



To: Williston H Solar, LLC - Project File

Date: November 5, 2025

Memorandum

Project #: 58972.08

From: Kaitlyn Maines,
Environmental Scientist and
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Ecological Services Team Leader

Re: Section 248 Natural Resources Assessment

Introduction

On behalf of Williston H Solar, LLC ("Petitioner") and at the request of Encore Renewable Energy ("Encore"), VHB conducted natural resource assessments in support of a planned 2.75-megawatt ("MW") alternating current ("AC") ground-mounted solar project ("Group H" or "Project"). The Project activities are sited on approximately 16.3 acres of land ("Project Area") within a 440-acre parcel owned by GlobalFoundries, located west of Redmond Road, in Williston, Vermont (see the Natural Resource Map in Attachment 1). The Project Area includes the approximately 11.6-acre solar array limits within the perimeter fence which contains all the Project components (array, access, staging) plus the proposed vegetation management and maintenance areas associated with Project construction, operation, and Project interconnection. Natural resources assessments were conducted on an approximately 79.7-acre portion of the overall parcel ("Study Area"), which is larger than the Project Area so that potential natural resources or their buffers occurring within 50 feet of the Project could be identified and to support review of alternative Project designs so that natural resource impacts are avoided to the extent feasible. This technical memorandum includes an overview of the proposed Project, site conditions in the Study Area, descriptions of the methodologies used for each of VHB's natural resource assessments, the resource and potential impact 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 assessments, 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's civil engineers. In response to the design progression, VHB conducted natural resources field assessments on multiple dates between September 2022 – September 2025.

Project Description

The Project consists of the installation and operation of a solar electric generation facility within the GlobalFoundries ("GF") campus. GlobalFoundries Power LLC ("GF Power") is an owned subsidiary of GlobalFoundries and operates as a public service utility. The Project site was selected and designed after considering a wide range of site conditions and constraints – including topography, environmental resources, existing infrastructure, and aesthetic impacts – while maximizing the potential energy generation benefits. The Project proposes to generate up to 2.75 MW AC, with interconnection into the existing distribution network via extension of electrical power generated to an existing Green Mountain Power ("GMP") substation adjacent to the west of the proposed array.

The Project will include approximately 4.2 acres of tree clearing (areas where woody material will be removed with stump removal/ grubbing) and approximately 1.5 acres of tree cutting or trimming (not removing stumps) which would be subject to seasonal restrictions for natural resource impact avoidance as described below. For more Project details, see the detailed project description in the prefiled testimony of lead Project witness Jake Clark and the site plans in **Exhibit WHS-JC-2**, both of which were consulted in the preparation of this memorandum.

Site Description

The Study Area occurs in the Champlain Valley biophysical region of Vermont, which is characterized as one of the warmest regions of Vermont, with low-elevation level plains of clay and silt soil, often dry and receiving less than half the annual precipitation of the Green Mountains to the east. This region becomes increasingly hilly to the east as the valley reaches the Green Mountains (Thompson et al. 2019). The Study Area occurs within the Winooski River Watershed (HUC12: 043001030704). On-site elevation within the Study Area ranges from approximately 280 to 435 feet above mean sea level. The Natural Resources Conservation Services ("NRCS") has mapped the dominant soils within the Study Area as Adams and Windsor loamy sands, 0 to 5 percent slopes and Hartland very fine sandy loam, 25 to 60 percent slopes. There are two Class II wetlands mapped by the Vermont Significant Wetland Inventory ("VWSI") located to the west and north of the Study Area, and VHB mapped several wetland complexes within the Study Area during site investigations as described below in more detail. VHB's Study Area and associated natural resources are depicted on the Natural Resources Map in **Attachment 1**, and photographs of representative site conditions and resources are provided in **Attachment 2**.

The Project Area is located on a portion of fallow field on a crown of land between two unnamed riparian drainageways west of Redmond Road in Williston, Vermont that is in some areas within an early successional regeneration stage that would be opened back up for Project construction. Land use in areas surrounding the Project Area include undeveloped forest, dispersed rural residential development, roadway corridor, and the industrial developments of GlobalFoundries. The Winooski River is adjacent to the north of the Study Area. The Study Area was found to consist of both wetlands and uplands: typical vegetation in delineated wetlands includes Bebb's willow (*Salix bebbiana*), reed canary grass (*Phalaris arundinacea*), jewelweed (*Impatiens capensis*), narrowleaf cattail (*Typha angustifolia*), giant goldenrod (*Solidago gigantea*), among others. Typical upland species include Queen Anne's lace (*Daucus carota*), false baby's breath (*Galium mollugo*), Kentucky bluegrass (*Poa pratensis*), Canada goldenrod (*Solidago canadensis*), and timothy (*Phleum pratense*). There are also several non-native invasive plant species ("NNIS") occurring throughout the Study Area, including: common barberry (*Berberis vulgaris*), oriental bittersweet (*Celastrus orbiculatus*), glossy buckthorn (*Frangula alnus*), Morrow's honeysuckle (*Lonicera morrowii*), purple loosestrife (*Lythrum salicaria*), wild parsnip (*Pastinaca sativa*), reed canarygrass (*Phalaris arundinacea*), common reed (*Phragmites australis*), common buckthorn (*Rhamnus cathartica*), and black locust (*Robinia pseudoacacia*). Representative woody vegetation on site

consists of white pine (*Pinus strobus*), American beech (*Fagus grandifolia*), gray birch (*Betula populifolia*), eastern hemlock (*Tsuga canadensis*), and yellow birch (*Betula alleghaniensis*).

Results from VHB's assessments of the specific natural resources criteria are described in the following sections of this memorandum. Representative site photographs are included in Attachment 2.

SECTION 248 NATURAL RESOURCES CRITERIA

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

The Vermont Water Quality Standards ("VWQS", ANR 2022b), 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 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. None of these waters are within or near the Study Area, and therefore, the Project will 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 of 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 geospatial information, including soils data, topographic maps, and state-mapped public water supply source protection areas, in addition to the field assessment, to determine if the Study Area is located on any land that meets the Headwaters criterion, as follows:

Subcategory (i)

The majority of the Study Area, including where construction will occur, contains mapped soils that NRCS characterized as not having steep slopes (generally less than 15 percent), including Adams and Windsor loamy sands (0 to 5 percent slopes). Additionally, all soil units mapped within the Study Area are not characterized as shallow

(considered to be generally 20 inches to restrictive features). Moreover, shallow soils were not observed in the Study Area during field investigations. As such, the Project does not meet criteria for subcategory (i).

Subcategory (ii)

The Study Area is located in the Winooski River watershed within close proximity, and direct drainage to the mainstem of the Winooski River. Because the drainage area of the Winooski River watershed at this location is greater than 20 square miles, it is VHB's finding that the Study Area does not meet subcategory (ii).

Subcategory (iii)

The Study Area is below 1,500 feet in elevation; therefore, the Project does not meet subcategory (iii).

Subcategory (iv)

There are no mapped surface water protection areas or watersheds of public water supplies designated by ANR within the Study Area; therefore, the Project does not meet subcategory (iv).

Subcategory (v)

The Study Area does not supply significant amounts of recharge waters to aquifers based on absence of any mapped groundwater source protection area; therefore, the Project does not meet subcategory (v).

The Study Area does not meet any of the Headwaters sub-categories. It is VHB's finding that the Project should not be considered a headwaters location. Regardless, the Project will not produce wastewater, and stormwater runoff will be appropriately managed during construction and operation as applicable, as described in the prefiled testimony of Project civil engineer witness, Stephanie Wyman. The Project will generate minor amounts of scrap and waste material during installation, and this waste will be disposed of or recycled at an approved disposal facility in accordance with Vermont Solid Waste Management Rules and Procedures. VHB has prepared a separate analysis of Project waste disposal and stormwater plans that provides further detail regarding pertinent aspects and regulations, which is included as an exhibit to witness Wyman's pre-filed testimony.

Although not a headwaters location, the Project will adhere to the requirements of the DEC construction stormwater discharge and operational stormwater requirements and will include measures to protect against impacts in the event of an inadvertent release of transformer oil. As such, the Project will also not adversely impact ground or surface water quality, and the Project will meet applicable health and DEC regulations regarding the quality of groundwater and surface waters.

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 the *Flood Hazard Area and River Corridor Protection Procedure* ("FHARC" ANR 2017). 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. 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 (ANR 2017). 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 upon stream sensitivity type and adjacent landform.

VHB reviewed available FEMA data for the Town of Williston, 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. Database information is depicted on the Natural Resources Map in **Attachment 1**.

There is a FEMA-mapped floodway and floodplain associated with the Winooski River to the north of the Study Area, according to Flood Insurance Rate Maps ("FIRM") Community Panel Number # 50007C0277D (Effective July 18, 2011). Both the mapped Floodway and the 100-year floodplain are not within the Project Area, and the FEMA-mapped limits extend generally along and just beyond the northern limits of the Study Area. There is also a state-mapped River Corridor associated with the river that overlaps the northern portion of the Study Area. There are no Project activities proposed within the FEMA mapped floodway or ANR-mapped River Corridor, and all Project activities would be located 100-feet beyond the top of slope of the Winooski River.

