### APPENDIX 9: VISUAL AND HISTORIC REPORTS

APPENDIX 9A: AESTHETICS REPORT (VISUAL IMPACT ASSESSMENT)



# ANTRIM WIND ENERGY PROJECT VISUAL IMPACT ANALYSIS

Prepared for: Antrim Wind Energy LLC 155 Fleet Street Portsmouth, NH 03801

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# **1.0** INTRODUCTION

Antrim Wind Energy LLC (AWE) proposes a wind-powered electrical-generating facility consisting of 10 turbines with a maximum combined generation capacity of 30 megawatts (MW). The proposed Antrim Wind Energy Project (hereafter referred to as the "Project") will be located in the Town of Antrim, New Hampshire.

To address issues of potential visual impact, AWE has retained Saratoga Associates, Landscape Architects, Architects, Engineers, and Planners, P.C. (Saratoga Associates) to conduct a Visual Impact Analysis (VIA) of the proposed Project.

### 1.1 METHODOLOGY

This VIA evaluates the potential visibility of the proposed Project and objectively determines the difference between the visual characteristics of the landscape setting with and without the Project in place. This process provides a practical guide so decision makers can understand the potential visual impact and render a supportable determination of visual significance.

This evaluation includes both quantitative (how much is seen and from what locations; or visual impact) and qualitative (how it may be perceived; aesthetic impact) aspects of visual assessment.

This VIA was developed using the following steps:

- > Provide an overview of the existing landscape character/visual setting to establish the baseline visual condition from which visual change is evaluated;
- Conduct a visibility analysis (viewshed mapping and field investigations) to define the geographic area from which portions of the Project might be seen;
- > Identify sensitive aesthetic resources that may be impacted by the Project;
- Depict the appearance of the facility upon completion of construction (photographic simulations);
- > Evaluate the aesthetic effects of the visual change (qualitative analysis) resulting from Project construction, completion and operation; and,
- > Identify opportunities for effective mitigation.

The study area for this VIA extends to a five-mile radius from each turbine (hereafter referred to as the "five-mile radius study area" or "study area"). Beyond this distance it is assumed that natural conditions of atmospheric and linear perspective will mitigate potential visual impacts. However, considering the scale of the proposed Project and recognizing the proposed wind turbines, at times, will be visible at distances greater than five miles.

### 1.2 PROJECT DESCRIPTION

AWE proposes to develop a wind energy generation facility in the Town of Antrim, Hillsborough County, New Hampshire. The Project is proposed to be located in the sparsely populated northwest portion of Antrim and includes privately owned property that extends from the east summit of the Tuttle Hill ridgeline westward to Willard Mountain. Located north of the Project is the PSNH electrical transmission corridor, which contains 34.5kV and 115kV transmission lines, and the Franklin Pierce Highway (NH State Route 9). The Project will consist of ten wind turbine generators, the construction of an access road, an electrical substation along with collector lines, a meteorological tower (free standing lattice structure), a small operation and maintenance facility, a construction equipment laydown yard, and temporary work trailers. AWE sited the Project to avoid sensitive wildlife habitats and the potential for impacts to neighboring properties to the greatest extent possible.

The installed capacity of the Project is expected to be between 25 and 30 MW. The exact turbine model is yet to be selected, but it is anticipated that each turbine will have a generating capacity between 2.5 and 3.0 MW and that total turbine height from a minimally exposed foundation to blade tip will not exceed 500 feet. Access to the turbines will be made possible through the construction of an access road originating on NH State Route 9 and proceeding up the northern ridgeline of Tuttle Hill, then extending to the northeast and southwest to reach all turbine positions. The Project proposes to interconnect the generated electrical power to the PSNH 115 kV line and will include buried collector lines along the extent of the turbine string and pole-mounted along the access road from the collector system bus to the point of interconnection. Collectively, the turbine foundations, construction pads, access roads, and electrical upgrades are anticipated to directly impact an area of less than 65 acres.

For the purpose of this analysis, it is assumed that an Acciona AW3000/116 turbine will be used. The turbine measures approximately 302 feet from ground to rotor hub. The rotor and nacelle will be mounted on a tubular steel tower. The tower will be approximately 16 feet in diameter at the base and eight (8) feet in diameter at the hub. The rotor diameter of the turbine will be 380 feet with the apex of blade rotation reaching approximately 492 feet above ground elevation. The maximum operating rotational speed of the blades will be approximately 12.3 revolutions per minute (rpm), or approximately one (1) revolution every four to five seconds. Aviation Obstruction Marking and Lighting

According to the Federal Aviation Administration (FAA), daytime lighting of wind turbines, in general, is not necessary. Turbines themselves, due to their solid (i.e. non-skeletal) construction, as well as their moving characteristics, provide sufficient warning to pilots during all daytime conditions and all documented terrain and sky conditions. The FAA recommends that turbines be painted either bright white, or a slight shade from white, to provide the maximum daytime conspicuity.

The FAA requires lighting of perimeter turbines, as well as interior turbines with a maximum gap between lit turbines of no more than  $\frac{1}{2}$  mile (2,640 feet). Although a final lighting plan has not been approved, it is anticipated that six of the proposed turbines<sup>1</sup> will be illuminated at night for aviation safety. One aviation obstruction light will be affixed to the rear portion of the nacelle on each turbine to be illuminated.

<sup>&</sup>lt;sup>1</sup> It is anticipated that turbines 1, 3, 4, 6, 8, and 9, as shown in Figure 1 will be lit.

Lighting may be L-864 red flashing lights, in the form of incandescent or rapid discharge (strobe). The FAA recommends red light emitting diode or rapid discharge style L-864 fixtures to minimize impacts on neighboring communities, as the fixtures' exposure time is minimal, thus creating less of a nuisance. All light fixtures within the Project must flash in unison, thus delineating the Project as one large obstruction to pilots.<sup>2</sup> L-864 red flashing aviation obstruction lights are designed to emit light in an upward direction with maximum visibility for pilots. The L-864 unit is a low intensity light emitting 2,000 candelas.<sup>3</sup> L-864 obstruction lights are commonly used on communication towers and other tall structures found throughout the study region. These lights are similar to those visible at the Lempster Wind Farm (approximately 12 miles from the proposed Project).

<sup>&</sup>lt;sup>2</sup> U.S. Department of Transportation, Federal Aviation Administration, "Development of Obstruction Lighting Standards for Wind Turbine Farms" (DOT/FAA/AR-TN05/50, November 2005).

<sup>&</sup>lt;sup>3</sup> Candela is the unit of luminous intensity, equal to one lumen per steradian (lm/sr).

# 2.0 LANDSCAPE CHARACTER/VISUAL SETTING

Landscape character is defined by the basic pattern of landform, vegetation, water features, land use, and human development. This section offers an overview of the intrinsic visual condition of the study region and establishes the baseline condition from which to evaluate visual change.

### 2.1 TOPOGRAPHY AND VEGETATION

Mountains, hills and valleys characterize this region of New Hampshire, with elevations in the study area varying from approximately 443 feet to 2,468 feet above sea level. The vast majority of the study area is heavily forested with patches of agricultural use scattered throughout. Small woodlots and limited areas of second growth deciduous woodlands are found in areas unsuitable for farming. Coinciding with the mix of open field and woodlots are areas of second growth edge habitat. For the most part, this secondary growth takes form of hedgerows, wood borders, and old fields.

### 2.2 WATER FEATURES

Although water features are numerous and noticeable, they occupy a relatively small portion of the study area. Some of the more prominent water resources within the study area include, but are not limited to, Gregg Lake, Franklin Pierce Lake, Willard Pond, Robb Reservoir, Island Pond, Highland Lake, and Nabanusit Lake.

Additional water features within the study area include of numerous creeks, private farm ponds, and wetlands.

### 2.3 TRANSPORTATION

The primary roadways within the study area include NH State Routes 9, 31, 123, and US Route 202. These roadways are typically two lane asphalt paved roadways. Two lane local roadways are common throughout the study area.

### 2.4 POPULATION CENTERS

Population centers of varying size and density may be found within the study area. The largest of which is the Village of Antrim (pop. 1,389). The Village, in its entirety, is located within the study area and is generally characterized by a mix of low to medium density residential neighborhoods, small-scale manufacturing, commercial, and institutional uses (e.g. schools and churches).

# 3.0 VISUAL IMPACT ASSESSMENT

#### 3.1 VIEWSHED MAPPING (ZONE OF VISUAL INFLUENCE)

### 3.1.1 Viewshed Methodology

Viewshed mapping identifies the geographic area within which there is a possibility that some portion of the proposed Project would be visible from a given location. Control points were established at the turbine high points (i.e., apex of blade rotation [492 feet above grade]) for each of turbines being evaluated. The resulting viewshed identifies the geographic area within the five-mile study area where some portion of the Project is theoretically visible. The primary purpose of this exercise is to provide a general understanding of a project's potential visibility and identify areas where further investigation is appropriate.

One viewshed map was prepared defining the area within which there would be no visibility of the Project because of the screening effect caused by intervening topography (see Figure 1). This treeless condition analysis is used to identify the maximum potential geographic area within which further investigation is appropriate. A second map was prepared illustrating the probable screening effect of existing mature vegetation. This vegetated condition viewshed acceptably identifies the geographic area within which one would expect the Project to be screened by intervening forest vegetation (see Figure 2).

For this evaluation, ArcGIS 9.3 and ArcGIS Spatial Analyst software were used to generate viewshed areas based on publicly available digital topographic and land cover datasets. Viewshed maps were created using a ten-meter resolution digital elevation model (DEM)<sup>4</sup> of the study area. The computer then scanned from each control point to all cells within the DEM, distinguishing between grid cells that would be hidden from view and those that would be visible based solely on topography. All grid cells within the study area were coded based on the number of proposed turbines that would be visible to a theoretical observer whose eye height is conservatively estimated at two meters above ground level.

Vegetation data was extracted from the National Land Cover Data Set 2001 (NLCD), which depicts cover types in a 30-meter resolution raster graphic. The screening effect of vegetation was incorporated by including an additional 40 feet (12.2 meters)<sup>5</sup> of height for those DEM grid cells that are forested (according to NLCD dataset) and then repeating the viewshed calculation procedure. Forested areas were then removed from the viewshed to account for areas located within a full forest canopy.

It is important to note that the NLCD dataset is based on interpretation of forest areas that are clearly distinguishable using multi-spectral satellite imagery. As such, the potential screening value of site-specific vegetative cover such as small hedgerows, street trees and individual trees and other areas of non-forest tree cover may not be represented in the viewshed analysis. Furthermore, the NLCD dataset does not include the screening value of existing structures. This is a particularly important distinction in the populated areas such as the Village of Antrim, or other commercial and residential

<sup>&</sup>lt;sup>4</sup> DEM data was obtained through the United States Geological Survey National Elevation Dataset.

<sup>&</sup>lt;sup>5</sup> A tree height of 40 feet is considered conservative, as most trees in forested portions of the study area appear to be taller than 40 feet.

areas where structures are likely to provide significant screening of distant views. With these conditions, the viewshed map conservatively overestimates potential Project visibility in areas where the Project may be substantially screened from view.

#### 3.1.2 Verification of Viewshed Accuracy

Because the viewshed map identifies the geographic area within which one or more of the proposed turbines could theoretically be visible, but does not specify which of the 10 turbines evaluated would be within view, it is not readily feasible to field confirm viewshed accuracy. While it is common practice to field confirm viewshed maps prepared for a single study point through the use of balloon study or more intuitive means, the inability to field confirm viewshed accuracy is unique to analysis of multiple point projects covering a large geographic area, such as wind energy projects.

To help determine the accuracy of the vegetation data used for viewshed development, the NLCD data set was overlaid on a one-foot color Digital Orthophoto Quadrangle (DOQ) infrared aerial image (2010) of the study area and reviewed for consistency. While minor inconsistencies were noted, including areas of recently cleared lands, areas of inactive/abandoned agricultural land showing a degree of pioneer species growth and areas of non-forest vegetative cover, the vast majority of woodland areas visible on the satellite image were highly consistent with the NLCD overlay.

#### 3.1.3 Viewshed Interpretation

Figure 1 and Table 1 indicates that that approximately 29 percent of the 5-mile study area will be screened from views of the proposed turbines. Screening of the turbines is possible due to variable and sometimes steep topographic changes within the study area. For instance, the project will not be visibly on the backside of Bald Mountain, as this topographic feature will screen views northward. This is a worst-case scenario, as it does not include the screening potential of vegetation and structures.

	<b>Topograpi</b> (Figure 1 – To	hy Only Viewshed pographic Viewshed*)	Vegetation and Topography Viewshed (Figure 2 – Vegetated Viewshed)		
	Acreage	Percentage of Study Area	Acreage	Percentage of Study Area	
No Turbines Visible	18,815	29.3%	60,893	94.7%	
1-2 Turbines Visible	5,914	9.1%	1,125	1.8%	
3-4 Turbines Visible	4,033	6.3%	585	0.9%	
5-6 Turbines Visible	4,545	7.1%	397	0.6%	
7-8 Turbines Visible	3,861	6.0%	323	0.5%	
9-10 Turbines Visible	27,108	42.2%	953	1.5%	
Total	64,276	100.0%	64,276	100.0%	

#### Table 1 Viewshed Coverage Summary

\*Table 1 and Figure 1 illustrate that one or more structures are theoretically visible from approximately 71 percent of the 5mile study radius. This bare earth condition analysis is used only to identify the maximum potential geographic area within which further investigation is appropriate. This viewshed is not representative of the anticipated geographic extent of visibility and is not intended for public interpretation. In Table 1, Acreage and Percent of Study Area are rounded to the nearest whole number and tenth, respectively.



When including the screening potential of vegetation, as illustrated in Figure 2, visibility of the turbines is further limited to generally small pockets distributed throughout the study area. As identified in Table 1, potential screening from vegetation and topography will restrict views of the proposed turbines from approximately 95 percent of the 5-mile study area.

The areas most directly affected by views of the Project will be where there is a significant amount of cleared or open land (including water bodies) within close proximity of the Project. This will occur in locations such as Gregg Lake, Willard Pond, and Bald Mountain.<sup>6</sup> Additional visibility in close proximity is shown to be along the Franklin Pierce Highway (NH State Route 9), various local roadways, and the Meadow & Marsh Conservation Area.

There are potentials for long distance views of the Project, however the potential impact of these views will be lessened by factors such as distance, and screening by site specific landscaping and structures. Views of the Project may be possible from roadways (e.g. Windsor Road and the Franklin Pierce Highway) and in areas of cleared land such as Franklin Pierce Lake, Nabanusit Lake, and sections of the Hillsborough Rail-Trail.

Filtered views are possible in portions of the Village of Antrim through foreground vegetation and buildings. Such views are most likely on the west side of the Village (e.g. near the Antrim Elementary and Great Brook Schools).

Due to the significant amount of vegetation throughout the study area it is anticipated that the turbines will generally be screened from view, however they will frequently appear and disappear behind intervening landforms and vegetation as viewers move about the Project area.

<sup>&</sup>lt;sup>6</sup> Views from Bald Mountain will be limited due to vegetation. However, where there are northerly views to the surrounding landscape due to breaks in the forest vegetation, the Project may be visible.





purpose when engineered plans or land surveys are required.





#### Figure 2 - Vegetated Viewshed Map\*

\* Assumes uniform forest height of 40' (12.192 m) in forested areas.

Turbine locations reflect September 8, 2011 data

(3) Proposed Wind Turbine	Community Center Area				
Road Class	Recreational Area				
Local Road	lown Boundary				
Highway	County Boundary				
Divided Highway					
Federal Highway	Number of Turbines Visible				
🔦 💊 🖌 State Highway					
Scenic Highway	1-2 7-8				
🔨 Rail-Trail	3 - 4 9 - 10				
	5 - 6				

# SARATOGA ASSOCIATES

Landscape Architects, Architects, Engineers, and Planners, P.C. New York City > Saratoga Springs > Syracuse

O ANTRIM

This map is computer generated using data acquired by Saratoga Associates from various sources and is intended only for reference, conceptual planning and presentation purposes. This map is not intended for and should not be used to establish boundaries, property lines, location of objects or to provide any other information typically needed for construction or any other purpose when engineered plans or land surveys are required. File Location: B:2011\11039Maps\Viewsheds111111\VegetatedViewshed.mxd

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#### 3.2 INVENTORY OF VISUALLY SENSITIVE RESOURCES

#### 3.2.1 Inventory Criteria

Because it is not practical to evaluate every conceivable location where the proposed Project might be visible, it is accepted visual assessment practice to limit detailed evaluation of aesthetic impact to locations generally considered by society, through regulatory designation or policy, to be of cultural and/or aesthetic importance. Aesthetic resources of may be generally derived from one or more of the following categories:

#### **Designated Resources**

- > Recreation areas including playgrounds, athletic fields, fishing access, campgrounds, and other recreational facilities/attractions;
- Significant publicly accessible areas devoted to the conservation or the preservation of natural environmental features (e.g., reforestation areas/forest preserves, wildlife management areas, open space preserves);
- > A bicycling, hiking, ski touring, or snowmobiling trail designated by a governmental agency;
- > A property on the National or State Register of Historic Places;
- > Architectural structures and sites of traditional importance as designated by a governmental agency;
- > Parkways, highways, or scenic overlooks and vistas designated by a governmental agency;
- Important architectural elements and structures representing community style and neighborhood character;
- > An interstate highway or other high volume (relative to local conditions) road of regional importance; and
- > A residential area greater than 50 contiguous acres and with a density of more than one dwelling unit per acre.

Visually sensitive resources were identified though a review of published maps and other paper documents, online research, and windshield survey of publicly accessible locations.

### 3.3 FACTORS AFFECTING VISUAL IMPACT

To bring order to the consideration of visual resources, the inventory of visual resources is organized into several recognizable elements, as follows:

### 3.3.1 Landscape Units

Landscape units are areas with common characteristics of landform, water resources, vegetation, land use, and land use intensity. While a regional landscape may possess diverse features and characteristics, a landscape unit is a relatively homogenous, unified landscape of visual character. Landscape units are established to provide a framework for comparing and prioritizing the differing visual quality and sensitivity of visual resources in the study area.

Four landscape units were identified within the 5-mile study area.

<u>Community Center</u> – The Village of Antrim is the primary community center within the study area. The Village is primarily a residential and commercial center with built structures and streets dominating the visual landscape. Views are generally short distance and focused along streets due to existing structures and vegetation. Filtered or framed views may be possible through foreground vegetation and buildings, particularly from the perimeter of the community.

Additional community centers within the study area include Mill Village, Stoddard, Hancock, and South Stoddard.

<u>Forest</u> – The Forest Landscape Unit dominates the study area. This unit consists of vast areas of public and private forest lands through the mountains, hills and valleys of the region. Although views within the Forest Landscape Unit are primarily screened by foreground vegetation, occasional axial views along roadways and overlook vistas provide opportunity for distant views of the regional landscape. Filtered views through woodland vegetation may be available during leaf-off seasons. Population densities are low and the building stock (e.g. housing and accessory buildings) is sparsely located with most structures found along local roadways. Although mostly undeveloped, this unit contains a variety of outdoor recreation opportunities.

The Forest Landscape Unit often abuts the Water Landscape Unit described below.

<u>Water</u> – This unit consists of, but is not limited to, larger water bodies (e.g. lakes, ponds), streams, marshes, and associated shorelines. These water features are general bordered by vegetation and in some cases residential structures (e.g. permanent residence, seasonal camps, etc) line portions of the shore. From on water and opposite shore vantage points views are generally long distance, and may be open, filtered or framed. Population densities are low and although mostly undeveloped, this unit is used for a variety of recreation activities (e.g. boating, fishing, swimming).

<u>Agricultural Landscape Unit</u> – This unit is predominantly a patchwork of open land, including but not limited to working cropland and fallow fields with successional growth. Often these properties are transected by hedgerows and interspersed with woodlots. The terrain itself consists largely of rolling hills and areas of smaller rounded hillocks. Views can be fairly long across open fields. Population densities are low and building stock is sparsely located as farmsteads or individual residences.

### 3.3.2 Viewer/User Groups

Viewers engaged in different activities, while in the same landscape unit, are likely to perceive their surroundings differently. The description of viewer groups is provided to assist in understanding the sensitivity and probable reaction of potential observers to visual change resulting from the proposed Project.

<u>Local Residents</u> – These individuals would view the proposed Project from homes, businesses, and local roads. Except when involved in local travel, such viewers are likely to be stationary and could have frequent and/or prolonged views of the Project. They know the local landscape and may be sensitive to changes in particular views that are important to them. Conversely, the sensitivity of an individual observer to a specific view may be diminished over time due to repeated exposure.

<u>Local Workers</u> – Local are those who work within the agricultural setting. It is expected that the workers would share time working indoors and outdoors. Indoors, the workers will not experience the surrounding landscape and will therefore not be affected by a change in the surroundings. For the time workers are outdoors, sensitivity may vary, however, most workers will primarily be focused on their job responsibilities and give minimal consideration to the surrounding landscape.

<u>Through Travelers</u> – Commuters and through travelers would view the proposed Project from highways. These viewers are typically moving and focusing on the road in front of them. Consequently, their views of the proposed Project may be peripheral, intermittent, and/or of relatively brief duration. Given a general unfamiliarity or infrequent exposure to the regional or local landscape, travelers are likely to have a lower degree of sensitivity to visual change than would local residents and workers.

<u>Recreational Users and Tourists</u> – This group generally includes all local residents involved in outdoor recreational activities, as well as visitors who come to the area specifically to enjoy the cultural, recreational, scenic resources (e.g. fall foliage), open spaces of the region, or for other reasons.

The sensitivity of recreational users to visual quality is variable; but to many, visual quality is an important and integral part of the recreational experience. In many instances these users are focused on recreating (i.e. boating or hiking) and may not be affected by views of the Project. Also, some may find a wind farm to be visually unique and a positive alternative to fossil fuel generating plants, and as a result some wind facilities have been promoted as an attraction.

### 3.3.3 Distance Zones

Distance affects the apparent size and degree of contrast between an object and its surroundings. Distance zones established by the U.S. Forest Service are described below.

<u>Foreground (0-1/2 mile)</u> – At a foreground distance, viewers typically have a very high recognition of detail. Cognitively, in the foreground zone, human scale is an important factor in judging spatial relationships and the relative size of objects. From this distance, the sense of form, line, color and textural contrast with the surrounding landscape is highest. The visual impact is likely to be considered the greatest at a foreground distance.

<u>Middleground (½ mile to 3 miles)</u> – This is the distance where elements begin to visually merge or join. Colors and textures become somewhat muted by distance, but are still identifiable. Visual detail is reduced, although distinct patterns may still be evident. Viewers from middleground distances characteristically recognize surface features such as tree stands, building clusters and small landforms. Scale is perceived in terms of identifiable features of development patterns. From this distance, the contrast of color and texture are identified more in terms of the regional context than by the immediate surroundings.

<u>Background (3-5 miles to horizon)</u> – At this distance, landscape elements lose detail and become less distinct. Atmospheric perspective<sup>7</sup> changes colors to blue-grays, while surface characteristics are lost. Visual emphasis is on the outline or edge of one landmass or water resource against another with a strong skyline element.

### 3.3.4 Duration/Frequency/Circumstances of View

The analysis of a viewer's experience must include the distinction between stationary and moving observers. The length of time and the circumstances under which a view is encountered is influential in characterizing the importance of a particular view.

<u>Stationary Views</u> – Stationary views are experienced from fixed viewpoints such as residential neighborhoods, recreational facilities, and other places of outdoor activity. Characteristically, stationary views offer sufficient time for the viewer to interpret and understand the physical surroundings and therefore have a higher potential for understanding the elements of a view than do moving viewers.

<u>Moving Views</u> – Moving views are those experienced in passing, such as from moving vehicles, where the time available for a viewer to cognitively experience a particular view is limited. As the tendency of automobile occupants is to focus down the road, the actual time a viewer is able to focus on individual elements of the surrounding landscape may be a fraction of the total available view time. Conversely, the greater the contrast of an element within the existing landscape, the greater the potential for viewer attention, even if viewed for only a moment by a moving viewer.

### 3.4 DEGREE OF PROJECT VISIBILITY

### 3.4.1 Field Observation and Photography

On October 5, 6 and 9, 2011 a field crew drove public roads and visited many of the potentially affected visual resources to document existing visibility in the direction of proposed wind turbines. All photographs were taken using a 12.2-mega pixel digital camera with a lens setting of approximately 50mm<sup>8</sup> to simulate normal human eyesight relative to scale. The location selected for each photograph was judged by the field observer to be the most unobstructed line-of-sight to the turbine area from the subject visual resource. To the degree practicable, photographs were taken at a time of day when the sun was to the back of the photographer to minimize the effect of glare within the camera's field of view and to maximize visible contrast of the landscape being photographed.

The precise coordinates of each photo location were recorded in the field using a handheld global positioning system (GPS) unit. To determine the direction of the proposed wind turbines from each photo location, the precise coordinates of all proposed turbines were pre-programmed into the GPS as a "waypoint." The GPS waypoint direction indicator (arrow pointing along calculated bearing) was

<sup>&</sup>lt;sup>7</sup> Atmospheric Perspective: Even on the clearest of days, the sky is not entirely transparent because of the presence of atmospheric particulate matter. The light scattering effect of these particles causes a reduction in the intensity of colors and the contrast between light and dark as the distance of objects from the observer increases. Contrast depends upon the position of the sun and the reflectance of the object, among other items. The net effect is that objects appear "washed out" over great distances.

<sup>&</sup>lt;sup>8</sup> A Canon digital SLR was used for all Project photography. This digital camera, similar to most digital SLR cameras, has a sensor that is approximately 1.6 times smaller than a comparable full frame 35mm film camera. Recognizing this differential, the zoom lens used was set to approximately 33mm to achieve a field-of-view comparable to a 50mm lens on a full frame 35mm camera (33mm x 1.6 = 49.5mm).

used to determine the appropriate bearing for the camera, so that a desired turbine, or grouping of turbines, would be generally centered in the field of view of each photograph.

#### 3.4.2 Visibility Evaluation of Inventoried Resources

Each inventoried visual resource was evaluated to determine whether a visual impact might exist. Table 2 lists 72 visual resources located within the five-mile study area and identifies potential Project visibility. The location of these visual resources is referenced by numeric code within Figures 1 and 2. Of the 72 visual resources inventoried<sup>9</sup>, 22 would likely be screened from the proposed Project by either intervening landform or vegetation.

				Factors Affecting Visibility			
Map ID <sup>10</sup>	Receptor Name	Municipality	Project Visibility	Landscape Unit	Viewer Group	Miles/Distance Zone (nearest turbine)	View Duration
1	Meeting House Hill Cemetery	Antrim	Yes	Forest	Local Residents / Recreational Users and Tourists	2.1 / Middleground	Stationary
2	Hurlin Property	Antrim	Yes	Forest	Recreational Users and Tourists	1.9 / Middleground	Stationary
3	Campbell Pond	Antrim	Yes	Water	Recreational Users and Tourists	3.4 / Background	Stationary
4	Union Chapel	Hillsborough	No	Agricultural	Local Residents / Local Workers	4.5 / Background	Stationary
5	Hillsboro Christian School	Hillsborough	No	Agricultural	Local Residents / Local Workers	4.5 / Background	Stationary
6	Pine Will and Maple Avenue Cemetery	Hillsborough	Yes	Agricultural	Local Residents / Local Workers	4.4 / Background	Stationary
7	Franklin Pierce Homestead	Hillsborough	Yes	Water	Local Workers / Recreational Users and Tourists	4.4 / Background	Stationary
8	Manahan Park	Hillsborough	No	Water	Local Residents / Recreational Users and Tourists	4.0 / Background	Stationary
9	Franklin Pierce Lake <sup>11</sup>	Hillsborough	Yes	Water	Local Residents / Recreational Users and Tourists	4.0 / Background	Stationary
10	Maharishi Academy of Total Knowledge	Antrim	Yes	Agricultural	Local Residents / Local Workers / Recreational Users and Tourists	1.8 / Middleground	Stationary
11	The Flint Estate	Antrim	Yes	Agricultural	Local Residents	1.9 / Middleground	Stationary
12	Hillsborough Baptist Church	Hillsborough	No	Agricultural	Local Residents / Local Workers	4.5 / Background	Stationary
13	Windsor Hills Camp & Retreat Center	Windsor	No	Forest	Local Residents / Local Workers / Recreational Users and Tourists	4.0 / Background	Stationary
14	Windsor Mountain International	Windsor	No	Forest	Local Residents / Local Workers / Recreational Users and Tourists	3.2 / Background	Stationary
15	Black Pond	Windsor	Yes	Water	Recreational Users and Tourists	3.1 / Background	Stationary
16	Camp Wediko	Windsor	No	Forest	Local Residents / Local Workers / Recreational Users and Tourists	3.0 / Background	Stationary
17	North Branch River Shorebank Access	Antrim	Yes	Water	Recreational Users and Tourists	0.7 / Middleground	Stationary
18	Loverens Mill Cedar Swamp	Antrim	Yes	Forest	Recreational Users and Tourists	0.8 / Middleground	Stationary
19	Pierce Wildlife & Forest Reserve	Stoddard	Yes	Forest	Recreational Users and Tourists	2.1 / Middleground	Stationary
20	Pickerel Cove	Stoddard	No	Forest	Recreational Users and Tourists	4.3 / Background	Stationary
21	Williams Family Forest	Stoddard	Yes	Forest	Recreational Users and Tourists	4.5 / Background	Stationary
22	Highland Lake – South	Stoddard	No	Water	Local Residents / Recreational Users and Tourists	4.2 / Background	Stationary

#### Table 2 Visual Resource Visibility Summary

<sup>&</sup>lt;sup>9</sup> The study area contains additional conservation land easements not identified in Table 2. Many of these easements are privately owned or have no (or limited) public access. New conservation easements may also be designated in the future. Visibility and factors affecting visibility may still be determined utilizing Figures 1 and 2, as well as utilizing the descriptions presenting in this VIA.

