Second Supplemental Visual Resource Assessment

Arkwright Summit Wind Farm

Chautauqua County, New York

Prepared for:

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1.0 INTRODUCTION

1.1 Purpose of the Investigation

On behalf of Arkwright Summit Wind Farm, LLC (the Applicant), Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) prepared a Second Supplemental Visual Resource Assessment (SVRA2) of the proposed Arkwright Summit Wind Farm (the Project), located in the Towns of Arkwright and Pomfret in Chautauqua County, New York (see Figure 1). The initial Visual Resource Assessment (VRA) and the First Supplemental Visual Resource Assessment (SVRA) were prepared by Saratoga Associates in support of the 2008 Draft Environmental Impact Statement (DEIS) and the 2009 Supplemental Environmental Impact Statement (SEIS), respectively. This SVRA2 is being prepared in support of a Second Supplement Environmental Impact Statement (SEIS2). Subsequent to the preparation of the SVRA and SEIS, the Project layout has been revised, including a reduction in the number of proposed turbines (from 44 to 36) and proposed use of a different (taller) wind turbine model relative to the Project that was evaluated in the SVRA. The purpose of this SVRA2 is to evaluate the visual impact of the changes to the proposed turbine layout and generator lead alignment that have occurred since the release of the SVRA. This report will not reiterate aspects of the previous VRA and SVRA that remain unchanged but, rather, will refer back to the relevant section of the previous documents.

1.2 Project Description

The following terms are used throughout this document to describe the proposed action:

Applicant. Refers to Arkwright Summit Wind Farm, LLC, formerly New Grange Wind Farm LLC, a wholly owned subsidiary of EDP Renewables North America LLC (or, EDPR).

Project. Refers to all activities associated with the construction, operation, and individual components of the Arkwright Summit Wind Farm, including, but not limited to, turbines, electrical collection lines, access roads, laydown areas, and other facilities.

Project Site. Refers to the parcels of land where the Project will be placed, which includes approximately 5,850 acres of privately owned land.

SEIS2 Project Layout. Refers to the currently proposed layout of the Project as described herein (see Figure 2), which is distinguished from previous layouts of the Project that were evaluated in the DEIS (the DEIS Project Layout) and SEIS (the SEIS Project Layout).

Vestas V-110 Wind Turbines. The largest wind turbines presently being considered for the Project (see Figure 3). For the purpose of presenting a conservative analysis, the assessment of potential environmental impacts throughout this SVRA2 is based on the assumed use of the Vestas V-110 wind turbine.

The Study Area. The area within 5 miles of proposed wind turbines, which totals 138.3 square miles (see Figure 4).

SVRA2. The Second Supplemental Visual Resources Assessment (this document), which provides a visual assessment of the SEIS2 Project Layout.

VRA and SVRA. The VRA is the original (2008) Visual Resources Assessment that evaluated the Project layout as presented in the DEIS. The SVRA is the 2009 Supplemental Visual Resources Assessment that evaluated the Project layout as presented in the SEIS.

The Applicant is proposing to develop a wind-powered generating facility. As presently envisioned, the SEIS2 Project Layout consists of up to 36 turbines, which are anticipated to include 34 turbines with a nameplate capacity of 2.2 megawatts (MW) and 2 turbines with a nameplate capacity of 2.0 megawatts (MW), for a total anticipated nameplate generating capacity of 78.8 MW. The Applicant intends to select a turbine that includes both 2.2 and 2.0 MW nameplate capacity models; however, it is anticipated that both models will have the same physical dimensions and appearance. The Project has an interconnection request and is currently in the System Reliability Impact Study stage of the study process with the New York Independent System Operator (NYISO) for 78.8 MW. Therefore, the proposed use of both 2.2 and 2.0 MW turbines allows the Applicant to maximize the energy generation potential of the proposed Project within the constraints of their approved interconnection agreement while minimizing the number of proposed wind turbines. In addition, to allow for flexibility on final site selection, the Applicant is evaluating and seeks approval for 38 proposed turbine locations (although only 36 turbines will ultimately be built). Therefore, 2 turbines are shown as "Alternate Wind Turbines" in Figure 2. The analysis presented herein includes all 38 proposed turbine sites, even though only 36 of these will actually be built. The visual analysis is therefore conservative and overstates the potential visual effect of the Project.

The largest wind turbines presently being considered for the Project are the Vestas V-110 wind turbines. For the purpose of presenting a conservative analysis, the assessment of potential environmental impacts throughout this SVRA2 assumes that the Project will use Vestas V-110 wind turbines. Each wind turbine consists of three major mechanical components: the tower, nacelle, and rotor. Assuming use of the Vestas V-110 turbines, the anticipated tower height for the Project, or "hub height" (height from foundation to top of tower), is approximately 95 meters (312 feet). The V-110 has a rotor diameter of 110 meters (361 feet), resulting in a total height of 150 meters (492 feet).A computer model of the Vestas V-110 wind turbine is presented in Figure 3.

In addition to the turbines, the Project will include construction and operation of 1 permanent meteorological tower, a system of gravel access roads, electrical collection and communication cable networks, an overhead generator lead (formerly referred to as a transmission line), an operations and maintenance (O&M) facility, and a substation and associated point of interconnection (POI) switchyard. The proposed overhead generator lead line will be approximately 5.5 miles long, located in the Towns of Arkwright and Pomfret, with approximately 67 steel and wooden structures that range in height from 58 to 120 feet. In addition to the permanent components of the Project, the Project will require a temporary laydown yard and construction work pace, including, but not limited to, areas to store Project components (laydown yards), construction vehicle parking areas, and cleared areas for turbine assembly. The proposed Project layout is depicted in Figure 2.

In summary, the changes in the Project layout that have occurred since the release of the SEIS and SVRA, and that are the focus of this SVRA2, include a reduction in the number of turbines proposed from 44 to 36 (plus two alternate turbine sites), shifts in proposed turbine locations, an increase in turbine height from 410 feet to 492 feet, and shifts in the generator lead alignment.

2.0 EXISTING VISUAL CHARACTER

2.1 Physiographic/Visual Setting

The revised SVRA2 visual study area, defined as the area within 5 miles of proposed wind turbines, totals 138.3 square miles. Due to the reduced number of wind turbines in the SEIS2 Project layout, this is reduced from 161.0 square miles, which was the visual study area evaluated in the SVRA (see Figure 4). Section 2.0 of the SVRA provides a description of the physiographic/visual setting of the visual study area.

2.2 Landscape Units

See Section 3.3.1 of the SVRA for a description of landscape units present within the visual study area.

2.3 Distance Zones

See Section 3.3.3 of the SVRA for definitions of foreground, mid-ground and background distance zones.

2.4 Viewer/User Groups

See Section 3.3.2 of the SVRA for a description of viewer/user groups present within the visual study area and Section 3.3.4 of the SVRA for a discussion of the duration, frequency and circumstances of views available to those viewer/user groups.

2.5 Visually Sensitive Resources

Section 3.2 of the SVRA provides a discussion of visually sensitive resources found within the study area. In addition to the 77 visually sensitive resources identified in Tables 5 and 6 of the SVRA, the inventory has been expanded to include Lake Erie Concord Grape Belt New York State Heritage Area (a resource of statewide significance according to the NYSDEC visual policy) and the following locally important resources:

- 2 schools (Central Christian Academy and Forestville Elementary [formerly included as Forestville School Complex]);
- 3 trails (Earl Cardot Eastside Overland Trail and associated Lean-To, Cherry Creek Sno-Goers Trail, and Bits-N-Spurs Trail);
- 2 local parks (Barker Commons and Washington Park);
- 2 hamlets (Cardova and Lily Dale);
- 13 local roads and 2 state routes (Route 428 and Route 424)
- 18 cemeteries; and
- 28 named lakes, streams, and waterfalls.

Additionally, a few of the resources included in Tables 5 and 6 of the SVRA are no longer included as they now fall outside of the 5-mile visual study area. These resources include 3 hamlets (Charlotte Center, Balcom Corners and Balcom); Pine Valley Central School; and 3 local roads. The Dunkirk US Post Office, listed on the National Register of Historic Places, is also now located outside of the visual study area but has been retained in the inventory due to its statewide significance.

The locations of visually sensitive sites within the study area are shown on Figure 5. A table of all inventoried visually sensitive resources including updated viewshed visibility results is included in Appendix A of this SVRA2. Visual impacts to these resources are also discussed in Section 3.1.2 of this SVRA2.

3.0 VISUAL IMPACT ASSESSMENT

The visual assessment procedures and analyses presented in this study are consistent with methodologies developed by the U.S. Department of the Interior, Bureau of Land Management (1980), U.S. Department of Agriculture, Forest Service (1974), the U.S. Department of Transportation, Federal Highway Administration (1981), U.S. Army Corps of Engineers (Smardon, et al., 1988). These procedures are widely accepted as standard visual assessment methodologies for wind energy projects (CEIWEP, 2007). The specific techniques used to assess potential Project visibility and visual effects are described in the following section.

3.1 Viewshed Analysis

3.1.1 Viewshed Methodology

Viewshed maps define areas of potential Project visibility by identifying areas within the study area that could have an unobstructed line of sight from the viewer to any portion of one or more of the proposed turbines (NYSDEC, not dated). Topographic viewshed maps for the Project were prepared using 10-meter resolution USGS digital elevation model (DEM) data, the location and height of all proposed turbines (see Figures 2 and 3), and ESRI ArcGIS® software with the Spatial Analyst extension. Two five-mile radius topographic viewsheds were mapped, one to illustrate "worst case" daytime visibility (based on a maximum blade tip height of 492 feet, or 150 meters, above existing grade) and the other to illustrate potential visibility of turbine lights (based on the FAA warning light height of 328 feet, or 100 meters, above existing grade and the anticipated lighting plan, which proposed that eight turbines would be equipped with FAA warning lights).

The ArcGIS program defines the viewshed (using topography only) by reading every cell of the DEM data and assigning a value based upon visibility from observation points throughout the study area. The resulting topographic viewshed maps define the maximum area from which any portion of any turbine within the completed Project could potentially be seen within the study area during both daytime and nighttime hours (ignoring the screening effects of existing vegetation and structures).

Because the screening provided by vegetation and structures is not considered in this analysis, the topographic viewshed represents a "worst case" assessment of potential Project visibility. Topographic viewshed maps assume that no trees exist, and therefore are very accurate in predicting where visibility will not occur due to topographic interference. However, they are less accurate in identifying areas from which the Project would actually be visible. Trees and buildings can limit or eliminate visibility in areas indicated as having potential Project visibility in the topographic viewshed analysis.

To supplement the topographic viewshed analysis, a vegetation viewshed was also prepared to illustrate the potential screening provided by forest vegetation. A base vegetation layer was created using the 2011 USGS National Land Cover Dataset (NLCD) to identify the mapped location of forestland (including the Deciduous Forest, Evergreen Forest, Mixed Forest, and Woody Wetland NLCD classifications). Based on standard visual assessment practice, the mapped locations of the forest land was assigned an assumed height of 40 feet and added to the DEM. Field review of the study area indicated that much of the tall vegetation is significantly higher than 40 feet, making this assumption a very conservative one. The viewshed analysis was then re-run, as described above. As with the topographic viewshed analysis, two vegetation viewsheds were mapped, one to illustrate "worst case" daytime visibility (based on a maximum blade tip height of 150 meters above existing grade) and the other to illustrate potential visibility of turbine lights (based on an FAA warning light height of 100 meters above existing grade and the anticipated lighting plan, which proposed that eight turbines would be equipped with FAA warning lights). Once the viewshed analysis was completed, the areas covered by the forest vegetation layer were designated as "not visible" on the resulting data layer. Although there are certainly areas of mapped forest that have natural or man-made clearings that provide open outward views, these openings are rare, and the available views would typically be narrow/enclosed and include little of the proposed Project. In most forested areas, views will be well screened by the overhead tree canopy. During the growing season the forest canopy will fully block views of the proposed turbines, and such views will typically be almost completely obscured, or at least significantly screened by tree trunks and branches, even under "leaf-off" conditions.

Because it accounts for the screening provided by mapped forest stands, the vegetation viewshed is a much more accurate representation of potential Project visibility. However, it is important to note that because screening provided by buildings and street/yard trees, as well as characteristics of the proposed turbines that influence visibility (color, narrow profile, distance from viewer, etc.), are not taken consideration in the viewshed analyses, being within the viewshed does not necessarily equate to actual Project visibility.

3.1.2 Viewshed Results

The results of the revised viewshed analysis are depicted in Figure 6 and are compared with the results of the SVRA viewshed analyses in Tables 1 and 2. With respect to viewshed results, the most influential differences between the SVRA and SVRA2 turbine layouts include a decrease in the number of turbines proposed from 44 to 36 turbines (plus the 2 alternate turbines that are not anticipated to be built, but have been included in the viewshed analysis); the associated decrease in the size of the 5-mile visual study area from 161.0 square miles to 138.3 square miles; and the increase in maximum blade tip height from 410 feet to 492 feet and increase in FAA warning light height from 275 feet to 328 feet. As shown in Figure 6, Sheet 1, the SVRA2 blade tip topographic viewshed shows a very similar pattern and extent of potential visibility to the viewshed maps presented in the SVRA. However, due to the increase in turbine height, areas of potential turbine visibility have expanded slightly further down some hillsides and valleys in the northern

and western portions of the visual study area, into areas that were formerly outside of the SVRA viewshed. Similarly, many areas that formerly were anticipated to have potential views of 1-5 turbines now may have views of 5-10 turbines and a similar shift has occurred with each of the turbine groups, with an overall expansion of areas from which more than 31 turbines may be potentially visible. Potential turbine visibility has been reduced in some areas within the eastern and southern portions of the visual study area as a result of turbines that have been removed from the layout.

Once the screening effects of mapped forest vegetation are factored into the analysis, Project visibility is significantly reduced and the change in Project visibility between the SVRA and SVRA2 viewshed results is reduced as well. Table 1 shows an overall minor decrease in the percentage of the study area where the turbines are fully screened from view (from 18.5% to 12.2% for the topographic viewshed analysis and from 74.7% to 72.0% when both topography and vegetation are factored into the viewshed analysis) and a minor increase in the percentage of the study area where more than 31 turbines are potentially visible (from 32.1% to 44.4% for the topographic viewshed analysis and from 3.0% to 5.5% for the topographic/vegetation viewshed analysis). It is important to note that these changes in percent visibility are also influenced by the change in the size of the visual study area, which now excludes the southern portion of the SVRA study area that included relatively large areas where views of turbines were fully screened by topography.

