



Memorandum

To: Office of Renewable Energy Siting and Electric Transmission
From: Gordon Perkins, EDR
Jessey Horvat, EDR
Date: February 10th, 2025
Reference: Agricola Wind Project, ORES DMM Number 23-03002
Appendix 8-C. Visual Impact Assessment Supplement

List of Attachments

Attachment A: Viewpoint Photolog

Attachment B: Photosimulations and Wireframe Renderings

Introduction

On behalf of Agricola Wind LLC (the Applicant), Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) prepared a Visual Impact Assessment (VIA; Appendix 08-A; EDR, 2024a) and a Visual Impact Minimization and Mitigation Plan (VIMMP; Appendix 08-B; EDR, 2024b) for the proposed Agricola Wind Project located in the Towns of Venice and Scipio in Cayuga County, New York (the Facility). The purpose of these reports is to evaluate potential visibility and visual impacts of the proposed Facility and describe the various mitigation measures that were proposed or considered to avoid, minimize, and mitigate potential adverse visual impacts. These reports were submitted to the New York State Office of Renewable Energy Siting and Electric Transmission (ORES) on November 18, 2024, as part of the Application for a Major Renewable Energy Siting Permit in accordance with the requirements of Chapter XI, Title 16 of New York Codes, Rules, and Regulations (NYCRR), Section 1100-2.9 and Article VIII of the New York State Public Service Law (hereafter referred to as Article VIII). On January 7, 2025, ORES issued a Notice of Incomplete Application (NOIA) detailing additional information requirements related to potential Facility visual impacts and visual mitigation measures. EDR has prepared this technical memorandum to supplement the VIA and VIMMP and provide the following information in response to the NOIA:

- Additional information on potential visual impacts of the Facility to significant visually sensitive resources (VSRs).
- Leaf-off photographic simulations (photosimulations) and wireframe renderings for specific viewpoints.
- Additional photosimulations for Viewpoint 14B to depict the proposed mitigation plantings (see Attachment B of the VIMMP).

Potential Visual Effects on Significant Visually Sensitive Resources

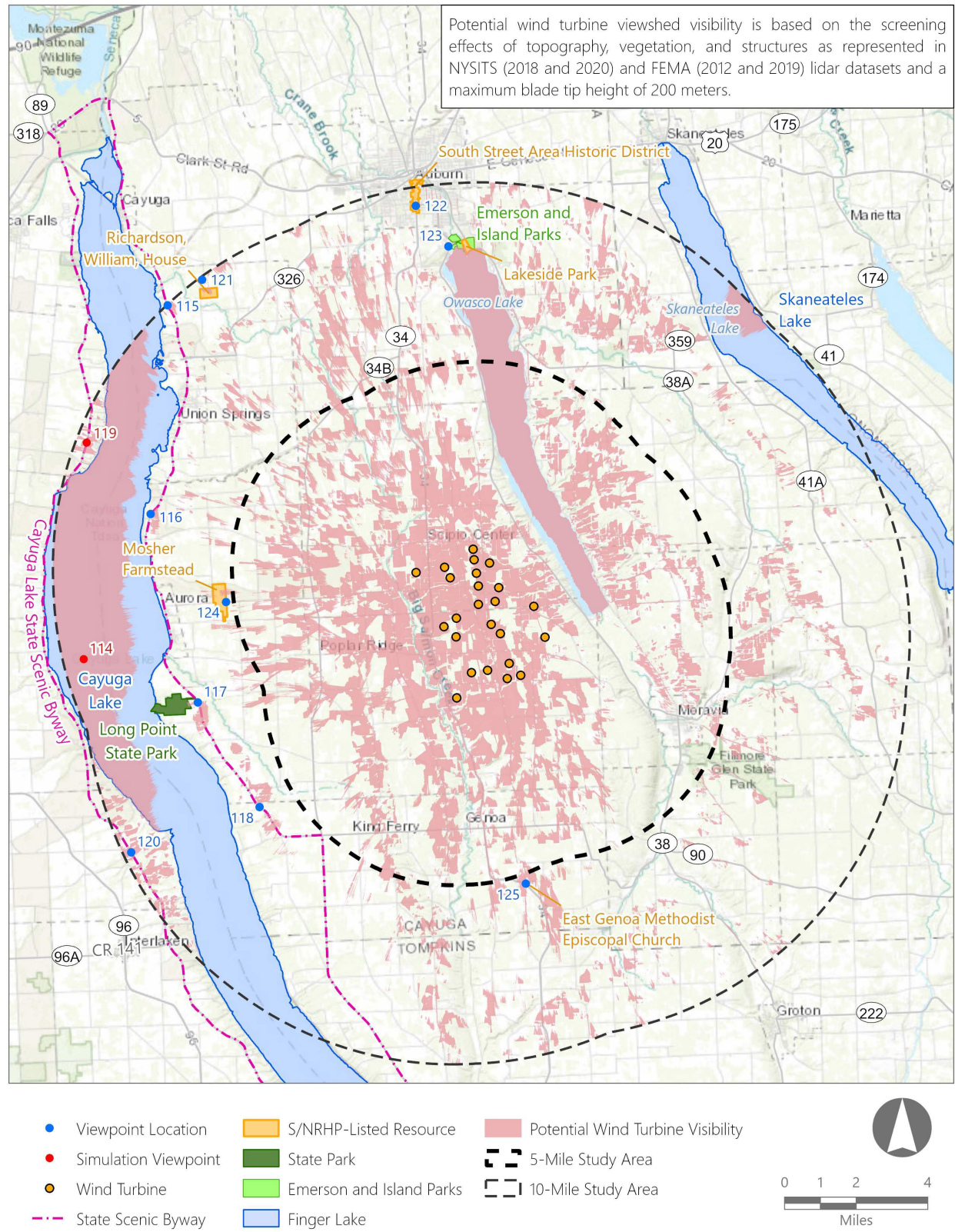
As discussed in Sections 3.5.1 and 5.1.5 of the VIA, a 10-mile radius study area was defined to identify significant visual resources located outside the 5-mile radius visual study area (VSA) based largely on the New York State Department of Environment Conservation's definition of aesthetic resources of statewide significance (NYSDEC, 2019). Based on the results of a viewshed analysis, views of the proposed wind turbines will be entirely screened from 16 of the 26 identified significant visual resources, and potential wind turbine visibility is limited to the following 10 resources:

- Two Local Parks: Emerson/Island Park
- Two Finger Lakes: Cayuga Lake and Skaneateles Lake
- Five S/NRHP Listed Resources: East Genoa Methodist Episcopal Church, Lakeside Park, Mosher Farmstead, Richardson William House, and South Street Area Historic District
- One State Park: Long Point State Park
- One State Scenic Byway: Cayuga Lake State Scenic Byway

As part of the VIA, a photosimulation was prepared for Viewpoint 113 to evaluate the visual contrast of the Facility in views from shoreline vantage points within Emerson/Island Park, as well as Lakeside Park (this resource is listed on the State and National Register of Historic Places (S/NRHP) but is located entirely within the boundary of Emerson Park [see Figure 1]). As discussed in Section 5.2.1 of the VIA and the view descriptions included in Attachment D of the VIA, rating panel scores indicate that the Facility will result in minimal/moderate visual contrast with the existing landscape from this viewpoint. At this distance from the viewer (8.6 miles from the nearest proposed turbine), atmospheric effects cause the turbines to appear slightly subdued and hazy on the distant hills, and screening provided by intervening vegetation and hillsides also reduces the contrast presented by the Facility. From more interior locations in the parks where wind turbine visibility is possible, foreground vegetation and/or structures (as shown in the location map for this viewpoint in Attachment D of the VIA) would provide additional screening and further reduce the visual contrast presented by the Facility.

To provide additional information regarding potential Facility visibility and visual impacts, EDR personnel conducted field review to confirm the results of the viewshed analysis and document existing visual character from significant visual resources with potential Facility visibility. Additional field work resulted in the documentation of potential Facility visibility from 12 representative viewpoints (Viewpoints 114 to 125). Representative photographs from each viewpoint are included in Attachment A. Based on the results of field review, photosimulations and wireframe renderings were prepared from representative viewpoints on Cayuga Lake and from the Cayuga Lake State Scenic Byway where the most open, unobstructed views of the Facility were observed (Viewpoints 114 and 119, respectively). The photosimulations and wireframe renderings are included in Attachment B. The methodology used to conduct fieldwork and prepare photosimulations and wireframe renderings are the same as described in Sections 4.1.3 and 4.2.2 of the VIA. The viewpoint locations, overlaid with the viewshed results and significant visual resources with potential visibility are shown in Figure 1.

Figure 1. Viewpoint Locations and Wind Turbine Blade Tip DSM Viewshed Analysis



Cayuga Lake is the second largest of the 11 finger lakes and covers approximately 67 square miles. About two-thirds of the lake (42.3 square miles) occurs within the 10-mile study area. This resource receives significant use from recreational users who will be engaged in water-related activities, such as boating, kayaking, and fishing. Tourists visiting waterfront resorts, wineries, breweries, and hotels and residents who own property along the shoreline are also important viewers. Viewshed analysis indicates that a portion of one or more proposed wind turbines would be visible from approximately 19.7 square miles of the lake surface. This represents approximately 46.5% of the lake's area within the 10-mile study area and 29.3% of the total area of the lake. As indicated in Figure 2, potential wind turbine visibility is concentrated on the western portion of the lake.

Given the geographic extent of potential wind turbine visibility and significance of this resource, a photosimulation and wireframe rendering was prepared for Viewpoint 114, which is located on Cayuga Lake's surface approximately 9.6 miles from the nearest proposed turbine. The selected view includes a broad expanse of open water in the foreground backed by lakefront residential development and steep hillsides. This view is representative of typical views available from the lakes surface and shoreline vantage points in the 10-mile study area. As shown in the photosimulation and wireframe renderings for this Viewpoint in Attachment B, the proposed wind turbines will be heavily screened by intervening topography, and turbine visibility would be limited to the nacelles and upper portions of wind turbine blades. Similar to Viewpoint 113, visible portions of the turbines appear delicate and subdued at this viewing distance. However, the turbines will be considerably more difficult for viewers to discern, even in the most favorable weather conditions with low atmospheric haze, because the wind turbine towers are almost entirely screened from view and the turbine blades will be intermittently visible due to their movement. Due to viewing distance and limited amount of visibility, the proposed turbines are expected to have minimal impact on landscape character, scenic quality, or viewer enjoyment from vantage points on Cayuga Lake and from shoreline locations.

Cayuga Lake State Scenic Byway is an 86.6-mile route that encircles Cayuga Lake. About one-third of the byway (30.1 linear miles) occurs within the 10-mile study area and includes segments of State Route 90 and State Route 34B on the east side of the lake and State Route 89 on the west side of the lake. Viewers will include through-travelers who are destination oriented and will generally be focused on roadway conditions but will also have the opportunity to appreciate roadside scenery. Sightseers whose primary purpose is enjoying scenery in the Finger Lakes region (and therefore more sensitive to changes in the visual environment) are also important viewers. Viewshed analysis indicates that a portion of one or more proposed wind turbines would be visible from approximately 4.0 linear miles along the byway. This represents approximately 13.4% of the byway within the 10-mile study area and 4.7% of the total byway route. As indicated in Figure 2, areas of potential wind turbine visibility occur in small, discrete areas along the byway route, which suggests that views of the Facility would be infrequent and experienced as brief views by travelers.

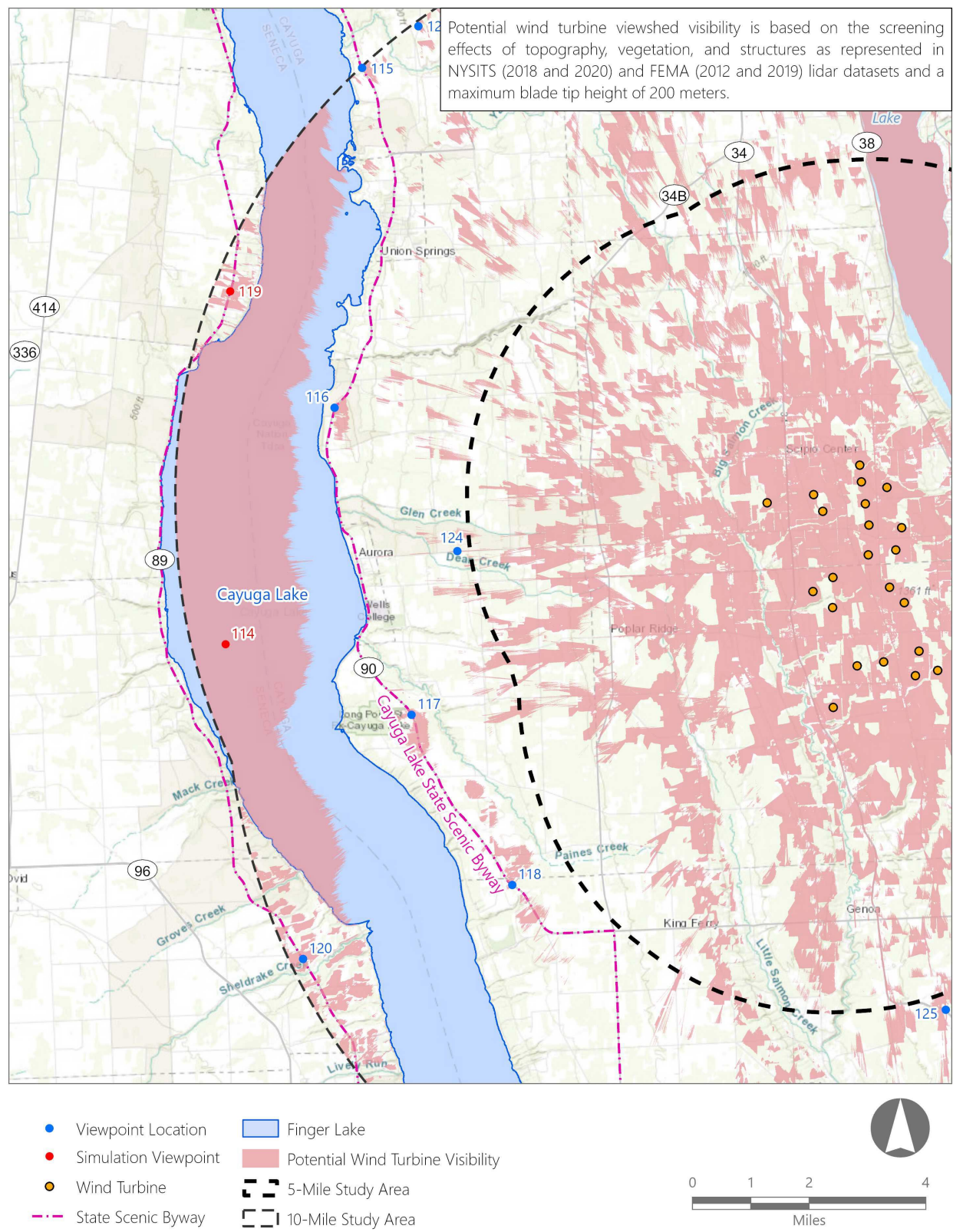
During field review, views towards the Facility Site from the byway were observed to be limited, confirming the viewshed analysis results. From most locations within the wind turbine viewshed, roadside vegetation, woodlots, structures, or topography were observed to screen views towards the Facility. This viewing

condition is documented in Viewpoints 115 to 117. In these viewing conditions, the proposed turbines would be substantially screened by intervening vegetation or topography and will appear delicate and subdued by atmospheric haze due to the viewing distance (as indicated by other photosimulations prepared from locations beyond the 5-mile radius VSA and discussed in this memorandum). More open, expansive views towards the Facility Site were observed from areas where little or no foreground screening features exist and/or the terrain was steeper, which limited the extent of screening by intervening forested vegetation. This viewing condition was documented in Viewpoints 118 to 120.

To illustrate anticipated visual changes associated with the proposed Facility, a photosimulation and wireframe rendering was prepared for Viewpoint 119, which is located on State Route 89 approximately 9.9 miles from the nearest proposed wind turbine. This Viewpoint was selected due to its high baseline scenic quality when compared to other Viewpoints where fairly open views are anticipated to be available. Similar to the other photosimulations that were prepared from locations beyond the 5-mile VSA, the wind turbines appear delicate compared to other landscape features in the foreground and middle ground of the view. At this viewing distance, atmospheric haze minimizes the color contrast presented by the turbines. Although the movement of the turbines may attract viewer attention in favorable weather conditions with low atmospheric haze, they appear as distant background features and occupy a fairly small portion of the panoramic view available from this location, and the existing fields, forested areas, and farm complex (located outside the simulated photograph's field of view and visible in the panorama composition in Attachment B of this memorandum) remain the dominant, character defining features of the existing landscape.

Considering the small geographic area of potential wind turbine visibility and the more limited extent of visibility anticipated from other locations along the byway, views of the proposed turbines would occur intermittently along the byway, further minimizing the potential visual effects of the Facility for travelers and sightseers. Consequently, the proposed turbines are expected to have minimal impact on landscape character, scenic quality, or viewer enjoyment from locations along the byway. For many travelers, the turbines may add an element of visual interest to the passing scenery.

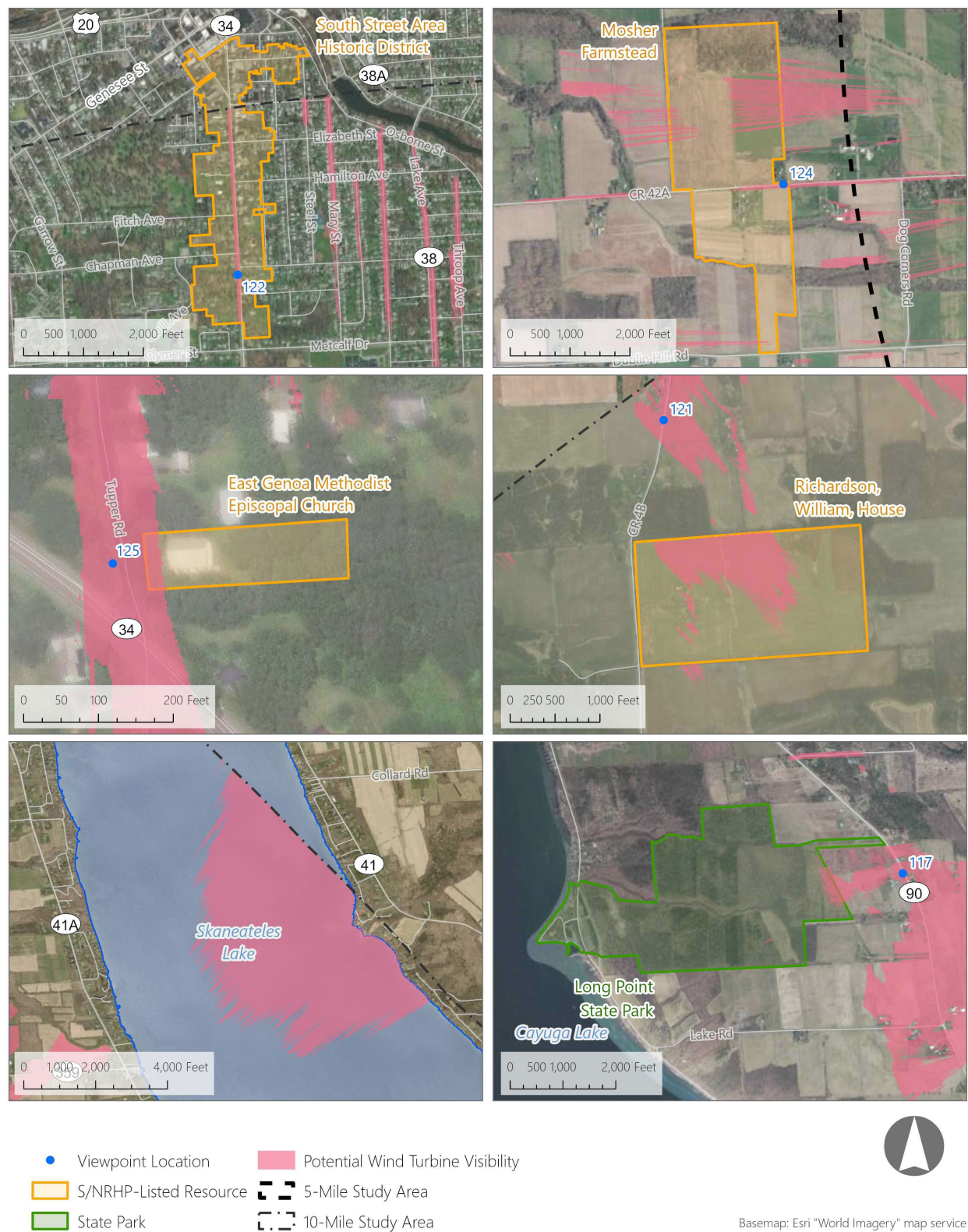
Figure 2. Cayuga Lake and Cayuga Lake State Scenic Byway



As illustrated in Figure 3, viewshed analysis indicates that potential wind turbine visibility would be possible in smaller geographic areas of the remaining significant visual resources. For the majority of these resources, potential visibility is limited to narrow viewing corridors through breaks in vegetation or structures. Field review confirmed that the presence of buildings, streetscape elements, forested vegetation, and roadside/yard vegetation would significantly screen views towards the Facility Site in the Southern Street Historic District (Viewpoint 122), Mosher Farm (Viewpoint 124), and East Genoa Methodist Episcopal Church (Viewpoint 25), and Long Point State Park (Viewpoint 117). From areas of potential wind turbine visibility in these resources, the proposed wind turbines are anticipated to be heavily screened from view and appear as distant background features, resulting in negligible visual impacts.

More open views towards the Facility Site were observed to be available near the William Richardson House at Viewpoint 121 and this resource has a larger geographic area of potential visibility when compared to the resources discussed above. Due to the similarity in viewing distance (this resource is located approximately 9.5 miles from the nearest proposed turbines) and landscape character, the potential visual impact of the proposed wind turbines will be fairly similar to those illustrated in the photosimulation for Viewpoint 118. Similarly, the photosimulation from Viewpoint 114 on Cayuga Lake is representative of views that are anticipated to be available from areas of potential wind turbine visibility on Skaneateles Lake due to the similarity in viewing distance and landscape character. However, as indicated in Figure 3, the geographic area of potential wind turbine visibility on Skaneateles Lake is considerably more limited. Consequently, the proposed turbines are expected to have minimal impact on landscape character, scenic quality, or viewer enjoyment from these resources.

Figure 3. Significant Visual Resources with Limited Potential Wind Turbine Visibility



Supplemental Leaf-off Photosimulations and Wireframe Renderings Conditions

EDR personnel conducted additional field work on January 21, 2025 to obtain photographs to prepare photosimulations and wireframe renderings for Viewpoint 75, 105, and 11 during leaf-off conditions when existing vegetation was dormant, and screening was at its most limited. Care was taken to document these Viewpoints from the same location and bearing as the leaf-on photographs prepared for the VIA. The leaf-off condition photosimulations and wireframe renderings are included in Attachment B of this memorandum. All leaf-on condition photosimulations and wireframe renderings referenced in the discussion below can be found in Attachment D of the VIA.

The existing view at Viewpoint 75 in the Village of Moravia from Millard Fillmore Elementary School (VSR ID # 58) includes a recreational field in the foreground, the school in the middle ground, and a forested ridgeline in the background. As shown in the wireframe rendering prepared for the VIA during leaf-on conditions, the proposed turbines are heavily screened by ridgeline, and visibility is limited to the uppermost portion of the blade tips of one turbine. Due to a small shift in the viewer position of the leaf-off conditions Viewpoint (Viewpoint 75B), the blade tip that was visible during leaf-on conditions is now fully screened by the ridgeline in the view. The change to overall wind turbine visibility between the two viewpoints locations demonstrates that seasonal conditions and slightly different viewing angles from locations of potential visibility within this resource do not result in a material change to the visibility of the Facility.

The existing view from Viewpoint 105 near the Venice Baptist Church (VSR ID # 200) includes buildings backed by woodlots that include a mix of coniferous and deciduous vegetation. As illustrated by the wireframe renderings prepared during leaf-on conditions for the VIA, the majority of the proposed turbines are heavily screened from view by existing forest vegetation or buildings, and visibility is limited to blade tips of a handful of turbines or small portions of the towers or nacelles in gaps between foliage and branches. The photosimulations and wireframe renderings during leaf-off conditions (Viewpoint 105B) illustrate that a slightly larger portion of the proposed wind turbines nearest to the viewer would be visible through gaps in the branches of deciduous trees compared to the leaf-on simulations. This is illustrated in single-frame simulations/wireframes noted as view 3 and 5 in the top left corner in Attachment D of the VIA and Attachment B of this memorandum. However, in all other single-frame views, the amount of turbine visibility is essentially unchanged. Consequently, the overall visual impact of the proposed Facility at this Viewpoint is not significantly affected by seasonal conditions.

The existing view from Viewpoint 111 East Venice Cemetery (VSR ID # 94) includes headstone and a maintained lawn in the foreground backed by agricultural fields, woodlots, and a small farm complex. As discussed in Section 5.2.1 and the view descriptions included in Attachment D of the VIA, rating panel scores indicate that the Facility will result in moderate visual contrast with the existing landscape from this viewpoint. With the Facility in place in leaf-on conditions, portions of several wind turbines rise above the trees in the middle ground in the left and center portions of the view and the background woodlot on the right. However, due to their limited number, lack of color contrast, and partial screening, the Facility does not dominate the view or change the agricultural character of the surrounding landscape. As illustrated in the photosimulation during leaf-off conditions (Viewpoint 111B), slightly larger portions the proposed turbines located behind leafless trees are visible in the center and far right of the view, resulting in a modest

increase to overall turbine visibility. However, the most notable change is related to the snowy ground and darker blue sky, which accentuate the white color of the turbines and increase their color and scale contrast. Despite the increased color and scale contrast of the turbines in the leaf-off conditions simulation, the majority of the turbines remain screened and do not significantly alter the overall impact of the Facility on this landscape, which retains its agricultural character, and visual contrast during leaf-off conditions is expected to remain moderate.

Additional Screening of the Substation Complex

Additional photosimulations for Viewpoint 14B were prepared to illustrate the mitigation plantings that are proposed to screen or soften views of the interconnection and operations and maintenance (O&M) facilities in views from the surrounding area. As discussed in the VIA (Appendix 8-A) and VIMMP (Appendix 8-B), this Viewpoint represents the most open, unobstructed view that is anticipated to be available from publicly accessible locations surrounding these Facility components. For more information on the Facility's conceptual mitigation planting plan and design development process, see the VIMMP in Appendix 8-B of the Article VIII Application. These simulations were prepared using three-dimension (3D) models representing each of the proposed plant species during leaf-on and leaf-off conditions that were placed into the simulation at the locations specified in the planting plan, rendered, and superimposed following the same process described in Section 4.22 of the VIA. Proposed mitigation plantings are depicted at installation height and after five to seven years of growth during leaf-on and leaf-off conditions in the photosimulations, and are included as Attachment B of this memorandum.

As illustrated in the photosimulations, the plantings effectively screen the lower portions of the interconnection facility components once established (following five to seven years of plant growth) during leaf-on conditions. However, their effectiveness is reduced during leaf-off conditions, and the upper portions of proposed gantry structures and transmission poles remain unscreened in both leaf-on and leaf-off conditions. With additional growth, the plantings will create a new vegetated edge that will appear as an extension of the existing hedgerow and provide more effective screening of the interconnection and O&M facilities from this viewpoint. It is also worth noting that potential visibility of these Facility components may be much more limited during the growing season when corn crops in the foreground of views would screen significant portions of the substation.

References

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR). 2024a. *Visual Impact Assessment, Agricola Wind Project, Towns of Venice and Scipio, Cayuga County, New York*. Prepared for Liberty Renewables, LLC by EDR, Syracuse, New York.

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