
Aesthetic Assessment and Recommendations for the Proposed VELCO Northwest Reliability Project Transmission Line and Substation Upgrades

Docket 6860, VELCO NW Reliability Project

Submitted to:
State of Vermont
Department of Public Service
Montpelier, VT

Submitted by:
LandWorks
Middlebury, VT

December 17, 2003

Table of Contents

Introduction	1
Project Context	2
The Project Area.....	3
The Nature of the Proposed Transmission Line and Substation Upgrades.....	5
The Quechee Standard and Analysis.....	6
Mitigation Recommendations for Areas of Highest Aesthetic Sensitivity	
West Rutland to New Haven 345kV transmission line.....	8
New Haven to Queen City 115kV transmission line	18
Aesthetic Assessment and Recommendations for the Proposed VELCO Transmission Line Upgrades - West Rutland to New Haven Substation	33
Section 1: Mile 0.0 to Mile 5.0 West Rutland Sub., Proctor & Pittsford.....	34
Section 2: Mile 5.0 to Mile 15.2 Brandon through Leicester.....	44
Section 3: Mile 15.2 to 24.5 Leicester through Salisbury to Middlebury.....	50
Section 4: Mile 24.5 to Mile 35.5 Middlebury to the New Haven Sub.....	56
Aesthetic Assessment and Recommendations for the Proposed VELCO Transmission Line Upgrades - New Haven to Queen City Substation	65
Section 5: Mile 0.0 to Mile 5.4 New Haven Sub. to Vergennes.....	66
Section 6: Mile 5.4 to Mile 12.7 Through Vergennes to Ferrisburgh Sub...78	
Section 7: Mile 12.7 to Mile 16.9 Ferrisburgh Sub. to Charlotte Sub.....	98
Section 8: Mile 16.9 to Mile 22.1 Charlotte Sub. to Shelburne Sub.....	102
Section 9: Mile 22.1 to Mile 27.1 Shelburne Sub. to Queen City Sub.....	112
Aesthetic Assessment and Recommendations for the Proposed VELCO Substation Upgrades - Granite Substation	131
Survey of Regional and Town Plan Provisions regarding Aesthetics and Electric Transmission Corridors and Facilities	135
Guidelines for Aesthetic Mitigation	141
Plant Materials Guide	147

List of Exhibits

- DPS-DR-2 Proposed 345kV Transmission Line Upgrade at Mile 1.8 (Whipple Hollow Road) Line of Sight Section from Whipple Hollow Road to Transmission Line Corridor
- DPS-DR-3 Proposed 345kV Transmission Line Upgrade at Mile 19 (US Route 7 in Salisbury) Option for more desirable line location
- DPS-DR-4 Proposed 115kV Transmission line and Substation Upgrade at Mile 0.0 (VT Route 17) Option for more desirable line location
- DPS-DR-5/6 Visual Simulation at Miles 0.0-0.2 (New Haven Substation and VT Route 17)
- DPS-DR-7/8 Visual Simulation at Mile 6.5 (Vergennes Otter Creek Falls/Grist Mill and VT Route 22A)
- DPS-DR-9 Proposed 115kV Transmission line and Substation Upgrade at Mile 21 (Fletcher Lane) Section of Typical Home on Fletcher Lane

Introduction to the Report

This aesthetic assessment and report is submitted to the Vermont Department of Public Service in response to its request for assistance in evaluating the aesthetic impacts associated with Public Service Board Docket 6860, the proposed Petition of the Vermont Electric Power Company, Inc. (VELCO) for a Certificate of Public Good (CPG).

Aesthetics (n)

1. the branch of philosophy dealing with such notions as the beautiful, the ugly, the sublime, the comic, etc., as applicable to the fine arts, with a view to establishing the meaning and validity of critical judgments concerning works of art, and the principles underlying or justifying such judgments. 2. the study of the mind and emotions in relation to the sense of beauty.

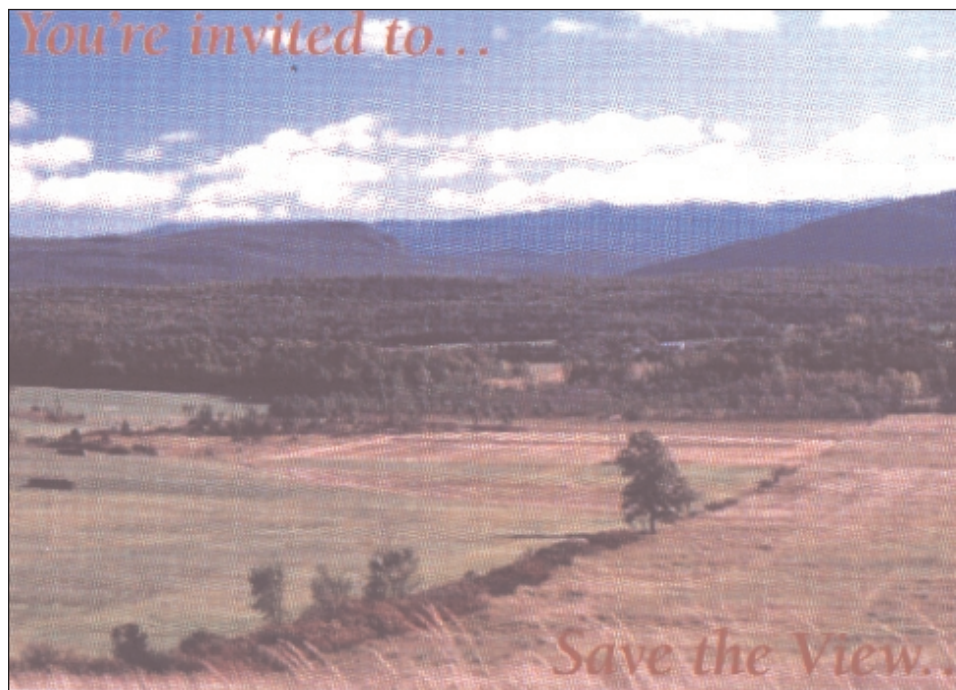
This report contains several sections, beginning with an overview of the Project's overall context and then continuing with a summary review of those areas with a high aesthetic sensitivity. A section by section analysis follows, and the report concludes with an evaluation of any applicable community standards, guidelines for mitigation, and a plant materials list for use in mitigation measures involving landscaping.

The overall conclusion of this report is that, as proposed, in some locations the NRP will have an undue adverse effect on aesthetics. These locations are discussed in the section on highly sensitive areas, entitled "Mitigation Analysis for Areas of Highest Aesthetic Sensitivity." For each such location, mitigation measures are recommended and, with such mitigation measures, the NRP's effect on aesthetics will not be unduly adverse. In addition, except for the locations discussed in the section on highly sensitive areas, the NRP will not have an undue adverse effect on aesthetics.

