Exhibit DPS-GP-2

Aesthetics Analysis and Orderly Development Review

Northland Solar Project

Town of Lowell, Orleans County, Vermont

PUC Case Number 25-2346-PET

Prepared for:

VERMONT
DEPARTMENT OF PUBLIC SERVICE

Vermont Department of Public Service
112 State Street, Third Floor
Montpelier, Vermont 05620-2601

Prepared by:

EDR

Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
edrdpc.com

March 2026

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF ATTACHMENTS

1.0 INTRODUCTION

In accordance with the requirements of 30 V.S.A. § 248 and 8010, Northland Solar LLC (the Petitioner) filed an application with the Vermont Public Utility Commission (the Commission) for a Certification of Public Good (CPG) to install and operate a 4.999 megawatt (MW) solar energy generation project located in the Town of Lowell, Orleans County, Vermont (referred to as the Northland Solar Project or the Project hereafter).

To address the Project's compliance with the requirements regarding aesthetic impacts [30 V.S.A. § 248(B)(5)] and orderly development of the region [30 V.S.A. §§ 248(b)(1) and 248(b)(1)(C), the application included an Aesthetics and Orderly Development Review memorandum (TJ Boyle Associates, 2025) as Exhibit NS-JO-2. This report included geographic information system (GIS) based viewshed mapping, field investigation, and a review of local and regional planning documents to determine whether the Project would unduly interfere with stated goals and policies contained within these documents. Based on these analysis techniques and review, this report concluded that the Project would have an adverse effect on aesthetics of the area, but that effect would not be unduly adverse, and the Project would not unduly interfere with the orderly development of the region. This report will be referred to as the Petitioner's Aesthetics Report hereafter.

At the request of the Vermont Department of Public Service (the Department), Environmental Design and Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) conducted an aesthetic analysis and orderly development review, including a review of the Petitioner's Aesthetics Report and confirmatory viewshed analysis, field review, and photographic simulations (photosimulations).

1.1 Project Description

The Project is proposed to be located in the Town of Lowell on an approximately 44-acre parcel located near the intersection of State Routes 58 and 100. The Project Site can be characterized as an active hay field on gently rolling terrain that is bordered by hedgerows on its southern boundary, by forest to the north, and traversed by a Green Mountain Power (GMP) transmission line consisting of overhead electrical cables supported by wood structures (Figure 1.1-1). The Project Site is surrounded by a mix of land uses, including an open field, the Mountain View cemetery, existing substations, residential development, and forested areas. The Lowell Elementary School and Town Clerk's Office are also located near the Project Site's northwestern boundary.

Figure 1.1-1. Representative Photo of the Project Site from State Route 100

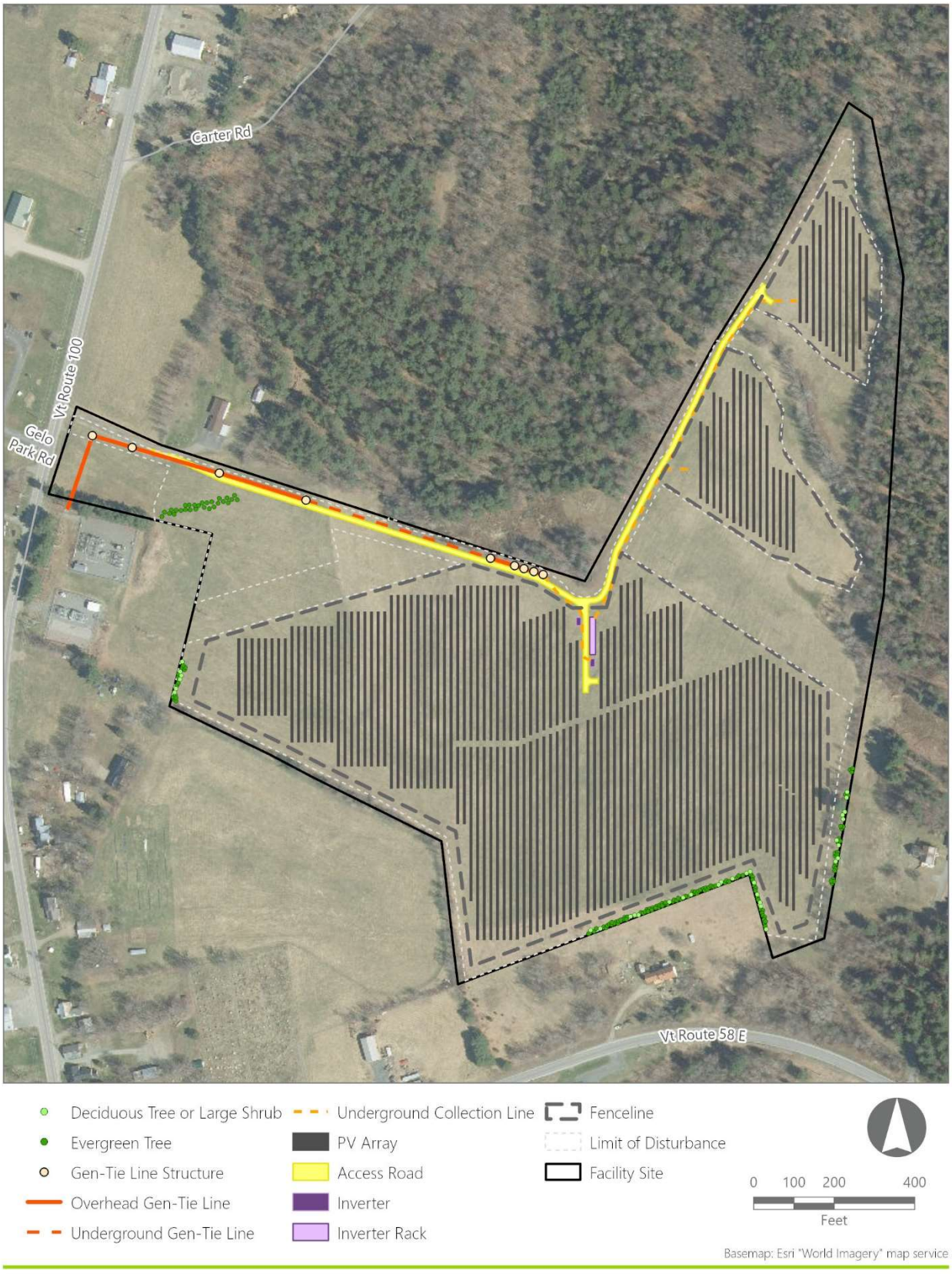
The operational components of the proposed Project would include the following:

- Rows of photovoltaic (PV) panels mounted on single-axis tracker racking systems with maximum heights of 10 feet above ground level organized into three separate PV arrays (referred to as collectively as the PV panels or arrays hereafter);
- An electrical system, including underground collection lines, inverters and transformers mounted on concrete equipment pads, and an overhead generation tie (gen-tie) line consisting of overhead electric cables supported by nine 45-foot-tall wood structures that will transmit the energy from inverters to the designated point of interconnection (POI) at the existing GMP substation;
- Security fencing and gates around the PV arrays consisting of wood posts and agricultural wire mesh that are 7 to 8 feet in height;
- An existing gravel-surface access road; and
- Mitigation plantings that include a mix of evergreen trees and deciduous shrubs/small trees.

The actual "footprint" of the Project, as defined by the Project fence line, would be about 27 acres.

The locations of the proposed Project Site and Project components are illustrated in Figure 1.1-2.

Figure 1.1-2. Project Site and Layout



1.2 Quechee Test Requirements

To determine whether a project satisfies the aesthetics criteria contained in 30 V.S.A § 248(b)(5), the Commission utilizes the two-part Quechee test.[1] Pursuant to this procedure, the first part of the test requires an evaluation to determine if the project will have an adverse effect on the scenic and natural beauty of the area in which it is located.

If it is concluded that the project will be out of character with its surroundings and therefore have an adverse effect on aesthetics, the second part of the test is initiated to determine whether that adverse impact is "undue." To pass this portion of the test, the following three conditions are considered:

- *Would the project violate a clear, written community standard intended to preserve the aesthetics or scenic, natural beauty of the area*? A clear, written community standard is defined as a provision of the applicable town or regional plan that designates specific scenic resources or provides specific guidance for project design.
- *Would the project offend the sensibilities of the average person*? A project is considered offensive if it is significantly out of character with its surroundings or results in significant impacts to existing scenic quality of the area such that it would be shocking to an average person viewing the project from adjoining residences or from public vantage points.
- *Has the applicant taken generally available mitigating steps*? The Commission may consider the currently proposed mitigation measures, whether other available mitigation options have been adequately considered, and whether additional mitigation options are not available or would frustrate the purpose of the project.

[1] *In re Rutland Renewable Energy, LLC*, 147 A.3d 621, 626 (Vt. 2016).

2.0 VISUAL ANALYSIS

An analysis of Project visibility was undertaken to identify locations within a 2-mile-radius visual study area (VSA) where there is potential for the proposed PV array and gen-tie line to be seen from ground-level vantage points and document the existing scenic quality and visual character from locations where Project visibility is possible. This analysis included reviewing town and regional planning documents to identify community standards pertaining to scenic and open space areas, identifying areas from which the Project components may be visible on viewshed maps, verifying potential Project visibility and existing visual character in the field, and evaluating visual change associated with the Project by preparing photosimulations from representative viewpoints. The results of each of these analysis techniques are described below. Detailed descriptions of the various assessment methodologies are presented in the Technical Memorandum included as Attachment C.

2.1 Review of Community Standards

A review of the Regional Plan for the Northeast Kingdom 2015-2023 (NVDA, 2023a), Regional Energy Plan (NVDA, 2023b), and the Lowell Town Plan (Town of Lowell, 2022) was undertaken to obtain information on open space and scenic quality preservation standards or designated resources within the surrounding area. Findings of this review, which are generally consistent with the interpretation contained in the Petitioner's Aesthetics Report, are summarized below.

Open Space

The Lowell Town Plan includes a provision that the Town "*…has a small center surrounding by extensive rural settlement and open space.*" Although somewhat general and open to interpretation, it is reasonable to conclude that the fields surrounding the Project Site, as well as the Project Site itself, would be considered open space based on this provision.

However, it is worth noting that the term open space is not directly defined in the town or regional plans and is typically used to refer to broad areas of agricultural land, conserved land, or landscape features (hills, mountains, forested areas) that contribute to rural character and/or as an important aspect of landscape character and consideration in land use policies. For example, Chapter 7 (Natural Resources) of the Regional Plan includes the following provision:

> "The Northeast Kingdom is composed of rolling hills, farmlands, lakes and rivers, forests, country roads, and compact village centers. These areas combined create an open, picturesque landscape unlike any other. Open space provides not only scenic beauty and wildlife habitat, but is necessary for the numerous outdoor activities enjoyed by the region's residents and visitors, and is key to the agricultural and forestry traditions of the region."

When considering provisions of this nature, almost all land within the Town of Lowell, and the region could be considered open space.

Designated Scenic Resources

State Route 58, State Route 100, Hazen's Notch Road, Bayley Hazen Road, and Long Trail-Belvidere Mountain are specifically identified as scenic roads in the Transportation section of the Lowell Town Plan.

Therefore, EDR believes that these roads are referred to with enough specificity to be considered designated scenic resources. This section of the Town Plan further states that "*Route 58 to the east of Route 100, which is classified as a major collector, passes over the ridge that forms the northern end of the Lowell Mountains and therefore provides many scenic vistas to the west and north.*" It should be noted that the Project is not anticipated to significantly impact scenic quality in views from State Route 58 based on the viewshed analysis results and field review, as discussed in Sections 2.2 and 2.3, respectively. Although Chapter Four of the Regional Plan (titled Historic, Cultural & Scenic Resources) includes lists and tables of historic and cultural resources (public libraries, public and private learning institutions, and museums), and the plan mentions that scenery may be one factor that contributes to the designation of historic resources, it does not clearly outline specific resources recognized for their scenic quality.

To identify other locations that are recognized or specifically designated for their scenic quality but not referenced in the reviewed plans, EDR consulted a variety of publicly available geospatial datasets. A complete listing of the consulted geospatial data sources is included in the References section of this report. Vermont land trust lands located west of the Project Site are not identified specifically as a scenic resource in the town/regional plans. However, considering that one of the purposes for conservation land stated in 10 V.S.A. § 6301 is to preserve and to enhance Vermont's scenic natural resources, it is considered a scenic resource for the purposes of this study.

A portion Section 28 of the Catamount Trail, a 300+ mile long backcountry skiing trail that extends across Vermont, is also located near the Project Site. The Catamount Trail Association website describes this section of the trail as follows:

> This tour crosses the Lowell Mountains and travels through many open farm fields, offering wonderful views. The route is part groomed cross-country ski trail, part snowmobile trail, and part ungroomed backcountry trail. For much of the way it utilizes the historic Bayley-Hazen Military Road, created at the time of the Revolutionary War.

Although not specifically designated as a scenic resource, visual quality and enjoyment of surrounding scenery are assumed to be important aspects of the recreational experience for trail users. Therefore, potential aesthetic impacts are considered in this report.

The location of these scenic resources, overlaid with the viewshed analysis results, is illustrated in the viewshed maps included as Figures 2.2-1 and 2.2-2 in this report.

Scenic Quality/Protection Measures

Similar to open space, scenic and aesthetic quality is referred to throughout local and regional planning documents as an important consideration for land use planning, but the term is used in general statements such as "*the town will explore opportunities to protect the existing natural areas and special scenic areas*" in the Lowell Town Plan and "*any development shall to the extent possible be done so as to mitigate adverse impacts to the region*" and "*the natural resources in the Northeast Kingdom have intrinsic scenic and economic values that require careful consideration when making planning decisions*" in the Regional Plan. Based on EDR's review, the town and regional plans do not provide clear, written community standards intended to preserve the aesthetics or scenic, natural beauty of the area.

2.2 Viewshed Analysis

The digital surface model (DSM) based viewshed analysis, which considers the screening effects of existing topography, vegetation, and structures, indicates that some portion of the proposed PV array could potentially be visible from approximately 1.4% (135 acres) of the VSA. The limited extent of visibility is due to the abundance of forested areas and hillsides/rolling terrain throughout the VSA. As indicated in Figures 2.2-1 and 2.2-2, potential visibility of the PV array is concentrated in areas with limited or no vegetation within approximately a quarter mile of the Project Site, including portions of the State Route 100, State Route 58, and Gelo Park road corridors; the Catamount Trail corridor; lands within Mountain View Cemetery, Lowell Elementary School, and the Town Clerk's Office properties; and lands within 11 residential properties. Potential PV panel visibility is also indicated in open fields near the western edge of VSA. Although PV panel visibility is possible from these distant fields, aesthetic impacts are anticipated to be limited given the small geographic area of potential visibility and distance from the Project Site.

EDR's PV panel viewshed analysis and the vegetated viewshed analysis in the Petitioner's Aesthetics Report have essentially the same geographic area of potential visibility. Differences in the geographic area of potential visibility between the results occur as very small expansions or contractions along the edges of larger, more contiguous areas of visibility (as opposed to larger, entirely new geographic areas of potential visibility, which would suggest a significant difference between the two analyses). These minor differences are likely to be due to slight differences in viewshed analysis methodology or data sources.

It is important to note that being in an area indicated to have potential Project visibility does not necessarily equate to actual visibility, nor does it indicate that adverse aesthetic effects will occur within these geographic locations. There is also the possibility of the DSM overstating screening, and therefore underestimating actual visibility, in locations where views are available through trees during the dormant season, or understating visibility from more forested locations depending on the density of the vegetation and time of year (i.e., leaf-on vs. leaf-off). Locations where potential Project visibility predicted by the viewshed analysis results could be over or understated based on observations made during field review are discussed in Section 2.3

Figure 2.2-1. PV Panel DSM Viewshed Analysis Results within Visual Study Area

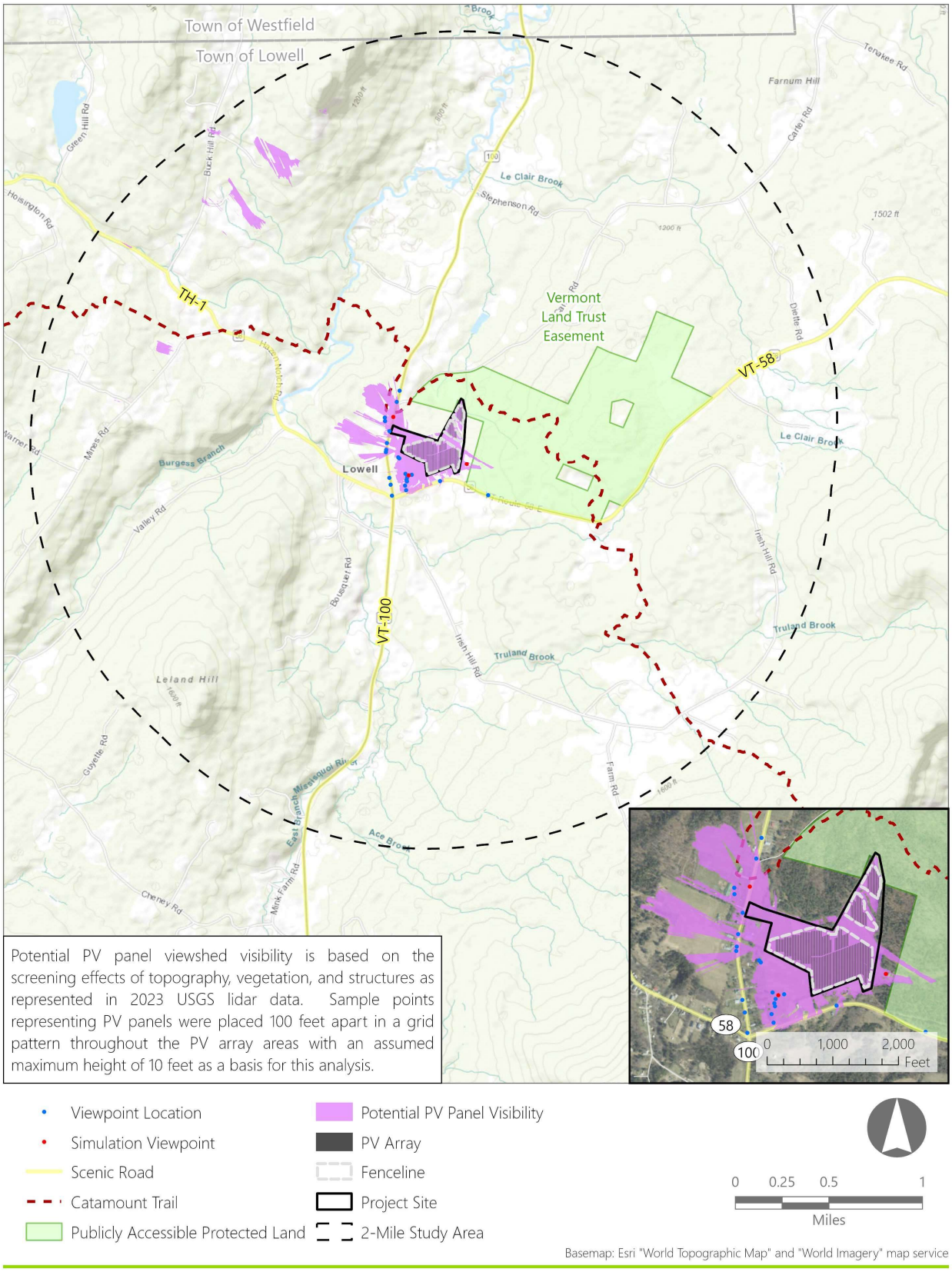
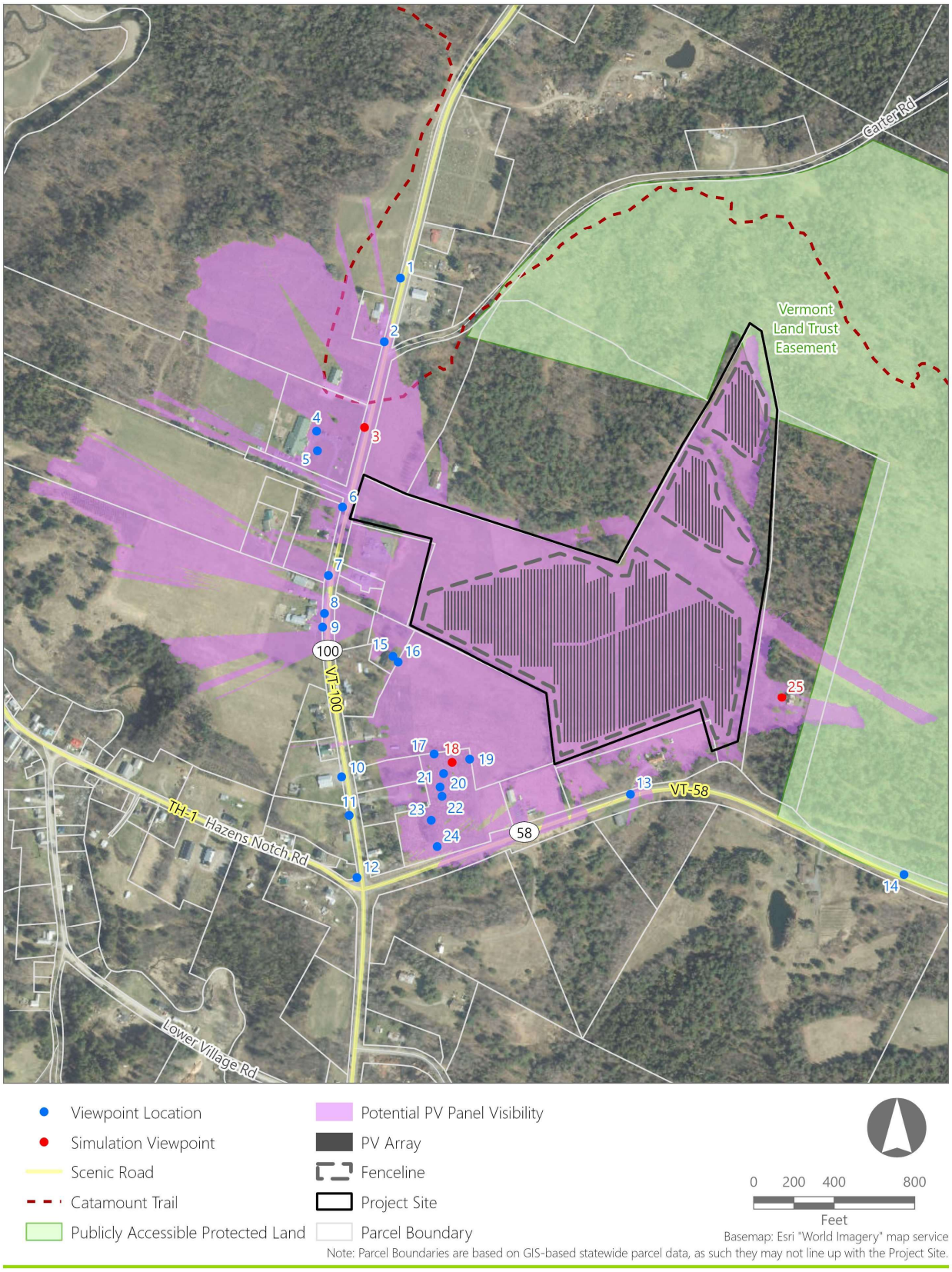


Figure 2.2-2. PV DSM Viewshed Analysis Results near Project Site



2.3 Field Review

EDR personnel conducted field review within the VSA during leaf-off conditions on February 27, 2026, when existing vegetation dormant and screening was at its most limited. During field review, EDR staff members visited public and private vantage points surrounding the Project Site to confirm the results of the viewshed analysis, document existing scenic quality and visual character, and obtain photographs for subsequent development of photosimulations from representative viewpoints. More information on field review procedures is included in Attachment C. All photographs referenced in this summary can be found in the Viewpoint Photolog (Attachment A), and the viewpoint locations, overlaid with the viewshed analysis results, are illustrated in Figures 2.2-1 and 2.2-2.

During field review, it was confirmed that views of some portion of the Project components would be available from areas of potential PV panel visibility, as shown on the viewshed map. However, it was observed that intervening yard vegetation, forested areas, existing structures, and topographic changes within or surrounding the Project Site would limit the extent of potential Project visibility in views from most of the visited locations. This viewing condition was documented at Viewpoints 1, 2, and 7 to 12 on State Route 100; Viewpoints 13, 14, and 24 on or near State Route 58; and Viewpoints 23 and 24 in the southern portion of Mountain View Cemetery.

The most open views of the Project were documented from the following areas within the Project's viewshed:

Near the Project access road along State Route 100 and within Lowell Elementary School.

Although it was observed that the proposed plantings would likely screen visibility of the PV panels, there could be the potential for open, close proximity views of the gen-tie structures. This viewing condition was documented at Viewpoints 3 to 6. Views toward the Project are oriented to the east or southeast, and include residences, open fields crossed by transmission lines (consisting of wood structures), and hedgerows in the foreground that are backed by rolling forested hillsides and/or low mountain ranges. The Kingdom Community Wind project turbines are also visible along the ridgeline in the background of the view from Viewpoint 3 on State Route 100.

Northern portion of Mountain View Cemetery and backyard of residence at 2419 State Route 100.

Due to the slightly elevated viewing position in the northern portion of Mountain View Cemetery and the backyard of the residence at 2418 State Route 100, open views towards the PV array were observed to be available through the sparsely vegetated hedgerow during leaf-off conditions (see Viewpoints 15, 16, and 17 to 22). Views toward the Project are oriented north to east and include open fields and hedgerows crossed by transmission line in the foreground backed by a forested hillside.

Residence at 411 State Route 58

Due to the elevated viewing position relative to the Project Site, open views of most of the Project components were observed to be available from this residential property, as documented at Viewpoint 25. Views towards the Project are oriented west and include deciduous trees and an open field crossed by transmission lines in the foreground backed by buildings along State Route 100. Views available to the west

are distinguished by their high baseline scenic quality due to the presence of prominent ridgelines and mountains in the background.

2.4 Photosimulation Evaluation

To evaluate visual changes associated with the proposed Project, three-dimensional (3D) modeling software was used to create realistic photosimulations from three selected representative viewpoints. The data and software used in this process assure that the alignment, elevations, dimensions, locations, and appearance of the proposed Project components in the simulations are accurate, as described in Attachment C. Three photosimulation scenarios were produced for each viewpoint to illustrate the Project immediately following installation without mitigation plantings and at approximately five to seven years following installation with the mitigation plantings in place, depicted in both leaf-off and leaf-on (where deciduous mitigation plantings are proposed and would be visible in the view) conditions. The five-to-seven-year range of plant growth was selected to illustrate the plantings at an established size and intended screening effectiveness.

Based on field observations regarding potential aesthetic impacts from surrounding public and private vantage points, the following three viewpoints were selected for photosimulation development:

- **Viewpoint 3 from State Route 100**. This viewpoint is also representative of views toward the Project from Lowell Elementary School. Typical viewers are therefore expected to include travelers along State Route 100 as well as attendees/visitors at the Lowell Elementary School.
- **Viewpoint 18 from Mountain View Cemetery**. This viewpoint is also representative of views toward the Project from the backyard of the residence at 2418 State Route 100. Typical viewers are therefore expected to be visitors at the cemetery and individuals occupying the residence.
- **Viewpoint 25 from the private residence at 411 State Route 58**. Views of this nature are anticipated to be limited to the occupants of this residence.

The photosimulations, as well as location details of each viewpoint and location mapping, are included in Attachment B. The visual change associated with the proposed Project and the effectiveness of the mitigation plantings for each simulated viewpoint are summarized below.

Viewpoint 3

The selected photograph looking southeast includes the road in the immediate foreground backed by a snow-covered residential lot, a mature stand of deciduous trees and a home on the left side of the view, and a mature stand of evergreen trees on the right side of the view. Beyond the deciduous and evergreen trees, a gently rising, snow-covered field extends to the middle ground of the view where it meets a thin hedgerow and home on State Route 58 that is visible between the foreground trees. The field beyond the hedgerow gradually rises until it meets dense forest vegetation. The Lowell Mountain Range and nine turbines arrayed along the ridgeline are visible beyond the forest vegetation. These features appear dark against the sky in these lighting conditions. Although there are several built features that compete for viewer attention, including several wood utility poles and two existing substations that are partially visible beyond a stand of tall evergreen trees just to the right of the selected photograph (pictured in the contextual panorama), the sinuous form of the mountain range and wind turbines draw viewer attention and are the primary focal point of view, particularly considering movement of the wind turbines. Despite the built

features in view, the view has a rural character and moderate scenic quality due to the presence of open fields, the highly variable topography in background, and the uniform arrangement of the turbines along the ridgeline.

With the Project in place, the gen-tie line conductors and two structures are visible in the foreground of the view beyond the existing deciduous and evergreen trees. The nearest gen-tie structure (located 360 feet from the viewpoint) and the conductors extend into the sky, breaking the horizon line formed by the Lowell Mountain Range and crossing some of the turbines. These Project components introduce additional infrastructure that competes with existing focal points, the Lowell Mountain Range and wind turbines, for viewer attention, which diminishes the scenic quality of the view. The Project fence and PV array (located 900 feet from the viewpoint) that are visible in the middle ground also introduce additional built features into the view but do not appear out of scale with existing vegetation and built features due to their setback from the viewer position. Although the PV array appears very dark against the snow-covered field, and therefore presents appreciable color contrast, it is anticipated that their color contrast would be reduced during the growing season when the field is green. Therefore, these Project components result in minimal scale, line, and form contrast with the existing landscape features.

With the addition of the mitigation plantings, a row of evergreen trees is visible in the foreground, along the perimeter of the fenceline. After five years of growth, the plantings minimally screen portions of the Project fence and PV array and appear as an extension of the existing evergreen trees around the existing substations. Although large portions of the PV array remain visible, it is anticipated that the effectiveness of the plantings will increase with continued growth, and in addition to screening more of the PV array, could also provide screening of the existing utility structures. However, it is worth noting that there is also a possibility that the plantings will screen portions of the background mountains that contribute to the scenic quality of the view.

Viewpoint 18

The selected photograph looking east-northeast includes several headstones partially covered in snow in the immediate foreground backed by a snow-covered field that gently descends to meet a narrow hedgerow of scraggly deciduous trees. Beyond the hedgerow, another field gently rises to meet a single residence perched at the top of the open field and a densely forested area that forms the horizon. Due to its dark color compared to the snow-covered fields, this landscape feature forms a distinctive backdrop. An electric utility line is located on the far edge of the field and extends from the center to the left side of the photograph. Although noticeable due to their bright color under these lighting conditions, the transmission line conductors do not have sufficient scale or mass to diminish the commanding presence of the forested backdrop. Although not visible in the selected photograph, existing built features including a wood transmission line in the foreground of the view and a storage structure, are also visible from this viewpoint location as illustrated in the contextual panorama. Despite the presence of built features and lack of distinct focal points, the setting in a small rural cemetery enclosed by large, mature trees and the presence of open fields give this view a sense of serenity, and high scenic quality.

With the Project in place, the field beyond the narrow hedgerow is occupied by the PV array. Due to their proximity to the viewer, details of the panels, the racking system, and the fence are clearly visible.

The panels follow the undulating topography of the field, but their line, color, texture, and form present significant contrast with the existing landscape, and they now become the focal point of this view. The edges of the array appear jagged and blocky, interrupting the previously sinuous landforms of the open field. Although the background tree line remains intact, the view is now dominated by the Project, and the character of the view has changed from rural/agricultural to solar energy generation. Under the simulated leaf-off conditions, the hedgerow bordering the field provides essentially no screening of the array. Although this hedgerow is likely to screen some portions of the PV array during leaf-on conditions, the presence of the Project would still alter the existing view character and present significant visual contrast and be the focus of viewer attention. The presence of the Project significantly reduces the scenic quality of the view, and the Project becomes the primary focus of viewer attention.

With the addition of the mitigation plantings, evergreen trees along the southern and eastern edge of the Project Site are visible beyond the PV array. While these plantings somewhat soften the far edge of the PV array, they provide no screening value from this viewpoint location and their mitigative effect is minimal.

Viewpoint 25

The selected photograph looking west includes the residents' backyard and a small row of deciduous trees in the immediate foreground. Beyond the yard and trees, an expansive snow-covered field descends to the middle ground where it meets a hedgerow of deciduous and evergreen trees. The two existing substations and other utility infrastructure are partially visible behind the hedgerow foreground tree branches. A church and several residences along State Route 100 can be seen on the left side of the view, and the Lowell Elementary School is visible on the right side of the view. Beyond the middle ground, the development gives way to an expanse of forest and foothills before reaching the Green Mountain Range. Haystack Mountain and Tillotson Peak feature as prominent focal points to the right and left of center, respectively. The elevated viewing position, sweeping, snow covered field, cohesive developed features, and the presence of the mountains in the background give this view high scenic quality.

With the Project in place, the entire near foreground, foreground, and significant portions of the middle ground agricultural field are occupied by the PV array. Due to their proximity to the viewer, details of the panels, the racking system, and the fence are clearly visible and present significant line, color, texture, and form present significant contrast with the existing landscape, dominating the view and altering its existing character. The color contrast presented by the PV array is particularly strong when compared to the remaining visible portions of the snow-covered fields. The sparse row of trees in the foreground has little to no mitigating effect. During leaf-on conditions portions of the PV array will be screened by this vegetation, but this is unlikely to reduce the visual contrast presented by the portions of the PV array that remain visible. Although the Project does not screen visibility of the mountains, the presence of the Project significantly reduces the scenic quality/character of the view, regardless of seasonal conditions, and introduces a new land use that competes with the mountains for viewer attention.

With the addition of mitigation plantings, evergreen and deciduous trees and deciduous are visible in the immediate foreground. After five years of growth, the plants begin to screen portions of the Project fence and PV panels closest to the viewer, but the majority of the PV array that covers the field is still plainly visible. The location, density, and arrangement of the plantings appear to be well considered and as effective

as could reasonably be expected under this circumstance. However, landscape mitigation measures have limitations. Due to the elevated viewer position of this viewpoint, the plantings are unlikely to effectively screen large portions of the PV array until they reach maturity. As discussed above for Viewpoint 18, it is also important to note that the plantings may eventually enclose the view and screen portions of the town center and mountains in the background, which are significant contributors to the scenic quality from this location.

3.0 PROJECT AESTHETICS EFFECTS

EDR's opinion on the whether the proposed Project results in adverse or unduly adverse aesthetic impact utilizing the Quechee Test and based on review of community standards, viewshed analysis, field review, and the preparation/evaluation of photosimulations from representative viewpoints included in Section 2.0, is presented in the following sections.

3.1 Part One of the Quechee Test

Based on EDR's viewshed analyses, the Project would be visible from a very small percentage of the VSA due to screening provided by topography, vegetation, and structures. However, because the Project is situated on an open field near the town center, Project visibility occurs in multiple locations within this area of concentrated development, including Mountain View Cemetery, Lowell Elementary School, the Town Clerk's Office building, 11 residential properties, and along State Routes 100 and 58. The Lowell Town Plan includes a provision that the Town "*…has a small center surrounding by extensive rural settlement and open space.*" Although somewhat general and open to interpretation, it is reasonable to conclude that the fields within and surrounding the Project Site are considered open space resources that contribute to character of views available from these properties where Project visibility is predicted by the viewshed analysis.

Field review confirmed that screening provided by intervening vegetation and/or topography would provide some degree of screening towards the Project from most locations within the VSA where visibility is predicted by the viewshed analysis. However, open views were observed to be available from three distinct areas: near the project access road along State Route 100 and Lowell Elementary School, northern portions of the Mountain View Cemetery and the backyard of the residence at 2419 State Route 100, and the residence at 411 State Route 58.

Considering the visual change associated with the proposed Project from the three simulated viewpoints in these areas (as discussed in Section 2.4), it is EDR's opinion that the Project is out of character with its surroundings from these locations, which are adjacent to the town center and specifically considered open space in the town plan, and its colors and materials are not suitable with the immediate environment, resulting in an **adverse aesthetics impacts** on the scenic and natural beauty of the area.

3.2 Part Two of the Quechee Test

Having determined that the Project's aesthetic impacts are adverse, the following three factors will be considered on a step-by-step basis to reach a determination on whether aesthetic impacts associated with the Project could be considered unduly adverse.

Would the project violate a clear, written community standard intended to preserve the aesthetics or scenic, natural beauty of the area?

The Lowell Town Plan identifies State Route 100 and State Route 58 as scenic roadways. As illustrated in the simulation from Viewpoint 3 from State Route 100, the Project's gen-tie line would introduce new electrical infrastructure into views that are available from the roadway near the entrance of the Project's access road. Travelers who frequently drive along the roadway would likely notice the change to the existing landscape

and the presence of energy infrastructure may contrast with their expectations, but views of this nature would be limited to a small geographic area and experienced very briefly by travelers. Given the localized Project visibility along State Route 100, the Project is not expected to significantly diminish most travelers' enjoyment of roadside scenery. As indicated by the viewshed analysis and field review, visual impacts of the Project in views from State Route 58 are fairly limited due to screening by intervening vegetation and topography. Visual impacts of the Project where views are possible from portions of the Catamount Trail and Vermont Land Trust lands are also expected to be limited and unlikely to detract from the recreational experience for users of these resources due to screening provided by intervening landform or vegetation.

It is also worth noting that the Lowell Town Plan does not prohibit or provide design standards for development on or visible from designated scenic roadways, and the town and regional plans do not provide any clear, written community standards intended to preserve the aesthetics or scenic, natural beauty of the area. Therefore, it is EDR's opinion that the Project would not violate any clear, written community standards intended to preserve the aesthetics or scenic beauty of the area.

Has the Applicant failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings?

Standard measures to mitigate visual impacts that may be applicable for proposed Project are discussed below.

Color/Materials

Agricultural fencing is proposed to surround the PV arrays which is more appropriate for the rural/agricultural setting when compared to other commonly used fencing for solar facilities, such as galvanized steel and chain-link mesh fencing. Solar energy generation and energy transmission technology, including the PV panels, racking systems, and inverters, and gen-tie structures are fairly standard in their color and materials, and do not offer variations that would significantly decrease the Project's visual impacts. Therefore, alternative materials that could be applied to further reduce the color contrast of the Project components are not available or practicable.

Design and Alternative Technologies

The PV panel configuration proposed for the Project is a "one-in-portrait" configuration, meaning that a single row of panels is fixed on the racking system in portrait orientation. This configuration results in a low profile compared to other common configurations, such as two-in-portrait, but also means that the PV panels will cover a greater geographic area. Two-in-portrait configurations (and other configurations that result in greater heights than one-in-portrait) allow for a smaller footprint to achieve the same energy production. Despite the increased height of the PV panels, this configuration could be advantageous because it would increase the setback from surrounding properties and help to reduce the perceived contrast of the PV arrays and maintain the character of views.

The gen-tie line structures, which have a maximum height of 45 feet above ground level, are fairly low in profile as currently proposed and likely have specific engineering requirements that limit options to further reduce their height such that visual impacts from near the Project entrance along State Route 100 could be

appreciably reduced. However, an alternative route where the gen-tie structures are set back further from State Route 100 could reduce visual impacts associated with this Project component from this area. Another option to mitigate visual impacts associated with the gen-tie line is undergrounding.

It is possible that these mitigation measures may not be feasible for the Project due to various environmental or design constraints. However, the viability, advantages, or disadvantages of these potential mitigation measures are not discussed in the Petitioner's application. Considering the extent of visual impacts of the Project as currently proposed, it is EDR's opinion that the Petitioner has not considered reasonable mitigation measures related to the design and alternative technologies that could be effective in reducing visual impacts and improving the harmony of the Project with the existing visual environment.

Landscape Mitigation Measures

The Petitioner is proposing mitigation plantings to screen/soften views of the Project from roadways in the surrounding area and nearby residences. As discussed in Section 2.3, the mitigation plantings effectively screen the PV arrays from view from areas of potential Project visibility along State Route 100 near the entryway of the Project access road. Although the plantings do not effectively screen views of the Project from the residence at 411 State Route 58, the plantings appear to be well considered and as effective as at screening the Project as could be expected given the elevated viewing position over the Project Site, although they may eventually enclose the view and block existing landscape features that contribute to scenic quality.

As illustrated in the photosimulation from Viewpoint 18, open views of the PV arrays are available during leaf off conditions from the Mountain View Cemetery. It is EDR's opinion that evergreen trees along the perimeter fenceline or supplemental plantings in the hedgerow would effectively soften views of the Project in views and provide some benefit in views from the cemetery once established, but no plantings are currently proposed. If there are environmental or design constraints that limit the ability to propose mitigation plants in this area, they are not described in the application. Therefore, it is EDR opinion that the Petitioner has not taken generally available mitigation measures in terms of mitigation plantings.

Does the project offend the sensibilities of the average person? Is it offensive or shocking because it is out of character with its surroundings or significantly diminishes the scenic quality of the area?

Open views were observed to be available from three distinct areas during field review from near the project access road along State Route 100 and Lowell Elementary School, northern portions of the Mountain View Cemetery and the backyard of the residence at 2419 State Route 100, and the residence at 411 State Route 58. Therefore, representative simulations were prepared from Viewpoint 3 located on State Route 100, Viewpoint 18 located in the Mountain View Cemetery, and Viewpoint 25 from the residence at 411 State Route 58 to evaluate potential visual change associated with the Project from these areas where aesthetic impacts were likely to be greatest.

The Project components present significant line, color, and form contrast with the existing landscape, dominating the landscape and altering the existing view character from rural/agricultural to solar energy generation and significantly diminishing scenic quality from Viewpoint 18 within the Mountain View

Cemetery and Viewpoint 25 from the residence at 411 State Route 58. The mitigation plantings provide almost no benefit from Viewpoint 18 and are unlikely to effectively screen large portions of the PV array until they reach maturity. Although they will likely screen more of the Project, the plantings may eventually enclose the view and screen portions of the town center and mountains in the background, which are significant contributors to the scenic quality of this location. These simulations represent conditions when the leaves are bare and the greatest extent of Project visibility is possible. However, even during leaf-on conditions, it is expected that significant portions of the Project will remain visible and continue to alter the character and diminish the scenic quality of these views.

Although the Project presents less visual contrast at Viewpoint 3 when compared to the views discussed above, the gen-tie line structures and conductors introduce additional infrastructure that competes with existing focal points, the Lowell Mountain Range and wind turbines, for viewer attention, which diminishes the scenic quality of the view.

Therefore, it is EDR's opinion that the Project as currently proposed would be out of character with its surroundings, significantly diminish scenic quality of the area, and would be shocking and offensive to the average person from the locations discussed above.

3.2.1 Part Two Summary

Based on EDR's evaluation, the Facility will not violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area.

However, it is EDR's opinion that the Applicant has not considered reasonable mitigation measures that could be effective in reducing visual impacts, resulting in improved harmony within the existing visual environment. Additional mitigation plantings to soften or screen views from the Mountain View Cemetery should be proposed unless there are demonstrated environmental or design constraints that preclude the use of this mitigation option. Considering the visibility and visual impacts resulting from the Project from elevated vantage points, the presence of taller, or additional landscape plantings may not achieve the goal of screening the Project. As stated in Section 2.4, the presence of taller plantings may result in the screening of landscape features that contribute to high scenic quality. In the application materials, the Applicant has not considered the use of alternative PV panel technology/PV Panel configurations that could reduce the footprint of the proposed array (e.g., the use of two-in-portrait configurations), nor the potential re-routing or undergrounding of the gen-tie line. It is also EDR's opinion that the Project as currently proposed would be out of character with its surroundings, significantly diminish scenic quality of the area, and would be shocking and offensive to the average person. For these reasons, EDR recommends that the Commission find that the Project would have an **undue adverse effect on aesthetics**.

4.0 ORDERLY DEVELOPMENT REVIEW

This section evaluates whether the Project will interfere with the orderly development of the region as expressed by Town and Regional documents in accordance with 30 V.S.A. §§ 248(b)(1) and 248(b)(1)(C), as quoted in the excerpts below.

> *…will not unduly interfere with the orderly development of the region with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality.*
>
> *With respect to a ground-mounted solar electric generation facility, the facility shall comply with the screening requirements of a municipal bylaw adopted under 24 V.S.A. § 4414(15) or a municipal ordinance adopted under 24 V.S.A. § 2291(28), and the recommendation of a municipality applying such a bylaw or ordinance, unless the Commission finds that requiring such compliance would prohibit or have the effect of prohibiting the installation of such a facility or have the effect of interfering with the facility's intended functional use.*

EDR's review included two documents that may carry substantial deference as it pertains to the requirements of 30 V.S.A. §§ 248(b)(1) and 248(b)(1)(C). These include the Lowell Town Plan, 2022 (Adopted on August 29, 2023) and the Regional Plan for the Northeast Kingdom, 2015-2023 (readopted on July 29, 2023, in accordance with 24 VSA 4348b).

In the sections below, excerpts from each of the two adopted plans are provided, followed by EDR's discussion of the relevant statements as they relate to the Project.

Town of Lowell Vermont, Lowell Town Plan 2022; Lowell Planning and Zoning Commission

> *Open Spaces Reserved for Conservation Purposes (Page 19)*
>
> *One of the former Lowell Town Plans, adopted on December 12, 1989, contains wording to authorize a Conservation Mountain district to limit development in those areas of Town least suited for development. Such a district was established in the current Lowell Zoning Bylaw, adopted in 2009, and the objective for this district designates those areas over 2,000 feet in elevation as being in the Conservation Mountain district. These areas are generally forested, are inaccessible and have moderately steep to very steep slopes. It should be noted that those areas in Lowell that are above 1,500 feet also possess many of the same characteristics as those areas above 2,000 feet in elevation. These areas can be found along the Town's eastern, southern, and western boundaries.*

As it pertains to the town's vision for conservation land, the Project Site ranges from 961 feet to 1,050 feet and therefore does not meet the topographic conditions or constraints characterizing the Conservation Mountain District, nor the aforementioned areas above 1,500 feet.

> *Village Character (Page 20)*

The Planning Commission is proud of the Town's historic village and wants to encourage the revival of some original aesthetics it once possessed. The Planning Commission aims to maintain the integrity of all public areas of the town to these standards to encourage residents to follow, bringing the town's core to its original charm.

Give the town a more community-like and attractive appearance to reflect what the area really is, has been, and could be in the future. This can be done by adding parks, benches, secure places young children can play with their parents, improved sidewalks, elderly housing and easy off-street parking that would encourage business.

Regarding village character, the town plan does not contain any specific objectives to achieve its vision, nor the historic aesthetic preference they aspire to. However, the Project Site is located adjacent to the "village core" and the undeveloped parcels that occur between the developed areas typically create opportunities for views of the Green or Lowell Mountains, which contribute to the "attractive appearance" and "unrivaled scenic views" (Town Plan, pg. 6). As discussed in Section 3.0, the Project would result in adverse aesthetic impacts from areas within and adjacent to the village core. Therefore, the Project does not align with the Town's vision for developing a more "attractive appearance" within the village core. The proposed planting mitigation may reduce the aesthetic impacts within the village core, but in addition, this mitigation could also reduce visibility of the Lowell Mountains (see Section 2.3).

Agriculture (Page 21)

Although Lowell will not turn its back on its farmers and will continue to do everything it can to support and encourage the industry, it will not attempt to promote this area as huge growth potential for the town. The Town will need to focus on other areas moving into the future.

Based on site observations, it appears that the Project Site is primarily used for hay production. The Project Site has been identified as having "Agriculturally Important Soil Units" as identified in geospatial layers available on the VT Open Geodata Portal (VT Center for Geographic Information, 2023). However, the town does not identify a specific desire preserve or promote agricultural production, and therefore, the Project would not interfere with the town's vision for agricultural lands.

Recreational Planning (Page 48 – 49)

The Planning Commission does not see the need currently to recommend any kind of an organized recreation program. However, because Lowell's recreational opportunities are dependent on the quality of Lowell's environment, it is necessary to protect and maintain Lowell's wonderful natural resources including the trails and streams, from development damage.

The Lowell Town Plan also acknowledges the presence of 8.6 miles of the Catamount Trail which occurs within the Town of Lowell. This trail passes within 350 feet of the Project Site and approximately 585 feet of the nearest PV panel. If views are available from portions of the trail, the Project may not be aligned with the Town's desire to protect the quality of the environment (in this case, the visual quality) that supports these recreational resources.

Public & Semi Public Uses (Page 49)

Generally, sufficient land area exists for public purposes. Sites for existing public buildings are adequate. It would be desirable to obtain additional property to expand the Town Forest at some point in the future to assure a sizable public holding of undeveloped land within the community.

The Project Site is located adjacent to protected land (10 V.S.A. § 6301). One of the stated goals of protected land is to "enhance scenic natural resources" and "…improve the quality of life for Vermonters and to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside". The Vermont Land Trust easement adjacent to the Project Site encompasses approximately 526 acres from State Route 58 north to Carter Road. The Project Site itself currently supports informal recreation uses such as sledding, snowmobiling, and snowshoeing (based on personal observation and discussions with town residents during field review). Given the strategic position of adjacent conservation land, the informal recreational uses currently hosted by the Project Site, and proximity to the village core, the Project Site may support the Town's goal to obtain a "sizable public holding of undeveloped land." However, the town has not expressed any active initiatives or locations for the expansion of public land-holdings nor is the Project Site identified as a "public" or "semi-public" resource and therefore the Project would not directly interfere with these land uses.

Regional Plan for the Northeast Kingdom, 2015-2023

Rural Areas (Page 22)

Most of the region's land lies outside of the town and village centers. It consists mainly of the farms and forestlands of the traditional Vermont landscape. These land uses are supported by the regional urban centers, service centers, and rural villages, where most of the people and commerce are located. These rural areas should receive very little commercial or industrial development unless it occurs in an established industrial park, or in an area specifically designated in the local zoning bylaw or identified in the Town Plan as being well suited to such uses.

Development Patterns in Rural Areas (Page 23 and 24)

Agricultural soils in rural areas outside centers or industrial parks should be conserved to the maximum extent practicable.

As previously stated, the region's rural areas should receive very little commercial or industrial development unless it occurs in an established industrial park or in an area specifically designated, either in a local zoning bylaw or in a local municipal plan as being well suited to such a use. Nevertheless, rural lands containing one or more of the following conservation attributes, shall be considered exceptionally sensitive and shall therefore not be designated as appropriate for commercial or industrial development that is not directly related to the region's lands-based economy (i.e. forestry, agriculture, and recreation):

- *State natural areas and fragile areas: The region has two such areas, which are both designated as National Natural Landmarks, the Willoughby Cliffs area and the Barton River Marsh.*
- *Lands managed by the Department of Forest Parks and Recreation*
- *Highest priority forest habitat blocks*
- *Forested coverage of Site Class 1, 2, and 3 soils of 25 acres or more*
- *Headwaters*
- *Upland areas of 2,000 or higher*

Lands containing one or more of these attributes shall not be developed, as their best uses are a combination of forest and conservation purposes. Appropriate uses include sustainable forestry and logging practices, maple syrup production, wildlife habitat, and passive recreation. Maintaining forest and vegetation coverage on upland areas is particularly important in that it provides natural floodwater attenuation and minimizes contribution to flash flooding in downslope areas, as well as increased sediment loads to headwaters. Ridgelines in these sensitive areas are a particular concern as developments can be seen from multiple locations including neighboring communities. From our experience, distance is not an effective strategy to mitigate impacts to such viewsheds. NVDA will not support proposed development or re-designation of sensitive rural lands that include any of the following impacts:

- *Loss of forest cover and introduction of impervious surface coverage*
- *Incursion of roads intended for uses other than resource-based activities (i.e. sustainable wood harvesting and recreation) that result in the fragmentation of habitat*
- *Uses that introduce smoke or other emissions*
- *Uses that introduce light trespass or sustained noise*
- *Any existing impacts in sensitive rural lands shall be considered non-conformities with this Regional Plan and shall not be expanded.*

Regional Plan Update and Readoption (Pages 19 and 20)

Support a wide variety of renewable energy generation types, including, but not limited to, sustainable uses of biomass for heating, passive solar building design, biodigesters for electricity

20 generation, photovoltaic solar, agrivoltaics, small-scale wind turbines, and optimizing the energy potential for existing hydro-electric dams.

The Project does not occur in an area identified by the NVDA as restricted, nor does it produce/result in emissions, light trespass, impervious surfaces, or vegetation clearing. Therefore, it is EDR opinion that the Project does not interfere with the goals of the regional plan.

Orderly Development Summary

The Lowell Town Plan provides some indication of development preferences within the Town and areas defined as the village core. While the stated intention is to maintain high scenic quality, improve the village core character, there is no mention of design principles and preferences that can accomplish these goals. While the Project does contradict overarching goals of the plan due to its undo adverse aesthetic impacts and prominent visibility from areas within the village core, and adjacent protected lands, the goals are too general in nature to qualify as land conservation measures.[2] For this reason, it is EDR's opinion that the Project does not interfere with the orderly development of the region.

The Northeast Kingdom Regional Plan suggests the Project is located within a "preferred ground-mounted solar energy site" and such development is supported by the NVDA. However, the NVDA also states that these rural areas should receive "very little commercial or industrial development" unless specifically designated in town plans or zoning bylaws. The exercise of identifying preferred solar energy sites does not take into account the town's preferences or the potential for aesthetic impacts. However, as stated above, the Project does not interfere with the orderly development initiatives outlined in the Regional Plan.

[2] In Re Apple Hill Solar LLC, 280 A.3d 44,59 (Vt. 2021).

REFERENCES

Catamount Trail Association. Catamount Trail Route [KMZ]. Available at: https://catamounttrail.org/wp-content/uploads/CT_fullRoute_gpxKML_122022.zip

Northeastern Vermont Development Association (NVDA). 2023a. *Regional Plan for the Northeast Kingdom 2015-2023*. Available at: https://www.nvda.net/nvda-regional-plan/2018FullPlan.pdf (Accessed March 2026).

NVDA. 2023b. *Northeastern Vermont Development Association Regional Energy Plan Assessment and Report – June 2023*. Available at: https://nvda.net/files/AssessmentReportFinal.pdf (Accessed March 2026).

Owens, Jeremy, T.J. Boyle Associates, Landscape Architecture and Planning. 2025. *Northland Solar Project – Aesthetic Analysis and Orderly Development Review Memorandum*. Prepared for Thomas Hand, Northland Solar LLC.

Town of Lowell. 2022. *Lowell Town Plan 2022*. Adopted August 2023. Available at: https://www.nvda.net/files/LowelPlan82023.pdf (Accessed March 2026).

United States Department of the Interior National Park Service (NPS). 2014. National Register of Historic Places. Available at: https://irma.nps.gov/DataStore/Reference/Profile/2210280

United States Forest Service (USFS). 2024. National Wild and Scenic Rivers. File "S_USA.WildScenicRiver" accessed from https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=Wild+and+Scenic+River

Vermont ACCD. September 12, 2018. Vermont State Register Historic Districts. Available at: https://geodata.vermont.gov/datasets/accd::vt-state-register-historic-districts/about

Vermont Agency of Natural Resources (ANR). VT Protected Lands Database. Available at: https://geodata.vermont.gov/datasets/VCGI::vt-data-vermont-protected-lands-database/about

Vermont ANR. March 24, 2022. Fishing Access Areas. Available at: https://geodata.vermont.gov/datasets/VTANR::fishing-access-areas/about

Vermont ANR. March 24, 2022. Trails. Available at: https://geodata.vermont.gov/datasets/VTANR::trails/about

Vermont ANR. March 24, 2022. Outstanding Resource Waters. Available at: https://geodata.vermont.gov/datasets/VTANR::outstanding-resource-waters-streams-rivers/about

Vermont ANR. April 18, 2022. Vermont Outdoor Recreation Sites. Available at: https://geodata.vermont.gov/datasets/VTANR::outdoor-recreation-sites-inventory/about

Attachment A. Viewpoint Photolog

Attachment B. Photosimulations

Attachment C. Technical Methodology Memorandum