

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either “Yes” or “No”. If the answer to the initial question is “Yes”, complete the sub-questions that follow. If the answer to the initial question is “No”, proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: 381 N Highland Ave - Public Utility Unit Substation		
Project Location (describe, and attach a general location map): 381 N Highland Ave, Ossining, NY 10562		
Brief Description of Proposed Action (include purpose or need): The proposed project, located on a 28.2 acres parcel, would be a standalone energy storage system that would be used to supplement power to the local power grid at peak hours, by utilizing New York State's Value of Distributed Energy Resources (VDER) mechanism. The system will be enclosed by a 7' chain link fence and will occupy a total area of 0.22 acres. Once operational, the system will be unmanned, however, a gravel access road will be installed for occasional vehicle access. See Figure 1 and zoning map.		
Name of Applicant/Sponsor: Ossining Energy Storage 1, LLC	Telephone: 315-378-9567	
	E-Mail: ggibbons@borregosolar.com	
Address: 30 Century Hill Drive, Suite 301		
City/PO: Latham	State: NY	Zip Code: 12110
Project Contact (if not same as sponsor; give name and title/role):	Telephone:	
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Archdiocese of NY Inc.	Telephone: 646-236-8954	
	E-Mail:	
Address: 1011 1st Ave		
City/PO: New York	State: NY	Zip Code: 10022

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, ☐ Yes ☒ No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission ☒ Yes ☐ No	Site Plan approval by the T/O Ossining Planning Board	TBD
c. City, Town or Village Zoning Board of Appeals ☒ Yes ☐ No	Special Use Permit by the T/O Ossining Zoning Board	TBD
d. Other local agencies ☐ Yes ☒ No		
e. County agencies ☐ Yes ☒ No		
f. Regional agencies ☐ Yes ☒ No		
g. State agencies ☒ Yes ☐ No	NYSERDA Funding Program	TBD
h. Federal agencies ☐ Yes ☒ No		
i. Coastal Resources. i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☒ Yes ☐ No ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☒ Yes ☐ No iii. Is the project site within a Coastal Erosion Hazard Area? ☐ Yes ☒ No		

C. Planning and Zoning

C.1. Planning and zoning actions.	
Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐ Yes ☒ No • If Yes, complete sections C, F and G. • If No, proceed to question C.2 and complete all remaining sections and questions in Part 1	
C.2. Adopted land use plans.	
a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐ Yes ☒ No If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐ Yes ☐ No	
b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☒ Yes ☐ No If Yes, identify the plan(s): Remediation Sites: 546031 The project will have no impact on the Upper Hudson River PCP Sediments remediation. This project won't impact the Hudson River and it will maintain the required 100' buffer from the river.	
c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐ Yes ☒ No If Yes, identify the plan(s): _____ _____ _____	

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☒ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?

R-20 One-Family Residence District

b. Is the use permitted or allowed by a special or conditional use permit? ☒ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☒ No

If Yes,

i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Ossining Union Free School District

b. What police or other public protection forces serve the project site?

Ossining Police Department

c. Which fire protection and emergency medical services serve the project site?

Ossining Fire Department; Ossining Volunteer Ambulance Corps

d. What parks serve the project site?

Recreation & Parks Department (Town of Ossining)

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Industrial

b. a. Total acreage of the site of the proposed action? _____ 28.2 acres

b. Total acreage to be physically disturbed? _____ 0.50 acres

c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ 29.0 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☒ No

i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☒ No

If Yes,

i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☒ No

i. If No, anticipated period of construction: _____ 4 months

ii. If Yes:

- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year

- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐ Yes ☒ No If Yes, show numbers of units proposed.				
	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? ☒ Yes ☐ No If Yes,	
i. Total number of structures _____ 6	
ii. Dimensions (in feet) of largest proposed structure: _____ 10 height; _____ 9 width; and _____ 40' length	
iii. Approximate extent of building space to be heated or cooled: _____ 1300 square feet	

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☒ No If Yes,	
i. Purpose of the impoundment: _____	
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify: _____	
iii. If other than water, identify the type of impounded/contained liquids and their source. _____	
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres	
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length	
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____	

