MILONE & MACBROOM

February 26, 2020

Ms. Gina Wolfman
Senior Project Developer
Clean Focus Renewables
Greenskies Renewable Energy, LLC
P.O. Box 251
Middletown, CT 06457

RE: Wetland and Watercourse Delineation
Elmridge Golf Course
Stonington, Connecticut
MMI #6763-10

Dear Ms. Wolfman:

As requested, I visited the Elmridge Golf Course at 229 Elmridge Road in Stonington, Connecticut to determine the presence or absence of wetlands and/or watercourses, to demarcate (flag) the boundaries of wetlands and watercourses identified, and to identify on-site soil types within portions of the site. The wetland and watercourse delineation study areas consisted of 26.2 acres south of Elmridge Road, adjacent to the golf clubhouse, and 26.4-acres west of North Anguilla Road. This letter includes the methods and results of my investigation, which was completed on November 26, 2019 and January 13, 2020. In summary, five wetland systems were delineated. These areas consist of wetlands associated with Anguilla Brook located in the western study area, and forested drainage corridors that connect hydrologically to the Anguilla Brook riparian corridor in the eastern study area. Additionally, two potential vernal pools were identified within and immediately adjacent to the study area. Potential vernal pools were identified based on their morphology and apparent hydrology evident through late fall site investigations; this classification is not the result of a seasonal study to verify vernal pool functionality.

Regulatory Definitions

The Inland Wetlands and Watercourses Act (Connecticut General Statutes §22a-38) defines inland wetlands as "land, including submerged land...which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain." Watercourses are defined in the act as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." The act defines intermittent watercourses as having a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

The Tidal Wetlands Act (Connecticut General Statutes §22a-28) defines wetlands as "those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters and

whose surface is at or below an elevation of 1 foot above local extreme high water; and upon which may grow or be capable of growing hydrophytic vegetation as identified in the Statutes."

Upland Review Area, per the Town of Stonington Inland Wetlands and Watercourse Regulations, upland review area means any area within 100 feet of the boundary of any wetland or watercourse.

In Connecticut, the working definition of a vernal pool is as follows: *"vernal pool means a seasonal watercourse in a defined depression or basin, that lacks a fish population and supports or is capable of supporting breeding and development of amphibian or invertebrate species recognized in such watercourses. These species include spotted salamander, Jefferson salamander complex marbled salamander, wood frog, and fairy shrimp"* (CAWS website).

Methodology

A second-order soil survey in accordance with the principles and practices noted in the United States Department of Agriculture (USDA) publication *Soil Survey Manual* (1993) was completed at the subject site. The classification system of the National Cooperative Soil Survey was used in this investigation. Soil map units identified at the project site generally correspond to those included in the *Soil Survey of the State of Connecticut* (USDA, 2005).

Wetland determinations were completed based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land (e.g., a pond). Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, test pits and/or borings (maximum depth of 2 feet) were completed at the site.

Intermittent watercourse determinations were made based on the presence of a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

MMI investigated the 26.4-acre western property and the 26.2 acres in the center of the eastern property for presence or absence of wetlands and watercourses. Wetland boundaries were demarcated (flagged) with blue surveyor's tape or small flags (on wire stakes) that are generally spaced a maximum of every 50 feet. Complete boundaries are located along the lines that connect these sequentially numbered flags. The wetland boundaries are subject to change until adopted by local, state, or federal regulatory agencies. Wetland boundaries are depicted by flag series 1a through 4a, 1b through 24b, 1d through 26d, w1 through w13, w1a through w12a, and 1os through 3os.

Weather conditions in the November review were sunny with scattered clouds and temperatures in the 40^{O} F. Weather conditions during the January site visit, temperatures were in the 30^{O} Fs. The upland soil was dry, and wetland soil was moist to inundated. No snow or frozen ground conditions existed during the field investigations.

General Site Description

Elmridge Golf Course is located in northeastern Stonington, Connecticut (Figure 1). The clubhouse is accessed to the south from Elmridge Road. The golf course consists of a number of fairways, interspersed by scattered canopy trees and small water features that exist north and south of Elmridge Road, as well as west of North

Anguilla Road, which bisects the southwestern portion of the site. Interstate 95 abuts the site to the west. Land use in the area is comprised of the golf course and lightly settled single family residential properties. Undeveloped, forested land exists around the periphery of the property. The Anguilla Brook riparian corridor traverses the western portion of the site. The property is characterized by undulating topography that is underlain by glacial till.

