



Memorandum

To: ER Dunsmore Solar
Project File

Date: May 1, 2025

Project #: 57818.02

From: Kaitlyn Maines, Environmental Scientist,
and Carla Fenner, PWS, CWS, Senior
Environmental Scientist

Re: Section 248 Natural Resources Assessment

Introduction

At the request of ER Dunsmore, LLC ("Petitioner"), VHB conducted natural resource assessments in support of a planned a 4.95-megawatt ("MW") alternating current ("AC") ground-mounted solar project ("Project"). The Project array is sited on approximately 30 acres of land within an overall 85-acre Study Area off Dunsmore Road in Saint Albans Town, Vermont (see the Natural Resource Map in Attachment 1). Natural resources assessments were conducted on an area larger than the proposed Project footprint, so that natural resources and/or their buffers could be identified, and alternative designs considered to avoid or minimize impacts through Project design where feasible. An approximately 30-acre subset of the Study Area will be defined by the Project's perimeter fence and will contain major Project components (array, transformer, access road, staging area, etc.) ("Project Area"). This technical memorandum includes an overview of the proposed site, natural resource conditions in the Study Area, descriptions of the methodologies used for each assessment, assessment findings, and an evaluation of the Project with respect to the applicable 30 V.S.A. § 248(b)(5) natural resources criteria reviewed by the Vermont Public Utility Commission ("PUC").

The natural resources assessments that VHB conducted in support of the Project included database reviews as well as field surveys and was designed to include an evaluation of the following criteria, which are given due consideration under PUC review for a Certificate of Public Good ("CPG"):

- Outstanding Resource Waters (10 V.S.A. § 1424a(d));
- Headwaters (§ 6086(a)(1)(A));
- Floodways (§ 6086(a)(1)(D));
- Streams (§ 6086(a)(1)(E));
- Shorelines (§ 6086(a)(1)(F));
- Wetlands (§ 6086(a)(1)(G));
- Rare and Irreplaceable Natural Areas ("RINA") (§ 6086(a)(8)); and
- Necessary Wildlife Habitat and Endangered Species (§ 6086 (a)(8)(A)).

In making assessments of potential Project impacts to natural resources, VHB relied on Project information provided by Encore and Project site plans prepared by VHB. VHB conducted natural resources field assessments beginning on September 26, October 11 and 17, 2017, with subsequent visits in May and October, 2021, and June 23, 2023, as Project planning progressed. Results from VHB's assessments are described in the following sections of this memorandum.

VHB has prepared a separate memorandum which provides preliminary natural resource assessments specific to the Project's proposed electrical interconnection route, titled *Distribution Line Upgrades – Section 248 Natural Resources Assessment Supplement* and which will be included in the Project's CPG petition. Accordingly, the interconnection

route is not discussed herein.

Project Description

The Project will consist of the installation and operation of a solar electric generation facility, capable of generating up to 4.95 MW AC. Project components will include:

- Approximately 12,425 single-axis tracker photovoltaic panels installed on ground-mounted racking systems, across approximately 30 acres of the site. The solar panels will be coated with a non-reflective glazing to reduce glare from the array, on ground-mounted racking systems, approximately ten to fifteen feet off the ground at their highest point;
- A network of string-inverters dispersed across the array connected with underground cables installed in protective conduit;
- Approximately 5,285 feet of agricultural-style perimeter fence, seven to eight feet in height;
- Temporary staging/laydown areas for delivery and short-term storage of materials;
- Widening, re-aligning, and improving, approximately 1,550 linear-feet of an existing access driveway to provide access to the solar site;
- Replacing two undersized, crushed culverts with a 45-foot modular steel bridge, and precast concrete abutments;
- Extending the existing access road approximately 1,200 feet with varying widths from 16-feet to 12-feet, including turnaround areas;
- An approximate 1,640-foot extension of 3-phase power to the site for interconnection to the Project Area into the existing Green Mountain Power ("GMP") grid, from the existing distribution service on Dunsmore Road. This new line section will require approximately 8 new wooden poles approximately 35 to 40 feet above ground;
- Construction of one gravel wetland and simple disconnection stormwater treatment practices to treat stormwater runoff from impervious surfaces;
- Two pad-mounted transformers, 2,500-kVA units located on two separate equipment pads, located in the central and east-central Project areas, with secondary oil containment providing 110% of the equipment oil volume with freeboard for 5 inches of rain; and
- Up to approximately 0.2 acre of tree and brush clearing will be necessary to facilitate construction and reduce impacts from shading (areas where woody material will be removed with stump removal/grubbing), which will largely be limited to the Project's access road between Dunsmore Road and the proposed array.

Site Description

The Study Area occurs in the Champlain Valley biophysical region of Vermont, which is characterized by being one of the warmest regions in Vermont as well as low-elevation plains dominated by clay and silt soils. The Study Area occurs within the Jewett Brook sub-watershed (HUC12: 043001081201). On-site elevations range from approximately 110-166 feet above mean sea level ("AMSL") (VCGI 2019). According to Vermont bedrock geology mapping, the Study Area is underlain by dark gray shale with thin discontinuous beds of cross-bedded and graded dolomitic siltstone. The Natural Resources Conservation Service ("NRCS") has mapped the dominant soils within the Study Area as Kingsbury clay, 0 to 3 percent slope, Covington clay, Georgia stony loam, 0 to 3 percent slopes, St. Albans slaty loam, 3 to 8 percent slopes, Lordstown loam, rocky, 3 to 8 percent slopes. There is one stream mapped in the Vermont Hydrography Dataset ("VHD"), Jewett Brook, present in the Study Area. Jewett Brook is considered a *Class B* water under the Vermont Water Quality Standards (ANR 2022a). The entire 3.5-mile extent of Jewett Brook, beginning about 2.8 miles north of the Study Area and converging with Steven's Brook south of the Study Area before terminating into Lake Champlain, is listed on the 303d List as an impaired water due to agricultural run-off and associated pollutants (ANR 2020). No Vermont Significant Wetland Inventory ("VSWI") wetlands are present within the Study Area, however VHB delineated several wetlands or complexes.

Adjacent lands surrounding the Study Area generally consist of rural residential and agricultural land use and cover. Land use and land cover within the Study Area is largely agricultural cropland consisting of corn field, fallow field areas, a narrow area of riparian forest, and farmed wetlands as well as a reach of Jewett Brook. Typical vegetation includes planted corn (*Zea mays*), and reed canary grass (*Phalaris arundinacea*). Reed canary grass in a non-native invasive species ("NNIS") that is dominant throughout the delineated wetland features. VHB botanists also found other NNIS present within the Study Area including Morrow's honeysuckle (*Lonicera morrowii*) and common buckthorn (*Rhamnus cathartica*). Representative site photographs collected during VHB's natural resources field work are presented in Attachment 2.

SECTION 248 NATURAL RESOURCES CRITERIA

OUTSTANDING RESOURCE WATERS (10 V.S.A. § 1424a(d))

The Vermont Water Quality Standards ("VWQS", ANR 2022a), under section 29A-105(d), state that the Secretary of the Vermont Agency of Natural Resources ("ANR") may, under 10 V.S.A. Section 1424(a), designate Outstanding Resource Waters ("ORW"). The following waterways have been designated ORWs:

1. Batten Kill River, Towns of East Dorset and Arlington;
2. Pike's Falls/Ball Mountain, Town of Jamaica;
3. Poultney River, Towns of Poultney and Fair Haven; and,
4. Great Falls, Ompompanoosuc River, Town of Thetford.

The Study Area was reviewed against this list to determine if it is located within the vicinity of any listed ORW. The Study Area is within the Jewett Brook watershed, which is not designated as an ORW. None of designated ORW are within or near the Study Area, and therefore, the Project would not result in any impact to Outstanding Resource Waters.

HEADWATERS (10 V.S.A. § 6086(a)(1)(A))

The Headwaters criterion under Act 250, given due consideration under Section 248 review, requires that a project — if located in a headwater — meet any applicable health and department of environmental conservation regulations regarding reduction of the quality of the ground or surface waters flowing through or upon lands that are not devoted to intensive development. The sub-categories for headwaters are:

- i. Headwaters or watersheds characterized by steep slopes and shallow soils; or
- ii. Drainage areas of 20 square miles or less; or
- iii. Above 1,500 feet elevation; or
- iv. Watersheds of public water supplies designated by ANR; or
- v. Areas supplying significant amounts of recharge waters to aquifers.

VHB analyzed available information, including soils data, topographic maps, and state-mapped public water supply source protection areas, as well as field reviewed, to determine if the Study Area is located on any lands that would be considered a Headwater location. The Study Area is not characterized by steep slopes (>15%): the entirety of the site contains slopes ranging from 0-8%. Furthermore, soils throughout the Study Area are not mapped as shallow. As such, the Project does not meet subcategory (i). Subcategory (ii) is met since the drainage area of the on-site waters, Jewett Brook, has an approximately 5-square mile drainage area. The Study Area does not meet subcategory (iii) as it is located below 1,500 feet in elevation. There are no watersheds of public water supplies designated by ANR within the Study Area; therefore, the Project does not meet subcategory (iv). The Study Area does not supply significant amount of recharge waters to aquifers therefore, the Project does not meet subcategory (v). Consequently, although meeting sub-category ii, given the Project's position low in the landscape and proximity to Lake Champlain, it is VHB's opinion that the Project site should not be considered a headwaters location.

Although VHB does not believe this should be considered a Headwaters location, the Project will meet the requirements for a Project located within a headwater area in that it will not adversely impact ground or surface water quality and will meet applicable health and Vermont Department of Environmental Conservation ("DEC") regulations regarding reduction of the quality of the ground or surface waters flowing through or upon the Project area. Specifically, the Project will not produce wastewater that would be subject to wastewater regulations and other limited pollutants (e.g. transformer oil), and stormwater runoff will be appropriately managed during construction and operation under applicable collateral permitting programs. VHB has prepared a separate analysis of Project waste disposal and stormwater plans that provides further detail regarding pertinent aspects and regulations to prevent water pollution (see the prefiled testimony and exhibits of Stephanie Wyman), but in brief summary, the Project will adhere to the requirements of DEC construction stormwater discharge requirements and will include measures to protect against impacts in the event of an inadvertent release of transformer oil. The Project is thus consistent with the requirements of this criterion regardless of whether it is in a headwater area.