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐ Yes ☒ No (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) If Yes:	
i. What is the purpose of the excavation or dredging? _____	
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?	
• Volume (specify tons or cubic yards): _____ • Over what duration of time? _____	
iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____	
iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No If yes, describe. _____	
v. What is the total area to be dredged or excavated? _____ acres	
vi. What is the maximum area to be worked at any one time? _____ acres	
vii. What would be the maximum depth of excavation or dredging? _____ feet	
viii. Will the excavation require blasting? ☐ Yes ☐ No	
ix. Summarize site reclamation goals and plan: _____	

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☒ No If Yes:	
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____	

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? ☐ Yes ☒ No
If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐ Yes ☐ No
If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☐ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☒ No
If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

• Do existing sewer lines serve the project site? _____ • Will a line extension within an existing district be necessary to serve the project? _____ If Yes: • Describe extensions or capacity expansions proposed to serve this project: _____ _____ _____	☐ Yes ☐ No ☐ Yes ☐ No	
iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? _____ If Yes: • Applicant/sponsor for new district: _____ • Date application submitted or anticipated: _____ • What is the receiving water for the wastewater discharge? _____	☐ Yes ☐ No	
v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans): _____ _____ _____		
vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____ _____ _____		
e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? _____ If Yes: i. How much impervious surface will the project create in relation to total size of project parcel? _____ Square feet or _____ acres (impervious surface) _____ Square feet or _____ acres (parcel size) ii. Describe types of new point sources. _____ _____ iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)? _____ _____ • If to surface waters, identify receiving water bodies or wetlands: _____ _____ • Will stormwater runoff flow to adjacent properties? _____	☐ Yes ☒ No ☐ Yes ☐ No ☐ Yes ☐ No	
iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? _____		
f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? _____ If Yes, identify: i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles) _____ ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers) _____ iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation) _____	☐ Yes ☒ No	
g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? _____ If Yes: i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) _____ ii. In addition to emissions as calculated in the application, the project will generate: • _____ Tons/year (short tons) of Carbon Dioxide (CO₂) • _____ Tons/year (short tons) of Nitrous Oxide (N₂O) • _____ Tons/year (short tons) of Perfluorocarbons (PFCs) • _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆) • _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs) • _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)		☐ Yes ☒ No ☐ Yes ☐ No

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐ Yes ☒ No If Yes: i. Estimate methane generation in tons/year (metric): _____ ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____			
i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐ Yes ☒ No If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____			
j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐ Yes ☒ No If Yes: i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐ Weekend ☐ Randomly between hours of _____ to _____. ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____ iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____ iv. Does the proposed action include any shared use parking? ☐ Yes ☐ No v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____ vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐ Yes ☐ No vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐ Yes ☐ No viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐ Yes ☐ No			
k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐ Yes ☒ No If Yes: i. Estimate annual electricity demand during operation of the proposed action: _____ ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): _____ iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐ Yes ☐ No			
l. Hours of operation. Answer all items which apply. <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> i. During Construction: • Monday - Friday: _____ 7am-5pm • Saturday: _____ 7am-5pm • Sunday: _____ Only under permission of Town • Holidays: _____ No </td> <td style="width: 50%; vertical-align: top;"> ii. During Operations: • Monday - Friday: <u>As needed per utility requirements</u> • Saturday: <u>As needed per utility requirements</u> • Sunday: <u>As needed per utility requirements</u> • Holidays: <u>As needed per utility requirements</u> </td> </tr> </table>		i. During Construction: • Monday - Friday: _____ 7am-5pm • Saturday: _____ 7am-5pm • Sunday: _____ Only under permission of Town • Holidays: _____ No	ii. During Operations: • Monday - Friday: <u>As needed per utility requirements</u> • Saturday: <u>As needed per utility requirements</u> • Sunday: <u>As needed per utility requirements</u> • Holidays: <u>As needed per utility requirements</u>
i. During Construction: • Monday - Friday: _____ 7am-5pm • Saturday: _____ 7am-5pm • Sunday: _____ Only under permission of Town • Holidays: _____ No	ii. During Operations: • Monday - Friday: <u>As needed per utility requirements</u> • Saturday: <u>As needed per utility requirements</u> • Sunday: <u>As needed per utility requirements</u> • Holidays: <u>As needed per utility requirements</u>		

