



## MEMORANDUM

To: Dan Poulin

From: Michael J. Buscher, ASLA, PLA

Date: September 22, 2022

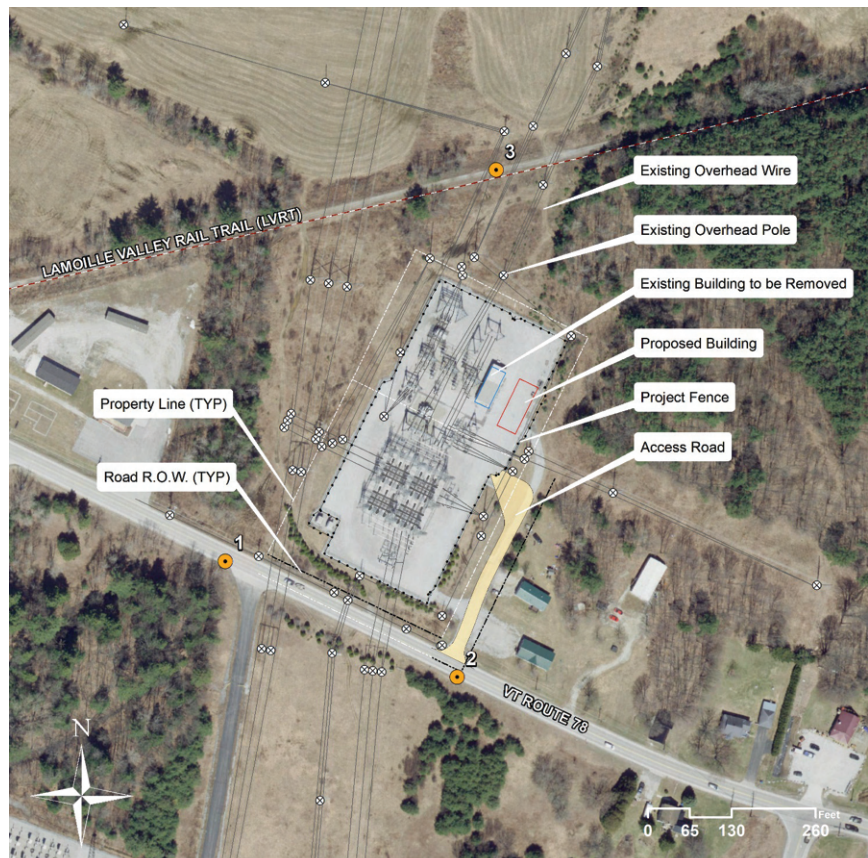
Re: VELCO Highgate Substation Project – Aesthetic Analysis

### I. Project Description

Vermont Electric Power Company Inc. and Vermont Transco LLC (collectively “VELCO”) is seeking approval under 30 V.S.A. § 248(j) from the Vermont Public Utility Commission (“Commission”) for a Certificate of Public Good for upgrades to VELCO’s existing facilities in Highgate, Vermont, generally consisting to upgrades of VELCO’s existing substation located at 2731 Route 78 (the “Highgate Substation Project” or the “Project”).

The Project consists of the following primary components:

- Replace the existing 24 foot by 61-foot VELCO control building with a new, approximately 32 foot by 80-foot control building that will accommodate a new protection and control system, station service, DC battery systems communication equipment, security systems, and bathroom. The new control building will be located inside the existing the Substation.
- Adjustments to existing driveway that consist of regrading, widening, and shortening the driveway to accommodate the new entry for the control building.
- Expand a 90-foot portion of fence on the fence’s eastern side to accommodate the new control building. VELCO proposes to expand the fence approximately 5 feet to the east.
- Relocate VEC’s existing 46 kV wires and pole just outside the east side of the fence to accommodate the new control building.



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

- Relocate existing communication fiber cables to connect to the new control building.

VELCO does not anticipate the need to clear any trees for the Project. 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.”<sup>1</sup> 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?
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?

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

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.”<sup>2</sup>

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 a 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 at the VELCO Highgate Substation) and landform effectively screen the Project from the majority of the surrounding area. Photos captured during field investigation are included at the end of this memo. Visibility of proposed upgrades is much less than overall visibility of the existing substation. Visibility of Project upgrades is primarily limited to a nearby short stretch of the Lamoille Valley Rail Trail north of the Project and less so to Vermont Route 78 immediately south of the substation. Where visibility would be possible, upgrades would be seen within the context of the existing substation and surrounding electrical transmission infrastructure. Viewpoints 1 and 2 illustrate views from Route 78 adjacent to the southern end of the substation. Previously installed evergreen landscape mitigation plantings substantially screen visibility of the overall substation from Route 78, including the existing and the location of the proposed control building. Viewpoint 2 illustrates the view

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

along the eastern side of the substation at the access drive, which provides the highest potential for views towards Project improvements. Existing vegetation along the eastern fence line, south of the proposed improvements currently screens views of the existing control building and would still screen and soften views of Project upgrades. Reconfiguration of the fence and access drive may potentially result in limited visibility from Route 78, specifically of Project upgrades from an isolated point.

Viewpoint 3 illustrates views from north of the substation along the Lamoille Valley Rail Trail. For a short stretch of the trail where the transmission corridor crosses, roughly 400 feet, there are open views of the existing substation. The proposed control building would be to the left of where the existing control building is currently visible, which would be removed. Proposed upgrades are not anticipated to result in a change to the visual character in views from the Lamoille Valley Rail Trail. After upgrades are completed, it is unlikely that users of the trail would even detect a change to the existing substation.

No other locations were identified that would have substantial visibility of the Project.

### **Private Residences**

What appears to be up to three private residences along the north side of Route 78 and east of the substation would have potential views of Project upgrades. However, visibility would be similar to existing views of transmission infrastructure and would not result in a material change to the existing visual character from these residences. The residence immediately east of the substation would have the greatest potential for visibility. Views are partially screened and softened by a combination of evergreen and deciduous vegetation between the residences and Project. Project upgrades would be located further north of these residences.

### **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 taupe or beige colored and the roof would be gray. Other similar colors and materials currently exist in the nearby area, including the colors and materials of the existing substation and other surrounding transmission infrastructure that are currently visible from Vermont Route 78 and the Lamoille Valley Rail Trail. The Projects colors and materials are considered compatible with the existing conditions at and in the vicinity 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 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.<sup>3</sup>

The Project site is currently developed with the existing substation and electrical transmission infrastructure. Project improvements will almost entirely be within the footprint of the existing substation fenced yard. A small 5-foot-wide expansion is proposed for 90 feet along the eastern fence line. The Project will not have an impact on open space.

### **Summary of Quechee Test Part I**

The review of potential aesthetic impacts because of the Project, visibility of Project improvements would be extremely limited. A combination of landform and evergreen vegetation significantly screen the Project from the surrounding area. Project upgrades would not create new visibility of electrical transmission infrastructure within the area. Project upgrades are considered to have an extremely low impact to the existing visual character from the limited locations that would have visibility. The Project is limited to a very 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 to visual character, the Project will not result in an adverse impact to the aesthetics and scenic and natural beauty of the area.

## **IV. Quechee Test Part II**

The findings of this analysis conclude that the overall visual impact of the VELCO Highgate 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 Highgate Substation Project in the Town of Highgate, 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 Highgate Substation Project meets the Quechee Test insofar as its impact on aesthetics will NOT be UNDULY ADVERSE.

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<sup>3</sup> <https://www3.epa.gov/region1/eco/uep/openspace.html>



**Viewpoint 1:** View from VT Route 78 southwest of the existing substation looking northeast towards proposed improvements.



**Viewpoint 2:** View from VT Route 78 southeast of the existing substation looking north towards proposed improvements.



**Viewpoint 3:** View from the Lamoille Valley Rail Trail north of the existing substation looking roughly south towards proposed improvements.