FLOODWAYS (10 V.S.A. § 6086(a)(1)(D))

The Floodways criterion under Act 250, as incorporated into Section 248 review, takes into consideration a project's effect on flood hazard areas and river corridors. Per Section 6001(6), a "flood hazard area" is "the land in the flood plain within a community subject to a 1 percent or greater chance of flooding in any given year", defined in 44 CFR 59.1. A project's impacts are considered with respect to both flood inundation and fluvial erosion hazards pursuant to *Flood Hazard Area and River Corridor Protection Procedure* (ANR 2017a). The Flood Hazard Area and River Corridor Protection Procedure ("FHARC") addresses both inundation risks as represented by Federal Emergency Management

Agency ("FEMA")-mapped flood information, and potential fluvial erosion risks associated with the geomorphic principles necessary to achieve stable fluvial processes. ANR defines "River Corridors" for many streams and rivers in Vermont. The River Corridor consists of the meander belt or fluvial erosion hazard area, which is defined as the lateral width of a stream corridor that may be subject to fluvial erosion from stream channel lateral migration as well as a 50-foot riparian buffer outside of this meander belt (FHARC). The meander belt is typically determined by geomorphic assessments of channel bankfull width, meander centerline, confining lateral topography, channel type, and current channel adjustments, which is then translated into the channel-width-to-belt-width ratio, dependent on-stream sensitivity type and adjacent landform.

VHB reviewed the available FEMA data for the Town of Saint Albans, Vermont, to determine if the Study Area is located within any designated floodway or floodway fringe. VHB also reviewed available mapping from the State of Vermont River Corridor mapping.

Based on a review of FEMA data, there is a FEMA-mapped floodway within a portion of the Study Area according to Flood Insurance Rate Map ("FIRM") Community Panel Number #5002190005A (Effective June 15, 1988). The FEMA Special Flood Hazard Area ("SFHA"), Zone A (1 percent chance of annual flooding, or the "100-year floodplain") base-flood-elevation ("BFE") was digitized by VHB where it intersects the Project and shown on the Natural Resources Map (Attachment 1). Likewise, based on review of ANR mapping, the Jewett Brook River Corridor is mapped through a portion of land in the east portion of the Study Area. Project activities in the River Corridor and SFHA are unavoidable as Jewett Brook runs parallel to Dunsmore Road, which is the only viable access to the Project. Further data characterizing on-site surface waters including Jewett Brook is provided in the Summary of Delineated Wetlands and Streams in Attachment 3.

The Project array entirely avoids floodway, floodway fringe, and river corridor areas, but the Project's proposed access to the array will require upgrades to an existing access road and crossing of Jewett Brook, which also crosses through the FEMA mapped SFHA and ANR mapped River Corridor. The Project's necessary access road upgrades involve the replacement of two crushed culverts under the existing farm road that crosses Jewett Brook with a bridged span. This existing crossing is substandard and does not have the capacity to accommodate construction and operations traffic.

The following access road and stream crossing activities would be needed and will necessarily occur within FHARC-regulated resource areas:

- Temporary access road widening to the existing access road to facilitate safe access of construction;
- Upgrading the existing Jewett Brook crossing infrastructure and removal of the two crushed culverts;
- A small amount of tree clearing for the access road widening and co-located overhead three-phase line extension corridor;
- Temporary erosion prevention and sediment control ("EPSC") measures during construction.

The existing crossing structures are two partially crushed steel barrels. Field observations noted that the existing culverts are 48- and 60-inches in diameter. Both structures are approximately 15 feet in length and are nearly flat or slightly inverted. At the Project site, Jewett Brook is a low slope, unconfined stream that meanders through a riparian wetland floodplain. The Jewett Brook valley is approximately 200 feet wide and the bankfull width is 30 feet. The channel is weedy with gravel substrate. Floodwaters are contained to the valley and there is no adjacent infrastructure at risk.

The proposed replacement structure will be constructed along the same alignment as the existing farm road. The proposed bridge will consist of a 45-foot long modular steel bridge with a 40-foot clear span on precast concrete abutments set above and outside the main channel. The existing roadway embankment and culverts will be removed to restore channel connectivity between the upstream and downstream reaches. The existing farm road will be raised to convey the peak design flow of the 100-year flood event and provide 1 foot of freeboard under the bridge.

VHB understands that the replacement bridge will meet the Exemption to the No Adverse Impact Standard required under the FHARC General Permit Section VI (a)(1)(B). Per Section (V)(b)(1)((B)(f) of the FHARC General Permit No Adverse Impact Standard, this Project requires a Registration due to the replacement of a bridge or culvert within a Flood Hazard Area and that the replacement structure must conform with General Permit Section VI (b)(1) for activities in the Flood Hazard Area. To complete the FHARC General Permit Registration, VHB separately conducted hydraulic and hydrologic ("H&H") analyses, developed a base flow elevation for the site, and submitted the application package to the DEC Rivers Program and received permit authorization for the upgrades on September 6, 2024 (Permit Number FP-0069-2024-REG). Thus, this crossing improvement has been reviewed and approved by DEC.

Through the above-described Project plans and with adherence to the design and conditions contained in the FHARC authorization, the Project will not restrict or divert the flow of flood waters (floodway or floodway fringe), or endanger the health, safety, and welfare of the public, or of riparian landowners during flooding or from potential erosion.

STREAMS (10 V.S.A. § 6086(a)(1)(E))

The Streams criterion under Act 250, given due consideration under Section 248 review, requires that projects will, when feasible, maintain natural stream channel condition, and will not endanger the health, safety, or welfare of the public or adjoining landowners.

When applicable, VHB's stream delineation flagging is conducted pursuant to ANR's Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers ("Riparian Buffer Guidance" 2005). Stream and Ordinary High Water ("OHW") width determinations follow guidance provided in the U.S. Army Corps of Engineers ("USACE") Regulatory Guidance Letter: Subject- Ordinary High-Water Identification (2005). Stream top of bank ("TOB") and top of slope ("TOS") are flagged in the field according to the ANR Riparian Buffer Guidance. Stream TOB and TOS are flagged on larger channels, generally wider than six feet, using blue survey tape and labeling that includes the stream ID and flag number. Stream centerline is flagged for smaller channels, generally less than six feet wide, with blue survey tape, and labeling that includes the stream ID and flag number. When applicable, stream TOS, TOB, or OHW limits in the investigated area are marked with blue flagging tape and labeled by stream ID and flag number. Flow regimes are preliminarily classified in the field as ephemeral, intermittent, or perennial, and are determined based on qualitative observations of in-stream hydrology indicators at the time of observation, as culvert well as geomorphic characteristics (i.e., stream bed and bank development), and are subject to professional judgment. When present, stream flagging is mapped in the field using sub-meter capable mobile data collection equipment. Riparian buffers adjacent to streams and rivers, consistent with the ANR Riparian Buffer Guidance, are designated for natural perennial and intermittent stream channels when applicable.

VHB Environmental Scientists delineated a reach of one perennial feature, Jewett Brook, in the Study Area. For a depiction of the delineated stream segment and associated buffers, refer to the Natural Resources Map (Attachment 1). Further data characterizing on-site surface waters are provided in the Summary of Delineated Wetlands and Streams in Attachment 3.

As described above, the Project includes replacing the existing crushed culverts crossing Jewett Brook with a new bridge. The associated work includes the removal of the existing two crushed culverts, widening of the existing access road to a width of up to 16 feet, installation of a 45-foot modular steel bridge, and precast concrete abutments. Keyways and side slopes will be stabilized with Stone Fill, Type II. In-stream work will include placement of a layer of streambed material (E-Stone, Type I or native streambed material if feasible) at least 1.5 feet in depth to restore the streambed through the crossing. VHB used its H&H analysis and engineered a design for the proposed bridge that meets requirements in 10 V.S.A. § 1023(a), achieves the aquatic organism passage ("AOP") (the current culverts do not), as well as lowers existing flood elevations upstream of the existing structure and has been designed to not increase the risk of fluvial erosion to any surrounding infrastructure. Stream Alteration General Permit ("SAGP") criteria include providing a bridge span length that is at least equal to the bankfull width of the stream channel, having an opening height (clearance beneath the bridge) that is four times the mean bankfull depth of the channel or the height required to pass the design below the bridge with one foot of freeboard, and that there is no channel or roadway realignment proposed. On behalf of the Project, VHB submitted an SAGP application to the DEC River Management Engineer on July 29, 2024. DEC provided a response that the crossing as designed could be permitted and suggested that the SAGP will be issued closer to the timeline of the Project's CPG petition, as the authorization to construct the Project is only valid for one year.

In addition to the SAGP from the DEC, a Section 404 Permit from the USACE will be required prior to the Jewett Brook culvert replacement. It is anticipated that the Section 404 regulated Project work will qualify under a Vermont General Permit as Pre-Construction Notification, and the written authorization request for the General Permit will occur subsequent to the Project's submittal of a CPG petition.

In addition to the bridge replacement, access road expansion is necessary to widen the road for construction vehicles. Access road expansion and co-located overhead three phase line extension corridor that will occur within the 50-foot riparian buffer will include up to approximately 3,506 square feet of tree clearing. There will also be permanent impacts within the riparian buffer as a result of a gravel wetland outlet control structure and associated tree clearing required as part of the control structure installation, which are depicted in the Project's site plans. Simple disconnection, an additional stormwater treatment practice adjacent to the access road, is also proposed within the riparian buffer. This practice will be constructed by densely planting native vegetation with a slope of no more than eight percent. Grading has been designed to use existing topography as practicable and minimize existing vegetation impact. No other Project components are proposed to be located within stream channels or riparian buffers, and all necessary permits will be obtained prior to Project construction to maintain the natural channel condition as feasible and not endanger the public or adjoining landowners. As the Project's impact to riparian buffers has been minimized to only those necessary to access and interconnect the Project and the crossing upgrades will have a net benefit to downstream Jewett Brook water quality, the Project is maintaining the natural condition of the stream to the degree feasible and will not endanger the health, safety, or welfare of the public or of adjoining landowners. For these reasons, VHB concludes that the Project is consistent with this criterion and that there will be no undue adverse effect on streams or their 50-foot riparian buffer.

SHORELINES (§ 6086(a)(1)(F))

Shorelines are defined under Act 250, given due consideration under Section 248, as "the land adjacent to the waters of lakes, ponds, reservoirs, and rivers. Shorelines shall include the land between the mean high-water mark and the mean low water mark of such surface waters" (10 V.S.A. § 6001(17)).