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐ Yes ☒ No If yes: i. Provide details including sources, time of day and duration: _____ _____	
ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☐ No Describe: _____ _____	
n. Will the proposed action have outdoor lighting? ☒ Yes ☐ No If yes: i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures: <u>A motion-activated light approximately 8 feet in height will be installed at each electrical equipment area and will be directed downward.</u> <u>The closest electrical equipment area will be approximately 900' from the nearest residence.</u>	
ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☒ No Describe: _____ _____	
o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☒ No If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____ _____ _____	
p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☒ No If Yes: i. Product(s) to be stored _____ ii. Volume(s) _____ per unit time _____ (e.g., month, year) iii. Generally, describe the proposed storage facilities: _____ _____	
q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☒ No If Yes: i. Describe proposed treatment(s): _____ _____ _____	
ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No	
r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☒ No If Yes: i. Describe any solid waste(s) to be generated during construction or operation of the facility: • Construction: _____ tons per _____ (unit of time) • Operation : _____ tons per _____ (unit of time) ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste: • Construction: _____ _____ • Operation: _____ _____ iii. Proposed disposal methods/facilities for solid waste generated on-site: • Construction: _____ _____ • Operation: _____ _____	

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☒ No
 If Yes:
 i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____
 ii. Anticipated rate of disposal/processing:
 • _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
 • _____ Tons/hour, if combustion or thermal treatment
 iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☒ No
 If Yes:
 i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

 ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

 iii. Specify amount to be handled or generated _____ tons/month
 iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

 v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No
 If Yes: provide name and location of facility: _____

 If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site			
a. Existing land uses. i. Check all uses that occur on, adjoining and near the project site. ☐ Urban ☐ Industrial ☒ Commercial ☒ Residential (suburban) ☐ Rural (non-farm) ☒ Forest ☐ Agriculture ☒ Aquatic ☐ Other (specify): _____			
ii. If mix of uses, generally describe: _____ _____			
b. Land uses and covertypes on the project site.			
Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	3.9	4.3	+0.4
• Forested	14.5	14.5	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	9.8	9.4	-0.4
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)	0.05	0.05	0
• Other Describe: _____ _____			

Page 10 of 13

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☒ No	
- If yes, DEC site ID number: _____ - Describe the type of institutional control (e.g., deed restriction or easement): _____ - Describe any use limitations: _____ - Describe any engineering controls: _____ - Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No - Explain: _____	
E.2. Natural Resources On or Near Project Site	
a. What is the average depth to bedrock on the project site? _____ 5 feet	
b. Are there bedrock outcroppings on the project site? ☒ Yes ☐ No If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ 1.8 %	
c. Predominant soil type(s) present on project site:	
Charlton-Chatfield complex	28.9 %
Riverhead loam	21.2 %
Charlton loam	13.6 %
d. What is the average depth to the water table on the project site? Average: _____ 7 feet	
e. Drainage status of project site soils: ☒ Well Drained: _____ 78.4 % of site	
☒ Moderately Well Drained: _____ 19.6 % of site	
☒ Poorly Drained _____ 0.6 % of site	
f. Approximate proportion of proposed action site with slopes: ☒ 0-10%: _____ 34.9 % of site	
☒ 10-15%: _____ 16.6 % of site	
☒ 15% or greater: _____ 48.5 % of site	
g. Are there any unique geologic features on the project site? ☐ Yes ☒ No If Yes, describe: _____	
h. Surface water features.	
i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☒ Yes ☐ No	
ii. Do any wetlands or other waterbodies adjoin the project site? ☒ Yes ☐ No	
If Yes to either i or ii, continue. If No, skip to E.2.i.	
iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☒ Yes ☐ No	
iv. For each identified regulated wetland and waterbody on the project site, provide the following information:	
• Streams: Name _____ Classification _____	
• Lakes or Ponds: Name _____ Classification _____	
• Wetlands: Name Federal Waters, NYS Wetland, Federal Waters, Fe... Approximate Size NYS Wetland (in a...	
• Wetland No. (if regulated by DEC) H-4	
v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☒ Yes ☐ No	
If yes, name of impaired water body/bodies and basis for listing as impaired: _____	
Name - Pollutants - Uses: Hudson River (Class SB), portion – Priority Organics – Fish Consumption	
i. Is the project site in a designated Floodway? ☐ Yes ☒ No	
j. Is the project site in the 100-year Floodplain? Building site is elevated approx. 60' above floodplain elevation ☒ Yes ☐ No	
k. Is the project site in the 500-year Floodplain? Building site is elevated approx. 60' above floodplain elevation ☒ Yes ☐ No	
l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☒ Yes ☐ No	
If Yes:	
i. Name of aquifer: Principal Aquifer, Primary Aquifer _____	