Our methodology for this project included visual and cartographic analysis, research and review. Our primary analysis assesses the project's visibility and potential for visual and aesthetic impacts, with a focus on viewsheds from major federal, state or local roads, relationships to nearby areas of public interest, high scenic value and/or official designation as a cultural, aesthetic or recreational facility or resource, road crossings and locations that involve individual residences or residential areas. We have used on-site and field study to reinforce our analysis and findings. The technical expertise of the Department of Public Service and their consultants has also provided guidance for this report. We have used the documents and exhibits provided/submitted by VELCO, including but not limited to the Direct Testimony Volumes I and II and the Exhibits of VELCO on Direct Volumes 1,4,5 and 6. Finally, our overall conclusions address the criteria set forth in the Quechee Decision, as developed by the Vermont Environmental Board for aesthetic analysis and conclusions. The Public Service Board has adopted the Quechee Analysis as the standard for the review of aesthetics under Section 248.

The Overall Project Context

Any analysis of the aesthetic impacts of a project must include a description and understanding of the context for that project and the character of the area. We must address the “fit” of the project to that area and answer the question as to whether the project, as proposed, and given its qualities and elements, will be in harmony with its surroundings. The impact to open space must be addressed. Finally, and perhaps most important, is a determination as to the project’s visibility.



Postcard of view in New Haven, produced for promotion of greenbelts and views. See next page for explanation.

The Project Area

This is a regional project which begins in the northern, forested foothills of the Taconic Range, continues through Rutland County and within the Otter Creek Watershed to the Champlain Valley beginning in from Brandon, north to South Burlington. The Champlain Valley locale includes sweeping views to both the Adirondacks and the western foothills and slopes of the Green Mountains. This section is characterized by smaller villages, farmlands and agricultural uses as well as rural residential land uses. The scenic and aesthetic resources of this region are well documented and characterized somewhat by the postcard on the previous page distributed by the Middlebury Area Land Trust with the exhortation "Save the View." It is looking west in New Haven towards the Green Mountains, with rolling pastures and woodland patches and farmsteads in the fore and mid-ground. The patchwork of wooded areas and open lands, the roads (such as Route 7 and Route 17) which travel along heights of land, and the consequent long distance views are characteristic of this region.

The proposed 345kV line follows an existing 115kV line corridor throughout the entire route from West Rutland to New Haven. This existing route is generally in rural forested or open areas. According to VELCO exhibits DJB-8, the existing transmission line is an H-frame construction with towers at 52 feet height and approximately 15 feet width between the two poles on the structure. The proposed transmission line will be a larger type of H-frame construction with towers at 79 feet height and with approximately 27 feet width between the two poles on the structure. The corridor will require a clearing in the right-of-way of approximately 250 feet.

The proposed 115kV line upgrade from New Haven to Queen City replaces an existing 46kV and 34.5kV line in many areas. However, a new routing of the proposed 115kV line occurs in a few areas where transmission lines do not currently exist. The proposed 115kV line towers will be approximately 61 feet tall, replacing the 46kV/34.5kV line of approximately 35 feet 6 inches in height.

One section of the proposed 34.5 kV to 115kV upgrade passes through the historic Village of Vergennes and its otter creek basin. North of this area the line and corridor continue through agricultural lands and rural residential uses, eventually following a railroad corridor for about 13 miles into Shelburne. At this point the nature of the corridor and its context changes, with a more densely settled, almost suburban type land use pattern, with a mix of commercial, recreational, residential and industrial land uses. The final 2.5 mile section also parallels a rail line in close proximity to resi-

dences, in particular, is noted.

Overall, the region is one which often contains long distant views with the classic Vermont pastoral qualities and mountain backdrops. As an area that is visited by tourists and relies on this economy, and as a region with a rich culture and historic settlement patterns, the potential exists for undue, adverse impacts to this project absent appropriate mitigation.

Throughout the project area there are numerous road crossings and sections which parallel what are considered to be some scenic roads and viewsheds. There are also locally sensitive open spaces and land uses. These are considered to be aesthetically sensitive areas and are addressed in detail in the section by section analysis. Areas of high aesthetic sensitivity with a potential for undue adverse impact are identified in the next section of this report. The Regional Context Analysis Maps provide an overview of the project corridor and environs.

We note that this report addresses the impact of the project as currently proposed, including any mitigation measures that VELCO has identified to date. We understand that VELCO has indicated it is willing to undertake additional, albeit unspecified, mitigation measures. In addition, a limitation on the analysis is that final design plans showing such items as pole placement are not available presently.

The Nature of the Proposed Transmission Line and Substation Upgrades

The word “context” is derived from its Latin root “*contexere*” which means literally “to weave together”. The task at hand is to weave together associated elements of the proposed transmission line and existing transmission lines successfully and without unacceptable impacts into its surroundings. In areas with little visibility and where screening and tree heights reduce or eliminate the sense of its presence, some degree of integration can be achieved.

This project consist of new H-frame and/or single pole structures, associated insulators, ground wires and conductors. In some instances, extensive clearing for additional right of way is required. In some locations on the West Rutland to New Haven section of the NRP, the addition of a second set of structures will add to the adverse visual impact by causing the cuts to be more visible where today they are not as clearly present as a landscape feature. “Skylighting” - where the pole structures are visible above the trees, rather than being absorbed by a backdrop, is also a factor. The bleaching of the poles over time can make them stand out against a darker backdrop of vegetation. Additionally, where visible the two different heights of the existing and proposed structures will add to a sense of clutter in the landscape. The proposed 115 kV line increase poles heights 27 feet and the girth of the proposed structures will give them a more massive feel to the viewer. In some locations, sky-lighting and proximity to settled areas and individual residences becomes a concern with this stretch of the corridor, from the New Haven Substation to the Queen City Substation. Additional clearing and the loss of current buffers and screening which are in place today for the existing 34.5/46 kV will be a concern from some vantage points.

Finally, substation expansion is also a component of the NRP. The most dramatic increase in size is in New Haven, where the footprint will be five times the current area and with higher structures. This will definitely change its presence in the landscape. Other substation expansions are more modest, but will also result in the loss of existing screening and vegetation, and will mean that these areas are potentially more visible, with a consequent effect on the character of the facility’s surroundings.

The same postcard cited in the previous section includes a view of an H frame transmission line structure, highlighting the fact that to some extent, we are, as a population, inured to the presence of power lines, both distribution and transmission. Nonetheless, it is important to determine the extent of the aesthetic impact. The Quechee Decision provides the standard for assessing the impacts of this proposal.

The Quechee Standard and Analysis

The Quechee Standard was established by the Vermont Environmental Board under the Findings of Fact and Conclusions of Law in the Quechee Lakes case (Re: Quechee Lakes Corp. #3WO411-EB and #3WO439-EB) decided in 1985. This standard has been adopted by the Public Service Board for reviewing aesthetic impacts associated with petitions submitted under the provisions of Section 248.