<sup>&</sup>lt;sup>10</sup> Receptors in *italics* are State owned.

<sup>&</sup>lt;sup>11</sup> Boat launch facilities were noted on this lake as well as others. Boat launches were not identified separately.

				Factors Affecting Visibility			
Map ID <sup>10</sup>	Receptor Name	Municipality	Project Visibility	Landscape Unit	Viewer Group	Miles/Distance Zone (nearest turbine)	View Duration
23	Highland Lake – North	Stoddard	Yes	Water	Local Residents / Recreational Users and Tourists	4.6 / Background	Stationary
24	Mill Village	Stoddard	Yes	Community Center	Local Residents / Local Workers / Through Travelers	3.8 / Background	Stationary
25	Stone Arch Bridge	Stoddard	Yes	Forest	Local Residents / Through Travelers / Recreational Users and Workers	1.8 / Middleground	Stationary
26	Salmon Brook Road	Antrim	Yes	Forest	Local Residents / Local Workers / Through Travelers	1.0 / Middleground	Moving
27	Island Pond Landing	Stoddard	Yes	Water	Local Residents / Recreational Users and Tourists	3.5 / Background	Stationary
28	Island Pond	Stoddard	Yes	Water	Local Residents / Recreational Users and Tourists	3.5 / Background	Stationary
29	Upton Pond	Stoddard	No	Water	Recreational Users and Tourists	4.2 / Background	Stationary
30	Stoddard Center	Stoddard	Yes	Community Center	Local Residents / Local Workers / Through Travelers	4.6 / Background	Stationary
31	NH State Route 123	Stoddard	Yes	Forest	Local Residents/ Local Workers / Through Travelers	2.2 / Middleground	Moving
32	Nye Meadow Refuge	Stoddard	No	Forest	Recreational Users and Tourists	4.9 / Background	Stationary
33	Daniel Upton Forest	Stoddard	Yes	Forest	Recreational Users and Tourists	3.1 / Background	Stationary
34	Franklin Pierce Highway (NH State Route 9)	Stoddard	Yes	Forest	Local Residents/ Local Workers / Through Travelers / Recreational Users and Tourists	0.6 / Middleground	Moving
35	South Stoddard	Stoddard	Yes	Community Center	Local Residents / Local Workers / Through Travelers	2.1 / Middleground	Stationary
36	Robb Reservoir	Stoddard	Yes	Water	Recreational Users and Tourists	2.1 / Middleground	Stationary
37	Nelson Town Forest	Nelson	No	Forest	Recreational Users and Tourists	4.5 / Background	Stationary
38	Harris Center Parcels	Nelson	Yes	Forest	Recreational Users and Tourists	3.8 / Background	Stationary
39	Louis Cabot Preserve	Nelson	Yes	Forest	Recreational Users and Tourists	3.3 / Background	Stationary
40	Nubanusit Lake	Hancock	Yes	Water	Recreational Users and Tourists	3.6 / Background	Stationary
41	Hosmer Wildlife Management Area	Antrim	No	Forest	Recreational Users and Tourists	0.9 / Middleground	Stationary
42	Willard Pond	Antrim	Yes	Water	Local Residents / Recreational Users and Tourists	1.6 / Middleground	Stationary
43	Summit of Bald Mountain	Antrim	Yes	Forest	Recreational Users and Tourists	1.3 / Middleground	Stationary
44	dePierrefeu-Willard Pond Wildlife Sanctuary	Antrim	Yes	Forest	Recreational Users and Tourists	0.8 / Middleground	Stationary
45	Conservation Area	Hancock	Yes	Water	Recreational Users and Tourists	4.0 / Background	Stationary
46	William McGreal Forest	Hancock	Yes	Forest	Recreational Users and Tourists	3.9 / Background	Stationary
47	Norway Pond Nature Preserve	Hancock	No	Forest	Recreational Users and Tourists	4.9 / Background	Stationary
48	Camp Guild	Hancock	No	Forest	Local Residents / Local Workers / Recreational Users and Tourists	4.8 / Background	Stationary
49	Hancock Center	Hancock	No	Community Center	Local Residents / Local Workers / Through Travelers	4.8 / Background	Stationary
50	Harris Center Properties	Hancock	Yes	Forest	Recreational Users and Tourists	3.6 / Background	Stationary
51	Carpenters Marsh Wildlife Management Area	Hancock	Yes	Forest	Recreational Users and Tourists	2.7 / Middleground	Stationary
52	dePierrefeu-Willard Pond Wildlife Sanctuary <sup>12</sup>	Hancock	No	Forest	Recreational Users and Tourists	2.3 / Middleground	Stationary
53	Goodhue Hill Summit	Antrim	No	Forest	Recreational Users and Tourists	2.1 / Middleground	Stationary
54	Evas Marsh Wildlife Management Area	Hancock	Yes	Forest	Recreational Users and Tourists	3.4 / Background	Stationary
55	Seven Maples Campground	Hancock	No	Forest	Local Residents / Local Workers / Recreational Users and Tourists	4.6 / Background	Stationary
56	Newhall Recreation Area	Bennington	No	Forest	Recreational Users and Tourists	5.0 / Background	Stationary

#### Table 2 Visual Resource Visibility Summary

<sup>12</sup> dePierrefeu-Willard Pond Wildlife Sanctuary is spans two municipalities and is represented in this table twice.

				Factors Affecting Visibility				
Map ID <sup>10</sup>	Receptor Name	Municipality	Project Visibility	Landscape Unit	Viewer Group	Miles/Distance Zone (nearest turbine)	View Duration	
57	Gregg Lake Road	Antrim	Yes	Water	Local Residents/ Local Workers / Through Travelers	1.9 / Middleground	Stationary	
58	Camp Chenoa	Antrim	No	Forest	Local Residents / Local Workers / Recreational Users and Tourists	1.7 / Middleground	Stationary	
59	Gregg Lake Town Beach	Antrim	Yes	Water	Local Residents / Recreational Users and Tourists	1.6 / Middleground	Stationary	
60	Meadow & Marsh Conservation Area	Antrim	Yes	Water	Recreational Users and Tourists	1.2 / Middleground	Stationary	
61	Antrim Elementary School	Antrim	Yes	Community Center	Local Residents / Local Workers	4.0 / Background	Stationary	
62	Great Brook School	Antrim	Yes	Community Center	Local Residents / Local Workers	4.0 / Background	Stationary	
63	NH State Route 31	Antrim	Yes	Forest / Agricultural	Local Residents/ Local Workers / Through Travelers	1.4 / Middleground	Moving	
64	Antrim Baptist Church	Antrim	Yes	Community Center	Local Residents / Local Workers	4.2 / Background	Stationary	
65	Memorial Park	Antrim	Yes	Community Center	Local Residents / Recreational Users and Tourists	4.1 / Background	Stationary	
66	Village of Antrim	Antrim	Yes	Community Center	Local Residents / Local Workers / Through Travelers	3.7 / Background	Stationary	
67	McCabe Forest	Antrim	Yes	Forest	Recreational Users and Tourists	3.9 / Background	Stationary	
68	Hillsborough Rail-Trail	Bennington	Yes	Agricultural	Local Residents / Recreational Users and Tourists	4.6 / Background	Stationary	
69	US Route 202	Antrim	Yes	Forest / Agricultural <sup>13</sup>	Local Residents/ Local Workers / Through Travelers	3.9 / Background	Moving	
70	Gregg Lake	Antrim	Yes	Water	Local Residents / Recreational Users and Tourists	1.9 / Middleground	Stationary	
71	Elm Avenue	Antrim	Yes	Agricultural	Local Residents/ Local Workers / Through Travelers	4.1 / Background	Moving	
72	Welch Family Farm Forest	Hancock	No	Forest	Recreational Users and Tourists	3.1 / Background	Moving	

Table 2 Visual Resource Visibility Summar
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There are many factors affecting potential visibility from each identified resource is identified in Table 2. These include vegetation stands, distance, viewer use, etc., all of which are discussed in detail above.

#### 3.4.3 Photographic Simulations

Selection of Key Receptors for Photo Simulation - To demonstrate how the actual turbines will

appear within the study area from a variety of distances and locations, simulations were created from 10 locations. The simulated locations were selected by local community members and for their relevance in addressing many of the factors affecting visual impact (viewer/user groups, landscape units, distance zones and duration/frequency and

#### Table 3 Key Receptors Selected for Photo Simulation

Map ID	Receptor Name
1	Meeting House Hill Cemetery
11	The Flint Estate
26	Salmon Brook Road
27	Island Pond Landing
34	Franklin Pierce Highway (NH State Route 9)
43	Summit of Bald Mountain
44	dePierrefeu-Willard Pond Wildlife Sanctuary
57	Gregg Lake Road
59	Gregg Lake Town Beach
71	Elm Avenue

<sup>&</sup>lt;sup>13</sup> Two Landscape Units are noted along select roadways. As a result of the length of these roadways, they traverse multiple units.

circumstances of view) discussed above.

These simulations do not include views from all potentially affected visual resources, but rather provide representative examples of how the proposed Project will appear under varying circumstances of distance and landscape character. All photo simulations are presented in Appendix A.

<u>Photo Simulation Methodology</u> – A photo simulation of the proposed Project was prepared from each locations identified in Table 3. Photo simulations were developed by superimposing a rendering of a three-dimensional computer model of the proposed Project into the base photograph taken from each corresponding location. The three-dimensional computer model for the revised simulations were developed using *Autodesk Civil 3D*<sub>®</sub> and 3D Studio Max Design<sub>®</sub> software (3D Studio Max).

Simulated perspectives (camera views) were then matched to the corresponding base photograph for each simulated view by replicating the precise coordinates of the field camera position (as recorded by GPS) and the focal length of the camera lens used (50mm). Precisely matching these parameters assures scale accuracy between the base photograph and the subsequent simulated view. The camera's target position was set to match the bearing of the corresponding existing condition photograph. With the existing conditions photograph displayed as a "viewport background," and the viewport properties set to match the photograph pixel dimensions, minor camera adjustments were made (horizontal and vertical positioning, and camera roll) to align the horizon in the background photograph with the corresponding features of the 3D model.

To verify the camera alignment, visible elements (e.g. structures, towers, roads) within the photograph are identified and digitized from digital orthophotos. Each benchmark element was assigned a Z value (elevation) based on DEM data and then imported to 3D Studio Max. A 3D terrain model was also created (using DEM data) to replicate the existing regional topography. The digitized elements were then aligned with corresponding benchmark elements visible the photograph by adjusting the camera target.

Once the camera alignment was verified, a to-scale 3D model of the proposed Project was merged into the model space. The 3D model of the Project is intended to accurately convey the current design intent. To the extent practicable, and to the extent necessary to reveal impacts, design details of the proposed turbines were built into the 3D model and incorporated into the photo simulation. Consequently, the scale, alignment, elevation and location of the visible elements of the proposed facilities is true to the Project design.

With the model in place, a daylight system was created based on the date and time of the photograph. Regional inputs such as time zone and location were also applied to the daylight system. To accurately depict "reflected light" a ground plane utilizing the previously created mesh (based on DEM data) was placed in the scene. This ground plane also portrays any additional shadows cast by the proposed Project. In some cases a minor haze was applied to the proposed Project to increase realism and show distance fall-off. To determine the correct amount of haze, existing elements within the view were evaluated and compared to actual textures and colors (e.g. a radio tower that normally appears dark grey becomes light grey due to the effects of atmospheric haze). A similar haze overlay is then applied to the turbines to duplicate the atmospheric conditions present in the photograph. A database of existing turbine photographs, at variable distances was referenced to verify simulation color accuracy.

The rendered view was then opened using *Adobe Photoshop CS4* software for post-production editing (i.e., airbrush out portion of turbines that fall below foreground topography and vegetation).

<u>Panorama Simulation Methodology</u> – To create the panorama image, six existing condition photographs (portrait orientation) were "stitched" together using the "photomerge" function of *Adobe Photoshop CS2*. The resulting image was then cropped to a 120-degree horizontal field-of-view.

The proposed Project was simulated into the panorama image by first preparing two separate standard frame simulations using the single frame simulation methodology described above. One image simulated turbines located in the left portion of the panorama frame and the second image simulated turbines located in the right portion of the panorama frame. These two images were then merged into the panorama image and aligned by matching common elements visible in both the standard frame and panoramic images (i.e., the tree line around each simulated turbine). To compensate for distortion inherent to panorama images each simulated turbine was individually aligned using this image matching technique.

The panorama simulation was completed to show how the Project would look with a wider field of view typical of normal human eyesight. It is important to note that the panorama image, as printed in an 11"x17" inch format in this document has an inherent degree of distortion that makes the turbines appear more distant from the viewer than they would actually appear under actual viewing conditions. For this reason a standard 50mm single frame simulation is included from this same vantage point offer a more accurate scale representation of the proposed scene.

<u>Arms Length Rule</u> – The photo simulations included in Appendix A have been printed using an  $11^{2}x17^{2}$  page format. At this image size, the page should be held at approximately arms length<sup>14</sup> so that the scene will appear at the correct scale. Viewing the image closer would make the scene appear too large and viewing the image from greater distance would make the scene appear too small compared to what an observer would actually see in the field.

For viewing photo simulations at other page sizes (i.e., computer monitor, projected image or other hard copy output) the viewing distance/page width ratio is approximately 1.5/1. For example, if the simulation were viewed on a 42-inch wide poster size enlargement, the correct viewing distance would be approximately 63 inches; or 5 <sup>1</sup>/<sub>4</sub> feet.

<u>Field Viewing</u> – The photo simulations present an accurate depiction of the appearance of proposed turbines suitable for general understanding of the degree and character of Project visibility. However, these images are a two-dimensional representation of a three-dimensional landscape. The human eye is capable of recognizing a greater level of detail than can be illustrated in a two-dimensional image.

<sup>&</sup>lt;sup>14</sup> Viewing distance is calculated based a 39.6-degree field-of-view for the 50mm camera lens used, and the 15.5" wide image presented in Appendix A. "Arm's length" is assumed to be approximately 22.5 inches from the eye. Arm's length varies for individual viewers.

Agency decision-makers and interested parties may benefit from viewing the photo simulations in the field from any or all of the simulated vantage points. In this manner, observers can directly compare the level of detail visible in the base photograph with actual field observed conditions.

### 3.5 CHARACTER OF PROJECT VISIBILITY

### 3.5.1 Compatibility with Regional Landscape Patterns

The visual character of a landscape is defined by the patterns, forms and scale relationships created by lines, colors, and textures. Some patterns dominate while others are subordinate. The qualitative impact of a Project is the effect the development has on these patterns, and by corollary on, the visual character of the regional landscape.

<u>Existing Landscape</u> – The visible patterns (form, line, color, and texture) found within the Project area can best be described as representative of the ridge and valley landscape typical of the region. Given the rural nature of the study area, visible colors are natural, muted shades of green, brown, gray, and other earth tones.

The following describes the compatibility of the proposed Project with regional landscape patterns within which it is contained and viewed. This evaluation is graphically depicted in the photographic simulations provided in Appendix A.

<u>Form</u> – Form refers to the shape and structure of the surrounding landscape. The landscape within the majority of the study area consists of steep, sometimes angular ridges. The Project will be comprised of 10 thin tapered vertical structures topped with large rotating blades distributed along the Tuttle Hill ridge. The introduction of these vertical man-made kinetic structures, when visible, will create a noticeable visual addition to the landscape.

<u>Line</u> – The existing landscape maintains a fairly sinuous curvilinear line formed by peaks or ridges along the horizon that may (location dependent) begin to layer as a result of several ridges at varying distances. Some higher elevation areas have steeper terrain that may create more angular and irregular lines. The well-defined vertical form of 10 turbines that may be visible across this plain introduces a contrasting and distinct perpendicular element into the landscape. With exceptions, views may include multiple turbines at varying distances from the viewer.

<u>Color</u> – The neutral off-white color of the proposed turbine tower, nacelle and blades will often be viewed against the background sky. Under these conditions the turbines would be compatible with the hue, saturation and brightness of the background sky and distant elements of the natural landscape. When the turbines are backlit (turbine facing viewer is in shade) it is anticipated that it will be less compatible with the background sky as the contrast with the lighter sky color may increase. Color contrast will decrease with increasing distance and/or periods of increased atmospheric haze or precipitation.

<u>Texture</u> – Tubular style monopole towers have been specifically selected, instead of skeletal (or lattice) frame towers, to minimize textural contrast and provide a more simple, visually appealing form.

<u>Scale/Spatial Dominance</u> – The proposed wind turbines will be the tallest man-made elements visible on the horizon and will be disproportionate to other elements commonly visible on the regional landscape. From most foreground and middleground vantage points, when visible, the contrast of the proposed turbines with commonly recognizable features, such as structures and trees, will result in the proposed Project being perceived as a highly dominant visual element. However, when viewed from background vantage points, the turbines perceived scale and spatial dominance begins to lessen.

### 3.5.2 Visual Character during the Construction Period

Construction of the proposed wind turbines will require use of large mobile cranes and other large construction vehicles. Turbine components will be delivered in sections via large semi-trucks. The construction period for each turbine is expected to be quite short, generally three to four days per turbine, depending on weather conditions. As such, construction related visual impacts will be brief and are not expected to result in adverse prolonged visual impact to area residents or visitors.

# 4.0 MITIGATION PROGRAM

The Project was designed in a manner to minimize potential visual impacts. Strategies include:

- > Proposed turbines will not be used for commercial advertising, or include conspicuous lettering or corporate logos identifying the Project owner or equipment manufacturer.
- Subsurface routing of electrical interconnects used to transmit power between turbine locations will be maximized to the extent possible.
- > Where possible, existing roads should be utilized to provide access to the proposed turbine locations. Clearing along existing and new roadways should be kept to a minimum; however, it should not impede the transportation of materials.
- > Ancillary facilities (substation, operations and maintenance yard) will be located, as feasible, away from major transportation corridors in order to minimize the perceived visual impact from these parts of the Project. Where visibility may be a concern perimeter plantings may be used to further minimize visibility of these structures.
- > Vegetation clearing around the base of the turbines should be kept to a minimum; however, it should not impede operation.
- > The color of the blades, nacelle, and tower will be a neutral off-white. Where specifications permit, non-specular paint will be used on all outside surfaces to minimize reflected glare.
- > Proposed turbines will maintain a minimum setback from residential structures. Such separation of uses assures maximum screening benefit of existing woodland vegetation, where such exists.
- > The color of the blades, nacelle, and tower will be a neutral off-white. While the FAA mandates this color for aviation safety, this color is well suited to minimize visual contrast with the background sky.
- > Lighting for the substation should be task oriented (e.g. maintenance, security and emergency).
- > A high priority shall be placed on facility maintenance, not only for operational purposes, but for aesthetic appearance as well.
- > At the end of the Project life, idled turbines could represent a significant and unnecessary visual impact to the local area. AWE will maintain a well-funded decommissioning plan to ensure that these structures can be dismantled and removed from the Project area upon termination of power generation at the site.

## 5.0 SUMMARY AND DISCUSSION OF POTENTIAL VISUAL IMPACT

The Vegetated Viewshed map (Figure 2) indicates that the vast majority of the study area (94.7 percent) will be screened from the project by intervening landform and/or vegetation. Of the 5.3 percent of the study area impacted by the Project:

- > 1-5 turbine highpoints would be visible from approximately 3.1 percent of the five-mile study area; and
- > 6-10 turbine highpoints would be visible from approximately 2.2 percent of the five-mile study area.

Turbine visibility is most common from cleared agricultural lands and water bodies where extended open space provides vistas in the direction of the project. Direct project views will occur from portions of several local water bodies including Gregg Lake, Willard Pond, Franklin Pierce Lake, Nabanusit Lake, as well as the Meadow & Marsh Conservation Area. Visibility is also noted from of NH Route 9 (Franklin Pierce Highway), Windsor Road and the Hillsborough Rail-Trail at locations where these corridors are on direct axis with one or more proposed turbines. Filtered views are possible in portions of the Village of Antrim through foreground vegetation and buildings. Such views are most likely on the west side of the Village (e.g. near the Antrim Elementary and Great Brook Schools).

#### Simulation Summary

Table 1 summarizes the factors affecting visual impact that are described within this analysis for each of the simulated locations.

From middleground views a substantial portion of individual turbines may be seen above intervening landform and vegetation. Vegetation and landforms will provide screening of both near and distant turbines. Intervening landform and vegetation will prevent many long distance views (background views). However, as illustrated in the simulations, there are opportunities to view a portion of the proposed turbines. At greater distances, the turbines will appear small and occupy a smaller portion of the overall view.

#### Impact on Visual Resources

Based on the viewshed analysis, the highpoint of one or more of the proposed turbines will be visible from approximately 50 of 72 inventoried visual resources.<sup>15</sup> However, as a result of the completed field evaluation it is anticipated that additional screening by site vegetation and structures will further reduce the number of resources that have visibility of the Project.

Solely based on Figure 2, there are few resources listed as historical (e.g. Viewpoint 11 – The Flint Estate) or State owned (e.g. Viewpoint 31 – NH State Route 123 and Viewpoint 41 – Hosmer Wildlife Management Area) that have the potential for visibility. There will be some resources with open views of the Project (e.g. Viewpoint 42 – Willard Pond), however it is anticipated that many of the views will be framed (e.g. Viewpoint 34 – Franklin Pierce Highway [NH State Route 9]) or filtered

<sup>&</sup>lt;sup>15</sup> This is contingent on final turbine array.

(e.g. Viewpoint 11 – The Flint Estate). In addition, many of the State owned lands are highly vegetated (e.g. Viewpoint 67 – McCabe Forest) and will result in the further reduction of visibility.

Figure 2 also identifies that there are many resources of local interest (e.g. Town parks, local roadways, etc.) that have pockets of visibility. Views from these resources will be highly variable and include open (e.g. Viewpoint 59 – Gregg Lake Town Beach), framed (Viewpoint 26 – Salmon Brook Road), and filtered (e.g. Viewpoint 1 – Meeting House Hill Cemetery) views.

Appendix A contains simulations that illustrate the varying visibility of the Project within the study area.

#### Character of View

Typical views within the study area are characterized by mountain peaks, rolling hills, and a patchwork of undeveloped woodland interspersed with open fields, waterbodies, ravines and valleys. The proposed turbines will add noticeable vertical elements to the landscape as the well-defined vertical form of turbines on the horizon introduces a contrasting and distinct perpendicular element into the landscape. The proposed turbines will be the tallest visible elements within view and will be disproportionate to other elements on the regional landscape. The distribution of turbines along a mountain ridgeline will result in the proposed Project being perceived as a highly dominant visual element within close proximity views. As the distance between the viewer and Project increases, the turbines will only make up a smaller portion of the overall view. The moderately paced sweeping rotation of the turbine blades will heighten the conspicuity of the turbines no matter the degree of visibility.

#### Affected Viewers

This portion of New Hampshire is rural with a relatively small population. Despite the relatively low population, the greater region can receive larger numbers of tourists each year. Tourists often come to this region to enjoy the recreational and scenic resources of the area and other community attractions outside the study area. The sensitivity of individuals to visual quality is will be variable; but to many, visual quality is an important and integral part of their outdoor experience. The presence of the proposed wind turbines will change the experience depending on the individual perception of the viewer. Visitors are generally sensitive to the visual quality and landscape character, regardless of the frequency of duration of their exposure to the proposed Project. Conversely, individuals may also find the Project visually interesting. It is not uncommon for tourists to intentionally visit an area to see the turbines and photograph them in the landscape. Additionally, some will see the turbines as a necessary part of the visual landscape to provide renewable power. To these viewers, the turbines may be less likely to impact their visual experience.

#### Other Project Components

<u>Night Lighting</u> – Existing residences, commercial buildings, communications towers, streetlights, and headlights from cars are typical sources of light pollution in the study area. While red flashing aviation obstruction lights may be visible in the study area, the additional concentration of six lit turbines will be evident from throughout the area. Although aviation obstruction lighting is generally

directed upward, the relatively low intensity does not result in perceptible atmospheric illumination (sky glow).

<u>Roadway</u> – An access road to each turbine will be constructed in order to erect the turbines and other components, as well as for personnel to perform maintenance. The roadway, which will connect to NH State Route 9, will be similar in characteristic to local roads visible throughout the study area. The clearing and associated grading may be apparent in the immediate vicinity of the Project, but will likely become less evident over time and will generally be unperceivable from more distant locations. The access road is a relatively minor component of the overall Project and it is anticipated that it will not be highly visible, or seen as being out of place, by local residents or passer-bys.

<u>Meteorological (MET) Tower</u> – A permanent 100-meter self-supporting grey lattice tower will be constructed in order to continuously collect wind data (e.g. wind speed). The tower will be similar in appearance to cellular towers that are scattered throughout the region. This tower will be similar in height to the turbines nacelle and may be visible from locations that have visibility of the Project. This slender tower will appear inferior in comparison to the proposed turbines. It is anticipated that FAA lighting will not be required.

<u>Operations & Maintenance Building and Electrical Substation</u> – The Project will include the construction of a new Operations & Maintenance (O&M) building and electrical substation between NH State Route 9 and the existing PSNH utility corridor. These facilities will be located within Antrim's Highway Business Zoning District and will be of a commercial/industrial nature not inconsistent with a zoning district that allows uses such as public utilities and industrial parks. In general, these proposed structures are what one would expect to find in an area with allowed uses outlined in Antrim's Highway Business Zoning District.

The substation will be located adjacent to the existing PSNH 115kV transmission line, which will be utilized for the Project. Its placement is in keeping with its surroundings and will not appear out of context. The O&M building will be located just north of the substation and will be commercial in nature but will assist in buffering views, where available, of the substation from NH State Route 9. Visibility of the O&M building and substation (tallest structure is 67'-6" including a 10'-2" lighting rod) will be limited from many views given that they are located in a wooded area. Both are more than 500 feet south of NH State Route 9 with the substation being adjacent to and on the north side of the existing transmission lines, and the O&M building being just north of the substation. Travelers along NH State Route 9 may catch a glimpse of these facilities up the proposed access road, however, visibility of these structures will be fleeting as site lines will be limited.

Electricity from each turbine will be routed to the proposed substation via a newly constructed electrical collector system. The majority of these power lines will be buried beneath the road, however there is a section that will be attached to aboveground poles located adjacent to the constructed access road. It is anticipated that approximately 34 utility poles (up to 35' in height) will be erected between the permanent MET tower and the new substation. These poles will be wooden and substantially similar in nature to others seen within the study area and across the state. The poles are generally smaller and are expected to be less obvious then those currently seen within the existing

PSNH transmission corridor. If the poles are visible, it is anticipated that they will not be highly noticeable or be out of context with the Project.

<u>Construction Related Impacts</u> – Construction of the Project will require the use of large mobile cranes and other large construction vehicles. Turbine components will be delivered in sections via large semi-trucks and stored at a designated laydown area until used. The construction period for each turbine is expected to be quite short. As such, construction related visual impacts will be brief and are not expected to result in adverse prolonged visual impact to area residents or visitors.

#### Visual Impact Conclusion

By their very nature, modern wind energy projects are large and highly visible facilities. The need to position these tall moving structures in highly visible locations cannot be readily avoided. The siting of wind turbines along a mountain ridgeline provides increased opportunity for potentially discordant views both near and far. The level of impact will be dependent on the viewers sensitivity to visual change among other influencing factors discussed in this analysis. Views of the Project may, at first appear in contrast with the unaltered landscape, but over time will become an integral part of the landscape.

While the use of mitigation techniques may help to minimize adverse visual impact, the construction of the Project will be an undeniable visual presence on the landscape. However, unlike development projects such as housing complexes and commercial centers, the proposed wind energy facility can and will be decommissioned and removed at the end of its useful working life. All of the towers will be removed and the project area restored to as near its present condition as possible, thus restoring the landscape to its original condition.

Appendix A Photographic Simulations




# Antrim Wind Energy Project

Figure A1 - Vegetated Viewshed With Photosimulation Locations\*

\* Assumes uniform forest height of 40' (12.192 m) in forested areas.

