# VISUAL IMPACT ASSESSMENT

## Marble River Wind Farm

**Towns of Clinton and Ellenburg, Clinton County, New York**


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## INTRODUCTION

Environmental Design & Research, Landscape Architecture, Environmental Services, Engineering and Surveying, P.C. (EDR) was retained by Marble River, LLC to prepare a Visual Impact Assessment (VIA) for the proposed Marble River Wind Farm (the project) in the Towns of Clinton and Ellenburg, New York. The purpose of this VIA is to: 1) describe the appearance of the visible components of the proposed project, 2) define the visual character of the project study area, 3) inventory and evaluate existing visual resources and viewer groups within the study area, 4) evaluate potential project visibility, 5) identify key views for visual impact assessment, and 6) assess the visual impacts associated with the proposed action. This VIA was prepared under the direct guidance of a registered landscape architect experienced in the preparation of visual impact assessments. It is also consistent with the policies, procedures, and guidelines contained in established visual impact assessment methodologies (see Literature Cited/References section).

## PROJECT DESCRIPTION

### Project Site

The proposed project area includes approximately 19,310 acres of leased private land in the Towns of Clinton and Ellenburg in Clinton County, New York. The site is in the vicinity of the Hamlet of Churubusco, and is bordered by County Line Road to the west, West Hill Road to the south, Canaan Road to the east, and the U.S./Canadian Border to the north (Figure 1). It is approximately 5.1 miles east of the Village of Chateagay, 1.2 miles northwest of the Hamlet of Ellenburg Center, and 3.2 miles west of the Hamlet of Ellenburg (Ellenburg Corners), as measured to the nearest turbine. The Adirondack Park boundary ("blue line") lies approximately 1,800 feet south of the nearest proposed turbine. Land use within the area is dominated by active farms, managed forestland, and single-family rural residences that generally occur along the road frontage. The central and southern portions of the project area are characterized by active and reverting agricultural land, while the northern portion of the site is dominated by undeveloped wetlands and intensively managed (logged) forestland.

### Proposed Project

The proposed project is a 218-megawatt (MW) wind power facility, consisting of approximately 109 2.0-megawatt (MW) wind turbines and associated support facilities. Eighty-nine of these turbines are proposed for the Town of Clinton, and 20 in the Town of Ellenburg. The proposed substation is located in the south central portion of the site in a wooded area, approximately 2,500 feet east of Patnode Road and immediately north of the New York Power Authority (NYPA) transmission line (Figure 2).

The specific components of the project are outlined below:

<u>Wind Turbines</u>

The type of wind turbine anticipated to be used on the project is the 2.0 MW G-90 turbine manufactured by Gamesa Eolica. Each turbine consists of three major components; a tubular steel tower; a three-bladed rotor; and a nacelle. A description of these components is provided below:

> *Towers:* The tubular steel towers are manufactured in multiple sections and assembled on site. Finished tower height on this project is proposed to be 78 meters (256 feet). The towers have a base diameter of approximately 13 feet and a top diameter of 7.5 feet and are

installed on an exposed concrete pedestal that connects to a buried concrete foundation. They are painted white and include no exterior ladders or catwalks.

*Nacelle:* The tower is topped by the nacelle, which is approximately 10 feet wide, by 12 feet high, by 31 feet long, and connects with the rotor hub. The nacelle houses all of the turbine's mechanical components, including the generator, gearbox, power train, and transformers. For the purposes of this study it is assumed that the majority of the nacelles (i.e., those along the project perimeter) will be equipped with aviation warning lights, currently anticipated to be synchronized flashing red, and operated only at night. It is also assumed that the nacelle will include no obvious lettering, logo, or other exterior marking.

*Rotor:* The turbine rotor on this project is proposed to be 90 meters (295 feet) in diameter. the rotor consists of three 44 meter (144 foot) long composite blades that are pitched, or rotated along their axis, to operate with the greatest efficiency in varying wind conditions. The blades are white in color, and connect to the nacelle at the rotor hub.

With the rotor blade oriented straight up, each turbine is assumed to have a maximum height of approximately 410 feet (125 meters), including the concrete pedestal and any site grading. A computer model illustrating the appearance of the proposed turbine is shown in Appendix A.

Electrical System

Two distinct components make up the project's electrical system; the collector system and the substation facility. The collector system collects the power from each wind turbine and directs it to the substation where it is transformed (stepped-up) and connected to the regional power grid. These components are described below:

*Collector System:* The individual turbines will be connected to each other and to the project substation by a system of underground electric cables. Within the project site, approximately 55 miles of cable will be installed, generally running parallel to proposed project access roads and along field edges. Between individual turbine groups, the cable will cross agricultural fields, forested areas and run within existing public road right-of-way (ROW). For the purposes of this study, it is assumed that no new overhead lines or above-ground structures will be required as part of the collector system.

*Substation Facility:* The turbines will feed electricity into two new 34.5 kV collection stations, each approximately 136 feet by 173 feet in size. These will connect to a new 267-foot by 690-foot point-of-interconnection station immediately north of the NYPA 230 kV transmission line ROW, approximately 2,500 feet east of Patnode Road in the Town of Clinton. The new substation facility will be located in a forested area, approximately 3,000 feet from the nearest residence. The stations will be surrounded by a chain link fence and will include transformers, breakers, towers, cable carriers, and related structures. A control house and parking area will be built between the two collector stations, and accessed by a new gravel access road. Because of its location in a forested area, its modest height, and its distance from potential viewers, the substation facility should not be a visually significant component of the project, and therefore was not evaluated as part of this VIA.

Service Roads

Approximately 41 miles of new or improved access roads will provide construction and maintenance access to the wind turbines. The finished roads will be gravel surfaced and approximately 20 feet wide. Wherever possible existing public roads, unimproved forest roads, and farm lanes will be utilized (and upgraded as necessary) to provide turbine access.

The layout of proposed project components on the site is illustrated in Figure 2.

## EXISTING VISUAL CHARACTER

Based on established visual assessment methodology (NYSDEC, not dated) the visual study area for the project was defined as the area within a 5-mile radius of each of the proposed turbines, and includes 155 square miles in Clinton County, 40 square miles in Franklin County, and 65 square miles in the Province of Quebec, Canada. This visual study area is illustrated in Figure 3.

### Physiographic/Visual Setting

Landform and Vegetation

The visual study area straddles three physiographic regions of New York State; the Champlain Transition, Western Adirondacks Transition, and the Western Adirondack Foothills (Reschke, 1990). A steep slope runs along the U.S./Canadian border, and transitions to an elevated, rolling plateau in the central portion of the study area, which then rises in elevation along the rolling foothills of the Adirondacks to the south. Areas north of the border are characterized by the level to gently rolling topography of the St. Lawrence Valley. Elevations within the study area range from approximately 1,215 to 2,705 feet above sea level.

Vegetation within the study area is a roughly 50:50 mix of open fields and forest. Open fields, including active and inactive cropland, pasture, successional old fields and herbaceous wetlands (marshes and wet meadows) occur primarily in the central portion of the study area. Forest vegetation is a mix of deciduous trees (northern hardwoods and aspen) and conifers (balsam fir, white cedar, and white pine). In the central portion of the study area, mature trees are typically found in hedgerows, woodlots, and wooded wetlands. A large area of intensively managed (logged) forest, interspersed with marshes and wooded swamps is found in the northeast portion of the study area, adjacent to the U.S./Canadian border. Vegetation in this area is dominated by regenerating saplings and pole-sized trees generally less than 40 feet in height. However, conditions range from active clear cuts to successional stands approaching maturity. Common tree species include gray birch, big-toothed aspen, and red maple. The Adirondack Park occurs in the southern portion of the study area, and also includes significant areas of forestland. However, the vast majority of this land (with the exception of Moon Pond State Forest and some small parcels of Forest Preserve land) is in private ownership. Public road access in the more heavily forested portions of the study area is limited. The most northerly portion of the study area extends into Quebec, Canada, in the southwestern portion of the Montérégie Region. A well-defined, primarily wooded slope extends east-west across the study area just north of the border. The slope terminates to the north in the St. Lawrence Valley, which is characterized by more open agricultural areas. Vegetation is similar to that seen on the U.S. side of the border, although large apple farms are located along the base of the ridge in the Canadian portion of the study area.

Land Use

Land use within the study area is a combination of agricultural land, rural residences, and large areas of undeveloped forest and wetland. Forestland includes protected Forest Preserve lands as well as intensively managed private timberlands. Dairy farming is the primary agricultural land use, with maple sugar, apple production, lumber and wood products also constituting important agricultural industries. Higher density residential and commercial development occurs along portions of U.S. Route 11 and State Route 190. The Village of Chateaugay (just outside the 5-mile radius study area) and the Hamlets of Churubusco, Ellenburg, Ellenburg Center, and Ellenburg Depot (and the areas immediately surrounding them) also have a much higher concentration of residential and

commercial uses. The Village of Chateaugay has a well-defined central business district with surrounding residential neighborhoods. The hamlets are relatively small, well-defined components of the rural/agricultural landscape and typically occur at the intersections of major travel routes. Outside of the village and hamlet areas, commercial/institutional uses within the study area include correctional facilities, and small roadside business such as diners, convenience stores, and automobile/farm machinery dealerships. Land use in the Canadian portion of the study area includes forestland, apple orchards, residential estates, rural villages, and crop and dairy farms. This area is known as the Montérégie Region, and is part of the "Le Circuit du Paysan" tourism circuit, which promotes the past and present rural and agricultural life of the region. The circuit takes travelers to multiple hamlets and villages within the study area, including the Hamlets of Rockburn, Franklin, Havelock and Village of Saint Antoine-Abbé. These villages are well-defined nodes of residential and commercial land use within the rural/agricultural landscape. Tourist-related businesses in this area are focused on the apple industry, local artisans, horse breeders, and associated restaurants and inns.

Water Features

Water features within the visual study area include several water bodies (lakes, ponds, rivers, streams, and wetlands) that are important features of the landscape. The most significant water bodies include the Chateaugay River, Lower Chateaugay Lake, the North Branch of the Great Chazy River, and Lake Roxanne. The visual significance of these water bodies is limited due to their location at the periphery of the study area, on private land, and/or within forested settings. Other water features include the expansive beaver marshes, bogs, and wooded wetlands that occur in the northern U.S. portion of the study area. These wetlands, although often remote and not publicly accessible, are important components of the visual landscape and offer character-defining views in some locations. There are no major water features within the Canadian portion of the study area.

**Landscape Similarity Zones**

Within the visual study area, three distinct landscape similarity zones (LSZ) were defined. Examples of these zones are illustrated in Figure 4. The general landscape character of these zones, along with their use and potential views to the proposed project are described below.

Zone 1. Rural /Agricultural Zone

This zone occurs primarily in the west-central U.S and Canadian portions of the visual study area. It is characterized by open agricultural land with widely dispersed farms and rural residences along a network of rural roads. Active agricultural fields (corn, hay, pasture, and in Canada, apple orchards) bounded by hedgerows and scattered woodlots dominate the landscape. Land form within this zone consists primarily of level to gently rolling plateaus and valleys, but also includes a sloping ridge along the U.S./Canadian border and more rolling terrain at the base of the Adirondack foothills to the south. The Canadian valley condition extends to the Saint Lawrence River, allowing long-distance views across the agricultural landscape to the City of Montreal. Long-distance, panoramic views are also available from elevated portions of Star Road (Route 190) and other roads in the south central portion of this zone. Views typically include a patchwork of fields and woodlots, punctuated by houses, barns, and silos. Livestock and working farm equipment are often seen in the fields. Views in this zone also occasionally include roadside commercial development and communication towers. Examples of this landscape occur throughout the visual study area, especially outside the hamlets of Churubusco and Ellenburg Depot, and around the Canadian Villages of Havelock and Franklin. Due to the abundance of open fields, foreground (<0.5 mile), mid-ground (0.5-3.0 miles), and background (>3.5 miles) views of the proposed project will be available from many areas within the rural/agricultural zone.

Zone 2. Village/Hamlet Zone

This zone includes the larger hamlets and villages in both the U.S. and Canadian portions of the study area. This zone is characterized by moderate to high-density residential and (limited) commercial development. Vegetation and landform may contribute to visual character in this zone, but buildings (typically 1-3 stories tall) and other man-made features dominate the landscape. These features can be highly variable in their size, architectural style, and arrangement. However, they are typically arranged along an organized street pattern that tends to screen outward views and focus views along the streets or crossroads. In some areas, street and yard trees also help to enclose and screen views within this zone. However, at the periphery of this zone, and in most of the smaller hamlets, outward views to the greater landscape are available. Examples of this zone include the U.S. Village of Chataeugay and Hamlets of Churubusco and Ellenburg, and the Canadian Hamlet of Franklin and Village of Saint Antione-Abbé.

Zone 3. Forestland Zone

Forestland is another major Landscape Similarity Zone within the visual study area. It is characterized by the dominance of native forest vegetation (mixed deciduous and coniferous tree species) in various stages of regeneration/maturity. The forestland zone occurs primarily in the northeastern and southern portions of the U.S. study area. It includes upland forest, as well as forested wetlands, beaver marshes and ponds. This zone is made up primarily of private forest land, much of which has been logged and is currently dominated by young saplings and pole-sized trees (primarily gray birch, big-toothed aspen, and red maple). This zone also includes woodlots scattered throughout the central portion the study area, and a wooded slope that runs along the U.S./Canadian border. Views in the forestland zone are typically limited due to the screening provided by overstory trees. Views are generally restricted to areas where small clearings, wetlands, ponds, and road cuts provide breaks in the tree canopy. Where long distance views are available, they are typically of short duration, limited distance, and/or framed by trees. Land use in this zone includes forestry, low-density residential, and recreational use (hunting, snowmobiling, etc.). Prime examples of this zone include large tracts of managed forestland northeast of the hamlet of Churubusco in the Town of Clinton, and Adirondack Park lands in the Town of Ellenburg. These forested areas include private lands with limited public access, as well as public Forest Preserve lands.

**Viewer/User Groups**

Three categories of viewer/user groups were identified within the visual study area. These include the following:

Local Residents

Local residents include those who live and work within the study area. They generally view the landscape from their yards, homes, local roads, and places of employment. Residents are concentrated in the villages and hamlets, but occur throughout the study area (although minimally in the forested northeastern and southern portions). Except when involved in local travel, these viewers are likely to be stationary, and have frequent or prolonged views of the landscape. Local residents may view the landscape from ground level or from the upper floors/stories of homes and buildings. Residents' sensitivity to visual quality is variable, and may be tempered by the aesthetic character/setting of their neighborhood or work place. For example, residents with a view of existing commercial facilities may be less sensitive to landscape changes than those with a view of open farmland or undisturbed forest. It is assumed, however, that all residents are familiar with the local landscape and may be very sensitive to changes in particular views that are important to them.

Commuters/Through-Travelers

Commuters and travelers passing through the area view the landscape from motor vehicles on their way to work or other destinations. This group is concentrated on the major roads that traverse the study area, including U.S. Route 11 and Canadian Highway 202. Commuters and through-travelers are typically moving, have a relatively narrow field of view, and are destination oriented. For the most part, a driver's attention is focused on the road and traffic conditions, but they do have the opportunity to observe roadside scenery. Certain sections of Route 190, which are elevated and bordered by agricultural fields, offer drivers expansive views to the St. Lawrence Valley to the north, and the Adirondacks to the south. Travelers along other roads within the study area will generally have more limited views due to the flat terrain and abundance of roadside trees. Passengers in moving vehicles will have greater opportunities for prolonged off-road views than will drivers, and accordingly, may have greater perception of changes in the visual environment than drivers.

Tourists/Vacationers

Tourists and vacationers come to the area for the purpose of experiencing its cultural, scenic, or recreational resources. These viewers include hikers, hunters, fishermen and sight-seers involved in passive or active outdoor recreation activities. They may view the landscape on their way to a destination or from the destination itself. Some, such as weekend and seasonal home owners, may spend extended time in the area. Tourists' and vacationers' sensitivity to visual quality and landscape character will be variable (depending on their reason for visiting the area), although this group is generally considered to have relatively high sensitivity to aesthetic quality and landscape character. This group may be passing through the study area on various local roads, including the Military Trail Scenic Byway, and the Circuit du Paysan in Canada. This group will also view the landscape from public land and other recreational destinations both in and adjacent to the study area. However, the forested character of most public and private recreation areas generally limits long-distance visibility from these sites.

**Visually Sensitive Resources**

The visual study area includes several sites that the New York State Department of Environmental Conservation (NYSDEC) Visual Policy (DEP-00-2) considers scenic resources of statewide significance (NYSDEC, 2000). These include the following:

Sites listed on the National or State Register of Historic Places:

The study area includes only one site that is currently listed on the State and National Register of Historic Places (NYSOPRHP Website). This site is the Adirondack Forest Preserve in the Town of Ellenburg. Approximately 31,000 acres of the Park fall within the 5-mile radius visual study area. The Phase 1A Cultural Resources Survey conducted for the project (Heaton, 2006) also concluded that there are no structures or properties eligible for listing on the State or National Register within 5 miles of the project area. However, this survey indicated that local historians have identified the Immaculate Heart of Mary Catholic Church, the former school house, and town hall in Churubusco as locally significant structures.

State Parks: NONE IN THE STUDY AREA (Adirondack Park discussed below)

Urban Cultural Parks: NONE IN THE STUDY AREA

State Forest Preserve*:*

The central and eastern portion of the study area includes several areas of state Forest Preserve land located outside of the Adirondack Park. These isolated parcels are located in the Towns of Clinton and Mooers, and do not include any recreational or public access features.

National Wildlife Refuges: NONE IN THE STUDY AREA

State Wildlife Management Areas: NONE IN THE STUDY AREA

National Natural Landmarks*:* NONE IN THE STUDY AREA

National Park System Lands: NONE IN THE STUDY AREA

Wild, Scenic and Recreational Rivers*:* NONE IN THE STUDY AREA

A 12.3 mile segment of the Salmon River in the Town of Belmont is the nearest river included within the NYS Wild, Scenic and Recreational River System (ECL Title 27, Article 15). This Recreational river is approximately 15 miles from the nearest proposed turbine.

Designated Scenic Roads/Byways:

1. Military Trail Scenic Byway – This 84-mile stretch of State Route 37 and U.S. Route 11, connects Massena and Rouses Point along the historic military route used to transport troops and equipment along the Canadian border, between the Saint Lawrence River and Lake Champlain.

2. Le Circuit du Paysan – This 194-km (121-mile) scenic roadway traverses the southwestern portion of the Montérégie Region, in the Province of Quebec, Canada between the Richelieu River and Lake Saint-Francis. Multiple provincial routes and roadways make up the circuit, including Provincial Routes 15, 202, 209, 221, and Ch. De la Riv. Châteauguay N., Ch. De Covey Hill, and Ch. De la Riv.-Des-Anglais.

Designated Scenic Sites/Overlooks*:* SEE BELOW (Under Adirondack Park Lands and Scenic Vistas)

State or Federal Designated Trails*:*

The study area does not include any state or federal designated trails. The two nearest trails within the Adirondack Park include the following:

1. Lyon Mountain Trail – Approximately 6 miles south of the study area boundary. The 2.5-mile hiking trail is located on private property, but is available for use by the public. The trail begins at the Chazy Lake parking area and terminates at the Lyon Mountain lookout tower. This trail accommodates both hiking and snowshoeing activities.

2. DeBar Game Management Area Trail and Beaver Valley Trail – Approximately 15 miles southwest of the study area boundary. Approximately 13 miles of hiking trails occur within the DeBar Mountain Wild Forest area, beginning at the State Route 26 parking area and terminating at the DeBar Mountain Trail junction. These multi-use trails allow hiking, biking, horseback riding, snowshoeing, cross-country skiing, and snowmobiling.

Adirondack Park Lands and Scenic Vistas:

1. Approximately 31,000 acres of the visual study area falls within the Adirondack Park "blue line" in Clinton and Franklin County. Although within the Park, the vast majority of this land is in private ownership and not available for use by the public. The only public lands within this area are isolated parcels (included within the Debar Mountain Wild Forest) and Moon Pond State Forest. The Adirondack Park State Land Master Plan (APA, 2001) identifies a "potential" Adirondack Park scenic pull-off on County Route 54, near the Hamlet of Harrigan in the Town of Ellenburg. Other designated scenic vistas occur in valley areas near Owls Head and Lyon Mountain, over 11 miles from the nearest proposed turbine. The nearest open mountain top view is from the Lyon Mountain lookout tower (almost 12 miles from the nearest proposed turbine).

2. Adirondack Park Travel Corridors. These corridors are identified in the Adirondack Park State Land Master Plan (APA, 2001), and include the major travel corridors and principal segments of the local highway network that contribute to the visual integrity of the Park. Within the study area, these include:

    - State Route 190 – The Adirondack Park State Land Master Plan includes a reference to approximately 8-miles of State Route 190, from the northern park boundary line to State Route 374, as being an Adirondack Park travel corridor. However, map review indicates that only approximately 1,500 feet of State Route 190 occur within the park boundary near the Hamlet of Brainardsville.

    - State Route 374 – Approximately 27-miles from the northern park boundary to Dannemora. Approximately 4.5 miles of this corridor occur within the visual study area.

State Nature and Historic Preserve Areas: NONE IN THE STUDY AREA

Palisades Park Land: NONE IN THE STUDY AREA

Bond Act Properties (Exceptional Scenic Beauty, Open Space): NONE IN THE STUDY AREA

The Gulf State Unique Area (see below) was purchased utilizing 1972 Environmental Quality Bond Act funds due to its unique geology and wetlands (B. Barnard pers. comm.).

Beyond the scenic resources of statewide significance listed above, the visual study area also includes areas that are regionally or locally significant/sensitive. These include local parks and recreation facilities, public open space, population centers, and heavily used transportation corridors. The most significant of these are listed below:

State Forests and Unique Areas:

Along with the Forest Preserve lands described above, the study area also includes the Gulf State Unique Area (Flat Rock Gulf). This 627-acre NYSDEC property is located in the Town of Mooers (Clinton County), adjacent to the U.S./Canadian Border, off Rock Road. It includes a 2.6 mile hiking trail that extends through hardwood forest, pine barrens, and marshland to the Gulf. The Gulf is a rocky chasm with waterfalls that fall several hundred feet into the gulf. An additional hiking trail extends beyond the Gulf to the U.S./Canadian border, which is marked by a granite pillar. Hiking and cross-country skiing are the primary recreational activities that occur in this area.

Parks and Recreational Areas

The study area includes several additional park and recreational areas, including the following:

- Lake Roxanne – Town of Ellenburg
- North Branch Great Chazy River – Town of Ellenburg
- Blue Haven Campsite – Town of Ellenburg
- Ranch Side Park – Town of Ellenburg
- Chateaugay Fish Hatchery – Town of Chateaugay (Franklin County)
- Lower Chateaugay Lake – Town of Bellmont (Franklin County)

High Falls Park in the Town of Chateaugay (Franklin County) is located on the Chateaugay River, south of the Village of Chateaugay, just west of the study area boundary.

Areas of Intensive Land Use

Several settlements within the study area are considered visually sensitive due to the concentration of residential development in these areas and intensity of land use they receive. These include the following:

- Hamlet of Churubusco
- Hamlet of Ellenburg
- Hamlet of Ellenburg Center
- Hamlet of Ellenburg Depot
- Village of Chateaugay (Franklin County)
- Hamlet of Brainardsville (Franklin County)
- Hamlet of Rockburn (Quebec Province, Canada)
- Hamlet of Franklin (Quebec Province, Canada)
- Hamlet of Covey Hill (Quebec Province, Canada)
- Hamlet of Havelock (Quebec Province, Canada)
- Village of Saint-Antoine-Abbé (Quebec Province, Canada)

Transportation Corridors

The visual study area includes several highways that could be considered visually sensitive due to the number of drivers that travel these roads on a daily basis. According to the New York State Department of Transportation (NYSDOT) website, 2004 traffic counts indicate the following average annual daily traffic on these roads:

- US Route 11 from State Route 374 in the Village of Chateaugay through the Hamlets of Ellenberg and Ellenburg Depot, to Plank Road (County Road 8), averaged 21,600 vehicles per day.

- State Route 189 from the U.S./Canadian Border through the Hamlet of Churubusco to the junction of US Highway 11, northwest of the Town of Ellenburg, averaged 360 vehicles per day.

- State Route 190 from Plank Road (County Route 8) through the Hamlet of Ellenburg to the Clinton and Franklin County Line, to State Route 374 outside the Hamlet of Brainardsville, averaged 8,100 vehicles per day.

- State Route 374 from the U.S./Canadian Border through the Village of Chateaugay and junction of U.S. Route 11, to the Hamlet of Brainardsville, along Lower Chateaugay Lake to the Town of Bellmont at the Clinton and Franklin County Line, averaged 4,360 vehicles per day.

The locations of visually sensitive resources within the 5-mile radius study area are illustrated in Figure 5.

## VISUAL IMPACT ASSESSMENT METHODOLOGY

The Visual Impact Assessment (VIA) procedures used for 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, National Forest Service (1974), the U.S. Department of Transportation, Federal Highway Administration (1981), U.S. Army Corps of Engineers (Smardon, et al., 1988) and the NYS Department of Environmental Conservation (not dated). The specific techniques used to assess potential project visibility and visual impacts are described in the following section.

