

Record Hill Wind, LLC // Natural Resources Protection Act
Construction of 50.6 megawatt wind energy development - Roxbury

Excerpts from the Department's License Record – Scenic Issues

- Excerpt from application
- State Planning Office comments
- Maine Finest Lakes Report (1989)

Section 30
Visual Impact of Generating Facility

EXECUTIVE SUMMARY

Overview

Record Hill Wind LLC is proposing the Record Hill Wind Project (Project), a 22-turbine, 55-megawatt (MW) wind generating facility on Partridge Peak, Flathead Mountain, and the southern slope of Record Hill in Roxbury, Oxford County, Maine. The Project will consist of the following actions.

- 22 turbines, along with associated electrical interconnection infrastructure and permanent meteorological towers, will be installed along approximately 3.5 miles of the ridge of Partridge Peak, Flathead Mountain, and the southern slope of Record Hill, which rise 1,200 to 1,400 feet above the surrounding valleys.¹ The turbines will be mounted on 80-meter towers and will have rotors with a diameter of 96 meters. The total height of a turbine with blade fully extended is 128 meters, or approximately 420 feet. All components of the turbine will be painted white. The turbines will be Clipper Liberty C96 wind turbines, each with a 2.5-MW capacity.
- Red warning lights will be installed following Federal Aviation Administration (FAA) guidelines, mounted on the top of some of the nacelles and may also be mounted on one or more of the permanent meteorological towers. The final lighting plan will be determined by FAA approval. The Project has submitted application with the FAA to determine the final lighting plan. A copy of that application can be found attached as Appendix 30-1.
- Access to the Project site is proposed by upgrading and extending existing logging roads on the north side of Route 120. A new 32-foot± wide gravel road will be constructed to provide access along the project ridgeline.
- 34.5-kilovolt (kV) collector lines will carry the power generated from the project approximately one mile east down from the ridge to a collector substation located adjacent to an existing Central Maine Power transmission corridor. The voltage will be increased to 115kV at the collector substation and then transferred to the adjacent Central Maine Power Company system and ultimately delivered to the New England grid.

The entire Project area is privately owned and is managed for timber production, a use that is highly compatible with the installation and operation of a wind project. Other land uses within the surrounding study area include agriculture, rural residential, and recreation.

There are several scenic resources of state or national significance, as defined by the Maine Wind Power Law, within eight miles of the project. Two of these scenic resources offer viewpoints that would have an unobstructed view of the entire wind project: 1) portions of the summits of Tumbledown Mountain and Little Jackson Mountain and the trails immediately below their summits, located between 5.8 and 7.0 miles from the closest turbine, and 2) the Old Blue Mountain viewpoint on the Appalachian National Scenic Trail, located 7.8 miles from the closest turbine. Visual impacts on these resources are anticipated to be minor to moderate due to the distances from the wind project and the scale of the surrounding landscape.

There are four structures on the National Register of Historic Places within eight miles of the project area. By definition, they are considered scenic resources of state or national significance. However, the wind project will not be visible from any of them, nor will the turbines have a visual impact on their settings.

There are two river segments that are noted for their scenic value by the Maine Rivers Study: 1) the Swift River, paralleling Route 17 on the east side of the project area, between 1.5 and 2.5 miles from the

¹ The project will not include turbines on the summit of Record Hill, which is immediately to the north of the project site in the town of Byron. Originally the Project was conceived to include land in Byron where the ridge continues north to Old Turk Mountain, but the Project scope was reduced after the residents of Byron opted not to amend its height ordinance to allow for wind turbines.

turbines, and 2) the West Branch of the Ellis River in Andover, 5.5 miles west of the Project. One of the most noteworthy features of the Swift River is Coos Canyon, located 2.7 miles north of the Project in Byron. The wind turbines will not be visible from the canyon or the public facilities surrounding it. The turbines will be intermittently visible through breaks in the streamside tree cover along the Swift River at Swift River Falls at a distance of 2.5 miles. Most views of the turbines from the West Branch of the Ellis River will be blocked by riparian vegetation and topography throughout the majority of its length. Visual impacts on the rivers should be minor (West Branch of the Ellis River) to moderate (where visible from the Swift River). At no point along these rivers will there be an opportunity to see the entire wind project.

There are no lakes or ponds identified by the state as 'Significant or Outstanding'. There are no State Parks, National Parks (with the exception of a 2-mile segment of the Appalachian Trail), national natural landmarks, or other comparable outstanding natural or cultural features within eight miles that will be affected by the project.

Conclusion

There are several scenic resources of state or national significance within the viewshed of the project. The majority of the visual impacts will be concentrated on one of the summits of Tumbledown Mountain and Little Jackson Mountain, at a distance of 6-7± miles from the nearest turbine, and a viewpoint on the Appalachian Trail at a distance of close to 8 miles. Visual impacts to these resources will be moderate. Several of the turbines will be intermittently visible from the Swift River and the West Branch of the Ellis River, both of which have been rated for their scenic value.

The turbines will not be visible from any lakes or ponds that have been rated as significant or outstanding for scenic resources. They will also not be visible from any State Parks within eight miles, Maine Department of Transportation scenic turnouts, national natural landmarks, or scenic viewpoints located in the coastal area. Throughout the majority of the study area, views of the project are blocked by topography and roadside vegetation.

The Project has been conceived and designed to have minimal visual impacts on scenic resources within the study area. The Project will not have an unreasonable adverse impact on scenic values and existing uses of scenic resources of state or national significance.

1.0 INTRODUCTION

Record Hill Wind LLC (RHW) is proposing a 55-megawatt (MW) wind project (Project) on Partridge Peak and Flathead Mountain in Roxbury, Maine. The 22 wind turbines will be installed along approximately 3.5 miles of the ridge of Partridge Peak and Flathead Mountain, which rise 1,200 to 1,400 feet above the surrounding valleys. The turbines will be mounted on 80-meter towers and will have rotors with a diameter of 96 meters. The total height of a turbine with blade fully extended is 128 meters, or approximately 420 feet.

The methodology for assessing the visual impacts of the wind project involves the judgment of experienced landscape architects in the selection of factors chosen to evaluate scenic quality and determine the magnitude of visual impact. This approach, widely used in permitting work in Maine and elsewhere throughout the country, is based upon current studies of what constitutes scenic landscapes and visual impacts.

The study area is focused on the Town of Roxbury and includes all the abutting towns and unorganized townships within eight miles of the project (see Figure 1: Expedited Windpower Permitting Areas in the Vicinity of Record Hill Wind Project). The limits of the eight-mile study is based upon the Maine Wind Power Law, which instructs the Maine Department of Environmental Protection (MDEP) to "...consider insignificant the effects of portions of the development's generating facilities located more than 8 miles, measured horizontally, from a scenic resource of state or national significance" (See Section 3.4 below).

2.0 REGULATORY REQUIREMENTS

On April 18, 2008 the Governor signed into law LD 2283 *An Act to Implement Recommendations of the Governor's Task Force on Wind Power Development* (Maine Wind Power Law). This act created a process to expedite wind power projects in places where they are most compatible with existing patterns of development and resource values. As part of this legislation, the Legislature found that certain aspects of the State's regulatory process for determining the environmental acceptability of wind energy projects should be modified to encourage the siting of projects in Expedited Permitting Areas.

2.1 Expedited permitting

Expedited Permitting Areas include most of the organized areas of the State and specific places within MDEP jurisdiction. The Expedited Windpower Permitting Area includes the Town of Roxbury, as well as all the surrounding towns and townships (with the exception of Township 6 North of Weld). See Figure 1: Expedited Windpower Permitting Areas in Vicinity of Record Hill Wind Project.

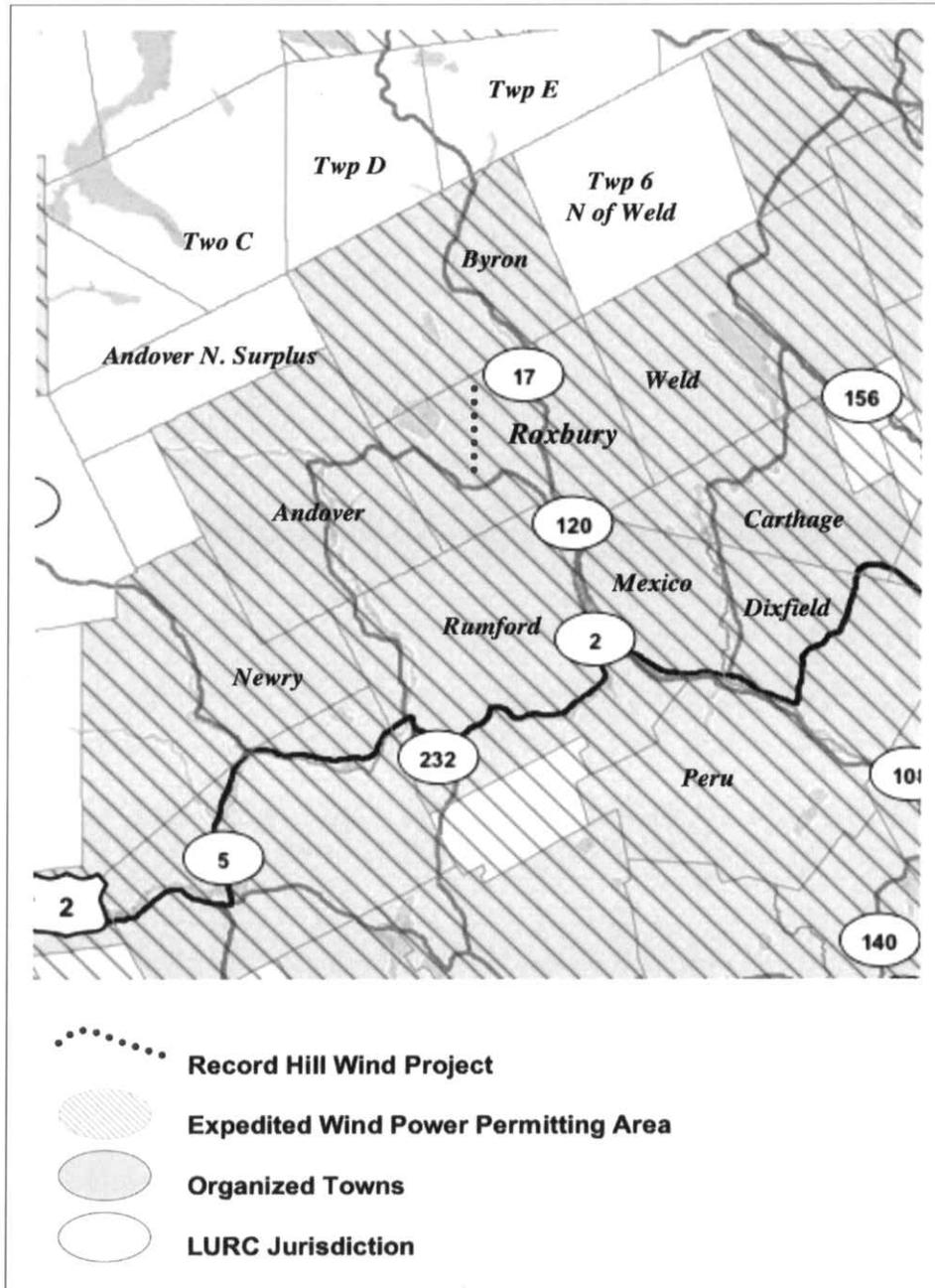
2.2 Scenic Resources

The visual impact assessment for the Project concentrated on "scenic resources of state or national significance", which are defined under the Maine Wind Power Law as:

- A. A national natural landmark, federally designated wilderness area or other comparable outstanding natural and cultural feature, such as the Orono Bog or Meddybemps Heath;
- B. A property listed on the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended, including, but not limited to, the Rockland Breakwater Light and Fort Knox;
- C. A national or state park;
- D. A great pond that is:
 - (1) One of the 66 great ponds located in the State's organized area is identified as having outstanding or significant scenic quality in the "Maine's Finest Lakes" study; or
 - (2) One of the 280 great ponds in the State's unorganized or deorganized areas designated as outstanding or significant from a scenic perspective in the "Maine Wildlands Lakes Assessment";

- E. A segment of a scenic river or stream identified as having unique or outstanding scenic attributes listed in Appendix G of the "Maine Rivers Study";
- F. A scenic viewpoint located on state public reserved land or on a trail that is used exclusively for pedestrian use, such as the Appalachian Trail, that the Department of Conservation designates by rule adopted in accordance with section 3457;
- G. A scenic turnout on a scenic highway constructed by the Department of Transportation; or
- H. Scenic viewpoints located in the coastal area that are ranked as having statewide significance or national importance in terms of scenic quality in: (1) One of the scenic inventories prepared for and published by the Executive Department, State Planning Office: "Method for Coastal Scenic Landscape Assessment with Field Results for Kittery to Scarborough and Cape Elizabeth to South Thomaston," Dominie, et al., October 1987; "Scenic Inventory Mainland Sites of Penobscot Bay," DeWan and Associates, et al., August 1990; or "Scenic Inventory: Islesboro, Vinalhaven, North Haven and Associated Offshore Islands," DeWan and Associates, June 1992; or (2) A scenic inventory developed by or prepared for the Executive Department, State Planning Office.

Figure 1: Expedited Windpower Permitting Areas in the Vicinity of Record Hill Wind Project





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Legend
 □ Proposed Turbine
 ○ Distance From Turbines (3 and 8 Miles)
 - - - Record Hill Viewshed
 ■ Areas of Potential Visibility

Client/Project
 FirstWind
 Record Hill
 Roxbury, Maine
 Figure No.
 2
 Title
Eight Mile Viewshed Map
 11/3/2008

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<p>tjd&a</p> <p><small>TERRACON CONSULTANTS & ASSOCIATES LANDSCAPE ARCHITECTS & PLANNERS 121 West Main Street, Torrington, VT 05860 Telephone: (802) 486-2100 Fax: (802) 486-2101</small></p>	<p>RECORD HILL WIND PROJECT</p> <p>Record Hill Wind LLC</p>	<p>Study Area and Photo Location Map</p> <p><small>Base Map provided by Stantec, Inc.</small></p> <p>0 1 2 4 miles</p>	<p>KEY</p> <ul style="list-style-type: none"> P# Location of photos (See Photo Appendix) PH Photosimulation location and viewing angle Area of visibility from roads Area of visibility from lakes and ponds 	<p>North</p>	<p>Figure 3</p>
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Scenic resources of state or national significance within the eight-mile study area include:

- Four structures on the National Register of Historic Places in Andover and South Andover at distances of 5.5 to 6.0 miles from the nearest turbines. None of these structures would have views of the wind project (resource category B above).
- The summit of Tumbledown Mountain and Little Jackson Mountain in Township 6 North of Weld, at a distance of 6.2± miles from the nearest turbine (resource category F above). The turbines, which will be visible from the West Peak of Tumbledown Mountain and from the summit of Little Jackson Mountain, will have a moderate visual impact on the view.
- Segments of the three trails leading to the summit of Tumbledown Mountain and Little Jackson Mountain, at a distance of 5.3± miles at the closest point (resource category F above). The turbines should have a moderate visual impact on the views from the trails.
- A 2-mile segment of the Appalachian National Scenic Trail (a unit of the National Park Service), at a distance of 7.8± miles from the nearest turbine (resource categories C and F above). The turbines should have a moderate impact on the view from Old Blue Mountain. The rest of the trail is in forestland and will not have a view of the project.
- A segment of the Swift River in Byron and Roxbury, located 1.5 miles to the east from the wind project at its closest point (resource category E above). The Maine Rivers Study classifies the entire length of the river from its headwaters to the Androscoggin River as having scenic resource values. Riparian vegetation and topography will block most views of the turbines from the river.
- The West Branch of the Ellis River, located 5.5 miles from the wind project at its confluence with the Ellis River (resource category E above). Riparian vegetation and topography will block most views of the turbines from the river.

2.3 Regulatory Standard

In making findings regarding the effect of an expedited wind energy development on scenic character and existing uses related to scenic character, MDEP shall determine whether the development significantly compromises views from a scenic resource of state or national significance such that the development has an unreasonable adverse effect on the scenic values and existing uses related to scenic character of a scenic resource of state or national significance.² The Legislature specifically removed the requirement that a wind energy development fit harmoniously into the existing natural environment in terms of potential effects on scenic character and existing uses related to scenic character.³ If MDEP determines that the associated facilities (i.e., access roads and transmission line) have unreasonable adverse effects on scenic character and existing uses, they may be evaluated under traditional standards found in 12 MRSA § 685-B(4)(C). Otherwise, the associated facilities are reviewed under the modified scenic impact standard applicable to the wind generating facilities.

2.4 Rebuttable Presumption

The Maine Wind Power Law requires an applicant for an expedited wind energy development to provide MDEP with a visual impact assessment of the development that addresses the evaluation criteria (above) if MDEP determines such an assessment is necessary. There is a rebuttable presumption that a visual impact assessment is not required for those portions of the development's generating facilities that are located more than three miles, measured horizontally, from a scenic resource of state or national significance.⁴ MDEP may require a visual impact assessment for portions of the development's generating facilities located more than three miles and up to eight miles from a scenic resource of state or

² 34-A M.R.S.A. § 3452.

³ Id.

⁴ 34-A M.R.S.A. § 3452(4).

national significance if it finds there is substantial evidence that the pertinent scenic resource of state or national significance is significant and there is the potential for significant adverse effects. In determining whether an applicant for an expedited wind energy project must provide a visual impact assessment, MDEP shall consider:

- A. The significance of the potentially affected scenic resource of state or national significance;
- B. The existing character of the surrounding area;
- C. The expectations of the typical viewer;
- D. The project purpose and the context of the proposed activity;
- E. The extent, nature and duration of potentially affected public uses of the scenic resource of state or national significance and the potential effect of the generating facilities' presence on the public's continued use and enjoyment of the scenic resource of state or national significance; and
- F. The scope and scale of the potential effect of views of the generating facilities on the scenic resource of state or national significance, including but not limited to issues related to the number and extent of turbines visible from the scenic resource of state or national significance, the distance from the scenic resource of state or national significance and the effect of prominent features of the development on the landscape. A finding by MDEP that the development's generating facilities are a highly visible feature in the landscape is not a solely sufficient basis for determination that an expedited wind energy project has an unreasonable adverse effect on the scenic values and existing uses related to scenic character of a scenic resource of state or national significance. *In making its determination, DEP shall consider insignificant the effects of portions of the development's generating facilities located **more than 8 miles**, measured horizontally, from a scenic resource of state or national significance.*⁵ (Emphasis added).

In an effort to demonstrate that the project would be sited in a manner that would minimize impacts to scenic resources, RHW elected to conduct a visual impact assessment beyond three miles in recognition of the number and variety of scenic resources of state or national significance within eight miles of the project.

3.0 DATA COLLECTION

Terrence J. DeWan and Associates (TJD&A), landscape architects in Yarmouth, Maine, prepared the visual impact assessment. TJD&A used the three-dimensional resources of Google Earth Pro to look at the study area from the air and on the ground. This digital tool gives reviewers the capability to experience the overall physical characteristics of the landscape and thereby better understand the setting of the wind project relative to the surrounding topographic features.

Field data was collected by a variety of means during site visits on October 16 and 17, 2007, June 8, 2008, August 13, 2008, and October 18, 2008. Fieldwork concentrated on examining scenic areas of state or national significance, as noted in 3.2 above.

Photographs of the project area were taken with a Nikon D300 digital camera, recording at the highest resolution. In most instances, the lens was set to record images equivalent to those taken by a film camera with a 50 millimeter (i.e., a 'normal') lens. A selection of annotated representative views within the study area is attached. Additional photographs of the study area are available on CD upon request.

This report is based upon topographic mapping and design plans for the proposed Project prepared by the James Sewall Company, with input from other professional members of the design team. Stantec provided a GIS-based viewshed analysis map of the study area (included as Figure 2) to help determine the limits of potential project visibility, based on surrounding topography alone.

⁵ 34-A M.R.S.A. § 3452(3).

4.0 PROJECT STUDY AREA

4.1 Site Context

The visual resource study area is defined as the potential viewshed within eight miles of the Project, which is illustrated on Figure 3. It includes all of Roxbury and Byron and portions of Townships C, D, and E, Township 6 North of Weld, Weld, Carthage, Mexico, Rumford, Newry, Andover, and Andover North Surplus. The regional character is described by the existing landforms, water resources, vegetative patterns, and cultural character.

- *Landforms.* Most of the study area falls within the Mahoosuc Rangeley Lakes biophysical region of Maine.⁶ The characteristic landforms within eight miles of the proposed project are well-defined mountains and ridges rising 900 to 1,900± feet above broad valleys. The tallest peaks in the study area are Tumbledown Mountain (el. 3,068) and the adjacent Little Jackson Mountain (el. 3,434), 6± miles northeast of the Project.

The Project will be built on a distinct north-south ridgeline punctuated by Partridge Peak (el. 1,985) and Flathead Mountain (el. 2,155). A series of mountains on the east side of the Project area – Bunker Mountain (el. 1,631), Walker Mountain (el. 2,681), West Mountain (2,782), and Whale Back Mountain (e. 2,042) – form an imposing ridgeline on the opposite side of the broad Swift River valley. These mountains also block most of the view of the project area from Tumbledown Mountain. Record Hill (el. 2,422) and Old Turk Mountain (el. 2,425) block views to the north in Byron.

- *Water Resources.* The land on the east side of the Project site drains to the Swift River, which parallels the Project ridgeline and Route 17 throughout its length in the study area. Within the study area, the Swift River is between 1.5 and 2.5 miles from the closest turbine. The river is identified by the Maine Rivers Study as having unique/significant scenic resource values. Notable scenic features on the river in the study area include Coos Canyon and Swift River Falls.

Most of the land on the west side of the Project site drains to Roxbury Pond (also known as Ellis Pond and Silver Lake), which is part of the headwaters of the Ellis River. The northwesterly portion of the Project site flows into Garland (Little Ellis) Pond. There are a number of small ponds in the vicinity – Bunker Pond, Birch Pond, Swain Pond, and Horseshoe Pond, none of which will have a view of the project. None of the lakes or ponds within eight miles of the Project site are designated as scenic in Maine's Finest Lakes, the Results of the Maine Lakes Study.

The Ellis River is a classic meandering stream located in a broad river valley on the west side of the Project area between Route 5 and East Andover Road. The river is noted for Canoe Touring and Historic river resource values by the Maine Rivers Study, but not for its Scenic value. The West Branch of the Ellis River, which flows into the Ellis River in Andover, is noted for its scenic river resource values by the Maine Rivers Study.

- *Vegetative patterns.* The predominant forest cover in the study area is mixed second growth softwood/hardwoods. The Project area and much of the study area is used for commercial timber harvesting and the dominant vegetation of the area has been impacted by this historic and current land use. Extensive areas of open agricultural land are found along both sides of Route 17 in Roxbury and Byron.
- *Cultural character.* Cultural features within eight miles of the Project include the towns of Roxbury, Byron, and Andover; lakeside cottages on Roxbury Pond in Roxbury and on Garland Pond in Byron; scattered rural residential development; and intervale farms along Route 17 in Roxbury and Byron. Recreational areas include swimming areas on the Swift River at Swift River

⁶ Bailey, R.G. *Description of the Ecoregions of the United States*. Miscellaneous Publication No. 1391, U.S. Department of Agriculture, Forest Service, Washington, DC. 1995.

Falls; gold panning and swimming at Coos Canyon in Byron; designated snowmobile and all-terrain vehicle trails throughout the study area (including ITS 117 and 82); and a sand beach and boating on Roxbury Pond. There are no existing structures on the project site other than a temporary meteorological tower erected by RHW and an existing electrical distribution line owned and operated by Central Maine Power Company. The closest residences that may have views of the turbines are approximately 1 mile to west on the eastern side of Roxbury Pond.

4.2 Distance Zones

The concept of distance zones is based upon the U.S. Department of Agriculture Forest Service visual analysis criteria for forested landscapes and on the amount of detail that an observer can differentiate at varying distances.⁷ The distance zones used for the study of the Project are defined as follows.

- *Foreground: 0 to 1/2 mile in distance.* Within the foreground, the observer would be able to detect surface textures, details, and a full spectrum of color. For example, the details of the turbines (blades, nacelles, support towers) would be readily apparent. There are no scenic resources of state or national significance within one-half mile of the project.
- *Mid-ground: 1/2 mile to 4 miles in distance.* The mid-ground is a critical part of the natural landscape. Within this zone the details found in the landscape become subordinate to the whole: individual trees lose their identities and become forests; buildings are seen as simple geometric forms; roads and rivers become lines. Edges define patterns on the ground and hillsides. Development patterns are readily apparent, especially where there is noticeable contrast in scale, form, texture, or line. Colors of structures become somewhat muted and the details become subordinate to the whole. This effect is intensified in hazy weather conditions, which tend to mute colors and de-sharpen outlines even further. In panoramic views, the mid-ground landscape is the most important element in determining visual impact.

The only scenic resource of state or national significance within the mid-ground is the Swift River, flowing in a southerly direction and paralleling the project ridgeline and Route 17. At its closest point the river is approximately 1.5 miles from the Project. One of the most noteworthy scenic features of the Swift River is Coos Canyon, located 2.7 miles north of the project in Byron. There will be no views of the Project from the canyon or the surrounding picnic area and parking lot. At Swift River Falls in Roxbury, there will be limited views of several of the turbines on Flathead Mountain from the land adjacent to the parking area. Views of the wind turbines from most of the river will be severely limited by intervening topography and streamside vegetation. (See attached photographs.)

- *Background: greater than 4 miles.* Background distances provide the setting for panoramic views that give the observer the greatest sense of the larger landscape. However, the effects of distance and haze will obliterate the surface textures, detailing, and form of Project components. Objects seen at this distance will be highly visible only if they present a noticeable contrast in form or line and weather conditions are favorable. Due to the thinness of the design, the ends of the turbine blades will be minimally visible in the background. Scenic resources of state or national significance with background views of the wind project include Tumbledown Mountain, Little Jackson Mountain, and the Appalachian Trail on Old Blue Mountain.

⁷ USDA Forest Service, *Landscape Aesthetics: A Handbook for Scenery Management*, Agricultural Handbook Number 701. December 1995.

5.0 SCENIC RESOURCES OF STATE OR NATIONAL SIGNIFICANCE

Following is an inventory of the scenic resources of state or national significance within eight miles of the wind project.

- A. **National natural landmarks** (NNL), federally designated wilderness area or other comparable outstanding natural and cultural feature. According to the NNL website (www.nature.nps.gov), there are no NNL within eight miles of the Project.
- B. **A property listed on the National Register of Historic Places.** The Record Hill Historic Architectural Reconnaissance Survey by Public Archaeology Laboratories, Inc., indicated that there are four properties on the National Register of Historic Places within eight miles of the Project area.
- Lovejoy Bridge, Maine's shortest covered bridge, over the Ellis River in South Andover (6.0 miles)
 - Andover Library, Andover (6.0 miles)
 - Hook and Ladder Building, Andover (5.8 miles)
 - Merrill-Poor House, Andover (5.5 miles)

None of these properties will have a view of the wind turbines or associated facilities due to intervening topography and vegetation.

- C. **National or State Parks.** There are no State Parks within eight miles of the Project. The closest unit of Mount Blue State Park (on the southwestern corner of Webb Lake) is over eight miles from the closest turbine. There will be no view from this area or from Webb Lake. Mount Blue (in the eastern part of Mount Blue State Park) is 15 miles to the east of the Project.

The closest unit of the National Park Service (NPS) is the Appalachian National Scenic Trail, which is 7.8± miles to the west at its closest point (see 'F' below).

- D. **Specified Great Ponds.** The two ponds on the west side of the project (Garland and Roxbury [or Little Ellis and Ellis Ponds]) are not designated as scenic in "Maine's Finest Lakes, the Results of the Maine Lakes Study". Tumbledown Pond, between Tumbledown Mountain and Little Jackson Mountain, is less than ten acres in size, and therefore not a 'great pond'. None of the other smaller ponds within the study area are considered scenic by the Maine Lakes Study.
- E. **Specified Scenic Rivers.** The Swift River, located between 1.5 and 2.5 miles to the east of the project area, is identified by the Maine Rivers Study as having unique/significant scenic resource values. The Swift is rated as a "C" River in the Maine Rivers Study, which means that it has a composite of natural and recreational resource values of statewide significance. One of the most notable portions of the Swift River is the segment that flows through and carves into Coos Canyon (2.7 miles north of the project in the town of Byron). The wind turbines would not be visible from Coos Canyon or the immediate area surrounding the canyon.

The other point of interest along the Swift River in the study area is the Swift River Falls (also known as Three Falls), a popular swimming hole immediately adjacent to Route 17 due east of the southernmost turbine in Roxbury. The falls are described in the Maine Atlas and Gazetteer (Gazetteer) as having "Two short drops; hydraulic granite sculpture. Road access." There are currently filtered views of Flathead Mountain from the parking lot and a small opening in the woods above the falls. Several of the turbines will be visible at a distance of 2.5± miles to people in these openings. It may be possible to see some additional turbines during fall and winter months through the bare branches of the trees above the western riverfront at a time when visitorship is expected to be very low.

The Gazetteer and the AMC River Guide describe the Swift River Canoe Trip (for expert canoeists, with Class I – III rapids) starting at the Route 17 bridge in Byron (below Coos Canyon) extending 13 miles south to Mexico. While the GIS-based, topographic viewshed map indicates that there may be views along 1/3 of the route, it is unlikely that there would be much visual contact due to the dense streamside vegetation and intervening micro-topography.

The Ellis River, which is five to six miles southwest of the project area at its closest point, is rated by the Maine Rivers Study as a 'C' River (having a composite of natural and recreational resource values of statewide significance). The Ellis River is noted for Canoe Touring and Historic river resource values, but not for its Scenic value.

The West Branch of the Ellis River is also rated as a 'C' River, based upon its Geologic/Hydrologic and Scenic river resource values. The Gazetteer describes the Cataracts on Frye Brook (a tributary of the West Branch) as a series of 'three scenic drops'. These features are 11.2 miles from the closest turbine and would not be affected by the Project. At its confluence with the main stem, the West Branch is 5.5 miles west of the Project area. Most views of the turbines will be blocked by riparian vegetation and topography throughout the majority of its length.

F. Scenic viewpoints or specified trails

Tumbledown Mountain. The State of Maine acquired Tumbledown Mountain as part of a 3,778±-acre purchase in 2002. At the same time, the State also purchased a conservation easement on 7,832± acres north of Tumbledown and started negotiation on an adjacent parcel of 8,500± acres that includes Jackson Mountain and Blueberry Mountain.

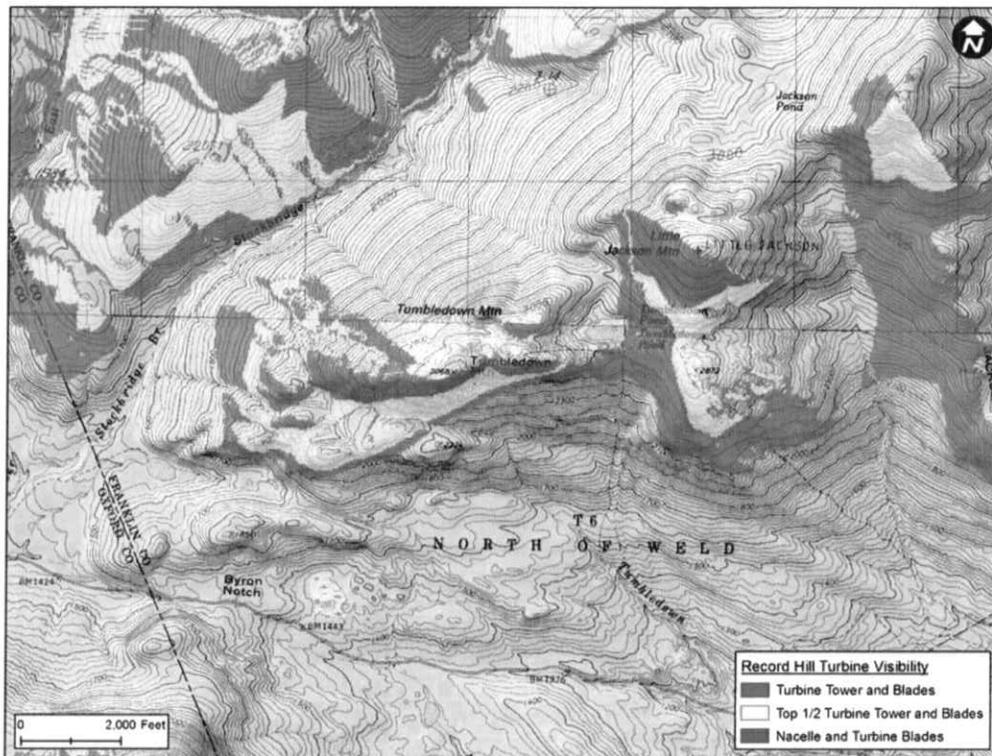
The summit of Tumbledown Mountain affords a 360° view of the surrounding mountains and broad valleys. One of the focal points is Webb Lake, four miles to the southeast. This is the largest waterbody in the immediate area, sitting in the valley defined by West Mountain, Spruce Mountain, Saddleback Mountain (in Carthage), Mount Blue, and several other peaks. There will be no views of the Project from Webb Lake. Recent strip cutting on nearby mountainsides is evident to the southeast.

Tumbledown Mountain Trails. There are three main routes to access the summit of Tumbledown Mountain. The Loop Trail is 5.3± miles from the northerly end of the project. The State acquired fee interest in the summit of Tumbledown Mountain in December 2002. Views of the project area start near the summit of Tumbledown Mountain, 5.8± miles away. Two other trails, the Brook Trail and Parker Ridge Trail, are within eight miles of the Project. See Figure 4 Detail: Viewshed of Tumbledown Mountain and Vicinity.

When hikers first rise above treeline on the Brook Trail, the ridge formed by Whale Back and West Mountains (3± miles to the southwest of Tumbledown) will block the visibility of the Project. As hikers continue north toward Tumbledown Pond, the Project ridgeline continues to be screened by the intervening mountains. Hikers above treeline on the Parker Ridge Trail may have intermittent views of some of the turbines at a distance of 6.7 miles before arriving at the pond, due to the trail's location on an exposed ridge.

As noted on Figure 4, there will be limited view of the Project in the immediate vicinity of Tumbledown Pond due to intervening topography (both the Whale Back / West Mountain ridges and the East and North peaks of Tumbledown Mountain). As the hiker continues to East Peak, the Project will start to become visible. From this vantage point, the tops of over half of the turbines on Flathead Mountain and Partridge Peak will be visible above the Whale Back / West Mountain ridge.

Figure 4. Detail: Viewshed of Tumbledown Mountain and Vicinity



The maximum Project visibility will occur on the West Peak of Tumbledown Mountain. At this point the majority of the Project ridgeline and all of the turbines will be visible above Whale Back and West Mountains. This viewpoint would be 5.7± miles from the nearest wind turbine and 8.6 miles from the most distant one. The attached photosimulation shows the view from West Peak with the Project in place (see Photosimulation 1: Figure 5).

The Loop Trail, which ascends Tumbledown Mountain on the much steeper and more exposed west face, will have open and filtered views of the wind project at distances of 5.3± miles throughout the upper portion of the trail.

Little Jackson Mountain and Trail. The base is 7.0 miles from the closest turbine; the summit is 7.5 miles away. The State acquired the land containing the summit of Little Jackson Mountain in August 2004. The view from the summit of Little Jackson Mountain will be very similar to the view of the West Peak of Tumbledown (the majority of the turbines will be visible), but they will appear somewhat smaller since the viewer on Little Jackson will be 1.3 miles further than a viewer on the West Peak.

Appalachian Trail. A 2-mile section of the Appalachian National Scenic Trail (AT) that includes the summit of Old Blue Mountain is located within eight miles of the Project. At its closest point, the AT will be 7.8± miles to the northwest of the northerly end of the project. 50 Hikes in the Maine Mountains⁸ describes the 360° view from the summit of Old Blue Mountain as “one of the best in western Maine”. 50 Hikes also notes that the view to the southeast (toward the wind project) looks out over Ellis Pond to the white globe of the Andover Telstar Earth Tracking

⁸ Chunn, Cloe. *50 Hikes in the Maine Mountains*. Third Edition. Backcountry Guides, Woodstock, VT. 2002.

Station.⁹ The majority of this 2-mile section is described in The Official Appalachian Trail Guide to Maine as "fine hardwood forest"¹⁰ and should not have any views of the Project.

- G. Scenic turnouts.** There are no scenic turnouts on scenic highways constructed by the Maine Department of Transportation within eight miles of the Project. The closest turnout on a scenic highway is at Height of Land on the Rangeley Lake Scenic Byway (Route 17), 11.5 miles to the north. There is no view of the Project area from Height of Land.

The picnic area and parking lot at Coos Canyon are owned by the Town of Byron and were acquired with assistance of the Land for Maine's Future fund. There are no views of the project area from the Coos Canyon picnic or parking areas. See attached photos for representative views from the Coos Canyon area.

Route 17 in Roxbury (and Byron) is part of the State-designated segment of the Rangeley Lakes Scenic Byway. Byron and Roxbury chose not to be included in the National Scenic Byway Program when the corridor management plan was being developed for the Byway. The State Scenic Byway becomes a National Scenic Byway at the Byron/Township D line, 7.2 miles north of the Project as it heads to the Rangeley area.

- H. Scenic viewpoints located in the coastal area.** Not Applicable: The Project is greater than eight miles from the coastal area.

6.0 PROJECT DESCRIPTION

The following section describes the visible components of the Project.

6.1 Wind Turbines

The 22 turbines used for the Project will be the Clipper Liberty C96 model, a 3-blade system rated for 2.5 MW. The turbines will be mounted on 80-meter tall towers and will have a blade diameter of 96 meters. With blade fully extended, the turbines will have a total height of 128 meters, or approximately 420 feet. By using a constant base height, each of the nacelles will be roughly parallel to the ridgeline, creating a sense of order throughout the Project. The turbines are controlled so they always face into the wind when it is strong enough to generate power. All components of the turbine will be painted white.

The blades will spin very slowly in low wind and will begin producing power when the wind velocity reaches approximately 4 meters per second (m/s) (9 miles per hour [mph]). After the wind reaches a certain maximum velocity (generally 25 m/s or 60 mph, but will vary with the intensity of turbulence), the machines will shut themselves down for protection. The turbines may not be operational at other times, such as when the turbines are in-line (wind direction is parallel to the string, which limits the number of turbines that can operate) or when they are taken out of service for repair or regularly scheduled maintenance.

Depending upon the wind velocity, the blades will rotate at 9.6 to 15.5 revolutions per minute, which is equivalent to one revolution every 6.3 to 3.9 seconds. With unobstructed viewing conditions (up to 8± miles), individual blades will be clearly visible with virtually no detectable blurring while they rotate.

Turbine spacing is a function of meteorological considerations related to wind speed and direction, interference from adjacent turbines, and other technical factors. The turbines in the Project will be spaced a minimum of 720 feet apart (2.3 rotor diameters/220 meters) and are on average 920 feet apart. The

⁹ The Tracking Station was constructed in the early 1960's by AT&T to house horn antennae used to follow the movements of Telstar, the first communications satellite. The antennae are covered with a white dome, 160' tall by 210' wide, to protect the electronic equipment.

¹⁰ Maine Appalachian Trail Club. *Official Appalachian Trail Guide to Maine*, Fourteenth Edition. Augusta, Maine. 2004

siting of individual turbines has taken into account the wind resource, site-specific topography (e.g., Mine Notch), town boundaries, proximity to wetlands, and other site conditions.

6.2 Project Lighting

Lighting for the project will follow the Federal Aviation Administration (FAA) recommendations for aviation safety. Red lights will be mounted on the top of some of the nacelles in accordance with an FAA approved lighting design. An application for a Determination of No Hazard has been filed with the FAA. A copy of that application is attached as Appendix 30-1.

Under normal operations, the lights will be red, flashing, with a slow-on, slow-off profile. The permanent meteorological towers may also have FAA approved lighting. By using white turbines, which offer a considerable amount of visual contrast for pilots, the FAA will not require daytime lighting. Turbine warning lights are designed to be brightest when viewed from above or at the same horizontal plane to make them most apparent to pilots. The intensity of the light diminishes below the horizon to minimize impacts on surrounding land uses. There are no scenic resources of state or national significance within eight miles of the Project that would be expected to have viewers after dark.

6.3 Ridgeline Roads

Each wind turbine will be linked by a 32-foot± wide gravel road designed to provide safe access for the construction crane to the structures throughout installation process. In some instances, the topography will dictate a circuitous route to accommodate the engineering requirements of the installation equipment and minimize site disturbance. The ridgeline roads will be screened by existing vegetation in most locations and will not be highly visible from outside the immediate area.

6.4 Access Roads

Access to the Project site is proposed by upgrading and extending the existing Mine Notch Road, located on the north side of Route 120. Access to the electrical collector substation for the Project will come from the existing Bunker Pond Road, the entrance of which is found on the north side of the Frye Crossover Road. The existing roads will be modified to accommodate the delivery and construction vehicles needed for the Project, including limited pull outs for passing of large vehicles. The access roads should not be visible to the general public beyond their immediate intersections with Route 120 and the Frye Crossover Road.

6.5 Electrical Collection System

34.5-kV collector lines will carry the power generated from the Project approximately one mile east down from the ridge to a collector substation located adjacent to an existing Central Maine Power Company transmission corridor in Roxbury. Intervening topography and forest cover will block views of the 34.5-kV collector line from scenic resources of state or national significance. This substation will be located at the base of Partridge Peak and sited so it will not be visible to the general public. The voltage will be increased to 115kV at the collector substation and then transferred to the adjacent Central Maine Power Company system and ultimately delivered to the New England grid.

6.6 Meteorological Towers

The existing meteorological towers are temporary and will be removed during construction. One or two permanent 80 meter (262 feet) towers will be constructed and remain for the life of the project. These towers will be lighted according to FAA requirements and be of a guyed lattice construction with a triangular cross section approximately 18 inches across. Their slim profile and light color will greatly reduce their visibility at distances greater than one mile.

6.7 Crane Pads

A cleared and level pad area just over an acre in size will be required at the base of each turbine for staging, crane movement, and turbine installation. Additional clearing may be needed in some areas to account for cut/fill slopes.

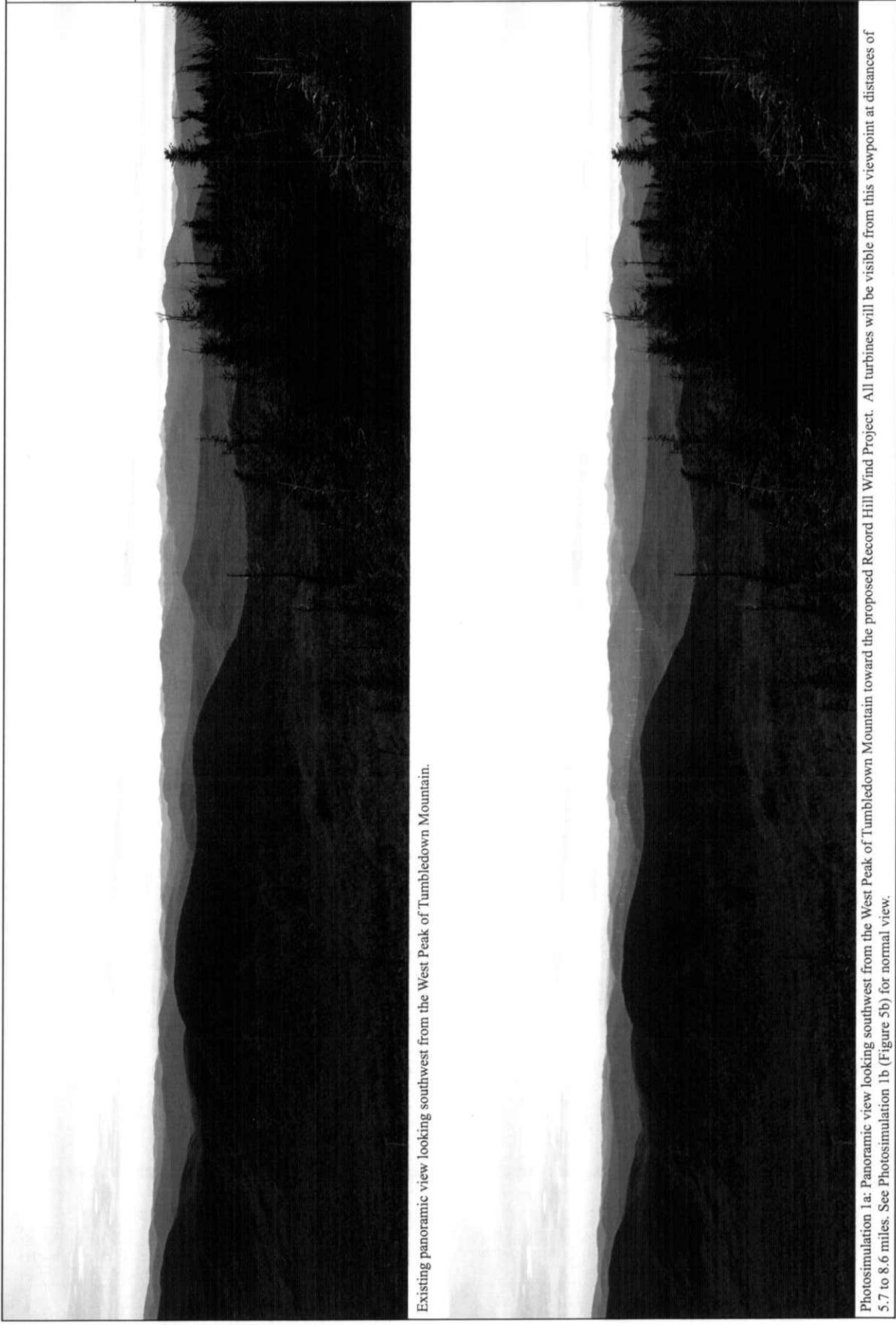
6.8 Operations and Maintenance Building

An Operations and Maintenance (O&M) Building will be constructed adjacent to Mine Notch Road, approximately 750 feet north of the Route 120 intersection. The O&M Building will consist of a single-story 6,000± square foot building that will contain a warehouse and office; a small parking area and an outdoor storage area for turbine components. The building will be served by on-site water and septic and will have a dark roof and be painted a neutral color to minimize contrast in color. It will not be visible from any scenic resources of state or national significance.

7.0 PHOTOSIMULATION OF WIND PROJECT

A photosimulation (computer-altered photograph) has been prepared to illustrate the anticipated change to the view from the West Peak of Tumbledown Mountain. This vantage point was selected to illustrate the maximum degree of project visibility. As noted in the photographs from the summit of Tumbledown Mountain, project visibility from many of the viewpoints will be blocked by Whale Back Mountain and West Mountain. The following section describes the methodology used to develop this image:

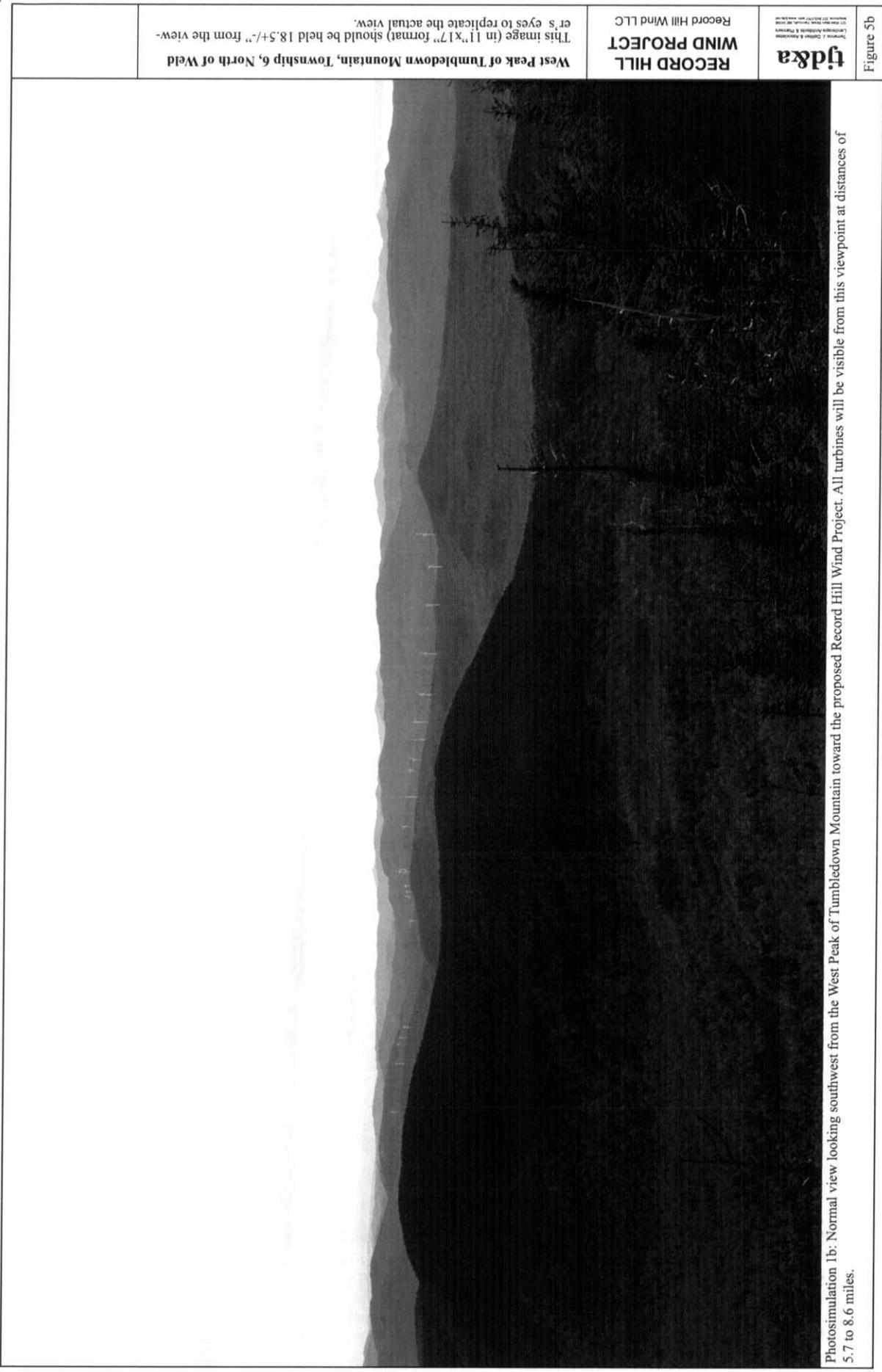
- Stantec prepared a GIS-based viewshed map of the eight-mile study area to determine where any part of any of the turbines may be visible. This diagram does not account for the screening effects of existing vegetation, which will block views of the project from most roads and population centers. (See Figure 2, Record Hill Wind Project, Eight Mile Viewshed Map.)
- Fieldwork by TJD&A on October 17, 2007, verified that the Project will be visible from this vantage point.
- Photographs from the summit were taken by TJD&A using a Nikon D300 digital camera, recording at the highest resolution. The lens was set to record images equivalent to those taken by a film camera with a 50-millimeter (i.e., a 'normal') lens.
- Photographs were merged into a panorama using Photoshop to provide a more realistic view of the landscape.
- A three-dimensional digital model of the project was created with Google Earth Pro and Google SketchUp, using the site plan and topographic data developed by the James Sewall Company.
- The computer-generated model was imported into Photoshop and merged with the existing conditions photographs. Lighting was adjusted to match the time of day and lighting conditions at the time the photographs were taken. Adjustments were made in Photoshop to account for atmospheric perspective (haze), sun angle, and other factors.



Existing panoramic view looking southwest from the West Peak of Tumbledown Mountain.

Photosimulation 1a: Panoramic view looking southwest from the West Peak of Tumbledown Mountain toward the proposed Record Hill Wind Project. All turbines will be visible from this viewpoint at distances of 5.7 to 8.6 miles. See Photosimulation 1b (Figure 5b) for normal view.

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Photosimulation 1b: Normal view looking southwest from the West Peak of Tumbledown Mountain toward the proposed Record Hill Wind Project. All turbines will be visible from this viewpoint at distances of 5.7 to 8.6 miles.

West Peak of Tumbledown Mountain, Township 6, North of Weld
 This image (in 11"x17" format) should be held 18.5+/-" from the viewer's eyes to replicate the actual view.

**RECORD HILL
 WIND PROJECT**
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Figure 5b

8.0 VIEWER EXPECTATION

There are a limited number of viewer groups, primarily recreational users, who will see the Project from scenic resources of state or national significance and possibly be affected by the change in visual character. These include the following.

Hikers. As noted above, the study area includes several well-known and popular hiking trails leading to viewpoints affording panoramic views of the surrounding mountains. Viewers are expected to be very sensitive to changes in the visual landscape, especially at the summits of destination peaks.

Boaters. People who canoe or kayak on the Swift River in the springtime are expected to be focused on the immediate foreground as they make their way downstream, and therefore should not be highly sensitive to changes in the midground or background viewing area. Visual contact with the Project from the Swift River should be minimal due to the intervening topography and adjacent vegetation. Views in the vicinity of the Swift River may be tempered by the presence of Route 17, which parallels the river throughout its length in the study area.

Anglers. People who fish in the rivers surrounding the Project area are expected to have relatively high expectations of scenic quality. Due to the topography and streamside vegetation, anglers will have limited visual contact with the turbines or other Project facilities.

In addition to these groups, the project may be visible from other locations that, as a result of the Maine Wind Power Law, are no longer required to be analyzed for visual impact. These perspectives include that of local residents of Roxbury and Byron; camp owners on the southwest side of Roxbury Pond and the northwest side of Garland Ponds; motorists on local and state roads; tourists on the Rangeley Lakes Scenic Byway (Route 17); hunters, all-terrain vehicle and snowmobile riders, cross-country skiers, and others who use the area for recreational pursuits; and people who work on the farms or in the woods on or surrounding the Project area. Their levels of sensitivity will vary from minimal to high, according to their expectation of visual quality, their distance from the Project, and their ability to see individual turbines.

Residents of individual homes and camps with a view of the Project ridgeline and motorists on the scenic byway are expected to be highly sensitive to changes in the visual landscape resulting from the Project. The majority of the camps in Roxbury Pond village are located on the east side of the Roxbury Pond and are oriented to the pond and away from the wind project. The closest homes are approximately one mile from the nearest turbine. The homes with the most direct views are on Shore Road, on the west side of the pond, where turbines will be seen at distances of two to three miles. Camps on the east side of Garland Pond are generally oriented to the west, away from the Project. From the camps along the northwest shoreline, the turbines will be seen through the shoreline buffer at distances of 2.5 to 5.0 miles.

9.0 VISUAL IMPACT ASSESSMENT

The potential visual impacts of the Project on scenic resources of state or national significance were evaluated by examining the proposed change to the visual environment, the context of these resources, the degree of public sensitivity, and the effectiveness of proposed mitigation measures. The conclusions are based upon knowledge of the Project site and a review of computer models and the photosimulation. The review examined the factors of color, form, line, texture, scale, and dominance, following the format established by Richard Smardon and James Palmer in *Foundations for Visual Project Analysis*, the standard reference for visual analysis.¹¹ This table is also found in MDEP's Standard Operating Procedures for Chapter 315 Regulations.¹² The results of the analysis for Tumbledown Mountain are presented in Figure 6. The impact to the views from Old Blue Mountain on the Appalachian Trail should

¹¹ Smardon, Richard C., James F. Palmer, and John P. Felleman. *Foundations for Visual Project Analysis*. John Wiley & Sons. New York. 1986.

¹² Maine Department of Environmental Protection. *Guidance for Assessing Impacts to Existing Scenic and Aesthetics Uses under the Natural Resources Protection Act*. Augusta. 2003.

be less because the majority of the turbines are outside the eight-mile study area and the project is seen at a greater distance. The summary of visual impacts on scenic resources of state and national significance within the study area is presented in Table 1.

- **Color.** The turbine components (base, nacelle, and blades) will be white, which can result in a considerable amount of color contrast, especially in the foreground. Turbine contrast and visibility is a highly variable phenomenon; turbines can appear to change from dark gray to a shade that almost matches the background sky, depending upon the time of day, orientation of the viewer, atmospheric conditions, and weather. As the viewer moves into the mid-ground, the turbines will appear as light gray due to the effects of atmospheric perspective, especially on hazy or overcast days. White turbines will allow the project to only have red nighttime lighting. If an alternate color was used, the FAA would likely recommend white strobes for daytime lighting, which would make the wind project considerably more noticeable.
- **Form.** While wind projects are being built in other parts of Maine, turbines are not common to the mountains of western Maine and thus will present a considerable contrast in form. By following the ridgelines of Partridge Peak and Flathead Mountain and preserving as much vegetation on the ridge as possible, contrasts in form will be minimized. Beyond a certain distance (usually 8± miles) the blades will no longer be apparent and the form of the turbines will be greatly simplified. The movement of the blades will draw additional attention to the presence of the turbines.
- **Line.** While the Project site is generally elevated above the surrounding landscape, it will be partly visible from Tumbledown Mountain and Little Jackson Mountains, scenic resources of state or national significance. From these elevated positions, observers may be able to look down onto the turbines, road network, and transmission line. From distances of six to seven miles, the new lines on the ridgelines and side slopes will be partially obscured by the effects of distance. In most instances, the roads and transmission line will be screened by existing vegetation and the intervening mass of Whale Back and West Mountains. Thus there should be minimal contrast in line as a result of the Project.
- **Texture.** Texture contrasts will be most noticeable within a three-mile radius (i.e., in the foreground and mid-ground viewing distances) where the smoothly finished surfaces of the turbines and blades will present as a noticeable contrast with the natural textures of the surrounding wooded hillsides, river channels, and rock outcrops. At distances of six to seven miles, there should be little noticeable contrast in texture.
- **Scale.** The landscape visible from Tumbledown and Little Jackson Mountains is comprised of broad valleys several miles in width, 2,000-3,000-foot mountains, active forest operations, road networks, and visible settlement patterns. At 3.5 miles in length, the Project will be seen as a significant object (or group of objects) in the landscape, one that is in scale with its surroundings.
- **Spatial Dominance.** Partridge Peak and Flathead Mountain are relatively minor peaks when viewed from the summit of Tumbledown and Little Jackson Mountains. From many locations on Tumbledown Mountain, these two mountains and the Project will be partially blocked by Whale Back and West Mountains, which are the dominant peaks in the Webb Lake valley to the southeast. The panoramic view to the southwest toward the project area is approximately 180 degrees. At the point of maximum visibility, the turbines will be seen over an arc of 17 degrees, or 9 percent of the total view. While the turbines will be visible from the upper peaks, they will be subordinate to the views of the peaks in the mid-ground.

There are no lakes or ponds rated as either 'Outstanding' or 'Significant' for scenic quality by Maine Wildlands Lake Assessment, the Land Use Regulation Commission Comprehensive Land Use Plan, or the Maine Lakes Study within eight miles of the project. A small number of turbines may be seen from short segments of the Swift River (rated within three miles of the project area or streams that are identified for their scenic value by the Maine Rivers Study).

The associated facilities for the Project include the access roads, the electrical collector line, and the collector substation. The logging road that will be used for Project access is off an established highway (Route 120) with many other service drives. None of these associated facilities will be visible from any scenic resource of state or national significance, nor will they be of a location, character, or size to cause an unreasonable adverse visual affect on the scenic character of the study area.

10.0 MITIGATION MEASURES

Mitigation is defined as any action taken or not taken to avoid, minimize, rectify, reduce, eliminate, or compensate for actual or potential adverse environmental impact. The main mitigation measure was selecting a site with A) a network of existing logging roads to minimize potential construction impacts; B) an existing transmission line within close proximity to the wind project; and C) a minimum number of scenic resources of state or national significance within eight miles.

11.0 CONCLUSION

There will be views of the Project from several scenic resource of state or national significance within the eight-mile study area. The visual impact analysis has demonstrated that the Project, where visible, will have a moderate visual impact on Tumbledown Mountain and Little Jackson Mountain, a short section of the Appalachian Trail, and short segments of the Swift River. Similarly, associated facilities do not have an unreasonable adverse impact on any scenic resources of state or national significance. The Project location and layout have been selected to minimize visual impacts to the extent practicable. Based upon this assessment, we conclude that the Project will not have an unreasonable adverse impact on scenic values and existing uses of scenic resources of state or national significance.

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Figure 6: Visual Impact Assessment: View from Tumbledown Mountain

VISUAL ELEMENTS	VISUAL SUB ELEMENTS	INDICATORS/CLUES	ELEMENT RATINGS		ELEMENT SCORES
LANDSCAPE COMPATIBILITY ↓	COLOR	Significantly different color, hue, value chroma	Severe	3	2
			Moderate	2	
			Minimal	1	
			None	0	
	FORM	Incompatible 2/3 dimensional shape with landscape surroundings	Severe	3	3
			Moderate	2	
			Minimal	1	
			None	0	
	LINE	Incompatible edges, bands, or silhouette lines introduced	Severe	3	1
			Moderate	2	
			Minimal	1	
			None	0	
	TEXTURE	Incompatible textural grain, density, regularity or pattern	Severe	3	1
			Moderate	2	
			Minimal	1	
			None	0	
SUBTOTAL →					7
SCALE CONTRAST ↓		Major scale introduction/intrusion	Severe	12	4
		One of several major scales or major objects in confined setting	Moderate	8	
		Significant object or scale	Minimal	4	
		Small object or scale	None	0	
SCORE					4
SPATIAL DOMINANCE ↓		Object/activity dominates or is prominent in whole landscape composition; or is prominently situated within the landscape; or dominates landform, water, or sky backdrop	Dominate	12	4
			Co-Dominate	8	
			Sub-ordinate	4	
			Insignificant	0	
SCORE					4
TOTAL VISUAL IMPACT SEVERITY →					15
			Severe	27-36	
			Strong	26-18	
			Moderate	17-9	XXXXXX
			Weak or Negligible	8-0	

DEPLW0541-A2002
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Table 1. Summary of Visual Impacts of Record Hill Project on Scenic Resources

RESOURCE	VIEWERS	VISUAL IMPACT
A. National Natural Landmarks: None	N/A	N/A
B. National Register of Historic Places: Four structures in Andover and South Andover, including Maine's shortest covered bridge.	Local residents of Andover and surrounding towns, tourists, people with historic interests.	None. Wind project will not be visible from any of these structures.
C. National or State Parks: No State Parks. Two miles of the Appalachian National Scenic Trail are 7.8± miles away. Viewpoint at Old Blue Mountain on the AT.	Local and through-hikers.	Turbines will be visible at distances of 7.8 to 10.3 miles. The visible portions of the turbines will create noticeable contrasts in color, form, and line. Due to their distance and relatively small apparent size, they will not dominate the landscape or create an unreasonable contrast in scale. The majority of the turbines will be outside of the 8-mile radius of potential visual impact. Since there are no huts near the AT within the study area, nighttime impacts should not be an issue. Visual impact should be minor to moderate.
D. Great Ponds: None	N/A	No visual impacts to any ponds designated as scenic in the <u>Maine Lakes Study</u> .
E. Scenic Rivers: Swift River West Branch Ellis River	Local residents and visitors who use the rivers for swimming, fishing, canoeing/ kayaking, gold panning.	Turbines will be screened from view from most river locations by intervening topography and streamside vegetation. Where they are visible, they may be seen in groups of 3 to 5± due to the alignment of the river and patterns of vegetation. Visual impact should be minor (in the case of the West Branch Ellis River, over 5.5 miles away) to moderate (in the case of the Swift River, 2.5 miles away at the Swift River falls).
F. Scenic Viewpoints and Pedestrian Trails: Summit of Tumbledown and Little Jackson Mountains; Hiking trails to the summits	Hikers	The majority of the turbines are within 8 miles of the summit of Tumbledown Mountain. However, Whale Back and West Mountains block the view of the wind project from portions of the trails above treeline and Tumbledown Pond. Turbines will be visible from some points on the summit of Tumbledown Mountain at distances of 5.8 to 6.7 miles, with maximum visibility at 6.2 miles (West Peak). Where they are visible, the turbines will create noticeable contrasts in color, form, and line. Due to their distance and relatively small apparent size, they will not dominate the landscape or create an unreasonable contrast in scale. Since camping is not allowed on the mountains, nighttime impacts should not be an issue. Visual impact to both Tumbledown Mountain and Little Jackson Mountain should be moderate.
G. Scenic Turnouts: None	N/A	N/A
H. Coastal Viewpoints: None	N/A	N/A