Turbine locations reflect September 8, 2011 data

#### January 2012



KEY Proposed Wind Turbine 3

Location of Simulation and Orientation of View (Receptor ID shown)

#### Road Class





Federal Highway

- ✓ ✓ ✓ State Highway Scenic Highway
- Rail-Trail

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This map is computer generated using data acquired by Saratoga Associates from various sources and is intended only for reference, conceptual planning and presentation purposes. This map is not intended for and should not be used to establish boundaries, property lines, location of objects or to provide any other information typically needed for construction or any other purpose when engineered plans or land surveys are required.

File Location: B:\2011\11039Waps\Viewsheds111111\PhotosimulationLocations.mxd



/···/` County Boundary

Number of Turbines Visible



# **SARATOGA ASSOCIATES**

Landscape Architects, Architects, Engineers, and Planners, P.C. New York City > Saratoga Springs > Syracuse





Existing Condition



SARATOGA ASSOCIATES

# FIGURE A2-A

Photo Simulation VP#1 - Meeting House Hill Cemetery Town of Antrim



Proposed Condition





# FIGURE A2-B

Photo Simulation VP#1 - Meeting House Hill Cemetery Town of Antrim



Existing Condition



SARATOGA ASSOCIATES

# FIGURE A3-A

Photo Simulation VP# 11 - The Flint Estate Town of Antrim



Proposed Condition



SARATOGA ASSOCIATES

### FIGURE A3-B

Photo Simulation VP# 11 - The Flint Estate Town of Antrim



Existing Condition





### FIGURE A4-A

Photo Simulation VP# 26 - Salmon Brook Road Town of Antrim



Proposed Condition



SARATOGA ASSOCIATES

### FIGURE A4-B

Photo Simulation VP# 26 - Salmon Brook Road Town of Antrim



Existing Condition



SARATOGA ASSOCIATES

### FIGURE A5-A

Photo Simulation VP# 27 - Island Pond Landing Town of Stoddard



Proposed Condition



SARATOGA ASSOCIATES

### FIGURE A5-B

Photo Simulation VP# 27 - Island Pond Landing Town of Stoddard



Existing Condition



SARATOGA ASSOCIATES

### FIGURE A6-A

Photo Simulation VP# 34 - Franklin Pierce Highway (NH State Route 9) Town of Stoddard



Proposed Condition





### FIGURE A6-B

Photo Simulation VP# 34 - Franklin Pierce Highway (NH State Route 9) Town of Stoddard



Existing Condition



SARATOGA ASSOCIATES

# FIGURE A7-A

Photo Simulation VP#43 - Summit of Bald Mountain Town of Antrim



Proposed Condition





# FIGURE A7-B

Photo Simulation VP#43 - Summit of Bald Mountain Town of Antrim



Existing Condition



SARATOGA ASSOCIATES

### FIGURE A8-A

Photo Simulation VP# 44 - dePierrefeu-Willard Pond Wildlife Sanctuary Town of Antrim



Proposed Condition



SARATOGA ASSOCIATES

#### FIGURE A8-B

Photo Simulation VP# 44 - dePierrefeu-Willard Pond Wildlife Sanctuary Town of Antrim



Existing Condition



SARATOGA ASSOCIATES

# FIGURE A9-A

Photo Simulation VP# 57 - Gregg Lake Road Town of Antrim



Proposed Condition



SARATOGA ASSOCIATES

### FIGURE A9-B

Photo Simulation VP# 57 - Gregg Lake Road Town of Antrim



Existing Condition



SARATOGA ASSOCIATES

#### FIGURE A10-A

Photo Simulation VP# 59 - Gregg Lake Town Beach Town of Antrim



Proposed Condition



Note: As a turbine was located at the edge of a photograph, a portion of an adjacent photograph was utilized in completing this simulation. The image was adjusted to represent a single frame 50mm+/- photograph.



#### FIGURE A10-B

Photo Simulation VP# 59 - Gregg Lake Town Beach Town of Antrim



Existing Condition

CANTRIM WIND ENERGY LLC



FIGURE A10-C Photo Simulation VP# 59 - Gregg Lake Town Beach Town of Antrim

\_\_\_\_\_



Proposed Condition

O ANTRIM



FIGURE A10-D Photo Simulation VP# 59 - Gregg Lake Town Beach Town of Antrim



Existing Condition



SARATOGA ASSOCIATES

#### FIGURE A11-A

Photo Simulation VP# 71 - Elm Avenue Town of Antrim



Proposed Condition





#### FIGURE A11-B

Photo Simulation VP# 71 - Elm Avenue Town of Antrim

**CTRC** 71 Oak Street Ellsworth, ME 04605

Edna M. Feighner Review and Compliance Coordinator New Hampshire Division of Historic Resources State Historic Preservation Office 19 Pillsbury Street Concord, NH 03301

Dear Edna,

Please find the enclosed Phase I Archaeological Survey report for the Antrim Wind Energy Project proposed by Antrim Wind Energy LLC. The proposed Project is to develop a utility scale wind energy generation facility in the Town of Antrim, Hillsborough County, New Hampshire. The enclosed report includes both the Phase IA research completed on July 20, 2011 and previously submitted to NHDHR on October 25, 2011 as well as the Phase IB survey completed on November 26, 2011.

I would appreciate it if you could review the enclosed report and provide us with your concurrence that the proposed Project does not need to undergo further archaeological review. Feel free to contact me with any questions or concerns: phone – 207-479-5522 or email – <u>kemack@trcsolutions.com</u>.

Sincerely,

Karen E. Mack Senior Archaeologist TRC

cc: Drew Kenworthy, Eolian Renewable Energy LLC Sarah Verville, TRC Joshua Brown, TRC Richard Will, TRC



Results of Phase I Archaeological Survey of the Antrim Wind Energy Project Antrim, Hillsborough County, New Hampshire

Prepared by:

Richard Will and Karen Mack

TRC 71 Oak Street Ellsworth, Maine

December 7, 2011

#### **Management Summary**

Antrim Wind Energy LLC proposes to develop a utility scale wind energy generation facility in the Town of Antrim, Hillsborough County, New Hampshire. The Project is proposed to be located in the sparsely settled northwest portion of Antrim and includes property that extends from the east summit of the Tuttle Hill ridgeline to the flank of Willard Mountain to the west. TRC was asked to conduct a Phase I archaeological assessment of the Project area. Access to the ridgeline turbine locations will be accomplished through the construction of an access road originating on Route 9 and proceeding up the northern flank of Tuttle Hill, then extending to the northeast and southwest to reach all turbine positions. The Project proposes to interconnect the generated electrical power to the PSNH 115 kV line and will include collector lines that are below ground along the extent of the turbine string and pole-mounted along the access road from the collector system bus to the point of interconnection. Collectively, the turbine foundations, construction pads, access roads, and electrical upgrades are anticipated to directly impact an area of less than 65 acres. The archaeological APE is defined as the area where construction activities may result in ground disturbances. A review for both Precontact period and Historic period archaeological resources was completed at the NHDHR on July 20, 2011. No known Precontact period or Historic period sites exist within the Project area. An archaeological walkover survey was conducted of the Project archaeological APE from November 23 - 26, 2011. No landforms suitable for Precontact subsurface testing were observed within the Project area. No Historic features (e.g. cellar holes) were identified within the Project area with the exception of stonewalls in the lower elevations on the northern side of Tuttle Hill. Therefore no additional archaeological evaluation is recommended.

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#### Phase IA & IB Archaeological Assessment of the Proposed Antrim Wind Energy Project

#### I. Project Description & Overview

Antrim Wind Energy LLC proposes to develop a utility scale wind energy generation facility in the Town of Antrim, Hillsborough County, New Hampshire. The Project is proposed to be located in the sparsely settled northwest portion of Antrim and includes property that extends from the east summit of the Tuttle Hill ridgeline to the flank of Willard Mountain to the west. The proposed Project boundaries are shown in Figure 1. To the north of the Project area lie the PSNH electrical transmission corridor, which contains 34.5kV and 115kV transmission lines, and the Franklin Pierce Highway (State Route 9). The Project will consist of the erection of ten wind turbine generators, the construction of an access road, and the construction of an electrical substation along with collector lines. The proposed Project has been sited to avoid sensitive wildlife habitats and the potential for impacts to neighboring properties to the greatest extent possible.

The installed nameplate capacity of the Project is expected to be between 25 and 30 MW. The exact turbine model to be employed for the Project has not yet been selected but it is anticipated that the turbines will have a generating capacity between 2.5 and 3.0 MW and that total turbine height from foundation to blade tip will not exceed 500 feet. Access to the ridgeline turbine locations will be accomplished through the construction of an access road originating on Route 9 and proceeding up the northern flank of Tuttle Hill, then extending to the northeast and southwest to reach all turbine positions. The Project proposes to interconnect the generated electrical power to the PSNH 115 kV line and will include collector lines that are below ground along the extent of the turbine string and pole-mounted along the access road from the collector system bus to the point of interconnection. Collectively, the turbine foundations, construction pads, access roads, and electrical upgrades are anticipated to directly impact an area of less than 65 acres (Figure 1).

Two visits to the New Hampshire Division of Historical Resources (NHDHR) were completed in May and July 2011 to identify and collect information pertaining to the archaeological resources context of the proposed Project. The first meeting, on May 19, was to work with Ms. Edna Feigner, review and compliance officer, to identify and understand expectations for completing an archaeological resources assessment of the Project area. The objective of the second meeting, on July 20, was to collect relevant background and archival information on known Precontact period and Historic period archaeological resources in the Project area (within 10 km of the Project) and within the Project boundaries. Section II



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Figure 1. Antrim Wind Energy Project Area: yellow lines indicate the archaeological **APE**.

of this report documents the archaeological cultural context for the Project area and reviews existing information on archaeological sites within the Project boundaries. Section III discusses the concept of archaeological sensitivity. Section IV describes the archaeological sensitivity of the Antrim Wind Energy Project based on the background and archival review that was undertaken at the NHDHR. The plan for completing a Phase IB archaeological survey appears in Section V. Section VI contains the results of the Phase IB walkover survey of the Project area and finally Section VII includes conclusions and recommendations. Note that an earlier version of the Phase IA report written by Richard Will was submitted to NHDHR. This report contains results of both the Phase IA and Phase IB archaeological investigations.

#### **II. Background Research & Cultural Context**

A review for both Precontact period and Historic period archaeological resources was completed at the NHDHR on July 20, 2011. The review involved examination of historic maps, soils and topographic maps, and archaeological site files. The cultural context for both kinds of archaeological resources is briefly reviewed here to provide a backdrop for understanding what kinds of archaeological resources might exist within or near the Project area.

#### Precontact period archaeological resources

New Hampshire archaeologists have identified four cultural temporal periods for the Precontact period in New Hampshire. These periods are similarly identified throughout eastern North America and begin with the Paleoindian period and terminate with the Contact period, which begins with trade and direct contact with Europeans in the opening decades of the 1600s.

The Paleoindian period (11,000-9,000 years before present [BP]) is defined by the widespread use of a specialized stone tool kit that included fluted projectile points and implements for processing hunted animals for food and clothing (e.g., endscrapers, gravers and other unifacially flakes tools). Similar stone tool kits have been uncovered in archaeological sites in neighboring Maine, Vermont, and Massachusetts (Spiess et al. 1998). Whether these first people to colonize New Hampshire were specialized hunters of large mammals, such as caribou, or more generalized hunters and gathers is unknown. Likely, subsistence and settlement strategies were adapted to accommodate both patterns depending on where people were living. Use of lithic materials for tool making encompassed raw material extraction from a large area to find the high-quality rocks that were valued for tool production (Spiess and Wilson 1989). Mt. Jasper rhyolite from Berlin, New Hampshire was greatly valued as a raw material for Paleoindian period tool production in New Hampshire and, indeed, neighboring states

(Pollock et al. 1996). Similarly, Munsungun Formation cherts from north-central Maine are found in Paleoindian periods sites throughout New England, including New Hampshire. Whether these rocks reached their final destination through trading networks or by quarrying by people utilizing a large geographical catchment area is still unknown. Later Paleoindian people adopted different projectile forms (e.g., unfluted, long and narrow parallel flakes projectile points), but other aspects of the tool kit including unifacially-made tools appear to persist. Settlement and subsistence patterns were likely developing in responses to climatic changes detected between the Late Pleistocene and early Holocene environments. Paleoindian period archaeological sites are not abundant in New Hampshire; some of the best known are from the White Mountains which are located far to the north of the Project area (Boisvert 1998). A review of archaeological sites files at NHDHR showed that no Paleoindian period archaeological sites were located either within the Project boundaries or the Project area.

The Archaic period (ca 9,000-3,000 years BP), which follows the Paleoindian period, has three major subdivisions (Early, Middle, and Late) that are differentiated based on changes in tool kits that presumably reflect cultural changes to environmental changes and concomitant changes in social organization. The Early Archaic period (9,000 – 7,500 years BP) is recognized by a combination of environmental and technological changes that included exploitation of environments with a broader range of food resources than hypothesized for the Paleoindian Period, and use of more localized lithic resources including cherts, quartzites and quartz (Bolian 1980; Bunker 1992). The number of Early Archaic period sites is less than that for the preceding period; however, this may be due more to inadequate sampling methods than to real differences in the sizes of human populations between the two periods. Many of the Early Archaic period sites in New Hampshire may be deeply buried in thick alluvial deposits present along the major water ways; a pattern that has been found to be the case in Maine (see Robinson and Petersen 1993). There are no recorded Early Archaic period archaeological sites within the Project boundaries or the Project area.

The Middle Archaic period (ca 7,500-6,000 years BP) marks a continuation of subsistence and settlement practices first observed during the Early Archaic period. During the Middle Archaic people lived in widely distributed locations (Bunker 1994). Settlement is still seen along major waterways, falls and lakes, with a decided reliance on aquatic resources. Unlike the Early Archaic period, the Middle Archaic period is marked by a warmer and drier climate. The tool assemblage during the Middle Archaic period was comprised of a variety of stemmed projectile points including the Neville, Neville variant, and Stark bifaces. In association with these tools are bifacial preforms, unhafted flake scrapers, tiny quartz scrapers, wedge-shaped unhafted flake knives, perforators, winged atlatl weights, full

grooved axes, cobble hammers, and heavy flaked choppers. Expediency or only slightly modified tools make up a portion of the tool assemblage. Heavy woodworking tools, such as ulus, bifacial chipped knives, plummets, and gouges arise in the Middle Archaic period, suggesting that heavy wood working originated during this time.

The Neville Site (27-HB-77), which is located at the Amoskeag Falls, has long served as a base line for interpreting Middle Archaic components in northern New England and has given its name to its most characteristic biface type (Dincauze 1976). Occupation began in the Middle Archaic and continued to the Contact period at the Neville site. The site is considered archaeologically significant because it clearly represented a temporal sequence for the Archaic period projectile point forms. Other nearby, major Middle Archaic sites include the Smyth site (27-HB-76) and Eddy site (27-HB-78) in Manchester (Kenyon 1987; Starbuck 1982). There are no recorded Middle Archaic period sites within the Project boundaries or the Project area.

The Late Archaic period (ca 6,000-3,000 years BP) is marked by a warmer and drier climate with warm summers and less intense winters. Burial ceremonialism is an important feature of this period (Bunker 1994). Based on subtle artifact assemblage variations, the Late Archaic has been divided into three traditions: the Small Stemmed, the Laurentian, and the Susquehanna (or Broad Blade). The Small Stemmed tradition typically includes small triangular or stemmed bifaces. The Laurentian tradition is associated with several projectile point types (i.e., Otter Creek, Brewerton and Vosburg). The material cultural of the Susquehanna tradition includes bifaces of the Susquehanna and Perkiomen bifaces.

Late Archaic sites are found virtually everywhere in New Hampshire (Bunker 1994). The Smyth, Neville, and Eddy sites, all located at Amoskeag Falls, have substantial Late Archaic components (Foster, Kenyon, and Nicholas 1981) and they contain Squibnocket and small stemmed points, Brewerton, and Normanskill, Otter Creek, Vosburg, Susquehanna, and Atlantic point types. Archaeological evidence reveals that sites were repeatedly visited to carry out seasonal activities. Artifact assemblages and features show signs of tool manufacture, fish processing along with horticulture. Again, there are no recorded Late Archaic period sites within the Project boundaries or the Project area.

By about 3,000 years BP, native peoples incorporated the manufacture of ceramics into their subsistence and economic strategies, and the period from 3000 BP to ca. 450 BP is known as the Woodland period. The Woodland period is well represented by a number of sites and is subdivided into Early, Middle, and

Late Woodland periods, each with a distinctive style of ceramic production and decoration. Most commonly associated with the Early Woodland period is the Vinette I ceramic type (Foster, Kenyon, and Nichols 1981; Howe 1988). There are no recorded Early Woodland period archaeological sites within the Project boundaries or the Project area.

Climatic stabilization around AD 150 led to a chain of events ultimately creating a significant human population growth in New Hampshire during this time. The Middle Woodland period (2,000-1,000 years BP) is known for its dentate stamped and cord-wrapped stick impressed ceramics, Jack's Reef pentagonal and corner-notched points, Woodland stemmed, and lanceolate points (Dincauze 1976; Foster, Kenyon, and Nicholas 1981). There are no recorded Middle Woodland period archaeological sites within the Project boundaries or the Project area.

In the Late Woodland period (ca 1,000-400 years BP), cultigens begin to play a role in the subsistence and settlement behavior of Native people. It is generally agreed that cultigens, such as maize, beans, squash and sunflower, arrived in New England around 1,000 BP that had spreading from the south and west (McBride and Dewar 1987). Habitation sites tend to be larger (as if supporting a greater population density) with some indications of sedentary lifestyles, such as storage pits and semi-permanent structures. A drastic reduction in exotic lithic material is noted in archaeological sites of this cultural time period in New Hampshire, perhaps indicating that people were staying much closer to home than in the previous Early and Middle Woodland periods.

Late Woodland sites in New Hampshire generally co-occur at locations of earlier occupations, indicating a continuation of earlier settlement patterns (Starbuck 1982). There are no recorded Late Woodland period archaeological sites within the Project boundaries or the Project area.

European exploration of the New World resulted in contact with indigenous peoples, beginning in the 1500s. The Contact period continued through the end of the Colonial Wars in the 1760s, as local, Native American groups accommodated a new European population while they suffered decimating diseases, a new weaponry, and metal technology. European manufactured goods such as iron or brass kettles, metal tools and utensils, sheet copper and brass, clay pipes, textiles and glass bottles begin to appear in the archaeological record of the Native Americans, although many of these items were recycled into traditional forms. Levanna shaped projectile points made of brass were recovered from early Contact period components, along with their lithic counterparts, at both the Hormel and Rocks Road sites in New Hampshire (Bunker 1994).

The adoption of European materials had a profound impact on Native lifestyles, as traditional techniques of lithic tool and ceramic manufacture were lost. By about 1630, lithic use in northern New England virtually disappears from the archaeological record, although native ceramic use persists for some time after the introduction of metal vessels. As a result of this loss of traditional technology, Native Americans became increasingly dependent on economic ties to the Europeans. Palisade villages begin to appear, located at strategic positions, perhaps as a result of trade-related warfare. Epidemic disease between 1616 and 1617 exacerbated a cultural collapse, virtually eradicating many Native populations. There are no recorded Contact period archaeological sites within the Project boundaries or the Project area. In the early post-Contact period (also known as the Historic period), it is assumed that Native Americans were quietly integrated into the European culture, but various avenues of research in the Northeast have brought to light many examples of continued struggle, resistance, and desire to maintain to a separate cultural identity (e.g., Calloway 1990).

#### Historic period archaeological resources

A recent discussion concerning the history of the town of Antrim appears in Goodby (2005); portions of that discussion are abstracted here. The initial settlement of the area was by Scotch-Irish immigrants who brought the name, "Antrim" with them in the mid-18<sup>th</sup> century from Ireland. Although the French and Indian Wars led to the abandonment of the first settlement, the first grist mill was constructed in Antrim along the banks of the Contoocook River in 1777. It was not long afterward that the first meeting house and school were constructed in the 1780s. The 1790 population census counted 528 people living in Antrim (Whiton 1852:25-28). Antrim remained primarily an agrarian settlement throughout the first half of the 19<sup>th</sup> century (Ellison 1977). However, with the construction of the Peterborough and Hillsborough Railroad in 1878, the community was transformed from an agrarian way of life to one that opened many new markets to it residents. In spite of new markets for trade and commerce, the population of Antrim and its outlying villages (e.g., Antrim Center, North Branch, Clinton Village) has only increased by 2,109 inhabitants in 220 years (US Census, 2010). Antrim is largely a bedroom community to larger commercial centers, such as Peterborough and Hillsborough.

A review of historic maps shows the growth of Antrim and at the same time the lack of development in the Project area. No Euroamerican (*i.e.*, Historic) activity is recorded around or near Willard Mountain and Tuttle Hill in 1858. And, while the town of Antrim and surrounding villages continued to grow, there was no development (either residential or commercial) in or near the Project area in 1880 (Cochrance 1880). This settlement pattern continues unchanged on the map of Antrim in 1892

(Anonymous 1881) and on the USGS 15' topographic map of the Antrim area in 1929. Collectively, the historic maps document that the Project area does not contain any Euroamerican or Historic period resources. A review of archaeological sites files at NHDHR also corroborated that no Historic period archaeological sites were located either within the Project boundaries or the Project area.

#### **III.** Archaeological Sensitivity

One commonly accepted approach to ascertain whether archaeological resources may be located within the boundaries of a project is predictive modeling. Although the NHDHR does not use modeling to predict archaeological site locations, it does recognize that certain archaeological and environmental variables frequently demonstrate a correlation with the locations of various kinds of archaeological resources. To date, and with surveys that have been conducted on large projects, such as transmission and natural gas pipelines, archaeological resources may be present in a given area (e.g., Clark et al. 1999; Clark and Will 2005). These variables include proximity to other sites, water, soil type, and slope. These associations may not be causal; but they have been documented to predict archaeological site locations as a result of examining the cultural/environmental context of thousands of archaeological sites scattered over wide regions.

One of the variables used by archaeologists to evaluate an area for archaeological resources is to identify previously recorded resources within or nearby the boundaries of a project. The working assumption is that if Precontact period or Historic period archaeological resources are located near a project and within similar environmental contexts, then there is a reasonable expectation that archaeological sites of similar age and cultural affiliation could be located within the Project area.

Water proximity is an important predictor for site location because of the human need for water to sustain life, the human food resources that either occur in water or proximate to it, and the use of waterways and water bodies for transportation and commerce. These qualities of water are important for people who lived in both the Precontact period and Historic period.

Soil type was obviously important to Euroamerican farmers who settled in New Hampshire and required soils with certain properties to grow food. Another potential predictor of Historic period sites is the proximity of historic roads. For most of the Precontact period, horticulture was not an important subsistence practice; however soil permeability has been shown to be a site predictor based on the conclusion that people would have likely have camped in areas where they could stay dry under foot even after heavy rains.

Finally, documentation of slope and archaeological site locations shows that people are more likely to settle on flat, rather than steep, surfaces. This is a rather obvious correlation when applied to predicting where settlements may be located, but does not have great predictive value in locating specialized kinds of sites (*i.e.*, rock quarries).

#### **IV. Phase IA Results**

As discussed above, no Historic period or Precontact period archaeological sites have been previously recorded within the Antrim Wind Energy Project boundaries or within 10 km of the Project boundaries. Those archaeological sites that are recorded in NHDHR archaeological site files show that Precontact period sites are close to water (e.g., a Precontact period scatter of stone flakes at site 27-CH-0005, which is located on Nubanusit Lake to the south of the Project area and Historic period 19<sup>th</sup> century sites, such as 27-HB-0070 and 27-HB-0406, which are located to the south and east on the Contoocook River in Bennington).

The availability of water is localized in the Antrim Wind Energy Project boundaries. It includes a number of small third-order drainages that descend hillsides within the Project boundaries and one small brook (Salmon brook) that skirts the Project area on the west side of the central portion of the Project north of Willard Mountain. There are also three small wetlands along Hattie Brown Road in the southeastern corner of the Project area. Wetlands were sometimes used in the past for hunting and gathering by Precontact period people. But, in themselves, they are not important predictors of archaeological site locations.

Soils within the Project area are varied. A soils map provided by the NHDHR on July 20, 2011 shows that soils within the Project boundaries include a variety of stony well drained soils, the majority of which are found on steep slopes (8-35 percent). In particular, Marlow Stony Loam occurs throughout the Project area, whereas Monadnock Stone Fine Sandy Loam occurs is small areas, particularly in the southern parts of the Project area. Bedrock outcrops occur on Tuttle Hill at the north end of the Project area and on Willard Mountain in the southwestern part of the Project area. Both of the mountaintop rock outcrops are composed of granodiorite or tonalite (Lyons et al. 1997). In both cases, these igneous, granitic-based rocks could not have been used for making chipped stone tools because they do not yield a concoidal fracture pattern when impacted.
The review of historic maps described above shows that the area of the proposed wind park (at least as far back as 1858) contained no settlements or roads. Indeed, the only major road near the Project area today is Route 9, which is located just beyond the Project's northern boundary.

#### V. Proposed fieldwork for Phase 1B

In summary, environmental and cultural variables that have been demonstrated to be important predictors of archaeological site locations are either rare or non-existent within the proposed wind park boundaries. There are no areas within the Project where archaeological resources would be predicted to be located or areas that might initially be assessed to be sensitive for archaeological resources. However, guidelines for archaeological surveys in New Hampshire for wind parks stipulate that a 100% walkover survey of a project's archaeological area of potential effect (APE) be completed. The archaeological APE is defined as the area where construction activities may result in ground disturbances. Disturbances caused by construction are the single-most important factor that could negatively affect an archaeological site. The archaeological APE for the proposed Antrim Wind Energy Project is shown in Figure 1.

One of the primary reasons for requiring walkover survey is because the database for archaeological sites in upland areas of New Hampshire is small. This is due to the lack of prior survey work in such environments and to the limitations of our understanding how such areas may have been utilized by people, particularly Precontact period people. Although the Antrim Wind Energy Project shows a low sensitivity for either Precontact period or Historic period archaeological resources, it is possible that such upland areas contain unusual or previously unidentified archaeological site types. The Phase 1B field review of this Project area will involve walkover survey of the archaeological APE. The focus will be on visual examination of proposed roads, wind turbine locations, and the electrical transmission system to transmit power out of the wind park. We recommended that 100 shovel test pits be set aside for testing of any landforms that the field archaeologist determines may have archaeological resource potential or for any historic structures (e.g., cellar holes) that may be encountered during the walkover inspection. The Phase IA report containing the above proposed Phase IB investigations was submitted to NHDHR on October 25, 2011.

### **VI. Phase IB Results**

An archaeological walkover survey was conducted of the Project archaeological APE from Nov 23 - 26, 2011. Due to recent snowfall of about 6 inches and the limited amount of daylight a 100 % walkover of



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Figure 2. Views of the archaeological APE.

the Project area could not be completed without staying overnight on the upper elevations. Therefore, walkover was conducted on the northern and southern portions of the Project area including the tops of Tuttle Hill and Willard Mt. but and not along the ridge line between the two. Personal communication with Edna Feighner at NHDHR on December 16, 2011 confirmed that less than 100% walkover of the Project area was adequate. The northern portion of the Project area is characterized by extremely rocky sediment dominated by large cobbles and boulders visible on the surface surrounded by wetlands and immature mixed forest vegetation. A few inches of snow covered the area (see Figure 2). Stonewalls were present within this portion of the Project area but no cellar holes were observed. The small third-order streams lacked any terrace development. Old logging/skidder roads were visible cross-cutting the Project in numerous locations on the northern face of Tuttle Hill.

The southern portion of the Project leading up to the archaeological APE is actively being logged. A well maintained logging road allowed archaeologists to drive into the Project area and then hike to the archaeological APE. The landscape in the area of Willard Mountain is similar to that observed at Tuttle Hill with fewer wetlands and more exposed boulders and exposed bedrock in the upper elevations (see Figure 2). Stonewalls were not observed in the upper elevations of the northern portion of the Project area.

#### **VII.** Conclusions & Recommendations

No landforms suitable for Precontact subsurface testing were observed within the Project. The terrain is characterized by steep slopes covered with a veneer of glacial deposits consisting mostly of boulders and cobbles visible on the surface. On the upper elevations there are large areas of exposed bedrock with no sediment. Some small streams and wetlands are present on lower elevations but they do not exhibit testable margins. None of the boulders or bedrock outcrops observed were composed of suitable lithic material for manufacture of stone tools by Precontact peoples. Likewise, the ground surfaces lack well drained sediments which allow preservation of archaeological materials. No Historic features (e.g. cellar holes) were identified within the Project with the exception of stonewalls in the lower elevations on the northern side of Tuttle Hill. Therefore no subsurface testing was conducted and no additional archaeological evaluation is recommended for the proposed archaeological APE. If significant changes are made in the proposed archaeological APE prior to the construction of the Project additional archaeological assessment is recommended.