### Project Visibility

An analysis of project visibility was undertaken to identify those locations within the study area where there is potential for the proposed wind turbines to be seen from ground-level vantage points. This analysis included identifying potentially visible areas on viewshed maps, preparing technical cross sections, and verifying visibility in the field. The methodology employed for each of these assessment techniques is described below.

Viewshed Analysis

Viewshed maps for the study area were prepared using USGS digital elevation model (DEM) data (7.5-minute series) and the ArcView Spatial Analyst® computer program. Two 5-mile radius viewsheds were mapped, one to illustrate “worst case” daytime visibility (based on a maximum blade tip height of 410 feet above existing grade) and the other to illustrate potential visibility of turbine lights (based upon the nacelle height of 260 feet above existing grade). The viewshed analysis was based upon the location of 109 proposed turbines, as shown in Figure 2. The ArcView 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 5-mile study area. The resulting viewshed maps define the maximum area from which the completed facility 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 viewsheds represent a "worst case" assessment of potential project visibility. In addition, because characteristics of the proposed turbines that influence visibility (color, narrow profile, distance from viewer, etc.) are not taken consideration, even where these screening features are lacking, being within the viewshed does not necessarily equate to actual project visibility.

To evaluate potential long distance visibility a 10-mile radius viewshed map was also prepared. To determine potential visibility from sensitive sites within the Adirondack Park, the viewshed distance was extended to 15 miles within the blue line, and the areas of potential visibility line were mapped and quantified. The methodology employed on these viewshed analyses was the same as described above.

Cross Section Analysis

To illustrate the screening effect of vegetation within the study area, four representative line-of-sight cross sections (each approximately 6-7 miles long) were cut through the study area. Cross section locations were chosen so as to include visually sensitive areas (e.g., villages, historic sites, parks, and water bodies) and various roads and local landmarks. The cross sections are based on forest vegetation and topography as mapped on the 7.5-minute USGS quadrangle maps and digital aerial photographs. For the purposes of this analysis, a uniform 40-foot tree height was assumed. A 10 fold vertical exaggeration was used to increase the accuracy of the analysis.

Field Verification

Actual visibility of the proposed project was evaluated in the field on October 21, 2005. Four 15-foot by 6-foot helium-filled balloons were tethered at the approximate location of proposed turbines 11, 58, 91, and 122, and raised to a height of approximately 410 feet above the existing grade, thus approximating the maximum finished elevation of the turbine blade tip when oriented straight up (i.e., at the 12 o'clock position). The purpose of this exercise was to provide a locational and scale reference for verification of turbine visibility and to obtain photographs for the subsequent development of visual simulations. Clear skies and bright sunshine resulted in good visibility, and calm winds resulted in relatively stationary balloon heights, throughout the day.

While the balloons were in the sky, three field crews drove public roads and visited public vantage points within the 5-mile radius (260 square mile) study area to document points from which the balloons could or could not be seen. Photos were taken from 195 representative viewpoints within the study area. Balloon visibility was documented at each viewpoint with photos and field notes. All photos were obtained using Nikon (D100 and D70) or Canon (350D and 20D) digital SLR cameras. All cameras utilized a focal length between 28 and 35 mm (equivalent to between 45 and 55 mm on a 35 mm film camera). This focal length most closely approximates normal human eyesight relative to scale. Viewpoint locations were determined using hand-held global positioning system (GPS) units and high resolution aerial photographs (digital ortho quarter quadrangles). The time and location of each photo were documented on all electronic equipment (cameras, GPS units, etc.) and noted on field maps and data sheets (see Appendix B and C).

To evaluate long distance visibility from the Adirondack Park, a single EDR staff member hiked in to the Lyon Mountain lookout tower on February 8, 2006. This site is the nearest publicly accessible mountain top that offers open views toward the proposed project site. Weather on the day of the field visit was a mix of sun and clouds, but lake-effect snow squalls obscured views toward the project site. Visibility from Lyon Mountain was documented with photos, field notes, and GPS coordinates, as described above. Photos from this site are included at the end of the photo log (see Appendix B).

**Project Visual Impact**

Beyond evaluating potential project visibility, the VIA also examined the visual impact of the proposed wind turbines on the aesthetic resources and viewers within the visual study area. This assessment involved creating computer models of the proposed turbine and turbine layout, selecting representative viewpoints within the study area, and preparing computer assisted visual simulations of the proposed project. These simulations were then evaluated by an in-house panel of landscape architects to determine the type and extent of visual impact resulting from project construction. Details of the visual impact assessment procedures are described below.

Viewpoint Selection

From the photo documentation conducted during field verification, EDR selected a total of 10 viewpoints for development of visual simulations. These viewpoints were selected to illustrate typical views of the proposed project that will be available to representative viewer/user groups from major landscape similarity zones and sensitive sites within the study area. The selected viewpoints also include a variety of viewer distances and lighting conditions to illustrate the range of visual change that will occur with the project in place. No viewpoints that required viewing the turbines through tree branches were selected, thus minimizing potential concerns regarding the need to conduct this study during the "leaves-off" season. It is worth noting that in EDR's experience, any advantage of documenting project visibility during the leaves-off season is off-set by the higher aesthetic quality of viewpoints documented during the growing season. Location of the selected viewpoints is indicated in Figure 8. Locational details and the criteria for selection of each simulation viewpoint are described below:

Viewpoint 3 - View from Moore Road near the State Route 190 (Star Road) intersection in the Town of Ellenburg, looking north. Elevated view of the rural/agricultural LSZ in the southern portion of the study area, that will allow unobstructed views of the proposed project.

Viewpoint 8 - View from Gagnier Road near the Patnode Road intersection in the Town of Clinton, looking south. This location is within the proposed project area and will allow foreground views of the proposed turbines. It also offers a typical view of the rural/agricultural LSZ with the Adirondack foothills on the horizon.

Viewpoint 15 - View from State Route 190 (Old Military Turnpike) near the Hamlet of Ellenburg looking west. Typical view from the edge of a village/hamlet LSZ in the study area.

Viewpoint 34 - View from Tacey Road near the County Route 54 intersection outside the Hamlet of Harrigan, looking north. This view is within the rural/agricultural LSZ, and offers the best view of the proposed project in the vicinity of a potential scenic pull-off identified by the Adirondack Park Agency (APA). Panoramic views of Canada to the north and the Adirondack Mountains to the south are available from this site.

Viewpoint 38 - View from the intersection of Campbell Road and Gagnier Road in the Town of Clinton, looking northeast. This view is typical of the rural/agricultural LSZ in the central portion of the study area, where foreground views of the proposed turbines will be available.

Viewpoint 74 - View from the intersection of State Route 189 and Clinton Mills Road in the Hamlet of Churubusco, looking southwest. This view is from the hamlet closest to the proposed project, and is typical of open views that may be available at the periphery of the village/hamlet LSZ.

Viewpoint 81 - View from Poupore Road near the U.S./Canadian border, looking west. This represents one of the few open views of the project that will be available in the forestland LSZ in the northern portion of the U.S. study area.

Viewpoint 165 - View from Provincial Route 201 near the Village of St. Antoine-Abbé in Quebec looking southwest. This view is typical of the village/hamlet LSZ, and background views from Canada, which feature the strong forested ridge on the

horizon.

Viewpoint 170 - View from the intersection of Clinton Road and Pollica Road near the Hamlet of Rockburn, Quebec, looking southeast. This view includes the sloping ridge along the U.S./Canadian border with agricultural uses nestled into the forestland LSZ.

Viewpoint 179 - View is from U.S. Highway 11 (Military Trail Scenic Byway) near the State Route 189 intersection in the Town of Clinton, looking west. This view is from a heavily traveled highway and designated scenic byway. It includes the type of frontage development that is typical along area highways, and will have foreground views of the proposed turbines.

Viewpoints 8, 34, and 74 were also used to illustrate the cumulative visual effect of the Marble River Wind Farm and the proposed Noble Wind Power Projects. These viewpoints were selected because they included turbines from both projects, represented different landscape similarity zones within the study area, and would show the turbines from varying distances and directions.

Visual Simulations

To show anticipated visual changes associated with the proposed project, high-resolution computer-enhanced image processing was used to create realistic photographic simulations of the completed project from each of the 10 selected viewpoints. The photographic simulations were developed by constructing a three-dimensional computer model in 3D StudioMax®, based on turbine specifications and survey coordinates of the proposed facilities provided by the project developer. For the purposes of this analysis, it was assumed that all new turbines would be Gamesa Eolica G90 machines. The computer model used in this VIA is shown in Appendix A.

The next step in this process involved utilizing aerial photographs and GPS data collected in the field to create an AutoCAD 2004® drawing. The two dimensional AutoCAD data was then imported into 3D Studio Max 5.0® and three-dimensional components (cameras, modeled turbines, etc.) were added. These data were superimposed over photographs from each of the viewpoints, and minor camera changes (height, roll, precise lens setting) made to align all known reference points within the view. This process ensures that project elements are 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 turbines will be accurate and true in their relationship to other landscape elements in the photo.

At this point, a “wire frame” model of the facility and known reference points is shown on each of the photographs. The proposed exterior color/finish of the turbines was then added to the model and the appropriate sun angle was simulated based on the specific date, time and location (latitude and longitude) at which each photo was taken. This information allows the computer to accurately illustrate highlights, shading and shadows for each individual turbine shown in the view. All simulations show the turbines with rotors oriented toward the west/southwest, which is generally the prevailing wind direction in the area. The effects of distance (hazing, bluing, loss of detail) were added to simulations from Viewpoint 34 to more accurately replicate conditions present at the time this photo was taken.

Simulations of both the Marble River Wind Farm and the Noble Wind Power Projects were developed to evaluate the cumulative appearance/visual impact of the two projects. Coordinates for the proposed Noble turbines, and information on the proposed turbine model and dimensions were obtained from the Towns' engineers (Conestoga Rovers Associates). These turbines were modeled and added to the photos from three viewpoints already selected to illustrate the appearance of the

Marble River project (i.e., Viewpoints 3, 34, and 74). The cumulative simulations were developed in the same manner described for the Marble River simulations.

Because clear photos of the project site could not be obtained from Lyon Mountain during field review, a "virtual image" of this view was created by using a digital model of the landscape and adding the proposed turbines. The terrain model was created by draping (overlaying) 12-inch resolution color infrared ortho-imagery (aerial photography) over a mesh model generated from the 7.5 minute Digital Elevation Models (DEM's). The DEM's have a grid spacing of 10m. The infrared ortho-imagery was color corrected to represent the natural color spectrum. Models of the turbines/turbine layout were added to the view, as described above. Representative vegetation in the foreground was generated based on the aerial ortho-imagery and ground-level site photos. The view seen in this rendering represents the scale and extent of visibility of the proposed Marble River Wind Farm from the existing lookout tower on Lyon Mountain. The view is looking north and the nearest turbine is approximately 12 miles away. Viewer elevation is approximately 30 feet above ground level.

Panel Evaluation

An in-house panel of three landscape architects was asked to rate the proposed project in terms of its contrast with existing components of the landscape. Each of the panel members has experience on visual impact assessment projects and has visited operating, utility-scale wind power projects in New York State. Digital color prints (11 x 17-inch) of the before and after photos from each selected viewpoint were evaluated by the panel. Using a rating form developed by EDR (see Appendix D), the project's contrast with existing vegetation, landform, land use, water resources, and user activity was then rated on a scale of 1 (completely compatible) to 5 (strong contrast). For each viewpoint, these scores were added and averaged to provide an overall contrast rating. Each panel member's overall score for each viewpoint was then added and averaged to get a final composite rating for each viewpoint. In addition, rating panel comments on each viewpoint, and on night time photos from the existing Fenner (New York) Wind Power Project, were used to evaluate the project's potential visual impact.

## VISUAL IMPACT ASSESSMENT RESULTS

### Project Visibility

Viewshed analysis (Figure 6) indicates that the proposed project has the potential to be visible in approximately 90% of the visual study area (disregarding the screening effect of vegetation and structures). The only areas where potential project visibility is lacking is in the northeastern portion of the area (primarily in Canada) and in valley areas around the Chateaugay River and Lower Chateaugay lake. The backside of a few hills and some stream valleys/ravines are also indicated as being fully screened by topography. Most of the visually sensitive sites in the study area fall within the project viewshed, including land within the Adirondack Park, Moon Pond State Forest, Lake Roxanne, the Gulf State Unique Area, all of the U.S. hamlets, and most of the heavily-traveled roadways (including the Military Trail Scenic Byway). However, the proposed Adirondack Park scenic overlook on County Route 54, Lower Chateaugay Lake, the Chateaugay River, the Route 374 and Route 190 Adirondack Park Travel Corridors, the Hamlets of Franklin, Havelock and Covey Hill, Quebec, and portions of the Circuit du Paysan in Canada are indicated as being screened by area topography. In most areas where potential visibility is indicated, the viewshed analysis suggests that views to multiple turbines could be available. Areas of potential nighttime visibility cover approximately 85% of the study area, and generally occur in the same areas where potential daytime visibility is indicated. Areas of actual visibility will be much more limited than indicated by the viewshed analysis, due to the light color and slender profile of the turbines (especially the

blades, which make the top 148 feet of the turbine), the effects of distance, and screening provided by trees and structures, which are not considered in this analysis.

Extending the viewshed to 10 miles shows a similar pattern of potential visibility, except in the Adirondack Park to the south/southwest (see discussion below). In general, most of the area between 5 and 10 miles from the project is indicated as having potential project visibility. This includes the Villages of Chateaugay, Burke, and Altona. The only areas where visibility will be blocked by topography alone are the back sides of some hills and steep stream valleys/ravines.

The 15-mile viewshed analysis of the Adirondack Park revealed that potential project visibility decreases dramatically within the Park (see Figure 6, Sheet 4). This is due to the rugged topography in this area, which screens views of the proposed project from approximately 75% of the Park that is within 15 miles of the nearest turbine. Areas where potential visibility is indicated are concentrated in the Town of Ellenburg and within a corridor along Bradley Pond Road, down to the Hamlet of Lyon Mountain. Visibility is also indicated on the north-facing slopes and peaks of certain mountains (e.g., Ellenburg Mountain, Ragged Lake Mountain, Figure Eight Mountain, Soulia Mountain, Pinnale, West Mountain, and Lyon Mountain). More distant views are largely blocked by Ellenburg Mountain, Spruce Hill, and Soulia Mountain. Review of 2003 aerial photographs indicate that almost the entire viewshed within the Park (including the previously mentioned mountain peaks) is forested. Therefore, actual visibility will be much less than indicated by viewshed mapping.

Cross section analysis (Figure 7) suggests that along selected lines of sight, vegetation and structures will significantly decrease potential project visibility, when compared to the results of the viewshed analysis. On average, approximately two thirds of each section shows ground-level views being screened. The screening effect of topography is illustrated in Sections D-D', which confirms a lack of visibility from the Adirondack Park scenic overlook, Lower Chateaugay Lake, State Route 374, and most of the land within the Adirondack Park along this line of sight. All of the sections indicate that woodlots and areas of forest effectively screen significant portions of the study area, including Moon Pond, the North Branch of the Great Chazy River, and portions of area roadways. The sections also indicate that buildings will effectively screen ground-level views from portions of the Hamlets of Churubusco and Ellenburg Center. In regard to visually sensitive sites, the sections indicate that views of the turbines are likely to be available from portions of the Hamlet of Churubusco, areas of open land inside the Adirondack Park boundary, many of the heavily-traveled roads within the study area (including sections of Route 11, 189 and 190), and the upper floors of some homes in the villages and hamlets.

Field review indicated that actual project visibility (as indicated by visibility of helium-filled balloons raised at four proposed turbine sites) is likely to be much more limited than suggested by viewshed mapping and cross section analysis. This is due to the fact that screening provided by buildings and trees within the study area is more extensive and effective than assumed in the previous analyses. The result is that certain sites/areas where "potential" visibility was indicated by viewshed and cross section analysis, were actually well screened from views of the proposed project. Field review confirmed a lack of visibility from areas in the southeastern portion of the study area along the Chateaugay River corridor, the far western and eastern portions of the Town of Clinton, and those portions of the Towns of Chateaugay and Mooers that occur within the study area. It also confirmed that ground-level views within villages and hamlets were typically blocked by buildings and street/yard trees. In the rural/agricultural portions of the study area, hedgerows and trees not indicated on the USGS maps also blocked/interrupted views of the balloons in many areas. Views were available from several sensitive sites, including portions of Route 11 (Military Trail Scenic Byway), portions of the Hamlets of Churubusco and Ellenburg Center and portions of several heavily traveled highways, including Route 189 and Route 190. However, the balloons could not be seen from areas around Lake Roxanne, Moon Pond State Forest, state Forest Preserve lands, the

proposed Adirondack Park scenic overlook on Route 54, the two designated Adirondack Park Travel Corridors, the Hamlets of Ellenburg and Ellenburg Deport, and the Village of Chateaugay.

Field review from the Adirondack Park confirmed that most of the area where viewshed mapping indicates potential visibility is solidly wooded, and that long-distance views in this area are rare. This includes the peaks of most of the mountains within 15 miles of the proposed project, including Soulia Mountain, Ellenburg Mountain, East Mountain, and Pinnacle. This is also true for the trail up Lyon Mountain. Views along the trail are well screened by trees, with the only open views oriented along the trail corridor, looking east. At the top of Lyon Mountain, open views are available from some areas of exposed rock, and from the lookout tower. From the tower, views north toward the project site are available on clear days, however, the primary view is toward Chazy Lake to the northeast and the High Peaks and to the south.

**Analysis of Existing and Proposed Views**

To illustrate anticipated visual changes associated with the proposed project, simulations of the completed facilities from each of the 10 viewpoints indicated in Figure 8 were used to evaluate project visibility and appearance. Rating panel review of these images, along with photos of the existing view, allowed for comparison of the aesthetic character of each view with and without the proposed project in place. Results of this evaluation are presented below.

Viewpoint 3 (Figure 9)

*Existing View*

This viewpoint is from Moore Road, near the intersection of State Route 190 (Star Road) in the Town of Ellenburg, looking north. This viewpoint is approximately 1.3 miles from the nearest turbine that would be visible in this view. This view typifies the large-scale, open views that are available when looking north toward Canada from the elevated southern portions of the study area. The road and open agricultural fields dominate the foreground, while forest vegetation dominates the midground. These areas contrast in color and texture, but the relatively flat topography of the central plateau offers little differentiation between the foreground, mid-ground, and background views. The far edge of the plateau creates a strong horizon line against the sky. Structures and utility poles along Star Road further emphasize the flatness of the landscape and form a strong horizontal line against the midground forest vegetation.

*Proposed Project*

With the proposed project in place a large number of turbines are visible in the midground and background of the view. Although texture contrast is not significant, the turbines' vertical line and white color contrast with the green vegetation and horizontal lines that dominate the landscape. The light color of the sky and the man-made structures in this view lessen contrast somewhat, but the size of the turbines and their distribution across a broad area of the landscape, result in a significant perceived change in land use. While the expansiveness of the project will likely be considered an adverse impact by many viewers, some viewers will perceive the turbines as adding interest to the view.

Viewpoint 8 (Figure 10)

*Existing View*

This viewpoint is from Gagnier Road near the intersection of Patnode Road in the Town of Clinton, looking south. This viewpoint is approximately 0.25 mile from the nearest turbine that would be

visible in this view. This open, large-scale view illustrates the closeness of the Adirondack Mountains to the southern portion of the study area. Low grass and a recently harvested agricultural field dominate the foreground view, while the midground is dominated by rolling, forested hills. The rough texture, flatness, and brown color of the harvested cropland contrasts with the soft texture, rolling form, and fall coloration of the background trees. The midground woods line/hedgerow contains the foreground view and anchors the rise of the Adirondack Mountains in the background. The background view to the mountains and the lack of visible man-made features give this view a sense of remoteness.

*Proposed Project*

The character of this view is significantly changed with the project in place. Turbines in the foreground present significant scale contrast with the existing vegetation. The two foreground turbines frame the view, and focus viewer attention on the cluster of midground turbines between them. The turbines become focal points that dominate the view and draw attention away from the mountains in the background. While the rural character of the landscape is maintained, the sense of remoteness is lost. However, the increase complexity of the view and the proximity of the foreground turbines will be perceived as interesting to some viewers.

Viewpoint 15 (Figure 11)

*Existing View*

This viewpoint is from State Route 190 (Old Military Turnpike) near the Hamlet of Ellenburg, looking west. This viewpoint is approximately 3.8 miles from the nearest turbine that would be visible in the view. It is typical of the rural views available from the periphery of small hamlets and villages found throughout the study area. The quaint village character of this view is enhanced by the open pasture with small hedgerows and rubble stonewalls in the foreground view. The road edge and repeating rows of fence posts and telephone poles parallel to the road lead the view into the hamlet center. The built structures, including a church and school, are nestled into the existing vegetation, revealing only glimpses of the upper portions of the buildings, above the trees. The forested background ridge forms a strong line on the horizon, which blocks more distant views and encourages the viewer to focus on the hamlet.

*Proposed Project*

With the proposed project in place the upper portions of turbines can be seen along the entire background ridge. Although the turbines present significant scale contrast, at this distance, and under these lighting conditions, they blend well with the sky and do not compete/contrast with the existing vegetation or landform. The turbines do not significantly alter the perceived land use due to their background location, partial screening, and the existing visual complexity and man-made features that characterize the view.

Viewpoint 34 (Figure 12)

*Existing View*

This viewpoint is from Tacey Road near the County Route 54 intersection outside the Hamlet of Harrigan, looking north. This viewpoint is located very near the Adirondack Park blue line, and approximately 1.7 miles from the nearest turbine that would be visible in the view. This view is close to the proposed Adirondack Park scenic overlook on Route 54 (where project visibility is blocked by West Hill), and typical of the large-scale, long-distance views that are available from open locations in the southern portion of the study area. These views include the St. Lawrence Valley and the City

of Montreal to the north. The foreground is dominated by a rural road and active cropland, which carry the viewer's eye to a deciduous hedgerow in the midground. This hedgerow creates a strong horizontal line, and defines the edge the midground view. The midground area is characterized by level topography and forest vegetation, punctuated by occassional agricultural fields and structures. The edge of the central plateau in the background defines another strong horizontal line, beyond which, distant landscape features can only be vaguely seen. The uniform elevation and color of the foreground and midground landscape carry the view outward to the background view of Canada. This panoramic vista is compromised by the presence of an existing radio tower. The tower's red and white color and vertical form contrasts with the green and brown colors and horizontal line that characterize this landscape.

*Proposed Project*

With the proposed project in place, turbines stretch across the majority of the midground plateau. The turbines' vertical line and white color are in strong contrast with the existing landscape. Although more distant turbines that are viewed primarily against the sky create less contrast, the turbines become the dominant elements in the view. Their dominance and contrast are accentuated by the wide expanse of the view, the superior (i.e., elevated) viewer position, and the number and extent of visible turbines. Distant background features, and even the prominent radio antenna, cannot compete with the turbines for viewer attention.

Viewpoint 38 (Figure 13)

*Existing View*

This viewpoint is from the intersection of Campbell Road and Gagnier Road in the Town of Clinton, looking northeast. This viewpoint is approximately 0.5 mile from the nearest turbine that would be visible in this view. This classic bucolic setting is typical of the rural agricultural landscape found in the central portion of the study area. The open foreground includes grazed pastureland, livestock, and barns. These features define and dominate the view. The dense forest vegetation in the midground creates a strong horizontal line against the sky. It also captures and focuses the viewer’s attention on the foreground objects. There are no background features visible due to the lack of elevation change and screening provided by the midground trees.

*Proposed Project*

With the project in place, two turbines are visible in the near midground, with additional turbines or portions of turbines visible behind them. While the turbines' color is fairly compatible with the sky, line and scale contrast with existing vegetation and landform (especially by the two nearest turbines) is striking. Consequently, the two nearby turbines become focal points in the landscape and draw the viewer's attention away from the foreground features in the view. While the land use is still perceived as rural/agricultural, the barns, livestock, and other features that define the character of the existing view, become subordinate to the turbines.

Viewpoint 74 (Figure 14)

*Existing View*

This viewpoint is from the intersection of State Route 189 and Clinton Mills Road in the Hamlet of Churubusco, looking southwest. This viewpoint is approximately 1.6 miles from the nearest turbine that would be visible in the view. Small hamlets similar to this are found throughout the study area, but the Hamlet of Churubusco is located closest to the proposed turbines. In this view, an open lawn area with randomly placed historical or cemetery markers in the foreground dominate the view. The

scale is medium to small, reflecting the residential land use in this area. The residential structure, outbuildings, and a low hedgerow form an edge in the view before revealing another open lawn area and road further in the midground. Dense deciduous and evergreen vegetation in the midground form a strong horizontal line, holding the view, anchoring the built structures, and blocking more distant background views. The level of topography, road, hedgerow and roof lines of the buildings in this view all create strong vertical lines in the landscape. Overhead utility lines/poles parallel the road, but the scale of the adjacent mature trees softens their visual impact.