VHB delineated a perennial tributary draining toward the Winooski River in the western portion of the Study Area. A 50-foot River Corridor was applied from the top of each bank per FHARC, as shown on the Natural Resources Map in **Attachment 1**. All Project infrastructure has been designed to avoid the FHARC-determined 50-foot river corridor. However, limited tree cutting or trimming will be necessary to install and operate the Project's interconnection line: an overhead line extending west from the array to a GMP substation, accomplished with an approximately 176-foot pole-to-pole span across the river corridor and stream. Further discussion of the proposed overhead line is included in the Streams section below. Areas of tree trimming will not result in earth disturbance. The trees will be minimally trimmed or cut at base, without stump removal or grinding. Woody vegetation including shrubs and trees that are compatible with the overhead interconnection line will not be cut or removed, and so it is anticipated that the existing shading and canopy coverage conditions within the river corridor will not be measurably reduced during Project operation. No impervious surfaces or other infrastructure is proposed in the river corridor; pole installations associated with the overhead line extension will be located beyond the limits of the river corridor, as shown on Project site plans (**Exhibit WHS-JC-2**). As such, 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 (ANR 2005). 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 center-line ("SC") 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. 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 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, GPS-enabled mobile data collection equipment.

VHB Environmental Scientists delineated segments of several unnamed tributaries to the Winooski River within the Study Area. For a depiction of delineated stream segments and applicable buffers, refer to the Natural Resources Map (**Attachment 1**). Data characterizing on site streams is provided in the Summary of Delineated Streams table (**Attachment 3**). Stream delineations identified ephemeral, intermittent, and perennial surface waters. No Project components are proposed to be located within on site stream channels, and the Project has been sited between two stream drainageways to minimize work in riparian buffers. Besides the Winooski River, the only perennial stream segment delineated is identified by VHB as 2025-TOB-3, located to the southwest of the Project, the field conditions of which were appropriate for using TOB as the delineation boundary for applying a riparian buffer subject to the Riparian Buffer Guidance. To the north and east of the Project, intermittent Stream 2022-SC-1 was found to become a diffuse flow without a defined channel within a portion of the 2022/2024-40 wetland complex and then become channelized at an unconstructed outlet of a wetland area where it was delineated as 2022-SC-2, both of which were found to exhibit an intermittent flow regime and based on a narrow unconfined channel was delineated as a SC. The Project has incorporated 50-foot riparian buffers as well as 100-foot riparian buffer from the Winooski River top-of-slope, which are nearly entirely avoided.

Due to the location and extent of stream and riparian buffer resources on site and in the context of other environmental and design constraints on the Project, avoidance of all tree clearing and cutting within riparian buffers could not be avoided. The placement of Project infrastructure has almost entirely avoided riparian buffers, save for the approximately 5 square feet conservatively calculated for impacts from up to 5 vertically driven posts for perimeter fence (these impacts do not require tree clearing as they are within an already cleared portion of the Project site).

Woody vegetation management is proposed within the riparian buffer of Stream 2025-TOB-3, which is limited to approximately 776 square feet of clearing (stumping and grubbing) for installation and maintenance of the perimeter fence, as well as the trimming/cutting needed for Project interconnection into the existing substation, as described in the Floodways section above. Additionally, limited trimming/cutting along the field edge within the riparian buffer of Stream 2022-SC-2 and 2022-SC-1 is unavoidable, as that riparian buffer extends to the full extent of the wetland buffer of the Wetland 2022/2024-40 wetland complex along the edge of the existing field where the array is planned. The purpose of trimming and cutting along the field edge to the east of the array is hazard tree risk mitigation for avoiding damage to Project infrastructure. In total, woody vegetation removal within riparian buffers consists of approximately 776 square feet of tree clearing and 23,566 square feet of tree trimming or cutting (0.54-acre total). As is described in the Floodways section above, cutting for the overhead interconnection line will not remove shrubs and trees that do not interfere with overhead lines extending above the riparian buffer, and so cutting for the interconnection line will be minimized. The proposed overhead line extension will span the stream channel and construction equipment access will be achieved from access points using low-ground pressure equipment from outside the riparian buffer for pole installation and will use hand tools and foot access for cutting within the riparian buffer.

It is also notable that riparian buffer cutting along the eastern side of the Project will only occur in a thin (less than approximately 10 feet wide) strip along the edge of an existing field, where portions of the buffer consist only of

young successional trees. Therefore cutting during Project construction may practically be avoided, and thus the total calculation represents a conservative estimate. Tree clearing and trimming/cutting in riparian buffers has been avoided and minimized through iterations of Project design revisions as described here, and VHB anticipates it will not impact the existing functions and ecological values of on site riparian buffer areas. Although progressive iterations of Project engineering design were able to achieve many areas that could otherwise have been proposed to be cut, certain site constraints could not be eliminated from the design, such as minimum array row spacing, the need for perimeter fence and management of hazard trees, the need for an access corridor along the southwestern site of the array for equipment to get to a neighboring transmission line corridor, and the Project's purpose and need for specific energy output. Moreover, there is no proposed work within stream channel bed or banks. As such, the Project will involve minor encroachments into riparian buffers, but will maintain the natural condition of the stream, and will not endanger the health, safety, or welfare of the public or of adjoining landowners.

SHORELINES (§ 6086(a)(1)(F))

Shorelines are defined under Act 250 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); Argentine 2008). The Study Area was reviewed against these criteria to determine if it is located on or adjacent to any shoreline areas.

The Project does not occur between the mean high water and mean low water of the Winooski River, and there will be no impacts to shorelines or their protected values as defined under this criterion. The delineated TOS of the Winooski River as well as a 100-foot buffer from the TOS are depicted on the Natural Resource Map in **Attachment 1**, as a visual representation of the Project's avoidance of areas close to or within resource areas associated with the Winooski River including its Shoreline.

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, nearly all 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 2011). When applicable, wetlands are identified in the field with pink flagging. Field notes are taken to record information such as potential VWR classifications, general characteristics, wetland functions and values, and any unique qualities observed during the site assessment, along with other considerations relevant to support delineation findings. Wetland types are classified in accordance with the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979). The presence and significance of wetland functions and values are evaluated based on field notes and observations according to the VWR (ANR 2023). When present, wetland features are mapped in the field using GPS-enabled mobile data collection equipment capable of sub-meter accuracy.

As part of natural resource assessments conducted during its 2022 - 2025 field investigations, VHB delineated portions of several wetlands within the Study Area, seven of which are Categorical Class II wetlands as they provide the following functions, described in the VWR: 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, Attachment 1). Multiple Class III wetlands were delineated as well. The delineated wetland boundaries and classifications were confirmed by DEC District Wetland Ecologist, Tina Heath, on September 17, 2024. Photographs of representative wetland conditions are presented in **Attachment 2**. Further data characterizing on-site wetlands is presented in the Summary of Delineated Wetlands table (**Attachment 3**), and the USACE Wetland Determination data sheets (**Attachment 4**).

The Project was designed to avoid all impacts to Class II wetlands and minimize unavoidable Class II wetland buffer impacts. Unavoidable impacts to wetland buffers consist of woody vegetation cutting and approximately 11 square feet of impact from installation of up to 11 posts for perimeter fence (posts will be driven into the ground, and so one square foot per post is conservative). Of the total proposed woody vegetation management within wetland buffers, nearly all of it will retain tree stumps and low-growing woody shrubs and saplings to be left in place so as to minimize the vegetation disturbance in resource buffer areas. Project-wide, only approximately 9,998 square feet of tree trimming/cutting will take place in wetland buffers (features 2022/2024-40 and 2022/2204-5) and only 260 square feet of tree clearing (stump removal) within wetland buffer (feature 2022/2024-40) (10,258 square feet, or 0.24-acre in total). It is notable that the proposed wetland buffer impacts described here are included in the calculations for riparian buffer impacts in the Streams section above, as the riparian buffers to be impacted for Stream 2022/2024-TOB-3, 2022/2024-SC-2 and 2022-SC-1 are extended to the full limit of the riparian wetland features 2022/2024-5 and 2022/2024-40 as depicted in the Natural Resources Map in **Attachment 1**.

Although the Project will result in unavoidable impacts to Class II wetland buffer zones, the Petitioner has implemented a number of measures into the Project design that have avoided impacts to wetlands and minimized impacts to buffers to the extent feasible. These measures include:

- No impacts to Class II (or III) wetlands;
- Trimming trees as opposed to total tree removal (or clearing) for the majority of woody vegetation management;
- Extensive design revisions and refinements to adjust Project access road, stormwater management, array rows, and associated Project equipment outside of wetlands and buffers;
- Designing the Project access road to occur outside of wetlands and buffers;
- Limiting the proposed buffer impacts from tree cutting/clearing to the lower-functioning successional edge habitats rather than within forested portions of buffers to wetland complexes;
- Positioning the Project's overhead interconnection line to avoid wetland buffer areas by designing it in between riparian wetland and buffers;
- Proposing operational phase vegetation management in a narrowed, minimized distance to the Project when in wetland buffers;
- Installing perimeter fence via driving posts vertically into the ground, thereby avoiding the need for excavation and minimizing new fill in wetland buffers to a conservative maximum of 11 square feet;
- Using EPSC measures and Project demarcation fencing to help prevent unintended impacts or incursions to wetlands, buffers, and other sensitive resources outside of the Project Area.

Pre-construction wetland and buffer demarcation and adherence to EPSC procedures will help prevent unintentional discharges to wetlands or other natural resources during construction. The Petitioner will apply for an amendment to the existing Vermont Wetland Permit (Permit #2023-0380 "VWP"), that was issued on April 1, 2025, associated with the GF Phase I solar projects. The forthcoming permit amendment has been coordinated through multiple pre-application discussions with DEC and will authorize impacts to VWR-regulated resource areas associated with GF Phase II projects, including Williston H Solar. Construction will not commence until applicable permits are approved including the VWP amendment. USACE Section 404 jurisdiction is not triggered by Williston H Solar, since there is no proposed dredge or fill within Waters of the US. However, the Project will be reviewed under an amendment to the existing Section 404 permit issued on May 2, 2025, (NAE-2024-00585), as part of the comprehensive plan for solar development on the GlobalFoundries campus. The Project will not result in undue, adverse impacts to wetlands under this Section 248 criterion based on the reasons and analysis above and will comply with the VWR and Section 404 of the CWA.

