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## 2.6 Historical, Cultural, and Archaeological Resources

This section describes the existing conditions (Section 2.6.1) and the Project's anticipated impacts (Section 2.6.2) upon archaeological and historically significant architectural cultural resources. This section also provides a description of possible mitigation measures for any significant impacts (Section 2.6.3).

### 2.6.1 Existing Conditions

#### 2.6.1.1 Archeological Resources

The Project Area is located within the Allegheny Plateau physiographic province in western New York State at the interface of the Erie-Ontario Plain to the north (USDA 1994). Topographic features in the Project Area are characterized by steep valley walls, wide ridge tops, and flat-topped hills between drainageways with a number of broad, flat-bottomed valleys, presently occupied by sluggish, meandering streams (USDA 1994). The Project APE covers two major environmental zones as described by Funk (1993), uplands and valley walls.

In order to determine if the Project might result in effects to archaeological and architectural cultural resources, the Applicant performed cultural resources investigations to identify resources that meet criteria for listing in the State and/or National Register of Historic Places, (SRHP/NRHP). The investigations were conducted in accordance with the requirements of Section 106 of the National Historic Preservation Act, as amended, Executive Order 11593 (NHPA 1966); the regulations of the Advisory Council on Historic Preservation (36 Code of Federal Regulations [CFR] 800); the New York State Historic Preservation Act (1980); Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law of 1980; the New York Archaeological Council's (NYAC) *Standards for Cultural Resource Investigations and Curation of Collections* (1994); the New York State Office of Parks, Recreation, and Historic Preservation's (OPRHP) *Guidelines for Wind Farm Development Cultural Resources Survey Work* (OPRHP 2006); and the OPRHP's *Phase I Archeological Report Format Requirements* (OPRHP 2005).

Cultural resources surveys focused on the Project's Area of Potential Effects (APE). For archaeological resources, the archaeological-APE consisted of all areas where ground-disturbing activities may occur during construction and operation of the Project. The archaeological-APE consists of the 47 potential turbine locations, the routes of 21 miles of buried cable carrying electricity between the turbines and the collection substation, and the routes for approximately 5 miles of overhead electrical line, and at least 18 miles of access roads required to service all proposed wind turbine locations.

Background research and field reconnaissance indicate that most of the archaeological-APE was cleared in the nineteenth century to create cropland, hay meadow, and pastures. Woodlots and reforested abandoned agricultural land today cover substantial portions of the archaeological-APE, but these are intermixed with active agricultural land, which is used chiefly

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in dairy farming. Numerous small to medium-size wetlands are scattered across the archaeological-APE. Steep slopes (greater than 15 percent) are present along the side slopes of deeply incised relict and modern stream channels and on some hillslopes. Scattered ground disturbances of up to a few acres occur where existing utility rights-of-way are located. SHPO guidelines generally do not require archeological testing of project effects on archeological resources in areas with steep slopes, permanent wetlands with well-developed hydric soils, or documented ground disturbances (OPRHP 2005).

Identification of evidence of past land uses by prehistoric, proto-historic, and historic Native American groups was based on information on file with the OPRHP and secondary historical documentation. This information suggests that past land uses by prehistoric and proto-historic Native American groups in the general vicinity of the Project Area were associated with the numerous major and minor drainages. Site file searches at the OPRHP indicated that there are no previously recorded archaeological sites within the APE. The results of the preliminary investigation suggest that past land uses by Native Americans were either limited and/or ephemeral, or that evidence of past land uses by Native Americans has not yet been identified for the Project Site and its immediate environs.

Site file research at the OPRHP, including information from the New York State Museum (NYSM) site files, indicated that four archaeological sites have been previously recorded within 1.6 kilometers (km) (1 mile) of the Project Area (NYSM 2950, NYSM 2156, NYSM 5426, and NYSM 7908). No historic Euro-American archeological sites have been documented within the Project's archaeological-APE or within 1.6 km of the Project Area. None of the archeological sites or architectural properties located within 1.6 km (1 mile) of the Project are listed in the NRHP.

