13.00	0.00	0.00	0.00
0.25	0.00	0.00	0.00	13.25	0.00	0.00	0.00
0.50	0.00	0.00	0.00	13.50	0.00	0.00	0.00
0.75	0.00	0.00	0.00	13.75	0.00	0.00	0.00
1.00	0.00	0.00	0.00	14.00	0.01	0.00	0.01
1.25	0.00	0.00	0.00	14.25	0.01	0.00	0.01
1.50	0.00	0.00	0.00	14.50	0.02	0.00	0.02
1.75	0.00	0.00	0.00	14.75	0.02	0.00	0.02
2.00	0.00	0.00	0.00	15.00	0.02	0.00	0.02
2.25	0.00	0.00	0.00	15.25	0.02	0.00	0.02
2.50	0.00	0.00	0.00	15.50	**0.02**	0.00	**0.02**
2.75	0.00	0.00	0.00	15.75	**0.02**	0.00	**0.02**
3.00	0.00	0.00	0.00	16.00	0.02	0.00	0.02
3.25	0.00	0.00	0.00	16.25	0.02	0.00	0.02
3.50	0.00	0.00	0.00	16.50	0.02	0.00	0.02
3.75	0.00	0.00	0.00	16.75	0.02	0.00	0.02
4.00	0.00	0.00	0.00	17.00	0.02	0.00	0.02
4.25	0.00	0.00	0.00	17.25	0.02	0.00	0.02
4.50	0.00	0.00	0.00	17.50	0.02	0.00	0.02
4.75	0.00	0.00	0.00	17.75	0.02	0.00	0.02
5.00	0.00	0.00	0.00	18.00	0.02	0.00	0.02
5.25	0.00	0.00	0.00	18.25	0.02	0.00	0.02
5.50	0.00	0.00	0.00	18.50	0.02	0.00	0.02
5.75	0.00	0.00	0.00	18.75	0.02	0.00	0.02
6.00	0.00	0.00	0.00	19.00	0.02	0.00	0.02
6.25	0.00	0.00	0.00	19.25	0.02	0.00	0.02
6.50	0.00	0.00	0.00	19.50	0.02	0.00	0.02
6.75	0.00	0.00	0.00	19.75	0.02	0.00	0.02
7.00	0.00	0.00	0.00	20.00	0.02	0.00	0.02
7.25	0.00	0.00	0.00	20.25	0.02	0.00	0.02
7.50	0.00	0.00	0.00	20.50	0.01	0.00	0.01
7.75	0.00	0.00	0.00	20.75	0.01	0.00	0.01
8.00	0.00	0.00	0.00	21.00	0.01	0.00	0.01
8.25	0.00	0.00	0.00	21.25	0.01	0.00	0.01
8.50	0.00	0.00	0.00	21.50	0.01	0.00	0.01
8.75	0.00	0.00	0.00	21.75	0.01	0.00	0.01
9.00	0.00	0.00	0.00	22.00	0.01	0.00	0.01
9.25	0.00	0.00	0.00	22.25	0.01	0.00	0.01
9.50	0.00	0.00	0.00	22.50	0.01	0.00	0.01
9.75	0.00	0.00	0.00	22.75	0.01	0.00	0.01
10.00	0.00	0.00	0.00	23.00	0.01	0.00	0.01
10.25	0.00	0.00	0.00	23.25	0.01	0.00	0.01
10.50	0.00	0.00	0.00	23.50	0.01	0.00	0.01
10.75	0.00	0.00	0.00	23.75	0.01	0.00	0.01
11.00	0.00	0.00	0.00	24.00	0.01	0.00	0.01
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.00	0.00	0.00				
12.75	0.00	0.00	0.00				

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PR-1: Subcat PR-1 Runoff Area=34.841 ac 3.09% Impervious Runoff Depth>0.40"
Flow Length=2,200' Tc=70.9 min UI Adjusted CN=39 Runoff=2.69 cfs 1.149 af

Subcatchment PR-2: Subcat PR-2 Runoff Area=2.645 ac 0.00% Impervious Runoff Depth>0.19"
Flow Length=86' Tc=10.7 min CN=34 Runoff=0.07 cfs 0.041 af

Pond IP-1: Infiltration Pond Peak Elev=395.47' Storage=14,614 cf Inflow=2.69 cfs 1.149 af
Discarded=1.54 cfs 0.904 af Primary=0.00 cfs 0.000 af Outflow=1.54 cfs 0.904 af

Link DP-1: Internal Gravel Pit
Primary=0.00 cfs 0.000 af

Link DP-2: Wetland Inflow=0.07 cfs 0.041 af
Primary=0.07 cfs 0.041 af

Total Runoff Area = 37.486 ac Runoff Volume = 1.190 af Average Runoff Depth = 0.38"
97.13% Pervious = 36.410 ac 2.87% Impervious = 1.076 ac

Summary for Subcatchment PR-1: Subcat PR-1

Runoff = 2.69 cfs @ 13.45 hrs, Volume= 1.149 af, Depth> 0.40"
Routed to Pond IP-1 : Infiltration Pond

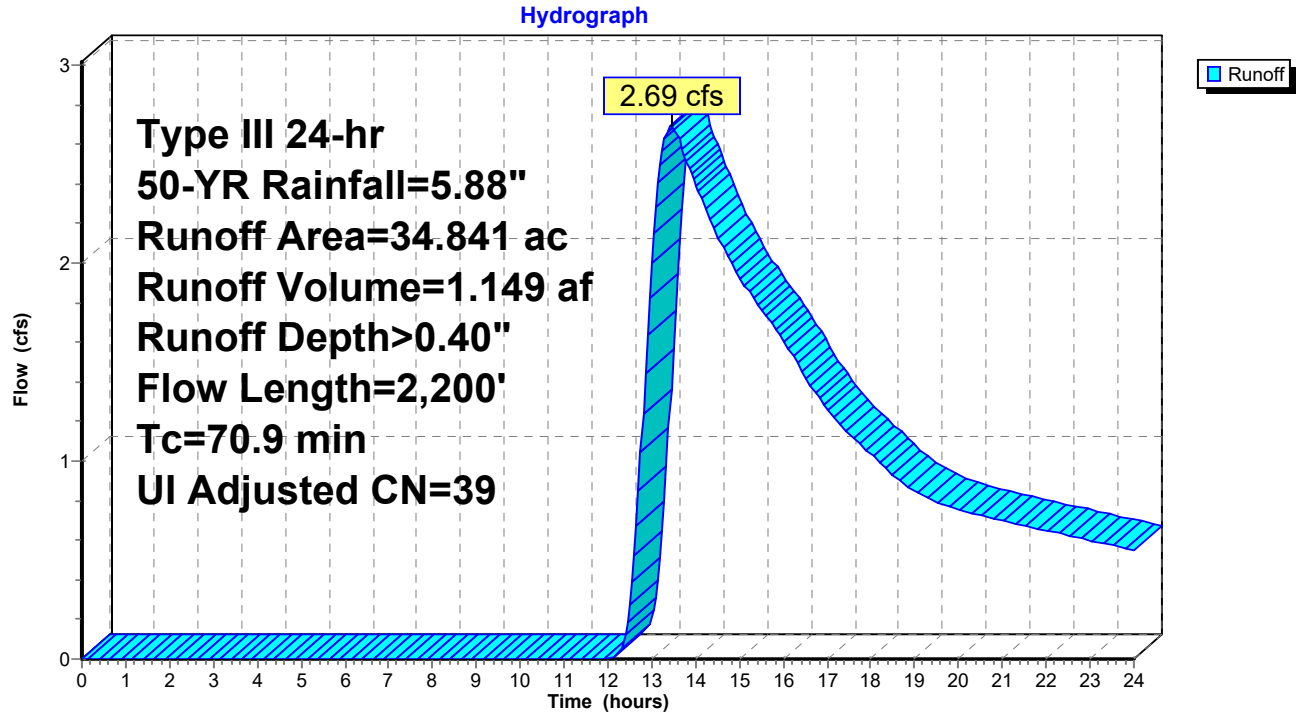
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR Rainfall=5.88"

Area (ac)	CN	Adj	Description
0.895	39		Pasture/grassland/range, Good, HSG A
0.003	39		Pasture/grassland/range, Good, HSG A
28.267	39		Pasture/grassland/range, Good, HSG A
0.089	39		Pasture/grassland/range, Good, HSG A
0.091	30		Woods, Good, HSG A
2.835	30		Brush, Good, HSG A
0.242	96		Gravel surface, HSG A
0.002	98		Unconnected roofs, HSG A
0.014	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.017	98		Unconnected roofs, HSG A
0.019	98		Unconnected roofs, HSG A
0.021	98		Unconnected roofs, HSG A
0.023	98		Unconnected roofs, HSG A
0.025	98		Unconnected roofs, HSG A
0.029	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.007	98		Unconnected roofs, HSG A
0.020	98		Unconnected roofs, HSG A
0.073	98		Unconnected roofs, HSG A
0.091	98		Unconnected roofs, HSG A
0.089	98		Unconnected roofs, HSG A
0.086	98		Unconnected roofs, HSG A
0.068	98		Unconnected roofs, HSG A
0.039	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.002	98		Unconnected roofs, HSG A
0.030	98		Unconnected roofs, HSG A
0.041	98		Unconnected roofs, HSG A
0.040	98		Unconnected roofs, HSG A
0.039	98		Unconnected roofs, HSG A
0.038	98		Unconnected roofs, HSG A
0.037	98		Unconnected roofs, HSG A
0.036	98		Unconnected roofs, HSG A
0.036	98		Unconnected roofs, HSG A
0.001	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.002	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.006	98		Unconnected roofs, HSG A
0.005	98		Unconnected roofs, HSG A
0.015	98		Unconnected roofs, HSG A
0.016	98		Unconnected roofs, HSG A

0.016	98		Unconnected roofs, HSG A
0.001	98		Unconnected roofs, HSG A
0.061	30		Brush, Good, HSG A
0.001	30		Woods, Good, HSG A
1.253	30		Woods, Good, HSG A
0.030	30		Woods, Good, HSG A
34.841	40	39	Weighted Average, UI Adjusted
33.765			96.91% Pervious Area
1.076			3.09% Impervious Area
1.076			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0500	0.10		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.78"
54.6	2,100	0.0084	0.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
70.9	2,200	Total			

Subcatchment PR-1: Subcat PR-1



Hydrograph for Subcatchment PR-1: Subcat PR-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	4.41	0.10	2.00
0.25	0.01	0.00	0.00	13.25	4.51	0.11	**2.57**
0.50	0.03	0.00	0.00	13.50	4.61	0.13	**2.68**
0.75	0.04	0.00	0.00	13.75	4.69	0.14	2.54
1.00	0.06	0.00	0.00	14.00	4.77	0.16	2.39
1.25	0.07	0.00	0.00	14.25	4.84	0.17	2.26
1.50	0.09	0.00	0.00	14.50	4.90	0.18	2.14
1.75	0.10	0.00	0.00	14.75	4.97	0.19	2.03
2.00	0.12	0.00	0.00	15.00	5.02	0.20	1.93
2.25	0.13	0.00	0.00	15.25	5.08	0.22	1.85
2.50	0.15	0.00	0.00	15.50	5.12	0.23	1.77
2.75	0.16	0.00	0.00	15.75	5.17	0.24	1.69
3.00	0.18	0.00	0.00	16.00	5.21	0.24	1.61
3.25	0.20	0.00	0.00	16.25	5.25	0.25	1.52
3.50	0.22	0.00	0.00	16.50	5.28	0.26	1.43
3.75	0.23	0.00	0.00	16.75	5.32	0.27	1.34
4.00	0.25	0.00	0.00	17.00	5.35	0.28	1.26
4.25	0.27	0.00	0.00	17.25	5.38	0.28	1.20
4.50	0.29	0.00	0.00	17.50	5.41	0.29	1.14
4.75	0.31	0.00	0.00	17.75	5.43	0.30	1.08
5.00	0.33	0.00	0.00	18.00	5.46	0.30	1.03
5.25	0.36	0.00	0.00	18.25	5.48	0.31	0.98
5.50	0.38	0.00	0.00	18.50	5.50	0.31	0.93
5.75	0.40	0.00	0.00	18.75	5.52	0.32	0.88
6.00	0.42	0.00	0.00	19.00	5.55	0.32	0.85
6.25	0.45	0.00	0.00	19.25	5.57	0.33	0.82
6.50	0.47	0.00	0.00	19.50	5.59	0.33	0.79
6.75	0.50	0.00	0.00	19.75	5.61	0.34	0.77
7.00	0.53	0.00	0.00	20.00	5.63	0.34	0.76
7.25	0.56	0.00	0.00	20.25	5.65	0.35	0.74
7.50	0.60	0.00	0.00	20.50	5.66	0.35	0.73
7.75	0.63	0.00	0.00	20.75	5.68	0.36	0.71
8.00	0.67	0.00	0.00	21.00	5.70	0.36	0.70
8.25	0.71	0.00	0.00	21.25	5.72	0.37	0.68
8.50	0.76	0.00	0.00	21.50	5.73	0.37	0.67
8.75	0.80	0.00	0.00	21.75	5.75	0.38	0.66
9.00	0.86	0.00	0.00	22.00	5.77	0.38	0.65
9.25	0.91	0.00	0.00	22.25	5.78	0.39	0.64
9.50	0.98	0.00	0.00	22.50	5.80	0.39	0.62
9.75	1.04	0.00	0.00	22.75	5.81	0.39	0.61
10.00	1.11	0.00	0.00	23.00	5.83	0.40	0.60
10.25	1.19	0.00	0.00	23.25	5.84	0.40	0.59
10.50	1.27	0.00	0.00	23.50	5.85	0.40	0.57
10.75	1.37	0.00	0.00	23.75	5.87	0.41	0.56
11.00	1.47	0.00	0.00	24.00	**5.88**	**0.41**	0.55
11.25	1.59	0.00	0.00				
11.50	1.75	0.00	0.00				
11.75	2.09	0.00	0.00				
12.00	2.94	0.00	0.00				
12.25	3.79	0.03	0.02				
12.50	4.13	0.06	0.27				
12.75	4.29	0.08	1.04				

Summary for Subcatchment PR-2: Subcat PR-2

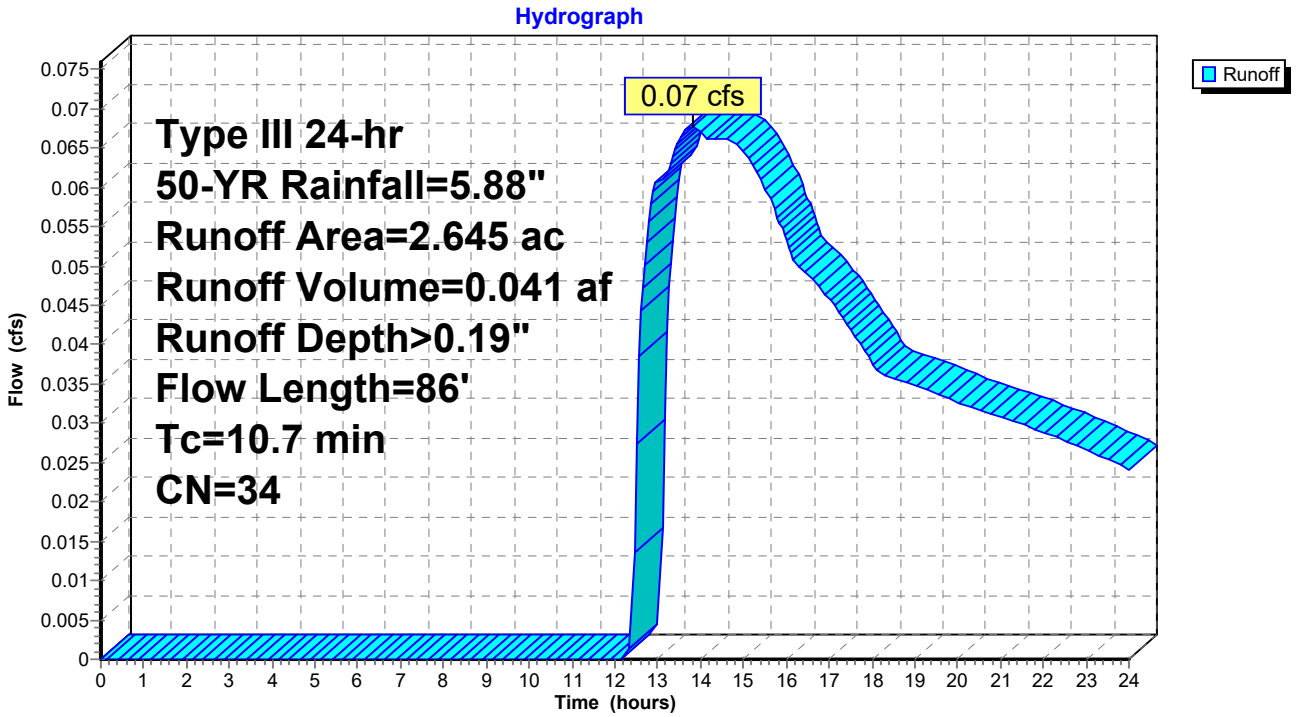
Runoff = 0.07 cfs @ 13.80 hrs, Volume= 0.041 af, Depth> 0.19"
Routed to Link DP-2 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR Rainfall=5.88"

Area (ac)	CN	Description
0.118	39	Pasture/grassland/range, Good, HSG A
0.342	39	Pasture/grassland/range, Good, HSG A
0.656	39	Pasture/grassland/range, Good, HSG A
0.162	30	Woods, Good, HSG A
1.097	30	Woods, Good, HSG A
0.270	30	Brush, Good, HSG A
2.645	34	Weighted Average
2.645		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	50	0.0380	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.78"
0.5	36	0.0640	1.26		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.7	86	Total			

Subcatchment PR-2: Subcat PR-2



Hydrograph for Subcatchment PR-2: Subcat PR-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.00	4.41	0.01	0.06
0.25	0.01	0.00	0.00	13.25	4.51	0.02	0.06
0.50	0.03	0.00	0.00	13.50	4.61	0.03	0.07
0.75	0.04	0.00	0.00	13.75	4.69	0.03	**0.07**
1.00	0.06	0.00	0.00	14.00	4.77	0.04	**0.07**
1.25	0.07	0.00	0.00	14.25	4.84	0.04	0.07
1.50	0.09	0.00	0.00	14.50	4.90	0.05	0.07
1.75	0.10	0.00	0.00	14.75	4.97	0.06	0.07
2.00	0.12	0.00	0.00	15.00	5.02	0.06	0.06
2.25	0.13	0.00	0.00	15.25	5.08	0.07	0.06
2.50	0.15	0.00	0.00	15.50	5.12	0.07	0.06
2.75	0.16	0.00	0.00	15.75	5.17	0.08	0.06
3.00	0.18	0.00	0.00	16.00	5.21	0.08	0.05
3.25	0.20	0.00	0.00	16.25	5.25	0.09	0.05
3.50	0.22	0.00	0.00	16.50	5.28	0.09	0.05
3.75	0.23	0.00	0.00	16.75	5.32	0.10	0.05
4.00	0.25	0.00	0.00	17.00	5.35	0.10	0.05
4.25	0.27	0.00	0.00	17.25	5.38	0.11	0.04
4.50	0.29	0.00	0.00	17.50	5.41	0.11	0.04
4.75	0.31	0.00	0.00	17.75	5.43	0.11	0.04
5.00	0.33	0.00	0.00	18.00	5.46	0.12	0.04
5.25	0.36	0.00	0.00	18.25	5.48	0.12	0.04
5.50	0.38	0.00	0.00	18.50	5.50	0.12	0.04
5.75	0.40	0.00	0.00	18.75	5.52	0.13	0.04
6.00	0.42	0.00	0.00	19.00	5.55	0.13	0.03
6.25	0.45	0.00	0.00	19.25	5.57	0.13	0.03
6.50	0.47	0.00	0.00	19.50	5.59	0.14	0.03
6.75	0.50	0.00	0.00	19.75	5.61	0.14	0.03
7.00	0.53	0.00	0.00	20.00	5.63	0.14	0.03
7.25	0.56	0.00	0.00	20.25	5.65	0.15	0.03
7.50	0.60	0.00	0.00	20.50	5.66	0.15	0.03
7.75	0.63	0.00	0.00	20.75	5.68	0.15	0.03
8.00	0.67	0.00	0.00	21.00	5.70	0.16	0.03
8.25	0.71	0.00	0.00	21.25	5.72	0.16	0.03
8.50	0.76	0.00	0.00	21.50	5.73	0.16	0.03
8.75	0.80	0.00	0.00	21.75	5.75	0.16	0.03
9.00	0.86	0.00	0.00	22.00	5.77	0.17	0.03
9.25	0.91	0.00	0.00	22.25	5.78	0.17	0.03
9.50	0.98	0.00	0.00	22.50	5.80	0.17	0.03
9.75	1.04	0.00	0.00	22.75	5.81	0.17	0.03
10.00	1.11	0.00	0.00	23.00	5.83	0.18	0.03
10.25	1.19	0.00	0.00	23.25	5.84	0.18	0.03
10.50	1.27	0.00	0.00	23.50	5.85	0.18	0.03
10.75	1.37	0.00	0.00	23.75	5.87	0.18	0.02
11.00	1.47	0.00	0.00	24.00	**5.88**	**0.19**	0.02
11.25	1.59	0.00	0.00				
11.50	1.75	0.00	0.00				
11.75	2.09	0.00	0.00				
12.00	2.94	0.00	0.00				
12.25	3.79	0.00	0.00				
12.50	4.13	0.00	0.03				
12.75	4.29	0.01	0.05				

Summary for Pond IP-1: Infiltration Pond

Inflow Area = 34.841 ac, 3.09% Impervious, Inflow Depth > 0.40" for 50-YR event
Inflow = 2.69 cfs @ 13.45 hrs, Volume= 1.149 af
Outflow = 1.54 cfs @ 16.19 hrs, Volume= 0.904 af, Atten= 43%, Lag= 164.3 min
Discarded = 1.54 cfs @ 16.19 hrs, Volume= 0.904 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-2 : Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 395.47' @ 16.19 hrs Surf.Area= 13,316 sf Storage= 14,614 cf

Plug-Flow detention time= 158.5 min calculated for 0.904 af (79% of inflow)
Center-of-Mass det. time= 79.1 min (1,085.0 - 1,005.9)

Volume	Invert	Avail.Storage	Storage Description
#1	392.00'	25,237 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

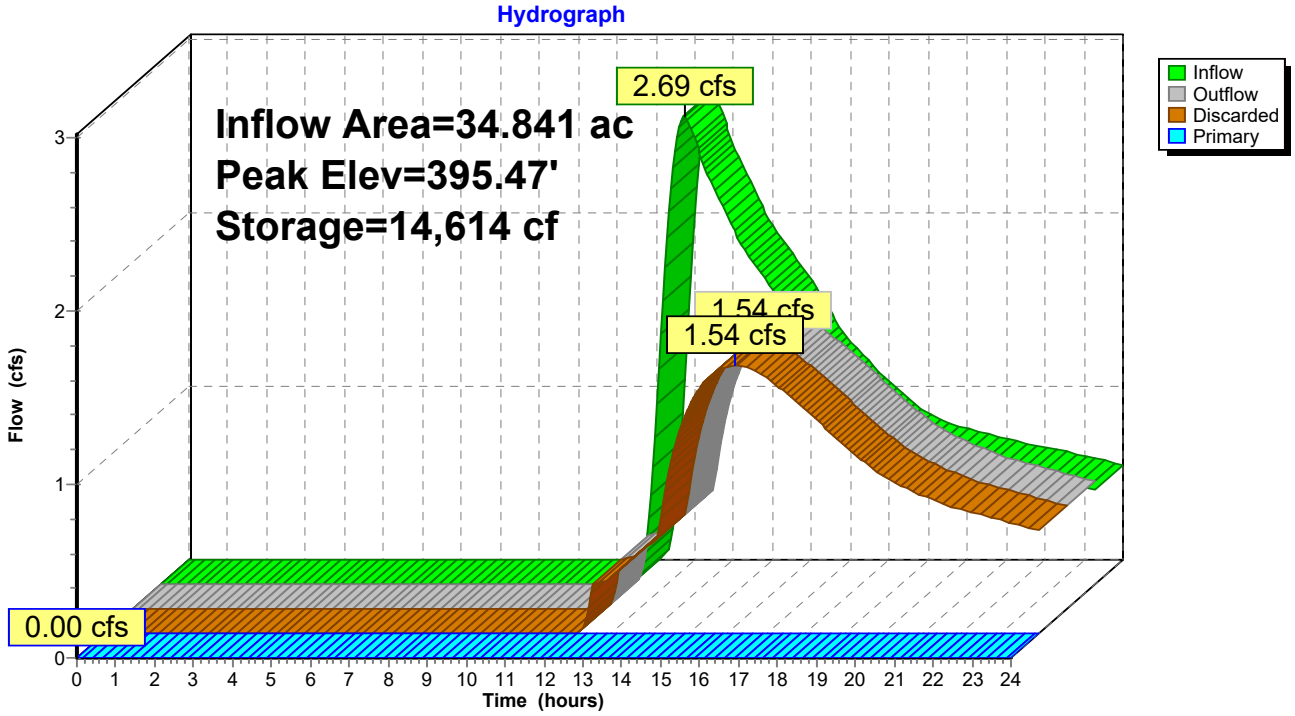
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
392.00	2,422	214.7	0.0	0	0	2,422
395.00	4,713	294.5	100.0	10,514	10,514	5,745
396.00	27,974	754.0	100.0	14,723	25,237	44,087

Device	Routing	Invert	Outlet Devices
#1	Discarded	392.00'	**5.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	395.49'	**20.0' long x 10.0' 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) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=1.54 cfs @ 16.19 hrs HW=395.47' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.54 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=392.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP-1: Infiltration Pond



Hydrograph for Pond IP-1: Infiltration Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	392.00	0.00	0.00	**0.00**
0.50	0.00	0	392.00	0.00	0.00	0.00
1.00	0.00	0	392.00	0.00	0.00	0.00
1.50	0.00	0	392.00	0.00	0.00	0.00
2.00	0.00	0	392.00	0.00	0.00	0.00
2.50	0.00	0	392.00	0.00	0.00	0.00
3.00	0.00	0	392.00	0.00	0.00	0.00
3.50	0.00	0	392.00	0.00	0.00	0.00
4.00	0.00	0	392.00	0.00	0.00	0.00
4.50	0.00	0	392.00	0.00	0.00	0.00
5.00	0.00	0	392.00	0.00	0.00	0.00
5.50	0.00	0	392.00	0.00	0.00	0.00
6.00	0.00	0	392.00	0.00	0.00	0.00
6.50	0.00	0	392.00	0.00	0.00	0.00
7.00	0.00	0	392.00	0.00	0.00	0.00
7.50	0.00	0	392.00	0.00	0.00	0.00
8.00	0.00	0	392.00	0.00	0.00	0.00
8.50	0.00	0	392.00	0.00	0.00	0.00
9.00	0.00	0	392.00	0.00	0.00	0.00
9.50	0.00	0	392.00	0.00	0.00	0.00
10.00	0.00	0	392.00	0.00	0.00	0.00
10.50	0.00	0	392.00	0.00	0.00	0.00
11.00	0.00	0	392.00	0.00	0.00	0.00
11.50	0.00	0	392.00	0.00	0.00	0.00
12.00	0.00	0	392.00	0.00	0.00	0.00
12.50	0.27	20	392.01	0.23	0.23	0.00
13.00	**2.00**	1,430	392.55	0.32	0.32	0.00
13.50	**2.68**	5,242	393.74	0.42	0.42	0.00
14.00	2.39	8,973	394.66	0.51	0.51	0.00
14.50	2.14	11,872	395.21	0.93	0.93	0.00
15.00	1.93	13,465	395.38	1.30	1.30	0.00
15.50	1.77	14,271	395.45	1.47	1.47	0.00
16.00	1.61	**14,591**	**395.47**	**1.54**	**1.54**	0.00
16.50	1.43	**14,554**	**395.47**	**1.53**	**1.53**	0.00
17.00	1.26	14,260	395.45	1.47	1.47	0.00
17.50	1.14	13,842	395.41	1.38	1.38	0.00
18.00	1.03	13,388	395.37	1.29	1.29	0.00
18.50	0.93	12,926	395.33	1.19	1.19	0.00
19.00	0.85	12,477	395.28	1.08	1.08	0.00
19.50	0.79	12,087	395.24	0.99	0.99	0.00
20.00	0.76	11,776	395.20	0.91	0.91	0.00
20.50	0.73	11,532	395.17	0.85	0.85	0.00
21.00	0.70	11,339	395.14	0.79	0.79	0.00
21.50	0.67	11,183	395.12	0.75	0.75	0.00
22.00	0.65	11,056	395.10	0.71	0.71	0.00
22.50	0.62	10,946	395.08	0.68	0.68	0.00
23.00	0.60	10,848	395.06	0.65	0.65	0.00
23.50	0.57	10,756	395.05	0.62	0.62	0.00
24.00	0.55	10,667	395.03	0.60	0.60	0.00

Stage-Discharge for Pond IP-1: Infiltration Pond

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
392.00	0.00	0.00	0.00
392.05	0.28	0.28	0.00
392.10	0.29	0.29	0.00
392.15	0.29	0.29	0.00
392.20	0.30	0.30	0.00
392.25	0.30	0.30	0.00
392.30	0.30	0.30	0.00
392.35	0.31	0.31	0.00
392.40	0.31	0.31	0.00
392.45	0.31	0.31	0.00
392.50	0.32	0.32	0.00
392.55	0.32	0.32	0.00
392.60	0.33	0.33	0.00
392.65	0.33	0.33	0.00
392.70	0.33	0.33	0.00
392.75	0.34	0.34	0.00
392.80	0.34	0.34	0.00
392.85	0.35	0.35	0.00
392.90	0.35	0.35	0.00
392.95	0.35	0.35	0.00
393.00	0.36	0.36	0.00
393.05	0.36	0.36	0.00
393.10	0.37	0.37	0.00
393.15	0.37	0.37	0.00
393.20	0.38	0.38	0.00
393.25	0.38	0.38	0.00
393.30	0.38	0.38	0.00
393.35	0.39	0.39	0.00
393.40	0.39	0.39	0.00
393.45	0.40	0.40	0.00
393.50	0.40	0.40	0.00
393.55	0.41	0.41	0.00
393.60	0.41	0.41	0.00
393.65	0.42	0.42	0.00
393.70	0.42	0.42	0.00
393.75	0.42	0.42	0.00
393.80	0.43	0.43	0.00
393.85	0.43	0.43	0.00
393.90	0.44	0.44	0.00
393.95	0.44	0.44	0.00
394.00	0.45	0.45	0.00
394.05	0.45	0.45	0.00
394.10	0.46	0.46	0.00
394.15	0.46	0.46	0.00
394.20	0.47	0.47	0.00
394.25	0.47	0.47	0.00
394.30	0.48	0.48	0.00
394.35	0.48	0.48	0.00
394.40	0.49	0.49	0.00
394.45	0.49	0.49	0.00
394.50	0.50	0.50	0.00
394.55	0.50	0.50	0.00
394.60	0.51	0.51	0.00
394.65	0.51	0.51	0.00
394.70	0.52	0.52	0.00
394.75	0.52	0.52	0.00
394.80	0.53	0.53	0.00
394.85	0.53	0.53	0.00
394.90	0.54	0.54	0.00
394.95	0.54	0.54	0.00
395.00	0.55	0.55	0.00
395.05	0.63	0.63	0.00
395.10	0.71	0.71	0.00
395.15	0.81	0.81	0.00
395.20	0.90	0.90	0.00
395.25	1.01	1.01	0.00
395.30	1.12	1.12	0.00
395.35	1.23	1.23	0.00
395.40	1.35	1.35	0.00
395.45	1.48	1.48	0.00
395.50	1.66	1.61	0.05
395.55	2.48	1.75	0.73
395.60	3.71	1.89	1.82
395.65	5.23	2.04	3.19
395.70	6.99	2.19	4.80
395.75	9.01	2.35	6.66
395.80	11.25	2.52	8.73
395.85	13.69	2.69	11.00
395.90	16.35	2.87	13.48
395.95	19.29	3.05	16.24
396.00	**22.45**	**3.24**	**19.21**

Stage-Area-Storage for Pond IP-1: Infiltration Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
392.00	2,422	0
392.05	2,454	122
392.10	2,486	245
392.15	2,519	371
392.20	2,551	497
392.25	2,584	626
392.30	2,617	756
392.35	2,650	887
392.40	2,684	1,021
392.45	2,717	1,156
392.50	2,751	1,292
392.55	2,785	1,431
392.60	2,820	1,571
392.65	2,854	1,713
392.70	2,889	1,856
392.75	2,924	2,002
392.80	2,959	2,149
392.85	2,994	2,298
392.90	3,030	2,448
392.95	3,066	2,601
393.00	3,102	2,755
393.05	3,138	2,911
393.10	3,174	3,069
393.15	3,211	3,228
393.20	3,248	3,390
393.25	3,285	3,553
393.30	3,322	3,718
393.35	3,359	3,885
393.40	3,397	4,054
393.45	3,435	4,225
393.50	3,473	4,398
393.55	3,511	4,572
393.60	3,550	4,749
393.65	3,589	4,927
393.70	3,627	5,108
393.75	3,667	5,290
393.80	3,706	5,474
393.85	3,745	5,661
393.90	3,785	5,849
393.95	3,825	6,039
394.00	3,865	6,231
394.05	3,906	6,426
394.10	3,946	6,622
394.15	3,987	6,820
394.20	4,028	7,021
394.25	4,069	7,223
394.30	4,111	7,428
394.35	4,152	7,634
394.40	4,194	7,843
394.45	4,236	8,054
394.50	4,279	8,267
394.55	4,321	8,482
394.60	4,364	8,699
394.65	4,407	8,918
394.70	4,450	9,139
394.75	4,493	9,363
394.80	4,537	9,589
394.85	4,581	9,817
394.90	4,624	10,047
394.95	4,669	10,279
395.00	4,713	10,514
395.05	5,414	10,767
395.10	6,164	11,056
395.15	6,963	11,384
395.20	7,810	11,753
395.25	8,705	12,166
395.30	9,650	12,624
395.35	10,642	13,131
395.40	11,684	13,689
395.45	12,774	14,301
395.50	13,913	14,968
395.55	15,100	15,693
395.60	16,336	16,478
395.65	17,621	17,327
395.70	18,954	18,241
395.75	20,336	19,223
395.80	21,766	20,276
395.85	23,245	21,401
395.90	24,773	22,601
395.95	26,349	23,879
396.00	**27,974**	**25,237**

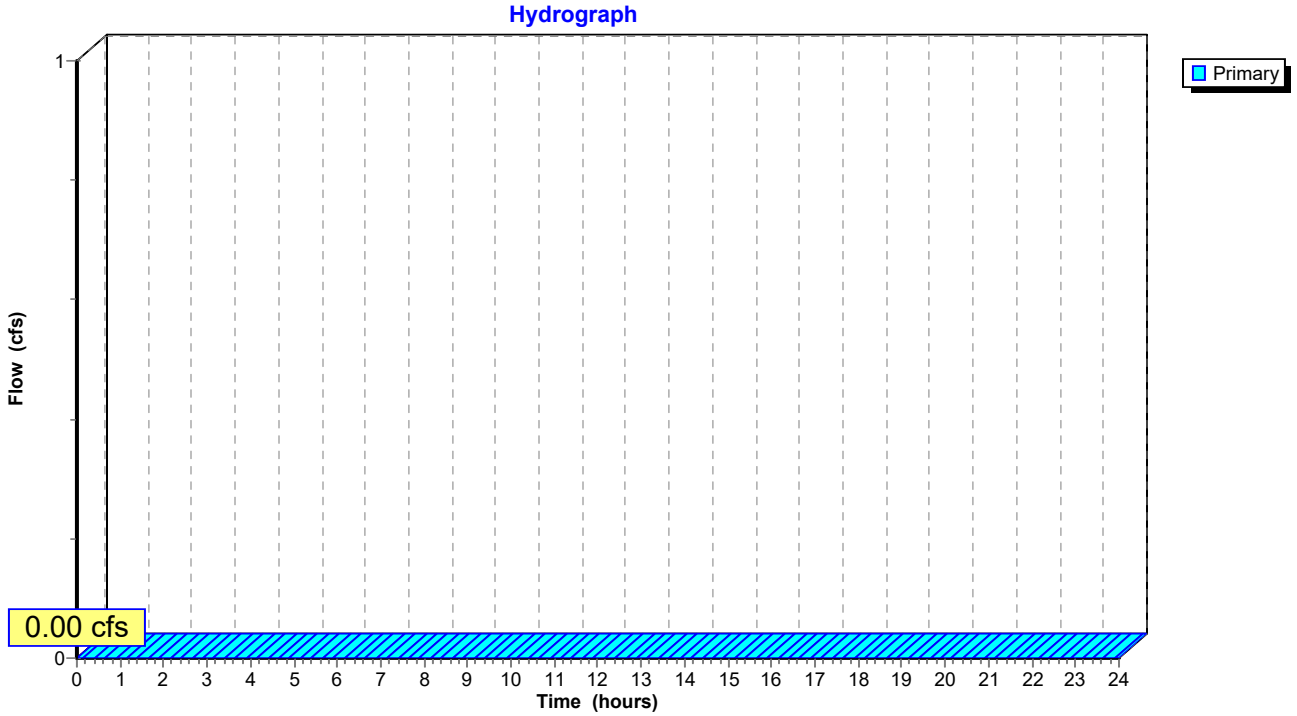
Summary for Link DP-1: Internal Gravel Pit

[43] Hint: Has no inflow (Outflow=Zero)

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-1: Internal Gravel Pit



Hydrograph for Link DP-1: Internal Gravel Pit

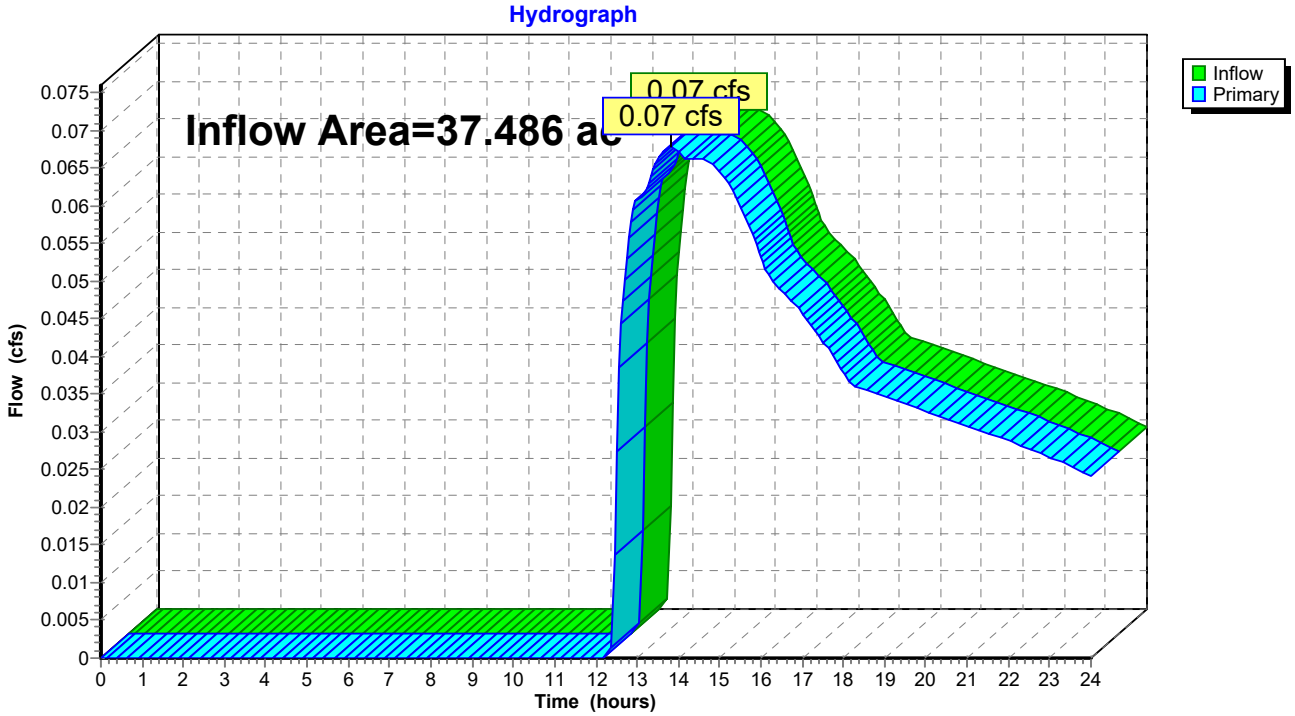
Time (hours)	Elevation (feet)	Primary (cfs)	Time (hours)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**0.00**	13.00	0.00	0.00
0.25	0.00	0.00	13.25	0.00	0.00
0.50	0.00	0.00	13.50	0.00	0.00
0.75	0.00	0.00	13.75	0.00	0.00
1.00	0.00	0.00	14.00	0.00	0.00
1.25	0.00	0.00	14.25	0.00	0.00
1.50	0.00	0.00	14.50	0.00	0.00
1.75	0.00	0.00	14.75	0.00	0.00
2.00	0.00	0.00	15.00	0.00	0.00
2.25	0.00	0.00	15.25	0.00	0.00
2.50	0.00	0.00	15.50	0.00	0.00
2.75	0.00	0.00	15.75	0.00	0.00
3.00	0.00	0.00	16.00	0.00	0.00
3.25	0.00	0.00	16.25	0.00	0.00
3.50	0.00	0.00	16.50	0.00	0.00
3.75	0.00	0.00	16.75	0.00	0.00
4.00	0.00	0.00	17.00	0.00	0.00
4.25	0.00	0.00	17.25	0.00	0.00
4.50	0.00	0.00	17.50	0.00	0.00
4.75	0.00	0.00	17.75	0.00	0.00
5.00	0.00	0.00	18.00	0.00	0.00
5.25	0.00	0.00	18.25	0.00	0.00
5.50	0.00	0.00	18.50	0.00	0.00
5.75	0.00	0.00	18.75	0.00	0.00
6.00	0.00	0.00	19.00	0.00	0.00
6.25	0.00	0.00	19.25	0.00	0.00
6.50	0.00	0.00	19.50	0.00	0.00
6.75	0.00	0.00	19.75	0.00	0.00
7.00	0.00	0.00	20.00	0.00	0.00
7.25	0.00	0.00	20.25	0.00	0.00
7.50	0.00	0.00	20.50	0.00	0.00
7.75	0.00	0.00	20.75	0.00	0.00
8.00	0.00	0.00	21.00	0.00	0.00
8.25	0.00	0.00	21.25	0.00	0.00
8.50	0.00	0.00	21.50	0.00	0.00
8.75	0.00	0.00	21.75	0.00	0.00
9.00	0.00	0.00	22.00	0.00	0.00
9.25	0.00	0.00	22.25	0.00	0.00
9.50	0.00	0.00	22.50	0.00	0.00
9.75	0.00	0.00	22.75	0.00	0.00
10.00	0.00	0.00	23.00	0.00	0.00
10.25	0.00	0.00	23.25	0.00	0.00
10.50	0.00	0.00	23.50	0.00	0.00
10.75	0.00	0.00	23.75	0.00	0.00
11.00	0.00	0.00	24.00	0.00	0.00
11.25	0.00	0.00			
11.50	0.00	0.00			
11.75	0.00	0.00			
12.00	0.00	0.00			
12.25	0.00	0.00			
12.50	0.00	0.00			
12.75	0.00	0.00			

Summary for Link DP-2: Wetland

Inflow Area = 37.486 ac, 2.87% Impervious, Inflow Depth > 0.01" for 50-YR event
Inflow = 0.07 cfs @ 13.80 hrs, Volume= 0.041 af
Primary = 0.07 cfs @ 13.80 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link DP-2: Wetland