The Quechee analysis requires a two step process which begins with the key question: Will the proposed project be in harmony with its surroundings, that is, will it fit with the context within which it is located? To ascertain this, the applicant has to address 1) the nature of the project's surroundings, 2) the compatibility of the project's design with those surroundings, 3) the suitability of the colors and materials used for the project, 4) the visibility of the project, where it can be seen from, the duration of the view and whether the view will be a foreground, mid-ground or background view and 5) the impact of the project on open space.

If, upon weighing these factors together it is determined that the project does not fit successfully with its surroundings, the project can be considered to have an adverse impact if constructed. This determination then requires the second step of the analysis to ascertain whether or not it will have an undue, adverse impact on aesthetics or the scenic or natural beauty of the area. This is accomplished answering the following three questions:

- 1) Does the project violate a clear written community standard intended to preserve the aesthetics or scenic, natural beauty of the area?
- 2) Does the project offend the sensibilities of the average person?
- 3) Has the applicant failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the proposed project with its surroundings?

If a positive conclusion is reached with regard to any of these criteria, then the project will have an undue adverse effect on aesthetics.

It should be noted here that other factors will be weighed in the Board's review, most notably reliability issues and the cost benefit determination with regard to mitigation measures. The Vermont Public Service Board, in Docket 6793, the Petition of the Stowe Electric Department, found that "the Board's assessment of whether a particular project will have an "undue" adverse effect based on these three standards will be significantly informed by the overall societal benefits of the project" (page 12 in the Order by the

Public Service Board dated May 5, 2003.)

West Rutland to New Haven 345kV Transmission Line Mitigation Recommendations for Areas of Highest Aesthetic Sensitivity

The Overview of Individual Sections highlights those areas that will experience an adverse impact if the NRP is constructed. It may be desirable to mitigate those adverse impacts but the charge of this report is to address those areas which will experience an undue adverse impact on aesthetics if the project is constructed. Thus, this section focuses only on those areas in the Overview of Individual Sections, which in our opinion, if this project is constructed, will result in an undue, adverse impact, due to the fact that 1) it either will offend the sensibilities of the average person or 2) sufficient and generally available mitigation measures which a reasonable person would take have not been proposed by VELCO. In our opinion, other areas will not experience an undue adverse impact on aesthetics as a result of the NRP. In addition, the issue of compliance with community standards is addressed in the section entitled Survey of Regional and Town Plan.

There are some areas along this section of the corridor where placing the lines underground will satisfy the standards of Quechee and eliminate any undue adverse impacts on aesthetics. These options are not included in this report; testimony of Department of Public Service experts Mr. Hans Mertens and Mr. George Smith outlines the reasons for not considering the underground option and these include:

- 1) The cost of undergrounding
- 2) Reliability issues associated with undergrounding
- 3) Potential for other environmental impacts if this option were to be considered.

Mitigation measures are proposed only for those locations described in this summary section. In our opinion these measures will satisfy the Quechee standard and prevent an undue adverse impact to aesthetics. VELCO will need to respond to these recommendations with more detailed mitigation measures designed specifically for the areas delineated. Planting plans with plant materials of sufficient size and number, as well as pole placements and other measures will need to be part of this next step to ensure that an undue adverse impact will not result from this project. Single pole structures are recommended in several places. These structures are described in the testimony of Department witness George Smith.

West Rutland to New Haven Substation

In some locations the addition of the higher, second set of transmission lines

and structures effectively doubles the impact of the current conditions by adding larger and increased numbers of vertical and horizontal elements which create visual disharmony with different sizes and resulting clutter. Clearing, loss of existing vegetative buffers and screens and the additional visibility of cuts (both in winter and summer), "skylighting" of the towers and conductors in some places, and long stretches of visible corridor characterize the visual impacts which will accrue in this section of the proposed route.

Miles 0.0 to Mile 5.0

Whipple Hollow Road is a sensitive and scenic area. Whipple Hollow Road has a continuous viewshed of natural wooded hillsides coupled with open lands in the foreground.

The widening of the corridor and subsequent cut on the hillside will substantially impact the appearance of the corridor and its "cut" on the hillside. This cut will be particularly noticeable in the areas with steeper slopes (see mitigation guideline A9.1-3.) The corridor is going to be widened from approximately 150 feet cleared land to another 100 feet of cleared area resulting in an overall corridor clearing width of a minimum of 250'. The corridor width could increase to perhaps 275 -300 feet, and it appears that this has already happened in some locations along the VELCO Right of Ways. Corridors often widen more than the cut area from wind throw, as well as tree loss due to sun scald and exposure. Widening of the corridor is one reason the clear zone from danger trees is important so as not to come into contact with any of the power lines/conductors.) DPS-DR-2, the Line of Sight Section from Whipple Hollow Road demonstrates that with the slope of the hillside, the additional clearing will expose to view as much as 75 feet of a "stripe" and up to half of the new structure. This new structure along with the existing structure will add more poles and clutter.

This area has been identified as a sensitive, scenic and important area for the town and the lands on which the corridor is located and adjacent to is a conservation district

The changes which will result from the widened width of the clearing in and of itself is a negative change and therefore adverse. With the additional visibility of the corridor and the towers, the project will result in a less harmonious condition, and less of a fit with the landscape. Taken together, and without effective mitigation, this section of the line, if constructed will result in an undue adverse impact on the scenic character of the area. All that VELCO has proposed in this area is selective clearing, and this will not

sufficiently mitigate the increased clearing. An effective mitigation strategy is proposed.

Mitigation Recommendations

Both 1 and 2 are necessary to satisfy the Quechee analysis

1) A single pole configuration, albeit higher, is needed to reduce the clearing required for the corridor and the subsequent extent of the cut down the hill. The increased height of the single structure, which could be of naturally weathering Corten steel, would not be visible above the ridgeline as the corridor is below the height of land to the east. Even with the proposed conductors in a horizontal array, a single pole configuration with vertical conductors will not appreciably change the view of the line because from the typical viewing distance and with the backdrop, the actual lines themselves are not overly visible.

2) Selective clearing and some additional plantings where the buffer is thin to allow as much buffer to remain (particularly near pole structures, will also help (although in a minimal fashion) to mitigate the visual change.

As another option, reconstructing the existing 115kV as single pole line would also be a desirable mitigation measure and actually allow both lines to be within the existing corridor.

See Mitigation Guideline G9.

Miles 5.5 to 5.6 Whipple Hollow Road Crossing

The area in the vicinity of Whipple Hollow Road and the Florence Substation is not a densely settled area. This crossing of Whipple Hollow Road will impact a scenic area. The qualities cited in the previous stretch of the corridor and present all along Whipple Hollow Road extend into this area of Pittsford as well. With the addition of more massive structures close in to the roadside the cumulative amount of utility infrastructure will result in an adverse impact. This area requires extensive landscape mitigation, which is not called for in the VELCO plans. All VELCO has suggested is selective clearing, and no new planting, which is not sufficient to mitigate the impact, and thus without this, an undue adverse impact will result.

Mitigation Recommendations

The following recommendations will be effective to avoid an undue, adverse

effect and they include:

- 1) Setting the poles back from the Whipple Hollow Road crossing where currently a structure sits right next to the road;
- 2) Creating a short hedgerow to "plug" the road crossing on either side, de-emphasizing both the poles and the crossing; and
- 3) Providing additional screening for the substation, perhaps along the access road to the facility. In situations such as these additional screening is warranted because the addition of more structures with the second set of lines increases the visual impact and the degradation of the character of the area when added to the poles and structures which already exist.

See Mitigation Guidelines G2 through G5.

Mile 12.1 Otter Creek Crossing at Champlain Street/Route 73.

This crossing is over and through a scenic river corridor and in the vicinity of a well traveled road with riverbank, meadow and hillside viewsheds. This is a sensitive area from an aesthetic perspective. The addition of the second larger pole structure will create an adverse impact through a more visual intrusion to this landscape, which is, except for the existing line, a very beautiful, undeveloped river valley landscape. This additional pole and associated lines as well as the clearing required will not fit with this landscape and therefore will be adverse. The change in the landscape in this well traveled corridor will shock the daily traveler initially upon seeing it. VELCO has proposed only selective clearing while stating that larger trees on the south side of the highway will be removed. This is not sufficient mitigation and thus, the impact will be undue, adverse.

Mitigation Recommendations

Two mitigation measures if implemented, would be effective to avoid an undue adverse impact and these include:

- 1) Setting existing and proposed poles back from the road to the north; and
- 2) Creating a short hedgerow as well as river bank plantings derivative of surrounding species on Otter Creek in the vicinity of the "cut."

See Mitigation Guidelines G2 and G4 and the Plant Materials Guide.

13.6 to 14.0 In the vicinity of Arnold District Road

This is a highly scenic area with a rolling pastoral landscape and open views. Some historic buildings are in the vicinity, which complement the overall nature of this area as classic Vermont landscape. The addition of the new poles and corridor with the increase in the width of the cut will adversely impact this area. Lacking any mitigation proposed by VELCO, the impact will be undue, adverse.

Mitigation Recommendations

The measures desired here include ensuring that existing and proposed poles are relocated/located back from the roadside and the cut descending from the north is screened with hedgerows. Street tree planting would complement the fenceline and distract /buffer the viewer from the line's impact. All of these mitigation measures are necessary and effective to avoid an undue adverse conclusion.

Mile 16.2 to 16.7 Leicester-Whiting Road

This area is in the vicinity of the Leicester-Whiting Road, also a highly traveled road in this area that is open and agricultural in character. As with many of the road crossings in this section, the additional lines and H-frame poles 27 feet higher will create a cumulative and adverse impact that is excessive and out of harmony with the surroundings. Sufficient mitigation has not been offered by VELCO other than matching the poles at the crossing, but with all of the following recommended measures adopted, compliance with the Quechee test can be achieved.

Mitigation Recommendations

With the 1/2 to one mile viewshed along the road, a section of hedgerow planting adjacent to the corridor crossing and trees lining the road as in the classic row of maples along many a Vermont road will, collectively address the mitigation requirements. The screening of the side by side pole assemblies is warranted to avoid an undue adverse determination. Screening should be either at the poles to soften their presence, or off site with permission from landowners.

Mile 18.0 to 20.0 In the vicinity of Route 7.

This area is the first section in this part of the corridor along Route 7 (Miles 18.5 to 19.9). An open wetland and meadow landscape will be impacted. This area is an important wetland and wildlife environment adjacent to the Brandon Swamp Wildlife Management Area. Currently, the 115 kV line constitutes an intrusion into the Route 7 viewshed. The addition of the second set of structures and lines will result in a considerable additional impact that exacerbates the fact that the corridor runs through the middle of the open space and is an interruption in the sweep and flow of this landscape with its foreground and mid-ground presence. Exhibit 2 provides a sense of this landscape from an aerial perspective.

Additionally, the crossing of West Salisbury Road will undermine the pastoral and aesthetic qualities of this open, managed area. These additions will further contrast with the aesthetic qualities of this highly visible section and will result in an adverse impact. As proposed it will be offensive to the average person, with the doubling of pole structures, because the additional visual intrusion will add to the impact on the scenic and natural qualities of the area. This factor, coupled with the lack of sufficient mitigation, will result in an undue, adverse impact.

Mitigation Recommendations

While pole matching will offer limited, if any mitigation of the visual impact, relocating both lines through this area so that they are closer to the edge of the open area along the treeline or through patches of woodlands to provide screening is recommended. This would provide an effective backdrop for even the double set of poles. Figure 2 provides an example of how a relocation option for both the existing and proposed lines will effectively mitigate the impact of the new line and redress an existing negative impact. If this measure is put into place, an undue adverse effect can be avoided.

The only alternative to this would be to establish hedgerow and roadside plantings along Route 7 to alter the view and prevent the eye from being drawn to the corridor.

Hedgerow plantings are also warranted at Mile 19.3/4 to mask the crossing and associated poles.

See Guideline G4 and G10

Mile 20.5 to 20.9 at Kelly Cross Road

The section of the corridor next to the residences along Kelly Cross Road and running parallel to the Salisbury Elementary School is a very sensitive area. Both areas are sensitive and warrant consideration of several mitigation measures. There is an existing hedgerow along the current transmission corridor which, in part, the school from the corridor. If some of this is lost, as indicated by VELCO, and the vegetation removed from the areas around the houses, a dramatic and untoward change will occur resulting in an undue, adverse impact. VELCO has proposed some planting measures, but lacks specific numbers and sizes and does not address all the areas of impact. Lack of sufficient mitigation measures forwarded by VELCO indicate that an undue, adverse effect will be the result.

Mitigation measures, both of which together which will enable this section to comply with the Quechee test, include:

- 1) The retention of the existing hedgerow at the school, extending it and adding evergreens; and
- 2) Extensive new screening and hedgerow plantings both along the road to "plug" it and adjacent to the residences.

Refer to the guidelines for screening and hedgerow design recommendations. G2,4,6,12,&13

Mile 24.5 to Mile 24.9 Route 125/East Main St. crossing and gateway" to a designated Vermont Scenic Highway and East Middlebury Village.

This area is well traveled and an important gateway to the Green Mountain Forest and Recreation Areas, including Middlebury College's Breadloaf Campus and Snow Bowl Ski Area. Middlebury has planted trees along this section which leads directly to one of Vermont's 3 designated scenic roads begins within a mile from this point. There is also a memorial monument in the vicinity of Route 125. Currently the area already suffers aesthetically from the presence of the existing corridor as well as distribution lines. Its open nature with the mountain ridge beyond is sensitive to an increase in utility line construction. Thus this area cannot absorb much more in the way of visual intrusions before it is a noticeable distraction from the potential scenic experience. Loss of existing vegetation will have an adverse impact. The addition of a new line creates a cumulative impact that is adverse and will be offensive to the average viewer. The increase in visual

clutter will further deteriorate this area and will result in an undue adverse determination. Mitigation measures, which will satisfactorily address this situation, so that finding does not have to be made are necessary.

Mitigation Recommendations

Mitigation recommendations include:

- 1) Extensive screening along the right-of-way heading southwest and in the vicinity of the towers as well as within the triangle of land will help to buffer them and reduce their impact;
- 2) Extensive street tree plantings, evergreen clusters and/or a hedgerow will also serve to screen and distract the view to the towers along Route 125;
- 3) Hedgerow and/or roadside type plantings along Route 7; and
- 4) Setting poles further back from the roadside, eliminating one of the two existing poles in the triangle area formed by the highway while at the same time matching the two poles (existing and new line) to place in that location.

These 4 measures taken collectively will satisfy the Quechee test.

Another option to consider in lieu of recommendations 1, 2, 3 and 4 would be to relocate the corridor so that it crosses Route 7 just north of this junction, so that only one road crossing is made, and the visual clutter is significantly reduced within the "triangle" area formed by Route 7 and Route 125. Some screening will also be required if this option is selected.

See Mitigation Guidelines G11 and G12 and the Plant Materials Guide

Miles 28.5 to 31.1

Between Miles 28.5 and 29.0 the proposed line crosses Painter Road. The same sensitivity and concerns exist here as they do for many road crossings as the line emerges from a wooded section at mile 28.6 and continues to the perpendicular crossing. The line continues north and begins to parallel Halpin Road prior to its crossing at Mile 30.1. At Mile 31.1 the line crosses River Road in New Haven and travels through a visually sensitive area of open cultivated lands as it then crosses the New Haven River.

The addition of the higher line with a massive pole will add to the existing

disharmony and further impact the open and residential character of this area. This will result in an adverse impact. VELCO has proposed selective clearing, one alternative pole placement at Mile 28.9 and maintaining and adding to the Halpin Road hedgerows. This is part of the way to addressing mitigation, but doesn't address road crossing or screening at River Rd. Thus sufficient mitigation measures have not been proposed by VELCO in these areas and an undue, adverse effect will occur.

Mitigation Recommendations

Mitigation measures which, taken collectively, will satisfy the Quechee test include:

- 1) Matching poles which create some degree of order and repetition,
- 2) Keeping pole structures set back from crossings,
- 3) Creating hedgerow and/or evergreen "plugs" at the crossings.
- 4) Setting up some street tree and possibly hedgerow plantings and individual screens at particular properties as necessary may be required to suitably alleviate the visual impact in the sections adjacent to and crossing both Halpin Road and River Road in particular. Near to Halpin Road just south of the town line between New Haven and Middlebury there is the potential for substantial visual impact to three or four homes in the vicinity. The existing hedgerow on Halpin Rd. should be reinforced. Hedgerows along driveways and in back yards may help to deflect, in part, the visual impact by providing alternative elements in the landscape that distract from the presence of the lines and towers. These mitigation measures will need to be carefully located with the involvement and consent of landowners.
- 5) Along River Road a hedgerow along the north side of the road for .2 to .3 miles is needed to change the focus of the viewer and partially screen the line.

See Mitigation Guidelines G2 through G6.

Mile 35.0 to the New Haven Substation

At the crossing of Town Hill Road, which serves as a gateway to New Haven Village, the existing transmission line and the presence of several distribution lines make for a cluttered roadside which will be exacerbated by the addition of a second, larger set of poles and conductors. From here the cor-

ridor continues to the New Haven substation through an open area which includes currently or formerly cultivated fields. The current transmission lines are visually prominent and the substation is out of character with the existing open agricultural landscape. The substation will be expanded substantially and include taller structures than currently exist. The line and expanded substation visible from Town Line Road will have an adverse impact here as well as an undue determination without sufficient mitigation measures implemented. (See New Haven Substation discussion in next section).

Mitigation Recommendations

Sufficient mitigation measures, all of which must be implemented to avoid an undue adverse determination include:

1) Screening along individual properties is warranted in the Hunt Road vicinity and this is recommended. One potential mitigation option for this entire section would be to go to a new single pole with short enough spans and a particular clustered conductor array to prevent it from being much higher than the existing line; or two side by side single poles as more ideal above ground mitigation option. This would limit the right of way impacts and begin to partially address proximity issues to homes.

2) Roadside screening and hedgerows are warranted along the crossings and near to them on both Hunt and Town Hill Road.

3) The substation will also require extensive and varied screening on its south side with the possibility of a gradual berm feathered into the surrounding landscaping but rising high enough to provide a suitable platform for establishing vegetative screening of the new expanded substation footprint and higher structures. A mixed, deep and dense hedgerow employing large caliper deciduous trees and suitably sized evergreens (10-12 and 12-14' minimum to begin with) will effectively mitigate the visual impact of the substation.

See Exhibit 3 for an illustrative concept of the berming configuration.

See Mitigation Guidelines G2 through G6, G11 and G12, G13 as well as the Plant Materials Guide.

New Haven to Queen City 115kV Transmission Line Mitigation Recommendations for Areas of Highest Aesthetic Sensitivity

The Overview of Individual Sections highlights those areas that will experience an adverse impact if the NRP is constructed. It may be desirable to mitigate those adverse impacts but the charge of this report is to address those areas, which will experience an undue adverse impact on aesthetics if the project is constructed. Thus, this section focuses only on those areas in the Overview of Individual Sections which in our opinion, if this project is constructed, will result in an undue, adverse impact due to the fact that 1) it either will offend the sensibilities of the average person or 2) sufficient and generally available mitigation measures which a reasonable person would take have not been proposed by VELCO. In our opinion, other areas will not experience an undue adverse impact on aesthetics as a result of the NRP. In addition, the issue of compliance with community standards is addressed in the section entitled Survey of Regional and Town Plan.

There are some areas along this section of the corridor where placing the lines underground will satisfy the standards of Quechee and eliminate any undue adverse impacts on aesthetics. These options are not included in this report; testimony of Department of Public Service experts Mr. Hans Mertens and Mr. George Smith outline the reasons for not considering the underground option and these include:

- 1) The cost of undergrounding
- 2) Reliability issues associated with undergrounding
- 3) Potential for other environmental impacts if this option were to be considered.

Mitigation measures are proposed only for those locations described in this summary section. In our opinion these measures will satisfy the Quechee standard and prevent an undue adverse impact to aesthetics. VELCO will need to respond to these recommendations with more detailed mitigation measures designed specifically for the areas delineated. Planting plans with plant materials of sufficient size and number, as well as pole placements and other measures will need to be part of this next step to ensure that an undue adverse impact will not result from this project. There are three specific mitigation options that can be implemented to improve the aesthetic impact of the line upgrade. The first option is to lower pole height to mitigate visual impact of tall poles on the landscape. The second option is to raise pole height so that the poles are less frequently spaced to reduce the clutter and impact of poles on the landscape. Please refer to the testimony of George Smith, PE. The third option, which is essential, is substantial plant-

ings of sufficient size and number to green and buffer the line and corridor.

Mile 0.0 and the Vicinity of Route 17 and the New haven Substation to Mile 0.4

At Mile 35.4 of the proposed West Rutland to New Haven 345kV line, the corridor approaches from the south and terminates at the New Haven Substation. The substation itself today is less visually intrusive due to its size and scale but the proposed substation will have over five times the footprint and its visual exposure to Route 17 will increase from approximately 200 feet to 600 feet in the horizontal dimension. The acreage required increases from 0.9 acres to almost 6 acres. Additionally, the vertical dimension will be altered with the addition of a number of new trestle type elements over 80 feet tall where presently the existing structures are only as high as 25'. This height is over triple the current height and will present a substantial and adverse visual impact. An existing 46kV CVPS transmission line will continue to the east out of this substation.

The proposed higher (from 35 feet to 61 feet) and larger single pole structure, in concert with existing 115kV, will have a substantial impact as well to the height of land environment as the line approaches and crosses along Vermont Route 17. This area is a well traveled gateway to both New Haven Village and the Green Mountains. A scenic panorama emerges as the traveler heads west along this high point in the Town, and the open views are substantially undermined by the presence of transmission corridors and pole structures.

There are thus substantial visual impacts associated with this location. A person viewing this line will find, if this upgrade is constructed, that the cumulative impact of the higher poles adjacent to the roadway and the expanded New Haven Substation will offend the sensibilities of the average person. See Exhibit 4 for a sense of existing and proposed conditions using photography and visual simulation. Additionally, VELCO has not offered sufficient mitigation in this area so an undue, adverse impact will accrue. Any one of the following mitigation measures will prevent an undue adverse finding.

Mitigation Recommendations

One of these two recommendations will provide satisfactory mitigation:

- 1) It is recommended that pole locations adjacent to the highway be carefully located and or relocated so as to allow a short stretch of intensive

hedgerow plantings in this segment of road, to channel the views and screen the worst of the power line impacts. See Exhibit 5.

2) A second option which will satisfy the Quechee standard is the relocation of the line to allow the view to "breathe" and not be compromised at the height of land of Route 17. See Exhibit 3 for the possible routing options. It is recognized that this will require a new right of way agreement.

To successfully mitigate the substation expansion, the substation should be screened on both the north and south sides with an extensive new native hedgerow design developed from classic hedgerow patterns of the Champlain Valley in the vicinity of this site. Single species plantings should be avoided and high trees should be included in a manner so as not to endanger any incoming conductors. Berming will also serve to de-emphasize the installation and give the trees planted upon them more height for effective screening. Both of these measures are necessary. See Exhibit 3.

Refer to Mitigation Guidelines G3-G5 and G11-G12 as well as the Plant Material Guide.

Mile 3.6-4.4

This is the section of the corridor where the line appears within the viewshed of Route 7 and then crosses over the highway through Waltham to Vergennes. The crossing area does have a number of existing utility lines in both the right of way and alongside to the east. As this area is at a lower point along Route 7 the view duration is not long. It is not a densely settled area either and so this area is not as important as others are aesthetically, if comparables were to be developed and a rating method used. Nonetheless the change will constitute an adverse impact as it increases the unfit nature of the transmission corridor in this location. It is unfit because it intrudes in a discordant manner with the agricultural, rolling landscape. VELCO proposal lacks sufficient mitigation measures in this area, and an undue adverse determination is possible. Thus mitigation measures which would satisfy this concern must be employed.

Mitigation Recommendations

An option to consider that would be an improvement would be if all the distribution and transmission lines could be located in the same corridor or collocated.

The following two mitigation recommendations will, together, satisfy the Quechee Standards.

1) The woodland patch or copse should be enhanced with a new dense plant massing established in the foreground with the first pole set back further east.

2) Setting poles back from the westerly side of the highway with a good visual "plug" would further block a pole that is taller than the existing ones present (with an underbuild), although these look to be slightly taller in the vicinity of Route 7 due to existing number of conductors they are carrying. Allowing the existing vegetation to remain will also be important.

Refer to Mitigation Guideline G13

Mile 5.2 to 6.3

This is a transition point to a more densely settled area in Vergennes. All the way from mile 5.2 through to Mile 7. 4, there will be an undue, adverse impact in specific locations due to changes in the character of the area. This is because the proposal will significantly increase line height and associated clearing. Losing Willow trees and other riparian vegetation along the Otter Creek tributary will result in an adverse impact to natural beauty and the character of the area. An undue adverse effect will result without sufficient mitigation measures. VELCO is not proposing sufficient mitigation measures in this area. It proposes selective clearing and removing significant specimen trees, which are integral to the character of the area.

Mitigation Recommendations

Sufficient mitigation measures include all of the following, taken together:

- 1) Pole setbacks at crossings with "plug" type screen plantings at Green Street, Booth Woods and South Maple Street;
- 2) Closer spans to keep shorter poles and pole height reductions of 10 to 15 feet;
- 3) Maintenance of established specimen trees and other vegetation integral to visual buffering.

Miles 6.3 to 6.8 Vergennes/Otter Creek Basin

The four crossings of the Otter Creek collectively impact the Otter Creek Basin, which has been incorporated into both the Vergennes Town Plan and addressed by local economic and cultural development organizations as a focus for the city's downtown revitalization efforts. It is considered to be part of the incipient Lake Champlain Byway program, with a designated section of Byway here on Main Street and thus an integral part of the transportation, recreational and tourism initiative and quality of life goals being forwarded by that effort. Settler's Park and an undeveloped open space exist immediately in the vicinity of the bridge and the corridor crossing there.

It is also important to note that this area has also historically been an industrial part of the city and the substation and hydropower facility go back to the beginnings of Green Mountain Power. Currently there also exists the city's sewage treatment plant and some other utility/light industrial uses along with Veteran's Memorial Park. Existing poles in these locations will be replaced with the new high poles and will result in an undue adverse impact because sufficient mitigation measures have not been taken. The increase in pole height on the island is of particular concern - it will dwarf those historic structures and result in an adverse impact to the character of this historic and important area. Exhibits 4 and 5 show existing conditions and a visual simulation with the proposed upgrade.

The plans for the substation expansion with a new control building and the relocation of an existing historic structure will also have a visual impact that can, in part, be accommodated by careful design and screening. The building relocated will serve as a partial screen as it does today of the existing substation.

At the Otter Creek crossing the line runs immediately adjacent to a newly restored historic structure and residence.

Taken individually or collectively, these upgrades as proposed will be offensive to the average Vergennes resident as well as visitors to the area. Sufficient mitigation measures have not been proposed so there will be an undue adverse effect. These impacts can be mitigated successfully so as to render the impact not undue.

Mitigation Recommendations

Sufficient mitigation measures include either option 1, option 2, or option 3 and 4 together. Option 5 will be necessary to mitigate the impact of the

substation.