The Applicant conducted an initial study to assess the Project Area's archaeological sensitivity. The study consisted of a background review of pertinent environmental information (e.g., landform/terrain, soil characteristics, and proximity to water), local history, and regional archeological study, and a Phase IA archaeological reconnaissance survey of the APE. Also taken into consideration was the nature and level of observed disturbance and modification to the landscape in the Project Area due to historic and recent human development. The Project Site was identified as containing areas with a low to high probability of containing prehistoric and historic archaeological sites that could be adversely affected by Project activities. Generally, 33 percent of the proposed turbine locations had a moderate probability of containing cultural material, 25 percent had a low probability, 22 percent had a moderate to high probability, 10 percent had a low to moderate probability, and 10 percent had a high probability of containing prehistoric or historic archaeological sites. Specific sensitivity statements for individual geographical areas are listed in a report submitted to the OPRHP (Locking 2008; Appendix G).

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Phase 1A archaeological surveys were completed at 37 of the 47 potential turbine locations. The reconnaissance survey included a visual assessment, site walkover, and photodocumentation of the Project Area. A 3-acre area around the potential turbine location was subject to a reconnaissance survey that included a visual assessment, site walkover, and photodocumentation of the Project Area. The 3-acre area was used to identify all of the potentially sensitive areas around the turbine locations and allow for small relocations of the turbine locations within the 3-acre area without the need for an entirely new survey.

This survey sought to identify types of terrain known to be potentially sensitive for archeological resources and to make observations on remnant traces of historic settlement patterns, modern land use, major ground disturbances, and patterns of vegetation, slope, soils, and drainage. Reconnaissance of the archaeological-APE and immediate surrounding area was conducted from September 26, 2007 through November 16, 2006, during which time the ground was free of snow.

Because the Project Site did not contain evidence of extensive prior subsurface disturbance, a Phase IB archaeological investigation (systematic subsurface test excavations) was conducted within the most undisturbed portions of the Project Site. This Phase 1B investigation was performed in accordance with the NYAC's Standards for Cultural Resource Investigations and Curation of Collections (1994) and in direct consultation with the OPRHP (Herter 2007a, 2007b), and was used to identify previously unrecorded prehistoric or historic archaeological sites that may be affected by implementation of the Project.

Twenty-one proposed turbine pad locations were subject to Phase IB investigations. In addition, 27 acres (nine potential turbine locations) no longer included as part of the proposed Project Site were subject to Phase I surveys. Seven of the 21 tested areas were positive for cultural material. One isolated find, two small lithic scatters and two large lithic scatters were located; one possible mound with an associated looter's pit also was found. These sites are listed in and are described in detail in the report submitted to the OPRHP (Locking 2008; Appendix G).

These surveys were conducted in part to determine the suitability of locations for turbine siting. As a result of these surveys, the applicant has resited turbines and removed some potential locations from its development plan. A report detailing the results of the surveys has been submitted to the SHPO (Locking 2008). In accordance with the request of the SHPO that the locations of archaeological findings be kept confidential, a copy of that report redacted to remove portions which identify the actual location of identified archaeological finds can be found in Appendix G.

Additional surveys as recommended by SHPO, and a historic architecture survey, are anticipated to be completed during 2008 and will be summarized in the FEIS. If additional archeological sites are discovered as a result of the continuing Phase IB survey, some identified sites may be evaluated as potentially eligible for inclusion in the NRHP. At such sites, further

investigations in the form of a Phase II evaluation study may be required to provide information sufficient to assess NRHP eligibility.

### 2.6.1.2 Architectural Resources

In accordance with the SHPO Guidelines, the Project's APE for architecture (architecture-APE) has been defined as the Project viewshed within 5 miles of the Project boundary based on a topography-only model (the 5-mile Ring). The methods used to determine the viewshed are described in the Visual Assessment Report (Appendix F).

The Applicant has initiated archival research for this Project. The starting point for this work was an investigation of those properties already listed on the NRHP. Five NRHP-listed properties are located within the architecture-APE (see Table 2.6-1), including the Fredonia Commons Historic District, which has over 80 contributing buildings and/or structures. Locations of NRHP-listed properties are shown in Figures 1 and 2 found in Appendix F.

**Table 2.6-1. NRHP-listed Properties within the Architecture-APE**

Number	Address/Name	Other Address/ Name	Town	Type/ Class	NR Number
01342.000007	Fredonia Grange #1	60 West Main St	Fredonia	Building	93NR00464
1341.000055	410 Central Ave.	U.S Post Office	Dunkirk	Building	90NR00113
1341.000056	348 East Lakeshore Dr.	School NO. 7	Dunkirk	Building	91NR00271
01342.000078	US Post Office	21 Day Street	Fredonia	Building	90NR00116
01342.000057	Fredonia Commons Historic District		Fredonia	District	90NR00115

Source: ORHP 2008a

There are 35 NRHP-eligible properties in the OPRHP files as determined by that office within the Project's architecture-APE (see Table 2.6-2). In addition, over 6,300 buildings within the architecture-APE were constructed prior to 1958.

**Table 2.6-2. NRHP-eligible Properties within the Architecture-APE**

Number	Address/Name	Other Address/Name	Town	Type/ Class
01342.000092	Mason Hall SUNY Fredonia		Fredonia	Building
01342.000093	Alumni House SUNY Fredonia	172 Central Ave	Fredonia	Building
01342.000094	Fenners House SUNY Fredonia	178 Central Ave	Fredonia	Building
01342.000095	President's House SUNY Fredonia	194 Central Ave	Fredonia	Building
01342.000138	N/A	225 East Main St	Fredonia	Building
01342.000139	N/A	284 East Main St	Fredonia	Building
01342.000004	Jones Mitchell House	403 East main St	Fredonia	Building
01342.000137	Abner Clark House	128 West Main St	Fredonia	Building
01342.000136	Frame Italianate-Style House	241 West main St	Fredonia	Building



**Table 2.6-2. NRHP-eligible Properties within the Architecture-APE**

Number	Address/Name	Other Address/Name	Town	Type/ Class
01342.000135	Frame Italianate-Style House	371 West Main St	Fredonia	Building
01323.000030	US Route 20 at intersection with South Roberts Rd	N/A	Sheridan	Building
01323.000044	2909 US Route 20	N/A	Sheridan	Building
01323.000045	2912 US Route 20	N/A	Sheridan	Building
01323.000001	US Route 20 at Whitaker Rd	Sloar House	Sheridan	Building
01323.000013	3273 US Route 20	N/A	Sheridan	Building
01323.000014	3278 US Route 20	N/A	Sheridan	Building
01323.000029	3521 US Route 20	N/A	Sheridan	Building
01308.000001	Point Dr. N., Lake Erie Fisheries Unit	N/A	Dunkirk	Building
01341.000018	Coburn Block	123-135 Central Ave.	Dunkirk	Building
01341.000273	Dunkirk Free Library	536 Central Ave.	Dunkirk	Building
01341.000049	Public School #3 PIN #5058.17.121	132 Maple Ave	Dunkirk	Building
01341.000219	James O'Connell House	80 West 4th St.	Dunkirk	Building
01341.000221	N/A	12 West Fourth St.	Dunkirk	Building
01341.000227	N/A	122 West Fourth St.	Dunkirk	Building
01341.000222	N/A	29 West Fourth St.	Dunkirk	Building
01341.000027	(Ehlers Apts.) Baker House	39 West Fourth St.	Dunkirk	Building
01341.000021	Fran. Rhodes House	43 West Fourth St.	Dunkirk	Building
01341.000030	Gross House	60 West Fourth St.	Dunkirk	Building
01341.000048	Stapf House	68 West Fourth St.	Dunkirk	Building
01341.000224	N/A	93 West Fourth St.	Dunkirk	Building
01341.000225	N/A	95 West Fourth St.	Dunkirk	Building
01341.000226	N/A	96 West Fourth St.	Dunkirk	Building
01320.000013	Vintage Inn	East Main St. US 20	Pomfret	Building
01320.000011	George Frost Farm	Van Buren Rd.	Pomfret	Building
01320.000010	Preston Dedrick House	5057 Van Buren Rd.	Pomfret	Building

Source: ORHP 2008b

In addition to these initial findings, the Applicant will conduct a more detailed architectural survey within the architecture-APE in consultation with the SHPO prior preparation of the FEIS. The Applicant will meet with the staff of the SHPO to establish a strategy for architectural survey within the architecture-APE. The Applicant will undertake fieldwork in the unsurveyed portion of the Project's APE to identify those buildings, structures, and districts that are potentially eligible for the NRHP. For a building or structure to be considered eligible for listing in the NRHP, it must be evaluated within its historic context and shown to be significant for one or more of the four Criteria of Evaluation (36 CFR 60) as outlined in the National Park Service Publication, Guidelines for Completing National Register of Historic Places Forms (U.S. Department of the



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Interior 1997). These criteria will be used as a reference when assessing all of the structures to be examined in the field as part of this investigation. Based on the archival research and field surveys, the Applicant will assess the potential visual impacts of the Project on architectural resources within the architecture-APE that are listed in, nominated to, or considered to be potentially eligible for the NRHP. The Applicant will then submit a report summarizing the architectural historical survey methods, results, and visual impact assessment to the SHPO and the Town of Arkwright for review and comment. This report will be summarized in the FEIS and appended in its entirety to that document.

## **2.6.2 Anticipated Impacts**

### *2.6.2.1 Construction*

#### *2.6.2.1.1 Archaeological Resources*

Construction-related impacts to archaeological resources may be caused as a result of construction of the proposed turbines, gravel access roads, underground and overhead collection lines, temporary construction areas, and other Project facilities. Archaeological resources identified through the Phase IA and IB investigations were taken into consideration during siting and have been avoided to the greatest extent practicable. Further field surveys are planned for portions of the Project Site not yet surveyed, to ensure the construction of Project facilities avoids and minimizes potential impacts to these resources.

Historic maps indicate that the vast majority of historic structures were located near roads and that the modern road network closely mirrors that of the historic period. Project designs have minimized construction impacts on potential historic archeological sites, since turbines will be located a minimum of 500 feet from modern roads and a minimum of 1,200 feet from extant dwellings. Additional analysis will be conducted prior to the FEIS to determine the extent to which other Project elements, such as underground lines, will avoid areas of historic archeological sensitivity or specific Map Documented Structures (MDSs).

The Applicant is committed to avoid impact to archaeological resources to the greatest extent practicable as discussed in Section 2.6.3.1. Consequently, no direct impacts on prehistoric or historic archaeological resources are anticipated for the Project

#### *2.6.2.1.2 Architectural Resources*

There will be no direct, construction-related impacts to architectural resources within the Project's architecture-APE. No structures listed in the NRHP or those eligible for listing in the NRHP will be demolished or physically altered in connection with the construction of the Project.

### *2.6.2.2 Operations*

#### *2.6.2.2.1 Archaeological Resources*

If archeological sites are present in the vicinity of Project elements, impacts from Project operations would primarily be indirect. Indirect impacts could result from improved access (e.g.,

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Project-related access roads) to previously inaccessible sites. The Project could also draw curiosity seekers to the area and increased accessibility could result in vandalism or increased wear and tear in an area where pedestrian or vehicular traffic is increased. Such an increase in traffic could potentially diminish the integrity of sites or alter settings associated with historic properties.

While some indirect impacts are possible, given that the Applicant used the findings from the Phase IA and IB investigations, the already low probability of indirect impacts on cultural resources has been further reduced. Additionally, because the Project Site is composed entirely of private property, it is unlikely that foot-traffic within the Project Site would increase as a result of Project operations.

#### *2.6.2.2.2 Architectural Resources*

Indirect impacts may result from operation of the Project. Operation of the Project could result in changes to the setting of architectural resources potentially eligible for, nominated to, or listed in the NRHP by introducing changes in viewshed or background noise. Preliminary results based on topographic viewshed models indicate that the Project may be visible from properties that are listed in or eligible for listing in the NRHP. More detailed analysis of viewshed concerns are discussed in Section 2.5 and in Appendix F. Further analysis of these structures, as well as those structures which may be identified in the currently unsurveyed portion of the architecture-APE, will be conducted prior to the FEIS to determine the potential visual impacts of the Project.

### **2.6.3 Mitigation Measures**

#### *2.6.3.1 Construction*

##### *2.6.3.1.1 Archaeological Resources*

The Applicant has utilized the results of the Phase IA and IB investigations in developing the current Project layout to avoid potential archaeological sites. Additionally, the Applicant will perform additional Phase-IB field surveys, focused on areas characterized as sensitive for the presence of prehistoric period archeological sites and in the vicinity of historic period MDSs in those areas not previously surveyed. If necessary, subsequent Phase-II archeological (evaluation) investigations will also be performed within the Project's archeological-APE. If NRHP-eligible sites are identified, and if the Project design cannot be adjusted so that the sites may be avoided, it may be necessary to develop a Memorandum of Agreement (MOA) that would outline steps to be taken to mitigate adverse Project effects. For archeological effects, mitigation would most likely involve Phase III investigation (data recovery) at NRHP-eligible sites that would be directly affected by the Project.

Prior to construction, the Applicant will develop an Unanticipated Discovery Plan that will include procedures that will be followed in the event that cultural resources, including human remains, are discovered during construction. Prior to construction, the Plan will be provided to the SHPO for comment and approval. If human remains are discovered during construction, the Applicant

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will stop all construction in the vicinity of the find. Legal protocols for unanticipated discovery of human remains involve notification of the New York State Police and coroner to assure that a crime has not been committed. Once human remains have been determined to be historic, rather than recent, the SHPO and interested Native American tribal representatives will be contacted to determine treatment measures. If potentially significant Native American ceremonial artifacts are encountered, construction will cease at the find spot and the SHPO and interested Native American tribal representatives will be contacted to determine treatment measures.

#### *2.6.3.1.2 Architectural Resources*

Permanent, direct impacts to historic structures will not occur because the Project construction will not result in any NRHP-listed or eligible structures being demolished or physically altered. The Applicant will continue its historic architecture inventory studies within the unstudied areas of the architecture-APE.

#### *2.6.3.2 Operation*

##### *2.6.3.2.1 Archaeological Resources*

The Applicant will ensure that all known or suspected archaeologically sensitive areas remain confidential to the public to prevent looting and or vandalism. Additionally, possible mitigation measures that may be employed during operations include creating barriers around known archaeological areas such as hedgerows or other vegetation to deter vandals and/or looters from these areas. Any such mitigation will be conducted in coordination with the affected landowner, the SHPO, and other interested parties.

##### *2.6.3.2.2 Architectural Resources*

If the additional architectural surveys indicate that the Project would result in significant adverse visual effects to structures listed in, proposed for, or eligible for the NRHP, the Applicant would consider whether the Project's layout could be redesigned to avoid such adverse effects. If avoidance of significant effects is not possible, the Applicant will develop mitigation measures in consultation with the Town of Arkwright and other municipalities, as necessary; the SHPO; the USACE; and interested parties that would be stipulated within an MOA and implemented. Such measures might include, but are not limited to, the following:

- Monetary contributions to a community-administered historic preservation or restoration fund
- A Heritage Tourism Plan
- A Preservation Plan
- Education activities
- Historical activities

Additional measures to mitigate for potential visual impacts are provided in Section 2.5.