



Boundaries LLC
179 Pachaug River Drive
P.O. Box 184
Griswold, CT 06351
T 860.376.2006 | F 860.376.5899

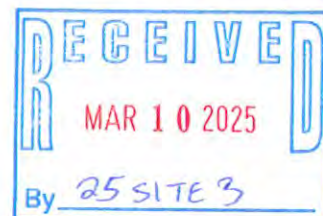
www.boundariesllc.net

STORMWATER MANAGEMENT REPORT

PREPARED FOR:

CRICKET'S CORNER, LLC
1645 ROUTE 85
MONTVILLE, CONNECTICUT 06370

FEBRUARY 2025
REVISED MARCH 5, 2025



PREPARED BY:

BOUNDARIES LLC

PROJECT I.D. No. 24-3432



Table of Contents

Introduction3

Pre-Development Conditions.....4

Post-Development Conditions.....6

Stormwater Basins9

Construction Phase Stormwater Management.....9

Summary.....10

Table of Figures

FIGURE 1	LOCATION MAP
----------	--------------

Table of Appendices

APPENDIX A	NRCS WEB SOIL SURVEY SOILS REPORT
APPENDIX B	NOAA POINT PRECIPITATION FREQUENCY ESTIMATES
APPENDIX C	HYDROCAD MODELING RESULTS
APPENDIX D	SUPPORTING CALCULATIONS
APPENDIX E	WATERSHED MAPS



Introduction

Boundaries LLC has prepared the following stormwater management report for proposed improvements to two vacant adjacent parcels located at 1645 Route 85 and 879 Chesterfield Road in Montville. 879 Chesterfield Road is to be merged with 1645 Route 85. The stormwater management system has been designed to meet the requirements of the Connecticut Department of Energy and Environmental Protection (CT DEEP) Stormwater Quality Manual including peak flow control and pollution prevention. The proposed improvements consist of the construction of a 2-story wood framed building having a 6,300 SF footprint to contain a 6-classroom daycare facility on the ground floor and 2 3-bedroom apartment units on the second floor, construction of 2 playground areas to support the daycare facility, new paved circulation drives and parking areas to support the proposed uses, subsurface sewage disposal system, drilled well, and stormwater management system.

The project area is identified on the Location Map included as Figure 1.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey the soils on the site consist of the following: Ridgebury, Leicester, and Whitman soils, 0 to 8% slopes, extremely stony, classified as Hydrologic Soil Group D; Agawam fine sandy loam, 3 to 8% slopes, classified as Hydrologic Soil Group B; Canton and Charlton fine sandy loams, 3 to 15% slopes, extremely stony, classified as Hydrologic Soil Group B; Charlton-Chatfield complex, 0 to 15% slopes, very rocky, classified as Hydrologic Soil Group B; and Hollis-Chatfield-rock outcrop complex, 15 to 45% slopes, classified as Hydrologic Soil Group D. The Soils Report is provided in Appendix A.

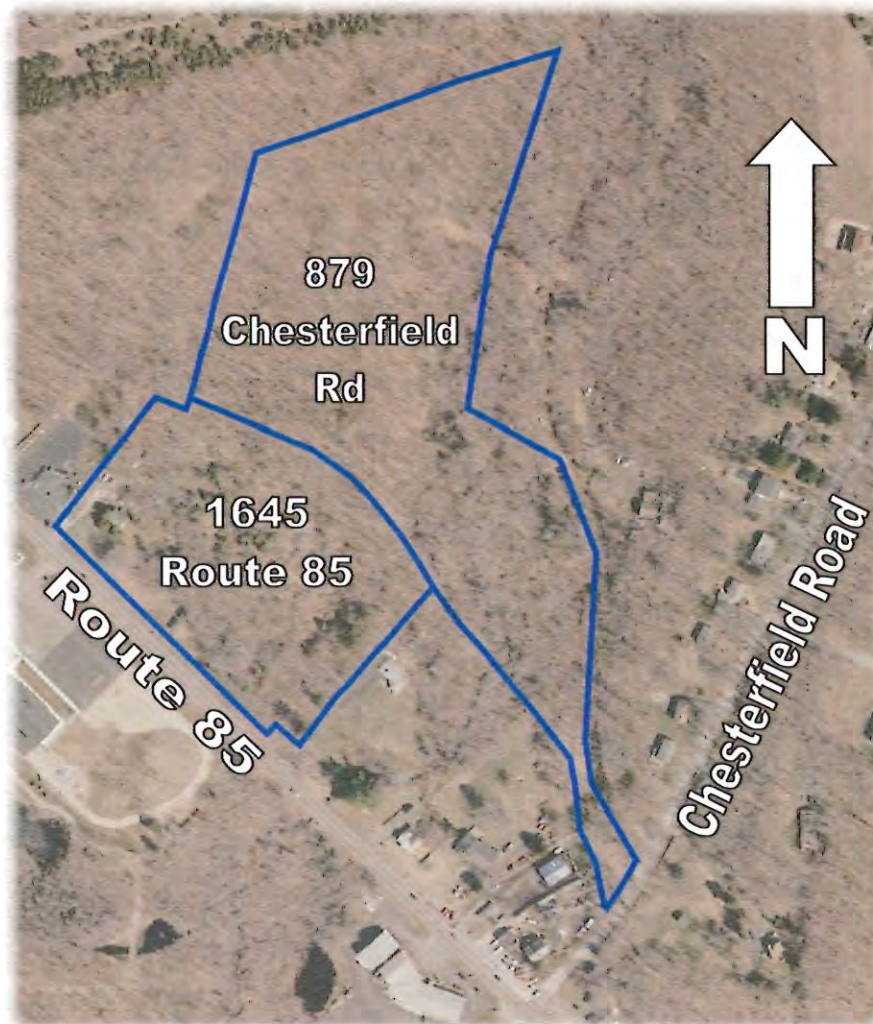
Pre- and post-development conditions hydrographs were estimated using the hydrologic modeling program HydroCAD. The methodology selected was NRCS TR-20. Times of concentration were estimated using multiple segment flow paths as described in the NRCS TR-55 manual. The NOAA Type D 24-hour storm was analyzed under antecedent moisture condition two. Design storm rainfall depths were accessed from the NOAA Precipitation Frequency Data server on November 25, 2024 and are presented in Appendix B. HydroCAD modeling results are presented in Appendix C. The water quality volume was calculated using the methods detailed in the CT DEEP Stormwater Quality Manual. Supporting stormwater calculations are included in Appendix D.

The watershed delineations are included in Appendix E.



Pre-Development Conditions

The site consists of two existing adjacent parcels, 1645 Route 85 containing 6.16 acres more or less and 879 Chesterfield Road containing 11.72 acres more or less. 1645 Route 85 is located northerly of Route 85 and 879 Chesterfield Road is located westerly of Chesterfield Road. 1645 Route 85 is identified as Montville Tax Assessor's map 12, block 9, lot 0. 879 Chesterfield Road is identified as Montville Tax Assessor's map 5, block 15, lot 0C. Both properties are located in the Commercial-2 zoning district (C-2). 879 Chesterfield Road is to be merged with 1645 Route 85. The subject properties are mostly wooded with the exception of a grassed area along the frontage associated with 1645 Route 85 where a now removed residence once existed. The properties generally slope from northwest to southeast and runoff from the properties flow partially to inland wetlands along the eastern portion of 879 Chesterfield Road and the remaining runoff flows to an off-site culvert to the southeast of the property. Pre-development aerial photography of the properties is shown below.



Aerial Photograph of Site (2016)

The pre-development watersheds are shown in Appendix E. The pre-development watersheds were delineated using topographic survey data for the subject parcel and aerial mapping for off-site contributing areas.

Runoff Curve Numbers (CN) used for the pre-development conditions analysis are as follows: 55 (woods, good ground cover) for wooded areas in Hydrologic Soil Group B, 77 (woods, good ground cover) for wooded areas in Hydrologic Soil Group D, 61 (>75% grass cover) for grassed areas in Hydrologic Soil Group B, and 98 (impervious) for existing impervious areas such as paved/concrete areas, gravel areas and rooftops.

The pre-development watersheds are described further below:

Drainage Area #1 (DA-1)

This 2.04± acre drainage area encompasses the area that contributes runoff to the inland wetlands along the eastern portion of the property. The drainage area is comprised of wooded areas. The weighted CN of the drainage area is 57. Runoff from this area flows southeasterly overland to the inland wetlands.

Drainage Area #2 (DA-2)

This 10.08± acre drainage area encompasses the area that contributes runoff to an off-site culvert to the southeast of the property. The drainage area is comprised of grassed areas, wooded areas, and off-site impervious surfaces including rooftops and paved circulation areas. The weighted CN of the drainage area is 61. Runoff from this area flows southeasterly overland to the culvert.

Existing conditions peak runoff rates were analyzed at the discharge locations at the inland wetland boundary and the culvert. Existing conditions peak flow rates are summarized below in Table 1. Detailed modeling results are included in Appendix C.

Table 1
Peak Runoff Rates – Existing Conditions

Storm Event	Total Peak Runoff Rate to Inland Wetlands (CFS)	Total Peak Runoff Rate to Culvert (CFS)
2-Year	0.41	2.39
10-Year	2.04	8.38
25-Year	3.33	12.87
50-Year	4.38	16.50
100-Year	5.57	20.55

Post-Development Conditions

The proposed improvements consist of the construction of a 2-story wood framed building having a 6,300 SF footprint to contain a 6-classroom daycare facility on the ground floor and 2 3-bedroom apartments on the second floor, construction of 2 playground areas to support the daycare facility, new paved circulation drives and parking areas to support the proposed uses, subsurface sewage disposal system, drilled well, and stormwater management system. Stormwater runoff from the development area will be collected in the proposed infiltration basins. The stormwater management basins will discharge through a reinforced spillway to the undeveloped portions of the property. Stormwater runoff from the undisturbed area will continue to surface flow directly to the inland wetlands and culvert to the southeast of the property.

The proposed stormwater management system meets the following design standards:

- The post-development peak discharge rates from the 2-year, 10-year, 25-year, 50-year, and 100-year storms are less than or equal to pre-development peak discharge rates.
- The emergency outlet has capacity to safely pass the post-development peak runoff from the 100-year storm without erosion.
- The Water Quality Volume is retained on-site.

Proposed conditions watersheds are shown in Appendix E. Proposed conditions watersheds were delineated using topographic survey data and the proposed development plans for the subject parcel. Land uses were determined using the proposed development plans.

Runoff Curve Numbers (CN) used for the proposed conditions analysis are as follows: 55 (woods, good ground cover) for wooded areas in Hydrologic Soil Group B, 77 (woods, good ground cover) for wooded areas in Hydrologic Soil Group D, 61 (>75% grass cover) for grassed areas in Hydrologic Soil Group B, 80 (>75% grass cover) for grassed areas in Hydrologic Soil Group D, and 98 (impervious) for impervious areas such as paved/concrete areas, gravel areas and rooftops.

The proposed conditions watersheds are described further below:

Drainage Area #1A (DA-1A)

This 2.09± acre drainage area encompasses the area that contributes runoff to Stormwater Management Basin #1 (SMB-1). The drainage area is comprised of the developed area of the site consisting of the proposed building, paved parking and circulation areas, playground areas, proposed grassed areas, and undeveloped wooded areas of the site. The weighted CN of the drainage area is 78. Runoff from this area is discharged to SMB-1 by means of surface flow and culverts associated with proposed catch basins and roof drains before discharging to wooded areas upgradient of the inland wetlands on the eastern portion of the property.

Drainage Area #1B (DA-1B)

This 0.73± acre drainage area encompasses the area that contributes runoff directly to the inland wetlands on the eastern portion of the property. The drainage area is comprised of proposed grassed areas and undeveloped wooded areas of the site. The weighted CN of the drainage area is 57. Runoff from this area surface flows directly through wooded areas to the inland wetlands.

Proposed conditions peak runoff rates were analyzed at the discharge location at the inland wetland boundary. The peak runoff rates are summarized in Table 2. Detailed modeling results are included in Appendix C.



Table 2
Peak Runoff Rates to Inland Wetlands – Proposed Conditions vs. Existing Conditions

Storm Event	Proposed Conditions Peak Runoff Rate to Inland Wetlands (CFS)	Existing Conditions Peak Runoff Rate to Inland Wetlands (CFS)	Change in Peak Runoff Rate (CFS)
2-Year	0.17	0.41	-0.24
10-Year	1.41	2.04	-0.63
25-Year	3.15	3.33	-0.18
50-Year	4.31	4.38	-0.07
100-Year	5.41	5.57	-0.16

As demonstrated, the proposed stormwater management system provides peak runoff rate attenuation for all of the modeled storm events.

Drainage Area #2A (DA-2A)

This 4.02± acre drainage area encompasses the area that contributes runoff to Stormwater Management Basin #2 (SMB-2). The drainage area is comprised of the developed area of the site consisting of paved circulation areas, proposed grassed areas, undeveloped wooded areas, and off-site impervious surfaces including rooftops and paved circulation areas. The weighted CN of the drainage area is 76. Runoff from this area is discharged to SMB-2 by means of surface flow and culverts associated with proposed catch basins before discharging to undeveloped wooded portions of the property, upgradient of the culvert.

Drainage Area #2B (DA-2B)

This 5.29± acre drainage area encompasses the area that contributes runoff directly to undeveloped wooded portions of the property, upgradient of the culvert. The drainage area is comprised of proposed grassed areas and undeveloped wooded areas of the site. The weighted CN of the drainage area is 56. Runoff from this area surface flows directly to undeveloped wooded portions of the property upgradient of the culvert.

Proposed conditions peak runoff rates were analyzed at the discharge location at the off-site culvert. The peak runoff rates are summarized in Table 3. Detailed modeling results are included in Appendix C.

Table 3
Peak Runoff Rates to Culvert – Proposed Conditions vs. Existing Conditions

Storm Event	Proposed Conditions Peak Runoff Rate to Culvert (CFS)	Existing Conditions Peak Runoff Rate to Culvert (CFS)	Change in Peak Runoff Rate (CFS)
2-Year	1.28	2.39	-1.11
10-Year	7.74	8.38	-0.64
25-Year	11.37	12.87	-1.50
50-Year	13.98	16.50	-2.52
100-Year	19.00	20.55	-1.55

As demonstrated, the proposed stormwater management system provides peak runoff rate attenuation for all of the modeled storm events.



The proposed stormwater collection system consists of ten catch basins, five yard drains, two stormwater management basins, and piping connecting the stormwater structures to the stormwater management basins. The proposed collection system is sized for the 25-year storm event. A summary of the pipe capacities and 25-year storm flows are presented below in Table 4.

Table 4
Stormwater Collection Design Summary

Drainage Structure	Peak Runoff for 25-Year Storm (CFS)	Slope (FT/FT)	Mannings Capacity (CFS)
12" RCP Culvert (P-CB 1 to P-CB 2)	0.457	0.020	5.048
12" RCP Culvert (P-CB 2 to P-CB 4)	0.978	0.063	8.939
12" RCP Culvert (P-CB 3 to P-CB 4)	0.470	0.020	5.048
12" RCP Culvert (P-CB 4 to P-CB 5)	2.081	0.083	10.260
12" RCP Culvert (P-CB 5 to P-CB 7)	2.329	0.048	7.858
12" RCP Culvert (P-FEU 1 to P-CB 6)	4.259	0.081	10.174
12" RCP Culvert (P-CB 6 to P-CB 7)	5.095	0.024	5.507
15" RCP Culvert (P-CB 7 to SMB-2)	7.970	0.015	8.027
6" PVC Culvert (P-YD 1 to P-YD 2)	0.220	0.015	0.749
6" PVC Culvert (P-YD 2 to P-YD 3)	0.237	0.015	0.755
6" PVC Culvert (P-YD 3 to P-YD 4)	0.241	0.015	0.746
6" PVC Culvert (P-YD 4 to P-YD 5)	0.245	0.015	0.755
8" PVC Culvert (P-YD 5 to P-CB 10)	1.707	0.018	1.740
12" RCP Culvert (P-CB 8 to P-CB 9)	0.950	0.152	13.905
12" RCP Culvert (P-CB 9 to P-CB 10)	1.396	0.013	4.124
12" RCP Culvert (P-CB 10 to SMB-1)	6.701	0.163	14.415

The stormwater management basin outlets will be protected from erosion by pre-formed riprap scour holes in accordance with the recommendations of the CT DOT Drainage Manual. The modeled velocities of the 100-year discharges as compared to typical allowable velocities for the proposed surface is presented in Table 5.

Table 5
100-year Discharge/Overflow Erosion Potential Evaluation

Stormwater Management Component	100-year Discharge/Overflow Velocity (FPS)	Proposed Surface Treatment	Typical Allowable Velocity (FPS)
12" Culvert Discharge (SMB-1)	5.01	Modified riprap scour hole	14.7 (per DOT Drainage Manual)
Spillway (SMB-1)	0.71	Modified riprap	8.0 (per DOT Drainage Manual)
15" Culvert Discharge (SMB-2)	6.18	Modified riprap scour hole	14.7 (per DOT Drainage Manual)
Spillway (SMB-2)	1.15	Modified riprap	8.0 (per DOT Drainage Manual)

As presented above, the proposed stormwater management system is adequately protected from potential erosion as a result of modeled discharges during the 100-year storm event.



The stormwater management system is also required to retain the Water Quality Volume on-site. Runoff from pavement, roofs, concrete pads, and playground surfaces will be retained in the stormwater management basins. The proposed basins provide sufficient retention capacity for over 100% of the calculated Water Quality Volumes. The volumes retained by the proposed stormwater management basins and sediment forebays were determined using the HydroCAD stage-storage results. The calculations to determine the required volumes are included in Appendix D. The treatment volumes required and provided are presented in Table 6.

Table 6
Runoff Treatment Sizing Criteria

Stormwater Treatment System	Storage Volume Provided (CF)	Treatment Volume Required (CF)
SMB-1 (100%)	6,395	3,905
Sediment Forebay (25%)	1,046	976
SMB-2 (100%)	5,102	4,899
Sediment Forebay (25%)	1,687	1,225

As demonstrated, the stormwater management system provides adequate capacity for retention of the required water quality volumes.

Stormwater Basins

The proposed stormwater basins are located in HSG B soils to the southeast of the development areas. The basins will function as infiltration basins. The basins collect stormwater runoff from the proposed development area, undisturbed woodland and maintained lawns.

Proposed Interior Side Slopes – 3H:1V (both)

Proposed Exterior Side Slopes – 3H:1V (both)

Sum of the Side Slopes – 6H:1V (both)

(Reference 2002 CT Guidelines for SESC, Detention Basins, Page 5-9-13, Earth Embankment, Side Slopes)

Berm Top Width – 8 feet (both)

Retained Volumes – 6,395 cubic feet (SMB-1); 5,102 cubic feet (SMB-2)

Contributing Area Water Quality Volumes – 3,905 cubic feet (SMB-1); 4,899 cubic feet (SMB-2)

Time to Drain After Storm – 35 hours (SMB-1); 22 hours (SMB-2)

(Published Rawl's Rate for HSG B loam)

TSS Removal – 80% with sediment forebays per the Massachusetts DEP Stormwater Handbook, Volume 2, Chapter 2.

Construction Phase Stormwater Management

The project results in the temporary disturbance of approximately 3.6 acres of land. The following measures will be taken to protect water quality during construction:

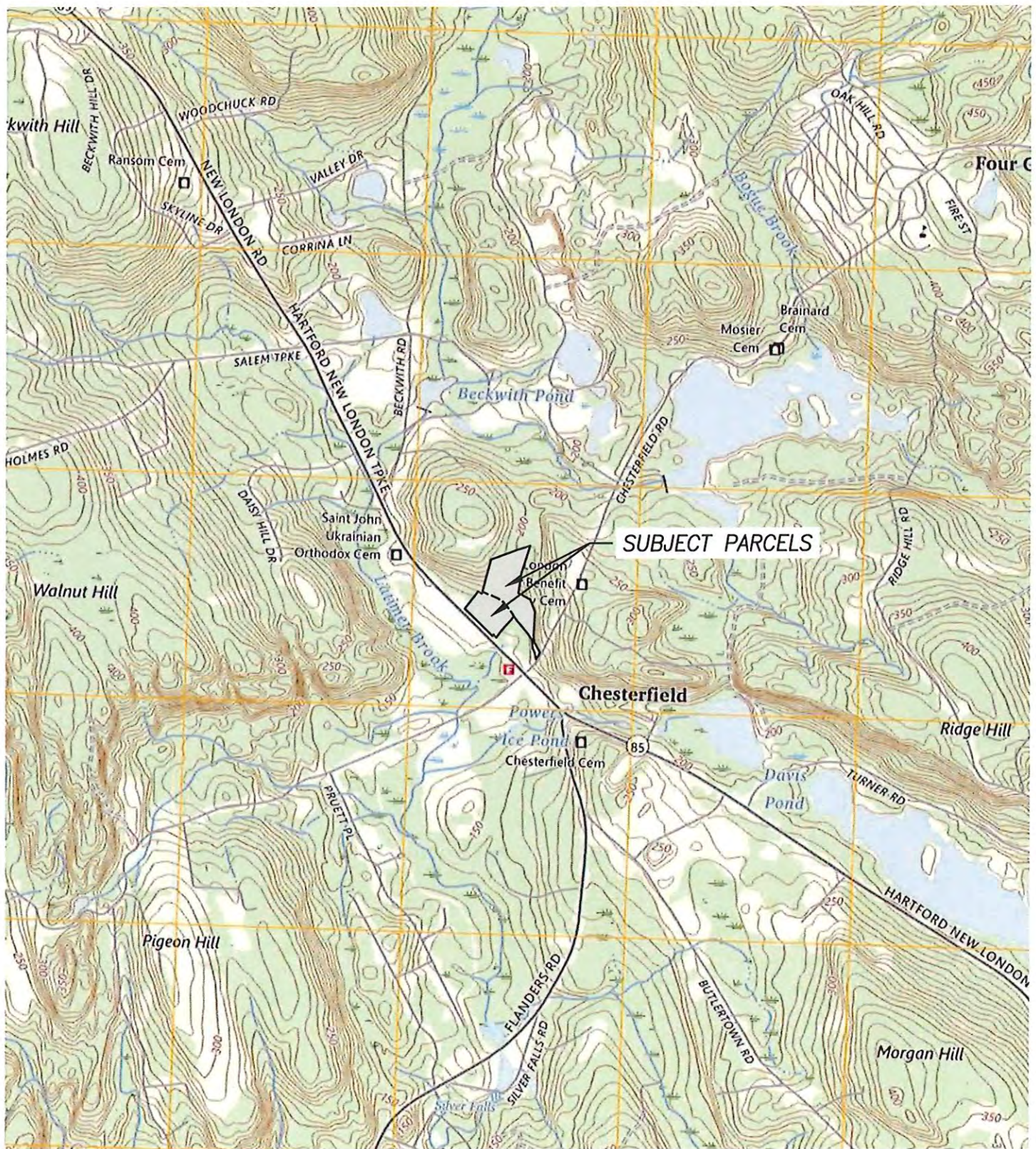
- Install an anti-tracking pad at the construction exit.
- Provide sediment fence barriers and/or wood chip berms at the downgradient project limits.
- Provide a sediment fence barrier upgradient of the infiltration basins to allow for the establishment of vegetation.
- Surround stockpile(s) with sediment fence and seed with rye grass.

Summary

The proposed stormwater management system has been designed in accordance with the CT DEEP Stormwater Quality Manual. The system provides peak flow control and runoff retention and treatment.

The proposed improvements are shown on plans titled "Site Development Plans, Prepared For Cricket's Corner, LLC, 1645 Route 85, Montville, Connecticut, February 2025, Rev. "A" 3-5-2025, Sheet 1 of 13 through Sheet 13 of 13" prepared by Boundaries LLC.





BOUNDARIES

Boundaries LLC
179 Pachaug River Drive, Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net



Location Map
(Palmertown Quad)
Cricket's Corner, LLC
1645 Route 85 - Montville, CT

SCALE: 1"=2,000'

DATE: February 2025

JOB NO. 24-3432

FIGURE 1

Appendix A

NRCS Web Soil Survey Soils Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for State of Connecticut, Eastern Part



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

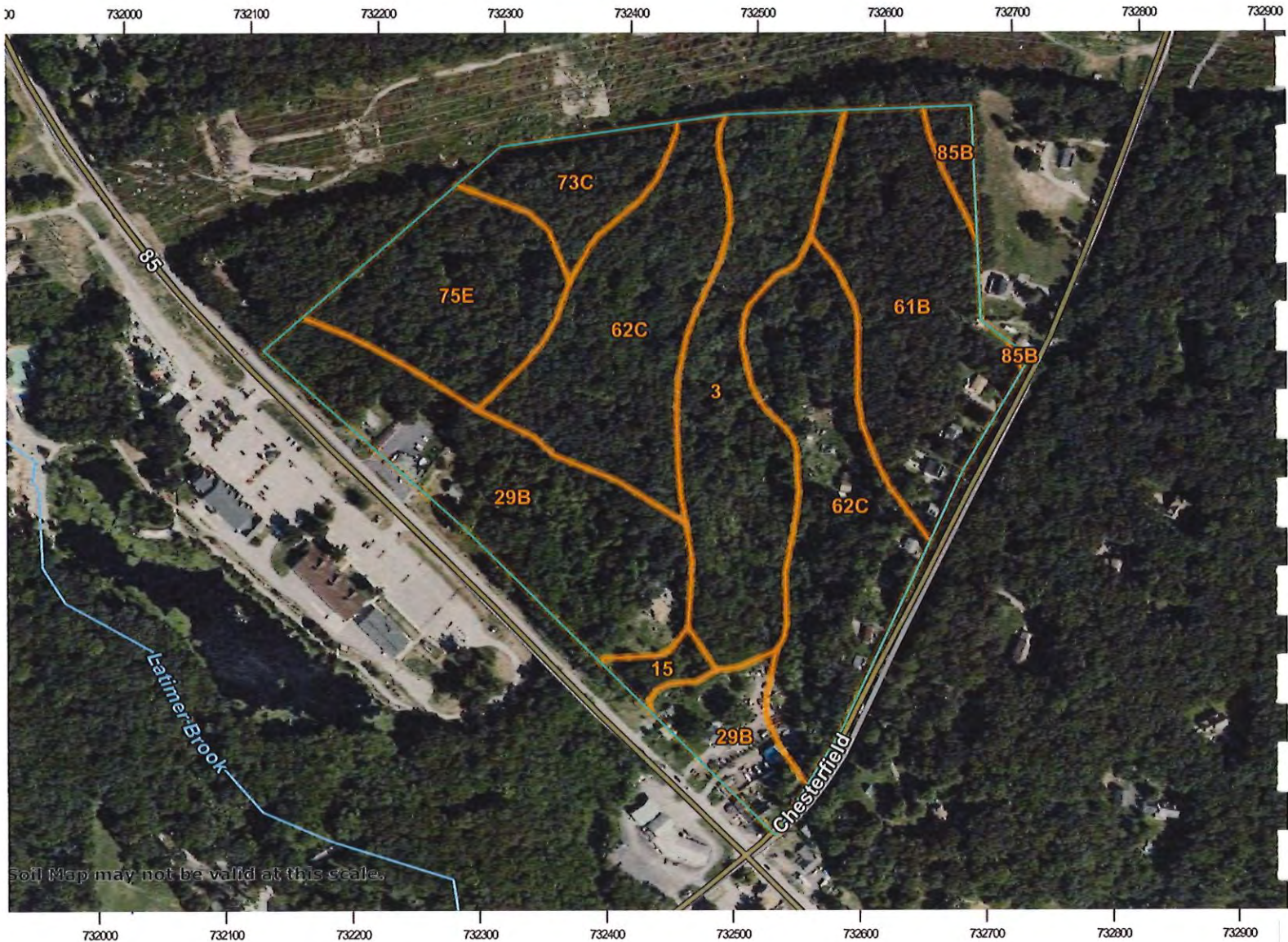
Contents

Preface.....	2
Soil Map.....	5
Soil Map.....	6
Legend.....	7
Map Unit Legend.....	8
Map Unit Descriptions.....	8
State of Connecticut, Eastern Part.....	11
3—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony.....	11
15—Scarboro muck, 0 to 3 percent slopes.....	13
29B—Agawam fine sandy loam, 3 to 8 percent slopes.....	15
61B—Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony.....	17
62C—Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony.....	19
73C—Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky.....	21
75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes.....	24
85B—Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony.....	26

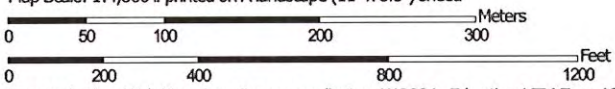
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:4,860 if printed on A landscape (11" x 8.5") sheet.




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

Custom Soil Resource Report

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 1:12,000.

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 of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Eastern Part

Survey Area Data: Version 1, Sep 15, 2023

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

Date(s) aerial images were photographed: Jun 14, 2022—Oct 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
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	7.8	15.8%
15	Scarboro muck, 0 to 3 percent slopes	0.6	1.2%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	10.2	20.8%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	7.7	15.7%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	14.6	29.8%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	2.5	5.0%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	5.1	10.4%
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	0.6	1.2%
Totals for Area of Interest		49.1	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties

Custom Soil Resource Report

and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Custom Soil Resource Report

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut, Eastern Part

3—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2t2qt
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 40 percent
Leicester, extremely stony, and similar soils: 35 percent
Whitman, extremely stony, and similar soils: 17 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Drumlins, ground moraines, hills, drainageways, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: fine sandy loam
Bw - 6 to 10 inches: sandy loam
Bg - 10 to 19 inches: gravelly sandy loam
Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s

Custom Soil Resource Report

Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Leicester, Extremely Stony

Setting

Landform: Ground moraines, hills, drainageways, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 7 inches: fine sandy loam
Bg - 7 to 18 inches: fine sandy loam
BC - 18 to 24 inches: fine sandy loam
C1 - 24 to 39 inches: gravelly fine sandy loam
C2 - 39 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B/D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Whitman, Extremely Stony

Setting

Landform: Drumlins, ground moraines, hills, drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 1 inches: peat

Custom Soil Resource Report

A - 1 to 10 inches: fine sandy loam

Bg - 10 to 17 inches: gravelly fine sandy loam

Cdg - 17 to 61 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent

Surface area covered with cobbles, stones or boulders: 9.0 percent

Depth to restrictive feature: 7 to 38 inches to densic material

Drainage class: Very poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: F144AY009CT - Wet Till Depressions

Hydric soil rating: Yes

Minor Components

Woodbridge, extremely stony

Percent of map unit: 6 percent

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Swansea

Percent of map unit: 2 percent

Landform: Bogs, swamps

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

15—Scarboro muck, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svkt

Elevation: 0 to 1,350 feet

Custom Soil Resource Report

Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Scarboro and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scarboro

Setting

Landform: Drainageways, depressions, outwash deltas, outwash terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread, dip
Down-slope shape: Concave
Across-slope shape: Linear, concave
Parent material: Sandy glaciofluvial deposits derived from schist and/or gneiss and/or granite

Typical profile

Oa - 0 to 8 inches: muck
A - 8 to 14 inches: mucky fine sandy loam
Cg1 - 14 to 22 inches: sand
Cg2 - 22 to 65 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: About 0 to 2 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F144AY031MA - Very Wet Outwash
Hydric soil rating: Yes

Minor Components

Timakwa

Percent of map unit: 10 percent
Landform: Swamps
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Custom Soil Resource Report

Walpole

Percent of map unit: 8 percent

Landform: Deltas, depressions, outwash plains, depressions, outwash terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread, talf, dip

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Deerfield

Percent of map unit: 2 percent

Landform: Terraces, outwash plains

Landform position (three-dimensional): Tread, dip

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: No

29B—Agawam fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyqx

Elevation: 0 to 820 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 250 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Agawam and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Agawam

Setting

Landform: Outwash terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist and/or phyllite

Typical profile

Ap - 0 to 11 inches: fine sandy loam

Bw1 - 11 to 16 inches: fine sandy loam

Bw2 - 16 to 26 inches: fine sandy loam

2C1 - 26 to 45 inches: loamy fine sand

2C2 - 45 to 55 inches: loamy fine sand

2C3 - 55 to 65 inches: loamy sand

Custom Soil Resource Report

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 15 to 35 inches to strongly contrasting textural stratification

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: B

Ecological site: F145XY008MA - Dry Outwash

Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent

Landform: Outwash terraces

Landform position (three-dimensional): Riser, tread

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: F145XY008MA - Dry Outwash

Hydric soil rating: No

Ninigret

Percent of map unit: 4 percent

Landform: Terraces

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: No

Walpole

Percent of map unit: 3 percent

Landform: Deltas, depressions, outwash terraces, depressions, outwash plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread, talf, dip

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Hinckley

Percent of map unit: 3 percent

Landform: Eskers

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: F145XY008MA - Dry Outwash

Hydric soil rating: No

61B—Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w81v

Elevation: 0 to 1,480 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Canton, very stony, and similar soils: 50 percent

Charlton, very stony, and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Very Stony

Setting

Landform: Moraines, hills, ridges

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

A - 2 to 5 inches: fine sandy loam

Bw1 - 5 to 16 inches: fine sandy loam

Bw2 - 16 to 22 inches: gravelly fine sandy loam

2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Charlton, Very Stony

Setting

Landform: Ridges, ground moraines, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Sutton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Custom Soil Resource Report

Leicester, very stony

Percent of map unit: 5 percent

Landform: Hills, drainageways, depressions, ground moraines

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear

Across-slope shape: Concave

Hydric soil rating: Yes

Chatfield, very stony

Percent of map unit: 5 percent

Landform: Ridges, hills

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

62C—Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2wks7

Elevation: 0 to 1,310 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Canton, extremely stony, and similar soils: 50 percent

Charlton, extremely stony, and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Extremely Stony

Setting

Landform: Moraines, hills, ridges

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

Custom Soil Resource Report

A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Charlton, Extremely Stony

Setting

Landform: Ridges, ground moraines, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Leicester, extremely stony

Percent of map unit: 5 percent

Landform: Hills, drainageways, depressions, ground moraines

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear

Across-slope shape: Concave

Hydric soil rating: Yes

Sutton, extremely stony

Percent of map unit: 5 percent

Landform: Ground moraines, hills

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Chatfield, extremely stony

Percent of map unit: 5 percent

Landform: Ridges, hills

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

73C—Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2w698

Elevation: 0 to 1,550 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Charlton, very stony, and similar soils: 50 percent

Chatfield, very stony, and similar soils: 30 percent

Custom Soil Resource Report

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Very Stony

Setting

Landform: Ridges, hills

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material

A - 2 to 4 inches: fine sandy loam

Bw - 4 to 27 inches: gravelly fine sandy loam

C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Chatfield, Very Stony

Setting

Landform: Hills, ridges

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 2 inches: fine sandy loam

Bw - 2 to 30 inches: gravelly fine sandy loam

2R - 30 to 40 inches: bedrock

Custom Soil Resource Report

Properties and qualities

Slope: 3 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 20 to 41 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Sutton, very stony

Percent of map unit: 5 percent

Landform: Ground moraines, hills

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent

Hydric soil rating: No

Hollis, very stony

Percent of map unit: 5 percent

Landform: Hills, ridges

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

Leicester, very stony

Percent of map unit: 5 percent

Landform: Drainageways, depressions

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: Yes

75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: 9lqp
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 35 percent
Chatfield and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 9 inches: channery fine sandy loam
Bw2 - 9 to 15 inches: gravelly fine sandy loam
2R - 15 to 80 inches: bedrock

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s

Custom Soil Resource Report

Hydrologic Soil Group: D

Ecological site: F144AY033MA - Shallow Dry Till Uplands

Hydric soil rating: No

Description of Chatfield

Setting

Landform: Ridges, hills

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material

A - 1 to 6 inches: gravelly fine sandy loam

Bw1 - 6 to 15 inches: gravelly fine sandy loam

Bw2 - 15 to 29 inches: gravelly fine sandy loam

2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Rock Outcrop

Typical profile

R - 0 to 0 inches: bedrock

Properties and qualities

Slope: 15 to 45 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

Hydric soil rating: Unranked

Minor Components

Charlton

Percent of map unit: 7 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, very stony

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Unnamed, red parent material

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, sandy subsoil

Percent of map unit: 1 percent
Hydric soil rating: No

Brimfield

Percent of map unit: 1 percent
Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

85B—Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w679
Elevation: 0 to 1,530 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Custom Soil Resource Report

Map Unit Composition

Paxton, very stony, and similar soils: 55 percent

Montauk, very stony, and similar soils: 30 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Very Stony

Setting

Landform: Hills, ground moraines, drumlins

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material

A - 2 to 10 inches: fine sandy loam

Bw1 - 10 to 17 inches: fine sandy loam

Bw2 - 17 to 28 inches: fine sandy loam

Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 20 to 43 inches to densic material

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: C

Ecological site: F144AY007CT - Well Drained Dense Till Uplands

Hydric soil rating: No

Description of Montauk, Very Stony

Setting

Landform: Recessional moraines, ground moraines, hills, drumlins

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Coarse-loamy over sandy lodgment till derived from gneiss, granite, and/or schist

Custom Soil Resource Report

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 6 inches: fine sandy loam
Bw1 - 6 to 28 inches: fine sandy loam
Bw2 - 28 to 36 inches: sandy loam
2Cd - 36 to 74 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Woodbridge, very stony

Percent of map unit: 8 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Charlton, very stony

Percent of map unit: 3 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury, very stony

Percent of map unit: 3 percent
Landform: Drumlins, depressions, ground moraines, hills, drainageways
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Custom Soil Resource Report

Stockbridge, very stony

Percent of map unit: 1 percent

Landform: Hills

Landform position (two-dimensional): Shoulder, backslope, summit

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Appendix B

NOAA Precipitation Data



NOAA Atlas 14, Volume 10, Version 3
 Location name: Oakdale, Connecticut, USA*
 Latitude: 41.4324°, Longitude: -72.2188°
 Elevation: 171 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.338 (0.263-0.423)	0.404 (0.314-0.506)	0.513 (0.397-0.645)	0.603 (0.463-0.761)	0.728 (0.543-0.954)	0.822 (0.600-1.10)	0.920 (0.654-1.27)	1.03 (0.694-1.45)	1.19 (0.773-1.72)	1.33 (0.840-1.95)
10-min	0.479 (0.372-0.599)	0.573 (0.445-0.717)	0.727 (0.563-0.913)	0.855 (0.658-1.08)	1.03 (0.769-1.35)	1.16 (0.850-1.55)	1.30 (0.926-1.80)	1.46 (0.984-2.05)	1.69 (1.10-2.44)	1.88 (1.19-2.76)
15-min	0.563 (0.438-0.704)	0.674 (0.523-0.844)	0.855 (0.662-1.07)	1.01 (0.774-1.27)	1.21 (0.905-1.59)	1.37 (1.00-1.83)	1.53 (1.09-2.11)	1.72 (1.16-2.41)	1.99 (1.29-2.87)	2.21 (1.40-3.24)
30-min	0.790 (0.614-0.988)	0.946 (0.734-1.18)	1.20 (0.928-1.51)	1.41 (1.09-1.78)	1.70 (1.27-2.23)	1.92 (1.40-2.56)	2.15 (1.53-2.96)	2.41 (1.62-3.37)	2.78 (1.80-4.02)	3.09 (1.96-4.54)
60-min	1.02 (0.790-1.27)	1.22 (0.945-1.52)	1.54 (1.20-1.94)	1.82 (1.40-2.29)	2.19 (1.63-2.87)	2.47 (1.81-3.30)	2.77 (1.96-3.81)	3.10 (2.09-4.34)	3.58 (2.32-5.16)	3.98 (2.52-5.83)
2-hr	1.34 (1.05-1.66)	1.60 (1.25-1.98)	2.02 (1.58-2.52)	2.37 (1.84-2.97)	2.86 (2.15-3.72)	3.22 (2.37-4.27)	3.60 (2.58-4.94)	4.05 (2.74-5.62)	4.71 (3.06-6.73)	5.26 (3.34-7.64)
3-hr	1.55 (1.22-1.92)	1.85 (1.46-2.30)	2.34 (1.83-2.91)	2.75 (2.14-3.43)	3.31 (2.50-4.29)	3.72 (2.76-4.92)	4.17 (3.00-5.69)	4.69 (3.18-6.47)	5.46 (3.56-7.76)	6.11 (3.89-8.83)
6-hr	1.98 (1.57-2.44)	2.36 (1.87-2.90)	2.97 (2.34-3.66)	3.48 (2.73-4.31)	4.18 (3.18-5.38)	4.70 (3.50-6.16)	5.26 (3.81-7.12)	5.91 (4.03-8.09)	6.88 (4.51-9.69)	7.70 (4.92-11.0)
12-hr	2.46 (1.96-3.00)	2.92 (2.33-3.57)	3.68 (2.92-4.51)	4.30 (3.40-5.30)	5.17 (3.96-6.60)	5.82 (4.36-7.55)	6.50 (4.73-8.72)	7.30 (5.00-9.90)	8.48 (5.58-11.8)	9.46 (6.07-13.4)
24-hr	2.88 (2.32-3.50)	3.45 (2.78-4.19)	4.37 (3.50-5.32)	5.14 (4.09-6.28)	6.19 (4.77-7.85)	6.98 (5.27-9.00)	7.82 (5.73-10.4)	8.80 (6.06-11.8)	10.3 (6.78-14.2)	11.5 (7.40-16.1)
2-day	3.23 (2.62-3.89)	3.90 (3.17-4.70)	5.01 (4.05-6.05)	5.92 (4.76-7.19)	7.19 (5.58-9.06)	8.12 (6.18-10.4)	9.13 (6.75-12.1)	10.3 (7.15-13.8)	12.2 (8.08-16.7)	13.8 (8.90-19.1)
3-day	3.50 (2.86-4.20)	4.23 (3.45-5.08)	5.43 (4.41-6.54)	6.42 (5.18-7.76)	7.79 (6.08-9.78)	8.80 (6.73-11.2)	9.90 (7.35-13.1)	11.2 (7.78-14.9)	13.2 (8.80-18.0)	15.0 (9.70-20.6)
4-day	3.76 (3.08-4.50)	4.53 (3.70-5.42)	5.79 (4.72-6.95)	6.83 (5.53-8.23)	8.27 (6.48-10.3)	9.34 (7.16-11.9)	10.5 (7.81-13.8)	11.9 (8.25-15.7)	14.0 (9.32-18.9)	15.8 (10.3-21.7)
7-day	4.48 (3.70-5.33)	5.33 (4.38-6.34)	6.71 (5.50-8.00)	7.85 (6.40-9.40)	9.43 (7.42-11.7)	10.6 (8.15-13.4)	11.9 (8.84-15.4)	13.3 (9.31-17.5)	15.6 (10.4-20.9)	17.5 (11.4-23.8)
10-day	5.20 (4.30-6.16)	6.08 (5.03-7.22)	7.53 (6.20-8.95)	8.73 (7.14-10.4)	10.4 (8.19-12.8)	11.6 (8.96-14.6)	12.9 (9.65-16.7)	14.5 (10.1-18.8)	16.7 (11.2-22.3)	18.6 (12.1-25.1)
20-day	7.40 (6.18-8.71)	8.34 (6.96-9.83)	9.89 (8.21-11.7)	11.2 (9.21-13.2)	12.9 (10.3-15.7)	14.3 (11.0-17.6)	15.7 (11.7-19.8)	17.1 (12.1-22.0)	19.1 (12.9-25.2)	20.7 (13.6-27.8)
30-day	9.24 (7.75-10.8)	10.2 (8.56-12.0)	11.8 (9.86-13.9)	13.2 (10.9-15.5)	15.0 (11.9-18.1)	16.4 (12.7-20.1)	17.8 (13.2-22.2)	19.2 (13.6-24.6)	21.0 (14.2-27.5)	22.4 (14.7-29.7)
45-day	11.5 (9.70-13.4)	12.5 (10.6-14.6)	14.2 (11.9-16.7)	15.6 (13.0-18.4)	17.5 (14.0-21.0)	19.1 (14.8-23.1)	20.5 (15.2-25.3)	21.8 (15.5-27.7)	23.4 (15.9-30.5)	24.5 (16.1-32.4)
60-day	13.4 (11.3-15.6)	14.5 (12.2-16.9)	16.2 (13.7-19.0)	17.7 (14.8-20.7)	19.7 (15.8-23.5)	21.3 (16.6-25.7)	22.8 (16.9-27.9)	24.1 (17.2-30.5)	25.6 (17.4-33.2)	26.5 (17.5-34.9)

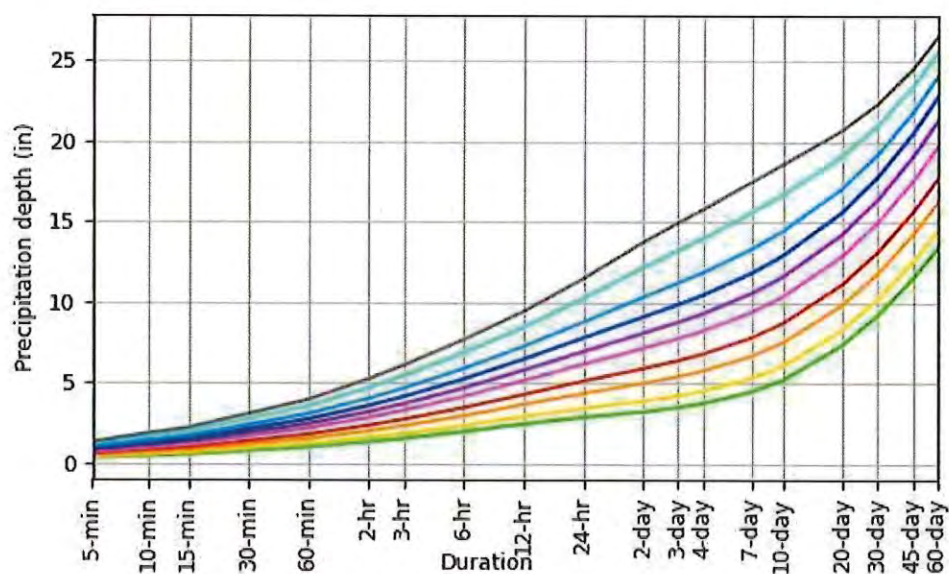
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

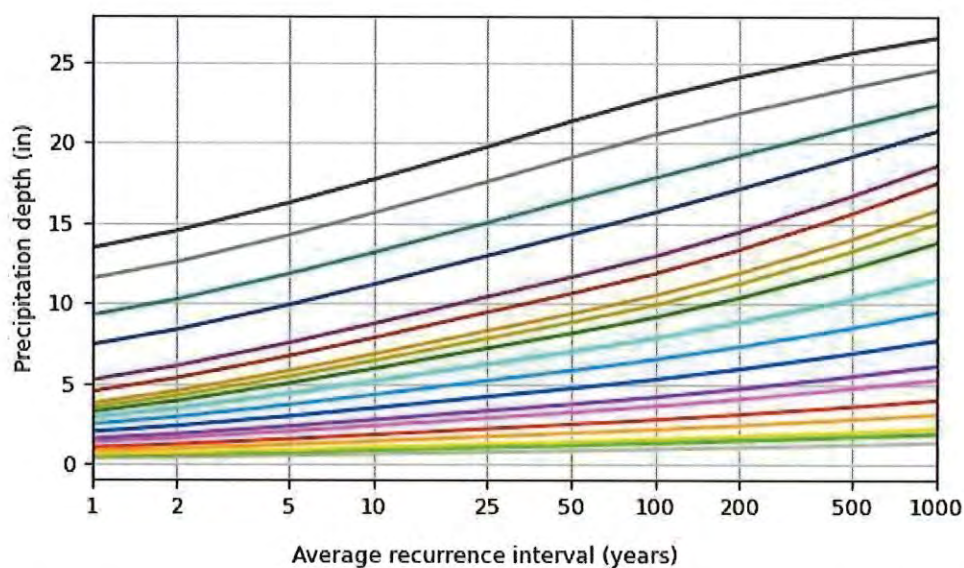
PDS-based depth-duration-frequency (DDF) curves

Latitude: 41.4324°, Longitude: -72.2188°



Average recurrence interval (years)

1
2
5
10
25
50
100
200
500
1000



Duration

5-min 2-day
10-min 3-day
15-min 4-day
30-min 7-day
60-min 10-day
2-hr 20-day
3-hr 30-day
6-hr 45-day
12-hr 60-day
24-hr

[Back to Top](#)

Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

Appendix C

HydroCAD Modeling Results



DA-1



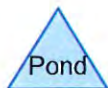
WETLANDS



DA-2



CULVERT



Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NOAA10 24-hr	D	Default	24.00	1	3.45	2
2	10-Year	NOAA10 24-hr	D	Default	24.00	1	5.14	2
3	25-Year	NOAA10 24-hr	D	Default	24.00	1	6.19	2
4	50-Year	NOAA10 24-hr	D	Default	24.00	1	6.98	2
5	100-Year	NOAA10 24-hr	D	Default	24.00	1	7.82	2

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.200	61	>75% Grass cover, Good, HSG B (DA-2)
0.270	98	Paved parking, HSG B (DA-2)
8.383	55	Woods, Good, HSG B (DA-1, DA-2)
2.268	77	Woods, Good, HSG D (DA-1, DA-2)
12.120	61	TOTAL AREA

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 4

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
9.852	HSG B	DA-1, DA-2
0.000	HSG C	
2.268	HSG D	DA-1, DA-2
0.000	Other	
12.120		TOTAL AREA

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 5

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.200	0.000	0.000	0.000	1.200	>75% Grass cover, Good	DA-2
0.000	0.270	0.000	0.000	0.000	0.270	Paved parking	DA-2
0.000	8.383	0.000	2.268	0.000	10.650	Woods, Good	DA-1, DA-2
0.000	9.852	0.000	2.268	0.000	12.120	TOTAL AREA	

Crickets Corner Pre Development

NOAA10 24-hr D 2-Year Rainfall=3.45"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 6

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentDA-1: DA-1

Runoff Area=89,038 sf 0.00% Impervious Runoff Depth=0.40"

Flow Length=734' Tc=12.0 min CN=57 Runoff=0.41 cfs 0.068 af

SubcatchmentDA-2: DA-2

Runoff Area=438,906 sf 2.68% Impervious Runoff Depth=0.55"

Flow Length=1,390' Tc=27.7 min CN=61 Runoff=2.39 cfs 0.462 af

Link CULVERT: CULVERT

Inflow=2.39 cfs 0.462 af

Primary=2.39 cfs 0.462 af

Link WETLANDS: WETLANDS

Inflow=0.41 cfs 0.068 af

Primary=0.41 cfs 0.068 af

Total Runoff Area = 12.120 ac Runoff Volume = 0.530 af Average Runoff Depth = 0.52"
97.77% Pervious = 11.850 ac 2.23% Impervious = 0.270 ac

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

Page 7

Summary for Subcatchment DA-1: DA-1

Runoff = 0.41 cfs @ 12.23 hrs, Volume= 0.068 af, Depth= 0.40"
Routed to Link WETLANDS : WETLANDS

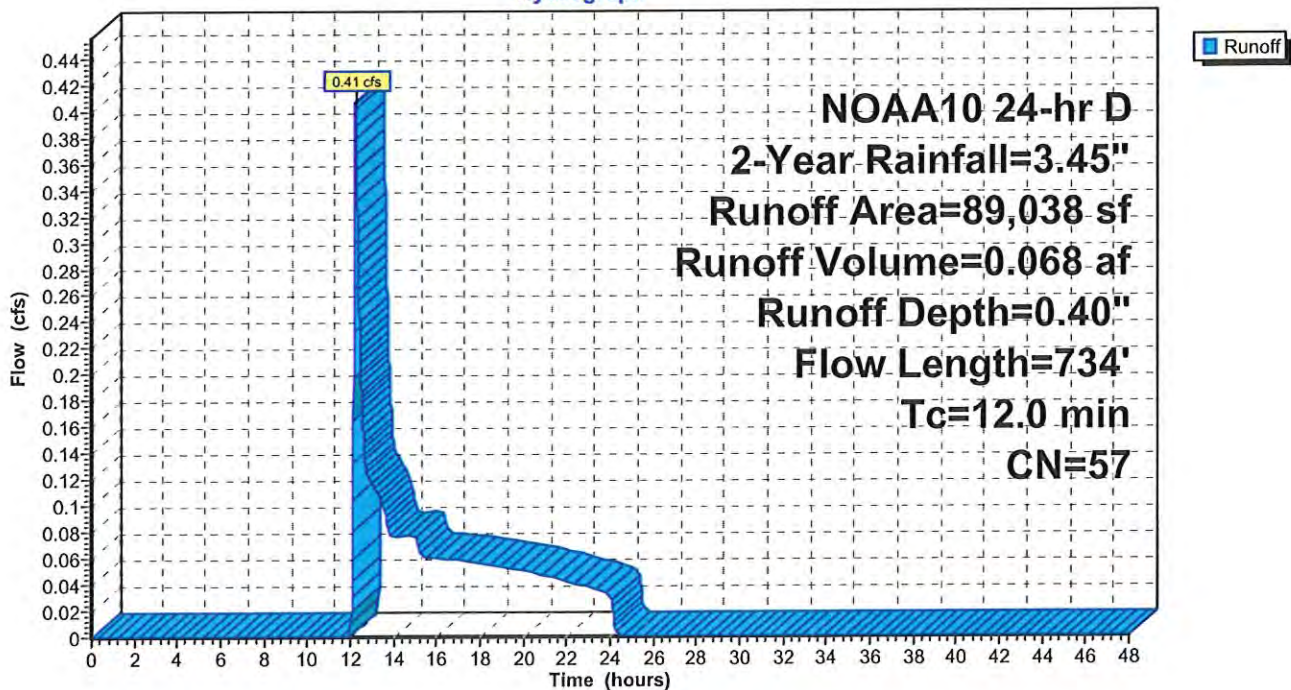
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 2-Year Rainfall=3.45"

Area (sf)	CN	Description
80,422	55	Woods, Good, HSG B
8,616	77	Woods, Good, HSG D
89,038	57	Weighted Average
89,038		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.1760	0.17		Sheet Flow, Sheet Woods
					Woods: Light underbrush n= 0.400 P2= 3.45"
7.0	684	0.1070	1.64		Shallow Concentrated Flow, Shallow Woodland
					Woodland Kv= 5.0 fps
12.0	734	Total			

Subcatchment DA-1: DA-1

Hydrograph



Crickets Corner Pre Development

NOAA10 24-hr D 2-Year Rainfall=3.45"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 8

Summary for Subcatchment DA-2: DA-2

Runoff = 2.39 cfs @ 12.46 hrs, Volume= 0.462 af, Depth= 0.55"
 Routed to Link CULVERT : CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 NOAA10 24-hr D 2-Year Rainfall=3.45"

Area (sf)	CN	Description
284,729	55	Woods, Good, HSG B
90,167	77	Woods, Good, HSG D
52,251	61	>75% Grass cover, Good, HSG B
11,759	98	Paved parking, HSG B
438,906	61	Weighted Average
427,147		97.32% Pervious Area
11,759		2.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.1480	0.16		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
5.1	575	0.1410	1.88		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
2.5	145	0.0360	0.95		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
0.8	62	0.0350	1.31		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
4.9	273	0.0340	0.92		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
9.1	285	0.0110	0.52		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
27.7	1,390	Total			

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

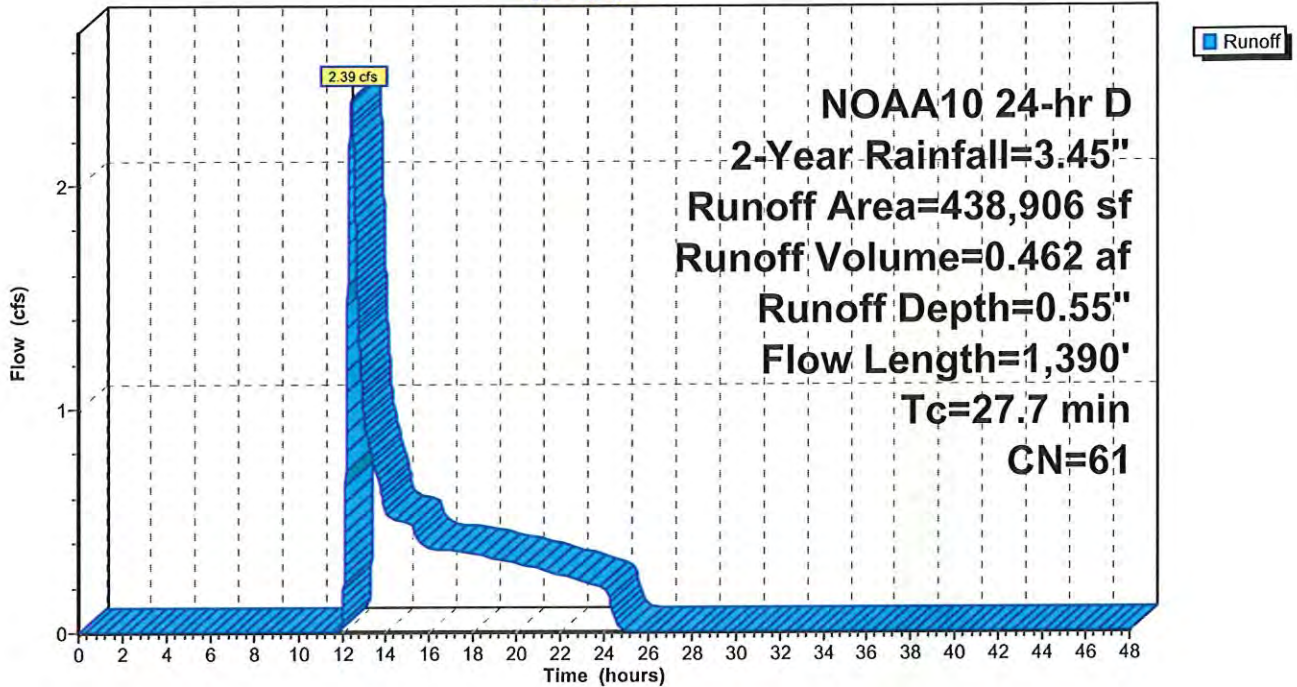
NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

Page 9

Subcatchment DA-2: DA-2

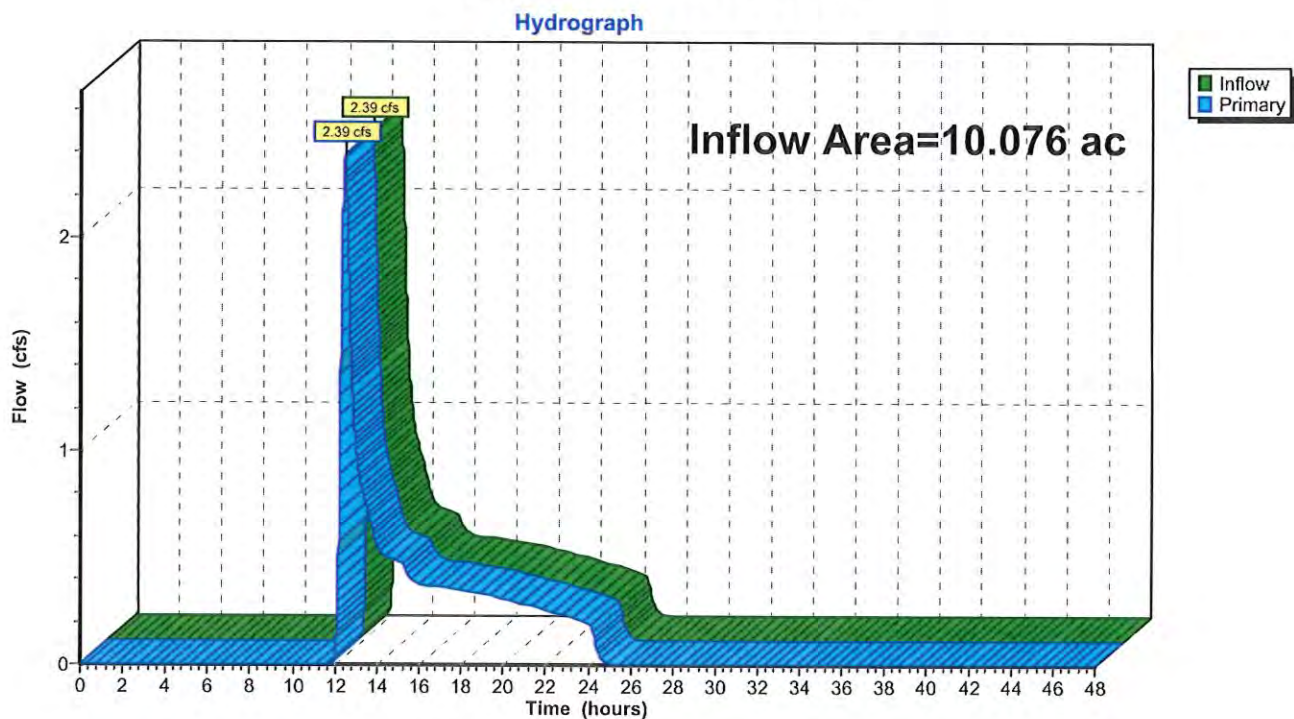
Hydrograph



Summary for Link CULVERT: CULVERT

Inflow Area = 10.076 ac, 2.68% Impervious, Inflow Depth = 0.55" for 2-Year event
Inflow = 2.39 cfs @ 12.46 hrs, Volume= 0.462 af
Primary = 2.39 cfs @ 12.46 hrs, Volume= 0.462 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link CULVERT: CULVERT

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

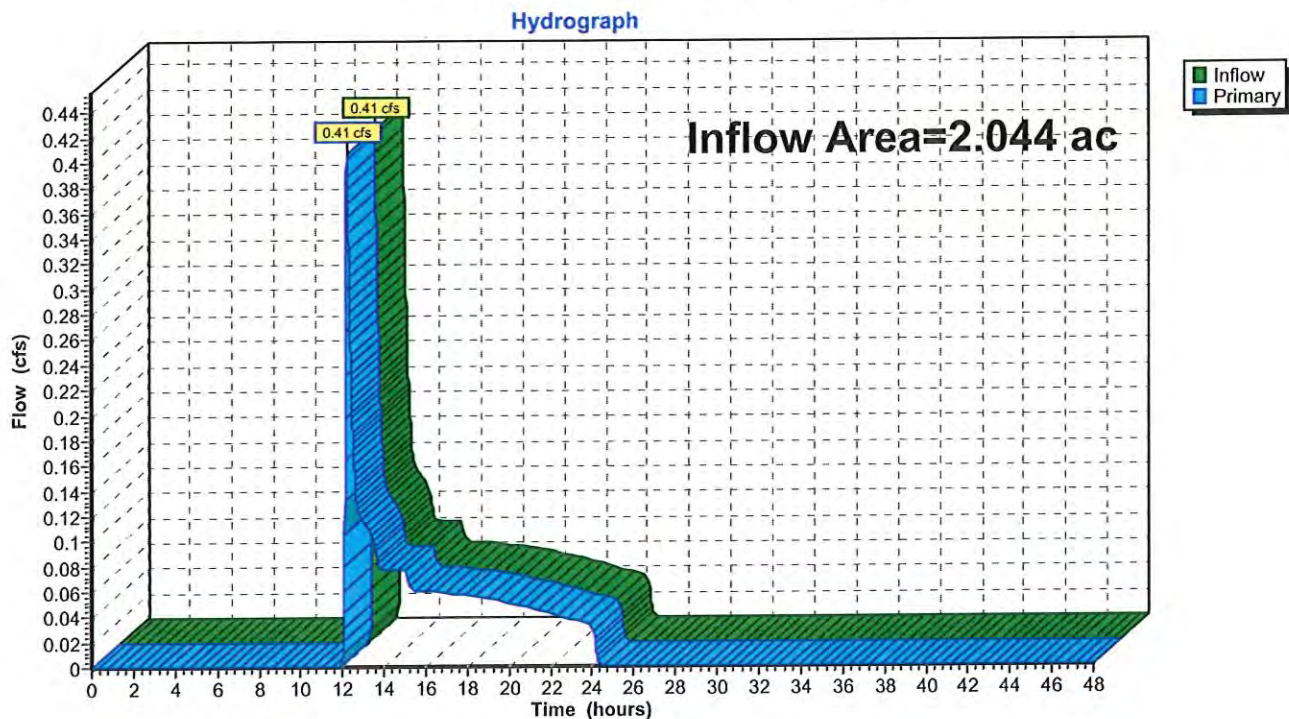
Page 11

Summary for Link WETLANDS: WETLANDS

Inflow Area = 2.044 ac, 0.00% Impervious, Inflow Depth = 0.40" for 2-Year event
Inflow = 0.41 cfs @ 12.23 hrs, Volume= 0.068 af
Primary = 0.41 cfs @ 12.23 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link WETLANDS: WETLANDS



Crickets Corner Pre Development

NOAA10 24-hr D 10-Year Rainfall=5.14"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 12

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentDA-1: DA-1

Runoff Area=89,038 sf 0.00% Impervious Runoff Depth=1.18"
Flow Length=734' Tc=12.0 min CN=57 Runoff=2.04 cfs 0.201 af

SubcatchmentDA-2: DA-2

Runoff Area=438,906 sf 2.68% Impervious Runoff Depth=1.45"
Flow Length=1,390' Tc=27.7 min CN=61 Runoff=8.38 cfs 1.221 af

Link CULVERT: CULVERT

Inflow=8.38 cfs 1.221 af
Primary=8.38 cfs 1.221 af

Link WETLANDS: WETLANDS

Inflow=2.04 cfs 0.201 af
Primary=2.04 cfs 0.201 af

Total Runoff Area = 12.120 ac Runoff Volume = 1.422 af Average Runoff Depth = 1.41"
97.77% Pervious = 11.850 ac 2.23% Impervious = 0.270 ac

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 10-Year Rainfall=5.14"

Printed 3/5/2025

Page 13

Summary for Subcatchment DA-1: DA-1

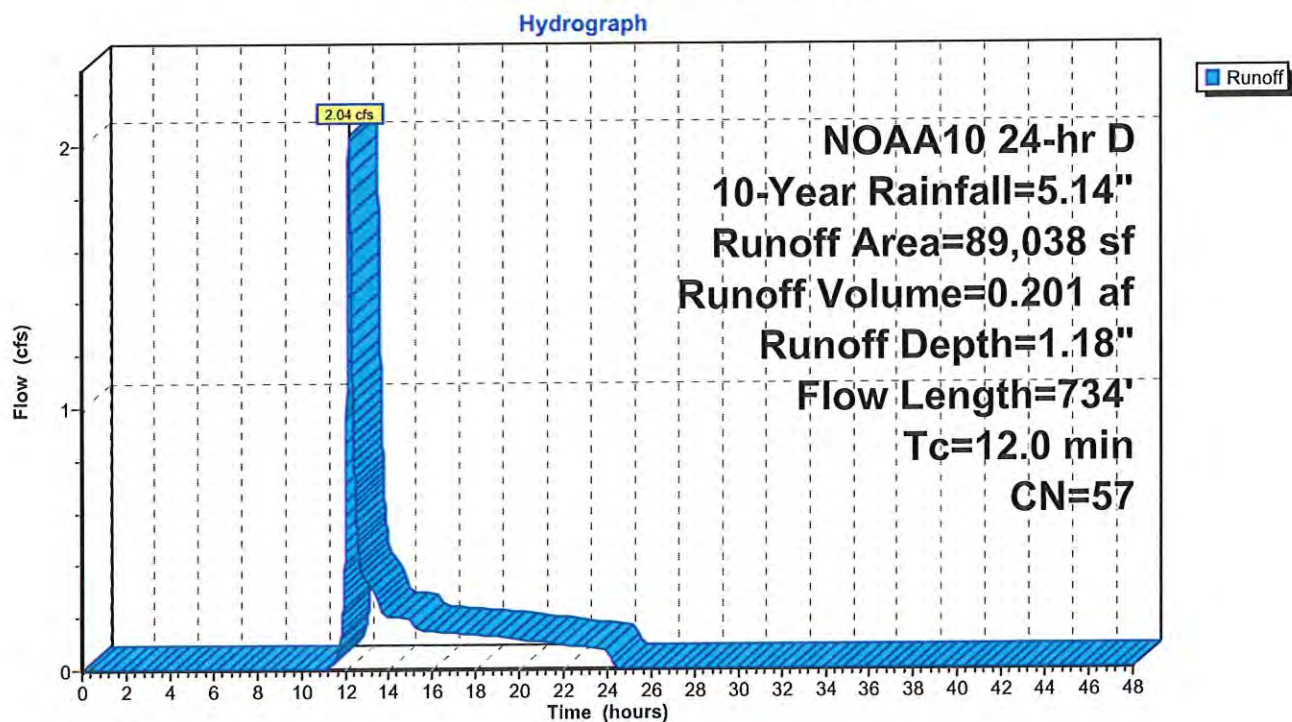
Runoff = 2.04 cfs @ 12.21 hrs, Volume= 0.201 af, Depth= 1.18"
Routed to Link WETLANDS : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 10-Year Rainfall=5.14"

Area (sf)	CN	Description
80,422	55	Woods, Good, HSG B
8,616	77	Woods, Good, HSG D
89,038	57	Weighted Average
89,038		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.1760	0.17		Sheet Flow, Sheet Woods
					Woods: Light underbrush n= 0.400 P2= 3.45"
7.0	684	0.1070	1.64		Shallow Concentrated Flow, Shallow Woodland
					Woodland Kv= 5.0 fps
12.0	734	Total			

Subcatchment DA-1: DA-1



Crickets Corner Pre Development

NOAA10 24-hr D 10-Year Rainfall=5.14"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 14

Summary for Subcatchment DA-2: DA-2

Runoff = 8.38 cfs @ 12.40 hrs, Volume= 1.221 af, Depth= 1.45"
 Routed to Link CULVERT : CULVERT

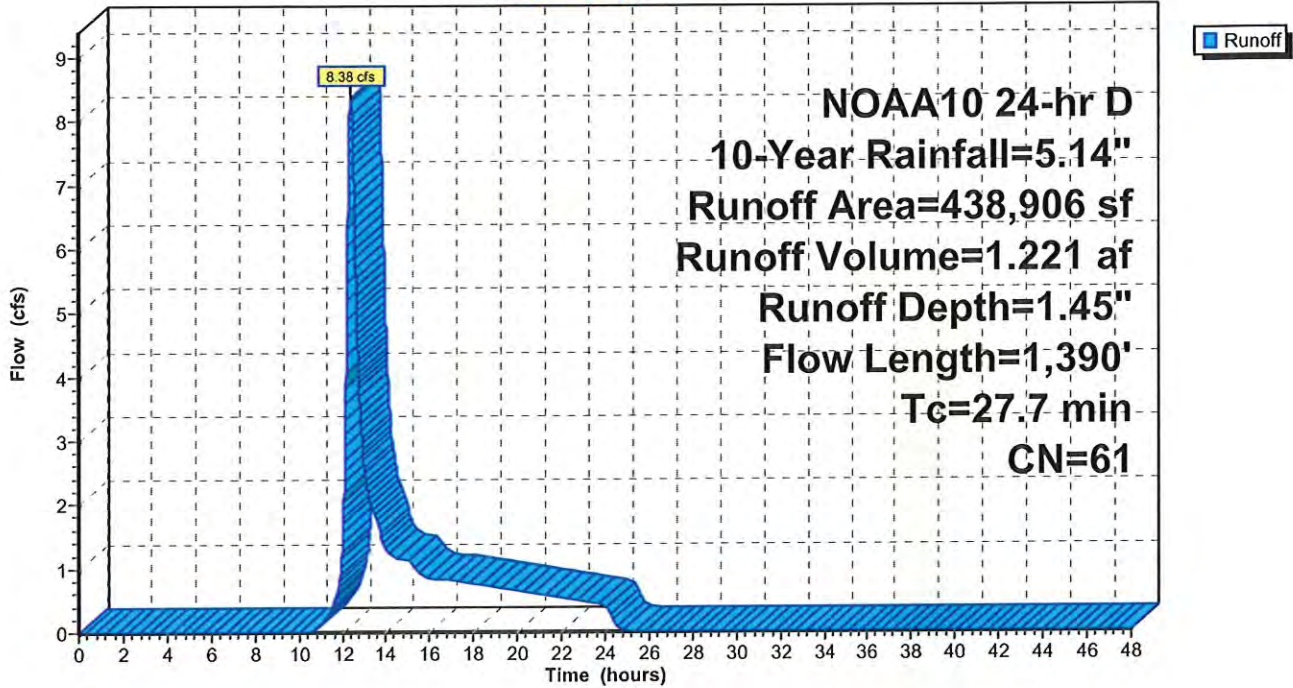
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 NOAA10 24-hr D 10-Year Rainfall=5.14"

Area (sf)	CN	Description
284,729	55	Woods, Good, HSG B
90,167	77	Woods, Good, HSG D
52,251	61	>75% Grass cover, Good, HSG B
11,759	98	Paved parking, HSG B
438,906	61	Weighted Average
427,147		97.32% Pervious Area
11,759		2.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.1480	0.16		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
5.1	575	0.1410	1.88		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
2.5	145	0.0360	0.95		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
0.8	62	0.0350	1.31		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
4.9	273	0.0340	0.92		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
9.1	285	0.0110	0.52		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
27.7	1,390	Total			

Subcatchment DA-2: DA-2

Hydrograph

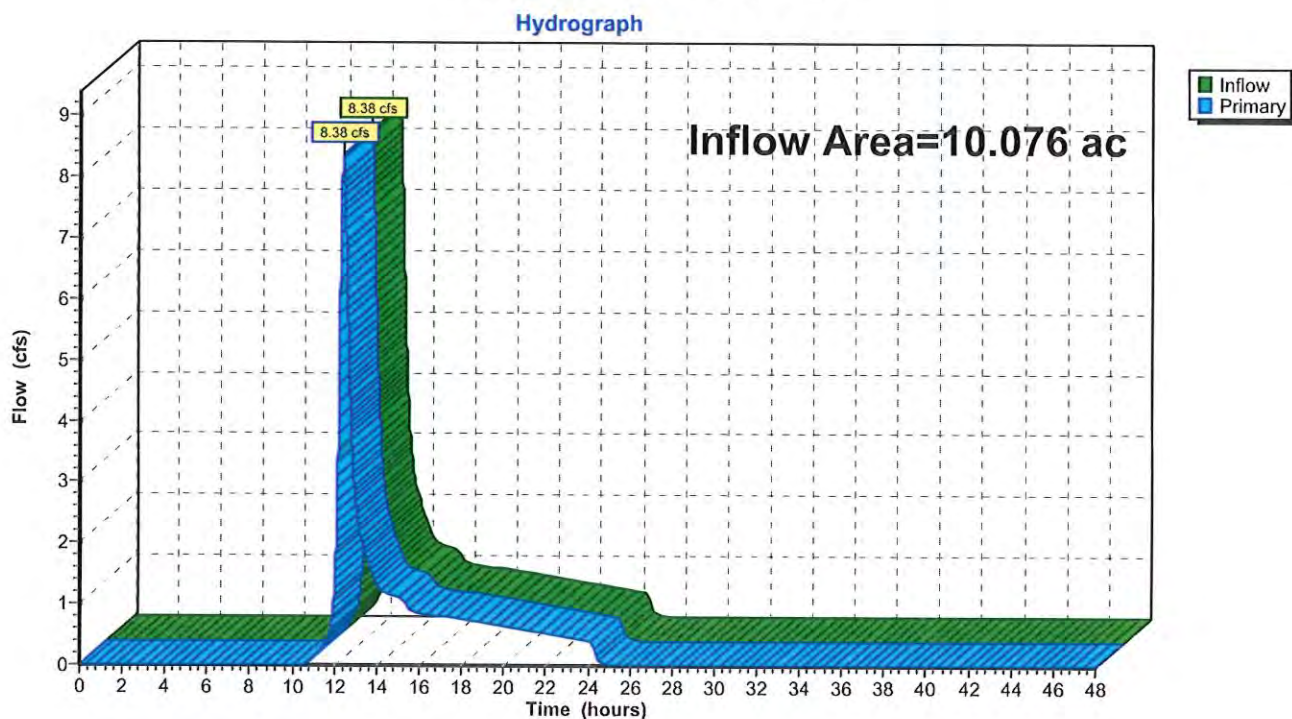


Summary for Link CULVERT: CULVERT

Inflow Area = 10.076 ac, 2.68% Impervious, Inflow Depth = 1.45" for 10-Year event
 Inflow = 8.38 cfs @ 12.40 hrs, Volume= 1.221 af
 Primary = 8.38 cfs @ 12.40 hrs, Volume= 1.221 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link CULVERT: CULVERT

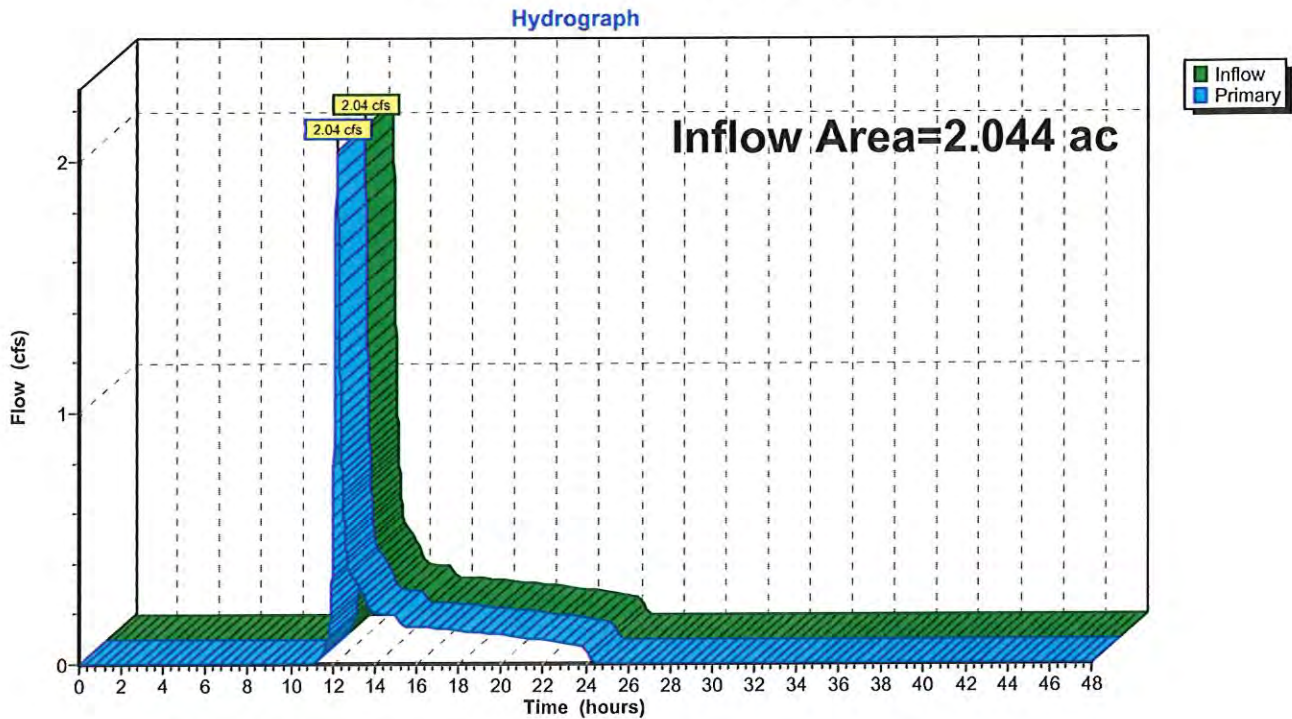


Summary for Link WETLANDS: WETLANDS

Inflow Area = 2.044 ac, 0.00% Impervious, Inflow Depth = 1.18" for 10-Year event
 Inflow = 2.04 cfs @ 12.21 hrs, Volume= 0.201 af
 Primary = 2.04 cfs @ 12.21 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link WETLANDS: WETLANDS



Crickets Corner Pre Development

NOAA10 24-hr D 25-Year Rainfall=6.19"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 18

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentDA-1: DA-1

Runoff Area=89,038 sf 0.00% Impervious Runoff Depth=1.79"
Flow Length=734' Tc=12.0 min CN=57 Runoff=3.33 cfs 0.305 af

SubcatchmentDA-2: DA-2

Runoff Area=438,906 sf 2.68% Impervious Runoff Depth=2.13"
Flow Length=1,390' Tc=27.7 min CN=61 Runoff=12.87 cfs 1.792 af

Link CULVERT: CULVERT

Inflow=12.87 cfs 1.792 af
Primary=12.87 cfs 1.792 af

Link WETLANDS: WETLANDS

Inflow=3.33 cfs 0.305 af
Primary=3.33 cfs 0.305 af

Total Runoff Area = 12.120 ac Runoff Volume = 2.097 af Average Runoff Depth = 2.08"
97.77% Pervious = 11.850 ac 2.23% Impervious = 0.270 ac

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 25-Year Rainfall=6.19"

Printed 3/5/2025

Page 19

Summary for Subcatchment DA-1: DA-1

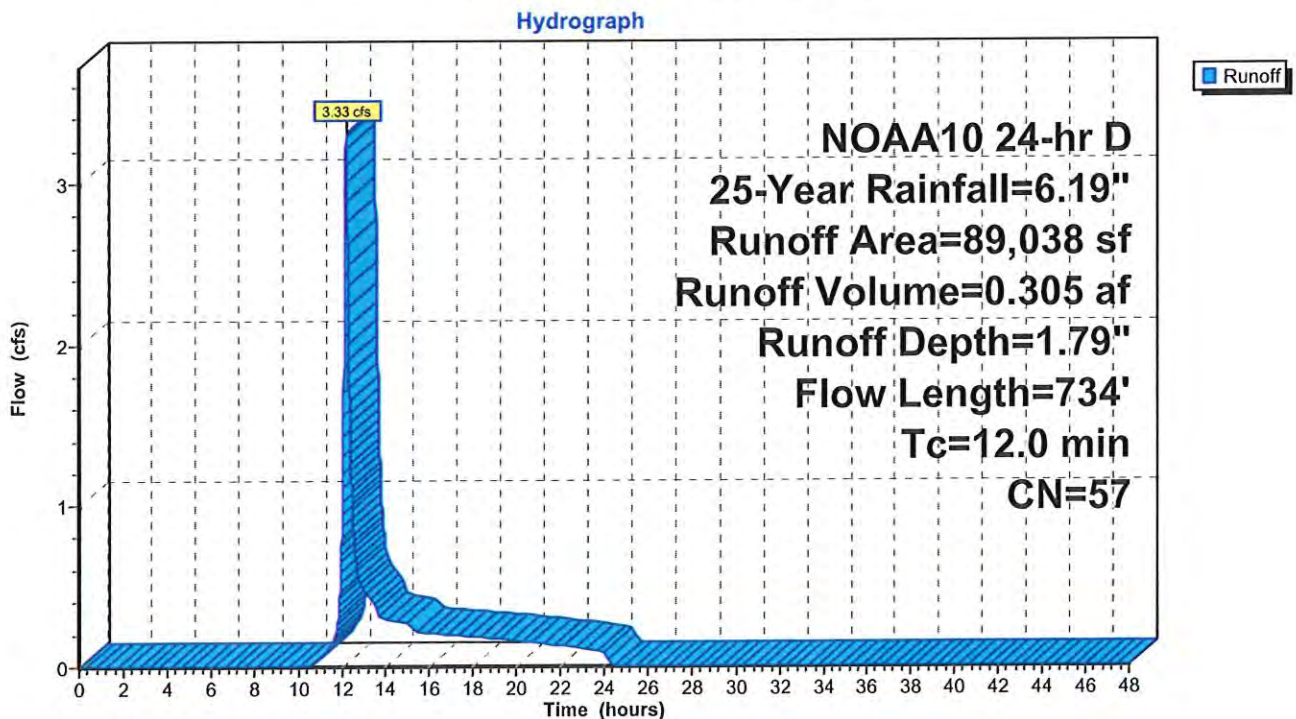
Runoff = 3.33 cfs @ 12.20 hrs, Volume= 0.305 af, Depth= 1.79"
Routed to Link WETLANDS : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 25-Year Rainfall=6.19"

Area (sf)	CN	Description
80,422	55	Woods, Good, HSG B
8,616	77	Woods, Good, HSG D
89,038	57	Weighted Average
89,038		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.1760	0.17		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
7.0	684	0.1070	1.64		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
12.0	734	Total			

Subcatchment DA-1: DA-1



Crickets Corner Pre Development

NOAA10 24-hr D 25-Year Rainfall=6.19"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 20

Summary for Subcatchment DA-2: DA-2

Runoff = 12.87 cfs @ 12.40 hrs, Volume= 1.792 af, Depth= 2.13"
 Routed to Link CULVERT : CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 NOAA10 24-hr D 25-Year Rainfall=6.19"

Area (sf)	CN	Description
284,729	55	Woods, Good, HSG B
90,167	77	Woods, Good, HSG D
52,251	61	>75% Grass cover, Good, HSG B
11,759	98	Paved parking, HSG B
438,906	61	Weighted Average
427,147		97.32% Pervious Area
11,759		2.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.1480	0.16		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
5.1	575	0.1410	1.88		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
2.5	145	0.0360	0.95		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
0.8	62	0.0350	1.31		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
4.9	273	0.0340	0.92		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
9.1	285	0.0110	0.52		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
27.7	1,390	Total			

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

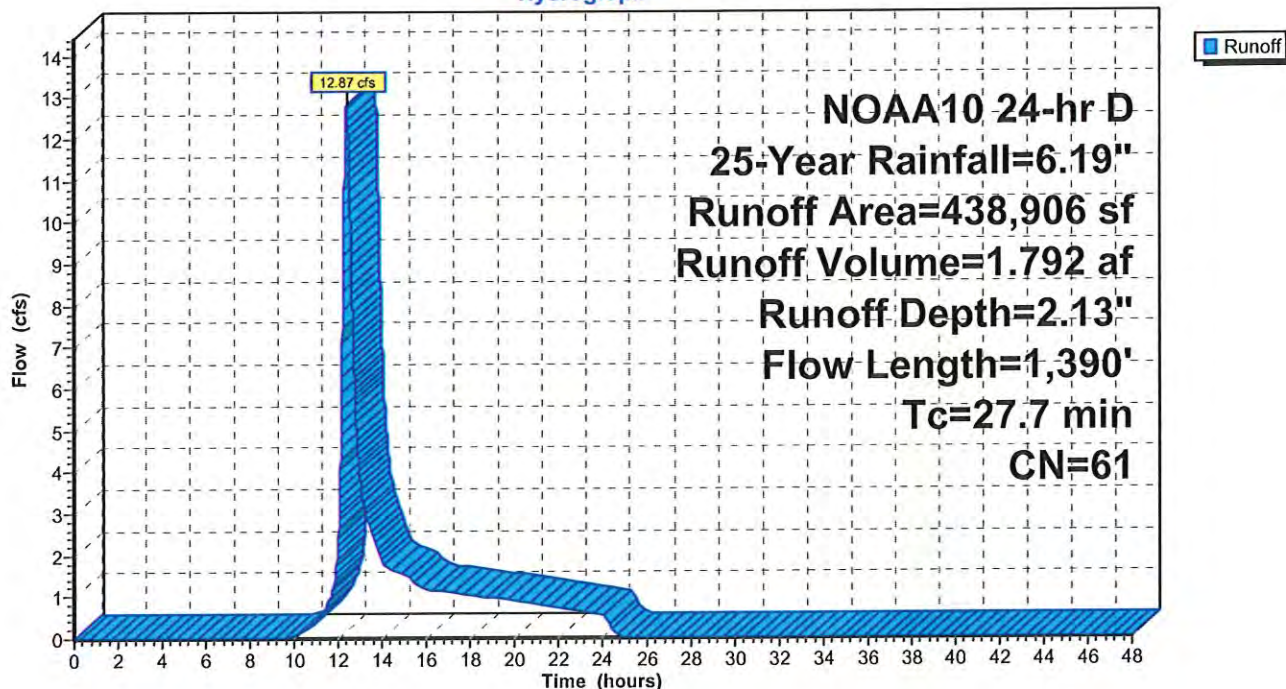
NOAA10 24-hr D 25-Year Rainfall=6.19"

Printed 3/5/2025

Page 21

Subcatchment DA-2: DA-2

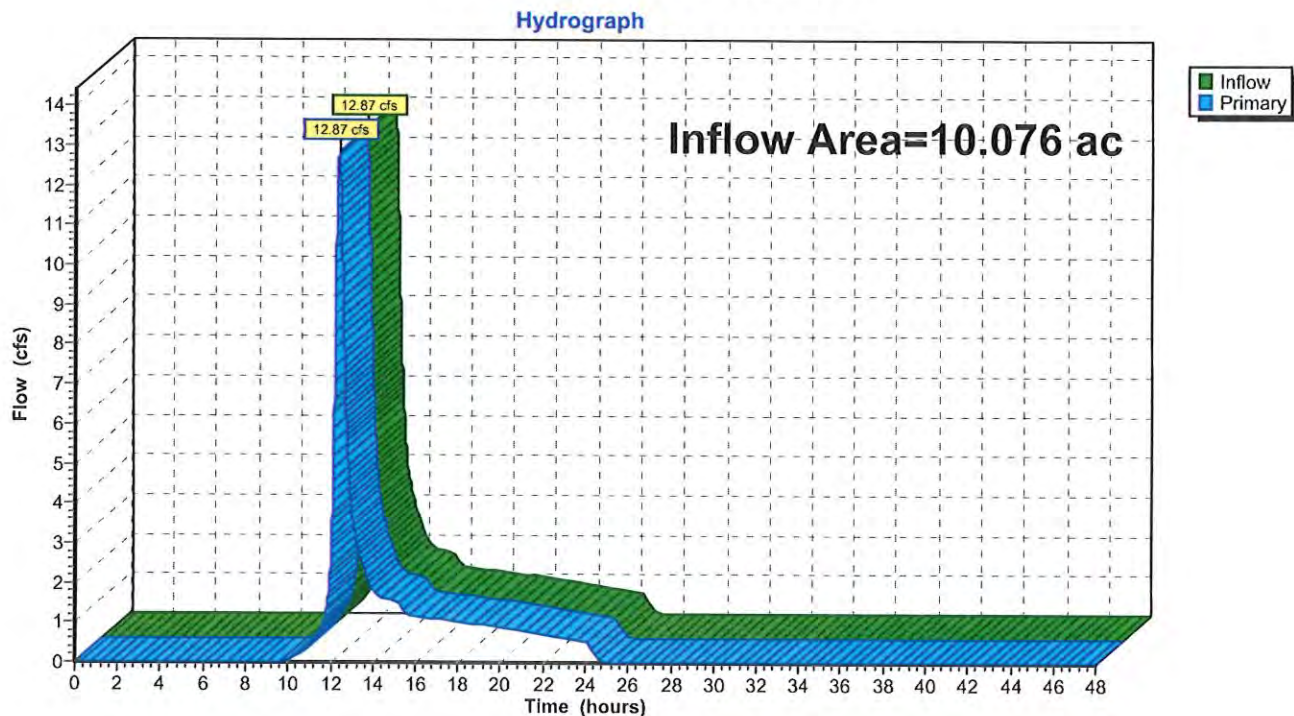
Hydrograph



Summary for Link CULVERT: CULVERT

Inflow Area = 10.076 ac, 2.68% Impervious, Inflow Depth = 2.13" for 25-Year event
Inflow = 12.87 cfs @ 12.40 hrs, Volume= 1.792 af
Primary = 12.87 cfs @ 12.40 hrs, Volume= 1.792 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link CULVERT: CULVERT

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 25-Year Rainfall=6.19"

Printed 3/5/2025

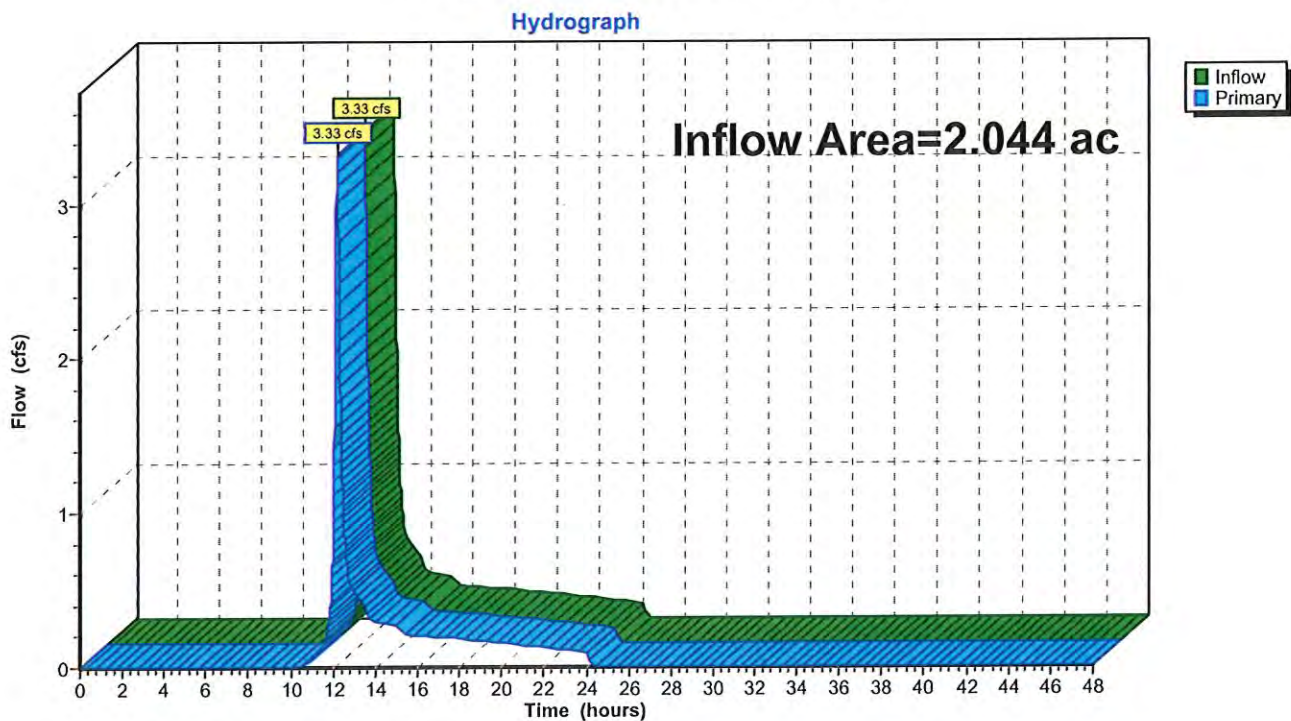
Page 23

Summary for Link WETLANDS: WETLANDS

Inflow Area = 2.044 ac, 0.00% Impervious, Inflow Depth = 1.79" for 25-Year event
Inflow = 3.33 cfs @ 12.20 hrs, Volume= 0.305 af
Primary = 3.33 cfs @ 12.20 hrs, Volume= 0.305 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link WETLANDS: WETLANDS



Crickets Corner Pre Development

NOAA10 24-hr D 50-Year Rainfall=6.98"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 24

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentDA-1: DA-1

Runoff Area=89,038 sf 0.00% Impervious Runoff Depth=2.30"
Flow Length=734' Tc=12.0 min CN=57 Runoff=4.38 cfs 0.392 af

SubcatchmentDA-2: DA-2

Runoff Area=438,906 sf 2.68% Impervious Runoff Depth=2.69"
Flow Length=1,390' Tc=27.7 min CN=61 Runoff=16.50 cfs 2.257 af

Link CULVERT: CULVERT

Inflow=16.50 cfs 2.257 af
Primary=16.50 cfs 2.257 af

Link WETLANDS: WETLANDS

Inflow=4.38 cfs 0.392 af
Primary=4.38 cfs 0.392 af

Total Runoff Area = 12.120 ac Runoff Volume = 2.648 af Average Runoff Depth = 2.62"
97.77% Pervious = 11.850 ac 2.23% Impervious = 0.270 ac

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 50-Year Rainfall=6.98"

Printed 3/5/2025

Page 25

Summary for Subcatchment DA-1: DA-1

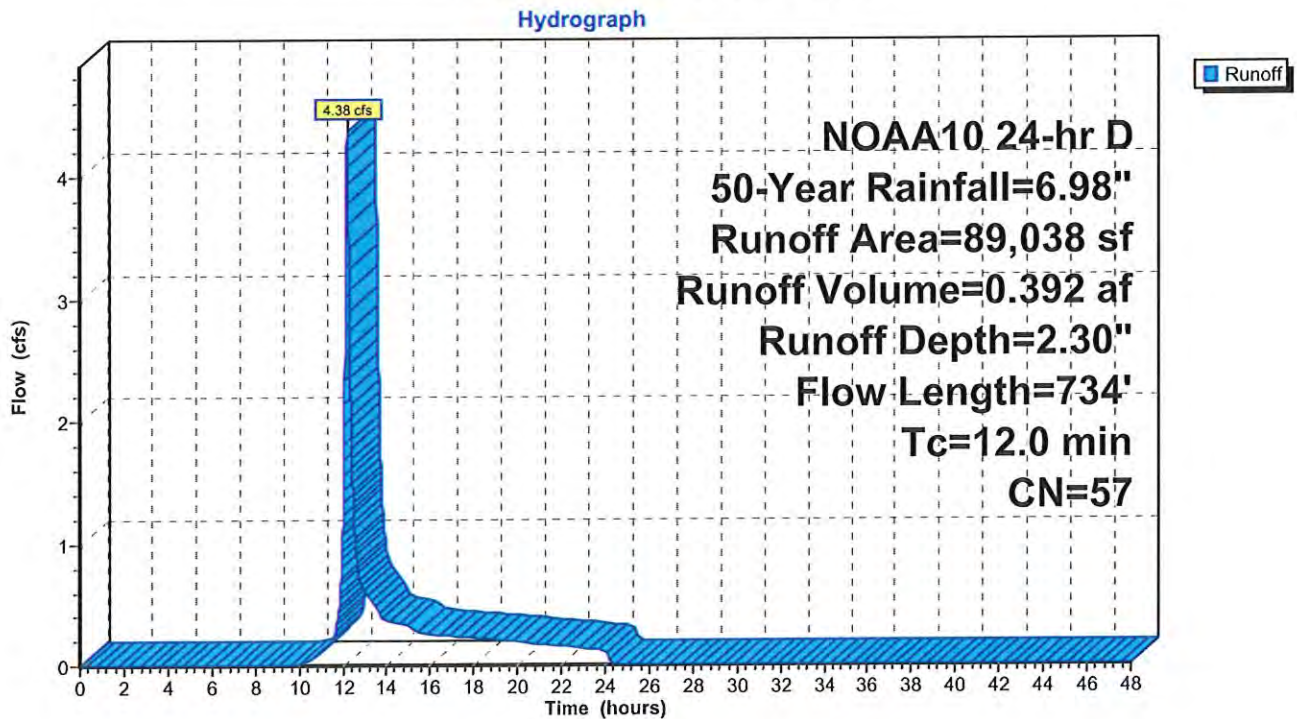
Runoff = 4.38 cfs @ 12.20 hrs, Volume= 0.392 af, Depth= 2.30"
Routed to Link WETLANDS : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 50-Year Rainfall=6.98"

Area (sf)	CN	Description
80,422	55	Woods, Good, HSG B
8,616	77	Woods, Good, HSG D
89,038	57	Weighted Average
89,038		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.1760	0.17		Sheet Flow, Sheet Woods
					Woods: Light underbrush n= 0.400 P2= 3.45"
7.0	684	0.1070	1.64		Shallow Concentrated Flow, Shallow Woodland
					Woodland Kv= 5.0 fps
12.0	734	Total			

Subcatchment DA-1: DA-1



Crickets Corner Pre Development

NOAA10 24-hr D 50-Year Rainfall=6.98"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 26

Summary for Subcatchment DA-2: DA-2

Runoff = 16.50 cfs @ 12.40 hrs, Volume= 2.257 af, Depth= 2.69"
 Routed to Link CULVERT : CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 NOAA10 24-hr D 50-Year Rainfall=6.98"

Area (sf)	CN	Description
284,729	55	Woods, Good, HSG B
90,167	77	Woods, Good, HSG D
52,251	61	>75% Grass cover, Good, HSG B
11,759	98	Paved parking, HSG B
438,906	61	Weighted Average
427,147		97.32% Pervious Area
11,759		2.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.1480	0.16		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
5.1	575	0.1410	1.88		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
2.5	145	0.0360	0.95		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
0.8	62	0.0350	1.31		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
4.9	273	0.0340	0.92		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
9.1	285	0.0110	0.52		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
27.7	1,390	Total			

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

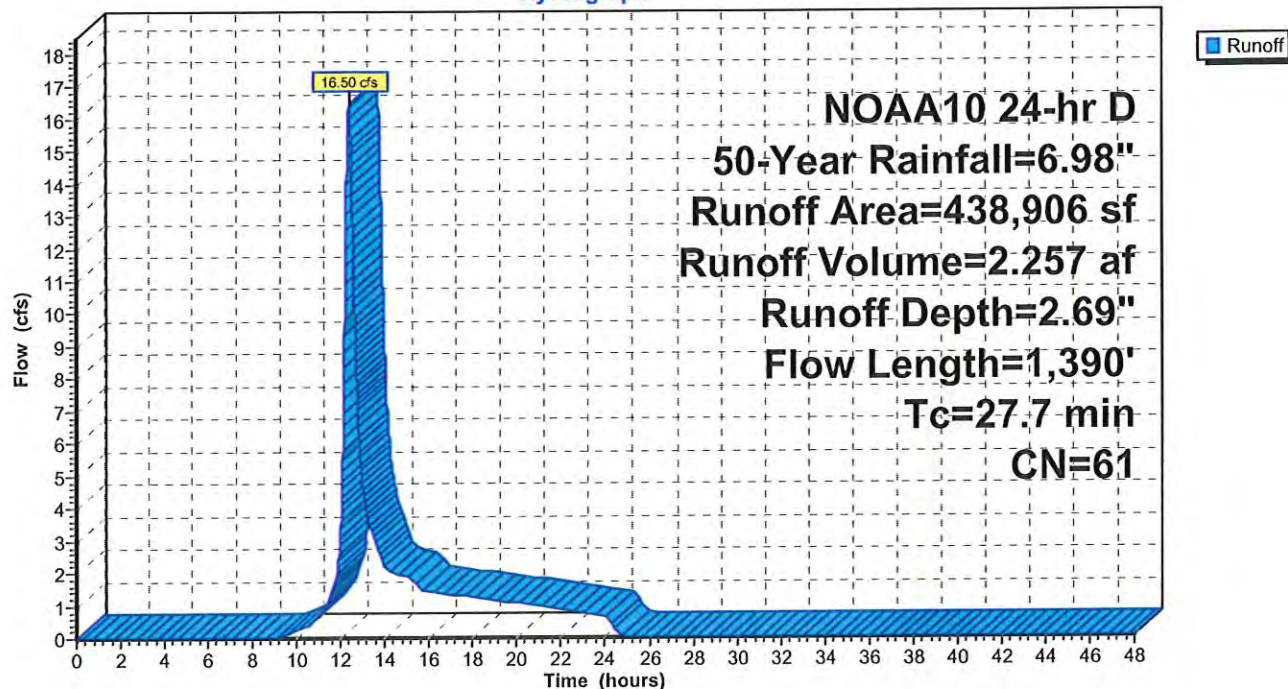
NOAA10 24-hr D 50-Year Rainfall=6.98"

Printed 3/5/2025

Page 27

Subcatchment DA-2: DA-2

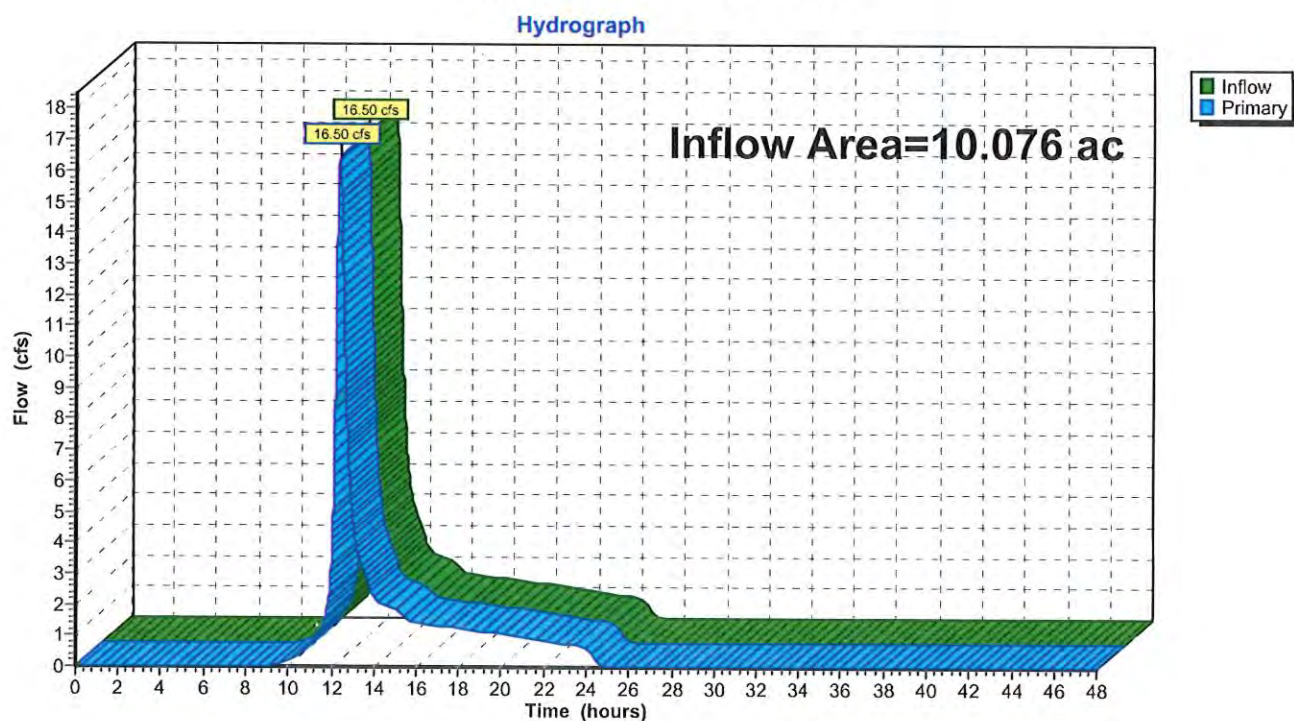
Hydrograph



Summary for Link CULVERT: CULVERT

Inflow Area = 10.076 ac, 2.68% Impervious, Inflow Depth = 2.69" for 50-Year event
Inflow = 16.50 cfs @ 12.40 hrs, Volume= 2.257 af
Primary = 16.50 cfs @ 12.40 hrs, Volume= 2.257 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

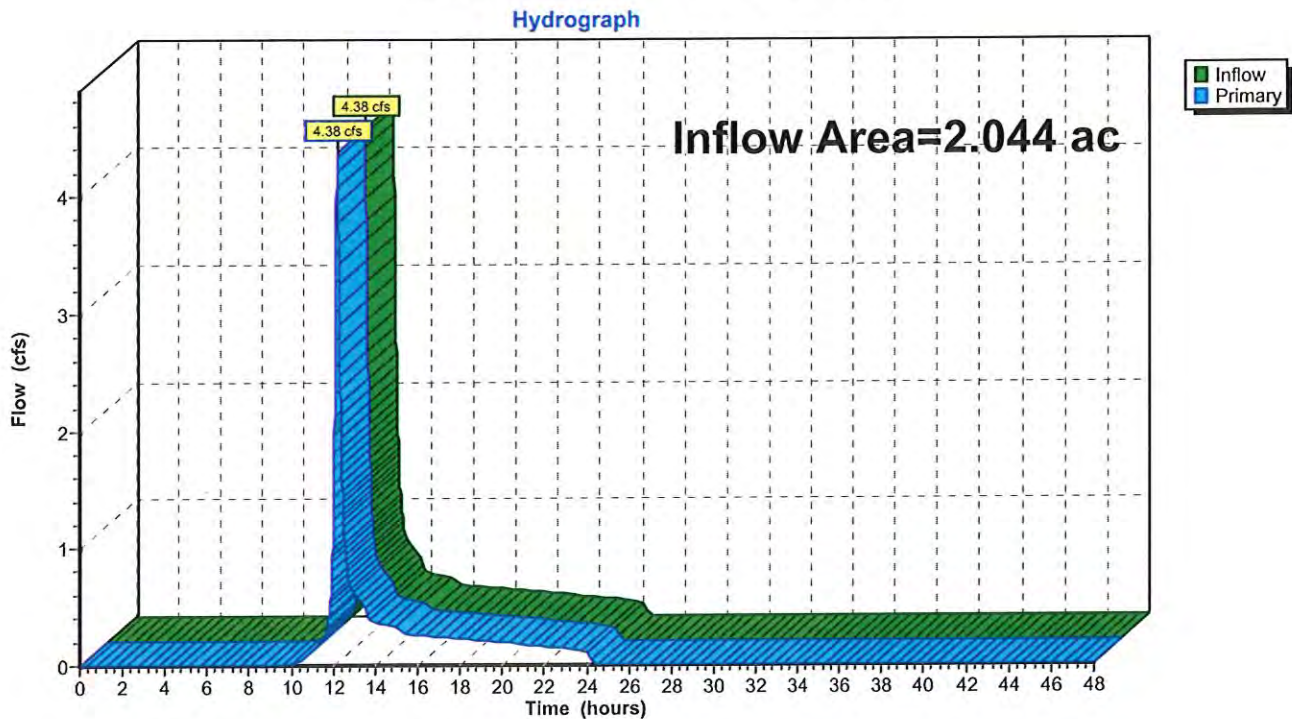
Link CULVERT: CULVERT

Summary for Link WETLANDS: WETLANDS

Inflow Area = 2.044 ac, 0.00% Impervious, Inflow Depth = 2.30" for 50-Year event
 Inflow = 4.38 cfs @ 12.20 hrs, Volume= 0.392 af
 Primary = 4.38 cfs @ 12.20 hrs, Volume= 0.392 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link WETLANDS: WETLANDS



Crickets Corner Pre Development

NOAA10 24-hr D 100-Year Rainfall=7.82"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 30

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentDA-1: DA-1

Runoff Area=89,038 sf 0.00% Impervious Runoff Depth=2.87"
Flow Length=734' Tc=12.0 min CN=57 Runoff=5.57 cfs 0.490 af

SubcatchmentDA-2: DA-2

Runoff Area=438,906 sf 2.68% Impervious Runoff Depth=3.31"
Flow Length=1,390' Tc=27.7 min CN=61 Runoff=20.55 cfs 2.778 af

Link CULVERT: CULVERT

Inflow=20.55 cfs 2.778 af
Primary=20.55 cfs 2.778 af

Link WETLANDS: WETLANDS

Inflow=5.57 cfs 0.490 af
Primary=5.57 cfs 0.490 af

Total Runoff Area = 12.120 ac Runoff Volume = 3.267 af Average Runoff Depth = 3.23"
97.77% Pervious = 11.850 ac 2.23% Impervious = 0.270 ac

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 100-Year Rainfall=7.82"

Printed 3/5/2025

Page 31

Summary for Subcatchment DA-1: DA-1

Runoff = 5.57 cfs @ 12.20 hrs, Volume= 0.490 af, Depth= 2.87"
Routed to Link WETLANDS : WETLANDS

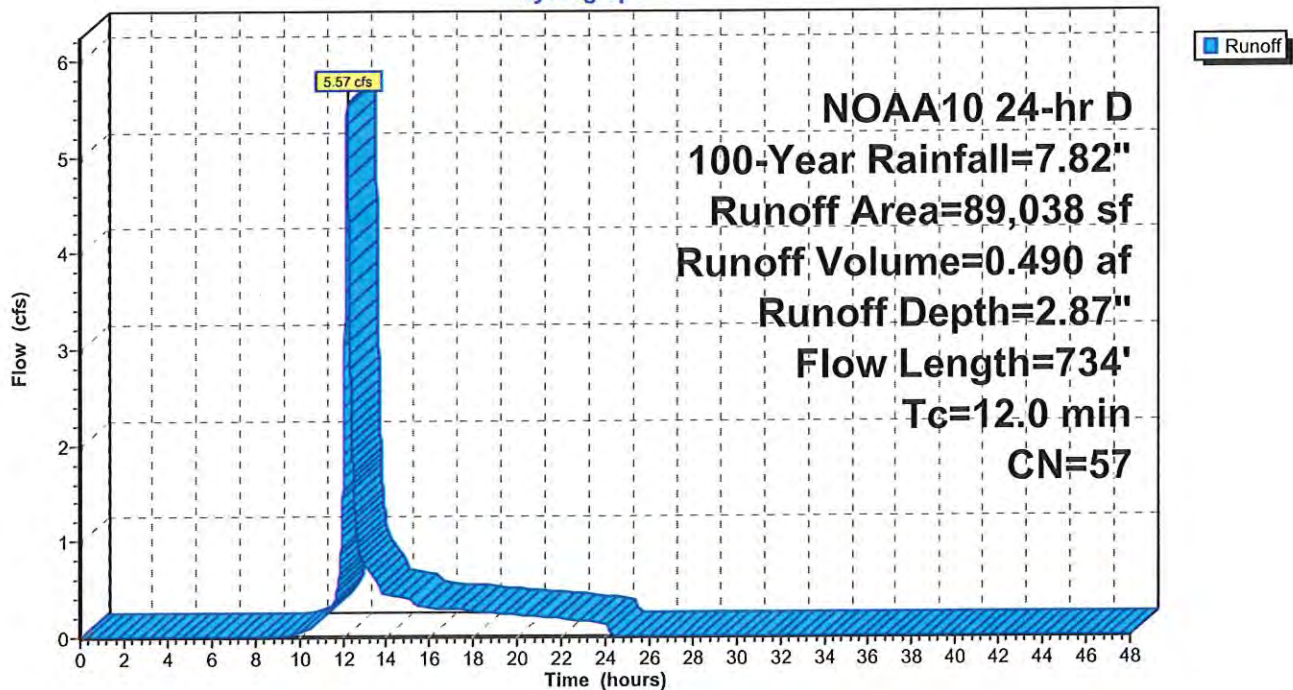
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 100-Year Rainfall=7.82"

Area (sf)	CN	Description
80,422	55	Woods, Good, HSG B
8,616	77	Woods, Good, HSG D
89,038	57	Weighted Average
89,038		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.1760	0.17		Sheet Flow, Sheet Woods
					Woods: Light underbrush n= 0.400 P2= 3.45"
7.0	684	0.1070	1.64		Shallow Concentrated Flow, Shallow Woodland
					Woodland Kv= 5.0 fps
12.0	734	Total			

Subcatchment DA-1: DA-1

Hydrograph



Crickets Corner Pre Development

NOAA10 24-hr D 100-Year Rainfall=7.82"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 32

Summary for Subcatchment DA-2: DA-2

Runoff = 20.55 cfs @ 12.40 hrs, Volume= 2.778 af, Depth= 3.31"
 Routed to Link CULVERT : CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 NOAA10 24-hr D 100-Year Rainfall=7.82"

Area (sf)	CN	Description
284,729	55	Woods, Good, HSG B
90,167	77	Woods, Good, HSG D
52,251	61	>75% Grass cover, Good, HSG B
11,759	98	Paved parking, HSG B
438,906	61	Weighted Average
427,147		97.32% Pervious Area
11,759		2.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.1480	0.16		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
5.1	575	0.1410	1.88		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
2.5	145	0.0360	0.95		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
0.8	62	0.0350	1.31		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
4.9	273	0.0340	0.92		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
9.1	285	0.0110	0.52		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
27.7	1,390	Total			

Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

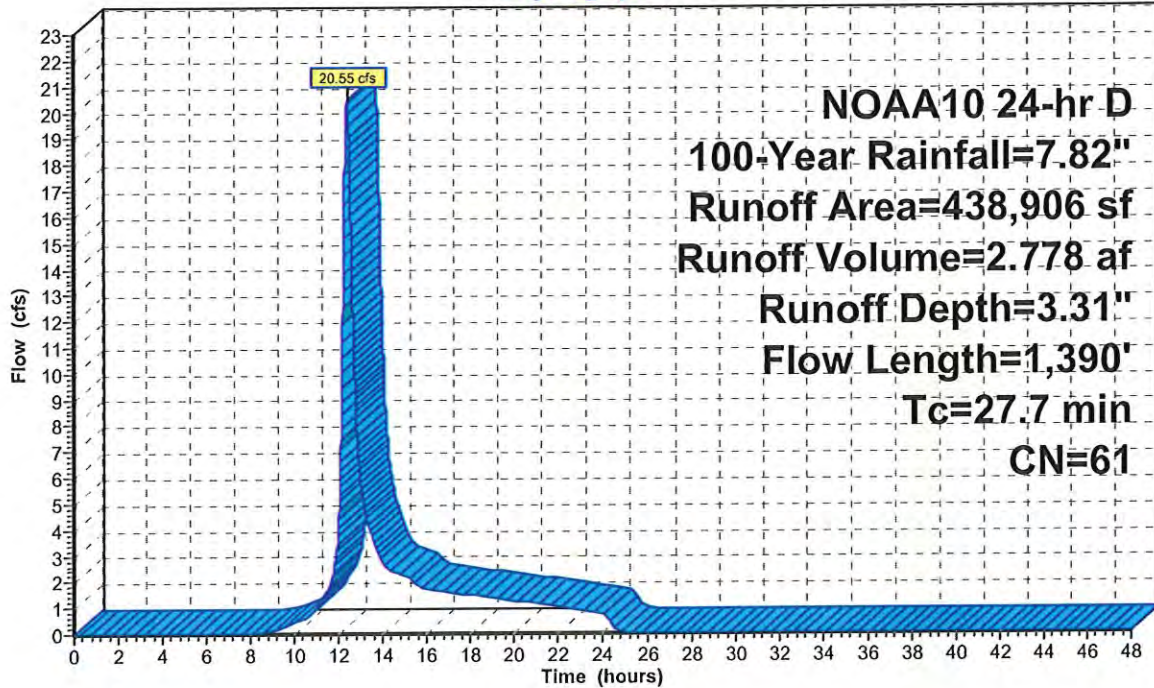
NOAA10 24-hr D 100-Year Rainfall=7.82"

Printed 3/5/2025

Page 33

Subcatchment DA-2: DA-2

Hydrograph

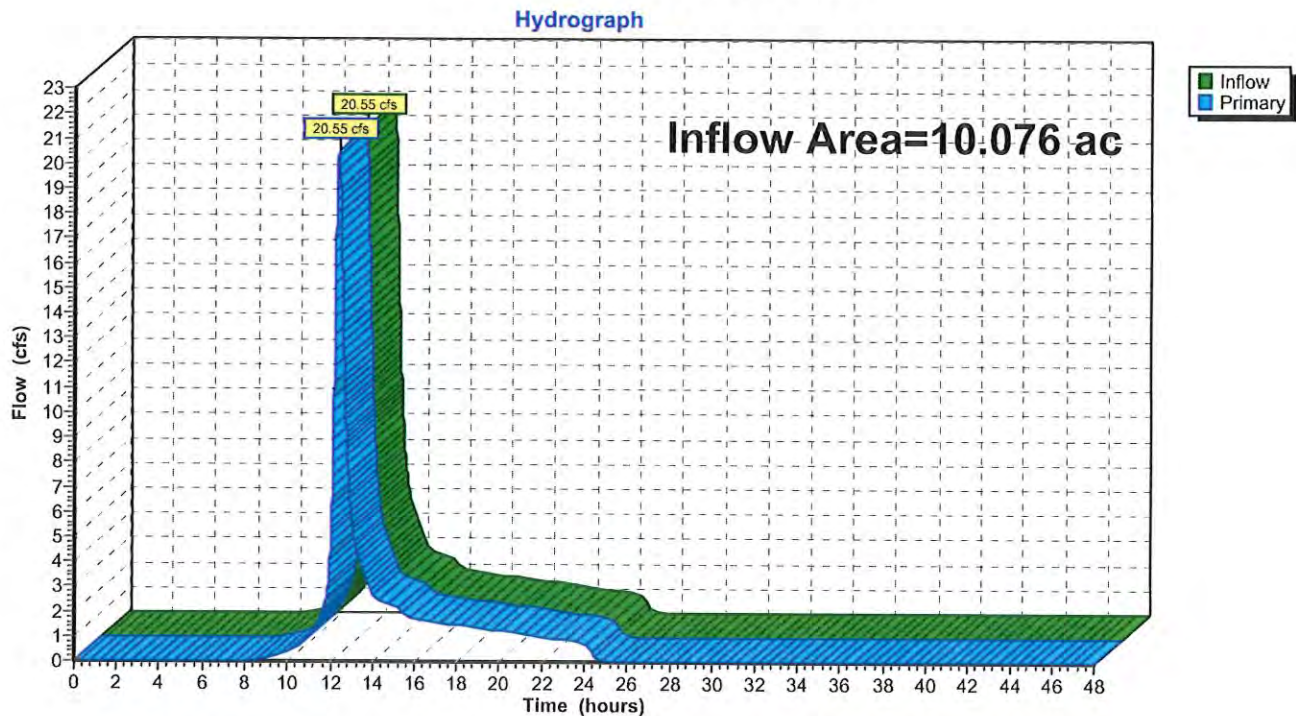


Summary for Link CULVERT: CULVERT

Inflow Area = 10.076 ac, 2.68% Impervious, Inflow Depth = 3.31" for 100-Year event
 Inflow = 20.55 cfs @ 12.40 hrs, Volume= 2.778 af
 Primary = 20.55 cfs @ 12.40 hrs, Volume= 2.778 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link CULVERT: CULVERT



Crickets Corner Pre Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 100-Year Rainfall=7.82"

Printed 3/5/2025

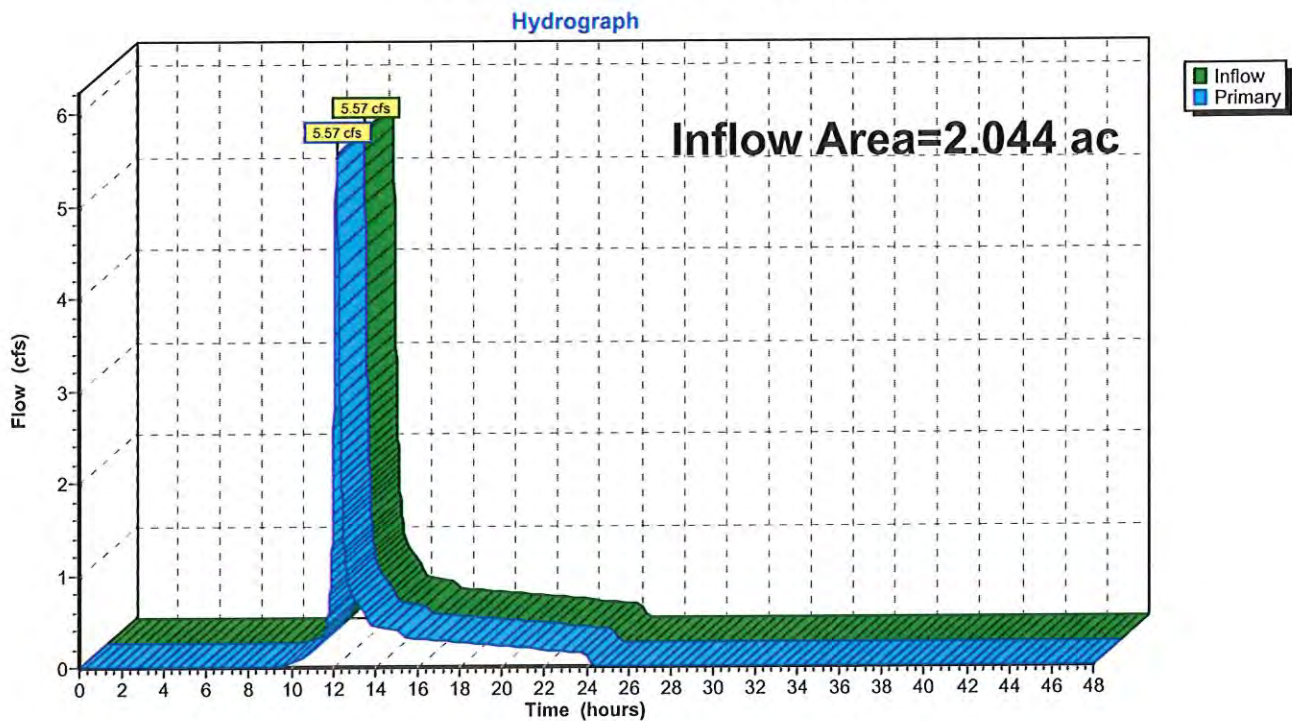
Page 35

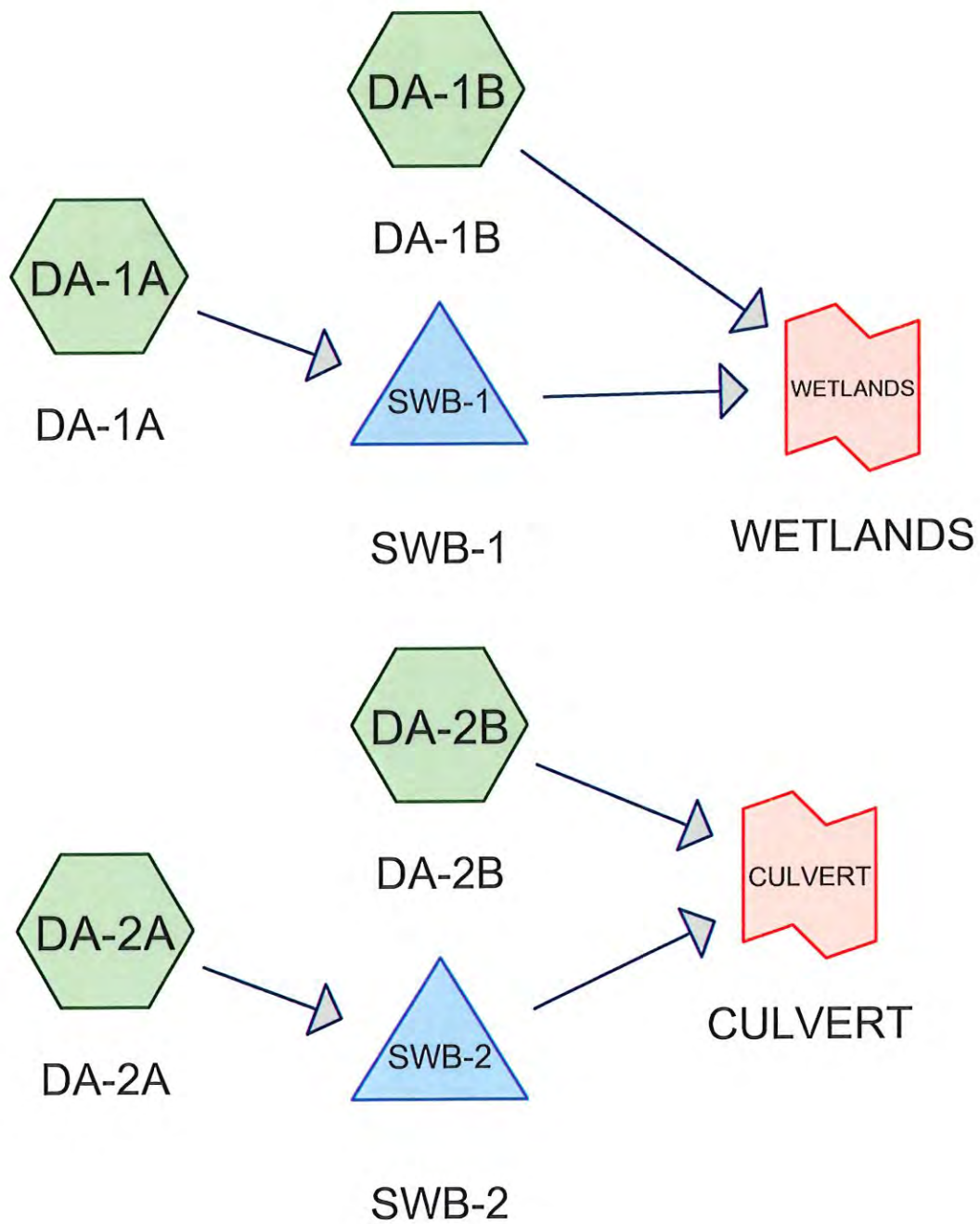
Summary for Link WETLANDS: WETLANDS

Inflow Area = 2.044 ac, 0.00% Impervious, Inflow Depth = 2.87" for 100-Year event
Inflow = 5.57 cfs @ 12.20 hrs, Volume= 0.490 af
Primary = 5.57 cfs @ 12.20 hrs, Volume= 0.490 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link WETLANDS: WETLANDS





Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NOAA10 24-hr	D	Default	24.00	1	3.45	2
2	10-Year	NOAA10 24-hr	D	Default	24.00	1	5.14	2
3	25-Year	NOAA10 24-hr	D	Default	24.00	1	6.19	2
4	50-Year	NOAA10 24-hr	D	Default	24.00	1	6.98	2
5	100-Year	NOAA10 24-hr	D	Default	24.00	1	7.82	2

Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.801	61	>75% Grass cover, Good, HSG B (DA-1A, DA-1B, DA-2A, DA-2B)
0.092	80	>75% Grass cover, Good, HSG D (DA-2A)
1.399	98	Paved parking, HSG B (DA-1A, DA-2A)
0.340	98	Water Surface, 0% imp, HSG B (DA-1A, DA-2A)
5.361	55	Woods, Good, HSG B (DA-1A, DA-1B, DA-2A, DA-2B)
2.131	77	Woods, Good, HSG D (DA-1A, DA-1B, DA-2A)
12.125	67	TOTAL AREA

Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 4

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
9.902	HSG B	DA-1A, DA-1B, DA-2A, DA-2B
0.000	HSG C	
2.223	HSG D	DA-1A, DA-1B, DA-2A
0.000	Other	
12.125		TOTAL AREA

Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 5

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	2.801	0.000	0.092	0.000	2.893	>75% Grass cover, Good	DA-1A, DA-1B, DA-2A, DA-2B
0.000	1.399	0.000	0.000	0.000	1.399	Paved parking	DA-1A, DA-2A
0.000	0.340	0.000	0.000	0.000	0.340	Water Surface, 0% imp	DA-1A, DA-2A
0.000	5.361	0.000	2.131	0.000	7.492	Woods, Good	DA-1A, DA-1B, DA-2A, DA-2B
0.000	9.902	0.000	2.223	0.000	12.125	TOTAL AREA	

Cricket's Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Printed 3/5/2025

Page 6

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Narr
1	DA-1A	0.00	0.00	194.0	0.0130	0.011	0.0	12.0	0.0	
2	DA-1A	0.00	0.00	62.0	0.1600	0.011	0.0	12.0	0.0	
3	DA-2A	0.00	0.00	16.0	0.0810	0.011	0.0	12.0	0.0	
4	DA-2A	0.00	0.00	21.0	0.0240	0.011	0.0	12.0	0.0	
5	DA-2A	0.00	0.00	134.0	0.0150	0.011	0.0	15.0	0.0	
6	SWB-1	159.50	158.50	33.0	0.0303	0.011	0.0	12.0	0.0	
7	SWB-2	140.95	140.30	76.0	0.0086	0.011	0.0	15.0	0.0	

Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

Page 7

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentDA-1A: DA-1A

Runoff Area=90,943 sf 36.54% Impervious Runoff Depth=1.46"
Flow Length=813' Tc=10.2 min CN=78 Runoff=3.15 cfs 0.254 af

SubcatchmentDA-1B: DA-1B

Runoff Area=31,840 sf 0.00% Impervious Runoff Depth=0.40"
Flow Length=392' Tc=8.5 min CN=57 Runoff=0.17 cfs 0.024 af

SubcatchmentDA-2A: DA-2A

Runoff Area=174,936 sf 15.85% Impervious Runoff Depth=1.33"
Flow Length=1,021' Tc=13.5 min CN=76 Runoff=4.79 cfs 0.445 af

SubcatchmentDA-2B: DA-2B

Runoff Area=230,446 sf 0.00% Impervious Runoff Depth=0.36"
Flow Length=655' Tc=26.8 min CN=56 Runoff=0.55 cfs 0.160 af

Pond SWB-1: SWB-1

Peak Elev=159.68' Storage=7,248 cf Inflow=3.15 cfs 0.254 af
Outflow=0.14 cfs 0.106 af

Pond SWB-2: SWB-2

Peak Elev=141.38' Storage=7,378 cf Inflow=4.79 cfs 0.445 af
Outflow=0.83 cfs 0.326 af

Link CULVERT: CULVERT

Inflow=1.28 cfs 0.486 af
Primary=1.28 cfs 0.486 af

Link WETLANDS: WETLANDS

Inflow=0.17 cfs 0.130 af
Primary=0.17 cfs 0.130 af

Total Runoff Area = 12.125 ac Runoff Volume = 0.883 af Average Runoff Depth = 0.87"
88.46% Pervious = 10.726 ac 11.54% Impervious = 1.399 ac

Crickets Corner Post Development

NOAA10 24-hr D 2-Year Rainfall=3.45"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 8

Summary for Subcatchment DA-1A: DA-1A

Runoff = 3.15 cfs @ 12.18 hrs, Volume= 0.254 af, Depth= 1.46"
 Routed to Pond SWB-1 : SWB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 NOAA10 24-hr D 2-Year Rainfall=3.45"

Area (sf)	CN	Description
9,337	55	Woods, Good, HSG B
4,940	77	Woods, Good, HSG D
36,540	61	>75% Grass cover, Good, HSG B
33,233	98	Paved parking, HSG B
6,893	98	Water Surface, 0% imp, HSG B
90,943	78	Weighted Average
57,710		63.46% Pervious Area
33,233		36.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.1760	0.17		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
3.0	305	0.1140	1.69		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
1.7	202	0.0770	1.94		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
0.5	194	0.0130	6.11	4.80	Pipe Channel, RCP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011 Concrete pipe, straight & clean
0.0	62	0.1600	21.44	16.84	Pipe Channel, RCP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011 Concrete pipe, straight & clean
10.2	813	Total			

Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

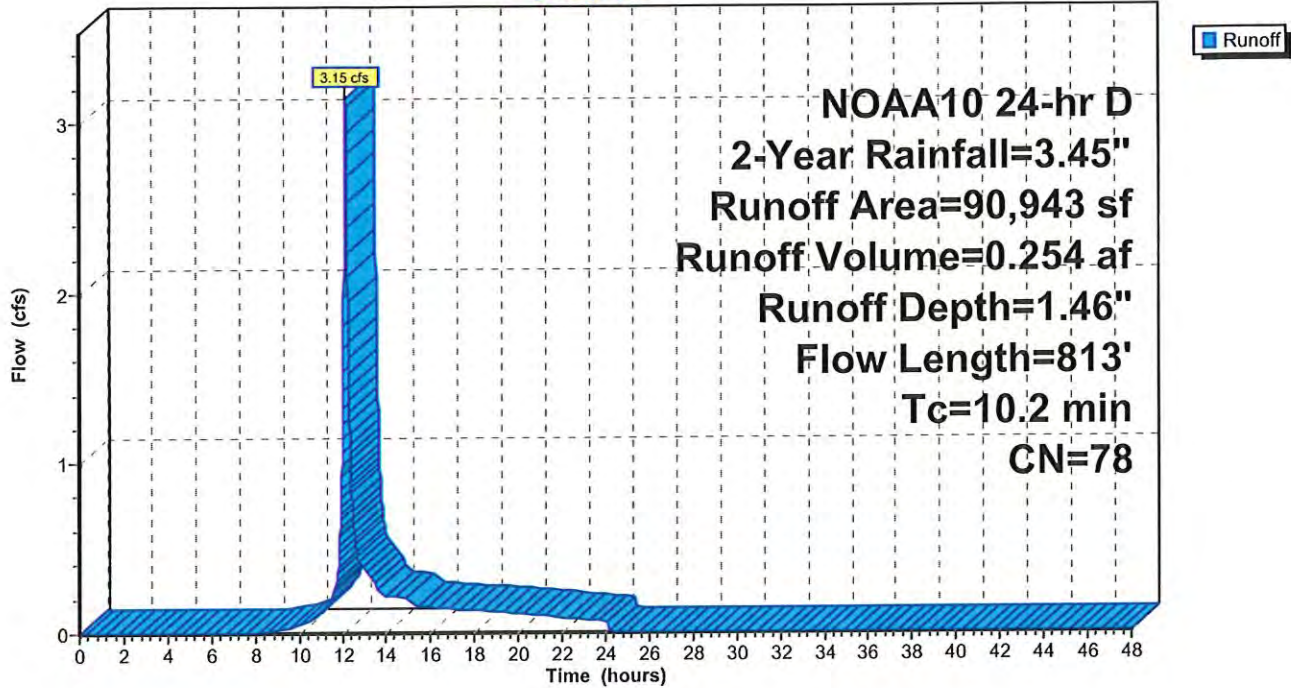
NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

Page 9

Subcatchment DA-1A: DA-1A

Hydrograph



Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

Page 10

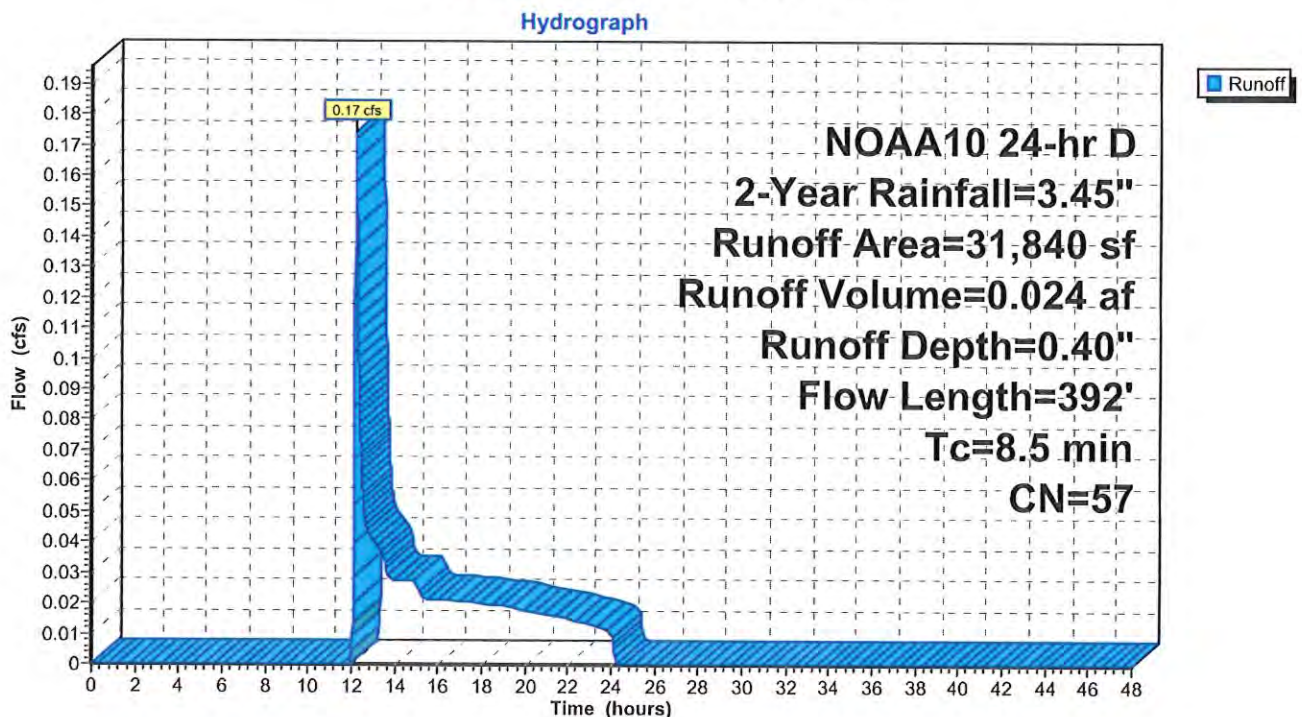
Summary for Subcatchment DA-1B: DA-1B

Runoff = 0.17 cfs @ 12.18 hrs, Volume= 0.024 af, Depth= 0.40"
Routed to Link WETLANDS : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 2-Year Rainfall=3.45"

Area (sf)	CN	Description
24,680	55	Woods, Good, HSG B
773	77	Woods, Good, HSG D
6,387	61	>75% Grass cover, Good, HSG B
31,840	57	Weighted Average
31,840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	50	0.1360	0.15		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
1.9	187	0.1080	1.64		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
0.7	105	0.1120	2.34		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
0.4	50	0.1660	2.04		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
8.5	392	Total			

Subcatchment DA-1B: DA-1B

Crickets Corner Post Development

NOAA10 24-hr D 2-Year Rainfall=3.45"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 11

Summary for Subcatchment DA-2A: DA-2A

Runoff = 4.79 cfs @ 12.22 hrs, Volume= 0.445 af, Depth= 1.33"

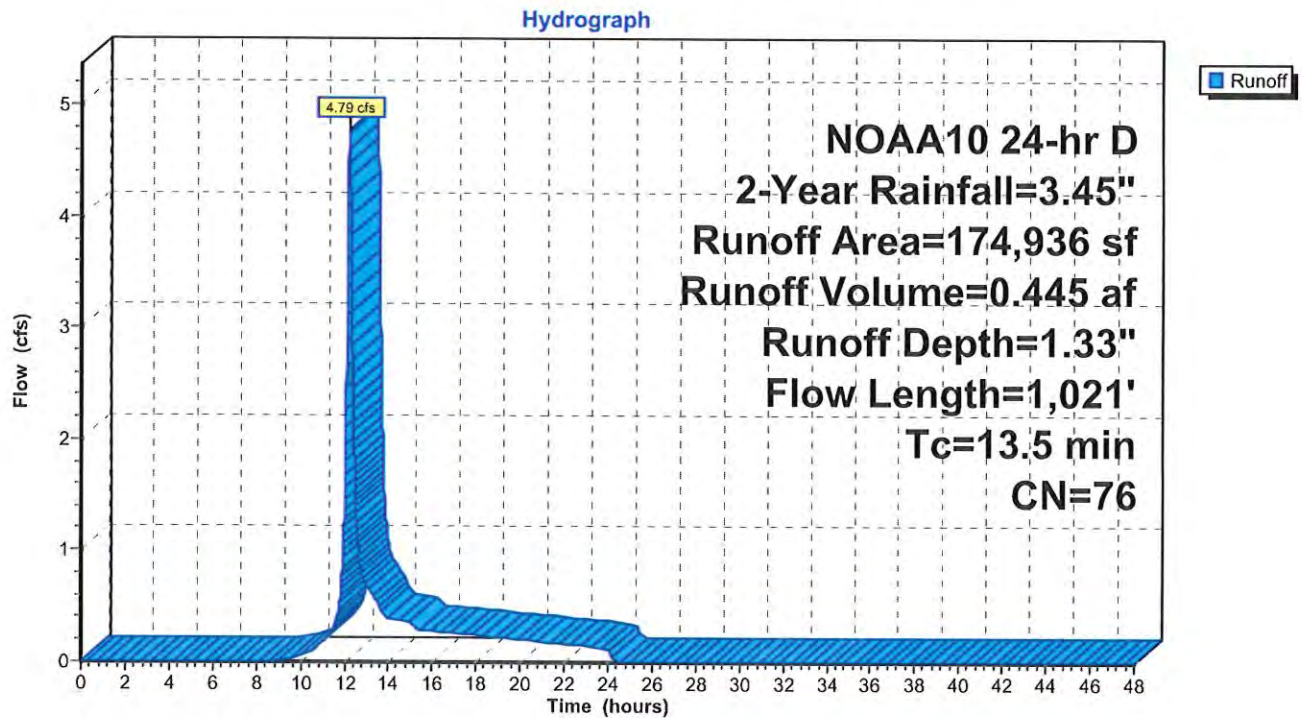
Routed to Pond SWB-2 : SWB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 2-Year Rainfall=3.45"

Area (sf)	CN	Description
13,621	55	Woods, Good, HSG B
87,108	77	Woods, Good, HSG D
34,537	61	>75% Grass cover, Good, HSG B
4,029	80	>75% Grass cover, Good, HSG D
27,720	98	Paved parking, HSG B
7,921	98	Water Surface, 0% imp, HSG B
174,936	76	Weighted Average
147,216		84.15% Pervious Area
27,720		15.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.1480	0.16		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
5.1	577	0.1400	1.87		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
2.8	223	0.0350	1.31		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
0.0	16	0.0810	15.26	11.98	Pipe Channel, RCP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011 Concrete pipe, straight & clean
0.0	21	0.0240	8.31	6.52	Pipe Channel, RCP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011 Concrete pipe, straight & clean
0.3	134	0.0150	7.62	9.35	Pipe Channel, RCP_Round 15" 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
13.5	1,021	Total			

Subcatchment DA-2A: DA-2A



Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

Page 13

Summary for Subcatchment DA-2B: DA-2B

Runoff = 0.55 cfs @ 12.49 hrs, Volume= 0.160 af, Depth= 0.36"
Routed to Link CULVERT : CULVERT

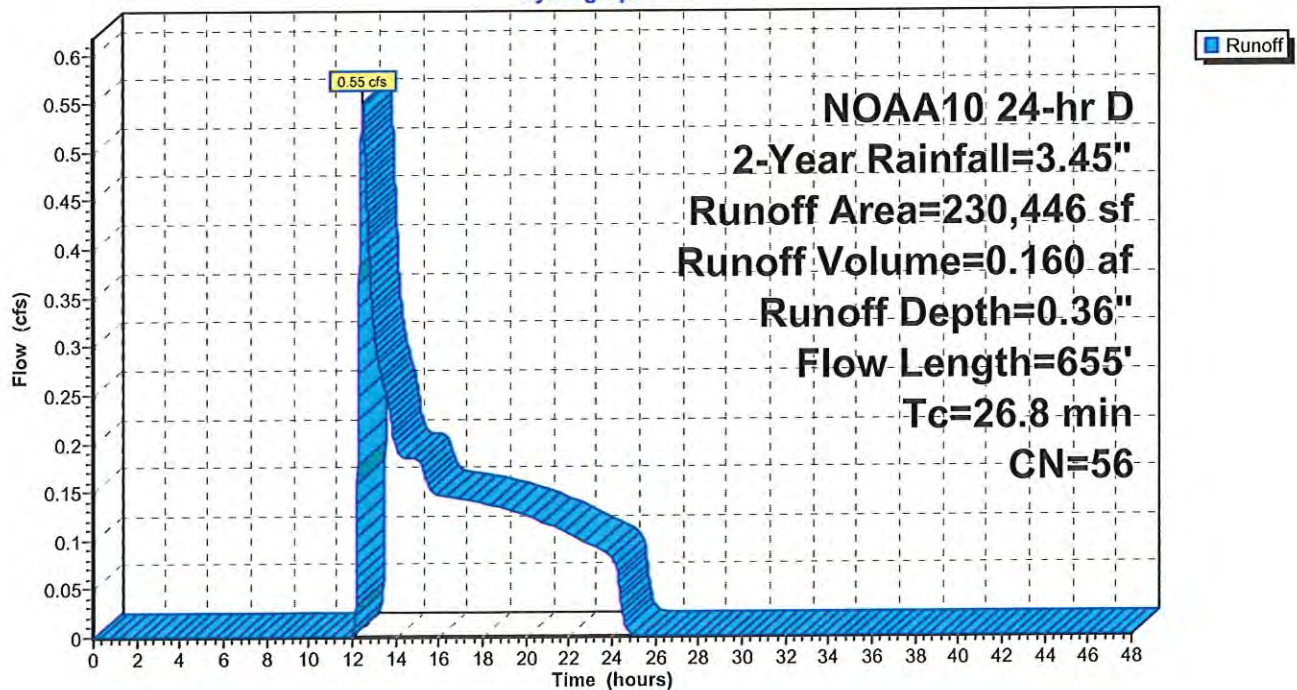
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 2-Year Rainfall=3.45"

Area (sf)	CN	Description
185,901	55	Woods, Good, HSG B
44,545	61	>75% Grass cover, Good, HSG B
230,446	56	Weighted Average
230,446		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	50	0.0020	0.06		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.45"
0.7	50	0.0280	1.17		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
12.5	555	0.0220	0.74		Shallow Concentrated Flow, Shallow Woods Woodland Kv= 5.0 fps
26.8	655	Total			

Subcatchment DA-2B: DA-2B

Hydrograph



Crickets Corner Post Development

NOAA10 24-hr D 2-Year Rainfall=3.45"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 14

Summary for Pond SWB-1: SWB-1

Inflow Area = 2.088 ac, 36.54% Impervious, Inflow Depth = 1.46" for 2-Year event
 Inflow = 3.15 cfs @ 12.18 hrs, Volume= 0.254 af
 Outflow = 0.14 cfs @ 16.95 hrs, Volume= 0.106 af, Atten= 95%, Lag= 286.4 min
 Primary = 0.14 cfs @ 16.95 hrs, Volume= 0.106 af
 Routed to Link WETLANDS : WETLANDS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 159.68' @ 16.95 hrs Surf.Area= 8,965 sf Storage= 7,248 cf

Plug-Flow detention time= 493.7 min calculated for 0.106 af (42% of inflow)
 Center-of-Mass det. time= 325.1 min (1,209.0 - 884.0)

Volume	Invert	Avail.Storage	Storage Description
#1	156.00'	1,046 cf	Forebay (Prismatic) Listed below (Recalc)
#2	158.00'	3,143 cf	Lower Basin (Prismatic) Listed below (Recalc)
#3	159.00'	16,486 cf	Upper Basin (Prismatic) Listed below (Recalc)
		20,674 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
156.00	67	0	0
158.00	411	478	478
159.00	724	568	1,046

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
158.00	2,808	0	0
159.00	3,477	3,143	3,143

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
159.00	4,201	0	0
160.00	5,026	4,614	4,614
162.00	6,846	11,872	16,486

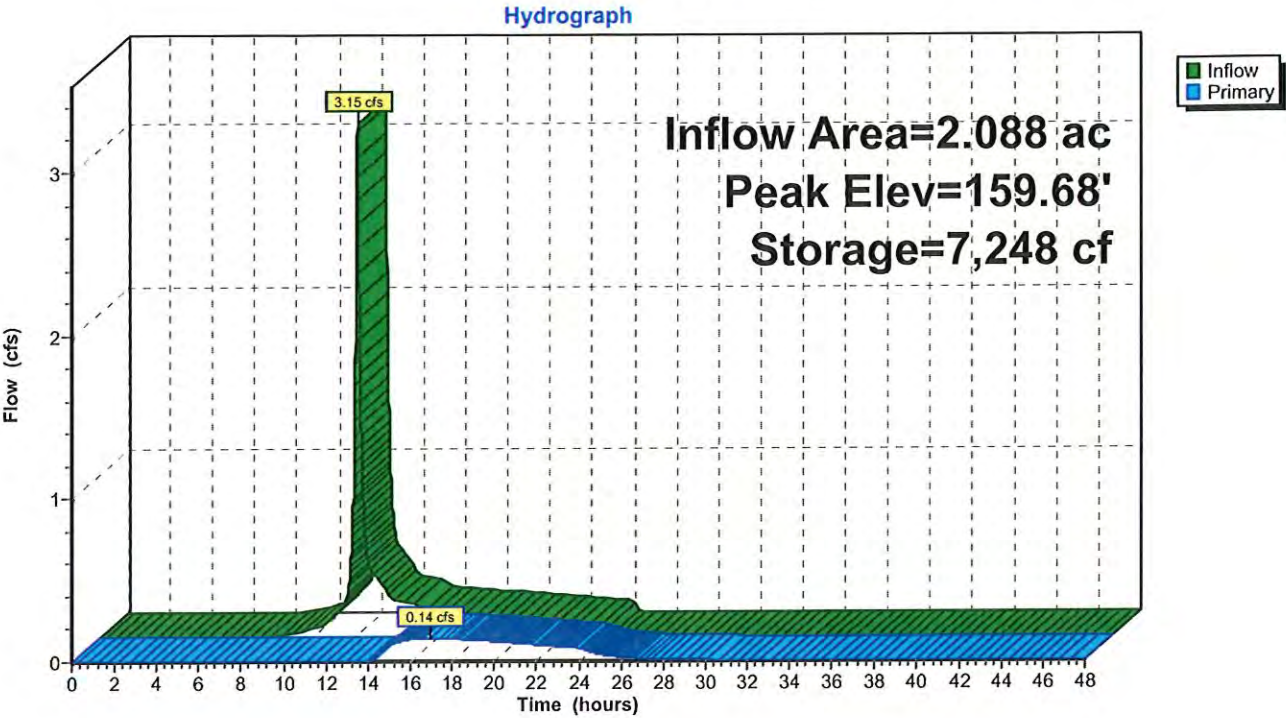
Device	Routing	Invert	Outlet Devices
#1	Primary	161.00'	10.0' long x 8.0' breadth Spillway Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#2	Primary	159.50'	12.0" Round Culvert L= 33.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 159.50' / 158.50' S= 0.0303 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 16.95 hrs HW=159.68' TW=0.00' (Dynamic Tailwater)

1=Spillway (Controls 0.00 cfs)

2=Culvert (Inlet Controls 0.14 cfs @ 1.46 fps)

Pond SWB-1: SWB-1



Crickets Corner Post Development

NOAA10 24-hr D 2-Year Rainfall=3.45"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 16

Summary for Pond SWB-2: SWB-2

Inflow Area = 4.016 ac, 15.85% Impervious, Inflow Depth = 1.33" for 2-Year event
 Inflow = 4.79 cfs @ 12.22 hrs, Volume= 0.445 af
 Outflow = 0.83 cfs @ 12.75 hrs, Volume= 0.326 af, Atten= 83%, Lag= 32.0 min
 Primary = 0.83 cfs @ 12.75 hrs, Volume= 0.326 af
 Routed to Link CULVERT : CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 141.38' @ 12.75 hrs Surf.Area= 10,714 sf Storage= 7,378 cf

Plug-Flow detention time= 253.0 min calculated for 0.326 af (73% of inflow)
 Center-of-Mass det. time= 140.4 min (1,035.7 - 895.3)

Volume	Invert	Avail.Storage	Storage Description
#1	138.00'	1,687 cf	Forebay (Prismatic) Listed below (Recalc)
#2	140.00'	3,668 cf	Lower Basin (Prismatic) Listed below (Recalc)
#3	141.00'	19,665 cf	Upper Basin (Prismatic) Listed below (Recalc)
		25,020 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
138.00	131	0	0
140.00	661	792	792
141.00	1,129	895	1,687

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
140.00	3,272	0	0
141.00	4,064	3,668	3,668

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
141.00	5,192	0	0
142.00	6,063	5,628	5,628
144.00	7,974	14,037	19,665

Device	Routing	Invert	Outlet Devices
#1	Primary	143.00'	10.0' long x 8.0' breadth Spillway Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#2	Primary	140.95'	15.0" Round Culvert L= 76.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 140.95' / 140.30' S= 0.0086 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf

Primary OutFlow Max=0.83 cfs @ 12.75 hrs HW=141.38' TW=0.00' (Dynamic Tailwater)

1=Spillway (Controls 0.00 cfs)

2=Culvert (Inlet Controls 0.83 cfs @ 2.23 fps)

Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

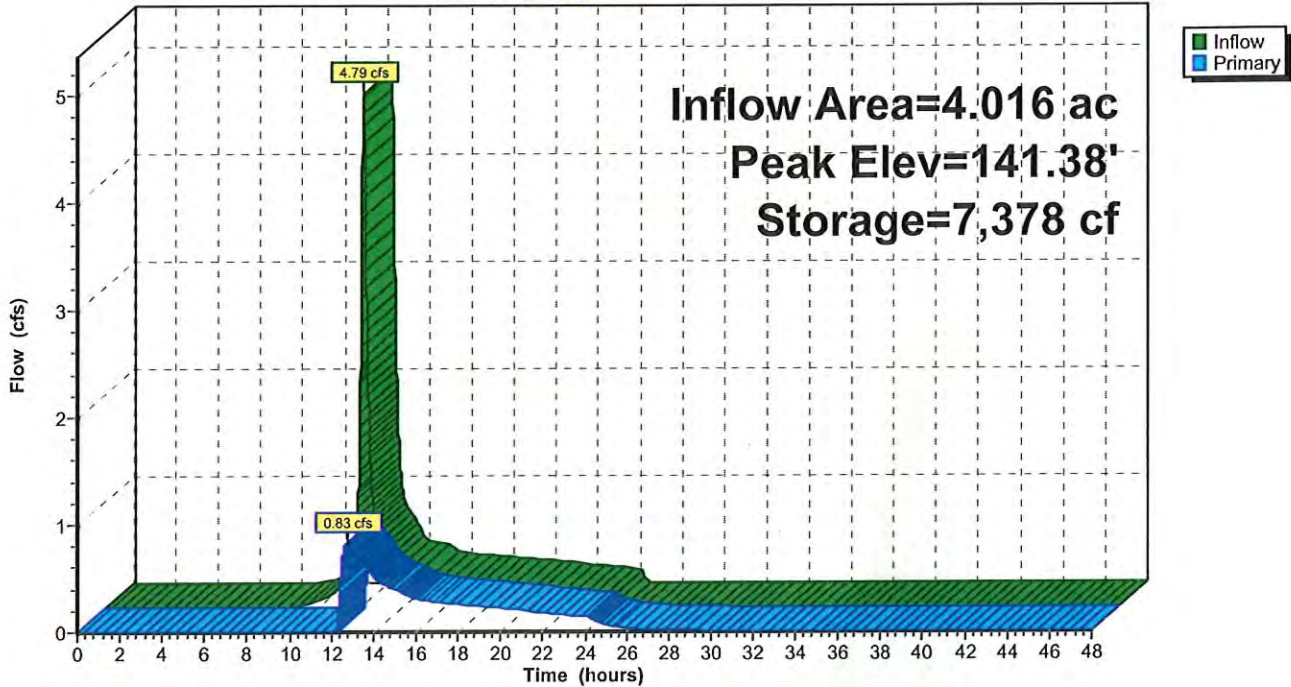
NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

Page 17

Pond SWB-2: SWB-2

Hydrograph



Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

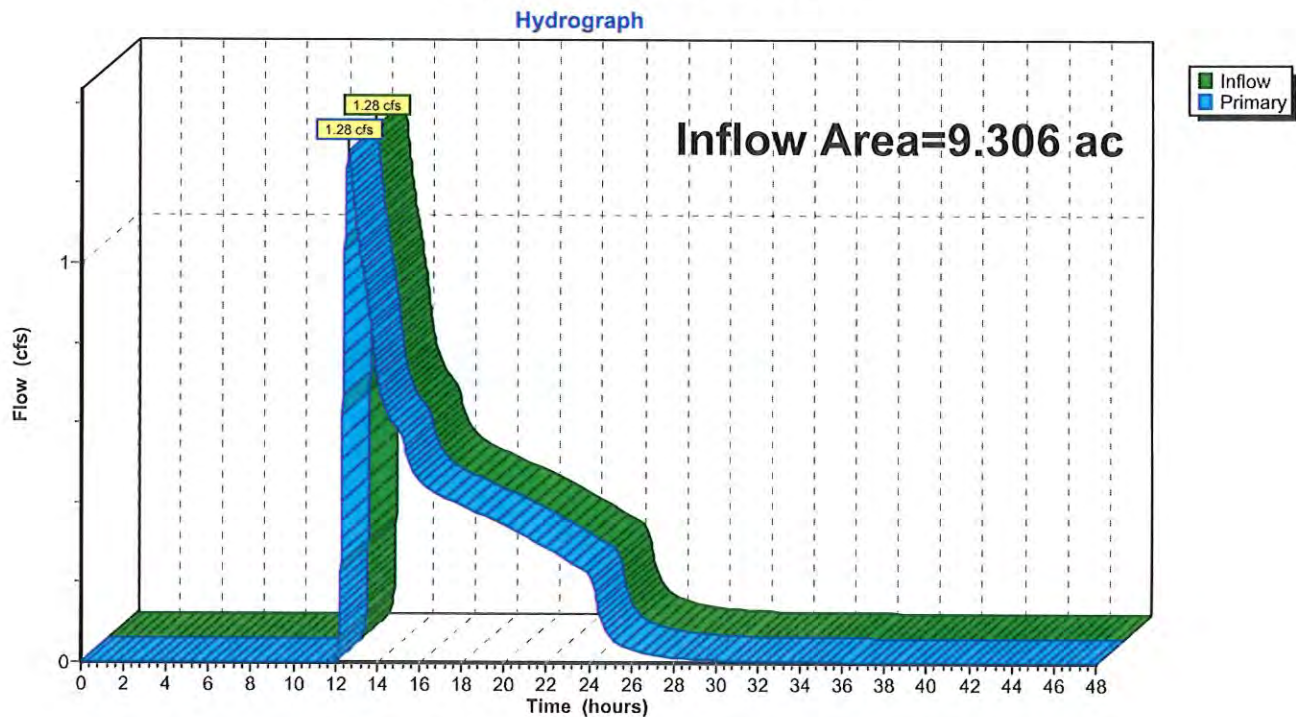
Page 18

Summary for Link CULVERT: CULVERT

Inflow Area = 9.306 ac, 6.84% Impervious, Inflow Depth > 0.63" for 2-Year event
Inflow = 1.28 cfs @ 12.62 hrs, Volume= 0.486 af
Primary = 1.28 cfs @ 12.62 hrs, Volume= 0.486 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link CULVERT: CULVERT



Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 2-Year Rainfall=3.45"

Printed 3/5/2025

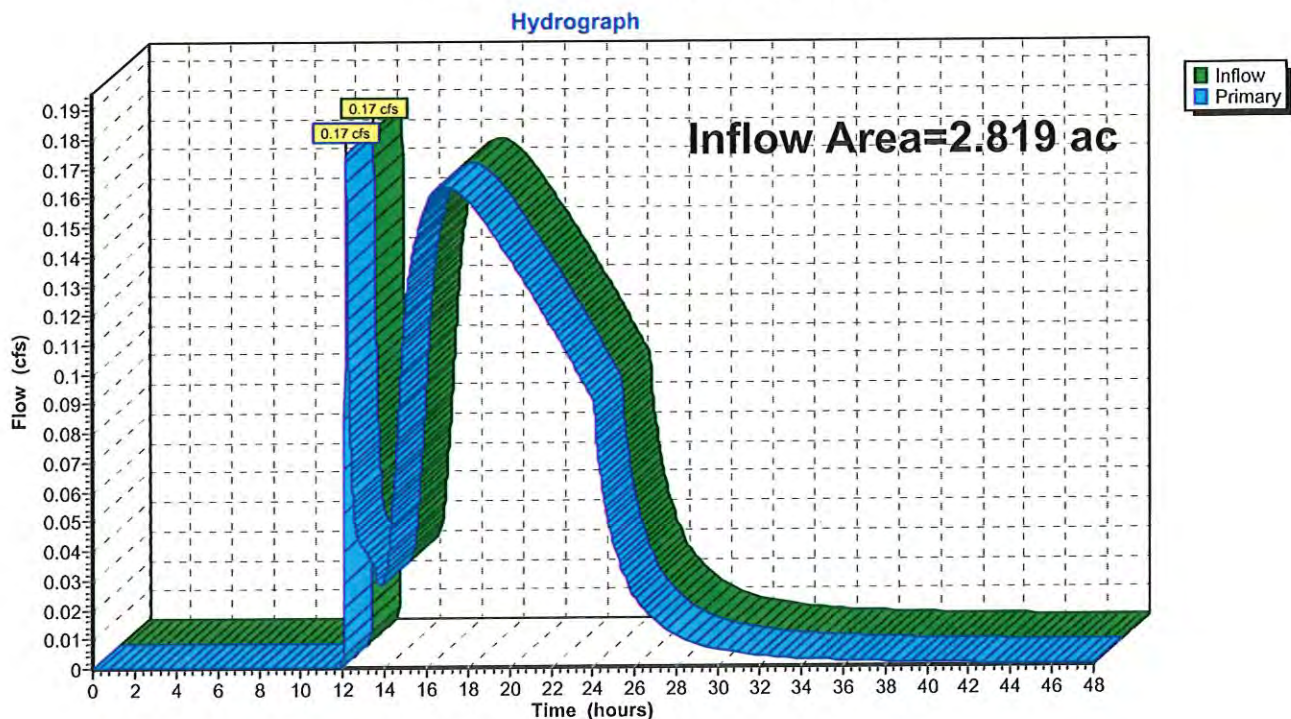
Page 19

Summary for Link WETLANDS: WETLANDS

Inflow Area = 2.819 ac, 27.07% Impervious, Inflow Depth > 0.55" for 2-Year event
Inflow = 0.17 cfs @ 12.18 hrs, Volume= 0.130 af
Primary = 0.17 cfs @ 12.18 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link WETLANDS: WETLANDS



Crickets Corner Post Development

NOAA10 24-hr D 10-Year Rainfall=5.14"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 20

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentDA-1A: DA-1A Runoff Area=90,943 sf 36.54% Impervious Runoff Depth=2.83"
Flow Length=813' Tc=10.2 min CN=78 Runoff=6.15 cfs 0.493 af

SubcatchmentDA-1B: DA-1B Runoff Area=31,840 sf 0.00% Impervious Runoff Depth=1.18"
Flow Length=392' Tc=8.5 min CN=57 Runoff=0.86 cfs 0.072 af

SubcatchmentDA-2A: DA-2A Runoff Area=174,936 sf 15.85% Impervious Runoff Depth=2.65"
Flow Length=1,021' Tc=13.5 min CN=76 Runoff=9.74 cfs 0.887 af

SubcatchmentDA-2B: DA-2B Runoff Area=230,446 sf 0.00% Impervious Runoff Depth=1.11"
Flow Length=655' Tc=26.8 min CN=56 Runoff=3.12 cfs 0.491 af

Pond SWB-1: SWB-1 Peak Elev=160.08' Storage=9,205 cf Inflow=6.15 cfs 0.493 af
Outflow=1.22 cfs 0.345 af

Pond SWB-2: SWB-2 Peak Elev=142.18' Storage=12,097 cf Inflow=9.74 cfs 0.887 af
Outflow=4.62 cfs 0.769 af

Link CULVERT: CULVERT Inflow=7.74 cfs 1.260 af
Primary=7.74 cfs 1.260 af

Link WETLANDS: WETLANDS Inflow=1.41 cfs 0.416 af
Primary=1.41 cfs 0.416 af

Total Runoff Area = 12.125 ac Runoff Volume = 1.943 af Average Runoff Depth = 1.92"
88.46% Pervious = 10.726 ac 11.54% Impervious = 1.399 ac

Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 10-Year Rainfall=5.14"

Printed 3/5/2025

Page 21

Summary for Subcatchment DA-1A: DA-1A

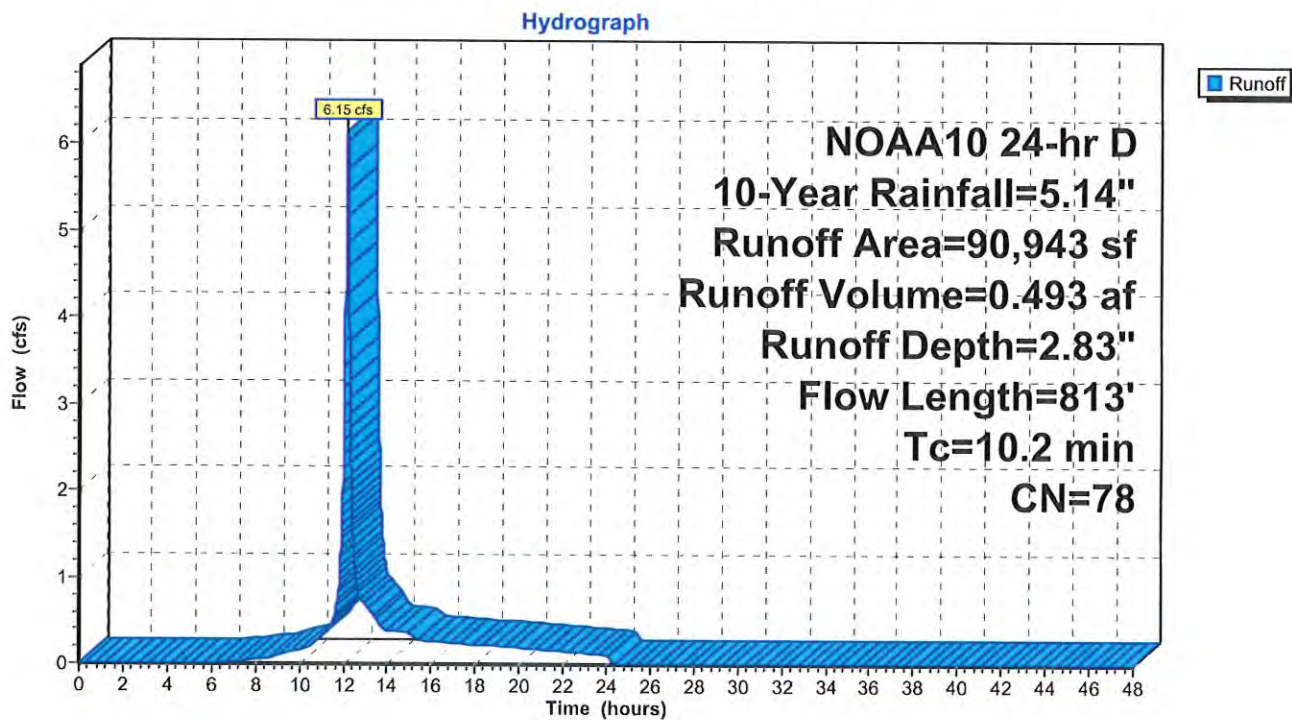
Runoff = 6.15 cfs @ 12.18 hrs, Volume= 0.493 af, Depth= 2.83"
Routed to Pond SWB-1 : SWB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 10-Year Rainfall=5.14"

Area (sf)	CN	Description
9,337	55	Woods, Good, HSG B
4,940	77	Woods, Good, HSG D
36,540	61	>75% Grass cover, Good, HSG B
33,233	98	Paved parking, HSG B
6,893	98	Water Surface, 0% imp, HSG B
90,943	78	Weighted Average
57,710		63.46% Pervious Area
33,233		36.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.1760	0.17		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
3.0	305	0.1140	1.69		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
1.7	202	0.0770	1.94		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
0.5	194	0.0130	6.11	4.80	Pipe Channel, RCP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011 Concrete pipe, straight & clean
0.0	62	0.1600	21.44	16.84	Pipe Channel, RCP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011 Concrete pipe, straight & clean
10.2	813	Total			

Subcatchment DA-1A: DA-1A



Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 10-Year Rainfall=5.14"

Printed 3/5/2025

Page 23

Summary for Subcatchment DA-1B: DA-1B

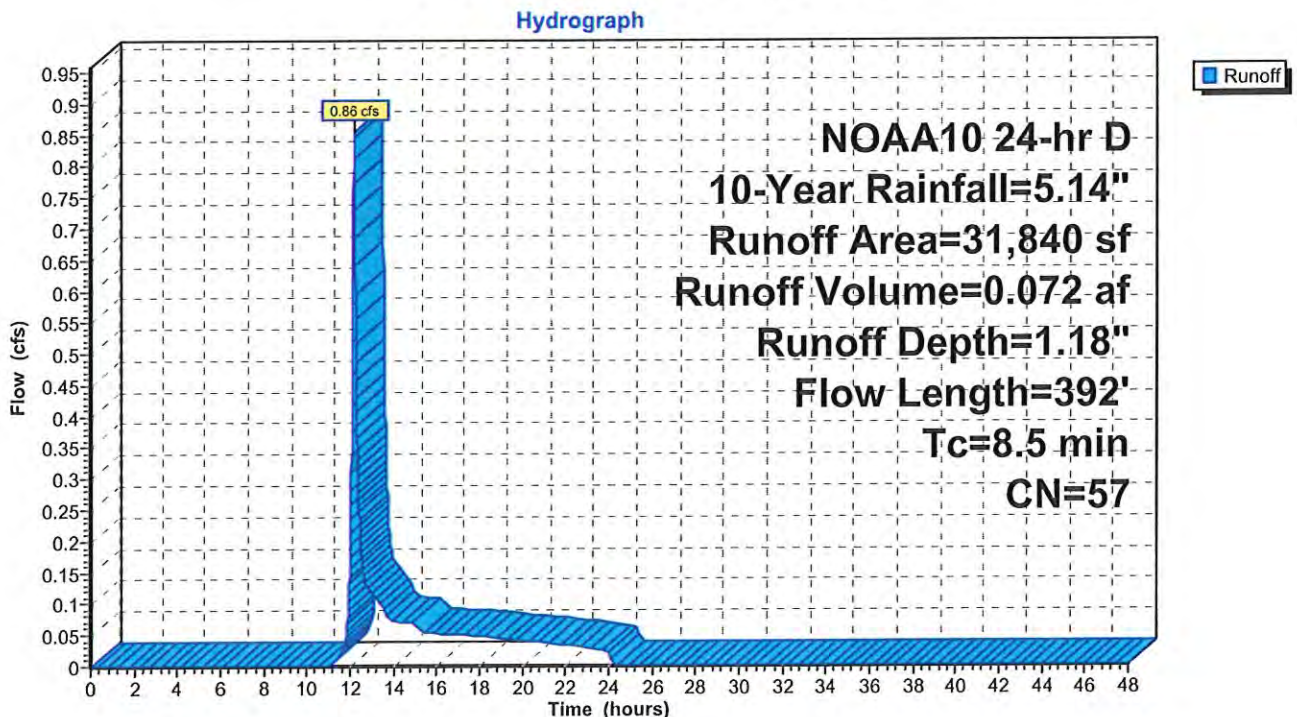
Runoff = 0.86 cfs @ 12.17 hrs, Volume= 0.072 af, Depth= 1.18"
Routed to Link WETLANDS : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 10-Year Rainfall=5.14"

Area (sf)	CN	Description
24,680	55	Woods, Good, HSG B
773	77	Woods, Good, HSG D
6,387	61	>75% Grass cover, Good, HSG B
31,840	57	Weighted Average
31,840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	50	0.1360	0.15		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
1.9	187	0.1080	1.64		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
0.7	105	0.1120	2.34		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
0.4	50	0.1660	2.04		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
8.5	392	Total			

Subcatchment DA-1B: DA-1B



Crickets Corner Post Development

NOAA10 24-hr D 10-Year Rainfall=5.14"

Prepared by Boundaries, LLC

Printed 3/5/2025

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

Page 24

Summary for Subcatchment DA-2A: DA-2A

Runoff = 9.74 cfs @ 12.22 hrs, Volume= 0.887 af, Depth= 2.65"
 Routed to Pond SWB-2 : SWB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 NOAA10 24-hr D 10-Year Rainfall=5.14"

Area (sf)	CN	Description
13,621	55	Woods, Good, HSG B
87,108	77	Woods, Good, HSG D
34,537	61	>75% Grass cover, Good, HSG B
4,029	80	>75% Grass cover, Good, HSG D
27,720	98	Paved parking, HSG B
7,921	98	Water Surface, 0% imp, HSG B
174,936	76	Weighted Average
147,216		84.15% Pervious Area
27,720		15.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.1480	0.16		Sheet Flow, Sheet Woods Woods: Light underbrush n= 0.400 P2= 3.45"
5.1	577	0.1400	1.87		Shallow Concentrated Flow, Shallow Woodland Woodland Kv= 5.0 fps
2.8	223	0.0350	1.31		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
0.0	16	0.0810	15.26	11.98	Pipe Channel, RCP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011 Concrete pipe, straight & clean
0.0	21	0.0240	8.31	6.52	Pipe Channel, RCP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011 Concrete pipe, straight & clean
0.3	134	0.0150	7.62	9.35	Pipe Channel, RCP_Round 15" 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011 Concrete pipe, straight & clean
13.5	1,021	Total			

Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

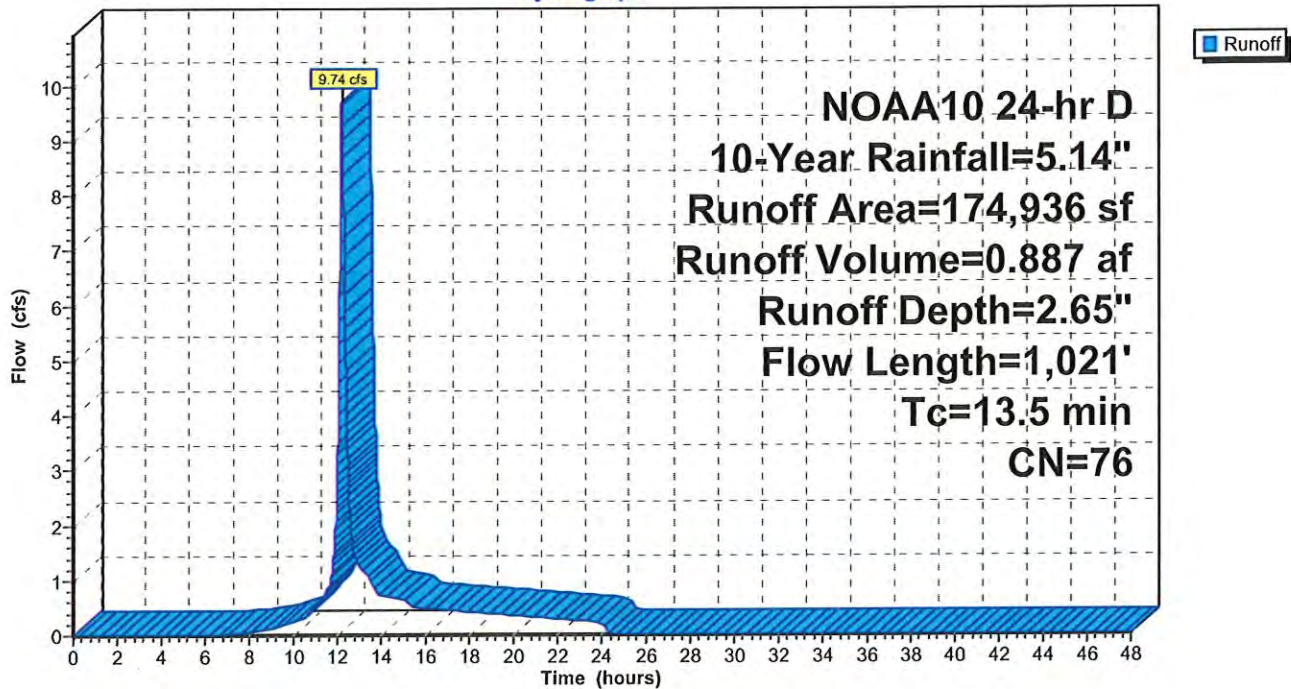
NOAA10 24-hr D 10-Year Rainfall=5.14"

Printed 3/5/2025

Page 25

Subcatchment DA-2A: DA-2A

Hydrograph



Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 10-Year Rainfall=5.14"

Printed 3/5/2025

Page 26

Summary for Subcatchment DA-2B: DA-2B

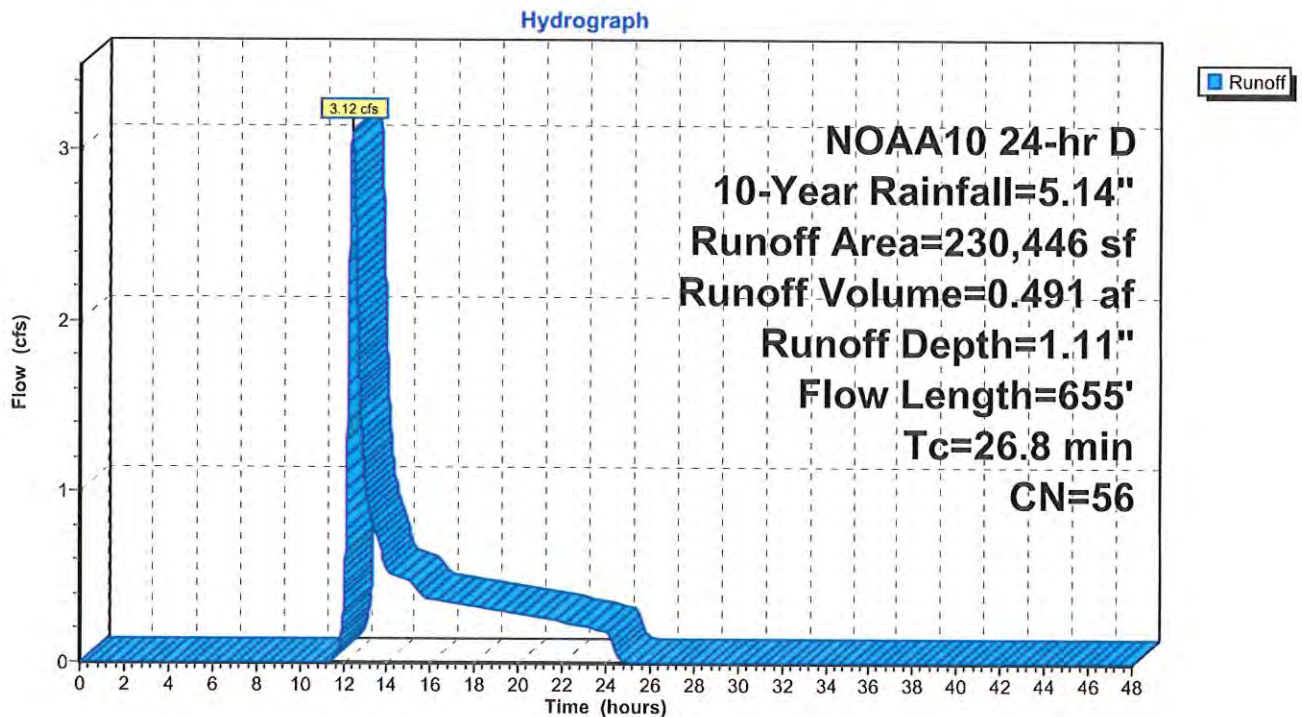
Runoff = 3.12 cfs @ 12.42 hrs, Volume= 0.491 af, Depth= 1.11"
Routed to Link CULVERT : CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NOAA10 24-hr D 10-Year Rainfall=5.14"

Area (sf)	CN	Description
185,901	55	Woods, Good, HSG B
44,545	61	>75% Grass cover, Good, HSG B
230,446	56	Weighted Average
230,446		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	50	0.0020	0.06		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.45"
0.7	50	0.0280	1.17		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
12.5	555	0.0220	0.74		Shallow Concentrated Flow, Shallow Woods Woodland Kv= 5.0 fps
26.8	655	Total			

Subcatchment DA-2B: DA-2B



Summary for Pond SWB-1: SWB-1

Inflow Area = 2.088 ac, 36.54% Impervious, Inflow Depth = 2.83" for 10-Year event
 Inflow = 6.15 cfs @ 12.18 hrs, Volume= 0.493 af
 Outflow = 1.22 cfs @ 12.51 hrs, Volume= 0.345 af, Atten= 80%, Lag= 20.2 min
 Primary = 1.22 cfs @ 12.51 hrs, Volume= 0.345 af
 Routed to Link WETLANDS : WETLANDS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 160.08' @ 12.51 hrs Surf.Area= 9,300 sf Storage= 9,205 cf

Plug-Flow detention time= 265.8 min calculated for 0.345 af (70% of inflow)
 Center-of-Mass det. time= 145.4 min (1,003.0 - 857.6)

Volume	Invert	Avail.Storage	Storage Description
#1	156.00'	1,046 cf	Forebay (Prismatic) Listed below (Recalc)
#2	158.00'	3,143 cf	Lower Basin (Prismatic) Listed below (Recalc)
#3	159.00'	16,486 cf	Upper Basin (Prismatic) Listed below (Recalc)
		20,674 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
156.00	67	0	0
158.00	411	478	478
159.00	724	568	1,046

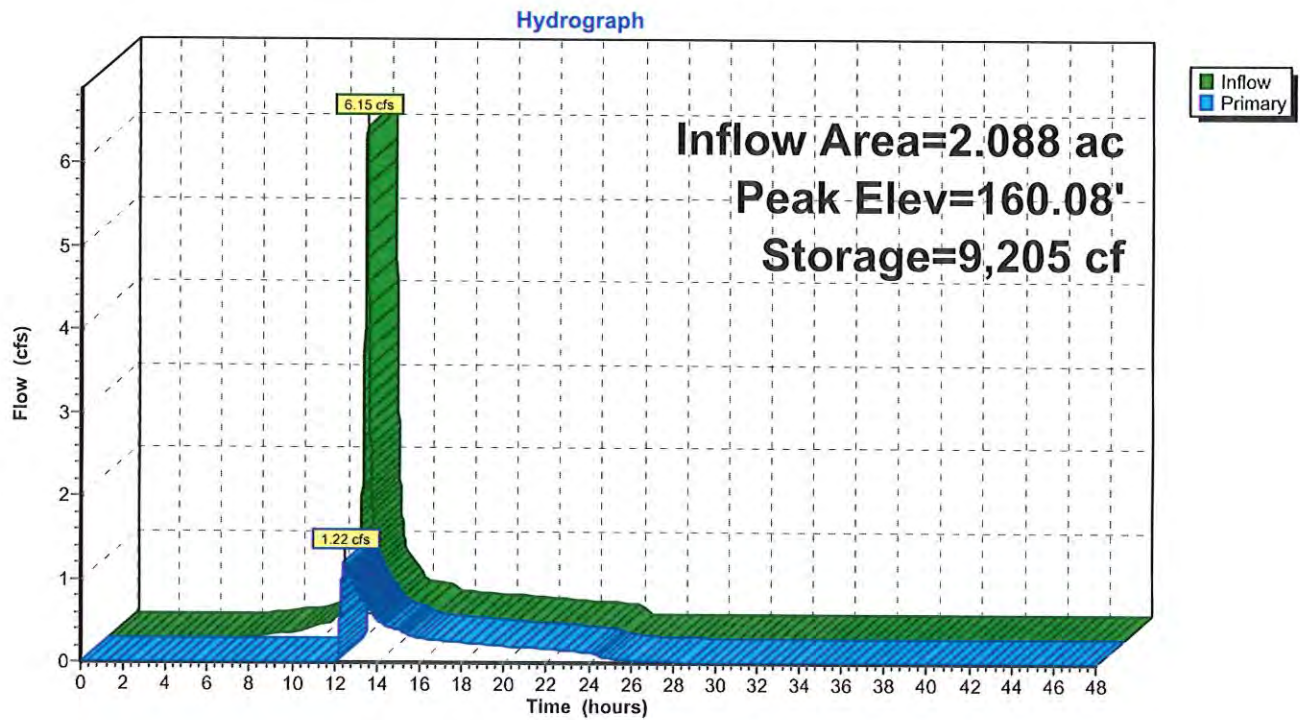
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
158.00	2,808	0	0
159.00	3,477	3,143	3,143

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
159.00	4,201	0	0
160.00	5,026	4,614	4,614
162.00	6,846	11,872	16,486

Device	Routing	Invert	Outlet Devices
#1	Primary	161.00'	10.0' long x 8.0' breadth Spillway Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#2	Primary	159.50'	12.0" Round Culvert L= 33.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 159.50' / 158.50' S= 0.0303 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.22 cfs @ 12.51 hrs HW=160.08' TW=0.00' (Dynamic Tailwater)
 1=Spillway (Controls 0.00 cfs)
 2=Culvert (Inlet Controls 1.22 cfs @ 2.59 fps)

Pond SWB-1: SWB-1



Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 10-Year Rainfall=5.14"

Printed 3/5/2025

Page 29

Summary for Pond SWB-2: SWB-2

Inflow Area = 4.016 ac, 15.85% Impervious, Inflow Depth = 2.65" for 10-Year event
Inflow = 9.74 cfs @ 12.22 hrs, Volume= 0.887 af
Outflow = 4.62 cfs @ 12.40 hrs, Volume= 0.769 af, Atten= 53%, Lag= 11.1 min
Primary = 4.62 cfs @ 12.40 hrs, Volume= 0.769 af
Routed to Link CULVERT : CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 142.18' @ 12.40 hrs Surf.Area= 11,429 sf Storage= 12,097 cf

Plug-Flow detention time= 147.9 min calculated for 0.769 af (87% of inflow)
Center-of-Mass det. time= 82.4 min (950.2 - 867.8)

Volume	Invert	Avail.Storage	Storage Description
#1	138.00'	1,687 cf	Forebay (Prismatic) Listed below (Recalc)
#2	140.00'	3,668 cf	Lower Basin (Prismatic) Listed below (Recalc)
#3	141.00'	19,665 cf	Upper Basin (Prismatic) Listed below (Recalc)
25,020 cf			Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
138.00	131	0	0
140.00	661	792	792
141.00	1,129	895	1,687

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
140.00	3,272	0	0
141.00	4,064	3,668	3,668

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
141.00	5,192	0	0
142.00	6,063	5,628	5,628
144.00	7,974	14,037	19,665

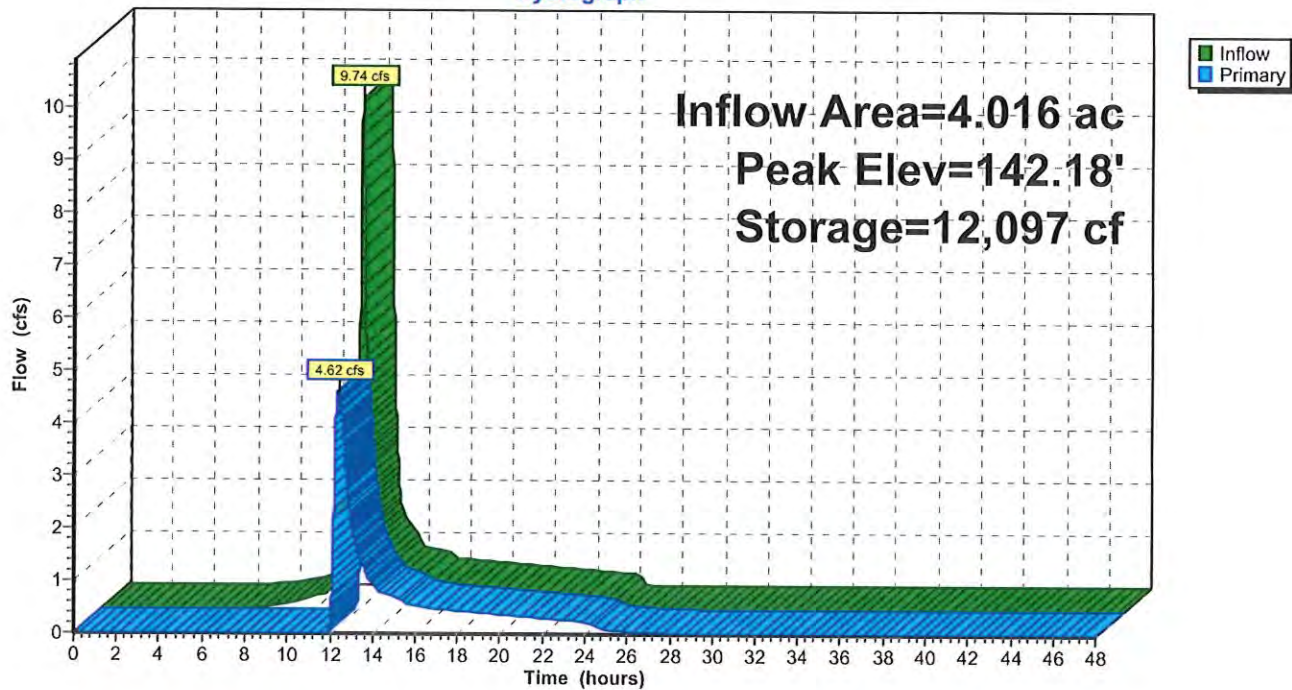
Device	Routing	Invert	Outlet Devices
#1	Primary	143.00'	10.0' long x 8.0' breadth Spillway Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#2	Primary	140.95'	15.0" Round Culvert L= 76.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 140.95' / 140.30' S= 0.0086 ' / ' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf

Primary OutFlow Max=4.62 cfs @ 12.40 hrs HW=142.18' TW=0.00' (Dynamic Tailwater)

1=Spillway (Controls 0.00 cfs)
2=Culvert (Inlet Controls 4.62 cfs @ 3.78 fps)

Pond SWB-2: SWB-2

Hydrograph



Crickets Corner Post Development

Prepared by Boundaries, LLC

HydroCAD® 10.20-6a s/n 04031 © 2024 HydroCAD Software Solutions LLC

NOAA10 24-hr D 10-Year Rainfall=5.14"

Printed 3/5/2025

Page 31

Summary for Link CULVERT: CULVERT

Inflow Area = 9.306 ac, 6.84% Impervious, Inflow Depth = 1.62" for 10-Year event
Inflow = 7.74 cfs @ 12.41 hrs, Volume= 1.260 af
Primary = 7.74 cfs @ 12.41 hrs, Volume= 1.260 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link CULVERT: CULVERT