The Project is not located on or adjacent to any shoreline areas, including lakes or ponds greater than 10 acres in size, therefore there will be no impacts to shorelines as defined under this criterion.

WETLANDS (§ 6086(a)(1)(G))

The Wetlands criterion under Act 250, given due consideration under Section 248, requires that the proposed project comply with the Vermont Wetland Rules ("VWR") (ANR 2023). The VWR apply to significant wetlands (Class I and Class II wetlands) and their buffers. Impacts to Class III wetlands are not considered under Act 250 Criterion 1(G) but are generally reviewed under Section 248(b)(5) through the PUC's consideration of the potential for undue adverse impacts on the natural environment. Further, all jurisdictional wetlands are regulated by the USACE under Section 404 of the Clean Water Act ("CWA") permit program, as well as the related DEC CWA Section 401 Water Quality Certification ("WQC") review process.

VHB's wetland delineations are made pursuant to applicable methodologies outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Routine Determination Method (USACE 2012). When applicable, wetlands are identified in the field with pink flagging. Field notes are taken to record information such as potential wetland classifications, general characteristics, wetland functions and values, and any unique qualities observed during the site assessment, along with other considerations relevant to support site findings. Wetlands are classified in accordance with the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979). Presence and significance of wetland functions and values are evaluated based on field notes and observations according to the VWR. When present, wetland features are mapped in the field using GPS equipment capable of sub-meter accuracy.

VHB delineated fourteen wetlands within the Study Area. One portion of a wetland buffer associated with a wetland that occurs beyond the limits of the Study Area occurs at the northwestern corner of the Study Area. The wetland delineated on both sides of Jewett Brook (2021-1) is a Categorical Class II wetland as it provides the following VWR functions at present or high levels: Water Storage for Flood Water and Storm Runoff (5.1), Surface and Ground Water Protection (5.2), Fish Habitat (5.3), Wildlife Habitat (5.4), and/or Erosion Control through Binding and Stabilizing the Soil (5.10) (see Natural Resources Map for delineated wetland boundaries, Attachment 1). The other thirteen delineated wetlands are presumed Class III as they do not meet any of the VWR functions and/or values at a significant level. The delineated wetland boundaries and classifications assessed during 2021 (and shown within the VHB Study Area on the map in Attachment 1) were confirmed by ANR staff. VHB's initial delineation started to map wetlands beyond the current Project's Study Area extent, which has been more refined to focus on the proposed Project Area. The delineations reflected on the Natural Resources map were reviewed and confirmed by the DEC District Wetland Ecologist on October 1, 2021. Further data characterizing on-site wetlands is presented in the Summary of Delineated Wetlands (Attachment 3), and the USACE Wetland Determination data sheets (Attachment 4).

The Project has been designed to first avoid and then minimize activity within wetlands and associated Class II wetland buffers to the extent practicable. The array and its perimeter fence entirely avoid Class II wetlands and buffers and will not result in USACE-regulated impacts to Class III wetlands. Access to the Project will be provided via the existing farm access road off Dunsmore Road with the proposed improvements; a portion of that existing road extends through a Class II wetland buffer. The road and Jewett Brook crossing will therefore necessarily result in Class II wetland buffer impacts. Anticipated Class II wetland impacts will consist of tree clearing/grubbing and grading associated with widening the existing gravel access road, as necessary, to accommodate construction and delivery vehicles. Permanent impacts to Class II wetlands and buffers include replacing the existing culverts with a

45-foot modular steel bridge as well as achieving the necessary grade for a stormwater practice outfall structure that cannot be sited beyond the wetland buffer. In total, the unavoidable impacts to Class II wetland consist of approximately 2,364 square feet of permanent impact and approximately 2,018 square feet of temporary impact. Total unavoidable impacts to Class II wetland buffer areas consist of up to 10,270 square feet permanent and 3,734 square feet of temporary impacts are proposed. Final impact numbers will be confirmed in the Vermont Wetland Permit ("VWP") application submittal to be submitted subsequent to the petition.

Although there are wetland and buffer impacts proposed, the design has avoided and minimized impacts to the extent feasible: there would be a notably larger proposed area of impact and greater areas of woody vegetation removal if the Project were to propose creating a new access road and crossing, and the existing diminished function of the access road and culverts would remain unaddressed. By using the existing road and crossing and implementing the proposed upgrades, the Project will not only improve the hydrologic conditions of the Jewett Brook riparian wetland system but will also improve wildlife habitat via an AOP design and minimize the limits of tree clearing and overall disturbance by conducting work within the existing road corridor to the extent feasible. It is VHB's understanding that the proposed road/crossing work would not be considered an Allowed Use under Section 6 of the VWR due to widening of the road, and thus the Project will require a VWP. The Project will also require a Section 404 Vermont General Permit ("GP") from the USACE, presumably to be covered under GP #18 for linear transportation projects and stream/wetland crossings. Project array and fence posts will avoid 404 impact through the use of driven support posts, without excavation or the installation of fill for foundations that will also maintain existing vegetation within the field. The Section 404 GP would include coverage for not only impacts from dredge and fill within wetlands (less than approximately 1,000 square feet within Class III wetlands for installing underground conduit within the array) but also within the channel of Jewett Brook as described under the Streams criterion above. As total impact to wetlands and waters is estimated to be under 5,000 square feet, compensatory mitigation is not anticipated to be required. All necessary wetland permits will be obtained before construction. Wetland and wetland buffer demarcation is anticipated to be required as part of EPSC measures in a forthcoming construction stormwater permit. As such, the Project will comply with the VWR and will not result in undue adverse impacts to wetlands, significant or otherwise.

RARE AND IRREPLACEABLE NATURAL AREAS (RINA) (10 V.S.A. § 6086(a)(8)), AND NECESSARY WILDLIFE HABITAT AND ENDANGERED SPECIES (10 V.S.A. §6086(a)(8)(A))

Under Act 250, given due consideration under Section 248 review, a project must be shown to have no undue adverse effect on Rare and Irreplaceable Natural Areas ("RINA"). Additionally, a project must not destroy or significantly imperil Necessary Wildlife Habitat ("NWH") or any Endangered Species.

RINA

Per the Vermont Fish and Wildlife Department ("FWD"), significant natural communities can be deemed RINA as part of the four-part test required by Act 250 Criterion 8. Determinations of "Significance" are made by applying a combination of community ranking, current condition (age, degree of disturbance), and landscape context (size, degree of fragmentation) to determine an "Element (or Community) Occurrence Ranking". Rare (S1 and S2) natural communities can be considered significant when quality-ranked A, B, or C. Uncommon (S3) and common (S4) types require a quality rank of A or B to be considered significant. Very common (S5) types require an A-rank to be considered significant (ANR 2016b). Additional considerations for RINA include the presence of rare, threatened, or endangered ("RTE") species in these communities, or the presence of an association of natural communities that characterize a part of the landscape and for which ecologically intact examples are rare or declining in the state (ANR

2004).

To identify potential occurrences of known significant natural communities, VHB queried the Vermont Natural Heritage Inventory ("NHI") database (accessed initially in 2021, prior to the start of that year's field work and last reviewed in December 2024) for the presence of known Element Occurrences ("EOs") of significant natural community types within, adjacent to, and within one mile of the Study Area. None are mapped on-site, and no natural community types are known from within one mile of the Study Area.

During the field assessments, VHB Environmental Scientists compared the on-site vegetative assemblages within the Study Area against characteristics of Natural Community types described in *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont* (2019). From both the database review and field assessment, VHB found that there are no significant natural communities or other areas that could constitute as RINA within the Project Area as the Project Area has been disturbed from past and present land use. As described above, the Project's limits of disturbance are proposed to occur within existing agricultural fields and along the corridor of an existing farm access road, which are not suitable habitats for establishment or persistence of significant natural communities. Representative photographs of vegetative cover in the Study Area are included in Attachment 2.

Endangered Species

Endangered Species include those that are defined as "threatened" or "endangered" on the Vermont state endangered and the state threatened species lists, and that are protected under the Vermont Endangered Species Law (10 V.S.A. Chapter 123). Species protected under the federal Endangered Species Act are included as well.

To identify the potential occurrence of rare or sensitive species, particularly those that are federal or Vermont listed threatened or endangered, and to assess available on-site habitat condition relative to each, VHB queried the NHI database for the presence of known EOs of rare, threatened, endangered ("RTE") species within and adjacent to the Study Area and in the surrounding landscape. VHB used a one-mile database query radius for RTE species in order to identify EO records in surrounding habitats which may have similar conditions to those found in the Study Area. Details for all EOs identified in the database review, including species name, rarity rank and protection status, known habitat and potential on-site habitat are included in Attachment 5.

Based on the results of this query, VHB found no records of Vermont threatened or endangered species within the Study Area. In order to avoid adverse or undue impact to RTE plant species that may be present but had not been documented in the NHI database, VHB Botanists conducted a general plant inventory in 2021 and subsequent one on June 23, 2023. This plant inventory followed ANR's *Guidance for Conducting Rare, Threatened, and Endangered Plant Inventories in Connection with Section 248 Projects* (ANR 2016a). All plant species identified in the inventory were checked against the current *Rare and Uncommon Native Vascular Plants of Vermont* list (ANR 2024), as well as the *Endangered and Threatened Plants of Vermont* (ANR 2022b), to determine their rarity rank and protections under endangered species law. No RTE plants were identified on-site. A complete list of identified on-site vascular plants is included in Attachment 6. As the majority of the Project site is proposed to occur within existing agricultural field areas where the vegetation has been planted and is not suitable habitat for RTE plants, the field survey for RTE plants therefore covered only a portion of the overall Study Area, per the ANR guidance noted above.

There is an EO record for an eastern meadowlark (*Sturnella magna*) occurrence less than approximately 1,000 feet north of the Project. The eastern meadowlark is a state listed-threatened bird species which utilizes suitable grassland habitats and is discussed in more detail in the Necessary Wildlife Habitat section below.

Additionally, VHB last queried the U.S. Fish and Wildlife Service ("USFWS") information for planning and consultation ("IPaC") system project review database on April 1, 2025, to identify any federally listed Threatened or Endangered species or critical habitat within the Project region. Based on the IPaC review, there are no threatened or endangered species or critical habitats in the Project Area. There is one candidate threatened species, Monarch butterfly (*Danaus plexippus*) but there is no critical habitat within the Project area under the USFWS office jurisdiction. See the USFWS Official Species List (IPaC) provided as Attachment 7.