m. Identify the predominant wildlife species that occupy or use the project site: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border-bottom: 1px solid black;">Grasses</td> <td style="width: 33%; border-bottom: 1px solid black;">Kentucky Warbler</td> <td style="width: 33%; border-bottom: 1px solid black;">RattleBox</td> </tr> <tr> <td style="border-bottom: 1px solid black;">Rabbits</td> <td style="border-bottom: 1px solid black;">Squirrels</td> <td style="border-bottom: 1px solid black;">Mice</td> </tr> <tr> <td style="border-bottom: 1px solid black;">Snakes</td> <td style="border-bottom: 1px solid black;">Oak tree</td> <td style="border-bottom: 1px solid black;">Maple tree</td> </tr> </table>			Grasses	Kentucky Warbler	RattleBox	Rabbits	Squirrels	Mice	Snakes	Oak tree	Maple tree
Grasses	Kentucky Warbler	RattleBox									
Rabbits	Squirrels	Mice									
Snakes	Oak tree	Maple tree									
n. Does the project site contain a designated significant natural community? ☐ Yes ☒ No If Yes: i. Describe the habitat/community (composition, function, and basis for designation): _____ ii. Source(s) of description or evaluation: _____ iii. Extent of community/habitat: - Currently: _____ acres - Following completion of project as proposed: _____ acres - Gain or loss (indicate + or -): _____ acres											
o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☒ Yes ☐ No If Yes: i. Species and listing (endangered or threatened): _____ Shortnose Sturgeon, Bald Eagle, Least Bittern, Atlantic Sturgeon											
p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☒ No If Yes: i. Species and listing: _____											
q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☒ No If yes, give a brief description of how the proposed action may affect that use: _____											
E.3. Designated Public Resources On or Near Project Site											
a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☒ No If Yes, provide county plus district name/number: _____											
b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☒ No i. If Yes: acreage(s) on project site? _____ ii. Source(s) of soil rating(s): _____											
c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☒ No If Yes: i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____											
d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☒ Yes ☐ No If Yes: i. CEA name: <u>Hudson River</u> ii. Basis for designation: <u>Exceptional or unique character</u> iii. Designating agency and date: <u>Agency: Westchester County, Date: 1-31-90</u>											

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☒ Yes ☐ No	
If Yes: i. Nature of historic/archaeological resource: ☒ Archaeological Site ☐ Historic Building or District ii. Name: <u>Van Cortlandt Manor</u> iii. Brief description of attributes on which listing is based: _____	
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☒ Yes ☐ No	
g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☒ No	
If Yes: i. Describe possible resource(s): _____ ii. Basis for identification: _____	
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☒ No	
If Yes: i. Identify resource: _____ ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____ iii. Distance between project and resource: _____ miles.	
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☒ No	
If Yes: i. Identify the name of the river and its designation: _____ ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No	

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Gregory Gibbons P.E. Date 09/18/2020

Signature  Title Project Engineer

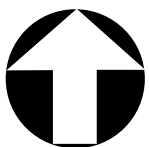


Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	Remediation Sites:546031
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	546031
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	360010, 546031
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):14.8
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	H-4

E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:Hudson River (Class SB), portion – Priority Organics – Fish Consumption
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Principal Aquifer, Primary Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Shortnose Sturgeon, Bald Eagle, Least Bittern, Atlantic Sturgeon
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	Yes
E.3.d [Critical Environmental Area - Name]	Hudson River
E.3.d.ii [Critical Environmental Area - Reason]	Exceptional or unique character
E.3.d.iii [Critical Environmental Area – Date and Agency]	Agency:Westchester County, Date:1-31-90
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Van Cortlandt Manor
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No



Date: 09-18-20

FIGURE 1
Aerial Map
381 N Highland Ave
Ossining, NY, 10562

Data Source: Google Earth



Borrego Solar
Systems, Inc.
55 Technology Drive
Suite #102
Lowell, MA 01851



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 **Westchester County, New York**



September 14, 2020

Preface

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

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

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

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

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

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

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

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

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Westchester County, New York.....	14
ChC—Charlton fine sandy loam, 8 to 15 percent slopes.....	14
ChE—Charlton loam, 25 to 35 percent slopes.....	15
CrC—Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky.....	17
CsD—Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky.....	19
CuD—Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes.....	21
HrF—Hollis-Rock outcrop complex, 35 to 60 percent slopes.....	24
NdA—Natchaug and Catden mucks, ponded, 0 to 2 percent slopes.....	26
RhE—Riverhead loam, 25 to 50 percent slopes.....	29
SuB—Sutton loam, 3 to 8 percent slopes.....	30
Ub—Udorthents, smoothed.....	32
W—Water.....	33
References	34

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

Custom Soil Resource Report

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



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Mar 26, 2011—Oct 17, 2017

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
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	0.7	2.1%
ChE	Charlton loam, 25 to 35 percent slopes	4.5	13.6%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	9.5	28.9%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	3.9	12.0%
CuD	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	0.2	0.6%
HrF	Hollis-Rock outcrop complex, 35 to 60 percent slopes	0.4	1.2%
NdA	Natchaug and Catden mucks, ponded, 0 to 2 percent slopes	0.2	0.6%
RhE	Riverhead loam, 25 to 50 percent slopes	7.0	21.2%
SuB	Sutton loam, 3 to 8 percent slopes	2.7	8.1%
Ub	Udorthents, smoothed	3.8	11.6%
W	Water	0.0	0.1%
Totals for Area of Interest		32.9	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

Custom Soil Resource Report

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.

Westchester County, New York

ChC—Charlton fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wh0q

Elevation: 0 to 1,440 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

Charlton and similar soils: 85 percent

Minor components: 15 percent

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

Description of Charlton

Setting

Landform: Ground moraines, ridges, hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear

Across-slope shape: Convex

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

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bw - 7 to 22 inches: gravelly fine sandy loam

C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

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

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

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

Available water capacity: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 5 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Sutton, fine sandy loam

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

Chatfield

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

Canton

Percent of map unit: 2 percent
Landform: Hills, ground moraines, ridges
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope, nose slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

ChE—Charlton loam, 25 to 35 percent slopes

Map Unit Setting

National map unit symbol: bd87
Elevation: 0 to 1,100 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 80 percent

Custom Soil Resource Report

Minor components: 20 percent

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

Description of Charlton

Setting

Landform: Hills, ridges, till plains

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Acid loamy till derived mainly from schist, gneiss, or granite

Typical profile

H1 - 0 to 8 inches: loam

H2 - 8 to 24 inches: sandy loam

H3 - 24 to 60 inches: sandy loam

Properties and qualities

Slope: 25 to 35 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

*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 capacity: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 5 percent

Hydric soil rating: No

Chatfield

Percent of map unit: 5 percent

Hydric soil rating: No

Charlton, very stony

Percent of map unit: 3 percent

Hydric soil rating: No

Sutton

Percent of map unit: 2 percent

Hydric soil rating: No

Knickerbocker

Percent of map unit: 2 percent

Hydric soil rating: No

Riverhead

Percent of map unit: 2 percent

Hydric soil rating: No

Hollis

Percent of map unit: 1 percent

Hydric soil rating: No

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

Map Unit Setting

National map unit symbol: 2w698

Elevation: 0 to 1,550 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Charlton, very stony, and similar soils: 50 percent

Chatfield, very stony, and similar soils: 30 percent

Minor components: 20 percent

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

Description of Charlton, Very Stony

Setting

Landform: Hills, ridges

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

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

Down-slope shape: Linear, convex

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

Custom Soil Resource Report

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

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

Description of Chatfield, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: 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 capacity: 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

Sutton, very stony

Percent of map unit: 5 percent

Custom Soil Resource Report

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

Hollis, very stony

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: 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

CsD—Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2w69k
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: Not prime farmland

Map Unit Composition

Chatfield, very stony, and similar soils: 45 percent
Charlton, very stony, and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chatfield, Very Stony

Setting

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

Custom Soil Resource Report

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: 15 to 35 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 capacity: Low (about 4.3 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 Charlton, Very Stony

Setting

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

Typical profile

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

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.6 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): 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)

Custom Soil Resource Report

Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Leicester, very stony

Percent of map unit: 6 percent

Landform: Hills, ground moraines, depressions, drainageways

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear

Across-slope shape: Concave

Hydric soil rating: Yes

Hollis, very stony

Percent of map unit: 5 percent

Landform: Hills, ridges

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

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

Down-slope shape: Convex

Across-slope shape: Convex, linear

Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent

Landform: Ridges, hills

Hydric soil rating: No

Sutton, very stony

Percent of map unit: 4 percent

Landform: Hills, ground moraines

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

CuD—Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2w69h

Elevation: 0 to 1,540 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Custom Soil Resource Report