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# New Hampshire Archaeological Inventory

New Hampshire Division of Historical Resources Archaeology Bureau Bibliography Database

#### **Document ID (NHDHR Use Only):**

Author's Last Name: Will First/MI: Richard

Additional Authors: Karen Mack

Source Institution: TRC - 71 Oak St. Ellsworth, ME 04605

Report Type: Phase I Archaeological Survey

Report Date: December 7, 2011

**Title:** Results of Phase I Archaeological Survey of the Antrim Wind Energy Project Antrim, Hillsborough County, New Hampshire

Publication Source: TRC - 71 Oak St. Ellsworth, ME 04605

Volume/Pages: 1/16

Sponsor Agency: Antrim Wind Energy LLC

#### **Abstract:**

Antrim Wind Energy LLC proposes to develop a utility scale wind energy generation facility in the Town of Antrim, Hillsborough County, New Hampshire. The Project will be located in the northwest portion of Antrim extending from the east summit of the Tuttle Hill to Willard Mountain. The Project proposes to interconnect the generated electrical power to the PSNH 115 kV line and will include collector lines that are below ground along the extent of the turbine string and pole-mounted along the access road from the collector system bus to the point of interconnection. The archaeological APE is defined as the area where construction activities may result in ground disturbances. A review for both Precontact and Historic period archaeological resources was completed at the NHDHR on July 20, 2011. No known sites exist within the Project area. An archaeological walkover survey was conducted of the Project archaeological APE from November 23 – 26, 2011. No landforms suitable for Precontact or Historic subsurface testing were observed within the Project area. No Historic features were identified within the Project area. Therefore no additional archaeological evaluation is recommended.

Investigation Type:	<u>X</u> Phase IA <u>X</u> Analytical Study	Phase IBPhase Othe	se IIPhase III er	
Sites Found: Excavated: Comments:		_No _No		
Approximate Area Surveyed: Acres: 50 Hectares:			Hectares:	
Date Survey Completed (mm/dd/yy):11/26/11				
No. of Pages: 16	No. of Maps	:	No. of Figures:	



NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

State of New Hampshire, Department of Cultural Resources 19 Pillsbury Street, Concord, NH 03301-3570 TDD Access: Relay NH 1-800-735-2964 www.nh.gov/nhdhr 603-271-3483 603-271-3558 FAX 603-271-3433 preservation@dcr.nh.gov

January 6, 2012

Drew Kenworthy Eolian Renewable Energy 155 Fleet Street Portsmouth, NH 03801

Dear Mr. Kenworthy:

The Division of Historical Resources (Division) is in receipt of Phase I Report prepared and submitted by by Karen Mack of TRC located in Ellsworth, ME. The Division concurs with the recommendations provided and finds the report acceptable as written. Also, the Division appreciates the cooperation of the project proponents by completing the recommended survey strategy for a region that has not previously been surveyed. These types of surveys add a tremendous amount of information to our data base, as we consider the absence of archaeological resources as valuable as the presence of archaeological resources when determining sensitivity of areas and future recommendations.

Based upon the information provided in the above cited Phase I Report, it has been determined that there are no known properties of archaeological significance within the area of the undertaking's potential impact and no further identification or evaluative studies are recommended.

If any archeological resources are discovered or affected as a result of project planning or implementation, the Division is to be consulted on the need for appropriate evaluative studies, determinations of National Register eligibility, and mitigative measures (redesign, resource protection, or data recovery) as required by federal law and regulations. Also, if plans change consultation with the Division will be required.

Sincerely,

Richard Boisvert, State Archaeologist Deputy State Historic Preservation Officer

RAB:emf

Cc: Karen Mack, TRC NH Site Evaluation Committee



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Re: Report Review: Results of Phase I Archaeological Survey of the Antrim Wind Energy Project, Antrim, Hillsborough County, NH. Prepared and submitted by Karen Mack of TRC Ellsworth, ME

# AREA FORM Antrim Wind Energy Project



Antrim, Hillsborough, Windsor, Stoddard, and Nelson Hillsborough and Cheshire Counties, New Hampshire

Prepared for:

New Hampshire Division of Historical Resources 19 Pillsbury Street, 2nd Floor Concord, New Hampshire 03301

Prepared by:

A.D. Marble & Company 375 East Elm Street Conshohocken, Pennsylvania 19428

January 2012

# **AREA FORM**

# **AREA NAME: ANTRIM WIND ENERGY PROJECT**

1.	<b>Type of Area Form</b>		
	Town-wide:		
	Historic District:		
	Project Area: 🖂		

- 2. Name of area: Antrim Wind Energy Project
- **3. Location:** Southwestern New Hampshire, from Tuttle Hill to Willard Mountain
- 4. **City or town:** Antrim, Hillsborough, Windsor, Stoddard, Nelson
- 5. County: Hillsborough and Cheshire
- 6. USGS quadrangle name(s): Stoddard and Hillsborough, NH
- 7. USGS scale: 1:24,000
- 8. UTM reference: 18 740613 4779244 19 261897 4774682 18 735465 4767150 19 256042 4762877

# 9. Inventory numbers in this area:

ANT0001 ANT0005 STO0001

**10. Setting:** The project area includes sparsely settled towns in the Merrimack Valley. The North Branch River is the prominent tributary and adjoins the Contoocook River, immediately east of the Project Area. The topography is hilly with some low mountains (Bald Mountain, Willard Mountain, Robb Mountain) and numerous lakes and small streams. The soils range from loamy sand, which can be cultivated, to rocky and uneven gravely deposits. Generally, the western portion of the Project Area is hillier and was historically less densely developed than the eastern portion. The combination of ample timberland and northern flowing waterways influenced the development of industry, agriculture, and recreation from the mid-eighteenth century to the present.

# 11. Acreage: 26,581 acres

- **12. Preparer(s):** Barbara Frederick, Emma Diehl, Russell Stevenson
- 13. Organization: A.D. Marble & Company
- **14. Date(s) of field survey:** October and November 2011

I, the undersigned, confirm that the photos in this inventory form have not been digitally manipulated and that they conform to the standards set forth in the NHDHR Draft Digital Photo Policy. These photos were printed at the following commercial printer: Philadelphia Photographics. AREA FORM

AREA NAME: ANTRIM WIND ENERGY PROJECT

15. Location map

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# AREA FORM

AREA NAME: ANTRIM WIND ENERGY PROJECT

# 16. Sketch map

(See attached large format map of the Project Area and APE)













































# AREA FORM

# AREA NAME: ANTRIM WIND ENERGY PROJECT

# **17. Methods and Purpose**

The purpose of this project area form is to develop a historic context for the 3-mile project area, identify contextual themes and projected architectural building types, and recommend further survey for resources within the 3-mile viewshed (Area of Potential Effect [APE]) of the proposed Antrim Wind Energy Project (Project). Antrim Wind Energy LLC proposes to develop a utility scale wind energy generation facility in the Town of Antrim, Hillsborough County, New Hampshire. The Project is proposed to be located in the sparsely settled northwest portion of Antrim and includes property that extends from the east summit of the Tuttle Hill ridgeline to the flank of Willard Mountain to the west. To the north of the project area lie the Public Service of New Hampshire (PSNH) electrical transmission corridor and the Franklin Pierce Highway (Route 9). The project will consist of the erection of ten wind turbine generators, the construction of an access road, and the construction of an electrical substation along with collector lines. Access to the ridgeline turbine locations will be accomplished through the construction of an access road originating on Route 9 and proceeding up the northern flank of Tuttle Hill, then extending to the northeast and southwest to reach all turbine positions. Collectively, the turbine foundations, construction pads, access roads, and electrical upgrades are anticipated to directly impact an area of less than 65 acres.

To complete the project area form, A.D. Marble & Company completed a file search at the New Hampshire Division of Historical Resources (NHDHR) to gather information on established contexts, previously surveyed properties, and properties within the project area that have been listed in or determined eligible for listing in the National Register of Historic Places (National Register). Additional research was conducted at the New Hampshire State Library and the New Hampshire Historical Society. Population and agricultural census returns were collected. The catalogs of Dartmouth College and Plymouth State College were searched. The James A. Tuttle Library in Antrim was also visited. A member of the Antrim Historical Society was contacted for information on relevant resources and repositories. Previous correspondence with members of the historical society regarding the project was also reviewed. In addition, members of other area historical societies were contacted by phone and solicited by postal mailing for participation in the Section 106 process as consulting parties. Beyond census data and historic mapping, the report relies heavily on secondary research and source materials to develop a historic narrative for the project area.

A total of 26,581 acres are included within the project area. The towns and breakdown of acreage within the project area is as follows: Antrim (16,312 acres, or 62 percent), Stoddard (5,094 acres, or 19 percent), Windsor (2,590 acres, or 10 percent), Hancock (1,485 acres, or 5.5 percent), Hillsborough (590 acres, or 2 percent) and Nelson (409 acres, or 1.5 percent). No resources 50 years in age within the APE were identified within Nelson or Hillsborough. Except for a children's camp, no resources 50 years in age are within the APE in Windsor. A total of eight resources 50 years in age or older were identified in the APE for Hancock. Considering the distribution of towns within the project area and the potential of the project to have visual effects on resources, the focus of the historical narrative is on Antrim and Stoddard. Within the project area, historic villages within Antrim include the former community on Meetinghouse Hill, Antrim Center, North Branch, and Clinton. South Stoddard is the only historic village within the Stoddard portion of the APE.

An initial Geographic Information System-based (GIS-based) screening defined the project area within a 3-mile radius of the project and further refined the viewshed-based APE within the project area. During

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# AREA FORM

# **AREA NAME: ANTRIM WIND ENERGY PROJECT**

the course of survey work, properties 50 years in age or older within the project area were examined from the public right-of-way to develop an understanding of the evolution of the landscape. Within the project area, potentially significant historic resources that might be affected by the project were photographed and field notes were taken. Representative photographs of resources not recommended for further survey were also taken. Properties only accessible by private drives that were posted or gated were not documented. Unless visible in a date stone or marker or identified in an area history, the dates of construction provided in this document are solely based on field observations from the public right-of-way.

# **18. Geographical Context**

The project lies within the Merrimack Valley area of the New England Upland physiographic province of the Appalachian Highlands. The Eastern New England Upland physiographic province runs from northern Maine south to eastern Connecticut, covering most of southern New Hampshire west of the Seaboard Lowland Province (Aylesworth and Aylesworth 1988:31). The physiographic province contains elevation ranges between 500 and 2,000 feet above sea level, with a central spine that runs north-south. This spine separates streams that flow southwest into the Connecticut River and east into the Merrimack River (Bond and Handler 1981:1). The project area is situated entirely west of this spine, within the Contoocook River Valley. The North Branch River and the Great Brook serve as the project area's most prominent waterways (New Hampshire Department of Environmental Services website, accessed October 25, 2011).

The Contoocook River flows through the towns of Hancock, Antrim, and Hillsborough, largely east of the project area, and then continues west. The North Branch River flows for 16 miles from Hancock to Stoddard through Antrim and on to Hillsborough, where it meets the Contoocook River. The North Branch River, located in the northern portion of the project area, is free-flowing and natural in character, with predominantly undeveloped shores buffered by natural woodland along most of the waterway. The North River and its banks provided many resources for early inhabitants, including timber, fish, migratory birds, and an important route for communication and transportation. The Great Brook begins in the western hills of the project area, flows into Gregg Lake, and continues east for 2 miles until it joins the Contoocook River in the Village of Antrim (New Hampshire Department of Environmental Services 1991:n.p.).

The topography of the project area is predominantly hilly, with various mountains dotting the landscape. The hilly topography dotted by various waterways and ponds lends to the area being largely undeveloped. Major elevation points within Antrim include Bald Mountain (2,030 feet above sea level), Willard Mountain (1,920 feet above sea level), Robb Mountain (1,820 feet above sea level), and Tuttle Hill (1,760 feet above sea level). In addition to the rivers and mountains, the project area also includes various lakes and ponds that were formed either by glaciers or for hydro power. The largest lakes are Gregg Lake (195 acres) and Franklin Pierce Lake (519 acres). Wetlands or marshes of various sizes characterize the land and have prevented permanent occupation, constituting about 11 percent of Antrim's total acreage. The rugged terrain and surrounding lakes and ponds contributed to the use of the landscape for summer recreation beginning in the late nineteenth century, and the area continues to host various recreation activities throughout the seasons (Town of Antrim website, accessed October 26, 2011).

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# AREA FORM

# AREA NAME: ANTRIM WIND ENERGY PROJECT

The soils in the project area range from productive and easy to cultivate loamy sand, which indicates portions of the area's traditional agricultural settlement, to rocky and uneven gravely soils (Bond and Handler 1981:2). Generally, the western portion of the project area is hillier and was historically less densely developed than the eastern portion. Much of the landscape throughout the project area is heavily wooded. The combination of ample timberland and northern flowing waterways influenced the development of industry, agriculture, recreation, and the surrounding communities that sprang up throughout the project area over the course of its 300-year history.

# **19. Historical Background**

# Early Settlement and Agricultural and Industrial Development, 1740-1830

The towns of Antrim (granted 1749) and Stoddard (granted 1752) were part of a tract of land owned by the Masonian Proprietors, a group of private landowners based in Portsmouth. The area remained relatively unpopulated until after the French and Indian War in 1763 (Windsor History Committee 1978:7).

Hillsborough and Stoddard were among the five original counties in New Hampshire created by the Provincial Act of 1769, with Amherst serving as the original county seat for Hillsborough and Keene as the county seat for Cheshire. Hillsborough County was named after Wills Hill, the Earl of Hillsborough. Cheshire was named after a county in England (Hillsborough County History and Genealogy website, accessed November 7, 2011).

The falls of the North Branch River in Antrim beckoned settlers back after the French and Indian wars had ended. By 1767, the population of the Town of Antrim was 12 (Antrim History Committee 1977:7). According to nineteenth-century historian Reverend Warren Robert Cochrane, about a dozen families, totaling some 60 residents, lived in Antrim on Robb Mountain in the eighteenth century, farming the land and occupying log cabins. Families moved off the mountain one by one, likely given the difficulty of farming on the hilly terrain, and by the early nineteenth century all traces of the community were gone. Today, access to this area is limited to hiking trails (Antrim History Committee 1977:21).

In 1776, in the midst of America's independence, the settlers of Antrim petitioned the Legislature at Exeter for incorporation. On March 22, 1777, the town was officially incorporated as "Antrim," named after the town in Ireland from which most of the settlers originated. It was not long afterward that the first meetinghouse and school were constructed in the 1780s on what is today known as Meetinghouse Hill, just north of the present-day Grange Hall in the village that came to be known as Antrim Center. A cemetery was created adjacent to the meetinghouse in 1777, and it was used until it nearly reached capacity in the 1820s (Antrim Bennington Lions Club 2009:405). Subsequently, the Center Cemetery was established in the Village of Antrim Center on the south side of Clinton Road, opposite the Presbyterian Church and parsonage. The North Branch Cemetery was established on a rise south of the village of the same name, around the same time (Antrim Bennington Lions Club 2009:405).

The town of Stoddard was incorporated in 1774 and was subsequently named in honor of Colonel Sampson Stoddard, one of the original grantees. The first permanent settlers in Stoddard were John and Martha Taggart, who arrived from Peterborough in 1768. At the time of incorporation in 1774, the town included 224 inhabitants and grew rapidly; there were 50 families by 1780, and there were 701 occupants by 1790. A school to serve the town was present by 1792, and the first post office was created in 1822 (Gould 1897:9-11; Merril 1823:6).
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## AREA NAME: ANTRIM WIND ENERGY PROJECT

The 1790 population census counted 528 people living in Antrim, indicating the area was heavily settled between 1767 and 1790 (Whiton 1852:25-28). By 1800, there was sufficient population to divide the town into four school districts, each with its own one-room school. Within the project area, there were schools at North Branch, Antrim Center, and Antrim South. The fourth district served villages to the east of the project area (Antrim Historical Society 1997:80).

By 1810, the population of Antrim had increased from the 528 residents reported in 1790 to 1,277 persons. Hancock's population rose from 634 to 1,184. Hillsborough's population more than doubled from the 798 reported in 1790 to 1,592 in 1810. The population of Nelson steadily increased from the 721 residents reported in 1790 to 1,076 in 1810. Stoddard's population rose from 701 to 1,132 persons, and Windsor's population almost doubled from 120 residents in 1790 to 238 reported in 1810 (Farmer and Moore 1823:272-275). Antrim, Hancock, and Hillsborough each included a meetinghouse. Antrim also boasted eight schoolhouses, two taverns, two stores, seven sawmills, six gristmills, three tanneries, and two clothing mills, carding machines, and bark mills (Farmer and Moore 1823:55). Hillsborough's numbers were more impressive, with 13 schools, six taverns, seven stores, eight sawmills, five gristmills, six tanneries, and three clothing mills, carding machines, with two schools, one tavern, two sawmills, one gristmill, and one clothing mill (Farmer and Moore 1823:56). Nelson and Stoddard each reported eight schoolhouses and three sawmills. Stoddard also included one tavern, two stores, three gristmills, and one tannery, whereas Nelson had one store, four gristmills, two clothing mills, and one carding machine (Farmer and Moore 1823:56).

### Villages

The first community in Antrim was centered on Meetinghouse Hill, the geographical center of the town that also served as a focus of political and religious activity. Due to difficulty accessing the hill, the community was largely abandoned by the second quarter of the nineteenth century, largely due to the shift in local population to a level area immediately to the south. As part of a move for the separation of church and state, in 1826 the townspeople voted to discontinue preaching in the meetinghouse, thus assigning the new building the name Town Hall. Consequently, a new brick church was constructed in the Village of Antrim Center to the south. Around the same time, the first floor of the old meetinghouse was relocated to the south at the foot of the hill and was reconstructed for use as the Town Hall placed in the village of Antrim Center to the south (Antrim Historical Society 1997:vii, 18-19, 32).

### **Transportation**

Between 1623 and 1780, the primary mode of transportation was via the waterways in the project area and vicinity. The Contoocook and North Branch rivers provided access to the Merrimack River, and thereby the coastal towns. "Roadways" consisted of Native American footpaths that wound throughout the heavily forested terrain. As settlement began to move beyond the bounds of the original coastal towns, travelers faced a terrain alternately composed of brooks and marshes or else of hillsides strewn with rocky glacial debris (Garvin and Garvin 1988:39).

Ninety percent of Antrim's roads were laid out by 1900. Subsequently, most roadway improvements consisted of straightening and connecting existing roads, building new roads laid out by New Hampshire's court-appointed commissioners, or adding streets to accommodate growth within villages. What would become the first roadway through Antrim was laid out in September 1777, the year of incorporation, and ran more or less north-south through Antrim from a point near the Bennington line, through Antrim Center, over Meetinghouse Hill, and then on to the North Branch. This road, known as the "Leading Road," served as the axis of the settlement, channeling much of the town's economy

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## **AREA FORM**

## AREA NAME: ANTRIM WIND ENERGY PROJECT

toward the mills and settlements along the North Branch River until a new roadway was constructed around the base of Meetinghouse Hill in the 1820s. Given the difficulty of topography, by 1858 the road over Meetinghouse Hill is shown as a dotted line on the county map (Chace 1858). Portions of present-day Route 123 were historically part of the Forest Road, which was laid out around 1830 and extended from Charlestown, New Hampshire through Stoddard, Hancock, and Greenfield, and then on to Nashua, serving as a connector to markets to the south and east (Antrim History Committee 1977: 268-271; Tenney 2006; Author unknown n.d.).

As more settlers arrived within the project area after the Revolutionary War, these isolated citizens began petitioning the state to make provincial roads passable; thus, New Hampshire saw the creation of its first turnpikes (Holman 2011:8). The Second New Hampshire Turnpike was chartered in 1799 and completed in 1801, connecting Boston to Vermont via New Hampshire. In Hillsborough County, the road started in Amherst, the county seat, and passed through Hillsborough Lower Village, just east of the project area, encouraging growth and providing a regional trade route (Merrill and Merrill 1817:15).

#### Agriculture

The project area was primarily an agrarian settlement, especially at the beginning of this period. Typical farmers in the area owned 100 to 150 acres of land, of which only 25 acres was kept as improved land at any one time. Two acres were typically kept in tillage, and the remaining 23 acres were used for mowing, orchards, and pasture (Oedel 1952:7). Most crops were used for basic subsistence. Flax was an important crop in the Antrim area, in addition to rye and wheat (Windsor History Committee 1978:6). Wood from clearing land provided fuel, while fruit trees and sugar orchards eventually provided both sustenance and income for the typical family farm. Most families had a pair or two of oxen, small herds of cattle, a family cow for family use, horses for transportation and work, at least one pair of oxen for land clearing and logging work, and a few sheep for wool and meat and perhaps a goat and/or hog (Dussault 1974:152-154).

After the trees were removed and the stone was cleared from the land, the settlers erected stone walls to separate their fields and enclose animals. A town pound was erected in Antrim during this period to hold animals who had become a problem or that were illegally wandering around loose. The town pound in Antrim was located east of the community that formed on Meetinghouse Hill and Antrim Center, where it remains today.

In 1820, Hillsborough County reported the most persons engaged in agriculture of any of the six counties in New Hampshire, with 13,197; hillier Cheshire County ranked fifth with 7,968 persons. Although the project area was hilly, the gravelly loam soil was favorable for grass and pasturing of livestock, as well as the production of corn, flax, and other crops. In addition, apple and sugar-maple trees thrived, and logging was used to supplement farm income (Farmer and Moore 1823:73).

### Industry

Manufacturing data illustrates that industrial facilities in both Hillsborough and Cheshire counties were largely linked to agricultural processing during this period. In 1823, Hillsborough County boasted the highest number of persons engaged in manufacturing, with 2,400 persons; most of these were in industries that supported agriculture, such as blacksmithing and running sawmills and gristmills. The county also included 11 cotton factories, seven woolen mills, and two paper mills (Farmer and Moore 1823:64).

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## **AREA FORM**

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Saw- and gristmills were the first mills developed in the towns of the project area, focused on the processing of raw materials into products for local consumption. The focus of initial industrial development in the project area was centered on the future Village of North Branch. John Warren constructed the first sawmill in Antrim in 1776. A year later, James Moore constructed the first gristmill on the south side of the North Branch. Prior to this construction, settlers had to travel to the gristmill in Hillsborough. The mills continued to function separately until Josiah Wallace constructed a new gristmill and sawmill on the site of Moore's gristmill in 1814. Later, operations on the site included sawing and the manufacturing of wooden wares (Hurlin n.d.:22-23).

At the western edge of the Town of Antrim, Samuel Dinsmore built a gristmill on the North Branch as early as 1798. A sawmill was constructed just above the gristmill in 1839 by John Robb. Both mills came under the ownership of Josiah Loveren around 1865, and continued in operation by the Loveren family until 1926, when the mills were torn down (Hurlin n.d.:24-25). A total of six other mills operated along North Branch in the Town of Antrim until the last one was removed in the 1920s (Hurlin n.d.:23). In Stoddard, Captain Samuel Robb built a saw- and gristmill near the location of South Stoddard (Gould 1897:36).

Power for another early mill was created by Samuel Gregg along Great Brook when he constructed a small dam along present-day Gregg Road in 1793. The dam was built impound water to power his combination grist- and sawmill. The dam created Gregg Pond (future site of Gregg Lake) and gave him flowage rights to the water that powered many mills and factories constructed along Great Brook in the next period. Roadways (present-day Holt's Hill and Gregg Lake roads) were constructed in the 1790s to connect the surrounding agricultural community to the industries along Great Brook. The Gregg mill continued in operation until 1876 (Cochrane 1880:246; Hurlin n.d.:2).

### Franklin Pierce Homestead

In 1785, Benjamin Pierce, a farmer, Revolutionary War veteran, and eventual two-time New Hampshire Governor, moved from Massachusetts to Hillsborough, New Hampshire. After establishing himself as a farmer and local militia leader, Benjamin Pierce began assembling an estate that measured over several hundred acres. In 1804, he constructed a two-story, hipped-roof frame dwelling on the east side of the Second New Hampshire Turnpike (present-day Route 31), just north of Hillsborough's Lower Village and immediately east of the project area (Shedd 1961).

The same year, Benjamin Pierce welcomed a son, Franklin, who would become the fourteenth President of the United States (1853-1857). The dwelling became a social focal point for Hillsborough residents, as Benjamin Pierce operated a tavern out of the first floor. Its prominent location along the turnpike attracted local residents as well as travelers on their way to Concord (Shedd 1961).

Franklin Pierce left his homestead after his marriage in 1834 to live in Concord, New Hampshire. The property remained under ownership of the Pierce family until 1925, when the dwelling and 13 associated acres were obtained by the State of New Hampshire. The property was listed as a National Historical Landmark in 1961. Today, the Hillsborough Historical Society operates the dwelling as a museum (Shedd 1961).

### Agricultural and Industrial Production, 1830-1870

During this period, agricultural and industrial manufacturing continued on, much as it had since the time of settlement. The lack of direct railroad access in the project area led to some declines in local

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## AREA FORM

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population despite the rise of new industries, especially centered on the villages of Clinton and South Stoddard.

Between 1840 and 1850, the population of Hillsborough County increased more than 33 percent. The importance of manufacturing in the county, especially at Hillsborough Bridge, which was connected to the regional railroad system in the 1840s, contributed to this population boom. There were 379 manufacturing establishments reported in Hillsborough County in 1853 producing more than \$500 each year (Dodge 1853:4). Despite a slight population decrease from 1,685 persons in 1850 to 1,595 in 1870, Hillsborough County included over 300 farms in 1853, in addition to six sawmills, two gristmills, eight stores, three inns, five tanneries, seven blacksmiths, five wheelwrights, three tailors, two harness makers, a butcher, and a jeweler. In addition, the county accommodated many factories, including two sash and blind makers, four furniture makers, one bobbin factory, one cotton factory, one iron foundry, one brick maker, and one plow maker (Dodge 1853:44-45).

However, many of the towns within the project area witnessed a decline in population during this period, a trend that continued until the 1870s as the population shifted toward the industrial employment opportunities and accommodations afforded by the major industrial cities of Nashua and Manchester. The population of Antrim decreased from the 1,330 persons reported in 1820 to 1,123 persons in 1860, and then 904 persons reported in 1870 (New Hampshire Data Library 1850-1870). By 1870, the town included 228 houses, 242 farms, and various manufacturing facilities including a sash, door, and blind maker; cast steel and concrete hoe manufacturer; window shade factory; looking glass frame maker; various furniture manufacturers; shoe peg manufacturer; silk factory; and three gristmills, nine sawmills, two tanneries, and six blacksmiths (Dodge 1853:29-31).

Between 1850 and 1870, Stoddard's population fell dramatically despite the livelihood afforded by the thriving glass industry between 1840 and 1873. In 1850, the town reported a total of 1,104 persons, but by 1870, the total number fell to only 667 (New Hampshire Data Library 1850-1870).

### Villages

The growth of the Village of Clinton during this period can be attributed to the rise of industry along Great Brook. The roadways that form the village crossroads were laid out in 1786 (present-day Old Hancock Road) and the 1830 and 1840s (present-day Clinton Road). By 1887, there were ten industrial operations within the village, many engaged in the manufacture of wooden wares and furniture.

The 1858 county map shows several mills, a blacksmith shop, a school, a tannery, a shoe shop, a doctor and a store and post office in the community of North Branch (Chace 1858). By 1877, only three mills were in operation in the vicinity, a reflection of the shift of milling operations to the villages of Antrim Center and Antrim South, which were more accessible to the regional road and rail network. A chapel to serve the village and surrounding area was erected during this period (Cochrane 1880:257-258)

South Stoddard Village developed at the crossroads of two roadways that were laid out in the 1830s (Keene Concord Road and Forest Road), with coaches running through the area daily. It was here that James Robb erected the Box Tavern in 1833, which was a popular stop until it was destroyed by fire in 1885. The cemetery at South Stoddard was established by Captain Samuel Robb around 1825, and served as the final resting place of many members of the Robb family, as well as other families. By 1858, the village included a school, post office, blacksmith shop, a number of dwellings, and several mills and industries to the north (a rake factory, a powder keg factory, sawmills, gristmills, and a cedar pail factory), many of which were under operation by members of the Robb family. The rise and demise

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of the glass industry in this period contributed to the growth and decline of South Stoddard during this period (Antrim History Committee 1977:33; Chace 1858).

### Transportation

A few roadways were constructed in this period to connect villages as well as link prominent roadways. The major east-west road in Antrim and Stoddard was laid out in 1831 to connect the area industrial communities of Hillsborough Bridge (east of the project area), North Branch Village, and South Stoddard within the vicinity and the cities of Keene and Concord within the state (Keene Concord Road/present-day Route 9). Within the project area, portions of the Keene Concord Road remain in Antrim along present-day Route 9, while the roadway within Stoddard was rebuilt in 1930. A portion of present-day Route 31 (Clinton Road) was laid out in 1844 to connect the Village of Antrim South to the Keene Concord Road (present-day Route 9).

During the 1850s, a prominent twin stone arch bridge was constructed in Stoddard near the Antrim town line as part of improvements to the Keene Concord Road. The dry laid stone arch bridge is one of several surviving bridges of this type that were constructed primarily in the Contoocook River valley in the first half of the nineteenth century.

The Contoocook Valley Railroad was the first railroad within the vicinity of the project area and was located immediately to the east. Incorporated in 1848, the railroad extended from Contoocook to Hillsborough, providing access "from any point on the Concord or Northern Railroad, in Concord, to any point in Peterborough" (Brown 1921:399). The terminus of the railroad remained in Hillsborough Bridge until 1878, when the Peterborough & Hillsborough Railroad was completed near the village of Antrim South, just east of the project area.

### Agriculture

Agricultural production appeared to have reached its peak during this period. Of the 126 farms in Antrim in 1850, the average farm included 107 acres of improved land and 26 acres of unimproved land. Not every farm reported sheep, bringing the town average to 11 and 30 pounds of wool sheep per farm (U.S. Census Bureau 1850). In his 1880 history, Rev. Cochrane indicates that the western portion of Antrim was largely devoted to pasture, with sheep being the primary livestock (Cochrane 1880:300-301). The total number of farms reported in Stoddard in 1850 was 125, with the average farm including 128 acres of cleared or improved land and 51 acres of unimproved land. Given the growth of textile mills in this period, farmers within the hillier portions of the project area raised large flocks of sheep for wool sales between 1820 and 1860. In 1850, the number of sheep reported per farm in Stoddard was 59, and the pounds of wool were 116 (U.S. Census Bureau 1850).

With regard to crop cultivation, Antrim reported much higher returns in the categories of bushels of corn, rye, and oats in comparison to Stoddard, which grew greater amounts of wheat, barley, and potatoes. The significantly higher amounts of corn raised in Antrim correspond to higher rates of return for dairy products; the totals reported in 1850 included 318 pounds of butter and 96 pounds of cheese per farm. In comparison, Stoddard reported 280 pounds of butter and 82 pounds of cheese per farm. The forested elevations of Stoddard are reflected in the 95 pounds of maple sugar reported per farm in comparison to the 16 pounds per farm reported in Antrim (U.S. Census Bureau 1850).

Reflective of the importance of agriculture, the Stoddard Agricultural Association held a fair in 1851 to promote and award agricultural pursuits. Awards were given to oxen, bulls, sheep, swine, horses, field crops, butter, cheese, and home domestics (Antrim History Committee 1977:159-160).

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Another prominent agrarian-related enterprise of this period was droving. Farmers would take cattle, horses, and sheep from towns as far away as Massachusetts and drive them to large tracks of hilly land for summer grazing and return them in the fall in exchange for a fee (Antrim History Committee 1977: 156). This was an especially common practice in hilly Stoddard and the western portion of Antrim (Cochrane 1880:330).

### Industry

In 1828, a small cotton mill was constructed by Imla Wright along Great Brook at the corner of Old Hancock and Gregg Lake roads in what was to become the location of the Village of Clinton. Incorporated as the Clinton Company in 1831, the company was forced out of business by 1841, unable to compete with larger amounts of water power available in cities along the Merrimack River and advances in production technology. The cotton mill was subsequently used to manufacture furniture and was rebuilt two times before it burned for the final time in 1918 (Hurlin n.d.:3-4).

Ten establishments, largely located along the south side of Clinton Road on the Great Brook, were involved in the production of lumber, grains, shingles, cider, hats, furniture, window shades, coffins, and other goods, as well as blacksmithing and wheelwrighting (Hamil n.d.). Given the large number of factories producing wood by-products, this was an active time of logging in the project area, an enterprise that involved the operation of watermills or steam mills and saw gangs.

Among the village entrepreneurs in North Branch at this time were John Gardiner Flint, Jr., and his brother. Both men were Antrim natives engaged in the manufacture of shoe pegs and woodenware near the site of the first sawmills along the North Branch River (Chace 1858).

### **Glass Manufacturing**

Between 1842 and 1873, Stoddard was a center of glass manufacturing, with its products serving as a major industry for the state. At least five different firms operated at least three glass factories during this period, employing hundreds of residents and providing the major economic enterprise for Stoddard during the mid-nineteenth century (Historical Society of Cheshire County website, accessed November 12, 2011).

The first glass factory began in 1842, when Joseph "Old Bottle" Foster left his position as the chief glassblower at the Marlboro Street Factory in Keene, buying the glass bottle business and moving it 15 miles northeast to Stoddard. The town's abundant forests provided the necessary fuel for the 1,200-degree Fahrenheit temperatures needed to melt sand into glass. In addition, Stoddard also had access to clear, fine sand (Fox 1974:137-140). Stoddard's sand, largely supplied by Chris Robb's sand bank located on the south side of present-day Route 9, contained the right amount of manganese for producing the greens and blues of blown glass and the proper proportion of oxide of gold for producing amber-colored products (NHDHR n.d.). Foster established his South Stoddard Glass Company near the present-day intersection of Routes 9 and 123 in South Stoddard Village. The factory primarily produced window glass and bottles; however, within several years, Foster's first glass factory failed due to insufficient capital (Irwin 1928:95).

A second glass factory in Stoddard was established at Mill Village in 1846, northwest of the project area (Fox 1974:140).

The third glass factory was begun at South Stoddard Village in 1850 by five stockholders of the South Stoddard Glass Manufacturing Company who erected a glasshouse and other buildings, including a

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warehouse, under operation on January 1, 1852. The factory was renamed the South Stoddard Glass Company in the 1850s and proved to be the most successful enterprise of its type in Stoddard, employing 500 laborers at the height of its production (Fox 1974:143-144).

Stoddard's prosperity and livelihood as a glass manufacturing center was short lived; several factors led to the demise of its glass industry in the early 1870s. Stoddard's glass factories provided most of the mineral water bottles for the High Rock, Congress, and other springs at Saratoga, New York; however, the Civil War deterred southern investment, which provided the chief source of income for Saratoga's mineral springs development (NHDHR n.d.). Furthermore, other manufacturers had mastered the chemistry needed to create clear glass in quantity; gas and coal were now viable fuels for glassworks, eliminating the need for nearby forests; and improvements in mechanical manufacturing techniques made hand-blown glass, such as that produced in Stoddard, economically unviable. The silica in Stoddard's sand prevented its use in making clear glass, which was in high demand after it became viable for bottles and glassware following the Civil War.

### Impact of the Railroad, 1870-1900

The commencement of operations along the Peterborough & Hillsborough Railroad in 1878 transformed the town of Antrim from a primarily agrarian way of life to one that opened many new markets to its residents. The population of the rural towns experienced different shifts during this time, as indicated by their proximity to transportation. Antrim grew from the 1,172 persons reported in 1880 to 1,248 persons reported in 1890. Conversely, those towns that were bypassed by the railroad, including Stoddard in Cheshire County, continued to suffer a decline in population. Stoddard, suffering the effects of the fall of the glass industry and distance from the nearest railroad station in Hillsborough Bridge, saw its population decline from 553 persons in 1880 to 400 persons in 1890 (New Hampshire Data Library 1880-1890).

The project area's rural economy underwent drastic changes during the last half of the nineteenth century. After the Civil War, farm production began a steady decline, as the industrial revolution expanded. Many Civil War veterans ventured west, abandoning the rocky and hilly terrain of New Hampshire and lured by the promise of rich and fertile lands in the Midwest. In addition, the great manufacturing cities of Concord, Manchester, and Nashua offered assured wages, specified working hours, and the fellowship of other workers in an urban environment. By 1870, New Hampshire included a workforce of 120,000, of whom 46,500 were engaged in manufacturing, a number that equaled those working in agriculture. The distance from railroads and the natural disintegration of the soil due to frosts, heat, and water led to the depreciation of many farmlands during this period. An 1897 history of Stoddard states that more than one-third of the land that had been inhabited in the 1850s had been abandoned under the ownership of non-residents, who were allowing the land to revert to pasture (Gould 1897: 24).

### Villages

Clinton Village continued to be occupied by industry in the second half of the nineteenth century and into the mid-twentieth century, although it was on the decline by this time. The village never had a school or a church, as residents attended institutions in Antrim Center. The Clinton Store first opened in 1873 and continued in operation until the late twentieth century (Metcalf 1902:345; Nichols 2000:1,3; Hurlin n.d.:5-7; Antrim Historical Society 1997:6).

Around this time, as new mills began opening along Great Brook in Antrim South, townspeople began relocating from Antrim Center so they could live closer to their workplaces. After locating to the

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southern village, members of the Presbyterian congregation did not want to travel up the hill to Antrim Center. Disagreement over the construction of a second church in Antrim South ensued as there was not sufficient population in Antrim to support two churches of the same denomination. As a result, the brick church in Antrim Center was demolished in 1896. The remaining church members constructed a stone and frame church in 1897 called the First Congregational Church of Antrim. The church was the social center of the community from 1910 to 1940, and it remained in service until lack of membership resulted in its decommissioning in the early 1970s (MacLachlin 2002; Antrim Historical Society 1997:24).

The Town Hall at Antrim Center served until 1894, when a new brick town hall was constructed in Antrim South. After that time, the building was purchased by the Grange and used as a meeting hall. By the late-nineteenth century, the harness shop and store no longer occupied buildings in Antrim Center. A few of the dwellings in the village were purchased by summer boarders who occupied them in the early twentieth century (Antrim Historical Society 1997:vii).

By the late-nineteenth century, Antrim South was the cultural, religious, and political center of Antrim, with a number of major employers such as the Silk Mill and Goodell Shops. Churches, stores, and professional services and the homes of the most affluent individuals of the town were located in this area. Further contributing to its growth, Antrim South gained electricity in 1892 due to the efforts of local resident and then-New Hampshire Governor David H. Goodell. The electricity was generated by a plant in Bennington, which also supplied power to Clinton and Antrim Center. When demand for electricity increased in the early twentieth century, a new generating plant was constructed at Steel Pond below the village of North Branch in 1909; this facility continues to supply power today (Antrim Historical Society 1997:vii). Consolidation of the local schools into one main school in Antrim South began in the early twentieth century and continued until the closing of the North Branch school in 1946 (Antrim Historical Society 1997:80).

The 1892 map shows the thriving complex of the Stoddard Lumber Company to the northwest of the village. By this time, the village included a post office and school (present-day location of ADM-STO-009). No visible traces of the former Stoddard Lumber Company, which included a shingle mill, sawmill, store house, several stables, and worker housing, were identified during the field survey (Hurd 1892).

## Transportation

Upon its completion in 1878, the Peterborough & Hillsborough Railroad connected Peterborough with the Contoocook River Railroad (renamed as such in 1856) in Hillsborough (Brown 1921:399-400). The 18-mile long line passed through the villages of Hillsborough, Antrim (called Antrim Station but actually in Bennington), and Hancock (New Hampshire Railroad Commissioners 1887:57). Eventually the two railroads, located east of the project area, were acquired by the Boston & Maine Railroad, which controlled all but 52 miles of New Hampshire's 1,174 miles of commercial track by 1905 (Wallace and Mausolf 2001:12). In the 1890s, the Boston & Maine Railroad had four trains stopping at Antrim Station.

The railroad stimulated growth in and along those villages located on pathways between the major cities; these villages and surrounding areas provided labor, food, and raw materials to the cities. Thus, while Antrim and Hillsborough prospered due to their railroad accessibility, the towns of Nelson and Stoddard witnessed a further decline in population during this time (New Hampshire Railroad Commissioners 1894).

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### Agriculture

Between the time of the 1850 and 1880 agricultural census returns, the number of farms in Antrim increased, while the overall size of the average farm remained nearly the same. Overall, the returns reported in 1850 and 1880 were either very similar or there was a decrease in levels of production; the cash value of the average farm and value of farm machinery did not markedly increase, and livestock numbers reported declines for all animals, most significantly sheep. Of exception were sizeable increases in maple sugar and orchard products in both Antrim and Stoddard. Christopher Robb, owner of the Stoddard Lumber Company, reported 8,000 pounds of maple sugar from the 1,000 acres of timberland under his ownership. Nearly every farm in Antrim and Stoddard reported poultry in the 1880 return, with an average of 12 chickens per farm. There was also some limited production of liquid milk reported in Antrim, but not Stoddard (U.S. Census Bureau 1880).

Due to statewide declines in agricultural production, the Board of Agriculture and the Grange were established in the 1870s to address the loss of farm income. New initiatives were spawned from these formations, such as the organization of creameries to efficiently produce butter and cheese and the upsurge of raising poultry for meat and egg production. The hilly terrain of the project area also contributed to the rise in dairy farming during this period. In 1881, the development of the refrigerated railroad car resulted in the swifter transport of milk to the Boston market. To supplement leveling and declining farm income, New Hampshire farmers opened up their properties to summer boarders that traveled from the city, thereby contributing to a new market for milk, eggs, vegetables, and fruits, which was augmented by the expanding hotel and summer resort trade (Wallace n.d.:2).

Summer boarding in Antrim started in the mid-nineteenth century and continued until the early twentieth century. In 1852, Eden Bass began taking in summer boarders on his farm on Clinton Road, constructing a large addition to accommodate visitors in 1878. Documentation from the late nineteenth century shows Antrim's summer lodging options increasing from four boarding houses and one hotel in 1880, to six houses and one hotel in 1885, to 17 boarding houses and one hotel in 1892 (State Board of Agriculture 1892).

Specifically, Gregg Lake was promoted as a summer tourist destination in the 1892 *Lakes and Summer Resorts in New Hampshire*, a publication issued by the State Board of Agriculture. Therein called Gregg's Pond, the publication noted it could be reached by the Concord Division of the Boston & Maine Railroad via the Village of Antrim. The publication promoted the black bass fishing as well as the view from Holt's Hill overlooking the lake. Within the Town of Antrim, the publication noted four properties serving as hotel or boarding houses with a post office box in North Branch and 12 with a post office box of Antrim. The names of the establishments (Lake House, Tip-Top House, Mountainside Farm, etc.) alluded to a beautiful setting (State Board of Agriculture 1892:10).

### Industry

Factories in the project area dating to this period continued to process grain, with a larger focus on the production of consumer goods including glass, clothing, and wooden wares. Industry along the North Branch and Great Brook had nearly ceased by this time due to the advent of electrical power, which negated the use of the waterways as well as lack of access to the railroad and lack of capital for rebuilding.

The Abbott Factory was the main employer in Clinton and the surrounding area during this period. The John G. Abbott Estate, maker of cradles, cribs, wire mattresses, and other bedroom furniture, became the

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principal industry for the village and its surrounding area in the late 1800s. The Abbott family enterprise operated over 125 years until it was destroyed by fire in 1960 (Hurlin n.d.: 11).

By far the largest operation in the project area was the Stoddard Lumber Company, which was incorporated in 1884 and employed half of those individuals that could be taxed in 1885. By the time of his death in 1894, principal Christopher Robb owned or leased over 12,000 acres of land in Stoddard, Washington, Nelson, and Antrim (Author unknown n.d.).

Between 1870 and 1900, the village of Antrim South, just south of the project area, grew to include more than 200 dwellings and tenements, which were supported by numerous shops and stores, three churches, a school, and the brick town hall (Metcalf 1902:8). The Goodell Company incorporated in 1875 in Antrim South and contributed to the growth and prosperity of Antrim Town. The company included an extensive plant near Antrim Village as well as an additional plant with its own hydroelectric power in Bennington. The company's workforce of over 300 persons manufactured over several hundred different styles of cutlery, including apple parers and vegetable mashers (Metcalf 1902:355-356).

### Recreation, 1900-1930

Antrim's population suffered a small decline from 1,363 persons reported in 1900, to 1,052 reported in 1920; however, by 1930, the population had risen to 1,254 persons (New Hampshire Data Library 1900-1920; 1890-1930). Stoddard's population fell from 367 in 1900, to 257 in 1910, to 213 in 1920, and to only 113 in 1930 (New Hampshire Data Library 1900-1920; 1890-1930).

The flood of 1936 damaged the Franklin Pierce Highway and prompted the Boston & Maine Railroad to cease service to Antrim altogether. The closure of the railroad line did not have a significant effect, as the number of passenger trains through the town had been in decline for several years. While the ease of rail travel initially lured many visitors to the lakes and ponds within the project area, the growth of recreation was greatest during this period, concurrent with the widespread use of the automobile and associated improvements to local roadways. The same year as the flood, the Waumbek, a summer boarding house on Gregg Lake, burned down. It was rebuilt, but the popularity of the boarding house was never the same, as small cottages along the lake were becoming the preference of summer visitors during this period (Antrim History Committee 1974).

### Villages

A village-wide fire in Clinton in 1908 destroyed several buildings, including the store that was rebuilt. A creamery was established in Clinton in 1909 and operated for seven short years (Hurlin n.d.:11). Industries in the village succumbed to fire, cost of transportation, or lack of electrical power during the twentieth century, and the last industry to occupy the village was the former Paige's Reel Shop, which burned in 1970 and then relocated to the Village of Antrim (Metcalf 1902:345; Nichols 2000:1, 3; Hurlin n.d.:5-7; Antrim Historical Society 1997:6).

A great blow to North Branch was the fire of 1888 that destroyed a significant portion of the village. While some dwellings were reconstructed, industry never returned to the site. By 1900, only three mills were in operation in North Branch, and the blacksmith shop had been relocated to Antrim South. In 1913, the original *circa*-1820 brick school (District Number 3) was sold to Wyman Kneeland Flint for removal to his estate on the north side of the river. A new school was erected on the south side of the river. A Methodist church was constructed in the community at the turn of the century and served the surrounding community until 1942 (Antrim Historical Society 1997:viii, 29).

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Antrim Center's location on a rise and commanding view of the surrounding farms and mountains contributed to the construction of several summer houses within the village during this period. The post offices that served Antrim Center and Clinton closed in 1900 (Antrim History Committee 1974:53). Based on the resources that remain in South Stoddard today, the village was in decline by this time.

### Transportation

Between 1915 and 1919, Route 9 was established as a cross-state route and ultimately developed as a multi-state route connecting New York and Maine. The route traverses the project area, providing a critical link between Keene and Concord that overlaps with Route 202 to the east of the project area in Hillsborough (Driemeyer 2008:4). The roadway also encouraged the growth of the area's tourism industry, bringing urbanites from nearby and regional cities seeking respite, recreation, and relaxation amidst the rugged and picturesque landscape.

In 1930, a new section of the Route 9/Franklin Pierce Highway, then known as the Keene Concord Highway, was constructed in Antrim, shifting the route of the roadway to the south of North Branch village and north of Stoddard Swamp. The purpose of the new route was to provide the closest and swiftest connection between the cities of Keene and Concord. The state recognized the tourism dollars the highway would generate and included rest stops. Within the project area, this included a way station as well as a bypass of the 1852 stone arch bridge with picnicking area. A notable feature of the roadway's construction was an arrangement made between the Public Service Company (PSC) of New Hampshire and the Department of Transportation. The PSC desired to flood a portion of the old roadway through Stoddard Swamp for a hydroelectric project. This resulted in the relocation of approximately 4 miles of roadway through an area known as Cherry Valley in the vicinity of the former holdings of the Stoddard Lumber Company, bypassing the Old Keene Concord Road east of South Stoddard (Author unknown 1930:3-4). While the portion of the roadway between Salmon Brook Road and Route 123 was reconstructed around the swamp, it does not appear the planned hydroelectric project was ever constructed.

### Water Power

A 1919 publication of the Commission on Water Conservation and Water Power identified the need to improve water storage and power development in the state. The study noted that little use was made of water power along the North Branch River, and the few mills that remained operated intermittently. The report suggested construction of a large storage pond a short distance from North Brach village (Commission on Water Conservation and Water Power 1919:83).

To provide electricity to area homes, the Hillsboro Electric Light and Power Company was under operation as a private company by 1894, with a power house located on the Contoocook River between Hillsborough and Henniker. To meet growing demand and complaints that the electricity failed when the water in the Contoocook River was low, in 1925 work began on the Jackman Dam, a New Hampshire Electric Power Company project. The new dam was constructed under the direction of Vaughn Engineers and created an artificial lake about 2 miles long and 1 mile across (Baldwin 1963:33, 142-145). The reservoir was renamed Franklin Pierce Lake in 1935, and a penstock was erected along the course of the river (Public Service of New Hampshire website, accessed November 7, 2011).

Robb Reservoir was created in 1912, when the former mill pond associated with the enterprises of Christopher Robb at South Stoddard was rebuilt. The dam was again rebuilt in the 1950s by the New Hampshire Fish and Game as part of plans to provide habitat for waterfowl (Froling 2006).

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#### Agriculture

Agriculture persisted in the project area in the early twentieth century, as several dairy barns from this period were identified within the project area. The Granite State Dairyman's Association was formed in 1884, and the state agricultural college, which promoted dairying practices, was formed in the late nineteenth century (New Hampshire Granite State Dairy Promotion, accessed December 12, 2011).

Despite continued agricultural operations within the project area, many farms unable to compete with areas of the country more conducive to agricultural production and marketing were discontinued from agricultural use and allowed to revert to timber. With the advent of portable sawmills fueled by steam, a number of farms began selling lumber in areas previously inaccessible to sawmills (Dussault 1974:162-163).

The rapid abandonment of New Hampshire farms in the late nineteenth century spurred the New Hampshire Board of Agriculture to adopt a deliberate policy of attracting outside investment in real estate. In 1889, the Board published a *Price List of Abandoned Farms in New Hampshire*, followed in 1891, with *Secure a Home in New Hampshire—Where Comfort, Health and Prosperity Abound*. Between 1902 and 1916, the State also published its annual *New Hampshire Farms for Summer Homes*. The result of this promotion led to the conversion of formerly transient visitors to non-resident New Hampshire property owners. The motives mainly involved escape from larger cities, enjoyment of natural beauty and fresh air, privacy, an opportunity to indulge in local philanthropy, and, usually, the practice of agriculture in some way (Wenz and Garvin 1984). A number of abandoned farms in the project area were purchased by affluent urbanites who amassed large holdings of land.

#### The Flint Estate and the Rise of the Summer Home

The practice of creating summer estates in New Hampshire became commonplace among the wealthy by the early 1900s. Between 1913 and 1914, Wyman Flint transformed the two-story brick Flint dwelling and of its surroundings within North Branch village into the "epitome of the New Hampshire summer estate" (Wenz and Garvin 1984). Flint also purchased the neighboring properties, along with their buildings. In 1913, Flint acquired the old North Branch schoolhouse and moved it from the North Branch village in 1913. He subsequently constructed a large fieldstone wall to enclose his private domain (Wenz and Garvin 1984). Other examples of estates in the area include the Alabama and Henderson farms (Antrim Historical Society 1997:95).

### Summer Camps and Recreation

Although not nearly as large and profitable as the northern counties, a 1905 publication by the State Bureau of Labor indicated that there were some limited amounts of summer boarding in the project area. Hillsborough County reported \$718,900 invested in summer residences and cottages, with Antrim only accounting for \$1,900. A greater number of boarders arrived to Cheshire County, which offered more rugged forested terrain surrounding lakes and streams. The county reported \$1,781,775 in investments, with Stoddard accounting for \$33,450 (State Bureau of Labor 1905:1viii, 1x).

Gregg's Pond was rebuilt after its sale to the Antrim Water Power Company, greatly enlarging the body of water, which was renamed Gregg Lake in 1910, in the hopes of attracting non-resident owners and seasonal visitors. By the late nineteenth and early twentieth century, the focus of land use around the lake was no longer industry but was instead summer recreation, with a number of summer boarding houses and cottages constructed fronting the lake. This included White Birch Point, a collection of some 20 cottages on the east side of the lake overlooking the channel. Construction at White Birch Point began around 1912. There were also at least two camps, including Camp Sachem on the western shore

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(used by the Boy Scouts) and Camp Greggmere, later Birchmere, a girls' camp on the eastern shore. The lake was conveyed to the Town of Antrim in 1965, who subsequently established a public beach on the north side of the lake. (Antrim Historical Society 1997:75-79).

Just outside the project area, Greystone Lodge was erected on the top of Nahor Hill. Noted for its views, the sizeable lodge was in business until the 1940s and succumbed to fire in 1970 (Antrim Historical Society 1997:69). Another notable inn sat on a point overlooking Franklin Pierce Lake. The Breezy Point Inn operated from the 1920s into the 1980s. Based on the field survey, the inn was recently remodeled and the associated land was redeveloped to accommodate condos.

In 1917, two men from Boston, sponsored by the Young Men's Christian Union of Boston, established the first summer camp within the project area on Black Pond at the site of a former sawmill and logging operation outside of Windsor. The camp was used primarily for adults for summer sports and recreational activities, and was later developed into a full program for children, with a boys' camp situated at the Windsor Road bridge and outlet of Black Pond, and the girls' area, known as the "Art Colony," located back in the woods below Windsor Mountain. Just six years later, in 1923, the camp went bankrupt and was sold to Mr. and Mrs. Thomas Hines, Sr., who had been counselors at the camp for three years. Mr. Hines subsequently closed the girls' camp but continued to operate the boys' camp under the name the Windsor Mountain Boys Camp. By the end of World War II, the Hines accumulated a large camp area surrounding all of Black Pond, extending up over Windsor Mountain and encompassing Bagley Pond. In 1956, the Hines sold the Windsor Mountain Boys Camp and a large portion of the surrounding acreage to the Vingo Trust, a non-profit charitable organization, for the purposes of establishing a camp for boys with social adjustment problems. Camp Wediko has proven highly successful, undergoing numerous expansions of programs and buildings and is among the largest employers in Windsor (Windsor History Committee 1978:29-31; New Hampshire Economic and Labor Market Bureau website, accessed November 29, 2011).

### Conservation, 1930-Present

Despite a slight dip between 1900 and 1910, the population of Antrim continued to grow at a slow and steady pace through the mid-twentieth century. There was a significant increase between 1960 and 1970, partially attributable to the construction of Nathaniel Hawthorne College on the former Flint Estate. The college provided liberal arts studies with a focus on aviation and aeronautics until its closing in 1988 (Antrim Historical Society 1997:177-178; Antrim Master Plan 2010). Beginning in 1998, the property became associated with several non-profit educational and health-related programs offered by the international organization Maharishi Mahesh Yogi. Most recently, the property has served as the Maharishi Vedic Medical College and Regional Peace Palace and is currently for sale (Antrim Master Plan 2010).

The significant amount of new construction, as well as the steady growth of Antrim's population particularly during the second half of the twentieth century, may be attributable to the job opportunities made available in this area during the second half of the twentieth century. The Goodell and Abbott companies continued to employ hundreds of area residents. In addition, the New Hampshire Ball Bearing Company was established in Peterborough in 1946. In the 1950s, Eletropac, located in Peterborough, and Sylvania opened a plant in Hillsborough. Carlisle Lumber Restoration also established a facility along the south side of Route 9 in Stoddard. These factories opened up industrial employment opportunities that were accessible in a 15- to 30-minute drive from Antrim, turning the town into a bedroom community. An examination of statistics for Antrim and the surrounding towns show that over 70 percent of the town residents work outside of the community in 2010 (Antrim History

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Committee 1974:176; New Hampshire Economic and Labor Market Bureau website, accessed November 29, 2011).

A study conducted in 2000 revealed that 38 percent of the homes in Antrim were constructed prior to World War II; the rest post-date 1945. The study also noted a trend toward the conversion of seasonal houses into year-round homes; in 2000, the number of seasonal homes constituted approximately 18 percent of the housing stock in Antrim (Antrim Master Plan 2010). Conversely, 57 percent of the homes within Stoddard were seasonal in 2005 (Stoddard Master Plan 2005).

Following World War II, the Antrim schools were consolidated into one building in Antrim Village, resulting in the abandonment of the remaining district schools. Despite opposition related to a potential increase in local taxes, a new elementary school was completed by the 1950s. Due to the rising cost of education and a desire to maintain high standards, the Contoocook Valley Regional School District was created in 1968 and included Antrim and the nine surrounding towns, with students attending a high school in Antrim Village (Antrim History Committee 1974:287).

After the Second World War, farming continued to decline with the loss of the poultry and egg market and dairying (Stuart Wallace n.d.). Most of the farmland was allowed to revert to woodlands. During the course of the survey, there was little evidence of agricultural land use; the limited amount of open fields that remain appear to be used for hay production or pasture.

Many of those areas that were unsuitable for farming or occupation or were difficult to access came under conservation. Coinciding with the national conservation movement, efforts to create conversation areas for the protection and study of wildlife arose and evolved throughout this period. These efforts culminated in the protection of large areas of land in the southern and western portions of the project area. In the 1930s, Elsa Tudor Leland (later dePierrefeu) and others pushed for the establishment of a bird and animal conservation area around Willard Pond. This effort was prompted by the construction of a roadway that lead from the Forest Road (Route 123) in Hancock to Willard Pond (Antrim History Committee 1974:127). In 1967, Ms. dePierrefeu donated 650 acres on the pond to start a wildlife sanctuary. Today, the over-900-acre dePierrefeu-Willard Pond Wildlife Sanctuary is the largest New Hampshire Audubon property in New Hampshire and includes the 95-acre Willard Pond and Bald Mountain.

Another large nature preserve is located in the northeast corner of Antrim, adjoining Stoddard, known as the Loverens Mill Cedar Swamp Preserve. The preserve includes the original site of the Loveren mill and dam, as well as many other ruins. The over 1,200-acre preserve adjoins the 5,000-acre Pierce Reservation located in Stoddard and Windsor. The Charles L. Pierce Wildlife and Forest Reservation is a preserve under the operation of the Society for the Protection of New Hampshire Forest. Most of the land was a donation made in 1978 in honor of its namesake, a former teacher and historian (Antrim Bennington Lions Club 2009:14; Sinotte 2010). The Harris Center for Conservation Education, a public land trust, was formed in 1970 and offers public programs in environmental education using the region's conservation areas as a classroom. In 2005, concerns over open space conservation prompted the selectman of Antrim to appoint a special committee, which identified additional areas of priority for open space conservation (Antrim Master Plan 2010).

In addition, a number of wildlife management areas were established by the State of New Hampshire in and within the project area. Eva's Marsh Wildlife Management Area was established in 1961, and a water-control structure was built the following year. Carpenter's Marsh was acquired between 1970 and

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1976, and a dam was erected in 1978. Portions of both are located in Hancock in the project area and are used for the management of waterfowl (New Hampshire Fish and Game website, accessed November 25, 2011).

By 2005, over 66 percent of the total area of Stoddard was in some form of public or private conservation. More recently, the Trust for Public Lands purchased the 1,617-acre Robb Reservoir in Stoddard and is planning a conservation area south of Route 9 at the western end of the project area. A portion of this area was previously slated for redevelopment as a residential subdivision in the 1970s (Stoddard Master Plan 2005; Froling 2006).

An examination of state roadway maps from the 1940s reveals a number of sand and gravel operations in Antrim and Stoddard. Due to natural glaciation and geomorphologic processes, most of the sand and gravel deposits within Antrim were located near aquifers, including the North Branch and the Contoocook rivers (New Hampshire State Highway Department 1945).

As local population levels increased alongside levels of leisure time, there was a move to create public recreational opportunities. A public beach was created by the Town of Antrim at Gregg Lake in the 1930s. The 40-acre Manahan Park was established in the early 1960s on the west bank of the Franklin Pierce Lake, just outside the project area (Hazinga 2001:151).

While the northeastern portion of Antrim located in the vicinity of Routes 9 and 202 has started to experience an increase in commercial and residential developments, the portion of the town with the project area largely lacks commercial development; only a handful of commercial buildings exist today and includes a lumber flooring manufacturer, an auto repair facility, landscaping business, glass maker, and antique shop, most of which are located along Route 9. Overall, Antrim and Stoddard retain a small-town and rural feel, with recent development limited to new residential construction located along existing roadways.

With the twentieth-century decline of agriculture, drop in resident population numbers, and an increase in non-resident land ownership as well as land conservation efforts, most of the landscape within the project area today is wooded, consisting of pine, hemlock, and hardwoods. Large areas of woodland and numerous smaller tracts are owned by non-residents seeking recreational and hunting and fishing opportunities. In addition, there are a number of original roads or portions of roads that have been closed or converted to private roadways or public trails due to their lack of use.

## **20. Applicable NHDHR Historic Context(s)**

The following contexts may apply:

- 18. Locally capitalized textile mills in New Hampshire, 1720-1920
- 22. Logging, lumbering, and sawmills
- 23. Wood products mills and shops in New Hampshire
- 25. Large-scale furniture production
- 26. Small-scale furniture (cabinet) production
- 42. Glassmaking, 1780-1920
- 51. Mixed agriculture and the family farm, 1630-present
- 53. Grain farming and gristmilling, 1650-present

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- 54. Orchards and cidering, 1650-present
- 55. Maple sugar and syrup production, 1650-present
- 56. Local-scale dairy farming, 1800-present
- 58. The sheep craze, 1820-1870
- 61. Cattle raising and summer pasturing, ca. 1850-present
- 63. Creamery operations, 1860-present
- 64. Poultry farming, 1870-present
- 65. Dairy farming for urban markets, 1880-1940
- 72. Boarding house tourism
- 73. Summer and vacation home tourism
- 75. Summer camps for children, 1890-present
- 78. Outdoor recreation in New Hampshire
- 86. The railroads in NH, 1842-1960
- 88. Automobile highways and culture, 1900-present
- 92. Hydropower in New Hampshire
- 104. Higher education, 1770-present
- 118. The grange in New Hampshire, 1870-present
- 125. The Scots Irish and Ulster Scots in New Hampshire
- 130. Commerce, industry in New Hampshire villages and town centers 1630-present
- 135. The land conservation movement in New Hampshire

136. Public and private cemeteries and burials

## 21. Architectural Description and Comparative Evaluation

To provide an understanding of how the project area's landscape has evolved over time, this section of the report begins with a summary of land use from the time of settlement to the present day. Following the overview, information is organized by time periods outlined in the historic narrative and identified relevant themes. While this section does not address every resource located within the project area, it identifies key resources, both extant and lost, with a focus on those resources that have the potential to be affected by the project through changes in setting.

The numbers that appear after the mention of a resource within this section of the report are survey numbers assigned during the field survey or numbers previously assigned by the NHDHR. Photograph numbers are also noted. The survey numbers and photograph views are shown on the attached sketch maps at the beginning of this form. An oversized map showing the project area, areas within the viewshed, and National Register-listed and eligible resources as well as resources recommended for additional survey is included at the end of this document.

## **Overview of Land Use**

The land use within the project area historically and currently follows the same patterns as underlying natural features. Areas of level or gently sloping land, well-drained soils, and nearby water sources provided the most suitable land for initial agricultural land use and later residential development. Steep slopes, poorly drained or rocky soils, and wetland areas were usually left undeveloped or were initially occupied and later abandoned. Many of those areas that were unsuitable for occupation or difficult to access are now under conservation.

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More specifically, in the northern and eastern sections of the project along the North Branch and Great Brook, there are relatively flat areas where farms were cultivated. Villages were established along prominent transportation routes, often in proximity to industry that was powered by the waterways. At the eastern end of the project area, largely undeveloped, steeply sloped areas are located east of Gregg Lake along either side of Route 31 and extend to the south shore of the Franklin Pierce Lake, where they meet Patten Hill, Holt's Hill, Meetinghouse Hill. Bacon Ledge, Holmes Hill, Windsor Mountain, and Campbell Mountain are areas on the north side of Route 9 that have largely served as destinations for recreation rather than areas of occupation. Finally, the western and southern portions of the project area contain a series of mountains or hills (Bald Mountain, Robb Mountain, Willard Mountain, and Tuttle Hill) that form a ridgeline that extends northward to Route 9 and the North Branch River. The 1892 state map illustrates no human occupation in these areas, as shown in the attached figures.

Given the lack of available level land, some sloped sites were settled and occupied by farms in the eighteenth and nineteenth centuries. Numerous former roadways that connected farmsteads and mills in these areas have been abandoned, became public trails, or, in some cases, became private drives that now lead to twentieth-century residential dwellings. Examples of abandoned or partially abandoned roadways in the northern and eastern portions of the project area include routes that historically ran along the south side and crossed over Windsor Mountain (Liberty Farm Road, Loveren Mill Road, Stacy Hill Road); Meetinghouse Hill Road; Cemetery Road; Old Reed Carr Road; Brackett Road; Holts Hill Road; Brown Road; and Whitton Road. Within the southern and western portions of the study area, Brimstone Road, Old Antrim Road (Hancock and Stoddard sections), and Keene Concord Road are not as extensive today as they were in the nineteenth century. Many of the roadways through the project area remain unpaved and under municipal maintenance; more than half of the roadways under the maintenance of Antrim and Stoddard are dirt or gravel (Antrim Master Plan 2010 and Stoddard Master Plan 2005). Reflective of local residents' appreciation of stone wall-lined dirt and back roads, a number of roads have been designated as scenic by the Town of Antrim Master Plan 2010).

The major traffic arteries through the project area are Route 9, which runs along the North Branch just south of North Branch village and through South Stoddard; Route 31, which runs north-south through the villages of Antrim South, Clinton, and Antrim Center to connect Routes 9 and 202; and Route 123, which runs southeast-northwest and connects Hancock and South Stoddard. Route 202 runs north-south to the east of the project area, is the major thoroughfare in the vicinity, and is the location of significant recent commercial development. These roadways connect the area to surrounding communities and have encouraged twentieth-century residential growth and the use of the project area as a bedroom community.

Within the northern portion of the project area, twentieth-century improvements related to transportation and hydroelectricity have had a significant impact on the landscape. Route 9 was built between 1915 and 1919, along the North Branch River on portions of a nineteenth-century road that ran between Keene and Concord. Abandoned portions of the old road are visible in several locations. The portion of the roadway between Salmon Brook Road and Route 123 was rerouted to the northwest in 1930 to accommodate a planned hydroelectric project that was never built, resulting in further abandonment of the former route (present-day Keene Concord Road).

The creation of the Jackman Reservoir at the northeastern corner of the project area in 1925 erased farmland, some dwellings, and portions of the Keene Concord Road, as well as a north-south roadway (a continuation of present-day Pierce Lake Road to the south). In addition, the reservoir, later renamed Franklin Pierce Lake, provided recreational opportunities and encouraged the growth of seasonal

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housing and related services. In recent years, some seasonal housing units have been converted to yearround housing, often resulting in significant alterations and updates.

The rugged natural beauty of the project area and other large bodies of water, as well as access to the railroad, encouraged recreational use and the construction of seasonal housing around Gregg Pond in the late nineteenth and early twentieth centuries. The designation of the former mill pond was changed to a lake in 1910, following an expansion to accommodate water power for the purpose of promoting area recreation in the face of declining agricultural and industrial revenues. Black Pond, another former mill pond, became the site of several successful children's camps in the mid-twentieth century that have continued operation to the present, resulting in significant loss of integrity. Willard Pond, at the southern end of the project area, is now part of a nature sanctuary that is part of a large, sparsely occupied, contiguous natural area under conservation at the southern and western portions of the project area.

### Early Settlement and Agricultural and Industrial Development, 1740-1830

#### **Residential Resources**

While settlement of the area dates as early as 1740, no buildings from the beginning of this period were clearly identified, as the survey was confined to exterior examinations and a review of related secondary resources. These earliest of structures would likely have been hewn log dwellings. It is possible these earlier log dwellings were incorporated into later structures, possibly serving as a kitchen ell for a later dwelling.

Prior to the mid-nineteenth century, houses were largely built of heavy timber frame covered at the exterior with horizontal clapboards likely sawn in local mills. Until the early nineteenth century, the fireplace chimney was contained within the dwelling, often centered or offset from the center of the ridgeline. The most common dwelling type from this period identified within the project area was the Cape Cod house. This dwelling is identified by its one-and-one-half-story height; side-gabled roof; large central or off-set central chimney; and windows with six-over-nine, nine-over-six, 12-over-eight, and eight-over-eight double-hung sash. The Cape Cod dwellings in the project area generally did not include stylistic detailing beyond simple crown molding and/or a transom window above the front entrance, a detail typical of the Georgian style. Large slabs of granite are the predominant foundation material for dwellings from this time period. Examples of the Cape Cod form in the project area include 224 Craig Road (ADM-ANT-041, Photograph 1) and 1 Whitton Road (ADM-ANT-042, Photograph 2).

Double-pile side-hall versions of the central chimney form, called a half-house, include 184 Craig Road (ADM-ANT-038, Photograph 3).

Two-story versions of the central chimney house featuring a side-gabled roof, five-bay width, and central entrance were far less common in the project area. Examples include the dwelling at the northwest corner of Davison Drive and Clinton Road (1780) (ADM-ANT-024, Photograph 4) and the former parsonage at 226 Clinton Road (ADM-ANT-044, Photograph 5). Generally, the early two-story houses were built by only the wealthiest occupants. Therefore, the houses that remain retain greater stylistic detailing in the form of classical door surrounds, which are an architectural detail common to the Georgian style.

The dwelling at the northwest corner of Davison Drive and Clinton Road (ADM-ANT-024, Photograph 4) was associated with the Worthleys and became part of the Mescilbrooks Farm in 1915 (Antrim Historical Society 1997). The house has been altered by the replacement of the original multi-light sash with two-over-two windows, and the door at the central entrance appears to be a later addition. Beyond

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an attached garage, the property does not retain any obvious outbuildings associated with its productive use as a farm.

After 1800, particularly among the high-style houses of the project area, the large central chimney was replaced by smaller chimneys flanking a central hall or moved to the interior of the gable ends. Examples of the two-story form with chimneys flanking the hall or moved to the end walls include the Franklin Pierce House (1804; HILO0477, Photograph 6) and the Pierce McNeil Elijah Read House (ca. 1811; HILO0262, Photograph 7).

The Honorable Jacob Tuttle built a two-story house along North Branch Road in 1818 that exemplifies a form associated with the Federal style, including a shallow hipped roof with end chimneys at presentday 121 Keene Road (ADM-ANT-0010, Photographs 8 and 9). The Jacob Tuttle House has brick walls at the gable ends with frame at the side gable or façade. Brick-ended framed houses dating from the early 1800s were not widely built and are relatively rare within the region (Garvin 1997:3). One other example of a two-story brick-end house from this period was identified within the project area: the Bass Farm (1808) at 212 Clinton Road (ADM-ANT-029, Photographs 10 and 11), which has a side gable roof with pedimented cornice at the brick ends.

Two one-and-one-half story examples of brick end dwellings were identified in the project area at 444 Clinton Road (ADM-ANT-036, Photograph 12) and the Loomis House along Old North Branch Road (ADM-ANT-008, Photograph 13). Both dwellings feature a small window in the knee wall above the multi-light transom and paneled door of the central entrance, a feature common to the Greek Revival style, which was constructed after 1830.

The connected farmhouse form arose during the early nineteenth century and continued into the early twentieth century. The form features connected farm buildings joined together in a continuous structure. Among the complex are the dwelling, little house or kitchen (often with a woodshed), back house (a multi-purpose space, sometimes used as a wagon shed and containing the privy), and barn (used to house and feed livestock). It appears that most examples of the form are a compilation of different periods of construction. There are multiple examples of the form within the project area, including the Bass Farm (1808) at 212 Clinton Road (ADM-ANT-029, Photographs 10 and 11); the Franklin Pierce House (1804; HILO0477, Photograph 6); and the Pierce McNeil Elijah Read House (ca. 1811; HILO0262, Photograph 7). These connected farmhouses retain early-nineteenth-century dwellings with later gable-front barns.

#### Agricultural Resources

As agriculture was the primary pursuit during this period, an eighteenth-century agrarian building within the project area would be an expected property type. One possible eighteenth-century English barn measuring three bays wide with a central wagon entrance at the side-gable facade, a form commonly erected in the eighteenth century, was identified at 19 Congreve Road (ADM-ANT-045, Photograph 14).

Two town pounds, which were confinement areas where animals were held until their owners could claim them, were identified during the survey. A plaque placed by the NHDHR indicates the Antrim Town Pound at the intersection of Old Pound and Old Carr roads (ADM-ANT-031) was built in 1817 and restored in 1943.

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### Industrial Resources

Among the earliest types of industry in the project area were the mills that processed timbers and agricultural products of area farms. A number of mills were constructed adjacent to the North Branch during this period, as the Leading Road and Old North Branch Road connected this area to local farms by 1777. A single operation was established on Great Brook in 1793. As conveyed in the historical narrative, all of the mills from this period of time have been removed from the landscape due to numerous factors, including fire, age, and/or site reuse.

### Villages

Villages include visibly recognizable clusters of associated buildings that are unplanned or minimally planned with a variety of functions that arose based on proximity to transportation, services, and local population needs. During this period, the main village within the project area was on Meetinghouse Hill within Antrim. This village, located on Leading Road, consisted of a meetinghouse that served as a church and town hall, as well as several dwellings and a cemetery. Today, the only evidence of this former community is the cemetery, some cellar holes, and a marker noting the location of the original meetinghouse.

The Meetinghouse Cemetery is notable as an early remnant of the settlement period of Antrim Township and includes the graves of many local soldiers that served in the Revolutionary War (ADM-ANT-030, Photographs 15 and 16). The cemetery is enclosed by a stone wall and stone pillars and is accessible via a decorative iron gate erected by the NHDHR in 1914. The pillars feature a dedication plaque that contains the names of Revolutionary War soldiers buried in the cemetery. The cemetery contains mostly slate markers, several of which feature motifs of urns and willow. Granite markers are less common. To the south, a granite boulder with a plaque, placed by the Antrim Improvement Society in 1907, marks the location of the first meetinghouse.

A community was present at North Branch by the end of this period and was largely made up of mills and worker housing. Today, only one dwelling within the village, the Jacob Tuttle House (ADM-ANT-010, Photograph 8), remains.

The core of the Village of Antrim Center was also established by the end of this period. Approximately 30 percent of the buildings pre-date 1830, including the dwelling at 1 Whitton Road (ADM-ANT-042, Photograph 2), the parsonage associated with the Presbyterian Church (ADM-ANT-044, Photograph 5), and the Bass Farm (ADM-ANT-029, Photographs 10 and 11).

During this period of settlement and extensive population growth, stores, meetinghouses, and schools were constructed to serve the townspeople. Beyond the former brick school at North Branch, which was moved to the Flint Estate (ANT0001, Photograph 17) and preserved by Wyman Kneeland Flint, none of these early resource types was identified within the project area. It is possible an early service building could be incorporated within a structure that now serves a different use, such as the integration of the 1785 Antrim Meetinghouse into the Grange Hall.

### Agricultural and Industrial Production, 1830-1870

### Residential Resources

Although Antrim and Stoddard experienced population declines during this period, some construction of residential dwellings was undertaken, especially in those villages where industry grew. The central chimney Cape Cod form continued to be constructed during this period. A later example of the form includes the dwelling at 19 Weston Road (ADM-HAN-002, Photographs 18 and 19).

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One-and-one-half-story, side-gable dwellings with details of the Greek Revival style, including cornice returns, wide bands of trim at the eaves, and corner boards, were constructed at the beginning of this period. The entry door is often adorned with a transom and/or flanking sidelights; less commonly, the entrance is recessed. Examples of dwellings of this style include 149 Clinton Road (ADM-ANT-022, Photograph 20) and 131 Clinton Road (ADM-ANT-022, Photograph 21). The dwelling at 131 Clinton Road is still recognizable despite the replacement of the front porch; the corner pilasters typical of the style are visible behind turned posts. Another example is 165 Smith Road (ADM-ANT-051, Photograph 22).

A few of the one-and-one-half-story side-gabled examples feature knee-wall frames above the first story to enable the addition of a Greek entablature below the eaves or sometimes small windows above the first story. A dwelling on the east side of Reed Carr Road, part of a connected farmhouse, features small windows beneath the entablature, a classic porch at the entrance, six-over-six windows, and a sunburst at the gable (ADM-ANT-033, Photographs 23 and 24). This is among the more elaborate examples of the style within the project area.

Two-story examples of the Greek Revival style within the project area include the dwellings at 5 North Branch Road (ADM-ANT-012, Photograph 25) and 125 Keene Road (ADM-ANT-004, Photograph 26). Both feature classical surrounds and sidelights at the door as well as corner boards. The dwelling at 5 North Branch Road retains some six-over-six windows, while the windows of the dwelling at 125 Keene Road are one-over-one vinyl replacements.

By the 1840s, gable-front houses with side-hall entrances began to appear, a form that persisted into the twentieth century. Varying in height from one and one-half to two stories, the form was evocative of the classic Greek Temple. An early example of the gable-front form is 156 Clinton Road (part of the Village of Clinton; ADM-ANT-022, Photograph 27) featuring partial sidelights, pedimented door and window surrounds, and simple cornice returns. The dwelling at Uplands Farm (dated 1840) at 4 Miltmore Road includes a contemporary dwelling (ADM-ANT-027, Photograph 28).

Most of the gable-front dwellings in the project area feature side-hall plans instead of central entries, including the dwelling in South Stoddard on the east side of Route 123 near the intersection with Route 9 (ADM-STO-004, Photograph 30).

### Agricultural Resources

Gable-front bank barns became common by the 1850s and were built at grade or banked on sloping sites to accommodate a manure basement beneath the stable. Boxed eaves and cornice returns are sometimes found on barns of this period and are elements of the Greek Revival style (ADM-ANT-027, Photograph 29). Architectural detailing typical of these barns includes a transom above sliding doors (HILO0477, Photograph 6; ADM-ANT-036, Photograph 12; ADM-ANT-014, Photograph 31). Sometimes the door is offset from the center of the gable to allow larger bays for hay storage at the side walls.

Given the number of farms reporting agricultural returns in the mid-nineteenth century, especially in Antrim, the number of barns identified during the course of the field survey was smaller than expected. After agricultural use ceased, it is likely that some barns were relocated or timbers were recycled for other purposes while other were allowed to deteriorate.

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Agricultural outbuildings that may reflect trends in production from this period would include sheep barns and corn cribs. Neither was identified during the course of the field survey, and it is possible spaces for related functions were integrated into the main barn.

### Industrial Resources

The 1858 and 1892 maps show a number of small mills, largely saw- and gristmills, scattered along Great Brook and North Brook within the project area with a focus on the Village of Clinton. Due largely to fire, the former mills are visible in the form of foundation ruins (Loverens Mill) and dam ruins (along Gregg Road). Some of the sites of the associated early dams are still in use, although the structures have been completely rebuilt, now providing water retention for recreation, water supply, and wildlife conservation.

### Villages

During the end of the previous period and beginning of this period, the rise of industry along streams and commercial or service establishments at the intersections of roadways led to the development of villages or clusters of buildings. An examination of the 1858 mapping shows villages at Antrim Center, Clinton, North Branch, and South Stoddard. In addition to dwellings, these clusters included buildings that reflected social and economic growth in the surrounding area, such as stores, churches, schools, meetinghouses, and cemeteries. These villages were varied in arrangement with buildings generally aligned along one main roadway.

North Branch included several mills, a blacksmith shop, a school, a tannery, a shoe shop, a doctor's office, and a store and post office in 1858. In 2011, only the school and the Jacob Tuttle House remain at North Branch, as a fire destroyed most of the village in 1888. To the south of the village is the sizable North Branch Cemetery, which was established at this location in the 1820s. The cemetery is surrounded by a dry-laid stone wall. The eastern portion of the cemetery features earlier interments, noted by marble markers although some slate stones are also present. The older portion of the cemetery is separated from what appears to be a newer and largely vacant portion of the cemetery to the west by a line of trees. Notable features include a drive that leads to a frame gable-front shed with Greek Revival detailing. The eastern end of the cemetery is the oldest and includes an 1830s crypt formed by simple granite slabs and marked by metal plates with the names of Dimon C. Twiss and Jacob Tuttle. There are also numerous family plots. In comparison to the two other cemeteries in the project area, this is the most sizeable and includes the most elaborate markers (ADM-ANT-013, Photographs 32 to 34).

Clinton arose as an industrial village during this period, with industrial development concentrated along the south side of Clinton Road, adjacent to Great Brook, and residential development focused on the north side of the roadway. Due in large part to fire, the only evidence of industrial operations in the village is a possible mill at the southeastern corner of Clinton and Old Hancock road s(ADM-ANT-022, Photograph 35). There has been relatively little redevelopment of the former industrial areas on the south side of the roadway except for the construction of a few early-twentieth-century residential dwellings and a recent fire house. A number of dwellings from this period, several with attached barns or carriage houses, remain on the north side of Clinton Road, east of Gregg Lake Road, including what appears to have been a multi-family dwelling that may have served as a hotel or worker housing at 141A and B Clinton Road (ADM-ANT-022, Photograph 36).

Four dwellings centered on the intersection of Routes 9 and 123 are all that remain of the once-thriving village of South Stoddard (ADM-STO-003, ADM-STO-004, ADM-STO-005, and ADM-STO-006). The Robb Cemetery, established in 1825, features a vinyl gate along Route 123 and is surrounded by a stone

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wall. The small cemetery has a few slate stones, but most of the interments are marked by marble stones (AMD-STO-007, Photographs 37 and 38). Another possible remnant from this period is a dwelling located on the north side of Old Keene Road that overlooks a former mill pond. The property is associated with the operations of J. Robb (1858 map) and S.G. McClure (1892 map; ADM-STO-002, Photograph 39). While not clearly visible from the public right-of-way, the property appears to include an altered house and large barn. Based on notes in the NHDHR files taken during a 1996 site visit of the property, it appears that the barn is a reconstruction, possibly at the location of an earlier structure. Finally, a dwelling located at the intersection of Staples Lane and Franklin Pierce Highway (ADM-STO-008) to the west of the historic village center is in the location of the former schoolhouse in nineteenth-century mapping.

North of the village is the Stoddard Twin Arch Stone Bridge, which was constructed in 1852 to carry Keene Concord Road over Morse Brook. The bridge, which was bypassed prior to 1941, has been preserved and is now used for pedestrian purposes and as a way station along Route 9. The bridge features notable dry-laid stone construction (STO0001, Photograph 40).

### Impact of the Railroad, 1870-1900

### Residential Resources

The gable-front form continued to be constructed during this period. The most elaborate examples, found within the villages of Clinton and Antrim, were executed with detailing of period styles including Gothic Revival and Italianate. During this period, the invention of the scroll saw and mass-produced wood moldings allowed the production of architectural detailing in the form of decorative vergeboard, brackets, and trim at porches. Typical of the Gothic Revival, the dwelling at 85 Clinton Road (ADM-ANT-022, Photograph 41) features vergeboard trim at the gable and pedimented crowns above the windows and door. The only example of Italianate detailing in the project area was identified in Clinton at 93 Clinton Road (ADM-ANT-022, Photograph 42). This dwelling features diminutive brackets beneath the eaves.

Dwellings built after 1850 had a kitchen located in an attached ell rather than in the front block. A dwelling type common to the last quarter of the nineteenth century identified during the field survey was the gable-front side-hall plan with stove chimneys in the main block and the kitchen roof aligned to the side or rear of the gable-front block. The kitchen often features a porch sheltering an entry. This building form, executed in both one and one-half and two stories, is sometimes called the gable front and wing. Examples include 133 Clinton Road (1892; ADM-ANT-022, Photograph 43) and the Frosh House on Old Hancock Road (ADM-ANT-022, Photograph 44).

Several dwellings within Clinton retain architectural detailing common to the Queen Anne style, such as 133 Clinton Road (1892; ADM-ANT-022, Photograph 43), which features decorative shingles at the gables, a wraparound porch with turned posts and scroll work, a bay window, and a diamond window with leaded glass panes in the gable of the carriage house. The dwelling at 153 Clinton Road exhibits the projecting cross-gable form common to less elaborate examples of the Queen Anne houses and a porch with turned posts and decorative scrollwork (ADM-ANT-022, Photograph 45).

The two-story version of the gable-front form was not widely constructed until after 1850 and commonly featured a side-hall plan. An example is 185 Old Hancock Road in Clinton (ADM-ANT-022, Photograph 46). Typical of the period, the dwelling features cornice returns, corner boards, two-over-two windows, and door and window surrounds with simple projecting moldings.

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One example of the Second Empire style featuring a mansard roof, projecting two-story bays and dormers, is the former Lake House located at 17 Gregg Lake Road (ADM-ANT-021, Photograph 47). While the dwelling retains a number of architectural details, based on an examination of a historic photograph, portions of the porch have been removed and the large two-story connector (also with a mansard roof) that once adjoined the house and barn (now gone) has been removed (Antrim Historical Society 1997:73).

With regard to the connected farmhouse, the little house and backhouse were not offset in the second half of the nineteenth century but were adjoined to create one continuous ell connecting the house and barn (Hubka 1984:6). Examples of the connected farmhouse form with continuous ell include the Butterfield Farm at 169 Clinton Road (ADM-ANT-023, Photograph 48). Following a fire in the 1890s, this house and barn were rebuilt based on a traditional two-story, side-gable, center-hall plan. The dwelling has recently sustained a very large addition to the rear elevation, and the former farmlands that surrounded the complex are now wooded area. Some connected farmhouses shared architectural style among the various functional components. Examples of this phenomenon were observed on adjoined houses and carriage houses in Clinton and Antrim South (outside the project area). One example is 133 Clinton Road (ADM-ANT-022, Photograph 49).

### Agricultural Resources

Although agricultural production had leveled off by this time, the connected farmhouse, gable-front barn, and other buildings continued under use or were newly constructed on farms throughout the project area. Some of the gable-front barns were built into banks to enable stabling or easy removal of manure at the basement level, such as the barn at the Uplands Farm (ADM-ANT-0027, Photograph 28) in Clinton. The majority of barns were covered in vertical board siding at the exterior, and a few featured wooden shingles.

With advances in farm implements made following the Civil War, it is likely that additions were made to existing buildings in order to accommodate farm machinery. Within the project area, several implement sheds were identified, such as the one found on the Bass Farm (ADM-ANT-029, Photograph 11).

Given the levels of maple sugar production, maple sugar houses were likely common during this period. These single-story, gable-roof structures often featured a large gable-roof vent on the roof and a chimney at one end. It is likely that most of these structures were lost to fire. Only three examples were identified within the project area, all of which appear to be modern reconstructions. The maple sugarhouse located along Route 123, overlooking Rye Pond, appears to be a recent reconstruction (ADM-HAN-001, Photograph 50).

### Industrial Resources

These large frame buildings associated with industry during this period featured multiple window openings and large bays for the movement of equipment, materials, and products. As in earlier periods, the mills were located in close proximity to raw materials (forests and sand), swiftly flowing streams, and local roadways. The South Stoddard Glass Company was located near the present-day intersection of Routes 9 and 123 in proximity to Christopher Stoddard's sand bank, as commemorated by a highway marker along Route 9. No buildings associated with the glass company were identified during the course of the survey.

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#### Recreational Resources

During this period, with the coming of the railroad and statewide promotion of areas of natural beauty as tourist and recreation sites, a number of summer boarding houses were in operation within the project area. Summer boarding began in the mid-nineteenth century and continued until the early twentieth century. These houses were generally centered on Gregg Lake or areas with commanding viewpoints within close proximity of the railroad station in Bennington, such as the Village of Antrim Center.

Most of the boarding houses are no longer extant, as many have succumbed to fire. Others have been converted to use as dwellings. Within the project area, among the most popular boarding houses of the era was the Bass Farm, which began operation in the brick and frame farm house in 1852. A large addition was made to the rear of the dwelling in 1878 to accommodate greater numbers of visitors, and remains today (ADM-ANT-029, Photograph 11)

The Jacob Tuttle House in North Branch began as a large dwelling and was converted to a boarding house, as indicated by the multiple doors at the exterior. The building had a large two-story addition to the rear to provide additional accommodations, as well as a large gable-front barn. Both the annex and barn have been removed and replaced by a sprawling one-story structure associated with the building's current use as an antique shop, affecting the building's integrity of design, setting, and feeling (ADM-ANT-010, Photograph 9).

The Gregg Lake area was also served by three hotels. The Greystone Lodge, a large stone and resort hotel built on Nahor Hill just outside of the project area in 1914, was destroyed by fire. The Waumbek Inn began operation at the northeastern end of Gregg Lake in 1912, and at one time included three buildings. In 2011, the only remnant of the inn is a small lodging house that now serves as a private residence fronting on Gregg Lake (ADM-ANT-020, Photograph 51). The Peterwaugh was a resort on the east side of the lake, a portion of which is now used as a dwelling (ADM-ANT-020, Photograph 52).

#### Villages

Despite the decline of Antrim Center as the center of political operations within the town during this period, the First Congregational Church, cemetery, school, and Grange Hall remained, continuing to serve a number of dwellings in the small village and the surrounding community.

The Antrim Grange Hall, the former meetinghouse, was moved down the hill to the intersection of Clinton Road and Meetinghouse Hill Road in Antrim Center after 1865. The one-and-one-half story, four-bay, gable-front building features simple cornice returns, a paneled paired entry door, and a granite block foundation (ADM-ANT-026, Photograph 53). Beyond the addition of shed-roofed dormers at the roof, relatively few updates have been made to the structure since the nineteenth century.

The new stone church was erected along the east side of Clinton Road, south of the Grange Hall, around 1897. The Old Stone Church (ANT0005, Photograph 54) at 223 Clinton Road features frame and fieldstone walls, stained glass windows, a corner tower and entry, and clapboard and wooden shingle siding. The church was determined eligible for listing in the National Register for architectural and social significance.

Within the village of North Branch, a Gothic Revival frame chapel was constructed in 1887 on the north side of the North Branch River (ANT0001, Photograph 55). One other building from this period that post-dates the 1888 fire was a large five-bay, gable-front dwelling at 64 Old North Branch Road (1889) that may have once served commercial purposes (ADM-ANT-040; Photograph 56).

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The Village of Clinton grew during this period, as evidenced by the number of residential dwellings that remain from this period along Clinton and Old Hancock roads, including 85 Clinton Road (ADM-ANT-022, Photograph 41), 93 Clinton Road (ADM-ANT-022, Photograph 42), 133 Clinton Road (1892) (ADM-ANT-022, Photograph 43), the Frosh House on Old Hancock Road (ADM-ANT-022, Photograph 44), 153 Clinton Road (ADM-ANT-022, Photograph 45), and 185 Old Hancock Road (ADM-ANT-022, Photograph 46).

#### Recreation, 1900-1930

#### Residential Resources

As the growth of the project area was not as great in the early twentieth century as in the last 30 years, it would be expected that a limited amount of the housing population dates to this period. Gable-front dwellings persisted into the early part of this period, some with detached carriage houses or garages that reflected architectural details that matched the house, such as 71 Old North Branch Road (ADM-ANT-009, Photograph 57).

A few examples of bungalows were identified within the project area. This form was generally one and one-half stories in height, often with dormers penetrating the roofline, and a one-story integral front porch at the façade (ADM-ANT-002, Photograph 58). On many examples the integral front porch is enclosed (ADM-ANT-011, Photograph 56). Many feature fieldstone foundations, and some have shingle siding at the exterior. Only one example of the contemporary Four Square form was identified in the project area (in Clinton).

A relatively common housing form that began to be widely constructed in this period and continued through most of the twentieth century was the one-story side-gable dwelling with examples often displaying exposed rafter tails (ADM-STO-008, Photograph 59). The one-story gable-front form was also common (ADM-ANT-046, Photograph 60).

### Agricultural Resources

Given the overall decline in agricultural production experienced during the previous period, outside of dairy farming and poultry production, new construction for agricultural use was not common during this period. Few examples of the gambrel roof barn, a form developed in the early twentieth century to accommodate greater amounts of hay at the loft level, were identified. One example identified along Stacey Hill Road appears to have been converted to residential use, as there is a sign above the entrance that reads "Liberty Hill Farm Playhouse" (ADM-ANT-015, Photograph 61).

Among the largest of barns in the study area was the farm complex formerly associated with Nathaniel Hawthorne College on Old North Branch Road (ADM-ANT-007, Photographs 62 and 63). This barn is part of a connected farmhouse that includes an earlier Gothic Revival dwelling. Additions to the barn include a stone milkhouse, milking parlors, and a tile silo. Unlike many of the other farms in the project area, this complex is located amidst open areas; however, the former farm fields are now occupied by a number of large institutional buildings erected after the college was formed in 1962, affecting the property's overall integrity of setting and feeling. The Sugar Hill Farm (ADM-ANT-039, Photograph 64), outside the project area, features a sizeable barn with an attached wood stave silo, corn crib, and poultry and dairying spaces; retains integrity of setting, and is better maintained than the dairy farm on Old North Branch Road.

During this period, several barns that appear to pre-date 1900 were altered by the addition of windows in the south elevation to accommodate the light requirements of poultry. One example is the barn at 444

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Clinton Road (ADM-ANT-036, Photograph 12). Only a couple poultry houses were identified during the field survey (ADM-STO-005; Photograph 65).

### Hydroelectric Power

Given the area's history of using water to generate power to operate mills, it seems logical that the use of water to power turbines would arise in the early twentieth century in order to meet local demands for electricity. Within the project area, a generating plant was constructed on Steel Pond in 1909. The concrete dam, small power plant, and associated penstock are examples of common types that were widely constructed throughout the region in the early twentieth century (ADM-ANT-005, Photograph 66). A larger and more notable example of water power generation within the vicinity of the project area is the Jackman Power Generation Station to the east.

### Recreational Resources

The concentration of housing stock from this period is found along Gregg Lake. Beginning around the 1890s and continuing into the 1920s, frame cottages were constructed around the lake along Gregg Lake Road. On a rise at the southwest corner of the lake, White Birch Point (ADM-ANT-019) developer Paul Thayer constructed a large pavilion with cobblestone supports for mail collection at the entrance, which remains today (ADM-ANT-019, Photograph 67). Thayer also constructed approximately 20 dwellings overlooking the lake with access to a community beach (Antrim History Society 1974:232). A characteristic feature of the dwellings was split-log siding placed vertically on the exterior walls (ADM-ANT-019, Photograph 68). Several of the dwellings that are visible from White Birch Road retain this original siding, while others feature wooden shingles or clapboards. Some retain their original windows and doors. Most of the dwellings were built into the hillside along the roadway and were oriented to take advantage of the view (ADM-ANT-019, Photograph 69). One of the dwellings at 22 White Birch Point is generally larger in size and may have served as a club house or other public function (ADM-ANT-019, Photograph 70). Despite the introduction of limited modern residential construction in the community, given the isolated setting, single access road, commanding views of the lake and mountains, and overall integrity of the buildings visible from the roadway, White Birch Point retains the feeling of an early-twentieth-century summer cottage community.

There is another collection of summer residential dwellings along the east side of Gregg Lake Road, most of which date between 1890 and 1930 (ADM-ANT-020). Fieldstone foundations and chimneys, porches, and clapboard and shingle siding are the predominant features (ADM-ANT-020, Photographs 71 and 72). A few of the residences have been altered or replaced with the conversion of seasonal housing to year-round use, made possible by the automobile and available jobs within driving distance. While there is some modern infill, it is generally of the same size and scale as the historic cottages (ADM-ANT-020, Photograph 73). Similar to White Birch Point, this concentration of summer cottages oriented to Gregg Lake Road retains integrity of setting and feeling, with relatively few modern intrusions (ADM-ANT-020, Photograph 74).

Although not accessible at the time of the field survey, based on an examination of aerial mapping, it appears Camp Chenoa, a 300-acre camp on the west bank of Gregg Lake that serves the Girl Scouts in 2011, has been rebuilt in recent years and that little to no historic buildings remain.

Numerous twentieth-century summer and hunting cottages were also identified within Stoddard and Hancock dating to this period (ANT-HAN-001, Photograph 50; ADM-STO-008, Photograph 59; ADM-STO-001, Photograph 75). These seasonal dwellings are often located in elevated spots overlooking the landscape, and many feature bands of windows at the façade. Most appear to have been converted to

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year-round use, resulting in additions and alterations to create additional dwelling space (ADM-HAN-003, Photograph 76; ADM-ANT-006, Photograph 77).

Within the project area is a historic youth camp that was established on Black Pond during this period to provide recreational opportunities to summer campers. The former Windsor Mountain Boys Camp, now Camp Wediko (ADM-WIN-001), overlooks Black Pond, another former mill pond that was expanded in the twentieth century. Beyond a few small frame buildings that have been reconstructed on historic foundations, it appears all of the buildings within the complex are of recent construction

#### Rural Estates

The Flint Mansion (originally built in 1817) was remodeled between 1913 and 1914 by industrialist William Kneeland Flint to serve as a rural estate. Flint assembled an estate that included another dwelling, former school (relocated in 1912 and converted to a dwelling), garage, garden, and tennis courts, and enclosed it with stone walls (ANT0001, Photograph 17). The estate retains the sizeable dwelling, landscape features, and a sufficient number of support buildings to convey the feeling of a twentieth-century rural estate. Another notable example of a summer estate in the project area but outside the APE is the Alabama Farm at 107 Smith Road (ADM-ANT-037, Photograph 78).

#### Villages

Antrim Center served as another destination for summering tourists in the early twentieth century. Area histories indicate several properties within the village were purchased to serve as summer homes during that time. Two houses within the village dating to the early twentieth century are of sufficient size and architectural detailing to suggest they may have been erected to serve as summer homes: 255 Clinton Road (ADM-ANT-043, Photograph 79) and 267 Clinton Road (ADM-ANT-028, Photograph 80). These two-story houses are located on a rise in proximity of the former brick church. The 255 Clinton Road property features a Colonial Revival form with five-bay façade with central entry and an attached corner turret clad in wood shingles. The dwelling is connected to a two-car garage. The structure at 267 Clinton Road features a hipped roof, Colonial Revival entry porch, and screened side porch with attached kitchen to the rear. A small agricultural complex is located up the hill to the rear of the property. Another possible summer estate was identified at 50 Old Carr Road (ADM-ANT-034, Photograph 81). The property consists of an altered two-story center hall dwelling with large rear addition and detached carriage house/barn overlooking a former mill pond (ADM-ANT-034, Photograph 82).

The demise of industrial operations occurred during this period, with only the Abbot Company remaining as the major manufacturer in Clinton. A fire in 1908 destroyed some of the buildings within the village. A creamery was built the following year at the corner of Old Hancock and Gregg Lake roads (ADM-ANT-022, Photograph 83). Some of the sites of former industry along the south side of Clinton Road were occupied by dwellings during this period, a couple of which are small enough that they may have served as summer cottages, including 124 Clinton Road (ADM-ANT-022, Photograph 84).

Within the Village of North Branch, the establishment of the Flint Estate contributed to preservation of the northern portion of the village. Among the more notable buildings in the village from this period are a Colonial Revival dwelling and adjacent gable-front barn associated with the estate. Finally, the bands of windows at the side gable indicate the dwelling at 57 North Branch Road may be the former school that served North Branch after the removal of the 1820 school to the Flint Estate in 1914 (ADM-ANT-047, Photograph 85).

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#### **Conservation**, 1930-Present

#### Residential Resources

The bungalow continued to be constructed prior to World War II. Among the most common dwelling forms of this period were one-story side-gabled and front-gabled frame dwellings, which generally lacked overall stylistic detailing (ADM-ANT-048, Photograph 86).

The Colonial Revival style was often executed in the form that was so ubiquitous in the colonial period: the Cape Cod. Twentieth-century examples of the form generally include a pair of dormer windows at the façade, Colonial Revival detailing at the main entrance, and a shed-roofed dormer at the rear elevation (ADM-ANT-049, Photograph 87). Common one-story dwelling types constructed in this period include the side-gabled, gable-front, side-gable with projecting front-gable wing, ranch house, and split-level. Many of the dwellings from this period feature an integral or attached garage. The Colonial Revival persists to the present (ADM-ANT-050, Photograph 88).

As would be expected, nearly all buildings and structures located along the portion of Route 9 that were reconstructed between Salmon Brook Road and Route 123 in 1930 appear to post-date the roadway improvements. Most are small, side-gabled dwellings that are set back from the roadway amidst wooded lots, some with attached garages (ADM-ANT-016, Photograph 89). These dwellings feature concrete foundations and clapboard, asbestos, wood shingle, and synthetic siding.

A sizable residential subdivision for the project area (approximately 20 homes) dates to the 1970s and is located on the south side of Steel Pond, overlooking the dam, and includes three planned roadways extending off either side of Elm Avenue. More recent residential subdivisions include Jackman's Shores, a group of single-family homes, and the Breezy Point Development condominiums community. Both are located on points of land on the west side of Franklin Pierce Lake.

#### Agricultural Resources

Very little construction for agricultural purposes was carried out in this period. Today, most barns in the project area are used for general storage and non-agricultural uses. A few barns have also been converted to other uses, such as the barn along Old North Branch Road, which was used by Hawthorne College (ADM-ANT-007, Photograph 63. It is possible a barn and dwelling may be part of the Hayes Auto Center at 1675 Keene Road (ADM-STO-006, Photograph 90).

#### **Recreational Resources**

With the opening of Route 9 and the creation of the Jackman Reservoir in 1925, a number of businesses arose to support summer vacationers traveling by automobile along Route 9. Based on what remains along Franklin Pierce Lake and the adjacent Steel Pond and Route 9 today, it appears these tourists either rented cottages or occupied tourist cabins, generally with a view of the water. Typically, these facilities provided showers and bathrooms, as well as spaces for sleeping. Within the project area, three examples of tourist cabins were identified that appear to date to the 1920s or 1930s.

Three frame tourist cabins and a contemporary dwelling and two-car garage are located at 124 Keene Road (ADM-ANT-002, Photographs 58 and 91). The one-story frame cabins feature screened-in, shed-roofed front porches, original clapboard siding, and some original windows; however, they are in poor condition due to years of disuse. The associated dwelling has replacement siding, a reconstructed front porch, and some replacement windows.

A second grouping of six tourist cabins is located at 119 Keene Road (ADM-ANT-003; Photograph 92).

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A third group of tourist cabins are located on the south side of Keene Road near the intersection with Clinton Road, overlooking the North Branch River. A small frame building with exposed rafter tails and wood shingle siding features an advertising sign labeled PINE HAVEN on the roof (ADM-ANT-014, Photograph 93). As the rest of the property was not clearly visible from the public right-of-way, internet research yielded information available in a 2009 real estate listing (LoopNet website accessed December 2, 2011). The property includes a three-bedroom home, nine cabins, an office building, and a gift shop. It is possible the property was historically associated with the gable-front barn on Clinton Road to the south, as this has a sign that reads PINE HAVEN above the central entry (ADM-ANT-014; Photograph 31).

The dwellings at the southern end of Franklin Pierce Lake are of recent construction or are altered examples of seasonal cottages post-dating 1930. A specific example of alterations to a summer dwelling along the lake is the Breezy Point Inn (ADM-ANT-001, Photograph 94). This former nineteenth-century dwelling was used as a summer boarding house following the creation of Jackman Reservoir. Very recently, the inn has been altered to mimic the appearance of a number of condominium units that were erected on the property in the 1980s. The redevelopment of this property, as well as the construction of a new housing development along the shoreline to the south, has affected the integrity of setting and feeling on the south shores of Franklin Pierce Lake.

With the widespread use of the automobile after World War II, the motor court and the motel began to replace tourist cabins, although cabins continued to be used. One example of the motor court, the 1830 House Motel, was identified at the busier intersection of Routes 9 and 202, just outside the project area. Later, hipped roof connected units that were more typical of the Post-World War II period were identified alongside the tourist cabins at 119 Keene Road. These units have been altered through the use of replacement windows and doors in their conversion to year-round housing (ADM-ANT-003, Photograph 92).

Another resource from this period is a rest area and comfort station located on the north side of Route 9, west of Salmon Brook Road. The station features native architectural features, including faux stone and wood shingle siding (ADM-ANT-017, Photograph 95).

Two public parks offering recreation to year-round residents were also established in the project area during this period. Manahan Park was created on the west side of Franklin Pierce Lake in the early 1960s, and a town park was established at Gregg Lake in the mid-1960s. There is no evidence of aboveground resources dating to this period at either public beach.

### Conservation-Related Resources

Beyond large expanses of open land and waterfronts and use of the area for recreation, there is little physical evidence of the conservation movement that began in the area in the 1930s and culminated in the conservation of thousands of acres of land today. One exception is the caretaker's cottage at Willard Pond (ADM-ANT-018, Photograph 95). It is possible this cottage or one to the south may have an earlier association of Elsa Tudor dePierrefeu Leland, who led the conservation effort that ultimately resulted in the creation of the associated sanctuary in 1967. A stone marker located near the cabin commemorates her efforts (Photograph 97).

### Villages

At North Branch, on the north side of the river, a small private college was established on the former Flint Estate in 1962. The Nathaniel Hawthorne College subsequently constructed a number of buildings

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in the immediate vicinity in the location of former farm fields. The mansion house was used for administrative purposes, and the adjacent barn was used for studies in the arts. The college discontinued operations in 1988, and alterations were made to some of the associated buildings in the late 1990s when the property came under operation as the Maharishi Vedic Medical College and Regional Peace Palace (Wenz and Garvin 1984).

The southern portion of the village was affected by the reconstruction of Route 9 to the south in the 1930s. Small residential units were subsequently erected along a portion of the abandoned roadway named Park Place.

### 22. Statement of Significance

All properties are shown in Figures 16a to 16u and the overall survey map at the end of this report.

### **Previously Recorded Resources in the 3-Mile Radius**

The 3-mile radius (project area) includes one property that was previously listed in the National Register, one property that was previously determined eligible for listing in the National Register, and two properties that were recorded by HABS/HAER. The Flint Estate Historic District along Old North Branch Road (ANT0001) was listed in the National Register in 1984 for architectural significance. As the property was not listed for its significance as a rural estate, it does not have the potential to be affected by the project. The Antrim Congressional Church (ANT0005) in Antrim Center was determined eligible in 2010, for historic and architectural significance and is within the viewshed of the project and has the potential to be affected by the project. The Antrie Brook, was constructed in 1852, and was recorded by the HABS survey (HABS NH-32-E). The bridge was photo-documented by NH DOT in 2006 prior to its rehabilitation. As the bridge was surveyed for its engineering significance, it would not be affected by the project. The Loomis House, located along North Branch Road (ADM-ANT-008), was documented by HABS in 1945 (HABS NH-49). As this property was recorded for its architectural significance, it would not be affected by the project.

### Prior Survey

The only completed survey project within the area identified during the NHDHR file review limited to a 1985 town-wide survey of Windsor that included Camp Wediko (Wind1-6). The Windsor survey did not result in any determinations of eligibility, and the Camp Wediko buildings (Wind1-6) documented as part of 1985 the survey have since been replaced with modern buildings.

### **Relevant Historic Contexts**

The influences and trends that encouraged the development of specific property types are identified and included in the preceding historical background (Section 19). In this section, the list of applicable NHDHR historic contexts (Section 20) is refined based on field work conducted for the project area form. The historic context is linked to above-ground resources through the concept of property types. This statement of significance identifies the most relevant historic contexts and representative property types within the APE whose character-defining features could be affected by changes to integrity of setting. Properties within the APE that have the potential to be affected by the project may be considered significant if they can represent a relevant context through 1) retention of those features necessary to reflect significance and 2) specific historic associations, as reflected in the documentary record. This section concludes with a discussion of the distribution of the property types for each relevant context

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and identifies resources that warrant further survey within the APE. Upon approval of this report by NHDHR staff, historic themes and associated property type information provided in this section will be used to direct future evaluation efforts. All resources should also be examined within the context of like property types in the town, county, or region and in accordance with relevant National Register Criteria of Evaluation, Criteria Considerations, and Aspects of Integrity.

51. Mixed agriculture and the family farm, 1630-present.

The practice of mixed farming would need to be reflected in U.S. agricultural census returns as well as the built environment. Farms significant within this context would need to retain a house and barn and associated outbuilding(s) (either connected or separate) that reflect multiple historic farming practices such as the raising of livestock, cultivation of cash crops, or production of maple sugar. A farm complex may also reflect changes in agricultural practices or continued use over time. Alterations necessary for continued agricultural use would not detract from the overall integrity of the farm complex. In addition, the buildings must retain their overall form and materials; therefore, retention of integrity of design and materials is imperative. It is important that a farm retain the feel of a rural setting, i.e., lack of modern intrusions in the immediate vicinity of the farm complex. It is not critical that a farm be surrounded by open fields as most are overgrown due to the decline of agriculture, which began in the area in the latenineteenth century.

### 72. Boarding House Tourism.

A boarding house significant within this context would need to retain its original location in proximity to areas offering natural beauty and/or recreational opportunities. Preservation of a building's original siting to take advantage of views of natural beauty enhances integrity of location. The building should be a large multi-story dwelling, with multiple additions and entrances, denoting its historic use as a boarding house and retain its overall integrity of materials, design and workmanship Retention of service buildings that were critical to boarding house operations, such as barns or carriage houses, is important. Preservation of panoramic views and landscaping features, such as stonewalls, paths, flower gardens, open fields and wooded lots, enhances integrity of association and setting. In addition, a boarding house would need to have an associated documentary record that would convey its use by seasonal boarders.

73. Summer and vacation home tourism.

Buildings and districts significant within this context would need to retain proximity to natural beauty and/or recreational opportunities that encouraged the growth of tourism. Retention of original forms (including open porches), roof lines, and fenestration patterns and materials enhance overall integrity of materials, workmanship, and design. Preservation of panoramic views and landscaping features, such as stonewalls, paths, flower gardens, open fields, and wooded lots, enhance integrity of association, feeling, and setting. Preservation of a building or community's original siting to take advantage of views of natural beauty would enhance integrity of location. Finally, the majority of alterations to a summer home or district would need to have been carried out by seasonal residents within the period of significance. The historic documentary record should reflect the building or community's use by seasonal residents.

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118. The Grange in New Hampshire, 1870-present.

Buildings significant within this context would need to have documented ownership by the Grange and have served the organizational functions of bringing farm families together for socialization as well as to learn about new agricultural practices. Retention of original materials and floor plan are essential. Secondary structures and features, such as outhouses or wells, that were used during the property's period of significance would enhance overall integrity. These buildings will be significant for their role in social history; thus, a written record of this building as a prominent focus of social gatherings for otherwise isolated rural communities is critical.

130. Commerce, industry in New Hampshire villages and town centers 1630-present.

Districts significant in this context would have developed at the confluence of local waterways in proximity to raw materials that required processing, such as grain and timber. Proximity to transportation forces that sustained growth of the community is critical. Buildings and structures within the district should largely date to the period of significance and convey the evolution of the village through time. The district should be composed of a range of resource types including commercial buildings, industry, dwellings, and public and service buildings that are historically interrelated. A district may be significant as the center of a town or for the patterns of historical development it represents for towns in the region.

135. The land conservation movement in New Hampshire.

Buildings and districts significant within this context would need to have played a role in the conservation of large tracts of land for the protection of wildlife, landscapes, and recreational areas. Properties may be associated with the late-nineteenth and early twentieth-century purchase of abandoned farms by urbanites seeking summer retreats for the purpose of private land conservation. Buildings associated with successful public or public-private partnerships in conservation may also be significant. Research would need to establish the role of a resource in the land conservation movement.

136. Public and private cemeteries and burials.

Cemeteries may be significant for the role it played in a critical event, as long as that event can be corroborated through historic research. Cemeteries may be significant if they are particularly early examples, especially if they can be tied to the founding of a community. Cemeteries of an early age should have predominately old markers and few intrusions. Finally, cemeteries may be significant if they contain distinctive artistic or architectural features.

### **Representative Property Types and Recommendations for Future Survey Work:**

This section presents property types for each relevant context within the APE. Representative examples of property types that do not warrant further survey due to a loss of integrity are discussed. Resources recommended for documentation on Historic Area Forms and Individual Inventory Forms are also addressed.

51. Mixed agriculture and the family farm, 1630-present.

Numerous dwellings that were once part of farm complexes include 5 North Branch Road (ADM-ANT-012, Photograph 25), 125 Keene Road (ADM-ANT-004, Photograph 26), the dwelling at the northwest

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corner of Davison Drive and Clinton Road (ADM-ANT-024, Photograph 4), and Stoney Hill Farm, 53 Old Pound Road (ADM-ANT-032). Without related agricultural structures, these resources lack evidence of their historic agricultural use and are not recommended for further survey. Other farms have been compromised by conversion to incompatible uses, such as the former farm now associated with Hayes Auto Center at 1675 Keene Road (ADM-STO-006, Photograph 90) and the barn associated with ADM-STO-005 (Photograph 65). The following examples are farms that no longer retain sufficient integrity of design, materials and feeling to be considered significant due to extensive alterations to the dwelling: the "Liberty Hill Farm Playhouse" (ADM-ANT-015, Photograph 61) and the Butterfield Farm at 169 Clinton Road (ADM-ANT-023, Photograph 48). While the farm complex formerly associated with Nathaniel Hawthorne College on Old North Branch Road (ADM-ANT-007, Photographs 62 and 63) retains a sizeable dairy barn and is a well-preserved example of a connected farmhouse, the introduction of a number of large institutional buildings associated with the college (Photograph 99) within the immediate vicinity has compromised integrity of setting. Therefore, this resource is not recommended for further survey.

A connected farmhouse on the east side of Reed Carr Road (ADM-ANT-033, Photographs 23 and 24) retains its overall integrity of design and materials and warrants further survey on an Individual Inventory Form. The Bass Farm (ADM-ANT-029, Photos 10 and 11) and Uplands Farm (ADM-ANT-027, Photos 27 and 28) are other well-preserved examples of connected farmhouses that warrant further study. Both are recommended for documentation on a Historic Area Form as part of the Village of Antrim Center.

### 72. Boarding House Tourism.

The Jacob Tuttle House (ADM-ANT-010, Photograph 8) served as an inn from the late-nineteenththroughout the early twentieth centuries, as reflected by its multiple doors. However, the dwelling has lost the associated barn and two-story addition to the rear, detracting from the dwelling's ability to convey its historic use as a boarding house. Therefore, no further survey is recommended.

The Bass Farm (ADM-ANT-029) (Photos 10 and 11) was among the more well-known boarding houses near Gregg Lake, operating from 1852 into the twentieth century. The house retains a large rear twostory addition that was made in 1878, an open setting with expansive views as well as a barn and numerous outbuildings. The Bass Farm is recommended for further documentation as part of a Historic Area Form to be prepared for the Village of Antrim Center.

The Breezy Point Inn (ADM-ANT-001, Photograph 94) has been converted to use as a condominium and has lost integrity of setting, design, and materials; therefore, it does not warrant further consideration.

73. Summer and vacation home tourism.

Two dwellings within the village of Antrim Center are of sufficient size and architectural detailing to suggest they may have been erected as summer homes: 255 Clinton Road (ADM-ANT-043, Photograph 79) and 267 Clinton Road (ADM-ANT-028, Photograph 80). These two-story houses retain overall integrity of materials and form as well as their location on a rise with a commanding view of the low-lying area below. Both resources are recommended for documentation as part a Historic Area Form to be prepared for the Village of Antrim Center.