The NHI database has no mapped occurrence of state endangered northern long-eared bat (*Myotis septentrionalis*) ("MYSE") within at least a one-mile radius of the Study Area boundary. As there are no known occurrences of MYSE summer habitat or winter hibernacula, the Project is assumed to occur within "Potential Summer Habitat," according to FWD guidance (2017b). Per the FWD guidance, if tree clearing in assumed Potential Summer Habitat is kept under one percent of the available MYSE habitat within one mile of the Project center, no additional conservation measures are necessary. The Project is proposing approximately 0.2 acre of tree clearing (tree removal with stumping/grubbing). Based on an analysis of forested landcover, using ANR's Natural Resources Atlas "Summarize Landcover" tool¹, the total forested area within one mile of the Project is approximately 234.6 acres. Therefore, the total area of tree cutting for the Project represents approximately 0.09 percent of the total forested area within one-mile of the Project and will not require further surveys or conservation measures.

Necessary Wildlife Habitat

The types of habitats that typically constitute Necessary Wildlife Habitat ("NWH") include white-tailed deer (*Odocoileus virginianus*) wintering habitat, American black bear (*Ursus americanus*) mast stands [concentrated stands of American beech (*Fagus grandifolia*) and oak (*Quercus* spp.)], black bear forested wetland habitat, black bear travel corridors, and in some cases, moose (*Alces alces*) overwintering area. Grassland bird habitat and vernal pools have also been considered NWH during reviews of solar projects.

VHB reviewed deer wintering habitat ("DWA"), black bear travel corridors, and black bear feeding habitat mapping available from ANR to determine if the Study Area is situated within or adjacent to mapped NWH. Additionally, VHB Environmental Scientists assessed the Study Area for the presence and (if present), the quality and condition of NWH. There is no mapped black bear feeding habitat or travel corridors within the Project site, and VHB did not observe any signs of either. The closest ANR mapped DWA is approximately 3.5 miles north of the Study Area.

VHB reviewed the *Guidance for the Review and Mitigation of Impacts to Grassland Bird Habitat* (FWD 2021b) and FWD guidance that open fields over 20 acres with a topographic openness equal to, or above 80 degrees (Keyel *et al.* 2013) could be NWH for grassland bird species. There is a portion of a hayfield within the Project's limits that extends beyond the Study Area into an adjoining parcel that is approximately 24 acres in size. Most of the Study Area (approximately 34 acres of the agricultural field) has historically been managed as corn field or plowed regularly which is unsuitable habitat for grassland bird species. Based on a review of previous years' aerial imagery and field observations by VHB between 2017 and 2023, it is understood that the 34 acres of field within the Study Area has been in corn for at least the past five years and as such would not be suitable grassland bird habitat.

¹ ANR's Natural Resources Atlas, accessed at: <https://anrmaps.vermont.gov/websites/anra5/>; analysis most recently conducted on 10/2022.

The approximately 2.5-acre portion of hayfield that is within the Study Area which, in its full extent beyond the Study Area could be considered potentially suitable habitat for grassland bird species, could be considered as potential NWH. In order to achieve the Project purpose, complete avoidance of this 2.5-acre portion of hayfield isn't feasible. As described above, there is a database record of a grassland bird (eastern meadowlark) within vicinity of the Project, and so VHB has conservatively assumed the presence of grassland birds within suitable habitat on-site. Therefore, to mitigate for the direct impacts to the potential grassland bird habitat as well as the potential secondary impacts (per the FWD guidance noted above), the Project proposes to remit payment to the Vermont Audubon Bobolink Project or another ANR-approved mitigation fund. Payment amounts will be coordinated with the FWD and/or Vermont Audubon but are anticipated to occur annually throughout the lifespan of the Project and would be based on a set rate per acre of impact (direct and secondary) at a ratio of two-to-one for mitigation-to-impact. The Project proposes approximately 2.5 acres of direct hayfield impact, and an additional 50-meters of functioning buffer within the Project's limit of disturbance, for a combined total of approximately 5.8 acres of impact, which would require 11.6 acres of mitigation credit.

No other NWH were observed or mapped within or in the vicinity of the Study Area. Based on the assessment results and proposed mitigation efforts related to grassland bird habitat, the Project will not destroy or significantly imperil NWH.

Conclusion

Based on VHB's assessment of the Project, with respect to the natural resources criteria listed above and assessed, VHB concludes that the Project will not result in undue adverse effects to the natural environment provided that the Project is constructed as proposed, mitigation efforts related to grassland bird habitat are achieved, and required permits are obtained. The Project will obtain a VWP and USACE Section 404 permit to authorize impacts to state and federal jurisdictional wetlands, associated buffers, and waters. With respect to floodways and stream criteria, a SAGP from the DEC River Management Program will be obtained and a FHARC authorization has already been issued. Lastly, resource demarcation, EPSC, and best management practices will be implemented to mitigate risks of construction run-off to adjacent waters, subject to construction stormwater permitting requirements.

Attachments

1. Natural Resources Map
2. Representative Site Photographs
3. Summary of Delineated Wetlands and Streams
4. USACE Wetland Determination Data Forms
5. Potential Rare, Threatened, and Endangered Plant Species and Significant Natural Communities Summary in the Project Region and Onsite Habitats
6. Partial Floristic Inventory
7. USFWS IPaC Official Species List

Resources and References

- Agency of Natural Resources 2024. *Rare and Uncommon Native Vascular Plants of Vermont. Fish and Wildlife Department. Effective June 10, 2024.*
- 2023. *The Vermont Wetland Rules.* Department of Environmental Conservation. Effective February 10, 2023.
- 2022a. *Vermont Water Quality Standards.* Environmental Protection Rule, Chapter 29A. Department of Environmental Conservation. Effective November 15, 2022.
- 2022b. *Endangered and Threatened Plants of Vermont.* Natural Heritage Inventory, Fish and Wildlife Department. Effective February 10, 2022.
- 2020. *303(d) List of Impaired Waters.* Effective September 17, 2020.
- 2021. *Guidance for the review and Mitigation of Impacts to Grassland Bird Habitat in Connection with Regulated Projects in Vermont.* Effective October 26, 2021.
- 2017a. *Flood Hazard Area and River Corridor Protection Procedure.* Environmental Protection Rule Chapter 29. Department of Environmental Conservation. Effective September 7, 2017.
- 2017b. *Regulatory Review Guidance for Protecting Northern Long-eared Bats and Their Habitats.* Fish and Wildlife Department. Effective February 2017.
- 2016a. *Guidance for Conducting Rare, Threatened, and Endangered Plant Inventories in Connection with Section 248 Projects.* Fish and Wildlife Department. Effective October 5, 2016.
- 2016b. *Vermont Natural Community Ranking Specifications.* Fish and Wildlife Department. Effective January 2016.
- 2005. *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers.* Effective December 9, 2005.
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Thompson, E.H., Sorenson, E.R., and R.J. Zaino. 2019. *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont*. Second Edition. Published by Vermont Fish and Wildlife Department, The Nature Conservancy, and Vermont Land Trust. Distributed by Chesea Green Publishing.

US Army Corps of Engineers (USACE). 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeastern Region (Version 2.0), Final Report*.

—2005. *Regulatory Guidance Letter: Ordinary High Water Mark Identification*. No. 05-05.

US Geological Survey (USGS). 2024. *StreamStats, Version 4.2.1*.

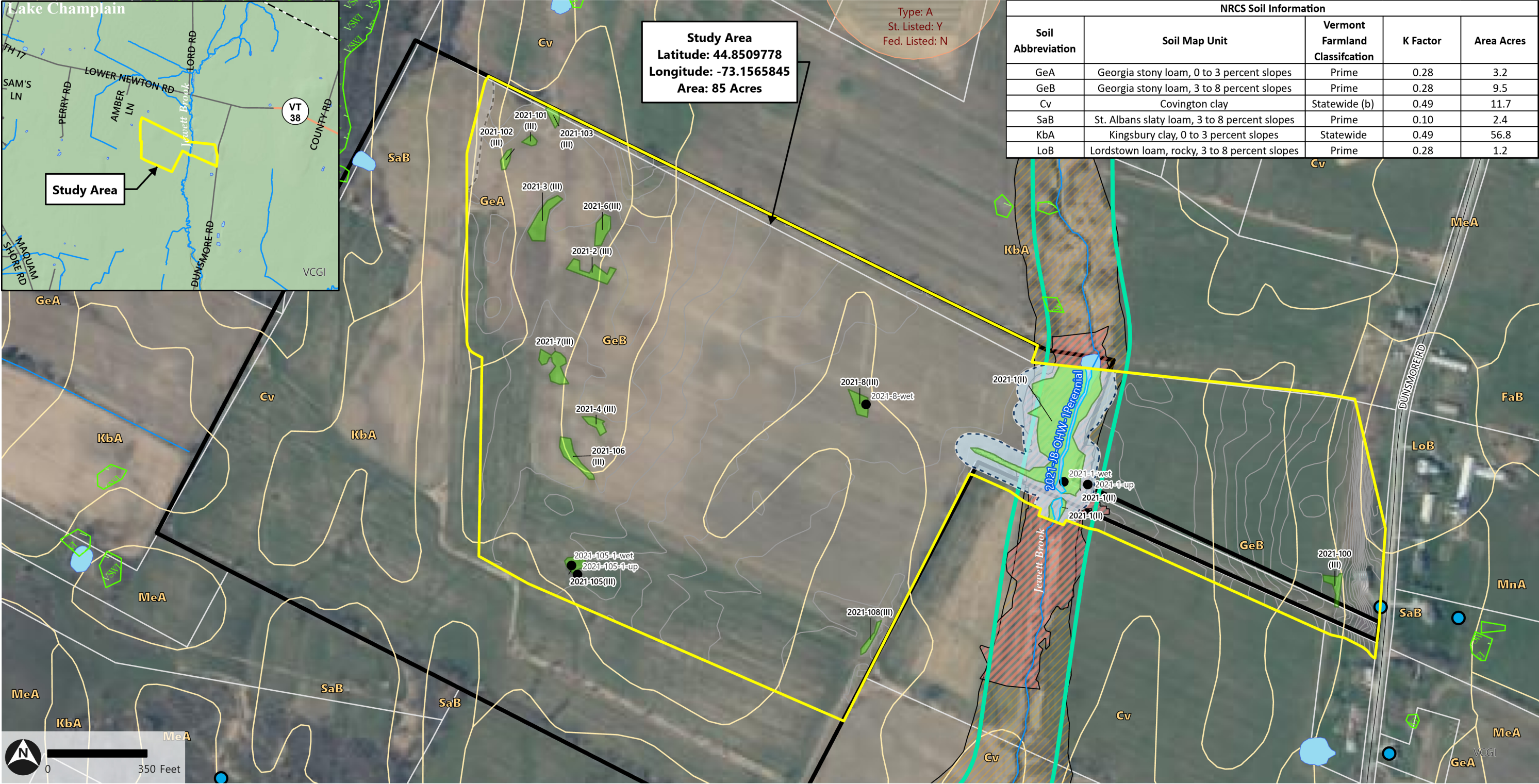
Attachment 1

Natural Resource Map

ER Dunsmore Solar | St. Albans, Vermont



DRAFT | April 01, 2025



- Study Area (VHB) (1)

