

Wetland and Aquatic Resources Delineation Report Clean Energy Collective – Yorktown A Solar Project



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1.0 Introduction

Bergmann was retained by Clean Energy Collective to conduct a delineation of Wetlands and other Waters of the United States within the Yorktown A Solar Farm project site (referred to as the "Study Area"). The proposed project involves the installation of ground mounted photovoltaic panels on 16.00 acres of vacant forested land in Yorktown, Westchester County, NY.

The purpose of this investigation was to identify and delineate wetlands and other surface waters that are classified as "waters of the United States" under the Federal Clean Water Act, 33 U.S.C. §§ 1251 *et. seq.* (CWA) and Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 403 (RHA), that could potentially be regulated by the United States Army Corps of Engineers (Corps) and/or the New York State Department of Environmental Conservation (NYSDEC). A formal wetland delineation of the project site was conducted on September 15, 2017 by Rita Zack and Michael Robson, Ph. D. of Bergmann. The delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987; "1987 Manual") and the corresponding *USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: Northcentral and Northeast Region (Version 2.0) (USACE 2012, "Regional Supplement").

This report has been revised on November 22, 2021 to address comments raised by Barton & Loguidice in a letter to the Town of Yorktown Planning Board dated November 1, 2021.



2.0 United States Army Corps of Engineers Methodology

As defined by the United States Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA), wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances does not support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory 1987). Wetlands can support critical environmental functions including but not limited to: groundwater recharge and discharge, water and sediment retention, nutrient and toxicant removal and flora and fauna habitat. One way in which these valuable ecosystems are protected is through governmental regulations under Section 404 of The Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. To provide an accurate and consistent way of identifying and delineating areas that meet the wetland definition, the Corps defined criteria of hydrophytic vegetation, hydric soils and wetland hydrology will be considered Corps-jurisdictional wetlands. A detailed methodology for wetland delineations was published in the Corps' 1987 Manual and accompanying Regional Supplements that are specific to regions throughout the United States.

2.1 HYDROPHYTIC VEGETATION

The 1987 Manual considers hydrophytic vegetation as a community of macrophytic plants that occur in areas where inundation or soil saturation is permanent, or frequently occurs in durations sufficient enough to influence the growth of plant species. The 1987 Manual emphasizes the assemblage of various plant species rather than the occurrence of individual indicator species to determine the presence or absence of hydrophytic vegetation. It is present when a location is dominated by species that either thrive in, or require extended soil saturation or inundation during the growing season. A hydrophytic vegetation determination is made by comparing the present plant species to the federal wetland indicators determined by the Corps, listed in the National Wetland Plant Indicator List. The Regional Supplements recognize the following indicator statuses:

- 1. Obligate Wetland Plants (OBL): Species that commonly occur in wetlands (>99% of the time).
- 2. Facultative Wetland Plants (FACW): Species that occur usually in wetlands (67%-99% of the time), but may also occur in non-wetlands.
- 3. Facultative Plants: (FAC): Species that usually occur in wetlands and non-wetlands equally (34%-66% of the time).
- 4. Facultative Upland Plants (FACU): Species that occur usually occur in non-wetlands (67%-99% of the time) but may also occur in wetlands.
- 5. Upland Plants (UPL): Species that commonly occur in non-wetlands (>99% of the time).

Occasionally, plant species are listed as "NI", indicating they have been reviewed but no regional indicator was assigned, or "NO" indicating no known occurrence in the region. If these instances present themselves the indicator status assigned to the closest adjacent Corps region should be used. If that region does not provide an indicator status, then the species in question is marked as "Not listed (NL)" and is not considered during the determination of hydrophytic vegetation.



2.2 HYDRIC SOILS

The United States Department of Agricultural (USDA) Natural Resource Conservation Service (NRCS) defines hydric soils as "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA 2006). Inundation and saturation of a soil, combined with microbial activity causes anaerobic conditions within the soil, leading to oxygen depletion, accumulation of organic matter and/or reducible elements, most notably, iron. To determine the hydric status of a soil, the results of chemical reactions within the soil profile resulting from anaerobic conditions, are investigated based on color. Soil color is determined using the Munsell Soil Color Chart (X-Rite 2009), to establish the Hue, Value and Chroma of a sample. Hydric soil indicators are divided based on the texture of the soil. Indicators designated as "S" are applicable to Sandy Soils, while indicators designated as "F" are applicable to Loamy and Clayey Soils. Indicators listed as "A" are appropriate for All Soils. Hydric soil indicators vary by Regional Supplement.

2.3 WETLAND HYDROLOGY

"The term 'wetland hydrology' encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface, at some time during the growing season" (Environmental Laboratory 1987).

Hydrology indicators provide insight to a locations long-term hydrologic regime. Some hydrology indicators are naturally seasonal. The absence of hydrologic indicators does not necessarily conclude that wetland hydrology is not present. If hydrology indicators are the only parameter not observed it is likely that the location has inundated or saturated soils at some point during the growing season, but not at the time of observation. If hydrophytic vegetation and hydric soils are observed on site, special considerations for the lack of hydrologic indicators should be considered and further information on the locations natural hydraulic regime may be necessary.



3.0 Office Assessment

The following sections describe the data and resources reviewed prior to the field visit.

3.1 TOPOGRAPHY

The Study Area is located in the United States Geological Survey (USGS) Mohegan Lake, NY 7.5' Topographic Quadrangle. Elevation of the site ranges from roughly 250 to 400 feet above sea level. The mapped perennial Mohegan Outlet is located in the central portion of the Study Area (refer to Figure 1, Site Location Map).

3.2 NATURAL RESOURCE CONSERVATION SERVICE SOIL SURVEY MAPPING

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey for Westchester County, New York was reviewed. The following soil types are mapped within the Study Area:

- Charlton fine sandy loam, 3-8% slopes (ChB)
- Charlton loam, 25-35% slopes (ChE)
- Leicester loam, 3-8% slopes, very stony (LeB)
- Paxton fine sandy loam, 8-15% slopes (PnC)
- Sutton loam, 3-8% slopes (SuB)

Leicester loam is listed as a hydric soil for Westchester County, New York (refer to Figure 4, NRCS Soils Map).

3.3 NATIONAL WETLANDS INVENTORY MAPPING

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map of the Study Area was reviewed prior to the field delineation. A riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH) wetland was found mapped in the Study Area, consistent with the Mohegan Outlet (refer to Figure 3, NWI Map). A palustrine, emergent, persistent, seasonally flooded (PEM1C) wetland is also mapped to the immediate southeast of the project site, however impacts are not anticipated from the preliminary site plans.

3.4 NYSDEC ENVIRONMENTAL RESOURCE MAPPER

The Study Area was reviewed using the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper (ERM). One freshwater wetland check zone area is mapped within the Study Area (refer to Figure 5, NYSDEC FWW Map). The freshwater wetland A-28 check zone extends into the southeastern corner of the project site, indicating the potential for wetlands in the area. The Mohegan Outlet (Regulation 864-614) is also mapped as a NYSDEC classified stream within the Study Area. The Mohegan Outlet is mapped as a Class C / Standard C stream. The Study Area does not fall within the vicinity of "Rare Plants and Rare Animals" shown on the ERM. A copy of the ERM results are included in Appendix C.

3.5 THREATENED AND ENDANGERED SPECIES REVIEW

USFWS Official Species Lists were originally obtained in May 2018. Updated Official Species Lists, from the New York State Ecological Field Office (Consultation Code: 05E1NY00-2018-SLI-2074) and the Long Island Ecological Field Office (Consultation Code: 05E1LI00-2018-SLI-0556) have been obtained. The updated Official Species Lists identify the



federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened bog turtle (*Clemmys muhlenbergii*) as potentially occurring within the Study Area. The updated Official Species Lists are included in Appendix C.

The NYSDEC's Environmental Resource Mapper was reviewed. The Project site does not fall within the "Rare Plants and Animals" layer or the "Significant Natural Communities" layer mapped by the New York State Natural Heritage Program (NYNHP), indicating there are no known records of federal or state listed threatened or endangered species within the Project site.

Suitable summer habitat for the Indiana bat is present within the Study Area. The delineated wetland was not formally investigated for bog turtle habitat.

3.6 CULTURAL RESOURCES

The National Register of Historic Places (NRHP) was reviewed for properties within Westchester County, New York and no structures, historic properties or other features of historic significance listed on the National Register were determined to be located within the vicinity of the project area. The site is also not located within an archaeologically sensitive area. A project review with the New York Office of Parks, Recreation and Historic Preservation (OPRHP) was submitted on May 1, 2018 using the OPHRP's online, GIS based Cultural Resource Information System (CRIS). A response from the OPRHP is currently pending.



4.0 Field Delineation

The field delineation was conducted on September 15, 2017 by Rita Zack and Mike Robson, Ph. D. of Bergmann. The procedures defined by the 1987 Manual and accompanying Northeast Northcentral Regional Supplement were used during the delineation. The boundaries of the delineated wetlands were flagged in the field using pink survey tape and located using a Trimble R1 GNSS receiver and a Yuma 2 tablet computer. Data forms associated with the delineated features are included in Appendix A.

4.1 WETLANDS AND AQUATIC RESOURCES

The field delineation resulted in the delineation of one (1) jurisdictional wetland and one (1) perennial stream within the Study Area.

Approximately 0.17 acres of Wetland 1 occurs within the Study Area, in the northern portion of the Study Area, to the east of the bend in the Mohegan Outlet. Wetland 1 is a palustrine forested wetland (PFO) and is a sparsely vegetated concave surface. Wetland 1 is dominated by American red maple (*Acer rubrum*), sensitive fern (*Onoclea sensibilis*), and orange jewelweed (*Impatiens capensis*). Visible indicators of wetland hydrology include saturation, water-stained leaves, surface soil cracks, and moss trim lines. The hydric soil investigation determined that soils within Wetland 1 met the histic epipedon indicator and decomposition was observed.

A perennial stream (Mohegan Outlet) was delineated as Stream 1. Stream 1 was observed to be roughly twenty to thirty feet wide flowing from the southeast corner of the site to the northwest. Banks of the stream were observed to be four (4) to six (6) feet deep within the channel with a steep gradient and a slight meander through the site. Bed materials were observed to be cobbles.

4.2 UPLANDS

The majority of the Study Area is occupied by vacant forested land. An upland data point was taken in the central portion of the Study Area, to the west of the Mohegan Outlet. This area was dominated by sugar maple (*Acer saccharum*), eastern hemlock (*Tsuga canadensis*), American beech (*Fagus grandifolia*), and American red maple (*Acer rubrum*). No wetland hydrology indicators were observed and no hydric soils occur in the upland areas of the project site.



5.0 References

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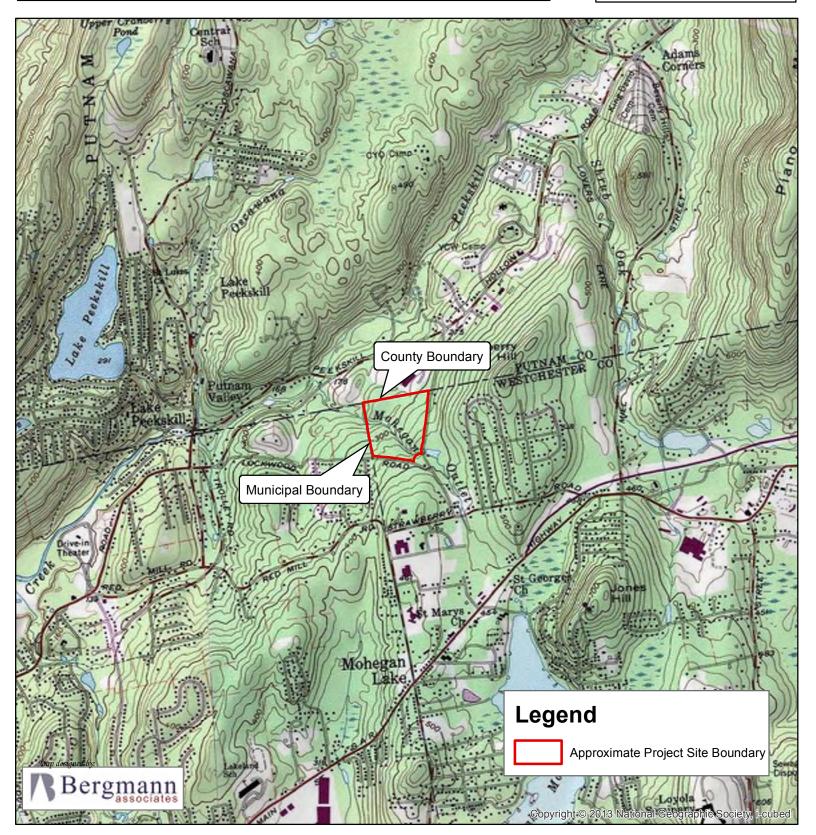
FIGURES

2,000 Feet

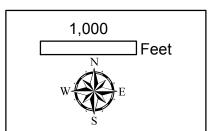
SITE LOCATION MAP

Fig.

Town of Yorktown Westchester County, New York



Town of Yorktown Westchester County, New York

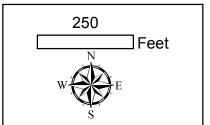


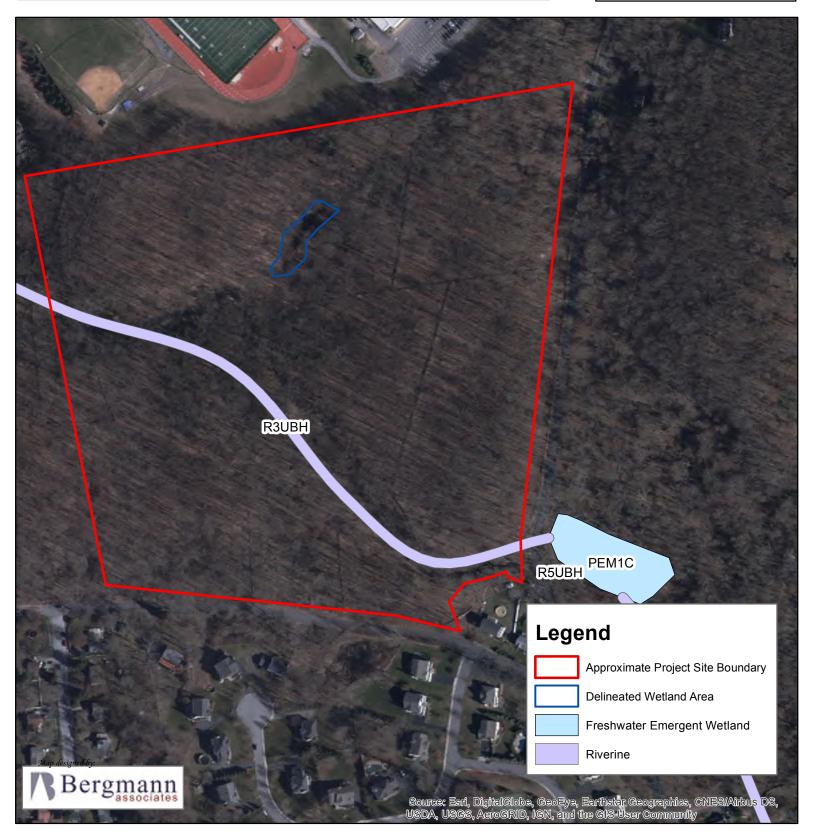
AERIAL IMAGERY MAP



Town of Yorktown Westchester County, New York

NATIONAL WETLANDS NATIONAL WETLANDS





250 Feet

NRCS SOIL

SURVEY MAP

Fig.

Town of Yorktown Westchester County, New York



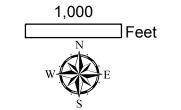
1,000 Feet

Fig.

NYSDEC FRESHWATER

WETLANDS MAP

Town of Yorktown Westchester County, New York







APPENDIX A

Field Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Yorktown	City/County: Yorktown / Westchester Co. Sampling Date: 9/15/17
Applicant/Owner: Clean Energy Collective	State: <u>NY</u> Sampling Point: <u>W 1-1</u>
Investigator(s): Rita Zack, Mike Robson Ph.D Bergmann	
	ocal relief (concave, convex, none): <u>Concave</u> Slope (%):
Subregion (LRR or MLRA): LRR - R Lat: 41.333922	Long:73.859676 Datum: NAD 83
Soil Map Unit Name: Charlton Loam 2-8% Slopes (ChB)	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of ye	
Are Vegetation, Soil, or Hydrology significantly	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes Ves No	Is the Sampled Area
Hydric Soil Present? Yes 🖌 No	within a Wetland? Yes V. No
Wetland Hydrology Present? Yes 🔽 No	If yes, optional Wetland Site ID: Wetland 1
Remarks: (Explain alternative procedures here or in a separate repo	prt.)
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Leaves (B9) Drainage Patterns (B10)
High Water Table (A2)	
Saturation (A3)	
U Autor Marks (B1)	
	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) educed Iron (C4) Stunted or Stressed Plants (D1)
	eduction in Tilled Soils (C6) Geomorphic Position (D2)
□ Iron Deposits (B5) □ Thin Muck Sur	
Inundation Visible on Aerial Imagery (B7)	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	i):
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes Ves No Depth (inches	s): <u>3 in</u> Wetland Hydrology Present? Yes <u>V</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
Acer rubrum	<u>40</u>	ves	FAC	Number of Dominant Species That are OBL_EACW_or EAC: 5 (A)
				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>100</u> (A/B)
6				
				Prevalence Index worksheet:
7	40			Total % Cover of: Multiply by: OBL species 2 x 1 = 2
15' × 15'		= Total Co	over	
Sapling/Shrub Stratum (Plot size: 15' x 15')	10			
1. Acer rubrum	10	yes	FAC	
_{2.} Lindera benzoin	3	yes	FACW	FACU species $0 \times 4 = 0$
3				UPL species $0 \times 5 = 0$
4				Column Totals: <u>72</u> (A) <u>192</u> (B)
				Prevalence Index = $B/A = 2.67$
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	13	= Total Co	over	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5' x 5')				3 - Prevalence Index is ≤3.0 ¹
1 Onoclea sensibilis	10	yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Impatiens capensis	7	yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Osmunda spectabilis	2	no	OBL	
	2	110		¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
				at breast height (bbill), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	19	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 15' x 15')		, otal ot		
1			·	
2				
3				Hydrophytic
4			<u> </u>	Vegetation Present? Yes Ves No
		= Total Co	over	
Remarks: (Include photo numbers here or on a separate s				I
Sparsely vegetated	,			

SOIL

Depth (inches) Matrix Redox Features 0-3 10 YR 3/1 100 % Type¹ Loc² Texture Remarks 0-3 10 YR 3/1 100 Silty clay Organic Decomposition 3-14 10 YR 3/2 100 Silty clay Silty clay
0-3 10 YR 3/1 100 Organic Decomposition 3-14 10 YR 3/2 100 Silty clay Silty clay
3-14 10 YR 3/2 100 Silty clay 3-14 10 YR 3/2 100 Silty clay Silty clay Silty clay Silty clay Silty clay Silty clay <td< td=""></td<>
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: — Histosol (A1) — Histosol (A1) — Histosol (A2) — Black Histic (A3) — Hydrice Sulface (S3) (LRR R, MLRA 149B) — Coast Prairie Redox (A16) (LRR K, L, R) Histosol Sulfade (A4) — Stratified Layers (A5) — Loamy Gleyed Matrix (F2) — Polyvalue Below Surface (S8) (LRR K, L) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) 2 cm Muck (A10) (LRR K, L, MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L)
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Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) 2 cm Muck (A10) (LRR K, L, MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L)
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Image: Milling and Mill
Image: Microscopic delta state Microscopic delta state Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Coast Prairie Redox (A16) (LRR K, L, R) Image: Microscopic delta delta state <
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L)
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L)
Thick Dark Surface (A12)
Sandy Mucky Mineral (S1)
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)
Stripped Matrix (S6)
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):
Туре:
Depth (inches): No No
Remarks:

Linear Waters of the U.S. Field Classification Form

Whenever an ephemeral stream, intermittent stream, or perennial stream is identified on a project site, use this form to document field observations in support of the field interpreted stream classification.

Stream Feature: Mohegan Outlet	Watershed: Hudson River
Field Observations (check all that apply and desc	ribe if applicable):
Surface water flow within a defined channel Southeast to r	orthwest
□Presence of Ordinary High Water Mark (If OHWM is present, place a stake to mark its	location)
□Water seeping from banks (or ice along banks in winter)	
Channel has a floodplain or observable bankfull bench	
☑ Presence of fish or macroinvertebrates	
Primarily erosive features	
Recent sediment deposits or accumulations in channel Grave	el bar near Foothill St culvert
Algae growing on bed materials	
Rooted plants growing in channel bed At Foothill St culver	:
Provide a detailed description for each (use addition Antecendent weather conditions ~ ⁷⁰ degrees, sun Position of channel within the drainage basin (high, middle, low	
Gradient of the channel (steep, moderately sloping, flat)? Steep	
Channel morphology (linear/meandering)? slight meader	
Width of channel? 20' - 30' Heigh	t of bank? 4'-6'
Interpreted water table position above or below defined channe	l? Below
Bed materials (provide description of bed materials and indicate Cobbles	e if different from surrounding ground surface):
Topographic map designation? \Box Intermittent \blacksquare Perennial \Box]Not Mapped
Describe off-site conditions: Is there development upgradient of channel? Residential	
Any artificial structures (i.e. culvert, detention basin) regulating Foothill st culvert	g flow?
Remarks: DEC mapped wetland east of Foothill St. Culvert directing flow from w	etland into Mohegan outlet
Based on observations, characterize the stream ty Ephemeral Stream Intermittent Stream	Perennial Stream
	eld Review: 09/15/17 ewer: RZ, MR

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Yorktown	City/County: Yorktown / Westchester Co. Sampling Date: 9/15/17
Applicant/Owner: Clean Energy Collective	State: NYSampling Point: UPDP-1
Investigator(s): Rita Zack, Mike Robson Ph.D Bergmann	
	cal relief (concave, convex, none): <u>None</u> Slope (%):
Subregion (LRR or MLRA): LRR - R Lat: 41.332846	Long: -73.861208 Datum: NAD 83
Soil Map Unit Name: Charlton Loam 2-8% Slopes (ChB)	Long: Datum: Datum: Datum:
	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of ye	
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Normal Circumstances" present? Yes Ver No
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Image: Constraint of the sector of the se	Is the Sampled Area within a Wetland? Yes No Vetland Site ID:
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Leaves (B9) Drainage Patterns (B10)
High Water Table (A2)	
Saturation (A3)	
Water Marks (B1)	
	pspheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) educed Iron (C4) Stunted or Stressed Plants (D1)
	educed from (C4) States and Franks (D1)
☐ Iron Deposits (B5) ☐ Thin Muck Sur	
Inundation Visible on Aerial Imagery (B7)	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	.):
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes No Z Depth (inches	:): Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
,	
Demokra	
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute		nt Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' x 30'</u>) 1. Acer saccharum	<u>% Cover</u> 38	Species	<u>Status</u> FACU	Number of Dominant Species
	25	yes	FACU	That Are OBL, FACW, or FAC: (A)
2. Tsuga canadensis	12	yes		Total Number of Dominant
3. Acer rubrum		no	FAC	Species Across All Strata: 4 (B)
_{4.} Fagus grandifolia	7	no	FACU	Percent of Dominant Species That Are OBL EACW or EAC: 0 (A/B)
5				That Are OBL, FACW, or FAC: 0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	00	= Total C	over	OBL species $\frac{0}{2}$ $x 1 = \frac{0}{2}$
Sapling/Shrub Stratum (Plot size: 15' x 15')				FACW species 0 x 2 = 0
1. Fagus grandifolia	15	yes	FACU	FAC species $12 \times 3 = 36$
2. Acer saccharum	5	yes	FACU	FACU species $90 x4 = 360$
				UPL species $0 x 5 = 0$
3				Column Totals: <u>102</u> (A) <u>396</u> (B)
4				Prevalence Index = B/A = $\frac{3.88}{1000}$
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	20	= Total C	over	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5' x 5')				3 - Prevalence Index is ≤3.0 ¹
				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation ¹ (Explain)
2				
3				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12	19	Tabal O		height.
15' x 15'		= Total C	over	
Woody Vine Stratum (Plot size: 15' x 15')				
1				
2				
3				Hydrophytic
4	<u> </u>			Vegetation Present? Yes No
		= Total C	over	
Remarks: (Include photo numbers here or on a separate s	sheet.)			
Heavy deer browsing				

SOIL

Depth	Matrix	<u> </u>	Redox Features	Tartan	Description
(inches) 0-12	Color (moist) 10 YR 3/4	<u>*</u> 100 	Color (moist) % Type ¹ Loc ²	Texture Silt	Remarks
¹ Type: C=C Hydric Soil		letion, RM	Reduced Matrix, MS=Masked Sand Grains.		re Lining, M=Matrix. Iematic Hydric Soils ³ :
Black H Hydroge Stratified Deplete Thick Da Sandy M Sandy G Sandy F Stripped	(A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surfac ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, M		 Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) 	Coast Prairie R 5 cm Mucky Pe Dark Surface (S Polyvalue Belov Thin Dark Surfa Iron-Manganese Piedmont Flood Mesic Spodic (1 Red Parent Mat	v Surface (S8) (LRR K, L) ce (S9) (LRR K, L) Masses (F12) (LRR K, L, R) plain Soils (F19) (MLRA 149B) (A6) (MLRA 144A, 145, 149B) erial (F21) ark Surface (TF12)
	f hydrophytic vegeta Layer (if observed):		etland hydrology must be present, unless disturbed	or problematic.	
Type: Depth (in	ches):			Hydric Soil Present	? Yes 🗌 No 🔽
Remarks:					



APPENDIX B

Representative Photographs



Facing North on Foothill St



Facing South on Foothill St







Rusted culvert with sediment found in North-Eastern corner of property



Old rock walls within the subject property







Northwest corner of the subject property, looking south.



Man-made trails throughout subject property





Northwest corner of the subject property, facing north.



Northwest corner of the subject property, facing south





Northwest corner of the subject property, looking south.



Woods throughout subject property.







Within subject property



Wetlands within subject property







Wetlands within subject property



Mohegan Outlet





our people and our passion in every project



Mohegan Outlet



Mohegan Outlet







Culvert within Mohegan Outlet



Mohegan Outlet





Mohegan Outlet, southeast edge of property looking north



Mohegan Outlet, southeast edge of property looking south







Facing West in Lockwood Road



Facing East in Lockwood Road





APPENDIX C

Threatened and Endangered Species Research



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



November 16, 2021

In Reply Refer To: Consultation Code: 05E1NY00-2018-SLI-2074 Event Code: 05E1NY00-2022-E-01878 Project Name: Yorktown A Solar Farm

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

To Whom It May Concern:

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 (<u>http://www.fws.gov/windenergy/</u> <u>eagle_guidance.html</u>). Additionally, wind energy projects should follow the Services wind 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: <u>http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com;</u> and <u>http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/tower</u>

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:05E1NY00-2018-SLI-2074Event Code:Some(05E1NY00-2022-E-01878)Project Name:Yorktown A Solar FarmProject Type:POWER GENERATIONProject Description:Creation of a solar farm on existing parcelProject Location:Vorktown A Solar Farm

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@41.33303187541901,-73.85947370639772,14z</u>



Counties: Putnam and Westchester counties, New York

Endangered Species Act Species

There is a total of 3 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. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/5949</u>	Endangered
Reptiles	
NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6962</u> Insects	Threatened
NAME	STATUS
Monarch Butterfly Danaus plexippus No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
Critical habitats	

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



United States Department of the Interior

FISH AND WILDLIFE SERVICE Long Island Ecological Services Field Office 340 Smith Road Shirley, NY 11967-2258 Phone: (631) 286-0485 Fax: (631) 286-4003



In Reply Refer To: Consultation Code: 05E1LI00-2018-SLI-0556 Event Code: 05E1LI00-2022-E-00646 Project Name: Yorktown A Solar Farm November 16, 2021

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

To Whom It May Concern:

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please 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 Act, 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 website 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.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

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 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 Act. 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:

Long Island Ecological Services Field Office 340 Smith Road Shirley, NY 11967-2258 (631) 286-0485

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:

New York Ecological Services Field Office

3817 Luker Road Cortland, NY 13045-9385 (607) 753-9334

Project Summary

Consultation Code:05E1LI00-2018-SLI-0556Event Code:Some(05E1LI00-2022-E-00646)Project Name:Yorktown A Solar FarmProject Type:POWER GENERATIONProject Description:Creation of a solar farm on existing parcelProject Location:Vorktown A Solar Farm

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@41.33303187541901,-73.85947370639772,14z</u>



Counties: Putnam and Westchester counties, New York

Endangered Species Act Species

There is a total of 3 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. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/5949</u>	Endangered
Reptiles	
NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6962</u> Insects	Threatened
NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
Critical habitats	

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



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Agencies

Services

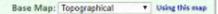
Government Local

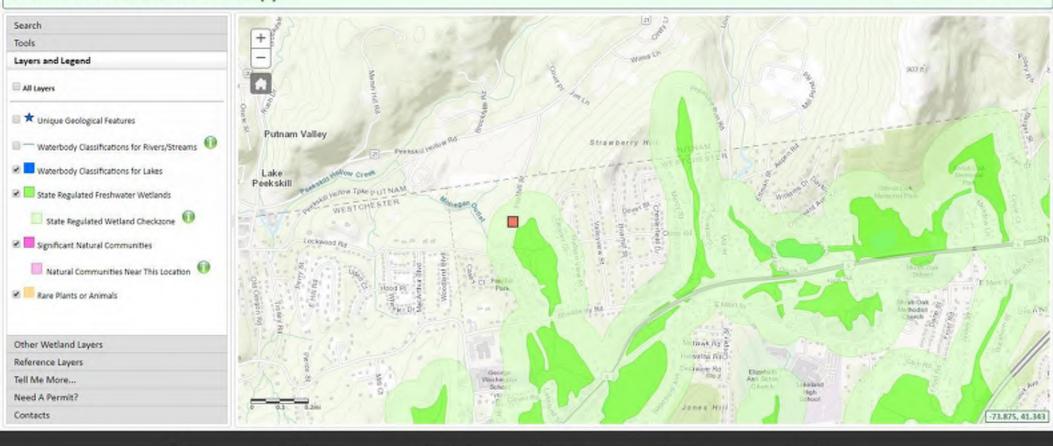
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

- NITH YORK

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