Wetland Delineation

The study area is comprised of the 26.4-acre western study area, located west of North Anguilla Road, and approximately 26.2 acres in the center of the eastern property, south and west of the club house. The 26.2-acre eastern study area is located on the flank of a drumlin, which projects a moderate slope to the west. The topographical difference between the western and eastern study areas is approximately 100 feet. Within the western study area, topography slopes gently to the south along the Anguilla Brook floodplain. Throughout the study areas, topography and drainage have been modified to foster use of the site as a golf course. A man-made pond and ditch exist within the boundary of the golf course in the western study area.

The site is located within the Anguilla Brook watershed, which drains approximately 6.71 square miles in northeastern Stonington. Anguilla Brook, a perennial watercourse, flows south within the southwestern portion of the site and enters Wequetequock Cove and Fishers Island Sound approximately 2 miles south of the property. Federal Emergency Management Agency (FEMA) Floodway, 100- and 500-year floodplains associated with Anguilla Brook extend across the property in this area. The 100-year floodplain extends to Elevation 48 (NAVD).

Wetland and watercourse resources were identified on the western property and along the east side of North Anguilla Road, extending to the western limits of the eastern wetland study area (Figure 2). Wetland areas occupy approximately 12.9 acres within the wetland study areas. Wetland systems are comprised of forested drainage corridors in the eastern study area that connect hydrologically to Anguilla Brook riparian system. Within the western study area, wetlands are comprised of forested systems adjacent to Anguilla Brook and an emergent wetland and open pond within the golf course. Each wetland system is described in detail below.

Wetland 1

Wetland 1 is a forested wetland occupying approximately 4.43 acres within the eastern study area, adjacent to the toe of the drumlin, adjacent to North Anguilla Road. Supported by glacial till soils, the wetland is supported hydrologically by groundwater and surface runoff from the adjacent golf course. The wetland drains west and is culverted beneath North Anguilla Road in two locations, connecting to Wetland 2 within the western study area. A cart path exists in the center of this wetland, connecting golf greens on the eastern property to North Anguilla Road and separating the wetland in three parts. A potential vernal pool was identified within this wetland, adjacent to North Anguilla Road north of the cart path.

Wetland 2

Wetland 2 is located within the western property, adjacent to North Anguilla Road, and occupies approximately 2.53 acres of the property. This wetland consists of low gradient slope forested wetland that contains a short length of an intermittent watercourse as well as a small (0.03-acre) isolated wetland area north of this corridor. The wetland is supported by silt loam parent material soils deposited through glacial outwash processes. Wetland 1 provides surface water to this wetland via culverts beneath North Anguilla Road. Portions of this wetland are located within the mapped FEMA 100- and 500-year floodplain associated with Anguilla Brook. The

isolated wetland adjacent to the wetland complex is also located within the 500-year floodplain associated with Anguilla Brook. A potential vernal pool has been identified in the northwest portion of the larger wetland system.

Wetland 3

Wetland 3 occupies approximately 2.5 acres in the northern portion of the western study area. A manmade pond exists offsite to the north, and an intermittent watercourse draining this pond flows southwest through wetland 3. The watercourse is culverted beneath the golf course at the south end of this wetland and drains to wetland 4 to the south.

Wetland 4

Wetland 4 is comprised of a 0.42-acre wet meadow surrounding a 0.24-acre open water pond in the center of the western study area. An intermittent watercourse flows south from Wetland 3 through this wetland and discharges to the pond. An outlet pipe located at the south end of the pond connects this wetland to wetland 5. The majority of this wetland is located within the FEMA 100-year floodplain associated with Anguilla Brook.

Wetland 5

Wetland 5 is a forested wetland abutting Anguilla Brook on the west side of the western property. Located almost entirely within the FEMA floodway and 100-year floodplain associated with this watercourse, overbank flows supports the hydrology to this wetland. The intermittent watercourse flowing south from Wetland 4 also provides surface water to this wetland. Wetland 5 occupies approximately 2.37 acres.

Mapped Soils

Sixteen soil map units were identified on the two properties (three wetland and thirteen upland). Each map unit represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of each map unit. The mapped units are by name, symbol, and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope) (Table 1). These characteristics are generally the primary characteristics to be considered in land use planning and management. A description of each characteristic and its land use implications follows the table. A complete description of each soil map unit can be found in the *Soil Survey of the State of Connecticut* (USDA, 2005) and at http://soils.usda.gov.

Table 1: Soil Unit Properties

Map Unit		Parent Material	Slope (%)	Drainage Class	High Water Table			Depth To Bedrock (in)
Sym	Name				Depth (ft)	Kind	Mos.	
Upland Soil								
29A	Agawam fine sandy loam	Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits	0-3	Well drained	-	-	-	15-35
38A	Hinckley loamy sand	Sandy and gravelly glaciofluvial deposits	0-3	Excessively drained	-	-	-	>60
51B	Sutton fine sandy loam	Coarse-loamy melt-out till	0-8	Moderately well drained	1.0-4.9		Jan-June; Oct-Dec	>60
52C	Sutton fine sandy loam	Coarse-loamy melt-out till	2-15	Moderately well drained	1.0-4.9		Jan-June; Oct-Dec	>60
60B	Canton and Charlton fine sandy loams	Melt-out till	3-8	Well drained	-	-	-	19-39
60C	Canton and Charlton fine sandy loams	Melt-out till	8-15	Well drained	-	-	-	19-39
61B	Canton and Charlton fine sandy loams, very stony	Melt-out till	0-8	Well drained	-	-	-	19-39
62D	Canton and Charlton fine sandy loams, extremely stony	Melt-out till	15-35	Well drained	-	-	-	19-39
84B	Paxton and Montauk fine sandy loams	Coarse-loamy lodgment till	3-8	Well drained	1.5-3.1	Perched	Jan-Apr; Nov-Dec	18-39
306	Udorthents-Urban land complex	Fill material	0-25	Well drained	4.5-6.0	Apparent	Jan-Apr; Nov-Dec	>60
701A	Ninigret fine sandy Wetland 3 loam	Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits	0-3	Moderately well drained	1.4-3.2	Apparent	Jan-Apr; Dec	18-38
703A	Haven silt loam	Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits	0-3	Well drained	-	-	-	18-36
703B	Haven silt loam	Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits	3-8	Well drained	-	-	-	18-36

Map Unit		Parent Material	Slope (%)	Drainage Class	High Water Table			Depth To Bedrock (in)
Sym	Name				Depth (ft)	Kind	Mos.	
Wetland Soil								
3	Ridgebury, Leicester, and Whitman soils, extremely stony	Coarse-loamy lodgment till	0-8	Poorly drained	0-2.8	Perched	Jan-June; Oct-Dec	15-35
12	Raypol silt loam	Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits	0-3	Poorly drained	0-1.0	Perched	Jan-May; Nov-Dec	>60
15	Scarboro muck	Sandy glaciofluvial deposits	0-3	Very poorly drained	0-1.6	Apparent	Jan-Dec	>60

Wetland Functional Assessment

A functional evaluation of each on-site wetland based on MMI field observations is summarized (Tables 2-3). The first column lists the functions and values generally ascribed to wetlands while the second column summarizes the rationale used to determine whether these functions and values are being performed within the subject wetlands and watercourses.

Table 2: Functions & Values: Elmridge Forested Wetlands (Wetlands 1, 2, 3, and 5)

	Anguilla Brook Forest Wetland	Comments
	Groundwater Recharge / Discharge	Yes – the delineated wetlands are fed by baseflow (groundwater discharge) in addition to surface flow within Anguilla Brook proper.
	Floodflow Alteration (Storage & Desynchronization)	Yes –within the western study area a mapped FEMA floodplain exists and serves to modulate floodflows.
	Fish & Shellfish Habitat	Yes –Aguilla Brook is a perennial stream that supports a cold water fishery.
	Sediment / Toxicant Retention	Yes – the variety of morphological wetland types within the study area, depressional and slope, provides opportunities for sediment/toxicant retention.
	Nutrient Removal / Retention / Transformation	Yes – the vegetated nature of the delineated wetlands provides nutrient removal, retention and transformation.
	Production Export (Nutrient)	Yes –the structural heterogeneity of vegetation within the wetland encourages trophic level interactions.
	Sediment / Shoreline Stabilization	Yes – dense vegetation allows for shoreline stabilization.
	Wildlife Habitat	Yes – the diverse vegetative assemblage across vegetative strata provide opportunities for wildlife habitat.
	Recreation (Consumptive & Non-Consumptive)	No – recreation is not a primary value of these wetlands, although recreational opportunities (hiking, viewing) are afforded downstream.
	Educational Scientific Value	No – the wetland does not provide educational attributes.
	Uniqueness / Heritage	No – the wetland does not demonstrate unique habitat.
	Visual Quality / Aesthetics	Yes – diverse assemblage of plants in a small area are an interesting contrast from well-maintained turf areas of the golf course
ES	Endangered Species	No – According to CTDEEP NDDB, no mapped habitat exists within the delineated wetlands (December 2019).

The principal functions/values of the forested wetlands are groundwater discharge, floodflow alteration, fisheries habitat, nutrient removal/retention/transformation, production export, shoreline/sediment stabilization, and wildlife habitat.

Table 3: Functions & Values: Elmridge Wet Meadow (Wetland 4)

	Anguilla Brook Forest Wetland	Comments
	Groundwater Recharge / Discharge	Yes – the wetland is supported by baseflow (groundwater discharge) in addition to surface flow from an intermittent watercourse.
	Floodflow Alteration (Storage & Desynchronization)	Yes –within the western study area a mapped FEMA floodplain exists and serves to modulate floodflows.
	Fish & Shellfish Habitat	Yes –the open water pond within this wetland system may provide the perennial hydrology to provide fish habitat.
	Sediment / Toxicant Retention	Yes – this wetland provides opportunities for sediment/toxicant retention due to dense vegetation within the wet meadow and deep water within the pond that allows for deposition and retention.
	Nutrient Removal / Retention / Transformation	Yes – the wetland provides nutrient removal, retention and transformation within the vegetated wet meadow.
	Production Export (Nutrient)	Yes –the dense vegetation in the wet meadow, perennial hydrology within the pond, and connectivity to downstream wetlands provides opportunity for production export.
	Sediment / Shoreline Stabilization	Yes – the shoreline of the pond is well-vegetated and stable.
	Wildlife Habitat	Yes – though limited due to the location within the golf course, its small size, and limited vegetative structural heterogeneity, the pond and adjacent meadow provide opportunities for wildlife habitat.
	Recreation (Consumptive & Non-Consumptive)	No – recreation is not a primary value of these wetlands, although recreational opportunities (hiking, viewing) are afforded downstream.
	Educational Scientific Value	No – the wetland does not provide educational attributes.
	Uniqueness / Heritage	No – the wetland does not demonstrate unique habitat.
	Visual Quality / Aesthetics	Yes – the variation in wetland cover types provides some visual interest.
ES	Endangered Species	No – According to CTDEEP NDDB, no mapped habitat exists within the delineated wetlands (December 2019).

The principal functions/values of Wetland 4 are groundwater discharge, floodflow alteration, fisheries habitat, nutrient removal/retention/transformation, production export, shoreline/sediment stabilization.

Potential Vernal Pools

Potential vernal pools were located within an isolated depression south of the golf course within the western study area and east of North Anguilla Road. The potential vernal pool located east of North Anguilla Road is outside but adjacent to the study area. These systems were identified based on their morphology and hydrology observed during the November site visit. A seasonal study would be necessary to verify the ability of these wetlands to provide wetland obligate amphibian breeding and development.

Conclusions

I delineated wetland and watercourse boundaries within the two study areas on the Elmridge Golf Course properties at 229 Elmridge Road in Stonington, Connecticut. Five interconnected wetland systems were delineated and are generally comprised of forested red maple dominated systems located within the Anguilla Brook riparian corridor, or connect hydrologically to Anguilla Brook. Additionally, two potential vernal pool systems were identified within and adjacent to the wetland study area based on morphology and apparent hydrology. A seasonal vernal pool study would be necessary to verify or refute the vernal pool designation. Due to the diversity of vegetation and wetland hydrology within the delineated wetlands, these systems contribute to the majority of wetland functions.

Thank you for the opportunity to assist you. If you should have any questions or comments, please do not hesitate to contact me.

Very truly yours,

MILONE & MACBROOM, INC.

Megan B. Raymond, MS, PWS
Senior Project Manager, Environmental Science

Attachments:
A - Site Maps
B - Site Photographs
C - Army Corps of Engineers (ACOE) Datasheets

ATTACHMENT A

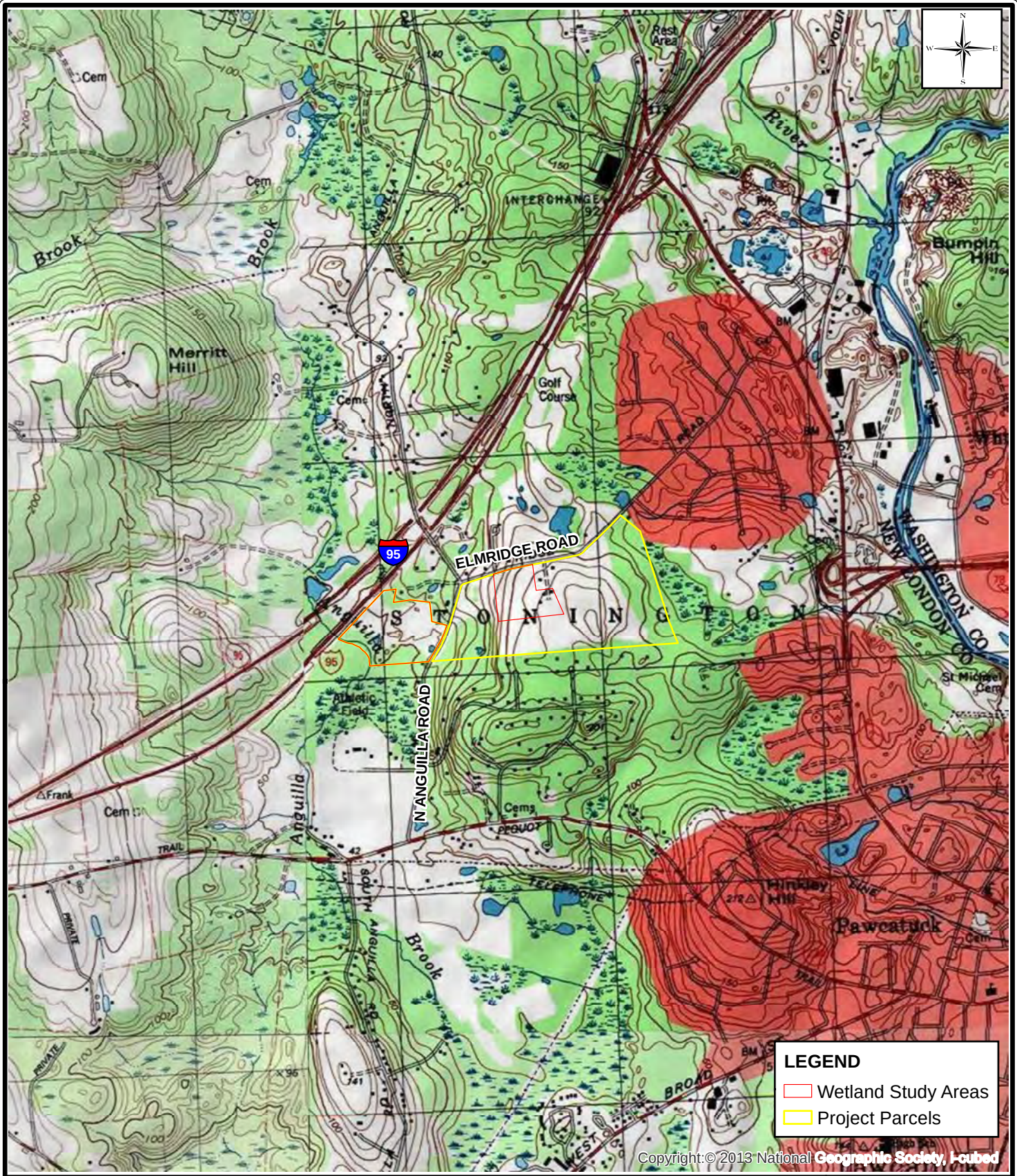
SITE MAPS:

OVERVIEW MAP

WETLAND DELINEATION MAP

SOIL MAP

MXD: Y:\6763-10\GIS\Maps\ElmRidge_vicinity.mxd



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OVERVIEW MAP

ELMRIDGE GOLF COURSE PV SOLAR FACILITY

229 ELMRIDGE ROAD
STONINGTON, CONNECTICUT

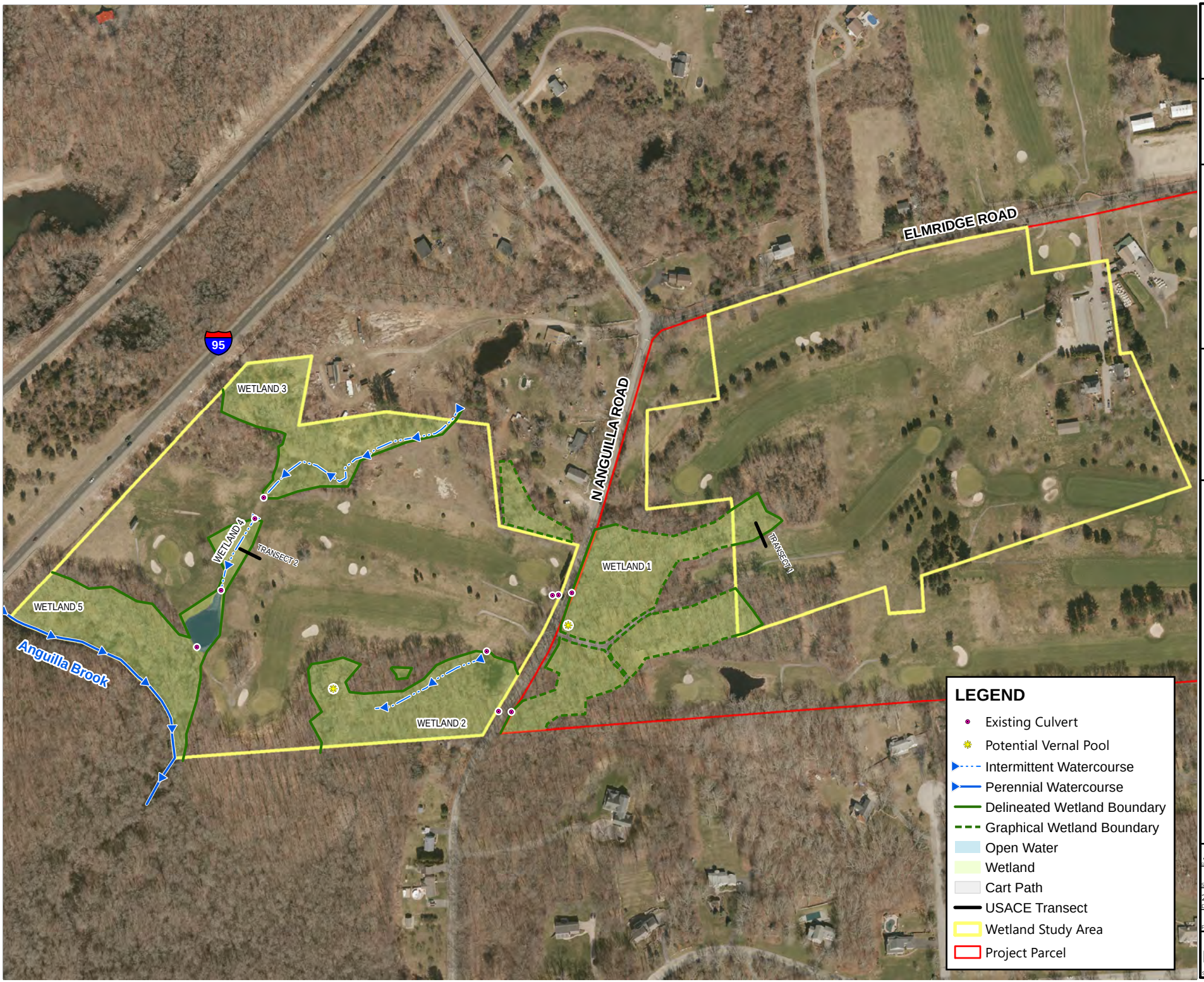
SOURCE: 2013, NATIONAL GEOGRAPHIC SOCIETY

DATE: DECEMBER 4, 2019		
SCALE: 1 " = 2,000 '		
PROJ. NO.: 6763-10		
DESIGNED AYO	DRAWN AYO	CHECKED MBR

DRAWING NAME:

FIG. 1

Copyright Milone & MacBroom, Inc - 2018



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WETLAND DELINEATION

ELMRIDGE GOLF COURSE PV SOLAR FACILITY

229 ELMRDIGE ROAD
STONINGTON, CONNECTICUT

AYO	AYO	MBR
DESIGNED	DRAWN	CHECKED

SCALE: 1"=350'

DATE: 26 FEBRUARY 2020

PROJECT NUMBER: 6763-10

SHEET NAME: FIGURE 2

Copyright Milone & MacBroom, Inc - 2020

Soil Map—State of Connecticut
(Elmridge)

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: State of Connecticut
Survey Area Data: Version 19, Sep 13, 2019

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

Date(s) aerial images were photographed: Mar 20, 2019—Mar 27, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	0.6	0.5%
12	Raypol silt loam	3.1	2.4%
15	Scarboro muck, 0 to 3 percent slopes	3.4	2.6%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	0.8	0.6%
38A	Hinckley loamy sand, 0 to 3 percent slopes	0.1	0.0%
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	9.4	7.2%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	7.1	5.4%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	31.2	23.9%
60C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	4.1	3.1%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	29.4	22.5%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	2.7	2.1%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	16.6	12.7%
306	Udorthents-Urban land complex	0.1	0.1%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	2.0	1.6%
703A	Haven silt loam, 0 to 3 percent slopes	4.0	3.0%
703B	Haven silt loam, 3 to 8 percent slopes	16.3	12.4%
Totals for Area of Interest		**130.9**	**100.0%**

ATTACHMENT B

SITE PHOTOGRAPHS

MILONE & MACBROOM

PHOTOGRAPHIC LOG

Client Name:	**Site Location:**	**Project No.**
Greenskies Renewable Energy, LLC	Stonington, CT	6763-10

Photo No.	**Date:**
1	11/21/2019

Direction Photo Taken:
East

Description:
Cart path between wetland 4 and 5.

Photo No.	**Date:**
2	11/21/2019

Direction Photo Taken:
North

Description:
Potential vernal pool in northwest portion of Wetland 2

MILONE & MACBROOM

PHOTOGRAPHIC LOG

Client Name:	**Site Location:**	**Project No.**
Greenskies Renewable Energy, LLC	Stonington, CT	6763-10

Photo No.	**Date:**
3	11/21/2019

Direction Photo Taken:
South

Description:
Wetland 4 containing wet meadow, intermittent watercourse, and an open water pond.

Photo No.	**Date:**
4	11/21/2019

Direction Photo Taken:
South

Description:
Wetland 5 adjacent to Anguilla Brook.

ATTACHMENT C

ARMY CORPS OF ENGINEERS (ACOE) DATASHEETS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Elmridge Golf Course City/County: Stonington Sampling Date: January 13, 2020

Applicant/Owner: Greenskies Renewable Energy, LLC State: CT Sampling Point: T1-U

Investigator(s): MBR Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): R 145 Lat: 41.392 N Long: -71.865 E Datum: NAD 83

Soil Map Unit Name: Sutton fine sandy loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [X] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Community type: Non-native grassland

Upland consists of mowed and maintained grasses within existing golf course.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes [ ] No [X] Depth (inches):

Water Table Present? Yes [ ] No [X] Depth (inches):

Saturation Present? (includes capillary fringe) Yes [ ] No [X] Depth (inches):

Wetland Hydrology Present? Yes [ ] No [X]

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: T1-U

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

Sapling/Shrub Stratum (Plot size: 15')			
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Poa pratensis	100	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Celastrus orbiculatus	10	Y	UPL
2.			
3.			
4.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	115	x 4 =	460
UPL species	10	x 5 =	50
Column Totals:	125 (A)		510 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

SOIL

Sampling Point: T1-U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-1	10YR 2/1	100					organic	
1-6	10YR 2/2	100					fine sandy loam	
6-12	7.5YR 4/4	100					fine sandy loam	
12-24	10YR 5/6	100					fine sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Elmridge Golf Course City/County: Stonington Sampling Date: January 13, 2020

Applicant/Owner: Greenskies Renewable Energy, LLC State: CT Sampling Point: T1-W

Investigator(s): MBR Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): R 145 Lat: 41.392 N Long: -71.865 E Datum: NAD 83

Soil Map Unit Name: Raypol silt loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [X] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes [X]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [X] No [ ]
Hydric Soil Present?	Yes [X]	No [ ]	If yes, optional Wetland Site ID: Wetland 1
Wetland Hydrology Present?	Yes [X]	No [ ]	

Remarks: (Explain alternative procedures here or in a separate report.)
Community type: Forested wetland

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes [ ]	No [X]	Depth (inches):
Water Table Present?	Yes [ ]	No [X]	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes [X]	No [ ]	Depth (inches): 0

Wetland Hydrology Present? Yes [X] No [ ]

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

Remarks:

Forested wetland abutting golf course.

VEGETATION – Use scientific names of plants.

Sampling Point: T1-W

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	70	Y	FAC
2. Betula alleghaniensis	15	N	FAC
3. Fraxinus pennsylvanica	15	N	FACW
4.			
5.			
6.			
7.			
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Vaccinium corymbosum	30	Y	FACW
2. Lindera benzoin	30	Y	FACW
3. Clethra alnifolia	10	N	FAC
4. Kalmia latifolia	10	N	FACU
5. Acer rubrum	10	N	FAC
6.			
7.			
	90	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Osmunda cinnamomea	20	Y	FACW
2. Onoclea sensibilis	20	Y	FACW
3. Symplocarpus foetidus	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45	= Total Cover	

Woody Vine Stratum (Plot size: 15')			
1. none			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	115	x 2 =	230
FAC species	105	x 3 =	315
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	235 (A)		590 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

SOIL

Sampling Point: T1-W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					silt loam	
8-12	10YR 5/2	100	10YR 5/8	5	C	M	very fine sandy loam	
12-20	10YR 5/2	100	10YR 5/8	5	C	M	silt loam	
20-26	10YR 4/4	100	10YR 5/8	5	C	M	silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Elmridge Golf Course City/County: Stonington Sampling Date: January 13, 2020

Applicant/Owner: Greenskies Renewable Energy, LLC State: CT Sampling Point: T2-U

Investigator(s): MBR Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): R 145 Lat: 41.392 N Long: -71.871 E Datum: NAD 83

Soil Map Unit Name: Haven and Enfield soils NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [X] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Community type: Non-native grassland

Upland consists of mowed and maintained grasses within existing golf course.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes [ ]	No [X]	Depth (inches):
Water Table Present?	Yes [ ]	No [X]	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes [ ]	No [X]	Depth (inches):

Wetland Hydrology Present? Yes [ ] No [X]

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: T2-U

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Poa pratensis	100	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. none			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species 100	x 4 = 400
UPL species	x 5 =
Column Totals: 100 (A)	400 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

SOIL

Sampling Point: T2-U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-7	10YR 4/2	100					silt loam	Ap
7-16	7.5YR 5/6	100					silt loam	Bw1
16-25	2.5Y 5/4	100					silt loam	Bw2

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Elmridge Golf Course City/County: Stonington Sampling Date: January 13, 2020

Applicant/Owner: Greenskies Renewable Energy, LLC State: CT Sampling Point: T2-W

Investigator(s): MBR Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): R 145 Lat: 41.392 N Long: -71.871 E Datum: NAD 83

Soil Map Unit Name: Ridgebury, Leicester, and Whitman soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [X] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes [X]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [X] No [ ]
Hydric Soil Present?	Yes [X]	No [ ]	If yes, optional Wetland Site ID: Wetland 4
Wetland Hydrology Present?	Yes [X]	No [ ]	

Remarks: (Explain alternative procedures here or in a separate report.)
Community type: Wet meadow

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes [ ]	No [X]	Depth (inches):
Water Table Present?	Yes [ ]	No [X]	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes [X]	No [ ]	Depth (inches): 0

Wetland Hydrology Present? Yes [X] No [ ]

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: T2-W

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Carex stricta	100	Y	OBL
2. Asclepias incarnata	15	N	OBL
3. Juncus effusus	10	N	OBL
4. Verbena hastata	10	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	135 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. none			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	125	x 1 =	125
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	135 (A)		145 (B)

Prevalence Index = B/A = 1.1

Hydrophytic Vegetation Indicators:

- [X] Rapid Test for Hydrophytic Vegetation
- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes [X] No [ ]

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

SOIL

Sampling Point: T2-W

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR 2/0	100					fine sandy loam	
5-9	10YR 4/3	100					sandy loam	
9-18	10YR 4/1	100	10YR 5/6	5	C	M	gravelly sandy loam	
18-24	5YR 5/1	100	7.5YR 6/8	5	C	M	gravelly sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks: