



MEMORANDUM

Exh. Petitioner MJB-2

To: Dan Poulin

From: Michael J. Buscher, ASLA, PLA

Date: January 3, 2023

Re: VELCO Middlebury Substation Project – Aesthetic Analysis

I. Project Description

Vermont Electric Power Company Inc. and Vermont Transco LLC (collectively “VELCO”) is seeking approval under 30 V.S.A. § 248 from the Vermont Public Utility Commission (“Commission”) for a Certificate of Public Good for upgrades to VELCO’s existing facilities in Middlebury, Vermont, generally consisting of upgrades to VELCO’s existing substation located at 522 Quarry Road (the “Middlebury Substation Project” or the “Project”).

The Project consists of the following primary components:

- Replace the existing 20-foot by 28-foot VELCO control building with a new, approximately 32 foot by 60-foot control building that will accommodate a new protection and control system, redundant AC & DC station services, communication equipment, security systems and new bathroom facilities
- Replace the existing perimeter fence and expand the northeast substation yard area to accommodate new control building
- Replace water supply & wastewater systems for control building facilities
- Install a temporary substation, associated temporary access road, temporary fenced in yard, and temporary poles and conductors to maintain electrical transmission for the Project’s

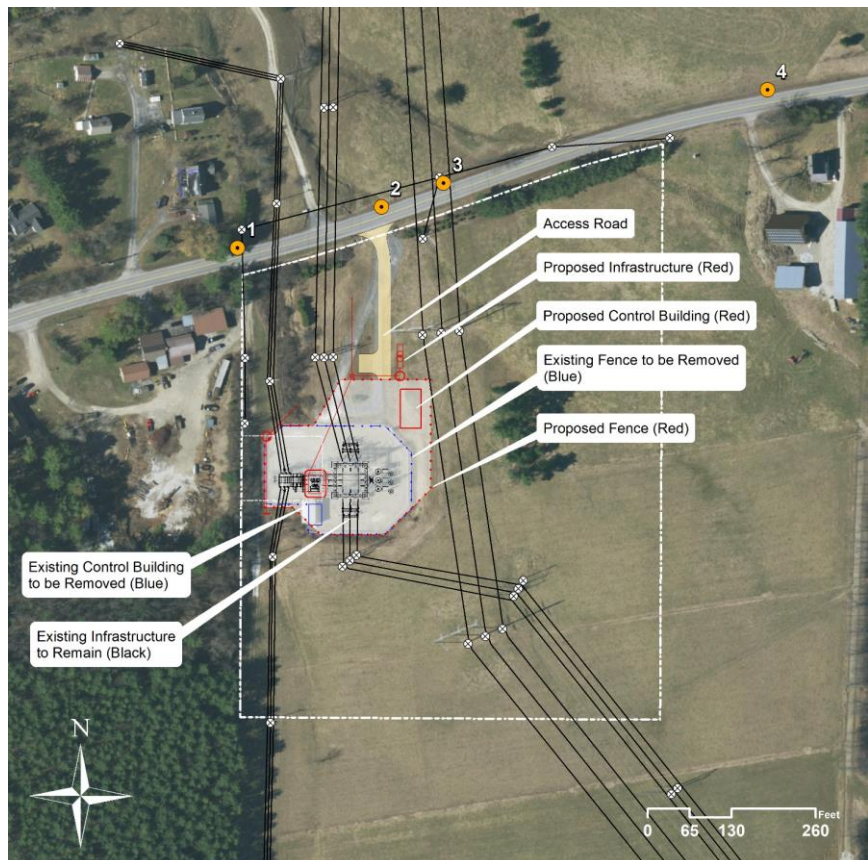


Figure 1: Aerial photo of the Project site and surrounding area.

duration (to be returned to existing conditions upon commissioning of the permanent substation)

- Reroute an existing stream that presently runs through the middle of the substation in an underground culvert so it runs along the southern fence in an underground culvert
- Shorten and revise existing access road
- Replace the oil containment system for the transformer (typically maintenance work that does not require any regulatory procedures but is included as a component of this project)

VELCO will also need to perform vegetation clearing to accommodate the expanded area for the new control building and at the outlet of the rerouted stream. For a more detailed description of the Project, please refer to the prefiled testimony of Dan Poulin.

II. Methodology – Quechee Test

Section 248(b)(5) of Title 30, Vermont Statutes Annotated requires the Commission to make a finding that a proposed electrical transmission Project will not have an undue adverse effect on aesthetics, as outlined in the so-called “Quechee Lakes Decision.”¹ As explained in the Commission’s order in Docket No. 6860, the Commission applies the Quechee Test in Section 248 proceedings, as follows:

The Public Service Board has adopted the Environmental Board’s Quechee analysis for guidance in assessing the aesthetic impacts of proposed projects under Section 248. We have previously explained the components of the Quechee analysis as follows:

In order to reach a determination as to whether the project will have an undue adverse effect on the aesthetics of the area, the Board employs the two-part test first outlined by the Vermont Environmental Board in Quechee, and further defined in numerous other decisions.

Pursuant to this procedure, first a determination must be made as to whether a project will have an adverse impact on aesthetics and the scenic and natural beauty. In order to find that it will have an adverse impact, a project must be out of character with its surroundings. Specific factors used in making this evaluation include the nature of the project's surroundings, the compatibility of the project's design with those surroundings, the suitability of the project's colors and materials with the immediate environment, the visibility of the project, and the impact of the project on open space.

The next step in the two-part test, once a conclusion as to the adverse effect of the project has been reached, is to determine whether the adverse effect of the project is “undue.” The adverse effect is considered undue when a positive finding is reached regarding any one of the following factors:

1. Does the project violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area?
2. Have the applicants failed to take generally available mitigating steps which a reasonable person will take to improve the harmony of the project with its surroundings?

¹ Quechee Lakes Corporation, Applications #3W0411-EB and #3W0439-EB at pgs. 18-20

3. 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 qualities of the area?

Our analysis, however, does not end with the results of the Quechee test. Instead, our assessment of whether a particular project will have an “undue” adverse effect on aesthetics and scenic or natural beauty is “significantly informed by overall societal benefits of the project.”²

T.J. Boyle Associates interprets the first prong of the Quechee test to first require an assessment of the project’s visibility. Visibility establishes the underlying method for which all visual aesthetics are evaluated to comply with the purpose of the Quechee Test. For instance, a project’s design, materials and colors may be completely out of character with its surroundings, but if such project is not visible to the general public (or “average person”), then there will be no adverse visual effect. Likewise, when a project is determined to be out of character with its surroundings, one solution that the Quechee Test offers to mitigate this is to visually obscure the project with landscape mitigation or other screening, which itself is a simple reduction or occlusion of project visibility. In this way, TJB interprets the first prong of the Quechee Test to be asking, “What is the project’s visibility, and is that visibility out of character with its surroundings?” In our experience, if the Quechee Test were not interpreted in this way then a given project could be considered adverse even if it was completely invisible from surrounding areas, which will be an unreasonable interpretation and inconsistent with the purpose of the test.

Our study area for potential adverse aesthetic effects extends approximately two miles from the project location. This distance tells us whether a given project is, or is not, visible from prominent or protected locations in the study area, or, perhaps more importantly, if a project itself is in a prominent or highly visible location.

In conducting the Quechee Analysis and preparing this report, three distinct methods have been used: (1) background data collection, (2) GIS viewshed analysis mapping, and (3) field investigation. The GIS viewshed mapping and field investigation are used to identify areas with potential visibility of the Project. The background data and field investigation are used to characterize the study area and Project. All three methods are used to evaluate whether there are in fact ‘adverse’ impacts and if so, whether those impacts could be considered ‘undue.’

III. Quechee Test Part I – Evaluation of Potential Adverse Impacts

As noted above, GIS viewshed mapping was utilized as a preliminary evaluation method. Upon field review, areas indicated as having potential visibility on the vegetated viewshed map were found to be generally accurate.

Project Visibility

In general, field investigation found visibility of the Project to be extremely limited. A combination of surrounding vegetation (including mitigation plantings previously installed near the VELCO Middlebury Substation) and landform effectively screen the Project from the majority of the surrounding area. Photos captured during field investigation are included in the attached Photographic Inventory. Visibility of Project upgrades would be limited to isolated locations along Quarry Road near the existing VELCO Middlebury Substation. Where visibility would be possible, upgrades would be seen within the context of the existing substation and surrounding electrical transmission infrastructure, including 115 kV and 345 kV transmission

² Petitions of Vermont Electric Power Company, Inc. (VELCO), Vermont Transco, Docket No. 6860, Vt. Pub. Serv. Bd. (Jan. 28, 2005) at 79-80.

lines. Viewpoints 1 through 4 illustrate views from Quarry Road looking towards the existing substation and the location of proposed upgrades and begin from just northwest of the Project and continue sequentially to the east.

Viewpoint 1 is located just northwest of the substation where visibility of electrical transmission infrastructure first becomes readily apparent when traveling east on Quarry Road. However, views are primarily of the adjacent transmission lines and a mix of dense evergreen and deciduous vegetation significantly screens views of the existing substation and also to the location of proposed Project upgrades. The panoramic image provided in the Photographic Inventory from Viewpoint 1 illustrates a row of arborvitae, which was installed as mitigation as part of the VELCO Northwest Reliability Project. Continuing east, this row of arborvitae continues to screen views towards the substation, south of Quarry Road, except where the access road to the substation is located.

Viewpoint 2 illustrates views from directly north of the substation where the access drive connects with Quarry Road. A gap, roughly 90-foot wide, in the row of arborvitae along the southside of the road allows unobstructed views of the substation. A small group of plantings adjacent to the fence provides some limited screening, but VELCO will remove them as part of the Project. Viewpoint 2 represents the closest views of the Project. At Viewpoint 3, located slightly northwest of the substation, the row of arborvitae continues and significantly screens and softens views of the substation and surrounding transmission infrastructure.

Further east from Viewpoint 3, a mature hedgerow of evergreen vegetation significantly screens views of the Project. However, roughly 500 feet further east, a gap in roadside vegetation allows another isolated location where views of the existing substation and location of proposed upgrades are visible. Viewpoint 4 illustrates views from this location.

Other surrounding locations shown as having potential visibility of the Project based only on the Terrain Viewshed were also investigated during the field visit, including Foote Street, Munger Street, Painter Road, and Halpin Road. Intervening areas of mature vegetation obstruct visibility from these locations; no visibility of the Project site was observed from these locations.

Private Residences

The closest resident is immediately west of the substation, along Quarry Road. Viewpoint 1 is located near the residence and a hedgerow helps to buffer visibility of existing transmission infrastructure. There appears to be three residences along Orchard Lane, that extends north from Quarry Road near Viewpoint 1. There is also a residence near Viewpoint 4, east of the substation. All residences appear to at least in part have screening to the existing substation and also the proposed Project upgrades.

Suitability of Colors and Materials for the Project

The Project materials and colors would primarily consist of the metal sided and roofed control building and galvanized steel fence. The siding would likely be zinc gray colored and the roof would be smoke gray. The metal control building will have a 6:12 roof pitch. The Project building and other upgrading will be similar to several other surrounding agricultural and storage buildings in the nearby area, including similar colors and materials. Project upgrades are also similar to the existing substation and other surrounding transmission infrastructure that are currently visible from Quarry Road and surrounding properties. The Project's colors and materials are considered compatible with the existing conditions at and in the vicinity of the site.

Impact on Open Space

Previous Act 250 and Section 248 decisions do not clearly define what is meant by the term "open space," and some regional plans and town plans have differing definitions of open space, if any at all. The Addison

County Regional Plan, amended February 9, 2022 (the “Addison Country Regional Plan” or “Regional Plan”)³ and the Middlebury 2017 Town Plan, adopted November 28, 2017 (the “Middlebury Town Plan” or “Town Plan”)⁴ both mention open space within each of the plans, but do not clearly define what open space is. Within the Town Plan, open space is mentioned primarily in the Natural Resources chapter. Under the Strategies section on page 38, Strategy 2.3.2 is to “Limit the impacts of construction and land development on natural and scenic resources.” Action 2.3.2.1 reads, “Conduct planning to inventory and prioritize open space parcels in need of protection, such as an open space plan”. Open Space within the Regional Plan is also mainly referred to within the Natural Resources chapter, under the section for Forest Resources. Primarily, this section discusses the conversion of open space to residential use.

The United States Environmental Protection Agency, Region 1, New England provides the following description of ‘What is Open Space / Green Space’.

Open space is any open piece of land that is undeveloped (has no buildings or other built structures) and is accessible to the public. Open space can include:

- Green space (land that is partly or completely covered with grass, trees, shrubs, or other vegetation). Green space includes parks, community gardens, and cemeteries.
- Schoolyards
- Playgrounds
- Public seating areas
- Public plazas
- Vacant lots

Open space provides recreational areas for residents and helps to enhance the beauty and environmental quality of neighborhoods. But with this broad range of recreational sites comes an equally broad range of environmental issues. Just as in any other land uses, the way parks are managed can have good or bad environmental impacts, from pesticide runoff, siltation from overused hiking and logging trails, and destruction of habitat.⁵

The Project site is currently developed with the existing substation and electrical transmission infrastructure and access is currently restricted and monitored. Project improvements would result in a minimal expansion to the footprint of the existing substation fenced yard. The Project will not have an impact on open space.

Summary of Quechee Test Part I

The review of potential aesthetic impacts determined that visibility of Project upgrades would be extremely limited. The existing VELCO Middlebury Substation and other surrounding electrical transmission infrastructure are an existing component of the visual landscape. A combination of landform and evergreen vegetation would significantly screen Project upgrades from the surrounding area. Proposed upgrades would not create new visibility of electrical transmission infrastructure within the area and would have an extremely low impact to the existing visual character from the limited locations that would have visibility. The Project is limited to a modest expansion of the overall fenced substation yard, a modest change to the configuration of access drive, and replacement of the existing control building with a new and slightly larger control building. Project upgrades are compatible with the shapes, color, and materials of the existing substation and other nearby development. Given the extremely limited visibility and lack of potential change

³ http://54.172.27.91/Downloads/reg_plan/Regional_Plan_7_18_2018_updated_5_2019.pdf

⁴ https://cms5.revize.com/revize/middlebury/document_center/Planning%20Zoning/Middlebury-2017-Town-Plan.pdf

⁵ <https://www3.epa.gov/region1/eco/uep/openspace.html>

to visual character, the Project will not result in an adverse impact to the aesthetics and scenic and natural beauty of the area.

However, the Project will result in some limited removal of nearby vegetation, some of which was installed as mitigation plantings for past VELCO projects. To retain and improve upon the existing vegetation that would be removed, a new row of 18 arborvitae is proposed along either side of the reconfigured access drive. These plantings will help fill the gap within the existing row of arborvitae, replace any mitigation plantings removed to accommodate the Project, and further screen and soften views of transmission infrastructure from Quarry Road.

IV. Quechee Test Part II

The findings of this analysis conclude that the overall visual impact of the VELCO Middlebury Substation Project will not result in adverse impacts to the aesthetics of the area in which it is being proposed. Therefore, the requirements in the Quechee Test have been satisfied, and the second part of the Quechee Test does not need to be administered.

V. Conclusions of the Quechee Test

In review, the findings of this analysis conclude the overall visual impact of the VELCO Middlebury Substation Project in the Town of Middlebury, Vermont, will NOT result in ADVERSE impacts to the aesthetics of the area in which it is being proposed because:

- 1) The Project will have extremely limited visibility from the surrounding area. Views are substantially screened by surrounding evergreen vegetation and landform.
- 2) The Project's colors and materials are considered compatible with the existing conditions at and within the vicinity of the Project site. Any visibility of the proposed improvements will be seen within the context of the existing substation and other nearby electrical transmission infrastructure.
- 3) For visibility of the Project that would be possible, upgrades represent a minor incremental change to infrastructure within the substation and will not result in a material change to the visual character of the substation or from the surrounding area.

Therefore, the Middlebury Substation Project meets the Quechee Test insofar as its impact on aesthetics will NOT be UNDULY ADVERSE.