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 Criteria 8 and 8(A), 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 endanger 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 2016). 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 2016).

To identify potential occurrences of known significant natural communities, VHB queried the Vermont Natural Heritage Inventory ("NHI") database for the presence of known Element Occurrences ("EOs") of significant natural community types within, adjacent to, and within one mile of the Study Area. No natural communities were found within one mile of the Study Area. For reference, a summary matrix of all EO records that were queried from within one mile of the Project is provided in **Attachment 5: Vermont Potential Rare, Threatened, and Endangered Species and Natural Communities in the Project Region and Onsite Habitats Summary**.

During its field natural resource surveys, 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* (Thompson et al, 2019). VHB noted assemblages that were representative of the state-common (S5) Hemlock Northern Hardwood Forest community type in the eastern section of the Study Area. Although the structure and species composition would likely constitute a natural community type, it

is not considered a rare type in Vermont and does not meet criteria to be considered state significant. VHB's field survey of natural communities included a special focus on the potential presence of sandplain natural community types, as much of the Study Area is mapped by the NRCS to be underlain by sandy soil types known to be associated with the rare sandplain forest types of the region. Even though underlain by mapped sandy soils, the Study Area does not support the characteristic sandplain vegetation and should not be characterized as such. A list of vascular plant species identified during VHB's floristic inventory, conducted in August and September, 2024, is provided in **Attachment 6**. VHB found that there are no state significant natural communities or other areas that could constitute RINA within the Study Area. Representative photographs of existing site conditions are included in Attachment 2.

Endangered Species

Endangered Species include those that are defined as "threatened" or "endangered" on the Vermont state endangered and 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 federally 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, and endangered ("RTE") species within and adjacent to the Study Area. VHB used a one-mile radius to query 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 of plants or animals located within the Study Area. In conjunction with VHB's survey for natural communities in the Study Area as described in the RINA subsection above, if sandplain natural community(ies) had been observed on site, then target species for sandplain characteristic RTE plants would have also been included in VHB's field survey targets. Based on absence of a sandplain natural community on site, the associated characteristic sandplain RTE species were not included as survey targets on the **Attachment 5** matrix.

To identify presence of RTE plant species that have not been previously recorded in the NHI, VHB Botanists conducted a plant inventory for RTE species on August 7-8, 2024, and September 12, 2024 as well as making general observations of plant species and distribution during the course of other natural resources surveys between 2022 and 2025. The August and September 2024 plant inventory followed ANR's *Guidance for Conducting Rare, Threatened, and Endangered Plant Inventories in Connection with Section 248 Projects* (ANR 2016a). The plant surveys consisted of general review of all identifiable plants on site as well as the targeted species within a one-mile radius of the Project, as noted in Attachment 5. 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 2022a), to determine their rarity rank and any potential protections under endangered species law. No RTE plant species (or animals) were observed during field investigations. A complete list of identified on site vascular plants is included in **Attachment 6**.

Additionally, VHB queried the U.S. Fish and Wildlife Service ("USFWS") Information for Planning and Consultation ("IPaC") system project review database to identify any federally listed threatened or endangered species or critical habitat within the Project region. Based on this review, the Study Area is within the known range of the federally and

state listed endangered northern long-eared bat (*Myotis septentrionalis*) ("MYSE") and tricolored bat¹ (*Perimyotis subflavus*) ("PESU"). In addition to the federally listed species, there is one candidate species, monarch butterfly (*Danaus plexippus*), but there is no USFWS critical habitat designation present within or adjacent to the Study Area. In accordance with issued Section 404 Permit NAE-2024-00585 special condition, no tree removal activities shall occur within the authorized project from April 15 to September 30 of any year, to minimize the potential for direct take of MYSE and PESU. If seasonally restricted tree removal is not conducive to the Project construction timeline, acoustic surveys that yield species absence may result in the removal of this special condition.

VHB finds that the Project has taken appropriate measures to avoid impacts to protected forested bat species through seasonally restrictive tree removal, or to be determined through a probable absence determination based on acoustic survey results, if needed. Based on a review and analysis of available databases and targeted RTE plant inventories, VHB concludes that the Project will not destroy or significantly imperil any endangered species.

Necessary Wildlife Habitat

The types of habitats that typically constitute Necessary Wildlife Habitat ("NWH") include deer (*Odocoileus virginianus*) wintering habitat, black bear mast stands [concentrated stands of American beech (*Fagus grandifolia*) and oak (*Quercus* spp.)], black bear forested wetland habitat, black bear travel corridors, vernal pools, and in some cases, moose overwintering area and grassland bird habitat and upper elevations for Bicknell's thrush habitat.

VHB reviewed deer wintering habitat, 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 habitats that may constitute NWH. The Study Area does not contain bear mast bearing resources and is surrounded by dense commercial and residential development, discouraging use by black bears, and VHB finds that black bear NWH is not present. An ANR-mapped Deer Wintering Area ("DWA") overlaps the western and northwestern portion of the Study Area. During field assessments, including during winter timeframe, VHB Environmental Scientists assessed existing conditions and determined that there are no areas in the Study Area that provide deer wintering habitat. VHB conducted a target field survey within the ANR-mapped DWA and other forested portions of the Study Area in January 2024. Within the eastern portion of the Study Area (not mapped by ANR as DWA), VHB found a combination of hardwood and softwood tree species with softwood species predominantly white pine and eastern hemlock, interspersed with American beech, gray birch, yellow birch and sugar maple. Many portions of forested areas on site contain steep slopes that do not meet the habitat suitability for DWA. Within the ANR-mapped DWA there was even less softwood cover observed, with clusters of hardwood trees, a successional edge along field areas dominated by hardwood trees and scattered white pine saplings, and an overall patchy density of canopy cover. Additionally, although VHB's DWA survey fieldwork was conducted during winter conditions with consistent snow cover present on the ground, there were no signs of overwintering use by deer observed, either within the ANR-mapped DWA or in other forested portions of the site. VHB therefore finds that the land within the Study Area is unsuitable for DWA (per ANR 2015).

VHB understands FWD has established that graminoid-dominated (hay) fields over 20 acres could be NWH for grassland bird species (ANR 2021). The field within the Study Area is less than 20 acres in size, with scattered early successional seedlings and small sapling-sized tree growth, and would not be considered to support grassland bird

¹ *P. subflavus* proposed for Federal Endangered listing on September 13, 2022.

populations under normal circumstances. Across its full extent, the Study Area contains landcover that is unsuitable habitat for grassland bird species; VHB did not conduct detailed surveys for grassland bird presence based on the finding that suitable habitat is not present. As described above, VHB's field surveys included a delineation of wetlands and surface waters, and vernal pools were found to be not present within the Study Area. No other NWH was observed or mapped within or in the vicinity of the Study Area. Based on the analysis above, the Project will not destroy or significantly imperil necessary wildlife habitat.

Williston Town Plan Natural Resource Considerations

Although not within the Section 248 criteria listed above, the Town of Williston's Town Plan ("Town Plan", adopted August 19, 2025) includes provisions for protecting certain conservation areas, land-based conservation resources, and watershed resources which are established by some of the same natural resource considerations described herein. The Town of Williston provided written comments on April 23, 2025 in response to the Project's 45-Day Notice; those which are applicable to natural resource conservation are briefly addressed here and in Exhibit WHS-JO-2 sponsored by Petitioner's witness Jeremy Owens. Map 16 of the Town Plan depicts Conservation Areas, Map 19a and 19b^{2 3} depict the extent of ANR-mapped resources, which coincide with the conservation areas shown in Map 16. Map 16 Conservation Areas and Map 19a, titled State Known Constraints, depicts State-mapped DWA which is described above and which VHB has determined is not habitat suitable for or utilized by overwintering deer. Map 19b, titled State Possible Constraints, depicts database layers sourced from ANR which are included in Vermont Conservation Design ("VCD") and its online BioFinder data viewer⁴. Based on this mapping, the Project is largely located within the open field which is not mapped as a Highest Priority for any of the Landscape Scale components (physical Landscape Blocks, Interior Forest Blocks, or Connectivity Blocks), with potential limited Project activities along the edge of the map polygon sourced from ANR as shown on the Town's map. Based on an analysis of the VCD mapping, there are no mapped Highest Priority Interior Forest Blocks or Connectivity Blocks within the Project limits. The map polygon around the edges of the field where the Project is proposed is considered Highest Priority for the Landscape Scale component "Geological Diversity". The Project would not result in an impact to the underlying geology of the site or the mapped polygon. As described in the sections above, the Project would not result in undue adverse effects to criteria which evaluate streams, wetlands, RTE species and wildlife habitats, and therefore will not conflict with the Town Plan or VCD's priority of protecting Highest Priority areas mapped in the Town Plan (and VCD database). In addition, the Project design has avoided impacts to streams including the Winooski River and impacts within a 100-foot riparian buffer as measured from the top of slope of the Winooski River. At its closest approach, the Project's limits are more than approximately 190 feet from the ANR-mapped limit of the Winooski River, which exceeds the Town's requested setback of 150 feet.

The Town Plan Map 19c and 19d, titled Local Known Constraints and Local Potential Constraints respectively, do not indicate any constraints to the Project or impacts to local priority areas. Map 19c depicts areas with greater than 30 percent slope. The mapped resolution of the Town Plan Map 19c does not afford a detailed review of the Project site for intersection with mapped polygons, however VHB's existing conditions survey included with Project site plans have

² https://www.town.williston.vt.us/vertical/sites/%7BF506B13C-605B-4878-8062-87E5927E49F0%7D/uploads/Map19aWilliston_StateKnownConstraints.pdf

³ https://www.town.williston.vt.us/vertical/sites/%7BF506B13C-605B-4878-8062-87E5927E49F0%7D/uploads/Map19b_StatePossibleConstraints.pdf

⁴ <https://anr.vermont.gov/maps-and-mapping/biofinder>

been created and show that the Project is not designed to be constructed in areas with a slope of greater than 30 percent. Based on this, the Project design meets the intent of the Map 19c constraint.

