

**Natural Resources Assessment  
4.999 MW Photovoltaic  
Electric Generation Facility:  
Distribution Line Upgrade  
Novus Buck Solar Project**

**Newport Town, Vermont**

*Prepared by:*

*Arrowwood Environmental, LLC*

*August 11, 2026*



**ARROWWOOD ENVIRONMENTAL**

950 BERT WHITE ROAD  
HUNTINGTON, VT 05462  
(802) 434-7276 [arrowwoodvt.com](http://arrowwoodvt.com)

**Natural Resources Assessment for  
4.999 MW Photovoltaic Electric Generation Facility:  
Distribution Line Upgrade  
Novus Buck Solar Project**

**Contents**

|       |                                                                                            |    |
|-------|--------------------------------------------------------------------------------------------|----|
| I.    | Project Description and Summary Findings .....                                             | 3  |
| II.   | Site Characterization.....                                                                 | 5  |
| III.  | Criterion 1(A) Headwaters .....                                                            | 6  |
| IV.   | Criterion 1(D) Floodways .....                                                             | 6  |
| V.    | Criteria 1(E) Streams and Section 248(b)(8) Outstanding Resource Waters .....              | 7  |
| VI.   | Criterion 1(F) Shorelines .....                                                            | 8  |
| VII.  | Criterion 1(G) Wetlands.....                                                               | 8  |
| VIII. | Criterion 8 Rare and Irreplaceable Natural Areas .....                                     | 9  |
| IX.   | Criterion 8(A) Necessary Wildlife Habitat and Rare, Threatened and Endangered Species..... | 10 |
| X.    | References.....                                                                            | 13 |



**Natural Resources Assessment for  
4.999 MW Photovoltaic Electric Generation Facility:  
Distribution Line Upgrade  
Novus Buck Solar Project**

## **I. Project Description and Summary Findings**

Arrowwood Environmental, LLC (AE) conducted a natural resources assessment for the proposed Distribution Line Upgrade (“Line Upgrade”) required for the Vermont Electric Cooperative (“VEC”) distribution line for interconnection of the Novus Buck Solar Project located off Buck Road in Newport Town, Vermont. As indicated on the Distribution Line Upgrade Plan (Exhibit NBS-AB-8), the Line Upgrade commences at VEC PP#115 126A on Buck Road in Newport Town and ends at VEC PP #118 74 on Route 14 just south of Spencer Hill Road in Coventry. The line upgrade includes reconductoring with potential pole replacements as necessary to meet VEC three-phase configuration requirements within the existing ~3.4 mile utility corridor. Where required, VEC has confirmed to Novus Buck Solar that pole replacement will be in kind with new poles located within 3-5’ of the existing poles. Existing poles will be cut flush and removed. The Line Upgrade will not result in any changes to existing vegetation management within the existing utility corridor.

While the Line Upgrades will be conducted by VEC, as part of the assessment of the potential environmental impacts related to the Novus Buck Solar Project, AE assessed the potential for impacts from the Line Upgrade on natural resource criteria under 30 V.S.A. § 248(b)(5) incorporated by the Public Utility Commission into the review of solar projects, including streams and headwaters, outstanding resource waters,

shorelines, floodways, wetlands, rare and irreplaceable natural areas, necessary wildlife habitat, and rare, threatened, and endangered species. The natural resources assessment involved both a remote review of available digital databases as well as field investigation on August 10, 2026. This report outlines AE's findings related to these natural resources criteria.

There are no outstanding resource waters, shorelines, floodways, necessary wildlife habitat, rare, threatened, or endangered species, or rare and irreplaceable natural areas within the Line Upgrade route. AE concludes that the Line Upgrade will have no undue adverse impacts to these resources.

There are surface waters present within the route for the Line Upgrade. The Line Upgrade will not result in changes to the existing vegetation management within the corridor and adjacent to surface waters.

Portions of the Line Upgrade route meet the Headwaters criteria of a drainage area less than 20 square miles. The proposed Line Upgrade will not result in a reduction in the quality of ground or surface waters in the area.

The Line Upgrade is partially located within the river corridors of Stony Brook and an unnamed tributary to Dunn Brook. The Line Upgrade involves reconductoring and in-kind replacement of existing poles with no substantive change in vertical or horizontal dimension. The Line Upgrade will not endanger the health, safety, and welfare of the public or riparian owners as it relates to fluvial erosion.

AE field review confirmed the presence of both Class II and Class III wetlands within and adjacent to the Line Upgrade route. The Line Upgrade is considered an allowed use under the Vermont Wetland Rules and will not result in undue adverse impacts on wetlands or wetland buffers.

In summary, AE concludes that the Line Upgrade will have no undue adverse impacts to natural resources including streams and headwaters, floodways, outstanding

resource waters, shorelines, wetlands, rare and irreplaceable natural areas, necessary wildlife habitat, and rare, threatened, and endangered species.

## II. Site Characterization

Ecologically the site is within the Northern Vermont Piedmont biophysical region of the state (Thompson and Sorenson, 2019). The Line Upgrade route is located at approximately 950 feet above mean sea level according to U.S. Geologic Survey (“USGS”) topographic data. The Line Upgrade route is generally located within an existing utility corridor along Route 14 and Buck Road. A short section (~1400 linear ft) of the corridor to the east of Buck Road is routed cross- country through managed lawn, scrub wetland, and old field.



Utility corridor along Route 14 (8/10/26)

### **III. Criterion 1(A) Headwaters**

A site is considered to be a Headwater if it meets any of the following criteria: it is characterized by steep slopes and shallow soils; it is above 1,500 feet in elevation; it has a drainage area of less than 20 square miles; it is within the watershed of public water supplies; or if it provides significant recharge to aquifers. The headwaters assessment involved both a remote review of the USGS topographic map and Vermont Hydrography Dataset (streams, rivers, and waterbodies) and field investigation. Portions of the Line Upgrade route meet the criteria for a drainage area less than 20 square miles.

The Line Upgrade consists of reconductoring and in-kind replacement of existing poles within an existing utility corridor. Existing poles will be cut flush and removed. Access to the existing poles is available from Route 14, Buck Road, Wheeler Court, existing driveways, and managed lawns. The proposed Line Upgrade will not result in a reduction in the quality of ground or surface waters in the area. For these reasons, we conclude that the Line Upgrade will have no undue adverse impact on headwater areas.

### **IV. Criterion 1(D) Floodways**

AE reviewed the FEMA DFIRM (Digital Flood Insurance Rate Map Database) and the VT ANR's Flood Ready Atlas to identify floodways or flood fringes. AE also reviewed ANR's river corridor data layer on the VT ANR's Flood Ready Atlas.

The Line Upgrade is not located within a 100-year Zone Area and will not restrict or divert the flow of floodwaters or significantly increase the peak discharge of a river or stream within or downstream from the area of development.

The Line Upgrade is partially located within the river corridors of Stony Brook and an unnamed tributary to Dunn Brook. The Line Upgrade involves reconductoring and in-kind replacement of existing poles within an existing utility corridor with no

substantive change in vertical or horizontal dimension. Existing poles will be cut flush and removed. New poles will be installed within 3-5' of the existing pole. There will be no change in the number or location of poles. The vegetation management in the existing utility corridor will not be altered as result of the Line Upgrade. Therefore, the Line Upgrade will not have any undue, adverse impacts on floodways or river corridors, nor will it endanger the health, safety, and welfare of the public or riparian owners as it relates to flood events or fluvial erosion.

## **V. Criteria 1(E) Streams and Section 248(b)(8) Outstanding Resource Waters**

The stream assessment involved both a remote review of the USGS topographic map, Vermont Hydrography Dataset (streams, rivers, and waterbodies), LiDAR derived topography, and field investigation.

There are surface waters present within the route for the Line Upgrade. The Line Upgrade consists of reconductoring and in-kind pole replacement within an existing utility corridor. The Line Upgrade will not result in changes to the existing vegetation management within the utility corridor or adjacent to surface waters. Existing poles span surface water resources which will not change with the upgrade. Access to the existing line is available from roadways, driveways, and managed lawns with no new vegetation clearing required. The Line Upgrade will not result in an increase in the number of poles, a change in the location of poles, or any new clearing of forest vegetation within the riparian buffer zones (as measured 50' from top of bank/top of slope/ and edge of wetland) of any stream resources. For these reasons, we conclude that the Line Upgrade will have no adverse impact on streams.

The Agency of Natural Resources has listed four waterways as Outstanding Resource Waters (ORW): Batten Kill River in towns of East Dorset and Arlington; Pike's Falls/Ball Mountain in the town of Jamaica; Poultney River in the towns of Poultney and Fair

Haven; and Great Falls, Ompompanoosuc in the town of Thetford. There are no waters which intersect the Line Upgrade that have been designated as an ORW. Therefore, the Line Upgrade will not result in any impact on ORWs.

## **VI. Criterion 1(F) Shorelines**

AE reviewed USGS topographic maps, the Vermont Hydrography Dataset (streams, rivers, and waterbodies), and digital orthophotography. The route of the Line Upgrade is not located on the shoreline of a river, lake, pond, or reservoir. Therefore, the Line Upgrade will result in no adverse impact to shorelines.

## **VII. Criterion 1(G) Wetlands**

The wetland assessment involved both a remote review of available maps (including Vermont Significant Wetland Inventory Maps and the NRCS Soil Survey), consultation with the Vermont Wetlands Program, and a field inventory component conducted on August 10, 2026.

AE field review confirmed the presence of both Class II and Class III wetlands within and adjacent to the Line Upgrade route. The Line Upgrade consists of reconductoring and in-kind replacement of existing poles within an existing utility corridor. Existing poles will be cut flush and removed and new poles located within 3' to 5' of the existing pole with no new woody vegetation clearing outside of the existing managed corridor. Access to the existing line is available via Route 14, Buck Road, Wheeler Court, existing driveways, and managed lawns. Construction is not required in wetland or wetland buffer to reach and replace existing poles.

Petitioner has been informed that VEC follows the Best Management Practices associated with Section 6.08 of the Vermont Wetland Rules ([https://dec.vermont.gov/sites/dec/files/wsm/wetlands/docs/wl\\_utilitymain\\_bmp.p](https://dec.vermont.gov/sites/dec/files/wsm/wetlands/docs/wl_utilitymain_bmp.p)

[df](#)). The Vermont Wetlands Program confirmed via email dated July 27, 2026 that for these reasons, the Line Upgrade is considered an allowed use under the Vermont Wetland Rules and that a wetland delineation is not required.

For these reasons, the proposed Line Upgrade will comply with the Vermont Wetland Rules and will have no undue adverse impact on wetland resources.

## **VIII. Criterion 8 Rare and Irreplaceable Natural Areas**

The Rare and Irreplaceable Natural Areas assessment involved both a remote review of available digital maps for the Line Upgrade route and a field review on August 10, 2026. AE reviewed digital orthophotography, the NRCS Soil Survey, the 2011 Bedrock Geologic Map of Vermont, and the Wildlife Natural Heritage Inventory (NHI) Rare, Threatened and Endangered Species digital database.

In reviewing the NHI digital database, there are no records or occurrences of significant natural communities in or directly adjacent to the Line Upgrade route.

The Line Upgrade route is located within an existing utility corridor, primarily along Route 14 and Buck Road. Vegetation management of the corridor results in old field conditions in the uplands and shrub thicket in the wetlands. These areas do not constitute a significant natural community or a Rare and Irreplaceable Natural Area (RINA). No RINAs are present within the Line Upgrade area. Since there are no RINAs in the Line Upgrade area, there will be no adverse impacts on any Rare and Irreplaceable Natural Areas.

## **IX. Criterion 8(A) Necessary Wildlife Habitat and Rare, Threatened and Endangered Species**

The wildlife habitat assessment involved both a remote review of available digital maps for the Line Upgrade area and a field inventory component. A remote review of available digital databases was conducted to identify and map necessary wildlife habitat (including State of Vermont Deeryard data layer, USGS Topographic map, and “VT HYDRODEM” elevation data) in the Line Upgrade area. The field inventory component involved characterizing vegetation natural communities and recording observations of wildlife signs or sightings during the field survey.

The field assessment was conducted on August 10, 2026 to assess wildlife, wildlife habitats, and threatened and endangered animal species.

### **A. Necessary Wildlife Habitats**

#### **1. White-tailed Deer Wintering Habitats**

There are no mapped VT Fish and Wildlife Department white-tailed deer (*Odocoileus virginianus*) winter habitats (DWA) in the Line Upgrade area. The closest mapped DWA is located approximately 1.4 miles to the southwest of the southern end of the Line Upgrade. AE confirmed the absence of historic or recent deer wintering activity as well as lack of forested areas containing significant enough softwood canopy closure to be considered DWA habitat in the Line Upgrade area. The Line Upgrade will result in no change in the vegetation management within the existing utility corridor. The proposed Line Upgrade will have no undue adverse impact on DWA resources.

#### **2. Black Bear Habitat**

There is no bear habitat identified by the Vermont Fish and Wildlife Department within the Line Upgrade route and no observations of bear use or feeding (including bear claw scarring, bear dens, scat) were made during the field inventory of the route. The Line

Upgrade is primarily located within the high volume traffic Route 14 transportation corridor which does not provide appropriate habitat for bear use or feeding. The Line Upgrade will not result in changes to the vegetation management within the route. The Line upgrade will therefore have no undue adverse impact on black bear habitat.

### **3. Grassland Bird Habitat**

The Vermont Fish and Wildlife Department (VFWD) considers grassland bird habitat to be easily identifiable, concentrated, and essential for the reproductive success and survival of a suite of birds. Grasslands used by many species of grassland birds consist of large expanses (minimum of ~20 acres) of native grasses with little or no woody vegetation. There are no fields of adequate size in close proximity to the Line Upgrade route. The Line Upgrade will result in no change in the vegetation management within the existing utility corridor. The Line Upgrade will have no undue adverse impact on grassland bird habitat.

### **4. Amphibian Breeding Habitat/Vernal Pools**

The Vermont Department of Fish and Wildlife considers intact well-functioning breeding pools that are interconnected to intact upland forest necessary wildlife habitat for pool-breeding amphibians. Field assessment conducted in August 2026 did not identify any potentially functioning vernal pools within the Line Upgrade route. The Line Upgrade will have no undue adverse impact on vernal pools.

### **B. Rare, Threatened and Endangered (RTE) Species**

The RTE species review involved a remote review of available digital maps for the Line Upgrade area as well as consultation with the State Botanist. AE reviewed digital orthophotography, the NRCS Soil Survey, the 2011 Bedrock Geologic Map of Vermont, and the Wildlife Natural Heritage Inventory (NHI) Rare, Threatened and Endangered Species digital database.

In reviewing the NHI digital database, there are no records or occurrences of RTE species in or directly adjacent to the Line Upgrade route.

## **1. RTE Animal Species**

The Line Upgrade route is within predicted summer ranges for both Northern long-eared bat (State and Federally listed) and Tricolored bat (State listed). Vermont Fish and Wildlife Department has issued guidance that Line Upgrade clearing constituting greater than 1% of the total forested area within a 1 square mile radius of a Line Upgrade triggers review for habitat loss of these endangered species. The Line Upgrade involves no change in existing utility corridor management or tree clearing and will therefore have no undue adverse impact on roosting bats.

The Line Upgrade is not in an area that potentially provides summer roosting habitat for Indiana bat, there are no old or abandoned buildings potentially providing roosting habitat for little brown bat proposed for demolition, and there are no known bat hibernacula or maternity roosts within 1.5 miles of the Line Upgrade route.

The NHI digital database contains a record for the uncommon wood turtle (*Glyptemys insculpta*) immediately south of the start of the Line Upgrade. The record was observed in 2016 and associated with Stony Brook. The Line Upgrade involves reconductoring and in kind replacement of existing poles directly adjacent to Route 14 in the vicinity of Stony Brook. Access to work on the existing poles is available from Route 14. The Line Upgrade will not result in changes to existing vegetation management within the existing utility corridor and therefore will have no new impacts on potential habitat for this species.

The Line Upgrade will have no undue adverse impact on RTE animal species.

## **2. RTE Plant Species**

There are no known records or occurrences of RTE plant species within the route for the Line Upgrade. The Line Upgrade consists of reconductoring and in-kind pole replacement within the existing utility corridor, which is subject to existing utility

vegetation management practices. The State Botanist determined by email correspondence dated July 29, 2026, and AE concurs that an RTE plant species survey is not necessary. The Line Upgrade will have no undue adverse impact on RTE plant species.

## **X. References**

Argentine, Cindy Corlett. Vermont Act 250 Handbook. Putney Press. 2008.

Natural Resources Board. Vermont Wetland Rules. Effective February 10, 2023.

Natural Resources Conservation Service. Soil Survey Maps.

Ratcliffe, N.M., Stanley, R.S., Gale, M.H., Thompson, P.J., and Walsh, G.J., 2011, Bedrock geologic map of the Vermont: U. S. Geological Survey Scientific Investigations Map 3184, scale 1:100,000.

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

Vermont Agency of Natural Resources. Vermont Wetland Rules (Revision Effective Date: August 8, 2026).

Vermont Agency of Natural Resources. The Vermont Standards and Specifications for Erosion Prevention & Sediment Control. June 2025.

Vermont Fish and Wildlife Department. *Vermont Fish and Wildlife Department Regulatory Review Guidance for Protecting Northern Long-eared Bats and Their Habitats*. February 2017.

Vermont Fish and Wildlife Department. *Guidance for Conducting Rare, Threatened, and Endangered Plant Inventories in Connection with Section 248 Line Upgrades*. 2016.