Table 1. Blade Tip Viewshed Visibility Comparison

Number of Turbines Visible[1]	Five-Mile-Radius Study Area Blade Tip Viewshed Results[2]							
	Considering Topography Only				Considering Topography and Vegetation			
	SVRA		SVRA2		SVRA		SVRA2	
	Square Miles	% of Study Area	Square Miles	% of Study Area	Square Miles	% of Study Area	Square Miles	% of Study Area
0	29.8	18.5	16.9	12.2	120.3	74.7	99.6	72.0
1-5	9.1	5.7	5.8	4.2	7.4	4.6	5.7	4.2
6-10	9.8	6.1	5.9	4.3	6.6	4.1	4.6	3.4
11-15	14.9	9.2	9.8	7.0	6.9	4.3	5.4	3.9
16-20	13.3	8.3	10.8	7.9	6.5	4.0	5.1	3.8
21-30	32.4	20.1	27.6	19.9	8.5	5.3	10.3	7.4
31-40	30.1	18.7	61.4	44.4	3.3	2.0	7.6	5.5
41-44	21.5	13.4	0.0	0.0	1.6	1.0	0.0	0.0
Total Visible	**131.2**	**81.5**	**121.3**	**87.7**	**40.7**	**25.3**	**38.7**	**28.2**

[1] The current layout includes 38 turbines (36 proposed turbines and 2 alternates), and consequently, there are no locations from which 39-44 turbines would be visible. However, to facilitate direct comparison with the impacts presented in the SVRA, the same range of numbers of visible turbines was used.

[2] The SVRA visual study area totaled 161.0 square miles. The SVRA2 visual study area totals 138.3 square miles. Due to rounding to the 10th of a square mile and a 10th of a percentage, the sum of the individual turbine count group categories may not precisely equal the size of the study area or 100%.

Comparison of the SVRA and SVRA2 FAA warning light viewshed analyses indicates minimal change in nighttime visibility. While the height of the FAA warning light has increased due to the change in proposed turbine model, the number of turbines proposed to be lit has decreased from 21 to 8. Review of SVRA and SVRA2 viewshed mapping shows that the areas of potential FAA light visibility have decreased in size slightly in most areas but overall show a very similar pattern and extent of nighttime visibility. As indicated in Table 2, there is almost no change in the percentage of the study area that will have a views of turbine lights. However, with the SEIS2 Project layout, most areas with nighttime visibility will have a view of significantly fewer turbine lights when compared to the SVRA layout. For example, the SVRA analysis indicated that 13.8% of the visual study area would have views of 5 or more turbine lights and that number has dropped to 5.6% of the visual study area in the SVRA2 viewshed results.

Table 2. FAA Warning Light Viewshed Visibility Comparison

Number of FAA Warning Lights Visible[1]	Five-Mile-Radius Study Area FAA Warning Light Viewshed Results[2]							
	Considering Topography Only				Considering Topography and Vegetation			
	SVRA[3] (SEIS Project Layout)		SVRA2 (SEIS2 Project Layout)		SVRA (SEIS Project Layout)		SVRA2 (SEIS2 Project Layout)	
	Square Miles	% of Study Area	Square Miles	% of Study Area	Square Miles	% of Study Area	Square Miles	% of Study Area
0	-	-	27.5	19.9	125.5	78	107.0	77.4
1-2	-	-	20.7	14.9	6.6	4.1	11.9	8.6
3-4	-	-	31.6	22.9	6.6	4.1	11.8	8.5
5-6	-	-	27.7	19.9	6.0	3.7	5.1	3.7
7-10	-	-	30.7	22.2	11.7	7.3	2.6	1.9
11-15	-	-	0	0	2.9	1.8	0	0
16-21	-	-	0	0	1.6	1	0	0
Total Visible	-	-	**110.7**	**79.9**	**35.5**	**22**	**31.3**	**22.7**

[1] The current layout includes 8 FAA warning lights, and consequently, there are no locations from which 9-21 FAA warning lights would be visible. However, to facilitate direct comparison with the impacts presented in the SVRA, the same range of numbers of visible FAA warning lights was used.

[2] The SVRA visual study area totaled 161.0 square miles. The SVRA2 visual study area totals 138.3 square miles. Due to rounding to the 10th of a square mile and a 10th of a percentage, the sum of the individual turbine count group categories may not precisely equal the size of the study area or 100%.

[3] The SVRA did not include this analysis.

The SEIS2 Project layout will result in minor changes in anticipated visibility from some visually sensitive resources. Shifts in proposed turbine locations could cause an increase or decrease visibility from individual sites when compared with the SVRA, depending on their locational relationship. Additionally, the elimination of some turbines from the layout will reduce visibility from some sites, while the increase in overall turbine height will increase Project visibility from some areas. The inventory of visually sensitive resources and associated mapping provided in Appendix A provides updated information on the anticipated viewshed visibility from each inventoried visually sensitive resource. While most

changes that have occurred are subtle, the revised viewshed results indicate that a few resources that were formerly anticipated to be fully screened from view now may have limited Project visibility. These resources include Hillside Acres Preserve, Merritt Estate Winery, the Hamlet of Hawkins Corner, and the Village of Cassadaga.

3.2 Visual Simulations

3.2.1 Viewpoint Selection and Field Review

The VRA included in the DEIS (Saratoga Associates, 2008) included visual simulations from 13 viewpoints. Based on comments and feedback received from the SEQRA Lead Agency (the Town of Arkwright), the SVRA (Saratoga Associates, 2009) included visual simulations from 15 viewpoints. The simulations presented in the SVRA were prepared to address visual impacts in areas of potential concern as identified by the SEQRA Lead Agency. To evaluate the changes in the potential visual effect of the SEIS2 Project layout relative to the SEIS Project layout, a site visit was conducted on May 6, 2013 to obtain photos from the same 15 viewpoints that were evaluated in the SVRA. In addition, photographs were obtained during this field effort to document the visual character of the study area more generally.

In total, visual simulations from 17 viewpoints were prepared for inclusion in the SVRA2. These include 14 of the viewpoints for which simulations were prepared in the SVRA (Viewpoints S1-S13 and S15), as well as three additional views (as described below). Figure 7: Sheet 1 displays the locations of SVRA/SVRA2 viewpoints relative to the SEIS and SEIS2 Project layouts. Table 3 provides the location, viewing distance and orientation of each viewpoint utilized in the development of visual simulations for the SVRA2.

Table 3. Viewpoints Selected for Visual Simulations

Viewpoint	Visually Sensitive Resource or Landscape Context	Viewing Distance (miles)	View Orientation[1]
S1	NYS Route 83 and Center Road	0.3	NNW
S2	Straight Road and Center Road	0.4	SW, SE
S3	Arkwright Town Hall	0.3	SSW
S4	Arkwright Hills Campground (Entrance from NYS Route 83)	0.5	NNE
S5	Meadows Road and NYS Route 83	0.5	WSW, SW
S6	Meadows Road and Center Road	0.5	ENE
S7	Ruttenburg Road and Farrington Hollow Road	0.4	SSE
S8	Ruttenburg Road and Rood Road	2.1	NE, ENE, E
S9	Ball Road and Center Road	0.3	ESE, SE
S10	Weaver Road and Center Road	0.4	SSW
S11	Corner of Cable Road and Miller Road	0.9	ENE
S12	Straight Road	1.8	WNW, WSW, SSW
S13	Ball Road	0.3	ENE, NNE, ESE
S14-Alt	Skinner Road (view of proposed Generator Lead)	0.1	SE-E
S15	NYS Route 83 (view of proposed Generator Lead)	1.0	ENE
16	Dunkirk Lighthouse (note: additional simulation not included in SVRA)	6.5	SE

Viewpoint	Visually Sensitive Resource or Landscape Context	Viewing Distance (miles)	View Orientation[1]
17	Lake Erie/Dunkirk Marina (note: additional simulation not included in SVRA)	5.6	SE

[1]N = North, S = South, E = East, W = West

Due to changes in the proposed SEIS2 Project layout (relative to the SEIS Project layout), Viewpoint S14 from the SVRA does not include views of the proposed generator lead (in the SVRA, Viewpoint S14 provided a simulation of the proposed transmission line per the Project layout at that time). Therefore, photographs were obtained from a different viewpoint that provided an open view of the proposed generator lead line in a representative agricultural context, which is identified here in as Viewpoint 14-Alternate (or VP 14-Alt). In addition, to further evaluate the potential visual effect of the Project on regional visually sensitive resources, photographs were obtained from the Dunkirk Lighthouse (VP 16) and a marina in the City of Dunkirk on the shoreline of Lake Erie (VP 17; see Figure 7: Sheet 2).

For all photographs used in the development of simulations in the SVRA2, a digital SLR camera with a minimum resolution of 10 mega pixels, and the equivalent of a 50 mm lens setting was used for all photos. This focal length is the standard used in visual impact assessment because it most closely approximates normal human perception of spatial relationships and scale in the landscape. In addition, during site visits, the time and location of each photograph were noted on field maps and data sheets. Global positioning system (GPS) readings were also taken at each viewpoint to document photo and reference point locations.

3.2.2 Visual Simulation Methodology

To show anticipated visual effects associated with the SEIS2 Project layout, high-resolution computer-enhanced image processing was used to create realistic photographic simulations of the built turbines from the 13 viewpoints that showed wind turbines that were presented as simulations in the SVRA (VPs S1-S13). In addition, simulations were prepared from two viewpoints to show the potential visual effect of the proposed generator lead (VPs 14-Alt and S15) and from two more distant visually sensitive sites in the region (VPs 16 and 17). The photographic simulations were developed by constructing a three-dimensional computer model of the proposed turbines, turbine layout, and generator lead line structures based on specifications and survey coordinates provided by the Applicant. In addition, the proposed wind turbines in the digital model are oriented to reflect the actual prevailing wind direction based on data provided by the Applicant. Clearing limits along Project access roads were assumed to be a maximum of 100 feet wide, generator lead line clearing limits were assumed to be a maximum of 150 feet wide, and a maximum clearing radius of 200 feet was assumed at each turbine site. For the purposes of this analysis, it was assumed that all turbines would be Vestas V-110 machines with a hub height of 95 meters and that generator lead line structures would range between 58 and

120 feet tall. The visual simulation methodology is illustrated in Figure 8, and the computer model of the proposed wind turbines used in this VIA is shown in Figure 3.

Each photographic viewpoint was aligned with a digital model of the proposed SEIS2 Project layout so that the digital models of the proposed Project facilities could be superimposed on the photographs. This was done by first using Autodesk 3ds Max Design 2015® to create a simulated perspective (camera view) to match the location, bearing, and focal length of each existing conditions photograph. Existing elements in the view (e.g., buildings, existing transmission structures, roads) were modeled based on aerial photographs and DEM data in AutoCAD Civil 3D 2014®. A three dimensional ("3-D") topographic mesh of the landform (based on DEM data) was then brought into the 3-D model space. At this point minor adjustments were made to camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph. This assures that any elements introduced to the model space (i.e., the proposed wind turbines) will be shown in proportion, perspective, and proper relation to the existing landscape elements in the view. Consequently, the alignment, elevations, dimensions and locations of the proposed Project structures will be accurate and true in their relationship to other landscape elements in the photograph.

Using the camera view as guidance, the visible portions of the modeled Project components were imported to the landscape model space described above, and set at the proper coordinates. Once the proposed Project was accurately aligned within the camera view, a lighting system was created based on the actual time, date, and location of the photograph. Using the Mental Ray Rendering System® with Final Gather and Mental Ray Daylight System® within the Autodesk 3ds Max Design 2015® software, light reflection, highlights, color casting, and shadows were accurately rendered on the modeled Project based on actual environmental conditions represented in the photograph.

The rendered Project was then superimposed over the photograph in Adobe Photoshop CS5® and portions of the Project that fall behind vegetation, structures or topography were masked out. Photoshop was also used to take out any existing structures or vegetation proposed to be removed as part of the Project. Once the new Project components were added to the photo, any shadows cast on the ground by the proposed structures were also included by rendering a separate "shadow pass" over the DEM model in Autodesk 3ds Max Design 2015® and then overlaying the shadows on the simulated view with the proper fall-off and transparency using Adobe Photoshop CS5®. A graphic illustration of the simulation process is included in Figure 9.

3.2.3 Visual Simulation Results

The results of the visual simulation methodology described above for each of the 17 viewpoints identified in Section 3.2.1 (see Table 3) are depicted in Figures 9 and 10 and Appendix B. Figure 9 provides a direct comparison of the visual simulations for each viewpoint as presented in the SVRA and the SVRA2. Figure 10 includes visual simulations for the 3 viewpoints (VPs. 14-alt, 16, and 17) that were not included in the SVRA. The original photographs and visual simulations from all 17 of these viewpoints are included in Appendix B.

Viewpoint S1 (see Figure 9). This view is to the north-northwest from NYS Route 83 and Center Road. In comparison with the photo simulation prepared for the SVRA, a notable difference in the existing condition has taken place with the addition of a newly built home in the foreground. Additionally, the 2013 photo was taken slightly closer to the Project in order to exclude the stop sign and utility pole from the center of the view (the photographer stood in front of these features to minimize visual clutter in the view). The SVRA simulation from Viewpoint S1 shows the top portion of two wind turbines visible in the mid-ground, beyond the horizon. The SVRA2 simulation reflects that only one turbine is now visible from this location. Note that this change is not the result of screening provided by the new home, but rather due to a turbine being removed from the SEIS2 Project layout relative to the SEIS Project layout (see Figure 7: Sheet 1). The turbine visible in the SVRA2 simulation is of a similar height and scale to those depicted in the SVRA simulation. The dominating bright colors of the green field and clear blue sky in the 2013 photo as compared to the snow-covered partly cloudy sky in the 2009 photo, as well as differences in lighting conditions of the two photos, do not reflect a change in visual impact due to the revised Project layout or turbine model, but rather demonstrate how the weather and time of day/year influence the appearance of the Project. In addition, the 2013 photograph depicts the existing conditions during a season of higher scenic quality (spring as opposed to winter), which provides for a more conservative assessment of the potential effect of the Project. However, the decrease from two visible turbines to one as well as the introduction of a residential structure to the foreground of the view cause the Project to appear less intrusive in the SVRA2 simulation.

Viewpoint S2 (see Figure 9). Two simulations were developed of overlapping views from Viewpoint S2 (VPs S2A and S2B), oriented southeast and southwest (respectively) from the intersection of Straight Road and Center Road. The SVRA simulation from Viewpoint S2A shows two turbines in the foreground, behind the treeline that defines the horizon in the view. Due to layout changes in the SEIS2 Project layout, no turbines are located within the view for the SVRA2 simulation from Viewpoint S2A.The SVRA simulation for Viewpoint S2B shows five turbines rising above the tree-line at varying mid-ground distances. The SVRA2 simulation shows seven wind turbines in this view, also at mid-ground distances. The arrangement of turbines has changed from somewhat linear and evenly spaced to a more clustered arrangement with two dominant turbines in the near mid-ground backed by more distant turbines. As a result, the SVRA2 simulated view has a slightly more cluttered appearance, however, the most dominant turbines in both

simulations are of similar height and scale and the visual impact to this view has not changed substantially due to the changes in the Project layout that have occurred.

Viewpoint S3 (see Figure 9). This view is to the south-southwest from the Arkwright Town Hall. The SVRA simulation of this view identifies two wind turbines that are both screened by trees. In the SVRA2 simulation, of these two turbines, one remains in the same location while the other has shifted only approximately 180 feet to the south. Both turbines remain screened from view by intervening vegetation. The visual impact from this viewpoint is unchanged.

Viewpoint S4 (see Figure 9). This view looks to the north-northeast from the entrance to the Arkwright Hills Campground off of NYS Route 83. The SVRA simulation from this viewpoint shows two wind turbines that appear in a break in the vegetation but do not rise above the height of the tree-line. The simulation shows the turbine rotors oriented to the west, resulting in a slender, subtle appearance. The SVRA2 simulation shows three turbines clearly visible and rising above the tree line. The noticeable difference in height is due to the change in the proposed turbine model, increasing the turbine height from 410 feet to 492 feet, and also due to shifts in turbine locations so that the nearest turbine in this view is now approximately 0.2 mile closer to the viewer (a change from approximately 0.8 mile in the SVRA simulation to approximately 0.6 mile in the SVRA2 simulation). In addition, the appearance of the wind turbines is more prominent in the SVRA2 simulation because the turbine rotors are facing the viewer, providing a representation of both the height and width of the proposed turbines. This particular difference does not represent a change in visual impact but rather demonstrates how the appearance of the Project can vary with changes in wind direction and the angle of the rotor with respect to the viewer.

Viewpoint S5 (see Figure 9). Two simulations were developed of overlapping views from Viewpoint S5 (VPs S5A and S5B), located at the intersection of Meadows Road and NYS Route 83. Viewpoint S5A is oriented to the southwest and Viewpoint S5B is oriented to the west-southwest. With respect to changes in turbine locations between the SVRA and the SVRA2, the primary difference from Viewpoint S5 is the introduction of an additional turbine approximately 0.6 mile from the viewer, which appears as the tallest turbine in the center of the view from Viewpoint S5B. Of the remaining turbines visible from Viewpoint S5, two of the locations have remained consistent and the other two have shifted less than 500 feet. The SVRA2 simulation of S5B is shifted slightly further west than the SVRA simulation, so as to capture an additional turbine visible through the trees. This turbine was also present in the SVRA layout, within 500 feet of the current location, but was outside the view shown. Overall, the change in Project appearance from this viewpoint is minimal.

Viewpoint S6 (see Figure 9). This view looks to the east, along Meadows Road from the intersection with Center Road. The top portions of two turbines are visible beyond the horizon, one on either side of the road, in both the SVRA and

SVRA2 simulations. The turbine on the left side of the road has shifted approximately 500 feet southwest and the turbine on the right side of the road is within 10 feet of its previous location. Only the blade of the turbine on the right side of the road is visible in the SVRA2 simulation whereas the top two-thirds of the rotor are visible in the SVRA simulation. This reflects minor changes in the Project layout between the SVRA and SVRA2 but does not reflect a reduction in turbine visibility from this area. The change in Project appearance from this viewpoint is minimal.

Viewpoint S7 (see Figure 9). This view is near the intersection of Ruttenburg Road and Farrington Hollow Road, looking to the south. The three turbines shown in the SVRA simulation have all been removed from the Project layout. Due to changes in the SEIS2 Project layout, no turbines are proposed to be located within this view. Therefore, the visual impact of the Project on this view has been eliminated.

Viewpoint S8 (see Figure 9). These views (Viewpoint S8A and S8B) are from Rood Road, north of the intersection with Ruttenburg Road. The four turbines cumulatively shown in the SVRA simulations have all been removed from the Project layout. Due to changes in the SEIS2 Project layout, no turbines are proposed to be located within this view. Therefore, the visual impact of the Project on this view has been eliminated.

Viewpoint S9 (see Figure 9). Two simulations were developed of overlapping views from Viewpoint S9 (VPs S9A and S9B), located at the intersection of Ball Road and Center Road. Viewpoint S9A looks to the east-southeast and Viewpoint S9B looks to the southeast. The location of the nearest turbine (in the foreground at a distance of 0.4 mile) has not changed. The photo for the SVRA2 was taken slightly further back and tilted up so as to include the full height of the nearest turbine. The turbine that appears to the left of the nearest turbine in the SVRA Viewpoint S9A simulation is located directly behind that turbine in the SVRA2 simulation, leaving only the nacelle visible as the rotor is oriented away from the viewer. Of the remaining visible turbines, the changes in the SEIS2 Project layout have resulted in an additional turbine in the near mid-ground, shown in the SVRA2 simulation of Viewpoint S9B, and also resulted in a more linear arrangement of the more distant turbines. The overall change in the effect on the view due to the changes in the SEIS2 Project layout (relative to the SEIS Project layout) is considered minimal.

Viewpoint S10 (see Figure 9). This view looks to the southwest from the intersection of Weaver Road and Center Road. The SVRA simulation shows one turbine partially visible through the trees in leaf-off condition. Similarly, the SVRA2 simulation shows that one turbine is visible through the trees, although the location of the turbine has shifted approximately 1,320 feet to west-northwest from its SVRA location. The change in Project appearance from Viewpoint S10 is minimal.

Viewpoint S11 (see Figure 9). This viewpoint is located at the intersection of Cable Road and Miller Road, looking to the northeast. The SVRA simulation shows the rotor of one turbine above the tree line in the center of the view and the blade of another, more distant, turbine to the left. As shown in Figure 7, the prominent turbine in the SVRA simulation has shifted very slightly (95 feet), whereas the more distant turbine in the SVRA simulation has moved 1,175 feet to the northwest and an additional turbine is now located in between them in the currently proposed layout. Therefore, the SVRA2 simulation shows portions of these three turbines visible above the tree line and a fourth turbine is barely visible through the cluster of trees in the foreground. The size and scale of the turbines appears similar in both simulations.

Viewpoint S12 (see Figure 9). Viewpoint S12 is located on Straight Road, between Route 85 and Putman Road. Three simulations were prepared from this viewpoint, looking to the southwest (S12A), west (S12B), and northwest (S12C), which collectively provide a panoramic view of the proposed wind turbines. A number of turbines are visible on the horizon from this viewpoint at distances of approximate 2 to 4 miles away from the viewer. As shown in Figure 7: Sheet 1, a number of changes in the proposed turbine layout have occurred in this portion of the Project. Particularly in S12B and S12C, the nearest turbines in the SVRA simulation have either been dropped or have been shifted slightly further away from the viewer. The SVRA2 simulation for 12A shows several more turbines visible in the distance than the SVRA simulation, but this is primarily due to the screening provided by the foreground vegetation in the SVRA simulation as compared to the open field in the foreground of the SVRA2 simulation. Overall, there is minimal change in the appearance of the Project from Viewpoint S12.

Viewpoint S13 (see Figure 9). This viewpoint is located on Ball Road, approximately 0.5 mile west of the intersection of Ball Road and Route 79. Four overlapping simulations were created from this viewpoint, labeled S13A through S13D, which provide a panoramic view of the Project from the north to east. These simulations depict many of the same turbines that were visible from Viewpoint S12, but from the opposite side of the array. As with Viewpoint S12, although shifts in the turbine layout are noticeable in the comparison of SVRA/SVRA2 simulations from Viewpoint S13, the overall appearance of the Project is very similar. With respect to the views from S13B and S13C, the most noticeable differences are primarily the result of a minor difference in camera alignment between the SVRA and SVRA2 simulations rather than a change in Project appearance from this location.

Viewpoint S14 (see Figure 9). This viewpoint is located on Farrington Hollow Road. In the SVRA, this viewpoint illustrated the potential visual effect of a segment of proposed overhead collection line. No overhead collection lines are proposed in the SEIS2 Project layout, and the previously proposed wind turbines in this portion of the Project Site are no longer include in the SEIS2 Project Layout. Therefore, no Project facilities will be featured in this view.

Viewpoint 14-Alternate (or VP 14-Alt; see Figure 10). This viewpoint is located on Skinner Road (see Figure 7: Sheet 1) and was added to the SVRA2 simulations to address the potential visual effect of the proposed generator lead in the SVRA2 Project layout. Viewpoint 14-Alt provides an open view of the proposed generator lead in a representative agricultural context within the study area. The SVRA2 simulation depicts 9 steel structures carrying the generator lead over Skinner Road and across an agricultural field. The structure located nearest the viewer is 120 feet tall, and the remaining structures in the view range in height from 74 to 96 feet. The structures are sited adjacent to an existing hedgerow along the field edge. The height of the trees in the hedgerow provide a scale reference for the height of the proposed steel structures and overhead line. The panoramic view provides a conservative evaluation of the potential visual effect of the generator lead in an open setting. In addition, the simulation depicts that the proposed generator lead will not significantly affect the existing agricultural land use in this view.

Viewpoint S15 (see Figure 9). Viewpoint S15 looks to the east-northeast from Route 83, approximately 0.6 mile east of Miller Road. This view shows the proposed generator lead line as it crosses Route 83. The height of the trees along Route 83 provide a scale reference for the height of the proposed steel structures that would be installed for the generator lead. Comparison of the SVRA and SVRA2 simulations from Viewpoint S15 present a similar appearance of the proposed generator lead line (in the SVRA2 Project layout) relative to the proposed transmission line in the SEIS Project layout. However, the SVRA2 generator lead line has a more subtle appearance due to use of fewer conductors of smaller diameter (seven thick/visually prominent conductors are depicted in the SVRA transmission line simulation compared to four less conspicuous conductors depicted in the SVRA2 generator lead simulation).

Viewpoint 16 (see Figure 10). This simulation shows the view of the Project to the southeast from the observation deck of Dunkirk Lighthouse, which is located on Lake Erie shoreline in the City of Dunkirk. The lighthouse is located outside of the visual study area, approximately 6.5 miles from the nearest turbine, but is included here as it is listed on the National Register of Historic Places and draws visitors primarily for enjoyment of the scenic open views it provides. While the primary view of interest to visitors is the view of Lake Erie, the lighthouse observation provides views in all directions, including views toward the Project. This viewpoint was not included in the SVRA so this simulation is not included as a basis for comparison of changes in Project layout that have occurred, but rather it is included to provide additional/supplemental information on the appearance of the proposed Project from a regionally significant visually sensitive resource. The SVRA2 simulation shows that a number of turbines are visible on the horizon. Due to the effects of distance, the turbines appear small and due to the effects of backlighting and somewhat hazy conditions the turbines appear faint but their silhouettes are subtly visible against the backdrop of the skyline. This simulation indicates that the overall effect of the Project from this location will be relatively minimal due to the effects of distance.

Viewpoint 17 (see Figure 10). This simulation shows the view towards the Project from a marina in Dunkirk Harbor, which is located on Lake Erie shoreline in the City of Dunkirk. This viewpoint is located outside of the SVRA2 study area, approximately 5.6 miles from the nearest turbine. This viewpoint was not included in the SVRA so this simulation is not included as a basis for comparison of changes in Project layout that have occurred, but rather it is included to provide additional/supplemental information on the appearance of the proposed Project from a recreational area with high public use and a regionally significant visually sensitive resource (i.e., Lake Erie). The foreground of the photograph features a parking lot along the water's edge in the harbor with boats docked in the marina, backed by buildings in the City of Dunkirk. The Project Site is visible as an elevated ridge in the distant background. The proposed wind turbines are backlit against a somewhat hazy sky. Although the Project is visible from this location, due to their small size and the effect of distance, the turbines do not command viewer attention. Overall, this simulation indicates that the effect of the Project from this location will be relatively minimal due to the effects of distance. This simulation also serves to illustrate the potential view of the Project from Lake Erie. It is worth noting that as a viewer (in a boat) travels further away from shore (to the west), the Project site ridge and turbines will become more visible (i.e., in the absence of screening and visual clutter in the background), although the perceived scale of the turbines will also diminish due to the effects of distance.

4.0 SUMMARY AND CONCLUSION

Visibility Summary

The results of the revised viewshed analyses for this SVRA2 indicate a similar pattern and extent of Project visibility relative to the viewshed results presented in the SVRA. According to the blade tip viewshed analysis, considering both topography and vegetation, one or more proposed wind turbines may be visible from approximately 28 percent of the 5-mile visual study area as compared to 25 percent viewshed visibility reported in the SVRA. The summary of Project visibility presented in Section 5.0 of the SVRA remains accurate.

Impact on Visually Sensitive Resources

The inventory of visually sensitive resources has been expanded, primarily to include cemeteries and named streams, increasing the number of inventoried resources from 77 to 131. The blade tip vegetation/topography viewshed indicates that 113 of the 131 inventoried resources (approximately 86%) within the visual study area may have a view of one or more proposed wind turbines. Similarly, the SVRA reported that 86% of the 77 inventoried resources may have views of the proposed turbines. While some changes in anticipated visibility from individual visually sensitive resources have occurred, the discussion regarding impact on visually sensitive resources presented in Section 5.0 of the SVRA remains accurate.

Comparison of SVRA and SVRA2 Simulations

Visual simulations showing the potential visual effect of the SEIS2 Project layout were prepared from 17 viewpoints within the study area. These included 14 views for which simulations were previously presented in the SVRA (VPs S1-S13 and S15), as well as a new viewpoint depicting the proposed generator lead (VP 14-Alt), and two viewpoints from more distant visually sensitive sites (VPs 16 and 17). A comparison of the visual simulations for the SEIS and SEIS2 Project layouts from each viewpoint is presented in Section 3.2.3. The differences in the proposed view from these viewpoints are relatively minimal, and generally reflect a minor change in the number and/or arrangement of turbines that will be visible. The height increase of the proposed turbines as shown in the SVRA2 simulations do not result in a significant change in the perceived scale contrast of the turbines relative to the simulations included in the SVRA. Relative to the SEIS Project layout that is depicted in the SVRA simulations, the changes in the SVRA2 Project layout do not result in a significant change in the overall visual impact of the Project.

Character of View

The Project's potential effect on the character of the views within the study area are presented in Section 3.5 of the SVRA, and remain unchanged. As described in the review of visual simulations presented in Section 3.2.3 of this SVRA2, the changes in the proposed turbine height and layout in the SEIS2 Project layout do not result in significant changes in the Project's potential effect on views within the study area.

Affected Viewers

As described in Section 5.0 of the SVRA, affected viewers within the study area include local residents, commuters, travelers on regional highways, and tourists. The effect on potential views will be highly variable for each of these viewer groups, and depends on factors such as distance, the number of turbines visible, whether the viewer is stationary or moving, duration of view, and attitudes of the viewer towards wind turbines and/or expectations for the rural landscape.

Other Project Components

The potential visual effect of the use of tall cranes and other activities during construction are discussed in Section 5.0 of the SVRA. As noted in the SVRA, potential visual impacts during construction will be temporary and are expected to be minor.

The potential visual effect of the proposed generator lead line is depicted in the SVRA2 simulations for Viewpoints 14-Alt and S15. Although the generator lead structures will be tall steel or wood poles (they range in height from 58 to 120 feet), the proposed generator lead will not significantly affect perceptions of the existing agricultural/rural land use.

As described in the SVRA, the Project also includes construction of substation in the Town of Pomfret. The engineering design for the substation has not been completed. The substation is considered to have a minimal visual effect relative to the wind turbines. However, to provide an evaluation of the potential visual effect of the substation, photographs of existing substation facilities built for other wind energy projects in New York are included as Figure 11.

In addition, as described in Section 5.0 of the SVRA, the Project will include FAA warning lights. These are synchronized red-flashing warning lights mounted on the turbine nacelle, at a height of approximately 100 meters. A typical view of FAA warning lights from another New York wind energy project is included in Figure 12. Based upon nighttime photos/observations of existing wind power projects, the red flashing lights on the turbines could result in a nighttime visual impact on certain viewers. The actual significance of this impact from a given viewpoint will depend on how many turbines are visible, what other sources of lighting are present in the view, the extent of screening provided by structures and trees, and nighttime viewer activity/sensitivity. However, night lighting could be somewhat distracting and have an adverse effect on rural residents and recreational users that currently experience (or expect) dark nighttime skies. It should be noted that nighttime visibility/visual impact will be reduced due to 1) FAA lighting guidelines (FAA, 2005) which typically do not require that all turbines need to be lit, 2) the abundance of woodlots and hedgerows that screen portions of the Project from many locations, and 3) the concentration of residences in villages, hamlets, and along highways where existing lights already compromise dark skies and compete for the viewer's attention. The

current FAA lighting plan for the SEIS2 Project layout proposes use of 8 warning lights (see Figure 6: Sheets 3 and 4), which is a significant reduction from the 21 FAA lights proposed for the SEIS Project layout and evaluated in the SVRA.

Mitigation

Mitigation options are limited, given the nature of the Project and its siting criteria (very tall structures typically located in open fields at the highest locally available elevations). In accordance with NYSDEC *Program Policy: Assessing and Mitigating Visual Impacts* (NYSDEC, 2000), proposed mitigation measures for the potential visual effects of the Project are described in Section 4.0 of the SVRA. In addition to the discussion presented in the SVRA, considerations relevant to the mitigation measures included in the NYSDEC Program Policy include:

A. Professional Design. All turbines will have uniform design, speed, color, height and rotor diameter. Turbines will be mounted on conical steel towers that include no exterior ladders or catwalks. The placement of any advertising devices (including commercial advertising, conspicuous lettering, or logos identifying the Project owner or turbine manufacturer) on the turbines will be prohibited.

B. Screening. Due do the height of individual turbines and the geographic extent of the proposed Project, screening of individual turbines with earthen berms, fences, or planted vegetation will generally not be effective in reducing Project visibility or visual impact. However, if adequate natural screening is lacking at the proposed substation site, a planting plan should be developed and implemented to minimize the visibility of this facility.

C. Relocation. Because of the limited number of suitable locations for turbines within the Project site, and the variety of viewpoints from which the Project can be seen, turbine relocation will generally not significantly alter visual impact. Moving individual turbines to less windy sites would not necessarily reduce impacts but could affect the productivity and viability of the Project. Where visible from sensitive resources within the study area, generally more than half of the proposed turbines will be visible, and relocation of individual machines would have little effect on overall visual impact. Additionally, throughout the study area, views of the Project are highly variable and include different turbines at different vantage points. Therefore, turbine relocation would generally not be effective in mitigating visual impacts. Additionally, the Project layout has been designed to accommodate set-backs from roads and residences. Options for relocation of individual Project components are constrained by compliance with these various setbacks.

D. Camouflage. The white/off white color of wind turbines (as mandated by the FAA) generally minimizes contrast with the sky under most conditions. This is demonstrated by simulations prepared under a variety of

sky conditions. Other components of the Project will be designed to minimize contrast with the existing agricultural character in the Project area. For instance, new road construction will be minimized by utilizing existing farm lanes wherever possible and electrical collection lines will be buried.

E. Low Profile. A significant reduction in turbine height is not possible without significantly decreasing power generation. Less generating capacity (resulting from smaller turbines) could threaten the Project's economic feasibility. To avoid generation losses, use of smaller turbines would require that additional turbines be constructed. Several studies have concluded that people tend to prefer fewer larger turbines to a greater number of smaller ones (Thayer and Freeman, 1987; van de Wardt and Staats, 1988). There will be minimal visual impact from the electrical collection system because the majority of the collection system will be installed underground.

F. Downsizing. The SEIS2 Project layout reduces the number of proposed turbines from 44 to 36 without compromising Project benefits or energy generation. Given the current technologies available, further reduction in the proposed number of turbines would compromise the Project's energy generation potential and associated benefits.

G. Alternate Technologies. Alternate technologies for power generation, such as gas-fired generation, would have different, and perhaps more significant, visual impacts than wind power. Viable alternative wind power technologies (e.g., vertical axis turbines), that could reduce visual impacts, do not currently exist in a form that could be used on a commercial/utility-scale project.

H. Non-specular Materials. Non-reflective paints and finishes will be used on the wind turbines and other Project facilities to minimize reflected glare.

I. Lighting. Turbine lighting will be kept to the minimum allowable by the FAA. It is anticipated that 8 of the proposed turbines will be lit. Medium intensity red strobes will be used at night, rather than white strobes or steady burning red lights. Fixtures with a narrow beam path will be considered as a means of minimizing the visibility/intensity of FAA warning lights at ground-level vantage points. Lighting at the substation will be kept to a minimum, and turned on only as needed, either by switch or motion detector. Full cut-off fixtures will be utilized to the extent practicable (consistent with safety and security requirements).

J. Maintenance. The turbines and turbine sites will be maintained to ensure that they are clean, attractive, and operating efficiently. Research and anecdotal reports indicate that viewers find wind turbines more appealing

when the rotors are turning (Pasqualetti et al., 2002; Stanton, 1996). In addition, the Project developer will establish a decommissioning fund to ensure that if the Project goes out of service and is not repowered/redeveloped, all visible above-ground components will be removed.

K. Offsets. Correction of an existing aesthetic problem within the viewshed is a viable mitigation strategy for wind power projects that result in significant adverse visual impact. In addition, the Applicant has consulted with the Lead Agency to identify historic structure restoration/maintenance projects to off-set potential visual impacts on cultural resources.

Conclusion

The potential visual effects of the SEIS2 Project layout (as described in this SVRA2) are generally consistent with the visual effects of the SEIS Project layout (as described in the SVRA). Changes in the Project layout result in a reduction in the size of the 5-mile visual study area from 161.0 square miles to 138.3 square miles. However, the results of the viewshed analyses for the SEIS2 Project layout (described in this SVRA2) indicate a similar pattern and extent of Project visibility relative to the SEIS Project layout viewshed results presented in the SVRA. A comparison of the visual simulations for the SEIS and SEIS2 Project layouts indicates that, the Project layout changes that have occurred do not result in a significant change in the overall visual impact of the Project.

Due to the inherent requirements for wind energy projects (very tall structures located in areas of high elevation), visual impacts cannot be avoided. However, inclusion of the mitigation measures described herein and in the SVRA helps to minimize the visual impacts of the Project. By reducing the proposed number of turbines and selecting a more efficient and more productive turbine model, the SEIS2 Project layout balances the potential energy generation and associated benefits of the Project while minimizing visual impacts.

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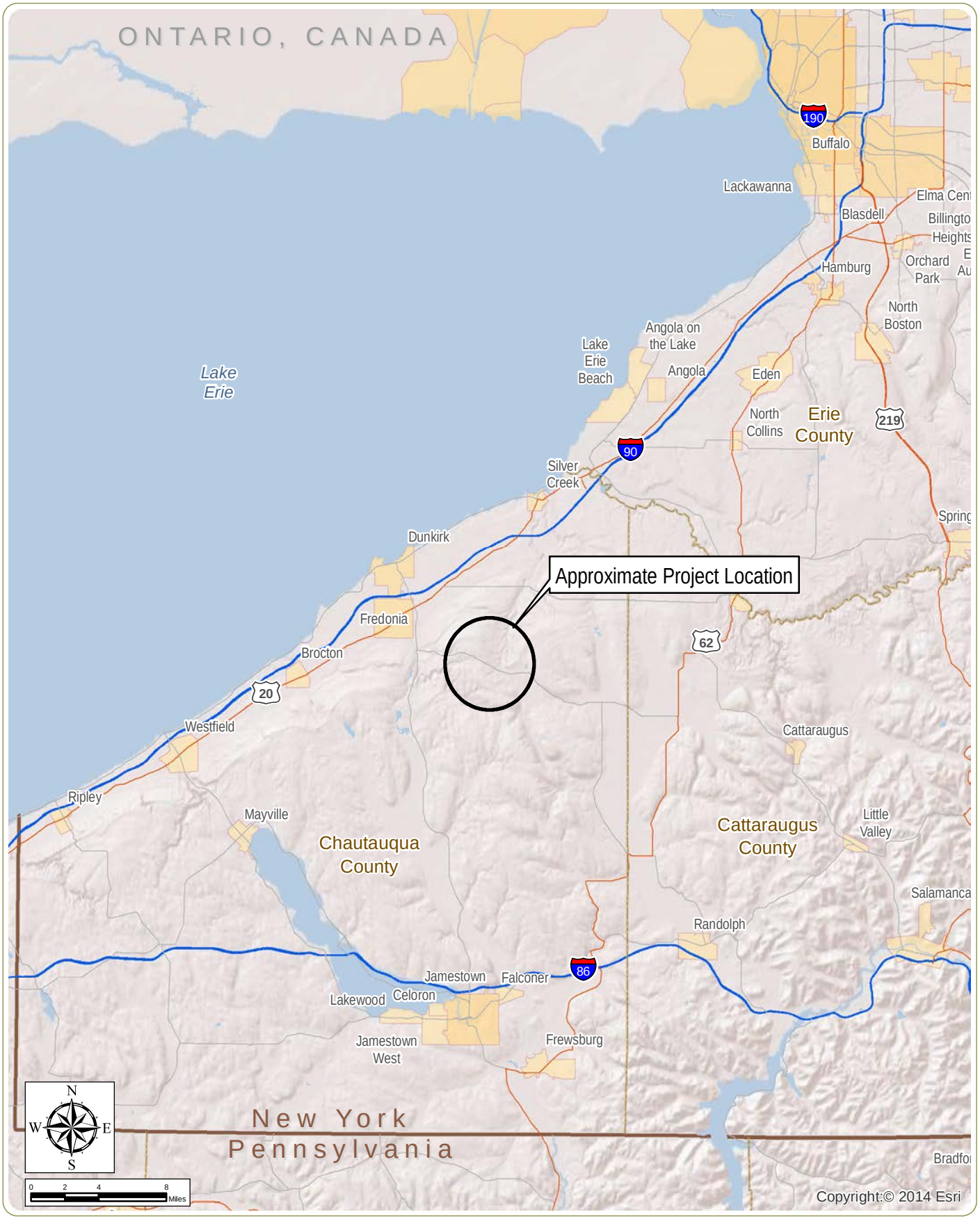
Figures



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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 1: Regional Project Location

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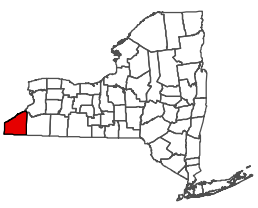
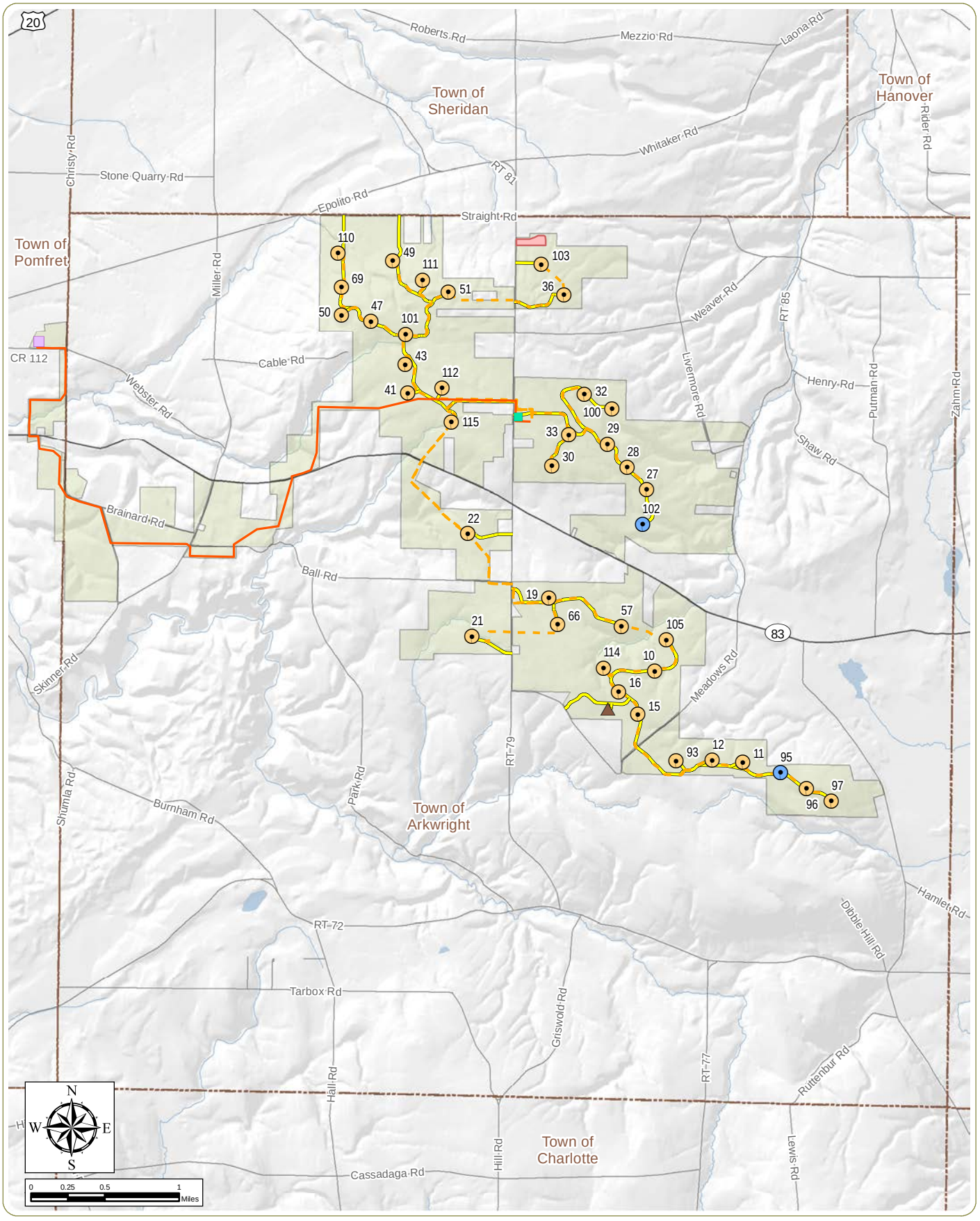
Notes: 1. Basemap: ESRI ArcGIS Online "World Shaded Relief" Map Service and ESRI StreetMap North America, 2008.
2. This is a color graphic. Reproduction in grayscale may misrepresent the data.





Arkwright Summit Wind Farm

Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 2: Revised Project Layout

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Notes: 1. Basemap: Hillshade generated from USGS digital elevation model data.
2. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- SEIS2 Wind Turbine
- SEIS2 Alternate Wind Turbine
- Met Tower
- Substation
- O&M Facility
- Buried Collection Line
- Generator Lead Line
- Access Road
- Laydown Yard
- Project Site
- Town Boundary

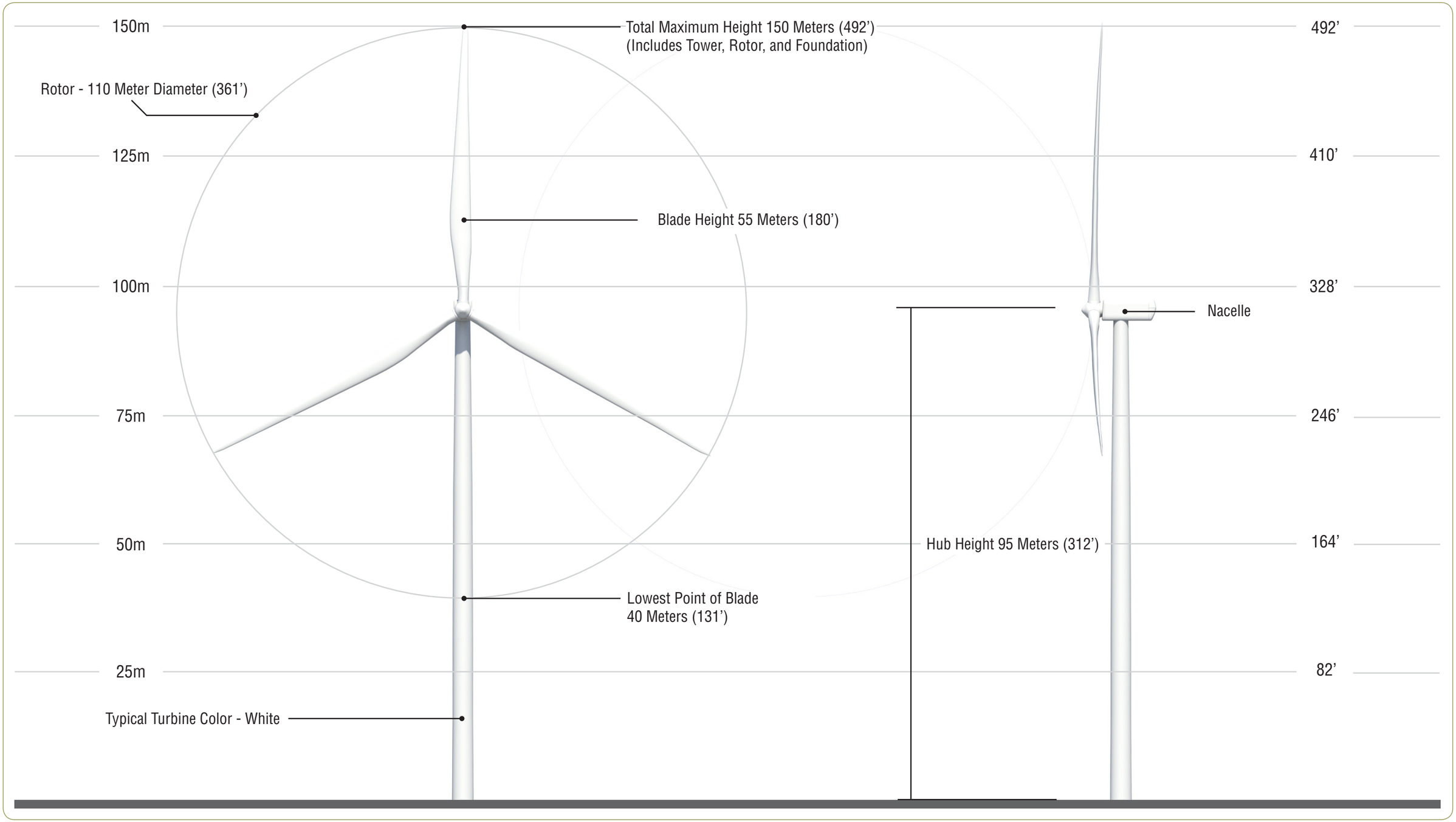

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Figure 3: Computer Model of Proposed Wind Turbine; Vestas V110

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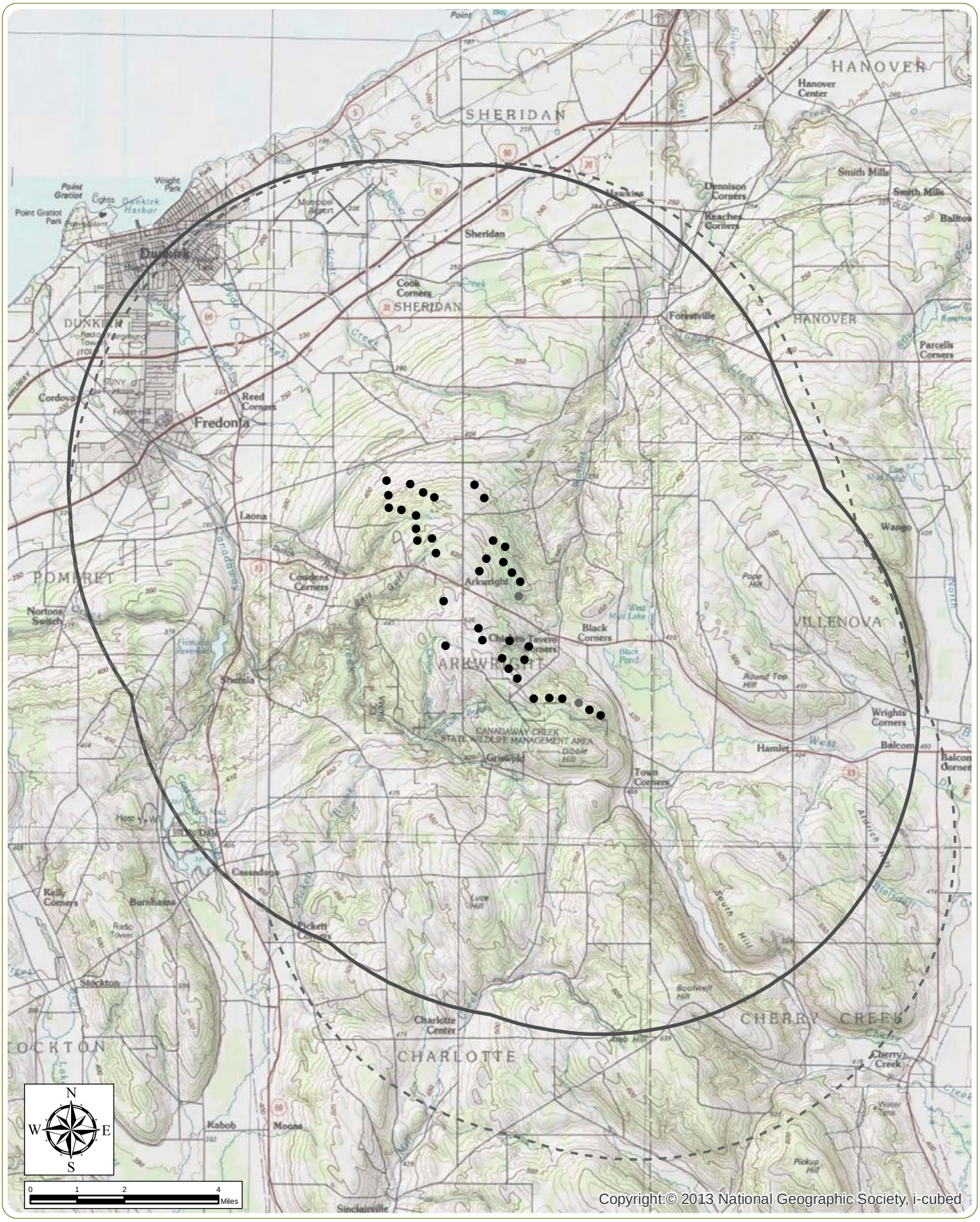

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 4: Visual Study Area

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Notes: 1. Basemap: ESRI ArcGIS Online "USA Topo Maps" map service.
2. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- SEIS2 Wind Turbine
- SEIS2 Alternate Wind Turbine
- SVRA2 Study Area
- SVRA Study Area

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Figure 5: Visually Sensitive Resources

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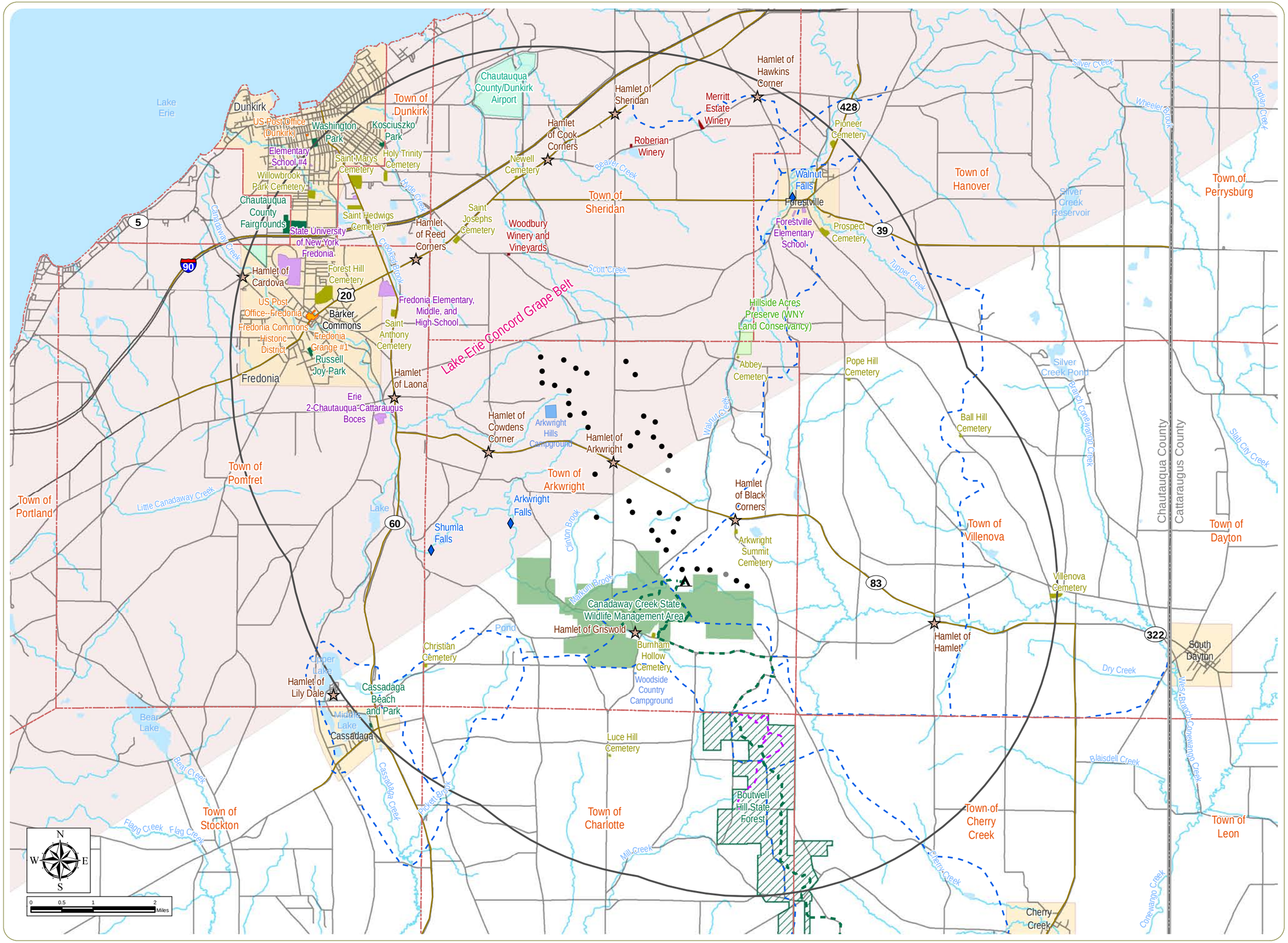

- SEIS2 Wind Turbine
- SEIS2 Alternate Wind Turbine
- Hamlet
- Waterfall
- Eastside Overland Trail Lean-to
- Earl Cardot East Side Overland Trail
- Bits-N-Spurs Trail
- Snowmobile Trail
- NRHP Listed Site
- Campground
- State WMA
- Cemetery
- Local Park
- School and College
- State Forest
- Winery
- WNY Land Conservancy
- Other Local Resources
- NYS Heritage Area
- Visual Study Area
- Town Boundary
- County Boundary

Notes:
1. Basemap: ESRI StreetMap North America, 2008.

2. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 6: Viewshed Analysis

Sheet 1 of 4: Blade Tip Visibility Based on Topography Only

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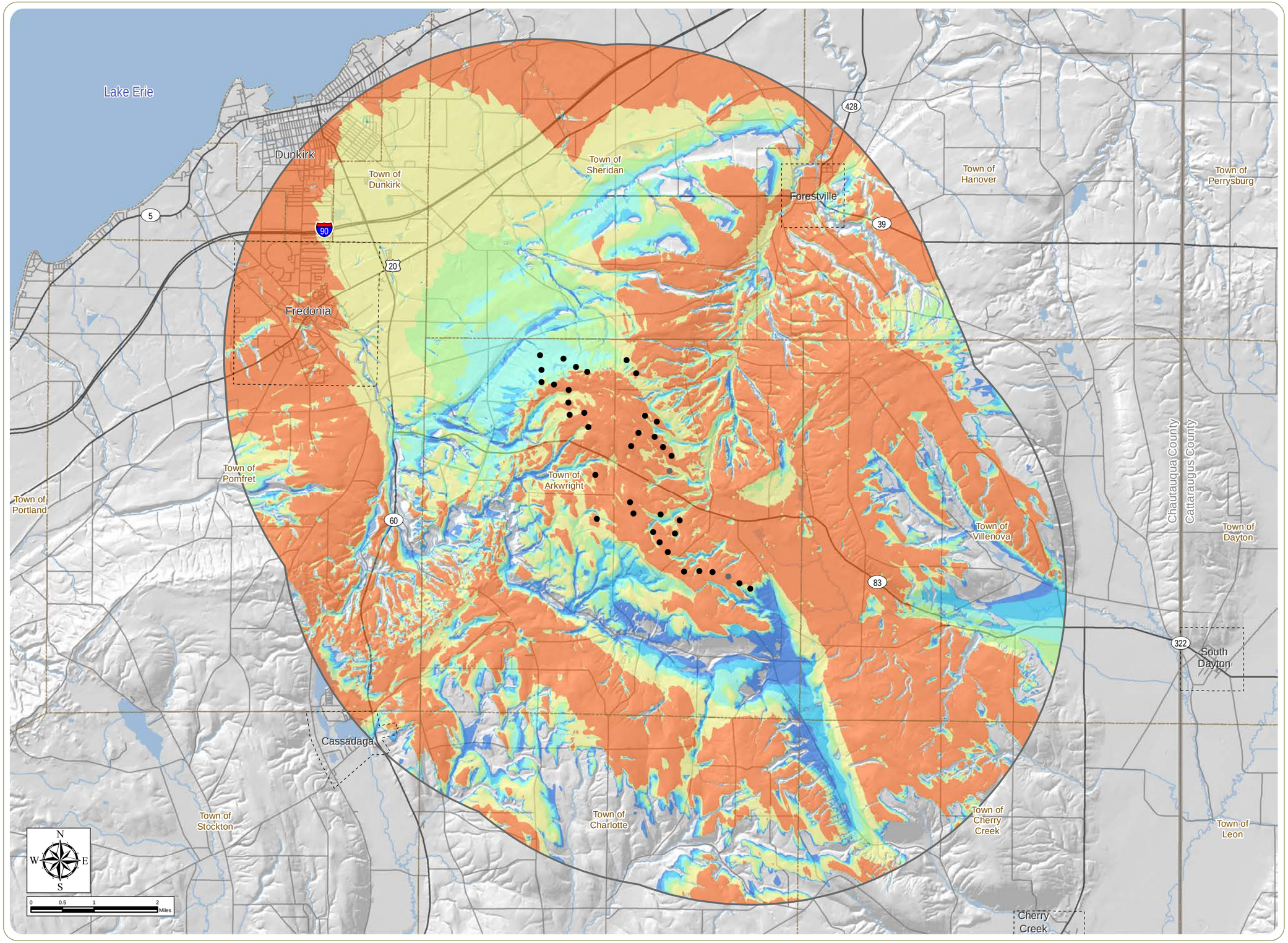

- Wind Turbine
- Alternate Wind Turbine
- SVRA2 Visual Study Area
- Village Boundary
- Town Boundary
- County Boundary

Number of Turbines Potentially Visible

- 1-5 Turbines
- 6-10 Turbines
- 11-15 Turbines
- 16-20 Turbines
- 21-30 Turbines
- 30-38 Turbines

Notes:
1. Basemap: Hillshade derived from 10-meter resolution USGS DEM data.
2. Potential turbine visibility based on topography only. Screening effects of buildings, trees or other factors are not accounted for.
3. Analysis based on maximum blade tip height of 150 meters.
4. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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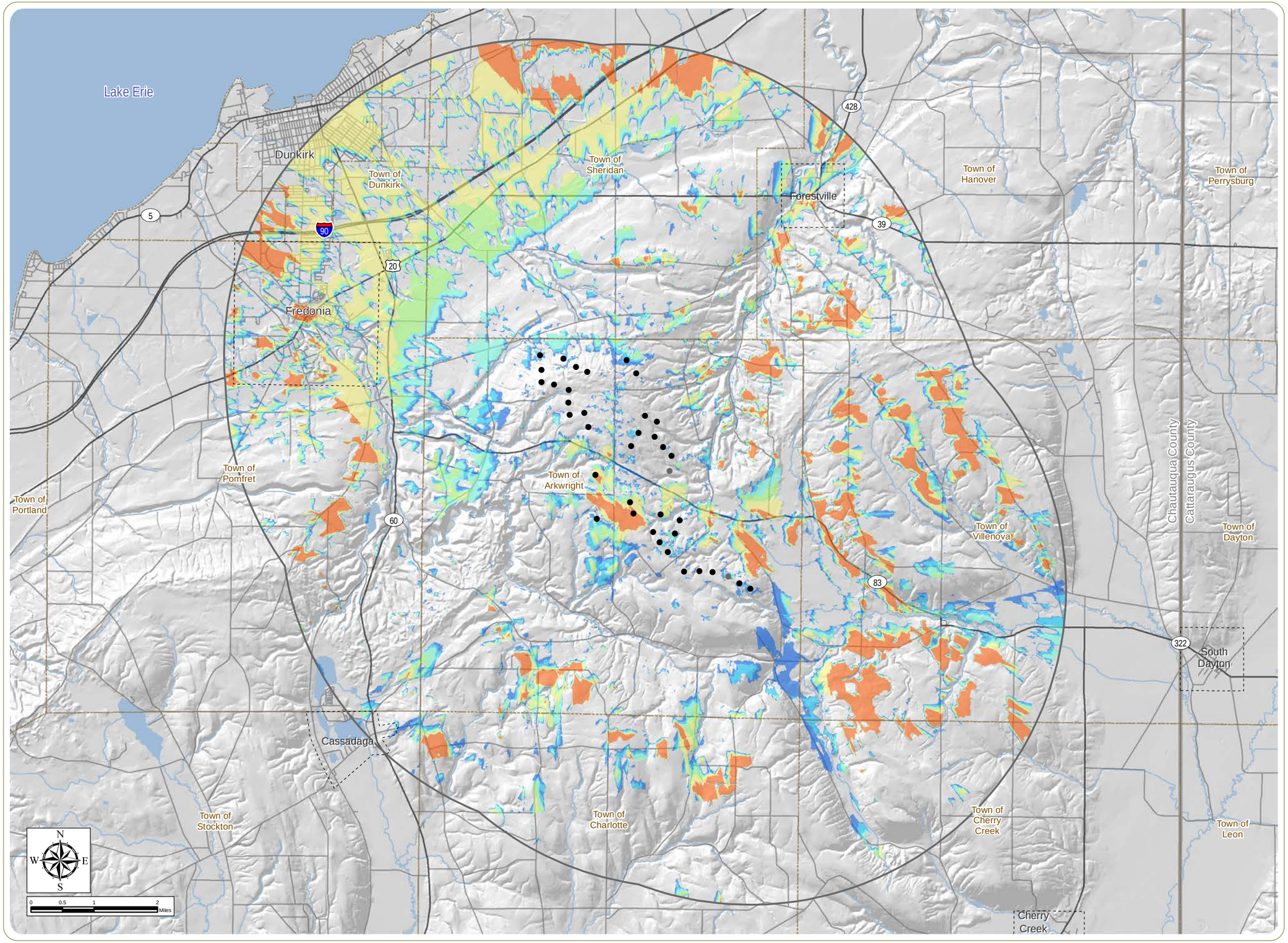
Figure 6: Viewshed Analysis

Sheet 2 of 4: Blade Tip Visibility Based on Vegetation and Topography

September 2015



- Wind Turbine
- Alternate Wind Turbine
- SVRA2 Visual Study Area
- Village Boundary
- Town Boundary
- County Boundary

Number of Turbines Potentially Visible

- 1-5 Turbines
- 6-10 Turbines
- 11-15 Turbines
- 16-20 Turbines
- 21-30 Turbines
- 30-38 Turbines

Notes:
1. Basemap: Hillshade derived from 10-meter resolution USGS DEM data.
2. Potential turbine visibility based on topography and screening effects of mapped forest vegetation.
3. Analysis based on maximum blade tip height of 150 meters.
4. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 6: Viewshed Analysis

Sheet 3 of 4: FAA Warning Light Visibility Based on Topography Only

September 2015

- FAA Lighted Wind Turbine
- Wind Turbine
- Alternate Wind Turbine
- SVRA2 Visual Study Area
- Village Boundary
- Town Boundary
- County Boundary

Number of FAA Warning Lights Visible

- 1-2 Lights
- 3-4 Lights
- 5-6 Lights
- 7-8 Lights

Notes:
1. Basemap: Hillshade derived from 10-meter resolution USGS DEM data.
2. Potential warning light visibility based on topography only. Screening effects of buildings, trees or other factors are not accounted for.
3. Analysis based on FAA warning light height of 100 meters and anticipated lighting plan, which proposed that eight turbines would be equipped with FAA warning lights.
4. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 6: Viewshed Analysis

Sheet 4 of 4: FAA Warning Light Visibility Based on Vegetation and Topography

September 2015

- FAA Lighted Wind Turbine
- Wind Turbine
- Alternate Wind Turbine
- SVRA2 Visual Study Area
- Village Boundary
- Town Boundary
- County Boundary

Number of FAA Warning Lights Visible

- 1-2 Lights
- 3-4 Lights
- 5-6 Lights
- 7-8 Lights

Notes:
1. Basemap: Hillshade derived from 10-meter resolution USGS DEM data.
2. Potential warning light visibility based on topography and screening effects of mapped forest vegetation.
3. Analysis based on FAA warning light height of 100 meters and anticipated lighting plan, which proposed that eight turbines would be equipped with FAA warning lights.
4. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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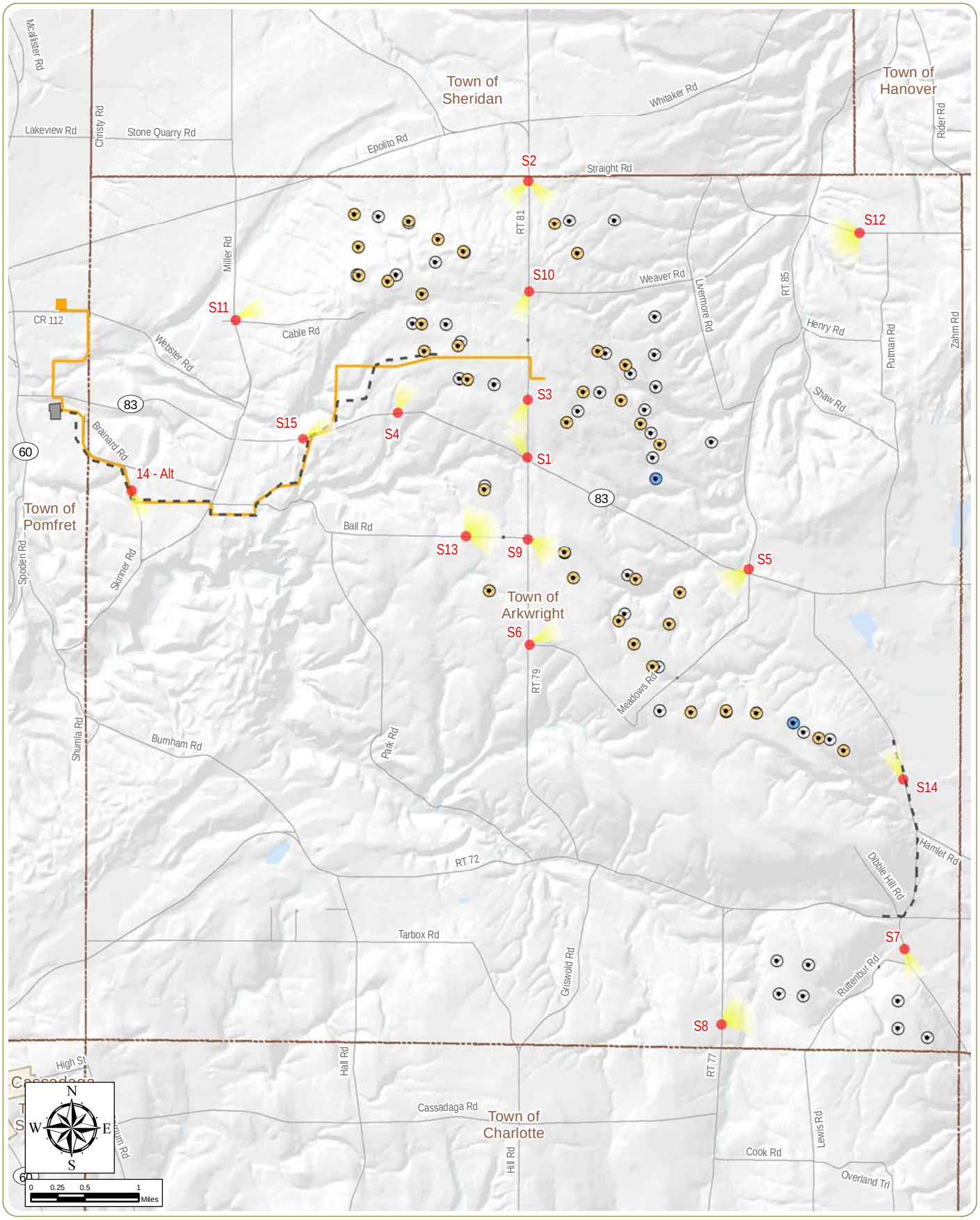

Arkwright Summit Wind Farm

Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 7: Viewpoint Location Map Sheet 1 of 2

September 2015

Notes: 1. Basemap: Hillshade derived from10-meter resolution USGS DEM data and ESRI StreetMap North America, 2008.
2. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Simulation Viewpoint
- SEIS2 Wind Turbine
- SEIS2 Alternate Wind Turbine
- SEIS2 Generator Lead Line
- SEIS2 Substation
- SEIS Wind Turbine
- SEIS Transmission Line
- SEIS Substation
- Town Boundary

