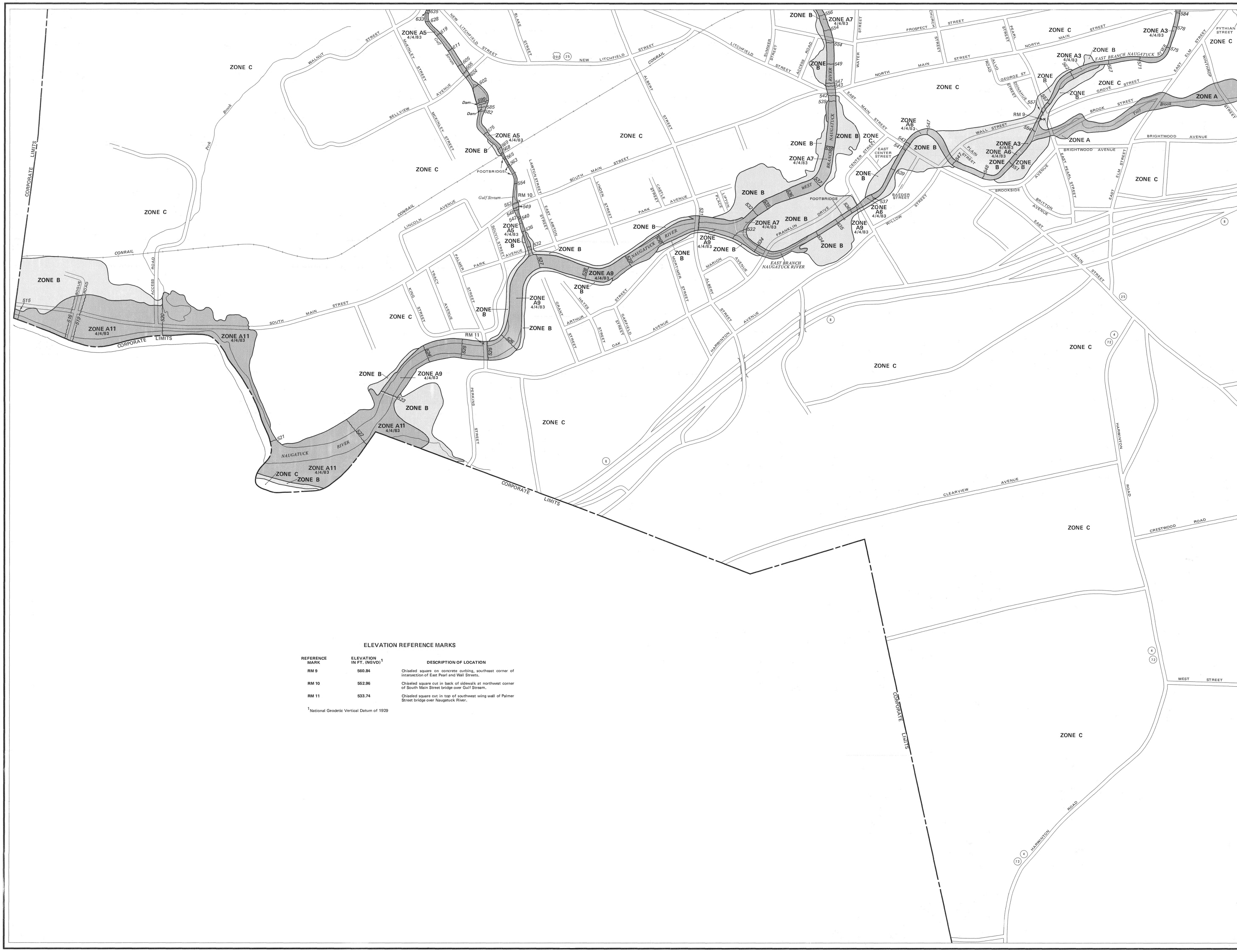


ELEVATION REFERENCE MARKS

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
100-Year Flood Boundary
Zone Designations* With Date of Identification e.g., 12/2/74
100-Year Flood Boundary
500-Year Flood Boundary
ZONE B
ZONE A DATE
ZONE A5 DATE
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

Federal Aviation Administration

« OE/AAA

Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2018.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference CFR Title 14 Part 77.9.

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

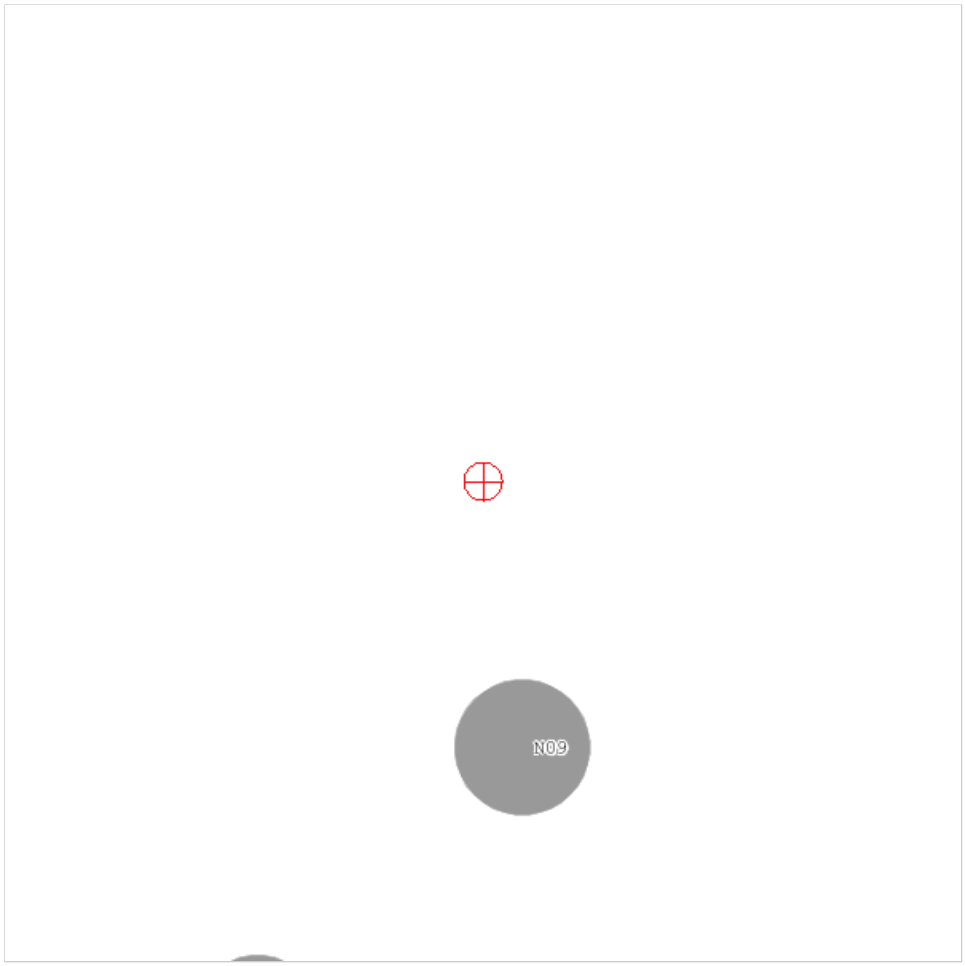
If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the Air Traffic Areas of Responsibility map for Off Airport construction, or contact the FAA Airports Region / District Office for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

* **Structure Type:**	SOLAR | Solar Panel Please select structure type and complete location point information.
Latitude:	41 Deg 46 M 43.93 S N
Longitude:	73 Deg 07 M 35.92 S W
Horizontal Datum:	NAD83
Site Elevation (SE):	782 (nearest foot)
Structure Height :	15 (nearest foot)
Is structure on airport:	(•) No ( ) Yes

Results

You do not exceed Notice Criteria.


N09

Federal Aviation Administration

« OE/AAA

Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2018.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference CFR Title 14 Part 77.9.

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

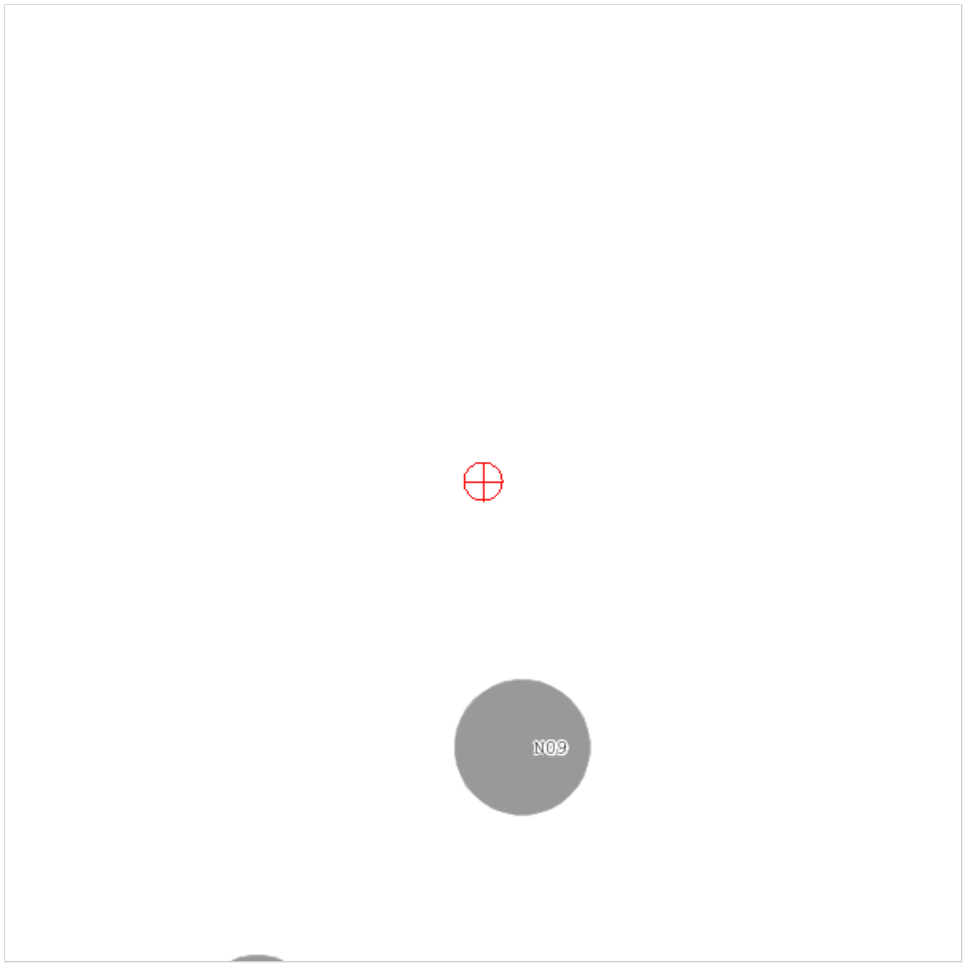
If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the Air Traffic Areas of Responsibility map for Off Airport construction, or contact the FAA Airports Region / District Office for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

* **Structure Type:**	CRANE | Mobile Crane Please select structure type and complete location point information.
Latitude:	41 Deg 46 M 43.93 S N
Longitude:	73 Deg 07 M 35.92 S W
Horizontal Datum:	NAD83
Site Elevation (SE):	782 (nearest foot)
Structure Height :	40 (nearest foot)
Is structure on airport:	(•) No ( ) Yes

Results

You do not exceed Notice Criteria.


N09

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: April 05, 2023
Project code: 2023-0065183
Project Name: USS Torrington Solar Project LLC

Federal Nexus: no
Federal Action Agency (if applicable):

Subject: Technical assistance for 'USS Torrington Solar Project LLC'

Dear Lisa Downing-Schmidt:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on April 05, 2023, for 'USS Torrington Solar Project LLC' (here forward, Project). This project has been assigned Project Code 2023-0065183 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter.

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project is not reasonably certain to cause incidental take of the northern long-eared bat. Unless the Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species and/or critical habitat listed above. Note that if a new species is listed that may be affected by the identified action before it is complete, additional review is recommended to ensure compliance with the Endangered Species Act.

Next Steps

Coordination with the Service is complete. This letter serves as technical assistance. All conservation measures should be implemented as proposed. Thank you for considering federally listed species during your project planning.

We are uncertain where the northern long-eared bat occurs on the landscape outside of known locations. Because of the steep declines in the species and vast amount of available and suitable forest habitat, the presence of suitable forest habitat alone is a far less reliable predictor of their presence. Based on the best available information, most suitable habitat is now expected to be unoccupied. During the interim period, while we are working on potential methods to address this uncertainty, we conclude take is not reasonably certain to occur in areas of suitable habitat where presence has not been documented.

If no changes occur with the Project or there are no updates on listed species, no further consultation/coordination for this project is required for the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place before project implements any changes which are final or commits additional resources.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2023-0065183 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

USS Torrington Solar Project LLC

2. Description

The following description was provided for the project 'USS Torrington Solar Project LLC':

> Proposed solar facility located at an old landfill at 105 Vista Dr Torrington, ST 06790.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.77978485,-73.12483160605265,14z

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of "may affect, but not likely to adversely affect" for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Do you have post-white nose syndrome occurrence data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

   Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed acoustic detections. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

   No

3. Does any component of the action involve construction or operation of wind turbines?

   Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   No

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: TRC
Name: Lisa Downing-Schmidt
Address: 215 Greenfield Parkway Suite 102
City: Liverpool, NY 13088
State: NY
Zip: 13088
Email ldowningschmidt@trccompanies.com
Phone: 3154309190

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: April 05, 2023
Project Code: 2023-0065183
Project Name: USS Torrington Solar Project LLC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 3/8/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the "**New England Field Office Endangered Species Project Review and Consultation**" website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (Updated 3/8/2023) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule will go into effect on **March 31, 2023**. After that date, the current 4(d) rule for NLEB will be invalid, and the 4(d) determination key will no longer be available. New compliance tools will be available in March 2023, and information will be posted in this section on our website and on the northern long-eared bat species page, so please check this site often for updates.

Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project may result in incidental take of NLEB after the new listing goes into effect, this will need to be addressed in an updated consultation that includes an Incidental Take Statement. Many of these situations will be addressed through the new compliance tools. If your project may require re-initiation of consultation, please wait for information on the new tools to appear on this site or contact our office for additional guidance.

Additional Info About Section 7 of the Act
Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/service/section-7-consultations

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

https://www.fws.gov/program/migratory-bird-permit

https://www.fws.gov/library/collections/bald-and-golden-eagle-management

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

PROJECT SUMMARY

Project Code: 2023-0065183
Project Name: USS Torrington Solar Project LLC
Project Type: Power Gen - Solar
Project Description: Proposed solar facility located at an old landfill at 105 Vista Dr Torrington, ST 06790.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.77978485,-73.12483160605265,14z

Counties: Litchfield County, Connecticut

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPAC USER CONTACT INFORMATION

Agency: TRC
Name: Lisa Downing-Schmidt
Address: 215 Greenfield Parkway Suite 102
City: Liverpool, NY 13088
State: NY
Zip: 13088
Email ldowningschmidt@trccompanies.com
Phone: 3154309190

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

Generated by eNDDB on:
3/9/2023

Lisa DowningSchmidt
TRC Companies
215 Greenfield Pkwy
Liverpool, NY 13088
LDowningSchmidt@trccompanies.com

Subject: USS Torrington Solar LLC
Filing # 96616
NDDB – New Determination Number: 202302296
Located off of Vista Drive near where Vista Ervie meets S Main St.
Torrington

Expiration Date: 3/9/2025

Based on current data maintained by the Natural Diversity Database (NDDB) and housed in the DEEP ezFile portal, no extant populations of Federal or State Endangered, Threatened or Special Concern species (RCSA Sec. 26-306) are known to occur within the project area delineated for the Energy and Utility Production Facilities and Distribution Infrastructure / Solar Energy, USS Torrington Solar LLC.

This NDDB – New determination may be utilized to fulfill the Endangered and Threatened Species requirements for state-issued permit applications, licenses, registration submissions, and authorizations. However, please be aware of the following limitations and conditions:

- This determination does not preclude the possibility that listed species may be encountered on site. Should this occur, a report must be submitted to the Natural Diversity Database promptly and additional action may be necessary to remain in compliance with certain state permits. Please fill out the appropriate survey form and follow the instructions for submittal.
- If your project involves preparing an Environmental Impact Assessment, this NDDB consultation and determination should not be substituted for conducting biological field surveys assessing on-site habitat and species presence.
- This determination applies only to the project as described in the submission and summarized at the end of this letter. Please re-submit an updated Request for Review if the project's scope of work and/or timeframe changes, including if work has not begun by 3/9/2025.

The NDDB – New determination for the USS Torrington Solar LLC at Located off of Vista Drive near where Vista Ervie meets S Main St., Torrington as described in the submitted information and summarized at the end of this document is valid for two years from the date on this letter.

Natural Diversity Database information includes all information regarding listed species available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, land owners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Database and accessed through the ezFile portal as it becomes available.

This letter is computer generated and carries no signature. If however, any clarification is needed, or if you have further questions, please contact the following:

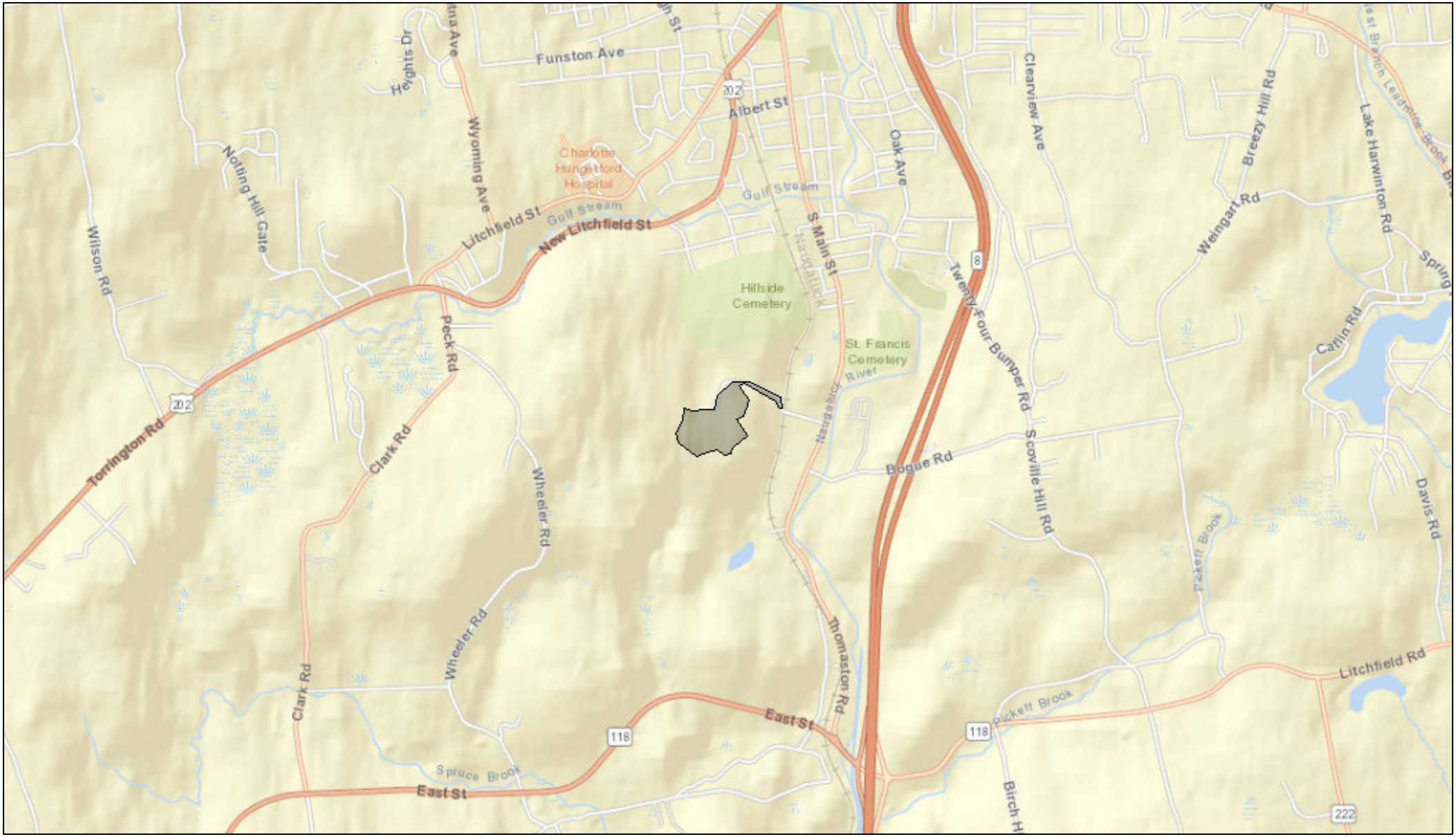
CT DEEP Bureau of Natural Resources
Wildlife Division
Natural Diversity Database
79 Elm Street, 6th floor
Hartford, CT 06106-5127
(860) 424-3011
deep.nddbrequest@ct.gov

Please reference the Determination Number provided in this letter when you e-mail or write. Thank you for submitting your project through DEEP's ezFile portal for Natural Diversity Database reviews.

Application Details:

Project involves federal funds or federal permit:	Yes
Project involves state funds, state agency action, or relates to CEPA request:	No
Project requires state permit, license, registration, or authorization:	Yes
DEEP enforcement action related to project:	
Project Type:	Energy and Utility Production Facilities and Distribution Infrastructure
Project Sub-type:	Solar Energy
Project Name:	USS Torrington Solar LLC
Project Description:	Site is an old landfill that is no longer in use.

USS Torrington Solar LLC Map



March 9, 2023

1:38,389

0 0.325 0.65 1.3 mi

0 0.5 1 2 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Filing #96616 ezFile NDDB System

Connecticut Department of
Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division

CPPU USE ONLY
App #:_____
Doc #:_____
Check #: No fee required
Program: Natural Diversity Database Endangered Species
Hardcopy _____ **Electronic** _____

Request for Natural Diversity Data Base (NDDB) State Listed Species Review

This form was auto-populated with information provided through the DEEP ezFile portal NDDB review application.
There are no fees associated with NDDB Reviews.

Part I: Preliminary Screening & Request Type

Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEEP website. These maps are updated twice a year, usually in June and December.

This form is being submitted for a:

☒ *New* NDDB request ☐ *Renewal* of a NDDB Request ***without*** *modifications and within* ***two years*** *of issued NDDB determination* (no attachments required) [*CPPU Use Only - NDDB-Listed Species Determination #* 1736]	☐ *New* **Safe Harbor Determination**; must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Attachment D of this form is required) ☐ *Renewal/Extension* of an existing Safe Harbor Determination ☐ With modifications ☐ Without modifications (no attachments required) [*CPPU Use Only - NDDB-Safe Harbor Determination #* 1736]
Enter NDDB Determination Number for Renewal:	Enter Safe Harbor Determination Number for Renewal/Extension:

1. Does your project utilize federal funds or require a federal permit? ☒ Yes ☐ No

If yes, your project may be subject to Federal rules regarding the Northern long-eared bats or other federally listed species. Information on the Northern long-eared bat and the 4-D rule may be found at:

http://www.fws.gov/midwest/endangered/mammals/nleb/

Information on other federally listed species and Section 7 consultations may be found at:

https://www.fws.gov/newengland/EndangeredSpec-Consultation.htm

2. Does your project utilize state funding, involve state agency actions, or relate to a CEPA request?

☐ Yes ☒ No

3. Does your project require state permits, licenses, registrations or authorizations? ☒ Yes ☐ No

If yes, list permit type(s): Stormwater Discharge – Construction,Other DEEP Permit or Authorization {CTDEEP Post-Closure Use Approval/Disruption }

If an active enforcement action exists regarding this project, enter number:

If known, enter DEEP analysts reviewing this project:

II: Requester Information

***If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD.* (www.concord-sots.ct.gov/CONCORD/index.jsp)

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change company/Individual Information to the address indicated on the form.

1. Requester*

Company Name: TRC Companies

Contact Name: Lisa Downing-Schmidt

Address: 215 Greenfield Pkwy

City/Town: Liverpool

State: NY

Zip Code: 13088

Business Phone: 13154309190 Ext:

**E-mail: LDowningSchmidt@trccompanies.com

**By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes

a) Requester can best be described as:

☐ Individual ☐ Federal Agency ☐ State agency

☐ Municipality ☐ Tribal ☒ *business entity (* if a business entity complete i through iii):

i) Check type ☐ corporation ☐ limited liability company

☐ limited partnership ☐ limited liability partnership

☐ statutory trust ☐ Other:

ii) Provide Secretary of the State Business ID #: This information can be accessed at the Secretary of the State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) ☒ Check here if your business is **NOT** registered with the Secretary of State's office.

b) Acting as (Affiliation), pick one:

☐ Property owner ☐ Consultant ☐ Engineer

☐ Facility owner ☒ Applicant ☐ Biologist

☐ Pesticide Applicator ☐ Other representative:

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

SITE NAME AND LOCATION

Project Name (for use in correspondence): USS Torrington Solar LLC

If your Project site has a street address, please enter below:

Street Address:

Town(s):

If your Project has no street address, please enter a description of the site location:

Location Description: Located off of Vista Drive near where Vista Ervie meets S Main St.

Town(s): Torrington

Size in acres, or site dimensions: 26.11

Describe existing land conditions:

Part IV: Project Information

1. **Project Type**:

   Choose Project Category: Construction, Development

   Choose Project Type: Energy and Utility Production Facilities and Distribution Infrastructure

   Choose Project Subtype: Solar Energy

2. Brief Project Description: Site is an old landfill that is no longer in use.

3. Provide a schedule for all phases of the project including the year, the month that the proposed activity will be initiated and the duration of the activity.

4. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? ☐ Yes ☐ No If yes, add explanation in No. 4 below.

5. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

6. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests. Attachment C is required for requests associated with: new state or federal permit applications, modifications of existing permits, permit enforcement actions, site management/planning that requires details species recommendations, and state funded projects, state agency activities, and CEPA requests.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

☒ Attachment A:	**Project Detail Map:** an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
☒ Attachment B:	**GIS file (for uploaded GIS polygons):** fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
☒ Attachment C:	**Supplemental Information (attached, DEEP-APP-007C):** Site plans, photographs and biological reports
☐ Attachment D:	**Safe Harbor Report Requirements (attached, DEEP-APP-007D)**

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

"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 the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."

DowningSchmidt Lisa	3/9/2023
Signature of Preparer (a typed name will substitute for a handwritten signature)	Date
DowningSchmidt Lisa	
Name of Preparer (print or type)	Title (if applicable)
Signature of Preparer (if different than above)	Date
Name of Preparer (print or type)	Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Or email request to: **deep.nddbrequest@ct.gov**

Attachment C: Supplemental Information and Attachments

1. Existing & Proposed Conditions

If available provide site plans, drawings or imagery showing existing conditions and proposed changes. If not available, describe all natural and man-made features including wetlands, watercourses with direction of flow, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan.

☐ **Annotated Site Plan(s) attached**

2. **Photographs** depicting site conditions can be helpful to reviewers. Provide and label photographs, if available.

☐ **Site Photographs (optional) attached**

3. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species ☐ Yes ☐ No

If yes, submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms. Reports should include biologist(s) name, habitat and/or species targeted by survey, plant and animal species observed, dates when surveys were conducted.

☐ **Reports of biological surveys attached**

☐ **Documentation of biologist's qualifications attached**

☐ **NDDB Survey forms for any listed species observations attached**

Attachment D: Safe Harbor Report Requirements

Submit a report, as Attachment D, that synthesizes and analyzes the information listed below. Those providing synthesis and analysis need appropriate qualifications and experience. A request for a safe harbor determination shall include:

1. Habitat Description and Map(s), including GIS mapping overlays, of a scale appropriate for the site, identifying:

- wetlands, including wetland cover types;
- plant community types;

- topography;
- soils;
- bedrock geology;
- floodplains, if any;
- land use history; and
- water quality classifications/criteria.

2. **Photographs** - The report should include photographs of the site taken from the ground and also all reasonably available aerial or satellite photographs and an analysis of such photographs.

3. **Inspection** - A visual inspection(s) of the site should be conducted, preferably when the ground is visible, and described in the report. This inspection can be helpful in confirming or further evaluating the items noted above.

4. **Biological Surveys** - The report should include all biological surveys of the site where construction activity will take place that are reasonably available to a registrant. A registrant shall notify the Department's Wildlife Division of biological studies of the site where construction activity will take place that a registrant is aware of but are not reasonably available to the registrant.

5. **Based on items #1 through 4 above, the report shall include a Natural Resources Inventory of the site of the construction activity.** This inventory should also include a review of reasonably available scientific literature and any recommendations for minimizing adverse impacts from the proposed construction activity on listed species or their associated habitat.

6. **In addition, to the extent the following is available at the time a safe harbor determination is requested, a request for a safe harbor determination shall include and assess:**

   - Information on Site Disturbance Estimates/Site Alteration information
   - Vehicular Use
   - Construction Activity Phasing Schedules, if any; and
   - Alteration of Drainage Patterns

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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Generated by eNDDB on:
3/9/2023

Lisa DowningSchmidt
Towns: Torrington
Preliminary Site Assessment: 2112589170

Subject: USS Torrington Solar LLC

Current data maintained by the Natural Diversity Database (NDDB) and housed in the DEEP ezFile portal, indicates that no populations of State Endangered, Threatened, or Special Concern species (RCA Sec. 26-306), and no Critical Habitats have been documented within or in close proximity to the area delineated.

Please be advised that this is a preliminary assessment and not a Natural Diversity Database determination. The purpose of this information is to provide a general planning tool which identifies those species that have been reported and may occur on or near the mapped area. A more detailed application and review will be necessary to move forward with any environmental authorization, permit, license, or registration applications submitted to DEEP. If such review is required, please return to the DEEP's ezFile Portal and select Natural Diversity Database Review to begin the review process.

This Preliminary Site Assessment does not preclude the possibility that species not previously reported to the Natural Diversity Database may be encountered on the site. You are encouraged to report incidental observations to the Natural Diversity Database using the appropriate survey form and follow the instructions for submittal. We recommend field surveys be conducted in order to evaluate potential habitat and species presence. Field surveys should be performed by a qualified biologist with the appropriate scientific collecting permits at a time when these target species are identifiable. A report summarizing the results of such surveys should include:

1. Survey date(s) and duration
2. Site descriptions and photographs
3. List of component vascular plant and animal species within the survey area (including scientific binomials)
4. Data regarding population numbers and/or area occupied by State-listed species
5. Detailed maps of the area surveyed including the survey route and locations of State listed species
6. Statement/résumé indicating the biologist's qualifications

The site surveys report should be sent to the CT DEEP-NDDB Program (deep.nddbrequest@ct.gov) for further review by program biologists.

Natural Diversity Database information includes all information regarding listed species available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units

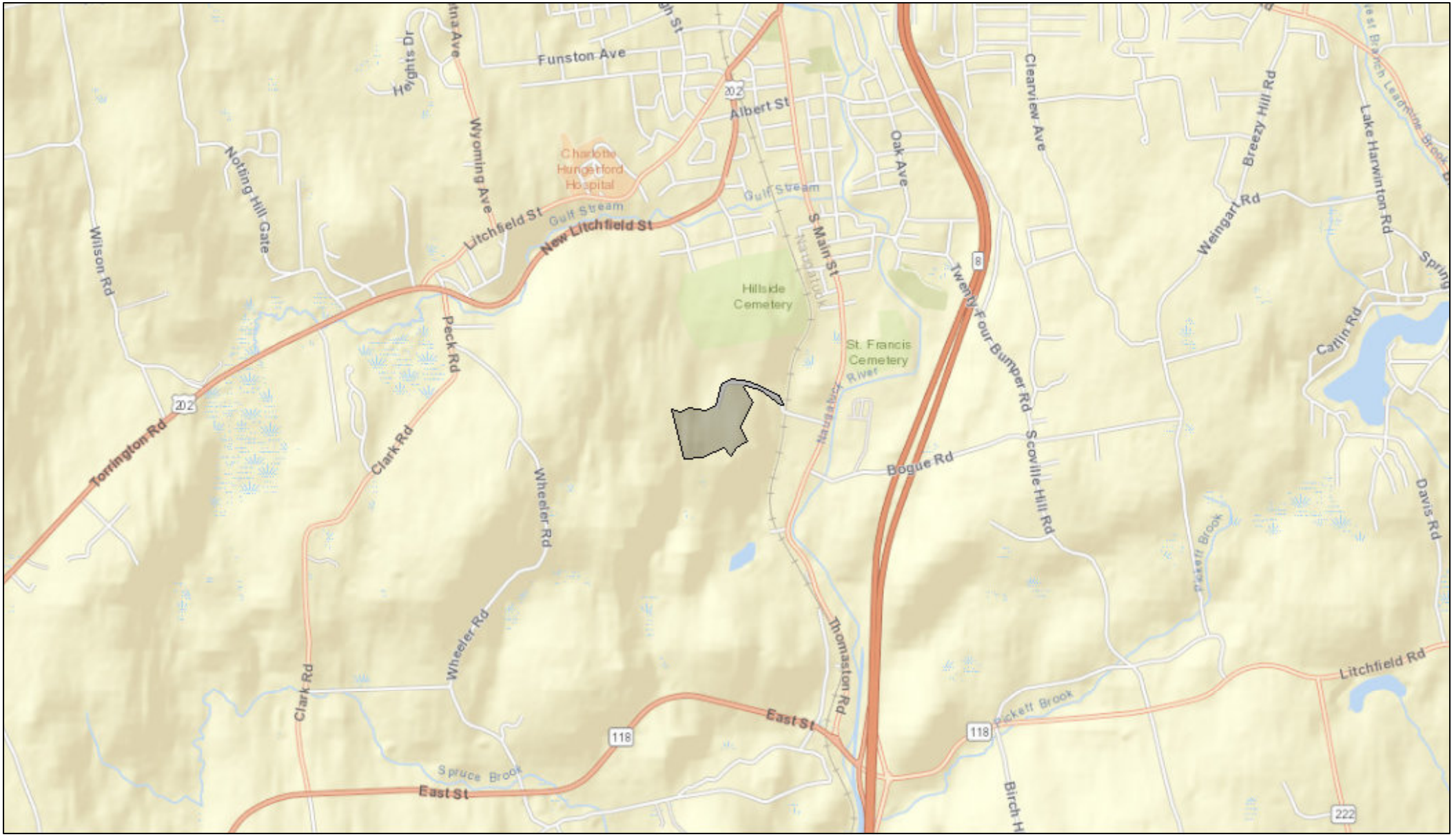
of DEEP, land owners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Database and accessed through the ezFile portal as it becomes available.

This letter is computer generated from our existing records and carries no signature. If however, any clarification/error is noted, or, if you have further questions, please contact the following:

CT DEEP Bureau of Natural Resources
Wildlife Division
Natural Diversity Database
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3011
deep.nddbrequest@ct.gov

Please include a snapshot of the map, your last name, and the subject area town when you e-mail or write. Thank you for consulting the Natural Diversity Data Base.

USS Torrington Solar LLC Map



March 9, 2023

1:38,389

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Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

USS Torrington Solar, LLC

105 Vista Drive
Torrington, Connecticut

Prepared For:

Prepared By:

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854

Prepared by: Matt Regan

Wetland and Watercourse Delineation Report

December 2022

Table of Contents

TABLES

APPENDICES

1.0 Introduction

This report presents the results of a wetland and watercourse delineation conducted on October 28, 2022, by TRC Companies, Inc. (TRC) at the Torrington Landfill at 105 Vista Drive, City of Torrington, Litchfield County, Connecticut (Project Area). The survey for wetlands and watercourses focused on areas within 100-feet the proposed facility footprint at the 92.4-acre parcel listed by the Torrington Tax Assessor as Parcel ID 235-001-012.

This report documents wetlands, streams, and other aquatic resources (ponds, lakes, impoundments, etc.) at the Site regardless of assumed jurisdictional status and addresses the implementation of local and state regulated buffer areas. To the extent practicable, the delineated resources were investigated to determine drainage patterns and a physical nexus to Waters of the United States (WOUS).

Appendix A provides a Site location map (Figure 1), a map of soil map units (Figure 2), a map of federal and state-mapped water resources (Figure 3), and a map of the resources delineated by TRC (Figure 4). Appendix B includes representative photographs of the Site, Appendix C includes wetland determination data forms, and Appendix D contains the Natural Resources Conservation Service (NRCS) Soil Report.

2.0 Regulatory Authority

2.1 United States Army Corps of Engineers

In accordance with Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) asserts jurisdiction over WOUS, defined as wetlands, streams, and other aquatic resources under the regulatory authority per Title 33 Code of Federal Regulations (CFR) Part 328, and the United States Environmental Protection Agency (EPA) per Title 40 CFR Part 230.3(s). Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (EPA, 2019).

The USACE will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and
- Wetlands that directly abut such tributaries.

The USACE will decide jurisdiction over the following waters based on analysis to determine whether they have significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;

- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and
- Wetlands adjacent to, but that do not directly abut, a relatively permanent non-navigable tributary.

The USACE generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and
- Ditches (including roadside ditches) excavated wholly in and draining only uplands, and that do not carry a relatively permanent flow of water.

The USACE will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters; and
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE also regulates navigable waters under Section 10 of the Rivers and Harbor Act (33 U.S.C. 401 et seq.), which requires that a permit must be issued by the USACE to construct any structure in or over any navigable WOUS, as well as any proposed action (such as excavation/dredging or deposition of materials) that would alter or disturb these waters. If the proposed structure or activity affects the course, location, condition, or capacity of the navigable water, even if the proposed activity is outside the boundaries of the stream in associated wetlands, a Section 10 permit from the USACE is required.

2.2 City of Torrington Inland Wetlands Commissions

The City of Torrington Inland Wetland Commission (IWC) administers the Inland Wetlands and Watercourses Act (IWWA) (Sections 22a-36 to 22a-45 of Chapter 440 of the Connecticut General Statutes) at the municipal level for the City of Torrington. The City of Torrington IWC has jurisdiction over wetlands as defined in the IWWA as land with poorly drained, very poorly drained, and certain alluvial or floodplain soils. The City of Torrington IWC has jurisdiction over watercourses defined as brooks, streams, rivers, ponds, lakes, marshes, bogs, swamps, and vernal pools.

Specific buffers are detailed in the IWC's regulations. By Connecticut statute, these areas are known as "Upland Review Areas (URAs)." The City of Torrington regulates construction activities and clear-cutting of trees within a 75-foot URA of wetlands and a 100-foot URA of watercourses.

3.0 Project Site Characteristics

The following publicly available resources were used in the investigation, delineation, and report preparation:

- Connecticut Environmental Conditions Online Advanced Viewer (CT ECO Advanced Viewer)[1];
- USGS National Hydrography Dataset;
- The Torrington and West Torrington 7.5 Minute Quadrangles (USGS, 2021a, 2021b);
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) 095081007B (effective 4/4/1983);
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping;
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey; and
- Recent aerial imagery.

3.1 Hydrology

The Project Area's topography is defined by a capped landfill and water drains offsite towards the north, east, and south. The most dominant surface watercourses within close proximity to the Project Area is the Penn Pond and Peck Brook to the north and Naugatuck River to the east of the Project Area. Most aquatic features within the Project Area act primarily as drainages to Penn Pond and Peck Brook.

3.1.1 Floodplains

Flood hazard areas identified on the FEMA's FIRMs are identified as Special Flood Hazard Areas (SFHAs). SFHAs are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. FEMA uses a variety of labels for SFHAs:

Zone A	Zone A99	Zone AR/A
Zone AO	Zone AR	Zone V
Zone AH	Zone AR/AE	Zone VE, and
Zones A1-A30	Zone AR/AO	Zones V1-V30
Zone AE	Zone AR/A1-A30	

Moderate flood hazard areas, labeled Zone B or Zone X (shaded on FEMA mapping) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded on FEMA mapping).

[1] The CT ECO Advanced Viewer uses soils data, aerial photography and photo interpretation to delineate and map wetland boundaries. Desktop review consisted of using CT ECO Advanced Viewer to gather a general understanding of existing conditions and potential regulated resource areas.

According to the FEMA FIRM 095081007B (effective 4/4/1983), the Project Area is within Zone C and not within a 100-year flood zone. There are Zone B and Zone A11 flood hazard areas associated with the Naugatuck River mapped off site to the east of the Project Area.

3.2 Federal and State Mapped Wetlands and Streams

The USFWS is the principal federal agency tasked with providing information to the public on the status and trends of wetlands on a national scale. The USFWS NWI is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of nationwide wetlands (where mapped). NWI mapping data is offered to promote the understanding, conservation, and restoration of wetlands. The online CT ECO Advanced Viewer mapping tool was accessed to determine the extent of state-mapped aquatic resources.

Review of the NWI mapping during the preliminary desktop analysis indicated that there is one freshwater forested/scrub-shrub wetland along the northeastern corner of the Project Area (Figure 3 of Appendix A). The NWI does not indicate the presence of wetlands or watercourses within the limits of the closed landfill.

Review of the CT ECO Advanced Viewer indicates there are two areas of inland wetland soils: one along the northern boundary and one along the southern boundary (Figure 3 of Appendix A).

3.3 Mapped Soils

The NRCS's Web Soil Survey identifies 14 soil map units within the Project Area. Map units can represent a type of soil, a combination of soils, or miscellaneous land cover types (e.g., water, rock outcrop, developed impervious surface). Map units are usually named for the predominant soil series or land types within the map unit. A summary of soil characteristics for soils mapped at the Project Area are included in Table 1, below, and shown on Figure 2. The following sections provide details about hydric ratings, drainage class, prime farmland, and hydrologic soil groups (HSGs). Details about soil map unit descriptions are provided in the NRCS Soil Report included as Appendix D.

Table 1: Mapped Soils

Symbol	Soil Name	Hydric Rating (%)	Drainage Class	Hydrologic Soil Group	Farmland Classification
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	94	Poorly drained	D	Not prime farmland
38C	Hinckley loamy sand, 3 to 15 percent slopes	0	Excessively drained	A	Farmland of statewide importance

Table 1: Mapped Soils

Symbol	Soil Name	Hydric Rating (%)	Drainage Class	Hydrologic Soil Group	Farmland Classification
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	3	Moderately well drained	B/D	Not prime farmland
59C	Gloucester gravelly sandy loam, 3 to 15 percent slopes, extremely stony	2	Somewhat excessively drained	A	Not prime farmland
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	5	Well drained	B	Not prime farmland
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	5	Well drained	B	Not prime farmland
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	5	Well drained	B	Not prime farmland
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	5	Well drained	D	Not prime farmland
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	5	Well drained	D	Not prime farmland
76E	Rock outcrop-Hollis complex, 3 to 45 percent slopes	2	N/A	D	Not prime farmland
86C	Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony	3	Well drained	C	Not prime farmland
302	Dumps	2	N/A	N/A	Not prime farmland
306	Udorthents-Urban land complex	0	Well drained	B	Not prime farmland
308	Udorthents, smoothed	0	Moderately well drained	C	Not prime farmland

3.3.1 Hydric Rating

The *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) (1987 Manual) defines a hydric soil as "…a soil that in its undrained condition, is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation."

Due to limitations imposed by the small scale of the soil survey mapping, it is not uncommon to identify wetlands within areas not mapped as hydric soil while areas mapped as hydric often do not support wetlands. This concept is emphasized by the NRCS:

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

Hydric Soil Rating (HSR) indicates the percentage of a map unit that meets the criteria for hydric soils.

Map unit 3 has an HSR of 94 percent; map units 62C, 73C, 73E, 75C, and 75E have an HSR of 5 percent. Maps units 52C and 86C have an HSR of 3 percent. Map units 59C, 76E, and 302 have an HSR of 2 percent. Map units 38C, 306, and 308 have an HSR of 0 percent.

3.3.2 Natural Drainage Class

Natural drainage class refers to the frequency and duration of wet periods under conditions similar to those under which the soil developed. Anthropogenic alteration of the water regime, either through drainage or irrigation, is not a consideration unless the alterations have significantly changed the morphology of the soil.

Map unit 3 is rated as poorly drained. Map units 52C and 308 are rated as moderately well drained. Map units 62C, 73C, 73E, 75C, 75E, 86C, and 306 are rated as well drained. Map unit 59C is rated as somewhat excessively drained. Map unit 38C is rated as excessively drained.

3.3.3 Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses (the land could be cropland, pastureland, rangeland, forestland, or other land, but not urban built-up land or water). Land used for a specific high-value food or fiber crop is classified as “unique farmland.” Generally, additional “farmlands of statewide importance” include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. In some local areas, there is concern for certain additional farmlands, even though these lands are not identified as having national or statewide importance. These farmlands are identified as being of “local importance” through ordinances adopted by local government. The NRCS State Conservationist reviews and certifies lists of farmland of state and local importance. These lists, along with state and locally established Land Evaluation and Site Assessment (LESA) systems where applicable, are used by federal agencies to review and evaluate activities that may impact farmland. As defined in 7 CFR Part 657, important farmland encompasses prime and unique farmland, as well as farmland of statewide and local importance.

According to the NRCS, map unit 38C is a farmland of statewide importance and all other map units are not prime farmland.

3.3.4 Hydrologic Soil Groups

Soils are assigned to a HSG based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

> Group A: Soils have a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.
>
> Group B: Soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
>
> Group C: Soils have a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.
>
> Group D: Soils have a very slow infiltration rate (high runoff potential) when thoroughly wet. Soils consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition in Group D are assigned to dual classes.

Map units 3, 75C, 75E, and 76E are in HSG D. Map unit 52C is in HSG B/D. Map units 86C and 308 are in HSG C. Map units 62C, 73C, 73E, and 306 are in HSG B. Map units 38C and 59C are in HSG A.

4.0 Wetland and Stream Delineation Methodology

In addition to the desktop review described in Section 3.0, TRC biologists performed field investigations at the Project Area to identify wetlands, watercourses, and other surface waters on October 28, 2022. The lead TRC biologist who delineated the wetlands meets the standards set by the U.S. Office of Personnel Management for a soil scientist and is a professional member of the Society of Soil Scientists of Southern New England.

4.1 Non-wetland Aquatic Resource Methodology

Streams and other non-wetland aquatic features within the Site were identified by the presence of an Ordinary High Water Mark (OHWM), which is the line established by the fluctuations of water (33 CFR 328.3). The OHWM line is indicated by physical characteristics, which can include: a

clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other characteristics of the surrounding areas. For streams three feet or more in width, each stream bank was delineated with blue flagging. For smaller streams, the stream centerline is delineated with notes for the width. Flags were located with a handheld global positioning system (GPS) unit and the data post-processed to achieve sub-meter accuracy.

4.2 Wetland Delineation Methodologies

The delineation of wetlands was conducted in accordance with criteria set forth in the 1987 Manual, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (USACE, 2012) (Supplement), and the IWWA.

The three-parameter approach to identify and delineate wetlands presented in the 1987 Manual and the Supplement requires that, except for atypical and disturbed situations, wetlands possess hydrophytic vegetation, hydric soils, and wetland hydrology. In Connecticut, freshwater wetlands are delineated on the basis of soils. Inland wetland soils include poorly drained soils, very poorly drained soils, and certain alluvial and floodplain soils.

Wetland boundary flags were located with a handheld GPS unit and the data were post-processed to achieve sub-meter accuracy. Delineated resources were classified in accordance with the system presented in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee, 2013).

4.2.1 Hydrophytic Vegetation Methodologies

Hydrophytic vegetation is defined in the 1987 Manual as:

> …the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present.

Plants are categorized according to their occurrence in wetlands. Scientific names and wetland indicator statuses for vegetation are those listed in *The National Wetland Plant List, version 3.5* (NWPL) (USACE, 2020). The indicator statuses specific to the “Northcentral and Northeast Region” as defined by the USACE apply to the Site. For upland species that are not listed on the NWPL, the Integrated Taxonomic Information System was referenced for currently accepted scientific names. The official short definitions for wetland indicator statuses are as follows:

- Obligate Wetland (OBL): Almost always occur in wetlands;
- Facultative Wetland (FACW): Usually occur in wetlands, but may occur in non-wetlands;
- Facultative (FAC): Occur in wetlands and non-wetlands (50/50 mix);

- Facultative Upland (FACU): Usually occur in non-wetlands, but may occur in wetlands; and

- Upland (UPL): Almost never occur in wetlands.

Plants that are not found in a region, but are found in an adjacent region, take on the indicator status of that adjacent region for dominance calculations. Plants that are included on the NWPL, but not within the Site region or an adjacent region, are not included in dominance calculations. Plants that are not found in wetlands in any region are considered "UPL" for dominance calculations.

Vegetation community sampling was accomplished using the methodologies outlined in the 2012 Supplement. The "50/20 rule" was applied to determine whether a species was dominant in its stratum. In using the 50/20 rule, the plants that comprise each stratum are ranked from highest to lowest in percent cover. The species that cumulatively equal or exceed 50 percent of the total percent cover for each stratum are dominant species, and any additional species that individually provides 20 percent or more percent cover is also considered dominant species of its respective strata.

A hydrophytic vegetation community is present when: 1) all of the dominant species are FACW and/or OBL (Rapid Test for Hydrophytic Vegetation); 2) greater than 50 percent of the dominant species' (as determined by the 50/20 rule) indicator statuses are FAC, FACW, or OBL (Dominance Test); and/or 3) when the calculated Prevalence Index is equal to or less than 3.0. When applying the Prevalence Index, all plants are assigned a numeric value based on indicator status (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and their abundance (absolute percent cover) is used to calculate the prevalence index.

Cover types are also assigned to each wetland and waterbody in accordance with the system presented in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee, 2013).

4.2.2 Hydric Soil Methodologies

Hydric soil indicators described in *Field Indicators for Identifying Hydric Soils in New England, Version 4* (New England Hydric Soils Technical Committee, 2017) and in *Field Indicators of Hydric Soils in the United States, Version 8.2* (NRCS, 2018) were used to determine the presence of characteristic soil morphologies resulting from prolonged saturation and/or inundation. Soil color was described using standard color notations provided on Munsell® soil color charts (X-Rite, Inc., 2015). Soil texture was determined using the methods described by Thien (1979). Soil test pits were dug using a spade shovel to a depth of approximately 20 inches or more (if needed).

Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin (MLRA Handbook) (USDA NRCS, 2006) was referenced to determine the hydric soil indicators that apply to the Site. Per the MLRA Handbook, the Site is within Major Land

Resource Area (MLRA) 144A (New England and Eastern New York Upland, Southern Part) of Land Resource Region (LRR) R (Northeastern Forage and Forest Region). Hydric soil indicators that do not apply to this MLRA were not considered on the wetland determination data forms.

The presence or absence of hydric soils was determined through examination of samples extracted with a hand shovel or hand auger from the upper horizons of the soil profile. Soils were examined to depths of approximately 18 to 20 inches, unless restrictive layers such as hard pan, rock, densely packed fill materials, etc. were encountered at shallower depths.

4.2.3 Wetland Hydrology Methodologies

Per the 1987 Manual:

> *The term "wetland hydrology" encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively. Such characteristics are usually present in areas that are inundated or have soils that are saturated to the surface for sufficient duration to develop hydric soils and support vegetation typically adapted for life in periodically anaerobic soil conditions. Hydrology is often the least exact of the parameters, and indicators of wetland hydrology are sometimes difficult to find in the field. However, it is essential to establish that a wetland area is periodically inundated or has saturated soils during the growing season.* (Environmental Laboratory, 1987)

Wetland hydrology indicators are grouped into 18 primary and 11 secondary indicators presented in the Supplement. The USACE considers wetland hydrology to be present when at least one primary indicator or two secondary indicators are identified.

5.0 Results

5.1 Upland Areas

The capped landfill consists primarily of a mix of sown grasses. The rest of the uplands at the Project Area consists of a northern red oak (*Quercus rubra*) forest. Invasive Japanese honeysuckle (*Lonicera japonica*) and Japanese knotweed (*Reynoutria japonica*) are prevalent along the access roads.

5.2 Delineated Wetlands and Watercourses

TRC identified one wetland and two waterbodies within the Project Area during the wetland delineation field survey. Additionally, Peck Brook and Penn Pond are off site to the north of the Project Area. Delineated areas are described in the following sections and summarized at the end of this section in Table 2. Refer to the photographs in Appendix B and the wetland determination data forms in Appendix C for further details about each delineated area.

5.2.1 Delineated Wetlands

Wetland W-MJR-1 is a palustrine scrub shrub (PSS) wetland along the northwestern portion of the Project Area and extends off-site to the north. The dominant vegetation within this wetland included Bebb's willow (*Salix bebbiana*), reed canarygrass (*Phalaris arundinacea*), and Japanese stiltgrass (*Microstegium vimineum*). Indicators of wetland hydrology at this wetland were a high water table, saturation, drainage patterns, geomorphic position, and the FAC-neutral test. Soils within consisted of a layer of silty clay loam over loamy sand soil. This soil meets Hydric Soil Indicators A11 and S5 as described in *Field Indicators of Hydric Soils in the United States, Version 8.2* (USDA NRCS, 2018). ***This wetland is Torrington IWC jurisdictional as an inland wetland and it also falls under USACE jurisdiction, as it is likely connected to other WOUS.***

5.2.2 Delineated Watercourses

Stream S-MJR-1 is an ephemeral stream (R6, NWI classification) in the northwestern portion of the Project Area that flows northeastward through wetland W-MJR-1 and is entirely onsite. The streambed was composed of silt/clay material. TRC observed and average width of 3 feet and banks 3 feet wide. This watercourse was flowing at the time of the delineation. ***This watercourse is Torrington IWC jurisdictional and USACE jurisdictional at it is likely connected to other WOUS.***

Stream S-MJR-2 is an intermittent stream (R4, NWI classification) in the northwestern portion of the Project Area that flows northeastward through wetland W-MJR-1 and is entirely onsite. The streambed was composed of silt/clay material. TRC observed and average width of 4 feet and banks 4 feet wide. This watercourse was flowing at the time of the delineation. ***This watercourse is Torrington IWC jurisdictional and USACE jurisdictional at it is likely connected to other WOUS.***

Table 2: Delineated Wetlands and Watercourses

Wetland/ Watercourse Field Designation	Field Designated NWI Classification[1]	Assumed Jurisdictional Status	Associated Buffer/ Setback Requirements
W-MJR-1	PSS	USACE/ Torrington IWC	75-foot buffer zone
S-MJR-1	R6	USACE/ Torrington IWC	100-foot buffer zone
S-MJR-2	R4	USACE/ Torrington IWC	100-foot buffer zone

[1] *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee, 2013). Categories include: Palustrine Emergent (PEM).

6.0 Conclusions

It is TRC's opinion that wetland W-MJR-1 is regulated by the Torrington IWC as an inland wetland and is also likely under USACE jurisdiction as it extends offsite towards Peck Brook and is likely connected to other WOUS. There are no buffers or setbacks associated with USACE-regulated wetlands. However, there is a 75-foot URA associated with Torrington IWC regulated inland wetlands.

It is TRC's opinion that watercourses S-MJR-1 and S-MJR-2 are regulated by the Torrington IWC as watercourses and are also likely under USACE jurisdiction as they extend offsite towards Peck Brook and are likely connected to other WOUS. There are no buffers or setbacks associated with USACE-regulated watercourses. However, there is a 100-foot URA associated with Torrington IWC regulated watercourses.

Peck Brook is shown of Figure 3 as intersecting with the northeast portion of the Project Area along the access road. This area was not surveyed during the delineation. Further investigation of this area to confirm the presence or absence of Peck Brook may be necessary pending the final design of the interconnection route.

Final determination of jurisdictional status for on-site wetlands must be made by the federal, state, and local agencies.

7.0 References

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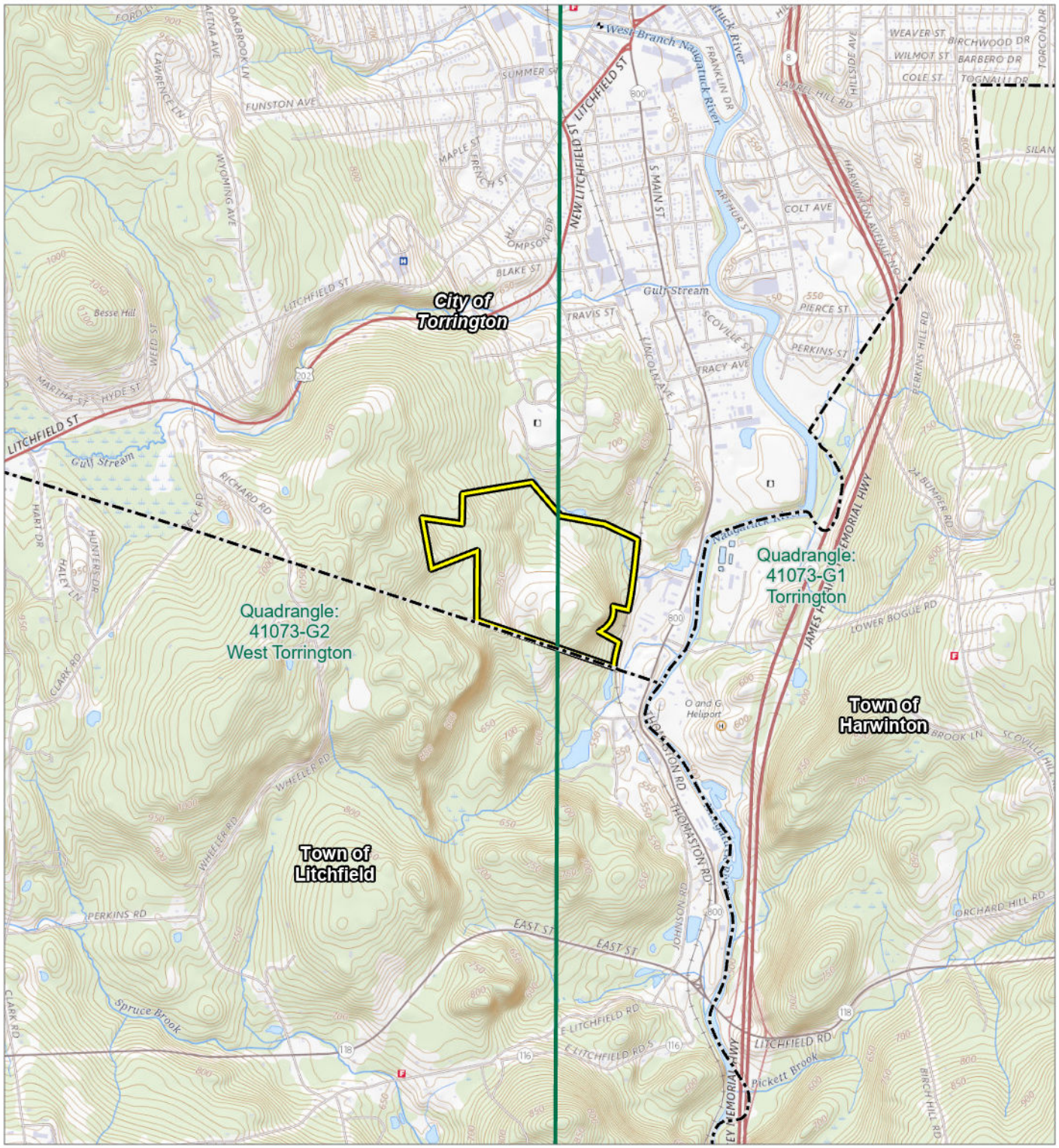
APPENDIX A
Figures



PROJECT AREA

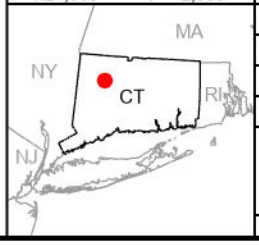
7.5 MINUTE USGS QUAD BOUNDARY

MUNICIPAL BOUNDARY

0 1,000 2,000

FEET

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



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

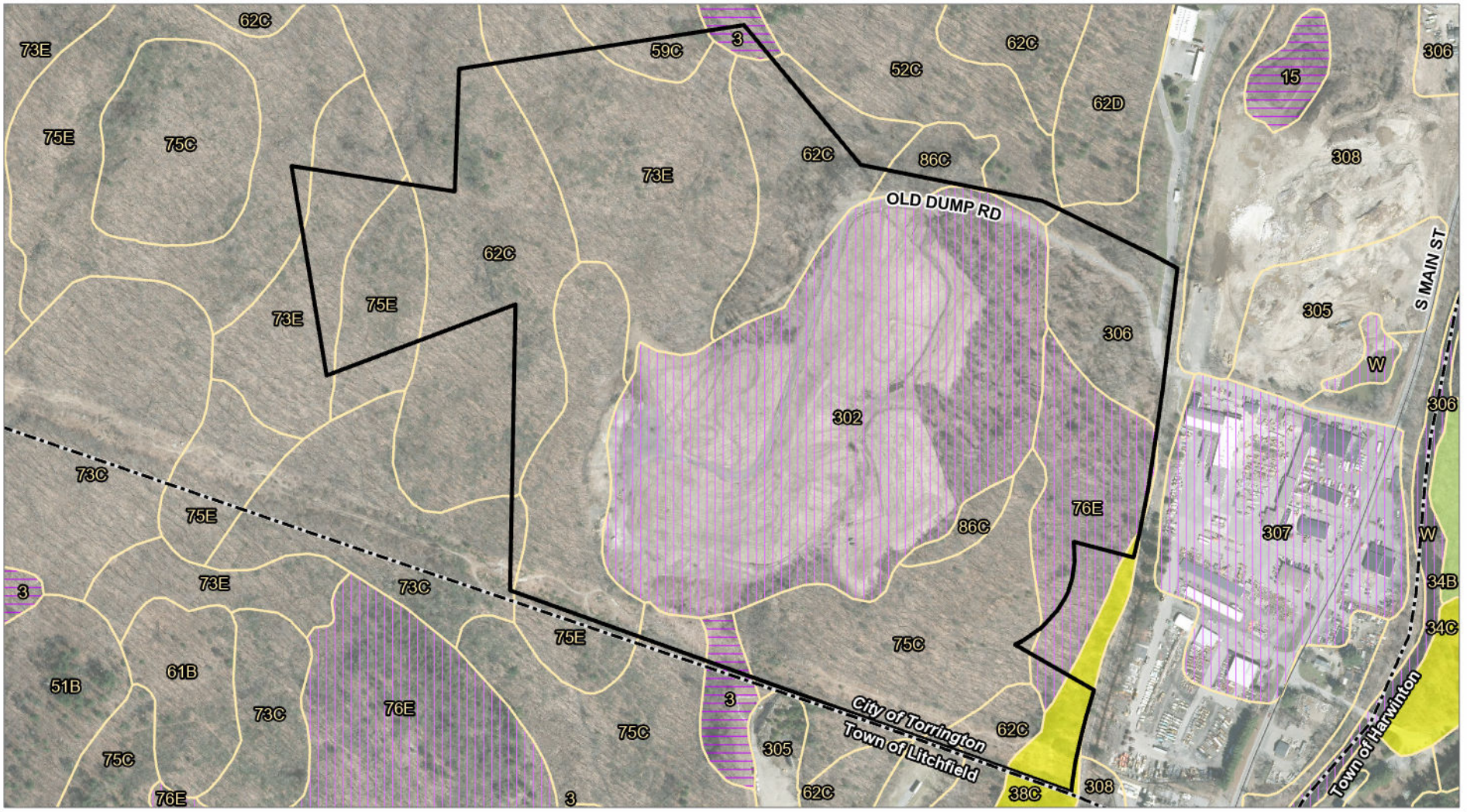
PROJECT: **US SOLAR**
CITY OF TORRINGTON
LITCHFIELD COUNTY, CT

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



PROJECT AREA

MUNICIPAL BOUNDARY

SOIL MAP UNIT

HYDRIC RATING

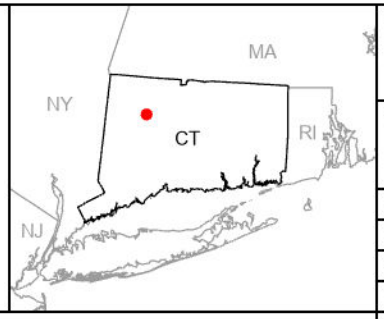
HYDRIC

NOT RATED

FARMLAND CLASS

ALL AREAS ARE PRIME FARMLAND

FARMLAND OF STATEWIDE IMPORTANCE



BASE MAP: ESRI "WORLD IMAGERY" SERVICE
DATA SOURCES: ESRI

0 250 500 FEET

1:6,000 1" = 500'

PROJECT: US SOLAR
CITY OF TORRINGTON
LITCHFIELD COUNTY, CT

TITLE: SOILS MAP

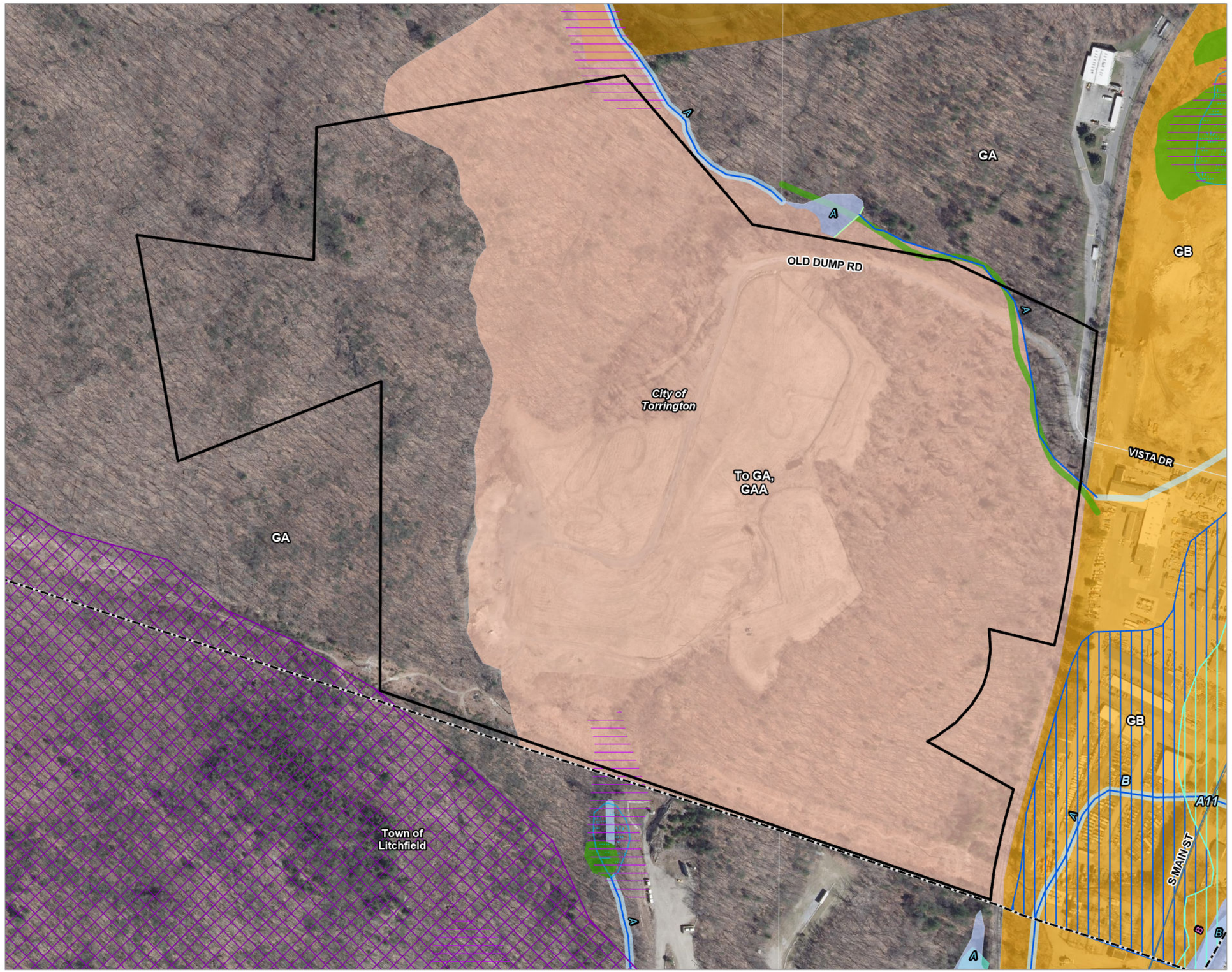
DRAWN BY:	S. MOTURI	PROJ. NO.:	490953
CHECKED BY:	M.REGAN		
APPROVED BY:	M.REGAN		
DATE:	NOVEMBER 2022		

FIGURE 2

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

FILE: TORRINGTON_CIA FIGURES

COORDINATE SYSTEM: NAD 1983 STATEPLANE MASSACHUSETTS MAINLAND FIPS 2001; MAP ROTATION: 0
-- SAVED BY: SMOTURI ON 11/28/2022, 11:05:24 AM; FILE PATH: T:\1-PROJECTS\US_SOLAR\490953_TORRINGTON\2-APPX\TORRINGTON_CIA FIGURES APPX; LAYOUT NAME: FIG5_SOILS_8.5X11L



PROJECT AREA
NEW ENGLAND COTTONTAIL FOCUS AREA
1997 MUNICIPAL AND PRIVATE OPEN SPACE
MUNICIPAL BOUNDARY

INLAND WETLAND SOILS
ALLUVIAL AND FLOODPLAIN SOILS
POORLY DRAINED AND VERY POORLY DRAINED SOILS

GROUND WATER QUALITY
GA
GB
GA, GAA MAY BE IMPAIRED

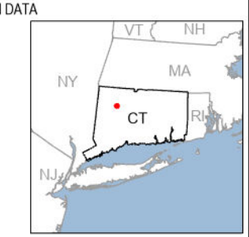
HYDROGRAPHY
DAM
WATER
MARSH
WATERBODY

NWI WETLANDS
FRESHWATER FORESTED/SHRUB WETLAND
FRESHWATER POND
RIVERINE

FLOOD MAP AREAS (APPROXIMATE)
B: AREAS BETWEEN LIMITS OF THE 100 YEAR FLOOD AND 500 YEAR FLOOD
A11: AREAS OF 100 YEAR FLOOD
WATER QUALITY CLASSIFICATION

RESOURCES REVIEWED:
CT HYDROGRAPHY, WATER QUALITY CLASSIFICATIONS, NWI WETLANDS, TIDAL WETLANDS 1970 AND 1990, AQUIFER PROTECTION AREAS, INLAND WETLAND SOILS, FRESHWATER FISH, NATURAL DIVERSITY DATABASE, CRITICAL HABITAT, FEMA FLOODPLAIN, OPEN SPACE, COASTAL MANAGEMENT AREA, NEW ENGLAND COTTONTAIL FOCUS AREAS

BASE MAP: 2019 ORTHO IMAGERY, CTECO
DATA SOURCES: CT DEEP GIS OPEN DATA



1:3,600
1" = 300'
0 150 300 FEET

PROJECT: US SOLAR
CITY OF TORRINGTON
LITCHFIELD COUNTY, CT

TITLE: RESOURCE MAP

DRAWN BY:	S. MOTURI	PROJ. NO.:	490953
CHECKED BY:	M. REGAN		
APPROVED BY:	M. REGAN		FIGURE 3
DATE:	NOVEMBER 2022		

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

FILE: Torrington_CIA Figures.aprx

Coordinate System: NAD 1983 StatePlane Connecticut FIPS 0600 Feet; Map Rotation: 0
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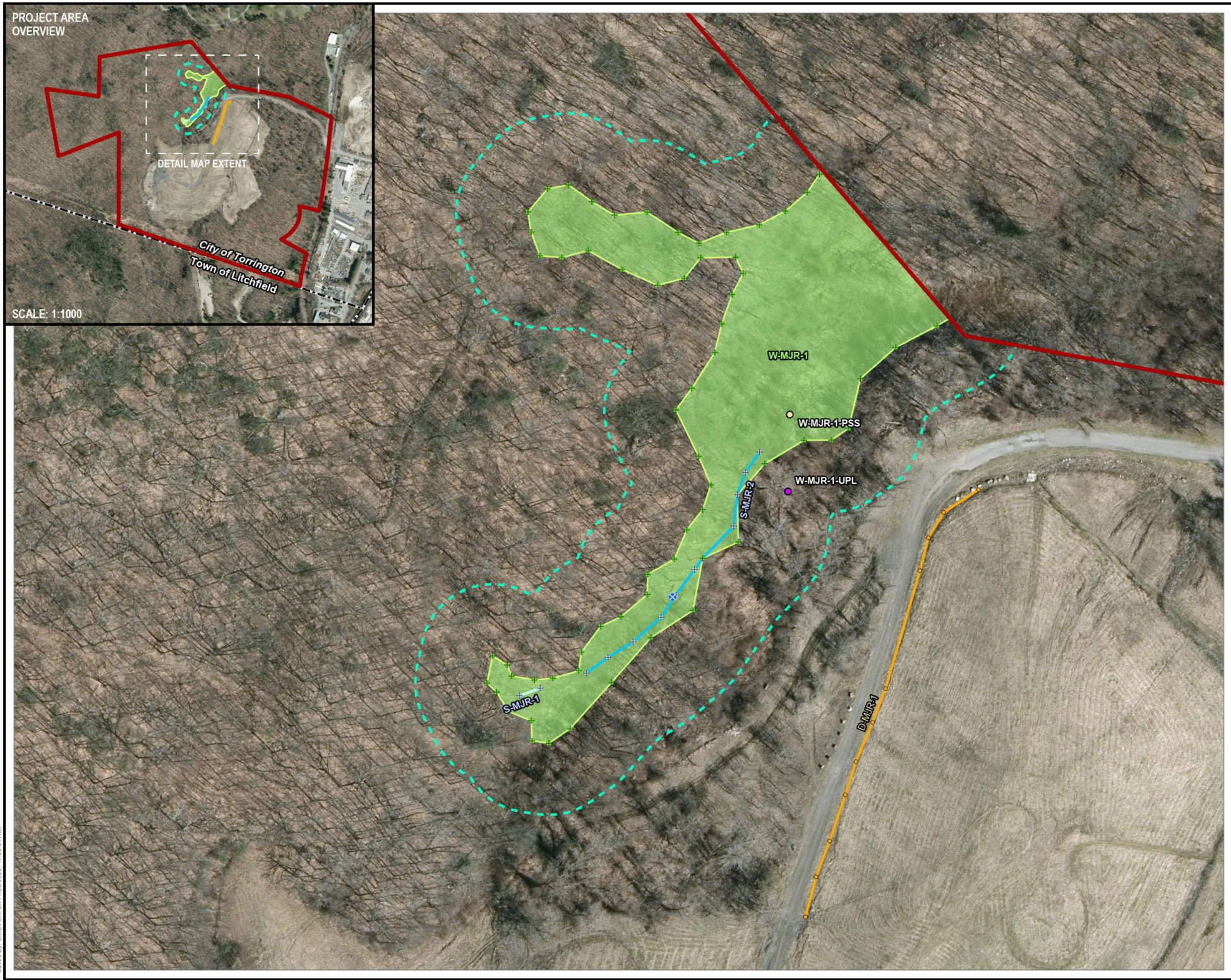
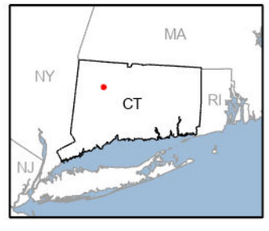


- PROJECT AREA
- USACE WETLAND PLOT
- USACE UPLAND PLOT
- STREAM PLOT
- STREAM FLAG
- NON-JD DRAINAGE FLAG
- WETLAND FLAG
- DELINEATED EPHEMERAL STREAM
- DELINEATED INTERMITTENT STREAM
- DELINEATED NON-JURISDICTIONAL DRAINAGE
- DELINEATED WETLAND BOUNDARY LINE
- DELINEATED PSS WETLAND
- UPLAND REVIEW AREA
- MUNICIPAL BOUNDARY

BASE MAP: ESRI, "WORLD IMAGERY"
DATA SOURCES: TRC

1:1,200
1" = 100'
0 50 100
FEET



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

TITLE: **DELINEATED RESOURCES**

DRAWN BY:	S. MOTURI	PROJ. NO.:	490953
CHECKED BY:	M.REGAN		
APPROVED BY:	M. REGAN		**FIGURE 4**
DATE:	NOVEMBER 2022		

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

FILE: Torrington_CIA Figures.aprx - Layout Name: Fig2_DelResources_11x17L

Coordinate System: NAD 1983 2011 StatePlane Connecticut FIPS 0600 Ft US; Map Rotation: 0
Saved By: SMOTURI on 11/22/2022, 11:05:24 AM

APPENDIX B
Photograph Log

USS TORRINGTON SOLAR, LLC

105 VISTA DRIVE, TORRINGTON, CONECTICUT

Photograph: 1 **Date**: 10/28/2022 **Direction**: North **Description**: General overview of PSS wetland W-MJR-1.	
Photograph: 2 **Date**: 10/28/2022 **Direction**: Northeast **Description**: View of intermittent stream S-MJR-2 facing downstream flowing through wetland W-MJR-1.	

USS TORRINGTON SOLAR, LLC

105 VISTA DRIVE, TORRINGTON, CONECTICUT

Photograph: 3 **Date**: 10/28/2022 **Direction**: Northeast **Description**: General overview of the capped landfill facing northeast.	
Photograph: 4 **Date**: 10/28/2022 **Direction**: Northeast **Description**: General overview of the stormwater basin adjacent to the capped landfill facing northeast.	

FLATIRON ENERGY IRONWORKS PROJECT

491 WEST WATER STREET, TAUNTON, MASSACHUSETTS

Photograph: 5 **Date**: 10/28/2022 **Direction**: East **Description**: View of non-jurisdictional drainage adjacent to capped landfill.	
Photograph: 6 **Date**: 10/28/2022 **Direction**: Southeast **Description**: View of transmission line along the southern boundary of the Project Area.	

APPENDIX C
Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Torrington Landfill Solar Project **City/County:** Torrington, Torrington **Sampling Date:** 2022-Oct-28
Applicant/Owner: US Solar **State:** CT **Sampling Point:** W-MJR-01_PSS-1
Investigator(s): Matt Regan, Nathan Sarpas **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 144A of LRR R **Lat:** 41.7817709595 **Long:** -73.1253913511 **Datum:** WGS84
Soil Map Unit Name: Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No ____		
Hydric Soil Present?	Yes _✓_ No ____	**Is the Sampled Area within a Wetland?**	**Yes _✓_ No ____**
Wetland Hydrology Present?	Yes _✓_ No ____	**If yes, optional Wetland Site ID:**	W-MJR-01

Remarks: (Explain alternative procedures here or in a separate report)
Covertype is PSS.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ Marl Deposits (B15)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No _✓_	Depth (inches):		
Water Table Present?	Yes _✓_ No ____	Depth (inches):	6	**Wetland Hydrology Present?** Yes _✓_ No ____
Saturation Present? (includes capillary fringe)	Yes _✓_ No ____	Depth (inches):	0	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MJR-01_PSS-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Salix bebbiana*	35	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Phalaris arundinacea*	50	Yes	FACW
2. *Microstegium vimineum*	25	Yes	FAC
3. *Persicaria sagittata*	15	No	OBL
4. *Phragmites australis*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	15	x 1 =	15
FACW species	95	x 2 =	190
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	135	(A)	280 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _✓_ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-MJR-01_PSS-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 3/2	100					Silty Clay Loam	
5 - 18	10YR 4/2	95	10YR 4/6	5	C	M	Loamy Sand	

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
_✓_ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
_✓_ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
___ Loamy Mucky Mineral (F1) **(LRR K, L)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
___ Coast Prairie Redox (A16) **(LRR K, L, R)**
___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
___ Dark Surface (S7) **(LRR K, L)**
___ Polyvalue Below Surface (S8) **(LRR K, L)**
___ Thin Dark Surface (S9) **(LRR K, L)**
___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Torrington Landfill Solar Project **City/County:** Torrington, Torrington **Sampling Date:** 2022-Oct-28
Applicant/Owner: US Solar **State:** CT **Sampling Point:** W-MJR-01_UPL-1
Investigator(s): Matt Regan, Nathan Sarpas **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Foot slope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 144A of LRR R **Lat:** 41.781824939 **Long:** -73.1255323347 **Datum:** WGS84
Soil Map Unit Name: Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓		
Hydric Soil Present?	Yes ____ No ✓	**Is the Sampled Area within a Wetland?**	**Yes ____ No ✓**
Wetland Hydrology Present?	Yes ____ No ✓	**If yes, optional Wetland Site ID:**	

Remarks: (Explain alternative procedures here or in a separate report)
Covertype is UPL.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ Marl Deposits (B15)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ____ No ✓
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MJR-01_UPL-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Lonicera japonica*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Reynoutria japonica*	75	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals	105	(A)	420 (B)
Prevalence Index = B/A =	4		

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-MJR-01_UPL-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 3/2	100					Loamy Sand	

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
___ Loamy Mucky Mineral (F1) **(LRR K, L)**
___ Loamy Gleyed Matrix (F2)
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___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

APPENDIX D
NRCS Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for State of Connecticut

USS Torrington Solar, LLC

December 9, 2022

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 LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: State of Connecticut
Survey Area Data: Version 22, Sep 12, 2022

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

Date(s) aerial images were photographed: Jun 12, 2020—Sep 15, 2020

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	0.8	0.8%
38C	Hinckley loamy sand, 3 to 15 percent slopes	1.3	1.3%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	0.2	0.2%
59C	Gloucester gravelly sandy loam, 3 to 15 percent slopes, extremely stony	0.9	0.9%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	15.7	15.4%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	0.3	0.3%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	15.0	14.7%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	11.4	11.3%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	10.2	10.0%
76E	Rock outcrop-Hollis complex, 3 to 45 percent slopes	5.7	5.6%
86C	Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony	1.2	1.2%
302	Dumps	34.0	33.5%
306	Udorthents-Urban land complex	4.9	4.8%
308	Udorthents, smoothed	0.1	0.1%
Totals for Area of Interest		**101.7**	**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

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

Map Unit Setting

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

Map Unit Composition

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

Description of Ridgebury, Extremely Stony

Setting

Landform: Drumlins, ground moraines, hills, drainageways, depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, 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

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Whitman, Extremely Stony

Setting

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

Typical profile

Oi - 0 to 1 inches: peat

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Woodbridge, extremely stony

Percent of map unit: 6 percent
Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Swansea

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

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: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
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: Moraines, eskers, kames, outwash deltas, outwash terraces, outwash plains, kame terraces
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent
Landform: Kames, outwash plains, outwash terraces, moraines, eskers
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Summit, shoulder, backslope, toeslope, footslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent
Landform: Outwash deltas, moraines, outwash plains, kame terraces, outwash terraces
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

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: Ground moraines, hills
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: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear

Hydric soil rating: No

Charlton, extremely stony

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

Canton, extremely stony

Percent of map unit: 5 percent
Landform: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester, extremely stony

Percent of map unit: 3 percent
Landform: Depressions, ground moraines, drainageways, hills
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
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

Hinckley

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

Canton

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

Paxton

Percent of map unit: 3 percent
Landform: Till plains, hills, drumlins
Down-slope shape: Linear
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

Sutton

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

Leicester

Percent of map unit: 2 percent
Landform: Drainageways, depressions
Down-slope shape: 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: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side 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

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

Typical profile

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

Properties and qualities

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

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

Chatfield, extremely stony
Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Leicester, extremely stony
Percent of map unit: 5 percent
Landform: Hills, drainageways, depressions, ground moraines
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

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

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: Ridges, hills
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 melt-out till derived from granite, gneiss, and/or schist

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Chatfield, Very Stony

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

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

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

Rock outcrop

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

Hollis, very stony

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

Leicester, very stony

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

Sutton, very stony

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

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Rock outcrop

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

Sutton

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

Leicester

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

Hollis

Percent of map unit: 3 percent
Landform: Ridges, hills
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: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

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

Properties and qualities

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

Typical profile

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

Properties and qualities

Slope: 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

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

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

Leicester

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

Unnamed, red parent material

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

Unnamed, sandy subsoil

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

Brimfield

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

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

Map Unit Setting

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

Map Unit Composition

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

Description of Hollis

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Chatfield

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Rock Outcrop

Properties and qualities

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

Interpretive groups

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

Minor Components

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

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

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

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

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

Unnamed, red parent material
Percent of map unit: 1 percent
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: Ridges, hills

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

Typical profile

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

Properties and qualities

Slope: 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: Ridges, hills
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: Drainageways, depressions
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Brimfield

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

Sutton

Percent of map unit: 1 percent
Landform: Drainageways, depressions
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: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
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: Recessionial moraines, ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
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): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge, extremely stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, 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: Drumlins, depressions, ground moraines, hills, drainageways
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base 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): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

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

Westbrook
Percent of map unit: 1 percent
Landform: Tidal marshes, salt marshes
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

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

Unnamed, frequently flooded

Percent of map unit: 1 percent
Landform: Drainageways
Hydric soil rating: Yes

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: 35 percent
Minor components: 15 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: Drift

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 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: About 54 to 72 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): 3e
Hydrologic Soil Group: B
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

Unnamed, undisturbed soils

Percent of map unit: 8 percent
Hydric soil rating: No

Udorthents, wet substratum

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

Rock outcrop

Percent of map unit: 2 percent
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: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear

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

Minor Components

Udorthents, wet substratum

Percent of map unit: 7 percent
Hydric soil rating: No

Unnamed, undisturbed soils

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
Hydric soil rating: No

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ADDENDUM

1.0 Introduction

This addendum presents the results of a wetland and watercourse delineation conducted on March 17, 2023 by TRC as a follow-up to the initial delineation. The purpose of this site reconnaissance was to delineate wetlands and watercourses in the northeastern portion of the property by the point of interconnection.

2.0 Results

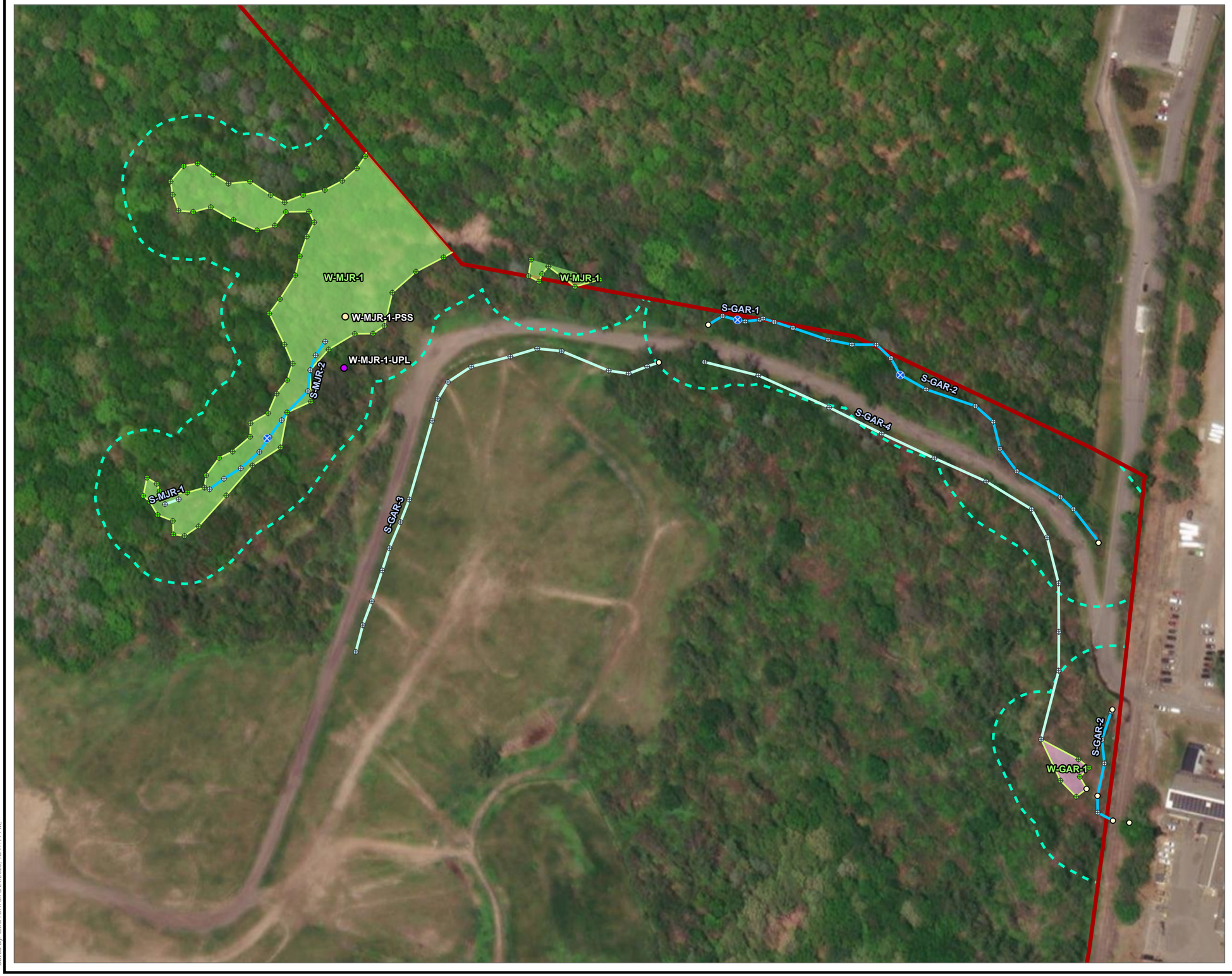
Delineated areas are summarized in Table 3 below and shown in Figure 5 attached.

Table 3: Delineated Wetlands and Watercourses

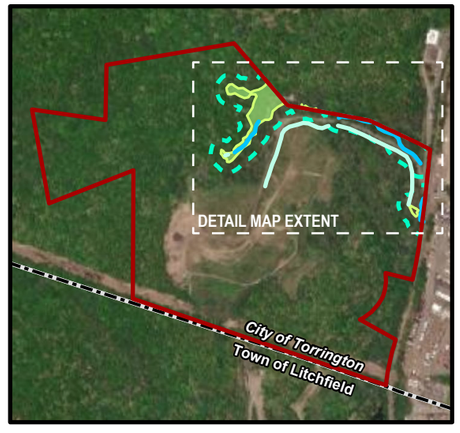
Wetland/ Watercourse Field Designation	Field Designated NWI Classification[1]	Assumed Jurisdictional Status	Associated Buffer/ Setback Requirements
W-GAR-1	PEM	USACE/ Torrington IWC	75-foot buffer zone
S-GAR-1	R4	USACE/ Torrington IWC	100-foot buffer zone
S-GAR-2	R4	USACE/ Torrington IWC	100-foot buffer zone
S-GAR-3	R6	USACE/ Torrington IWC	100-foot buffer zone
S-GAR-4	R6	USACE/ Torrington IWC	100-foot buffer zone

[1] *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee, 2013). Categories include: Palustrine Emergent (PEM).

Figure



PROJECT AREA
CULVERT
USACE WETLAND PLOT
USACE UPLAND PLOT
STREAM PLOT
STREAM FLAG
WETLAND FLAG
DELINEATED EPHEMERAL STREAM
DELINEATED INTERMITTENT STREAM
DELINEATED NON-JURISDICTIONAL DRAINAGE
DELINEATED WETLAND BOUNDARY LINE
DELINEATED PSS WETLAND
DELINEATED PEM WETLAND
UPLAND REVIEW AREA
MUNICIPAL BOUNDARY



1:1,800
1" = 150'
0 50 100
FEET

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

TITLE: **DELINEATED RESOURCES**

DRAWN BY:	S. MOTURI	PROJ. NO.:	490953
CHECKED BY:	M.REGAN		
APPROVED BY:	M. REGAN		**FIGURE 5**
DATE:	MARCH 2023		

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

FILE: Torrington_CIA Figures.aprx - Layout Name: Fig2_DelResources_11x17L_20230324

Coordinate System: NAD 1983 2011 StatePlane Connecticut FIPS 0600 Ft US; Map Rotation: 0
Saved By: SMOTURI on 3/24/2023 15:31:41 PM

Department of Economic and Community Development
State Historic Preservation Office
450 Columbus Boulevard, Suite 5 | Hartford, CT 06103 | 860.500.2300 | ct.gov/historic-preservation

PROJECT REVIEW COVER FORM

This is: ■ a new submittal ☐ supplemental information ☐ other Date Submitted: 6/14/2023

PROJECT INFORMATION

Project Name: USS Torrington Landfill Solar LLC

Project Proponent: US Solar Corporation (USS)
The individual or group sponsoring, organizing, or proposing the project.

Project Street Address: 105 Vista Drive
Include street number, street name, and or Route Number. If no street address exists give closest intersection.

City or Town: Torrington County: Litchfield
Please use the municipality name and **not** the village or hamlet.

PROJECT DESCRIPTION (REQUIRED)

Please summarize the project below. In a separate attachment, describe the project in detail. As applicable, provide any information regarding past land use, project area size, renovation plans, demolitions, and/or new construction.

USS is proposing to develop, construct, and operate a 1.999-megawatt (MW) alternating current (AC) solar project (Project) on an approximately92-acre parcel in Torrington, CT over an existing closed municipal solid waste (MSW) landfill, owned by City of Torrington, at 105 Vista Drive.

List all state and federal agencies involved in the project and indicate the funding, permit, license or approval program pertaining to the proposed project:

Agency Type	Agency Name	Program Name
☐ State ■ Federal	USFWS	Consultation (NLEB)
■ State ☐ Federal	CTDEEP	Construction General Permit; Post-Closure Use Approval Disruption of a Solid Waste; Stewardship Permit
■ State ☐ Federal	CTDEEP, NDDB	Rare, threatened and endangered species consultation
■ State ☐ Federal	CSC	Declaratory Ruling

If there is no state or federal agency involvement, please state the reason for your review request:

FOR SHPO USE ONLY

Based on the information submitted to our office for the above named property and project, it is the opinion of the Connecticut State Historic Preservation Office that no historic properties will be affected by the proposed activities.*

Jonathan Kinney Date
Deputy State Historic Preservation Officer

*All other determinations of effect will result in a formal letter from this office

Connecticut
Department of Economic and Community Development
State Historic Preservation Office
450 Columbus Boulevard, Suite 5 | Hartford, CT 06103 | 860.500.2300 | DECD.org

PROJECT REVIEW COVER FORM

CULTURAL RESOURCES IDENTIFICATION

Background research for previously identified historic properties within a project area may be undertaken at the SHPO's office. To schedule an appointment, please contact Catherine Labadia, 860-500-2329 or Catherine.labadia@ct.gov. Some applicants may find it advantageous to hire a qualified historic preservation professional to complete the identification and evaluation of historic properties.

Are there any historic properties listed on the State or National Register of Historic Places within the project area? (Select one)

☐ Yes ■ No ☐ Do Not Know **If yes**, please identify: _____

Architecture

Are there any buildings, structures, or objects within the Area of Potential Effects (houses, bridges, barns, walls, etc.)? The area of potential effects means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. If you're not sure, check "I don't know."

☐ Yes (attach clearly labeled photographs of each resource and applicable property cards from the municipality assessor)

■ No (proceed to next section)

☐ I don't know (proceed to next section)

Date the existing building/structures/objects were constructed: _____

If the project involves rehabilitation, demolition, or alterations to existing buildings older than 50 years, provide a work plan (If window replacements are proposed, provide representative photographs of existing windows).

Archeology

Does the proposed project involve ground disturbing activities?

■ Yes (provide below or attach a description of current and prior land use and disturbances. Attach an excerpt of the soil survey map for the project area. These can be created for free at: **https://websoilsurvey.nrcs.usda.gov**

The parcel is occupied by a closed municipal solid waste (MSW) landfill, owned by City of Torrington, at 105 Vista Drive in Torrington. Waste was accepted into the landfill until 1993 with final landfill closure in 1994.

☐ No

CHECKLIST (Did you attach the following information?)

Required for all Projects	Required for Projects with architectural resources
■ Completed Form	☐ Work plans for rehabilitation or renovation
■ Map clearly labelled depicting project area	☐ Assessor's Property Card
■ Photographs of current site conditions	Required for Projects with ground disturbing activities
■ Site or project plans for new construction	■ Soil survey map
Suggested Attachments, as needed	
■ Supporting documents needed to explain project	☐ Supporting documents identifying historic properties
☐ Historic maps or aerials (available at http://magic.lib.uconn.edu or https://www.historicaerials.com/)	

PROJECT CONTACT

Name: Karen Mack Firm/Agency: TRC

Address: P.O. Box 1068

City: Bath State: ME Zip: 04530

Phone: (207) 215-2872 Email: kemack@trccompanies.com

Federal and state laws exist to ensure that agencies, or their designated applicants, consider the impacts of their projects on historic resources. At a minimum, submission of this completed form with its attachments constitutes a request for review by the Connecticut SHPO. The responsibility for preparing documentation, including the identification of historic properties and the assessment of potential effects resulting from the project, rests with the federal or state agency, or its designated applicant. The role of SHPO is to review, comment, and consult. SHPO's ability to complete a timely project review largely depends on the quality of the materials submitted. Please mail the completed form with all attachments to the attention of: Environmental Review, State Historic Preservation Office, 450 Columbus Boulevard, Suite 5, Hartford, CT. **Electronic submissions are not accepted at this time**.

P.O. Box 1068
Bath, ME 04530

Project Review Cover Form
for the USS Torrington Landfill Solar, LLC Project

Project Description

On behalf of US Solar Corporation, LLC (USS), TRC Environmental Corporation (TRC) is providing a request for project review for the USS Torrington Landfill Solar, LLC Project (Project) located on Vista Drive in the City of Torrington, Torrington County, Connecticut (Figure 1). USS is proposing to develop, construct, and operate a 1.999-megawatt (MW) alternating current (AC) solar project on an approximate 92-acre parcel (this Site) (Figure 2). Although the Site includes wooded land surrounding the upland where the landfill is located the Project is planned to be installed using a fixed-tilt racking system with ballast-block foundations within the previous landfill including an area of approximately 5.2 acres. The Project will use an existing access road that runs from the northeast corner of the parcel at Vista Drive west and then south to the landfill (see attached Project Plans).

The Site is occupied by a closed municipal solid waste (MSW) landfill, owned by City of Torrington, at 105 Vista Drive in Torrington. A soils map is provided in Figure 3 showing the extent of the landfill. Waste was accepted into the landfill until 1993 with final landfill closure in 1994. In addition to MSW disposal, 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. There is one access point to the landfill: a gated road in the northeast corner of the Site. The parcel is perpendicular to Vista Road. There is a commercial area located to the east of the Project area. Naugatuck River is east of the Project area. Photographs 1 – 20 show conditions at the Site in 2022.

Permits

Table 1 provides a summary of the local, state and federal permits needed for the proposed Project.

Table 1. Summary of Potential Permits, Approvals, and Consultations

Agency	Permit, Approval or Consultation	Reason Required	Notes
Federal			
USFWS (U.S. Fish and Wildlife Service)	Consultation	NLEB (Northern Long Eared Bat)	Filed March 31st
STATE			

Table 1. Summary of Potential Permits, Approvals, and Consultations

Agency	Permit, Approval or Consultation	Reason Required	Notes
CTDEEP (Connecticut Department of Energy and Environmental Protection)	Construction General Permit	Stormwater permit issued under National Pollutant Discharge Elimination System and CGS 22a-430 and 22a-430b. Required for projects disturbing 1 or more acres of land.	
CTDEEP	Post-Closure Use Approval Disruption of a Solid Waste Disposal Area Updated Stewardship Permit	Required for Projects constructed on closed landfills.	
CSC (Connecticut Sitting Council)	Declaratory Ruling	Renewable Energy facilities with a capacity of less than 65 MW and meeting air and water quality standards. CSC has jurisdiction up to 1 MW AC.	
CTDEEP, NDDB (Natural Diversity Data Base)	Rare, threatened, and endangered species consultation	Although the CSC does not require consultation due to the absence of mapped areas, it is still required due to the CTDEEP General Permit for Stormwater from Construction Activity.	Filed March 2023 (ID #96616; Permit ID #202302296)
LOCAL			
Zoning Enforcement Officer Planning and Zoning Commission	Site Plan and Special Exception approval	If Project is equal to or greater than 1 MW AC, local permitting is superseded by the CSC process. Applicant can request CSC to take jurisdiction of project if less than 1 MW.	
Inland Wetlands Commission	Certificate of Compliance	Required for all construction. If Project is less than 1 MW AC. If Project is equal to or greater than 1 MW AC, local permitting is superseded by the CSC process.	
Building Department	Building and Electrical Permits	Required for all construction.	

Results of Cultural Resources Review

This section provides a review of the historic inventory points, districts, and areas maintained by the Connecticut State Historic Preservation Office (CTSHPO) for a 1-mile radius around the entire Project area gathered via ConnCRIS. Archaeological site records and archaeological surveys are not yet available on ConnCRIS, therefore TRC will rely on CTSHPO to provide any information on pertinent archaeological site data and previous archaeological surveys after the receipt of this Project Review Cover Form. Other online sources reviewed include the inventory of architectural resources listed on the National Register of Historic Places (NRHP) and the Connecticut State Register of Historic Places, listings of historic cemeteries, and local historic districts and properties.

There are no NRHP or Connecticut State Register of Historic Places-listed historic properties, historic cemeteries, or local historic districts located within or directly adjacent to the Project's area of direct impact. The closest previously identified resource is the NRHP-listed South School (NRHP# 86000522), which is located approximately 0.81 miles north of the Project area (Table 2). There are also 28 inventoried properties within 1 mile of the Project area. Typically, with landfill projects, the property is significantly disturbed by filling activities and significant cultural resources are no longer present. There is protected open space north of the Project area, which is the Hillside Cemetery approximately 0.18 miles north. A review of historic maps of the Project area shows no evidence of historic structures as far back as 1892.

Table 2. Historic Structures Inventoried within One Mile of the Study Area

Name	Address	Construction Date	Status	Distance from APE
Unnamed	16 Thomaston Rd, Litchfield	1930	Inventoried	0.99 miles SE
Litchfield Spirits	23 Thomaston Rd, Litchfield	1956	Inventoried	0.93 miles SE
Unnamed	34 Johnson Rd, Litchfield	C. 1936	Inventoried	0.86 miles SE
Unnamed	37 Johnson Rd, Litchfield	1940	Inventoried	0.82 miles SE
Unnamed	48 Johnson Rd, Litchfield	C. 1920	Inventoried	0.77 miles SE
Unnamed	56 Johnson Rd, Litchfield	1936	Inventoried	0.72 miles SE
Jamieson Laser Co.	50 Thomaston Rd, Litchfield	1945	Inventoried	0.75 miles SE
Barredo's Used Furniture and Antiques	54 Thomaston Rd, Litchfield	1956	Inventoried	0.73 miles SE

Table 2. Historic Structures Inventoried within One Mile of the Study Area

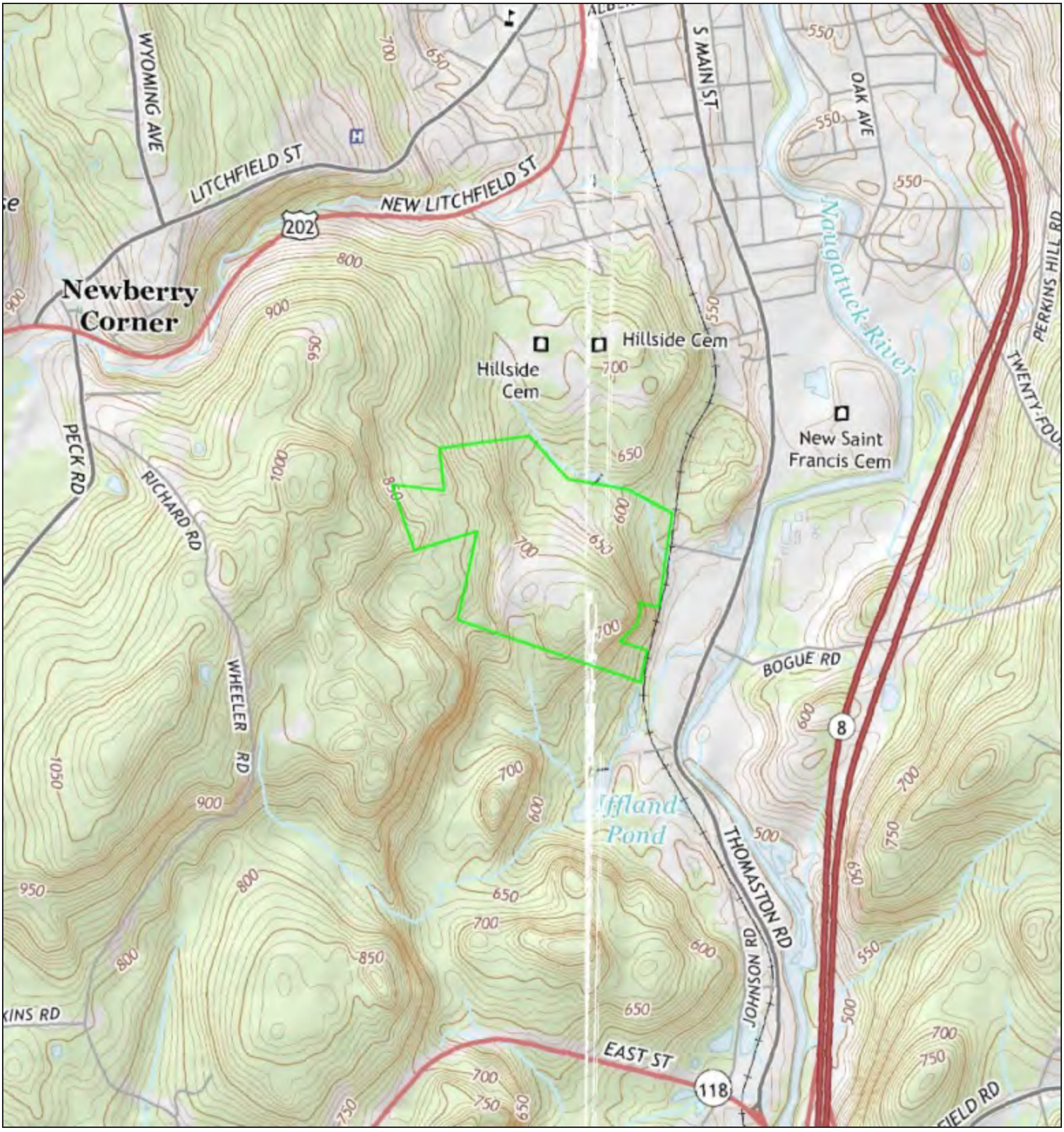
Name	Address	Construction Date	Status	Distance from APE
Unnamed	64 Thomaston Rd, Litchfield	C. 1915	Inventoried	0.63 miles SE
Unnamed	68 Thomaston Rd, Litchfield	C. 1920	Inventoried	0.62 miles SE
Unnamed	73 Thomaston Rd, Litchfield	C. 1920	Inventoried	0.56 miles SE
Bonvicini Building Supply; United Construction and Engineering	111 Thomaston Rd, Litchfield	C. 1940	Inventoried	0.32 miles SE
CL & P Terminal 8A	113 Thomaston Rd, Litchfield	C. 1930	Inventoried	0.28 miles SE
Unnamed	206 Clark Rd, Litchfield	C. 1930	Inventoried	0.99 miles W
Unnamed	216 Clark Rd, Litchfield	C. 1930	Inventoried	0.98 miles W
Wheeler Homestead	144 Wheeler Rd, Litchfield		Inventoried	0.68 miles SW
Unnamed	188 Wheeler Rd, Litchfield		Inventoried	0.48 miles SW
Unnamed	189 Wheeler Rd, Litchfield		Inventoried	0.55 miles SW
Unnamed	199 Wheeler Rd, Litchfield	1953	Inventoried	0.49 miles W
Unnamed	210 Wheeler Rd, Litchfield	1940	Inventoried	0.46 miles W
Unnamed	209 Wheeler Rd, Litchfield	1939	Inventoried	0.51 miles W
Unnamed	214 Wheeler Rd, Litchfield	1946	Inventoried	0.51 miles W
Unnamed	220 Clark Rd, Litchfield	C. 1925	Inventoried	0.51 miles W
Unnamed	222 Wheeler Rd, Litchfield	1942	Inventoried	0.53 miles W
Torrington Casting Co.	293 New Litchfield St, Torrington	C. 1920	Inventoried	0.65 miles N
Torrington Co. Wire	30 Irene St,	1957	Inventoried	0.71 miles N

Table 2. Historic Structures Inventoried within One Mile of the Study Area

Name	Address	Construction Date	Status	Distance from APE
Mill	Torrington			
Turner and Seymour Manufacturing Co.	100 Lawton St, Torrington	1893	Inventoried	0.67 miles N
South School	362 South Main St, Torrington	1915	NRDIS-C; SRDIS	0.81 miles N
United Cinephone Corp.	65 New Litchfield St.	1922	Inventoried	0.98 miles N
Source: ConnCRIS 2023				

Attached

Figure 1. Site Location on Topographic Map
Figure 2. Site Location on Aerial Map
Figure 3. Soils Map
Site Photos 1-20
Site Plan



Proposed USS Torrington Landfill Solar Project

N

Source/Year : USGS, 2015

Scale: 1:18000

TRC	Proposed USS Torrington Landfill Solar, LLC Project, Torrington, CT	Date: November 28, 2022 Project No. 490953.000005.000000	Figure No: 1

Legend

- Property Boundary
- Access Gate
- Site Road
- Culvert
- Stream Course
- Drainage Swale
- City of Torrington Area
- RCRA Closure Area (1989)
- RCRA Subtitle D Closure Area (1994)
- Extent of Proposed Solar Array

Notes:
Orthophotography: 2019 Rectified GeoTIFF, flown March to April 2019.
Source: Statewide Orthophotography 2019. Retrieved from http://cteco.uconn.edu/data/flight2019/index.htm.
Parcel boundary derived from City of Torrington's online GIS webpage.

N

0 300 600 Feet

1 " = 300 '

PROJECT:

PHASE I ESA; PROPOSED USS TORRINGTON LANDFILL SOLAR PROJECT TORRINGTON, CONNECTICUT

TITLE:

SITE LAYOUT PLAN

DRAWN BY:	CEC	PROJ NO.:	490953.0000.0000
CHECKED BY:	CEC		**FIGURE 2**
APPROVED BY:	FILE→MDP: TAGS		
DATE:	DECEMBER 2022		

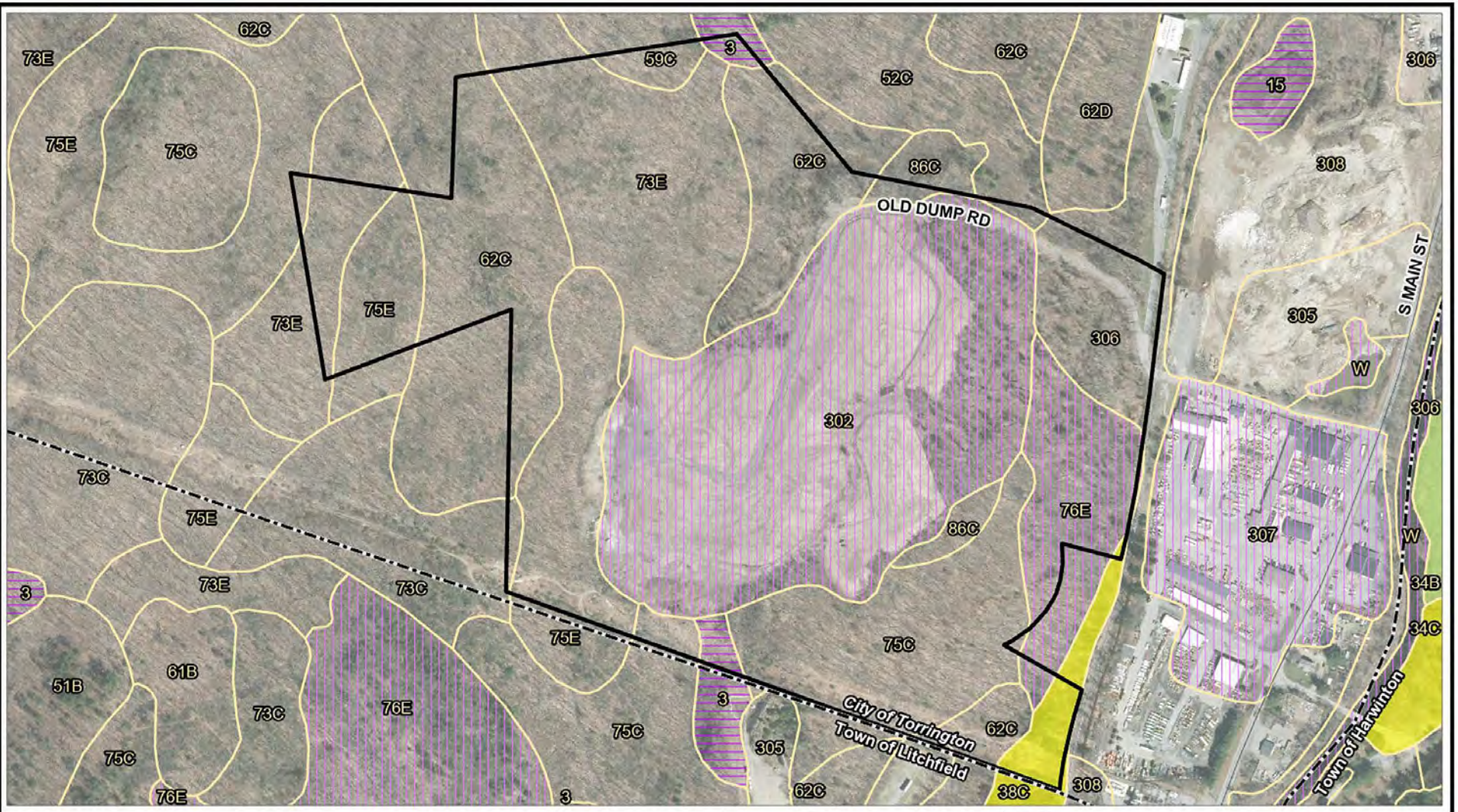
TRC

FILE NO.: USS_Torrington_LF Phase I Fig 2.mxd

Plot Date: 12/7/2022, 11:43:03 AM by CCARLSON -- LAYOUT: ANSI B (11"x17")
Path: T:\GIS-HazWaste\USS Torrington Phase I\USS_Torrington_LF Phase I Fig 2.mxd

Coordinate System: NAD 1983 StatePlane Connecticut FIPS 0600 Feet (Foot US)
Map Rotation: 0

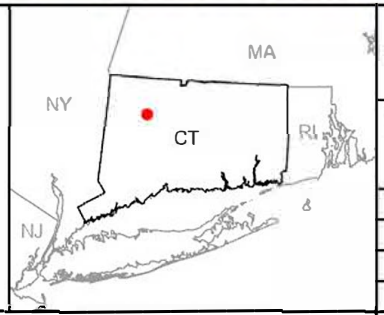
TRC - GIS



PROJECT AREA
MUNICIPAL BOUNDARY
SOIL MAP UNIT

HYDRIC RATING
HYDRIC
NOT RATED

FARMLAND CLASS
ALL AREAS ARE PRIME FARMLAND
FARMLAND OF STATEWIDE IMPORTANCE



BASE MAP: ESRI "WORLD IMAGERY" SERVICE
DATA SOURCES: ESRI

N

0 250 500 FEET

1:6,000 1" = 500'

PROJECT: US SOLAR
TORRINGTON LANDFILL
SOLAR, LLC PROJECT

TITLE: SOILS MAP

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

FIGURE 3

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

FILE: TORRINGTON_CIA FIGURES

USS Torrington Landfill Solar. LLC Project Photograph Log

Photo 1: Access to former landfill from Vista Drive.

Photo 2: Looking northeast down drainage swale along main access road.

Photo 3: Looking north down drainage swale along main access road.

Photo 4: Looking northeast from top of landfill along main access road.

Photo 5: Looking southwest across municipal waste fill area.

Photo 6: Looking southeast towards metal hydroxide sludge fill area from municipal waste fill area.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	TRC
490953.00.00	Chris Carlson, 9/16/2022	1 of 4	United States Solar Corporation	Torrington Landfill; 105 Vista Dr., Torrington, CT	

USS Torrington Landfill Solar. LLC Project Photograph Log

Photo 7: Looking southwest between municipal waste fill and metal hydroxide sludge areas.

Photo 8: Looking northeast down drainage swale northeast of municipal waste fill area.

Photo 9: Looking northeast along drainage swale east side of municipal waste fill Area.

Photo 10: Looking northeast between metal hydroxide sludge and municipal waste fill areas.

Photo 11: Looking west across Torrington DPW dumping area.

Photo 12: Looking northwest across Torrington DPW dumping area.

USS Torrington Landfill Solar. LLC Project Photograph Log

Photo 13: Ponded water in area of Torrington DPW dumping area.

Photo 14: Looking east across top of municipal waste fill area in vicinity of proposed solar array.

Photo 15: Controlled access to metal hydroxide sludge area.

Photo 16: Looking northeast between metal hydroxide sludge and municipal waste fill areas.

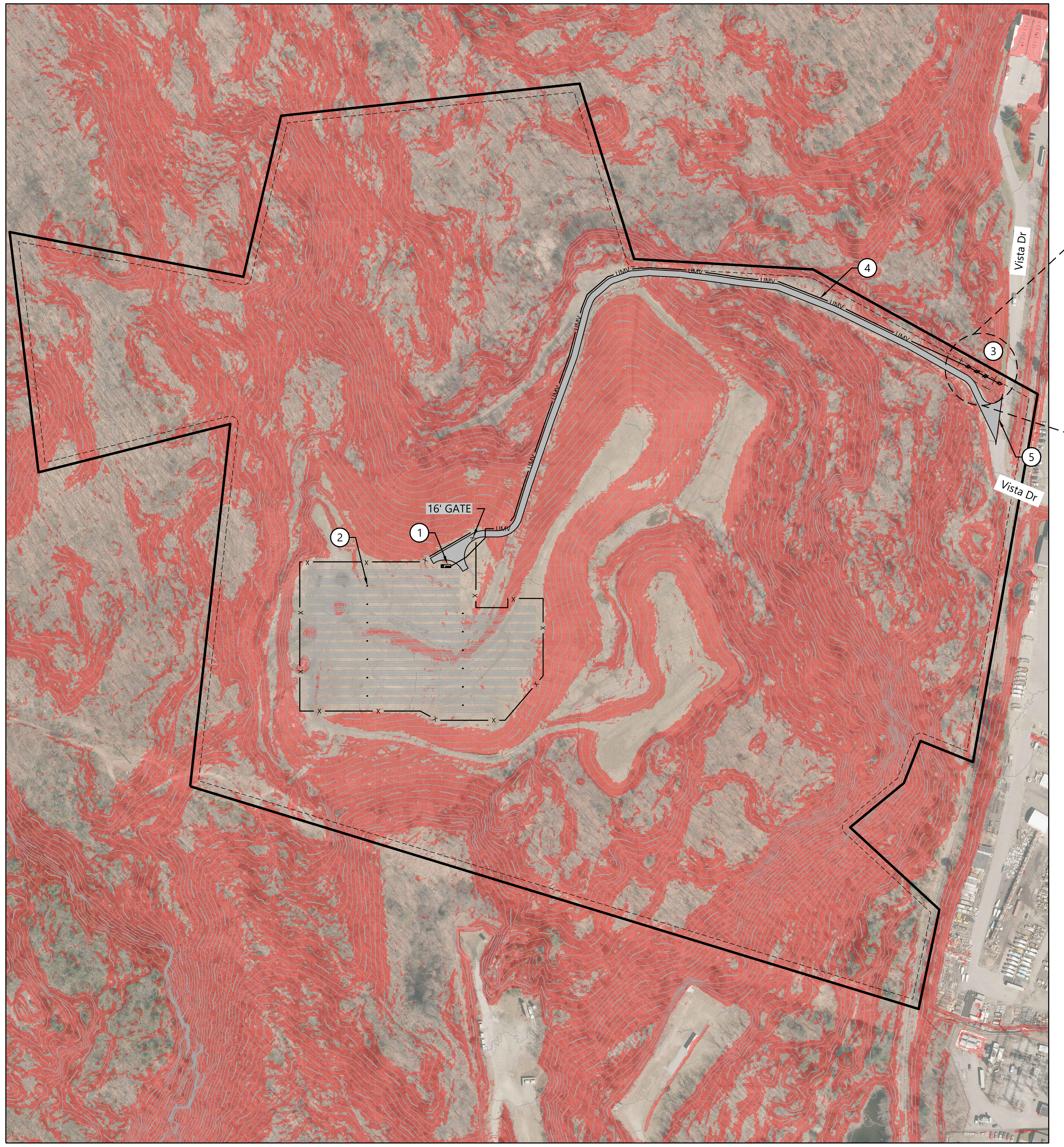
Photo 17: Looking southeast along control fence of metal hydroxide sludge area.

Photo 18: Discharge culvert pipe for landfill drainage swales.

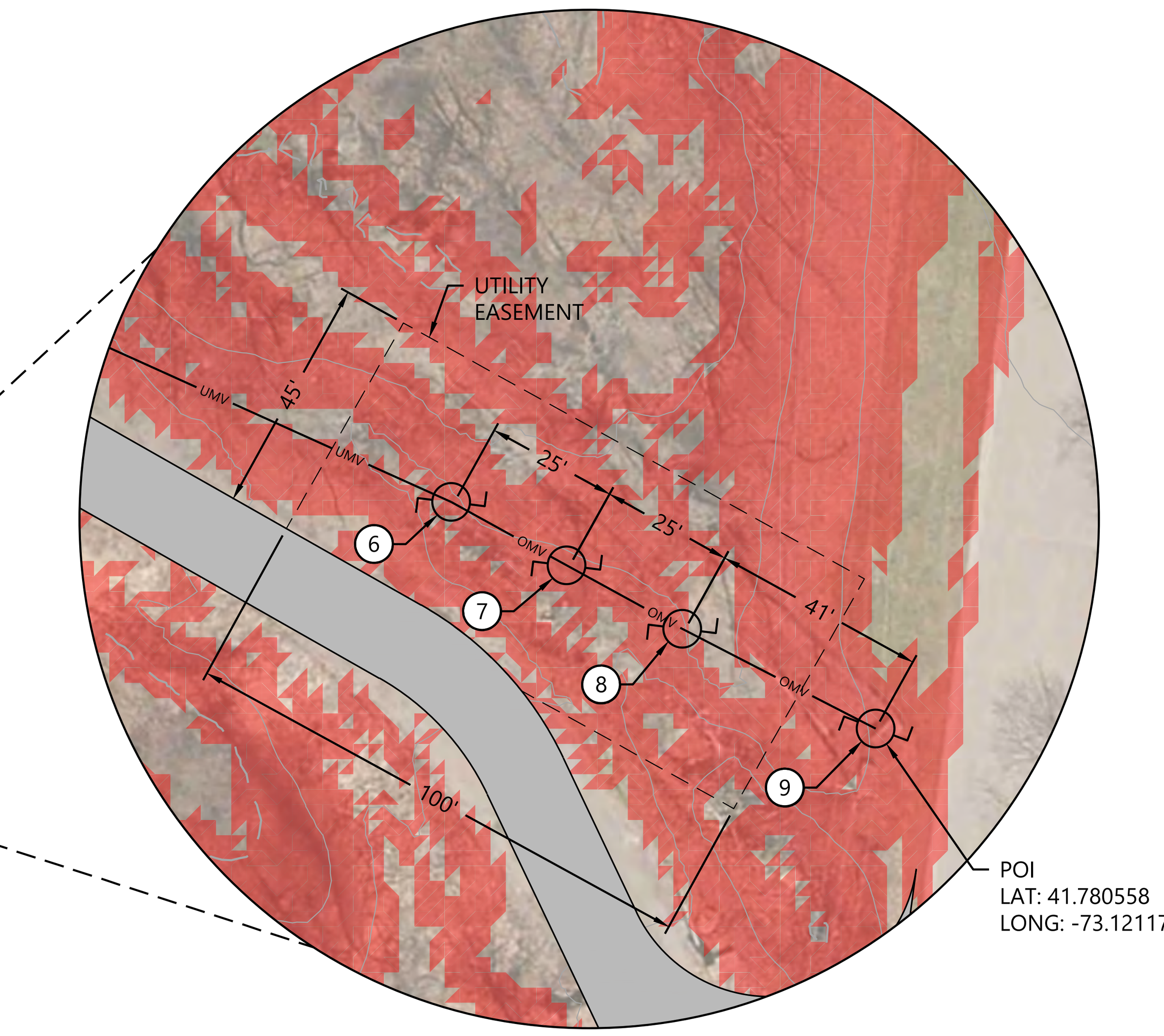
USS Torrington Landfill Solar. LLC Project Photograph Log

Photo 19: Open access gate to electric utility ROW in the southwest corner of the landfill.

Photo 20: Looking east to adjoining property to the northeast.

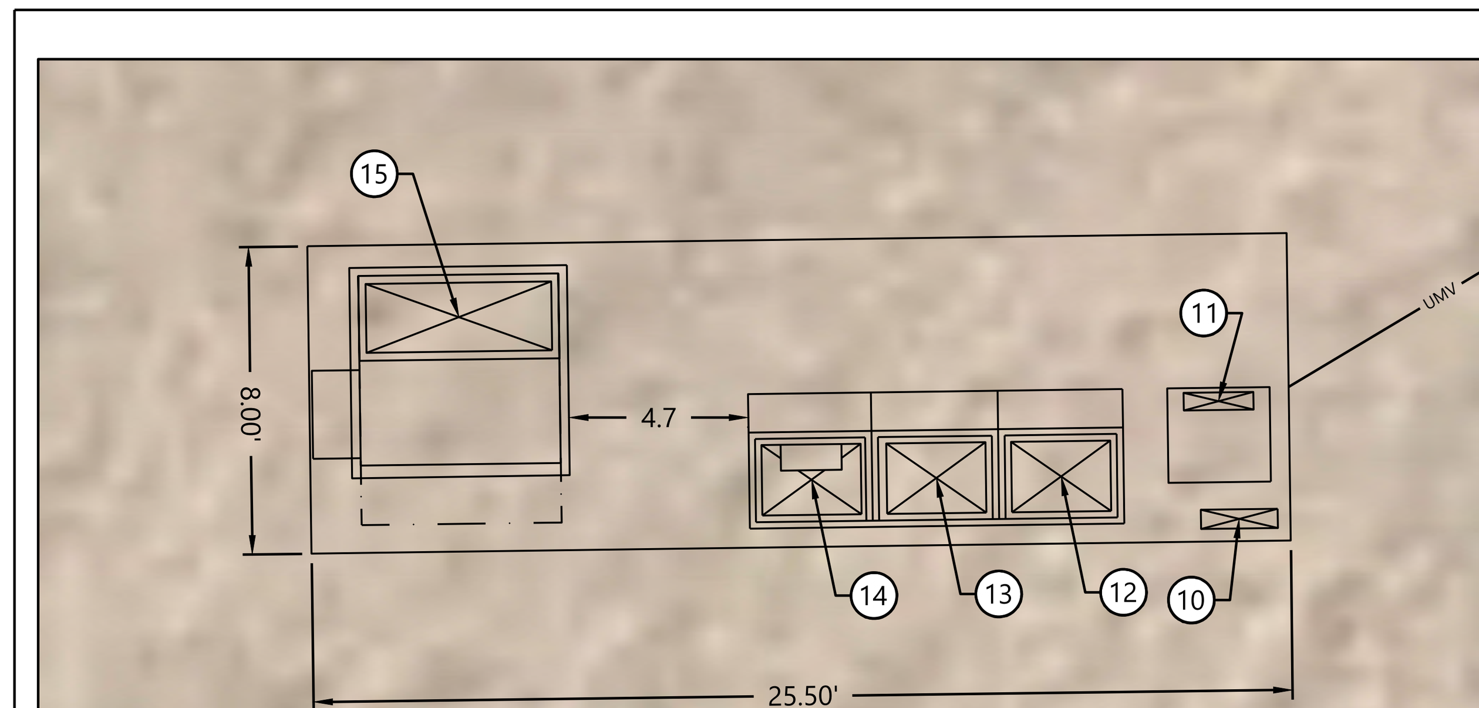


1 Array Layout
1" - 200'



CSG POINT OF INTERCONNECTION

SCALE: 1"=30'



DETAIL VIEW OF POWER STATION

SCALE: 1"=5'

SYSTEM SPECIFICATIONS	
SYSTEM SIZE DC	2,333 kW
SYSTEM SIZE AC	1,999 kW
DC/AC RATIO	1.166
MODULE MODEL	LONGI LR5-72HGD 540m
MODULE RATING	540W
TOTAL MODULE QTY	4,320
MODULES PER STRING	27
TOTAL NO. OF STRINGS	104
INVERTER MODEL	DELTA ELECTRONICS M125HV-US
INVERTER RATING	125kW
INVERTER QTY	16
NO. OF STRINGS PER INVERTER	11 & 12
RACKING	RBI
TOTAL NO. OF 54 MODULE RACKS	52
TILT ANGLE	25°
INTER-ROW SPACING	10.0
PITCH	23.6
GCR	57.6%
AREA OCCUPIED	4.1 ACRES
FENCE AREA	5.2 ACRES
FENCE LENGTH	2,119 LF

LEGEND:

- PROJECT BOUNDARY
- SECTION LINES
- RIGHT-OF-WAY LINES
- EASEMENT LINES
- EX. OVERHEAD POWER LINE
- EX. 25' INDEX CONTOUR
- EX. 5' INTERVAL CONTOUR
- EX. FENCE
- EX. WATER LINE
- EX. STREAM CHANNEL
- EX. TREELINE
- PROPOSED SECURITY FENCE
- PROPOSED POWER POLE
- PROPOSED GRAVEL ACCESS ROAD
- PROPOSED UNDERGROUND COLLECTOR
- PROPOSED OVERHEAD POWERLINE
- PROPOSED TRANSFORMER PAD
- PROPOSED STRING INVERTER
- PROPOSED MODULE RACKS
- >15% SLOPE AREA

GENERAL NOTES:

1. REFER TO SINGLE LINE DIAGRAM FOR DETAILS
2. INSTALLATION TO COMPLY WITH NEC ARTICLE 690 AND ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES OR REGULATIONS
3. EQUIPMENT SHALL BE LABELED PER NEC 690 AND UTILITY ENERGY REGULATIONS.
4. 15' ACCESS ROADS SHALL BE DESIGNED TO ACCOMMODATE ALL CONSTRUCTION, OPERATIONS, MAINTENANCE AND UTILITY TRAFFIC THROUGHOUT THE SITE.
5. DIMENSIONS TO PROPERTY LINES AND EXISTING FEATURES ARE APPROXIMATE PENDING SURVEY.
6. THERE ARE NO CLEARANCE ISSUES FOR OVERHEAD ELECTRIC SERVICE LINES.
7. 24/7 UNESCORTED KEYLESS ACCESS SHALL BE PROVIDED FOR THE METERS AND THE AC DISCONNECT
8. A PLACARD WITH MAP WILL BE PROVIDED INDICATING THE LOCATION OF THE PRODUCTION METER AND DISCONNECT.

KEY:

1. POWER STATION
2. INVERTER
3. INTERCONNECTION CIRCUIT DETAIL
4. UNDERGROUND MEDIUM VOLTAGE AC CIRCUIT FROM POWER STATION TO RISER POLE
5. MAIN SITE ACCESS
6. POLE #1 - PROJECT RISER AND DISCONNECT GOAB (PROTECTIVE INTERPHASE) UTILITY DISCONNECT
7. POLE #2 - UTILITY MAIN SERVICE METER (PROPOSED)
8. POLE #3 - UTILITY RECLOSER (PROPOSED)
9. POLE #4 - UTILITY POI
10. AUX LOAD PANELS
11. ZIG ZAG TRANSFORMER
12. OWNER PRODUCTION METER SECTION
13. OUTPUT - 6x600KCMIL
14. INPUT - AC RECOMBINER (INVERTER)
15. MV TRANSFORMER

EQUIPMENT LOCATIONS AND DISTANCES		
EQUIPMENT	LOCATION	DISTANCE TO MSM
MAIN SERVICE METER (MSM)	POLE #2	0'
UTILITY RECLOSER	POLE #3	25'
CUSTOMER DISCONNECT	POLE #1	25'
PRODUCTION METER	POWER STATION (SEE KEY NOTE 12)	1129'

Westwood Surveying & Engineering
Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
Fax (952) 937-5822 Minnetonka, MN 55343
Toll Free (888) 937-5150 ww-pc.com
Westwood Surveying and Engineering, P.C.

STATE OF CONNECTICUT DOUGLAS A. MUTCHER 0029077 LICENSED PROFESSIONAL ENGINEER
February 22, 2022

DESIGNED:	MM
CHECKED:	DLH
DRAWN:	SS
RECORD DRAWING BY/DATE:	04/28/21

US SOLAR
100 N 6th St #410B
Minneapolis, MN 55403

#	DATE	COMMENT
A	02/22/22	IA SUBMITTAL REVISION

CUSTOMER OF RECORD: US SOLAR

LAT: 41.780558,
LONG: -73.121178
SUBSTATION: Torrington Terminal 8A

USS Torrington Solar LLC

Litchfield County, Connecticut

105 Vista Drive,
Torrington, CT 06790

Project Site Plan

NOT FOR CONSTRUCTION

DATE: 02/22/2022

SHEET: E.300

July 12, 2023

Ms. Karen Mack
TRC
P.O. Box 1068
Bath, ME 04530
(sent only via email to kemack@trccompanies.com)

Subject: USS Torrington Landfill Solar Project
105 Vista Road
Torrington, Connecticut

Dear Ms. Mack:

The State Historic Preservation Office (SHPO) has reviewed the referenced project in response to your request for our comments regarding potential effects to historic properties. SHPO understands that the US Solar Corporation plans to construct a 1.999-megawatt AC solar facility. The proposed facility will occupy approximately 5.2 acres on the surface of an extant landfill within a larger 92-acre parcel. The project will include the installation of an interconnect as well as the use of an existing access road. The project will require a stormwater discharge permit issued by the Connecticut Department of Energy and Environmental Protection through the authority of the Environmental Protection Agency as well as approval from the Connecticut Siting Council. As a result, it is subject to review by this office pursuant to the National Historic Preservation Act and the Connecticut Environmental Policy Act.

There are no previously reported archaeological sites or properties listed on the National Registers of Historic Places recorded within or adjacent to the Area of Potential Effect (APE). Project plans indicate that the solar development and associated facilities will be confined to existing disturbed deposits. Therefore, it is unlikely that significant archeological resources will be impacted by the proposed actions. Based on the information provided to our office, it is SHPO's opinion that no historic properties will be affected by this undertaking.

This office appreciates the opportunity to review and comment upon this project. For additional information, please contact Cory Atkinson, Staff Archaeologist and Environmental Reviewer, at (860) 500-2458 or cory.atkinson@ct.gov.

Sincerely,

Jonathan Kinney
State Historic Preservation Officer