Delineated Stream (VHB) (1)

USACE Data Point (VHB) (5)

Delineated Wetland (VHB) (16)

Class II Wetland Buffer (VHB) (2)

Riparian Buffer (VHB) (1)

Stream (ANR)* (6)

VSWI Wetland (ANR) (11)

Waterbody (ANR) (5)

River Corridor (ANR) (2)

Private Well (ANR) (4)

Public Water Source (ANR) (0)
- Surface Water SPA (ANR) (0)

Ground Water SPA (ANR) (0)

Base Flood Elevation (VHB) (1)

100 Year Flood Zone (VHB/FEMA)** (1)

Deer Wintering Areas (ANR) (0)

Uncommon Species (ANR) (0)

Rare, Threatened, Endangered Species (ANR) (1)

NHI Natural Communities Element Occurrences (ANR) (0)

AE/VCE Confirmed Vernal Pools (0)

NRCS Soil Boundary (VCGI) (0)

Project Parcel Limits (VHB) (1)

Interstate (VTrans) (0)
- US Highway (VTrans) (0)

State Highway (VTrans) (0)

Town Road (VTrans) (1)

Town Boundary (VCGI) (0)

Parcel Boundary (VCGI) (29)

2 ft Contour

*Stream varied slightly from State mapping or not present upon field investigation within Study Area

**VHB digitized FEMA 5002190005A, effective June 15, 1988

Sources: Background Imagery by VCGI (Collected in 2020), VCGI (Vermont Center for Geographic Information - Various Dates), ANR (Vermont Agency of Natural Resources - Various Dates), FEMA (Federal Emergency Management Agency - Various Dates), FWD (Vermont Fish and Wildlife Department - Various Dates), VTrans (Vermont Agency of Transportation), VHB (2017, 2021, 2024)

Subject parcel property area based on field survey conducted and from deeds and plans of records. The location of abutting property lines shown hereon are approximate and are shown for reference purposes only. Abutter property lines should not be relied upon for boundary determinations.

Wetlands/Waters delineated by VHB on September 26, 2017, October 11 and 17, 2017 and May 13 and October 1, 2021. Wetlands and classifications within the Study Area were reviewed and confirmed by DEC District Ecologist on October 1, 2021

Path: \\vhb.com\gis\proj\SBurlington\57818.00 Encore 500 kW Solar\gis\Project\Dunsmore\NR_Map_Map_Dunsmore.aprx (User: kmaines, Date:

Attachment 2



Encore Renewable Energy ER Dunsmore Solar

Representative Site Photographs: 2021

PROJECT NUMBER

57818.02

Saint Albans Town, Vermont

Encore Renewable Energy
110 Main Street Suite 2E
Burlington, Vermont 05401



NO. 1 / 5.13.2021

DESCRIPTION

Representative view of Class II Wetland 2021-1. View is looking north to northwest.



NO. 2 / 5.13.2021

DESCRIPTION

Representative view of Class III Wetland 2021-2. View is looking south.



NO. 3 / 5.13.2021

DESCRIPTION

Representative view of Class III Wetland 2021-100. View is looking south.



NO. 4 / 5.13.2021

DESCRIPTION

Representative view of Class III Wetland 2021-101. View is looking south.



NO. 5 / 5.13.2021

DESCRIPTION

Representative view of Class III Wetland 2021-103. View is looking north.



NO. 6 / 5.13.2021

DESCRIPTION

Representative view of Class III Wetland, 2021-105.



NO. 7 / 5.13.2021

DESCRIPTION

Representative view of Class III
Wetland, 2021-106.



NO. 8 / 5.13.2021

DESCRIPTION

Representative view of Class III
Wetland 2021-108.



NO. 9 / 5.13.2021

DESCRIPTION

Representative view of Class III Wetland, 2021-111; view is looking northwest.



NO. 10 / 5.13.2021

DESCRIPTION

Representative view of existing access road, in east portion of Study Area.



NO. 11 / 5.13.2021

DESCRIPTION

Representative view of actively managed agricultural field.



NO. 12 / 5.13.2021

DESCRIPTION

Representative view of existing access road, in east portion of Study Area.



NO. 13 / 5.13.2021

DESCRIPTION

Representative view of existing access road, in east portion of Study Area.

Attachment 3

Summary of Delineated Wetlands

Project: ER Dunsmore Solar

Client: Encore Renewable Energy

Location: Saint Albans, VT

Prepared By: VHB (K. Maines)

Delineation Date(s): September 26, October 11, 17; 2017 and May 13, October 1; 2021



VHB Delineated Wetlands												
Wetland ID	Delineated Area (Square Feet) ¹	Cowardin Classification ²	Hydrology Indicator	Hydric Soil Indicator	Vermont Wetland Rules Classification						Typical Vegetation	Comments
					Contiguous to a VSWI- mapped Wetland?	Riparian Wetland Contiguous to Stream Channel? (Flow Regime) ³	VWR Section 4.6 Categorical Class II Wetlands ⁴	VWR Section 5 Functional Criteria Presence / Significance		VHB-Proposed VWR Classification ⁶		
								Type ⁵	VHB-Proposed Significant?			
2021-1	76,520	PEM	Sediment Deposits(B2), Drift Deposits(B3), Oxidized Rhizospheres on Living Roots(C3), Water-Stained Leaves(B9), Geomorphic Position(D2), Microtopographic Relief (D4)	Depleted Matrix (F3)	No	Yes (Perennial)	a,b	5.1 (H), 5.2 (H), 5.3(P), 5.4(P), 5.10 (P)	Yes	II	<i>Phalaris arundinacea, Urtica dioica</i>	Jewett Brook riparian wetland with evidence of old beaver impoundment
2021-2	5,552	PEM	Surface Water (A1)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	-	Field was plowed during survey period.
2021-3	7,213	PEM	Surface Water (A1)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	-	Field was plowed during survey period.
2021-4	7,213	PEM	Surface Water (A1)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	-	Field was plowed during survey period.
2021-6	4,112	PEM	Hight Water Table (A2), Geomorphic Position(D2)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	-	Field was plowed during survey period.
2021-7	6,159	PEM	Surface Water (A1), Saturation Visible on Aerial(C9)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	<i>Phalaris arundinacea</i>	Field was plowed during survey period.
2021-8	6,159	PEM	Oxidized Rhizospheres on Living Roots(C3), Surface Water (A1)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	-	Field was plowed during survey period.
2021-100	3,213	PEM	Surface Water (A1), Oxidized Rhizospheres on Living Roots(C3), Saturation Visible on Aerial(C9)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	<i>Calamagrosti canadensis, Phalaris arundinacea</i>	Compaction from construction and seepage from below rock wall.
2021-101	1,146	PEM	Surface Water(A1), High Water Table (A2), Oxidized Rhizospheres on Living Roots(C3)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	<i>Phalaris arundinacea</i>	Upland land use is row crops (corn)
2021-102	1,603	PEM	Surface Water(A1), High Water Table (A2), Oxidized Rhizospheres on Living Roots(C3)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	<i>Phalaris arundinacea</i>	Upland land use is row crops (corn)
2021-103	2,101	PEM	Surface Water(A1), High Water Table (A2), Oxidized Rhizospheres on Living Roots(C3)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	<i>Phalaris arundinacea</i>	Upland land use is row crops (corn)
2021-105	2,934	PEM	Saturation (A3), Oxidized Rhizospheres on Living Roots(C3), Geomorphic Position (D2)	Depleted Matrix (F3)	No	No	-	5.1 (L), 5.2 (L)	No	III	<i>Phalaris arundinacea, Taraxacum officinale, Phleum pratense</i>	Feature in low wet depression in agriculturally managed field.
2021-106	5,238	PEM	Surface Water(A1), High Water Table (A2), Oxidized Rhizospheres on Living Roots(C3)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	<i>Phalaris arundinacea</i>	Upland land use is row crops (corn)
2021-108	1,773	PEM	Saturation Visible on Aerial(C9)	Redox Dark Surface (F6)	No	No	-	5.1 (L), 5.2 (L)	No	III	<i>Taraxacum officinale</i>	Feature is in an isolated depression / wet swale
2021-200	28,785	PEM	Saturation Visible on Aerial(C9), Oxidized Rhizospheres on Living Roots(C3)	Redox Dark Surface (F6)	No	No	a	5.1 (P), 5.2 (P)	Yes	II	<i>Zea mays</i>	Feature in agriculturally managed field.

¹All wetlands field delineated per the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and North Central Region. U.S. Army Corps of Engineers. 2011; Delineated Wetlands that extend outside the Study Area are denoted with **bold** text.

²Classification follows Cowardin, L.M., Carter, V., Golet, F.C. and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitat of the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31. 103pp.

³Wetland contiguity to streams as defined in the Vermont ANR (2023) *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers* and confirmed if a delineated perennial or intermittent stream channel inflows, through flows, and outflows from a delineated wetland (ephemeral channels not typically being subject to ANR Riparian Buffer Guidance). The vegetative assemblage or natural community type is used when determining riparian vegetation function. Flow regime determined based on qualitative observations of instream hydrology indicators and geomorphic characteristic and are subject to professional judgment (P=perennial, I=intermittent, E=ephemeral).