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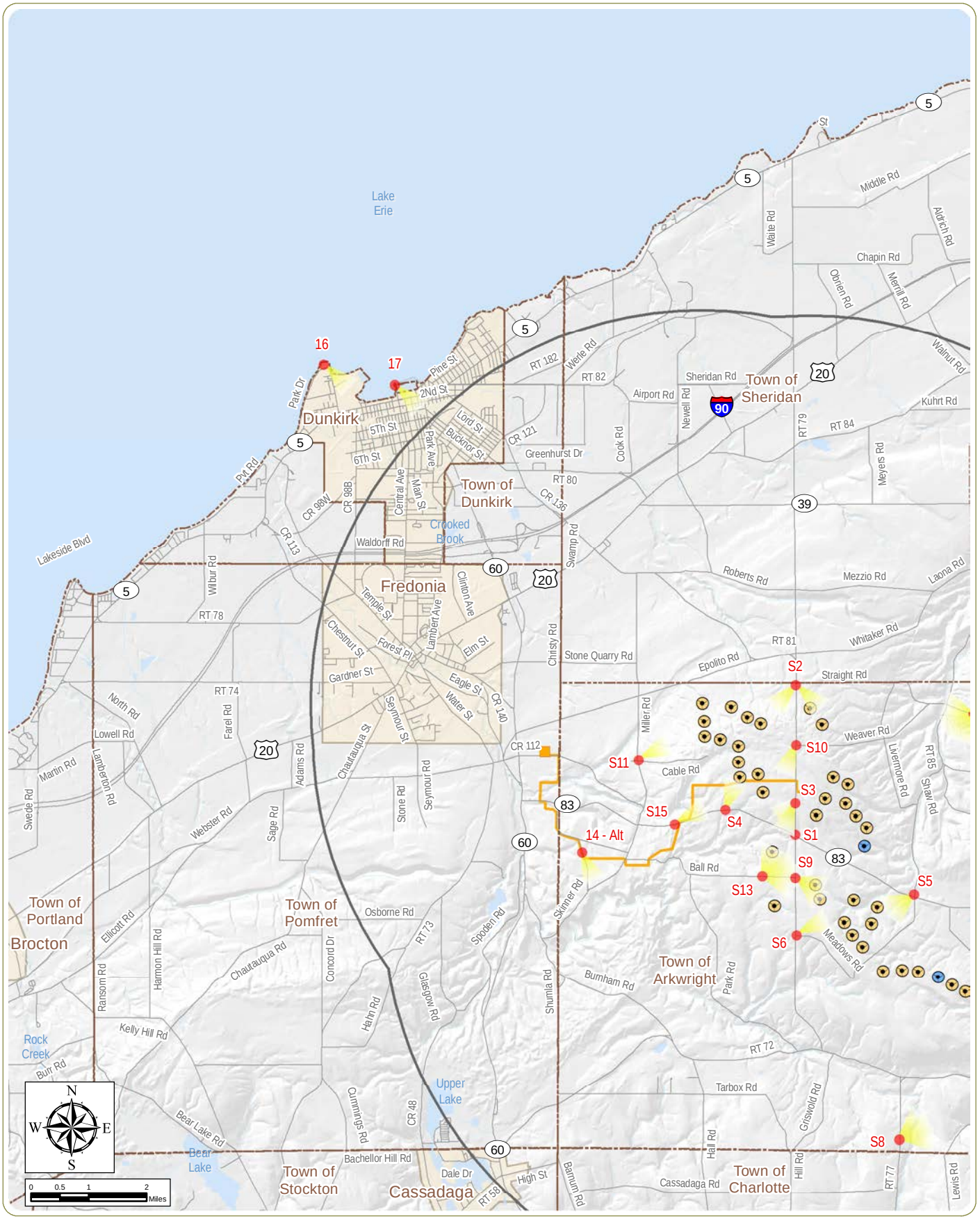

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Towns of Arkwright and Pomfret - Chautauqua County, New York

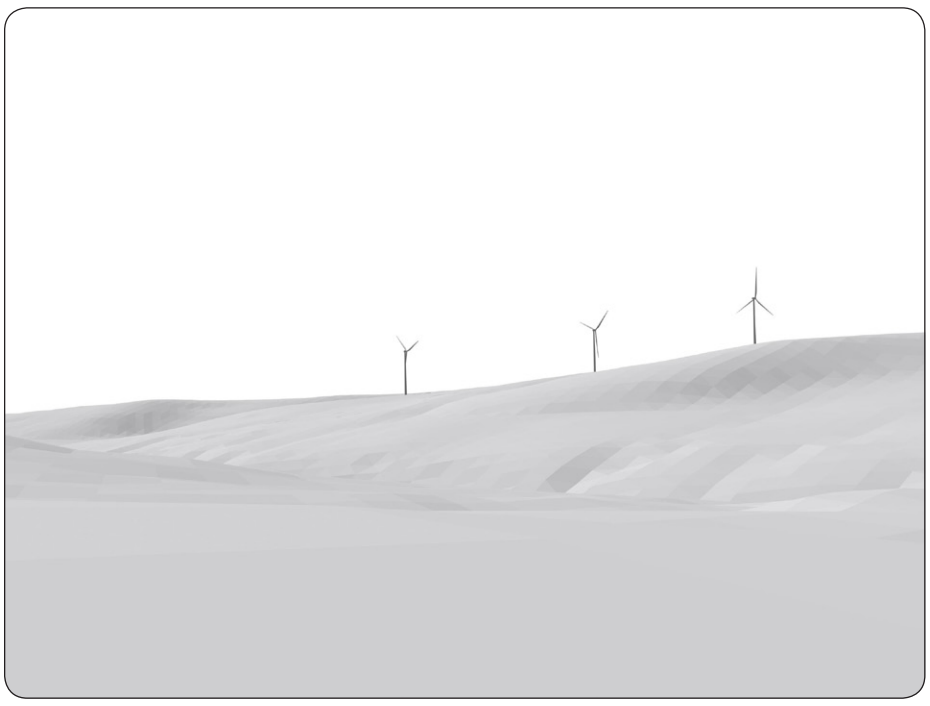
Figure 7: Viewpoint Location Map Sheet 2 of 2

September 2015

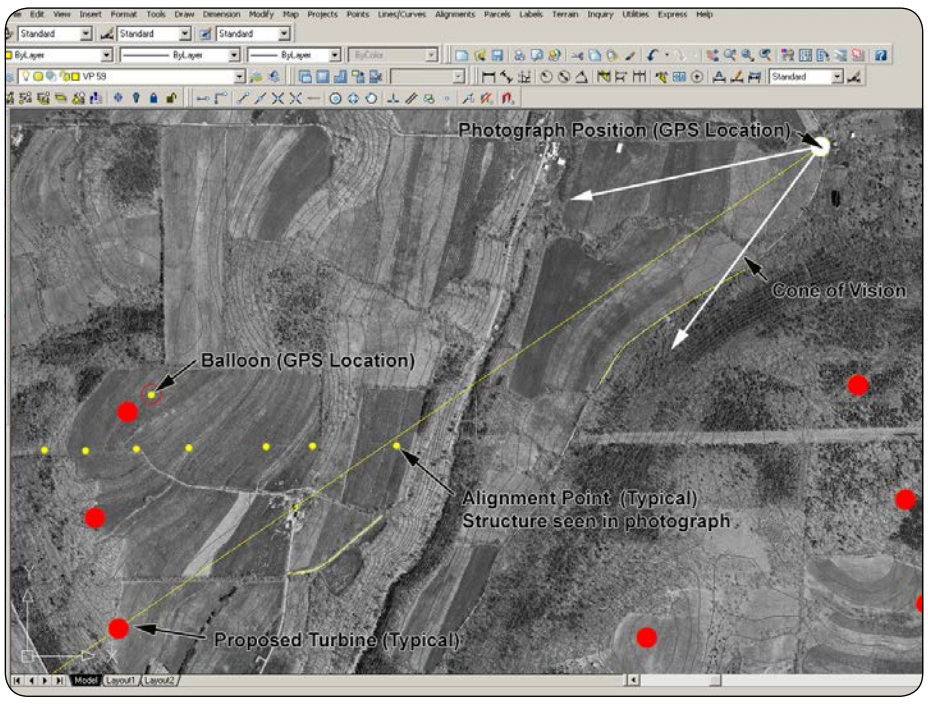
- Simulation Viewpoint
- SEIS2 Wind Turbine
- SEIS2 Alternate Wind Turbine
- SEIS2 Generator Lead Line
- SEIS2 Substation
- SVRA2 Visual Study Area
- Town Boundary

Notes: 1. Basemap: Hillshade derived from10-meter resolution USGS DEM data. ESRI StreetMap North America, 2008.
2. This is a color graphic. Reproduction in grayscale may misrepresent the data.

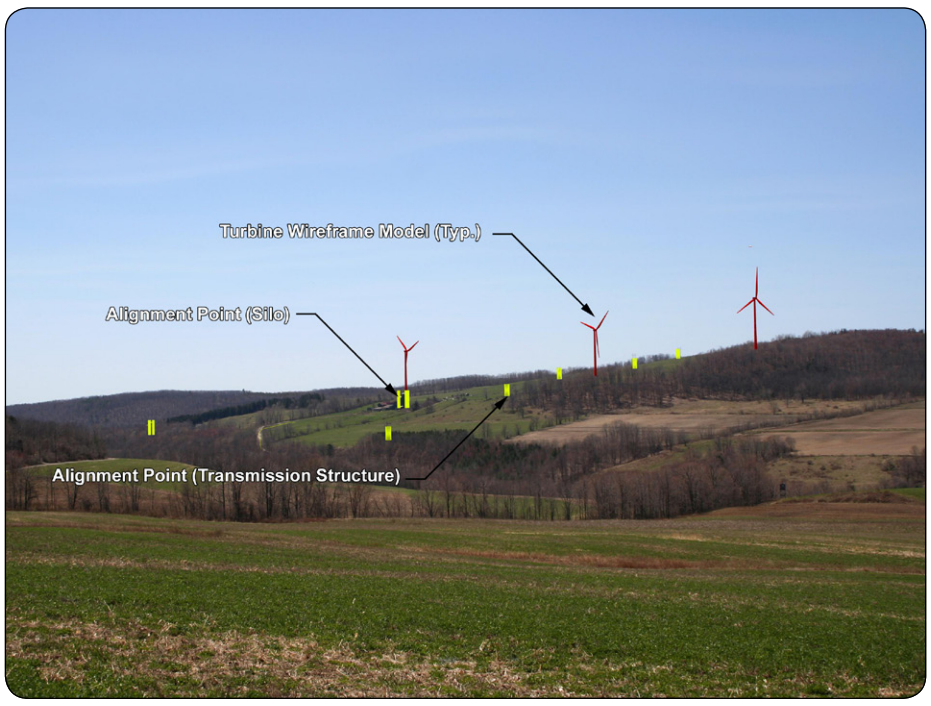
Photos are selected to illustrate typical views of the proposed project that will be available to representative viewer/user groups from the major landscape similarity zones and sensitive sites within the study area.



A three-dimensional computer model of the project is built based on proposed turbine specifications and tower site coordinates.



Aerial photographs and GPS data collected in the field are used to create an AutoCAD Civil 3D 2015® drawing.



These data are superimposed over photographs from each of the viewpoints, and minor camera changes are made to align all known reference points within the view.

A digital terrain model representing the existing topography is also overlayed on the existing photograph to refine camera alignment, and target elevation.

The proposed exterior color/finish of the turbines was then added to the model and the appropriate sun angle is simulated based on the specific date, time and location (latitude and longitude) at which each photo was taken.

Arkwright Summit Wind Farm

Towns of Arkwright and Pomfret, Chautauqua County, New York

Figure 8: Visual Simulation Methodology

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Note: Images in this figure are not from the Arkwright Summit Wind Farm

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Viewpoint - 1
NYS Route 83
& Center Road
SVRA (Simulation 2009)
Direction of View: Northwest

Viewpoint - 1
NYS Route 83
& Center Road
SVRA2 (Simulation 2015)
Direction of View: Northwest

Viewpoint - 2A
Straight Road
& Center Road
SVRA (Simulation 2009)
Direction of View: West

Viewpoint - 2A
Straight Road
& Center Road
SVRA2 (Simulation 2015)
Direction of View: West

Viewpoint - 2B
Straight Road
& Center Road
SVRA (Simulation 2009)
Direction of View: Southwest

Viewpoint - 2B
Straight Road
& Center Road
SVRA2 (Simulation 2015)
Direction of View: Southwest

Viewpoint - 3
Arkwright Town Hall
SVRA (Simulation 2009)
Direction of View: South

Viewpoint - 3
Arkwright Town Hall
SVRA2 (Simulation 2015)
Direction of View: South

Viewpoint - 4
Arkwright Hills Campground
(Entrance from NYS Route 83)
SVRA (Simulation 2009)
Direction of View: Northeast

Viewpoint - 4
Arkwright Hills Campground
(Entrance from NYS Route 83)
SVRA2 (Simulation 2015)
Direction of View: Northeast

Viewpoint - 5A
Meadows Road &
NYS Route 83
SVRA (Simulation 2009)
Direction of View: Southwest

Viewpoint - 5A
Meadows Road &
NYS Route 83
SVRA2 (Simulation 2015)
Direction of View: Southwest

Viewpoint - 5B
Meadows Road &
NYS Route 83
SVRA (Simulation 2009)
Direction of View: Southwest

Viewpoint - 5B
Meadows Road &
NYS Route 83
SVRA2 (Simulation 2015)
Direction of View: Southwest

Viewpoint - 6
Meadows Road & Center Road
SVRA (Simulation 2009)
Direction of View: East

Viewpoint - 6
Meadows Road & Center Road
SVRA2 (Simulation 2015)
Direction of View: East

Viewpoint - 7
Ruttenburg Road &
Farrington Hollow Road
SVRA (Simulation 2009)
Direction of View: Southeast

Viewpoint - 7
Ruttenburg Road &
Farrington Hollow Road
SVRA2 (Existing photo)
Direction of View: Southeast

Viewpoint - 8A
Ruttenburg Road & Rood Road
SVRA (Simulation 2009)
Direction of View: Northeast

Viewpoint - 8A
Ruttenburg Road & Rood Road
SVRA2 (Existing Photo)
Direction of View: Northeast

Viewpoint - 8B
Ruttenburg Road & Rood Road
SVRA (Simulation 2009)
Direction of View: Northeast

Viewpoint - 8B
Ruttenburg Road & Rood Road
SVRA2 (Existing Photo)
Direction of View: Northeast

Viewpoint - 9A
Ball Road & Center Road
SVRA (Simulation 2009)
Direction of View: Southeast

Viewpoint - 9A
Ball Road & Center Road
SVRA2 (Simulation 2015)
Direction of View: Southeast

Note: Existing Met Tower to be Removed.

Viewpoint - 9B
Ball Road & Center Road
SVRA (Simulation 2009)
Direction of View: Southeast

Viewpoint - 9B
Ball Road & Center Road
SVRA2 (Simulation 2015)
Direction of View: Southeast

Note: Existing Met Tower to be Removed.

Viewpoint - 10
Weaver Road
& Center Road
SVRA (Simulation 2009)
Direction of View: Southwest

Viewpoint - 10
Weaver Road
& Center Road
SVRA2 (Simulation 2015)
Direction of View: Southwest

Viewpoint - 11
Corner of Cable Road
& Miller Road
SVRA (Simulation 2009)
Direction of View: Northeast

Viewpoint - 11
Corner of Cable Road
& Miller Road
SVRA2 (Simulation 2015)
Direction of View: Northeast

Viewpoint - 12A
Straight Road
SVRA (Simulation 2009)
Direction of View: Southwest

Viewpoint - 12A
Straight Road
SVRA2 (Simulation 2015)
Direction of View: Southwest

Note: Existing Antenna Tower Not Part of Project

Viewpoint - 12B
Straight Road
SVRA (Simulation 2009)
Direction of View: West

Viewpoint - 12B
Straight Road
SVRA2 (Simulation 2015)
Direction of View: West

Note: Existing Antenna Tower Not Part of Project

Viewpoint - 12C
Straight Road
SVRA (Simulation 2009)
Direction of View: Northwest

Viewpoint - 12C
Straight Road
SVRA2 (Simulation 2015)
Direction of View: Northwest

Viewpoint - 13A
Ball Road
SVRA (Simulation 2009)
Direction of View: North

Viewpoint - 13A
Ball Road
SVRA2 (Simulation 2015)
Direction of View: North

Note: Existing Antenna Towers Not Part of Project

Viewpoint - 13B
Ball Road
SVRA (Simulation 2009)
Direction of View: Northeast

Viewpoint - 13B
Ball Road
SVRA2 (Simulation 2015)
Direction of View: Northeast

Note: Existing Antenna Towers Not Part of Project

Viewpoint - 13C
Ball Road
SVRA (Simulation 2009)
Direction of View: Northeast

Viewpoint - 13C
Ball Road
SVRA2 (Simulation 2015)
Direction of View: Northeast

Viewpoint - 13D
Ball Road
SVRA (Simulation 2009)
Direction of View: East

Viewpoint - 13D
Ball Road
SVRA2 (Simulation 2015)
Direction of View: East

Viewpoint - 13E
Ball Road
SVRA (Simulation 2009)
Direction of View: East

Viewpoint - 13E
Ball Road
SVRA2 (Simulation 2015)
Direction of View: East

Note: Existing Antenna Towers Not Part of Project

Viewpoint - 13F
Ball Road
SVRA (Simulation 2009)
Direction of View: Southeast

Viewpoint - 13F
Ball Road
SVRA2 (Simulation 2015)
Direction of View: Southeast

Viewpoint - 14
Farrington Hollow Road
SVRA (Simulation 2009)
Direction of View: Northwest

Viewpoint - 14
Farrington Hollow Road
SVRA2 (Existing Photo)
Direction of View: Northwest

Viewpoint - 15
NYS Route 83
SVRA (Simulation 2009)
Direction of View: West

Viewpoint - 15
NYS Route 83
SVRA2 (Simulation 2015)
Direction of View: West

EXISTING

PROPOSED

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 10: Visual Simulations - Additional Viewpoints

September 2015

Sheet 1 of 1: Proposed view from Skinner Road facing Southeast

SVRA2 Viewpoint 14 Alternative

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 10: Visual Simulations - Additional Viewpoints

September 2015

Sheet 1 of 2: Existing view from
Dunkirk Lighthouse, facing Southeast

SVRA2 Viewpoint 16

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 10: Visual Simulations - Additional Viewpoints

September 2015

Sheet 2 of 2: Proposed view from Dunkirk Lighthouse, facing Southeast

SVRA2 Viewpoint 16

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 10: Visual Simulations - Additional Viewpoints

September 2015

Sheet 1 of 2: Existing view from Dunkirk Harbor parking lot, facing Southeast

SVRA2 Viewpoint 17

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 10: Visual Simulations - Additional Viewpoints

September 2015

Sheet 2 of 2: Proposed view from Dunkirk Harbor parking lot, facing Southeast

SVRA2 Viewpoint 17

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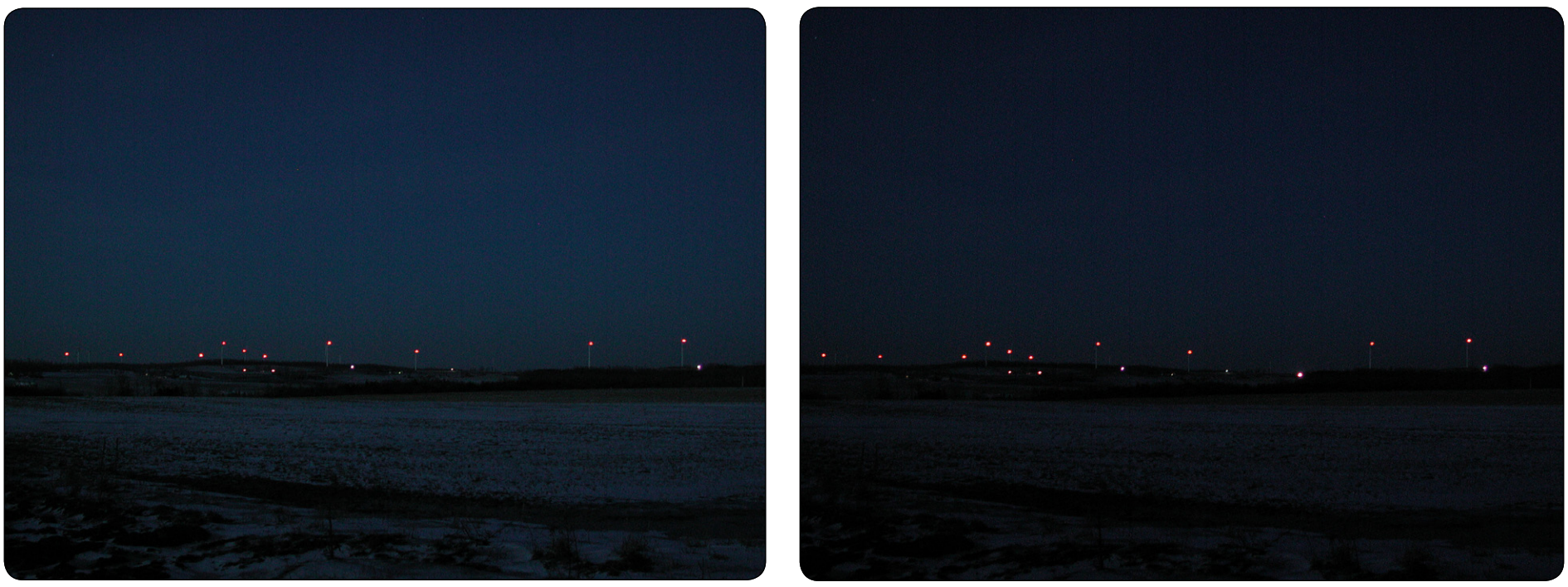
Photo 01
Typical Substation

Photo 02
Typical Substation



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Towns of Arkwright and Pomfret - Chautauqua County, New York

Figure 12: Representative Evening/Nighttime Photos

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Note: Images in this figure are not from the Arkwright Summit Wind Farm

Appendix A: Sensitive Site Inventory

Arkwright Summit Wind Farm

Towns of Arkwright and Pomfret - Chautauqua County, New York

Appendix A: Visually Sensitive Resources and Viewshed Analysis

September 2015

- SEIS2 Wind Turbine
- SEIS2 Alternate Wind Turbine
- Hamlet
- Waterfall
- Eastside Overland Trail Lean-to
- Earl Cardot East Side Overland Trail
- Bits-N-Spurs Trail
- Snowmobile Trail
- NRHP Listed Site
- State WMA
- Other Local Resources
- School and College
- Cemetery
- Campground
- Local Park
- State Forest
- Winery
- WNY Land Conservancy
- NYS Heritage Area
- Potential Project Visibility
- Visual Study Area
- City/Village
- Town Boundary
- County Boundary

Notes:
1. Basemap: ESRI StreetMap North America, 2008.
2. Potential turbine visibility based on topography and potential screening by mapped forest vegetation (with an assumed height of 40 ft).
3. Viewshed analysis based on a maximum blade tip height of 150 meters.
4. This is a color graphic. Reproduction in grayscale may misrepresent the data.

0 0.5 1 2 Miles

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Appendix B: SVRA2 Visual Simulations

Arkwright Summit Wind Farm

Towns of Arkwright and Pomfret - Chautauqua County, New York

Appendix B: SVRA2 Viewpoint 1

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Sheet 1 of 2: Existing view from Center Road, facing Northwest

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Appendix B: SVRA2 Viewpoint 1

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Sheet 2 of 2: Proposed view from Center Road, facing Northwest

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Towns of Arkwright and Pomfret - Chautauqua County, New York

Appendix B: SVRA2 Viewpoint 2A

September 2015

Sheet 1 of 2: Existing view from Center Road, facing Southwest

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Appendix B: SVRA2 Viewpoint 2A

September 2015

Sheet 2 of 2: Proposed view from Center Road, facing Southwest

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Appendix B: SVRA2 Viewpoint 2B

September 2015

Sheet 1 of 2: Existing view from Center Road, facing South-Southwest

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Appendix B: SVRA2 Viewpoint 2B

September 2015

Sheet 2 of 2: Proposed view from Center Road, facing South-Southwest

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Appendix B: SVRA2 Viewpoint 3

September 2015

Sheet 1 of 2: Existing view from Center Road, facing South

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Appendix B: SVRA2 Viewpoint 3

September 2015

Sheet 2 of 2: Proposed view from Center Road, facing South

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Appendix B: SVRA2 Viewpoint 4

September 2015

Sheet 1 of 2: Existing view from Route 83, facing Northeast

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Appendix B: SVRA2 Viewpoint 4

September 2015

Sheet 2 of 2: Proposed view from Route 83, facing Northeast

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Appendix B: SVRA2 Viewpoint 5A

September 2015

Sheet 1 of 2: Existing view from Creek Road, facing Southwest

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Appendix B: SVRA2 Viewpoint 5A

September 2015

Sheet 2 of 2: Proposed view from Creek Road, facing Southwest

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Appendix B: SVRA2 Viewpoint 5B

September 2015

Sheet 1 of 2: Existing view from Creek Road, facing West-Southwest

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Appendix B: SVRA2 Viewpoint 5B

September 2015

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Appendix B: SVRA2 Viewpoint 6

September 2015

Sheet 1 of 2: Existing view from Meadows Road, facing East

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Appendix B: SVRA2 Viewpoint 6

September 2015

Sheet 2 of 2: Proposed view from Meadows Road, facing East

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Appendix B: SVRA2 Viewpoint 9A

September 2015

Sheet 1 of 2: Existing view from Center Road, facing East

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Appendix B: SVRA2 Viewpoint 9A

September 2015

Sheet 2 of 2: Proposed view from Center Road, facing East

Note: Existing Met Tower to be Removed.

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Appendix B: SVRA2 Viewpoint 9B

September 2015

Sheet 1 of 2: Existing view from Center Road, facing Southeast

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Appendix B: SVRA2 Viewpoint 9B

September 2015

Sheet 2 of 2: Proposed view from Center Road, facing Southeast

Note: Existing Met Tower to be Removed.

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Appendix B: SVRA2 Viewpoint 10

September 2015

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Appendix B: SVRA2 Viewpoint 10

September 2015

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Appendix B: SVRA2 Viewpoint 11

September 2015

Sheet 1 of 2: Existing view from the corner of Cable Road and Miller Road, facing Northeast

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Appendix B: SVRA2 Viewpoint 11

September 2015

Sheet 2 of 2: Proposed view from the corner of Cable Road and Miller Road, facing Northeast

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Appendix B: SVRA2 Viewpoint 12A

September 2015

Sheet 1 of 2: Existing view from Straight Road, facing South-Southwest

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Appendix B: SVRA2 Viewpoint 12B

September 2015

Sheet 2 of 2: Proposed view from Straight Road, facing South-Southwest

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Appendix B: SVRA2 Viewpoint 12B

September 2015

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Appendix B: SVRA2 Viewpoint 12B

September 2015

Sheet 2 of 2: Proposed view from Straight Road, facing Southwest

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Appendix B: SVRA2 Viewpoint 12C

September 2015

Sheet 1 of 2: Existing view from Straight Road, facing West

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Appendix B: SVRA2 Viewpoint 12C

September 2015

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Appendix B: SVRA2 Viewpoint 13A

September 2015

Sheet 1 of 2: Existing view from Ball Road, facing North

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Appendix B: SVRA2 Viewpoint 13A

September 2015

Sheet 2 of 2: Proposed view from Ball Road, facing North

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Appendix B: SVRA2 Viewpoint 13B

September 2015

Sheet 1 of 2: Existing view from Ball Road, facing North-Northeast

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Appendix B: SVRA2 Viewpoint 13B

September 2015

Sheet 2 of 2: Proposed view from Ball Road, facing North-Northeast

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Appendix B: SVRA2 Viewpoint 13C

September 2015

Sheet 1 of 2: Existing view from Ball Road, facing Northeast

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Appendix B: SVRA2 Viewpoint 13C

September 2015

Sheet 2 of 2: Proposed view from Ball Road, facing Northeast

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Appendix B: SVRA2 Viewpoint 13D

September 2015

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Appendix B: SVRA2 Viewpoint 13D

September 2015

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Appendix B: SVRA2 Viewpoint 13E

September 2015

Sheet 1 of 2: Existing view from Ball Road, facing East-Southeast

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Appendix B: SVRA2 Viewpoint 13E

September 2015

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Appendix B: SVRA2 Viewpoint 13F

September 2015

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Appendix B: SVRA2 Viewpoint 13F

September 2015

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EXISTING

PROPOSED

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Appendix B: SVRA2 Viewpoint 14 Alternative

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Sheet 1 of 1: Proposed view from Skiner Road facing Southeast

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Appendix B: SVRA2 Viewpoint 15

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Appendix B: SVRA2 Viewpoint 15

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Appendix B: SVRA2 Viewpoint 16

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Sheet 1 of 2: Existing view from Dunkirk Lighthouse, facing Southeast

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Appendix B: SVRA2 Viewpoint 16

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Sheet 2 of 2: Proposed view from Dunkirk Lighthouse, facing Southeast

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Appendix B: SVRA2 Viewpoint 17

September 2015

Sheet 1 of 2: Existing view from Dunkirk Harbor parking lot, facing Southeast

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Appendix B: SVRA2 Viewpoint 17

September 2015

Sheet 2 of 2: Proposed view from Dunkirk Harbor parking lot, facing Southeast

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