

EXHIBIT B

Stormwater Report

PROJECT NARRATIVE & STORMWATER REPORT

For the Proposed:

SOLAR PHOTOVOLTAIC ARRAY

Located At:

0 Chamberlain Highway
Berlin, Connecticut

Prepared On:

October 18th, 2023

Prepared For:



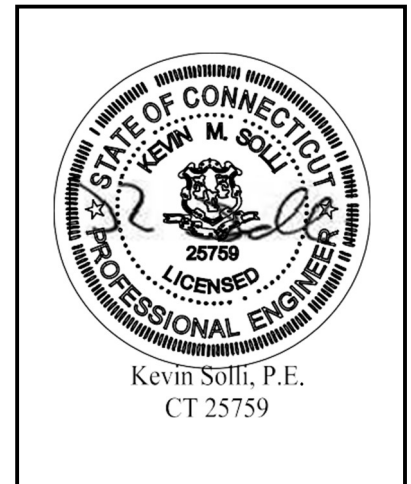
888 Prospect Street, Suite 200
La Jolla, California 92037

Prepared By:



11 Vanderbilt Avenue, Suite 240
Norwood, Massachusetts 02062
T: (781) 352-8491

501 Main Street, Suite 2A
Monroe, Connecticut 06468
T: (203) 880-5455



Kevin Solli, P.E.
CT 25759

TABLE OF CONTENTS

INTRODUCTION 2
EXISTING SITE CONDITIONS 2
PROPOSED SITE CONDITIONS 2
STORMWATER MANAGEMENT 3
CT DEEP APPENDIX I REGULATIONS/COMPLIANCE 5
SOIL EROSION & SEDIMENT CONTROL 6
CONCLUSION..... 6

LIST OF TABLES & CALCULATIONS

Table 1: Rainfall Data 3
Table 2: Existing Drainage Areas 3
Table 3: Proposed Drainage Areas..... 4
Table 4: Peak Flow Comparison Table..... 4

APPENDICES

APPENDIX A: **FIGURES**

- Property & Limited Topographic Survey of 00 Chamberlain Highway, Berlin, Connecticut
Prepared by BL Companies
- NRCS Soil Survey Map
- Site Layout Plan (2.11)
- Existing Drainage Area Map (DA-1)
- Proposed Drainage Area Map (DA-2)

APPENDIX B: **STORMWATER CALCULATIONS**

- Hydrocad Reporting
 - Existing & Proposed Calcs for 2-, 25-, 50- & 100- yr storm events)
- Water Quality Volume Calculations
- NOAA Atlas Precipitation Data



INTRODUCTION

At the request of TRITEC Americas, LLC (Petitioner), Solli Engineering (Solli) has prepared this Stormwater Management Report to provide an analysis of the potential stormwater impacts associated with the proposed 0.99± megawatt (MW) alternating current (AC) ground-mounted solar electric generating facility (Project/Facility) located at 0 Chamberlain Highway, Berlin, Connecticut (Site). The proposed stormwater management plan outlined herein has been designed accordance with the following State of Connecticut guidelines as well as other applicable state and federal requirements and regulations:

- General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Effective Date: December 31, 2020, Modification Date: November 25, 2022)
- 2024 Connecticut Stormwater Quality Manual
- 2002 Connecticut Guidelines for Soil Erosion and Sediment Control
- Connecticut Department of Transportation 2000 Drainage Manual
- CT DEEP Appendix I Stormwater Management at Solar Array Construction Projects

EXISTING SITE CONDITIONS

The Site consists of a parcel totaling 26.82± acres located at 0 Chamberlain Highway, Berlin, Connecticut. The Site is bound by residential uses to the north, and south, undeveloped woodlands to the east and Chamberlain Highway to the west. The project area is approximately 5.6 acres of the property and is situated in the southern region of the property.

The Project area's topography gradually slopes between 1%-18% from the northwest corner of the site near Chamberlain Highway to the southeast. There is an area of wetlands located in the northern portion of the property. All proposed solar panels will remain outside of the 100' wetland upland review area.

For more information regarding the property and project area location, refer to Appendix A, Figure 1 – Site Location Map.

PROPOSED SITE CONDITIONS

The proposed Project area is 5.6± acres, within an agricultural field in the central region of the Site. The Project will be accessed from Chamberlain Highway via a gravel driveway which covers a total distance of approximately 420 feet. The Project will be surrounded by a 7-ft tall chain link fence to provide adequate security measures.

As currently designed, the proposed Facility will consist of 2,590 TrinaSolar TSM-DEG19C20 540W modules. The modules will be installed on a post-driven ground-mounted, single-axis tracking system, with no anticipated changes to the existing grades within the array, therefore the post-development site conditions will mimic the pre-development site conditions to the maximum extent possible. As discussed later in this report, an existing stormwater catchment area is proposed to be maintained to assist in mitigating peak runoff flows, as well as to treat the Water Quality Volume (WQv) per CT DEEP requirements.

For more information regarding the Project, refer to the Site Layout Plan (Sheet 2.11) in Appendix A.

STORMWATER MANAGEMENT

The redevelopment of the project area will provide approximately 6,050± square feet of impervious/gravel area, an increase in overall impervious surfaces compared to existing conditions. The proposed stormwater management design consists of a stormwater basin with adequate storage for the water quality volume (WQv) that will effectively clean and treat the stormwater runoff prior to discharging into the wetlands.

METHODOLOGY

A hydrologic analysis was performed using the HydroCAD stormwater modeling system computer program developed by HydroCAD Software Solutions, LLC. Hydrographs for each watershed were developed using the SCS Synthetic Unit Hydrograph Method with a NRCC-D 24-hr rainfall distribution.

Rainfall depths for the site were used for calculating the volumes and rates of runoff for this project. The depths were taken from the NOAA Atlas documents (Latitude: 41.574°, Longitude: -72.8081°) and the rainfall values are listed in Table 1 below.

Table 1: Rainfall Data

Return Period (Storm Event)	24-hr Rainfall Depth (inches)
2-year	3.36
25-year	6.50
50-year	7.38
100-year	8.36

The drainage areas used in the calculations are illustrated on the Existing and Proposed Drainage Area Maps (DA-1 & DA-2). These maps and the corresponding HydroCAD output are attached in Appendices B. Utilizing CT DEEP Appendix I, this hydrologic analysis will reflect a reduction of the Hydrologic Soil Group (“HSG”) present on-site by a half (1/2) step (e.g., half the difference between the runoff curve number for HSG A versus HSG B). This reduction, as indicated by CT DEEP, is intended to account for the compaction of soils that results from extensive machinery traffic during construction of the array. The Water Quality Volume (“WQv”) for the site will be calculated assuming that the gravel surfaces and concrete equipment pads are effectively impervious cover.

EXISTING CONDITIONS

Approximately 5.85 acres of the Site were analyzed for stormwater management purposes. The areas analyzed contain the contributing areas directly impacted by the proposed redevelopment. Based on existing drainage patterns, the 5.85-acre area was considered as two (2) contributing drainage areas, labeled Existing Drainage Area 1 (EDA-1) & Existing Drainage Area 2 (EDA-2). The majority of the runoff from EDA-1 flows north overland and discharges into the large wetland system located in the north of the property. The majority of runoff from EDA-2 flows southeast overland into the existing stormwater catchment area.

Table 2: Existing Drainage Areas

Drainage Area Label	Drainage Area	Curve Number	Time of Concentration
Existing Drainage Area 1 (EDA-1)	1.55 AC	61	8.5 Min.
Existing Drainage Area 2 (EDA-2)	4.30 AC	63	9.8 Min.

For more information regarding the existing drainage conditions of the project area refer to the Existing Drainage Area Map (DA-1) in Appendix A and the Hydrocad calculations in Appendix B.

PROPOSED CONDITIONS

The redevelopment of the Site proposes to utilize an existing stormwater catchment area for treatment and storage of runoff in the southeast corner of the site. The total area analyzed under proposed conditions was 5.85 acres. Based on the proposed drainage patterns, the 5.85-acre area was divided into two (2) contributing drainage areas, labeled Proposed Drainage Area 1 (PDA-1) and Proposed Drainage Area 2 (PDA-2).

PDA-1 has a contributing drainage area of approximately 1.55 acres. Similar to existing conditions, runoff from PDA-1 flows from north overland and discharges into the large wetland system located in the north of the property.

PDA-2 has a contributing drainage area of approximately 4.30 acres and includes a large portion of the solar array as well as the access driveway and concrete equipment pad. Runoff from this area travels southeast overland into the existing stormwater catchment area.

All proposed areas of disturbance within the solar array will be seeded with a Fuzz & Buzz Mix – ERNMX-147 or approved equal.

Table 3: Proposed Drainage Areas

Drainage Area Label	Drainage Area	Curve Number	Time of Concentration
Proposed Drainage Area 1 (PDA-1)	1.55 AC	45	24.9 Min.
Proposed Drainage Area 2 (PDA-2)	4.30 AC	48	21.5 Min.

For more information regarding the proposed stormwater management design of the Project area refer to the Proposed Drainage Area Map (DA-2) in Appendix A; and the Hydrocad and Water Quality Volume calculations in Appendix B.

As a result of the proposed stormwater management measures, the peak flows for the 2, 25, 50 and 100-year storm events are reduced from existing conditions as shown in the chart below.

Table 4-A: Peak Flow Comparison Table

Storm Event	Peak Flow (cfs)		Percent Reduction in Peak Flow
	Total Drainage Areas		
	EDA-1	PDA-1	
2-Year	0.55	0.01	98.2%
25-Year	3.52	0.68	80.7%
50-Year	4.52	1.09	75.9%
100-Year	5.69	1.61	71.7%

Table 4-B: Peak Flow Comparison Table

Storm Event	Peak Flow (cfs)		Percent Reduction in Peak Flow
	Total Drainage Areas		
	EDA-2	PDA-2	
2-Year	0.00	0.00	N/A
25-Year	0.00	0.00	N/A
50-Year	0.00	0.00	N/A
100-Year	0.00	0.00	N/A

CT DEEP APPENDIX I DESIGN REGULATIONS/COMPLIANCE

The following identifies and details the regulations and proposed compliance measures within CT DEEP Appendix I that pertain specifically to civil, stormwater, and erosion control designs.

I. Design and construction requirements:

1. Roadways, gravel surfaces, transformer pads are considered effective impervious cover for the purposes of calculating the WQV. The proposed solar panels in the array that are within existing and post-construction slopes that are greater than 15% are considered impervious for the purposes of calculating the WQV. The remainder of the proposed solar panels that are proposed within existing and post-construction slopes that are less than 15% are not considered impervious cover for the purposes of calculating the WQV because the following have been met:
 - a. Vegetative areas between the rows of solar panels have a width of 9 feet which is greater than the solar panel width of 7.8 feet.
 - b. The post-development stormwater runoff will be less than that of the pre-development stormwater runoff due to the change in ground cover and stormwater catchment area
 - c. The Project meets (iv) of this requirement as the plan includes specific engineered phased construction plans and detailed erosion control measures.
 - d. The panels are spaced and provide a minimum height of 3 feet from the ground to provide growth of native vegetation.
2. Setback and buffer requirements have been met following the below:
 - a. No wetlands or waters are located within 100 feet of the proposed solar facility area. No solar panels are located within the 50-foot setback of any property boundary that is located downgradient of the construction activity.
 - b. There is a minimum of 50 feet between the limit of construction activity and downgradient wetlands.
 - c. There is a minimum of 10 feet between the construction activity associated with the installation of the access road and interconnection and downgradient wetlands.
3. The wetlands and water courses were originally delineated by BL Companies in August 2021 and confirmed in the field by William Kenny Associates on April 21, 2023. The location of delineated resources, as well as buffers, are shown on the Site Layout Plan (Sheet 2.11) in Appendix A.

II. Design requirements for post-construction stormwater management measures:

1. Post-construction stormwater control measures have been designed and will be constructed to provide permanent stabilization and non-erosive conveyance of runoff from the site.
2. The orientation of the panels follows the existing slopes on the site to the extent practicable.
3. The hydrologic analysis has been completed, as described above, with the following details:
 - a. The Project evaluates and controls the 2, 25, 50, and 100-year 24-hour rainfall events in accordance with the CT Stormwater Quality Manual. Maximum sheet flow was kept to 100 feet and shallow concentrated flows were calculated using velocity factors per NRCS Part 630 National Engineering Handbook Chapter 15.
 - b. NRCS soil mapping was used for the stormwater design.

- c. There are no areas where the grades will change by more than two (2) feet from existing conditions. With the modeled half-drop (1/2) in HSG for the facility area and the change in curve number associated with the ground cover change from existing to proposed conditions, there will be a decrease in post-development runoff in comparison to pre-development runoff.
- d. Pre-and post-development drainage area maps & computations are provided in Appendices A and B.
- e. The information above and herein demonstrates that the Project will have no net increase in peak flows, erosive velocities or volumes, or adverse impacts to downstream properties.

SOIL EROSION & SEDIMENT CONTROL

The proposed plans for soil erosion and sediment control prepared for this project have been developed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, prepared by the Connecticut Council on Soil and Water Conservation in cooperation with the Connecticut Department of Environmental Protection.

The soil erosion and sediment control measures that will be proposed as part of this project include geotextile silt fences, compose filter socks, construction entrance, dust control measures, and inlet protection for existing drainage features. The soil erosion and sediment control measures on site will be implemented in two (2) phases. Phase I measures are associated with the clearing, grubbing and demolition of the existing Site features. Phase II measures are associated with fine grading and installation of the solar arrays, hardscape, and utilities infrastructure.

For more information pertaining to the soil erosion and sediment control plans for the Site refer to Sheets 2.31 and 2.41 in Appendix D.

CONCLUSION

The stormwater management for the proposed site has been designed such that the post-development peak discharges to the waters of the State of Connecticut for the 2-, 25-, 50-, and 100- year storm events are less than the pre-development peak discharges. In addition, the Project adheres to the regulations and guidelines presented by CT DEEP's Appendix I as described above. As a result, the proposed solar array will not result in any adverse conditions to the surrounding areas and properties.

APPENDICES

Appendix A – Figures

Appendix B – Stormwater Calculations

Appendix A – Figures

Property & Limited Topographic Survey of 00 Chamberlain Highway,
Berlin, Connecticut

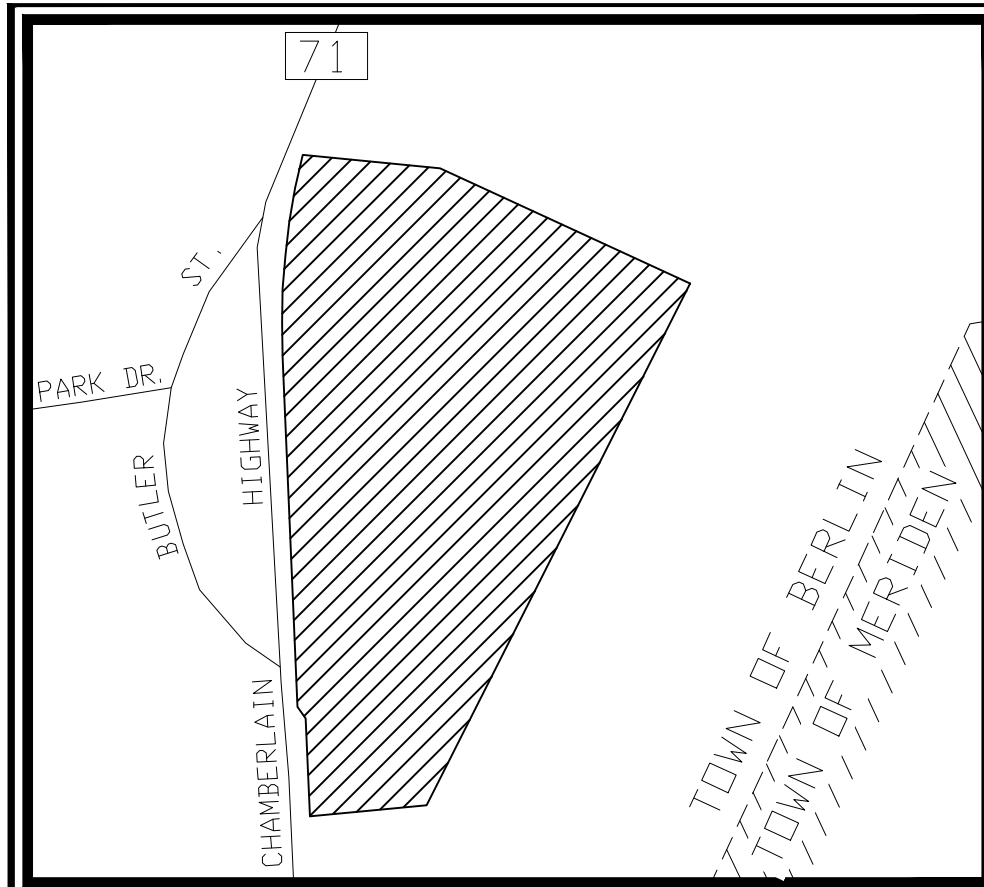
Prepared by BL Companies.

NRCS Soil Survey Map

Site Layout Plan (2.11)

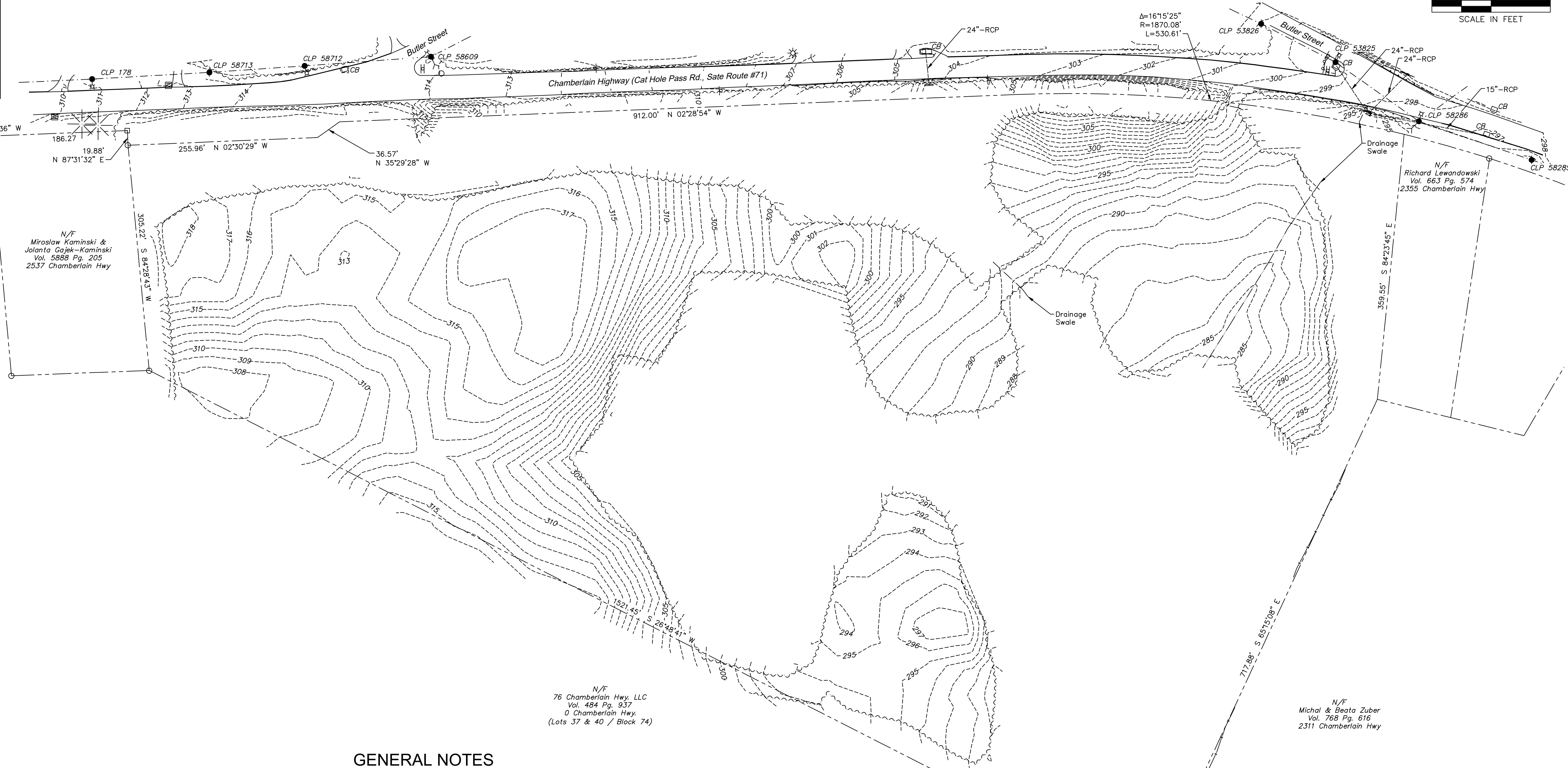
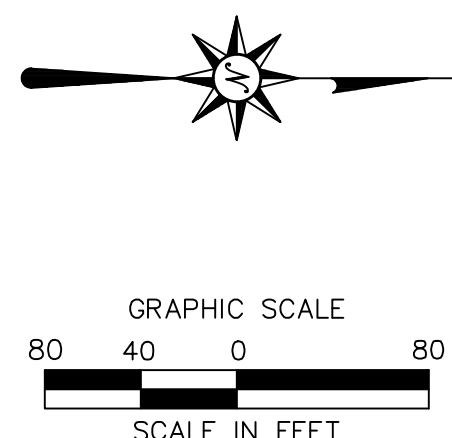
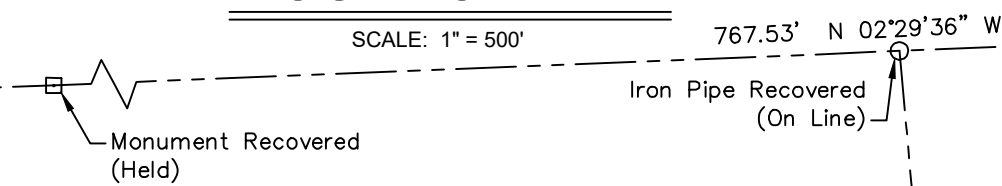
Existing Drainage Area Map (DA-1)

Proposed Drainage Area Map (DA-2)



LOCATION MAP

SCALE: 1" = 500'



GENERAL NOTES

- A) THIS MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THROUGH 20-300b-20 AS AMENDED OCTOBER 26, 2018.
 - B) THIS PLAN CONFORMS TO HORIZONTAL ACCURACY CLASS A-2 AND A VERTICAL ACCURACY CLASS V-2 AND TOPOGRAPHIC ACCURACY CLASS T-2.
 - C) BOUNDARY DETERMINATION IS A RESURVEY OF MAP REFERENCE.
 - D) THE TYPE OF SURVEY PERFORMED IS A PROPERTY SURVEY AND IS INTENDED TO DEPICT BOUNDARIES, EASEMENTS, RIGHTS AND PRINCIPAL IMPROVEMENTS (ONLY) ON AND ADJACENT TO THE PROPERTY.
- NORTH ARROW AND BEARINGS REFER TO THE CONNECTICUT STATE PLANE COORDINATE SYSTEM (NAD 83) AND ARE BASED ON GPS OBSERVATIONS PERFORMED BY JULIANO ASSOCIATES DURING OCTOBER 2022, REFERENCED TO THE SUPERIOR GPS NETWORK.
 - ELEVATIONS REFER TO THE CONNECTICUT STATE PLANE COORDINATED SYSTEM NAVD 88 (GEOID 12B) AND ARE BASED ON GPS OBSERVATIONS PERFORMED BY JULIANO ASSOCIATES DURING OCTOBER 2022, REFERENCED TO THE SUPERIOR GPS NETWORK.
 - PARCEL IS LOCATED IN A FLOOD HAZARD AREA "X", (AREAS DETERMINED TO BE OUTSIDE 100-YEAR FLOOD) AS DEPICTED ON F.I.R.M. COMMUNITY PANEL NO. 09003C 0608 F PANEL 608 OF 675 REVISED: SEPTEMBER 26, 2008.
 - THERE WAS NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED WHILE CONDUCTING THE FIELDWORK.
 - THERE WAS NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIR WHILE CONDUCTING FIELDWORK.
 - THE UNDERGROUND UTILITIES DEPICTED HAVE BEEN PLOTTED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES DEPICTED ARE IN THE EXACT LOCATION INDICATED THOUGH THEY ARE PLOTTED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY EXPOSED THE UNDERGROUND UTILITIES. PER CONNECTICUT STATE LAW THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF EXCAVATION. CALL BEFORE YOU DIG 1-800-922-4455.

LEGEND

	Property Line		Electric Meter
	Easement Line		Utility Pole
	Setback Line		Utility Pole w/ Light
	Limit of Wetlands		Light Pole
	Wetlands/Marsh		Double Light Standard
	Trellise		Light on Parapet
	Major Contour		Gas Valve
	Minor Contour		Gas Meter
	Stone Wall		Cleanout
	Retaining Wall		Catch Basin
	Guide Rail		Manhole
	Fence		Roof Drain
	Underground Electric Line		Fire Hydrant
	Underground Stalight/Streetlight Electric Line		Water Valve
	Gas Line		Water Meter
	Sanitary Sewer		Fire Connection - Single
	Storm Sewer		Fire Connection - Double
	Underground Cable Television Line		Fire-Protection Valve
	Underground Telecommunications Line		Sign
	Water Line		Ballard
	Fire-Protection Line		Monitoring Well
	Underground Utility - Type Unknown		Irrigation Control Box

MAP REFERENCE(S)

- "MAP SHOWING PROPOSED PROPERTY LINE REALIGNMENT, PROPERTY KNOWN AS LOT 37 & 40 / BLOCK 74, CHAMBERLAIN HIGHWAY (CAT HOLE PASS ROAD, STATE ROUTE #71) BERLIN, CONNECTICUT" SCALE 1" = 100', DATE NOVEMBER 6, 2002, PREPARED BY MBA ENGINEERING INC. AND FILED AS MAP 3376 ON THE TOWN OF BERLIN CLERKS OFFICE.
- "MAP SHOWING PROPERTY OF CHARLES & MARGARET KSZYWANSKI, CHAMBERLAIN HIGHWAY BERLIN, CT. SCALE 1" = 50', DATE MAY 1962, PREPARED BY JB MARKS L.S. 4397 AND FILED AS MAP 674 ON THE TOWN OF BERLIN CLERKS OFFICE.

SURVEY CERTIFICATION

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2,3,4,5,6(a),7(c),7(e),8,9,11,13,14,18 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 10/28/22.



TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

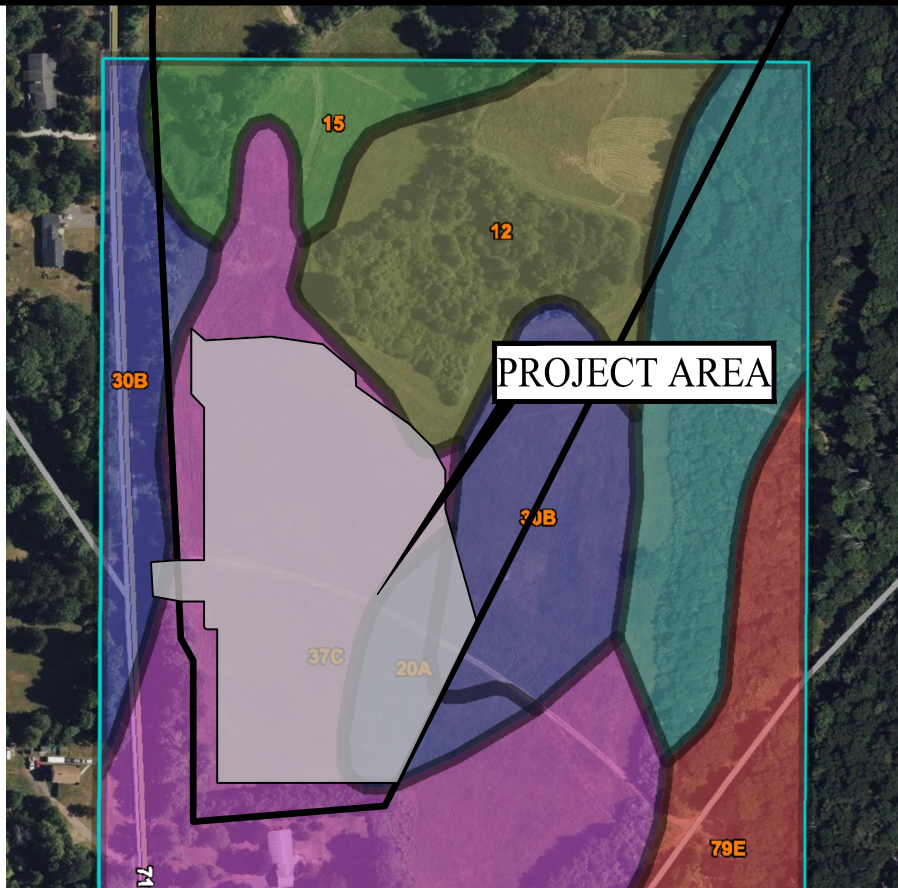
Patrick J. Corless, Jr.
11/4/2022
PATRICK J. CORLESS, JR. L.S. #70015

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE NAMED LAND SURVEYOR.

PROPERTY & LIMITED TOPOGRAPHIC SURVEY
00 CHAMBERLAIN HIGHWAY
BERLIN, CONNECTICUT

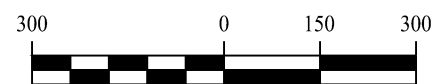
Revisions	Date	Drawn	DER/MSM
No.		Reviewed	ZG
		Scale	1"=80'
		Project No.	2101762
		Date	11/4/22
CAD File:	233002-1-0	Title	PROPERTY/ TOPOGRAPHIC SURVEY
Sheet No.			EX-1

Nov 04, 2022 11:26am zjzhegna.M:\Working\2022\233002-1-0.dwg
Layout: Layout1



Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
6	Wilbraham and Menlo soils, 0 to 8 percent slopes, extremely stony	C/D	1.5	3.7%
12	Raypol silt loam	C/D	5.4	13.5%
15	Scarboro muck, 0 to 3 percent slopes	A/D	2.0	5.1%
20A	Ellington silt loam, 0 to 5 percent slopes	B	1.2	3.0%
30B	Branford silt loam, 3 to 8 percent slopes	B	5.8	14.4%
37C	Manchester gravelly sandy loam, 3 to 15 percent slopes	A	14.3	35.7%
78C	Holyoke-Rock outcrop complex, 3 to 15 percent slopes	D	0.1	0.2%
79E	Rock outcrop-Holyoke complex, 3 to 45 percent slopes	D	5.0	12.4%
87B	Wethersfield loam, 3 to 8 percent slopes	C	0.1	0.2%
89D	Wethersfield loam, 15 to 35 percent slopes, extremely stony	C	4.7	11.8%
Totals for Area of Interest			40.1	100.0%

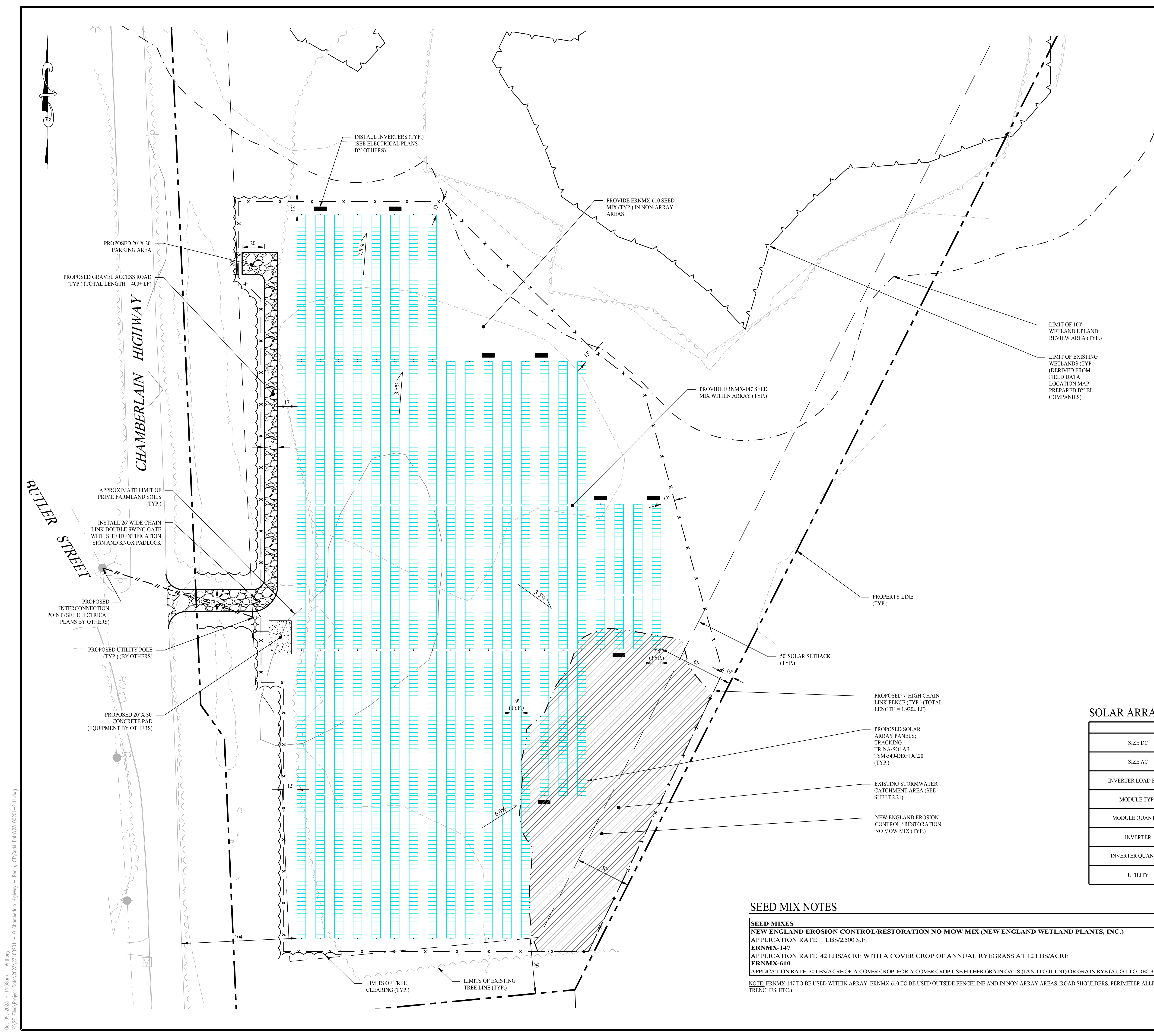
NOTE: BASE MAP RESOURCES TAKEN FROM THE
 NATURAL RESOURCES CONSERVATION SERVICE, URL:
<https://websoilsurvey.sc.egov.usda.gov>



SOLLI
 ENGINEERING
 501 Main Street, Monroe, CT 06468
 T: (203) 880-5455 F: (203) 880-9695

SOIL SURVEY MAP
 0 CHAMBERLAIN HIGHWAY
 BERLIN, CONNECTICUT

Project #: 23100201
 Plan Date: 10/18/23
 Scale: 1" = 300'
 Figure:



LEGEND

- PROPERTY LINE
- SOLAR SETBACK LINE
- WETLAND LIMIT
- WETLAND UPLAND REVIEW AREA - 100 FT BUFFER
- 7' TALL CHAIN LINK FENCE
- STORMWATER CATCHMENT AREA
- OVERHEAD ELECTRIC LINE (BY OTHERS)
- ELECTRIC CONDUIT (BY OTHERS)
- UTILITY POLE (BY OTHERS)
- TRINA 540W SOLAR MODULES
- EVERGREEN TREE
- NEW ENGLAND EROSION CONTROL / RESTORATION NO MOW MIX
- GRAVEL ROAD
- LIMITS OF TREE CLEARING
- LIMITS OF EXISTING TREE LINE
- CONCRETE PAD
- INVERTER

- ### GENERAL NOTES
- THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL FINAL APPROVAL OF THIS PLAN IS GRANTED.
 - EXISTING BOUNDARY, TOPOGRAPHY AND SITE CONDITIONS INFORMATION TAKEN FROM A PLAN ENTITLED "PROPERTY/TOPOGRAPHIC SURVEY" DATED 11/04/22, SCALE: 1"=80', BY BL COMPANIES.
 - ALL CONSTRUCTION SHALL COMPLY WITH TOWN OF MONTVILLE STANDARDS, CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS IN THE ABOVE REFERENCED INCREASING HIERARCHY. IF SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS.
 - THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL COUNTY AND TOWN CONSTRUCTION PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE, AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
 - THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE ENGINEER OF RECORD IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO BIDDING. ANY CONFLICT BETWEEN THE DRAWINGS SHALL BE CONFIRMED WITH THE OWNER'S CONSTRUCTION MANAGER PRIOR TO BIDDING.
 - SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING, OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER OF RECORD IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
 - DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER AND THE LOCAL MUNICIPALITIES. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
 - THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS, OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE ENGINEER OF RECORD.
 - THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER OF RECORD HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
 - THE CONTRACTOR SHALL COMPLY WITH CFR 29 PART 1926 FOR EXCAVATION/TRENCHING AND TRENCH PROTECTION REQUIREMENTS.
 - ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE ENGINEER OF RECORD AND APPROPRIATE REGULATORY AGENCY PRIOR TO INSTALLATION DURING THE BIDDING PROCESS.
 - INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER, MUNICIPAL RECORD MAPS, AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" 72 HOURS BEFORE COMMENCEMENT OF WORK AT (800) 922-4455 AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.

SOLAR ARRAY SYSTEM INFORMATION

	TOTAL
SIZE DC	1,399 MW
SIZE AC	0,999 MW
INVERTER LOAD RATIO	1.40
MODULE TYPE	TRACKING TRINASOLAR TSM-540-DEG19C.20 (540W)
MODULE QUANTITY	2,590
INVERTER	SUNGROW SG125HV 125KW
INVERTER QUANTITY	8
UTILITY	EVERSOURCE

SEED MIX NOTES

SEED MIXES
NEW ENGLAND EROSION CONTROL/RESTORATION NO MOW MIX (NEW ENGLAND WETLAND PLANTS, INC.)
 APPLICATION RATE: 1 LBS/2,500 S.F.
ERNMX-147
 APPLICATION RATE: 42 LBS/ACRE WITH A COVER CROP OF ANNUAL RYEGRASS AT 12 LBS/ACRE
ERNMX-610
 APPLICATION RATE: 30 LBS/ACRE OF A COVER CROP. FOR A COVER CROP USE EITHER GRAIN OATS (JAN 1 TO JUL 31) OR GRAIN RYE (AUG 1 TO DEC 31)

NOTE: ERNMX-147 TO BE USED WITHIN ARRAY. ERNMX-610 TO BE USED OUTSIDE FENCELINE AND IN NON-ARRAY AREAS (ROAD SHOULDERS, PERIMETER ALLEYS, ELECTRIC TRENCHES, ETC.)

Rev. #:	Date	Description



501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
 11 Vanderbilt Ave, Norwood, MA 02062 T: (781) 352-8491 F: (203) 880-9695

Drawn By: RHF
 Checked By: CJB
 Approved By: KMS
 Project #: 23100201
 Plan Date: 09/30/23
 Scale: 1" = 40'

PROPOSED SOLAR PHOTOVOLTAIC ARRAY

0 CHAMBERLAIN HIGHWAY
 BERLIN, CONNECTICUT






Sheet Title: **SITE LAYOUT PLAN** Sheet #: **2.11**

Oct 09, 2023 - 11:58am Anthony
 X:\SE Files\Project Data\2023\23100201 - 0 Chamberlain Highway - Berlin, CT\Coord Data\23100201-2.11.dwg

GENERAL NOTES

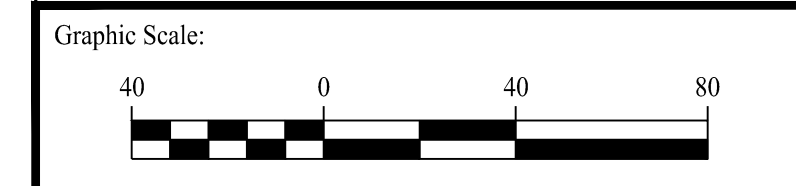
1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION STORMWATER QUALITY MANUAL AND CT DEEP APPENDIX L.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

-  PROPERTY LINE
-  RIGHT-OF-WAY LINE
-  ADJOINING LOT LINE
-  LIMIT OF DRAINAGE AREA
-  FLOW PATH



Rev. #:	Date	Description



SOLLI ENGINEERING
 501 Main Street, Meriden, CT 06468 T: (203) 880-5455 F: (203) 880-9695
 11 Vanderbilt Ave, Norwood, MA 02062 T: (781) 352-8491 F: (203) 880-9695

Drawn By: AWC
 Checked By: CJB
 Approved By: KMS
 Project #: 23100201
 Plan Date: 09/30/23
 Scale: 1" = 40'



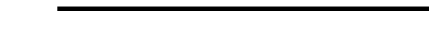


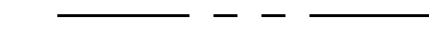
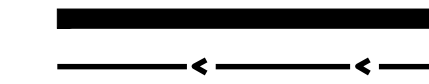
Project:
PROPOSED SOLAR PHOTOVOLTAIC ARRAY
 0 CHAMBERLAIN HIGHWAY
 BERLIN, CONNECTICUT

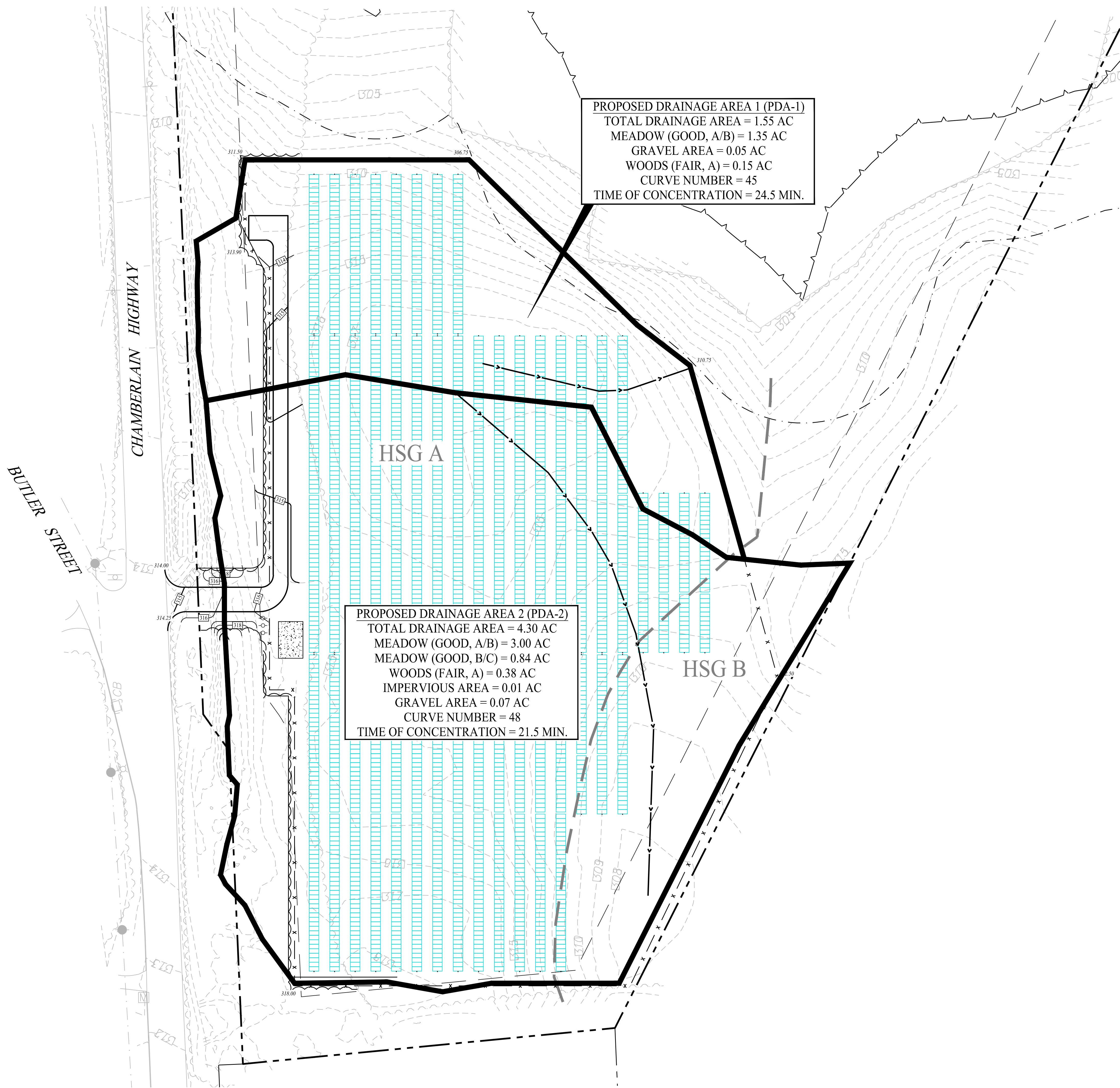
Sheet Title: **EXISTING DRAINAGE AREA MAP** Sheet #: **DA-1**

GENERAL NOTES

1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION STORMWATER QUALITY MANUAL AND CT DEEP APPENDIX L.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

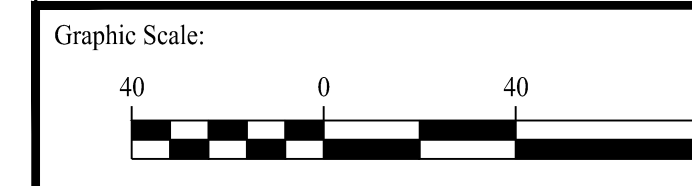
-  PROPERTY LINE
-  RIGHT-OF-WAY LINE
-  ADJOINING LOT LINE
-  LIMIT OF DRAINAGE AREA
-  FLOW PATH



PROPOSED DRAINAGE AREA 1 (PDA-1)
 TOTAL DRAINAGE AREA = 1.55 AC
 MEADOW (GOOD, A/B) = 1.35 AC
 GRAVEL AREA = 0.05 AC
 WOODS (FAIR, A) = 0.15 AC
 CURVE NUMBER = 45
 TIME OF CONCENTRATION = 24.5 MIN.

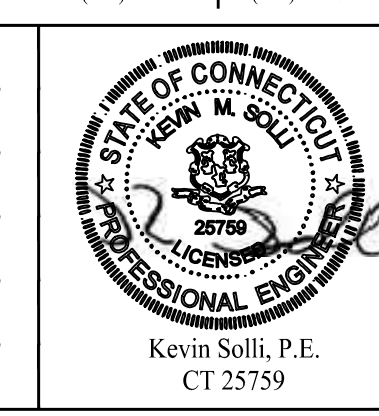
PROPOSED DRAINAGE AREA 2 (PDA-2)
 TOTAL DRAINAGE AREA = 4.30 AC
 MEADOW (GOOD, A/B) = 3.00 AC
 MEADOW (GOOD, B/C) = 0.84 AC
 WOODS (FAIR, A) = 0.38 AC
 IMPERVIOUS AREA = 0.01 AC
 GRAVEL AREA = 0.07 AC
 CURVE NUMBER = 48
 TIME OF CONCENTRATION = 21.5 MIN.

Rev. #:	Date	Description



SOLLI ENGINEERING
 501 Main Street, Meriden, CT 06468 T: (203) 880-5455 F: (203) 880-9695
 11 Vanderbilt Ave, Norwood, MA 02062 T: (781) 352-8491 F: (203) 880-9695

Drawn By: AWC
 Checked By: CJB
 Approved By: KMS
 Project #: 23100201
 Plan Date: 09/30/23
 Scale: 1" = 40'



PROPOSED SOLAR PHOTOVOLTAIC ARRAY
 0 CHAMBERLAIN HIGHWAY
 BERLIN, CONNECTICUT

Sheet Title: **PROPOSED DRAINAGE AREA MAP**
 Sheet #: **DA-2**

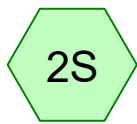
Oct 18, 2023 - 9:35am anthony
 X:\SE Files\Project Data\2023\23100201 - 0 Chamberlain Highway - Berlin, CT\Cadd Data\23100201-DA-1.dwg

Appendix B – Stormwater Calculations

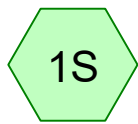
Hydrology Calculations (2-, 25-, 50-, 100-year storm events)

Water Quality Volume Calculations

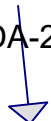
NOAA Atlas Precipitation Data



EDA-1



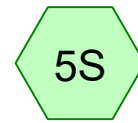
EDA-2



EX BASIN



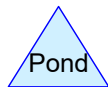
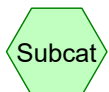
PDA-1



PDA-2



EX BASIN



Routing Diagram for Berlin Hydrology

Prepared by Solli Engineering, Printed 10/31/2023

HydroCAD® 10.20-3g s/n 13171 © 2023 HydroCAD Software Solutions LLC

Berlin Hydrology

Prepared by Solli Engineering

HydroCAD® 10.20-3g s/n 13171 © 2023 HydroCAD Software Solutions LLC

NRCC 24-hr D 2-yr Rainfall=3.36"

Printed 10/31/2023

Page 2

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

Subcatchment 1S: EDA-2

Runoff Area=4.300 ac 0.00% Impervious Runoff Depth>0.59"
Flow Length=466' Tc=9.8 min CN=63 Runoff=1.87 cfs 0.211 af

Subcatchment 2S: EDA-1

Runoff Area=1.550 ac 0.00% Impervious Runoff Depth>0.51"
Flow Length=180' Tc=8.5 min CN=61 Runoff=0.55 cfs 0.066 af

Subcatchment 5S: PDA-2

Runoff Area=4.300 ac 0.23% Impervious Runoff Depth>0.12"
Flow Length=466' Tc=21.5 min CN=48 Runoff=0.05 cfs 0.041 af

Subcatchment 6S: PDA-1

Runoff Area=1.550 ac 0.00% Impervious Runoff Depth>0.06"
Flow Length=180' Tc=24.9 min CN=45 Runoff=0.01 cfs 0.008 af

Pond 6P: EX BASIN

Peak Elev=308.64' Storage=3,695 cf Inflow=1.87 cfs 0.211 af
Outflow=0.16 cfs 0.145 af

Pond 7P: EX BASIN

Peak Elev=308.03' Storage=85 cf Inflow=0.05 cfs 0.041 af
Outflow=0.05 cfs 0.040 af

Summary for Subcatchment 1S: EDA-2

Runoff = 1.87 cfs @ 12.19 hrs, Volume= 0.211 af, Depth> 0.59"
 Routed to Pond 6P : EX BASIN

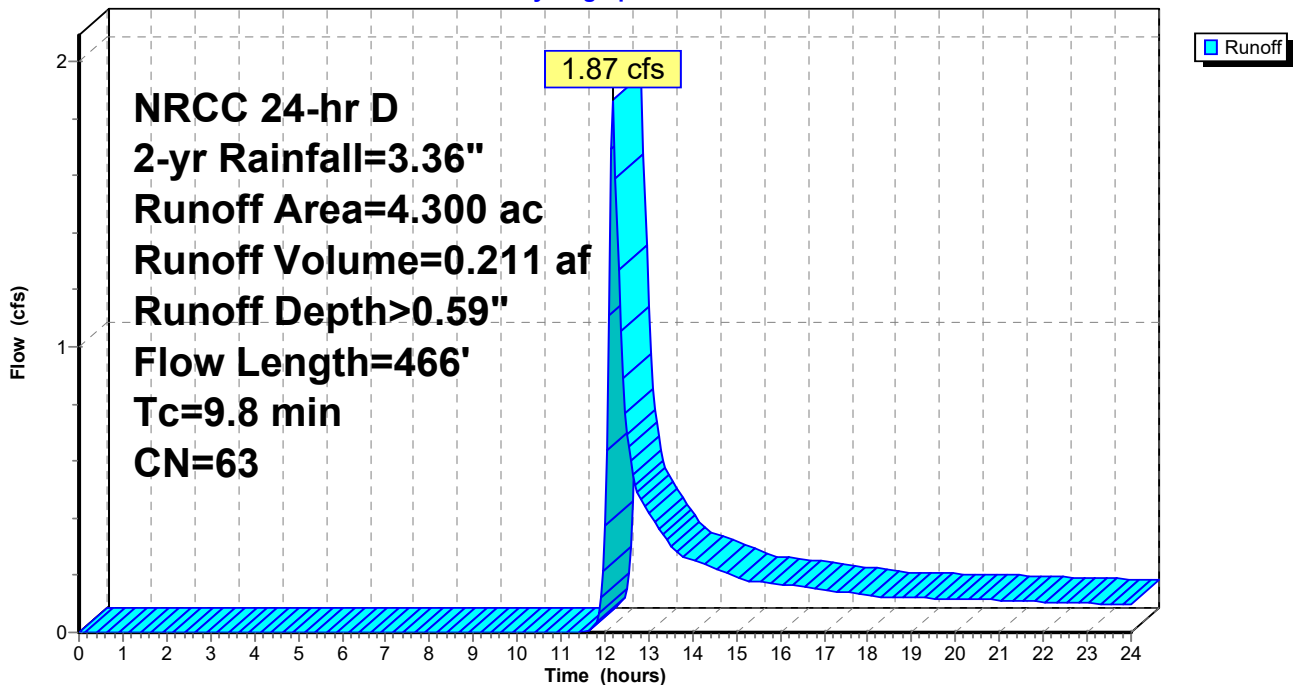
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 2-yr Rainfall=3.36"

Area (ac)	CN	Description
2.660	67	Row crops, straight row, Good, HSG A
0.830	78	Row crops, straight row, Good, HSG B
0.810	36	Woods, Fair, HSG A
4.300	63	Weighted Average
4.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0150	0.32		Sheet Flow, AB Cultivated: Residue<=20% n= 0.060 P2= 3.36"
4.6	366	0.0220	1.33		Shallow Concentrated Flow, BC Cultivated Straight Rows Kv= 9.0 fps
9.8	466	Total			

Subcatchment 1S: EDA-2

Hydrograph



Summary for Subcatchment 2S: EDA-1

Runoff = 0.55 cfs @ 12.18 hrs, Volume= 0.066 af, Depth> 0.51"
 Routed to nonexistent node 9L

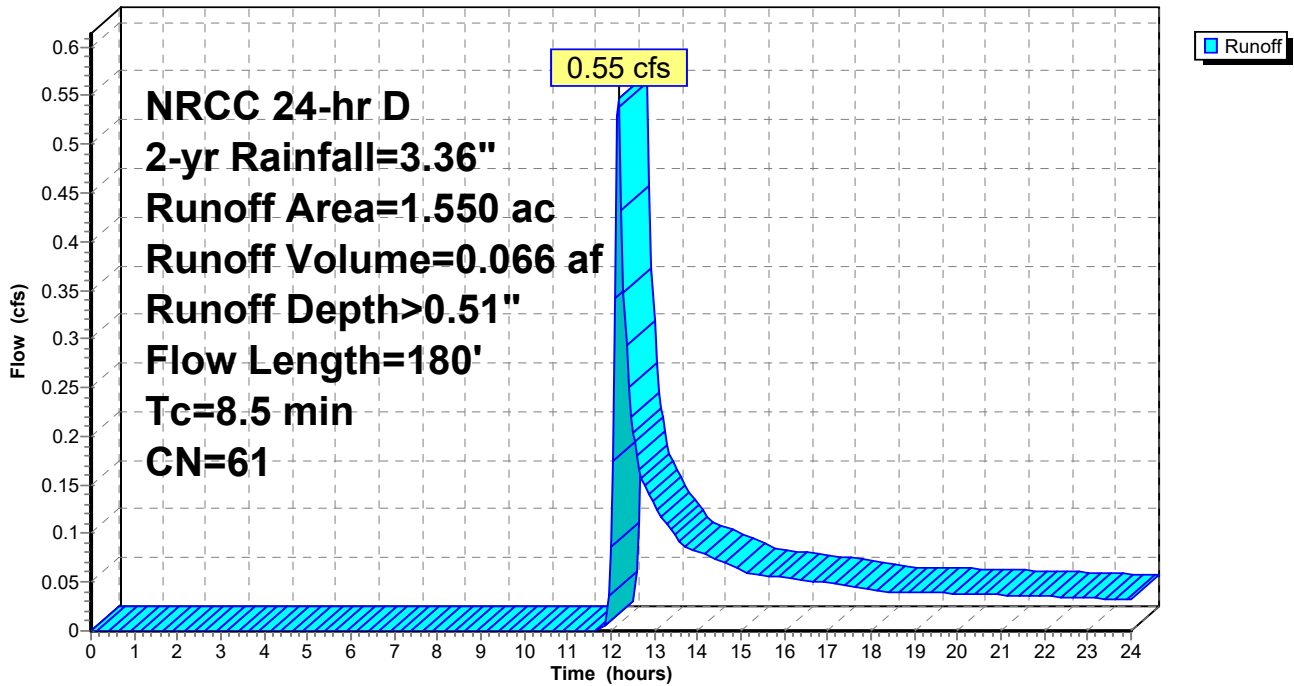
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 2-yr Rainfall=3.36"

Area (ac)	CN	Description
1.270	67	Row crops, straight row, Good, HSG A
0.280	36	Woods, Fair, HSG A
1.550	61	Weighted Average
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0050	0.21		Sheet Flow, AB Cultivated: Residue<=20% n= 0.060 P2= 3.36"
0.5	80	0.0750	2.46		Shallow Concentrated Flow, BC Cultivated Straight Rows Kv= 9.0 fps
8.5	180	Total			

Subcatchment 2S: EDA-1

Hydrograph



Summary for Subcatchment 5S: PDA-2

Runoff = 0.05 cfs @ 14.48 hrs, Volume= 0.041 af, Depth> 0.12"
 Routed to Pond 7P : EX BASIN

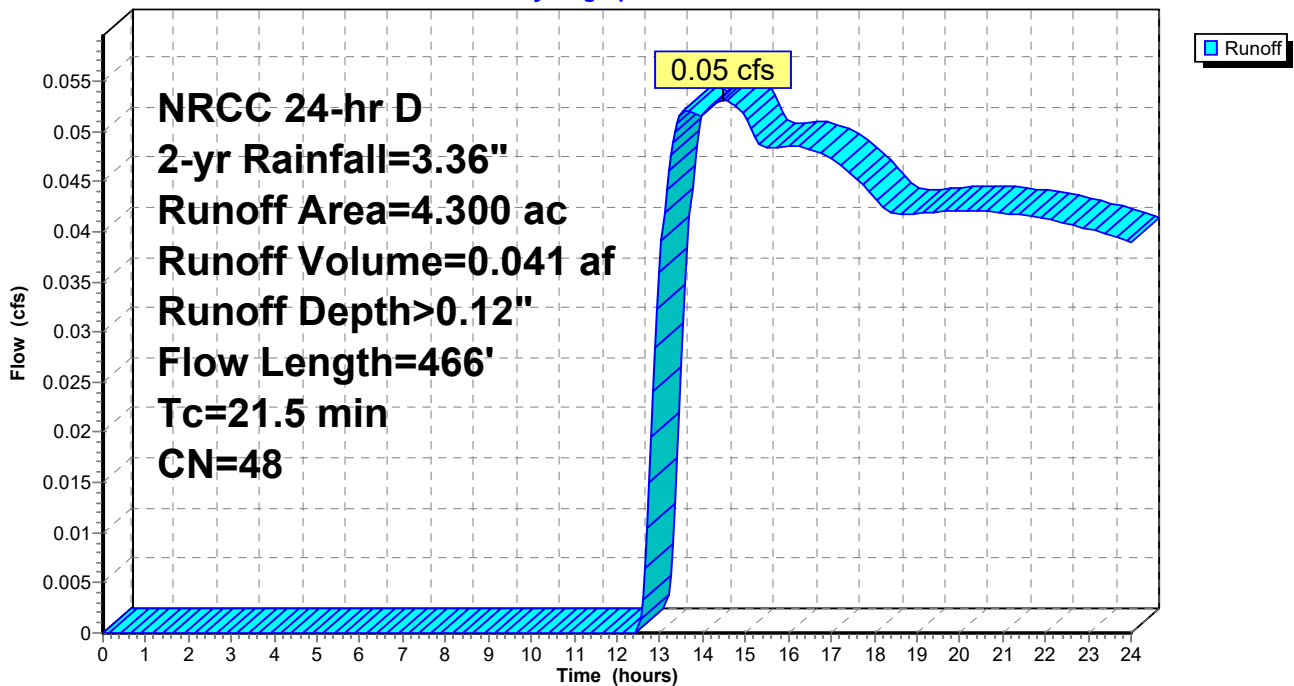
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 2-yr Rainfall=3.36"

Area (ac)	CN	Description
* 0.840	65	Meadow, non-grazed, HSG B/C
* 3.000	44	Meadow, non-grazed, HSG A/B
0.380	36	Woods, Fair, HSG A
0.010	98	Paved parking, HSG A
0.070	96	Gravel surface, HSG A
4.300	48	Weighted Average
4.290		99.77% Pervious Area
0.010		0.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0150	0.11		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.36"
5.9	366	0.0220	1.04		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
21.5	466	Total			

Subcatchment 5S: PDA-2

Hydrograph



Summary for Subcatchment 6S: PDA-1

Runoff = 0.01 cfs @ 21.75 hrs, Volume= 0.008 af, Depth> 0.06"
 Routed to nonexistent node 8L

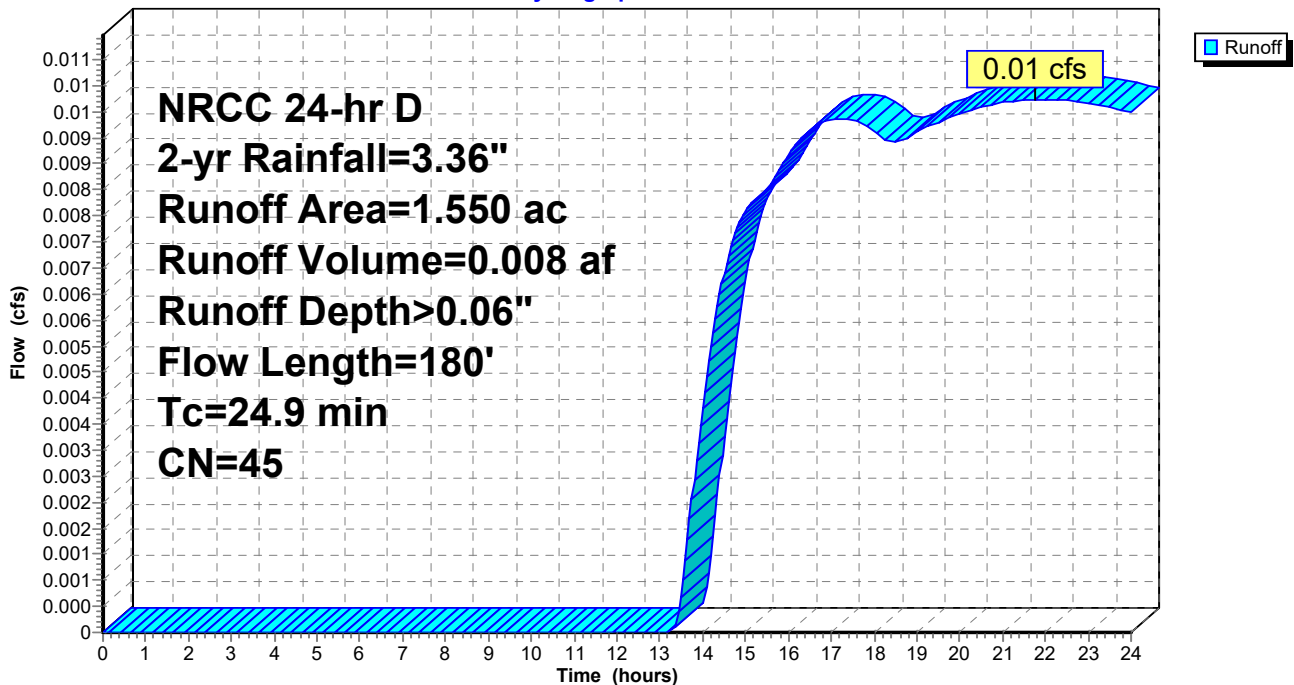
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 2-yr Rainfall=3.36"

Area (ac)	CN	Description
* 1.350	44	Meadow, non-grazed, HSG A/B
0.150	36	Woods, Fair, HSG A
0.050	96	Gravel surface, HSG A
1.550	45	Weighted Average
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	100	0.0050	0.07		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.36"
0.7	80	0.0750	1.92		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
24.9	180	Total			

Subcatchment 6S: PDA-1

Hydrograph



Summary for Pond 6P: EX BASIN

Inflow Area = 4.300 ac, 0.00% Impervious, Inflow Depth > 0.59" for 2-yr event
 Inflow = 1.87 cfs @ 12.19 hrs, Volume= 0.211 af
 Outflow = 0.16 cfs @ 16.74 hrs, Volume= 0.145 af, Atten= 92%, Lag= 273.0 min
 Discarded = 0.16 cfs @ 16.74 hrs, Volume= 0.145 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 308.64' @ 16.74 hrs Surf.Area= 8,584 sf Storage= 3,695 cf

Plug-Flow detention time= 270.4 min calculated for 0.145 af (69% of inflow)
 Center-of-Mass det. time= 143.0 min (1,084.6 - 941.6)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	51,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

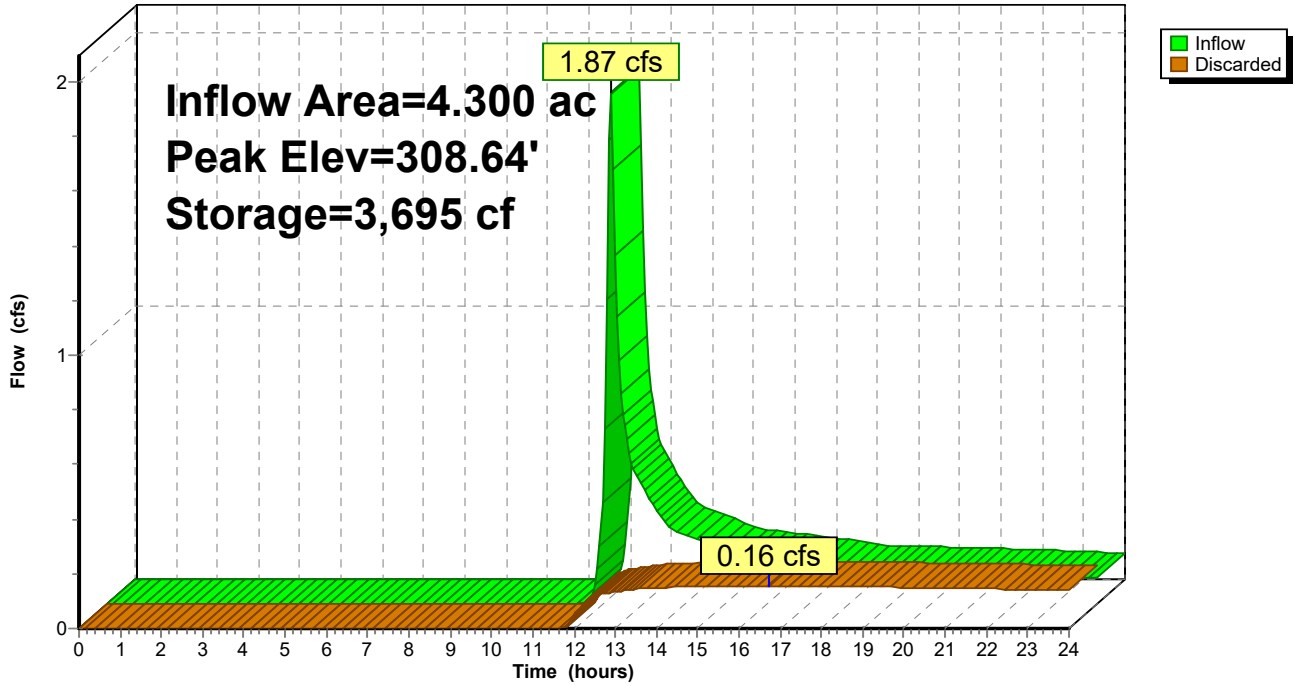
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
308.00	2,996	0	0
309.00	11,753	7,375	7,375
310.00	21,315	16,534	23,909
311.00	33,797	27,556	51,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	0.750 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.16 cfs @ 16.74 hrs HW=308.64' (Free Discharge)
 ↑1=Exfiltration (Controls 0.16 cfs)

Pond 6P: EX BASIN

Hydrograph



Stage-Discharge for Pond 6P: EX BASIN

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
308.00	0.00	309.06	0.23	310.12	0.44
308.02	0.06	309.08	0.23	310.14	0.44
308.04	0.06	309.10	0.24	310.16	0.45
308.06	0.06	309.12	0.24	310.18	0.45
308.08	0.06	309.14	0.24	310.20	0.46
308.10	0.07	309.16	0.25	310.22	0.46
308.12	0.07	309.18	0.25	310.24	0.47
308.14	0.07	309.20	0.25	310.26	0.47
308.16	0.08	309.22	0.26	310.28	0.48
308.18	0.08	309.24	0.26	310.30	0.49
308.20	0.08	309.26	0.27	310.32	0.49
308.22	0.09	309.28	0.27	310.34	0.50
308.24	0.09	309.30	0.27	310.36	0.50
308.26	0.09	309.32	0.28	310.38	0.51
308.28	0.10	309.34	0.28	310.40	0.51
308.30	0.10	309.36	0.28	310.42	0.52
308.32	0.10	309.38	0.29	310.44	0.52
308.34	0.11	309.40	0.29	310.46	0.53
308.36	0.11	309.42	0.30	310.48	0.53
308.38	0.11	309.44	0.30	310.50	0.54
308.40	0.12	309.46	0.30	310.52	0.54
308.42	0.12	309.48	0.31	310.54	0.55
308.44	0.12	309.50	0.31	310.56	0.55
308.46	0.13	309.52	0.31	310.58	0.56
308.48	0.13	309.54	0.32	310.60	0.56
308.50	0.13	309.56	0.32	310.62	0.57
308.52	0.14	309.58	0.33	310.64	0.57
308.54	0.14	309.60	0.33	310.66	0.58
308.56	0.14	309.62	0.33	310.68	0.58
308.58	0.15	309.64	0.34	310.70	0.59
308.60	0.15	309.66	0.34	310.72	0.59
308.62	0.15	309.68	0.35	310.74	0.60
308.64	0.16	309.70	0.35	310.76	0.60
308.66	0.16	309.72	0.35	310.78	0.61
308.68	0.16	309.74	0.36	310.80	0.62
308.70	0.17	309.76	0.36	310.82	0.62
308.72	0.17	309.78	0.37	310.84	0.63
308.74	0.17	309.80	0.37	310.86	0.63
308.76	0.18	309.82	0.37	310.88	0.64
308.78	0.18	309.84	0.38	310.90	0.64
308.80	0.18	309.86	0.38	310.92	0.65
308.82	0.19	309.88	0.39	310.94	0.65
308.84	0.19	309.90	0.39	310.96	0.66
308.86	0.19	309.92	0.39	310.98	0.66
308.88	0.20	309.94	0.40	311.00	0.67
308.90	0.20	309.96	0.40		
308.92	0.20	309.98	0.41		
308.94	0.21	310.00	0.41		
308.96	0.21	310.02	0.41		
308.98	0.21	310.04	0.42		
309.00	0.22	310.06	0.42		
309.02	0.22	310.08	0.43		
309.04	0.22	310.10	0.43		

Stage-Area-Storage for Pond 6P: EX BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
308.00	2,996	0	310.65	29,428	40,400
308.05	3,434	161	310.70	30,052	41,887
308.10	3,872	343	310.75	30,677	43,405
308.15	4,310	548	310.80	31,301	44,955
308.20	4,747	774	310.85	31,925	46,535
308.25	5,185	1,023	310.90	32,549	48,147
308.30	5,623	1,293	310.95	33,173	49,790
308.35	6,061	1,585	311.00	33,797	51,465
308.40	6,499	1,899			
308.45	6,937	2,235			
308.50	7,375	2,593			
308.55	7,812	2,972			
308.60	8,250	3,374			
308.65	8,688	3,797			
308.70	9,126	4,243			
308.75	9,564	4,710			
308.80	10,002	5,199			
308.85	10,439	5,710			
308.90	10,877	6,243			
308.95	11,315	6,798			
309.00	11,753	7,375			
309.05	12,231	7,974			
309.10	12,709	8,598			
309.15	13,187	9,245			
309.20	13,665	9,916			
309.25	14,144	10,612			
309.30	14,622	11,331			
309.35	15,100	12,074			
309.40	15,578	12,841			
309.45	16,056	13,632			
309.50	16,534	14,446			
309.55	17,012	15,285			
309.60	17,490	16,147			
309.65	17,968	17,034			
309.70	18,446	17,944			
309.75	18,925	18,879			
309.80	19,403	19,837			
309.85	19,881	20,819			
309.90	20,359	21,825			
309.95	20,837	22,855			
310.00	21,315	23,909			
310.05	21,939	24,990			
310.10	22,563	26,102			
310.15	23,187	27,246			
310.20	23,811	28,421			
310.25	24,436	29,627			
310.30	25,060	30,865			
310.35	25,684	32,133			
310.40	26,308	33,433			
310.45	26,932	34,764			
310.50	27,556	36,126			
310.55	28,180	37,520			
310.60	28,804	38,944			

Summary for Pond 7P: EX BASIN

Inflow Area = 4.300 ac, 0.23% Impervious, Inflow Depth > 0.12" for 2-yr event
 Inflow = 0.05 cfs @ 14.48 hrs, Volume= 0.041 af
 Outflow = 0.05 cfs @ 14.92 hrs, Volume= 0.040 af, Atten= 3%, Lag= 26.9 min
 Discarded = 0.05 cfs @ 14.92 hrs, Volume= 0.040 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 308.03' @ 14.92 hrs Surf.Area= 3,236 sf Storage= 85 cf

Plug-Flow detention time= 27.0 min calculated for 0.040 af (96% of inflow)
 Center-of-Mass det. time= 14.3 min (1,103.8 - 1,089.5)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	51,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

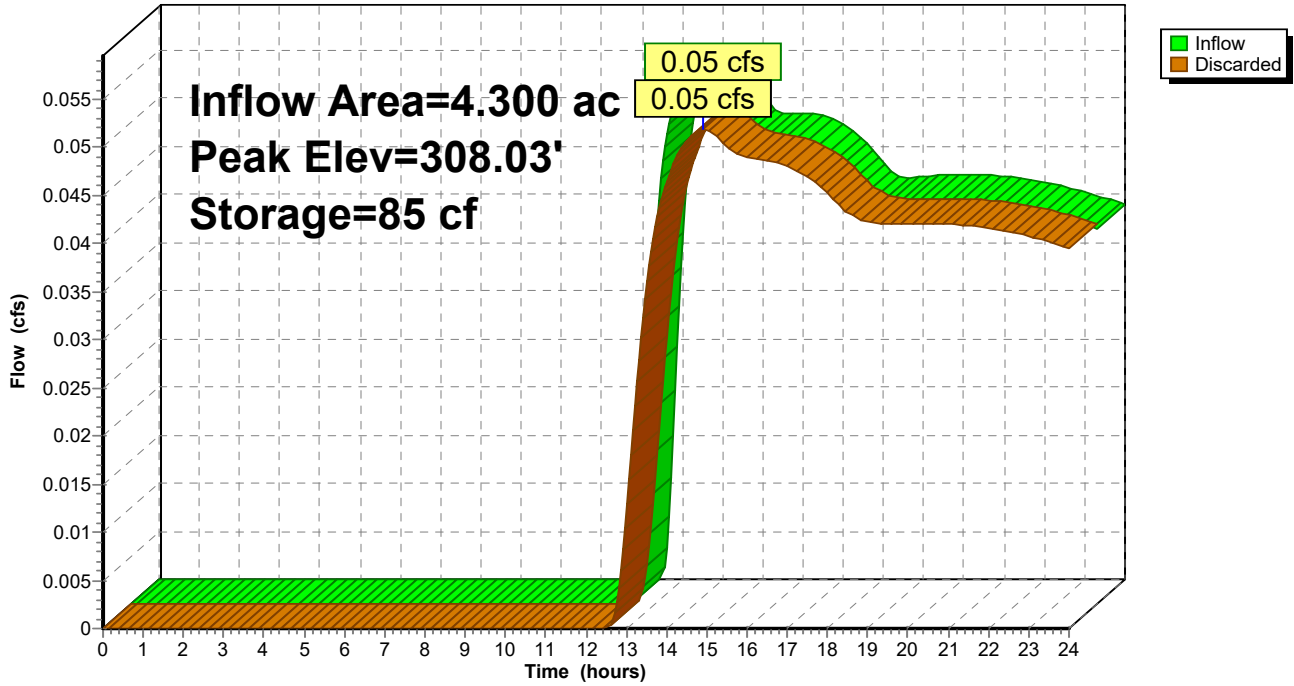
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
308.00	2,996	0	0
309.00	11,753	7,375	7,375
310.00	21,315	16,534	23,909
311.00	33,797	27,556	51,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	0.750 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.06 cfs @ 14.92 hrs HW=308.03' (Free Discharge)
 ↳1=Exfiltration (Controls 0.06 cfs)

Pond 7P: EX BASIN

Hydrograph



Stage-Discharge for Pond 7P: EX BASIN

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
308.00	0.00	309.06	0.23	310.12	0.44
308.02	0.06	309.08	0.23	310.14	0.44
308.04	0.06	309.10	0.24	310.16	0.45
308.06	0.06	309.12	0.24	310.18	0.45
308.08	0.06	309.14	0.24	310.20	0.46
308.10	0.07	309.16	0.25	310.22	0.46
308.12	0.07	309.18	0.25	310.24	0.47
308.14	0.07	309.20	0.25	310.26	0.47
308.16	0.08	309.22	0.26	310.28	0.48
308.18	0.08	309.24	0.26	310.30	0.49
308.20	0.08	309.26	0.27	310.32	0.49
308.22	0.09	309.28	0.27	310.34	0.50
308.24	0.09	309.30	0.27	310.36	0.50
308.26	0.09	309.32	0.28	310.38	0.51
308.28	0.10	309.34	0.28	310.40	0.51
308.30	0.10	309.36	0.28	310.42	0.52
308.32	0.10	309.38	0.29	310.44	0.52
308.34	0.11	309.40	0.29	310.46	0.53
308.36	0.11	309.42	0.30	310.48	0.53
308.38	0.11	309.44	0.30	310.50	0.54
308.40	0.12	309.46	0.30	310.52	0.54
308.42	0.12	309.48	0.31	310.54	0.55
308.44	0.12	309.50	0.31	310.56	0.55
308.46	0.13	309.52	0.31	310.58	0.56
308.48	0.13	309.54	0.32	310.60	0.56
308.50	0.13	309.56	0.32	310.62	0.57
308.52	0.14	309.58	0.33	310.64	0.57
308.54	0.14	309.60	0.33	310.66	0.58
308.56	0.14	309.62	0.33	310.68	0.58
308.58	0.15	309.64	0.34	310.70	0.59
308.60	0.15	309.66	0.34	310.72	0.59
308.62	0.15	309.68	0.35	310.74	0.60
308.64	0.16	309.70	0.35	310.76	0.60
308.66	0.16	309.72	0.35	310.78	0.61
308.68	0.16	309.74	0.36	310.80	0.62
308.70	0.17	309.76	0.36	310.82	0.62
308.72	0.17	309.78	0.37	310.84	0.63
308.74	0.17	309.80	0.37	310.86	0.63
308.76	0.18	309.82	0.37	310.88	0.64
308.78	0.18	309.84	0.38	310.90	0.64
308.80	0.18	309.86	0.38	310.92	0.65
308.82	0.19	309.88	0.39	310.94	0.65
308.84	0.19	309.90	0.39	310.96	0.66
308.86	0.19	309.92	0.39	310.98	0.66
308.88	0.20	309.94	0.40	311.00	0.67
308.90	0.20	309.96	0.40		
308.92	0.20	309.98	0.41		
308.94	0.21	310.00	0.41		
308.96	0.21	310.02	0.41		
308.98	0.21	310.04	0.42		
309.00	0.22	310.06	0.42		
309.02	0.22	310.08	0.43		
309.04	0.22	310.10	0.43		

Stage-Area-Storage for Pond 7P: EX BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
308.00	2,996	0	310.65	29,428	40,400
308.05	3,434	161	310.70	30,052	41,887
308.10	3,872	343	310.75	30,677	43,405
308.15	4,310	548	310.80	31,301	44,955
308.20	4,747	774	310.85	31,925	46,535
308.25	5,185	1,023	310.90	32,549	48,147
308.30	5,623	1,293	310.95	33,173	49,790
308.35	6,061	1,585	311.00	33,797	51,465
308.40	6,499	1,899			
308.45	6,937	2,235			
308.50	7,375	2,593			
308.55	7,812	2,972			
308.60	8,250	3,374			
308.65	8,688	3,797			
308.70	9,126	4,243			
308.75	9,564	4,710			
308.80	10,002	5,199			
308.85	10,439	5,710			
308.90	10,877	6,243			
308.95	11,315	6,798			
309.00	11,753	7,375			
309.05	12,231	7,974			
309.10	12,709	8,598			
309.15	13,187	9,245			
309.20	13,665	9,916			
309.25	14,144	10,612			
309.30	14,622	11,331			
309.35	15,100	12,074			
309.40	15,578	12,841			
309.45	16,056	13,632			
309.50	16,534	14,446			
309.55	17,012	15,285			
309.60	17,490	16,147			
309.65	17,968	17,034			
309.70	18,446	17,944			
309.75	18,925	18,879			
309.80	19,403	19,837			
309.85	19,881	20,819			
309.90	20,359	21,825			
309.95	20,837	22,855			
310.00	21,315	23,909			
310.05	21,939	24,990			
310.10	22,563	26,102			
310.15	23,187	27,246			
310.20	23,811	28,421			
310.25	24,436	29,627			
310.30	25,060	30,865			
310.35	25,684	32,133			
310.40	26,308	33,433			
310.45	26,932	34,764			
310.50	27,556	36,126			
310.55	28,180	37,520			
310.60	28,804	38,944			

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

Subcatchment 1S: EDA-2

Runoff Area=4.300 ac 0.00% Impervious Runoff Depth>2.52"
Flow Length=466' Tc=9.8 min CN=63 Runoff=10.03 cfs 0.904 af

Subcatchment 2S: EDA-1

Runoff Area=1.550 ac 0.00% Impervious Runoff Depth>2.34"
Flow Length=180' Tc=8.5 min CN=61 Runoff=3.52 cfs 0.302 af

Subcatchment 5S: PDA-2

Runoff Area=4.300 ac 0.23% Impervious Runoff Depth>1.22"
Flow Length=466' Tc=21.5 min CN=48 Runoff=2.84 cfs 0.439 af

Subcatchment 6S: PDA-1

Runoff Area=1.550 ac 0.00% Impervious Runoff Depth>1.00"
Flow Length=180' Tc=24.9 min CN=45 Runoff=0.68 cfs 0.129 af

Pond 6P: EX BASIN

Peak Elev=309.97' Storage=23,202 cf Inflow=10.03 cfs 0.904 af
Outflow=0.40 cfs 0.399 af

Pond 7P: EX BASIN

Peak Elev=309.17' Storage=9,487 cf Inflow=2.84 cfs 0.439 af
Outflow=0.25 cfs 0.230 af

Summary for Subcatchment 1S: EDA-2

Runoff = 10.03 cfs @ 12.18 hrs, Volume= 0.904 af, Depth> 2.52"
 Routed to Pond 6P : EX BASIN

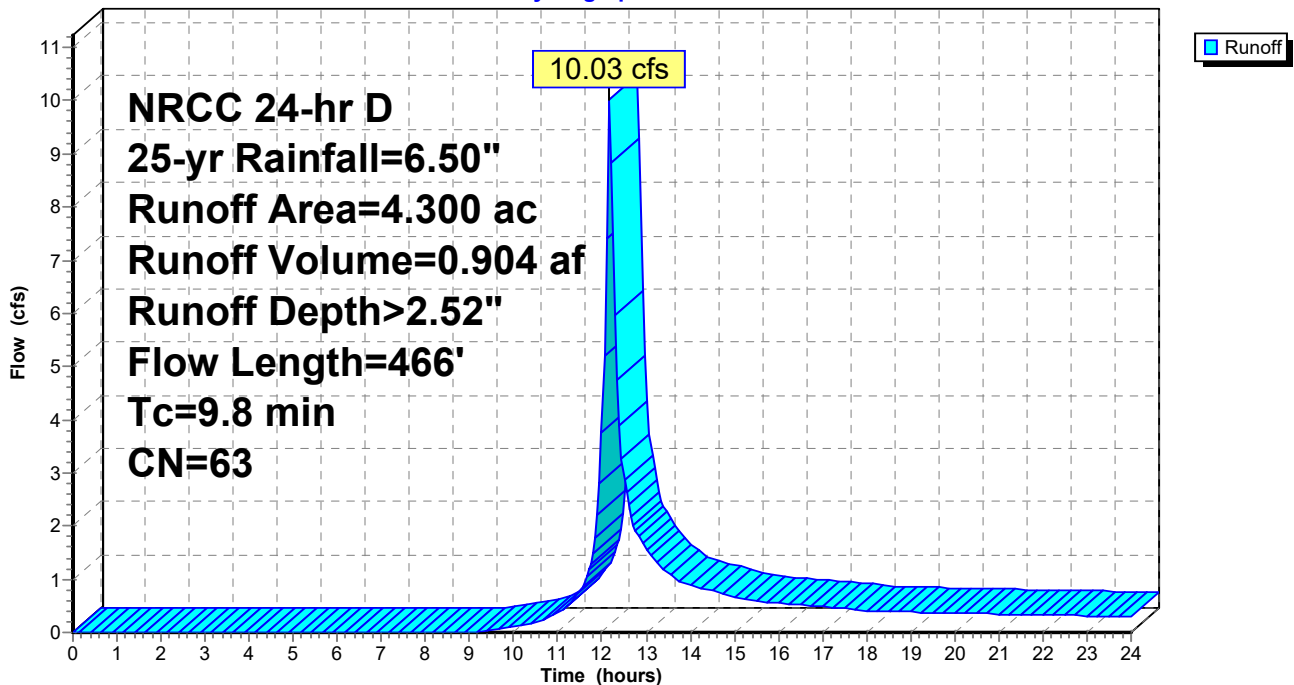
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 25-yr Rainfall=6.50"

Area (ac)	CN	Description
2.660	67	Row crops, straight row, Good, HSG A
0.830	78	Row crops, straight row, Good, HSG B
0.810	36	Woods, Fair, HSG A
4.300	63	Weighted Average
4.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0150	0.32		Sheet Flow, AB Cultivated: Residue<=20% n= 0.060 P2= 3.36"
4.6	366	0.0220	1.33		Shallow Concentrated Flow, BC Cultivated Straight Rows Kv= 9.0 fps
9.8	466	Total			

Subcatchment 1S: EDA-2

Hydrograph



Summary for Subcatchment 2S: EDA-1

Runoff = 3.52 cfs @ 12.16 hrs, Volume= 0.302 af, Depth> 2.34"
 Routed to nonexistent node 9L

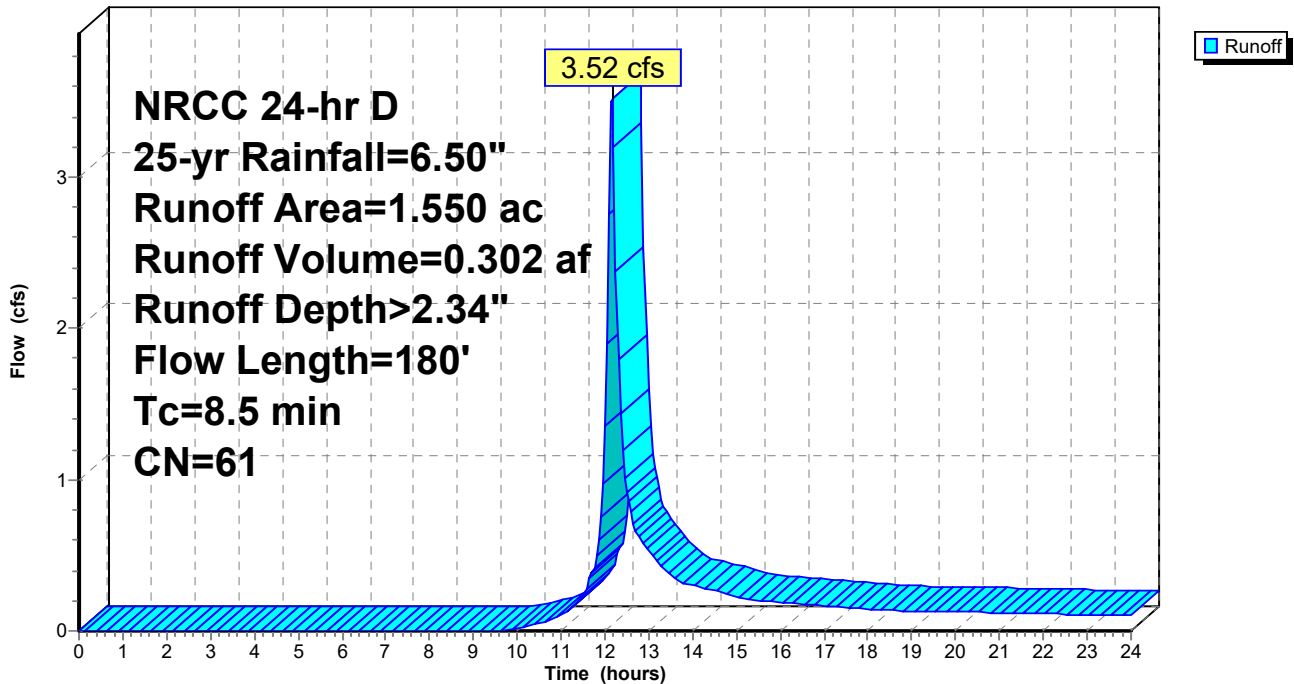
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 25-yr Rainfall=6.50"

Area (ac)	CN	Description
1.270	67	Row crops, straight row, Good, HSG A
0.280	36	Woods, Fair, HSG A
1.550	61	Weighted Average
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0050	0.21		Sheet Flow, AB Cultivated: Residue<=20% n= 0.060 P2= 3.36"
0.5	80	0.0750	2.46		Shallow Concentrated Flow, BC Cultivated Straight Rows Kv= 9.0 fps
8.5	180	Total			

Subcatchment 2S: EDA-1

Hydrograph



Summary for Subcatchment 5S: PDA-2

Runoff = 2.84 cfs @ 12.35 hrs, Volume= 0.439 af, Depth> 1.22"
 Routed to Pond 7P : EX BASIN

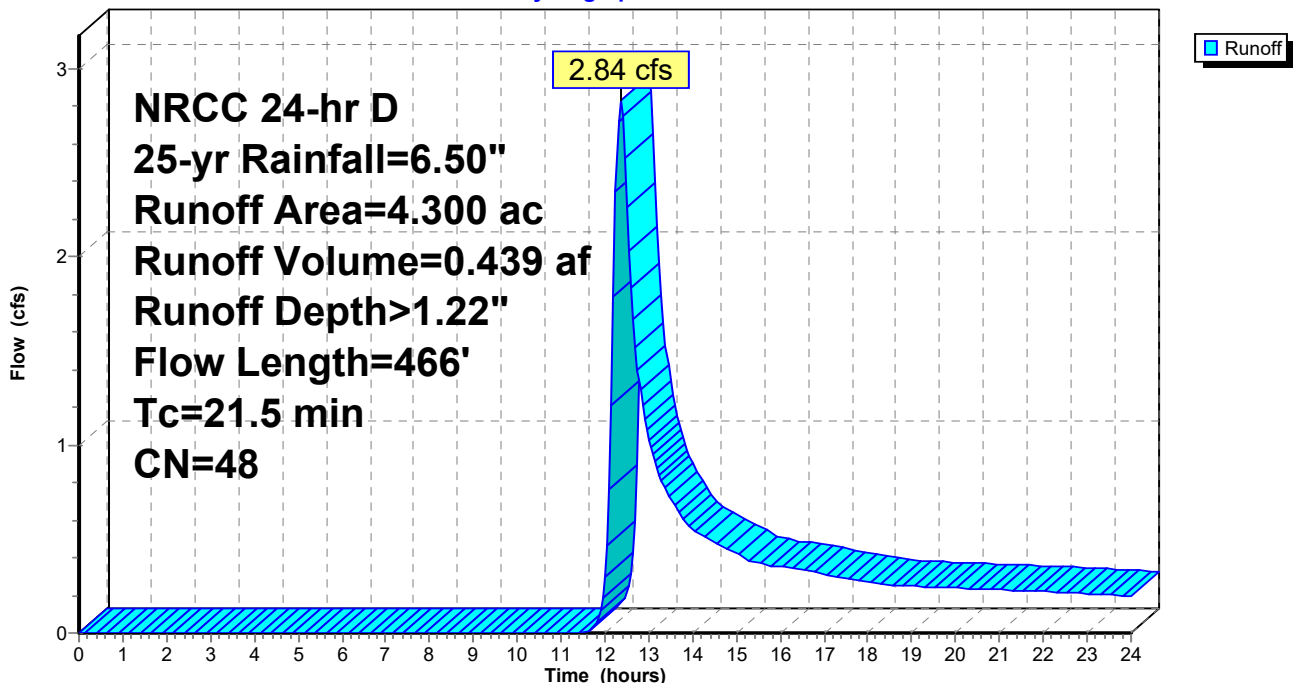
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 25-yr Rainfall=6.50"

Area (ac)	CN	Description
* 0.840	65	Meadow, non-grazed, HSG B/C
* 3.000	44	Meadow, non-grazed, HSG A/B
0.380	36	Woods, Fair, HSG A
0.010	98	Paved parking, HSG A
0.070	96	Gravel surface, HSG A
4.300	48	Weighted Average
4.290		99.77% Pervious Area
0.010		0.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0150	0.11		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.36"
5.9	366	0.0220	1.04		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
21.5	466	Total			

Subcatchment 5S: PDA-2

Hydrograph



Summary for Subcatchment 6S: PDA-1

Runoff = 0.68 cfs @ 12.42 hrs, Volume= 0.129 af, Depth> 1.00"
 Routed to nonexistent node 8L

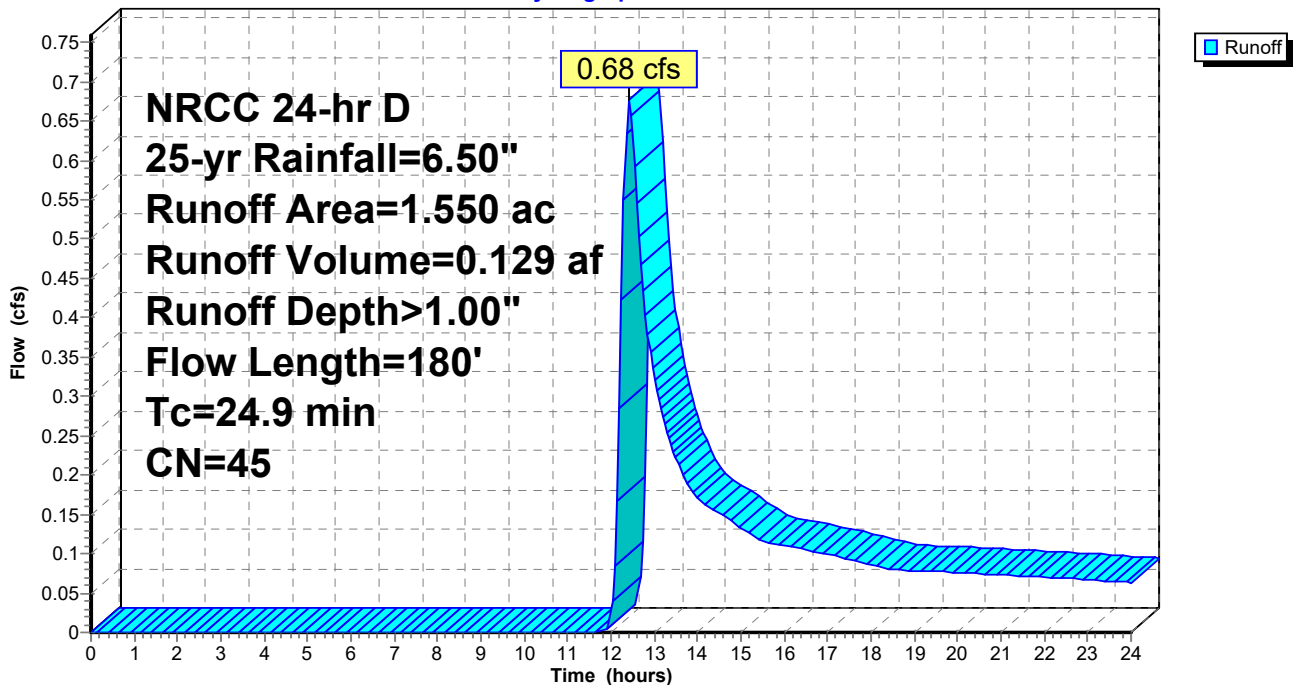
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 25-yr Rainfall=6.50"

Area (ac)	CN	Description
* 1.350	44	Meadow, non-grazed, HSG A/B
0.150	36	Woods, Fair, HSG A
0.050	96	Gravel surface, HSG A
1.550	45	Weighted Average
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	100	0.0050	0.07		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.36"
0.7	80	0.0750	1.92		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
24.9	180	Total			

Subcatchment 6S: PDA-1

Hydrograph



Summary for Pond 6P: EX BASIN

Inflow Area = 4.300 ac, 0.00% Impervious, Inflow Depth > 2.52" for 25-yr event
 Inflow = 10.03 cfs @ 12.18 hrs, Volume= 0.904 af
 Outflow = 0.40 cfs @ 18.09 hrs, Volume= 0.399 af, Atten= 96%, Lag= 354.9 min
 Discarded = 0.40 cfs @ 18.09 hrs, Volume= 0.399 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 309.97' @ 18.09 hrs Surf.Area= 20,996 sf Storage= 23,202 cf

Plug-Flow detention time= 350.8 min calculated for 0.398 af (44% of inflow)
 Center-of-Mass det. time= 192.4 min (1,074.4 - 882.0)

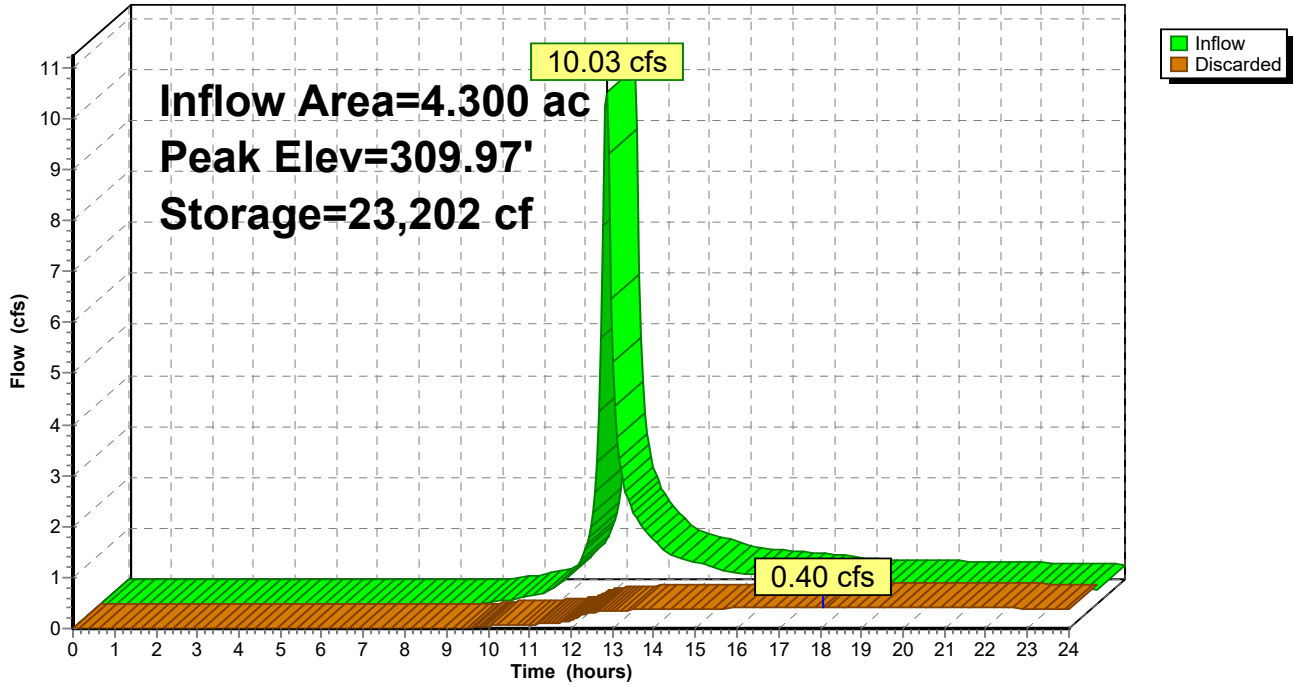
Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	51,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
308.00	2,996	0	0
309.00	11,753	7,375	7,375
310.00	21,315	16,534	23,909
311.00	33,797	27,556	51,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	0.750 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.40 cfs @ 18.09 hrs HW=309.97' (Free Discharge)
 ↑1=Exfiltration (Controls 0.40 cfs)

Pond 6P: EX BASIN

Hydrograph



Stage-Discharge for Pond 6P: EX BASIN

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
308.00	0.00	309.06	0.23	310.12	0.44
308.02	0.06	309.08	0.23	310.14	0.44
308.04	0.06	309.10	0.24	310.16	0.45
308.06	0.06	309.12	0.24	310.18	0.45
308.08	0.06	309.14	0.24	310.20	0.46
308.10	0.07	309.16	0.25	310.22	0.46
308.12	0.07	309.18	0.25	310.24	0.47
308.14	0.07	309.20	0.25	310.26	0.47
308.16	0.08	309.22	0.26	310.28	0.48
308.18	0.08	309.24	0.26	310.30	0.49
308.20	0.08	309.26	0.27	310.32	0.49
308.22	0.09	309.28	0.27	310.34	0.50
308.24	0.09	309.30	0.27	310.36	0.50
308.26	0.09	309.32	0.28	310.38	0.51
308.28	0.10	309.34	0.28	310.40	0.51
308.30	0.10	309.36	0.28	310.42	0.52
308.32	0.10	309.38	0.29	310.44	0.52
308.34	0.11	309.40	0.29	310.46	0.53
308.36	0.11	309.42	0.30	310.48	0.53
308.38	0.11	309.44	0.30	310.50	0.54
308.40	0.12	309.46	0.30	310.52	0.54
308.42	0.12	309.48	0.31	310.54	0.55
308.44	0.12	309.50	0.31	310.56	0.55
308.46	0.13	309.52	0.31	310.58	0.56
308.48	0.13	309.54	0.32	310.60	0.56
308.50	0.13	309.56	0.32	310.62	0.57
308.52	0.14	309.58	0.33	310.64	0.57
308.54	0.14	309.60	0.33	310.66	0.58
308.56	0.14	309.62	0.33	310.68	0.58
308.58	0.15	309.64	0.34	310.70	0.59
308.60	0.15	309.66	0.34	310.72	0.59
308.62	0.15	309.68	0.35	310.74	0.60
308.64	0.16	309.70	0.35	310.76	0.60
308.66	0.16	309.72	0.35	310.78	0.61
308.68	0.16	309.74	0.36	310.80	0.62
308.70	0.17	309.76	0.36	310.82	0.62
308.72	0.17	309.78	0.37	310.84	0.63
308.74	0.17	309.80	0.37	310.86	0.63
308.76	0.18	309.82	0.37	310.88	0.64
308.78	0.18	309.84	0.38	310.90	0.64
308.80	0.18	309.86	0.38	310.92	0.65
308.82	0.19	309.88	0.39	310.94	0.65
308.84	0.19	309.90	0.39	310.96	0.66
308.86	0.19	309.92	0.39	310.98	0.66
308.88	0.20	309.94	0.40	311.00	0.67
308.90	0.20	309.96	0.40		
308.92	0.20	309.98	0.41		
308.94	0.21	310.00	0.41		
308.96	0.21	310.02	0.41		
308.98	0.21	310.04	0.42		
309.00	0.22	310.06	0.42		
309.02	0.22	310.08	0.43		
309.04	0.22	310.10	0.43		

Stage-Area-Storage for Pond 6P: EX BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
308.00	2,996	0	310.65	29,428	40,400
308.05	3,434	161	310.70	30,052	41,887
308.10	3,872	343	310.75	30,677	43,405
308.15	4,310	548	310.80	31,301	44,955
308.20	4,747	774	310.85	31,925	46,535
308.25	5,185	1,023	310.90	32,549	48,147
308.30	5,623	1,293	310.95	33,173	49,790
308.35	6,061	1,585	311.00	33,797	51,465
308.40	6,499	1,899			
308.45	6,937	2,235			
308.50	7,375	2,593			
308.55	7,812	2,972			
308.60	8,250	3,374			
308.65	8,688	3,797			
308.70	9,126	4,243			
308.75	9,564	4,710			
308.80	10,002	5,199			
308.85	10,439	5,710			
308.90	10,877	6,243			
308.95	11,315	6,798			
309.00	11,753	7,375			
309.05	12,231	7,974			
309.10	12,709	8,598			
309.15	13,187	9,245			
309.20	13,665	9,916			
309.25	14,144	10,612			
309.30	14,622	11,331			
309.35	15,100	12,074			
309.40	15,578	12,841			
309.45	16,056	13,632			
309.50	16,534	14,446			
309.55	17,012	15,285			
309.60	17,490	16,147			
309.65	17,968	17,034			
309.70	18,446	17,944			
309.75	18,925	18,879			
309.80	19,403	19,837			
309.85	19,881	20,819			
309.90	20,359	21,825			
309.95	20,837	22,855			
310.00	21,315	23,909			
310.05	21,939	24,990			
310.10	22,563	26,102			
310.15	23,187	27,246			
310.20	23,811	28,421			
310.25	24,436	29,627			
310.30	25,060	30,865			
310.35	25,684	32,133			
310.40	26,308	33,433			
310.45	26,932	34,764			
310.50	27,556	36,126			
310.55	28,180	37,520			
310.60	28,804	38,944			

Summary for Pond 7P: EX BASIN

Inflow Area = 4.300 ac, 0.23% Impervious, Inflow Depth > 1.22" for 25-yr event
 Inflow = 2.84 cfs @ 12.35 hrs, Volume= 0.439 af
 Outflow = 0.25 cfs @ 19.03 hrs, Volume= 0.230 af, Atten= 91%, Lag= 400.5 min
 Discarded = 0.25 cfs @ 19.03 hrs, Volume= 0.230 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 309.17' @ 19.03 hrs Surf.Area= 13,362 sf Storage= 9,487 cf

Plug-Flow detention time= 321.1 min calculated for 0.229 af (52% of inflow)
 Center-of-Mass det. time= 156.1 min (1,099.4 - 943.3)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	51,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

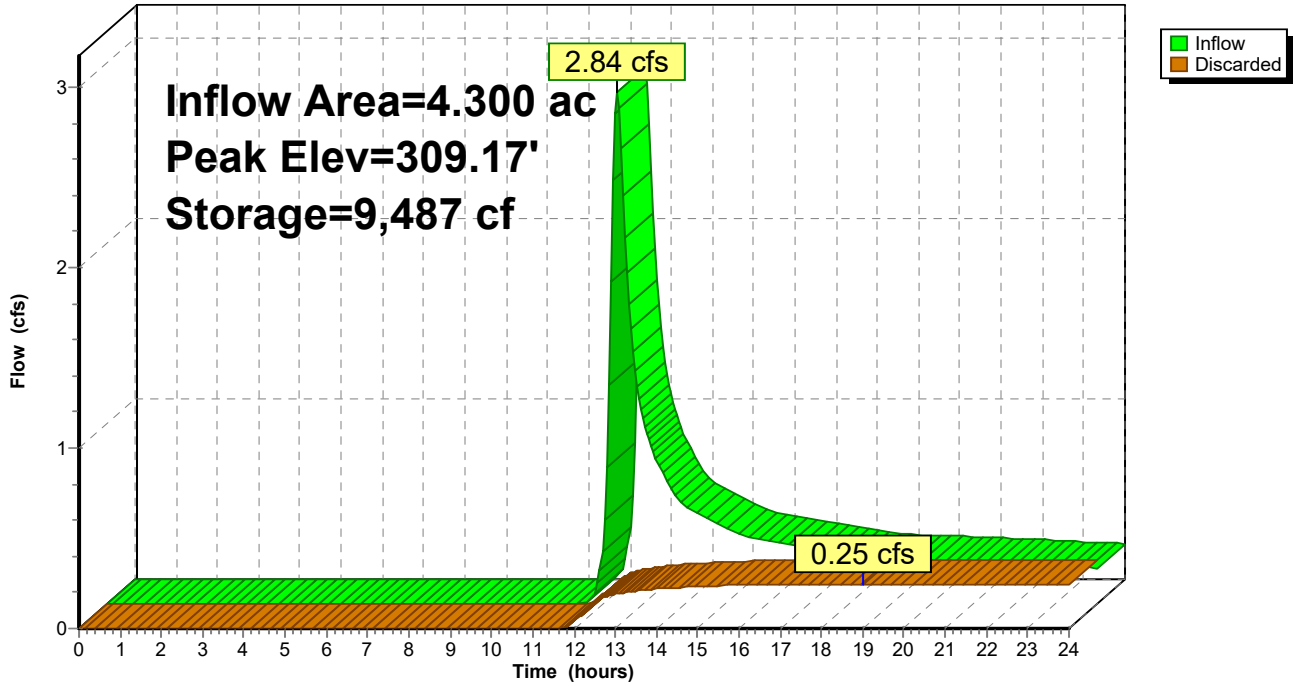
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
308.00	2,996	0	0
309.00	11,753	7,375	7,375
310.00	21,315	16,534	23,909
311.00	33,797	27,556	51,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	0.750 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.25 cfs @ 19.03 hrs HW=309.17' (Free Discharge)
 ↑1=Exfiltration (Controls 0.25 cfs)

Pond 7P: EX BASIN

Hydrograph



Stage-Discharge for Pond 7P: EX BASIN

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
308.00	0.00	309.06	0.23	310.12	0.44
308.02	0.06	309.08	0.23	310.14	0.44
308.04	0.06	309.10	0.24	310.16	0.45
308.06	0.06	309.12	0.24	310.18	0.45
308.08	0.06	309.14	0.24	310.20	0.46
308.10	0.07	309.16	0.25	310.22	0.46
308.12	0.07	309.18	0.25	310.24	0.47
308.14	0.07	309.20	0.25	310.26	0.47
308.16	0.08	309.22	0.26	310.28	0.48
308.18	0.08	309.24	0.26	310.30	0.49
308.20	0.08	309.26	0.27	310.32	0.49
308.22	0.09	309.28	0.27	310.34	0.50
308.24	0.09	309.30	0.27	310.36	0.50
308.26	0.09	309.32	0.28	310.38	0.51
308.28	0.10	309.34	0.28	310.40	0.51
308.30	0.10	309.36	0.28	310.42	0.52
308.32	0.10	309.38	0.29	310.44	0.52
308.34	0.11	309.40	0.29	310.46	0.53
308.36	0.11	309.42	0.30	310.48	0.53
308.38	0.11	309.44	0.30	310.50	0.54
308.40	0.12	309.46	0.30	310.52	0.54
308.42	0.12	309.48	0.31	310.54	0.55
308.44	0.12	309.50	0.31	310.56	0.55
308.46	0.13	309.52	0.31	310.58	0.56
308.48	0.13	309.54	0.32	310.60	0.56
308.50	0.13	309.56	0.32	310.62	0.57
308.52	0.14	309.58	0.33	310.64	0.57
308.54	0.14	309.60	0.33	310.66	0.58
308.56	0.14	309.62	0.33	310.68	0.58
308.58	0.15	309.64	0.34	310.70	0.59
308.60	0.15	309.66	0.34	310.72	0.59
308.62	0.15	309.68	0.35	310.74	0.60
308.64	0.16	309.70	0.35	310.76	0.60
308.66	0.16	309.72	0.35	310.78	0.61
308.68	0.16	309.74	0.36	310.80	0.62
308.70	0.17	309.76	0.36	310.82	0.62
308.72	0.17	309.78	0.37	310.84	0.63
308.74	0.17	309.80	0.37	310.86	0.63
308.76	0.18	309.82	0.37	310.88	0.64
308.78	0.18	309.84	0.38	310.90	0.64
308.80	0.18	309.86	0.38	310.92	0.65
308.82	0.19	309.88	0.39	310.94	0.65
308.84	0.19	309.90	0.39	310.96	0.66
308.86	0.19	309.92	0.39	310.98	0.66
308.88	0.20	309.94	0.40	311.00	0.67
308.90	0.20	309.96	0.40		
308.92	0.20	309.98	0.41		
308.94	0.21	310.00	0.41		
308.96	0.21	310.02	0.41		
308.98	0.21	310.04	0.42		
309.00	0.22	310.06	0.42		
309.02	0.22	310.08	0.43		
309.04	0.22	310.10	0.43		

Stage-Area-Storage for Pond 7P: EX BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
308.00	2,996	0	310.65	29,428	40,400
308.05	3,434	161	310.70	30,052	41,887
308.10	3,872	343	310.75	30,677	43,405
308.15	4,310	548	310.80	31,301	44,955
308.20	4,747	774	310.85	31,925	46,535
308.25	5,185	1,023	310.90	32,549	48,147
308.30	5,623	1,293	310.95	33,173	49,790
308.35	6,061	1,585	311.00	33,797	51,465
308.40	6,499	1,899			
308.45	6,937	2,235			
308.50	7,375	2,593			
308.55	7,812	2,972			
308.60	8,250	3,374			
308.65	8,688	3,797			
308.70	9,126	4,243			
308.75	9,564	4,710			
308.80	10,002	5,199			
308.85	10,439	5,710			
308.90	10,877	6,243			
308.95	11,315	6,798			
309.00	11,753	7,375			
309.05	12,231	7,974			
309.10	12,709	8,598			
309.15	13,187	9,245			
309.20	13,665	9,916			
309.25	14,144	10,612			
309.30	14,622	11,331			
309.35	15,100	12,074			
309.40	15,578	12,841			
309.45	16,056	13,632			
309.50	16,534	14,446			
309.55	17,012	15,285			
309.60	17,490	16,147			
309.65	17,968	17,034			
309.70	18,446	17,944			
309.75	18,925	18,879			
309.80	19,403	19,837			
309.85	19,881	20,819			
309.90	20,359	21,825			
309.95	20,837	22,855			
310.00	21,315	23,909			
310.05	21,939	24,990			
310.10	22,563	26,102			
310.15	23,187	27,246			
310.20	23,811	28,421			
310.25	24,436	29,627			
310.30	25,060	30,865			
310.35	25,684	32,133			
310.40	26,308	33,433			
310.45	26,932	34,764			
310.50	27,556	36,126			
310.55	28,180	37,520			
310.60	28,804	38,944			

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

Subcatchment 1S: EDA-2

Runoff Area=4.300 ac 0.00% Impervious Runoff Depth>3.18"
Flow Length=466' Tc=9.8 min CN=63 Runoff=12.78 cfs 1.139 af

Subcatchment 2S: EDA-1

Runoff Area=1.550 ac 0.00% Impervious Runoff Depth>2.97"
Flow Length=180' Tc=8.5 min CN=61 Runoff=4.52 cfs 0.384 af

Subcatchment 5S: PDA-2

Runoff Area=4.300 ac 0.23% Impervious Runoff Depth>1.68"
Flow Length=466' Tc=21.5 min CN=48 Runoff=4.23 cfs 0.601 af

Subcatchment 6S: PDA-1

Runoff Area=1.550 ac 0.00% Impervious Runoff Depth>1.40"
Flow Length=180' Tc=24.9 min CN=45 Runoff=1.09 cfs 0.181 af

Pond 6P: EX BASIN

Peak Elev=310.27' Storage=30,196 cf Inflow=12.78 cfs 1.139 af
Outflow=0.48 cfs 0.475 af

Pond 7P: EX BASIN

Peak Elev=309.48' Storage=14,077 cf Inflow=4.23 cfs 0.601 af
Outflow=0.31 cfs 0.287 af

Summary for Subcatchment 1S: EDA-2

Runoff = 12.78 cfs @ 12.17 hrs, Volume= 1.139 af, Depth> 3.18"
 Routed to Pond 6P : EX BASIN

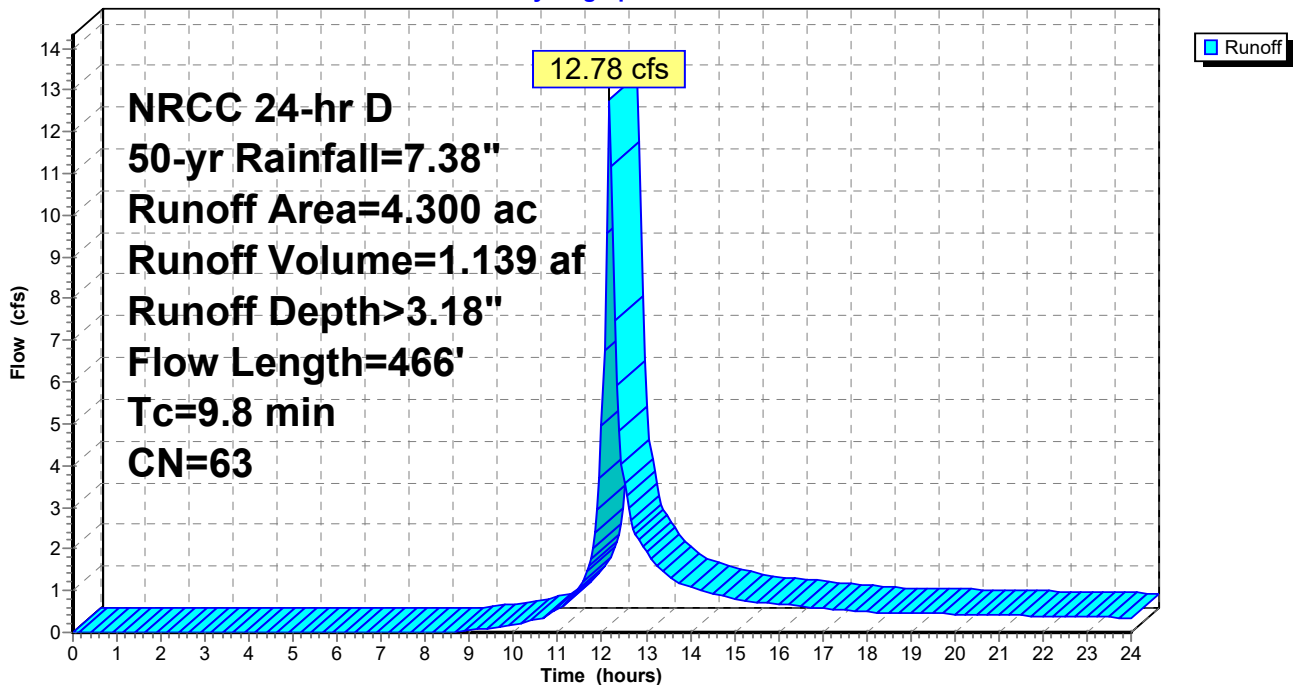
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 50-yr Rainfall=7.38"

Area (ac)	CN	Description
2.660	67	Row crops, straight row, Good, HSG A
0.830	78	Row crops, straight row, Good, HSG B
0.810	36	Woods, Fair, HSG A
4.300	63	Weighted Average
4.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0150	0.32		Sheet Flow, AB Cultivated: Residue<=20% n= 0.060 P2= 3.36"
4.6	366	0.0220	1.33		Shallow Concentrated Flow, BC Cultivated Straight Rows Kv= 9.0 fps
9.8	466	Total			

Subcatchment 1S: EDA-2

Hydrograph



Summary for Subcatchment 2S: EDA-1

Runoff = 4.52 cfs @ 12.16 hrs, Volume= 0.384 af, Depth> 2.97"
 Routed to nonexistent node 9L

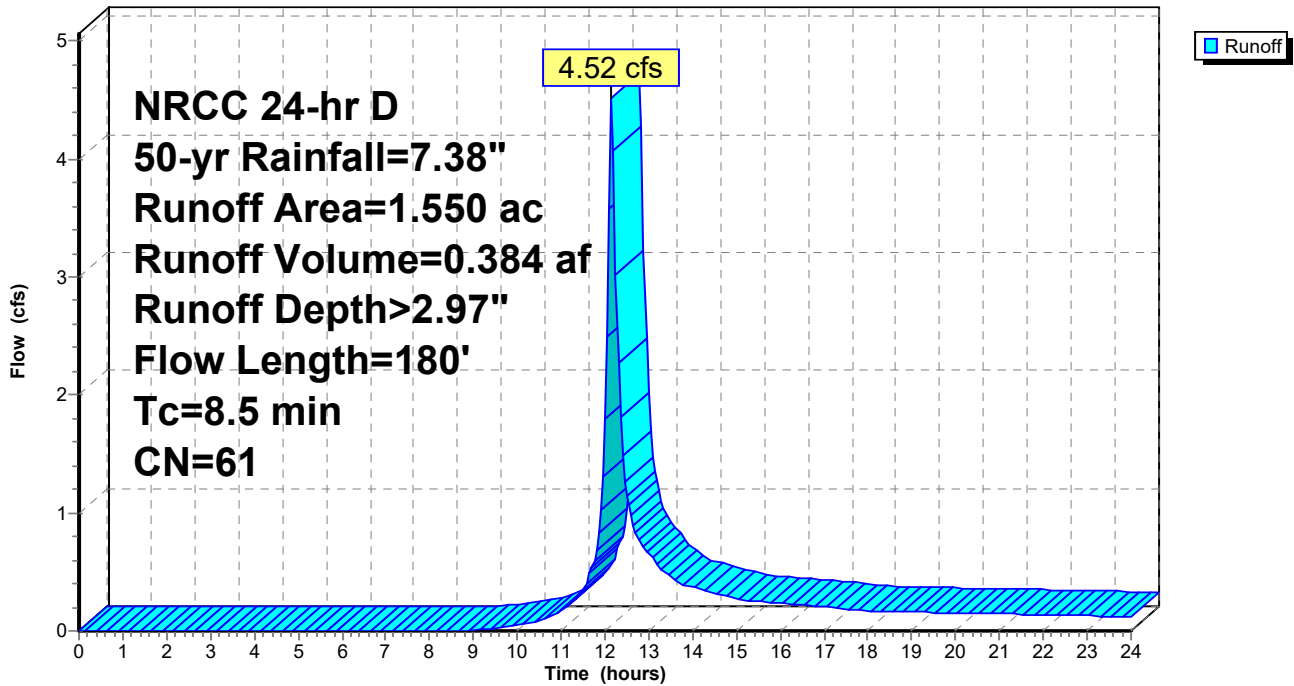
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 50-yr Rainfall=7.38"

Area (ac)	CN	Description
1.270	67	Row crops, straight row, Good, HSG A
0.280	36	Woods, Fair, HSG A
1.550	61	Weighted Average
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0050	0.21		Sheet Flow, AB Cultivated: Residue<=20% n= 0.060 P2= 3.36"
0.5	80	0.0750	2.46		Shallow Concentrated Flow, BC Cultivated Straight Rows Kv= 9.0 fps
8.5	180	Total			

Subcatchment 2S: EDA-1

Hydrograph



Summary for Subcatchment 5S: PDA-2

Runoff = 4.23 cfs @ 12.34 hrs, Volume= 0.601 af, Depth> 1.68"
 Routed to Pond 7P : EX BASIN

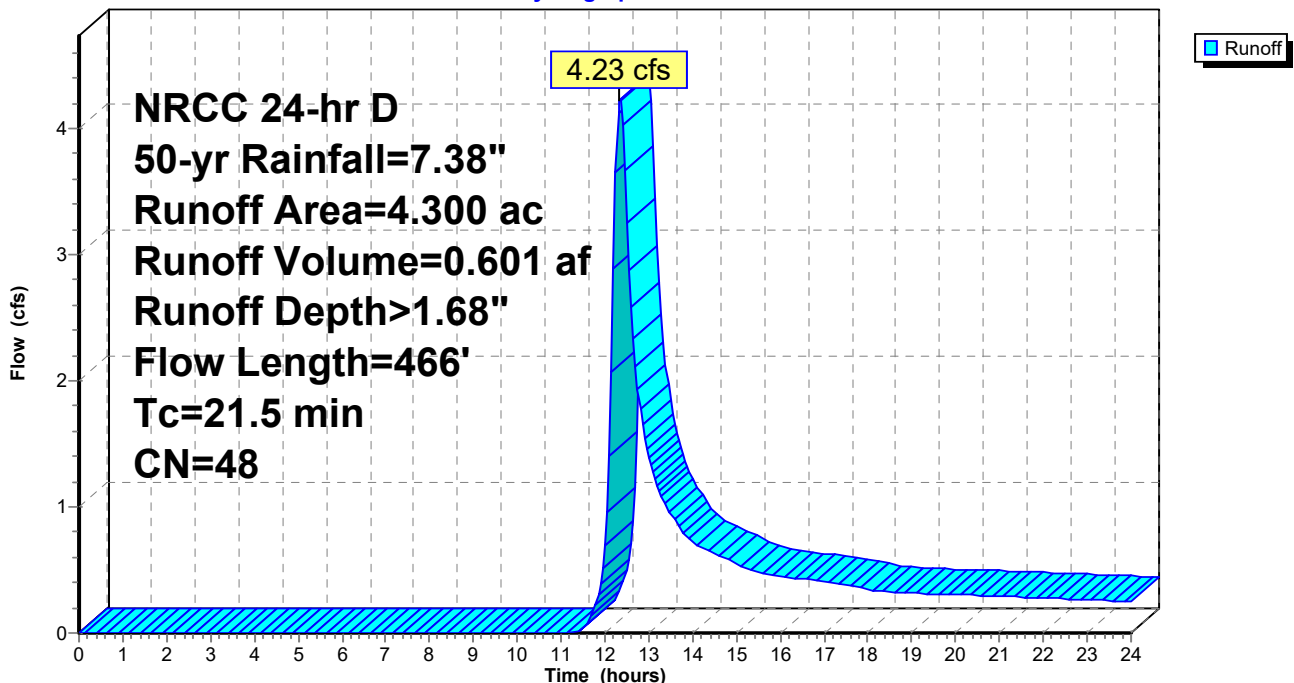
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 50-yr Rainfall=7.38"

Area (ac)	CN	Description
* 0.840	65	Meadow, non-grazed, HSG B/C
* 3.000	44	Meadow, non-grazed, HSG A/B
0.380	36	Woods, Fair, HSG A
0.010	98	Paved parking, HSG A
0.070	96	Gravel surface, HSG A
4.300	48	Weighted Average
4.290		99.77% Pervious Area
0.010		0.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0150	0.11		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.36"
5.9	366	0.0220	1.04		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
21.5	466	Total			

Subcatchment 5S: PDA-2

Hydrograph



Summary for Subcatchment 6S: PDA-1

Runoff = 1.09 cfs @ 12.40 hrs, Volume= 0.181 af, Depth> 1.40"
 Routed to nonexistent node 8L

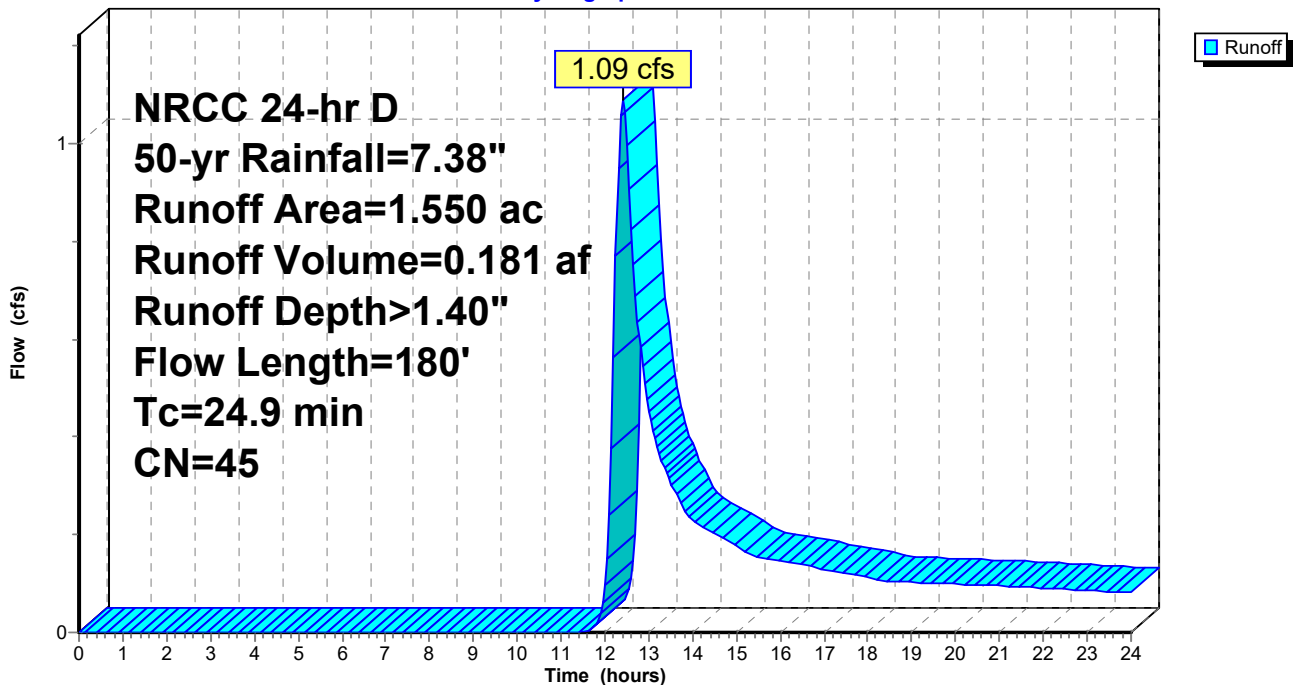
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 50-yr Rainfall=7.38"

Area (ac)	CN	Description
* 1.350	44	Meadow, non-grazed, HSG A/B
0.150	36	Woods, Fair, HSG A
0.050	96	Gravel surface, HSG A
1.550	45	Weighted Average
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	100	0.0050	0.07		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.36"
0.7	80	0.0750	1.92		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
24.9	180	Total			

Subcatchment 6S: PDA-1

Hydrograph



Summary for Pond 6P: EX BASIN

Inflow Area = 4.300 ac, 0.00% Impervious, Inflow Depth > 3.18" for 50-yr event
 Inflow = 12.78 cfs @ 12.17 hrs, Volume= 1.139 af
 Outflow = 0.48 cfs @ 18.18 hrs, Volume= 0.475 af, Atten= 96%, Lag= 360.1 min
 Discarded = 0.48 cfs @ 18.18 hrs, Volume= 0.475 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 310.27' @ 18.18 hrs Surf.Area= 24,724 sf Storage= 30,196 cf

Plug-Flow detention time= 355.4 min calculated for 0.474 af (42% of inflow)
 Center-of-Mass det. time= 198.3 min (1,071.7 - 873.4)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	51,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

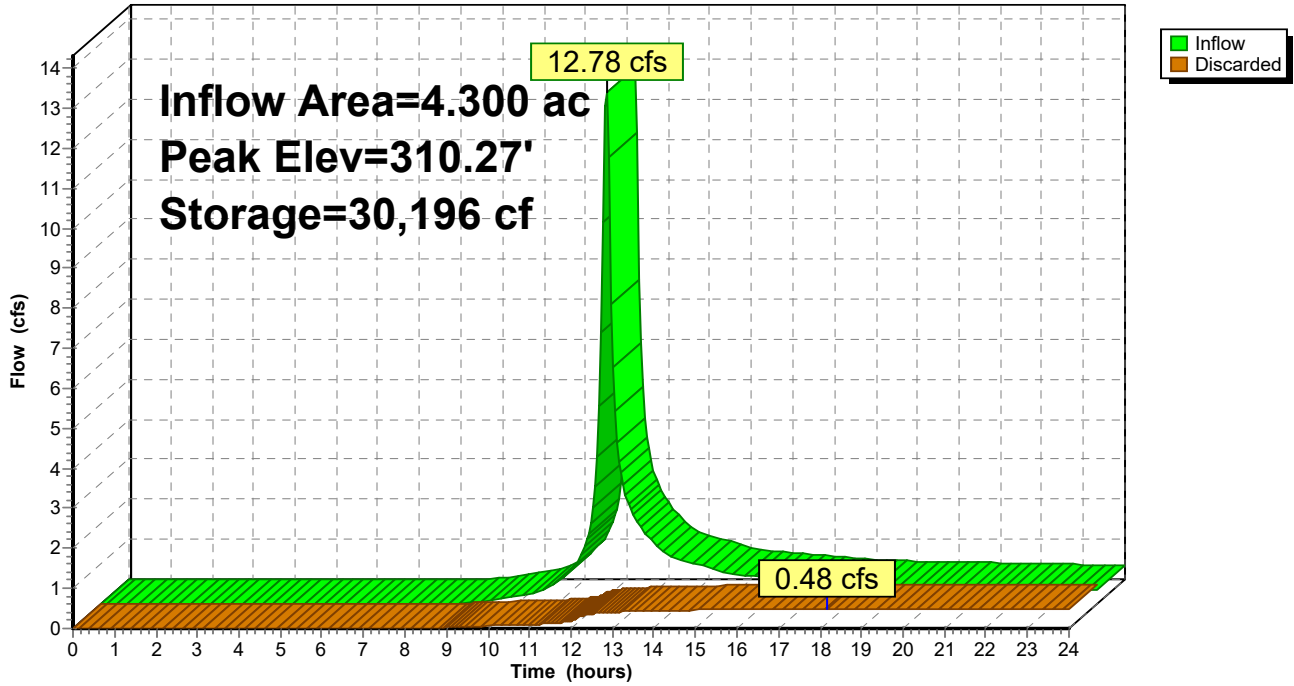
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
308.00	2,996	0	0
309.00	11,753	7,375	7,375
310.00	21,315	16,534	23,909
311.00	33,797	27,556	51,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	0.750 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.48 cfs @ 18.18 hrs HW=310.27' (Free Discharge)
 ↑1=Exfiltration (Controls 0.48 cfs)

Pond 6P: EX BASIN

Hydrograph



Stage-Discharge for Pond 6P: EX BASIN

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
308.00	0.00	309.06	0.23	310.12	0.44
308.02	0.06	309.08	0.23	310.14	0.44
308.04	0.06	309.10	0.24	310.16	0.45
308.06	0.06	309.12	0.24	310.18	0.45
308.08	0.06	309.14	0.24	310.20	0.46
308.10	0.07	309.16	0.25	310.22	0.46
308.12	0.07	309.18	0.25	310.24	0.47
308.14	0.07	309.20	0.25	310.26	0.47
308.16	0.08	309.22	0.26	310.28	0.48
308.18	0.08	309.24	0.26	310.30	0.49
308.20	0.08	309.26	0.27	310.32	0.49
308.22	0.09	309.28	0.27	310.34	0.50
308.24	0.09	309.30	0.27	310.36	0.50
308.26	0.09	309.32	0.28	310.38	0.51
308.28	0.10	309.34	0.28	310.40	0.51
308.30	0.10	309.36	0.28	310.42	0.52
308.32	0.10	309.38	0.29	310.44	0.52
308.34	0.11	309.40	0.29	310.46	0.53
308.36	0.11	309.42	0.30	310.48	0.53
308.38	0.11	309.44	0.30	310.50	0.54
308.40	0.12	309.46	0.30	310.52	0.54
308.42	0.12	309.48	0.31	310.54	0.55
308.44	0.12	309.50	0.31	310.56	0.55
308.46	0.13	309.52	0.31	310.58	0.56
308.48	0.13	309.54	0.32	310.60	0.56
308.50	0.13	309.56	0.32	310.62	0.57
308.52	0.14	309.58	0.33	310.64	0.57
308.54	0.14	309.60	0.33	310.66	0.58
308.56	0.14	309.62	0.33	310.68	0.58
308.58	0.15	309.64	0.34	310.70	0.59
308.60	0.15	309.66	0.34	310.72	0.59
308.62	0.15	309.68	0.35	310.74	0.60
308.64	0.16	309.70	0.35	310.76	0.60
308.66	0.16	309.72	0.35	310.78	0.61
308.68	0.16	309.74	0.36	310.80	0.62
308.70	0.17	309.76	0.36	310.82	0.62
308.72	0.17	309.78	0.37	310.84	0.63
308.74	0.17	309.80	0.37	310.86	0.63
308.76	0.18	309.82	0.37	310.88	0.64
308.78	0.18	309.84	0.38	310.90	0.64
308.80	0.18	309.86	0.38	310.92	0.65
308.82	0.19	309.88	0.39	310.94	0.65
308.84	0.19	309.90	0.39	310.96	0.66
308.86	0.19	309.92	0.39	310.98	0.66
308.88	0.20	309.94	0.40	311.00	0.67
308.90	0.20	309.96	0.40		
308.92	0.20	309.98	0.41		
308.94	0.21	310.00	0.41		
308.96	0.21	310.02	0.41		
308.98	0.21	310.04	0.42		
309.00	0.22	310.06	0.42		
309.02	0.22	310.08	0.43		
309.04	0.22	310.10	0.43		

Stage-Area-Storage for Pond 6P: EX BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
308.00	2,996	0	310.65	29,428	40,400
308.05	3,434	161	310.70	30,052	41,887
308.10	3,872	343	310.75	30,677	43,405
308.15	4,310	548	310.80	31,301	44,955
308.20	4,747	774	310.85	31,925	46,535
308.25	5,185	1,023	310.90	32,549	48,147
308.30	5,623	1,293	310.95	33,173	49,790
308.35	6,061	1,585	311.00	33,797	51,465
308.40	6,499	1,899			
308.45	6,937	2,235			
308.50	7,375	2,593			
308.55	7,812	2,972			
308.60	8,250	3,374			
308.65	8,688	3,797			
308.70	9,126	4,243			
308.75	9,564	4,710			
308.80	10,002	5,199			
308.85	10,439	5,710			
308.90	10,877	6,243			
308.95	11,315	6,798			
309.00	11,753	7,375			
309.05	12,231	7,974			
309.10	12,709	8,598			
309.15	13,187	9,245			
309.20	13,665	9,916			
309.25	14,144	10,612			
309.30	14,622	11,331			
309.35	15,100	12,074			
309.40	15,578	12,841			
309.45	16,056	13,632			
309.50	16,534	14,446			
309.55	17,012	15,285			
309.60	17,490	16,147			
309.65	17,968	17,034			
309.70	18,446	17,944			
309.75	18,925	18,879			
309.80	19,403	19,837			
309.85	19,881	20,819			
309.90	20,359	21,825			
309.95	20,837	22,855			
310.00	21,315	23,909			
310.05	21,939	24,990			
310.10	22,563	26,102			
310.15	23,187	27,246			
310.20	23,811	28,421			
310.25	24,436	29,627			
310.30	25,060	30,865			
310.35	25,684	32,133			
310.40	26,308	33,433			
310.45	26,932	34,764			
310.50	27,556	36,126			
310.55	28,180	37,520			
310.60	28,804	38,944			

Summary for Pond 7P: EX BASIN

Inflow Area = 4.300 ac, 0.23% Impervious, Inflow Depth > 1.68" for 50-yr event
 Inflow = 4.23 cfs @ 12.34 hrs, Volume= 0.601 af
 Outflow = 0.31 cfs @ 19.86 hrs, Volume= 0.287 af, Atten= 93%, Lag= 451.2 min
 Discarded = 0.31 cfs @ 19.86 hrs, Volume= 0.287 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 309.48' @ 19.86 hrs Surf.Area= 16,319 sf Storage= 14,077 cf

Plug-Flow detention time= 336.5 min calculated for 0.286 af (48% of inflow)
 Center-of-Mass det. time= 167.9 min (1,097.5 - 929.7)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	51,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

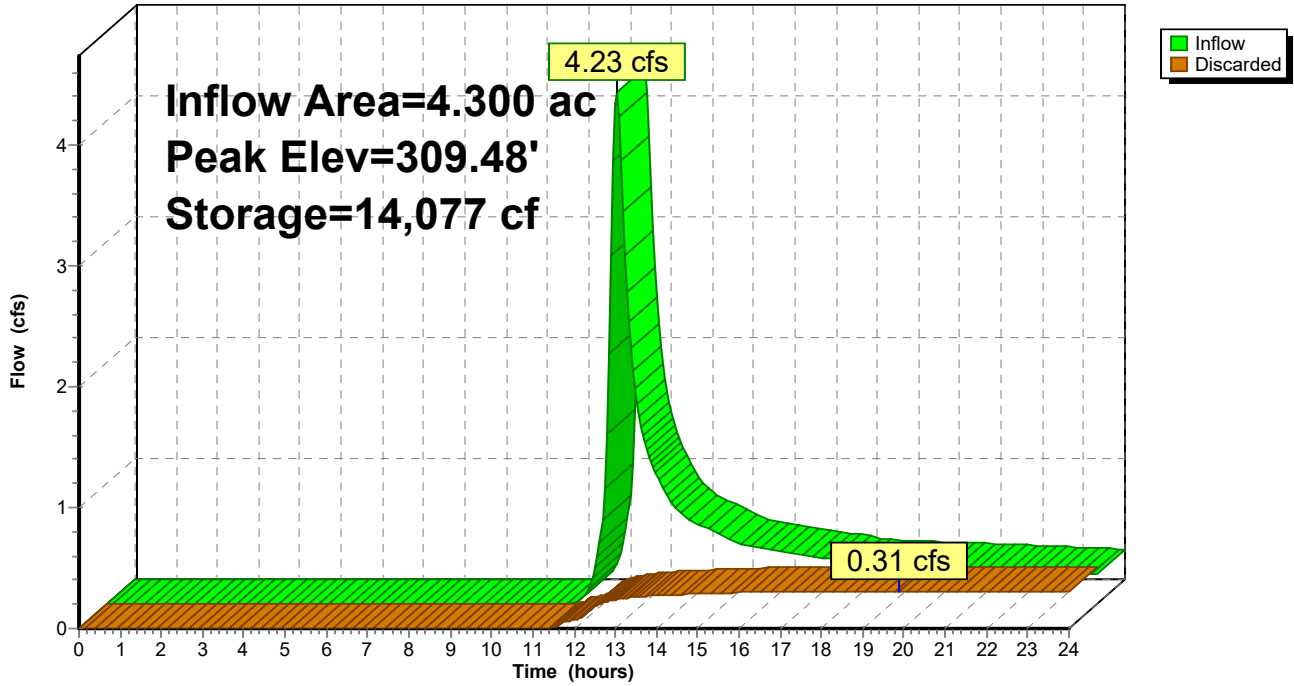
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
308.00	2,996	0	0
309.00	11,753	7,375	7,375
310.00	21,315	16,534	23,909
311.00	33,797	27,556	51,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	0.750 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.31 cfs @ 19.86 hrs HW=309.48' (Free Discharge)
 ↑1=Exfiltration (Controls 0.31 cfs)

Pond 7P: EX BASIN

Hydrograph



Stage-Discharge for Pond 7P: EX BASIN

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
308.00	0.00	309.06	0.23	310.12	0.44
308.02	0.06	309.08	0.23	310.14	0.44
308.04	0.06	309.10	0.24	310.16	0.45
308.06	0.06	309.12	0.24	310.18	0.45
308.08	0.06	309.14	0.24	310.20	0.46
308.10	0.07	309.16	0.25	310.22	0.46
308.12	0.07	309.18	0.25	310.24	0.47
308.14	0.07	309.20	0.25	310.26	0.47
308.16	0.08	309.22	0.26	310.28	0.48
308.18	0.08	309.24	0.26	310.30	0.49
308.20	0.08	309.26	0.27	310.32	0.49
308.22	0.09	309.28	0.27	310.34	0.50
308.24	0.09	309.30	0.27	310.36	0.50
308.26	0.09	309.32	0.28	310.38	0.51
308.28	0.10	309.34	0.28	310.40	0.51
308.30	0.10	309.36	0.28	310.42	0.52
308.32	0.10	309.38	0.29	310.44	0.52
308.34	0.11	309.40	0.29	310.46	0.53
308.36	0.11	309.42	0.30	310.48	0.53
308.38	0.11	309.44	0.30	310.50	0.54
308.40	0.12	309.46	0.30	310.52	0.54
308.42	0.12	309.48	0.31	310.54	0.55
308.44	0.12	309.50	0.31	310.56	0.55
308.46	0.13	309.52	0.31	310.58	0.56
308.48	0.13	309.54	0.32	310.60	0.56
308.50	0.13	309.56	0.32	310.62	0.57
308.52	0.14	309.58	0.33	310.64	0.57
308.54	0.14	309.60	0.33	310.66	0.58
308.56	0.14	309.62	0.33	310.68	0.58
308.58	0.15	309.64	0.34	310.70	0.59
308.60	0.15	309.66	0.34	310.72	0.59
308.62	0.15	309.68	0.35	310.74	0.60
308.64	0.16	309.70	0.35	310.76	0.60
308.66	0.16	309.72	0.35	310.78	0.61
308.68	0.16	309.74	0.36	310.80	0.62
308.70	0.17	309.76	0.36	310.82	0.62
308.72	0.17	309.78	0.37	310.84	0.63
308.74	0.17	309.80	0.37	310.86	0.63
308.76	0.18	309.82	0.37	310.88	0.64
308.78	0.18	309.84	0.38	310.90	0.64
308.80	0.18	309.86	0.38	310.92	0.65
308.82	0.19	309.88	0.39	310.94	0.65
308.84	0.19	309.90	0.39	310.96	0.66
308.86	0.19	309.92	0.39	310.98	0.66
308.88	0.20	309.94	0.40	311.00	0.67
308.90	0.20	309.96	0.40		
308.92	0.20	309.98	0.41		
308.94	0.21	310.00	0.41		
308.96	0.21	310.02	0.41		
308.98	0.21	310.04	0.42		
309.00	0.22	310.06	0.42		
309.02	0.22	310.08	0.43		
309.04	0.22	310.10	0.43		

Stage-Area-Storage for Pond 7P: EX BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
308.00	2,996	0	310.65	29,428	40,400
308.05	3,434	161	310.70	30,052	41,887
308.10	3,872	343	310.75	30,677	43,405
308.15	4,310	548	310.80	31,301	44,955
308.20	4,747	774	310.85	31,925	46,535
308.25	5,185	1,023	310.90	32,549	48,147
308.30	5,623	1,293	310.95	33,173	49,790
308.35	6,061	1,585	311.00	33,797	51,465
308.40	6,499	1,899			
308.45	6,937	2,235			
308.50	7,375	2,593			
308.55	7,812	2,972			
308.60	8,250	3,374			
308.65	8,688	3,797			
308.70	9,126	4,243			
308.75	9,564	4,710			
308.80	10,002	5,199			
308.85	10,439	5,710			
308.90	10,877	6,243			
308.95	11,315	6,798			
309.00	11,753	7,375			
309.05	12,231	7,974			
309.10	12,709	8,598			
309.15	13,187	9,245			
309.20	13,665	9,916			
309.25	14,144	10,612			
309.30	14,622	11,331			
309.35	15,100	12,074			
309.40	15,578	12,841			
309.45	16,056	13,632			
309.50	16,534	14,446			
309.55	17,012	15,285			
309.60	17,490	16,147			
309.65	17,968	17,034			
309.70	18,446	17,944			
309.75	18,925	18,879			
309.80	19,403	19,837			
309.85	19,881	20,819			
309.90	20,359	21,825			
309.95	20,837	22,855			
310.00	21,315	23,909			
310.05	21,939	24,990			
310.10	22,563	26,102			
310.15	23,187	27,246			
310.20	23,811	28,421			
310.25	24,436	29,627			
310.30	25,060	30,865			
310.35	25,684	32,133			
310.40	26,308	33,433			
310.45	26,932	34,764			
310.50	27,556	36,126			
310.55	28,180	37,520			
310.60	28,804	38,944			

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

Subcatchment 1S: EDA-2

Runoff Area=4.300 ac 0.00% Impervious Runoff Depth>3.94"
Flow Length=466' Tc=9.8 min CN=63 Runoff=15.93 cfs 1.412 af

Subcatchment 2S: EDA-1

Runoff Area=1.550 ac 0.00% Impervious Runoff Depth>3.71"
Flow Length=180' Tc=8.5 min CN=61 Runoff=5.69 cfs 0.479 af

Subcatchment 5S: PDA-2

Runoff Area=4.300 ac 0.23% Impervious Runoff Depth>2.23"
Flow Length=466' Tc=21.5 min CN=48 Runoff=5.94 cfs 0.799 af

Subcatchment 6S: PDA-1

Runoff Area=1.550 ac 0.00% Impervious Runoff Depth>1.91"
Flow Length=180' Tc=24.9 min CN=45 Runoff=1.61 cfs 0.246 af

Pond 6P: EX BASIN

Peak Elev=310.58' Storage=38,497 cf Inflow=15.93 cfs 1.412 af
Outflow=0.56 cfs 0.561 af

Pond 7P: EX BASIN

Peak Elev=309.81' Storage=19,984 cf Inflow=5.94 cfs 0.799 af
Outflow=0.37 cfs 0.349 af

Summary for Subcatchment 1S: EDA-2

Runoff = 15.93 cfs @ 12.17 hrs, Volume= 1.412 af, Depth> 3.94"
 Routed to Pond 6P : EX BASIN

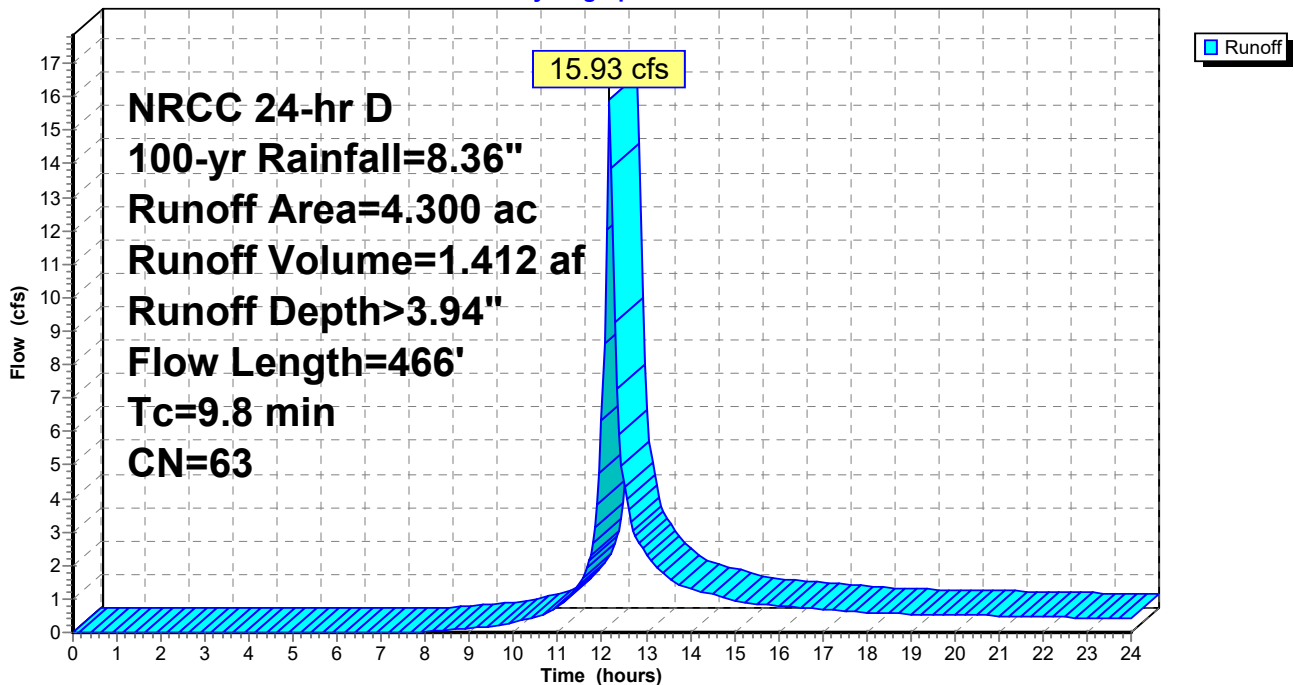
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 100-yr Rainfall=8.36"

Area (ac)	CN	Description
2.660	67	Row crops, straight row, Good, HSG A
0.830	78	Row crops, straight row, Good, HSG B
0.810	36	Woods, Fair, HSG A
4.300	63	Weighted Average
4.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0150	0.32		Sheet Flow, AB Cultivated: Residue<=20% n= 0.060 P2= 3.36"
4.6	366	0.0220	1.33		Shallow Concentrated Flow, BC Cultivated Straight Rows Kv= 9.0 fps
9.8	466	Total			

Subcatchment 1S: EDA-2

Hydrograph



Summary for Subcatchment 2S: EDA-1

Runoff = 5.69 cfs @ 12.16 hrs, Volume= 0.479 af, Depth> 3.71"
 Routed to nonexistent node 9L

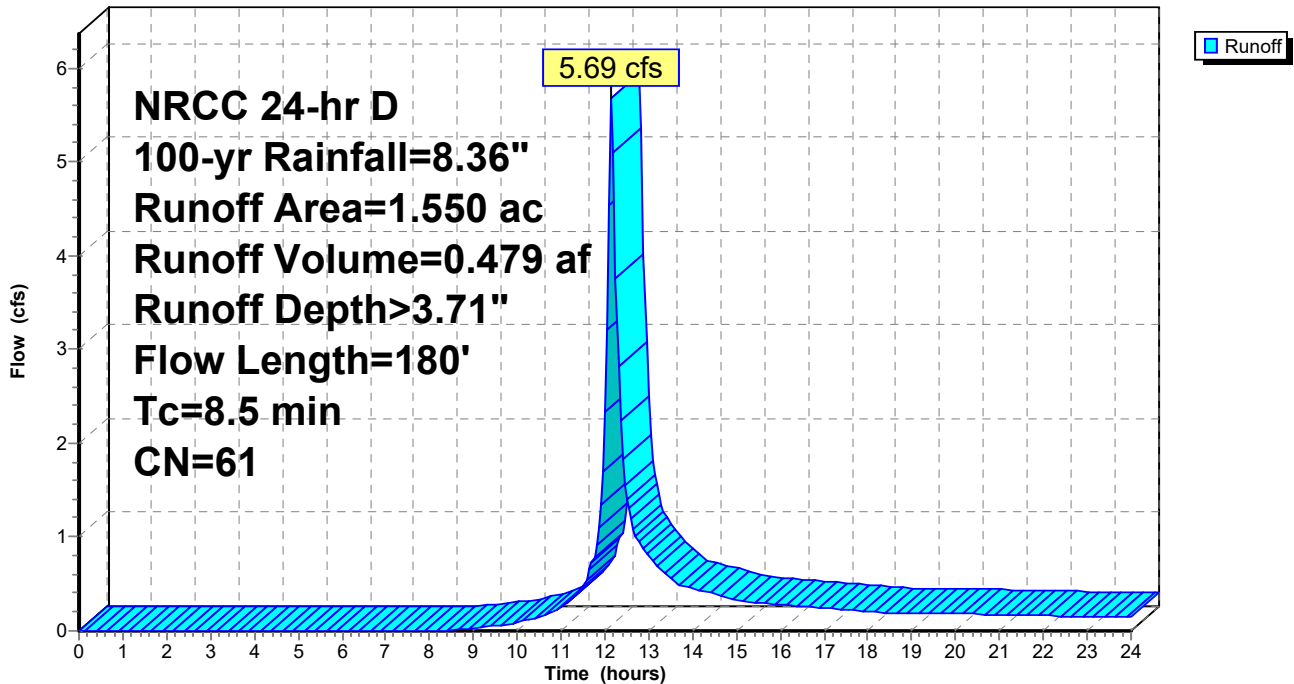
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 100-yr Rainfall=8.36"

Area (ac)	CN	Description
1.270	67	Row crops, straight row, Good, HSG A
0.280	36	Woods, Fair, HSG A
1.550	61	Weighted Average
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0050	0.21		Sheet Flow, AB Cultivated: Residue<=20% n= 0.060 P2= 3.36"
0.5	80	0.0750	2.46		Shallow Concentrated Flow, BC Cultivated Straight Rows Kv= 9.0 fps
8.5	180	Total			

Subcatchment 2S: EDA-1

Hydrograph



Summary for Subcatchment 5S: PDA-2

Runoff = 5.94 cfs @ 12.33 hrs, Volume= 0.799 af, Depth> 2.23"
 Routed to Pond 7P : EX BASIN

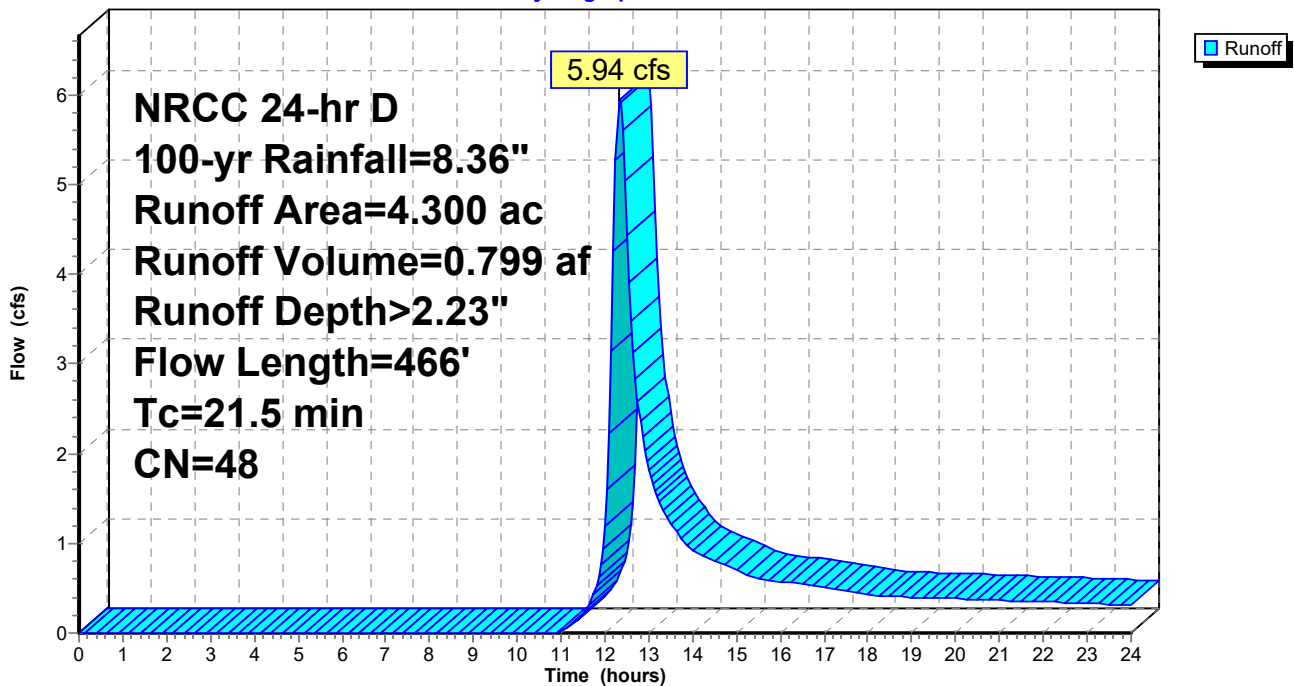
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 100-yr Rainfall=8.36"

Area (ac)	CN	Description
* 0.840	65	Meadow, non-grazed, HSG B/C
* 3.000	44	Meadow, non-grazed, HSG A/B
0.380	36	Woods, Fair, HSG A
0.010	98	Paved parking, HSG A
0.070	96	Gravel surface, HSG A
4.300	48	Weighted Average
4.290		99.77% Pervious Area
0.010		0.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0150	0.11		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.36"
5.9	366	0.0220	1.04		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
21.5	466	Total			

Subcatchment 5S: PDA-2

Hydrograph



Summary for Subcatchment 6S: PDA-1

Runoff = 1.61 cfs @ 12.39 hrs, Volume= 0.246 af, Depth> 1.91"
 Routed to nonexistent node 8L

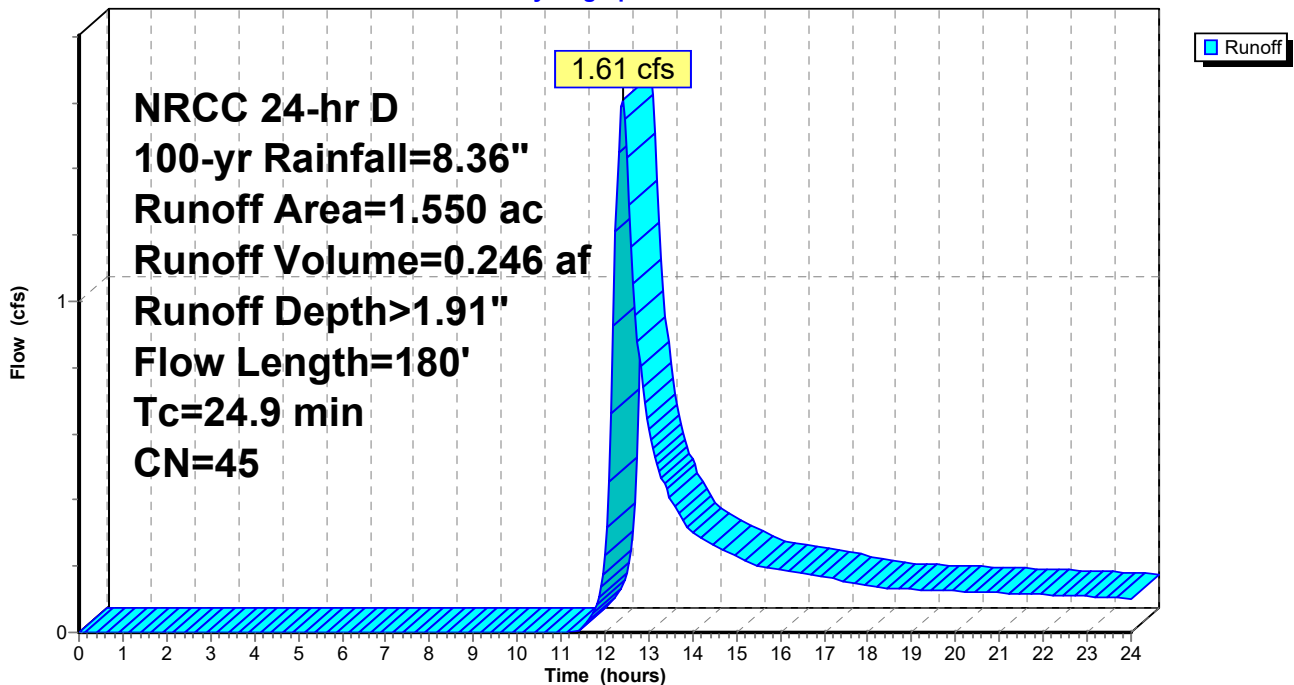
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 100-yr Rainfall=8.36"

Area (ac)	CN	Description
* 1.350	44	Meadow, non-grazed, HSG A/B
0.150	36	Woods, Fair, HSG A
0.050	96	Gravel surface, HSG A
1.550	45	Weighted Average
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	100	0.0050	0.07		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.36"
0.7	80	0.0750	1.92		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
24.9	180	Total			

Subcatchment 6S: PDA-1

Hydrograph



Summary for Pond 6P: EX BASIN

Inflow Area = 4.300 ac, 0.00% Impervious, Inflow Depth > 3.94" for 100-yr event
 Inflow = 15.93 cfs @ 12.17 hrs, Volume= 1.412 af
 Outflow = 0.56 cfs @ 18.44 hrs, Volume= 0.561 af, Atten= 96%, Lag= 376.2 min
 Discarded = 0.56 cfs @ 18.44 hrs, Volume= 0.561 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 310.58' @ 18.44 hrs Surf.Area= 28,610 sf Storage= 38,497 cf

Plug-Flow detention time= 359.8 min calculated for 0.561 af (40% of inflow)
 Center-of-Mass det. time= 202.6 min (1,068.0 - 865.4)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	51,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

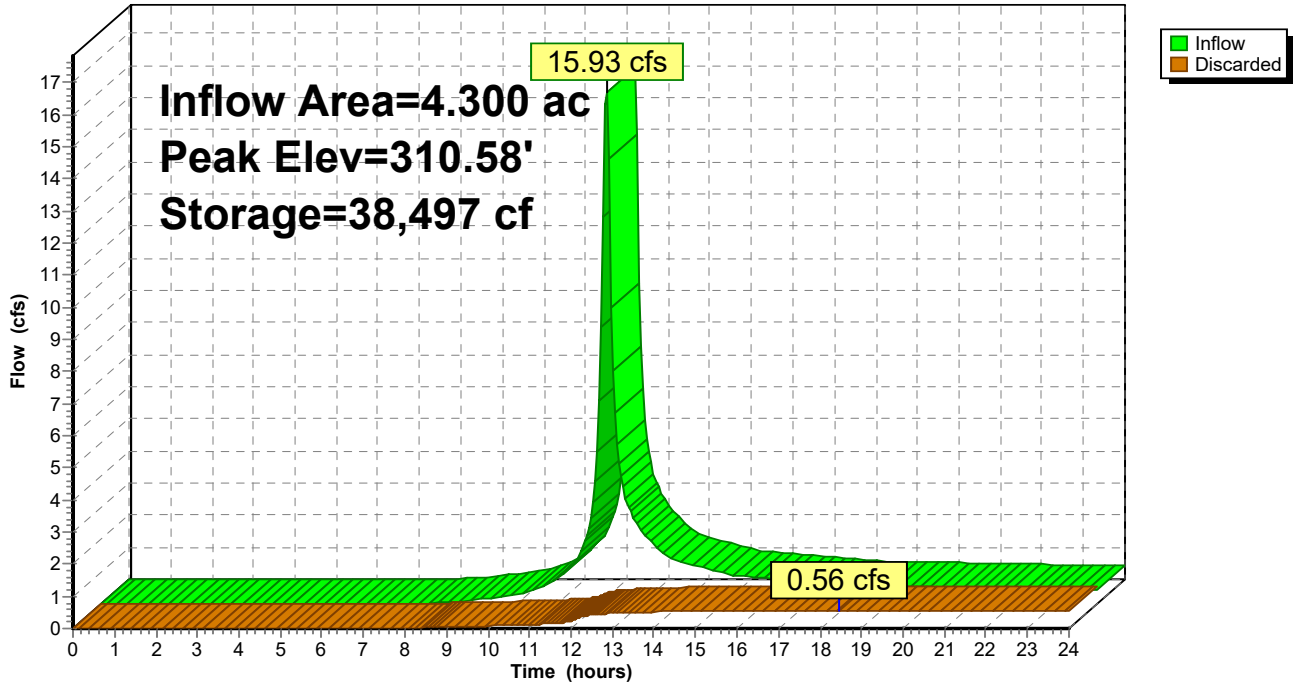
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
308.00	2,996	0	0
309.00	11,753	7,375	7,375
310.00	21,315	16,534	23,909
311.00	33,797	27,556	51,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	0.750 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.56 cfs @ 18.44 hrs HW=310.58' (Free Discharge)
 ↑1=Exfiltration (Controls 0.56 cfs)

Pond 6P: EX BASIN

Hydrograph



Stage-Discharge for Pond 6P: EX BASIN

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
308.00	0.00	309.06	0.23	310.12	0.44
308.02	0.06	309.08	0.23	310.14	0.44
308.04	0.06	309.10	0.24	310.16	0.45
308.06	0.06	309.12	0.24	310.18	0.45
308.08	0.06	309.14	0.24	310.20	0.46
308.10	0.07	309.16	0.25	310.22	0.46
308.12	0.07	309.18	0.25	310.24	0.47
308.14	0.07	309.20	0.25	310.26	0.47
308.16	0.08	309.22	0.26	310.28	0.48
308.18	0.08	309.24	0.26	310.30	0.49
308.20	0.08	309.26	0.27	310.32	0.49
308.22	0.09	309.28	0.27	310.34	0.50
308.24	0.09	309.30	0.27	310.36	0.50
308.26	0.09	309.32	0.28	310.38	0.51
308.28	0.10	309.34	0.28	310.40	0.51
308.30	0.10	309.36	0.28	310.42	0.52
308.32	0.10	309.38	0.29	310.44	0.52
308.34	0.11	309.40	0.29	310.46	0.53
308.36	0.11	309.42	0.30	310.48	0.53
308.38	0.11	309.44	0.30	310.50	0.54
308.40	0.12	309.46	0.30	310.52	0.54
308.42	0.12	309.48	0.31	310.54	0.55
308.44	0.12	309.50	0.31	310.56	0.55
308.46	0.13	309.52	0.31	310.58	0.56
308.48	0.13	309.54	0.32	310.60	0.56
308.50	0.13	309.56	0.32	310.62	0.57
308.52	0.14	309.58	0.33	310.64	0.57
308.54	0.14	309.60	0.33	310.66	0.58
308.56	0.14	309.62	0.33	310.68	0.58
308.58	0.15	309.64	0.34	310.70	0.59
308.60	0.15	309.66	0.34	310.72	0.59
308.62	0.15	309.68	0.35	310.74	0.60
308.64	0.16	309.70	0.35	310.76	0.60
308.66	0.16	309.72	0.35	310.78	0.61
308.68	0.16	309.74	0.36	310.80	0.62
308.70	0.17	309.76	0.36	310.82	0.62
308.72	0.17	309.78	0.37	310.84	0.63
308.74	0.17	309.80	0.37	310.86	0.63
308.76	0.18	309.82	0.37	310.88	0.64
308.78	0.18	309.84	0.38	310.90	0.64
308.80	0.18	309.86	0.38	310.92	0.65
308.82	0.19	309.88	0.39	310.94	0.65
308.84	0.19	309.90	0.39	310.96	0.66
308.86	0.19	309.92	0.39	310.98	0.66
308.88	0.20	309.94	0.40	311.00	0.67
308.90	0.20	309.96	0.40		
308.92	0.20	309.98	0.41		
308.94	0.21	310.00	0.41		
308.96	0.21	310.02	0.41		
308.98	0.21	310.04	0.42		
309.00	0.22	310.06	0.42		
309.02	0.22	310.08	0.43		
309.04	0.22	310.10	0.43		

Stage-Area-Storage for Pond 6P: EX BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
308.00	2,996	0	310.65	29,428	40,400
308.05	3,434	161	310.70	30,052	41,887
308.10	3,872	343	310.75	30,677	43,405
308.15	4,310	548	310.80	31,301	44,955
308.20	4,747	774	310.85	31,925	46,535
308.25	5,185	1,023	310.90	32,549	48,147
308.30	5,623	1,293	310.95	33,173	49,790
308.35	6,061	1,585	311.00	33,797	51,465
308.40	6,499	1,899			
308.45	6,937	2,235			
308.50	7,375	2,593			
308.55	7,812	2,972			
308.60	8,250	3,374			
308.65	8,688	3,797			
308.70	9,126	4,243			
308.75	9,564	4,710			
308.80	10,002	5,199			
308.85	10,439	5,710			
308.90	10,877	6,243			
308.95	11,315	6,798			
309.00	11,753	7,375			
309.05	12,231	7,974			
309.10	12,709	8,598			
309.15	13,187	9,245			
309.20	13,665	9,916			
309.25	14,144	10,612			
309.30	14,622	11,331			
309.35	15,100	12,074			
309.40	15,578	12,841			
309.45	16,056	13,632			
309.50	16,534	14,446			
309.55	17,012	15,285			
309.60	17,490	16,147			
309.65	17,968	17,034			
309.70	18,446	17,944			
309.75	18,925	18,879			
309.80	19,403	19,837			
309.85	19,881	20,819			
309.90	20,359	21,825			
309.95	20,837	22,855			
310.00	21,315	23,909			
310.05	21,939	24,990			
310.10	22,563	26,102			
310.15	23,187	27,246			
310.20	23,811	28,421			
310.25	24,436	29,627			
310.30	25,060	30,865			
310.35	25,684	32,133			
310.40	26,308	33,433			
310.45	26,932	34,764			
310.50	27,556	36,126			
310.55	28,180	37,520			
310.60	28,804	38,944			

Summary for Pond 7P: EX BASIN

Inflow Area = 4.300 ac, 0.23% Impervious, Inflow Depth > 2.23" for 100-yr event
 Inflow = 5.94 cfs @ 12.33 hrs, Volume= 0.799 af
 Outflow = 0.37 cfs @ 20.59 hrs, Volume= 0.349 af, Atten= 94%, Lag= 495.5 min
 Discarded = 0.37 cfs @ 20.59 hrs, Volume= 0.349 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 309.81' @ 20.59 hrs Surf.Area= 19,475 sf Storage= 19,984 cf

Plug-Flow detention time= 345.7 min calculated for 0.348 af (44% of inflow)
 Center-of-Mass det. time= 177.1 min (1,095.1 - 918.0)

Volume	Invert	Avail.Storage	Storage Description
#1	308.00'	51,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

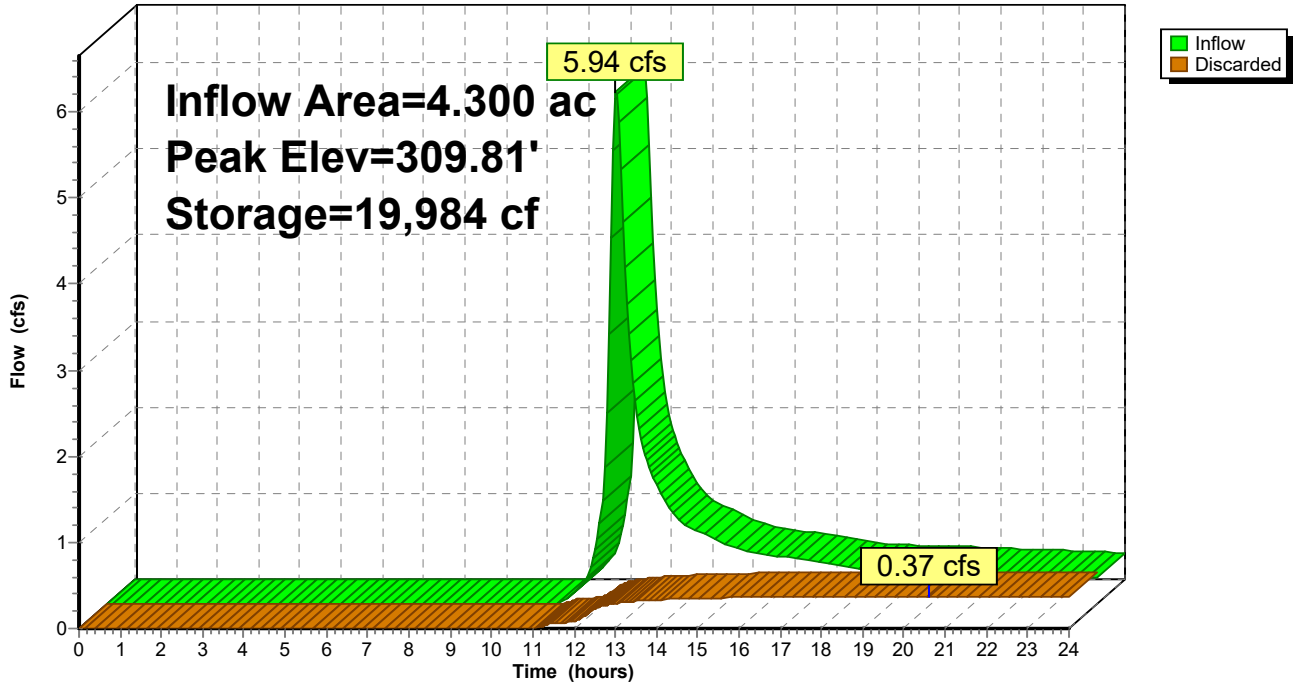
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
308.00	2,996	0	0
309.00	11,753	7,375	7,375
310.00	21,315	16,534	23,909
311.00	33,797	27,556	51,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	308.00'	0.750 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 298.00'

Discarded OutFlow Max=0.37 cfs @ 20.59 hrs HW=309.81' (Free Discharge)
 ↑1=Exfiltration (Controls 0.37 cfs)

Pond 7P: EX BASIN

Hydrograph



Stage-Discharge for Pond 7P: EX BASIN

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
308.00	0.00	309.06	0.23	310.12	0.44
308.02	0.06	309.08	0.23	310.14	0.44
308.04	0.06	309.10	0.24	310.16	0.45
308.06	0.06	309.12	0.24	310.18	0.45
308.08	0.06	309.14	0.24	310.20	0.46
308.10	0.07	309.16	0.25	310.22	0.46
308.12	0.07	309.18	0.25	310.24	0.47
308.14	0.07	309.20	0.25	310.26	0.47
308.16	0.08	309.22	0.26	310.28	0.48
308.18	0.08	309.24	0.26	310.30	0.49
308.20	0.08	309.26	0.27	310.32	0.49
308.22	0.09	309.28	0.27	310.34	0.50
308.24	0.09	309.30	0.27	310.36	0.50
308.26	0.09	309.32	0.28	310.38	0.51
308.28	0.10	309.34	0.28	310.40	0.51
308.30	0.10	309.36	0.28	310.42	0.52
308.32	0.10	309.38	0.29	310.44	0.52
308.34	0.11	309.40	0.29	310.46	0.53
308.36	0.11	309.42	0.30	310.48	0.53
308.38	0.11	309.44	0.30	310.50	0.54
308.40	0.12	309.46	0.30	310.52	0.54
308.42	0.12	309.48	0.31	310.54	0.55
308.44	0.12	309.50	0.31	310.56	0.55
308.46	0.13	309.52	0.31	310.58	0.56
308.48	0.13	309.54	0.32	310.60	0.56
308.50	0.13	309.56	0.32	310.62	0.57
308.52	0.14	309.58	0.33	310.64	0.57
308.54	0.14	309.60	0.33	310.66	0.58
308.56	0.14	309.62	0.33	310.68	0.58
308.58	0.15	309.64	0.34	310.70	0.59
308.60	0.15	309.66	0.34	310.72	0.59
308.62	0.15	309.68	0.35	310.74	0.60
308.64	0.16	309.70	0.35	310.76	0.60
308.66	0.16	309.72	0.35	310.78	0.61
308.68	0.16	309.74	0.36	310.80	0.62
308.70	0.17	309.76	0.36	310.82	0.62
308.72	0.17	309.78	0.37	310.84	0.63
308.74	0.17	309.80	0.37	310.86	0.63
308.76	0.18	309.82	0.37	310.88	0.64
308.78	0.18	309.84	0.38	310.90	0.64
308.80	0.18	309.86	0.38	310.92	0.65
308.82	0.19	309.88	0.39	310.94	0.65
308.84	0.19	309.90	0.39	310.96	0.66
308.86	0.19	309.92	0.39	310.98	0.66
308.88	0.20	309.94	0.40	311.00	0.67
308.90	0.20	309.96	0.40		
308.92	0.20	309.98	0.41		
308.94	0.21	310.00	0.41		
308.96	0.21	310.02	0.41		
308.98	0.21	310.04	0.42		
309.00	0.22	310.06	0.42		
309.02	0.22	310.08	0.43		
309.04	0.22	310.10	0.43		

Stage-Area-Storage for Pond 7P: EX BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
308.00	2,996	0	310.65	29,428	40,400
308.05	3,434	161	310.70	30,052	41,887
308.10	3,872	343	310.75	30,677	43,405
308.15	4,310	548	310.80	31,301	44,955
308.20	4,747	774	310.85	31,925	46,535
308.25	5,185	1,023	310.90	32,549	48,147
308.30	5,623	1,293	310.95	33,173	49,790
308.35	6,061	1,585	311.00	33,797	51,465
308.40	6,499	1,899			
308.45	6,937	2,235			
308.50	7,375	2,593			
308.55	7,812	2,972			
308.60	8,250	3,374			
308.65	8,688	3,797			
308.70	9,126	4,243			
308.75	9,564	4,710			
308.80	10,002	5,199			
308.85	10,439	5,710			
308.90	10,877	6,243			
308.95	11,315	6,798			
309.00	11,753	7,375			
309.05	12,231	7,974			
309.10	12,709	8,598			
309.15	13,187	9,245			
309.20	13,665	9,916			
309.25	14,144	10,612			
309.30	14,622	11,331			
309.35	15,100	12,074			
309.40	15,578	12,841			
309.45	16,056	13,632			
309.50	16,534	14,446			
309.55	17,012	15,285			
309.60	17,490	16,147			
309.65	17,968	17,034			
309.70	18,446	17,944			
309.75	18,925	18,879			
309.80	19,403	19,837			
309.85	19,881	20,819			
309.90	20,359	21,825			
309.95	20,837	22,855			
310.00	21,315	23,909			
310.05	21,939	24,990			
310.10	22,563	26,102			
310.15	23,187	27,246			
310.20	23,811	28,421			
310.25	24,436	29,627			
310.30	25,060	30,865			
310.35	25,684	32,133			
310.40	26,308	33,433			
310.45	26,932	34,764			
310.50	27,556	36,126			
310.55	28,180	37,520			
310.60	28,804	38,944			

WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR PDA

Project: Proposed Solar Photovoltaic Array
Location: 0 Chamberlain Highway, Berlin, CT
Date: 09/30/23

Water Quality Volume Calculations:

$$WQV = \frac{(1.3^*) (R) (A)}{12}$$

Where:
 WQV = water quality volume (ac-ft)
 R = volumetric runoff coefficient = 0.05+0.009(I)
 I = percent impervious cover (see below)
 A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
 I = percent impervious cover
 A_{IMP} = area of impervious cover
 A_{TOT} = total area of watershed

Watershed Description:

PDA

Area of impervious coverage, A _{IMP}	<input type="text" value="0.13"/>	Acres	
Total area of watershed, A _{TOT}	<input type="text" value="5.85"/>	Acres	
Percent impervious cover, I	<input type="text" value="2.22"/>	%	
Volumetric runoff coefficient, R	<input type="text" value="0.07"/>		
Water Quality Volume, WQV	<input type="text" value="0.044"/>	ac-ft	<input type="text" value="1,932"/> cf



NOAA Atlas 14, Volume 10, Version 3
Location name: Berlin, Connecticut, USA*
Latitude: 41.574°, Longitude: -72.8081°
Elevation: 298 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

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

PF tabular

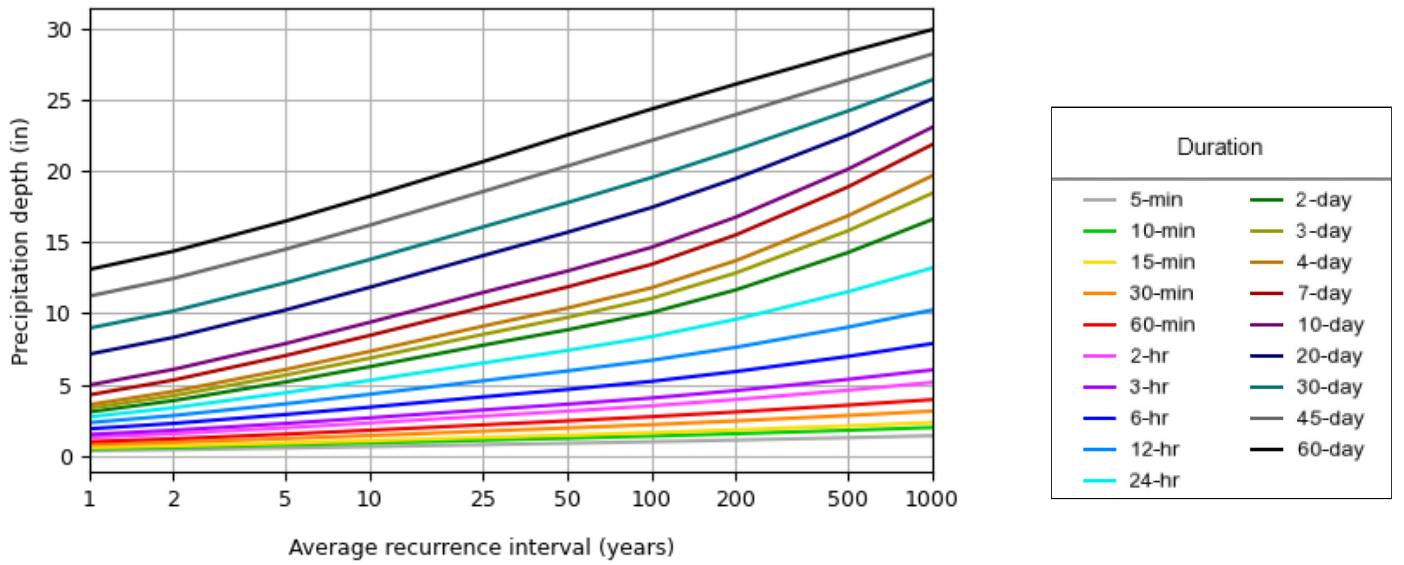
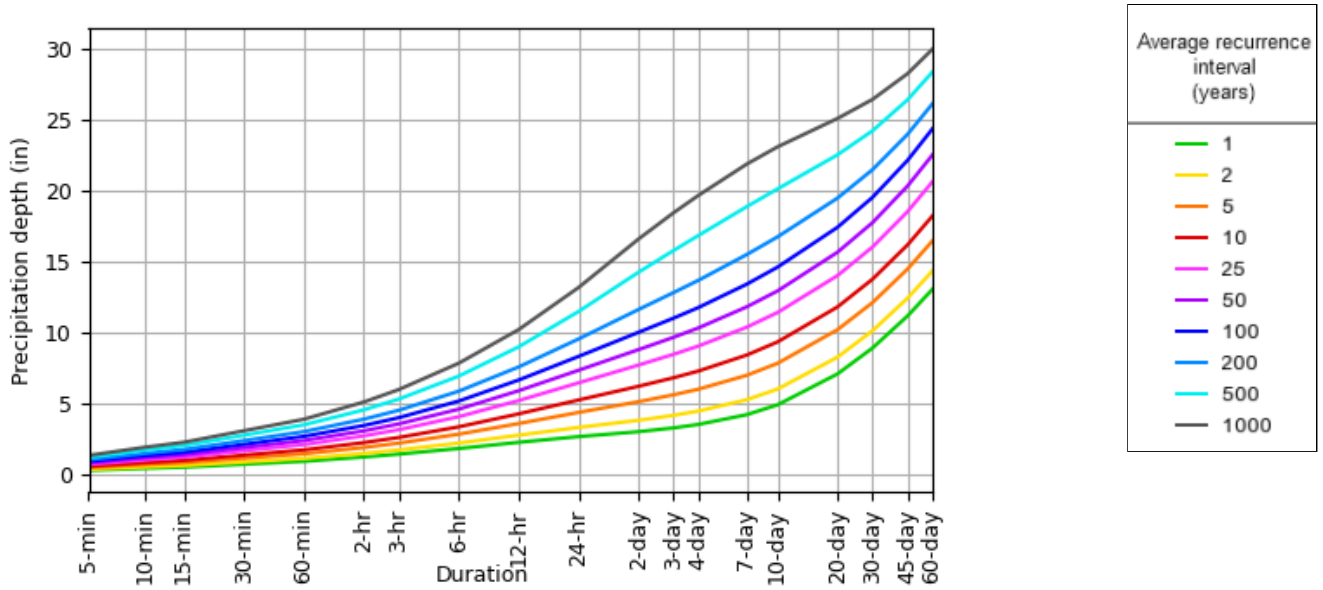
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.334 (0.261-0.419)	0.406 (0.317-0.510)	0.524 (0.408-0.661)	0.621 (0.481-0.788)	0.756 (0.566-1.01)	0.858 (0.629-1.17)	0.964 (0.686-1.37)	1.08 (0.729-1.58)	1.25 (0.810-1.90)	1.39 (0.879-2.16)
10-min	0.473 (0.370-0.594)	0.576 (0.450-0.723)	0.743 (0.579-0.937)	0.881 (0.682-1.12)	1.07 (0.802-1.43)	1.22 (0.891-1.66)	1.36 (0.972-1.94)	1.53 (1.03-2.24)	1.77 (1.15-2.69)	1.97 (1.24-3.05)
15-min	0.557 (0.436-0.698)	0.677 (0.529-0.850)	0.874 (0.680-1.10)	1.04 (0.803-1.32)	1.26 (0.944-1.68)	1.43 (1.05-1.95)	1.61 (1.14-2.28)	1.80 (1.22-2.63)	2.08 (1.35-3.16)	2.31 (1.46-3.59)
30-min	0.764 (0.597-0.958)	0.924 (0.722-1.16)	1.19 (0.924-1.50)	1.40 (1.09-1.78)	1.70 (1.28-2.27)	1.93 (1.42-2.64)	2.17 (1.54-3.08)	2.43 (1.64-3.55)	2.81 (1.82-4.27)	3.12 (1.98-4.85)
60-min	0.970 (0.759-1.22)	1.17 (0.915-1.47)	1.50 (1.17-1.89)	1.77 (1.37-2.25)	2.15 (1.61-2.86)	2.43 (1.78-3.32)	2.73 (1.94-3.88)	3.06 (2.06-4.47)	3.54 (2.30-5.37)	3.93 (2.49-6.10)
2-hr	1.27 (1.00-1.58)	1.53 (1.20-1.90)	1.94 (1.52-2.43)	2.29 (1.78-2.88)	2.76 (2.08-3.66)	3.11 (2.30-4.24)	3.49 (2.51-4.96)	3.94 (2.66-5.71)	4.59 (2.99-6.93)	5.14 (3.27-7.94)
3-hr	1.48 (1.17-1.83)	1.77 (1.40-2.20)	2.25 (1.77-2.81)	2.65 (2.08-3.32)	3.20 (2.43-4.23)	3.60 (2.68-4.89)	4.04 (2.93-5.74)	4.57 (3.10-6.61)	5.36 (3.49-8.06)	6.02 (3.83-9.26)
6-hr	1.87 (1.49-2.31)	2.26 (1.80-2.78)	2.88 (2.29-3.57)	3.40 (2.68-4.24)	4.11 (3.14-5.41)	4.64 (3.48-6.27)	5.21 (3.80-7.38)	5.91 (4.02-8.50)	6.97 (4.56-10.4)	7.88 (5.03-12.0)
12-hr	2.31 (1.86-2.82)	2.81 (2.26-3.44)	3.63 (2.90-4.46)	4.31 (3.43-5.34)	5.25 (4.04-6.87)	5.94 (4.48-7.99)	6.70 (4.91-9.43)	7.62 (5.21-10.9)	9.03 (5.92-13.4)	10.2 (6.56-15.6)
24-hr	2.71 (2.19-3.29)	3.36 (2.71-4.08)	4.41 (3.56-5.39)	5.29 (4.24-6.50)	6.50 (5.04-8.47)	7.38 (5.61-9.90)	8.36 (6.20-11.8)	9.59 (6.58-13.6)	11.5 (7.58-17.0)	13.2 (8.48-20.0)
2-day	3.06 (2.50-3.69)	3.86 (3.14-4.66)	5.17 (4.20-6.26)	6.25 (5.04-7.63)	7.75 (6.07-10.1)	8.84 (6.79-11.8)	10.1 (7.55-14.2)	11.7 (8.03-16.5)	14.3 (9.42-21.0)	16.6 (10.7-25.0)
3-day	3.32 (2.72-3.99)	4.21 (3.44-5.06)	5.66 (4.61-6.83)	6.86 (5.55-8.33)	8.51 (6.69-11.0)	9.70 (7.49-13.0)	11.1 (8.34-15.6)	12.9 (8.87-18.1)	15.8 (10.5-23.2)	18.5 (11.9-27.6)
4-day	3.57 (2.93-4.27)	4.51 (3.70-5.41)	6.05 (4.95-7.28)	7.33 (5.96-8.88)	9.09 (7.17-11.8)	10.4 (8.02-13.8)	11.8 (8.93-16.6)	13.7 (9.48-19.3)	16.9 (11.2-24.7)	19.7 (12.7-29.4)
7-day	4.26 (3.52-5.06)	5.31 (4.39-6.32)	7.03 (5.79-8.41)	8.46 (6.91-10.2)	10.4 (8.25-13.4)	11.8 (9.20-15.7)	13.4 (10.2-18.7)	15.5 (10.8-21.7)	18.9 (12.6-27.5)	21.9 (14.2-32.5)
10-day	4.95 (4.11-5.87)	6.06 (5.03-7.19)	7.87 (6.51-9.39)	9.38 (7.70-11.3)	11.5 (9.09-14.6)	13.0 (10.1-17.0)	14.6 (11.1-20.2)	16.8 (11.7-23.4)	20.2 (13.4-29.2)	23.1 (15.0-34.2)
20-day	7.13 (5.97-8.39)	8.31 (6.95-9.79)	10.2 (8.53-12.1)	11.8 (9.80-14.1)	14.1 (11.2-17.6)	15.7 (12.2-20.2)	17.5 (13.1-23.5)	19.5 (13.7-26.9)	22.6 (15.1-32.4)	25.1 (16.3-36.9)
30-day	8.95 (7.53-10.5)	10.2 (8.54-11.9)	12.2 (10.2-14.3)	13.8 (11.5-16.4)	16.1 (12.8-20.0)	17.8 (13.8-22.7)	19.6 (14.6-26.0)	21.5 (15.1-29.5)	24.3 (16.3-34.7)	26.5 (17.2-38.8)
45-day	11.2 (9.48-13.1)	12.5 (10.5-14.6)	14.5 (12.2-17.0)	16.2 (13.5-19.2)	18.6 (14.9-22.9)	20.4 (15.8-25.7)	22.2 (16.5-29.0)	24.0 (17.0-32.8)	26.4 (17.8-37.6)	28.3 (18.5-41.3)
60-day	13.1 (11.1-15.2)	14.4 (12.2-16.8)	16.5 (13.9-19.3)	18.3 (15.3-21.5)	20.7 (16.6-25.3)	22.6 (17.6-28.3)	24.4 (18.2-31.7)	26.2 (18.5-35.6)	28.4 (19.2-40.3)	30.0 (19.6-43.7)

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

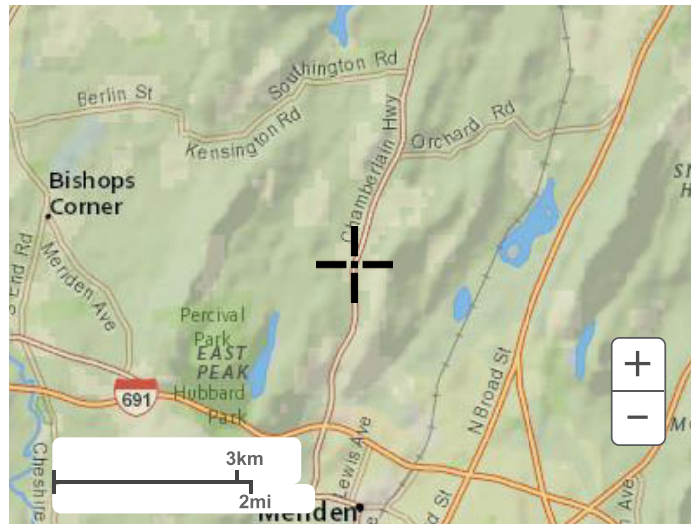
PDS-based depth-duration-frequency (DDF) curves
 Latitude: 41.5740°, Longitude: -72.8081°



[Back to Top](#)

Maps & aerials

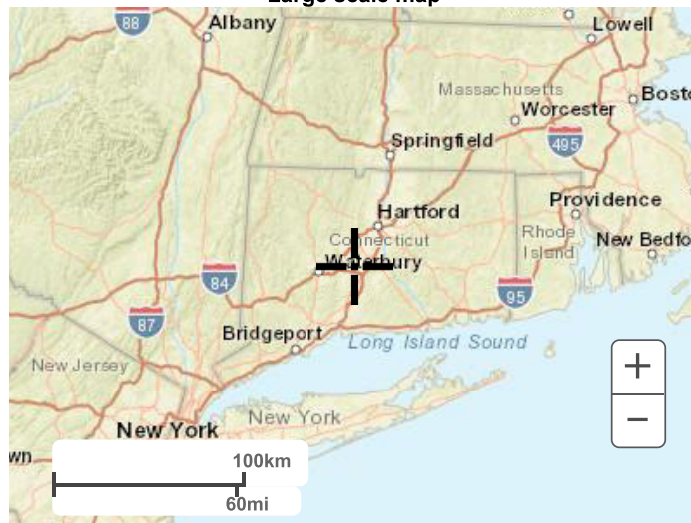
Small scale terrain



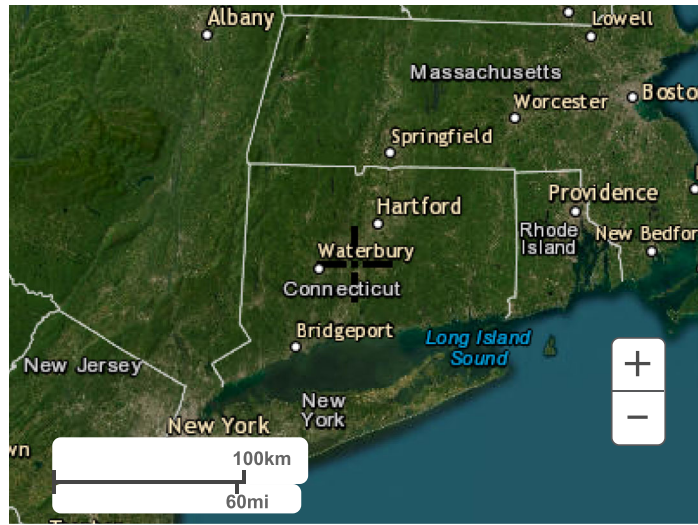
Large scale terrain



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](#)