⁴Alpha-numeric codes correspond with Section 4.6 Categorical Class II Wetlands of the 2023 Vermont Wetland Rules.

⁵VWR Section 5: Functional Criteria for Evaluating a Wetland's Significance: 5.1=Water Storage for Flood Water and Storm Runoff, 5.2=Surface and Groundwater Protection, 5.3=Fish Habitat, 5.4=Wildlife Habitat, 5.5=Exemplary Wetland Natural Community, 5.6=Rare, Threatened or Endangered Species Habitat, 5.7=Education and Research in Natural Sciences, 5.8=Recreational Value and Economic Benefits, 5.9=Open Space and Aesthetics, 5.10=Erosion Control Through Binding and Stabilizing the Soil. (P)= Present, (H)=High, (L)=Low; Correspond to observed level of functionality.

⁶VHB-Proposed VWR Classification is based on review and application of the VWR, particularly VHB's interpretation of Section 4.6 and is subject to final determinations by the ANR-DEC.

Summary of Delineated Streams

Project: ER Dunsmore Solar

Client: Encore Renewable Energy

Location: Saint Albans, VT

Prepared By: VHB (K. Maines, C. Peterson)

Delineation Date(s): September 26, October 11, 17; 2017 and May 13, October 1; 2021

VHB Delineated Streams												
Stream ID	Stream Name	Associated Wetlands	Average Ordinary High Water (OHW) Width (Feet) ¹	Dominant Substrate	Water Depth (Inches)	Bank Height (Feet)	Flow Regime (Ephemeral, Intermittent, or Perennial) ²	ANR-Mapped River Corridor? (Yes/No)	VHB-Proposed River Corridor (Yes/No)	Watershed Size (Square Miles) ³	VWQS Classification (2014) ⁴	Comments
2021-JB-OHW-1	Jewett Brook	2021-1	3.0	Organic	4	4.0	Perennial	Yes	No	5.2	B	-

¹ U.S. Army Corps of Engineers. 2005. *Regulatory Guidance Letter. Subject: Ordinary High Water Mark Identification. No. 05-05.*

² Stream flow regime determined based on qualitative observations of in stream hydrology indicators and geomorphic characteristic and are subject to professional judgment.

³ Watershed size determined from Vermont Agency of Natural Resources ("ANR") Stream Alteration Regulatory Program mapping or U.S. Geological Survey (USGS) StreamStats software application

⁴ From ANR. 2022. Vermont Water Quality Standards. 303(d) Assessment of the Condition of Vermont Waters. Priority Listing of Vermont Waters. Vermont Department of Environmental Conservation.

Attachment 4

Project Site:	ER Dunsmore		City/Country:	Saint Albans Town		Samp. Date:	5/13/2021	
Applicant/Owner:	Encore Renewable Energy		State:	Vermont		Sampling Point:	2021-1-1up	
Investigator(s):	VHB (LK)		Section, Township, Range: -					
Landform (hillslope, terrace, etc.):	terrace		Local relief (concave, convex, none):		none		Slope (%):	0-3%
Subregion (LRR or MLRA):	LRR R		Lat:	44.849575		Long:	-73.15081	
Soil Map Unit:	Kingsbury clay						Datum:	NAD 83
							NWI Class:	UPL
Are climatic/hydrologic conditions on the site typical for this time of year?			Yes		(If no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology significantly disturbed?			Yes		Normal Circumstances? Yes			
Are Vegetation, Soil, or Hydrology naturally problematic?			No		(If needed, explain any answers in Remarks.)			

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<u>NO</u>	Is This Sample Area Within a Wetland? <u>NO</u>
Hydric Soil Present?	<u>YES</u>	
Wetland Hydrology Present?	<u>NO</u>	
Remarks:		
Above stream swale		

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)		☐ Surface Soil Cracks (B6)		
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)		☐ Drainage Patterns (B10)		
☐ Saturation (A3)	☐ Marl Deposits (B13)		☐ Moss Trim Lines (B16)		
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)		☐ Dry-Season Water Table (C2)		
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)		☐ Crayfish Burrows (C8)		
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)		☐ Saturation Visible on Aerial (C9)		
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)		☐ Stunted or Stressed Plants (D1)		
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		☐ Geomorphic Position (D2)		
☐ Inundation Visible on Aerial (B7)	☐ Other (Explain in Remarks)		☐ Shallow Aquitard (D3)		
☐ Sparsely Vegetated Concave Surface (B8)			☐ Microtopographic Relief (D4)		
			☐ FAC-Neutral Test (D5)		
Field Observations: Surface Water Present? ☐ Depth (inches): Water Table Present? ☐ Depth (inches): Saturation Present? ☐ Depth (inches):			Wetland Hydrology Present? ☐ NO		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: PDSI -0.70 (Near Normal) for week ending 5/15/2021, 0.15" of rain in 5 days prior in Burlington, VT (NWS 2021)					
Remarks: No hydrology indicators observed					

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth		Matrix		Redox Features				
(in)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 4/2	100					SILT LOAM	
6-14	10YR 5/2	95	10YR 5/4	5			SILT LOAM	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.						² Location: PL=Pore Lining, M=Matrix.		
Hydric Soil Indicators:						Indicators for Problematic Hydric Soils ³ :		
	Histosol (A1)		Polyvalue Below Surface (S8) (LRR R,				2 cm Muck (A10) (LRR K, L, MLRA 149B)	
	Histic Epipedon (A2)		MLRA 149B)				Coast Prairie Redox (A16) (LRR K, L, R)	
	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 (S9) (LRR K, L, M)	
	Stratified Layers (A5)		Loamy Gleyed Matrix (F2)				Polyvalue Below Surface (S8) (LRR K, L)	
	Depleted Below Dark Surface (A11)	X	Depleted Matrix (F3)				Thin Dark Surface (S9) (LRR K, L)	
	Thick Dark Surface (A12)		Redox Dark Surface (F6)				Iron-Manganese Masses (F12) (LRR K, L, R)	
	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)				Piedmont Floodplain Soils (F19) (MLRA 149B)	
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
	Sandy Redox (S5)						Red Parent Material (F21)	
	Stripped Matrix (S6)						Very Shallow Dark Surface (TF12)	
	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):								
Type: _____						Hydric Soil Present? <u>YES</u>		
Depth (inches): _____								
Remarks:								

Tree Stratum	(Plot size: 30' RAD)	Absolute % Cover	Dom. Sp?	Indicator Status	
1.					Dominance Test Worksheet: # Dominants OBL, FACW, FAC: _____ (A) # Dominants across all strata: 2 (B) % Dominants OBL, FACW, FAC: _____ (A/B)
2.					
3.					
4.					
5.					
6.					
7.					
		= Total Cover			Prevalence Index Worksheet: Total % Cover of: _____ Multiply By: _____ OBL _____ x 1 = _____ FACW _____ x 2 = _____ FAC _____ x 3 = _____ FACU 93 x 4 = 372 UPL 35 x 5 = 175 Sum: 128 (A) 547 (B) Prevalence Index = B/A = 4.27
Sapling Stratum (Plot size: 15' RAD)					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
		= Total Cover			Hydrophytic Vegetation Indicators: _____ Dominance Test is > 50% _____ Prevalence Index is <= 3.0 _____ Problematic Hydrophytic Vegetation ¹ (explain) _____ Rapid Test for Hydrophytic Vegetation _____ Morphological Adaptations ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Shrub Stratum (Plot size: 15' RAD)					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
		= Total Cover			Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height. Woody vine - All woody vines, regardless of height.
Herb Stratum (Plot size: 5' RAD)					
1.	Trifolium pratense	63	X	FACU	
2.	Vicia cracca L.	35	X	UPL	
3.	Poa pratensis	15		FACU	
4.	Taraxacum officinale	15		FACU	
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
		128	= Total Cover		
Woody Vines (Plot size: 15' RAD)					
1.					
2.					
3.					
4.					
5.					
		= Total Cover			Hydrophytic Vegetation Present? NO

Remarks: (If observed, list morphological adaptations below).



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

2021-1-wet

Project Site:	ER Dunsmore	City/County:	Saint Albans Town	Samp. Date:	5/13/2021
Applicant/Owner:	Encore Renewable Energy	State:	Vermont	Sampling Point:	2021-1-wet
Investigator(s):	VHB (LK)	Section, Township, Range:	-		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none):	none	Slope (%):	0-3%
Subregion (LRR or MLRA):	LRR R	Lat:	44.849631	Long:	-73.1511
Soil Map Unit:	Kingsbury clay	Datum:	NAD 83	NWI Class:	PEM
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly disturbed? Yes Normal Circumstances? Yes					
Are Vegetation, Soil, or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)					

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	YES	Is This Sample Area Within a Wetland? YES
Hydric Soil Present?	YES	
Wetland Hydrology Present?	YES	
Remarks: In stream swale		

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
☐ Surface Water (A1)	☒ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ Marl Deposits (B13)	☐ Moss Trim Lines (B16)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)	
☒ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)	
☒ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial (C9)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☒ Stunted or Stressed Plants (D1)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial (B7)	☐ Other (Explain in Remarks)	☒ Shallow Aquitard (D3)	
☐ Sparsely Vegetated Concave Surface (B8)		☒ Microtopographic Relief (D4)	
		☐ FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Depth (inches):	Wetland Hydrology Present? YES	
Water Table Present?	Depth (inches):		
Saturation Present?	Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: PDSI -0.70 (Near Normal) for week ending 5/15/2021, 0.15" of rain in 5 days prior in Burlington, VT (NWS 2021)			
Remarks:			

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-20	10YR 4/2	90	10 YR 3/6	10	-	PL	SILT LOAM	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.								
² Location: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators:				Indicators for Problematic Hydric Soils ³ :				
☐ Histic Epipedon (A2)	☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)			☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)				
☐ Black Histic (A3)	☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)			☐ Coast Prairie Redox (A16) (LRR K, L, R)				
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR K, L)			☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)				
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)			☐ Dark Surface (S9) (LRR K, L, M)				
☐ Depleted Below Dark Surface (A11)	☒ Depleted Matrix (F3)			☐ Polyvalue Below Surface (S8) (LRR K, L)				
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)			☐ Thin Dark Surface (S9) (LRR K, L)				
☐ Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)			☐ Iron-Manganese Masses (F12) (LRR K, L, R)				
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)			☐ Piedmont Floodplain Soils (F19) (MLRA 149B)				
☐ Sandy Redox (S5)				☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
☐ Stripped Matrix (S6)				☐ Red Parent Material (F21)				
☐ Dark Surface (S7) (LRR R, MLRA 149B)				☐ 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):				Hydric Soil Present? YES				
Type: _____								
Depth (inches): _____								
Remarks:								

Northcentral and Northeast Region - Version 2.0
(Adapted By: Douglas A. DeBerry, PhD, PWS, PWD)



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

2021-8-1wet

Project Site:	ER Dunsmore		City/County:	Saint Albans Town		Samp. Date:	5/13/2021	
Applicant/Owner:	Encore Renewable Energy		State:	Vermont		Sampling Point:	2021-8-1wet	
Investigator(s):	VHB (MCJ)		Section, Township, Range:	-				
Landform (hillslope, terrace, etc.):	terrace		Local relief (concave, convex, none):	none		Slope (%):	NA	
Subregion (LRR or MLRA):	LRR R		Lat:	44.850346		Long:	-73.153846	
Soil Map Unit:	Convington clay		Datum:	NAD 83		NWI Class:	PEM	
Are climatic/hydrologic conditions on the site typical for this time of year? <u>Yes</u> (If no, explain in Remarks.)								
Are Vegetation, Soil, or Hydrology significantly disturbed? <u>Yes</u> Normal Circumstances? <u>Yes</u>								
Are Vegetation, Soil, or Hydrology naturally problematic? <u>No</u> (If needed, explain any answers in Remarks.)								

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<u>NO</u>	Is This Sample Area Within a Wetland? <u>YES</u>
Hydric Soil Present?	<u>YES</u>	
Wetland Hydrology Present?	<u>YES</u>	
Remarks: In bare agricultural field, just soil. No vegetation.		

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ Marl Deposits (B13)	☐ Moss Trim Lines (B16)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)	
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial (C9)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Stunted or Stressed Plants (D1)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial (B7)	☐ Other (Explain in Remarks)	☐ Shallow Aquitard (D3)	
☒ Sparsely Vegetated Concave Surface (B8)		☐ Microtopographic Relief (D4)	
		☐ FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present? <u> </u>	Depth (inches): <u> </u>	Wetland Hydrology Present? <u>YES</u>	
Water Table Present? <u> </u>	Depth (inches): <u> </u>		
Saturation Present? <u> </u>	Depth (inches): <u> </u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: PDSI -0.70 (Near Normal) for week ending 5/15/2021, 0.15" of rain in 5 days prior in Burlington, VT (NWS 2021)			
Remarks:			

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10 YR 4/1	85	10 YR 4/6	15	CM	PL	CLAY	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.								
² Location: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :						
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)		☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)					
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		☐ Coast Prairie Redox (A16) (LRR K, L, R)					
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (LRR K, L)		☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)					
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)		☐ Dark Surface (S9) (LRR K, L, M)					
☐ Stratified Layers (A5)	☒ Depleted Matrix (F3)		☐ Polyvalue Below Surface (S8) (LRR K, L)					
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)		☐ Thin Dark Surface (S9) (LRR K, L)					
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)		☐ Iron-Manganese Masses (F12) (LRR K, L, R)					
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)		☐ Piedmont Floodplain Soils (F19) (MLRA 149B)					
☐ Sandy Gleyed Matrix (S4)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.							☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
☐ Sandy Redox (S5)								☐ Red Parent Material (F21)
☐ Stripped Matrix (S6)								☐ Very Shallow Dark Surface (TF12)
☐ Dark Surface (S7) (LRR R, MLRA 149B)								☐ Other (Explain in Remarks)
Restrictive Layer (if observed):		Hydric Soil Present? <u>YES</u>						
Type: <u> </u>								
Depth (inches): <u> </u>								
Remarks:								

Tree Stratum	(Plot size: 30' RAD)	Absolute % Cover	Dom. Sp?	Indicator Status	
1.					Dominance Test Worksheet: # Dominants OBL, FACW, FAC: _____ (A) # Dominants across all strata: _____ (B) % Dominants OBL, FACW, FAC: _____ (A/B)
2.					
3.					
4.					
5.					
6.					
7.					
		_____ = Total Cover			Prevalence Index Worksheet: Total % Cover of: _____ Multiply By: _____ OBL _____ x 1 = _____ FACW _____ x 2 = _____ FAC _____ x 3 = _____ FACU _____ x 4 = _____ UPL _____ x 5 = _____ Sum: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling Stratum (Plot size: 15' RAD)					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
		_____ = Total Cover			Hydrophytic Vegetation Indicators: _____ Dominance Test is > 50% _____ Prevalence Index is <= 3.0 _____ Problematic Hydrophytic Vegetation ¹ (explain) _____ Rapid Test for Hydrophytic Vegetation _____ Morphological Adaptations ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Shrub Stratum (Plot size: 15' RAD)					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
		_____ = Total Cover			Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height. Woody vine - All woody vines, regardless of height.
Herb Stratum (Plot size: 5' RAD)					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
		_____ = Total Cover			Hydrophytic Vegetation Present? NO
Woody Vines (Plot size: 15' RAD)					
1.					
2.					
3.					
4.					
5.					
		_____ = Total Cover			

Remarks: (If observed, list morphological adaptations below).

No vegetation present, sparsely vegetated concave surface.



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

2021-105-up

Project Site:	ER Dunsmore	City/County:	Saint Albans Town	Samp. Date:	5/13/2021
Applicant/Owner:	Encore Renewable Energy	State:	Vermont	Sampling Point:	2021-105-up
Investigator(s):	VHB (LK)	Section, Township, Range:	-		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none):	none	Slope (%):	0-3%
Subregion (LRR or MLRA):	LRR R	Lat:	44.848681	Long:	-73.157728
Soil Map Unit:	Kingsbury clay	Datum:	NAD 83	NWI Class:	UPL
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly disturbed? No Normal Circumstances? Yes					
Are Vegetation, Soil, or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)					

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	NO	Is This Sample Area Within a Wetland?	NO
Hydric Soil Present?	YES		
Wetland Hydrology Present?	YES		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ Marl Deposits (B13)	☐ Moss Trim Lines (B16)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)	
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial (C9)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Stunted or Stressed Plants (D1)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial (B7)	☐ Other (Explain in Remarks)	☐ Shallow Aquitard (D3)	
☐ Sparsely Vegetated Concave Surface (B8)		☐ Microtopographic Relief (D4)	
		☐ FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Depth (inches):	Wetland Hydrology Present?	YES
Water Table Present?	Depth (inches):		
Saturation Present?	Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
PDSI -0.70 (Near Normal) for week ending 5/15/2021, 0.15" of rain in 5 days prior in Burlington, VT (NWS 2021)			
Remarks:			

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth	Matrix		Redox Features				
(in)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture
0-12	10 YR 4/1	95	10 YR 3/6	5			CLAY
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.						² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators:				Indicators for Problematic Hydric Soils ³ :			
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)			☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)			☐ Coast Prairie Redox (A16) (LRR K, L, R)			
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (LRR K, L)			☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)			☐ Dark Surface (S9) (LRR K, L, M)			
☐ Stratified Layers (A5)	☒ Depleted Matrix (F3)			☐ Polyvalue Below Surface (S8) (LRR K, L)			
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)			☐ Thin Dark Surface (S9) (LRR K, L)			
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)			☐ Iron-Manganese Masses (F12) (LRR K, L, R)			
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)			☐ Piedmont Floodplain Soils (F19) (MLRA 149B)			
☐ Sandy Gleyed Matrix (S4)				☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
☐ Sandy Redox (S5)				☐ Red Parent Material (F21)			
☐ Stripped Matrix (S6)				☐ Very Shallow Dark Surface (TF12)			
☐ 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):				Hydric Soil Present?			
Type: _____				YES			
Depth (inches): _____							
Remarks:							

Northcentral and Northeast Region - Version 2.0
(Adapted By: Douglas A. DeBerry, PhD, PWS, PWD)



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

2021-105-wet

Project Site:	ER Dunsmore	City/County:	Saint Albans Town	Samp. Date:	5/13/2021
Applicant/Owner:	Encore Renewable Energy	State:	Vermont	Sampling Point:	2021-105-wet
Investigator(s):	VHB (MCJ)	Section, Township, Range:	-		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none):	concave	Slope (%):	0-3%
Subregion (LRR or MLRA):	LRR R	Lat:	44.848776	Long:	73.157819
Soil Map Unit:	Kingsbury clay	Datum:	NAD 83	NWI Class:	PEM
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly disturbed? Yes Normal Circumstances? Yes					
Are Vegetation, Soil, or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)					

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	YES	Is This Sample Area Within a Wetland?	YES
Hydric Soil Present?	YES		
Wetland Hydrology Present?	YES		
Remarks: Low wet depression in agriculutral field			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☒ Saturation (A3)	☐ Marl Deposits (B13)	☐ Moss Trim Lines (B16)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)	
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial (C9)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Stunted or Stressed Plants (D1)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial (B7)	☐ Other (Explain in Remarks)	☐ Shallow Aquitard (D3)	
☐ Sparsely Vegetated Concave Surface (B8)		☐ Microtopographic Relief (D4)	
		☐ FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Depth (inches):	Wetland Hydrology Present?	YES
Water Table Present?	Depth (inches):		
Saturation Present?	Depth (inches): surface		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: PDSI -0.70 (Near Normal) for week ending 5/15/2021, 0.15" of rain in 5 days prior in Burlington, VT (NWS 2021)			
Remarks:			

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth	Matrix		Redox Features			Texture	Remarks
(in)	Color (moist)	%	Color (moist)	%	Type ¹		
0-16	10 YR 4/1	60	10 YR 3/6	40	C	CLAY	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.						² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators:						Indicators for Problematic Hydric Soils ³ :	
☐ Histosol (A1)			☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)			☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
☐ Histic Epipedon (A2)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)			☐ Coast Prairie Redox (A16) (LRR K, L, R)	
☐ Black Histic (A3)			☐ Loamy Mucky Mineral (F1) (LRR K, L)			☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
☐ Hydrogen Sulfide (A4)			☐ Loamy Gleyed Matrix (F2)			☐ Dark Surface (S9) (LRR K, L, M)	
☐ Stratified Layers (A5)			☒ Depleted Matrix (F3)			☐ Polyvalue Below Surface (S8) (LRR K, L)	
☐ Depleted Below Dark Surface (A11)			☐ Redox Dark Surface (F6)			☐ Thin Dark Surface (S9) (LRR K, L)	
☐ Thick Dark Surface (A12)			☐ Depleted Dark Surface (F7)			☐ Iron-Manganese Masses (F12) (LRR K, L, R)	
☐ Sandy Mucky Mineral (S1)			☐ Redox Depressions (F8)			☐ Piedmont Floodplain Soils (F19) (MLRA 149B)	
☐ Sandy Gleyed Matrix (S4)						☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
☐ Sandy Redox (S5)						☐ Red Parent Material (F21)	
☐ Stripped Matrix (S6)						☐ Very Shallow Dark Surface (TF12)	
☐ 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):						Hydric Soil Present?	
Type: _____						YES	
Depth (inches): _____							
Remarks:							

Tree Stratum	(Plot size: 30' RAD)	Absolute % Cover	Dom. Sp?	Indicator Status	
1.					Dominance Test Worksheet: # Dominants OBL, FACW, FAC: 1 (A) # Dominants across all strata: 1 (B) % Dominants OBL, FACW, FAC: 100% (A/B)
2.					
3.					
4.					
5.					
6.					
7.					
		= Total Cover			Prevalence Index Worksheet: Total % Cover of: OBL 85 x 1 = 85 FACW 85 x 2 = 170 FAC 6 x 3 = 18 FACU 6 x 4 = 24 UPL 6 x 5 = 30 Sum: 91 (A) 194 (B) Prevalence Index = B/A = 2.13
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			Hydrophytic Vegetation Indicators: ☒ Dominance Test is > 50% ☒ Prevalence Index is <= 3.0 ☐ Problematic Hydrophytic Vegetation ¹ (explain) ☐ Rapid Test for Hydrophytic Vegetation ☐ Morphological Adaptations ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height. Woody vine - All woody vines, regardless of height.
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			Hydrophytic Vegetation Present? YES
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
		= Total Cover			
Remarks: (If observed, list morphological adaptations below).					

Attachment 5

Vermont Potential Rare, Threatened, and Endangered Species and Natural Communities in the Project Region and Onsite Habitats Summary

Client: Encore Renewable Energy

Project: Dunsmore Solar Project

Prepared By: VHB (W. Durkin) December 10, 2024

	Species	Common Name	Type	State Rank	Global Rank	VT Status	Federal Status	EO last Observed	Habitat Description ¹	Occurrence Description ²	Optimal Survey Time ³	EO Mapped within Study Area (yes/ no)	Potential for Habitat to Occur Onsite?	Survey Recommended?	
														(yes/ no)	Comments
Element Occurrence - 1 mile Radius	<i>Ixobrychus exilis</i>	Least Bittern	Animal	S2B	G4G5	-	-	2015	Nest in fresh and salt marshes	There is a pull-off on the north side of Route 36 where a canoe or small boat may be launched. The marsh extends north from the road. Only the east half is WMA. Access is primarily by boat. Specific locations of this species not reported.	Summer	No	No	No	Not a state or federally protected species, no potential habitat on site.
	<i>Sturnella magna</i>	Eastern Meadowlark	Animal	S2B	G5	T	-	2019	Occur in pastures, hayfields, agricultural fields, airports, and other grassy areas.	St. Albans, hayfield/solar array project area located on the south side of Lower Newton Road	Spring-Summer	No	Yes	No	The Project has proposes to impact approximately 2.5 acres of potential grassland bird habitat. To mitigate for the direct and secondary impacts, the Project proposes to remit payment to the Vermont Audubon Bobolink Project.

¹Potential sources for habitat description listed below
Animal Diversity Web. Retrieved from <https://animaldiversity.org>.
Cornell Lab of Ornithology. Retrieved from <https://www.allaboutbirds.org>
Langdon, Richard W., Ferguson, Mark T. and Cox, Kenneth M. 2006. *Fishes of Vermont*. Vermont Department of Fish and Wildlife.
Thompson, Elizabeth H. and Sorenson, Eric R. 2019. *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont*. Vermont Department of Fish and Wildlife and The Nature Conservancy.
Vermont Fish and Wildlife. Retrieved from <https://vtfishandwildlife.com/fish/fishing-regulations/using-baitfish-in-vermont/approved-fish-species-for-bait>
Vermont Natural Resources Atlas, Accessed January 2024. Element Occurrence Reports

²Sources for occurrence description listed below:
Vermont Natural Heritage Inventory - Vermont Fish & Wildlife Department - Element Occurrence Reports.

³Flowering Time: Spring (April-May), Summer (June-July), Late Summer (August-September), Fall (October-November)

Attachment 6

Partial Floristic Inventory

Client: Encore Renewable Energy

Project: ER Dunsmore Solar

Survey Date(s): May 13, 2021 and June 23, 2023 (M. Jackman and K. Maines)

Prepared by: VHB; December 18, 2024



Scientific Name ¹	Common Name	Family	VT Rarity Rank ^{2,3}	Non-Native Invasive Species ⁴
Acer negundo L.	boxelder	Aceraceae	-	-
Arctium lappa L.	greater burdock	Asteraceae	-	-
Artemisia vulgaris L.	common wormwood	Asteraceae	-	-
Asclepias syriaca L.	common milkweed	Asclepiadaceae	-	-
Bromus inermis Leyss.	smooth brome	Poaceae	-	-
Carex crinita Lam.	fringed sedge	Cyperaceae	-	-
Carex scoparia Schkuhr ex Willd.	broom sedge	Cyperaceae	-	-
Carex vesicaria L.	blister sedge	Cyperaceae	-	-
Carex vulpinoidea Michx.	fox sedge	Cyperaceae	-	-
Cirsium arvense (L.) Scop.	Canada thistle	Asteraceae	-	-
Cichorium intybus L.	chicory	Asteraceae	-	-
Cornus sericea L.	redosier dogwood	Cornaceae	-	-
Daucus carota L.	Queen Anne's lace	Apiaceae	-	-
Equisetum arvense L.	field horsetail	Equisetaceae	-	-
Erigeron annuus (L.) Pers.	eastern daisy fleabane	Asteraceae	-	-
Galium mollugo L.	false baby's breath	Rubiaceae	-	-
Geum aleppicum Jacq.	yellow avens	Rosaceae	-	-
Impatiens capensis Meerb.	jewelweed	Balsaminaceae	-	-
Leonurus cardiaca L.	common motherwort	Lamiaceae	-	-
Lolium L.	ryegrass	Poaceae	-	-
Lonicera morrowii A. Gray	Morrow's honeysuckle	Caprifoliaceae	-	B
Lysimachia nummularia L.	creeping jenny	Primulaceae	-	-
Matricaria discoidea DC.	disc mayweed	Asteraceae	-	-
Medicago lupulina L.	black medick	Fabaceae	-	-
Medicago sativa L.	alfalfa	Fabaceae	-	-
Onoclea sensibilis L.	sensitive fern	Dryopteridaceae	-	-
Oxalis stricta L.	common yellow oxalis	Oxalidaceae	-	-
Parthenocissus quinquefolia (L.) Planch.	Virginia creeper	Vitaceae	-	-
Phalaris arundinacea L.	reed canarygrass	Poaceae	-	WL
Poa pratensis L.	Kentucky bluegrass	Poaceae	-	-
Prunus virginiana L.	chokecherry	Rosaceae	-	-
Pyrus communis L.	common pear	Rosaceae	-	-
Ranunculus abortivus L.	littleleaf buttercup	Ranunculaceae	-	-
Rhamnus cathartica L.	common buckthorn	Rhamnaceae	-	B
Rhus typhina L.	staghorn sumac	Anacardiaceae	-	-
Salix L.	willow	Salicaceae	-	-
Schedonorus arundinaceus (Schreb.) Dumort., nom. cons.	tall fescue	Poaceae	-	-
Solidago canadensis L.	Canada goldenrod	Asteraceae	-	-
Solidago gigantea Aiton	giant goldenrod	Asteraceae	-	-
Stellaria media (L.) Vill.	common chickweed	Caryophyllaceae	-	-
Taraxacum officinale F.H. Wigg.	common dandelion	Asteraceae	-	-
Trifolium pratense L.	red clover	Fabaceae	-	-
Trifolium repens L.	white clover	Fabaceae	-	-
Typha latifolia L.	broadleaf cattail	Typhaceae	-	-
Urtica dioica L.	stinging nettle	Urticaceae	-	-
Vicia cracca L.	bird vetch	Fabaceae	-	-
Zea mays L.	corn	Poaceae	-	-

* All plant species were found in the field community type.

¹ Nomenclature follows USDA-NRCS PLANTS database (plants.usda.gov/) (2023).

² The Vermont Rarity Rank from the "Rare and Uncommon Native Vascular Plants of Vermont - Vermont Natural Heritage Inventory - Vermont Fish & Wildlife Department", version dated June 10, 2024.

³ The Vermont Rarity Rank from the "Endangered and Threatened Plants of Vermont - Vermont Natural Heritage Inventory - Vermont Fish & Wildlife Department", version dated February 10, 2022.

⁴ **Class B Noxious Weeds Species (B)** from: Quarantine #3- Noxious Weeds (2012).

Watch List Species (WL) from: Vermont Invasive Exotic Plant Committee. 2017. Quarantine and Watch List Update.

Attachment 7



United States Department of the Interior

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



In Reply Refer To:
Project Code: 2025-0076669
Project Name: ER Dunsmore, LLC

04/01/2025 09:27:02 UTC

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

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

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

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

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

Endangered Species Act Project Review

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

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

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

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

Northern Long-eared Bat - (Updated 4/12/2023) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act

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

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

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

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

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

Migratory Birds

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

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

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

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

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

PROJECT SUMMARY

Project Code: 2025-0076669

Project Name: ER Dunsmore, LLC

Project Type: Power Gen - Solar

Project Description: A planned a 5-megawatt solar project sited on approximately 30 acres of land off Dunsmore Road in Saint Albans Town, Vermont.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.85025005,-73.15401401233471,14z>



Counties: Franklin County, Vermont

ENDANGERED SPECIES ACT SPECIES

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Allison Slaney
Address: 40 IDX Drive Building 100 Suite 200
City: South Burlington, VT
State: VT
Zip: 05403
Email: alanclos@vhb.com
Phone: 8024976198

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers