1 Description of Proposed Action

1.1 Description of the Proposed Action

1.1.1 Project Overview and Definitions

Noble Chateaugay Windpark, LLC and Noble Bellmont Windpark, LLC (Noble) propose to install and operate a wind energy facility (the Project) in Northeastern New York State primarily located in the Towns of Chateaugay and Bellmont, Franklin County (see Figures 1-1 and 1-2). The Project will have the capability of producing approximately 129 megawatts (MW) of power.

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The Project consists of the following:

- Installation and operation of 14 wind turbines within an approximate 920-acre area in the Town of Bellmont and installation and operation of 72 wind turbines within an approximate 7,447-acre area in the Town of Chateaugay;

- Construction and use of approximately 22 miles of access roads that will connect each wind turbine to a Town road, County road, or State highway to allow equipment and vehicle access for construction and subsequent maintenance of the facilities as well as access by emergency services, if needed. The majority of the access roads will be located in the Towns of Chateaugay (approximately 18 miles of access road) and Bellmont (4 miles of access road), with approximately 900 feet of new turbine access road located in the Town of Ellenburg.

- Construction and use of an electrical collection system that will allow delivery of electricity to a previously permitted substation in the Town of Clinton, Clinton County, where the electricity will tie into an existing 230-kilovolt (kV) New York Power Authority (NYPA) Plattsburgh – Willis line that will provide access to the grid. The electrical collection system will be partially buried (approximately 29 miles total) and partially above ground (approximately 5 miles total) and where practicable, will be installed along the same right-of-way (ROW) corridor as the access roads. The electrical collection system will primarily be constructed in the Towns of Chateaugay (24 miles underground and 2.5 miles overhead) and Bellmont (4 miles underground and 1 mile overhead). The collection system also will traverse Noble-controlled parcels in Clinton County, in the Towns of Clinton (1.5 miles overhead) and Ellenburg (<1 mile underground).

- Addition of equipment within the previously approved substation located on Ryan Road in the Town of Clinton necessary to accommodate the additional power from the Project. This substation work will be engineered, reviewed, and approved by NYPA to accept the generated power while minimizing the number of taps into the existing 230-KV lines.

- The use of existing equipment laydown areas located on Irona Road in Irona and Joe Woods Road in Mooers (see Figure 1-3). These laydown areas were identified and approved for the Clinton County Noble Windpark projects. An additional laydown area of approximately 20 acres may be utilized at the new Chateaugay Business Park located in the Town of Chateaugay. Utilization of this additional area will involve construction of a short gravel road that will be extended from an existing gravel road and utilization of an open field without major disturbance. The site was reviewed and cleared by necessary authorities and given a "shovel ready" status by Empire State Development in April 2006. Appendix Q provides this certification as well as details on the laydown and parking areas already selected and approved for the Clinton County Noble Windpark projects. Only the areas shown on Figure 1-3 will be used for the Chateaugay and Bellmont Windparks.

- Use of parking areas for the Project that were previously considered in the evaluation of the Clinton County Noble Windpark projects. These areas are summarized in Sections 2.21 and 2.22, Traffic and Transportation.

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The wind turbines that will be installed at the Chateaugay and Bellmont Windparks will be General Electric 1.5 MW, Model 1.5sle, MTS, T-Flange wind turbine generators with an 80-meter tower.[1] The turbine is a three-bladed, upwind, horizontal-axis wind turbine with a rotor diameter of 77 meters (253 feet). The nacelle is located at the top of each tower and contains the electrical generating equipment. The turbine rotor and the nacelle are mounted on top of a tubular tower giving a rotor hub height of 263 feet (80 meters). The maximum height for the turbine is 389 feet (118.5 meters) when a rotor blade is at the top of its rotation (see Figure 1-4).

[1] 1.5MW refers to the production capacity of the turbine, which is 1.5 megawatts. The nomenclature "sle" is used to designate that the diameter size of the turbine rotor is 77 meters. 80 Meter refers to the height of the tower. MTS (Modular Tower System) designates the type of tower configuration, and T-Flange designates the type of flange used to connect the tower directly to the foundation.

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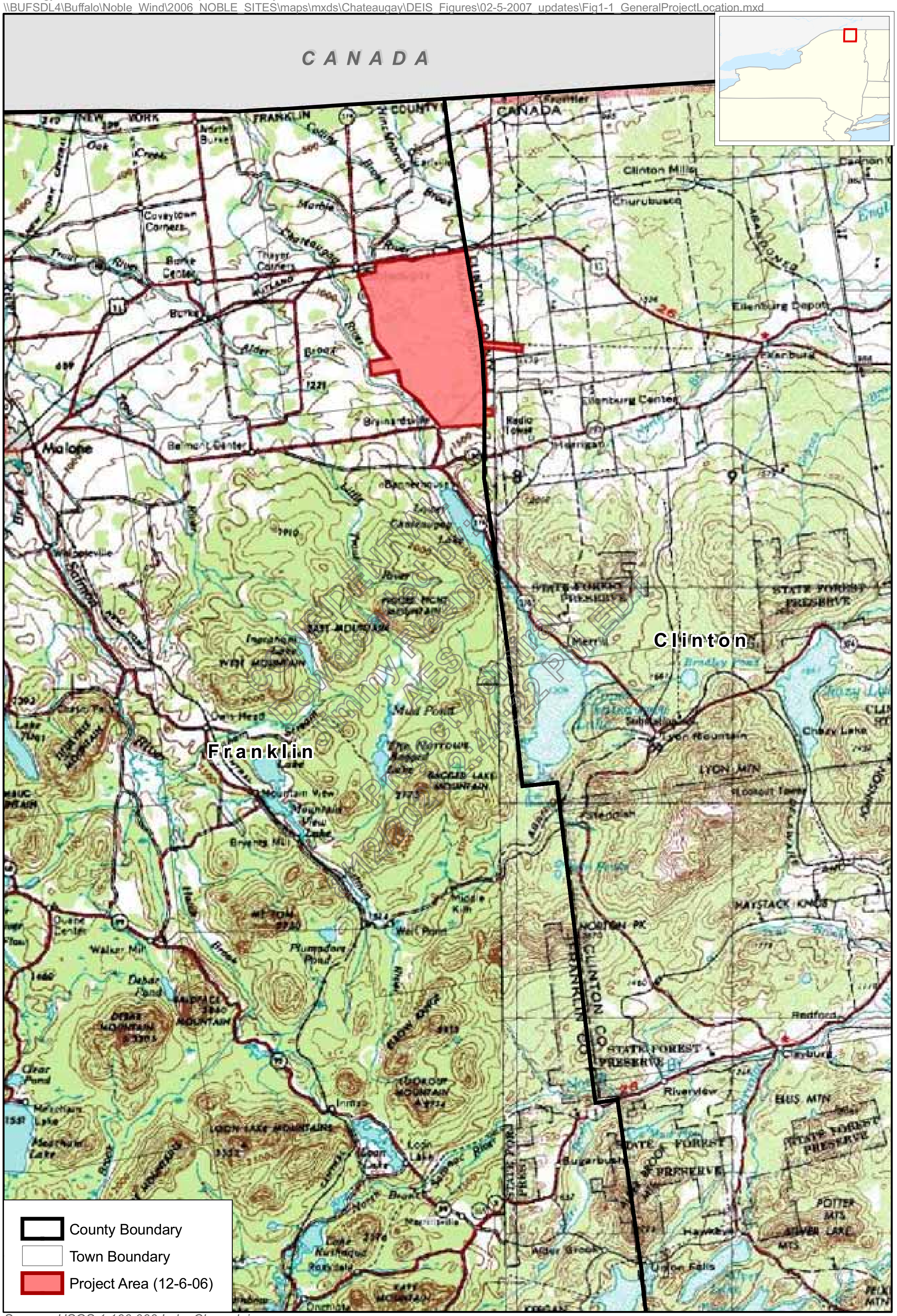

Source: *USGS 1:100,000 Lake Champlain North Quad, 1986; Massena Quad 1985.*

Figure 1-1
Noble Chateaugay Windpark and Noble Bellmont Windpark
General Project Location

0 2.5 5 10
Miles

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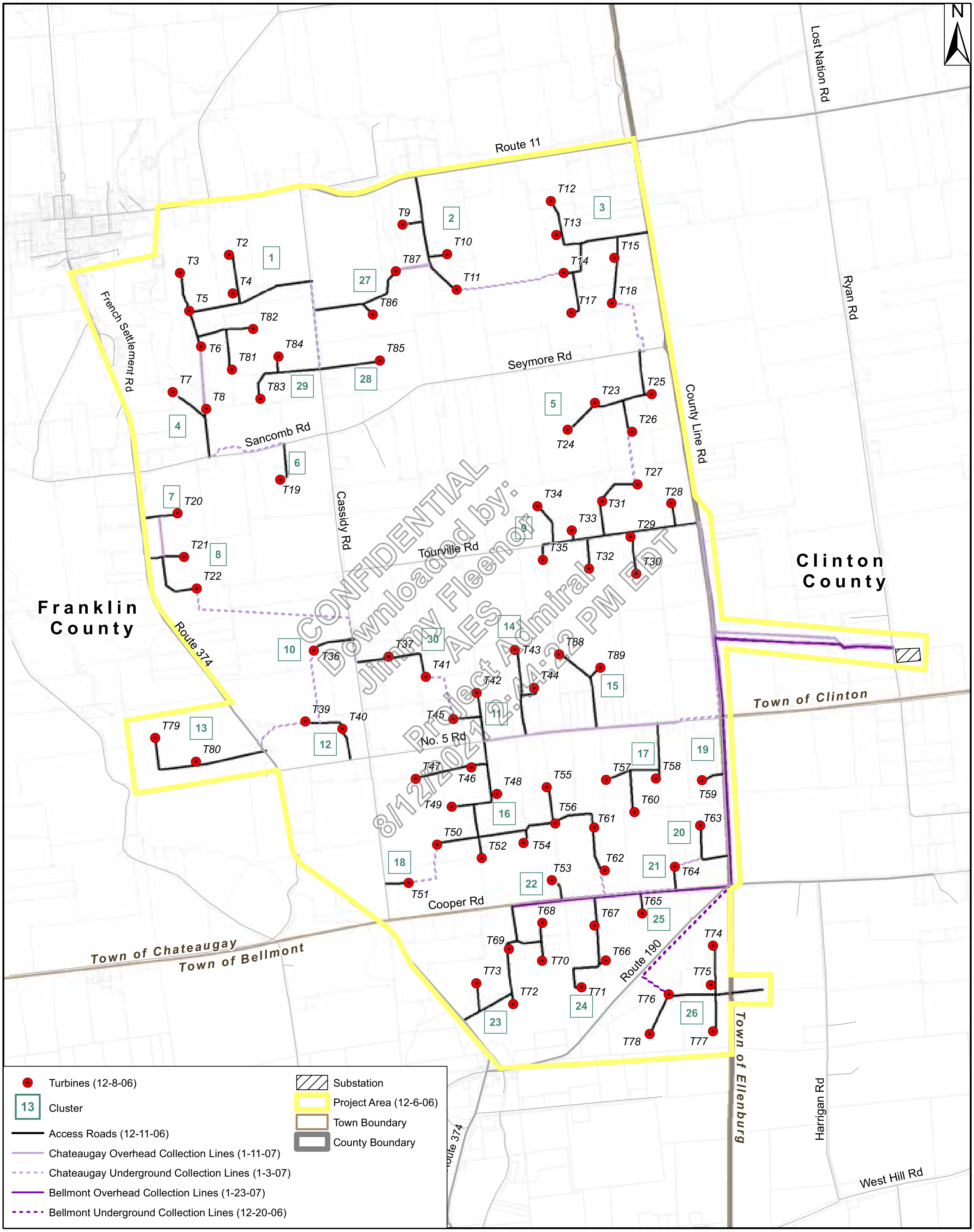

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Note: Underground collection lines installed in shoulder of access roads are not shown.

Figure 1-2
Noble Chateaugay Windpark and Noble Bellmont Windpark
Project Facilities

0 0.5 1 2
Miles

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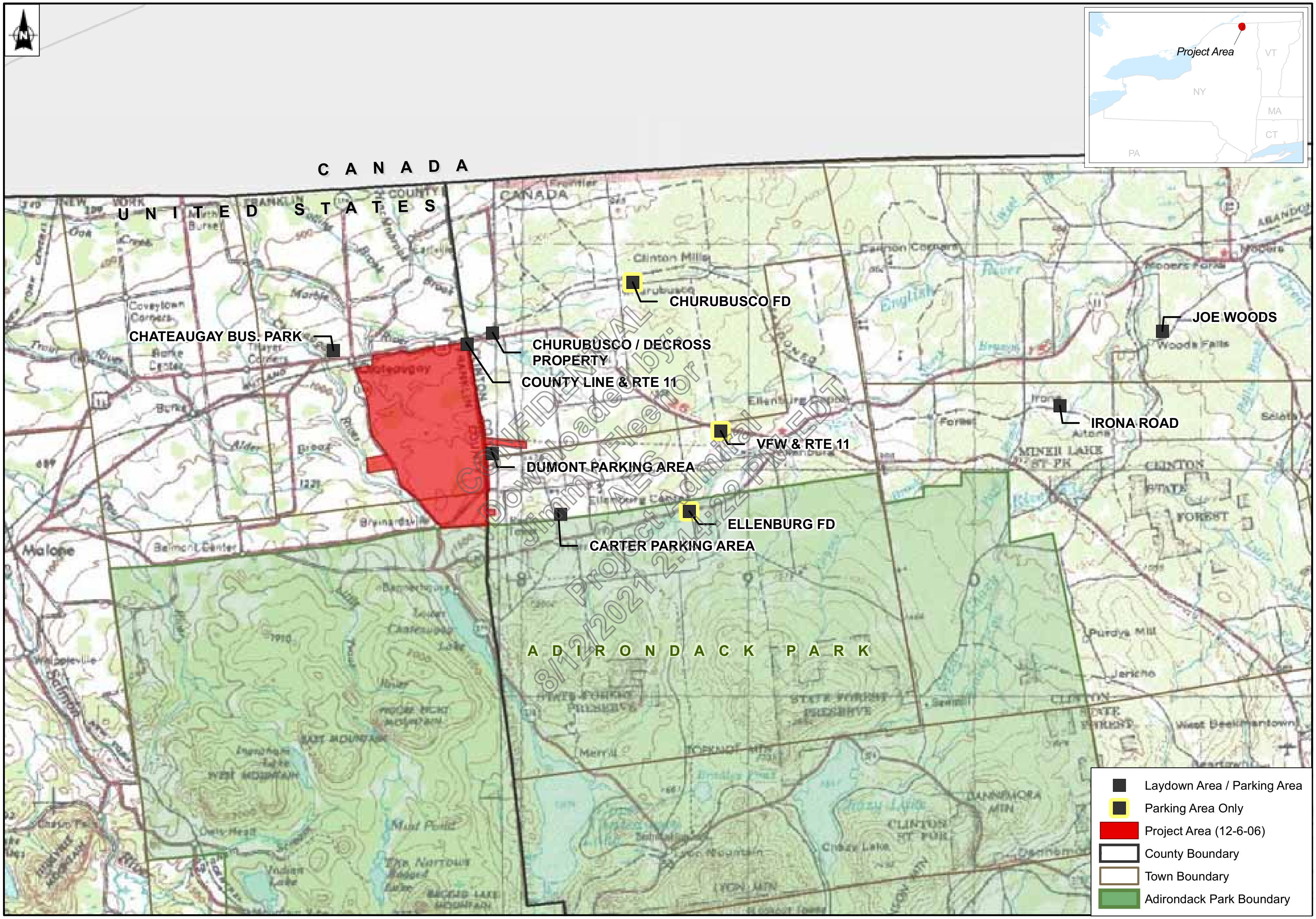

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Figure 1-3
Noble Chateaugay Windpark and Noble Bellmont Windpark
Laydown and Parking Areas

0 2.5 5 10
Miles

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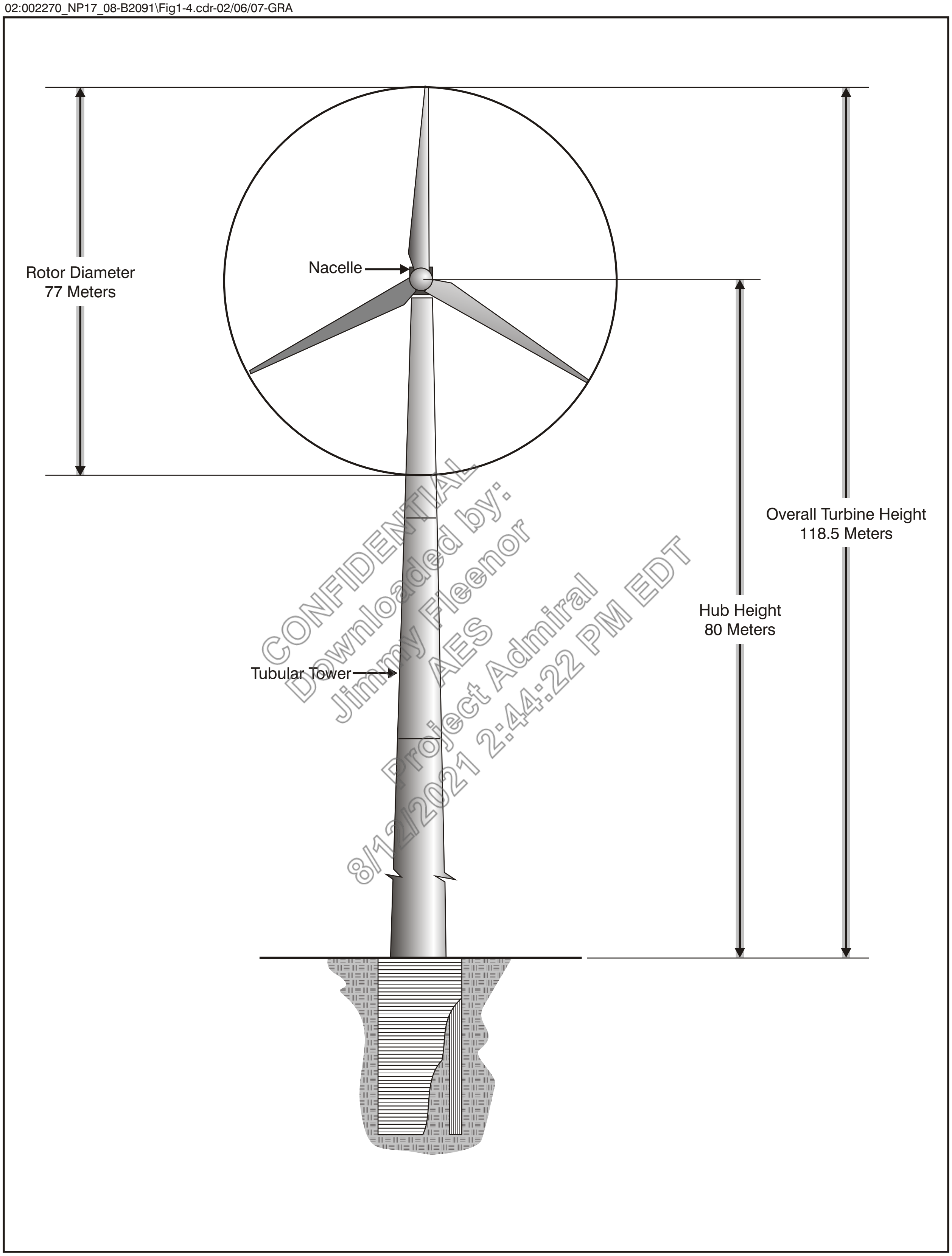

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Figure 1-4 Generalized Wind Turbine Layout

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

- **Project.** "Project" refers to all activities involved in the construction and operation of the Wind Energy Facility described above and all components thereof, including but not limited to wind turbines (including blades, towers, pads, and foundations); electrical collection lines and poles; trenches; access roads; and laydown areas and related structures (e.g., expansion of Clinton substation). The terms "Project" and "Wind Energy Facility" can be used interchangeably.

- **Project Area.** The Project Area is defined as the outer boundary of the general geographic area considered for wind energy conversion system (WECS) placement and the area necessary for electrical interconnection to the Clinton substation (see Figure 1-2).

- **Project Site.** The Project Site includes portions of the Project Area that have the potential to be permanently or temporarily disturbed as a result of the construction or operation of the Project. Noble has obtained property interests for all parcels within the Project Site (see Figure 1-2).

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- **Turbine Cluster.** One or more wind turbines in close geographic proximity that are served by a single system of access roads and collection lines are called a turbine cluster. This designation allows potential impacts to be avoided or minimized (see Figure 1-2).

- **Turbine Site.** Individual 200-foot by 200-foot locations for proposed wind turbines, installation to include a foundation, the wind turbine tower, and associated equipment as well as a surrounding area including that for construction, staging and erection of equipment, and subsequent maintenance. The Turbine Site refers to the total area associated with each turbine that will experience temporary impacts during construction, as described. Once installed, permanent impacts at each Turbine Site will include a 120-foot by 40-foot gravel crane pad, which will be left in place post-construction, and each wind turbine will permanently occupy a round, slightly exposed base approximately 18 feet in diameter.

1.1.2 Project Area Description

Noble considered the location of a Project within an approximately 8,620-acre Project Area in Franklin County, New York, in the Towns of Chateaugay and Bellmont, with a small portion traversing Clinton County, in the Towns of Clinton and Ellenburg. Clinton County will be traversed for construction of 2.5 miles of collection line and 900 feet of access road. Land uses within the Project Area are predominantly a mixture of agricultural (approximately 5,055 acres) and forested land (approximately 3,515 acres). The remaining 50 acres includes roads and other paved surfaces, scattered residences, buildings, and open water features such as ponds. The Project Area also includes wetlands and surface waters (approximately 140 acres) based on New York State Department of Environmental Conservation (NYSDEC) mapping. Current agricultural use is associated primarily with dairy operations, which include pastureland and the production of corn, oats, hay, and alfalfa. In addition to the dairy farms, there are a number of potato farms within the Project Area. Forested land within the Project Area varies from early successional forest and reverting farmland to mature forest. Current use of the existing forest includes commercial timber production, personal firewood harvest, maple syrup production, and recreation, primarily hunting, fishing, and snowmobiling. A map of the Project Area is included as Figure 1-1.

Noble has obtained property interests allowing for the completion of construction activities within the Project Area. Figure 1-1 shows the general Project Area as well as the parcel boundaries of the lands on which property interests have been obtained in the form of individual easement agreements. The Project Site, or those portions of the Project Area that have the potential to be permanently or temporarily disturbed as a result of construction or operation of the Project, is also shown on this figure.

1.1.3 Project Site Description

The Project Site is located on an approximate cumulative 264 acres within the approximately 8,620-acre Project Area. Noble has obtained property interests that will allow it to complete Project activities on all appropriate parcels within the Project Site. Components of the Project Site acreage include the maximum 60-foot ROW (40-foot ROW in wetland and stream crossing areas) for 22 miles of roads (148 acres), the Turbine Sites (79 acres), and the collection system ROW (37 acres) and will include wind turbines, electrical collection, utility trenches, utility poles, access roads, and other related structures. Existing equipment laydown areas, previously evaluated through a joint Final Environmental Impact Statement (FEIS) approved for the Towns of Altona, Clinton, and Ellenburg, are noted but not further evaluated as part of the Project.

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1.1.4 Turbine Clusters

The Project Site has been further divided into turbine clusters that are served by a series of access roads and a circuited electrical collection system. The clusters are shown on Figure 1-2 and are identified in Table 1.1-1.

Table 1.1-1 Turbine Clusters

Cluster Number	Turbine Numbers Included in the Cluster	Access Road Serving the Cluster	Municipality
Cluster 1	Turbines 2, 3, 4, 5, 6, 81, and 82	1	Town of Chateaugay
Cluster 2	Turbines 9, 10 and 11	2	Town of Chateaugay
Cluster 3	Turbines 12, 13, 14, 15, 17, and 18	3	Town of Chateaugay
Cluster 4	Turbines 7 and 8	4	Town of Chateaugay
Cluster 5	Turbines 23, 24, 25, and 26	5	Town of Chateaugay
Cluster 6	Turbine 19	6	Town of Chateaugay
Cluster 7	Turbine 20	7	Town of Chateaugay
Cluster 8	Turbines 21 and 22	8	Town of Chateaugay
Cluster 9	Turbines 27, 28, 29, 30, 31, 32, 33, 34, and 35	9	Town of Chateaugay
Cluster 10	Turbine 36	10	Town of Chateaugay
Cluster 11	Turbines 42 and 45	11	Town of Chateaugay
Cluster 12	Turbines 39 and 40	12	Town of Chateaugay
Cluster 13	Turbines 79 and 80	13	Town of Chateaugay
Cluster 14	Turbines 43 and 44	14	Town of Chateaugay
Cluster 15	Turbines 88 and 89	15	Town of Chateaugay
Cluster 16	Turbines 46, 47, 48, 49, 50, 52, 54, 55, 56, 61, and 62	16	Town of Chateaugay
Cluster 17	Turbines 57, 58, and 60	17	Town of Chateaugay
Cluster 18	Turbine 51	18	Town of Chateaugay
Cluster 19	Turbine 59	19	Town of Chateaugay
Cluster 20	Turbine 63	20	Town of Chateaugay
Cluster 21	Turbine 64	21	Town of Chateaugay
Cluster 22	Turbine 53	22	Town of Chateaugay
Cluster 23	Turbines 68, 69, 70, 72, and 73	23	Town of Bellmont
Cluster 24	Turbines 66, 67, and 71	24	Town of Bellmont
Cluster 25	Turbine 65	25	Town of Bellmont
Cluster 26	Turbines 74, 75, 76, 77, and 78	26	Town of Bellmont
Cluster 27	Turbines 86 and 87	27	Town of Chateaugay
Cluster 28	Turbine 85	28	Town of Chateaugay
Cluster 29	Turbines 83 and 84	29	Town of Chateaugay
Cluster 30	Turbines 37 and 41	30	Town of Chateaugay

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1.2 Detailed Description of the Proposed Action

Appendix A includes drawings that provide engineering details for the Project Site including the proposed location of turbines, foundations, and roads as well as properties under easement, the electrical collection system schematic, the electrical substation, the location of the interconnection with existing 230-kV transmission lines, and details for proposed fences and gates.

1.2.1 Turbine Description

Selection of the various Project components will be based on several factors, including experience of the manufacturer, engineer, or vendor and suitability of the specific component to this specific location and wind resource. The turbines were selected based on the projected efficiency in the wind resource at this site, economy of scale, availability of service and replacement components, and the manufacturer's reputation. As discussed in Section 1.1, Description of the Proposed Action, the wind turbines that will be installed for the Project will be General Electric 1.5 MW, 80 Meter, MTS sle, T-Flange wind turbine generators. Appendix A includes the drawings and specifications for these turbines. Each turbine will have a maximum height of 389 feet when the rotor blade is at the top of its rotation and will have an approximate 18-foot diameter slightly exposed concrete foundation. Each turbine included within the Project will have a nominal output of 1.5 MW.

Power from the turbines is fed through a control and electrical stabilization cabinet at the turbine base inside the tower that is connected to a pad-mounted step-up transformer which steps the turbine supplied voltage of 585 volts up to 34.5 kV. The pad mounted transformers are located near the base of the towers and are connected on the high side to underground cables (the collection system) that connect all of the turbines together electrically.

The turbines will require lighting in accordance with Federal Aviation Administration (FAA) standards to eliminate hazards to aviation. Aviation warning lights will be limited to the minimum required by the FAA (e.g., if allowed by the FAA, lights will be installed on towers around the Project perimeter, and those within the perimeter spaced a half mile apart, rather than on all structures). There will be no lights during the day. There will be red strobes during the night designed at a minimum intensity and duration of time with an illumination pattern that will primarily be directed upward, as suggested by the FAA (see Sections 2.13 and 2.14, Visual Resources).

1.2.2 Collection System

The electrical power generated by the wind turbines is transformed and collected through a network of underground and overhead cables (the collection system), which will terminate at the Clinton substation in the Town of Clinton, Clinton County. Construction of the Clinton Substation was previously evaluated pursuant to the State Environmental Quality Review Act (SEQRA) including the adoption of a Joint Findings Statement and Decision by the Towns of Altona, Ellen-

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burg, and Clinton in August 2006. The collection system will consist of approximately 29 miles of underground cabling and about 5 miles of overhead 34.5 kV electrical power lines, all of which are designed and coordinated to terminate at the Project connection in the Clinton substation. The underground cables are installed in trenches typically 4 to 5 feet deep and generally running beside and parallel to the Project's access roadways, thereby minimizing disturbances to additional ground. The collection systems are generally broken down into individual circuits of approximately 20 turbines or 30 MW of maximum power. Each circuit is run from the individual group of circuited turbines directly to the substation. The Project Site Layout shows the general routing paths of the underground and overhead electrical lines as well as the substation location.

The main functions of the substation and interconnection facilities are to step up the voltage from the collection lines (at 34.5 kV) to the NYPA transmission level of 230 kV. The Clinton substation is currently under construction. The engineering and NYPA interface to support the Chateaugay facility expansion, as described in the Joint Clinton County FEIS, will be incorporated into this substation configuration. The overall electrical system and substation expansion will be designed and constructed in accordance with the Guidelines of the National Electric Code (NEC), National Fire Protection Agency (NFPA), and the host utility (NYPA) requirements.

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1.2.3 Construction Overview

Turbine Installation

Generally, all components of the Project will be installed in a fixed manner. In preparation for the installation of each turbine, a 200 x 200-foot temporary disturbance area will be cleared and graded to a slope not to exceed 5%. This area may be further minimized to avoid impacts on wetlands or other sensitive resources. A gravel crane pad approximately 120 x 40 feet will be constructed with a slope of 1% or less in all directions. This gravel crane pad will be located within the 200 x 200-foot turbine site. After turbine installation is completed, the crane pad will remain in place for future maintenance. Other disturbed areas at the turbine site will be restored with subsoil and stockpiled topsoil. All foundations and underground infrastructure will be in place for the life of the Project.

Preparation of each turbine site for installation of the foundations will involve excavation of surface materials. Extra care will be used to ensure that topsoil and subgrade materials are kept separated and stockpiled to help assure the land is returned to its original use. Topsoil stockpile areas will be clearly designated in the field and on the on-site 'working set' of construction drawings. When topsoil is stripped, the soil will be stockpiled at the end of access roads or access road spurs rather than dozed flat. Windrow stockpiling will not be used for extended periods of time in order to minimize the possibility of ponding and/or creating additional undesired runoff paths along access roadways. No topsoil will be removed from the immediate site area. Dewatering may be required to maintain the integrity of subsurface load-bearing materials. Where dewatering activities occur, documentation and tracking will be implemented to ensure compliance with all NYSDEC guidelines.

Glacial sandstone bedrock is a common subsurface material occurrence in northeastern New York. After specific geotechnical investigations are conducted, a number of construction options will be utilized to remove this subsurface material to support foundation preparation. The primary choices for removal of this material will include loosening by drilling and removal with either an excavator with a rock bucket attachment or, in more severe cases, an excavator equipped with a hydraulic/pneumatic breaker and/or grinding attachment. A last resort possibility would be select drilling and site-specific blasting to loosen rock during excavation of those bedrock materials. No blasting will occur until Noble has received full approval from the authority having jurisdiction. A more detailed discussion of blasting is included in Section 2.27, Description of Proposed Construction Plan.

The pad-mounted transformers located at each turbine will be situated so that there is a minimum 6 feet of clearance between the transformer and any other component. The transformers will be installed in accordance with industry standards.

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During the Project construction phase, the large turbine components (i.e., tower sections, nacelle, and rotor blades) will be delivered to an off-site equipment laydown and inspection area for verification of match marking, a quality receipt inspection, and any necessary rigging adjustments prior to site delivery. From those areas, site-specific equipment will be delivered to individual turbine staging areas for erection. Each turbine site will serve as the primary staging area for the erection of that specific turbine. Materials such as cable reels and power poles will be staged at an off-site location. These materials will be transported to the sites as they are needed and utilized for construction.

The majority of construction crews will be bussed to the work sites, while the rest will park off the public roads on the Project's previously disturbed and designated areas such as access roads and turbine sites, as required.

Collection System Installation

A combination of overhead and underground cables will be installed to establish a multi-circuited collection system for the project. Each collection system circuit will consist of approximately 20 turbines or 30 MW of power and will run independently to the substation.

The underground portion of the collection system will be installed, to the greatest extent possible, within the maximum 60-foot ROW of temporary access road disturbance. In areas where underground collection lines will not be installed adjacent to an access road, an ROW width of 22 feet for one circuit, or 32 feet for two circuits, will be required.

Underground collection cables will be installed using a patented specialty-contractor trenching system that utilizes a continuous system of excavation and trench closure in a single-step process. The cables will generally be buried to a depth of 4 to 5 feet.

Overhead collection lines will be utilized where it is necessary to cross an existing road, along existing roadways, where underground collection is not feasible, and wherever necessary to minimize environmental impacts in sensitive areas. Installation of overhead lines will require a 25-foot ROW where located adjacent to existing roadways or 35-feet in other areas. The ROW will be cleared of any trees and large woody vegetation that may pose a hazard to the line. Where overhead lines are located adjacent to existing roadways, installation will take place from the edge of the road and the poles will be located approximately 10 feet from the road shoulder.

Access Roads

Access roads will have a maximum temporary width of 30 feet during construction. Access road ROW disturbance widths will be a maximum of 60 feet to allow for construction of the temporary access road, storage of topsoil, and safe passage of equipment. The maximum 60-foot wide construction corridor is being utilized to address a concern expressed by the New York State Department of Agriculture and Markets (NYSDAM) where a larger temporary road width is desirable on Windpark construction in agricultural land to enable two way construction traffic and additional road width for parking on the road. Modifications within the maximum 60-foot ROW and outside of the 30-foot temporary roadway will be limited to compaction and minor grading. The temporary construction access roads will be reduced to a permanent width of 12 feet for operation and maintenance of the turbines after the construction phase is complete. The remainder of the construction ROW will be allowed to naturally revegetate, although it will be subject to periodic removal of woody vegetation to maintain a herbaceous or scrub-shrub state composed of native species. Natural revegetation of the construction ROW is likely to result in the establishment of naturally occurring native plants because of existing seed banks and adjacent plant communities.

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If soil conditions are not conducive to natural revegetation or if soil erosion risks are apparent, an annual rye seed or mulch will be used to temporarily stabilize the soil until conditions for natural revegetation improve. Areas that fit this description will be monitored to ensure that adequate vegetative growth is occurring and, if not, supplemental seeding/mulching will take place on an as-needed basis.

In areas adjacent to agricultural fields, plans for revegetation or seeding/mulching will be discussed with individual farmers so that the re-establishment of vegetation complements each farmer's operation.

In most cases, access roads will be installed at grade and will not require sloped shoulders. However, in low lying areas such as wetlands, two-foot shoulders on either side of the road may be required to meet the existing grade.

The construction/access roads for the Project are gravel roads designed to bear the weight of truck traffic transporting concrete, gravel, and turbine components to the wind turbine sites over the life of the Project. The required gravel road base section will be constructed using site-specific geotechnical information taking into consideration the intended load-bearing requirements of construction traffic and equipment delivery. The gravel roads will be constructed on suitable, undisturbed, native soils. Geotextile fabric, or a comparable product, will be used to separate the native soil/fill from the base material to prevent fine soil particles from migrating into the gravel base material and to preserve road base integrity.

Roads will be constructed with culverts as needed to maintain a water table elevation below the base material to ensure roadbed stability. Roadside ditches will be constructed as dictated by the terrain to convey storm water runoff away from the roadways. During construction, to prevent access by the general public, construction/access roads will be gated within approximately 30 to 60 feet of where they intersect public roads, depending upon the layout of the access road entrance and landowner wishes. At the end of the project, permanent gating may be installed depending primarily upon landowner wishes and/or the sensitivity to off-road access.

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Environmental Monitoring

Construction activities will be monitored to ensure compliance with applicable permits, the Stormwater Pollution Prevention Plan (SWPPP), and best management practices (BMPs). A compliance monitoring document will be included as part of Noble's Quality Assurance Plan. This plan will contain permit conditions and other commitments made by Noble during the EIS process including those associated with wetland and stream disturbance, vegetation removal, storm water management, erosion control, and agricultural impacts. Noble will retain an environmental monitor whose duties will include coordination of environmental monitoring activities, documentation and implementation of mitigation activities as they are conducted, and preparation of a final report available to the Towns of Chateaugay and Bellmont and involved and interested agencies as needed and/or requested.

1.2.4 Operation and Maintenance

The turbines are anticipated to be operable 365 days a year and 24 hours a day. Downtime for preventive maintenance and/or malfunctions may reduce the operating hours. The turbines will generate electricity only during times of sufficient wind.

Noble plans to operate the Windpark with 9 full-time employees. Eight of these employees will perform routine and unplanned work on the turbines under an operations and maintenance contract. A facility manager will be responsible for all operations and maintenance of the site, including administration and direction of turbine maintenance with technical oversight as required by the manufacturer and operational coordination with the utility grid system and the local landowners. Two technicians will assist the facility manager in performing preventative maintenance on the electrical substation and the collection system. Large repair tasks will be accomplished using both Project employees and contractors.

The operational staff will maintain the turbines, including routine maintenance, long-term maintenance, and emergency work. In all cases, the facility staff will be responsible for facilitating the needed repair either with internal staff or with the aid of additional contractor support.

Routine maintenance for the turbines will include testing of lubricants for contaminants, changing of lubricants, calibrating and testing electronic systems, and tightening of bolts and components. Routine maintenance is generally completed on a scheduled basis by climbing the tower using the internal ladder and doing the work with normal hand tools and electrical testing equipment.

Long-term maintenance may include replacement/rebuilding and cleaning of larger components such as generators and gearboxes, testing of electrical components, and refurbishing blades.

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Emergency work also may be required as the result of a system or component failure. Certain unplanned work such as blade repairs or repairs to other large components may require the use of a crane to complete the work.

Noble does not expect to use herbicides or pesticides to control vegetation or pests along access roads and turbine maintenance areas. Generally, these areas are not expected to promote vegetation growth because of the use of geotextile fabric and gravel construction, as well as the periodic use of the access roads by vehicles. Maintenance of cleared areas and periodic removal of vegetation will consist of trimming trees and clearing undesirable vegetation by side trimming, cutting, and mowing to (1) control re-sprouting of undesirable tall growing species to maintain safe clearance within wire security zones; (2) remove vine growth from poles; (3) clear access paths to overhead equipment; (4) protect underground collection lines from root damage; and (5) maintain erosion- and sediment-control devices. In some cases, spot control of invasive species might be required. If herbicide or pesticide use should become necessary, Noble will comply with applicable laws and best practices standards. Maintenance of clearance distances around aboveground electrical lines will be limited to a minimum of a 5-foot radius around conductors as recommended by the manufacturer’s specifications as necessary to prevent interference with power cables.

Any and/or all materials used during the inspection and maintenance of project equipment will follow a strict MSDS program and, when required, will include documented, dedicated control of excess materials as well as off-site disposal of waste materials with an emphasis on recycling whenever possible.

1.2.5 Fire Protection

Fire protection methodology is included throughout the Project's design as well as in construction and operation procedures (see Section 2.29, Health and Safety). The turbines will be located on a parcel of open land that occupies approximately one acre. The open land will be maintained and kept free of significant regeneration, thus minimizing the potential spread of a fire should one start.

The fire protection features of the turbine include components within the nacelle that monitor bearing, oil, and nacelle temperatures. These components will be connected to the turbine supervisory control and data acquisition (SCADA) system. The SCADA system will monitor these temperatures and automatically shut the turbine down and send an alarm to the control room if predetermined set points are exceeded. In addition to the monitoring system, each nacelle and each service vehicle is equipped with a fire extinguisher.

Beyond the physical fire protection components of the facility, the operations staff will develop a site-specific Emergency Preparedness and Fire Prevention Plan (EPFPP) to be submitted to the Towns at least 10 business days prior to the start of construction for review and comment. This plan will detail the actions to be taken by the site manager and staff should an emergency or fire occur. The EPFPP will be coordinated with the local fire departments and emergency response organizations and will set forth the lines of communication in the event of a fire or other emergency.

The Clinton substation currently under construction will be secured within a locked and fenced area. The overall design will meet American National Standards Institute (ANSI) and National Fire Protection Association (NFPA) standards for this type of installation. The main transformers will incorporate an oil spill containment area, designed to meet and include normal standards as presented by NYPA.

1.2.6 Power Generation

The electrical interconnection point is the 230-kV transmission line owned by the NYPA. The transmission line runs between Willis, New York, and Plattsburgh, New York.

On February 14, 2005, Noble notified the New York Independent System Operator (NYISO) of its intent to interconnect with the New York State transmission grid, which triggered the requirement to perform a System Reliability Impact Study (SRIS). The NYISO recommended the use of an outside consultant to expedite the study process. Noble has retained Seimens PTI to perform the study. Detailed studies to confirm these preliminary results are being completed pursuant to NYISO procedures.

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The Project electrical substation connection is being constructed in association with the previously evaluated Clinton and Ellenburg Windpark Projects under construction in those Towns and will serve to interface the Project's electrical collection system to the transmission line. Some additional upgrades internal to the substation will be required to facilitate the additional connections. The Project will operate and maintain the distribution voltage equipment. Scheduled maintenance will be performed according to manufacturers' recommendations, and costs will be budgeted as required.

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1.3 Project Alternatives

This section discusses Project alternatives and describes the process used to select the Project Site and the locations of turbines, roads, and interconnect and collection lines within the Project Area. The Project alternatives evaluated in this section include alternative Project sizes, alternative turbine technologies, alternative road and interconnect designs, and the no-build alternative. The Project Site was selected through a systematic process that considered: (1) the location of wind resources in New York State; (2) the availability of existing roads and utility interconnections; (3) the availability of land with landowners willing to sign easements for their property; (4) community support; (5) the presence of environmental constraints including visual and noise impacts, impacts on wetlands and streams, and important wildlife habitat; and (6) the presence of land use constraints including zoning and building restrictions. The selection process was designed to facilitate the evaluation of different potential Project Sites and turbine locations as Noble obtained property rights within a preferred Project Area sufficient to develop a wind energy facility.

1.3.1 Project Site Selection

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Preliminary Screening

In November 2004, Noble began a wide area study of several potential project areas within multiple project regions. Potential project areas were identified in northern and western New York State. The Project Area selected within the Towns of Chateaugay and Bellmont was one of many prospective sites evaluated in northern New York State, including several locations in Franklin and Clinton Counties. Noble evaluated these potential sites using the following criteria:

- **Availability of sufficient wind resources.** Wind turbines must be sited where there is sufficient wind flow of adequate speed and duration. Potential Project Sites were evaluated using topographic maps and the New York State Wind Resource Map produced by TrueWind in 2001 and updated in 2005. Generally, wind speeds averaging at least 7.5 meters per second (m/s) are needed for commercial wind energy project viability. A project area with adequate wind resources was identified in northern Clinton and Franklin Counties, and potential Project Sites were investigated within this project area.

- **Proximity to existing roads and transmission lines.** A key consideration for wind project siting is the accessibility of an existing utility system to deliver the power generated into the energy grid. Use of existing transmission facilities minimizes environmental impacts associated with construction of new power transmission facilities, which would include clearing ROWs and other construction impacts. The NYPA 230-kV transmission line running from Plattsburgh to Willis traverses northern Clinton and Franklin Counties, making electrical transmission possible. The availability and proximity of this high-voltage transmission line also enhances the efficiency of the Project versus delivery at a lower voltage, by reducing transmission line “losses.”

The Project Area is accessible via Interstate 87, U.S. 11, NYS Route 374, and NYS Route 190. Transportation in and through Franklin and Clinton Counties and the Towns of Chateaugay and Bellmont is provided by a well-developed system of local, County, and State roads. The roads are suitable for delivery of the equipment needed to construct and maintain the Project. The Project Area also includes many existing farm and logging roads. Improving these existing roads for Project access will minimize disturbance of additional areas for new roads.

- **Availability of Privately Owned Lands.** The Project Area is primarily comprised of privately owned lands. Many of the properties are larger parcels that are used for farming activities and have low population density, making them attractive for wind energy development. Larger, sparsely settled parcels require fewer easements and less encroachment on residential uses.

  Members of the Noble Project team met with landowners and residents of the community to determine whether there would be sufficient participation of landowners to develop a viable project. As a result of these discussions and meetings, the Project team determined that there was sufficient support to proceed with development of a wind project. Because Noble is a private developer, Project Site selection is limited to those locations where it is able to enter into voluntary agreements with landowners for development.

- **Presence of Environmental and Land Use Constraints.** Noble conducted a preliminary analysis of the Project Area to determine the environmental and land use constraints present at the potential Project Site locations (Fatal Flaw Analysis). This Fatal Flaw Analysis revealed that there was a relative lack of potential disturbance to sensitive ecological resources, land and water resources, cultural and visual resources, and landowners within the Project Area.

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Identification of Preferred Project Site and Turbine Locations

For those properties within the Project Area that satisfied the preliminary screening criteria, further analysis was conducted to identify land use and environmental constraints that could potentially be fatal flaws in the project development. The specific issues addressed in the Fatal Flaw Analysis included assessments of:

- Geology and soils;
- Water resources;
- Wetlands;
- Threatened and endangered species;
- Avian and bat issues;

- Traffic and transportation;
- Land use;
- Cultural resources;
- Environmental Justice issues; and
- Visual impacts.

If no fatal flaws were identified, the wind resources were further verified through the installation of meteorological towers within the Project Area to collect site-specific data. These data were compared to the New York State Wind Resource Map and modeled to predict electrical production from each of the potential turbine locations.

Noble obtained agreements with landowners within the Project Area that would allow for the construction of turbines, access roads, and transmission lines on their property. The Project Site was not finalized until a sufficient number of landowner agreements were in place to site all of the Project facilities (see Figure 1-2).

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When land acquisition activities were completed, an "area constraints map" was developed to determine where turbines, roads, and transmission system components could be located. To the greatest extent possible, areas were eliminated from consideration if they were located on a NYSDEC- or National Wetlands Inventory (NWI)-mapped wetland or area that appeared to be "wet" based on a review of soils mapping and or site investigation. Areas were eliminated from consideration if they were located:

- Too close to a road, residence, or existing structure to maintain legally required setbacks;
- Too close to a residence, to comply with sound pressure level requirements;
- Too close to an airport based on FAA and other applicable requirements; or
- In a microwave path or other radiowave pathway.

Data on the mapped constraints was entered into the WindFarmer™ modeling program to determine optimum turbine locations within the Project Area. In addition to the mapped constraints, the WindFarmer™ model takes into account meteorological data and noise calculations to optimize turbine locations within a given area.

Proposed turbine locations were field-verified to ensure that:

- Impacts on wetlands were avoided to the extent practicable;
- Setback requirements as set forth in and Town of Chateaugay Local Law No. 7 of 2006 and Town of Bellmont Local Law No. 2 of 2006 were met;
- Engineering constraints were minimized.

Adjustments were made and modeling was repeated until preliminary turbine sites were optimized.

Care was also taken to choose turbine locations that would minimize impacts on the use of active agricultural lands. Noble met with Matthew Brower of NYSDAM to discuss proposed locations of wind turbines, access roads, and electrical collection systems. In consultation with Mr. Brower, turbines located on active farms were sited in accordance with NYSDAM turbine siting guidelines as well as input from the landowners. To the extent practicable, roads and interconnects were located on the edge of agricultural land to minimize impacts on agricultural operations. Collection lines located away from access roadways are proposed as underground and at a depth of 4 to 5 feet to minimize impacts on farming practices.

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Road and Interconnect Location Selection

During the process of field-verifying proposed turbine locations, access road and electrical collection line placement was also considered. In the interest of minimizing impacts, every effort was made to minimize the number of access road/interconnection systems needed. Each system was designed to:

- Co-locate electrical lines and roads within the same corridor, where possible;
- Optimize the use of previously disturbed areas such as farmlands and roads; and
- Avoid crossings of wetlands and streams.

Once a route was selected based on these primary criteria, a secondary analysis was performed to determine whether the proposed route had any engineering constraints. The final Project design showing turbines, roads, and interconnect locations is presented as Figure 1-2. A further discussion of the evaluation process to site roads and collection lines to minimize impacts on wetlands and proposed mitigation strategies is presented in Section 2.8, Wetlands: Impacts and Mitigation, and Appendices D and E.

1.3.2 Project Alternatives Evaluated

Smaller Project Size

Noble evaluated reducing the size of the Project by using a smaller number of turbines. However, reducing project size would undermine its financial viability and would also reduce the energy portfolio, environmental, and economic benefits of the Project. This evaluation included the possibility of reducing Project generation capacity to less than 80 MW, which would render it non-jurisdictional for a Certificate of Public Convenience and Necessity under Article 68 of the New York State Public Service Law.

Wind generating projects have certain fixed "infrastructure" costs that are independent of the size of the facility. For example, the cost of the utility interconnection and facility substation cost will not vary significantly with the size of the facility. The financial viability of a project depends on its ability to recover these fixed costs by maximizing electric generation.

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Prices for electricity produced by the Project are based on the cost to generate the electricity. As a fuel-free energy resource, the Project's main costs are fixed capital costs. To be competitive with other wind projects and other sources of electrical energy, the capital and other fixed costs per kilowatt hour (kWh) of output must be reduced as much as possible by maximizing project output. Some smaller wind energy projects that have been built have only been made possible because of large financial grants. Reducing Project output without a corresponding reduction in fixed costs will create a negative impact on its financial viability and discourage investment.

Thus, the Project has been sized to maximize its output to defray its fixed costs, maximize its environmental benefits through the production of clean energy, and maximize local economic benefits through landowner easement payments, payment-in-lieu-of-taxes (PILOT) payments, and other local economic benefits, all the while minimizing its environmental and other impacts. A smaller project would produce fewer global benefits (clean energy, emissions reductions, and reductions in fossil fuel use) and fewer local and regional economic benefits, without any necessary corresponding reduction in environmental impacts. It also would be contrary to the State's goals of increasing the use of renewable sources of electricity to the same extent as the Project that has been proposed. In order to meet the state's goal that 25% of its electrical supply come from renewable sources by 2013, the State must encourage the development of large scale projects.

A smaller Project of less than 80 MW would change the localized environmental impacts slightly in a few different ways. The footprint and visibility would be slightly reduced because the Project would consist of at least 33 fewer turbines. Reducing the amount of disturbed forest land and vegetation might reduce environmental impacts; in addition, there may be the opportunity to reduce impacts on wetlands because fewer access roads would be required. However, given the minimal impacts on forest land, vegetation, and wetlands of the project as proposed, the overall benefit of a reduced sized project to local environmental resources would not be significant. Visually, a reduction in the number of turbines may provide a minimal benefit at a particular receptor but would do little to change the overall impact of the wind project on the regional landscape. There would also be minimal reduction in the need for collection lines and the associated visual impacts. Thus, the reduction of the size of the Project even by approximately 33 turbines would only marginally change its aesthetic profile.

Turbine Selection

The commercial wind industry has moved toward the use of "megawatt class" wind turbine generators because they are more cost-effective than smaller machines (i.e., they have a more favorable ratio of rotor "swept area" to generator size). For land-based use, the industry has developed turbines with generating capacities in the range of 1.5 MW to approximately 2 MW. Smaller turbines are available; however, a significantly larger number of turbines would be required to produce comparable amounts of power from smaller turbines. To maintain an equivalent level of power generation within a given project, more of the smaller turbines would be required. This would increase temporary and permanent disturbance to soils, vegetation, and water resources as the number of towers and the length of required access road and interconnect system increases. Potential operational impacts (e.g., noise and avian mortality) would also likely increase with a larger number of smaller machines. In terms of visibility and visual impact, while smaller turbines might be marginally less visible, higher blade speed, higher density, and greater numbers could actually increase the Project's visual impact. Use of a shorter tower would substantially increase wind turbulence in the blade area, and the cost of turbine maintenance.

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The use of larger turbines (2 MW) was considered for the Project; however, turbines larger than 1.65 MW have not been operating in the United States for any appreciable period of time. The technology for large turbines is developing but these larger machines have not been sufficiently tested to ensure reliability for this Project. Larger turbines generally sit atop taller towers and have a greater potential for visual, avian and other impacts.

Economies of scale dictate that the largest proven turbines that meet the regulatory requirements and fully utilize the available wind resource be selected. Prominent manufacturers have machines in this range. GE's 1.5 MW and NEG Micon's 1.65 MW machines meet these requirements and were considered. GE 1.5 turbines were ultimately selected for several reasons:

- They are among the quietest operating machines;
- They incorporate state-of-the-art operating features;

- GE has proven its willingness to stand behind its equipment; and

- Noble has a long and positive working relationship with GE.

The project would use tubular steel towers instead of lattice towers. This alternative will reduce potential avian collision impacts by nearly eliminating potential perching locations. Pending results of geotechnical investigations, an alternative tower foundation design may be employed to reduce the quantity of concrete required (and, thus, concrete truck traffic to the site) and the extent of soil disturbance at each tower site.

Alternative Project Design

The design and layout of the Project has been continuously evaluated since the decision was made to pursue a project in the Towns of Chateaugay and Bellmont. Over the past 12 months, various turbine totals and layouts were evaluated in an attempt to maximize energy efficiency while minimizing adverse environmental impacts. The Project layout, as proposed, has been engineered to capture the area's high wind energy, while minimizing wake effects on downwind turbines. The original computer-generated optimal siting plan for the turbines, from a wind resource perspective, has been modified by landowner agreements/considerations and recognition of the need to protect sensitive resources such as wetlands, wildlife habitat, and agricultural land. The final proposed location of turbines and associated facilities reflects input and guidance received from landowners and project consultants focusing on cultural resources, noise, land use, and ecological impacts. The layout, as proposed, results in a carefully achieved balance of energy production, environmental protection, and community involvement. Relocation of any turbines would have a ripple effect, in that the location of all other turbines would have to be reexamined and possibly changed in order to maintain an efficient and workable Project design. Therefore, reduction of environmental impacts in one location could result in increased impacts in another location and/or reduced power generation. In the case of visual impact, removal or relocation of one or two individual turbines from an 86-turbine layout is unlikely to result in a significant change in Project visibility and visual impact from most locations.

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Each of the proposed turbines has been located outside the boundaries of wetlands. Impacts on wetlands in the current proposed layout result from some unavoidable wetland areas that are crossed by roads and/or collections lines. If the Project layout were to be modified to eliminate all impacts on wetlands, the Project would not be feasible. Even if that were not the result, other impacts would be unacceptably increased. Examples of increased impacts include the additional lengths of roads and collection lines that would be required to avoid all wetlands. For every foot of road increased, there would be an increase of up to 60 square feet of disturbance to forest, farmland, and/or wildlife habitat. Each additional mile of road would add approximately seven acres of soil and vegetation disturbance. The proposed layout avoids impacts on wetlands to the maximum extent possible without a major increase in the length of the roads. In addition to the increased length of roads within the Project Area, layout changes to further reduce wetlands impacts would require the construction of additional road entrances at existing public roads to access some of the turbines that would be inaccessible because of small wetlands or streams. This would create additional visual impact to the rural character of the area because of the numerous entrance roads cutting into forests and open spaces and would create additional traffic impacts in the areas and general inconveniences to the people living in the area. The proposed design has as many as 11 turbines along one access road with a single entrance from a public road. Relocating the roads to totally avoid wetlands would increase the construction activity that would be visible from public roads.

At the outset of project design activities, Noble utilized specific criteria for the preliminary siting of collection/distribution lines. First order criteria for collection line routing were (1) shortening the length of circuits to minimize electrical losses; (2) availability of property rights; and (3) absence of environmental fatal flaws. Once preliminary collection/distribution routes were identified, the advantages and disadvantages of overhead versus underground collection lines for each segment of the line were considered. Both overhead and underground installation have the potential to impact streams and wetlands but these impacts can be minimized by using various construction techniques, some of which are directional drilling, maintaining buried cable depths in agricultural areas coordinated with landowners operations, and by strategic pole placements. After careful analysis, a mixed approach was selected, utilizing both underground and above-ground installations where the best balance of environmental impact, cost, reliability, and safety/maintenance factors can be achieved.

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It is planned that approximately 85% of the electrical interconnect system will be buried. Overhead lines are being used in places to span wetlands and streams to avoid installing multiple underground lines in certain locations. A totally underground collection system would significantly increase cost and require installation of additional lines because of the lower thermal limits of underground collection lines. This has the potential to increase impacts on vegetation, soils, and wetlands. Adding some overhead lines, as proposed, will reduce impacts on soil and water resources but will cause some visual impact. To minimize adverse visual impact, the majority of overhead lines will be carried on single wooden poles, similar in appearance to distribution lines that are currently found along most of the roads within the Project Area. The overhead lines have been routed primarily along field edges and hedgerows to minimize the need for ROW clearing and to minimize additional impacts on agricultural land and farming operations.

Permanent access road widths will be the minimum necessary to operate and maintain the Project (anticipated to be 12-feet wide) and have been sited with NYSDAM guidelines in mind, to minimize loss of agricultural land and impacts on farming operations. Consequently, alternative Project designs likely to pose equal or greater risk of adverse environmental impacts while yielding equal or less electrical output were rejected.

Alternative Construction Phasing

Construction time lines are intentionally compressed and minimized as a mitigation measure to limit construction-related impacts by keeping the period of the impact on the community as short as possible without creating an extreme overload of the local resources. Alternatively, transportation, construction noise, dust generation, and other impacts overall would be reduced by having a compressed construction season. Noble intends to engage in the construction of multiple access roadways, turbine foundations, collection trenches and transmission pathways simultaneously. This is also necessary because of the adverse conditions present during the winter months within the Project Area.

Conversely, the division of construction timelines into two or more phases was evaluated. This option would allow for a multi-year construction schedule in order to reduce certain impacts such as disruption to agricultural activities. Phased construction could also be considered as mitigation to transportation, noise, dust and other impacts overall. Levels of impacts generated could be kept to a minimum throughout each phase.

Upon further review, it was determined that benefits to phased construction would be offset by the longer construction presence. Those impacted preferred the shortest timeframe option (non-phased construction).

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No-Build Alternative

Selection of the no-build alternative would preclude the development of a Windpark on an approximately cumulative 264 acres of land in an area with favorable wind resources and infrastructure to support such a project. In the northeastern U.S., good wind energy project sites are limited and those that do exist are primarily located in areas that will have similar social and environmental concerns. Therefore, the selection of the no-build alternative would force continued reliance in the Northeast on non-renewable energy resources (e.g., fossil fuels and nuclear materials). Energy production with such non-renewable sources results in a plethora of severe direct and indirect adverse environmental impacts (e.g., air emissions, water consumption, toxic effluents and thermal emissions, by-product wastes, significant infrastructure needs and related land-use impacts, visual impacts, noise impacts, traffic impacts, and health impacts), and socio-economic effects (e.g., decreased energy diversity and reliability, fluctuating and increased consumer costs, and uncertainties regarding the ability to meet increasing energy demands).

Furthermore, the benefits of adding approximately 129 MW of clean, renewable electric energy to the power grid would be lost. Electric generation by fossil fuel-fired facilities presents serious consequences in the form of, among other things, air emissions (i.e., carbon dioxide, sulfur dioxide, nitrogen oxides, particulate matter, and mercury). The continued reliance on fossil fuel-fired generators would negate the reductions in emissions expected from operations of the Project that are estimated to displace 12,250 tons of sulfur dioxide (a precursor of acid rain), 6,000 tons of nitrogen oxide (a smog precursor), mercury (a deadly poison), and 3,600,000 tons of carbon dioxide (a greenhouse gas) over 20 years (GE Energy 2005). The adverse environmental and health effects of air emissions from combustion of fossil fuels are well documented and include global warming, acid rain, smog, respiratory health effects, and significant long-term impacts on wildlife. Air emissions and global warming have been cited as serious concerns for bird populations in North America in *A Birdwatcher's Guide to Global Warming* by The National Wildlife Federation and American Bird Conservancy (Price and Glick 2004). This guide advocates renewable energy sources such as wind to help slow global warming and reduce the threat it poses to people and wildlife.

Beyond air emissions, fossil fuel-fired facilities have other significant environmental impacts. These include, among others, massive water withdrawals/consumption for cooling (which entrain and impinge fish), the release of toxic effluents resulting from plant operations, thermal releases (when cooling waters are returned to the water body from which they were withdrawn), and visual impacts resulting from the facilities' structure and vapor/steam plume. To the extent that new technologies are required under the Clean Water Act to reduce water withdrawals, such technologies have their own attendant adverse environmental impacts (e.g., construction and maintenance of massive structures in water bodies, thereby causing long-term habitat disturbance). In any event, even with modern pollution control devices, significant adverse impacts remain. The cumulative effect of the operation of many fossil fuel power plants continues to pose an environmental threat that will only worsen with continued and expanded usage necessary to meet the ever-increasing demand for energy.

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Beyond environmental impacts, fossil fuel power plant facilities also have significant adverse socioeconomic effects. Strict air emissions regulations and control measures, along with other environmental requirements to permit new or repowered fossil-fueled facilities, have increased the capital and operating costs of power plants and the ultimate cost of electricity for the consumer.

Further, the infrastructure required for efficient energy distribution is in some instances lacking, leading to price fluctuations and unreliability of energy supply. For example, although natural gas is heralded as the cleanest of the fossil fuels, it nonetheless has substantial drawbacks, both socioeconomic and environmental. Natural gas is transported through a network of pipelines throughout the country, but this network is not always capable of transporting the required gas to various regions. This results in significant price swings and increased costs to consumers. In extreme instances, supply disruptions may force use of dirtier fuels such as fuel oil.[2] In addition, natural gas facilities suffer from many of the same adverse environmental impacts as do coal-fired and oil-fired plants, particularly with respect to

[2] Diversity in the mix of energy sources that supply our electricity can help reduce price fluctuations for the consumer.

water withdrawals, thermal releases, and visual impacts. Thus, fossil fuel-fired facilities, which depend on non-renewable resources, have undeniable and well-defined significant environmental and social costs.

Nuclear facilities pose their own unique set of dangers, including the disposal of radioactive waste (high-level and low-level), impacts on the marine environment from thermal water discharge, and the potential danger of a catastrophic radioactive release as the result of an accident or terrorism. Moreover, the stigma associated with, and public perception of, nuclear facilities (both the power plants themselves and radioactive waste disposal sites) render the siting of any new facilities difficult.

In marked contrast, wind energy plants do not produce air emissions or other pollutants, nor do they utilize finite fossil fuel resources in the production of energy. Thus, wind projects provide a compensatory benefit to the environment generally—and wildlife particularly—by displacing other types of electricity generation that are harmful to the biosphere (AWEA 2003). Wind projects do, however, require appropriate wind resources, and they are generally distributed over a larger land area than fossil fuel facilities. These characteristics make rural areas appropriate for wind project development. Rural areas often are used for farming or logging, and wind energy facilities are wholly compatible with these two land uses. They do not require the project sponsor to take control of land; instead, an easement is signed and the land remains the property of the rural landowner. Thus, revenues are paid to the landowner, and these monies help sustain economic vitality in the rural area (Department of Energy 2003). In addition to easement payments to private landowners, the Project is expected to make significant PILOT and other payments to local taxing jurisdictions and make road improvements as a result of construction and post-construction remediation. The no-build alternative would deprive the rural area of these direct economic benefits as well as preclude development of an environmentally benign and beneficial energy production technology.

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Importantly, both the United States's and New York State's energy policies explicitly recognize the need to supplement non-renewable energy production resources with renewable energy resources. Thus, they encourage development of renewable sources and support renewable sources as being a vital part of the local and national long-term energy strategy (e.g., New York State Energy Planning Board 2002; Renewable Portfolio Standard, New York State Public Service Commission 2003).

This Project utilizes a renewable resource, is environmentally benign compared to fossil fuel-fired and nuclear-powered facilities, and is environmentally and socio-economically beneficial (both locally and globally). Because of continued improvements in renewable energy technology, a commercial-sized wind farm, such as the Project, can generate electricity that is competitive with electricity produced from fossil fuels and can do so with significantly lower impact on the overall environment than comparable conventional non-renewable energy projects. The Project is consistent with the long-term energy goals of both the U.S. and the State of New York. Finally, the Project would actually create environmental benefits (including to avian species and other wildlife) by displacing more environmentally harmful means of energy production.

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1.4 Project Purpose, Needs, and Benefits

1.4.1 Project Purpose and Need

The Project will generate electricity, using no fuels or water and with zero emissions or waste discharge, and provide it to the NYISO grid using wind, a renewable resource. The Project will have capacity sufficient to generate approximately 129 MW of power that will help to meet New York State's Renewable Portfolio Standard (RPS) and fill the need for a more diverse national energy portfolio that would include a higher percentage of energy utilizing renewable resources. Renewable energy projects reduce reliance on both domestic and foreign fossil fuel resources and diversify the range of resources used to produce the electricity that supplies the state and national electrical needs. In addition, renewable energy projects reduce air emissions from fossil fuel combustion. These emissions are detrimental to air quality and have been documented to adversely affect human health.

On September 22, 2004, the New York Public Service Commission issued its "Order Approving Renewable Standard Portfolio Standard Policy" requiring that 25% of the State's electric supply come from renewable sources by the year 2013. In addition, Governor Pataki's Executive Order 111 directs State agencies to increase their purchases of "green energy" (including wind energy). This Executive Order requires all State agencies, departments, and authorities to purchase 10% of their energy from renewable energy sources by 2005, with the amount increasing to 20% by 2010. The New York State Comptroller has estimated that the RPS program will create 43,000 new jobs statewide.

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New York's renewable energy policy is consistent with the National Energy Policy, which states that the U.S. has the technology needed to meet our principal energy challenges including:

- Promoting energy conservation;
- Repairing and modernizing our energy infrastructure; and
- Increasing our energy supplies in ways that protect and improve the environment.

Renewable and alternative energy supplies help diversify our energy portfolio and result in few adverse environmental impacts. The current contribution of renewable and alternative energy resources to the state and the national total electricity supply is relatively small; however, the renewable and alternative energy sectors are growing. Continued growth of renewable and alternative energy is vital to delivering clean energy to fuel our future economic growth. The federal government provides tax incentives to further the development and use of renewable energy technologies.[3]

1.4.2 Project Benefits

The construction and operation of the Project will result in positive environmental, economic, and energy benefits.

The Project is expected to reduce power plant air pollution in New York State by about 6,000 tons of nitrogen oxides (NO_x); 12,250 tons of sulfur dioxide (SO_2); and 3,600,000 tons of carbon dioxide (CO_2) over 20 years by displacing dirty fossil fuel-based electric generation (GE Energy 2005).

Local economic benefits of the Project will include:

- Temporary and permanent employment;
- Increased commerce in the Town from spending by project employees, suppliers, and local merchants;
- An increased flow of revenue to the County, Town(s), and School District through PILOT payments and other municipal payments;
- An increased flow of revenue to landowners through easement agreements; and
- Increased economic diversification.

Construction of the Project will result in the direct employment of up to 540 electrical workers, crane operators, equipment operators, carpenters, and other construction workers (with a total estimated payroll and benefits of $24.5 million) and will create 320 additional direct, indirect, and induced jobs countywide (with a total estimated payroll and benefits of $9 million). A significant percentage of the construction workers employed during the six-month construction period will be hired from within the local community to the extent that qualified workers are available. Personnel specially trained in specific procedures for wind turbine construction will be brought in and temporarily housed in the area during the construction phase of the project.

During plant operations, the Project will employ 9 skilled operators, managers, and administrative personnel and create 38 more direct, indirect, and induced jobs countywide (with a total estimated payroll and benefits of $1.7 million). The

[3] The renewable Electricity Production Tax Credit provides a tax credit for each kilowatt hour of energy produced by eligible renewable generators including wind. The tax credit was originally established under the authority provided in 26 U.S.C §45 and was renewed in the Energy Policy Act of 2005 §1301.

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company also has several wind energy projects in development in upstate New York and anticipates establishing a regional operations center in northeastern New York State, with additional full-time staff members.

The Project will spend an estimated $50.4 million countywide during construction. Total economic benefits during construction are estimated at $76.2 million, including payrolls, supplies, materials, hotel stays, meals, and economic multiplier effects. During plant operation, the Project will spend an estimated $1.1 million annually, exclusive of property taxes. Total annual economic benefits during operation are estimated at about $3.8 million including payrolls, supplies, materials, windpark easement payments, and economic multiplier effects. Total countywide economic benefits, based upon regional multipliers applied to direct project expenditures in original capital investment and ongoing operational expense, are estimated to be $152.9 million over 20 years.

The Project will extensively utilize and support providers of local services, suppliers, and area manufacturers during both construction and operation.

Noble has proposed to provide payments to both Towns and other taxing authorities in the form of PILOT and host community payments. These payments will result in a significant increase in local revenue for the taxing authorities.

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The Project will assist in the revitalization of the local economy by providing steady income through easement payments to farmers and other landowners. Most of the landowners are farmers, and the additional income from annual lease payments is expected to help stabilize their income and provide some relief from the cash-flow fluctuations that are inherent in the agricultural industry.

Additional value to the local economy will result from increased diversification of the county and state economic bases. Economic diversification ensures greater stability of the economy by minimizing financial high and low cycles associated with a specific industry. This effect is particularly important in rural areas, where more goods and services are imported and more dollars leave the region.

Finally, all of the foregoing benefits will be provided without any corresponding increased burden on local schools and other public services.

1.5 Table of Required Permits and Consultations

Table 1.5-1 identifies the permit and consultations required for construction and operation of the Noble Chateaugay Windpark and Noble Bellmont Windpark.

Table 1.5-1 Required Permits and Consultations

Agency	Permit or Consultation Required
Town/County	
Town of Chateaugay Town Board	Wind Energy Permit
Town of Bellmont Town Board	Wind Energy Permit
Town of Clinton Town Board	Wind Energy Permit
Town of Ellenburg Town Board	Wind Energy Permit
Franklin County Industrial Development Agency	PILOT approval
NYSDOT, Franklin County Highway Superintendent	County Road Use Permits/Agreements County Highway Non Utility Permits County Highway Utility Permits
Town of Chateaugay Hwy Supt	Town Road Use Permit/Agreement
Town of Bellmont Hwy Supt	Town Road Use Permit/Agreement
Town of Chateaugay	Building permits to meet New York State Building Codes as identified under Civil/Foundation and OSHA/NEC
Town of Bellmont	Building permits to meet New York State Building Codes as identified under Civil/Foundation and OSHA/NEC
Franklin County Highway Superintendent and/or NYS DOT	Temporary Parking Permit
Franklin County Health Department	Well Permits
State	
New York State Department of Agriculture and Markets	Consultation with regard to Project design; construction and restoration of Project components on agricultural land throughout the Project Site
New York State Department of Environmental Conservation	Sect. 401: Water Quality Certification SPDES Storm Water Article 15 – Stream Disturbance Permit Article 24 – Freshwater Wetlands Permit
New York State Department of Transportation	**State Hauling Permits (oversize load, etc)** State Highway Non Utility Permits (Access Entrance Roads/Driveways) State Highway Utility Permits
NYS Historic Preservation Office	Consultation
NYS Public Service Commission	Sect. 68 Certificate of Public Convenience and Necessity

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Table 1.5-1 Required Permits and Consultations

Agency	Permit or Consultation Required
Federal	
United States Army Corps of Engineers	Section 404: Waters of the U.S. Individual Wetland Certification
Federal Aviation Administration	Obstruction to Aviation: Approved Lighting Plan
U.S. Fish and Wildlife	Consultation

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