Of all the resources depicted on the Town Plan Map 16, titled Conservation Areas, the map layers for Wildlife Core Habitat and Wildlife Travel Corridors appear to be mapped around the northern and eastern edge of the Project site (analysis limited by resolution of pdf file of Town's Map 16). According to the Town Plan Map 16, these map layers were generated utilizing information developed by the University of Vermont Spatial Analysis Lab "SAL" in 2011. The SAL data, as described in its 2011 report *An Assessment of Wildlife Habitat in Williston, Vermont: Expanded Land-cover Mapping and Corridor Modeling*⁵ was created by GIS desktop analysis, to be used for town planning purposes. As described in more detail in the Project witness Jeremy Owens' review of Orderly Development criterion, the Town mapping was published with a disclaimer that the GIS based assessment should not be substituted for on the ground locations or surveying.

Based on VHB's field resource assessments, delineations, and analysis described in sections above, the Project site does not contain resource areas or habitats that are consistent with a Core Habitat or Wildlife Travel Corridor as constituted under NWH analysis incorporated for due consideration under Section 248. As described above, the Project is sited largely within a fallow field. The proposed tree clearing within mapped Core Habitat and Wildlife Travel Corridor is located along the periphery of a much larger mapped block which would not be fragmented, interrupted, or otherwise compromised by the Project. The detailed on-site natural resource assessments and delineation as described above and on the attachments is of a higher level of precision and more accurate of current existing conditions than the SAL-created mapping derived from data at least 14 years old and at a scale intended for town-wide planning rather than regulatory review of a detailed Project design. As such, VHB concludes the Project is not sited in areas that should be considered significant wildlife core or travel habitat for regulatory purposes.

Regardless, the Project's perimeter fence as depicted in site plans, is purposefully designed to enable passage of small mammals and other wildlife below and through the fence mesh openings and exclude large wildlife to avoid entrapment. The mapped Wildlife Travel Corridor and Core Habitat would not be fragmented, bifurcated, split, or otherwise interrupted by the Project.

Conclusion

Based on the assessments and analysis of natural resources criteria listed above with respect to potential Project impacts, VHB concludes that the Project, upon receipt of all permits, is designed and will be able to be constructed and operated to not result in undue adverse effects on the natural environment. Natural resources field assessments identified natural resources that are present in the Study Area, which informed Project siting and design including multiple engineering design revisions to avoid and minimize impacts, plus measures to mitigate against inadvertent impact during the construction and operational phases of the Project as discussed above. In addition, the Petitioner will obtain all necessary collateral environmental permits before Project construction, to include a DEC construction stormwater general permit 3-9020, a DEC operational-phase stormwater discharge permit, and a VWP amendment to authorize impacts to Class II wetland buffer areas.

⁵ https://www.town.williston.vt.us/vertical/Sites/%7BF506B13C-605B-4878-8062-87E5927E49F0%7D/uploads/WillistonWildlifeHabitatAnalysis2011_FinalReport.pdf

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. *Endangered and Threatened Plants of Vermont*. Natural Heritage Inventory, Fish and Wildlife Department. Effective February 10, 2022.
- 2022b. *Vermont Water Quality Standards*. Environmental Protection Rule, Chapter 29A. Department of Environmental Conservation. Effective November 15, 2022.
- 2021. *Guidance for the review and Mitigation of Impacts to Grassland Bird Habitat in Connection with Regulated Projects in Vermont*. Effective October 26, 2021.
- 2020a. *The Low-Risk Site Handbook for Erosion Prevention and Sediment Control*. Department of Environmental Conservation. Effective February 2020.
- 2020b. *The Vermont Standards and Specifications for Erosion Prevention and Sediment Control*. Department of Environmental Conservation. Effective 2020.
- 2017. *Flood Hazard Area and River Corridor Protection Procedure*. Environmental Protection Rule Chapter 29. Department of Environmental Conservation. Effective September 7, 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.
- 2015. *Guidance to Address Impacts to Deer Winter Habitat Associated with Solar Energy Projects*. Fish and Wildlife Department. Effective November 12, 2015.

- 2014. *Act 250 Procedure: Reclamation of Vermont Agricultural Soils*, Agency of Agriculture Foods and Markets. Revised October 30, 2014.
- 2005. *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers*. Effective December 9, 2005.
- 1990. *Management Guide for Deer Wintering Areas in Vermont*. Department of Forests, Parks, and Recreation & Fish and Wildlife Department. Effective September 1990.
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- 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.
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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 Chelsea Green Publishing.
- US Army Corps of Engineers (USACE). 2011. *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). 2025. *StreamStats, Version 4.2.1*.

Attachment 1

Global Foundries | Williston, VT



(#) Count of feature visible within map extent.

Sources: Background Imagery by VCGI (2022) VCGI (Vermont Center for Geographic Information - Various Dates); ANR (Vermont Agency of Natural Resources - Various Dates); DFW (Vermont Department of Fish & Wildlife - Various Dates); VTrans (Vermont Department of Transportation - Accessed 2025); VHB - 2022-2025.

Attachment 2



Williston H Solar, LLC – Representative Photographs

PROJECT NUMBER

58972.08

CLIENT

Encore Renewable Energy

50 Lakeside Ave #110

Burlington, VT 05401

LOCATION

Redmond Road

Williston, Vermont 05495



NO. 1 / 9.15.2022

DESCRIPTION

Representative view of fallow field in northwest corner of Study Area, looking southwest.



NO. 2 / 9.15.2022

DESCRIPTION

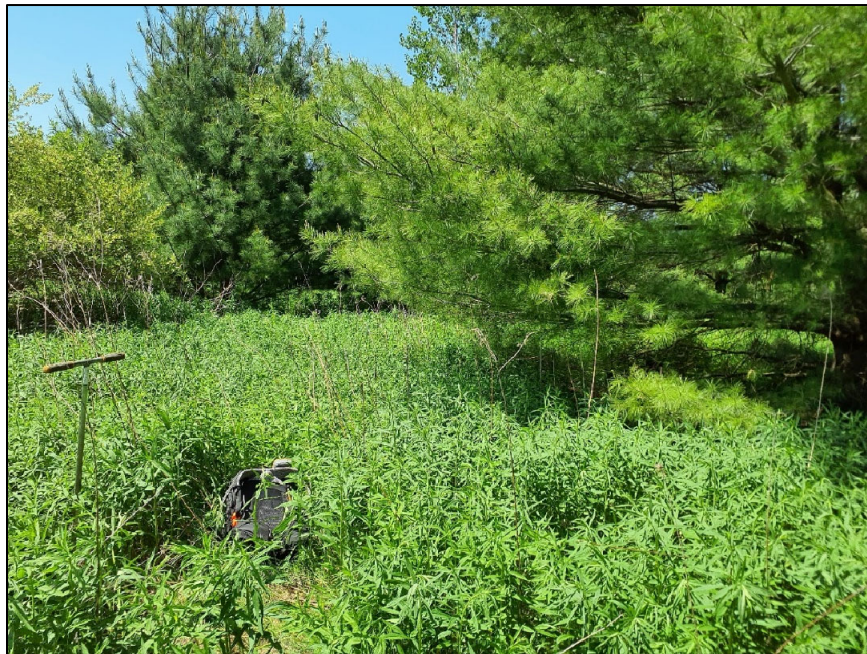
Representative view of existing field access path leading to northern section of Study Area, looking northwest.



NO. 3 / 5.23.2025

DESCRIPTION

Representative view of intermittent reach of Stream 2025-TOB-3, looking northwest.



NO. 4 / 5.31.2023

DESCRIPTION

Representative view of Wetland 2022-40 within a portion of the complex closest to the Project's access road, looking north.



NO. 5 / 10.18.2022

DESCRIPTION

Another representative view of Wetland 2022-40, looking southwest.



NO. 6 / 6.7.2023

DESCRIPTION

Another representative view of Wetland 2022-40, looking west.



NO. 7 / 5.31.2023

DESCRIPTION

Representative view of Wetland 2022-5, looking west.



NO. 8 / 10.18.2022

DESCRIPTION

Representative view of Wetland 2022-5 in the northern portion where the feature extends into a fallow regenerating field area, looking west.



NO. 9 / 8.17.2024

DESCRIPTION

Representative view of existing vegetation cover within the 100-foot riparian buffer from the top of slope of the Winooski River



NO. 10 / 4.25.2024

DESCRIPTION

Representative view of stream 2025-TOB-3, looking west from one top of bank location to the other one across the channel.



NO. 11 / 1.18.2024

DESCRIPTION

Representative conditions in the forested area within the Study Area east of the Project, which was assessed for potential deer wintering area ("DWA") conditions and surveyed for state significant natural communities, both of which were found to be absent.



NO. 12 / 8.18.2024

DESCRIPTION

Herb layer vegetative cover within upland forest to the east of the Project, where characteristic species of Vermont's rare sandplain natural communities were found to be absent.



NO. 13 / 1.18.24

DESCRIPTION

Representative view of forest conditions near the easternmost portion of the Study Area.



NO. 14 / 4.25.2024

DESCRIPTION

Northern portion of wetland 2022-5 where the existing transmission line extends to the north (Project array proposed in the field area in the right-background of the photo view). Forest fragment on the right side of the photo view is state-mapped DWA, although DWA habitat was found to be absent.



NO. 7 / 9.12.2025

DESCRIPTION

Existing woody vegetation cover within the state-mapped DWA to the west of the Project, where DWA conditions were found to be absent.



NO. 8 / 1.18.2024

DESCRIPTION

Representative view of forested conditions east of the Project, which was evaluated for potential DWA, and was found to be absent. A mix of softwood (white pine, hemlock) and hardwood (beech, birch) is dominant.

Attachment 3

Summary of Delineated Streams

Project: Williston H Solar, LLC

Client: Encore Renewable Energy

Location: Williston, VT

Prepared By: VHB (B. Galligan, K. Maines)

Delineation Date(s): (VHB: C. Fenner, B. Galligan, M. Jackman, A. Pierce) Various; 2022-2025

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	Watershed Size (Square Miles) ³	VWQS Classification (2022) ⁴	VHD-Mapped Stream/River (Yes/No)	ANR-Mapped River Corridor? (Yes/No) ⁵	VHB-Proposed Riparian Buffer ? (Yes/No) ⁶	Comments
2024-TOS-WR	Winooski River	2022-40/2024-40, 2024-11, 2024-12, 2024-8, 2024-19	350	Bedrock, Boulder, Cobble, Sand, Gravel, Silt	20	3.0	Perennial	1010	B	Yes	Yes	Yes	A section of the Winooski River that is north of the Study Area.
2022-SC-1	-	2022-40	3.0	Gravel	1	2.0	Intermittent	<0.05	B	No	No	Yes	Stream flow dissipates in the wetland.
2022-SC-2	Unnamed tributary to Winooski River	2022-40/2024-40	3.0	Sand	2	0.5	Intermittent	<0.05	B	No	No	Yes	Stream in a incised valley draining toward the Winooski River.
2025-TOB-3	Unnamed tributary to Winooski River	2022-5/2024-5, 2024-33, 2023-302	4.0	Silt, Gravel	4	1-4	Perennial/ Intermittent	0.26	B	No	No	Yes	A perennial stream draining toward the Winooski River along the southwest edge of the Study Area.VHB-applied River Corridor per FHARC Procedure.
2024-SC-5	Unnamed tributary to Winooski River	2024-12	1.5	Silt	1	0.5	Intermittent	<0.05	B	No	No	Yes	Stream segment in a wetland draining toward the Winooski River.
2024-SC-6	Unnamed tributary to Winooski River	2024-8	3.0	Silt, Sand	3	2.0	Intermittent	<0.05	B	No	No	Yes	Incised channel draining toward the Winooski River.
2024-SC-7	Unnamed tributary to Winooski River	2024-8	3.0	Silt, Sand	2	2.0	Intermittent	<0.05	B	No	No	Yes	Incised channel draining toward the Winooski River.
2024-SC-8	Unnamed tributary to Winooski River	2024-12	1.0	Silt	1	0.5	Intermittent	0.09	B	No	No	Yes	Stream segment in a wetland draining toward the Winooski River.
2024-SC-9a, 2024-SC-9b, 2024-SC-9c	Unnamed tributary to Winooski River	2024-12	2.0	Silt, Sand	1	0.5	Intermittent	<0.05	B	No	No	Yes	Stream segments in a wetland draining toward the Winooski River. Stream flows underground to associated segments.
2024-SC-302	Unnamed tributary to Winooski River	2024-11	4.0	Sand, Gravel	3	1.0	Intermittent	<0.05	B	No	No	Yes	Incised channel draining toward the Winooski River.
2024-SC-303	Unnamed tributary to Winooski River	2024-11	2.0	Sand	2	1.0	Intermittent	<0.05	B	No	No	Yes	Stream flowing from outside the Study Area towards 2024-SC-302.
2024-SC-304	Unnamed tributary to Winooski River	2024-11	1.0	Organic, Silt	1	1.0	Intermittent	<0.05	B	No	No	Yes	Stream forming in an incised seep, drains towards 2024-SC-302.

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 USGS Stream Stats

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.*

⁵ List of River Corridors from the ANR Atlas.

⁶ Determined through guidance from Vermont ANR (2005) *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers.*

Summary of Delineated Wetlands

Project: Williston H Solar, LLC

Client: Encore Renewable Energy

Location: Williston, VT

Prepared By: VHB (B. Galligan, K.Maines)

Delineation Date(s): (VHB: C. Fenner, B. Galligan, M. Jackman, A. Pierce) Various; 2022-2025



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?			
2022-5/2024-5	77,625	PSS, PFO	Surface Water (A1), High Water Table (A2), Saturation (A3), Geomorphic Position (D2), Saturation Visible on Aerial (C9)	Depleted Matrix (F3), Depleted Below Dark Surface (A11)	Yes	Yes (P)	a,b	5.1, 5.2, 5.3, 5.4, 5.10	Yes	II	<i>Typha angustifolia</i> , <i>Onoclea sensibilis</i> , <i>Solidago rugosa</i> , <i>Spiraea alba</i>	Wetland complex associated with perennial stream and drains to the Winooski River.
2023-302	2,320	PEM	FAC-Neutral Test (D5), Geomorphic Position (D2)	Redox Dark Surface (F6)	No	Yes (I)	a,b	5.1, 5.2, 5.3, 5.4, 5.10	Yes	II	<i>Phalaris arundinaceae</i> , <i>Solidago rugosa</i>	Seepy flat wetland between fields, road, and forest areas.
2024-33	1,551	PEM, PFO	Geomorphic Position (D2), Drainage Patterns (B10)	Depleted Matrix (F3)	No	Yes (P)	None	5.1 (L), 5.2 (L)	No	III	<i>Acer negundo</i> , <i>Phragmites australis</i>	Wet forested swale between roadway and stream.
2022-40/2024-40	175,951	PFO/PEM	Saturation (A3), Geomorphic Position (D2)	Depleted Matrix (F3), Redox Dark Surface (F6)	No	Yes (I and P)	a,b	5.1, 5.2, 5.3, 5.4, 5.10	Yes	II	<i>Betula populifolia</i> , <i>Onoclea sensibilis</i> , <i>Phalaris arundinacea</i> , <i>Typha angustifolia</i>	Seep wetland that is associated with an intermittent stream.
2022-7	884	PEM	Saturation (A3)	Depleted Matrix (F3)	No	No	None	5.1 (L), 5.2 (L)	No	III	<i>Phalaris arundinaceae</i>	Depressional wetland in a field.
2024-187	1,964	PFO	Microtopographic Relief (D4), Geomorphic Position (D2)	Depleted Matrix (F3)	No	No	None	5.1 (L), 5.2 (L)	No	III	<i>Tsuga canadensis</i>	Depressional forested wetland.
2024-10	1,024	PFO	Surface Water (A1), Saturation (A3), Microtopographic Relief (D4)	Depleted Matrix (F3)	No	No	None	5.1 (L), 5.2 (L)	No	III	<i>Acer rubrum</i> , <i>Dryopteris intermedia</i>	An isolated seep wetland on a slope.
2024-11	13,287	PFO	Drainage Patterns (B10), Geomorphic Position (D2)	Depleted Matrix (F3)	No	Yes (I and P)	a, b	5.1, 5.2, 5.3, 5.4, 5.10	Yes	II	<i>Betula alleghaniensis</i> , <i>Onoclea sensibilis</i>	Seep wetland that is associated with intermittent stream and drains to the Winooski River.
2024-12	91,086	PFO	Drainage Patterns (B10), Geomorphic Position (D2)	Depleted Matrix (F3)	No	Yes (I and P)	a,b	5.1, 5.2, 5.3, 5.4, 5.10	Yes	II	<i>Acer rubrum</i>	Forested wetland seep that drains to a depression adjacent to the Winooski River.
2024-16	645	PFO	Saturation (A3), Geomorphic Position (D2)	Depleted Matrix (F3)	No	No	None	5.1 (L), 5.2 (L)	No	III	<i>Acer rubrum</i> , <i>Onoclea sensibilis</i>	Depressional wetland on a forested slope.
2024-8	123,289	PFO	Surface Water (A1), Saturation (A3), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Oxidized Rhizospheres on Living Roots (C3), Stunted or Stressed Plants (D1), Geomorphic Position (D2)	Depleted Matrix (F3)	No	Yes (I and P)	a,b	5.1, 5.2, 5.3, 5.4, 5.10	Yes	II	<i>Betula alleghaniensis</i> , <i>Onoclea sensibilis</i>	Seep wetland that drains to the Winooski River outside of the Study Area.
2024-14	19,640	PEM, PFO	Drainage Patterns (B10), Geomorphic Position (D2)	Depleted Matrix (F3)	No	No	a	5.1 (L), 5.2 (L)	Yes	II	<i>Onoclea sensibilis</i> , <i>Fagus grandifolia</i>	Forested wetland seep.
2024-18	1,016	PSS, PFO	Sediment Deposits (B2), Sparsely Vegetated Concave Surface (B8)	Depleted Matrix (F3)	No	No	None	5.1 (L), 5.2 (L)	No	III	<i>Impatiens capensis</i> , <i>Berberis vulgaris</i>	Forested depressional wetland.
2024-19	2,463	PEM, PFO	Saturation (A3), Drift Deposits (B3), Geomorphic Position (D2)	Depleted Matrix (F3)	Yes	No	a,b	5.1, 5.2, 5.3, 5.4, 5.10	Yes	II	<i>Spiraea alba</i> , <i>Tsuga canadensis</i> , <i>Phragmites australis</i>	Connects to riparian wetland complex.
2024- 501	1,365	PFO	Geomorphic Position (D2), Microtopographic Relief (D4)	Depleted Matrix (F3)	No	No	None	5.1 (L), 5.2 (L)	No	III	<i>Dryopteris intermedia</i> , <i>Onoclea sensibilis</i>	Seep slope wetland with upland break before downgradient riparian slope wetland 2024-11

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 (2005) *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, boundaries and classifications reviewed by DEC September 17, 2024

Attachment 4



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

2022-40-up

Project Site:	Williston H Solar, LLC	City/County:	Chittenden	Samp. Date:	5/31/2023
Applicant/Owner:	Encore Renewable Energy	State:	Vermont	Sampling Point:	2022-40-up
Investigator(s):	VHB (A. Pierce)	Section, Township, Range:	Williston		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none):	convex	Slope (%):	12-30
Subregion (LRR or MLRA):	LRR R	Lat:	44.473536	Long:	-73.084916
Soil Map Unit:	Adams and Windsor loamy sands			Datum:	NAD83
				NWI Class:	upland
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?	NO		
Wetland Hydrology Present?	NO		
Remarks: Plot data collected roughly 15 feet beyond limits of the wetland boundary in a similar topographic position at southwest finger of a riparian wetland complex.			

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?	NO
Water Table Present?	Depth (inches):		
Saturation Present?	Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2.20 inches of rain in Burlington, VT (NWS 2023); PDSI 1.71 (Near Normal) in five days prior for week ending 6/10/2023.			
Remarks: No hydrological 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	Remarks
0-7	10YR 4/3	98%	7.5YR 4/6	2%			Loam
8-12	5Y 5/2	55%	10YR 3/3	45%			LOAM
12+	2.5Y 4/3	60%	10YR 2/1	20%			LOAM
			5Y 5/2	15%			
			7.5YR 4/6	5%			
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:			NO				
Depth (inches):							
Remarks: No hydric soil indicators present.							

Tree Stratum	(Plot size: 30' RAD)	Absolute % Cover	Dom. Sp?	Indicator Status
1. Pinus strobus		20	X	FACU
2. Betula populifolia		5	X	FAC
3.				
4.				
5.				
6.				
7.				
		25	= Total Cover	

Sapling Stratum	(Plot size: 15' RAD)	Absolute % Cover	Dom. Sp?	Indicator Status
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	

Shrub Stratum	(Plot size: 15' RAD)	Absolute % Cover	Dom. Sp?	Indicator Status
1. Lonicera morrowii		20	X	FACU
2.				
3.				
4.				
5.				
6.				
7.				
		20	= Total Cover	

Herb Stratum	(Plot size: 5' RAD)	Absolute % Cover	Dom. Sp?	Indicator Status
1. Solidago canadensis		95	X	FACU
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		95	= Total Cover	

Woody Vines	(Plot size: 15' RAD)	Absolute % Cover	Dom. Sp?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **4** (B)

% Dominants OBL, FACW, FAC: **25%** (A/B)

Prevalence Index Worksheet:

Total % Cover of: **140** (A) Multiply By: **3.96** (B)

OBL x 1 = **140**

FACW x 2 = **280**

FAC x 3 = **15**

FACU x 4 = **540**

UPL x 5 = **555**

Sum: **140** (A) **555** (B)

Prevalence Index = B/A = **3.96**

Hydrophytic Vegetation Indicators:

Dominance Test is > 50%

Prevalence Index is <= 3.0

Problematic Hydrophytic Vegetation¹ (explain)

Rapid Test for Hydrophytic Vegetation

Morphological Adaptations

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

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.

Hydrophytic Vegetation Present? **NO**

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

No hydrophytic vegetation dominance observed.



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

2022-40-wet

Project Site:	Williston H Solar, LLC	City/County:	Chittenden	Samp. Date:	5/31/2023
Applicant/Owner:	Encore Renewable Energy	State:	Vermont	Sampling Point:	2022-40-wet
Investigator(s):	VHB (A. Pierce)	Section, Township, Range:	Williston		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none):	concave	Slope (%):	12-30
Subregion (LRR or MLRA):	LRR R	Lat:	44.473041	Long:	-73.083716
Soil Map Unit:	Adams and Windsor loamy sands			Datum:	NAD83
				NWI Class:	PEM/PSS
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?	YES	Is This Sample Area Within a Wetland?	YES
Hydric Soil Present?	YES		
Wetland Hydrology Present?	YES		
Remarks: Plot data collected roughly 10 feet into the feature from the delineated wetland boundary at southwest finger of a riparian wetland complex.			

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):	1	
Water Table Present?	☒	Depth (inches):	surface	
Saturation Present?	☒	Depth (inches):	surface	
Wetland Hydrology Present?				YES
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2.20 inches of rain in Burlington, VT (NWS 2023); PDSI 1.71 (Near Normal) in five days prior for week ending 6/10/2023.				
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
0-6	10YR 2/2	100%					Mucky Loam
6-12	2.5Y 3/2	90%	7.5YR 4/6	10%			SANDY LOAM
12-16	2.5Y 3/2	80%	7.5YR 4/6	10%			FINE SANDY LOAM
			10YR 5/6	10%			
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: <u>30' RAD</u>)	Absolute % Cover	Dom. Sp?	Indicator Status	
1. Betula populifolia	10	X	FAC	Dominance Test Worksheet: # Dominants OBL, FACW, FAC: <u>4</u> (A) # Dominants across all strata: <u>5</u> (B) % Dominants OBL, FACW, FAC: <u>80%</u> (A/B)
2. Salix bebbiana	5	X	FACW	
3.				
4.				
5.				
6.				
7.				
	15	= Total	Cover	Prevalence Index Worksheet: Total % Cover of: <u>15</u> x 1 = <u>15</u> FACW <u>60</u> x 2 = <u>120</u> FAC <u>10</u> x 3 = <u>30</u> ACU <u>10</u> x 4 = <u>40</u> UPL <u>95</u> (A) x 5 = <u>205</u> (B) Sum: <u>95</u> (A) <u>205</u> (B) Prevalence Index = B/A = <u>2.16</u>
Sapling Stratum (Plot size: <u>15' RAD</u>)				
1. Rubus idaeus	10	X	FACU	
2.				
3.				
4.				
5.				
6.				
7.				
	10	= 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.
Shrub Stratum (Plot size: <u>15' RAD</u>)				
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. Hydrophytic Vegetation Present? <u>YES</u>
Herb Stratum (Plot size: <u>5' RAD</u>)				
1. Phalaris arundinacea	50	X	FACW	
2. Typha angustifolia	15	X	OBL	
3. Impatiens capensis	5		FACW	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	70	= Total	Cover	
Woody Vines (Plot size: <u>15' RAD</u>)				
1.				
2.				
3.				
4.				
5.				
		= 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: Williston H Solar, LLC

Prepared by: VHB (W. Durkin, Carla Fenner), October 24, 2025



	Species	Common Name	Type	State Rank	Global Rank	Vermont Status	Federal Status	EO last Observed	Habitat Description ¹	Occurrence Description ²	Optimal Survey Time ³	EO Mapped within Study Area?	Potential for Habitat to Occur Onsite?	Survey Recommended?	
														(yes/no)	Comments
Element Occurrences- 1 Mile Radius	<i>Ammocrypta pellucida</i>	Eastern Sand Darter	Animal	S1	G4	T	-	7/6/2018	Medium to large rivers, primarily over extensive areas of sandy substrate	Found in Winooski River above the falls in Essex	Summer	No	No	No	No potential habitat present on site; no Project impacts to aquatic habitats
	<i>Asclepias amplexicaulis</i>	Blunt-leaved Milkweed	Plant	S1	G5	T	-	7/5/1969	Woodlands, sandplain forests, and dry sandy fields	Found growing beneath transmission lines	Summer to Late Summer	No	Yes	Yes	Species is state threatened with potential habitat on site
	<i>Carex merritt-feraldii</i>	Fernald's Sedge	Plant	S1	G5	-	-	6/28/2012	Well-drained sandy and rocky soils of fields, roadsides, cliffs, and woodlands	Found in closed borrow pit in a sandy opening	Summer	No	Yes	No	Species is not listed and EO polygon not mapped within Study Area
	<i>Carex muehlenbergii</i> var. <i>muehlenbergii</i>	Muehlenberg's Sedge	Plant	S2	G5T5	T	-	9/13/2019	Dry-mesic to xeric, open areas such as grasslands, sandy fields, woodlands, and forest openings	Found growing beneath transmission lines	Summer	No	Yes	Yes	Species is state threatened with potential habitat on site
	<i>Crocianthemum bicknellii</i>	Plains Frostweed	Plant	S2	G5	T	-	9/13/2019	Found in open sandy soils of woodlands, roadsides, clearings, dry fields, and sandplains	Found growing beneath transmission lines	Summer	No	Yes	Yes	Species is state threatened with potential habitat on site
	<i>Crocianthemum canadense</i>	Canada Frostweed	Plant	S2S3	G5	-	-	9/13/2019	Found in open sandy soils of woodlands, roadsides, clearings, dry fields, and sandplains	Found growing beneath transmission lines	Summer	No	Yes	No	Species is not listed and EO polygon not mapped within Study Area
	<i>Cyperus houghtonii</i>	Houghton's Flatsedge	Plant	S2	G4?	T	-	8/8/2008	Riverbanks, sand bars, lakeshores, sand dunes, sandy openings in woods	Found growing beneath transmission lines	Summer	No	Yes	Yes	Species is state threatened with potential habitat on site
	<i>Hybognathus hankinsoni</i>	Brassy Minnow	Animal	S2S3	G5	-	-	2012	Creeks and headwaters of small to medium rivers, with fine gravel or sand channel substrates	Winooski River	Summer	No	No	No	No potential habitat present on site; no Project impacts to aquatic habitats
	<i>Lactuca hirsuta</i>	Hairy Lettuce	Plant	S1S2	G5?	T	-	7/17/2001	Dry fields, roadsides, forest edges and clearings, woodlands	Found growing beneath transmission lines	Summer	No	Yes	Yes	Species is state threatened with potential habitat on site

Prepared by: VHB (W. Durkin, Carla Fenner), October 24, 2025

Potential sources for habitat description listed below

Ahles, Harry E. and Magee, Dennis W. 2007. *Flora of the Northeast*. A Manual of the Vascular Flora of New England and Adjacent New York
Flora of North America. Retrieved from: <http://www.efloras.org/>
Animal Diversity Web. Retrieved from: <https://animaldiversity.org/accounts>

Gilman, Arthur V. 2015. *New Flora of Vermont*. The New York Botanical Garden.

Gleason, Henry A. and Cronquist, Arthur. 1991. *Manual of Vascular Plants of Northeast United States and Adjacent Canada*. The New York Botanical Garden.

Haines, Arthur. 2011. *Flora Novae Angliae*. New England Wildflower Society/Yale University Press, New Haven, CT. 973 Pp.

Langdon, Richard W., Ferguson, Mark T. and Cox, Kenneth M. 2006. *Fishes of Vermont*. Vermont Department of Fish and Wildlife.

Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Little, Brown, and Company, Boston

Seymour, Frank Conkling. 1982. *The Flora of New England*. 2d ed. Phytologia Memoirs 5, Plainfield, NJ: Harold N. Moldenke and Alma L. Moldenke. 611 p. [7604]

Thompson, Elizabeth H., Sorenson, Eric R. and Zaino, Robert J. 2019. *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont*. Vermont Department of Fish and Wildlife and The Nature Conservancy.

Vermont Natural Resources Atlas. Accessed October 2025. 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: Williston H Solar, LLC

Survey Date(s): August 7-8, 2024 (W. Durkin), September 12, 2024 (W. Durkin)

Prepared by: VHB (W. Durkin), January 6, 2025

Scientific Name ¹	Common Name	Family	Observed Habitat		VT Rarity Rank ^{2,3}	Non-Native Invasive Species ⁴
			Upland	Wetland		
<i>Acer negundo</i> L.	boxelder	Aceraceae	X		-	-
<i>Acer rubrum</i> L.	red maple	Aceraceae	X		-	-
<i>Acer saccharum</i> Marshall	sugar maple	Aceraceae	X		-	-
<i>Achillea millefolium</i> L.	common yarrow	Asteraceae	X		-	-
<i>Actaea pachypoda</i> Elliott	white baneberry	Ranunculaceae	X		-	-
<i>Alnus incana</i> (L.) Moench	gray alder	Betulaceae	X		-	-
<i>Ambrosia artemisiifolia</i> L.	annual ragweed	Asteraceae	X		-	-
<i>Amphicarpaea bracteata</i> (L.) Fernald	American hogpeanut	Fabaceae	X		-	-
<i>Arabis glabra</i> (L.) Bernh.	tower rockcross	Brassicaceae	X		-	-
<i>Aralia hispida</i> Vent.	bristly sarsaparilla	Araliaceae	X		-	-
<i>Aralia nudicaulis</i> L.	wild sarsaparilla	Araliaceae	X		-	-
<i>Arisaema triphyllum</i> (L.) Schott	Jack in the pulpit	Araceae		X	-	-
<i>Artemisia vulgaris</i> L.	common wormwood	Asteraceae	X		-	-
<i>Athyrium filix-femina</i> (L.) Roth	common ladyfern	Dryopteridaceae	X		-	-
<i>Berberis vulgaris</i> L.	common barberry	Berberidaceae	X		-	B
<i>Berteroa incana</i> (L.) DC.	hoary alyssum	Brassicaceae	X		-	-
<i>Betula alleghaniensis</i> Britton	yellow birch	Betulaceae	X	X	-	-
<i>Betula populifolia</i> Marshall	gray birch	Betulaceae	X		-	-
<i>Bromus inermis</i> Leyss.	smooth brome	Poaceae	X		-	-
<i>Calystegia sepium</i> (L.) R. Br.	hedge false bindweed	Convolvulaceae	X		-	-
<i>Carex debilis</i> Michx.	white edge sedge	Cyperaceae	X		-	-
<i>Carex deweyana</i> Schwein.	Dewey sedge	Cyperaceae	X		-	-
<i>Carex gracillima</i> Schwein.	graceful sedge	Cyperaceae	X		-	-
<i>Carex gynandra</i> Schwein.	nodding sedge	Cyperaceae		X	-	-
<i>Carex intumescens</i> Rudge	greater bladder sedge	Cyperaceae		X	-	-
<i>Carex lurida</i> Wahlenb.	shallow sedge	Cyperaceae		X	-	-
<i>Carex pallescens</i> L.	pale sedge	Cyperaceae	X		-	-
<i>Carex prasina</i> Wahlenb.	drooping sedge	Cyperaceae	X		-	-
<i>Carex projecta</i> Mack.	necklace sedge	Cyperaceae		X	-	-
<i>Carex radiata</i> (Wahlenb.) Small	eastern star sedge	Cyperaceae	X		-	-
<i>Carex sparganioides</i> Muhl. ex Willd.	bur-reed sedge	Cyperaceae	X		-	-
<i>Carex stipata</i> Muhl. ex Willd.	awlfruit sedge	Cyperaceae	X		-	-
<i>Carex swanii</i> (Fernald) Mack.	Swan's sedge	Cyperaceae	X		-	-
<i>Carex tenera</i> Dewey	quill sedge	Cyperaceae	X		-	-
<i>Carex virescens</i> Muhl. ex Willd.	ribbed sedge	Cyperaceae	X		-	-
<i>Carya cordiformis</i> (Wangenh.) K. Koch	bitternut hickory	Juglandaceae	X		-	-
<i>Celastrus orbiculatus</i> Thunb.	Oriental bittersweet	Celastraceae	X		-	B
<i>Centaurea maculosa</i> auct. non Lam.	spotted knapweed	Asteraceae	X		-	WL
<i>Chelidonium majus</i> L.	celandine	Papaveraceae	X	X	-	-
<i>Cichorium intybus</i> L.	chicory	Asteraceae	X		-	-
<i>Circaea × intermedia</i> Ehrh. (pro sp.) [alpina × lutetiana]	enchanter's nightshade	Onagraceae	X		-	-
<i>Clematis virginiana</i> L.	devil's darning needles	Ranunculaceae	X		-	-
<i>Cornus alternifolia</i> L. f.	alternateleaf dogwood	Cornaceae	X		-	-
<i>Cyperus esculentus</i> L.	yellow nutsedge	Cyperaceae	X		-	-
<i>Dactylis glomerata</i> L.	orchardgrass	Poaceae	X		-	-
<i>Daucus carota</i> L.	Queen Anne's lace	Apiaceae	X		-	-
<i>Lycopodium dendroideum</i> Michx.	tree groundpine	Lycopodiaceae	X		-	-
<i>Dennstaedtia punctilobula</i> (Michx.) T. Moore	eastern hayscented fern	Dennstaedtiaceae	X		-	-
<i>Dianthus armeria</i> L.	Deptford pink	Caryophyllaceae	X		-	-
<i>Dichanthelium clandestinum</i> (L.) Gould	deertongue	Poaceae	X		-	-
<i>Digitaria sanguinalis</i> (L.) Scop.	hairy crabgrass	Poaceae	X		-	-
<i>Dryopteris intermedia</i> (Muhl. ex Willd.) A. Gray	intermediate woodfern	Dryopteridaceae	X		-	-
<i>Dryopteris marginalis</i> (L.) A. Gray	marginal woodfern	Dryopteridaceae	X		-	-
<i>Epifagus virginiana</i> (L.) W.P.C. Barton	beechdrops	Orobanchaceae	X		-	-
<i>Epilobium hirsutum</i> L.	codlins and cream	Onagraceae		X	-	-
<i>Epipactis helleborine</i> (L.) Crantz	broadleaf helleborine	Orchidaceae	X		-	-
<i>Equisetum arvense</i> L.	field horsetail	Equisetaceae	X		-	-
<i>Erigeron strigosus</i> Muhl. ex Willd.	prairie fleabane	Asteraceae	X		-	-
<i>Eurybia divaricata</i> (L.) G.L. Nesom	white wood aster	Asteraceae	X		-	-
<i>Euthamia graminifolia</i> (L.) Nutt.	flat-top goldentop	Asteraceae	X		-	-
<i>Eutrochium maculatum</i> (L.) E.E. Lamont	spotted joe pye weed	Asteraceae		X	-	-
<i>Fagus grandifolia</i> Ehrh.	American beech	Fagaceae	X		-	-
<i>Fragaria virginiana</i> Duchesne	Virginia strawberry	Rosaceae	X		-	-
<i>Frangula alnus</i> Mill.	glossy buckthorn	Rhamnaceae	X		-	B
<i>Fraxinus americana</i> L.	white ash	Oleaceae	X		-	-
<i>Galium mollugo</i> L.	false baby's breath	Rubiaceae	X		-	-
<i>Galium triflorum</i> Michx.	fragrant bedstraw	Rubiaceae	X		-	-
<i>Geum canadense</i> Jacq.	white avens	Rosaceae	X		-	-
<i>Glyceria melicaria</i> (Michx.) F.T. Hubbard	melic mannagrass	Poaceae		X	-	-
<i>Gymnocarpium dryopteris</i> (L.) Newman	western oakfern	Dryopteridaceae	X		-	-