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The dwelling at 50 Old Carr Road, ADM-ANT-034 (Photos 81 and 82), appears to be an earlier house that was heavily modified and updated at the exterior in the twentieth century, including replacements windows, walls, and doors. The property retains a notable view of a former mill pond and an adjacent carriage house. However, due to the extensive alterations to the design and materials of the dwelling, no further survey is recommended.

The Flint Estate Historic District (ANT0001) is a more elaborate example of a summer vacation home that was previously listed in the National Register. Despite the loss of the Sawyer House since the time of its listing in 1984, the property retains sufficient integrity to continue to convey its historic architectural significance. No further work is recommended.

The collection of buildings on the east side of Gregg Lake (ADM-ANT-020) include a number of frame cottages that were constructed along either side of Gregg Lake Road within view of the water. Many feature open porches and bands of windows at the façade. Overall, there is little modern infill within the vicinity. This collection of cottages is recommended for survey and documentation on a Historic Area Form as a seasonal community dating to the late-nineteenth- and early twentieth centuries.

The community at White Birch Point (ADM-ANT-019) includes a mail box shelter and approximately 20 dwellings that were originally constructed by Mr. Paul Thayer using wood from a nearby sawmill. Many of the dwellings are built into the hillside with a commanding view of the water below. A number retain their original form, split-log exterior siding, and windows and doors. White Birch Point is recommended for documentation and assessment as a seasonal community on a Historic Area Form.

The dwellings within the APE oriented to Jackman Reservoir (later Franklin Pierce Lake) lack sufficient continuity to warrant further investigation as a historic district. Specifically, the recent redevelopment of Breezy Point into condominiums and the construction of single-family housing in Jackman's Shores have affected integrity of setting. Therefore, no further investigation into this area as a district associated with seasonal housing is recommended.

There are three examples of tourist cabins within the APE that served the seasonal tourist trade around Jackman Reservoir (later Franklin Pierce Lake) and along Route 9 and are associated with NHDHR context numbers 73 and 88. The tourist cabins at 119 Keene Road retain their location near the water but have suffered deterioration due to neglect. In addition, the integrity of materials of the associated dwelling and garage have been recently compromised. Overall, the complex lacks integrity of materials and feeling due to alterations to the dwelling and the deteriorated state of the cabins; therefore, this complex is not recommended for further survey.

Six tourist cabins are located at 119 Keene Road. The setting of the units has been affected by the conversion of the property to long-term occupancy, including the construction of a prefabricated trailer and several storage units on the parcel. In addition, many of the cabins feature replacement windows and other alterations to make the dwellings habitable year round (ADM-ANT-003; Photograph 92).

A third group of tourist cabins overlooking the North Branch River features an advertising sign labeled PINE HAVEN on the roof of a service building (ADM-ANT-014, Photograph 93). The property includes a three-bedroom home, nine cabins, an office building, and a gift shop, many of which are covered in wood shingle siding. In comparison to the other two tourist cabin complexes identified within project area, this property appears to retain a greater number of cabins, associated service buildings, and a caretaker's cottage. Although the cabins were not clearly visible from the public right-of-way it does

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not appear they have been winterized for year-round use. The cabins are isolated by surrounding pine trees, which screens them from view of the adjacent power line. As this complex retains integrity of materials, design, setting, and location, it is recommend for further survey on a Historic Area Form.

Finally, there are numerous examples of small summer cottages located throughout the APE, such as ADM-STO-001 (Photograph 75) and ADM-ANT-066 (Photograph 77). As this is a relatively common housing type, only examples that retain an exceptional degree of integrity of materials, design, workmanship, setting, and feeling would be considered significant. None of the individual cottages within the APE were determined to retain sufficient integrity of design, materials, or workmanship to warrant further investigation for individual significance under this context.

118. The Grange in New Hampshire, 1870-present.

The Antrim Grange Hall (ADM-ANT-026) retains all of the features required to warrant further examination as an example of its type. However, as the building appears to be located amidst a potential historic district associated with the Village of Antrim Center, the Grange Hall is recommended for documentation on the related Historic Area Form (ADM-ANT-025).

130. Commerce, industry in New Hampshire villages and town centers 1630-present.

The Village of Antrim Center (ADM-ANT-025) retains its proximity to the original road through Antrim that was rerouted around Meetinghouse Hill in the 1820s. The collection of dwellings along the roadway date from the 1780s to the early twentieth century and include a variety of resource types including a church, several farms, numerous dwellings, two former parsonages, a grange hall, at least two summer homes, and a cemetery. According to the Hancock Village National Register nomination, the Village of Antrim Center is among the best-preserved small villages within the state (Ruell 1987). Therefore, the village warrants documentation on a Historic Area Form. Should the village be determined not eligible for listing in the National Register, several individually notable resources within the district that have the potential to be affected by the project will warrant individual documentation: The Bass Farm (ADM-ANT-029), Uplands Farm (ADM-ANT-027), 255 Clinton Road (ADM-ANT-043), 267 Clinton Road (ADM-ANT-028), and Antrim Grange (ADM-ANT-026).

The Village of North Branch has undergone extensive changes beginning with the decline of its industrial base in the first half of the nineteenth century. In 1888, a fire destroyed all buildings on the south side of the river except for the Jacob Tuttle House. The relocation of the Franklin Pierce Highway in the 1930s and the recent replacement of the bridge that carries Old North Branch Road over the North Branch River have affected the integrity of the transportation systems within the district. The creation of the Flint Estate in the twentieth century resulted in the reconstruction of a significant portion of the landscape on the north side of the North Branch. In addition, the conversion of the former Flint Estate into a college in the 1960s through 1980s further detracts from the integrity of setting and feeling. Today, the Village of North Branch is composed of a former inn, a possible former commercial building, a possible former school, a church, and numerous twentieth-century dwellings. There is no evidence of the industrial origins of the village. Due to an extensive loss of integrity that is well documented in area histories, the village is not recommended for further survey.

The Village of Clinton (ADM-ANT-022) is largely located along Clinton Road, which follows along the Great Brook, a swiftly flowing stream that served as the impetus for growth of the industrial community in the mid-nineteenth century. While the former industries are no longer present along the south side of
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the roadway, there are some vestiges including what may be a former mill building at the intersection with Old Hancock Road. The village retains an extensive collection of residential dwellings along the north side of the roadway as well as a former store and creamery. Overall, there is a lack of modern intrusions except for a modern dwelling and a modern fire house. Despite the loss of industrial buildings and the destruction of a small portion of the village during a fire in 1908, overall the village retains sufficient integrity of setting and feeling to warrant further consideration of National Register eligibility on a Historic Area Form.

The Village of South Stoddard experienced declines following the closure of the South Stoddard glass industries in the 1870s and the Stoddard Lumber Company in the twentieth century. The reconstruction of the Franklin Pierce Highway at the northern end of the village resulted in further loss of buildings as well as the original roadway network through the village. Today, the village includes the Robb Cemetery, several nineteenth-century dwellings, an early twentieth-century dwelling, and numerous modern dwellings. There is no evidence of the once thriving nineteenth-century village that included a hotel, post office, and school. Due to a loss of integrity, no further survey is recommended.

135. The land conservation movement in New Hampshire.

The caretaker's house and stone marker at the dePierrefeu-Willard Pond Wildlife Sanctuary (ADM-ANT-018, Photos 96 and 97) are reflective of a movement to preserve land around Willard Pond that began as early as the 1930s. However, as the land was not under conservation until 1967, this property is not associated with an important event that occurred within the last 50 years. In addition, establishment of the sanctuary is not of exceptional importance, as per the requirements of National Register Criterion Consideration G. Therefore, no further survey is recommended.

Finally, any future survey work in Antrim should include an examination of historic housing files compiled by the Antrim Historical Society and located in the James A. Tuttle Library in Antrim.

136. Public and private cemeteries and burials.

The Meetinghouse Hill Cemetery (ADM-ANT-030) is tied to the first village in Antrim, located at the center of the town, and retains a significant number of early graves with few later internments. Therefore, it warrants further consideration for National Register eligibility and documentation on an Individual Inventory Form.

The North Branch Cemetery (ADM-ANT-013) is also early and particularly large in size and contains several notable grave markers as well as notable landscape features and warrants further examination of National Register eligibility and documentation on an Individual Inventory Form.

The Center Cemetery in Antrim Center and the Robb Cemetery (ADM-STO-007) are not of sufficient size or age to warrant individual consideration. In addition, neither retains notable grave markers. The Center Cemetery will be documented on a Historic Area Form associated with the Village of Antrim Center. The Robb Cemetery is not recommended for future survey work.

In summary, recommendations for future survey of properties within the APE whose significance could be affected by the proposed project are as follows:

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## **Individual Inventory Forms:**

North Branch Cemetery (ADM-ANT-013) Meetinghouse Hill Cemetery (ADM-ANT-030) Farm, Reed Carr Road (ADM-ANT-033)

## **Historic Area Forms:**

Pine Haven Cottages (ADM-ANT-014) White Birch Point (ADM-ANT-019) Gregg Lake (ADM-ANT-020) Village of Clinton (ADM-ANT-022) Village of Antrim Center (ADM-ANT-025)

#### 23. Periods(s) of Significance (N/A)

## 24. Statement of Integrity

While the project area retains a number of resources dating to all periods of development (1740-present), there are a number of factors that have contributed to the loss of buildings, significant alterations, or changes in setting. Since the 1950s, the project area has become a bedroom community. The level of residential growth that has occurred in recent years has resulted in the construction of a significant number of single-family dwellings as well as the conversion of a number of seasonal dwellings to year-round use. However, areas of population growth are largely confined to existing roadways and relatively few new residential developments have been created. The larger more architecturally notable buildings that have been spared from fire or demolition are generally well preserved, although they often lack their associated agricultural outbuildings. Due to the decline of agricultural production that began in the late-nineteenth century and the rise of conservation in the twentieth century, significant numbers of former farmsteads have been abandoned and allowed to deteriorate to ruins. The creation of the Franklin Pierce Lake and reconstruction of portions of Route 9 have also resulted in the loss of resources at the north end of the project area. In 2011, significant portions of the project area are sparsely occupied, contiguous, natural areas due to local conservation efforts.

## 25. Boundary Justification (N/A)

## 26. Boundary Description (N/A)

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Public Ser "Hydroele Stations.as	vice of New Har ctric Station spx, accessed No	mpshire ns," <u>http://w</u> ovember 7, 2011	ww.psnh.com/Renew	ableEnergy	//About-PSNH/I	Hydroelectric-	
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28. Survey	vor's Evaluation						
NR listed:	district individuals	□ N	R eligible: district		NR Criteria:	A D B	
Integrity:	within district yes no		not eligible more info needed			C   D   E	

If this Area Form is for a Historic District: # of contributing resources:	
# of noncontributing resources:	

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**Photograph 1:** 224 Craig Road (ADM-ANT-041). View facing north, December 2011. Digital file (Photo 1.jpeg) stored at A.D. Marble & Company.



**Photograph 2:** 1 Whitton Road (ADM-ANT-042). View facing north, December 2011. Digital file (Photo 2.jpeg) stored at A.D. Marble & Company.

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**Photograph 3:** 184 Craig Road (ADM-ANT-038). View facing northwest, December 2011. Digital file (photo 3.jpeg) stored at A.D. Marble & Company.



**Photograph 4:** Dwelling, northwest corner of intersection of Davison Drive and Clinton Road (ADM-ANT-024). View facing west, December 2011. Digital file (photo 4.jpeg) stored at A.D. Marble & Company.

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**Photograph 5:** 226 Clinton Road (ADM-ANT-044). View facing north, December 2011. Digital file (photo 5.jpeg) stored at A.D. Marble & Company.



**Photograph 6:** Franklin Pierce Homestead, 301 2nd NH Turnpike (HILO0477). View facing northeast, December 2011. Digital file (photo 6.jpeg) stored at A.D. Marble & Company.





**Photograph 7:** Pierce McNeil Elijah Read House (HILO0262). View facing north, December 2011. Digital file (photo 7.jpeg) stored at A.D. Marble & Company.



**Photograph 8:** Jacob Tuttle House, 121 Keene Road (ADM-ANT-010). View facing east, December 2011. Digital file (photo 8.jpeg) stored at A.D. Marble & Company.

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**Photograph 9:** Jacob Tuttle House, 121 Keene Road (ADM-ANT-010). View facing west, December 2011. Digital file (photo 9.jpeg) stored at A.D. Marble & Company.



**Photograph 10:** Bass Farm, 212 Clinton Road (ADM-ANT-029). View facing northwest, December 2011. Digital file (photo 10.jpeg) stored at A.D. Marble & Company.

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**Photograph 11:** Bass Farm, 212 Clinton Road (ADM-ANT-029). View facing southwest, December 2011. Digital file (photo 11.jpeg) stored at A.D. Marble & Company.



**Photograph 12:** 444 Clinton Road (ADM-ANT-036). View facing northwest, December 2011. Digital file (photo 12.jpeg) stored at A.D. Marble & Company.

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**Photograph 13:** Loomis House, Old North Branch Road (ADM-ANT-008). View facing southwest, December 2011. Digital file (photo 13.jpeg) stored at A.D. Marble & Company.



**Photograph 14:** 19 Congreve Road (ADM-ANT-045). View facing southwest, December 2011. Digital file (photo 14.jpeg) stored at A.D. Marble & Company.

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**Photograph 15:** Meetinghouse Cemetery (ADM-ANT-030). View facing southwest, December 2011. Digital file (photo 15.jpeg) stored at A.D. Marble & Company.



**Photograph 16:** Meetinghouse Cemetery (ADM-ANT-030), view to project. View facing southwest, December 2011. Digital file (photo 16 [2].jpeg) stored at A.D. Marble & Company.

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**Photograph 17:** Flint Estate (ANT0001) - stone wall, school, and dwelling. View facing northeast, December 2011. Digital file (photo 17.jpeg) stored at A.D. Marble & Company.



**Photograph 18:** 19 Weston Road (ADM-HAN-002). View facing east, December 2011. Digital file (photo 18.jpeg) stored at A.D. Marble & Company.

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**Photograph 19:** 19 Weston Road (ADM-HAN-002). View facing southeast, December 2011. Digital file (photo 19.jpeg) stored at A.D. Marble & Company.



**Photograph 20:** 149 Clinton Road (ADM-ANT-022). View facing northeast, December 2011. Digital file (photo 20.jpeg) stored at A.D. Marble & Company.





**Photograph 21:** 131 Clinton Road (ADM-ANT-022). View facing northeast, December 2011. Digital file (photo 21.jpeg) stored at A.D. Marble & Company.



**Photograph 22:** 165 Smith Road (ADM-ANT-047). View facing northeast, December 2011. Digital file (photo 22.jpeg) stored at A.D. Marble & Company.





**Photograph 23:** Farm, Reed Carr Road (ADM-ANT-033). View facing east, December 2011. Digital file (photo 23.jpeg) stored at A.D. Marble & Company.



**Photograph 24:** Farm, Reed Carr Road (ADM-ANT-033). View facing southeast, December 2011. Digital file (photo 24.jpeg) stored at A.D. Marble & Company.

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**Photograph 25:** 5 North Branch Road (ADM-ANT-012). View facing northeast, December 2011. Digital file (photo 25.jpeg) stored at A.D. Marble & Company.



**Photograph 26:** 125 Keene Road (ADM-ANT-004). View facing northwest, December 2011. Digital file (photo 26.jpeg) stored at A.D. Marble & Company.





**Photograph 27:** 156 Clinton Road (ADM-ANT-022). View facing northwest, December 2011. Digital file (photo 27.jpeg) stored at A.D. Marble & Company.



**Photograph 28:** Uplands Farm, 4 Miltmore Road (ADM-ANT-027). View facing northeast, December 2011. Digital file (photo 28.jpeg) stored at A.D. Marble & Company.





**Photograph 29:** Uplands Farm, 4 Miltmore Road (ADM-ANT-027). View facing east, December 2011. Digital file (photo 29.jpeg) stored at A.D. Marble & Company.



**Photograph 30:** Dwelling, east side of Route 123, south of Route 9 (ADM-STO-004). View facing northeast, December 2011. Digital file (photo 30.jpeg) stored at A.D. Marble & Company.

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**Photograph 31:** Barn, west side of Clinton Road, south of Route 9 (ADM-ANT-014). View facing south, December 2011. Digital file (photo 31.jpeg) stored at A.D. Marble & Company.



**Photograph 32:** North Branch Cemetery (ADM-ANT-013), entrance and view to project. View facing southwest, December 2011. Digital file (photo 32.jpeg) stored at A.D. Marble & Company.





**Photograph 33:** North Branch Cemetery (ADM-ANT-013), drive and shed. View facing southwest, December 2011. Digital file (photo 33.jpeg) stored at A.D. Marble & Company.



**Photograph 34:** North Branch Cemetery (ADM-ANT-013), crypt. View facing northwest, December 2011. Digital file (photo 34.jpeg) stored at A.D. Marble & Company.





**Photograph 35:** Industrial building, southeast corner of Clinton and Old Hancock roads (ADM-ANT-022). View facing east, December 2011. Digital file (photo 35.jpeg) stored at A.D. Marble & Company.



**Photograph 36:** 141A and B Clinton Road (ADM-ANT-022). View facing north, December 2011. Digital file (photo 36.jpeg) stored at A.D. Marble & Company.





**Photograph 37:** Robb Cemetery (ADM-STO-007). View facing southwest, December 2011. Digital file (photo 37.jpeg) stored at A.D. Marble & Company.



**Photograph 38:** Robb Cemetery (ADM-STO-007). View facing southeast, December 2011. Digital file (photo 38.jpeg) stored at A.D. Marble & Company.



**Photograph 39:** House and barn, Old Keene Road (ADM-STO-002). View facing west, December 2011. Digital file (photo 39.jpeg) stored at A.D. Marble & Company.



**Photograph 40:** Stoddard Twin Arch Bridge (STO0001). View facing southwest, October 2011. Digital file (photo 40.jpeg) stored at A.D. Marble & Company.





**Photograph 41:** 85 Clinton Road (ADM-ANT-022). View facing northeast, December 2011. Digital file (photo 41.jpeg) stored at A.D. Marble & Company.



**Photograph 42:** 93 Clinton Road (ADM-ANT-022). View facing northwest, December 2011. Digital file (photo 42.jpeg) stored at A.D. Marble & Company.





**Photograph 43:** 133 Clinton Road (ADM-ANT-022). View facing northeast, December 2011. Digital file (photo 43.jpeg) stored at A.D. Marble & Company.



**Photograph 44:** Frosh House, Old Hancock Road (ADM-ANT-022). View facing west, December 2011. Digital file (photo 44.jpeg) stored at A.D. Marble & Company.
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**Photograph 45:** 153 Clinton Road (ADM-ANT-022). View facing north, December 2011. Digital file (photo 45.jpeg) stored at A.D. Marble & Company.



**Photograph 46:** 185 Old Hancock Road (ADM-ANT-022). View facing southeast, December 2011. Digital file (photo 46.jpeg) stored at A.D. Marble & Company.





**Photograph 47:** Lake House, 17 Gregg Lake Road (ADM-ANT-021). View facing northwest, December 2011. Digital file (photo 47.jpeg) stored at A.D. Marble & Company.



**Photograph 48:** 169 Clinton Road (ADM-ANT-023). View facing east, December 2011. Digital file (photo 48.jpeg) stored at A.D. Marble & Company.

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**Photograph 49:** 143 Clinton Road (ADM-ANT-022). View facing north, December 2011. Digital file (photo 49.jpeg) stored at A.D. Marble & Company.



**Photograph 50:** House and sugarhouse overlooking Rye Pond, west side of Route 123 (ADM-HAN-001). View facing south, December 2011. Digital file (photo 50.jpeg) stored at A.D. Marble & Company.

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**Photograph 51:** Dwelling formerly associated with the Waumbek Inn, east side of Gregg Lake Road (ADM-ANT-020). View facing southeast, December 2011. Digital file (photo 51.jpeg) stored at A.D. Marble & Company.



**Photograph 52:** Dwelling formerly associated with the Peterwaugh, east side of Gregg Lake Road (ADM-ANT-020). View facing south, December 2011. Digital file (photo 52.jpeg) stored at A.D. Marble & Company.

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**Photograph 53:** Antrim Grange Hall, north side of Clinton Road in Antrim Center, west of intersection with Miltmore Road (ADM-ANT-026). View facing northeast, December 2011. Digital file (photo 53.jpeg) stored at A.D. Marble & Company.



**Photograph 54:** Old Stone Church, east side of Clinton Road in Antrim Center (ANT0005). View facing northeast, December 2011. Digital file (photo 54.jpeg) stored at A.D. Marble & Company.





**Photograph 55:** Chapel, Old North Branch Road, part of Flint Estate (ANT0001). View facing northwest, December 2011. Digital file (photo 55.jpeg) stored at A.D. Marble & Company.



**Photograph 56:** 64 and 66 Old North Branch Road (ADM-ANT-040 and ADM-ANT-011). View facing southwest, December 2011. Digital file (photo 56 [2].jpeg) stored at A.D. Marble & Company.





**Photograph 57:** 71 Old North Branch Road (ADM-ANT-009). View facing southeast, December 2011. Digital file (photo 57 [2].jpeg) stored at A.D. Marble & Company.



**Photograph 58:** Dwelling, 124 Keene Road (ADM-ANT-002). View facing east, December 2011. Digital file (photo 58 [2].jpeg) stored at A.D. Marble & Company.





**Photograph 59:** 255 Old Stoddard Road (ADM-STO-008). View facing northwest, December 2011. Digital file (photo 59.jpeg) stored at A.D. Marble & Company.



**Photograph 60:** 70 Old North Branch Road (ADM-ANT-046). View facing southwest, December 2011. Digital file (photo 60.jpeg) stored at A.D. Marble & Company.





**Photograph 61:** Barn, Stacey Hill Road (ADM-ANT-015). View facing southwest, December 2011. Digital file (photo 61.jpeg) stored at A.D. Marble & Company.



**Photograph 62:** Farm, Old North Branch Road (ADM-ANT-007). View facing north, December 2011. Digital file (photo 62.jpeg) stored at A.D. Marble & Company.

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**Photograph 63:** Farm, Old North Branch Road (ADM-ANT-007). View facing northeast, December 2011. Digital file (photo 63.jpeg) stored at A.D. Marble & Company.



**Photograph 64:** Sugar Hill Farm, 230 Smith Road (ADM-ANT-039). View facing northwest, December 2011. Digital file (photo 64.jpeg) stored at A.D. Marble & Company.



**Photograph 65:** Farm, 74 Franklin Pierce Highway (ADM-STO-005). View facing west, December 2011. Digital file (photo 65a.jpeg) stored at A.D. Marble & Company.



**Photograph 66:** Dam, Steel Pond (ADM-ANT-005). View facing southwest, December 2011. Digital file (photo 66 [2].jpeg) stored at A.D. Marble & Company.

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**Photograph 67:** White Birch Point (ADM-ANT-019). View facing southwest, December 2011. Digital file (photo 67 [2].jpeg) stored at A.D. Marble & Company.



**Photograph 68:** White Birch Point (ADM-ANT-019). View facing northwest, December 2011. Digital file (photo 68 [2].jpeg) stored at A.D. Marble & Company.

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**Photograph 69:** White Birch Point (ADM-ANT-019). View facing northeast, December 2011. Digital file (photo 69 [2].jpeg) stored at A.D. Marble & Company.



**Photograph 70:** White Birch Point (ADM-ANT-019). View facing east, December 2011. Digital file (photo 70 [2].jpeg) stored at A.D. Marble & Company.

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**Photograph 71:** Dwellings, Gregg Lake Road (ADM-ANT-020). View facing northeast, December 2011. Digital file (photo 71 [2].jpeg) stored at A.D. Marble & Company.



**Photograph 72:** Dwellings, Gregg Lake Road (ADM-ANT-020). View facing east, December 2011. Digital file (photo 72.jpeg) stored at A.D. Marble & Company.

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**Photograph 73:** Dwellings, Gregg Lake Road (ADM-ANT-020). View facing east, December 2011. Digital file (photo 73.jpeg) stored at A.D. Marble & Company.



**Photograph 74:** Dwellings, Gregg Lake Road (ADM-ANT-020). View facing south, December 2011. Digital file (photo 74.jpeg) stored at A.D. Marble & Company.





**Photograph 75:** Cottage, Barrett Pond Road (ADM-STO-001). View facing northwest, December 2011. Digital file (photo 75.jpeg) stored at A.D. Marble & Company.



**Photograph 76:** 102 Weston Road (ADM-ANT-003). View facing northwest, December 2011. Digital file (photo 76.jpeg) stored at A.D. Marble & Company.

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**Photograph 77:** 41 River Road (ADM-ANT-006). View facing north, December 2011. Digital file (photo 77 [2].jpeg) stored at A.D. Marble & Company.



**Photograph 78:** Alabama Farm, 107 Smith Road (ADM-ANT-037). View facing north, December 2011. Digital file (photo 78.jpeg) stored at A.D. Marble & Company.

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**Photograph 79:** 225 Clinton Road (ADM-ANT-043). View facing northwest, December 2011. Digital file (photo 79.jpeg) stored at A.D. Marble & Company.



**Photograph 80:** 267 Clinton Road (ADM-ANT-028). View facing northwest, December 2011. Digital file (photo 80.jpeg) stored at A.D. Marble & Company.

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**Photograph 81:** 50 Old Carr Road (ADM-ANT-034). View facing northwest, December 2011. Digital file (photo 81.jpeg) stored at A.D. Marble & Company.



**Photograph 82:** View toward former mill pond from 50 Old Carr Road (ADM-ANT-034). View facing south, December 2011. Digital file (photo 82.jpeg) stored at A.D. Marble & Company.

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**Photograph 83:** Former creamery, intersection of Old Hancock and Gregg Lake roads (ADM-ANT-022). View facing south, December 2011. Digital file (photo 83.jpeg) stored at A.D. Marble & Company.



**Photograph 84:** 124 Clinton Road (ADM-ANT-022). View facing southeast, December 2011. Digital file (photo 84 [2].jpeg) stored at A.D. Marble & Company.





**Photograph 85:** 57 North Branch Road (ADM-ANT-047). View facing southeast, December 2011. Digital file (photo 85.jpeg) stored at A.D. Marble & Company.



**Photograph 86:** Dwelling, Holts Hill Road (ADM-ANT-048). View facing northwest, December 2011. Digital file (photo 86.jpeg) stored at A.D. Marble & Company.



**Photograph 87:** 347 Elm Road (ADM-ANT-049). View facing north, December 2011. Digital file (photo 87.jpeg) stored at A.D. Marble & Company.



**Photograph 88:** Modern dwelling, Winklemans Point (ADM-ANT-050). View facing northeast, December 2011. Digital file (photo 88 [2].jpeg) stored at A.D. Marble & Company.

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**Photograph 89:** Dwelling, 355 Keene Road (ADM-ANT-016). View facing northeast, December 2011. Digital file (photo 89.jpeg) stored at A.D. Marble & Company.



**Photograph 90:** Hayes Auto Repair, 1675 Keene Road (ADM-STO-006). View facing west, December 2011. Digital file (photo 90.jpeg) stored at A.D. Marble & Company.

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**Photograph 91:** 124 Keene Road, tourist cabins (ADM-ANT-002). View facing south, December 2011. Digital file (photo 91.jpeg) stored at A.D. Marble & Company.



**Photograph 92:** 119 Keene Road (ADM-ANT-003). View facing northwest, December 2011. Digital file (photo 92.jpeg) stored at A.D. Marble & Company.





**Photograph 93:** Pine Haven, southeast corner intersection of Route 9 and Clinton Road (ADM-ANT-014). View facing southeast, December 2011. Digital file (photo 93.jpeg) stored at A.D. Marble & Company.



**Photograph 94:** Breezy Point Inn (ADM-ANT-001). View facing southeast, December 2011. Digital file (photo 94.jpeg) stored at A.D. Marble & Company.

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**Photograph 95:** Rest area and comfort station, Route 9 (ADM-ANT-017). View facing northeast, December 2011. Digital file (photo 95.jpeg) stored at A.D. Marble & Company.



**Photograph 96:** DePierrefeu-Willard Pond Sanctuary, caretaker's cottage (ADM-ANT-018). View facing southwest, December 2011. Digital file (photo 96 [2].jpeg) stored at A.D. Marble & Company.





**Photograph 97:** Marker, DePierrefeu-Willard Pond Sanctuary. View facing east, December 2011. Digital file (photo 97.jpeg) stored at A.D. Marble & Company.

I, the undersigned, confirm that the photos in this inventory form have not been digitally manipulated and that they conform to the standards set forth in the NHDHR Photo Policy. These photos were printed at the following commercial printer: Philadelphia Photographics, 1021-B Arch Street, Philadelphia, PA 19107. The digital files are housed at A.D. Marble and Company, 375 East Elm Street, Suite 100, Conshohocken, PA 19428.

3. Trederick