*Proposed Project*

With the proposed project in place, several turbines rise above the midground tree line. At this distance, the turbines do not appear out of scale with the vegetation, and several are significantly screened behind tree foliage. The turbines' form is compatible with the midground trees, and their color does not contrast strongly with the sky. Although backlighting increases turbine contrast with the sky, it minimizes color contrast with the vegetation. The turbines' density and line are also consistent with other vertical elements in the landscape (utility poles, tree trunks, etc.). There is some perceived change in land use, but the foreground structures and residential feel remain dominant.

Viewpoint 81 (Figure 15)

*Existing View*

This viewpoint is from Poupore Road near the U.S./Canadian border, looking west. This viewpoint is approximately 0.4 mile from the nearest turbine that would be visible in this view. The remote character of the northern portion of the study area is well represented in this view. However, the open, expansive character of the view is somewhat unique in this more heavily forested portion of the study area. The gravel roadway with parallel grass shoulders and fence posts dominate the foreground. The roadway is flanked by two distinct landscapes; a successional field and hedgerows on one side, and an area of grazed pasture land and farm outbuildings on the opposite side. Screened views of a trailer and two houses can be seen through the trees. The viewer’s attention is directed toward the farm and background forested ridge by the roadway and a series of vertical elements (fence posts, road-side trees, and utility poles). The rich orange and yellow fall foliage of the background vegetation contrasts with the deep blue and white of the sky, and forms a strong horizontal line that prevents any further views into the background.

*Proposed Project*

With the project in place, several turbines are visible in the near midground. The turbines rise well above the surrounding treetops, which increases perceived scale, line, and form contrast with the landscape. However, the turbines are viewed almost entirely against the sky, which minimizes color contrast. Their white color is also consistent with other manmade features in the view (buildings, utility poles, fence posts). Although the turbines do not significantly change the composition of the mixed undeveloped/developed landscape in this view, they do compromise its remote, rural character.

Viewpoint 165 (Figure 16)

*Existing View*

This viewpoint is from Provincial Route 201 near the Village of St. Antoine-Abbé in the Province of Quebec, Canada, looking southwest. This viewpoint is approximately 4.1 miles from the nearest turbine that would be visible in this view. This view is typical of the lower elevation valley areas

within the Canadian portion of the study area, which include the forested ridge that runs along the U.S./Canadian border. In this view, a post and wire fence, and the athletic fields and facilities behind it, dominate the foreground view. The athletic building and equipment add visual clutter to the view, while the lights, flag pole and church steeple break the horizon at varying heights. The far midground view includes a variety of residential and institutional structures. With the exception of the church steeple, most of the structures are nestled among trees within the village. The even height and uniform thickness of the forest along the background ridge creates a strong, unbroken line on the horizon.

*Proposed Project*

With the proposed project in place, several turbines can be seen extending above the background ridge. Their varying distance from the viewer results in variable degrees of screening (i.e., full turbines to just blade tips can be seen). Although the turbines' vertical line contrasts with the horizontal ridge and breaks the skyline, their narrow profile and light color minimize turbine contrast and visibility. They also reflect the vertical line of other man-made elements in the view. At this distance, their color and scale contrast are minimal and they do not significantly alter the recreational/residential character of the existing view.

Viewpoint 170 (Figure 17)

*Existing View*

This open, large-scale view is from the intersection of Clinton Road and Pollica Road near the Hamlet of Rockburn, Quebec, looking southeast. This viewpoint is approximately 2.3 miles from the nearest turbine that would be visible in this view. Agricultural fields, orchards, and occasional farms dot the lower slope of the forested ridge that runs along the U.S./Canadian border. The open foreground field with its gently rolling landform rises to the dark midground vegetation and single barn, which attracts and holds the viewer's attention. Textures are generally smooth, and colors uniform. The field edge and forested ridge define three dominant and district horizontal elements in the view (the field, ridge, and sky). The wooded ridge blocks long-distance background views, and illustrates the uniform elevation that occurs along the U.S./Canadian border.

*Proposed Project*

With the project in place, numerous turbines rise above the wooded ridge to varying degrees (depending on their distance from the viewer). The turbines' vertical line contrasts with the strong horizontals in the view, but this contrast is minimized due their light color, slender profile, and the partial screening provided by trees on the ridge. Although some of the turbines rise well above the surrounding trees, at this distance, their scale contrast is not significant. The major attributes of the landscape remain unchanged. Although the turbines add an element of interest, the broad expanse of the field and ridge (as well as the single barn) are still the dominant features of the view.

Viewpoint 179 (Figure 18)

*Existing View*

This viewpoint is from U.S. Highway 11 (Military Trail Scenic Byway) near the intersection of State Route 189 in the Town of Clinton, looking west. This view is approximately 0.3 mile from the nearest turbine that would be visible in this view. It illustrates the type of residential, agricultural, and small commercial development that typically occurs along Route 11 and other area highways. The expansive mowed lawn with scattered shrubs in the foreground makes this former farmstead feel slightly suburban. The house and outbuildings are a well-organized grouping, however, the utility

pole with light fixture, and the associated overhead lines bisecting the sky, reduce visual quality. The view is small-scale and relatively enclosed. The midground hedgerow forms a visual barrier that blocks views of background features and provides a backdrop to the residential structures. The lack of elevational change also limits background views and emphasizes the flatness of the topography in this portion of the study area.

*Proposed Project*

With the proposed project in place, one turbine rises dramatically behind the house, while a second, more distant turbine can be seen through the midground tree line near the barn. At this distance, the near midground turbine appears very large and out of scale with its surroundings. Although the turbines' white color will generally minimize contrast with the sky, in strongly backlit conditions such as these, contrast is heighten. The line and form of this turbine are also in strong contrast with the existing vegetation and landform, although impact is limited by the small number of turbines that can be seen in this view. The rural residential land use remains dominant, but the closest turbine becomes a new focal point in the landscape that draws the viewer's eye and appears out of character in a residential setting.

Cumulative Simulations (Figure 19-21)

Simulations of the Marble River Project and the Noble Projects are shown in Figures 19-21. Each of these figures compare a simulation of the Marble River Wind Farm with a simulation of both projects from the same viewpoint. From Viewpoint 8 (Figure 19) and Viewpoint 74 (Figure 21), the cumulative visual effect of the two projects is not significantly different than the impact of the Marble River project alone. Although the additional visible turbines suggest a larger project and create some visual congestion, the overall change is relatively minor. In the case of Viewpoint 34 (Figure 20), the cumulative visual effect of the two projects is much more striking. The turbines are now closer to the viewer and extend across the full field of view (note that turbines even closer to the viewer occur immediately outside the limits of the photo). The view is more cluttered, and the turbines fully dominate the landscape. Land use character is significantly altered (changing from rural to industrial/utility-oriented), and views to the distant horizon are obscured. This viewpoint, with is superior viewer position, lack of foreground screening, and relatively flat topography, is representative of the "worst case" cumulative visual impact the Marble River and Noble projects would have within the study area.

Lyon Mountain (Figure 22)

The "virtual image" created to simulate the view from the Lyon Mountain lookout tower confirms that unobstructed views toward the project site will be available. From the tower, the site is unscreened by vegetation or topography, and under proper weather conditions, views will extend well into Canada. The proposed project (digitally enhanced [brightened] in this image) will be visible in its entirety. The turbines extend well above the ground plain features (trees, fields, etc.), but will be viewed against the backdrop of the ground. This heightens their contrast in line, form, and color. However, their slender form and the effects of distance will minimize their visibility and visual impact. Without the digital enhancement utilized on this simulation, and under normal weather conditions that include atmospheric moisture/background haze, project visibility and visual impact will be significantly reduced.

Turbines for the proposed Noble wind power projects were also added to the long distance virtual image from the Lyon Mountain lookout tower, based on turbine locations and specifications provided by the Towns' engineers. Figure 22 shows how this image would change with both projects in place. The turbines are denser, extend across a broader expanse of the background, and begin to compete

with other landscape features for viewer attention. However, from this viewpoint the cumulative visual impact of both projects is reduced by the effects of distance.

**Visual Impact Assessment Rating**

An in-house panel of three registered landscape architects (LA) evaluated the visual impact of the proposed project, as described in the Methodology section of this report. Utilizing 11 x 17-inch digital color prints of the selected representative viewpoints described above, the rating panel members evaluated the before and after views, assigning each view a quantitative visual contrast ratings on a scale of 1 (completely compatible) to 5 (strong contrast). Each panel member's ratings were averaged to get an overall score for each viewpoint, and these scores were then compiled as a composite average for each viewpoint. Copies of the completed rating forms are included in Appendix D, and the results of this process are summarized in Table 1.

**Table 1. Visual Contrast Rating**

| Viewpoint # | Individual Overall Scores[1] | | | Composite Score |
|---|---|---|---|---|
| | LA 1 | LA 2 | LA 3 | |
| VP 3 | 2.75 | 3.5 | 3.0 | 3.08 |
| VP 8 | 1.75 | 3.25 | 2.75 | 2.58 |
| VP 15 | 1.0 | 2.75 | 1.25 | 1.67 |
| VP 34 | 3.75 | 3.25 | 3.5 | 3.5 |
| VP 38 | 3.25 | 3.25 | 3.75 | 3.42 |
| VP 74 | 1.0 | 1.75 | 1.0 | 1.25 |
| VP 81 | 2.25 | 2.75 | 3.75 | 2.92 |
| VP 165 | 1.0 | 2.5 | 1.0 | 1.5 |
| VP 170 | 1.75 | 2.5 | 1.75 | 2.0 |
| VP 179 | 2.5 | 3.0 | 4.25 | 3.25 |
| **Average** | 2.1 | 2.85 | 2.6 | 2.52 |

[1]On a scale of 1 (completely compatible) to 5 (strong visual contrast).

As this table indicates, individual contrast ratings ranged from 1.0 (completely compatible) to 4.25 (high visual contrast). Composite scores (i.e., the average of individual rating panel members) ranged from 1.5 to 3.42, and averaged 2.52. Scores in this range indicate a moderate level of visual contrast. The lowest contrast ratings (2.0 and under) were received by Viewpoints 15, 74, 165, and 170. Simulations from these viewpoints were characterized by more distant views (1.6 to 4.1 miles), significant screening by vegetation and/or landform, and the presence of other man-made features in the view. All of these factors tend to decrease turbine visibility and/or color, line, texture, and scale contrast with the landscape.

The highest individual and composite contrast ratings were received by Viewpoints 3, 34, 38, 81 and 179. All of these viewpoints received composite ratings close to or above the midpoint (3.0) on the 1 to 5 scale. In the case of Viewpoints 38, 81, and 179, this impact related primarily to the proximity of the turbines to the viewer (less than 0.5 mile), which heightened the project's contrast with the landscape in color, line, texture, form, and especially scale. In such views, the turbines become focal points, and begin to alter the perceived land use in the view. In Viewpoints 3 and 34, although the turbines are more distant, superior viewer position, level topography, and lack of foreground screening provide open views of numerous turbines. The size and expansiveness of the project is evident in such views. In addition, the flatness and rural character of the landscape in these views enhance project contrast in line, color, texture, form, and scale. This contrast and the expanse of the project result in a perceived incompatibility with the rural land use evident in these views.

It is interesting to note that several viewpoints elicited very different reactions from individual rating panel members. This is reflected in the range of individual scores seen in Table 1. One panel member (LA 1) generally (but not always) gave the images a lower contrast rating than the other two panel members. The other two panel members (LA 1 and LA 3) were more consistent in their scoring, but still reacted differently to individual simulations (see rating forms in Appendix D for details). This reflects individual variability in perception/acceptance of the turbines. A generally positive viewer reaction to wind turbines, with some strong individual variability (based on viewer preference and/or landscape setting), has been observed by EDR on the currently operating wind power projects in New York State (Madison, Fenner, and Maple Ridge). Similar results have been documented in public opinion surveys regarding constructed wind power projects in other locations (Bishop and Proctor, 1994; Gipe, 2003). Based on rating panel results, this reaction will likely also be seen on the Marble River Wind Farm.

The panel's review of nighttime photos from the Fenner Wind Power Project (Figure 23), indicate that nighttime visual impact could be significant from certain viewpoints. The contrast of the aviation warning lights with the night sky will be strong in most dark, rural settings, and their presence suggests a more commercial/industrial land use. Viewer attention is drawn by the flashing of the lights, and any positive reaction that wind turbines engender (due to their graceful form, association with clean energy, etc.) is lost at night. While perhaps not disturbing (or even strongly perceptible) from roads and other public viewpoints, turbine lighting may be perceived negatively by area residents who will be able to view these lights from their homes and yards.

Simulations of the Marble River and Noble wind power projects illustrate the potential cumulative visual effect of these projects. As with the simulations of the Marble River Wind Farm alone, the visual effect is variable based on proximity to the turbines, the extent of natural screening, and the number/extent of turbines in the view. In most locations within the study area, only small portions of either project will be visible. However, in some open elevated settings, such as those along Star Road in Ellenburg, large portions of both projects will be visible. The visual effect from such viewpoints will be fairly striking, and night lighting impacts could be significant.

## CONCLUSIONS

The VIA for the Marble River Wind Power Project allows the following conclusions to be drawn:

1. Viewshed, mapping, cross section analysis, and field verification indicate that the project has the potential to be visible from numerous locations within the study area, particularly in higher elevation, open agricultural areas. Areas generally screened by vegetation, structures, and/or topography include the forested northeastern and southern portions of the U.S. study area (including Adirondack Park lands), the northeastern portion of the Canadian study area, most rivers and streams, and the interior portions of hamlets and villages. Viewshed analysis suggests that potential long-distance visibility of the project will be limited within the Adirondack Park due to the screening effect of topography. Where potential visibility is indicated in the Park, the land is generally heavily forested and far from the project area, thus minimizing actual project visibility. Review of high resolution aerial photos, and field evaluation, confirmed that this is the case for most of the mountain peaks within 15 miles of the proposed project. The exception is Lyon Mountain, where a publicly-accessible lookout tower will offer unobstructed views toward the project site. Research indicates that significant visual effects of wind power projects are generally concentrated within 3.5 miles (6 kilometers) of the project site (Eyre, 1995). EDR's observations on existing wind power projects (Madison, Fenner, and Maple Ridge Wind Power Projects) indicate that under favorable conditions, views of the wind turbines will be available from certain viewpoints well over 10 miles from the project site. However, visual impact at these distances is typically minimal.

2. Some visually sensitive resources and areas of intense land use will be impacted by the project. These include open areas inside the Adirondack Park blue line, the Military Trail Scenic Byway (Route 11), State Routes 189 and 190, and portions of the Hamlets of Churubusco and Ellenburg Center. At other sites, including publicly accessible lands within the Adirondack Park, areas of Forest Preserve lands outside the Park, Moon Pond, Lake Roxanne, several Canadian hamlets, the Circuit du Paysan in Canada, the Route 374 and Route 190 Adirondack Park Travel Corridors, the proposed Adirondack Park scenic overlook on Route 54, Lower Chateaugay Lake, the Chateaugay River, the Great Chazy River, and most ground-level locations within the villages and hamlets, the project will either not be visible or will be significantly screened by foreground vegetation and structures. The project will be visible from some mountain peaks within the Adirondack Park. However, from these locations, it will be distant enough that visual impacts should be insignificant.

3. Simulations of the proposed project, and the in-house panel's visit to existing wind power projects in New York, indicate that the visibility and visual impact of the wind turbines will be highly variable, based on landscape setting, extent of natural screening, presence of other man-made features in the view, viewer sensitivity, and distance of the viewer from the project. The greatest impact will occur when turbines are close to the viewer, or where the full extent of the project is visible. However, these two conditions will rarely, if ever, occur simultaneously. Elevated, long-distance views (e.g., from Adirondack peaks such as Lyon Mountain) that allow the full project to be seen, will be distant enough (i.e., over 10 miles) that visual impact should be minor.

4. Evaluation by the in-house panel of landscape architects indicates that the project's overall contrast with the visual/aesthetic character of the area will generally be moderate. However, based on the panel's scoring and comments, this may not be the case where turbines are in proximity to the viewer (i.e., under 0.5 mile), extend across broad expanses of the view, or appear out of context/character with the landscape. Based on viewer reaction to operating wind power projects elsewhere, public reaction to the Marble River project is likely to be generally positive, but highly variable based on proximity to the turbines, the affected landscape, and personal attitude regarding wind power. As Stanton (1996) notes, although a wind power project is a man-made facility, what it represents "may be seen as a positive addition" to the landscape.

5. Based upon review of nighttime photos and observations of existing wind power projects, the panel felt that the red flashing lights have the potential to create a significant nighttime effect, especially with a project as large as Marble River. The potential significance of this impact depends 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, it was felt that night lighting could be distracting and have an adverse impact on rural residents that currently experience dark nighttime skies. It should be noted that nighttime visibility/visual impact may be reduced on this project due to 1) new FAA guidelines that result in fewer aviation warning lights then required on earlier projects, 2) an abundance of forestland that will significantly screen views to the project, and 3) the concentration of residences in hamlets and along highways where existing lights already compromise dark skies and compete for the viewer's attention. Panel members also felt that new FAA guidelines requiring synchronization of the flashing lights would help reduce adverse visual impact.

6. Representative simulations of the Marble River and Noble projects together indicate that the cumulative visual effect is variable based on proximity to the turbines, the extent of natural screening, and the number/extent of turbines in the view. In most locations within the study area, only small portions of either project will be visible. However, in some open elevated

settings large portions of both projects will be visible. The visual effect from such viewpoints will be fairly striking, and night lighting impacts could be significant.

7. Mitigation options are limited, given the nature of the project and its siting criteria (tall structures on high elevation sites). However, in accordance with DEC Program Policy (NYSDEC, 2000), various mitigation measures were considered. These included the following:

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

   B. Relocation. Again, because of the extent of the project, the number of individual turbines, and the large number of viewpoints from which the project can be seen, turbine relocation will generally not significantly alter the visual impact of a wind power project.

   C. Camouflage. The white or off-white color of wind turbines generally minimizes contrast with the sky under most conditions. Consequently it is recommended that this color be utilized on the Marble River project. More effective camouflage coloration would likely raise aviation safety concerns, since new FAA guidelines do not require daytime lighting and count on the white color of the turbines to alert pilots to their presence. The size and movement of the turbines also prevents more extensive camouflage from being a viable mitigation alternative (i.e., they cannot be made to look like anything else). Neilson (1996) notes that efforts to camouflage or hide wind farms generally fail, while Stanton (1996) feels that such efforts are inappropriate. She believes that wind turbine siting "is about honestly portraying a form in direct relation to its function and our culture; by compromising this relationship, a negative image of attempted camouflage can occur."

   D. Low Profile. A significant reduction in turbine height is not possible without significantly decreasing power generation. To off-set this decrease, additional turbines would be necessary. There is not adequate land under lease to accommodate a significant number of additional turbines, and a higher number of shorter turbines would not necessarily decrease project visual impact. In fact, 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).The visual impact of the electrical collection system is being minimized by placing the lines underground rather than on overhead poles.

   E. Downsizing. Reducing the number of turbines could reduce visual impact from certain viewpoints, but from most locations within the study area, unless this reduction were drastic, the visual impact of the project would change only marginally. A dramatic reduction in turbine number (e.g., reduction by 50%) would make the project economically unviable.

   F. Alternate Technologies. Alternate technologies for power generation would have different, and perhaps more significant, visual impacts than wind power. Alternative utility-scale wind power technologies, that would significantly reduce visual impacts, do not currently exist.

   G. Nonspecular Materials. Non-glossy (matte) paints and finishes will be used on the wind turbines to minimize reflected glare. Galvanized substation components will rapidly weather to a non-reflective gray color.

H. Lighting. Turbine lighting will be kept to the minimum allowable by the FAA. New FAA guidelines (FAA, 2005) do not require daytime lighting, and allow nighttime lighting of perimeter turbines only, at a maximum spacing of 0.5 mile. Medium or low intensity pulsing red lights should be used at night, rather than white or red strobes, or steady burning red lights. Upwardly directed lighting fixtures should be utilized to minimize nighttime visual impacts on nearby residents. Lighting at the substation should be kept to a minimum, and should be turned on only as needed, either by switch or motion detector.

I. 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 they are operational and the rotors are turning (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.

J. Offsets. Correction of an existing aesthetic problem within the viewshed is a viable mitigation strategy for projects that result in significant adverse visual impact. However, results of this VIA do not suggest that such mitigation measures are warranted for the Marble River Wind Farm.

In addition to the mitigation measures described above, other measures that will reduce or mitigate visual impact have been incorporated into the project design. These include the following:

- Compliance with all required set-backs from roads and residences.
- All turbines will have uniform design, speed, color, height and rotor diameter.
- Towers will include no exterior ladders or catwalks.
- The project operations and maintenance building (although not yet designed) will reflect the vernacular architecture of the area (i.e., resemble an agricultural structure).
- New road construction will be minimized by utilizing existing town roads, woods roads and farm lanes whenever possible.
- No placement of any advertising devices on the turbines.
- A parking/viewing location, with an informational kiosk, will be developed to enhance public understanding and appreciation of the project Stanton (1996) believes that accessibility to a wind farm can positively affect how the public perceives the project.

## LITERATURE CITED/REFERENCES


Adirondack Park Agency (APA). 2001. *State of New York, Adirondack Park State Land Master Plan,* Fall Brook, N.Y.

Barnard, B. Senior Forester, NYSDEC, Ray Brook, NY. Email of January 13, 2006 to S. Faldetta.

Bishop and Proctor. 1994. *Love Them or Loathe Them? Public Attitude Towards Wind Farms in Wales*. Cardiff, Wales.

Bonjour Quebec. Website. Road maps and tourism information.

Eyre, N.J. 1995. European Commission, DGXII, Science, Research and Development, JOULE, *Externalities of Energy, "Extern E" Project.* Volume 6. Wind and Hydro, Part I, Wind, pp1-121, Report No. EUR 16525.

Federal Aviation Administration (FAA). 2005. *Development of Obstruction Lighting Standards for Wind Turbine Farms*. DOT/FAA/AR-TN 05/50. U.S. Department of Transportation, Washington, D.C.

Gipe, P. 2003. *Tilting at Windmills: Public Opinion Toward Wind Energy*. www.wind-works.org/articles/tilting.html

Heaton, P.J. 2006. *Phase 1A Cultural Resources Survey: Marble River Wind Project, Towns of Clinton and Ellenburg, Clinton County, New York*. Prepared for ESS Group, Inc. Prepared by John Milner Associates, Croton-on-Hudson, NY.

National Geographic Society. 2004. *Trails Illustrated Map #746, Adirondack Park, Saranac/Paul Smiths, New York, USA.*

National Park Service (NPS). 2003. *National Register of Historic Places Spatial GIS Files.*

NPS. Website. National Register of Historic Places – New York, Clinton County.

NPS. Website. National Natural Landmarks and National Heritage Areas for Clinton County.

Neilsen, F.B. 1996. *Wind Turbines and the Landscape: Architecture and Aesthetics*. Prepared for the Danish Energy Agency's Development Programme for Renewable Energy. ISBN 87-985801-1-6.

New York State Assembly. January 18, 2005. *New York State Consolidation Laws, Title 27, Wild, Scenic and Rivers System.* Albany, N.Y.

New York State Parks. Website. State Parks for Thousand Island Region.

New York State Tourism website. Tourist sites in Clinton County.

New York Office of Parks, Recreation, and Historic Preservation (OPRHP). *2003. Statewide Comprehensive Outdoor Recreation Plan (SCORP)*, Albany, N.Y.

OPRHP. Website. State and National Listed Historic Sites for Clinton County.

New York State Department of Environmental Conservation (NYSDEC). Not Dated. *D.E.C. Aesthetics Handbook*. NYSDEC. Albany, N.Y.

NYSDEC. 2000. *Program Policy: Assessing and Mitigating Visual Impacts*. DEP-00-2. Division of Environmental Permits, Albany, New York.

NYSDEC. Website. Critical Environmental Areas and Wildlife Management Areas in Clinton County.

New York State Department of Transportation (NYSDOT). Not Dated. *What About Scenic Byways.* NYSDOT, Albany, N.Y.

NYSDOT. Website. Scenic Byways Map/Listing and 2004 Traffic Counts for Route 11, Route 189, Route 190, Route 374.

NYSDOT. 1988. *Engineering Instruction 88-43*. NYSDOT Design Bureau. Albany, N.Y.

Reschke, C. 1990. *Ecological Communities of New York State*. New York Natural Heritage Program and NYSDEC. Latham, N.Y.

Smarden, R.C., J.F. Palmer, A. Knopf, K. Grinde, J.E. Henderson and L.D. Peyman-Dove. 1988. *Visual Resources Assessment Procedure for U.S. Army Corps of Engineers*. Instruction Report EL-88-1. Department of the Army, U.S. Army Corps of Engineers. Washington, D.C.

Stanton, C. 1996. *The Landscape Impact and Visual Design of Windfarms*. ISBN 1-901278-00X. Edinburgh College of Art, Heriot-Watt University. Edinburgh, Scotland.

Thayer, R.L. and C.M. Freeman. 1987. *Altamont: Public Perception of a Wind Energy Landscape*. Landscape and Urban Planning. 14: pp. 379-398.

United States Department of Agriculture, National Forest Service. 1974. *National Forest Landscape Management*. Agricultural Handbook No. 462. Washington, D.C.

United States Department of the Interior, Bureau of Land Management. 1980. Visual Resource Management Program. U.S. Government Printing Office. 1980. 0-302-993. Washington, D.C.

United States Department of Transportation, Federal Highway Administration. 1981. *Visual Impact Assessment for Highway Projects*. Office of Environmental Policy. Washington, D.C.

Van de Wardt, J.W. and H. Staats. 1998. *Landscapes with wind turbines: environmental psychological research on the consequences of wind energy on scenic beauty*. Research Center ROV Leiden University.

# Figures

# Appendix A

Computer Model of Proposed Wind Turbine

# Appendix B

Photo Log – See Enclosed CD

# Appendix C

Field Notes – See Enclosed CD

# Appendix D

Visual Impact Assessment Rating Forms – See Enclosed CD

# Figures

# Appendix A

Computer Model of Proposed Wind Turbine

# Appendix B

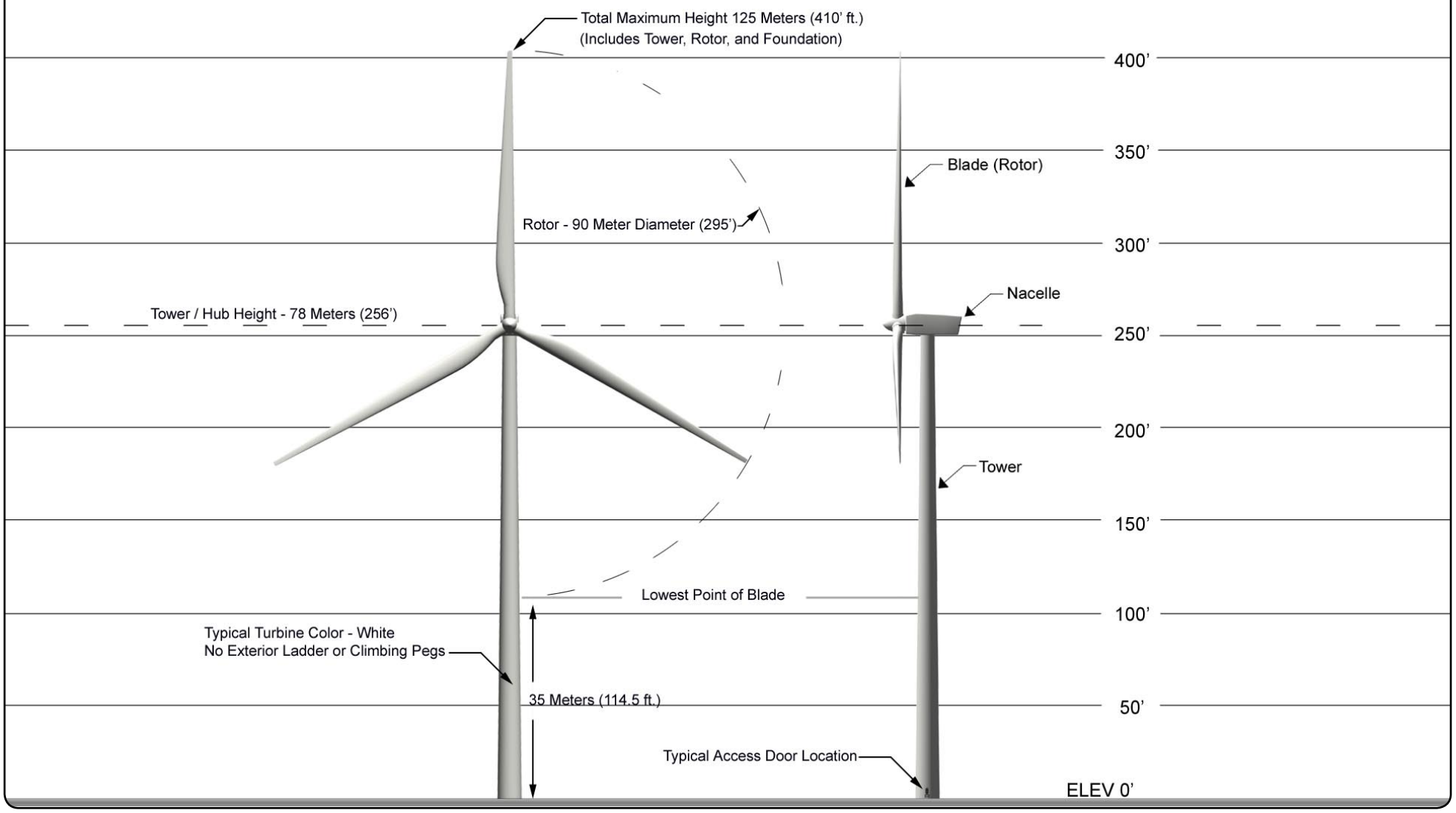
Photo Log – See enclosed CD

# Appendix C

Field Notes – See enclosed CD

# Appendix D

Visual Impact Assessment Rating Forms – See enclosed CD




# Appendix A
# Turbine Dimensions - Gamesa G90

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR

Marble River
Wind Farm

March 2006

Viewpoint 1

Viewpoint 2

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# Appendix B - Photo Log

* Denotes Image Used in Visual Simulation

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

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EDR PC

Marble River
Wind Farm

March 2006

Viewpoint 9

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Wind Farm

March 2006

Viewpoint 17

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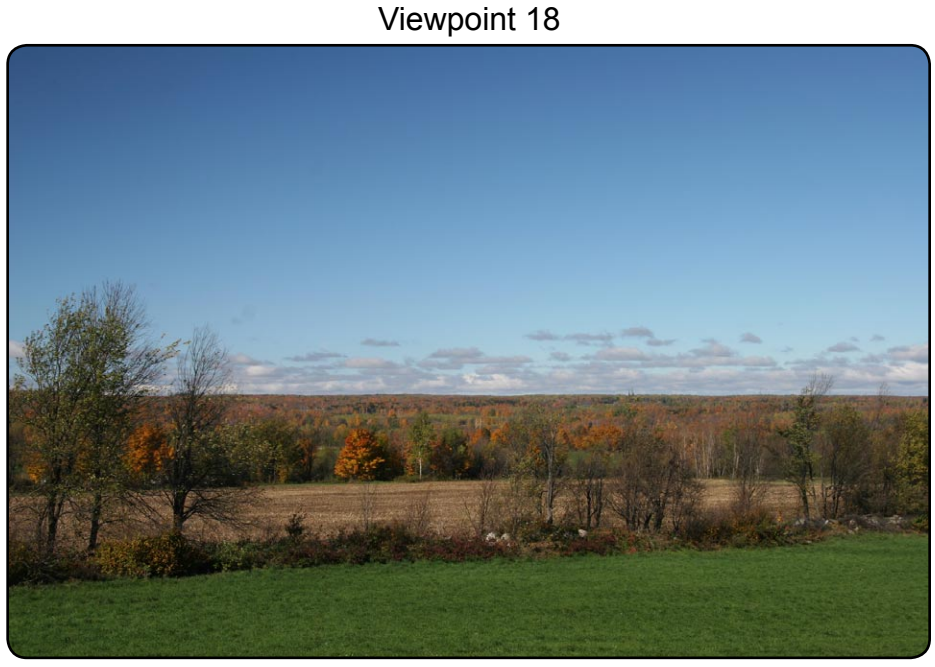

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## Marble River Wind Farm

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**Marble River Wind Farm**

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
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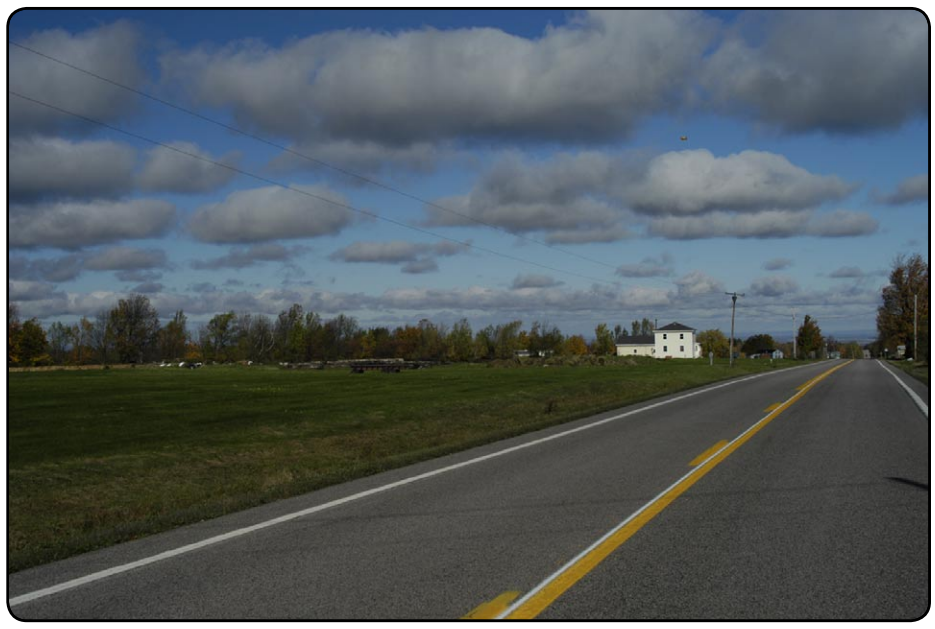

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

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Marble River
Wind Farm

March 2006

Viewpoint 81*

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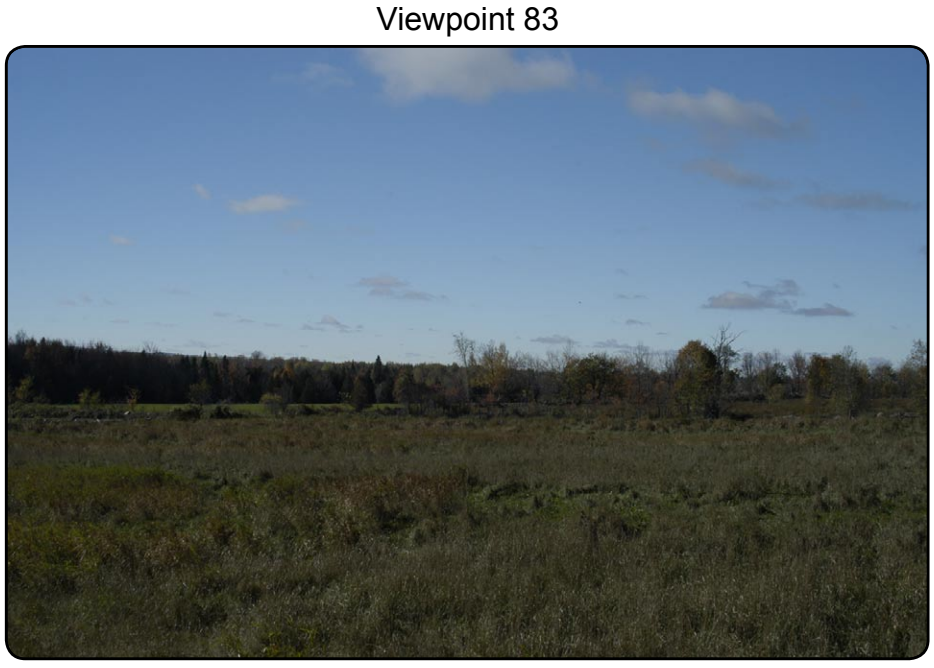

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Clinton County, New York

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**Marble River Wind Farm**

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Clinton County, New York

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Wind Farm

March 2006

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## Marble River Wind Farm

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Clinton County, New York

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Marble River
Wind Farm

March 2006

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

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Marble River
Wind Farm

March 2006

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# Appendix B - Photo Log

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

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Marble River
Wind Farm

March 2006

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

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Marble River
Wind Farm

March 2006


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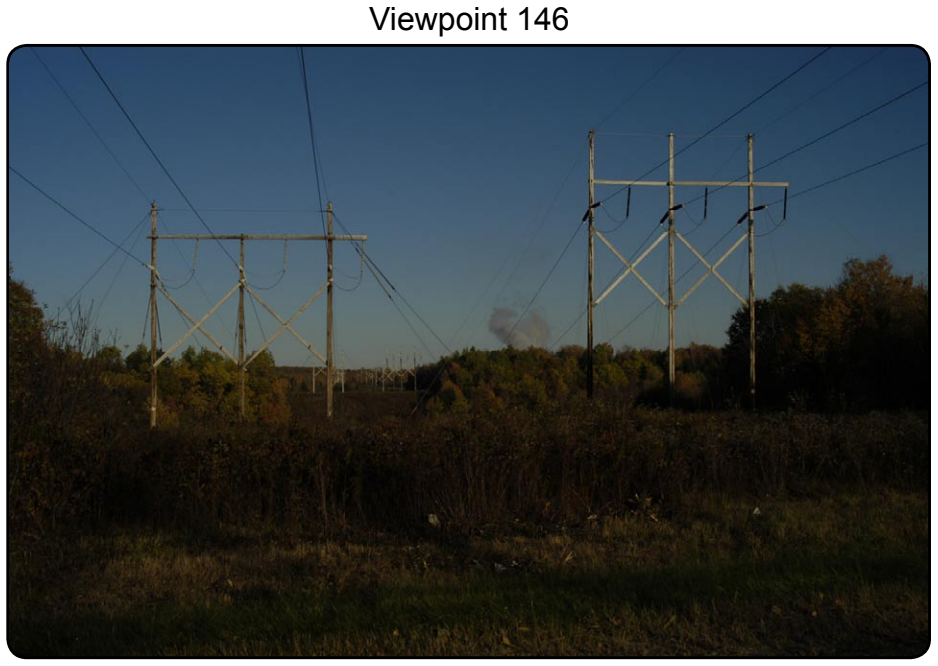

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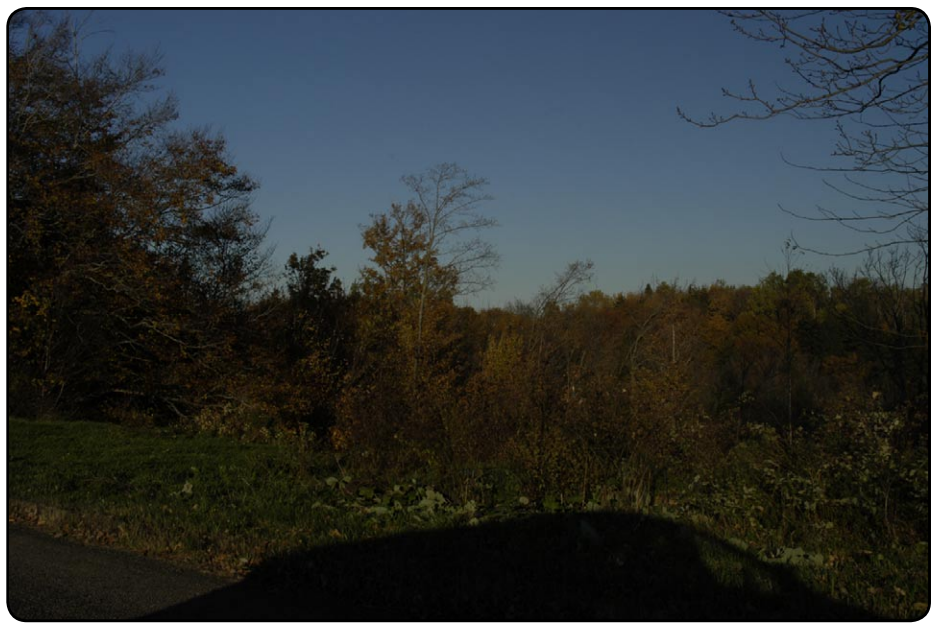

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

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Marble River
Wind Farm

March 2006

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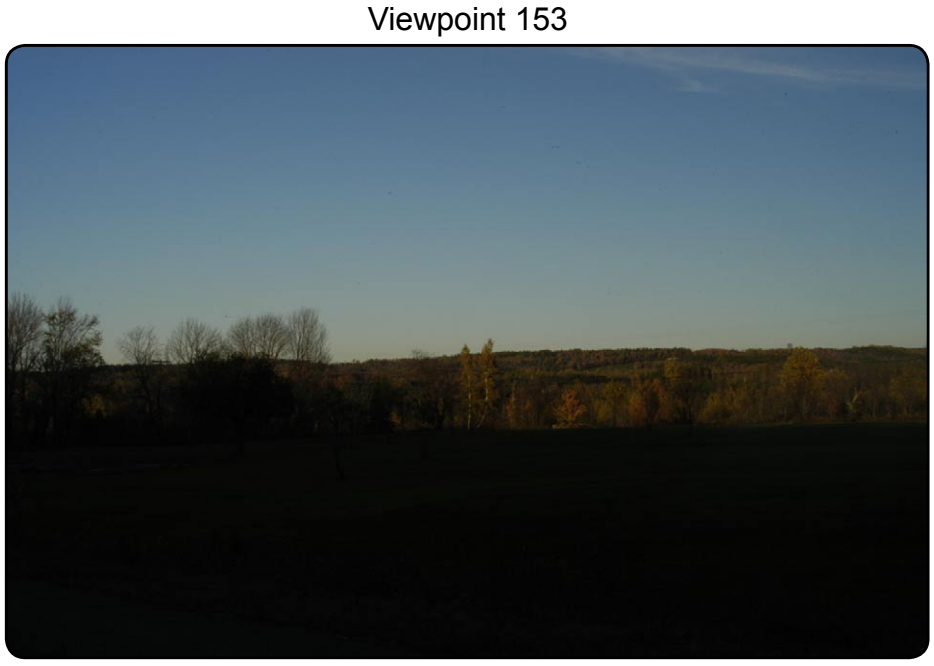

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

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Marble River
Wind Farm

March 2006

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

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Marble River
Wind Farm

March 2006

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

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Wind Farm

March 2006

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## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

Marble River
Wind Farm

March 2006

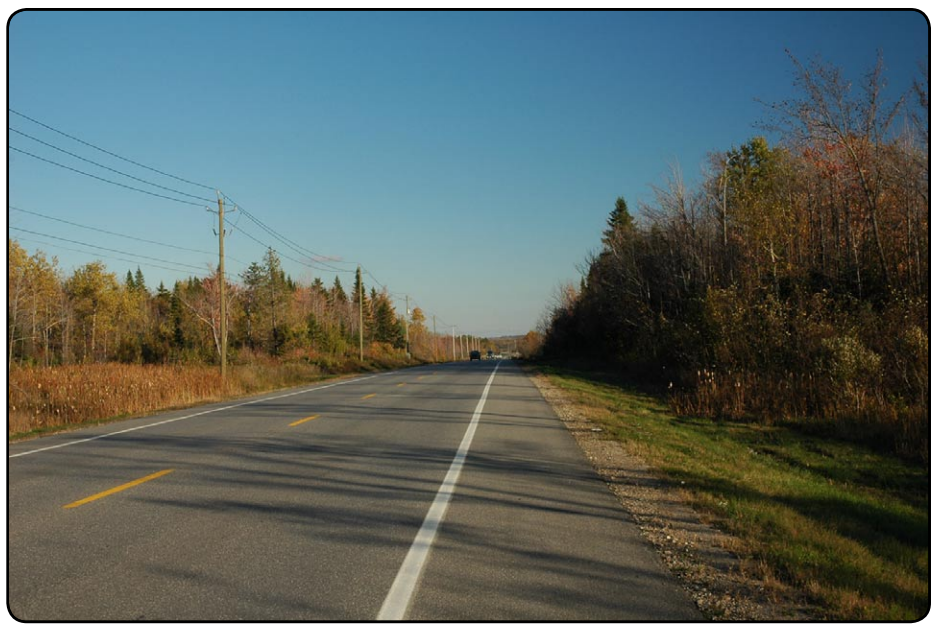
Viewpoint 185

Viewpoint 186

Viewpoint 187

Viewpoint 188

Viewpoint 189



Viewpoint 190

Viewpoint 191


Viewpoint 192

# Appendix B - Photo Log

* Denotes Image Used in Visual Simulation

## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

Marble River
Wind Farm

March 2006

Viewpoint 193

Viewpoint 194

Viewpoint 195

# Appendix B - Photo Log

* Denotes Image Used in Visual Simulation

## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

Marble River
Wind Farm

March 2006

Marble River Windpower

Date: 10-21-05 Weather: Winds: Sheet: ___of___ Car #:

Balloon One: Lat: Long: GPS: 91 Orange Balloon / Yellow Fins

Balloon Two: Lat: Long: GPS: 54 Yellow Balloon / Orange Fins

Balloon Three: Lat: Long: GPS: 11 Yellow - Red Fins

Balloon Four: Lat: 44.98620 Long: 73.88354 GPS: Orange / Green Fins

| VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1337 - 1346 | 9:06 A.M | X | | | | ACROSS STREET FROM - CARTER RESIDENCE BRANDY BROOK RD. |
| 2 | 2 | 1347 - 1352 | 9:18 | X | | | | 293 WESTHILL RD - RANDALL RES. |
| 3 | 3 | 1353 - 1363 | 9:34 | X | X | X | | "GRAND VISTA" BALLOON 1 ABOVE SINGLE SILO. BAL. 2 ABOVE DOUBLE SILOS. |
| ~~4~~ | ~~4~~ | ~~1364 - 1367~~ | ~~9:43~~ | ~~X~~ | | | | ALL 4 BALLONS DEF. VISIBLE! MOORE RD. (SANOE RD?) |
| 4 | 4 | 1364 - 1567 | 9:43 | X | | | | |
| 5 | 5 | 1368 - 1376 | 9:47 | X | X | | | STAHL ROAD ADJACENT RED BARN & FARM HOUSE (BREEZY HILL) |
| 6 | 6 | 1377 - 1379 | 9:51 | | X | | | BOHEN RD |
| 7 | 7 | 1380 - 1387 | 9:55 | | X | | | BOHEN RD. ADJACENT YELLOW BARN. |
| 8 | 8 | 1388 - 1392 | 10:09 | X | X | | | GAGNIER RD. |
| 9 | 9 | 1393 - 1398 | 10:07 | X | | | | GAGNIER RD. |
| 10 | 10 | ~~1399~~ 3554 | 10:31 | X | | | | GAGNIER RD. |
| 11 | 11 | 3555 - 3556 | 10:44 | X | ? | | | STAHL RD. 7187 |
| | | | | | | | | RTE 11 INFRONT of CEMETERY GATES (ST. EDMONDS CEM.) |
| 12 | 12 | 3557 | 10:58 | | | | | (POSSIBLE OTHER BALLOONS ARE VISIBLE - HOWEVER COULD NOT SEE) |
| 13 | 13 | 3558 | 11:01 | | | | | ELLENBURGH DEPOT (NO BALLONS VISIBLE) |
| | | | | | | | | LAKE ROXANNE... "YOU DONT HAVE TO TURN ON THE RED LIGHT" (NO BALLOONS VISIBLE) |
| 14 | 14 | 3559 | 11:08 | | | | | |
| 15 | 15 | 3560 - 3568 | 11:16 | | X | | | COLD SPRINGS RD. & MILITARY RD. INTERSECTION. |
| 16 | 16 | 3569 - 3576 | 11:28 | X | | | | MILITARY RD. (BALLOON 2 VISIBLE - OTHERS POSSIBLY VISIBLE AS WELL) |
| 17 | 17 | 3577 - 3579 | 11:35 | | | | | STAHL RD. (BALLOON 1 VISIBLE - OTHERS POSSIBLY VISIBLE) |
| 18 | 18 | 3580 | 11:40 | | | | | ARNO RD & I90 INTERS. (NONE VISIBLE / HOWEVER OTHERS MAY BE BE VISIBLE) |
| 19 | 19 | ~~3581~~ 3581 - 3588 | 11:47 | X | X | | | STATE LAND/STATE FOREST ARNO RD. |
| 20 | 20 | 3589 - ~~3600~~ | 11:52 | X | | | | BALLONS 1 & 2 VISIBLE (OTHERS POSSIBLY VISIBLE) |
| 21 | 21 | 3601 | 12:42 P.M. | | | | | SILVER LANE DAIRY - BALLOON 1 VISIBLE (OTHERS POSSIBLY VISIBLE) |
| 22 | 22 | 3602 - 3609 | 12:45 | X | | | | SEASONAL STATE LAND RD |
| | | | | | | | | SMITH RD. ~~BALLOON~~ BALLOON #1 VISIBLE (LAST PHOTO COMMUNICATION TOWER) (OTHERS POSSIBLY VISIBLE) |
| 23 | 23 | 3610 | 12:47 | | | | | NO BALLOONS VISIBLE |
| 24 | 24 | 3611 - 3613 | 12:53 | X | | | | BALLOON 1 VISIBLE |

Jeff + Joe

**Marble River Windpower**

Date: 10-21-05 Weather: Winds: Sheet: ___of___ Car #:

| VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments |
|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 3614 - 3619 | 1:01 | | | | | BALLOONS 1 & 2 VISIBLE (MORE POTENTIALLY VISIBLE) |
| 26 | 26 | 3620 - ~~3626~~ | 1:17 | | | | | EDGE OF TOWN BALLOON 1 HIGHLY VISIBLE. |
| 27 | 27 | 3621 - 3622 | 1:20 | | | | | NO BALLOONS VISIBLE |
| 28 | 28 | 3623 - 3632 | 1:35 | | | | | EXCELLENT SHOT OVER WHOLE PROJECT SITE |
| ~~29~~ | ~~29~~ | ~~3633 -~~ | ~~1:48~~ | | | | | (BALLOONS 1 & 2 VISIBLE - COULD POTENTIALLY SEE #3) |
| 29 | 29 | 3633 - 3636 | 1:48 | | | | | (BALLOON 1 VISIBLE, BALLOON 2 BEHIND TREE) |
| 30 | 30 | 3637 - ~~3638~~ | 1:53 | | | | | (NO BALLOONS VISIBLE.) |
| 31 | 31 | 3638 | | | | | | (BALLOON 1 VISIBLE) |
| 32 | 32 | 3639 | | | | | | (NO BALLOONS VISIBLE) |
| 33 | 33 | 3640 - 3641 | | | | | | WEST HILL CEMETERY (BALLOON 1 HIGHLY VISIBLE) |
| 34 | 34 | 3642 - 3659 | 2:30 | | | | | SCENIC VISTA - BALLOONS 1-3 VISIBLE - MONTICELLO IN BACKGND. |
| 35 | 35 | 3660-3661 | 2:36 | | | | | BALLOONS 1 & 2 VISIBLE 94 RYAN RD. |
| 36 | 36 | 3662 - 3671 | 2:38 | | | | | BALLOONS 1 & 2 VISIBLE |
| 37 | 37 | 3672 3674 | 2:50 | | | | | BALLOON 2 VISIBLE |
| 38 | 38 | 3675 - 3679 | 2:54 | | | | | BALLOON 2 HIGHLY VISIBLE (RED BARN & COWS. |
| (39 | NO GPS) | 3680 - 3690 | 3:00 | | | | | BALLOONS 1 & 2 VISIBLE 456 CHAMBERLAIN RD. |
| 40 | 40 | 3691 | 3:48 | | | | | (NO BALLOONS " ) |
| 41 | 41 | 3692 | 3:55 | | | | | |
| 42 | 42 | 3693 - 3704 | 4:02 | | | | | BALLOON 1 & 2 VISIBLE (INTERSECT. COUNTY LINE RD & SANGOMA RD) |
| | | | | | | | | |
| 43 | 43 | 3705 - 3713 | 4:18 | | | | | BALLOON 1 VISIBLE BUT LOW ON HORIZ. COUNTY LINE RD. |
| 44 | 44 | 3714 - 3715 | 4:23 | | | | | BALLOONS 1 & 2 VISIBLE NORTH 5 |
| 45 | 45 | 3716 - 3719 | 4:25 | | | | | " " |
| 46 | 46 | 3720 - 3723 | 4:27 | | | | | BALLOON 1 VISIBLE (BALLON 2 SLIGHTLY VISIBLE) NORTH 5 |
| 47 | ~~47~~ 46 GPS | 3724 - 3725 | 4:35 | | | | | BALLOON 2 VISIBLE RYAN RD. |
| ~~48~~ | ~~48~~ NO GPS | 3726 - 3727 | 4:41 | | | | | INTERSECTION HACKETT RD & STAR (378) & RYAN RD. |
| 49 | ~~47~~ 47 | ~~3728~~ - 3728 | 4:45 | | | | | HAMLIN RD (NO BALLOONS) |
| 50 | 48 | 3729 | 4:52 | | | | | BRAINARDSVILLE (NEAR INTERSECTION @ 374 |
| 51 | 49 | 3730 - 3731 | 4:57 | | | | | RTE 374 CHATAUQUA LAKE |
| 52 | 50 | 3730 - 3732 | 5:06 | | | | | CORNER CASSIDY & STAR RD. |
| 53 | 51 | 3733 - 3734 | 5:09 | | | | | NORTH 5 (BALLOON 2 LOW ON HORIZ.) |
| 54 | 52 | 3735 | 5:17 | | | | | RYAN RD. |

**Marble River Windpower**

Date: Weather: Winds: Sheet: ____of____ Car #:

| VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments |
|---|---|---|---|---|---|---|---|---|
| 55 | 53 | 3736 | 5:22 | | | | | RTE - 374. |
| 56 | 54 | 3737 | 5:36 | | | | | CHAINE RD. |

## Marble River Windpower

Date: 10-21 Weather: Winds: Sheet: 1 of ___ Car #: light blue

Balloon One: Lat: Long: GPS: 71 Orange Balloon / Yellow Ties

Balloon Two: Lat: Long: GPS:

Balloon Three: Lat: Long: GPS:

Balloon Four: Lat: Long: GPS:

| VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | -855 | 9:10 | | | | | Utility pole # 6 |
| 2 | 2 | 856 - 860 | 9:18 | | | | | " " #25 |
| 3 | 3 | 857 - 863 | 9:54 | | | | | open feild to right just past Rd. (Nephew) |
| 4 | 4 | 864 - | 9:57 | | | | | Driveway to log Cabin |
| 5 | 5 | 865 | 9:59 | | | | | Bush - Nephew Intersection |
| 6 | 6 | 866 | 10:01 | | | | | corn feild to left - other feild to left |
| 7 | 7 | 867 - 868 | 10:02 | | | | | intersection Canoe Corners Rd. |
| 8 | 8 | 869 - | 10:06 | | | | | electric Box #10 |
| 9 | 9 | 870 - 871 | 10:10 | | | | | STOP Ahead sign to left |
| 10 | 10 | 872 - 873 | 10:13 | | | | | WATer to Right, utility pole to left |
| 11 | 11 | 874 - [redacted]879 | 10:17 | | | | | Intersection Droon Rd |
| 12 | 12 | [redacted] 886 | 10:21 | | | | | feild to left Directly before utility pole (South) |
| 13 | 13 | 881 - 884 | 10:26 | | | | | open feild to left - top of Hill |
| 14 | 14 | 885 - 893 | 10:31 | | | | X | intersection - Colgan Rd to right. |
| 15 | 15 | 894 - 896 | 10:34 | | | | | just past white house on right |
| 16 | 16 | 894 - 901 | 10:42 | | | | X | posted Sign to right Along wire & fence |
| 17 | 17 | 902 - 905 | 10:46 | | | | | Power Pole #17 to left |
| 18 | 18 | 906 - 914 | 10:57 | | X | | | Utility Pole # 243 |
| 19 | 19 | 915 - 9:31 | 11:01 | | | X | | Fence intersection, pole # 69 Left side other |
| 20 | 20 | 9:32 - 9:45 | 11:04 | | | X | | Utility pole # 24 to right - also Abandoned Shed |
| 21 | 21 | 9:46 - 9:56 | 11:06 | | | X | | seasonally maintained road to right, green house Across Rd. |
| 22 | 22 | 9:57 - 960 | 11:09 | | | X | | South 189 Sign on right |
| 23 | 23 | 961 - 964 | 11:11 | | | X | | turning East At Liberty Pole Rd |
| 24 | 24 | 965 - 972 | 11:14 | | | | X | posted Sign, edge of feild |
| 25 | 25 | 973 - 983 | 11:18 | | | X | X | posted Sign across from utility pole. |
| 26 | 26 | 984 - 990 | 11:26 | | Y | | | grey house to right, before driveway |
| 27 | 27 | 991 - 999 | 11:29 | | | | | Utility pole # 29 left side of Rd (wood) |
| 28 | 28 | 999 - 1017 | 11:32 | | | X | | Cold Sign to left |
| 29 | 29 | 1018 - 1030 | 11:35 | X | X | | | immediately Past Grey house |

BALLOON 4 UP @ 9:50 E @ 44.48620 73.88354

**Marble River Windpower**

Date: 10·21 Weather: Winds: Sheet: 2 of ____ Car #: light Blue

| VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments |
|---|---|---|---|---|---|---|---|---|
| 30 | 30 | 1031 1043 | 11:39 | | X | | | 306/20 utility pole # |
| 31 | 31 | 1044 - 1050 | 12:05 | | | | | Speed Limit Sign east |
| 32 | 32 | 1051 - 1061 | 12:09 | | | | | Top of Hill |
| 33 | 33 | 1062 - 1066 | 12:12 | X | | | | Across from Red Barns - |
| 34 | 34 | 1067 - 1077 | 12:20 | | X | X | | Brown Rd. to right. |
| 35 | 35 | 1078 - 1085 | 12:24 | | | | | Utility Pole # 109 (N) |
| 36 | 36 | 1086 - 1093 | 12:30 | | | | | open feilds either side Before White house |
| 37 | 37 | 1094 - 1096 | 12:40 | | | | | Before curve in Rd. fenced in Deer |
| 38 | 38 | 1097 - 1100 | 12:43 | | | | | utility pole Nynex # 116 to right |
| 39 | 39 | 1101 - 1105 | 12:49 | | | | | past Sr. citizen housing, fence on left |
| 40 | 40 | 1106 - 1107 | 12:52 | | | | | seasonal maitence Rd. wire fence to left |
| 41 | 41 | 1108 | 1:01 | | | | | Mail Box # 48 to right |
| 42 | 42 | 1108 | 1:03 | | | | | STORK IN FRONT OF White house on left |
| 43 | 43 | 1109 | 1:16 | | | | | posted sign past Seasonal maitence Rd - right |
| 44 | 44 | 1110 - 1112 | 1:12 | | | | | 'wet land' to left |
| 45 | 45 | 1113 - 1115 | 1:17 | | | | X | Clinton mills rd. approx 1 mile east of LaFrancias Rd. |
| 46 | 46 | 1116 ~ 1119 | 1:22 | | | X | | Water east |
| 47 | 47 | 1120 - 1121 | 1:30 | | | X | | left turn yellow Sign on right |
| 48 | 48 | 1122 - 1127 | 1:35 | | | X | | Utility pole # 210216 - Nynex 12 |
| 49 | 49 | 1128 - 1131 | 1:38 | | | X | | Jones Rd / Merchia Rd intersect |
| 50 | 50 | 1132 | 1:44 | | | | | POSTED Sign |
| 51 | 51 | 1133 | 1:46 | | | | | BIK mail Box 428 |
| 52 | 52 | 1134 | 1:49 | | | | | intersect Wheeler Rd |
| 53 | 53 | 1135 | 1:51 | | | | | top hill |
| 54 | 54 | 1136 | 1:54 | | | | | mailbox 544 |
| 55 | 55 | 1139 - 1140 | 1:58 | | | | | intersect SAINTMORE RD FROM nothern to right |
| 56 | 56 | 1141 - 1142 | 2:00 | | | | | Across rd From mail box 122 |
| 57 | 57 | 1143 - 1144 | 2:04 | | | X | | WOODED Area to right before Stop Ahead Sign. |
| 58 | 58 | 1145 - 1146 | 2:08 | | | X | | past Saintmore to Frontier Before Stop Ahead sign. |
| 59 | 59 | 1147 - 1153 | 2:09 | | | X | | Tractor Sign, two Houses right (South) |
| 60 | 60 | 1154 - 1155 | 2:13 | | | X | | WATER to south & N |
| 61 | 61 | 1156 | 2:16 | | | | | T Hill sign 3/4 miles to right |

**Marble River Windpower**

Date: 10·21 Weather: Winds: Sheet: 3 of ___ Car #:

| | VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 62 | 62 | 1157 | 2:18 | | | X | | Utility pole Leg 116 |
| 9 | 63 | 63 | 1158 | 2:21 | | | X | | Posted Sign, OPPOSITE HEDGEROW |
| 20 | 64 | 64 | 1159 | 2:24 | | | X* | | Open field past White trailer *(BALLOON three possibly behind tree) |
| 21 | 65 | 65 | 1160 - 1164 | 2:27 | | | X | | " " " top of hill |
| 22 | 66 | 66 | 1165 - | 2:30 | | | | | intersection w/ Seasonal RD., Bottom of Hill |
| 23 | 67 | 67 | 1166 1167 | 2:33 | | | | | pole in field to left (0) - open field to right. |
| 24 | 68 | 68 | 1168 - | 2:34 | | | | | White Structure to right (2) |
| 25 | 69 | 69 | 1169 - | 2:40 | | | | | Across from gated entrance |
| 26 | 70 | 70 | 1171 | 2:43 | | | | | Intersect w/ Smith Rd. facing East |
| 27 | 71 | 71 | 1172 | 2:47 | | | | | facing field East past White House |
| 28 | 72 | 72 | 1173 - 1174 | 2:51 | | | | | POSTED AREA W/ GATE TO RIGHT. |
| 29 | 73 | 73 | 1175 - 1176 | 2:58 | | | | | utility pole to left - Posted WOODED AREA to right. |
| 30 | 74 | 74 | 1177 | 3:00 | | | | | 890 - house # on left - Elderly Home |
| 31 | 75 | 75 | 1178 - 1179 | 3:02 | | | | * | EARLVILLE METHODIST CHURCH TO RIGHT *(2ND PIC OF CHURCH ONLY) |
| 32 | 76 | 76 | 1180 - | 3:06 | | | | | EARLVILLE CEMETARY ON RIGHT |
| 33 | 77 | 77 | 1181 | 3:08 | | | | | ACROSS FROM BROWN HOUSE (NAME COWAN ON FRONT) |
| 34 | 78 | 78 | 1182 - 1183 | 3:11 | | | | | [redacted] FIELD FACING S. APPROX 1/10 mile on WOODS NOAH |
| 35 | 79 | 79 | 1184 - 1190 | 3:14 | | | | * | FORT HICKORY SIGN ON RIGHT *(PICTURE TAKEN OF SIGN) |
| 36 | 80 | 80 | 1191 - 1192 | 3:22 | | | | | immediately After tan house |
| 37 | 81 | 81 | 1193 - 1199 | 3:24 | | X | | | Sharonville Rd. Before White Farm House - Red Barn on right |
| 38 | 82 | 82 | 1200 - 1201 | 3:32 | | | | | WOODED AREA TO RIGHT - Utility Pole # 20 left |
| 39 | 83 | 83 | 1202 - | 3:42 | | | | | Across from utility pole w/ POSTED Sign facing E |
| 40 | 84 | 84 | 1204 - 1206 | 3:46 | | | | | open field to right before farm. |
| 41 | 85 | 85 | 1207 - 1209 | 4:21 | | | | | cemetary Rd. - before actual cemetary Rd Barn on right |
| 42 | 86 | 86 | 1210 - 1217 | 4:27 | | | | | Cemetary rd. Just Past tan House w/ purple roof |
| 43 | 87 | 87 | 1218 - 1232 | 4:29 | | | | | Seaman RD Before Sharp Curve |
| 44 | 88 | 88 | 1233 - 1240 | 4:44 | | | | | Retaining Pond Front Area - on rear. |
| 45 | 89 | 89 | 1241 - 1246 | 4:45 | | | | | HIGH FALLS PARK ENTRANCE |
| 46 | 90 | 90 | 1247 - 1257 | 4:48 | | | | | CENTER OF BRIDGE |
| 47 | 91 | 91 | 1258 - 1268 | 4:51 | | | | | CORNFIELD ON RIGHT Before trailor; Red BARN/Silo |
| 48 | 92 | 92 | 1269 - 1274 | 4:53 | | | | | UNDER POWER LINES |
| 49 | 93 | 93 | 1292 - 1274 | 4:55 | | | | | PINE TREES TO LEFT - Field for 2. |

**Marble River Windpower**

Date: 10.21 Weather: Winds: Sheet: 7 of ___ Car #:

| VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments |
|---|---|---|---|---|---|---|---|---|
| 94 | 94 | 1295 | 4:58 | | | | | Gorge opening on left |
| 95 | 95 | 1276 - 1279 | 5:01 | | | | | WOODS ON RIGHT, open field left " " " " |
| 96 | 96 | 1280 - 1281 | 5:03 | | | | | |
| 97 | 97 | 1282 - 1289 | 5:09 | X | | | | Utility pole # 104A55 |
| 98 | 98 | 1290 - 1294 | 5:15 | | | | | Bottom of Hill |
| 99 | 99 | 1895 - | 5:20 | | | | | YARD w/ utility pole to left, |
| 100 | 100 | 1296 - 1298 | 5:29 | | | | | DEAD END RD. |

Kellie

## Marble River Windpower

Date: 10.21.05 Weather: MOSTLY CLEAR, SUNNY 34°AM Winds: LOW Sheet: 1 of 2 Car #:

| | | | | | | |
|---|---|---|---|---|---|---|
| Balloon One: | Lat: 44.87234 | Long: 73.94378 | 7:00am +/- | GPS: 001 | ORANGE W/ YELLOW FIN |
| Balloon Two: | Lat: 44.91629 | Long: 73.95252 | 8:00am +/- | GPS: 002 | YELLOW W/ ORANGE FIN |
| Balloon Three: | Lat: 44.98128 | Long: 73.93796 | 9:00am +/- | GPS: 003 | YELLOW W/ RED FIN |
| Balloon Four: | Lat: 44.98620 | Long: 73.88354 | 9:50am | GPS: 004 | ORANGE W/ GREEN FIN |

| | VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments |
|---|---|---|---|---|---|---|---|---|---|
| 57 | 1 | 005 | ~~RSA~~ 909 | 10:26 am | | | | | CAN.- COVEY HILL RD RURAL RES/AG. |
| 58 | 2 | 006 | ~~RSA~~ 910-914 | 10:37 | | | | X | CAN:- COVEY HILL RD NEW HAVELOCK RURAL AG- VINEYARD |
| 59 | 3 | 007 | 915- | 10:46 | | | | | CAN - COVEY HILL RD ZION CHURCH 1869 (HIST.) - NO VIS. |
| 60 | 4 | 008 | 916- | 11:04 | | | | | CAN - COVEY HILL RD · ~~HSA~~ HAM. COVEY HILL RURAL RES/HAMLET |
| | | | | | | | | | * RURAL AG = VINEYARD/ORCHARD/HORSES/# ESTATES |
| 61 | 5 | 009 | 917-923 | 11:12 | | | | | CAN - HAMLET OF HAVELOCK TOWN HALL (HIST) |
| 62 | 6 | 010 | 924-927 | 11:21 | | | | | CAN - RT. 202 RIDGEVIEW CHURCHYARD (HIST) |
| 63 | 7 | 011 | 928-932 | 11:34 | | | | | CAN. RT. 202/201 INTR RIDGEVIEW RURAL RES. |
| 64 | 8 | 012 | 933-936 | 11:41 | | | | | CAN. RT. 201 VILLAGE ST. ANTOINE-ABBE' |
| 65 | 9 | 013 | 937-941 | 11:45 | | | X | | CAN. RT. 201 VILL. ST. ANTOINE SCHOOL YARD |
| | | | | | | | | | JUST ABOVE TREE LINE BY STATE FLAG |
| 66 | 10 | 014 | 942-945 | 11:53 | | | | | CAN. RT. 209 & GERVAIS RD LONG VIEW TO RIDGE |
| 67 | 11 | 015 | 946 | 12:14 | | | | | CAN. RT. 209 & RT 202 INTR. HAM. FRANKLIN CTR. |
| 68 | 12 | 016 | 947-956 | 12:17 | | | X | X | CAN. RT. 209 - TWO BALLOONS |
| | | | | | | | | | 947-951 = BALLOON #4 / 952-956 = BALLOON #3 |
| 69 | 13 | 017 | 957-966 | 12:30 | | | X | X | CAN. POLLICA ROAD TO HAM OF ROCKBURN |
| | | | | | | | | | 957-961 = BALLOON #4 / 962-966 = BALLOON #3 |
| 70 | 14 | 018 | 967-972 | 12:37 | | | X | X | CAN. POLLICA & CLINTON INTR. 2 BALLOON/1 SHOT |
| 71 | 15 | 019 | 973-976 | 12:45 | | | § | | CAN. RT 202 HAMLET OF ROCKBURN |
| 72 | 16 | 020 | 977-981 | 12:56 | | | X | | CAN. CONCESSION RD. RURAL AG |
| 73 | 17 | 021 | 982-986 | 1:17 | | | | X | CAN. RANG HUIT RD & SHARPE RD. RURAL |
| 74 | 18 | 022 | 987-991 | 1:33 | | | | X | CAN. RT. 201 - 5 MI OUT HIGHWAY/WETLAND |

CANADA

· COVEY HILL RD IS CREST/RIDGE TO WHICH THE CANADIAN SIDE FALLS QUICKLY TO A VALLEY CONDITION. LONG, EXPANSIVE VIEW TO QUEBEC PROV/ MONTREAL. LOVELY VISTA & HOMES FACE IT.
* LOTS OF NICE ESTATE PROPERTIES ON COVEY HILL RD.

## Marble River Windpower

Date: 10.21.05 Weather: MOSTLY SUNNY Winds: LOW Sheet: 2 of 2 Car #:

U.S. ROUTE 11

| VP # | GPS # | Photo Reference | TIME | Balloon Visible 1 | 2 | 3 | 4 | Location/ Similarity Zone/ Comments | |
|---|---|---|---|---|---|---|---|---|---|
| 19 | 023 | 992-994 | 2:50 pm | | | | | RT. 11 · NORTH BRANCH CHAZY RIVER DEC PULLOFF | 175 |
| 20 | 024 | 995- | 2:55 pm | | | | | RT. 11. NB CHAZY RIVER RAPIDS/EUENBURG DEPOT | 176 |
| 21 | 025 | 996-999 | 2:59 pm | | | | | RT 11 · WELCOME TO ELLENBURG (DEPOT) | 177 |
| 22 | 026 | 1000-1003 | 3:09 pm | | | | | RT 11. & BULL RUN INTR. HAMLET/VILL | 178 |
| 23 | 027 | 1004-1008 | 3:19 pm | | X | | | RT 11. & RT. 189 INTR. RURAL RES. | 179 |
| 24 | 028 | 1009-1010 | 3:31 pm | | | | | RT 11. VILLAGE OF CHATEAUGAY | 180 |
| 25 | 029 | 1011-1014 | 3:34 pm | | | | | RT 11. HEART OF VILLAGE CHATEAUGAY | 181 |
| 26 | 030 | 1015- | 3:38 | | | | | RT 11. LEAVING VIL. CHAT./CHARA. SHOT | 182 |
| 27 | 031 | 1016-1020 | 3:41 | | | | | RT 11. CEMETERY - (ROSEMOUNT) (EVERGREEN) | 183 |
| 28 | 032 | 1021- | 3:49 | | | | | RT 11. CEMETERY (EASTSIDE) | 184 |
| 29 | 033 | 1022-1027 | 3:52 | | | | | RT 11. CHARACTER SHOT BY NYS CORRECTIONS | 185 |
| 30 | 034 | 1028- | 3:59 | | | | | RT 11. CHARACTER SHOT | 186 |
| 31 | 035 | 1029-1033 | 4:06 | | X | | | RT 11 & ~~CITY LINE~~ ROAD INTR (DICK'S CITY STORE) LOST NATION | 187 |
| 32 | 036 | 1034-1038 | 4:11 | | X | | | RT 11 NEAR PATNODE RD RURAL AG | 188 |
| 33 | 037 | 1039-1046 | 4:14 | | X | | | RT 11 & PATNODE RD INTER. (BUGS) | 189 |
| 34 | 038 | 1047- | 4:23 | | | | | RT 11 - NEAR CASHMAN & POST 8773 CHARA. SHOT | 190 |
| 35 | 039 | 1048- | 4:26 | | | | | RT 11 · APPROACHING ELLENBURG VILLAGE | 191 |
| 36 | 040 | 1049-1052 | 4:29 | | | | | RT 11 ELLENBURG - SCHOOL & MOTEL AREA | 192 |
| 37 | 041 | 1053- | 4:33 | | | | | RT 11 ELLENBURG - MUNI BLDG/CHURCHES | 193 |
| 38 | 042 | 1054-1058 | 4:54 | X | | | | RT 190 & TRACEY RD INTER. RURAL AG/ADK | 194 |
| 39 | 043 | 1059-1064 | 5:15 | | | | | RT 190 NEAR TRACEY RD - SCENIC VISTA? | 195 |

RT. 11 NOT A TYPICAL SCENIC BY-WAY IN SCENERY. MORE HISTORICAL IMPORTANCE. MUCH UNDEVELOPED / REVERTING AG LAND WITH OCCASIONAL VISTAS TO CANADA AND ADIRONDACKS. BALLOONS NOT OVERTLY VISIBLE EXCEPT FOR MID-SECTION OF BYWAY.

H. EAST → WEST → EAST

1 - SCENIC VISTA

CA 1

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 12/14/05

**Viewpoint #** 3

**Viewpoint Description:**

Rural landscape with some agriculture. Horizon is Flat. Foreground cultivated mid & background un cultivated (natural wood lots) Line is horizontal; large scale; color - ground is green to brownish and sky is light blue; texture is smooth to medium texture; form is wide open.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | line, scale, color texture & form are not compatible |
| Land Use | 3 | line & scale are not compatible color and texture & form |
| Land Form | 2 | Scale & form are not compatible line, color & texture are compatible |
| Viewer Activity | 2 | line, color, texture & form are compatible scale is not |
| Water | NA | |
| Total ÷4 | 11.0 | |
| Average Score | 2.75 | |

**Overall Aesthetic Impact:**

Any development other than agricultural would be an impact in this view. The greatest impact is the scale of the machines. Color also draws attention to the machines but is not a negative impact because of colors in the foreground as well as sky.

LA2

# Marble River Visual Assessment

**Panel Member:** PAUL FRITZ

**Date:** 12/14/05

**Viewpoint #** 3

**Viewpoint Description:**

Viewer focus is along road ', towards two distinct lines in the landscape: 1) the horizontal line at the base of the cross road and 2) the horizon line off in the distance. The scale of the view is large and wide open. The foreground view consists of open/short grass. Middleground is interspersed with woodland vegetation that contrasts in texture in comparison to the foreground.

## Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | Strong contrast in ht, /scale and color. |
| Land Use | 3 | Rural/agricultural use remains dominant |
| Land Form | 3 | Rolling landform and slight undulations remain predominant |
| Viewer Activity | 4 | Viewer attention altered by turbine presence because of expanse and # of turbines in view |
| Water | N/A | |
| Total ÷4 | 14.0 | |
| Average Score | 3.50 | |

**Overall Aesthetic Impact:**

The wide expanse of turbines on the landscape significantly contrasts the viewer activity and adjacent vegetation. The most. The color contrast has less impact because most of the turbines in view slightly blend in with the sky. Texture contrast is not an issue because the turbines blend in with the middleground textures.

LA 3

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 14, 2005

**Viewpoint #** 3

**Viewpoint Description:**

SCENIC VISTA OF ROLLING WOODED HILLSIDE AGRICULTURAL AREA. SINGLE FAMILY RESIDENCES AND BARN STRUCTURES IN THE FOREGROUND. TREED UNDULATING TERRAIN VISIBLE IN THE BACKGROUND TO THE HORIZON.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 3 | WHILE THE SCALE AND TEXTURE OF TURBINES IN T FOREGROUND CONTRAST, THE DISTANT TURBINES BLEN WITH THE SK |
| Land Use | 4 | TURBINE FORM IS STRIKINGLY DIFFERENT FROM AGRICULTURAL FIELDS & WOODLAND |
| Land Form | 3 | TURBINE CONCENTRATION APPEARS AS AN INTERMEDIATE LINEAR BAND BETWEEN LAND & SK |
| Viewer Activity | 2 | TURBINE MASSING ADDS ANOTHER ELEMENT OF INTEREST WITH ITS CONTRASTING FORM |
| Water | NA | |
| Total ÷4 | 12.0 | |
| Average Score | 3.0 | |

### Overall Aesthetic Impact:

TURBINE CONCENTRATION AND DISTRIBUTION COMPLIMENT THE VISTA. TURBINE COLOR IS COMPATIBLE WITH SKY COLOR WHILE CONTRASTING TREES. DISTRIBUTION ADDS PERSPECTIVE.

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 12/14/05

**Viewpoint #** 8

**Viewpoint Description:**

Foreground is cultivated agricultural, remainder is rural, wooded. Background is mountainous. The line of the horizon is rolling; Scale is large, color is green, brown dark grey & white & blue in sky; texture is smooth to medium; form is open

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 3 | line, color, are compatible<br>Scale, texture & form are not |
| Land Use | 1 | line, color, texture & form are compatible<br>Scale is not |
| Land Form | 2 | color, texture & form are compatible<br>line, scale are not. |
| Viewer Activity | 1 | line, color, texture & form are compatible<br>Scale is not |
| Water | N.A. | |
| Total ÷4 | 7.0 | |
| Average Score | 1.75 | |

**Overall Aesthetic Impact:**

Scale is the significant factor in this view. However, overall I do not consider this view negatively impacted by the installation of the machines

## Marble River Visual Assessment

**Panel Member:** PAUL FRIER

**Date:** 12/14/05

**Viewpoint #** 8

**Viewpoint Description:**

Common Rural/agricultural landscape with cropfield and farm structures w/in views. Foreground and middleground textures are course and colors are dark hues. Background texture is smooth and shades of gray is present. The viewer follows the horizontal lines in the foreground defined by the field. The cropfield pattern is also captures the viewer's attention. The landform in the background is large in scale, and contrasts the foreground/middleground landform. (Foothills)

**Visual Impact**

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | The ht. of the turbines contrast all surrounding veg., shading on turbines minimizes color contrast |
| Land Use | 3 | The rural/ag. use is not disturbed, but the turbines add complexity |
| Land Form | 3 | Varying ht. of the turbines is a result of undulating landform |
| Viewer Activity | 3 | The large scale of the two forward turbines alters the viewer focus toward the structures |
| Water | N/A | |
| Total ÷4 | 13.0 | |
| Average Score | 3.25 | |

**Overall Aesthetic Impact:**

The view narrows in this condition due to the frame created by the two forward turbines. The turbines within the frame and within the middleground appear condensed and almost touching creating more curiosity to the viewer a sense of complexity that is not felt when looking at other turbines with greater space between them. The impact of the two forward turbines might be reduced if the turbines were located behind the hedgerow.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 14, 2005

**Viewpoint #** 8

**Viewpoint Description:**

CLOSE UP VIEWS OF AGRICULTURAL FIELD. RECENTLY HARVESTED CORN FIELD WITH 2 TURBINES VISIBLE IN THE FOREGROUND, SEVERAL TURBINES EMERGE FROM THE WOODED MIDDLE GROUND AND ROLLING HILLS ARE VISIBLE IN THE DISTANT BACKGROUND.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | TURBINES IN CLOSE PROXIMITY APPEAR LESS COMPATIBLE WITH FORM & SCALE OF VEGETATION WHILE MORE DISTANT TURBINES APPEAR MORE IN SCALE. |
| Land Use | 3 | PRESENCE OF TURBINES IN THIS CONCENTRATION DOES NOT OVERPOWER THE AGRICULTURAL SCALE |
| Land Form | 2 | TURBINE DISTRIBUTION HAS LITTLE IMPACT ON THE FORM AND TEXTURE OF THE LANDSCAPE. |
| Viewer Activity | 2 | THE LINE AND SCALE OF TURBINES IN CLOSE PROXIMITY ADD INTEREST. MORE DISTANT TURBINES ADD PERSPEC |
| Water | NA | |
| Total ÷ 4 | 11.0 | |
| Average Score | 2.75 | |

### Overall Aesthetic Impact:

TURBINES IN THE FOREGROUND ADD FACINATION TO THE VIEW WHILE MORE DISTANT TURBINES WILL ADD MOTION TO A SOMEWHAT STATIC VISTA.

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 12/14/05

**Viewpoint #** 15

**Viewpoint Description:**

Rural hamlet. Concentration of buildings with surrounding agricultural use & natural (undeveloped) land. The horizon is locally flat; scale is mediumum to large; color predominantly green & brown with white & blue in the sky; texture is medium; & form semi enclosed to open.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 1 | line, scale, color, texture & form are compatible |
| Land Use | 1 | Same |
| Land Form | 1 | line, scale, color, texture & form are compatible |
| Viewer Activity | 1 | Same |
| Water | | |
| Total ÷ 4 | 4.0 | |
| Average Score | 1.0 | |

**Overall Aesthetic Impact:**

There is very little impact in this view. The machines are well off in the distance & the foreground has enough happening to diminish any impact of the machines.

## Marble River Visual Assessment

**Panel Member:** PAUL FRITZ

**Date:** 12/14/05

**Viewpoint #** 15

**Viewpoint Description:**

Sense of arrival into a rural hamlet type of development. View concentration is on foreground fields and middleground structures. Background is somewhat obscured by hill landform. Roadside fencing and utility poles have a sense of pattern and repitition. The structures are irregular in location, size, form, and color. View has a range of variety.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | turbine contrast in ht. vegetation ht. and color. |
| Land Use | 3 | limited alteration to ex. rural/agr. use surrounding hamlet development |
| Land Form | 2 | middleground landform remains dominant at screens. |
| Viewer Activity | 2 | development at foreground remains dominant |
| Water | N/A | |
| Total +4 | 11.0 | |
| Average Score | 2.75 | |

### Overall Aesthetic Impact:

The vegetation contrast is less contrasting than other views because the entire scale of the turbine is not visible. The view is complex - the variety of objects in the landscape in the foreground and middleground minimize the visual impact of the turbines because they occupy the viewer's attention.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 14, 2005

**Viewpoint #** 15

**Viewpoint Description:**

VIEW ALONG RURAL HIGHWAY TOWARD SMALL RURAL COMMUNITY. GRAZING LAND AND SCRUB GROWTH IN THE FOREGROUND WITH A TYPICAL MIX OF SMALL RESIDENCES, CHURCH, SCHOOL BEYOND THE SCRUB TREE GROWTH. TURBINES ARE VISIBLE ALONG THE HORIZON.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 1 | TURBINE COLOR REPLICATES SKY COLOR AND DOES NOT COMPETE WITH VEGETATION AT THIS SCALE. |
| Land Use | 2 | TURBINE SCALE AND FORM AT THIS DISTANCE HAVE ALMOST NO IMPACT |
| Land Form | 1 | TURBINES AGAINST THE SKY AT THIS DISTANCE ARE ALMOST INVISIBLE |
| Viewer Activity | 1 | TURBINES CONTRAST ONLY THE CHURCH STEEPLE WHI RISES ABOVE THE TREE LINE. TURBINE SCALE ADDS INTRE |
| Water | NA | |
| Total ÷ 4 | 5.0 | |
| Average Score | 1.25 | |

### Overall Aesthetic Impact:

THE UNIFORM DISTRIBUTION OF TURBINES AT THIS CONSIDERABLE DISTANCE ADD AN ELEMENT OF INTEREST, BUT ONLY IF YOU FOCUS ON THEM DUE TO THEIR COMPATIBILITY WITH SKY.

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 12/14/05

**Viewpoint #** 34

**Viewpoint Description:**

Panoramic view. Area is undeveloped with some farming development exceptions. Line is strongly horizontal; scale is large; color is brown/green with blue to white sky; texture medium; form is open.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | line, scale, color & form are not compatible texture is somewhat compatible |
| Land Use | 3 | line scale & color are not compatible texture & form are compatible |
| Land Form | 5 | line, scale, color and form are in strong contrast; texture is somewhat compatible |
| Viewer Activity | 3 | texture & form are compatible line, color & scale are not |
| Water | NA | |
| Total ÷4 | 15.0 | |
| Average Score | 3.75 | |

**Overall Aesthetic Impact:**

While I find the view generally uninteresting and the wind machines create interest, the expanse of the wind farm area creates a negative impact.

## Marble River Visual Assessment

**Panel Member:** PAUL FRITZ

**Date:** 12/14/05

**Viewpoint #** 34

**Viewpoint Description:**

Foreground view consists of open short grass/crop green field. Vertical lines of the road edge lead viewer's eye to the middleground. Distant horizontal lines are visible where the foreground meets the middleground hedgerow at the edge of the valley closest to the viewer and the horizon line which is barely visible. The view is wide open and expansive. The utility tower in the middleground is a distant vertical object that is contrasting in scale to the adjacent vegetation and landform.

**Visual Impact**

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | The towers closest to the viewer are less contrasting; the scale contrast is more apparent as the viewer's eye moves further away. |
| Land Use | 3 | The turbines dominate the middleground but not necessarily reduce rural character |
| Land Form | 3 | The vertical lines of the turbines slightly obscure the horizontal line continuity |
| Viewer Activity | 3 | Relatively undisrupted although expanse of number of turbines may draw viewer's eye to a wider angle |
| Water | N/A | |
| Total ÷4 | 13.0 | |
| Average Score | 3.25 | |

**Overall Aesthetic Impact:**

The wide expanse of the turbine locations and the total number creates a cumulative effect and another layer on the landscape that does not necessarily contrast with the existing rural character. The color of the turbines blends with the sky and minimizes the contrast with the flat topography.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 14, 2005

**Viewpoint #** 34

**Viewpoint Description:**

PANORAMIC VIEW FROM HILLSIDE VANTAGE POINT TO HORIZON. VIEW ALONG RURAL SECONDARY ROAD FLANKED BY AGRICULTURAL FIELDS WITH SCRUB TREE GROWTH AT THE BASE OF THE HILL AND HEAVILY TREED GENTLY ROLLING LAND CONCENTRATED WITH TURBINES SEEMINGLY EXTENDING TO THE HORIZON.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 3 | TURBINE TEXTURE CONTRASTS. ELEVATED VANTAGE POINT AND FOREGROUND TREES ACCENTUATE CONTRA |
| Land Use | 3 | TURBINE FORM IS A STRIKING CONTRAST IN 60% OF VISTA. LIMITS OF TURBINE FIELD IS VISIBLE. |
| Land Form | 4 | VISIBLE LIMITS OF TURBINE FIELD ACCENTUATES THE CONTRAST OF VISTA WITH + WITHOUT TURBINES. |
| Viewer Activity | 4 | VIEWER'S ATTENTION IS DRAWN TOWARD TURBI AS A DISTRACTION IN CONTRAST TO PARTIAL VISTA WITH TURBINE |
| Water | NA | |
| Total +4 | 14.0 | |
| Average Score | 3.50 | |

### Overall Aesthetic Impact:

WHILE THE PRESENCE OF TURBINES IN THE BACKGROUND PROVIDE A SOMEWHAT INTERESTING ASPECT, THE VISIBLE LIMITS OF THE TURBINE FIELD WITH ONE "APPARENTLY REMOTE" TURBINE IS DISTRACTING FROM THE OTHERWISE UNIFORM DENSITY.

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 12/14/05

**Viewpoint #** 38

**Viewpoint Description:**

Agricultural! Barns & cows & farm equipment dominate the view. The foreground is pasture and the background is undeveloped wood lot. Line is horizontal; scale is medium; color is green & brown with generally blue sky; texture is medium; form is open.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | Color & form are somewhat compatible line, scale, & Texture are not |
| Land Use | 3 | Color, texture & form are compatible line, scale are not |
| Land Form | 4 | Color is compatible line, scale, Texture & Form are not |
| Viewer Activity | 2 | Color, texture & form are compatible line, scale are not. |
| Water | | |
| Total ÷4 | 13.0 | |
| Average Score | 3.25 | |

**Overall Aesthetic Impact:**

The overwhelming impact is the scale. Secondly the vertical line of the machines also create impact.

## Marble River Visual Assessment

**Panel Member:** PAUL FEITZ

**Date:** 12/14/05

**Viewpoint #** 38

**Viewpoint Description:**

Rural pastoral and agricultural structures organizes the bottom half of the view. The middleground consists of woodland vegetation and dark colors. The top of the vegetation meets the horizon line. The sky organizes the top half of the view. View is common to the rural setting.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | The closest turbine strongly contrast the scale of the vegetation. |
| Land Use | 3 | Rural character remains dominant |
| Land Form | 3 | The flat topography remains relatively undamaged |
| Viewer Activity | 3 | Rural attributes remain relatively unchanged - still appears as a working landscape |
| Water | N/A | |
| Total ÷4 | 13.0 | |
| Average Score | 3.25 | |

**Overall Aesthetic Impact:**

The scale of the turbines in the middleground changes ones perspective of the space - meaning the space extends beyond the existing horizon line. The foreground view most impacted because the barn structure at adjacent vegetation becomes subordinate to the turbines.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 14, 2005

**Viewpoint #** 38

**Viewpoint Description:**

VIEW ACROSS A GRAZING FIELD AT TWO BARNS WITH WOODED AREA BEYOND. TWO TURBINES OF RELATIVELY DOMINAN SIZE ARE VISIBLE IN CLOSE PROXIMITY TO THE BARNS WITH SEVERAL ADDITIONAL TURBINES WITH MUCH LESS IMPOSING INFLUENCE AT A GREATER DISTANCE FROM THE BARNS.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 5 | THE SCALE OF THE TWO CLOSEST TURBINES DWARF THE ADJACENT TREES |
| Land Use | 3 | THE TURBINES FORM CONTRASTS THE BARN STRUCTURES IN CLOSE PROXIMITY. |
| Land Form | 4 | THE SCALE OF THE TWO CLOSEST TURBINES DOMINATES THE LANDSCAPE. |
| Viewer Activity | 3 | TURBINE LINES PARTIALLY CONTRAST THE BARN LINES BUT REFLECT ANGULAR ROOF LIN |
| Water | NA | |
| Total ÷ 4 | 15,0 | |
| Average Score | 3,75 | |

### Overall Aesthetic Impact:

THE MORE DISTANT TURBINES ARE REASONABLY WELL CONCEALED IN THE TREES. THE CLOSEST TURBINES COMMAND ATTENTION WHICH DETRACTS FROM THE PEACEFUL RURAL SETTING.

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 12/14/05

**Viewpoint #** 74

**Viewpoint Description:**

Rural development (house with out buildings) Cemetary in foreground mowed lawn in all of foreground. Background is undeveloped - Wood land. Line is horizontal; scale is medium to small; color is greed w/ white house & blue & white sky; Texture is medium; form is some what enclosed.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 1 | line, scale, color texture & form are compatible |
| Land Use | 1 | ~~the~~ same |
| Land Form | 1 | same (especially with utility poles in view) |
| Viewer Activity | 1 | same |
| Water | NA | |
| Total + 4 | 4.0 | |
| Average Score | 1.0 | |

**Overall Aesthetic Impact:**

There is no significant impact.

## Marble River Visual Assessment

**Panel Member:** PAUL FRITZ

**Date:** 12/14/05

**Viewpoint #** 74

**Viewpoint Description:**

Elements in the foreground dominate the view. The immediate foreground consists of residential scale buildings and open manicured lawn. There is a strong lack of a boundary around the cemetery monuments. Woodland edge defines the horizon line. Hedgerows and rural road also form visible lines in the landscape.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 1 | Turbine scale blends well with adjacent vegetation |
| Land Use | 3 | foreground structures remain dominant landscape feature and use |
| Land Form | 2 | minor undulations in landform reflected in varying ht. of turbines |
| Viewer Activity | 1 | Little or no impact on the activity because foreground conditions remain the same |
| Water | | |
| Total ÷ 4 | 7.0 | |
| Average Score | 1.75 | |

### Overall Aesthetic Impact:

There is minimal aesthetic impact in this view. The extent of the turbines beyond the horizon enlarges the spatial definition of the view, but the scale of the turbines at this color and texture blend in with the middleground.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 14, 2005

**Viewpoint #** 74

**Viewpoint Description:**

VIEW ACROSS MOWED LAWN TOWARD A WELL-KEPT RESIDENCE, DETACHED GARAGE AND SHED. BURIAL MARKERS ARE VISIBLE IN THE LAWN. FLANKING THE HOUSE AND BEYOND THE RURAL SECONDARY ROAD ON THE OPPOSITE SIDE OF THE HOUSE IS A MODERATELY DENSE WOODS WITH SEVERAL TURBINES RISING ABOVE THE TREES.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 1 | TURBINE HEIGHT IS IN SCALE WITH OTHER VERTICAL ELEMENTS INCLUDING TALLER TREES + UTILITY POLES |
| Land Use | 1 | TURBINE COLOR BLENDS WITH SKY AND UTILITY POLES IN SCALE WITH OTHER MAN-MADE OBJECTS IN VIEW |
| Land Form | 1 | TURBINE DENSITY PARALLELS THE FORM OF OTHER VERTICAL ELEMENTS IN THE LANDSCAPE |
| Viewer Activity | 1 | TURBINE DISTRIBUTION IS CONSISTENT THE LINE O THE TREE LINE MARKED BY OCCASIONAL TALLER TREES + UTILITY POL |
| Water | NA | |
| Total ÷4 | 4.0 | |
| Average Score | 1.0 | |

### Overall Aesthetic Impact:

THE TURBINE SCALE DUE TO DISTANCE MITIGATES THE IMPACT TO THAT OF A UTILITY POLE. THE COLOR BLENDS WITH THE SKY AND THE TEXTURE BEARS A SIMILARITY TO TREE BRANCHING. FAR DISTANT TURBINES ARE ALL BUT INVISIBLE AND HAVE NO IMPACT.

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 12/20/05

**Viewpoint #** 81

**Viewpoint Description:**

Rural; agriculture on gravel road. Horizon is horizontal; scale is medium; color is green with orange to brown, sky is blue with white; texture medium to fine; form is generally open

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 2 | Scale color and texture are compatible line & form are not. |
| Land Use | 2 | Scale, color and texture are compatible line & form are not. |
| Land Form | 3 | Color & texture are compatible line scale & form are not. |
| Viewer Activity | 2 | line, scale, color & texture are compatible form is not. |
| Water | | |
| Total ÷4 | 9.0 | |
| Average Score | 2.25 | |

**Overall Aesthetic Impact:**

The machines in this view are acceptable. The foreground trees, fence posts and color of the farm structures help to make the machines compatible with the existing condition.

## Marble River Visual Assessment

**Panel Member:** PAUL FRITZ

**Date:** 12/14/05

**Viewpoint #** 81

**Viewpoint Description:**

View is divided into three sections as defined by the two edges of the gravel road. The texture and color variation of the vegetation in the foreground on the left side of the road is random. The right side view - right of the road - is a typical landscape of the region. The fence posts provide repetition and help accent the visual space. The third section of the view consists of the sky above the horizon line.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 3 | The random pts. of the turbines varies similar to the ex. vegetation |
| Land Use | 3 | Rural/agriculture use relatively unchanged |
| Land Form | 3 | Turbines follow the landform and undulate with the minor scale changes |
| Viewer Activity | 2 | view remains divided into Thirds |
| Water | N/A | |
| Total ÷ 4 | 11.0 | |
| Average Score | 2.75 | |

**Overall Aesthetic Impact:**

Overall vegetation is significantly subordinate to the turbines, however, the variety and rough textures remain dominant. In this view, the turbines blend in with the sky.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 15, 2005

**Viewpoint #** 81

**Viewpoint Description:**

VIEW ALONG A RURAL ROAD TOWARD A CLUSTER OF FARM BUILDINGS. IN THE FOREGROUND, THE ROAD IS FLANKED BY A PASTURE ADJOINING THE BARNS, WITH NATURAL UNDERGROWTH ON THE OPPOSITE SIDE. DOTTED WI SEVERAL BUILDINGS. THE BACKGROUND APPEARS DENSELY WOODED. VISIB ON BOTH SIDES OF THE ROAD ARE TURBINES IN CLOSE PROXIMITY WITH ADDITIONAL TURBINES BARELY VISIBLE AT GREATER DISTANCE.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | THE FORM AND SCALE OF TURBINES IN CLOSE PROXIMITY ARE STRIKINGLY UNIQUE. |
| Land Use | 3 | TURBINES FORMS IN CLOSE PROXIMITY DO NOT APPEAR TO COMPETE WITH AGRICULTURAL ACTIVITI |
| Land Form | 5 | THE TERBINE TEXTURE WITH ITS AERODYNAMIC STYLING STRIKINGLY CONTRASTS THE IRREGULAR NATU TREE FORM |
| Viewer Activity | 3 | THE TURBINE FORM AT THIS SCALE IS ATTRACTIVE IN ITS SCULPTURELIKE UNIQUENESS. |
| Water | NA | |
| Total ÷4 | 15.0 | |
| Average Score | 3.75 | |

### Overall Aesthetic Impact:

THE LINE AND FORM OF THE TURBINES IN CLOSE PROXIMITY TO THE ROAD EXHIBIT A SCULPTURELIKE ATTRACTION.

## Marble River Visual Assessment

**Panel Member:** D Brackett

**Date:** 12/20/05

**Viewpoint #** 165

**Viewpoint Description:**

Looking through a hamlet or village to a ridge in the background. The foreground is athletic development with residential structures and a church steeple in the mid ground; background is rural undeveloped ridge. Horizon is horizontal, scale is medium, color is gray & green in foreground, green to brown in background & sky is filled with white; texture is medium and form is enclosed.

**Visual Impact**

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 1 | line is the only thing which is noticable |
| Land Use | 1 | " " |
| Land Form | 1 | " " |
| Viewer Activity | 1 | Barely noticable |
| Water | | |
| Total ÷4 | 4.0 | |
| Average Score | 1.0 | |

**Overall Aesthetic Impact:**

This view is not impacted by the machines.

## Marble River Visual Assessment

**Panel Member:** PAUL FRYE

**Date:** 12/14/05

**Viewpoint #** 165

**Viewpoint Description:**

Viewer within urban/hamlet environment/landscape surrounded by rural characteristics, particularly woodland in the background. Recreational land use dominates the foreground with open fields and recreational type structures. Some foreground objects punctuate the horizon line which is formed by woodland vegetation and a hill-type landform.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 3 | turbines distinctly obscure vegetation in some parts of the view |
| Land Use | 3 | turbines affect the perception of natural woodland by adding a human feature into the space |
| Land Form | 2 | only minor contrast with the landform - turbines generally 'fall-away' from the hill. |
| Viewer Activity | 2 | the turbines are additional elements above the horizon, but are not necessarily distinctive |
| Water | N/A | |
| Total | 10.0 | |
| Average Score | 2.50 | |

### Overall Aesthetic Impact:

Minimal overall aesthetic impact because the scale and weight of the turbines is less than the objects in the foreground like the church steeple and several lightpoles. The color of the turbines blends well with the color of adjacent vegetation.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 15, 2005

**Viewpoint #** 165

**Viewpoint Description:**

VIEW ACROSS AN ATHLETIC FIELD COMPLEX TOWARD A RURAL COMMUNITY. SMALL RESIDENCE-LIKE STRUCTURES ARE VISIBLE IN THE MIDDLE GROUND WITH A STEEPLE, FLAGPOLE AND ATHLETIC FIELD LIGHT STANDARDS RISING ABOVE THE HORIZON. IN THE FAR DISTANT BACKGROUND, APPROXIMATELY 10 TURBINES ARE BARELY VISIBLE AGAINST THE SKY ABOVE THE HEAVILY TREED HORIZON.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 1 | TURBINE SCALE AND TEXTURE AT THE HORIZON LINE DO NOT COMPETE OR CONTRAST MIDDLE GROUND VEGETATION |
| Land Use | 1 | TURBINE FORMS AT THIS DISTANCE ARE BARELY VISIBLE IN CONTRAST TO CLOSER MAN-MADE ELEMENTS. |
| Land Form | 1 | THE STRONG LINE OF THE HORIZON IS INTERRUPTED BY FAR MORE DYNAMIC ELEMENTS (LIGHT STANDARDS) |
| Viewer Activity | 1 | TURBINES ARE AN INSIGNIFICANT ELEMENT IN LANDSCA DUE TO MINIMAL VISIBILITY |
| Water | NA | |
| Total | 4.0 | |
| Average Score | 1.0 | |

### Overall Aesthetic Impact:

MINIMAL CONCENTRATION OF DISTANT TURBINES COUPLED WITH SMALL SCALE AND PALE COLOR WHEN VIEWED AGAINST THE SKY BLEND THE TURBINES INTO THE BACKGROUND.

## Marble River Visual Assessment

**Panel Member:** Doug Brackett

**Date:** 12/20/05

**Viewpoint #** 170

**Viewpoint Description:**

Rural, one farm structure in mid ground & what looks like pasture in foreground. Line is horizontal; Scale is large; color is green to red and sky is blue with some white; texture is medium to fine; form is open

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 2 | Color & line are not compatible |
| Land Use | 2 | " " " |
| Land Form | 2 | " " " |
| Viewer Activity | 1 | Color is not compatible |
| Water | | |
| Total ÷4 | 7.0 | |
| Average Score | 1.75 | |

**Overall Aesthetic Impact:**

The machines in this view are compatible. They are not "in your face" and are interesting on the horizon.

## Marble River Visual Assessment

**Panel Member:** PAUL FRIZ

**Date:** 12/14/05

**Viewpoint #** 170

**Viewpoint Description:**

The view is divided into three horizontal layers. The immediate foreground is defined by low green grasses with relatively smooth texture. The edge of the grass field meets middleground woodland vegetation with a distinct horizontal line/edge. This is a typical view of rural/agriculture land use. The landform slopes up in the form of a hill which is topped by woodland vegetation. A distinct horizon line is formed where the woodland vegetation meets the sky.

**Visual Impact**

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 3 | The turbines outscale adjacent vegetation |
| Land Use | 2 | The foreground suggests rural/agriculture and this is relatively unchanged |
| Land Form | 2 | turbines appear to follow hill form |
| Viewer Activity | 3 | expanse of turbines within view slightly impacts the viewer activity |
| Water | N/A | |
| Total ÷4 | 10.0 | |
| Average Score | 2.50 | |

**Overall Aesthetic Impact:**

Minimal overall impact because the major attributes of the landscape remain unchanged. The turbine location work well with the landform by blending in with the falling away of the hidden hillside. The color of the turbines also blends with the adjacent skyline. The expanse or number of turbines has less negative impact because some turbines are partially obscured by the landform.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 15, 2005

**Viewpoint #** 170

**Viewpoint Description:**

VIEW ACROSS HILLSIDE PASTURE TOWARD LOWLAND, OPPOSING HILLSIDE AN HORIZON. IN THE MIDDLE GROUND, A BARN AND CLEARING ARE NESTLED IN A HEAVILY WOODED HILLSIDE EXTENDING TO THE NOT-TOO-DISTANT CREST OF THE HILL (HORIZON). TWENTY EVENLY DISTRIBUTED TURBIN ARE VISIBLE RISING ABOVE THE TREE LINE FROM BEYOND THE HILL CRE

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 2 | WHILE THE TURBINE FORM CONTRASTS THE TREE MASS, THE SMALL SCALE MINIMIZES IMPACT. |
| Land Use | 1 | THE TREE MASSING BAND BELOW THE HORIZON ISOLATES THE AGRICULTURAL USE FROM TURBINE FOR |
| Land Form | 2 | UNIFORM TURBINE DISTRIBUTION AND CONSISTEN OF LINE ABOVE THE HORIZON REPLICATES THE HORI |
| Viewer Activity | 2 | THE STRONG HORIZON LINE IS INTERRUPTED EXCLUSIVELY BY THE UNIQUE TURBINE FORMS |
| Water | NA | |
| Total ÷ 4 | 7.0 | |
| Average Score | 1.75 | |

**Overall Aesthetic Impact:**

THE TURBINES DO NOT APPEAR TO "INVADE" THE AGRICULTURAL ENVIRONS LARGELY DUE TO THEIR SMALL SCALE AND THE PERCEPTION THAT THEY ARE ACTUALLY LOCATED ELSEWHERE BEYOND THE HILL.

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 12/20/05

**Viewpoint #** 179

**Viewpoint Description:**

Close view of a farm. (house, barn and several out structures) Line is irregular; scale is small, color is green to dark brown with blue sky with some white; texture is fine & form is enclosed.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 4 | line, scale, color & form are not compatible |
| Land Use | 2 | Scale & form are not compatible |
| Land Form | 2 | " " |
| Viewer Activity | 2 | " " " " " |
| Water | | |
| Total ÷4 | 10.0 | |
| Average Score | 2.50 | |

**Overall Aesthetic Impact:**

The Scale of the machine in the view creates the most impact. Otherwise I see little impact.

## Marble River Visual Assessment

**Panel Member:** PAUL FRIR

**Date:** 12/14/05

**Viewpoint #** 179

**Viewpoint Description:**

Slight incline in terrain away from viewer position. Rural/agriculture buildings surrounded by manicured lawn dominate and organize the foreground view. Middleground and background are screened by woodland vegetation at the rear of the buildings. Typical farmhouse, barn arrangement of buildings adjacent to highway. Vegetation is subordinate to the buildings in this view. Dark colors also define the building forms.

**Visual Impact**

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 3 | vegetation is subordinate to turbine – more so than in comparison to buildings |
| Land Use | 3 | Rural/agl. use dominant with more emphasis on working the land |
| Land Form | 3 | varying height of visible turbines suggests compatibility with the ex. landform – |
| Viewer Activity | 3 | Scale of foreground turbine suggests viewer is more subordinate to scale |
| Water | N/A | |
| Total ÷ 4 | 12.0 | |
| Average Score | 3.0 | |

**Overall Aesthetic Impact:**

The buildings in the existing views were the dominant landscape feature – this is altered with the turbine presence. The turbine scale shrinks the scale perception of the buildings. The number of turbines near the structures limits the impact – if more turbines were in the position close to the road and structures, there may be less balance and more of an impact on land use and viewer activity.

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY, RLA

**Date:** DECEMBER 15, 2005

**Viewpoint #** 179

**Viewpoint Description:**

VIEW FROM RURAL HIGHWAY ACROSS MOWED LAWN TO A WELL MAINTAINED HOUSE, BARN AND SEVERAL SMALLER STRUCTURES. BEYOND THE HOUSE, ONE TURBINE IS VISIBLE IN CLOSE PROXIMITY. A SECOND TURBINE IS MINIMALLY THROUGH THE TREES BEYOND THE BARN.

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | 5 | THE SCALE AND FORM OF THE CLOSEST TURBINE ARE A SHARP CONTRAST TO EXISTING VEGETATIO |
| Land Use | 3 | THE TURBINE FORM IS DRAMATICALLY UNIQUE AND APPEARS AS A SEPARATE ELEMENT NOT ASSOCIATED WITH FA |
| Land Form | 5 | THE LINE AND UNIQUE TURBINE FORM OF THE CLOSEST TURBINE ARE UNPARALLELED IN THIS VIE |
| Viewer Activity | 4 | THE IMPOSING SCALE AND AERODYNAMIC FORM OF THE TURBINE CREATES A MAGNETIC ATTRACTIO |
| Water | NA | |
| Total ÷4 | 17.0 | |
| Average Score | 4.25 | |

### Overall Aesthetic Impact:

THE OVERALL IMPACT STEMS FROM THE TURBINES HEIGHT AND FORM WHICH DWARF THE STRUCTURES AND COMMAND ATTENTION.

DB

## Marble River Visual Assessment

**Panel Member:** D. Brackett

**Date:** 1/10/05

**Viewpoint #** Evening / Nighttime Photos - Fenner, NY

**Viewpoint Description:**

Distant View across open landscape

### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | | |
| Land Use | | |
| Land Form | | |
| Viewer Activity | | |
| Water | | |
| Total | | |
| Average Score | | |

**Overall Aesthetic Impact:**

Early evening until dusk - there is negligible impact dusk to dark - there is an impact but not significant from this viewpoint. Turbines are more visible at dark since they have FAA lighting at or near the top of the turbine.

PF

Cantara

# Marble River Visual Assessment

**Panel Member:** PAUL FRITZ

**Date:** 01.13.06

**Viewpoint #**_____

**Viewpoint Description:**

## Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | | |
| Land Use | | |
| Land Form | | |
| Viewer Activity | | |
| Water | | |
| Total | | |
| Average Score | | |

**Overall Aesthetic Impact:**

At nighttime the only obvious impact is the blinking lights that are visible on the tops of the turbines. The irregular pattern of the lighting suggests some continuity with the rural landform. The synchronized lighting lessens the distraction in comparison to if the lights were not synchronized. The greatest visual impact is from views where the viewer can see all or most of the turbines rather than just a few.

DR

## Marble River Visual Assessment

**Panel Member:** RICHARD F. RILEY

**Date:** JANUARY 20, 2006

**Viewpoint #** FIGURE 18

**Viewpoint Description:**

VIEW OF LIGHTED TURBINES ALONG THE HORIZON AGAINST THE SKY, EXTENDING FROM SUNDOWN TO LATE EVENING.

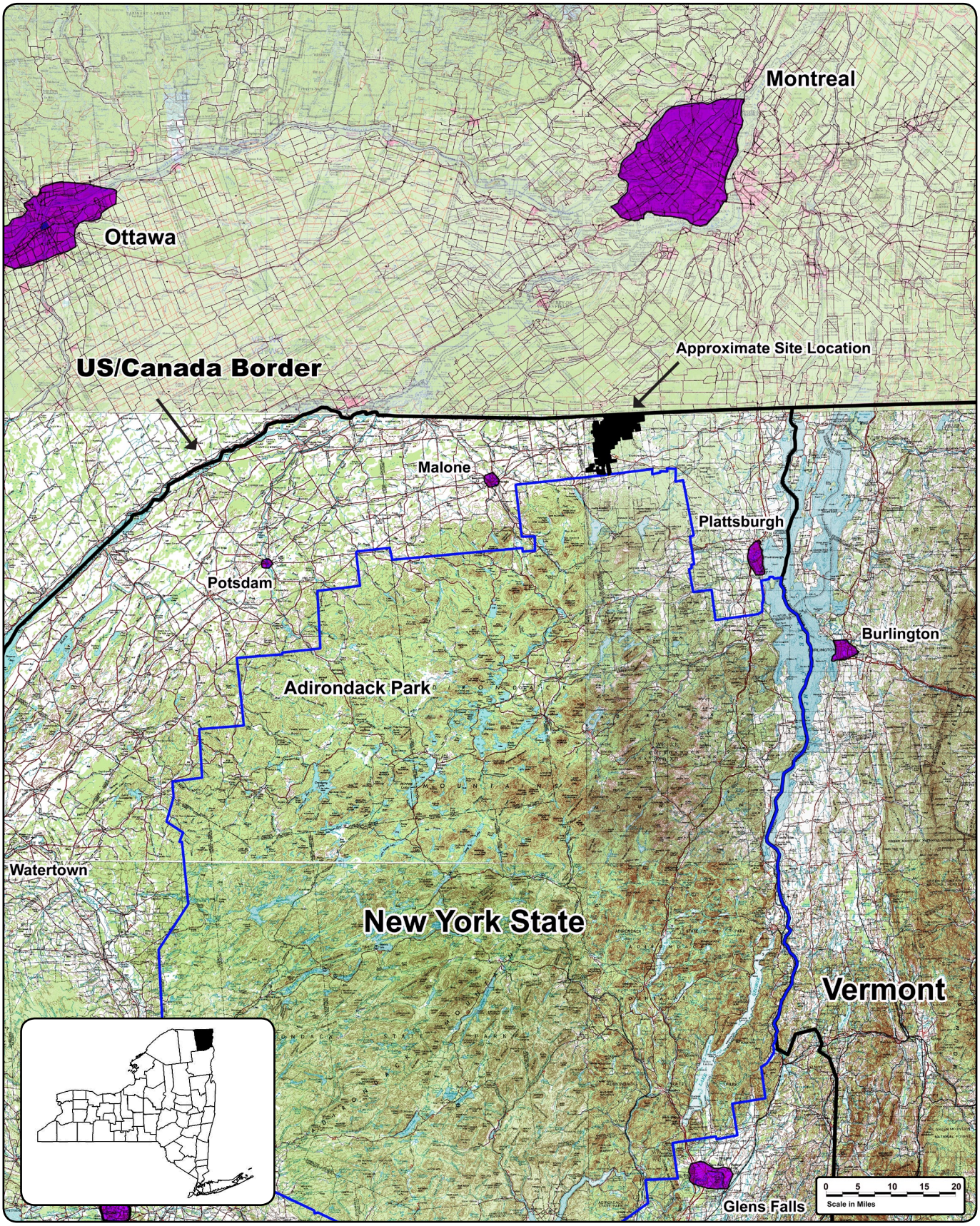
### Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focusing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

| Landscape Component | Contrast | Comments |
|---|---|---|
| Vegetation | | |
| Land Use | | |
| Land Form | | |
| Viewer Activity | | |
| Water | | |
| Total | | |
| Average Score | | |

### Overall Aesthetic Impact:

LIGHT LEVEL AT SUNDOWN PERMITS ONLY MINIMAL VIEW OF TURBINES BUT NO LIGHTING. PROGRESSING INTO EVENING, ONLY LIGHTS ARE VISIBLE, APPEARING WITH THE SAME APPROXIMATE INTENSITY AS THE AVERAGE STAR IN THE EVENING SKY.




NORTH

Base Map: USGS 1:250000 Lake Champlain, Ogdensburg, Glens Falls, and Utica Quadrangles; CanMatrix 1:250000 Montreal and Ottawa Quadrangles

## Figure 1: Regional Project Location

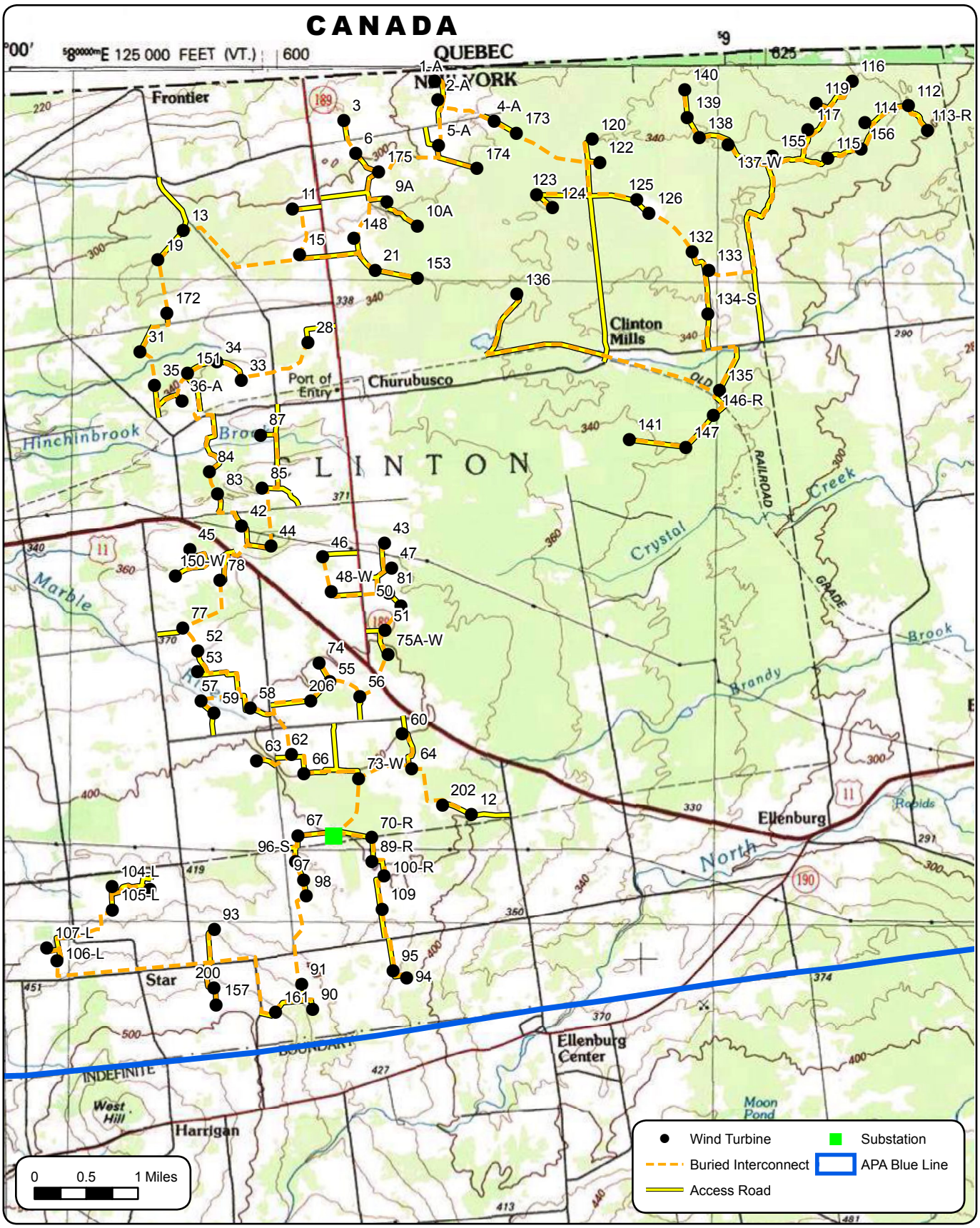
**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006




NORTH

Base Map: USGS 1:24000 Ellenburg Depot, Churbusco, Chateaugay, Brainardsville, Ellenburg Center, and Ellenburg Mountain Quadrangles

## Figure 2: Proposed Project Layout

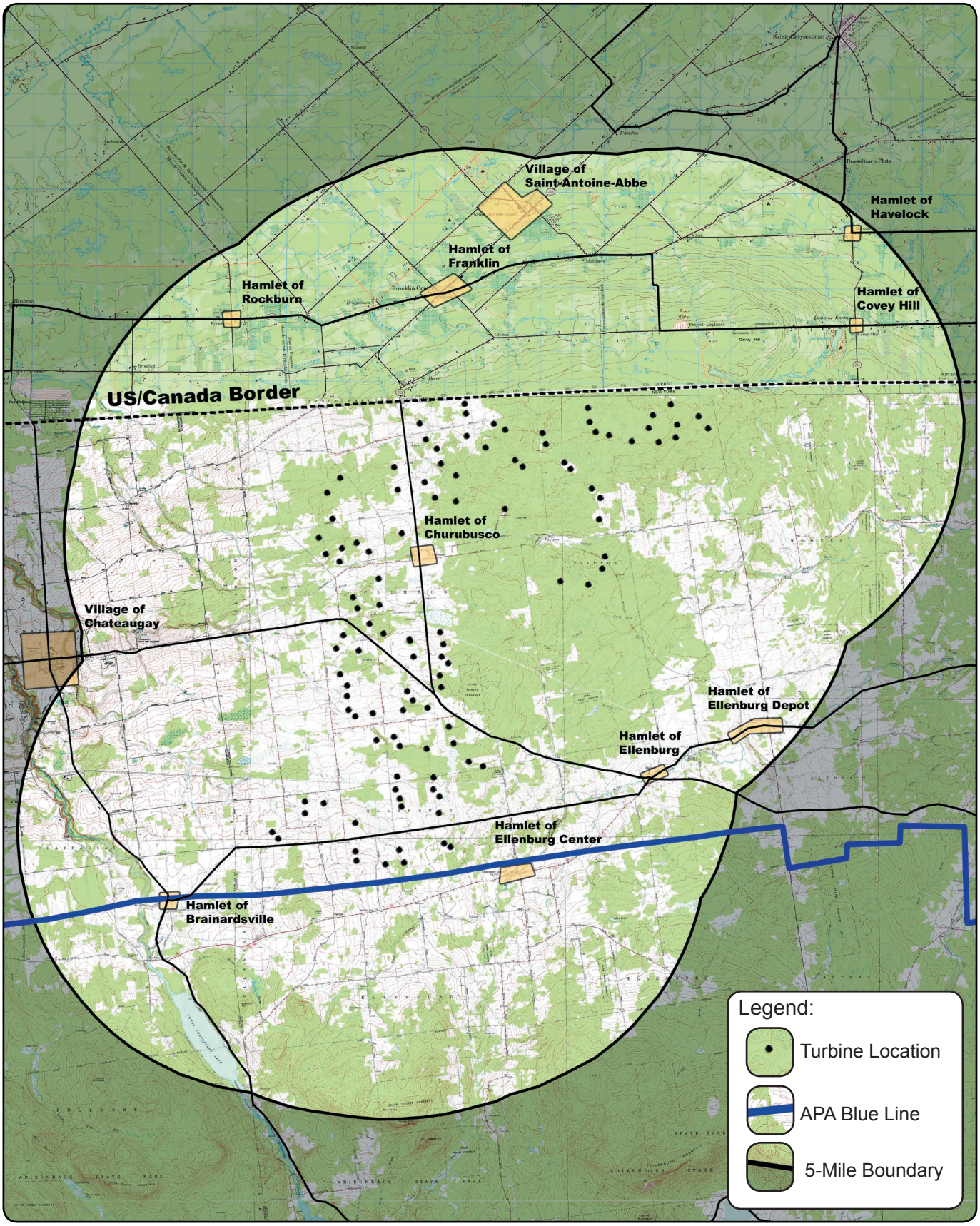
**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006




NORTH

Base Map: USGS 1:24000 Ellenburg Depot, Churbusco, Chateaugay, Brainardsville, Ellenburg Center, Ellenburg Mountain, Altona, and Jericho Quadrangles; CanMatrix 1:50000 Huntingdon and Saint-Chrysostome Quadrangles