Hydrograph for Link DP-2: Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	13.00	0.06	0.00	0.06
0.25	0.00	0.00	0.00	13.25	0.06	0.00	0.06
0.50	0.00	0.00	0.00	13.50	0.07	0.00	0.07
0.75	0.00	0.00	0.00	13.75	**0.07**	0.00	**0.07**
1.00	0.00	0.00	0.00	14.00	**0.07**	0.00	**0.07**
1.25	0.00	0.00	0.00	14.25	0.07	0.00	0.07
1.50	0.00	0.00	0.00	14.50	0.07	0.00	0.07
1.75	0.00	0.00	0.00	14.75	0.07	0.00	0.07
2.00	0.00	0.00	0.00	15.00	0.06	0.00	0.06
2.25	0.00	0.00	0.00	15.25	0.06	0.00	0.06
2.50	0.00	0.00	0.00	15.50	0.06	0.00	0.06
2.75	0.00	0.00	0.00	15.75	0.06	0.00	0.06
3.00	0.00	0.00	0.00	16.00	0.05	0.00	0.05
3.25	0.00	0.00	0.00	16.25	0.05	0.00	0.05
3.50	0.00	0.00	0.00	16.50	0.05	0.00	0.05
3.75	0.00	0.00	0.00	16.75	0.05	0.00	0.05
4.00	0.00	0.00	0.00	17.00	0.05	0.00	0.05
4.25	0.00	0.00	0.00	17.25	0.04	0.00	0.04
4.50	0.00	0.00	0.00	17.50	0.04	0.00	0.04
4.75	0.00	0.00	0.00	17.75	0.04	0.00	0.04
5.00	0.00	0.00	0.00	18.00	0.04	0.00	0.04
5.25	0.00	0.00	0.00	18.25	0.04	0.00	0.04
5.50	0.00	0.00	0.00	18.50	0.04	0.00	0.04
5.75	0.00	0.00	0.00	18.75	0.04	0.00	0.04
6.00	0.00	0.00	0.00	19.00	0.03	0.00	0.03
6.25	0.00	0.00	0.00	19.25	0.03	0.00	0.03
6.50	0.00	0.00	0.00	19.50	0.03	0.00	0.03
6.75	0.00	0.00	0.00	19.75	0.03	0.00	0.03
7.00	0.00	0.00	0.00	20.00	0.03	0.00	0.03
7.25	0.00	0.00	0.00	20.25	0.03	0.00	0.03
7.50	0.00	0.00	0.00	20.50	0.03	0.00	0.03
7.75	0.00	0.00	0.00	20.75	0.03	0.00	0.03
8.00	0.00	0.00	0.00	21.00	0.03	0.00	0.03
8.25	0.00	0.00	0.00	21.25	0.03	0.00	0.03
8.50	0.00	0.00	0.00	21.50	0.03	0.00	0.03
8.75	0.00	0.00	0.00	21.75	0.03	0.00	0.03
9.00	0.00	0.00	0.00	22.00	0.03	0.00	0.03
9.25	0.00	0.00	0.00	22.25	0.03	0.00	0.03
9.50	0.00	0.00	0.00	22.50	0.03	0.00	0.03
9.75	0.00	0.00	0.00	22.75	0.03	0.00	0.03
10.00	0.00	0.00	0.00	23.00	0.03	0.00	0.03
10.25	0.00	0.00	0.00	23.25	0.03	0.00	0.03
10.50	0.00	0.00	0.00	23.50	0.03	0.00	0.03
10.75	0.00	0.00	0.00	23.75	0.02	0.00	0.02
11.00	0.00	0.00	0.00	24.00	0.02	0.00	0.02
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.00	0.00	0.00				
12.50	0.03	0.00	0.03				
12.75	0.05	0.00	0.05				

Appendix C: Inspection & Maintenance Manual

Encore Warner Solar

Warner, New Hampshire

PREPARED FOR

Encore Renewable Energy
50 Lakeside Avenue
Suite #110
Burlington, VT 05401

PREPARED BY

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110
603.391.3900

09/13/2024

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Introduction

VHB has prepared the following Stormwater Management System Inspection & Maintenance Manual for the Encore Solar Site located on Poverty Plains Road in Warner, New Hampshire. The intent of this plan is to provide the applicant/owner with a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this development.

The following inspection and maintenance program is necessary in order to keep the Stormwater Management System functioning properly. By following the enclosed procedures, the applicant will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Responsible Party

The oversight of the inspection and maintenance program will be provided by:

Encore Renewable Energy

50 Lakeside Avenue

Suite #110

Burlington, VT 05401

Contact: Sam Carlson

Email: sam@encore.eco

Phone: (802) 324 6862

Stormwater Management System Components

The Stormwater Management System is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, its design includes the following elements:

Non-Structural BMP's

Non-structural best management practices (BMP's) are designed to minimize and/or remove contaminants before they enter the stormwater collection system. Several of these BMP's have been incorporated into the Stormwater Management System including reduced used of road deicing agents, and litter/trash removal. These types of BMP's are a highly effective initial treatment measure for reducing stormwater pollutant loading.

Structural BMP's

Structural BMP's have been incorporated into the overall stormwater management plan. Structural BMP's include deep sump catch basins, subsurface sand filter and subsurface detention basins.

Inspection & Maintenance Plan

By implementing the following procedures, the applicant will be able to maintain the functional design of the Stormwater Management System and maximize the system's ability to remove sediment and other contaminants from site generated stormwater runoff.

Source Control

- Routinely empty all outside waste receptacles provided for public use.
- Clearing litter from substation and perimeter landscape areas.

Vegetated Areas Maintenance

This project includes a specific meadow mix that is an integral part of the stormwater management design. During the vegetation establishment period (1-3 growing seasons) mowing will occur as needed to facilitate seed establishment and to control weeds and invasive species. Following the establishment period, mowing will be completed twice a year or less. The meadow mix provides critical sediment trapping and promotes slower rates of runoff, resulting in reduced erosion impacts.

- Inspect meadow mix plantings at least annually for signs of erosion, sediment buildup or vegetation loss.
- Provide the required periodic mowing of the meadow mix as needed to maintain a healthy stand of herbaceous vegetation.
- If erosion of the meadow mix occurs, eroded areas should be repaired and replanted with matching vegetation.
- Remove debris and accumulated sediment, based on inspection
- Inspect planted areas on a semi-annual basis and remove any litter.
- Maintain planted areas adjacent to pavement to prevent soil washout.
- Immediately clean any soil deposited on pavement.
- Re-seed bare areas; install appropriate erosion control measures when native soil is exposed or erosion channels are forming.
- Plant alternative mixture of grass species in the event of unsuccessful establishment.
- Pesticide/Herbicide Usage – Spot treatment of herbicides applications may be required for management of invasive species and noxious weeds. Herbicide treatments will be performed consistent with state law and label requirements.

Deicing Agents

Deicing agents should be used in accordance with the following:

- Use sand as the primary agent for parking lot safety during ice and snow conditions.
- Use de-icing or anti-caking agents, added to enhance performance and application characteristics of sand mixtures, only as necessary and at minimum application rates.
- Maintain a Deicing Log to track the amount and type of deicing materials applied to the site.

Snow Management

Snow storage areas shall be maintained as follows:

- Snow storage areas will be managed to prevent blockage of storm drain catch basins or runoff flow paths. Snow combined with sand and debris may block a storm drainage system, diminishing the infiltration capacity of the system and causing localized flooding.
- Sand and debris deposited on vegetated or paved areas shall be cleared from the site and properly disposed of at the end of the snow season, no later than May 15.
- Snow shall not be dumped into any water body, pond, wetland resource area or stormwater detention basin.

Infiltration Basin

- Remove debris from inlet and outlet structures
- Remove accumulated sediments
- Inspect and repair outlet structures and appurtenances
- Inspect infiltration components at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24 hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
- Inspect pretreatment measures at least twice annually, and remove accumulated sediment as warranted by inspection, but no less than once annually.
- Mow embankments periodically.
- Remove woody vegetation from embankments.
- Inspect and repair embankments and spillways.
- If the infiltration basin does not drain down within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function, including but not limited to, removing accumulated sediments or reconstructing the infiltration section.

Invasive Plant Species Control

- Invasive plant species are alien or non-native plants which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use

such as landscaping, erosion control or food crops; or arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some of these exotic plants become invasive and cause harm by:

  - becoming weedy and overgrown;
  - killing established shade trees;
  - obstructing pipes and drainage systems;
  - forming dense beds in water;
  - lowering water levels in lakes, streams and wetlands;
  - destroying natural communities;
  - promoting erosion on stream banks and hillsides; and
  - resisting control except by hazardous chemical.

- As part of the routine inspections of the drainage system and stormwater outfalls, the site should be checked for the presence of invasive plant species as defined by the New Hampshire Department of Agriculture, Markets & Food (a list is provide at the end of this manual).
- If invasive plant species are found to be present they should be controlled as described in the "Control of Invasive Plants" document prepared by the NH Department of Agriculture, Markets & Food. A copy is provided at the end of this manual.

Record Keeping

- Inspections of the stormwater management system shall be conducted in accordance with the Inspection & Maintenance Checklist provided in this Manual.
- An Inspection & Maintenance Log shall be completed for each inspection and maintenance activity.
- All record keeping required by the I&M manual shall be maintained by the Responsible Party.
- A deicing log shall be maintained that tracks the amount and type of deicing materials applied to the site.
- Any transfer of responsibility for the I&M activities or transfer of ownership shall be documented to the NHDES Water Division in writing.

Inspection & Maintenance Checklist/Log

The following pages contain an Inspection & Maintenance Checklist, a blank copy of the Stormwater Management System's Inspection & Maintenance Log, and a reduced copy of the Grading and Utility Plans. These forms/plans are provided to assist the applicant with the inspection and maintenance of the Stormwater Management System.

Invasive Species Information

A copy of the New Hampshire Department of Agriculture, Markets & Food's document "Control of Invasive Plants" is provide at the end of this manual.

Stormwater Management System

Inspection & Maintenance Checklist

BMP/System Component	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance/Cleanout Threshold
Source Control	Routinely	Inspect any outdoor waste receptacles areas for spillage. Inspect and clear litter from crushed stone pad and perimeter landscape areas.	Clean as required.
Deicing Agents	N/A	N/A	Use sand as primary agent for site roadway and parking safety during winter.

Inspection & Maintenance Checklist

Closed Drainage System			
Meadow Mix Vegetation	Continuously	- Check for sediment, trash and debris accumulation. -Ensure mowing does not occur more than twice (2 times) in a year after establishment	Replace/repair plantings as needed.
Infiltration Basin	2 times per year	Check for sediment accumulation/clogging	Clean/repair as needed.

Stormwater Management System

Deicing Log

Date	Type	Location/Amount	Name(s) of Maintenance Personnel

Stormwater Management System

Inspection & Maintenance Log

BMP/System Component	Date Inspected	Inspector	Cleaning/Repair Needed *(List Items/Comments)*	Date of Cleaning/Repair	Performed By

Stormwater Management System

Inspection & Maintenance Log

BMP/System Component	Date Inspected	Inspector	Cleaning/Repair Needed *(List Items/Comments)*	Date of Cleaning/Repair	Performed By

Notes:

Memorandum

Appendix D: Infiltration Feasibility Report

Infiltration Feasibility Report

PROJECT:
Encore Warner Solar
Warner, New Hampshire
September 2024

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II. Existing Topography Description at the Location of the Practice

III. Boring/Test Pit Locations

IV. Seasonal High Water Table (SHWT) and Bedrock Elevations

V. Profile Descriptions

VI. Soil Plan in the Area of the Proposed Practice(s)

VII. Summary of the Design Infiltration Rate(s)

I. Location of the Practice

The infiltration basin is located at the southeast corner of the development area of the project, near I-89 and the adjacent wetlands to the east.

II. Existing Topography Description at the Location of the Practice

The infiltration basin is located in an area of the existing site where the existing topography has slopes between 0 and 5%. The area is a formerly excavated portion of the gravel pit that has been seeded, but remains at the elevation it was excavated to.

III. Boring/Test Pit Locations

For the infiltration basin, the bottom of the basin's section is located a maximum of three feet below existing grade. Test pits will be taken in basin area to confirm groundwater elevation as needed.

IV. Seasonal High Water Table (SHWT) and Bedrock Elevations

Auger observations from the site-specific soil testing did not observe the seasonal high-water table at a depth of 43 inches. Test pits will be used to confirm groundwater elevation as needed. Owner is to confirm that groundwater is not within 6 feet of excavated grade as part of existing Town Permit requirements as excavations for the gravel/sand pit are completed.

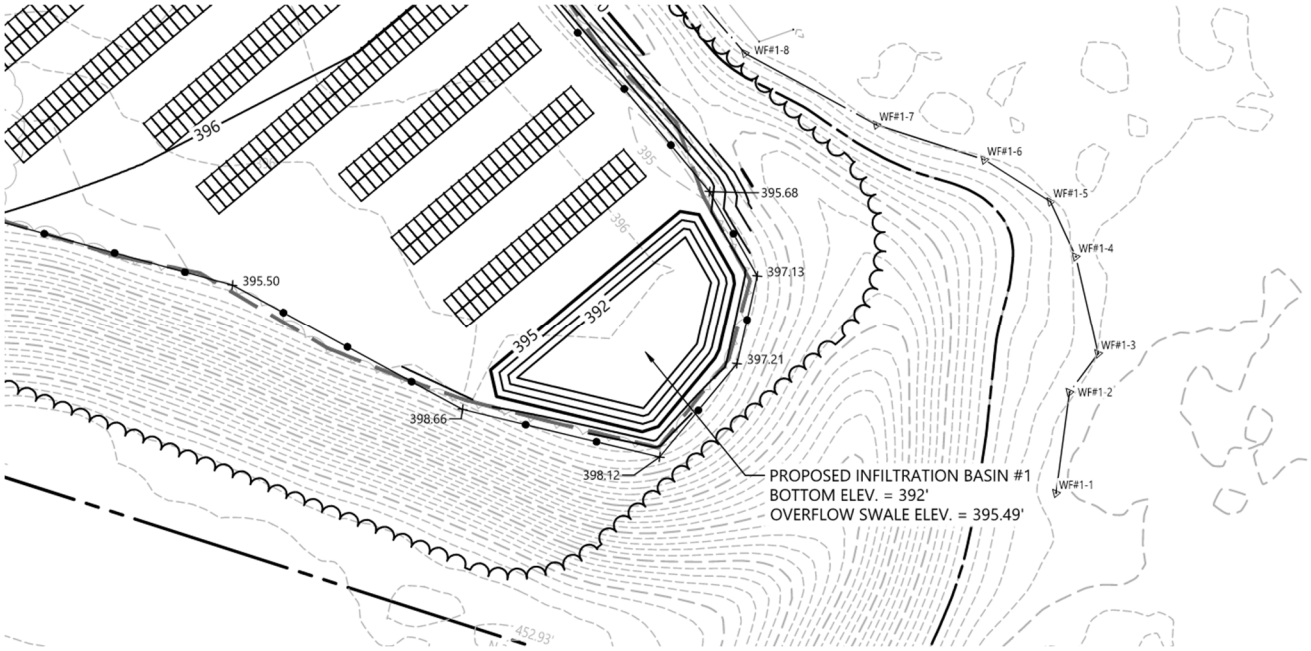
V. Profile Descriptions

The soils from the auger observations are described as very deep, somewhat excessively drained soils formed in glacio-fluvial or glacio-lacustrine materials. These sandy soils are very deep to bedrock.

The natural soil in the area is Champlain which has an infiltration rate of 20 inches per hour. Since this infiltration rate exceeds the maximum, this will have to be amended to at most 10 inches per hour. The amended soil shall be field tested in accordance with Env-Wq 1504.14(e). Given the need to amend the underlying soils, the design infiltration rate was assumed to be 5 in/hr since this is half of the amended infiltration rate of the soil.

VI. Soil Plan in the Area of the Proposed Practice

See proposed grading below:



VII. Summary of the Design Infiltration Rate

Infiltration Pond #1 – Given the need to amend the underlying soils, the design infiltration rate was assumed to be 5 in/hr since this is half of the amended infiltration rate of the soil.