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Scientific Name ¹	Common Name	Family	Observed Habitat		VT Rarity Rank ^{2,3}	Non-Native Invasive Species ⁴
			Upland	Wetland		
<i>Hemerocallis fulva</i> (L.) L.	orange daylily	Liliaceae	X		-	-
<i>Hieracium scabrum</i> Michx.	rough hawkweed	Asteraceae	X		-	-
<i>Huperzia lucidula</i> (Michx.) Trevis.	shining clubmoss	Lycopodiaceae	X		-	-
<i>Hydrocotyle americana</i> L.	American marshpennywort	Apiaceae		X	-	-
<i>Hypericum perforatum</i> L.	common St. Johnswort	Clusiaceae	X		-	-
<i>Ilex verticillata</i> (L.) A. Gray	common winterberry	Aquifoliaceae		X	-	-
<i>Impatiens capensis</i> Meerb.	jewelweed	Balsaminaceae		X	-	-
<i>Juncus effusus</i> L.	common rush	Juncaceae		X	-	-
<i>Lactuca canadensis</i> L.	Canada lettuce	Asteraceae	X		-	-
<i>Laportea canadensis</i> (L.) Weddell	Canadian woodnettle	Urticaceae		X	-	-
<i>Leontodon autumnalis</i> L.	fall dandelion	Asteraceae	X		-	-
<i>Lonicera morrowii</i> A. Gray	Morrow's honeysuckle	Caprifoliaceae	X		-	B
<i>Lotus corniculatus</i> L.	bird's-foot trefoil	Fabaceae	X		-	-
<i>Lythrum salicaria</i> L.	purple loosestrife	Lythraceae		X	-	B
<i>Maianthemum canadense</i> Desf.	Canada mayflower	Liliaceae	X		-	-
<i>Medeola virginiana</i> L.	Indian cucumber	Liliaceae	X		-	-
<i>Mitchella repens</i> L.	partridgeberry	Rubiaceae	X		-	-
<i>Monotropa hypopithys</i> L.	pinemap	Monotropaceae	X		-	-
<i>Monotropa uniflora</i> L.	Indianpipe	Monotropaceae	X		-	-
<i>Oenothera biennis</i> L.	common evening primrose	Onagraceae	X		-	-
<i>Onoclea sensibilis</i> L.	sensitive fern	Dryopteridaceae		X	-	-
<i>Osmunda cinnamomea</i> L.	cinnamon fern	Osmundaceae	X		-	-
<i>Osmunda claytoniana</i> L.	interrupted fern	Osmundaceae	X	X	-	-
<i>Osmunda regalis</i> L.	royal fern	Osmundaceae		X	-	-
<i>Oxalis montana</i> Raf.	mountain woodsorrel	Oxalidaceae	X		-	-
<i>Oxalis stricta</i> L.	common yellow oxalis	Oxalidaceae	X		-	-
<i>Panicum capillare</i> L.	witchgrass	Poaceae	X		-	-
<i>Panicum dichotomiflorum</i> Michx.	fall panicgrass	Poaceae	X		-	-
<i>Parthenocissus quinquefolia</i> (L.) Planch.	Virginia creeper	Vitaceae	X		-	-
<i>Pastinaca sativa</i> L.	wild parsnip	Apiaceae	X		-	WL
<i>Phalaris arundinacea</i> L.	reed canarygrass	Poaceae		X	-	WL
<i>Phegopteris connectilis</i> (Michx.) Watt	long beechfern	Thelypteridaceae	X		-	-
<i>Phleum pratense</i> L.	timothy	Poaceae	X		-	-
<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	common reed	Poaceae		X	-	B
<i>Physalis hederifolia</i> A. Gray	ivyleaf groundcherry	Solanaceae	X		-	-
<i>Pinus strobus</i> L.	eastern white pine	Pinaceae	X		-	-
<i>Plantago lanceolata</i> L.	narrowleaf plantain	Plantaginaceae	X		-	-
<i>Plantago major</i> L.	common plantain	Plantaginaceae	X		-	-
<i>Poa pratensis</i> L.	Kentucky bluegrass	Poaceae	X		-	-
<i>Polygonum sagittatum</i> L.	arrowleaf tearthumb	Polygonaceae		X	-	-
<i>Polygonum virginianum</i> L.	jumpseed	Polygonaceae	X		-	-
<i>Polystichum acrostichoides</i> (Michx.) Schott	Christmas fern	Dryopteridaceae	X		-	-
<i>Populus grandidentata</i> Michx.	bigtooth aspen	Salicaceae	X		-	-
<i>Populus tremuloides</i> Michx.	quaking aspen	Salicaceae	X		-	-
<i>Potentilla recta</i> L.	sulphur cinquefoil	Rosaceae	X		-	-
<i>Prunella vulgaris</i> L.	common selfheal	Lamiaceae	X		-	-
<i>Prunus serotina</i> Ehrh.	black cherry	Rosaceae	X		-	-
<i>Pycnanthemum tenuifolium</i> Schrad.	narrowleaf mountainmint	Lamiaceae	X		-	-
<i>Pyrola elliptica</i> Nutt.	waxflower shinleaf	Pyrolaceae	X		-	-
<i>Quercus rubra</i> L.	northern red oak	Fagaceae	X		-	-
<i>Rhamnus cathartica</i> L.	common buckthorn	Rhamnaceae	X		-	B
<i>Robinia pseudoacacia</i> L.	black locust	Fabaceae	X		-	WL
<i>Rubus allegheniensis</i> Porter	Allegheny blackberry	Rosaceae	X		-	-
<i>Rubus idaeus</i> L.	American red raspberry	Rosaceae	X		-	-
<i>Rubus occidentalis</i> L.	black raspberry	Rosaceae	X		-	-
<i>Rubus pergratus</i> Blanch.	upland blackberry	Rosaceae	X		-	-
<i>Rubus pubescens</i> Raf.	dwarf red blackberry	Rosaceae	X	X	-	-
<i>Rudbeckia hirta</i> L.	blackeyed Susan	Asteraceae	X		-	-
<i>Salix bebbiana</i> Sarg.	Bebb willow	Salicaceae	X		-	-
<i>Saponaria officinalis</i> L.	bouncingbet	Caryophyllaceae	X		-	-
<i>Securigera varia</i> (L.) Lassen	crownvetch	Fabaceae	X		-	-
<i>Setaria italica</i> (L.) P. Beauv.	foxtail millet	Poaceae	X		-	-
<i>Solanum carolinense</i> L.	Carolina horsenettle	Solanaceae	X		-	-
<i>Solanum dulcamara</i> L.	climbing nightshade	Solanaceae	X		-	-
<i>Solidago caesia</i> L.	wreath goldenrod	Asteraceae	X	X	-	-
<i>Solidago canadensis</i> L.	Canada goldenrod	Asteraceae	X		-	-
<i>Solidago gigantea</i> Aiton	giant goldenrod	Asteraceae		X	-	-
<i>Solidago rugosa</i> Mill.	wrinkleleaf goldenrod	Asteraceae	X		-	-
<i>Spiraea alba</i> Du Roi	white meadowsweet	Rosaceae		X	-	-
<i>Stellaria graminea</i> L.	grass-like starwort	Caryophyllaceae	X		-	-

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Scientific Name ¹	Common Name	Family	Observed Habitat		VT Rarity Rank ^{2,3}	Non-Native Invasive Species ⁴
			Upland	Wetland		
<i>Symphytotrichum lanceolatum</i> (Willd.) G.L. Nesom	white panicle aster	Asteraceae	X		-	-
<i>Symphytotrichum lateriflorum</i> (L.) A. Löve & D. Löve	calico aster	Asteraceae	X		-	-
<i>Symphytotrichum novae-angliae</i> (L.) G.L. Nesom	New England aster	Asteraceae	X	X	-	-
<i>Symphytotrichum puniceum</i> (L.) A. Löve & D. Löve	purplestem aster	Asteraceae	X	X	-	-
<i>Thalictrum pubescens</i> Pursh	king of the meadow	Ranunculaceae	X	X	-	-
<i>Thelypteris noveboracensis</i> (L.) Nieuwl.	New York fern	Thelypteridaceae	X		-	-
<i>Tiarella cordifolia</i> L.	heartleaf foamflower	Saxifragaceae		X	-	-
<i>Toxicodendron rydbergii</i> (Small ex Rydb.) Greene	western poison ivy	Anacardiaceae	X		-	-
<i>Tragopogon dubius</i> Scop.	yellow salsify	Asteraceae	X		-	-
<i>Trientalis borealis</i> Raf.	starflower	Primulaceae	X		-	-
<i>Trifolium arvense</i> L.	rabbitfoot clover	Fabaceae	X		-	-
<i>Trifolium pratense</i> L.	red clover	Fabaceae	X		-	-
<i>Trifolium repens</i> L.	white clover	Fabaceae	X		-	-
<i>Tsuga canadensis</i> (L.) Carrière	eastern hemlock	Pinaceae	X		-	-
<i>Typha angustifolia</i> L.	narrowleaf cattail	Typhaceae		X	-	-
<i>Ulmus americana</i> L.	American elm	Ulmaceae	X		-	-
<i>Urtica dioica</i> L.	stinging nettle	Urticaceae	X		-	-
<i>Uvularia sessilifolia</i> L.	sessileleaf bellwort	Liliaceae	X		-	-
<i>Vaccinium angustifolium</i> Aiton	lowbush blueberry	Ericaceae	X		-	-
<i>Verbena urticifolia</i> L.	white vervain	Verbenaceae	X		-	-
<i>Veronica officinalis</i> L.	common gypsyweed	Scrophulariaceae	X		-	-
<i>Vicia cracca</i> L.	bird vetch	Fabaceae	X		-	-
<i>Vitis labrusca</i> L.	fox grape	Vitaceae	X		-	-
<i>Vitis riparia</i> Michx.	riverbank grape	Vitaceae	X		-	-

X - Plant species was found in this community type.

¹ Nomenclature follows USDA-NRCS PLANTS database (plants.usda.gov/) (2024).

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:

06/17/2024 13:22:29 UTC

Project Code: 2024-0104605

Project Name: 58972.08 Encore GF Group H

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: 2024-0104605
Project Name: 58972.08 Encore GF Group H
Project Type: Power Gen - Solar
Project Description: Solar power generation construction
Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.47579025,-73.0846079343766,14z>



Counties: Chittenden County, Vermont

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

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

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

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

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

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

CRITICAL HABITATS

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

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

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