## Figure 3: Visual Study Area

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

**Figure 4: Landscape Similarity Zones**
**Rural/Agricultural Zone**
**Sheet 1 of 3**

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

**Figure 4: Landscape Similarity Zones**
**Village/Hamlet Zone**
**Sheet 2 of 3**

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

**Figure 4: Landscape Similarity Zones**
**Forestland Zone**
**Sheet 3 of 3**

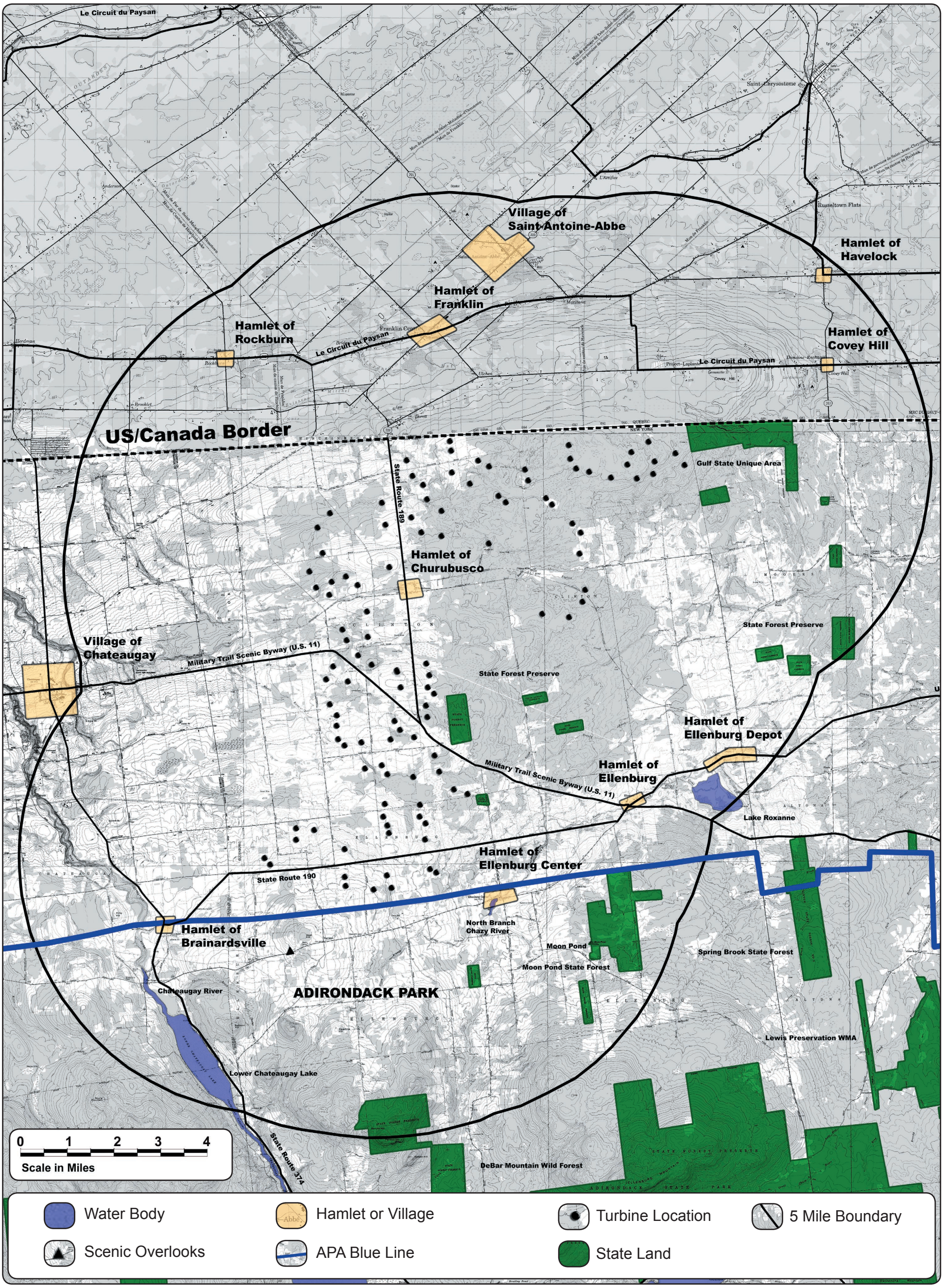
**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006




# Figure 5: Visually Sensitive Sites

NORTH

Base Map: USGS 1:24000 Ellenburg Depot, Churbusco, Chateaugay, Brainardsville, Ellenburg Center, Ellenburg Mountain, Altona, and Jericho Quadrangles; CanMatrix 1:50000 Huntingdon and Saint-Chrysostome Quadrangles

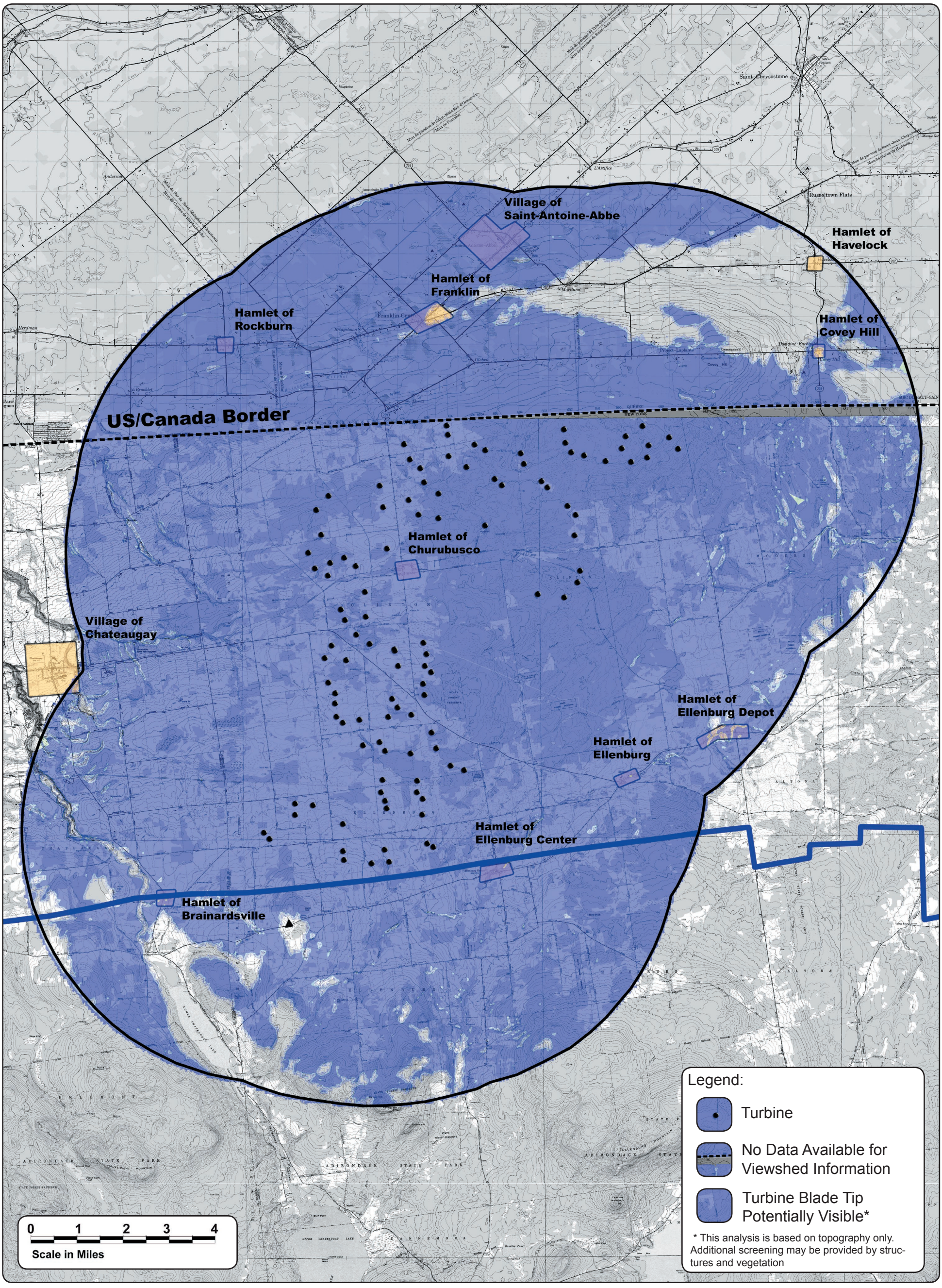
## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006




NORTH

# Figure 6: Viewshed Analysis
## Sheet 1 of 2

## Marble River Wind Farm

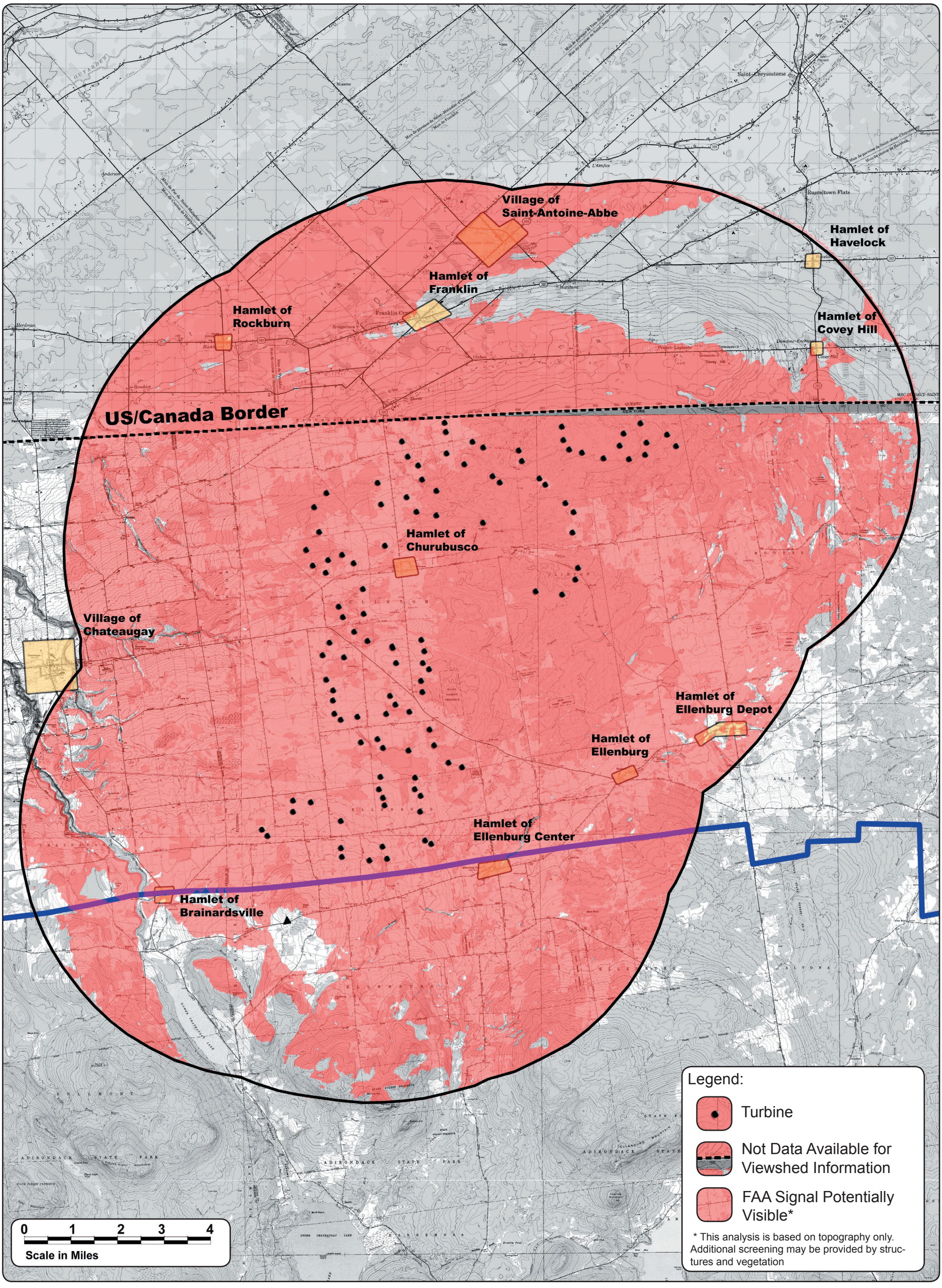
Towns of Clinton and Ellenburg
Clinton County, New York

Base Map: USGS 1:24000 Ellenburg Depot, Churbusco, Chateaugay, Brainardsville, Ellenburg Center, Ellenburg Mountain, Altona, and Jericho Quadrangles; CanMatrix 1:50000 Huntingdon and Saint-Chrysostome Quadrangles

Prepared By:

EDR PC

February 2006




NORTH

# Figure 6: Viewshed Analysis
## Sheet 2 of 2

## Marble River Wind Farm

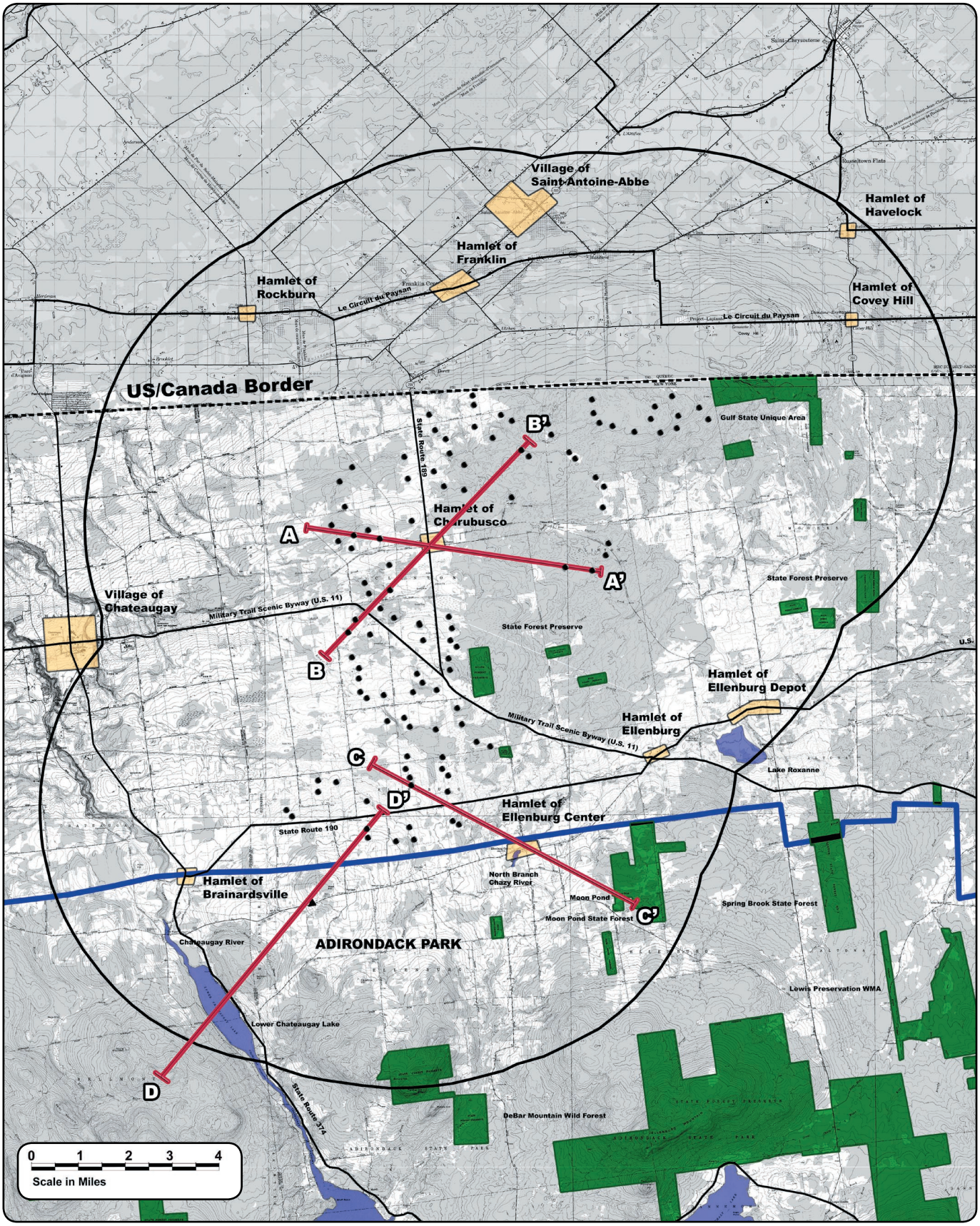
Towns of Clinton and Ellenburg
Clinton County, New York

Base Map: USGS 1:24000 Ellenburg Depot, Churbusco, Chateaugay, Brainardsville, Ellenburg Center, Ellenburg Mountain, Altona, and Jericho Quadrangles; CanMatrix 1:50000 Huntingdon and Saint-Chrysostome Quadrangles

Prepared By:

EDR PC

February 2006




NORTH

# Figure 7: Line of Sight Cross Sections
## Sheet 1 of 5

**Marble River Wind Farm**

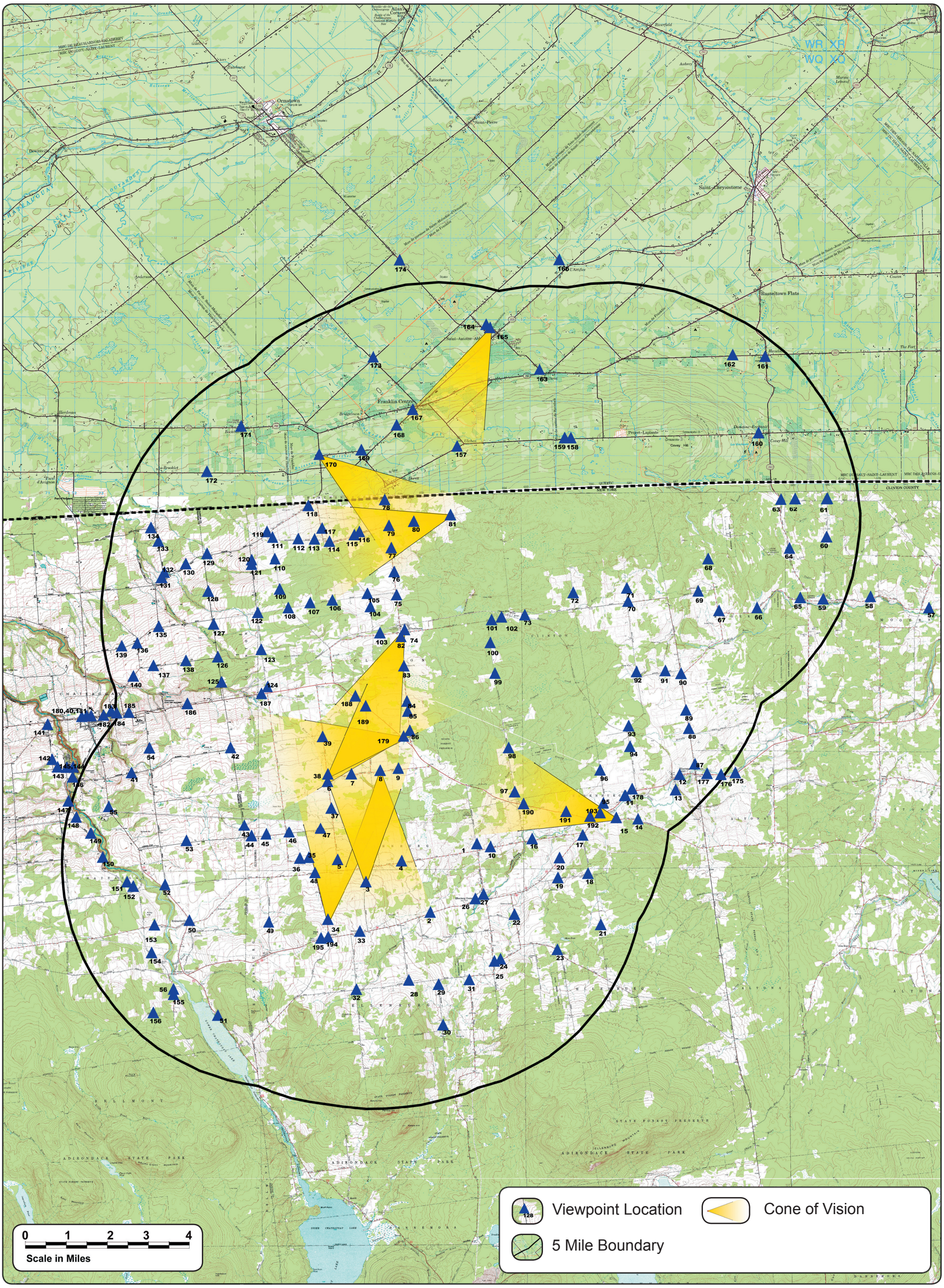
Towns of Clinton and Ellenburg
Clinton County, New York

Base Map: USGS 1:24000 Ellenburg Depot, Churbusco, Chateaugay, Brainardsville, Ellenburg Center, Ellenburg Mountain, Altona, and Jericho Quadrangles; CanMatrix 1:50000 Huntingdon and Saint-Chrysostome Quadrangles

Prepared By:

EDR PC

February 2006




# Figure 8: Viewpoint Locations

## Marble River Wind Farm

Towns of Clinton and Ellenburg
Clinton County, New York

Base Map: USGS 1:24000 Ellenburg Depot, Churbusco, Chateaugay, Brainardsville, Ellenburg Center, Ellenburg Mountain, Altona, and Jericho Quadrangles; CanMatrix 1:50000 Huntingdon and Saint-Chrysostome Quadrangles

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 9: Viewpoint 3

## View from Moore Road near the State Route 190 (Star Road) intersection in the Town of Ellenburg, looking north

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 10: Viewpoint 8

## View from Gagnier Road near the Patnode Road intersection in the Town of Clinton, looking south

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 11: Viewpoint 15

## View from State Route 190 (Old Military Turnpike) near the Hamlet of Ellenburg looking west

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 12: Viewpoint 34

## View from Tacey Road near the County Route 54 intersection outside the Hamlet of Harrington, looking north

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 13: Viewpoint 38

## View from the intersection of Campbell Road and Gagnier Road in the Town of Clinton, looking northeast

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 14: Viewpoint 74

## View from the intersection of State Route 189 and Clinton Mills Road in the Hamlet of Churubusco, looking southwest

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 15: Viewpoint 81
## View from Poupore Road near the U.S./Canadian Border, looking west

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 16: Viewpoint 165

## View from Provincial Route 201 near the Village of St. Antoine-Abbé in Quebec looking southwest

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 17: Viewpoint 170

## View from the intersection of Clinton Road and Pollica Road near the Hamlet of Rockburn, Quebec, looking southeast

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Original Image

Simulation

# Figure 18: Viewpoint 179

**View is from U.S. Route 11 (Military Trail Scenic Byway) near the State Route 189 intersection in the Town of Clinton, looking west**

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

**Existing Fenner Wind Power Project  Fenner, NY**

## Figure 19: Representative Evening/Nighttime Photos

**Marble River Wind Farm**

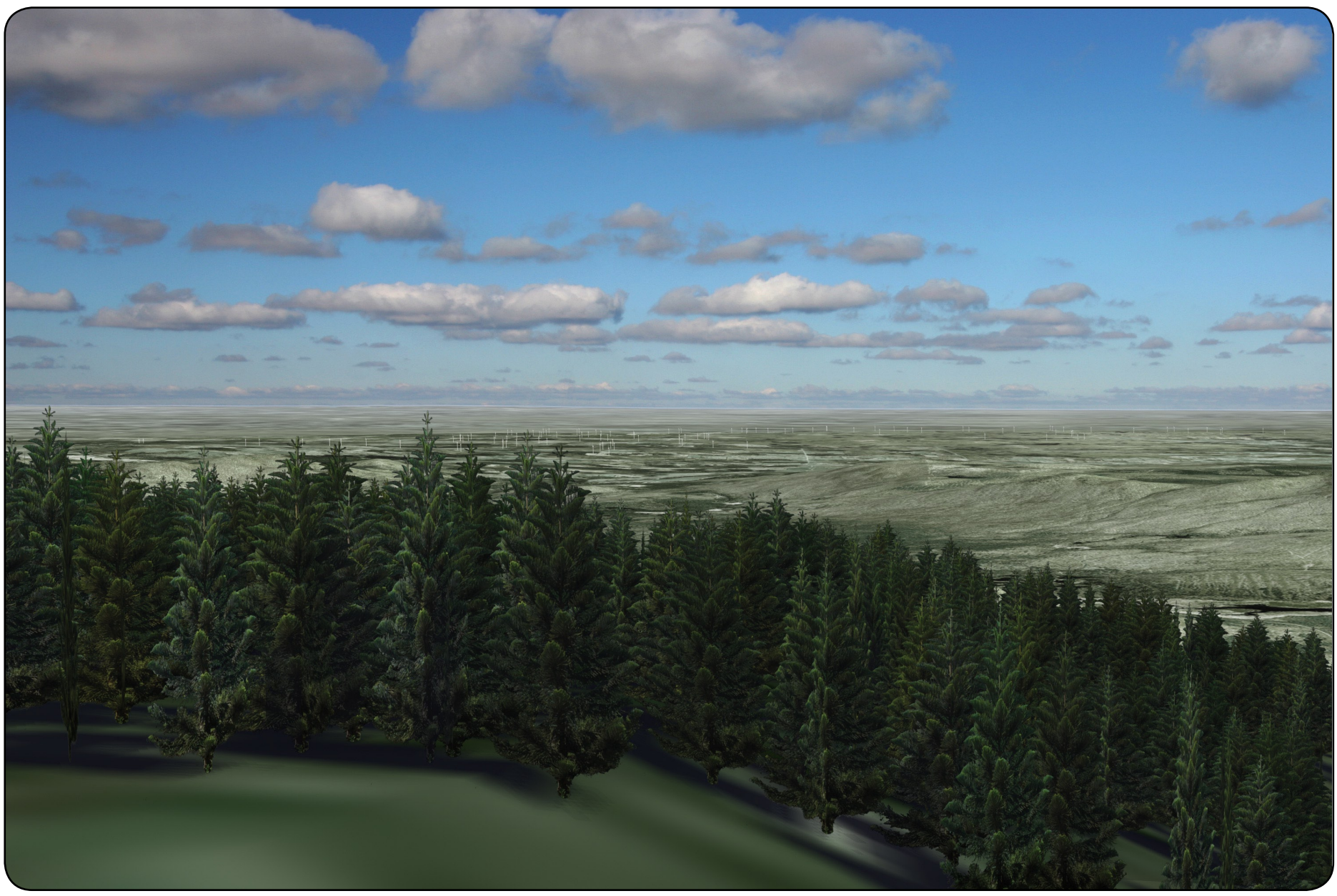
Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006

Actual Photo



“Virtual View”

# Figure 19: Virtual View
## View from Lyon Mountain Fire Tower

**Marble River Wind Farm**

Towns of Clinton and Ellenburg
Clinton County, New York

Prepared By:

EDR PC

February 2006