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Chatfield, extremely stony, and similar soils: 35 percent

Hollis, extremely stony, and similar soils: 30 percent

Rock outcrop: 20 percent

Minor components: 15 percent

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

Description of Chatfield, Extremely Stony

Setting

Landform: Hills, ridges

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

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

Down-slope shape: Convex

Across-slope shape: Convex, linear

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

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 2 inches: fine sandy loam

Bw - 2 to 30 inches: gravelly fine sandy loam

2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent

Surface area covered with cobbles, stones or boulders: 9.0 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 capacity: Low (about 4.3 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 Hollis, Extremely Stony

Setting

Landform: Hills, ridges

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

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

Down-slope shape: Convex

Across-slope shape: Linear, convex

Custom Soil Resource Report

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

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very 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 capacity: Very low (about 2.7 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 Rock Outcrop

Setting

Landform: Hills, ridges
Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 79 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water capacity: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Charlton, extremely stony

Percent of map unit: 7 percent
Landform: Hills, ridges

Custom Soil Resource Report

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Leicester, extremely stony

Percent of map unit: 4 percent
Landform: Ground moraines, depressions, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, extremely stony

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

Paxton, extremely stony

Percent of map unit: 2 percent
Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

HrF—Hollis-Rock outcrop complex, 35 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2w69q
Elevation: 0 to 1,540 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis, very stony, and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis, Very Stony

Setting

Landform: Hills, ridges

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

Landform position (three-dimensional): Nose slope, crest, side slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

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

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

A - 2 to 7 inches: gravelly fine sandy loam

Bw - 7 to 16 inches: gravelly fine sandy loam

2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 35 to 60 percent

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

Depth to restrictive feature: 8 to 23 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Runoff class: Very 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 capacity: Very low (about 2.7 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 Rock Outcrop

Setting

Landform: Hills, ridges

Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 79 inches: bedrock

Properties and qualities

Slope: 35 to 60 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Runoff class: Very high

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

Available water capacity: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Custom Soil Resource Report

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Chatfield, very stony

Percent of map unit: 10 percent

Landform: Hills, ridges

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

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

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

Charlton, very stony

Percent of map unit: 5 percent

Landform: Ridges, hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Hydric soil rating: No

Leicester, very stony

Percent of map unit: 4 percent

Landform: Depressions, drainageways, hills, ground moraines

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear, concave

Across-slope shape: Concave

Hydric soil rating: Yes

Sutton, very stony

Percent of map unit: 1 percent

Landform: Hills, ground moraines

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

NdA—Natchaug and Catden mucks, ponded, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2w672

Elevation: 0 to 1,100 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Custom Soil Resource Report

Farmland classification: Not prime farmland

Map Unit Composition

Natchaug and similar soils: 45 percent

Catden and similar soils: 40 percent

Minor components: 15 percent

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

Description of Natchaug

Setting

Landform: Depressions, depressions, depressions

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Highly decomposed organic material over loamy glaciofluvial deposits and/or loamy glaciolacustrine deposits and/or loamy till

Typical profile

Oa1 - 0 to 12 inches: muck

Oa2 - 12 to 31 inches: muck

2Cg1 - 31 to 39 inches: silt loam

2Cg2 - 39 to 79 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 14.17 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Calcium carbonate, maximum content: 25 percent

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

Available water capacity: Very high (about 17.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8w

Hydrologic Soil Group: B/D

Ecological site: F144AY042NY - Semi-Rich Organic Wetlands

Hydric soil rating: Yes

Description of Catden

Setting

Landform: Depressions, depressions, depressions

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Highly decomposed herbaceous organic material and/or highly decomposed woody organic material

Typical profile

Oa1 - 0 to 2 inches: muck

Oa2 - 2 to 79 inches: muck

Properties and qualities

Slope: 0 to 2 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately 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: Frequent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Very high (about 26.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: B/D
Ecological site: F144AY042NY - Semi-Rich Organic Wetlands
Hydric soil rating: Yes

Minor Components

Fredon

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

Sun

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

Fluvaquents

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Udifluvents

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

RhE—Riverhead loam, 25 to 50 percent slopes

Map Unit Setting

National map unit symbol: bd9k

Elevation: 0 to 950 feet

Mean annual precipitation: 46 to 50 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 115 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Riverhead and similar soils: 85 percent