- 1) Explore methods to reduce the number of crossings with slightly different routes. For example instead of crossing back and forth from the island to Settler's Park and back to the south side of the creek, a straight run to the south of the Otter Creek would be more desirable.
- 2) Alternative pole placement, particularly to take the poles out of visibility in the two parks and adjacent to the historic structure near the city docks on MacDonough Drive, as well as removing the pole from the island.
- 3) Sensitive vegetative management and new screening should be undertaken to reduce a sense of the poles' and conductors' presence.
- 4) Lower pole heights by 10 to 15 feet using compact configurations, particularly in the parks and on the island- this may reduce the apparent visual impact.
- 5) Extensive screening for the new substation, in addition to what is being proposed relying on larger plants. Fencing alternatives should also be undertaken with black vinyl and dividers suitable for growing vines.

Overall, more detailed mitigation measures are warranted in this section and if these options are implemented by VELCO, the Quechee Standards will be satisfied. This is an area where relocation might be explored.

Refer to Mitigation Guideline G12

6.8 to 7.4 Vergennes to Ferrisburgh

In this section the line and corridor travel to gain elevation to Comfort Hill overlooking Vergennes and approaching the Vergennes- Ferrisburgh boundary where the line will be moved from its route along Botsford Road to follow the rail line. In some regards the existing corridor along Comfort Hill Road is preferred to the new one more in the middle of an intact open space, which will now be unduly and adversely impacted. Before that, the line travels through a densely settled area where a higher pole and additional clearing will have consequent visual impacts to neighborhood character - not a fit with the nature of these older residential areas. The result will be an undue adverse impact because sufficient mitigation measures have not been taken.

Mitigation Recommendations

Sufficient mitigation measures to achieve compliance with the Quechee test include all of the following taken together:

- 1) Different pole locations and lowering pole heights with compact configurations;
- 2) Sensitive vegetative management and new screening should be considered to reduce a sense of then poles' and conductors' presence; and
- 3) Maintain as much of the existing vegetation as possible; and
- 4) Maintain the current alignment along Comfort Hill Road before heading north to the railroad track alignment. A crossing location beyond the house and barn complex so as to avoid going behind Comfort Hill Farm is also recommended.

Mile 7.4. to 13.3 Ferrisburgh

This section is treated as a whole to Charlotte as it represents realignment in places from an overland route (to Mile 9.7) which is generally a net improvement, insofar as it collocates utilities. There are aesthetically sensitive road crossings at Little Chicago Road and again at Long Point Road adjacent to the Ferrisburgh Substation, that without appropriate mitigation, will result in an undue, adverse impact.

The substation will be expanded 0.33 acres with some additional new structures. Improved screening is appropriate here for both the substation and the routing around the existing substation.

The line corridor alignment along the railroad right of way is an improvement. The alignment from Mile 7.4 to 7.8 follows a treeline where vegetation should be maintained. Overall, the line corridor alignment along the railroad right of way is an improvement, but at the crossings and at the substation sufficient mitigation must be employed to avoid an undue determination, and those recommendations follow.

Mitigation Recommendations

Sufficient mitigation measures to achieve compliance with the Quechee test include all of the following:

- 1) Maintenance of as much of the existing vegetation. Some offsite screening

is required west of the substation and east and west of Long Point Road, and will require property owner permission particularly at the substation and at Long Point Road;

2) Substation screening on all sides is necessary along with plantings as Long Point Road approaches the corridor from either direction; and

3) At road crossings provide judicious and well placed screening to distract and bugger the viewer from the impacts of the poles, lines and substation.

Refer to Mitigation Guidelines G3-G5 and G11-G12 as well as the Plant Material Guide.

Mile 13.3 to Mile 20 Charlotte

The railroad alignment continues through Charlotte and into Shelburne. A continuous planting buffer, which exists in many stretches along the rail line helps to soften the visual impact of the existing line. Again, road crossings here are sensitive and there are some locations, which warrant mitigation. These include the Thompson's Point Road crossing; the area around the Charlotte Train Station and the Waldorf School, at the crossing of Ferry Road; and the line corridor in the vicinity of and crossing Greenbush Road. The West Village Area in the vicinity of the Ferry Road and the crossing with the proposed recreation path are important areas. Furthermore, Greenbush Road is a scenic route. Finally the proposed heights of the new poles and conductors will also cause the line to be visible from some scenic areas and preserved lands located to the west of Route 7, particularly the scenic overlook as well as to conserved lands west of Greenbush Road.

Removal of an existing 34.5 kV to accommodate the new, higher, line may result in wider clearings in some locations and this will have a visual impact to adjacent residences and from some road crossings. Collectively, these changes will result in an adverse impact, and ultimately, without sufficient mitigation, result in an undue, adverse impact.

Mitigation Recommendations

Sufficient mitigation measures include all of the following:

Modifications with regard to pole placement, adequate screening, closer pole intervals with a lower height are all mitigation considerations for this section of the proposed new line. In particular, mitigation measures that will satisfy the Quechee test include:

- 1) At Thompson's Point Road, the poles should be set back from the crossing with perpendicular screening along the roadside or street tree plantings as a distraction and buffer;
- 2) In the vicinity of Ferry Road, where the West Village is developing with mixed uses and proposed housing, lower pole heights with closer pole placement is needed. This would be implemented from mile 15 to 17.1 due to the presence of residences which may be impacted, concerns regarding visibility from conserved lands to the east as well as because of the school, the station and the proposed pathway. The lower pole heights will allow retention of existing screening, new screening and narrow the clearing.
- 3) At the school, pole placement should not be anywhere near the buildings or outdoor spaces. The lines should span these areas with pole placement outside of these locations.
- 4) The substation will require suitable screening with its footprint increase of 0.39 acres and the expansion to the north and west. Using a mix of species and some irregularity in plant placement may be desirable as opposed to purely linear and single species planting plans.
- 5) At the Greenbush Road crossing and running alongside the road, the visual impact can be mitigated by setting the poles back from the crossing and relying on some modest screening although this will be difficult;
- 6) Along Greenbush Road more detailed planning may be warranted to ascertain whether or not the conductors, now almost 25 higher, will interfere with or undermine the view of the Adirondack panorama, which is an important consideration. In some places this is the case, in others it is not. If this is the case, the pole and conductor heights should be lowered.
- 7) As with other sections, it will be important to maintain as much of the existing vegetation as possible. Some offsite screening may be desirable but not absolutely necessary.

Refer to Mitigation Guidelines G3-G5 and G11-G12 as well as the Plant Materials Guide.

Mile 20.0 to 21.0 Charlotte/Shelburne

This mile long stretch of the corridor continues to follow the rail line into Shelburne and includes a sensitive crossing at Bostwick Road which, with

the higher poles and expected clearing, will result in an adverse impact determination to the scenic and gateway quality of the area. Lacking appropriate mitigation, an undue adverse effect on aesthetics will result.

