Stormwater Pollution Control Plan

October 2023

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USS Torrington Solar LLC 1.998 MW-AC Solar Project | 105 Vista Drive, Torrington, Connecticut

Prepared For:

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Prepared By:

TRC Environmental Corp.
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ATTACHMENTS

ACRONYMS

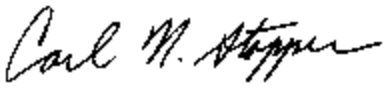
AC	Alternating Current
BMP	Best Management Practice
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CN	Runoff curve number
CTDEEP	Connecticut Department of Energy & Environmental Protection
CTDOT	Connecticut Department of Transportation
DC	Direct Current
ECB	Erosion Control Blanket
ECM	Erosion Control Mix
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
fps	Feet per second
GRV	Groundwater Recharge Volume
HSG	Hydrologic Soil Group
MSW	Municipal Solid Waste
MW	megawatt
NRCS	Natural Resources Conservation Service
PE	Professional Engineer
Project	USS Torrington Solar LLC Project
PV	Photovoltaic
PVP	Potential Vernal Pool
RCV	Runoff Capture Volume
SDS	Safety Data Sheets
SMR	Stormwater Management Report
SWPCP	Stormwater Pollution Control Plan
Tc	Time of Concentration
TMDL	Total Maximum Daily Load
USDA-SCS	United States Department of Agriculture Soil Conservation Service
USGS	United States Geological Survey
WQV	Water Quality Volume

Report Certification

Stormwater Pollution Control Plan
USS Torrington Solar LLC - Landfill Solar Array Project
105 Vista Drive, Torrington, Litchfield County, Connecticut

I hereby certify that I am a professional engineer licensed in the State of Connecticut. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by USS Torrington Solar LLC for an activity located at 105 Vista Drive, Torrington, CT 06790. I certify that I have thoroughly and completely reviewed the Stormwater Pollution Control Plan for the project or activity covered by this certification. I further certify, based on such review and on the standard of care for such projects, that the Stormwater Pollution Control Plan has been prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, the Stormwater Quality Manual, as amended, and the conditions of the general permit, and that the controls required for such Plan are appropriate for the site. I further certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement in this certification may subject me to sanction by the Department and/or be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law.

TRC Environmental Corp.



Carl N. Stopper, P.E.
Vice-President
CT PE License No. 13255

1.0 Introduction

This Stormwater Pollution Control Plan (SWPCP) has been prepared to describe and quantify the pre- and post-development hydrology of the area to be impacted by the construction of the USS Torrington Solar LLC ("US Solar", the Developer and a wholly-owned subsidiary of United States Solar Corporation) 1.998-megawatt (MW) alternating current (AC) Torrington Landfill Solar Array Project (the Project). The SWPCP shall demonstrate that the proposed development will comply with the applicable Connecticut Department of Energy & Environmental Protection (CTDEEP) stormwater management requirements. The SWPCP has been prepared in accordance with the following:

- CTDEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective December 31, 2020;
- 2004 Connecticut Stormwater Quality Manual;
- 2002 Connecticut Guidelines for Soil Erosion and Sediment Control; and
- Municipal codes/ordinances associated with stormwater management.

The goals of the SWPCP are to analyze the peak rate of runoff under pre- and post-development conditions, maintain the pre-development rate of runoff in order to minimize impacts to onsite receptors and offsite properties, and minimize the impact to the quality of runoff exiting the proposed development. The SWPCP identifies and details stormwater management pollution prevention and erosion and sediment control measures that will be utilized during and following completion of construction.

The proposed ground-mounted solar photovoltaic (PV) array will be constructed using a fixed-tilt ballasted system that is located on the top slopes of the City of Torrington's closed Municipal Solid Waste (MSW) Landfill. The solar array will consist of an estimated 4,166 PV modules over a footprint of approximately 4.9 acres. The Project Site is approximately 97.5 acres and the total area of the site that is expected to be disturbed by construction activities is 7.3 acres which consists of the solar array footprint, equipment pads, the existing access road to be improved for proposed development, and electric line to point of interconnection.

Overall, the proposed development is low impact and meets the requirements of applicable stormwater management standards. As the Project is located on an existing landfill, there are unique circumstances when designing a stormwater management plan. The following concepts were utilized to meet the stormwater management criteria to the maximum extent practical:

- Majority of the existing vegetation and drainage patterns are preserved. The existing drainage features, which were constructed during landfill closure, are not impacted. Additionally, earth disturbance will be minimized to the maximum extent practicable by the aboveground installation of utilities, access drive, and solar arrays.
- Only minor grading (fill placement) for the access drive and steep slopes is proposed; therefore, the existing overland sheet flow from the developed area of the site is generally maintained.
- Temporary and permanent erosion and sedimentation control measures will be implemented.

The Project has the following contact information:

Applicant
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Licensed Professional Engineer
TRC Environmental Corp.
21 Griffin Road North
Windsor, CT 06095
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The following is a brief summary of required permits and approvals for the Project:

- CTDEEP Construction General Permit
- CTDEEP Post-Closure Use Approval
- CTDEEP Disruption of a Solid Wase Disposal Area
- CTDEEP Updated Stewardship Permit
- Connecticut Siting Council Declaratory Ruling

Additional consultations and determinations have been completed in support of the above permits/approvals. The Stormwater Management Plan Checklist is provided in **Attachment A**.

2.0 Site Description

2.1 Site Location and Landfill Site History

The solar array field for the Project is located on a 4.9 acre portion of an approximate 97.5-acre parcel of land west of Vista Drive at 105 Vista Drive in Torrington, Litchfield County, Connecticut (Project Site) which is currently owned by the City of Torrington. The current land use is a closed landfill that is isolated from public view. A cemetery is located to the north and industrial businesses to the east. Forested land is to the west and south. An Eversource overhead transmission line easement runs inside the property parallel to the southerly boundary of the landfill. The Town of Litchfield boundary abuts the site to the south. The nearest residence to the landfill, 1125 South Main Street, is approximately 1,300 feet east of the landfill. There is one access point to the landfill: a gated road along Vista Drive in the northeast corner of the Site.

The Project is located on a single parcel within the City of Torrington's Industrial (I) zoning district. The Project Site is not within or in close proximity to Aquifer Protection Areas or Special Development Overlay Districts, as defined on the Torrington Connecticut Zone Map.

The parcel is occupied by a closed landfill, owned by City of Torrington. Waste was accepted into the landfill until 1993 with final landfill closure in 1994. In addition to MSW disposal, a portion of the site was utilized for the disposal of dewatered industrial metal hydroxide sludge from 1973 to 1986. The metal hydroxide disposal area was closed in 1989. The proposed solar array will be located on the MSW disposal area and not impact the metal hydroxide sludge disposal area. Based on grades shown in the *RCRA Subtitle D Closure Plan*, provided in **Attachment B**, MSW was placed within the landfill to an approximate elevation of 780 feet. Based on the grades presented in the plan, the landfill side-slopes were graded at approximately 3 horizontal to 1 vertical and the crown was graded to 4 percent. The landfill cover system is comprised of (from top to bottom) 6 inches of topsoil, 18 inches of barrier soil (low permeability rate of 10^{-5} cm/sec or less), and 12 inches of subgrade material.

Stormwater flows in all directions from the top of the landfill. Stormwater discharge points from the landfill flow to off-Site surface waters, including Penn Pond and Peck Brook to the north and Naugatuck River to the east.

2.2 Proposed Photovoltaic System

The proposed 1.998 MW-AC solar array will consist of a fixed-tilt ground-mounted racking system supported by concrete ballast blocks placed above the landfill cover system. Leveling crushed stone will be added beneath the ballasts as needed to meet the tolerances of the proposed racking system and protect against erosion under the array drip edge. The Project includes an estimated 4,166 PV modules with a footprint of approximately 4.9 acres. There will be two equipment pads, one for the PV system transformer with auxiliary equipment and a second for the string inverters with additional auxiliary equipment. Both equipment pads will be located within the fenced-in facility on the landfill cover.

The Project Area will be accessed via a proposed gravel access drive which will extend from the Site's existing main access road from Vista Drive. The lower portion of the main access road is paved. The portion of the existing access road, which crosses through the proposed fenced-in solar array, has steeper side slopes. As part of the Project, this portion of the road will be decommissioned and additional soil material placed on the landfill cover to have uniform grades with maximum 15 percent slope. The new access road will be extended with a formal turnaround at the crown of the landfill to allow site maintenance vehicles to access the proposed solar array and turnaround without driving directly on the landfill vegetative cover. Additionally, a new gravel access road will be constructed to continue along the northern limits of the solar array to provide the City with continued vehicle access to the metal hydroxide disposal area.

Structures required for interconnection will be located in the northeastern corner of the Project Site along the main access road entrance on Vista Drive. The total Project Area that is expected to be disturbed by construction activities is 7.3 acres which consists of the area around the solar array footprint, equipment pads, security fencing, the gravel accessway, electrical conduit runs, and overhead electric line corridor.

2.3 Surface Water On or Abutting the Site

TRC conducted site reconnaissance on October 28, 2022 and March 17, 2023 to determine the presence or absence of wetlands and watercourses located within and surrounding the proposed

Project Area. The most dominant surface watercourses within close proximity to the Project Area is Penn Pond and Peck Brook to the north and Naugatuck River to the east. Delineated resources are described in more detail in the Wetland and Watercourse Delineation Report for the Project, as a separate report, and locations are shown in the Issued for Permitting (IFP) drawing set.

The fenced-in solar array facility is located outside minimum buffers required by the City of Torrington's inland wetlands and watercourses regulations and as specified in the CTDEEP Solar Array Guidance. The proposed development will avoid watercourses and wetlands by a minimum 100-foot buffer with the exception of minor repairs and maintenance of the property's existing access road and installation of the electric line to the point of interconnection on Vista Drive. Limited selective tree clearing and trimming, under 3,500 square feet, will be completed near the point of interconnection to allow for installation of the interconnection utility poles and overhead electric line which crosses an intermittent stream. The existing access road crosses this intermittent stream which makes avoidance impractical. Per the CTDEEP Solar Array Guidance, this scenario would be exempt from the minimum 10-foot buffer requirement. To minimize direct impacts to the stream, the electric line will cross the stream overhead instead of underground. Woody vegetation will be selectively cut and trimmed, as necessary, and grubbing will be minimized to the greatest extent practical. No trees will be cleared in wetlands.

2.4 Downstream Waterbodies

Runoff from the Project Area drains to Penn Pond and Peck Brook to the north and Church Brook and Iffland Pond to the south. Eventually these drain to Naugatuck River to the east. The Project is within the Naugatuck River Basin which is part of the Housatonic Major Basin. The Naugatuck River (associated waterbody segment ID CT6900-00_07) is considered an Impaired Water for total phosphorus and cause unknown. There are no direct discharges to impaired waters from the proposed development.

2.5 General Topography

A map of the Project Site overlaid on a United States Geological Survey (USGS) 7.5-minute topographic quadrangle map is included as **Figure 1** in **Attachment B**. A full topographic survey at 1-foot contours was performed by Land Design Associates of Hauppauge, New York in September 2022.

The closed MSW landfill, where the Project is to be located, has a peak elevation of approximately 781 feet above mean sea level. The top slopes of this disposal area are relatively mild (approximate 4 percent crown) and transition to side slopes which are graded at approximately 3 horizontal to 1 vertical. Topography surrounding the landfill slopes to the north, east and south primarily.

Under post-development conditions, existing topography will not be significantly altered, and site drainage will generally remain the same. Minor changes to grades will take place within the Project Area as follows:

- Additional soil material will be added to existing landfill cover slopes within the proposed solar array footprint which exceed 15 percent. These areas will be graded to have uniform grades less than 15% to promote sheet flow and meet array racking tolerances. Only a thin grass/organic layer will be removed in these areas prior to adding additional soil

material. The surface of the filled areas will be revegetated, except where the portion of the proposed access road is located.

- A new gravel access road will be constructed along the northern limits of the solar array with a formal turnaround at the equipment pads.
- Top course gravel material will be added to the existing access road to restore correct grade and protect the landfill cover system.
- Several strategically placed level spreaders with diversion berms will be constructed to adequately manage stormwater runoff from the proposed impervious areas and array.
- Stone leveling pads will be added beneath the ballast blocks as needed for the ballasted system of the solar array racking system to meet specified tolerances. Additional rows of crushed stone shall be placed along the full length of array rows under the array drip edge to prevent erosion and dissipate flow from the panels and dissipate surface runoff into a sheet flow manner as it travels downslope.

Final grades will maintain positive drainage and prevent ponding within the Project Area. Impervious surfaces, such as access roads and equipment pads, will be graded to promote runoff to vegetated areas as sheet flow. Construction and implementation of new stormwater conveyances that would result in discharging concentrated flows are not required.

2.6 Flood Plain

The Federal Emergency Management Agency (FEMA) maintains materials developed to support flood hazard mapping for the National Flood Insurance Program. The Project Site is outside the 100-year flood zone according to the Flood Insurance Rate Map (FIRM) for the City of Torrington, Connecticut, panel number 095081007B, effective April 4, 1983 (see **Attachment B**). The proposed development will not impact flood storage or habitat function of any on-site or off-site receptors.

2.7 Alterations to Natural Drainage Ways

Construction of the proposed Project will not alter natural drainage ways. Overall, the proposed site design gives preference to existing and natural drainage patterns and was developed to maintain sheet flow over vegetated areas.

2.8 Alterations to Land Cover Within Watershed

The location of the proposed development on the MSW landfill is currently vegetated and is characterized as grass in good condition. Only minor tree cutting/trimming is required for the overhead electric line corridor.

Stormwater runoff, with the proposed crushed stone ballast pads and crushed stone drip edge berms, will maintain sheet flow across the landfill surface. In areas of steeper slopes, stormwater will be directed by diversion berms to level spreaders to promote uniform sheet flow. Two subcatchments have been delineated for the Project Area with two analysis points to compare the pre- and post-development hydrology. The Site radially drains from the high point, located centrally on the landfill, to surrounding vegetated areas or swales. Flows from Subcatchment 1S are conveyed through natural drainage features and existing swales to the northeastern corner of

the Project Site. Flows from Subcatchment 2S travel over grass and wooded areas to the southern property boundary.

During construction, ground disturbance will be minimized as much as possible. Disturbed areas will be revegetated. Under post-development conditions, the landfill cover surrounding the solar array system components will continue to be maintained in a grass land cover condition. Mowing within the fenced project area will be performed twice annually or as needed so that vegetation heights do not impede production of the solar array system and to enable the landfill systems to be inspected.

Impervious surfaces associated with the proposed development consist of the gravel accessway and turnaround, solar array and perimeter fence ballasts, and equipment pads. The solar array ballasted foundation design has not yet been completed but is anticipated to consist of concrete ballast blocks resting on crushed stone leveling pads. The perimeter fence ballasted foundation design will also be completed at a later date prior to construction. For the purposes of the stormwater model, typical array and fence ballast block sizes are assumed. The combined footprint of the concrete equipment pads is 534 square feet. The solar panels themselves are not considered an impervious surface with respect to stormwater runoff as they are elevated above grade. Separation between rows of panels will allow the passage of precipitation to the ground surface. Likewise, the aboveground electrical conduit is not considered an impervious surface.

Impervious surfaces within the watershed are decreased by approximately 0.5 acres. The table below provides a summary of land cover changes as represented by the composite runoff curve numbers (CNs) within the assessed watershed which is further sub-divided into the two subcatchments:

LAND COVER CHANGES				
SUBCATCHMENT ID	PRE-DEVELOPMENT CONDITIONS		POST-DEVELOPMENT CONDITIONS	
	CN	AREA (Ac.)	CN	AREA (Ac.)
1S	76.1	24.92	75.9	24.92
2S	80.8	4.47	80.8	4.47
Combined	76.8	29.39	76.6	29.39

As shown in the table, changes to the land cover between pre- and post-development conditions within the delineated watershed are minimal with a small decrease in the composite CNs. A summary of the land cover types and CNs for the pre- and post-development subcatchments are provided in **Attachment C**.

3.0 Runoff Analysis

The runoff analysis of the peak rate of runoff under pre- and post-development conditions is provided in order to demonstrate that the proposed development will not result in increased peak stormwater runoff flows when compared to pre-development conditions.

3.1 Runoff Analysis Methodology

Stormwater runoff was estimated using HydroCAD, Version 10.0. HydroCAD software is based on methodologies developed by the United States Department of Agriculture Soil Conservation Service (USDA-SCS[1]), namely *Urban Hydrology for Small Watersheds*, Technical Release 55 and Technical Release 20 (TR-55 and TR-20), in combination with other hydraulic and hydrologic calculations. Based on site specific information including sub-catchment area and slopes, hydrologic soil groups (HSGs), land cover types, and rainfall data, the program estimates inflow and outflow hydrographs for each sub-catchment and performs reach and pond routing calculations. The pre- and post-development runoff analysis calculations are provided in **Attachment C**.

The hydrologic analysis for this project consists of dividing the Project into two sub-catchments for both pre- and post-development conditions which contribute runoff to two analysis points. The sub-catchment boundaries were determined from the existing and proposed contours. Runoff from the sub-catchments were analyzed at the point of intersection of the respective longest hydrologic flow paths and either a sub-catchment boundary, stormwater conveyance or Project Area boundary. The intent of the hydrologic analysis is to demonstrate that the changes in ground cover and grading resulting from the Project will not adversely affect downgradient properties or natural resources.

The Pre-Development Drainage Plan and the Post-Development Drainage Plan for the proposed Project are included in **Attachment B**, drawing sheets SW-1 and SW-2 respectively. Both plans include two-foot contours, land cover types, HSGs, sub-catchment boundaries and analysis points, hydrologic flow lines, existing features, and drainage ways where applicable. The Post-Development Drainage Plans include the locations of proposed road improvements, structures, and stormwater management features.

3.2 Precipitation

Design storms modeled for the pre- and post-development runoff analyses are based on the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 precipitation frequency estimates for the specified average recurrence interval. The precipitation events used in the runoff analyses are 24-hour duration having a Natural Resources Conservation Service (NRCS), NOAA Atlas 14 derived, Type D (“NOAA_D”) distribution with return periods of 2-, 10-, 25-, 50-, and 100-years. Rainfall depths for these events are 3.53, 5.71, 7.07, 8.06, and 9.17 inches respectively.

[1] Now known as the Natural Resource Conservation Service (NRCS)

3.3 Runoff Curve Numbers

A summary of the land cover types, HSGs, and runoff curve numbers (CNs) for the pre- and post-development sub-catchments are provided in the stormwater calculation package in **Attachment C**. Cover types for the impacted areas were determined from multiple site visits, publicly available aerial imagery, and Torrington Landfill-related records.

Published NRCS soils data and mapping were utilized to support the hydrologic assessment outside the solid waste boundary which only includes a small portion of the delineated sub-catchments. HSG D was utilized within the solid waste boundary to be representative of the low permeability soil component of the landfill cover. As-built record drawings describe the landfill cover system consisting of 18 inches of barrier soil (low permeability rate of 10^{-5} cm/sec or less) which supports the use of HSG D. The CTDEEP General Permit, Appendix I, Section II(3)(c) requires CN values to increase for post-development to account for compaction of soils during construction. The Project Area is located on HSG D soils so no further adjustments were made for the post-development runoff analysis.

The solar panels themselves are not considered an impervious surface with respect to stormwater runoff as they are elevated above grade. All of the panels are being installed on slopes less than 15%. The separation between rows of panels is proposed to be approximately 10 feet. The width of the arrays is approximately 13 ft.-7 in. To ensure that sheet flow is maintained beneath the panels, the concrete ballast blocks will be placed on a bed of open graded crushed stone that will allow unimpeded sheet flow to traverse below the concrete ballast blocks. In addition, open graded crushed stone berms will be placed continuously along the panel drip edges to dissipate flow in accordance with the CTDEEP General Permit requirements under Appendix I (I)(c)(ii) Design and Construction Requirements to ensure long term sheet flow conditions. In areas of steeper slopes, stormwater will be directed by diversion berms to level spreaders to promote uniform sheet flow. Separation between rows of panels will allow the passage of precipitation to the ground surface. The landfill vegetative soil cover system was intentionally designed to limit infiltration and promote sheet flow conveyance of stormwater runoff while preventing erosion of the cap soils. The proposed solar array system is designed to maintain the existing runoff patterns and maintain a stable vegetative surface to safely convey runoff to the drainage swales and other stormwater conveyance systems without increasing flow. Likewise, the aboveground electrical conduit is not considered an impervious surface. The HSGs within the runoff analysis areas are shown on the Pre- and Post-Development Drainage Plans.

The CNs were selected from HydroCAD software which incorporates a complete curve number lookup table based on the data developed by the NRCS and published in TR-55, based on the observed cover types and HSGs. Generally, the Project Area is represented by meadow land cover in both the pre- and post-development conditions. Additional land cover types are included in the analyses, as described previously in section *2.8 Alterations to Land Cover Within Watershed*.

3.4 Time of Concentration Calculations

Times of concentration were calculated using NRCS TR-55 methodologies considering the hydrologic flow lengths, slope, land cover type, and surface roughness. The type and length of each flow line segment determining travel times in the area to be developed are indicated on the pre- and post-development drainage plans. A maximum sheet flow length of 100 feet was used

for this analysis. Shallow concentrated flow was used for portions of the flow path beyond 100 feet extending until a channel, culvert, or sub-catchment boundary was encountered. For each sub-catchment, the travel times were summed to determine the time of concentration (Tc), which was then input directly into HydroCAD. The calculation spreadsheets are included in **Attachment C**.

3.5 Peak Discharge Calculations

Peak discharge calculations are included in the HydroCAD output. Two analysis points were assessed under both pre- and post-development conditions. Results of the pre- and post-development runoff analyses are shown and compared in the table below.

PEAK RUNOFF RATES				
DESIGN STORM	ANALYSIS POINT DP-1		ANALYSIS POINT DP-2	
	PRE-DEV RUNOFF RATE (cfs)	POST-DEV RUNOFF RATE (cfs)	PRE-DEV RUNOFF RATE (cfs)	POST-DEV RUNOFF RATE (cfs)
2-Year, 24-hour	21.43	21.43	7.29	7.29
10-Year, 24-hour	49.58	49.58	15.09	15.09
25-Year, 24-hour	68.30	68.30	20.09	20.09
50-Year, 24-hour	82.15	82.14	23.74	23.74
100-Year, 24-hour	97.78	97.78	27.82	27.82

The analyses demonstrate that peak runoff rates under post-development conditions stay the same as those of pre-development conditions. These results are due to the decrease in impervious surfaces with the proposed development. A large portion of an existing stockpile area utilized by the City on the top of the landfill within the Project area on the west side will be stabilized with vegetation in post-development conditions. Therefore, the Project will not have an adverse impact on the adjacent or downstream receptors/properties. The pre- and post-development HydroCAD reports are provided in **Attachment C**.

4.0 Stormwater Treatment Plan

The stormwater treatment plan demonstrates that stormwater treatment measures are adequate to achieve both stormwater quality and quantity control standards to the maximum extent practical.

4.1 Pollutant Reduction

Stormwater runoff from impervious surfaces is recognized as a significant contributor of pollution that can adversely affect the quality of the receiving water bodies. Therefore, treatment of stormwater runoff is important since most runoff related water quality contaminants are transported from land, particularly the impervious surfaces, during the initial stages of storm events.

4.1.1 Water Quality Volume

The water quality volume (WQV) is the amount of stormwater runoff from any given storm that should be captured and treated in order to remove a majority of stormwater pollutants on an average annual basis. The WQV is calculated using the 90th percentile rainfall depth of 1.3 inches.

In accordance with the CTDEEP General Permit, Appendix I standards, roadways, gravel surfaces and equipment pads are considered effective impervious cover for the purposes of calculating the WQV. In addition, solar panels themselves are considered effective impervious cover if a list of conditions are not met for maintaining sheet flow and reducing erosive forces through the solar array field.

Since the proposed development is located on a capped landfill, site constraints prevent excavation of the cover system and underlying wastes to provide development of stormwater retention for the WQV. Based on record documents, the solid waste boundary at the site extends well beyond the limits of the RCRA Subtitle D closure which eliminates potential areas for locating a stormwater retention facility. These documents show that the landfill cover was constructed of a low permeability soil material and that the landfill cover grades were designed to direct stormwater off the landfill and limit infiltration to the wastes below. Due to the existing low-permeability nature of the landfill cover soils, the proposed development will not result in an increase in stormwater runoff and will not adversely impact the existing landfill cover system, site drainage features, or off-site drainage with erosion, sedimentation, and flooding. The proposed design will diffuse stormwater flow across the vegetated landfill surface to maintain sheet flow conditions beneath the array footprint, without creating concentrated flow that results in erosion. Proposed measures are described below:

- For slopes less than 5%, the vegetated landfill cover will be adequate to ensure sheet flow conditions are maintained. Additionally, the Project is designed to include a 4 to 6-inch-thick berm of open-graded stone placed on the ground surface along the full length of the array rows beneath the array drip edge. Open graded crushed stone will be placed beneath the ballast blocks to a minimum 4-inch depth for the ballasted system of the solar array racking system to meet specified tolerances. The stone pads and crushed stone berms will prevent sheet flow from concentrating.
- For slopes of 5-10% and array rows running approximately parallel to contour lines, the vegetated landfill cover, crushed stone pads and berms will be adequate to ensure sheet flow conditions.
- For slopes of 5-10% and in areas where array rows run approximately perpendicular to contour lines, the vegetated landfill cover, crushed stone pads and berms will be adequate to ensure sheet flow conditions.
- For slopes of 10-15%, the vegetated landfill cover, crushed stone pads and berms will be adequate to ensure sheet flow conditions. Additionally, four sets of diversion berms and level spreaders have been located in key locations throughout the Project Area to promote sheet flow. A stone berm/slope breaker with permanent check dams are proposed to further reduce stormwater flow velocities and promote sheet flow through the array field.

The Connecticut Stormwater Quality Manual provides a design specification that the level spreader should be 4 feet long for every 1 cfs of flow for the design storm event. Calculations supporting the sizing and design of the proposed level spreaders are provided in the HydroCAD model included in **Attachment C** and summarized in the table below.

LEVEL SPREADER SUMMARY			
BMP ID	**DRAINAGE AREA (AC.)**	**PEAK FLOW (CFS) 10-YR STORM**	**LEVEL SPREADER LENGTH (FT)**
LS-1	0.92	3.83	30
LS-2	0.88	3.58	30
LS-3	1.14	4.63	30
LS-4	0.12	0.50	20

Several Low Impact Development (LID) strategies are incorporated into the Project design including the following to the maximum extent practical: minimizing site disturbance, protecting sensitive natural areas, preserving vegetated buffers, avoiding disturbance of steep slopes, protecting natural flow pathways, reducing impervious surfaces (such minimizing proposed access road width), preserving pre-development time of concentration, and use of low maintenance landscaping. The landfill limits the availability of retention and infiltrating LID measures but the above strategies will be used to reduce stormwater runoff volumes and pollutant discharges.

4.2 Groundwater Recharge and Runoff Volume Reduction

Since the proposed development is located on a capped landfill, site constraints prevent on-site retention of stormwater and groundwater recharge would be detrimental to groundwater quality. The Project maintains pre-development runoff rates, so no additional measures are proposed.

4.3 Peak Flow Control

The peak flow control criteria are intended to address increases in the frequency and magnitude of a range of potential flood conditions resulting from development. These include relatively frequent events that cause channel erosion, larger events that result in bankfull and overbank flooding, and extreme floods.

Stormwater discharge from the Project Area will be continue to be controlled by the existing stormwater management infrastructure, including stormwater swales and rip rap downchutes, which are adequately designed to manage anticipated stormwater flows. As previously demonstrated in Section 3, the pre- and post-development peak discharge rates are generally the same. Therefore, the existing stormwater management features shall continue to operate as designed and stormwater retention BMPs are not proposed.

5.0 Construction Sequence

5.1 Project Schedule

The Project's construction will be approximately 7 months in duration. Initial work will involve installation of erosion control measures and selective tree cutting/trimming for the electrical interconnect. Formal construction notice to proceed is not yet scheduled. The project is tentatively scheduled to commence in spring 2024. As each discrete area of installation is completed, the ground surface will be stabilized, although Best Management Practices (BMPs) will remain in place until final stabilization occurs and the required two growing seasons have passed. Land preparation and site work is anticipated to continue through summer 2024, with the final installation of array equipment in fall 2024. Commercial operation of the system is planned for 2025. Normal working hours shall be 7:00 AM to 7:00 PM, Monday through Saturday.

Additionally, specifics of how work is completed will be based on environmental considerations associated with seasonal changes. The following dates are provided to establish a general guideline for these seasons:

- Winter: November 1 to March 19
- Mud Season: March 20 to April 30
- Spring: May 1 to June 21
- Summer: June 22 to September 21
- Fall: September 22 to October 31

5.2 Project Construction Activities Overview

The proposed 1.998 MW-AC solar array will be located on portions of the landfill cover with suitable slopes. It is not anticipated that there will need to be extensive removal of trees and shrubs as part of initial site work activities. Minor cutting/trimming will be required for installation of the overhead electric line to the point of interconnection. The landfill cover is currently vegetated with a mix of grasses which will be mowed prior to construction. Conventional BMPs such as a compost filter sock, filter fabric, erosion control mix (ECM) berms, silt fence, turf reinforcing mat (TRM) and mulch will be used as needed. Any BMPs on the landfill cover surface will be non-ground penetrating, such as compost filter socks held in place by sandbags.

The solar array will use fixed-tilt PV modules mounted on racks supported by precast concrete ballast block foundations. Leveling crushed stone will be added beneath the ballast blocks as needed to meet the tolerances of the proposed racking system. Additional crushed stone berms shall be placed along the full length of array rows under the array drip edge to prevent erosion and dissipate flow from the panels and dissipate surface runoff into a sheet flow manner as it travels downslope. Module strings contained within the racks will be conducted by Direct Current (DC) wiring and travel through the array area in aboveground cable trays. String inverter units will be installed on a concrete equipment pad to convert DC power output from the array modules to AC power. AC wiring will be routed to the transformer located on the second proposed equipment pad. Medium voltage AC cable will leave the transformer and travel underground above the landfill waste material to the point of interconnection located in the northeastern corner of the site. Cable, AC and DC, located within the array area on the vegetated landfill cover will be above ground and

placed on protective cable trays or in aboveground rigid metal conduit. The use of poles or conduit penetrating the landfill cover will not be used within the array area.

Work on the landfill cover will utilize specific construction measures to ensure that no damages occur. The current site design promotes positive drainage of stormwater in order to limit infiltration of stormwater through the landfill cover and into underlying wastes. Therefore, stormwater infiltration and retention measures are not proposed. In addition to the previously mentioned measures, diversion berms and level spreaders in select areas shall be utilized to promote sheet flow. A priority will be minimizing the time construction vehicles are required to travel on the landfill cover in order to minimize the potential for compaction, and to minimize disturbance of the existing vegetative cover to the greatest extent possible. To accomplish this, solar array equipment will be off-loaded from tractor trailers onto low ground pressure vehicles to transport from the access roads onto the vegetated landfill cover. The specific models of construction equipment to be used are not known at this time but the contact stress beneath equipment on the landfill will be limited to 10 psi or less. During and following significant rain events, work that could result in excessive rutting will be suspended. Once solar array system components are installed, any imperfections in the landfill cover will be repaired and all disturbed areas will be reseeded. Seeding enhancements such as pollinator species will be used to allow for continued use of the Project Site for habitat purposes.

5.3 Project Construction Activities Sequence

1. Schedule a pre-construction meeting that shall be attended by the qualified inspector and any involved subcontractors to discuss responsibilities as they relate to the implementation of the SWPCP measures to avoid and minimize impacts during construction. Construction activities will be performed in a manner to minimize the area of disturbance contributing to a discharge point and that erosion and sediment controls are maintained as needed until the site is stabilized.
2. Install erosion and sediment controls for clearing activities.
3. Selectively cut/trim trees and shrubs during allowable timeframes for the installation of overhead electric line and utility poles.
4. Mow the landfill cover vegetation.
5. Delineate limits of work disturbance for Project. Qualified inspector shall inspect the landfill cover and stormwater management features within the Project Area. Deficiencies shall be addressed by the contractor.
6. Install additional erosion and sediment controls around Project Area as detailed in the drawing set and with additional measures as needed.
7. Delineate soil stockpile area and establish sediment barrier around the perimeter.
8. Carry out improvements to the existing access road. Install new access road and decommission portion of old access road located within the Project Area.
9. Place fill material to achieve grades shown in the drawing set.
10. Install proposed diversion berms and level spreaders for stormwater management.
11. Install leveling crushed stone, ballasts, crushed stone drip line berms, equipment pads, posts, tilt brackets, mounting structures, modules, and auxiliary equipment for the solar array system.

12. Install permanent TRM on sloped areas subject to erosion from construction activities.
13. Carry out minor grading work around equipment pad, and other structures as needed, to promote positive drainage.
14. Seed and mulch all disturbed areas. Install additional stabilization measures as needed.
15. Remove temporary sediment controls only after disturbed surfaces are stabilized with vegetation and two full growing seasons have passed without erosion issues.

6.0 Soil Erosion and Sediment Control Plan

The following measures were developed based on good engineering practices, generally accepted industry standards, applicable CTDEEP stormwater management requirements and guidelines, and established practices associated with the Project Site. These temporary and permanent erosion and sediment control measures will be implemented during and after construction to minimize soil erosion and control sediment transport off-site and to control the quality and quantity of stormwater runoff from the Project Area.

The SWPCP and drawing set specify the construction schedule for implementing the erosion and sediment control measures, criteria for when the measures shall be implemented, specifications for placement and installation of the measures, and a maintenance schedule.

The contractor shall utilize the following general measures and practices throughout construction and development of the Project:

- Erosion and sedimentation control BMPs shall be implemented prior to commencing earth disturbing activities;
- Phase construction activities as practicable to minimize the area and duration bare soils are exposed;
- Route all construction traffic through approved points of access and egress;
- Only areas of active construction shall remain unstabilized or unvegetated;
- Following the completion of construction activities in any portion of the Project Area, permeant vegetation shall be established on all disturbed areas;
- Preserve existing vegetation as much as possible and implement immediate repairs to damaged areas, including but not limited to the use of permanent TRM on slopes damaged by construction activities;
- Protect and maintain identified buffer areas throughout construction;
- Continuously maintain and inspect installed BMPs;
- Any BMPs on the landfill cover surface will be non-ground penetrating, such as compost filter socks held in place by sandbags; and
- All perimeter sediment barriers shall be doubled since contributing drainage areas within the Project Area exceed 8%.

Since this project is located on a landfill cover, temporary sediment basins shall not be used. However, proposed energy dissipators and sediment barriers shall be implemented to adequately control sediment pollution. Where construction activities have permanently ceased, stabilization

and protection practices shall be implemented within 7 days. Areas that will remain disturbed but inactive for at least 30 days shall receive temporary seeding or soil protection within 7 days in accordance with this plan. Areas that will remain disturbed beyond the seeding season, which is normally March 15 through June 30 and August 15 through October 31, shall receive long-term, non-vegetative stabilization and protection sufficient to protect the site through the winter. In all cases, stabilization and protection measures shall be implemented as soon as possible in accordance with the CTDEEP Guidelines for Soil Erosion and Sediment Control.

6.1 Temporary Measures

The following temporary erosion control BMPs are proposed and/or are likely anticipated to be needed during construction and development of the Project.

6.1.1 Construction Entrance

As indicated on the civil design drawings a construction entrance will be required at the intersection of the paved access road and gravel access road within the site. The construction entrance shall have a minimum length of 50 feet and an appropriate width (minimum of 12 feet) to fully contain anticipated construction vehicles. The construction entrance shall be constructed of a 6-inch thick layer of angular crushed stone sized according to the standards set by ASTM C-33, size No. 2 or 3, underlain by a geotextile fabric. Under extremely wet conditions or during the mud season, a standard construction entrance may not be sufficient to fully remove sediment from vehicle tires and prevent tracking. In these instances, a construction entrance may either be lengthened as necessary or a wheel washing procedure shall be employed. The stabilized construction entrance shall be inspected weekly and prior to and immediately following a major storm. Tracked mud or sediment shall be removed prior to the next rain event. Roads adjacent to a construction site shall be left clean at the end of each day. Periodic replacement of the stone material may be required as sediment accumulates and fills the voids.

6.1.2 Dust Control

Measures to control creation and migration of nuisance dust shall be implemented throughout construction. Off-site vehicle tracking of sediments and the generation of dust shall be minimized. Primary travel ways and laydown areas shall be surfaced with base gravel or coarse gravel as soon as possible to minimize the creation of dust. Traffic control shall be implemented to reduce speeds and restrict traffic. Frequently traveled surfaces shall be periodically watered to reduce dust. Wet dust suppression shall be used, in accordance with section 22a-174-18(b) of the Connecticut General Statutes, for any construction activity that causes airborne particulates. Water trucks may be used as needed during construction to reduce dust generated on the Project Area. Paved surfaces shall be vacuum swept when dry. The volume of water sprayed for controlling dust shall be minimized so as to prevent the runoff of water. No discharge of dust control water shall contain or cause a visible oil sheen, floating solids, visible discoloration, or foaming in the receiving stream.

6.1.3 Temporary Soil Stockpile

Stockpile management for topsoil and other types of erodible soils is necessary to prevent unnecessary damage resulting from erosion of stockpile material. Stockpiles shall be located in an area that is dry and stable and away from storm drainage, wetlands, water bodies and/or

courses, and steep slopes. Attempt to maximize the distance of stockpiles from wetlands, watercourses, drainage ways, and steep slopes. When the stockpile is downgradient from a long slope, divert runoff water away from or around the stockpile utilizing a temporary diversion berm or swale. Stockpiles shall have a maximum slope of 2H:1V and be completely surrounded by perimeter sediment barriers (i.e., silt fence, filter socks, etc.). Stockpiles that are not to be used within 30 days must be seeded and mulched immediately after formation of the stockpile. The seed mix used depends upon the stockpiled material and the length of time it is to remain stockpiled. After the stockpile has been removed, the area shall be graded and permanently stabilized with vegetation.

6.1.4 Hay Bale Barrier

Hay bales can be used to create a temporary sediment barrier consisting of a row of entrenched and anchored bales of hay or straw. Hay bales are suitable for use below small, disturbed areas where the drainage area (disturbed and undisturbed) is less than 1 acre in size or above disturbed slopes to direct surface water away from erodible areas where the drainage area (disturbed and undisturbed) is less than 1 acre in size. Hay bales are also appropriate for use where protection and effectiveness are required for less than 3 months, and where sedimentation will reduce the capacity of storm drainage systems or adversely affect adjacent areas, watercourses and other sensitive areas. Hay bales must not be used in drainageways, except in special cases where they are applied with other measures, such as geotextile silt fences and stone check dams. Hay bales are not intended for use in streams. When installed, hay bales should be entrenched a minimum of 4 inches and anchored with 2 stakes per bale. Gaps between adjacent bales should be chinked with straw to prevent flow between the bales. Over time hay bales will degrade and deteriorate and will require frequent inspection and periodic replacement. Due to their versatility and ability for rapid deployment during an emergency situation, it is recommended that a supply of hay bales be maintained on the Project Site at all times.

6.1.5 Silt Fence

Silt Fence is a temporary sediment barrier consisting of a geotextile fabric pulled taut and attached to supporting posts and entrenched. The purpose of a geotextile silt fence is to intercept and retain sediment from disturbed areas and to decrease the velocity of sheet flows and low volume concentrated flows. Prior to the initiation of and during construction activities, a geotextile silt fence will be established along the perimeter of areas to be disturbed as a result of the construction that lies upgradient of water courses or adjacent properties. These barriers may extend into non-impact areas to ensure adequate protection of adjacent lands. Clearing and grubbing shall be performed only as necessary for the installation of the sediment control barrier. Silt fence shall be installed in an alignment that follows the contour as much as practicable. To ensure effectiveness of the sediment control barrier, daily inspections and inspections immediately after significant storm events will be performed by Site personnel. Inspect the silt fence at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inches or greater to determine maintenance needs. Remove the sediment deposits or, if room allows, install a secondary silt fence up slope of the existing fence when sediment deposits reach approximately one half the height of the existing fence. Replace or repair the fence within 24 hours of observed failure. Maintain the fence until the contributing area is stabilized. After the contributing area is stabilized, determine if sediment contained by the fence requires removal or regrading and stabilization. If the depth is greater than or equal to 6 inches, regrading or removal

of the accumulated sediment is required. No removal or regrading is required if sediment depth is less than 6 inches.

6.1.6 Erosion Control Mix

Erosion control mix (ECM) mulch may be utilized to stabilize slopes, frozen ground, forested areas, or to provide immediate stabilization without waiting for vegetation to establish. ECM shall be placed at a minimum thickness of 2 inches on slopes of 3H:1V or flatter. Slopes steeper than 3H:1V require a minimum of 4 inches. ECM shall be evenly distributed by hand, excavator bucket, or pneumatic blower. ECM alone is not suitable in areas of groundwater seepage, converging flows, or low-lying areas where ponding is expected. ECM may be produced from stumpage and rootballs generated during clearing and grubbing activities.

6.1.7 Erosion Control Mix Berms

Erosion control mix (ECM) berms shall be lightly compacted or bucket-tamped to minimize large voids within the filter media. Berms shall be a minimum of 12-inches tall and 2 feet wide. The condition of ECM berms shall be continuously monitored throughout construction and replaced or repaired as necessary.

6.1.8 Compost Filter Sock

Compost filter sock (also referred to as “Silt Sock”) can be purchased from a commercial manufacturer or field-built from nonwoven geotextile fabric and processed ECM or other finely shredded material (i.e., coconut fiber, etc.). Compost filter sock can be a useful sediment barrier for small drainage areas or where trenching for silt fence is not possible (i.e., pavement). Compost filter socks shall be installed so that complete contact with the ground is achieved across the entire length. Staking will be necessary on steeper slopes. If used on the landfill cover surface, the filter sock shall be held in place with non-ground penetrating methods, such as sandbags. Once stabilization is achieved compost filter socks can be cut open and the filter material can be spread in place.

6.1.9 Temporary Mulching

Temporary mulching shall be applied to areas not yet prepared for permanent stabilization but that have been or shall be inactive for a maximum of 7 days. Temporary mulching shall consist of spreading straw mulch or erosion control mix across bare soil. Erosion control blankets or other methods may be substituted for areas where temporary mulching has proven to be ineffective. Areas of temporary mulching shall be inspected weekly and before and after significant storm events (greater than 0.5 inches in 24 hours). Temporary mulch application rates shall be doubled from November 1 through April 15.

6.1.10 Temporary Seeding

In areas where soil disturbance activity has temporarily or permanently ceased, a temporary stand of grass and/or legumes by seeding and mulching soils shall be established on those areas that will be exposed for a period greater than 1 month but less than 12 months. Seeding shall commence within the first 7 days of suspending work on a grading operation that exposes erodible

soils where such suspension is expected to last for 1 to 12 months. Permanent seeding shall be used in areas to be left dormant for more than 1 year.

6.1.11 Temporary Erosion Control Blankets

Erosion control blankets shall be installed on slopes exceeding 3H:1V. Erosion control blankets provide temporary erosion protection, rapid vegetative establishment, and long-term erosion resistance to shear stresses produced by high runoff flow velocities associated with steep slopes. Care must be taken to choose the type of blanket that is appropriate for the specific application. The success of temporary erosion control blankets is dependent upon strict adherence to the manufacturer's installation recommendations.

6.1.12 Temporary Diversions

Temporary diversions (swales or berms) shall be used to divert off-site runoff around the construction site, divert runoff from stabilized areas around disturbed areas, and direct runoff from disturbed areas into sediment traps. Temporary diversions shall be used where the drainage area at the point of discharge is 5 acres or less.

6.1.13 Stone Check Dams

Stone check dams may be necessary in existing or proposed upland swales and ditches to reduce flow velocity and promote sedimentation prior to final discharge of runoff. Reduction in flow velocity will serve to reduce rilling in flow paths and promote establishment of vegetation. Check dams shall be spaced so that the top of the downgradient check dam is at the same elevation as the toe of the preceding check dam. Stone check dams shall be inspected at least once a week and within 24-hours of a storm event with a rainfall amount of 0.5 inches or greater. Damage shall be repaired upon discovery. If significant erosion has occurred between structures, a liner of stone or other suitable material shall be installed in that portion of the channel. Sediment accumulated behind the stone check dam shall be removed when sediment deposits reach approximately half the height of the check dam. Stones shall be replaced as needed to maintain the design cross section of the structures. The maximum height at the center of the check dam shall be 3 feet.

6.1.14 Dewatering

Dewatering shall be used, as necessary, to intercept sediment-laden stormwater or pumped groundwater and allow it to settle out of the pumped discharge prior to being discharged from the Site. Water from dewatering operations shall be treated to eliminate the discharge of sediment and other pollutants. Water resulting from dewatering operations shall be directed to temporary sediment traps, or dewatering devices, such as a Dewatering Bag or an approved equivalent. Temporary sediment traps and dewatering bags shall be provided, installed and maintained on upland locations. No discharge of dewatering wastewater(s) shall contain or cause a visible oil sheen, floating solids, or foaming in the receiving water.

6.1.15 Concrete Truck Washout Area

Concrete truck washout area(s) shall be sized to contain all wash water and solids without overflowing. A below-grade washout shall be sized to contain all liquid wastes with 4 inches of freeboard. Access to the washout shall be stable and secure. A washout facility shall not be

placed within 50 feet of a storm drain or discharge point unless the containment is lined with anchored plastic sheeting (10-mil minimum thickness) and is not allowed to overflow. Inspect washouts daily to assess usage and identify leaks. Dispose of solids appropriately.

6.2 Permanent Measures

The following permanent erosion control BMPs are proposed to be used during construction and shall remain in-place after Project completion and be maintained throughout operation of the facility.

6.2.1 Permanent Seeding

Disturbed areas that will be vegetated must be seeded in accordance with the civil design drawing set. The type of seed, mulch, and maintenance measures are described in the attached drawings. Do not used permanent seeding on slopes steeper than 2H:1V. All areas at final grade must be seeded and mulched within 7 days after completion of construction activities. All seeded areas should be protected with mulch. Inspect seeded area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inches or greater during the first growing season. In the event seed does not grow, re-seed and re-mulch. If the cause was the result of wind, re-apply seed and mulch, and apply mulch anchoring. If the cause was concentrated water, install additional measures to control water and sediment movement, repair erosion damage, re-seed and re-apply mulch with anchoring or use Temporary Erosion Control Blanket measure and/or Permanent Turf Reinforcement Mat measure. If there is no erosion, but seed survival is less than 100 plants per square foot after 4 weeks of growth, re-seed as planting season allows. Continue inspections until at least 100 plants per square foot have grown at least 6 inches tall or until the first mowing.

6.2.2 Permanent Turf Reinforcement

Permanent turf reinforcement mats (TRMs) provide long-term erosion protection and vegetation establishment assistance while permanently reinforcing vegetation. TRMs shall be installed on slopes where damage to vegetative cover can't be stabilized using temporary measures and in channels where design flows exceed the stability of the soils and/or proposed vegetation. Care must be taken to choose the type of turf reinforcement that is appropriate for the specific application. Success is dependent upon strict adherence to the manufacturer's installation recommendations.

6.2.3 Gravel Drives

The access drive shall be constructed with a crown or super-elevated as indicated on the design drawings to ensure runoff is delivered immediately to adjacent stabilized areas. The access drive shall be aligned in general conformance with those shown on the design drawings and constructed of specified aggregate base and subbase materials. At a minimum, permeable road base (rock sandwich) shall be constructed in sections of the road indicated in the civil design drawing set; however, additional sections may be added dependent on encountered site conditions. Roadways shall be inspected for rutting, washboarding, and other signs of erosion. Installation of water bars, french drains, or other features may be necessary depending on conditions observed in the field and as directed by the Engineer during construction.

6.2.4 Existing Vegetated and Stone-Lined Swales

Existing vegetated and stone-lined swales manage runoff through the Site. During construction, these features shall be isolated to prevent heavy equipment from compacting the soil and adversely affecting their performance. Swales shall be maintained throughout construction so that stormwater can be adequately managed. Swales shall be inspected for failures following heavy rainfall and repaired as necessary to mitigate newly formed channels or gullies. Bare spots or displaced rip rap should be corrected where identified. Trash, leaves, and/or accumulated sediment should be removed and woody or other undesirable growth should be controlled. Temporary or permanent check dams may be necessary depending on conditions observed in the field and as directed by the Engineer during construction.

6.3 Erosion Control Measure Removal

The removal and disposal of erosion and sedimentation control measures shall be the responsibility of the Contractor. BMPs shall remain in-place until two full growing seasons have passed without erosion issues following full stabilization. Sediment trapped in front of perimeter sediment barriers shall be spread within an area undergoing final grading and distributed in a uniform manner conforming to local topography, and then seeded and mulched. Erosion control berms and compost filter socks may be demolished, and the erosion control mix filter media may be evenly distributed across the adjacent areas.

6.4 Overwinter Construction

The following general practices and procedures should be utilized during any construction occurring over the winter season and through April 15:

- Exposed areas should be limited to those where work will occur within the next 14 calendar days;
- Exposed areas should not exceed the limit of what can be mulched in one day (prior to predicted precipitation);
- At the end of each construction day, areas that have been brought to final grade must be stabilized; Where frozen ground prevents installation of silt fence or ground penetrating sediment barriers, the Contractor shall request an appropriate detail modification from the Engineer;
- Permanent seeding shall not be attempted, unless a dormant seeding application method is approved by the Engineer;
- All areas within 75 feet of a protected natural resource must be protected with a double row of sediment barriers; and
- All vegetated ditch lines that have not been stabilized by November 1, or will be worked on between November 1 and April 15, must be stabilized with stone lining backed by gravel bed or geotextile as specified by the Engineer.

6.5 Housekeeping

As an authorized agent of the Applicant, the Contractor shall maintain the Project site in accordance with the following performance standards and housekeeping practices:

Spill Prevention and Response: A Spill Prevention and Response Plan shall be developed by the Contractor to detail the steps to be followed in the event of an accidental spill. The plan shall identify contact names and phone numbers of people and agencies to be notified. It shall include Safety Data Sheets (SDS) for materials to be stored on-site. Workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction.
Controls shall be in place to prevent pollutants from being discharged from materials used and stored onsite. Appropriate controls include, but are not limited to, proper storage practices that minimize exposure of materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

Groundwater Protection: During construction, the Contractor may not store or handle liquid petroleum products and other hazardous materials with the potential to contaminate groundwater in areas of the Project sites draining to an infiltration area or within 100 feet of a critical resource area or stream. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storing and handling liquid hazardous materials.

Fugitive Sediment and Dust: During construction, the Contractor shall take all necessary actions to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive. Oil may not be used for dust control. The Contractor shall monitor vehicles entering and exiting the Project site for evidence of tracking mud onto public or private roadways outside the work area. If necessary, the Contractor shall provide a means for sweeping and cleaning road areas experiencing tracking. If off-site tracking occurs on public roads, they should be swept immediately and no less than once a week and prior to significant storm events. During the mud season, it may be necessary to provide a wheel washing station.

Debris and Other Materials: The Contractor shall manage all litter, construction debris, and construction chemicals exposed to stormwater to prevent materials from becoming a source of pollution.

Trench or Foundation Dewatering: Trench dewatering is the removal of water from trenches, foundations, coffer dams, ponds, sumps, basins, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The Contractor shall remove collected water from the ponded areas, either through gravity or by pumping, in a manner that spreads effluent through natural wooded buffers or to areas that are specifically designed to collect the maximum amount of sediment possible (i.e., cofferdam sediment basin or dirt-bag). The Contractor shall avoid practices that allow sediment laden water from dewatering to flow over disturbed areas of the Project site. Other measures or methods may be utilized as reviewed and approved by the Engineer and, if necessary, the CTDEEP. A typical detail for standard dewatering practices is provided on the civil design drawings.

Non-Stormwater Discharges: The Contractor shall identify and prevent contamination by unauthorized non-stormwater discharges. Unauthorized stormwater discharges include, but are not limited to, wastewater from concrete washout, fuels or hazardous substances, and detergents used in vehicle and equipment washing.

Miscellaneous: Material resulting from the clearing and grubbing operation shall be stockpiled up slope from adequate sedimentation controls or at an off-site location with appropriate protections for re-use during the restoration stage. The Contractor will designate areas for equipment cleaning, maintenance, and repair. The areas will be protected by a temporary sediment control barrier.

6.6 Erosion & Sedimentation Control Conclusion

In the event that a situation arises that is not specified above or depicted on the civil design drawings, the Contractor shall follow the guidance of the CTDEEP Guidelines for Soil Erosion and Sediment Control and additional standards as applicable. If the Project is phased and constructed in accordance with the specifications and requirements of the civil design drawings and basic standards listed above, the Project should not result in significant erosion or sedimentation.

7.0 Inspection and Maintenance

The Contractor shall bear the responsibility of installation, maintenance, and day to day monitoring, repair, and replacement of erosion and sedimentation control measures throughout the entire duration of the Project. It is the responsibility of the Contractor to ensure installed measures are effective and functioning as designed. Inspections may indicate additional or more substantive measures are required.

7.1 Plan Implementation Inspections

Prior to commencement of construction, the permittee shall contact the designing qualified professional and the local Conservation District to ensure that all required inspections are conducted. The designing qualified professional shall conduct a Plan Implementation Inspection at least once a month and a qualified inspector chosen by such designing qualified professional (shall not be an employee of the General Permit applicant and shall not have ownership interest in the Project) shall conduct such inspection at least once a week. The purpose of the Plan Implementation Inspection is to confirm compliance with the General Permit and proper initial implementation of all control measures designated in the SWPCP for each phase of construction. These inspections will continue until the designing qualified professional has certified that stormwater control measures have been installed and stabilized. Presence of a third-party inspector does not relieve the Contractor of inspection and reporting responsibilities.

7.2 Routine Inspections

Following the completion of the Plan Implementation Inspections, either the designing qualified professional or the qualified inspector shall conduct weekly Routine Inspections, provided the designing qualified professional inspects the Site at least once a month. Inspections shall be conducted weekly, at a minimum, and within 24-hours of a storm that generates a discharge. A rain gauge shall be maintained on-site to document rainfall amounts. The following items shall be inspected, at a minimum, during these routine inspections:

- Disturbed areas of the construction activity that have not been finally stabilized;

- Erosion and sedimentation control measures;
- Structural control measures;
- Soil stockpile areas;
- Washout areas; and
- Locations where vehicles enter or exit the site.

These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and impacts to the receiving waters. Locations where vehicles enter or exit the site shall also be inspected for evidence of off-site sediment tracking. Based on the findings of the inspection, the qualified inspector(s) shall determine if it is necessary to install, maintain, or repair such controls and/or practices to improve the quality of stormwater discharge(s).

For storms that end on a weekend, holiday or other time after which normal working hours will not commence within 24 hours, an inspection is required within 24 hours only for storms that equal or exceed 0.5 inches. For storms of less than 0.5 inches, an inspection shall occur immediately upon the start of the subsequent normal working hours. Where sites have been temporarily or finally stabilized, such inspection shall be conducted at least once every month for three months.

7.3 Post-Construction Inspections

Once all post-construction stormwater measures are installed and the Site is cleaned of any construction sediment or debris, and final stabilization is achieved, monthly post-construction inspections shall be conducted by the qualified inspector until the Notice of Termination is submitted.

7.4 Final Stabilization Inspection

Once the site has achieved final stabilization for at least two full growing seasons following the end of construction, the Permittee shall have the site inspected by a qualified inspector to confirm such stabilization is maintained.

7.5 Inspection Reports

Inspections shall be documented in site inspection reports that are signed in accordance with the General Permit and retained as part of the SWPCP. An example inspection report template is provided as **Attachment D**. This report shall summarize the following:

- Scope of the inspection;
- Name(s) and qualifications of personnel making the inspection;
- Date(s) of the inspection;
- Weather conditions including precipitation information;
- Major observations relating to erosion and sediment controls and the implementation of the SWPCP; and
- Description of the stormwater discharge(s) from the site; and any water quality monitoring performed during the inspection.

The report shall include a statement that, in the judgment of the qualified inspector(s) conducting the site inspection, the site is either in compliance or out of compliance with the terms and

conditions of the SWPCP and General Permit. If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance.

Non-engineered corrective actions shall be implemented within 24 hours and incorporated into a revised SWPCP within 3 calendar days of the date of inspection unless another schedule is specified in the CTDEEP Guidelines for Soil Erosion and Sediment Control. Engineered corrective actions shall be implemented within 7 days and incorporated into a revised SWPCP within 10 days of the date of inspection, unless another schedule is specified in the CTDEEP Guidelines for Soil Erosion and Sediment Control. During the period in which any corrective actions are being developed and have not yet been fully implemented, interim measures shall be implemented to minimize the potential for the discharge of pollutants from the Project Area.

The designing qualified professional shall seal and certify to the truth and accuracy of each inspection, whether performed by the qualified professional or the qualified inspector. On or before 5 days after the completion of each inspection, the Permittee shall ensure that a copy of the certified inspection report and inspection checklist are provided to the appropriate Conservation District personnel and submitted electronically to the CTDEEP via email at DEEP.stormwaterstaff@ct.gov.

8.0 Additional General Permit Requirements

The following items are additional requirements of the General Permit. However, the General Permit shall be referenced for other requirements including, but not limited to, obtaining and maintaining permit coverage, conditions of the permit, termination of the permit, and associated CTDEEP authority.

8.1 Contractors

The following are contractors and subcontractors that will perform construction activities on the site that have the potential to cause pollution of the waters of the State.

Construction Contractor: To be determined

Construction Subcontractor(s): To be determined

Contractor certification statements are provided in **Attachment F** in accordance with the General Permit.

8.2 Reporting and Record Keeping Requirements

For a period of at least 5 years from the date that construction is complete, the SWPCP shall be retained including all reports required by the General Permit, including records of data used to complete the registration for the Permit. Inspection records must be retained as part of the SWPCP for a period of 5 years after the date of inspection. An updated copy of the SWPCP shall be maintained at the Project Area from the date construction is initiated until the date construction is completed.

8.3 Keeping Plans Current

This SWPCP shall be in compliance with the General Permit at all times. This may involve any or all of the following:

- If the SWPCP fails to prevent pollution or fails to otherwise comply with any other provision of the General Permit, the SWPCP shall be amended. The SWPCP shall also be amended whenever there is a change in Contractors or Subcontractors at the Site, or a change in design, construction, operation, or maintenance at the Site which has the potential for the discharge of pollutants to the waters of the state and which has not otherwise been addressed in the SWPCP.
- CTDEEP may notify the Permit holder at any time that the SWPCP and/or the Site do not meet one or more of the minimum requirements of the General Permit. Within 7 days of such notice, or such other time the CTDEEP may allow, the Permit holder shall make the required changes to the SWPCP and perform all actions required by such revised SWPCP. Within 15 days of such notice, or such other time as the CTDEEP may allow, the Permit holder shall submit to the CTDEEP a written certification that the requested changes have been made and implemented and such other required information.

8.4 Notice of Termination

At the completion of a construction project, a Notice of Termination form (see **Attachment E**) must be filed with the CTDEEP. The form shall be stamped and signed by the qualified professional certifying that such qualified professional has personally inspected and verified that the site has been stabilized following the second full growing season following Final Stabilization including the requirement that such Notice of Termination be signed by a District representative certifying that such District representative has personally conducted a Post Construction Inspection and Final Stabilization Inspection in accordance with Section 6(a) of the CTDEEP General Permit and verified compliance with the requirements of that section. Final Stabilization shall be considered achieved after all post-construction measures are installed, cleaned and functioning and the Site has been stabilized for at least 3 months following the cessation of construction activities. The Project Area shall be inspected by a District representative and qualified inspector to confirm Final Stabilization. A site is considered stabilized when there is no active erosion or sedimentation present and no disturbed areas remain exposed for all phases.

9.0 Post-Construction Stormwater Management Plan

Stormwater management facilities exist at the Project Site and additional measures shall be installed during construction for the purpose of minimizing discharge of pollutants in stormwater discharges that will occur after construction operations have been completed. Post-construction inspections shall be conducted to evaluate and maintain the condition and effectiveness of these stormwater management structures and erosion and sedimentation control measures. US Solar shall be responsible for long-term maintenance and inspection of all components of the stormwater management system that serves the Project. Should the Project be decommissioned, the Owner will be responsible for maintenance of the stormwater facilities, as necessary.

9.1 Facilities to be Maintained

The stormwater management features and erosion and sedimentation control measures to be maintained at the Project Site include:

- Access road;
- Drainage swales;
- Level spreaders, permanent check dams, stone berms; and
- Vegetative cover, including areas where TRM is used.

9.2 General Inspection and Maintenance Requirements

Generally, the proposed facility will be operated and maintained in a manner consistent with best management practices, including a minimum of quarterly onsite inspections, inspections following 2-year rainfall events, and maintenance of stormwater management system components, as needed. A post-construction maintenance and inspection log will be completed as part of the quarterly onsite inspections, refer to **Attachment D** for a template of this inspection log. A copy of the log shall be retained by US Solar for a period of at least five years from the completion of the Notice of Termination.

Potential maintenance concerns associated with specific areas and facilities at the facility are discussed in the following paragraphs.

9.3 Access Road

The access road to the top of the landfill will typically require little on-going maintenance, owing to its primary and limited use by light-duty vehicles. These areas will be inspected quarterly, and signs of existing or developing erosion, rutting, debris or unwanted vegetation will be removed/repaired as needed. Additionally, shoulders shall be inspected for low spots or evidence of channelized flow and false ditching. Repair/maintenance shall be completed as necessary to ensure runoff from the roadways is conveyed as sheet flow to the downgradient stabilized areas.

9.4 Drainage Swales

Drainage swales shall be inspected in the Spring and Fall of each year and following significant rain events. Swales shall be inspected for signs of failure including, but not limited to, evidence of erosion, newly formed channels or gullies, bare spots, and sediment accumulation. Bare spots should be re-stabilized as soon as practicable. Woody vegetation within the banks or flow path of the ditch shall be controlled. Sediment, leaf litter, sand from Winter operations, etc. shall be removed from ditches when it reduces the capacity of the channel. Addition of stone check dams to reduce velocity may be necessary following maintenance or repair activities.

9.5 Level Spreaders, Permanent Check Dams, Stone Berms

The level spreaders, diversion berms, permanent check dams, and stone berms/slope breakers should be inspected in the spring and fall of each year and following major storm events. Newly formed channels or gullies at the inlet or outlet of the stone berm should be repaired. Bare spots or signs of stressed vegetation should be re-seeded or re-sodded as necessary. Trash, leaf litter,

debris, and sediment accumulating in the level spreader or against the stone berm should be removed. Mowing should be limited to a minimum height of 6 inches and any signs of woody vegetation growth should be removed. Check dams provided on the upgradient side of the diversion berms should be repaired as needed.

9.6 Vegetative Cover

Revegetated areas and embankments will be inspected quarterly. Any signs of erosion or inadequate revegetation of these areas will be corrected as needed.

9.7 Project Decommissioning Plan

At the time of Project decommissioning, the following measures shall be followed:

- The electrical equipment, inverters, transformer, switchgear, combiner boxers will be de-energized by licensed electricians;
- Electrical equipment, wiring, copper and aluminum will be removed and recycled;
- Conduits, both above and below grade, combiner boxes, disconnects, and other electrical assemblies including posts and supports will be removed;
- Any fencing, ballast blocks and fence posts that were not present prior to development and is not desired to be kept on site by the Owner will be removed and taken to a recycling facility;
- Solar panels will be detached from the racking systems and stacked and bundled for removal and proper disposal;
- Equipment pad and concrete ballasts used for support of the racking systems will be fractured into manageable sized and removed from the site for recycling;
- Crushed stone used for ballast blocks and drip edge berms will be removed; and
- Disturbed areas or areas of bare soil resulting from decommissioning will be graded to match into surrounding areas and stabilized with loam, seed, and mulch.

Attachment A: Stormwater Management Plan Checklist

Stormwater Management Plan Checklist

Title of Plan Reviewed: USS Torrington Solar LLC

Reviewer Name: CNS Review Date: 10/18/2023

Completeness Summary

Section	Completed?	Notes
Report	Yes	
Summary of Compliance	Yes	
Design Calculations	Yes	
Design Drawings	Yes	
Soil Erosion & Sediment Control Plan	Yes	
Operations & Maintenance Plan	Yes	
Other Supporting Documents	Yes	

Detailed Checklist by Section

Report: General & Summary Information

Section		Completed?	Notes
General	Applicant Name	Yes	
	Applicant Address	Yes	
	Applicant Contact Information	Yes	
	Site Location Address/Information	Yes	
	Site Location Map	Yes	
	Current Use and Zoning of Property	Yes	
	Proposed Use of Project	Yes	
Summary	Project Description and Purpose	Yes	
	Project Schedule (Include phasing if applicable)	Yes	
	Applicable Permits and Approvals	Yes	
	Applicable Regulation Requirements	Yes	

Report: Existing Conditions

	Section	Completed?	Notes
Existing Conditions	Site area, ground cover, vegetation, existing development features (roads, buildings, utilities, septic systems, etc.)	Yes	
	Site topography (2-foot contours based on aerial or field survey), slopes, drainage patterns, drainage systems, drainage areas, and stormwater discharge locations	Yes	
	Existing impervious area and DCIA	Yes	
	On-site and adjacent waterbody information ➢ Water quality classifications Water quality impairments and Total Maximum Daily Loads	Yes	
	Site soils as identified by USDA NRCS mapping or soil scientist ➢ Soil types Hydrologic Soil Groups	Yes	
	Soil evaluation results ➢ Initial screening information ○ Test pits and soil borings results (i.e., USDA soil textural class, depth to bedrock, depth to seasonal high groundwater, and Significant subsurface or geologic features) Field infiltration (if applicable)	MEA	No test pits were completed for the Project but landfill record drawings were used to support soil evaluation.
	Other site constraints (i.e., site contamination)	Yes	Landfill site
	On-site and off-site critical resources[97] ➢ Inland wetlands and watercourses, tidal wetlands, and associated regulatory setbacks ➢ Streams ➢ Lakes/ponds ➢ Vernal pools ➢ Coastal waters (Connecticut Coastal Jurisdiction Line) ➢ Coldwater streams ➢ Drinking water supply areas ➢ Tree canopy ➢ Steep slopes (≥25%) Conservation easement areas	Yes	
	Locations of 100-year floodplain, floodway, and flood elevations from current FEMA mapping	Yes	
	Land uses and development adjacent to the site	Yes	

[97] Watershed scale map with the site boundaries identified and these attributes identified is preferable.

Report: Proposed Conditions

Section		Completed?	Notes
Proposed Conditions	Type of project or activity (new development, redevelopment, linear project, retrofit)	Yes	
	Proposed ground cover, vegetation, development features (roads, buildings, utilities, septic systems, etc.)	Yes	
	Proposed drainage area boundaries and design points	Yes	
	Proposed activities classified as Land Uses with Higher Potential Pollutant Loads (LUHPPLs)	N/A	
	Proposed impervious area and DCIA	Yes	
	Proposed area of land disturbance	Yes	
	Coastal Jurisdiction Line (CJL) for properties fronting coastal, tidal, or navigable waters	N/A	

Report: Applicable Stormwater Management Standards

Section		Completed?	Notes
Stormwater Management Standard	Standard 1 – Runoff Volume and Pollutant Reduction ➢ LID Site Planning and Design ➢ Stormwater Retention and Treatment	MEA	Requested exceptions for landfill site. Supporting documentation provided.
	Standard 2 – Stormwater Runoff Quantity Control ➢ Design Storm Rainfall Depth and Distribution ➢ Peak Runoff Attenuation ➢ Conveyance Protection ➢ Emergency Outlet Sizing	Yes	

Report: Proposed LID Site Planning

	Section	Completed?	Notes
Proposed LID Strategies	Avoided Impacts ➢ Minimizing Soil Compaction ➢ Minimizing Site Disturbance ➢ Protecting Sensitive Natural Areas ➢ Preserving Vegetated Buffers ➢ Avoiding Disturbance of Steep Slopes ➢ Siting on Permeable and Erodible Soils ➢ Protecting Natural Flow Pathways ➢ Conservation and Compact Development	MEA	Requested exceptions for landfill site. Supporting documentation provided.
	Reduced Impacts ➢ Reducing Impervious Surfaces (Roads, Cul-de-sacs, Sidewalks, Driveways, Buildings, Parking Lots) ➢ Preserving Pre-development Time of Concentration ➢ Use of Low Maintenance Landscaping	MEA	Requested exceptions for landfill site. Supporting documentation provided.
	Managed Impacts at the Source ➢ Disconnecting Impervious Surfaces - Impervious Area (Simple) Disconnection ➢ Conversion of Impervious Areas to Pervious Areas ➢ Source Controls	MEA	Requested exceptions for landfill site. Supporting documentation provided.

Report: Proposed Structural Stormwater BMPs

	Section	Completed?	Notes
Proposed Stormwater BMPs	Description of proposed structural stormwater BMPs and why they were selected ➢ Location, size, types by drainage area/design point ➢ Design criteria	Yes	

Summary of Compliance: Standard 1

	Section	Completed ?	Notes
Standard 1 - Runoff Volume and Pollutant Reductions	LID Site Planning and Design ➢ LID Site Planning and Design Opportunities and Constraints Plan ➢ Completed LID Site Planning and Design Checklist ➢ Total LID Site Planning and Design credits and DCIA reduction	MEA	Requested exceptions for landfill site. Supporting documentation provided.
	Stormwater Retention and Treatment ➢ Impervious area and Directly Connected Impervious Area (DCIA) ➢ Retention and Treatment Required ○ Water Quality Volume and Water Quality Flow ○ Required Retention Volume ➢ Retention and Treatment Provided including Maximum Extent Achievable Documentation ○ Explanation of site limitations ○ Description of the stormwater retention practices implemented ○ Explanation of why this constitutes the Maximum Extent Achievable ○ Alternate retention volume ○ Description of measures used to provide additional stormwater treatment without retention ○ Use of EPA stormwater BMP performance curves to demonstrate compliance with required average annual pollutant load reductions	MEA	Requested exceptions for landfill site. Supporting documentation provided.

Summary of Compliance: Standard 2

	Section	Completed?	Notes
Standard 2 - Stormwater Runoff Quantity Control	Design Storm Rainfall Depth and Distribution	Yes	
	Comparison of pre- and post-development ➢ Runoff volume and peak flow rate ○ 2-year, 10-year, and 100-year, 24-hour storms	Yes	
	Downstream Analysis: Comparison of pre- and post-development peak flows, velocities, and hydraulic effects at critical downstream locations (stream confluences, culverts, other channel constrictions, and flood-prone areas) to the confluence point where the 10 percent rule applies	MEA	Requested exceptions for landfill site. Supporting documentation provided.
	Conveyance Protection	Yes	
	Emergency Outlet Sizing	N/A	

Design Calculations: Standard 1

	Section	Completed?	Notes
Standard 1 - Runoff Volume and Pollutant Reduction	LID Site Planning and Design Credit Calculations	MEA	
	Impervious Area and Directly Connected Impervious Area (DCIA)	MEA	
	Water Quality Volume, Water Quality Flow, and Required Retention Volume	MEA	
	Structural Stormwater BMP Sizing Calculations ➢ Static and dynamic sizing methods (infiltration systems) ➢ Drain time and groundwater mounding analysis (infiltration systems) ➢ Required versus provided design volumes Pollutant specific load reductions (BMP performance curves) where Standard 1 cannot be met by retention alone	MEA	

Design Calculations: Standard 2

	Section	Completed?	Notes
Standard 2 - Stormwater Runoff Quantity Control	Stormwater Runoff Calculations for Pre-Development and Post-Development (with and without stormwater BMPs) Conditions ➢ Design storm depth and duration, recurrence interval, and rainfall distribution ➢ Runoff volume and peak flow rate (2-year, 10-year, and 100-year, 24-hour storms) ➢ Runoff Curve Number ➢ Time of Concentration (and associated flow paths)	Yes	
	Routing analysis for proposed stormwater BMPs including drainage routing diagram	Yes	
	Conveyance protection (including flow velocity calculations and outlet protection sizing) and emergency outlet sizing calculations	Yes	
	Downstream analysis hydrograph routing calculations	MEA	
	Storm drain system conveyance calculations	N/A	

Design Drawings: Existing Conditions

Section		Completed?	Notes
Existing (Pre-Development) Conditions Plan	Location of existing man-made features on or adjacent to the site, such as roads, buildings, driveways, parking areas, other impervious surfaces, drainage systems, utilities, easements, septic systems, etc.	Yes	
	Surveyed locations of property boundaries and easements	Yes	
	Drainage systems and sanitary sewers should include rim and invert elevations of all structures and sizes and connectivity of all pipes	Yes	
	Vegetative communities on the site, including locations of tree canopy	Yes	
	Site topography (2-foot contours based on aerial or field survey), slopes, drainage patterns, conveyances systems (swales, storm drains, etc.), drainage area boundaries, flow paths, times of concentration	Yes	
	Locations of existing stormwater discharges	Yes	
	Areas of steep (25% or greater) slopes	Yes	
	Perennial and intermittent streams	Yes	
	Inland wetlands and watercourses (and associated regulatory setbacks) as defined by a soil scientist in the field and flags located by a licensed land surveyor	Yes	
	Locations of vernal pools	Yes	
	Locations of 100-year floodplain, floodway, and flood elevations from current FEMA mapping	Yes	
	Locations of soil types as identified by USDA NRCS mapping or soil scientist, test pit and soil boring locations, and field infiltration testing locations	Yes	
	Areas of site contamination	Yes	
	Location, size, type of existing structural stormwater BMPs and conveyance systems	Yes	
	Limits of developable area based on site development constraints	Yes	
	Coastal Jurisdiction Line (CJL) for properties fronting coastal, tidal, or navigable waters	N/A	

Design Drawings: Proposed Conditions

	Section	Completed?	Notes
Proposed (Post-Development) Conditions Plan	Location of proposed man-made features on or adjacent to the site such as roads, buildings, driveways, parking areas, other impervious surfaces, drainage systems, utilities, easements, septic systems, etc.	Yes	
	Surveyed locations of property boundaries and easements	Yes	
	Drainage systems and sanitary sewers should include rim and invert elevations of all structures and sizes and connectivity of all pipes	Yes	
	Vegetative communities on the site, including proposed limits of clearing and disturbance	Yes	
	Site topography (2-foot contours based on aerial or field survey), slopes, drainage patterns, conveyances systems (swales, storm drains, etc.), drainage area boundaries, flow paths, times of concentration	Yes	
	Locations of proposed stormwater discharges/design points	Yes	
	Perennial and intermittent streams	Yes	
	Inland wetlands and watercourses (and associated regulatory setbacks) as defined by a soil scientist in the field and flags located by a licensed land surveyor	Yes	
	Locations of vernal pools	Yes	
	Locations of 100-year floodplain, floodway, and flood elevations from current FEMA mapping	Yes	
	Locations and results of on-site soil evaluation (test pits/soil borings and field infiltration testing)	Yes	
	Areas of site contamination	Yes	
	Development envelope and areas of site preserved in natural condition	Yes	
	Location, size, type of proposed structural stormwater BMPs and conveyance systems. Structural BMPs should have rim, invert, and contour elevations and pipe sizes and construction material.	Yes	
	Locations of soil erosion and sedimentation controls	Yes	
	Locations of non-structural source controls	Yes	
	LID Site Planning and Design Opportunities and Constraints Plan	Yes	
	Structural Stormwater BMP Design Details and Notes	Yes	
	Coastal Jurisdiction Line (CJL) for properties fronting coastal, tidal, or navigable waters	N/A	

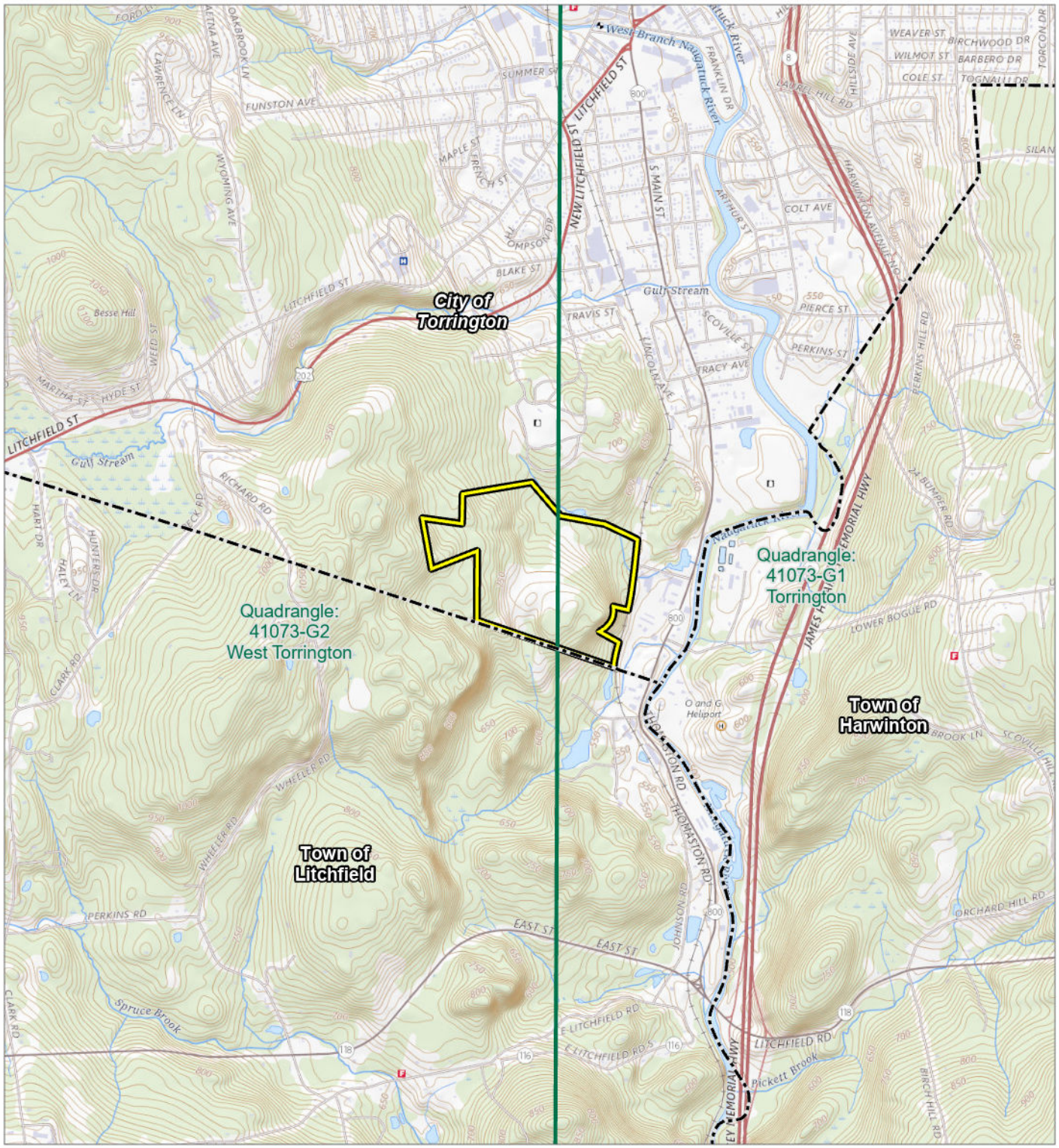
Other Plans

	Section	Completed?	Notes
Soil Erosion & Sediment Control Plan	See the Soil Erosion and Sediment Control Guidelines https://portal.ct.gov/DEEP/Water/Soil-Erosion-and-Sediment-Control-Guidelines/Guidelines-for-Soil-Erosion-and-Sediment-Control	Yes	
Operation & Maintenance Plan	Detailed inspection and maintenance requirements/tasks	Yes	
	Inspection and maintenance schedules	Yes	
	Parties legally responsible for maintenance (name, address, and telephone number)	Yes	
	Provisions for financing of operation and maintenance activities	TBD	
	As-built plans of completed structures	TBD	
	Letter of compliance from the designer	TBD	
	Post-construction documentation to demonstrate compliance with maintenance activities	TBD	
	Other considerations if needed		

Other Supporting Documents

Section		Completed?	Notes
Other Supporting Documents	Completed Stormwater Management Plan Checklist	Yes	
	LID Site Planning and Design Checklist (Chapter 5 – Low Impact Development Site Planning and Design Strategies)	N/A	
	NRCS Soils Mapping	Yes	
	Soil Evaluation Documentation (Test Pits/Soil Borings and Field Infiltration Testing Results)	Yes	Landfill record drawings attached.
	DCIA Tracking Worksheet required by the reviewing authority to satisfy MS4 Permit requirements	N/A	
	Groundwater impacts for proposed infiltration structures	N/A	
	Reports on wetlands and other surface waters (including available information such as Maximum Contaminant Levels [MCLs], Total Maximum Daily Loads [TMDLs], 303(d) or 305(b) impaired waters listings, etc.)	Yes	
	Water quality impacts to receiving waters	Yes	
	Water quality impacts to receiving waters	Yes	
	Impacts on biological populations/ecological communities including fish, wildlife (vertebrates and invertebrates), and vegetation	N/A	
	Flood study/calculations	N/A	
	Other permits and approvals issued for the project	Yes	

Attachment B: Figures, Maps, and Drawings



PROJECT AREA

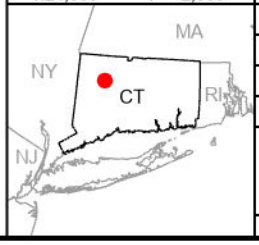
7.5 MINUTE USGS QUAD BOUNDARY

MUNICIPAL BOUNDARY

0 1,000 2,000

FEET

1:24,000 1" = 2,000'



BASE MAP: ESRI "USGS TOPO" SERVICE
DATA SOURCES: TRC

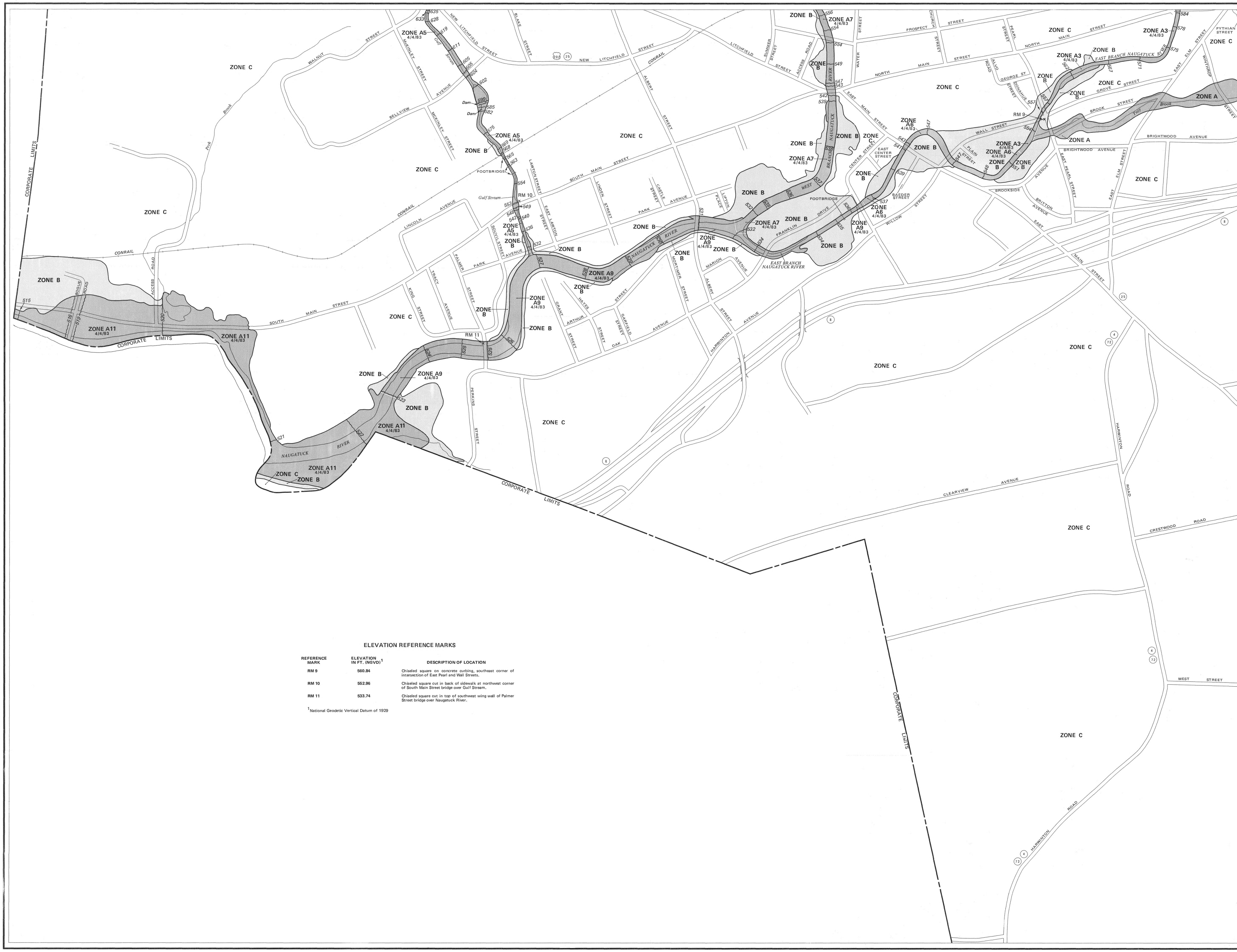
PROJECT: **US SOLAR**
CITY OF TORRINGTON
LITCHFIELD COUNTY, CT

TITLE: **SITE LOCATION MAP**

DRAWN BY:	S. MOTURI	PROJ. NO.:	490953
CHECKED BY:	M. REGAN		
APPROVED BY:	M. REGAN		**FIGURE 1**
DATE:	NOVEMBER 2022		

650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: TORRINGTON_CIA FIGURES



ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION IN FT. (NGVD)[1]	DESCRIPTION OF LOCATION
RM 9	560.84	Chiseled square on concrete curbing, southeast corner of intersection of East Pearl and Wall Streets.
RM 10	552.96	Chiseled square cut in back of sidewalk at northwest corner of South Main Street bridge over Gulf Stream.
RM 11	533.74	Chiseled square cut in top of southwest wing wall of Palmer Street bridge over Naugatuck River.

[1] National Geodetic Vertical Datum of 1929

KEY TO MAP

500-Year Flood Boundary — ZONE B

100-Year Flood Boundary

Zone Designations* With Date of Identification e.g., 12/2/74 — ZONE A DATE / ZONE A5 DATE

100-Year Flood Boundary

500-Year Flood Boundary — ZONE B

Base Flood Elevation Line With Elevation In Feet** — 513

Base Flood Elevation in Feet Where Uniform Within Zone** — (EL 987)

Elevation Reference Mark — RM7×

Zone D Boundary

River Mile — •M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
JULY 1, 1970

FLOOD HAZARD BOUNDARY MAP REVISIONS:
NONE

FLOOD INSURANCE RATE MAP EFFECTIVE:
MAY 19, 1972

FLOOD INSURANCE RATE MAP REVISIONS:

July 1, 1974 - to change zone designations.

March 5, 1976 - to reflect curvilinear flood boundary and to add special flood hazard areas.

April 4, 1983 - to add special flood hazard areas, to change base flood elevations, to change zone designations.

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

APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

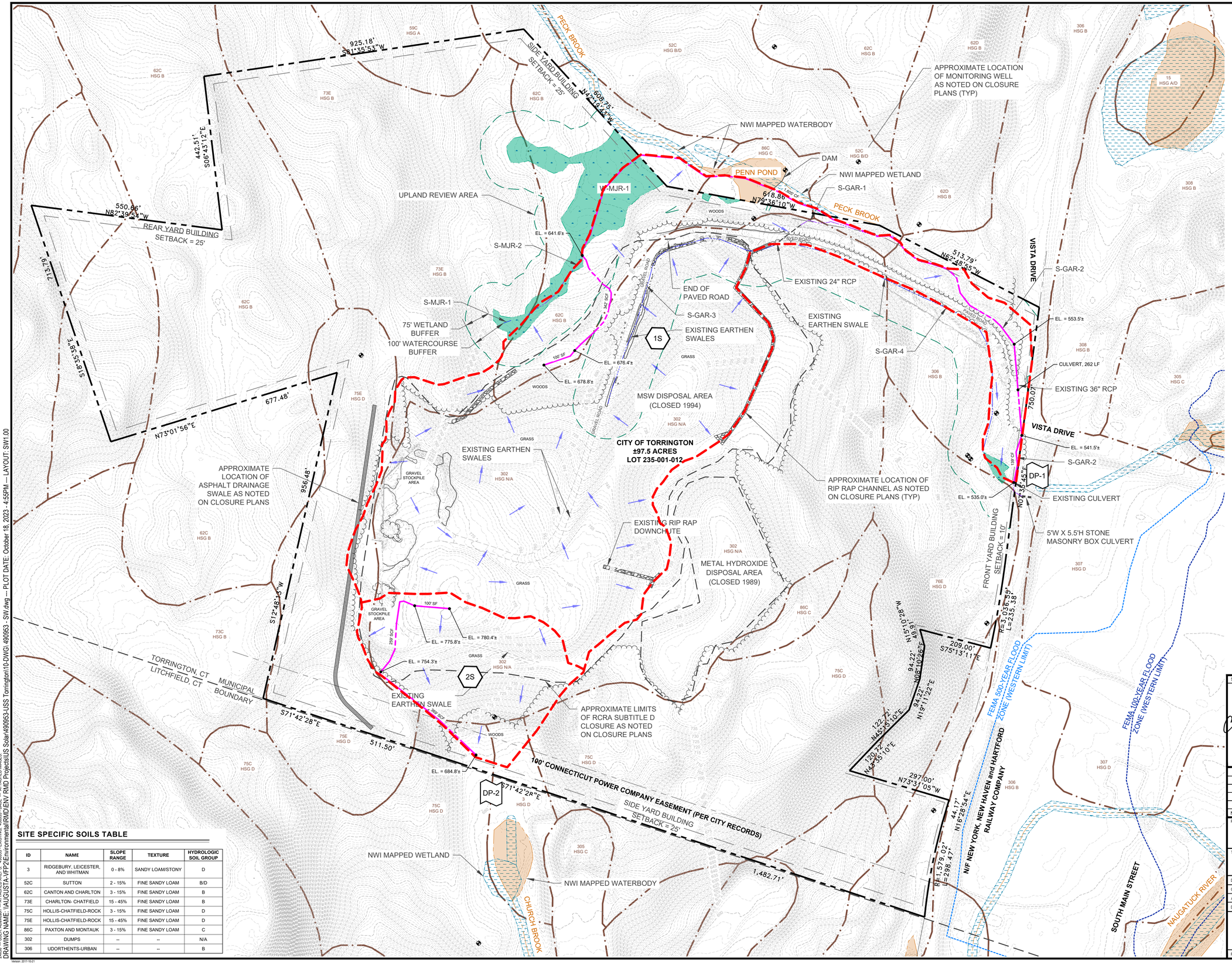
CITY OF
TORRINGTON,
CONNECTICUT
LITCHFIELD COUNTY

PANEL 7 OF 14
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
095081 0007 B

MAP REVISED:
APRIL 4, 1983

Federal Emergency Management Agency



LEGEND

- 1S — SUBCATCHMENT
- DP-1 — ANALYSIS POINT
- SURVEYED PROPERTY BOUNDARY
- TC FLOWPATH
- SUBCATCHMENT BOUNDARY
- 253D HSG A — NRCS SOILS DATA
- STORMWATER RUNOFF FLOW DIRECTION

GENERAL NOTES

1. THE PROJECT HORIZONTAL COORDINATES SYSTEM IS BASED ON NAD83 CONNECTICUT STATE PLANE ZONE (US SURVEY FEET, CT83F). ELEVATIONS ARE BASED ON NAVD88 (US SURVEY FEET).
2. PROJECT PROPERTY BOUNDARIES AND SITE TOPOGRAPHIC INFORMATION ARE BASED UPON ON-THE-GROUND FIELD SURVEY COMPLETED BY LAND DESIGN ASSOCIATES ENGINEERING, SURVEYING, AND LANDSCAPE ARCHITECTURE, D.P.C. IN SEPTEMBER 2022. SURVEY PLANS SEALED BY A LICENSED PROFESSIONAL LAND SURVEYOR ARE PROVIDED UNDER SEPARATE COVER.
3. UTILITY INFORMATION DEPICTED IS COMPILED USING PHYSICAL SURFACE EVIDENCE LOCATED IN THE FIELD IN CONJUNCTION WITH ANY RECORD INFORMATION AVAILABLE AT THE TIME OF THE FIELD SURVEY AND MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. THEREFORE ALL UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE AND BE VERIFIED BY THE CONTRACTOR. DIGSAFE SHALL BE NOTIFIED A MINIMUM OF 72-HOURS PRIOR TO COMMENCING ANY EXCAVATION. FULL UTILITY COORDINATION WITH NON-MEMBER UTILITIES AND USE OF GROUND-PENETRATING RADAR TO LOCATE UTILITIES SHOULD BE PERFORMED AS NECESSARY.
4. WETLAND DELINEATION WITHIN THE PROJECT AREA WAS PERFORMED BY TRC IN OCTOBER 2022 AND MARCH 2023 AND LOCATED USING MAPPING GRADE GPS UNITS. ADDITIONAL NATURAL RESOURCE AND ZONING INFORMATION IS COMPILED FROM A COMBINATION OF SOURCES INCLUDING STATE OF CONNECTICUT GIS DATA.
5. SOIL MAP INFORMATION IS BASED UPON UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE SOIL MAP DATA.

SITE SPECIFIC SOILS TABLE

ID	NAME	SLOPE RANGE	TEXTURE	HYDROLOGIC SOIL GROUP
3	RIDGEBURY, LEICESTER, AND WHITMAN	0 - 8%	SANDY LOAM/STONY	D
52C	SUTTON	2 - 15%	FINE SANDY LOAM	B/D
62C	CANTON AND CHARLTON	3 - 15%	FINE SANDY LOAM	B
73E	CHARLTON- CHATFIELD	15 - 45%	FINE SANDY LOAM	B
75C	HOLLIS-CHATFIELD-ROCK	3 - 15%	FINE SANDY LOAM	D
75E	HOLLIS-CHATFIELD-ROCK	15 - 45%	FINE SANDY LOAM	D
86C	PAXTON AND MONTAUK	3 - 15%	FINE SANDY LOAM	C
302	DUMPS	--	--	N/A
306	UDORTHENTS-URBAN	--	--	B

0 120 240 360 480
SCALE IN FEET

PERMITTING

SEAL:

STATE OF CONNECTICUT — CARL N. STOPPER — No. 13255 — LICENSED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER:
CARL N. STOPPER
DATE:
OCTOBER 18, 2023

NO.	BY	DATE	REVISION	APP'D
0	TRC	10/18/2023	ISSUED FOR CONNECTICUT SITING COUNCIL	CNS

PROJECT:
UNITED STATES SOLAR CORPORATION
USS TORRINGTON SOLAR LLC
PROPOSED 1.998 MW-AC SOLAR ARRAY
105 VISTA DR, TORRINGTON, LITCHFIELD COUNTY, CT

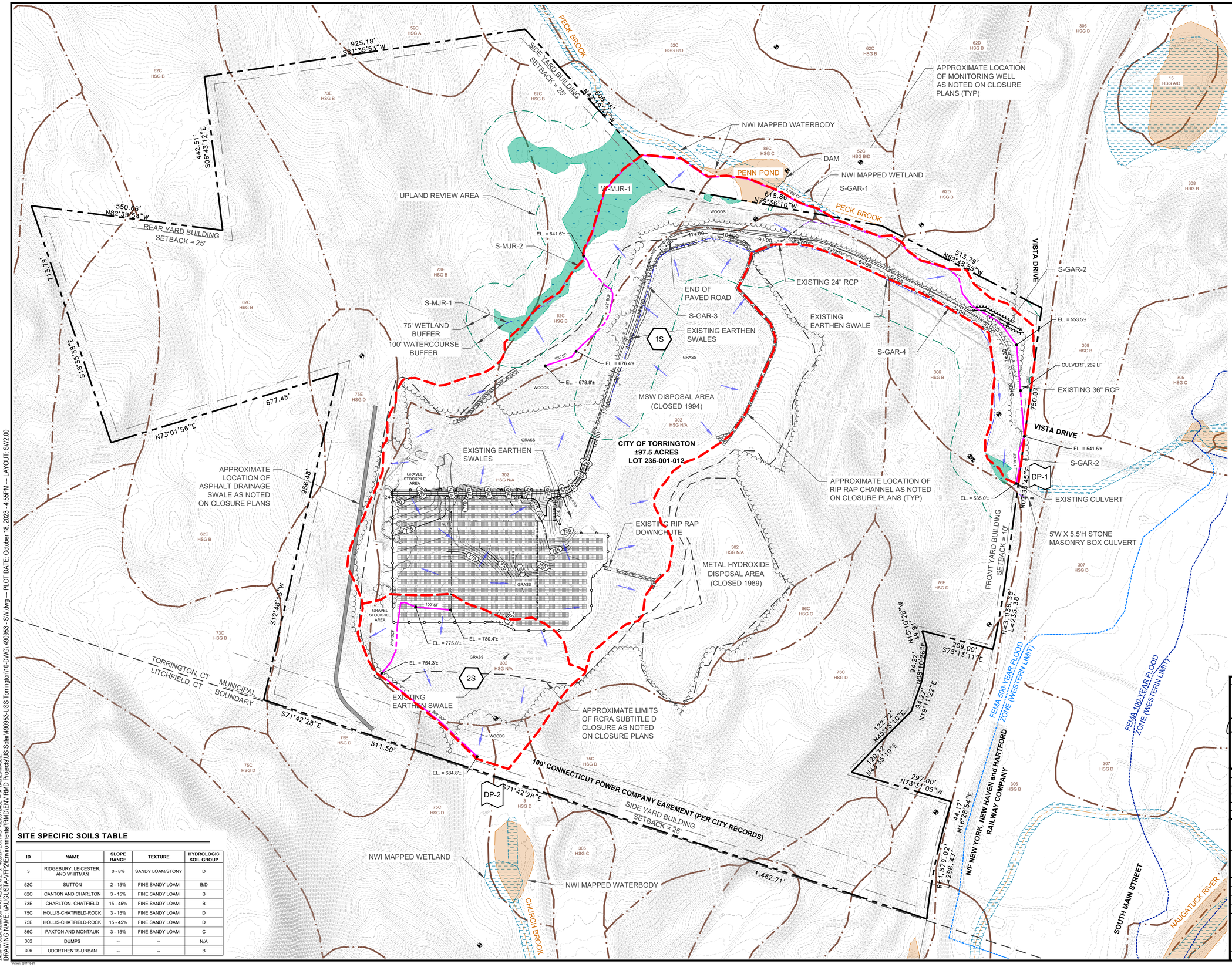
TITLE:
PRE-DEVELOPMENT DRAINAGE PLAN
PERMITTING

DRAWN BY:	TRC
CHECKED BY:	ASW
APPROVED BY:	CNS
DATE:	OCTOBER 2023
PROJ. NO.:	490953.0000
	SW1.00

TRC
21 Griffin Road North
Windsor, CT 06095
Phone: 860.298.9692
www.trcsolutions.com

FILE NO.: 490953 - SW.dwg

24x36 -- USER: ADavison -- ATTACHED XREFS: 490953 - EXISTING, 490953 -BASE -- ATTACHED IMAGES:
DRAWING NAME: \\AUGUSTA-VFP2\Environmental\RMD\ENV RMD Projects\US Solar\490953-USS Torrington\10-DWG\ 490953 - SW.dwg -- PLOT DATE: October 18, 2023 - 4:59PM -- LAYOUT: SW1.00
Version: 2017-10-31



LEGEND

- 1S — SUBCATCHMENT
- DP-1 — ANALYSIS POINT
- SURVEYED PROPERTY BOUNDARY
- TC FLOWPATH
- SUBCATCHMENT BOUNDARY
- 253D HSG A — NRCS SOILS DATA
- STORMWATER RUNOFF FLOW DIRECTION

GENERAL NOTES

1. THE PROJECT HORIZONTAL COORDINATES SYSTEM IS BASED ON NAD83 CONNECTICUT STATE PLANE ZONE (US SURVEY FEET, CT83F). ELEVATIONS ARE BASED ON NAVD88 (US SURVEY FEET).
2. PROJECT PROPERTY BOUNDARIES AND SITE TOPOGRAPHIC INFORMATION ARE BASED UPON ON-THE-GROUND FIELD SURVEY COMPLETED BY LAND DESIGN ASSOCIATES ENGINEERING, SURVEYING, AND LANDSCAPE ARCHITECTURE, D.P.C. IN SEPTEMBER 2022. SURVEY PLANS SEALED BY A LICENSED PROFESSIONAL LAND SURVEYOR ARE PROVIDED UNDER SEPARATE COVER.
3. UTILITY INFORMATION DEPICTED IS COMPILED USING PHYSICAL SURFACE EVIDENCE LOCATED IN THE FIELD IN CONJUNCTION WITH ANY RECORD INFORMATION AVAILABLE AT THE TIME OF THE FIELD SURVEY AND MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. THEREFORE ALL UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE AND BE VERIFIED BY THE CONTRACTOR. DIGSAFE SHALL BE NOTIFIED A MINIMUM OF 72-HOURS PRIOR TO COMMENCING ANY EXCAVATION. FULL UTILITY COORDINATION WITH NON-MEMBER UTILITIES AND USE OF GROUND-PENETRATING RADAR TO LOCATE UTILITIES SHOULD BE PERFORMED AS NECESSARY.
4. WETLAND DELINEATION WITHIN THE PROJECT AREA WAS PERFORMED BY TRC IN OCTOBER 2022 AND MARCH 2023 AND LOCATED USING MAPPING GRADE GPS UNITS. ADDITIONAL NATURAL RESOURCE AND ZONING INFORMATION IS COMPILED FROM A COMBINATION OF SOURCES INCLUDING STATE OF CONNECTICUT GIS DATA.
5. SOIL MAP INFORMATION IS BASED UPON UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE SOIL MAP DATA.

SITE SPECIFIC SOILS TABLE

ID	NAME	SLOPE RANGE	TEXTURE	HYDROLOGIC SOIL GROUP
3	RIDGEBURY, LEICESTER, AND WHITMAN	0 - 8%	SANDY LOAM/STONY	D
52C	SUTTON	2 - 15%	FINE SANDY LOAM	B/D
62C	CANTON AND CHARLTON	3 - 15%	FINE SANDY LOAM	B
73E	CHARLTON- CHATFIELD	15 - 45%	FINE SANDY LOAM	B
75C	HOLLIS-CHATFIELD-ROCK	3 - 15%	FINE SANDY LOAM	D
75E	HOLLIS-CHATFIELD-ROCK	15 - 45%	FINE SANDY LOAM	D
86C	PAXTON AND MONTAUK	3 - 15%	FINE SANDY LOAM	C
302	DUMPS	--	--	N/A
306	UDORTHENTS-URBAN	--	--	B

0 120 240 360 480
SCALE IN FEET

PERMITTING

SEAL:

STATE OF CONNECTICUT — CARL N. STOPPER — No. 13255 — LICENSED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER:
CARL N. STOPPER
DATE:
OCTOBER 18, 2023

NO.	BY	DATE	REVISION	APP'D
0	TRC	10/18/2023	ISSUED FOR CONNECTICUT SITING COUNCIL	CNS

PROJECT:
UNITED STATES SOLAR CORPORATION
USS TORRINGTON SOLAR LLC
PROPOSED 1.998 MW-AC SOLAR ARRAY
105 VISTA DR, TORRINGTON, LITCHFIELD COUNTY, CT

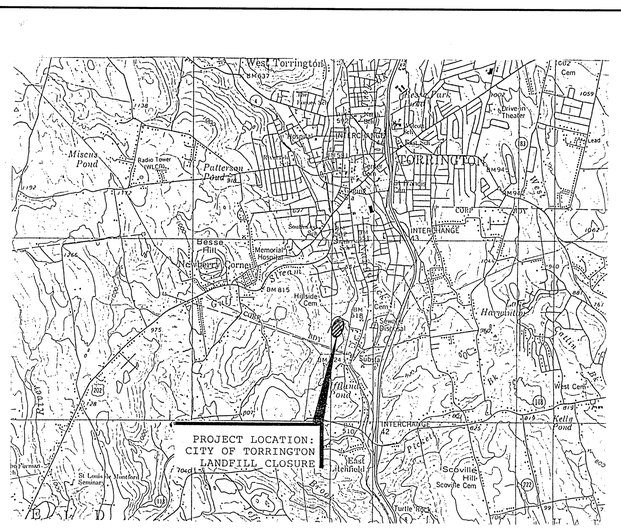
TITLE:
POST-DEVELOPMENT DRAINAGE PLAN
PERMITTING

DRAWN BY:	TRC	PROJ. NO.:	490953.0000
CHECKED BY:	ASW		
APPROVED BY:	CNS		SW2.00
DATE:	OCTOBER 2023		

TRC
21 Griffin Road North
Windsor, CT 06095
Phone: 860.298.9692
www.trcsolutions.com

FILE NO.: 490953 - SW.dwg

RCRA SUBTITLE D CLOSURE
TORRINGTON LANDFILL
SOUTH MAIN STREET
TORRINGTON, CONNECTICUT



SCALE
1" = 4000'±

INDEX

SHEET	TITLE
1	PROPOSED FINAL CONTOURS
2	NOTES AND DETAILS
3	EROSION AND SEDIMENTATION CONTROLS
4 - 6	CROSS SECTIONS

PREPARED BY

CCA

CARROCCIO-COVILL & ASSOCIATES, INC.

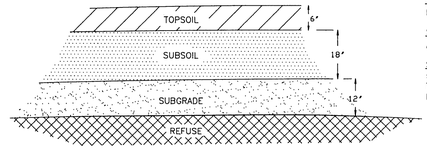
ENGINEERING-SURVEYING-ENVIRONMENTAL

40 OLD NEW MILFORD ROAD
BROOKFIELD, CONNECTICUT

R-1633

NOTES:

3. LANDFILL AREAS DELINEATED AS PHASE IIIa, IVa, V & VI CONSTRUCTION AREAS ARE ASSUMED TO HAVE 6"± OF COVER (SUBGRADE LAYER TYPE SOILS) OVER REFUSE. THE REMAINING CONSTRUCTION AREAS ARE ASSUMED TO HAVE GREATER THAN 1 FT. OF COVER (SUBGRADE MATERIAL). CONTRACTOR TO CONFIRM.
4. THE METAL HYDROXIDE DISPOSAL SITE IS A WASTE MANAGEMENT UNIT WHICH HAS HAS BEEN CLOSED IN ACCORDANCE WITH U.S.E.P.A. REGULATIONS. THIS AREA IS NOT TO BE DISTURBED IN ANY WAY OR MANNER.



DETAIL OF CLOSURE CAP COMPOSITION
N.T.S

TOPSOIL Shall be earthen material capable of sustaining active plant growth.

SUBSOIL Shall be earthen material (low permeability layer) compacted to a permeability rate of 10^{-5} cm/sec or less.

SUBGRADE LAYER Shall be sufficient thickness and structural strength to support construction activity and provide for long Term final cover system integrity. Where possible existing landfill cover material shall be incorporated as subgrade.

NOTES:
1. FINAL GRADE SLOPES SHALL NOT EXCEED 3' HORIZONTAL TO 1' VERTICAL OR BE LESS THAN 20' HORIZONTAL TO 1' VERTICAL.
2. REFER TO TECHNICAL SPECIFICATIONS FOR DETAILED MATERIAL QUALITY REQUIREMENTS.

PERMITTED LIMITS OF REFUSE

APPROX. EDGE OF CAP

3:1 SLOPE – TYPICAL SEE NOTE 1

COVER MATERIAL STOCKPILE

COVER (SUBGRADE) MATERIAL STOCKPILE

PHASE IIa (PV,TO)

PHASE IIb (PV,TO)

PHASE IIc (PV,TO)

PHASE IId (PV,TO)

PHASE IIIa (PV,TO)

PHASE IIIb (PV,TO)

PHASE IIIb (PV,TO)

PHASE IVa (PV,TO)

PHASE IVb (PV,TO)

PHASE V (PV,TO)

PHASE Vb (PV,TO)

PHASE VI (PV,TO)

RECYCLING AREA

PHASE – I [a]
ESTABLISH 5,100 ±S.F. SEDIMENTATION BASIN BY BERMING (SEE DETAIL "A")

PHASE – I [a]
INSTALL TEMPORARY REMOVEABLE PLUG IN CULVERT

PHASE – I [a]
REGRADE & RIPRAP AS NECESSARY TO ESTABLISH DRAINAGE COURSE TO EXIST. SWALE AT EDGE OF ROAD

PHASE – I [a]
INSPECT EXISTING DRAINAGE SWALE; REPAIR, STABILIZE AND CLEAR DEBRIS AS NECESSARY

PHASE – I [a]
ESTABLISH 5,500 ±S.F. SEDIMENTATION BASIN BY BERMING ACROSS SADDLE IN TOPOGRAPHY (SEE DETAIL "A")

PHASE – I [b]
SHIFT WEST EDGE OF HAUL ROAD AS NECESSARY

PHASE – I [b]
INSTALL HAYBALE SEDIMENT TRAPS AT 75' INTERVALS

PHASE – I [b]
COMMENCE CONSTRUCTION 3' WIDE STONE DITCH W/ SEDIMENT FENCE PER DETAIL "B"

PHASE – I – VI
ESTABLISH & MAINTAIN TEMPORARY GRAVEL HAUL ROAD, SEE DETAIL

PHASE – I [c]
ESTABLISH HAY BALE & SEDIMENT FENCE SILT TRAP AS SHOWN

PHASE – I [d]
START REINFORCED SEDIMENT FENCE

PHASE – I [d]

RIP RAP AS NEEDED

(SB) (OP) (TOP)

MW-7 MW-8A MW-9

HELT 3618

FACILITY ACCESS ROAD

BROOK

CITY OF TORRINGTON

TOWN OF LITCHFIELD

METAL HYDROXIDE DISPOSAL SITE

TO EXISTING CITY OF TORRINGTON STORMWATER DETENTION BASIN

FN-4

LEGEND

780	EXISTING CONTOURS
780	PROPOSED CONTOURS
	LIMITS OF AREA TO BE CAPPED BASED ON ACTIVITY OCCURING AFTER OCT. 9, 1991 6" OF SUBGRADE OVER REFUSE
ST	SEDIMENT FENCE
SH	REINFORCED SEDIMENT FENCE
	WATERCOURSE
(PV,TO)	EROSION CONTROL MEASURES

SOURCE: "MARCH 1993, TORRINGTON LANDFILL", DATE: MARCH 1993, SCALE: 1"= 100', BY FUSS & O'NEIL

PROPOSED FINAL CONTOURS
RCRA SUBTITLE D CLOSURE
TORRINGTON LANDFILL
SOUTH MAIN STREET
TORRINGTON , CONNECTICUT

CCA
CARROCCIO-COVILL & ASSOCIATES, INC.
ENGINEERING-SURVEYING-ENVIRONMENTAL
40 Old New Milford Road, Brookfield, CT 06804, (203) 775-6207
West Street, Litchfield, CT 06759, (203) 567-3179

By: R.J.G.	Scale: 1" = 60'	Sheet 1 of
Date: JAN. 12, 1993	Project No. 93-8001	Drawing No.
NOT VALID WITHOUT	Date	Revisions
	4-26-94	NOTES
ORIGINAL SEAL		

EROSION & SEDIMENTATION CONTROL NARRATIVE

EROSION & SEDIMENTATION CONTROL PLAN AND
CONSTRUCTION SEQUENCE

A. VALIDITY AND PROJECT DESCRIPTION:

VALIDITY:

THIS DOCUMENT IS TO BE CONSIDERED AN INTEGRAL PART OF THE PLANS PREPARED FOR THE PROJECT BY CARROCCIO–COVILL & ASSOCIATES, INC. THE PROCEDURES OUTLINED HEREIN ARE TO BE STRICTLY FOLLOWED DURING THE CONSTRUCTION OPERATIONS.

PROJECT DESCRIPTION:

THIS PROJECT ENTAILS THE RCRA SUBTITLE "D" CLOSURE OF EXSITING AREAS AT THE CITY OF TORRINGTON'S LANDFILL OFF SOUTH MAIN STREET IN TORRINGTON, CONNECTICUT. INCLUDED WILL BE IMPLEMENTATION OF A NUMBER OF EROSION CONTROL MEASURES AND TECHNIQUES, INCLUDING CONSTRUCTION OF SEDIMENTATION BASINS, STONE DITCHES AND SILT TRAPS. AREA TO BE CLOSED TOTALS APPROXIMATELY 26± ACRES, AND REQUIRES SOME WORK AND ACTIVITY BEYOND THE AREAS TO BE CLOSED.

B. START AND COMPLETION DATES:

APPROXIMATE START DATE: TO BE DETERMINED

ESTIMATED TIME TO COMPLETE: 3 MONTHS

COMPLETION DATE: TO BE DETERMINED

THE ABOVE DATES ARE SUBJECT TO RECEIPT OF ALL REQUIRED PERMITS, FINANCING, AND CONTRACTOR SCHEDULING. THE EROSION AND SEDIMENT CONTROL OFFICER SHALL BE PROVIDED WITH UPDATED SCHEDULES AS THEY BECOME AVAILABLE.

RESPONSIBLE PERSON IN CHARGE: MR. MATT DOMINY, P.E.
DIRECTOR, PUBLIC WORKS
TELEPHONE: (203)489–2383

C. CONSTRUCTION SEQUENCE:

1. – OBTAIN ALL PERMITS.
2. – NOTIFY "CALL BEFORE YOU DIG" FOR UTILITY MARKOUT AS NECESSARY.
3. – NOTIFY ALL APPLICABLE CITY AND STATE OFFICIALS OF CONSTRUCTION START AS MAY BE REQUIRED.
4. – THE CAPPING AND CLOSURE PROJECT IS BROKEN DOWN INTO PHASES *I* THROUGH *VII* AS FOLLOWS:

PHASE I – (a):
– INSPECT EXISTING DRAINAGE SWALE ALONG SOUTH EDGE OF FACILITY ACCESS ROAD ("DUMP ROAD"); REPAIR, STABILIZE AND CLEAR DEBRIS AS NECESSARY. SWALE TO BE IN CONDITION ADEQUATE TO RECEIVE STORMWATER FROM PROJECT UNDER CONSTRUCTION AND CONVEY SAME TO EXISTING CITY OF TORRINGTON DETENTION BASIN.
– ESTABLISH TWO SEDIMENTATION BASINS VIA BERMING AS SHOWN ON THE PLANS.
– REGRADE AND RIP – RAP AS NECESSARY TO ENSURE STABLE SURFACE DRAINAGE CONNECTION BETWEEN BASIN AND EXISTING SWALE (ABOVE).
– PLUG EXISTING CULVERT.

PHASE I – (b):
– CONSTRUCT STONE DITCH, ESTABLISH SEDIMENT TRAPS AND SEDIMENT FENCES PER PLANS AND DETAILS.
– SHIFT EDGE OF EXISTING HAUL ROAD AS NECESSARY.

PHASE I – (c):
– ESTABLISH ADDITIONAL SEDIMENT TRAPS IN LOCATIONS AND SIZES AS SHOWN ON THE PLANS.

PHASE I – (d):
– ESTABLISH REMAINDER OF SEDIMENT FENCES IN THE VICINITY OF PHASES IV AND V.

PHASE II: PROCEED WITH CAPPING OF PHASE II AREA
– SITE PREPARATION
– UPGRADE EXISTING SUBGRADE TO REQUIRED DEPTH IN 6" LIFTS.
– INSTALL SUBSOIL CAP IN 6" LIFTS.
– PLACE TOPSOIL, SEED, MULCH AND FERTILIZE.
– INSTALL EROSION CONTROL / REVEGETATION MAT OR JUTE MESH ON 3:1 OR STEEPER SLOPES, AND AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
– ESTABLISH TEMPORARY HAUL ROAD; MAINTAIN FOR ACCESS TO OTHER PHASES.
– INSPECT AND MAINTAIN ALL EROSION CONTROL FACILITIES DAILY, ENTER ACTIVITIES IN LOGBOOK TO BE KEPT ON–SITE.

PHASE IIIa: PROCEED WITH CAPPING OF PHASE IIIa AREA
– SITE PREPARATION
– ESTABLISH REQUIRED SUBGRADE IN 6" LIFTS.
– INSTALL SUBSOIL CAP IN 6" LIFTS.
– PLACE TOPSOIL, SEED, MULCH AND FERTILIZE.
– INSTALL EROSION CONTROL / REVEGETATION MAT OR JUTE MESH ON 3:1 OR STEEPER SLOPES, AND AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
– ESTABLISH TEMPORARY HAUL ROAD; MAINTAIN FOR ACCESS TO OTHER PHASES.
– INSPECT AND MAINTAIN ALL EROSION CONTROL FACILITIES DAILY, ENTER ACTIVITIES IN LOGBOOK TO BE KEPT ON–SITE.

PHASE IIIb: SEE PHASE II

PHASE IVa: PROCEED WITH CAPPING OF PHASE IVa AREA
– SITE PREPARATION
– ESTABLISH REQUIRED SUBGRADE IN 6" LIFTS.
– INSTALL SUBSOIL CAP IN 6" LIFTS.
– PLACE TOPSOIL, SEED, MULCH AND FERTILIZE.
– INSTALL EROSION CONTROL / REVEGETATION MAT OR JUTE MESH ON 3:1 OR STEEPER SLOPES, AND AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
– ESTABLISH TEMPORARY HAUL ROAD; MAINTAIN FOR ACCESS TO OTHER PHASES.
– INSPECT AND MAINTAIN ALL EROSION CONTROL FACILITIES DAILY, ENTER ACTIVITIES IN LOGBOOK.

PHASE IVb: SEE PHASE II

PHASE Va: PROCEED WITH CAPPING OF PHASE Va AREA
– SITE PREPARATION
– ESTABLISH REQUIRED SUBGRADE IN 6" LIFTS.
– INSTALL SUBSOIL CAP IN 6" LIFTS.
– PLACE TOPSOIL, SEED, MULCH AND FERTILIZE.
– INSTALL EROSION CONTROL / REVEGETATION MAT OR JUTE MESH ON 3:1 OR STEEPER SLOPES, AND AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
– ESTABLISH TEMPORARY HAUL ROAD; MAINTAIN FOR ACCESS TO OTHER PHASES.
– INSPECT AND MAINTAIN ALL EROSION CONTROL FACILITIES DAILY, ENTER ACTIVITIES IN LOGBOOK.

PHASE Vb: SEE PHASE II

PHASE VIa: PROCEED WITH CAPPING OF PHASE VIa AREA
– SITE PREPARATION
– ESTABLISH REQUIRED SUBGRADE IN 6" LIFTS.
– INSTALL SUBSOIL CAP IN 6" LIFTS.
– PLACE TOPSOIL, SEED, MULCH AND FERTILIZE.
– INSTALL EROSION CONTROL / REVEGETATION MAT OR JUTE MESH ON 3:1 OR STEEPER SLOPES, AND AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
– ESTABLISH TEMPORARY HAUL ROAD; MAINTAIN FOR ACCESS TO OTHER PHASES.
– INSPECT AND MAINTAIN ALL EROSION CONTROL FACILITIES DAILY, ENTER ACTIVITIES IN LOGBOOK.

PHASE VIb: SEE PHASE II

PHASE VII: FINAL SITE STABILIZATION:
– FINE GRADE SLOPES AND DISTURBED AREAS.
– PLACE TOPSOIL ON ALL DISTURBED AREAS AND FERTILIZE SEED AND MULCH.
– REMOVAL OF THE SEDIMENTATION CONTROLS. ALL DISTURBED AREAS TO BE IMMEDIATELY SEEDED AND MULCHED.

D. GENERAL REQUIREMENTS:

1. ALL DISTURBED AREAS TO BE STABILIZED BY TOPSOILING, SEEDING, AND MULCHING AS SOON AS PRACTICAL. CARE TO BE TAKEN TO PROTECT AREAS NOT INDICATED ON THE PLANS TO BE DISTURBED.
2. EROSION CONTROLS SHALL BE PLACED AT LOCATIONS SPECIFIED AND MAINTAINED UNTIL ALL SLOPED AND OTHER DISTURBED AREAS ARE STABILIZED.
3. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING CONSTRUCTION, IF NECESSARY, TO MINIMIZE SEDIMENT TRANSPORT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF ALL CONTROLS AND PROPER DISPOSAL OF SEDIMENT REMOVED FROM THEM.
5. EROSION AND SEDIMENTATION CONTROLS TO BE CONSTRUCTED IN ACCORDANCE WITH S.C.S. EROSION AND SEDIMENT CONTROL HANDBOOK.

E. CONTROL MEASURE SELECTION PROCESS:

EROSION IS CAUSED SOIL MOVEMENT, WATER MOVEMENT AND SEDIMENT MOVEMENT. THE OBJECTIVE OF THE EROSION AND SEDIMENT CONTROL PLAN IS TO PREVENT OFF–SITE SEDIMENTATION DAMAGE. THE STEPS INVOLVED IN THE EROSION CONTROL SELECTION PROCESS ARE AS FOLLOWS:

A. IDENTIFY CONTROL PROBLEM
B. IDENTIFY PROBLEM AREA
C. IDENTIFY REQUIRED STRATEGY
D. IDENTIFY CONTROL MEASURE GROUP
E. SELECT SPECIFIC CONTROL MEASURE

THE THREE BASIC METHODS USED TO CONTROL EROSION ARE SOIL STABILIZATION, RUNOFF CONTROL AND SEDIMENT CONTROL. A COMBINATION OF THESE THREE METHODS ARE PROPOSED IN ORDER TO MINIMIZE OFF–SITE SEDIMENTATION DAMAGE.

1. SOIL MOVEMENT: SOIL MOVEMENT IS CREATED BY SHEET EROSION, RILL EROSION AND WIND EROSION.

   A. PROBLEM AREAS: SOIL MOVEMENT OCCURS ON SLOPES, EXPOSED AREAS AND TRAVEL AREAS. SHEET AND RILL EROSION ON STEEP, EXPOSED, NON–VEGETATED SLOPES CAN PRODUCE SIGNIFICANT EROSION ESPECIALLY DURING MAJOR RAIN STORMS. WIND EROSION ON ROADS AND SLOPES UNDER CONSTRUCTION CAN PRESENT PROBLEMS DURING DRY PERIODS.
   B. REQUIRED STRATEGY: PROTECTION OF THE SURFACE IS THE MOST EFFECTIVE METHOD OF CONTROLLING SOIL MOVEMENT.
   C. CONTROL MEASURE GROUP: CONTROL MEASURE GROUPS CONSIST OF VEGETATIVE SOIL COVERS, NON–VEGETATIVE SOIL COVERS AND ENVIRONMENTAL ENHANCEMENT.
   D. SPECIFIC CONTROL MEASURE:
      1. PERMANENT VEGETATIVE COVER (PV) IS SPECIFIED AS SOON AS FINAL GRADE OF ANY SLOPE IS REACHED. HYDROSEEDING IS RECOMMENDED.
      2. TOPSOILING (TO) OF THE SAME SLOPES IS ALSO SPECIFIED.
      3. TEMPORARY VEGETATIVE COVER (TV) IS RECOMMENDED ON TOPSOIL STOCKPILES AND SECTIONS OF THE PROJECT THAT ARE DISTURBED FOR PERIODS OF ONE YEAR OR MORE.

2. WATER MOVEMENT: WATER MOVEMENT CAN CREATE GULLY EROSION, CHANNEL AND STREAM EROSION. CONTROLLING WATER MOVEMENT CAN PROTECT ON SITE AND OFF SITE AREAS.

   A. PROBLEM AREAS: PROBLEM AREAS CONSIST OF DRAINAGE WAYS, WATER COURSES, AND STEEP, LONG SLOPES.
   B. REQUIRED STRATEGY: THE STRATEGIES FOR CONTROL OF WATER MOVEMENT INCLUDE DIRECTING RUNOFF, CONVEYING RUNOFF, STABILIZING OUTLETS, INTERCEPTING GROUNDWATER STABILIZING STEEP SLOPES AND WATERCOURSES.
   C. CONTROL MEASURE GROUP: CONTROL MEASURE GROUP CONSISTS OF DIVERSIONS, WATERWAYS, OUTLETS, ENCLOSED DRAINAGE SYSTEMS. AND STABILIZATION STRUCTURES.
   D. SPECIFIC CONTROL MEASURE:
      1. OUTLET PROTECTION (OP) IS REQUIRED AT THE POINT OF DISCHARGE FOR ALL CULVERTS.
      2. RIP RAP (RR) IS PROPOSED FOR THE FINAL STABILIZATION ON THE INLET AND OUTLET OF ALL STORM DRAINAGE PIPES AND CULVERTS.
      3. TEMPORARY OR PERMANENT DIVERSION (DV) TO DIRECT WATER TO DRAINAGE OR OTHER EROSION CONTROLS.

3. SEDIMENT MOVEMENT: SEDIMENT MOVEMENT IS CREATED BY WATER OR WIND FORCES CAUSING SOIL PARTICLES TO MOVE WHICH IN TURN CAN AFFECT OFF SITE AREAS IF NOT PROPERLY CONTAINED.

   A. PROBLEM AREAS: PROBLEM AREAS ARE BOTH SMALL AND LARGE WATERBODIES, TRAVEL AREAS AND BORROW AND STOCKPILE AREAS.
   B. REQUIRED STRATEGY: THE STRATEGIES FOR CONTROLLING SEDIMENT MOVEMENT CONSIST OF TRAPPING SEDIMENT, DETAINING RUNOFF, CONTROLLING SEDIMENT AND FILTERING SEDIMENT.
   C. CONTROL MEASURE GROUP: THE CONTROL MEASURE GROUPS ARE SEDIMENT CONTROL, MUD AND DUST CONTROL SEDIMENT FILTERS AND SEDIMENTATION BASINS.
   D. SPECIFIC CONTROL MEASURES:
      1. DUST CONTROL (DC): DRIVEWAYS AND HAUL ROADS TO BE SPRAYED WITH WATER AS NECESSARY TO CONTROL WIND BORNE PARTICLES DURING DRY WEATHER CONDITIONS. PAVED DRIVEWAYS ARE TO BE SWEPT OF ACCUMULATED SAND AND SILT AS NECESSARY TO PREVENT SEDIMENT MOVEMENT. OTHER DISTURBED AREAS TO BE SPRAYED WITH WATER AND OR MULCHED DURING DRY PERIODS.
      2. CONSTRUCTION ENTRANCE (CE): THE CONSTRUCTION ENTRANCE LOCATION IS THE PROPOSED DRIVEWAY UNLESS OTHERWISE INDICATED ON THE PLAN. THE ENTRANCE SHOULD BE CONSTRUCTED AS SPECIFIED AS ON THE PLANS.
      3. SEDIMENT BARRIERS (ST) AND SILT CURTAIN (SI): THE USE OF SEDIMENT BARRIERS AND SILT CURTAINS ARE SPECIFIED ON THE PLANS AT THE BOTTOM OF ALL PROPOSED SLOPES.
      4. SEDIMENT BASIN (SB): THE SEDIMENT BASIN SHOULD BE CONSTRUCTED AS SPECIFIED ON THE PLANS. MAINTENANCE TO OCCUR AS REQUIRED.

F. MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS:

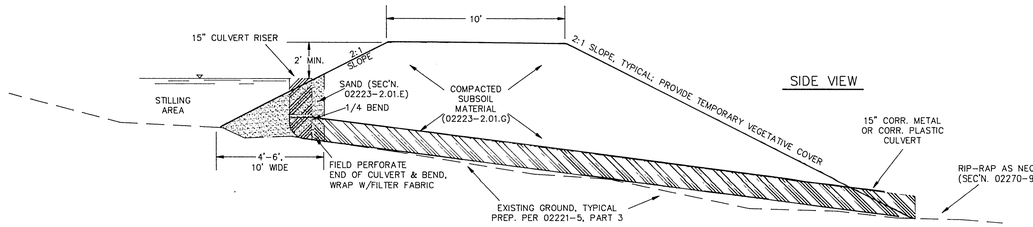
1. ALL EROSION AND SEDIMENTATION CONTROLS TO BE CHECKED WEEKLY AND REPAIRS MADE, IF NECESSARY.
2. PRIOR TO THE TIME OF ANY FORECASTED RAINFALL, ALL EROSION AND SEDIMENTATION CONTROLS TO BE CHECKED AND NECESSARY REPAIRS MADE.
3. ALL SILT TO BE REMOVED FROM EROSION AND SEDIMENTATION CONTROLS AS NECESSARY AND/OR PRIOR TO ANY FORECASTED RAINFALL.
4. CONSTRUCTION ENTRANCE TO BE CLEANED AND OR RECONSTRUCTED AS REQUIRED.
5. ALL REMOVED SILT TO BE PROPERLY DISPOSED OF OUTSIDE OF ROADWAY AREAS. ANY DISPOSED SILT TO BE IMMEDIATELY SEEDED WITH ANNUAL RYE GRASS AND MULCHED.
6. AFTER ALL DISTURBED AREAS ARE STABILIZED AND APPROVAL TO REMOVE EROSION AND SEDIMENTATION CONTROLS HAVE BEEN OBTAINED FROM THE TOWN, THE EROSION AND SEDIMENTATION CONTROLS CAN BE REMOVED. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED.
7. IT IS REQUIRED THAT A FORMAL LOG BE KEPT OF ALL EROSION AND SEDIMENTATION CONTROL INSPECTION INCLUDING THE REMOVAL OF ANY TRAPPED SILT.
8. TEMPORARY CONTROLS TO CONSIST OF SEEDING WITH ANNUAL RYE GRASS. HAY MULCH OR OTHER APPROVED METHODS SHALL BE USED IF SEASON WILL NOT PERMIT GRASS TO GERMINATE.

G. PLANTING SCHEDULE:

1. TYPE OF GRASS SEED TO BE USED SHALL CONFORM TO CHAPTER 6 OF THE "GUIDELINES FOR SOIL EROSION & SEDIMENTATION CONTROL, CONNECTICUT" ("GUIDELINES") FOR EACH TYPE OF CONDITION ENCOUNTERED. TEMPORARY SEEDING SHOULD BE DONE WITHIN TWO (2) DAYS OF GROUND DISTURBANCE.
2. QUANTITY, FERTILIZATION AND METHOD OF INSTALLATION FOR ALL PLANTINGS SHOULD CONFORM TO THE "GUIDELINES".
3. PLANTING DATES SHOULD CONFORM TO "GUIDELINES" FOR TEMPORARY AND PERMANENT GRASS SEEDS AND ALL OTHER PLANTINGS.
4. MAINTENANCE OF ALL SEEDED AND PLANTED AREAS IS TO CONFORM WITH THE REQUIREMENTS OF THE "GUIDELINES".
5. ALL SEEDED AREAS ARE TO BE MAINTAINED AND AREAS WHICH ARE DETERMINED TO NEED ADDITIONAL WORK ARE TO BE REPAIRED AS SOON AS POSSIBLE.
6. DURING THOSE TIMES OF THE YEAR WHEN SEED CANNOT BE PLANTED, ALL DISTURBED AREAS TO BE MULCHED IN ACCORDANCE WITH CHAPTER 7 OF THE "GUIDELINES" AND BE SEEDED AS SOON AS THE SEEDING DATES PERMIT.
7. EVERY EFFORT SHALL BE MADE TO SEED DISTURBED AREAS DURING THE EARLIEST PLANTING PERIOD.

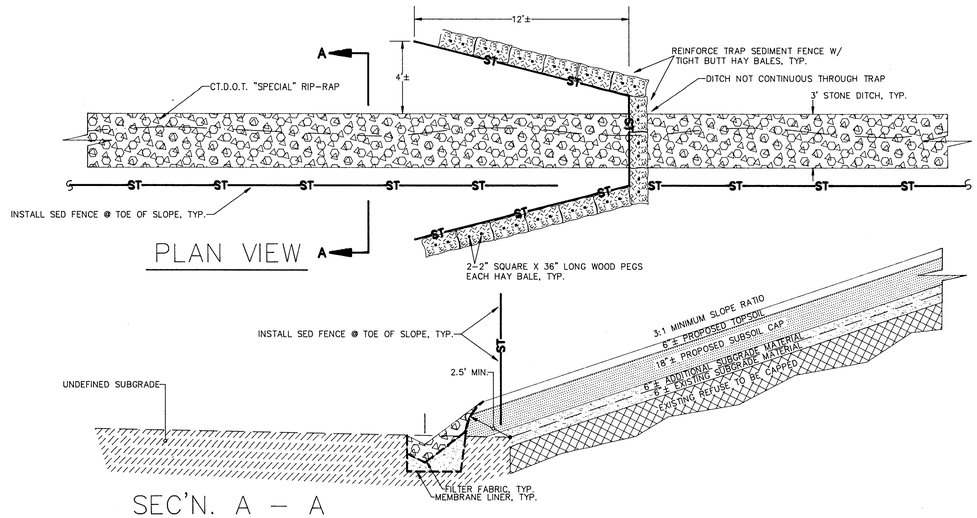
H. PLANS AND CONSTRUCTION DETAILS

THE CONSTRUCTION PLANS AND SPECIFICATIONS CONTAIN INFORMATION, SPECIFICATIONS AND INSTRUCTIONS CRITICAL TO IMPLEMENTATION TO THIS EROSION AND SEDIMENTATION CONTROL PLAN.



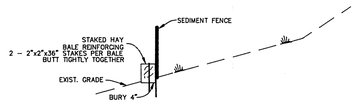
DETAIL "A"
BERM FOR SEDIMENTATION BASIN

1/4" = 1'

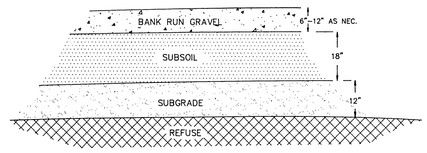


DETAIL "B"
STONE DITCH W/ SEDIMENT TRAP

1/4" = 1'



TYPICAL DETAIL
HAYBALE – SEDIMENT FENCE
N.T.S.



BANK RUN GRAVEL SHALL CONFORM TO CTDOT SPEC'N. M.02.02–1.

NOTE:
–– REFER TO "DETAIL OF CLOSURE CAP COMPOSITION" FOR ADDITIONAL INFO. REGARDING MATERIALS REQUIREMENTS.

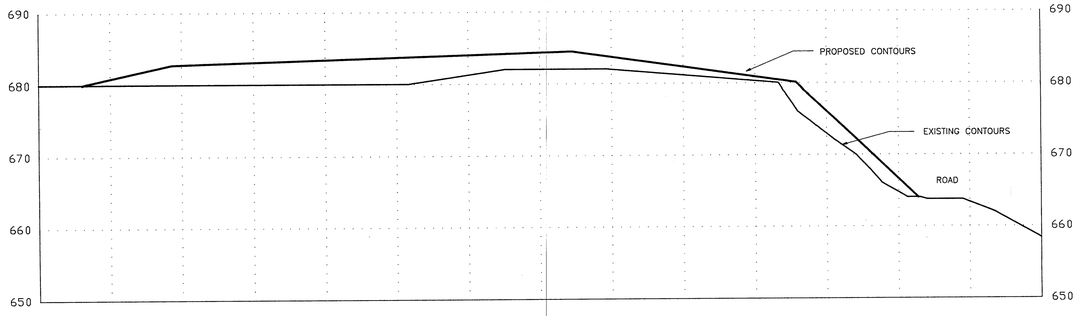
DETAIL – TEMPORARY GRAVEL HAUL ROAD
N.T.S

NOTES & DETAILS
RCRA SUBTITLE D CLOSURE
TORRINGTON LANDFILL
SOUTH MAIN STREET
TORRINGTON , CONNECTICUT

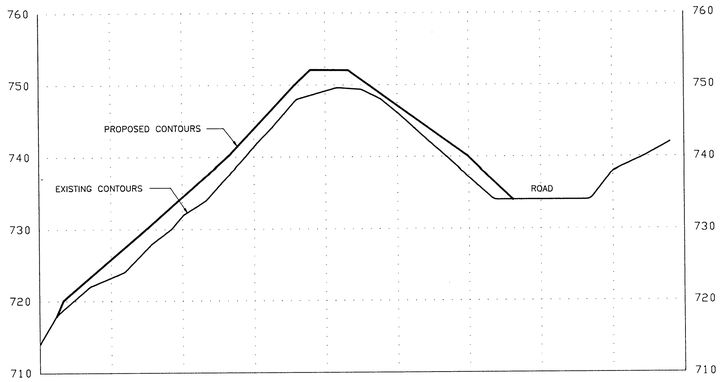
CCA
CARROCCIO–COVILL & ASSOCIATES, INC.
ENGINEERING– SURVEYING– ENVIRONMENTAL
40 Old New Milford Road, Brookfield, CT 06804, (203) 775–6207
West Street, Litchfield, CT 06759, (203) 567–3179

By: MJL	Scale: AS NOTED	Sheet 2 of 3
Date: 1–24–94	Project No. 938001ND	Drawing No. 8001

NOT VALID WITHOUT	Date	Revisions
ORIGINAL SEAL	4–26–94	DETAILS



CROSS SECTION C–C



CROSS SECTION B–B

SCALE:

1"= 10' VERTICAL

0' 10' 20'

1"= 30' HORIZONTAL

0' 30' 60'

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(203) 775-6207

West Street
Litchfield, CT 06759
(203) 567-3179

PROPOSED CROSS SECTIONS

RCRA SUBTITLE D CLOSURE

CITY OF TORRINGTON

SCALE: AS NOTED

DATE: JAN. 1994

JOB #: 6180 93-8001

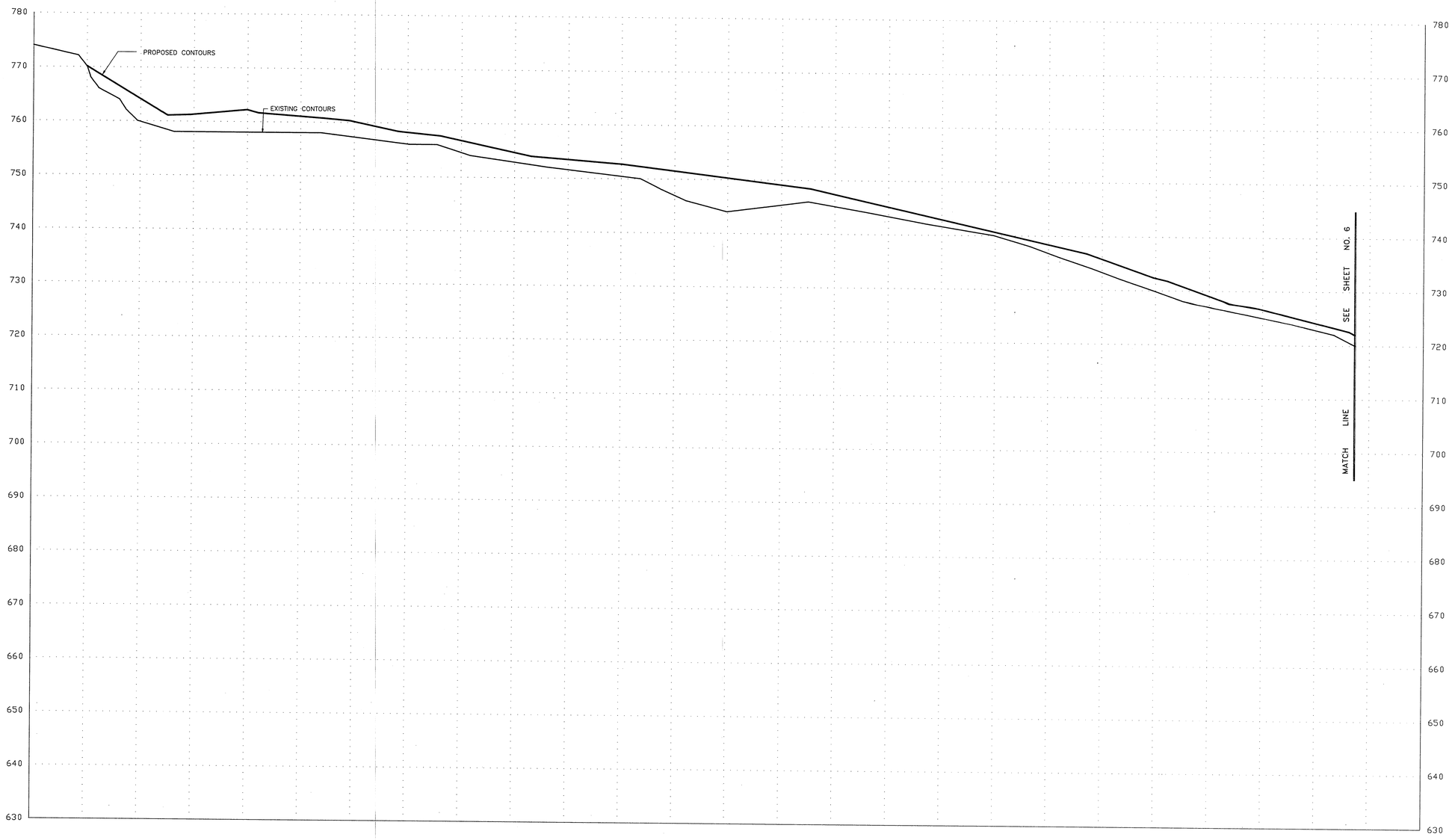
ACAD FILE: TXSEC

DRAWN BY: MFG

COMPUTED BY: PC, RK

APPROVED BY:

DRAWING #: 4



CROSS SECTION A-A

SCALE:
1" = 10' VERTICAL
0' 10' 20'
1" = 30' HORIZONTAL
0' 30' 60'

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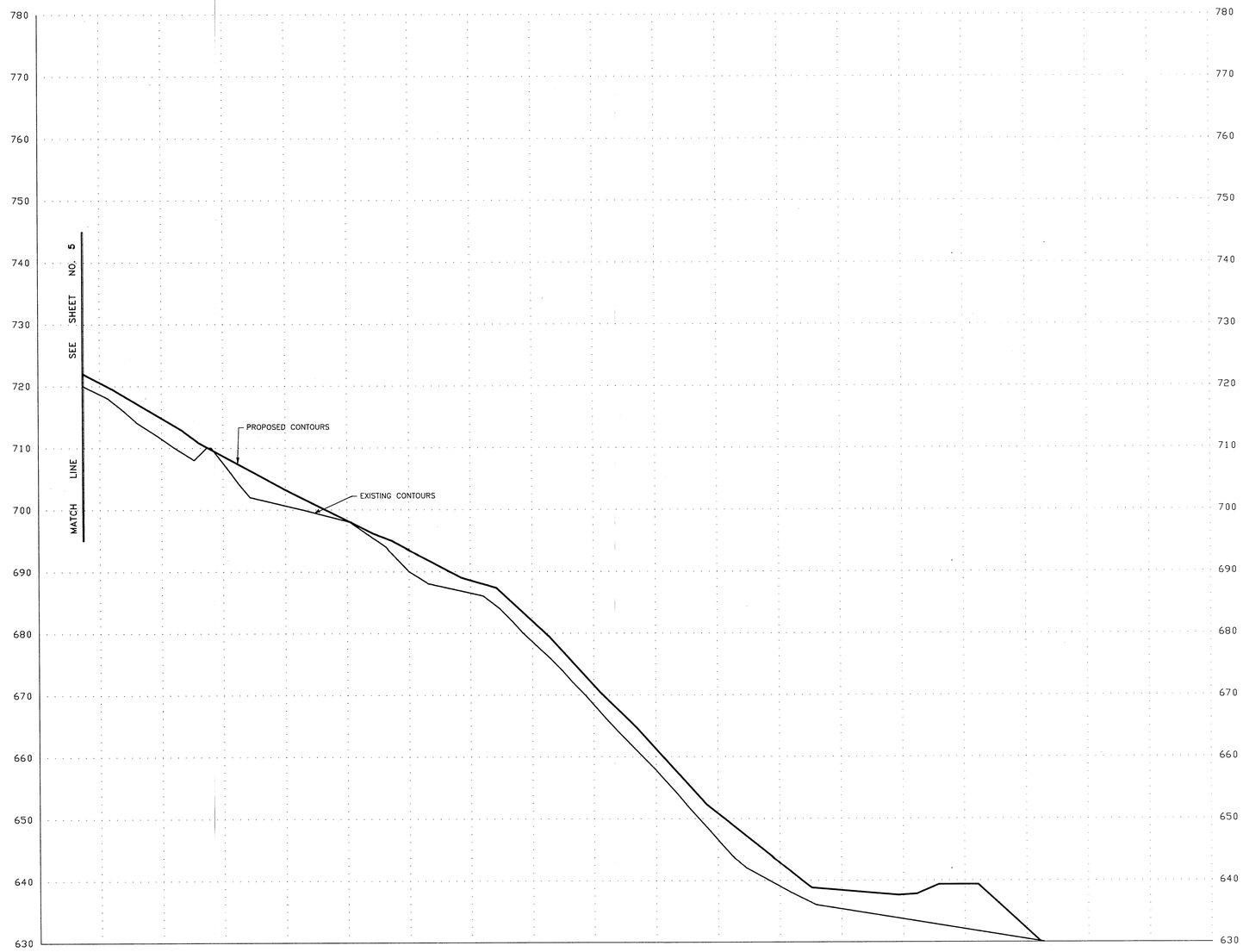
(203) 775-6207
West Street
Litchfield, CT 06759
(203) 567-3179

PROPOSED CROSS SECTIONS
SECTION A-A
RCRA SUBTITLE D CLOSURE
CITY OF TORRINGTON

SCALE: AS NOTED
DATE: JAN. 1994
JOB #: 6180 93-8001
ACAD FILE: TXSECD1

DRAWN BY: MFG
COMPUTED BY: PC, RK
APPROVED BY:
DRAWING #: 5



CROSS SECTION A–A

SCALE:

1" = 10' VERTICAL 0' 10' 20'

1" = 30' HORIZONTAL 0' 30' 60'

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40 Old New Milford Road
Brookfield, CT 06804
(203) 775-6207
West Street
Litchfield, CT 06759
(203) 567-3179

PROPOSED CROSS SECTIONS
SECTION A–A
RCRA SUBTITLE D CLOSURE
CITY OF TORRINGTON

SCALE: AS NOTED
DATE: JAN, 1994

JOB #: 6180 93-8001
ACAD FILE: TXSECD2

DRAWN BY: MFG
COMPUTED BY: PC, RK
APPROVED BY:

DRAWING #: 6

NOTE:

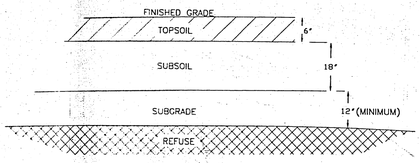
THIS PLAN DESCRIBES REAL PROPERTY IN WHICH MUNICIPAL SOLID WASTES HAVE BEEN DISPOSED AND BURIED IN ACCORDANCE WITH THE REQUIREMENTS OF 40 CFR, PART 258 (RCRA SUBTITLE D) REGULATIONS. ALTHOUGH THE MUNICIPAL SOLID WASTE FACILITY IS NOW CLOSED, PUBLIC HEALTH, ENVIRONMENTAL SAFETY AND REGULATIONS ISSUED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (40 CFR, PART 258.61) AND THE STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION (22a-209-13) REQUIRE THAT POST-CLOSURE USE OF THE PROPERTY SHALL NOT DISTURB THE INTEGRITY OF THE FINAL COVER, LINER(S), OR ANY OTHER COMPONENTS OF THE CONTAINMENT SYSTEM UNLESS IT CAN BE DEMONSTRATED THAT ANY PROPOSED DISTURBANCE WILL NOT INCREASE ANY RISK TO THE PUBLIC OR THE ENVIRONMENT AS DETERMINED BY THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION.

FOR A FURTHER DESCRIPTION OF THE FACILITY AND OTHER SITE INFORMATION REFERENCE IS MADE TO "ENGINEERING REPORT ON RCRA SUBTITLE D CLOSURE OF MUNICIPAL SOLID WASTE LANDFILL, CITY OF TORRINGTON, TORRINGTON, CONNECTICUT", DATED MARCH 1995 AND PREPARED BY CARROCCIO-COVILL & ASSOCIATES, INC. (CCA), BROOKFIELD, CT

TOPSOIL Earthen layer hydroseeded and fertilized to provide vegetated layer for erosion control.

SUBSOIL Low permeability layer compacted to a permeability rate of 10^{-5} cm/sec or less.

SUBGRADE LAYER On-site stockpiled soil placed and shaped to meet required final grading and provide structural stability for final cover system.



TYPICAL COVER CROSS SECTION DETAIL

N.T.S

DRAWING 2
AS-BUILT CONTOURS
RCRA SUBTITLE D CLOSURE
TORRINGTON LANDFILL
SOUTH MAIN STREET
TORRINGTON , CONNECTICUT

COUNTOUR
GRAB10
GR.AB100

I HEREBY DECLARE THAT THIS MAP IS SUBSTANTIALLY CORRECT. THIS MAP AND SURVEY WERE PREPARED IN ACCORDANCE WITH THE STANDARDS OF A CLASS A-2 SURVEY AS DEFINED IN THE CODE OF PRACTICE FOR STANDARDS OF ACCURACY OF SURVEYS AND MAPS IN THE STATE OF CONNECTICUT, ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, AND APPROVED BY THE CONNECTICUT STATE BOARD OF EXAMINERS FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS.

CCA
CARROCCIO-COVILL & ASSOCIATES, INC.
ENGINEERING-SURVEYING-ENVIRONMENTAL
40 Old New Milford Road, Brookfield, CT 06804, (203) 775-6207
West Street, Litchfield, CT 06759, (203) 567-3179

By: SRL/RK	Scale: 1"=60'	Sheet 2 of 3
Date: 1/4/95	Project No.838001A	Drawing No. 8001

NOT VALID WITHOUT ORIGINAL SEAL

Date	Revisions
10/17/95	DRAINAGE IMPROVEMENTS

Attachment C: Stormwater Calculations

USS Torrington Solar Project
Land Use Summary

PROJECT NO.: 490953
CALC. BY: A.DAVIDSON
CHECKED BY: C.STOPPER
DATE: 10/18/2023

PRE- AND POST-DEVELOPMENT LAND USE COMPARISON TABLE

Subcatchment ID: 1S & 2S Subcatchment Area: 29.393 Ac.

PRE-DEVELOPMENT CONDITIONS			*POST-DEVELOPMENT CONDITIONS*			
Cover Description	***CN***	***Area (Ac.)***	***Cover Description***	***CN***	***Area (Ac.)***	***NET CHANGE (Ac.)***
Pavement, Concrete Pads & Ballasts	98	0.730	Pavement, Concrete Pads & Ballasts	98	1.094	0.364
Compacted Gravel	96	0.585	Compacted Gravel	96	0.531	-0.053
Newly Graded Area (HSG D)	94	2.197	Newly Graded Area (HSG D)	94	1.430	-0.767
Grass cover, Good (HSG D)	80	17.455	Grass cover, Good (HSG D)	80	17.912	0.457
Woods, Good (HSG B)	55	5.321	Woods, Good (HSG B)	55	5.244	-0.078
Woods, Good (HSG C)	70	0.815	Woods, Good (HSG C)	70	0.815	0.000
Woods, Good (HSG D)	77	2.291	Woods, Good (HSG D)	77	2.291	0.000
Brush, Fair (HSG B)	56	0.000	Brush, Fair (HSG B)	56	0.078	0.078
						0.000
						0.000
						0.000
						0.000
Total:	**76.8**	**29.393**	**Total:**	**76.6**	**29.393**	

Notes:

1. The area identified by NRCS soil survey map unit 302 (Dumps) is modeled with HSG D as this is representative of the landfill's impermeable soil cover material.
2. The vegetated landfill cover is modeled as grass in good condition.
3. As demonstrated in the SWPCP, the General Permit, Appendix I standards have been met so the solar panels are not considered impervious area.
4. The General Permit, Appendix I, Section II(3)(c) requires CN increase for post-development to account for compaction of soils during construction. The Project Area is located on HSG D soils so no further adjustments are made.

USS Torrington Solar Project
Land Use Summary

PROJECT NO.: 490953
CALC. BY: A.DAVIDSON
CHECKED BY: C.STOPPER
DATE: 10/18/2023

PRE- AND POST-DEVELOPMENT LAND USE COMPARISON TABLE

Subcatchment ID: 1S Subcatchment Area: 24.924 Ac.

PRE-DEVELOPMENT CONDITIONS			*POST-DEVELOPMENT CONDITIONS*			
Cover Description	*CN*	*Area (Ac.)*	*Cover Description*	*CN*	*Area (Ac.)*	*NET CHANGE (Ac.)*
Pavement, Concrete Pads & Ballasts	98	0.730	Pavement, Concrete Pads & Ballasts	98	1.049	0.319
Compacted Gravel	96	0.585	Compacted Gravel	96	0.531	-0.053
Newly Graded Area (HSG D)	94	1.810	Newly Graded Area (HSG D)	94	1.105	-0.704
Grass cover, Good (HSG D)	80	14.038	Grass cover, Good (HSG D)	80	14.476	0.438
Woods, Good (HSG B)	55	5.321	Woods, Good (HSG B)	55	5.244	-0.078
Woods, Good (HSG C)	70	0.815	Woods, Good (HSG C)	70	0.815	0.000
Woods, Good (HSG D)	77	1.626	Woods, Good (HSG D)	77	1.626	0.000
Brush, Fair (HSG B)	56	0.000	Brush, Fair (HSG B)	56	0.078	0.078
						0.000
						0.000
						0.000
						0.000
Total:	**76.1**	**24.924**	**Total:**	**75.9**	**24.924**	

Notes:

1. The area identified by NRCS soil survey map unit 302 (Dumps) is modeled with HSG D as this is representative of the landfill's impermeable soil cover material.
2. The vegetated landfill cover is modeled as grass in good condition.
3. As demonstrated in the SWPCP, the General Permit, Appendix I standards have been met so the solar panels are not considered impervious area.
4. The General Permit, Appendix I, Section II(3)(c) requires CN increase for post-development to account for compaction of soils during construction. The Project Area is located on HSG D soils so no further adjustments are made.

USS Torrington Solar Project
Land Use Summary

PROJECT NO.: 490953
CALC. BY: A.DAVIDSON
CHECKED BY: C.STOPPER
DATE: 10/18/2023

PRE- AND POST-DEVELOPMENT LAND USE COMPARISON TABLE

Subcatchment ID: 2S Subcatchment Area: 4.470 Ac.

PRE-DEVELOPMENT CONDITIONS			*POST-DEVELOPMENT CONDITIONS*			
Cover Description	*CN*	*Area (Ac.)*	*Cover Description*	*CN*	*Area (Ac.)*	*NET CHANGE (Ac.)*
Pavement, Concrete Pads & Ballasts	98	0.000	Pavement, Concrete Pads & Ballasts	98	0.045	0.045
Compacted Gravel	96	0.000	Compacted Gravel	96	0.000	0.000
Newly Graded Area (HSG D)	94	0.388	Newly Graded Area (HSG D)	94	0.325	-0.063
Grass cover, Good (HSG D)	80	3.417	Grass cover, Good (HSG D)	80	3.435	0.018
Woods, Good (HSG B)	55	0.000	Woods, Good (HSG B)	55	0.000	0.000
Woods, Good (HSG C)	70	0.000	Woods, Good (HSG C)	70	0.000	0.000
Woods, Good (HSG D)	77	0.665	Woods, Good (HSG D)	77	0.665	0.000
Brush, Fair (HSG B)	56	0.000	Brush, Fair (HSG B)	56	0.000	0.000
						0.000
						0.000
						0.000
						0.000
Total:	**80.8**	**4.470**	**Total:**	**80.8**	**4.470**	

Notes:

1. The area identified by NRCS soil survey map unit 302 (Dumps) is modeled with HSG D as this is representative of the landfill's impermeable soil cover material.
2. The vegetated landfill cover is modeled as grass in good condition.
3. As demonstrated in the SWPCP, the General Permit, Appendix I standards have been met so the solar panels are not considered impervious area.
4. The General Permit, Appendix I, Section II(3)(c) requires CN increase for post-development to account for compaction of soils during construction. The Project Area is located on HSG D soils so no further adjustments are made.

Description: This worksheet provides the equations and constants used to determine the time of concentrations calculated in the subsequent worksheets using the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service (SCS)) velocity method.

Time of Concentration Equations:

1. Where	$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}}$	from NRCS TR-55 where P_2 = 2-Year, 24 Hour Rainfall (in)	For Sheet Flow (300 feet or less, typically no more than 100 feet) (NOAA Atlas 14 precipitation data: P2= 3.53 inches)
2. Where	$T_t = \frac{\ell}{3{,}600V}$	from the SCS Upland Method *Channel Flow Chart*	Travel time equation
3. Where	$V = 20.328(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Shallow Concentrated Flow - Paved surfaces *(not used per CT General Permit standards)*
4. Where	$V = 16.1345(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Shallow Concentrated Flow - Unpaved surfaces and grassed waterways *(not used per CT General Permit standards)*
5. Where	$V = 6.962(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Shallow Concentrated Flow - Short-grass pasture
6. Where	$V = 5.032(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Shallow Concentrated Flow - Woodlands
7. Where	$V = 12(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Channel Flow - Waterways and swamps, no channels
8. Where	$V = 15(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Channel Flow - Grassed waterways and roadside ditches
9. Where	$V = 21(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Channel Flow - Small tributary & swamp w/ channels
10. Where	$V = 35(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Channel Flow - Large tributary
11. Where	$V = 60(s)^{0.5}$	from the SCS Upland Method *Channel Flow Chart*	For Channel Flow - Main river
12. Where	$V = \frac{1.49 r^{\frac{2}{3}} s^{\frac{1}{2}}}{n}$		For Channel Flow - Culvert flow

Manning's Roughness Coefficients for Sheet Flow

Surface Description	n - value
Smooth surface	0.011
Crushed stone/Substation yard	0.025
Fallow	0.050
Cultivated: Residue<=20%	0.060
Cultivated: Residue>20%	0.170
Grass: Short	0.150
Grass: Dense	0.240
Grass: Bermuda	0.410
Range	0.130
Woods: Light underbrush	0.400
Woods: Dense underbrush	0.800

Subcatchment ID: Pre-Development 1S

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6	Seg 7	Seg 8	
SHEET FLOW									
Manning's No.	0.400								
Length, ft	100								
$P_{2,}$ in	3.53								
Slope, ft/ft	0.024								
T_t[1], hr	0.317								0.3168
SHALLOW CONCENTRATED FLOW									
Paved *(Not used per CT General Permit standards)*									
Length, ft									
Slope, ft/ft									
Velocity[3], ft/sec									
T_t[2], hr									0.0000
Unpaved Surfaces & Grassed Waterways *(Not used per CT General Permit standards)*									
Length, ft									
Slope, ft/ft									
Velocity[4], ft/sec									
T_t[2], hr									0.0000
Short-Grass Pasture									
Length, ft									
Slope, ft/ft									
Velocity[5], ft/sec									
T_t[2], hr									0.0000
Woodland									
Length, ft		342							
Slope, ft/ft		0.102							
Velocity[6], ft/sec		1.6052							
T_t[2], hr		0.059							0.0592
CHANNEL FLOW									
Waterways & Swamps, No Channels									
Length, ft									
Slope, ft/ft									
Velocity[7], ft/sec									
T_t[2], hr									0.0000
Grassed Waterways/Roadside Ditches									
Length, ft									
Slope, ft/ft									
Velocity[8], ft/sec									
T_t[2], hr									0.0000
Small Tributary & Swamp w/Channels									
Length, ft			1605		139				
Slope, ft/ft			0.055		0.047				
Velocity[9], ft/sec			4.920		4.541				
T_t[2], hr			0.091		0.009				0.0991
Large Tributary									
Length, ft									
Slope, ft/ft									
Velocity[10], ft/sec									
T_t[2], hr									0.0000
Main River									
Length, ft									
Slope, ft/ft									
Velocity[11], ft/sec									
T_t[2], hr									0.0000
Culvert									
Diameter, ft				3					
Area, ft^2				7.065					
Wetted Perimeter, ft				9.42					
Hydraulic Radius, R, ft				0.75					
Slope, ft/ft				0.046					
Manning's No.				0.013					
Velocity[12], ft/sec				20.24644398					
Length, L, ft				262					
T_t[2], hr				0.00359					0.0036

Time of Concentration, T_c, hr:	0.479
Time of Concentration, T_c, min:	**28.72**

Notes:

1. Manning's roughness coefficient for RCP determined from engineeringtoolbox.com

Subcatchment ID: Pre-Development 2S

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6	Seg 7	Seg 8	
SHEET FLOW									
Manning's No.	0.150								
Length, ft	100								
$P_{2,}$ in	3.53								
Slope, ft/ft	0.046								
T_t[1], hr	0.111								0.1114
SHALLOW CONCENTRATED FLOW									
Paved *(Not used per CT General Permit standards)*									
Length, ft									
Slope, ft/ft									
Velocity[3], ft/sec									
T_t[2], hr									0.0000
Unpaved Surfaces & Grassed Waterways *(Not used per CT General Permit standards)*									
Length, ft									
Slope, ft/ft									
Velocity[4], ft/sec									
T_t[2], hr									0.0000
Short-Grass Pasture									
Length, ft		259							
Slope, ft/ft		0.083							
Velocity[5], ft/sec		2.0059							
T_t[2], hr		0.036							0.0359
Woodland									
Length, ft			369						
Slope, ft/ft			0.188						
Velocity[6], ft/sec			2.1838						
T_t[2], hr			0.047						0.0469
CHANNEL FLOW									
Waterways & Swamps, No Channels									
Length, ft									
Slope, ft/ft									
Velocity[7], ft/sec									
T_t[2], hr									0.0000
Grassed Waterways/Roadside Ditches									
Length, ft									
Slope, ft/ft									
Velocity[8], ft/sec									
T_t[2], hr									0.0000
Small Tributary & Swamp w/Channels									
Length, ft									
Slope, ft/ft									
Velocity[9], ft/sec									
T_t[2], hr									0.0000
Large Tributary									
Length, ft									
Slope, ft/ft									
Velocity[10], ft/sec									
T_t[2], hr									0.0000
Main River									
Length, ft									
Slope, ft/ft									
Velocity[11], ft/sec									
T_t[2], hr									0.0000
Culvert									
Diameter, ft									
Area, ft^2									
Wetted Perimeter, ft									
Hydraulic Radius, R, ft									
Slope, ft/ft									
Manning's No.									
Velocity[12], ft/sec									
Length, L, ft									
T_t[2], hr									0.0000

Time of Concentration, T_c, hr:	0.194
Time of Concentration, T_c, min:	**11.65**

Notes:

Subcatchment ID: Post-Development 1S

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6	Seg 7	Seg 8	
SHEET FLOW									
Manning's No.	0.400								
Length, ft	100								
$P_{2,}$ in	3.53								
Slope, ft/ft	0.024								
T_t[1], hr	0.317								0.3168
SHALLOW CONCENTRATED FLOW									
Paved *(Not used per CT General Permit standards)*									
Length, ft									
Slope, ft/ft									
Velocity[3], ft/sec									
T_t[2], hr									0.0000
Unpaved Surfaces & Grassed Waterways *(Not used per CT General Permit standards)*									
Length, ft									
Slope, ft/ft									
Velocity[4], ft/sec									
T_t[2], hr									0.0000
Short-Grass Pasture									
Length, ft									
Slope, ft/ft									
Velocity[5], ft/sec									
T_t[2], hr									0.0000
Woodland									
Length, ft		342							
Slope, ft/ft		0.102							
Velocity[6], ft/sec		1.6052							
T_t[2], hr		0.059							0.0592
CHANNEL FLOW									
Waterways & Swamps, No Channels									
Length, ft									
Slope, ft/ft									
Velocity[7], ft/sec									
T_t[2], hr									0.0000
Grassed Waterways/Roadside Ditches									
Length, ft									
Slope, ft/ft									
Velocity[8], ft/sec									
T_t[2], hr									0.0000
Small Tributary & Swamp w/Channels									
Length, ft			1605		139				
Slope, ft/ft			0.055		0.047				
Velocity[9], ft/sec			4.920		4.541				
T_t[2], hr			0.091		0.009				0.0991
Large Tributary									
Length, ft									
Slope, ft/ft									
Velocity[10], ft/sec									
T_t[2], hr									0.0000
Main River									
Length, ft									
Slope, ft/ft									
Velocity[11], ft/sec									
T_t[2], hr									0.0000
Culvert									
Diameter, ft				3					
Area, ft^2				7.065					
Wetted Perimeter, ft				9.42					
Hydraulic Radius, R, ft				0.75					
Slope, ft/ft				0.046					
Manning's No.				0.013					
Velocity[12], ft/sec				20.24644398					
Length, L, ft				262					
T_t[2], hr				0.00359					0.0036

Time of Concentration, T_c, hr:	0.479
Time of Concentration, T_c, min:	**28.72**

Notes:

1. Manning's roughness coefficient for RCP determined from engineeringtoolbox.com

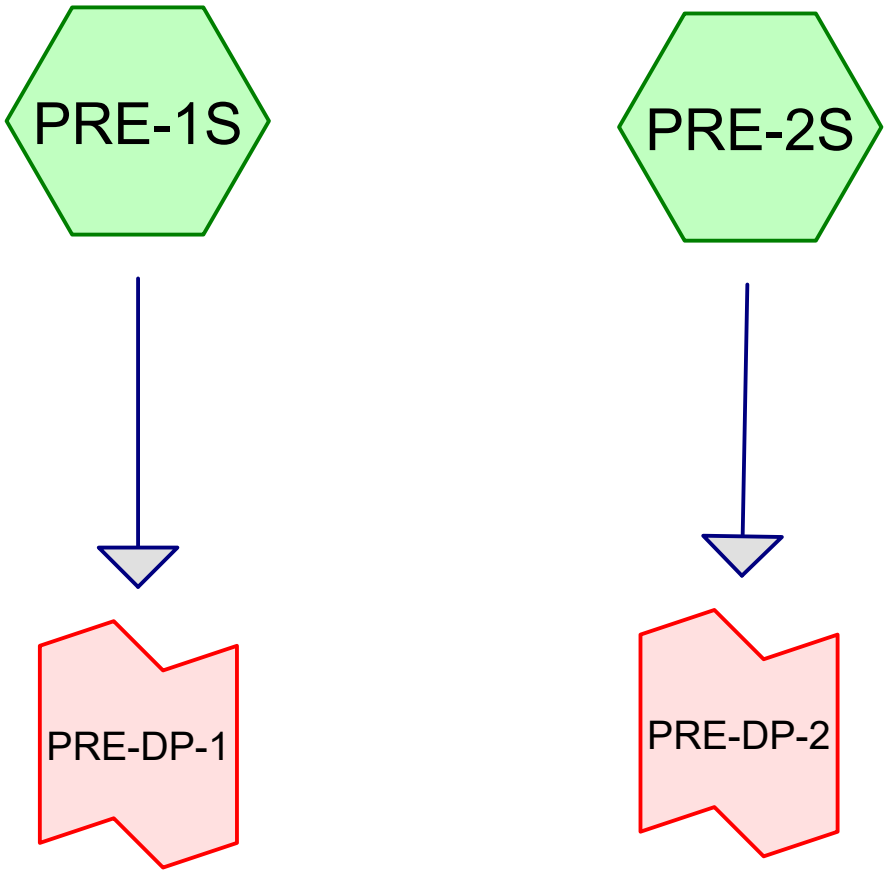
Subcatchment ID: Post-Development 2S

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Seg 6	Seg 7	Seg 8	
SHEET FLOW									
Manning's No.	0.150								
Length, ft	100								
$P_{2,}$ in	3.53								
Slope, ft/ft	0.046								
T_t[1], hr	0.111								0.1114
SHALLOW CONCENTRATED FLOW									
Paved *(Not used per CT General Permit standards)*									
Length, ft									
Slope, ft/ft									
Velocity[3], ft/sec									
T_t[2], hr									0.0000
Unpaved Surfaces & Grassed Waterways *(Not used per CT General Permit standards)*									
Length, ft									
Slope, ft/ft									
Velocity[4], ft/sec									
T_t[2], hr									0.0000
Short-Grass Pasture									
Length, ft		259							
Slope, ft/ft		0.083							
Velocity[5], ft/sec		2.0059							
T_t[2], hr		0.036							0.0359
Woodland									
Length, ft			369						
Slope, ft/ft			0.188						
Velocity[6], ft/sec			2.1838						
T_t[2], hr			0.047						0.0469
CHANNEL FLOW									
Waterways & Swamps, No Channels									
Length, ft									
Slope, ft/ft									
Velocity[7], ft/sec									
T_t[2], hr									0.0000
Grassed Waterways/Roadside Ditches									
Length, ft									
Slope, ft/ft									
Velocity[8], ft/sec									
T_t[2], hr									0.0000
Small Tributary & Swamp w/Channels									
Length, ft									
Slope, ft/ft									
Velocity[9], ft/sec									
T_t[2], hr									0.0000
Large Tributary									
Length, ft									
Slope, ft/ft									
Velocity[10], ft/sec									
T_t[2], hr									0.0000
Main River									
Length, ft									
Slope, ft/ft									
Velocity[11], ft/sec									
T_t[2], hr									0.0000
Culvert									
Diameter, ft									
Area, ft^2									
Wetted Perimeter, ft									
Hydraulic Radius, R, ft									
Slope, ft/ft									
Manning's No.									
Velocity[12], ft/sec									
Length, L, ft									
T_t[2], hr									0.0000

Time of Concentration, T_c, hr:	0.194
Time of Concentration, T_c, min:	**11.65**

Notes:

PRE-DEVELOPMENT



Subcat Reach Pond Link

Routing Diagram for Torrington - Stormwater Model
Prepared by TRC, Printed 10/18/2023

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-year	NOAA 24-hr	D	Default	24.00	1	3.53	2
2	10-year	NOAA 24-hr	D	Default	24.00	1	5.71	2
3	25-year	NOAA 24-hr	D	Default	24.00	1	7.07	2
4	50-year	NOAA 24-hr	D	Default	24.00	1	8.06	2
5	100-year	NOAA 24-hr	D	Default	24.00	1	9.17	2

Summary for Subcatchment PRE-1S:

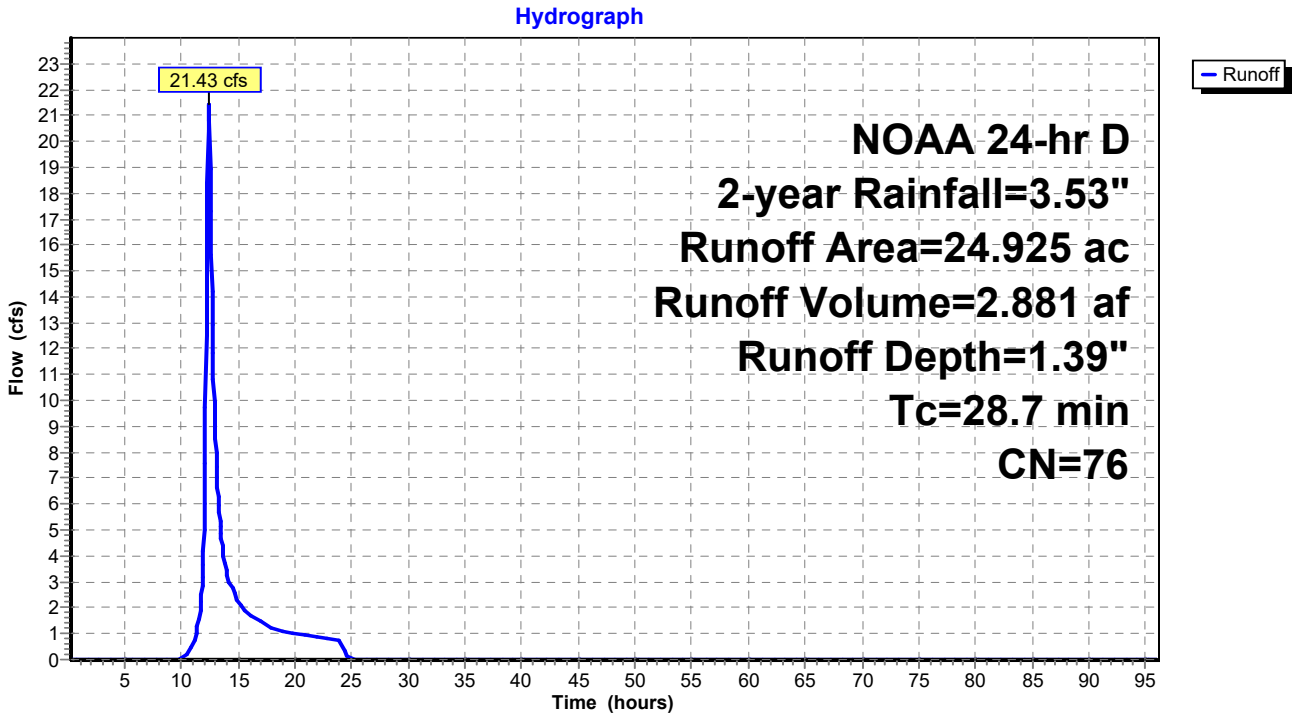
Runoff = 21.43 cfs @ 12.42 hrs, Volume= 2.881 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-year Rainfall=3.53"

	Area (ac)	CN	Description
*	0.730	98	Pavement, Concrete Pads & Ballasts
*	0.585	96	Compacted Gravel
	1.810	94	Newly graded area, HSG D
	14.038	80	>75% Grass cover, Good, HSG D
	5.321	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	24.925	76	Weighted Average
	24.195		97.07% Pervious Area
	0.730		2.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-1S:



Summary for Subcatchment PRE-2S:

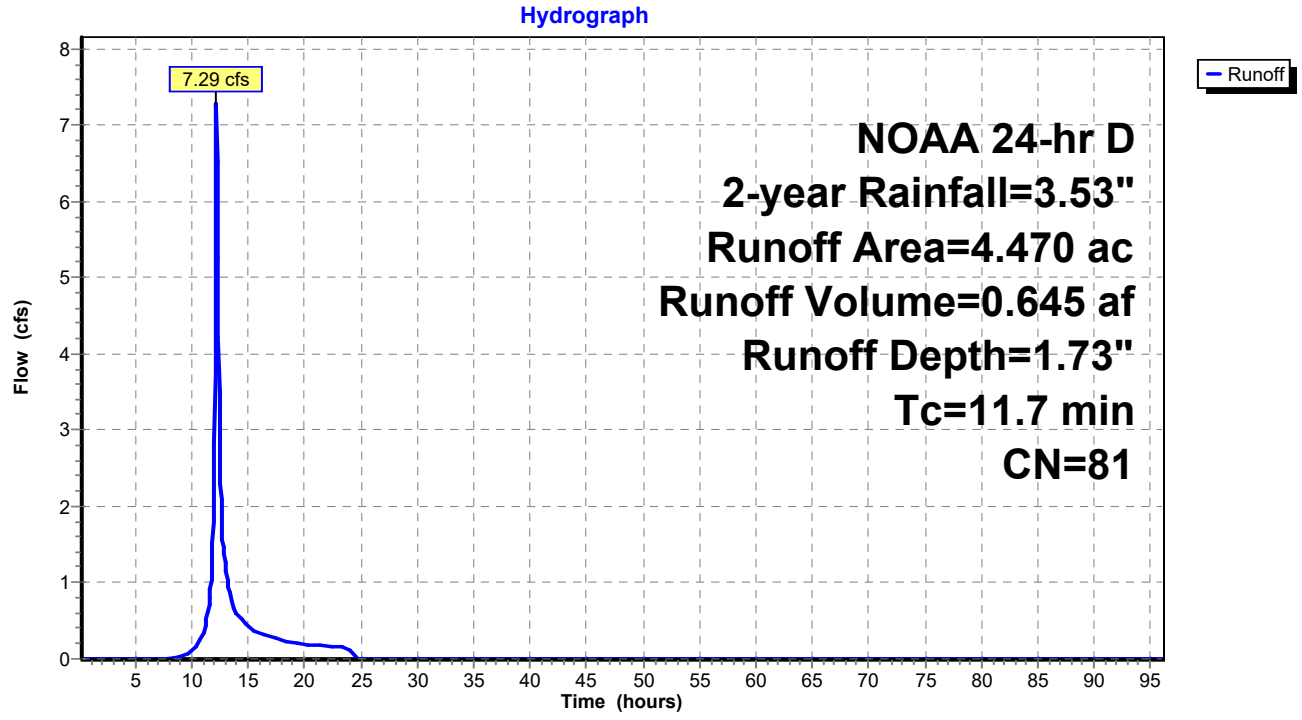
Runoff = 7.29 cfs @ 12.20 hrs, Volume= 0.645 af, Depth= 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-year Rainfall=3.53"

	Area (ac)	CN	Description
*	0.000	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.388	94	Newly graded area, HSG D
	3.417	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.470		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-2S:

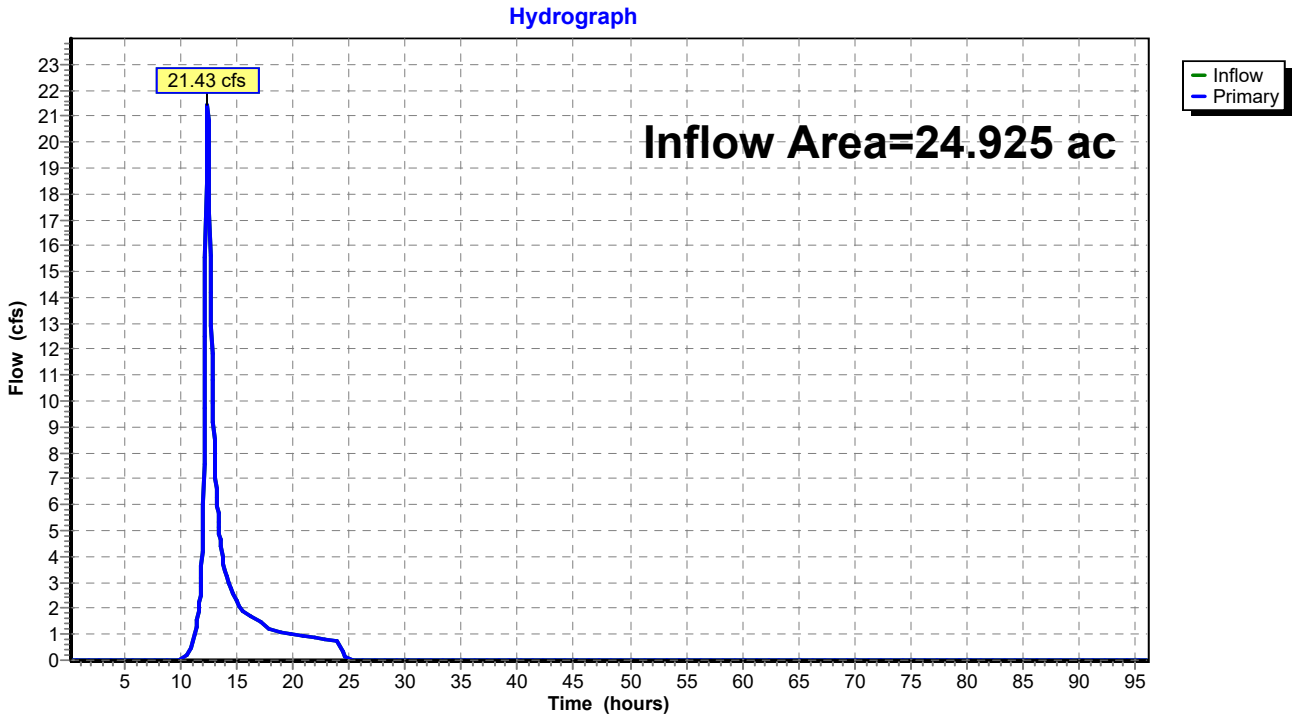


Summary for Link PRE-DP-1: Analysis Point

Inflow Area = 24.925 ac, 2.93% Impervious, Inflow Depth = 1.39" for 2-year event
Inflow = 21.43 cfs @ 12.42 hrs, Volume= 2.881 af
Primary = 21.43 cfs @ 12.42 hrs, Volume= 2.881 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-1: Analysis Point

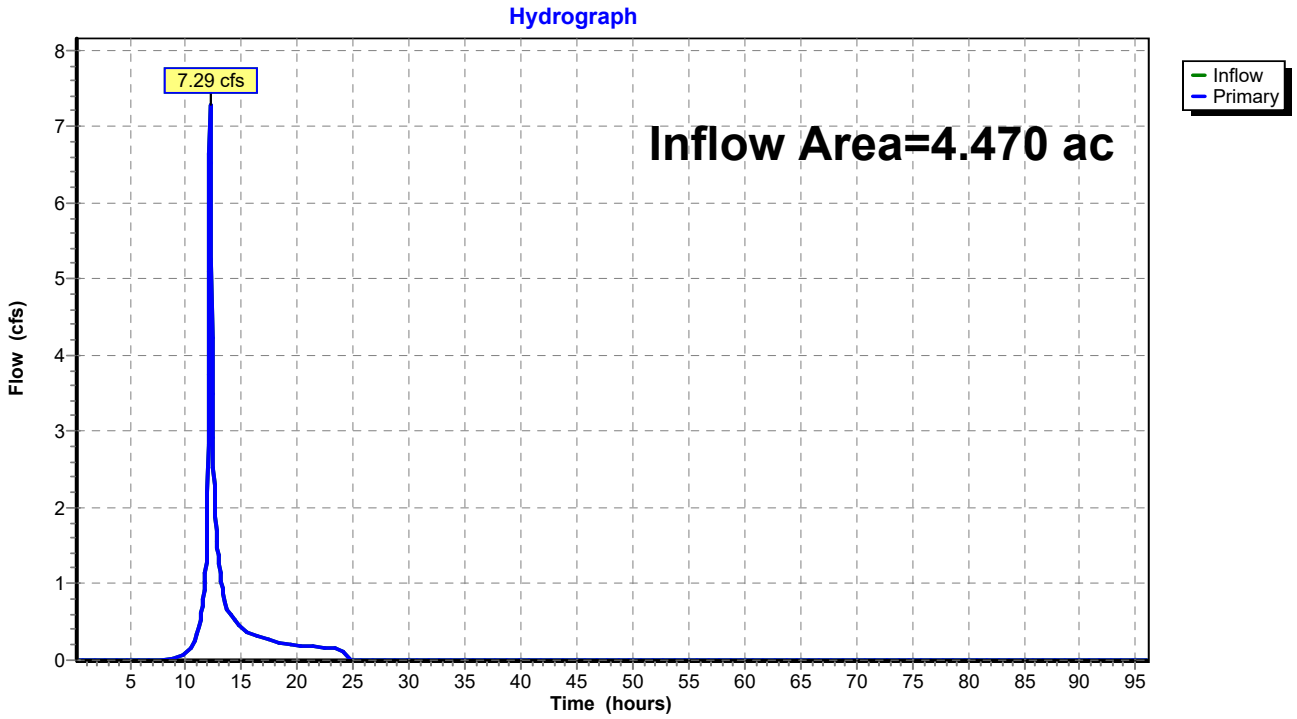


Summary for Link PRE-DP-2: Analysis Point

Inflow Area = 4.470 ac, 0.00% Impervious, Inflow Depth = 1.73" for 2-year event
Inflow = 7.29 cfs @ 12.20 hrs, Volume= 0.645 af
Primary = 7.29 cfs @ 12.20 hrs, Volume= 0.645 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-2: Analysis Point



Summary for Subcatchment PRE-1S:

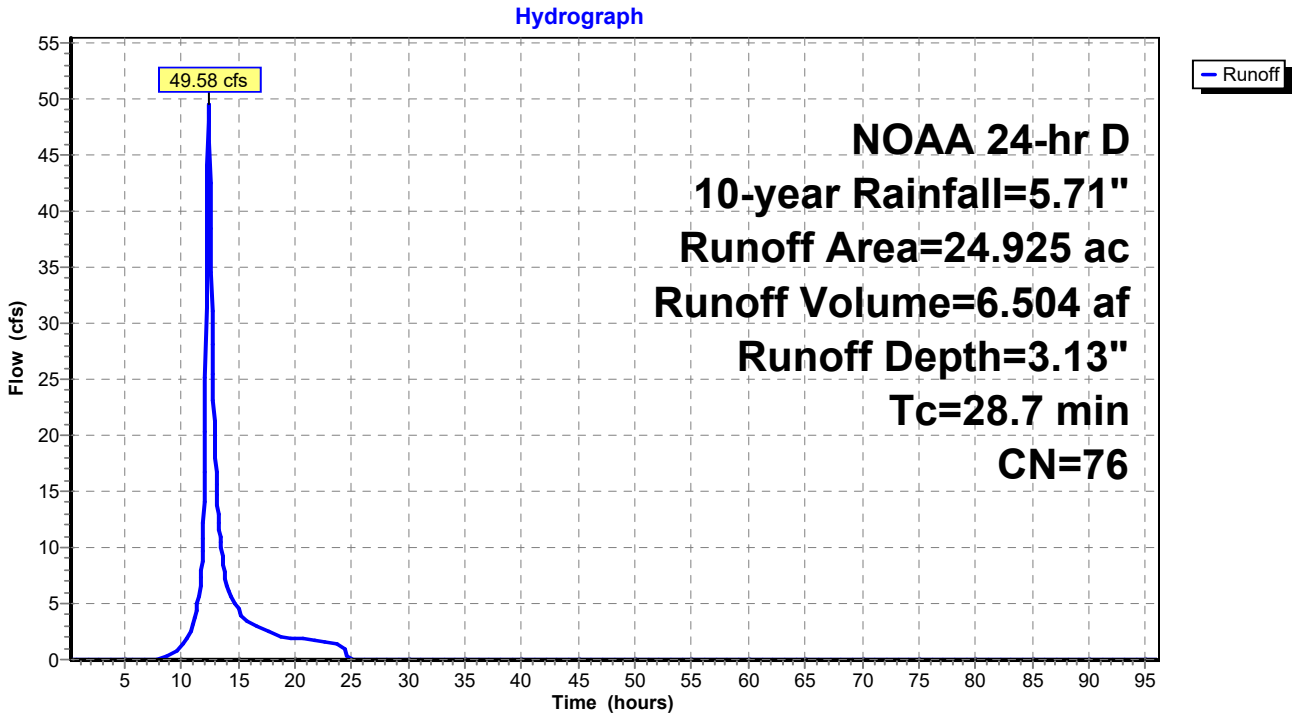
Runoff = 49.58 cfs @ 12.41 hrs, Volume= 6.504 af, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-year Rainfall=5.71"

	Area (ac)	CN	Description
*	0.730	98	Pavement, Concrete Pads & Ballasts
*	0.585	96	Compacted Gravel
	1.810	94	Newly graded area, HSG D
	14.038	80	>75% Grass cover, Good, HSG D
	5.321	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	24.925	76	Weighted Average
	24.195		97.07% Pervious Area
	0.730		2.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-1S:



Summary for Subcatchment PRE-2S:

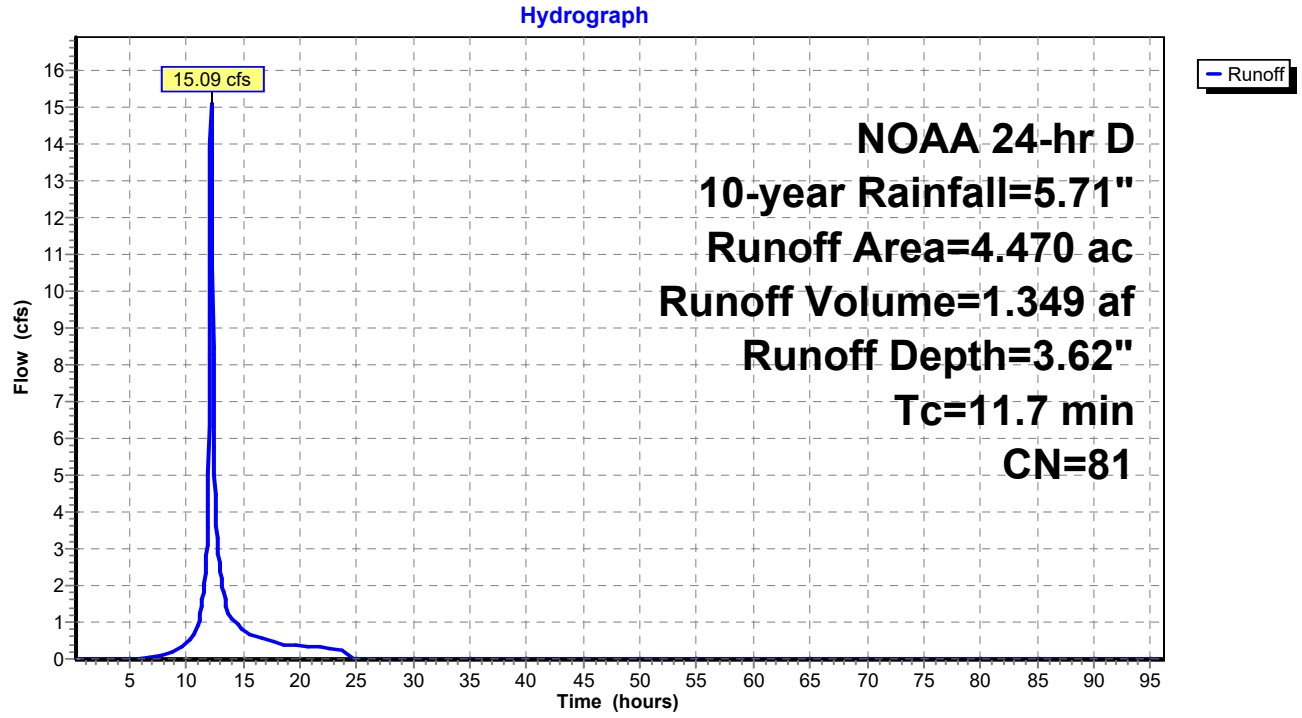
Runoff = 15.09 cfs @ 12.19 hrs, Volume= 1.349 af, Depth= 3.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-year Rainfall=5.71"

	Area (ac)	CN	Description
*	0.000	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.388	94	Newly graded area, HSG D
	3.417	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.470		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-2S:

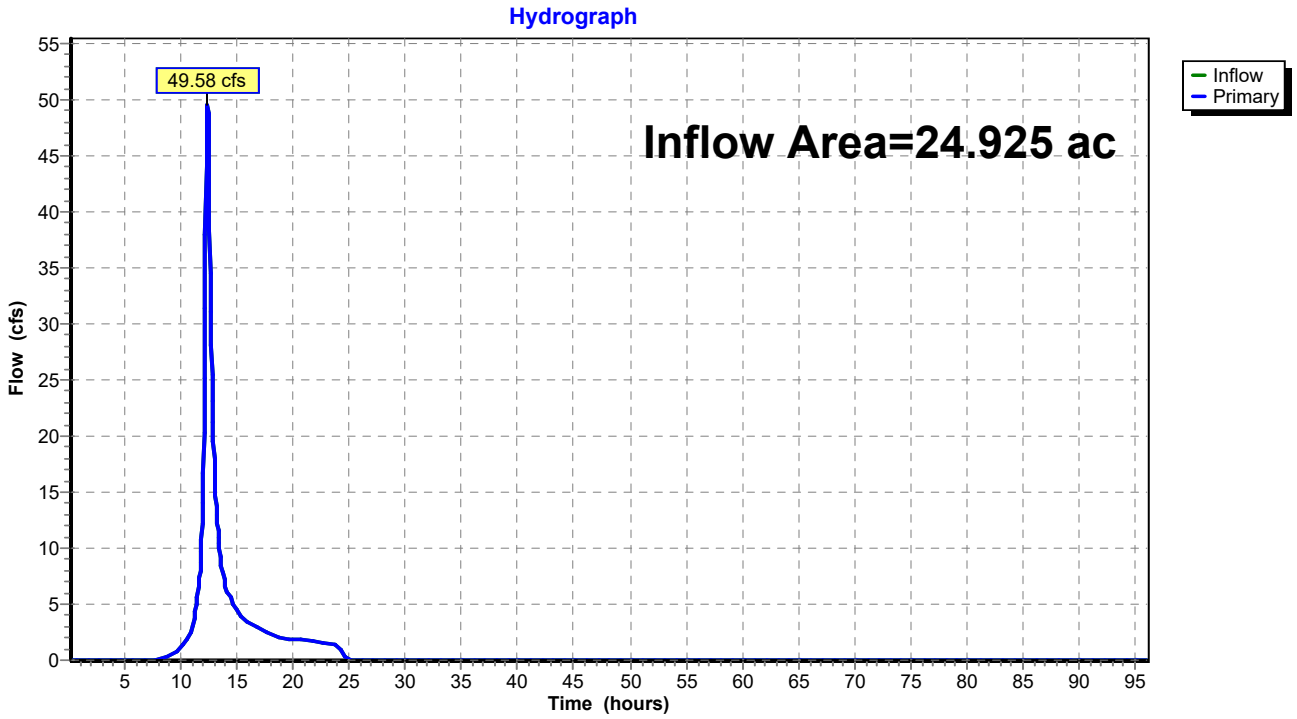


Summary for Link PRE-DP-1: Analysis Point

Inflow Area = 24.925 ac, 2.93% Impervious, Inflow Depth = 3.13" for 10-year event
Inflow = 49.58 cfs @ 12.41 hrs, Volume= 6.504 af
Primary = 49.58 cfs @ 12.41 hrs, Volume= 6.504 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-1: Analysis Point

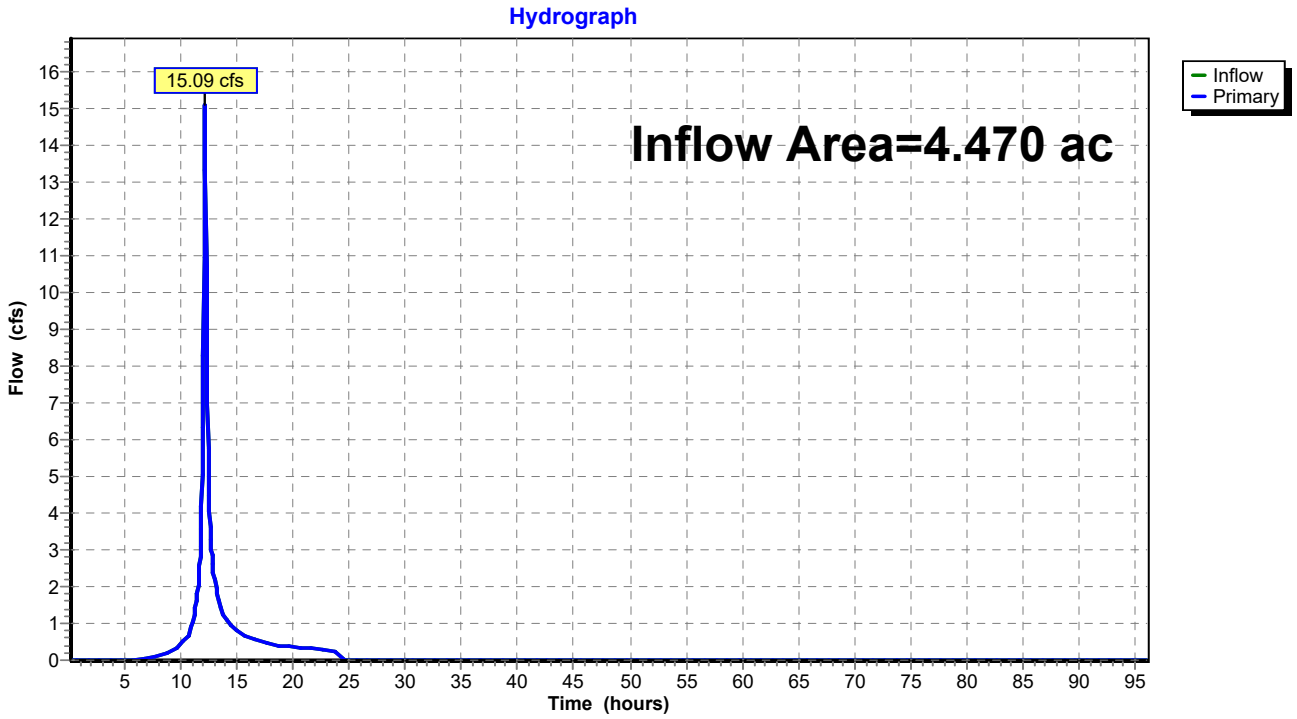


Summary for Link PRE-DP-2: Analysis Point

Inflow Area = 4.470 ac, 0.00% Impervious, Inflow Depth = 3.62" for 10-year event
Inflow = 15.09 cfs @ 12.19 hrs, Volume= 1.349 af
Primary = 15.09 cfs @ 12.19 hrs, Volume= 1.349 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-2: Analysis Point



Summary for Subcatchment PRE-1S:

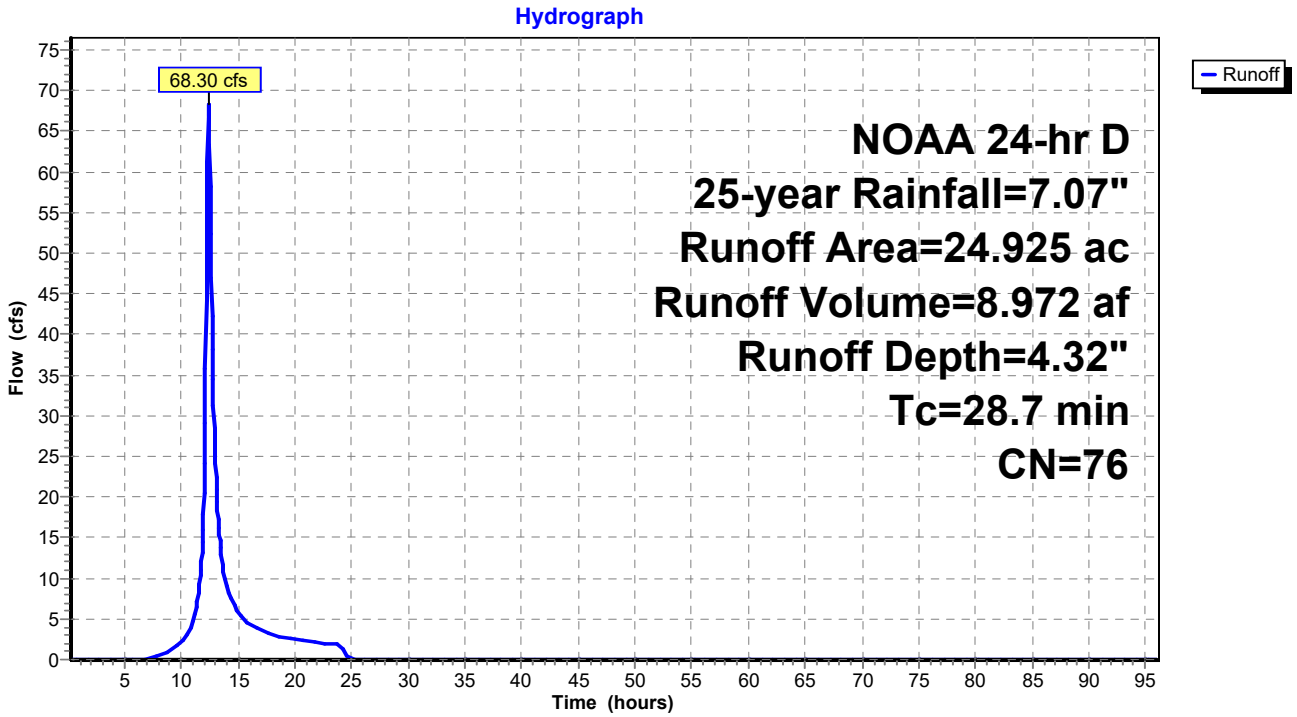
Runoff = 68.30 cfs @ 12.40 hrs, Volume= 8.972 af, Depth= 4.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 25-year Rainfall=7.07"

	Area (ac)	CN	Description
*	0.730	98	Pavement, Concrete Pads & Ballasts
*	0.585	96	Compacted Gravel
	1.810	94	Newly graded area, HSG D
	14.038	80	>75% Grass cover, Good, HSG D
	5.321	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	24.925	76	Weighted Average
	24.195		97.07% Pervious Area
	0.730		2.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-1S:



Summary for Subcatchment PRE-2S:

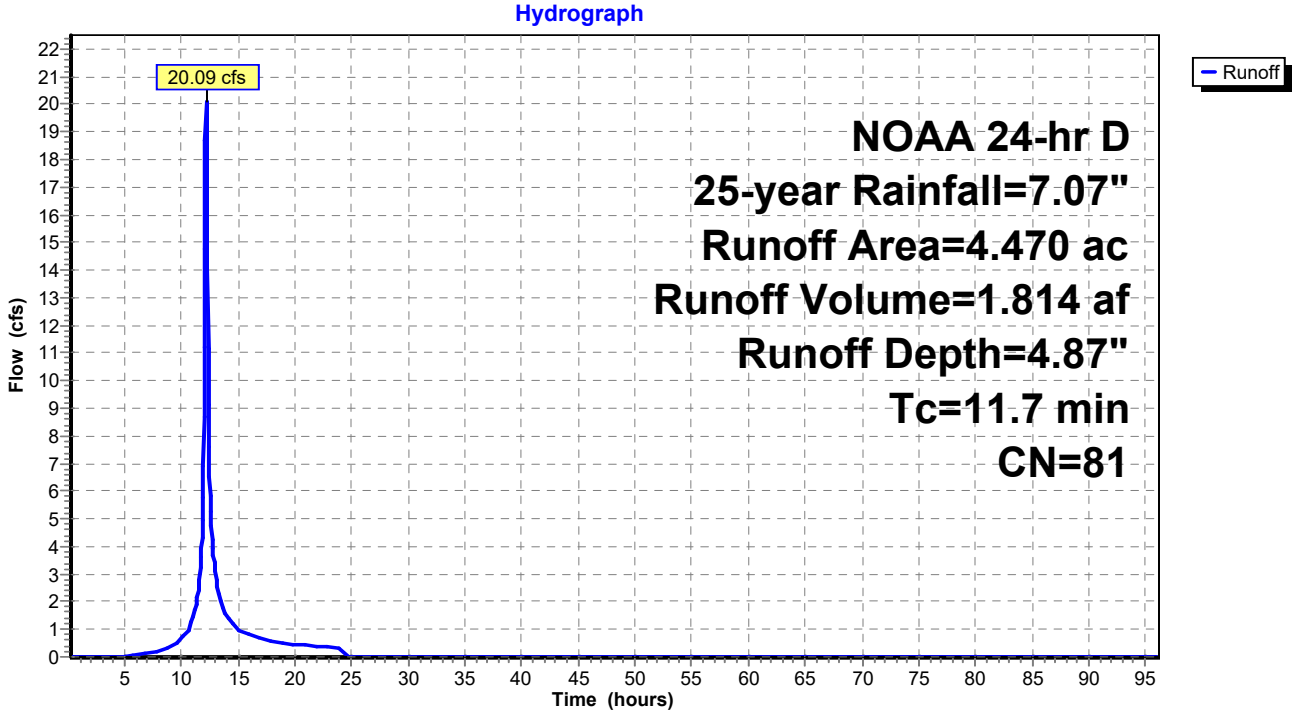
Runoff = 20.09 cfs @ 12.19 hrs, Volume= 1.814 af, Depth= 4.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 25-year Rainfall=7.07"

	Area (ac)	CN	Description
*	0.000	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.388	94	Newly graded area, HSG D
	3.417	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.470		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-2S:

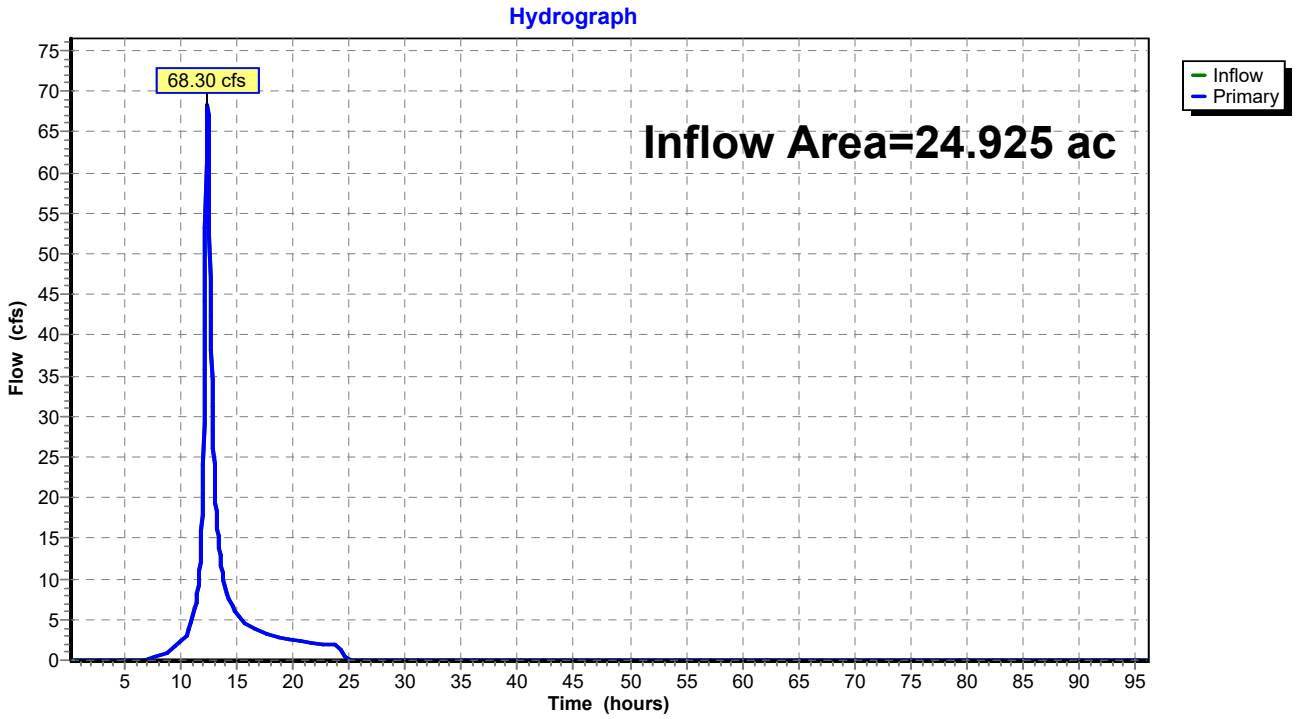


Summary for Link PRE-DP-1: Analysis Point

Inflow Area = 24.925 ac, 2.93% Impervious, Inflow Depth = 4.32" for 25-year event
Inflow = 68.30 cfs @ 12.40 hrs, Volume= 8.972 af
Primary = 68.30 cfs @ 12.40 hrs, Volume= 8.972 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-1: Analysis Point

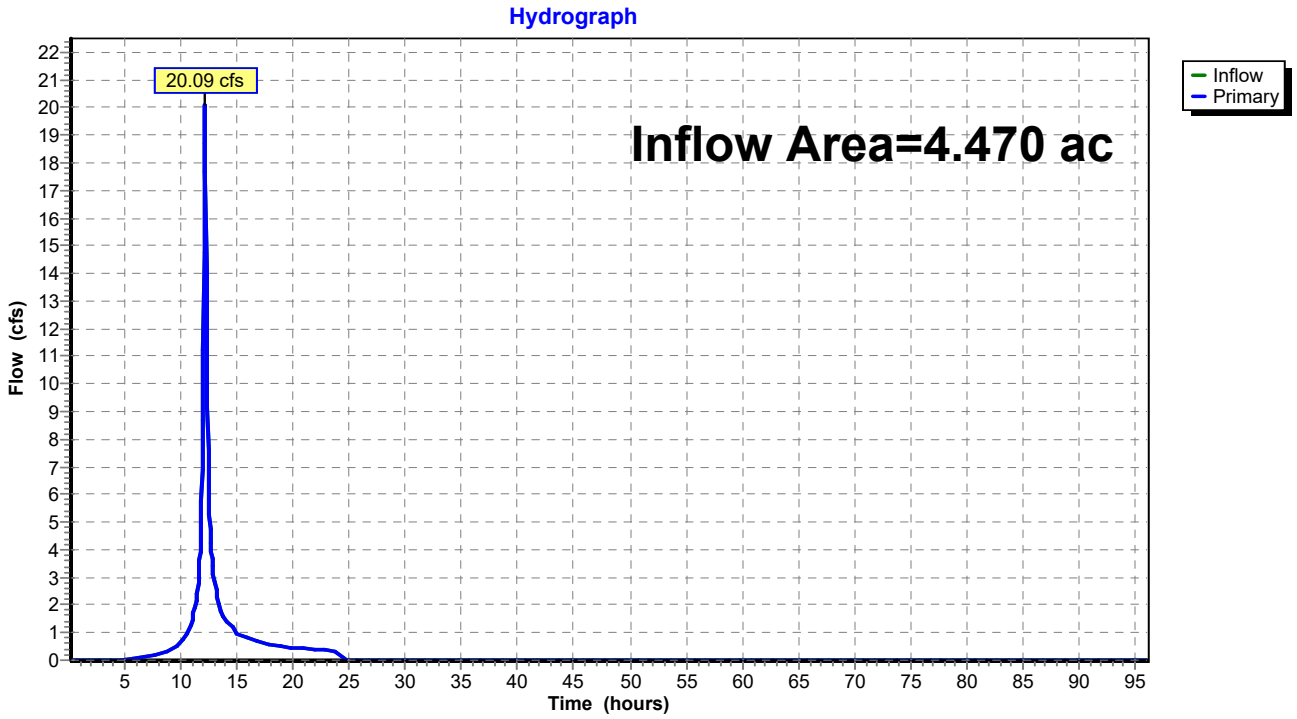


Summary for Link PRE-DP-2: Analysis Point

Inflow Area = 4.470 ac, 0.00% Impervious, Inflow Depth = 4.87" for 25-year event
Inflow = 20.09 cfs @ 12.19 hrs, Volume= 1.814 af
Primary = 20.09 cfs @ 12.19 hrs, Volume= 1.814 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-2: Analysis Point



Summary for Subcatchment PRE-1S:

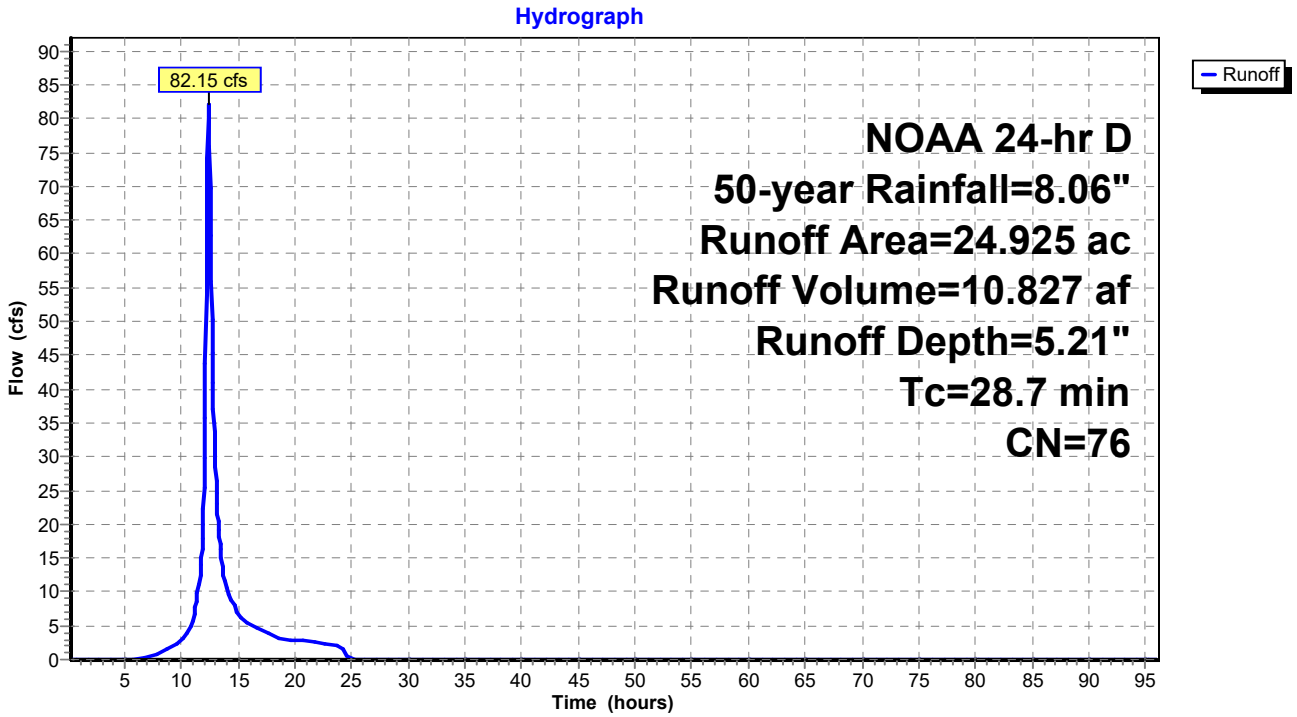
Runoff = 82.15 cfs @ 12.40 hrs, Volume= 10.827 af, Depth= 5.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 50-year Rainfall=8.06"

	Area (ac)	CN	Description
*	0.730	98	Pavement, Concrete Pads & Ballasts
*	0.585	96	Compacted Gravel
	1.810	94	Newly graded area, HSG D
	14.038	80	>75% Grass cover, Good, HSG D
	5.321	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	24.925	76	Weighted Average
	24.195		97.07% Pervious Area
	0.730		2.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-1S:



Summary for Subcatchment PRE-2S:

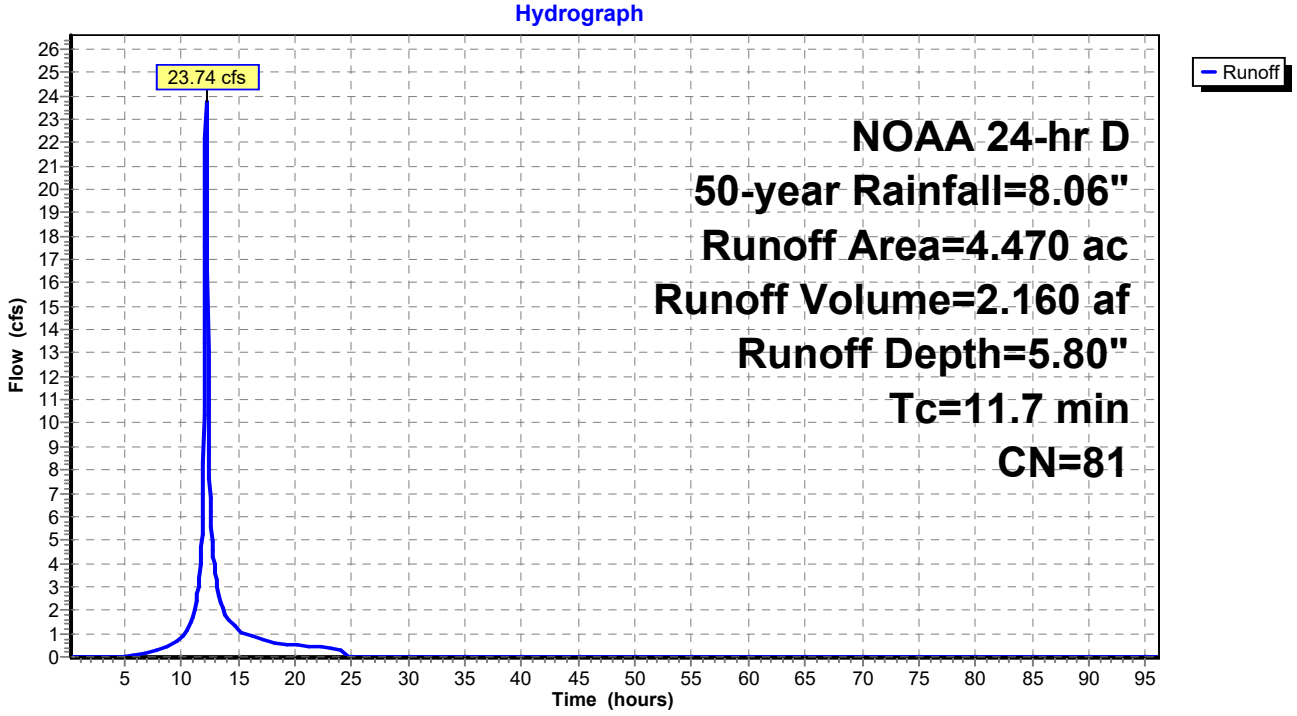
Runoff = 23.74 cfs @ 12.19 hrs, Volume= 2.160 af, Depth= 5.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 50-year Rainfall=8.06"

	Area (ac)	CN	Description
*	0.000	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.388	94	Newly graded area, HSG D
	3.417	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.470		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-2S:

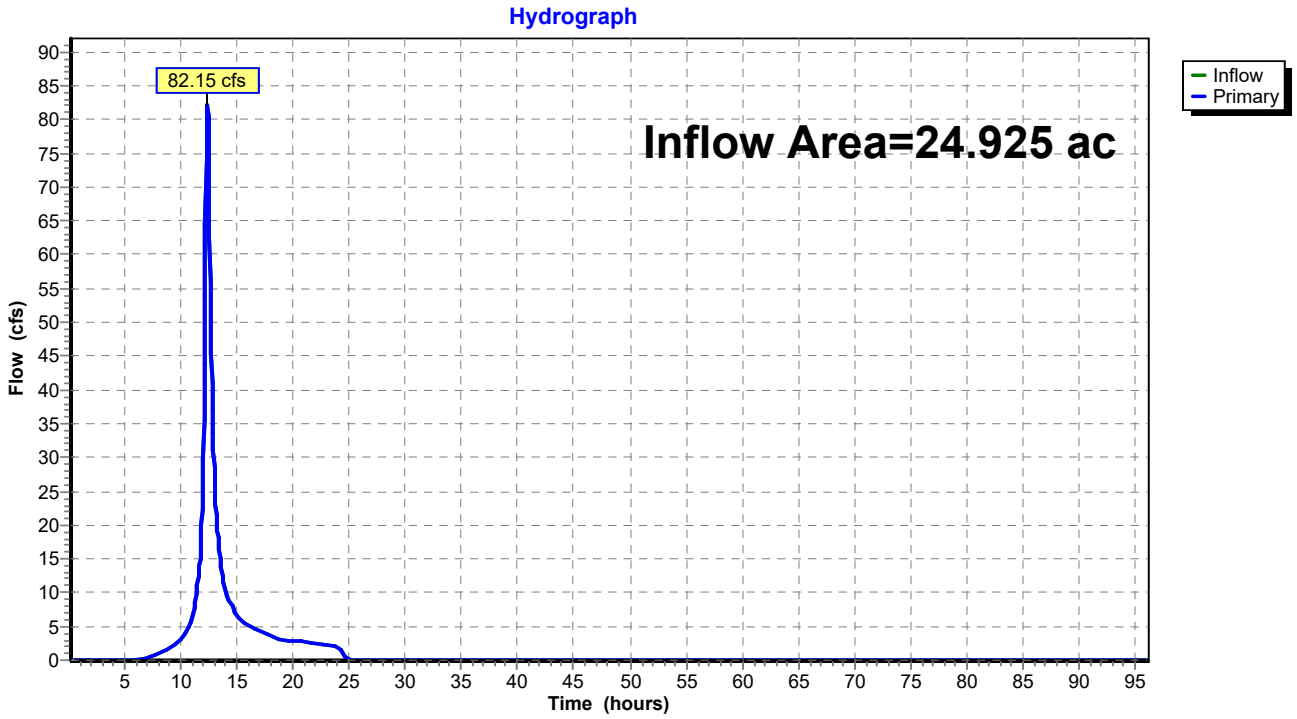


Summary for Link PRE-DP-1: Analysis Point

Inflow Area = 24.925 ac, 2.93% Impervious, Inflow Depth = 5.21" for 50-year event
Inflow = 82.15 cfs @ 12.40 hrs, Volume= 10.827 af
Primary = 82.15 cfs @ 12.40 hrs, Volume= 10.827 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-1: Analysis Point

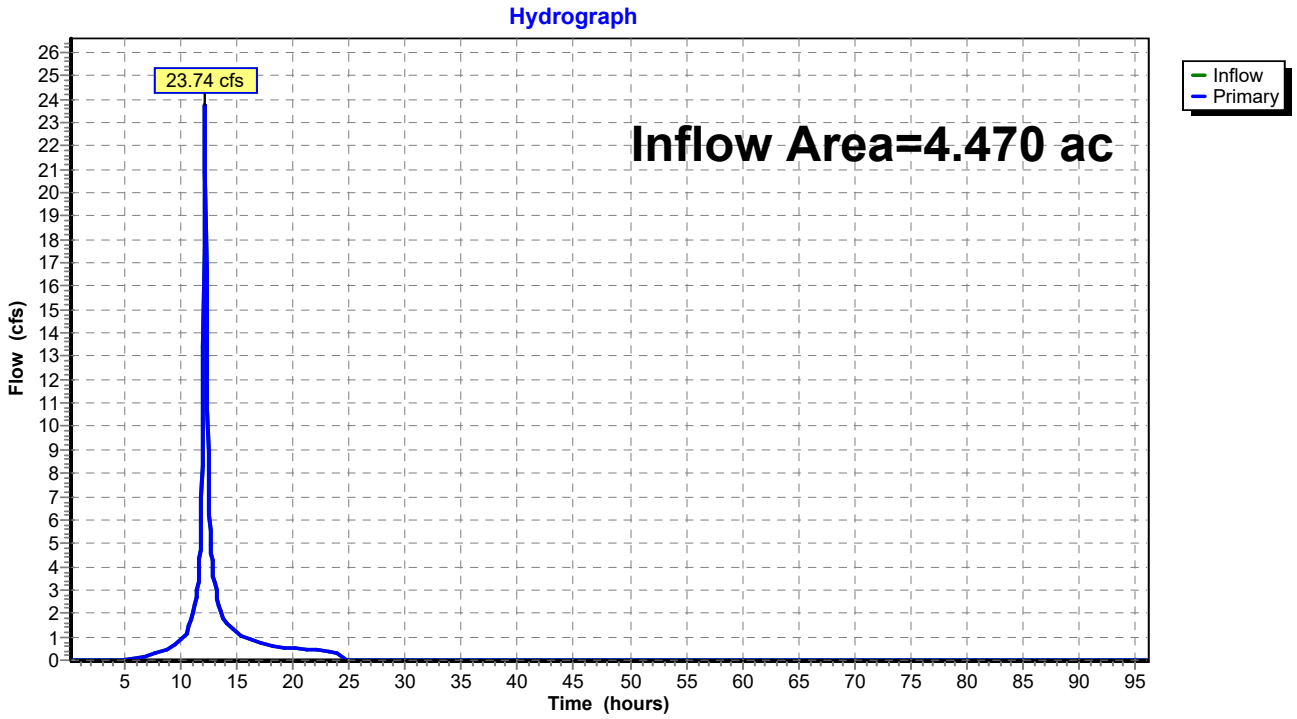


Summary for Link PRE-DP-2: Analysis Point

Inflow Area = 4.470 ac, 0.00% Impervious, Inflow Depth = 5.80" for 50-year event
Inflow = 23.74 cfs @ 12.19 hrs, Volume= 2.160 af
Primary = 23.74 cfs @ 12.19 hrs, Volume= 2.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-2: Analysis Point



Summary for Subcatchment PRE-1S:

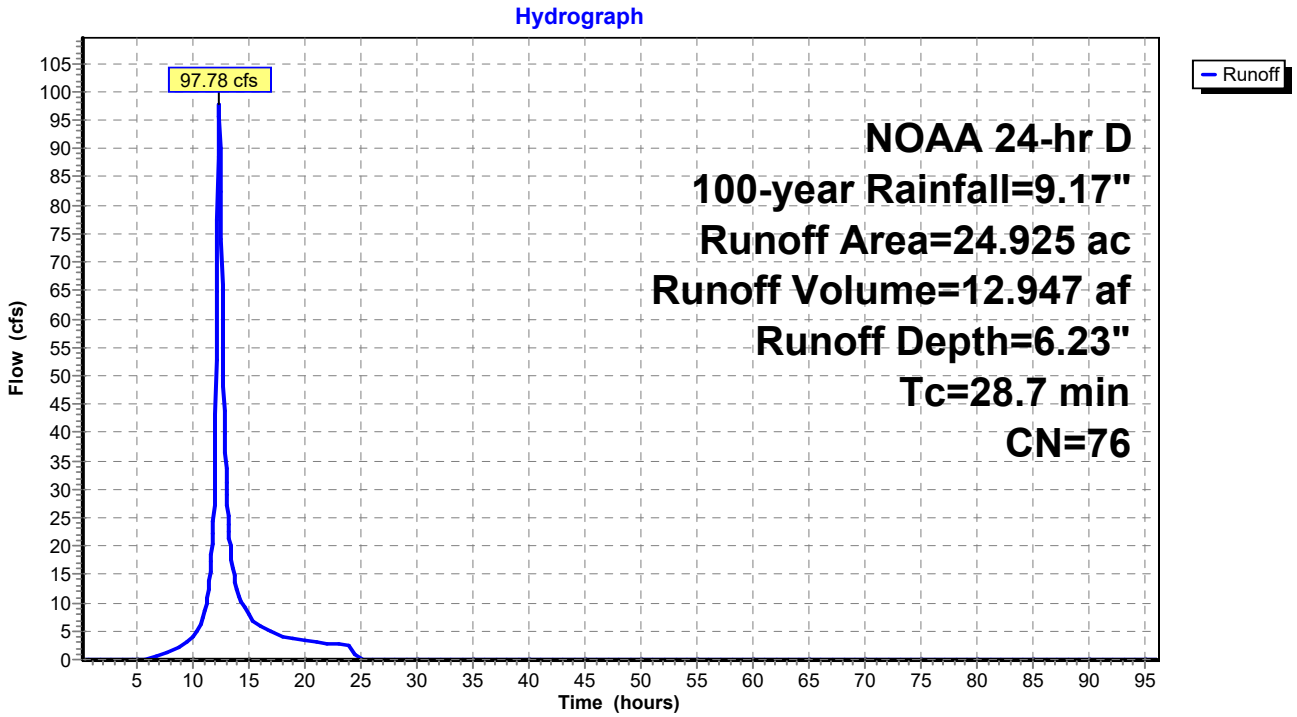
Runoff = 97.78 cfs @ 12.40 hrs, Volume= 12.947 af, Depth= 6.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-year Rainfall=9.17"

	Area (ac)	CN	Description
*	0.730	98	Pavement, Concrete Pads & Ballasts
*	0.585	96	Compacted Gravel
	1.810	94	Newly graded area, HSG D
	14.038	80	>75% Grass cover, Good, HSG D
	5.321	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	24.925	76	Weighted Average
	24.195		97.07% Pervious Area
	0.730		2.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-1S:



Summary for Subcatchment PRE-2S:

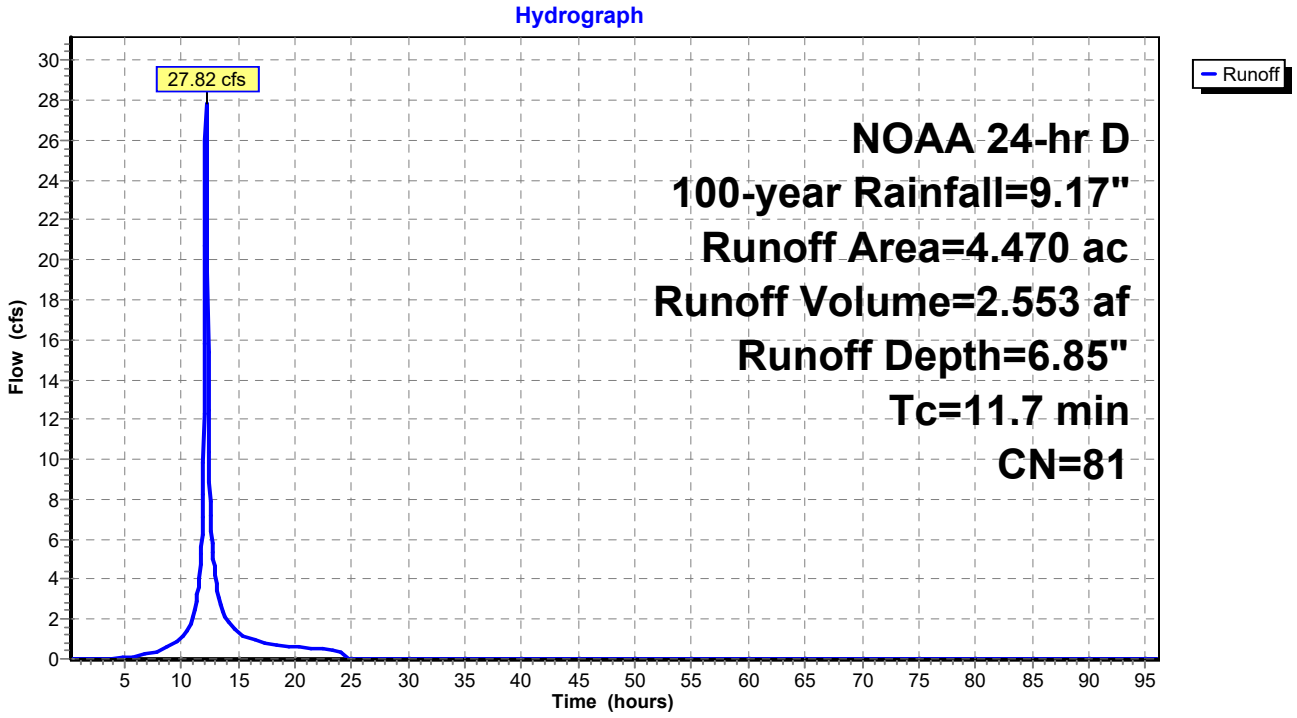
Runoff = 27.82 cfs @ 12.19 hrs, Volume= 2.553 af, Depth= 6.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-year Rainfall=9.17"

	Area (ac)	CN	Description
*	0.000	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.388	94	Newly graded area, HSG D
	3.417	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.470		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment PRE-2S:

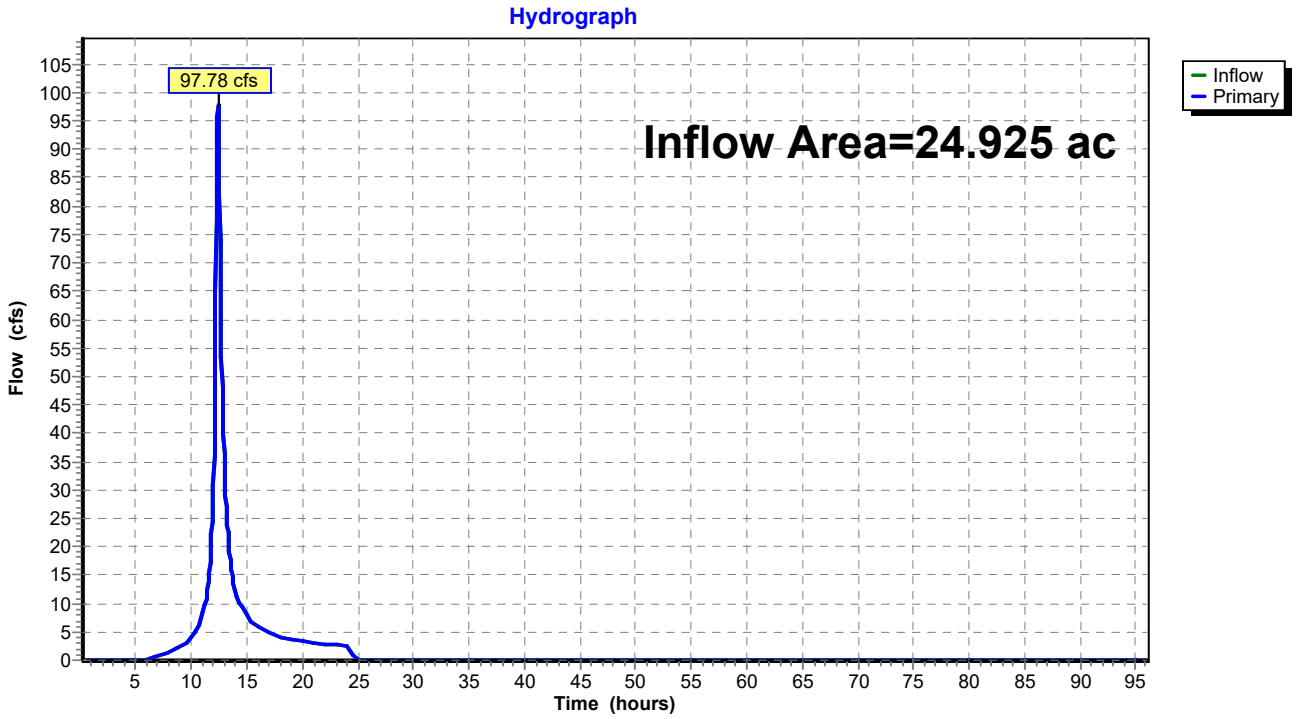


Summary for Link PRE-DP-1: Analysis Point

Inflow Area = 24.925 ac, 2.93% Impervious, Inflow Depth = 6.23" for 100-year event
Inflow = 97.78 cfs @ 12.40 hrs, Volume= 12.947 af
Primary = 97.78 cfs @ 12.40 hrs, Volume= 12.947 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-1: Analysis Point

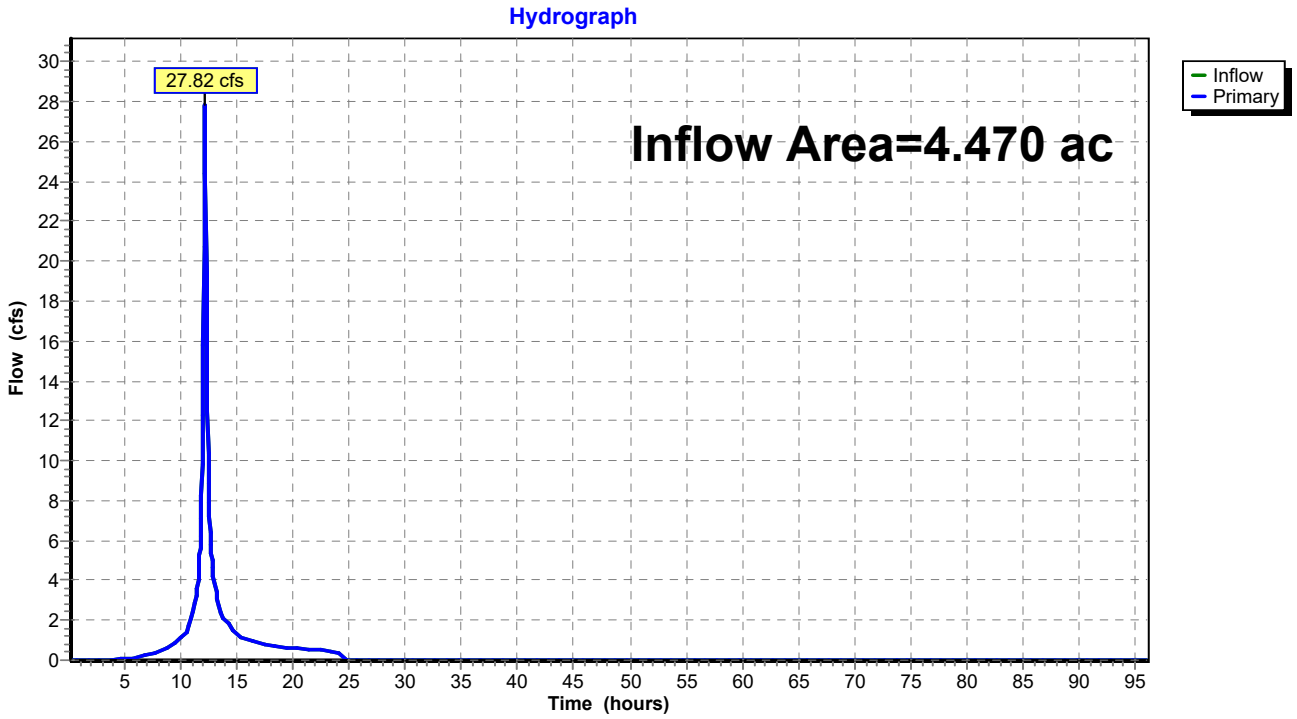


Summary for Link PRE-DP-2: Analysis Point

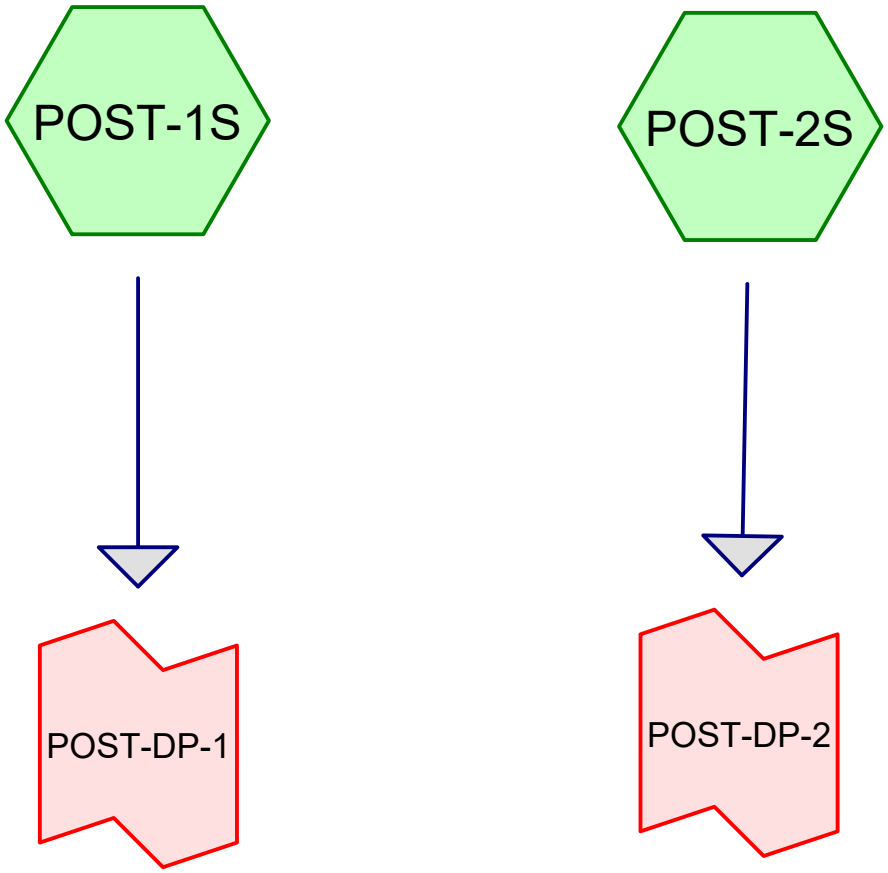
Inflow Area = 4.470 ac, 0.00% Impervious, Inflow Depth = 6.85" for 100-year event
Inflow = 27.82 cfs @ 12.19 hrs, Volume= 2.553 af
Primary = 27.82 cfs @ 12.19 hrs, Volume= 2.553 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link PRE-DP-2: Analysis Point



POST-DEVELOPMENT



Subcat Reach Pond Link

Routing Diagram for Torrington - Stormwater Model
Prepared by TRC, Printed 10/18/2023

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-year	NOAA 24-hr	D	Default	24.00	1	3.53	2
2	10-year	NOAA 24-hr	D	Default	24.00	1	5.71	2
3	25-year	NOAA 24-hr	D	Default	24.00	1	7.07	2
4	50-year	NOAA 24-hr	D	Default	24.00	1	8.06	2
5	100-year	NOAA 24-hr	D	Default	24.00	1	9.17	2

Summary for Subcatchment POST-1S:

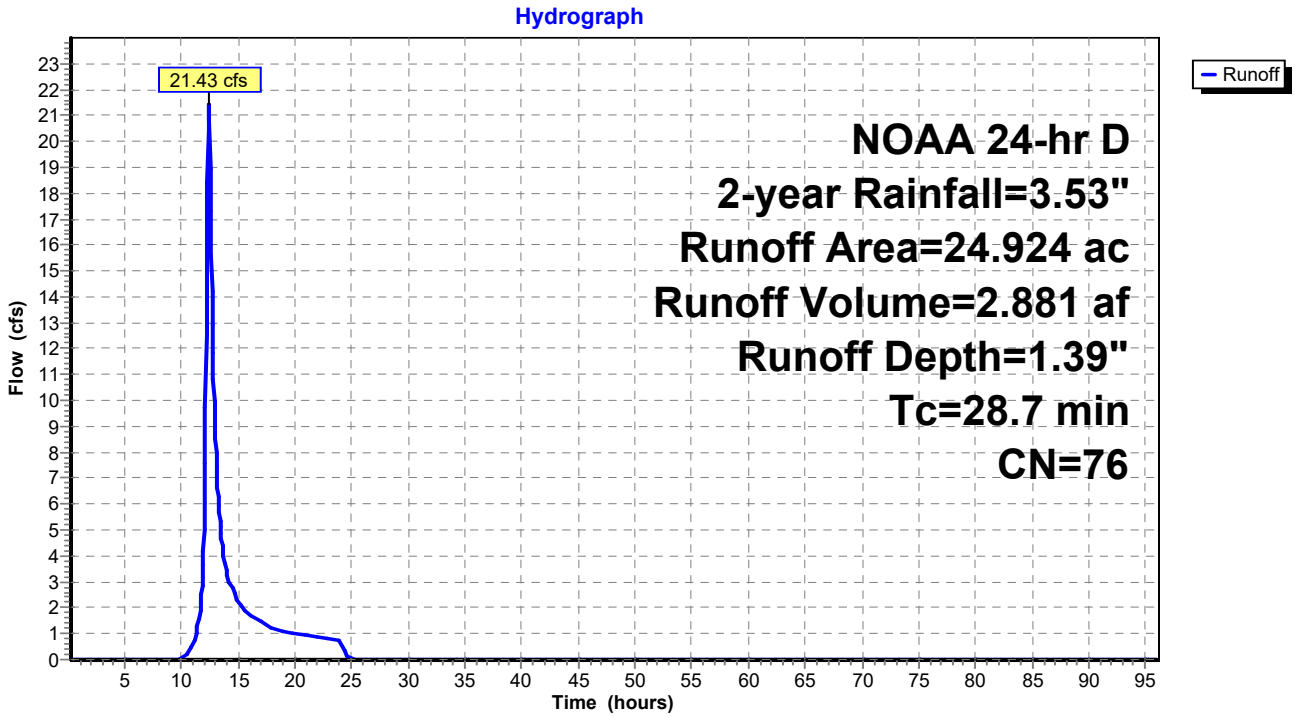
Runoff = 21.43 cfs @ 12.42 hrs, Volume= 2.881 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-year Rainfall=3.53"

	Area (ac)	CN	Description
*	1.049	98	Pavement, Concrete Pads & Ballasts
*	0.531	96	Compacted Gravel
	1.105	94	Newly graded area, HSG D
	14.476	80	>75% Grass cover, Good, HSG D
	5.244	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.078	56	Brush, Fair, HSG B
	24.924	76	Weighted Average
	23.875		95.79% Pervious Area
	1.049		4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-1S:



Summary for Subcatchment POST-2S:

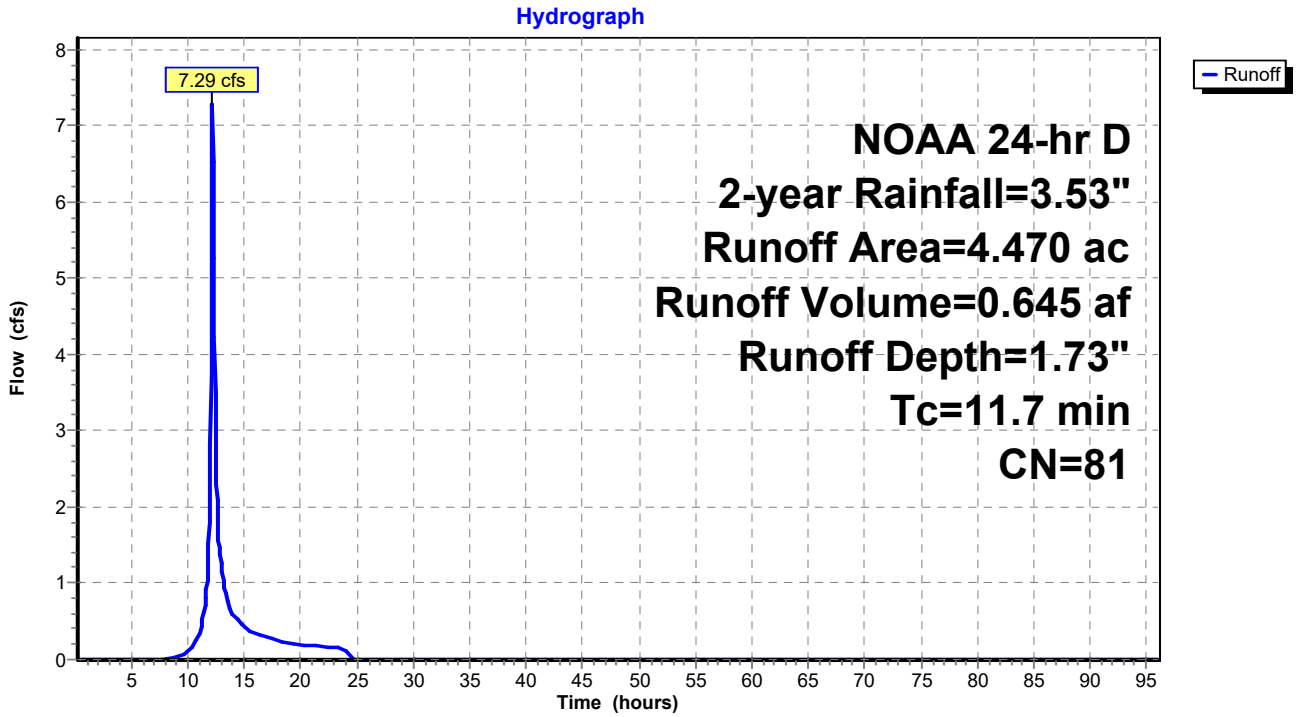
Runoff = 7.29 cfs @ 12.20 hrs, Volume= 0.645 af, Depth= 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-year Rainfall=3.53"

	Area (ac)	CN	Description
*	0.045	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.325	94	Newly graded area, HSG D
	3.435	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.425		98.99% Pervious Area
	0.045		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-2S:

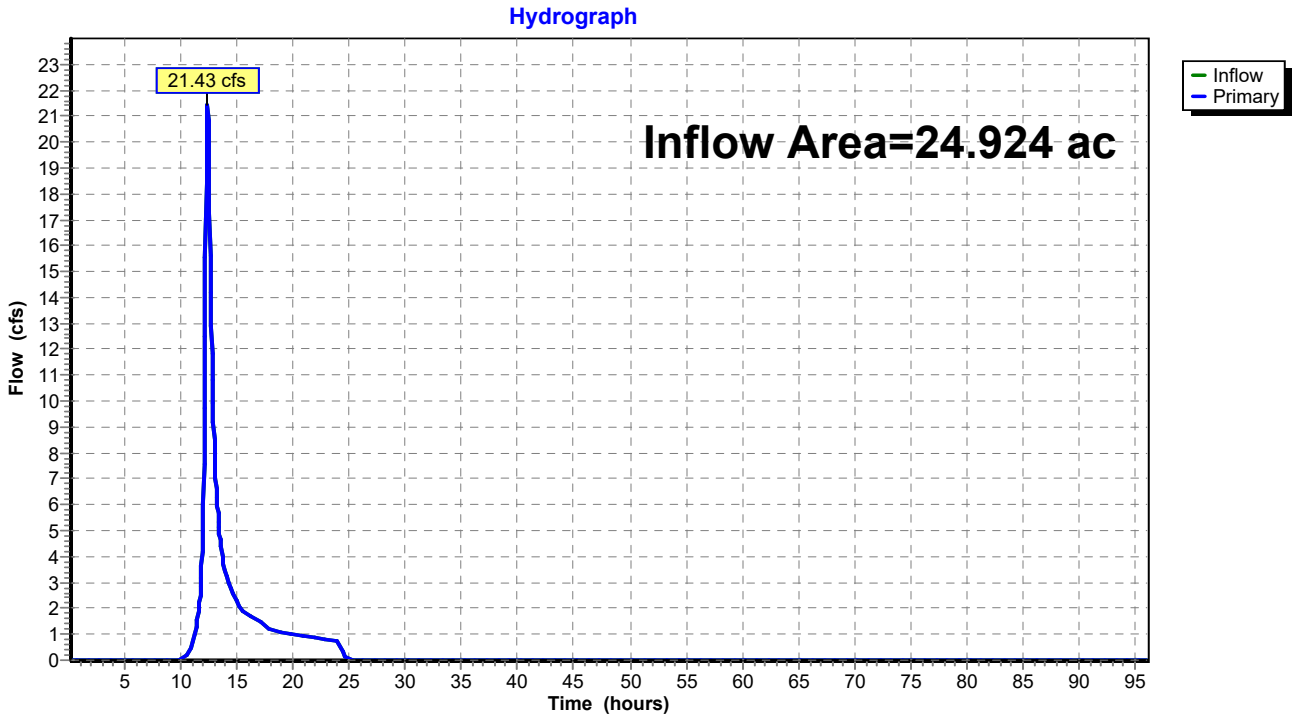


Summary for Link POST-DP-1: Analysis Point

Inflow Area = 24.924 ac, 4.21% Impervious, Inflow Depth = 1.39" for 2-year event
Inflow = 21.43 cfs @ 12.42 hrs, Volume= 2.881 af
Primary = 21.43 cfs @ 12.42 hrs, Volume= 2.881 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point

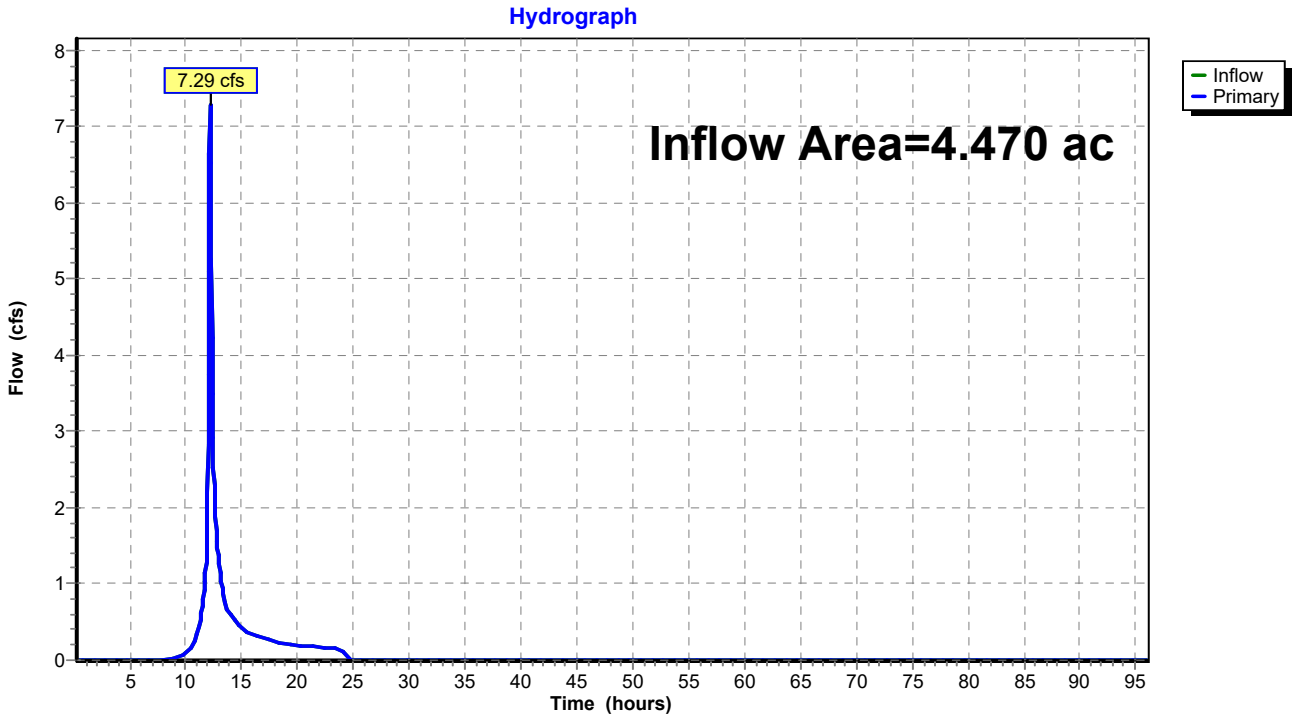


Summary for Link POST-DP-2: Analysis Point

Inflow Area = 4.470 ac, 1.01% Impervious, Inflow Depth = 1.73" for 2-year event
Inflow = 7.29 cfs @ 12.20 hrs, Volume= 0.645 af
Primary = 7.29 cfs @ 12.20 hrs, Volume= 0.645 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-2: Analysis Point



Summary for Subcatchment POST-1S:

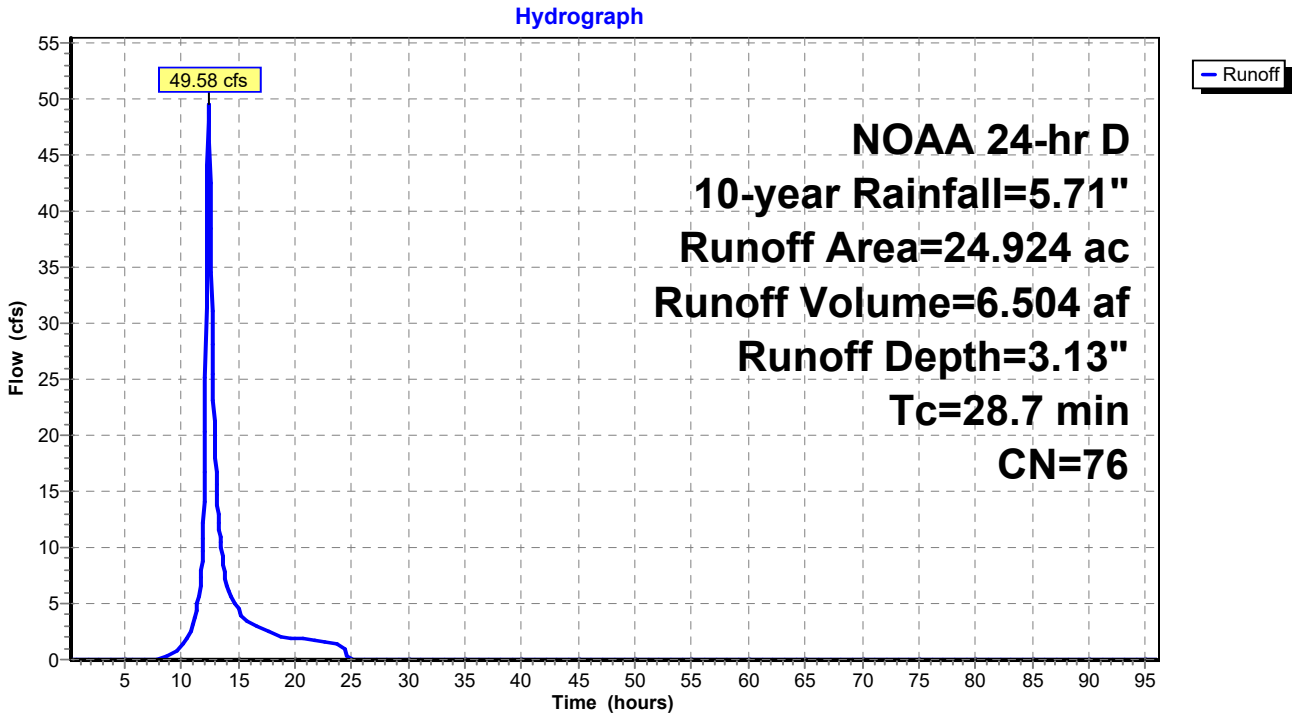
Runoff = 49.58 cfs @ 12.41 hrs, Volume= 6.504 af, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-year Rainfall=5.71"

	Area (ac)	CN	Description
*	1.049	98	Pavement, Concrete Pads & Ballasts
*	0.531	96	Compacted Gravel
	1.105	94	Newly graded area, HSG D
	14.476	80	>75% Grass cover, Good, HSG D
	5.244	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.078	56	Brush, Fair, HSG B
	24.924	76	Weighted Average
	23.875		95.79% Pervious Area
	1.049		4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-1S:



Summary for Subcatchment POST-2S:

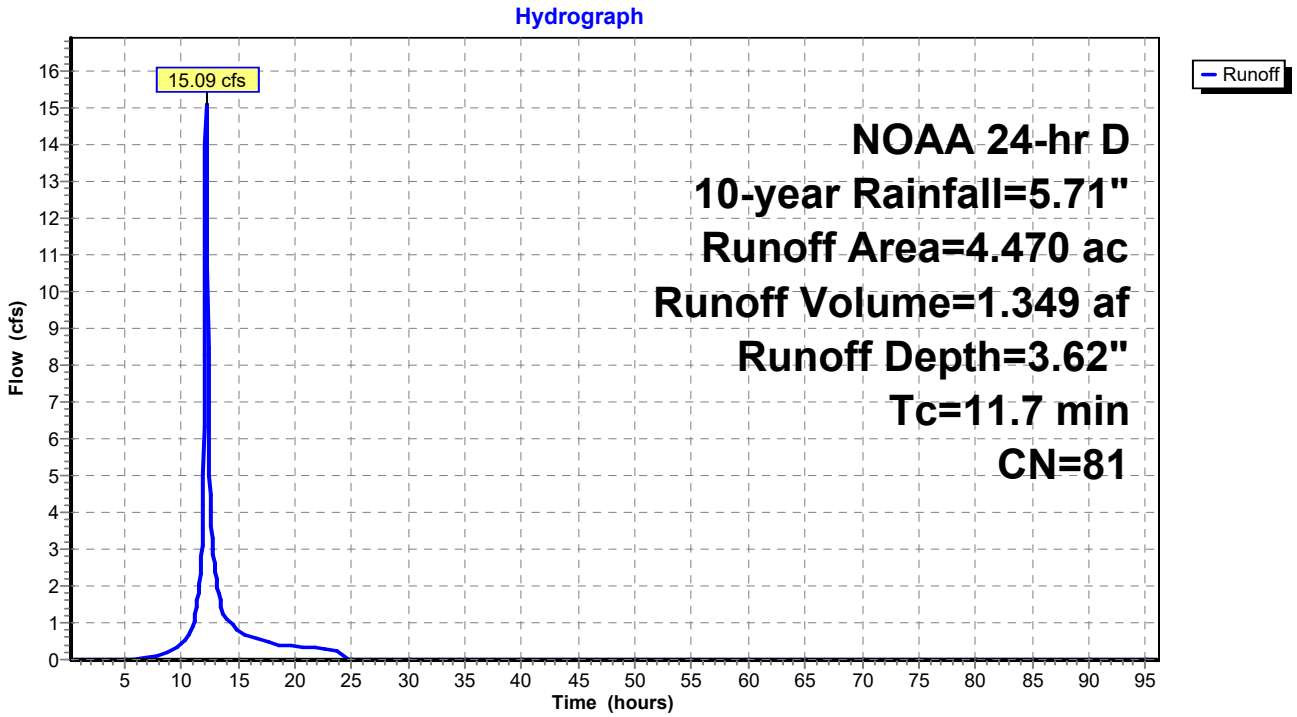
Runoff = 15.09 cfs @ 12.19 hrs, Volume= 1.349 af, Depth= 3.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-year Rainfall=5.71"

	Area (ac)	CN	Description
*	0.045	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.325	94	Newly graded area, HSG D
	3.435	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.425		98.99% Pervious Area
	0.045		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-2S:

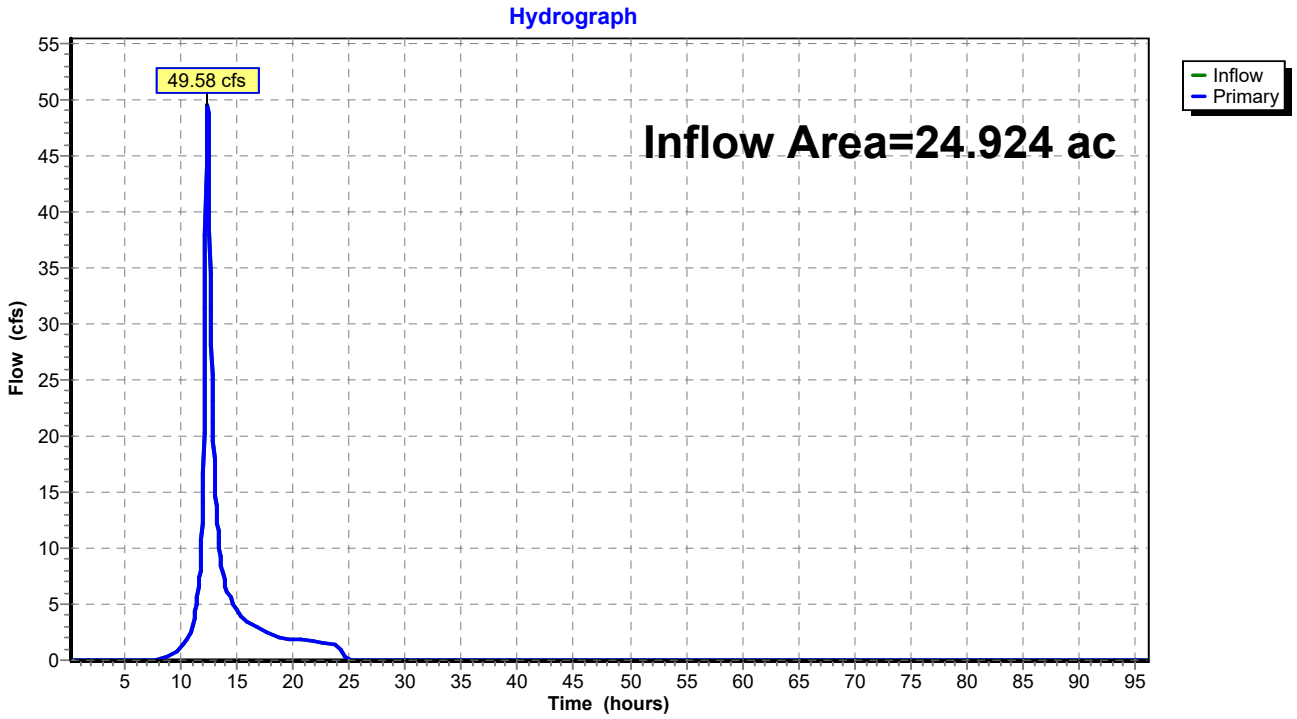


Summary for Link POST-DP-1: Analysis Point

Inflow Area = 24.924 ac, 4.21% Impervious, Inflow Depth = 3.13" for 10-year event
Inflow = 49.58 cfs @ 12.41 hrs, Volume= 6.504 af
Primary = 49.58 cfs @ 12.41 hrs, Volume= 6.504 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point

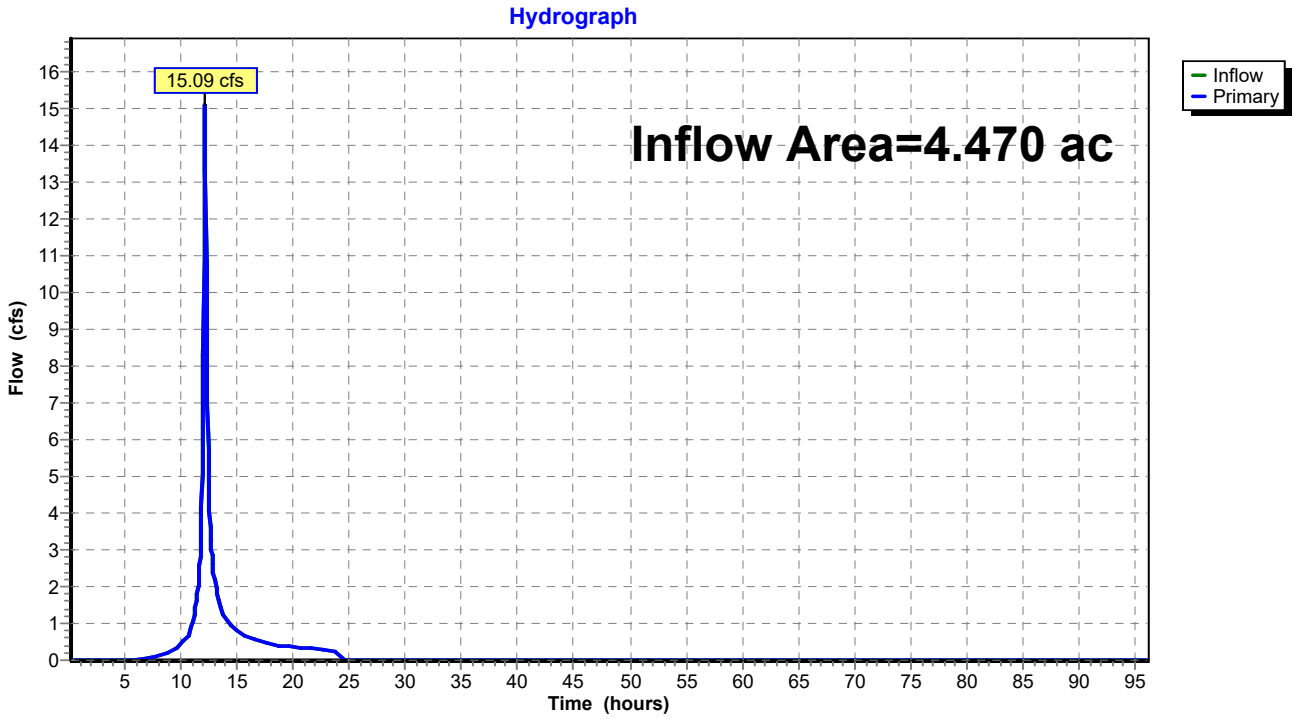


Summary for Link POST-DP-2: Analysis Point

Inflow Area = 4.470 ac, 1.01% Impervious, Inflow Depth = 3.62" for 10-year event
Inflow = 15.09 cfs @ 12.19 hrs, Volume= 1.349 af
Primary = 15.09 cfs @ 12.19 hrs, Volume= 1.349 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-2: Analysis Point



Summary for Subcatchment POST-1S:

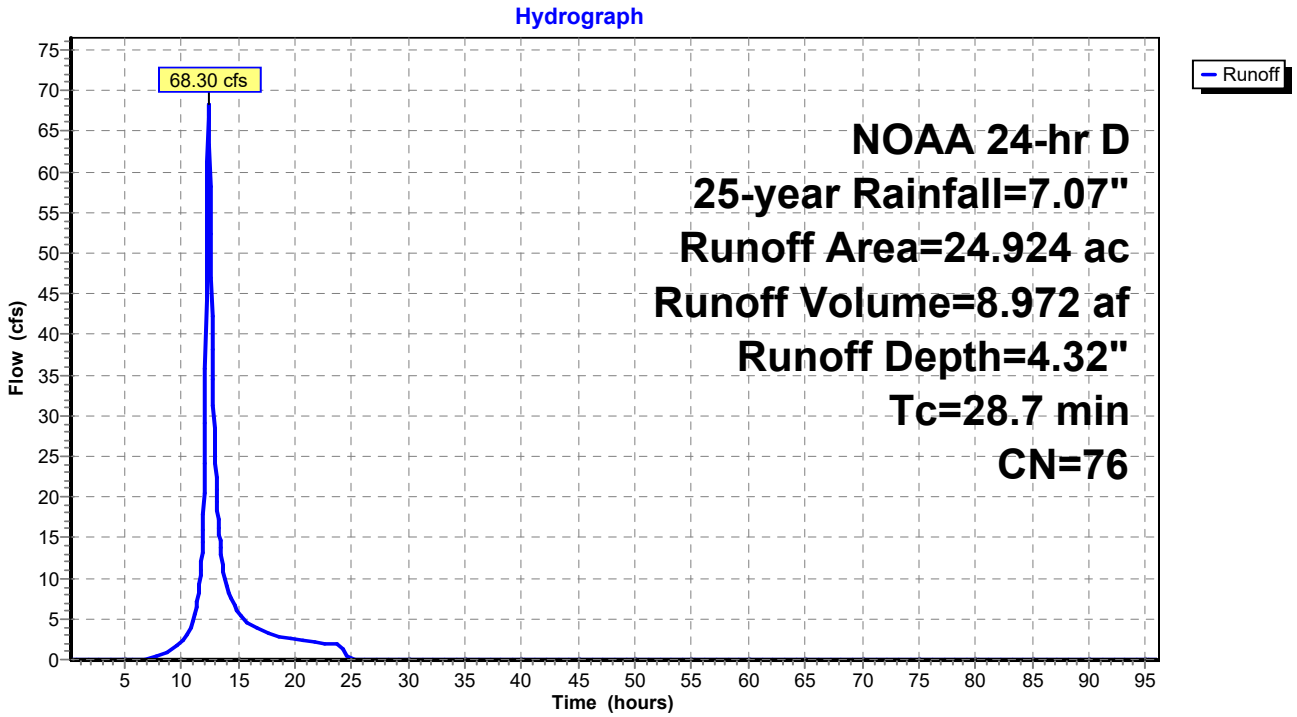
Runoff = 68.30 cfs @ 12.40 hrs, Volume= 8.972 af, Depth= 4.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 25-year Rainfall=7.07"

	Area (ac)	CN	Description
*	1.049	98	Pavement, Concrete Pads & Ballasts
*	0.531	96	Compacted Gravel
	1.105	94	Newly graded area, HSG D
	14.476	80	>75% Grass cover, Good, HSG D
	5.244	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.078	56	Brush, Fair, HSG B
	24.924	76	Weighted Average
	23.875		95.79% Pervious Area
	1.049		4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-1S:



Summary for Subcatchment POST-2S:

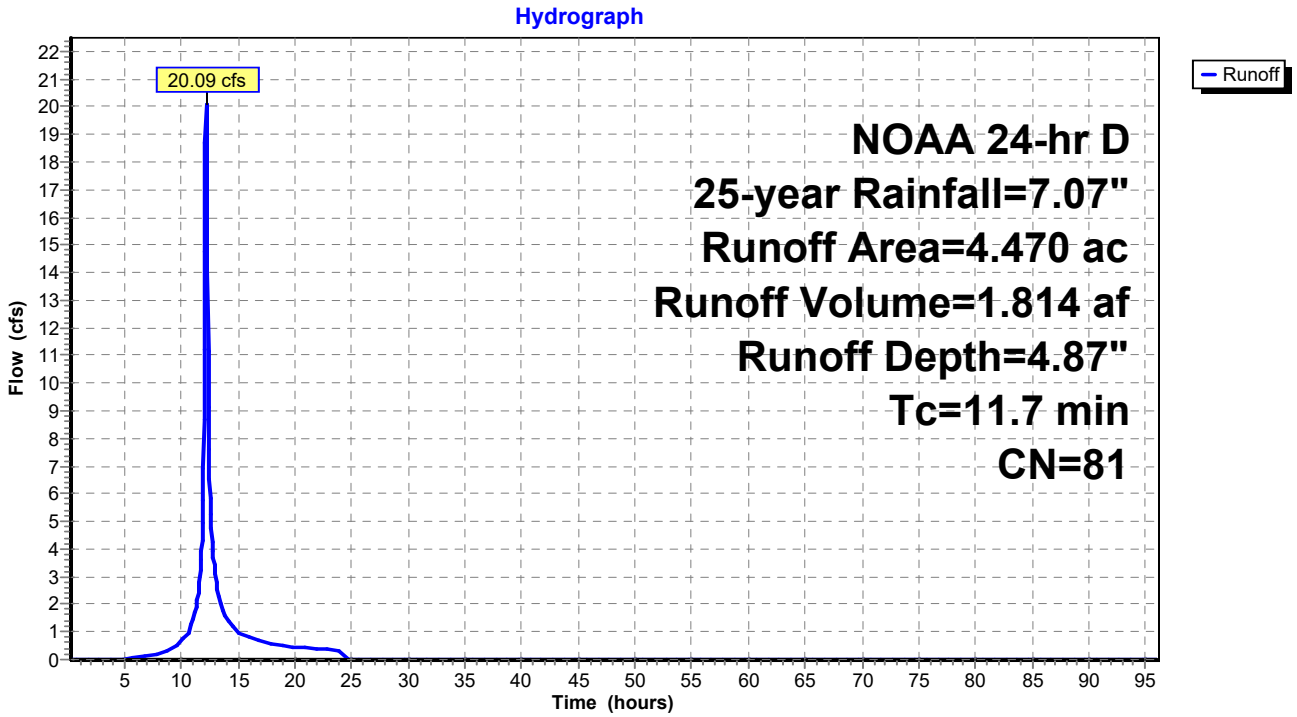
Runoff = 20.09 cfs @ 12.19 hrs, Volume= 1.814 af, Depth= 4.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 25-year Rainfall=7.07"

	Area (ac)	CN	Description
*	0.045	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.325	94	Newly graded area, HSG D
	3.435	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.425		98.99% Pervious Area
	0.045		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-2S:

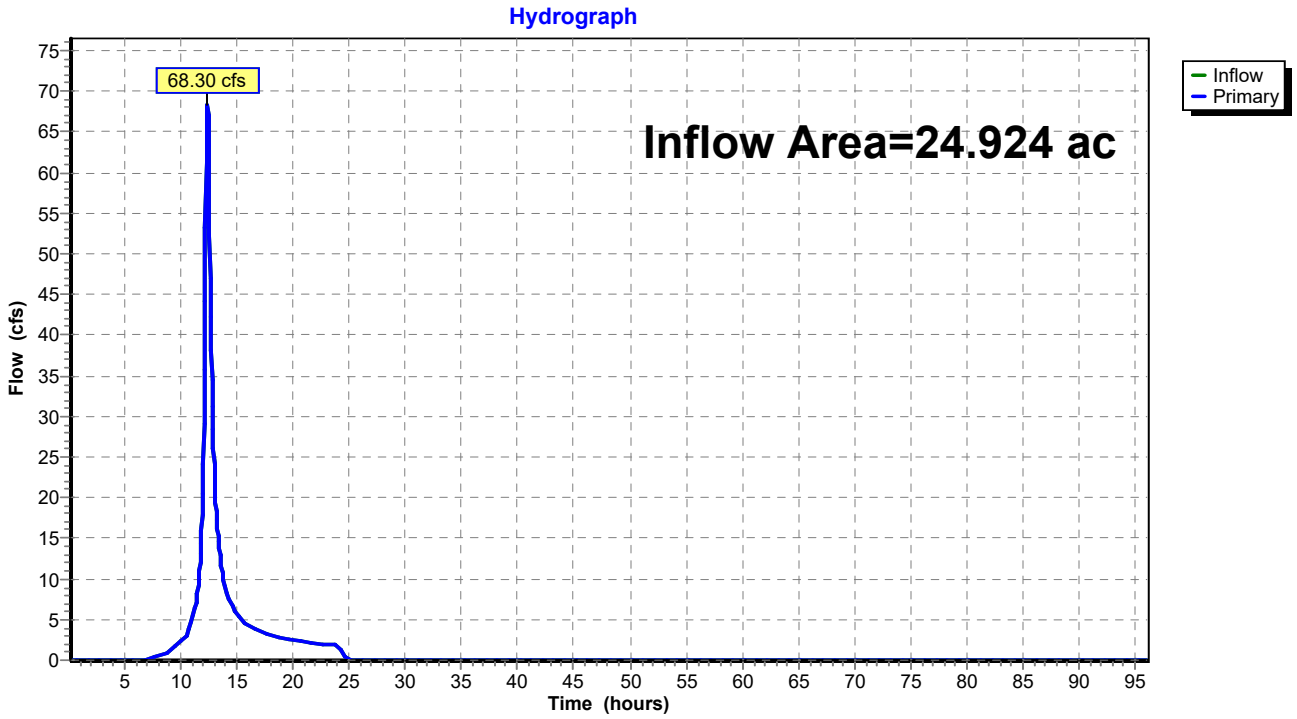


Summary for Link POST-DP-1: Analysis Point

Inflow Area = 24.924 ac, 4.21% Impervious, Inflow Depth = 4.32" for 25-year event
Inflow = 68.30 cfs @ 12.40 hrs, Volume= 8.972 af
Primary = 68.30 cfs @ 12.40 hrs, Volume= 8.972 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point

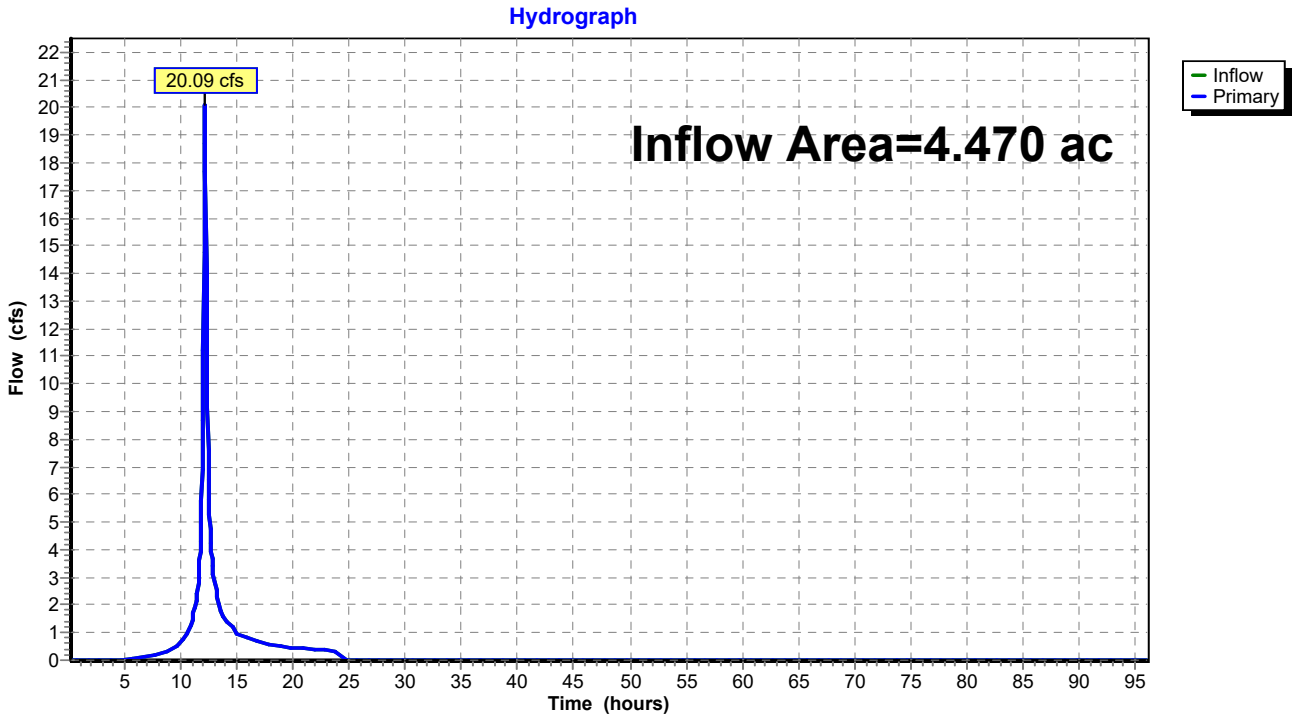


Summary for Link POST-DP-2: Analysis Point

Inflow Area = 4.470 ac, 1.01% Impervious, Inflow Depth = 4.87" for 25-year event
Inflow = 20.09 cfs @ 12.19 hrs, Volume= 1.814 af
Primary = 20.09 cfs @ 12.19 hrs, Volume= 1.814 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-2: Analysis Point



Summary for Subcatchment POST-1S:

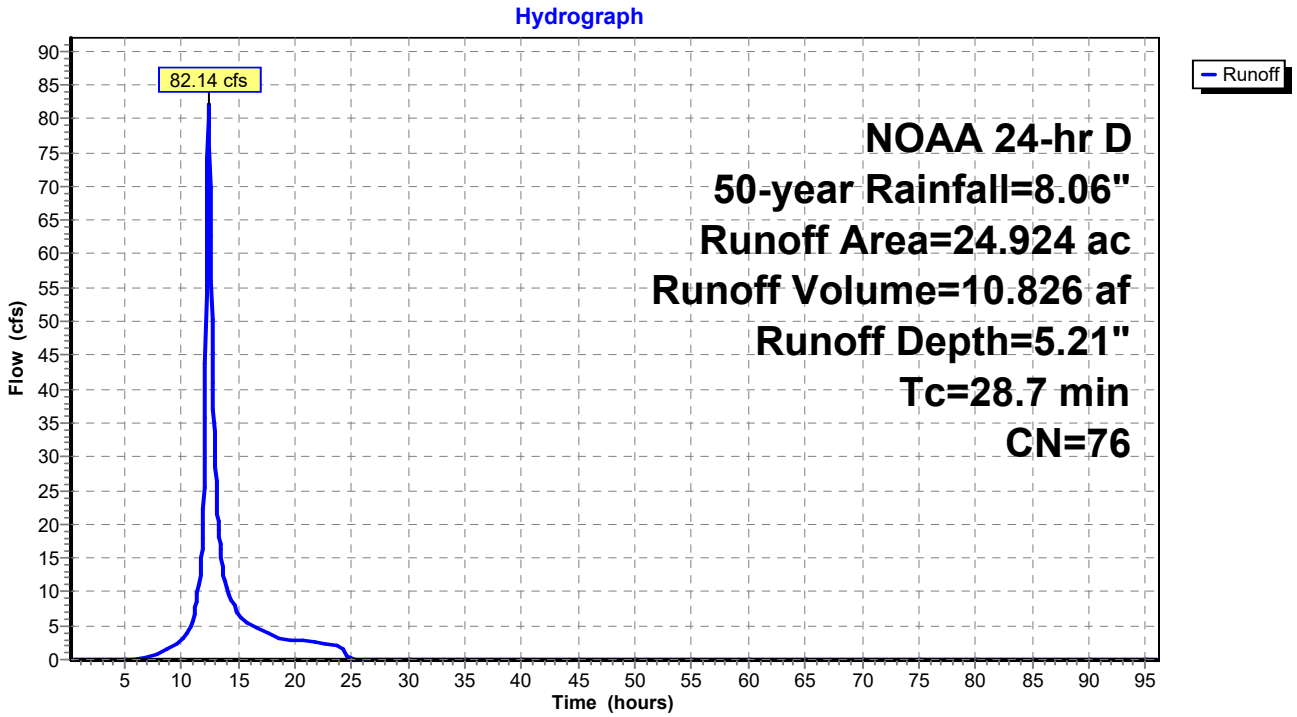
Runoff = 82.14 cfs @ 12.40 hrs, Volume= 10.826 af, Depth= 5.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 50-year Rainfall=8.06"

	Area (ac)	CN	Description
*	1.049	98	Pavement, Concrete Pads & Ballasts
*	0.531	96	Compacted Gravel
	1.105	94	Newly graded area, HSG D
	14.476	80	>75% Grass cover, Good, HSG D
	5.244	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.078	56	Brush, Fair, HSG B
	24.924	76	Weighted Average
	23.875		95.79% Pervious Area
	1.049		4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-1S:



Summary for Subcatchment POST-2S:

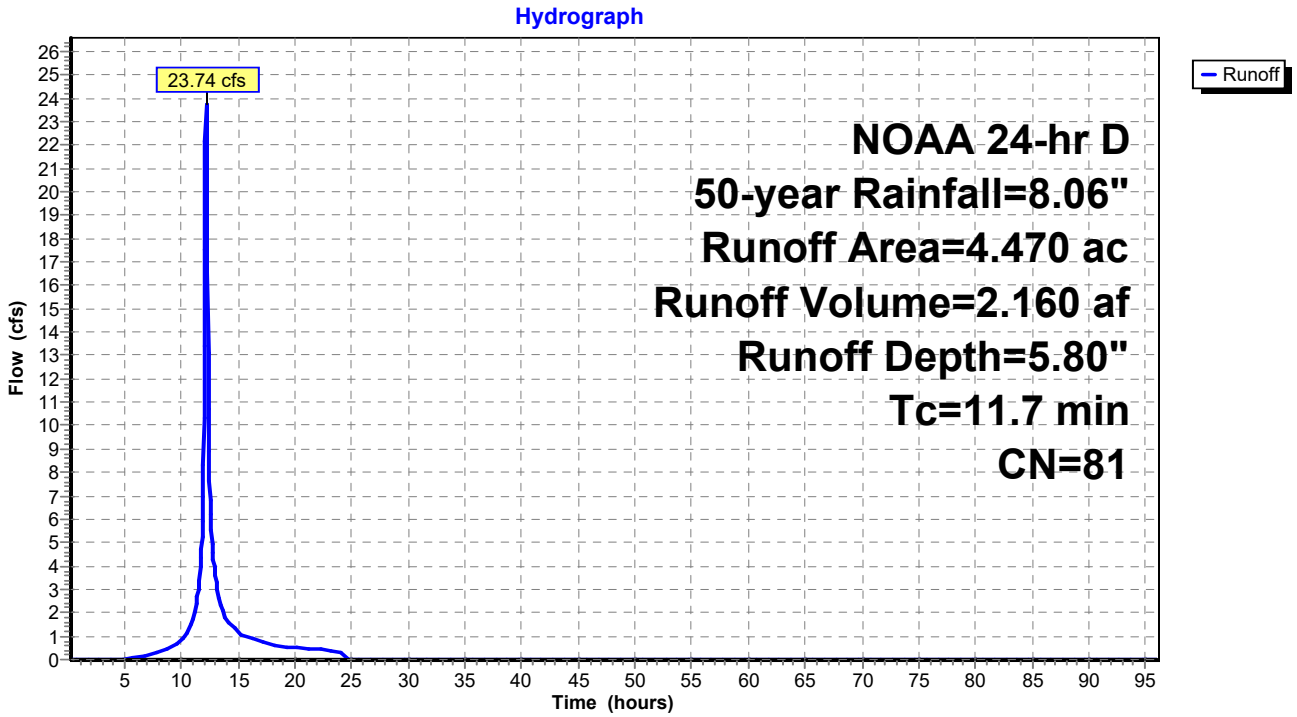
Runoff = 23.74 cfs @ 12.19 hrs, Volume= 2.160 af, Depth= 5.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 50-year Rainfall=8.06"

	Area (ac)	CN	Description
*	0.045	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.325	94	Newly graded area, HSG D
	3.435	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.425		98.99% Pervious Area
	0.045		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-2S:

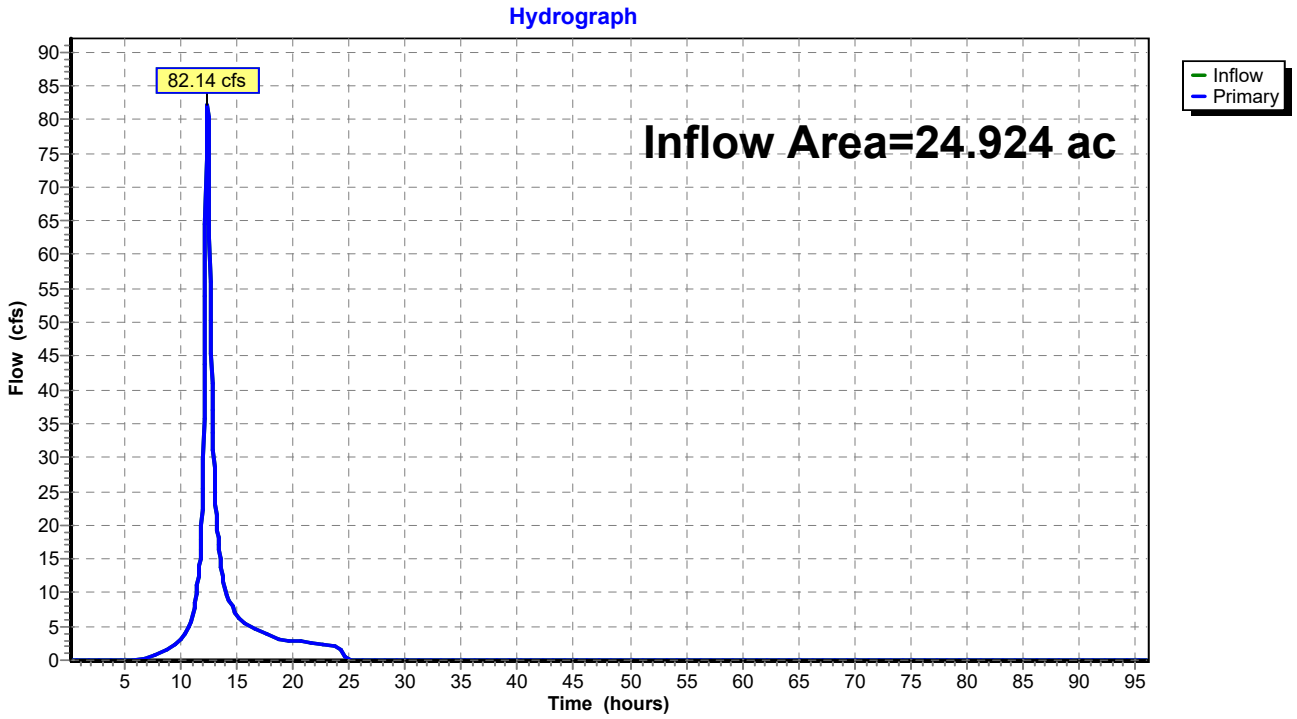


Summary for Link POST-DP-1: Analysis Point

Inflow Area = 24.924 ac, 4.21% Impervious, Inflow Depth = 5.21" for 50-year event
Inflow = 82.14 cfs @ 12.40 hrs, Volume= 10.826 af
Primary = 82.14 cfs @ 12.40 hrs, Volume= 10.826 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point

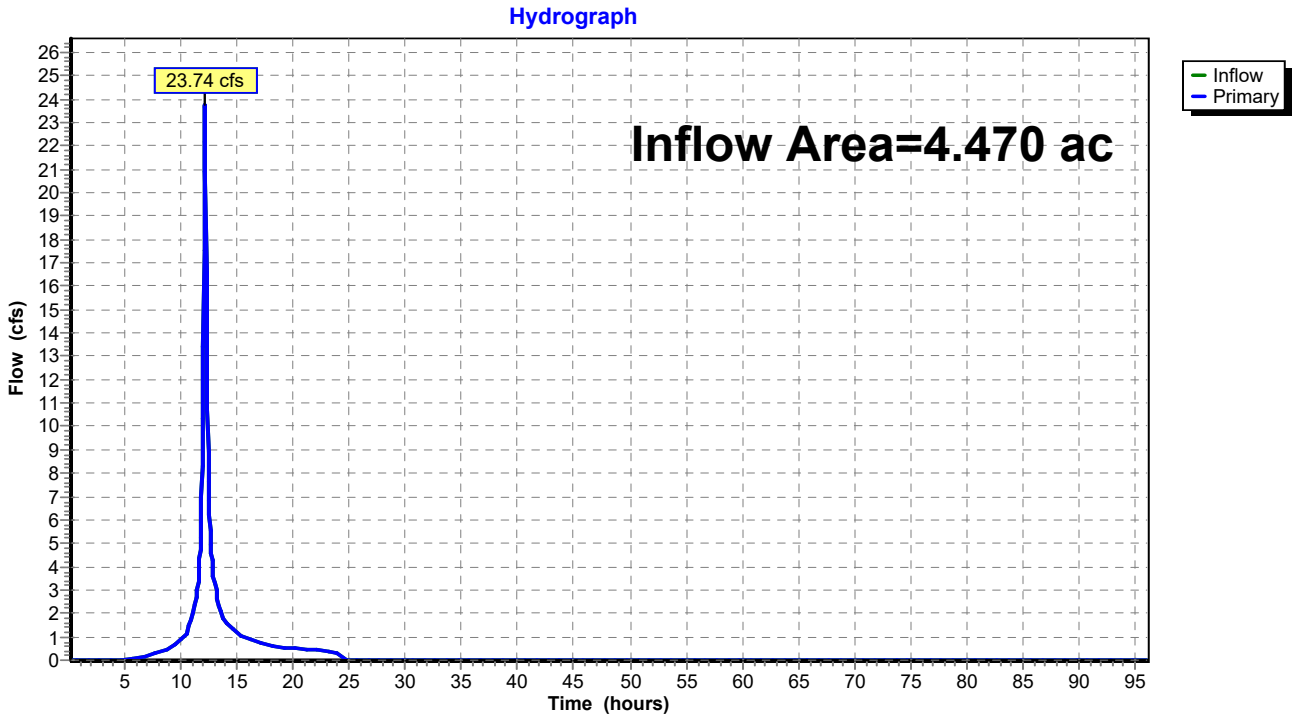


Summary for Link POST-DP-2: Analysis Point

Inflow Area = 4.470 ac, 1.01% Impervious, Inflow Depth = 5.80" for 50-year event
Inflow = 23.74 cfs @ 12.19 hrs, Volume= 2.160 af
Primary = 23.74 cfs @ 12.19 hrs, Volume= 2.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-2: Analysis Point



Summary for Subcatchment POST-1S:

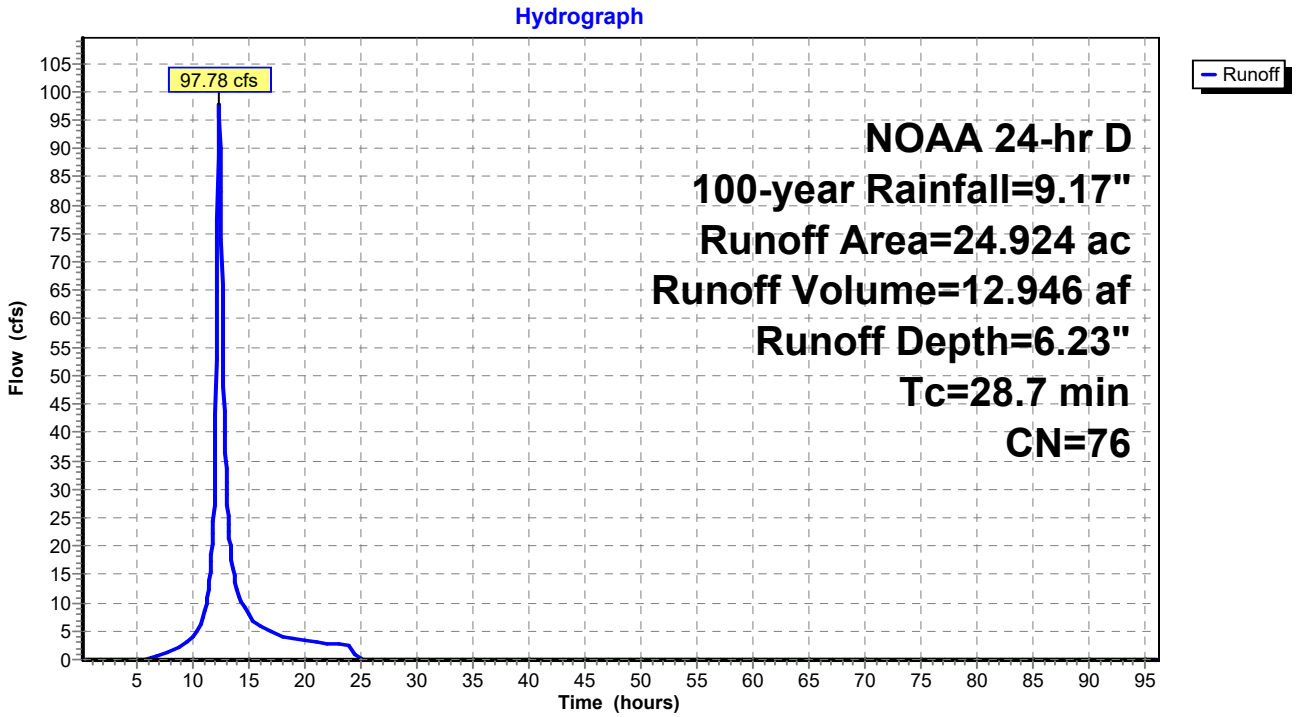
Runoff = 97.78 cfs @ 12.40 hrs, Volume= 12.946 af, Depth= 6.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-year Rainfall=9.17"

	Area (ac)	CN	Description
*	1.049	98	Pavement, Concrete Pads & Ballasts
*	0.531	96	Compacted Gravel
	1.105	94	Newly graded area, HSG D
	14.476	80	>75% Grass cover, Good, HSG D
	5.244	55	Woods, Good, HSG B
	0.815	70	Woods, Good, HSG C
	1.626	77	Woods, Good, HSG D
	0.078	56	Brush, Fair, HSG B
	24.924	76	Weighted Average
	23.875		95.79% Pervious Area
	1.049		4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-1S:



Summary for Subcatchment POST-2S:

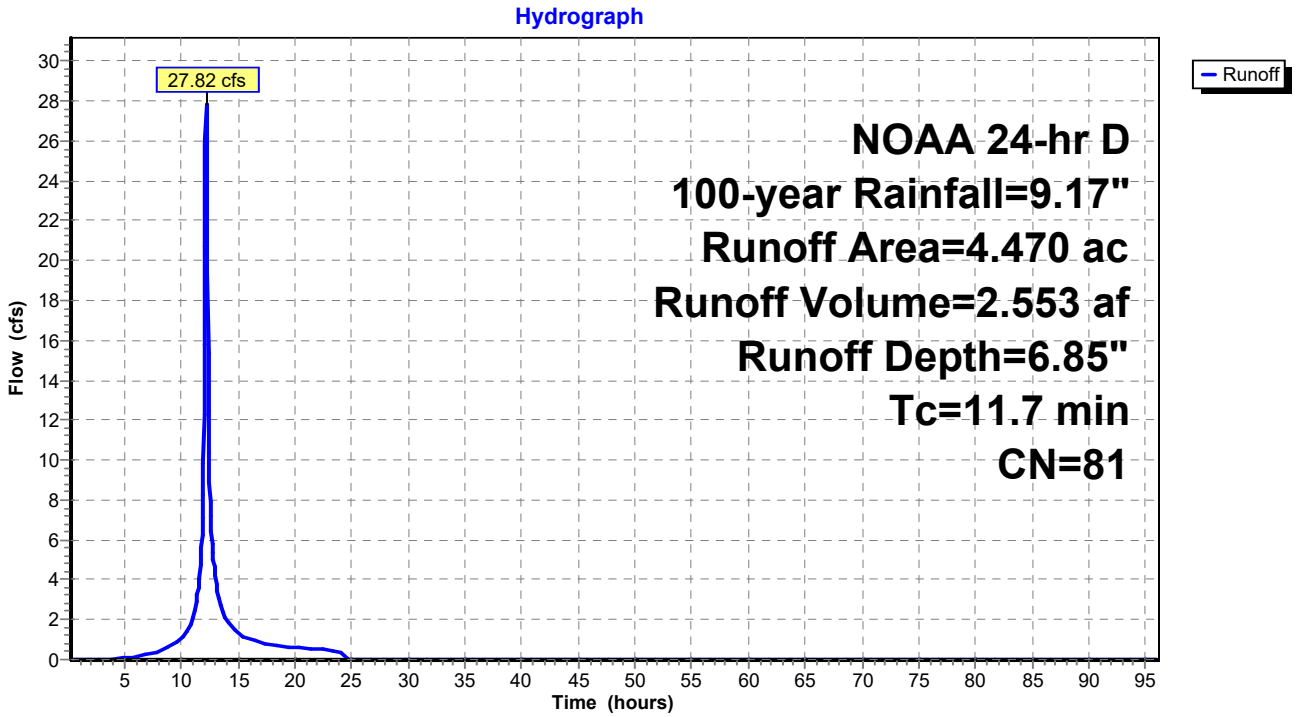
Runoff = 27.82 cfs @ 12.19 hrs, Volume= 2.553 af, Depth= 6.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-year Rainfall=9.17"

	Area (ac)	CN	Description
*	0.045	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.325	94	Newly graded area, HSG D
	3.435	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.665	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	4.470	81	Weighted Average
	4.425		98.99% Pervious Area
	0.045		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7					**Direct Entry, See Tc calculation sheet**

Subcatchment POST-2S:

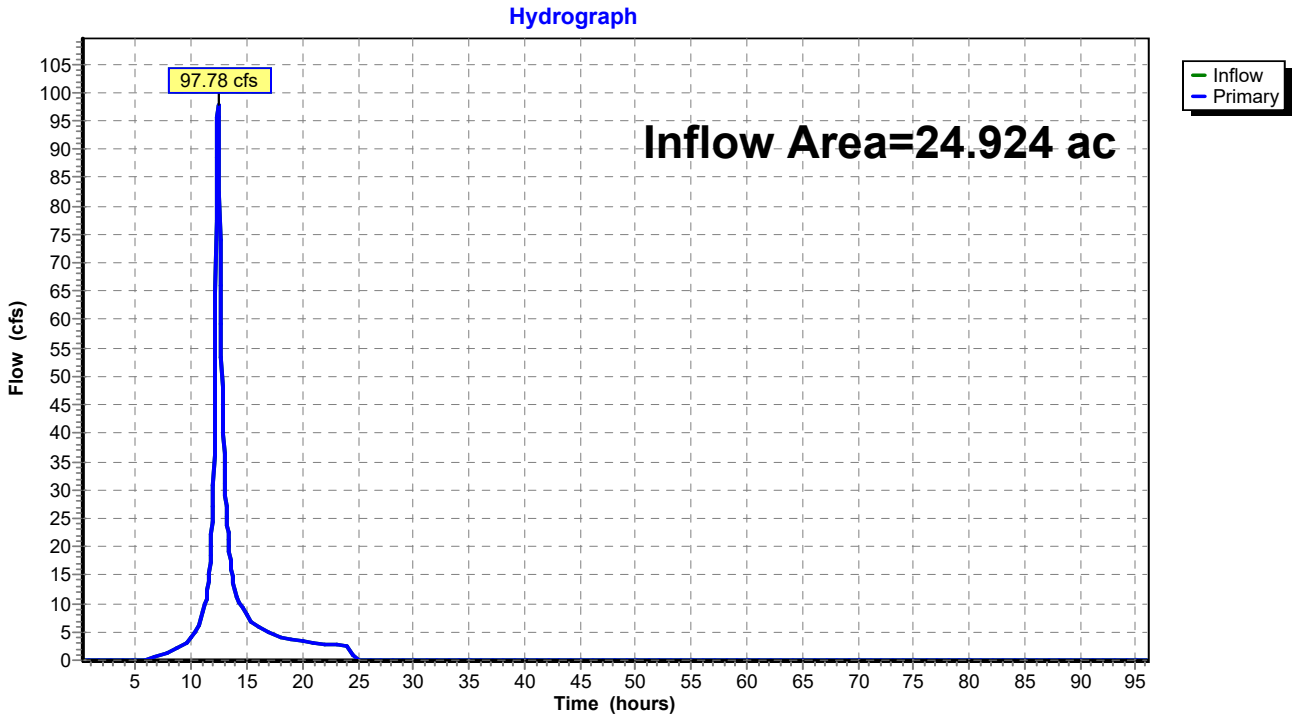


Summary for Link POST-DP-1: Analysis Point

Inflow Area = 24.924 ac, 4.21% Impervious, Inflow Depth = 6.23" for 100-year event
Inflow = 97.78 cfs @ 12.40 hrs, Volume= 12.946 af
Primary = 97.78 cfs @ 12.40 hrs, Volume= 12.946 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point

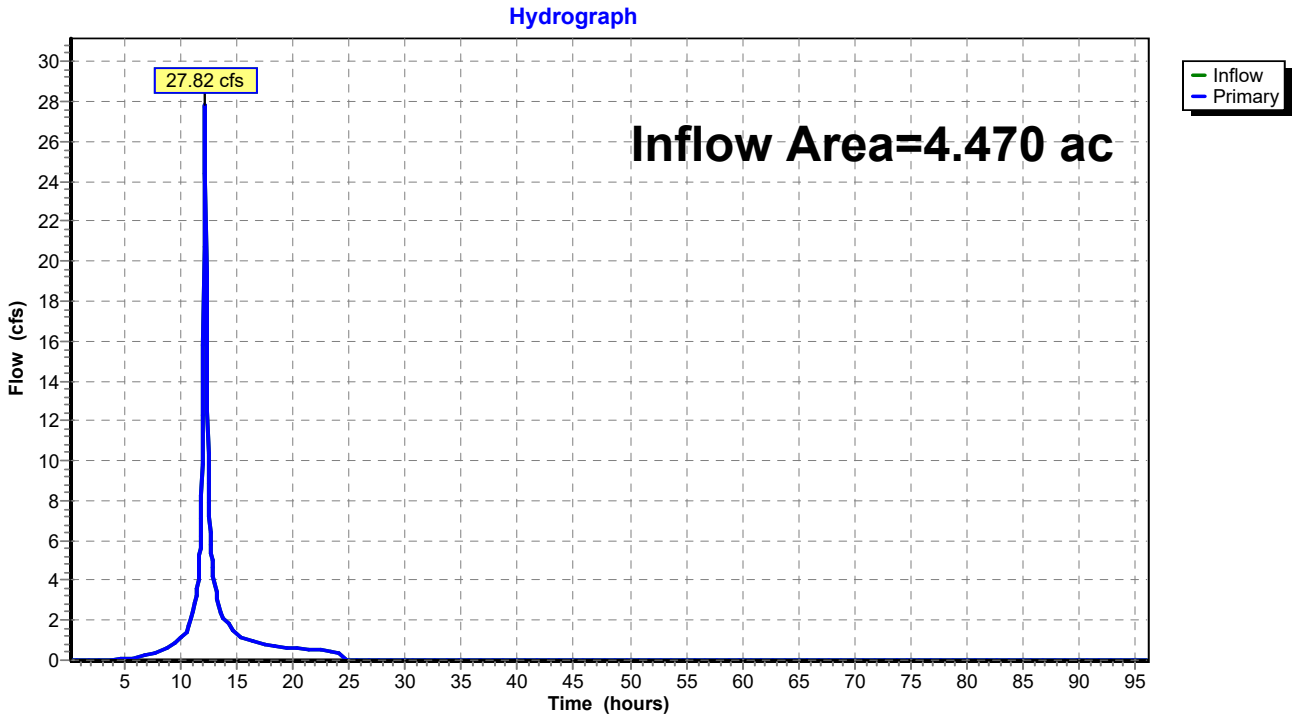


Summary for Link POST-DP-2: Analysis Point

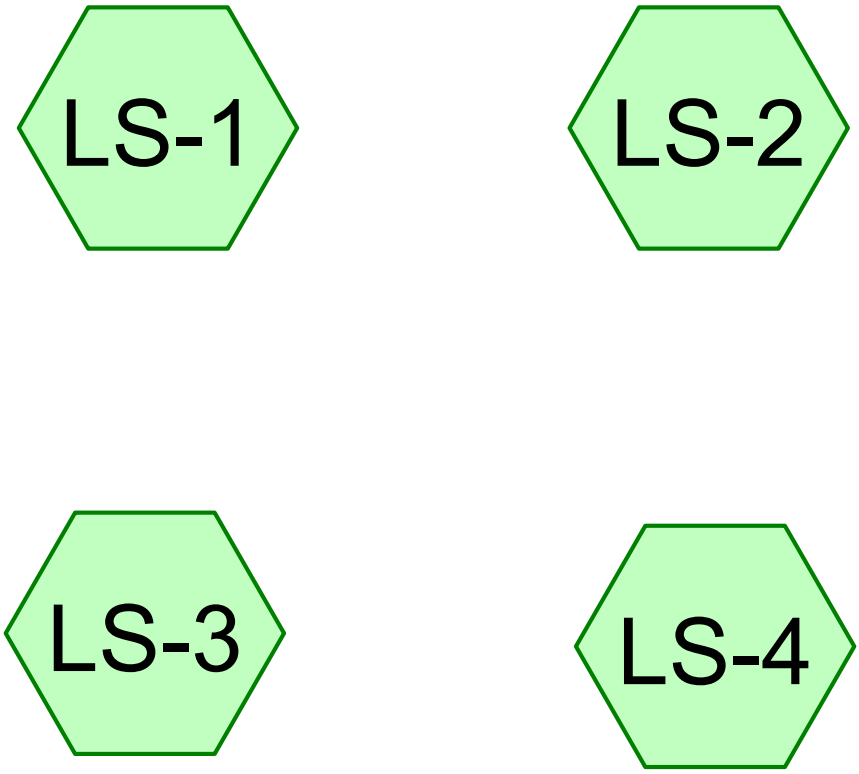
Inflow Area = 4.470 ac, 1.01% Impervious, Inflow Depth = 6.85" for 100-year event
Inflow = 27.82 cfs @ 12.19 hrs, Volume= 2.553 af
Primary = 27.82 cfs @ 12.19 hrs, Volume= 2.553 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-2: Analysis Point



LEVEL SPREADERS



Subcat Reach Pond Link

Routing Diagram for Torrington - Stormwater Model
Prepared by TRC, Printed 10/18/2023

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-year	NOAA 24-hr	D	Default	24.00	1	5.71	2

Summary for Subcatchment LS-1:

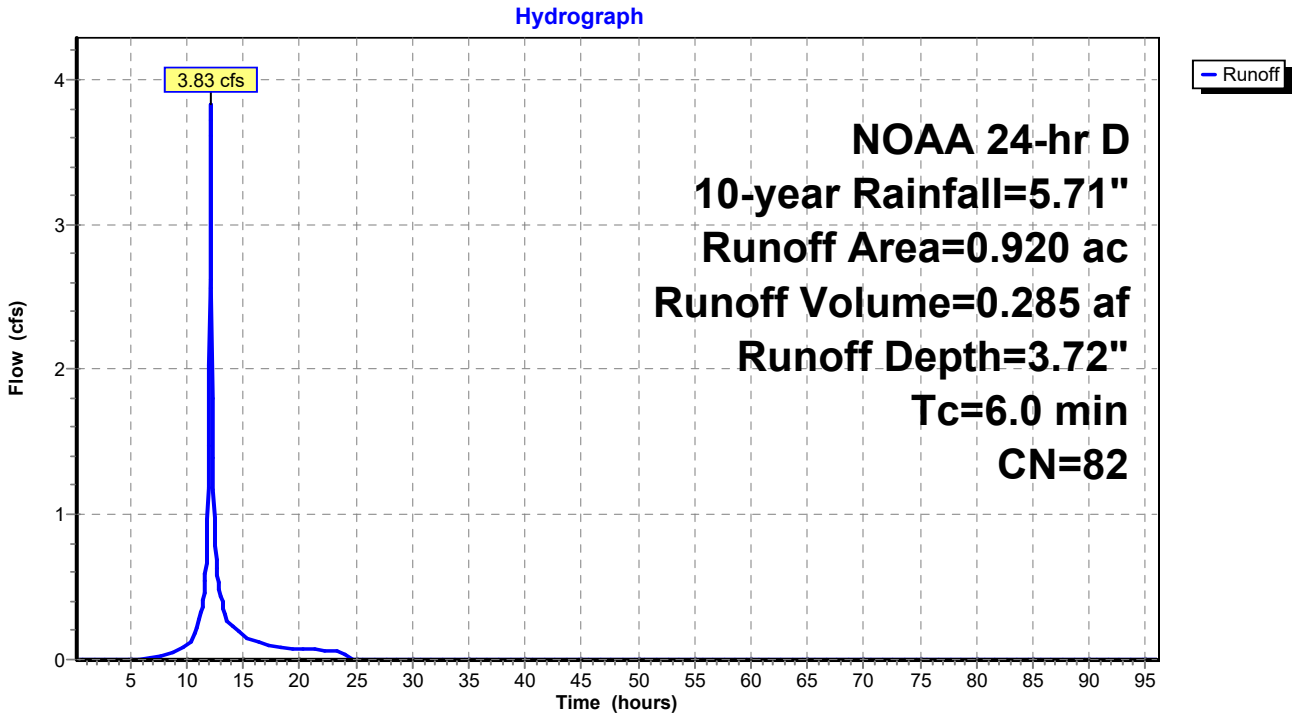
Runoff = 3.83 cfs @ 12.13 hrs, Volume= 0.285 af, Depth= 3.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-year Rainfall=5.71"

	Area (ac)	CN	Description
*	0.050	98	Pavement, Concrete Pads & Ballasts
*	0.070	96	Compacted Gravel
	0.000	94	Newly graded area, HSG D
	0.800	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	0.920	82	Weighted Average
	0.870		94.57% Pervious Area
	0.050		5.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Minimum for HydroCAD model**

Subcatchment LS-1:



Summary for Subcatchment LS-2:

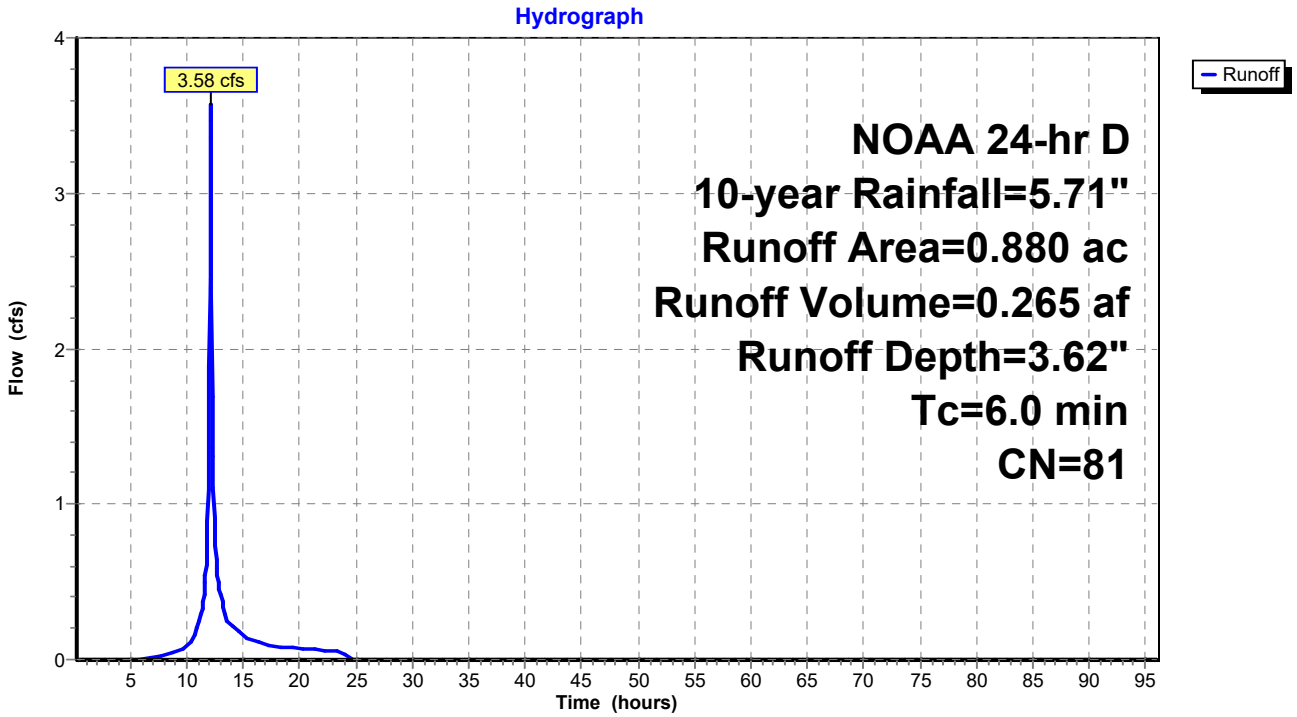
Runoff = 3.58 cfs @ 12.13 hrs, Volume= 0.265 af, Depth= 3.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-year Rainfall=5.71"

	Area (ac)	CN	Description
*	0.040	98	Pavement, Concrete Pads & Ballasts
*	0.030	96	Compacted Gravel
	0.000	94	Newly graded area, HSG D
	0.810	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	0.880	81	Weighted Average
	0.840		95.45% Pervious Area
	0.040		4.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Minimum for HydroCAD model**

Subcatchment LS-2:



Summary for Subcatchment LS-3:

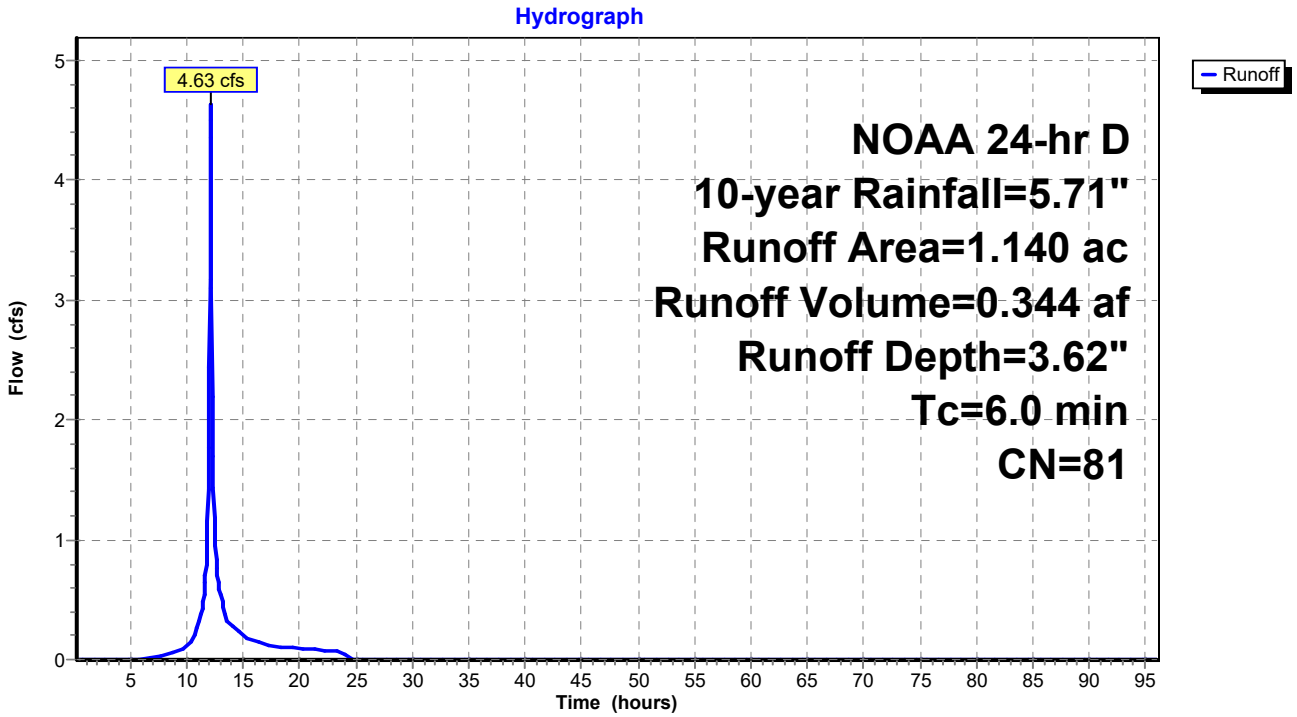
Runoff = 4.63 cfs @ 12.13 hrs, Volume= 0.344 af, Depth= 3.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-year Rainfall=5.71"

	Area (ac)	CN	Description
*	0.040	98	Pavement, Concrete Pads & Ballasts
*	0.010	96	Compacted Gravel
	0.000	94	Newly graded area, HSG D
	1.090	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	1.140	81	Weighted Average
	1.100		96.49% Pervious Area
	0.040		3.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Minimum for HydroCAD model**

Subcatchment LS-3:



Summary for Subcatchment LS-4:

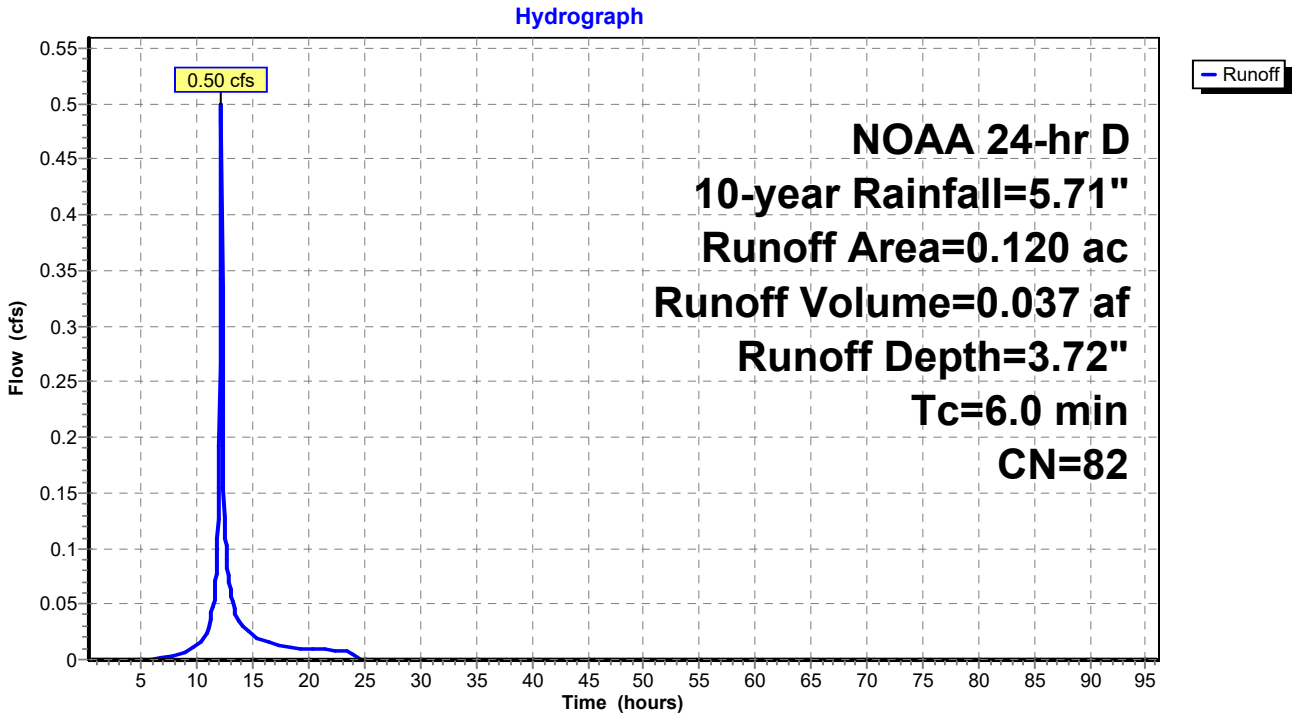
Runoff = 0.50 cfs @ 12.13 hrs, Volume= 0.037 af, Depth= 3.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-year Rainfall=5.71"

	Area (ac)	CN	Description
*	0.010	98	Pavement, Concrete Pads & Ballasts
*	0.000	96	Compacted Gravel
	0.000	94	Newly graded area, HSG D
	0.110	80	>75% Grass cover, Good, HSG D
	0.000	55	Woods, Good, HSG B
	0.000	70	Woods, Good, HSG C
	0.000	77	Woods, Good, HSG D
	0.000	56	Brush, Fair, HSG B
	0.120	82	Weighted Average
	0.110		91.67% Pervious Area
	0.010		8.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Minimum for HydroCAD model**

Subcatchment LS-4:



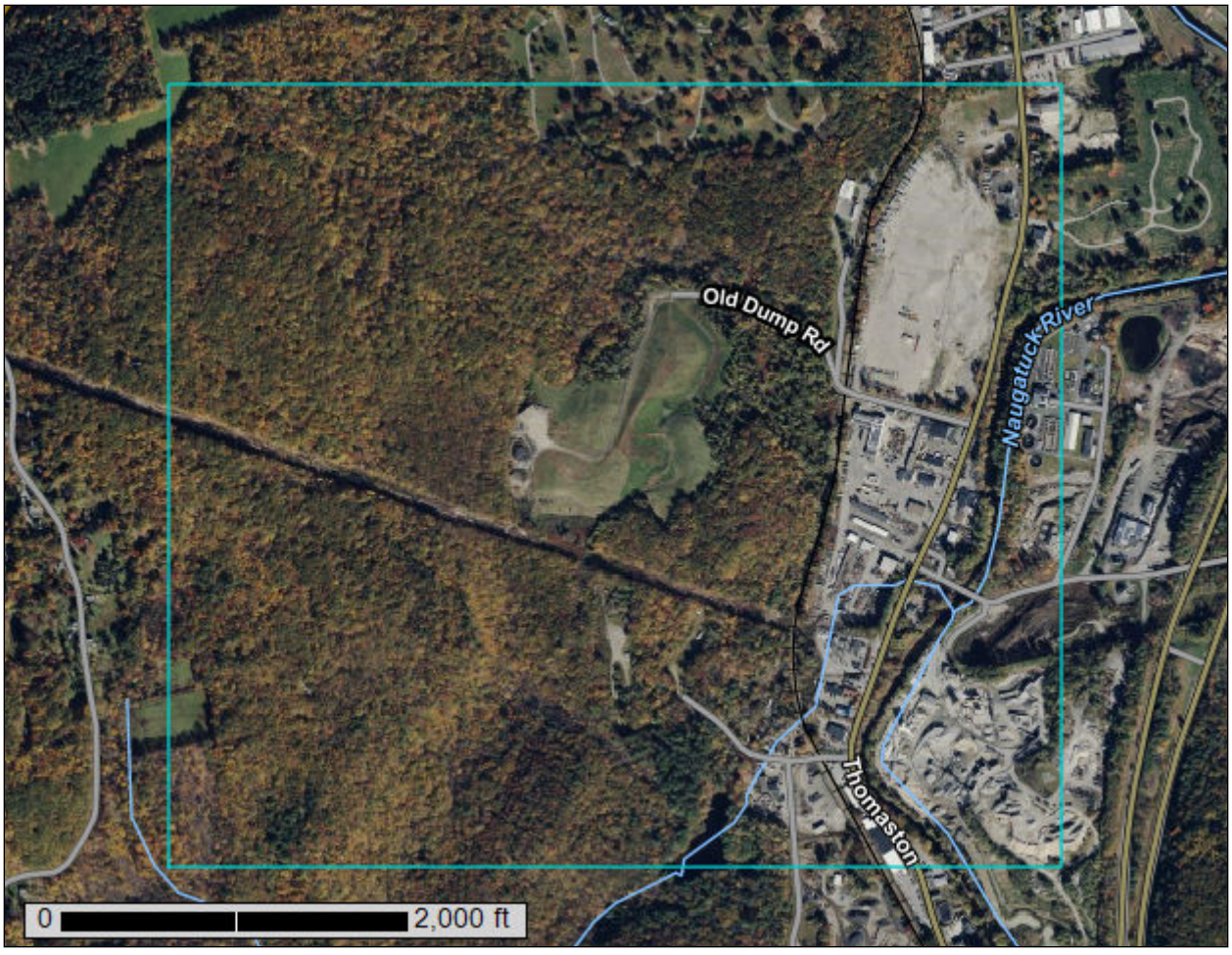
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for State of Connecticut, Western Part



October 9, 2023

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

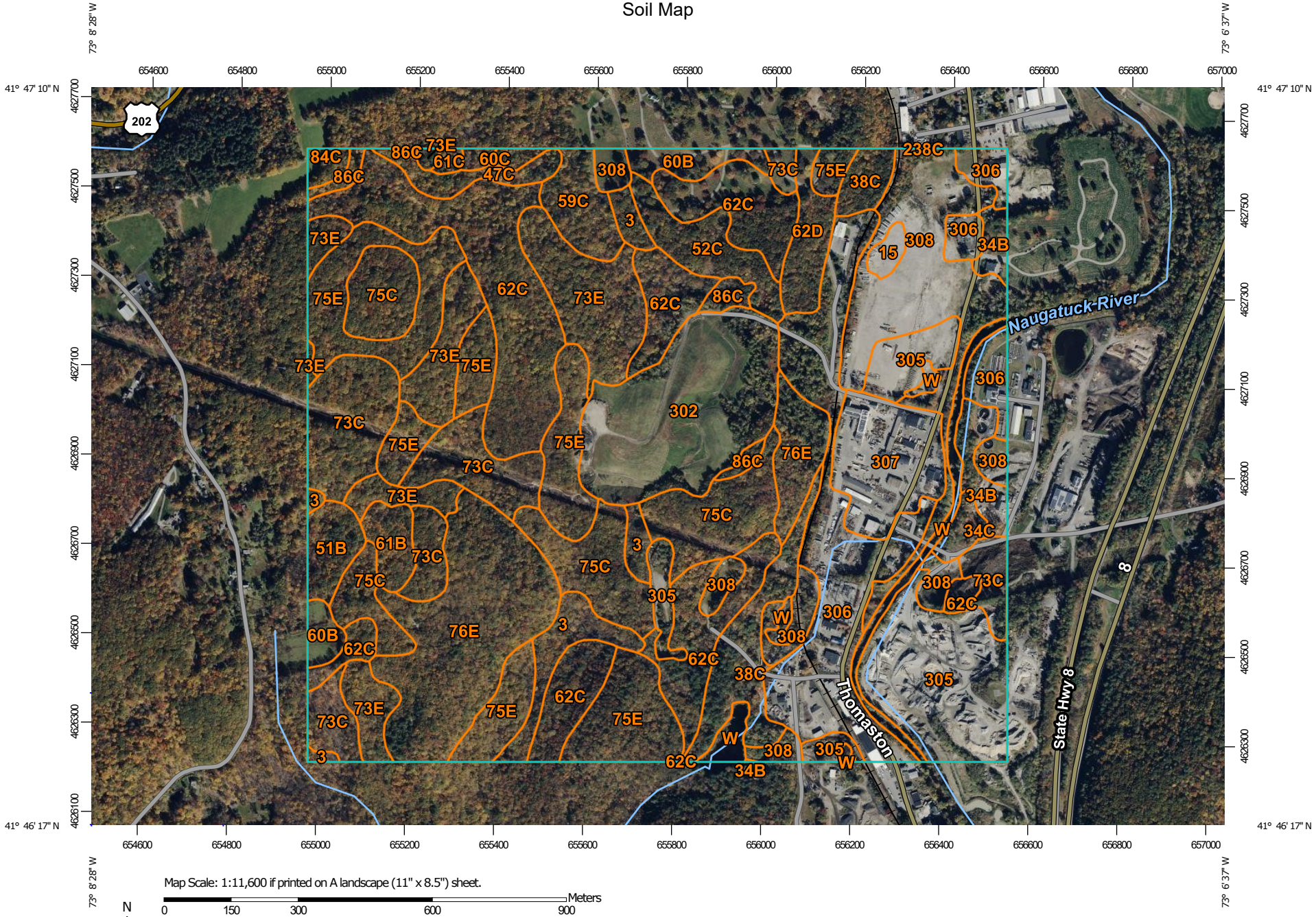
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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

Custom Soil Resource Report
Soil Map



Map Scale: 1:11,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

Soil Survey Area: State of Connecticut, Western Part
Survey Area Data: Version 1, Sep 15, 2023

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	11.3	2.1%
15	Scarboro muck, 0 to 3 percent slopes	1.7	0.3%
34B	Merrimac fine sandy loam, 3 to 8 percent slopes	7.2	1.3%
34C	Merrimac fine sandy loam, 8 to 15 percent slopes	2.4	0.5%
38C	Hinckley loamy sand, 3 to 15 percent slopes	15.7	2.9%
47C	Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony	4.5	0.8%
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	5.3	1.0%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	9.2	1.7%
59C	Gloucester gravelly sandy loam, 3 to 15 percent slopes, extremely stony	8.3	1.5%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	6.5	1.2%
60C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	0.8	0.1%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	4.3	0.8%
61C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony	0.8	0.1%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	70.4	13.1%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	6.7	1.3%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	36.0	6.7%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	33.3	6.2%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	35.4	6.6%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	49.2	9.2%
76E	Rock outcrop-Hollis complex, 3 to 45 percent slopes	41.1	7.7%
84C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	1.7	0.3%
86C	Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony	3.8	0.7%
238C	Hinckley-Urban land complex, 3 to 15 percent slopes	0.0	0.0%
302	Dumps	34.0	6.4%
305	Udorthents-Pits complex, gravelly	34.9	6.5%
306	Udorthents-Urban land complex	45.3	8.5%
307	Urban land	15.7	2.9%
308	Udorthents, smoothed	41.3	7.7%
W	Water	8.8	1.7%
Totals for Area of Interest		**535.4**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a

given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

State of Connecticut, Western Part

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

Map Unit Setting

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

Map Unit Composition

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

Description of Ridgebury, Extremely Stony

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

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

Description of Leicester, Extremely Stony

Setting

Landform: Depressions, drainageways, hills, ground moraines
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Whitman, Extremely Stony

Setting

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

Typical profile

Oi - 0 to 1 inches: peat

A - 1 to 10 inches: fine sandy loam
Bg - 10 to 17 inches: gravelly fine sandy loam
Cdg - 17 to 61 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 7 to 38 inches to densic material
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.0 inches)

Interpretive groups

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

Minor Components

Woodbridge, extremely stony

Percent of map unit: 6 percent
Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Swansea

Percent of map unit: 2 percent
Landform: Swamps, bogs
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

15—Scarboro muck, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svkt
Elevation: 0 to 1,350 feet

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

Map Unit Composition

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

Description of Scarboro

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Timakwa

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

Walpole

Percent of map unit: 8 percent
Landform: Outwash terraces, depressions, outwash plains, depressions, deltas
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Deerfield

Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

34B—Merrimac fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyqs
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Merrimac and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Kames, eskers, moraines, outwash terraces, outwash plains
Landform position (two-dimensional): Backslope, footslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand
2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Sudbury

Percent of map unit: 5 percent
Landform: Outwash plains, terraces, deltas
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent
Landform: Outwash plains, eskers, kames, deltas
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Windsor

Percent of map unit: 3 percent
Landform: Outwash plains, deltas, dunes, outwash terraces
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Agawam

Percent of map unit: 2 percent
Landform: Kames, eskers, stream terraces, moraines, outwash terraces, outwash plains

Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

34C—Merrimac fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2tyqt
Elevation: 0 to 1,030 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Merrimac and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Outwash terraces, kames, moraines, outwash plains, eskers
Landform position (two-dimensional): Backslope, footslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand
2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Hinckley
Percent of map unit: 5 percent
Landform: Outwash plains, eskers, kames, deltas
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Sudbury
Percent of map unit: 5 percent
Landform: Outwash plains, terraces, deltas
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Windsor
Percent of map unit: 5 percent
Landform: Outwash terraces, deltas, dunes, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

38C—Hinckley loamy sand, 3 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2svmb
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Footslope, toeslope, shoulder, backslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Convex, concave, linear
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 5 percent
Landform: Kame terraces, outwash plains, outwash terraces, outwash deltas, kames, eskers, moraines
Landform position (two-dimensional): Footslope, shoulder, backslope, toeslope, summit

Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Convex, concave, linear
Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent
Landform: Eskers, moraines, outwash terraces, outwash plains, kames
Landform position (two-dimensional): Shoulder, toeslope, backslope, footslope, summit
Landform position (three-dimensional): Side slope, head slope, nose slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Footslope, backslope, shoulder, toeslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, tread, riser
Down-slope shape: Convex, concave, linear
Across-slope shape: Convex, concave, linear
Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent
Landform: Outwash terraces, kame terraces, outwash plains, moraines, outwash deltas
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

47C—Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w685
Elevation: 10 to 1,470 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Woodbridge, extremely stony, and similar soils: 83 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Extremely Stony

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 9 inches: fine sandy loam
Bw1 - 9 to 20 inches: fine sandy loam
Bw2 - 20 to 32 inches: fine sandy loam
Cd - 32 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 19 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton, extremely stony

Percent of map unit: 9 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Ridgebury, extremely stony

Percent of map unit: 5 percent
Landform: Ground moraines, drainageways, hills, depressions, drumlins
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, extremely stony

Percent of map unit: 2 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Whitman, extremely stony

Percent of map unit: 1 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

51B—Sutton fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2xfff
Elevation: 0 to 1,410 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Sutton, very stony, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton, Very Stony

Setting

Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: fine sandy loam
Bw1 - 7 to 19 inches: fine sandy loam
Bw2 - 19 to 27 inches: sandy loam
C1 - 27 to 41 inches: gravelly sandy loam
C2 - 41 to 62 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 12 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B/D
Ecological site: F144AY008CT - Moist Till Uplands
Hydric soil rating: No

Minor Components

Charlton, very stony

Percent of map unit: 7 percent
Landform: Hills, ground moraines, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Canton, very stony

Percent of map unit: 4 percent
Landform: Ridges, hills, moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester, very stony

Percent of map unit: 3 percent
Landform: Hills, drainageways, ground moraines, depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave

Hydric soil rating: Yes

Whitman, very stony

Percent of map unit: 1 percent
Landform: Depressions, drainageways, hills, ground moraines, drumlins
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

52C—Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2xffj
Elevation: 10 to 760 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Sutton, Extremely Stony

Setting

Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: fine sandy loam
Bw1 - 7 to 19 inches: fine sandy loam
Bw2 - 19 to 27 inches: sandy loam
C1 - 27 to 41 inches: gravelly sandy loam
C2 - 41 to 62 inches: gravelly sandy loam

Properties and qualities

Slope: 2 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 12 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B/D
Ecological site: F144AY008CT - Moist Till Uplands
Hydric soil rating: No

Minor Components

Woodbridge, extremely stony

Percent of map unit: 7 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Canton, extremely stony

Percent of map unit: 5 percent
Landform: Ridges, hills, moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Charlton, extremely stony

Percent of map unit: 5 percent
Landform: Hills, ground moraines, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester, extremely stony

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

59C—Gloucester gravelly sandy loam, 3 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 9lpk
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Gloucester

Setting

Landform: Hills
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and gravelly melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: gravelly sandy loam
Bw1 - 4 to 12 inches: gravelly sandy loam
Bw2 - 12 to 25 inches: very gravelly loamy sand
C1 - 25 to 35 inches: very gravelly loamy coarse sand
C2 - 35 to 60 inches: very gravelly loamy coarse sand

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: F144AY032NH - Dry Till Uplands

Hydric soil rating: No

Minor Components

Canton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent
Landform: Eskers, kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Charlton

Percent of map unit: 3 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Paxton

Percent of map unit: 3 percent
Landform: Drumlins, hills, till plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Sutton, extremely stony

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

60B—Canton and Charlton fine sandy loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w81s
Elevation: 0 to 1,460 feet
Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Canton and similar soils: 50 percent
Charlton and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

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

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: gravelly fine sandy loam
2C - 26 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Charlton

Setting

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

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw - 7 to 22 inches: gravelly fine sandy loam
C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Sutton

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

Chatfield

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent
Landform: Hills, depressions, drainageways, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

60C—Canton and Charlton fine sandy loams, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w81z
Elevation: 0 to 1,620 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Canton and similar soils: 50 percent
Charlton and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

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

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: gravelly fine sandy loam
2C - 26 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Charlton

Setting

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

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw - 7 to 22 inches: gravelly fine sandy loam
C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Leicester

Percent of map unit: 5 percent
Landform: Hills, depressions, drainageways, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton

Percent of map unit: 5 percent
Landform: Ground moraines, hills, ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave

Across-slope shape: Linear
Hydric soil rating: No

Chatfield

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

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

Map Unit Setting

National map unit symbol: 2w81v
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Canton, very stony, and similar soils: 50 percent
Charlton, very stony, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Very Stony

Setting

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

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

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

Description of Charlton, Very Stony

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

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

Leicester, very stony
Percent of map unit: 5 percent
Landform: Ground moraines, depressions, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Chatfield, very stony
Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

61C—Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony

Map Unit Setting
National map unit symbol: 2w820
Elevation: 0 to 1,540 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Canton, very stony, and similar soils: 50 percent
Charlton, very stony, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Very Stony

Setting

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

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

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

Description of Charlton, Very Stony

Setting

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

Typical profile

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

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

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

Minor Components

Chatfield, very stony

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Sutton, very stony

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

Leicester, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, depressions, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

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

Map Unit Setting

National map unit symbol: 2wks7
Elevation: 0 to 1,310 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, extremely stony, and similar soils: 50 percent
Charlton, extremely stony, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Extremely Stony

Setting

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

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

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

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

Interpretive groups

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

Description of Charlton, Extremely Stony

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Leicester, extremely stony

Percent of map unit: 5 percent
Landform: Ground moraines, depressions, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, extremely stony

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

Chatfield, extremely stony

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

62D—Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w81r
Elevation: 0 to 1,640 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, extremely stony, and similar soils: 55 percent
Charlton, extremely stony, and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Extremely Stony

Setting

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

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

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

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

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

Description of Charlton, Extremely Stony

Setting

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

Typical profile

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

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

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

Minor Components

Sutton, extremely stony

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

Chatfield, extremely stony

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Summit, backslope, shoulder
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Hollis, extremely stony

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

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

Map Unit Setting

National map unit symbol: 2w698
Elevation: 0 to 1,550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton, very stony, and similar soils: 50 percent
Chatfield, very stony, and similar soils: 30 percent

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

Description of Charlton, Very Stony

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

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

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

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

Description of Chatfield, Very Stony

Setting

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

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
Bw - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

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

Minor Components

Sutton, very stony

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

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Hollis, very stony

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Leicester, very stony

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

73E—Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky

Map Unit Setting

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

Map Unit Composition

Charlton and similar soils: 45 percent
Chatfield and similar soils: 30 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam
Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Chatfield

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

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

Minor Components

Rock outcrop

Percent of map unit: 10 percent
Hydric soil rating: No

Leicester

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

Sutton, very stony

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

Hollis
Percent of map unit: 3 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed, sandy subsoil
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, red parent material
Percent of map unit: 1 percent
Hydric soil rating: No

75C—Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes

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

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

Description of Hollis

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

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

Properties and qualities
Slope: 3 to 15 percent

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

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Chatfield

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

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

Description of Rock Outcrop

Typical profile

R - 0 to 0 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Charlton

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

Sutton, very stony

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

Leicester

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

Brimfield

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

Unnamed, red parent material

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

Unnamed, sandy subsoil

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

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

Map Unit Setting

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

Map Unit Composition

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

Description of Hollis

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Chatfield

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

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

Description of Rock Outcrop

Typical profile

R - 0 to 0 inches: bedrock

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D

Hydric soil rating: Unranked

Minor Components

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

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

Sutton, very stony
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Unnamed, red parent material
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, sandy subsoil
Percent of map unit: 1 percent
Hydric soil rating: No

Brimfield
Percent of map unit: 1 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

76E—Rock outcrop-Hollis complex, 3 to 45 percent slopes

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

Map Unit Composition

Rock outcrop: 55 percent
Hollis and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Setting

Landform: Hills, ridges

Typical profile

R - 0 to 0 inches: bedrock

Properties and qualities

Slope: 3 to 45 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Description of Hollis

Setting

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

Typical profile

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

Properties and qualities

Slope: 3 to 45 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

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

Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Minor Components

Chatfield
Percent of map unit: 10 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Charlton
Percent of map unit: 6 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Leicester
Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Brimfield
Percent of map unit: 1 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Sutton, very stony
Percent of map unit: 1 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

84C—Paxton and Montauk fine sandy loams, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2w67b
Elevation: 0 to 1,550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Paxton and similar soils: 55 percent
Montauk and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Hills, ground moraines, drumlins
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Description of Montauk

Setting

Landform: Drumlins, hills, ground moraines, recessionial moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 4 inches: fine sandy loam

Bw1 - 4 to 26 inches: fine sandy loam
Bw2 - 26 to 34 inches: sandy loam
2Cd - 34 to 72 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Woodbridge

Percent of map unit: 6 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Charlton

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

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

Stockbridge

Percent of map unit: 1 percent
Landform: Hills
Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

86C—Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w67d
Elevation: 20 to 1,490 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton, extremely stony, and similar soils: 55 percent
Montauk, extremely stony, and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Extremely Stony

Setting

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

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: fine sandy loam
Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Description of Montauk, Extremely Stony

Setting

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

Typical profile

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

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Charlton, extremely stony

Percent of map unit: 6 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, summit, backslope

Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge, extremely stony

Percent of map unit: 5 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, summit, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury, extremely stony

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

Stockbridge, extremely stony

Percent of map unit: 1 percent
Landform: Hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

238C—Hinckley-Urban land complex, 3 to 15 percent slopes

Map Unit Setting

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

Map Unit Composition

Hinckley and similar soils: 40 percent
Urban land: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Eskers, kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 8 inches: gravelly sandy loam
Bw1 - 8 to 20 inches: very gravelly loamy sand
Bw2 - 20 to 27 inches: very gravelly sand
C1 - 27 to 42 inches: stratified cobbly coarse sand to extremely gravelly sand
C2 - 42 to 60 inches: stratified cobbly coarse sand to extremely gravelly sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Description of Urban Land

Typical profile

H - 0 to 6 inches: material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Outwash plains, terraces

Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Merrimac

Percent of map unit: 3 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Walpole

Percent of map unit: 3 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Agawam

Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Scarboro

Percent of map unit: 2 percent
Landform: Depressions, drainageways, terraces
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

302—Dumps

Map Unit Setting

National map unit symbol: 9lmb
Elevation: 0 to 1,200 feet
Mean annual precipitation: 37 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Dumps: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dumps

Typical profile
C - 0 to 65 inches: variable

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

Minor Components

Udorthents
Percent of map unit: 2 percent
Hydric soil rating: No

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

Westbrook
Percent of map unit: 1 percent
Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Unnamed, frequently flooded
Percent of map unit: 1 percent
Landform: Drainageways
Hydric soil rating: Yes

305—Udorthents-Pits complex, gravelly

Map Unit Setting
National map unit symbol: 9lmf
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Udorthents and similar soils: 65 percent
Pits: 25 percent
Minor components: 10 percent

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

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Gravelly outwash

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 24 to 54 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Pits

Typical profile

C - 0 to 65 inches: very gravelly sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

Minor Components

Merrimac

Percent of map unit: 2 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Gloucester

Percent of map unit: 2 percent
Landform: Hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Hinckley

Percent of map unit: 2 percent
Landform: Eskers, kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 2 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Sudbury

Percent of map unit: 1 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ninigret

Percent of map unit: 1 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

306—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lmg
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 50 percent
Urban land: 39 percent
Minor components: 11 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Parent material: Human-transported material

Typical profile

^A - 0 to 5 inches: loam
^C1 - 5 to 21 inches: gravelly loam
^C2 - 21 to 79 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Urban Land

Typical profile

M - 0 to 6 inches: cemented material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Udorthents, wet substratum

Percent of map unit: 9 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Landform: Hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

307—Urban land

Map Unit Setting

National map unit symbol: 9lmh
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

H - 0 to 6 inches: material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 10 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 10 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

308—Udorthents, smoothed

Map Unit Setting

National map unit symbol: 9lmj
Elevation: 0 to 2,000 feet

Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Human-transported material

Typical profile

^A - 0 to 5 inches: loam
^C1 - 5 to 21 inches: gravelly loam
^C2 - 21 to 79 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Udorthents, wet substratum

Percent of map unit: 7 percent
Hydric soil rating: No

Urban land

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

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

W—Water

Map Unit Composition

Water: 100 percent

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

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NOAA Atlas 14, Volume 10, Version 3
Location name: Town of Torrington, Connecticut, USA*
Latitude: 41.779°, Longitude: -73.1255°
Elevation: 751 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	0.360 (0.273-0.472)	0.429 (0.324-0.562)	0.541 (0.408-0.711)	0.634 (0.476-0.838)	0.762 (0.555-1.05)	0.860 (0.615-1.21)	0.959 (0.668-1.39)	1.06 (0.712-1.59)	1.21 (0.782-1.87)	1.32 (0.836-2.09)
10-min	0.511 (0.387-0.668)	0.608 (0.460-0.796)	0.766 (0.578-1.01)	0.898 (0.674-1.19)	1.08 (0.787-1.48)	1.22 (0.871-1.71)	1.36 (0.946-1.97)	1.51 (1.01-2.26)	1.71 (1.11-2.65)	1.87 (1.18-2.96)
15-min	0.601 (0.455-0.786)	0.715 (0.541-0.937)	0.902 (0.680-1.18)	1.06 (0.793-1.40)	1.27 (0.926-1.75)	1.43 (1.02-2.01)	1.60 (1.11-2.32)	1.78 (1.19-2.65)	2.01 (1.30-3.12)	2.20 (1.39-3.48)
30-min	0.817 (0.619-1.07)	0.972 (0.736-1.27)	1.23 (0.925-1.61)	1.44 (1.08-1.90)	1.73 (1.26-2.38)	1.95 (1.39-2.73)	2.17 (1.51-3.16)	2.41 (1.61-3.60)	2.74 (1.77-4.24)	3.00 (1.90-4.73)
60-min	1.03 (0.782-1.35)	1.23 (0.930-1.61)	1.55 (1.17-2.04)	1.82 (1.36-2.40)	2.18 (1.59-3.01)	2.46 (1.76-3.46)	2.75 (1.92-3.99)	3.05 (2.04-4.56)	3.46 (2.24-5.36)	3.79 (2.40-5.98)
2-hr	1.36 (1.04-1.78)	1.60 (1.22-2.08)	1.98 (1.50-2.59)	2.30 (1.74-3.02)	2.74 (2.01-3.75)	3.07 (2.21-4.29)	3.41 (2.39-4.94)	3.79 (2.54-5.64)	4.31 (2.80-6.65)	4.73 (3.00-7.45)
3-hr	1.58 (1.21-2.05)	1.86 (1.42-2.41)	2.30 (1.75-2.99)	2.66 (2.02-3.49)	3.17 (2.33-4.33)	3.55 (2.57-4.96)	3.95 (2.79-5.73)	4.40 (2.96-6.54)	5.04 (3.28-7.77)	5.58 (3.55-8.77)
6-hr	1.99 (1.53-2.56)	2.37 (1.82-3.05)	2.98 (2.28-3.85)	3.49 (2.66-4.54)	4.19 (3.11-5.72)	4.71 (3.44-6.59)	5.27 (3.76-7.69)	5.94 (4.01-8.81)	6.96 (4.53-10.7)	7.82 (4.99-12.3)
12-hr	2.42 (1.86-3.09)	2.96 (2.28-3.79)	3.85 (2.96-4.94)	4.59 (3.51-5.93)	5.60 (4.19-7.64)	6.35 (4.67-8.89)	7.17 (5.18-10.5)	8.20 (5.54-12.1)	9.81 (6.40-15.0)	11.2 (7.18-17.5)
24-hr	2.80 (2.17-3.55)	3.53 (2.74-4.49)	4.72 (3.65-6.02)	5.71 (4.39-7.33)	7.07 (5.32-9.64)	8.06 (5.98-11.3)	9.17 (6.70-13.5)	10.6 (7.19-15.6)	13.0 (8.48-19.8)	15.0 (9.65-23.4)
2-day	3.15 (2.46-3.97)	4.04 (3.15-5.10)	5.49 (4.26-6.95)	6.69 (5.17-8.53)	8.35 (6.33-11.4)	9.54 (7.14-13.4)	10.9 (8.05-16.1)	12.7 (8.65-18.7)	15.8 (10.4-24.1)	18.5 (11.9-28.8)
3-day	3.43 (2.68-4.31)	4.40 (3.44-5.54)	6.00 (4.68-7.57)	7.32 (5.68-9.30)	9.14 (6.95-12.4)	10.5 (7.85-14.6)	11.9 (8.86-17.7)	14.0 (9.52-20.5)	17.4 (11.4-26.5)	20.5 (13.2-31.8)
4-day	3.68 (2.89-4.62)	4.72 (3.70-5.93)	6.42 (5.02-8.09)	7.84 (6.09-9.93)	9.78 (7.46-13.2)	11.2 (8.42-15.6)	12.8 (9.50-18.9)	15.0 (10.2-21.9)	18.6 (12.3-28.3)	21.9 (14.2-33.9)
7-day	4.40 (3.46-5.48)	5.57 (4.38-6.95)	7.48 (5.88-9.37)	9.08 (7.08-11.4)	11.3 (8.61-15.2)	12.8 (9.69-17.8)	14.6 (10.9-21.4)	17.1 (11.7-24.9)	21.1 (13.9-31.9)	24.7 (16.0-38.1)
10-day	5.12 (4.05-6.36)	6.36 (5.02-7.90)	8.38 (6.60-10.5)	10.1 (7.87-12.6)	12.4 (9.47-16.5)	14.0 (10.6-19.4)	15.9 (11.8-23.2)	18.4 (12.6-26.8)	22.6 (14.9-34.1)	26.2 (17.0-40.5)
20-day	7.43 (5.91-9.16)	8.71 (6.92-10.8)	10.8 (8.55-13.4)	12.5 (9.87-15.6)	14.9 (11.5-19.7)	16.7 (12.6-22.7)	18.6 (13.8-26.6)	21.1 (14.5-30.5)	25.0 (16.6-37.6)	28.5 (18.5-43.8)
30-day	9.35 (7.46-11.5)	10.6 (8.48-13.1)	12.8 (10.1-15.7)	14.5 (11.5-18.0)	16.9 (13.0-22.1)	18.7 (14.1-25.2)	20.6 (15.2-29.1)	23.0 (15.9-33.1)	26.6 (17.7-39.8)	29.7 (19.3-45.5)
45-day	11.7 (9.36-14.3)	13.0 (10.4-15.9)	15.2 (12.1-18.7)	17.0 (13.4-21.0)	19.4 (14.9-25.2)	21.3 (16.0-28.3)	23.2 (17.0-32.2)	25.4 (17.7-36.4)	28.5 (19.1-42.6)	31.1 (20.3-47.6)
60-day	13.6 (10.9-16.6)	15.0 (12.0-18.3)	17.2 (13.8-21.1)	19.1 (15.2-23.6)	21.6 (16.6-27.9)	23.6 (17.7-31.2)	25.6 (18.6-35.1)	27.6 (19.2-39.4)	30.3 (20.3-45.1)	32.3 (21.1-49.4)

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

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

Please refer to NOAA Atlas 14 document for more information.

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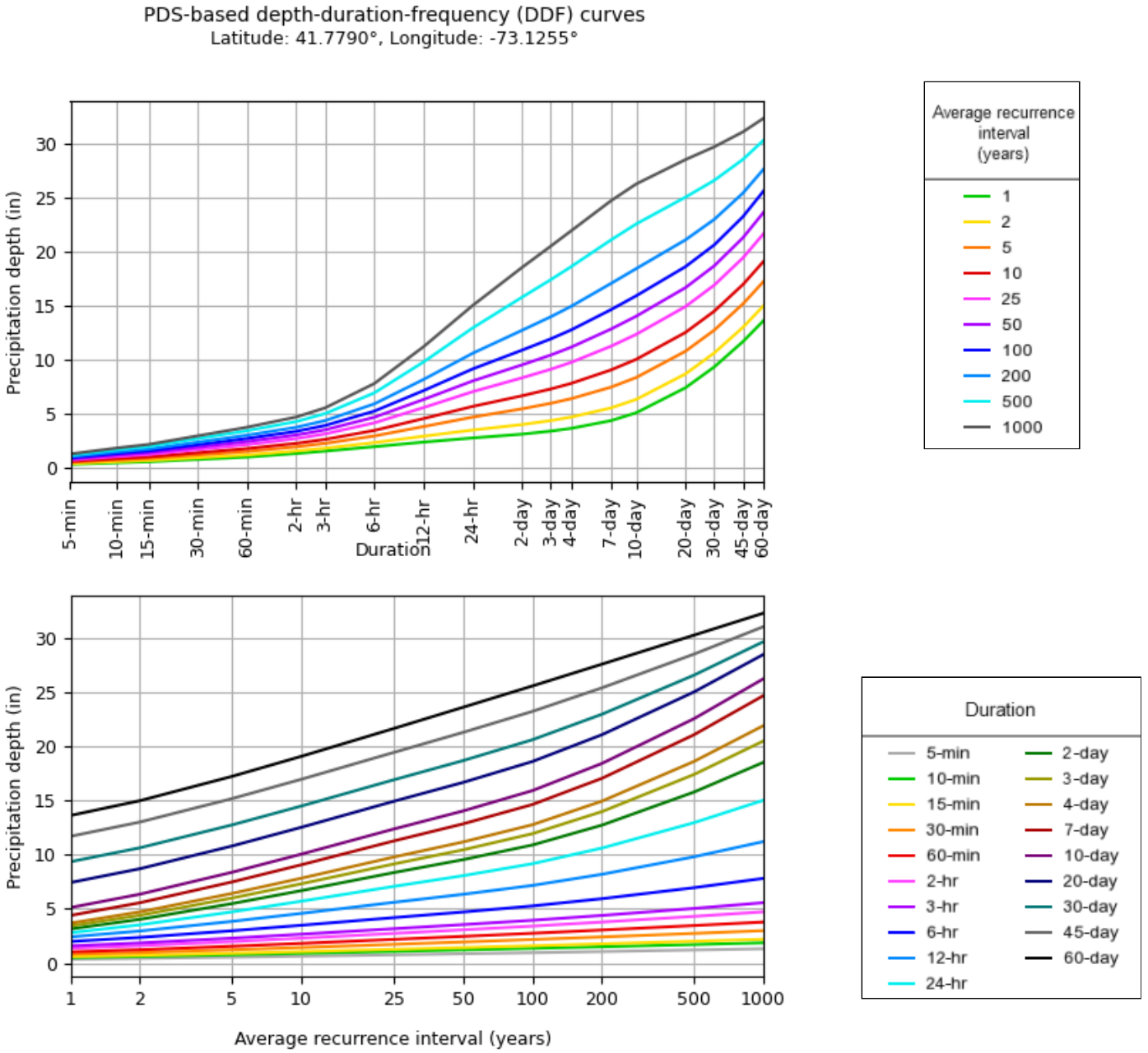
PF graphical



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Created (GMT): Mon Oct 9 19:31:35 2023

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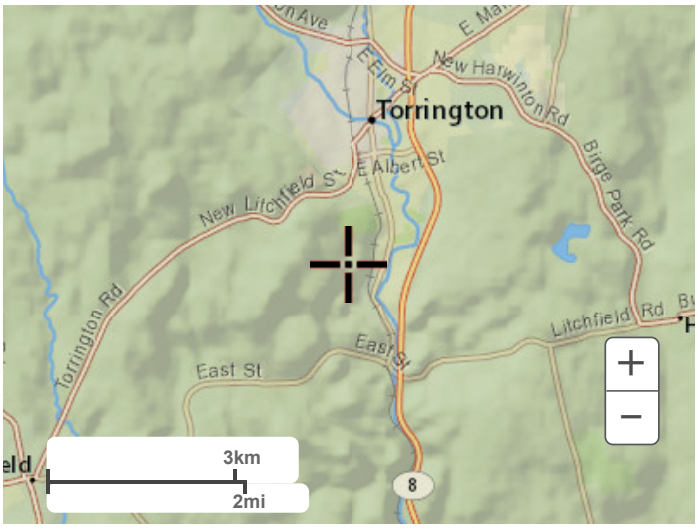
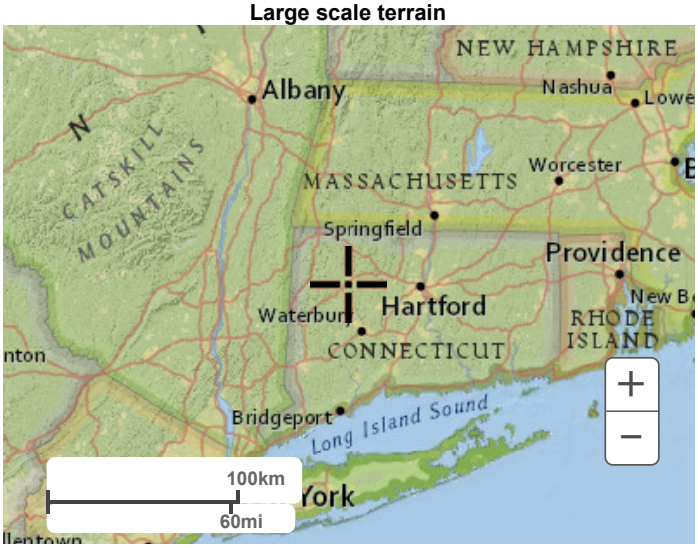
Maps & aerials

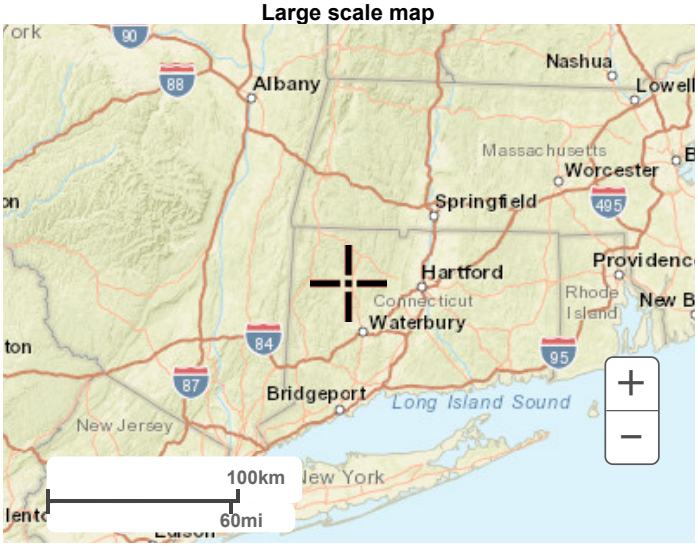
Small scale terrain



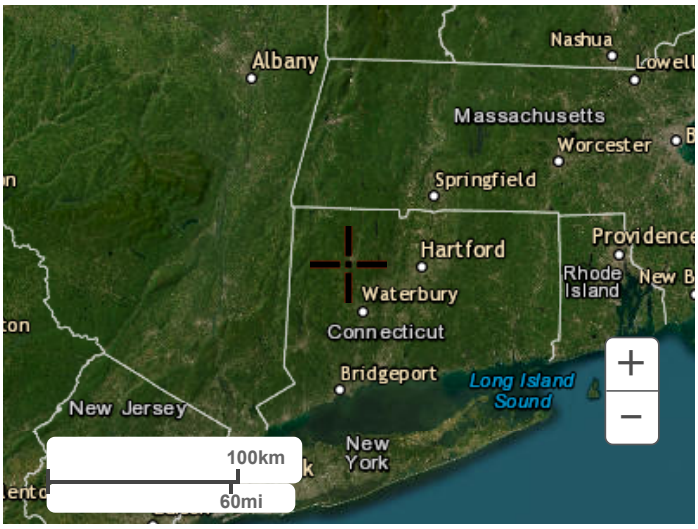
Large scale terrain



Large scale map



Large scale aerial



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

Disclaimer

Attachment D: Construction and Post-Construction Stormwater Inspection & Maintenance Log Templates

SWPCP INSPECTION REPORT

General Project Information					
Permittee Name:	USS Torrington Solar LLC				
Date of Inspection: **Report No.:** **Permit No.:**			**Type of Construction Activities Being Completed:**		
Inspector's Name:					
Time On Site:			**Inspection Type:**		
Time Off Site:					
General Project Notes:					
SWPCP Amendment Required:	☐ Yes	☐ No	**If yes, describe:**		

Weather Information		
Has there been a storm event since the last inspection?	☐ Yes	☐ No
If yes, what was the approx. amount of precipitation (inches) since the last inspection:		
Weather conditions at the time of inspection? Temperature:		
☐ Clear ☐ Cloudy ☐ Rain ☐ Sleet ☐ Snow ☐ Fog ☐ High Winds		
Does the Project Site discharge to natural surface waterbodies located within or immediately adjacent to the Project area?	☐ Yes	☐ No
If yes, describe:		
Were there any discharges observed at the time of inspection?	☐ Yes	☐ No
If yes, were sediment laden discharges observed?	☐ Yes	☐ No
Describe:		
If yes, was erosion or sedimentation observed at the discharge location?	☐ Yes	☐ No
Describe:		
Soil Condition:		
Were areas of soil disturbance observed at the time of inspection?	☐ Yes	☐ No

Maintaining Water Quality

Water Quality Observations	Yes	No	N/A
Is there an increase in turbidity causing a substantial visual contrast to natural conditions?	☐	☐	☐
Is there residue from oil and floating substances, visible oil film, or grease or globules?	☐	☐	☐
Are all disturbances within the approved limits, as outlined on the plans?	☐	☐	☐
Have receiving waterbodies and/or wetland been impacted by the Project?	☐	☐	☐
Comments:			

General Housekeeping

Site Conditions	Yes	No	N/A
Is construction site litter and debris appropriately managed?	☐	☐	☐
Are facilities and equipment necessary for implementation of erosion and sediment controls in working order and/or properly maintained?	☐	☐	☐
Is construction impacting adjacent properties?	☐	☐	☐
Is dust adequately controlled?	☐	☐	☐
Comments:			

Sediment and Runoff Control Practices

Site Conditions	Yes	No	N/A
Are erosion and sediment controls installed where required?	☐	☐	☐
Are all erosion and sediment controls properly installed with firm contact with the ground surface?	☐	☐	☐
Are all slopes and disturbed areas not actively being worked properly stabilized?	☐	☐	☐
Are existing roadside ditches in adequate condition and free of debris?	☐	☐	☐
Was sedimentation observed in the stormwater drainage features?	☐	☐	☐
Was new construction disturbance noted requiring repair or temporary measures?	☐	☐	☐
Are staging areas in good condition?	☐	☐	☐
Comments:			

Stabilized Construction Entrance(s)	Yes	No	N/A
Is the entrance installed per the Construction Drawings?	☐	☐	☐
Is the stone clean enough to effectively remove mud/sediment from vehicle tires?	☐	☐	☐
Does all traffic enter and exit the site at the stabilized construction entrance(s)?	☐	☐	☐
Is adequate drainage provided to prevent ponding at the entrance(s)?	☐	☐	☐
Comments:			

Ballast Block Erosion & Panel Dripline Erosion	Yes	No	N/A
Were ballast blocks on slopes inspected for erosion?	☐	☐	☐
Was any erosion identified around ballast blocks on slopes?	☐	☐	☐
Was panel dripline erosion inspection performed?	☐	☐	☐
Was dripline erosion found in any areas of the site?	☐	☐	☐
Comments:			

Site-Specific BMPs			
BMP	**BMP Installed?**	**BMP Maintenance Required?**	**Corrective Action Needed and Notes**
Access Road	☐ Yes ☐ No	☐ Yes ☐ No	
Level Spreader (LS-1)	☐ Yes ☐ No	☐ Yes ☐ No	
Level Spreader (LS-2)	☐ Yes ☐ No	☐ Yes ☐ No	
Level Spreader (LS-3)	☐ Yes ☐ No	☐ Yes ☐ No	
Level Spreader (LS-4)	☐ Yes ☐ No	☐ Yes ☐ No	
Permanent Check Dams	☐ Yes ☐ No	☐ Yes ☐ No	
Array Drip Edge Stone Berms	☐ Yes ☐ No	☐ Yes ☐ No	
Slope Breaker Stone Berm	☐ Yes ☐ No	☐ Yes ☐ No	
Permanent Turf Reinforcement Mat	☐ Yes ☐ No	☐ Yes ☐ No	

Soil Stabilization

Has Seed & Mulch or Hydroseeding been completed?	**Yes**	**No**	**N/A**
[If completed in phases, describe location]	☐	☐	☐
[If completed in phases, describe location]	☐	☐	☐
[If completed in phases, describe location]	☐	☐	☐
[If completed in phases, describe location]	☐	☐	☐
Comments:			

Stabilization Chart	
Project Area Description	**Percent Stabilization**

*Refer to the attached Photo Log that shows a record of the observations described above.

Inspection Report Certification by Professional/Inspector

Per Section 5(b)(4) of the permit: In the judgment of the qualified inspector conducting the site inspection and qualified professional, at the time of this report, the site is in [insert statement that the site is either in compliance or out of compliance with the terms and conditions of the SWPCP and permit].

Qualified Inspector	Qualified Inspector Signature
Qualified Professional	Qualified Professional Signature

Date:_____

The above signed acknowledges that, to the best of his/her knowledge, all information provided in this report is accurate and complete. If there are any questions, comments, or concerns regarding the contents of this report, feel free to contact Carl Stopper at (860) 798-4272 or cstopper@trccompanies.com .

Inspection Report Certification by Permittee

"I have personally examined and am familiar with the information submitted in this document and all those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Permittee Name & Title:_____

Permittee Signature:_____

Date:_____

PHOTO LOG

STORMWATER MANAGEMENT SYSTEM: POST-CONSTRUCTION MAINTENANCE & INSPECTION LOG				
	SCHEDULE		INITIALS & DATE	COMMENTS
	INSPECTION	MAINTENANCE		
REVEGETATED AREAS AND EMBANKMENTS				
Inspect revegetated areas and embankments	Quarterly			
Replant bare areas or areas with sparse growth		As Required		
Armor areas with rill erosion with an appropriate lining		As Required		
DRAINAGE CONVEYANCE SYSTEMS & STORMWATER BMPS				
Inspect swales, areas of concentrated flow, diversion berms, and level spreaders for evidence of erosion, debris, woody growth, and excessive sediment accumulation	Twice a year and after major rain event			
Remove any obstructions and accumulated sediments or debris		As Required		
Control vegetated growth and woody vegetation (as allowed)		As Required		
Repair any erosion of the swale lining		As Required		
Clean-out any accumulation of sediment		As Required		
Remove woody vegetation growing through rip-rap		As Required		
Repair any slumping side slopes		As Required		
Replace rip-rap where underlying filter fabric is showing or where stones have dislodged		As Required		
Relocate snow to approved snow storage locations		As Required		
ACCESS DRIVE SURFACES				
Inspect access drive surfaces and shoulders for erosion, false ditches, rutting, or excess accumulation of fines that could impede water flow	Quarterly			
Remove excess fines either manually or with a front-end loader		As Required		
Re-grade roads and shoulders		As Required		
VEGETATED BUFFERS				
Inspect meadow buffers for existing or developing erosion, rutting, debris, unwanted vegetation, concentrated runoff	Quarterly			
Correct any erosion/rutting/concentrated flows and remove debris		As Required		
Maintain dense cover of grasses (mow no more than twice per year, and cut vegetation no shorter than 6 inches)		As Required		
MAINTENANCE NEEDED AND WHEN:				

Attachment E: Notice of Termination Form

Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Notice of Termination Form: Solar Projects (Appendix I)

This Notice serves as a request to terminate the below listed permit as well as any applicable Letter(s) of Credit.

Part I: Permittee Information

The below information is required in accordance with Section 6(b) of the General Permit.

1. Permit Number: GSN _____
2. Registrant: _____
3. Site Address: _____

   City/Town: _____ State: _____ Zip Code: _____
4. Date of completion of construction: _____

   Date all storm drainage structures were cleared of construction sediment and debris: _____

   Beginning and Ending Dates of post-construction inspections: _____

   Date of final stabilization inspection(s)*: _____

   Qualified Inspector who conducted the Final Stabilization Inspection: (This person must sign Part III) _____
5. Check the post-construction activity(ies)** at the site (check all that apply):

   ☐ Industrial ☐ Residential ☐ Capped Landfill

   ☐ Commercial ☐ Solar Array ☐ Other: _____

* The Final Stabilization Inspection must occur at least two full growing seasons after final stabilization has been achieved. A full growing season is defined as the timeframe encompassed by two consecutive full seeding seasons: April 1 through June 15, and August 15 through October 1. If final stabilization is achieved during a seeding season, the following seeding season will be considered the first full seeding season after final stabilization has been achieved.

** Any questions regarding this form can be sent via email to DEEP.StormwaterStaff@ct.gov.

Locally Approvable and Locally Exempt Projects Must Complete the following Part II - *(Attach additional sheets as needed)*

Part II: Locally Approvable and Locally Exempt Post-Construction Inspection Certification

The below information is required in accordance with Section 5(b)(4)(C)(i)/(ii) and Appendix I(I)(7) of the General Permit.

Certification by a Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional and a District Representative

"I hereby certify that I am a qualified professional engineer / a qualified soil erosion and sediment control professional and a representative of the District in which the site is located as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that all post-construction measures have been installed as specified in the permittee's Stormwater Pollution Control Plan and in accordance with Section 5(b)(2)(C) of the general permit and that all such measures have been cleaned of construction sediment and debris. I understand that this certification is part of a registration submitted in accordance with section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional	Date
Printed Name of Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional	Title
Signature of District Representative	Date
Printed Name of District Representative	Title

State Agency Projects Must Complete the following Part II - (Attach additional sheets as needed)

Part II: State Agency Post-Construction Inspection Certification

The below information is required in accordance with Section 5(b)(4)(C)(iii) and Appendix I(I)(7) of the General Permit.

Certification by a DOT District Engineer or his/her designee / a DOT District Environmental Coordinator / a designated employee of another state agency and a District Representative

"I hereby certify that I am a DOT District Engineer or his/her designee / a DOT District Environmental Coordinator / a designated employee of another state agency and a representative of the District in which the site is located as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that all post-construction measures have been installed as specified in the permittee's Stormwater Pollution Control Plan and in accordance with Section 5(b)(2)(C) of the general permit and that all such measures have been cleaned of construction sediment and debris. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature	Date
Printed Name	Title
Signature of District Representative	Date
Printed Name of District Representative	Title

All Projects Must Complete the following Part III - *(Attach additional sheets as needed)*

Part III: Final Stabilization Inspection Certification

The below information is required in accordance with Section 5(b)(4)(D) and Appendix I(I)(7) of the General Permit.

Certification by a Qualified Inspector and a District Representative

"I hereby certify that I am a qualified inspector and a representative of the District in which the site is located as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that the site has been stabilized, as defined in Section 2 of the general permit, for a period of no less than two full growing seasons following the cessation of construction activities. I further certify that there is no active erosion or sedimentation present on site and no disturbed areas remain exposed. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Qualified Inspector	Date
Printed Name of Qualified Inspector	Title
Signature of District Representative	Date
Printed Name of District Representative	Title

All Projects Must Complete the following Part IV - *(Attach additional sheets as needed)*

Part IV: Permittee Certification

The below information is required in accordance with Section 5(b)(4)(D) of the General Permit.

Certification by the Permittee

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Signature of Permittee	Date
Printed Name of Permittee	Title

All Projects Must Complete the following Part V - *(Attach additional documentation as needed)*

Part V: Additional Submittals

The following attachments are required to be submitted along with the Notice of Termination Form:

☐ Post-Construction Inspection Report (must contain photos with time stamps)

☐ Final Stabilization Inspection Report (must contain photos with time stamps)

Complete and submit this form in accordance with the general permit (DEEP-WPED-GP-015) to ensure the proper handling of the termination. Print or type unless otherwise noted.

Submit this Notice of Termination Form to the address below, as well as via email to DEEP.StormwaterStaff@ct.gov:

WATER PERMITTING AND ENFORCEMENT DIVISION/STORMWATER GROUP
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Attachment F: Contractor Certification Statements (to be submitted once contractors are determined)