Minor components: 15 percent

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

Description of Riverhead

Setting

Landform: Terraces, deltas

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy glaciofluvial deposits overlying stratified sand and gravel

Typical profile

H1 - 0 to 6 inches: loam

H2 - 6 to 25 inches: sandy loam

H3 - 25 to 30 inches: loamy sand

H4 - 30 to 60 inches: loamy sand

Properties and qualities

Slope: 25 to 50 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Pompton

Percent of map unit: 5 percent

Hydric soil rating: No

Charlton

Percent of map unit: 4 percent

Hydric soil rating: No

Hinckley

Percent of map unit: 3 percent

Hydric soil rating: No

Knickerbocker

Percent of map unit: 3 percent

Hydric soil rating: No

SuB—Sutton loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xftp

Elevation: 10 to 1,250 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: All areas are prime farmland

Map Unit Composition

Sutton, loam, and similar soils: 80 percent

Minor components: 20 percent

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

Description of Sutton, Loam

Setting

Landform: Hills, ridges, ground moraines

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

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

Typical profile

Ap - 0 to 9 inches: loam

Bw1 - 9 to 17 inches: fine sandy loam

Bw2 - 17 to 30 inches: sandy loam

C1 - 30 to 39 inches: sandy loam

C2 - 39 to 60 inches: sandy loam

Properties and qualities

Slope: 3 to 8 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 capacity: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F144AY008CT - Moist Till Uplands
Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 10 percent
Landform: Ridges, ground moraines, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester, loam

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

Woodbridge, loam

Percent of map unit: 5 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Footslope, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Ub—Udorthents, smoothed

Map Unit Setting

National map unit symbol: bd7f
Elevation: 0 to 2,400 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Udorthents, Smoothed

Typical profile

H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 70 inches: very gravelly loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 5.95 in/hr)
Depth to water table: About 18 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Low (about 4.6 inches)

Minor Components

Urban land

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Udorthents, wet substratum

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

Leicester

Percent of map unit: 2 percent
Hydric soil rating: No

Hollis

Percent of map unit: 2 percent
Hydric soil rating: No

Custom Soil Resource Report

Charlton

Percent of map unit: 2 percent

Hydric soil rating: No

Riverhead

Percent of map unit: 2 percent

Hydric soil rating: No

Sun

Percent of map unit: 2 percent

Landform: Depressions

Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: bd7z

Mean annual precipitation: 46 to 50 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 115 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent

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

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



Parks, Recreation and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

ARCHAEOLOGY COMMENTS

Phase IA/IB Archaeological Survey Recommendation

Project: 381 N Highland Ave Energy Storage - Ossining
PR#: 20PR02356
Date: 13 April 2020

Your project is in an archaeologically sensitive location. A previously recorded archaeological site is located on the property.

Therefore, the State Historic Preservation Office/Office of Parks, Recreation and Historic Preservation (SHPO/OPRHP) recommends a Phase IA/IB archaeological survey for components of the project that will involve ground disturbance, unless substantial prior ground disturbance can be documented. A Phase IA/IB survey is designed to determine the presence or absence of archaeological sites or other cultural resources in the project's Area of Potential Effects (APE).

If you consider the entire project area to be disturbed, documentation of the disturbance will need to be reviewed by SHPO/OPRHP. Examples of disturbance include mining activities and multiple episodes of building construction and demolition. Documentation of ground disturbance typically consists of soil bore logs, photos, or previous project plans. Agricultural activity is not considered to be substantial ground disturbance.

Please note that in areas with alluvial soils or fill archaeological deposits may exist below the depth of superficial disturbances such as pavement or even deeper disturbances, depending on the thickness of the alluvium or fill. Evaluation of the possible impact of prior disturbance on archaeological sites must consider the depth of potentially culture-bearing deposits and the depth of planned disturbance by the proposed project.

Our office does not conduct archaeological surveys. A 36 CFR 61 qualified archaeologist should be retained to conduct the Phase IA/IB survey.

Please also be aware that a Section 233 permit from the New York State Education Department (SED) may be necessary before archaeological fieldwork is conducted on State-owned land. If any portion of the project includes the lands of New York State, you should contact the SED before initiating survey activities. The SED contact is Christina Rieth and she can be reached at christina.rieth@nysed.gov. Section 233 permits are not required for projects on private land.

If you have any questions concerning archaeology, please contact Philip Perazio at philip.perazio@parks.ny.gov.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, Bureau of Wildlife, Region 3

21 South Putt Corners Road, New Paltz, NY 12561-1620

P: (845) 256-3098 | F: (845) 255-4659

www.dec.ny.gov

4/24/2020

Josh Koppel
Borrego Solar Systems, Inc.
30 Century Hill Drive, Suite 301
Latham, NY 12110

Dear Mr. Koppel,

The Department of Environmental Conservation (Department) Bureau of Wildlife in Region 3 has received information regarding your solar project located at 381 N Highland Ave, which was sent to us by the New York Natural Heritage Program.

Based on the project location and species information, an Article 11 Part 182 Threatened and Endangered Species Incidental Take Permit maybe required. The Department encourages you to contact Environmental Permits requesting a Jurisdictional Determination under 6 New York Codes Rules and Regulations 182.9. Project related information that should be sent to the Department for review includes the following:

- Project location and description
- Brief description of the current land use and habitats at the project site (e.g., wooded, agriculture, developed commercial)
- Maps that include labeled roads and other features (e.g., wetlands) with limits of disturbance clearly labeled
- Preliminary plans if available
- NY Natural Heritage reports, environmental assessment forms, and other relevant documents

We appreciate the effort made to begin the review process as it relates to threatened and/or endangered species and we strongly encourage you to submit your request during the early stages of the project in order to vet any concerns.

Below please find the contact information for the Region 3 Division of Environmental Permits. Submissions and communication can be conducted via email, standard mail, and/or phone.

John Petronella
Regional Permits Administrator
Division of Environmental Permits
New York State Department of Environmental Conservation
21 South Putt Corners Road,
New Paltz, NY 12561



P: (845) 256-3054 | F: (845) 255-4659 | dep.r3@dec.ny.gov

Additional general information on the species found on your project site can be found at the following links.

Bald Eagles:

- NYNHP Animal guides: <http://www.acris.nynhp.org/guide.php?id=6811>
Conservation Plan for Bald Eagles in New York State:
http://www.dec.ny.gov/docs/wildlife_pdf/nybaldeagleplan.pdf
- National Bald Eagle Management Guidelines:
<https://www.fws.gov/northeast/ecologicalservices/eaglenationalguide.html>

Thank you,

A handwritten signature in black ink, appearing to be 'Lisa Masi', with a stylized, sweeping line for the last name.

Lisa Masi
Wildlife Biologist
Lisa.Masi@dec.ny.gov

Ecc: Permits DEP.R3@dec.ny.gov



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9385

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>



In Reply Refer To:

May 27, 2020

Consultation Code: 05E1NY00-2020-SLI-3061

Event Code: 05E1NY00-2020-E-09149

Project Name: 381 N Highland Ave - Ossining

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

To Whom It May Concern:

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 (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. 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 feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (<http://www.fws.gov/windenergy/>

[eagle_guidance.html](#)). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

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 York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9385

(607) 753-9334

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Long Island Ecological Services Field Office

340 Smith Road

Shirley, NY 11967-2258

(631) 286-0485

Project Summary

Consultation Code: 05E1NY00-2020-SLI-3061

Event Code: 05E1NY00-2020-E-09149

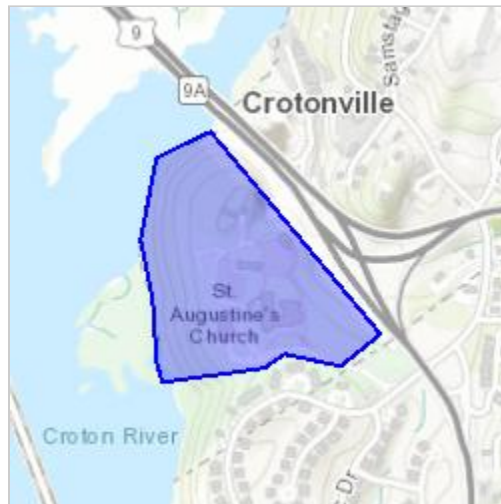
Project Name: 381 N Highland Ave - Ossining

Project Type: POWER GENERATION

Project Description: Power Generation

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.184960343434454N73.87419256567432W>



Counties: Westchester, NY

Endangered Species Act Species

There is a total of 0 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 Fisheries¹, 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.

Critical habitats

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