Mitigation Recommendations

Sufficient mitigation measures to achieve compliance with the Quechee text include all of the following:

- 1) Pole placement on the south side. A long span will prevent the poles from being part of the viewshed of this crossing, even if the conductors are present.
- 2) North of the crossing the structure is behind a cluster of trees and not readily visible from the roadside; then the line is sandwiched between the treeline at the edge of the tracks and a long row of evergreens. Careful pole placement is warranted at the crossing to keep them less visible and the maintenance of existing vegetation critical.
- 3) Screening to reduce visual impact of structures in the vicinity of the Bostwick Road crossing.

Refer to Mitigation Guidelines G2 through G6

Mile 21.0 to 22.3

It is important to note that from Mile 21.0 to Mile 24.0 the corridor is located in a densely developed area with many residences, a school, a park, open space and other land uses.

Serious impacts will accrue from higher poles and additional clearing required in the vicinity of Heritage and Fletcher Lanes and the road just to the north as well. The increase in pole height, the resultant loss of existing mature vegetation and the lack of sufficient mitigation measures in this area all combine to suggest an undue adverse finding. The change is substantive enough to offend not just the residents, but a reasonable average person observing the before and after conditions. All three important mitigation options proposed below, if implemented will satisfy the Quechee test here.

By Mile 22.2 a new corridor location is established which has some benefits but also some significant impacts, especially to open space along Depot Road where an important agricultural landscape exists, helping to define Shelburne Village's edge.

Once the corridor rejoins the rail corridor this section has substantially less impact due to the fact that it is along the existing corridor, travels past only industrial uses, and is not visible from highly used areas although there is a natural area adjacent to it. At Mile 21.0 the route of the corridor leaves the rail line right of way edge and proceeds through a mixed landscape to a point at 21.5 where it crosses McCabe Brook and enters a densely settled and developed area. It then continues through to Mile 22.3 at which point the line heads easterly along an existing treeline at the edge of cropland; it runs along the field edge to Mile 22.7, and this is a highly sensitive area. It is sensitive because it is an open undeveloped agricultural area, which counters and buffers the denser development to the east, west and south. The substation at Mile 22.1 will also be expanded. Due to the change in character and the visual intrusion of lines where they were not along and in the context of the section from mile 22.1 to mile 23.8, this proposal will offend the sensibilities of a reasonable person and must be mitigated to avoid an undue determination.

Mitigation Recommendations

- 1) Use compact configurations to lower pole heights 10 to 15 feet. The height differential would be reduced from 61 feet to 51 or 46 feet. This would be desirable even if it meant more poles. (Reducing the number of poles in certain instances is a positive improvement, but not at the expense of such higher and more massive structures when they are very close to the viewer or within 50 to 60 feet of the viewer or a residence. Exhibit 8 provides a sense of the options and impacts under these circumstances.)
- 2) Pole placement so as not to be directly in front of residences will constitute a useful mitigation measure.
- 3) Retention or replanting of buffer vegetation.

Either Option 4 or 5 for between Mile 22.3 and 22.7:

- 4) Using the compact configurations to lower pole heights 10 to 15 feet would constitute a vast improvement and allow the treeline to "catch up" with the heights of the poles in a shorter time span, allowing sufficient back-grounding and eventually avoiding the skylighting effect. Darker pole colors will also be needed here.
- 5) Another option would be to set the corridor within the treeline, far enough back so as not be visible from the road, but this has other impacts potentially associated with it, and must be studied to weight the pluses and

minuses.

6) Pole placements in the vicinity of Turtle Lane will be necessary to reduce visual impacts, and should be located away from the traveled area, buildings and outdoor spaces.

Mile 23.8

The corridor will have an adverse affect on an existing residential area off of Bay Road and then cross Bay Road where it will be closest to the Lakeshore. The existing substation of .10 acres will be increased substantially to almost 1/2 acre. Given all the existing distribution lines and with the cumulative development and its impact on the residential and lakeshore character of the area, the transmission line if built will exceed the threshold of undue adverse. Implementation of all of the following mitigation measures is necessary to avoid this.

Mitigation Recommendations

All of these mitigation measures must be implemented to avoid an undue adverse determination:

- 1) The substation will require sufficient screening on all sides designed in a manner to reduce its presence in the landscape.
- 2) In backyards, carefully placed screening, plantings or hedgerows will de-emphasize the presence of poles and conductors. For offsite mitigation, property owners will need to be involved and permission granted.
- 3) Pole placement and screening will address the aesthetic impacts at the Bay Road crossing, particularly to the south, where motorists will see the line and structures head on. The same issue exists to the north at Mile 24 where Bay Road heads northeasterly.

Refer to the relevant Mitigation Guidelines, particularly G12, and the Plant Material Guidelines

Mile 24 to Mile 27.1 Shelburne to the Corridor Terminus at the Queen City Substation in South Burlington

In this section the line follows the existing transmission line corridor and a

railroad corridor as well. It traverses mixed industrial/commercial and residential development areas. Road crossings are a concern - particularly in the vicinity of Champlain Drive, Wild Rose Court to Windmill Bay Road and the mobile home court beyond. Bartlett Bay Road crossing is also sensitive although this is primarily an industrial area which lessens potential impacts. There also is the potential for impacts behind some of the residential projects such as the Landings and the Shelburne Bay Assisted Living Complex. There will be adverse impacts with increased pole heights and the visibility of the conductors.

Each of these locations may require detailed analysis for placement and/or implementation of mitigation measures, which, at this time are not sufficient. This area has long had a utility and transportation corridor running through it and the proposed new towers may actually improve some of the conditions, particularly where and if H-frames are being replaced. According to VELCO representatives, the height of the poles will not increase where they are currently visible from the lake and this is a positive aspect. The visual impact from the lake, while of concern, is lessened by the fact that this is not a pristine or natural area. It has long been densely developed so that the view from the water is already somewhat compromised by existing visual conditions along this eastern shore of the Bay although the Lake, and recreational opportunities on the lake represents a significant public resource. The Queen City substation is slated to double in size from approximately 0.8 acres to 1.5 and this too will result in an adverse impact...currently it is not very attractive and not well screened. Lacking sufficient mitigation measures, we conclude that in these locations, the corridor and substation construction will result in an undue adverse determination.

Mitigation Recommendations

All of these recommendations, if properly implemented, will satisfy the Quechee test:

- 1) Throughout this section sufficient screening and sensitive pole placement is warranted to avoid blocking views and offending residents. Poles should not be near road ends;
- 2) Consideration of plugs or screening where possible and appropriate at road crossings. Pole setbacks are also important.
- 3) Carefully placed and/or constructed berms and plantings at the residential sites where apartments, multifamily or condominium units are present.

Coupled with plantings, these berms could hide poles, focus views and distract the viewer from the impacts of the line. Darker pole colors may also help de-emphasize the structures; and

4) Extensive and creatively laid out screening at the Queen City Substation on at least three sides is desirable to screen it from the traveled way.

Refer to Mitigation Guidelines G3-G5 and G11-G12 as well as the Plant Materials Guide.

